TOWN OF WELLS, MAINE
PLANNING BOARD

Meeting Agenda
Monday, March 9, 2026, 7:00 PM
Littlefield Meeting Room, Town Hall
208 Sanford Road

7:00 PM CALL TO ORDER & DETERMINATION OF QUORUM

MINUTES

I. **FEBRUARY 9, 2026 DRAFT MEETING MINUTES**

DOCUMENTS:

PB MIN 02-09-26 DRAFT.PDF

PUBLIC HEARINGS

DEVELOPMENT REVIEW & WORKSHOPS

I. **SEA VU WEST CAMPGROUND**

Sea Vu West MHC Holdings, LLC, owner/applicant; Attar Engineering, Inc, engineer/agent. Site plan amendment application to add 9 acres of land to the property to resolve lot coverage issues, add 2.72 acres of lot coverage and restore wetland and buffer areas around the main office. The property is an existing 264 site Tent and Recreational Vehicle Park use. The property is located off 23 College Drive and is within the Rural District. Tax Map 43, Lot 6. **Review status update and consider an extension**

DOCUMENTS:

SEA VU WEST EXTENSION 022026.PDF

II. **RICHARD BOIS SUBDIVISION AMENDMENT**

Richard Bois, owner/applicant. Main-Land, surveyor/agent. Subdivision Amendment Application seeking approval to enlarge Lot 2 to 77.49 acres, reduce Lot 3 by 19,330 SF, and create easements on Lot 3 to benefit Lot 2. Lots 20-1, 20-2 and 20-3 are within an existing 3 lot subdivision. No change to the number of dwellings proposed. The subdivision is located near 50 Quarry Road and is within the Rural, Resource Protection and 250' Shoreland Overlay zone. Tax Map 46, Lot 20-1, 20-2 and 20-3. **Workshop completeness**

DOCUMENTS:

RICHARD BOIS AMD MEMO 02-17-26.PDF
RICHARD BOIS SUB MINOR- AMENDMENT COMPLETENESS 02-17-26.PDF

III. **MILLENNIUM GRANITE**

Richard Bois, owner/applicant; Main-Land, agent. Site Plan Amendment application to alter the lot line between lot 20-3 and 20-2. No change in use proposed. The use of the property to remain a Mineral Extraction/ Manufacturing use. The property is located within the Rural, 250' Shoreland Overlay, and Resource Protection Districts. The property is located at 50 Quarry Road and is identified as Tax Map 46, Lot 20-3. **Workshop completeness**

DOCUMENTS:

MILLENNIUM GRANITE SITE PLAN AMEND MEMO 02-20-26.PDF
MILLENIUM GRANITE AMD ART VII (145-53) MINERAL EXTRACTION 02-18-26.PDF
MILLENIUM GRANITE AMD DRAFT COMPLETENESS 02-18-26.PDF
2003 GIS.PDF

IV. **BALD HILL RV PARK**

Bald Hill LLC, owner; Richard Bois, Jr., applicant; Main-Land Development Consultants, Inc., engineer and surveyor/agent. Site Plan Application for a 64 site Tent and Recreation Vehicle Park with associated office, roadways and utilities. The property is located at 548 Bald Hill Road and is within the Rural, Resource Protection and 250' Shoreland Overlay Districts. Tax Map 46, Lots 20-2 and 20C. **Workshop completeness**

DOCUMENTS:

BALD HILL RV MEMO 02-20-26.PDF
BALD HILL RV PARK ART VII (145-50) TENT REC VEHICLE PARK 02-19-26.PDF
BALD HILL RV PARK DRAFT COMPLETENESS 02-19-26.PDF

V. **526 POST ROAD SITE PLAN**

The Grace Group, LLC, owner/applicant; Walsh Engineering, agent. Site Plan Amendment Application to divide the 8.15 acre property into two lots. The existing School use to remain within the existing building on 1.3 acres of land. Changes to parking, landscaping, stormwater and utilities proposed. The property falls within the General Business District and Rural District. The property is located at 526 Post Road and is identified as Tax Map 27, Lot 10. **Workshop completeness and determine public hearing**

DOCUMENTS:

526 POST ROAD MEMO 02-20-26.PDF
2026-02-10 SITE PLAN SW REPORT_FULL.PDF
526 POST ROAD WELLS LOT DIVISION 2-16-26.PDF
2026-02-10 526 POST ROAD SITE PLAN SUBMISSION.PDF

VI. **ARUNDEL LANE SUBDIVISION**

The Grace Group, LLC, owner; Walsh Engineering, applicant/agent. Preliminary Subdivision Application for 12 single family dwelling units on 6.85 acres of land with street right of way proposed and open space as a Multifamily Development. The property is located within the General Business and Rural District. The property is located off 526 Post Road and is identified as Tax Map 27, Lot 10. **Workshop completeness and determine public hearing**

DOCUMENTS:

ARUNDEL LAND SUB PRELIM MEMO 02·20·26.PDF
ARUNDEL LANE SUB PRELIM COMPLETENESS 02·20·26.PDF
2026·02·10 ARUNDEL LANE SUBDIVISION PB SUBMISSION.PDF
2026·02·10 SUBDIVISION SW REPORT_FULL.PDF
2025·08·14 WSD REQUEST FOR ABILITY TO SERVE.PDF

VII. NORTEY DENTAL

Marilyn Darling, owner; Nortey Dental, PLLC, applicant; Sebago Technics, Inc, engineer/ agent. Site Plan Application for a Personal Service Business use for a 5,400 SF Dental Office to be constructed on a 1.44 acre parcel of land with associated parking lot, stormwater and utilities. The property to be located at 1223 Post Road and is within the General Business District. Tax Map 126, Lot 20 and 21. **Receive Site Plan Application, Workshop Articles V, VI and draft completeness**

DOCUMENTS:

NORTEY DENTAL SITE PLAN MEMO 02·20·26.PDF
NORTEY DENTAL DRAFT COMPLETENESS 02·20·26.PDF
00000· SITE PLAN APP BINDER_REDACTED.PDF
PAGES FROM 250519 NORTEY DENTAL SHEET SET 2026·02·02.PDF

OTHER BUSINESS

ADJOURN

TOWN OF WELLS, MAINE
PLANNING BOARD

Meeting Minutes
Monday, February 9, 2026, 7:00 P.M.
Wells Town Hall
208 Sanford Road

7:00 PM CALL TO ORDER & DETERMINATION OF QUORUM

Chairman Chuck Millian called the meeting at 7:00pm

Members Present: Chuck Millian, Joshua Carruthers David MacKenzie, Steve Koeninger, Brian Toomey, Paul Baratta, Josh Lagasse.

Staff Present: Town Engineer/Planner Mike Livingston, Meeting Recorder Devon Bettinson

Excused:

MINUTES

January 12, 2026

MOTION

Motion to approve the meeting minutes by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

PUBLIC HEARINGS

NONE

DEVELOPMENT REVIEW & WORKSHOP

I. **BALD HILL RV PARK –** Bald Hill LLC, owner; Richard Bois, Jr., applicant; Main-Land Development Consultants, Inc., engineer and surveyor/agent. Site Plan Application for a 64 site Tent and Recreation Vehicle Park with associated office, roadways and utilities. The property is located at 548 Bald Hill Road and is within the Rural, Resource Protection and 250' Shoreland Overlay Districts. Tax Map 46, Lots 20-2 and 20C. **Consider extension request**

Jamie Garland attended the meeting.

DRAFT

MOTION

Motion to grant 90-day extension to workshop the application by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

II. CONGDONS DONUTS - McLamb, LLC, owner/applicant; Main-Land Development Consultants, Inc. agent. Site Plan Amendment Application to construct a two-story building and associated driveway and parking. The 1st story to be used as accessory storage for the Restaurant use on the property and the 2nd floor to be used for two-family dwelling unit. The property is located at 1090 Post Road and is within the General Business, Residential A and Rural District. Tax Map 123, Lot 5 **Workshop completeness and determine a public hearing**

Chris Shomphe attended the meeting

Mr. Koeninger recused himself from the discussion.

MOTION

Motion to deem the application as complete by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

MOTION

Motion to not require a public hearing by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

Mr. Livingston asked the Board to review the individual landscape buffers and screenings.

MOTION

Motion to approve buffer along Route One at the restaurant by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

MOTION

Motion to allow the shade tree near the southerly exit to be relocated by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

MOTION

Motion to consider the existing vegetation along the remainder of Route One as sufficient by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

MOTION

Motion to consider the existing area, near the residential abutters on the northerly boundary as sufficient by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

Mr. Livingston asked the Board to review the establishment of the performance guarantees.

Mr. Shomphe discussed the receipt of purchase of drainage system materials and the restriction on an occupancy permit as performance guarantees.

DRAFT

MOTION

Motion to accept the proposed performance guarantee by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

Mr. Livingston asked the Board to consider approving a 90-day extension.

MOTION

Motion to grant 90-day extension to workshop the application by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

Mr. Koeninger returned to the Board.

III. FAIRWAY VIEW VILLAGE SUBDIVISION – York Building & Design Center, Inc. owner/ applicant; Attar Engineering, agent. Final Subdivision Amendment application seeking approval for as-built conditions; to eliminate protective bollards for patios adjacent to roadways; revise limits of clearing/disturbance to occurred; revised drainage; remove guardrails in some areas; and change the deadline of finish course of pavement to the 45th occupancy permit. The subdivision consists of 46 dwelling units as a grandfathered Multifamily Development located within the Rural District. The property is located off of North Berwick Road off Fieldside Lane and is identified as Tax Map 32, Lot 13. **Review completeness, consider waiving a public hearing, determine compliance and review Findings of Fact & Decisions for possible approval**

Walter Woods and Chris Wilbur attended the meeting.

Mr. Livingston asked the Board to reconsider waiving a site walk for the property based on the amendment being only for allowing one more occupancy.

MOTION

Motion to revoke the decision from the previous meeting to require a site walk for the property by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

Mr. Livingston recommended the Board find the application as complete

MOTION

Motion to find the application as complete by Mr. Toomey Seconded by Mr. Baratta. Passed unanimously.

MOTION

Motion to waive the public hearing by Mr. Toomey Seconded by Mr. Baratta. Passed unanimously.

MOTION

Motion to find the application as compliant by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

DRAFT

MOTION

Motion to find the existing escrow guaranteed funds as suitable by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

MOTION

Motion to approve and sign the plan and Findings of Facts & Decisions by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

IV. 526 POST ROAD – The Grace Group, LLC, owner/applicant; Walsh Engineering, agent. Site Plan Amendment Application to divide the 8.15 acre property into two lots. The existing School use to remain within the existing building on 1.3 acres of land. Changes to parking, landscaping, stormwater and utilities proposed. The property falls within the General Business District and Rural District. The property is located at 526 Post Road and is identified as Tax Map 27, Lot 10. **Receive Site Plan Amendment Application, workshop Article V, VI and draft completeness review comments**

Werner Gilliam and Leyna Tobey attended the meeting.

MOTION

Motion to receive the site plan amendment application by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

The Board, Mr. Gilliam, and Ms. Tobey discussed traffic generation. Traffic analysis to be provided.

The Board was not in favor of waiving the subdivision requirement for a second entrance.

Completeness and street frontage requirements discussed.

MOTION

Motion to grant 90-day extension by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

V. ARUNDEL LANE SUBDIVISION – The Grace Group, LLC, owner; Walsh Engineering, applicant/agent. Preliminary Subdivision Application for 12 single family dwelling units on 6.85 acres of land with street right of way proposed and open space as a Multifamily Development. The property is located within the General Business and Rural District. The property is located off 526 Post Road and is identified as Tax Map 27, Lot 10. **Receive Preliminary Subdivision Application, workshop Article V, VII and draft completeness**

Werner Gilliam and Leyna Tobey attended the meeting.

MOTION

Motion to receive the preliminary subdivision application by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

DRAFT

The Board, Mr. Gilliam, and Ms. Tobey discussed workshop items for draft completeness.

MOTION

Motion to grant 90-day extension by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

VI. COMPASS POINTE SUBDIVISION & SITE PLAN AMENDMENT – Compass Pointe Condominium Association, owner; Richard B. Dupuis Revocable Living Trust, owner of unit S-2; Attar Engineering, Inc, agent/ engineer. Site and Subdivision Amendment Application seeking to expand the building envelope for unit S-2 (dwelling unit) and depict existing site conditions and parking space changes. The property consists of 6 dwelling units (Multifamily Development) and 22 motel/hotel units (Lodging Facility) on one parcel of land. The property is located at 45 Post Road and is within the General Business, Residential A and 75' Shoreland Overlay District. Tax Map 105, Lot 159. **Workshop deadlines/ guarantee requirements and draft compliance**

Lew Chamberlain attended the meeting.

The Board and Mr. Chamberlain discussed the requirement of the boulders or fencing near unit 14 where the parking space violation existed.

The Board and Mr. Chamberlain discussed the deadline to resolve the clubhouse parking issues and performance guarantees. A cost estimate of the items to resolve was requested.

MOTION

Motion to grant 60-day extension by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

VII. DRAKES STATION SITE & SUBDIVISION -Drakes Station, LLC, owner; Geoffrey Aleva, of Civil Consultants, applicant/agent. Final Subdivision Application & Site Plan Application for 46 dwelling units 9.22 acres of land. The dwellings are proposed as elderly housing as part of a Life Care Facility with associated infrastructure and amenities. Two-family dwelling to remain on 1.39 acres. The property is located at 2030 Post Road and is within the General Business and Residential-Commercial Districts. Tax Map 143, Lot 10 and Map 144, Lot 1 and Lot 1B. **Receive Final Subdivision Application, review compliance with Preliminary Conditions of Approval, workshop draft completeness**

Geoff Aleva, John Adams, and Benjamin Meggs attended the meeting.

MOTION

Motion to receive the Final Subdivision Application by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

The Board, Mr. Aleva, Mr. Adams, and Mr. Meggs reviewed preliminary conditions of approval.

DRAFT

Mr. Adams reviewed the traffic patterns and discussed a traffic light installation.

MOTION

Motion to forward the new traffic assessment to the Traffic Peer Review by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

MOTION

Motion to designate an engineering company for the traffic peer review to Mr. Livingston by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

MOTION

Motion to grant 90-day extension by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

VIII. HOLIDAY HOUSE – Holiday House Condominium Association, owner; Dominic Gallucio, Property Manager; Civil Consultants, applicant/engineer. Site Plan Amendment Application seeking after the fact approval for changes made since 1985 which include: land division, conveyance of land, creation of easements, grandfathered housekeeping units enlarged, driveways expanded, lot coverage increased, enlarged pool, resolution of disturbed buffer and depicting on-site Lodging Facility Office. The use of the property consists of 26 grandfathered non-conforming housekeeping cottage units and 21 motel units. The property is located at 76 Post Road and is within the General Business District. Tax Map 105, Lot 4. **Workshop compliance and Findings of Fact & Decisions for possible approval**

Geoff Aleva attended the meeting.

MOTION

Motion to find the pedestrian path as acceptable within the hotel buffer to Old County Road by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

MOTION

Motion to find the existing abutter encroachment within the hotel buffer as suitable by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

MOTION

Motion to allow the parking spaces and aisles to be widened by Mr. Toomey. Seconded by Mr. Baratta. Passed unanimously.

MOTION

Motion to approve the grass fire lane by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

MOTION

Motion to grant 60-day extension by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

DRAFT

OTHER BUSINESS

I. Ordinance Changes
- a. Street Standards and Approval requirements.
- b. Flood Ordinance changes
- c. Minor Subdivision updates
- d. Timber Harvest updates
- e. Land Use ballot question format
- f. Residential Parking requirements
- g. Building Design requirements
- h. Boundary Survey requirement
- i. Short Term Rental Ordinance

Mr. Livingston and the Board began to workshop proposed ordinance changes and discussed a joint public hearing with the Board of Selectmen in March.

Bob Foley joined the flood ordinance discussion.

MOTION

Motion to extend the meeting by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

ADJOURN

MOTION

Motion to adjourn and sign Findings of Facts & Decisions by Mr. Toomey. Seconded by Mr. Koeninger. Passed unanimously.

MINUTES APPROVED_____, 2026

ACCEPTED BY:

_____ _____

Steve Koeninger, Secretary Devon Bettinson, Recorder

DRAFT

TOWN OF WELLS, MAINE
PLANNING BOARD

To: Planning Board

From: Planning Office

Date: February 20, 2026

Re: Sea Vu West Campground – Tax Map 43, Lot 6 – Consider Extension

Sea Vu West site plan amendment application was granted a 90 day extension by the Planning Board on 12/1/25. The extension will end on 3/1/26 so the Planning Board must reconsider an extension at their 2/23/26 meeting.

The applicant has provided the attached email indicating the status of propane tanks.

Thank you.

Shannon Belanger

From: Chris Wilber [redacted]
Sent: Friday, February 20, 2026 8:12 AM
To: Shannon Belanger; Mike Livingston
Cc: Sea-Vu West; Chris Rueckert; Ken Wood
Subject: FW: Sea Vu West- extension request needed

Caution: This is an external email that originated from a domain outside of Town of Wells. Do not click links or open attachments unless you recognize sender and know the content is safe.

** CAUTION EXTERNAL EMAIL **

Hi Shannon & Mike,

I had a follow up with the folks at Sea Vu West. It looks like everything else is in pretty good shape, other than the tanks. Once that is complete, I can do a final walk through and make any final plan edits prior to the expiration of this requested extension. I know that they are anxious to have this resolved prior to the summer season.

I will plan on attending on behalf of Sea-Vu West.

Please let me know if there is anything further that you think may need addressing.

Best Regards,
...Chris

From: Sea-Vu West <[redacted]
Sent: Tuesday, February 17, 2026 9:06 AM
To: Chris Wilber <[redacted]
Cc: Shannon Belanger <Sbelanger@wellstown.org>; Michael Cuomo <[redacted]>; Mike Livingston <mlivingston@wellstown.org>; Admin <[redacted]>; Chris Rueckert [redacted]
Subject: Re: Sea Vu West- extension request needed

Good morning Shannon & Chris,

At this time, the tanks have not yet been moved due to the significant snow cover currently on the ground. Haffner's is prepared to begin the work and has the necessary tanks on hand; however, they are unable to safely access and excavate the sites until the majority of the snow has melted. Their current plan is to begin installation in early March, weather permitting, with the goal of completing the project by mid-April. They will be starting in the back row of sites in order to bring those areas into compliance with the Town's requirements as a priority. Given these weather-related limitations that are outside of our control, we respectfully request that the Town consider granting a 90-day extension to allow sufficient time for the work to be completed properly and safely.

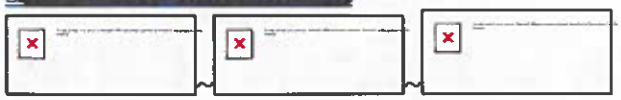
Additionally, I will be out of the country on February 23rd, and Nicole is scheduled to return from travel that same day. In the event her flight is delayed or changed for any reason, we may be unable to have a

representative from Sea-Vu West present at the 2/23 Planning Board meeting. Please let us know if we are able to formally request this extension via email in lieu of attending the meeting.

We remain committed to completing this project and bringing the park into full compliance as quickly as conditions reasonably allow. Please let me know if you need any additional information from us or from Haffner's.

Thank you for your consideration.

Megan DeFelice
Property & Resident Manager
Sea Vu West~Sea Vu South~Summer Hill
207-646-0785
[redacted]



On Tue, Feb 17, 2026 at 8:50 AM Chris Wilber <[redacted]> wrote:

Hi Shannon,

Checking on the status of the tanks, will get back to you by Thursday.

Best,

...Chris

From: Shannon Belanger <Sbelanger@wellstown.org>
Sent: Tuesday, February 17, 2026 8:49 AM
To: Sea-Vu West <[redacted]>
Cc: Michael Cuomo <[redacted]>; Mike Livingston <mlivingston@wellstown.org>; Chris Wilber <[redacted]>; Admin <[redacted]>; Chris Rueckert [redacted]
Subject: RE: Sea Vu West- extension request needed

Good Morning,

Sea Vu West site plan amendment application was granted a 90 day extension by the Planning Board on 12/1/25. The extension will end on 3/1/26 so the Planning Board must reconsider an extension at their 2/23/26 meeting. If you could provide an update on the status of the application and how much additional time is needed we can provide this to the

Planning Board. The Planning Board would also expect to speak with someone at the 2/23 to discuss the status of the application.

If you could provide the Planning Office with an request for an extension and update by this Thursday prior to noon, we can include this in the Planning Board packets that get distributed this Friday afternoon.

Thank you,

PLEASE NOTE: THE CODE ENFORCEMENT OFFICE & PLANNING OFFICE *CLOSES AT 3:00 PM MONDAY-FRIDAY* UNTIL FURTHER NOTICE.

Shannon L.M. Belanger

Assistant Planner

Website Administrator

Office of Planning & Development

Town of Wells

208 Sanford Road

Wells, Maine 04090

sbelanger@wellstown.org

phone: (207) 646-5187

fax: (207) 646-7046

Public Record notice: *email messages provided to the Town of Wells become part of the public record. Email senders are hereby notified that correspondence regarding developments, properties, projects, etc. may be added to town files, uploaded online, forwarded to Town Departments, forwarded to Town Boards/Committees, properties owners, developers, agents, and other entities as applicable.*

Planning & Development
208 Sanford Road, Wells, Maine 04090
Phone: (207) 646-5187, Fax: (207) 646-7046
Website: www.wellstown.org

Michael G. Livingston, Town Engineer/Planner	*mlivingston@wellstown.org*
Shannon M. L. Belanger, Assistant Planner	*sbelanger@wellstown.org*

Subdivision Amendment Application Memo

Date: February 17, 2026

To: Planning Board

From: Planning Office

Re: Richard Bois Subdivision – Tax Map 46, Lots 20-1, 20-2, and 20-3

Project Description:

Main- Land Development Consultants, Inc has filed a minor subdivision amendment application on behalf of the owner, Bald Hill, LLC for the subdivision plan entitled Richard Bois, Jr. The Richard Bois Jr. Subdivision was approved in 2006 by the Planning Board and consists of 3 lots/dwelling units (Lots 20-1, 20-2, and 20-3). Lot 3 has separate site plan approval to operation Mineral Extraction and grandfathered Manufacturing use. Lot 2 has filed a site plan application and is seeking approval of a Tent and Recreational Vehicle Park use. The Subdivision Amendment Application seeks approval to alter the lot line between lots 2 and 3, merge adjacent Map 46, Lot 20C into Lot 2, Lot 2 proposed to increase its lot size from 74.7 acres to 77.49 acres, and lot 3 proposes to reduce its lot size from 23.955 acres to 23.59 acres. The amendment also seeks to create easement(s) on Lot 3 to benefit lot 2 for septic system, stormwater management and access to the fire pond and hydrant. The subdivision is located within the Rural, Resource Protection and 250' Shoreland Overlay Districts and is located off of Quarry Road and Bald Hill Road. The property is identified as Tax Map 46, Lots 20-1, 20-2, and 20-3

§ 202-7. Final plan for minor subdivision.

B. Procedure.

(1) Within six months after the on-site inspection by the Board, the subdivider shall submit an application for approval of a final plan at least 10 days prior to a scheduled meeting of the Board. Failure to do so shall require resubmission of the sketch plan to the Board. The final plan shall approximate the layout shown on the sketch plan, plus any recommendations made by the Board. **[Amended 7-11-1996]** **Planning Board received the subdivision amendment on 12/1/25**

(2) All applications for final plan approval for a minor subdivision shall be accompanied by an application fee in the amount established by the Board of Selectmen, following notice and a public hearing, and payable by check to the municipality. **[Amended 7-9-2002; 4-16-2004]** **Application fee and escrow have been paid.**

(3) When the application is received by the Planning Board, it shall give the applicant a dated receipt acknowledging that it has received the application. **PB received the amendment application on 12/1/25**

(4) Within 20 days of the Board meeting at which the application is received, the Board shall notify by certified mail all owners of abutting property and the Town Clerk and Planning Board of any municipality that abuts or includes any portion of the proposed subdivision that an application for subdivision approval has been submitted. The notice shall include the location of the proposed subdivision and a general description of the proposed development. The notice shall be mailed no less than seven days prior to the Board commencing review of the plan. **[Amended 7-9-2002] Abutters mailed notice of the application on 9/15/25 and again on 11/20/25**

(5) The subdivider, or his duly authorized representative, shall attend the meeting of the Board to discuss the final plan. **YES**

(6) Upon determination that a complete application has been submitted for review, the Board shall issue a dated receipt to the subdivider. **[Amended 3-24-1997] Application received on 12/1/25**

(7) The Board shall hold a public hearing within 30 days of determining that a complete application has been received and shall publish notice of the date, time and place of the hearing in a newspaper of general circulation in the municipality at least two times, the date of the first publication to be at least seven days prior to the hearing. **Public hearing to be determined**

(8) Within 30 days of a public hearing or within another time limit as may be otherwise mutually agreed to by the Board and the subdivider, the Board shall make findings of fact on the application and approve, approve with conditions or deny the final plan. The Board shall specify in writing its findings of facts and reasons for any conditions or denial. **To be determined**

C. Submissions:
(1) The subdivision plan for a minor subdivision shall consist of a reproducible original and three copies of one or more maps or drawings drawn to a scale of not more than 100 feet to the inch. Plans shall be no larger than 24 inches by 36 inches in size and shall have a margin of two inches outside of the border lines on the left side for binding and a one-inch margin outside the border along the remaining sides. A signature block shall be provided for endorsement by the Board located in the lower left corner of the plan. Twelve bound copies of all information accompanying the plan and plans not larger than 11 inches by 17 inches shall be submitted. A digital version (PDF) of the submittal materials and the plan(s) shall also be provided.
[Amended 11-5-2024]

Recommendations and conclusions:

1. The Planning Board should consider the following:
   a. Plan markups and note changes are recommended.
   b. Net area of Lot 2 to be identified. (Area below high water line of West Brook and area of the RP zone on lot 2 to be deducted.)
   c. Net area of Lot 3 to be identified. (Area of Resource Protection District on lot 3 to be deducted).
   d. Planning Board to consider a waiver to allow the signature block to remain in the lower middle of the plan.

e. An updated boundary survey has been provided, but missing monuments will be required to be set by a surveyor. Monuments around lot 1 appear to be incorrect.
f. Draft stormwater pond/ septic system easement to be provided by the applicant and reviewed by the Town Engineer.
g. Fire Pond:
    i. What is the condition of this Fire Pond and its access?
    ii. Fire Pond access easement between lot 2 and 3 to be provided by the applicant and reviewed by the Town Engineer.
    iii. Access road to hydrant to be depicted on the plan (easement to the Town noted in note 12.)
h. Well locations:
    i. Proposed well location on lot 2 does not match the new well location proposed on the RV Park? Well locations to match. If well to remain near fire pond on lot 3, a well/utility easement may be needed for lot 2.
    ii. Well location on lot 1 not identified.
    iii. Well locations on lot 3 not identified. Does lot 3 have more than one well? (one for mineral extraction and one for the dwelling?)
i. Septic Systems:
    i. Septic system for Lot 3 appears to be installed to the south of the 20' x 28' dwelling, south of the cemetery. Plan to identify all septic systems on lot 3.
    ii. Lot 2 proposes 3 new systems (A, B, and C) for the RV park use. Systems A and B have limiting factors of less than 24 inches. A reserve system is needed if systems A and B are both to be utilized.
    iii. The existing mobile home on lot 2 to remain. Septic system for this home to remain.
    iv. Existing septic system and well for lot 1 to be identified.
j. Plan note 11 to be revised to indicate that lots 1 and 3 are approved for 1 single family dwelling unit. Lot 2 is proposed to have two single family dwelling units. Subdivision to consist of a total of 4 dwelling units.
k. IF&W letter to be provided by the applicant, or waived by the Planning Board?
l. Plan to note that the shed on lot 3 shall be relocated prior to deed conveyance of 17,488 SF of land from lot 2 to lot 3, and prior to the issuance of a building permit for lot 2 and 3.
m. Lot 2 and 3 proposed net areas to be corrected.
n. An access road across Lot 1 to access material stockpiles and parking on Lot 1 for the mineral extraction use appear to have been established. To be addressed.

3. Planning Board to consider finding the application complete and scheduling a public hearing to coincide with the Millenium Granite and Bald Hill RV Park public hearings.

Project Name/Tax Map & Lot #:	Richard Bois Subdivision Amendment/ Tax Map 46, Lot 20-1, 20-2 and 20-3	District:	R, RP, ShO
Prepared By:	Office of Planning & Development	Review Date:	9/17/25; 11/24/25; 2/17/26
Plans Dated:	8/12/25; 10/27/25; 1/26/26	Final Plan Revisions Submittal Date:	9/9/25; 11/14/25; 1/26/26

Chapter 202
Subdivision of Land

§ 202-10. Revisions to approved plans.			Application Meet Requirements				
			Yes	No	NA	Waiver	Comments
A.	Procedure. An applicant for a revision to a previously approved plan shall, at least 14 days prior to a scheduled meeting of the Board, request to be placed on the Board's agenda.		**Y**				
	(1)	If the revision involves the creation of additional lots or dwelling units, the procedures for preliminary plan approval shall be followed, unless the revised plan meets the definition of a minor subdivision. If the revision involves only modifications of the approved plan, without the creation of additional lots or dwelling units, the procedures for final plan approval shall be followed.	**Y**				The Richard Bois subdivision currently consists of 3 lots/dwelling units and is a Minor Subdivision. The proposed subdivision amendment involves the alteration of the lot line between lots 2 and 3 and the addition of 100,317 SF to lot 2 from Tax Map 46, Lot 20C which is being merged into lot 2. No changes are proposed to lot 1. **See section scope of review subsection C below.**

Project Name/Tax Map & Lot #:	Richard Bois Subdivision Amendment/ Tax Map 46, Lot 20-1, 20-2 and 20-3	District:	R, RP, ShO
Prepared By:	Office of Planning & Development	Review Date:	9/17/25; 11/24/25; 2/17/26
Plans Dated:	8/12/25; 10/27/25; 1/26/26	Final Plan Revisions Submittal Date:	9/9/25; 11/14/25; 1/26/26

§ 202-10. Revisions to approved plans.			**Application Meet Requirements**				
			Yes	**No**	**NA**	**Waiver**	**Comments**
	(2)	The applicant shall pay a fee, established by the Board of Selectmen following notice and a public hearing, to include the applicable per-dwelling-unit fee according to the procedures for a minor subdivision, preliminary, or final plan for a major subdivision. In addition, the applicant shall pay a fee to be determined by the Board, to be deposited in a special account designated for that application, to be used by the Board for abutter notices and hiring independent consulting services to review the application. If the balance in this special account shall be drawn down by 75%, the Board shall notify the applicant and require that an additional $50 beyond the balance after invoices received are paid be deposited by the applicant. The Board shall continue to notify the applicant and require that an additional $50 be deposited as necessary whenever the balance of the account is drawn down by 75% of the original deposit. Any balance in the account remaining after a decision on the revision by the Board shall be returned to the applicant. If a public hearing is deemed necessary by the Board, the applicant shall provide the Planning Office with cash escrow funds to pay for the costs of advertising and postal notification. [Amended 7-23-2002; 4-16-2004; 11-05-2024]	**Y**				Application fee and escrow provided.
	(3)	The subdivider, or his duly authorized representative, shall attend the meeting of the Board in person to discuss the revisions to an approved plan.	**Y**				
	(4)	If a subdivider is in default of a previously approved subdivision or site plan in the Town of Wells, the Planning Board may refuse to review an application. The Planning Board shall conduct a review of any such defaults, determine the default (s) and may suspend the application's review until the defaults are resolved.			**NA**		None known at this time.

Project Name/Tax Map & Lot #:	Richard Bois Subdivision Amendment/ Tax Map 46, Lot 20-1, 20-2 and 20-3	District:	R, RP, ShO
Prepared By:	Office of Planning & Development	Review Date:	9/17/25; 11/24/25; 2/17/26
Plans Dated:	8/12/25; 10/27/25; 1/26/26	Final Plan Revisions Submittal Date:	9/9/25; 11/14/25; 1/26/26

§ 202-10. Revisions to approved plans.		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
B.	Submissions. The applicant shall submit 12 copies of the last approved plan, as well as 12 copies of the proposed revisions. The application shall also include enough supporting information to allow the Board to make a determination that the proposed revisions meet the standards of these regulations and the criteria of the statute. The revised plan shall indicate that it is the revision of a previously approved and recorded plan and shall show the book and page or cabinet and sheet on which the original plan is recorded at the Registry of Deeds. Plans shall be no larger than 24 inches by 36 inches in size and shall have a margin of two inches outside of the border line on the left side for binding and a one-inch margin outside the border along the remaining sides. Space shall be reserved thereon for endorsement by the Board located in the lower left corner of the plan. A digital version (PDF) of the submittal materials and the plan(s) shall also be provided. **[**Amended 7-23-2002, 11-05-2024]	**Y***				Sheet 1 of the 2009 approved subdivision plan Book 336, Page 9, provided. Title block notes this is an Amendment to Richard Bois Jr. Subdivision plan for Bald Hill, LLC. **Planning Board signature block is required to be in the lower left corner of the plan. Planning Board to consider waiver to allow signature block to remain.** Plan margin requirements are not met. The Planning Board granted a waiver to allow the margin on 12/1/25.
C.	Scope of review. The Board's scope of review shall be limited to those portions of the plan which are proposed to be changed. The application for approval of the amended plan shall address the submission requirements for minor, preliminary or final subdivision plans.	**Y**				Minor review required for the amendment proposed per 202-7.
202-7. Minor Subdivision.						
C.	Submissions:					
	(1) The subdivision plan for a minor subdivision shall consist of a reproducible original and three copies of one or more maps or drawings drawn to a scale of not more than 100 feet to the inch. Plans shall be no larger than 24 inches by 36 inches in size and shall have a margin of two inches outside of the border lines on the left side for binding and a one-inch margin outside the border along the remaining sides. A signature block shall be provided for endorsement by the Board located in the lower left corner of the plan. Twelve bound copies of all information accompanying the plan and plans not larger than 11 inches by 17 inches shall be submitted. A digital version (PDF) of the submittal materials and the plan(s) shall also be provided. [Amended 11-5-2024]	**Y**				Sheet 1 of the 2009 approved subdivision plan Book 336, Page 9, provided. Title block notes this is an Amendment to Richard Bois Jr. Subdivision plan for Bald Hill, LLC. Plan scale is 1" = 120 feet. The Planning Board granted a waiver of the scale on 12/1/25. The 2009 plan was approved at a 1" = 200 feet scale (Sheet 2) and 1" = 100 feet scale (Sheet 1).

Project Name/Tax Map & Lot #:	Richard Bois Subdivision Amendment/ Tax Map 46, Lot 20-1, 20-2 and 20-3	District:	R, RP, ShO
Prepared By:	Office of Planning & Development	Review Date:	9/17/25; 11/24/25; 2/17/26
Plans Dated:	8/12/25; 10/27/25; 1/26/26	Final Plan Revisions Submittal Date:	9/9/25; 11/14/25; 1/26/26

	(2) The application for approval of a minor subdivision shall include the following information:					Purpose of this plan note provided. See note 10.
	(a) Proposed name of the subdivision, or identifying title, and the name of the municipality in which it is located, plus the Assessor's map and lot numbers.	**Y**				Title block notes this is an Amendment to the Richard Bois Jr. Subdivision plan for Bald Hill, LLC. Map and lot numbers noted as Map 46, Lot 20-1, 20-2, and 20-3. Lot 20C to be merged with Lot 20-2. See plan note 3.
	(b) A field survey of the boundary lines of the tract, giving complete descriptive data by bearings and distances, made and certified by a licensed land surveyor. The corners of the tract shall be located on the ground and marked by monuments. The plan shall indicate the type of monument set or found at each lot corner.	**Y***				See note 2, which states boundaries are based on other plans. An updated boundary survey is required. **Plan depicts monumentation, but various monuments are missing, incorrect, or require re-installation.**
	(c) A copy of the deed from which the survey was based and a copy of all deed restrictions, easements, rights-of-way or other encumbrances currently affecting the property.	**Y**				Book 17714, Page 856 provided. Copy of Easement to the Town to the Fire Pond provided by the Planning Office. Book 15534, Page 617-621.
	(d) A copy of any deed restrictions intended to cover all or part of the lots in the subdivision.	**Y***				**Draft easement(s) to be provided for septic and stormwater. To be reviewed.** Lot 2 to be granted an easement to use access and maintain the fire pond **and hydrant. Draft Easement to be provided for review.** **Proposed well location on Lot 2 appears to be relocated on updated RV Park design and does not match the location shown on the subdivision plan. Applicant to clarify.**

Project Name/Tax Map & Lot #:	Richard Bois Subdivision Amendment/ Tax Map 46, Lot 20-1, 20-2 and 20-3	District:	R, RP, ShO
Prepared By:	Office of Planning & Development	Review Date:	9/17/25; 11/24/25; 2/17/26
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	(e) Indication of the type of sewage disposal to be used in the subdivision.	**Y**				The 2006 plan depicts test pits and proposed septic areas. The amended plan depicts additional septic areas for Lot 2. The proposed septic easement onto Lot 3 is depicted on the plan.
	[1] When sewage disposal is to be accomplished by connection to the public sewer, a written statement from the Wells Sanitary District stating that the district has the capacity to collect and treat the wastewater shall be provided.			**NA**		Subdivision not served by public water (WSD).
	[2] When sewage disposal is to be accomplished by subsurface wastewater disposal systems, test pit analyses prepared by a licensed site evaluator shall be provided. A map showing the location of all test pits dug on the site shall be submitted.	**Y***				Septic system designs for Lot 20-2 prepared by Scott Dixon, SE # 406 dated 7/3/25 provided. **Systems A and B have limiting factors less than 24 inches and require reserve areas per 202-12F(3)(b), if all systems are utilized. Reserve system to be identified?** **Existing septic system location on Lot 20-2 for mobile home identified. To be identified to be removed?** **Septic system for lot 20-3 is not identified. Was the septic proposed to the east of the cemetery installed? Is there another septic system elsewhere on lot 20-3?** **Septic system for lot 20-1 not identified on plan.**

Project Name/Tax Map & Lot #:	Richard Bois Subdivision Amendment/ Tax Map 46, Lot 20-1, 20-2 and 20-3	District:	R, RP, ShO
Prepared By:	Office of Planning & Development	Review Date:	9/17/25; 11/24/25; 2/17/26
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	(f) Indication of the type of water supply system(s) to be used in the subdivision. When water is to be supplied by the Kennebunk, Kennebunkport and Wells Water District, a written statement from the district shall be submitted indicating that there is adequate supply and pressure for the subdivision and approving the plans for extensions where necessary. Where the district's supply line is to be extended, a written statement from the Fire Chief stating approval of the location of fire hydrants, if any, shall be submitted.	**Y***				**The existing drilled well location on Lot 20-3 is not located on the plan.** **The existing well on lot 20-1 and 20-2 is not depicted.** A proposed well location is depicted on lot 20-2.
	(g) The date the plan was prepared, North point (identified as true or magnetic), graphic map scale, names and addresses of the record owner, subdivider and individual or company who or which prepared the plan and the names of adjoining property owners.	**Y**				See plan. Owner and applicant specified on the plan. Surveyor noted. Graphic scale is 1" = 120 feet. North point (grid) is identified on the plan. Abutters are depicted.
	(h) A copy of the portion of the county soil survey covering the subdivision.	**Y**				Soil Survey for the subdivision provided.
	(i) Contour lines at the intervals specified by the Planning Board, showing elevations in relation to mean sea level.				**W**	Contours are not depicted on the plan. Planning Board granted a waiver on 12/1/25 to not require contours to be depicted.
	(j) If any portion of the subdivision is in a flood-prone area, the boundaries of any flood hazard areas and the one-hundred-year flood elevation shall be delineated on the plan.	**Y**				See note 6. Area depicted on the plan.
	(k) A hydrogeologic assessment prepared by a certified geologist or registered professional engineer, experienced in hydrogeology, when the subdivision is not served by public sewer and the subdivision has an average density of less than 100,000 square feet per dwelling unit.			**NA**		Parcel not served by public sewer. Density exceeds 1 dwelling per 100,000 SF per dwelling. Hydrogeologic Assessment is not required.
	(l) The location of any wetlands, streams, rivers, brooks or ponds located within or adjacent (within 75 feet) to the proposed subdivision.	**Y**				Wetlands depicted on Lot 3 and portion of lot 2. See note 8. West Brook is depicted. On 12/1/25 the Planning Board granted a waiver and did not require all wetlands to be depicted on the plan.
	(m) The location of any significant wildlife or fisheries habitat as located by the Department of Inland Fisheries and Wildlife.		**N**			**IF&W letter not provided.** MDEP Bird Habitat depicted and vernal pool of special significance identified and depicted on the plan.

Planning & Development
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Site Plan Amendment Application Memo

Date: February 20, 2026

To: Planning Board

From: Planning Office

Re: Millennium Granite – Site Plan Amendment Application - Map 46, Lot 20-3

Jamie Garland of Main-Land Development Consultants has submitted a site plan amendment application on behalf of Richard Bois of Bald Hill, LLC for the Millennium Granite site plan. The purpose of this site plan amendment seeks to adjust the lot line between Lots 20-2 and 20-3. The area of Lot 20-3 to change from 23.955 acres to 23.59 acres. The amendment also seeks to create easements for the benefit of Lot 20-2 for stormwater, septic and well access. The amendment will also require after the fact approval of various changes made on Lot 20-3 since the last site plan approval granted in 2016 which include: impacts within the 100' wide mineral extraction buffer along Quarry Road, impacts within the 25' wide mineral extraction buffer; expansion of the mineral extraction use, addition of various structures and relocation of structures. This property is identified as Tax Map 46, Lot 20-3. The parcel is located off of Quarry Road and Bald Hill Road and is within the Rural, Resource Protection, and 250' Shoreland Overlay Districts. The existing and proposed uses on the property are Mineral Extraction and Manufacturing use. The 23.59 acre parcel to be served by a private septic **system(s)?** and accesses water from the quarry pond and on-site **well(s**). A fire pond with dry hydrant is also located on this parcel.

§ 145-70. Applicability.

All uses identified as permitted with site plan approval in Article V shall be subject to the requirements of this article in the following situations:

A. A new use is proposed on a lot;

B. Resumption of a use on a property which has been discontinued for more than five years is proposed (See §145-12D regarding nonconforming uses.); or

C. An existing use proposes to expand its gross floor area and/or land area. **YES – expansion of mineral extraction use and new structures seeking after the fact approval. Lot size reducing from 23.955 acres to 23.59 acres.**

§ 145-71. Reviewing authority. [Amended 4-19-1997]

A. The reviewing authority for uses or structures requiring site plan review under Article V shall be determined by the Reviewing Authority Chart. Editor's Note: The Reviewing Authority Chart is included at the end of this chapter. **[Amended 4-18-1998]** **The amendments sought requires Planning Board approval.**

B. If a particular reviewing authority is set forth in sections of the Wells Municipal Code other than Subsection A of this section for a particular use, structure or procedure that conflicts with the above chart, such other sections of the Code will control with respect to the proper review authority.

§ 145-72. Applications. [Amended 4-26-1996]

Appropriate application forms shall be available from the Office of Planning and Development. All applications shall be filed with the Office of Planning and Development, and the application fee shall be paid to the Town of Wells.

§ 145-73. Fees.

A. An application fee as established by the Board of Selectmen, following notice and a public hearing, shall be paid at the time an application is filed. **Applicant submitted a fee and escrow deposit.**

B. The applicant shall reimburse the Town for all expenses incurred for notifying abutters of the proposed site plan and advertising of any public hearing regarding the site plan.

C. The Town staff or Planning Board may employ the services of technical experts to assist it in reviewing applications and in determining appropriate conditions of approval. The applicant shall be informed of the intended use of such services and their approximate cost. A deposit equal to the estimated cost shall be paid to the Town prior to the employment of any such technical experts. The total cost of any such review shall be paid by the applicant prior to the signing of any approved plans. If the entire deposit is not expended, the remaining balance shall be returned to the applicant. **[Amended 4-26-1996; 11-7-2000]**

§ 145-74. Review and approval process.

G. Amendment to approved site plans.

(2) Upon receipt of an application to amend a previously approved site plan, the Code Enforcement Officer shall follow the procedure for reviewing a site plan review preapplication as set forth in Subsection A. Notice of the filing of an application to amend an approved site plan shall follow the notice procedure for the filing of a preapplication for site plan review as set forth in Subsection A. **Procedure for site plan pre-application and application shall be followed. ***

(3) The procedure for reviewing applications to amend a previously approved site plan shall follow the procedure for reviewing a site plan review application as set forth in this section unless the reviewing authority determines that the amendment is of such an inconsequential nature that the full site plan review procedure is not necessary. For applications to amend a previously approved site plan, the reviewing authority may combine the preapplication and application steps and may waive the requirement for a public hearing.

(4) Field changes to approved site plans. **[Added 4-18-1998]** **Not applicable at this time**

H. The Planning Board may require that a performance bond or other suitable financial guaranties be posted by the applicant. The form and amount of this bond of financial guaranty must be acceptable to the Town Manager. **Not applicable**

I. Technical assistance. The Code Enforcement Officer, the Staff Review Committee or the Planning Board may, at its discretion, forward a copy of the application, the plans and all supporting documentation to any appropriate technical expert for review. The review may include traffic impact, roadway and parking area design and construction, stormwater management and erosion and sedimentation control, as well as any other concerns of the reviewing authority. The applicant shall pay for the employment of any such experts. (See § 175-73C.) **Not applicable**

A. Preapplication. **[Amended 4-14-2000]** *

(1) Prior to submitting an application, the applicant shall submit to the Office of Planning and Development a preapplication form, sketch plan of the subject property showing existing and proposed buildings, parking areas, lot boundaries, adjacent streets, entrances to the property, water bodies, any other significant features **Plan provided**, a list of names and addresses of abutters to the proposed project **Provided**, and a set of Size 10 envelopes addressed to the abutters **Provided**, affixed with first class postage. The addresses of these abutters shall be obtained from the Town of Wells Tax Assessor's records. Within seven days of receipt of a preapplication by the Office of Planning and Development, the Code Enforcement Officer shall:

(a) Determine the level of review to be required under § 14-71 and whether or not the proposed use is a permitted use on the subject lot. **On 11/18/25 the Code Officer determined the uses are permitted.**

(b) If the proposed use is a permitted use on the subject lot: **Abutter notification mailed 11/20/25**

[1] Send or deliver a notice to the applicant and the abutters of such determinations by first class mail. **YES**

[2] Certify that said notices have been sent or delivered.

[3] If the reviewing authority pursuant to § 145-71 is the Code Enforcement Officer, indicate to the applicant the information the applicant needs to submit as part of the application. **Not applicable**

[4] If the reviewing authority pursuant to § 145-71 is the Staff Review Committee or the Planning Board, place the applicant on the next available agenda for a preapplication meeting, if a preapplication meeting is requested by the applicant. **Planning Board received site plan amendment application on 12/1/25.**

(c) If the proposed use is not a permitted use on the subject lot, send a notice to the applicant of such determination by first class mail and certify that said notice has been sent.

(2) The abutters' notification sent pursuant to Subsection A(1)(b)[1] above shall include a copy of the preapplication form and an explanation of the purpose of the notification. **YES** If the reviewing authority is the Staff Review Committee or the Planning Board and a preapplication meeting with the Committee or Board is requested by the applicant, the preapplication meeting date shall also be included in the notification **YES**, and said notification shall be sent or delivered by first class mail at least 10 days before the meeting. **Abutter notification mailed on 11/20/25; meeting was on 12/1/25**

(3) The Staff Review Committee or the Planning Board at its preapplication meeting with the applicant shall indicate the information which the applicant will be required to submit as part of the application and may schedule an on-site inspection of the property. The Committee or Board may waive any of the submission requirements listed in § 145-77 if it determines that they would not be applicable or are not necessary to determine that the standards of § 145-75 have been or will be met. **Site walk not required by Planning Board on 12/1/25.**

(4) If the applicant does not request a preapplication meeting with the Staff Review Committee or the Planning Board the applicant is encouraged to meet with the Director of Planning and Development to discuss the project and the information the applicant will be expected to submit as part of the application.

Recommendations and Conclusion:

1. The Planning Board to workshop the following Article V, VI, VII and draft completeness review comments:
    a. Various changes have been observed to have occurred since the 2016 site plan approval. An existing conditions as-built plan has been prepared. Plan markups and note changes recommended.
    b. Plan scale:
        i. Scale is 1" = 120 feet. Is the applicant requesting a waiver to use a smaller plan scale than 1" = 40 feet? Waiver previously granted on 11/15/16 for 1" = 100 feet. Expansion of the mineral extraction use has occurred without approvals.
        ii. The 1" = 120 plan scale is difficult to use and not detailed. Lot 3 can be depicted on a 1" = 60 feet scale and a separate notes plan provided.
        iii. A waiver to allow 1" = 120 feet is not recommended. A waiver from 1" = 40 feet to allow 1" = 60 feet could be considered.
    c. Building changes identified:
        i. The 20' x 28' building appears to be a dwelling unit. Plan to define. Density and parking notes to be updated. The septic system and well for this dwelling to be defined on the plan.

ii. A new storage container is identified south of the maintenance building in the setback/buffer and does not appear to have a building permit.
iii. Applicant to clarify if the 40' x 80' approved accessory building is to be relocated. New location has not been approved. It appears a slab and partial foundation may have been poured. The slab falls within the 25' setback/ buffer and requires relocation. A building permit does not appear to have been applied for a foundation. If only a slab for crushed stone processing, it still cannot be within the 25' wide buffer.
iv. A shed, wood shed and animal enclosure are identified within the cemetery buffer area.

d. The property is required to maintain a 100' setback/ buffer from the boundary of the cemetery.
    i. The old engine house, 20' x 28' building and old compressor house are grandfathered in the cemetery setback/ buffer but cannot be expanded.
    ii. A shed, animal enclosure and wood shed have been located within the 100 cemetery setback/ buffer. 145-53D(1) Removal/relocation of the sheds/ buildings may be required.
    iii. Gravel areas within the 100' cemetery setback/ buffer cannot be expanded. The gravel access road installed/expanded must be revegetated.
e. Prior approved lot coverage was 117,523 SF or 11.3%. Proposed lot coverage noted to be 46,906 SF or 4.5%? Calculation appears to be incorrect and must include the mineral extraction areas (anything non-vegetated). Area of the lot in the Rural zone vs. the RP zone needed. Lot coverage to be based on area of lot in the Rural zone.
f. Dimensional requirements to be noted on the plan.
g. Does the property conduct crushing or screening activities? If yes, does the Planning Board require any noise studies or further information such as a designated location?
h. Net area of the property to be updated to deduct the quarry pond area and RP zone.
i. Plan to depict stormwater easement/ septic easement that is proposed. Easement language to be provided by the applicant for review by the Town.
j. Buffers:
    i. Abutting Lot 20-1 has historically had piles of stone and mineral extraction material. See plan note 15, revisions recommended. Lot 3 retains an easement on lot 1 for the old rock piles. Within 1 year of lot 1 being sold or transferred to a third party, lot 3 shall be required to remove the rock stockpile and gravel areas; reclaim the area as vegetated; and install the required 25' wide no-cut buffer along the boundary of lot 1. Vegetation on lot 1 to consist of grass, shrubs and trees. 25' wide no-cut buffer on lot 3 to consist of 6' tall evergreen trees planted 10' on center, staggered.
    ii. The 25' wide no-cut buffer required for Lot 1 was disturbed after the 2016 site plan approval. A gravel driveway to the west of the maintenance building has been installed leading to a new concrete slab. The disturbance of this buffer was not approved, not is allowed. The lot line could be relocated or eliminated.
    iii. The concrete slab that was installed is also located within the 25' no-cut buffer. This slab also does not appear to have a building permit. The disturbance of this buffer was not approved, not is allowed.
    iv. Owner of lot 20-3 also owns abutting lot 20-2. The 100' buffer is reduced to 25'. See note 17.14. Gravel areas have been created within this buffer area. The new lot boundary between 20-2 and 20-3 will require re-vegetation of the 25' buffer.

v. See note 23. The 24' x 30' mineral extraction office is located within 100 feet of the street right of way and is grandfathered. No new construction or clearing permitted within 100' of Quarry Road or Bald Hill Road, except for access road and existing parking. An area within the 100' wide no-cut buffer along Quarry Road has been disturbed and is used as stone pile storage. This area must be revegetated.

k. Erosion and sedimentation control plan to be considered. New Mineral Extraction areas have been created. Expansion is close to wetlands.
l. The driveway/access that exists onto Bald Hill Road appears that it will be eliminated due to the RV Park fencing proposed on Lot 20-2. Applicant to clarify.
m. Gates located at entrances off of Quarry Road and Bald Hill Road.
n. Some Security fencing is shown around the quarry pond. Fencing height and type to be identified. What other barriers exist for the gravel access road adjacent to the pond? Are there large existing trees, jersey barriers or boulders?
o. No performance guarantee was required as part of the 2003 site plan approval. Planning Board did not require a guarantee with the 2009 approval. Planning Board to determine if a guarantee is required as part of this amendment application, which seeks after the fact approval to expand the mineral extraction use.
p. The parcel is served by an on-site porta-potty located adjacent to the shop? Or has a bathroom been installed?
q. Planning Board to consider if a waiver of depicting contours is to be granted. Is a site walk needed to consider? Contours are available, a waiver is not recommended.
r. Planning Board to consider if additional traffic data is necessary for the Mineral Extraction/ grandfathered manufacturing use and dwelling unit on lot 3.

2. The Planning Board to continue the workshop and consider granting the applicant a 90 day extension.

Project Name/District:	Millennium Granite / Rural, Resource Protection, 250' Shoreland Overlay– Tax Map 46, Lot 20.3	Date of Review:	2/18/26
Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

Article VII
Performance Standards

§ 145-53. Mineral Extraction.			Application Meet Requirements			
			Yes	No	NA	Comments
A.	Prior to April 24, 1994, any mineral extraction use which is not operating under the control of an approved site plan shall:				NA	2003 Site Plan was approved by the Wells Planning Board.
	(1)	Submit to the Code Enforcement Officer either:				
		(a) A plan prepared by a surveyor or professional engineer licensed by the State of Maine showing the boundaries of the lot, the limits of the area of the existing operation and existing topography of the subject site within 100 feet of any excavation or storage area at two-foot contours (contour information shall not be required for stored materials); or				
		(b) A file containing the following information: [1] Tax map and lot number of the lot; [2] A copy of the deed of the lot; [3] A sketch of the lot showing the approximately size and location of the mineral extraction use; and [4] A series of photographs showing the area of the mineral extraction use, its entrance(s) from the public road(s) and all working faces. The area included in each photograph shall be identified on the sketch of the lot; or				
	(2)	Discontinue mineral extraction operations. **[Amended 4-28-1995]**				
B.	Any mineral extraction use legally operating on April 24, 1993, may:					
	(1)	Continue to operate according to an approved site plan;	**Y**			
	(2)	Continue to operate and expand the use by one acre in area without an approved site plan, provided that the use has complied with the requirements of Subsection A(1)(a). Any increase in area of more than one acre may only be done according to an approved site plan. The Planning Board shall recognize the legal nonconforming status of those portions of a site on which the mineral extraction use was present and on those portions may not impose any conditions which would exceed the requirements in effect when the use was established; or	**Y**			The Mineral Extraction use is on the 23.59 acre parcel of land. Regulations and statutes related to mineral extraction shall continue to apply to the site, and regulations and statutes related to the close out of a pit shall be applicable to the subdivision portion as well.

Project Name/District: Millennium Granite / Rural, Resource Protection, 250' Shoreland Overlay– Tax Map 46, Lot 20.3 | Date of Review: 2/18/26

Prepared By: Office of Planning & Development | Company Name: Town of Wells

§ 145-53. Mineral Extraction.			**Application Meet Requirements**			
			Yes	**No**	**NA**	**Comments**
	(3)	Remove up to 500 cubic yards of material in any two-year period from the lot without having obtained an approved site plan and without paving the entrance road as required in Subsection D(3), provided that the use has complied with the requirements of Subsection A(1)(b). No more than 500 cubic yards may be removed from any lot in any two-year period unless mineral extraction is a permitted use in the district in which the lot is located and an approved site plan has been obtained for the expanded use. **[Amended 4-28-1995]**	**Y**			Site Plan was originally approved on 1/13/2003.500 cubic yard limitation is not applicable.
C.	Up to 100 cubic yards of material may be removed annually from a parcel of land for use on another parcel of land in the same ownership without having obtained site plan approval and without paving this entrance road as required in Subsection D(3).		**Y**			Site Plan was originally approved on 1/13/2003.500 cubic yard limitation is not applicable.
D.	All mineral extraction uses shall comply with the performance standards listed below. Any legally existing mineral extraction use which does not conform to these performance standards may continue to operate but may not increase the nonconformities.		**Y**			

Project Name/District: Millennium Granite / Rural, Resource Protection, 250' Shoreland Overlay– Tax Map 46, Lot 20.3 | Date of Review: 2/18/26

Prepared By: Office of Planning & Development | Company Name: Town of Wells

	(1)	A vegetative buffer strip at least 100 feet in width shall be maintained along all lot boundaries, including the boundaries of cemeteries located on the lot on which the mineral extraction use is located. No existing vegetation shall be removed, except that a strip not to exceed 50 feet in width may be cleared for an access road, which shall cross the buffer strip at an angle of between 75° and 90°. Natural vegetation may be removed if the buffer is landscaped according to an approved site plan. The buffer strips between two mineral extraction uses may be removed upon the written agreement of both lot owners and recording of the agreement in the Registry of Deeds and referencing the recorded agreement on their respective site plans. Additional the width of any buffer strip, except those adjacent to streets, may be reduced to not less than 25 feet if the abutting property owner(s) agree(s) to the reduction in writing and said agreement is recorded in the Registry of Deeds. For security reasons, buildings accessory to the mineral extraction use shall be allowed, with the approval of the Planning Board, in the buffer strip along their street frontage as long as they are located at least 100 feet from any site lot line and are visible from the street. **[Amended 11-6-2001]**	**Y***			This 100 foot vegetated buffer along for the cemetery boundary is not met. The cemetery has the old compressor house, engine house and roadway within 100 feet. This non-conforming buffer strip would be grandfathered for the cemetery. The plan states no clearing within 100 feet of the cemetery to take place. (See note 17. 8) **A shed and animal enclosure have been installed on the property within the 100' buffer of the cemetery as well as new gravel areas. Shed, gravel and animal enclosure added after 2016 amendment. Shed and animal enclosure do not appear to have building permits.** Lot 1 has piles and a new gravel driveway from the mineral extraction parcel onto the property. See plan note 15. Lot 3 retains an easement on lot 1 for the old rock pile **and new gravel areas**. Within 1 year of lot 1 being sold or transferred to a third party, lot 3 shall be required to remove the rock stockpile **and gravel areas;** reclaim the area as vegetated; and install the required 25' wide no-cut buffer along the boundary of lot 1. Vegetation on lot 1 to consist of grass, shrubs and trees. 25' wide no-cut buffer **on lot 3** to consist of 6' tall evergreen trees planted 10' on center, staggered. Owner of lot 20-3 also owns abutting lots 20-2. The 100' buffer is reduced to 25'. See note 17.14. **The 25' wide no-cut buffer required for Lot 1 has been disturbed after the 2016 site plan approval. A gravel driveway to the west of the maintenance building has been installed leading to a new concrete slab. The slab was installed within the 25' no-cut buffer as well. Foundation/slab also does not appear to have a building permit.** **A recorded agreement is not in place due to lots 1 and 3 being owned by Bald Hill LLC. Prior to any**

Project Name/District: Millennium Granite / Rural, Resource Protection, 250' Shoreland Overlay– Tax Map 46, Lot 20.3 | Date of Review: 2/18/26

Prepared By: Office of Planning & Development | Company Name: Town of Wells

§ 145-53. Mineral Extraction.			Application Meet Requirements			
			Yes	No	NA	Comments
						conveyance of Lot 1, the condition must be noted in the deed. **The 25' wide no-cut buffer required along Lot 2 has also been disturbed. The new lot line proposed between lot 2 and 3 will require the 25' wide buffer to be revegetated.** See note 23. The 24' x 30' mineral extraction office is located within 100 feet of the street right of way and is grandfathered. No new construction or clearing permitted within 100' of Quarry Road or Bald Hill Road, except for access road and existing parking. **An area within the 100' wide no-cut buffer along Quarry Road has been disturbed and is used as stone pile storage. This area must be revegetated.**
	(2)	Any topsoil or subsoil suitable for the purposes of revegetation shall be stripped from the location of the extraction operation(s) and stockpiled for use in restoring the location after the extraction operation has ceased. Such stockpiles shall be protected from erosion using practices recommended by the York County Soil and Water Conservation District. Any topsoil in excess of that needed to restore the site may be removed from the site upon completion of the required site restoration work.	**Y**			See Note #12 regarding topsoil piles
	(3)	The entrance road(s) shall be treated to minimize the generation of dust or mud. Any entrance road constructed after April 24, 1993, shall be paved a distance of at least 100 feet from the edge of the street which provides vehicular access to the operation.	**Y***			Entrance road is paved only 20 feet and is grandfathered. See note 17.2. **Will the existing gravel driveway to the east of the cemetery that exits onto Bald Hill Road remain? Or will this driveway be eliminated?**

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§ 145-53. Mineral Extraction.			Application Meet Requirements			
			Yes	No	NA	Comments
	(4)	No equipment, stumps, debris, junk or other material shall be permitted on the site except those directly related to the mineral extraction use. The temporary storage of loam, clay, sand, gravel or stone from off the premises shall be permitted as an accessory use to a mineral extraction use. The storage of concrete without steel or iron showing and the storage of asphalt for recycling may be allowed with Planning Board and Department of Environmental Protection approval. Any temporary structures erected for use as part of a mineral extraction use shall be removed within 60 days after the cessation of operation. **[Amended 4-28-1995]**	**Y***			Pile areas are described on the plan. **Pile areas have expanded on the site since the 2016 site plan approval. Limit of mineral extraction use to be amended and redefined.** **Expansion did not receive approval and is considered a violation of the 2016 site plan approval.**
	(5)	The lowest point of any sand and gravel excavation shall be at least five feet above the seasonal high water table, defined as the highest point of the water table during the wettest month of the year. The operator of the operation shall, at the request of the Code Enforcement Officer, dig a test pit at least five feet deep to demonstrate compliance with this standard. Any area of an excavation site that was mined below five feet above the seasonal high water table before April 24, 1993, shall be deemed nonconforming and may not be expanded either horizontally or vertically. **[Amended 4-28-1995]**	**Y***			The Code Enforcement Office may request a test pit to demonstrate compliance. **Plan to note this requirement.**
	(6)	Vehicular access to any mineral extraction site shall be limited during all inactive periods and nonworking hours by gates, fences, berms, wooded buffer areas or any other functional barriers.	**Y***			Hours of operation in note # 21. **Are gates located at entrances off of Quarry Road and Bald Hill Road? Are they to be maintained or eliminated?** **Some Security fencing is shown around the quarry pond. Fencing height and type to be identified. What other barriers exist for the gravel access road adjacent to the pond? Are there large existing trees or jersey barriers?**

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Prepared By: Office of Planning & Development | Company Name: Town of Wells

§ 145-53. Mineral Extraction.			**Application Meet Requirements**			
			Yes	**No**	**NA**	**Comments**
	(7)	Any mineral extraction use shall employ erosion and sedimentation control measures as necessary to protect water bodies, tributary streams and wetlands from sedimentation and adjacent lots from erosion and sedimentation. Said erosion and sedimentation control measures shall be in accordance with the practices recommended by the York County Soil and Water Conservation District.	**Y**			
	(8)	The following regulations shall apply to all sites:				
		(a) No fuels, antifreeze, lubricants or hydraulic fluids shall be stored within any excavation area. They may be stored on site only if they are stored within a containment structure which would hold and prevent any of the fluid from entering the ground.	**Y**			See note #24.
		(b) Any refilling or draining of any fluids (e.g., fuel, hydraulic fluid, brake fluid or antifreeze) or repair of equipment on an extraction site shall take place only over an impermeable surface from which any spilled fluids can be collected and removed from the site. Said surface or container shall have a capacity of at least 20 gallons.	**Y**			See note #24.
		(c) Every extraction use shall have a plan, and the ability to implement the plan, for the containment and cleanup of any fuel or fluid spill on site.	**Y**			See note #24.
	(9)	Any site, except rock and stone quarries, upon which a mineral extraction use is located shall be restored so that no grades exceed a slope of three horizontal to one vertical within two years of the cessation of any extraction at any site or at any one or more locations within a site. The sites shall be revegetated using the topsoil available on site according to the practices recommended by the York County Soil and Water Conservation District.	**Y**			This mineral extraction site is a rock and stone quarry and is not required to be restored. See note 17.8. Lot 1 is required to be restored per note 15.

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Prepared By: Office of Planning & Development | Company Name: Town of Wells

§ 145-53. Mineral Extraction.			**Application Meet Requirements**			
			Yes	**No**	**NA**	**Comments**
	(10)	The Planning Board shall, as part of its review process, consider the potential noise impacts of a proposed mineral extraction use. In situations where residential development may be impacted by the mineral extraction use, the Board may require a noise study. Enlarged buffers, noise barriers, limitation on hours of operation or any other physical improvement or operational procedure that would reduce the sound-pressure levels to the standards required in '145-45 may be required.	**Y***			See note #22. **Planning Board to determine if a noise study is necessary for the expanded mineral extraction use.** **The use has been ongoing for several decades.** **Will rock crushing be done?**
E.	Discontinuance of a mineral extraction use is defined as the excavation and removal from the premises of less than 500 cubic yards of material in any twenty-four month period for mineral extraction uses operating under the requirements of Subsection B(1) and (2) or the removal of less than 20 cubic yards of material in any two-year period for mineral extraction uses operating under the requirements of Subsection B(3). The owner/operator shall provide the Code Enforcement Officer receipts or other documents substantiating the cubic yardage of material which has been hauled off the premises in the previous 24 months so that he may determine if the mineral extraction use has or has not been discontinued. If a mineral extraction use has been discontinued, it may not resume operation without having obtained site plan approval and met the standards of this section.		**Y**			Mineral extraction use is established and on-going.
F.	A performance guaranty, the form and amount of which are acceptable to the Town Manager, shall be given to the Town before the issuance of a use permit for any mineral extraction use approved by the Planning Board. The performance bond shall be of sufficient size to rehabilitate the mineral extraction site in accordance with the restoration plan approved by the Planning Board. If a mineral extraction use is discontinued (as defined in Subsection E its approval shall expire, and the Town, after providing the owner and/or operator written notice of its intent, shall use the posted security to restore the site of the mineral extraction use in accordance with Subsections D(7) and (9).				**NA**	A restoration plan is not required. Lot 1 shall be restored, see plan note 15. No performance guarantee was required as part of the 2003 site plan approval. Planning Board did not require a guarantee with the 2009 approval. **Planning Board to determine if a guarantee is required as part of this amendment application, which seeks after the fact approval to expand the mineral extraction use.**

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Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

Article X
Site Plan Approval

§ 145-77. Data Requirements [Amended 4-26-1996]		Application Meet Requirements				
		Yes	No	NA	Waiver	Comments
Any application presented for approval shall include the following information if applicable:						
A.	A site plan drawn at a scale not smaller than one inch equals 40 feet which shall contain the following information:		N			**Scale is 1" = 120 feet. Applicant requests a waiver to use a smaller plan scale than 1" = 40 feet?** Waiver previously granted on 11/15/16 for 1" = 100 feet. Expansion of the mineral extraction use has occurred without approvals. **The 1" = 120 plan scale is difficult to use and not detailed. Lot 3 can be depicted on a 1" = 60 feet scale and a separate notes plan provided.** **A waiver to allow 1" = 120 feet is not recommended. A waiver from 1" = 40 feet to allow 1" = 60 feet could be considered.** **Planning Board to consider waiver.**
	(1) The name and address of the applicant plus the name of the proposed development.	Y				

Project Name/District: Millennium Granite / Rural, Resource Protection, 250' Shoreland Overlay– Tax Map 46, Lot 20.3 | Date of Review: 2/18/26

Prepared By: Office of Planning & Development | Company Name: Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
	(2) Total floor area, ground coverage and location of each proposed building, structure or addition.		**N**			**Maximum allowed in the Rural zone is 20%. To be noted on the plan.** Prior approved lot coverage was 117,523 SF or 11.3%. **Proposed lot coverage noted to be 46,906 SF or 4.5%. Calculation appears to be incorrect. The area of the expansion and mineral extraction to be included.** **Area of the lot in the Rural zone vs. the RP zone needed. Lot coverage to be based on area of lot in the Rural zone.** **Area table provided on plan requires update. The 560 SF building appears to be a dwelling unit which had an addition constructed around 2018; Barn A has been removed, the 3,200 Accessory building was relocated and foundation built within the 25' wide buffer; the wood shed, a shed, a storage container, and animal enclosure have been added without permitting or site plan approval.**
	(3) Perimeter survey of the parcel, made and certified by a registered land surveyor licensed in Maine, relating to reference points, showing true or magnetic North, graphic scale, corners of parcel, date of survey and total acreage. The requirement for a certified boundary survey may be waived by the reviewing authority if the proposed construction is located a distance equal to the required setback plus 10 feet from any lot line.	**Y***				See plan reference notes. **To include reference to Amended Subdivision Plan prepared for Bois Subdivision.** Plan has been prepared by Jamie L. Garland PE of Main-Land Development Consultants, Inc. dated 1-26-2026.
	(4) All existing and proposed setback dimensions.		**N**			**Plan to note dimensional requirements of the Rural, RP and Shoreland Overlay Districts.**

Project Name/District: Millennium Granite / Rural, Resource Protection, 250' Shoreland Overlay– Tax Map 46, Lot 20.3 Date of Review: 2/18/26

Prepared By: Office of Planning & Development Company Name: Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]			**Application Meet Requirements**				
			Yes	**No**	**NA**	**Waiver**	**Comments**
	(5)	The size, location, direction and intensity of illumination of all major outdoor lighting apparatus and signs.	**Y**				See note 20.
	(6)	The type, size and location of all incineration devices.			**NA**		No such devices proposed.
	(7)	The type, size and location of all machinery likely to generate appreciable noise at the lot lines.		**N**			No such devices identified. **Is crushing proposed? Existing rock saw location to be noted.**
	(8)	The location, type and size of all existing and proposed catch basins, storm drainage facilities, wetlands, streams and watercourses and all utilities, both above and below ground.	**Y***				Utility poles identified along Quarry and Bald Hill Road. Overhead utility connection to the structure is identified. Future septic system locations identified. Fire Pond and Dry Hydrant location identified. The maintenance building will not be served by a septic system or the on-site well. **The parcel is served by an on-site porta-potty located adjacent to the shop? Or has a bathroom been installed?** **Dwelling unit (20' x 28') building septic system location to be identified.**
	(9)	All existing contours and proposed finished grade elevations of the portions of the site which will be altered and the system of drainage proposed to be constructed. Contour intervals shall be specified by the reviewing authority. This requirement may be waived by the reviewing authority if no additional lot coverage is proposed or the proposed lot coverage is less than 30% and has an area of less than 15,000 square feet.				**W**	Property contours are not identified. **New lot coverage not identified. Mineral Extraction area has been expanded.** **Planning Board to consider if a waiver of depicting contours is to be granted. Is a site walk needed to consider?**
	(10)	The location, type and size of all curbs, sidewalks, driveways, fences, retaining walls and parking space areas and the layouts thereof, together with the dimensions.	**Y**				See note 16 for parking details. No change to parking proposed.

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(11)	All landscaped areas, fencing and size and type of plant material upon the premises.	**Y**				This 100 foot vegetated buffer along for the cemetery boundary is not met. The cemetery has the old compressor house, engine house and roadway within 100 feet. This non-conforming buffer strip would be grandfathered for the cemetery. The plan states no clearing within 100 feet of the cemetery to take place. (See note 17. 8) **A shed and animal enclosure have been installed on the property within the 100' buffer of the cemetery as well as new gravel areas. Shed, gravel and animal enclosure added after 2016 amendment. Shed and animal enclosure do not appear to have building permits. Planning Board to determine when shed and animal enclosure to be removed/relocated and buffer area re-established.** Lot 1 has piles and a new gravel driveway from the mineral extraction parcel onto the property. See plan note 15. Lot 3 retains an easement on lot 1 for the old rock pile **and new gravel areas**. Within 1 year of lot 1 being sold or transferred to a third party, lot 3 shall be required to remove the rock stockpile **and gravel areas;** reclaim the area as vegetated; and install the required 25' wide no-cut buffer along the boundary of lot 1. Vegetation on lot 1 to consist of grass, shrubs and trees. 25' wide no-cut buffer **on lot 3** to consist of 6' tall evergreen trees planted 10' on center, staggered. Owner of lot 20-3 also owns abutting lots 20-2. The 100' buffer is reduced to 25'. See note 17.14. **The 25' wide no-cut buffer required for Lot 1 has been disturbed after the 2016 site plan approval. A gravel driveway to the west of the maintenance building has been installed leading to a new concrete foundation. The foundation or slab was installed within the 25' no-cut buffer as well. Foundation/slab also does not appear to have a building permit. Planning Board to**

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Prepared By: Office of Planning & Development | Company Name: Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]		Application Meet Requirements				
		Yes	No	NA	Waiver	Comments
						determine when foundation to be removed/relocated and buffer area re-established. **The 25' wide no-cut buffer required along Lot 2 has also been disturbed. The new lot line proposed between lot 2 and 3 will require the 25' wide buffer to be revegetated. Planning Board to determine.** See note 23. The 24' x 30' mineral extraction office is located within 100 feet of the street right of way and is grandfathered. No new construction or clearing permitted within 100' of Quarry Road or Bald Hill Road, except for access road and existing parking. **An area within the 100' wide no-cut buffer along Quarry Road has been disturbed and is used as stone pile storage. This area must be revegetated. Planning Board to determine.** **Stormwater/ septic easement area proposed within 25' wide no-cut buffer for mineral extraction use. Planning Board to determine what vegetation is required/ suitable for this disturbed area.**
(12)	All existing or proposed rights-of-way, easements and other legal restrictions which may affect the premises in question.		**N**			**Stormwater Easement/ Septic Easement area proposed on Lot 3 to benefit Lot 2 must be depicted on the plan. Easement language to be provided by the applicant for review by the Town.** **Is the driveway onto Bald Hill Road from Lot 3 to remain across lot 2? If so, an access easement is required.**
(13)	The locations, names and widths of all existing and proposed streets abutting the premises.	**Y**				Quarry Road noted to be 49.5' to 66' in width. Bald Hill width noted to vary.

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Prepared By: Office of Planning & Development | Company Name: Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]			**Application Meet Requirements**				
			Yes	**No**	**NA**	**Waiver**	**Comments**
	(14)	The lot lines of all lots abutting the proposed development, including those lots across the street, together with the names on file in the Town offices as of the date of the application.	**Y**				
	(15)	An appropriate place for the signature(s) of the reviewing authority.	**Y**				
B.		Documentation of right, title or interest in the proposed site.	**Y**				Right Title and Interest (Deed) added to the file.
C.		An on-site soils investigation report by a Maine Department of Human Services licensed site evaluator (unless the site is to be served by public sewer). The report shall identify the types of soil, location of test pits and proposed location and design for the subsurface disposal system.			**NA**		A septic system is permitted on the parcel. See note 18. **This subsurface wastewater disposal system does not appear to have been closed out by the Code Office. Applicant to contact the Code Office.** **Plan to locate where this septic system was installed. Location appears to be different than what was depicted on the 2016 site plan.**
D.		The amount and type of any raw, finished or waste materials to be stored outside of roofed buildings, including their physical and chemical properties, if appropriate.		**N**			See note 24 and 26. Outside rock pile and product areas identified on the plan. **Areas have expanded. Mineral Extraction use area to be redefined on the plan.**
E.		If the proposed use will be connected to the Wells Sanitary District's sewer system, a letter from the Sanitary District stating that adequate line and plant capacity to dispose of the generated sewage will be available.			**NA**		The parcel is not served by the Wells Sanitary District
F.		If the proposed use will be connected to the Kennebunk, Kennebunkport and Wells Water District water system, a letter from the Water District stating that adequate line and supply capacity to serve the proposed use will be available.			**NA**		The parcel is not served by the KKW Water District.
G.		Traffic data. Only the Planning Board may require that a site plan application include a traffic engineering study should the project be considered one of substantial magnitude along any of the Town's state highways where fast-moving traffic occurs (i.e., Route Nos. 1, 109, 9, 9-A and 9-B). Should a traffic study be requested by the Planning Board, the following data shall be included:	**Y***				**Planning Board to consider if additional traffic data is necessary for the Mineral Extraction/ grandfathered manufacturing use and dwelling unit on lot 3.** Entrances depicted. Uses exist.

Project Name/District: Millennium Granite / Rural, Resource Protection, 250' Shoreland Overlay– Tax Map 46, Lot 20.3 | Date of Review: 2/18/26

Prepared By: Office of Planning & Development | Company Name: Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
(1)	The estimated peak-hour traffic to be generated by the proposal.					
(2)	Existing traffic counts and volumes on surrounding roads.					
(3)	Traffic accident data covering a recent three-year period.					
(4)	The capacity of surrounding roads, municipal facilities, parking and any improvements which may be necessary on such roads and facilities to accommodate anticipated traffic generation.					
(5)	The need for traffic signals and signs or other directional markers to regulate anticipated traffic.					
H.	A soil erosion and sedimentation control plan, prepared in accordance with the Maine Erosion and Sedimentation Control Handbook for Construction: Best Management Practices, published by the Maine Department of Environmental Protection and the Cumberland County Soil and Water Conservation District, 1991. **[Amended 4-27-2007]**	**Y***				See standard condition of approval notes noted on the site plan for Best Management practices. **Standard Conditions of Approval notes to be updated.** The applicant was granted a waiver and was not required to provide a soil erosion and sedimentation control plan on 11/15/16. **Planning Board to consider if another waiver to be granted. Areas have been expanded near wetlands without approval and must be stable. A waiver is not recommended.**
I.	A stormwater management plan, prepared by a registered professional engineer in accordance with the most recent edition of Stormwater Management For Maine: BMPS Technical Design Manual, published by the Maine Department of Environmental Protection, 2006. Another methodology may be used if the applicant can demonstrate it is equally or more applicable to the site. A drainage analysis may be waived by the Planning Board upon request of the applicant and submittal of a letter from a registered professional engineer stating that there will be no adverse impacts to adjacent or downstream properties. **[Added 4-27-2007]**				**W**	This parcel was previously developed. **Expansion of the mineral extraction area has occurred.** **Applicant requests waiver of the stormwater management plan?** The applicant was granted a waiver and was not required to provide a stormwater management plan on 11/15/16.
J.	Any other information or data the reviewing authority determines is necessary to demonstrate compliance with the standards of § 145-75. **[Added 4-27-2007]**					

Project Name/District:	Millennium Granite / Rural, Resource Protection, 250' Shoreland Overlay– Tax Map 46, Lot 20.3	Date of Review:	2/18/26
Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]	**Application Meet Requirements**				
	Yes	**No**	**NA**	**Waiver**	**Comments**
Chapter 201, Article IV. Sidewalk Development.					

Notes:

1. See Article V, VI, VII review comments and plan markups.

2003

Wells, ME

1 inch = 150 Feet

0 150 300 450

February 20, 2026

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Website: www.wellstown.org

Michael G. Livingston, Town Engineer/Planner	*mlivingston@wellstown.org*
Shannon M. L. Belanger, Assistant Planner	*sbelanger@wellstown.org*

Site Plan Application Memo

Date: February 20, 2026

To: Planning Board

From: Planning Office

Re: Bald Hill RV Park – Map 46, Lot 20-2

Project Description:

Richard Bois of Bald Hill, LLC has submitted a site plan application for the 74.7 acre parcel of land located at 548 Bald Hill Road. The application proposes a Tent and Recreational Vehicle Park use to consist of 64 sites; a 2,800 SF building for an office, 1 manager's dwelling unit, and bathhouse; and internal roads. The existing dwelling to remain. The parcel is located within the Rural, Resource Protection and 250' Shoreland Overlay District. Tax Map 46, Lot 20-2. The property is part of the Richard Bois Subdivision approved in 2009. Lot line changes are proposed and also require a subdivision amendment application and a site plan amendment for Tax Map 46, Lot 20-3.

§ 145-74. Review and approval process.

D. Planning Board review process.

(1) If there are site plan approval applications to review, the Planning Board shall meet at least two times a month and its meeting agenda shall be posted in the Town Hall at least seven days prior to the meeting. Applications and other supporting submittals shall be filed by the applicant in the Office of Planning and Development at least 10 days before the meeting. Additional materials received from an applicant less than 10 days before a meeting will be held by the Office of Planning and Development staff until the meeting and will be distributed when the application is discussed. Such late submittals may only be considered at the discretion of the Planning Board. The Board shall only consider accepting late submittals upon finding that the content is nontechnical, brief and may be easily reviewed in a short time period, and any parties to the proceeding will have adequate time to review and respond to the submittals. **Application submitted on 5/19/25. Planning Board received the application on 6/2/25**

(2) Applications for site plan approval are to be filed with the Office of Planning and Development. The application shall be accompanied by a site plan and the required fee along with a certification that the applicant has sent or delivered notices to the abutters of the filing of the site plan approval application. If the abutters have been notified by the Code Enforcement Officer of a preapplication for the same project within the last 60 days pursuant to Subsection **A(1)(b)[1]**, the applicant shall be exempted from notifying the abutters of the site plan application filing. Within seven days of receipt of the application by the Office of Planning and Development, the Code Enforcement Officer shall determine if the proposed use meets the requirements of Articles **V**, **VI** and **VII**. If it does not, the Code Enforcement Officer shall notify the applicant

in writing. If it does, the application shall be reviewed for completeness by the Planning Board's agent or placed on a Planning Board agenda for the Planning Board to review for completeness. The applicant may request, in writing, that the Board waive submission of the requirements of § **145-77**. The Board may waive any of the submission requirements listed in § **145-77** if it determines that they would not be applicable or are not necessary to determine that the standards of § **145-75** have been or will be met. **Abutters mailed notice of application on 5/22/25 and again on 11/21/25.**

(3) It is the responsibility of the Planning Board, or its agent if so designated, to determine if the application is complete. If it is the responsibility of the Board to determine whether the application is complete it must be done within 21 days of receipt of the application by the Board. If it is the responsibility of the Board's agent to determine whether the application is complete it must be done within 14 days of receipt of the application by the Office of Planning and Development. The time period for determining completeness may be extended by mutual consent of the applicant and the Planning Board or its agent. If the application is complete it shall be placed on an agenda for presentation to the Board at a public hearing. If the application is not complete, the applicant shall be notified, in writing, of the additional information needed to complete the application. If the additional information or a written request for an extension is not submitted within 60 days of the notification, the application shall be considered to be withdrawn. If the Planning Board's agent has determined that the application is not complete and the applicant believes it is complete, the applicant may request in writing for the application to be placed on the agenda for the next Planning Board meeting and have the Planning Board review the application for completeness. **To be determined**

(4) Upon determining that a complete application has been submitted, the Office of Planning and Development shall notify the Staff Review Committee members of the application and request their comments on the application in writing. **To be determined**

(5) Within 35 days of determining that the application is complete the Planning Board shall hold a public hearing on the application. **To be determined**

(a) In scheduling public hearings under this section, the Planning Board shall publish notice of the hearing at least 10 days in advance in a newspaper of general circulation in the area. The applicant shall be responsible for paying the cost of such notices.

(b) The Planning Board shall notify, by certified mail, the applicant and all abutters of the lot involved, including owners of lots on the opposite side of the street, at least 10 days in advance of the hearing, of the nature of the application and of the time and place of the public hearing.

(c) The lot owners shall be considered to be those against whom taxes are assessed. In the case of condominiums, the condominium association, not each unit owner, shall be notified. Failure of any lot owner to receive a notice of public hearing shall not necessitate another hearing or invalidate any action by the Planning Board.

(d) At any hearing, a person may be represented by his agent or attorney. Hearings shall not be continued to other times except for good cause.

(e) The applicant's case shall be heard first. To maintain orderly procedure, each side shall proceed without interruption. Questions shall be asked through the Chair. All persons at the hearing shall abide by the order of the Chairman.

(6) Within 35 days of the public hearing or a period of time agreed to by the applicant and the Planning Board, the Planning Board shall reach a decision based on the criteria found in § **145-75** and shall inform the applicant in writing within seven days of its decision stating its reasons. The Board shall prepare detailed, written findings of fact and conclusions, based on the evidence presented at the public hearing and evidence presented by the applicant and evidence presented by Town staff. **To be determined**

Site Plan Recommendations for consideration and workshop:

1. The Planning Board to workshop the following Article V, VI, VII and completeness review comments.
    a. Plan markups recommended and to be addressed.
    b. One dwelling unit is proposed within the 2,800 SF building. Dwelling to have two bedrooms. Dwelling unit to be used as Managers quarters for the RV Park. Building gross floor area to be noted, plan states 2-stories.

c. Existing dwelling on the property to remain.

    i. Existing septic system to remain.
    ii. The well serving this dwelling to be identified on the plan.
    iii. How will the dwelling's driveway be relocated? The proposed RV Park fencing eliminates access.
    iv. Are any privacy fences or vegetation proposed between this dwelling and the RV park?
    v. Existing utilities serving this home to be identified.

d. The driveway on Lot 20-B encroaches onto Lot 20-2 and must be removed and the area revegetated.
e. RP zone and the 250' and 75' setback lines to be delineated on sheet C2.0.
f. Rural zone area, RP zone area and Shoreland Overlay zone area to be detailed. Lot coverage for R and Shoreland Overlay zones to be updated.
g. West Brook to be identified on C2.0. Note 3 to note the 200 foot setback requirement from the high water line of West Brook.
h. A tent/ RV site typical is included on C9.1. Site typical depicts pad and two parking spaces. Typical does not include utilities or allowance for a fire pit.
i. It is recommended that each site's lot coverage be based on the site's total area and include the tent or camper platform, gravel parking, fire pits, etc. Plan note 6 states each site to have only 780 SF of lot coverage.
j. Propane tanks used on Tent and RV sites shall be a component of the manufactured RV or shall not exceed 20 pounds. Plan to note.
k. RV Park 25' wide buffer and visual screening requirements to be determined after a public hearing.

    i. 6' tall solid fencing is proposed for abutting lot 20-B.
    ii. 6' tall solid fencing is proposed for Lot 20-3.
    iii. Fencing adjacent to the active quarry area to be discussed and determined.
    iv. Grading is proposed within the buffer areas. Planning Board to review and determine if permitted.
    v. Proposed stormwater pond and septic system proposed within the RV Park 25' wide buffer and the Mineral Extraction 25' wide buffer. Planning Board to determine if this is permitted.

l. Bald Hill Road 25' wide landscaped buffer requirements to be determined after a public hearing. Existing vegetation is noted to be maintained. Shade tree(s) recommended adjacent to the new 40' x 70' building.
m. Parking:

    i. Handicap parking space requires an aisle and ADA compliant signage.
    ii. A two-bedroom dwelling (manager's unit) requires 2 parking spaces.
    iii. Existing dwelling to remain. If 2-bedrooms, 2 parking spaces are required.
    iv. The RV Park office requires 3 parking spaces.
    v. Will parking spaces be paved?
    vi. Will the property be plowed in the winter? Plan to note.

vii. Park roads are proposed at 6% to 9% slopes, RV sites and parking spaces detailed as 2% on C9.1. How will this be accomplished?
viii. Will there be any guest/ overflow parking. Plan to address.

n. Stormwater Management Plan to be reviewed.

i. How was the 2.89 acres of developed area calculated? The development appears to exceed 3 acres is new disturbed/ developed area?
ii. Analysis to be reviewed by Town Engineer once plan revisions and details are provided and an updated report/ analysis is provided.
iii. Plans and road details do not coincide on width or drainage system.
iv. Road drainage collection system on plans do not coincide with details.
v. Pond peak elevations on C6.1 do not coincide with HCAD report.
vi. Inverts do not match with HCAD report.
vii. Revised/updated stormwater report/analysis needed.
viii. The proposed stormwater pond does not meet setback requirements to septic field A.

o. Erosion and Sedimentation Control Plan to be reviewed. Silt barriers to be revised to protect wetland.
p. Are any exterior lights or light poles proposed? Sign illumination proposed? Plan must identify exterior light locations and provide a light detail.
q. Planning Board to determine if the subdivision plan amendment, once updated, shall satisfy the perimeter survey requirements. Site plan must depict monumentation.
r. Septic Systems:
    i. Septic and stormwater easement language to be provided and reviewed.
    ii. Inconsistent information on site plan and HHE200 for Field C.
    iii. Grading and other information to be provided.
    iv. Setback from Field A to stormwater pond not met.
    v. Wetland fill/impacts to be specified and MDEP and ACOE permits noted.
s. Well/ Water Supply:
    i. Hydrogeologic report on proposed community well/ water quality and supply for on-site use as well as confirming no off-site impacts will occur, to be provided.
    ii. New well location depicted. Location does not meet the 300 foot setback from a septic system.
t. Plan identifies a dumpster location. Required screening to be noted and labelled.
u. Planning Board to determine if additional traffic data is required to be submitted. An updated entrance profile is needed.
v. Grading:
    i. How will grading between sites and to match road slopes be accomplished?
    ii. Proposed contours on C3.1 do not coincide with the site profile on C9.1.

iii. Proposed grading for septic systems to be provided. Wetland impacts result and need to be identified and permitted.
iv. Grading at entrance to be revised. Updated profiles to be provided.
v. Proposed grading is located within the 25’ wide buffer required around the RV Park lot boundaries. Planning Board to review buffer requirements and determine if grading impacts in the buffer to be permitted.

2. Planning Board to consider continuing the workshop for 60 days for the applicant to address the completeness items.

Project Name/District:	Bald Hill RV Park/Rural, Resource Protection and 250' Shoreland Overlay Districts– Tax Map 46, Lot 20-2	Date of Review:	7/15/25; 11/24/25; 2/19/26
Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

Article VII
Performance Standards

§ 145-50. Tent and Recreational Vehicle Parks.		Application Meet Requirements			
		Yes	No	NA	Comments
Tent and recreational vehicle parks shall conform to the minimum requirements imposed under state licensing procedures and the following standards:					
A.	Parks shall be open only between April 15 and October 31, inclusive. From November 1 of one year to April 14 of the following year, no person shall occupy and site, the water services to all sites shall be turned off or disconnected, and the electrical service to all sites shall be turned off or disconnected.	**Y**			See plan note 4.
B.	All sites shall have an area of at least 1,000 square feet and shall have an average width of at least 30 feet. Sites to be occupied by park model recreational vehicles shall have an area of at least 2,000 square feet and shall have an average width of at least 40 feet. Any site located entirely or partially within the Shoreland Overlay District shall contain at least 5,000 square feet of area. Roads, parking areas, walkways, land supporting wetland vegetation and land below the high-water line of a water body or tributary stream shall not be included in calculating the area of a site.	**Y**			All sites shall be 30' wide. Site area varies and appears to be between 1,200 SF to 1,500 SF per site. Site Plan states that no sites shall be for Park Models. No sites to be located within the Shoreland Overlay zone. A site typical is added on sheet C9.1. Note 6 states the lot coverage proposed per site is 780 SF.
C.	Two parking spaces for passenger vehicles shall be provided for each recreational vehicle site. One parking space for a passenger vehicle shall be provided for each tenting site. The parking spaces shall be on or within 200 feet of the site. No parking space may block walkways or interfere with traffic flow within the park.	**Y***			See note 7. Two gravel parking spaces per site are proposed. Site typical on C9.1 depicts 2 parking spaces. **Berms between sites depicted on C9.1, grading on C3.1 does not coincide. Grading will impact parking.**
D.	No rigid enclosed additional shall be affixed to a recreational vehicle other than a recreational vehicle accessory enclosure as herein defined.	**Y**			See plan note 14.
E.	The areas intended for placement of a recreational vehicle, tent, or shelter and utility and service buildings shall be set back at least 100 feet from the high-water line of Ell Pond and 75 feet from the high-water line of other water bodies, tributary streams or the upland edge of a wetland.			**NA**	No site is proposed within 100 feet of Ell Pond high-water line or 75' from the high-water line of other water bodies or streams. Sites must be located 75' from the upland edge of a wetland and are over 400' from the nearest wetland (RP zone) ad defined by Town Ordinances.

Project Name/District: Bald Hill RV Park/Rural, Resource Protection and 250' Shoreland Overlay Districts– Tax Map 46, Lot 20-2

Date of Review: 7/15/25; 11/24/25; 2/19/26

Prepared By: Office of Planning & Development

Company Name: Town of Wells

§ 145-50. Tent and Recreational Vehicle Parks.		**Application Meet Requirements**			
		Yes	**No**	**NA**	**Comments**
F.	There shall be a buffer strip of at least 25 feet in width adjacent to all lot lines, and any of the park sites or facilities shall be screened from the view of any dwelling unit located within 200 feet of the park's boundaries.	**Y***			25' wide buffer strip identified. **25' wide buffer along Bald Hill Road to be identified. Existing/ proposed tree line proposed to satisfy buffer? Or will new plantings be required along Bald Hill Road? One shade tree is recommended.** **Planning Board to review screening requirements for residential abutters within 200 feet of the park's boundaries. 6' tall solid fencing is proposed along Lot 20-3 and Lot 20-B.** **The existing dwelling unit to remain on the property. The existing driveway to be relocated, as its access its cut off by the 6' tall fencing proposed along the new lot line? Limited vegetation exists to the south and east of this house. Are any privacy fences or new plantings proposed for this dwelling?** **Lot 20-3 has an active Mineral Extraction use/ Manufacturing use and a quarry pond within 90 feet of the RV park boundary. The 6' tall fence proposed is to be discussed as it serves as a safety barrier. Additional fencing is recommended to extend into the RV park to prevent tress passing onto the quarry lot.**

Project Name/District:	Bald Hill RV Park/Rural, Resource Protection and 250' Shoreland Overlay Districts– Tax Map 46, Lot 20-2	Date of Review:	7/15/25; 11/24/25; 2/19/26
Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

Article X
Site Plan Approval

§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
Any application presented for approval shall include the following information if applicable:						
A.	A site plan drawn at a scale not smaller than one inch equals 40 feet and is on a plan 24 inches by 36 inches in size with a one-inch minimum border which shall contain the following information: **[Amended 6-12-2012]**	**Y**				Sheet C2.0 plan scale is 1" = 150 feet. All other sheets the plan scale is 1" = 40 feet.
	(1) The name and address of the applicant plus the name of the proposed development.	**Y***				Applicant/Owner name and address noted. Business name noted. **Address for RV Park on Lot 20-2 is 548 Bald Hill Road. To be corrected on plan sheets.**

Project Name/District:	Bald Hill RV Park/Rural, Resource Protection and 250' Shoreland Overlay Districts– Tax Map 46, Lot 20-2	Date of Review:	7/15/25; 11/24/25; 2/19/26
Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]	**Application Meet Requirements**				
	Yes	**No**	**NA**	**Waiver**	**Comments**
(2) Total floor area, ground coverage and location of each proposed building, structure or addition.	**Y***				**The 40' x 70' building proposed to have a 500 SF office for the RV Park and a dwelling unit to be used as the RV Park manager residence. The gross floor area of this building (1st floor plus 2nd floor to be noted on the plan).** **The existing dwelling unit to remain. Gross floor area of 1,404 SF to be noted. The existing dwelling driveway requires relocation or adjustment.** The proposed maximum allowed lot coverage for each site is 780 SF, see note 6. **Area of property in the Rural zone and RP zone to be noted on the plan.** Proposed lot coverage is noted, see note 6. 3.8% Lot coverage is noted for the 75.3 acre parcel. **Lot coverage to be based on area in the Rural zone. No coverage proposed or exists in the RP zone or Shoreland Overlay zone, plan to note 6 to state this.** **The driveway on Lot 20-B encroaches onto Lot 20-2 and must be removed and the area revegetated.**

Project Name/District:	Bald Hill RV Park/Rural, Resource Protection and 250' Shoreland Overlay Districts– Tax Map 46, Lot 20-2	Date of Review:	7/15/25; 11/24/25; 2/19/26
Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
(3)	Perimeter survey of the parcel, made and certified by a registered land surveyor licensed in Maine, relating to reference points, showing true or magnetic North, graphic scale, corners of parcel, date of survey and total acreage. The requirement for a certified boundary survey may be waived by the reviewing authority if the proposed construction is located a distance equal to the required setback plus 10 feet from any lot line.	**Y***				Parcel is lot 3 within the Richard Bois, Jr. Minor Subdivision approved by the Planning Board 2/23/2009. A subdivision amendment has been filed to change the lot line between lots 20-2 and 20-3 and to add easements. **Planning Board to determine if the subdivision plan amendment satisfies the perimeter survey requirements. Monumentation to be depicted on the site plan.**
(4)	All existing and proposed setback dimensions.	**Y***				25' wide buffer/ setback of the Rural zone labelled and noted. Some areas on the site plan require additional labelling. **Setback requirement from West Brook to be noted.**
(5)	The size, location, direction and intensity of illumination of all major outdoor lighting apparatus and signs.	**Y***				Exterior lighting shall be shielded and downward directional as not to produce glare onto abutting lots or streets. See Plan note 17. **Are any exterior lights proposed on the 40' x 70' building? Is so, plan to identify.** **Are any lights at the sign at Bald Hill Road proposed? Sign location to be identified on the plan.** **Are any light poles within the park proposed? Is so, light pole details are needed**. Light pole locations needed.

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Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]			**Application Meet Requirements**				
			Yes	**No**	**NA**	**Waiver**	**Comments**
	(6)	The type, size and location of all incineration devices.			**NA**		No such devices exist nor are proposed.
	(7)	The type, size and location of all machinery likely to generate appreciable noise at the lot lines.			**NA**		No such machinery identified or proposed.

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Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]	**Application Meet Requirements**				
	Yes	**No**	**NA**	**Waiver**	**Comments**
(8) The location, type and size of all existing and proposed catch basins, storm drainage facilities, wetlands, streams and watercourses and all utilities, both above and below ground.		**N**			**West Brook to be identified on the plan.** Wetlands are delineated on the plan. Wetland delineation done by Main-Land in February 2025. No site is proposed within 100 feet of Ell Pond high-water line or 75' from the high-water line of other water bodies or streams. Sites must be located 75' from the upland edge of a wetland and are over 400' from the nearest wetland (RP zone) ad defined by Town Ordinances. Site proposed electrical, water and sewer service connections identified. **Propane tanks used on Tent and RV sites shall be a component of the manufactured RV or shall not exceed 20 pounds.** Below ground electrical proposed from a new utility pole to be located along Bald Hill Road ROW. **Existing utilities serving the existing dwelling to be identified.** Existing dwelling unit septic system identified **but the well location is not identified.** Water and sewer lines depicted in the RV Park. **Town Engineer to review.** **No analysis of water demand and well capacity provided.**

Project Name/District:	Bald Hill RV Park/Rural, Resource Protection and 250' Shoreland Overlay Districts– Tax Map 46, Lot 20-2	Date of Review:	7/15/25; 11/24/25; 2/19/26
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§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
						New well location depicted. Location does not meet the 300 foot setback from a septic system. **No evaluation by a geologist or engineer on impacts to abutting wells provided.**
	(9) All existing contours and proposed finished grade elevations of the portions of the site which will be altered and the system of drainage proposed to be constructed. Contour intervals shall be specified by the reviewing authority. This requirement may be waived by the reviewing authority if no additional lot coverage is proposed or the proposed lot coverage is less than 30% and has an area of less than 15,000 square feet.		**N**			Existing and proposed contours are depicted in two foot intervals. **How will grading between sites be accomplished?** **Proposed contours on C3.1 do not coincide with the site profile on C9.1.** **Proposed grading for septic systems to be provided. Wetland impacts appear to result.** **Grading at entrance to be revised and detailed. Updated profiles to be provided.** **Proposed grading is located within the 25' wide buffer required around the RV Park lot boundaries. Planning Board to review buffer requirements and determine if grading impacts in the buffer to be permitted.**

Project Name/District:	Bald Hill RV Park/Rural, Resource Protection and 250' Shoreland Overlay Districts– Tax Map 46, Lot 20-2	Date of Review:	7/15/25; 11/24/25; 2/19/26
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§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
(10)	The location, type and size of all curbs, sidewalks, driveways, fences, retaining walls and parking space areas and the layouts thereof, together with the dimensions.	**Y***				RV Park travel ways depicted to be 30' wide. Turning radii depicted on sheet C2.1. **Prior plans proposed paved travel ways. Revised plan notes gravel is proposed, but detail on sheet 9.2 still indicates pavement.** **Retaining walls or rip rap slopes proposed between sites?** Parking spaces for the dwelling and office proposed. 2 spaces for the dwelling are required based on two bedrooms. **Existing dwelling requires 2 parking spaces, if the dwelling has 2 bedrooms. Plan to noted.** 3 spaces for the office are proposed/ required. One space shall be handicap accessible with ADA compliant signage. **Guest parking to be considered.** 6' tall solid fence is proposed for a visual screen for the residential abutter on lot 20B. 6' tall solid fence enclosure is proposed for the dumpster(s). Dumpsters are identified on the site plan. **Planning Board to consider other fencing requirements.** **Road cross section and drainage system to be reviewed.**

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§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
						Plans and road details do not coincide on width or drainage system. **Road drainage collection system on plans do not coincide with details.** **Stormwater:** - **Pond peak elevations on C6.1 do not coincide with HCAD report.** - **Inverts do not match.** - **Revised stormwater report/analysis needed.**

Project Name/District:	Bald Hill RV Park/Rural, Resource Protection and 250' Shoreland Overlay Districts– Tax Map 46, Lot 20-2	Date of Review:	7/15/25; 11/24/25; 2/19/26
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(11)	All landscaped areas, fencing and size and type of plant material upon the premises.	Y*				25' wide buffer strip identified. **25' wide buffer along Bald Hill Road to be identified. Existing/ proposed tree line proposed to satisfy buffer? Or will new plantings be required along Bald Hill Road? One shade tree is recommended.** **Planning Board to review screening requirements for residential abutters within 200 feet of the park's boundaries. 6' tall solid fencing is proposed along Lot 20-3 and Lot 20-B.** **The existing dwelling unit to remain on the property. The existing driveway to be relocated, as its access its cut off by the 6' tall fencing proposed along the new lot line? Limited vegetation exists to the south and east of this house. Are any privacy fences or new plantings proposed for this dwelling?** **Lot 20-3 has an active Mineral Extraction use/ Manufacturing use and a quarry pond within 90 feet of the RV park boundary. The 6' tall fence proposed is to be discussed as it serves as a safety barrier. Additional fencing is recommended to extend into the RV park to prevent tress passing onto the quarry lot.** **Grading is proposed within the buffer areas. Planning Board to review and determine if permitted.** **Proposed stormwater pond and septic system proposed within the RV Park 25' wide buffer and the Mineral Extraction 25' wide buffer. Planning Board to determine if this is permitted.** **A 15' wide landscaped buffer is required along Bald Hill Road consisting of shade trees. Planning Board to review and determine what this road side buffer shall consist of. Existing vegetation is noted to be maintained. A shade tree or two is recommended.**

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Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
						A fence adjacent to the quarry pond to be considered.
(12)	All existing or proposed rights-of-way, easements and other legal restrictions which may affect the premises in question.	**Y***				Septic and stormwater easement is proposed onto lot 20-3. This will require a subdivision and site plan amendment. **Septic and stormwater easement language to be provided for review.**
(13)	The locations, names and widths of all existing and proposed streets abutting the premises.	**Y**				Quarry Road and Bald Hill Road ROW widths are noted. Paved width of the road is noted to be 21' and 22'.
(14)	The lot lines of all lots abutting the proposed development, including those lots across the street, together with the names on file in the Town offices as of the date of the application.	**Y**				All abutters are identified.
(15)	An appropriate place for the signature(s) of the reviewing authority.	**Y**				Planning Board signature block provided.
B.	Documentation of right, title or interest in the proposed site.	**Y**				Property deed provided. Book 17714, Page 856.
C.	An on-site soils investigation report by a Maine Department of Human Services licensed site evaluator (unless the site is to be served by public sewer). The report shall identify the types of soil, location of test pits and proposed location and design for the subsurface disposal system.	**Y***				Property to be served by private septic systems. The existing septic system for the existing dwelling unit is noted. The house and septic system to remain. Test pit logs and designs for the new septic systems provided to the Planning Office. NO2/ NO3 impact assessment provided. **Inconsistent information on site plan and HHE200 for Field C.** **Grading and other information to be provided.** **Setback from Field A to stormwater pond not met.**

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§ 145-77. Data Requirements [Amended 4-26-1996]			**Application Meet Requirements**				
			Yes	**No**	**NA**	**Waiver**	**Comments**
D.	The amount and type of any raw, finished or waste materials to be stored outside of roofed buildings, including their physical and chemical properties, if appropriate.		**Y***				Plan identifies the dumpster areas. **Associated screening/ fence enclosures to be noted.** Plan does not identify any outside storage areas.
E.	If the proposed use will be connected to the Wells Sanitary District's sewer system, a letter from the Sanitary District stating that adequate line and plant capacity to dispose of the generated sewage will be available.				**NA**		Property served by private septic systems.
F.	If the proposed use will be connected to the Kennebunk, Kennebunkport and Wells Water District water system, a letter from the Water District stating that adequate line and supply capacity to serve the proposed use will be available.				**NA**		Property served by private well supply system. Well location and associated well exclusion area identified on the plan.
G.	Traffic data. Only the Planning Board may require that a site plan application include a traffic engineering study should the project be considered one of substantial magnitude along any of the Town's state highways where fast-moving traffic occurs (i.e., Route Nos. 1, 109, 9, 9-A and 9-B). Should a traffic study be requested by the Planning Board, the following data shall be included:						Traffic information provided. **Planning Board to determine if additional traffic data is required.** **Updated entrance profile needed**. Sight distances provided.
	(1)	The estimated peak-hour traffic to be generated by the proposal.					215 ADTs, 28 peak hour (pm) trips.
	(2)	Existing traffic counts and volumes on surrounding roads.					
	(3)	Traffic accident data covering a recent three-year period.					
	(4)	The capacity of surrounding roads, municipal facilities, parking and any improvements which may be necessary on such roads and facilities to accommodate anticipated traffic generation.					
	(5)	The need for traffic signals and signs or other directional markers to regulate anticipated traffic.					

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Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
H.	A soil erosion and sedimentation control plan, prepared in accordance with the Maine Erosion and Sedimentation Control Handbook for Construction: Best Management Practices, published by the Maine Department of Environmental Protection and the Cumberland County Soil and Water Conservation District, 1991. **[Amended 4-27-2007]**	**Y***				Best management practices for soil erosion and sedimentation control are a standard condition of approval. **Town Engineer to review.** Erosion and Sedimentation Control Plan prepared by Main-Land Development Consultants, Inc dated 5-9-25 provided.
I.	A stormwater management plan, prepared by a registered professional engineer in accordance with the most recent edition of Stormwater Management For Maine: BMPS Technical Design Manual, published by the Maine Department of Environmental Protection, 2006. Another methodology may be used if the applicant can demonstrate it is equally or more applicable to the site. A drainage analysis may be waived by the Planning Board upon request of the applicant and submittal of a letter from a registered professional engineer stating that there will be no adverse impacts to adjacent or downstream properties. **[Added 4-27-2007]**	**Y***				Stormwater Management Plan Narrative and Pre and Post analysis provided by Main-Land Development Consultants Inc. dated 5-9-25. **Town Engineer to review.** **Grading to be revised.** **Plans and road details do not coincide on width or drainage system.** **Road drainage collection system on plans do not coincide with details.** **Stormwater:** **Pond peak elevations on C6.1 do not coincide with HCAD report.** **Inverts do not match.** **Revised stormwater report/analysis needed.**

Project Name/District:	Bald Hill RV Park/Rural, Resource Protection and 250' Shoreland Overlay Districts– Tax Map 46, Lot 20-2	Date of Review:	7/15/25; 11/24/25; 2/19/26
Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
J.	Any other information or data the reviewing authority determines is necessary to demonstrate compliance with the standards of § 145-75. **[Added 4-27-2007]**					**Planning Board to determine if a hydrogeologic report on water quality and supply for on-site use can be met as well as confirming no off-site impacts will occur.**
	Chapter 201, Article IV. Sidewalk Development.			**NA**		

Notes:

1. See Article V, VI, VII review comments.
2. See plan markups provided dated 2/19/26.

Planning & Development
208 Sanford Road, Wells, Maine 04090
Phone: (207) 646-5187, Fax: (207) 646-7046
Website: www.wellstown.org

Michael G. Livingston, Town Engineer/Planner	*mlivingston@wellstown.org*
Shannon M. L. Belanger, Assistant Planner	*sbelanger@wellstown.org*

Site Plan Amendment Application Memo

Date: February 20, 2026

To: Planning Board

From: Planning Office

Re: 526 Post Road – Map 27, Lot 10-EXE

Project Description:

Werner Gilliam of Walsh Engineering has submitted a site plan amendment application on behalf of the owner, The Grace Group, LLC. The application seeks approval to divide the existing school onto a 1.32 acre lot from the 8.15 acre parcel. The existing school use shall remain on a 1.32 acre parcel with 31 parking spaces. The school use has an accessory shed and playground. The building is 6,205 SF in gross floor area. The property is located at 526 Post Road and is served by public sewer and public water. Tax Map 27, Lot 10-EXE.

§ 145-74. Review and approval process.

D. Planning Board review process.

(1) If there are site plan approval applications to review, the Planning Board shall meet at least two times a month and its meeting agenda shall be posted in the Town Hall at least seven days prior to the meeting. Applications and other supporting submittals shall be filed by the applicant in the Office of Planning and Development at least 10 days before the meeting. Additional materials received from an applicant less than 10 days before a meeting will be held by the Office of Planning and Development staff until the meeting and will be distributed when the application is discussed. Such late submittals may only be considered at the discretion of the Planning Board. The Board shall only consider accepting late submittals upon finding that the content is nontechnical, brief and may be easily reviewed in a short time period, and any parties to the proceeding will have adequate time to review and respond to the submittals. **Application submitted on 1/13/26. Planning Board to receive the application on 1/26/26**

(2) Applications for site plan approval are to be filed with the Office of Planning and Development. The application shall be accompanied by a site plan and the required fee along with a certification that the applicant has sent or delivered notices to the abutters of the filing of the site plan approval application. If the abutters have been notified by the Code Enforcement Officer of a preapplication for the same project within the last 60 days pursuant to Subsection **A(1)(b)[1]**, the applicant shall be exempted from notifying the abutters of the site plan application filing. Within seven days of receipt of the application by the Office of Planning and Development, the Code Enforcement Officer shall determine if the proposed use meets the requirements of Articles **V**, **VI** and **VII**. If it does not, the Code Enforcement Officer shall notify the applicant

in writing. If it does, the application shall be reviewed for completeness by the Planning Board's agent or placed on a Planning Board agenda for the Planning Board to review for completeness. The applicant may request, in writing, that the Board waive submission of the requirements of § **145-77**. The Board may waive any of the submission requirements listed in § **145-77** if it determines that they would not be applicable or are not necessary to determine that the standards of § **145-75** have been or will be met. **Abutters mailed notice of application on 1/15/26**

(3) It is the responsibility of the Planning Board, or its agent if so designated, to determine if the application is complete. If it is the responsibility of the Board to determine whether the application is complete it must be done within 21 days of receipt of the application by the Board. If it is the responsibility of the Board's agent to determine whether the application is complete it must be done within 14 days of receipt of the application by the Office of Planning and Development. The time period for determining completeness may be extended by mutual consent of the applicant and the Planning Board or its agent. If the application is complete it shall be placed on an agenda for presentation to the Board at a public hearing. If the application is not complete, the applicant shall be notified, in writing, of the additional information needed to complete the application. If the additional information or a written request for an extension is not submitted within 60 days of the notification, the application shall be considered to be withdrawn. If the Planning Board's agent has determined that the application is not complete and the applicant believes it is complete, the applicant may request in writing for the application to be placed on the agenda for the next Planning Board meeting and have the Planning Board review the application for completeness. **To be determined**

(4) Upon determining that a complete application has been submitted, the Office of Planning and Development shall notify the Staff Review Committee members of the application and request their comments on the application in writing. **To be determined**

(5) Within 35 days of determining that the application is complete the Planning Board shall hold a public hearing on the application. **To be determined**

(a) In scheduling public hearings under this section, the Planning Board shall publish notice of the hearing at least 10 days in advance in a newspaper of general circulation in the area. The applicant shall be responsible for paying the cost of such notices.

(b) The Planning Board shall notify, by certified mail, the applicant and all abutters of the lot involved, including owners of lots on the opposite side of the street, at least 10 days in advance of the hearing, of the nature of the application and of the time and place of the public hearing. **To be determined**

(c) The lot owners shall be considered to be those against whom taxes are assessed. In the case of condominiums, the condominium association, not each unit owner, shall be notified. Failure of any lot owner to receive a notice of public hearing shall not necessitate another hearing or invalidate any action by the Planning Board.

(d) At any hearing, a person may be represented by his agent or attorney. Hearings shall not be continued to other times except for good cause.

(e) The applicant's case shall be heard first. To maintain orderly procedure, each side shall proceed without interruption. Questions shall be asked through the Chair. All persons at the hearing shall abide by the order of the Chairman.

(6) Within 35 days of the public hearing or a period of time agreed to by the applicant and the Planning Board, the Planning Board shall reach a decision based on the criteria found in § **145-75** and shall inform the applicant in writing within seven days of its decision stating its reasons. The Board shall prepare detailed, written findings of fact and conclusions, based on the evidence presented at the public hearing and evidence presented by the applicant and evidence presented by Town staff. **To be determined**

Recommendations and conclusions:

1. The Planning Board to consider the following:
    a. Workshop and comment on the following Article V, VI and draft completeness review comments:
        i. Landscaping/ screening:
            1. A 15 foot wide landscaped buffer is required along Route One. This buffer shall consist of 4 existing shade trees. Planning Board to consider if this buffer is suitable after a public hearing is determined.
            2. A 15 foot wide landscaped buffer is required along Arundel Lane. Plan to identify trees and plantings proposed. Landscaping plan not provided. A minimum of two shade trees, 3" diameter at breast height are required.
            3. The residential lot to the west is proposed to be screened by a 6' tall solid fence. Planning Board to consider if this is suitable after a public hearing is determined.
        ii. Stormwater:
            1. Town Engineer to review stormwater runoff.
            2. Proposed contours and grading are identified on the site plan sheets. Proposed grading and drainage system design provided. To be reviewed.
        iii. Updated boundary plan provided.
        iv. Plan to include a note that states the property falls within the Route One Corridor study area for sidewalk installation. Future development shall be reviewed for compliance with Chapter 201 regarding sidewalk construction.
        v. Easement proposed to grant access for Lot 10 to use Arundel Lane for vehicular, pedestrian, utility and stormwater? Document not provided.
        vi. School use remains proposed. Planning Board to consider finding an updated capacity letter from WSD is not applicable.
        vii. School use remains proposed. Planning Board to consider finding an updated capacity letter from KKWWD is not applicable.
        viii. Utilities plans provided. To be reviewed.
        ix. Traffic Assessment dated 2/9/26 provided. To be reviewed.
    b. Planning Board to appoint the Planning Office completeness agent so a public hearing can be scheduled once complete.

WALSH
ENGINEERING ASSOCIATES, INC.

STORMWATER MANAGEMENT REPORT

for

526 Post Road – Amended Site Plan Application
Wells, Maine 04090

January 22, 2026
Revision 1: February 10, 2026

Submitted to:
Town of Wells
208 Sanford Road
Wells, Maine 04090
&
Maine Department of Environmental Protection
312 Canco Road
Portland, Maine 04103

Submitted by:
Walsh Engineering Associates, Inc.
One Karen Drive, Suite 2A
Westbrook, Maine 04092

WALSH
ENGINEERING ASSOCIATES, INC.

STORMWATER MANAGEMENT REPORT

Arundel Lane Subdivision
526 Post Road – Wells, Maine 04090

January 22, 2026
Revision 1: February 10, 2026

Introduction

Walsh Engineering Associates, Inc. (WEA) was retained by The Grace Group, LLC, (Applicant) to provide site design and stormwater management design services for the construction of a proposed subdivision and associated access drive located at 526 Post Road in Wells, Maine.

This Stormwater Management Report assesses both pre-development and post-development peak rates of stormwater runoff from the project site. The analysis provided herein was completed in accordance with Maine Department of Environmental Protection (DEP) and Town of Wells stormwater standards.

Pre-Development (Existing) Site Conditions

The property at 526 Post Road in Wells abuts a church to the north, Post Road (Route 1) to the east, a private residence to the south, and wooded area on a private lot to the west. The existing property consists of the following improvements: a 6,205 square foot building; an associated access drive and parking lot; and a detention basin, which stores stormwater runoff from the existing building and its parking lot, and discharges into the Maine Department of Transportation (MDOT) drainage system within Route 1. The existing infrastructure on the project site is shown in the project Design Plans, included in **Appendix A**. It should be noted that management of stormwater quantity is presently occurring via the existing catch basin.

Land Cover and Soils

Land cover and soils datasets were used to develop hydrologic curve numbers for the project area. Land cover was evaluated by reviewing aerial photography and site survey data. Land cover on the project site consists of buildings, pavement, lawn, and woods.

Soil characteristics, including soil type and hydrologic soil groups (HSGs), were obtained from the United States Department of Agriculture's (USDA's) most recent Web Soil Survey. The soil types in the watershed are Adams loamy sand (HSG A), Croghan loamy fine sand (HSG A), Lyman loam (HSG D), and Lyman-Rock outcrop complex (HSG D). A map showing the soil types and hydrologic soil group classifications within the project vicinity from the USDA's Web Soil Survey is located in **Appendix B**.

One Karen Drive, Suite 2A | Westbrook, ME 04092 | 207.553.9898 | Walsh-Eng.com

Seven test pits were dug at the project site on January 12, 2026 to support the stormwater management design. Of the seven locations, four will have stormwater best management practices (BMPs) installed within their vicinity in the post-development site condition, including TP-3, TP-4, TP-5, and TP-7. Overall, the test pits across the project site showed mostly sandy/loamy soils and high bedrock and groundwater tables. The test pit locations are shown on the project Design Plans, included in **Appendix A**, and a copy of the test pit logs are included in **Appendix B**.

Topography

Subcatchment boundaries were delineated using site survey data. Topographically, the site drains in five different directions, each of which are referred to as "Analysis Points" in the *Stormwater Modeling* section of this report. In general, portions of the project site drain towards the church property to the north/east of the existing site, to the MDOT drainage system within Route 1, towards the private property to the south, towards Stevens Brook to the south, or towards the private property to the west. The existing site topography is shown in the project Design Plans, included in **Appendix A**.

Resource Areas

Albert Frick Associates located a mapped wetland system on the project site on April 24, 2025. This wetland ultimately drains to Stevens Brook, and is shown on the project Design Plans, included in **Appendix A**. Please note that the proposed project includes filling approximately 1,688.5 square feet of this wetland.

Post-Development (Proposed) Site Conditions

The existing school building and parking area onsite are proposed to divided from the existing 8.15-acre property into a separate lot, to be referred to as the "526 Post Road lot" herein. This proposed division of land is shown on the project Design Plans and has been submitted to the Town of Wells for consideration but has not yet been approved.

The following improvements are proposed to develop the remaining 6.85 acres of the property, most of which is currently wooded area: an 11-unit residential condominium development with detached single-family homes; an associated private road, to be named "Arundel Lane," for site access, with a cul-de-sac at its terminating end; water, sewer, and electric utilities servicing each condominium; and stormwater management and treatment systems provided where necessary to control the developed conditions.

Stormwater Modeling

Methodology

TR-55/TR-20 methodology was used to develop a hydrologic model of the Site. WEA used the computer program entitled HydroCAD Version 10.0, developed by HydroCAD Software Solutions, LLC, to create a stormwater model to analyze the site's hydrology. The analysis was conducted to establish the peak rates of runoff from the project site and evaluate pre-

and post-development conditions during various storm events. Contributing drainage areas were identified and soils, surface cover, watershed slope, and flow paths were evaluated to develop the necessary HydroCAD model input parameters. A minimum time of concentration (Tc) of 6 minutes was used in the calculations, as applicable.

Drainage calculations were performed for the pre- and post-development site conditions for the 2-, 10-, 25-, and 50-year, 24-hour, Type III storm events using rainfall data for York County from the table titled "*24 Hour Duration Rainfalls for Various Return Periods – Natural Resource Conservation Service County Rainfall Data,*" included in Appendix H of the Maine DEP's Chapter 500 Stormwater Management Rules. A copy of this table is included in **Appendix C** of this report.

The total precipitation depth for the project site associated with each rainfall event is outlined in **Table 1**, below.

Table 1: Design Rainfall Data

York County 24-Hour Storm Event (Frequency)	Rainfall Depth (Inches)
2-Year	3.3
10-Year	4.9
25-Year	6.2
50-Year	7.3

Two stormwater models have been developed for the site to compare the peak discharge rates from the pre-development site conditions to those in the post-development conditions. As further described herein, the models demonstrate that the post-development peak discharge rates of runoff will not exceed pre-development rates.

Subcatchments and Analysis Points

Existing and proposed subcatchments were delineated in order to compare pre- and post-development peak rates of runoff on the project site. Although the sizes and quantities of subcatchments differ between the existing and proposed site conditions, the total area analyzed between the two conditions remains the same. Analysis Points were selected for primary stormwater discharge locations from the project site. For this stormwater evaluation, five Analysis Points were identified for the project site, as described below:

- Analysis Point 1 (AP-1): represents runoff discharging to the church property to the north/east of the site.
- Analysis Point 2 (AP-2): represents runoff discharging to the MDOT drainage system within Route 1 (Post Road).
- Analysis Point 3 (AP-3): represents runoff discharging to the private property to the south of the site.
- Analysis Point 4 (AP-4): represents runoff discharging towards Stevens Brook to the south of the site.

- Analysis Point 5 (AP-5): represents runoff discharging to the private property to the west of the site.

The Analysis Points and subcatchment delineations are shown on the pre-development and post-development drainage figures included in **Appendix D**.

Modeling Results

Table 2, below, summarizes the pre- and post-development peak discharge rates for each Analysis Point during the 2-, 10-, and 25-year 24-hour storm events:

Table 2: Pre- and Post-Development Peak Rates of Runoff Comparison

Analysis Point	2-Year (cfs)			10-Year (cfs)			25-Year (cfs)			50-Year(cfs)		
	Pre-	Post-	Δ	Pre-	Post-	Δ	Pre-	Post-	Δ	Pre-	Post-	Δ
AP-1	0.2	0.2	0.0	0.4	0.4	0.0	0.6	0.6	0.0	0.8	0.7	-0.1
AP-2	0.6	0.6	0.0	2.5	2.1	-0.4	3.9	3.0	-0.9	4.8	4.8	0.0
AP-3	1.7	1.7	0.0	3.5	2.8	-0.7	5.0	3.5	-1.5	6.4	4.3	-2.1
AP-4	1.0	0.8	-0.2	2.0	1.8	-0.2	2.8	2.7	-0.1	3.6	3.3	-0.3
AP-5	1.1	0.6	-0.5	2.3	1.2	-1.1	3.3	1.6	-1.7	4.2	2.0	-2.2

Note: Δ represents the net difference between the pre- and post-development peak rates of runoff

Table 2 demonstrates a decrease in peak discharge rates between the existing and proposed site conditions for all storm scenarios and Analysis Points shown above. Complete copies of the pre- and post-development HydroCAD computer model outputs demonstrating that peak discharge rates decrease between the existing and proposed site conditions are included in **Appendices E and F**, respectively.

Compliance with Maine DEP Stormwater Standards

Basic Standards

Erosion and Sedimentation Controls

To prevent erosion, sedimentation, and the discharge of other pollutants during construction and land disturbance activities, erosion and sedimentation controls must be installed by the contractor, as required by, and shown on the project Design Plans in **Appendix A**. Proposed erosion and sedimentation controls include silt fence and/or filter berms of erosion control mix, a stabilized construction entrance, rolled erosion control matting, if deemed necessary, catch basin silt sacks, and permanent seeding. The contractor will be responsible for implementing the specified erosion and sedimentation control methods. These measures will be maintained and kept in place until the disturbed areas of the project have fully stabilized.

The proposed project exceeds one acre of total disturbance and therefore will be required to file a Notice of Intent in accordance with the Maine Construction General Permit (MCGP). A Stormwater Pollution Prevention Plan (SWPPP) will be submitted at the time of filing,

before land disturbance begins, and will outline the necessary measures to meet the requirements of this standard.

Inspection, Maintenance, and Good Housekeeping

During construction, the contractor will be responsible for good housekeeping of the project site, in accordance with the housekeeping requirements detailed in the Design Plans included in **Appendix A**. The owner/Applicant will be responsible for maintaining the proposed stormwater BMPs following construction of the proposed subdivision and will implement good housekeeping measures at the project site. A detailed Post-Construction Stormwater System Inspection and Maintenance Plan is included in **Appendix G**.

General Standards

Treatment Requirements

Table 3, below, shows the stormwater treatment area percentages achieved for the project.

Table 3: Stormwater Treatment Summary

Development Type	Area (SF)
New Non-Linear Impervious Area Treated	71,709
Total New Non-Linear Impervious Area	72,959
New Non-Linear Impervious Area % Treated	98%
New Non-Linear Developed Area Treated	109,475
Total New Non-Linear Developed Area	137,125
New Non-Linear Developed Area % Treated	80%

Table 3 demonstrates that the proposed stormwater management system treats at least 95% of new impervious areas and 80% of the developed area onsite.

Proposed BMPs

Stormwater runoff from the roofs of several condominium units will be managed using 4.5-foot-wide roof dripline stormwater BMPs located along the buildings' long edges, in locations shown in the Design Plans (**Appendix A**). Runoff from other new impervious and developed areas will be managed either by a lined underdrained soil filter or a subsurface chamber system. Sizing calculations for the roof dripline and underdrained soil filter BMPs are included in **Appendix H**. The proposed subsurface chamber system was sized using the post-development stormwater HydroCAD model, which is included in **Appendix F**.

Easement and Deed Restrictions Standard

The proposed locations of drainage and utility easements between the 526 Post Road lot and the Arundel Lane Subdivision lot are shown on the Design Plans in **Appendix A**. Please note that these proposed easements are contingent on approval from the Town of Wells. Furthermore, upon execution of the proposed lot split, both properties will be owned by the

same entity, thereby removing any potential for owner objection to the proposed drainage easements.

Discharges to Public Storm Sewer Systems Standard

Stormwater runoff from the existing development on the property is currently conveyed to a detention basin, which discharges via an outlet control structure and culvert pipe to the MDOT drainage system within Route 1 (Post Road), referred to as Analysis Point 2 in the *Stormwater Modeling* section of this report, above. In the post-development site condition, it is proposed to maintain a discharge from the site into the MDOT drainage system. However, as shown in **Table 2** in this report, there will be a decrease in peak discharge rates between the existing and proposed site conditions for all storm scenarios to Analysis Point 2.

Standards Not Applicable to Project

The following table (**Table 4**) summarizes the Maine DEP Stormwater Standards that are not applicable to this project:

Table 4: Maine DEP Stormwater Standards Not Applicable to Project

Maine DEP Stormwater Standard	Reason Standard Is Not Applicable
Phosphorus Standard	The project is not located within a lake watershed.
Urban Impaired Stream Standard	The project is not located within an urban impaired stream watershed.
Flooding Standard	The project does not result in 3 acres or more of impervious area or 20 acres or more of developed area and does not require a Site Law permit or permit modification.
Redistribution of Stormwater Discharges Standard	The project will not create a discharge of concentrated stormwater runoff.
Discharge to Wetlands Standard	The project does not propose to discharge stormwater runoff to a wetland.

Compliance with Town of Wells Stormwater Management Standards

Drainage Easements

The proposed locations of drainage easements between the 526 Post Road lot and the Arundel Lane Subdivision lot are shown on the Design Plans in **Appendix A**. Please note that these proposed easements are contingent on approval from the Town of Wells. Furthermore, upon execution of the proposed lot split, both properties will be owned by the same entity, thereby removing any potential for owner objection to the proposed drainage easements.

Peak Rates of Runoff

Refer to **Table 2**, located in the *Stormwater Modeling* section of this report, which demonstrates a decrease in peak discharge rates between the existing and proposed site conditions for the 2-, 10-, 25-, and 50- year storm events for all Analysis Points modeled for the site.

Stormwater Management Plan Requirements

As described throughout this report, the proposed stormwater management system for this project has been designed in accordance with the Maine DEP and Town of Wells standards/criteria, with consideration to mitigate the impacts of stormwater onsite, offsite, and to nearby resource areas.

Great Pond Watershed Requirements

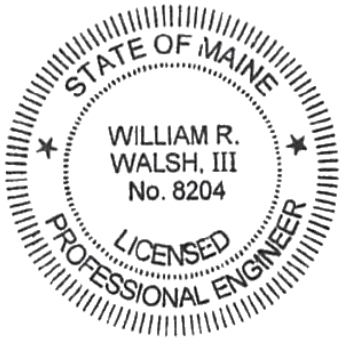
The proposed project is not located within the watershed of a great pond.

Conclusions

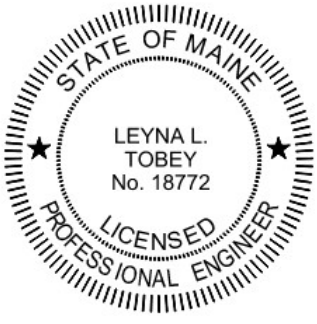
The proposed stormwater management system for this project consists of roof dripline filters, underdrained soil filters, a subsurface chamber system, and catch basin, manhole, and culvert conveyance systems. Stormwater modeling shows that there will be a decrease in peak discharge rates between the existing and proposed site conditions for the 2-, 10-, 25-, and 50-year storm events for all Analysis Points modeled for the site. It is our opinion that the proposed stormwater management system meets the requirements of the Maine DEP and the Town of Wells.

Respectfully,

William R. Walsh, III, PE
Walsh Engineering Associates, Inc.



Leyna L. Tobey, PE
Walsh Engineering Associates, Inc.



Appendices

- Appendix A – Project Design Plans, entitled “Arundel Lane Subdivision,” prepared by Walsh Engineering Associates, Inc., dated February 10, 2026
- Appendix B – Soils Data
- Appendix C – Rainfall Data
- Appendix D – Pre-Development and Post-Development Drainage Figures
- Appendix E – Pre-Development HydroCAD Model Report
- Appendix F – Post-Development HydroCAD Model Report
- Appendix G – Post-Construction Stormwater System Inspection and Maintenance Plan
- Appendix H – Stormwater Design Calculations

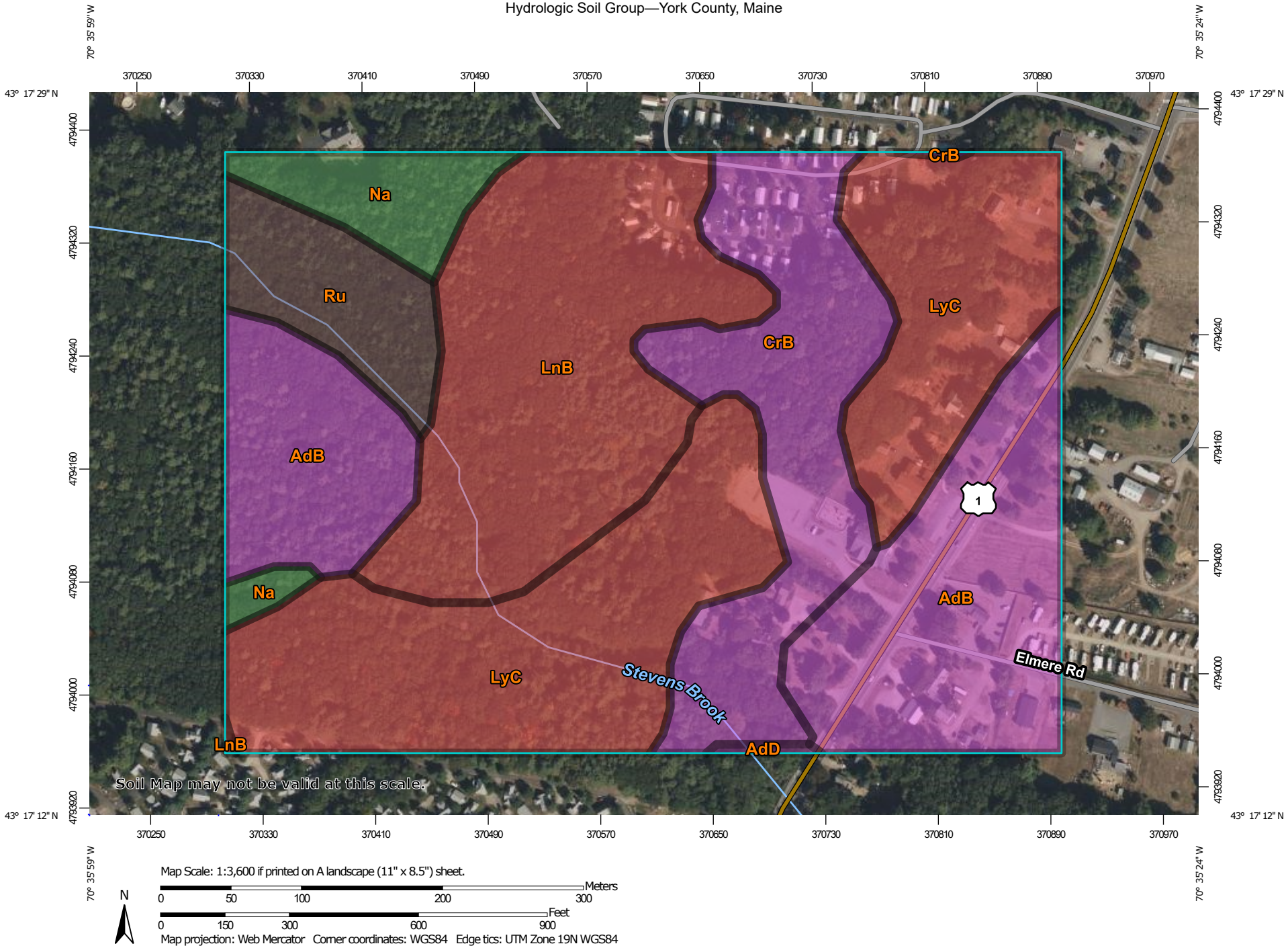
Appendix A

Project Design Plans, entitled “Arundel Lane Subdivision,” prepared by Walsh Engineering Associates, Inc., dated February 10, 2026

Under a Separate Cover

Appendix B

Soils Data



Map Scale: 1:3,600 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: York County, Maine
Survey Area Data: Version 24, Aug 29, 2025

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AdB	Adams loamy sand, 0 to 8 percent slopes	A	14.1	22.4%
AdD	Adams loamy sand, 15 to 60 percent slopes	A	0.1	0.2%
CrB	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	A	9.5	15.1%
LnB	Lyman loam, 3 to 8 percent slopes, rocky	D	13.4	21.4%
LyC	Lyman-Rock outcrop complex, 8 to 15 percent slopes	D	19.2	30.6%
Na	Naumburg sand	A/D	2.9	4.6%
Ru	Rumney fine sandy loam, 0 to 3 percent slopes, frequently flooded	B/D	3.6	5.7%
Totals for Area of Interest			**62.8**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

SOIL TEST PIT PROFILE DESCRIPTIONS

LONGVIEW PARTNERS, LLC
6 SECOND STREET BUXTON, MAINE

Town, City, Plantation: **WELLS**

Street, Road, Subdivision: **526 POST ROAD**

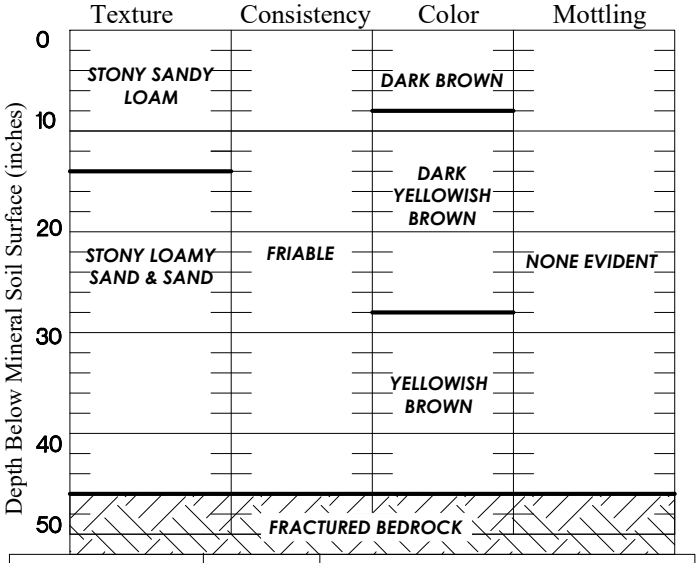
Owner's Name: **WALSH ENGINEERING ASSOCIATES, INC.**

SOIL DESCRIPTION AND CLASSIFICATION (PER STATE OF MAINE SUBSURFACE WASTEWATER DISPOSAL RULES)

Observation Hole **TP 1** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

SOIL TEST PIT BY BACKHOE

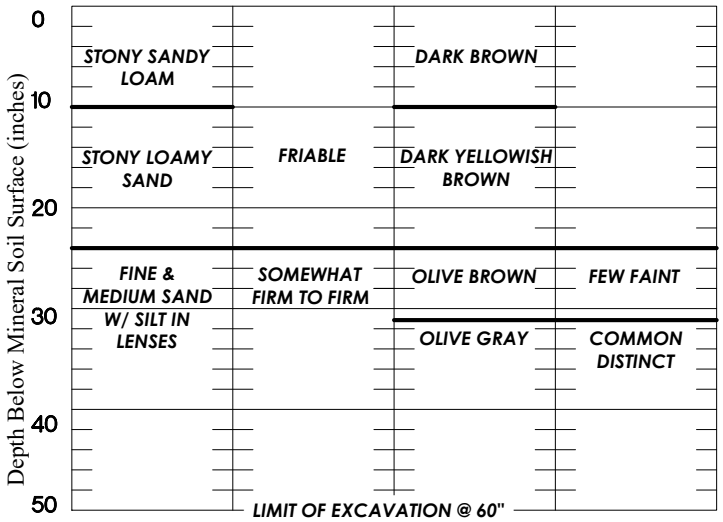


Soil Classification	Slope	Limiting Factor	
TUNBRIDGE (Profile / Condition)	_____ %	**46** "	[ ] Ground Water [ ] Restrictive Layer [X] Bedrock [ ] Pit Depth

Observation Hole **TP 2** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

SOIL TEST PIT BY BACKHOE



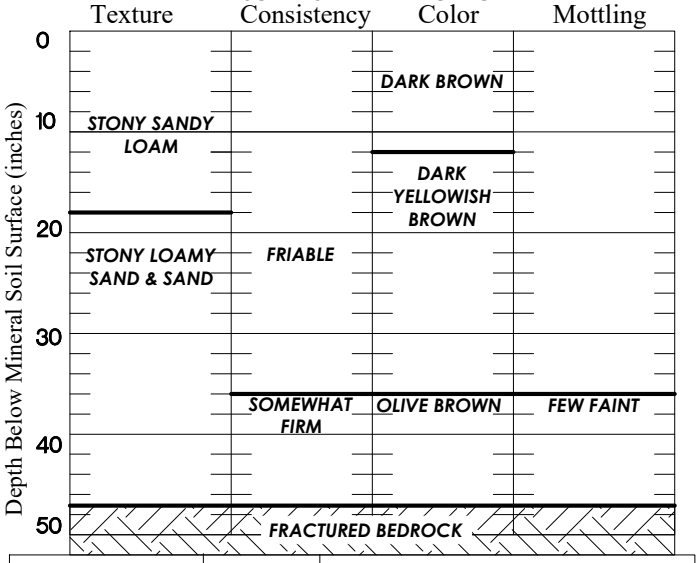
Soil Classification	Slope	Limiting Factor	
ELMWOOD (ELDRIDGE) (Profile / Condition)	_____ %	**24** "	[X] Ground Water [X] Restrictive Layer [ ] Bedrock [ ] Pit Depth

SOIL DESCRIPTION AND CLASSIFICATION (PER STATE OF MAINE SUBSURFACE WASTEWATER DISPOSAL RULES)

Observation Hole **TP 3** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

SOIL TEST PIT BY BACKHOE

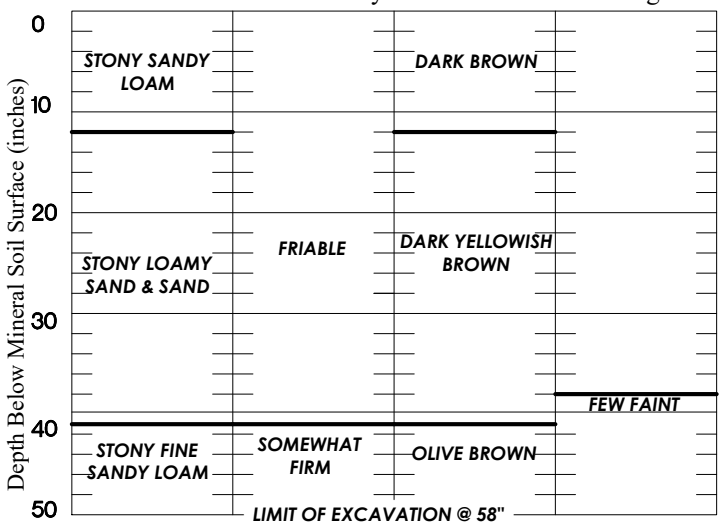


Soil Classification	Slope	Limiting Factor	
TUNBRIDGE (Profile / Condition)	_____ %	**47** "	[ ] Ground Water [ ] Restrictive Layer [X] Bedrock [ ] Pit Depth

Observation Hole **TP 4** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

SOIL TEST PIT BY BACKHOE



Soil Classification	Slope	Limiting Factor	
SKERRY (Profile / Condition)	_____ %	**38** "	[X] Ground Water [X] Restrictive Layer [ ] Bedrock [ ] Pit Depth

James Logan — SIGNATURE

237/213 — LSE/LSS #

1/12/26 — DATE

SOIL TEST PIT PROFILE DESCRIPTIONS

LONGVIEW PARTNERS, LLC
6 SECOND STREET BUXTON, MAINE

Town, City, Plantation: **WELLS**

Street, Road, Subdivision: **526 POST ROAD**

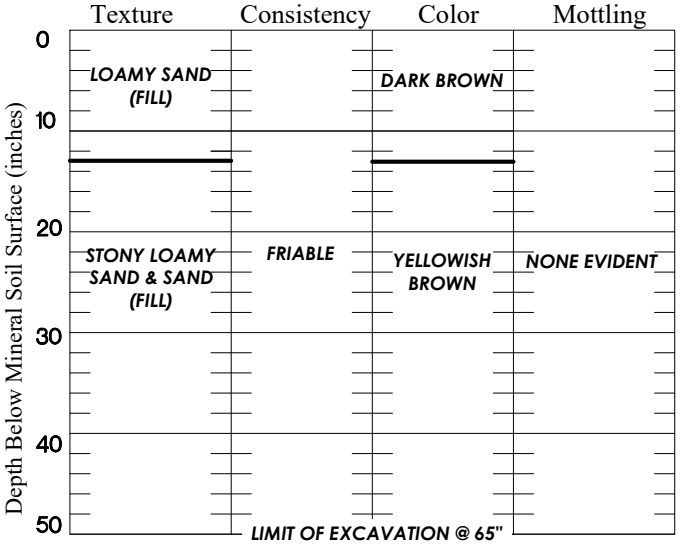
Owner's Name: **WALSH ENGINEERING ASSOCIATES, INC.**

SOIL DESCRIPTION AND CLASSIFICATION (PER STATE OF MAINE SUBSURFACE WASTEWATER DISPOSAL RULES)

Observation Hole **TP 5** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

SOIL TEST PIT BY BACKHOE

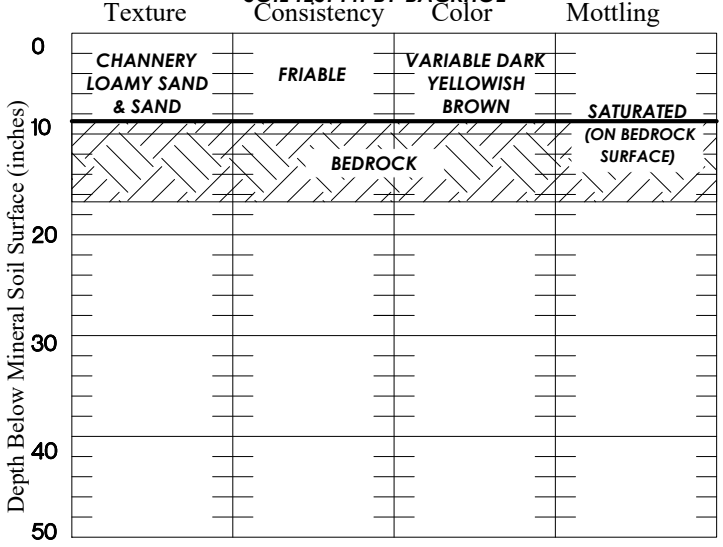


Soil Classification	Slope	Limiting Factor	
FILLED/MADE LAND (Profile Condition)	_____ %	_____ "	[ ] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole **TP 6** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

SOIL TEST PIT BY BACKHOE



Soil Classification	Slope	Limiting Factor	
MADE LAND (Profile Condition) **"NASKEAG-LIKE"**	_____ %	**9** "	[X] Ground Water [ ] Restrictive Layer [X] Bedrock [ ] Pit Depth

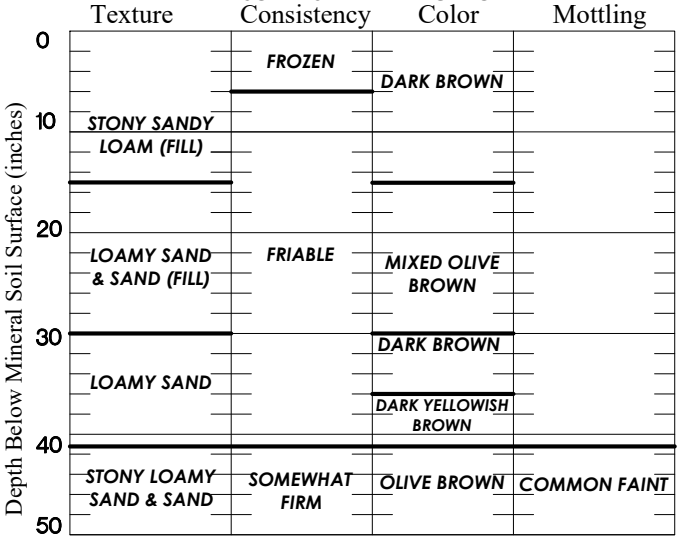
EDGE OF DRIVEWAY — BOTTOM OF STORMWATER BASIN

SOIL DESCRIPTION AND CLASSIFICATION (PER STATE OF MAINE SUBSURFACE WASTEWATER DISPOSAL RULES)

Observation Hole **TP 7** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

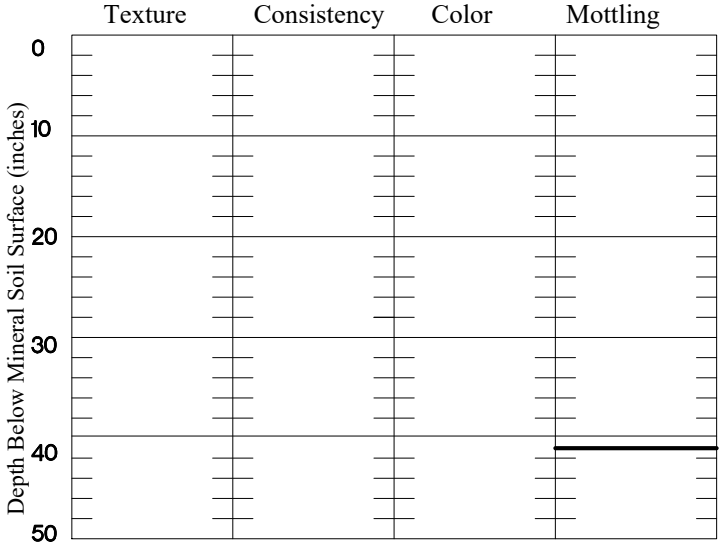
SOIL TEST PIT BY BACKHOE



Soil Classification	Slope	Limiting Factor	
FILLED LAND OVER SKERRY (Profile Condition)	_____ %	**41** "	[X] Ground Water [X] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole _____ ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil



Soil Classification	Slope	Limiting Factor	
_____ _____ (Profile Condition)	_____ %	_____ "	[ ] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

James Logan — **SIGNATURE**

237/213 — **LSE/LSS #**

1/12/26 — **DATE**

ELMWOOD (Eldridge)
(Aquic Dystric Eutrocrepts)

SETTING

Parent Material: Sandy glaciofluvial deposits underlain by loamy or clayey marine or lacustrine sediments.

Landform: Glacial lake plains, terraces, and glacial outwash areas.

Position in Landscape: Intermediate to upper positions in landform.

Slope Gradient Ranges: **(A)** 0-3% **(B)** 3-8% **(C)** 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately well drained with a perched water table 1.5 to 3.5 feet beneath the soil surface from November through May, or during periods of heavy precipitation.

Typical Profile Description:

Surface layer:	Very dark grayish brown sandy loam or loamy sand, 0-9"
Subsurface layer:	Olive brown loamy sand, 9-17"
Subsoil layer:	Olive brown loamy sand, 17-27"
Substratum:	Olive very fine sand, silt, or silty clay, 27-65"

Hydrologic Group: Group C

Surface Run Off: Moderately rapid to rapid

Permeability: Rapid in the solum and moderately slow or slow in substratum.

Depth to Bedrock: Deep, greater than 40".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Nicholville

Dissimilar: Elmwood (S.W.P.), Lamoine

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness, due to the presence of a water table for some portion of the year. Proper foundation drainage or other site modification is recommended for construction.

Stormwater design: Elmwood (Eldridge) soils are generally moderately well drained. Permeability is expected to be 2-6 inches/hour in upper horizons, and less than 0.2 inches/hour in the substratum (23" – 60").

FILLED LAND/MADE LAND

SETTING

Parent Material: Variable

Landform: N/A

Position in Landscape: N/A

Slope Gradient Ranges: **(A)** 0-3% **(B)** 3-8% **(C)** 3-20%

COMPOSITION AND SOIL CHARACTERISTICS

Note**:** This map unit consist of filled land interspersed with regarded original soils that are no longer classifiable by taxonomy.

Drainage Class: N/A

Typical Profile Description:

Surface layer:)
Subsurface layer:) Typically loamy sand
Subsoil layer:) and gravelly sand fill
Substratum:)

Hydrologic Group: Not assigned a hydrologic group due to variability.

Surface Run Off: Variable

Permeability: Variable

Depth to Bedrock: N/A

Hazard to Flooding: None

INCLUSIONS

(Within Mapping Unit)

Similar: Made Land
Dissimilar: None

Development with Public Sewer and Water: The limiting factor for building site development is wetness, due to firm or restrictive layers within map units within 40" of the existing surface. Proper foundation drainage or other site modification is recommended for construction.

MADE LAND (EXISTING GRAVEL ROAD)
(Udorthents)

SETTING

Parent Material: Variable, placed or regraded by man. This map unit consists of nearly level to moderately sloping areas where the original soils have been cut away or covered with variable fill material (ranging from sandy loam to gravel). Most areas have been graded to a smooth surface. Areas are dominantly on uplands but are in almost every landscape position. Areas range in size. Map unit can be linear when exhibiting old road construction. Slopes are smooth or irregular, and range form 0 to 25 percent, but are dominantly 0 to 10 percent. Where the original soil has been cut away, Udorthents, loamy, typically consist of the exposed substrata of underlying soil. In areas that have been filled, they consist of variable soil material.

Landform: Variable. Generally less than 15% maximum grade

Position in Landscape: Variable. Generally in lower elevations and along mountain sideslopes.

Slope Gradient Ranges: **(A)** 0-3% **(B)** 3-8% **(C)** 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: None assigned

Typical Profile Description:
Surface layer:) Typically this map unit
Subsurface layer:) consists of areas
Subsoil layer:) excavated and reworked
Substratum:) by man, then smoothed.
Note: These map units generally consist of existing gravel roads and associated disturbed area. Ditch turn-outs, fill piles and stump tailings are often present along map unit boundaries.

Hydrologic Group: Variable

Surface Run Off: Variable

Permeability: Variable

Depth to Bedrock: Variable

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Filled Land

Dissimilar: Small 'made' depressions that contain standing water or have other drainage implications. These may be caused by compaction by vehicular traffic, which is not synonymous with seasonal water tables.

USE AND MANAGEMENT

This map unit consists of areas reworked by man, so that the soils are no longer taxonomically classifiable. Limiting factor for development is soil drainage, though somewhat difficult to determine in these map units. This map unit usually has sandy soil material over the underlying finer textured original soils (silty and silty clay).

SKERRY
(Aquic Haplorthods)

SETTING

Parent Material: Loamy glacial till underlain by sandy textured denser till.

Landform: Drumlins and glaciated uplands.

Position in Landscape: Usually occupies upper components of landform.

Slope Gradient Ranges: **(B)** 3-8% **(C)** 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately well-drained, with a perched water table 1.5 to 3.5 feet below the soil surface from November through May.

Typical Profile Description:

Surface layer: Light gray fine sandy loam, 0-4"
Subsurface layer: Dark reddish brown fine sandy loam, 4-20"
Subsoil layer: Yellowish brown fine sandy loam, 20-25"
Substratum: Mixed brown and light olive brown fine sandy loam and sand, 25-65"

Hydrologic Group: Group C

Surface Run Off: Moderate

Permeability: Moderate in solum and slow or moderately slow in the compact substratum.

Depth to Bedrock: Deep, greater than 40".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Dixfield, Chesuncook, Herman

Dissimilar: Tunbridge, Lyman (less than 40" to bedrock), Colonel

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness due to the presence of a water table 1.5 to 3.5 feet beneath the soil surface for some period during the year. Proper foundation drainage is recommended for construction.

Soil limitations for proposed use: Skerry soils are generally suited for development of power transmission projects, in that these soils are moderately well drained with basal till substratum. Depths to seasonal high groundwater table can be overcome by redirection of surface water run-off, and/or importation of coarse granular fill. Stony soil map units have stony or boulder surfaces, which have limitations for vehicular traffic. Large excavation equipment or blasting of large glacial erratics may be necessary for excavation and/or site preparation.

Stormwater design: Skerry soils are moderately well drained. Soil permeabilities are expected to be 0.6 – 2.0 inches/hour in the upper portions of soil profile, and 0.06 – 0.6 inches/hour in the compact substratum, generally 25" – 65" beneath the soil surface.

TUNBRIDGE
(Typic Haplorthods)

SETTING

Parent Material: Loamy glacial till.

Landform: Glaciated uplands.

Position in Landscape: Upper positions on landform.

Slope Gradient Ranges: **(B)** 3-8% **(C)** 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat excessively to well drained, with no evidence of a water table, or only inches from the bedrock surface during spring and during periods of heavy precipitation.

Typical Profile Description:

Surface layer: Black and reddish brown loam and fine sandy loam, 0-4"

Subsurface layer: Very dusky red loam, 4-6"

Subsoil layer: Dark red loam, 6-10"

Substratum layer: Dark brown to brown loam, 10-25". Bedrock at 25".

Hydrologic Group: Group C/D

Surface Run Off: Rapid

Permeability: Moderate or moderately rapid.

Depth to Bedrock: Moderately deep, 20-40".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Dixfield, Skerry

Dissimilar: Lamoine, Lyman Variant, Naskeag, Adams

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is shallow depth to bedrock. This map unit has limitations for construction of houses with foundations. Proper foundation drainage or other site modification is recommended for construction.

Soil Limitations for Proposed Use: The soil limitation for proposed development is depth to bedrock. Filling is not a problem for this soil, however, areas of road alignment or buried underground electrical cables requiring blasting increases expense. Adjusting grades with filling, where possible, as opposed to blasting, is recommended to address bedrock concerns.

Stormwater design: Tunbridge soils are shallow to bedrock, and offer limitations for subsurface stormwater design due to the 'ledge' blasting potential. The expected permeability of the upper 2.0' is 0.6 to 6.0 inches/hour, and 0.01 to 20.0 inches/hour in the lower horizons.

Appendix C

Rainfall Data

24-Hour Duration Rainfalls for Various Return Periods Natural Resources Conservation Service County Rainfall Data									
COUNTY	**Storm Type**	**1-YR**	**2-YR**	**5-YR**	**10-YR**	**25-YR**	**50-YR**	**100-YR**	**500-YR**
ANDROSCOGGIN	III	2.5	3.0	3.7	4.3	5.4	6.4	7.6	11.1
AROOSTOOK C (Presque Isle Area)	II	1.9	2.3	2.8	3.2	3.9	4.6	5.3	7.6
AROOSTOOK N (Fort Kent Area)	II	1.9	2.2	2.7	3.1	3.7	4.3	5.0	7.0
AROOSTOOK S (Houlton Area)	II	2.1	2.5	3.0	3.4	4.1	4.7	5.4	7.5
CUMBERLAND NW (Bridgton Area)	III	2.5	3.0	3.7	4.3	5.4	6.3	7.5	10.9
CUMBERLAND SE (N Windham Area)	III	2.6	3.1	3.9	4.6	5.8	6.9	8.1	12.1
FRANKLIN	II	2.0	2.4	2.9	3.4	4.2	4.9	5.7	8.2
HANCOCK	III	2.5	2.9	3.6	4.2	5.2	6.1	7.2	10.5
KENNEBEC	III	2.4	2.8	3.5	4.2	5.2	6.1	7.2	10.6
KNOX	III	2.6	3.2	3.9	4.6	5.7	6.7	7.9	11.5
LINCOLN	III	2.5	3.1	3.8	4.5	5.5	6.5	7.6	11.1
OXFORD E (Rumford Area)	II[1]	2.3	2.7	3.3	3.9	4.8	5.7	6.7	9.7
OXFORD W (Gilead Area)	II	2.2	2.7	3.4	4.0	4.9	5.8	6.9	10.1
PENOBSCOT N (Millinocket Area)	II	2.2	2.6	3.2	3.8	4.7	5.6	6.5	9.5
PENOBSCOT S (Hudson Area)	II	2.3	2.7	3.4	3.9	4.9	5.7	6.7	9.7
PISCATAQUIS N (Chesuncook Area)	II	2.0	2.4	2.9	3.4	4.2	5.0	5.8	8.5
PISCATAQUIS S (Monson Area)	II	2.2	2.7	3.3	3.9	4.8	5.7	6.8	10.0
SAGADAHOC	III	2.6	3.2	3.9	4.6	5.7	6.7	7.8	11.4
SOMERSET N (Pittston Farm Area)	II	2.0	2.3	2.8	3.3	4.0	4.7	5.4	7.8
SOMERSET S (Solon Area)	II	2.3	2.7	3.4	3.9	4.9	5.7	6.7	9.8
WALDO	III	2.4	2.9	3.6	4.2	5.2	6.1	7.2	10.5
WASHINGTON	III	2.5	2.8	3.4	3.9	4.8	5.5	6.4	9.0
YORK	III	2.6	3.3	4.1	4.9	6.2	7.3	8.7	13.2

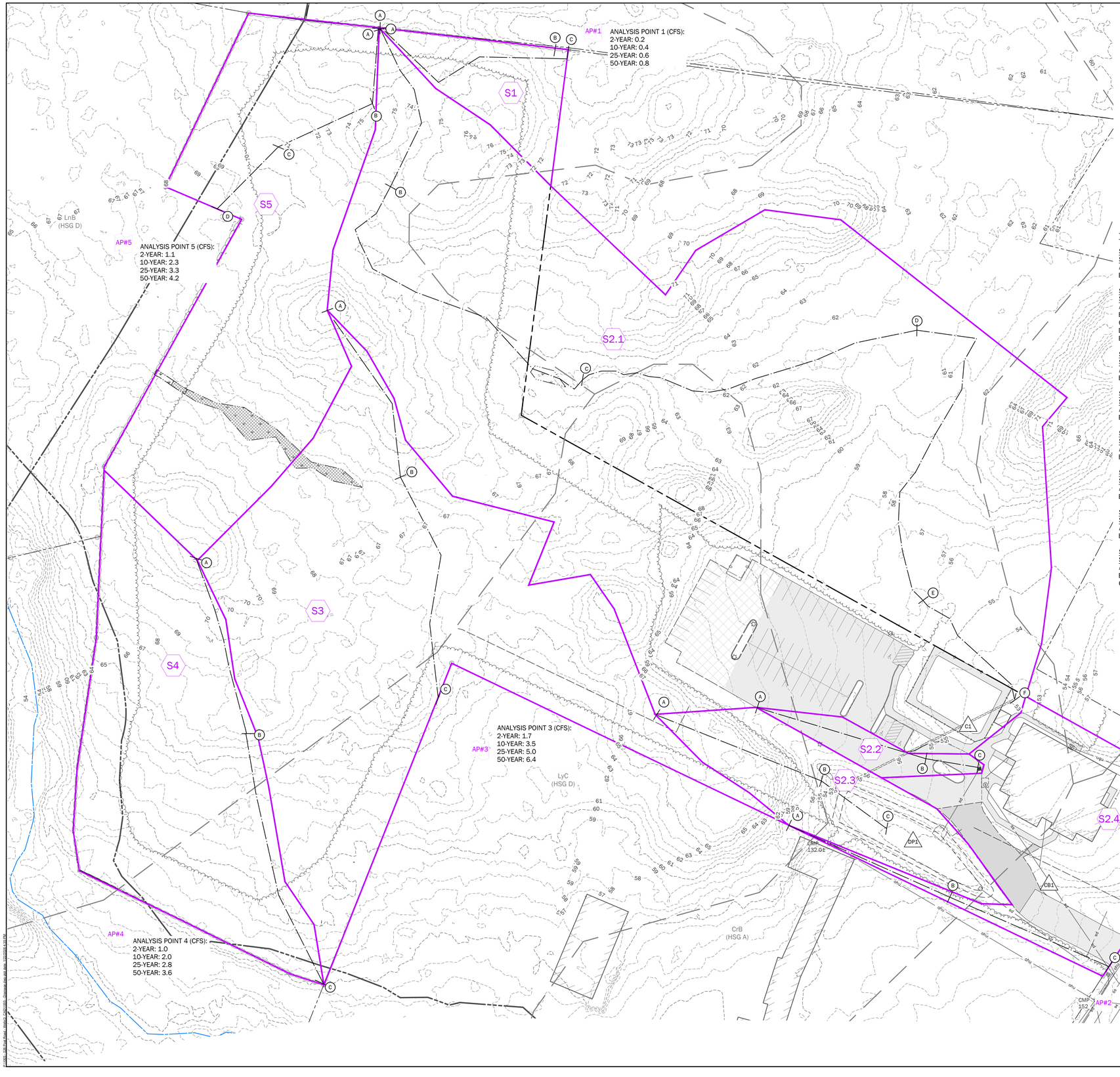
1 Use Type III rainfall for the towns of Brownfield, Buckfield, Denmark, Hartford, Hebron, Hiram, Oxford, and Porter.

Source: Data extracted by the Maine Department of Environmental Protection from the Northeast Regional Climate Center website (http://precip.eas.cornell.edu), Extreme Precipitation Tables. Data from this website was obtained from the National Oceanic and Atmospheric Administration's Regional Climate Center Program. June 2014

More current and up-dated 24-hour rainfall amount and returning frequency can be found on the website: http://precip.eas.cornell.edu which is managed by the University of Cornell for the USDA Natural Resource Conservation Service. That data may be used for sizing new structures as a replacement to the information found above.

Appendix D

Pre-Development and Post-Development Drainage Figures



DRAINAGE ANALYSIS - EXISTING CONDITIONS

- SUBCATCHMENT BOUNDARY
- 1 — SUBCATCHMENT DESIGNATION
- A — TIME OF CONCENTRATION FLOW
- AP# — ANALYSIS POINT
- 1 — POND DESIGNATION
- POND LINE
- SOILS BOUNDARY
- Sn (HSG C) — SOILS DESIGNATION

Tc FLOW LINE DATA:

SUBCATCHMENT S1

SEGMENT	TIME(MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	22.0	150	0.0407	SHEET FLOW
BC	0.3	16	0.0381	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S2.1

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	29.2	150	0.0200	SHEET FLOW
BC	5.8	300	0.0300	SHALLOW CONCENTRATED FLOW
CD	9.5	300	0.0110	SHALLOW CONCENTRATED FLOW
DE	8.7	300	0.0133	SHALLOW CONCENTRATED FLOW
EF	2.4	117	0.0256	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S2.2

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	1.3	150	0.0392	SHEET FLOW
BC	0.2	45	0.0362	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S2.3

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	15.8	150	0.0926	SHEET FLOW
BC	0.6	69	0.0864	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S2.4

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	20.9	150	0.0466	SHEET FLOW
BC	2.7	148	0.0322	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S3

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	20.4	150	0.0490	SHEET FLOW
BC	6.8	198	0.0093	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S4

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	23.9	150	0.0333	SHEET FLOW
BC	3.6	226	0.0440	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S5

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	13.6	64	0.0248	SHEET FLOW
BC	13.5	88	0.0477	SHEET FLOW
CD	1.6	74	0.0242	SHALLOW CONCENTRATED FLOW

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.

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ph: 207.553.9898 | www.walsh-eng.com

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/13/2026

ARUNDEL LANE SUBDIVISION

526 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

PRELIMINARY - NOT FOR CONSTRUCTION

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT

Sheet Title:
PRE DEVELOPMENT CONDITIONS

Job No.:	1005
Date:	01/22/2026
Scale:	AS SHOWN
Drawn:	MBP/MRM
Checked:	WRW/LLT

Sheet No.:
D1.0

P:\1005 - 526 Post Road - Wells\5. CAD\1005_Drainage.dwg, split date: 1/22/2026 4:16 PM

AP#1

ANALYSIS POINT 1 (CFS):
2-YEAR: 0.2
10-YEAR: 0.4
25-YEAR: 0.6
50-YEAR: 0.7

AP#5

ANALYSIS POINT 5 (CFS):
2-YEAR: 0.6
10-YEAR: 1.2
25-YEAR: 1.6
50-YEAR: 2.0

AP#3

ANALYSIS POINT 3 (CFS):
2 - YEAR: 1.7
10 - YEAR: 2.8
25 - YEAR: 3.5
50 - YEAR: 4.3

AP#4

ANALYSIS POINT 4 (CFS):
2 - YEAR: 0.8
10 - YEAR: 1.8
25 - YEAR: 2.7
50 - YEAR: 3.3

AP#2

ANALYSIS POINT 2 (CFS):
2 - YEAR: 0.6
10 - YEAR: 2.1
25 - YEAR: 3.0
50 - YEAR: 4.8

Tc FLOW LINE DATA:

SUBCATCHMENT S1.1

SEGMENT	TIME(MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	33.3	131	0.0110	SHEET FLOW

SUBCATCHMENT S2.1

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	5.7	51	0.0196	SHEET FLOW
BC	13.5	99	0.0606	SHEET FLOW
CD	7.7	300	0.0167	SHALLOW CONCENTRATED FLOW
DE	10.0	300	0.0100	SHALLOW CONCENTRATED FLOW
EF	4.3	203	0.0246	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S2.2

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	20.0	150	0.0520	SHEET FLOW
BC	2.3	130	0.0350	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S2.3

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S2.4

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S2.5

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S2.6

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S2.7

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S2.8

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S3.1

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	15.9	150	0.0130	SHEET FLOW
BC	1.2	102	0.0392	SHALLOW CONCENTRATED FLOW
CD	1.0	81	0.0740	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S3.2

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	17.6	150	0.0100	SHEET FLOW
BC	2.2	179	0.0363	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S4.1

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	10.9	150	0.0330	SHEET FLOW
BC	7.1	300	0.0100	SHALLOW CONCENTRATED FLOW
CD	1.1	103	0.0485	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S4.2

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.3

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.4

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.5

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.6

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.7

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.8

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.9

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.10

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.11

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.12

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S5.1

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	26.1	150	0.0267	SHEET FLOW
BC	1.8	53	0.0100	SHALLOW CONCENTRATED FLOW
CD	4.8	218	0.0229	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S5.2

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S5.3

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S5.4

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

DRAINAGE ANALYSIS - PROPOSED CONDITIONS

- SUBCATCHMENT BOUNDARY
- S — SUBCATCHMENT DESIGNATION
- A — TIME OF CONCENTRATION FLOW
- C — POND DESIGNATION
- AP# — ANALYSIS POINT
- S# — REACH DESIGNATION
- SOILS BOUNDARY
- Sn (HSG C) — SOILS DESIGNATION

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.

PRELIMINARY - NOT FOR CONSTRUCTION

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ENGINEERING ASSOCIATES, INC.
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ph: 207.553.9898 | www.walsh-eng.com

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/13/2026

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	03/10/2026	Town Permit Updates	MRM/ TEF	LLT

Sheet Title:
POST DEVELOPMENT CONDITIONS

ARUNDEL LANE SUBDIVISION
528 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

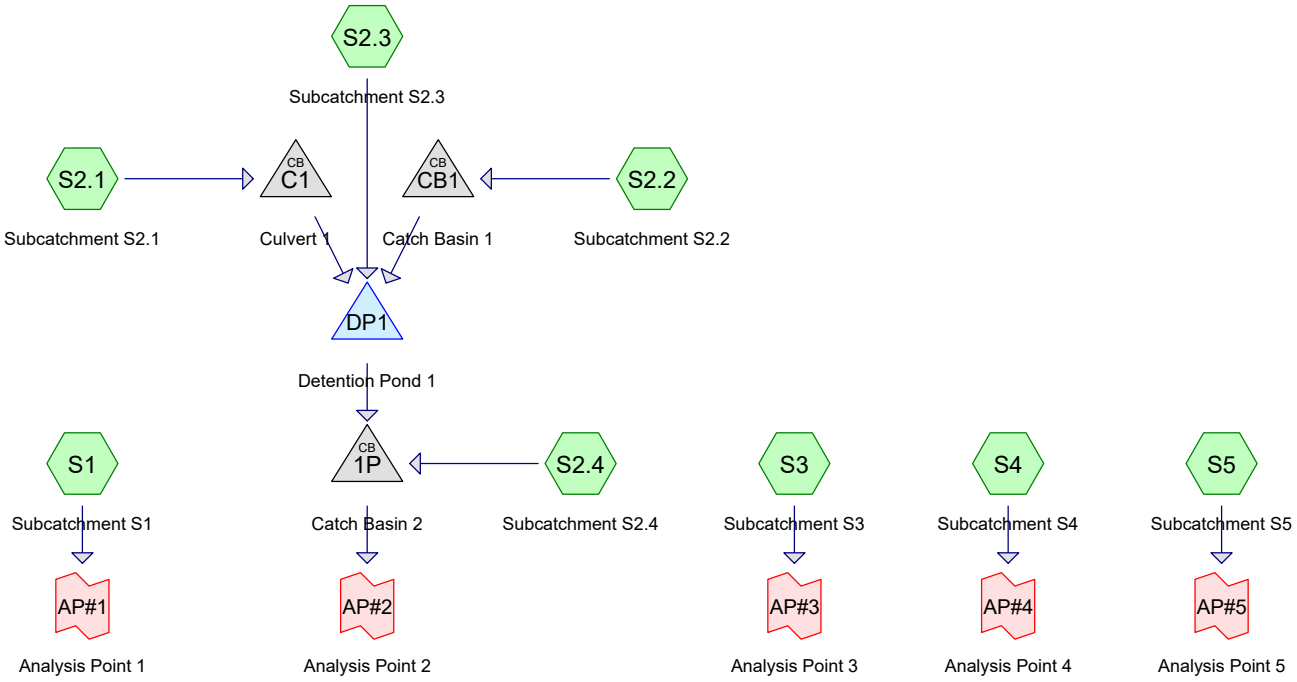
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Date:	01/22/2026
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Checked:	WRW/LLT

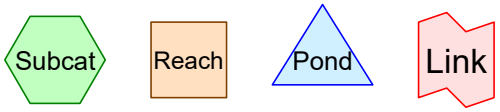
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Appendix E

Pre-Development HydroCAD Model Report





Routing Diagram for 2026-01-21 Pre-Development Model - Arundel Lane
Prepared by Walsh Engineering Associates, Inc., Printed 1/22/2026
HydroCAD® 10.10-5a s/n 02135 © 2020 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.30	2
2	10-Year	Type III 24-hr		Default	24.00	1	4.90	2
3	25-Year	Type III 24-hr		Default	24.00	1	6.20	2
4	50-Year	Type III 24-hr		Default	24.00	1	7.30	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
33,022	39	>75% Grass cover, Good, HSG A (S2.1, S2.2, S2.3, S2.4)
15,489	80	>75% Grass cover, Good, HSG D (S2.1, S2.3, S2.4)
15,186	98	Parking/Building HSG A (S2.1)
11,832	98	Paved parking, HSG A (S2.2, S2.4)
8,569	98	Paved parking, HSG D (S2.1, S2.2, S2.4)
5,533	98	Unconnected roofs, HSG A (S2.4)
527	98	Unconnected roofs, HSG D (S2.4)
1,780	98	Wetland, HSG D (S3, S5)
95,646	30	Woods, Good, HSG A (S1, S2.1, S2.3, S2.4)
280,149	77	Woods, Good, HSG D (S1, S2.1, S2.3, S3, S4, S5)
467,733	**67**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
161,219	HSG A	S1, S2.1, S2.2, S2.3, S2.4
0	HSG B	
0	HSG C	
306,514	HSG D	S1, S2.1, S2.2, S2.3, S2.4, S3, S4, S5
0	Other	
467,733		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
33,022	0	0	15,489	0	48,511	>75% Grass cover, Good	
15,186	0	0	0	0	15,186	Parking/Building	
11,832	0	0	8,569	0	20,401	Paved parking	
5,533	0	0	527	0	6,060	Unconnected roofs	
0	0	0	1,780	0	1,780	Wetland	
95,646	0	0	280,149	0	375,795	Woods, Good	
161,219	**0**	**0**	**306,514**	**0**	**467,733**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	1P	43.50	42.97	106.6	0.0050	0.013	0.0	15.0	0.0
2	C1	51.16	49.80	160.0	0.0085	0.025	0.0	16.0	0.0
3	CB1	50.40	50.07	61.0	0.0054	0.011	0.0	12.0	0.0
4	DP1	48.00	44.58	105.0	0.0326	0.020	0.0	12.0	0.0

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

SubcatchmentS1: SubcatchmentS1 Runoff Area=9,607 sf 0.00% Impervious Runoff Depth=1.28"
Flow Length=166' Tc=22.5 min CN=77 Runoff=0.21 cfs 1,028 cf

SubcatchmentS2.1: SubcatchmentS2.1 Runoff Area=209,689 sf 11.16% Impervious Runoff Depth=0.34"
Flow Length=1,167' Tc=55.6 min CN=57 Runoff=0.46 cfs 6,006 cf

SubcatchmentS2.2: SubcatchmentS2.2 Runoff Area=4,021 sf 95.82% Impervious Runoff Depth=2.85"
Flow Length=195' Tc=6.0 min CN=96 Runoff=0.29 cfs 954 cf

SubcatchmentS2.3: SubcatchmentS2.3 Runoff Area=17,765 sf 0.00% Impervious Runoff Depth=0.34"
Flow Length=219' Tc=16.4 min CN=57 Runoff=0.06 cfs 509 cf

SubcatchmentS2.4: SubcatchmentS2.4 Runoff Area=32,865 sf 43.82% Impervious Runoff Depth=0.65"
Flow Length=298' Tc=23.6 min CN=65 Runoff=0.29 cfs 1,779 cf

SubcatchmentS3: SubcatchmentS3 Runoff Area=86,591 sf 0.56% Impervious Runoff Depth=1.28"
Flow Length=348' Tc=27.2 min CN=77 Runoff=1.72 cfs 9,263 cf

SubcatchmentS4: SubcatchmentS4 Runoff Area=48,755 sf 0.00% Impervious Runoff Depth=1.28"
Flow Length=376' Tc=27.5 min CN=77 Runoff=0.96 cfs 5,216 cf

SubcatchmentS5: SubcatchmentS5 Runoff Area=58,440 sf 2.22% Impervious Runoff Depth=1.28"
Flow Length=226' Tc=28.7 min CN=77 Runoff=1.13 cfs 6,252 cf

Pond 1P: Catch Basin 2 Peak Elev=43.93' Inflow=0.63 cfs 9,248 cf
15.0" Round Culvert n=0.013 L=106.6' S=0.0050 '/' Outflow=0.63 cfs 9,248 cf

Pond C1: Culvert 1 Peak Elev=51.58' Inflow=0.46 cfs 6,006 cf
16.0" Round Culvert n=0.025 L=160.0' S=0.0085 '/' Outflow=0.46 cfs 6,006 cf

Pond CB1: Catch Basin 1 Peak Elev=50.69' Inflow=0.29 cfs 954 cf
12.0" Round Culvert n=0.011 L=61.0' S=0.0054 '/' Outflow=0.29 cfs 954 cf

Pond DP1: Detention Pond 1 Peak Elev=49.00' Storage=0 cf Inflow=0.51 cfs 7,469 cf
12.0" Round Culvert n=0.020 L=105.0' S=0.0326 '/' Outflow=0.51 cfs 7,469 cf

Link AP#1: Analysis Point 1 Inflow=0.21 cfs 1,028 cf
Primary=0.21 cfs 1,028 cf

Link AP#2: Analysis Point 2 Inflow=0.63 cfs 9,248 cf
Primary=0.63 cfs 9,248 cf

Link AP#3: Analysis Point 3 Inflow=1.72 cfs 9,263 cf
Primary=1.72 cfs 9,263 cf

Link AP#4: Analysis Point 4 Inflow=0.96 cfs 5,216 cf
Primary=0.96 cfs 5,216 cf

Link AP#5: Analysis Point 5

Inflow=1.13 cfs 6,252 cf
Primary=1.13 cfs 6,252 cf

Total Runoff Area = 467,733 sf Runoff Volume = 31,007 cf Average Runoff Depth = 0.80"
90.72% Pervious = 424,306 sf 9.28% Impervious = 43,427 sf

Summary for Subcatchment S1: Subcatchment S1

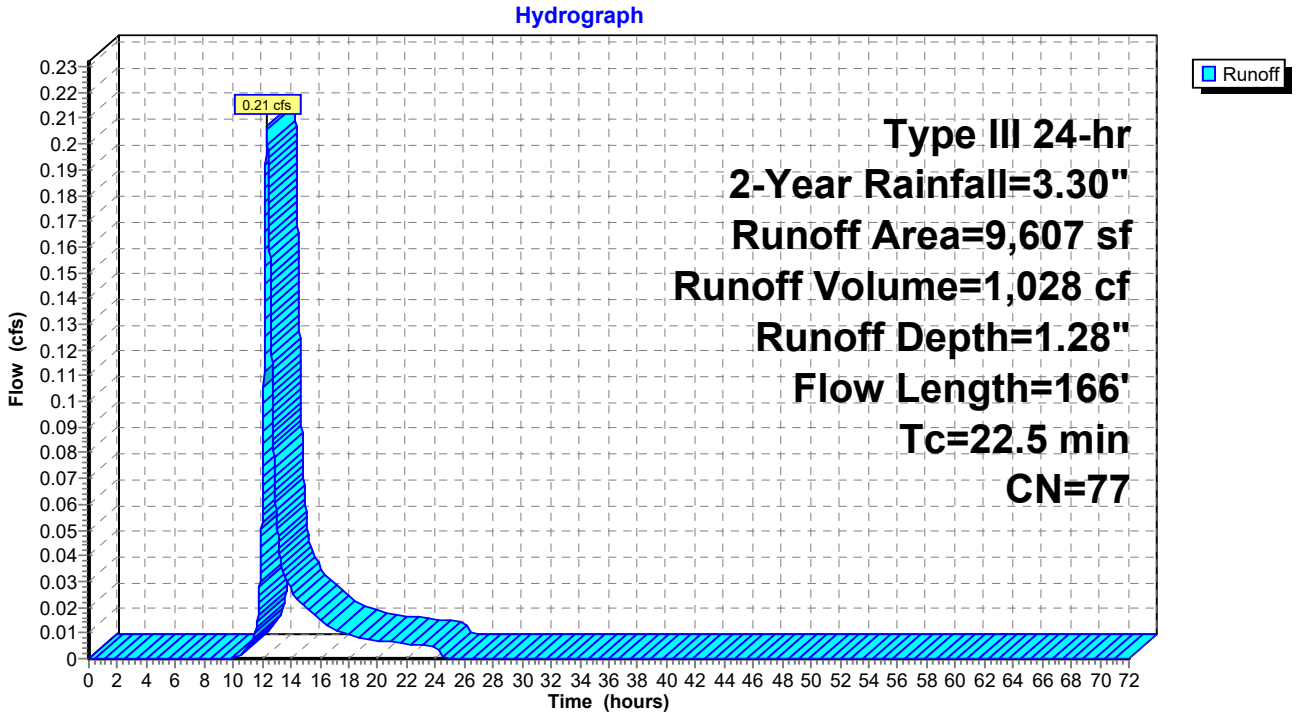
Runoff = 0.21 cfs @ 12.33 hrs, Volume= 1,028 cf, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
87	30	Woods, Good, HSG A
9,520	77	Woods, Good, HSG D
9,607	77	Weighted Average
9,607		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	150	0.0400	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.3	16	0.0381	0.98		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.5	166	Total			

Subcatchment S1: Subcatchment S1



Summary for Subcatchment S2.1: Subcatchment S2.1

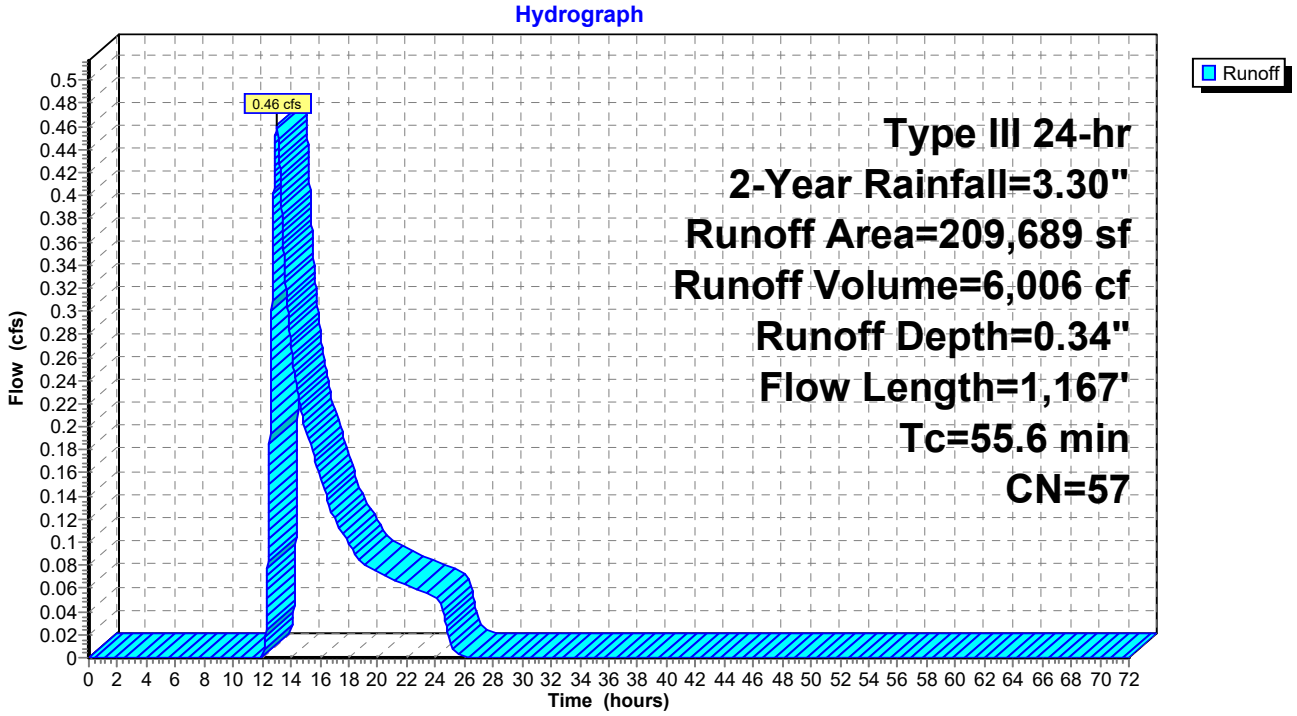
Runoff = 0.46 cfs @ 13.03 hrs, Volume= 6,006 cf, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

	Area (sf)	CN	Description
	8,317	39	>75% Grass cover, Good, HSG A
	8,025	80	>75% Grass cover, Good, HSG D
	8,205	98	Paved parking, HSG D
*	15,186	98	Parking/Building HSG A
	92,645	30	Woods, Good, HSG A
	77,311	77	Woods, Good, HSG D
	209,689	57	Weighted Average
	186,298		88.84% Pervious Area
	23,391		11.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.2	150	0.0200	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
5.8	300	0.0300	0.87		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
9.5	300	0.0110	0.52		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
8.7	300	0.0133	0.58		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
2.4	117	0.0256	0.80		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
55.6	1,167	Total			

Subcatchment S2.1: Subcatchment S2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

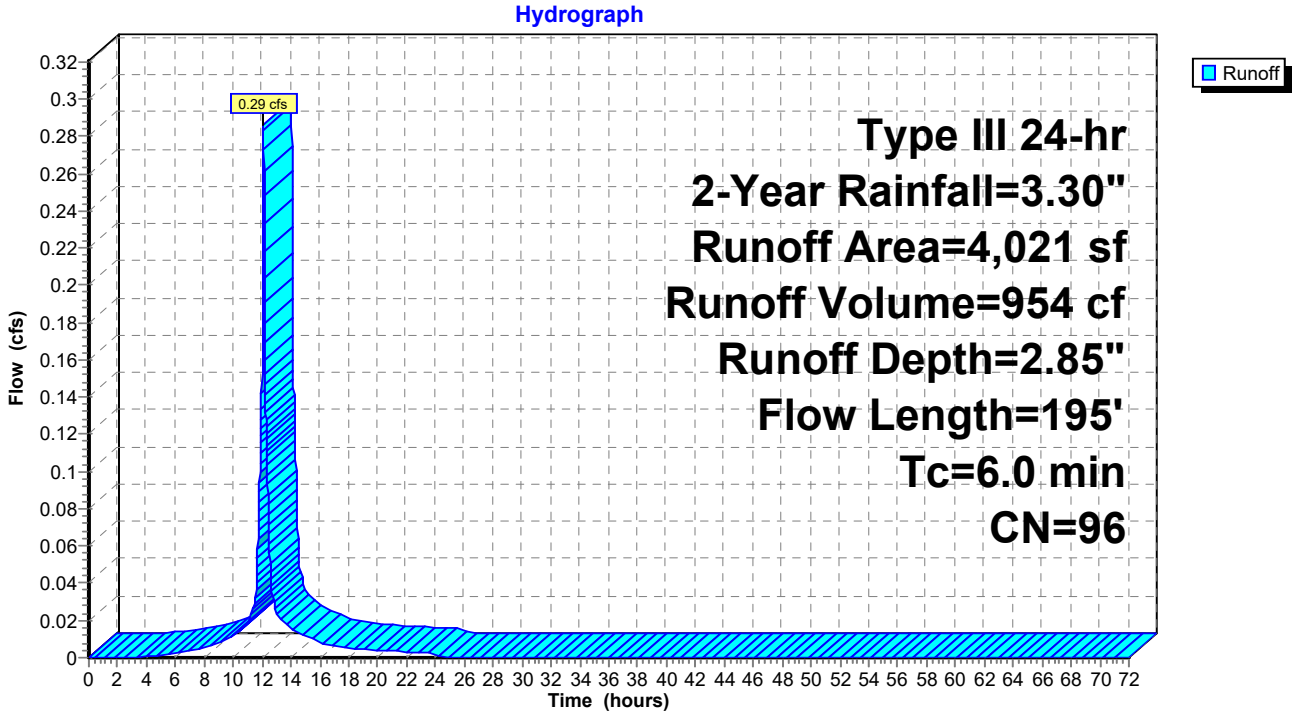
Runoff = 0.29 cfs @ 12.08 hrs, Volume= 954 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
168	39	>75% Grass cover, Good, HSG A
3,555	98	Paved parking, HSG A
298	98	Paved parking, HSG D
4,021	96	Weighted Average
168		4.18% Pervious Area
3,853		95.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	150	0.0392	1.98		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.30"
0.2	45	0.0362	3.86		**Shallow Concentrated Flow, BC** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 6.0 min			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment S2.3

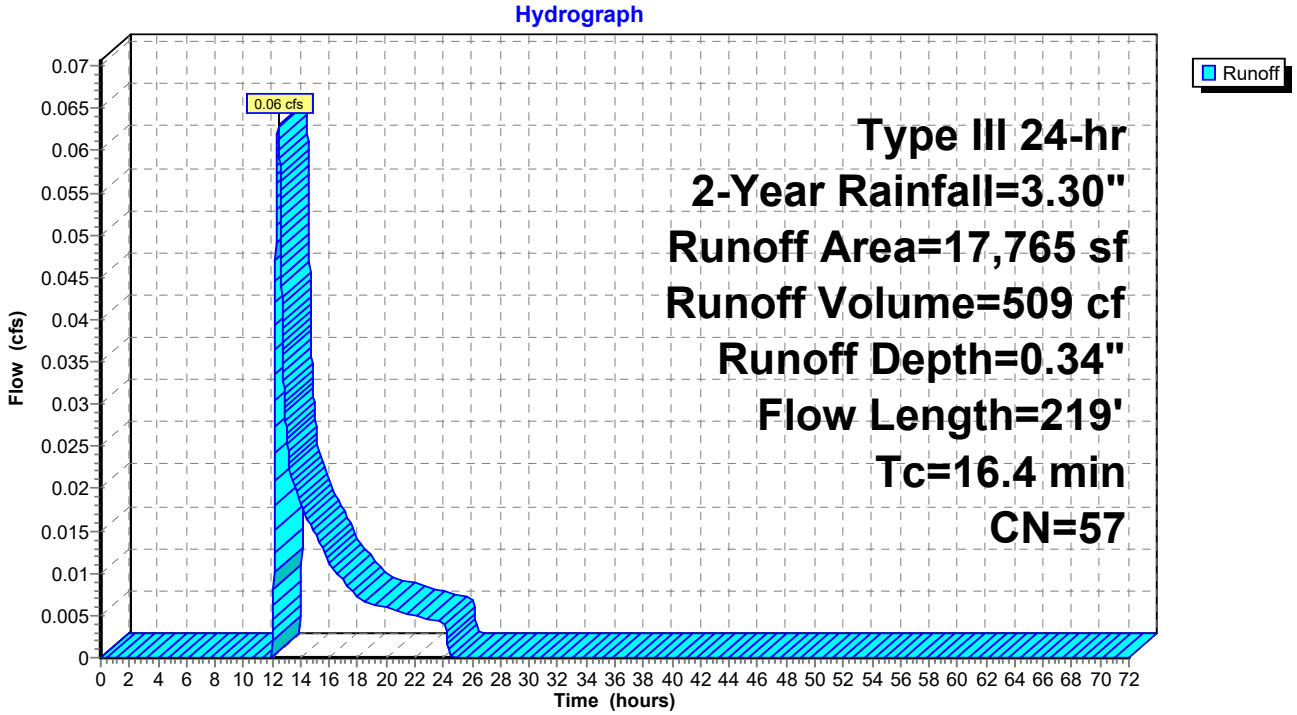
Runoff = 0.06 cfs @ 12.43 hrs, Volume= 509 cf, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
205	30	Woods, Good, HSG A
1,312	77	Woods, Good, HSG D
6,540	80	>75% Grass cover, Good, HSG D
9,708	39	>75% Grass cover, Good, HSG A
17,765	57	Weighted Average
17,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	150	0.0926	0.16		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.6	69	0.0864	2.06		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
16.4	219	Total			

Subcatchment S2.3: Subcatchment S2.3



Summary for Subcatchment S2.4: Subcatchment S2.4

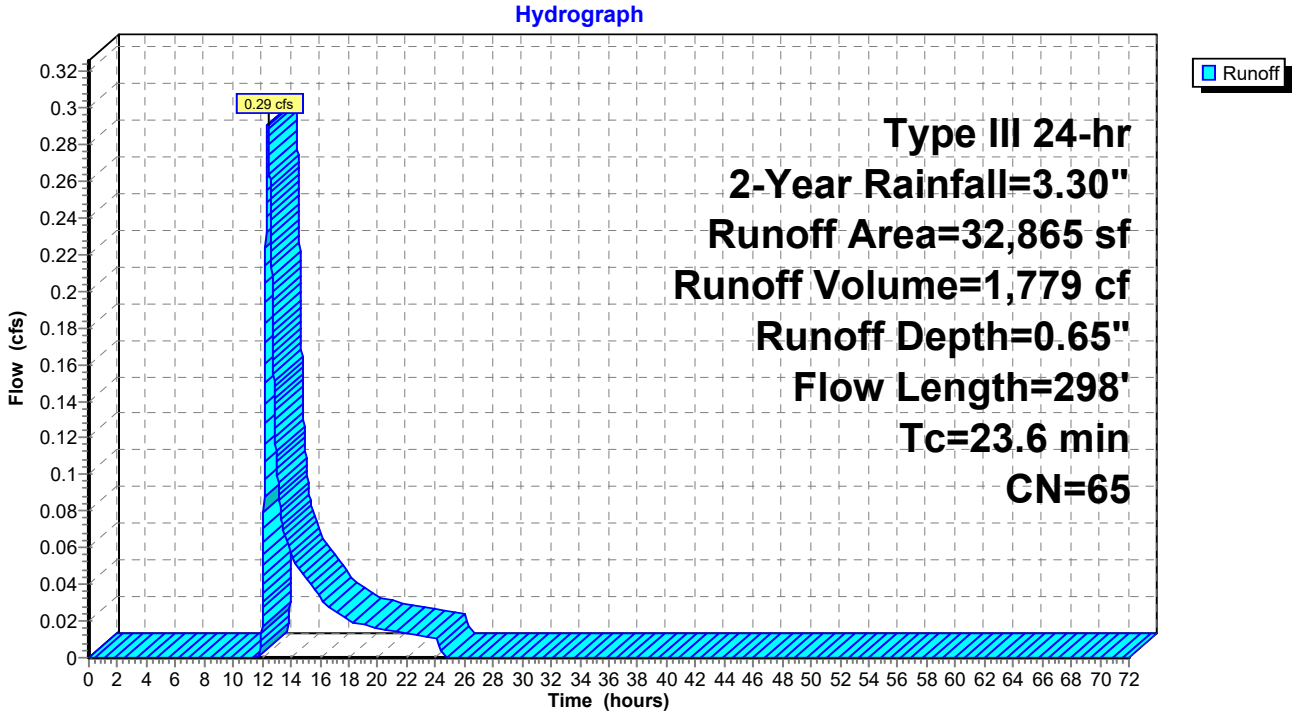
Runoff = 0.29 cfs @ 12.40 hrs, Volume= 1,779 cf, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
8,277	98	Paved parking, HSG A
32,865	65	Weighted Average
18,462		56.18% Pervious Area
14,403		43.82% Impervious Area
6,060		42.07% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	150	0.0466	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.7	148	0.0322	0.90		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
23.6	298	Total			

Subcatchment S2.4: Subcatchment S2.4



Summary for Subcatchment S3: Subcatchment S3

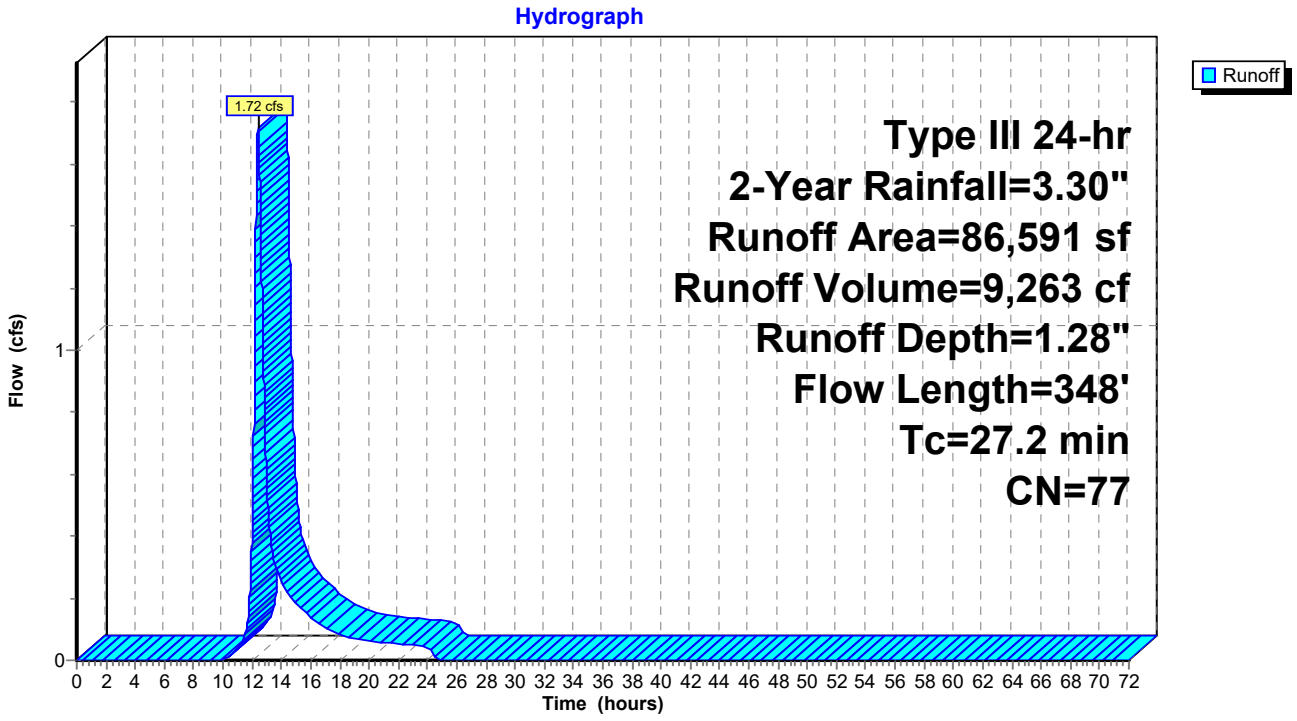
Runoff = 1.72 cfs @ 12.40 hrs, Volume= 9,263 cf, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

	Area (sf)	CN	Description
	86,108	77	Woods, Good, HSG D
*	483	98	Wetland, HSG D
	86,591	77	Weighted Average
	86,108		99.44% Pervious Area
	483		0.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	150	0.0490	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
6.8	198	0.0093	0.48		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.2	348	Total			

Subcatchment S3: Subcatchment S3



Summary for Subcatchment S4: Subcatchment S4

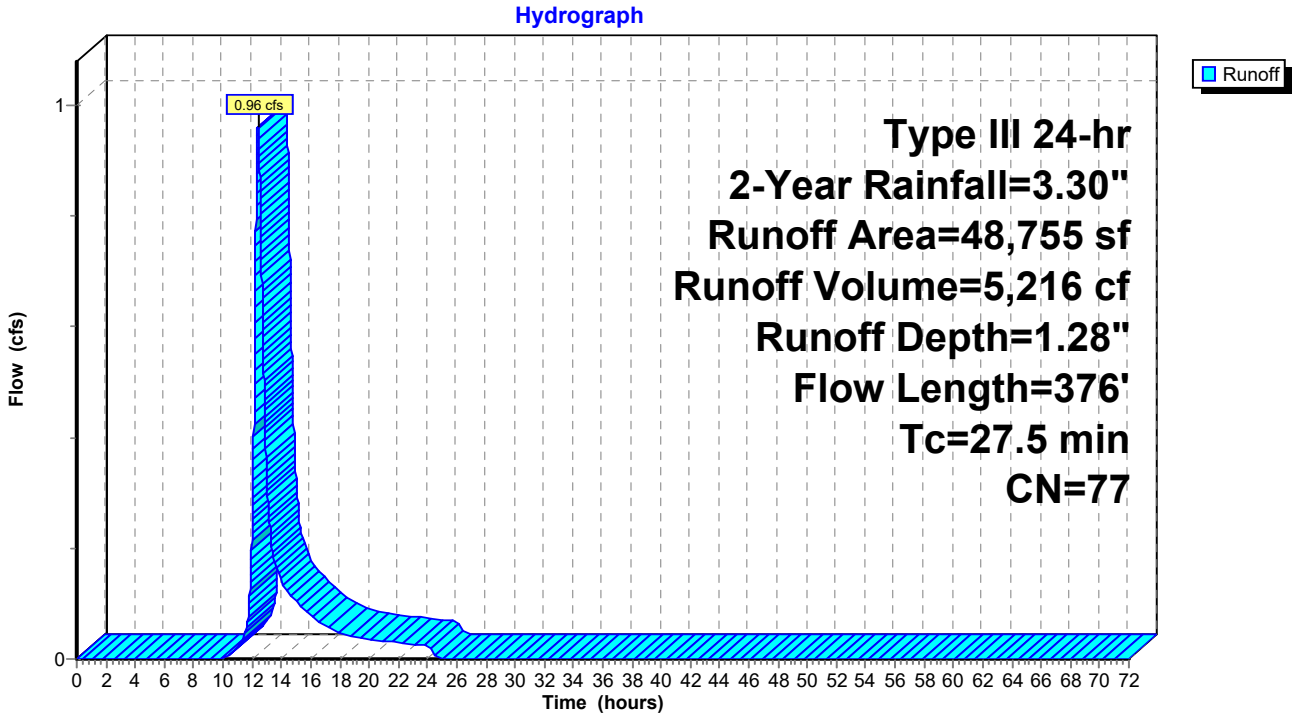
Runoff = 0.96 cfs @ 12.40 hrs, Volume= 5,216 cf, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
48,755	77	Woods, Good, HSG D
48,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.9	150	0.0333	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
3.6	226	0.0440	1.05		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.5	376	Total			

Subcatchment S4: Subcatchment S4



Summary for Subcatchment S5: Subcatchment S5

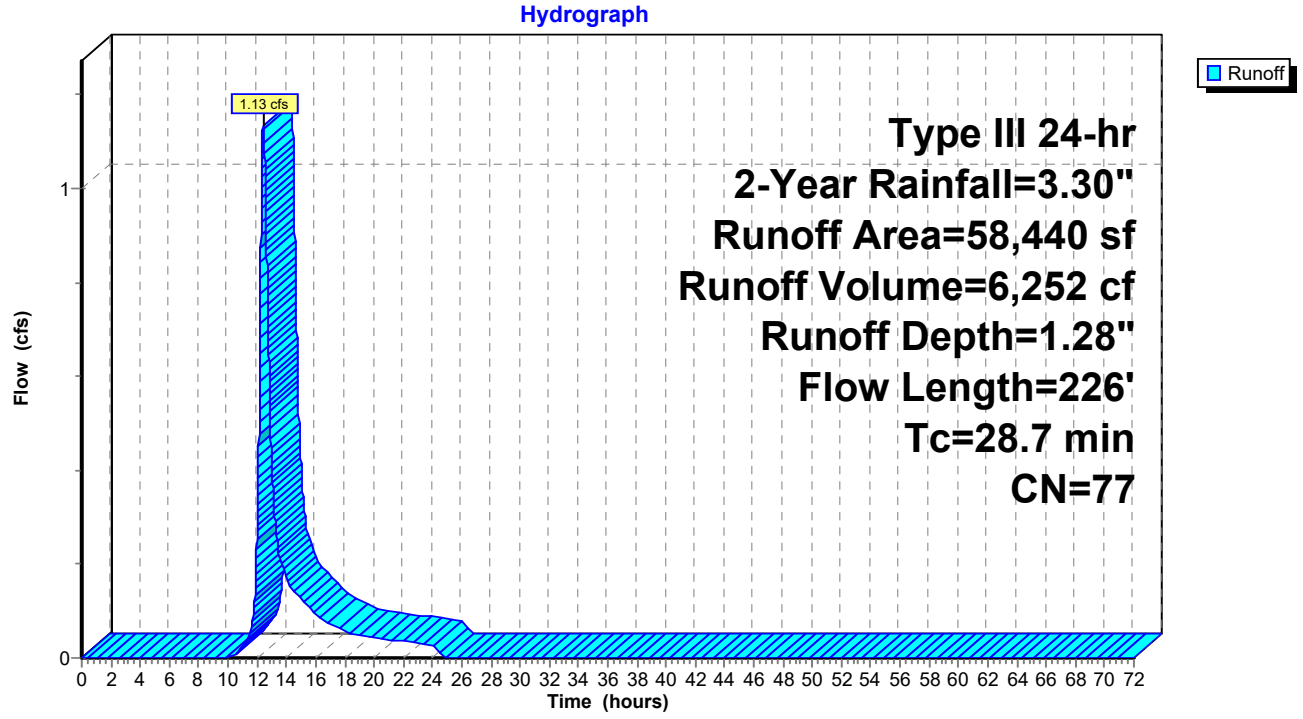
Runoff = 1.13 cfs @ 12.41 hrs, Volume= 6,252 cf, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

	Area (sf)	CN	Description
	57,143	77	Woods, Good, HSG D
*	1,297	98	Wetland, HSG D
	58,440	77	Weighted Average
	57,143		97.78% Pervious Area
	1,297		2.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	64	0.0248	0.08		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
13.5	88	0.0477	0.11		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
1.6	74	0.0242	0.78		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
28.7	226	Total			

Subcatchment S5: Subcatchment S5



Summary for Pond 1P: Catch Basin 2

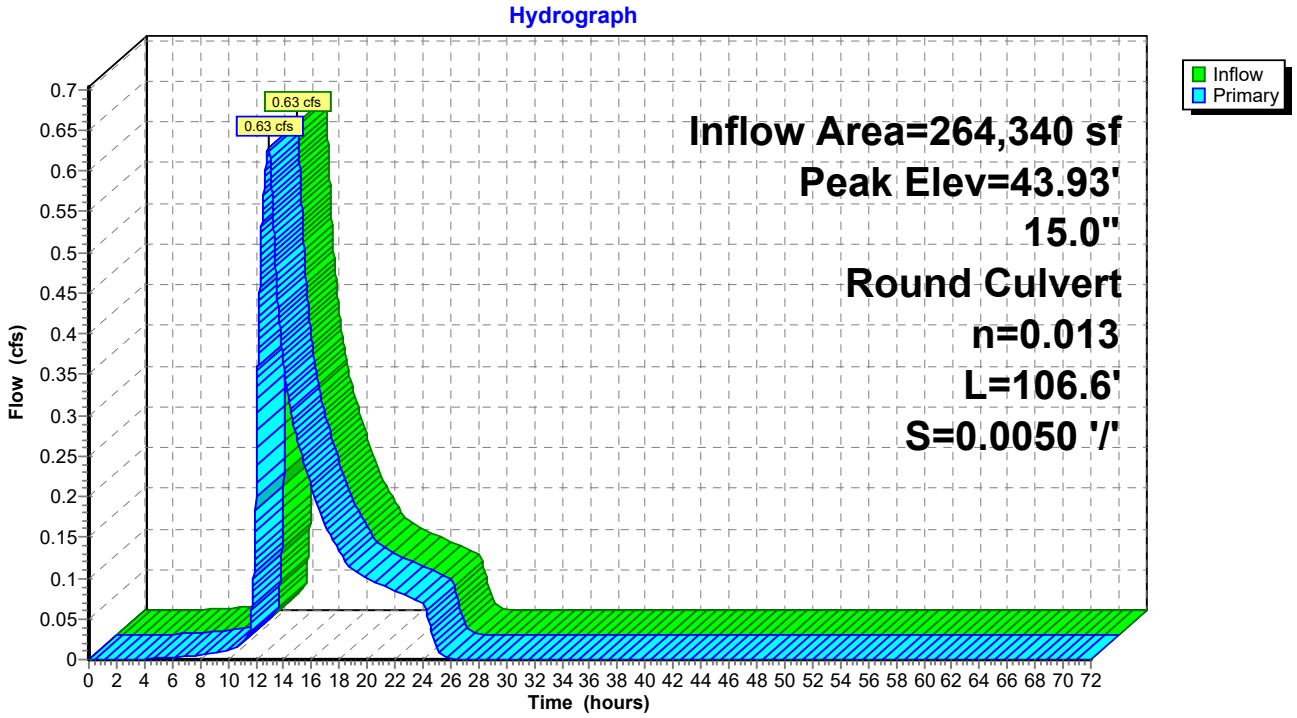
Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 0.42" for 2-Year event
Inflow = 0.63 cfs @ 12.91 hrs, Volume= 9,248 cf
Outflow = 0.63 cfs @ 12.91 hrs, Volume= 9,248 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.63 cfs @ 12.91 hrs, Volume= 9,248 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 43.93' @ 12.91 hrs
Flood Elev= 46.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.50'	**15.0" Round Culvert** L= 106.6' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 43.50' / 42.97' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.63 cfs @ 12.91 hrs HW=43.93' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.63 cfs @ 2.50 fps)

Pond 1P: Catch Basin 2



Summary for Pond C1: Culvert 1

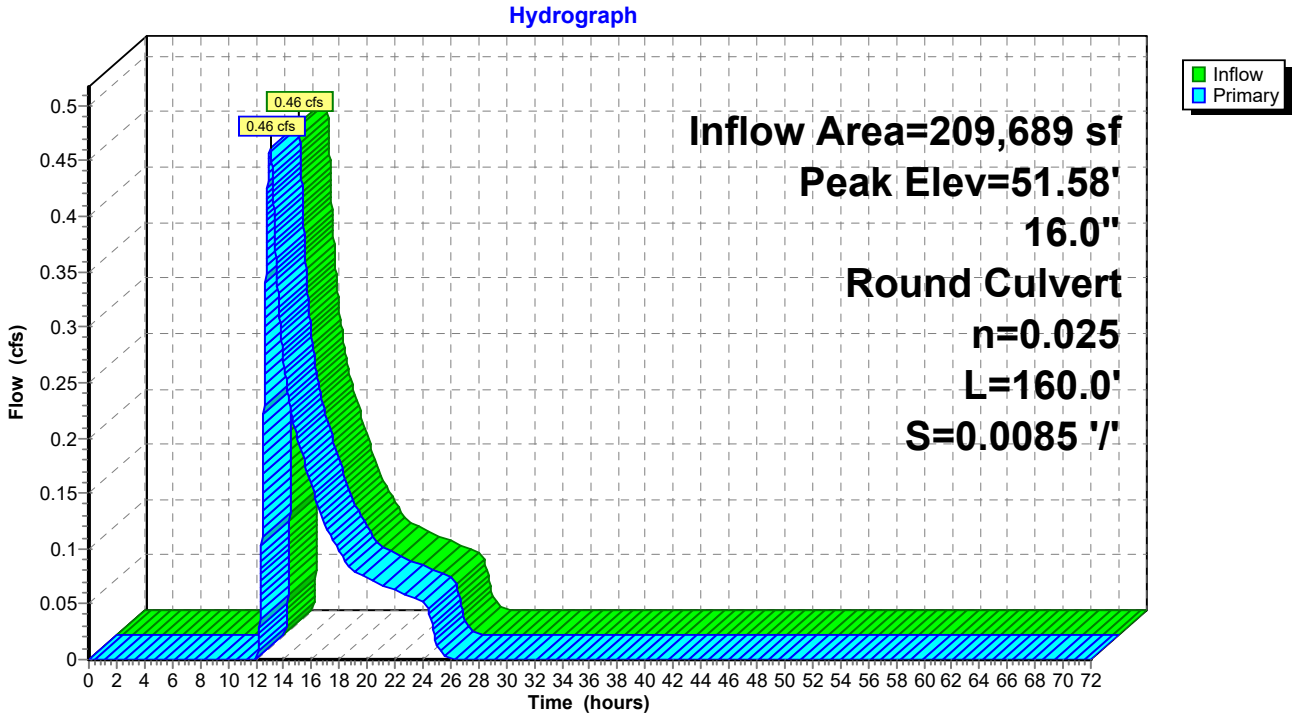
Inflow Area = 209,689 sf, 11.16% Impervious, Inflow Depth = 0.34" for 2-Year event
Inflow = 0.46 cfs @ 13.03 hrs, Volume= 6,006 cf
Outflow = 0.46 cfs @ 13.03 hrs, Volume= 6,006 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.46 cfs @ 13.03 hrs, Volume= 6,006 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 51.58' @ 13.03 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.16'	**16.0" Round Culvert** L= 160.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.16' / 49.80' S= 0.0085 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=0.46 cfs @ 13.03 hrs HW=51.58' TW=49.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.46 cfs @ 1.80 fps)

Pond C1: Culvert 1



Summary for Pond CB1: Catch Basin 1

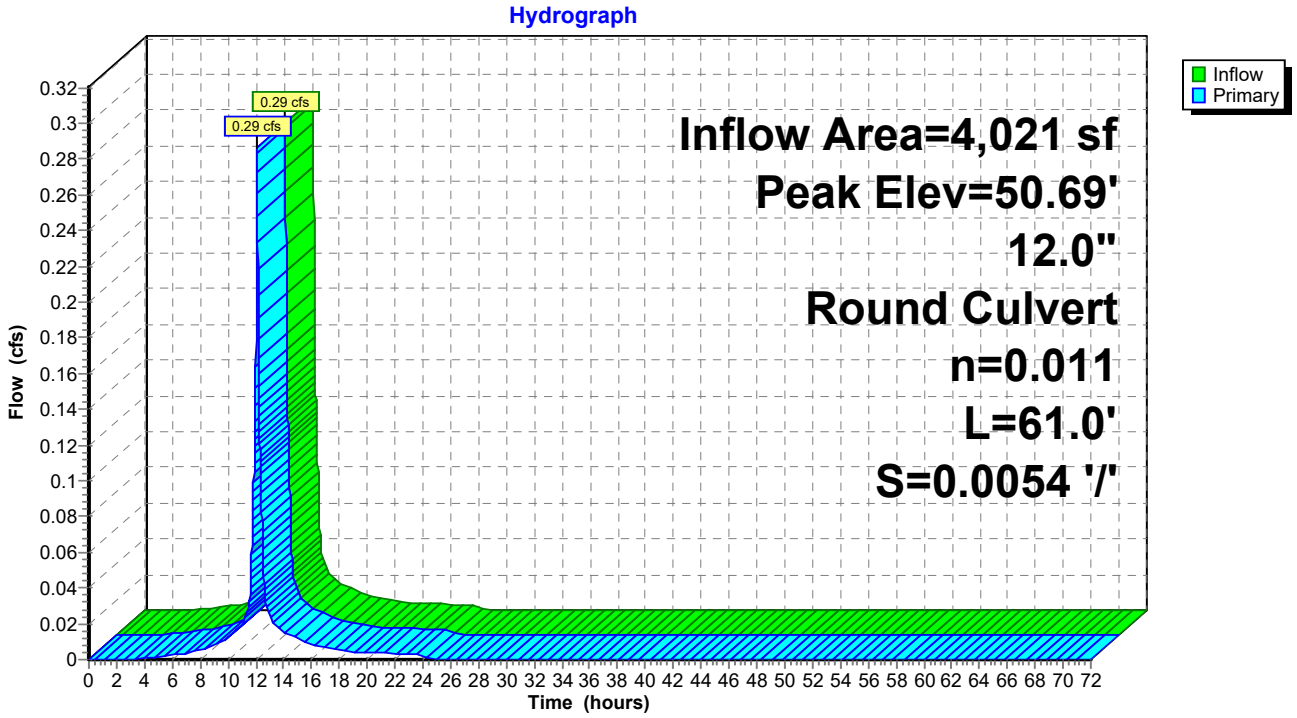
Inflow Area = 4,021 sf, 95.82% Impervious, Inflow Depth = 2.85" for 2-Year event
Inflow = 0.29 cfs @ 12.08 hrs, Volume= 954 cf
Outflow = 0.29 cfs @ 12.08 hrs, Volume= 954 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.29 cfs @ 12.08 hrs, Volume= 954 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.69' @ 12.08 hrs
Flood Elev= 53.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.40'	**12.0" Round Culvert** L= 61.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 50.40' / 50.07' S= 0.0054 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.29 cfs @ 12.08 hrs HW=50.69' TW=49.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.29 cfs @ 2.28 fps)

Pond CB1: Catch Basin 1



Summary for Pond DP1: Detention Pond 1

Inflow Area = 231,475 sf, 11.77% Impervious, Inflow Depth = 0.39" for 2-Year event
Inflow = 0.51 cfs @ 12.98 hrs, Volume= 7,469 cf
Outflow = 0.51 cfs @ 12.98 hrs, Volume= 7,469 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.51 cfs @ 12.98 hrs, Volume= 7,469 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.00' @ 0.00 hrs Storage= 0 cf
Flood Elev= 52.00' Surf.Area= 4,820 sf Storage= 7,829 cf

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

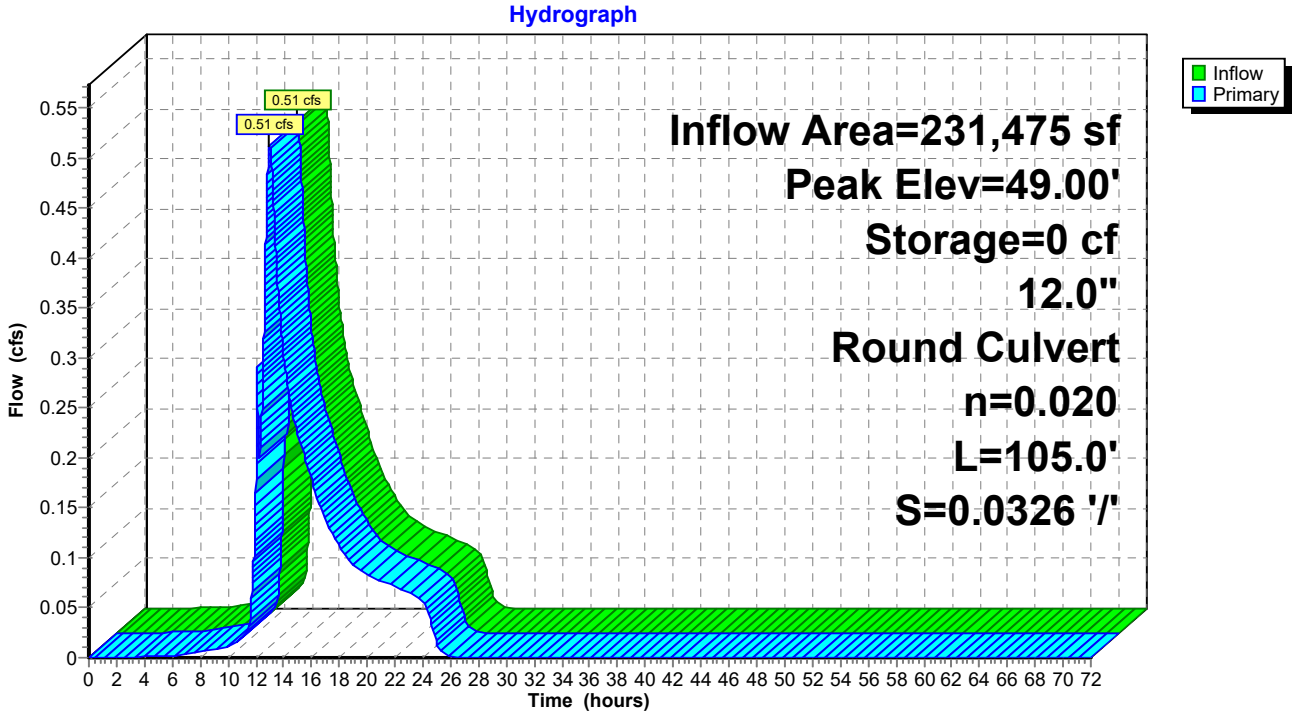
Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	7,829 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
49.00	0	0	0
50.00	3,400	1,700	1,700
51.00	4,299	3,850	5,550
51.50	4,820	2,280	7,829

Device	Routing	Invert	Outlet Devices
#1	Primary	48.00'	**12.0" Round Culvert** L= 105.0' Ke= 0.900 Inlet / Outlet Invert= 48.00' / 44.58' S= 0.0326 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 12.98 hrs HW=49.00' TW=43.93' (Dynamic Tailwater)
↑—**1=Culvert** (Passes 0.00 cfs of 2.11 cfs potential flow)

Pond DP1: Detention Pond 1

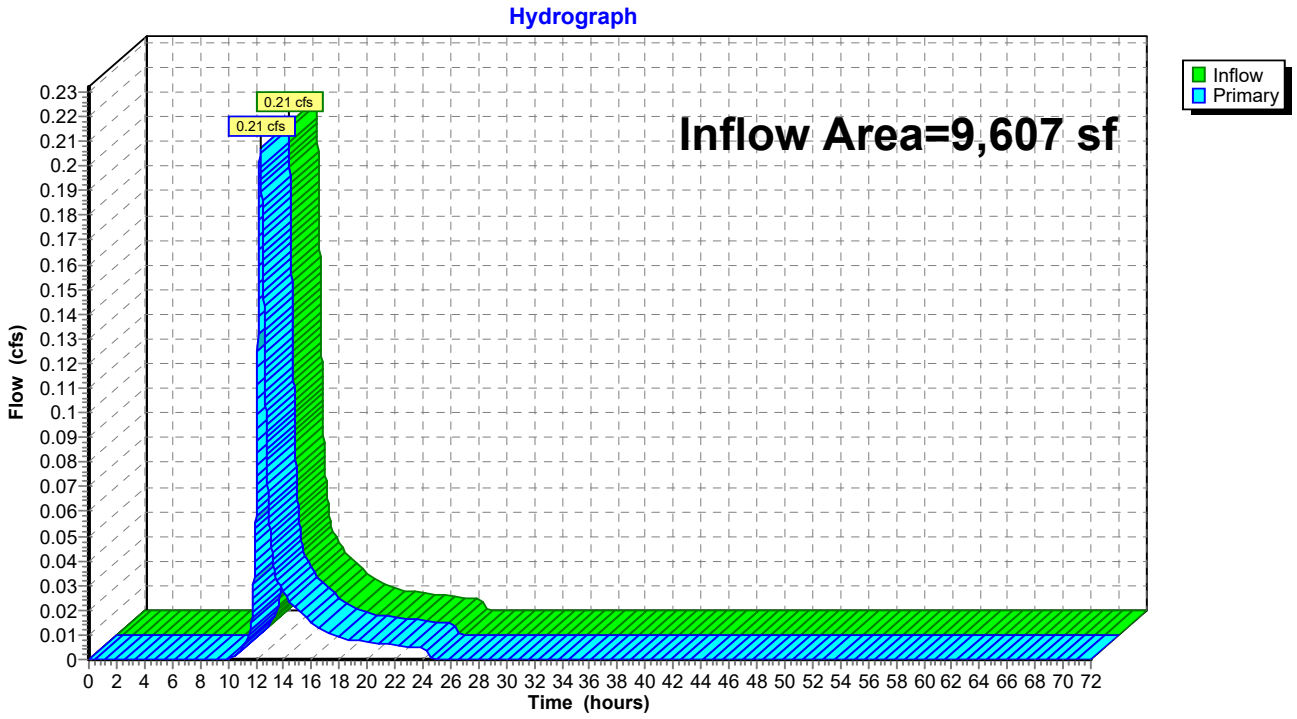


Summary for Link AP#1: Analysis Point 1

Inflow Area = 9,607 sf, 0.00% Impervious, Inflow Depth = 1.28" for 2-Year event
Inflow = 0.21 cfs @ 12.33 hrs, Volume= 1,028 cf
Primary = 0.21 cfs @ 12.33 hrs, Volume= 1,028 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

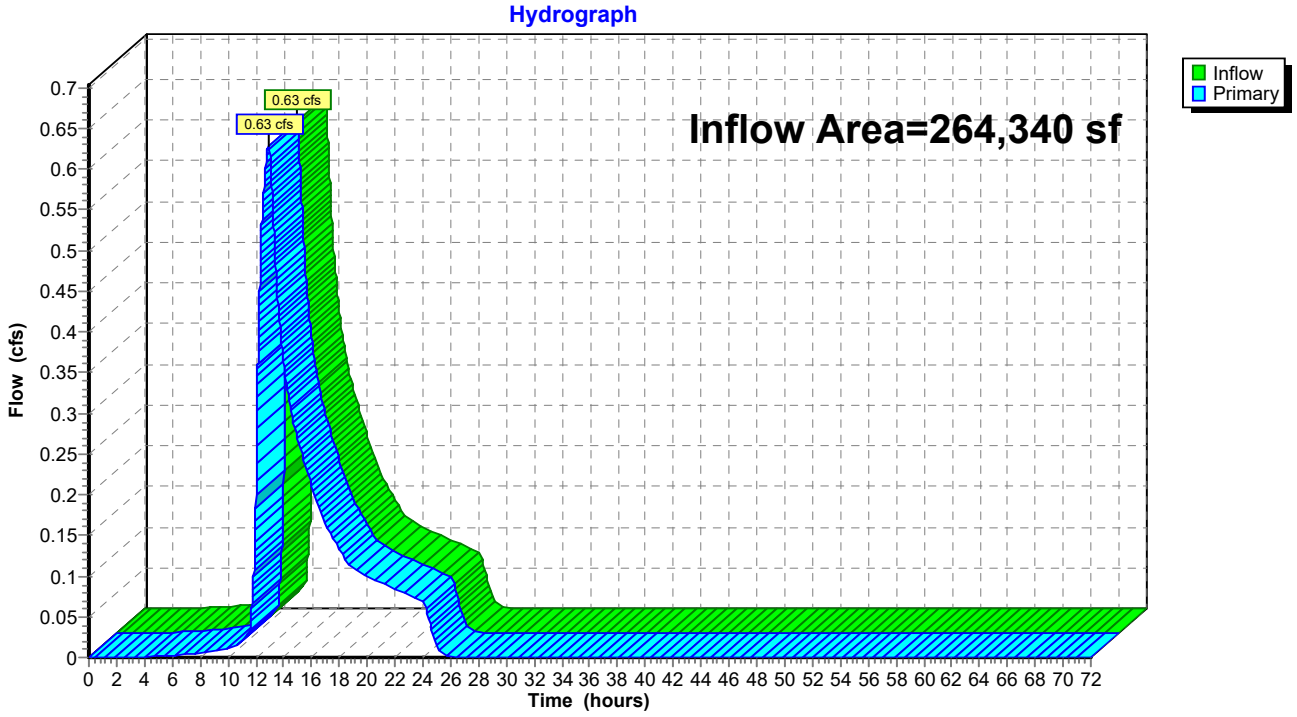


Summary for Link AP#2: Analysis Point 2

Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 0.42" for 2-Year event
Inflow = 0.63 cfs @ 12.91 hrs, Volume= 9,248 cf
Primary = 0.63 cfs @ 12.91 hrs, Volume= 9,248 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

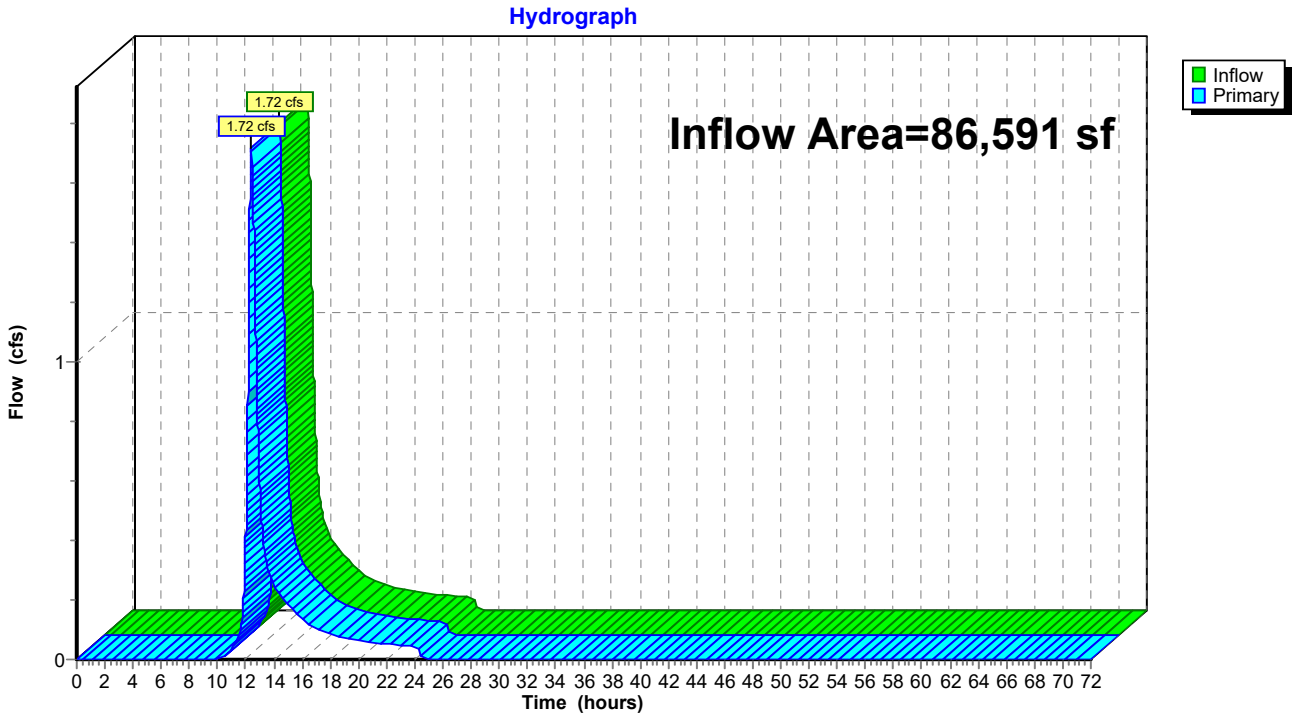


Summary for Link AP#3: Analysis Point 3

Inflow Area = 86,591 sf, 0.56% Impervious, Inflow Depth = 1.28" for 2-Year event
Inflow = 1.72 cfs @ 12.40 hrs, Volume= 9,263 cf
Primary = 1.72 cfs @ 12.40 hrs, Volume= 9,263 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

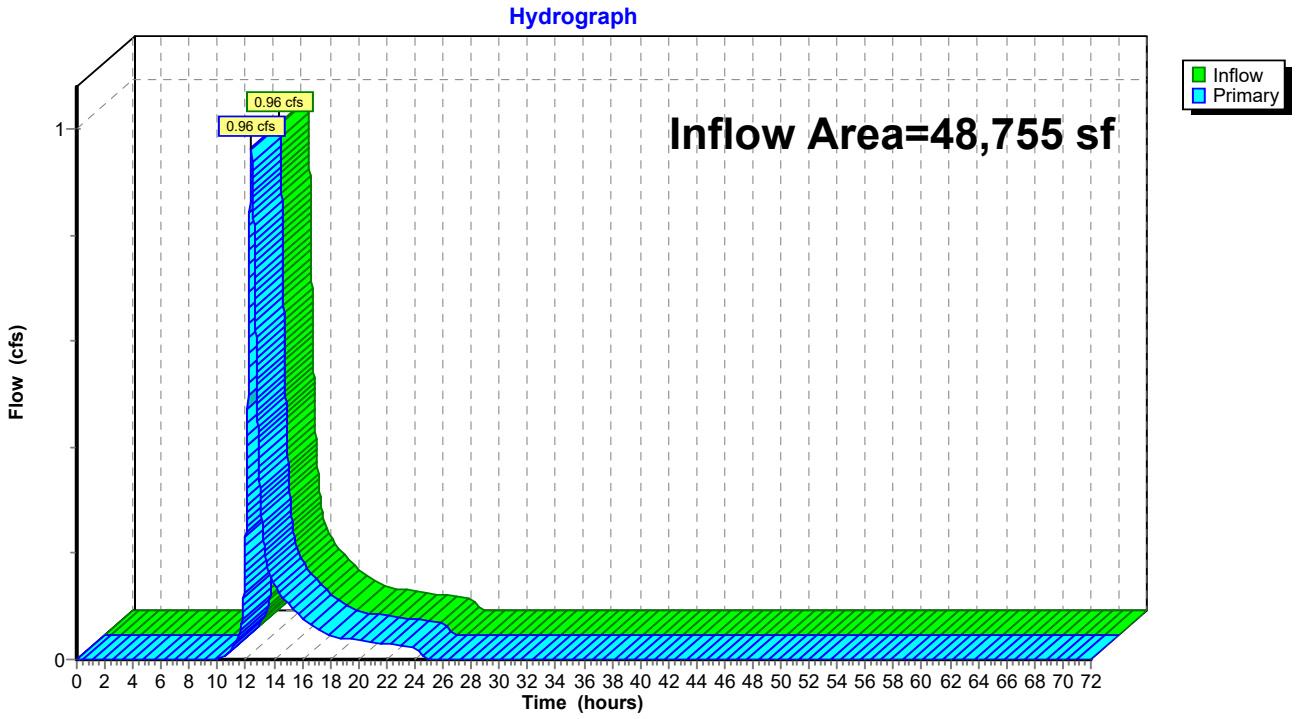


Summary for Link AP#4: Analysis Point 4

Inflow Area = 48,755 sf, 0.00% Impervious, Inflow Depth = 1.28" for 2-Year event
Inflow = 0.96 cfs @ 12.40 hrs, Volume= 5,216 cf
Primary = 0.96 cfs @ 12.40 hrs, Volume= 5,216 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

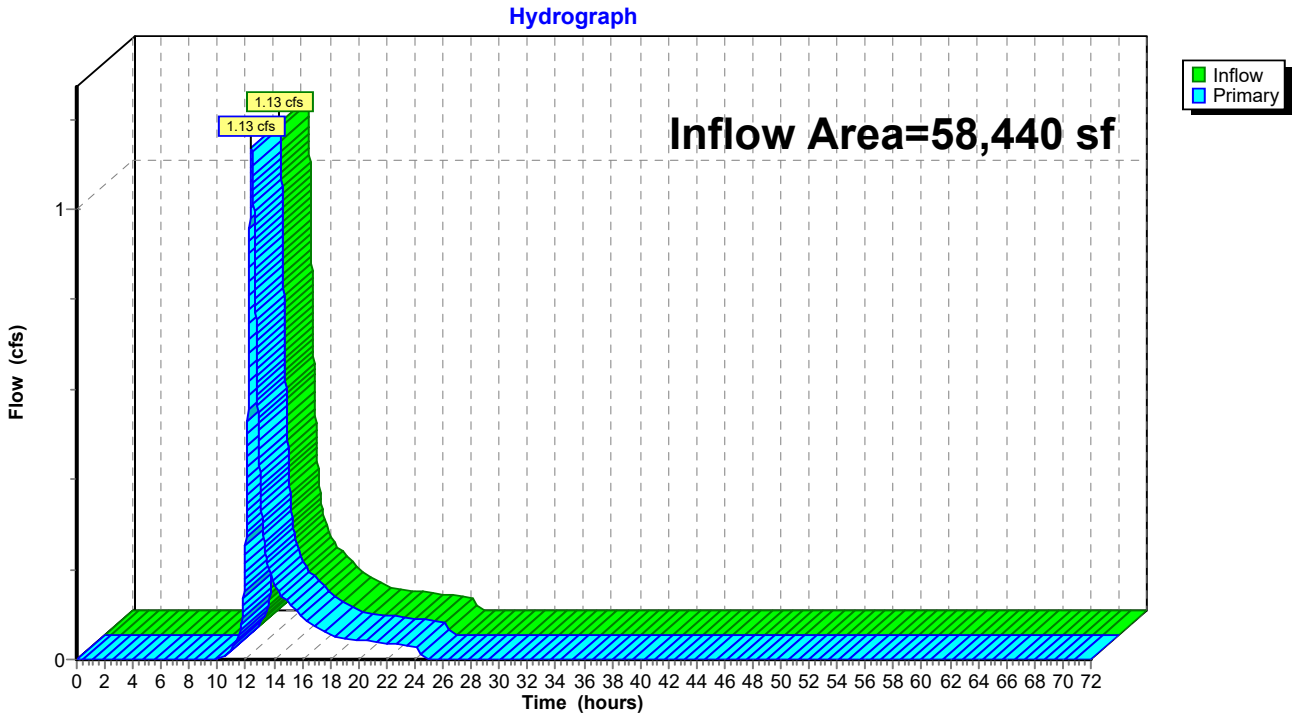


Summary for Link AP#5: Analysis Point 5

Inflow Area = 58,440 sf, 2.22% Impervious, Inflow Depth = 1.28" for 2-Year event
Inflow = 1.13 cfs @ 12.41 hrs, Volume= 6,252 cf
Primary = 1.13 cfs @ 12.41 hrs, Volume= 6,252 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

SubcatchmentS1: SubcatchmentS1 Runoff Area=9,607 sf 0.00% Impervious Runoff Depth=2.54"
Flow Length=166' Tc=22.5 min CN=77 Runoff=0.42 cfs 2,033 cf

SubcatchmentS2.1: SubcatchmentS2.1 Runoff Area=209,689 sf 11.16% Impervious Runoff Depth=1.05"
Flow Length=1,167' Tc=55.6 min CN=57 Runoff=2.04 cfs 18,377 cf

SubcatchmentS2.2: SubcatchmentS2.2 Runoff Area=4,021 sf 95.82% Impervious Runoff Depth=4.43"
Flow Length=195' Tc=6.0 min CN=96 Runoff=0.43 cfs 1,485 cf

SubcatchmentS2.3: SubcatchmentS2.3 Runoff Area=17,765 sf 0.00% Impervious Runoff Depth=1.05"
Flow Length=219' Tc=16.4 min CN=57 Runoff=0.30 cfs 1,557 cf

SubcatchmentS2.4: SubcatchmentS2.4 Runoff Area=32,865 sf 43.82% Impervious Runoff Depth=1.59"
Flow Length=298' Tc=23.6 min CN=65 Runoff=0.83 cfs 4,347 cf

SubcatchmentS3: SubcatchmentS3 Runoff Area=86,591 sf 0.56% Impervious Runoff Depth=2.54"
Flow Length=348' Tc=27.2 min CN=77 Runoff=3.49 cfs 18,325 cf

SubcatchmentS4: SubcatchmentS4 Runoff Area=48,755 sf 0.00% Impervious Runoff Depth=2.54"
Flow Length=376' Tc=27.5 min CN=77 Runoff=1.96 cfs 10,318 cf

SubcatchmentS5: SubcatchmentS5 Runoff Area=58,440 sf 2.22% Impervious Runoff Depth=2.54"
Flow Length=226' Tc=28.7 min CN=77 Runoff=2.30 cfs 12,368 cf

Pond 1P: Catch Basin 2 Peak Elev=44.44' Inflow=2.53 cfs 25,767 cf
15.0" Round Culvert n=0.013 L=106.6' S=0.0050 '/' Outflow=2.53 cfs 25,767 cf

Pond C1: Culvert 1 Peak Elev=52.10' Inflow=2.04 cfs 18,377 cf
16.0" Round Culvert n=0.025 L=160.0' S=0.0085 '/' Outflow=2.04 cfs 18,377 cf

Pond CB1: Catch Basin 1 Peak Elev=50.76' Inflow=0.43 cfs 1,485 cf
12.0" Round Culvert n=0.011 L=61.0' S=0.0054 '/' Outflow=0.43 cfs 1,485 cf

Pond DP1: Detention Pond 1 Peak Elev=49.03' Storage=2 cf Inflow=2.17 cfs 21,420 cf
12.0" Round Culvert n=0.020 L=105.0' S=0.0326 '/' Outflow=2.17 cfs 21,420 cf

Link AP#1: Analysis Point 1 Inflow=0.42 cfs 2,033 cf
Primary=0.42 cfs 2,033 cf

Link AP#2: Analysis Point 2 Inflow=2.53 cfs 25,767 cf
Primary=2.53 cfs 25,767 cf

Link AP#3: Analysis Point 3 Inflow=3.49 cfs 18,325 cf
Primary=3.49 cfs 18,325 cf

Link AP#4: Analysis Point 4 Inflow=1.96 cfs 10,318 cf
Primary=1.96 cfs 10,318 cf

Link AP#5: Analysis Point 5 Inflow=2.30 cfs 12,368 cf
Primary=2.30 cfs 12,368 cf

Total Runoff Area = 467,733 sf Runoff Volume = 68,811 cf Average Runoff Depth = 1.77"
90.72% Pervious = 424,306 sf 9.28% Impervious = 43,427 sf

Summary for Subcatchment S1: Subcatchment S1

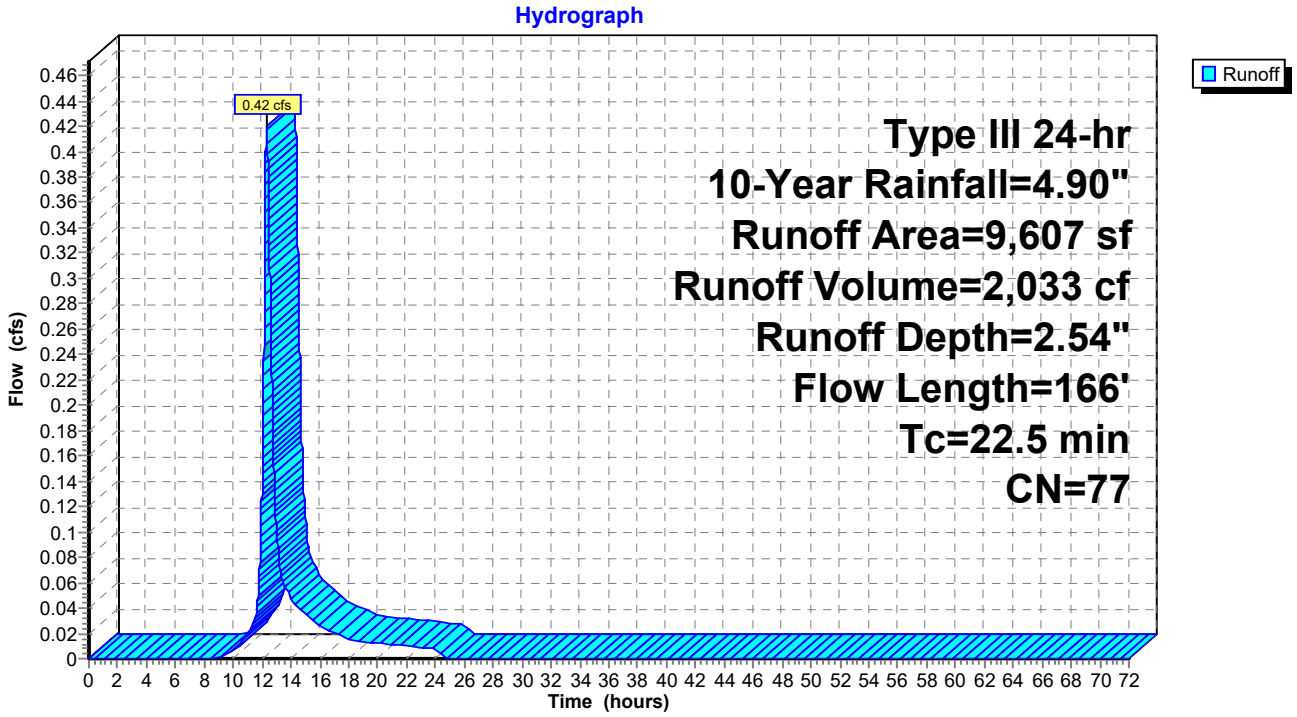
Runoff = 0.42 cfs @ 12.32 hrs, Volume= 2,033 cf, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
87	30	Woods, Good, HSG A
9,520	77	Woods, Good, HSG D
9,607	77	Weighted Average
9,607		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	150	0.0400	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.3	16	0.0381	0.98		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.5	166	Total			

Subcatchment S1: Subcatchment S1



Summary for Subcatchment S2.1: Subcatchment S2.1

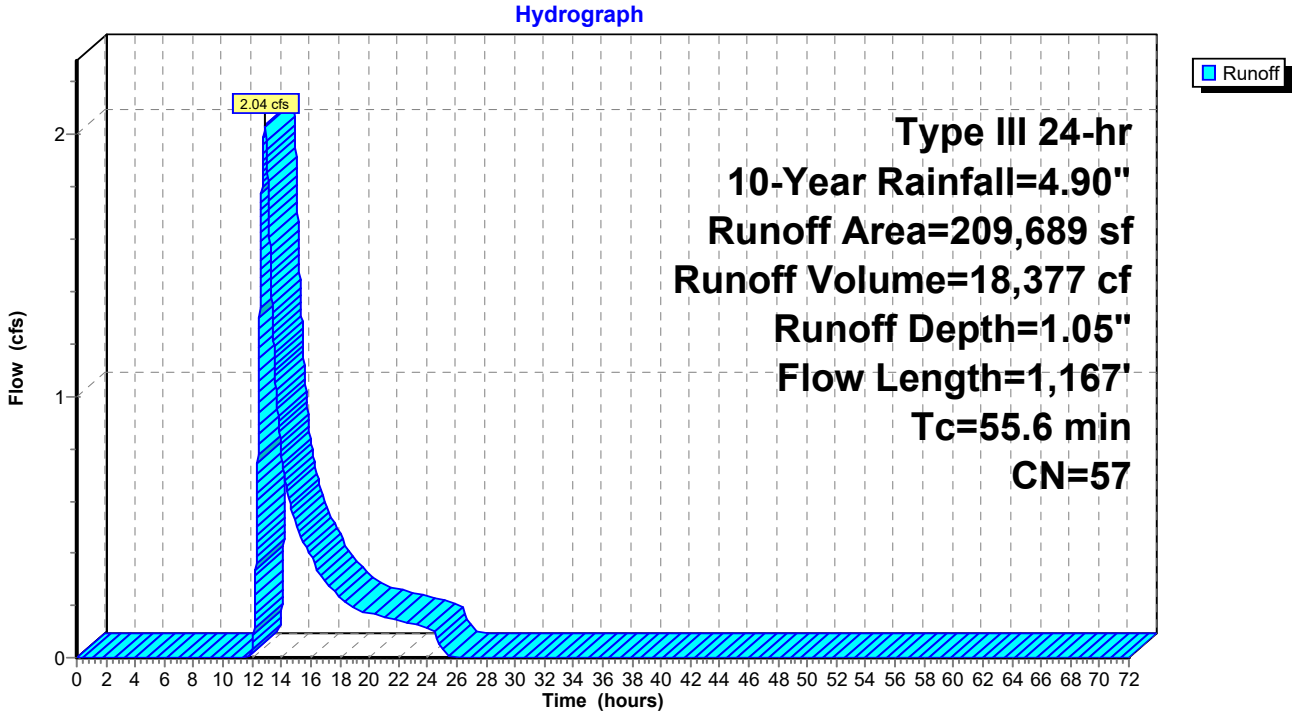
Runoff = 2.04 cfs @ 12.85 hrs, Volume= 18,377 cf, Depth= 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

	Area (sf)	CN	Description
	8,317	39	>75% Grass cover, Good, HSG A
	8,025	80	>75% Grass cover, Good, HSG D
	8,205	98	Paved parking, HSG D
*	15,186	98	Parking/Building HSG A
	92,645	30	Woods, Good, HSG A
	77,311	77	Woods, Good, HSG D
	209,689	57	Weighted Average
	186,298		88.84% Pervious Area
	23,391		11.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.2	150	0.0200	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
5.8	300	0.0300	0.87		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
9.5	300	0.0110	0.52		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
8.7	300	0.0133	0.58		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
2.4	117	0.0256	0.80		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
55.6	1,167	Total			

Subcatchment S2.1: Subcatchment S2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

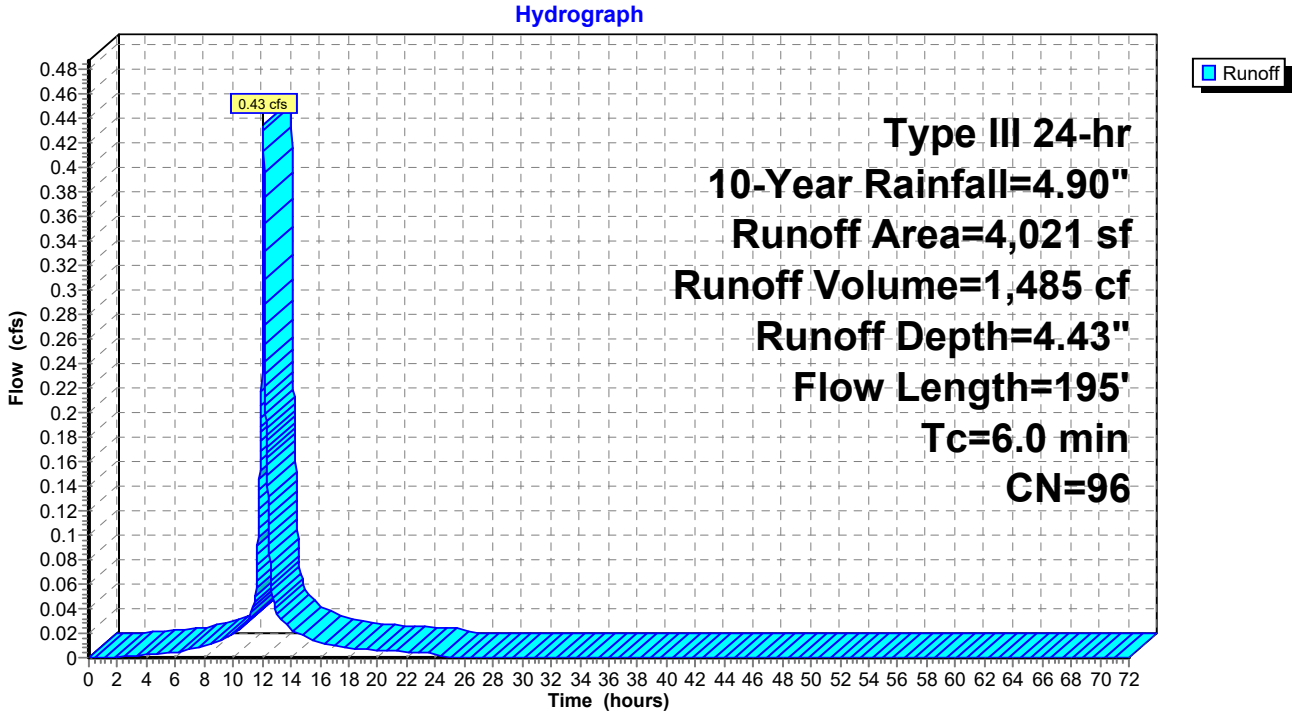
Runoff = 0.43 cfs @ 12.08 hrs, Volume= 1,485 cf, Depth= 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
168	39	>75% Grass cover, Good, HSG A
3,555	98	Paved parking, HSG A
298	98	Paved parking, HSG D
4,021	96	Weighted Average
168		4.18% Pervious Area
3,853		95.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	150	0.0392	1.98		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.30"
0.2	45	0.0362	3.86		**Shallow Concentrated Flow, BC** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 6.0 min			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment S2.3

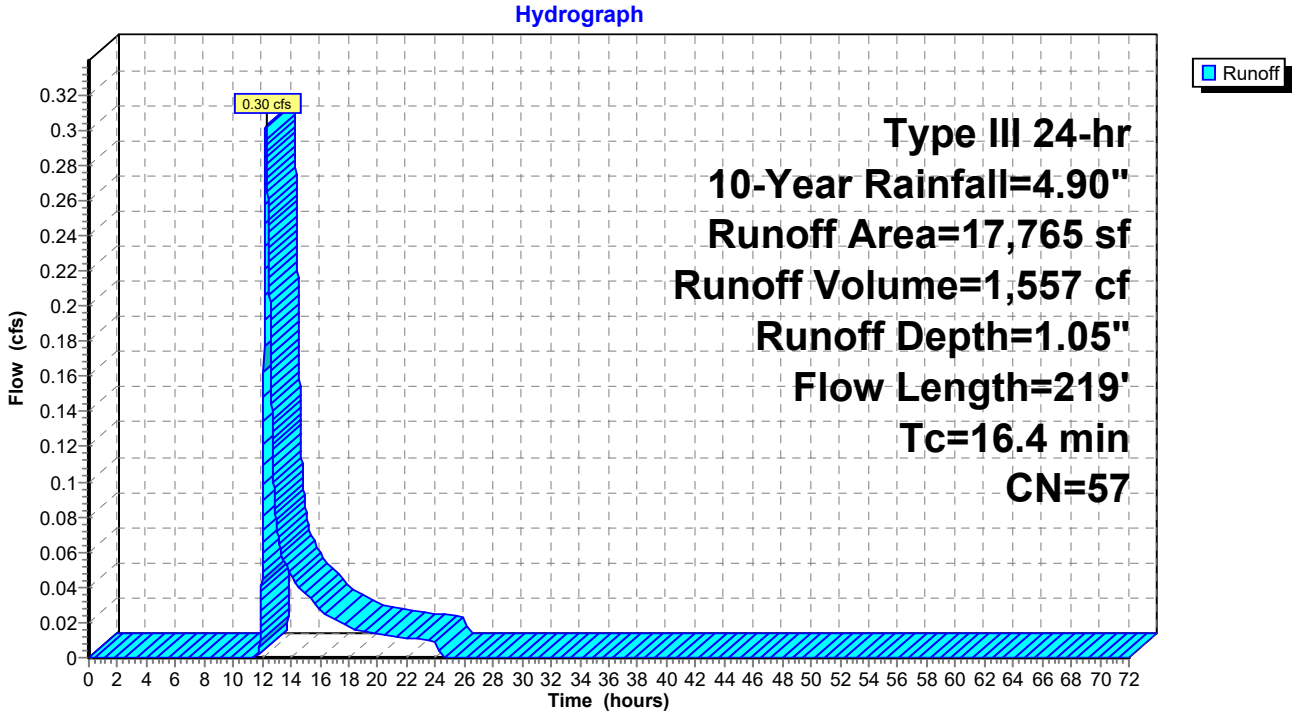
Runoff = 0.30 cfs @ 12.26 hrs, Volume= 1,557 cf, Depth= 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
205	30	Woods, Good, HSG A
1,312	77	Woods, Good, HSG D
6,540	80	>75% Grass cover, Good, HSG D
9,708	39	>75% Grass cover, Good, HSG A
17,765	57	Weighted Average
17,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	150	0.0926	0.16		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.6	69	0.0864	2.06		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
16.4	219	Total			

Subcatchment S2.3: Subcatchment S2.3



Summary for Subcatchment S2.4: Subcatchment S2.4

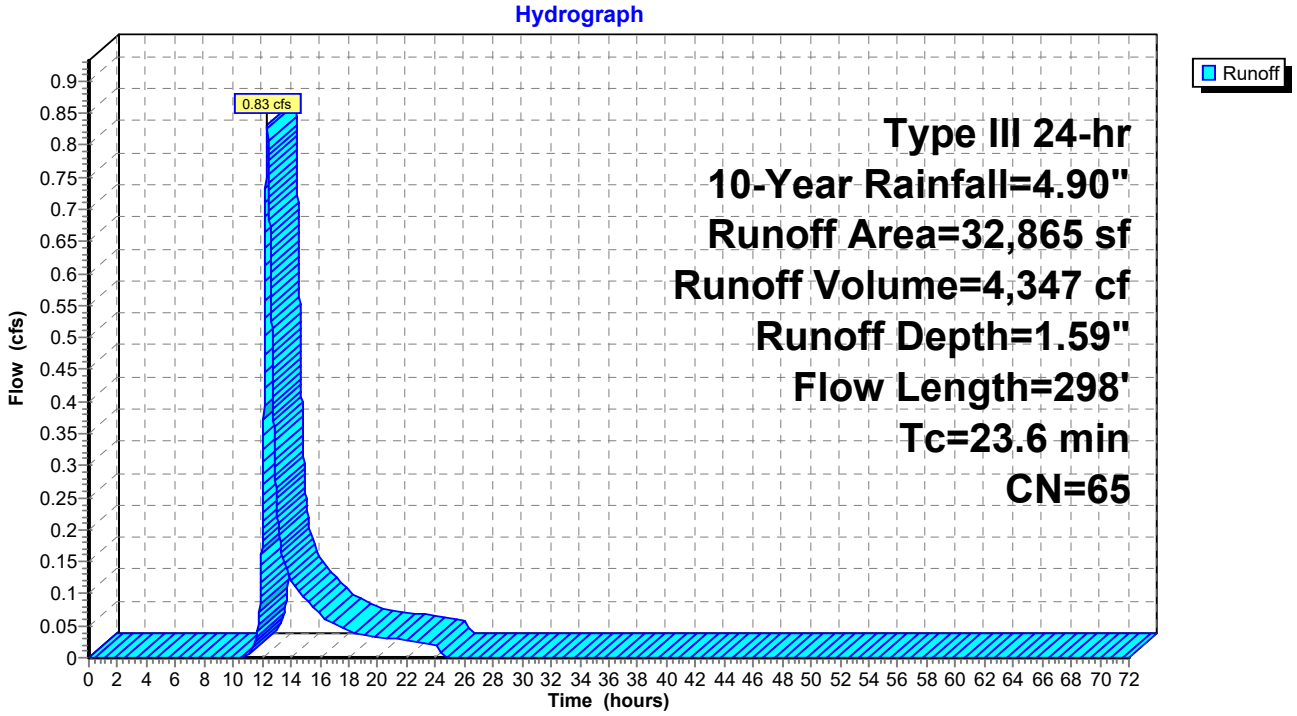
Runoff = 0.83 cfs @ 12.35 hrs, Volume= 4,347 cf, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
8,277	98	Paved parking, HSG A
32,865	65	Weighted Average
18,462		56.18% Pervious Area
14,403		43.82% Impervious Area
6,060		42.07% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	150	0.0466	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.7	148	0.0322	0.90		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
23.6	298	Total			

Subcatchment S2.4: Subcatchment S2.4



Summary for Subcatchment S3: Subcatchment S3

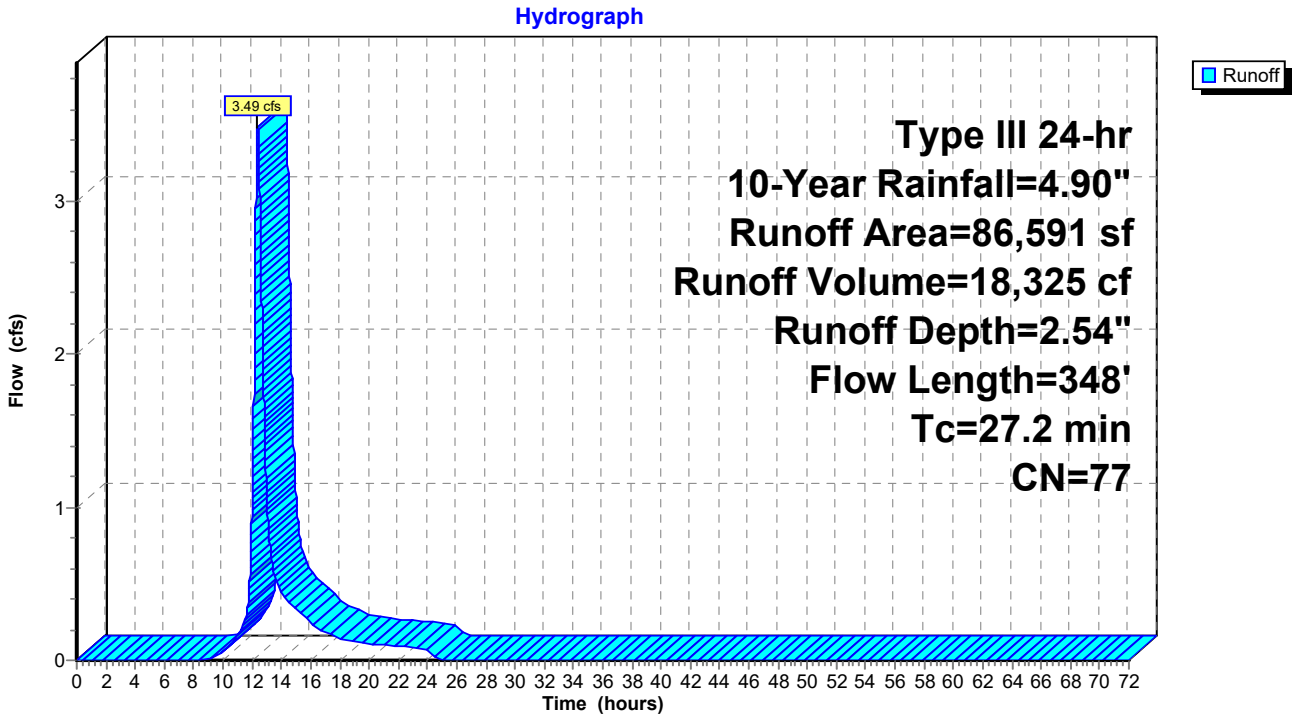
Runoff = 3.49 cfs @ 12.37 hrs, Volume= 18,325 cf, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

	Area (sf)	CN	Description
	86,108	77	Woods, Good, HSG D
*	483	98	Wetland, HSG D
	86,591	77	Weighted Average
	86,108		99.44% Pervious Area
	483		0.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	150	0.0490	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
6.8	198	0.0093	0.48		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.2	348	Total			

Subcatchment S3: Subcatchment S3



Summary for Subcatchment S4: Subcatchment S4

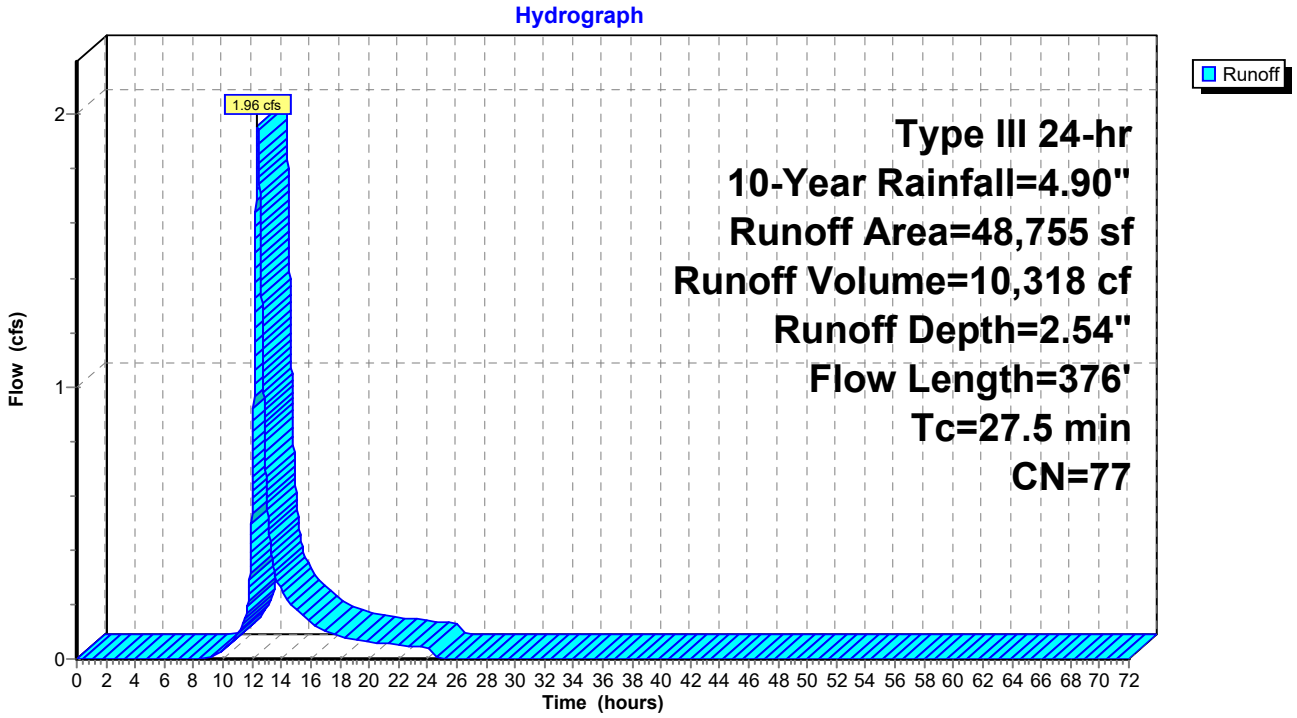
Runoff = 1.96 cfs @ 12.38 hrs, Volume= 10,318 cf, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
48,755	77	Woods, Good, HSG D
48,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.9	150	0.0333	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
3.6	226	0.0440	1.05		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.5	376	Total			

Subcatchment S4: Subcatchment S4



Summary for Subcatchment S5: Subcatchment S5

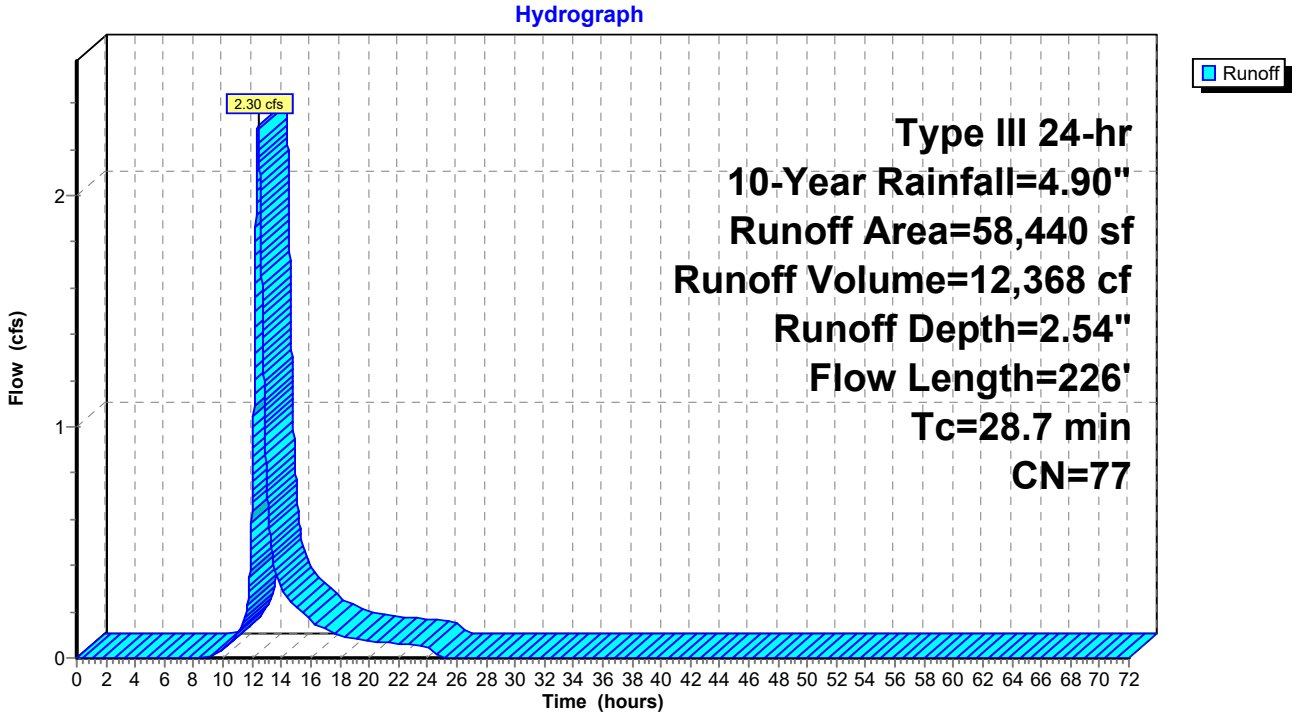
Runoff = 2.30 cfs @ 12.40 hrs, Volume= 12,368 cf, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

	Area (sf)	CN	Description
	57,143	77	Woods, Good, HSG D
*	1,297	98	Wetland, HSG D
	58,440	77	Weighted Average
	57,143		97.78% Pervious Area
	1,297		2.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	64	0.0248	0.08		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
13.5	88	0.0477	0.11		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
1.6	74	0.0242	0.78		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
28.7	226	Total			

Subcatchment S5: Subcatchment S5



Summary for Pond 1P: Catch Basin 2

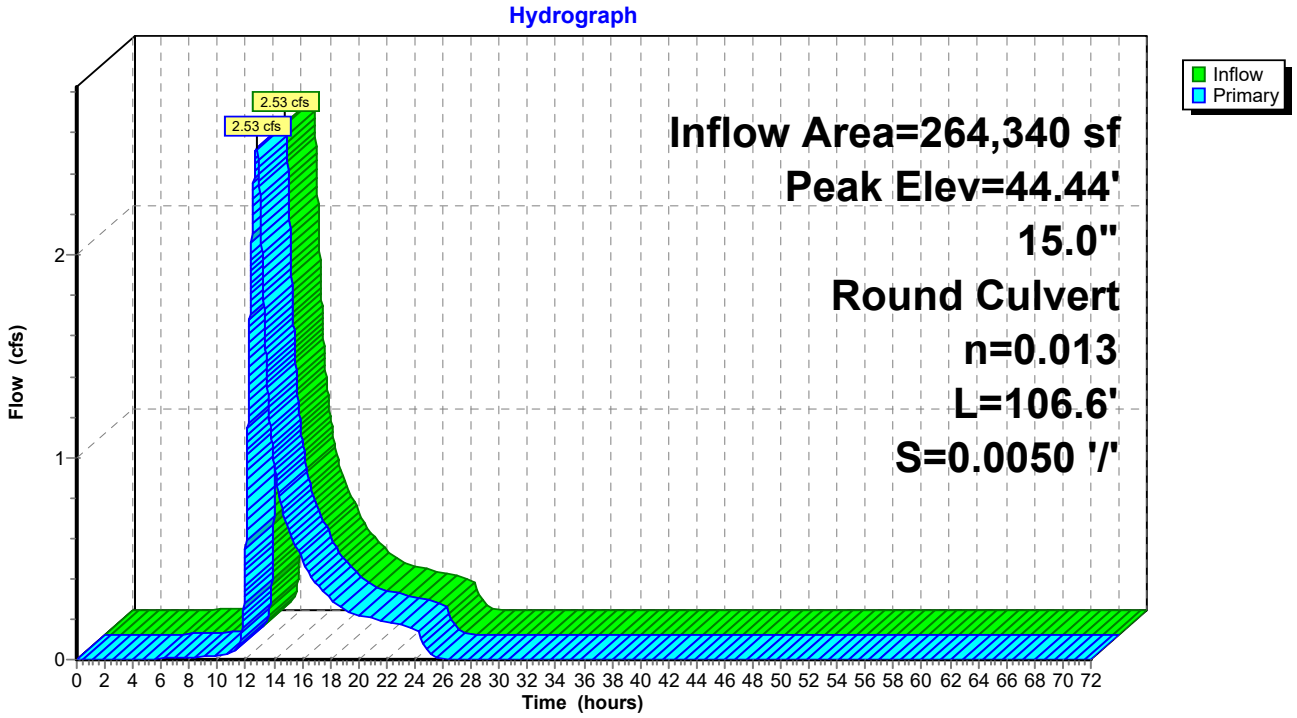
Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 1.17" for 10-Year event
Inflow = 2.53 cfs @ 12.78 hrs, Volume= 25,767 cf
Outflow = 2.53 cfs @ 12.78 hrs, Volume= 25,767 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.53 cfs @ 12.78 hrs, Volume= 25,767 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 44.44' @ 12.78 hrs
Flood Elev= 46.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.50'	**15.0" Round Culvert** L= 106.6' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 43.50' / 42.97' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.53 cfs @ 12.78 hrs HW=44.44' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.53 cfs @ 3.53 fps)

Pond 1P: Catch Basin 2



Summary for Pond C1: Culvert 1

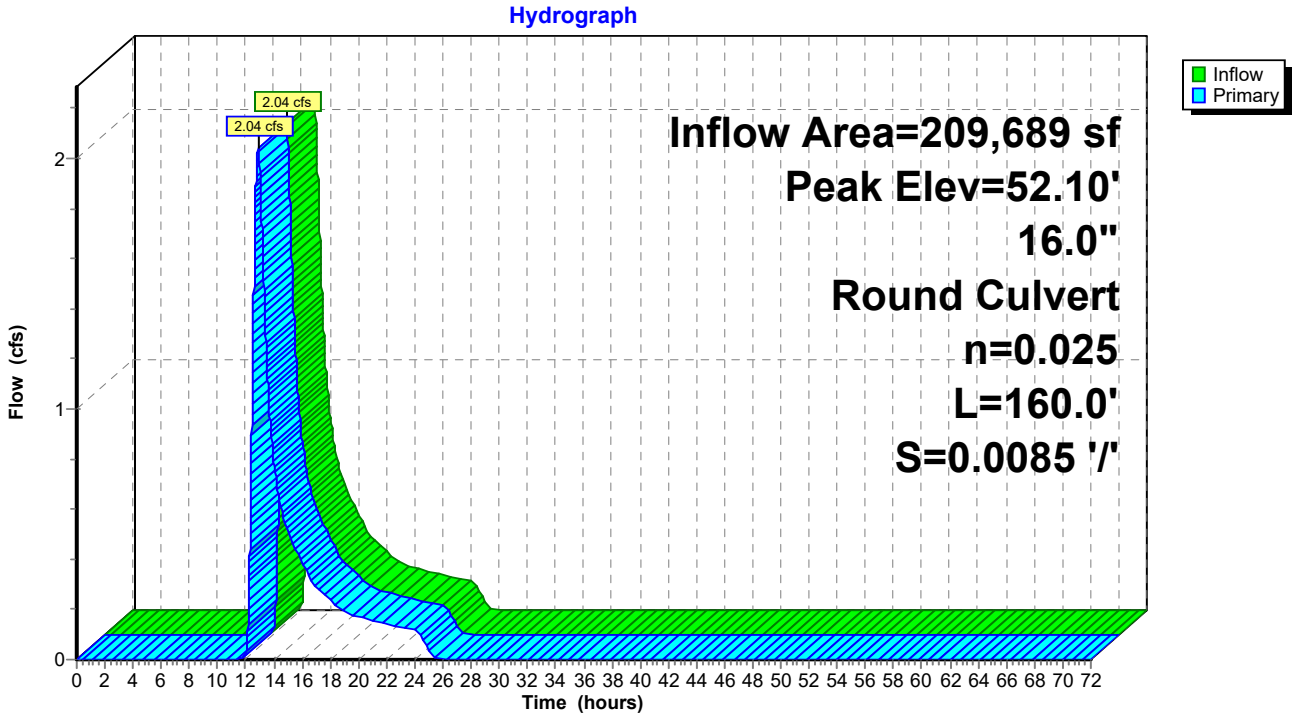
Inflow Area = 209,689 sf, 11.16% Impervious, Inflow Depth = 1.05" for 10-Year event
Inflow = 2.04 cfs @ 12.85 hrs, Volume= 18,377 cf
Outflow = 2.04 cfs @ 12.85 hrs, Volume= 18,377 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.04 cfs @ 12.85 hrs, Volume= 18,377 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.10' @ 12.85 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.16'	**16.0" Round Culvert** L= 160.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.16' / 49.80' S= 0.0085 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=2.04 cfs @ 12.85 hrs HW=52.10' TW=49.03' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.04 cfs @ 2.71 fps)

Pond C1: Culvert 1



Summary for Pond CB1: Catch Basin 1

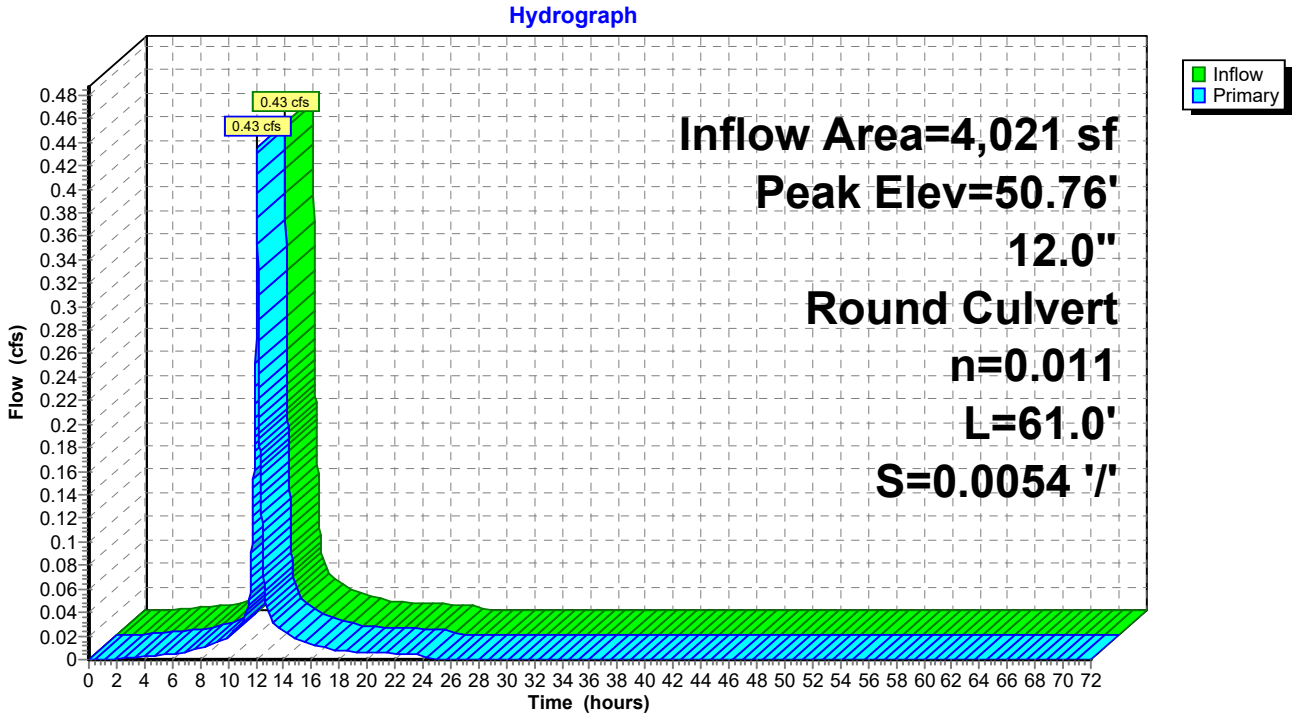
Inflow Area = 4,021 sf, 95.82% Impervious, Inflow Depth = 4.43" for 10-Year event
Inflow = 0.43 cfs @ 12.08 hrs, Volume= 1,485 cf
Outflow = 0.43 cfs @ 12.08 hrs, Volume= 1,485 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.43 cfs @ 12.08 hrs, Volume= 1,485 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.76' @ 12.08 hrs
Flood Elev= 53.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.40'	**12.0" Round Culvert** L= 61.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 50.40' / 50.07' S= 0.0054 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.43 cfs @ 12.08 hrs HW=50.76' TW=49.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.43 cfs @ 2.52 fps)

Pond CB1: Catch Basin 1



Summary for Pond DP1: Detention Pond 1

Inflow Area = 231,475 sf, 11.77% Impervious, Inflow Depth = 1.11" for 10-Year event
Inflow = 2.17 cfs @ 12.85 hrs, Volume= 21,420 cf
Outflow = 2.17 cfs @ 12.86 hrs, Volume= 21,420 cf, Atten= 0%, Lag= 0.6 min
Primary = 2.17 cfs @ 12.86 hrs, Volume= 21,420 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.03' @ 12.86 hrs Surf.Area= 102 sf Storage= 2 cf
Flood Elev= 52.00' Surf.Area= 4,820 sf Storage= 7,829 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (918.6 - 918.6)

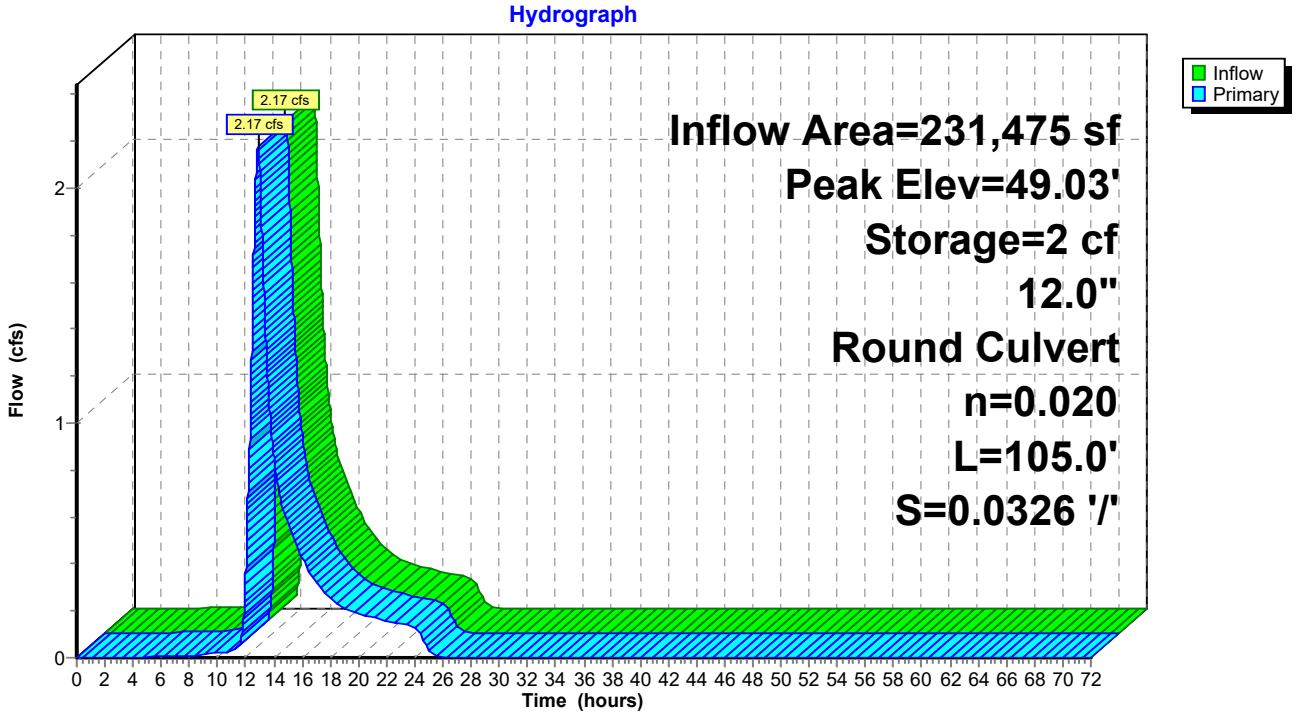
Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	7,829 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
49.00	0	0	0
50.00	3,400	1,700	1,700
51.00	4,299	3,850	5,550
51.50	4,820	2,280	7,829

Device	Routing	Invert	Outlet Devices
#1	Primary	48.00'	**12.0" Round Culvert** L= 105.0' Ke= 0.900 Inlet / Outlet Invert= 48.00' / 44.58' S= 0.0326 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.17 cfs @ 12.86 hrs HW=49.03' TW=44.43' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 2.17 cfs @ 2.77 fps)

Pond DP1: Detention Pond 1

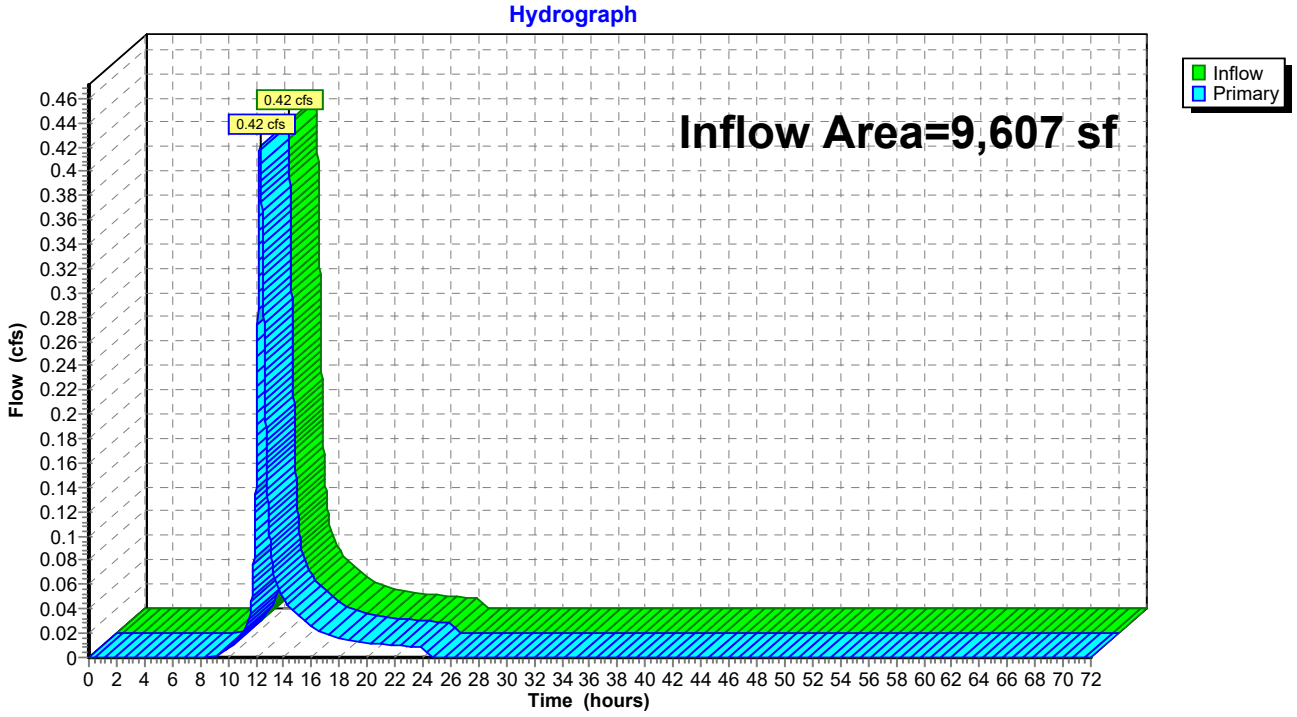


Summary for Link AP#1: Analysis Point 1

Inflow Area = 9,607 sf, 0.00% Impervious, Inflow Depth = 2.54" for 10-Year event
Inflow = 0.42 cfs @ 12.32 hrs, Volume= 2,033 cf
Primary = 0.42 cfs @ 12.32 hrs, Volume= 2,033 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

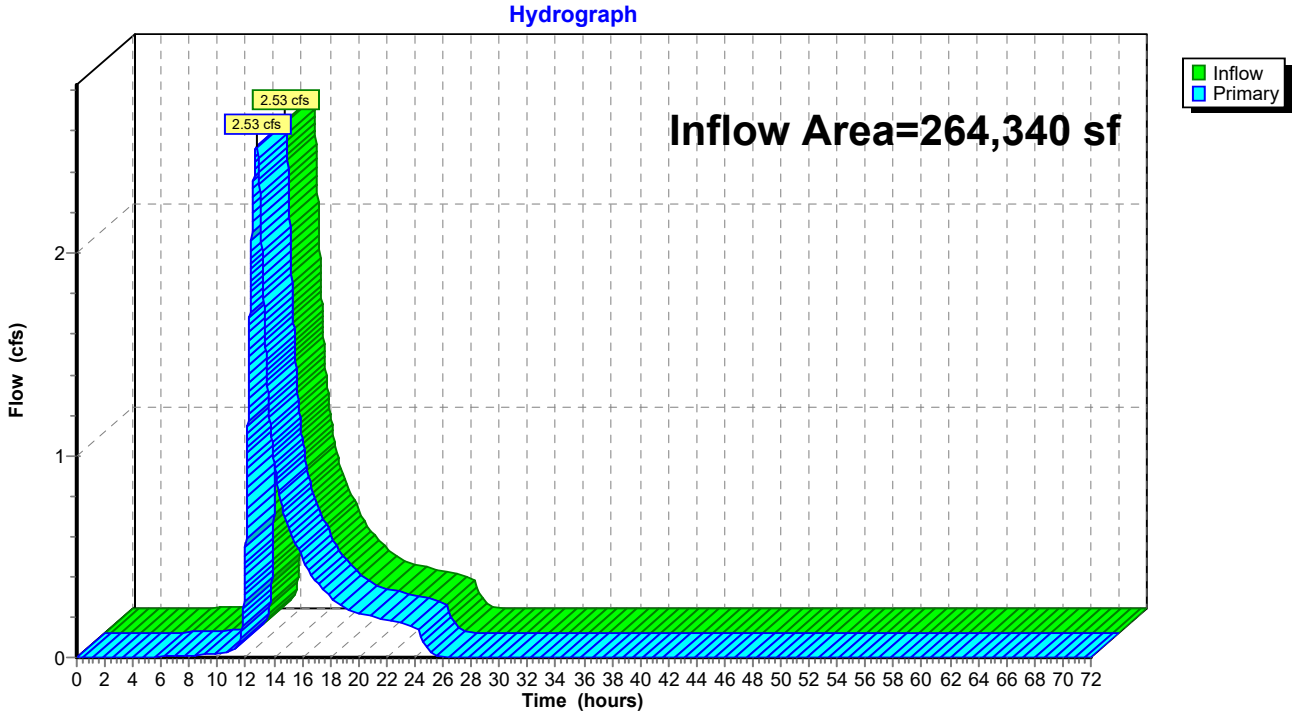


Summary for Link AP#2: Analysis Point 2

Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 1.17" for 10-Year event
Inflow = 2.53 cfs @ 12.78 hrs, Volume= 25,767 cf
Primary = 2.53 cfs @ 12.78 hrs, Volume= 25,767 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

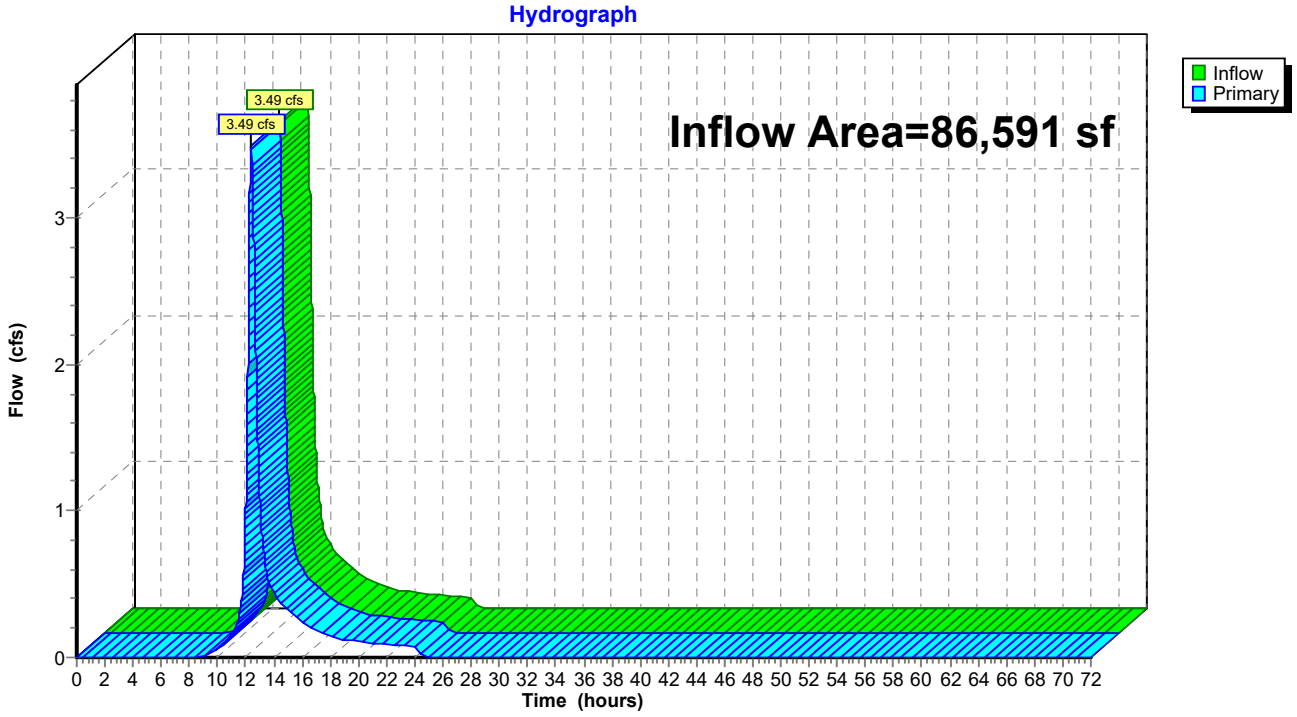


Summary for Link AP#3: Analysis Point 3

Inflow Area = 86,591 sf, 0.56% Impervious, Inflow Depth = 2.54" for 10-Year event
Inflow = 3.49 cfs @ 12.37 hrs, Volume= 18,325 cf
Primary = 3.49 cfs @ 12.37 hrs, Volume= 18,325 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

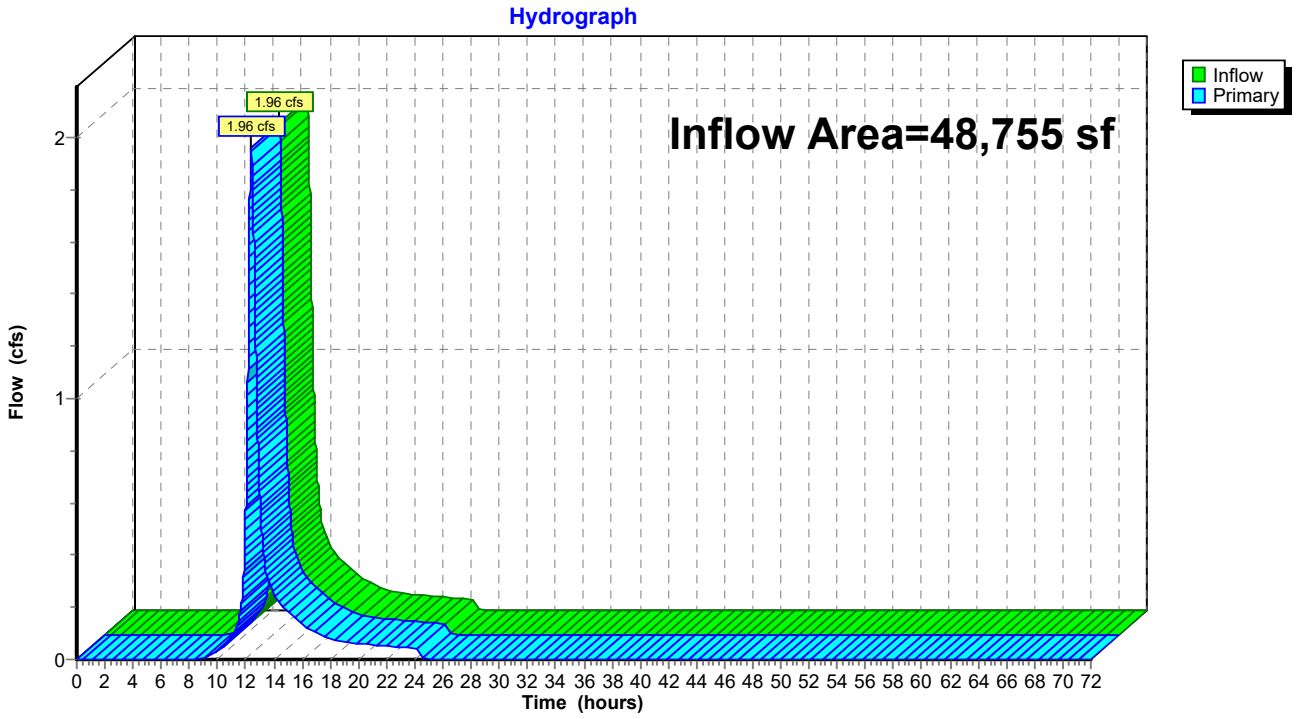


Summary for Link AP#4: Analysis Point 4

Inflow Area = 48,755 sf, 0.00% Impervious, Inflow Depth = 2.54" for 10-Year event
Inflow = 1.96 cfs @ 12.38 hrs, Volume= 10,318 cf
Primary = 1.96 cfs @ 12.38 hrs, Volume= 10,318 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

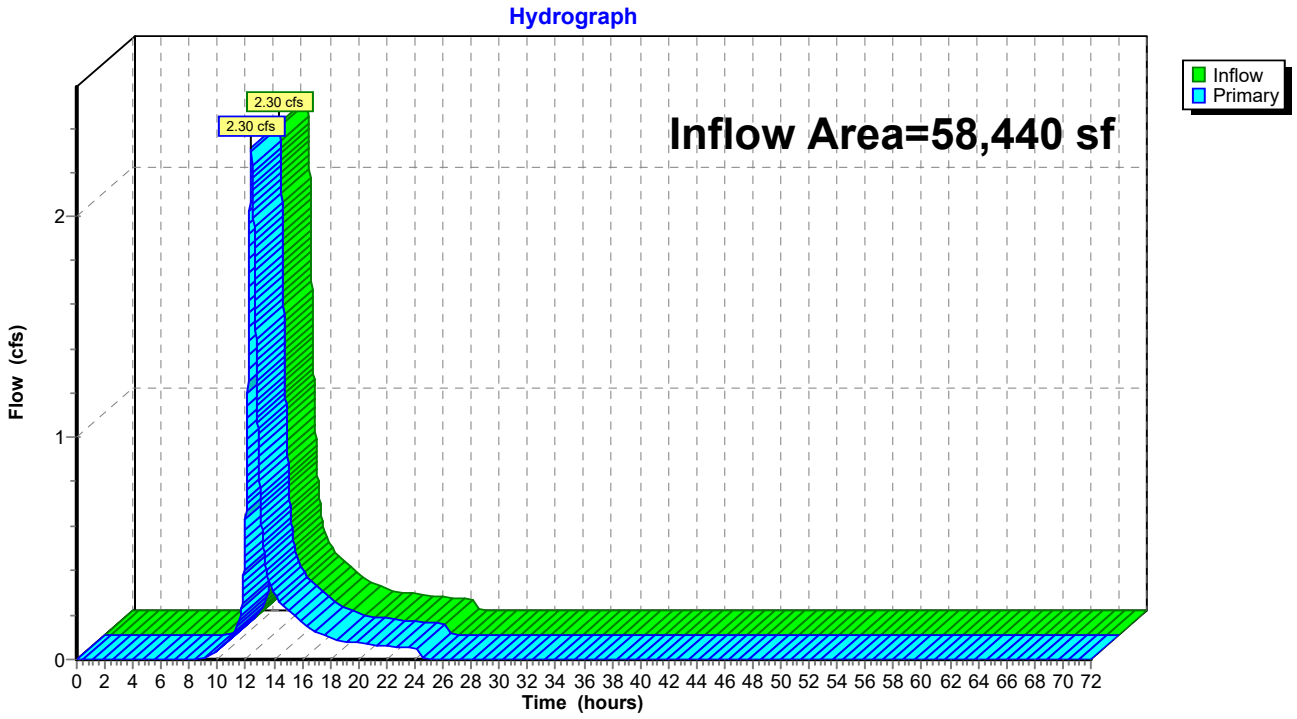


Summary for Link AP#5: Analysis Point 5

Inflow Area = 58,440 sf, 2.22% Impervious, Inflow Depth = 2.54" for 10-Year event
Inflow = 2.30 cfs @ 12.40 hrs, Volume= 12,368 cf
Primary = 2.30 cfs @ 12.40 hrs, Volume= 12,368 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

SubcatchmentS1: SubcatchmentS1 Runoff Area=9,607 sf 0.00% Impervious Runoff Depth=3.65"
Flow Length=166' Tc=22.5 min CN=77 Runoff=0.61 cfs 2,926 cf

SubcatchmentS2.1: SubcatchmentS2.1 Runoff Area=209,689 sf 11.16% Impervious Runoff Depth=1.80"
Flow Length=1,167' Tc=55.6 min CN=57 Runoff=3.83 cfs 31,431 cf

SubcatchmentS2.2: SubcatchmentS2.2 Runoff Area=4,021 sf 95.82% Impervious Runoff Depth=5.73"
Flow Length=195' Tc=6.0 min CN=96 Runoff=0.55 cfs 1,919 cf

SubcatchmentS2.3: SubcatchmentS2.3 Runoff Area=17,765 sf 0.00% Impervious Runoff Depth=1.80"
Flow Length=219' Tc=16.4 min CN=57 Runoff=0.57 cfs 2,663 cf

SubcatchmentS2.4: SubcatchmentS2.4 Runoff Area=32,865 sf 43.82% Impervious Runoff Depth=2.50"
Flow Length=298' Tc=23.6 min CN=65 Runoff=1.36 cfs 6,841 cf

SubcatchmentS3: SubcatchmentS3 Runoff Area=86,591 sf 0.56% Impervious Runoff Depth=3.65"
Flow Length=348' Tc=27.2 min CN=77 Runoff=5.04 cfs 26,369 cf

SubcatchmentS4: SubcatchmentS4 Runoff Area=48,755 sf 0.00% Impervious Runoff Depth=3.65"
Flow Length=376' Tc=27.5 min CN=77 Runoff=2.82 cfs 14,847 cf

SubcatchmentS5: SubcatchmentS5 Runoff Area=58,440 sf 2.22% Impervious Runoff Depth=3.65"
Flow Length=226' Tc=28.7 min CN=77 Runoff=3.32 cfs 17,796 cf

Pond 1P: Catch Basin 2 Peak Elev=44.77' Inflow=3.87 cfs 42,857 cf
15.0" Round Culvert n=0.013 L=106.6' S=0.0050 '/' Outflow=3.87 cfs 42,857 cf

Pond C1: Culvert 1 Peak Elev=52.64' Inflow=3.83 cfs 31,431 cf
16.0" Round Culvert n=0.025 L=160.0' S=0.0085 '/' Outflow=3.83 cfs 31,431 cf

Pond CB1: Catch Basin 1 Peak Elev=50.81' Inflow=0.55 cfs 1,919 cf
12.0" Round Culvert n=0.011 L=61.0' S=0.0054 '/' Outflow=0.55 cfs 1,919 cf

Pond DP1: Detention Pond 1 Peak Elev=49.88' Storage=1,303 cf Inflow=4.06 cfs 36,013 cf
12.0" Round Culvert n=0.020 L=105.0' S=0.0326 '/' Outflow=3.50 cfs 36,016 cf

Link AP#1: Analysis Point 1 Inflow=0.61 cfs 2,926 cf
Primary=0.61 cfs 2,926 cf

Link AP#2: Analysis Point 2 Inflow=3.87 cfs 42,857 cf
Primary=3.87 cfs 42,857 cf

Link AP#3: Analysis Point 3 Inflow=5.04 cfs 26,369 cf
Primary=5.04 cfs 26,369 cf

Link AP#4: Analysis Point 4 Inflow=2.82 cfs 14,847 cf
Primary=2.82 cfs 14,847 cf

Link AP#5: Analysis Point 5 Inflow=3.32 cfs 17,796 cf
Primary=3.32 cfs 17,796 cf

Total Runoff Area = 467,733 sf Runoff Volume = 104,792 cf Average Runoff Depth = 2.69"
90.72% Pervious = 424,306 sf 9.28% Impervious = 43,427 sf

Summary for Subcatchment S1: Subcatchment S1

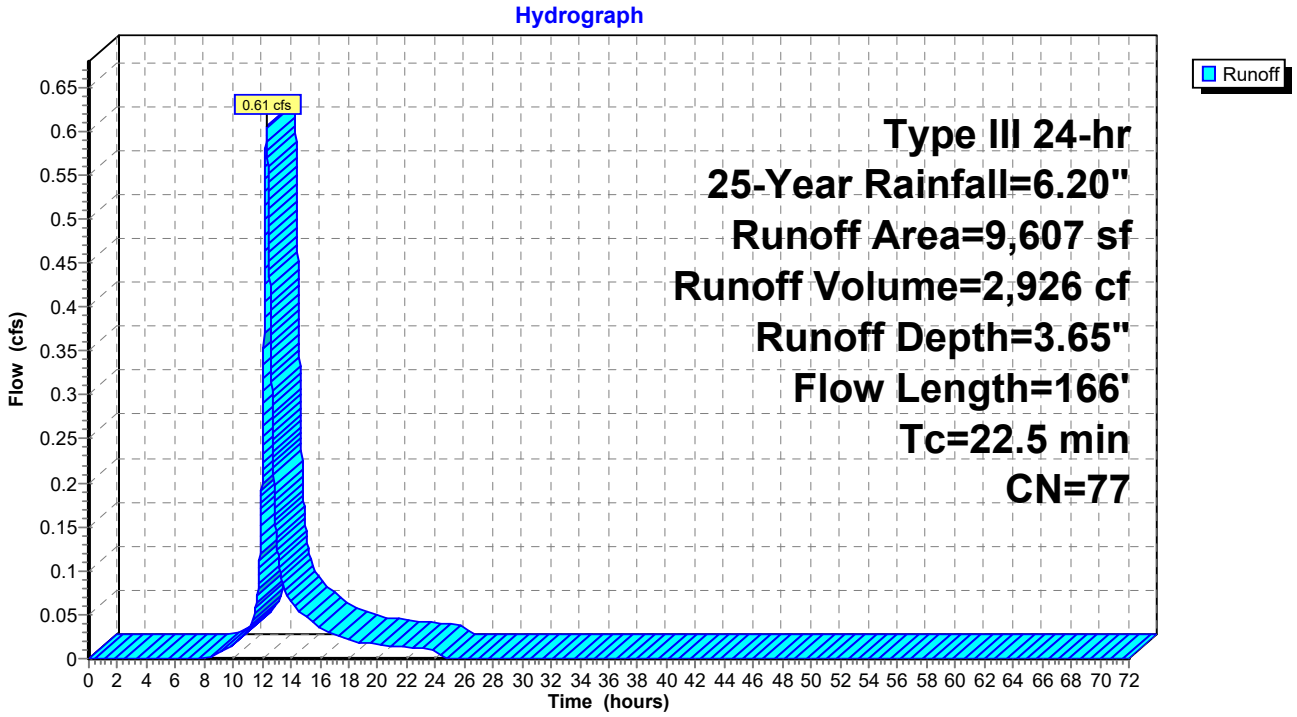
Runoff = 0.61 cfs @ 12.32 hrs, Volume= 2,926 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
87	30	Woods, Good, HSG A
9,520	77	Woods, Good, HSG D
9,607	77	Weighted Average
9,607		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	150	0.0400	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.3	16	0.0381	0.98		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.5	166	Total			

Subcatchment S1: Subcatchment S1



Summary for Subcatchment S2.1: Subcatchment S2.1

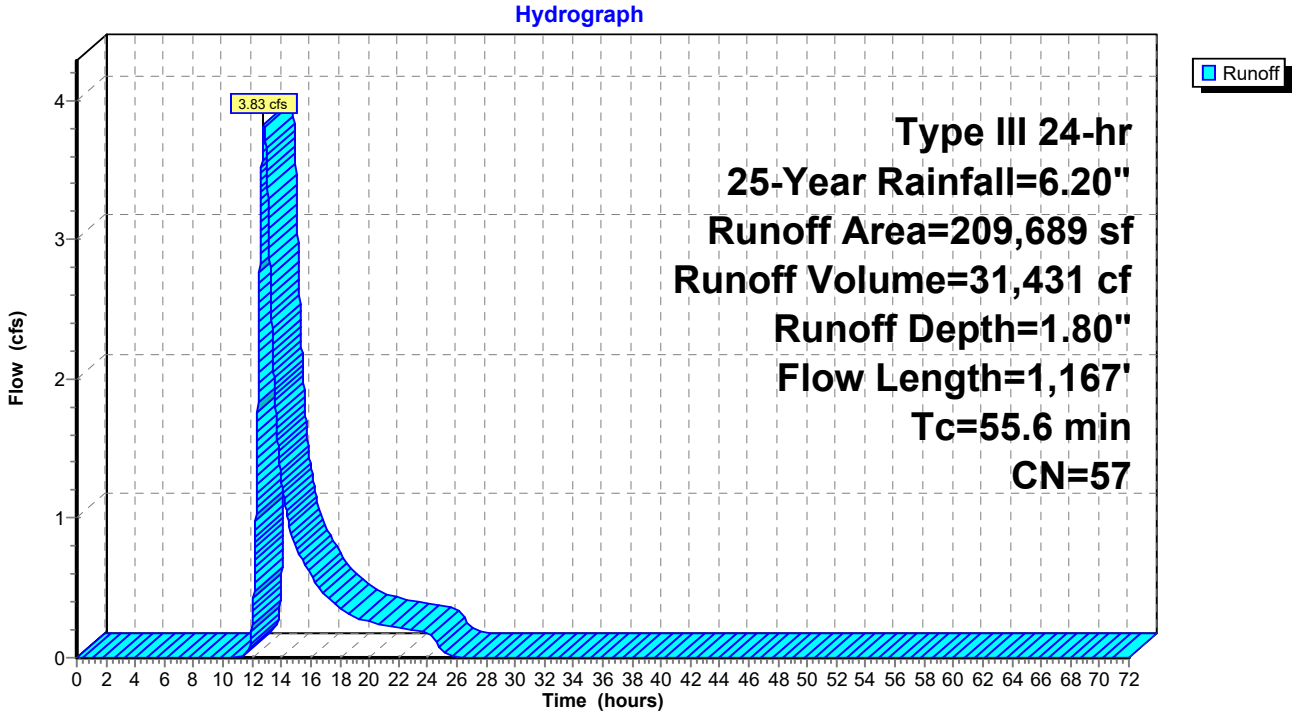
Runoff = 3.83 cfs @ 12.80 hrs, Volume= 31,431 cf, Depth= 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
	8,317	39	>75% Grass cover, Good, HSG A
	8,025	80	>75% Grass cover, Good, HSG D
	8,205	98	Paved parking, HSG D
*	15,186	98	Parking/Building HSG A
	92,645	30	Woods, Good, HSG A
	77,311	77	Woods, Good, HSG D
	209,689	57	Weighted Average
	186,298		88.84% Pervious Area
	23,391		11.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.2	150	0.0200	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
5.8	300	0.0300	0.87		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
9.5	300	0.0110	0.52		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
8.7	300	0.0133	0.58		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
2.4	117	0.0256	0.80		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
55.6	1,167	Total			

Subcatchment S2.1: Subcatchment S2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

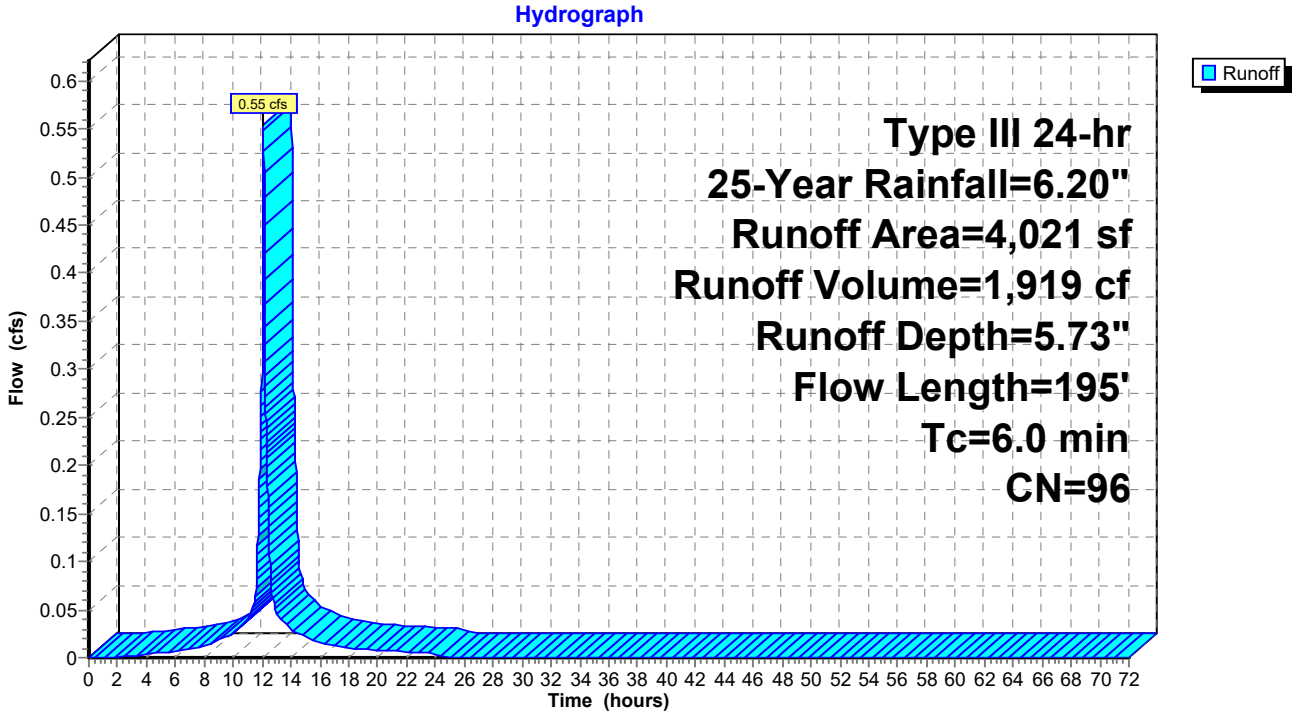
Runoff = 0.55 cfs @ 12.08 hrs, Volume= 1,919 cf, Depth= 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
168	39	>75% Grass cover, Good, HSG A
3,555	98	Paved parking, HSG A
298	98	Paved parking, HSG D
4,021	96	Weighted Average
168		4.18% Pervious Area
3,853		95.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	150	0.0392	1.98		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.30"
0.2	45	0.0362	3.86		**Shallow Concentrated Flow, BC** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 6.0 min			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment S2.3

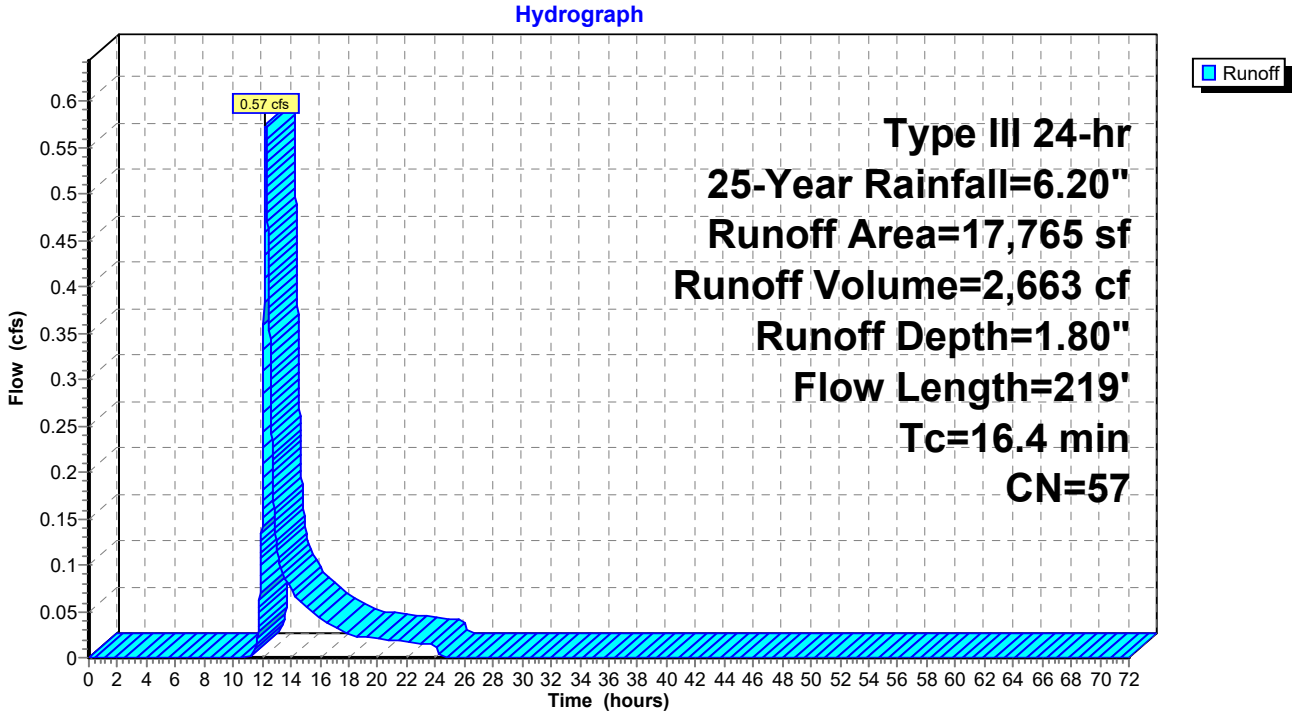
Runoff = 0.57 cfs @ 12.25 hrs, Volume= 2,663 cf, Depth= 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
205	30	Woods, Good, HSG A
1,312	77	Woods, Good, HSG D
6,540	80	>75% Grass cover, Good, HSG D
9,708	39	>75% Grass cover, Good, HSG A
17,765	57	Weighted Average
17,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	150	0.0926	0.16		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.6	69	0.0864	2.06		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
16.4	219	Total			

Subcatchment S2.3: Subcatchment S2.3



Summary for Subcatchment S2.4: Subcatchment S2.4

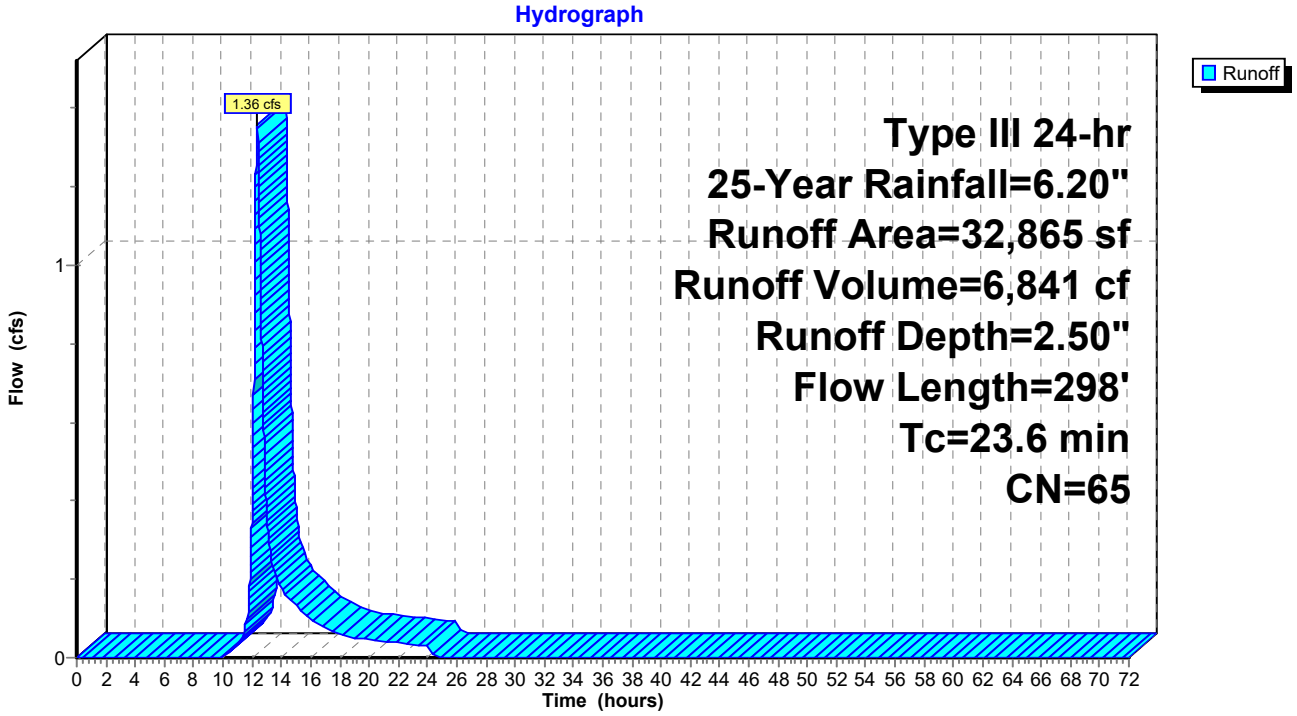
Runoff = 1.36 cfs @ 12.35 hrs, Volume= 6,841 cf, Depth= 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
8,277	98	Paved parking, HSG A
32,865	65	Weighted Average
18,462		56.18% Pervious Area
14,403		43.82% Impervious Area
6,060		42.07% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	150	0.0466	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.7	148	0.0322	0.90		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
23.6	298	Total			

Subcatchment S2.4: Subcatchment S2.4



Summary for Subcatchment S3: Subcatchment S3

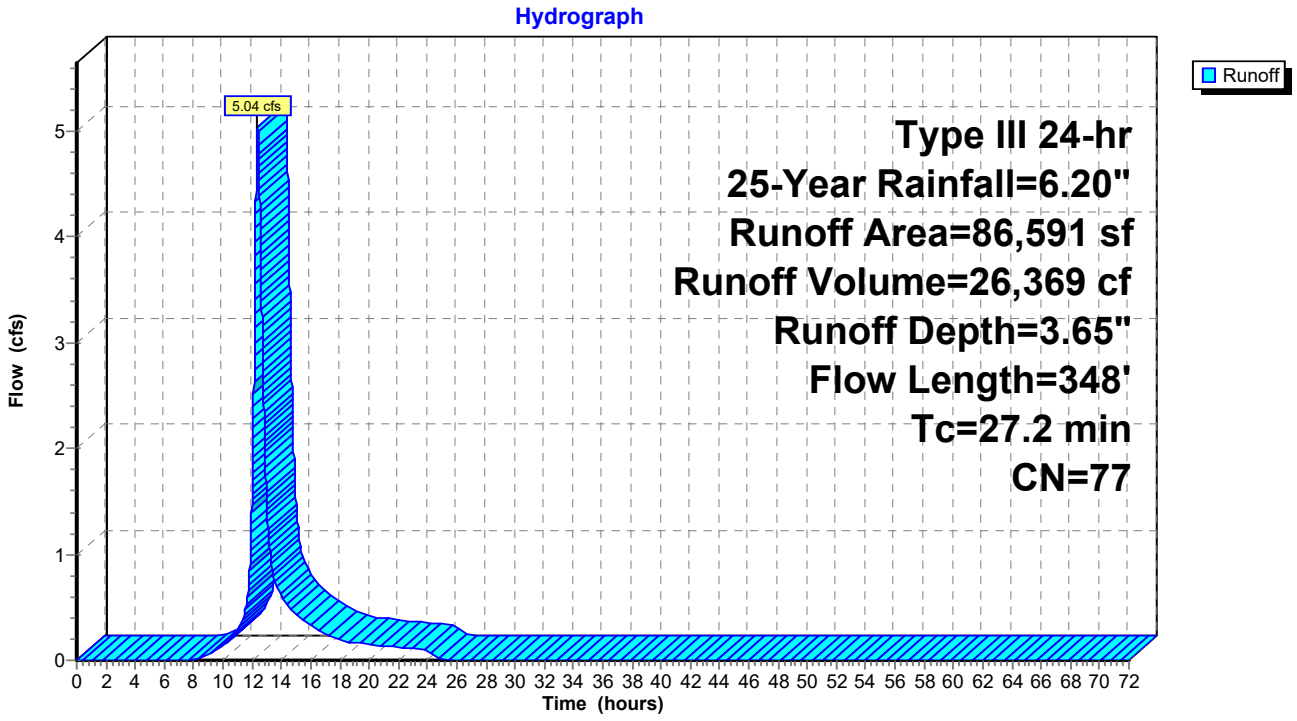
Runoff = 5.04 cfs @ 12.37 hrs, Volume= 26,369 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
	86,108	77	Woods, Good, HSG D
*	483	98	Wetland, HSG D
	86,591	77	Weighted Average
	86,108		99.44% Pervious Area
	483		0.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	150	0.0490	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
6.8	198	0.0093	0.48		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.2	348	Total			

Subcatchment S3: Subcatchment S3



Summary for Subcatchment S4: Subcatchment S4

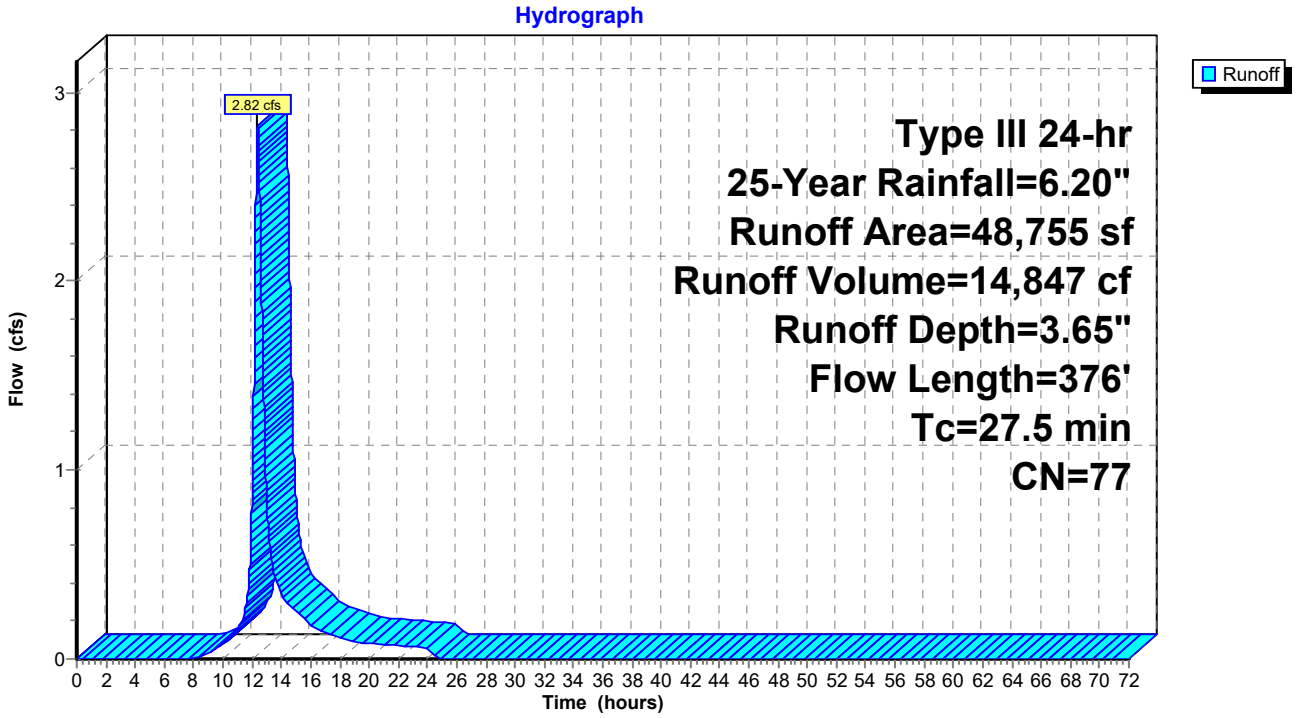
Runoff = 2.82 cfs @ 12.38 hrs, Volume= 14,847 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
48,755	77	Woods, Good, HSG D
48,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.9	150	0.0333	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
3.6	226	0.0440	1.05		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.5	376	Total			

Subcatchment S4: Subcatchment S4



Summary for Subcatchment S5: Subcatchment S5

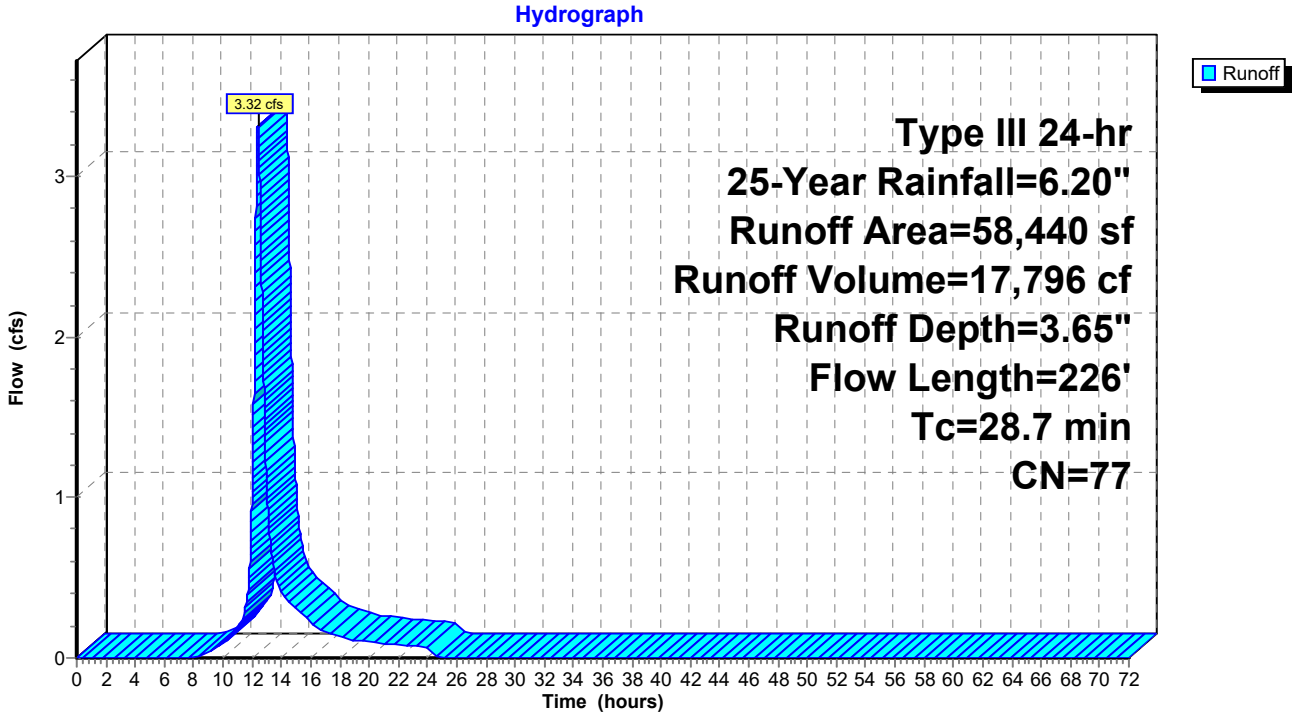
Runoff = 3.32 cfs @ 12.40 hrs, Volume= 17,796 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
	57,143	77	Woods, Good, HSG D
*	1,297	98	Wetland, HSG D
	58,440	77	Weighted Average
	57,143		97.78% Pervious Area
	1,297		2.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	64	0.0248	0.08		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
13.5	88	0.0477	0.11		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
1.6	74	0.0242	0.78		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
28.7	226	Total			

Subcatchment S5: Subcatchment S5



Summary for Pond 1P: Catch Basin 2

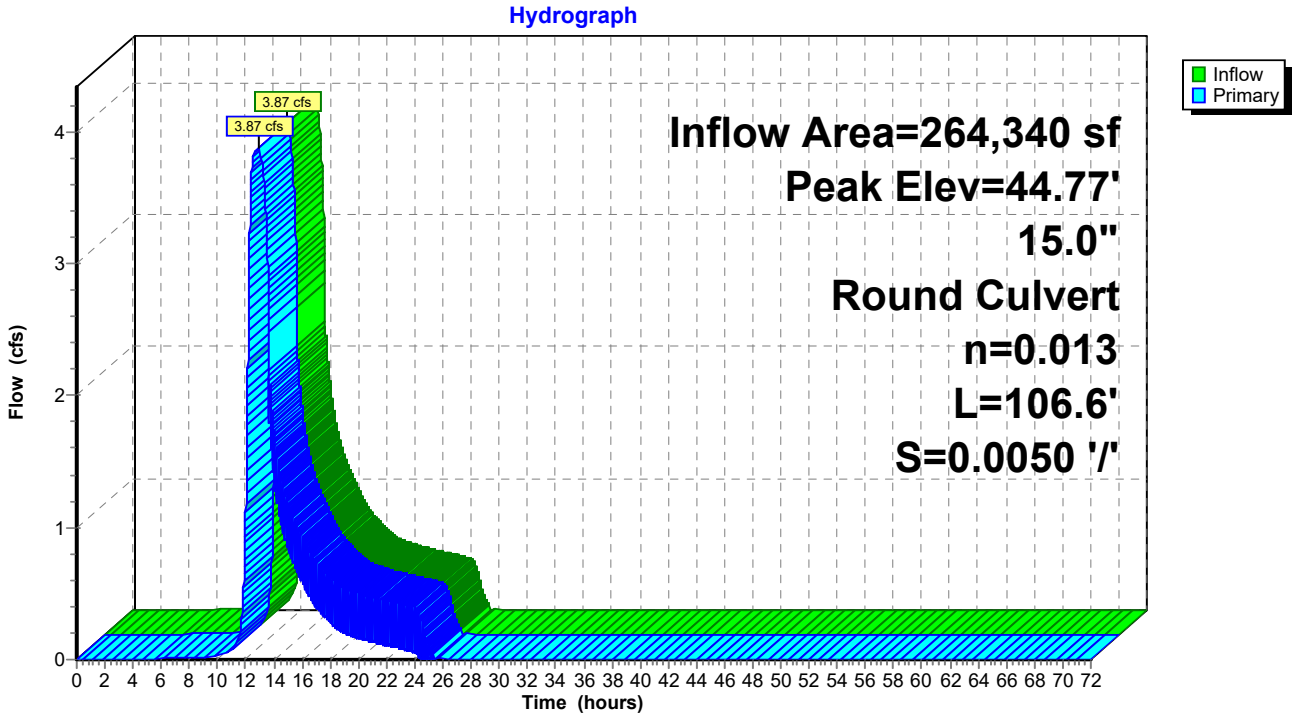
Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 1.95" for 25-Year event
Inflow = 3.87 cfs @ 12.87 hrs, Volume= 42,857 cf
Outflow = 3.87 cfs @ 12.87 hrs, Volume= 42,857 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.87 cfs @ 12.87 hrs, Volume= 42,857 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 44.77' @ 12.87 hrs
Flood Elev= 46.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.50'	**15.0" Round Culvert** L= 106.6' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 43.50' / 42.97' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.87 cfs @ 12.87 hrs HW=44.77' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.87 cfs @ 3.88 fps)

Pond 1P: Catch Basin 2



Summary for Pond C1: Culvert 1

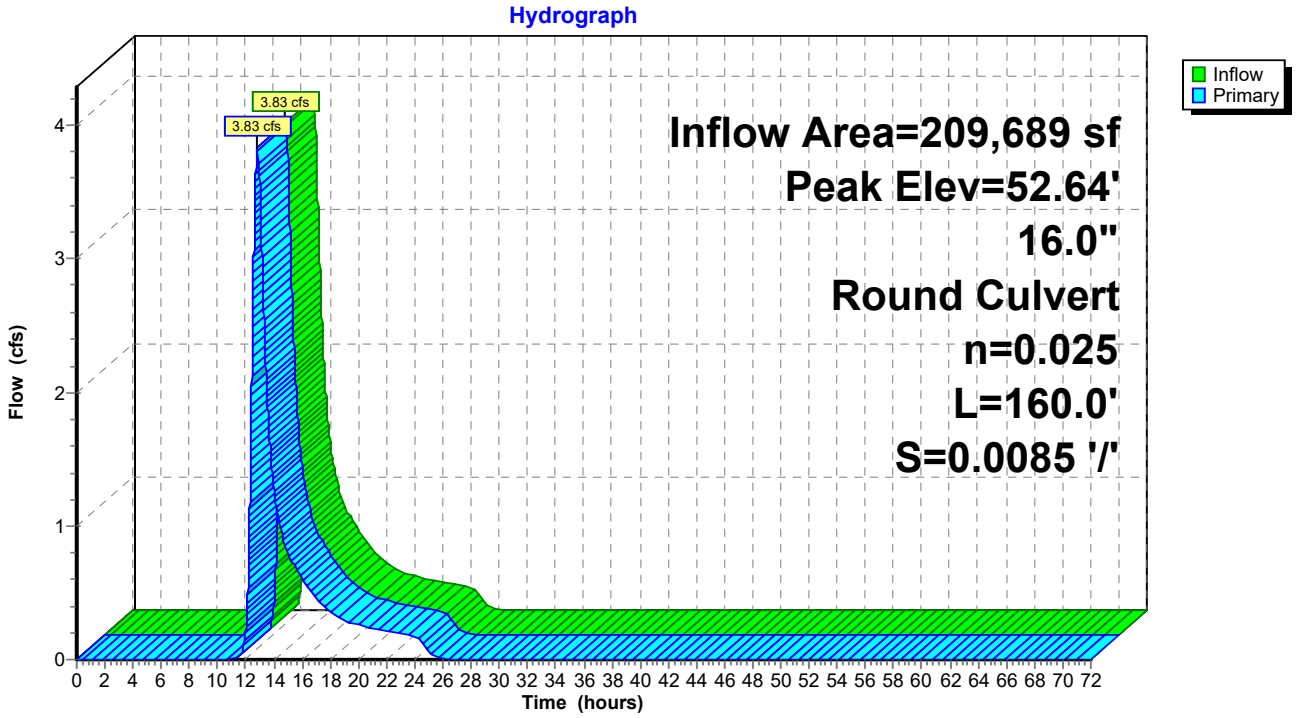
Inflow Area = 209,689 sf, 11.16% Impervious, Inflow Depth = 1.80" for 25-Year event
Inflow = 3.83 cfs @ 12.80 hrs, Volume= 31,431 cf
Outflow = 3.83 cfs @ 12.80 hrs, Volume= 31,431 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.83 cfs @ 12.80 hrs, Volume= 31,431 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.64' @ 12.80 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.16'	**16.0" Round Culvert** L= 160.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.16' / 49.80' S= 0.0085 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=3.83 cfs @ 12.80 hrs HW=52.64' TW=49.73' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.83 cfs @ 3.09 fps)

Pond C1: Culvert 1



Summary for Pond CB1: Catch Basin 1

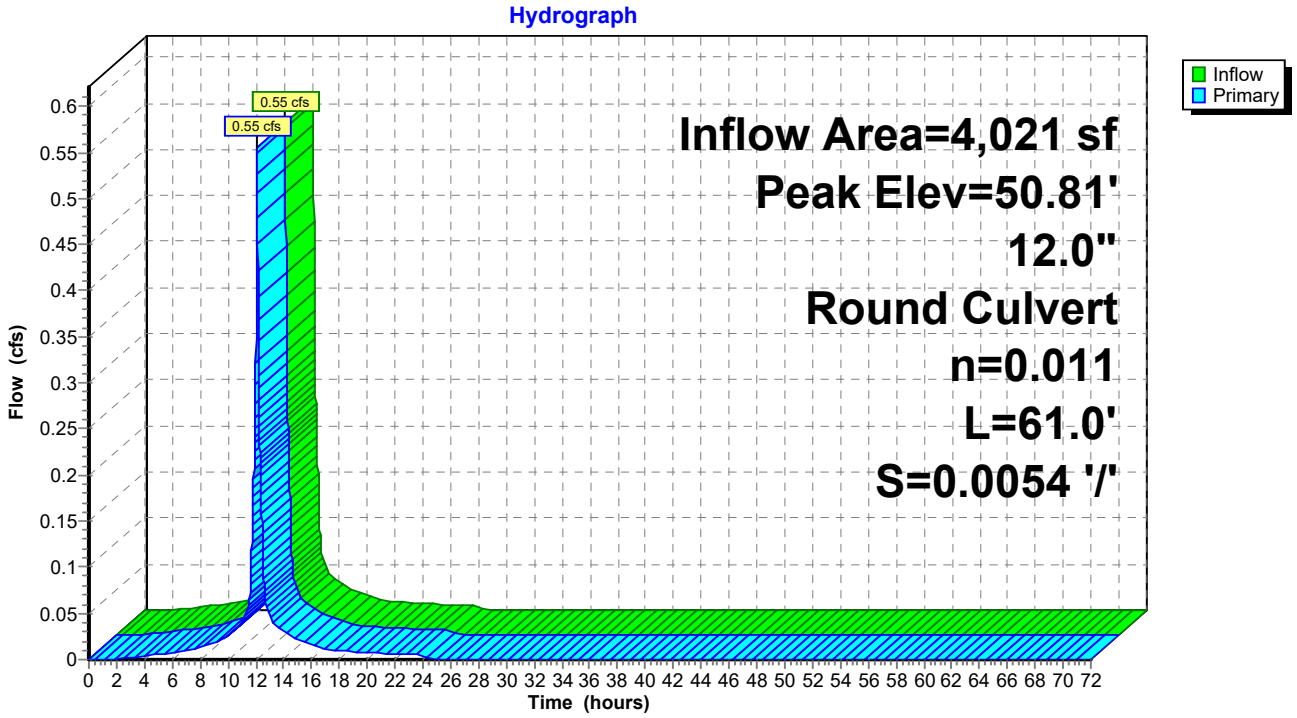
Inflow Area = 4,021 sf, 95.82% Impervious, Inflow Depth = 5.73" for 25-Year event
Inflow = 0.55 cfs @ 12.08 hrs, Volume= 1,919 cf
Outflow = 0.55 cfs @ 12.08 hrs, Volume= 1,919 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.55 cfs @ 12.08 hrs, Volume= 1,919 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.81' @ 12.08 hrs
Flood Elev= 53.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.40'	**12.0" Round Culvert** L= 61.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 50.40' / 50.07' S= 0.0054 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.55 cfs @ 12.08 hrs HW=50.81' TW=49.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.55 cfs @ 2.68 fps)

Pond CB1: Catch Basin 1



Summary for Pond DP1: Detention Pond 1

Inflow Area = 231,475 sf, 11.77% Impervious, Inflow Depth = 1.87" for 25-Year event
Inflow = 4.06 cfs @ 12.79 hrs, Volume= 36,013 cf
Outflow = 3.50 cfs @ 13.06 hrs, Volume= 36,016 cf, Atten= 14%, Lag= 16.2 min
Primary = 3.50 cfs @ 13.06 hrs, Volume= 36,016 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.88' @ 13.06 hrs Surf.Area= 2,977 sf Storage= 1,303 cf
Flood Elev= 52.00' Surf.Area= 4,820 sf Storage= 7,829 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 1.6 min (905.3 - 903.8)

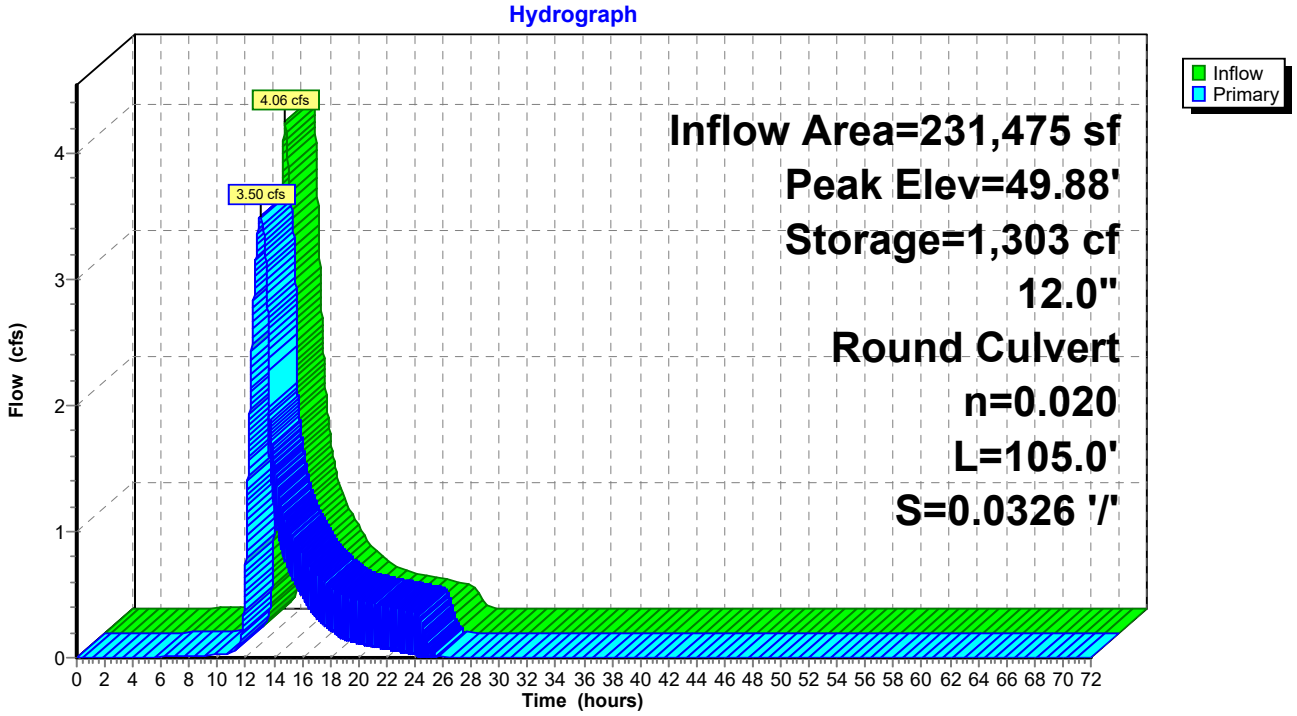
Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	7,829 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
49.00	0	0	0
50.00	3,400	1,700	1,700
51.00	4,299	3,850	5,550
51.50	4,820	2,280	7,829

Device	Routing	Invert	Outlet Devices
#1	Primary	48.00'	**12.0" Round Culvert** L= 105.0' Ke= 0.900 Inlet / Outlet Invert= 48.00' / 44.58' S= 0.0326 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.50 cfs @ 13.06 hrs HW=49.88' TW=44.76' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 3.50 cfs @ 4.46 fps)

Pond DP1: Detention Pond 1

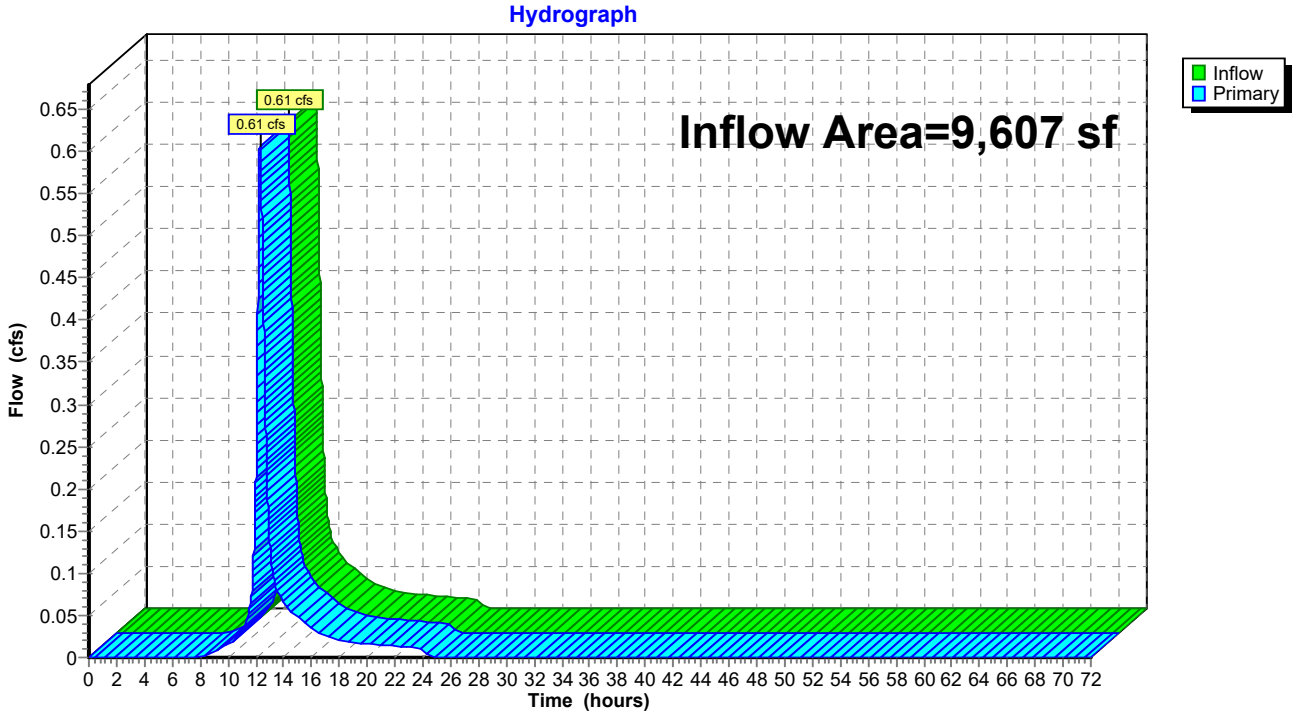


Summary for Link AP#1: Analysis Point 1

Inflow Area = 9,607 sf, 0.00% Impervious, Inflow Depth = 3.65" for 25-Year event
Inflow = 0.61 cfs @ 12.32 hrs, Volume= 2,926 cf
Primary = 0.61 cfs @ 12.32 hrs, Volume= 2,926 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

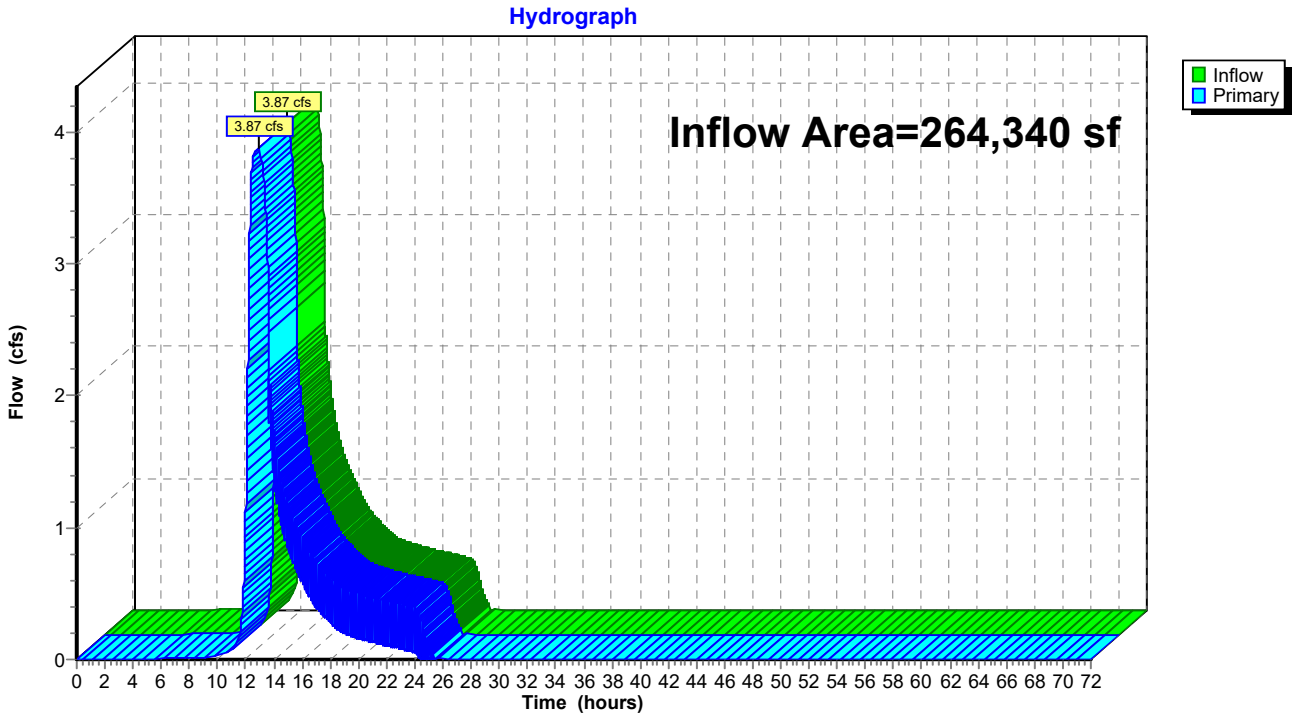


Summary for Link AP#2: Analysis Point 2

Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 1.95" for 25-Year event
Inflow = 3.87 cfs @ 12.87 hrs, Volume= 42,857 cf
Primary = 3.87 cfs @ 12.87 hrs, Volume= 42,857 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

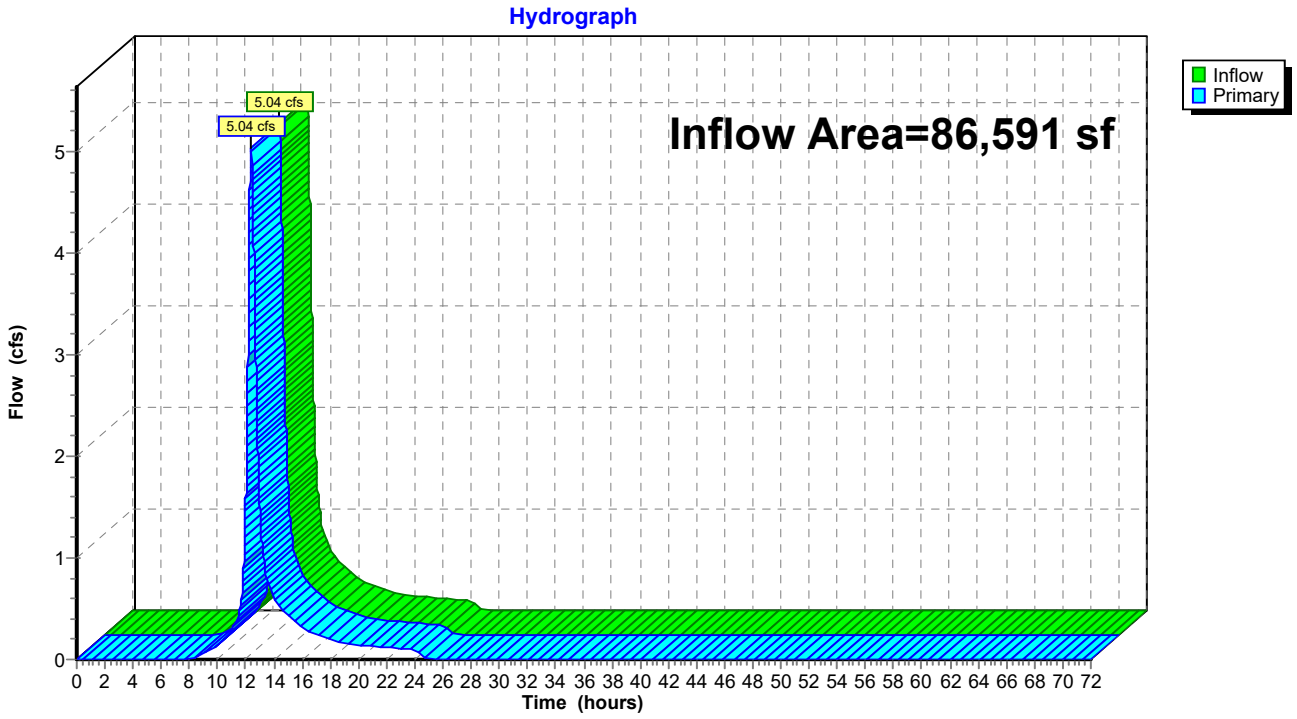


Summary for Link AP#3: Analysis Point 3

Inflow Area = 86,591 sf, 0.56% Impervious, Inflow Depth = 3.65" for 25-Year event
Inflow = 5.04 cfs @ 12.37 hrs, Volume= 26,369 cf
Primary = 5.04 cfs @ 12.37 hrs, Volume= 26,369 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

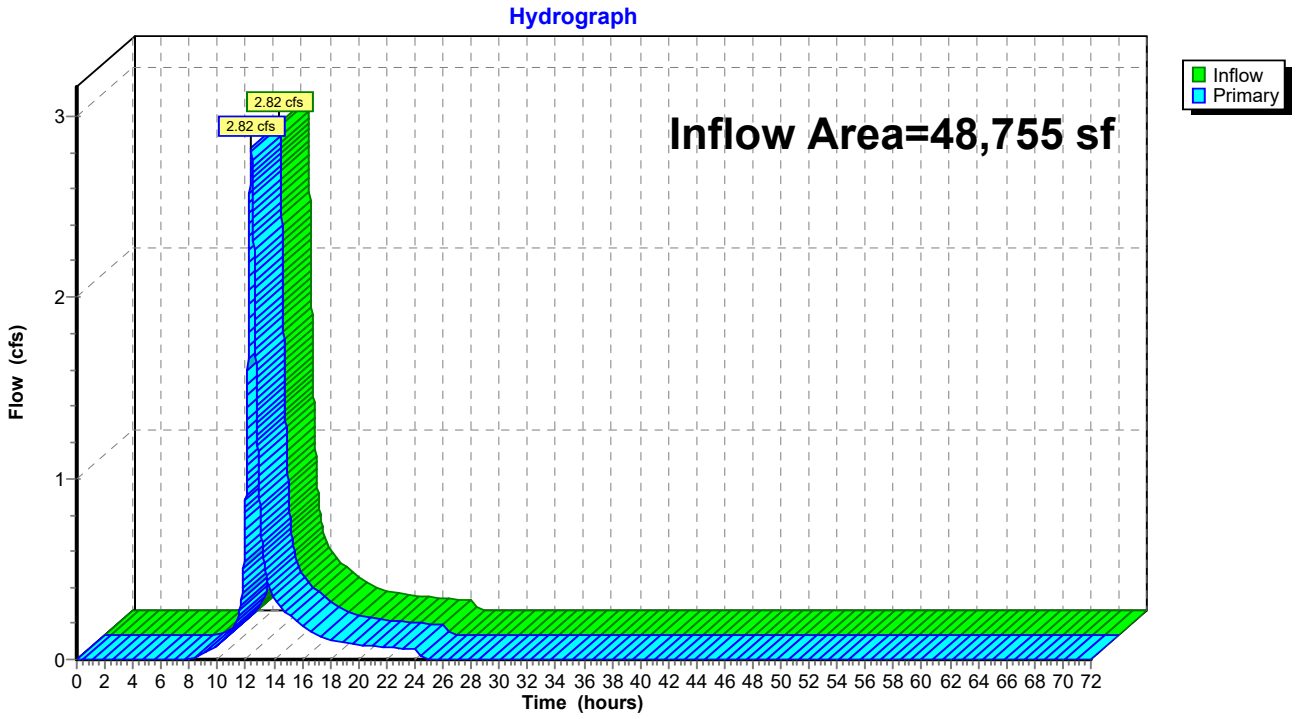


Summary for Link AP#4: Analysis Point 4

Inflow Area = 48,755 sf, 0.00% Impervious, Inflow Depth = 3.65" for 25-Year event
Inflow = 2.82 cfs @ 12.38 hrs, Volume= 14,847 cf
Primary = 2.82 cfs @ 12.38 hrs, Volume= 14,847 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

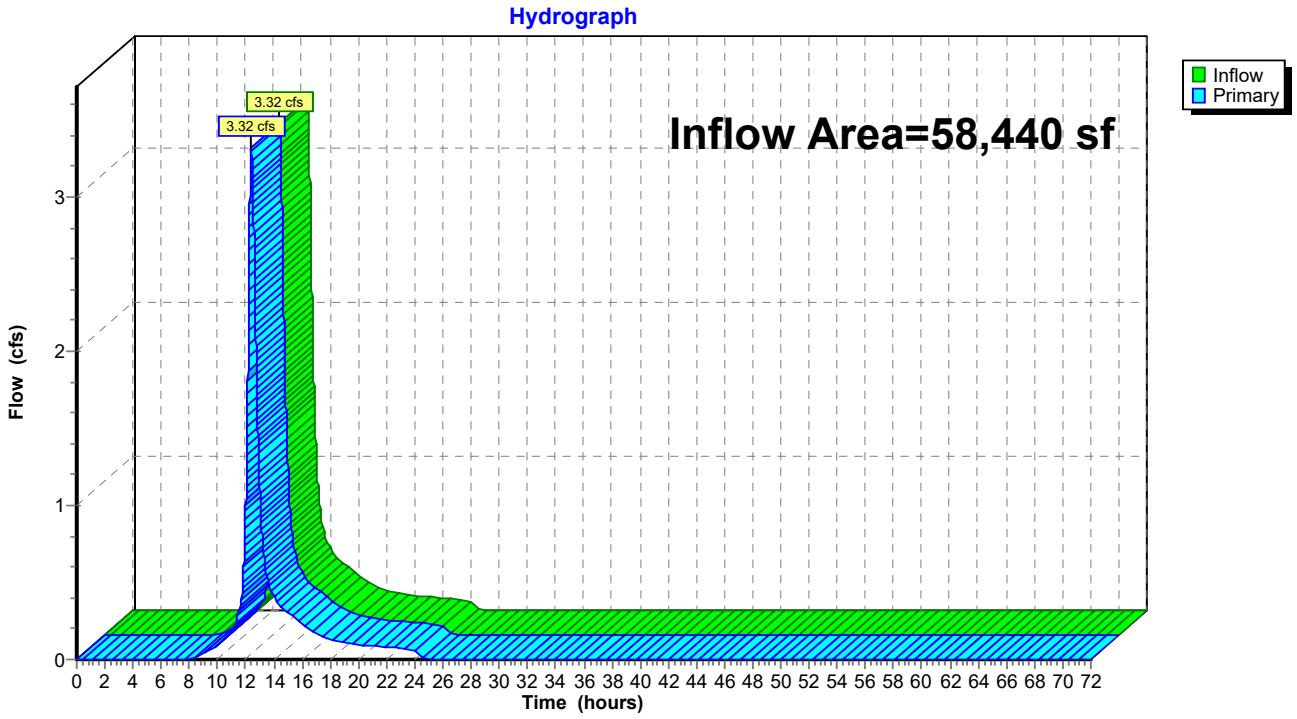


Summary for Link AP#5: Analysis Point 5

Inflow Area = 58,440 sf, 2.22% Impervious, Inflow Depth = 3.65" for 25-Year event
Inflow = 3.32 cfs @ 12.40 hrs, Volume= 17,796 cf
Primary = 3.32 cfs @ 12.40 hrs, Volume= 17,796 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

SubcatchmentS1: SubcatchmentS1 Runoff Area=9,607 sf 0.00% Impervious Runoff Depth=4.64"
Flow Length=166' Tc=22.5 min CN=77 Runoff=0.77 cfs 3,712 cf

SubcatchmentS2.1: SubcatchmentS2.1 Runoff Area=209,689 sf 11.16% Impervious Runoff Depth=2.52"
Flow Length=1,167' Tc=55.6 min CN=57 Runoff=5.57 cfs 43,948 cf

SubcatchmentS2.2: SubcatchmentS2.2 Runoff Area=4,021 sf 95.82% Impervious Runoff Depth=6.82"
Flow Length=195' Tc=6.0 min CN=96 Runoff=0.66 cfs 2,286 cf

SubcatchmentS2.3: SubcatchmentS2.3 Runoff Area=17,765 sf 0.00% Impervious Runoff Depth=2.52"
Flow Length=219' Tc=16.4 min CN=57 Runoff=0.84 cfs 3,723 cf

SubcatchmentS2.4: SubcatchmentS2.4 Runoff Area=32,865 sf 43.82% Impervious Runoff Depth=3.34"
Flow Length=298' Tc=23.6 min CN=65 Runoff=1.84 cfs 9,137 cf

SubcatchmentS3: SubcatchmentS3 Runoff Area=86,591 sf 0.56% Impervious Runoff Depth=4.64"
Flow Length=348' Tc=27.2 min CN=77 Runoff=6.38 cfs 33,456 cf

SubcatchmentS4: SubcatchmentS4 Runoff Area=48,755 sf 0.00% Impervious Runoff Depth=4.64"
Flow Length=376' Tc=27.5 min CN=77 Runoff=3.58 cfs 18,837 cf

SubcatchmentS5: SubcatchmentS5 Runoff Area=58,440 sf 2.22% Impervious Runoff Depth=4.64"
Flow Length=226' Tc=28.7 min CN=77 Runoff=4.20 cfs 22,579 cf

Pond 1P: Catch Basin 2 Peak Elev=45.09' Inflow=4.79 cfs 59,097 cf
15.0" Round Culvert n=0.013 L=106.6' S=0.0050 '/' Outflow=4.79 cfs 59,097 cf

Pond C1: Culvert 1 Peak Elev=54.73' Inflow=5.57 cfs 43,948 cf
16.0" Round Culvert n=0.025 L=160.0' S=0.0085 '/' Outflow=5.57 cfs 43,948 cf

Pond CB1: Catch Basin 1 Peak Elev=50.85' Inflow=0.66 cfs 2,286 cf
12.0" Round Culvert n=0.011 L=61.0' S=0.0054 '/' Outflow=0.66 cfs 2,286 cf

Pond DP1: Detention Pond 1 Peak Elev=50.65' Storage=4,105 cf Inflow=5.87 cfs 49,958 cf
12.0" Round Culvert n=0.020 L=105.0' S=0.0326 '/' Outflow=4.38 cfs 49,959 cf

Link AP#1: Analysis Point 1 Inflow=0.77 cfs 3,712 cf
Primary=0.77 cfs 3,712 cf

Link AP#2: Analysis Point 2 Inflow=4.79 cfs 59,097 cf
Primary=4.79 cfs 59,097 cf

Link AP#3: Analysis Point 3 Inflow=6.38 cfs 33,456 cf
Primary=6.38 cfs 33,456 cf

Link AP#4: Analysis Point 4 Inflow=3.58 cfs 18,837 cf
Primary=3.58 cfs 18,837 cf

Link AP#5: Analysis Point 5 Inflow=4.20 cfs 22,579 cf
Primary=4.20 cfs 22,579 cf

Total Runoff Area = 467,733 sf Runoff Volume = 137,679 cf Average Runoff Depth = 3.53"
90.72% Pervious = 424,306 sf 9.28% Impervious = 43,427 sf

Summary for Subcatchment S1: Subcatchment S1

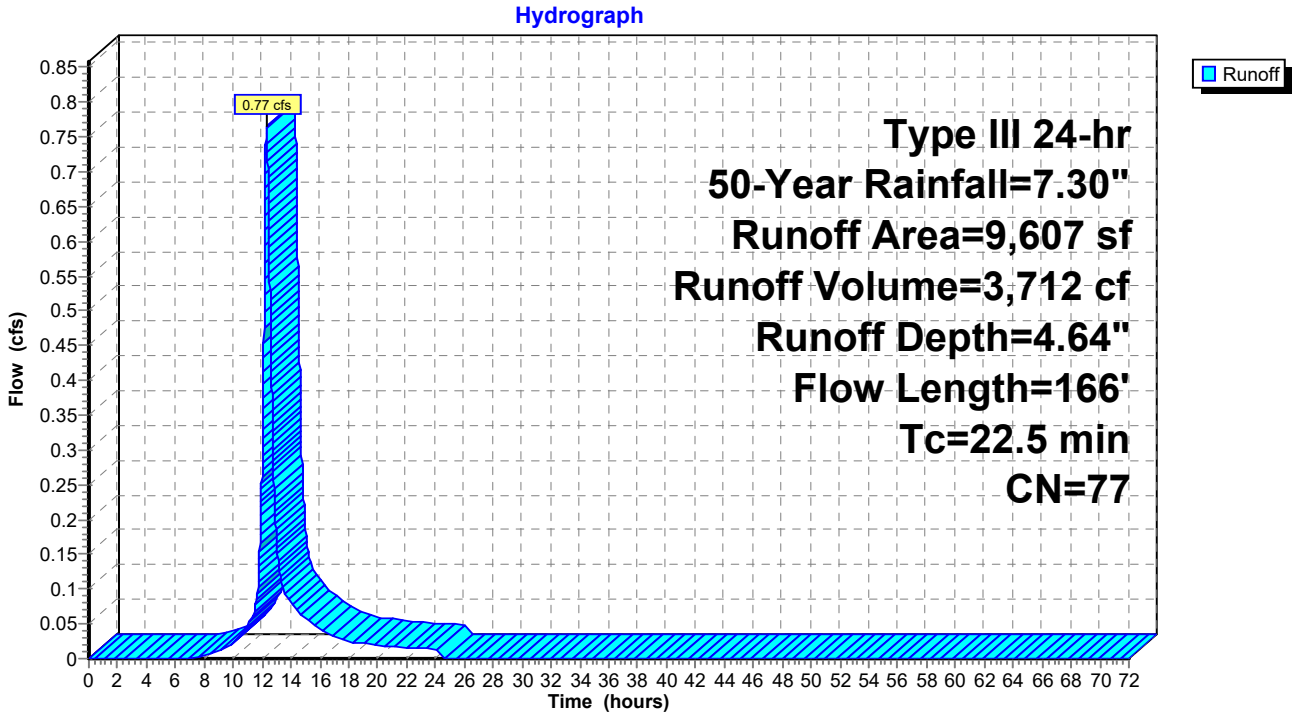
Runoff = 0.77 cfs @ 12.31 hrs, Volume= 3,712 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
87	30	Woods, Good, HSG A
9,520	77	Woods, Good, HSG D
9,607	77	Weighted Average
9,607		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	150	0.0400	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.3	16	0.0381	0.98		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.5	166	Total			

Subcatchment S1: Subcatchment S1



Summary for Subcatchment S2.1: Subcatchment S2.1

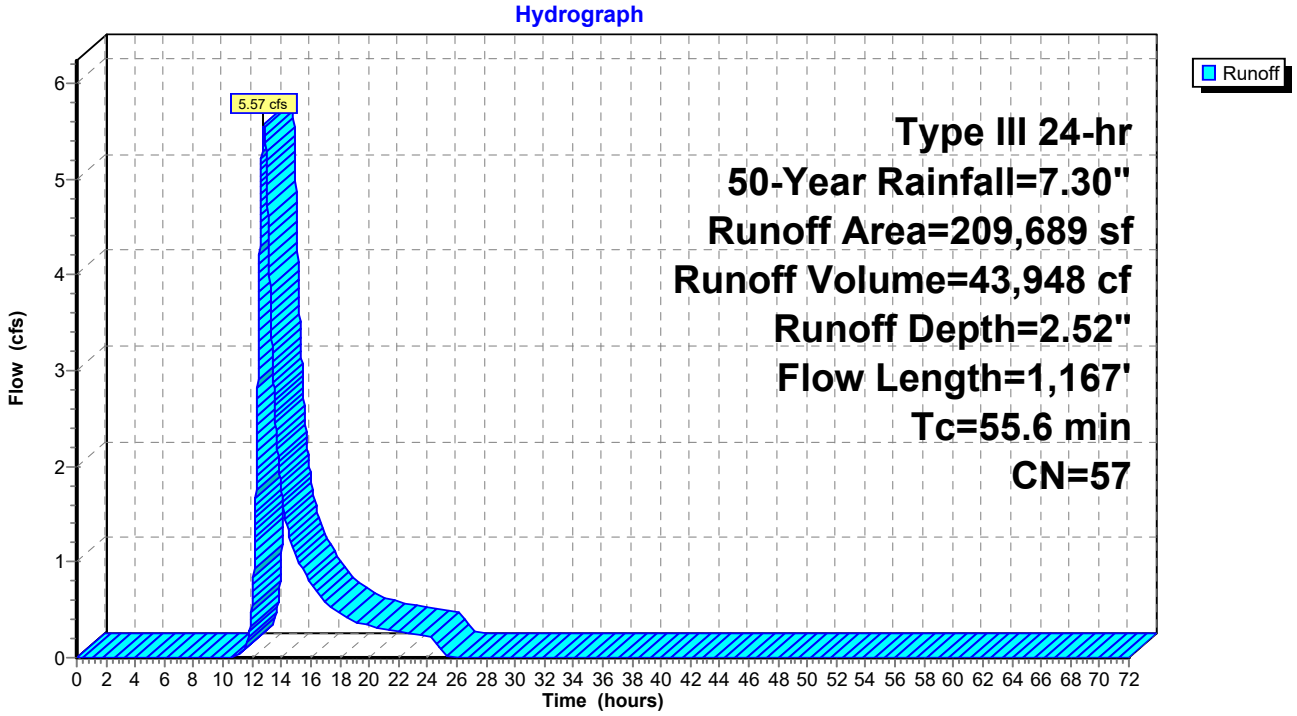
Runoff = 5.57 cfs @ 12.79 hrs, Volume= 43,948 cf, Depth= 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

	Area (sf)	CN	Description
	8,317	39	>75% Grass cover, Good, HSG A
	8,025	80	>75% Grass cover, Good, HSG D
	8,205	98	Paved parking, HSG D
*	15,186	98	Parking/Building HSG A
	92,645	30	Woods, Good, HSG A
	77,311	77	Woods, Good, HSG D
	209,689	57	Weighted Average
	186,298		88.84% Pervious Area
	23,391		11.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.2	150	0.0200	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
5.8	300	0.0300	0.87		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
9.5	300	0.0110	0.52		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
8.7	300	0.0133	0.58		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
2.4	117	0.0256	0.80		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
55.6	1,167	Total			

Subcatchment S2.1: Subcatchment S2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

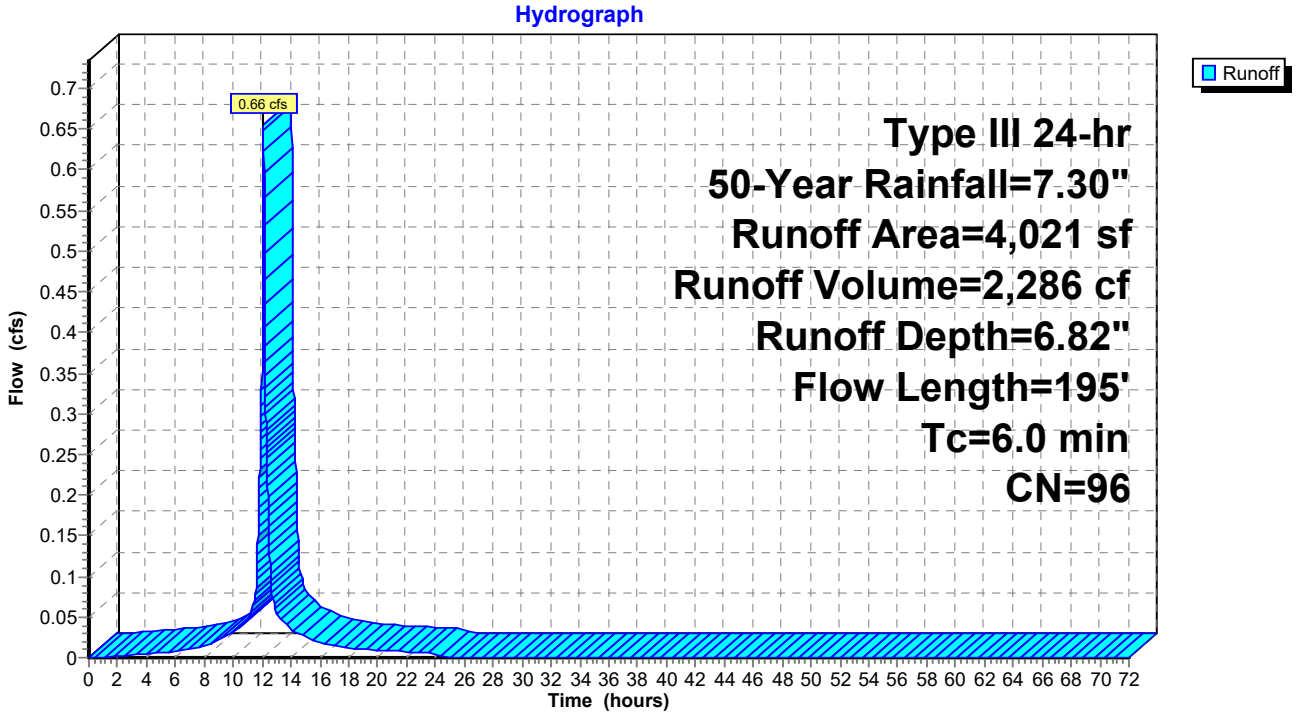
Runoff = 0.66 cfs @ 12.08 hrs, Volume= 2,286 cf, Depth= 6.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
168	39	>75% Grass cover, Good, HSG A
3,555	98	Paved parking, HSG A
298	98	Paved parking, HSG D
4,021	96	Weighted Average
168		4.18% Pervious Area
3,853		95.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	150	0.0392	1.98		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.30"
0.2	45	0.0362	3.86		**Shallow Concentrated Flow, BC** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 6.0 min			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment S2.3

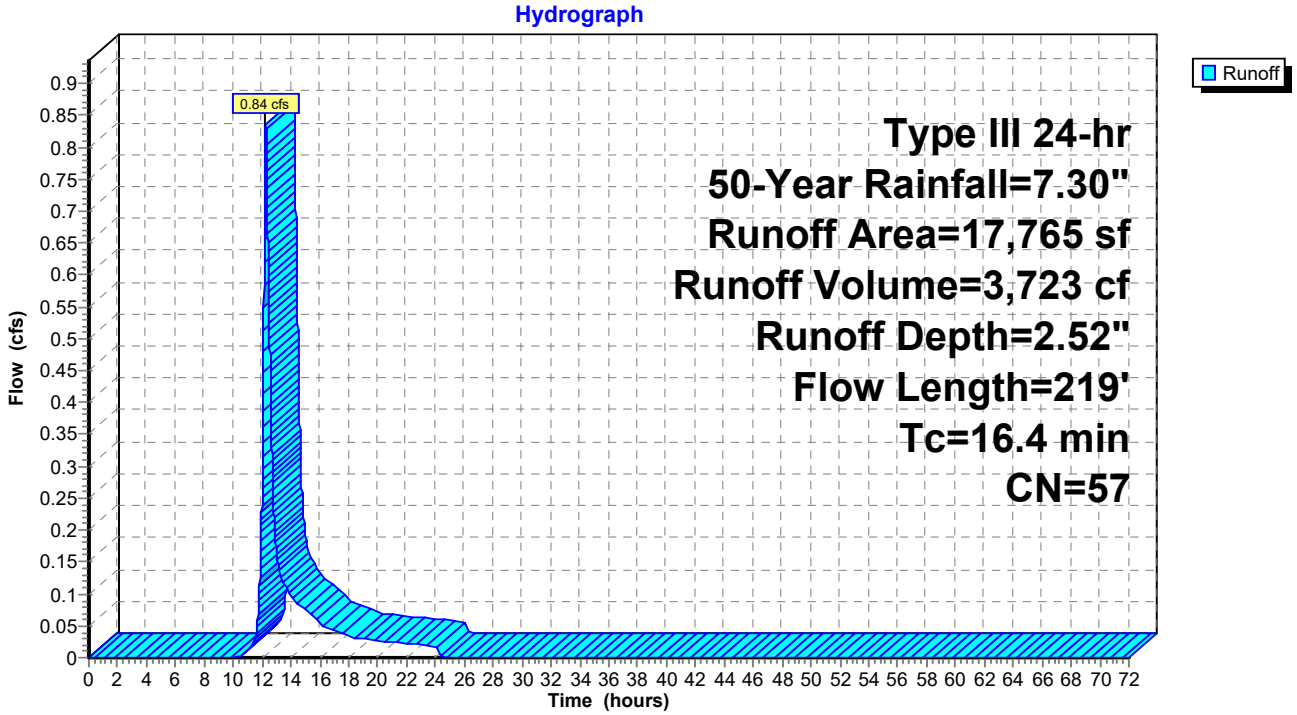
Runoff = 0.84 cfs @ 12.24 hrs, Volume= 3,723 cf, Depth= 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
205	30	Woods, Good, HSG A
1,312	77	Woods, Good, HSG D
6,540	80	>75% Grass cover, Good, HSG D
9,708	39	>75% Grass cover, Good, HSG A
17,765	57	Weighted Average
17,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	150	0.0926	0.16		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.6	69	0.0864	2.06		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
16.4	219	Total			

Subcatchment S2.3: Subcatchment S2.3



Summary for Subcatchment S2.4: Subcatchment S2.4

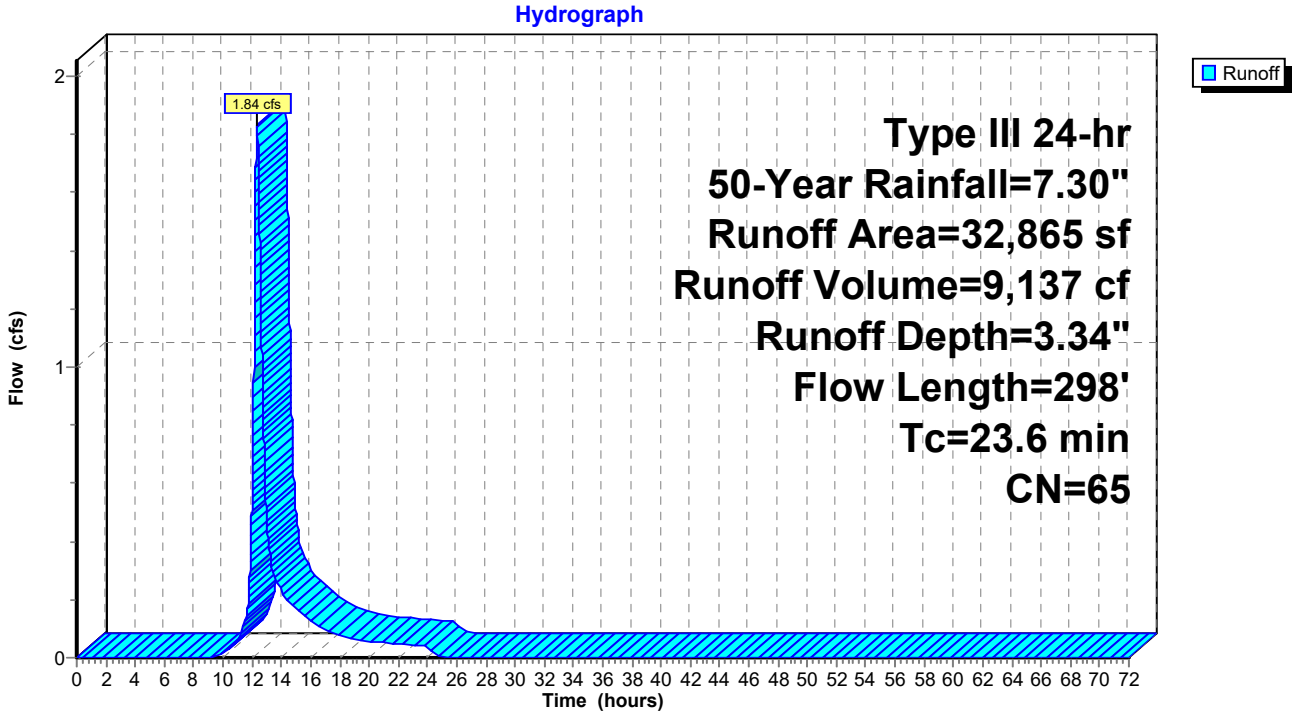
Runoff = 1.84 cfs @ 12.35 hrs, Volume= 9,137 cf, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
8,277	98	Paved parking, HSG A
32,865	65	Weighted Average
18,462		56.18% Pervious Area
14,403		43.82% Impervious Area
6,060		42.07% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	150	0.0466	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.7	148	0.0322	0.90		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
23.6	298	Total			

Subcatchment S2.4: Subcatchment S2.4



Summary for Subcatchment S3: Subcatchment S3

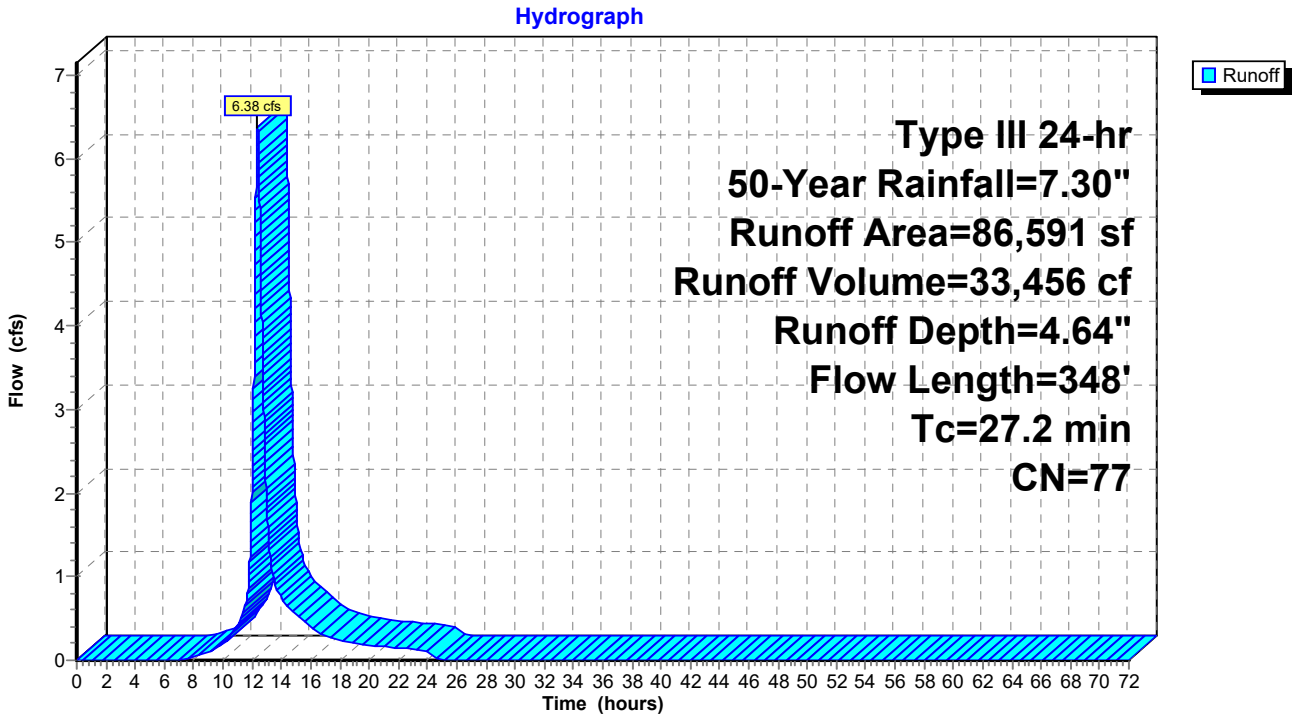
Runoff = 6.38 cfs @ 12.36 hrs, Volume= 33,456 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

	Area (sf)	CN	Description
	86,108	77	Woods, Good, HSG D
*	483	98	Wetland, HSG D
	86,591	77	Weighted Average
	86,108		99.44% Pervious Area
	483		0.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	150	0.0490	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
6.8	198	0.0093	0.48		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.2	348	Total			

Subcatchment S3: Subcatchment S3



Summary for Subcatchment S4: Subcatchment S4

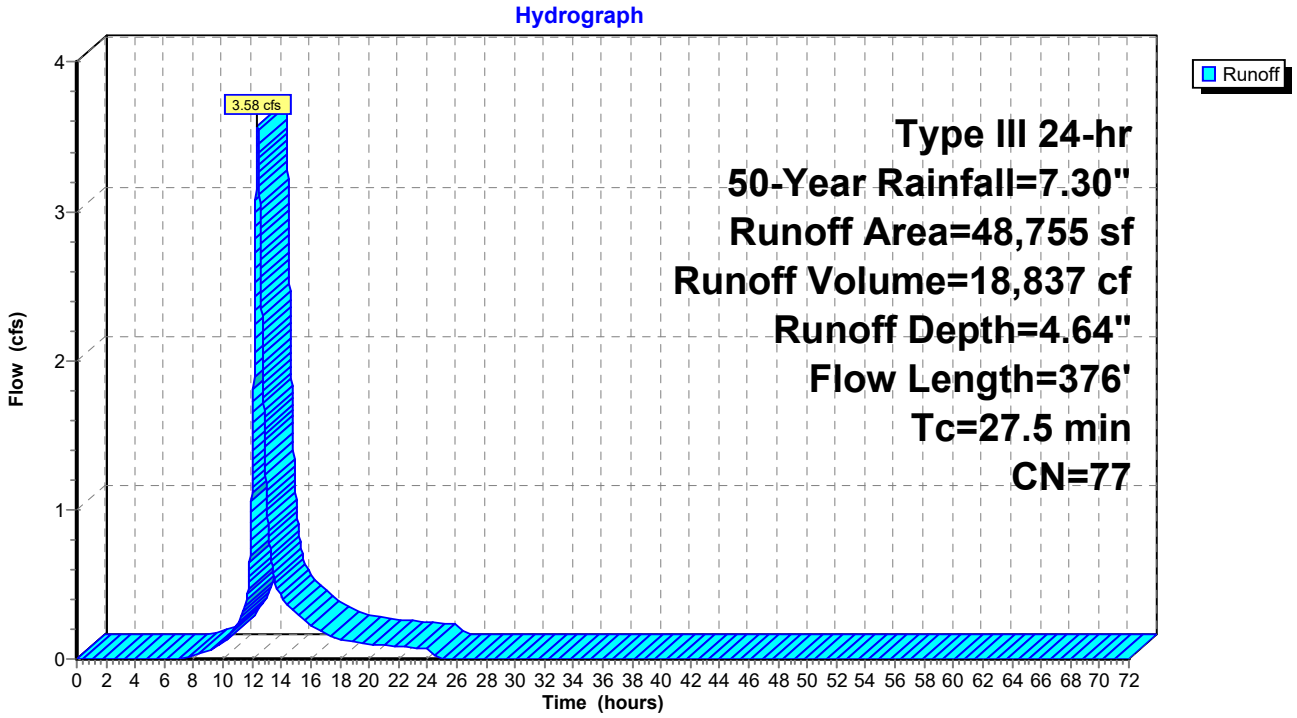
Runoff = 3.58 cfs @ 12.38 hrs, Volume= 18,837 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
48,755	77	Woods, Good, HSG D
48,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.9	150	0.0333	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
3.6	226	0.0440	1.05		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.5	376	Total			

Subcatchment S4: Subcatchment S4



Summary for Subcatchment S5: Subcatchment S5

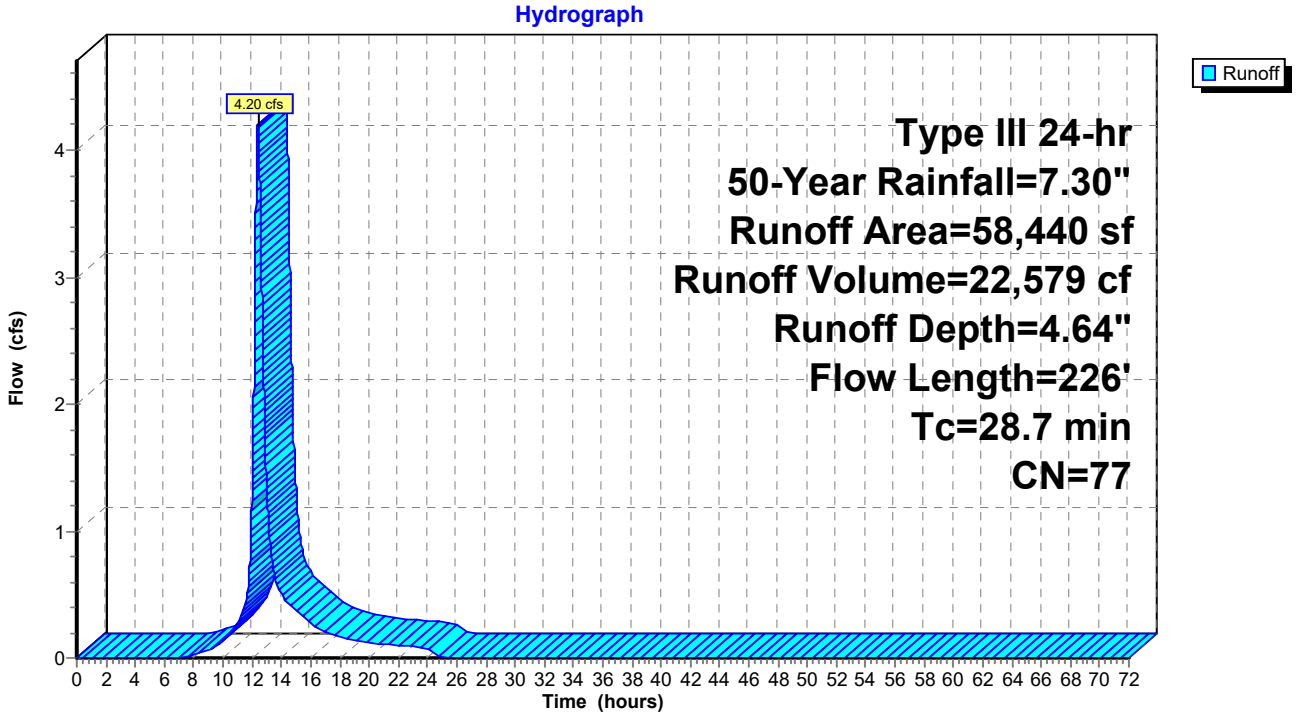
Runoff = 4.20 cfs @ 12.40 hrs, Volume= 22,579 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

	Area (sf)	CN	Description
	57,143	77	Woods, Good, HSG D
*	1,297	98	Wetland, HSG D
	58,440	77	Weighted Average
	57,143		97.78% Pervious Area
	1,297		2.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	64	0.0248	0.08		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
13.5	88	0.0477	0.11		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
1.6	74	0.0242	0.78		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
28.7	226	Total			

Subcatchment S5: Subcatchment S5



Summary for Pond 1P: Catch Basin 2

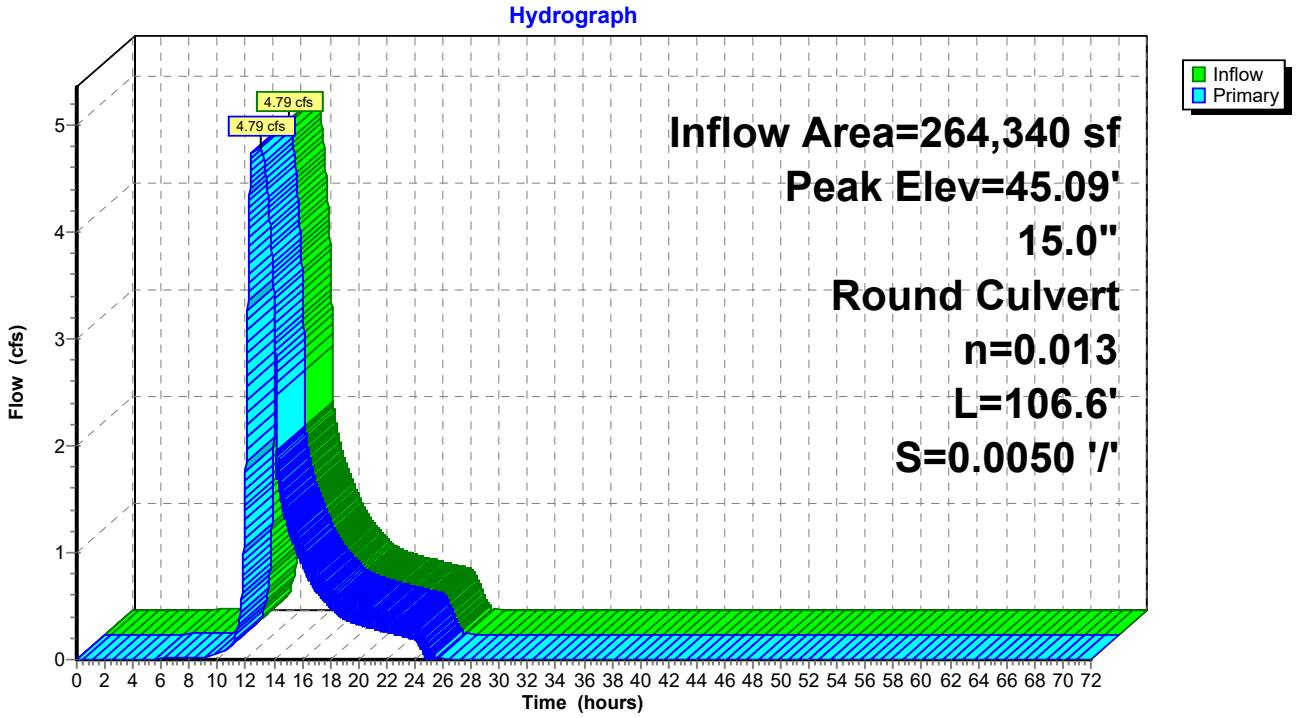
Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 2.68" for 50-Year event
Inflow = 4.79 cfs @ 13.03 hrs, Volume= 59,097 cf
Outflow = 4.79 cfs @ 13.03 hrs, Volume= 59,097 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.79 cfs @ 13.03 hrs, Volume= 59,097 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 45.09' @ 13.03 hrs
Flood Elev= 46.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.50'	**15.0" Round Culvert** L= 106.6' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 43.50' / 42.97' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=4.79 cfs @ 13.03 hrs HW=45.09' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 4.79 cfs @ 3.97 fps)

Pond 1P: Catch Basin 2



Summary for Pond C1: Culvert 1

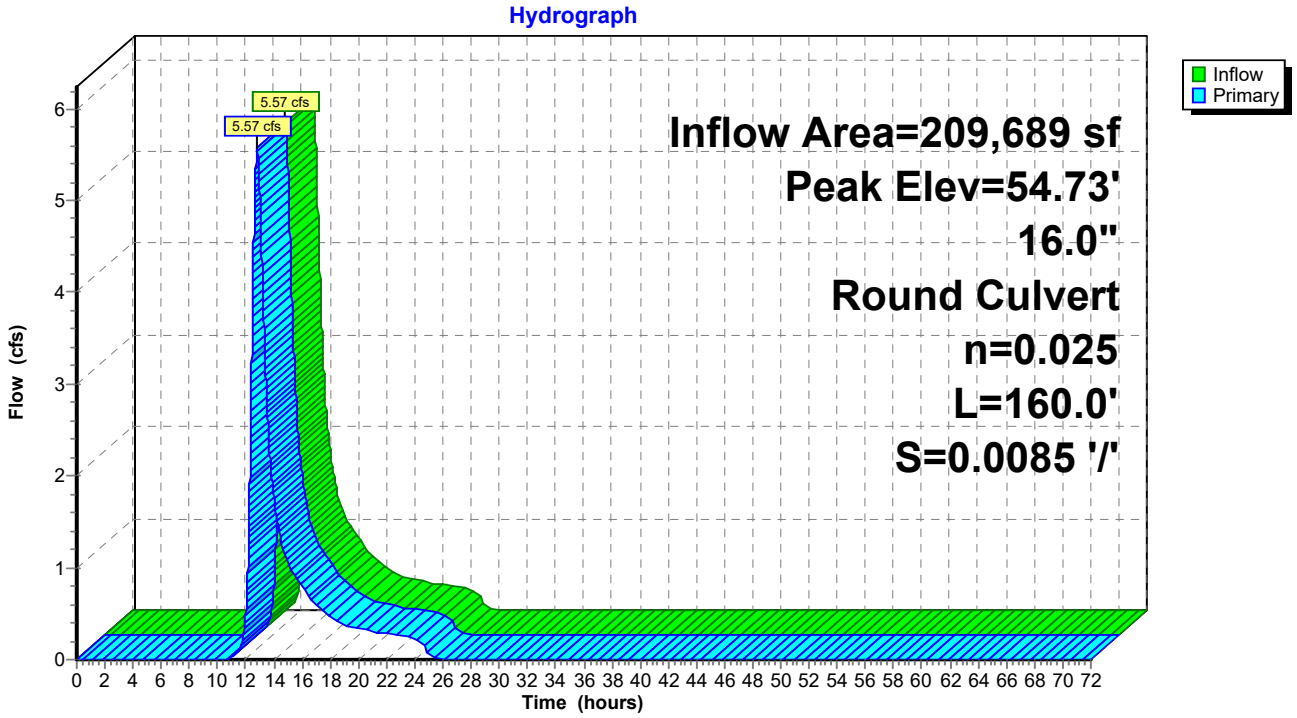
Inflow Area = 209,689 sf, 11.16% Impervious, Inflow Depth = 2.52" for 50-Year event
Inflow = 5.57 cfs @ 12.79 hrs, Volume= 43,948 cf
Outflow = 5.57 cfs @ 12.79 hrs, Volume= 43,948 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.57 cfs @ 12.79 hrs, Volume= 43,948 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 54.73' @ 12.79 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.16'	**16.0" Round Culvert** L= 160.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.16' / 49.80' S= 0.0085 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=5.57 cfs @ 12.79 hrs HW=54.73' TW=50.29' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 5.57 cfs @ 3.99 fps)

Pond C1: Culvert 1



Summary for Pond CB1: Catch Basin 1

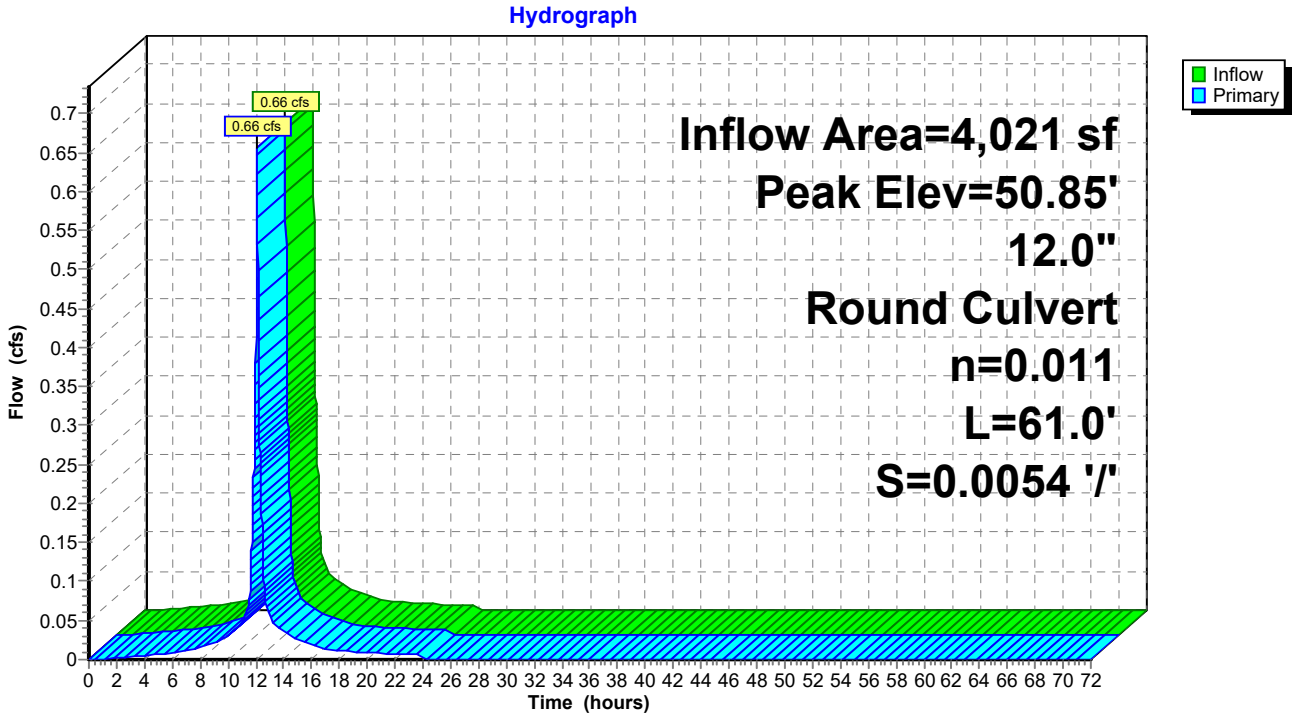
Inflow Area = 4,021 sf, 95.82% Impervious, Inflow Depth = 6.82" for 50-Year event
Inflow = 0.66 cfs @ 12.08 hrs, Volume= 2,286 cf
Outflow = 0.66 cfs @ 12.08 hrs, Volume= 2,286 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.66 cfs @ 12.08 hrs, Volume= 2,286 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.85' @ 12.08 hrs
Flood Elev= 53.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.40'	**12.0" Round Culvert** L= 61.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 50.40' / 50.07' S= 0.0054 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.65 cfs @ 12.08 hrs HW=50.85' TW=49.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.65 cfs @ 2.78 fps)

Pond CB1: Catch Basin 1



Summary for Pond DP1: Detention Pond 1

Inflow Area = 231,475 sf, 11.77% Impervious, Inflow Depth = 2.59" for 50-Year event
Inflow = 5.87 cfs @ 12.79 hrs, Volume= 49,958 cf
Outflow = 4.38 cfs @ 13.17 hrs, Volume= 49,959 cf, Atten= 25%, Lag= 22.6 min
Primary = 4.38 cfs @ 13.17 hrs, Volume= 49,959 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.65' @ 13.17 hrs Surf.Area= 3,986 sf Storage= 4,105 cf
Flood Elev= 52.00' Surf.Area= 4,820 sf Storage= 7,829 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 5.2 min (899.9 - 894.8)

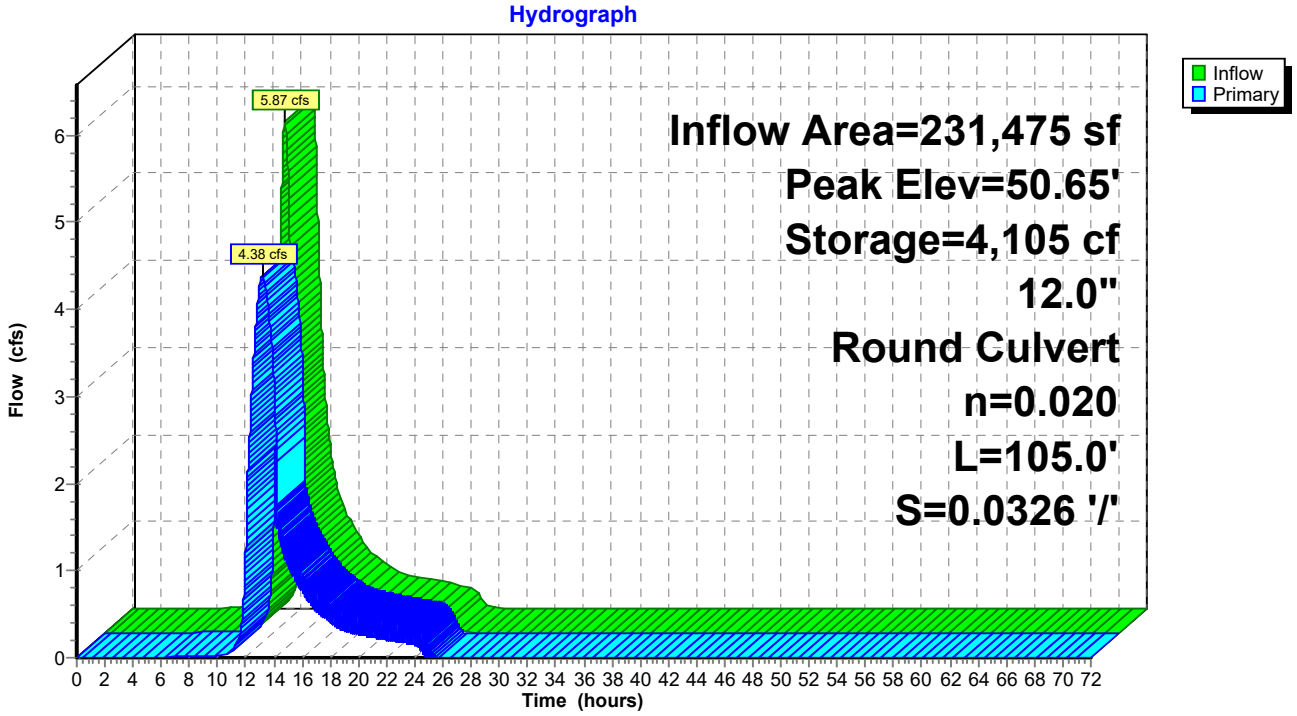
Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	7,829 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
49.00	0	0	0
50.00	3,400	1,700	1,700
51.00	4,299	3,850	5,550
51.50	4,820	2,280	7,829

Device	Routing	Invert	Outlet Devices
#1	Primary	48.00'	**12.0" Round Culvert** L= 105.0' Ke= 0.900 Inlet / Outlet Invert= 48.00' / 44.58' S= 0.0326 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.38 cfs @ 13.17 hrs HW=50.65' TW=45.06' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 4.38 cfs @ 5.58 fps)

Pond DP1: Detention Pond 1

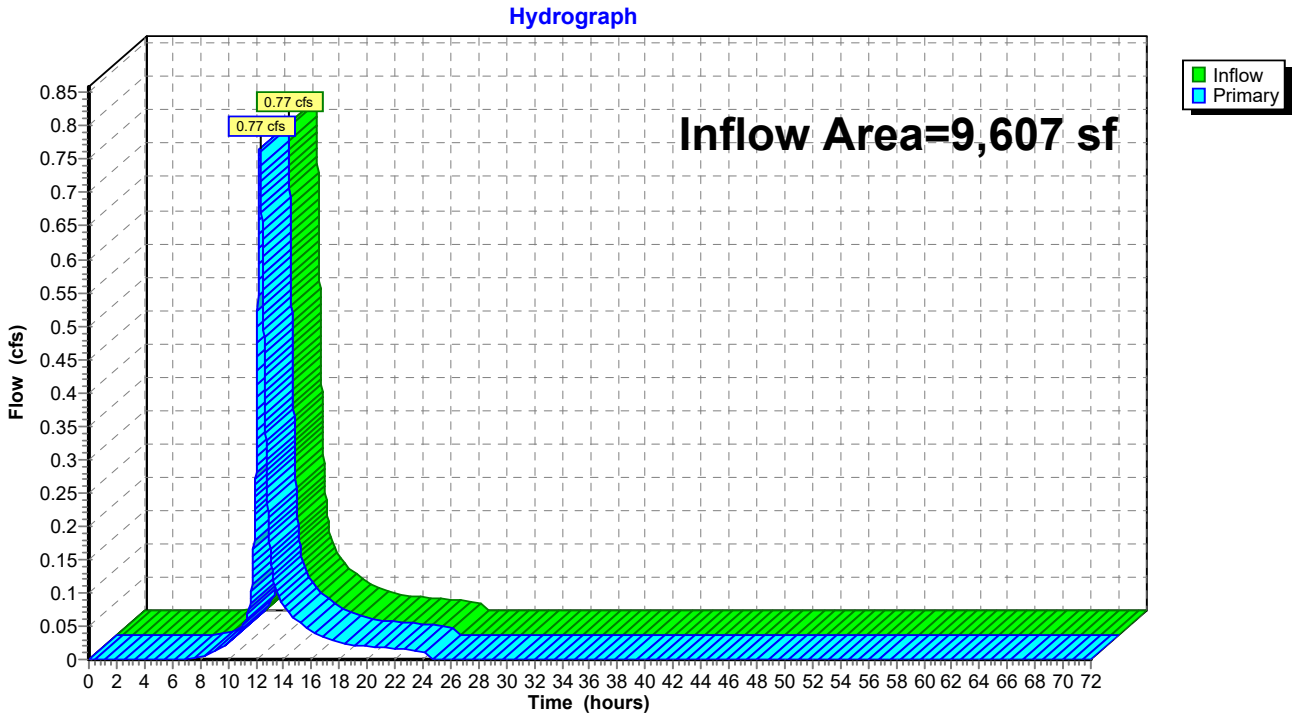


Summary for Link AP#1: Analysis Point 1

Inflow Area = 9,607 sf, 0.00% Impervious, Inflow Depth = 4.64" for 50-Year event
Inflow = 0.77 cfs @ 12.31 hrs, Volume= 3,712 cf
Primary = 0.77 cfs @ 12.31 hrs, Volume= 3,712 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

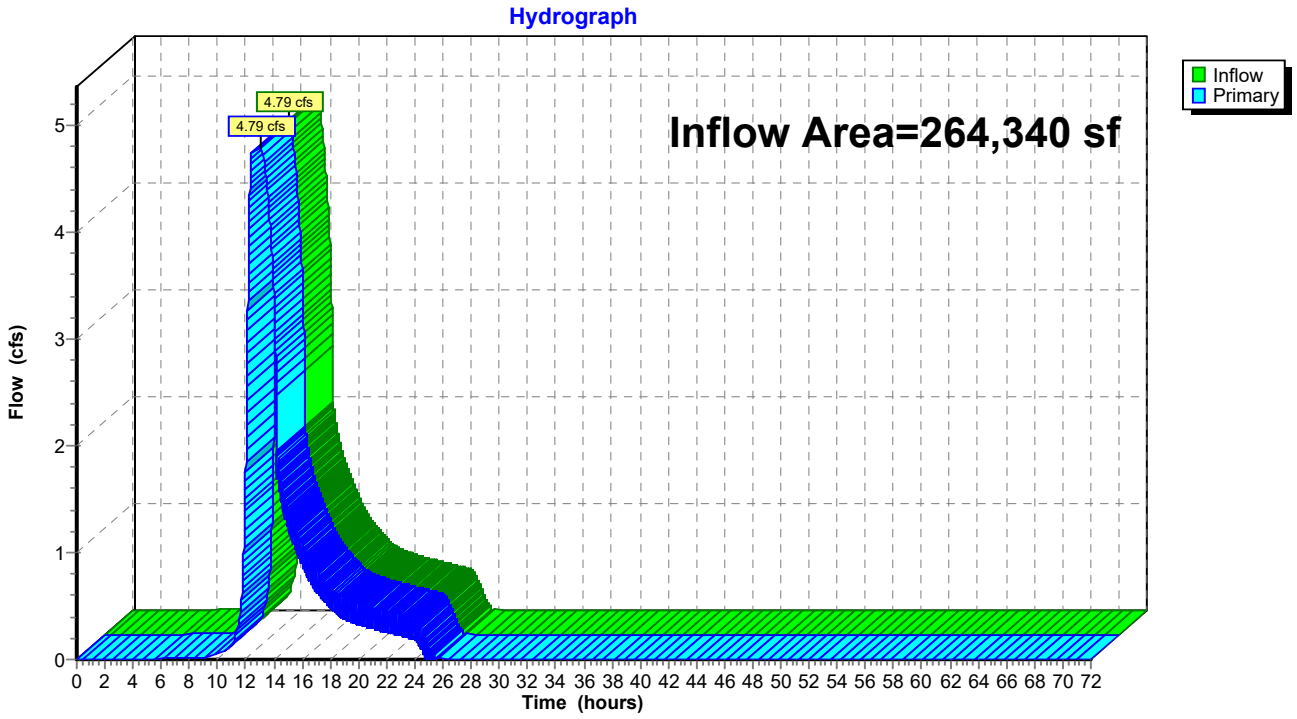


Summary for Link AP#2: Analysis Point 2

Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 2.68" for 50-Year event
Inflow = 4.79 cfs @ 13.03 hrs, Volume= 59,097 cf
Primary = 4.79 cfs @ 13.03 hrs, Volume= 59,097 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

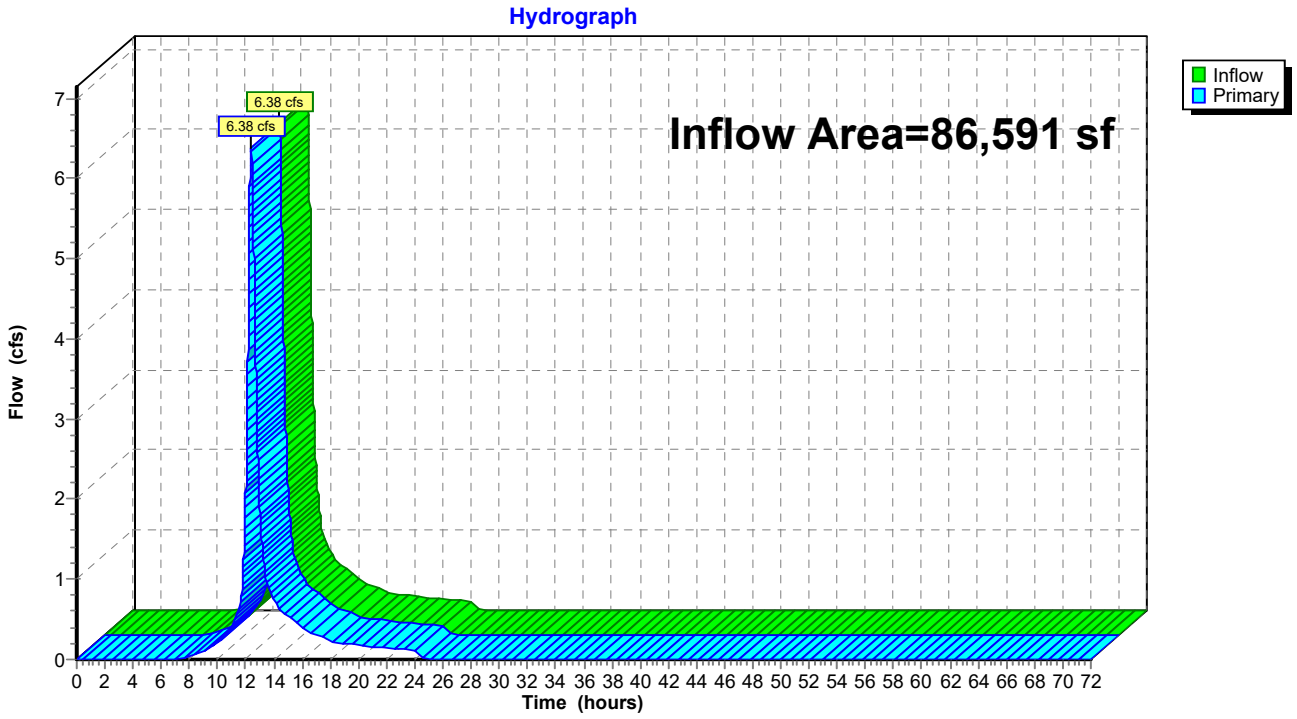


Summary for Link AP#3: Analysis Point 3

Inflow Area = 86,591 sf, 0.56% Impervious, Inflow Depth = 4.64" for 50-Year event
Inflow = 6.38 cfs @ 12.36 hrs, Volume= 33,456 cf
Primary = 6.38 cfs @ 12.36 hrs, Volume= 33,456 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

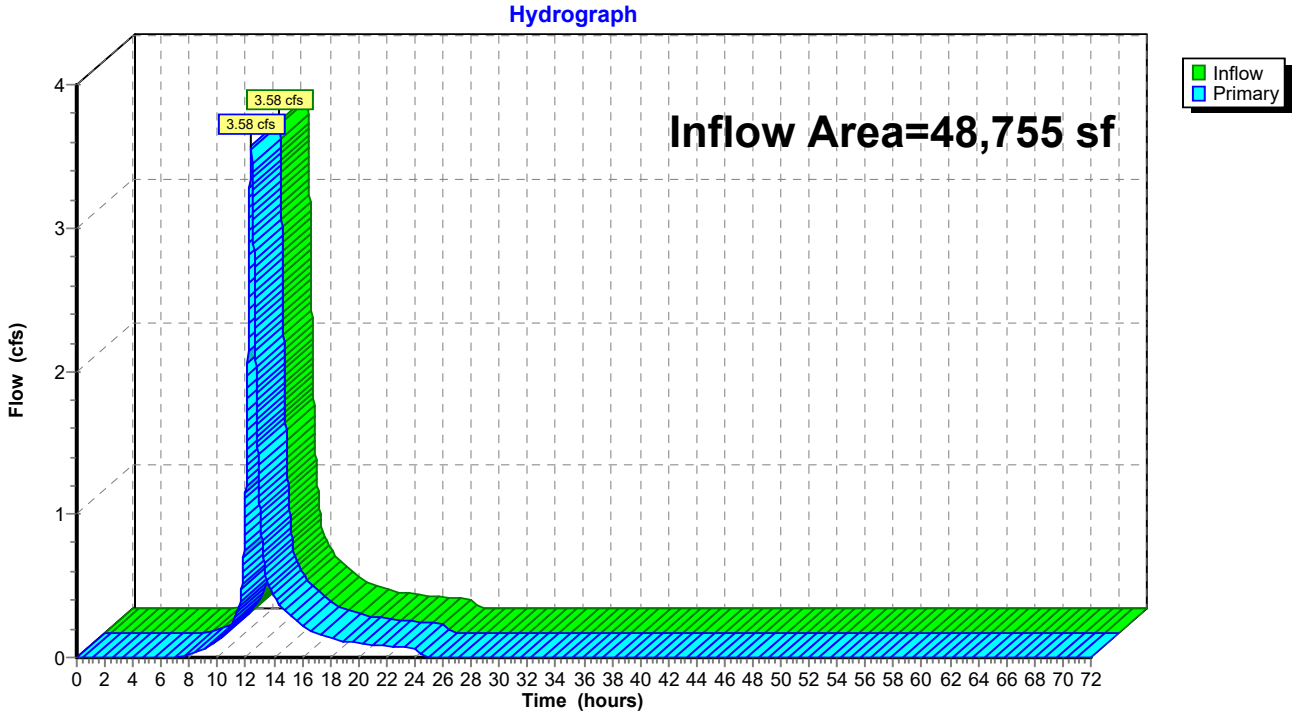


Summary for Link AP#4: Analysis Point 4

Inflow Area = 48,755 sf, 0.00% Impervious, Inflow Depth = 4.64" for 50-Year event
Inflow = 3.58 cfs @ 12.38 hrs, Volume= 18,837 cf
Primary = 3.58 cfs @ 12.38 hrs, Volume= 18,837 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

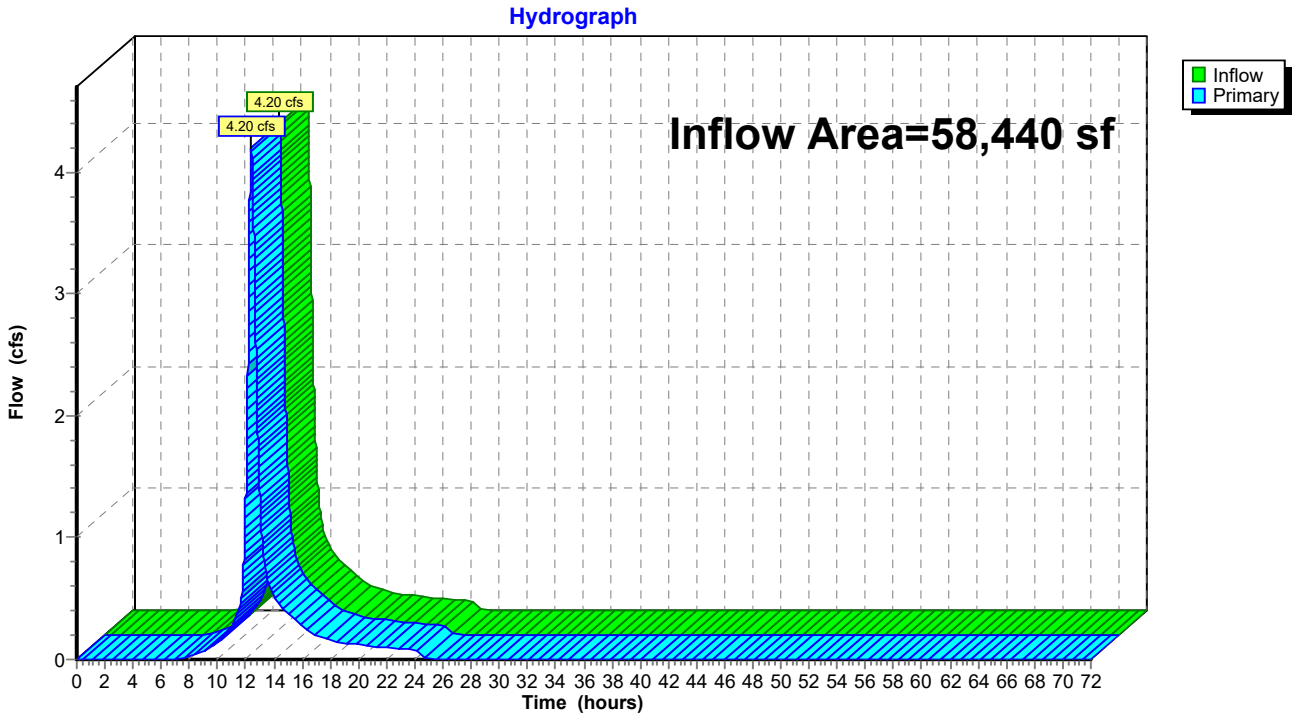


Summary for Link AP#5: Analysis Point 5

Inflow Area = 58,440 sf, 2.22% Impervious, Inflow Depth = 4.64" for 50-Year event
Inflow = 4.20 cfs @ 12.40 hrs, Volume= 22,579 cf
Primary = 4.20 cfs @ 12.40 hrs, Volume= 22,579 cf, Atten= 0%, Lag= 0.0 min

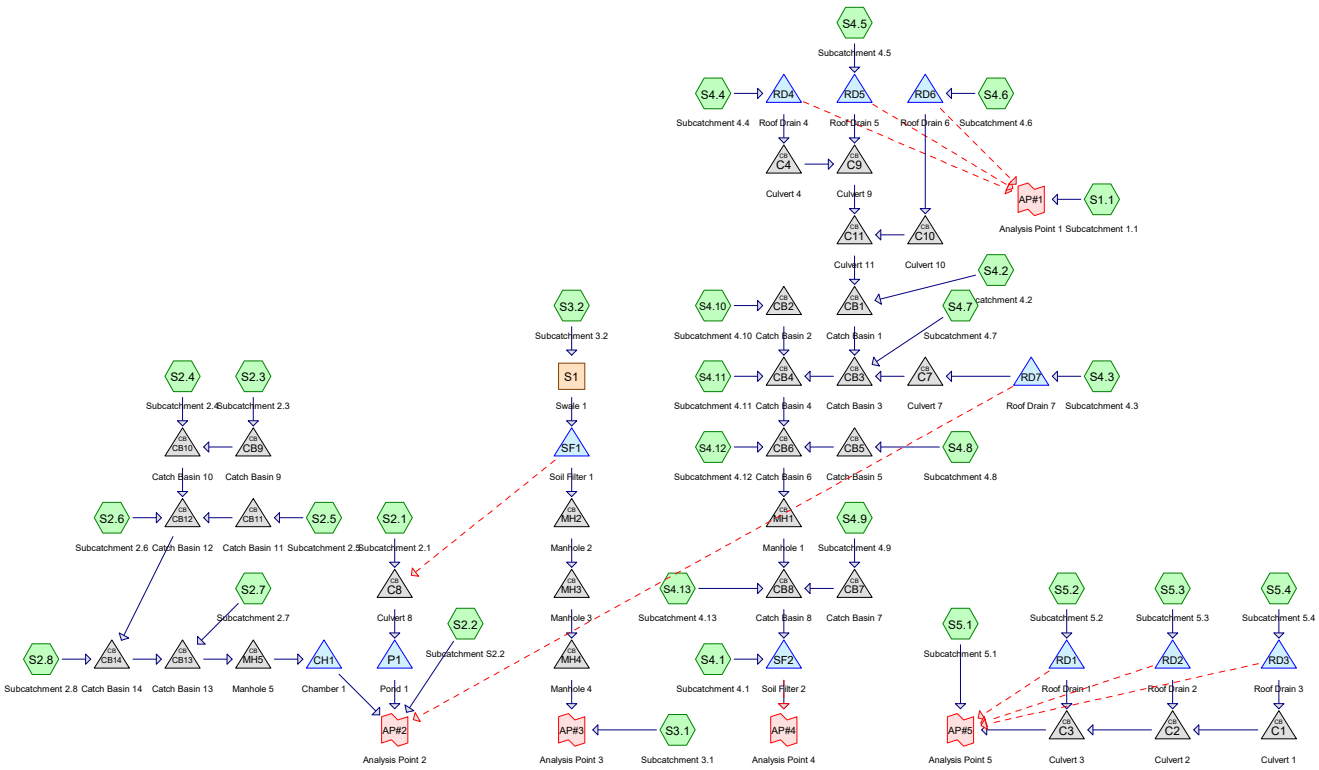
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link AP#5: Analysis Point 5



Appendix F

Post-Development HydroCAD Model Report



Subcat Reach Pond Link

Routing Diagram for 2026-02-10 Post-Development Model - Arundel Lane

Prepared by {enter your company name here}, Printed 2/9/2026

HydroCAD® 10.10-5a s/n 02135 © 2020 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Inch	Type III 24-hr		Default	24.00	1	1.00	2
2	2-Year	Type III 24-hr		Default	24.00	1	3.30	2
3	10-Year	Type III 24-hr		Default	24.00	1	4.90	2
4	25-Year	Type III 24-hr		Default	24.00	1	6.20	2
5	50-Year	Type III 24-hr		Default	24.00	1	7.30	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
28,678	39	>75% Grass cover, Good, HSG A (S2.1, S2.2, S3.1, S4.2)
156,326	80	>75% Grass cover, Good, HSG D (S1.1, S2.1, S2.2, S3.1, S3.2, S4.1, S4.10, S4.11, S4.2, S4.7, S5.1)
81	96	Gravel surface, HSG A (S4.2)
551	96	Gravel surface, HSG D (S4.10, S4.11, S4.2, S4.7)
7,904	98	Paved parking, HSG A (S2.1, S2.2, S4.2)
20,515	98	Paved parking, HSG D (S2.1, S2.2, S3.2, S4.2)
297	98	Paved roads w/curbs & sewers, HSG A (S4.7)
31,269	98	Paved roads w/curbs & sewers, HSG D (S2.3, S2.4, S2.5, S2.6, S2.7, S2.8, S4.10, S4.11, S4.12, S4.13, S4.7, S4.8, S4.9)
17,111	98	Roofs, HSG A (S2.1)
31,450	98	Roofs, HSG D (S3.1, S3.2, S4.1, S4.3, S4.4, S4.5, S4.6, S5.1, S5.2, S5.3, S5.4)
5,533	98	Unconnected roofs, HSG A (S2.2)
527	98	Unconnected roofs, HSG D (S2.2)
88,431	30	Woods, Good, HSG A (S2.1, S2.2)
79,060	77	Woods, Good, HSG D (S1.1, S2.1, S3.1, S4.1, S5.1)
467,733	**72**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
148,035	HSG A	S2.1, S2.2, S3.1, S4.2, S4.7
0	HSG B	
0	HSG C	
319,698	HSG D	S1.1, S2.1, S2.2, S2.3, S2.4, S2.5, S2.6, S2.7, S2.8, S3.1, S3.2, S4.1, S4.10, S4.11, S4.12, S4.13, S4.2, S4.3, S4.4, S4.5, S4.6, S4.7, S4.8, S4.9, S5.1, S5.2, S5.3, S5.4
0	Other	
467,733		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
28,678	0	0	156,326	0	185,004	>75% Grass cover, Good
81	0	0	551	0	632	Gravel surface
7,904	0	0	20,515	0	28,419	Paved parking
297	0	0	31,269	0	31,566	Paved roads w/curbs & sewers
17,111	0	0	31,450	0	48,561	Roofs
5,533	0	0	527	0	6,060	Unconnected roofs
88,431	0	0	79,060	0	167,491	Woods, Good
148,035	**0**	**0**	**319,698**	**0**	**467,733**	**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	C1	69.69	69.35	21.5	0.0158	0.013	0.0	12.0	0.0
2	C10	69.23	69.13	20.0	0.0050	0.013	0.0	12.0	0.0
3	C11	69.13	68.50	82.4	0.0076	0.013	0.0	12.0	0.0
4	C2	69.35	69.23	44.0	0.0027	0.012	0.0	12.0	0.0
5	C3	69.23	69.00	44.4	0.0052	0.012	0.0	24.0	0.0
6	C4	69.69	69.35	24.0	0.0142	0.013	0.0	12.0	0.0
7	C7	66.55	66.42	27.0	0.0048	0.013	0.0	4.0	0.0
8	C8	51.20	50.20	184.0	0.0054	0.025	0.0	16.0	0.0
9	C9	69.35	69.13	25.0	0.0088	0.013	0.0	12.0	0.0
10	CB1	68.40	68.00	79.0	0.0051	0.013	0.0	12.0	0.0
11	CB10	61.00	52.00	212.5	0.0424	0.013	0.0	12.0	0.0
12	CB11	52.00	51.90	18.5	0.0054	0.013	0.0	12.0	0.0
13	CB12	51.80	47.90	96.6	0.0404	0.013	0.0	12.0	0.0
14	CB13	47.60	47.43	49.3	0.0034	0.013	0.0	12.0	0.0
15	CB14	47.80	47.70	15.0	0.0067	0.013	0.0	12.0	0.0
16	CB2	68.00	67.60	79.2	0.0051	0.013	0.0	12.0	0.0
17	CB3	66.30	66.20	17.5	0.0057	0.013	0.0	12.0	0.0
18	CB4	66.10	65.55	103.7	0.0053	0.013	0.0	12.0	0.0
19	CB5	66.00	65.90	18.4	0.0054	0.013	0.0	12.0	0.0
20	CB6	65.45	65.10	60.9	0.0057	0.013	0.0	12.0	0.0
21	CB7	64.85	64.75	18.2	0.0055	0.013	0.0	12.0	0.0
22	CB8	64.65	63.80	156.4	0.0054	0.013	0.0	12.0	0.0
23	CB9	62.00	61.90	18.8	0.0053	0.013	0.0	12.0	0.0
24	CH1	44.73	44.60	60.8	0.0021	0.012	0.0	12.0	0.0
25	MH1	65.00	64.75	49.4	0.0051	0.013	0.0	12.0	0.0
26	MH2	60.45	59.65	152.9	0.0052	0.013	0.0	12.0	0.0
27	MH3	59.55	59.15	81.0	0.0049	0.013	0.0	12.0	0.0
28	MH4	59.05	58.00	205.9	0.0051	0.013	0.0	12.0	0.0
29	MH5	47.43	47.40	6.2	0.0048	0.013	0.0	12.0	0.0
30	P1	50.00	46.40	200.0	0.0180	0.012	0.0	12.0	0.0
31	SF1	61.00	60.55	81.6	0.0055	0.012	0.0	8.0	0.0
32	SF2	58.58	58.28	40.0	0.0075	0.013	0.0	8.0	0.0

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

Subcatchment S1.1: Subcatchment 1.1 Runoff Area=10,577 sf 0.00% Impervious Runoff Depth=0.07"
Flow Length=131' Slope=0.0110 '/' Tc=33.3 min CN=79 Runoff=0.0 cfs 62 cf

Subcatchment S2.1: Subcatchment 2.1 Runoff Area=180,550 sf 19.58% Impervious Runoff Depth=0.00"
Flow Length=953' Tc=41.2 min CN=56 Runoff=0.0 cfs 0 cf

Subcatchment S2.2: Subcatchment S2.2 Runoff Area=30,401 sf 39.27% Impervious Runoff Depth=0.00"
Flow Length=280' Tc=22.3 min CN=63 Runoff=0.0 cfs 0 cf

Subcatchment S2.3: Subcatchment 2.3 Runoff Area=3,590 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.1 cfs 237 cf

Subcatchment S2.4: Subcatchment 2.4 Runoff Area=3,697 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.1 cfs 244 cf

Subcatchment S2.5: Subcatchment 2.5 Runoff Area=3,457 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.1 cfs 228 cf

Subcatchment S2.6: Subcatchment 2.6 Runoff Area=2,849 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.1 cfs 188 cf

Subcatchment S2.7: Subcatchment 2.7 Runoff Area=2,803 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.1 cfs 185 cf

Subcatchment S2.8: Subcatchment 2.8 Runoff Area=1,222 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 81 cf

Subcatchment S3.1: Subcatchment 3.1 Runoff Area=28,838 sf 4.33% Impervious Runoff Depth=0.05"
Flow Length=333' Tc=18.1 min CN=77 Runoff=0.0 cfs 115 cf

Subcatchment S3.2: Subcatchment 3.2 Runoff Area=44,814 sf 23.75% Impervious Runoff Depth=0.15"
Flow Length=329' Tc=19.8 min CN=84 Runoff=0.1 cfs 567 cf

Subcatchment S4.1: Subcatchment 4.1 Runoff Area=99,781 sf 12.03% Impervious Runoff Depth=0.11"
Flow Length=553' Tc=19.1 min CN=82 Runoff=0.1 cfs 949 cf

Subcatchment S4.10: Subcatchment 4.10 Runoff Area=3,197 sf 72.57% Impervious Runoff Depth=0.50"
Tc=6.0 min CN=94 Runoff=0.0 cfs 134 cf

Subcatchment S4.11: Subcatchment 4.11 Runoff Area=3,887 sf 74.68% Impervious Runoff Depth=0.50"
Tc=6.0 min CN=94 Runoff=0.1 cfs 163 cf

Subcatchment S4.12: Subcatchment 4.12 Runoff Area=1,423 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 94 cf

Subcatchment S4.13: Subcatchment 4.13 Runoff Area=1,627 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 107 cf

Subcatchment S4.2: Subcatchment 4.2 Runoff Area=3,347 sf 71.65% Impervious Runoff Depth=0.45"
Tc=6.0 min CN=93 Runoff=0.0 cfs 126 cf

Subcatchment S4.3: Subcatchment 4.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Subcatchment S4.4: Subcatchment 4.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Subcatchment S4.5: Subcatchment 4.5 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Subcatchment S4.6: Subcatchment 4.6 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Subcatchment S4.7: Subcatchment 4.7 Runoff Area=3,900 sf 73.33% Impervious Runoff Depth=0.50"
Tc=6.0 min CN=94 Runoff=0.1 cfs 164 cf

Subcatchment S4.8: Subcatchment 4.8 Runoff Area=1,313 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 87 cf

Subcatchment S4.9: Subcatchment 4.9 Runoff Area=1,502 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 99 cf

Subcatchment S5.1: Subcatchment 5.1 Runoff Area=26,208 sf 2.67% Impervious Runoff Depth=0.07"
Flow Length=421' Tc=32.7 min CN=79 Runoff=0.0 cfs 153 cf

Subcatchment S5.2: Subcatchment 5.2 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Subcatchment S5.3: Subcatchment 5.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Subcatchment S5.4: Subcatchment 5.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Reach S1: Swale 1 Avg. Flow Depth=0.02' Max Vel=0.60 fps Inflow=0.1 cfs 567 cf
n=0.022 L=175.0' S=0.0171 '/' Capacity=24.5 cfs Outflow=0.1 cfs 567 cf

Pond C1: Culvert 1 Peak Elev=69.77' Inflow=0.0 cfs 65 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0158 '/' Outflow=0.0 cfs 65 cf

Pond C10: Culvert 10 Peak Elev=69.33' Inflow=0.0 cfs 66 cf
12.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.0 cfs 66 cf

Pond C11: Culvert 11 Peak Elev=69.26' Inflow=0.1 cfs 196 cf
12.0" Round Culvert n=0.013 L=82.4' S=0.0076 '/' Outflow=0.1 cfs 196 cf

Pond C2: Culvert 2 Peak Elev=69.51' Inflow=0.1 cfs 130 cf
12.0" Round Culvert n=0.012 L=44.0' S=0.0027 '/' Outflow=0.1 cfs 130 cf

Pond C3: Culvert 3 Peak Elev=69.37' Inflow=0.1 cfs 194 cf
24.0" Round Culvert n=0.012 L=44.4' S=0.0052 '/' Outflow=0.1 cfs 194 cf

Pond C4: Culvert 4 Peak Elev=69.77' Inflow=0.0 cfs 65 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0142 '/' Outflow=0.0 cfs 65 cf

Pond C7: Culvert 7 Peak Elev=66.72' Inflow=0.0 cfs 65 cf
4.0" Round Culvert n=0.013 L=27.0' S=0.0048 '/' Outflow=0.0 cfs 65 cf

Pond C8: Culvert 8 Peak Elev=51.20' Inflow=0.0 cfs 0 cf
16.0" Round Culvert n=0.025 L=184.0' S=0.0054 '/' Outflow=0.0 cfs 0 cf

Pond C9: Culvert 9 Peak Elev=69.46' Inflow=0.0 cfs 130 cf
12.0" Round Culvert n=0.013 L=25.0' S=0.0088 '/' Outflow=0.0 cfs 130 cf

Pond CB1: Catch Basin 1 Peak Elev=68.58' Inflow=0.1 cfs 322 cf
12.0" Round Culvert n=0.013 L=79.0' S=0.0051 '/' Outflow=0.1 cfs 322 cf

Pond CB10: Catch Basin 10 Peak Elev=61.21' Inflow=0.1 cfs 480 cf
12.0" Round Culvert n=0.013 L=212.5' S=0.0424 '/' Outflow=0.1 cfs 480 cf

Pond CB11: Catch Basin 11 Peak Elev=52.18' Inflow=0.1 cfs 228 cf
12.0" Round Culvert n=0.013 L=18.5' S=0.0054 '/' Outflow=0.1 cfs 228 cf

Pond CB12: Catch Basin 12 Peak Elev=52.09' Inflow=0.3 cfs 896 cf
12.0" Round Culvert n=0.013 L=96.6' S=0.0404 '/' Outflow=0.3 cfs 896 cf

Pond CB13: Catch Basin 13 Peak Elev=48.01' Inflow=0.4 cfs 1,161 cf
12.0" Round Culvert n=0.013 L=49.3' S=0.0034 '/' Outflow=0.4 cfs 1,161 cf

Pond CB14: Catch Basin 14 Peak Elev=48.15' Inflow=0.3 cfs 976 cf
12.0" Round Culvert n=0.013 L=15.0' S=0.0067 '/' Outflow=0.3 cfs 976 cf

Pond CB2: Catch Basin 2 Peak Elev=68.12' Inflow=0.0 cfs 134 cf
12.0" Round Culvert n=0.013 L=79.2' S=0.0051 '/' Outflow=0.0 cfs 134 cf

Pond CB3: Catch Basin 3 Peak Elev=66.56' Inflow=0.2 cfs 550 cf
12.0" Round Culvert n=0.013 L=17.5' S=0.0057 '/' Outflow=0.2 cfs 550 cf

Pond CB4: Catch Basin 4 Peak Elev=66.40' Inflow=0.3 cfs 847 cf
12.0" Round Culvert n=0.013 L=103.7' S=0.0053 '/' Outflow=0.3 cfs 847 cf

Pond CB5: Catch Basin 5 Peak Elev=66.10' Inflow=0.0 cfs 87 cf
12.0" Round Culvert n=0.013 L=18.4' S=0.0054 '/' Outflow=0.0 cfs 87 cf

Pond CB6: Catch Basin 6 Peak Elev=65.78' Inflow=0.3 cfs 1,028 cf
12.0" Round Culvert n=0.013 L=60.9' S=0.0057 '/' Outflow=0.3 cfs 1,028 cf

Pond CB7: Catch Basin 7 Peak Elev=65.02' Inflow=0.0 cfs 99 cf
12.0" Round Culvert n=0.013 L=18.2' S=0.0055 '/' Outflow=0.0 cfs 99 cf

Pond CB8: Catch Basin 8 Peak Elev=65.01' Inflow=0.4 cfs 1,234 cf
12.0" Round Culvert n=0.013 L=156.4' S=0.0054 '/' Outflow=0.4 cfs 1,234 cf

Pond CB9: Catch Basin 9 Peak Elev=62.16' Inflow=0.1 cfs 237 cf
12.0" Round Culvert n=0.013 L=18.8' S=0.0053 '/' Outflow=0.1 cfs 237 cf

Pond CH1: Chamber 1 Peak Elev=46.42' Storage=74 cf Inflow=0.4 cfs 1,161 cf
Outflow=0.3 cfs 1,161 cf

Pond MH1: Manhole 1 Peak Elev=65.34' Inflow=0.3 cfs 1,028 cf
12.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=0.3 cfs 1,028 cf

Pond MH2: Manhole 2 Peak Elev=60.59' Inflow=0.1 cfs 561 cf
12.0" Round Culvert n=0.013 L=152.9' S=0.0052 '/' Outflow=0.1 cfs 561 cf

Pond MH3: Manhole 3 Peak Elev=59.69' Inflow=0.1 cfs 561 cf
12.0" Round Culvert n=0.013 L=81.0' S=0.0049 '/' Outflow=0.1 cfs 561 cf

Pond MH4: Manhole 4 Peak Elev=59.19' Inflow=0.1 cfs 561 cf
12.0" Round Culvert n=0.013 L=205.9' S=0.0051 '/' Outflow=0.1 cfs 561 cf

Pond MH5: Manhole 5 Peak Elev=47.81' Inflow=0.4 cfs 1,161 cf
12.0" Round Culvert n=0.013 L=6.2' S=0.0048 '/' Outflow=0.4 cfs 1,161 cf

Pond P1: Pond 1 Peak Elev=50.00' Storage=0 cf Inflow=0.0 cfs 0 cf
Outflow=0.0 cfs 0 cf

Pond RD1: Roof Drain 1 Peak Elev=69.37' Storage=27 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 65 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 65 cf

Pond RD2: Roof Drain 2 Peak Elev=69.50' Storage=30 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 65 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 65 cf

Pond RD3: Roof Drain 3 Peak Elev=69.80' Storage=26 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 65 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 65 cf

Pond RD4: Roof Drain 4 Peak Elev=69.80' Storage=26 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 65 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 65 cf

Pond RD5: Roof Drain 5 Peak Elev=69.48' Storage=28 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 65 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 65 cf

Pond RD6: Roof Drain 6 Peak Elev=69.35' Storage=26 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 66 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 66 cf

Pond RD7: Roof Drain 7 Peak Elev=66.68' Storage=28 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 65 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 65 cf

Pond SF1: Soil Filter 1 Peak Elev=61.15' Storage=80 cf Inflow=0.1 cfs 567 cf
Primary=0.1 cfs 561 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 561 cf

Pond SF2: Soil Filter 2 Peak Elev=58.82' Storage=764 cf Inflow=0.4 cfs 2,183 cf
Primary=0.1 cfs 1,960 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 1,960 cf

Link AP#1: Analysis Point 1 Inflow=0.0 cfs 62 cf
Primary=0.0 cfs 62 cf

Link AP#2: Analysis Point 2 Inflow=0.3 cfs 1,161 cf
Primary=0.3 cfs 1,161 cf

Link AP#3: Analysis Point 3 Inflow=0.1 cfs 676 cf
Primary=0.1 cfs 676 cf

Link AP#4: Analysis Point 4 Inflow=0.1 cfs 1,960 cf
Primary=0.1 cfs 1,960 cf

Link AP#5: Analysis Point 5 Inflow=0.1 cfs 348 cf
Primary=0.1 cfs 348 cf

Total Runoff Area = 467,733 sf Runoff Volume = 4,558 cf Average Runoff Depth = 0.12"
75.50% Pervious = 353,127 sf 24.50% Impervious = 114,606 sf

Summary for Subcatchment S1.1: Subcatchment 1.1

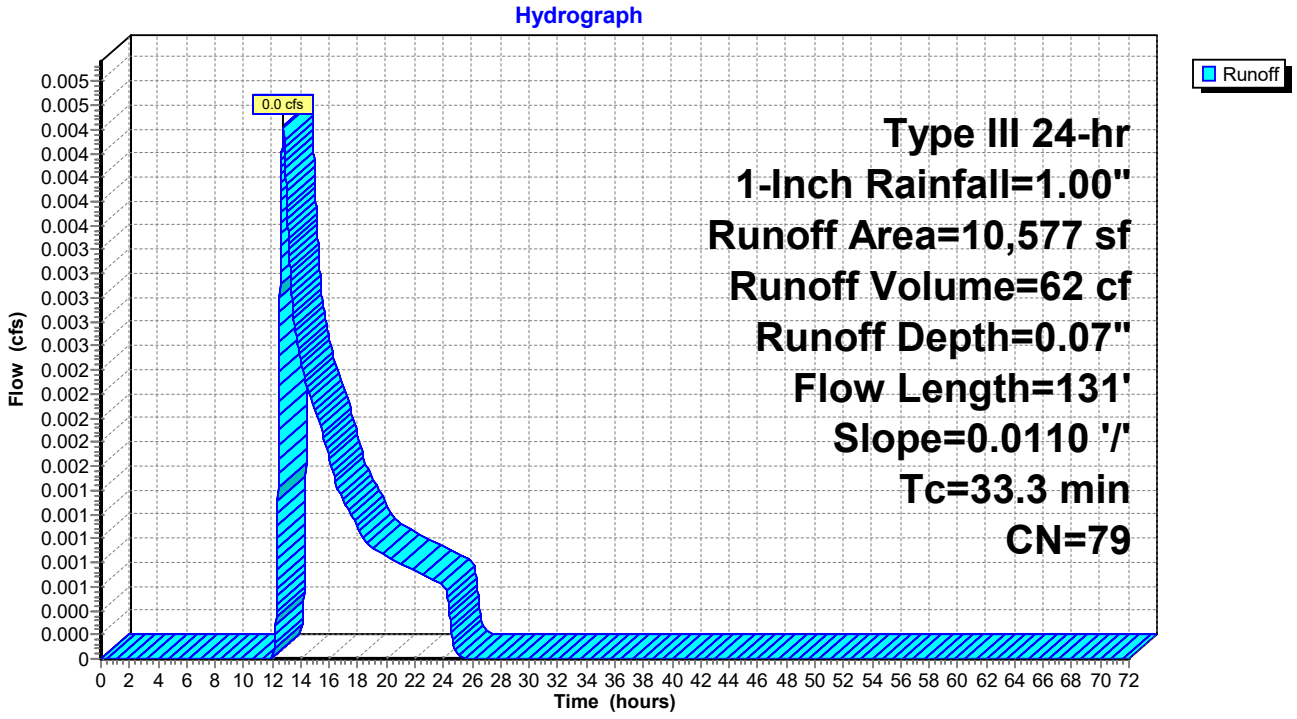
Runoff = 0.0 cfs @ 12.77 hrs, Volume= 62 cf, Depth= 0.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
6,431	80	>75% Grass cover, Good, HSG D
4,146	77	Woods, Good, HSG D
10,577	79	Weighted Average
10,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	131	0.0110	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"

Subcatchment S1.1: Subcatchment 1.1



Summary for Subcatchment S2.1: Subcatchment 2.1

[45] Hint: Runoff=Zero

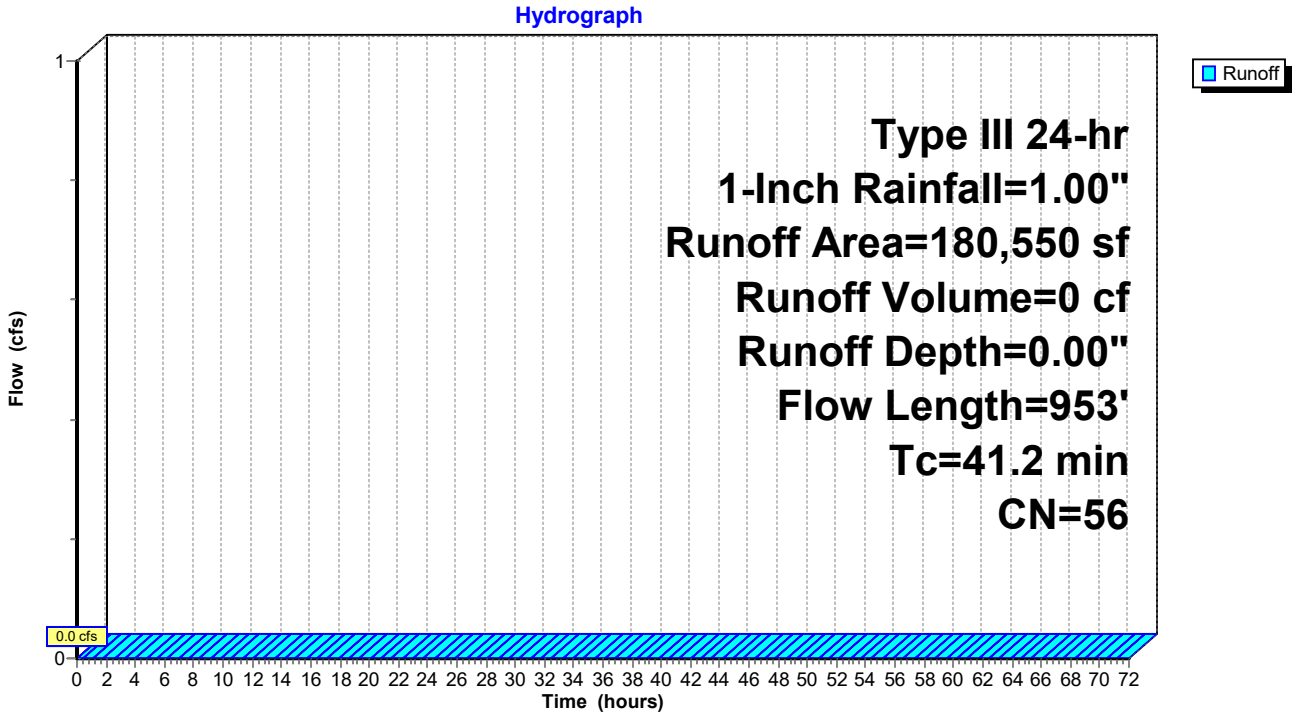
Runoff = 0.0 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
12,432	39	>75% Grass cover, Good, HSG A
85,722	30	Woods, Good, HSG A
489	98	Paved parking, HSG A
17,787	80	>75% Grass cover, Good, HSG D
29,251	77	Woods, Good, HSG D
14,624	98	Paved parking, HSG D
3,134	98	Paved parking, HSG D
17,111	98	Roofs, HSG A
180,550	56	Weighted Average
145,192		80.42% Pervious Area
35,358		19.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	51	0.0196	0.15		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
13.5	99	0.0606	0.12		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
7.7	300	0.0167	0.65		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
4.3	203	0.0246	0.78		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
41.2	953	Total			

Subcatchment S2.1: Subcatchment 2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

[45] Hint: Runoff=Zero

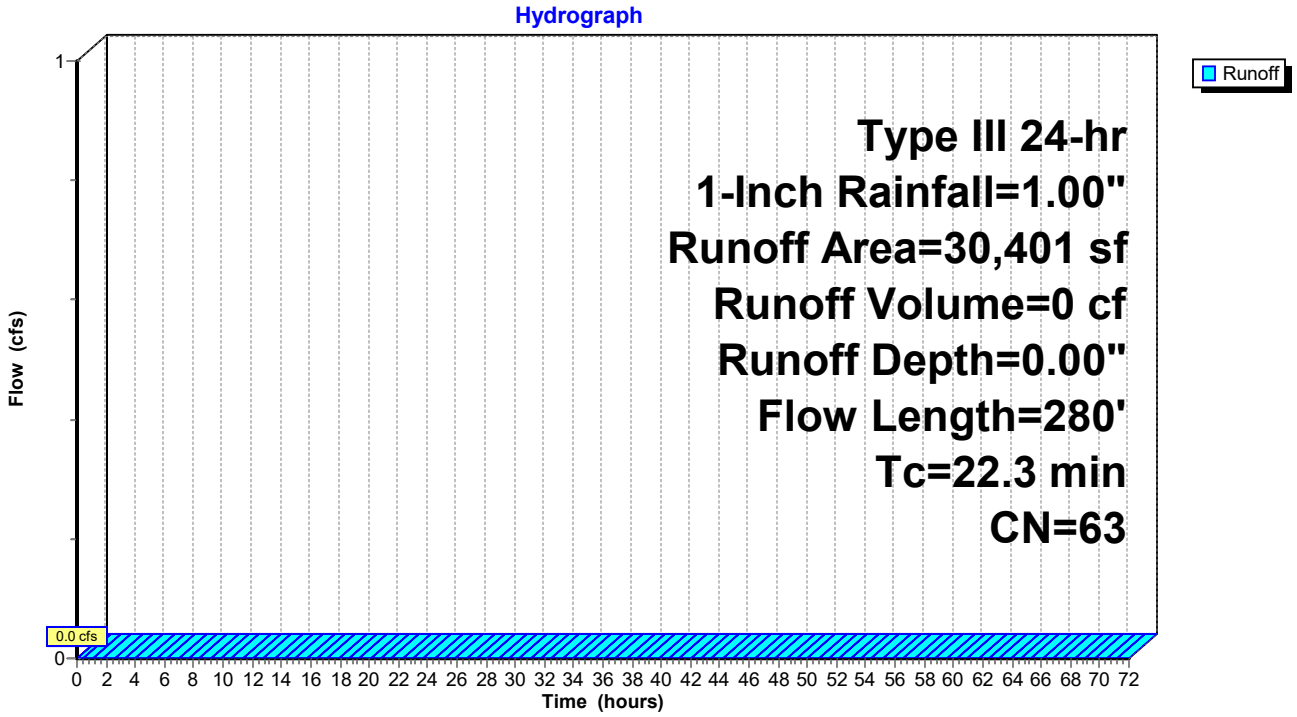
Runoff = 0.0 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
5,813	98	Paved parking, HSG A
30,401	63	Weighted Average
18,462		60.73% Pervious Area
11,939		39.27% Impervious Area
6,060		50.76% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	150	0.0520	0.13		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.3	130	0.0350	0.94		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.3	280	Total			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment 2.3

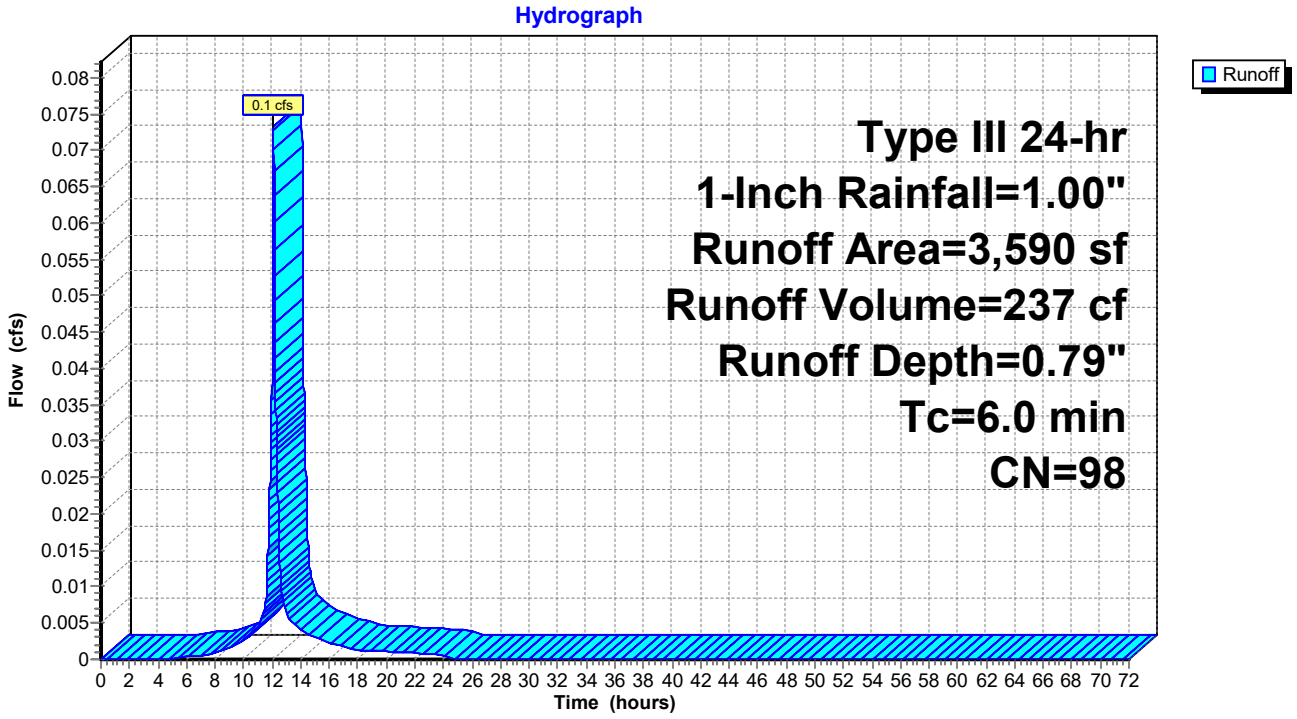
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 237 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
3,590	98	Paved roads w/curbs & sewers, HSG D
3,590		100.00% Impervious Area

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

Subcatchment S2.3: Subcatchment 2.3



Summary for Subcatchment S2.4: Subcatchment 2.4

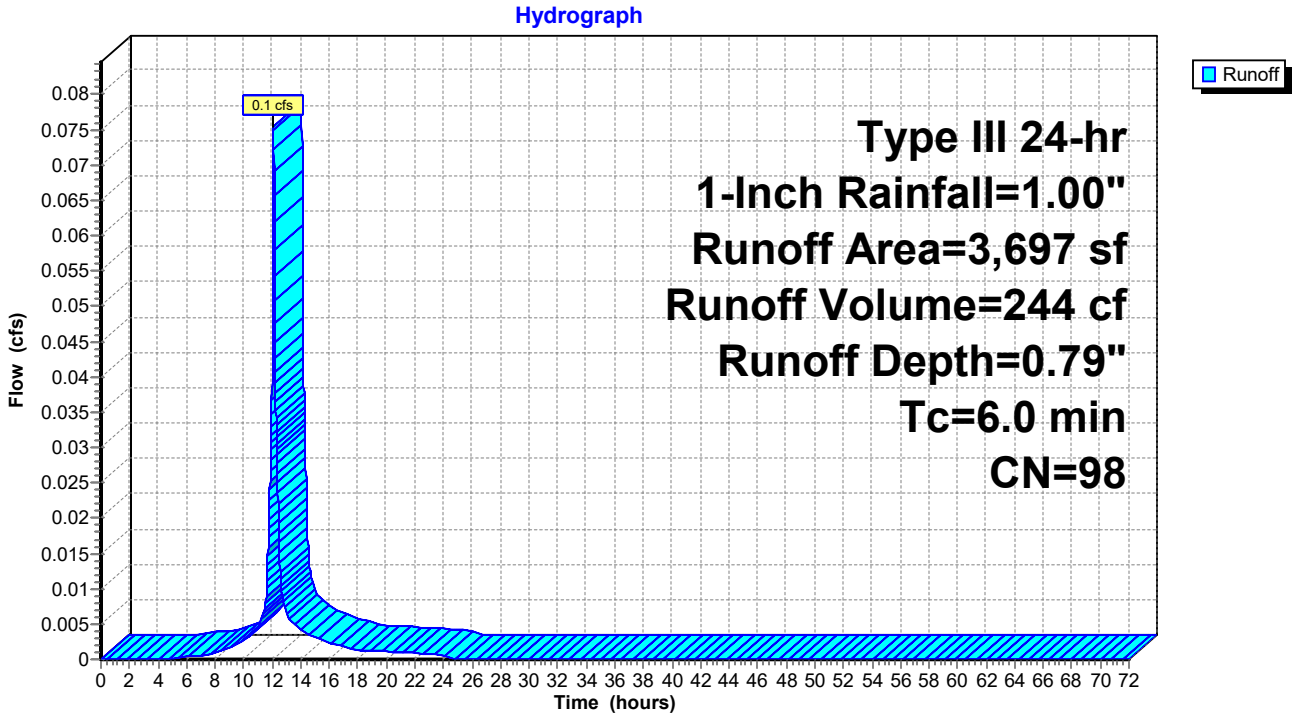
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 244 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
3,697	98	Paved roads w/curbs & sewers, HSG D
3,697		100.00% Impervious Area

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

Subcatchment S2.4: Subcatchment 2.4



Summary for Subcatchment S2.5: Subcatchment 2.5

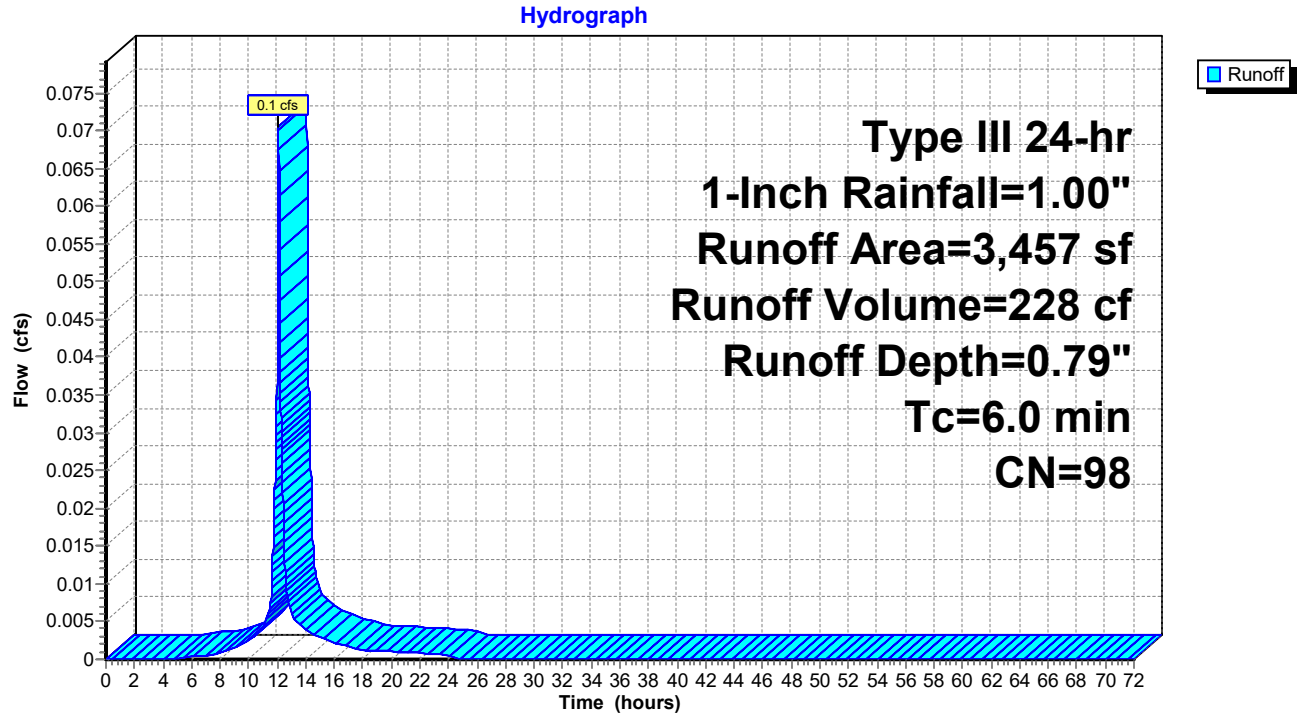
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 228 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
3,457	98	Paved roads w/curbs & sewers, HSG D
3,457		100.00% Impervious Area

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

Subcatchment S2.5: Subcatchment 2.5



Summary for Subcatchment S2.6: Subcatchment 2.6

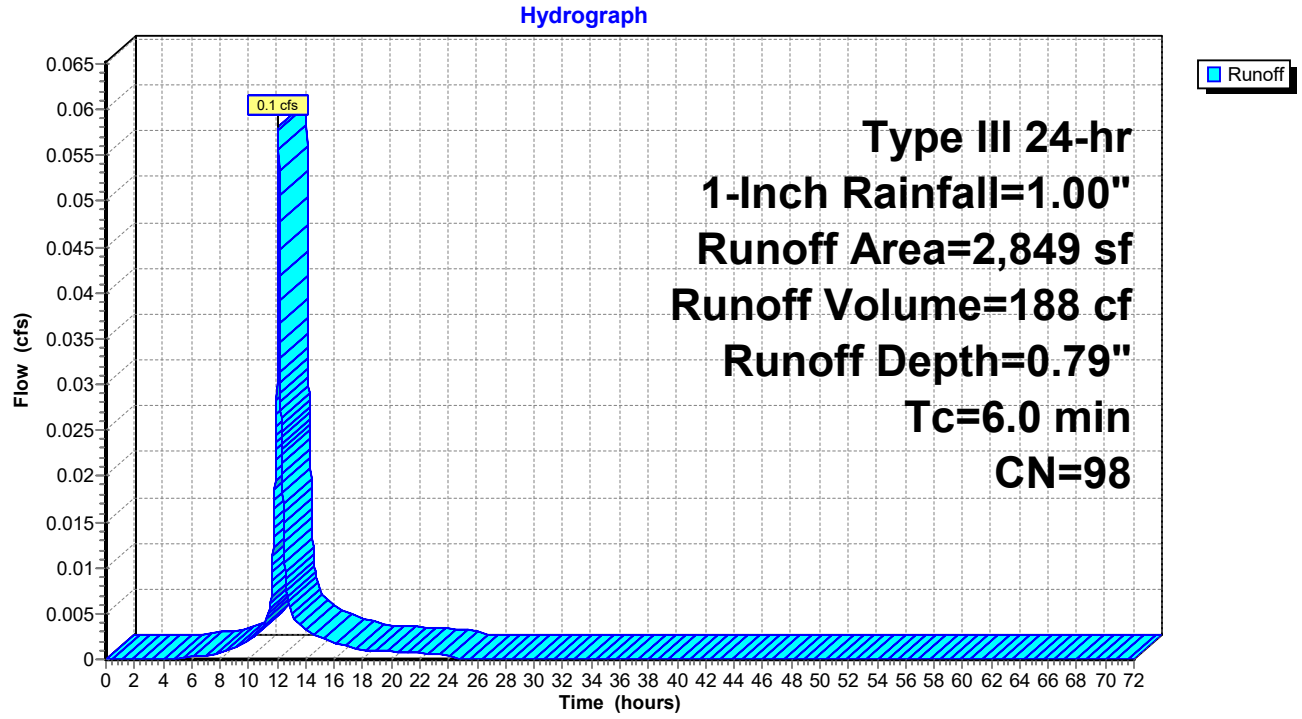
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 188 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
2,849	98	Paved roads w/curbs & sewers, HSG D
2,849		100.00% Impervious Area

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

Subcatchment S2.6: Subcatchment 2.6



Summary for Subcatchment S2.7: Subcatchment 2.7

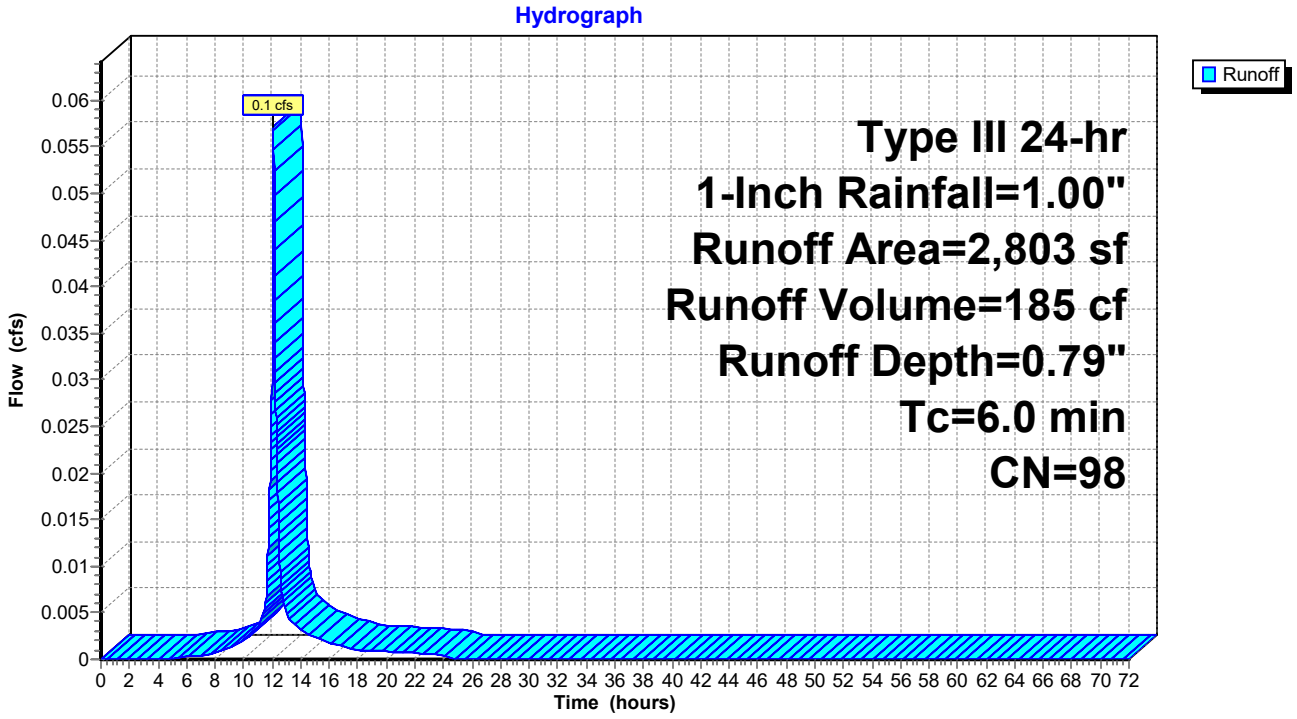
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 185 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
2,803	98	Paved roads w/curbs & sewers, HSG D
2,803		100.00% Impervious Area

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

Subcatchment S2.7: Subcatchment 2.7



Summary for Subcatchment S2.8: Subcatchment 2.8

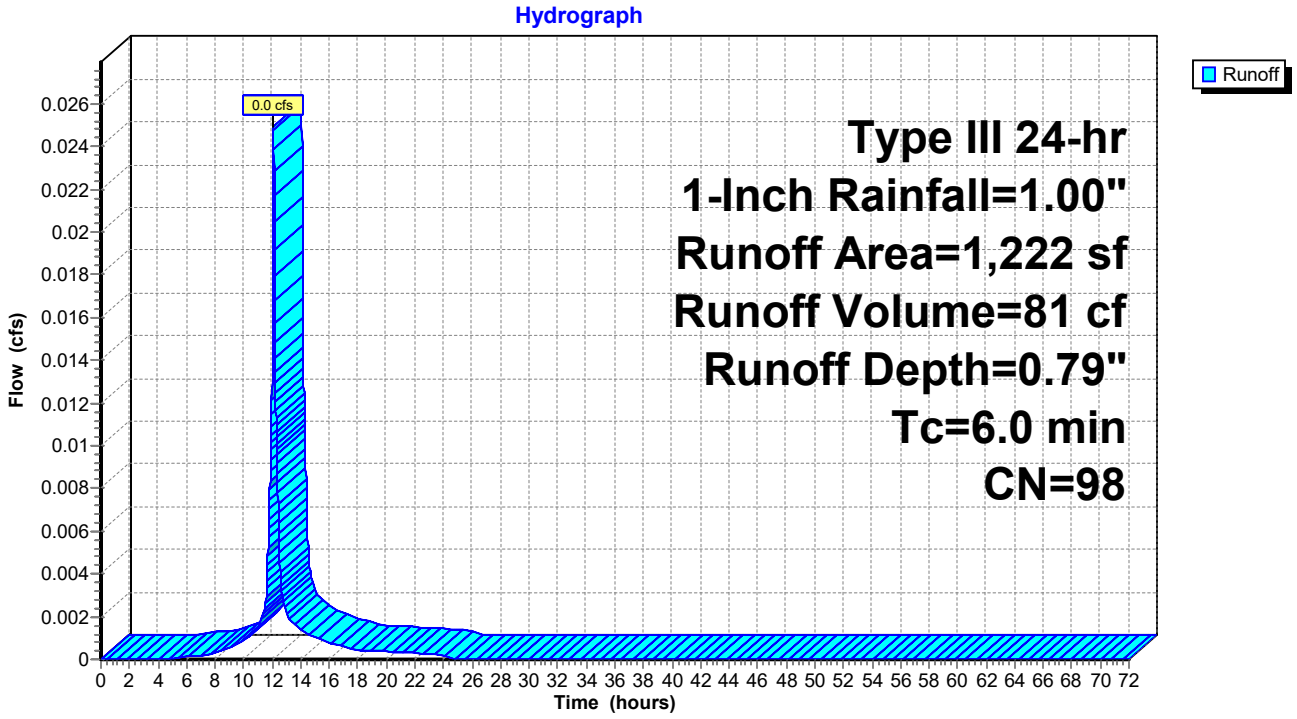
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 81 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,222	98	Paved roads w/curbs & sewers, HSG D
1,222		100.00% Impervious Area

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

Subcatchment S2.8: Subcatchment 2.8



Summary for Subcatchment S3.1: Subcatchment 3.1

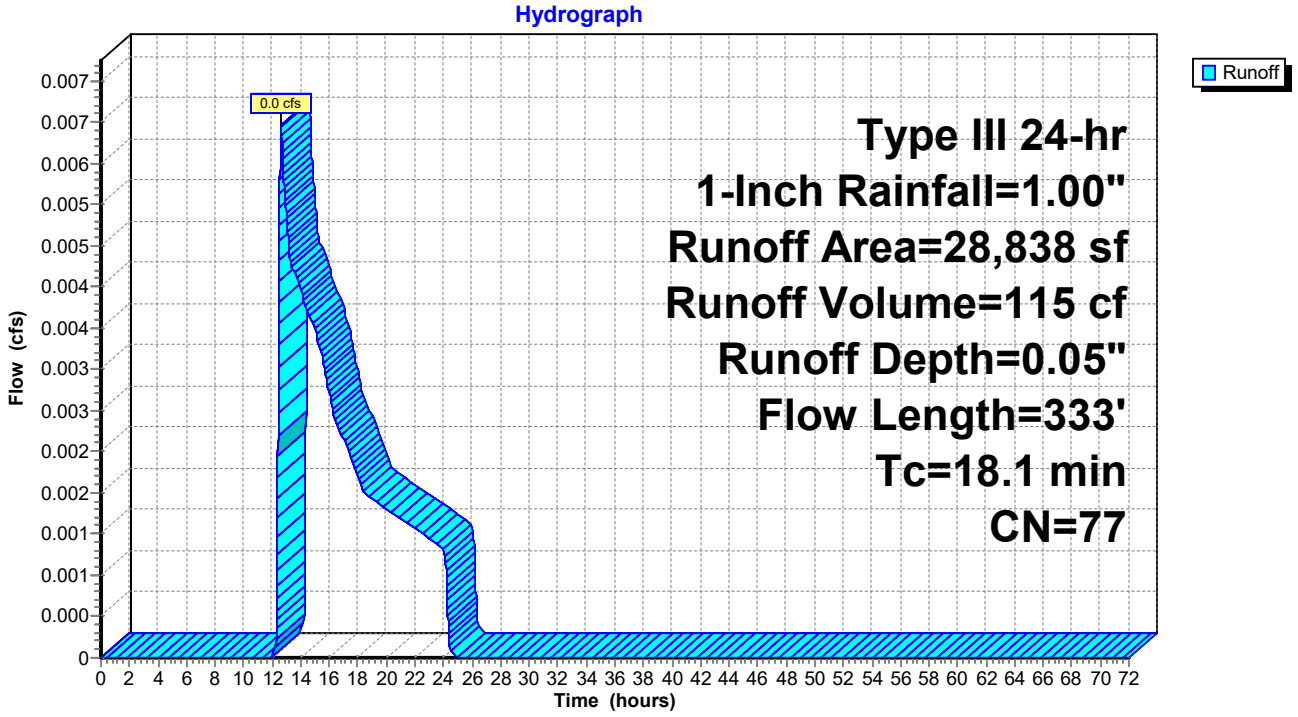
Runoff = 0.0 cfs @ 12.62 hrs, Volume= 115 cf, Depth= 0.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
15,787	77	Woods, Good, HSG D
10,424	80	>75% Grass cover, Good, HSG D
1,377	39	>75% Grass cover, Good, HSG A
1,250	98	Roofs, HSG D
28,838	77	Weighted Average
27,588		95.67% Pervious Area
1,250		4.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	150	0.0130	0.16		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
1.2	102	0.0392	1.39		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.0	81	0.0740	1.36		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
18.1	333	Total			

Subcatchment S3.1: Subcatchment 3.1



Summary for Subcatchment S3.2: Subcatchment 3.2

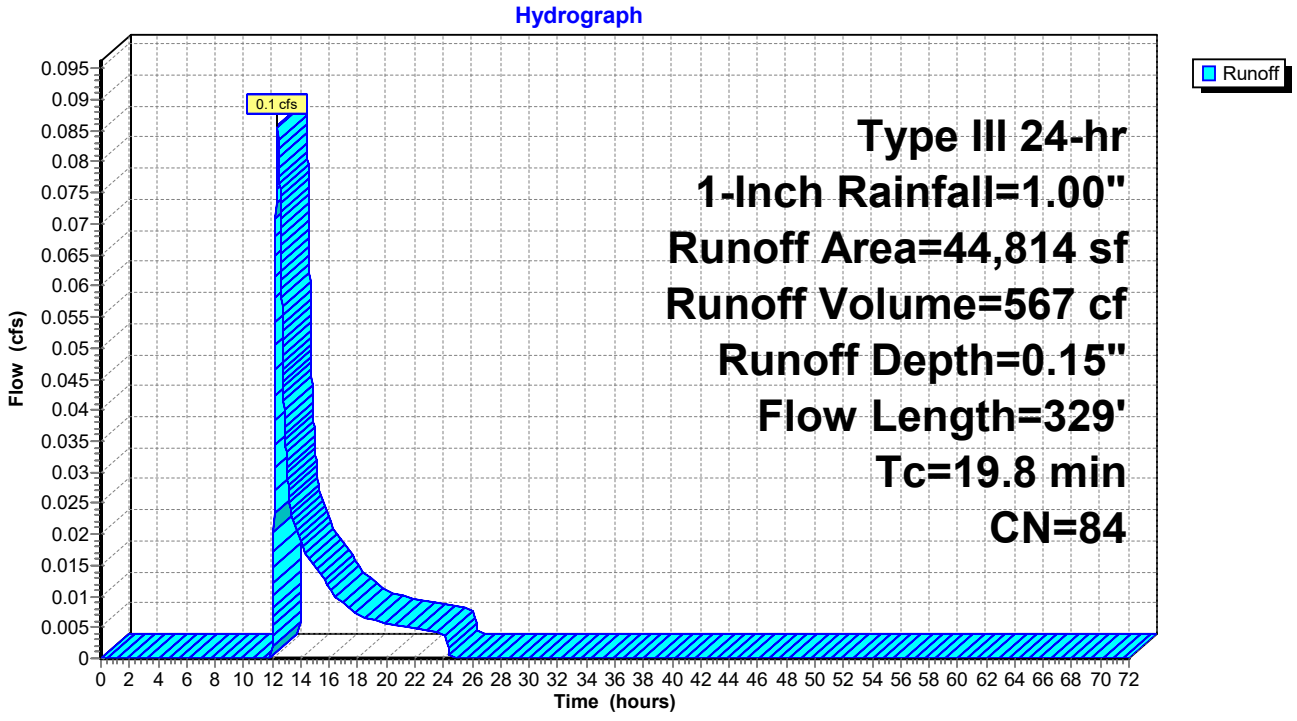
Runoff = 0.1 cfs @ 12.38 hrs, Volume= 567 cf, Depth= 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
34,169	80	>75% Grass cover, Good, HSG D
1,895	98	Paved parking, HSG D
8,750	98	Roofs, HSG D
44,814	84	Weighted Average
34,169		76.25% Pervious Area
10,645		23.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0100	0.14		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
2.2	179	0.0363	1.33		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.8	329	Total			

Subcatchment S3.2: Subcatchment 3.2



Summary for Subcatchment S4.1: Subcatchment 4.1

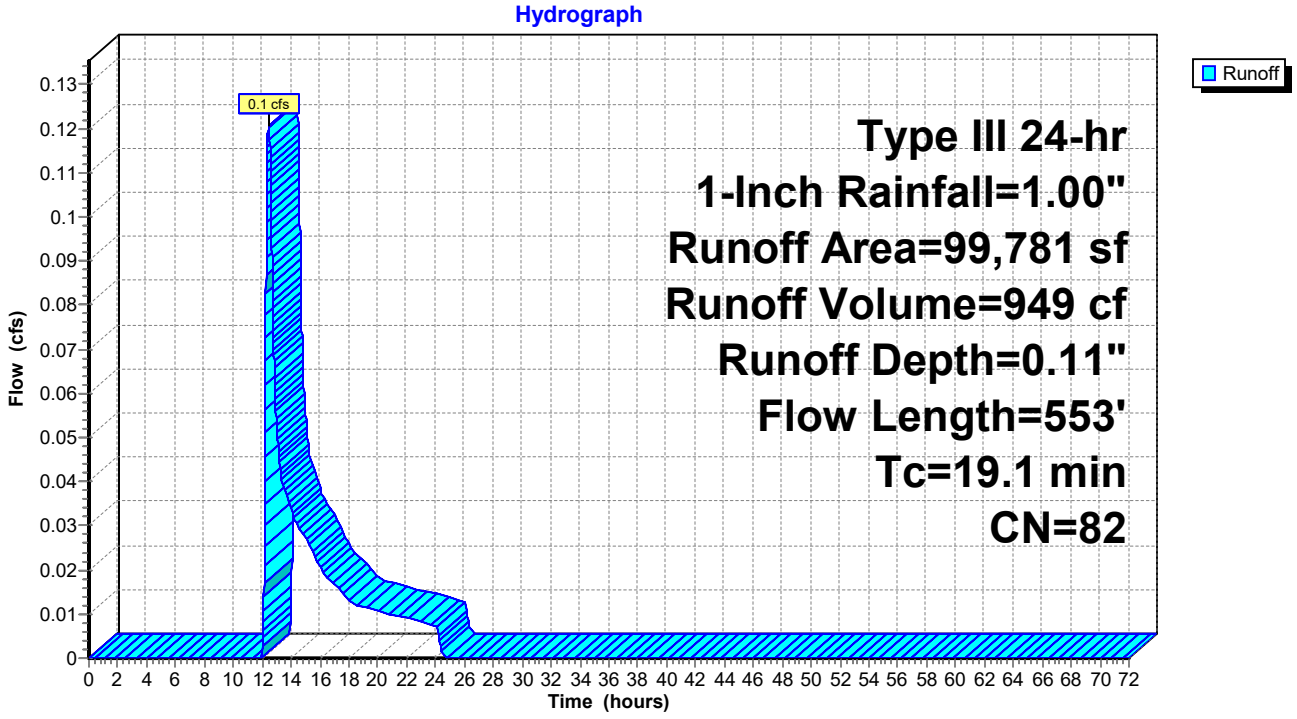
Runoff = 0.1 cfs @ 12.45 hrs, Volume= 949 cf, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
17,618	77	Woods, Good, HSG D
70,163	80	>75% Grass cover, Good, HSG D
12,000	98	Roofs, HSG D
99,781	82	Weighted Average
87,781		87.97% Pervious Area
12,000		12.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	150	0.0330	0.23		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
7.1	300	0.0100	0.70		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.1	103	0.0485	1.54		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.1	553	Total			

Subcatchment S4.1: Subcatchment 4.1



Summary for Subcatchment S4.10: Subcatchment 4.10

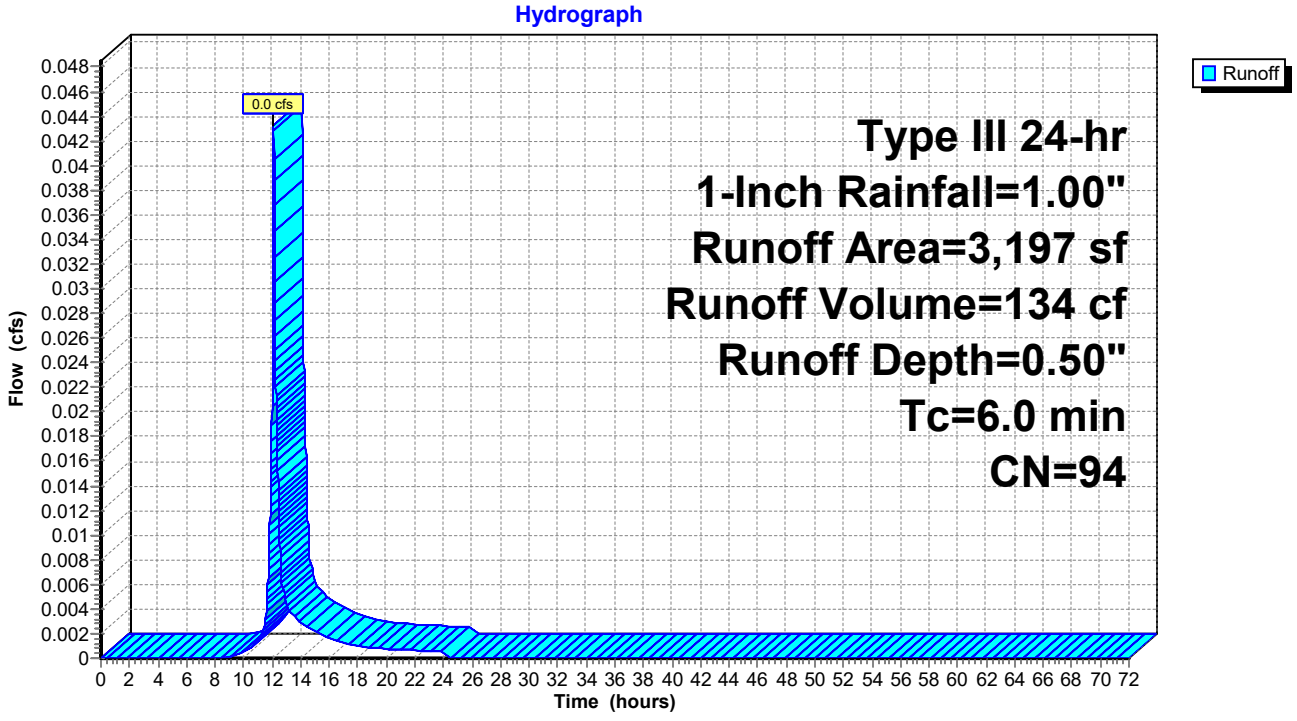
Runoff = 0.0 cfs @ 12.09 hrs, Volume= 134 cf, Depth= 0.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
2,320	98	Paved roads w/curbs & sewers, HSG D
148	96	Gravel surface, HSG D
729	80	>75% Grass cover, Good, HSG D
3,197	94	Weighted Average
877		27.43% Pervious Area
2,320		72.57% Impervious Area

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

Subcatchment S4.10: Subcatchment 4.10



Summary for Subcatchment S4.11: Subcatchment 4.11

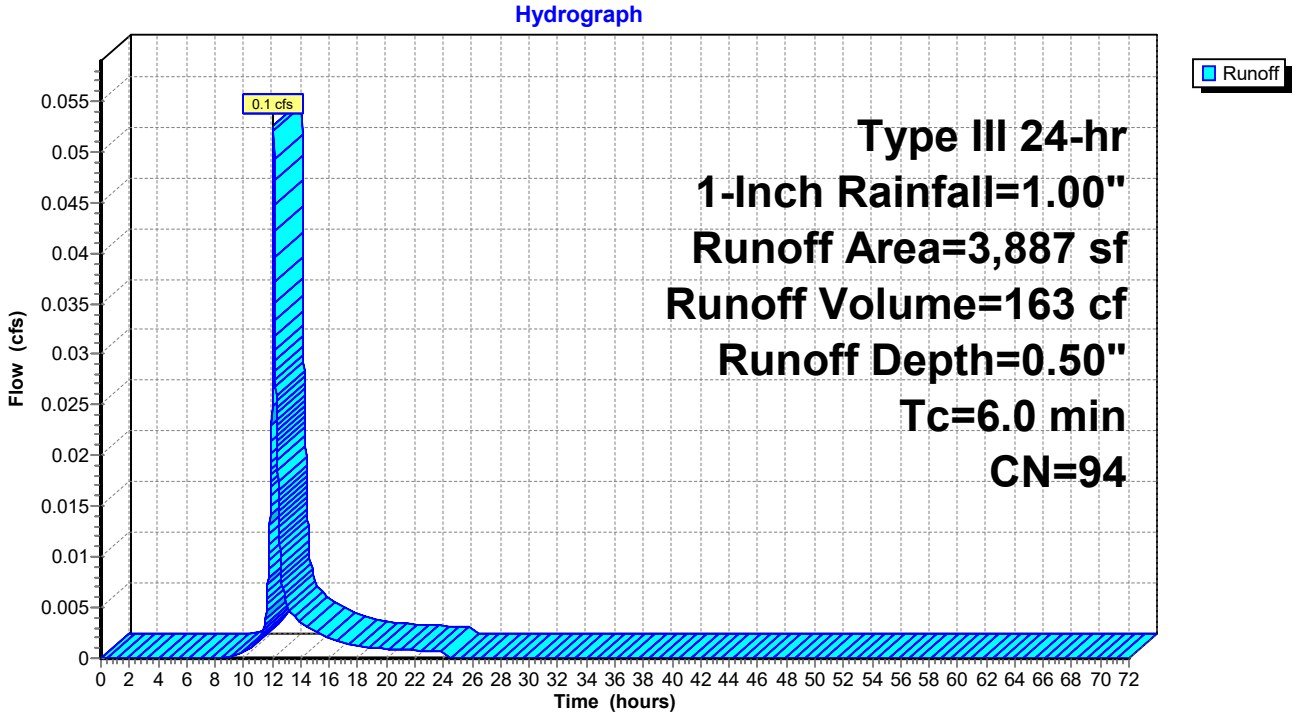
Runoff = 0.1 cfs @ 12.09 hrs, Volume= 163 cf, Depth= 0.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
2,903	98	Paved roads w/curbs & sewers, HSG D
163	96	Gravel surface, HSG D
821	80	>75% Grass cover, Good, HSG D
3,887	94	Weighted Average
984		25.32% Pervious Area
2,903		74.68% Impervious Area

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

Subcatchment S4.11: Subcatchment 4.11



Summary for Subcatchment S4.12: Subcatchment 4.12

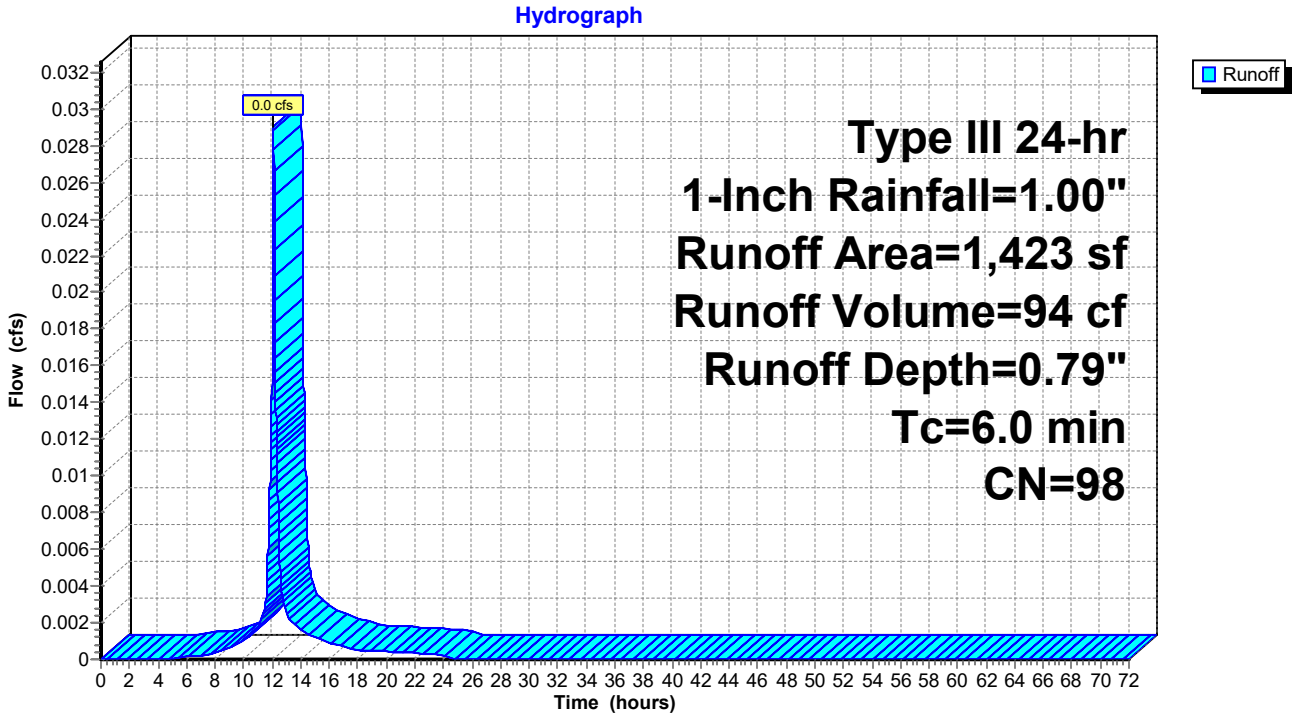
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 94 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,423	98	Paved roads w/curbs & sewers, HSG D
1,423		100.00% Impervious Area

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

Subcatchment S4.12: Subcatchment 4.12



Summary for Subcatchment S4.13: Subcatchment 4.13

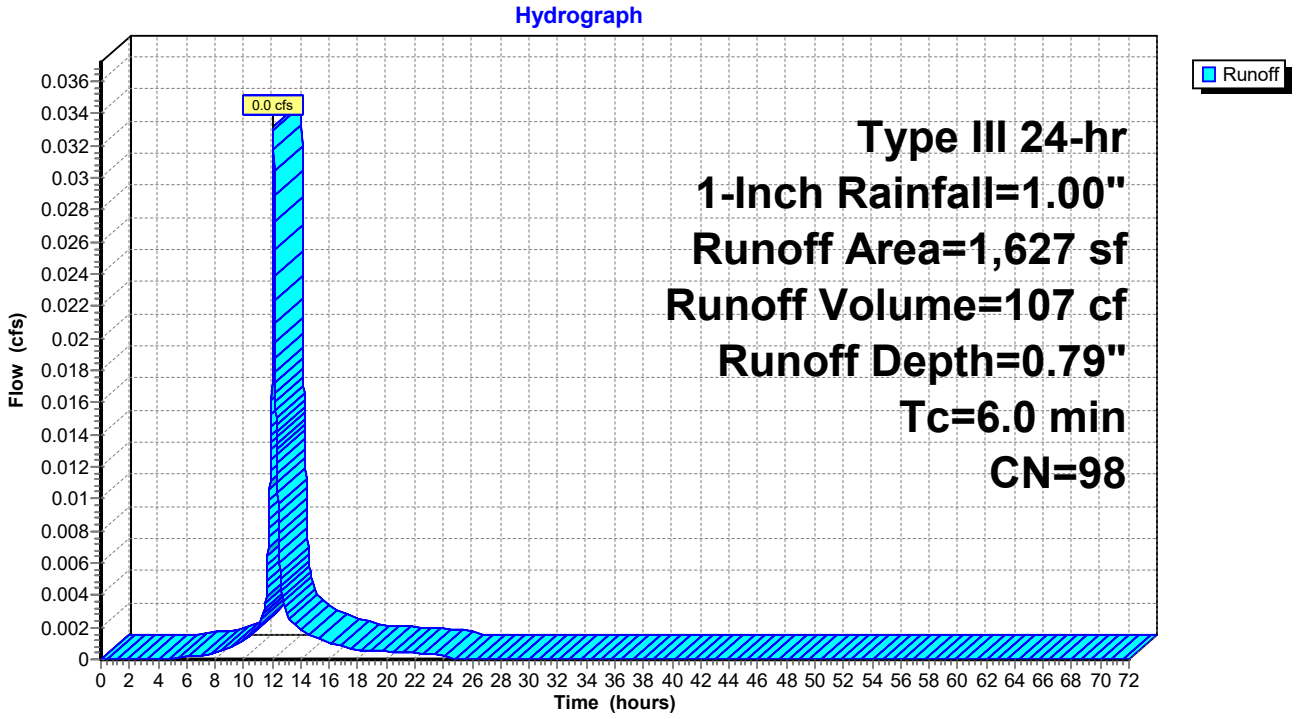
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 107 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,627	98	Paved roads w/curbs & sewers, HSG D
1,627		100.00% Impervious Area

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

Subcatchment S4.13: Subcatchment 4.13



Summary for Subcatchment S4.2: Subcatchment 4.2

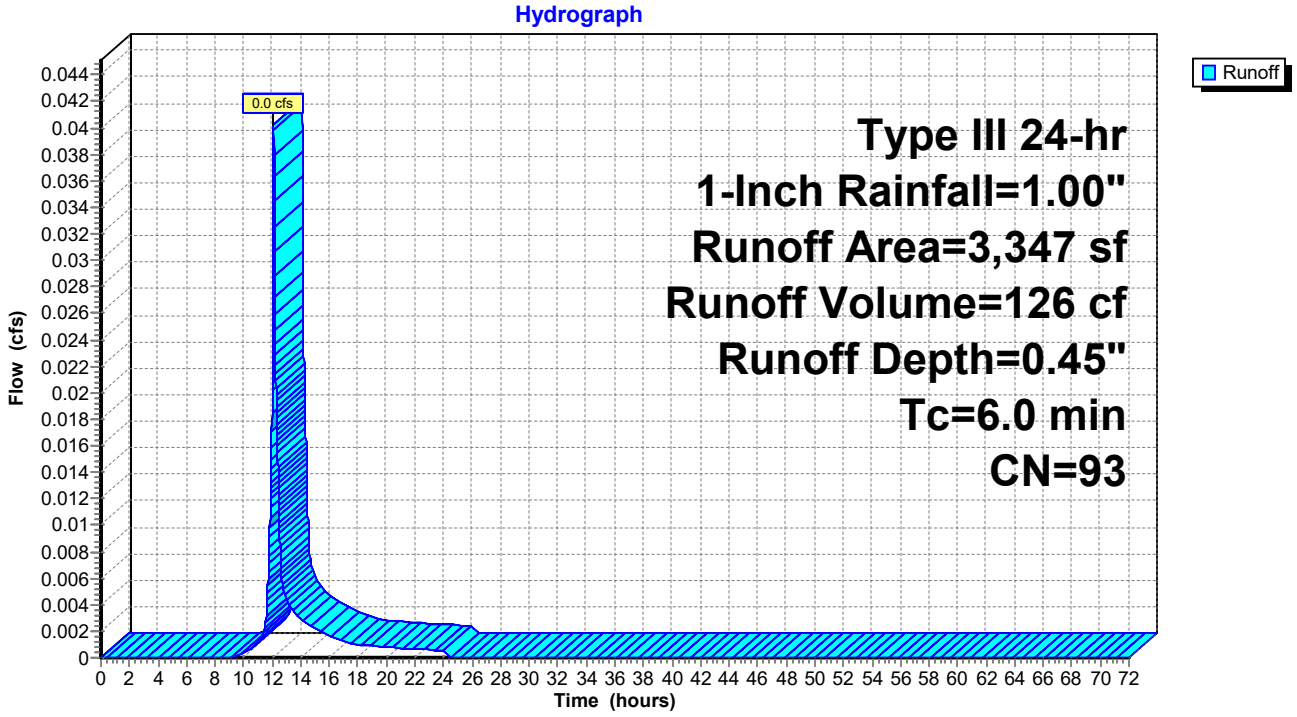
Runoff = 0.0 cfs @ 12.09 hrs, Volume= 126 cf, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
796	98	Paved parking, HSG D
74	96	Gravel surface, HSG D
754	80	>75% Grass cover, Good, HSG D
1,602	98	Paved parking, HSG A
40	39	>75% Grass cover, Good, HSG A
81	96	Gravel surface, HSG A
3,347	93	Weighted Average
949		28.35% Pervious Area
2,398		71.65% Impervious Area

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

Subcatchment S4.2: Subcatchment 4.2



Summary for Subcatchment S4.3: Subcatchment 4.3

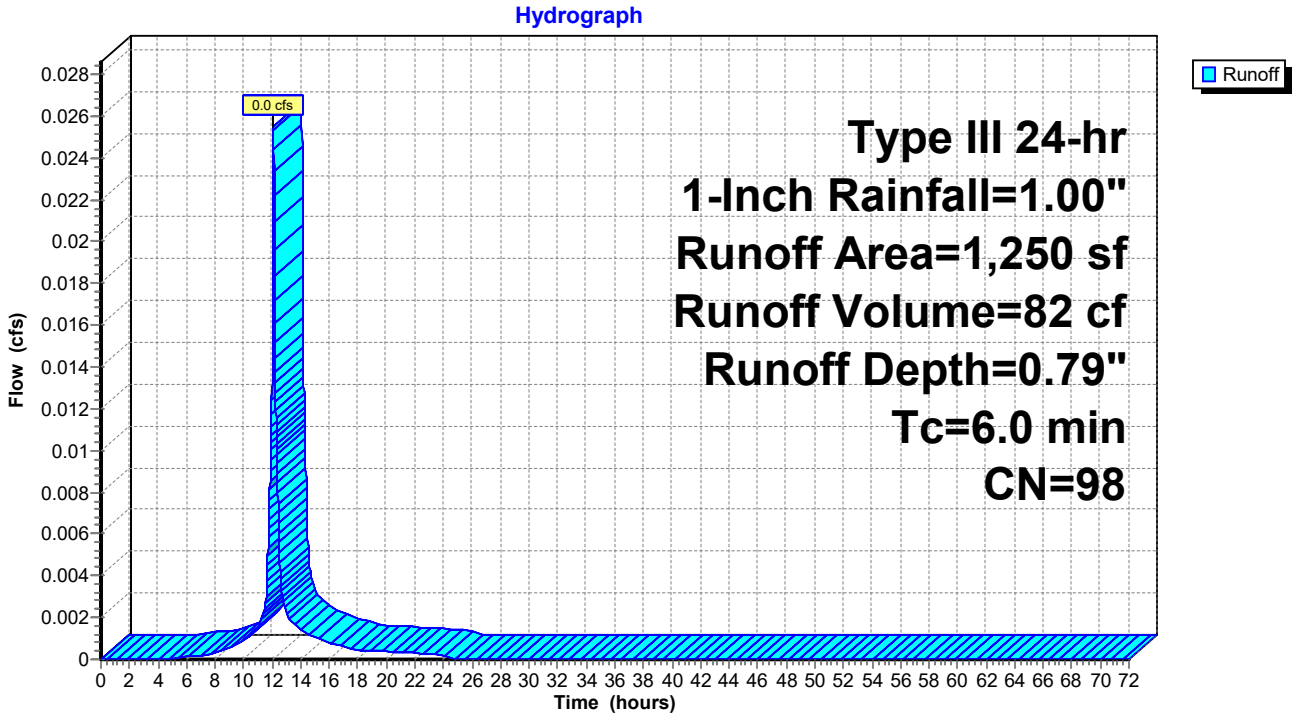
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.3: Subcatchment 4.3



Summary for Subcatchment S4.4: Subcatchment 4.4

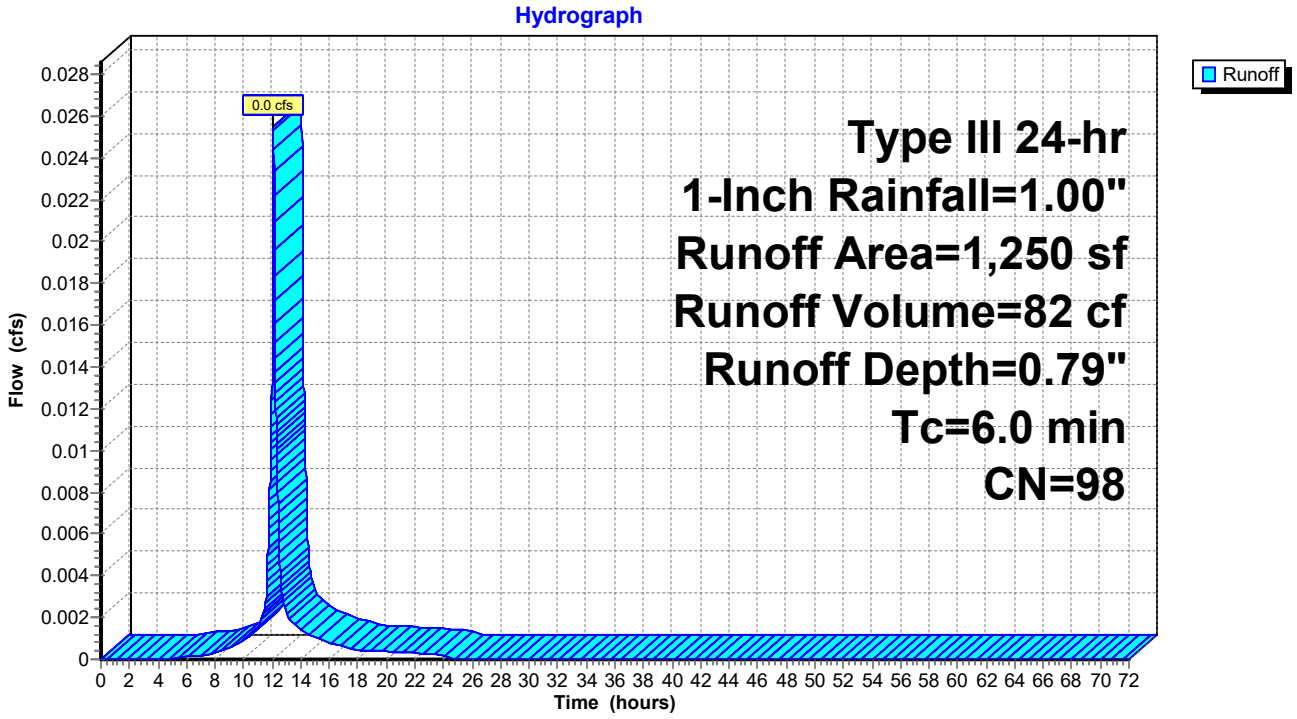
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.4: Subcatchment 4.4



Summary for Subcatchment S4.5: Subcatchment 4.5

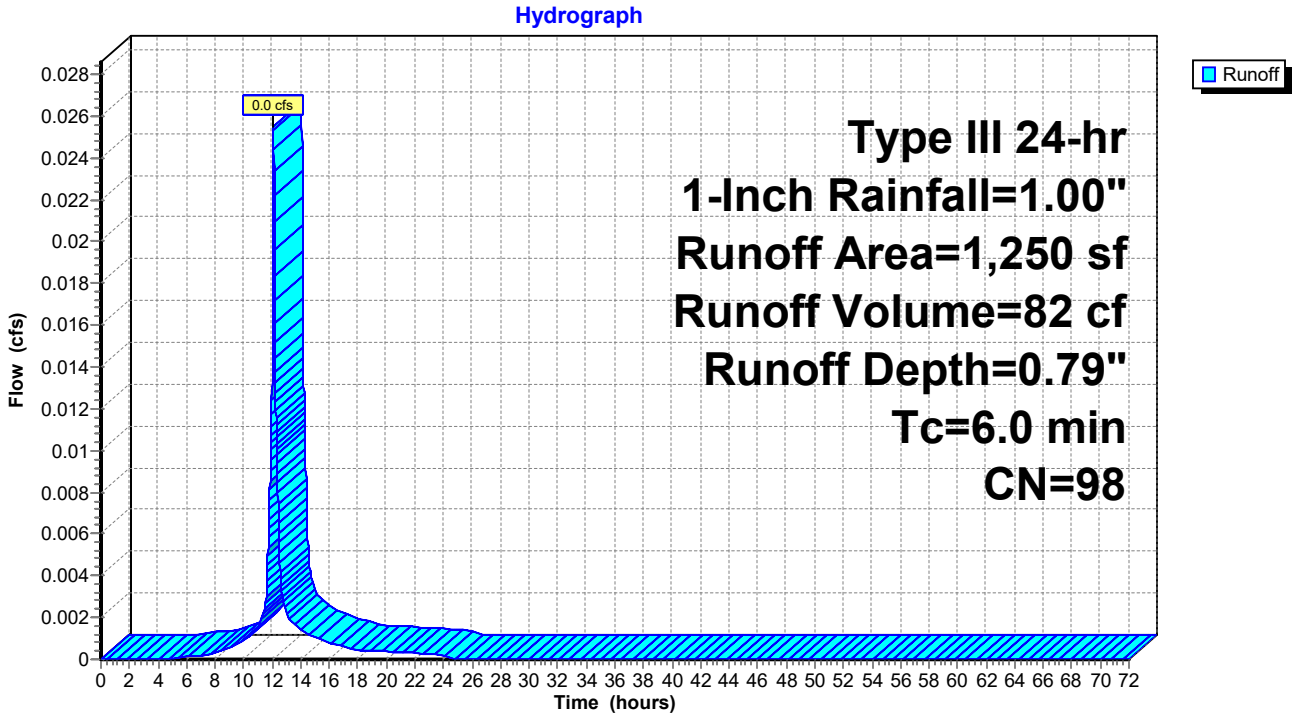
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.5: Subcatchment 4.5



Summary for Subcatchment S4.6: Subcatchment 4.6

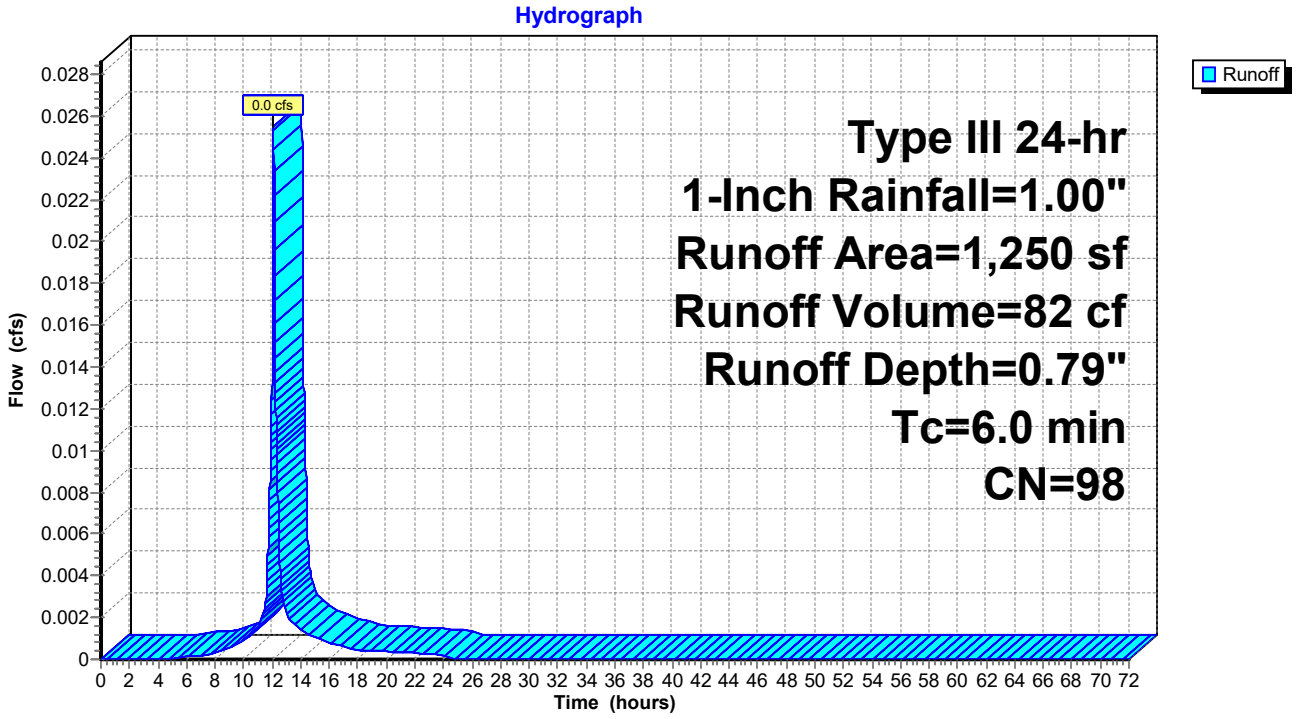
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.6: Subcatchment 4.6



Summary for Subcatchment S4.7: Subcatchment 4.7

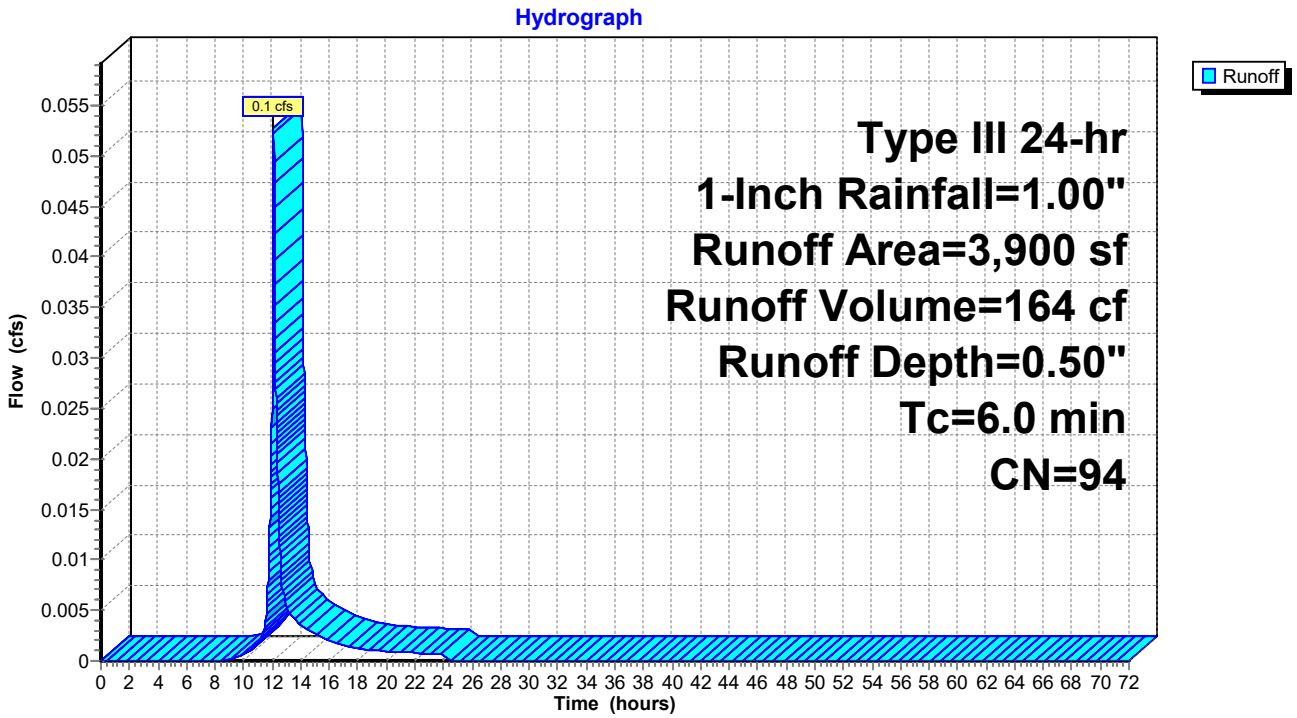
Runoff = 0.1 cfs @ 12.09 hrs, Volume= 164 cf, Depth= 0.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
874	80	>75% Grass cover, Good, HSG D
166	96	Gravel surface, HSG D
297	98	Paved roads w/curbs & sewers, HSG A
2,563	98	Paved roads w/curbs & sewers, HSG D
3,900	94	Weighted Average
1,040		26.67% Pervious Area
2,860		73.33% Impervious Area

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

Subcatchment S4.7: Subcatchment 4.7



Summary for Subcatchment S4.8: Subcatchment 4.8

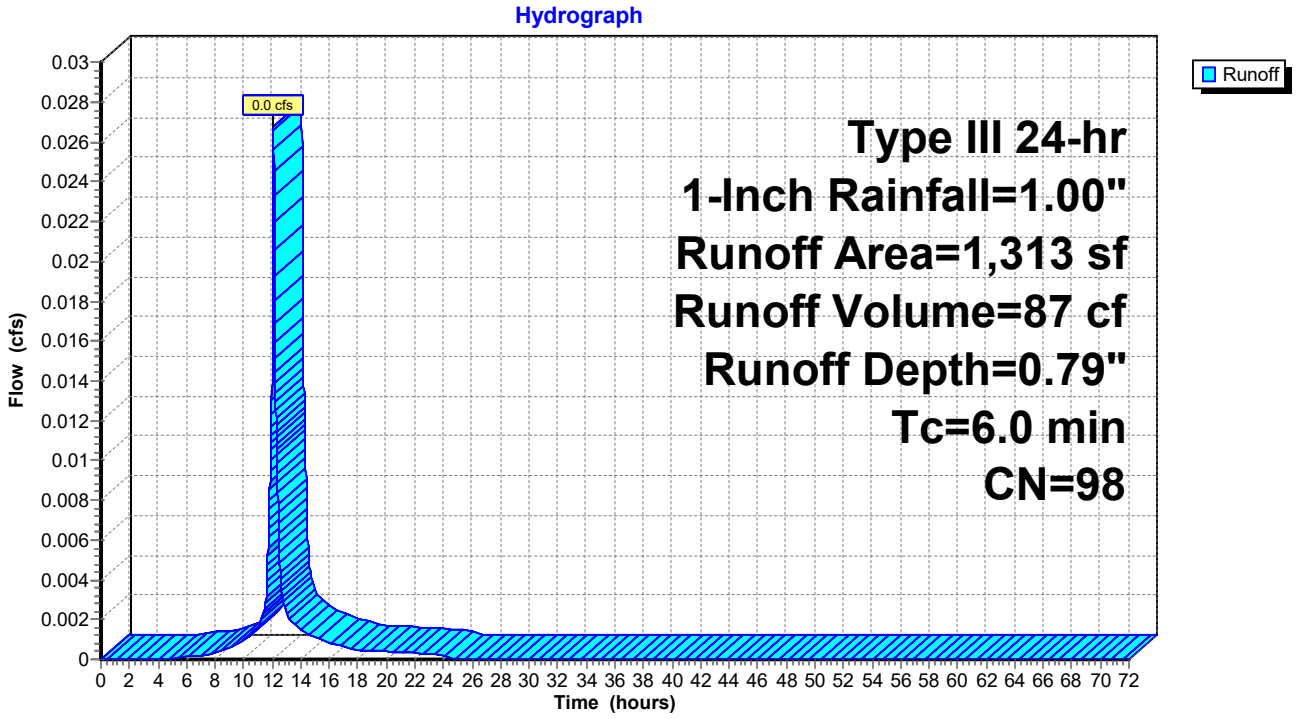
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 87 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,313	98	Paved roads w/curbs & sewers, HSG D
1,313		100.00% Impervious Area

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

Subcatchment S4.8: Subcatchment 4.8



Summary for Subcatchment S4.9: Subcatchment 4.9

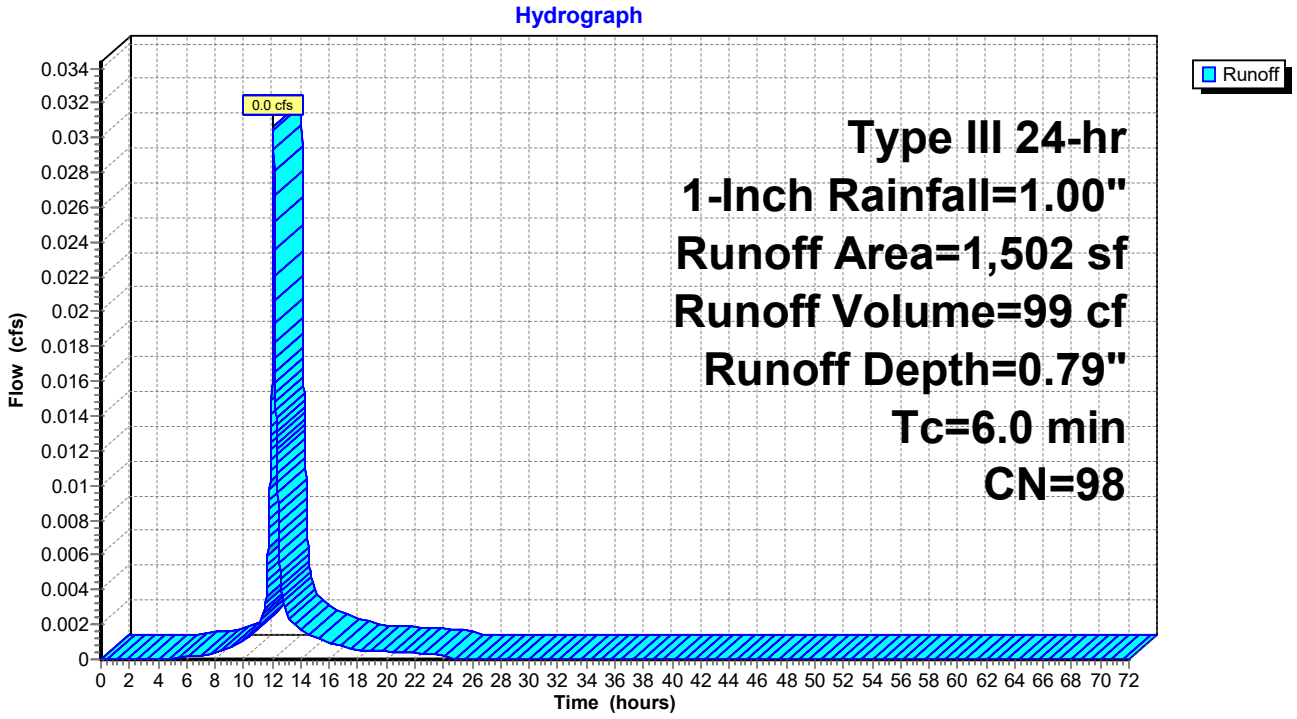
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 99 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,502	98	Paved roads w/curbs & sewers, HSG D
1,502		100.00% Impervious Area

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

Subcatchment S4.9: Subcatchment 4.9



Summary for Subcatchment S5.1: Subcatchment 5.1

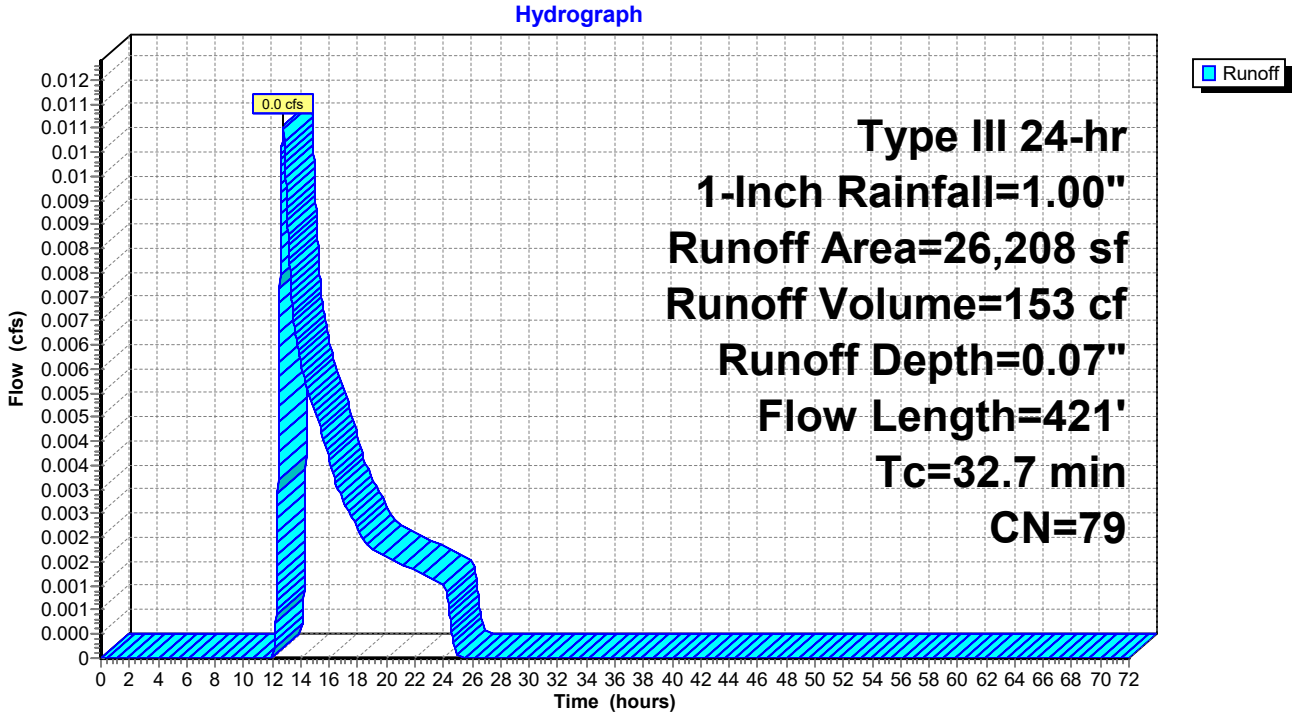
Runoff = 0.0 cfs @ 12.75 hrs, Volume= 153 cf, Depth= 0.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
12,258	77	Woods, Good, HSG D
13,250	80	>75% Grass cover, Good, HSG D
700	98	Roofs, HSG D
26,208	79	Weighted Average
25,508		97.33% Pervious Area
700		2.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	150	0.0267	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
1.8	53	0.0100	0.50		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
4.8	218	0.0229	0.76		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
32.7	421	Total			

Subcatchment S5.1: Subcatchment 5.1



Summary for Subcatchment S5.2: Subcatchment 5.2

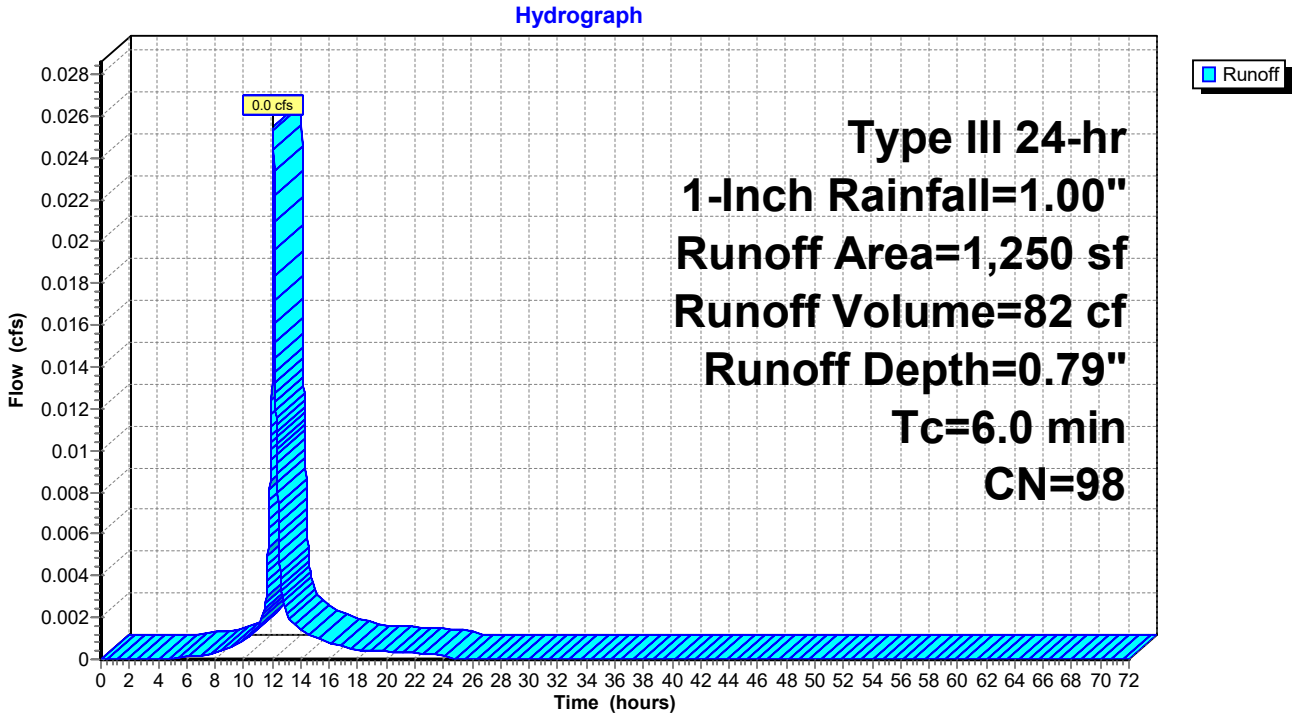
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.2: Subcatchment 5.2



Summary for Subcatchment S5.3: Subcatchment 5.3

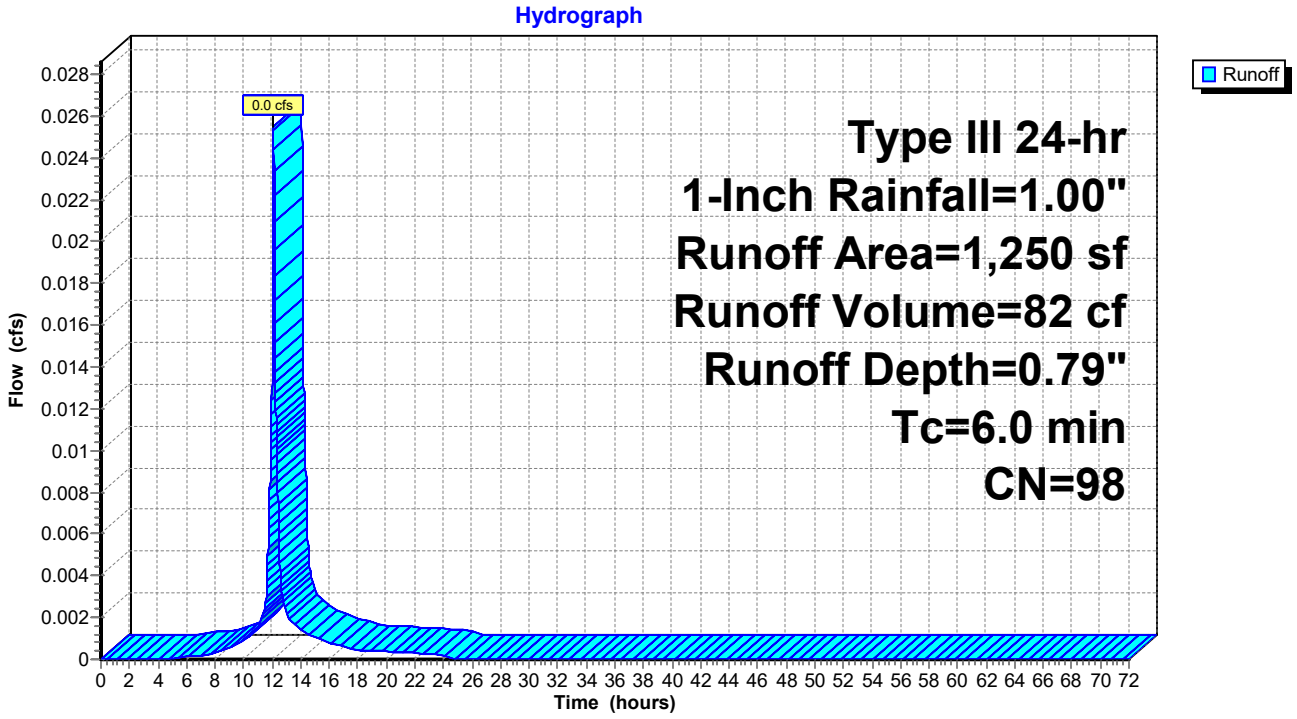
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.3: Subcatchment 5.3



Summary for Subcatchment S5.4: Subcatchment 5.4

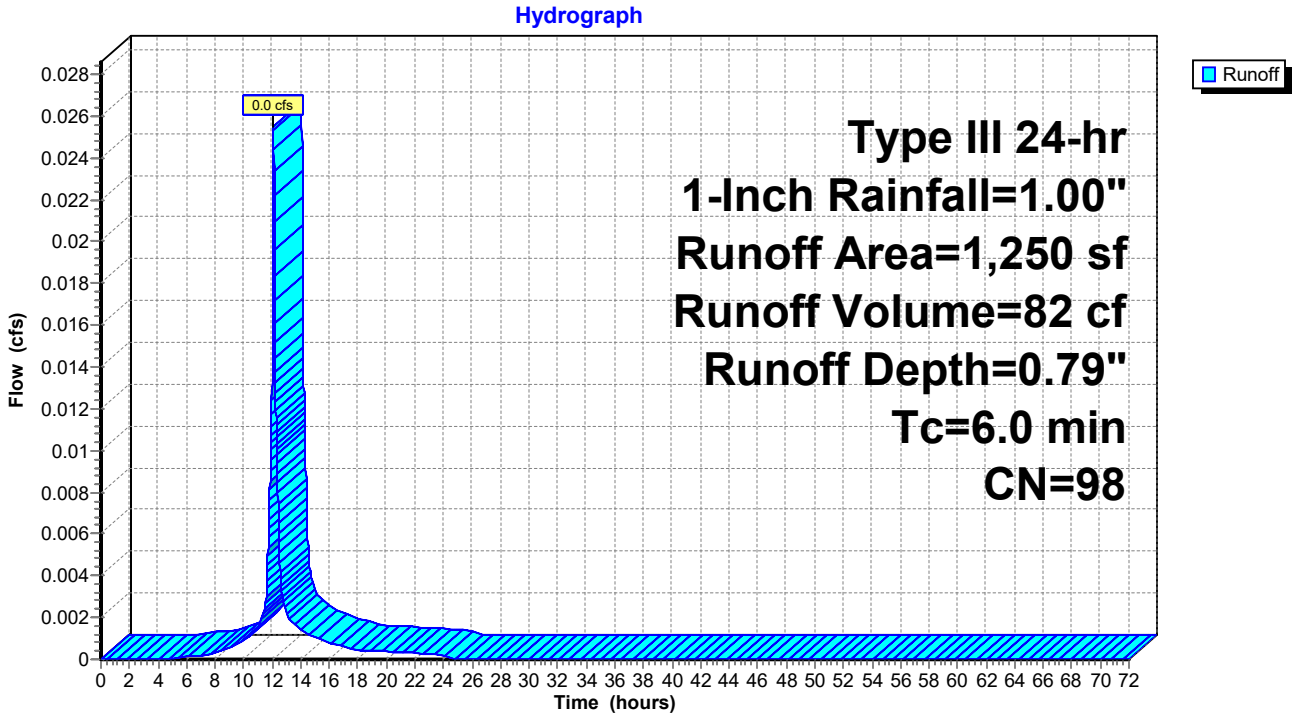
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.4: Subcatchment 5.4



Summary for Reach S1: Swale 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 0.15" for 1-Inch event
Inflow = 0.1 cfs @ 12.38 hrs, Volume= 567 cf
Outflow = 0.1 cfs @ 12.44 hrs, Volume= 567 cf, Atten= 3%, Lag= 4.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.60 fps, Min. Travel Time= 4.9 min
Avg. Velocity = 0.29 fps, Avg. Travel Time= 10.0 min

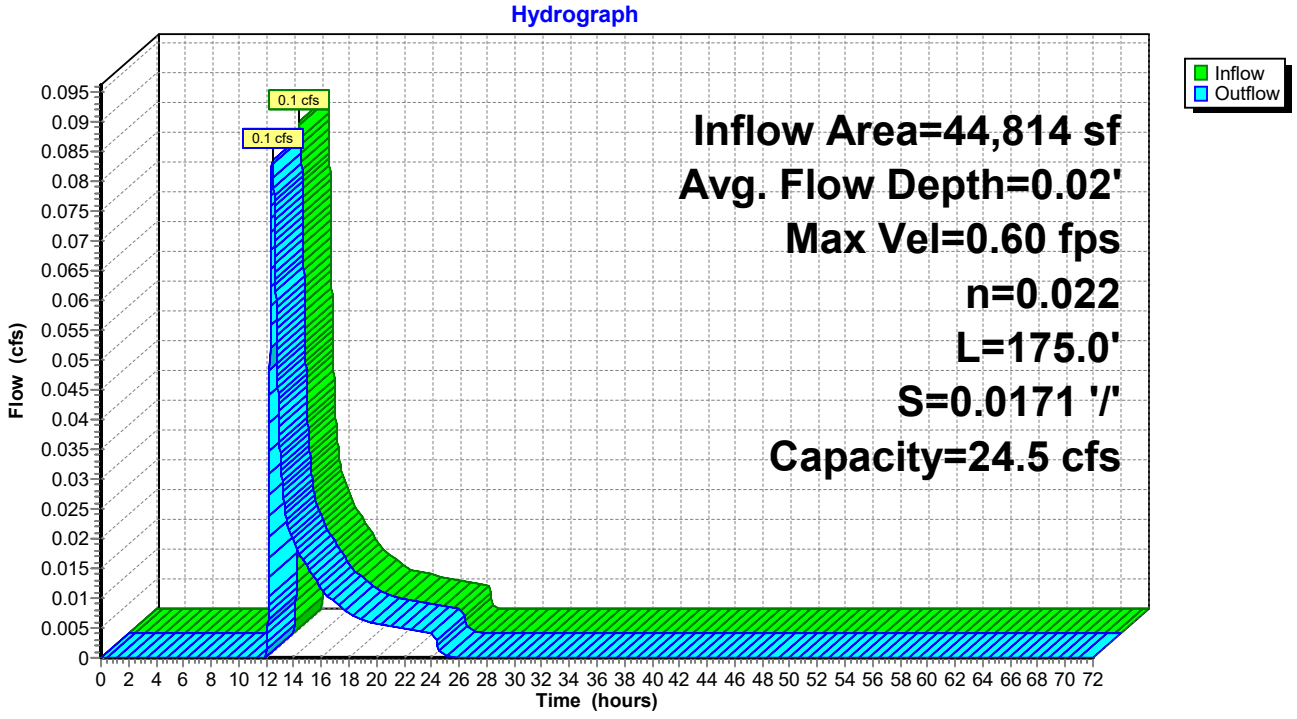
Peak Storage= 25 cf @ 12.44 hrs
Average Depth at Peak Storage= 0.02' , Surface Width= 8.14'
Bank-Full Depth= 0.50' Flow Area= 5.0 sf, Capacity= 24.5 cfs

8.00' x 0.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 4.0 '/' Top Width= 12.00'
Length= 175.0' Slope= 0.0171 '/'
Inlet Invert= 69.00', Outlet Invert= 66.00'



‡

Reach S1: Swale 1



Summary for Pond C1: Culvert 1

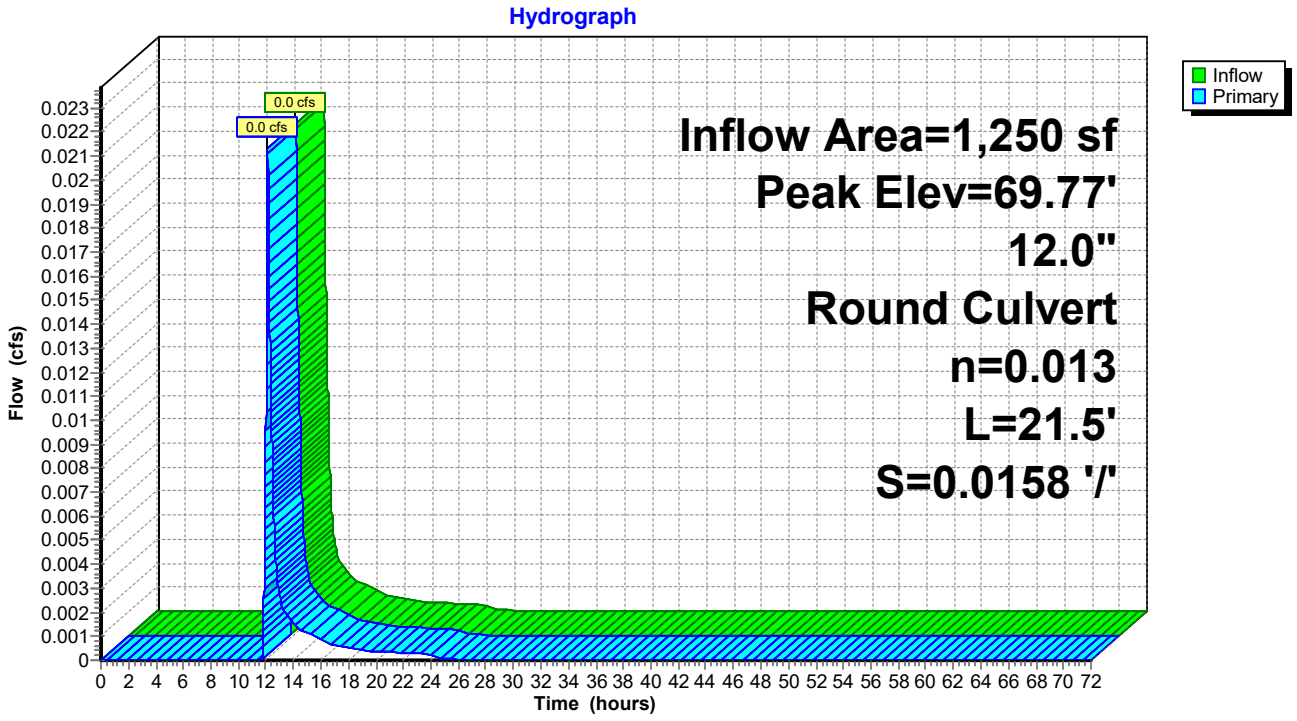
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.63" for 1-Inch event
Inflow = 0.0 cfs @ 12.13 hrs, Volume= 65 cf
Outflow = 0.0 cfs @ 12.13 hrs, Volume= 65 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.13 hrs, Volume= 65 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.77' @ 12.13 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 21.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0158 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.13 hrs HW=69.77' TW=69.49' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.0 cfs @ 0.75 fps)

Pond C1: Culvert 1



Summary for Pond C10: Culvert 10

[57] Hint: Peaked at 69.33' (Flood elevation advised)

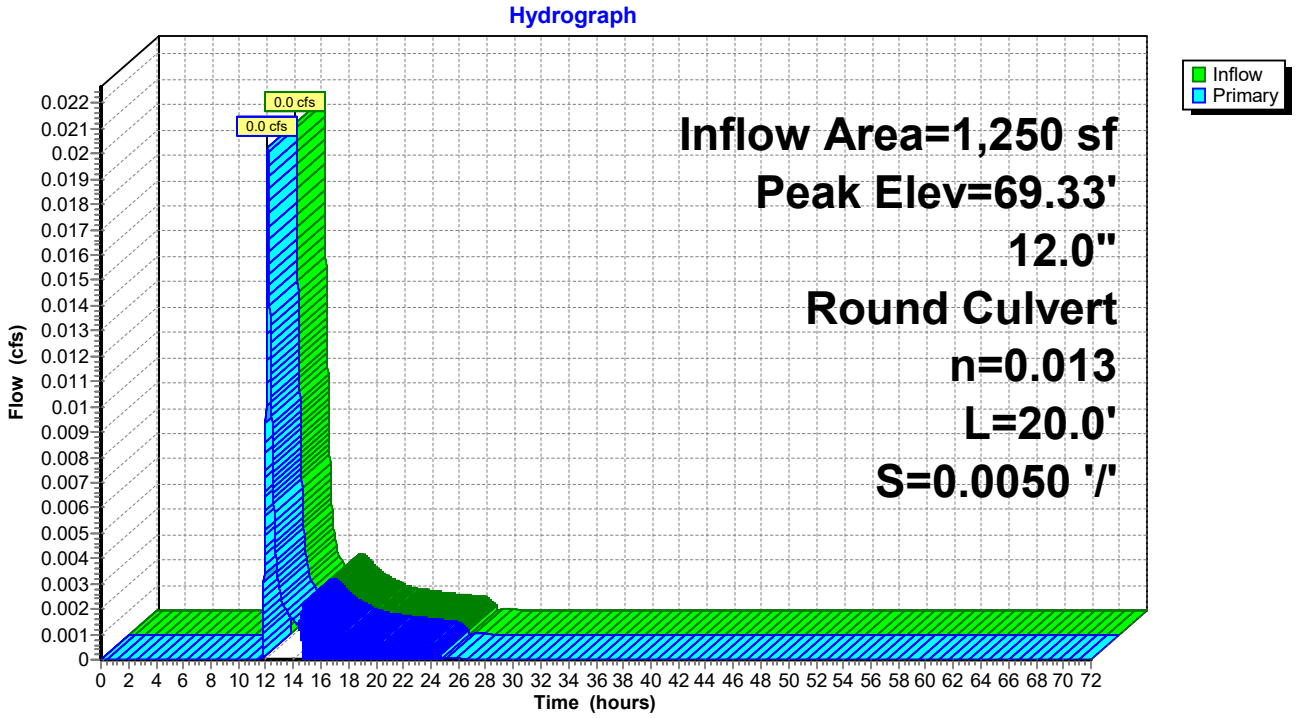
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.63" for 1-Inch event
Inflow = 0.0 cfs @ 12.14 hrs, Volume= 66 cf
Outflow = 0.0 cfs @ 12.14 hrs, Volume= 66 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.14 hrs, Volume= 66 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.33' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**12.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.13' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.14 hrs HW=69.33' TW=69.26' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.0 cfs @ 0.75 fps)

Pond C10: Culvert 10



Summary for Pond C11: Culvert 11

[57] Hint: Peaked at 69.26' (Flood elevation advised)

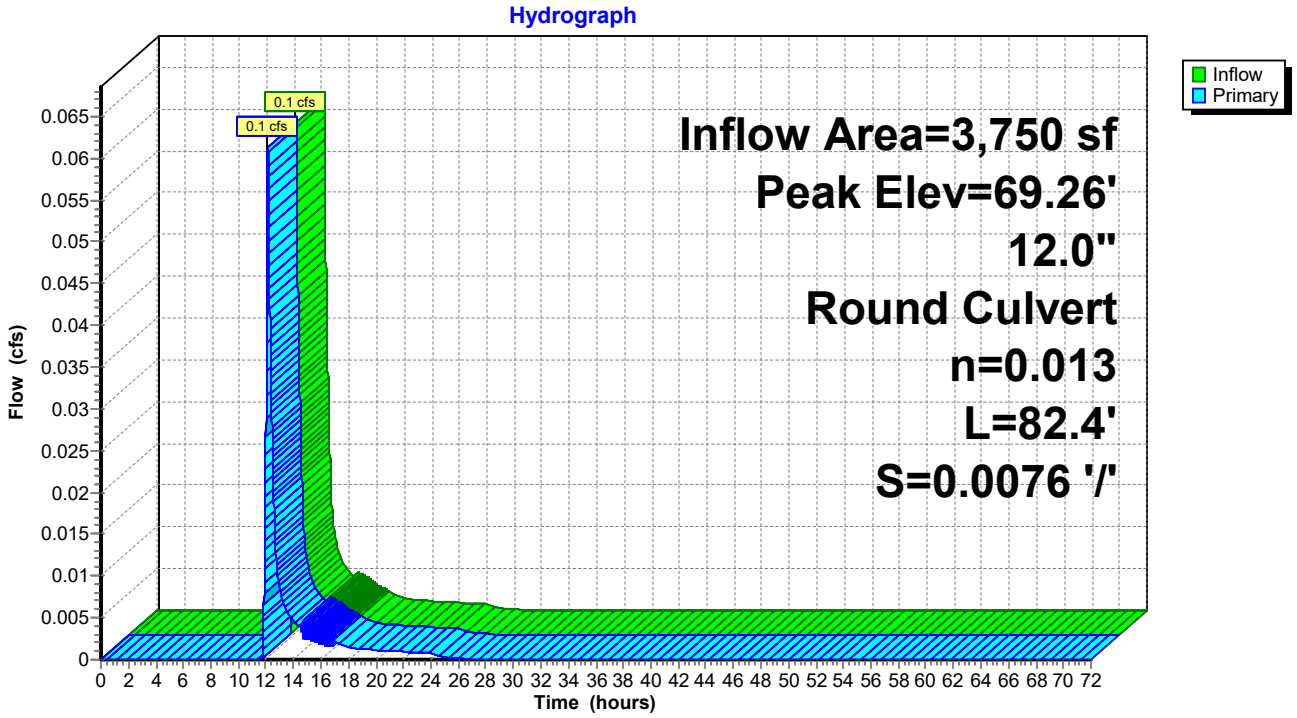
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 0.63" for 1-Inch event
Inflow = 0.1 cfs @ 12.14 hrs, Volume= 196 cf
Outflow = 0.1 cfs @ 12.14 hrs, Volume= 196 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.14 hrs, Volume= 196 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.26' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.13'	**12.0" Round Culvert** L= 82.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.13' / 68.50' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.14 hrs HW=69.26' TW=68.58' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.1 cfs @ 0.98 fps)

Pond C11: Culvert 11



Summary for Pond C2: Culvert 2

[57] Hint: Peaked at 69.51' (Flood elevation advised)
[80] Warning: Exceeded Pond RD2 by 0.01' @ 11.75 hrs (0.0 cfs 51 cf)

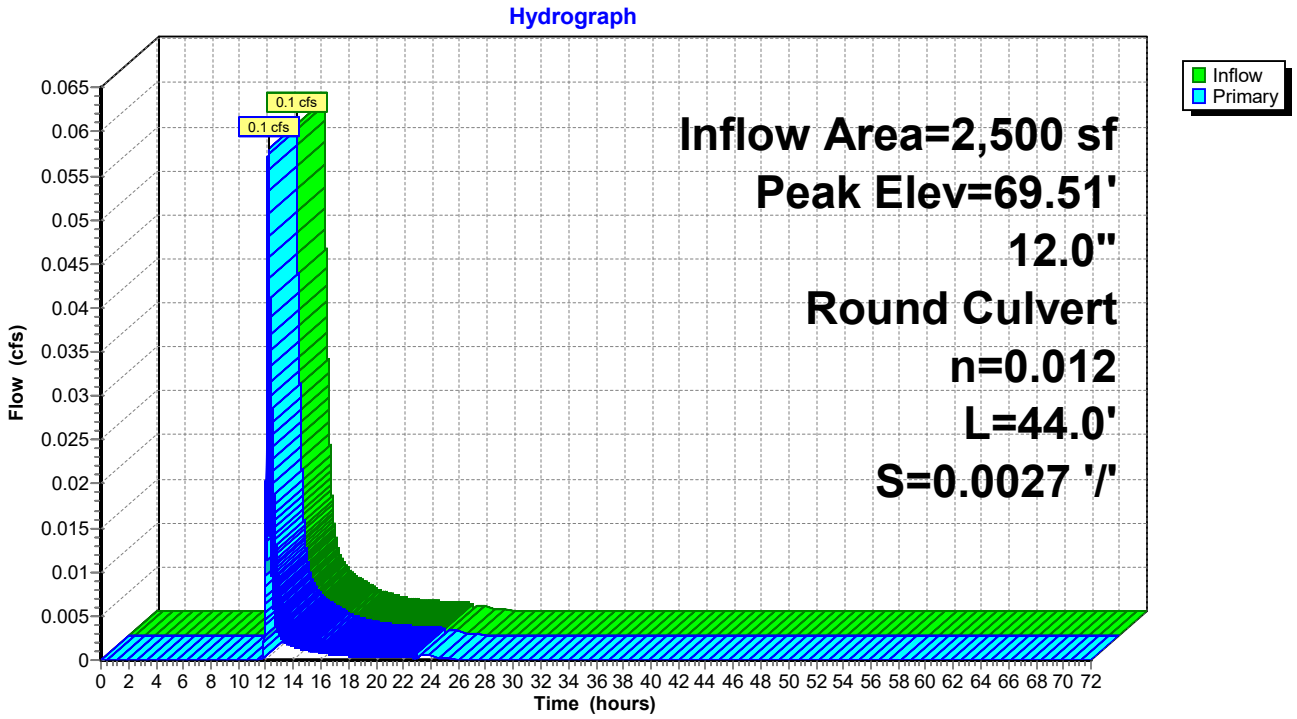
Inflow Area = 2,500 sf,100.00% Impervious, Inflow Depth = 0.62" for 1-Inch event
Inflow = 0.1 cfs @ 12.15 hrs, Volume= 130 cf
Outflow = 0.1 cfs @ 12.15 hrs, Volume= 130 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.15 hrs, Volume= 130 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.51' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.23' S= 0.0027 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.15 hrs HW=69.51' TW=69.37' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.1 cfs @ 1.04 fps)

Pond C2: Culvert 2



Summary for Pond C3: Culvert 3

[57] Hint: Peaked at 69.37' (Flood elevation advised)

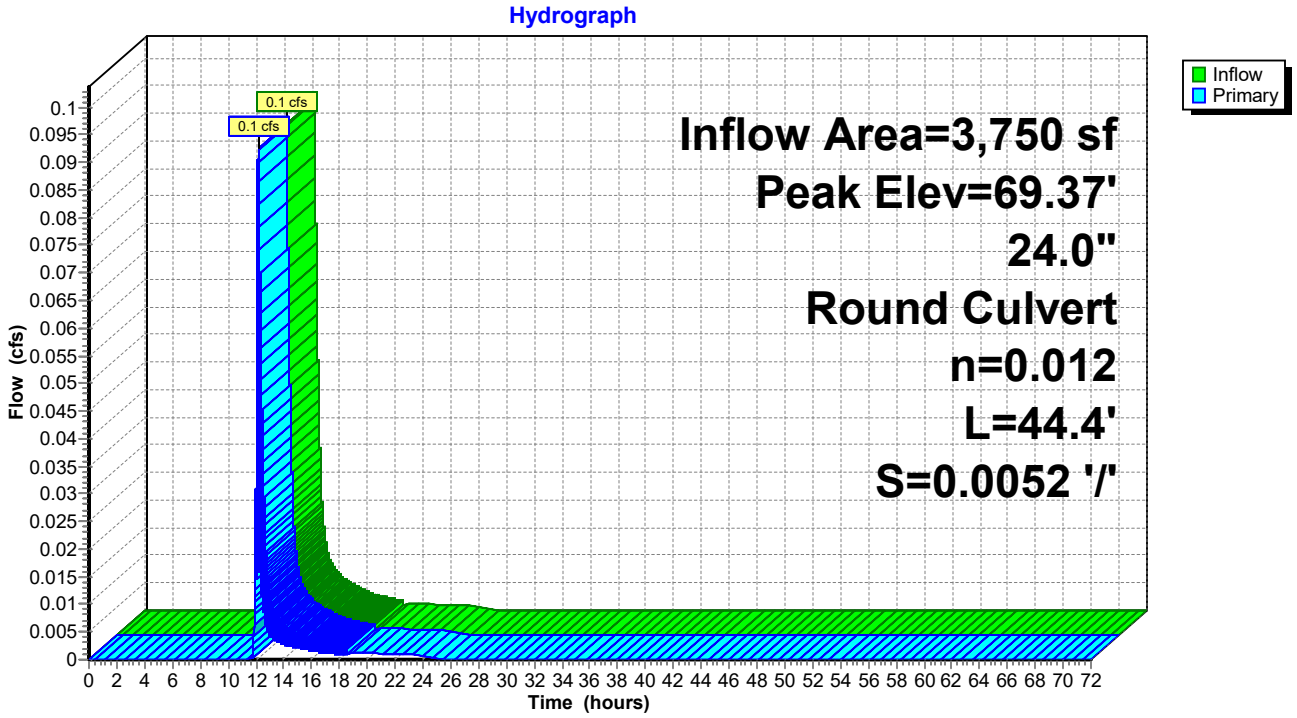
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 0.62" for 1-Inch event
Inflow = 0.1 cfs @ 12.15 hrs, Volume= 194 cf
Outflow = 0.1 cfs @ 12.15 hrs, Volume= 194 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.15 hrs, Volume= 194 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.37' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**24.0" Round Culvert** L= 44.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.00' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.1 cfs @ 12.15 hrs HW=69.37' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.1 cfs @ 1.42 fps)

Pond C3: Culvert 3



Summary for Pond C4: Culvert 4

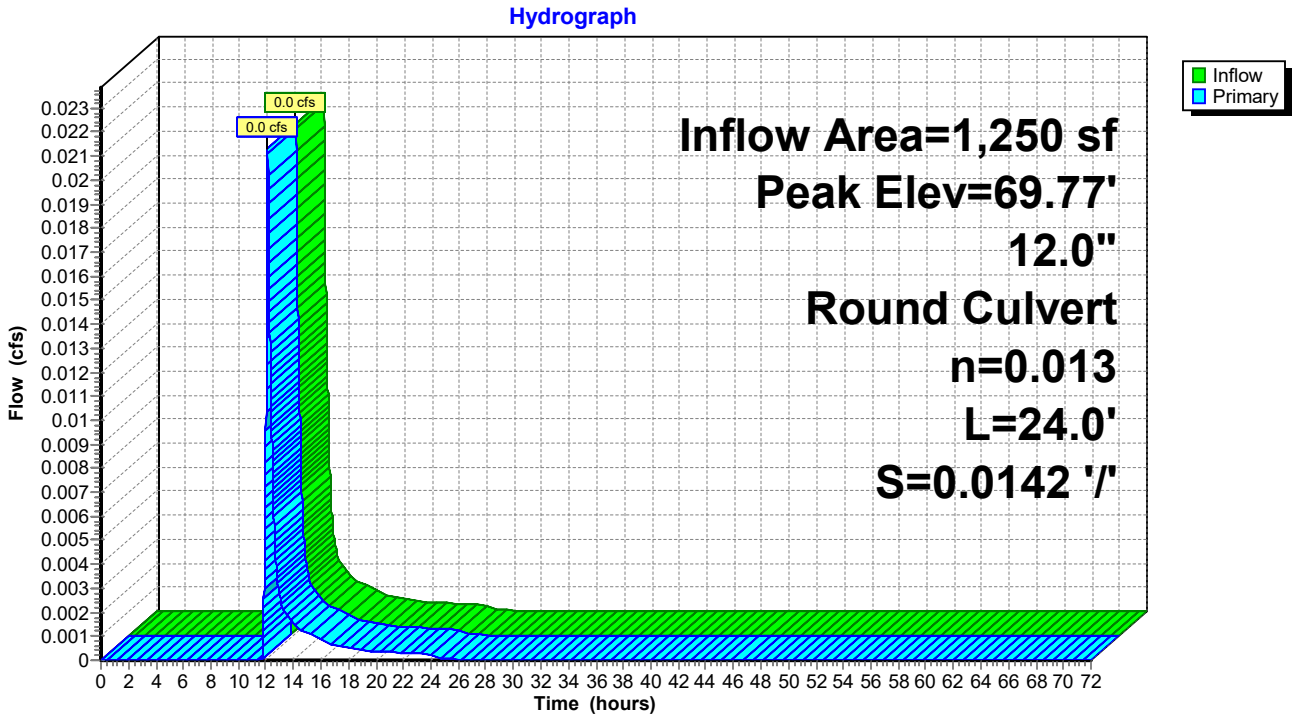
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.63" for 1-Inch event
Inflow = 0.0 cfs @ 12.13 hrs, Volume= 65 cf
Outflow = 0.0 cfs @ 12.13 hrs, Volume= 65 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.13 hrs, Volume= 65 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.77' @ 12.13 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0142 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.13 hrs HW=69.77' TW=69.46' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.0 cfs @ 0.75 fps)

Pond C4: Culvert 4



Summary for Pond C7: Culvert 7

[80] Warning: Exceeded Pond RD7 by 0.04' @ 12.16 hrs (0.0 cfs 79 cf)

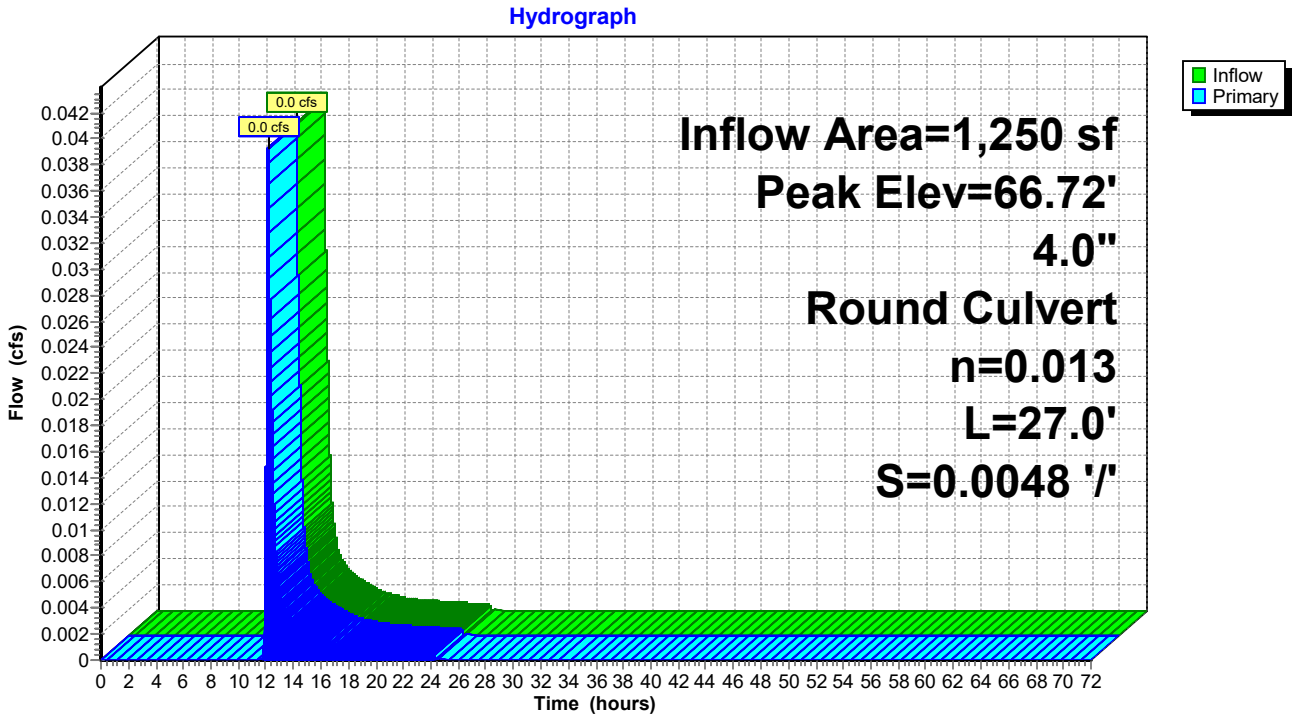
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.62" for 1-Inch event
Inflow = 0.0 cfs @ 12.16 hrs, Volume= 65 cf
Outflow = 0.0 cfs @ 12.16 hrs, Volume= 65 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.16 hrs, Volume= 65 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.72' @ 12.16 hrs
Flood Elev= 69.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Round Culvert** L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.55' / 66.42' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.0 cfs @ 12.16 hrs HW=66.72' TW=66.54' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 0.0 cfs @ 1.29 fps)

Pond C7: Culvert 7



Summary for Pond C8: Culvert 8

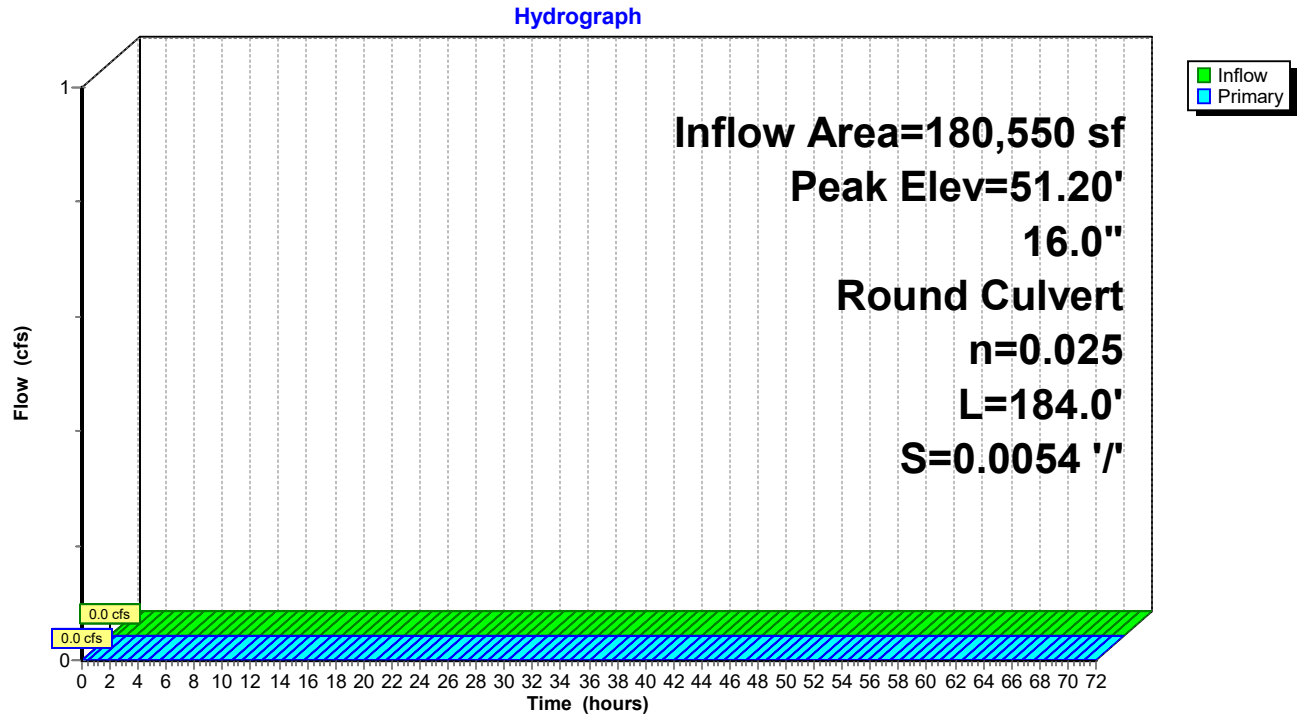
Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 0.00" for 1-Inch event
Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 51.20' @ 0.00 hrs
Flood Elev= 51.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.20'	**16.0" Round Culvert** L= 184.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.20' / 50.20' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=51.20' TW=50.00' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond C8: Culvert 8



Summary for Pond C9: Culvert 9

[57] Hint: Peaked at 69.46' (Flood elevation advised)
[80] Warning: Exceeded Pond RD5 by 0.01' @ 11.74 hrs (0.0 cfs 5 cf)

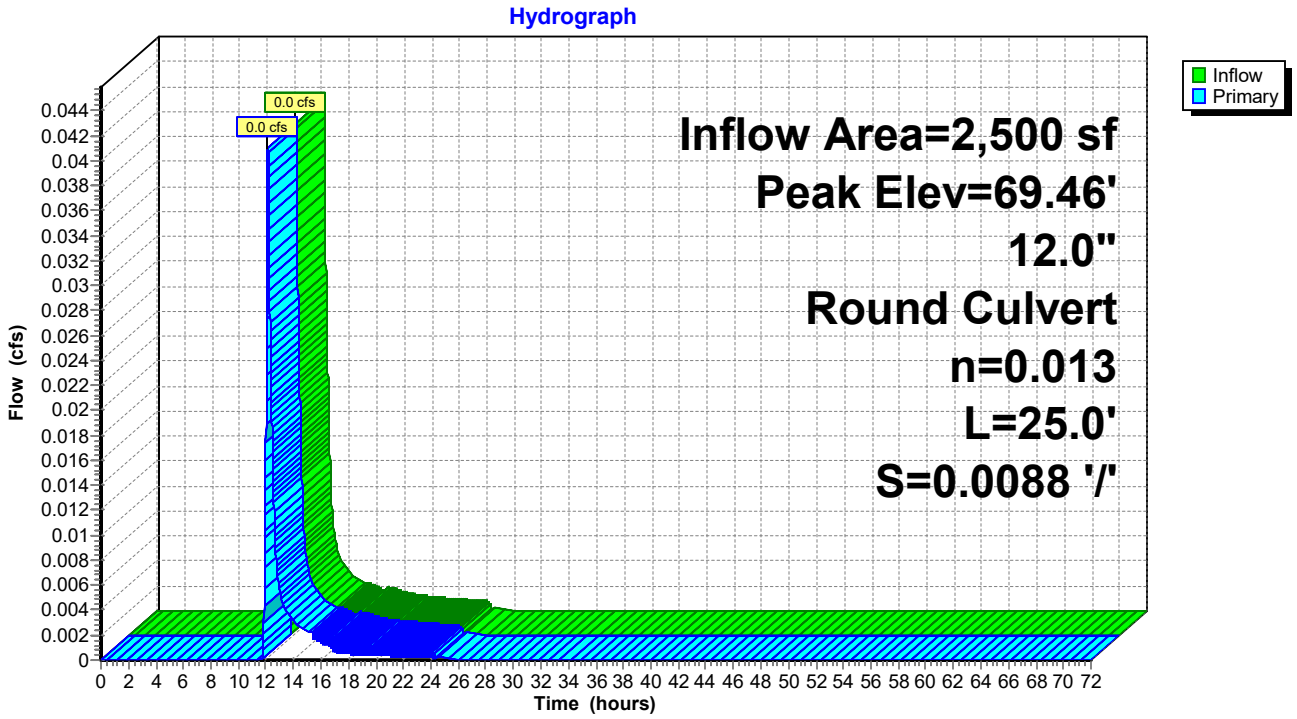
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	0.62"	for	1-Inch event
Inflow =	0.0 cfs @ 12.14 hrs,	Volume=	130 cf		
Outflow =	0.0 cfs @ 12.14 hrs,	Volume=	130 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.0 cfs @ 12.14 hrs,	Volume=	130 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.46' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.13' S= 0.0088 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.14 hrs HW=69.46' TW=69.26' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.0 cfs @ 1.28 fps)

Pond C9: Culvert 9



Summary for Pond CB1: Catch Basin 1

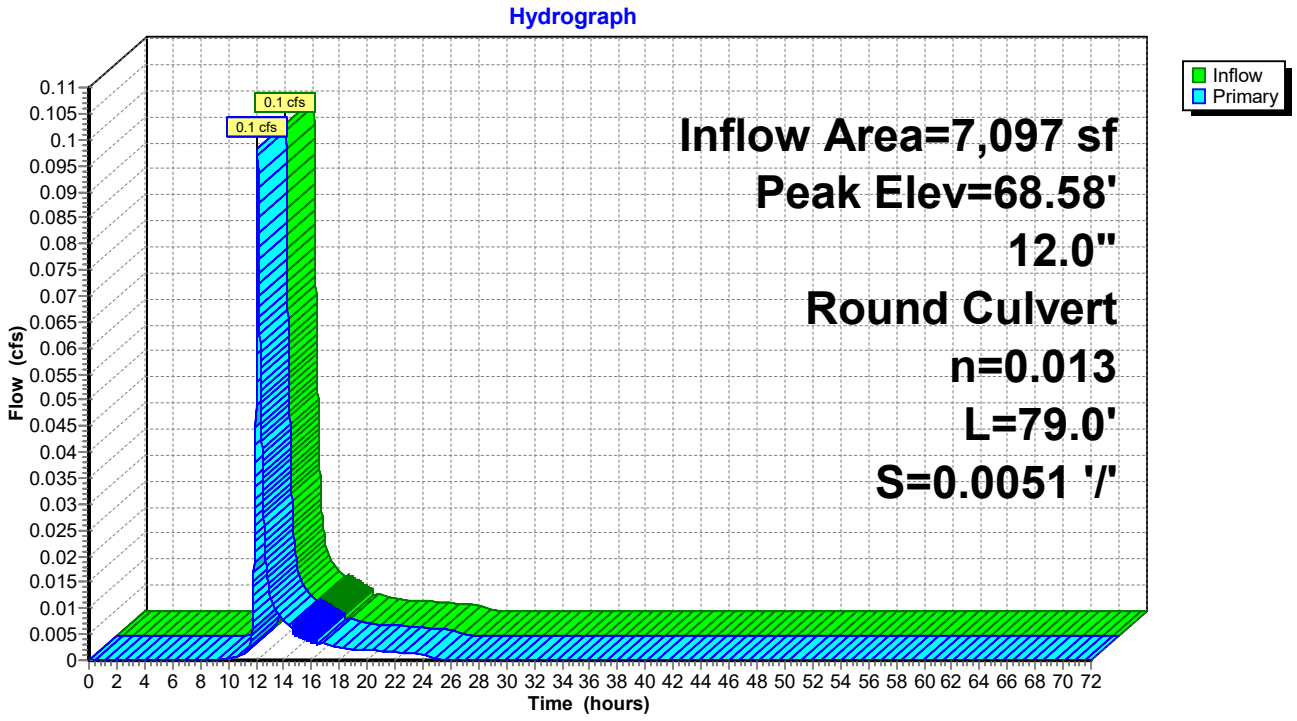
Inflow Area = 7,097 sf, 86.63% Impervious, Inflow Depth = 0.54" for 1-Inch event
Inflow = 0.1 cfs @ 12.12 hrs, Volume= 322 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 322 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 322 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.58' @ 12.12 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	**12.0" Round Culvert** L= 79.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.40' / 68.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=68.58' TW=66.55' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.1 cfs @ 1.52 fps)

Pond CB1: Catch Basin 1



Summary for Pond CB10: Catch Basin 10

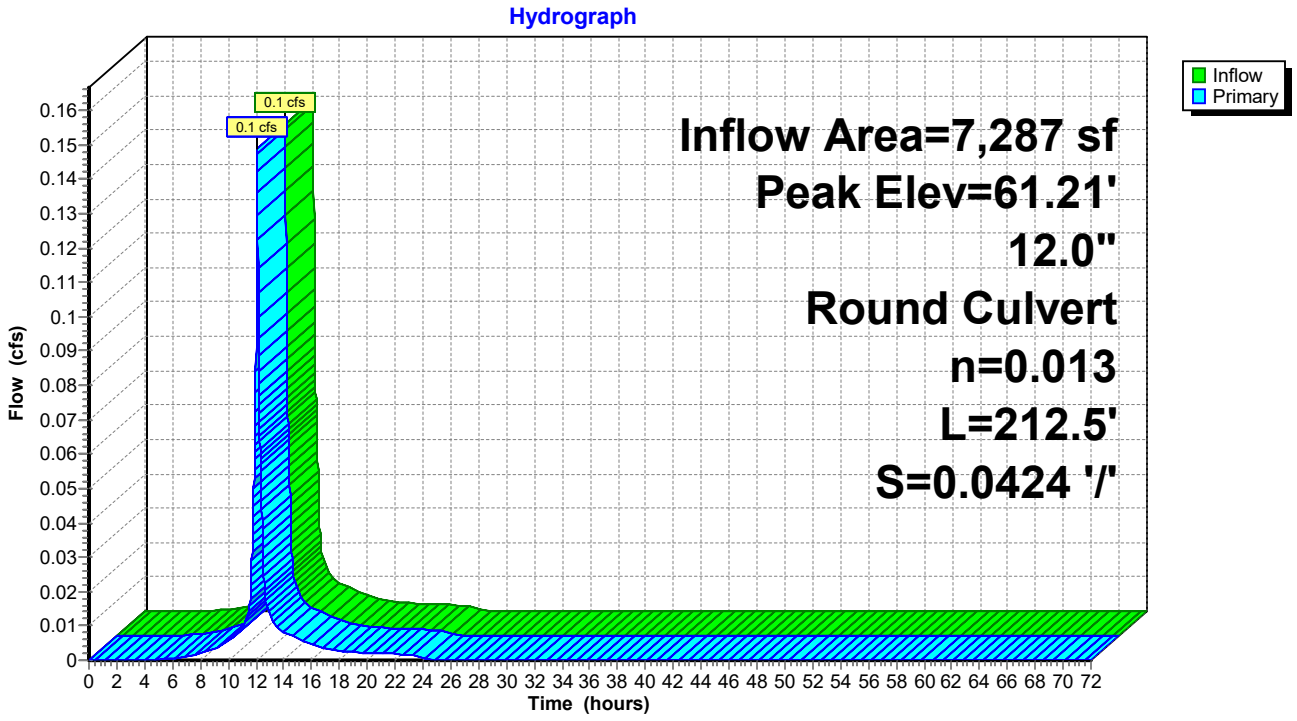
Inflow Area = 7,287 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 480 cf
Outflow = 0.1 cfs @ 12.08 hrs, Volume= 480 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.08 hrs, Volume= 480 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.21' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**12.0" Round Culvert** L= 212.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 52.00' S= 0.0424 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.08 hrs HW=61.21' TW=52.09' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.1 cfs @ 1.23 fps)

Pond CB10: Catch Basin 10



Summary for Pond CB11: Catch Basin 11

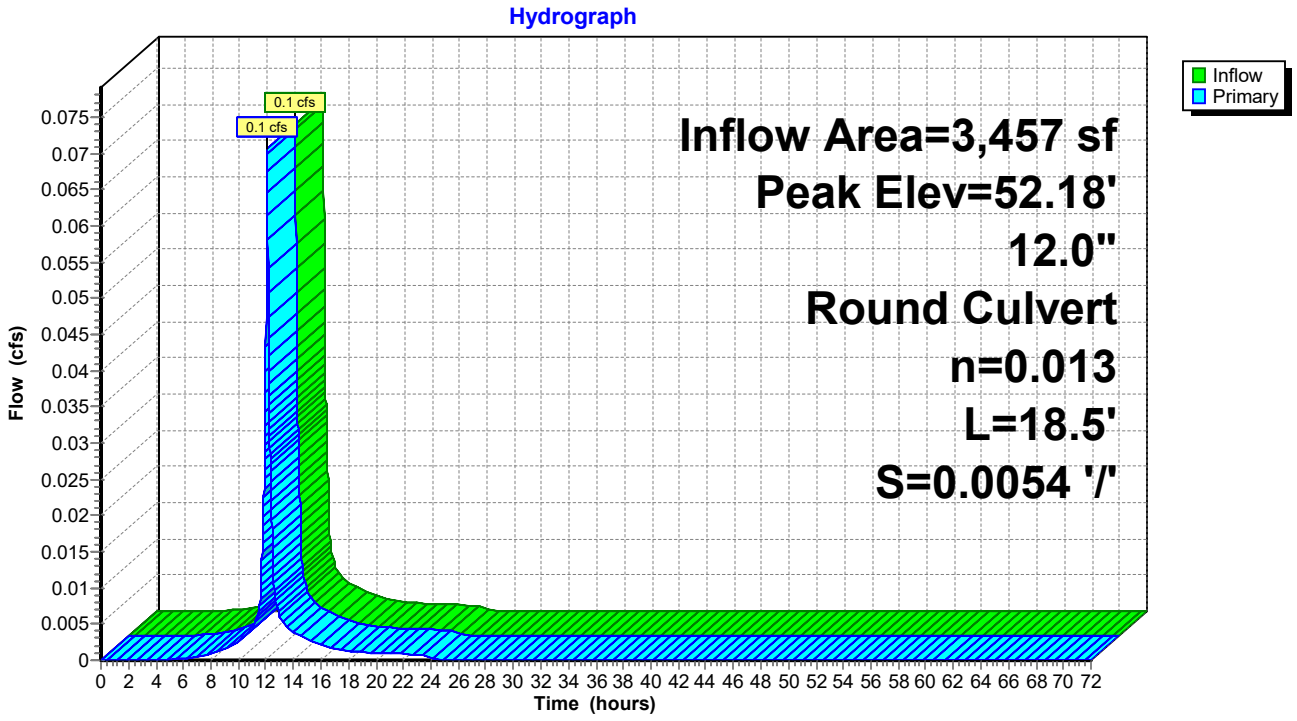
Inflow Area = 3,457 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 228 cf
Outflow = 0.1 cfs @ 12.08 hrs, Volume= 228 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.08 hrs, Volume= 228 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.18' @ 12.09 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.00'	**12.0" Round Culvert** L= 18.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.00' / 51.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.08 hrs HW=52.18' TW=52.09' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 1.12 fps)

Pond CB11: Catch Basin 11



Summary for Pond CB12: Catch Basin 12

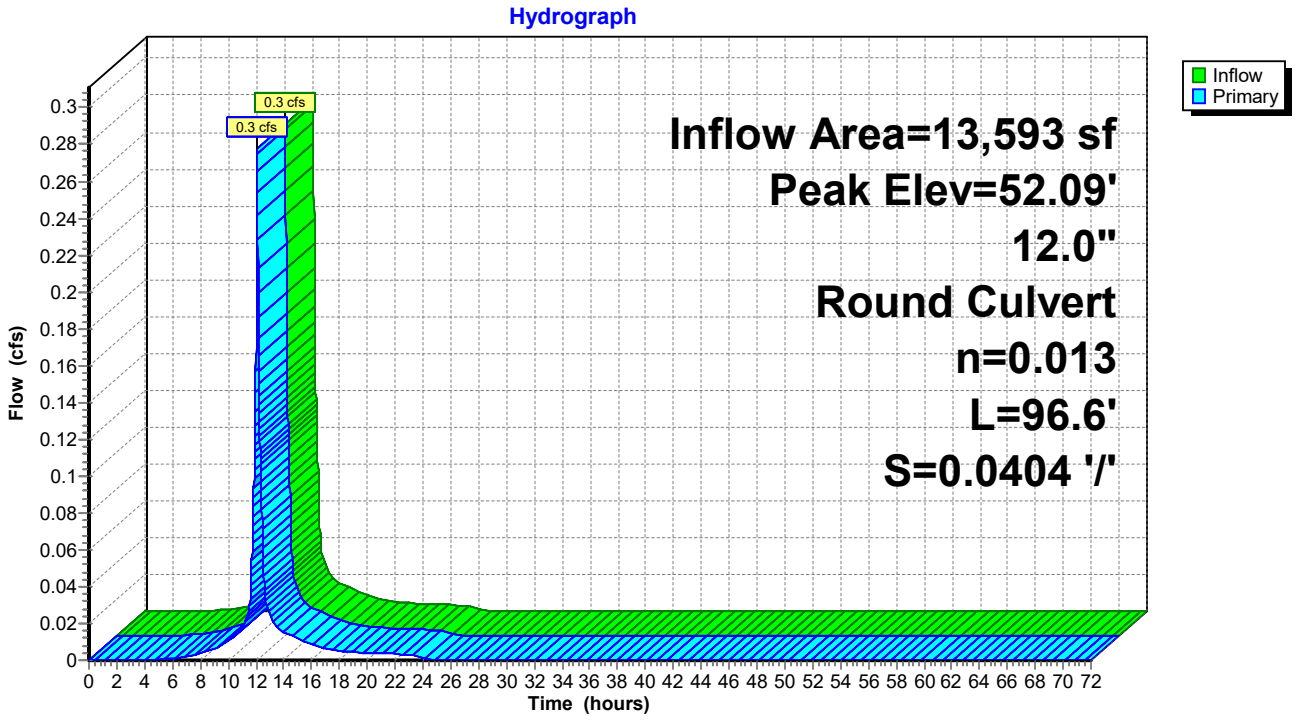
Inflow Area = 13,593 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.3 cfs @ 12.08 hrs, Volume= 896 cf
Outflow = 0.3 cfs @ 12.08 hrs, Volume= 896 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.08 hrs, Volume= 896 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.09' @ 12.08 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.80'	**12.0" Round Culvert** L= 96.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.80' / 47.90' S= 0.0404 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.08 hrs HW=52.09' TW=48.15' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.3 cfs @ 1.45 fps)

Pond CB12: Catch Basin 12



Summary for Pond CB13: Catch Basin 13

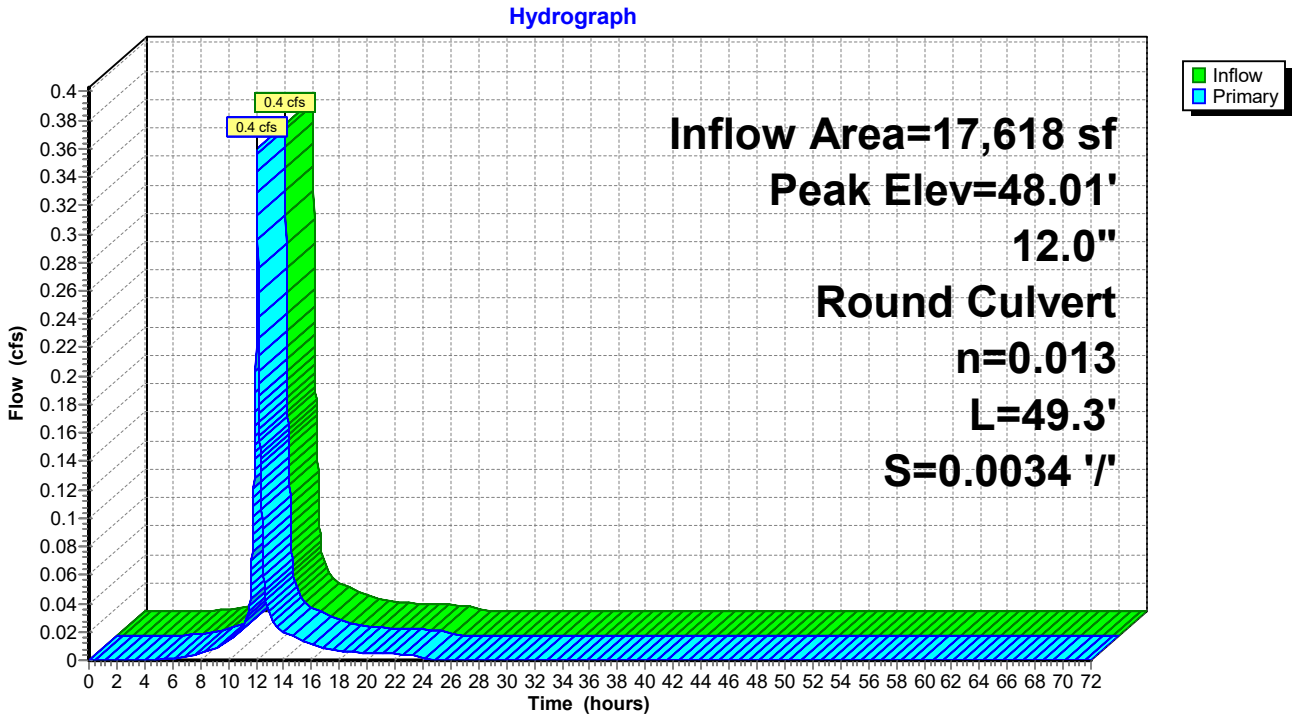
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf
Outflow = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.01' @ 12.09 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	**12.0" Round Culvert** L= 49.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.60' / 47.43' S= 0.0034 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.08 hrs HW=48.01' TW=47.81' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.4 cfs @ 1.74 fps)

Pond CB13: Catch Basin 13



Summary for Pond CB14: Catch Basin 14

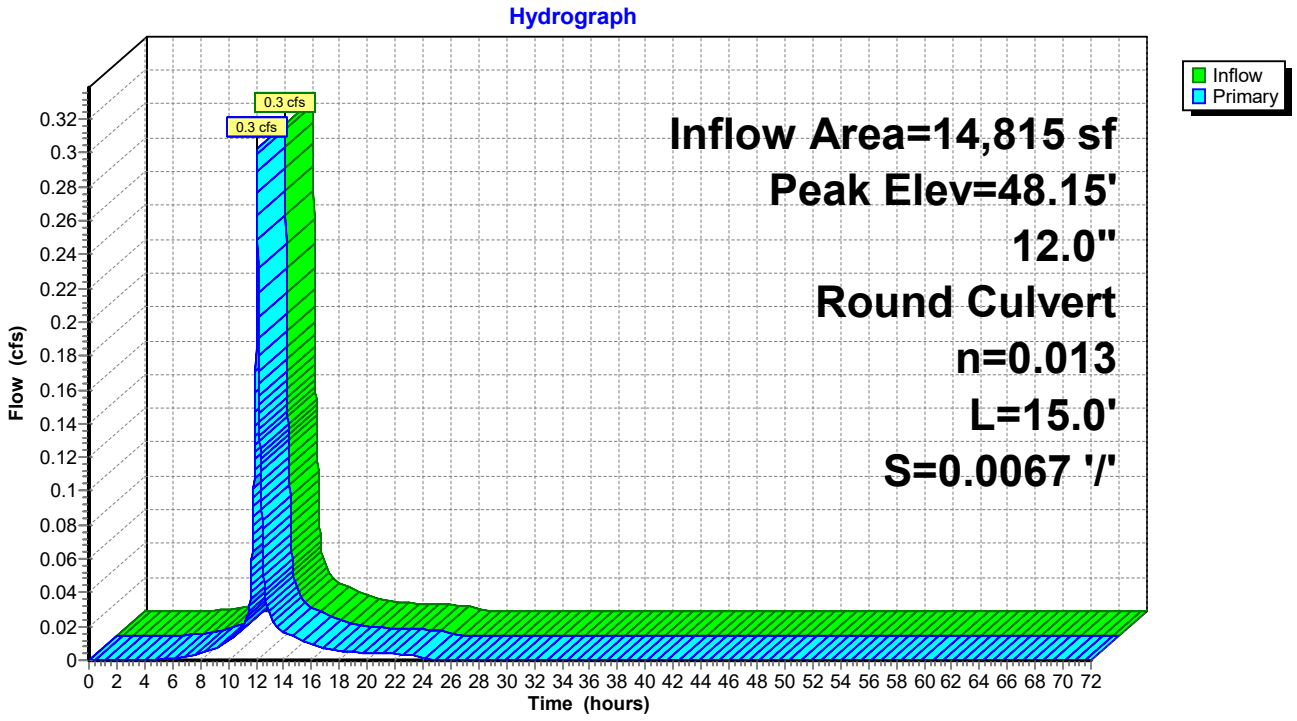
Inflow Area = 14,815 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.3 cfs @ 12.08 hrs, Volume= 976 cf
Outflow = 0.3 cfs @ 12.08 hrs, Volume= 976 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.08 hrs, Volume= 976 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.15' @ 12.09 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.80'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.80' / 47.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.08 hrs HW=48.15' TW=48.01' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.3 cfs @ 1.80 fps)

Pond CB14: Catch Basin 14



Summary for Pond CB2: Catch Basin 2

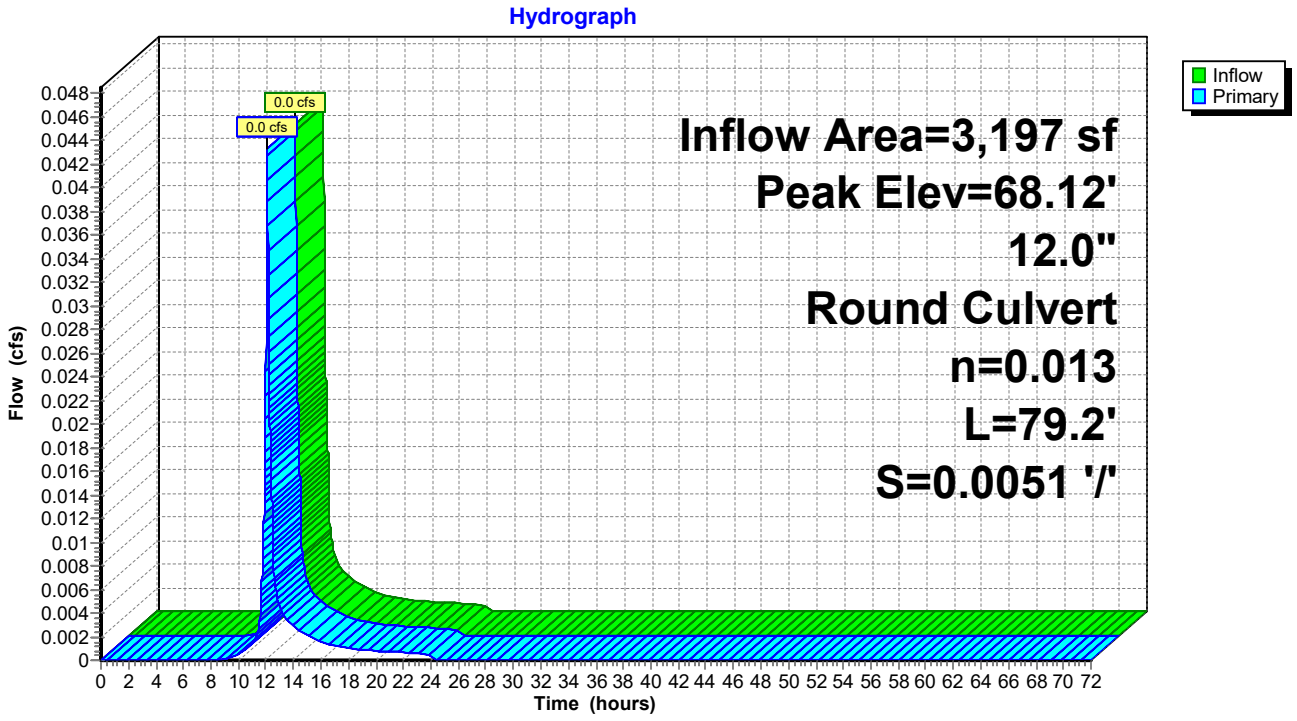
Inflow Area = 3,197 sf, 72.57% Impervious, Inflow Depth = 0.50" for 1-Inch event
Inflow = 0.0 cfs @ 12.09 hrs, Volume= 134 cf
Outflow = 0.0 cfs @ 12.09 hrs, Volume= 134 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.09 hrs, Volume= 134 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.12' @ 12.09 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**12.0" Round Culvert** L= 79.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.00' / 67.60' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.09 hrs HW=68.12' TW=66.38' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.0 cfs @ 1.20 fps)

Pond CB2: Catch Basin 2



Summary for Pond CB3: Catch Basin 3

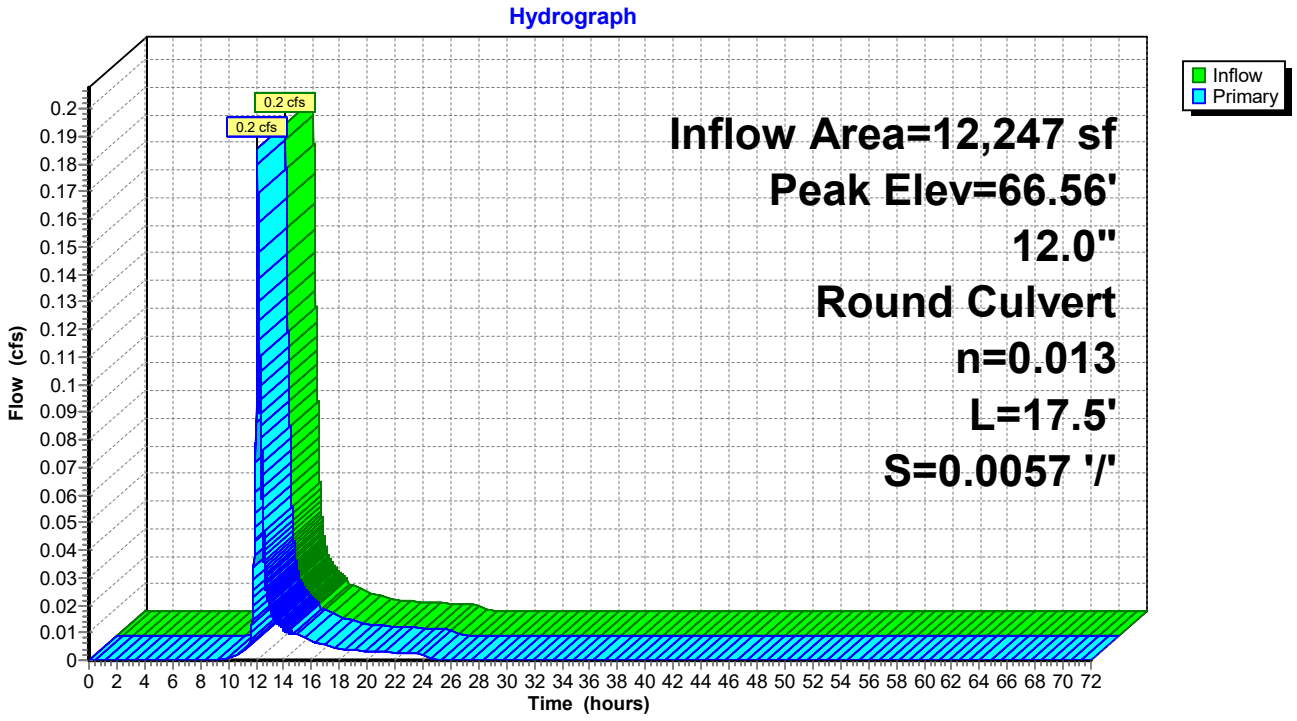
Inflow Area = 12,247 sf, 83.76% Impervious, Inflow Depth = 0.54" for 1-Inch event
Inflow = 0.2 cfs @ 12.12 hrs, Volume= 550 cf
Outflow = 0.2 cfs @ 12.12 hrs, Volume= 550 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.12 hrs, Volume= 550 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.56' @ 12.12 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.30'	**12.0" Round Culvert** L= 17.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.30' / 66.20' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=66.56' TW=66.40' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.2 cfs @ 1.71 fps)

Pond CB3: Catch Basin 3



Summary for Pond CB4: Catch Basin 4

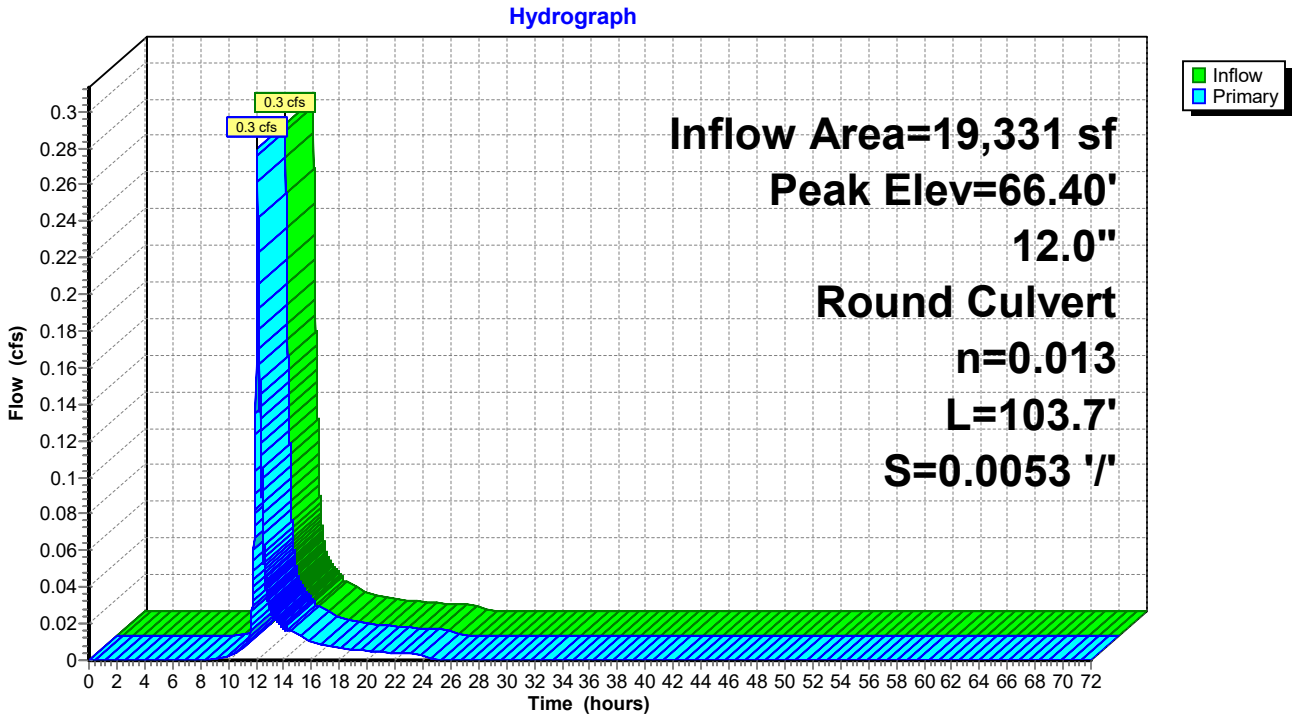
Inflow Area = 19,331 sf, 80.08% Impervious, Inflow Depth = 0.53" for 1-Inch event
Inflow = 0.3 cfs @ 12.10 hrs, Volume= 847 cf
Outflow = 0.3 cfs @ 12.10 hrs, Volume= 847 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.10 hrs, Volume= 847 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.40' @ 12.10 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.10'	**12.0" Round Culvert** L= 103.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.10' / 65.55' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.10 hrs HW=66.40' TW=65.78' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.3 cfs @ 2.07 fps)

Pond CB4: Catch Basin 4



Summary for Pond CB5: Catch Basin 5

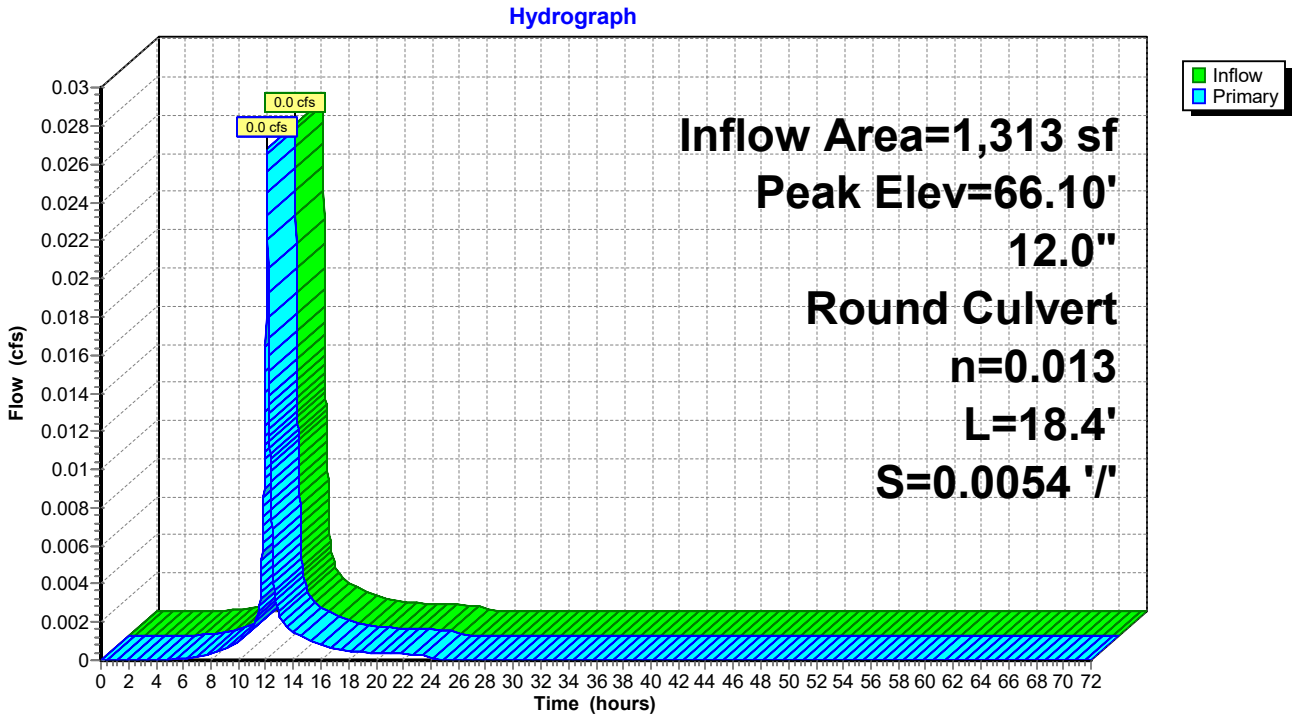
Inflow Area = 1,313 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 87 cf
Outflow = 0.0 cfs @ 12.08 hrs, Volume= 87 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.08 hrs, Volume= 87 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.10' @ 12.08 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	**12.0" Round Culvert** L= 18.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.00' / 65.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=66.10' TW=65.77' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.0 cfs @ 1.05 fps)

Pond CB5: Catch Basin 5



Summary for Pond CB6: Catch Basin 6

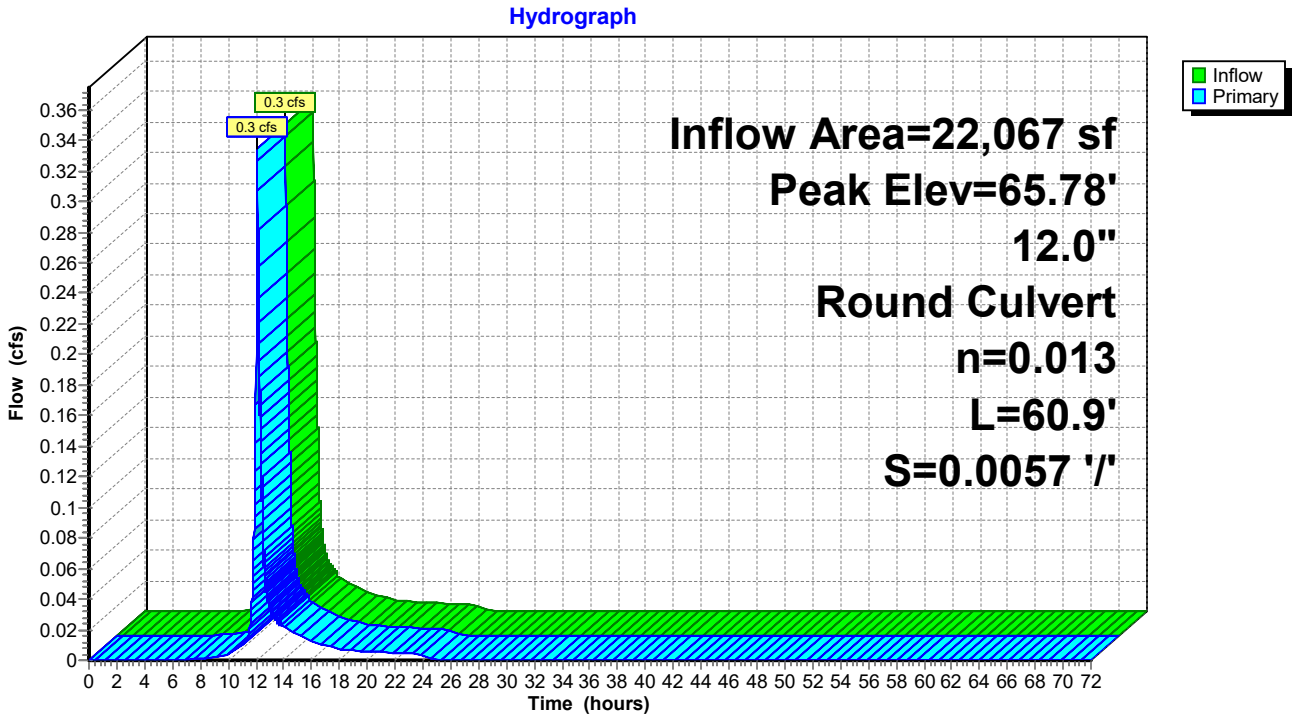
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 0.56" for 1-Inch event
Inflow = 0.3 cfs @ 12.10 hrs, Volume= 1,028 cf
Outflow = 0.3 cfs @ 12.10 hrs, Volume= 1,028 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.10 hrs, Volume= 1,028 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.78' @ 12.10 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.45'	**12.0" Round Culvert** L= 60.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.45' / 65.10' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.10 hrs HW=65.78' TW=65.34' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.3 cfs @ 2.19 fps)

Pond CB6: Catch Basin 6



Summary for Pond CB7: Catch Basin 7

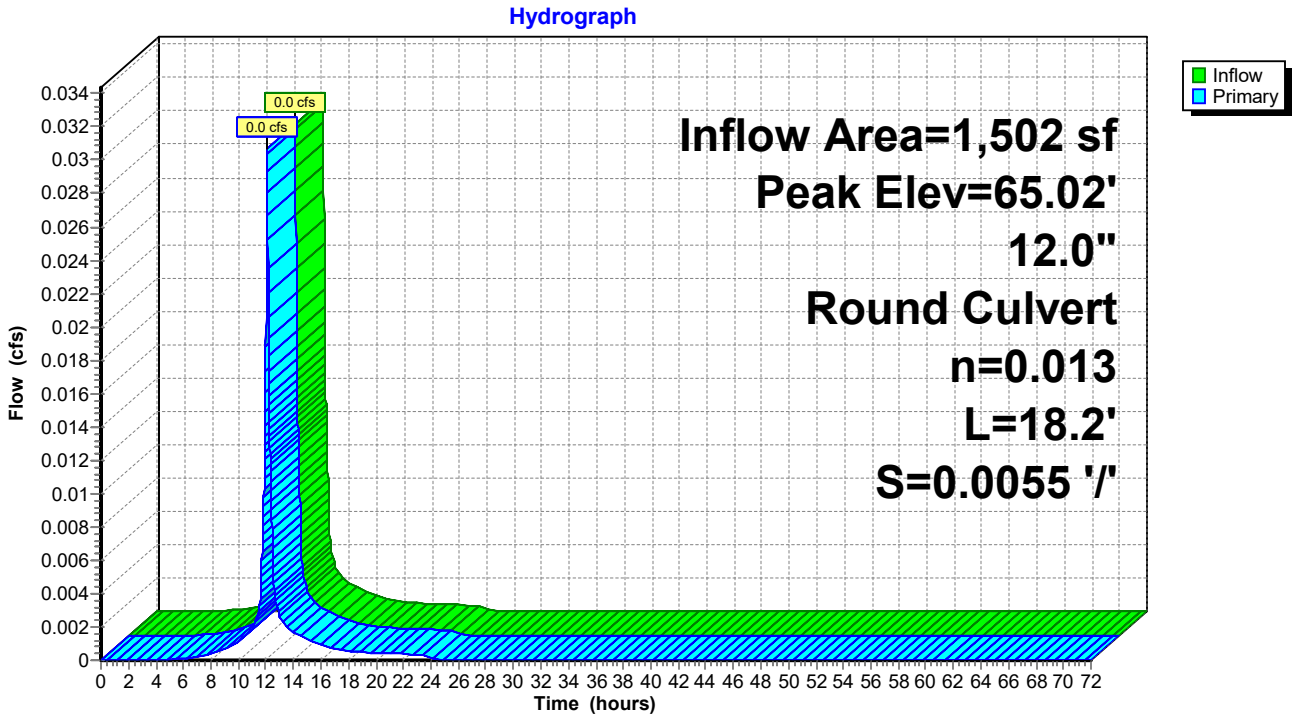
Inflow Area = 1,502 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 99 cf
Outflow = 0.0 cfs @ 12.08 hrs, Volume= 99 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.08 hrs, Volume= 99 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.02' @ 12.11 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.85'	**12.0" Round Culvert** L= 18.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.85' / 64.75' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=65.02' TW=65.00' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.0 cfs @ 0.49 fps)

Pond CB7: Catch Basin 7



Summary for Pond CB8: Catch Basin 8

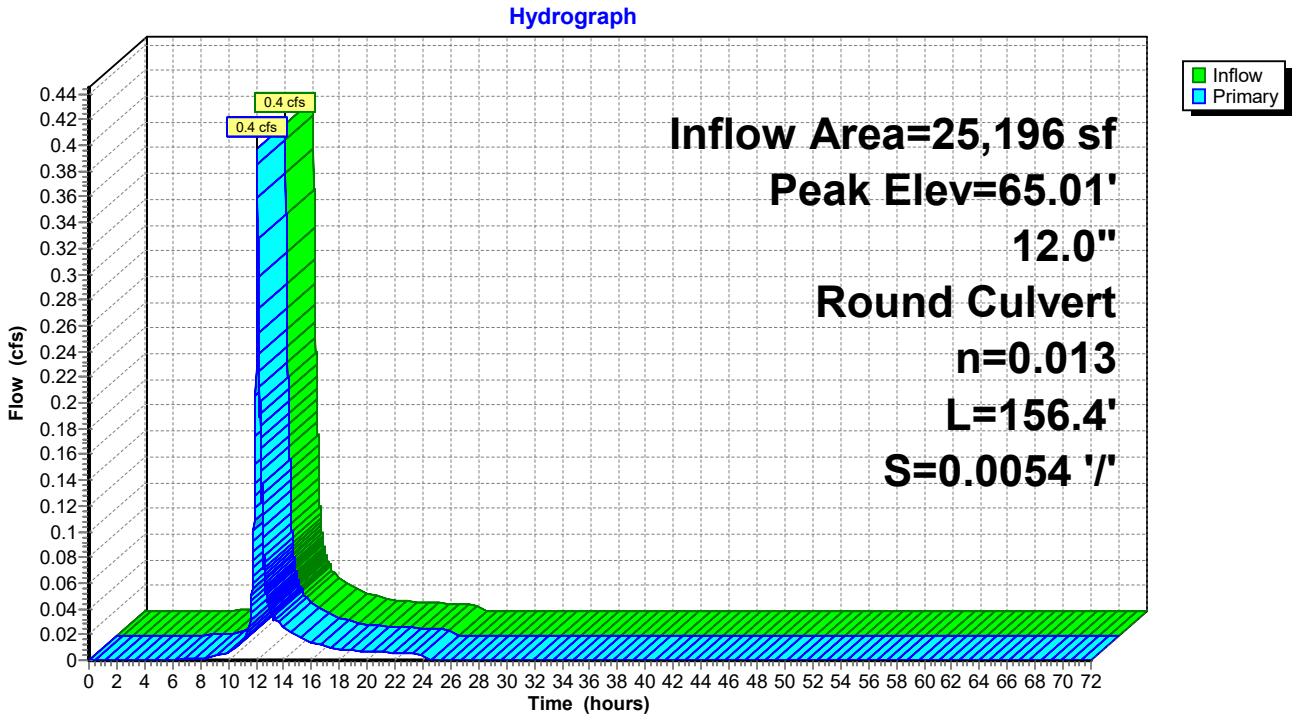
Inflow Area = 25,196 sf, 84.72% Impervious, Inflow Depth = 0.59" for 1-Inch event
Inflow = 0.4 cfs @ 12.10 hrs, Volume= 1,234 cf
Outflow = 0.4 cfs @ 12.10 hrs, Volume= 1,234 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.10 hrs, Volume= 1,234 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.01' @ 12.10 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.65'	**12.0" Round Culvert** L= 156.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.65' / 63.80' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.10 hrs HW=65.01' TW=58.64' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.4 cfs @ 2.33 fps)

Pond CB8: Catch Basin 8



Summary for Pond CB9: Catch Basin 9

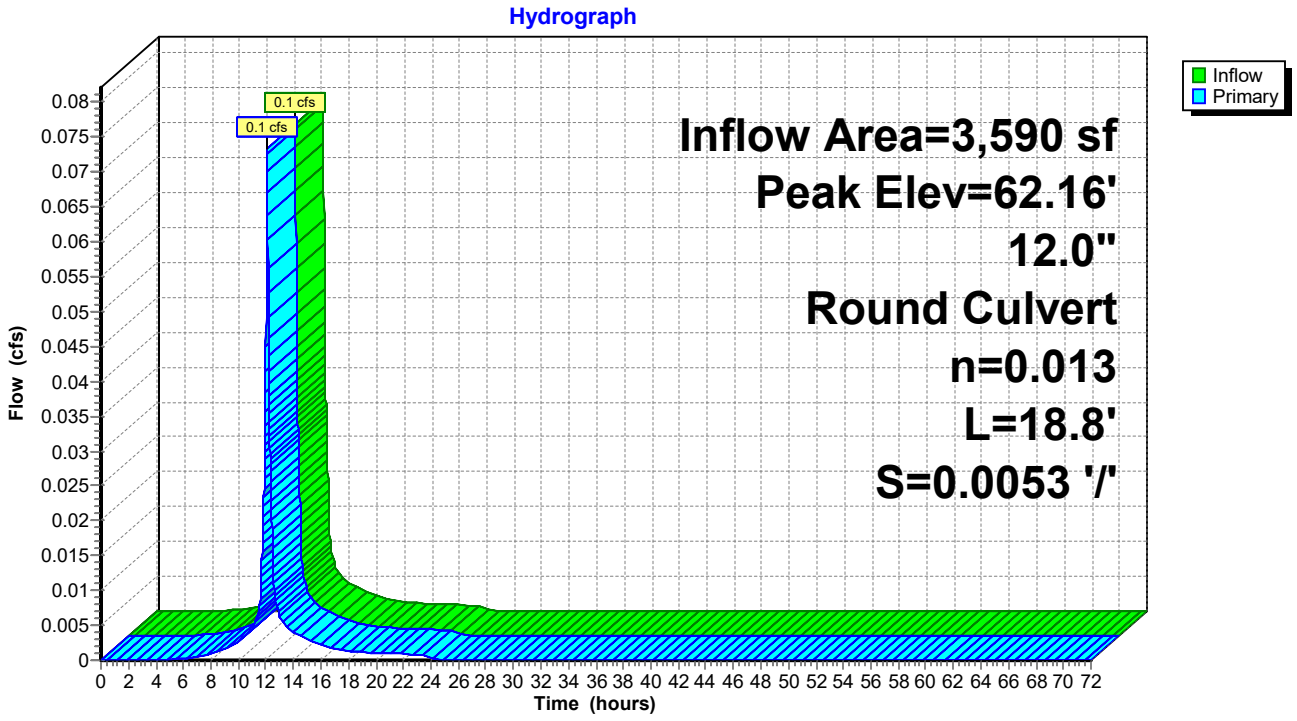
Inflow Area = 3,590 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 237 cf
Outflow = 0.1 cfs @ 12.08 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.08 hrs, Volume= 237 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.16' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	**12.0" Round Culvert** L= 18.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.90' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.08 hrs HW=62.16' TW=61.21' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.1 cfs @ 1.37 fps)

Pond CB9: Catch Basin 9



Summary for Pond CH1: Chamber 1

Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf
Outflow = 0.3 cfs @ 12.15 hrs, Volume= 1,161 cf, Atten= 23%, Lag= 3.9 min
Primary = 0.3 cfs @ 12.15 hrs, Volume= 1,161 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 46.42' @ 12.15 hrs Surf.Area= 880 sf Storage= 74 cf
Flood Elev= 50.50' Surf.Area= 1,773 sf Storage= 1,194 cf

Plug-Flow detention time= 4.3 min calculated for 1,161 cf (100% of inflow)
Center-of-Mass det. time= 4.3 min (792.2 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.90'	656 cf	**12.00'W x 74.40'L x 2.33'H Field A** 2,083 cf Overall - 442 cf Embedded = 1,641 cf x 40.0% Voids
#2A	47.40'	442 cf	**ADS_StormTech SC-310 +Cap** x 30 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 3 Rows
#3	44.73'	95 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,910 cf Overall x 5.0% Voids
		1,194 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.73	880	0	0
46.90	880	1,910	1,910

Device	Routing	Invert	Outlet Devices
#1	Primary	44.73'	**12.0" Round Culvert** L= 60.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.73' / 44.60' S= 0.0021 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	44.73'	**2.9" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	48.30'	**4.0' long x 4.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.3 cfs @ 12.15 hrs HW=46.42' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.3 cfs of 3.0 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.3 cfs @ 6.03 fps)
  - **3=Sharp-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond CH1: Chamber 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 9.0" Spacing = 43.0" C-C Row Spacing

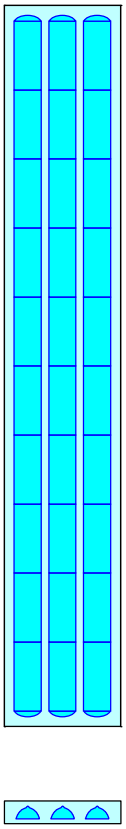
10 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 72.40' Row Length +12.0" End Stone x 2 = 74.40' Base Length
3 Rows x 34.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 12.00' Base Width
6.0" Stone Base + 16.0" Chamber Height + 6.0" Stone Cover = 2.33' Field Height

30 Chambers x 14.7 cf = 442.3 cf Chamber Storage

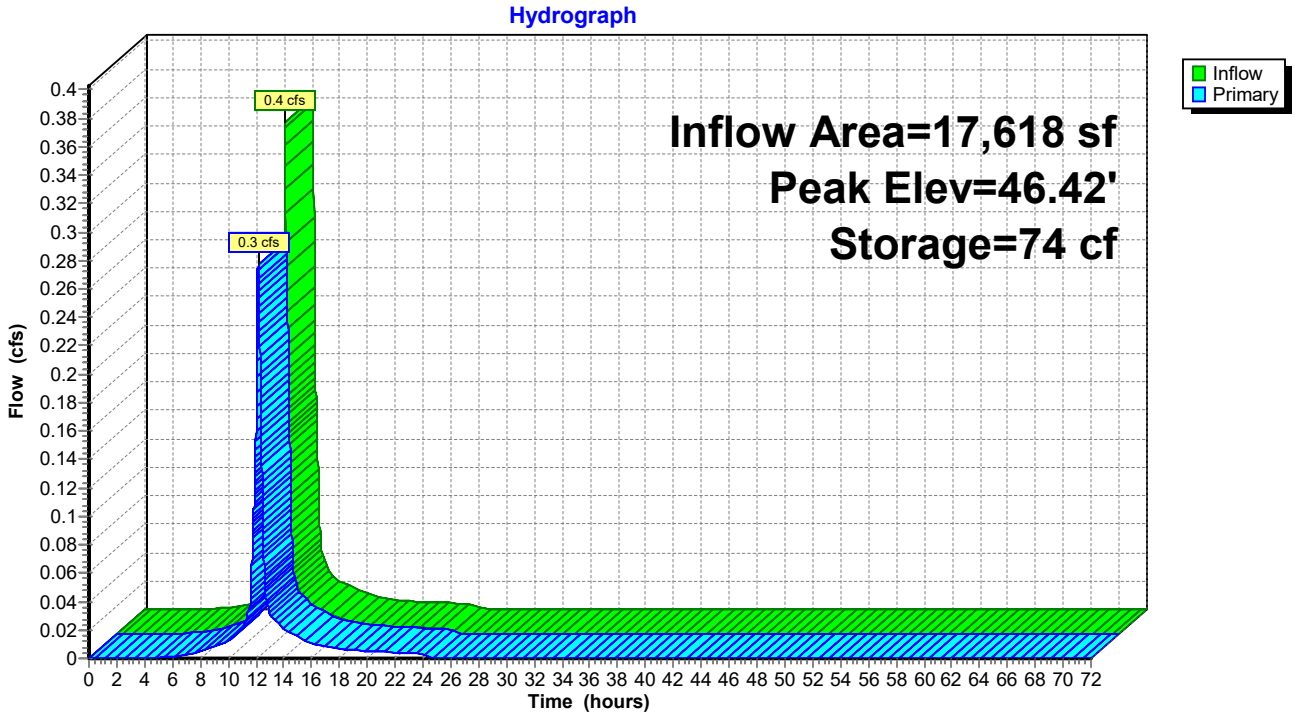
2,083.2 cf Field - 442.3 cf Chambers = 1,640.9 cf Stone x 40.0% Voids = 656.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,098.6 cf = 0.025 af
Overall Storage Efficiency = 52.7%
Overall System Size = 74.40' x 12.00' x 2.33'

30 Chambers
77.2 cy Field
60.8 cy Stone



Pond CH1: Chamber 1



Summary for Pond MH1: Manhole 1

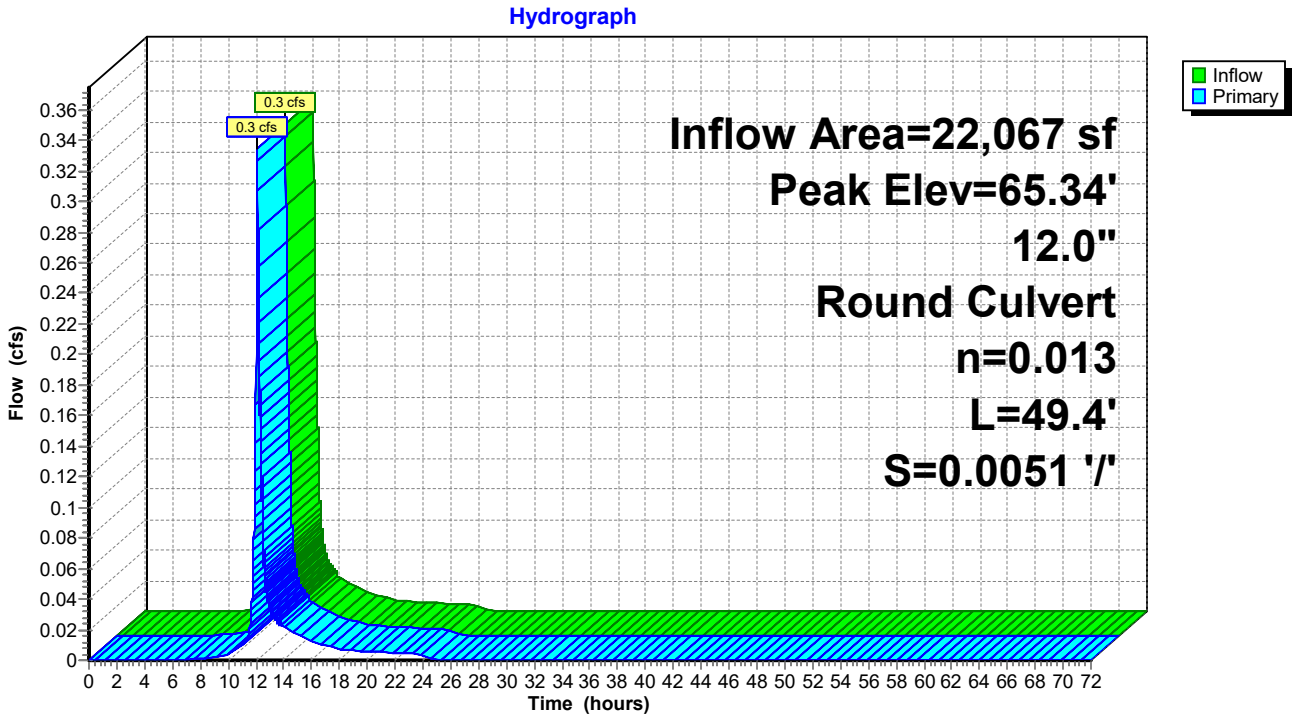
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 0.56" for 1-Inch event
Inflow = 0.3 cfs @ 12.10 hrs, Volume= 1,028 cf
Outflow = 0.3 cfs @ 12.10 hrs, Volume= 1,028 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.10 hrs, Volume= 1,028 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.34' @ 12.10 hrs
Flood Elev= 68.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 49.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.00' / 64.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.10 hrs HW=65.34' TW=65.01' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.3 cfs @ 2.09 fps)

Pond MH1: Manhole 1



Summary for Pond MH2: Manhole 2

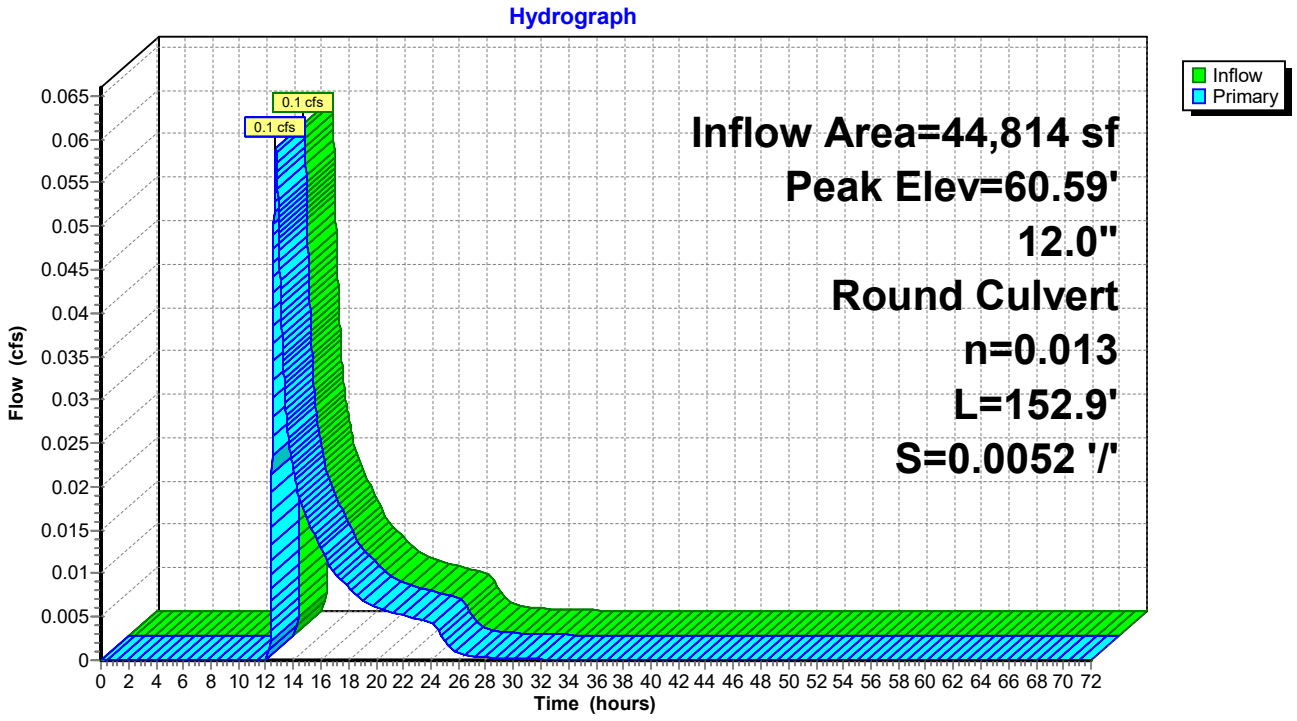
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 0.15" for 1-Inch event
Inflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf
Outflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.72 hrs, Volume= 561 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 60.59' @ 12.72 hrs
Flood Elev= 65.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.45'	**12.0" Round Culvert** L= 152.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.45' / 59.65' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.72 hrs HW=60.59' TW=59.69' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.1 cfs @ 1.34 fps)

Pond MH2: Manhole 2



Summary for Pond MH3: Manhole 3

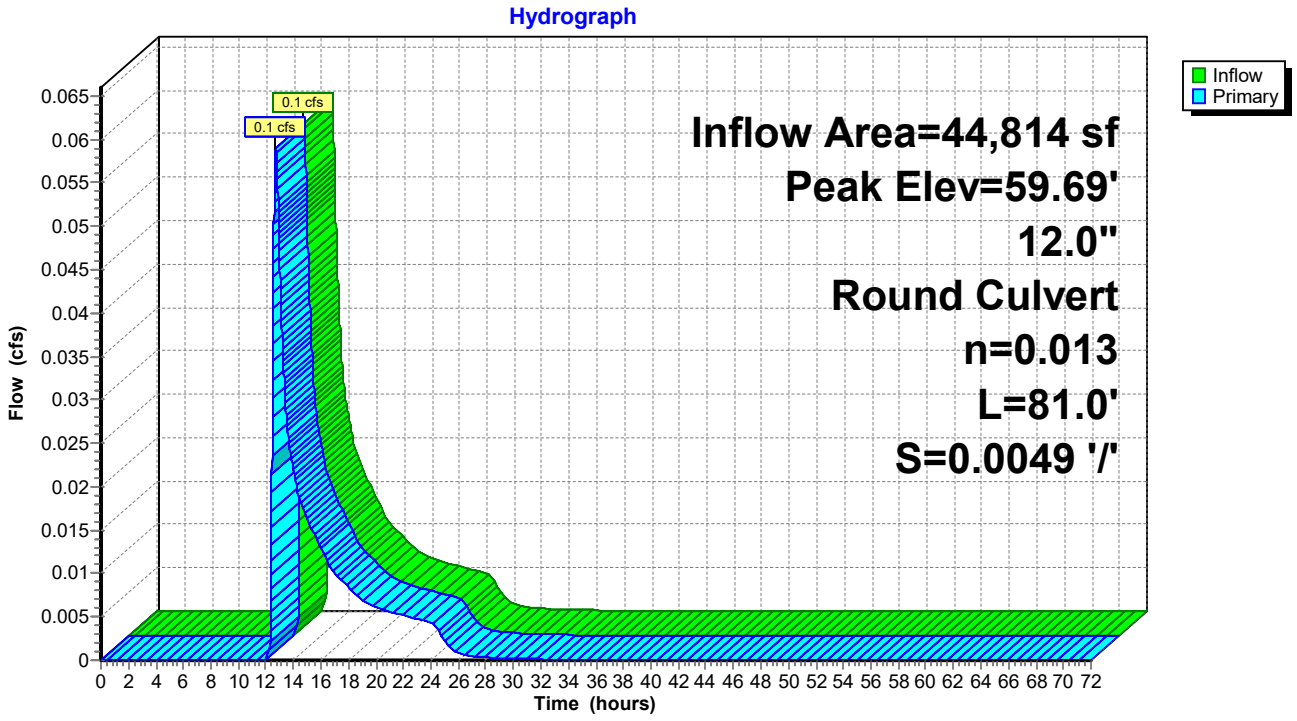
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth > 0.15" for 1-Inch event
Inflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf
Outflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.72 hrs, Volume= 561 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 59.69' @ 12.72 hrs
Flood Elev= 67.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.55'	**12.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.55' / 59.15' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.72 hrs HW=59.69' TW=59.19' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.1 cfs @ 1.31 fps)

Pond MH3: Manhole 3



Summary for Pond MH4: Manhole 4

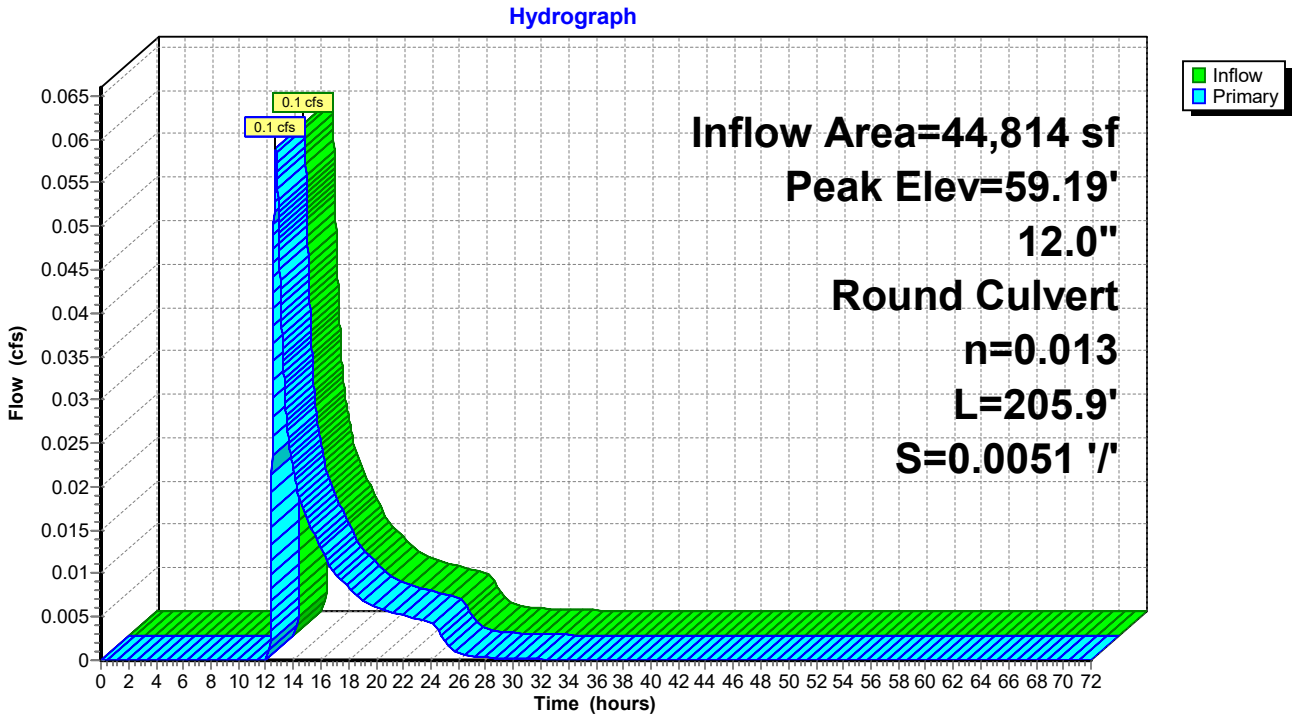
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth > 0.15" for 1-Inch event
Inflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf
Outflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.72 hrs, Volume= 561 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 59.19' @ 12.72 hrs
Flood Elev= 66.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.05'	**12.0" Round Culvert** L= 205.9' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 59.05' / 58.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.72 hrs HW=59.19' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.1 cfs @ 1.33 fps)

Pond MH4: Manhole 4



Summary for Pond MH5: Manhole 5

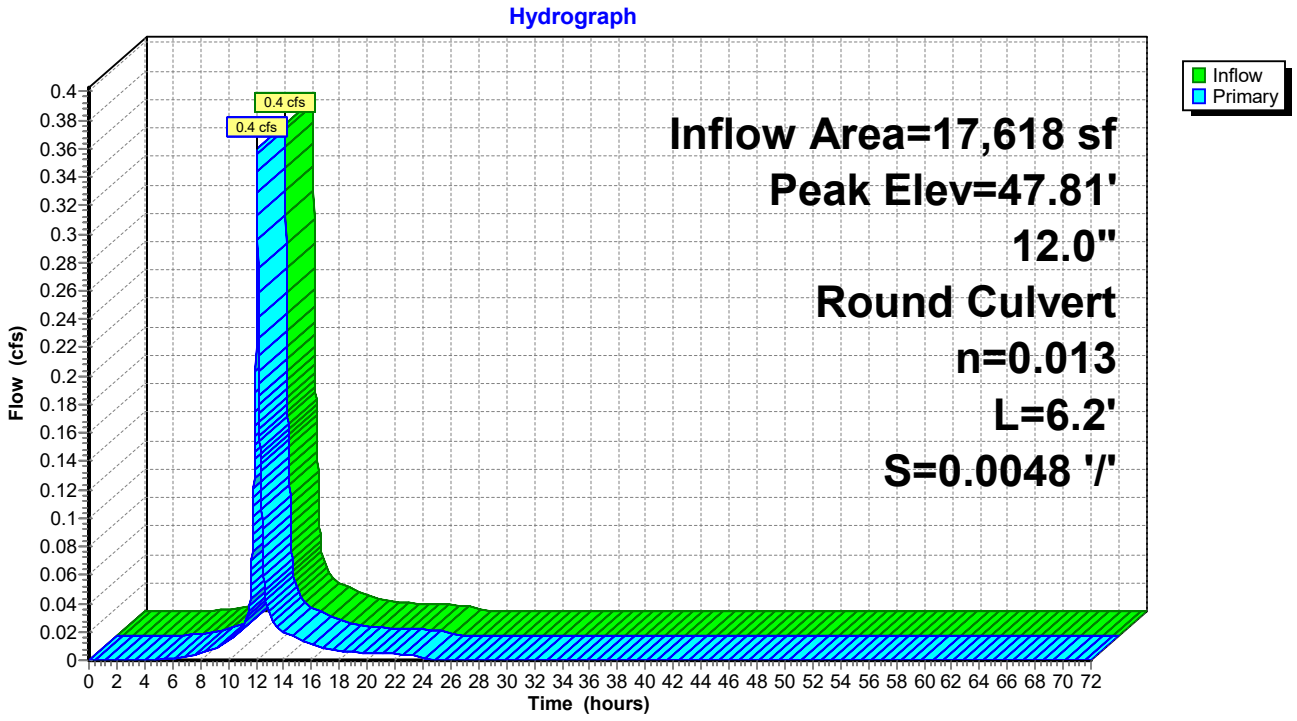
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf
Outflow = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 47.81' @ 12.08 hrs
Flood Elev= 50.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.43'	**12.0" Round Culvert** L= 6.2' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.43' / 47.40' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.08 hrs HW=47.81' TW=46.09' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.4 cfs @ 1.98 fps)

Pond MH5: Manhole 5



Summary for Pond P1: Pond 1

Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 0.00" for 1-Inch event
Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.00' @ 0.00 hrs Surf.Area= 1,503 sf Storage= 0 cf
Flood Elev= 55.50' Surf.Area= 3,752 sf Storage= 14,183 cf

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

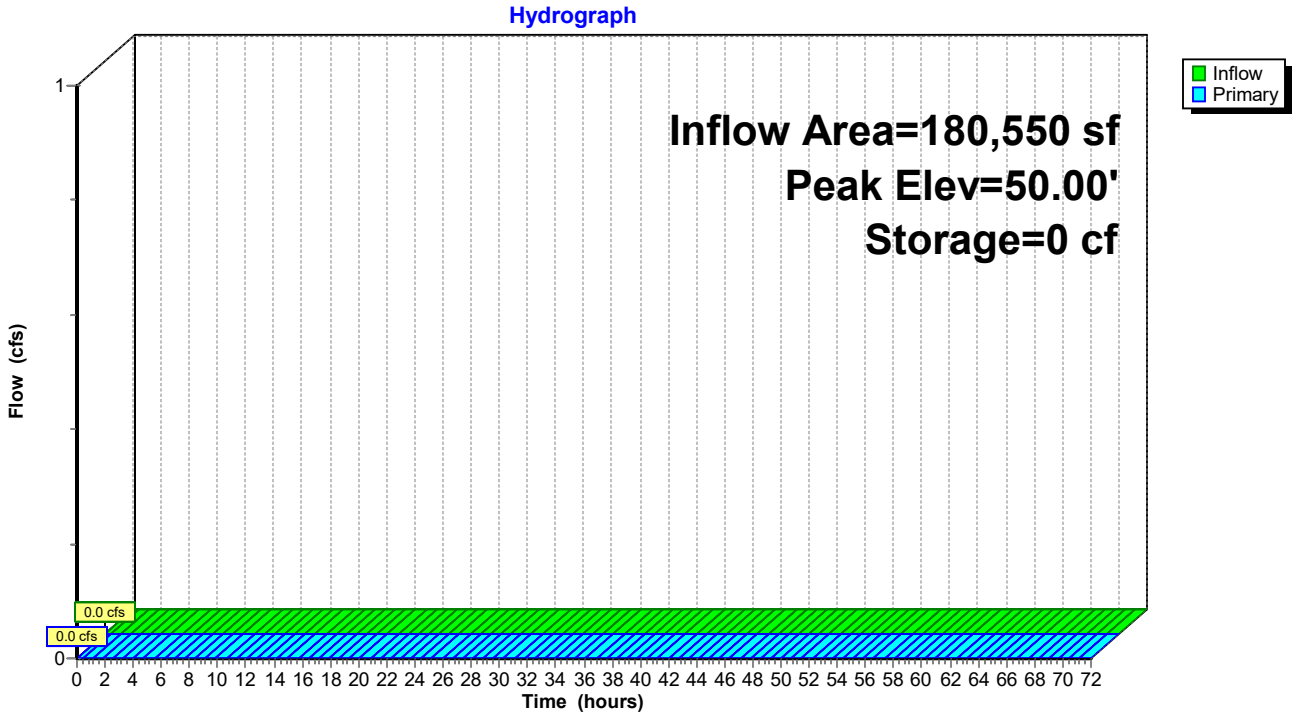
Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	16,121 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,503	0	0
51.00	1,882	1,693	1,693
52.00	2,267	2,075	3,767
53.00	2,662	2,465	6,232
54.00	3,055	2,859	9,090
55.00	3,503	3,279	12,369
56.00	4,000	3,752	16,121

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**12.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.00' / 46.40' S= 0.0180 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	50.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	53.10'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=50.00' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.0 cfs)
  ├─**2=Orifice/Grate** (Controls 0.0 cfs)
  └─**3=Orifice/Grate** (Controls 0.0 cfs)

Pond P1: Pond 1



Summary for Pond RD1: Roof Drain 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=169)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.17 hrs, Volume= 65 cf, Atten= 0%, Lag= 5.1 min
Primary = 0.0 cfs @ 12.17 hrs, Volume= 65 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.37' @ 12.17 hrs Surf.Area= 203 sf Storage= 27 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 147.7 min calculated for 65 cf (78% of inflow)
Center-of-Mass det. time= 69.0 min (856.9 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

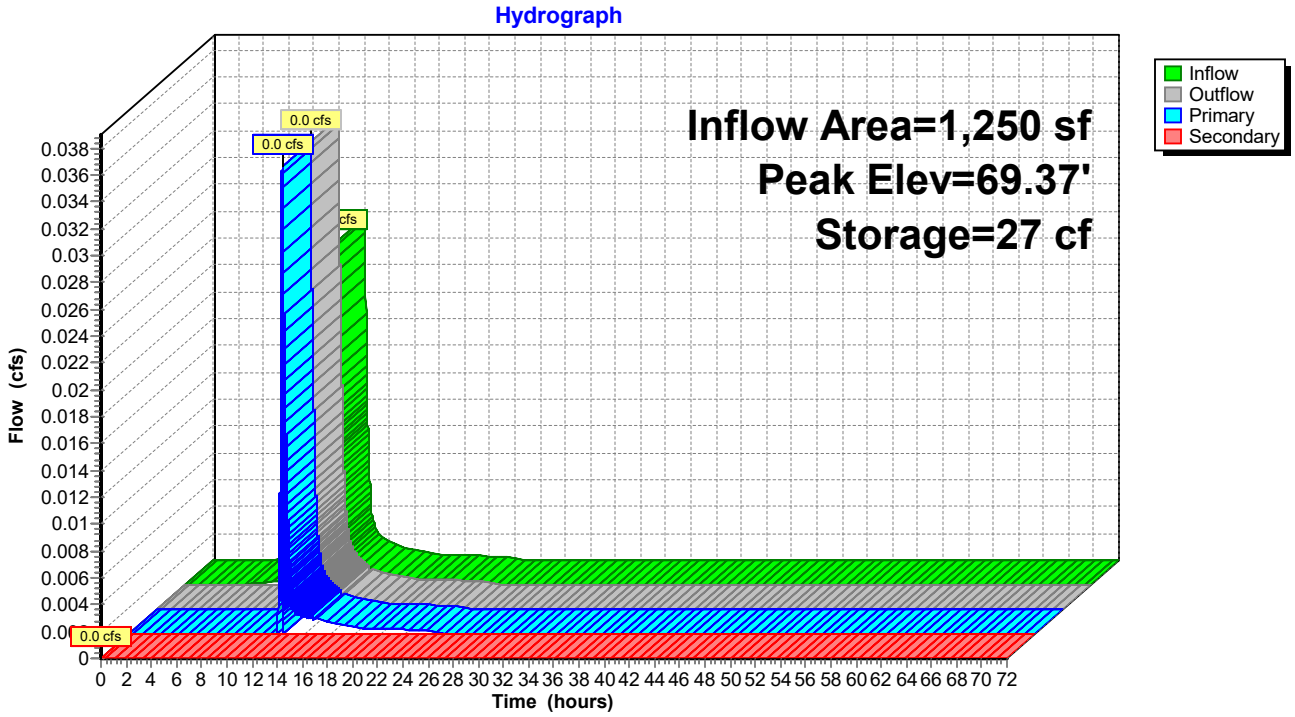
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.17 hrs HW=69.37' TW=69.37' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 0.0 cfs @ 0.12 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD1: Roof Drain 1



Summary for Pond RD2: Roof Drain 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=657)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.17 hrs, Volume= 65 cf, Atten= 0%, Lag= 5.1 min
Primary = 0.0 cfs @ 12.17 hrs, Volume= 65 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.50' @ 12.16 hrs Surf.Area= 206 sf Storage= 30 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 158.7 min calculated for 65 cf (78% of inflow)
Center-of-Mass det. time= 80.5 min (868.4 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

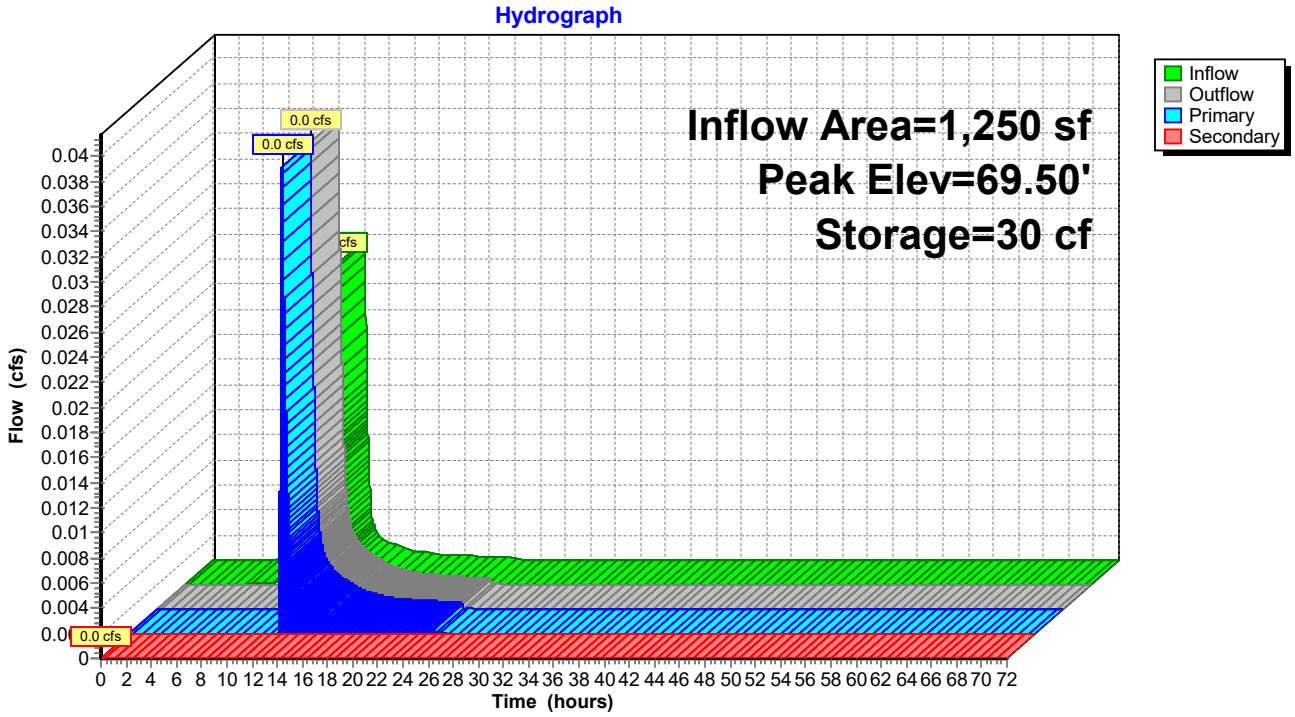
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.17 hrs HW=69.50' TW=69.50' (Dynamic Tailwater)
1=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD2: Roof Drain 2



Summary for Pond RD3: Roof Drain 3

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.13 hrs, Volume= 65 cf, Atten= 17%, Lag= 2.9 min
Primary = 0.0 cfs @ 12.13 hrs, Volume= 65 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.80' @ 12.14 hrs Surf.Area= 200 sf Storage= 26 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 145.7 min calculated for 65 cf (79% of inflow)
Center-of-Mass det. time= 68.8 min (856.7 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

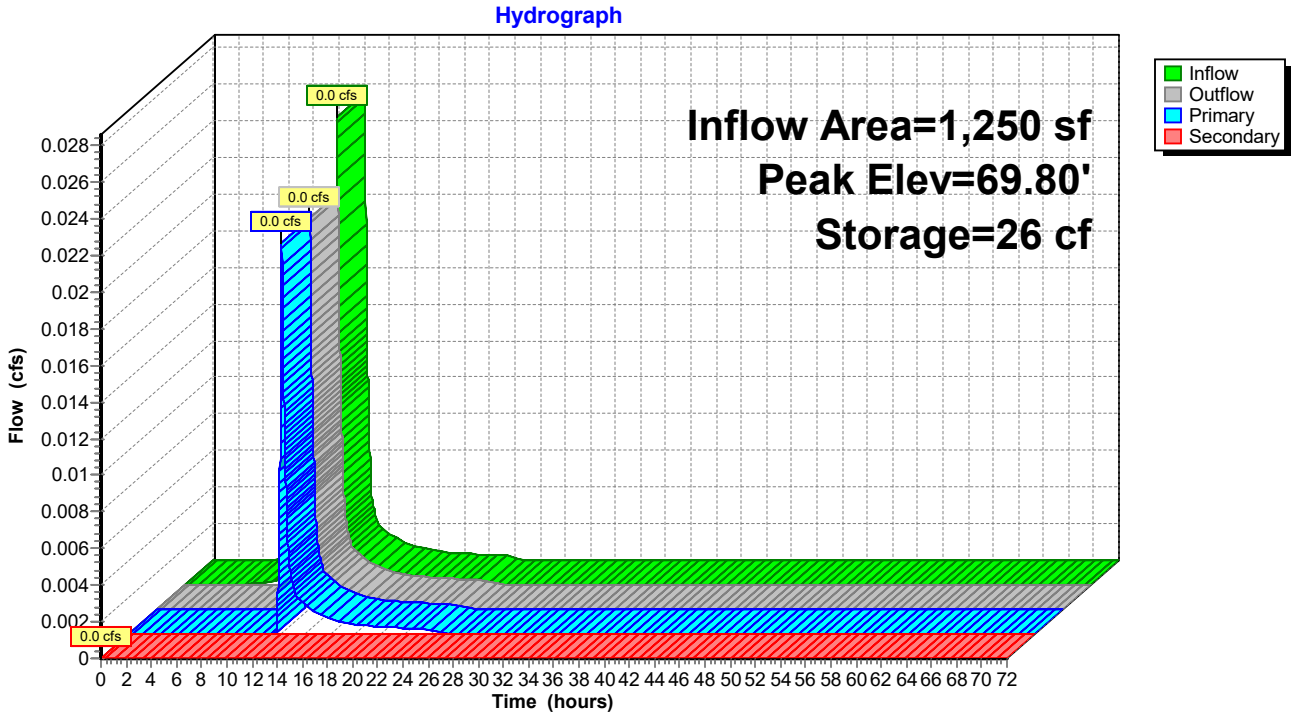
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.13 hrs HW=69.80' TW=69.77' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.0 cfs @ 0.85 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD3: Roof Drain 3



Summary for Pond RD4: Roof Drain 4

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.13 hrs, Volume= 65 cf, Atten= 17%, Lag= 2.9 min
Primary = 0.0 cfs @ 12.13 hrs, Volume= 65 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.80' @ 12.14 hrs Surf.Area= 200 sf Storage= 26 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 145.4 min calculated for 65 cf (79% of inflow)
Center-of-Mass det. time= 68.9 min (856.8 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

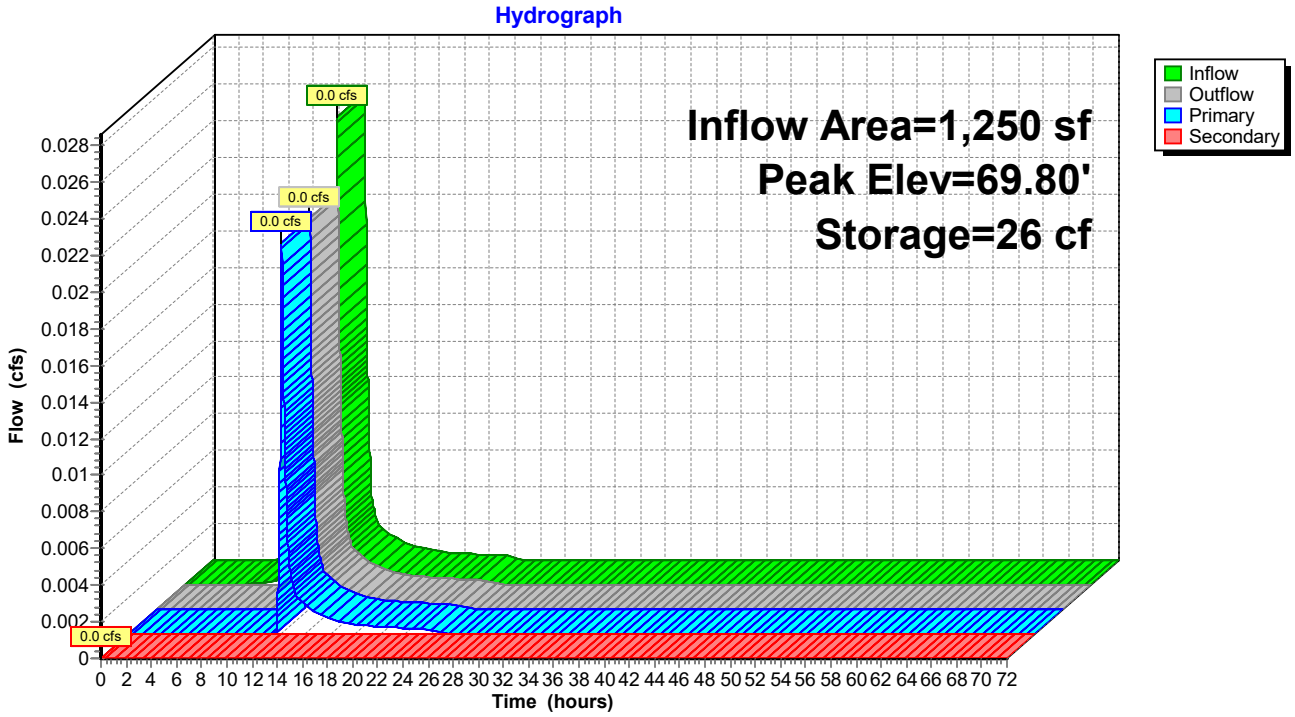
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.13 hrs HW=69.80' TW=69.77' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.0 cfs @ 0.85 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD4: Roof Drain 4



Summary for Pond RD5: Roof Drain 5

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=556)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.15 hrs, Volume= 65 cf, Atten= 23%, Lag= 3.7 min
Primary = 0.0 cfs @ 12.15 hrs, Volume= 65 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.48' @ 12.15 hrs Surf.Area= 204 sf Storage= 28 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 155.6 min calculated for 65 cf (78% of inflow)
Center-of-Mass det. time= 77.0 min (864.9 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

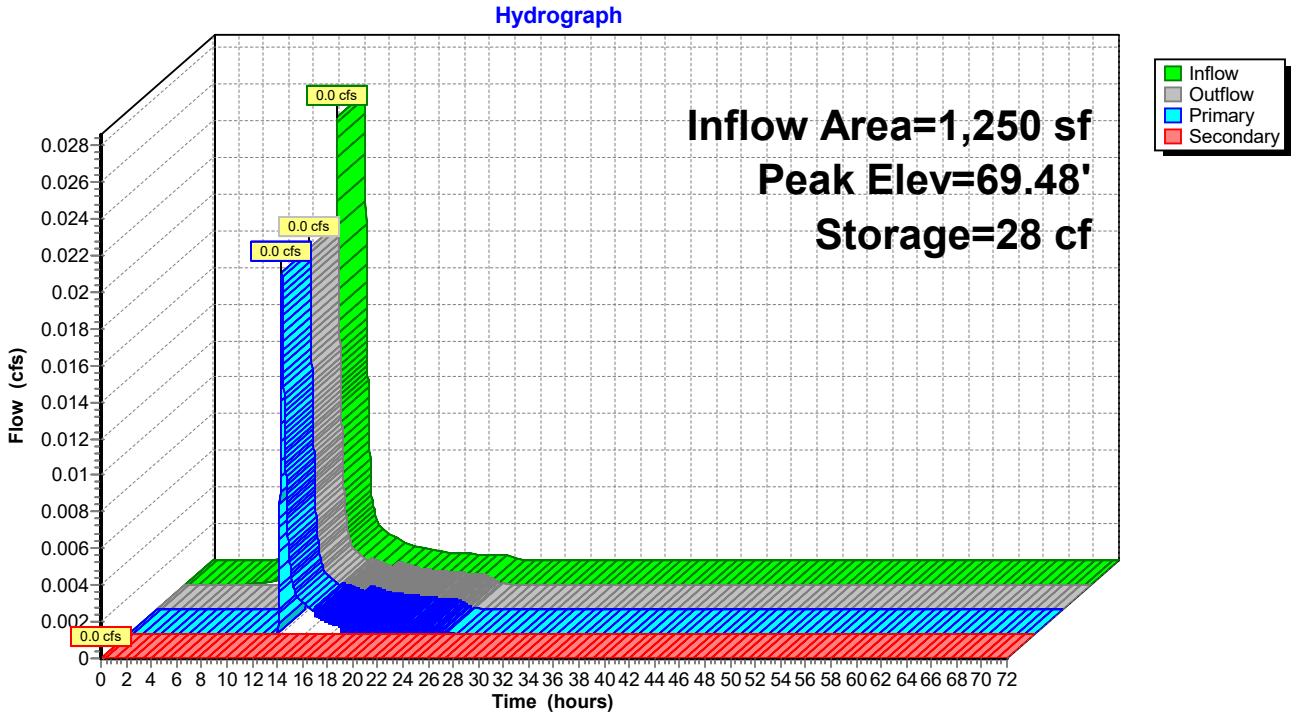
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.15 hrs HW=69.48' TW=69.46' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.0 cfs @ 0.63 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD5: Roof Drain 5



Summary for Pond RD6: Roof Drain 6

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=563)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.14 hrs, Volume= 66 cf, Atten= 21%, Lag= 3.2 min
Primary = 0.0 cfs @ 12.14 hrs, Volume= 66 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.35' @ 12.15 hrs Surf.Area= 200 sf Storage= 26 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 145.5 min calculated for 66 cf (80% of inflow)
Center-of-Mass det. time= 70.9 min (858.8 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

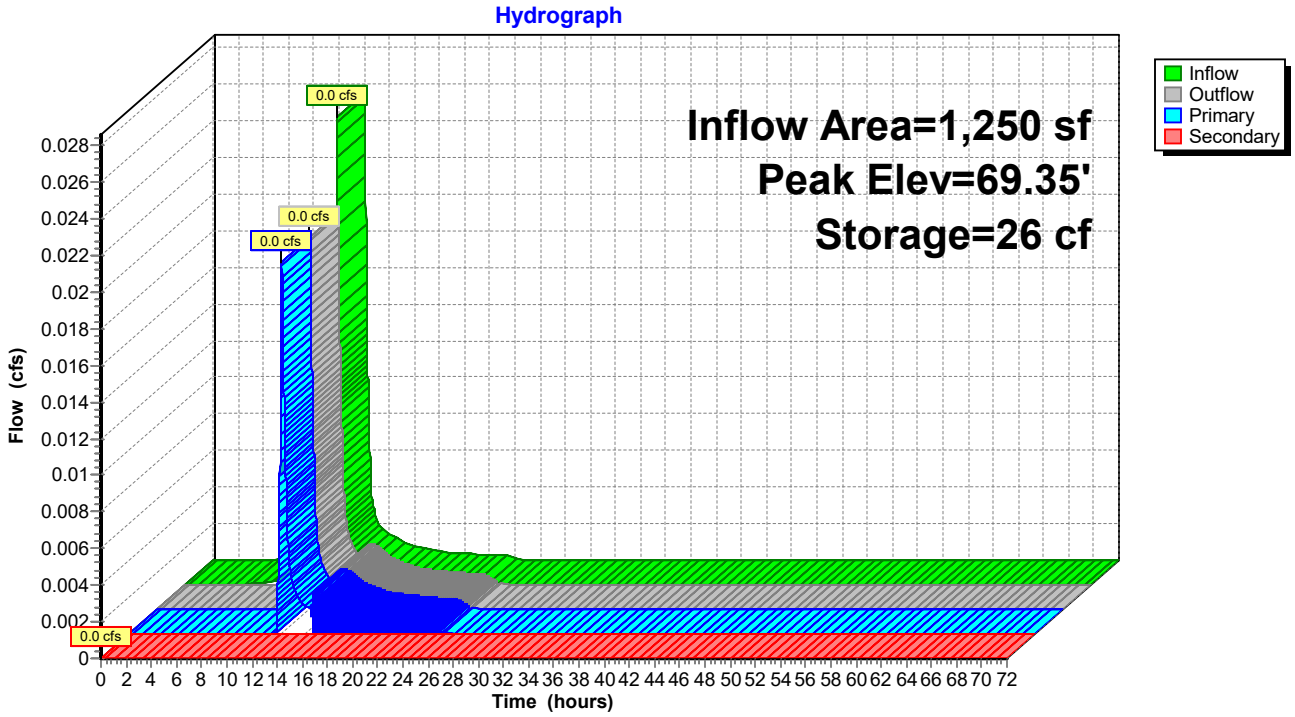
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.14 hrs HW=69.35' TW=69.33' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 0.0 cfs @ 0.70 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD6: Roof Drain 6



Summary for Pond RD7: Roof Drain 7

[92] Warning: Device #2 is above defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=646)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.16 hrs, Volume= 65 cf, Atten= 0%, Lag= 4.5 min
Primary = 0.0 cfs @ 12.16 hrs, Volume= 65 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.68' @ 12.15 hrs Surf.Area= 204 sf Storage= 28 cf
Flood Elev= 69.30' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 154.4 min calculated for 65 cf (78% of inflow)
Center-of-Mass det. time= 75.8 min (863.7 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	66.29'	271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

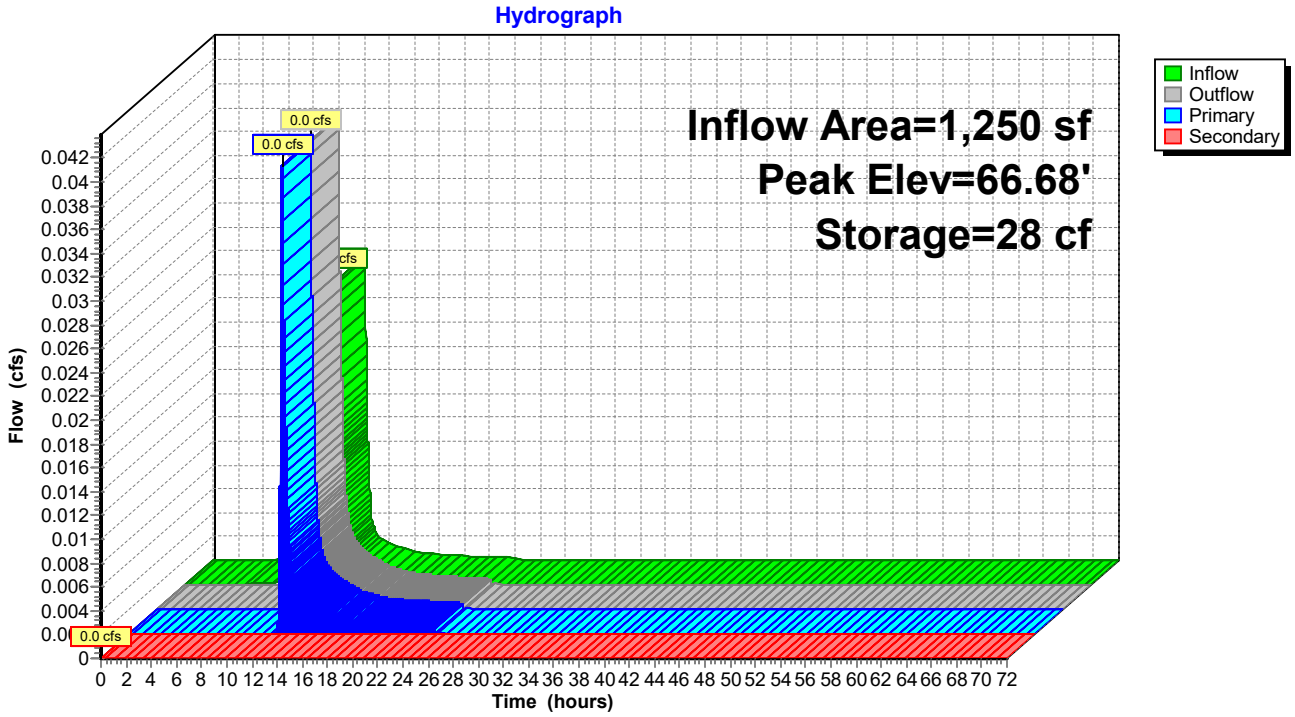
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.29	156	0.0	0	0
66.30	156	40.0	1	1
67.29	281	40.0	87	87
67.30	281	25.0	1	88
68.29	281	25.0	70	157
68.30	281	40.0	1	159
69.30	281	40.0	112	271

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	69.30'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.16 hrs HW=66.68' TW=66.72' (Dynamic Tailwater)
└**1=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=66.29' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD7: Roof Drain 7



Summary for Pond SF1: Soil Filter 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 0.15" for 1-Inch event
Inflow = 0.1 cfs @ 12.44 hrs, Volume= 567 cf
Outflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf, Atten= 29%, Lag= 16.6 min
Primary = 0.1 cfs @ 12.72 hrs, Volume= 561 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.15' @ 12.72 hrs Surf.Area= 1,250 sf Storage= 80 cf
Flood Elev= 66.25' Surf.Area= 3,716 sf Storage= 5,562 cf

Plug-Flow detention time= 58.1 min calculated for 561 cf (99% of inflow)
Center-of-Mass det. time= 52.6 min (982.8 - 930.2)

Volume	Invert	Avail.Storage	Storage Description
#1	60.99'	981 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	63.50'	4,581 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		5,562 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.99	1,250	0.0	0	0
61.00	1,250	40.0	5	5
61.99	1,250	40.0	495	500
62.00	1,250	25.0	3	503
63.49	1,250	25.0	466	969
63.50	1,250	100.0	12	981

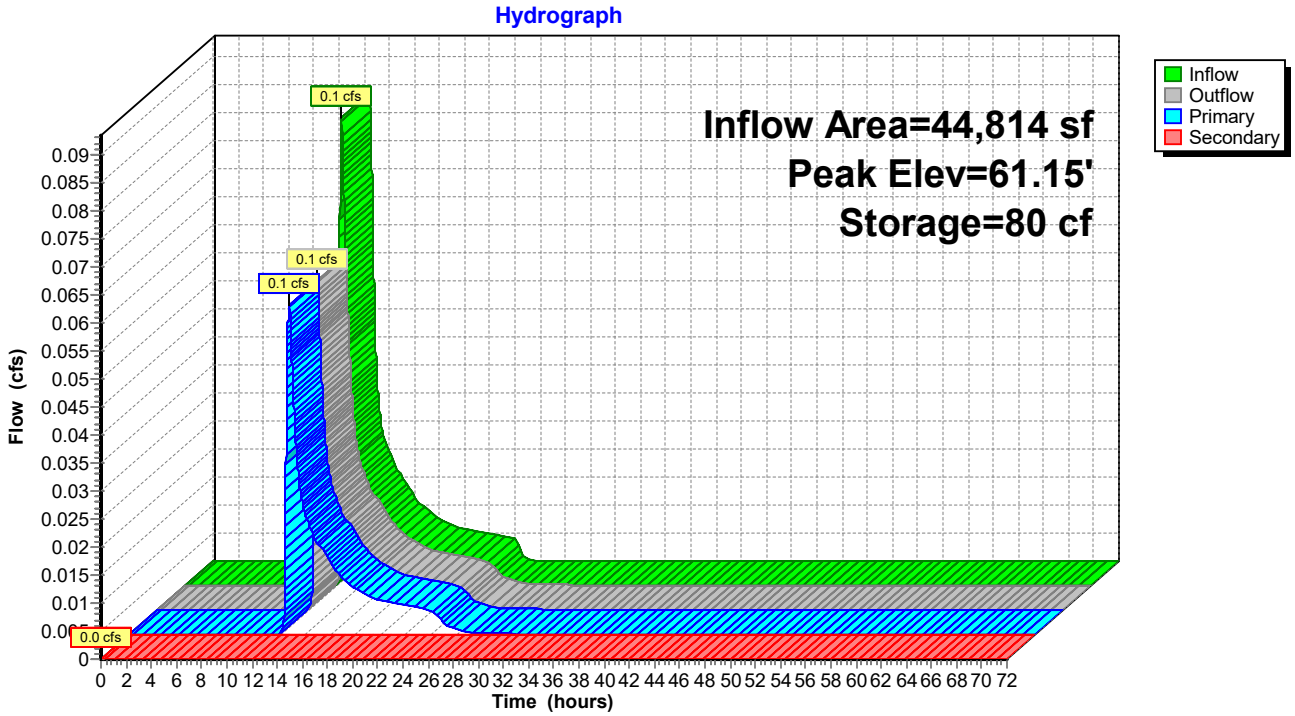
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.50	1,250	0	0
64.00	1,464	679	679
65.00	1,937	1,701	2,379
66.00	2,466	2,202	4,581

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**8.0" Round Culvert** L= 81.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 60.55' S= 0.0055 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.00'	**6.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.80'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	65.75'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.1 cfs @ 12.72 hrs HW=61.15' TW=60.59' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.1 cfs @ 1.50 fps)
  └─**2=Underdrain** (Passes 0.1 cfs of 0.1 cfs potential flow)
  └─**3=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=60.99' TW=51.20' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF1: Soil Filter 1



Summary for Pond SF2: Soil Filter 2

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 0.21" for 1-Inch event
Inflow = 0.4 cfs @ 12.10 hrs, Volume= 2,183 cf
Outflow = 0.1 cfs @ 12.85 hrs, Volume= 1,960 cf, Atten= 73%, Lag= 45.0 min
Primary = 0.1 cfs @ 12.85 hrs, Volume= 1,960 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 58.82' @ 12.85 hrs Surf.Area= 5,803 sf Storage= 764 cf
Flood Elev= 64.00' Surf.Area= 15,354 sf Storage= 27,812 cf

Plug-Flow detention time= 213.6 min calculated for 1,960 cf (90% of inflow)
Center-of-Mass det. time= 162.5 min (1,037.9 - 875.4)

Volume	Invert	Avail.Storage	Storage Description
#1	58.49'	4,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	61.00'	23,248 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		27,812 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.49	5,803	0.0	0	0
58.50	5,803	40.0	23	23
59.50	5,803	40.0	2,321	2,344
59.51	5,803	25.0	15	2,359
60.99	5,803	25.0	2,147	4,506
61.00	5,803	100.0	58	4,564

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	5,803	0	0
62.00	7,104	6,454	6,454
63.00	8,467	7,786	14,239
64.00	9,551	9,009	23,248

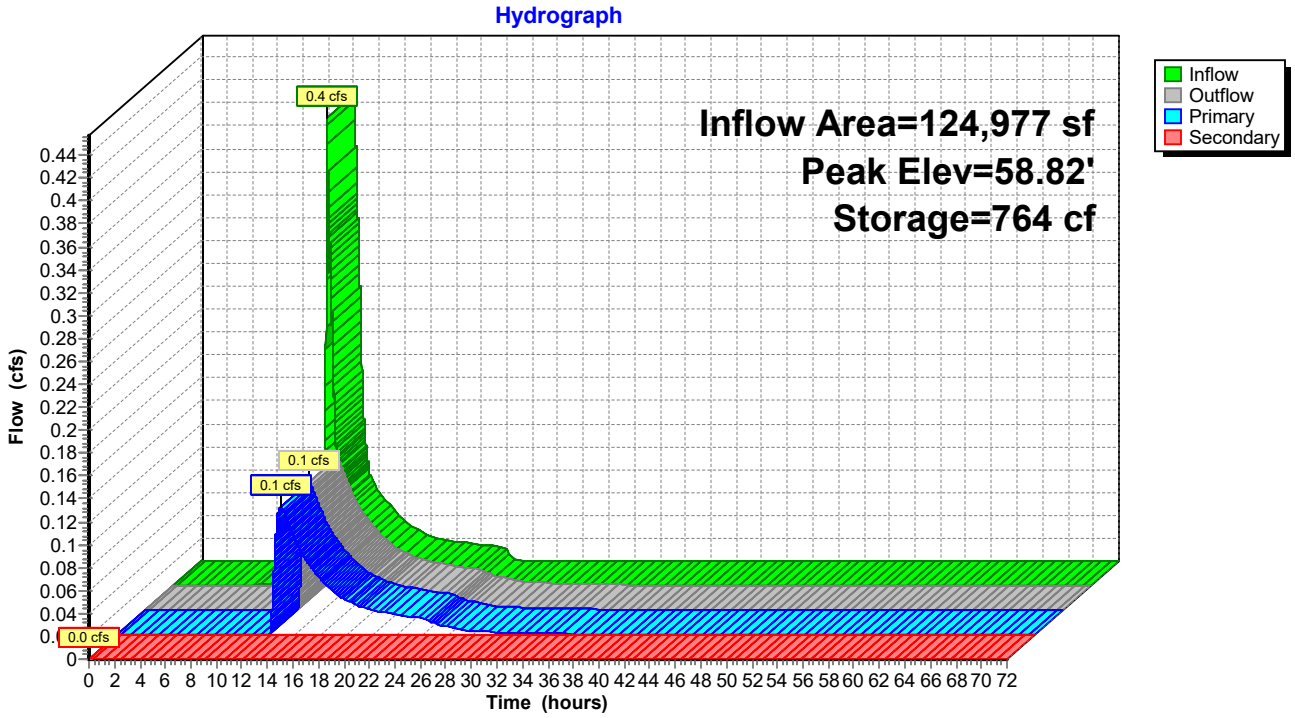
Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	**8.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 58.28' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	58.58'	**4.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	61.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.50 Width (feet) 0.50 0.50
#4	Device 1	63.00'	**24.0" x 24.0" Horiz. Structure Top** C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65

2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.1 cfs @ 12.85 hrs HW=58.82' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.1 cfs of 0.1 cfs potential flow)
  ├─**2=Underdrain** (Orifice Controls 0.1 cfs @ 1.67 fps)
  ├─**3=Custom Weir/Orifice** (Controls 0.0 cfs)
  └─**4=Structure Top** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=58.49' TW=0.00' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF2: Soil Filter 2

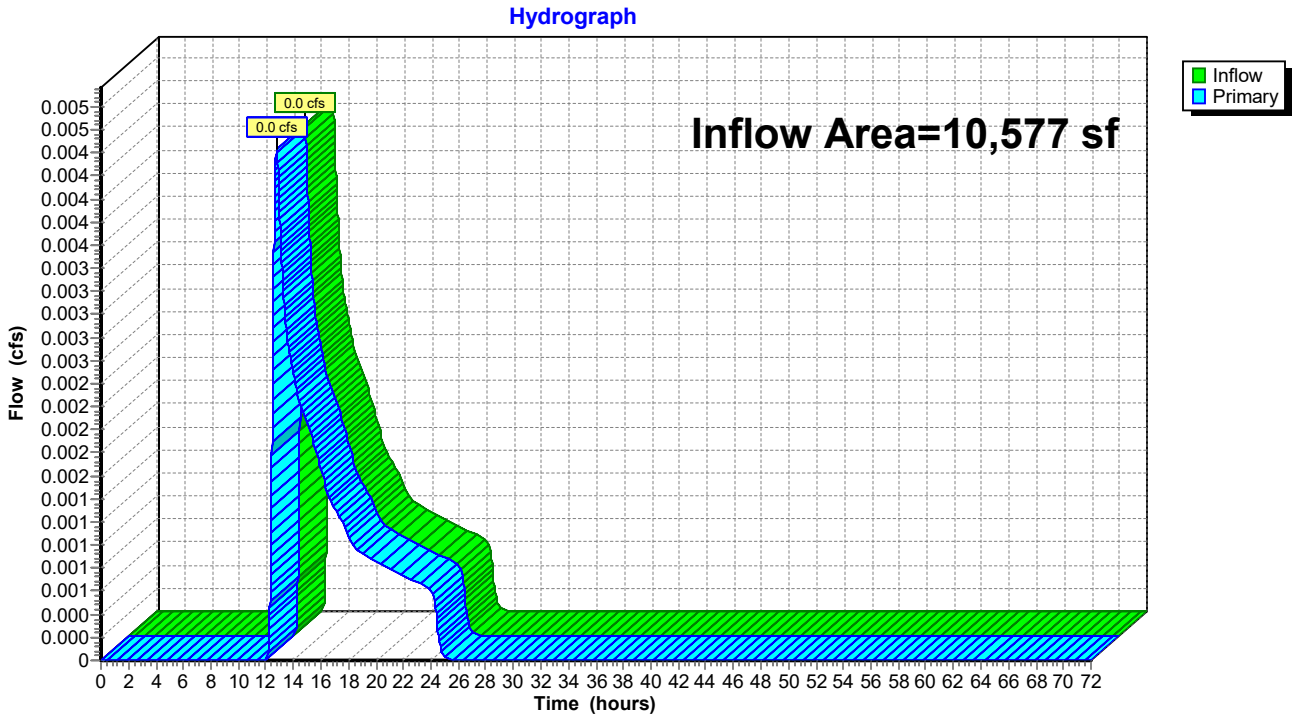


Summary for Link AP#1: Analysis Point 1

Inflow Area = 10,577 sf, 0.00% Impervious, Inflow Depth = 0.07" for 1-Inch event
Inflow = 0.0 cfs @ 12.77 hrs, Volume= 62 cf
Primary = 0.0 cfs @ 12.77 hrs, Volume= 62 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

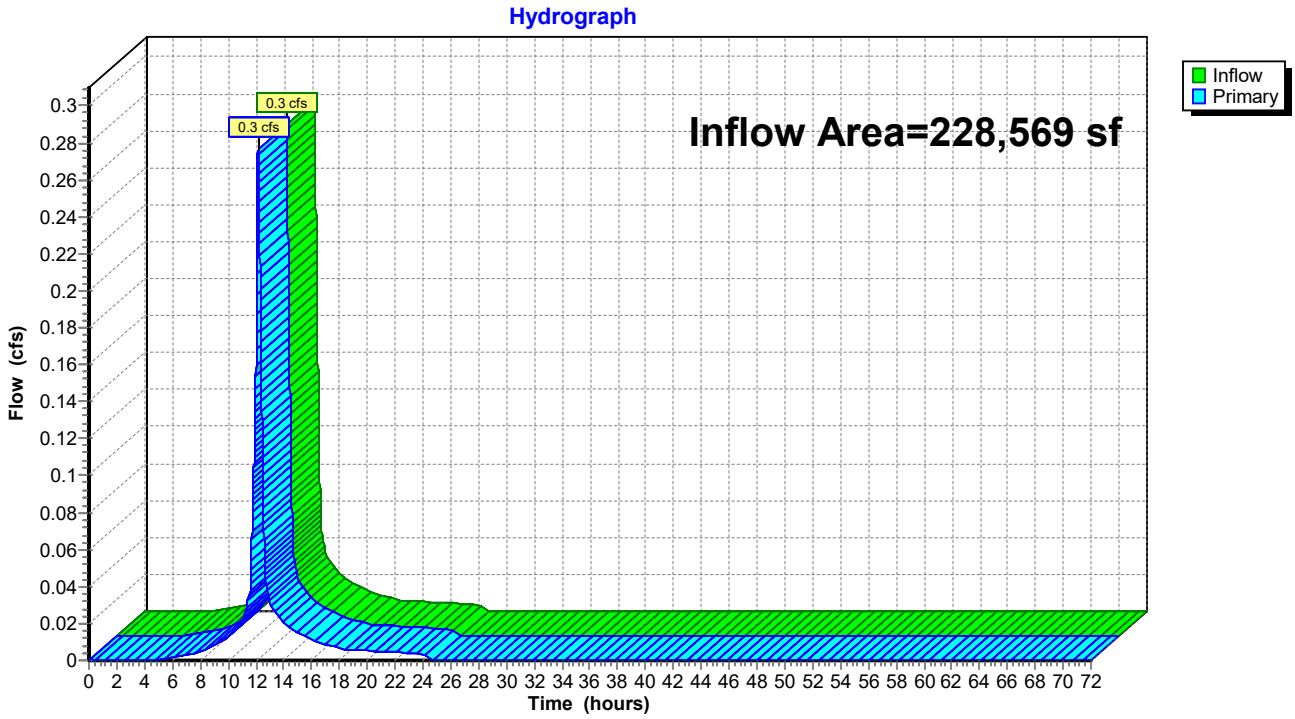


Summary for Link AP#2: Analysis Point 2

Inflow Area = 228,569 sf, 28.40% Impervious, Inflow Depth = 0.06" for 1-Inch event
Inflow = 0.3 cfs @ 12.15 hrs, Volume= 1,161 cf
Primary = 0.3 cfs @ 12.15 hrs, Volume= 1,161 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

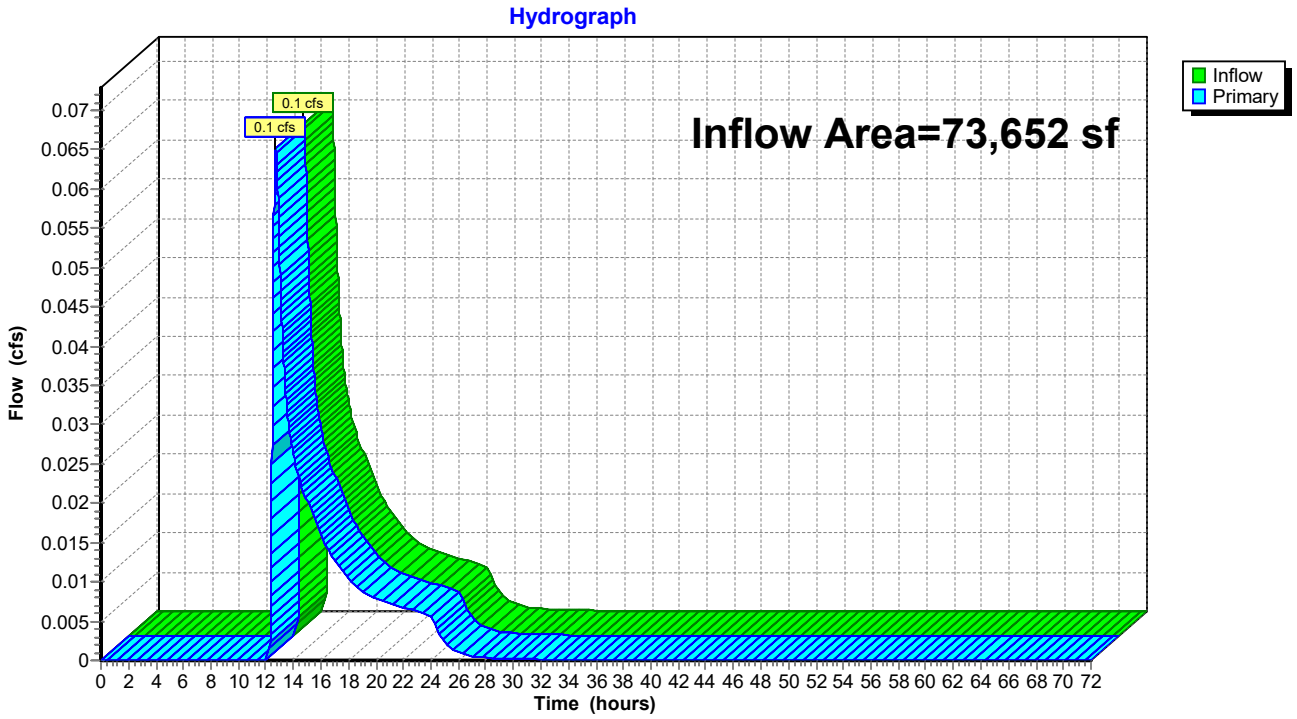


Summary for Link AP#3: Analysis Point 3

Inflow Area = 73,652 sf, 16.15% Impervious, Inflow Depth > 0.11" for 1-Inch event
Inflow = 0.1 cfs @ 12.71 hrs, Volume= 676 cf
Primary = 0.1 cfs @ 12.71 hrs, Volume= 676 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

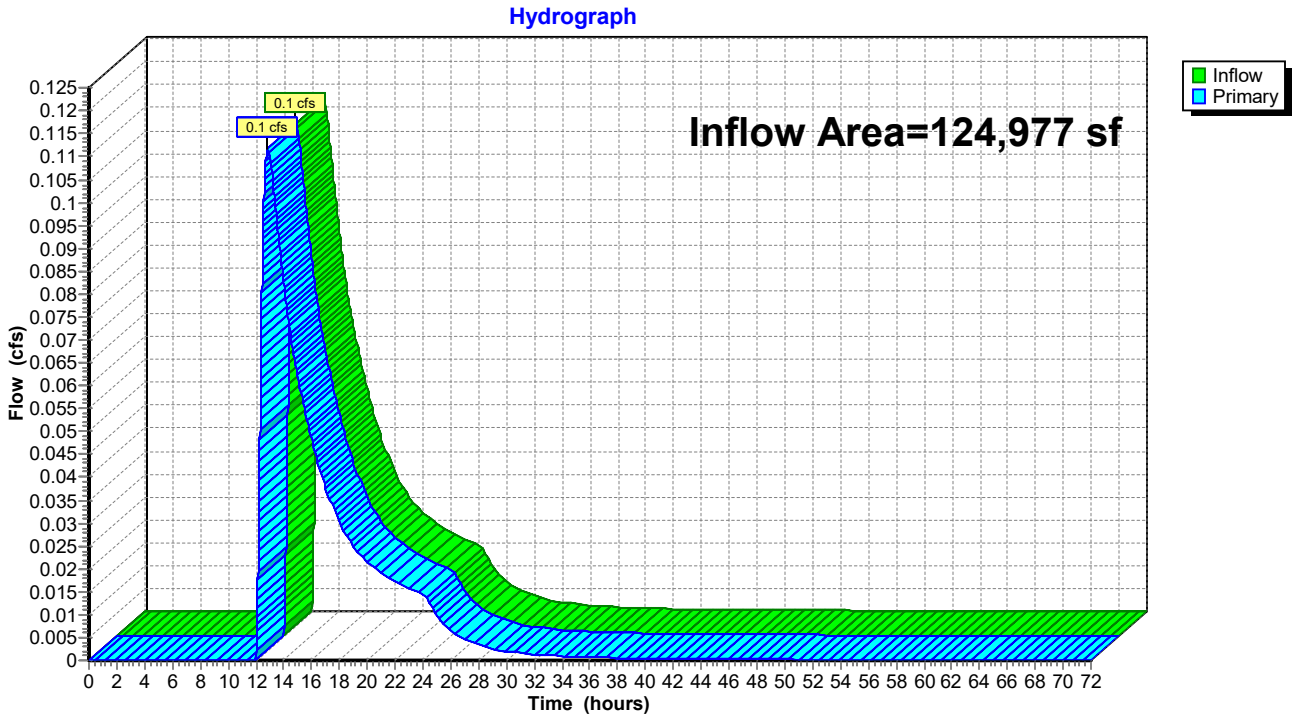


Summary for Link AP#4: Analysis Point 4

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth > 0.19" for 1-Inch event
Inflow = 0.1 cfs @ 12.85 hrs, Volume= 1,960 cf
Primary = 0.1 cfs @ 12.85 hrs, Volume= 1,960 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

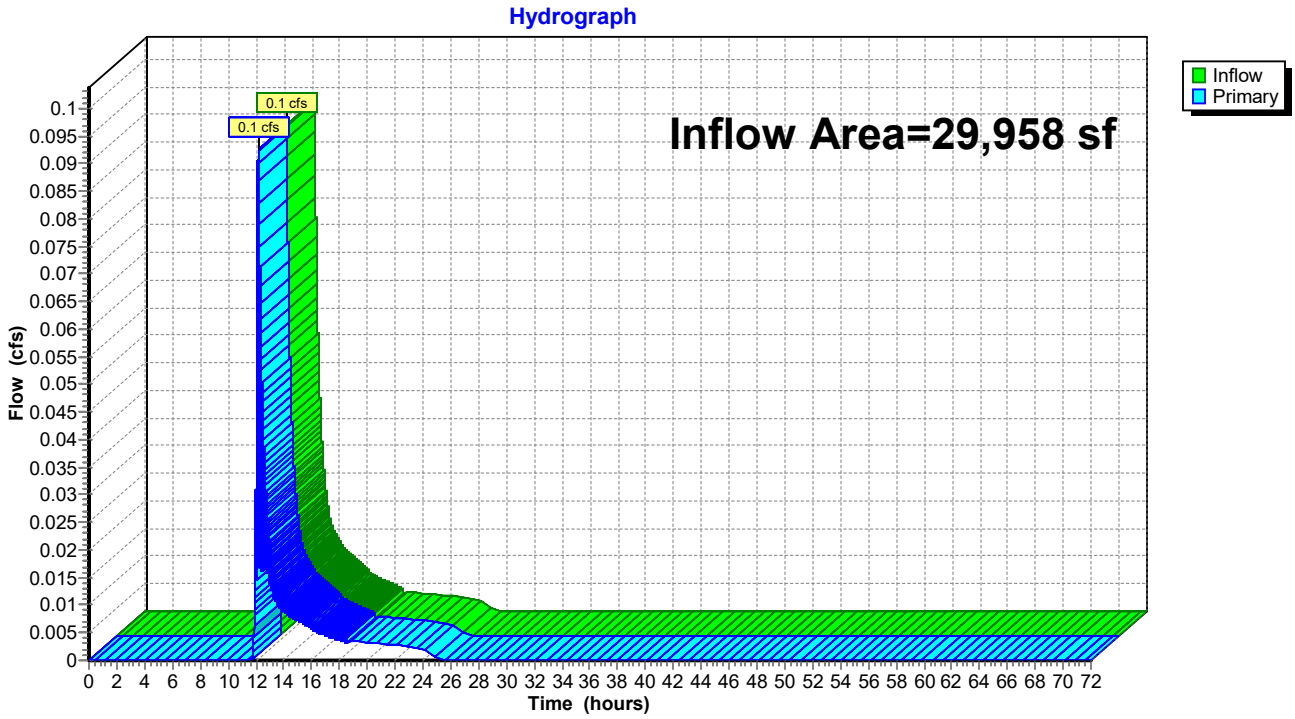


Summary for Link AP#5: Analysis Point 5

Inflow Area = 29,958 sf, 14.85% Impervious, Inflow Depth = 0.14" for 1-Inch event
Inflow = 0.1 cfs @ 12.15 hrs, Volume= 348 cf
Primary = 0.1 cfs @ 12.15 hrs, Volume= 348 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

Subcatchment S1.1: Subcatchment 1.1 Runoff Area=10,577 sf 0.00% Impervious Runoff Depth=1.41"
Flow Length=131' Slope=0.0110 '/' Tc=33.3 min CN=79 Runoff=0.2 cfs 1,245 cf

Subcatchment S2.1: Subcatchment 2.1 Runoff Area=180,550 sf 19.58% Impervious Runoff Depth=0.31"
Flow Length=953' Tc=41.2 min CN=56 Runoff=0.4 cfs 4,690 cf

Subcatchment S2.2: Subcatchment S2.2 Runoff Area=30,401 sf 39.27% Impervious Runoff Depth=0.56"
Flow Length=280' Tc=22.3 min CN=63 Runoff=0.2 cfs 1,431 cf

Subcatchment S2.3: Subcatchment 2.3 Runoff Area=3,590 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.3 cfs 918 cf

Subcatchment S2.4: Subcatchment 2.4 Runoff Area=3,697 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.3 cfs 945 cf

Subcatchment S2.5: Subcatchment 2.5 Runoff Area=3,457 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.3 cfs 884 cf

Subcatchment S2.6: Subcatchment 2.6 Runoff Area=2,849 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.2 cfs 728 cf

Subcatchment S2.7: Subcatchment 2.7 Runoff Area=2,803 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.2 cfs 716 cf

Subcatchment S2.8: Subcatchment 2.8 Runoff Area=1,222 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 312 cf

Subcatchment S3.1: Subcatchment 3.1 Runoff Area=28,838 sf 4.33% Impervious Runoff Depth=1.28"
Flow Length=333' Tc=18.1 min CN=77 Runoff=0.7 cfs 3,085 cf

Subcatchment S3.2: Subcatchment 3.2 Runoff Area=44,814 sf 23.75% Impervious Runoff Depth=1.77"
Flow Length=329' Tc=19.8 min CN=84 Runoff=1.4 cfs 6,597 cf

Subcatchment S4.1: Subcatchment 4.1 Runoff Area=99,781 sf 12.03% Impervious Runoff Depth=1.62"
Flow Length=553' Tc=19.1 min CN=82 Runoff=3.0 cfs 13,461 cf

Subcatchment S4.10: Subcatchment 4.10 Runoff Area=3,197 sf 72.57% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=94 Runoff=0.2 cfs 704 cf

Subcatchment S4.11: Subcatchment 4.11 Runoff Area=3,887 sf 74.68% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=94 Runoff=0.3 cfs 855 cf

Subcatchment S4.12: Subcatchment 4.12 Runoff Area=1,423 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 364 cf

Subcatchment S4.13: Subcatchment 4.13 Runoff Area=1,627 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 416 cf

Subcatchment S4.2: Subcatchment 4.2 Runoff Area=3,347 sf 71.65% Impervious Runoff Depth=2.54"
Tc=6.0 min CN=93 Runoff=0.2 cfs 709 cf

Subcatchment S4.3: Subcatchment 4.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Subcatchment S4.4: Subcatchment 4.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Subcatchment S4.5: Subcatchment 4.5 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Subcatchment S4.6: Subcatchment 4.6 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Subcatchment S4.7: Subcatchment 4.7 Runoff Area=3,900 sf 73.33% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=94 Runoff=0.3 cfs 858 cf

Subcatchment S4.8: Subcatchment 4.8 Runoff Area=1,313 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 336 cf

Subcatchment S4.9: Subcatchment 4.9 Runoff Area=1,502 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 384 cf

Subcatchment S5.1: Subcatchment 5.1 Runoff Area=26,208 sf 2.67% Impervious Runoff Depth=1.41"
Flow Length=421' Tc=32.7 min CN=79 Runoff=0.5 cfs 3,084 cf

Subcatchment S5.2: Subcatchment 5.2 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Subcatchment S5.3: Subcatchment 5.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Subcatchment S5.4: Subcatchment 5.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Reach S1: Swale 1 Avg. Flow Depth=0.10' Max Vel=1.79 fps Inflow=1.4 cfs 6,597 cf
n=0.022 L=175.0' S=0.0171 '/' Capacity=24.5 cfs Outflow=1.4 cfs 6,597 cf

Pond C1: Culvert 1 Peak Elev=69.85' Inflow=0.1 cfs 302 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0158 '/' Outflow=0.1 cfs 302 cf

Pond C10: Culvert 10 Peak Elev=69.45' Inflow=0.1 cfs 303 cf
12.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.1 cfs 303 cf

Pond C11: Culvert 11 Peak Elev=69.40' Inflow=0.2 cfs 907 cf
12.0" Round Culvert n=0.013 L=82.4' S=0.0076 '/' Outflow=0.2 cfs 907 cf

Pond C2: Culvert 2 Peak Elev=69.62' Inflow=0.2 cfs 604 cf
12.0" Round Culvert n=0.012 L=44.0' S=0.0027 '/' Outflow=0.2 cfs 604 cf

Pond C3: Culvert 3 Peak Elev=69.46' Inflow=0.2 cfs 906 cf
24.0" Round Culvert n=0.012 L=44.4' S=0.0052 '/' Outflow=0.2 cfs 906 cf

Pond C4: Culvert 4 Peak Elev=69.85' Inflow=0.1 cfs 302 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0142 '/' Outflow=0.1 cfs 302 cf

Pond C7: Culvert 7 Peak Elev=67.15' Inflow=0.2 cfs 302 cf
4.0" Round Culvert n=0.013 L=27.0' S=0.0048 '/' Outflow=0.2 cfs 302 cf

Pond C8: Culvert 8 Peak Elev=51.81' Inflow=0.4 cfs 4,690 cf
16.0" Round Culvert n=0.025 L=184.0' S=0.0054 '/' Outflow=0.4 cfs 4,690 cf

Pond C9: Culvert 9 Peak Elev=69.59' Inflow=0.2 cfs 604 cf
12.0" Round Culvert n=0.013 L=25.0' S=0.0088 '/' Outflow=0.2 cfs 604 cf

Pond CB1: Catch Basin 1 Peak Elev=68.80' Inflow=0.5 cfs 1,616 cf
12.0" Round Culvert n=0.013 L=79.0' S=0.0051 '/' Outflow=0.5 cfs 1,616 cf

Pond CB10: Catch Basin 10 Peak Elev=61.42' Inflow=0.5 cfs 1,863 cf
12.0" Round Culvert n=0.013 L=212.5' S=0.0424 '/' Outflow=0.5 cfs 1,863 cf

Pond CB11: Catch Basin 11 Peak Elev=52.44' Inflow=0.3 cfs 884 cf
12.0" Round Culvert n=0.013 L=18.5' S=0.0054 '/' Outflow=0.3 cfs 884 cf

Pond CB12: Catch Basin 12 Peak Elev=52.39' Inflow=1.0 cfs 3,474 cf
12.0" Round Culvert n=0.013 L=96.6' S=0.0404 '/' Outflow=1.0 cfs 3,474 cf

Pond CB13: Catch Basin 13 Peak Elev=48.47' Inflow=1.3 cfs 4,503 cf
12.0" Round Culvert n=0.013 L=49.3' S=0.0034 '/' Outflow=1.3 cfs 4,503 cf

Pond CB14: Catch Basin 14 Peak Elev=48.64' Inflow=1.1 cfs 3,787 cf
12.0" Round Culvert n=0.013 L=15.0' S=0.0067 '/' Outflow=1.1 cfs 3,787 cf

Pond CB2: Catch Basin 2 Peak Elev=68.27' Inflow=0.2 cfs 704 cf
12.0" Round Culvert n=0.013 L=79.2' S=0.0051 '/' Outflow=0.2 cfs 704 cf

Pond CB3: Catch Basin 3 Peak Elev=66.98' Inflow=0.8 cfs 2,776 cf
12.0" Round Culvert n=0.013 L=17.5' S=0.0057 '/' Outflow=0.8 cfs 2,776 cf

Pond CB4: Catch Basin 4 Peak Elev=66.85' Inflow=1.3 cfs 4,335 cf
12.0" Round Culvert n=0.013 L=103.7' S=0.0053 '/' Outflow=1.3 cfs 4,335 cf

Pond CB5: Catch Basin 5 Peak Elev=66.30' Inflow=0.1 cfs 336 cf
12.0" Round Culvert n=0.013 L=18.4' S=0.0054 '/' Outflow=0.1 cfs 336 cf

Pond CB6: Catch Basin 6 Peak Elev=66.28' Inflow=1.5 cfs 5,035 cf
12.0" Round Culvert n=0.013 L=60.9' S=0.0057 '/' Outflow=1.5 cfs 5,035 cf

Pond CB7: Catch Basin 7 Peak Elev=65.48' Inflow=0.1 cfs 384 cf
12.0" Round Culvert n=0.013 L=18.2' S=0.0055 '/' Outflow=0.1 cfs 384 cf

Pond CB8: Catch Basin 8 Peak Elev=65.47' Inflow=1.7 cfs 5,834 cf
12.0" Round Culvert n=0.013 L=156.4' S=0.0054 '/' Outflow=1.7 cfs 5,834 cf

Pond CB9: Catch Basin 9 Peak Elev=62.31' Inflow=0.3 cfs 918 cf
12.0" Round Culvert n=0.013 L=18.8' S=0.0053 '/' Outflow=0.3 cfs 918 cf

Pond CH1: Chamber 1 Peak Elev=48.27' Storage=811 cf Inflow=1.3 cfs 4,503 cf
Outflow=0.4 cfs 4,503 cf

Pond MH1: Manhole 1 Peak Elev=65.84' Inflow=1.5 cfs 5,035 cf
12.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=1.5 cfs 5,035 cf

Pond MH2: Manhole 2 Peak Elev=61.12' Inflow=1.1 cfs 6,591 cf
12.0" Round Culvert n=0.013 L=152.9' S=0.0052 '/' Outflow=1.1 cfs 6,591 cf

Pond MH3: Manhole 3 Peak Elev=60.23' Inflow=1.1 cfs 6,591 cf
12.0" Round Culvert n=0.013 L=81.0' S=0.0049 '/' Outflow=1.1 cfs 6,591 cf

Pond MH4: Manhole 4 Peak Elev=59.69' Inflow=1.1 cfs 6,591 cf
12.0" Round Culvert n=0.013 L=205.9' S=0.0051 '/' Outflow=1.1 cfs 6,591 cf

Pond MH5: Manhole 5 Peak Elev=48.29' Inflow=1.3 cfs 4,503 cf
12.0" Round Culvert n=0.013 L=6.2' S=0.0048 '/' Outflow=1.3 cfs 4,503 cf

Pond P1: Pond 1 Peak Elev=51.81' Storage=3,338 cf Inflow=0.4 cfs 4,690 cf
Outflow=0.0 cfs 4,625 cf

Pond RD1: Roof Drain 1 Peak Elev=69.51' Storage=39 cf Inflow=0.1 cfs 319 cf
Primary=0.1 cfs 302 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 302 cf

Pond RD2: Roof Drain 2 Peak Elev=69.66' Storage=43 cf Inflow=0.1 cfs 319 cf
Primary=0.1 cfs 302 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 302 cf

Pond RD3: Roof Drain 3 Peak Elev=69.92' Storage=36 cf Inflow=0.1 cfs 319 cf
Primary=0.1 cfs 302 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 302 cf

Pond RD4: Roof Drain 4 Peak Elev=69.92' Storage=36 cf Inflow=0.1 cfs 319 cf
Primary=0.1 cfs 302 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 302 cf

Pond RD5: Roof Drain 5 Peak Elev=69.63' Storage=41 cf Inflow=0.1 cfs 319 cf
Primary=0.1 cfs 302 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 302 cf

Pond RD6: Roof Drain 6 Peak Elev=69.50' Storage=38 cf Inflow=0.1 cfs 319 cf
Primary=0.1 cfs 303 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 303 cf

Pond RD7: Roof Drain 7 Peak Elev=67.03' Storage=60 cf Inflow=0.1 cfs 319 cf
Primary=0.2 cfs 302 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 302 cf

Pond SF1: Soil Filter 1 Peak Elev=62.71' Storage=725 cf Inflow=1.4 cfs 6,597 cf
Primary=1.1 cfs 6,591 cf Secondary=0.0 cfs 0 cf Outflow=1.1 cfs 6,591 cf

Pond SF2: Soil Filter 2 Peak Elev=61.59' Storage=8,195 cf Inflow=3.9 cfs 19,295 cf
Primary=0.8 cfs 19,072 cf Secondary=0.0 cfs 0 cf Outflow=0.8 cfs 19,072 cf

Link AP#1: Analysis Point 1 Inflow=0.2 cfs 1,245 cf
Primary=0.2 cfs 1,245 cf

Link AP#2: Analysis Point 2 Inflow=0.6 cfs 10,559 cf
Primary=0.6 cfs 10,559 cf

Link AP#3: Analysis Point 3 Inflow=1.7 cfs 9,676 cf
Primary=1.7 cfs 9,676 cf

Link AP#4: Analysis Point 4 Inflow=0.8 cfs 19,072 cf
Primary=0.8 cfs 19,072 cf

Link AP#5: Analysis Point 5 Inflow=0.6 cfs 3,990 cf
Primary=0.6 cfs 3,990 cf

Total Runoff Area = 467,733 sf Runoff Volume = 44,958 cf Average Runoff Depth = 1.15"
75.50% Pervious = 353,127 sf 24.50% Impervious = 114,606 sf

Summary for Subcatchment S1.1: Subcatchment 1.1

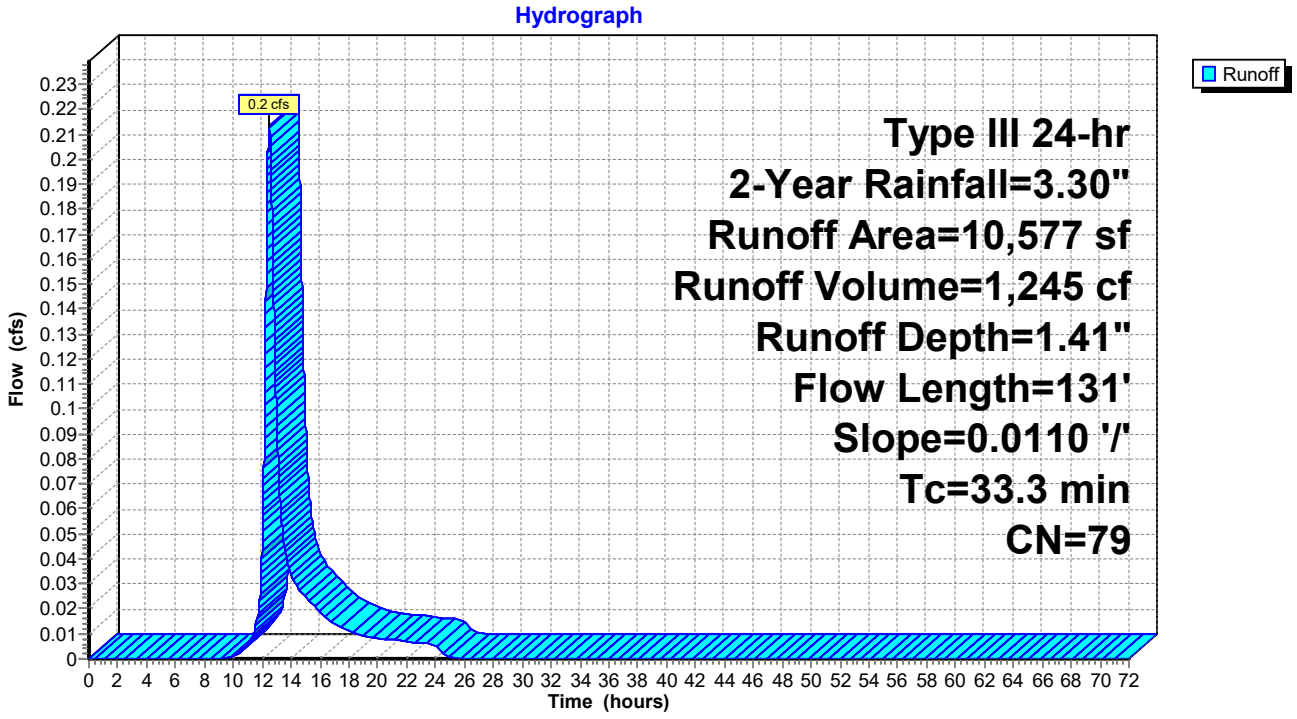
Runoff = 0.2 cfs @ 12.47 hrs, Volume= 1,245 cf, Depth= 1.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
6,431	80	>75% Grass cover, Good, HSG D
4,146	77	Woods, Good, HSG D
10,577	79	Weighted Average
10,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	131	0.0110	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"

Subcatchment S1.1: Subcatchment 1.1



Summary for Subcatchment S2.1: Subcatchment 2.1

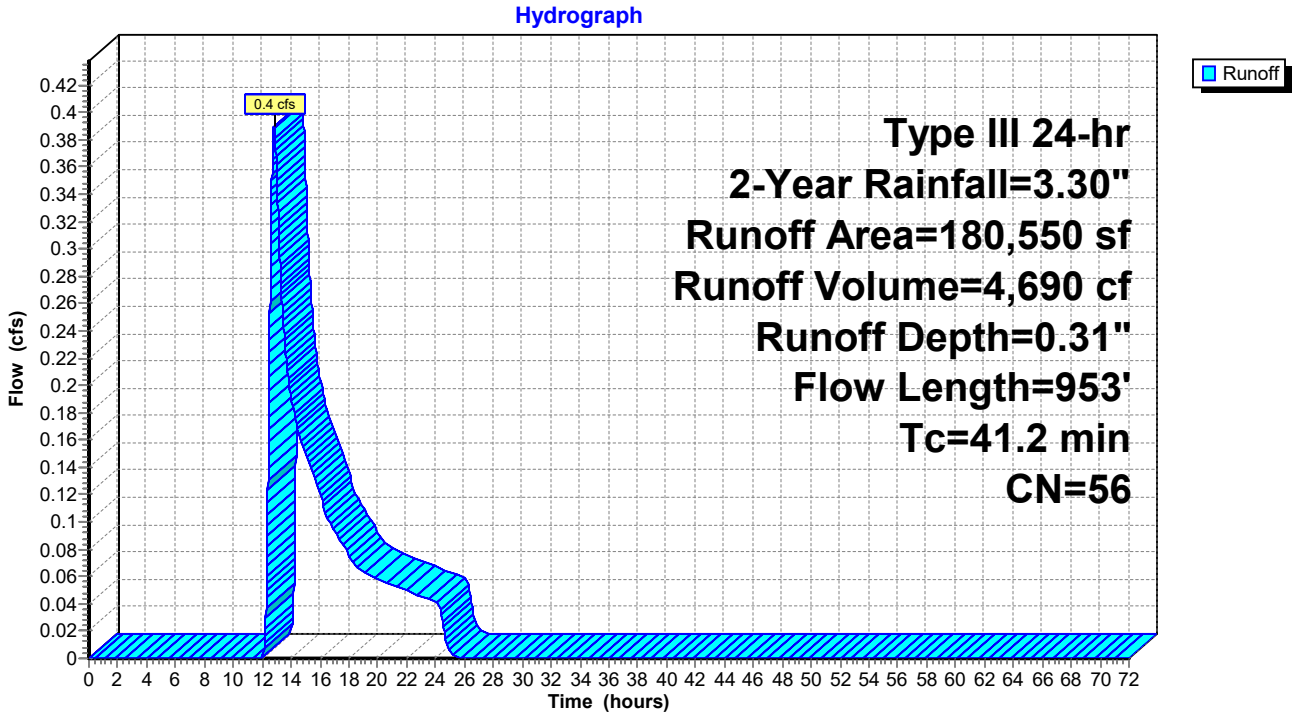
Runoff = 0.4 cfs @ 12.81 hrs, Volume= 4,690 cf, Depth= 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
12,432	39	>75% Grass cover, Good, HSG A
85,722	30	Woods, Good, HSG A
489	98	Paved parking, HSG A
17,787	80	>75% Grass cover, Good, HSG D
29,251	77	Woods, Good, HSG D
14,624	98	Paved parking, HSG D
3,134	98	Paved parking, HSG D
17,111	98	Roofs, HSG A
180,550	56	Weighted Average
145,192		80.42% Pervious Area
35,358		19.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	51	0.0196	0.15		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
13.5	99	0.0606	0.12		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
7.7	300	0.0167	0.65		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
4.3	203	0.0246	0.78		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
41.2	953	Total			

Subcatchment S2.1: Subcatchment 2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

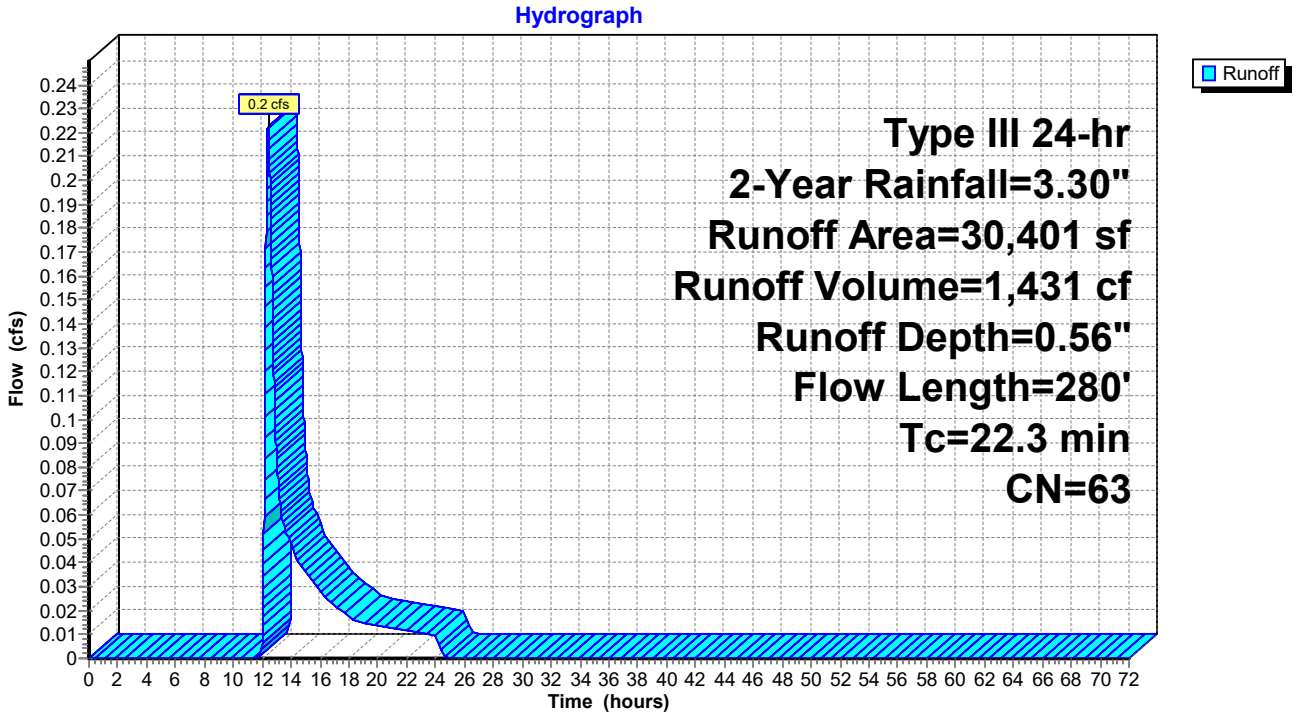
Runoff = 0.2 cfs @ 12.41 hrs, Volume= 1,431 cf, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
5,813	98	Paved parking, HSG A
30,401	63	Weighted Average
18,462		60.73% Pervious Area
11,939		39.27% Impervious Area
6,060		50.76% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	150	0.0520	0.13		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.3	130	0.0350	0.94		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.3	280	Total			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment 2.3

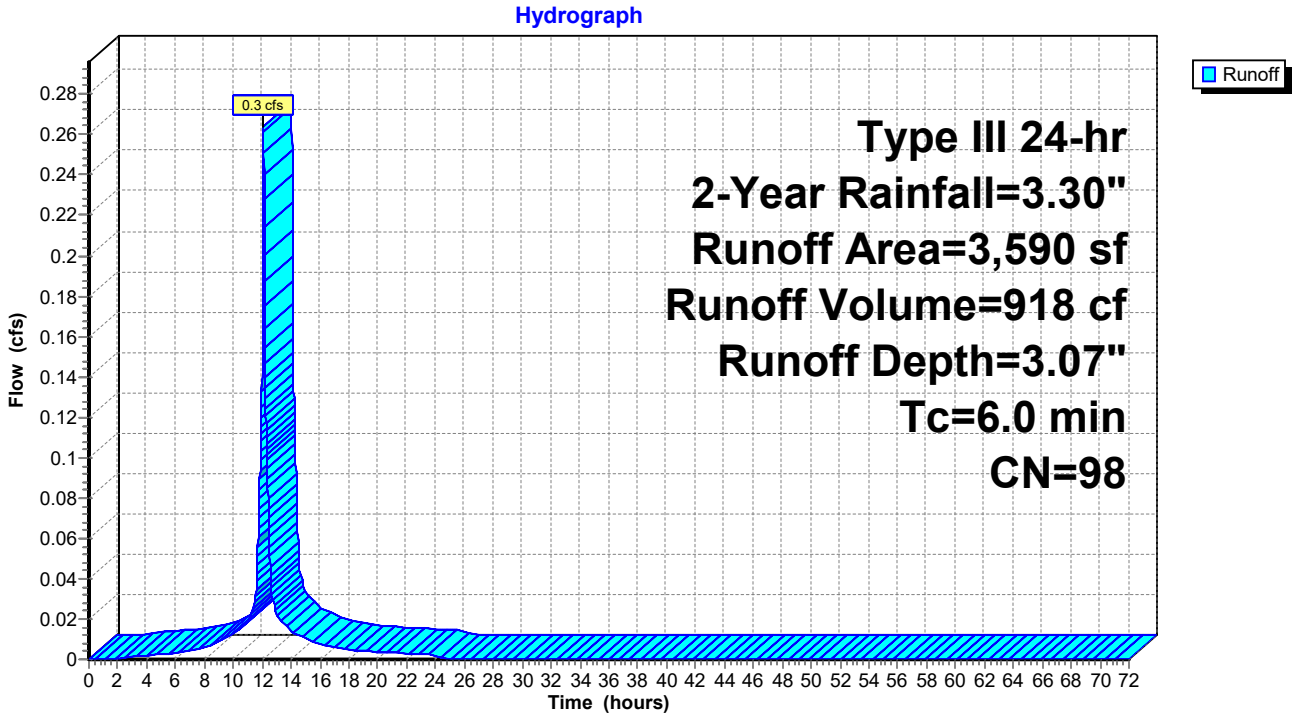
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 918 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
3,590	98	Paved roads w/curbs & sewers, HSG D
3,590		100.00% Impervious Area

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

Subcatchment S2.3: Subcatchment 2.3



Summary for Subcatchment S2.4: Subcatchment 2.4

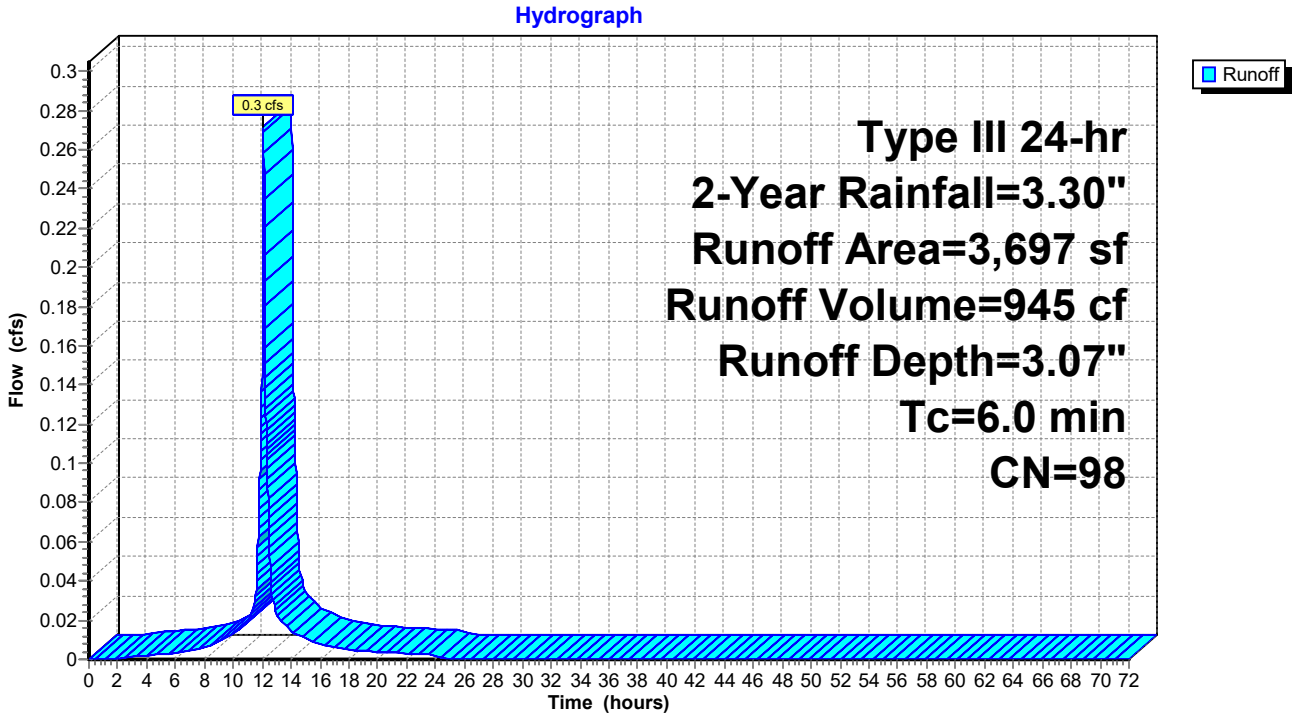
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 945 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
3,697	98	Paved roads w/curbs & sewers, HSG D
3,697		100.00% Impervious Area

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

Subcatchment S2.4: Subcatchment 2.4



Summary for Subcatchment S2.5: Subcatchment 2.5

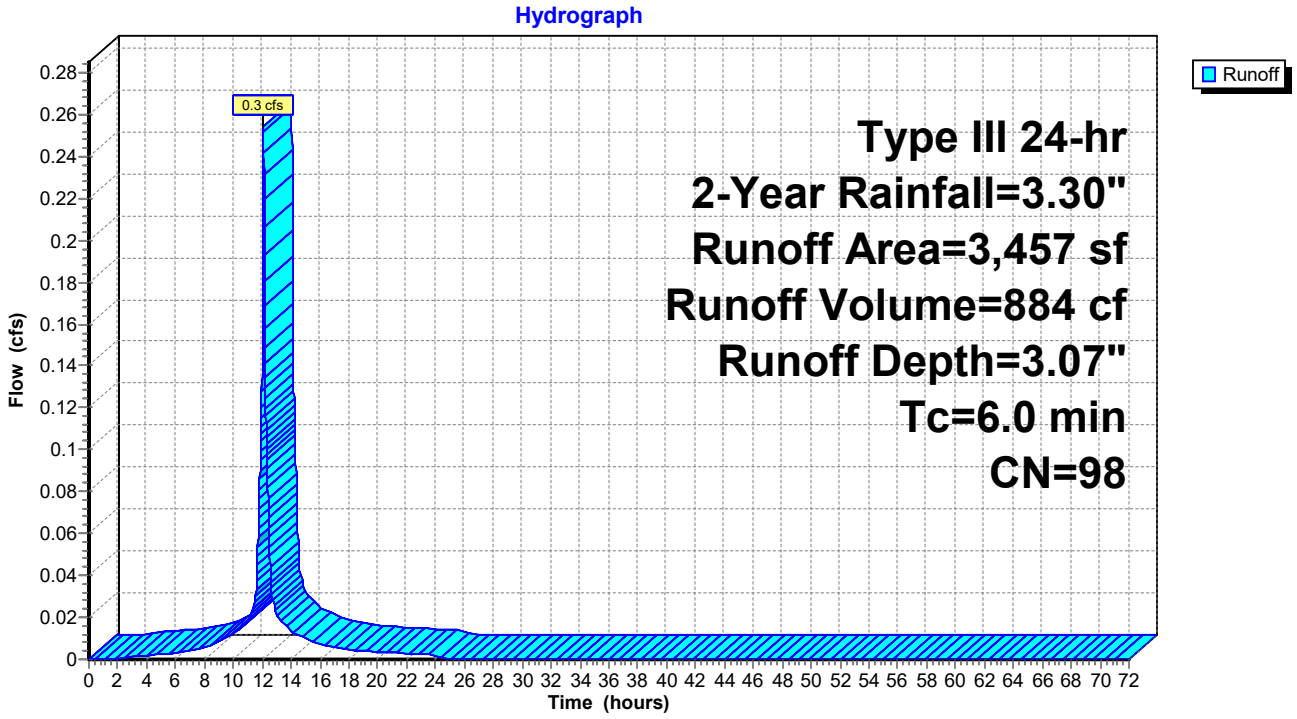
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 884 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
3,457	98	Paved roads w/curbs & sewers, HSG D
3,457		100.00% Impervious Area

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

Subcatchment S2.5: Subcatchment 2.5



Summary for Subcatchment S2.6: Subcatchment 2.6

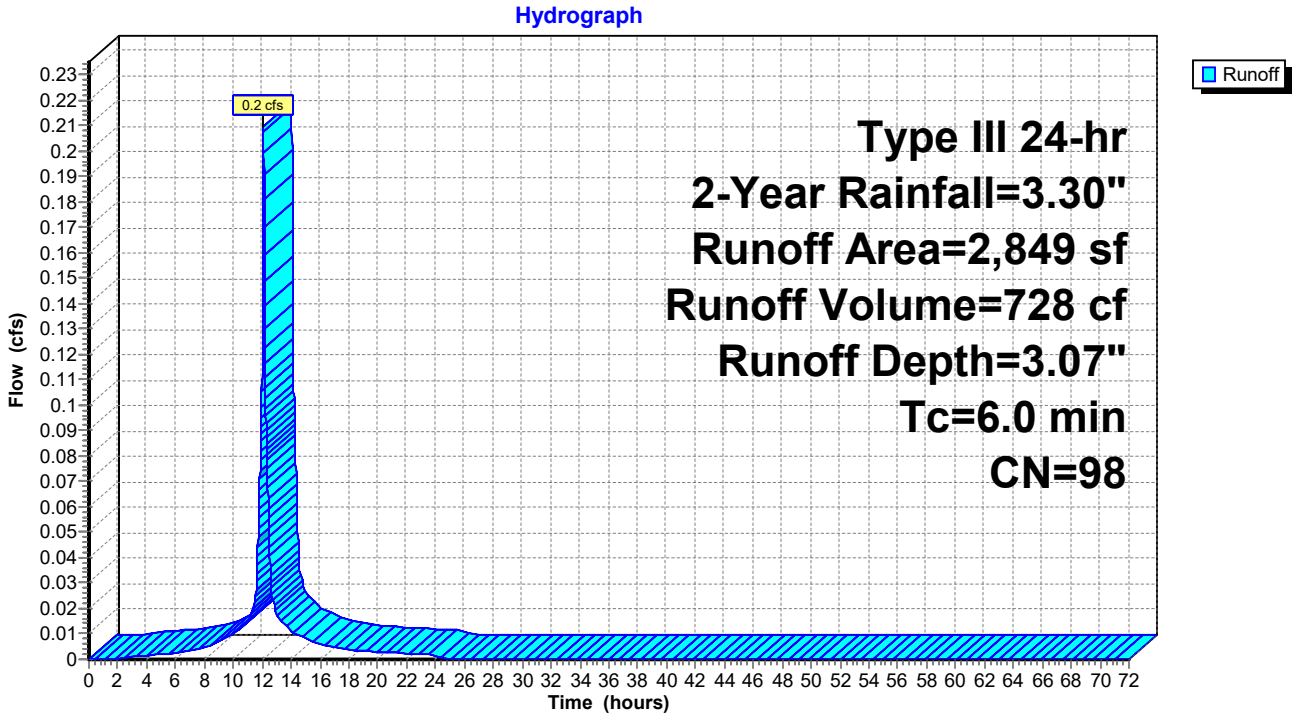
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 728 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
2,849	98	Paved roads w/curbs & sewers, HSG D
2,849		100.00% Impervious Area

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

Subcatchment S2.6: Subcatchment 2.6



Summary for Subcatchment S2.7: Subcatchment 2.7

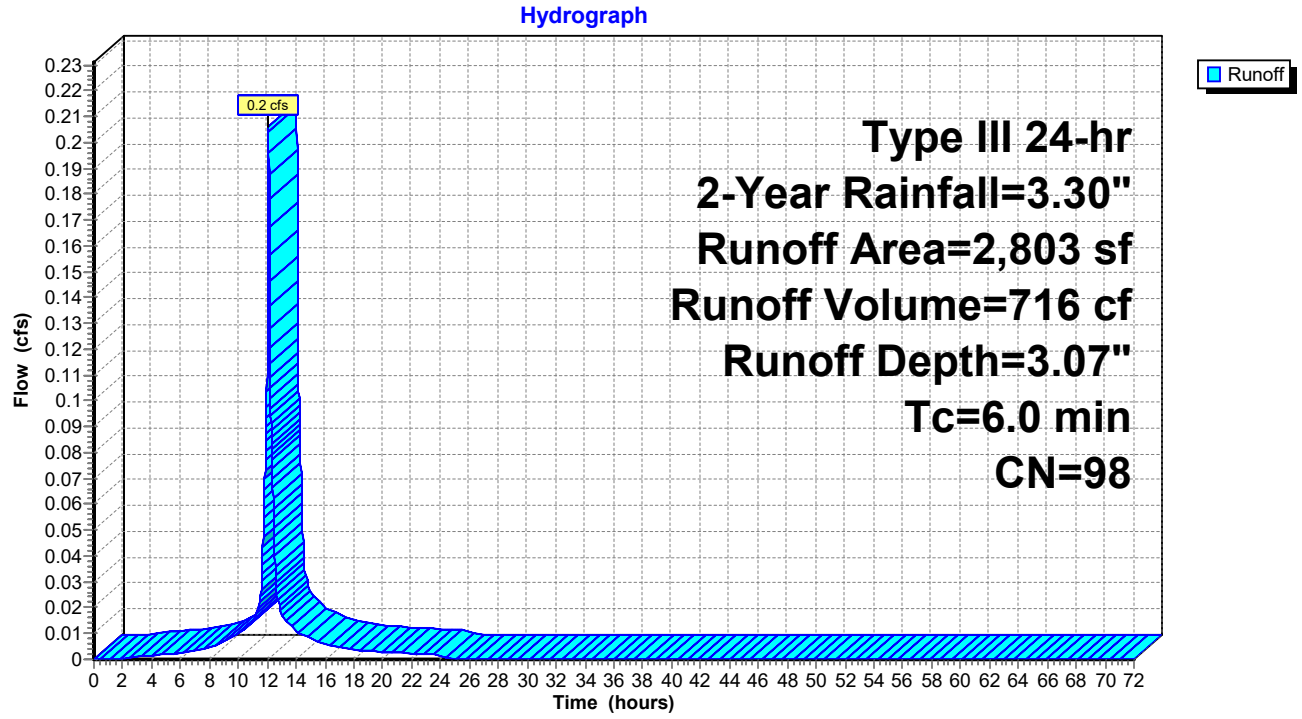
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 716 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
2,803	98	Paved roads w/curbs & sewers, HSG D
2,803		100.00% Impervious Area

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

Subcatchment S2.7: Subcatchment 2.7



Summary for Subcatchment S2.8: Subcatchment 2.8

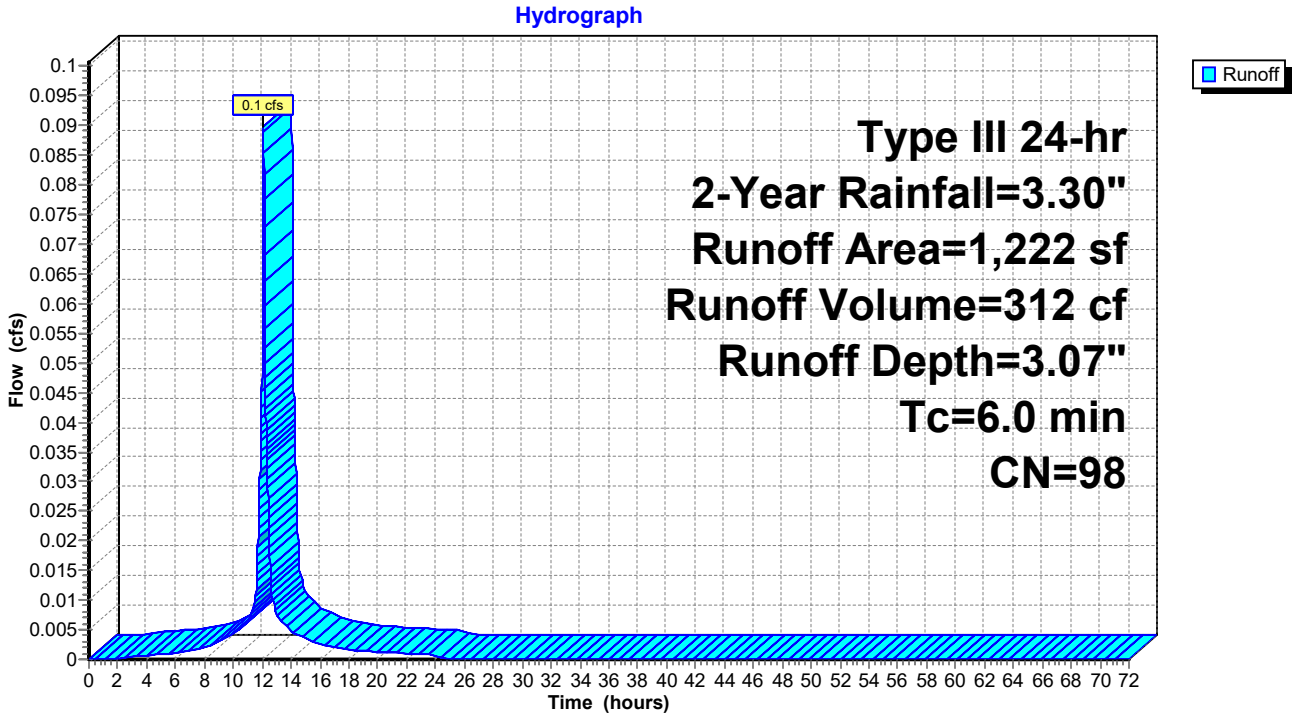
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 312 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,222	98	Paved roads w/curbs & sewers, HSG D
1,222		100.00% Impervious Area

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

Subcatchment S2.8: Subcatchment 2.8



Summary for Subcatchment S3.1: Subcatchment 3.1

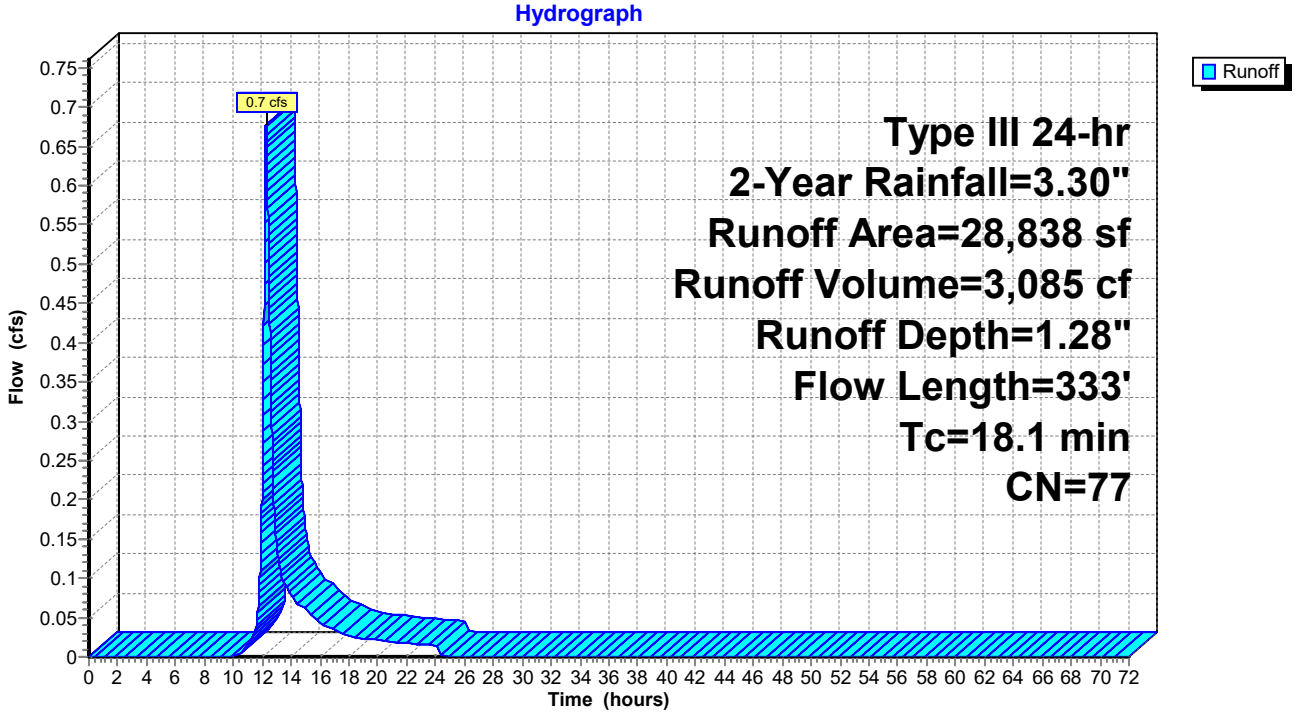
Runoff = 0.7 cfs @ 12.26 hrs, Volume= 3,085 cf, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
15,787	77	Woods, Good, HSG D
10,424	80	>75% Grass cover, Good, HSG D
1,377	39	>75% Grass cover, Good, HSG A
1,250	98	Roofs, HSG D
28,838	77	Weighted Average
27,588		95.67% Pervious Area
1,250		4.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	150	0.0130	0.16		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
1.2	102	0.0392	1.39		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.0	81	0.0740	1.36		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
18.1	333	Total			

Subcatchment S3.1: Subcatchment 3.1



Summary for Subcatchment S3.2: Subcatchment 3.2

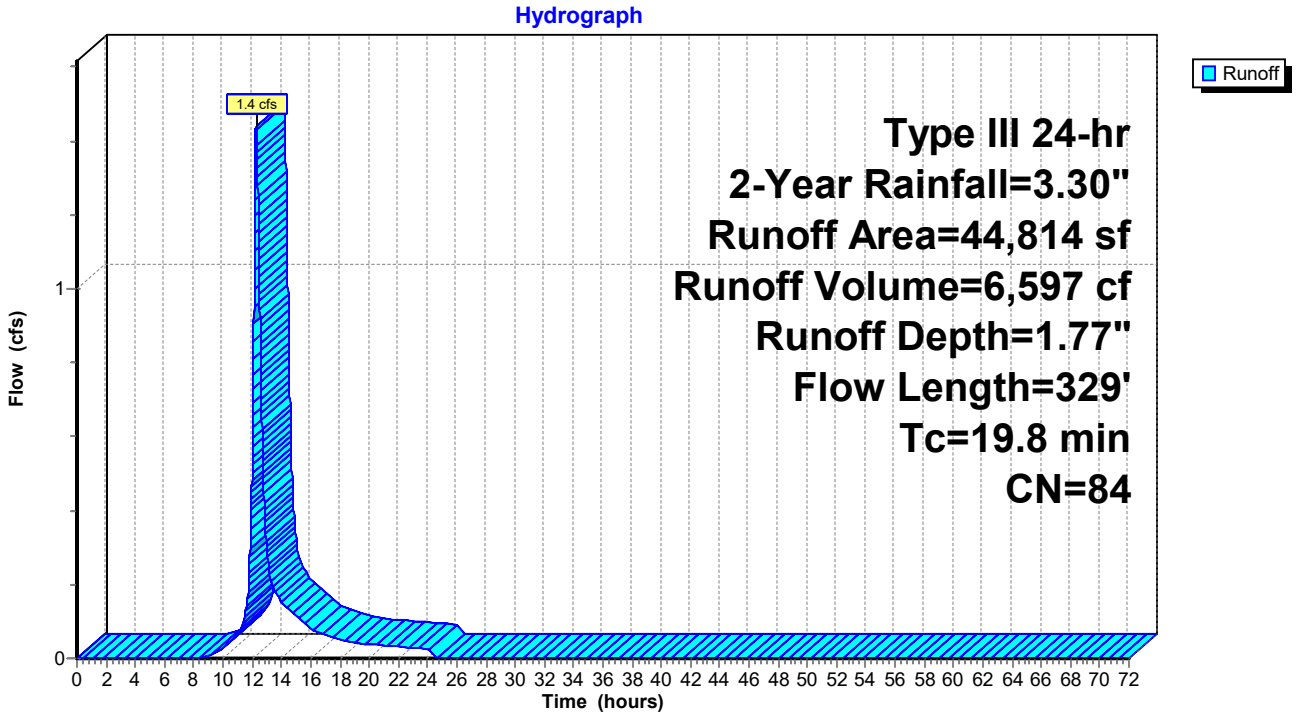
Runoff = 1.4 cfs @ 12.27 hrs, Volume= 6,597 cf, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
34,169	80	>75% Grass cover, Good, HSG D
1,895	98	Paved parking, HSG D
8,750	98	Roofs, HSG D
44,814	84	Weighted Average
34,169		76.25% Pervious Area
10,645		23.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0100	0.14		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
2.2	179	0.0363	1.33		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.8	329	Total			

Subcatchment S3.2: Subcatchment 3.2



Summary for Subcatchment S4.1: Subcatchment 4.1

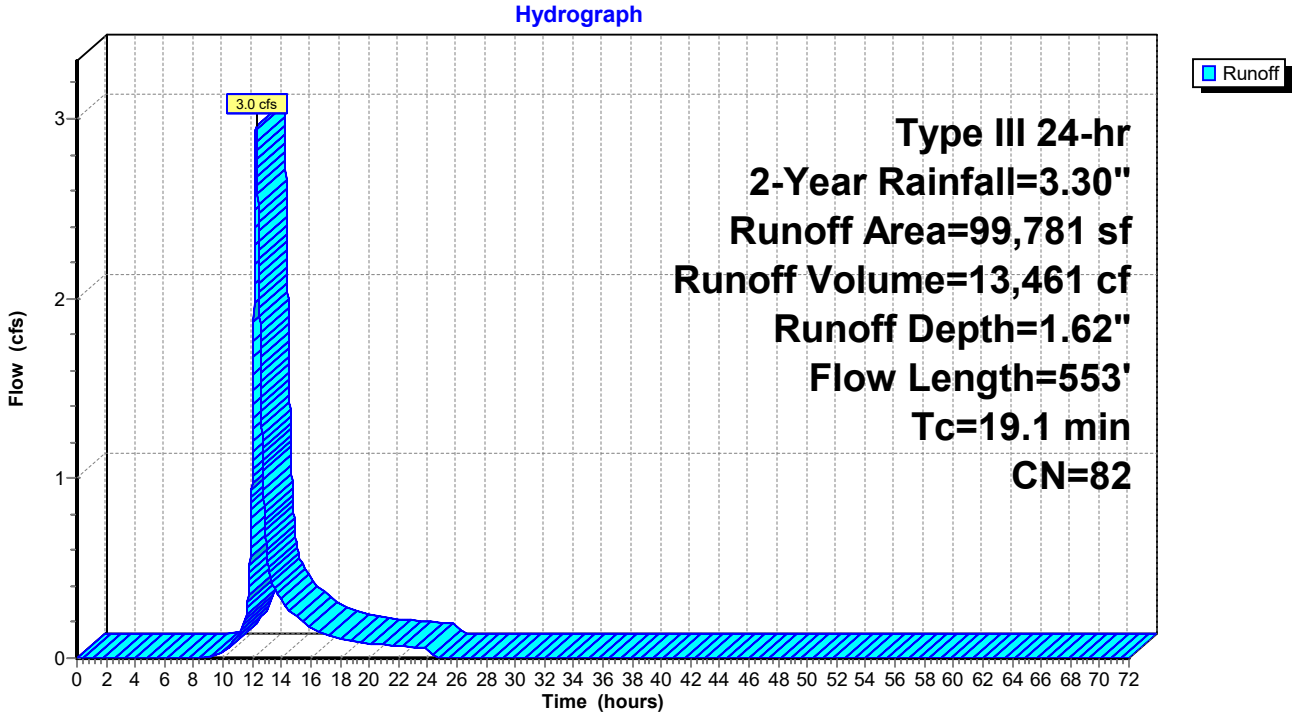
Runoff = 3.0 cfs @ 12.27 hrs, Volume= 13,461 cf, Depth= 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
17,618	77	Woods, Good, HSG D
70,163	80	>75% Grass cover, Good, HSG D
12,000	98	Roofs, HSG D
99,781	82	Weighted Average
87,781		87.97% Pervious Area
12,000		12.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	150	0.0330	0.23		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
7.1	300	0.0100	0.70		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.1	103	0.0485	1.54		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.1	553	Total			

Subcatchment S4.1: Subcatchment 4.1



Summary for Subcatchment S4.10: Subcatchment 4.10

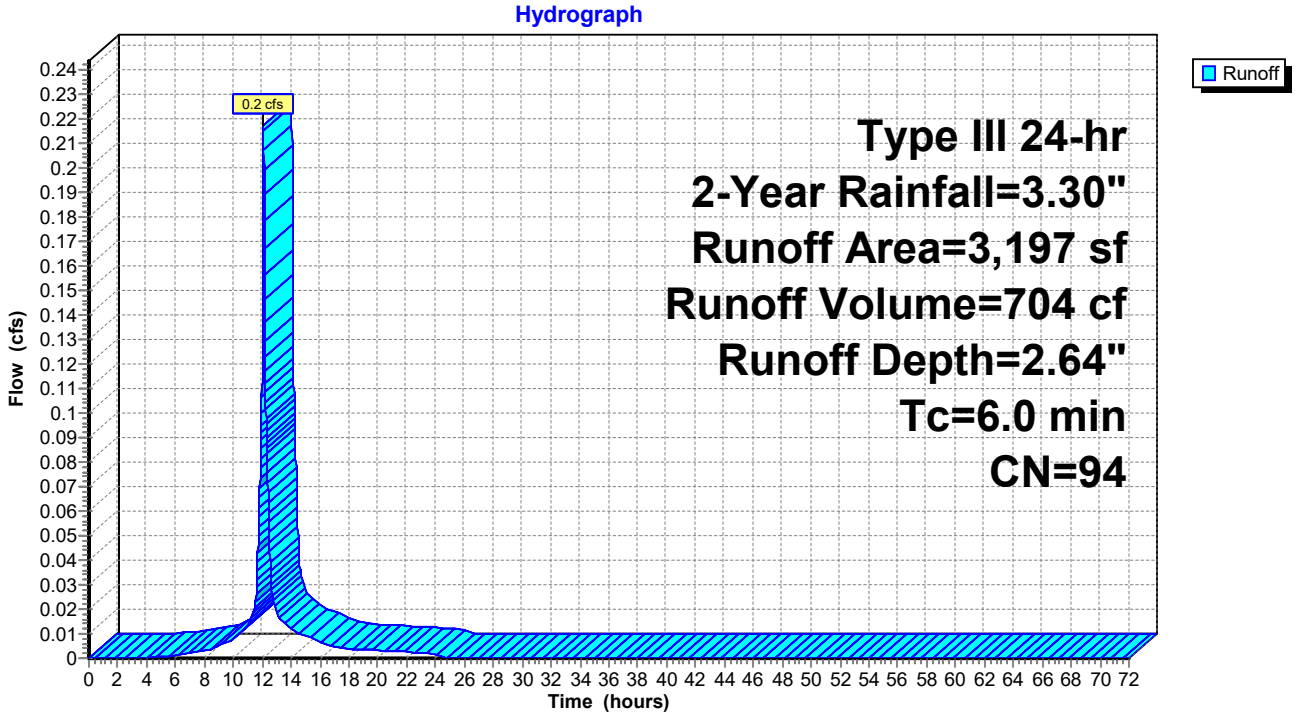
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 704 cf, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
2,320	98	Paved roads w/curbs & sewers, HSG D
148	96	Gravel surface, HSG D
729	80	>75% Grass cover, Good, HSG D
3,197	94	Weighted Average
877		27.43% Pervious Area
2,320		72.57% Impervious Area

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

Subcatchment S4.10: Subcatchment 4.10



Summary for Subcatchment S4.11: Subcatchment 4.11

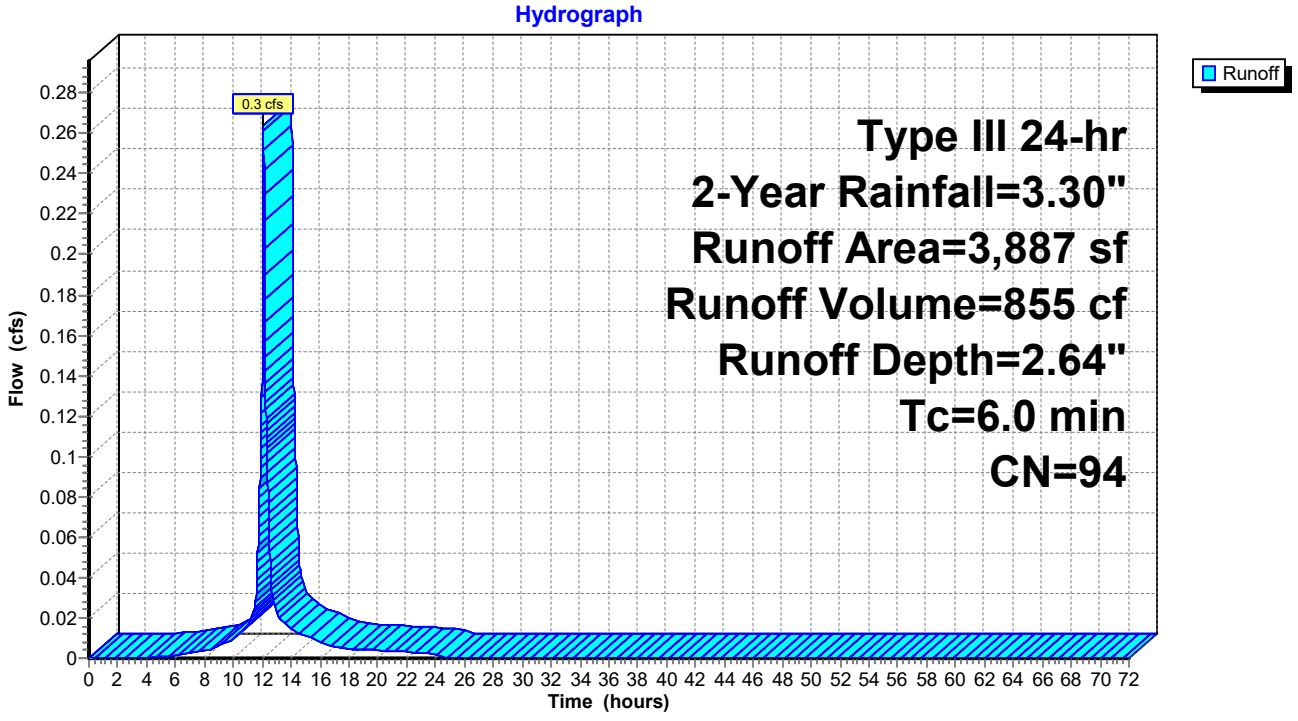
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 855 cf, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
2,903	98	Paved roads w/curbs & sewers, HSG D
163	96	Gravel surface, HSG D
821	80	>75% Grass cover, Good, HSG D
3,887	94	Weighted Average
984		25.32% Pervious Area
2,903		74.68% Impervious Area

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

Subcatchment S4.11: Subcatchment 4.11



Summary for Subcatchment S4.12: Subcatchment 4.12

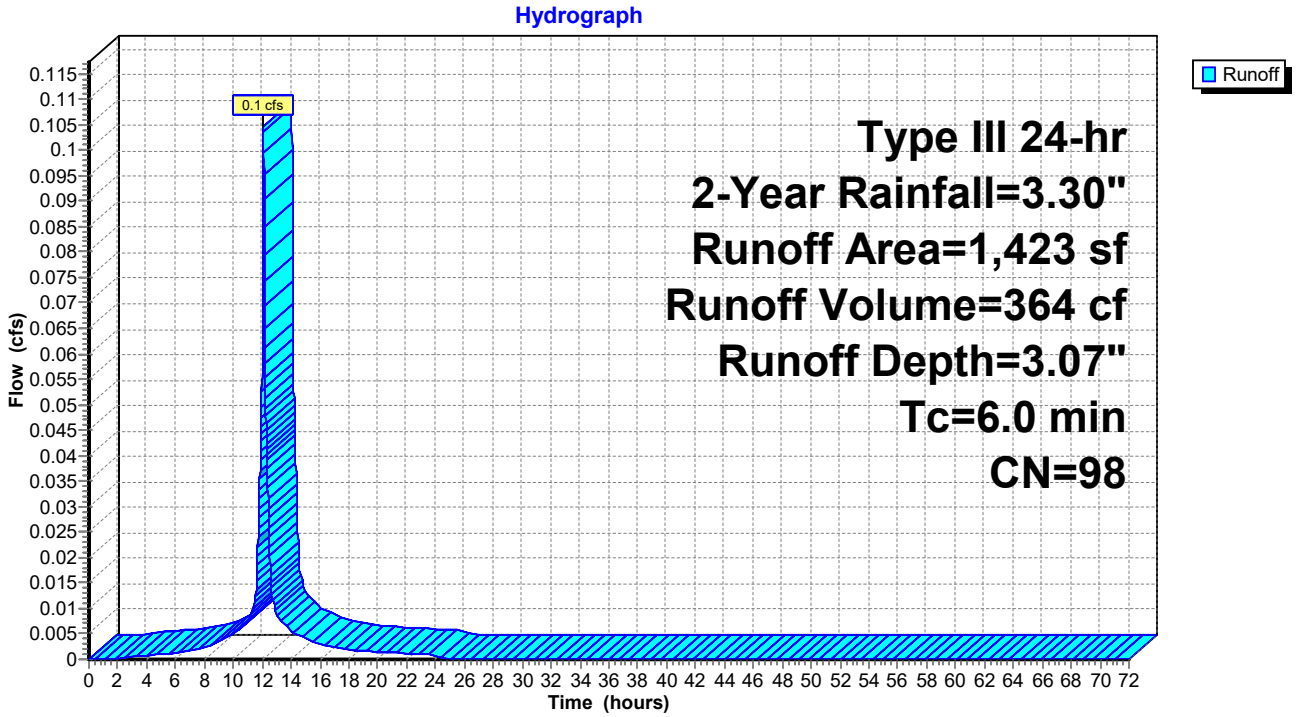
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 364 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,423	98	Paved roads w/curbs & sewers, HSG D
1,423		100.00% Impervious Area

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

Subcatchment S4.12: Subcatchment 4.12



Summary for Subcatchment S4.13: Subcatchment 4.13

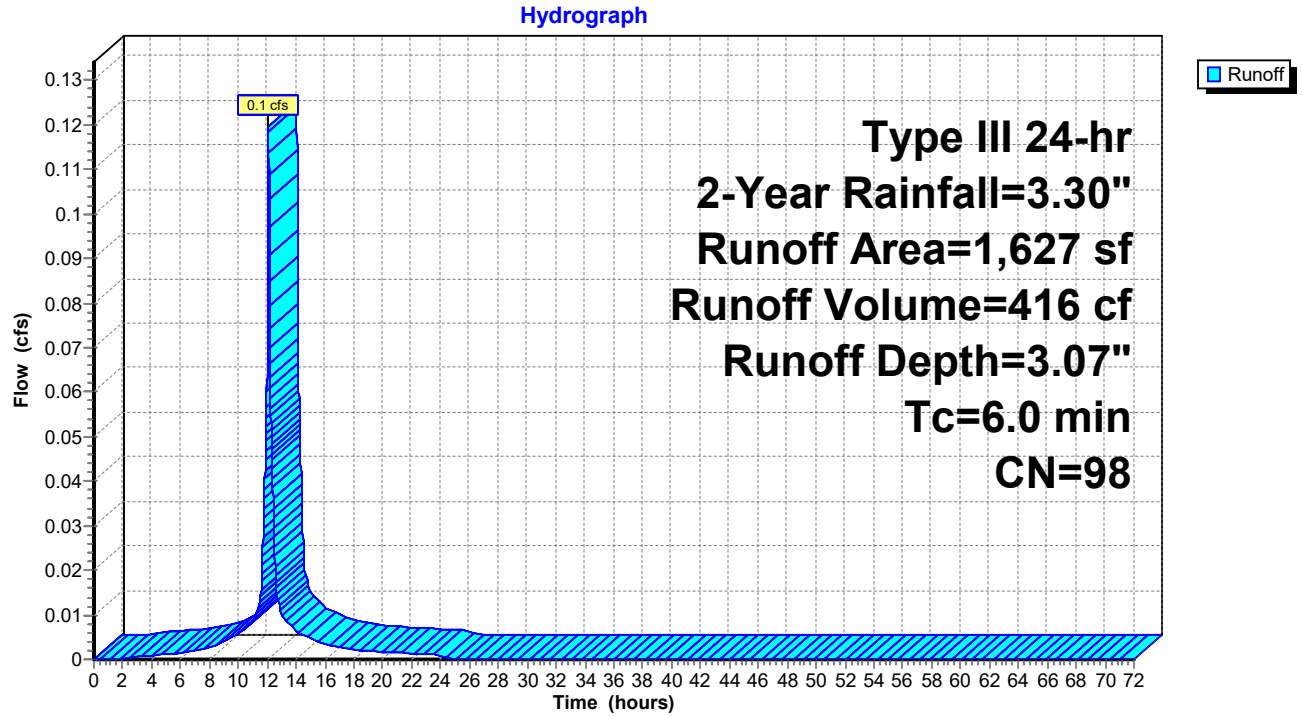
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 416 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,627	98	Paved roads w/curbs & sewers, HSG D
1,627		100.00% Impervious Area

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

Subcatchment S4.13: Subcatchment 4.13



Summary for Subcatchment S4.2: Subcatchment 4.2

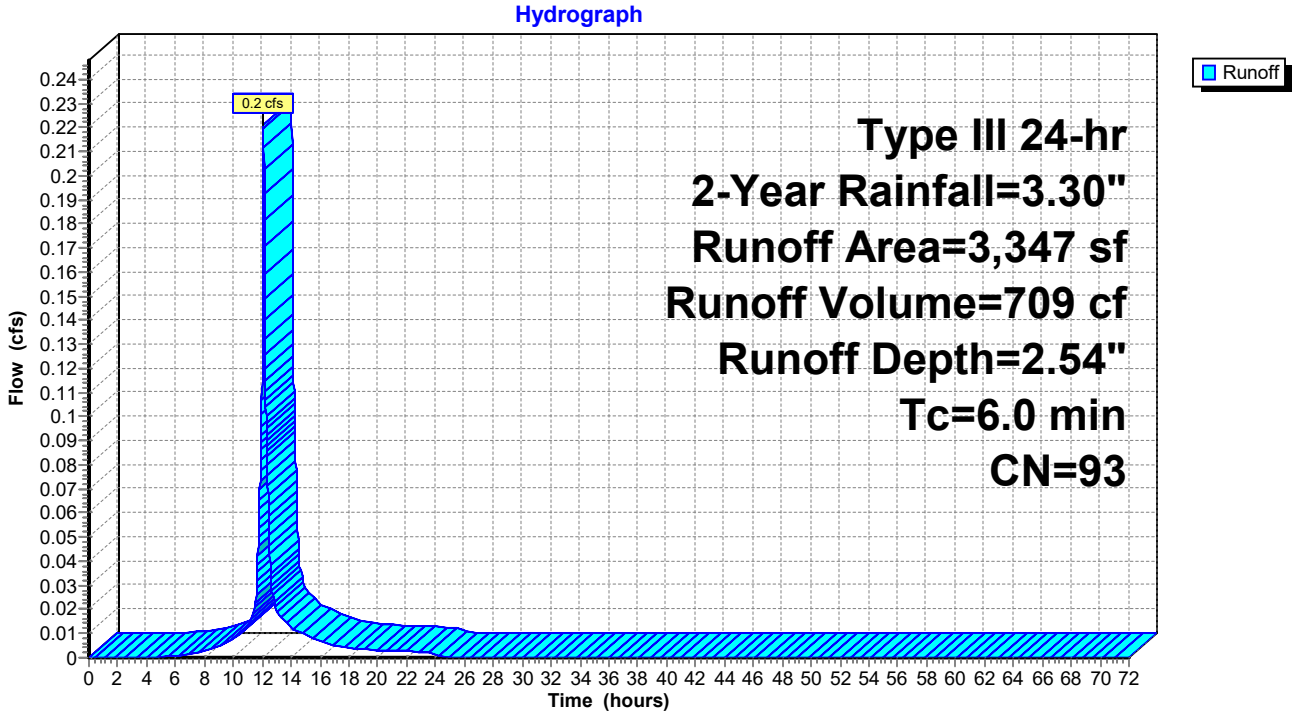
Runoff = 0.2 cfs @ 12.09 hrs, Volume= 709 cf, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
796	98	Paved parking, HSG D
74	96	Gravel surface, HSG D
754	80	>75% Grass cover, Good, HSG D
1,602	98	Paved parking, HSG A
40	39	>75% Grass cover, Good, HSG A
81	96	Gravel surface, HSG A
3,347	93	Weighted Average
949		28.35% Pervious Area
2,398		71.65% Impervious Area

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

Subcatchment S4.2: Subcatchment 4.2



Summary for Subcatchment S4.3: Subcatchment 4.3

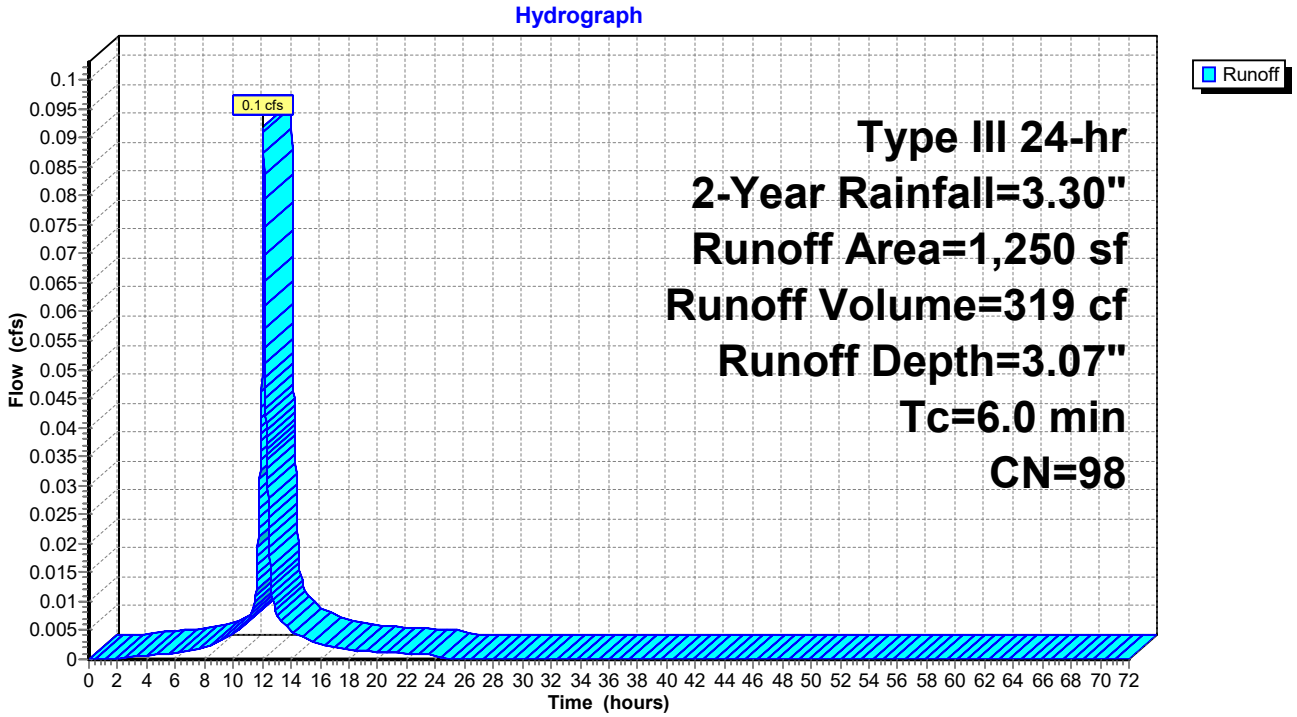
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.3: Subcatchment 4.3



Summary for Subcatchment S4.4: Subcatchment 4.4

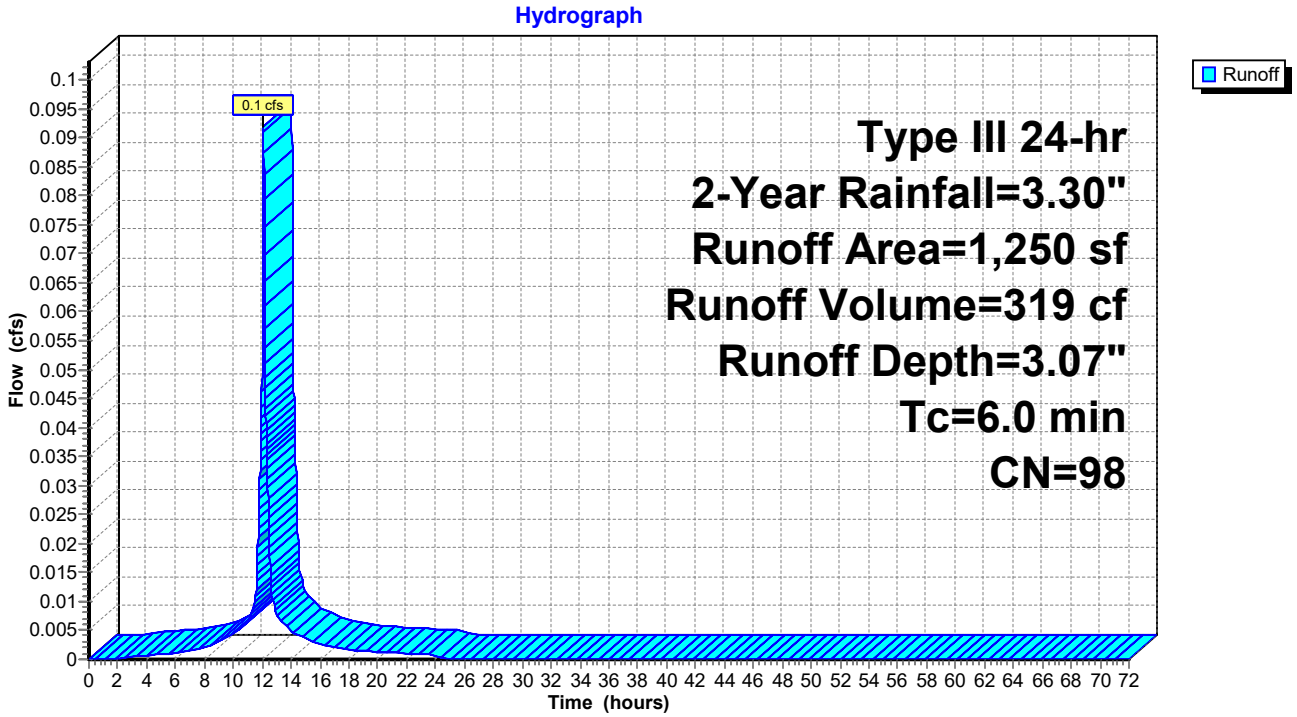
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.4: Subcatchment 4.4



Summary for Subcatchment S4.5: Subcatchment 4.5

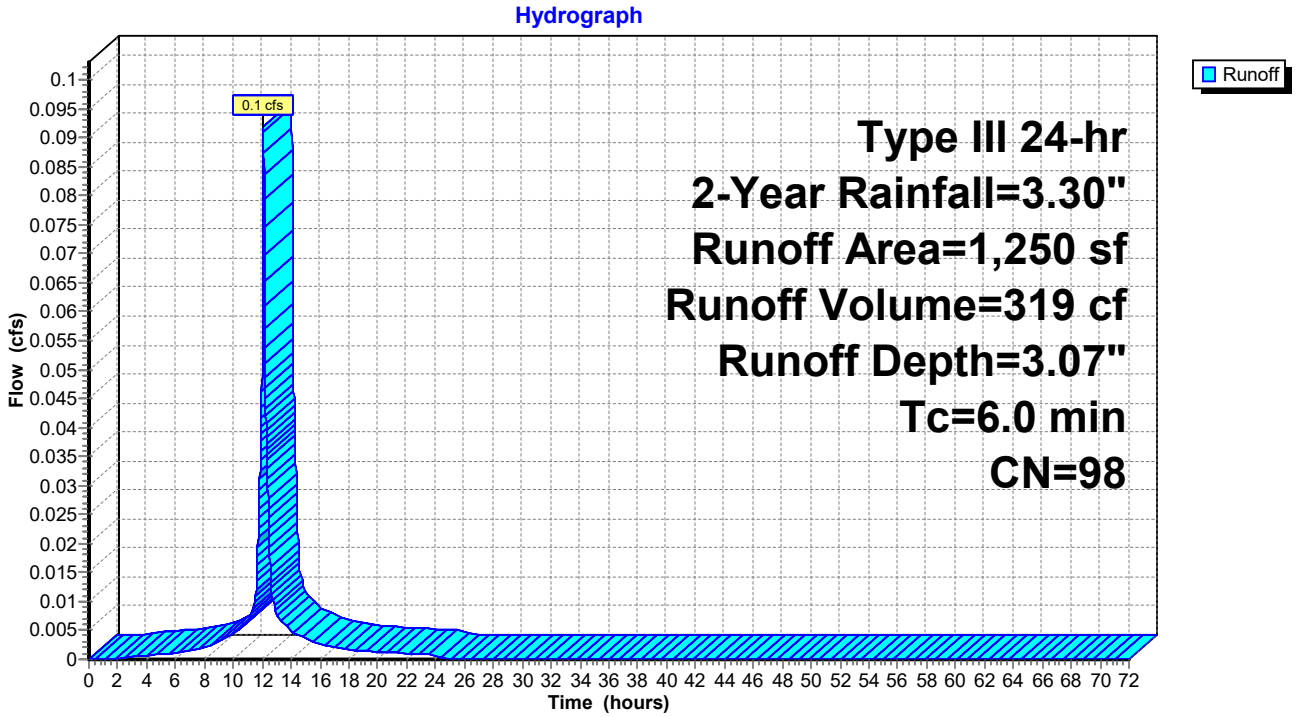
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.5: Subcatchment 4.5



Summary for Subcatchment S4.6: Subcatchment 4.6

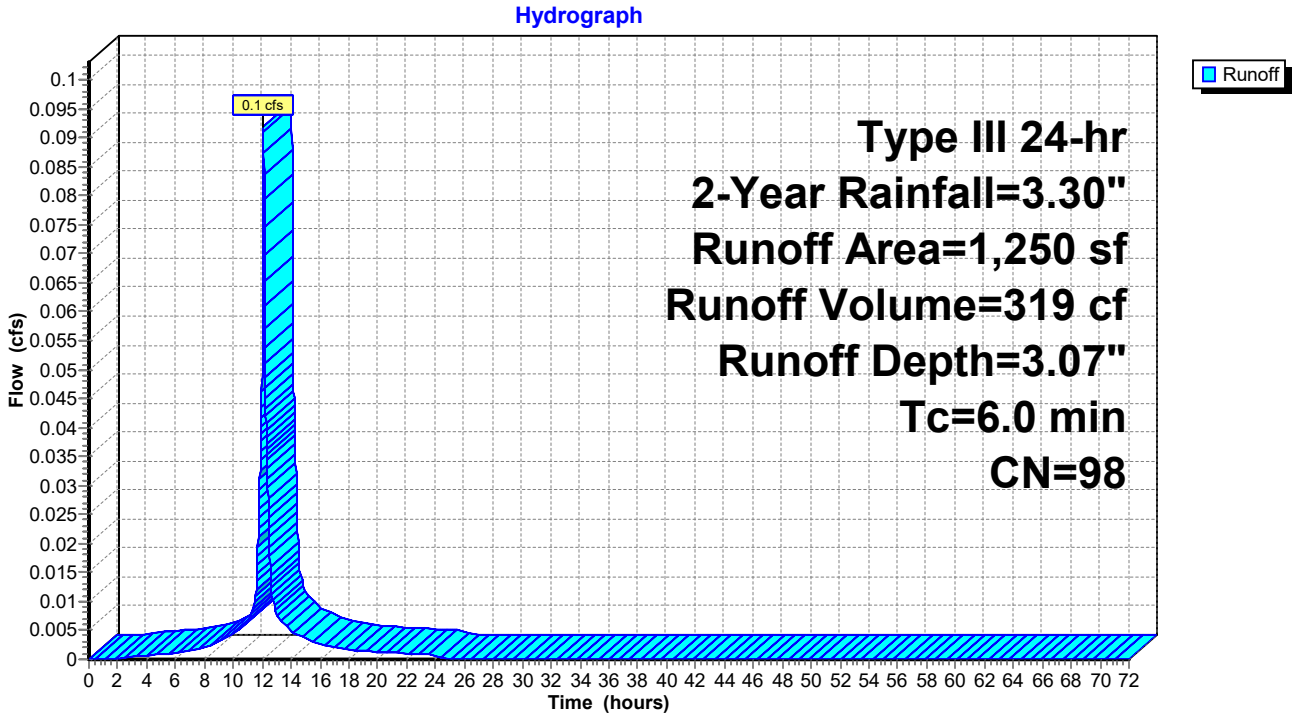
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.6: Subcatchment 4.6



Summary for Subcatchment S4.7: Subcatchment 4.7

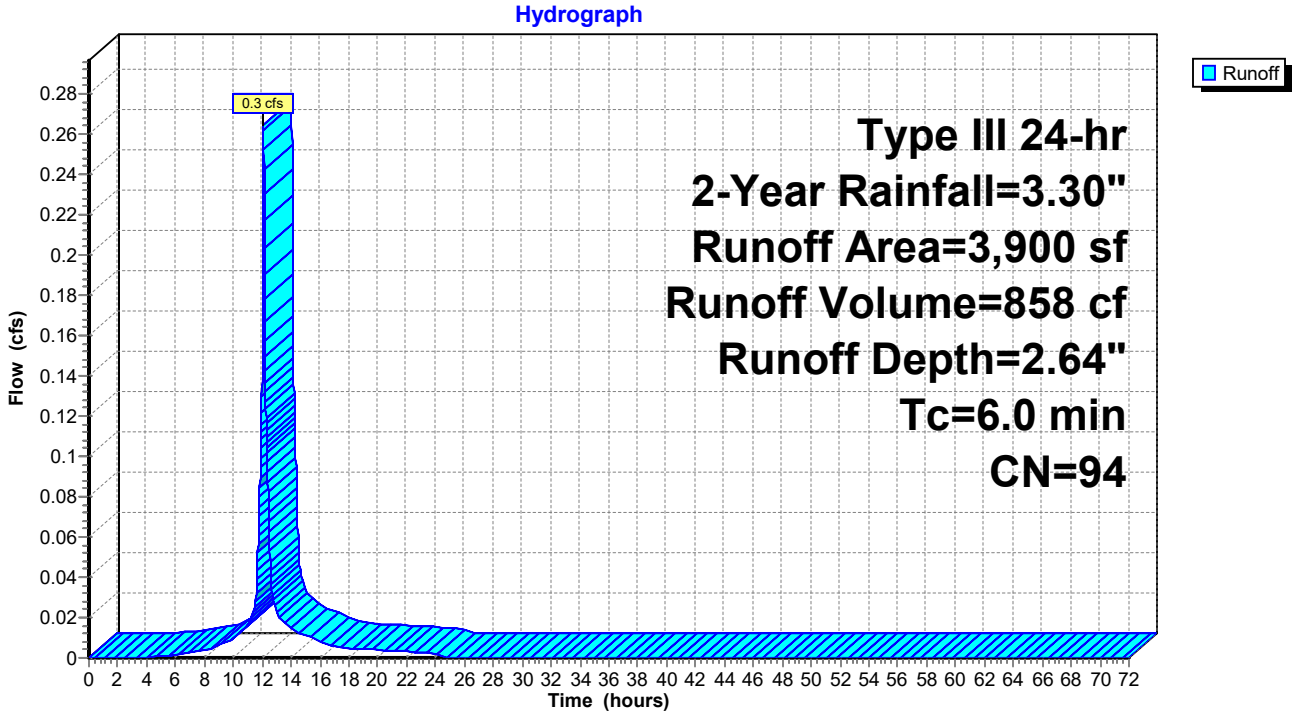
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 858 cf, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
874	80	>75% Grass cover, Good, HSG D
166	96	Gravel surface, HSG D
297	98	Paved roads w/curbs & sewers, HSG A
2,563	98	Paved roads w/curbs & sewers, HSG D
3,900	94	Weighted Average
1,040		26.67% Pervious Area
2,860		73.33% Impervious Area

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

Subcatchment S4.7: Subcatchment 4.7



Summary for Subcatchment S4.8: Subcatchment 4.8

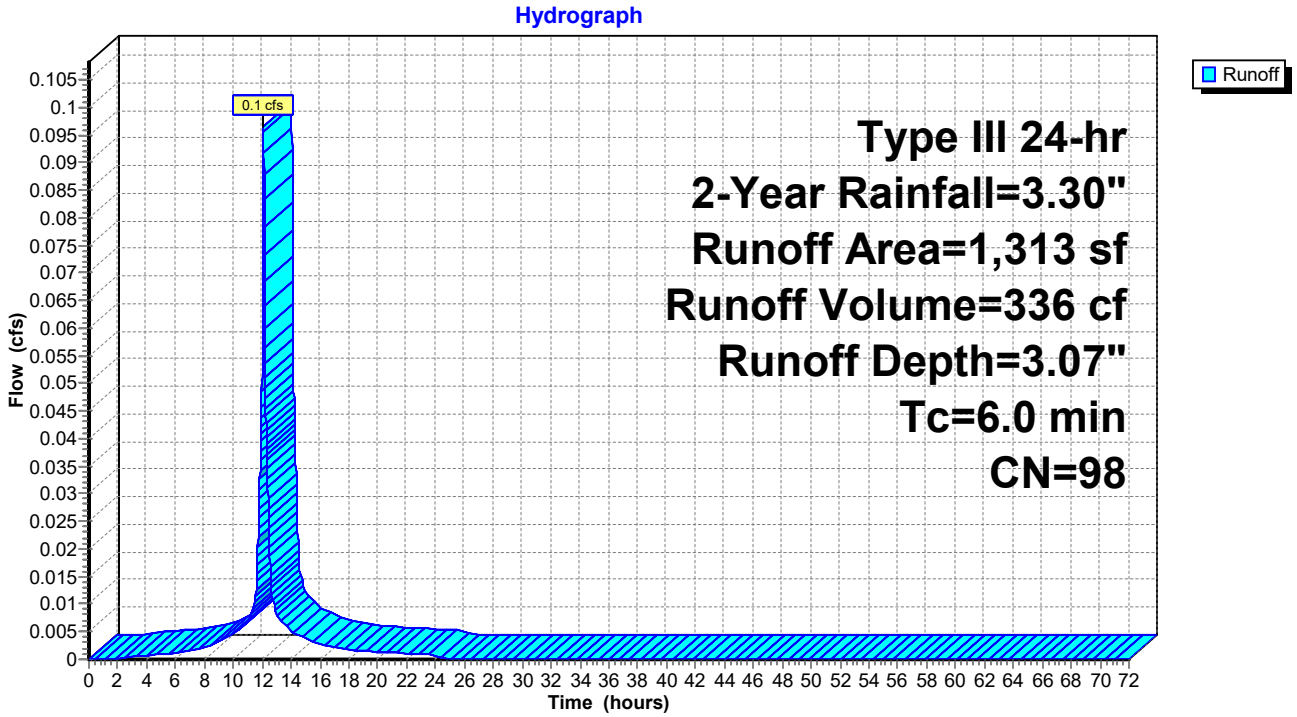
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 336 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,313	98	Paved roads w/curbs & sewers, HSG D
1,313		100.00% Impervious Area

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

Subcatchment S4.8: Subcatchment 4.8



Summary for Subcatchment S4.9: Subcatchment 4.9

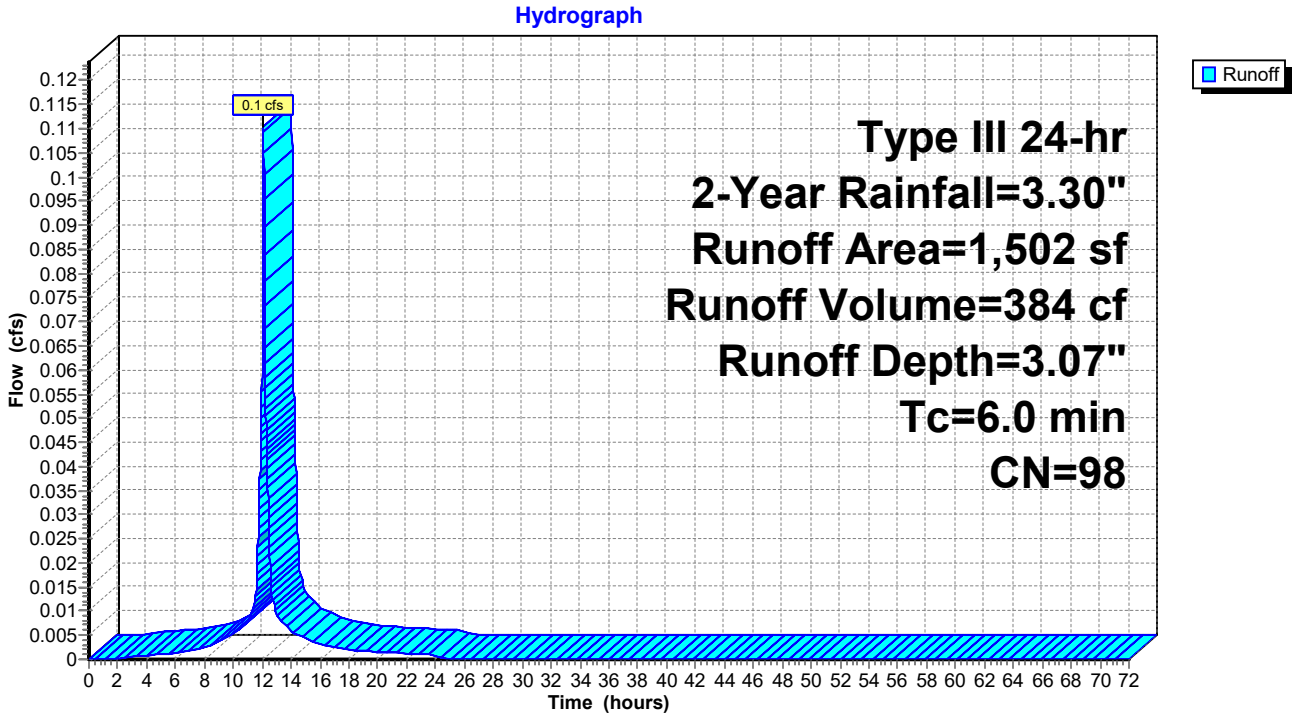
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 384 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,502	98	Paved roads w/curbs & sewers, HSG D
1,502		100.00% Impervious Area

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

Subcatchment S4.9: Subcatchment 4.9



Summary for Subcatchment S5.1: Subcatchment 5.1

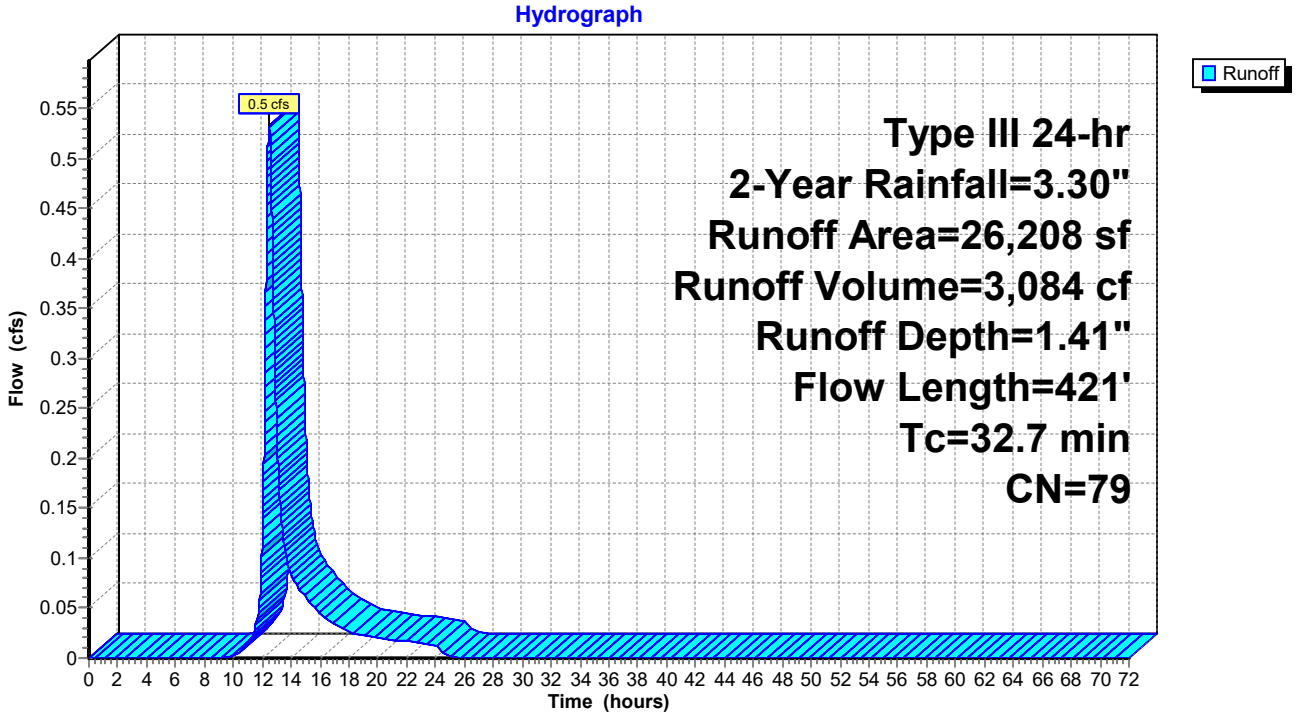
Runoff = 0.5 cfs @ 12.47 hrs, Volume= 3,084 cf, Depth= 1.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
12,258	77	Woods, Good, HSG D
13,250	80	>75% Grass cover, Good, HSG D
700	98	Roofs, HSG D
26,208	79	Weighted Average
25,508		97.33% Pervious Area
700		2.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	150	0.0267	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
1.8	53	0.0100	0.50		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
4.8	218	0.0229	0.76		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
32.7	421	Total			

Subcatchment S5.1: Subcatchment 5.1



Summary for Subcatchment S5.2: Subcatchment 5.2

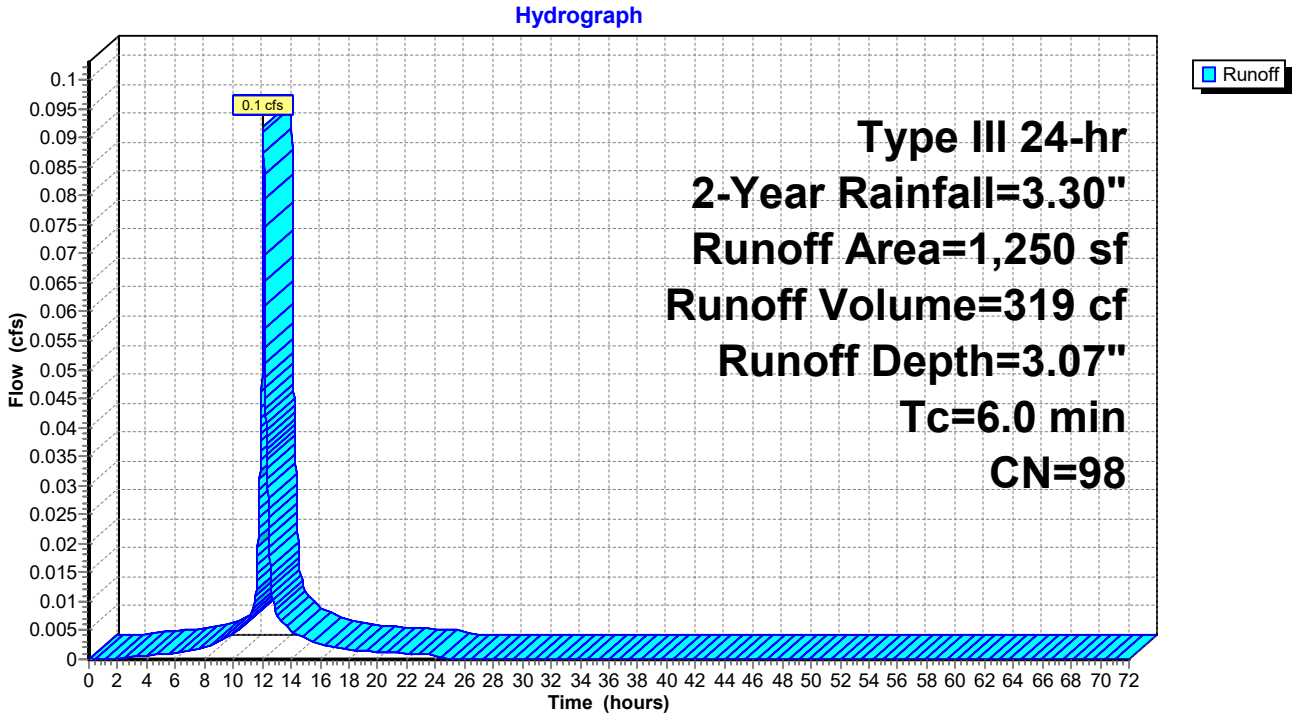
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.2: Subcatchment 5.2



Summary for Subcatchment S5.3: Subcatchment 5.3

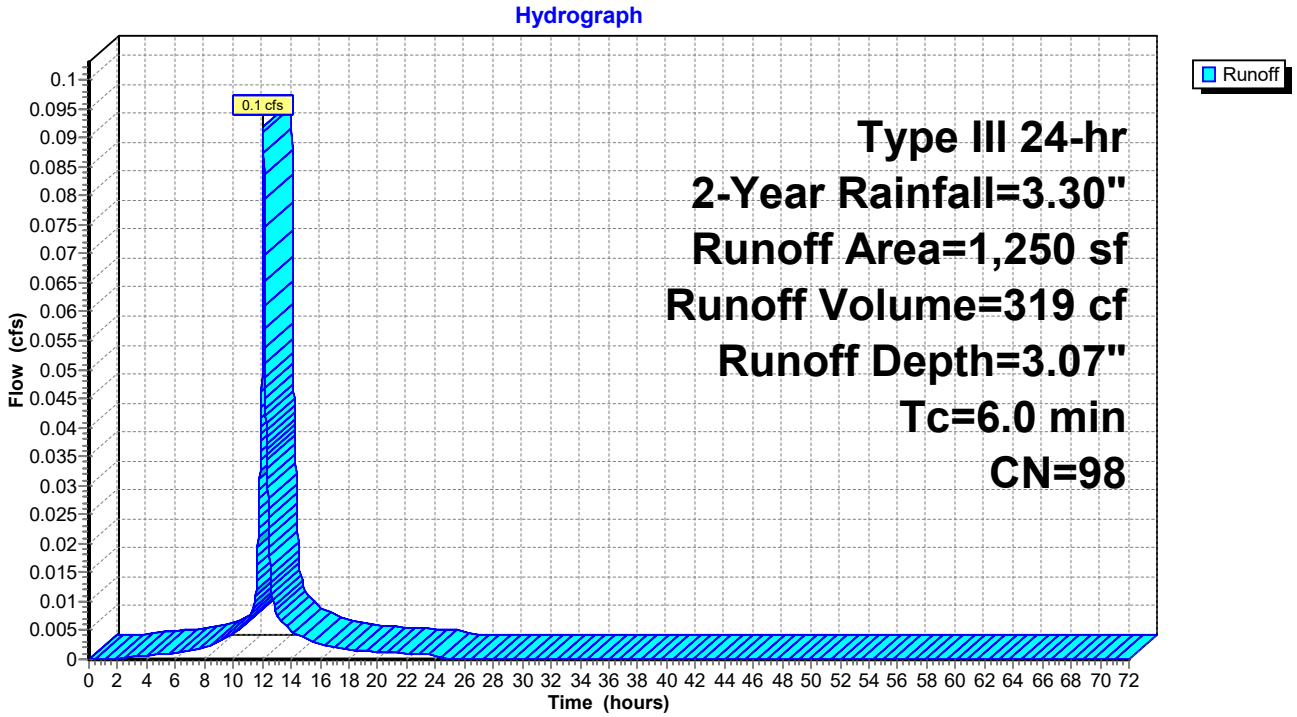
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.3: Subcatchment 5.3



Summary for Subcatchment S5.4: Subcatchment 5.4

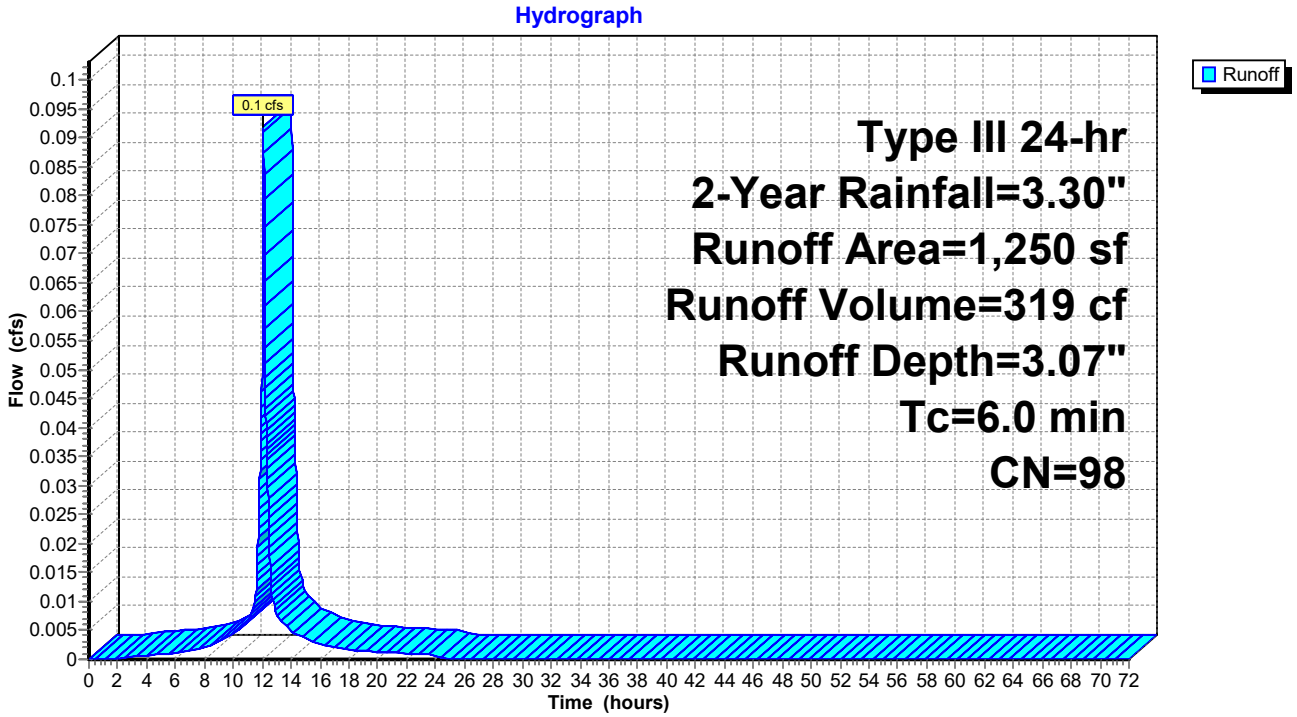
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.4: Subcatchment 5.4



Summary for Reach S1: Swale 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 1.77" for 2-Year event
Inflow = 1.4 cfs @ 12.27 hrs, Volume= 6,597 cf
Outflow = 1.4 cfs @ 12.29 hrs, Volume= 6,597 cf, Atten= 0%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.79 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 0.54 fps, Avg. Travel Time= 5.4 min

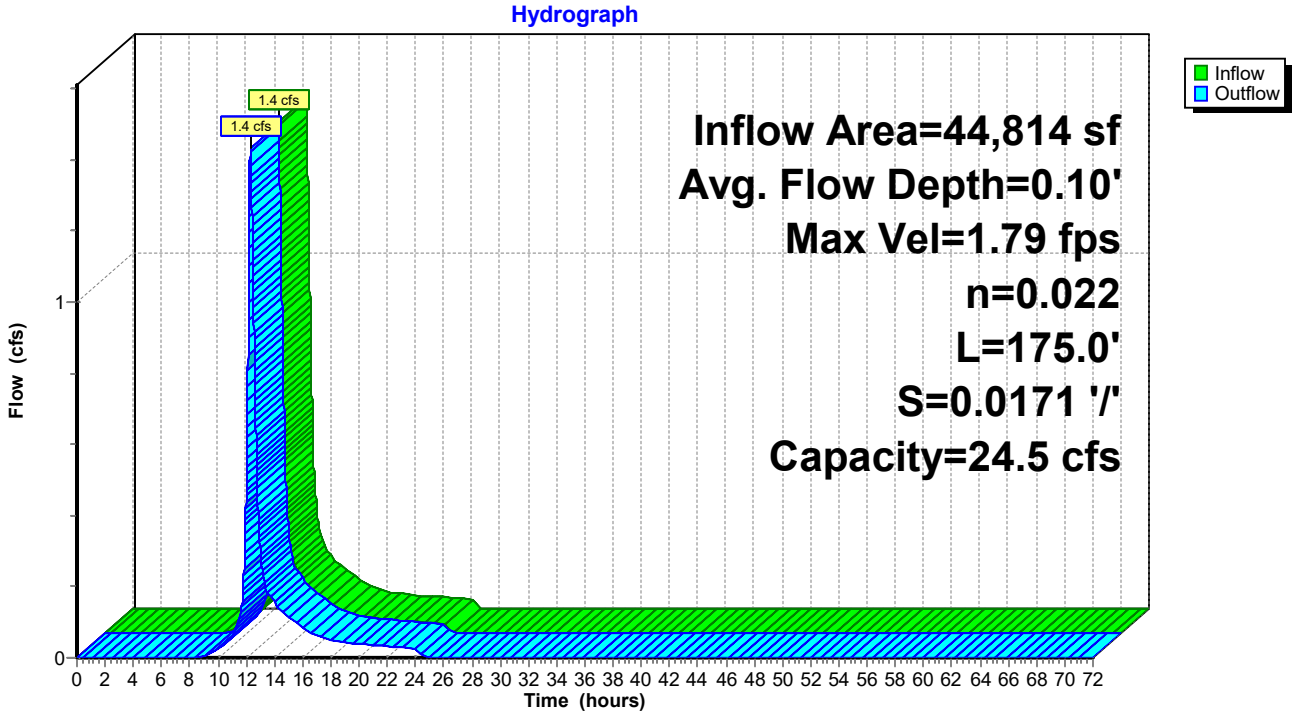
Peak Storage= 140 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.10' , Surface Width= 8.76'
Bank-Full Depth= 0.50' Flow Area= 5.0 sf, Capacity= 24.5 cfs

8.00' x 0.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 4.0 '/' Top Width= 12.00'
Length= 175.0' Slope= 0.0171 '/'
Inlet Invert= 69.00', Outlet Invert= 66.00'



‡

Reach S1: Swale 1



Summary for Pond C1: Culvert 1

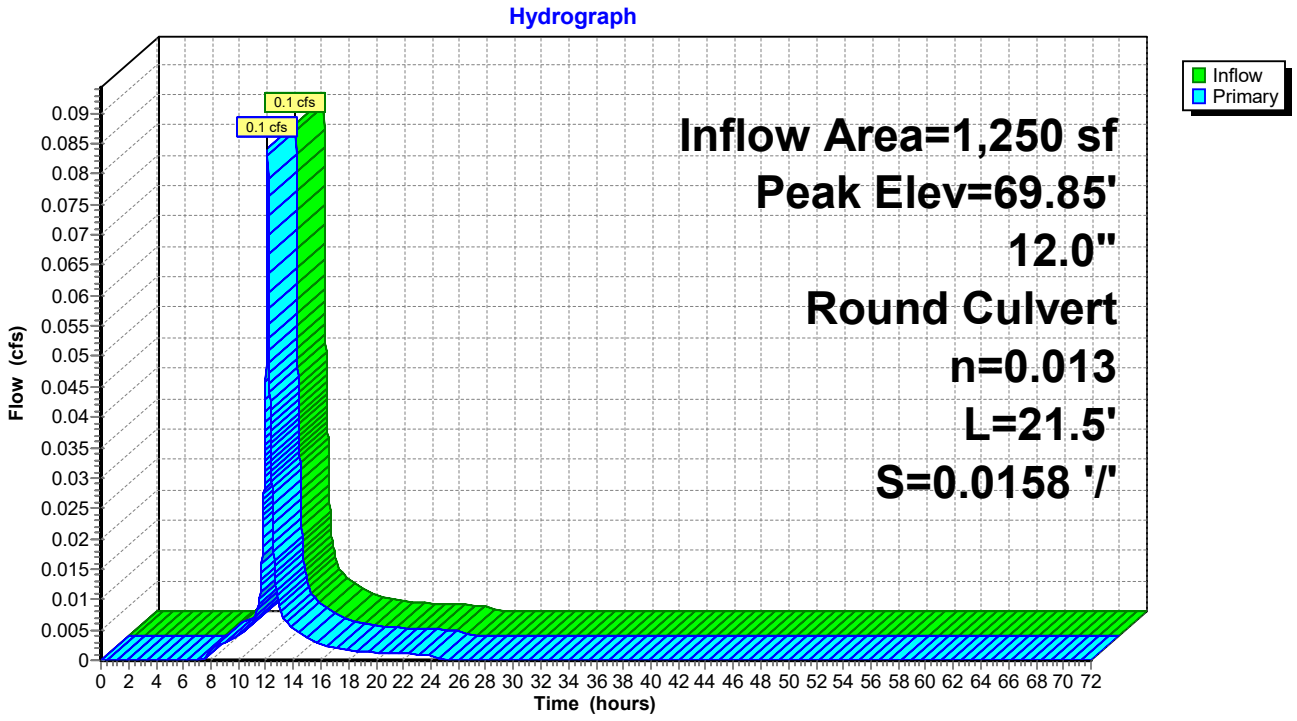
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 2.90" for 2-Year event
Inflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 302 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.85' @ 12.12 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 21.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0158 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.85' TW=69.62' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.1 cfs @ 1.06 fps)

Pond C1: Culvert 1



Summary for Pond C10: Culvert 10

[57] Hint: Peaked at 69.45' (Flood elevation advised)

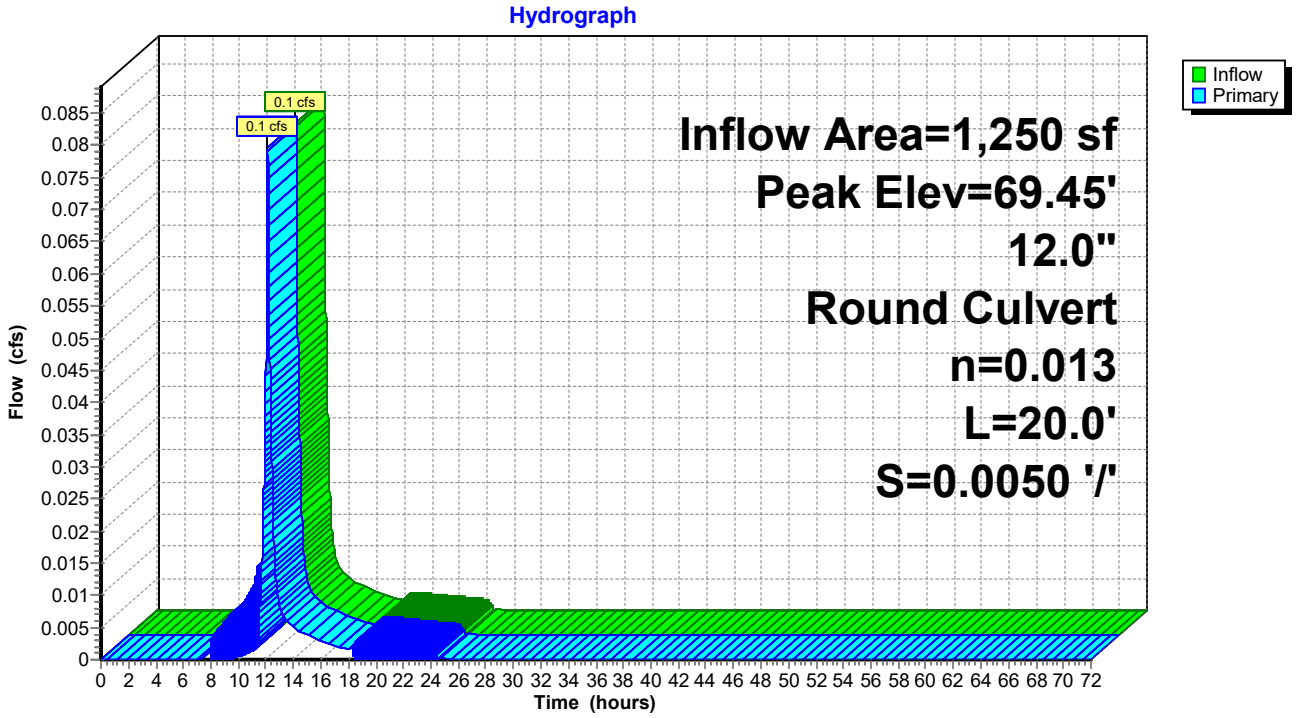
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 2.91" for 2-Year event
Inflow = 0.1 cfs @ 12.12 hrs, Volume= 303 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 303 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 303 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.45' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**12.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.13' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.45' TW=69.40' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 0.91 fps)

Pond C10: Culvert 10



Summary for Pond C11: Culvert 11

[57] Hint: Peaked at 69.40' (Flood elevation advised)

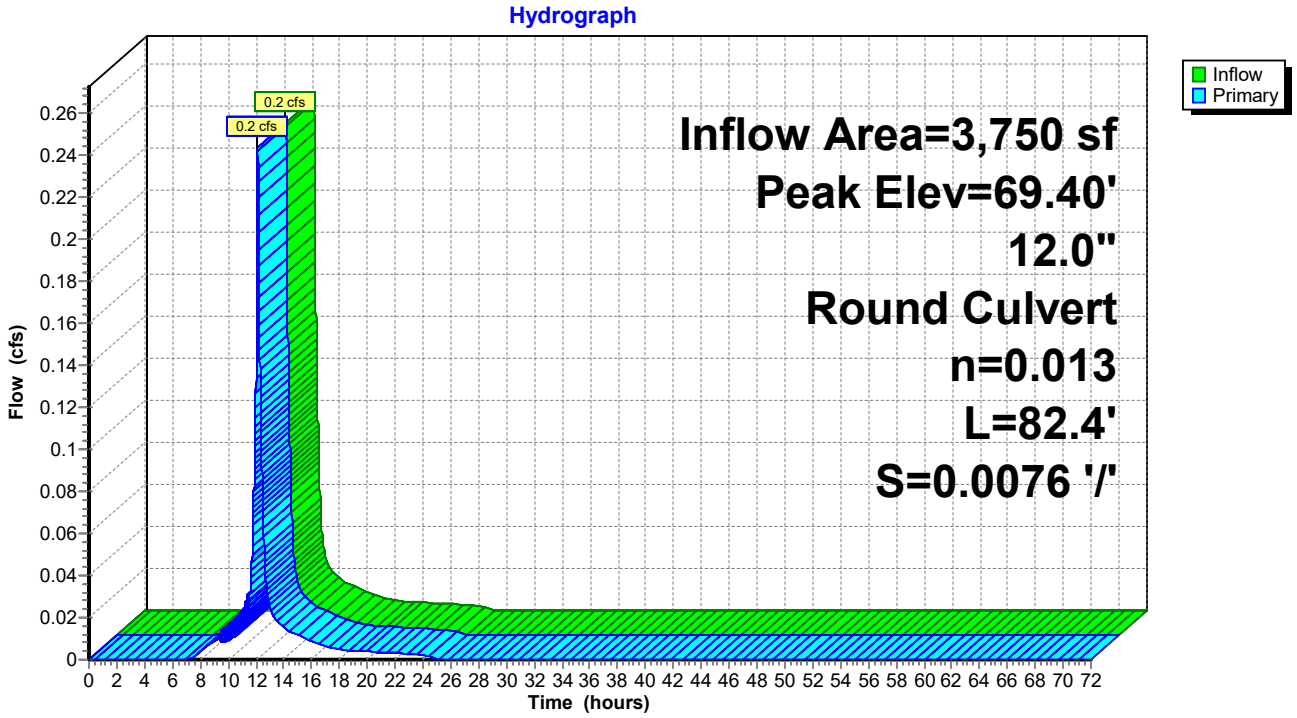
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 2.90" for 2-Year event
Inflow = 0.2 cfs @ 12.12 hrs, Volume= 907 cf
Outflow = 0.2 cfs @ 12.12 hrs, Volume= 907 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.12 hrs, Volume= 907 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.40' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.13'	**12.0" Round Culvert** L= 82.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.13' / 68.50' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.40' TW=68.79' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.2 cfs @ 1.40 fps)

Pond C11: Culvert 11



Summary for Pond C2: Culvert 2

[57] Hint: Peaked at 69.62' (Flood elevation advised)
[80] Warning: Exceeded Pond RD2 by 0.01' @ 7.46 hrs (0.0 cfs 121 cf)

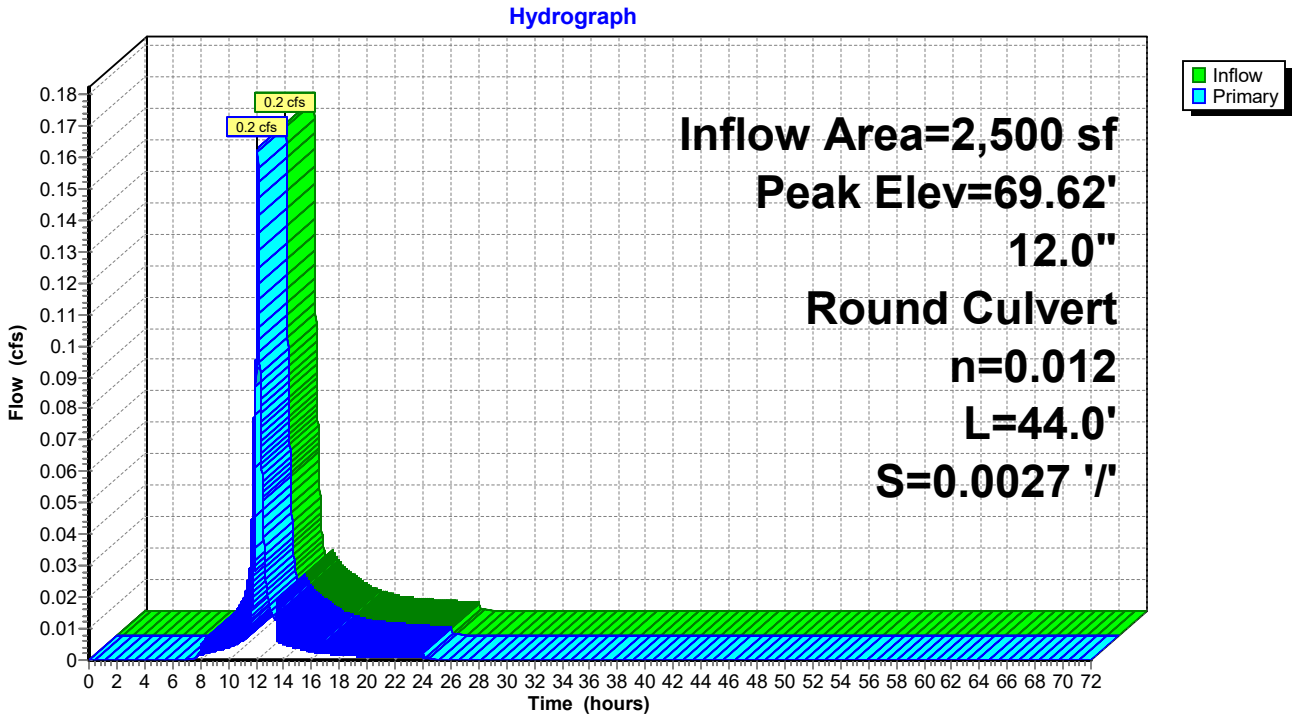
Inflow Area =	2,500 sf,	100.00% Impervious,	Inflow Depth =	2.90"	for 2-Year event
Inflow =	0.2 cfs @	12.12 hrs,	Volume=	604 cf	
Outflow =	0.2 cfs @	12.12 hrs,	Volume=	604 cf,	Atten= 0%, Lag= 0.0 min
Primary =	0.2 cfs @	12.12 hrs,	Volume=	604 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.62' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.23' S= 0.0027 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.62' TW=69.46' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.2 cfs @ 1.43 fps)

Pond C2: Culvert 2



Summary for Pond C3: Culvert 3

[57] Hint: Peaked at 69.46' (Flood elevation advised)

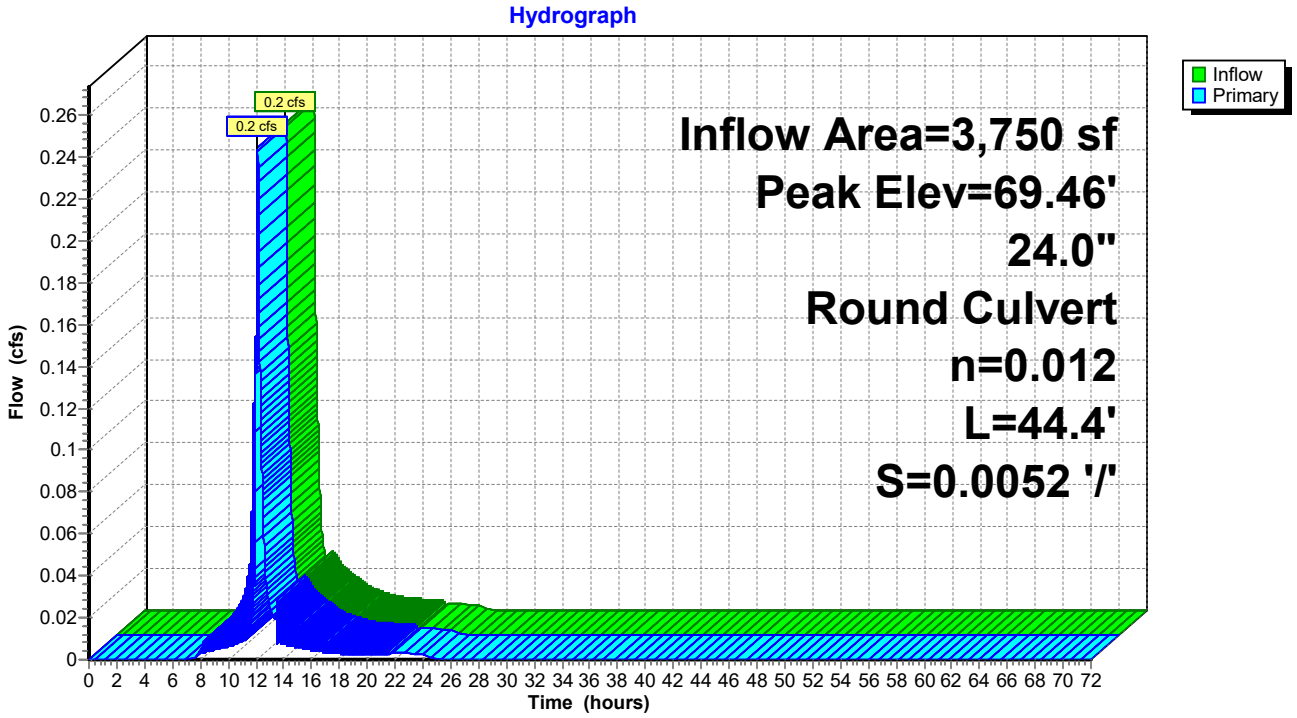
Inflow Area =	3,750 sf,100.00% Impervious,	Inflow Depth =	2.90"	for 2-Year event
Inflow =	0.2 cfs @ 12.12 hrs,	Volume=	906 cf	
Outflow =	0.2 cfs @ 12.12 hrs,	Volume=	906 cf,	Atten= 0%, Lag= 0.0 min
Primary =	0.2 cfs @ 12.12 hrs,	Volume=	906 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.46' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**24.0" Round Culvert** L= 44.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.00' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.46' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 0.2 cfs @ 1.85 fps)

Pond C3: Culvert 3



Summary for Pond C4: Culvert 4

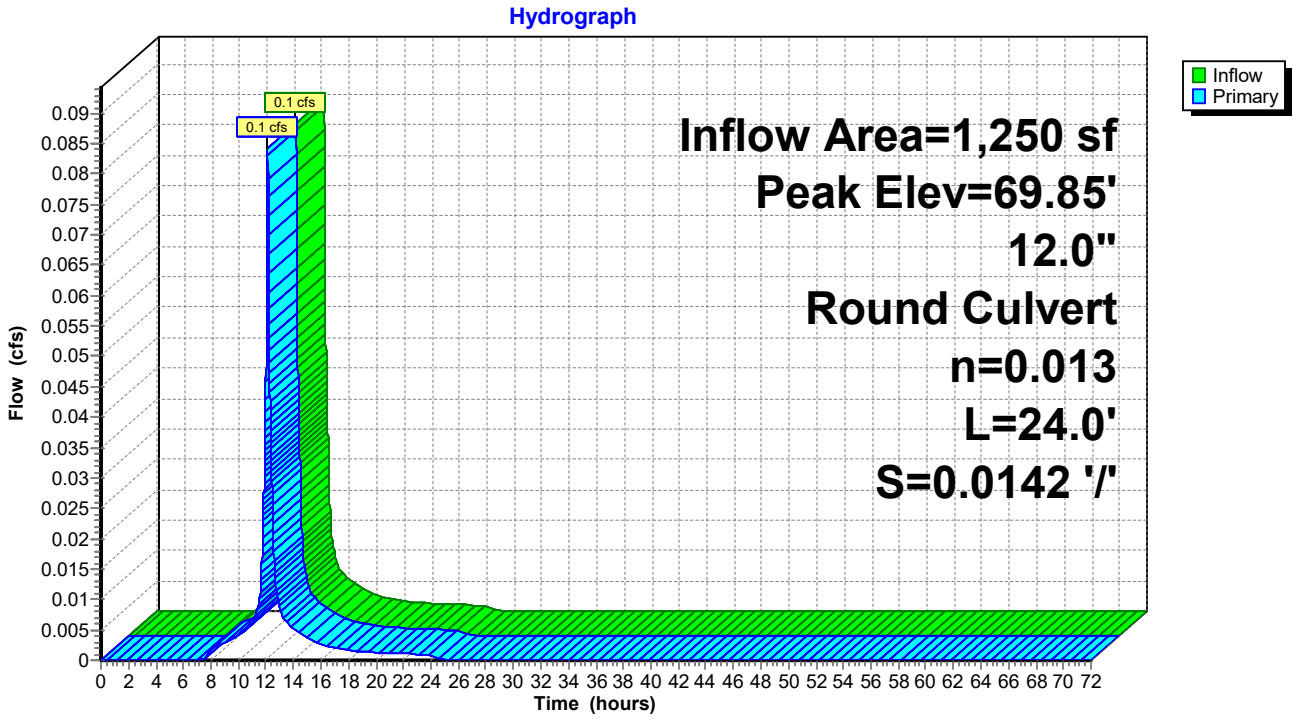
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 2.90" for 2-Year event
Inflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 302 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.85' @ 12.12 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0142 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.85' TW=69.59' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.1 cfs @ 1.06 fps)

Pond C4: Culvert 4



Summary for Pond C7: Culvert 7

[80] Warning: Exceeded Pond RD7 by 0.14' @ 12.20 hrs (0.2 cfs 347 cf)

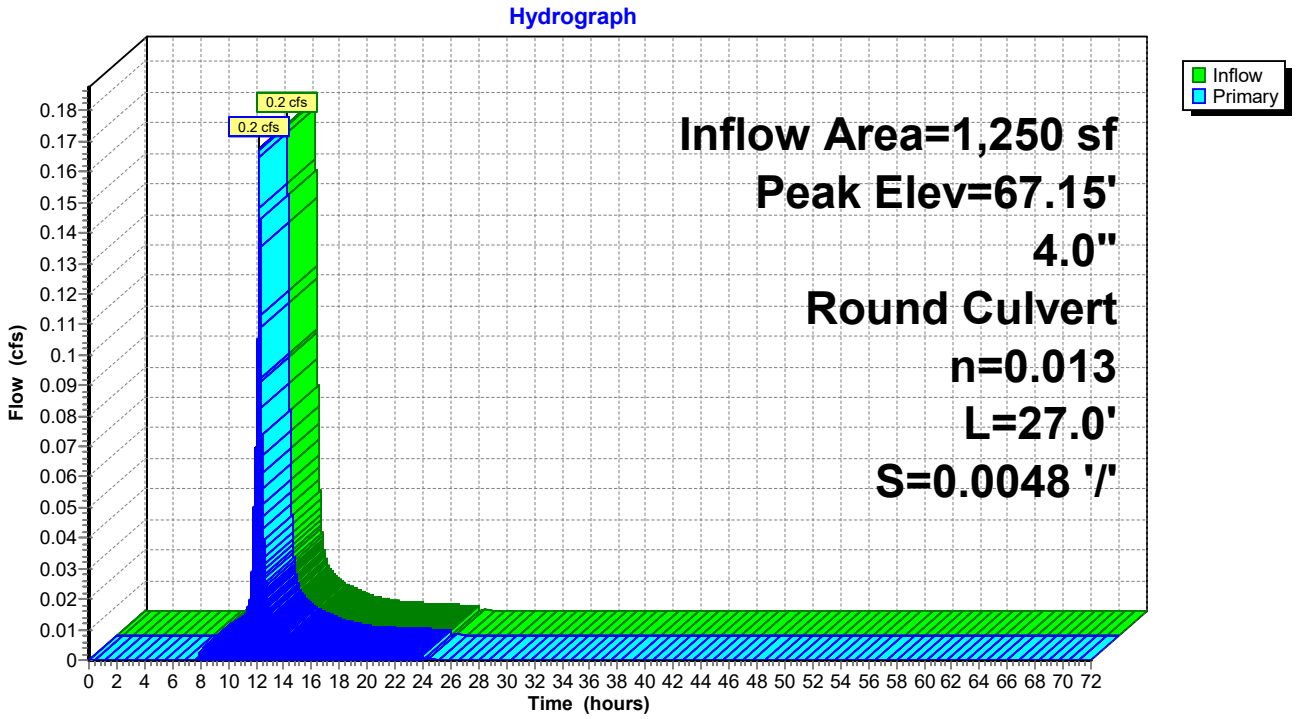
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 2.90" for 2-Year event
Inflow = 0.2 cfs @ 12.22 hrs, Volume= 302 cf
Outflow = 0.2 cfs @ 12.22 hrs, Volume= 302 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.22 hrs, Volume= 302 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.15' @ 12.20 hrs
Flood Elev= 69.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Round Culvert** L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.55' / 66.42' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.2 cfs @ 12.22 hrs HW=67.12' TW=66.82' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.2 cfs @ 1.88 fps)

Pond C7: Culvert 7



Summary for Pond C8: Culvert 8

[58] Hint: Peaked 0.61' above defined flood level

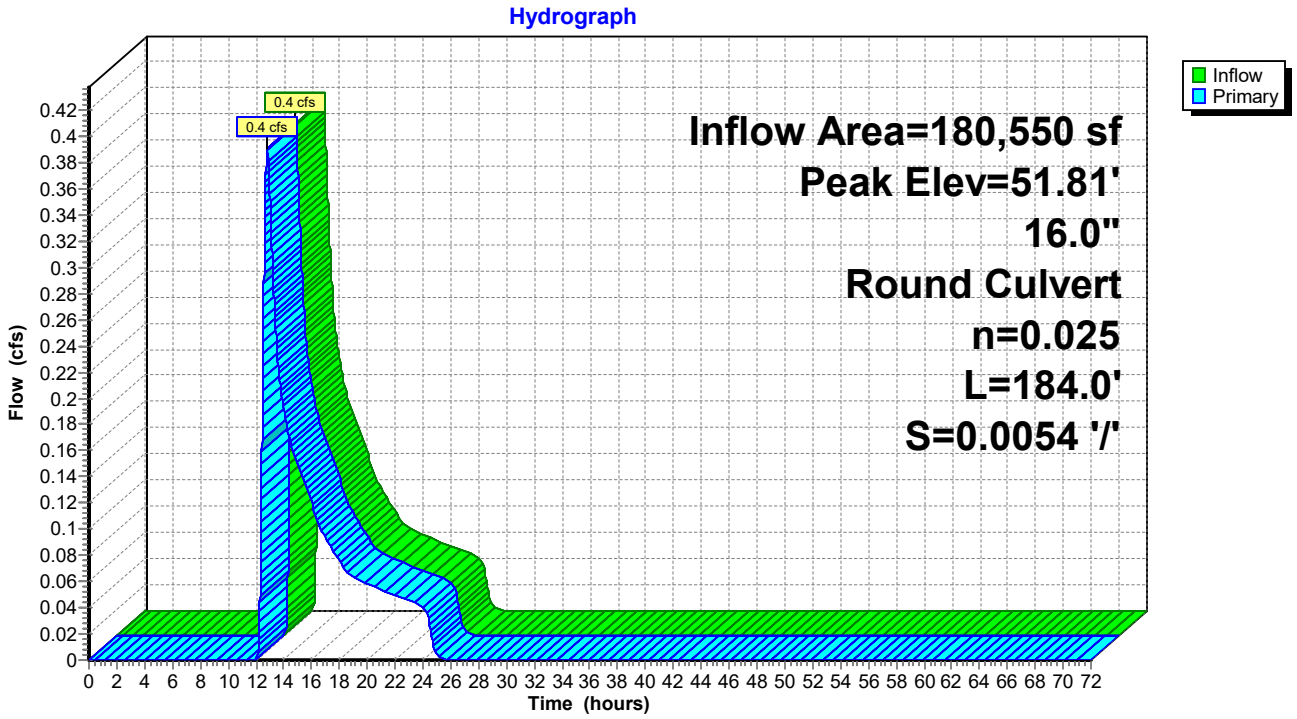
Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 0.31" for 2-Year event
Inflow = 0.4 cfs @ 12.81 hrs, Volume= 4,690 cf
Outflow = 0.4 cfs @ 12.81 hrs, Volume= 4,690 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.81 hrs, Volume= 4,690 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 51.81' @ 24.27 hrs
Flood Elev= 51.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.20'	**16.0" Round Culvert** L= 184.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.20' / 50.20' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=0.4 cfs @ 12.81 hrs HW=51.63' TW=50.30' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 0.4 cfs @ 1.48 fps)

Pond C8: Culvert 8



Summary for Pond C9: Culvert 9

[57] Hint: Peaked at 69.59' (Flood elevation advised)
[80] Warning: Exceeded Pond RD5 by 0.01' @ 7.45 hrs (0.0 cfs 3 cf)

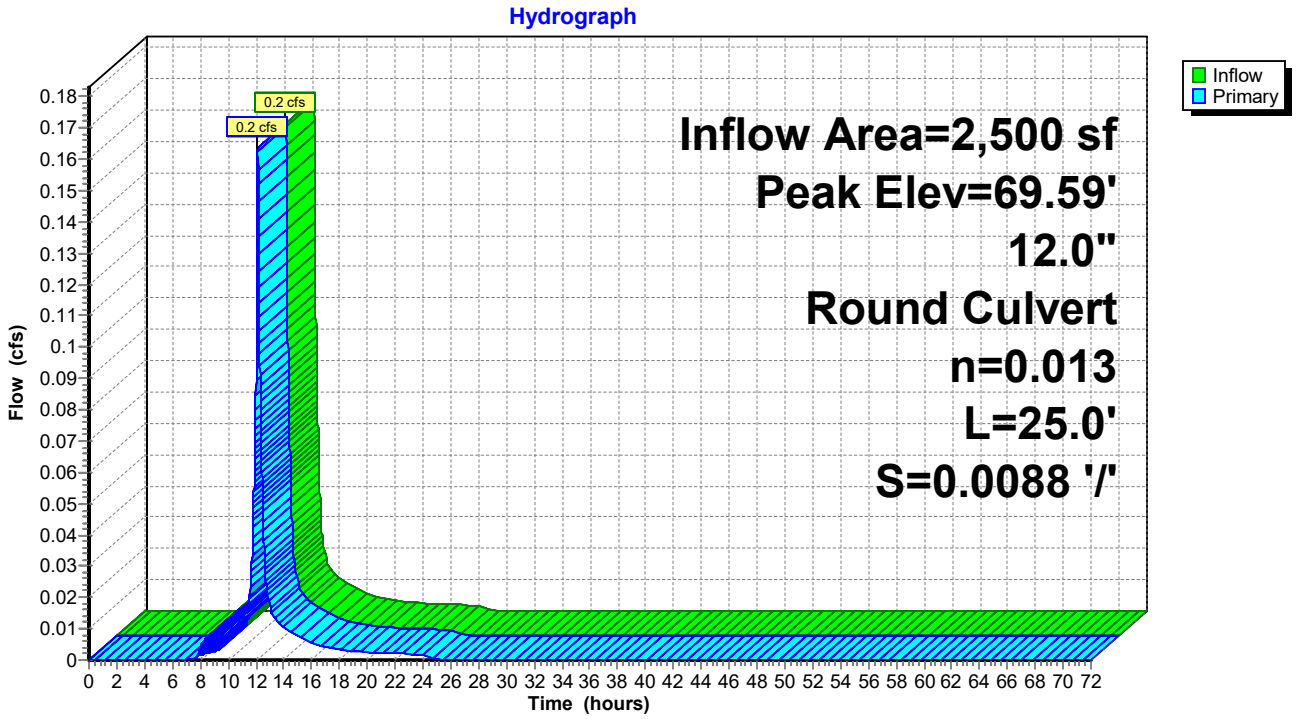
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	2.90"	for	2-Year event
Inflow =	0.2 cfs @	12.12 hrs, Volume=	604 cf		
Outflow =	0.2 cfs @	12.12 hrs, Volume=	604 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.2 cfs @	12.12 hrs, Volume=	604 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.59' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.13' S= 0.0088 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.59' TW=69.40' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.2 cfs @ 1.69 fps)

Pond C9: Culvert 9



Summary for Pond CB1: Catch Basin 1

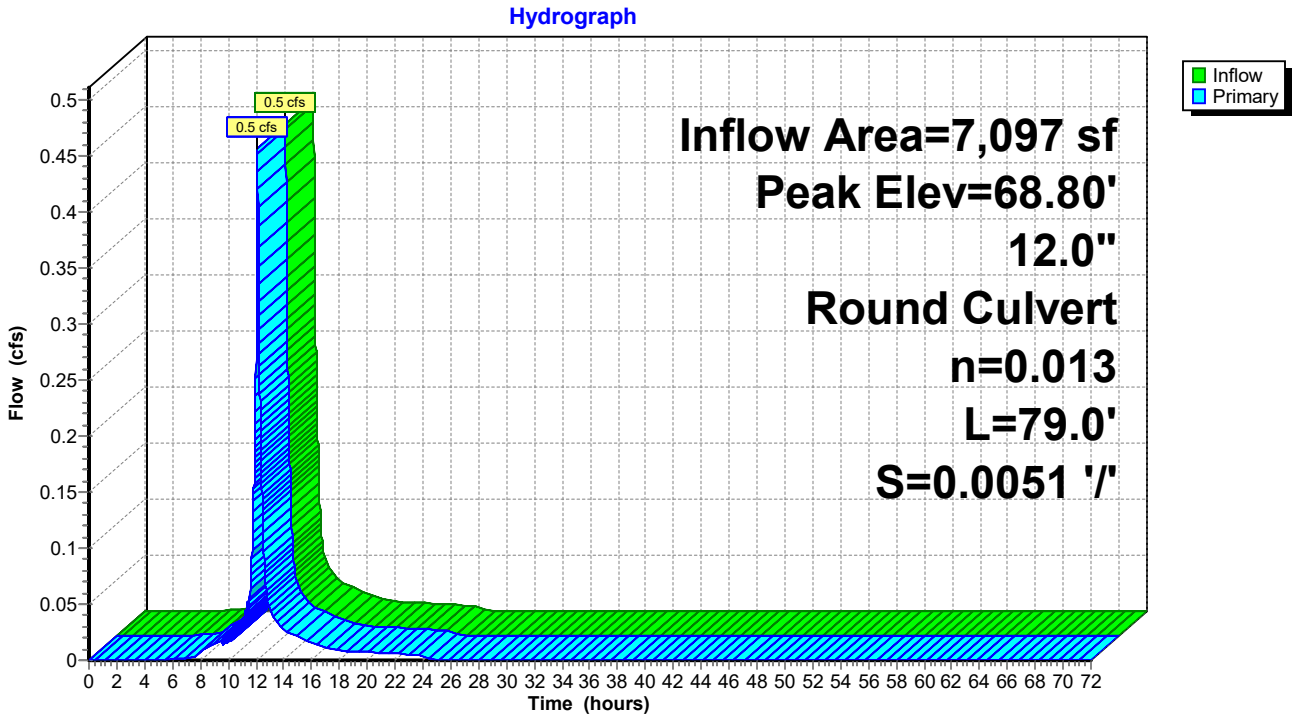
Inflow Area = 7,097 sf, 86.63% Impervious, Inflow Depth = 2.73" for 2-Year event
Inflow = 0.5 cfs @ 12.10 hrs, Volume= 1,616 cf
Outflow = 0.5 cfs @ 12.10 hrs, Volume= 1,616 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.10 hrs, Volume= 1,616 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.80' @ 12.10 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	**12.0" Round Culvert** L= 79.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.40' / 68.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.10 hrs HW=68.80' TW=66.98' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.5 cfs @ 2.31 fps)

Pond CB1: Catch Basin 1



Summary for Pond CB10: Catch Basin 10

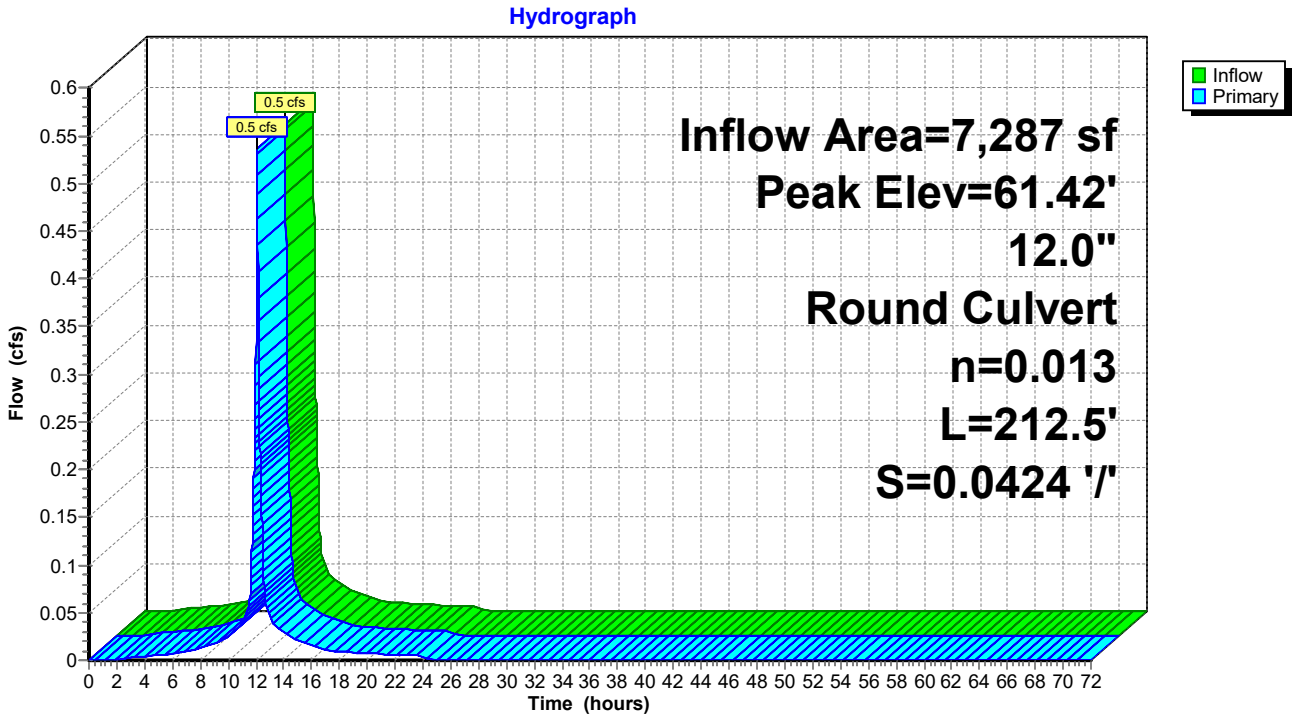
Inflow Area = 7,287 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.5 cfs @ 12.08 hrs, Volume= 1,863 cf
Outflow = 0.5 cfs @ 12.08 hrs, Volume= 1,863 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.08 hrs, Volume= 1,863 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.42' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**12.0" Round Culvert** L= 212.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 52.00' S= 0.0424 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.08 hrs HW=61.42' TW=52.39' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.5 cfs @ 1.73 fps)

Pond CB10: Catch Basin 10



Summary for Pond CB11: Catch Basin 11

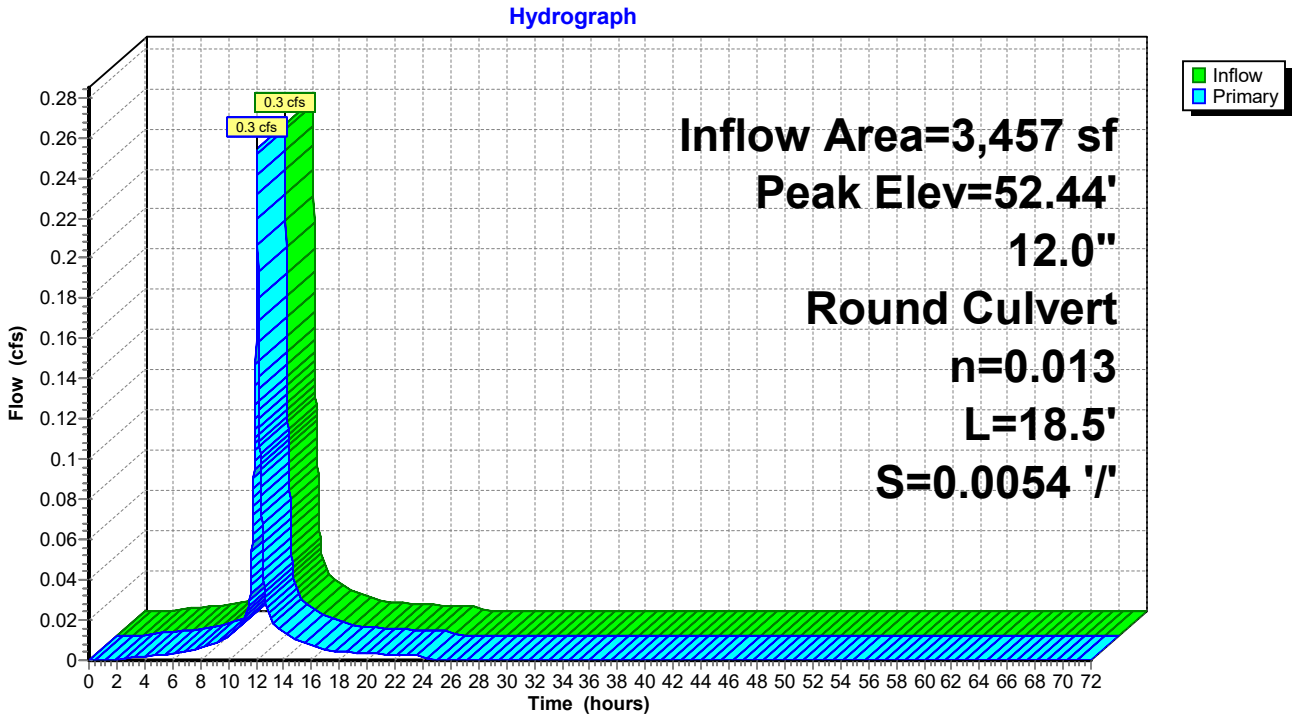
Inflow Area = 3,457 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.3 cfs @ 12.08 hrs, Volume= 884 cf
Outflow = 0.3 cfs @ 12.08 hrs, Volume= 884 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.08 hrs, Volume= 884 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.44' @ 12.09 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.00'	**12.0" Round Culvert** L= 18.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.00' / 51.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.08 hrs HW=52.44' TW=52.39' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.2 cfs @ 1.09 fps)

Pond CB11: Catch Basin 11



Summary for Pond CB12: Catch Basin 12

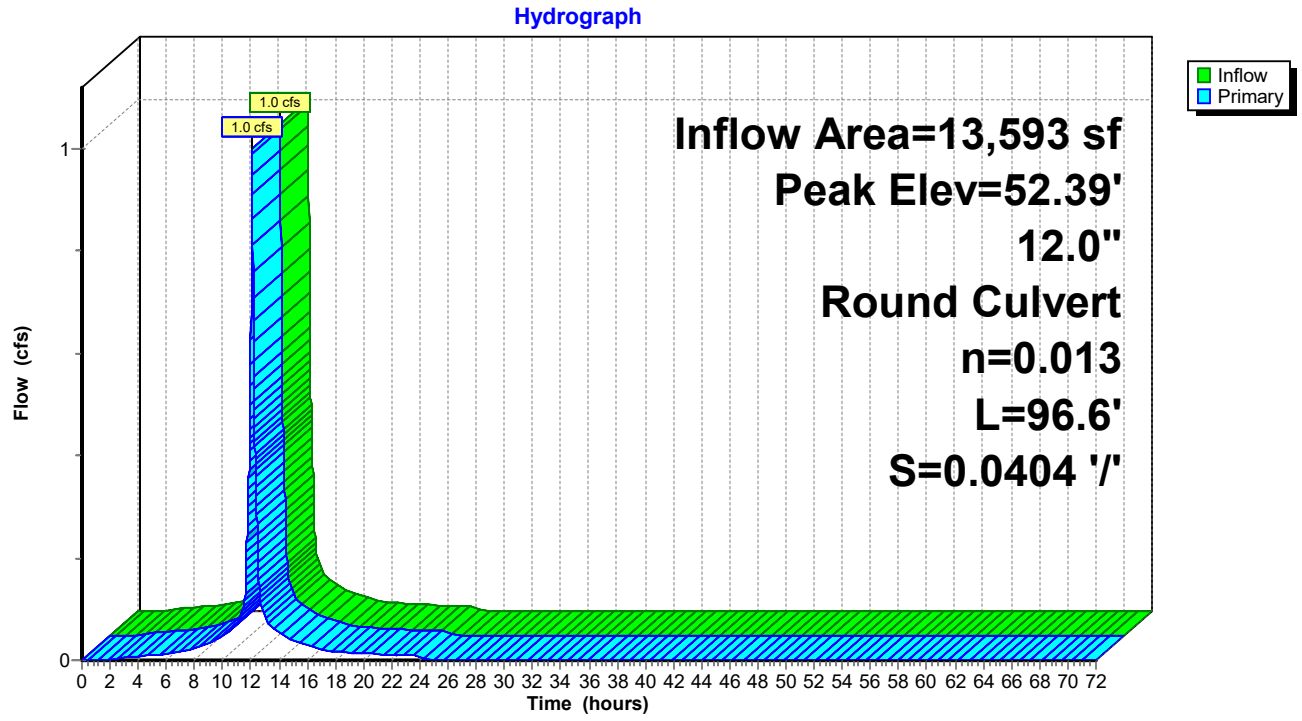
Inflow Area = 13,593 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 1.0 cfs @ 12.08 hrs, Volume= 3,474 cf
Outflow = 1.0 cfs @ 12.08 hrs, Volume= 3,474 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.0 cfs @ 12.08 hrs, Volume= 3,474 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.39' @ 12.08 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.80'	**12.0" Round Culvert** L= 96.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.80' / 47.90' S= 0.0404 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.0 cfs @ 12.08 hrs HW=52.39' TW=48.63' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.0 cfs @ 2.07 fps)

Pond CB12: Catch Basin 12



Summary for Pond CB13: Catch Basin 13

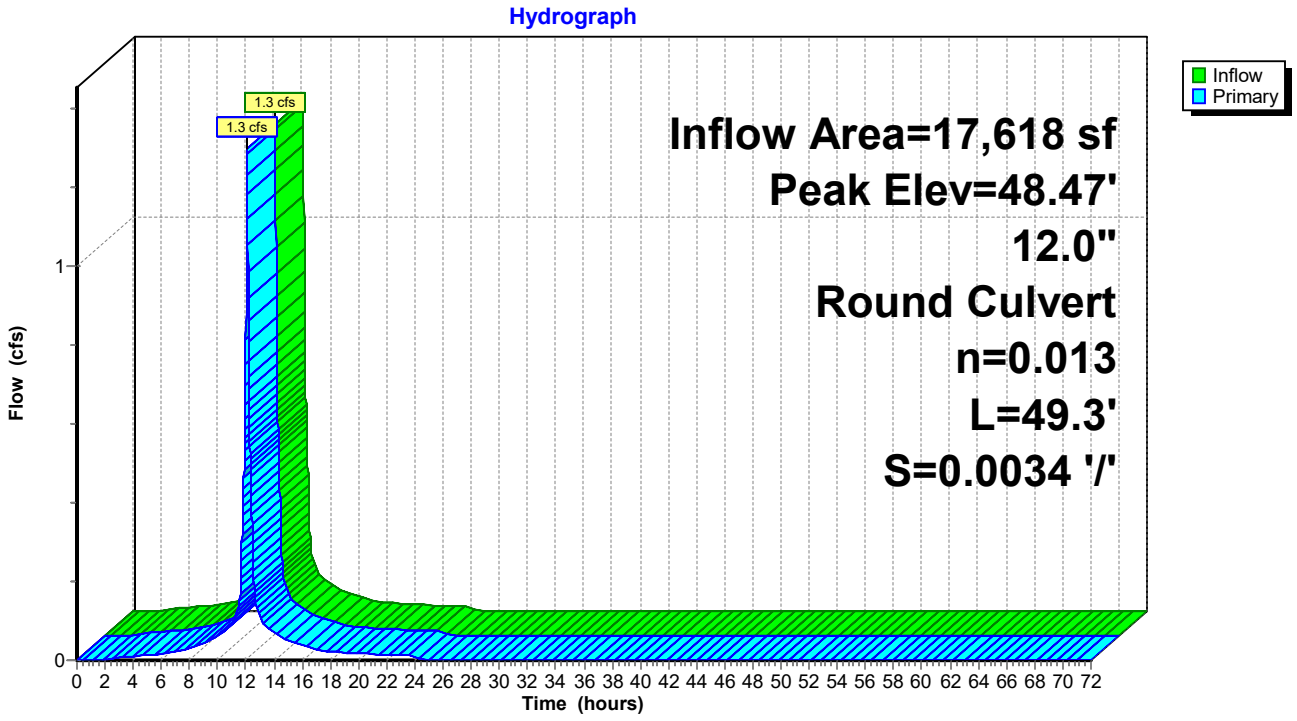
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf
Outflow = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.47' @ 12.09 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	**12.0" Round Culvert** L= 49.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.60' / 47.43' S= 0.0034 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.3 cfs @ 12.08 hrs HW=48.47' TW=48.20' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.3 cfs @ 2.36 fps)

Pond CB13: Catch Basin 13



Summary for Pond CB14: Catch Basin 14

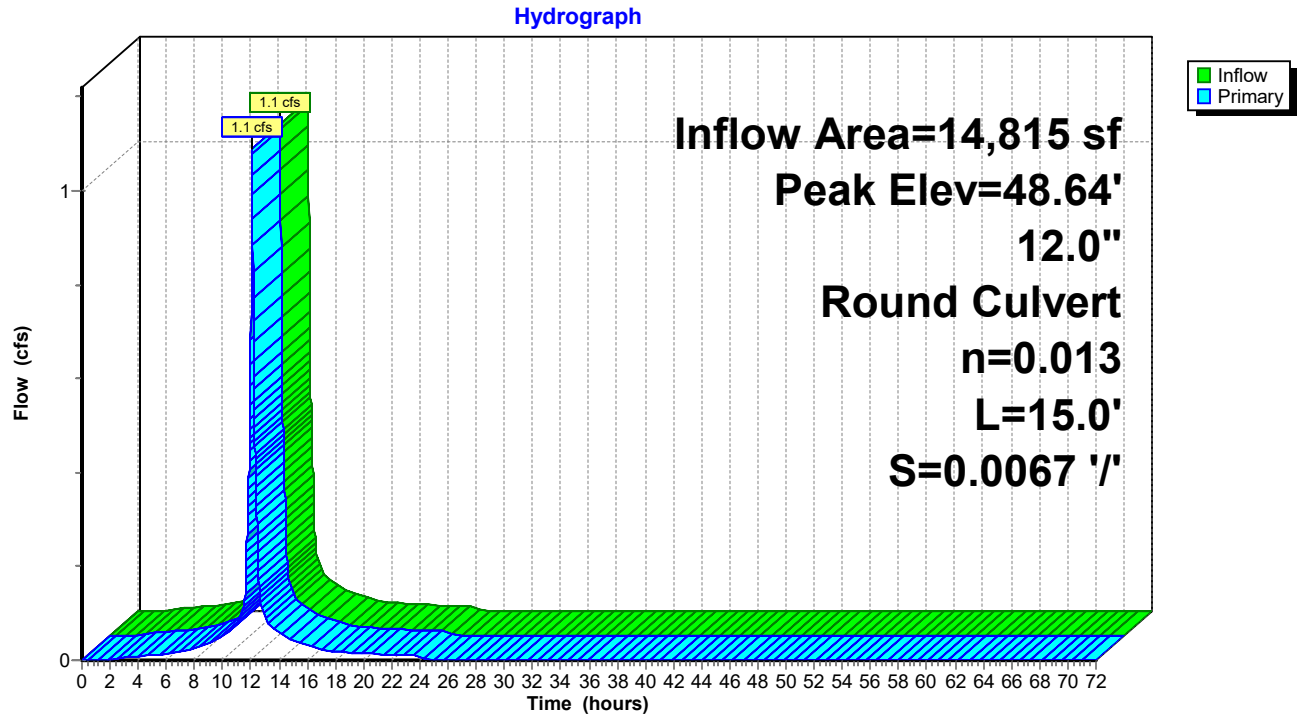
Inflow Area = 14,815 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 1.1 cfs @ 12.08 hrs, Volume= 3,787 cf
Outflow = 1.1 cfs @ 12.08 hrs, Volume= 3,787 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.08 hrs, Volume= 3,787 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.64' @ 12.09 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.80'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.80' / 47.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.1 cfs @ 12.08 hrs HW=48.63' TW=48.47' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.1 cfs @ 1.52 fps)

Pond CB14: Catch Basin 14



Summary for Pond CB2: Catch Basin 2

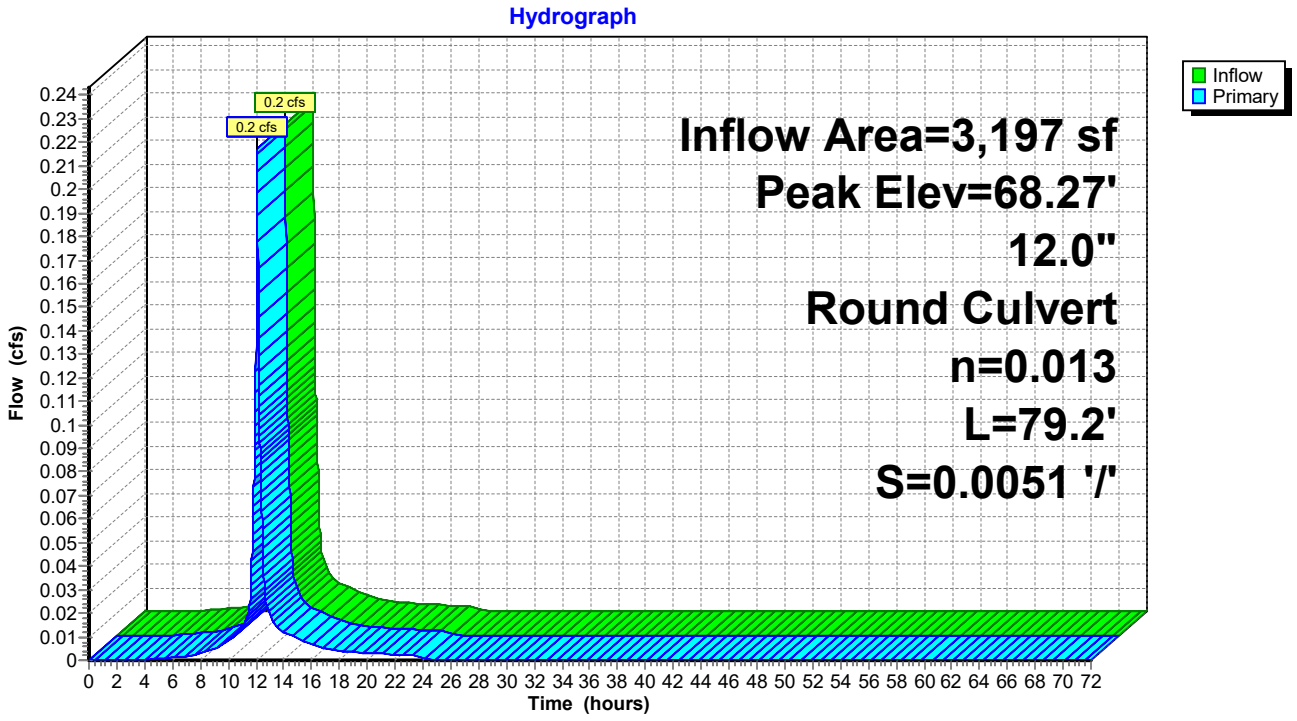
Inflow Area = 3,197 sf, 72.57% Impervious, Inflow Depth = 2.64" for 2-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 704 cf
Outflow = 0.2 cfs @ 12.08 hrs, Volume= 704 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.08 hrs, Volume= 704 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.27' @ 12.08 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**12.0" Round Culvert** L= 79.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.00' / 67.60' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.08 hrs HW=68.27' TW=66.83' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.2 cfs @ 1.90 fps)

Pond CB2: Catch Basin 2



Summary for Pond CB3: Catch Basin 3

[80] Warning: Exceeded Pond C7 by 0.04' @ 12.01 hrs (0.0 cfs 10 cf)

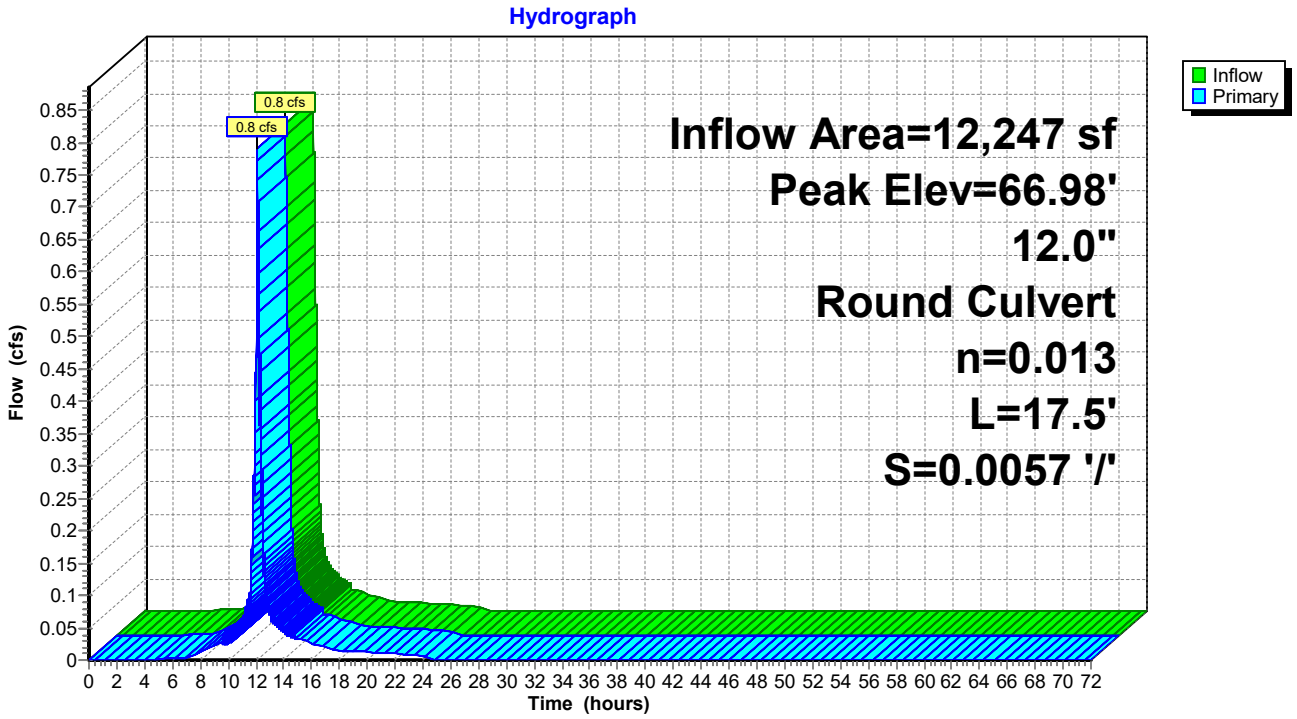
Inflow Area = 12,247 sf, 83.76% Impervious, Inflow Depth = 2.72" for 2-Year event
Inflow = 0.8 cfs @ 12.10 hrs, Volume= 2,776 cf
Outflow = 0.8 cfs @ 12.10 hrs, Volume= 2,776 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.8 cfs @ 12.10 hrs, Volume= 2,776 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.98' @ 12.10 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.30'	**12.0" Round Culvert** L= 17.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.30' / 66.20' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.7 cfs @ 12.10 hrs HW=66.98' TW=66.85' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.7 cfs @ 1.85 fps)

Pond CB3: Catch Basin 3



Summary for Pond CB4: Catch Basin 4

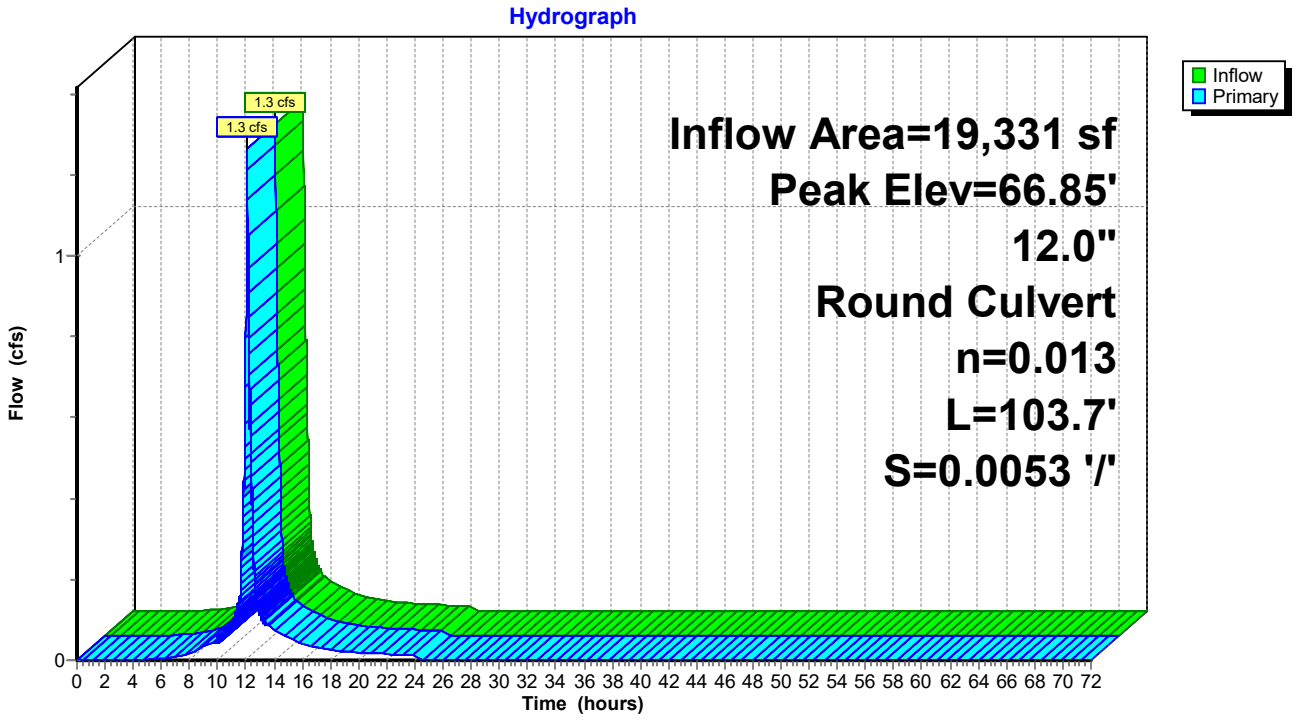
Inflow Area = 19,331 sf, 80.08% Impervious, Inflow Depth = 2.69" for 2-Year event
Inflow = 1.3 cfs @ 12.10 hrs, Volume= 4,335 cf
Outflow = 1.3 cfs @ 12.10 hrs, Volume= 4,335 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.3 cfs @ 12.10 hrs, Volume= 4,335 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.85' @ 12.10 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.10'	**12.0" Round Culvert** L= 103.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.10' / 65.55' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.2 cfs @ 12.10 hrs HW=66.85' TW=66.28' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.2 cfs @ 2.74 fps)

Pond CB4: Catch Basin 4



Summary for Pond CB5: Catch Basin 5

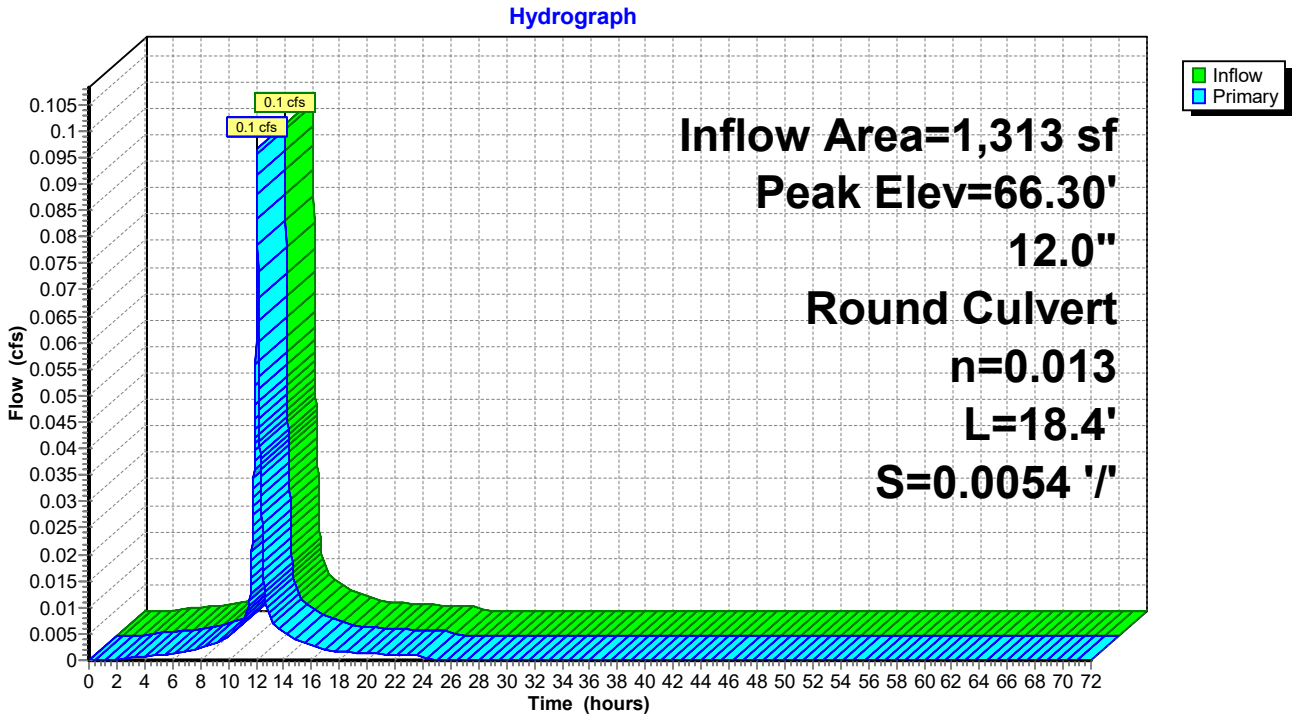
Inflow Area = 1,313 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 336 cf
Outflow = 0.1 cfs @ 12.08 hrs, Volume= 336 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.08 hrs, Volume= 336 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.30' @ 12.11 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	**12.0" Round Culvert** L= 18.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.00' / 65.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.08 hrs HW=66.28' TW=66.26' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 0.58 fps)

Pond CB5: Catch Basin 5



Summary for Pond CB6: Catch Basin 6

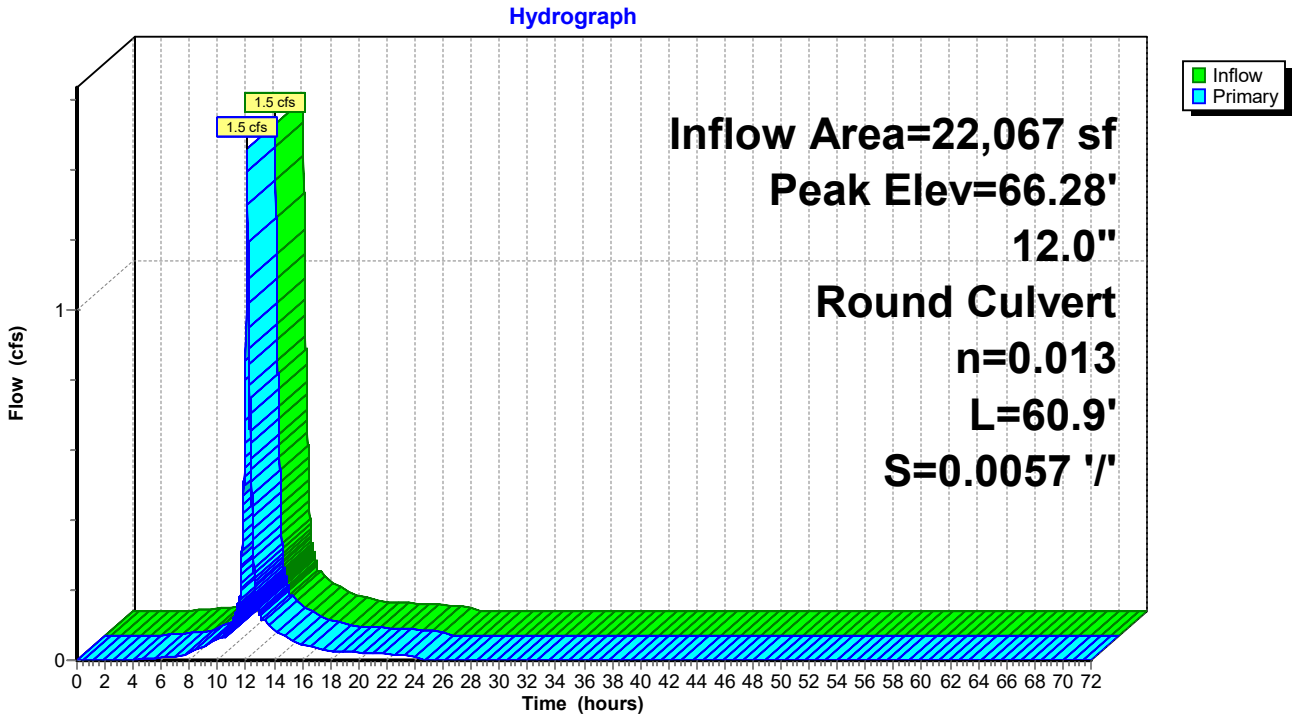
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 2.74" for 2-Year event
Inflow = 1.5 cfs @ 12.10 hrs, Volume= 5,035 cf
Outflow = 1.5 cfs @ 12.10 hrs, Volume= 5,035 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.5 cfs @ 12.10 hrs, Volume= 5,035 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.28' @ 12.10 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.45'	**12.0" Round Culvert** L= 60.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.45' / 65.10' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.4 cfs @ 12.10 hrs HW=66.28' TW=65.84' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.4 cfs @ 2.82 fps)

Pond CB6: Catch Basin 6



Summary for Pond CB7: Catch Basin 7

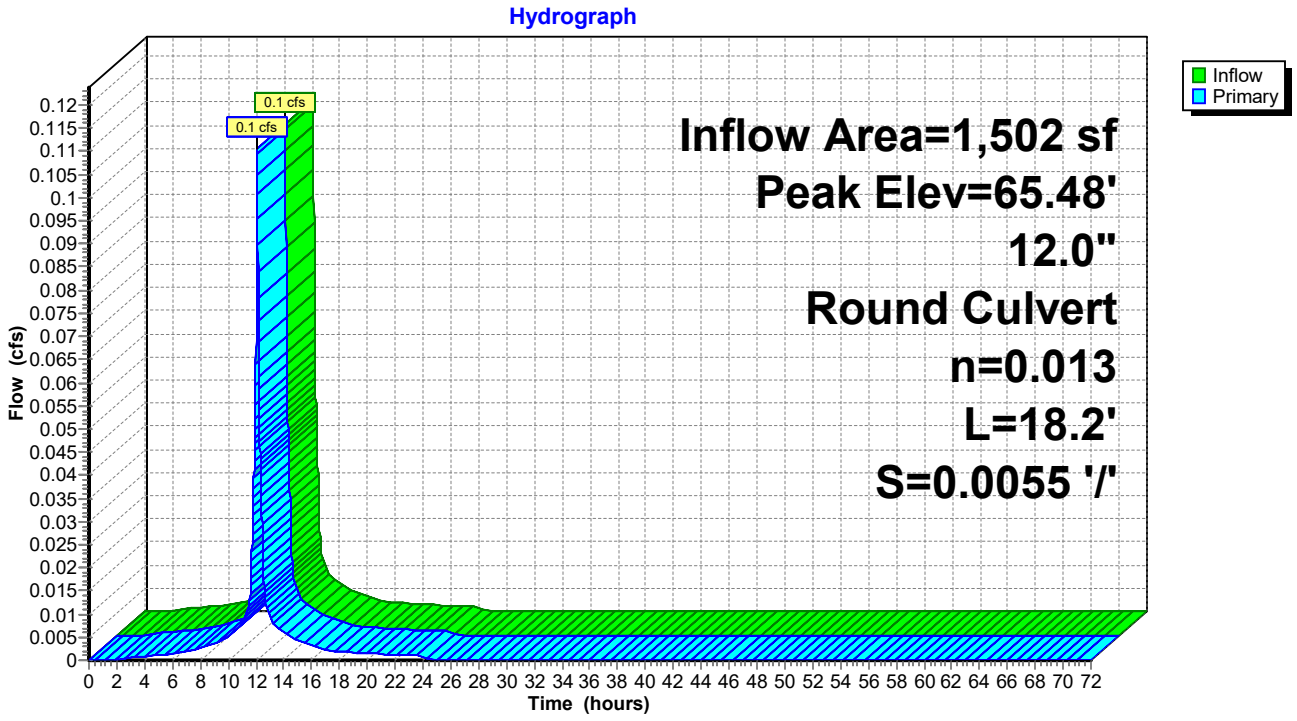
Inflow Area = 1,502 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 384 cf
Outflow = 0.1 cfs @ 12.08 hrs, Volume= 384 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.08 hrs, Volume= 384 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.48' @ 12.11 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.85'	**12.0" Round Culvert** L= 18.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.85' / 64.75' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=65.45' TW=65.46' (Dynamic Tailwater)
↑**1=Culvert** (Controls 0.0 cfs)

Pond CB7: Catch Basin 7



Summary for Pond CB8: Catch Basin 8

[80] Warning: Exceeded Pond CB7 by 0.05' @ 12.02 hrs (0.3 cfs 182 cf)

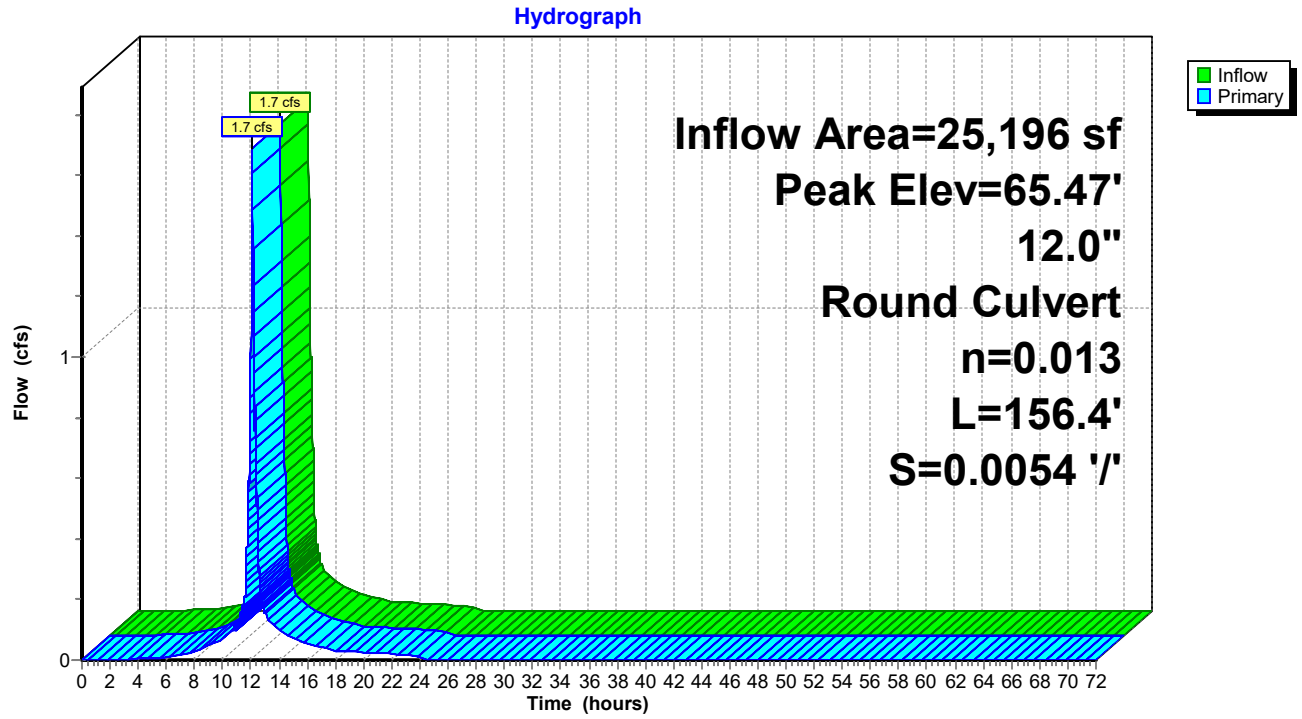
Inflow Area = 25,196 sf, 84.72% Impervious, Inflow Depth = 2.78" for 2-Year event
Inflow = 1.7 cfs @ 12.10 hrs, Volume= 5,834 cf
Outflow = 1.7 cfs @ 12.10 hrs, Volume= 5,834 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.7 cfs @ 12.10 hrs, Volume= 5,834 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.47' @ 12.10 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.65'	**12.0" Round Culvert** L= 156.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.65' / 63.80' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.7 cfs @ 12.10 hrs HW=65.47' TW=60.04' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.7 cfs @ 2.43 fps)

Pond CB8: Catch Basin 8



Summary for Pond CB9: Catch Basin 9

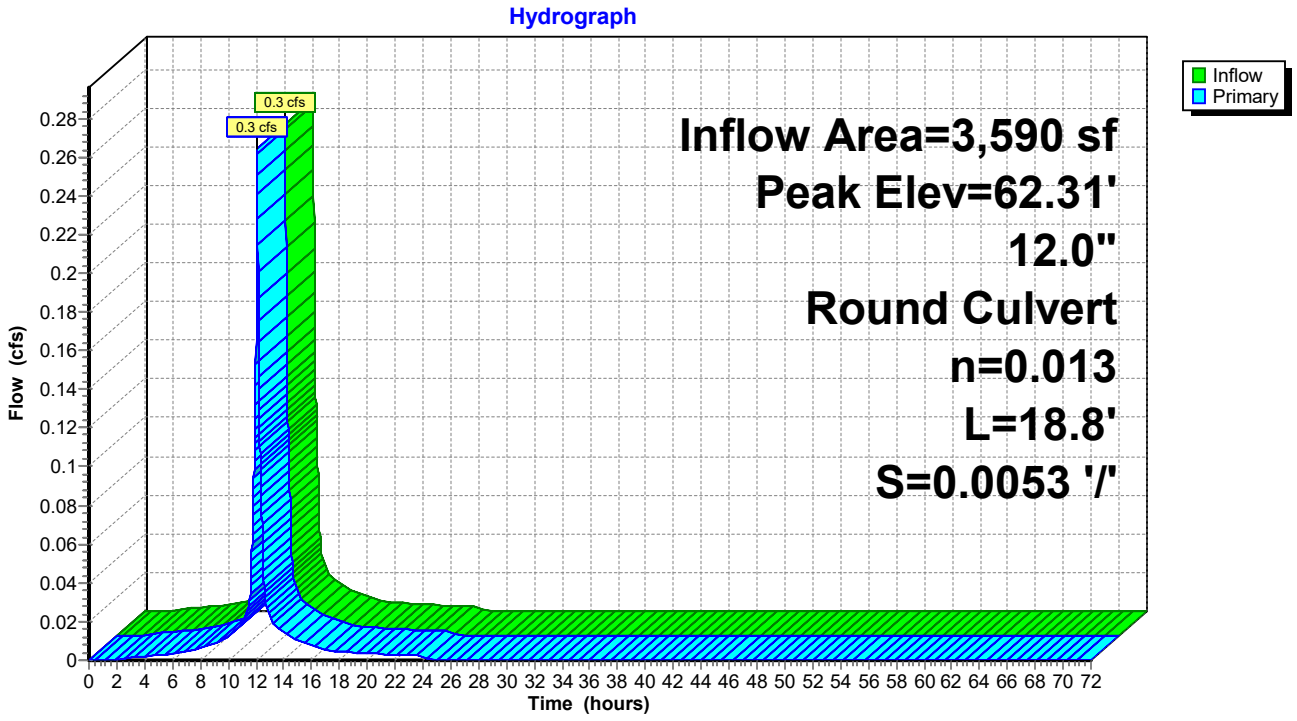
Inflow Area = 3,590 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.3 cfs @ 12.08 hrs, Volume= 918 cf
Outflow = 0.3 cfs @ 12.08 hrs, Volume= 918 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.08 hrs, Volume= 918 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.31' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	**12.0" Round Culvert** L= 18.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.90' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.08 hrs HW=62.31' TW=61.42' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.3 cfs @ 1.89 fps)

Pond CB9: Catch Basin 9



Summary for Pond CH1: Chamber 1

Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf
Outflow = 0.4 cfs @ 12.38 hrs, Volume= 4,503 cf, Atten= 69%, Lag= 17.9 min
Primary = 0.4 cfs @ 12.38 hrs, Volume= 4,503 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.27' @ 12.38 hrs Surf.Area= 1,773 sf Storage= 811 cf
Flood Elev= 50.50' Surf.Area= 1,773 sf Storage= 1,194 cf

Plug-Flow detention time= 11.6 min calculated for 4,503 cf (100% of inflow)
Center-of-Mass det. time= 11.4 min (767.2 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.90'	656 cf	**12.00'W x 74.40'L x 2.33'H Field A** 2,083 cf Overall - 442 cf Embedded = 1,641 cf x 40.0% Voids
#2A	47.40'	442 cf	**ADS_StormTech SC-310 +Cap** x 30 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 3 Rows
#3	44.73'	95 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,910 cf Overall x 5.0% Voids
		1,194 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.73	880	0	0
46.90	880	1,910	1,910

Device	Routing	Invert	Outlet Devices
#1	Primary	44.73'	**12.0" Round Culvert** L= 60.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.73' / 44.60' S= 0.0021 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	44.73'	**2.9" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	48.30'	**4.0' long x 4.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.4 cfs @ 12.38 hrs HW=48.27' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.4 cfs of 5.2 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.4 cfs @ 8.90 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond CH1: Chamber 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 9.0" Spacing = 43.0" C-C Row Spacing

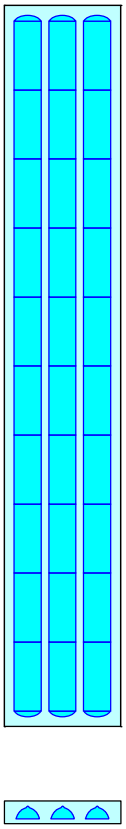
10 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 72.40' Row Length +12.0" End Stone x 2 = 74.40' Base Length
3 Rows x 34.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 12.00' Base Width
6.0" Stone Base + 16.0" Chamber Height + 6.0" Stone Cover = 2.33' Field Height

30 Chambers x 14.7 cf = 442.3 cf Chamber Storage

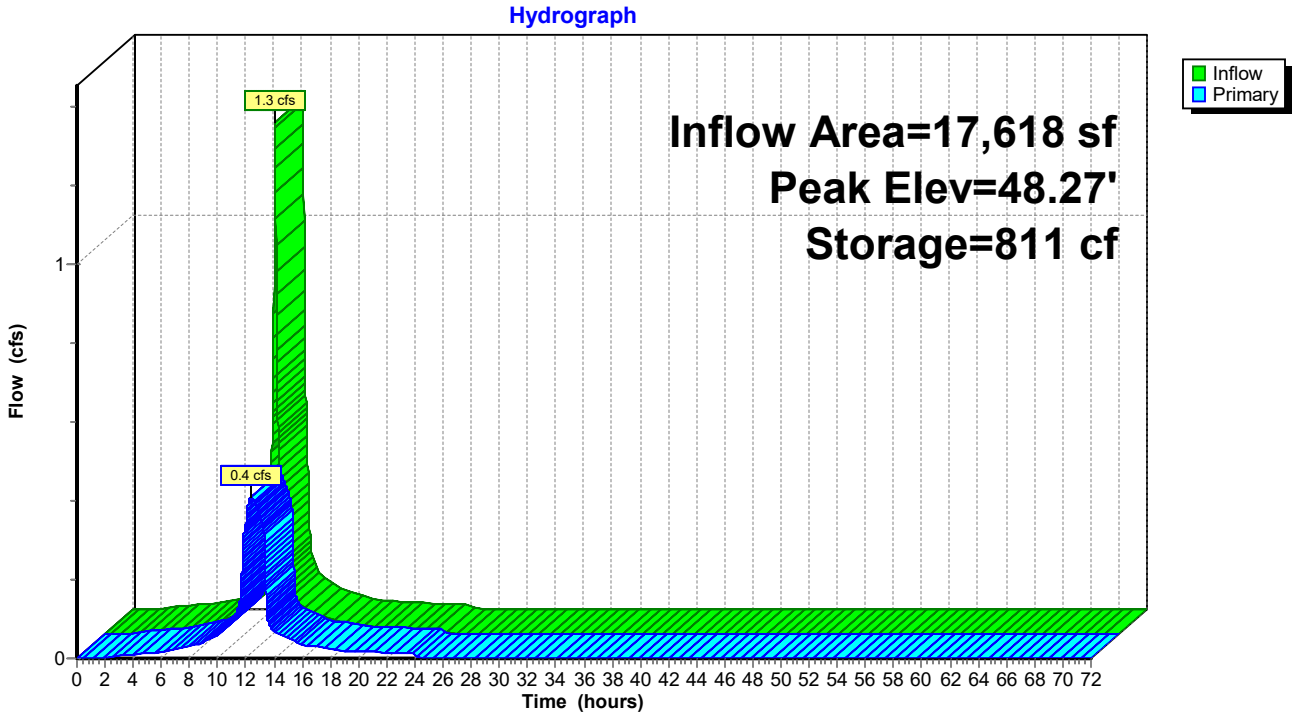
2,083.2 cf Field - 442.3 cf Chambers = 1,640.9 cf Stone x 40.0% Voids = 656.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,098.6 cf = 0.025 af
Overall Storage Efficiency = 52.7%
Overall System Size = 74.40' x 12.00' x 2.33'

30 Chambers
77.2 cy Field
60.8 cy Stone



Pond CH1: Chamber 1



Summary for Pond MH1: Manhole 1

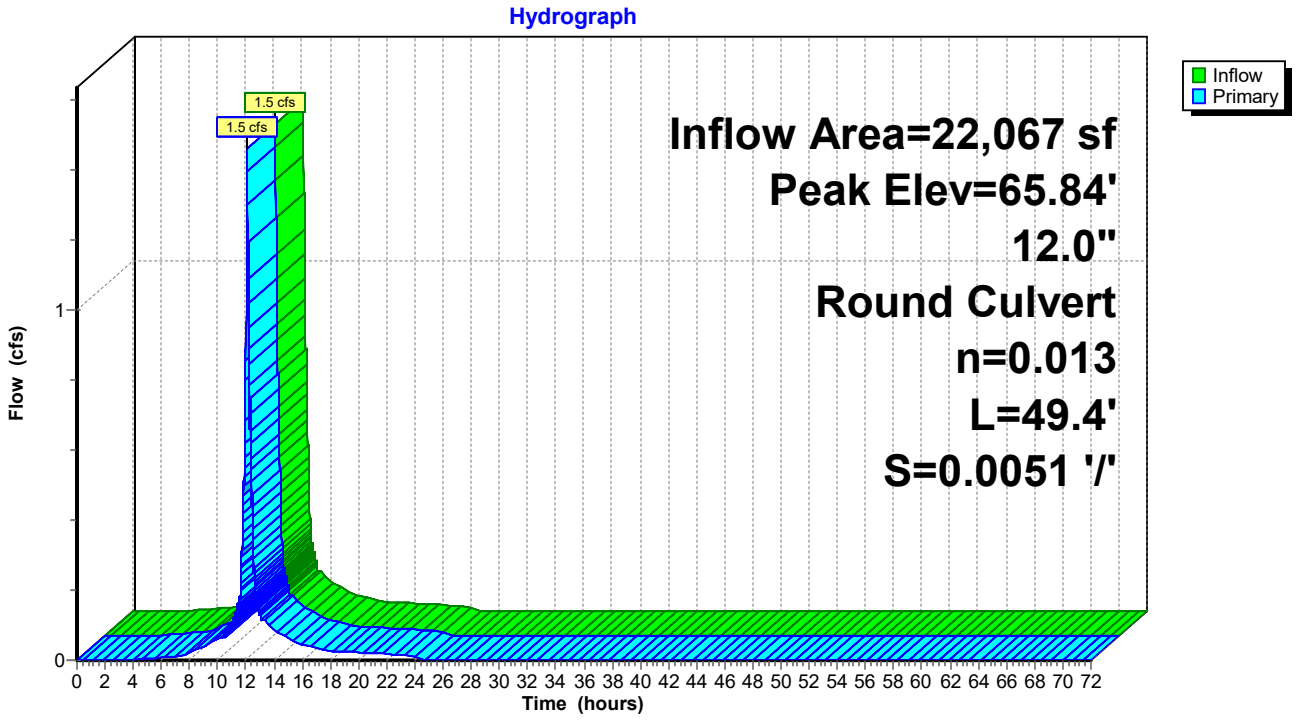
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 2.74" for 2-Year event
Inflow = 1.5 cfs @ 12.10 hrs, Volume= 5,035 cf
Outflow = 1.5 cfs @ 12.10 hrs, Volume= 5,035 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.5 cfs @ 12.10 hrs, Volume= 5,035 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.84' @ 12.10 hrs
Flood Elev= 68.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 49.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.00' / 64.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.4 cfs @ 12.10 hrs HW=65.84' TW=65.47' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.4 cfs @ 2.73 fps)

Pond MH1: Manhole 1



Summary for Pond MH2: Manhole 2

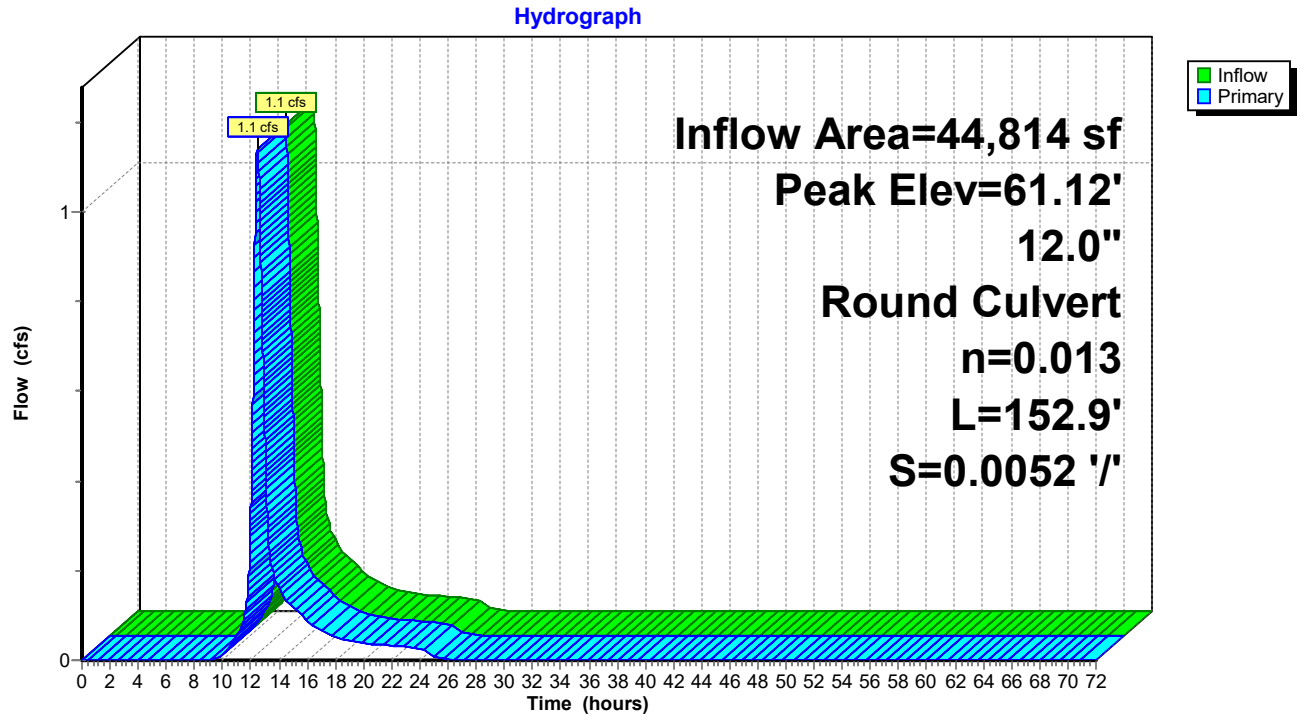
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 1.76" for 2-Year event
Inflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf
Outflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.12' @ 12.45 hrs
Flood Elev= 65.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.45'	**12.0" Round Culvert** L= 152.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.45' / 59.65' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.1 cfs @ 12.45 hrs HW=61.12' TW=60.23' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.1 cfs @ 2.91 fps)

Pond MH2: Manhole 2



Summary for Pond MH3: Manhole 3

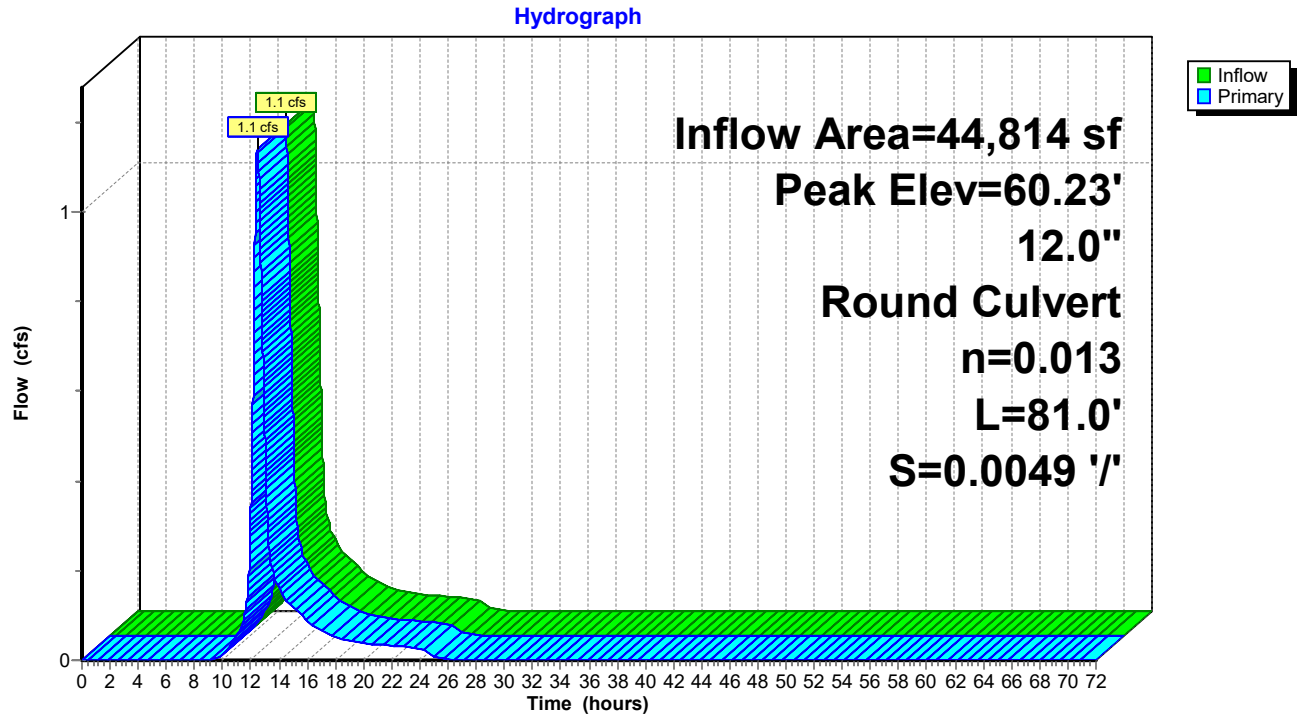
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 1.76" for 2-Year event
Inflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf
Outflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 60.23' @ 12.45 hrs
Flood Elev= 67.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.55'	**12.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.55' / 59.15' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.1 cfs @ 12.45 hrs HW=60.23' TW=59.69' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.1 cfs @ 2.82 fps)

Pond MH3: Manhole 3



Summary for Pond MH4: Manhole 4

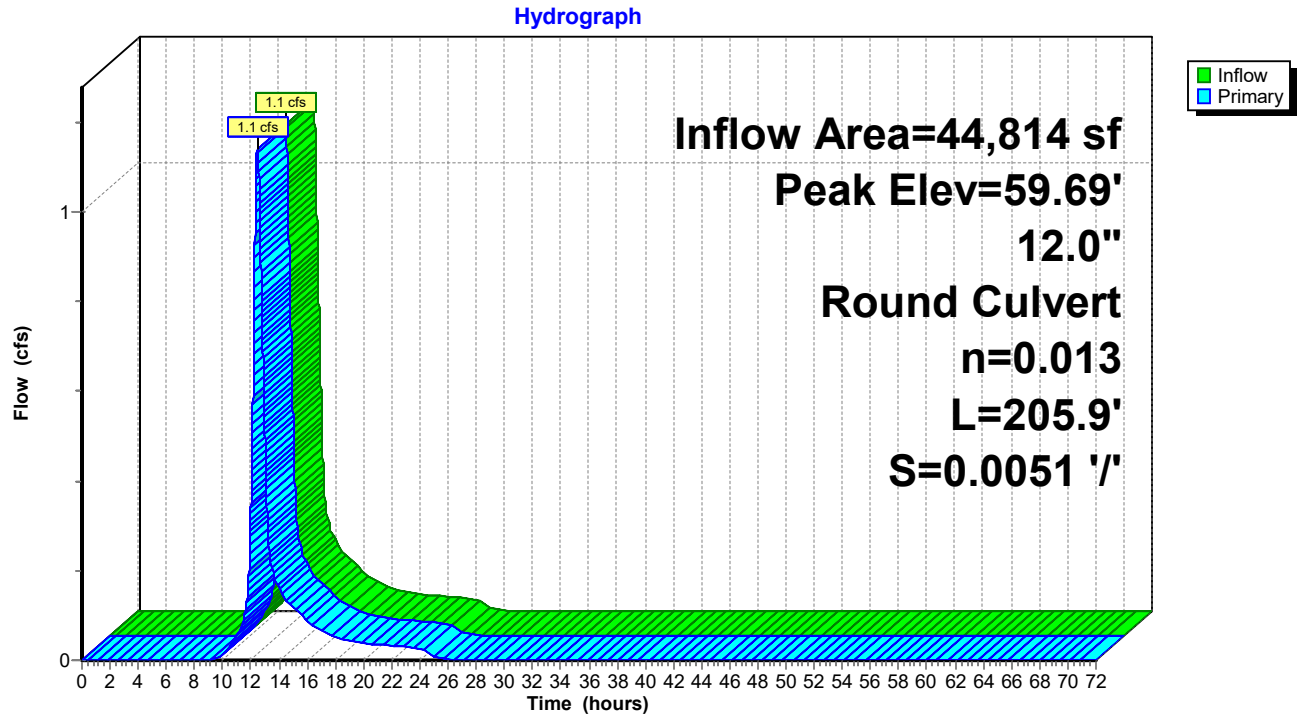
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 1.76" for 2-Year event
Inflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf
Outflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 59.69' @ 12.45 hrs
Flood Elev= 66.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.05'	**12.0" Round Culvert** L= 205.9' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 59.05' / 58.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.1 cfs @ 12.45 hrs HW=59.69' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.1 cfs @ 3.05 fps)

Pond MH4: Manhole 4



Summary for Pond MH5: Manhole 5

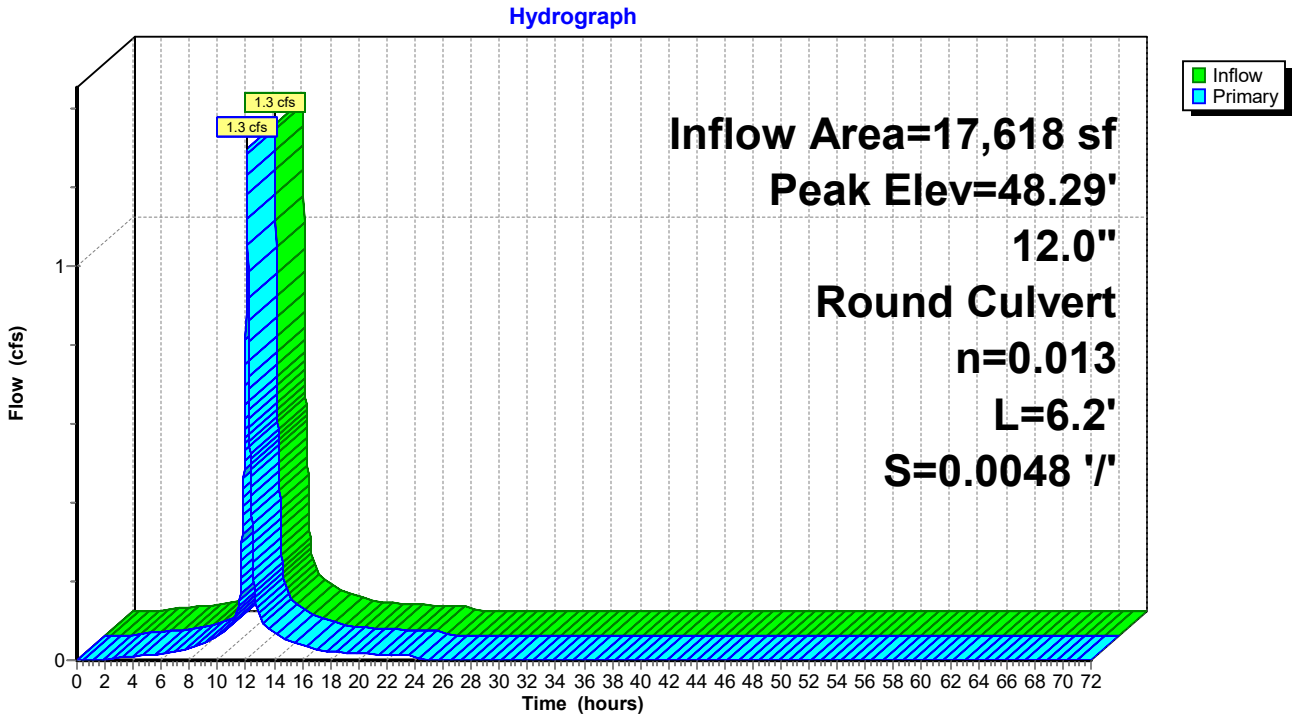
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf
Outflow = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.29' @ 12.38 hrs
Flood Elev= 50.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.43'	**12.0" Round Culvert** L= 6.2' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.43' / 47.40' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.3 cfs @ 12.08 hrs HW=48.20' TW=47.67' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.3 cfs @ 2.76 fps)

Pond MH5: Manhole 5



Summary for Pond P1: Pond 1

[80] Warning: Exceeded Pond C8 by 0.56' @ 25.54 hrs (0.5 cfs 1,293 cf)

Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 0.31" for 2-Year event
Inflow = 0.4 cfs @ 12.81 hrs, Volume= 4,690 cf
Outflow = 0.0 cfs @ 24.34 hrs, Volume= 4,625 cf, Atten= 91%, Lag= 691.7 min
Primary = 0.0 cfs @ 24.34 hrs, Volume= 4,625 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 51.81' @ 24.34 hrs Surf.Area= 2,193 sf Storage= 3,338 cf
Flood Elev= 55.50' Surf.Area= 3,752 sf Storage= 14,183 cf

Plug-Flow detention time= 1,127.8 min calculated for 4,624 cf (99% of inflow)
Center-of-Mass det. time= 1,121.1 min (2,095.2 - 974.1)

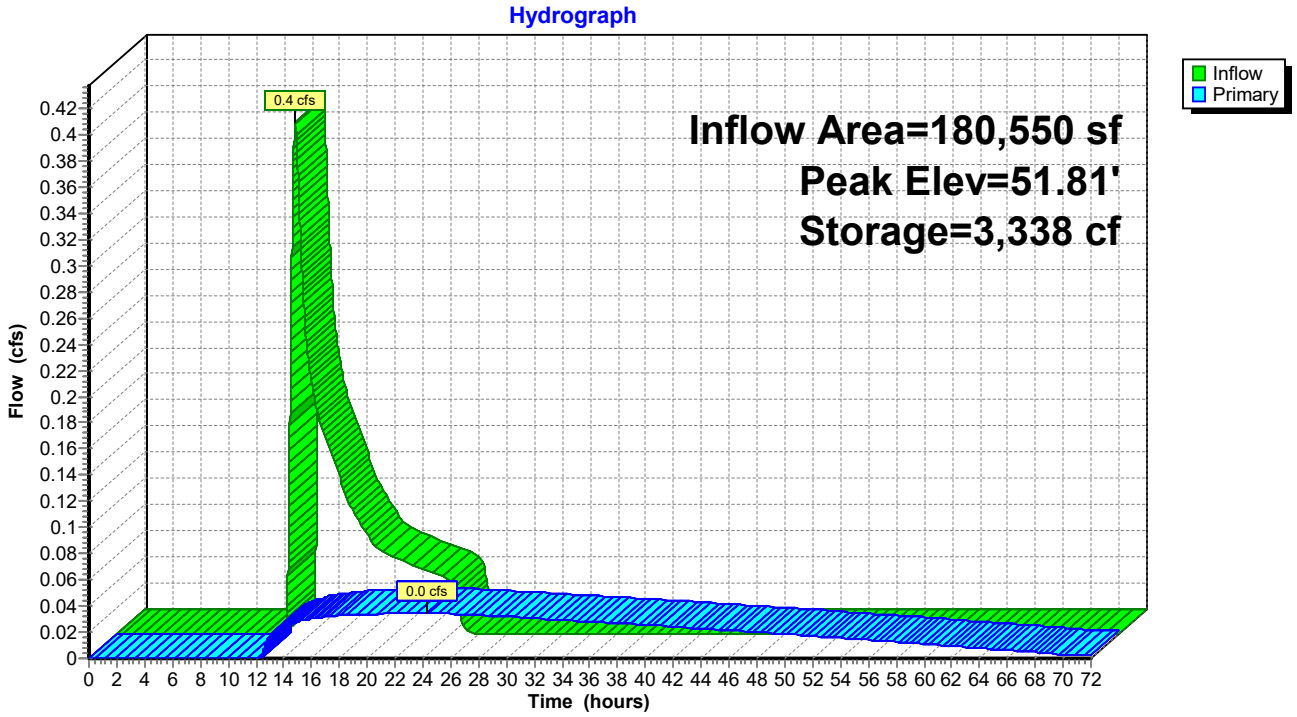
Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	16,121 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,503	0	0
51.00	1,882	1,693	1,693
52.00	2,267	2,075	3,767
53.00	2,662	2,465	6,232
54.00	3,055	2,859	9,090
55.00	3,503	3,279	12,369
56.00	4,000	3,752	16,121

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**12.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.00' / 46.40' S= 0.0180 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	50.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	53.10'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0 cfs @ 24.34 hrs HW=51.81' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.0 cfs of 3.4 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.0 cfs @ 6.40 fps)
  └─**3=Orifice/Grate** (Controls 0.0 cfs)

Pond P1: Pond 1



Summary for Pond RD1: Roof Drain 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=501)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 319 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf, Atten= 11%, Lag= 2.2 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 302 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.51' @ 12.13 hrs Surf.Area= 221 sf Storage= 39 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 68.4 min calculated for 302 cf (94% of inflow)
Center-of-Mass det. time= 36.9 min (792.6 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

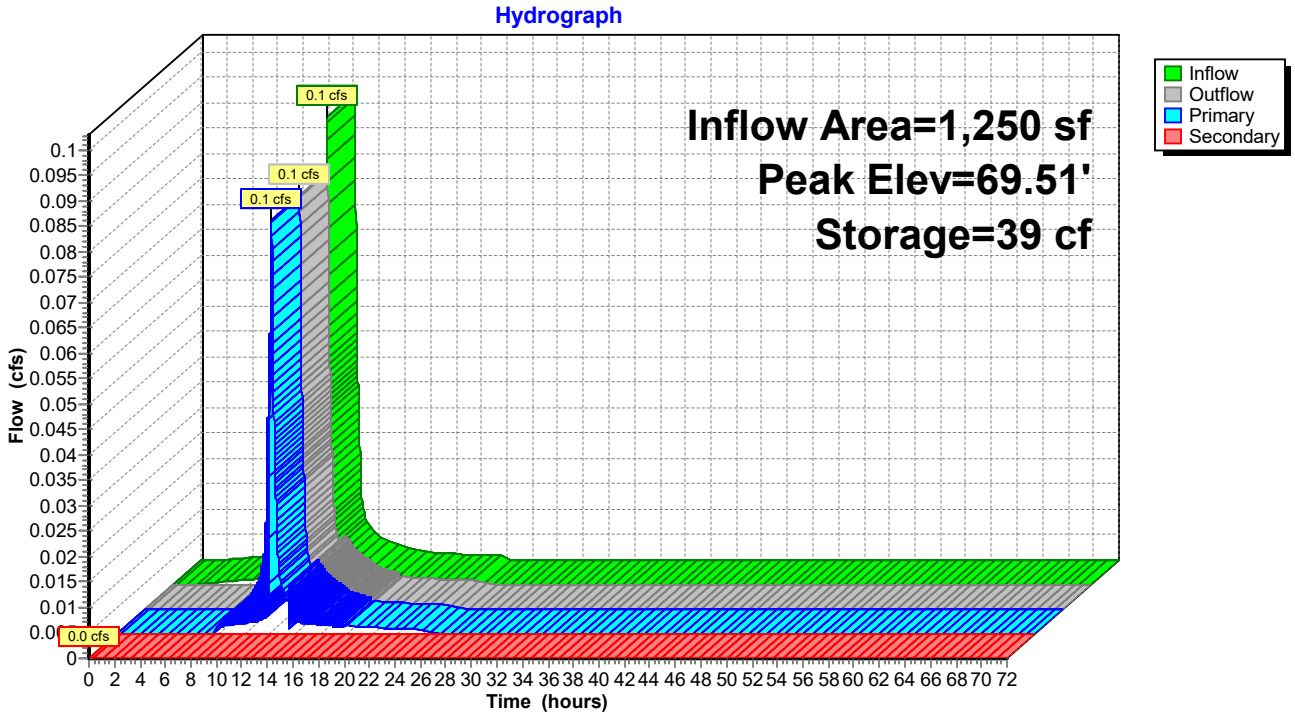
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.51' TW=69.46' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.10 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD1: Roof Drain 1



Summary for Pond RD2: Roof Drain 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=788)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 319 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 302 cf, Atten= 14%, Lag= 2.6 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 302 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.66' @ 12.13 hrs Surf.Area= 226 sf Storage= 43 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 73.4 min calculated for 302 cf (94% of inflow)
Center-of-Mass det. time= 41.6 min (797.3 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

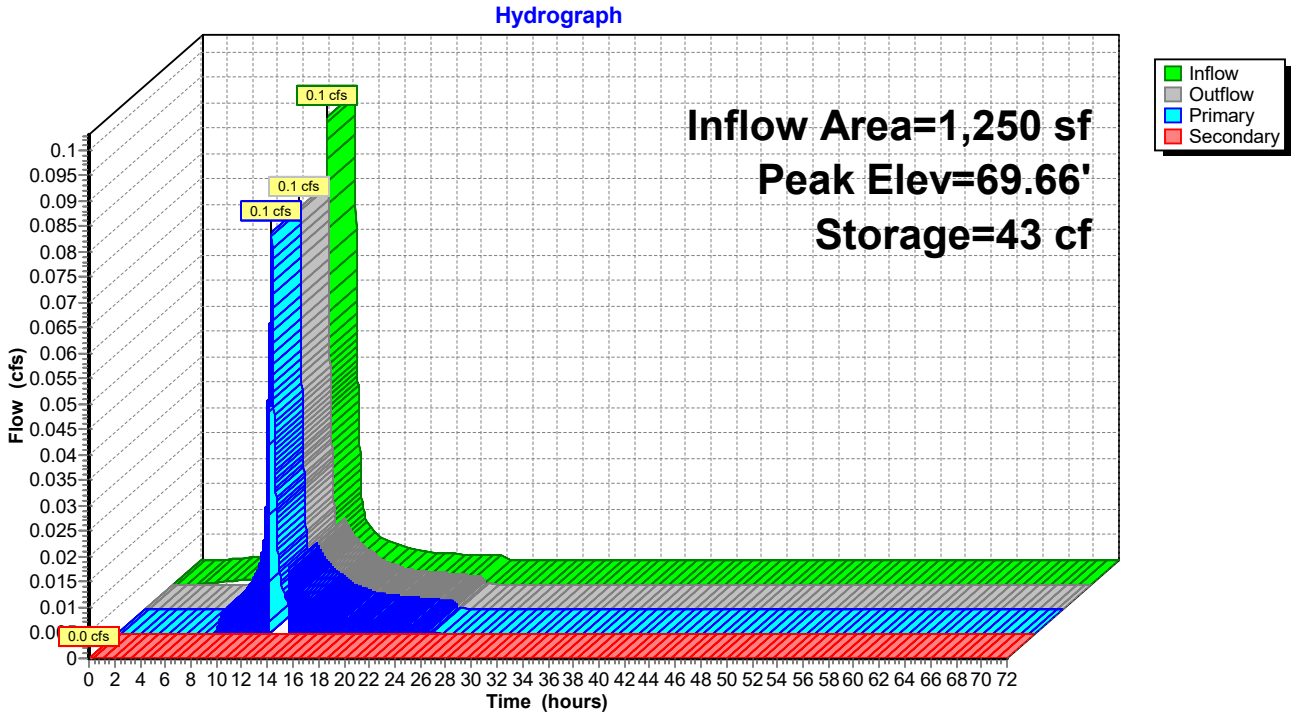
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.66' TW=69.62' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.1 cfs @ 0.94 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD2: Roof Drain 2



Summary for Pond RD3: Roof Drain 3

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 319 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf, Atten= 9%, Lag= 1.9 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 302 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.92' @ 12.12 hrs Surf.Area= 215 sf Storage= 36 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 66.5 min calculated for 302 cf (95% of inflow)
Center-of-Mass det. time= 35.8 min (791.5 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

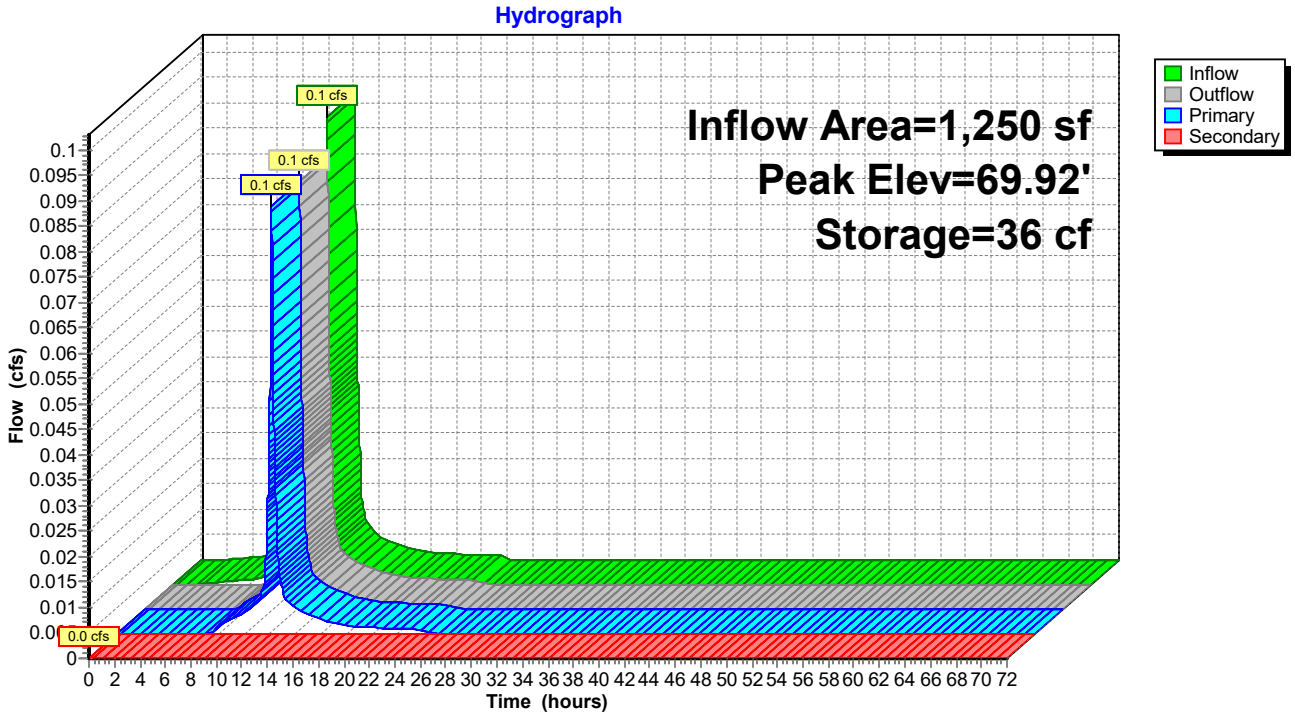
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.92' TW=69.85' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.30 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD3: Roof Drain 3



Summary for Pond RD4: Roof Drain 4

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 319 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf, Atten= 9%, Lag= 1.9 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 302 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.92' @ 12.12 hrs Surf.Area= 215 sf Storage= 36 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 66.5 min calculated for 302 cf (95% of inflow)
Center-of-Mass det. time= 35.8 min (791.5 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

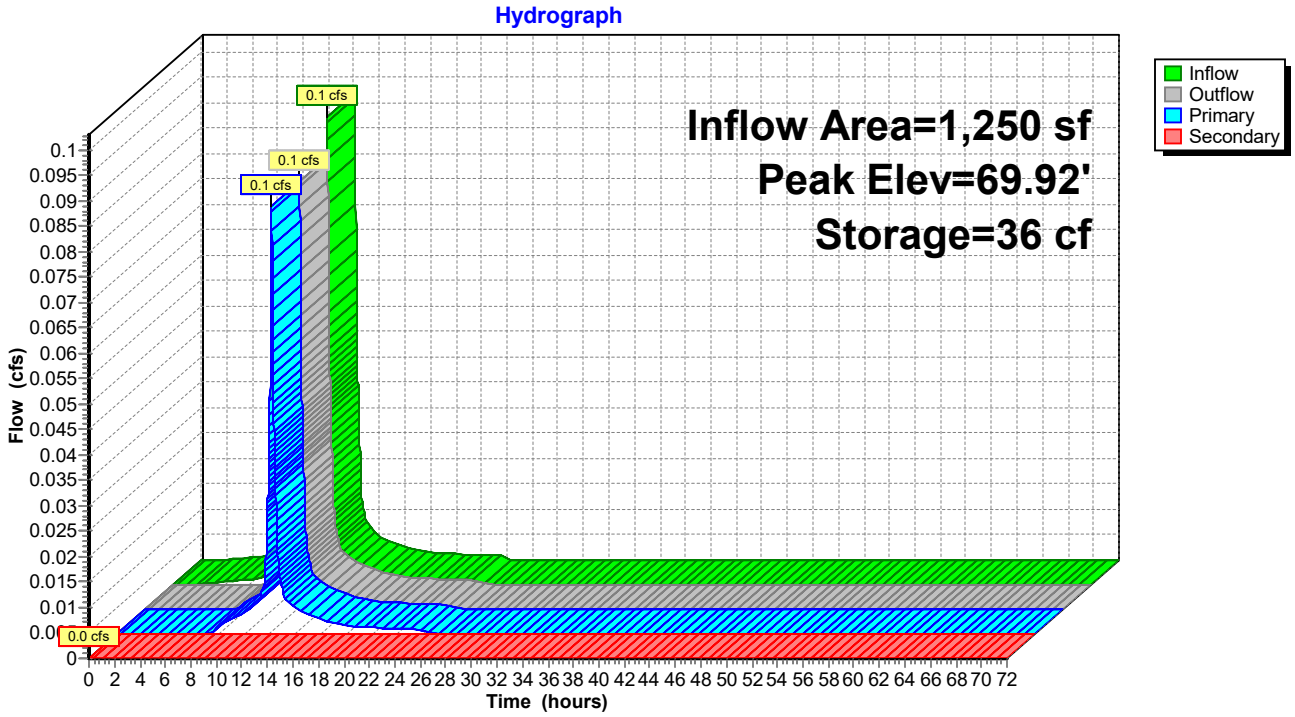
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.92' TW=69.85' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.30 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD4: Roof Drain 4



Summary for Pond RD5: Roof Drain 5

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=505)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 319 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 302 cf, Atten= 14%, Lag= 2.5 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 302 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.63' @ 12.13 hrs Surf.Area= 223 sf Storage= 41 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 71.4 min calculated for 302 cf (94% of inflow)
Center-of-Mass det. time= 39.6 min (795.4 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

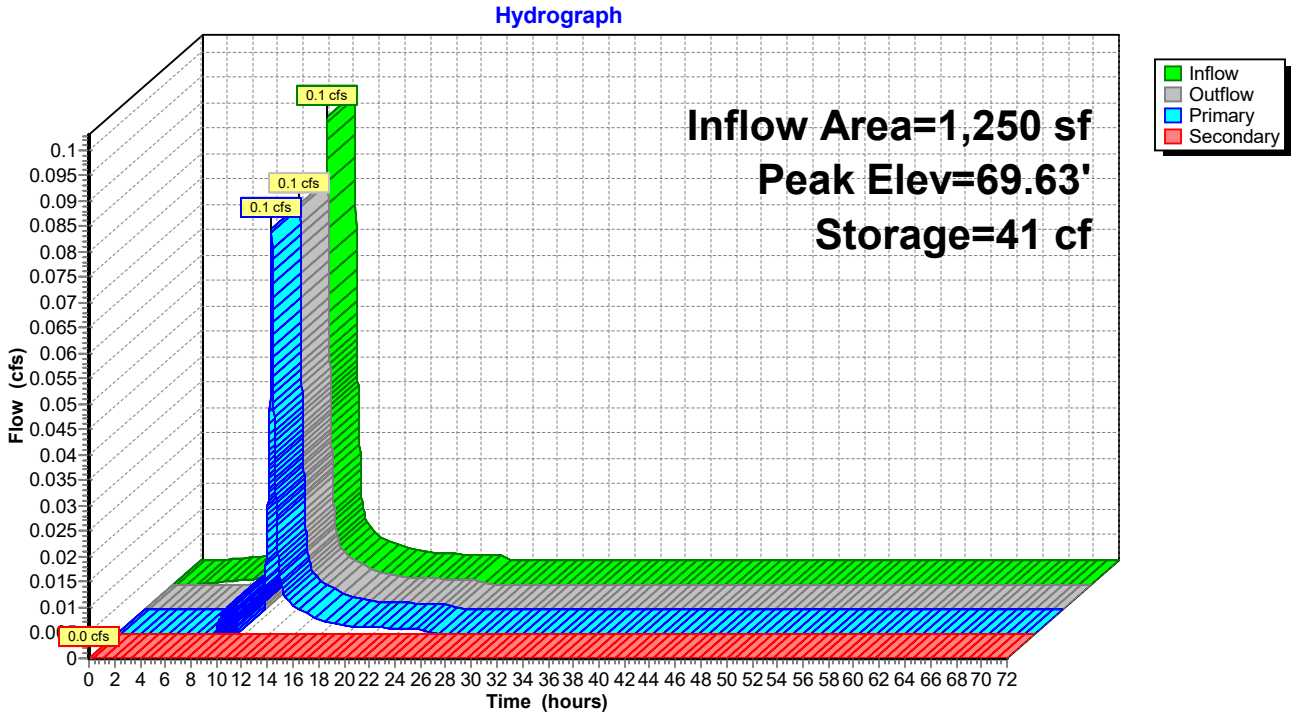
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.63' TW=69.59' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.1 cfs @ 1.00 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD5: Roof Drain 5



Summary for Pond RD6: Roof Drain 6

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=514)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 319 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 303 cf, Atten= 14%, Lag= 2.2 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 303 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.50' @ 12.13 hrs Surf.Area= 219 sf Storage= 38 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 66.2 min calculated for 303 cf (95% of inflow)
Center-of-Mass det. time= 36.8 min (792.6 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

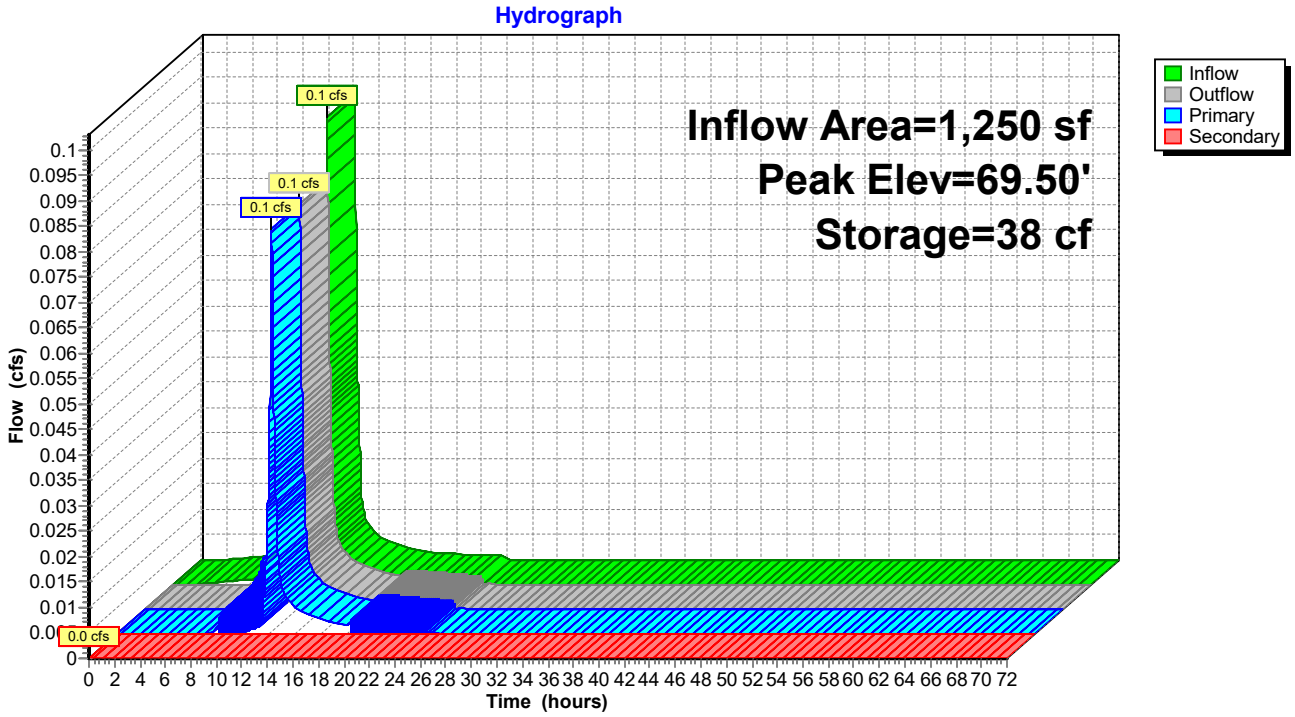
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.50' TW=69.45' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.04 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD6: Roof Drain 6



Summary for Pond RD7: Roof Drain 7

[92] Warning: Device #2 is above defined storage
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=827)

Inflow Area =	1,250 sf,	100.00% Impervious,	Inflow Depth =	3.07"	for 2-Year event
Inflow =	0.1 cfs @	12.08 hrs, Volume=	319 cf		
Outflow =	0.2 cfs @	12.22 hrs, Volume=	302 cf,	Atten= 0%,	Lag= 8.2 min
Primary =	0.2 cfs @	12.22 hrs, Volume=	302 cf		
Secondary =	0.0 cfs @	0.00 hrs, Volume=	0 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.03' @ 12.16 hrs Surf.Area= 249 sf Storage= 60 cf
Flood Elev= 69.30' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 72.2 min calculated for 302 cf (94% of inflow)
Center-of-Mass det. time= 40.4 min (796.1 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	66.29'	271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

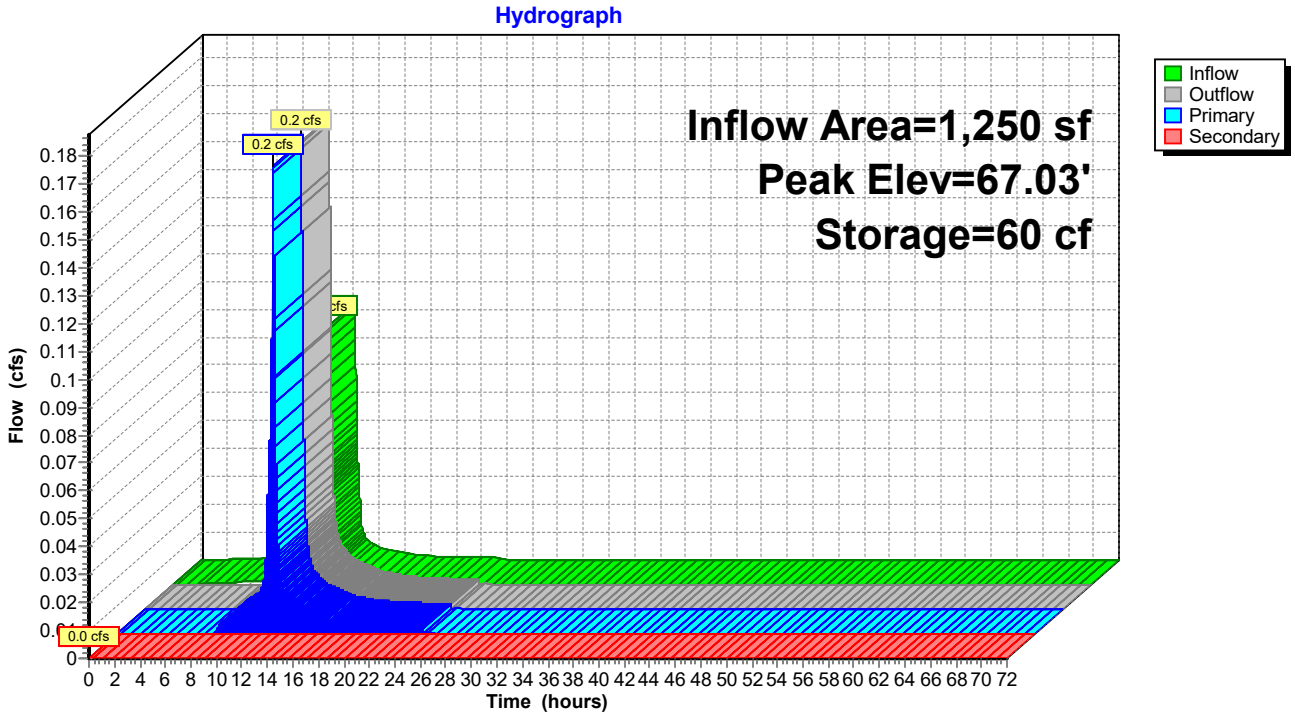
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.29	156	0.0	0	0
66.30	156	40.0	1	1
67.29	281	40.0	87	87
67.30	281	25.0	1	88
68.29	281	25.0	70	157
68.30	281	40.0	1	159
69.30	281	40.0	112	271

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	69.30'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.22 hrs HW=66.98' TW=67.12' (Dynamic Tailwater)
1=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=66.29' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD7: Roof Drain 7



Summary for Pond SF1: Soil Filter 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 1.77" for 2-Year event
Inflow = 1.4 cfs @ 12.29 hrs, Volume= 6,597 cf
Outflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf, Atten= 20%, Lag= 9.5 min
Primary = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.71' @ 12.45 hrs Surf.Area= 1,250 sf Storage= 725 cf
Flood Elev= 66.25' Surf.Area= 3,716 sf Storage= 5,562 cf

Plug-Flow detention time= 16.1 min calculated for 6,591 cf (100% of inflow)
Center-of-Mass det. time= 15.5 min (860.0 - 844.5)

Volume	Invert	Avail.Storage	Storage Description
#1	60.99'	981 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	63.50'	4,581 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		5,562 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.99	1,250	0.0	0	0
61.00	1,250	40.0	5	5
61.99	1,250	40.0	495	500
62.00	1,250	25.0	3	503
63.49	1,250	25.0	466	969
63.50	1,250	100.0	12	981

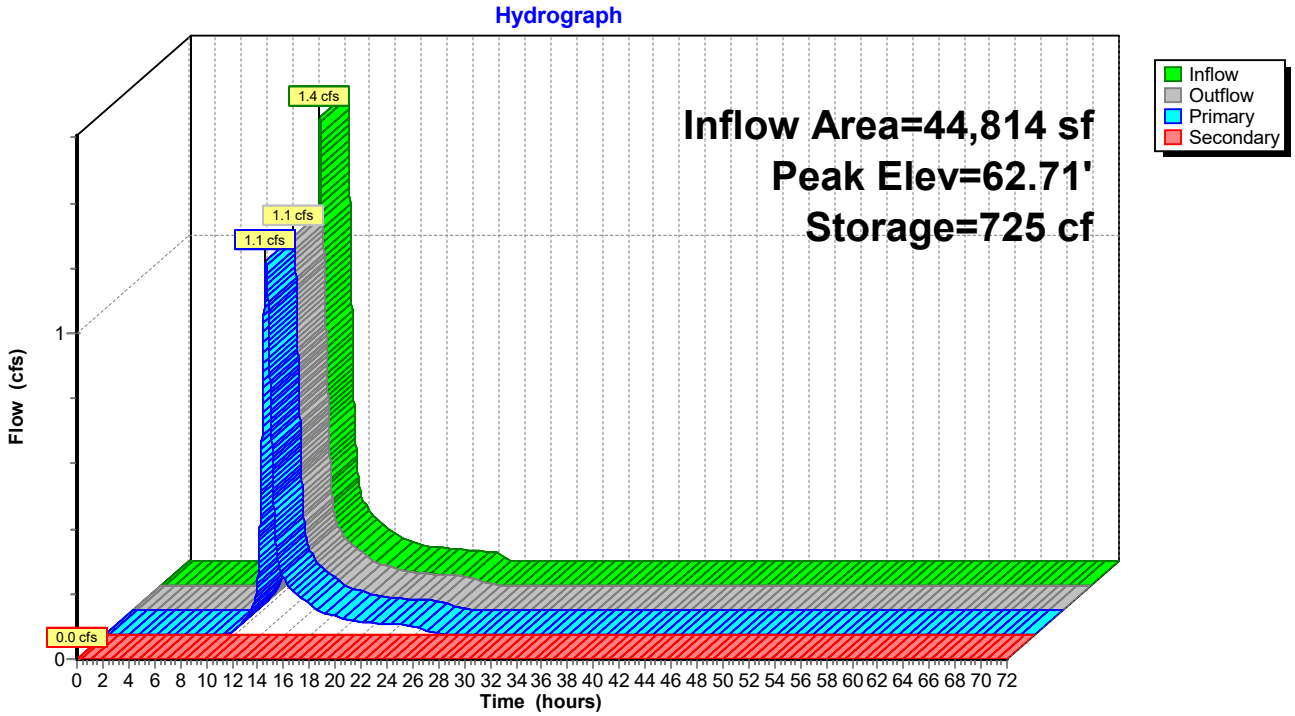
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.50	1,250	0	0
64.00	1,464	679	679
65.00	1,937	1,701	2,379
66.00	2,466	2,202	4,581

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**8.0" Round Culvert** L= 81.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 60.55' S= 0.0055 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.00'	**6.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.80'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	65.75'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.1 cfs @ 12.45 hrs HW=62.71' TW=61.12' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.1 cfs of 1.4 cfs potential flow)
  └─**2=Underdrain** (Orifice Controls 1.1 cfs @ 5.82 fps)
  └─**3=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=60.99' TW=51.20' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF1: Soil Filter 1



Summary for Pond SF2: Soil Filter 2

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 1.85" for 2-Year event
Inflow = 3.9 cfs @ 12.24 hrs, Volume= 19,295 cf
Outflow = 0.8 cfs @ 13.00 hrs, Volume= 19,072 cf, Atten= 81%, Lag= 45.6 min
Primary = 0.8 cfs @ 13.00 hrs, Volume= 19,072 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.59' @ 13.00 hrs Surf.Area= 12,370 sf Storage= 8,195 cf
Flood Elev= 64.00' Surf.Area= 15,354 sf Storage= 27,812 cf

Plug-Flow detention time= 142.4 min calculated for 19,072 cf (99% of inflow)
Center-of-Mass det. time= 135.2 min (962.1 - 826.9)

Volume	Invert	Avail.Storage	Storage Description
#1	58.49'	4,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	61.00'	23,248 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		27,812 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.49	5,803	0.0	0	0
58.50	5,803	40.0	23	23
59.50	5,803	40.0	2,321	2,344
59.51	5,803	25.0	15	2,359
60.99	5,803	25.0	2,147	4,506
61.00	5,803	100.0	58	4,564

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	5,803	0	0
62.00	7,104	6,454	6,454
63.00	8,467	7,786	14,239
64.00	9,551	9,009	23,248

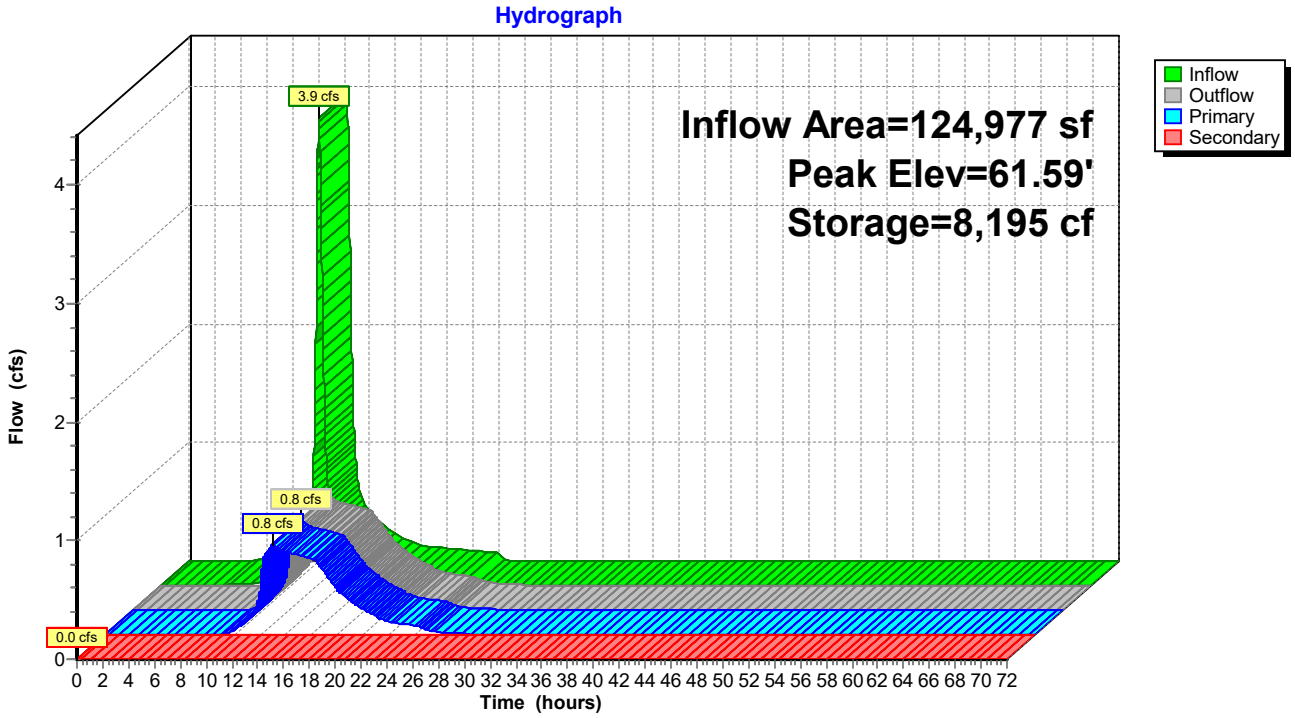
Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	**8.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 58.28' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	58.58'	**4.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	61.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.50 Width (feet) 0.50 0.50
#4	Device 1	63.00'	**24.0" x 24.0" Horiz. Structure Top** C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65

2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.8 cfs @ 13.00 hrs HW=61.59' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.8 cfs of 2.2 cfs potential flow)
  ├─**2=Underdrain** (Orifice Controls 0.7 cfs @ 8.11 fps)
  ├─**3=Custom Weir/Orifice** (Weir Controls 0.0 cfs @ 0.97 fps)
  └─**4=Structure Top** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=58.49' TW=0.00' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF2: Soil Filter 2

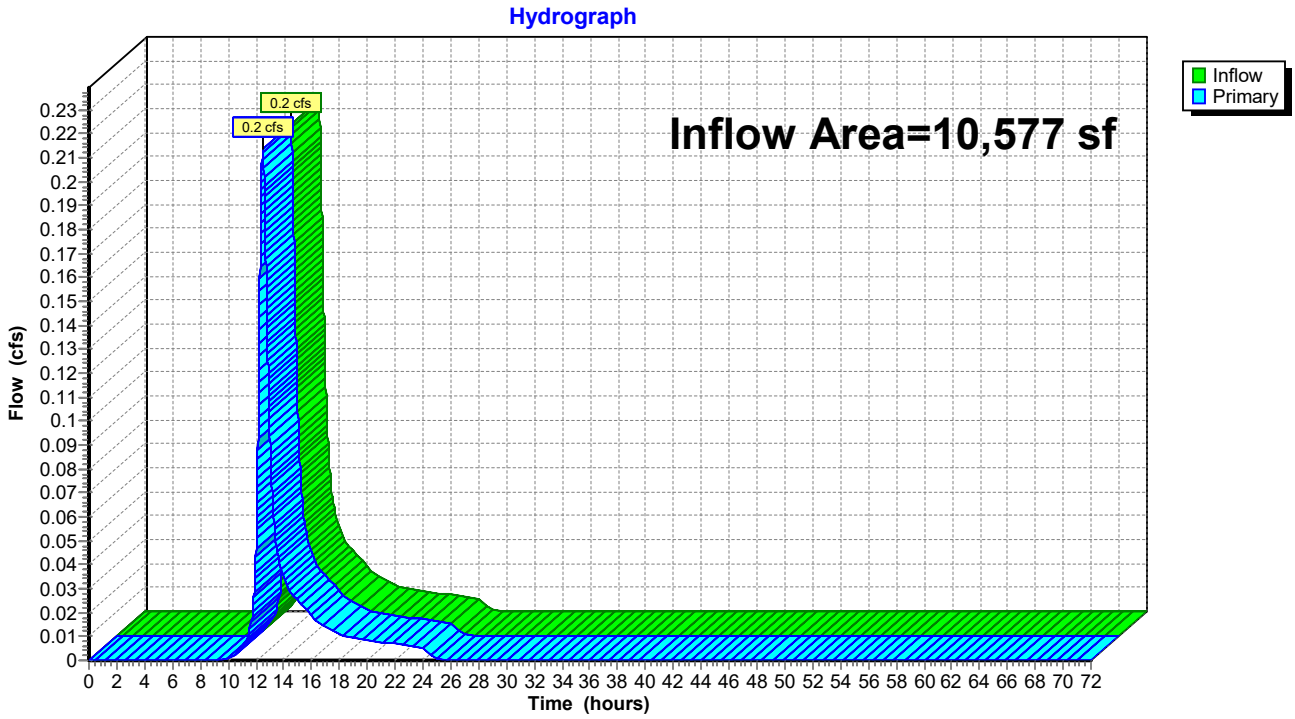


Summary for Link AP#1: Analysis Point 1

Inflow Area = 10,577 sf, 0.00% Impervious, Inflow Depth = 1.41" for 2-Year event
Inflow = 0.2 cfs @ 12.47 hrs, Volume= 1,245 cf
Primary = 0.2 cfs @ 12.47 hrs, Volume= 1,245 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

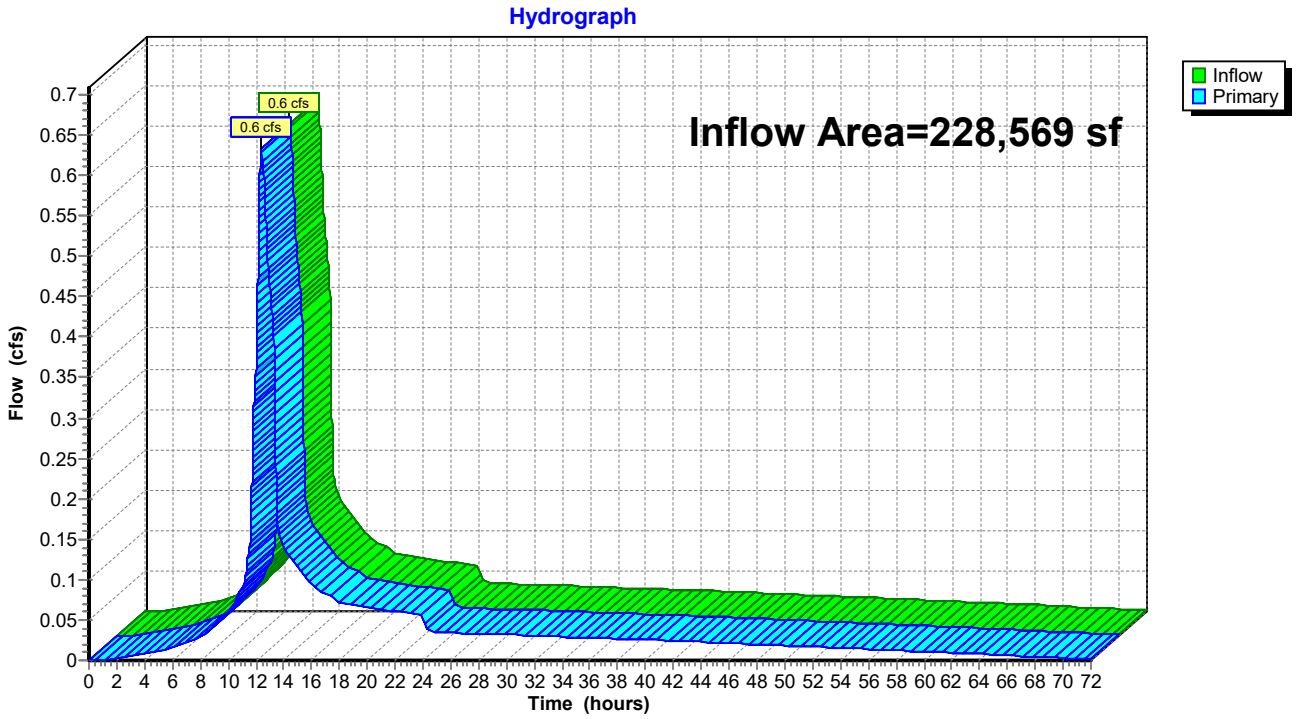


Summary for Link AP#2: Analysis Point 2

Inflow Area = 228,569 sf, 28.40% Impervious, Inflow Depth > 0.55" for 2-Year event
Inflow = 0.6 cfs @ 12.41 hrs, Volume= 10,559 cf
Primary = 0.6 cfs @ 12.41 hrs, Volume= 10,559 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

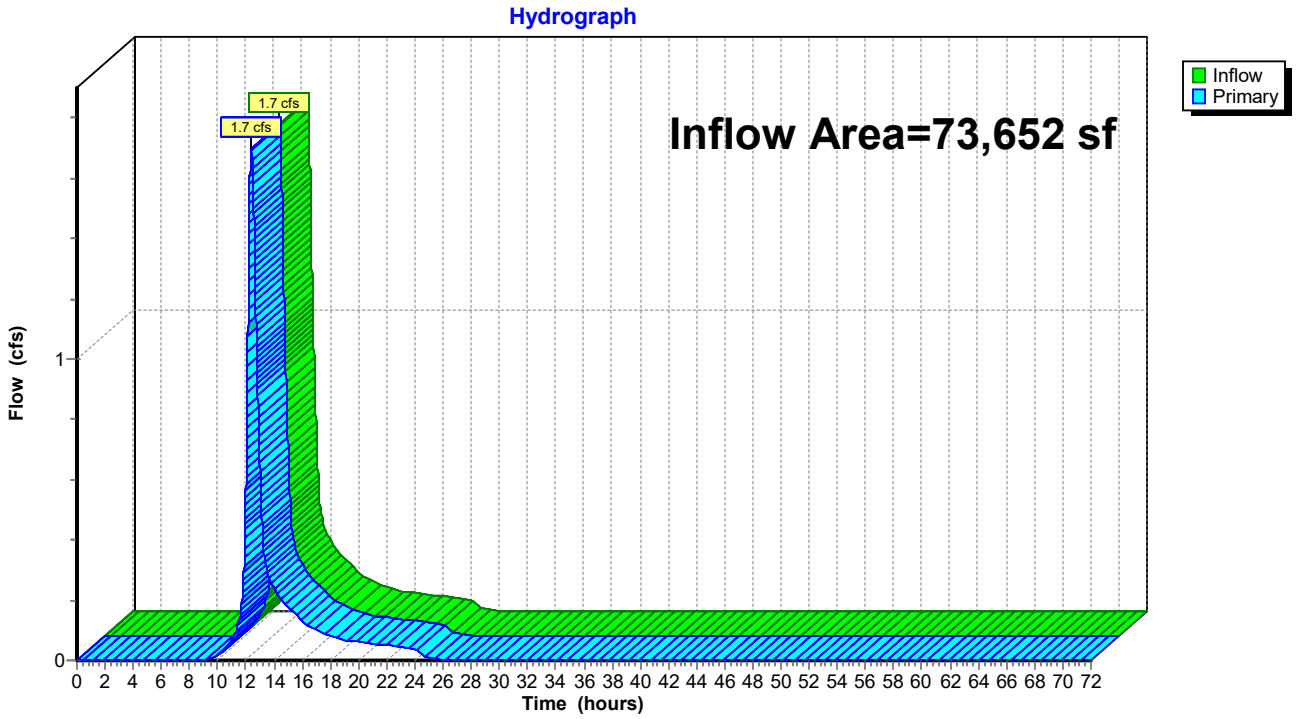


Summary for Link AP#3: Analysis Point 3

Inflow Area = 73,652 sf, 16.15% Impervious, Inflow Depth = 1.58" for 2-Year event
Inflow = 1.7 cfs @ 12.37 hrs, Volume= 9,676 cf
Primary = 1.7 cfs @ 12.37 hrs, Volume= 9,676 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

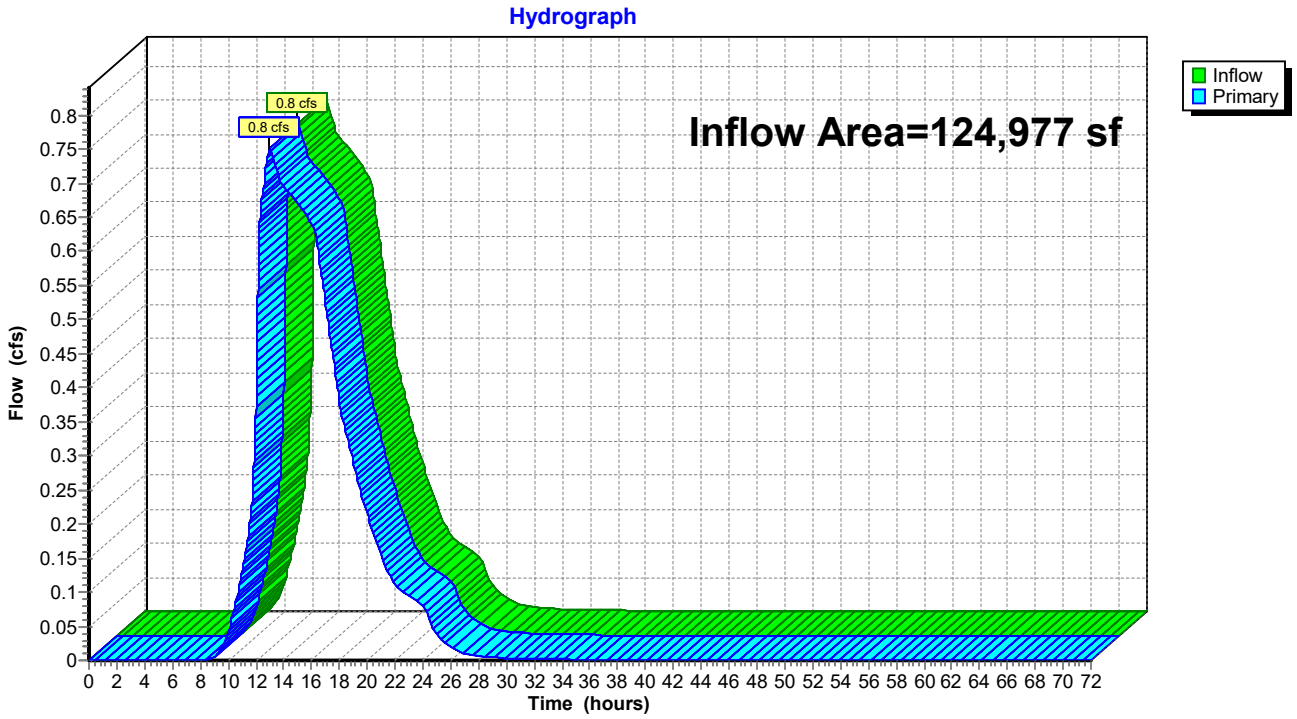


Summary for Link AP#4: Analysis Point 4

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 1.83" for 2-Year event
Inflow = 0.8 cfs @ 13.00 hrs, Volume= 19,072 cf
Primary = 0.8 cfs @ 13.00 hrs, Volume= 19,072 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

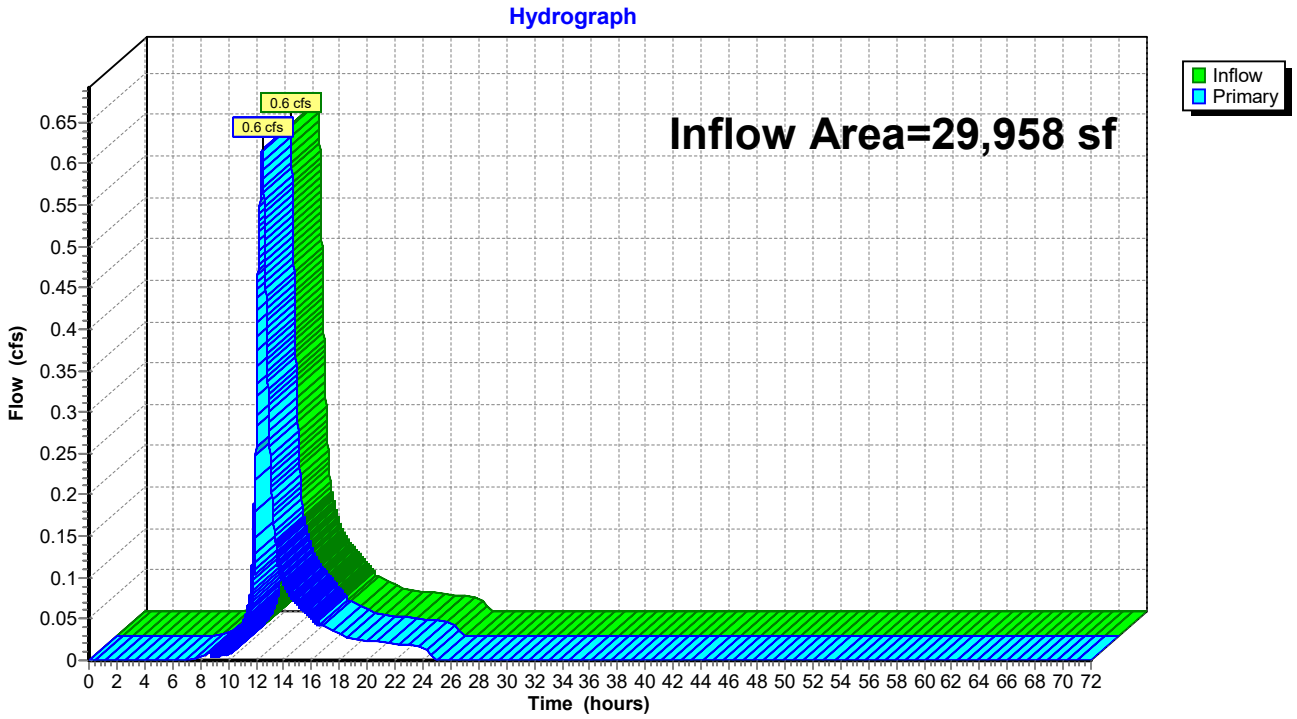


Summary for Link AP#5: Analysis Point 5

Inflow Area = 29,958 sf, 14.85% Impervious, Inflow Depth = 1.60" for 2-Year event
Inflow = 0.6 cfs @ 12.43 hrs, Volume= 3,990 cf
Primary = 0.6 cfs @ 12.43 hrs, Volume= 3,990 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

Subcatchment S1.1: Subcatchment 1.1 Runoff Area=10,577 sf 0.00% Impervious Runoff Depth=2.72"
Flow Length=131' Slope=0.0110 '/' Tc=33.3 min CN=79 Runoff=0.4 cfs 2,394 cf

Subcatchment S2.1: Subcatchment 2.1 Runoff Area=180,550 sf 19.58% Impervious Runoff Depth=0.99"
Flow Length=953' Tc=41.2 min CN=56 Runoff=1.9 cfs 14,903 cf

Subcatchment S2.2: Subcatchment S2.2 Runoff Area=30,401 sf 39.27% Impervious Runoff Depth=1.45"
Flow Length=280' Tc=22.3 min CN=63 Runoff=0.7 cfs 3,663 cf

Subcatchment S2.3: Subcatchment 2.3 Runoff Area=3,590 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.4 cfs 1,395 cf

Subcatchment S2.4: Subcatchment 2.4 Runoff Area=3,697 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.4 cfs 1,437 cf

Subcatchment S2.5: Subcatchment 2.5 Runoff Area=3,457 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.4 cfs 1,343 cf

Subcatchment S2.6: Subcatchment 2.6 Runoff Area=2,849 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.3 cfs 1,107 cf

Subcatchment S2.7: Subcatchment 2.7 Runoff Area=2,803 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.3 cfs 1,089 cf

Subcatchment S2.8: Subcatchment 2.8 Runoff Area=1,222 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 475 cf

Subcatchment S3.1: Subcatchment 3.1 Runoff Area=28,838 sf 4.33% Impervious Runoff Depth=2.54"
Flow Length=333' Tc=18.1 min CN=77 Runoff=1.4 cfs 6,103 cf

Subcatchment S3.2: Subcatchment 3.2 Runoff Area=44,814 sf 23.75% Impervious Runoff Depth=3.18"
Flow Length=329' Tc=19.8 min CN=84 Runoff=2.6 cfs 11,872 cf

Subcatchment S4.1: Subcatchment 4.1 Runoff Area=99,781 sf 12.03% Impervious Runoff Depth=2.99"
Flow Length=553' Tc=19.1 min CN=82 Runoff=5.5 cfs 24,860 cf

Subcatchment S4.10: Subcatchment 4.10 Runoff Area=3,197 sf 72.57% Impervious Runoff Depth=4.21"
Tc=6.0 min CN=94 Runoff=0.3 cfs 1,121 cf

Subcatchment S4.11: Subcatchment 4.11 Runoff Area=3,887 sf 74.68% Impervious Runoff Depth=4.21"
Tc=6.0 min CN=94 Runoff=0.4 cfs 1,363 cf

Subcatchment S4.12: Subcatchment 4.12 Runoff Area=1,423 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.2 cfs 553 cf

Subcatchment S4.13: Subcatchment 4.13 Runoff Area=1,627 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.2 cfs 632 cf

Subcatchment S4.2: Subcatchment 4.2 Runoff Area=3,347 sf 71.65% Impervious Runoff Depth=4.10"
Tc=6.0 min CN=93 Runoff=0.3 cfs 1,143 cf

Subcatchment S4.3: Subcatchment 4.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Subcatchment S4.4: Subcatchment 4.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Subcatchment S4.5: Subcatchment 4.5 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Subcatchment S4.6: Subcatchment 4.6 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Subcatchment S4.7: Subcatchment 4.7 Runoff Area=3,900 sf 73.33% Impervious Runoff Depth=4.21"
Tc=6.0 min CN=94 Runoff=0.4 cfs 1,368 cf

Subcatchment S4.8: Subcatchment 4.8 Runoff Area=1,313 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 510 cf

Subcatchment S4.9: Subcatchment 4.9 Runoff Area=1,502 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.2 cfs 584 cf

Subcatchment S5.1: Subcatchment 5.1 Runoff Area=26,208 sf 2.67% Impervious Runoff Depth=2.72"
Flow Length=421' Tc=32.7 min CN=79 Runoff=1.0 cfs 5,931 cf

Subcatchment S5.2: Subcatchment 5.2 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Subcatchment S5.3: Subcatchment 5.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Subcatchment S5.4: Subcatchment 5.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Reach S1: Swale 1 Avg. Flow Depth=0.14' Max Vel=2.23 fps Inflow=2.6 cfs 11,872 cf
n=0.022 L=175.0' S=0.0171 '/' Capacity=24.5 cfs Outflow=2.6 cfs 11,872 cf

Pond C1: Culvert 1 Peak Elev=69.89' Inflow=0.1 cfs 469 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0158 '/' Outflow=0.1 cfs 469 cf

Pond C10: Culvert 10 Peak Elev=69.52' Inflow=0.1 cfs 469 cf
12.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.1 cfs 469 cf

Pond C11: Culvert 11 Peak Elev=69.47' Inflow=0.4 cfs 1,406 cf
12.0" Round Culvert n=0.013 L=82.4' S=0.0076 '/' Outflow=0.4 cfs 1,406 cf

Pond C2: Culvert 2 Peak Elev=69.68' Inflow=0.2 cfs 937 cf
12.0" Round Culvert n=0.012 L=44.0' S=0.0027 '/' Outflow=0.2 cfs 937 cf

Pond C3: Culvert 3 Peak Elev=69.51' Inflow=0.4 cfs 1,405 cf
24.0" Round Culvert n=0.012 L=44.4' S=0.0052 '/' Outflow=0.4 cfs 1,405 cf

Pond C4: Culvert 4 Peak Elev=69.88' Inflow=0.1 cfs 469 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0142 '/' Outflow=0.1 cfs 469 cf

Pond C7: Culvert 7 Peak Elev=68.66' Inflow=0.3 cfs 468 cf
4.0" Round Culvert n=0.013 L=27.0' S=0.0048 '/' Outflow=0.3 cfs 468 cf

Pond C8: Culvert 8 Peak Elev=53.30' Inflow=1.9 cfs 14,903 cf
16.0" Round Culvert n=0.025 L=184.0' S=0.0054 '/' Outflow=1.9 cfs 14,903 cf

Pond C9: Culvert 9 Peak Elev=69.65' Inflow=0.2 cfs 937 cf
12.0" Round Culvert n=0.013 L=25.0' S=0.0088 '/' Outflow=0.2 cfs 937 cf

Pond CB1: Catch Basin 1 Peak Elev=68.90' Inflow=0.7 cfs 2,550 cf
12.0" Round Culvert n=0.013 L=79.0' S=0.0051 '/' Outflow=0.7 cfs 2,550 cf

Pond CB10: Catch Basin 10 Peak Elev=61.52' Inflow=0.8 cfs 2,832 cf
12.0" Round Culvert n=0.013 L=212.5' S=0.0424 '/' Outflow=0.8 cfs 2,832 cf

Pond CB11: Catch Basin 11 Peak Elev=52.61' Inflow=0.4 cfs 1,343 cf
12.0" Round Culvert n=0.013 L=18.5' S=0.0054 '/' Outflow=0.4 cfs 1,343 cf

Pond CB12: Catch Basin 12 Peak Elev=52.56' Inflow=1.5 cfs 5,282 cf
12.0" Round Culvert n=0.013 L=96.6' S=0.0404 '/' Outflow=1.5 cfs 5,282 cf

Pond CB13: Catch Basin 13 Peak Elev=49.12' Inflow=1.9 cfs 6,847 cf
12.0" Round Culvert n=0.013 L=49.3' S=0.0034 '/' Outflow=1.9 cfs 6,847 cf

Pond CB14: Catch Basin 14 Peak Elev=49.36' Inflow=1.6 cfs 5,757 cf
12.0" Round Culvert n=0.013 L=15.0' S=0.0067 '/' Outflow=1.6 cfs 5,757 cf

Pond CB2: Catch Basin 2 Peak Elev=68.34' Inflow=0.3 cfs 1,121 cf
12.0" Round Culvert n=0.013 L=79.2' S=0.0051 '/' Outflow=0.3 cfs 1,121 cf

Pond CB3: Catch Basin 3 Peak Elev=67.45' Inflow=1.3 cfs 4,386 cf
12.0" Round Culvert n=0.013 L=17.5' S=0.0057 '/' Outflow=1.3 cfs 4,386 cf

Pond CB4: Catch Basin 4 Peak Elev=67.30' Inflow=2.0 cfs 6,870 cf
12.0" Round Culvert n=0.013 L=103.7' S=0.0053 '/' Outflow=2.0 cfs 6,870 cf

Pond CB5: Catch Basin 5 Peak Elev=66.90' Inflow=0.1 cfs 510 cf
12.0" Round Culvert n=0.013 L=18.4' S=0.0054 '/' Outflow=0.1 cfs 510 cf

Pond CB6: Catch Basin 6 Peak Elev=66.89' Inflow=2.3 cfs 7,934 cf
12.0" Round Culvert n=0.013 L=60.9' S=0.0057 '/' Outflow=2.3 cfs 7,934 cf

Pond CB7: Catch Basin 7 Peak Elev=65.88' Inflow=0.2 cfs 584 cf
12.0" Round Culvert n=0.013 L=18.2' S=0.0055 '/' Outflow=0.2 cfs 584 cf

Pond CB8: Catch Basin 8 Peak Elev=65.88' Inflow=2.6 cfs 9,150 cf
12.0" Round Culvert n=0.013 L=156.4' S=0.0054 '/' Outflow=2.6 cfs 9,150 cf

Pond CB9: Catch Basin 9 Peak Elev=62.39' Inflow=0.4 cfs 1,395 cf
12.0" Round Culvert n=0.013 L=18.8' S=0.0053 '/' Outflow=0.4 cfs 1,395 cf

Pond CH1: Chamber 1 Peak Elev=48.52' Storage=931 cf Inflow=1.9 cfs 6,847 cf
Outflow=1.7 cfs 6,847 cf

Pond MH1: Manhole 1 Peak Elev=66.38' Inflow=2.3 cfs 7,934 cf
12.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=2.3 cfs 7,934 cf

Pond MH2: Manhole 2 Peak Elev=61.28' Inflow=1.6 cfs 11,866 cf
12.0" Round Culvert n=0.013 L=152.9' S=0.0052 '/' Outflow=1.6 cfs 11,866 cf

Pond MH3: Manhole 3 Peak Elev=60.39' Inflow=1.6 cfs 11,866 cf
12.0" Round Culvert n=0.013 L=81.0' S=0.0049 '/' Outflow=1.6 cfs 11,866 cf

Pond MH4: Manhole 4 Peak Elev=59.83' Inflow=1.6 cfs 11,866 cf
12.0" Round Culvert n=0.013 L=205.9' S=0.0051 '/' Outflow=1.6 cfs 11,866 cf

Pond MH5: Manhole 5 Peak Elev=48.78' Inflow=1.9 cfs 6,847 cf
12.0" Round Culvert n=0.013 L=6.2' S=0.0048 '/' Outflow=1.9 cfs 6,847 cf

Pond P1: Pond 1 Peak Elev=53.27' Storage=6,953 cf Inflow=1.9 cfs 14,903 cf
Outflow=0.5 cfs 14,024 cf

Pond RD1: Roof Drain 1 Peak Elev=69.59' Storage=47 cf Inflow=0.1 cfs 486 cf
Primary=0.1 cfs 468 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 468 cf

Pond RD2: Roof Drain 2 Peak Elev=69.76' Storage=52 cf Inflow=0.1 cfs 486 cf
Primary=0.1 cfs 468 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 468 cf

Pond RD3: Roof Drain 3 Peak Elev=69.99' Storage=41 cf Inflow=0.1 cfs 486 cf
Primary=0.1 cfs 469 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 469 cf

Pond RD4: Roof Drain 4 Peak Elev=69.99' Storage=41 cf Inflow=0.1 cfs 486 cf
Primary=0.1 cfs 469 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 469 cf

Pond RD5: Roof Drain 5 Peak Elev=69.73' Storage=50 cf Inflow=0.1 cfs 486 cf
Primary=0.1 cfs 468 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 468 cf

Pond RD6: Roof Drain 6 Peak Elev=69.59' Storage=46 cf Inflow=0.1 cfs 486 cf
Primary=0.1 cfs 469 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 469 cf

Pond RD7: Roof Drain 7 Peak Elev=67.39' Storage=94 cf Inflow=0.1 cfs 486 cf
Primary=0.3 cfs 468 cf Secondary=0.0 cfs 0 cf Outflow=0.3 cfs 468 cf

Pond SF1: Soil Filter 1 Peak Elev=64.04' Storage=1,717 cf Inflow=2.6 cfs 11,872 cf
Primary=1.6 cfs 11,866 cf Secondary=0.0 cfs 0 cf Outflow=1.6 cfs 11,866 cf

Pond SF2: Soil Filter 2 Peak Elev=62.41' Storage=14,054 cf Inflow=7.0 cfs 34,010 cf
Primary=1.8 cfs 33,787 cf Secondary=0.0 cfs 0 cf Outflow=1.8 cfs 33,787 cf

Link AP#1: Analysis Point 1 Inflow=0.4 cfs 2,394 cf
Primary=0.4 cfs 2,394 cf

Link AP#2: Analysis Point 2 Inflow=2.1 cfs 24,534 cf
Primary=2.1 cfs 24,534 cf

Link AP#3: Analysis Point 3 Inflow=2.8 cfs 17,969 cf
Primary=2.8 cfs 17,969 cf

Link AP#4: Analysis Point 4 Inflow=1.8 cfs 33,787 cf
Primary=1.8 cfs 33,787 cf

Link AP#5: Analysis Point 5 Inflow=1.2 cfs 7,336 cf
Primary=1.2 cfs 7,336 cf

Total Runoff Area = 467,733 sf Runoff Volume = 87,249 cf Average Runoff Depth = 2.24"
75.50% Pervious = 353,127 sf 24.50% Impervious = 114,606 sf

Summary for Subcatchment S1.1: Subcatchment 1.1

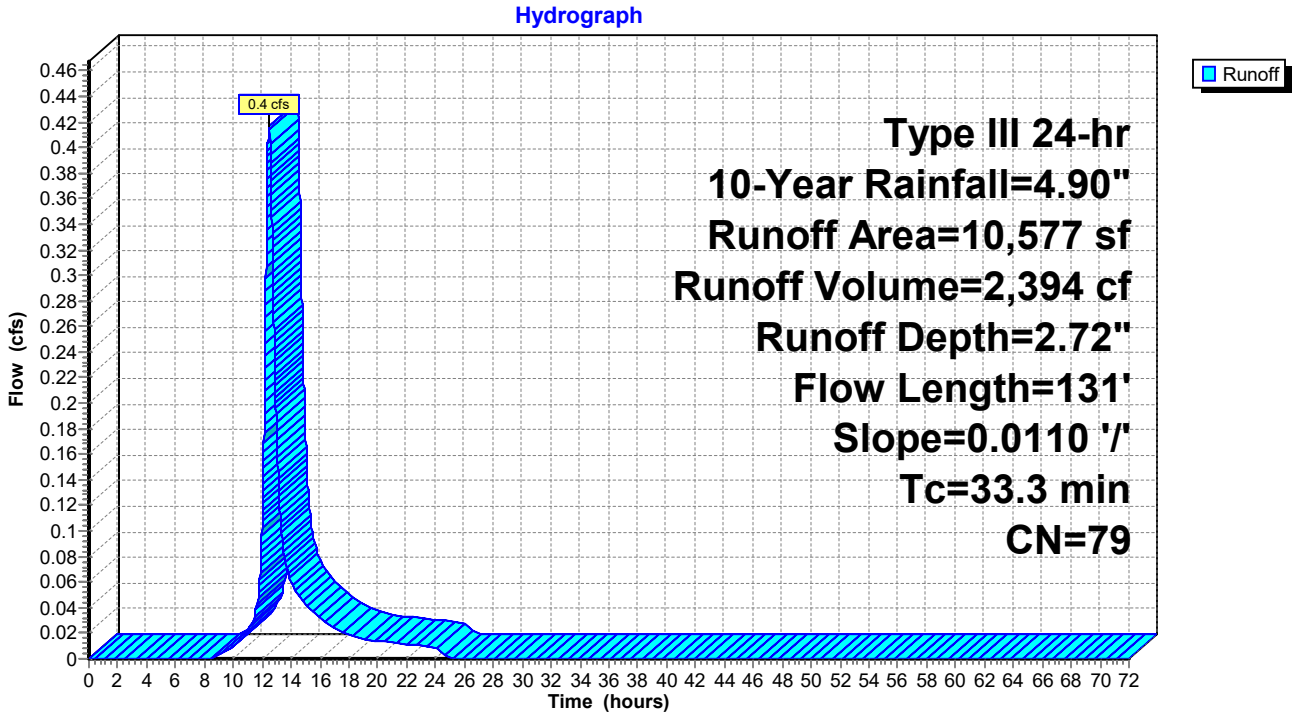
Runoff = 0.4 cfs @ 12.47 hrs, Volume= 2,394 cf, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
6,431	80	>75% Grass cover, Good, HSG D
4,146	77	Woods, Good, HSG D
10,577	79	Weighted Average
10,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	131	0.0110	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"

Subcatchment S1.1: Subcatchment 1.1



Summary for Subcatchment S2.1: Subcatchment 2.1

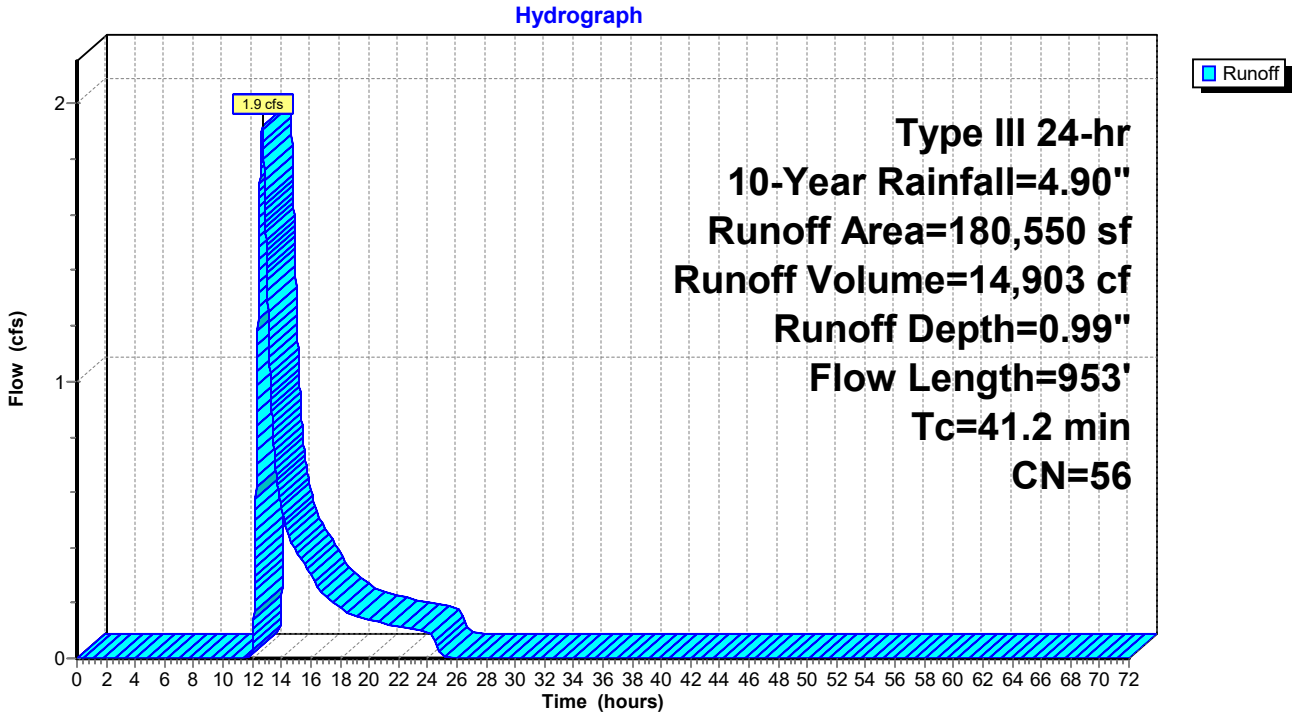
Runoff = 1.9 cfs @ 12.68 hrs, Volume= 14,903 cf, Depth= 0.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
12,432	39	>75% Grass cover, Good, HSG A
85,722	30	Woods, Good, HSG A
489	98	Paved parking, HSG A
17,787	80	>75% Grass cover, Good, HSG D
29,251	77	Woods, Good, HSG D
14,624	98	Paved parking, HSG D
3,134	98	Paved parking, HSG D
17,111	98	Roofs, HSG A
180,550	56	Weighted Average
145,192		80.42% Pervious Area
35,358		19.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	51	0.0196	0.15		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
13.5	99	0.0606	0.12		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
7.7	300	0.0167	0.65		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
4.3	203	0.0246	0.78		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
41.2	953	Total			

Subcatchment S2.1: Subcatchment 2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

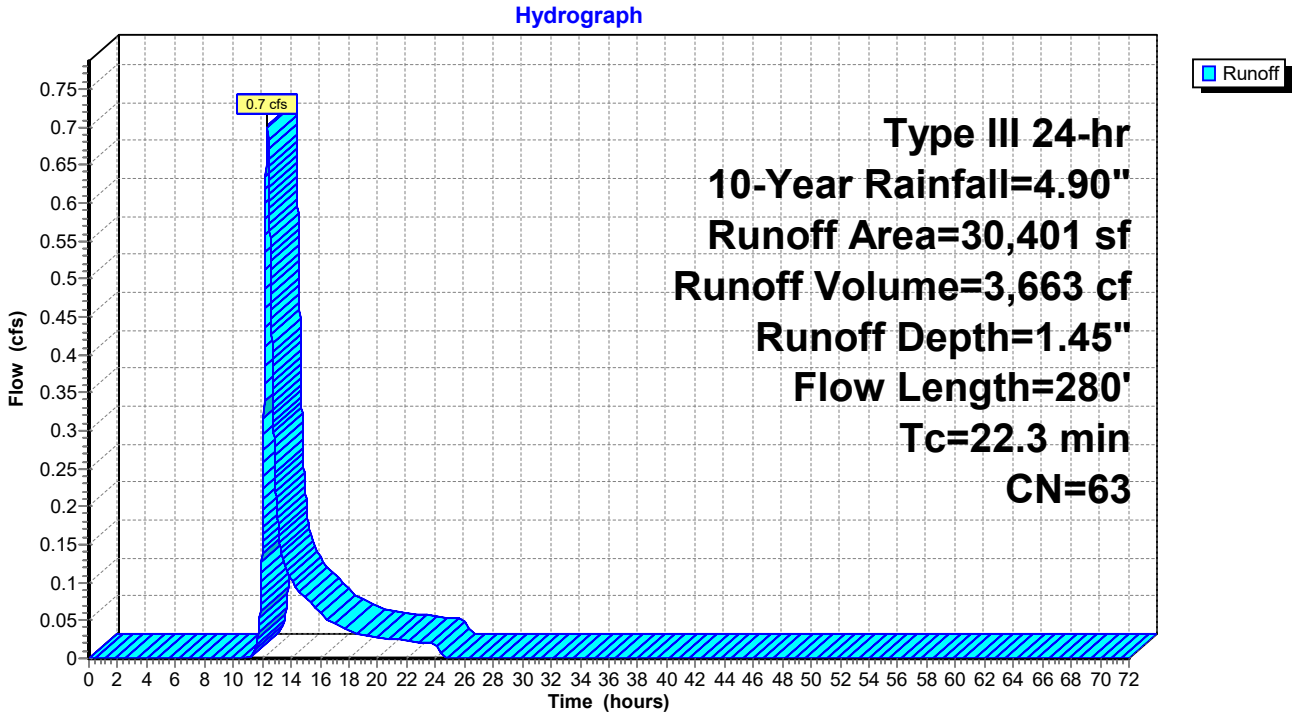
Runoff = 0.7 cfs @ 12.34 hrs, Volume= 3,663 cf, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
5,813	98	Paved parking, HSG A
30,401	63	Weighted Average
18,462		60.73% Pervious Area
11,939		39.27% Impervious Area
6,060		50.76% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	150	0.0520	0.13		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.3	130	0.0350	0.94		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.3	280	Total			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment 2.3

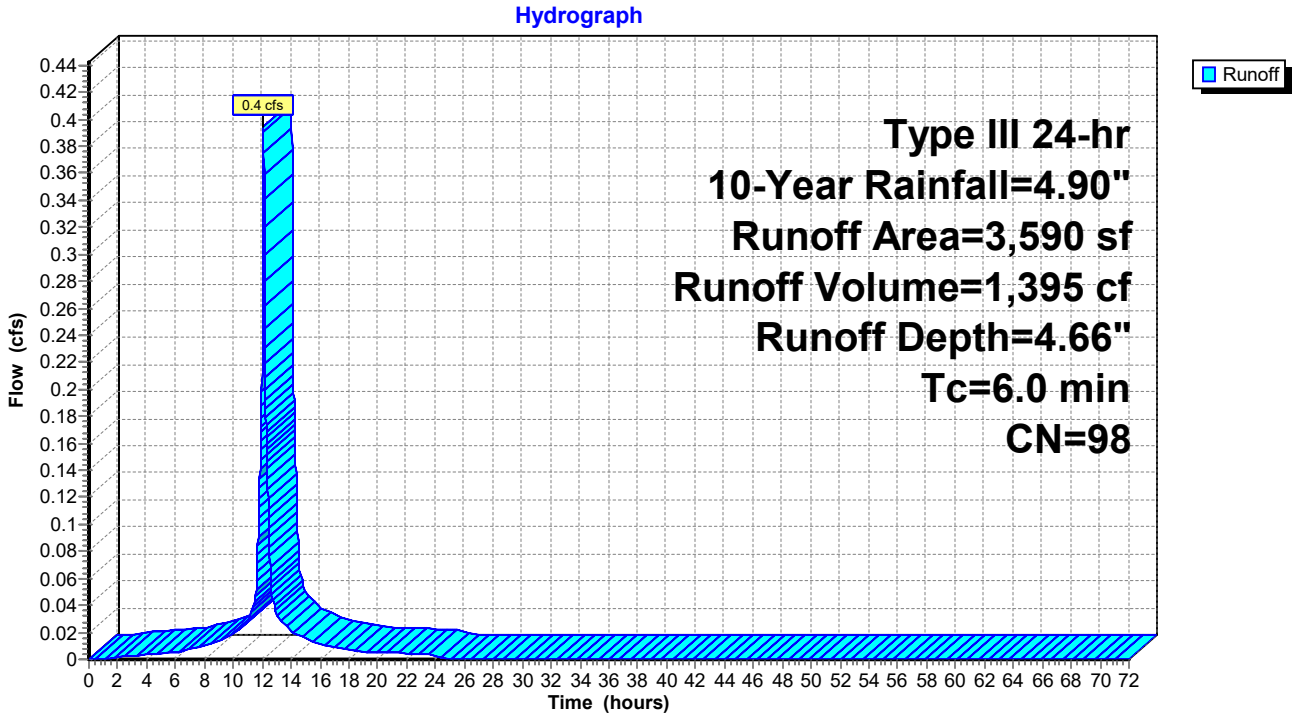
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,395 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
3,590	98	Paved roads w/curbs & sewers, HSG D
3,590		100.00% Impervious Area

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

Subcatchment S2.3: Subcatchment 2.3



Summary for Subcatchment S2.4: Subcatchment 2.4

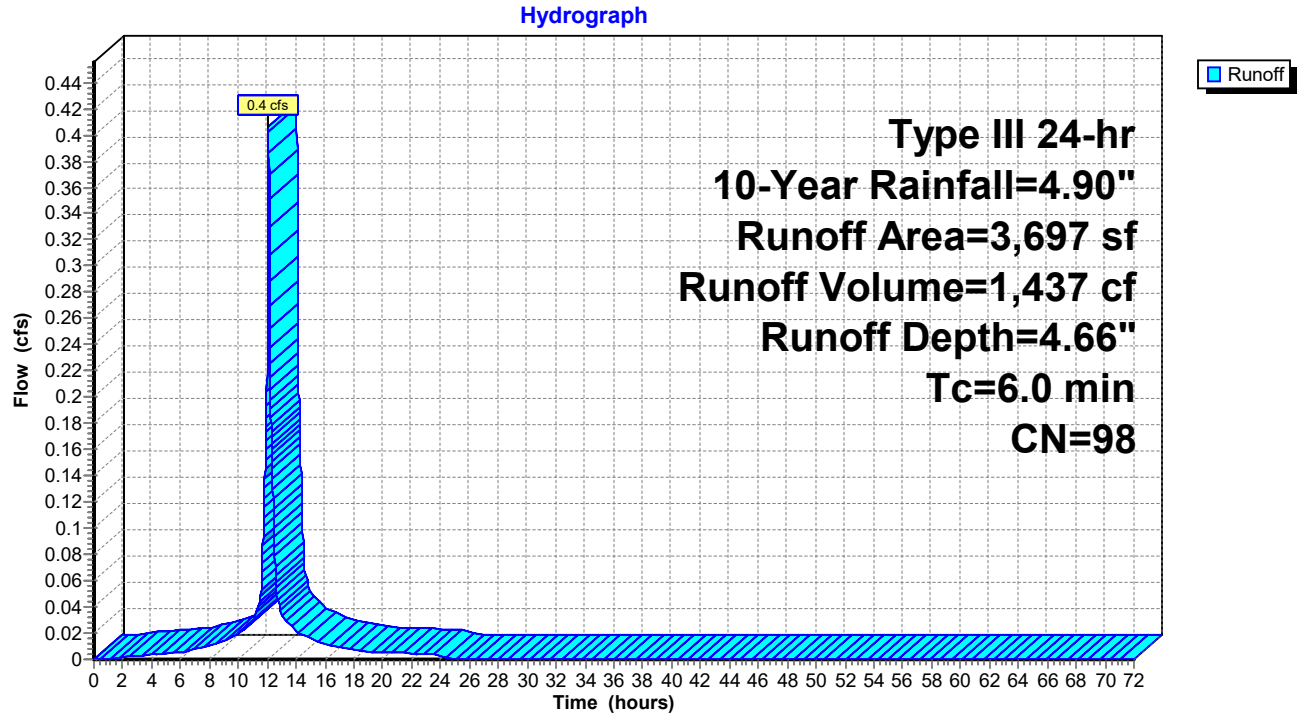
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,437 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
3,697	98	Paved roads w/curbs & sewers, HSG D
3,697		100.00% Impervious Area

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

Subcatchment S2.4: Subcatchment 2.4



Summary for Subcatchment S2.5: Subcatchment 2.5

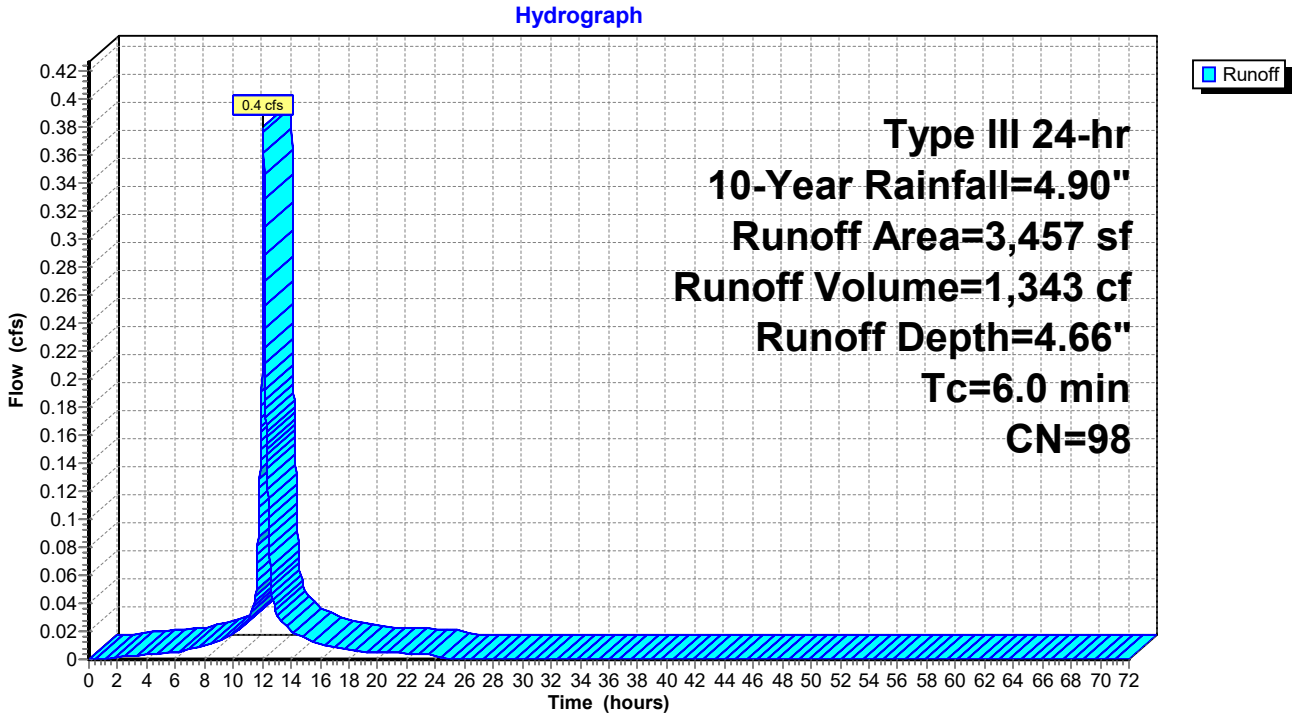
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,343 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
3,457	98	Paved roads w/curbs & sewers, HSG D
3,457		100.00% Impervious Area

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

Subcatchment S2.5: Subcatchment 2.5



Summary for Subcatchment S2.6: Subcatchment 2.6

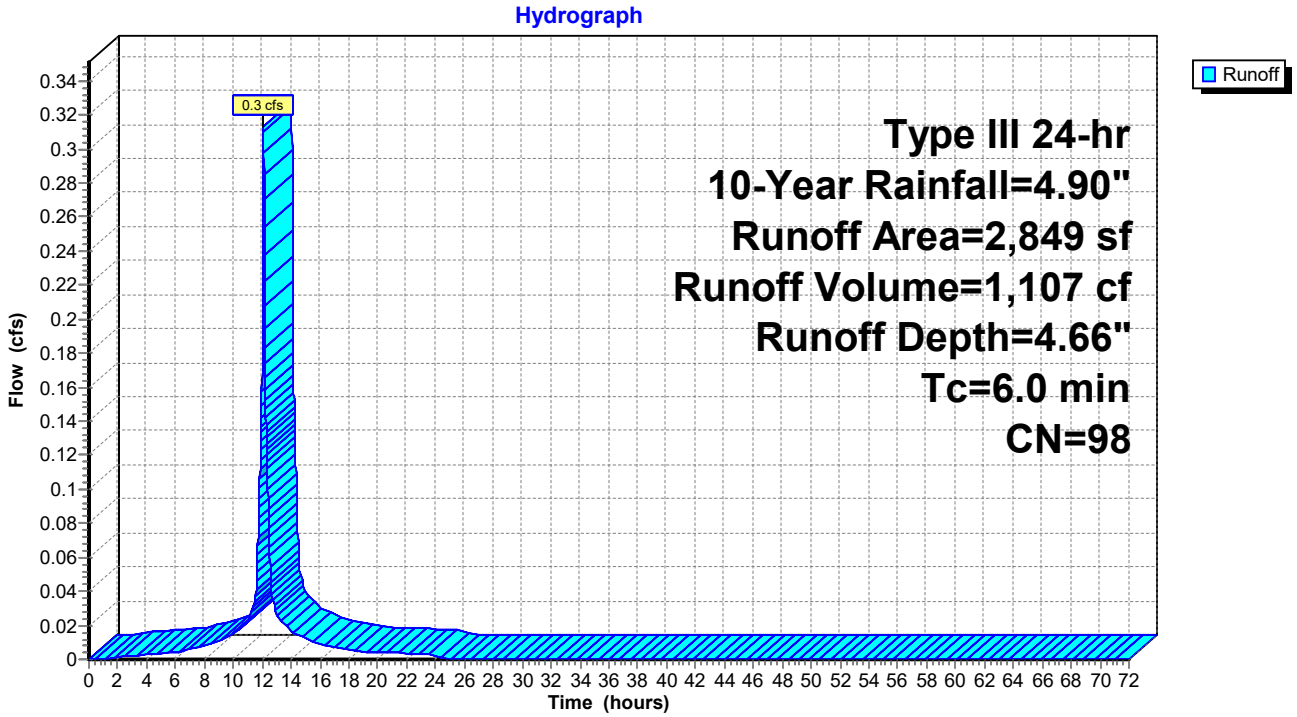
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 1,107 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
2,849	98	Paved roads w/curbs & sewers, HSG D
2,849		100.00% Impervious Area

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

Subcatchment S2.6: Subcatchment 2.6



Summary for Subcatchment S2.7: Subcatchment 2.7

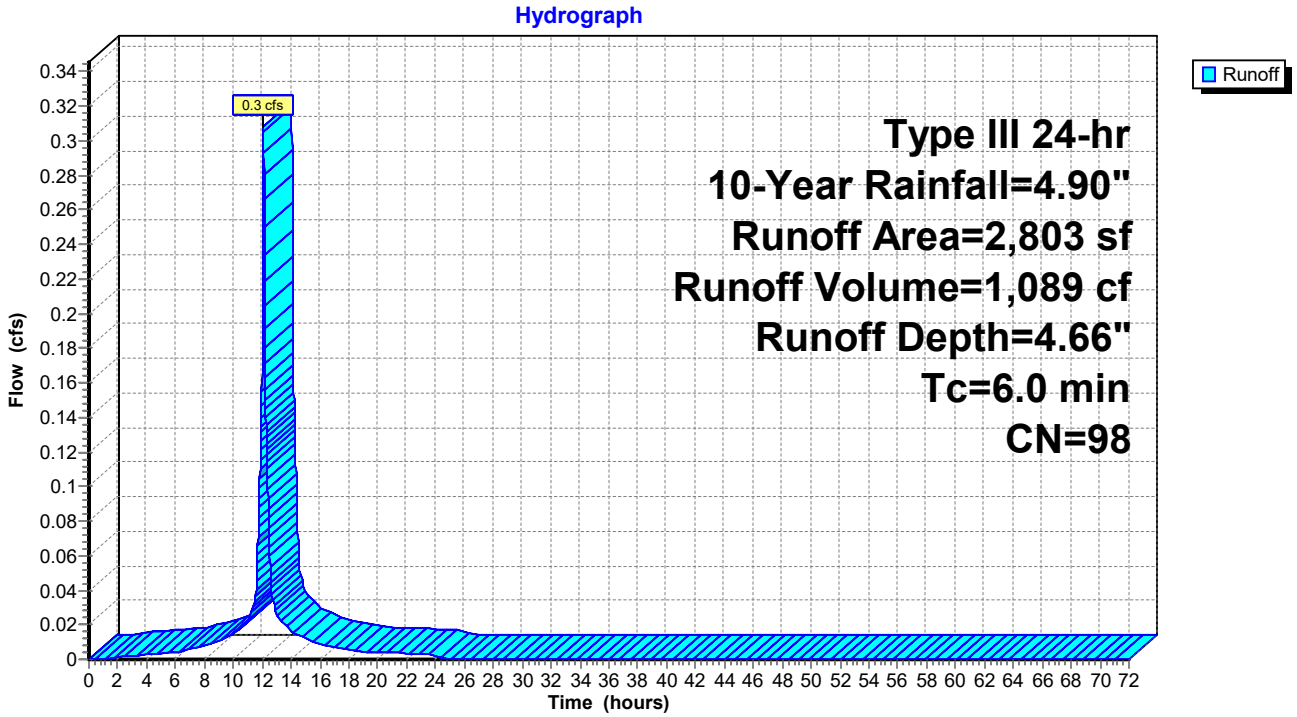
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 1,089 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
2,803	98	Paved roads w/curbs & sewers, HSG D
2,803		100.00% Impervious Area

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

Subcatchment S2.7: Subcatchment 2.7



Summary for Subcatchment S2.8: Subcatchment 2.8

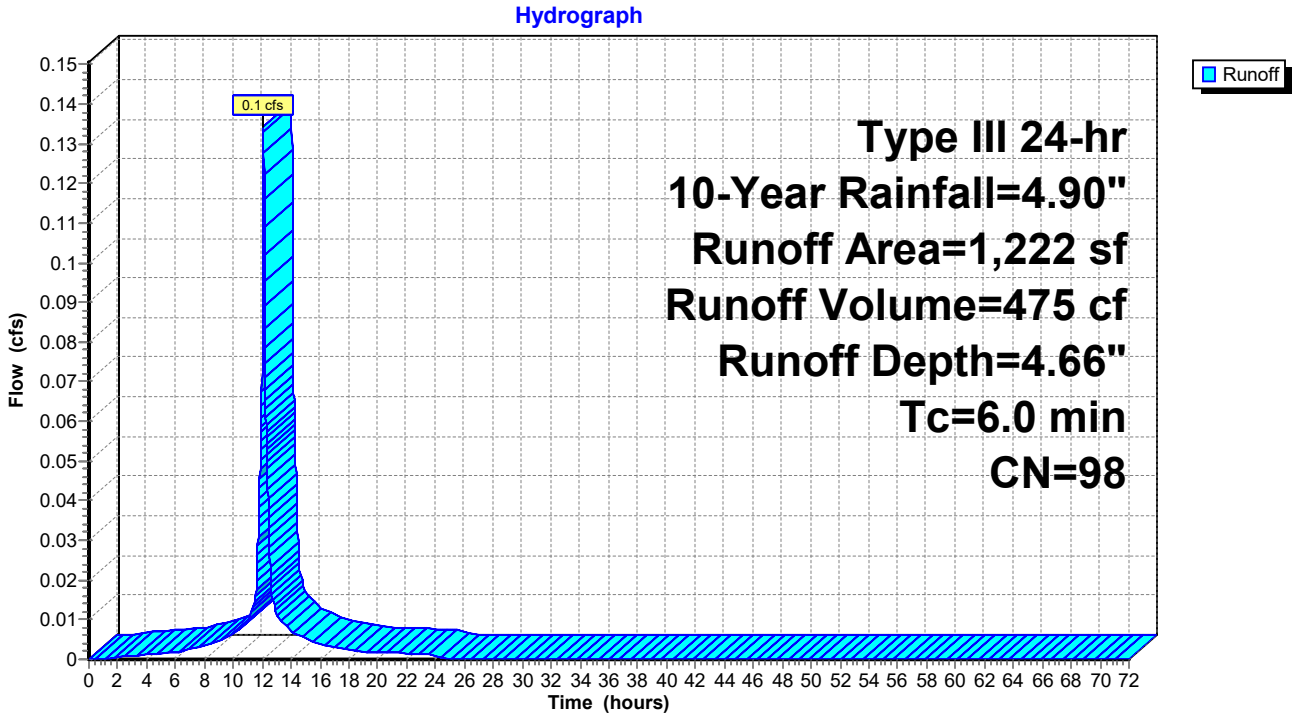
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 475 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,222	98	Paved roads w/curbs & sewers, HSG D
1,222		100.00% Impervious Area

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

Subcatchment S2.8: Subcatchment 2.8



Summary for Subcatchment S3.1: Subcatchment 3.1

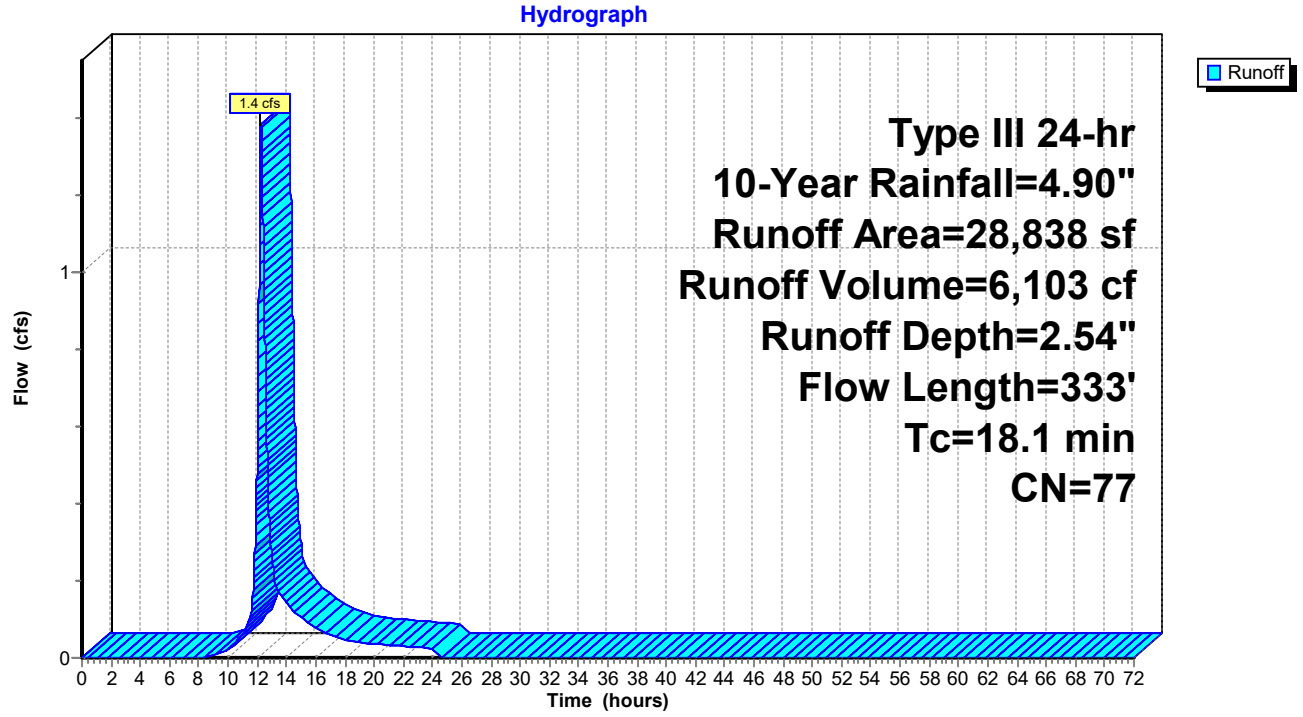
Runoff = 1.4 cfs @ 12.25 hrs, Volume= 6,103 cf, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
15,787	77	Woods, Good, HSG D
10,424	80	>75% Grass cover, Good, HSG D
1,377	39	>75% Grass cover, Good, HSG A
1,250	98	Roofs, HSG D
28,838	77	Weighted Average
27,588		95.67% Pervious Area
1,250		4.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	150	0.0130	0.16		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
1.2	102	0.0392	1.39		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.0	81	0.0740	1.36		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
18.1	333	Total			

Subcatchment S3.1: Subcatchment 3.1



Summary for Subcatchment S3.2: Subcatchment 3.2

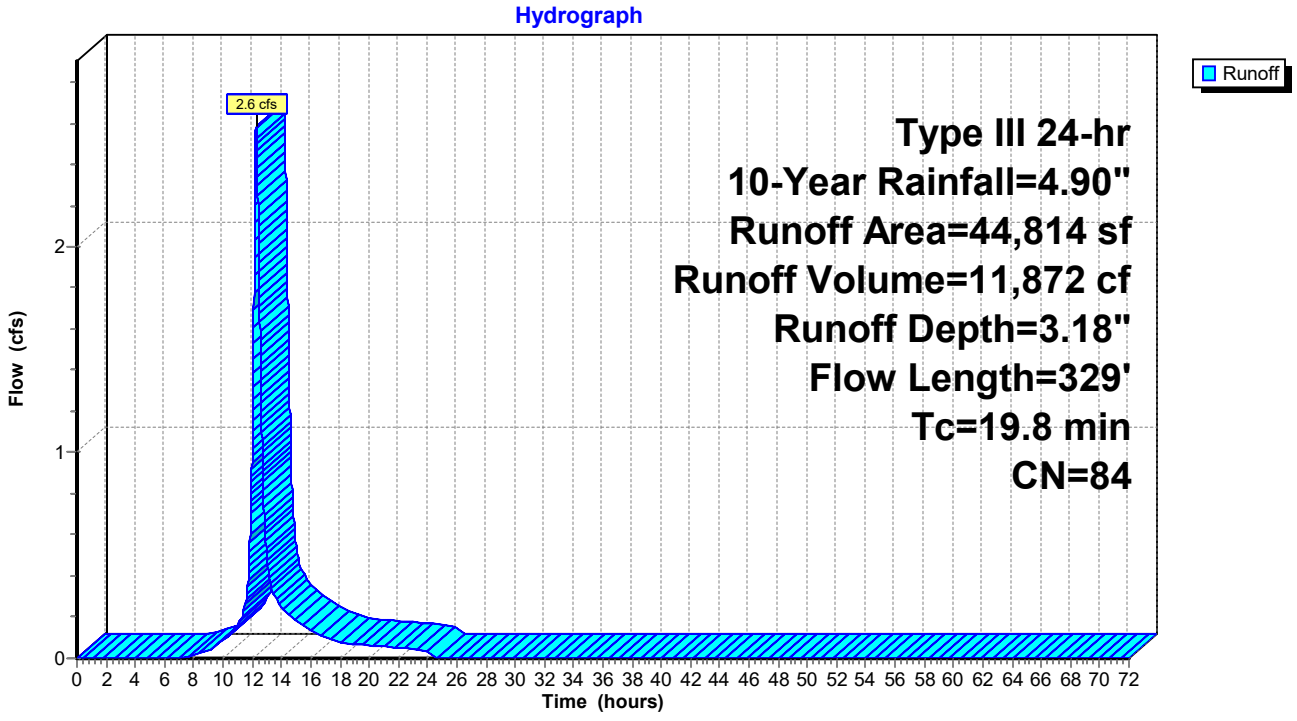
Runoff = 2.6 cfs @ 12.26 hrs, Volume= 11,872 cf, Depth= 3.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
34,169	80	>75% Grass cover, Good, HSG D
1,895	98	Paved parking, HSG D
8,750	98	Roofs, HSG D
44,814	84	Weighted Average
34,169		76.25% Pervious Area
10,645		23.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0100	0.14		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
2.2	179	0.0363	1.33		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.8	329	Total			

Subcatchment S3.2: Subcatchment 3.2



Summary for Subcatchment S4.1: Subcatchment 4.1

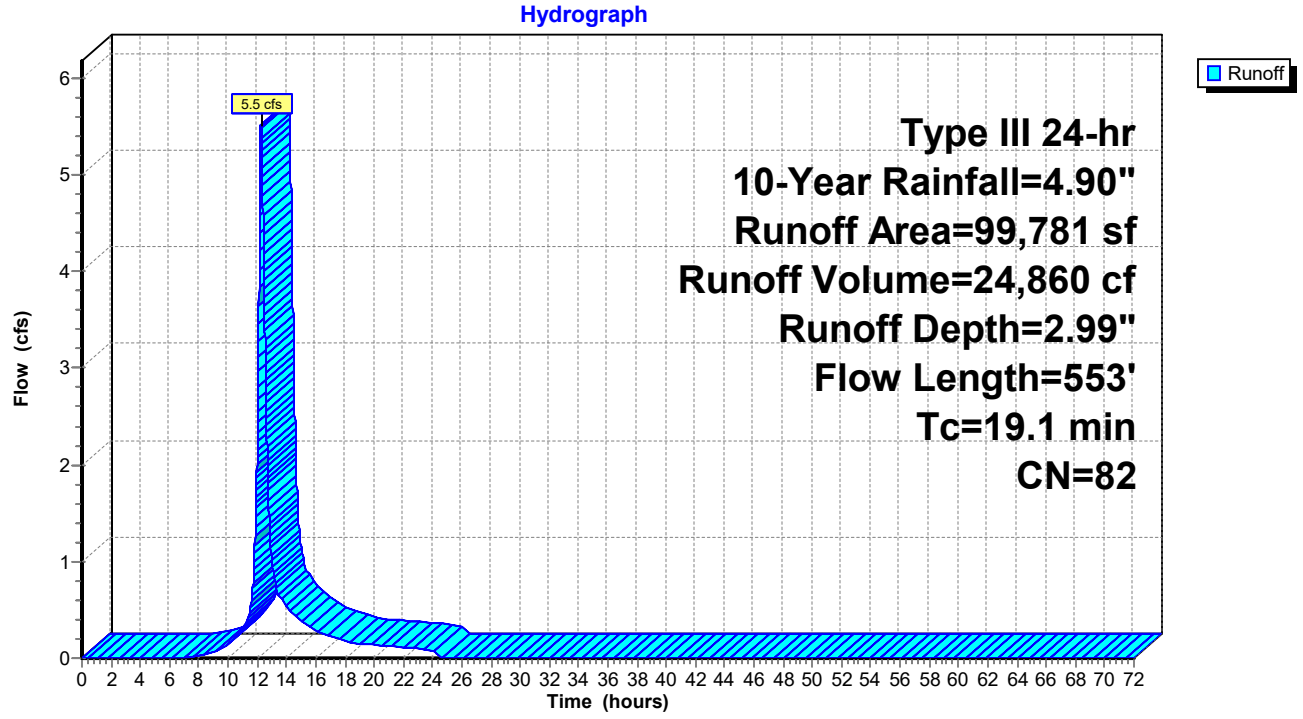
Runoff = 5.5 cfs @ 12.25 hrs, Volume= 24,860 cf, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
17,618	77	Woods, Good, HSG D
70,163	80	>75% Grass cover, Good, HSG D
12,000	98	Roofs, HSG D
99,781	82	Weighted Average
87,781		87.97% Pervious Area
12,000		12.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	150	0.0330	0.23		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
7.1	300	0.0100	0.70		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.1	103	0.0485	1.54		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.1	553	Total			

Subcatchment S4.1: Subcatchment 4.1



Summary for Subcatchment S4.10: Subcatchment 4.10

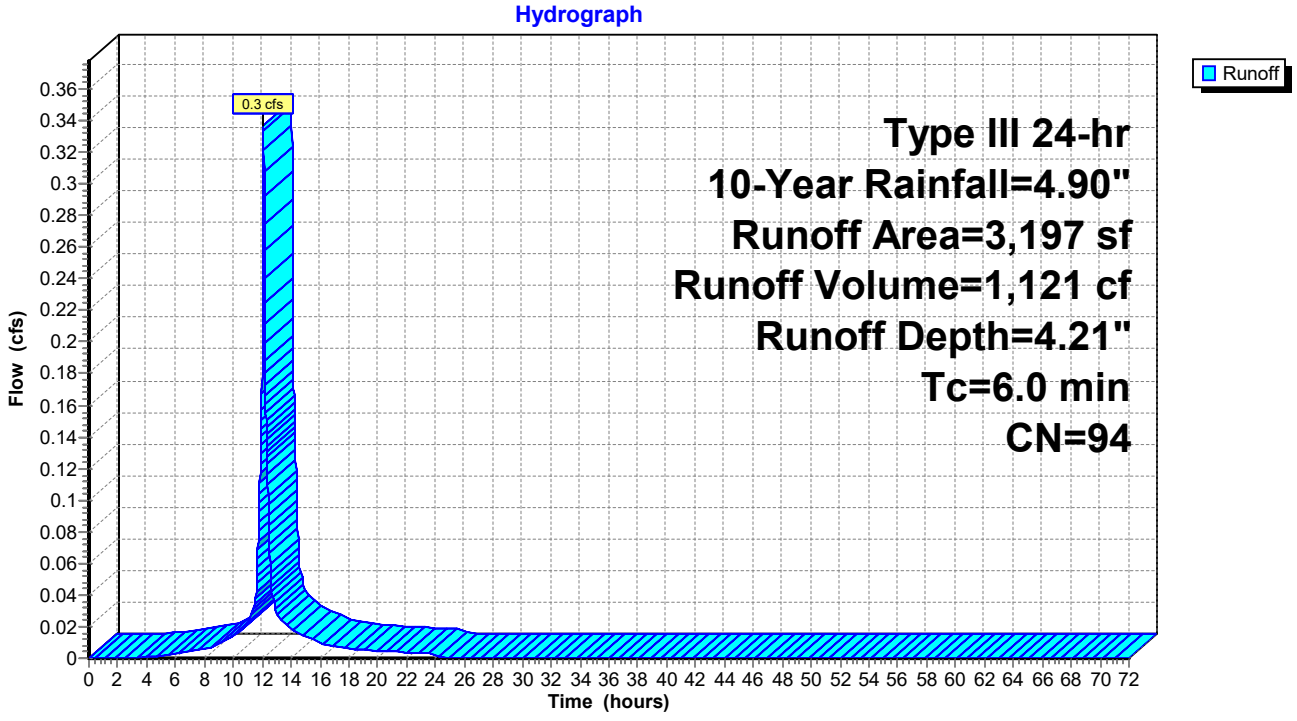
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 1,121 cf, Depth= 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
2,320	98	Paved roads w/curbs & sewers, HSG D
148	96	Gravel surface, HSG D
729	80	>75% Grass cover, Good, HSG D
3,197	94	Weighted Average
877		27.43% Pervious Area
2,320		72.57% Impervious Area

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

Subcatchment S4.10: Subcatchment 4.10



Summary for Subcatchment S4.11: Subcatchment 4.11

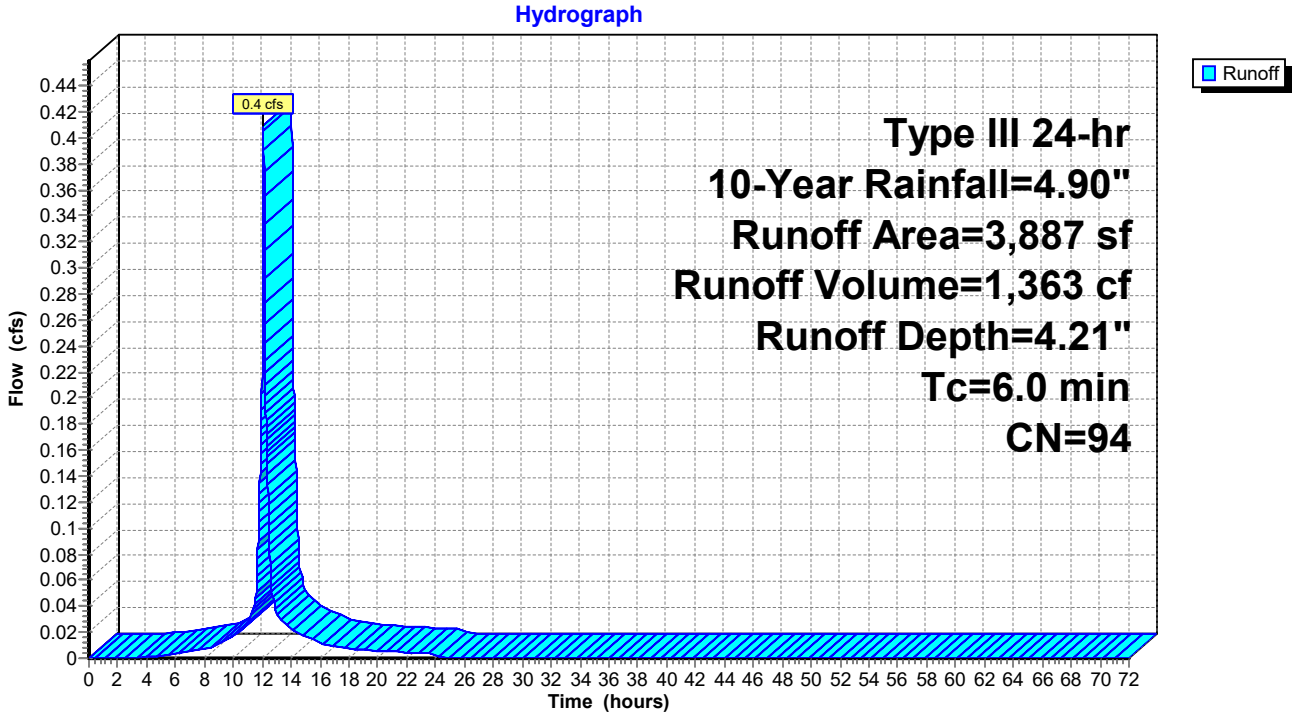
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,363 cf, Depth= 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
2,903	98	Paved roads w/curbs & sewers, HSG D
163	96	Gravel surface, HSG D
821	80	>75% Grass cover, Good, HSG D
3,887	94	Weighted Average
984		25.32% Pervious Area
2,903		74.68% Impervious Area

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

Subcatchment S4.11: Subcatchment 4.11



Summary for Subcatchment S4.12: Subcatchment 4.12

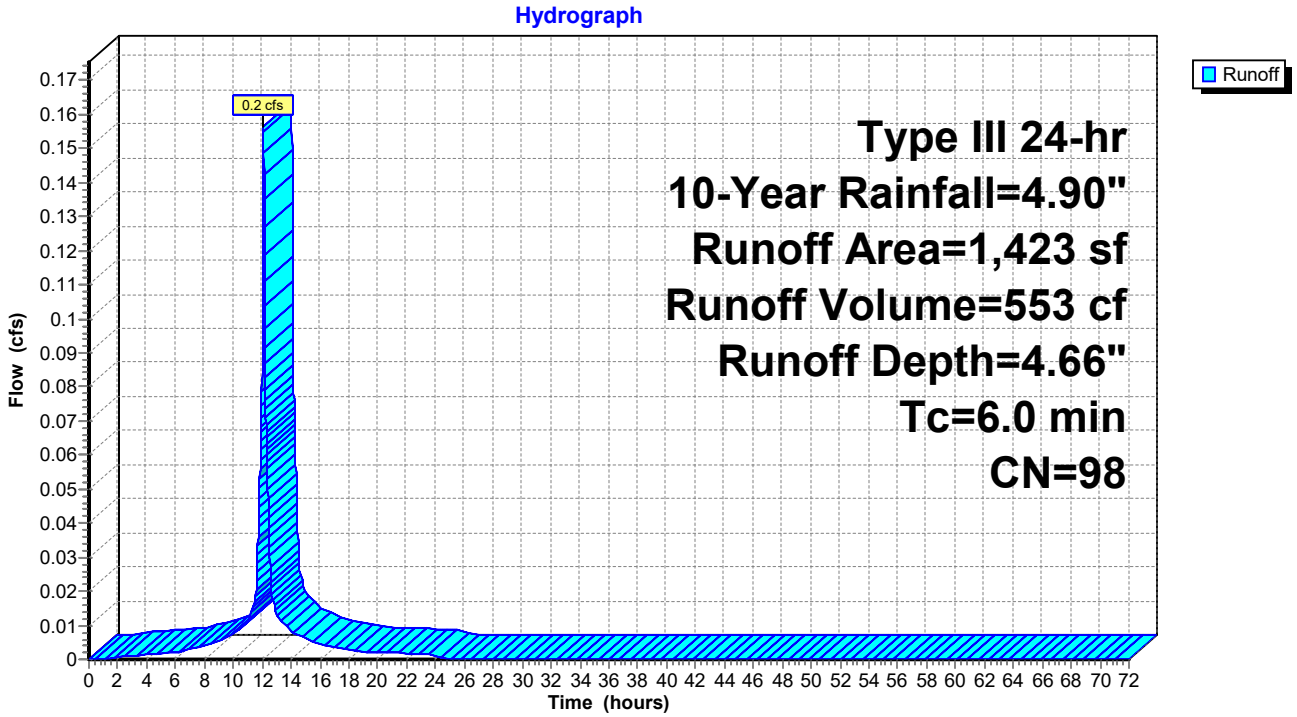
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 553 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,423	98	Paved roads w/curbs & sewers, HSG D
1,423		100.00% Impervious Area

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

Subcatchment S4.12: Subcatchment 4.12



Summary for Subcatchment S4.13: Subcatchment 4.13

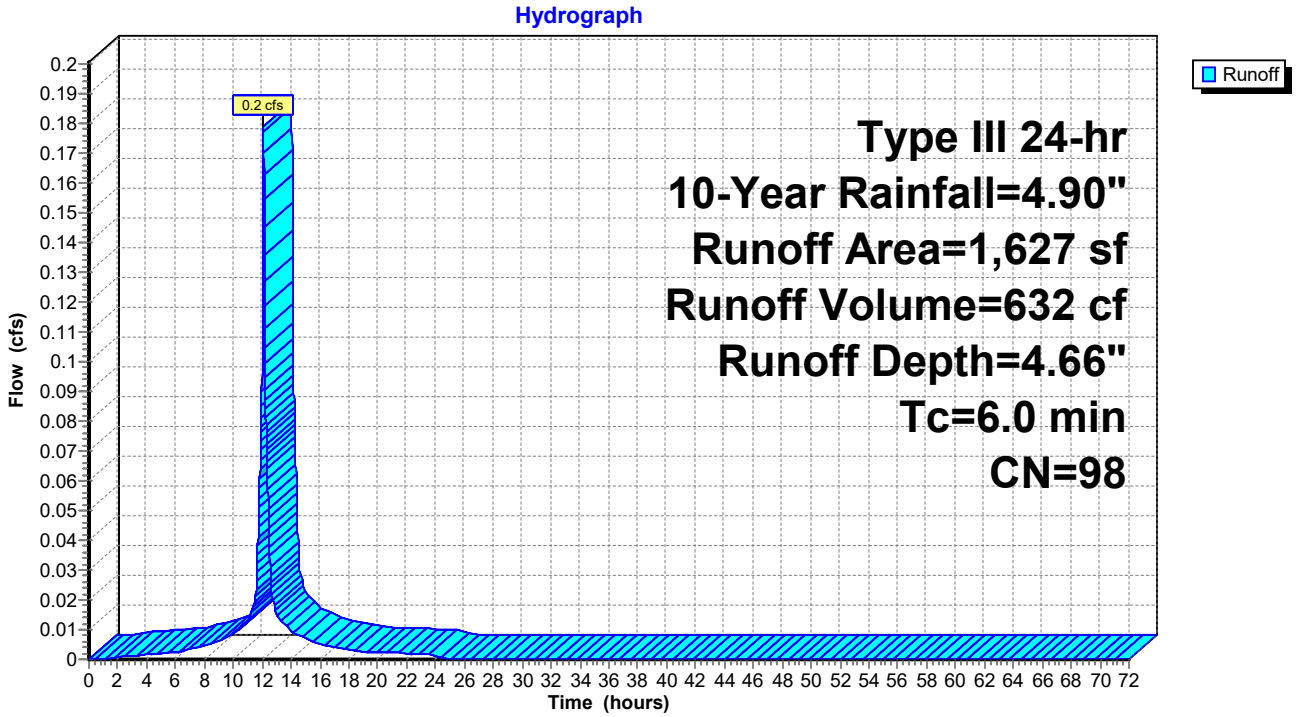
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 632 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,627	98	Paved roads w/curbs & sewers, HSG D
1,627		100.00% Impervious Area

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

Subcatchment S4.13: Subcatchment 4.13



Summary for Subcatchment S4.2: Subcatchment 4.2

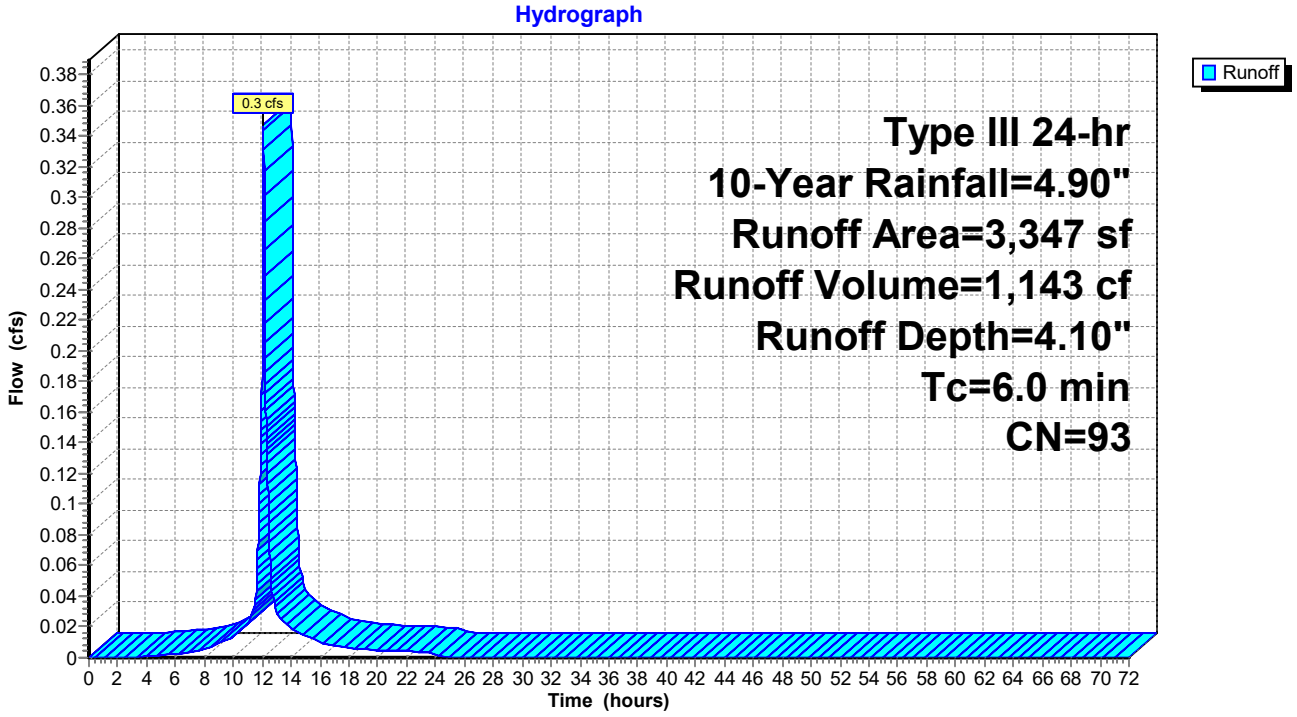
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 1,143 cf, Depth= 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
796	98	Paved parking, HSG D
74	96	Gravel surface, HSG D
754	80	>75% Grass cover, Good, HSG D
1,602	98	Paved parking, HSG A
40	39	>75% Grass cover, Good, HSG A
81	96	Gravel surface, HSG A
3,347	93	Weighted Average
949		28.35% Pervious Area
2,398		71.65% Impervious Area

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

Subcatchment S4.2: Subcatchment 4.2



Summary for Subcatchment S4.3: Subcatchment 4.3

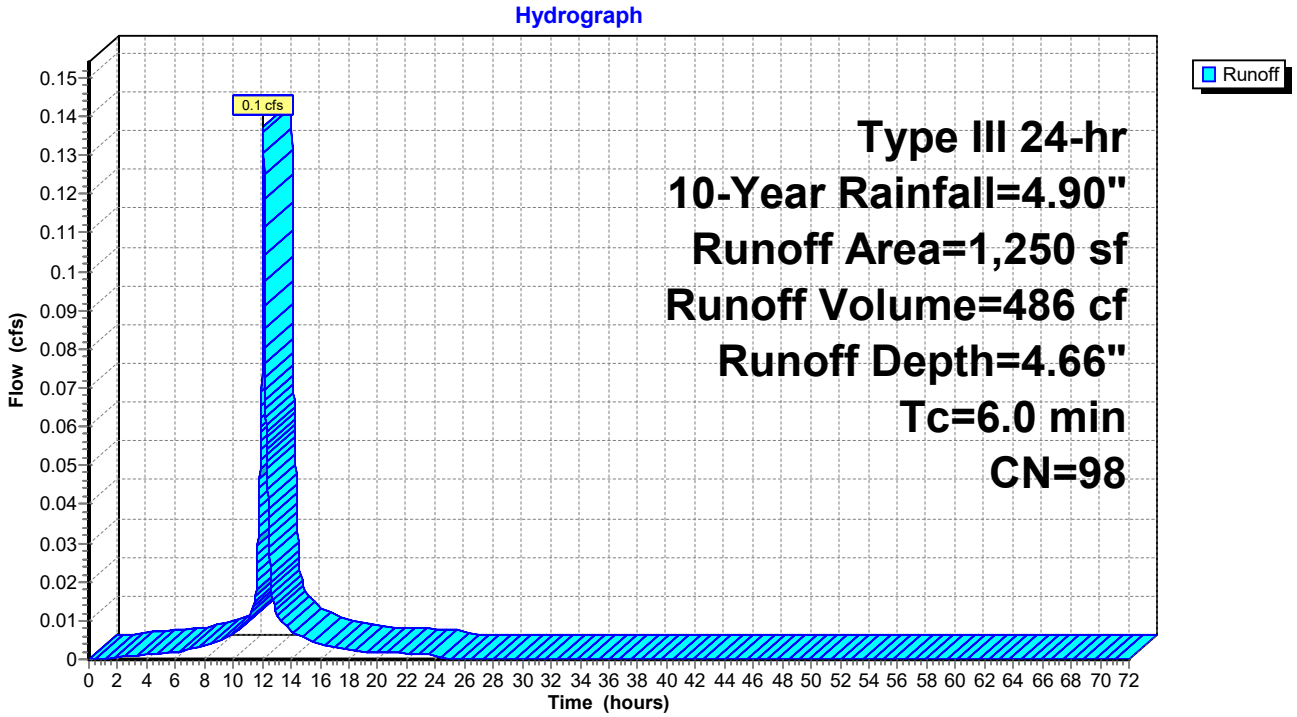
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.3: Subcatchment 4.3



Summary for Subcatchment S4.4: Subcatchment 4.4

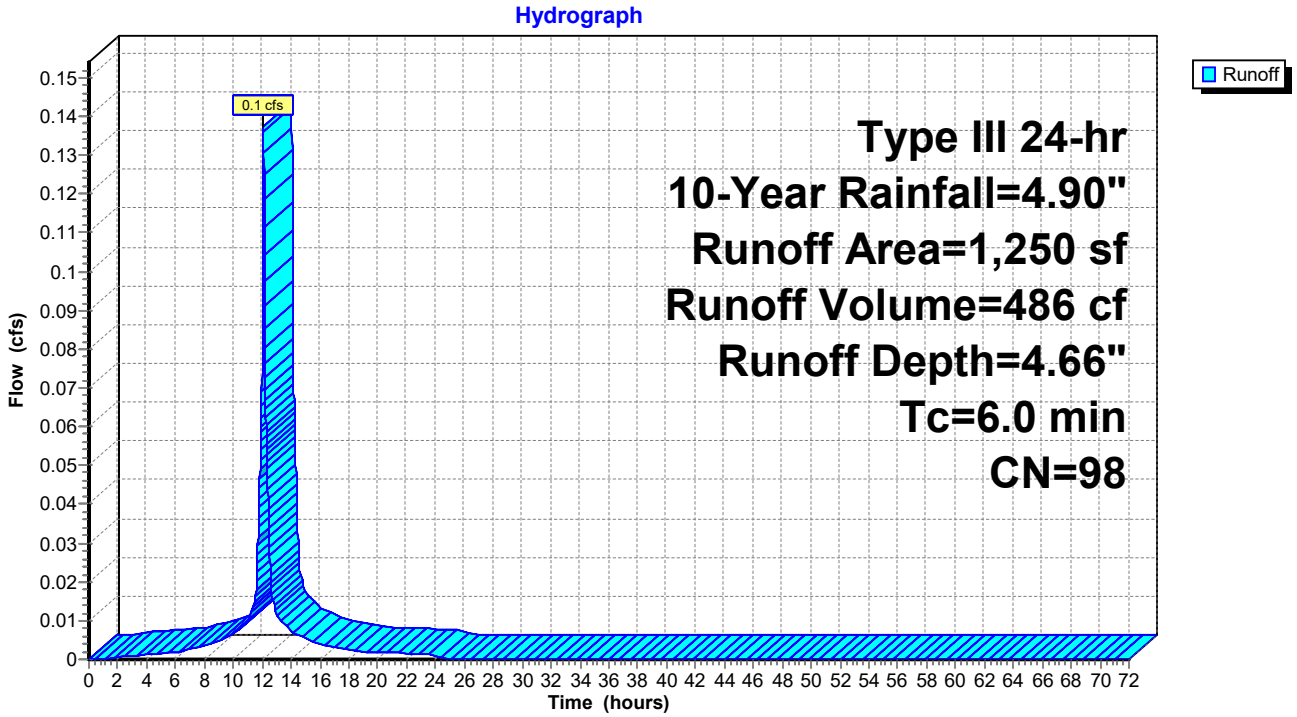
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.4: Subcatchment 4.4



Summary for Subcatchment S4.5: Subcatchment 4.5

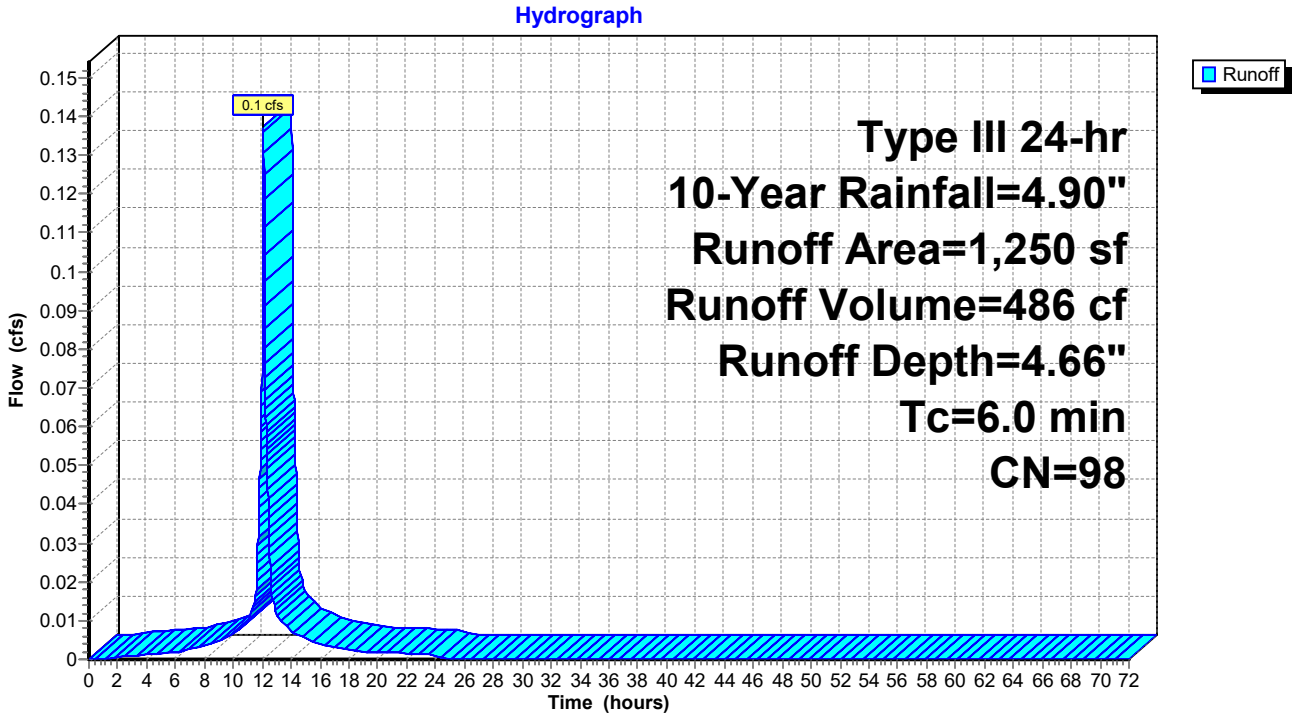
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.5: Subcatchment 4.5



Summary for Subcatchment S4.6: Subcatchment 4.6

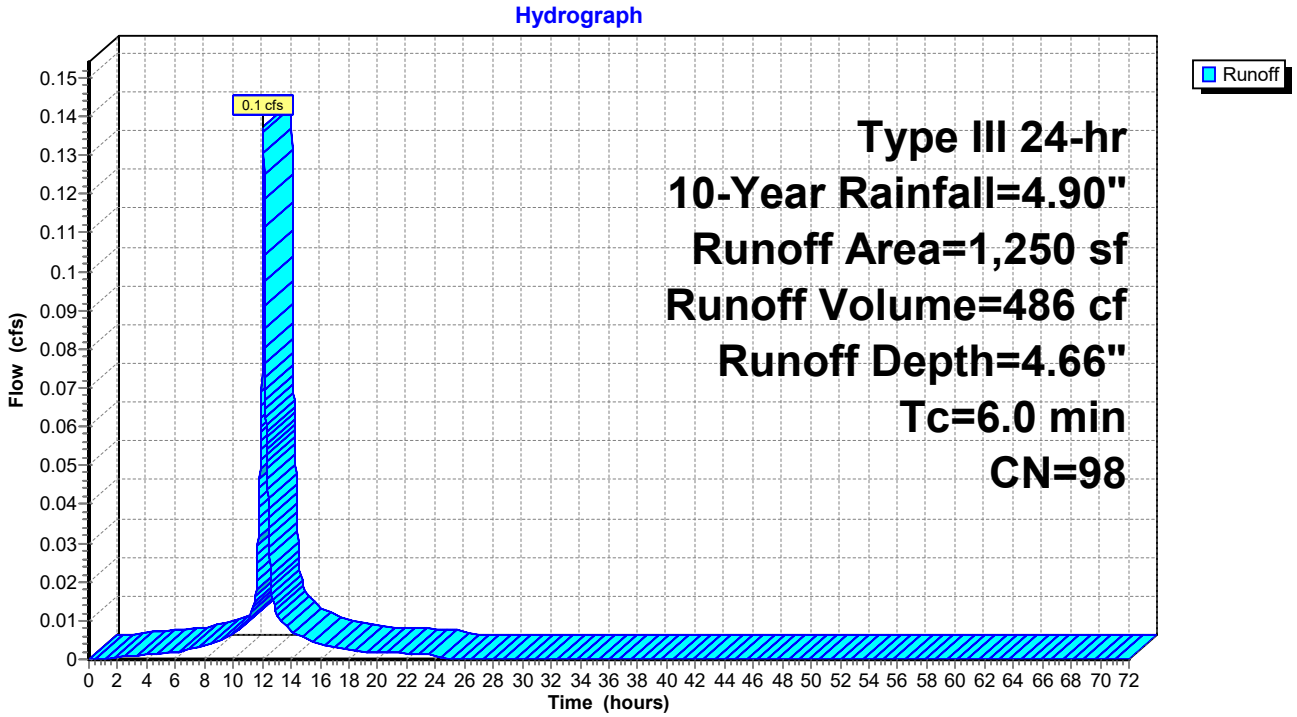
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.6: Subcatchment 4.6



Summary for Subcatchment S4.7: Subcatchment 4.7

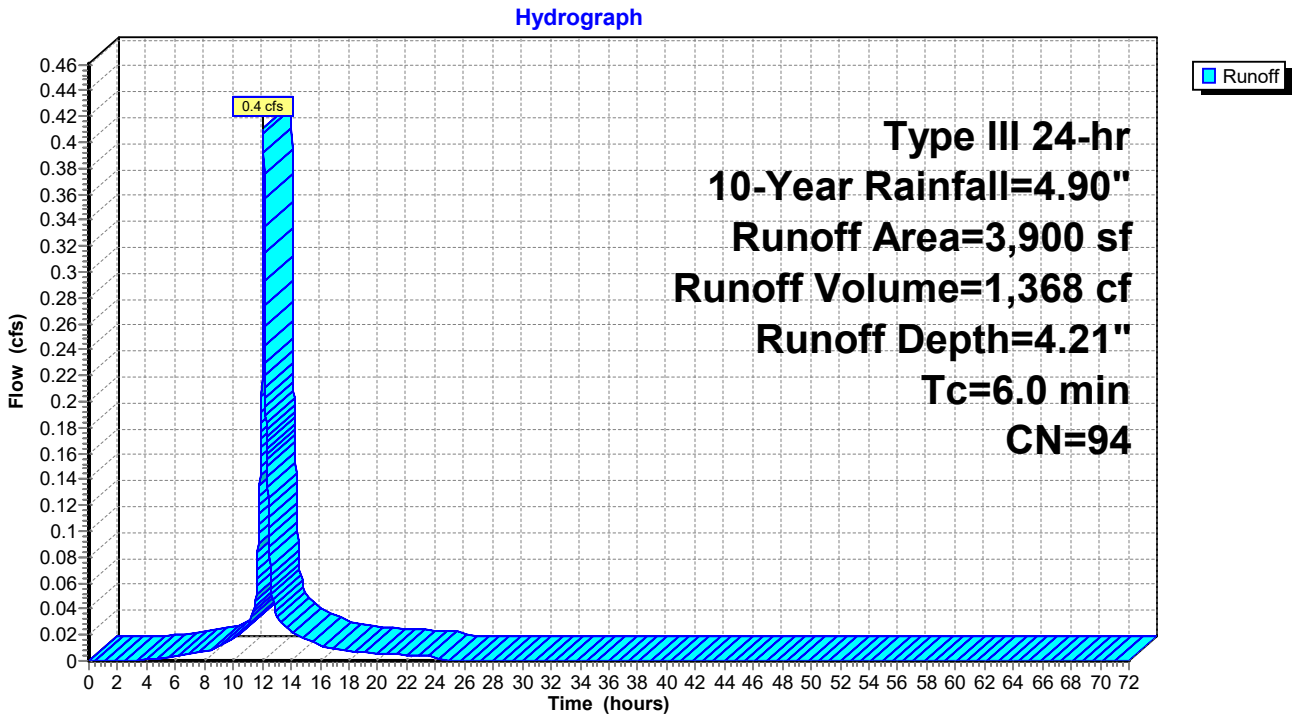
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,368 cf, Depth= 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
874	80	>75% Grass cover, Good, HSG D
166	96	Gravel surface, HSG D
297	98	Paved roads w/curbs & sewers, HSG A
2,563	98	Paved roads w/curbs & sewers, HSG D
3,900	94	Weighted Average
1,040		26.67% Pervious Area
2,860		73.33% Impervious Area

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

Subcatchment S4.7: Subcatchment 4.7



Summary for Subcatchment S4.8: Subcatchment 4.8

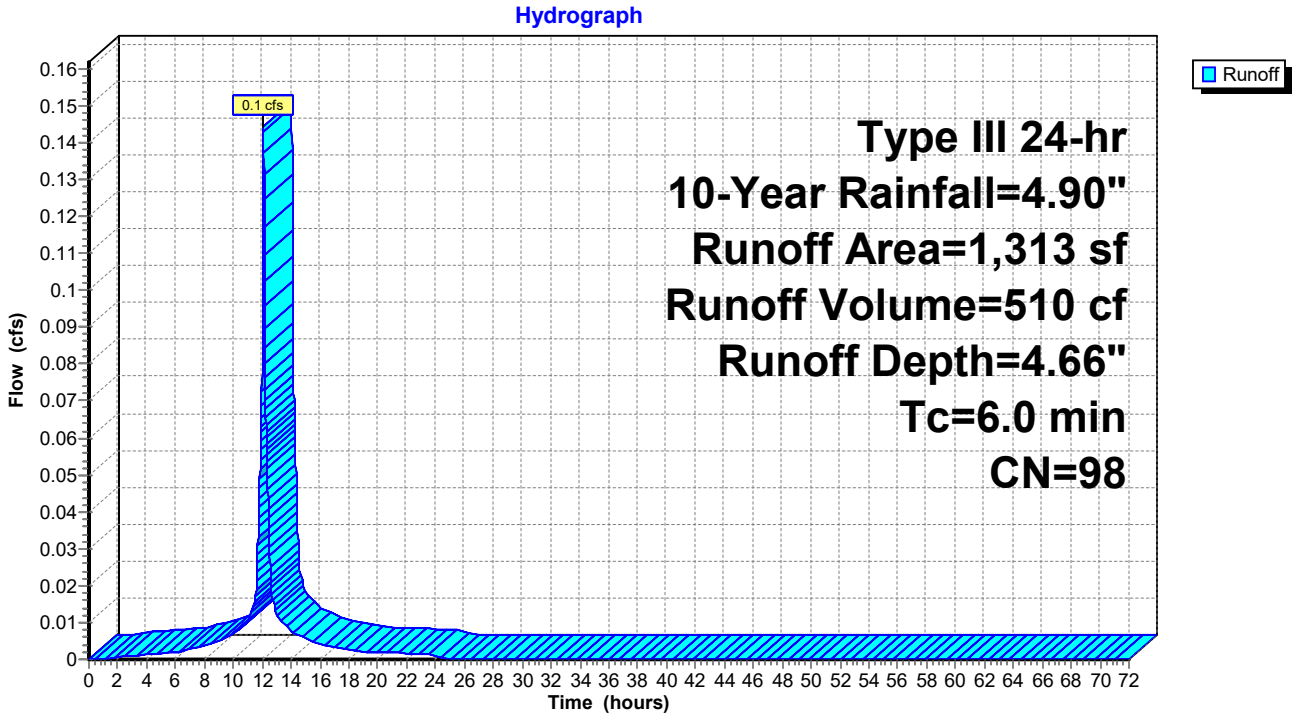
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 510 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,313	98	Paved roads w/curbs & sewers, HSG D
1,313		100.00% Impervious Area

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

Subcatchment S4.8: Subcatchment 4.8



Summary for Subcatchment S4.9: Subcatchment 4.9

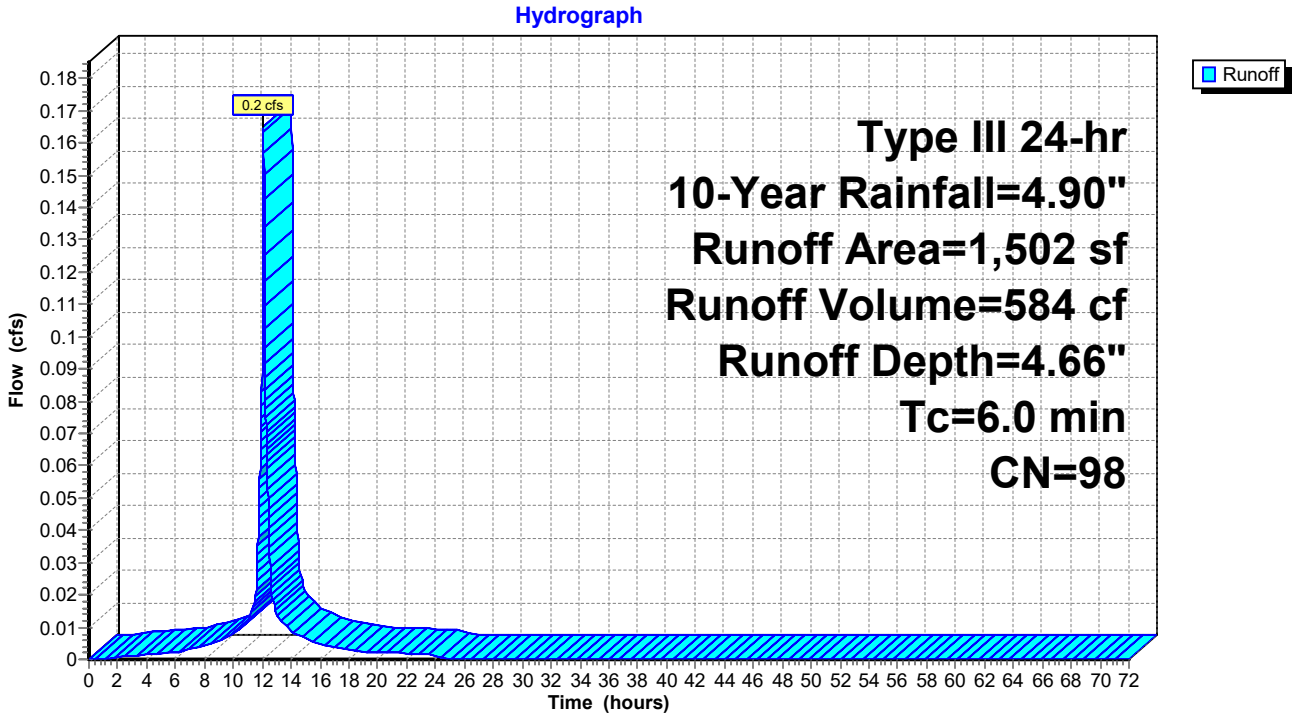
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 584 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,502	98	Paved roads w/curbs & sewers, HSG D
1,502		100.00% Impervious Area

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

Subcatchment S4.9: Subcatchment 4.9



Summary for Subcatchment S5.1: Subcatchment 5.1

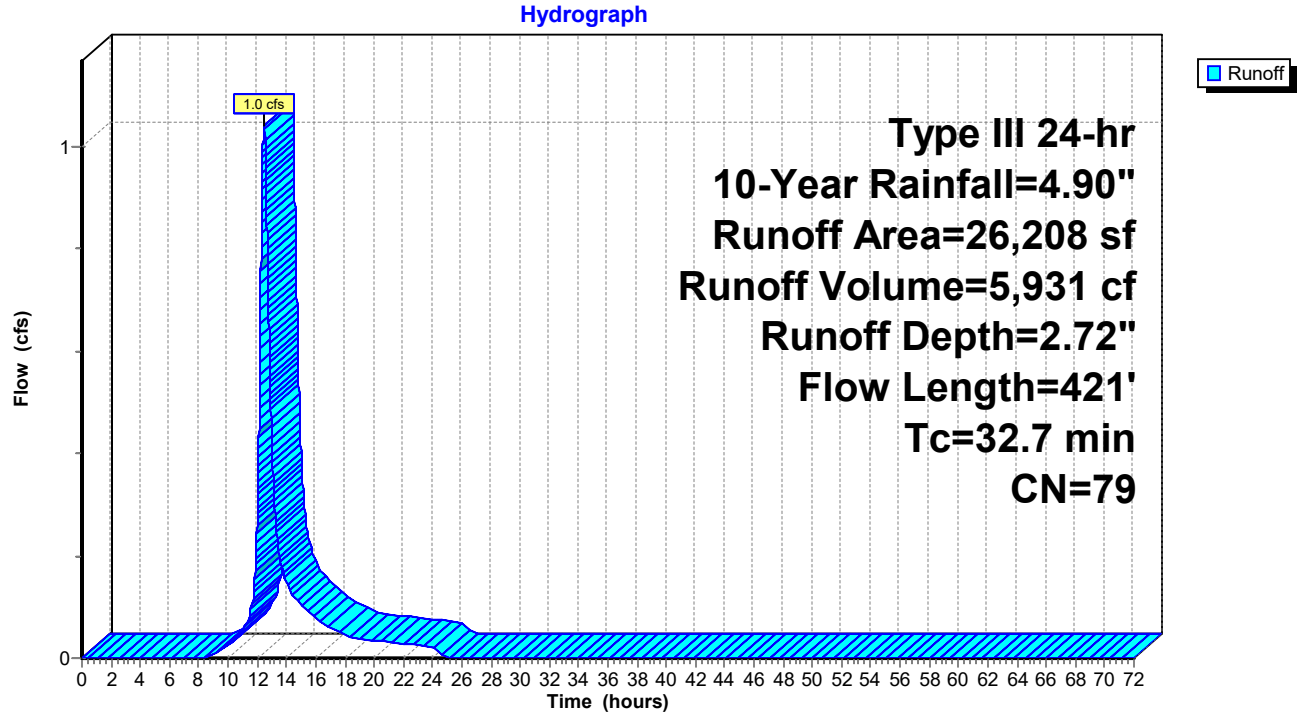
Runoff = 1.0 cfs @ 12.46 hrs, Volume= 5,931 cf, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
12,258	77	Woods, Good, HSG D
13,250	80	>75% Grass cover, Good, HSG D
700	98	Roofs, HSG D
26,208	79	Weighted Average
25,508		97.33% Pervious Area
700		2.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	150	0.0267	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
1.8	53	0.0100	0.50		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
4.8	218	0.0229	0.76		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
32.7	421	Total			

Subcatchment S5.1: Subcatchment 5.1



Summary for Subcatchment S5.2: Subcatchment 5.2

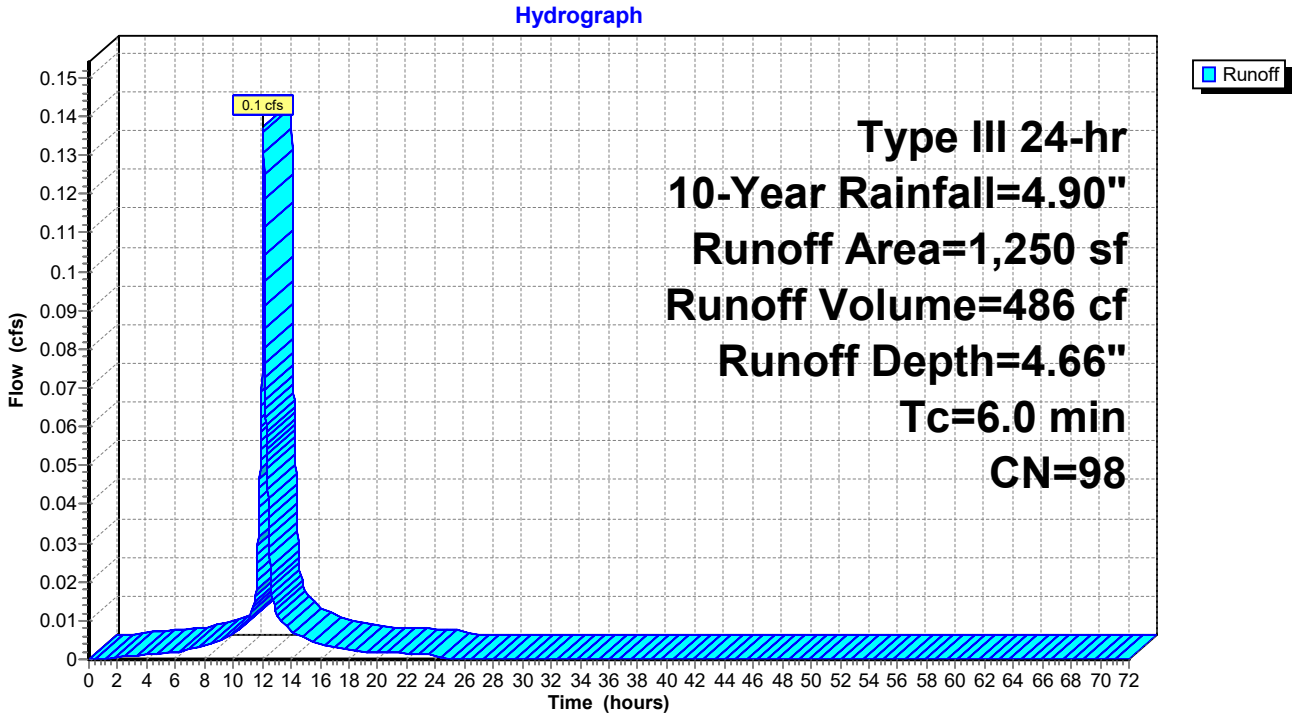
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.2: Subcatchment 5.2



Summary for Subcatchment S5.3: Subcatchment 5.3

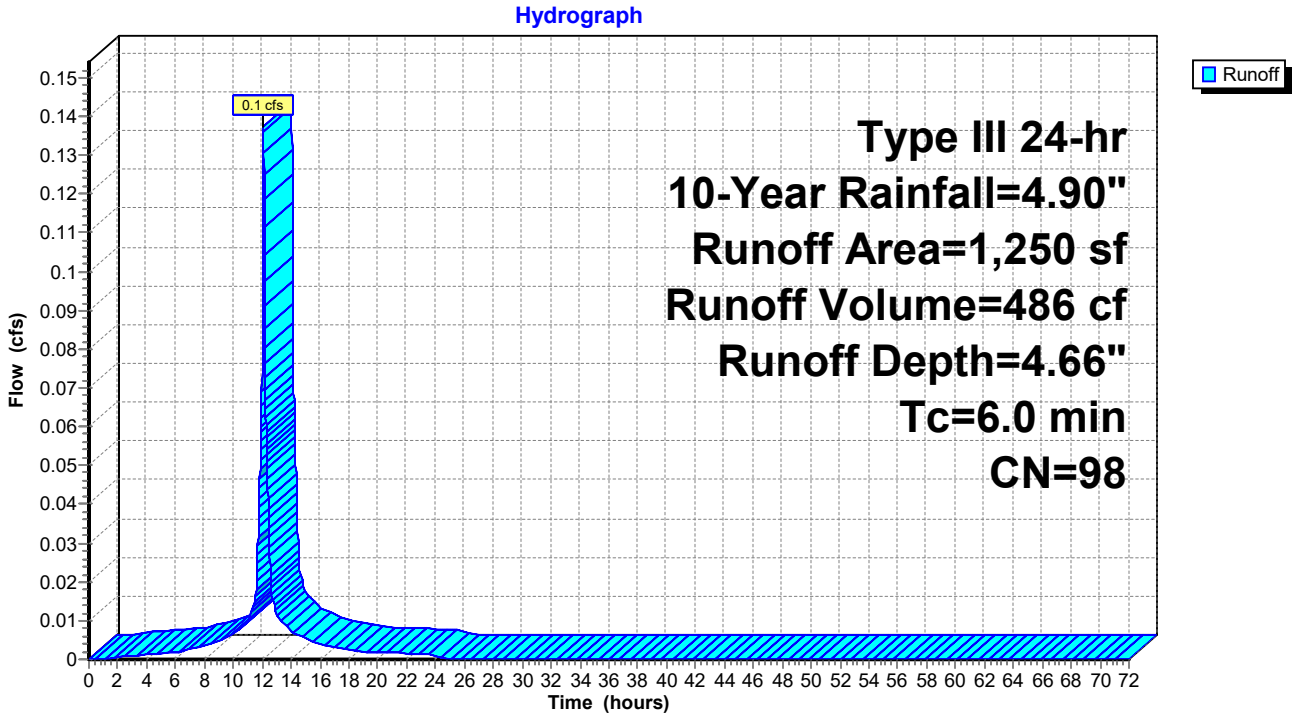
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.3: Subcatchment 5.3



Summary for Subcatchment S5.4: Subcatchment 5.4

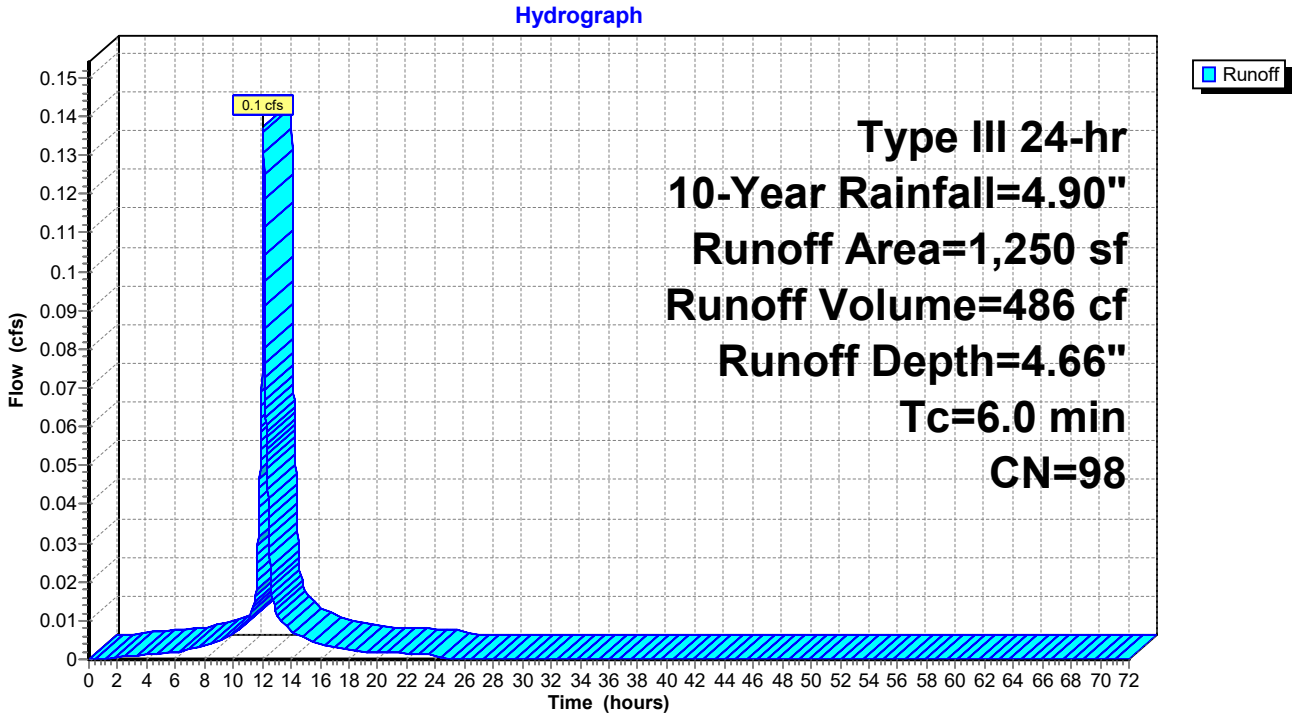
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.4: Subcatchment 5.4



Summary for Reach S1: Swale 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 3.18" for 10-Year event
Inflow = 2.6 cfs @ 12.26 hrs, Volume= 11,872 cf
Outflow = 2.6 cfs @ 12.28 hrs, Volume= 11,872 cf, Atten= 0%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.23 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 0.64 fps, Avg. Travel Time= 4.6 min

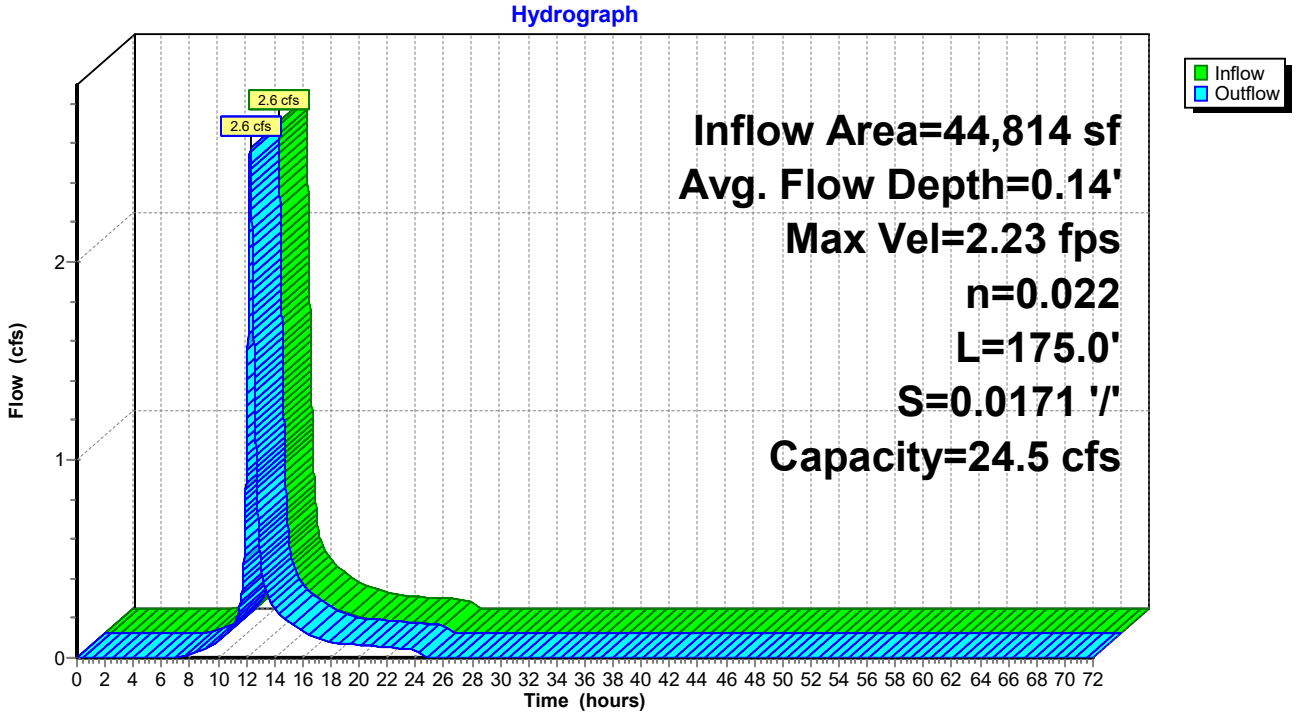
Peak Storage= 202 cf @ 12.28 hrs
Average Depth at Peak Storage= 0.14' , Surface Width= 9.08'
Bank-Full Depth= 0.50' Flow Area= 5.0 sf, Capacity= 24.5 cfs

8.00' x 0.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 4.0 '/' Top Width= 12.00'
Length= 175.0' Slope= 0.0171 '/'
Inlet Invert= 69.00', Outlet Invert= 66.00'



‡

Reach S1: Swale 1



Summary for Pond C1: Culvert 1

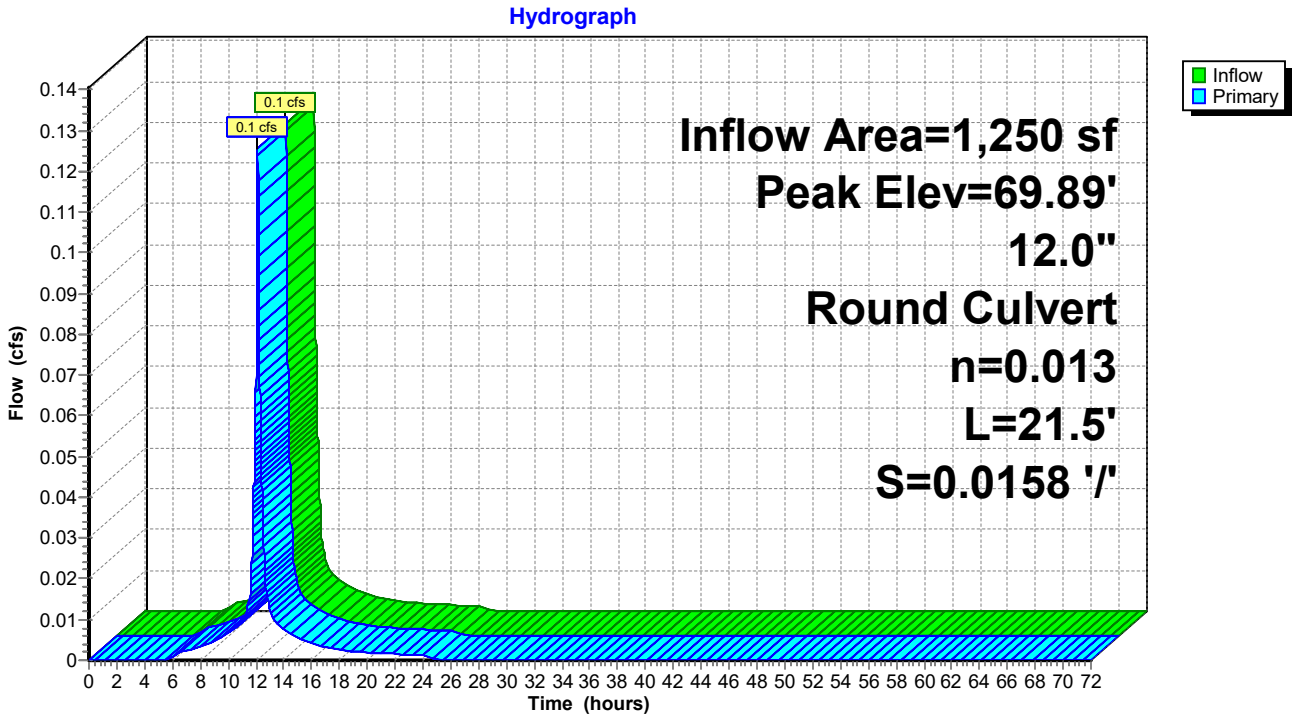
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.50" for 10-Year event
Inflow = 0.1 cfs @ 12.11 hrs, Volume= 469 cf
Outflow = 0.1 cfs @ 12.11 hrs, Volume= 469 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.11 hrs, Volume= 469 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.89' @ 12.12 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 21.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0158 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.11 hrs HW=69.89' TW=69.68' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 1.73 fps)

Pond C1: Culvert 1



Summary for Pond C10: Culvert 10

[57] Hint: Peaked at 69.52' (Flood elevation advised)

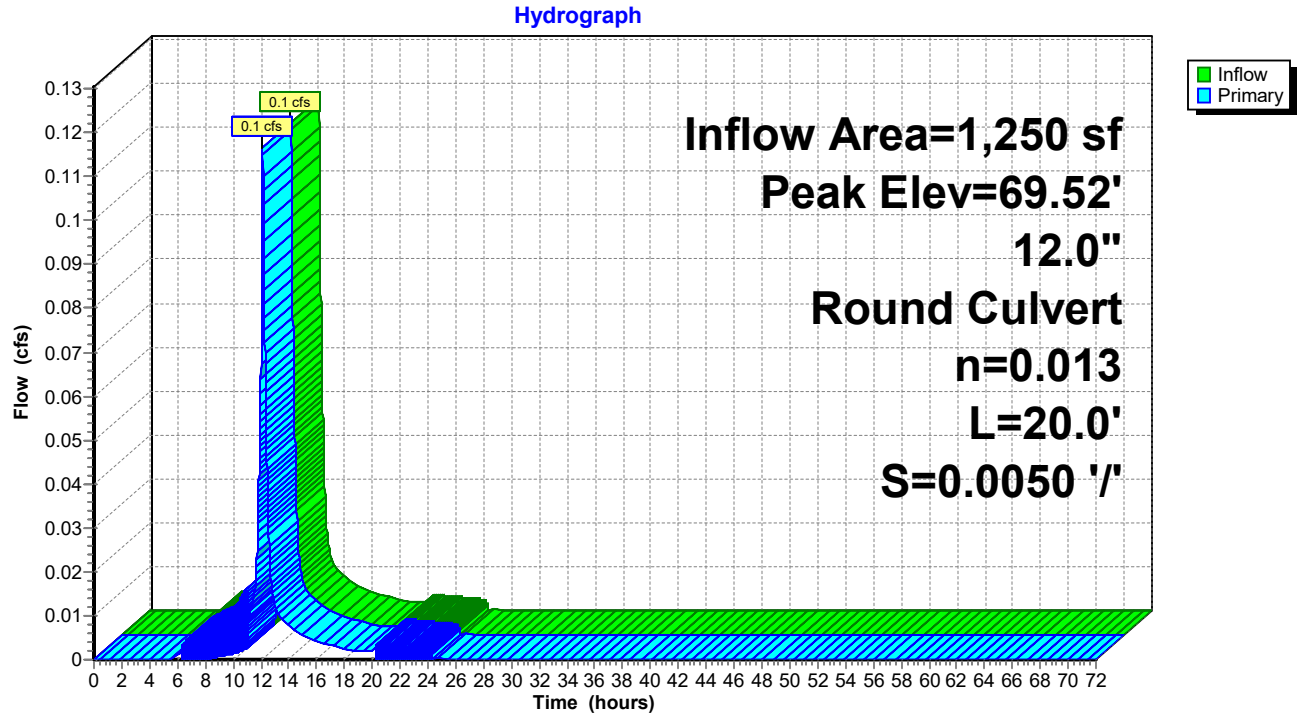
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.51" for 10-Year event
Inflow = 0.1 cfs @ 12.13 hrs, Volume= 469 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 469 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 469 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.52' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**12.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.13' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.52' TW=69.47' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 0.95 fps)

Pond C10: Culvert 10



Summary for Pond C11: Culvert 11

[57] Hint: Peaked at 69.47' (Flood elevation advised)

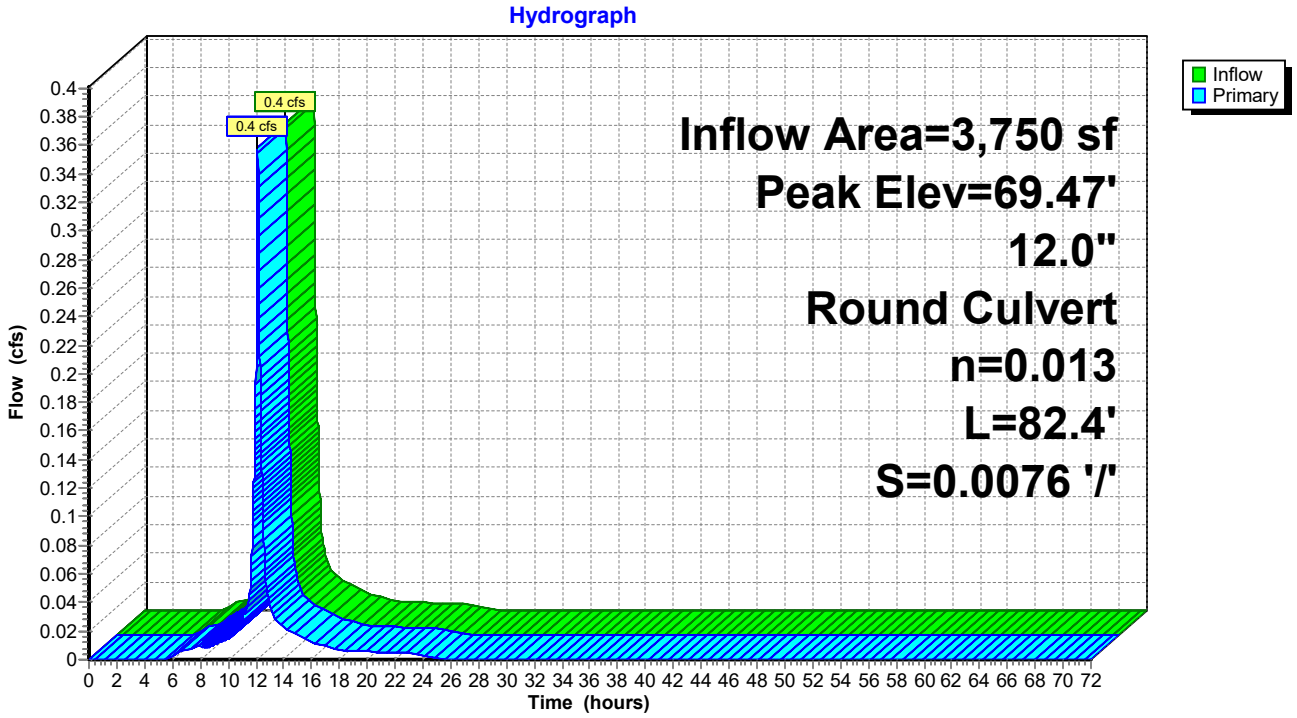
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 4.50" for 10-Year event
Inflow = 0.4 cfs @ 12.12 hrs, Volume= 1,406 cf
Outflow = 0.4 cfs @ 12.12 hrs, Volume= 1,406 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.12 hrs, Volume= 1,406 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.47' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.13'	**12.0" Round Culvert** L= 82.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.13' / 68.50' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.12 hrs HW=69.47' TW=68.89' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.4 cfs @ 2.29 fps)

Pond C11: Culvert 11



Summary for Pond C2: Culvert 2

[57] Hint: Peaked at 69.68' (Flood elevation advised)
[80] Warning: Exceeded Pond RD2 by 0.01' @ 5.73 hrs (0.0 cfs 157 cf)

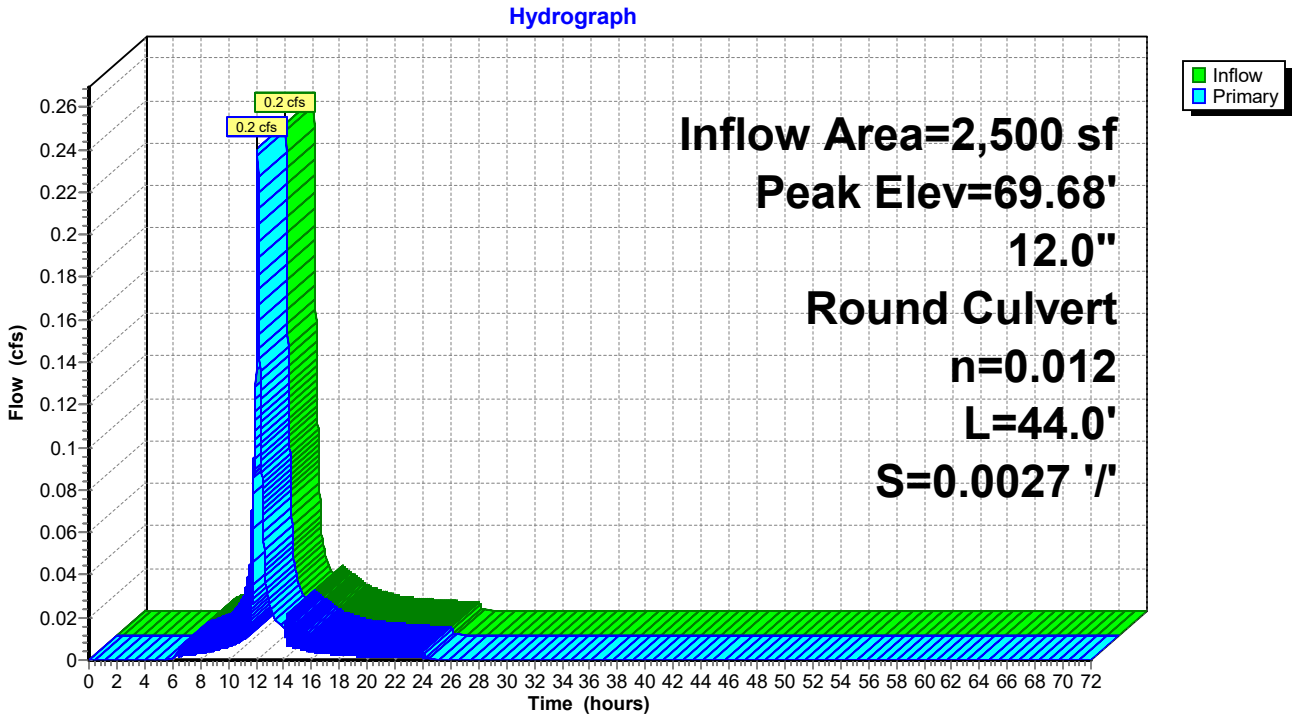
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	4.50"	for	10-Year event
Inflow =	0.2 cfs @ 12.12 hrs,	Volume=	937 cf		
Outflow =	0.2 cfs @ 12.12 hrs,	Volume=	937 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.2 cfs @ 12.12 hrs,	Volume=	937 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.68' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.23' S= 0.0027 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.68' TW=69.51' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.2 cfs @ 1.58 fps)

Pond C2: Culvert 2



Summary for Pond C3: Culvert 3

[57] Hint: Peaked at 69.51' (Flood elevation advised)

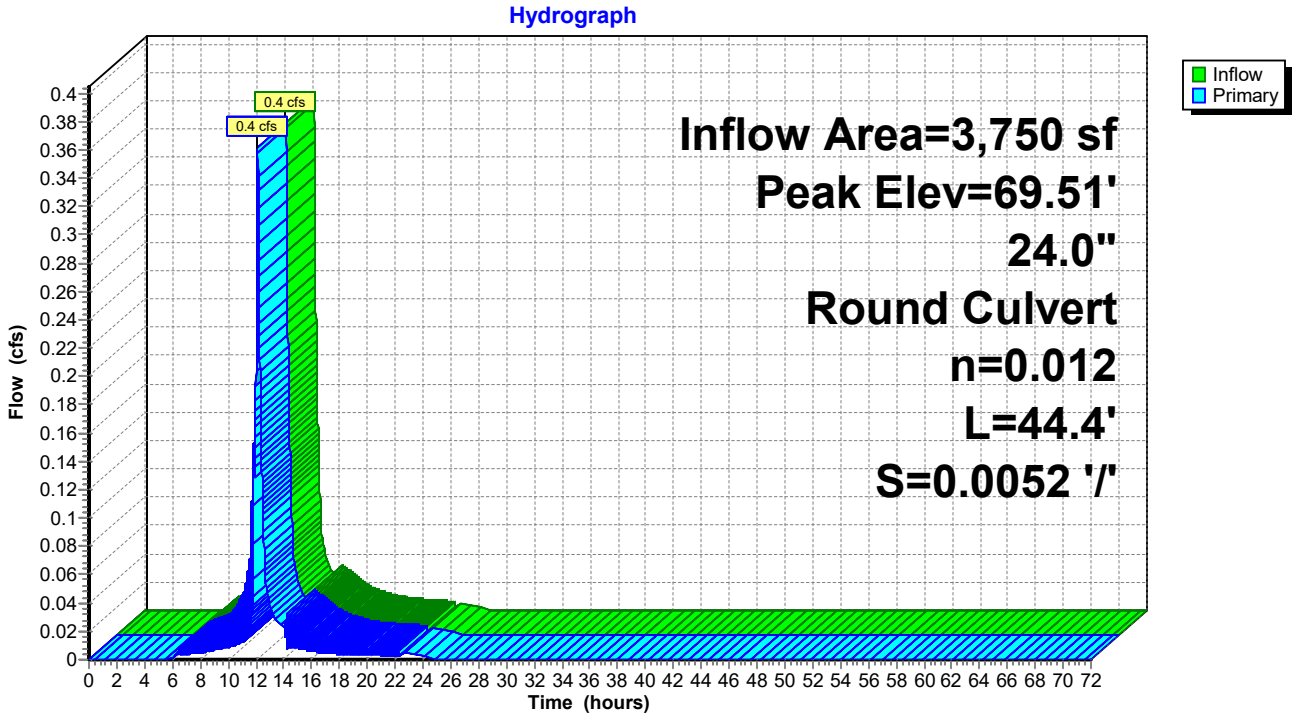
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 4.49" for 10-Year event
Inflow = 0.4 cfs @ 12.12 hrs, Volume= 1,405 cf
Outflow = 0.4 cfs @ 12.12 hrs, Volume= 1,405 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.12 hrs, Volume= 1,405 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.51' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**24.0" Round Culvert** L= 44.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.00' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.4 cfs @ 12.12 hrs HW=69.51' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.4 cfs @ 2.04 fps)

Pond C3: Culvert 3



Summary for Pond C4: Culvert 4

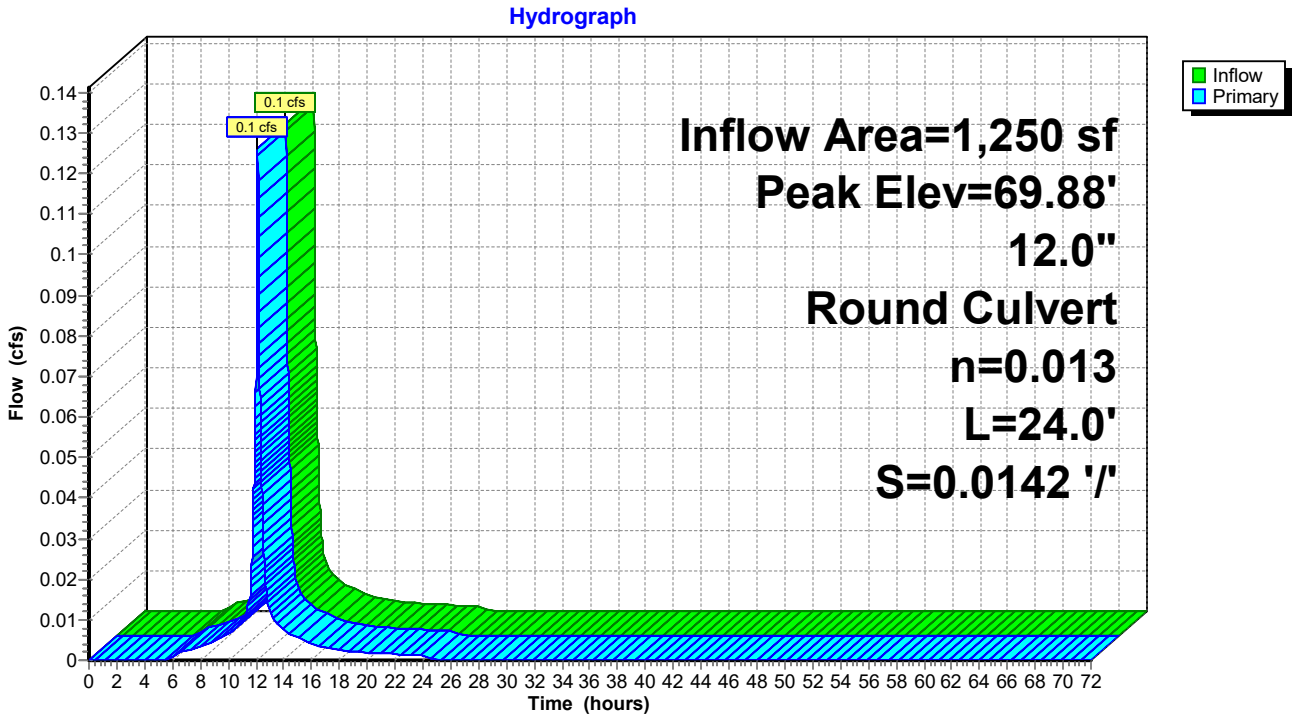
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.50" for 10-Year event
Inflow = 0.1 cfs @ 12.11 hrs, Volume= 469 cf
Outflow = 0.1 cfs @ 12.11 hrs, Volume= 469 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.11 hrs, Volume= 469 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.88' @ 12.12 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0142 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.11 hrs HW=69.88' TW=69.65' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 1.76 fps)

Pond C4: Culvert 4



Summary for Pond C7: Culvert 7

[80] Warning: Exceeded Pond RD7 by 1.31' @ 12.13 hrs (0.5 cfs 547 cf)

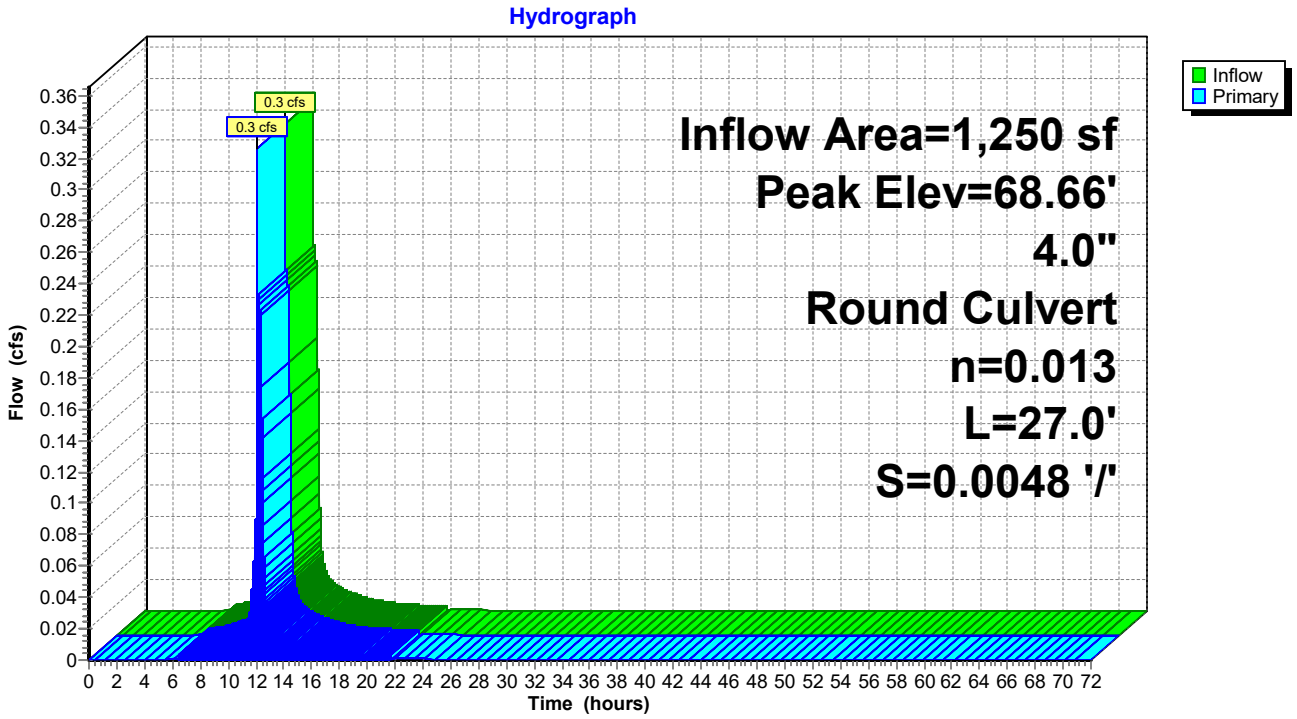
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.49" for 10-Year event
Inflow = 0.3 cfs @ 12.13 hrs, Volume= 468 cf
Outflow = 0.3 cfs @ 12.13 hrs, Volume= 468 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.13 hrs, Volume= 468 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.66' @ 12.13 hrs
Flood Elev= 69.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Round Culvert** L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.55' / 66.42' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.3 cfs @ 12.13 hrs HW=68.63' TW=67.45' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.3 cfs @ 3.69 fps)

Pond C7: Culvert 7



Summary for Pond C8: Culvert 8

[58] Hint: Peaked 2.10' above defined flood level

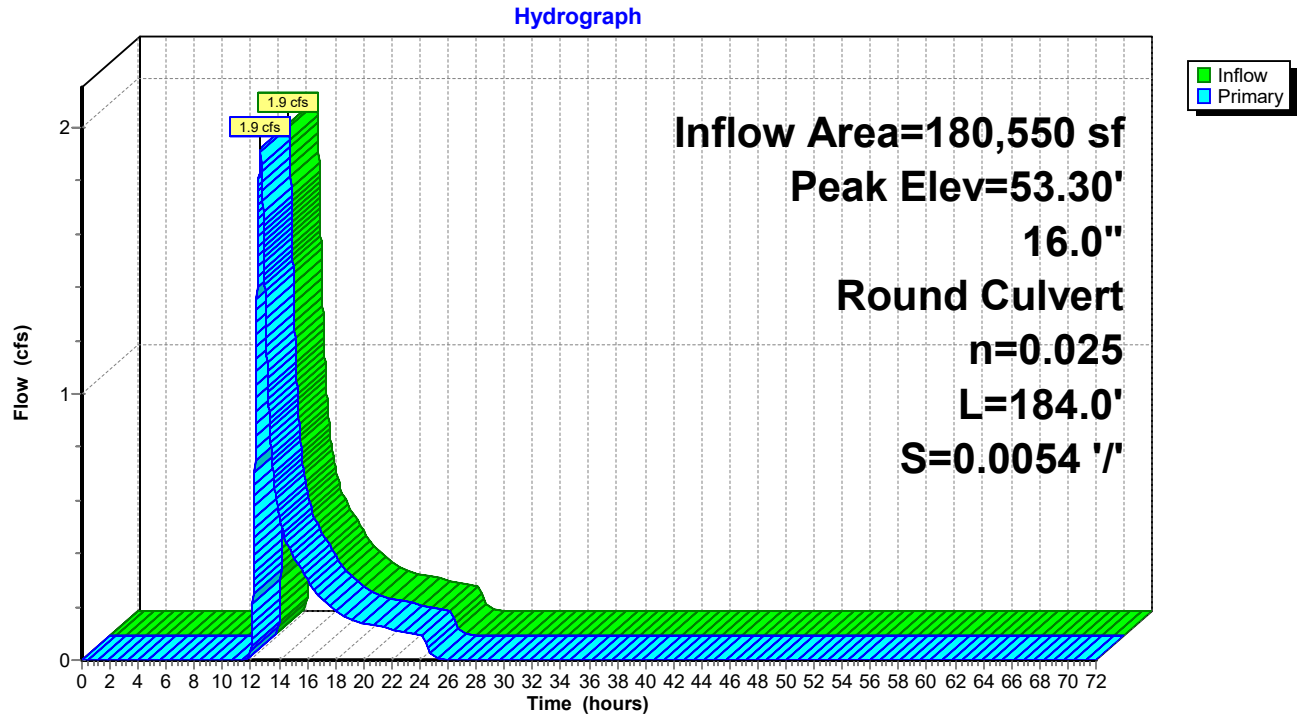
Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 0.99" for 10-Year event
Inflow = 1.9 cfs @ 12.68 hrs, Volume= 14,903 cf
Outflow = 1.9 cfs @ 12.68 hrs, Volume= 14,903 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.9 cfs @ 12.68 hrs, Volume= 14,903 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 53.30' @ 14.22 hrs
Flood Elev= 51.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.20'	**16.0" Round Culvert** L= 184.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.20' / 50.20' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=1.9 cfs @ 12.68 hrs HW=52.31' TW=51.36' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.9 cfs @ 2.07 fps)

Pond C8: Culvert 8



Summary for Pond C9: Culvert 9

[57] Hint: Peaked at 69.65' (Flood elevation advised)
[80] Warning: Exceeded Pond RD5 by 0.01' @ 5.73 hrs (0.0 cfs 4 cf)

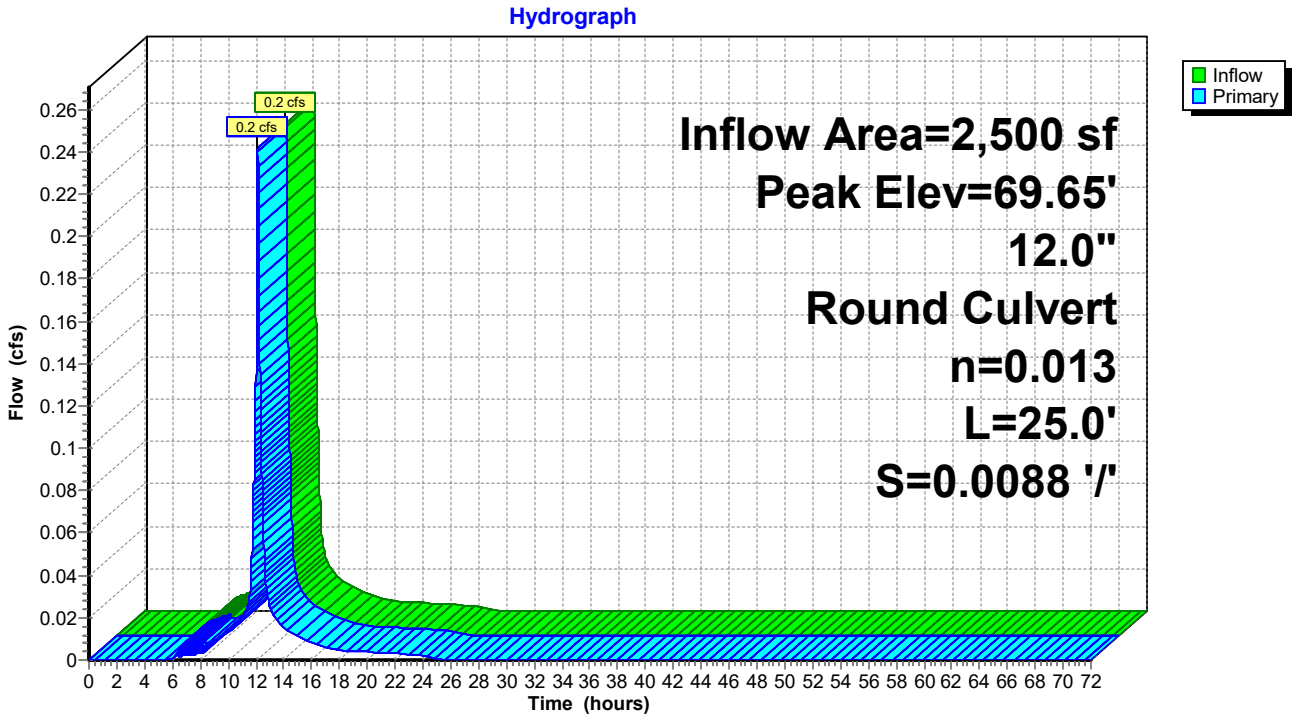
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	4.50"	for	10-Year event
Inflow =	0.2 cfs @ 12.12 hrs,	Volume=	937 cf		
Outflow =	0.2 cfs @ 12.12 hrs,	Volume=	937 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.2 cfs @ 12.12 hrs,	Volume=	937 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.65' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.13' S= 0.0088 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.65' TW=69.47' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.2 cfs @ 1.80 fps)

Pond C9: Culvert 9



Summary for Pond CB1: Catch Basin 1

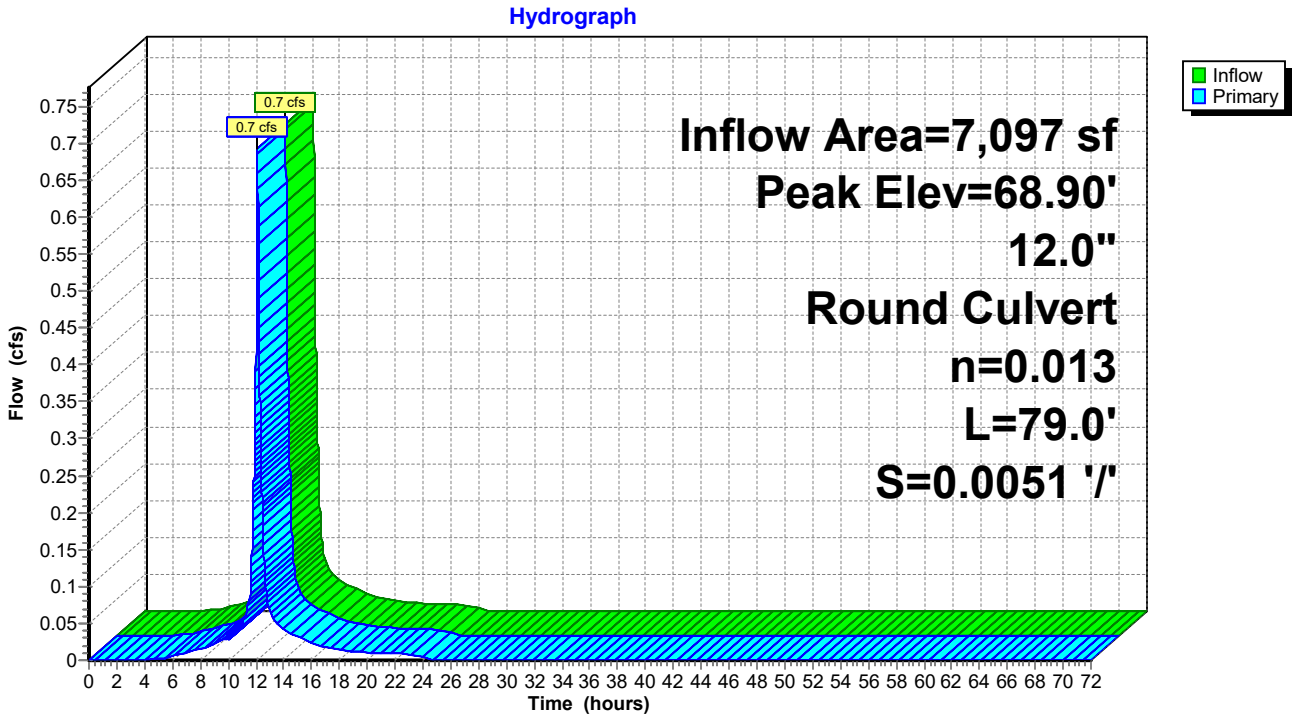
Inflow Area = 7,097 sf, 86.63% Impervious, Inflow Depth = 4.31" for 10-Year event
Inflow = 0.7 cfs @ 12.10 hrs, Volume= 2,550 cf
Outflow = 0.7 cfs @ 12.10 hrs, Volume= 2,550 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.7 cfs @ 12.10 hrs, Volume= 2,550 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.90' @ 12.10 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	**12.0" Round Culvert** L= 79.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.40' / 68.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.7 cfs @ 12.10 hrs HW=68.90' TW=67.39' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.7 cfs @ 2.56 fps)

Pond CB1: Catch Basin 1



Summary for Pond CB10: Catch Basin 10

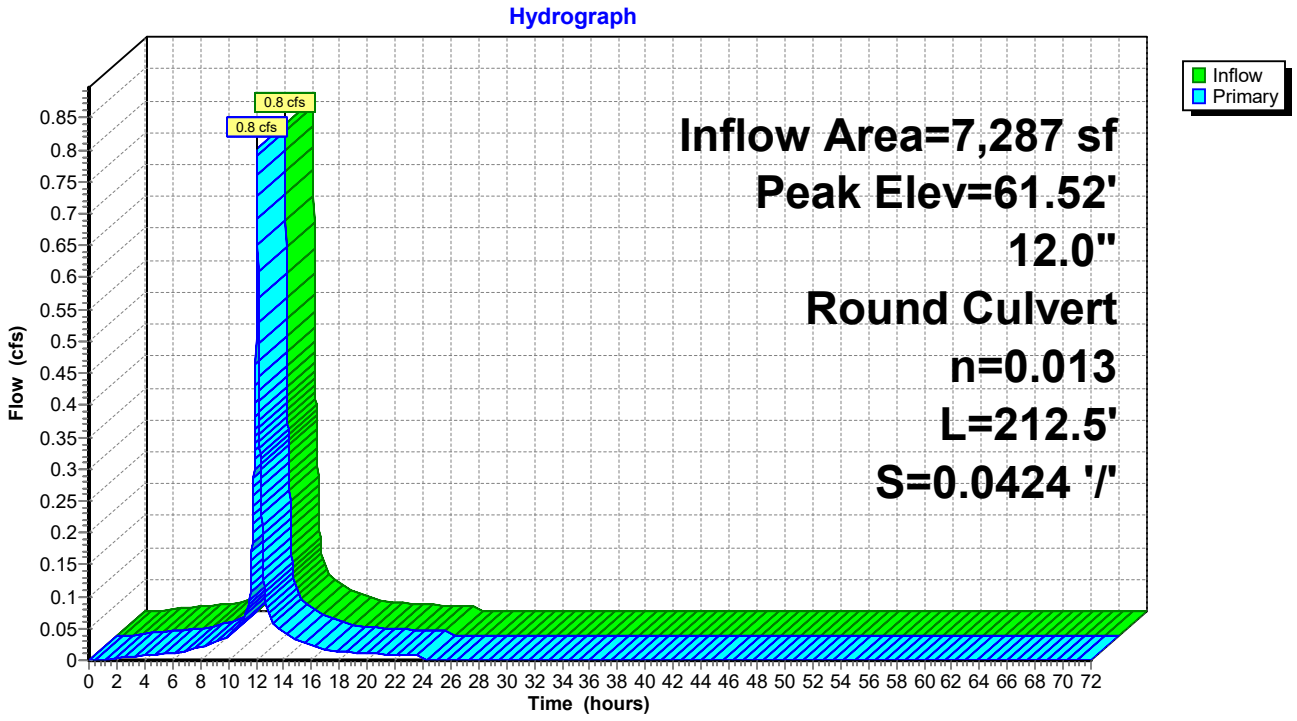
Inflow Area = 7,287 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.8 cfs @ 12.08 hrs, Volume= 2,832 cf
Outflow = 0.8 cfs @ 12.08 hrs, Volume= 2,832 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.8 cfs @ 12.08 hrs, Volume= 2,832 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.52' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**12.0" Round Culvert** L= 212.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 52.00' S= 0.0424 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.8 cfs @ 12.08 hrs HW=61.52' TW=52.56' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.8 cfs @ 1.94 fps)

Pond CB10: Catch Basin 10



Summary for Pond CB11: Catch Basin 11

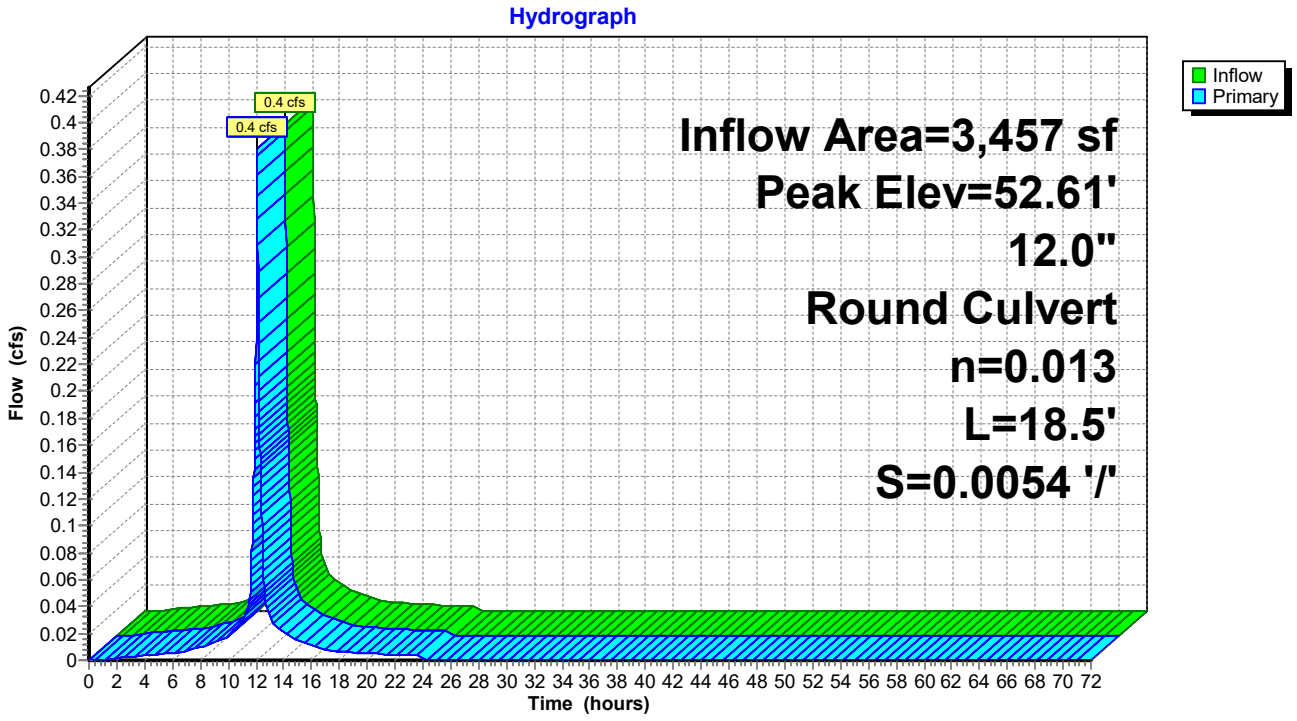
Inflow Area = 3,457 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.4 cfs @ 12.08 hrs, Volume= 1,343 cf
Outflow = 0.4 cfs @ 12.08 hrs, Volume= 1,343 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.08 hrs, Volume= 1,343 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.61' @ 12.09 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.00'	**12.0" Round Culvert** L= 18.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.00' / 51.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.08 hrs HW=52.60' TW=52.56' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.4 cfs @ 1.06 fps)

Pond CB11: Catch Basin 11



Summary for Pond CB12: Catch Basin 12

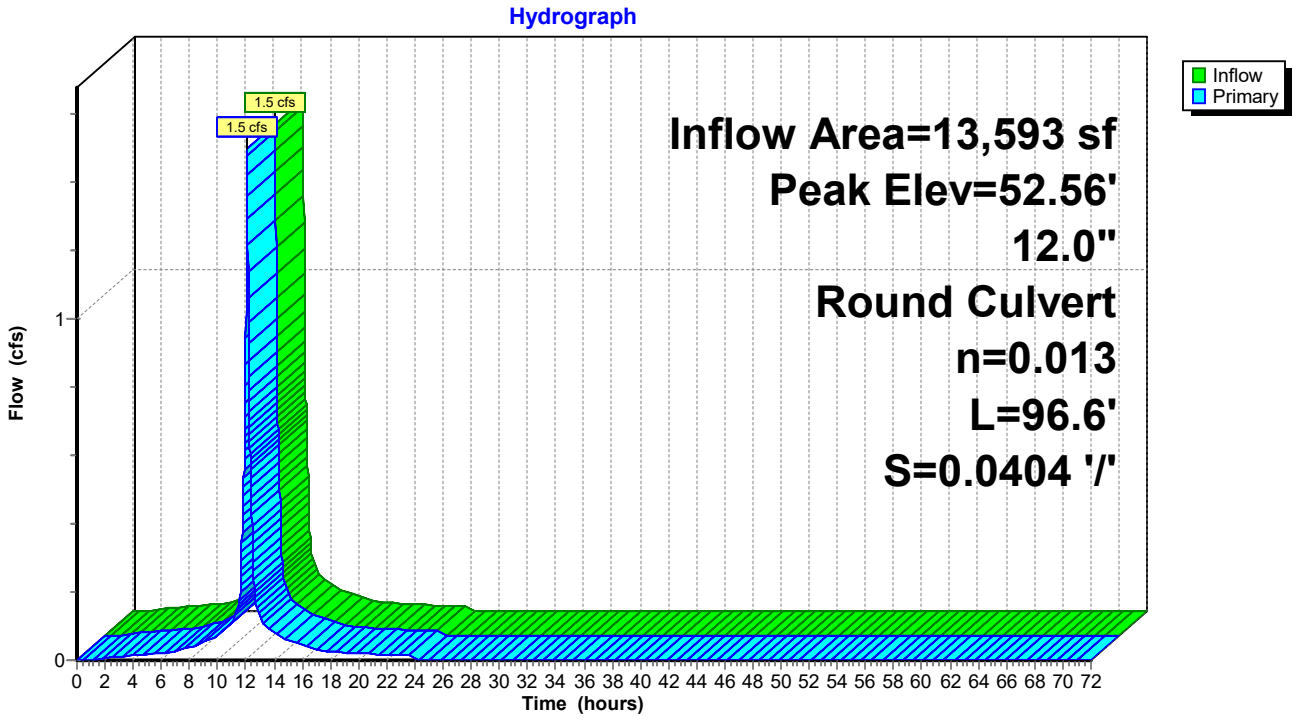
Inflow Area = 13,593 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 1.5 cfs @ 12.08 hrs, Volume= 5,282 cf
Outflow = 1.5 cfs @ 12.08 hrs, Volume= 5,282 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.5 cfs @ 12.08 hrs, Volume= 5,282 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.56' @ 12.08 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.80'	**12.0" Round Culvert** L= 96.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.80' / 47.90' S= 0.0404 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.5 cfs @ 12.08 hrs HW=52.56' TW=49.12' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.5 cfs @ 2.34 fps)

Pond CB12: Catch Basin 12



Summary for Pond CB13: Catch Basin 13

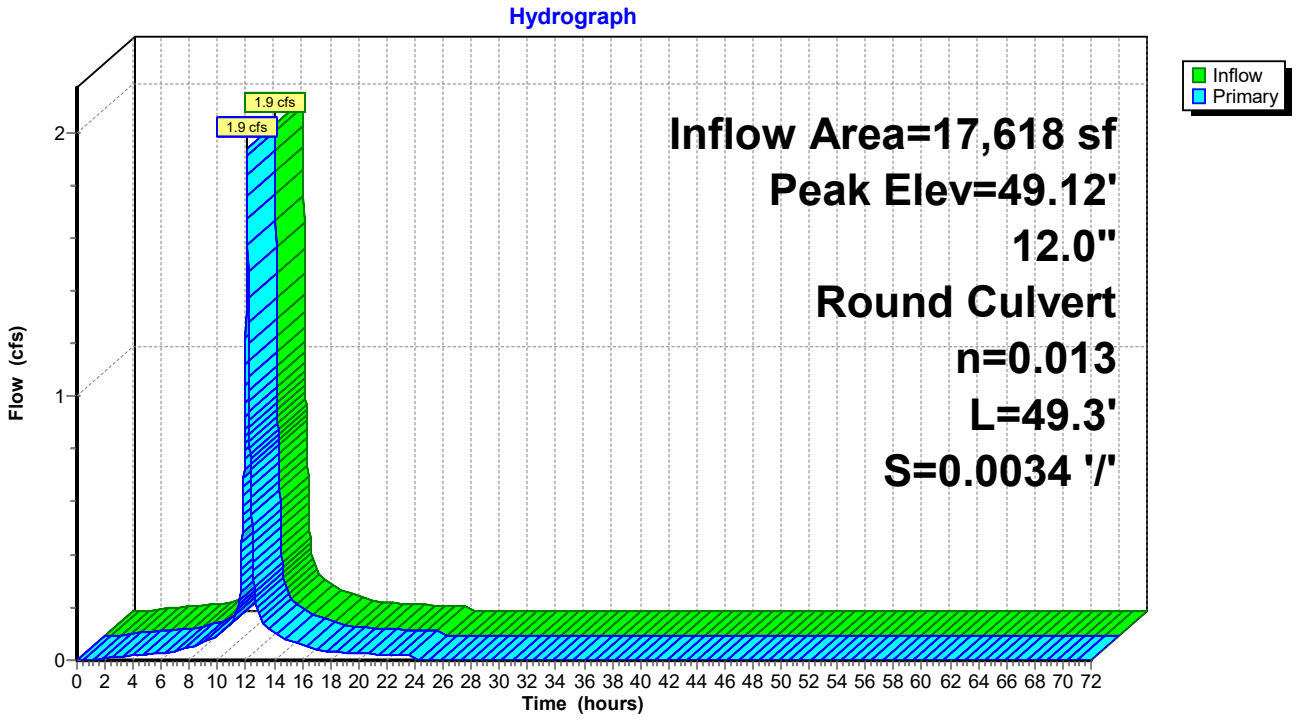
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf
Outflow = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.12' @ 12.12 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	**12.0" Round Culvert** L= 49.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.60' / 47.43' S= 0.0034 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.7 cfs @ 12.08 hrs HW=48.90' TW=48.58' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.7 cfs @ 2.14 fps)

Pond CB13: Catch Basin 13



Summary for Pond CB14: Catch Basin 14

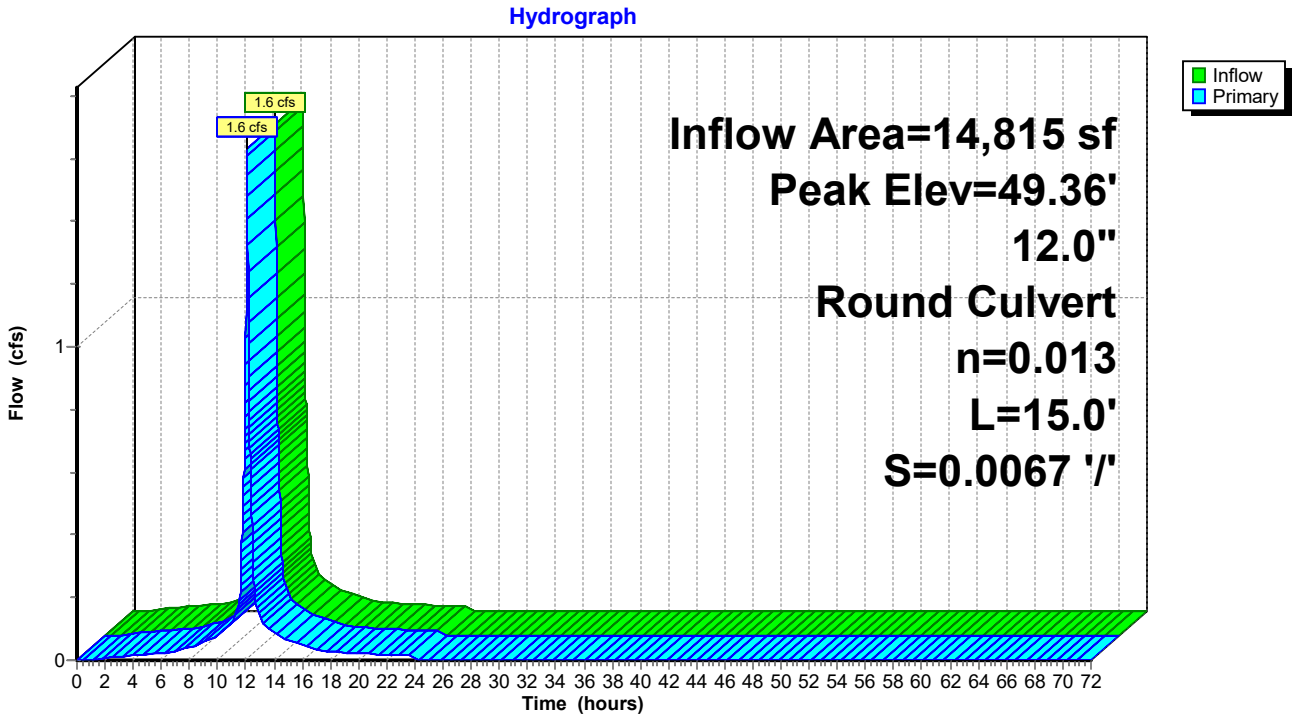
Inflow Area = 14,815 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 1.6 cfs @ 12.08 hrs, Volume= 5,757 cf
Outflow = 1.6 cfs @ 12.08 hrs, Volume= 5,757 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.6 cfs @ 12.08 hrs, Volume= 5,757 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.36' @ 12.12 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.80'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.80' / 47.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.4 cfs @ 12.08 hrs HW=49.12' TW=48.90' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.4 cfs @ 1.78 fps)

Pond CB14: Catch Basin 14



Summary for Pond CB2: Catch Basin 2

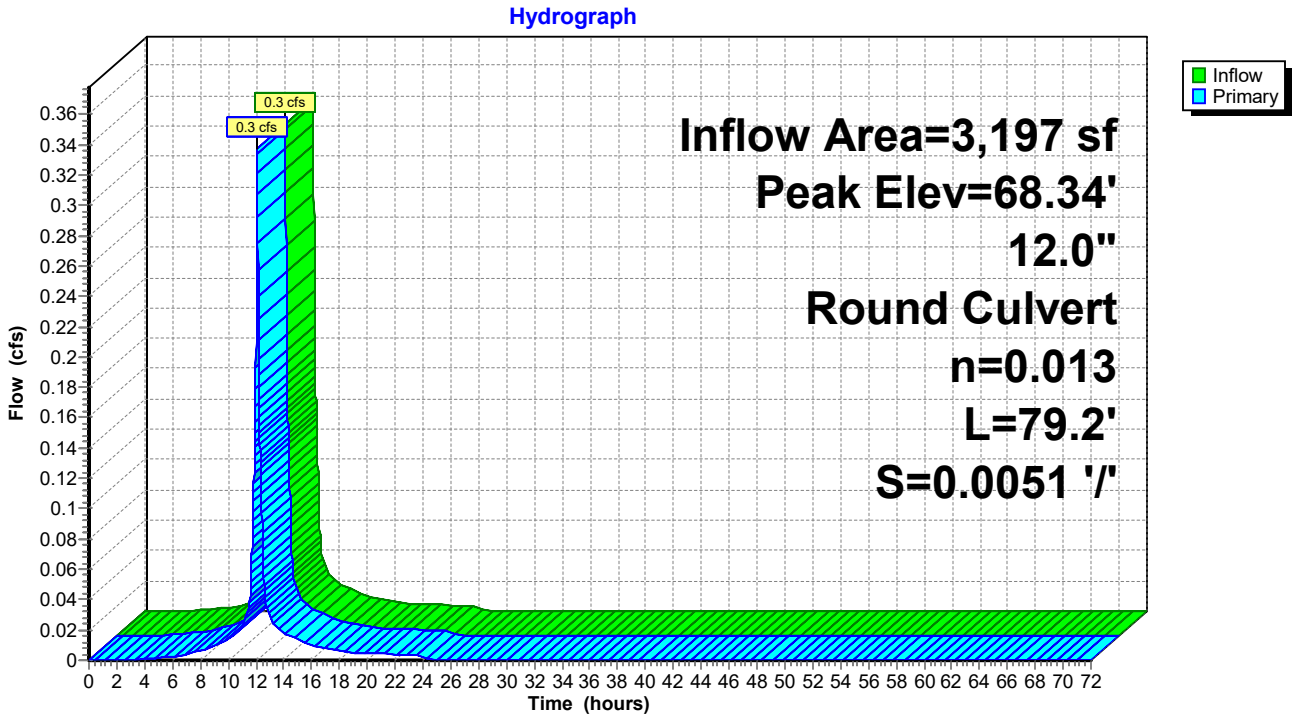
Inflow Area = 3,197 sf, 72.57% Impervious, Inflow Depth = 4.21" for 10-Year event
Inflow = 0.3 cfs @ 12.08 hrs, Volume= 1,121 cf
Outflow = 0.3 cfs @ 12.08 hrs, Volume= 1,121 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.08 hrs, Volume= 1,121 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.34' @ 12.08 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**12.0" Round Culvert** L= 79.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.00' / 67.60' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.08 hrs HW=68.34' TW=67.22' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.3 cfs @ 2.13 fps)

Pond CB2: Catch Basin 2



Summary for Pond CB3: Catch Basin 3

[80] Warning: Exceeded Pond C7 by 0.87' @ 12.12 hrs (0.2 cfs 42 cf)

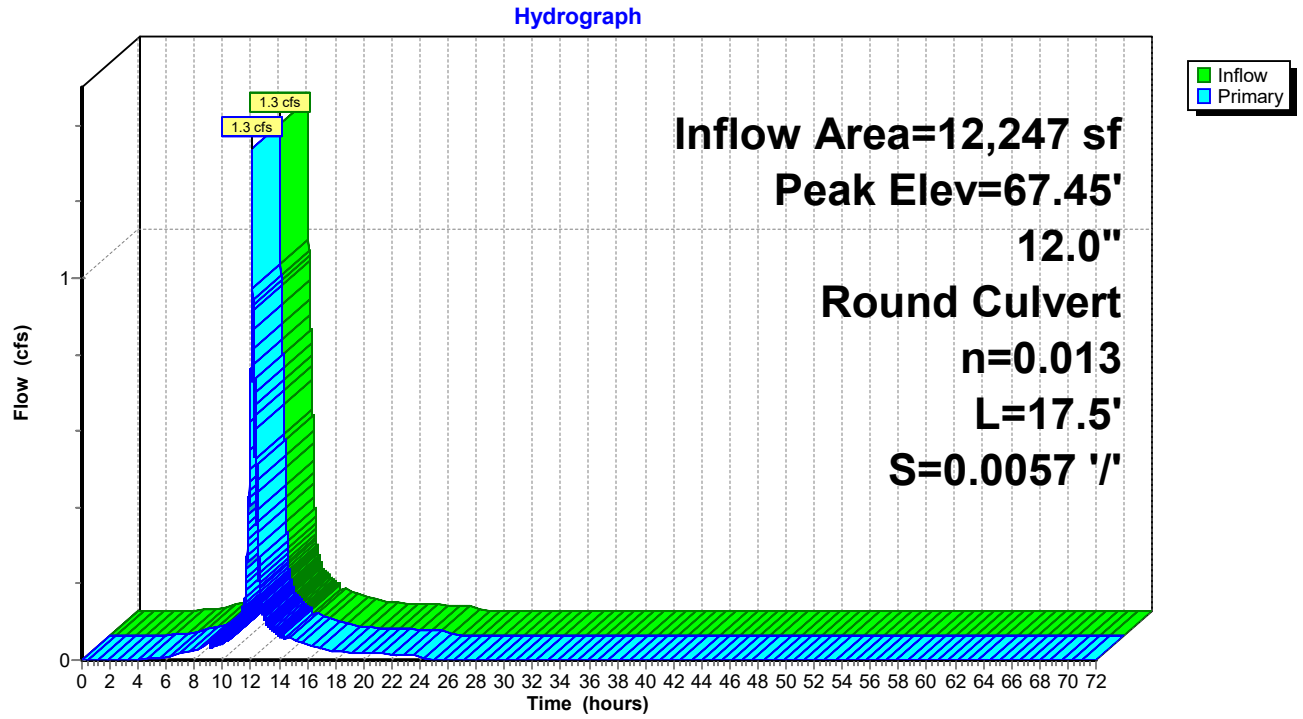
Inflow Area =	12,247 sf,	83.76% Impervious,	Inflow Depth =	4.30"	for 10-Year event
Inflow =	1.3 cfs @	12.13 hrs,	Volume=	4,386 cf	
Outflow =	1.3 cfs @	12.13 hrs,	Volume=	4,386 cf,	Atten= 0%, Lag= 0.0 min
Primary =	1.3 cfs @	12.13 hrs,	Volume=	4,386 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.45' @ 12.13 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.30'	**12.0" Round Culvert** L= 17.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.30' / 66.20' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.2 cfs @ 12.13 hrs HW=67.45' TW=67.28' (Dynamic Tailwater)
↳**1=Culvert** (Inlet Controls 1.2 cfs @ 1.55 fps)

Pond CB3: Catch Basin 3



Summary for Pond CB4: Catch Basin 4

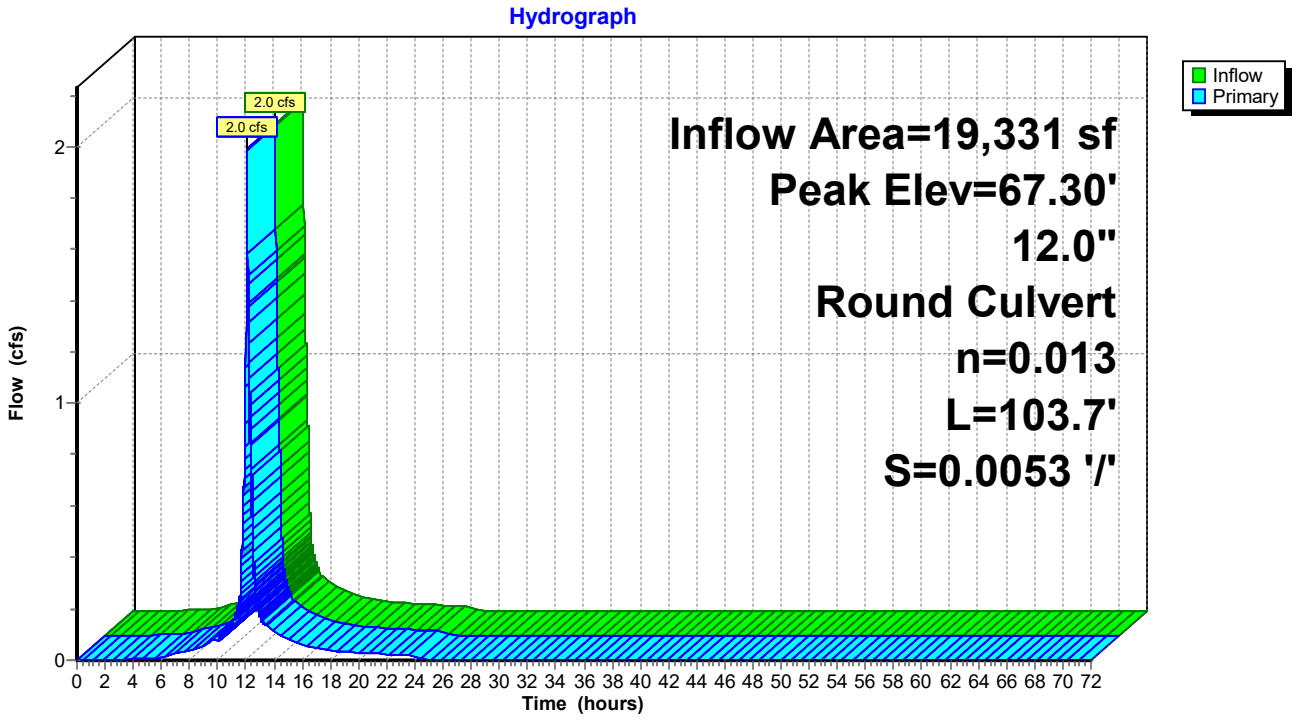
Inflow Area = 19,331 sf, 80.08% Impervious, Inflow Depth = 4.26" for 10-Year event
Inflow = 2.0 cfs @ 12.13 hrs, Volume= 6,870 cf
Outflow = 2.0 cfs @ 12.13 hrs, Volume= 6,870 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.0 cfs @ 12.13 hrs, Volume= 6,870 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.30' @ 12.11 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.10'	**12.0" Round Culvert** L= 103.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.10' / 65.55' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.9 cfs @ 12.13 hrs HW=67.28' TW=66.81' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.9 cfs @ 2.60 fps)

Pond CB4: Catch Basin 4



Summary for Pond CB5: Catch Basin 5

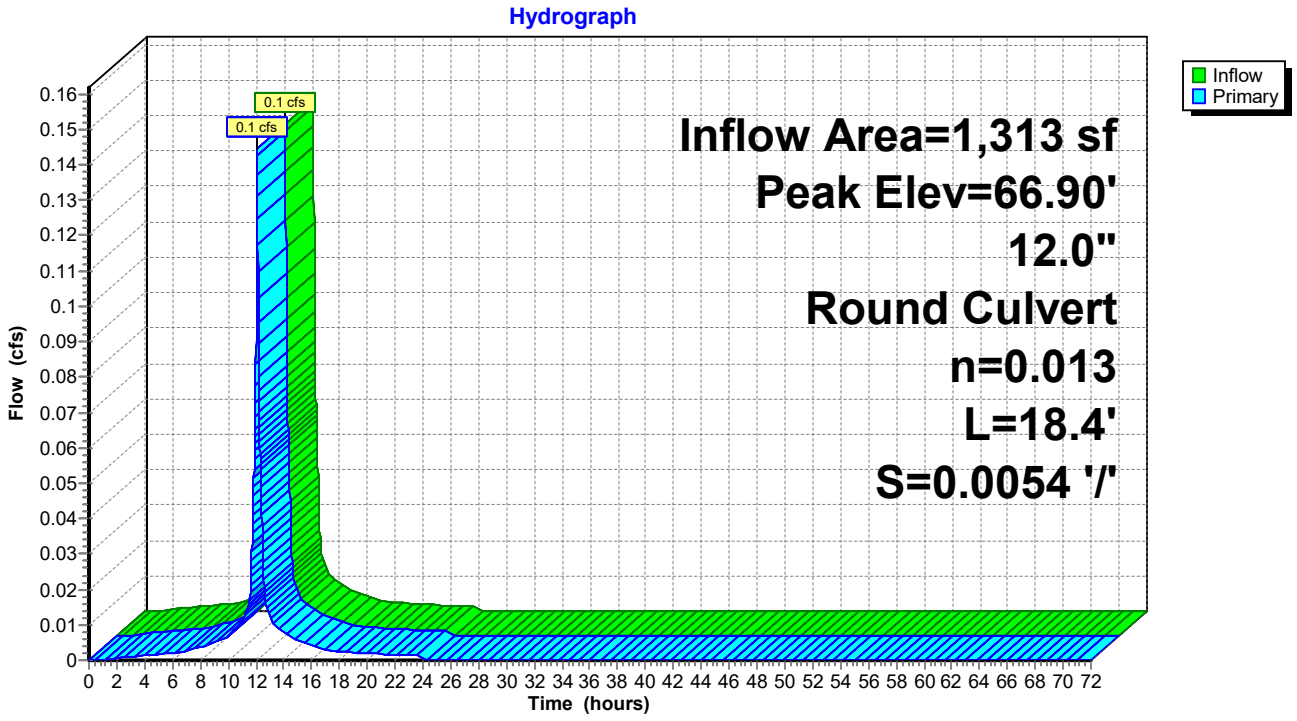
Inflow Area = 1,313 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 510 cf
Outflow = 0.1 cfs @ 12.08 hrs, Volume= 510 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.08 hrs, Volume= 510 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.90' @ 12.11 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	**12.0" Round Culvert** L= 18.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.00' / 65.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=66.74' TW=66.83' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB5: Catch Basin 5



Summary for Pond CB6: Catch Basin 6

[80] Warning: Exceeded Pond CB5 by 0.12' @ 12.08 hrs (0.9 cfs 153 cf)

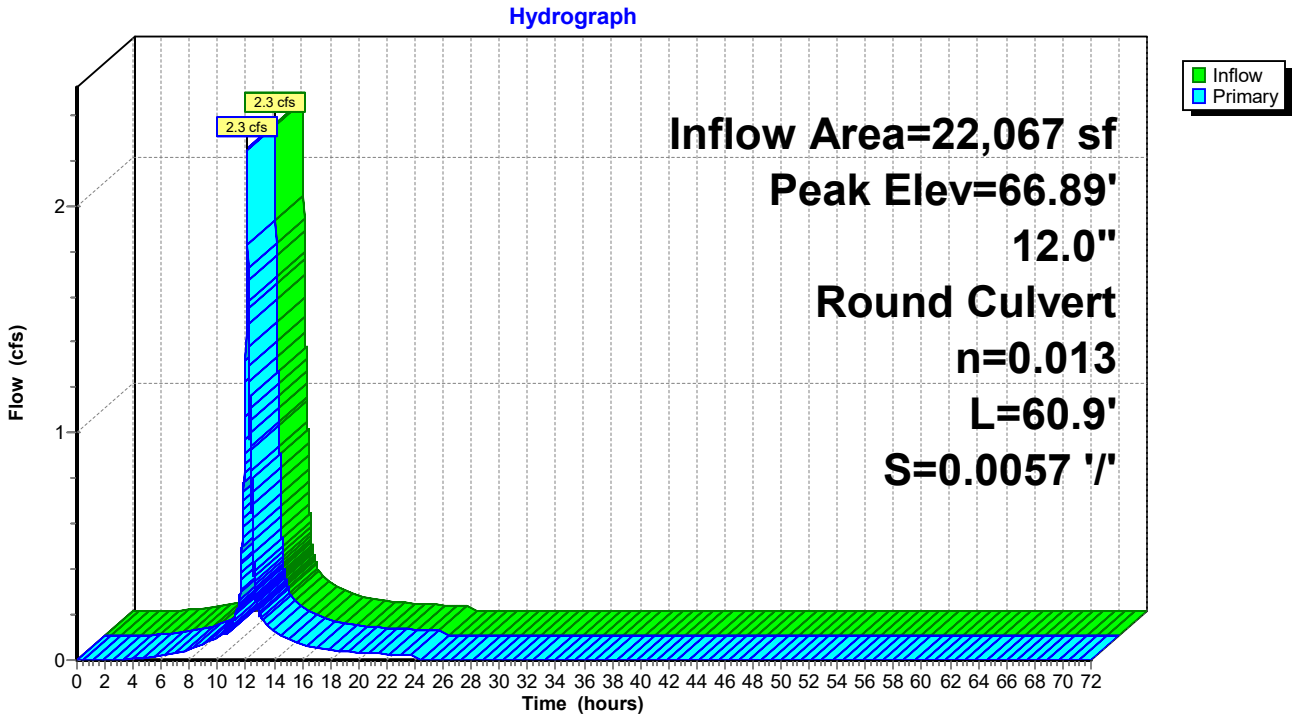
Inflow Area =	22,067 sf,	82.55% Impervious,	Inflow Depth =	4.31"	for 10-Year event
Inflow =	2.3 cfs @	12.13 hrs,	Volume=	7,934 cf	
Outflow =	2.3 cfs @	12.13 hrs,	Volume=	7,934 cf,	Atten= 0%, Lag= 0.0 min
Primary =	2.3 cfs @	12.13 hrs,	Volume=	7,934 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.89' @ 12.10 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.45'	**12.0" Round Culvert** L= 60.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.45' / 65.10' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.1 cfs @ 12.13 hrs HW=66.81' TW=66.31' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.1 cfs @ 2.69 fps)

Pond CB6: Catch Basin 6



Summary for Pond CB7: Catch Basin 7

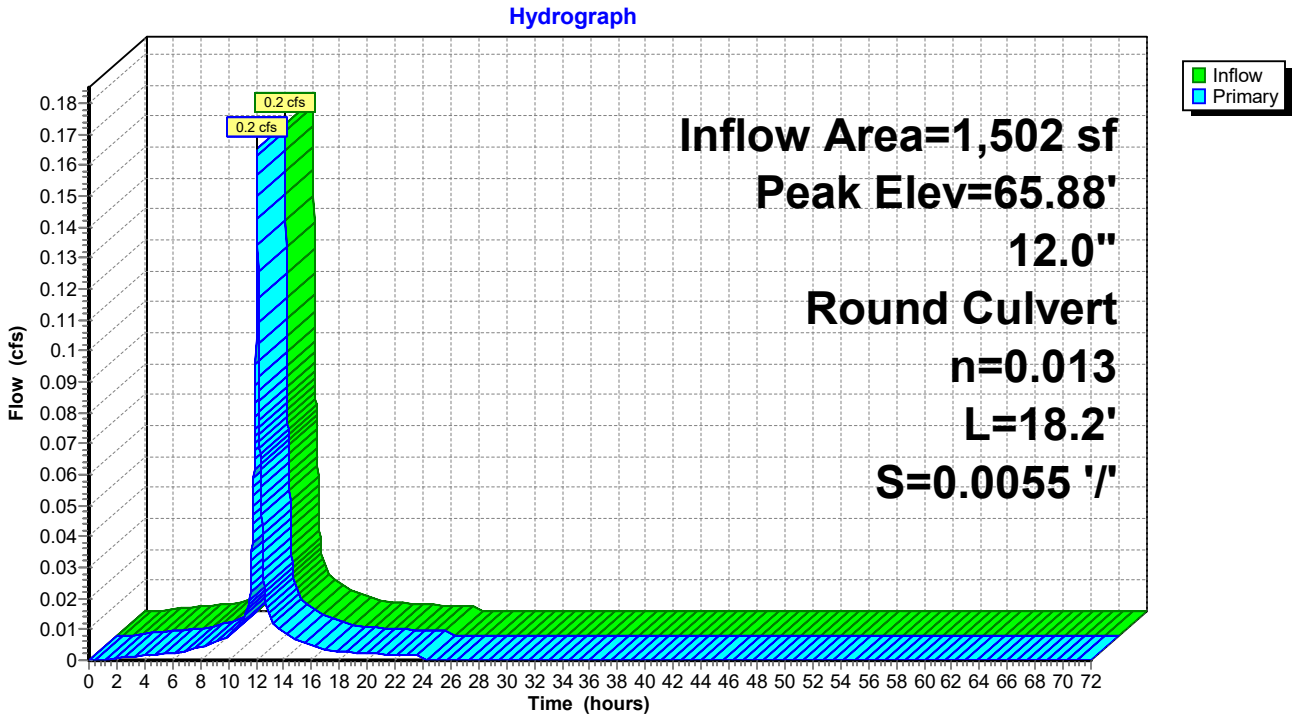
Inflow Area = 1,502 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 584 cf
Outflow = 0.2 cfs @ 12.08 hrs, Volume= 584 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.08 hrs, Volume= 584 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.88' @ 12.14 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.85'	**12.0" Round Culvert** L= 18.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.85' / 64.75' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=65.83' TW=65.85' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB7: Catch Basin 7



Summary for Pond CB8: Catch Basin 8

[80] Warning: Exceeded Pond CB7 by 0.12' @ 12.13 hrs (1.0 cfs 446 cf)

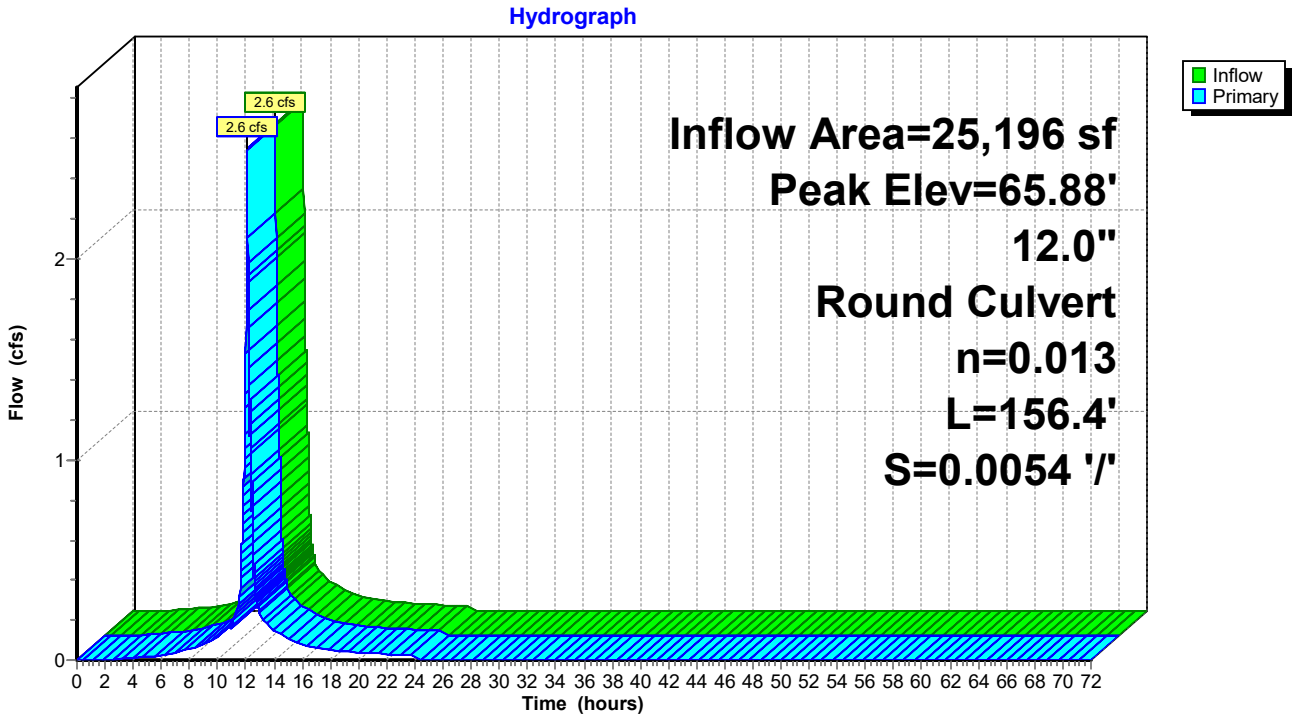
Inflow Area = 25,196 sf, 84.72% Impervious, Inflow Depth = 4.36" for 10-Year event
Inflow = 2.6 cfs @ 12.13 hrs, Volume= 9,150 cf
Outflow = 2.6 cfs @ 12.13 hrs, Volume= 9,150 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.6 cfs @ 12.13 hrs, Volume= 9,150 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.88' @ 12.13 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.65'	**12.0" Round Culvert** L= 156.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.65' / 63.80' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.5 cfs @ 12.13 hrs HW=65.86' TW=61.32' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.5 cfs @ 3.20 fps)

Pond CB8: Catch Basin 8



Summary for Pond CB9: Catch Basin 9

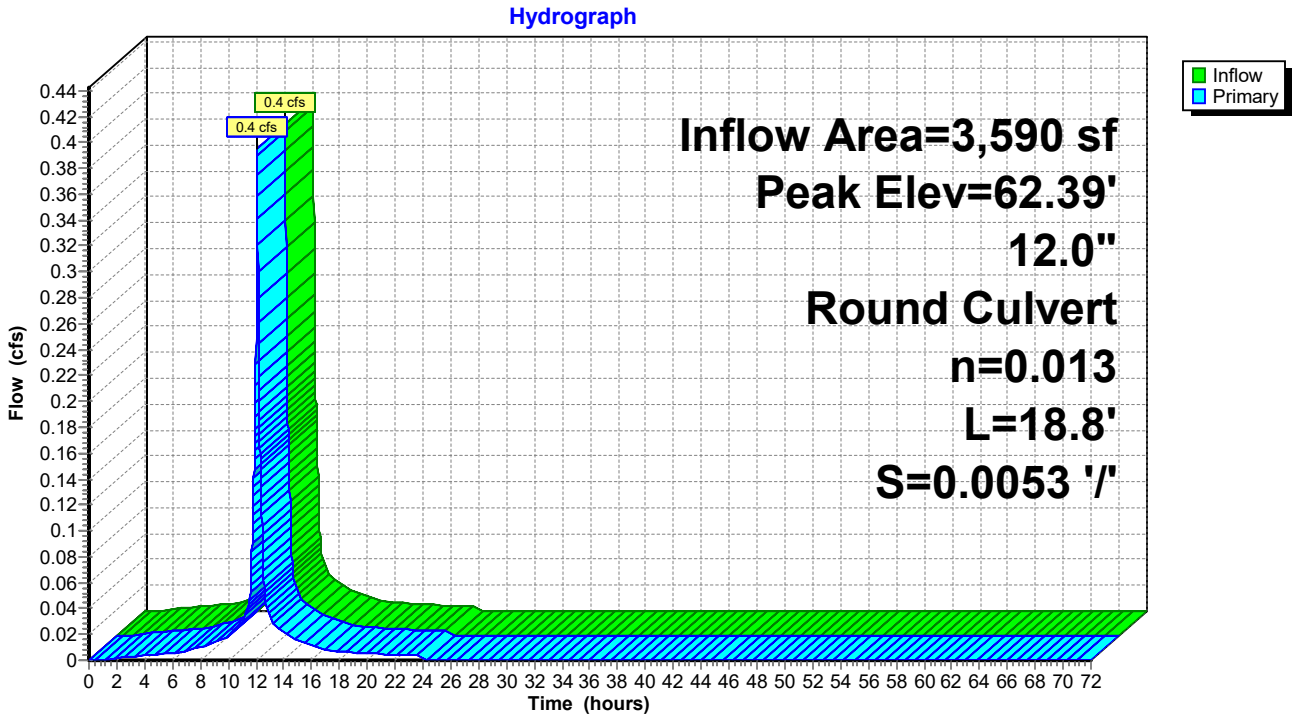
Inflow Area = 3,590 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.4 cfs @ 12.08 hrs, Volume= 1,395 cf
Outflow = 0.4 cfs @ 12.08 hrs, Volume= 1,395 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.08 hrs, Volume= 1,395 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.39' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	**12.0" Round Culvert** L= 18.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.90' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.08 hrs HW=62.39' TW=61.52' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.4 cfs @ 2.08 fps)

Pond CB9: Catch Basin 9



Summary for Pond CH1: Chamber 1

Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf
Outflow = 1.7 cfs @ 12.13 hrs, Volume= 6,847 cf, Atten= 11%, Lag= 2.6 min
Primary = 1.7 cfs @ 12.13 hrs, Volume= 6,847 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.52' @ 12.13 hrs Surf.Area= 1,773 sf Storage= 931 cf
Flood Elev= 50.50' Surf.Area= 1,773 sf Storage= 1,194 cf

Plug-Flow detention time= 10.4 min calculated for 6,846 cf (100% of inflow)
Center-of-Mass det. time= 10.4 min (758.8 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.90'	656 cf	**12.00'W x 74.40'L x 2.33'H Field A** 2,083 cf Overall - 442 cf Embedded = 1,641 cf x 40.0% Voids
#2A	47.40'	442 cf	**ADS_StormTech SC-310 +Cap** x 30 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 3 Rows
#3	44.73'	95 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,910 cf Overall x 5.0% Voids
		1,194 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.73	880	0	0
46.90	880	1,910	1,910

Device	Routing	Invert	Outlet Devices
#1	Primary	44.73'	**12.0" Round Culvert** L= 60.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.73' / 44.60' S= 0.0021 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	44.73'	**2.9" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	48.30'	**4.0' long x 4.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.7 cfs @ 12.13 hrs HW=48.51' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.7 cfs of 5.4 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.4 cfs @ 9.22 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.3 cfs @ 1.52 fps)

Pond CH1: Chamber 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 9.0" Spacing = 43.0" C-C Row Spacing

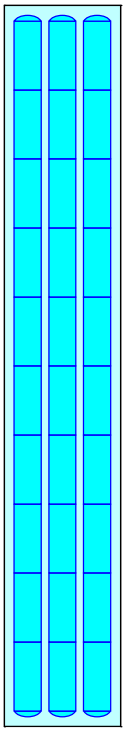
10 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 72.40' Row Length +12.0" End Stone x 2 = 74.40' Base Length
3 Rows x 34.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 12.00' Base Width
6.0" Stone Base + 16.0" Chamber Height + 6.0" Stone Cover = 2.33' Field Height

30 Chambers x 14.7 cf = 442.3 cf Chamber Storage

2,083.2 cf Field - 442.3 cf Chambers = 1,640.9 cf Stone x 40.0% Voids = 656.4 cf Stone Storage

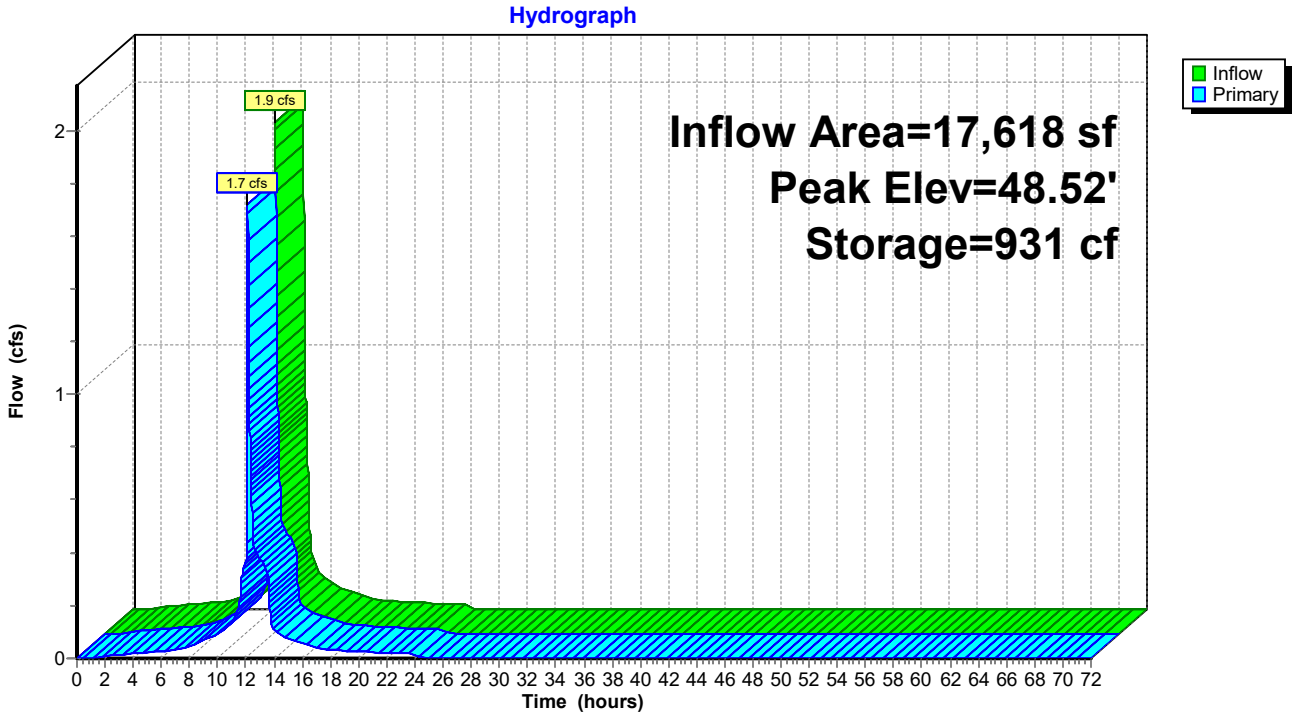
Chamber Storage + Stone Storage = 1,098.6 cf = 0.025 af
Overall Storage Efficiency = 52.7%
Overall System Size = 74.40' x 12.00' x 2.33'

30 Chambers
77.2 cy Field
60.8 cy Stone





Pond CH1: Chamber 1



Summary for Pond MH1: Manhole 1

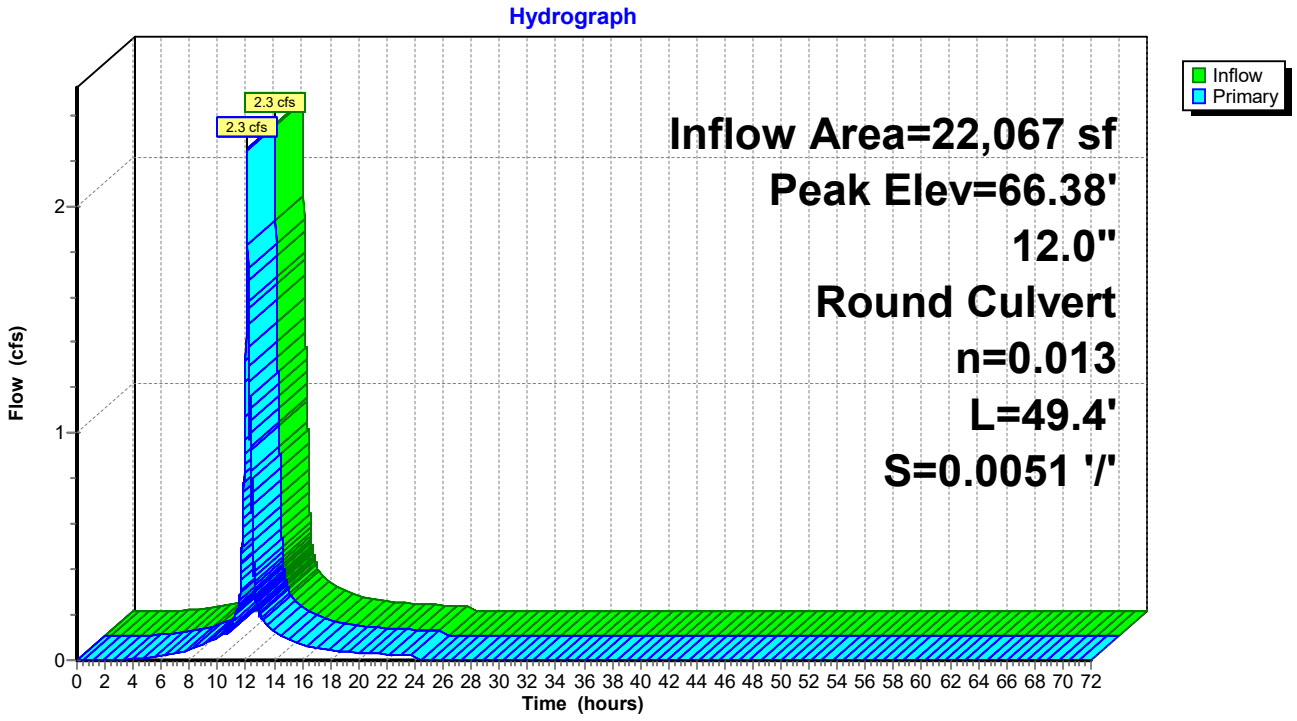
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 4.31" for 10-Year event
Inflow = 2.3 cfs @ 12.13 hrs, Volume= 7,934 cf
Outflow = 2.3 cfs @ 12.13 hrs, Volume= 7,934 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.3 cfs @ 12.13 hrs, Volume= 7,934 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.38' @ 12.09 hrs
Flood Elev= 68.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 49.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.00' / 64.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.0 cfs @ 12.13 hrs HW=66.31' TW=65.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.0 cfs @ 2.55 fps)

Pond MH1: Manhole 1



Summary for Pond MH2: Manhole 2

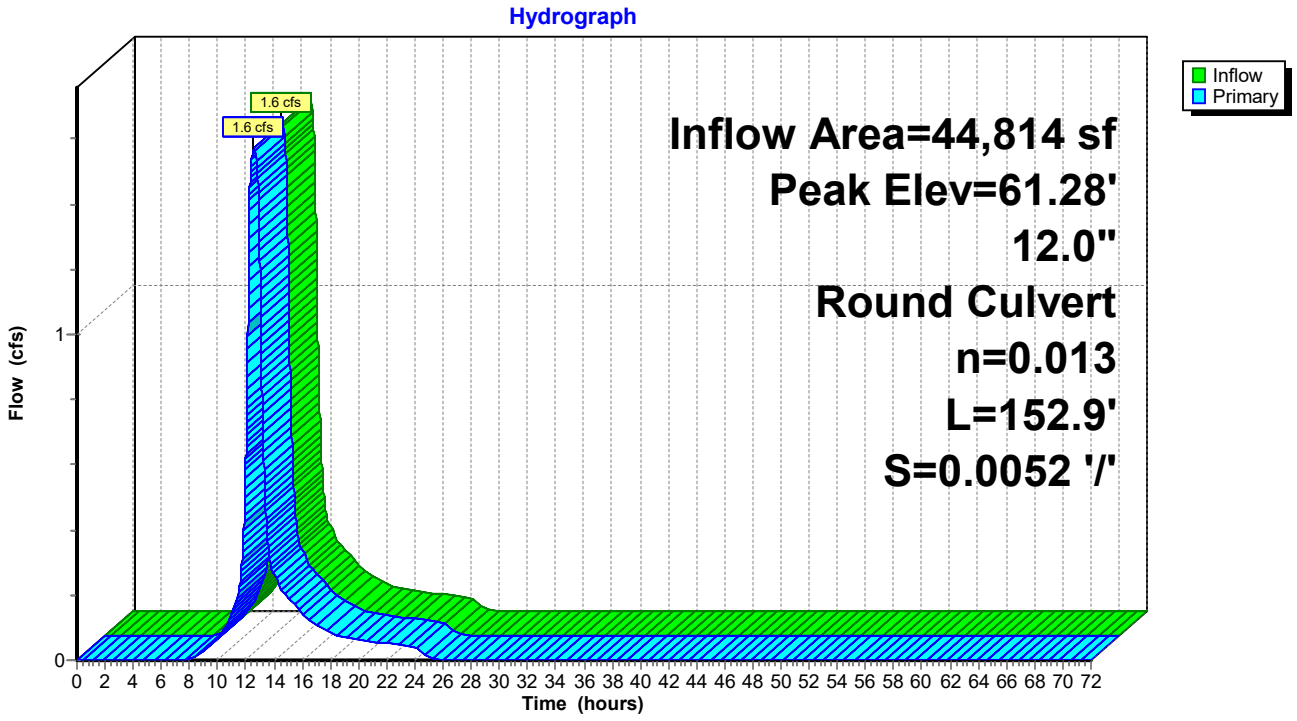
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 3.18" for 10-Year event
Inflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf
Outflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.28' @ 12.55 hrs
Flood Elev= 65.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.45'	**12.0" Round Culvert** L= 152.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.45' / 59.65' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.6 cfs @ 12.55 hrs HW=61.28' TW=60.39' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.6 cfs @ 3.08 fps)

Pond MH2: Manhole 2



Summary for Pond MH3: Manhole 3

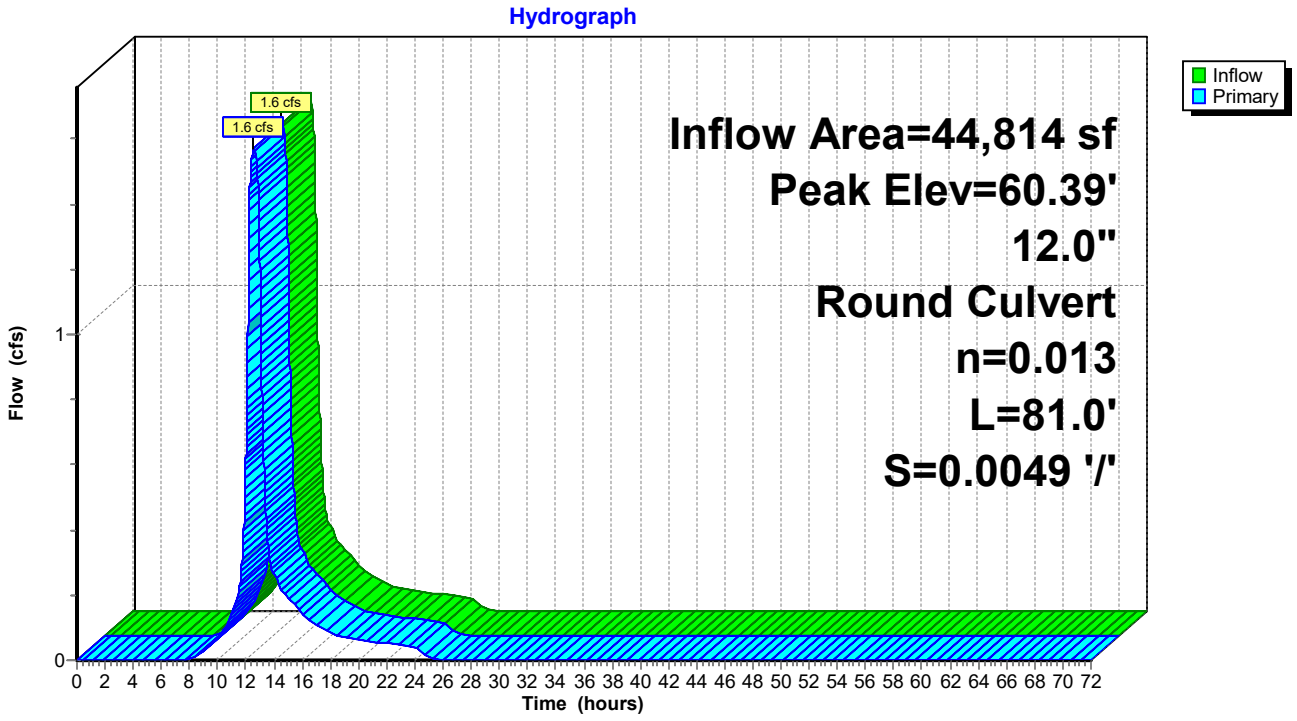
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 3.18" for 10-Year event
Inflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf
Outflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 60.39' @ 12.55 hrs
Flood Elev= 67.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.55'	**12.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.55' / 59.15' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.6 cfs @ 12.55 hrs HW=60.39' TW=59.83' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.6 cfs @ 3.00 fps)

Pond MH3: Manhole 3



Summary for Pond MH4: Manhole 4

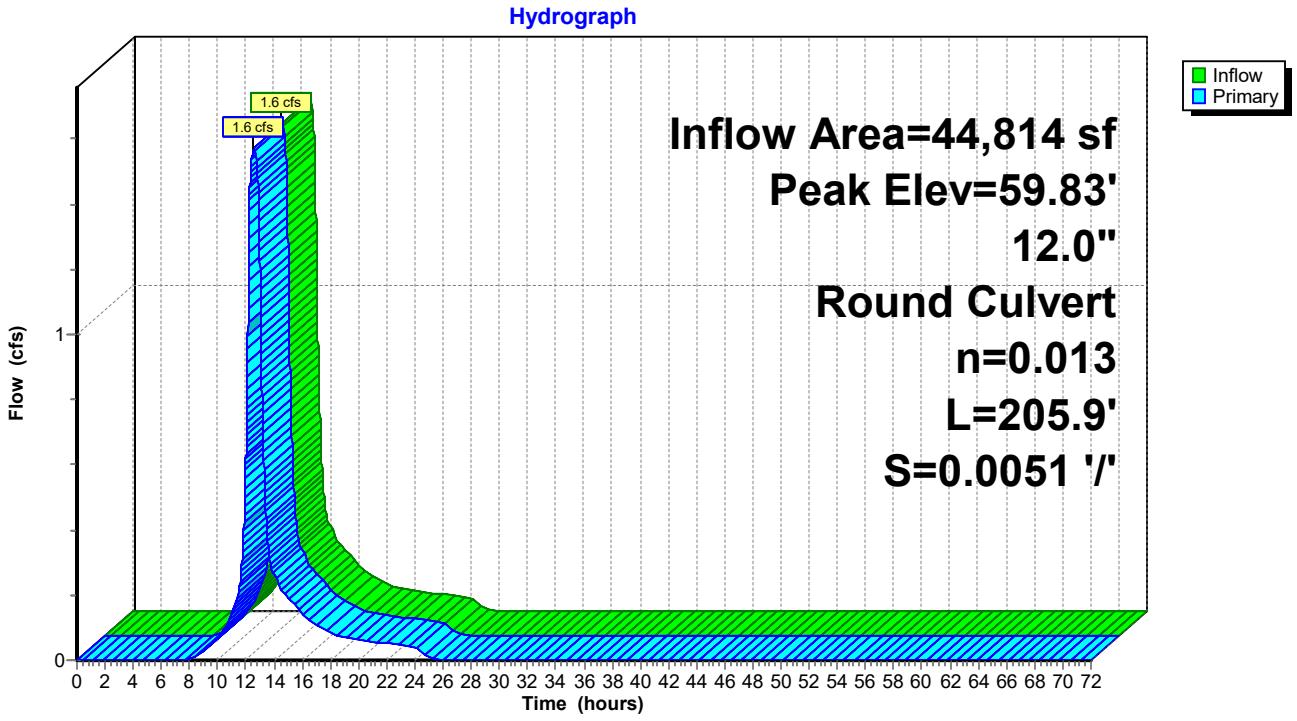
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 3.18" for 10-Year event
Inflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf
Outflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 59.83' @ 12.55 hrs
Flood Elev= 66.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.05'	**12.0" Round Culvert** L= 205.9' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 59.05' / 58.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.6 cfs @ 12.55 hrs HW=59.83' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.6 cfs @ 3.29 fps)

Pond MH4: Manhole 4



Summary for Pond MH5: Manhole 5

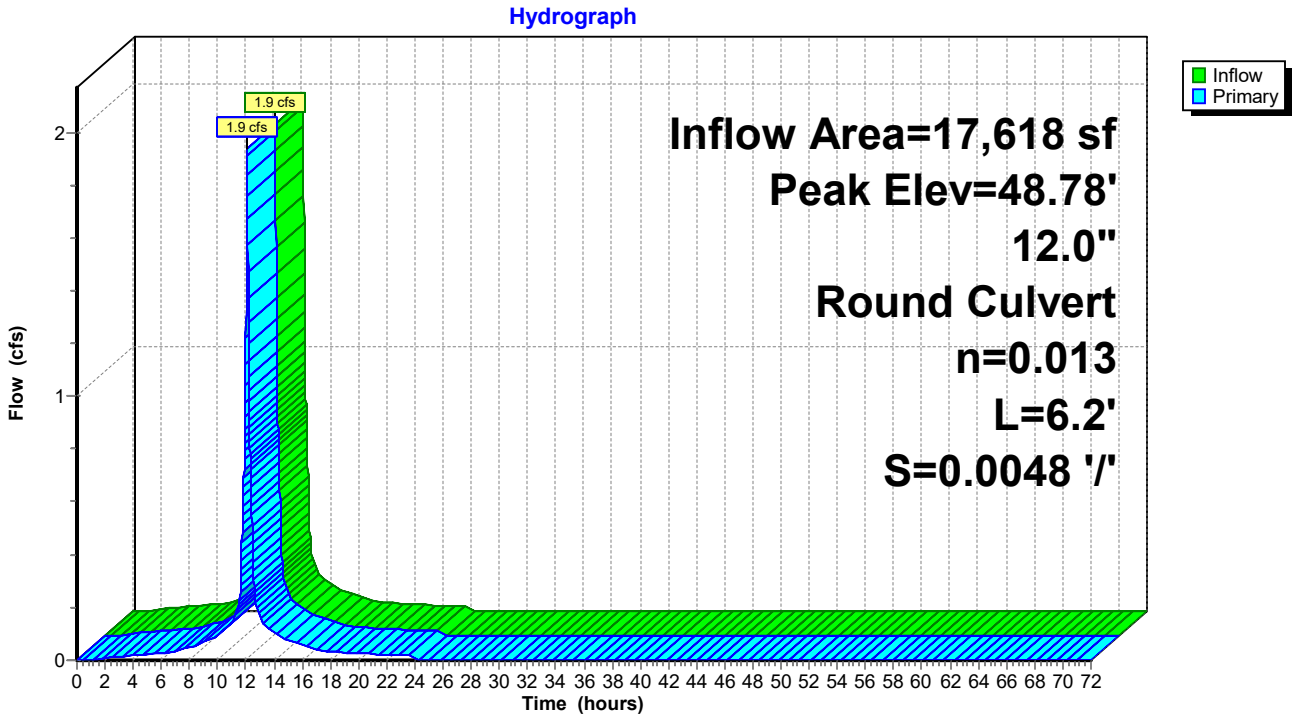
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf
Outflow = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.78' @ 12.12 hrs
Flood Elev= 50.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.43'	**12.0" Round Culvert** L= 6.2' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.43' / 47.40' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.6 cfs @ 12.08 hrs HW=48.58' TW=48.35' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.6 cfs @ 2.08 fps)

Pond MH5: Manhole 5



Summary for Pond P1: Pond 1

[80] Warning: Exceeded Pond C8 by 1.88' @ 25.56 hrs (3.4 cfs 27,075 cf)

Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 0.99" for 10-Year event
Inflow = 1.9 cfs @ 12.68 hrs, Volume= 14,903 cf
Outflow = 0.5 cfs @ 14.29 hrs, Volume= 14,024 cf, Atten= 75%, Lag= 96.6 min
Primary = 0.5 cfs @ 14.29 hrs, Volume= 14,024 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 53.27' @ 14.29 hrs Surf.Area= 2,766 sf Storage= 6,953 cf
Flood Elev= 55.50' Surf.Area= 3,752 sf Storage= 14,183 cf

Plug-Flow detention time= 832.8 min calculated for 14,022 cf (94% of inflow)
Center-of-Mass det. time= 803.0 min (1,726.4 - 923.4)

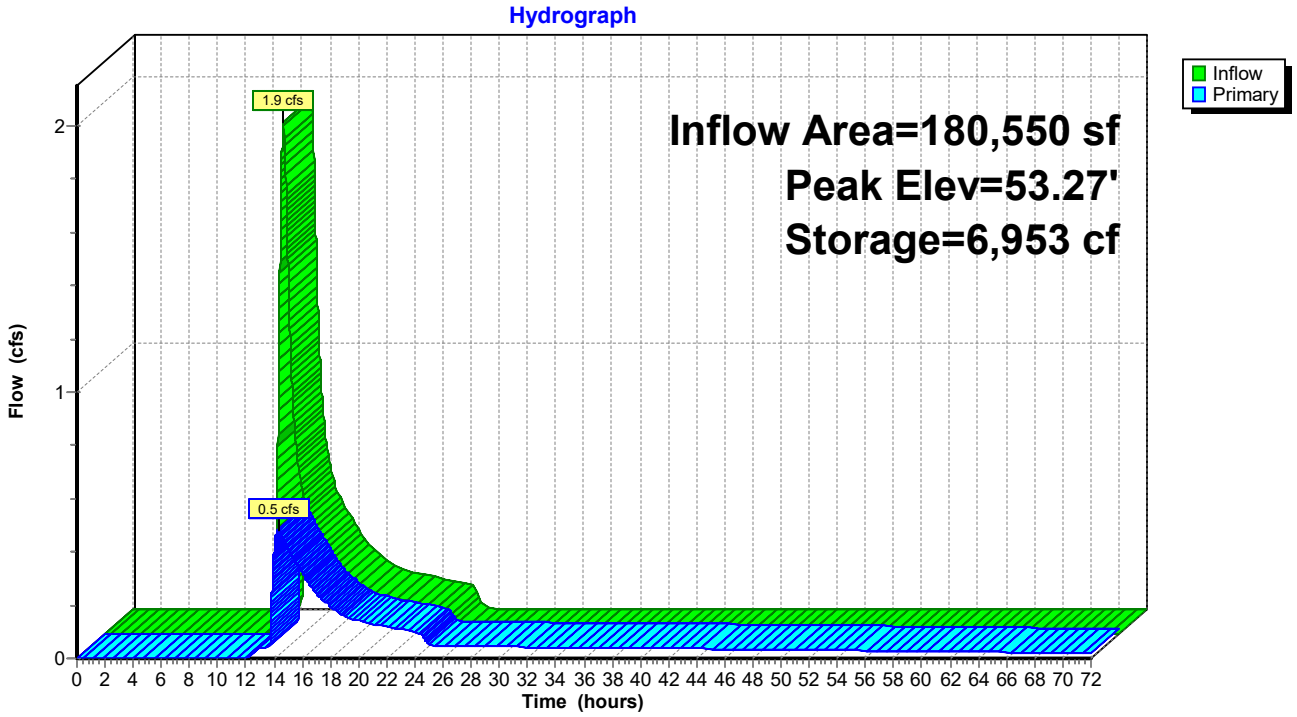
Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	16,121 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,503	0	0
51.00	1,882	1,693	1,693
52.00	2,267	2,075	3,767
53.00	2,662	2,465	6,232
54.00	3,055	2,859	9,090
55.00	3,503	3,279	12,369
56.00	4,000	3,752	16,121

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**12.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.00' / 46.40' S= 0.0180 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	50.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	53.10'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.5 cfs @ 14.29 hrs HW=53.27' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.5 cfs of 5.0 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.0 cfs @ 8.65 fps)
3=Orifice/Grate (Orifice Controls 0.4 cfs @ 1.31 fps)

Pond P1: Pond 1



Summary for Pond RD1: Roof Drain 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=669)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 486 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 468 cf, Atten= 12%, Lag= 2.3 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 468 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.59' @ 12.13 hrs Surf.Area= 231 sf Storage= 47 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 51.7 min calculated for 468 cf (96% of inflow)
Center-of-Mass det. time= 29.4 min (777.8 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

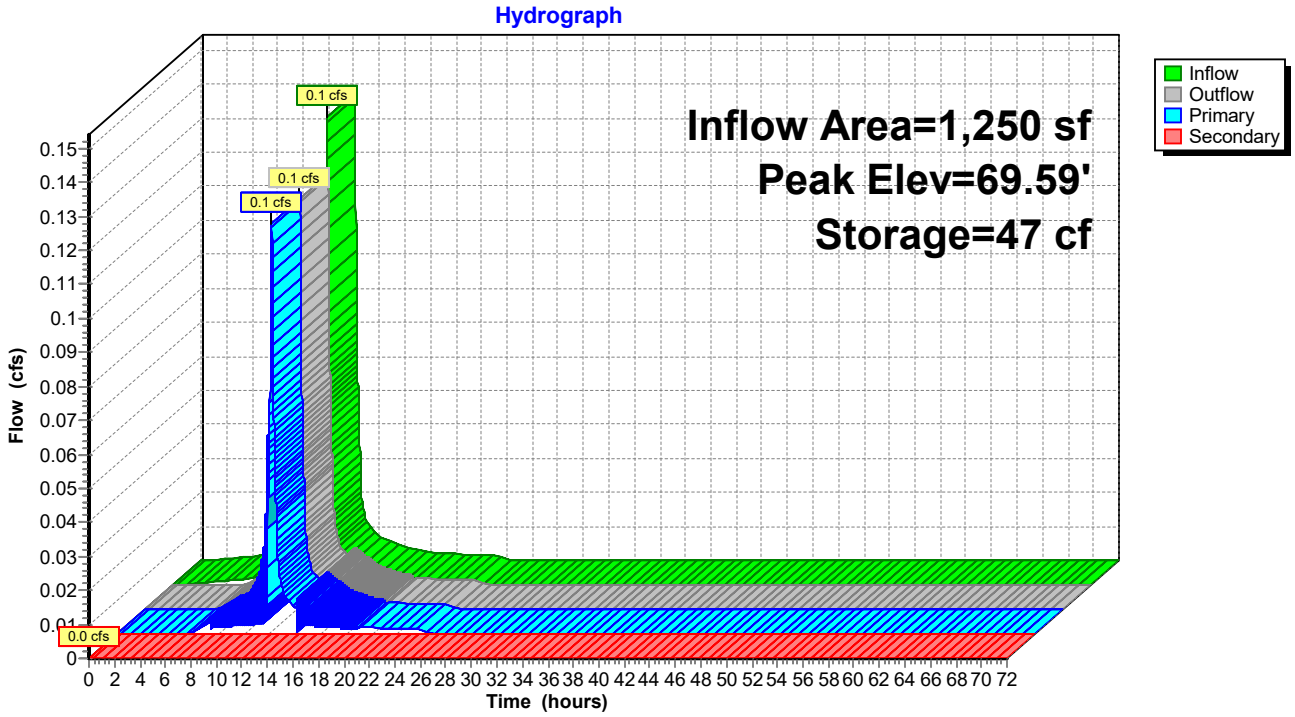
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.59' TW=69.51' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.38 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD1: Roof Drain 1



Summary for Pond RD2: Roof Drain 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=826)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 486 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 468 cf, Atten= 16%, Lag= 3.0 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 468 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.76' @ 12.13 hrs Surf.Area= 239 sf Storage= 52 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 55.3 min calculated for 468 cf (96% of inflow)
Center-of-Mass det. time= 33.1 min (781.5 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

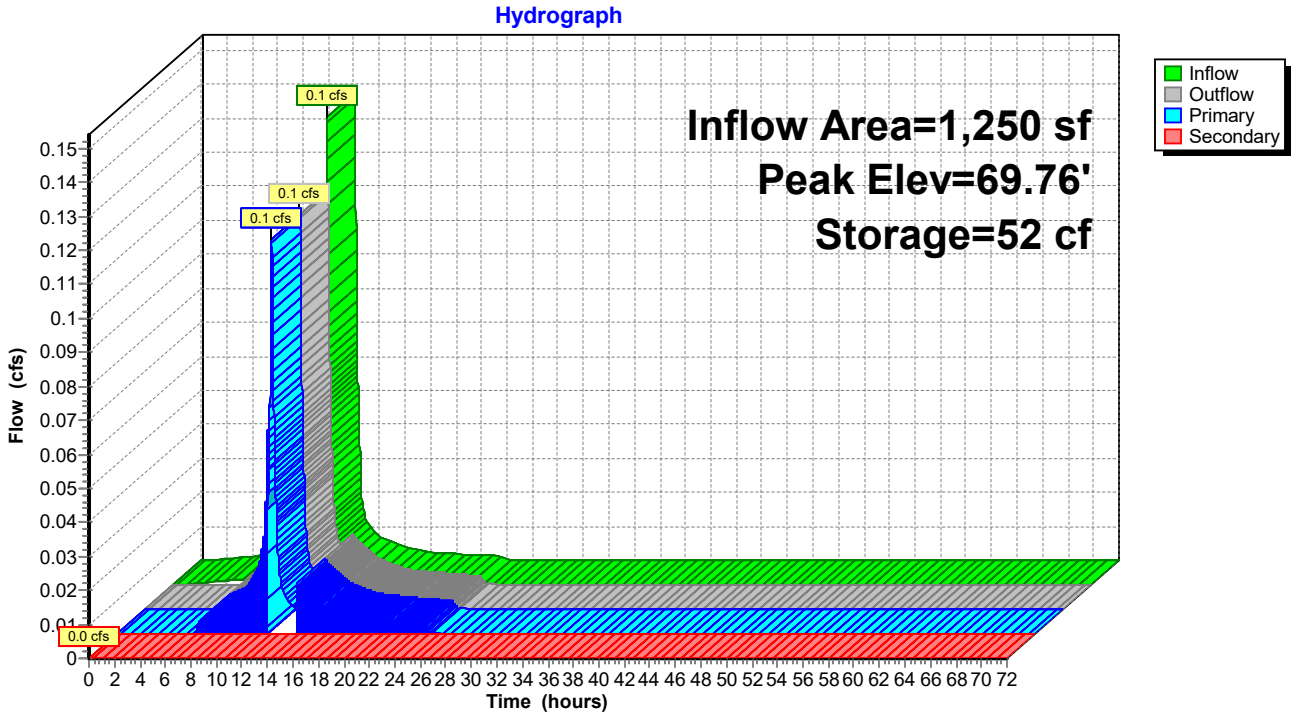
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.76' TW=69.68' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 0.1 cfs @ 1.33 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD2: Roof Drain 2



Summary for Pond RD3: Roof Drain 3

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 486 cf
Outflow = 0.1 cfs @ 12.11 hrs, Volume= 469 cf, Atten= 9%, Lag= 1.8 min
Primary = 0.1 cfs @ 12.11 hrs, Volume= 469 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.99' @ 12.12 hrs Surf.Area= 224 sf Storage= 41 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 49.9 min calculated for 469 cf (96% of inflow)
Center-of-Mass det. time= 28.2 min (776.6 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

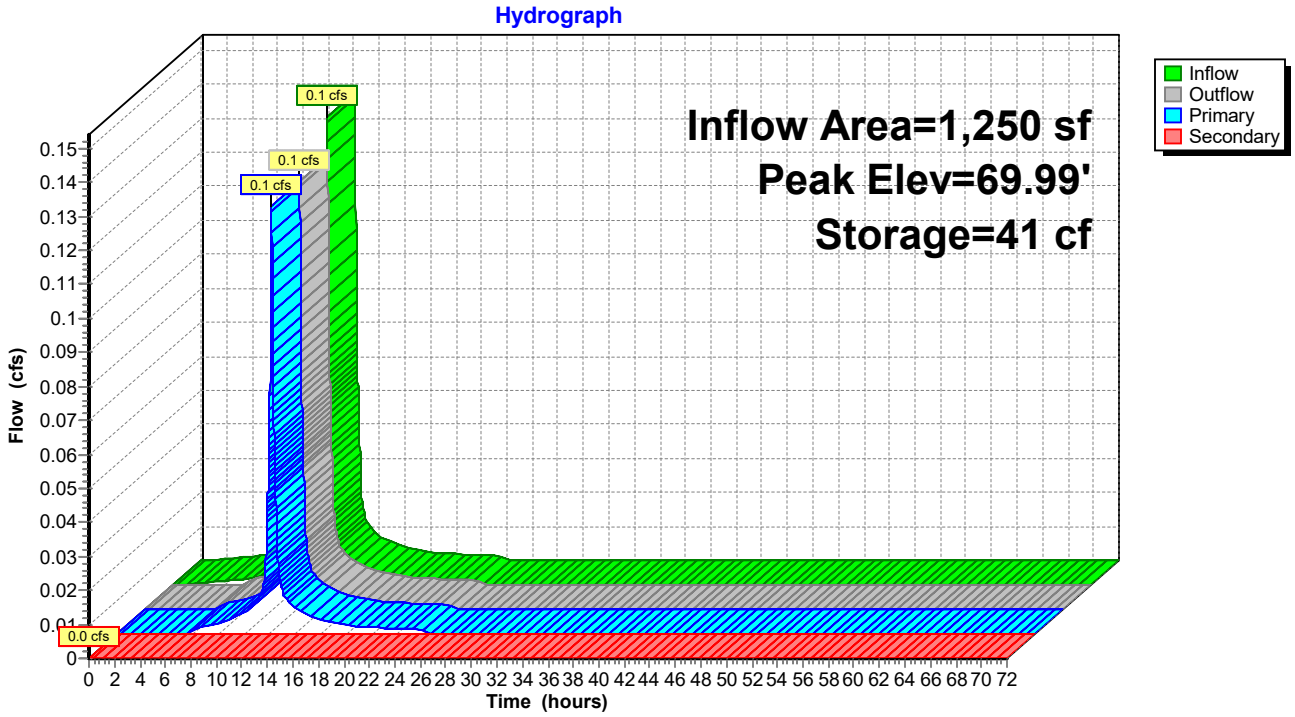
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.11 hrs HW=69.99' TW=69.89' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.52 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD3: Roof Drain 3



Summary for Pond RD4: Roof Drain 4

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 486 cf
Outflow = 0.1 cfs @ 12.11 hrs, Volume= 469 cf, Atten= 8%, Lag= 1.8 min
Primary = 0.1 cfs @ 12.11 hrs, Volume= 469 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.99' @ 12.12 hrs Surf.Area= 224 sf Storage= 41 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 49.9 min calculated for 469 cf (96% of inflow)
Center-of-Mass det. time= 28.2 min (776.6 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

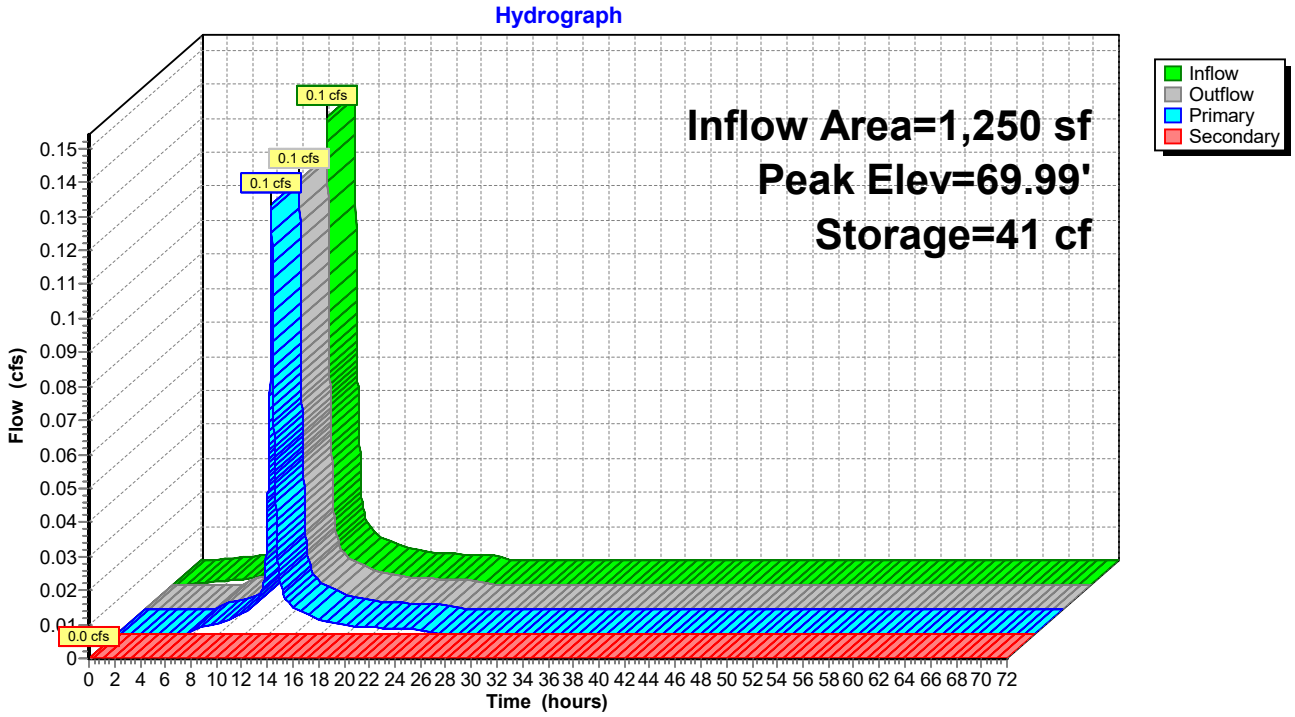
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.11 hrs HW=69.99' TW=69.88' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.53 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD4: Roof Drain 4



Summary for Pond RD5: Roof Drain 5

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=351)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 486 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 468 cf, Atten= 15%, Lag= 3.0 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 468 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.73' @ 12.13 hrs Surf.Area= 236 sf Storage= 50 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 53.7 min calculated for 468 cf (96% of inflow)
Center-of-Mass det. time= 31.4 min (779.8 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

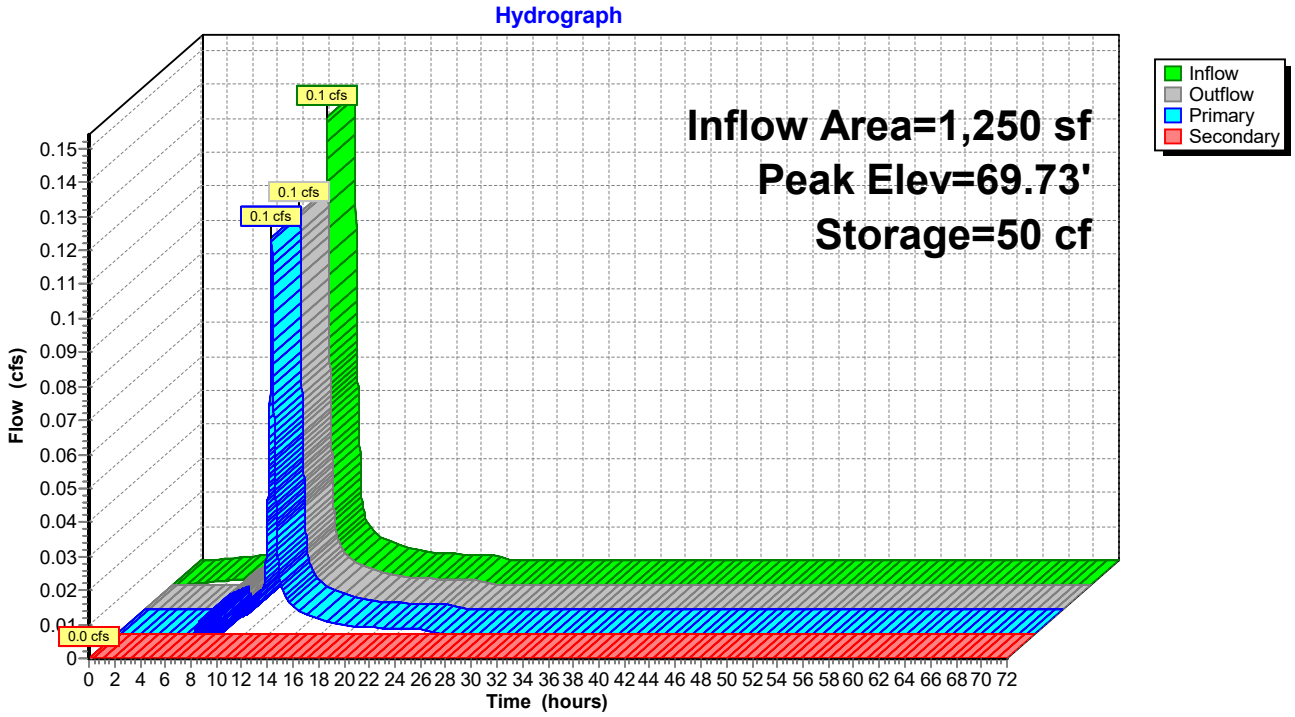
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.73' TW=69.65' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.34 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD5: Roof Drain 5



Summary for Pond RD6: Roof Drain 6

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=484)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 486 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 469 cf, Atten= 15%, Lag= 2.6 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 469 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.59' @ 12.13 hrs Surf.Area= 231 sf Storage= 46 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 49.7 min calculated for 469 cf (97% of inflow)
Center-of-Mass det. time= 29.1 min (777.5 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

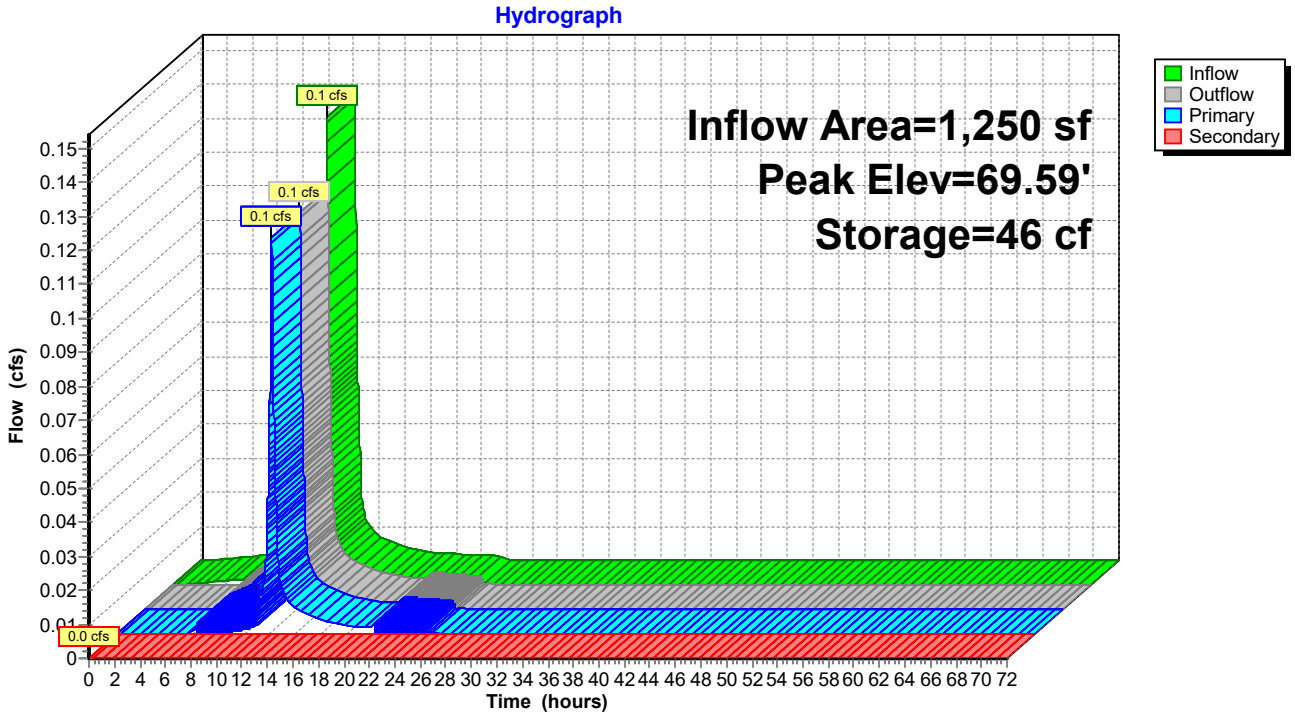
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.59' TW=69.52' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.33 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD6: Roof Drain 6



Summary for Pond RD7: Roof Drain 7

[92] Warning: Device #2 is above defined storage
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=899)

Inflow Area =	1,250 sf,	100.00% Impervious,	Inflow Depth =	4.66"	for 10-Year event
Inflow =	0.1 cfs @	12.08 hrs, Volume=	486 cf		
Outflow =	0.3 cfs @	12.13 hrs, Volume=	468 cf,	Atten= 0%,	Lag= 2.8 min
Primary =	0.3 cfs @	12.13 hrs, Volume=	468 cf		
Secondary =	0.0 cfs @	0.00 hrs, Volume=	0 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.39' @ 12.17 hrs Surf.Area= 281 sf Storage= 94 cf
Flood Elev= 69.30' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 55.5 min calculated for 468 cf (96% of inflow)
Center-of-Mass det. time= 33.3 min (781.7 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	66.29'	271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

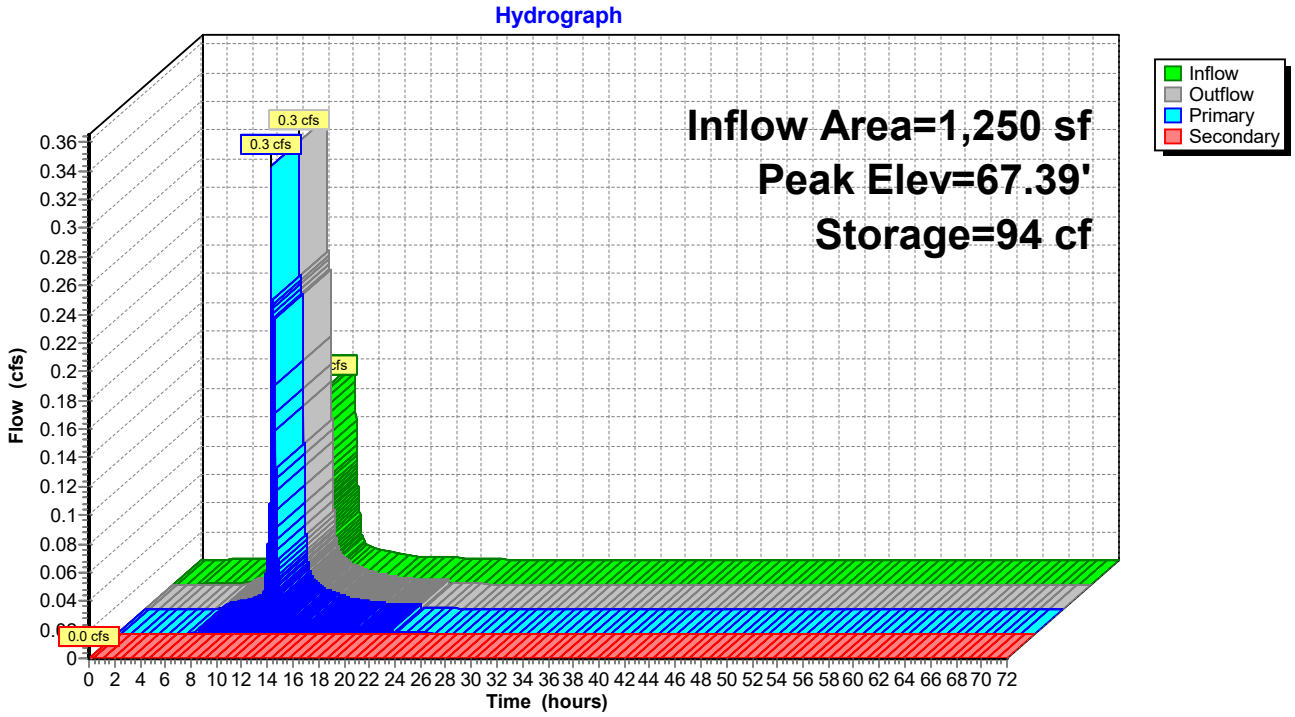
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.29	156	0.0	0	0
66.30	156	40.0	1	1
67.29	281	40.0	87	87
67.30	281	25.0	1	88
68.29	281	25.0	70	157
68.30	281	40.0	1	159
69.30	281	40.0	112	271

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	69.30'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.13 hrs HW=67.32' TW=68.63' (Dynamic Tailwater)
└**1=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=66.29' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD7: Roof Drain 7



Summary for Pond SF1: Soil Filter 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 3.18" for 10-Year event
Inflow = 2.6 cfs @ 12.28 hrs, Volume= 11,872 cf
Outflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf, Atten= 39%, Lag= 16.1 min
Primary = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 64.04' @ 12.55 hrs Surf.Area= 2,732 sf Storage= 1,717 cf
Flood Elev= 66.25' Surf.Area= 3,716 sf Storage= 5,562 cf

Plug-Flow detention time= 15.1 min calculated for 11,865 cf (100% of inflow)
Center-of-Mass det. time= 15.0 min (842.1 - 827.1)

Volume	Invert	Avail.Storage	Storage Description
#1	60.99'	981 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	63.50'	4,581 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		5,562 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.99	1,250	0.0	0	0
61.00	1,250	40.0	5	5
61.99	1,250	40.0	495	500
62.00	1,250	25.0	3	503
63.49	1,250	25.0	466	969
63.50	1,250	100.0	12	981

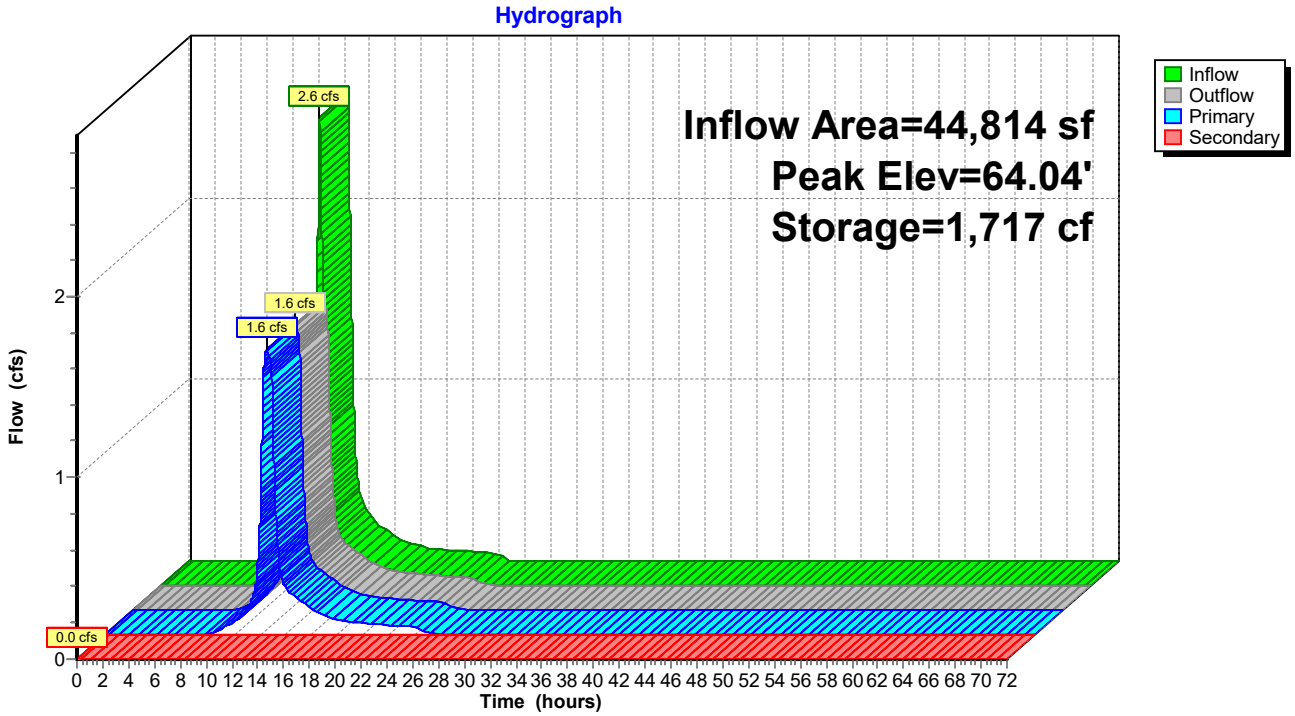
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.50	1,250	0	0
64.00	1,464	679	679
65.00	1,937	1,701	2,379
66.00	2,466	2,202	4,581

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**8.0" Round Culvert** L= 81.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 60.55' S= 0.0055 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.00'	**6.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.80'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	65.75'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.6 cfs @ 12.55 hrs HW=64.04' TW=61.28' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.6 cfs of 2.0 cfs potential flow)
  └─**2=Underdrain** (Orifice Controls 1.6 cfs @ 8.00 fps)
  └─**3=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=60.99' TW=51.20' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF1: Soil Filter 1



Summary for Pond SF2: Soil Filter 2

[95] Warning: Outlet Device #3 rise exceeded

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 3.27" for 10-Year event
Inflow = 7.0 cfs @ 12.23 hrs, Volume= 34,010 cf
Outflow = 1.8 cfs @ 12.80 hrs, Volume= 33,787 cf, Atten= 74%, Lag= 33.9 min
Primary = 1.8 cfs @ 12.80 hrs, Volume= 33,787 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.41' @ 12.80 hrs Surf.Area= 13,468 sf Storage= 14,054 cf
Flood Elev= 64.00' Surf.Area= 15,354 sf Storage= 27,812 cf

Plug-Flow detention time= 136.6 min calculated for 33,782 cf (99% of inflow)
Center-of-Mass det. time= 132.8 min (945.9 - 813.1)

Volume	Invert	Avail.Storage	Storage Description
#1	58.49'	4,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	61.00'	23,248 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		27,812 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.49	5,803	0.0	0	0
58.50	5,803	40.0	23	23
59.50	5,803	40.0	2,321	2,344
59.51	5,803	25.0	15	2,359
60.99	5,803	25.0	2,147	4,506
61.00	5,803	100.0	58	4,564

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	5,803	0	0
62.00	7,104	6,454	6,454
63.00	8,467	7,786	14,239
64.00	9,551	9,009	23,248

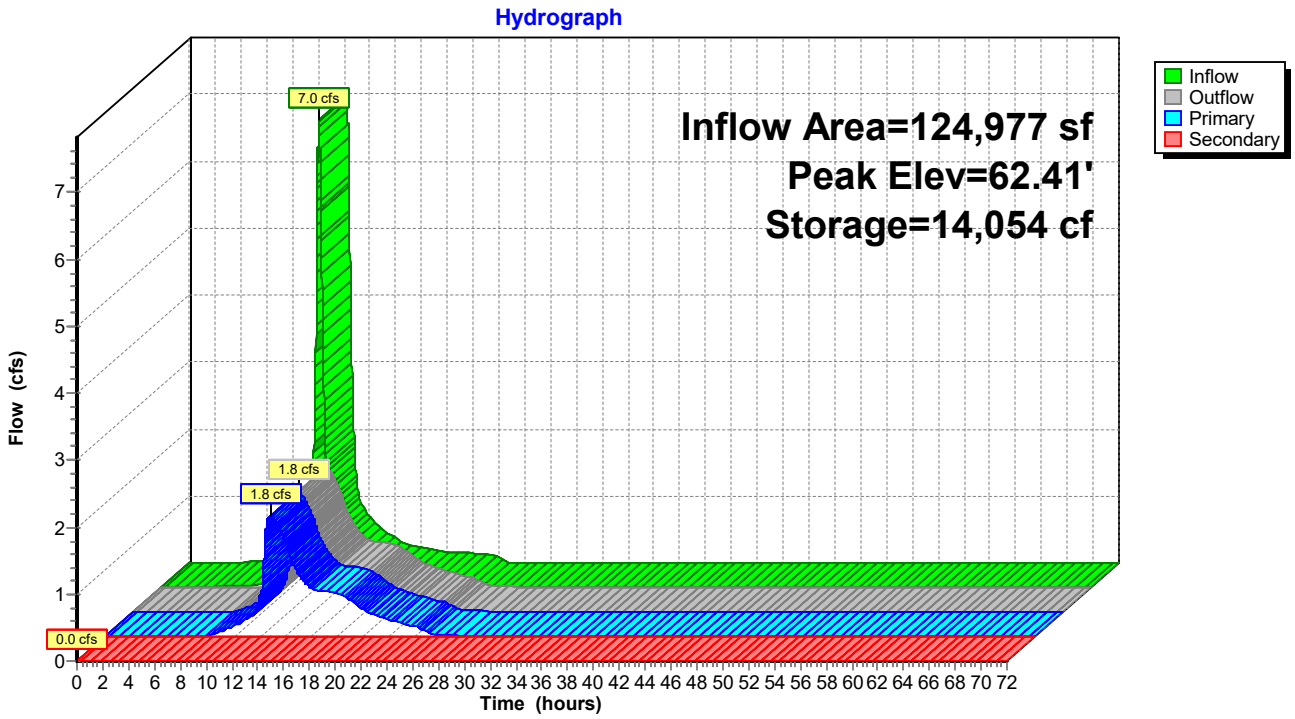
Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	**8.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 58.28' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	58.58'	**4.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	61.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.50 Width (feet) 0.50 0.50
#4	Device 1	63.00'	**24.0" x 24.0" Horiz. Structure Top** C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00

2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.8 cfs @ 12.80 hrs HW=62.41' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.8 cfs of 2.5 cfs potential flow)
  └─**2=Underdrain** (Orifice Controls 0.8 cfs @ 9.22 fps)
  └─**3=Custom Weir/Orifice** (Orifice Controls 1.0 cfs @ 3.97 fps)
  └─**4=Structure Top** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=58.49' TW=0.00' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF2: Soil Filter 2

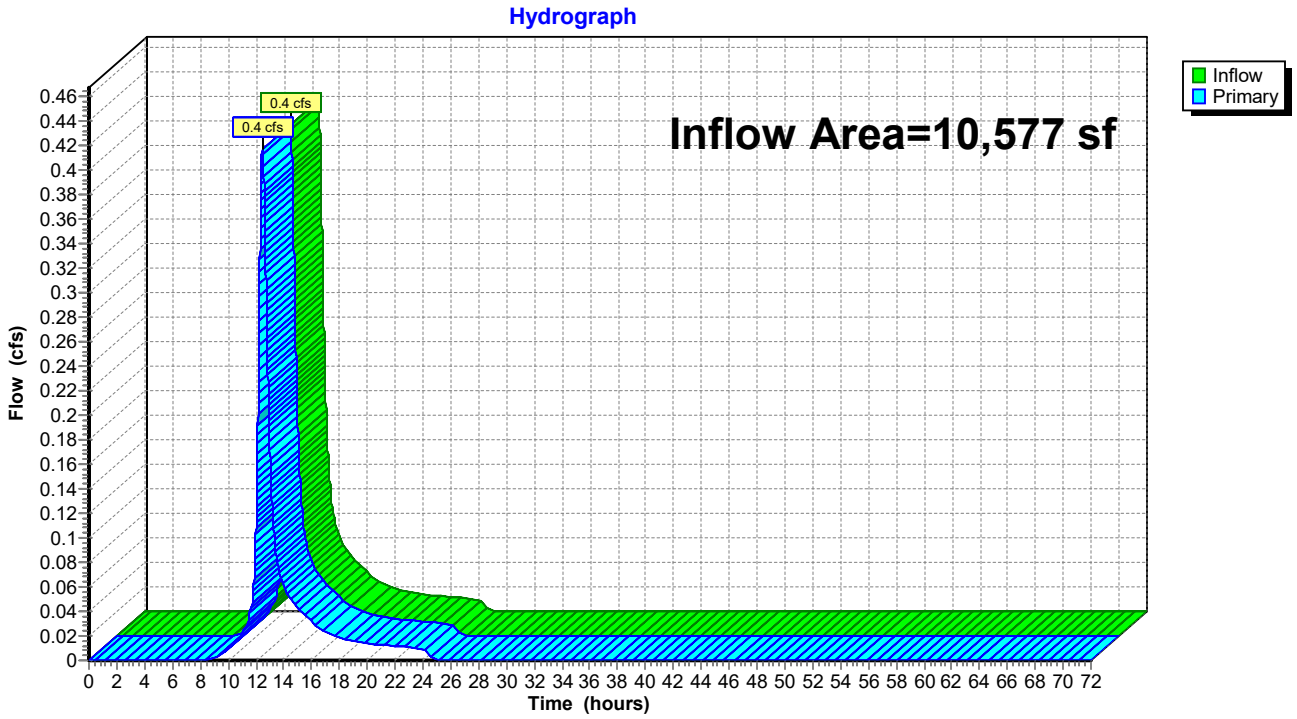


Summary for Link AP#1: Analysis Point 1

Inflow Area = 10,577 sf, 0.00% Impervious, Inflow Depth = 2.72" for 10-Year event
Inflow = 0.4 cfs @ 12.47 hrs, Volume= 2,394 cf
Primary = 0.4 cfs @ 12.47 hrs, Volume= 2,394 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

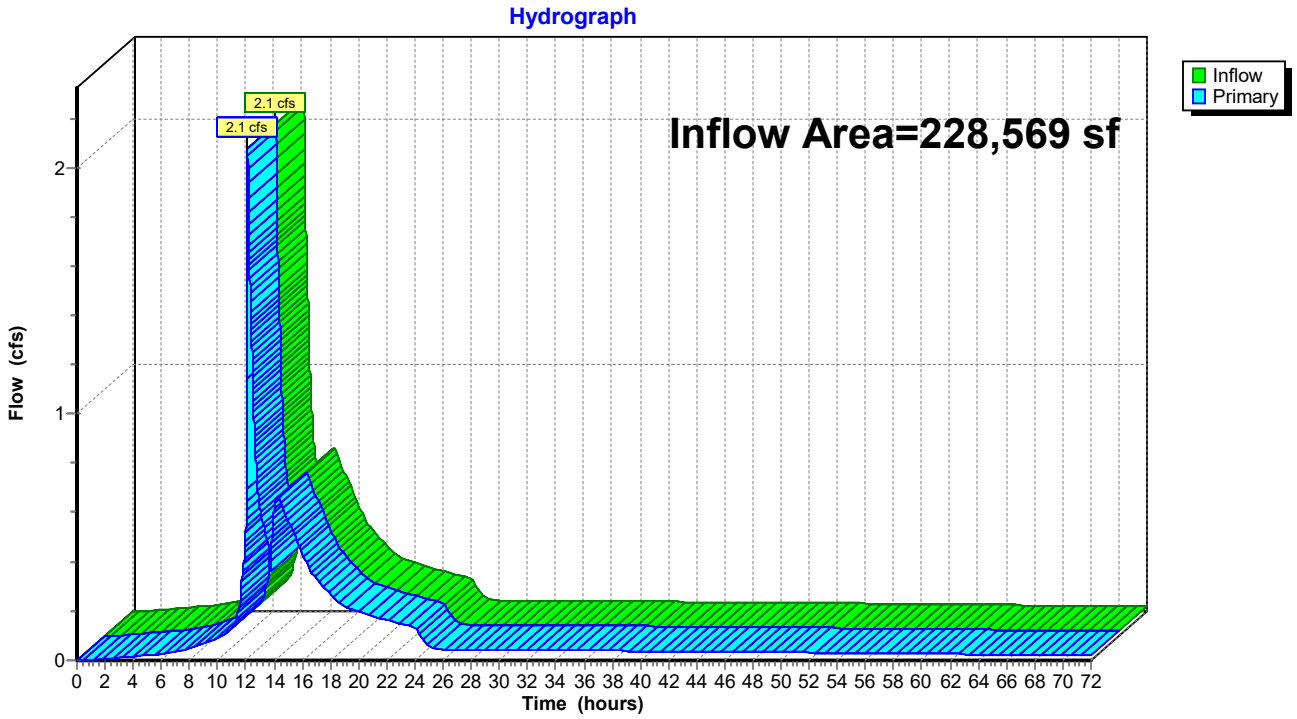


Summary for Link AP#2: Analysis Point 2

Inflow Area = 228,569 sf, 28.40% Impervious, Inflow Depth > 1.29" for 10-Year event
Inflow = 2.1 cfs @ 12.13 hrs, Volume= 24,534 cf
Primary = 2.1 cfs @ 12.13 hrs, Volume= 24,534 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

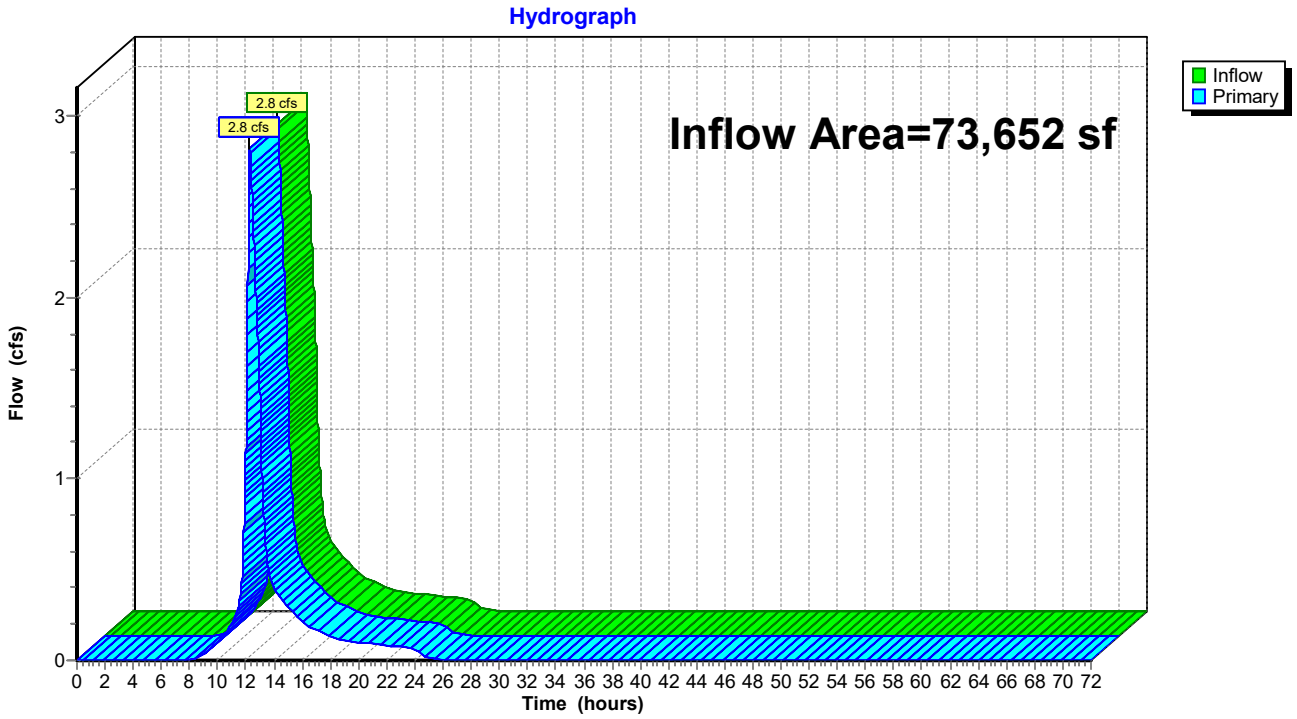


Summary for Link AP#3: Analysis Point 3

Inflow Area = 73,652 sf, 16.15% Impervious, Inflow Depth = 2.93" for 10-Year event
Inflow = 2.8 cfs @ 12.28 hrs, Volume= 17,969 cf
Primary = 2.8 cfs @ 12.28 hrs, Volume= 17,969 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

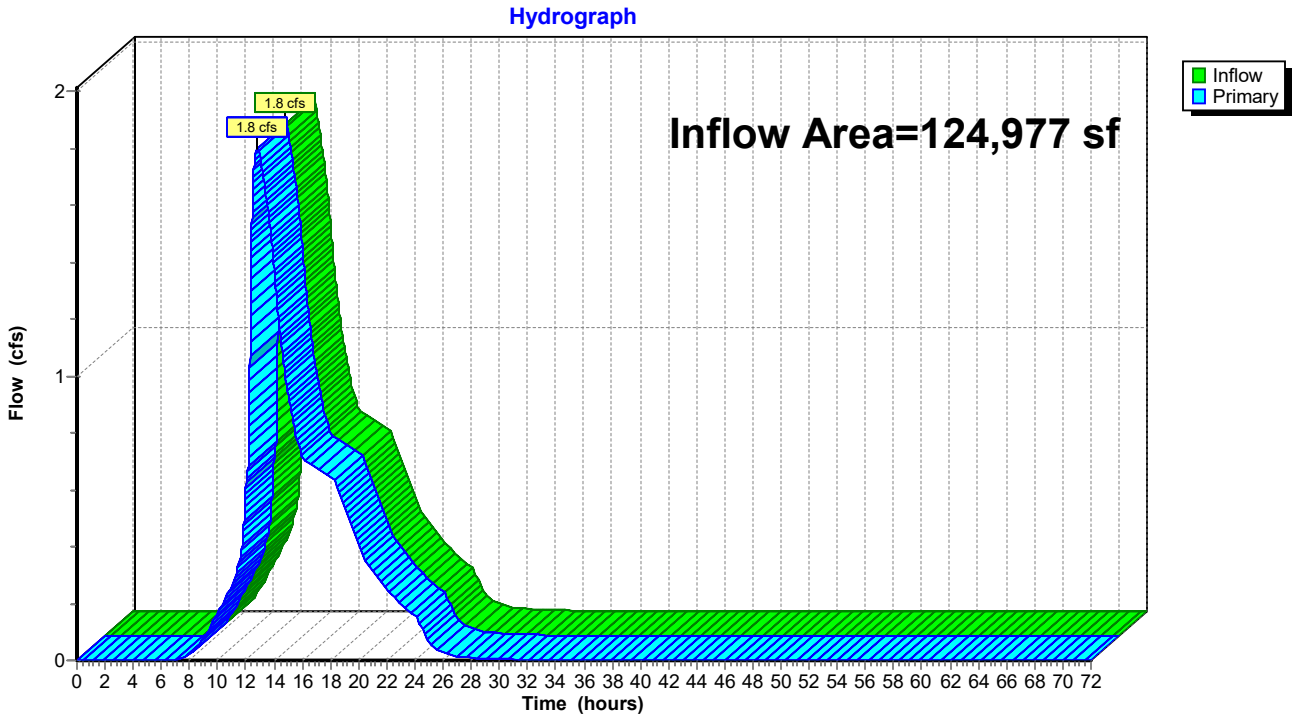


Summary for Link AP#4: Analysis Point 4

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 3.24" for 10-Year event
Inflow = 1.8 cfs @ 12.80 hrs, Volume= 33,787 cf
Primary = 1.8 cfs @ 12.80 hrs, Volume= 33,787 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

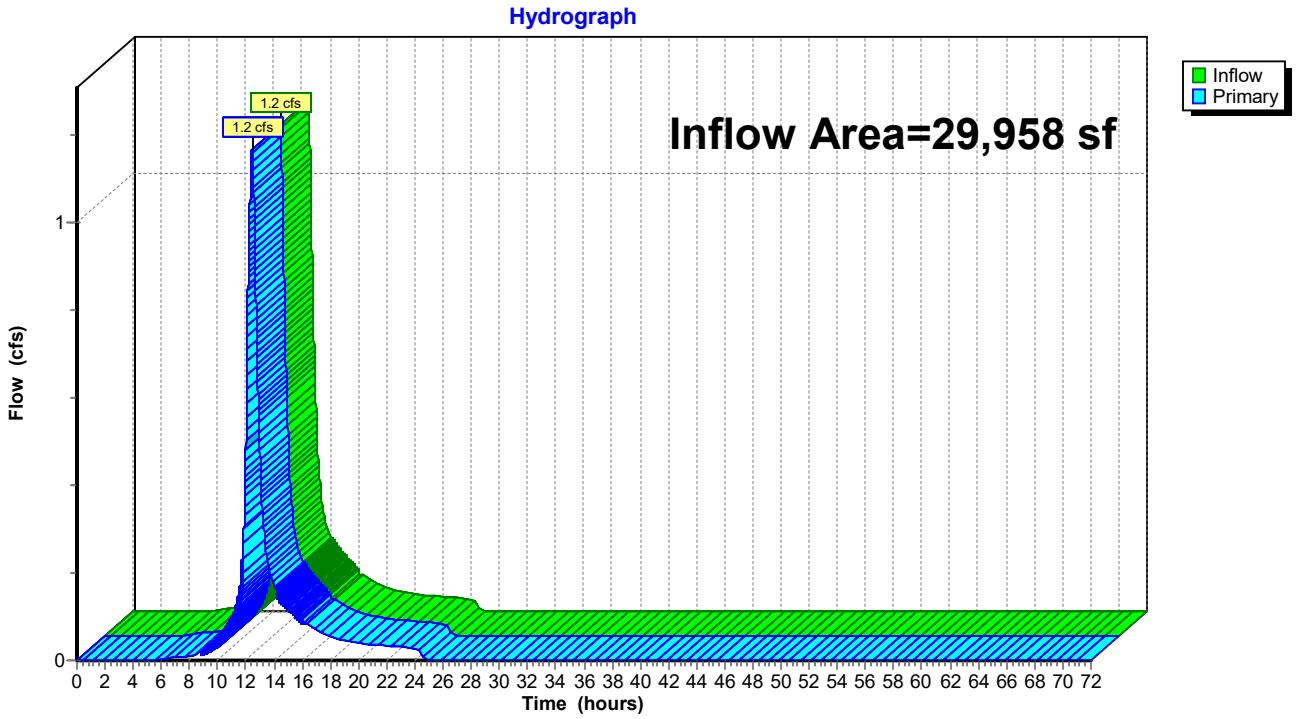


Summary for Link AP#5: Analysis Point 5

Inflow Area = 29,958 sf, 14.85% Impervious, Inflow Depth = 2.94" for 10-Year event
Inflow = 1.2 cfs @ 12.43 hrs, Volume= 7,336 cf
Primary = 1.2 cfs @ 12.43 hrs, Volume= 7,336 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

Subcatchment S1.1: Subcatchment 1.1 Runoff Area=10,577 sf 0.00% Impervious Runoff Depth=3.86"
Flow Length=131' Slope=0.0110 '/' Tc=33.3 min CN=79 Runoff=0.6 cfs 3,401 cf

Subcatchment S2.1: Subcatchment 2.1 Runoff Area=180,550 sf 19.58% Impervious Runoff Depth=1.72"
Flow Length=953' Tc=41.2 min CN=56 Runoff=3.7 cfs 25,816 cf

Subcatchment S2.2: Subcatchment S2.2 Runoff Area=30,401 sf 39.27% Impervious Runoff Depth=2.32"
Flow Length=280' Tc=22.3 min CN=63 Runoff=1.2 cfs 5,871 cf

Subcatchment S2.3: Subcatchment 2.3 Runoff Area=3,590 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,784 cf

Subcatchment S2.4: Subcatchment 2.4 Runoff Area=3,697 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,837 cf

Subcatchment S2.5: Subcatchment 2.5 Runoff Area=3,457 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,717 cf

Subcatchment S2.6: Subcatchment 2.6 Runoff Area=2,849 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.4 cfs 1,415 cf

Subcatchment S2.7: Subcatchment 2.7 Runoff Area=2,803 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.4 cfs 1,393 cf

Subcatchment S2.8: Subcatchment 2.8 Runoff Area=1,222 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 607 cf

Subcatchment S3.1: Subcatchment 3.1 Runoff Area=28,838 sf 4.33% Impervious Runoff Depth=3.65"
Flow Length=333' Tc=18.1 min CN=77 Runoff=2.0 cfs 8,782 cf

Subcatchment S3.2: Subcatchment 3.2 Runoff Area=44,814 sf 23.75% Impervious Runoff Depth=4.38"
Flow Length=329' Tc=19.8 min CN=84 Runoff=3.5 cfs 16,372 cf

Subcatchment S4.1: Subcatchment 4.1 Runoff Area=99,781 sf 12.03% Impervious Runoff Depth=4.17"
Flow Length=553' Tc=19.1 min CN=82 Runoff=7.7 cfs 34,686 cf

Subcatchment S4.10: Subcatchment 4.10 Runoff Area=3,197 sf 72.57% Impervious Runoff Depth=5.49"
Tc=6.0 min CN=94 Runoff=0.4 cfs 1,464 cf

Subcatchment S4.11: Subcatchment 4.11 Runoff Area=3,887 sf 74.68% Impervious Runoff Depth=5.49"
Tc=6.0 min CN=94 Runoff=0.5 cfs 1,780 cf

Subcatchment S4.12: Subcatchment 4.12 Runoff Area=1,423 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 707 cf

Subcatchment S4.13: Subcatchment 4.13 Runoff Area=1,627 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 808 cf

Subcatchment S4.2: Subcatchment 4.2 Runoff Area=3,347 sf 71.65% Impervious Runoff Depth=5.38"
Tc=6.0 min CN=93 Runoff=0.4 cfs 1,501 cf

Subcatchment S4.3: Subcatchment 4.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Subcatchment S4.4: Subcatchment 4.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Subcatchment S4.5: Subcatchment 4.5 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Subcatchment S4.6: Subcatchment 4.6 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Subcatchment S4.7: Subcatchment 4.7 Runoff Area=3,900 sf 73.33% Impervious Runoff Depth=5.49"
Tc=6.0 min CN=94 Runoff=0.5 cfs 1,786 cf

Subcatchment S4.8: Subcatchment 4.8 Runoff Area=1,313 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 652 cf

Subcatchment S4.9: Subcatchment 4.9 Runoff Area=1,502 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 746 cf

Subcatchment S5.1: Subcatchment 5.1 Runoff Area=26,208 sf 2.67% Impervious Runoff Depth=3.86"
Flow Length=421' Tc=32.7 min CN=79 Runoff=1.5 cfs 8,428 cf

Subcatchment S5.2: Subcatchment 5.2 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Subcatchment S5.3: Subcatchment 5.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Subcatchment S5.4: Subcatchment 5.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Reach S1: Swale 1 Avg. Flow Depth=0.16' Max Vel=2.50 fps Inflow=3.5 cfs 16,372 cf
n=0.022 L=175.0' S=0.0171 '/' Capacity=24.5 cfs Outflow=3.5 cfs 16,372 cf

Pond C1: Culvert 1 Peak Elev=69.92' Inflow=0.2 cfs 604 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0158 '/' Outflow=0.2 cfs 604 cf

Pond C10: Culvert 10 Peak Elev=69.67' Inflow=0.2 cfs 605 cf
12.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.2 cfs 605 cf

Pond C11: Culvert 11 Peak Elev=69.66' Inflow=0.5 cfs 1,812 cf
12.0" Round Culvert n=0.013 L=82.4' S=0.0076 '/' Outflow=0.5 cfs 1,812 cf

Pond C2: Culvert 2 Peak Elev=69.72' Inflow=0.3 cfs 1,207 cf
12.0" Round Culvert n=0.012 L=44.0' S=0.0027 '/' Outflow=0.3 cfs 1,207 cf

Pond C3: Culvert 3 Peak Elev=69.54' Inflow=0.4 cfs 1,810 cf
24.0" Round Culvert n=0.012 L=44.4' S=0.0052 '/' Outflow=0.4 cfs 1,810 cf

Pond C4: Culvert 4 Peak Elev=69.92' Inflow=0.2 cfs 604 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0142 '/' Outflow=0.2 cfs 604 cf

Pond C7: Culvert 7 Peak Elev=68.93' Inflow=0.3 cfs 603 cf
4.0" Round Culvert n=0.013 L=27.0' S=0.0048 '/' Outflow=0.3 cfs 603 cf

Pond C8: Culvert 8 Peak Elev=54.64' Inflow=3.7 cfs 25,816 cf
16.0" Round Culvert n=0.025 L=184.0' S=0.0054 '/' Outflow=3.7 cfs 25,816 cf

Pond C9: Culvert 9 Peak Elev=69.76' Inflow=0.3 cfs 1,207 cf
12.0" Round Culvert n=0.013 L=25.0' S=0.0088 '/' Outflow=0.3 cfs 1,207 cf

Pond CB1: Catch Basin 1 Peak Elev=69.48' Inflow=0.9 cfs 3,312 cf
12.0" Round Culvert n=0.013 L=79.0' S=0.0051 '/' Outflow=0.9 cfs 3,312 cf

Pond CB10: Catch Basin 10 Peak Elev=61.60' Inflow=1.0 cfs 3,620 cf
12.0" Round Culvert n=0.013 L=212.5' S=0.0424 '/' Outflow=1.0 cfs 3,620 cf

Pond CB11: Catch Basin 11 Peak Elev=52.74' Inflow=0.5 cfs 1,717 cf
12.0" Round Culvert n=0.013 L=18.5' S=0.0054 '/' Outflow=0.5 cfs 1,717 cf

Pond CB12: Catch Basin 12 Peak Elev=52.70' Inflow=1.9 cfs 6,753 cf
12.0" Round Culvert n=0.013 L=96.6' S=0.0404 '/' Outflow=1.9 cfs 6,753 cf

Pond CB13: Catch Basin 13 Peak Elev=49.79' Inflow=2.5 cfs 8,753 cf
12.0" Round Culvert n=0.013 L=49.3' S=0.0034 '/' Outflow=2.5 cfs 8,753 cf

Pond CB14: Catch Basin 14 Peak Elev=50.25' Inflow=2.1 cfs 7,360 cf
12.0" Round Culvert n=0.013 L=15.0' S=0.0067 '/' Outflow=2.1 cfs 7,360 cf

Pond CB2: Catch Basin 2 Peak Elev=69.20' Inflow=0.4 cfs 1,464 cf
12.0" Round Culvert n=0.013 L=79.2' S=0.0051 '/' Outflow=0.4 cfs 1,464 cf

Pond CB3: Catch Basin 3 Peak Elev=69.39' Inflow=1.7 cfs 5,701 cf
12.0" Round Culvert n=0.013 L=17.5' S=0.0057 '/' Outflow=1.7 cfs 5,701 cf

Pond CB4: Catch Basin 4 Peak Elev=69.18' Inflow=2.6 cfs 8,945 cf
12.0" Round Culvert n=0.013 L=103.7' S=0.0053 '/' Outflow=2.6 cfs 8,945 cf

Pond CB5: Catch Basin 5 Peak Elev=68.48' Inflow=0.2 cfs 652 cf
12.0" Round Culvert n=0.013 L=18.4' S=0.0054 '/' Outflow=0.2 cfs 652 cf

Pond CB6: Catch Basin 6 Peak Elev=68.48' Inflow=3.0 cfs 10,304 cf
12.0" Round Culvert n=0.013 L=60.9' S=0.0057 '/' Outflow=3.0 cfs 10,304 cf

Pond CB7: Catch Basin 7 Peak Elev=66.81' Inflow=0.2 cfs 746 cf
12.0" Round Culvert n=0.013 L=18.2' S=0.0055 '/' Outflow=0.2 cfs 746 cf

Pond CB8: Catch Basin 8 Peak Elev=66.81' Inflow=3.4 cfs 11,859 cf
12.0" Round Culvert n=0.013 L=156.4' S=0.0054 '/' Outflow=3.4 cfs 11,859 cf

Pond CB9: Catch Basin 9 Peak Elev=62.44' Inflow=0.5 cfs 1,784 cf
12.0" Round Culvert n=0.013 L=18.8' S=0.0053 '/' Outflow=0.5 cfs 1,784 cf

Pond CH1: Chamber 1 Peak Elev=48.59' Storage=961 cf Inflow=2.5 cfs 8,753 cf
Outflow=2.4 cfs 8,753 cf

Pond MH1: Manhole 1 Peak Elev=67.64' Inflow=3.0 cfs 10,304 cf
12.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=3.0 cfs 10,304 cf

Pond MH2: Manhole 2 Peak Elev=61.35' Inflow=1.8 cfs 16,366 cf
12.0" Round Culvert n=0.013 L=152.9' S=0.0052 '/' Outflow=1.8 cfs 16,366 cf

Pond MH3: Manhole 3 Peak Elev=60.46' Inflow=1.8 cfs 16,366 cf
12.0" Round Culvert n=0.013 L=81.0' S=0.0049 '/' Outflow=1.8 cfs 16,366 cf

Pond MH4: Manhole 4 Peak Elev=59.89' Inflow=1.8 cfs 16,366 cf
12.0" Round Culvert n=0.013 L=205.9' S=0.0051 '/' Outflow=1.8 cfs 16,366 cf

Pond MH5: Manhole 5 Peak Elev=49.12' Inflow=2.5 cfs 8,753 cf
12.0" Round Culvert n=0.013 L=6.2' S=0.0048 '/' Outflow=2.5 cfs 8,753 cf

Pond P1: Pond 1 Peak Elev=53.59' Storage=7,879 cf Inflow=3.7 cfs 25,816 cf
Outflow=2.3 cfs 24,926 cf

Pond RD1: Roof Drain 1 Peak Elev=69.67' Storage=54 cf Inflow=0.2 cfs 621 cf
Primary=0.1 cfs 603 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 603 cf

Pond RD2: Roof Drain 2 Peak Elev=69.84' Storage=61 cf Inflow=0.2 cfs 621 cf
Primary=0.1 cfs 603 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 603 cf

Pond RD3: Roof Drain 3 Peak Elev=70.05' Storage=47 cf Inflow=0.2 cfs 621 cf
Primary=0.2 cfs 604 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 604 cf

Pond RD4: Roof Drain 4 Peak Elev=70.05' Storage=47 cf Inflow=0.2 cfs 621 cf
Primary=0.2 cfs 604 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 604 cf

Pond RD5: Roof Drain 5 Peak Elev=69.83' Storage=59 cf Inflow=0.2 cfs 621 cf
Primary=0.2 cfs 603 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 603 cf

Pond RD6: Roof Drain 6 Peak Elev=69.71' Storage=57 cf Inflow=0.2 cfs 621 cf
Primary=0.2 cfs 605 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 605 cf

Pond RD7: Roof Drain 7 Peak Elev=68.00' Storage=137 cf Inflow=0.2 cfs 621 cf
Primary=0.3 cfs 603 cf Secondary=0.0 cfs 0 cf Outflow=0.3 cfs 603 cf

Pond SF1: Soil Filter 1 Peak Elev=64.79' Storage=2,965 cf Inflow=3.5 cfs 16,372 cf
Primary=1.8 cfs 16,366 cf Secondary=0.0 cfs 0 cf Outflow=1.8 cfs 16,366 cf

Pond SF2: Soil Filter 2 Peak Elev=63.06' Storage=19,341 cf Inflow=9.6 cfs 46,545 cf
Primary=2.7 cfs 46,322 cf Secondary=0.0 cfs 0 cf Outflow=2.7 cfs 46,322 cf

Link AP#1: Analysis Point 1 Inflow=0.6 cfs 3,401 cf
Primary=0.6 cfs 3,401 cf

Link AP#2: Analysis Point 2 Inflow=3.0 cfs 39,549 cf
Primary=3.0 cfs 39,549 cf

Link AP#3: Analysis Point 3 Inflow=3.5 cfs 25,148 cf
Primary=3.5 cfs 25,148 cf

Link AP#4: Analysis Point 4 Inflow=2.7 cfs 46,322 cf
Primary=2.7 cfs 46,322 cf

Link AP#5: Analysis Point 5 Inflow=1.6 cfs 10,238 cf
Primary=1.6 cfs 10,238 cf

Total Runoff Area = 467,733 sf Runoff Volume = 125,900 cf Average Runoff Depth = 3.23"
75.50% Pervious = 353,127 sf 24.50% Impervious = 114,606 sf

Summary for Subcatchment S1.1: Subcatchment 1.1

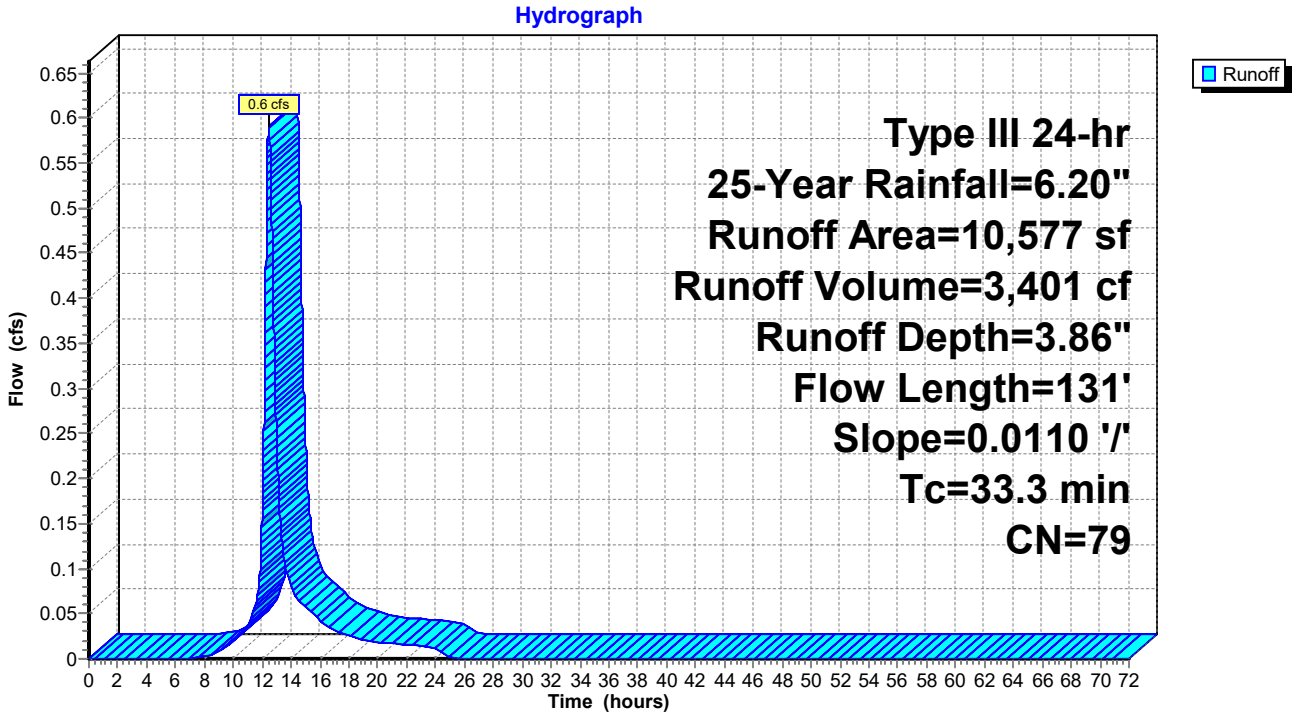
Runoff = 0.6 cfs @ 12.47 hrs, Volume= 3,401 cf, Depth= 3.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
6,431	80	>75% Grass cover, Good, HSG D
4,146	77	Woods, Good, HSG D
10,577	79	Weighted Average
10,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	131	0.0110	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"

Subcatchment S1.1: Subcatchment 1.1



Summary for Subcatchment S2.1: Subcatchment 2.1

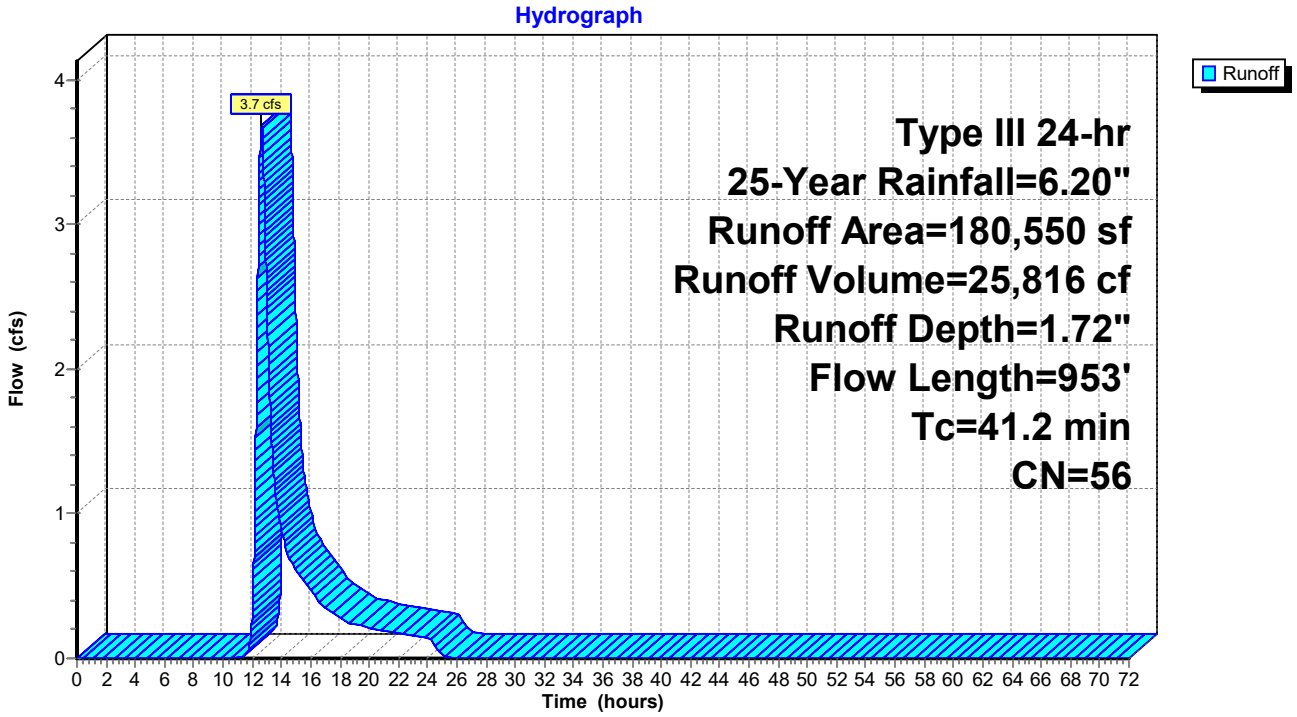
Runoff = 3.7 cfs @ 12.63 hrs, Volume= 25,816 cf, Depth= 1.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
12,432	39	>75% Grass cover, Good, HSG A
85,722	30	Woods, Good, HSG A
489	98	Paved parking, HSG A
17,787	80	>75% Grass cover, Good, HSG D
29,251	77	Woods, Good, HSG D
14,624	98	Paved parking, HSG D
3,134	98	Paved parking, HSG D
17,111	98	Roofs, HSG A
180,550	56	Weighted Average
145,192		80.42% Pervious Area
35,358		19.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	51	0.0196	0.15		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
13.5	99	0.0606	0.12		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
7.7	300	0.0167	0.65		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
4.3	203	0.0246	0.78		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
41.2	953	Total			

Subcatchment S2.1: Subcatchment 2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

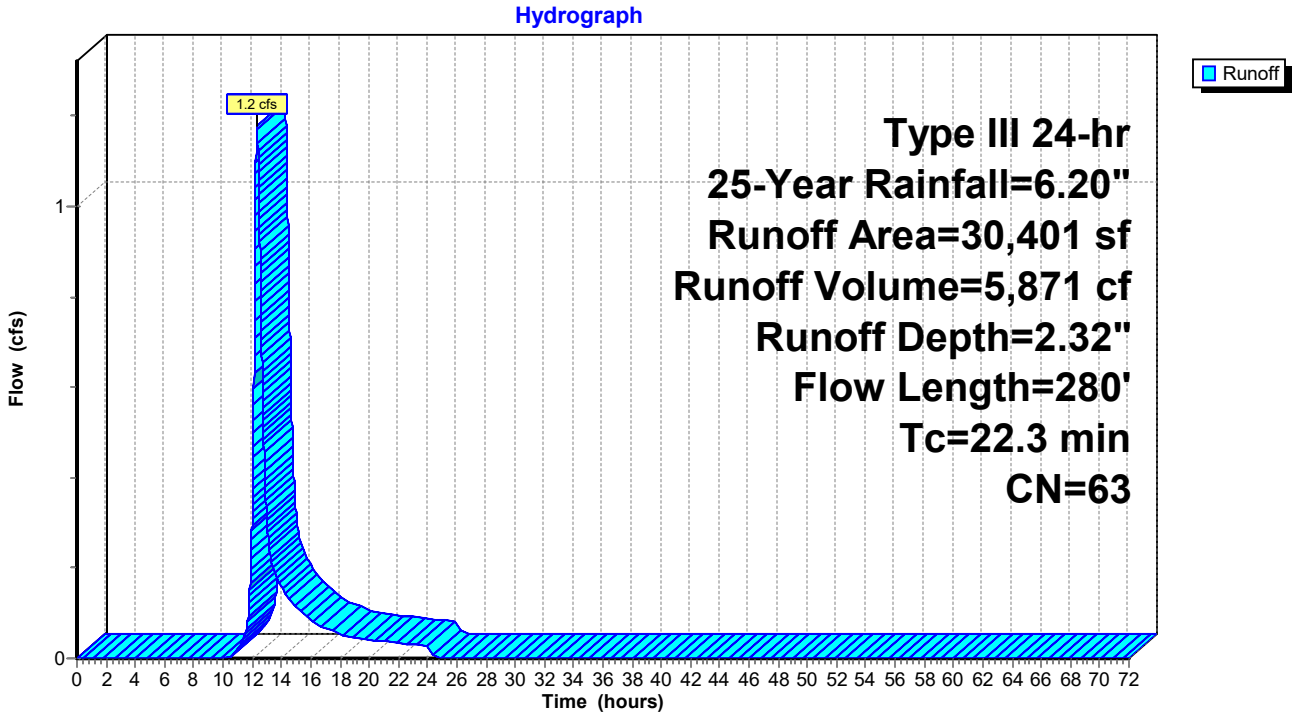
Runoff = 1.2 cfs @ 12.32 hrs, Volume= 5,871 cf, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
5,813	98	Paved parking, HSG A
30,401	63	Weighted Average
18,462		60.73% Pervious Area
11,939		39.27% Impervious Area
6,060		50.76% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	150	0.0520	0.13		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.3	130	0.0350	0.94		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.3	280	Total			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment 2.3

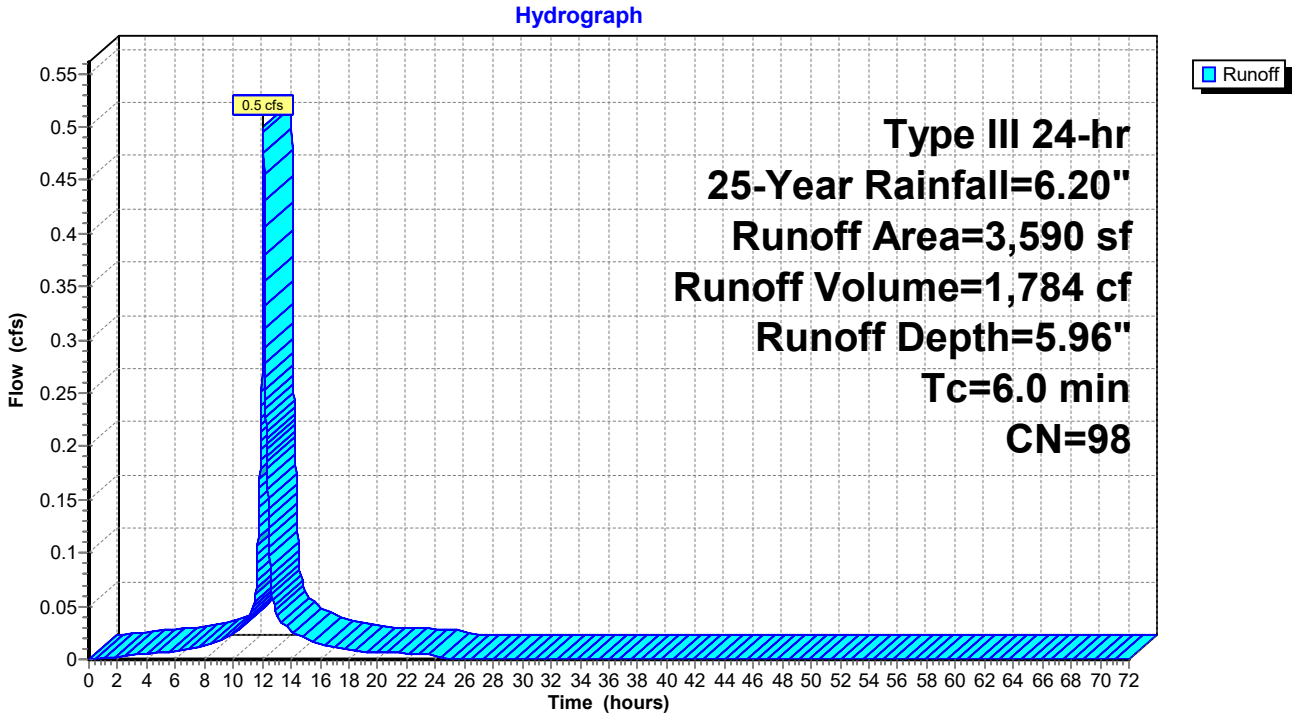
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,784 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
3,590	98	Paved roads w/curbs & sewers, HSG D
3,590		100.00% Impervious Area

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

Subcatchment S2.3: Subcatchment 2.3



Summary for Subcatchment S2.4: Subcatchment 2.4

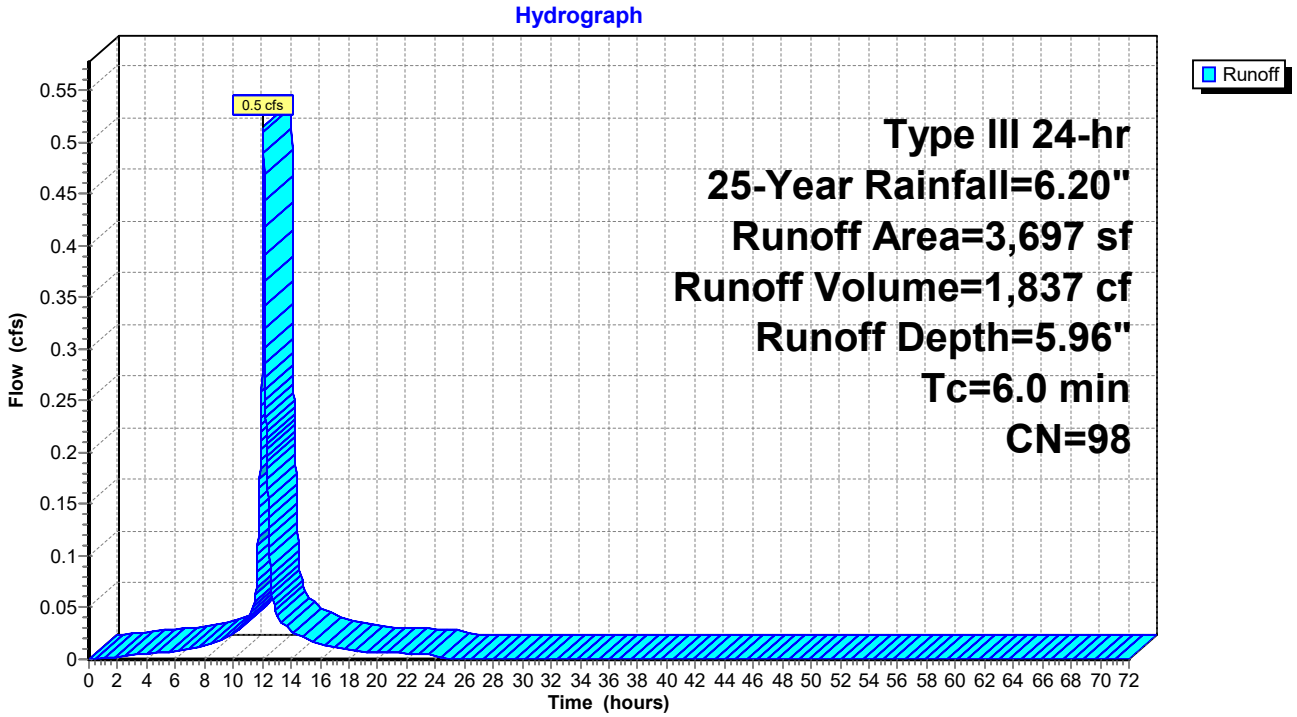
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,837 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
3,697	98	Paved roads w/curbs & sewers, HSG D
3,697		100.00% Impervious Area

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

Subcatchment S2.4: Subcatchment 2.4



Summary for Subcatchment S2.5: Subcatchment 2.5

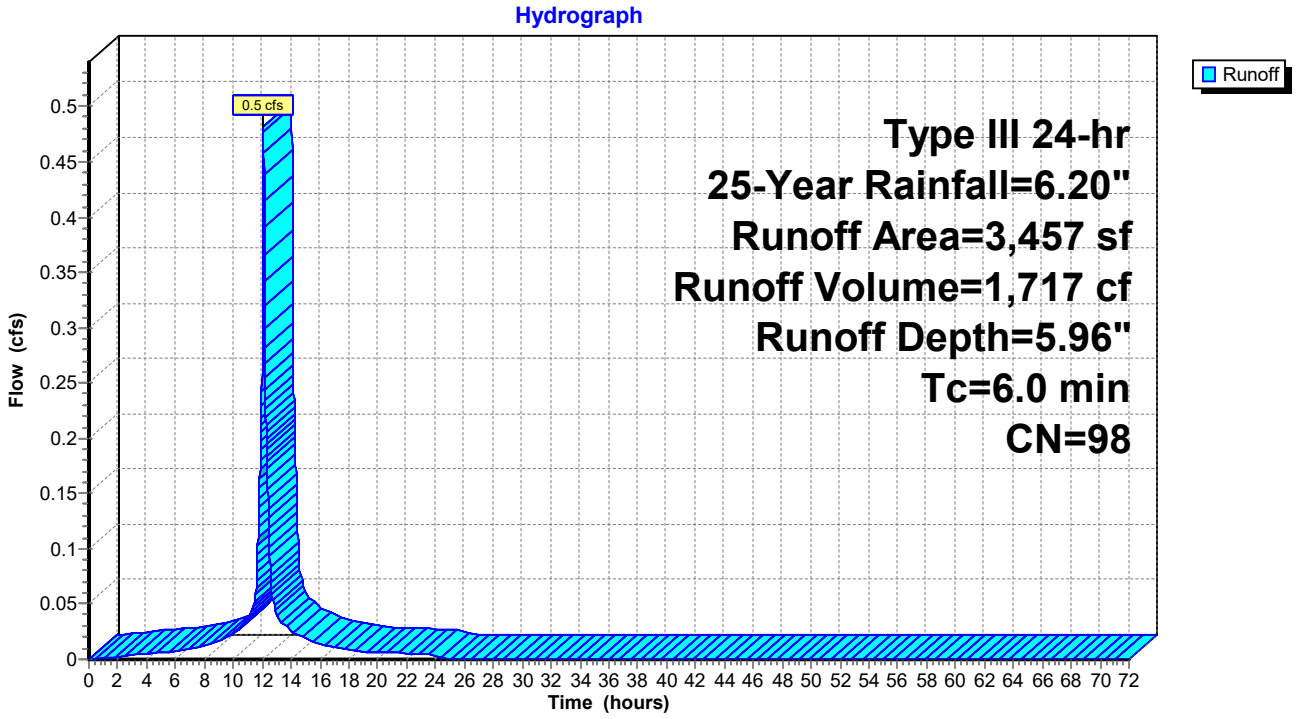
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,717 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
3,457	98	Paved roads w/curbs & sewers, HSG D
3,457		100.00% Impervious Area

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

Subcatchment S2.5: Subcatchment 2.5



Summary for Subcatchment S2.6: Subcatchment 2.6

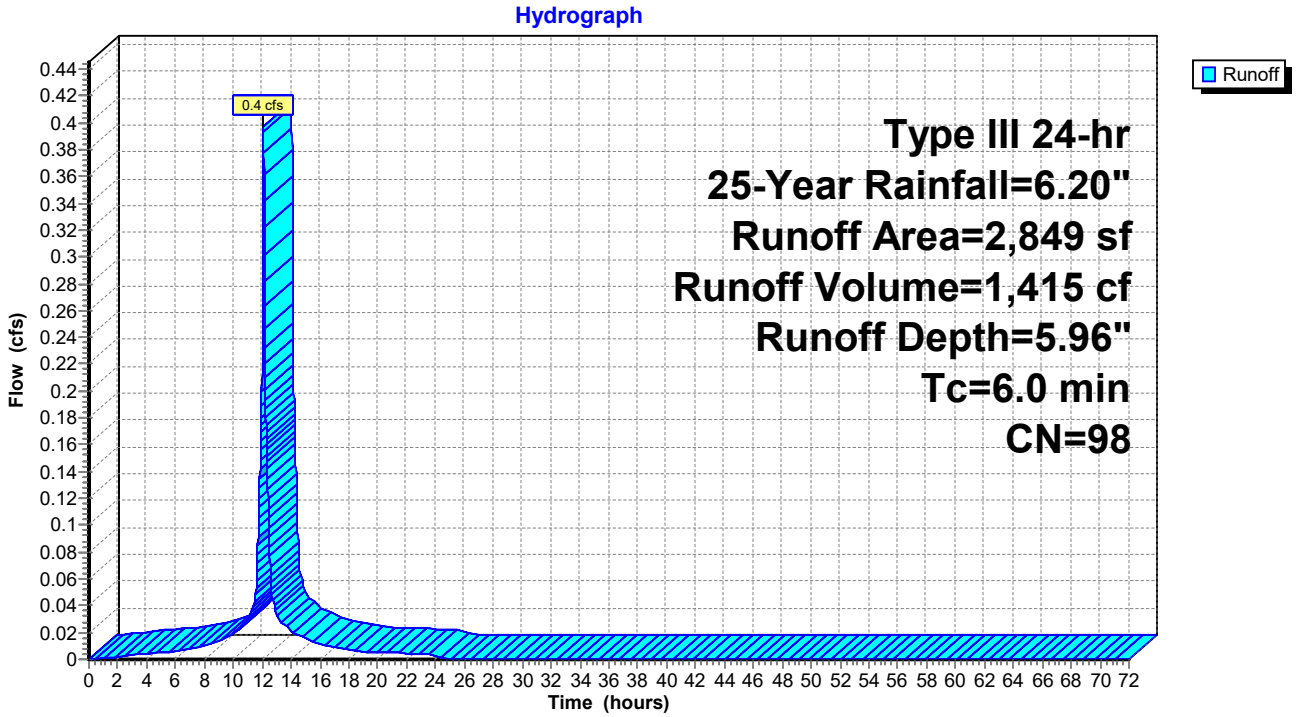
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,415 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
2,849	98	Paved roads w/curbs & sewers, HSG D
2,849		100.00% Impervious Area

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

Subcatchment S2.6: Subcatchment 2.6



Summary for Subcatchment S2.7: Subcatchment 2.7

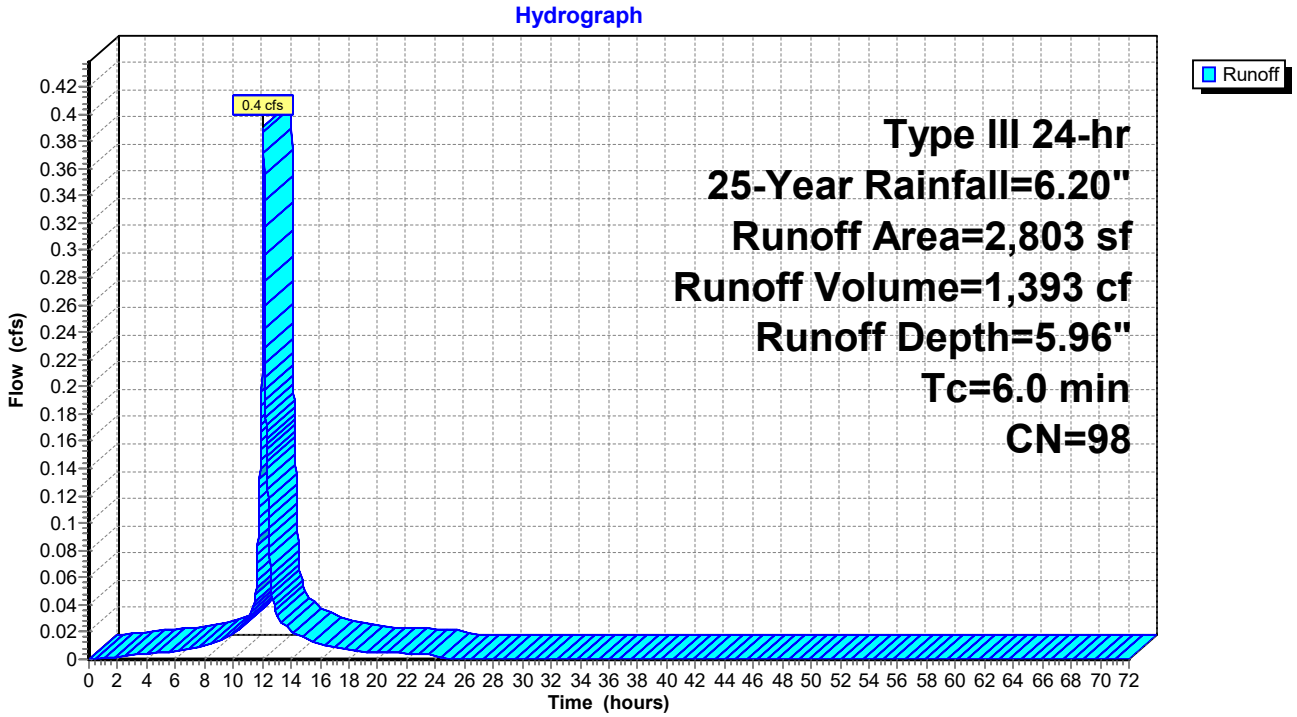
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,393 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
2,803	98	Paved roads w/curbs & sewers, HSG D
2,803		100.00% Impervious Area

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

Subcatchment S2.7: Subcatchment 2.7



Summary for Subcatchment S2.8: Subcatchment 2.8

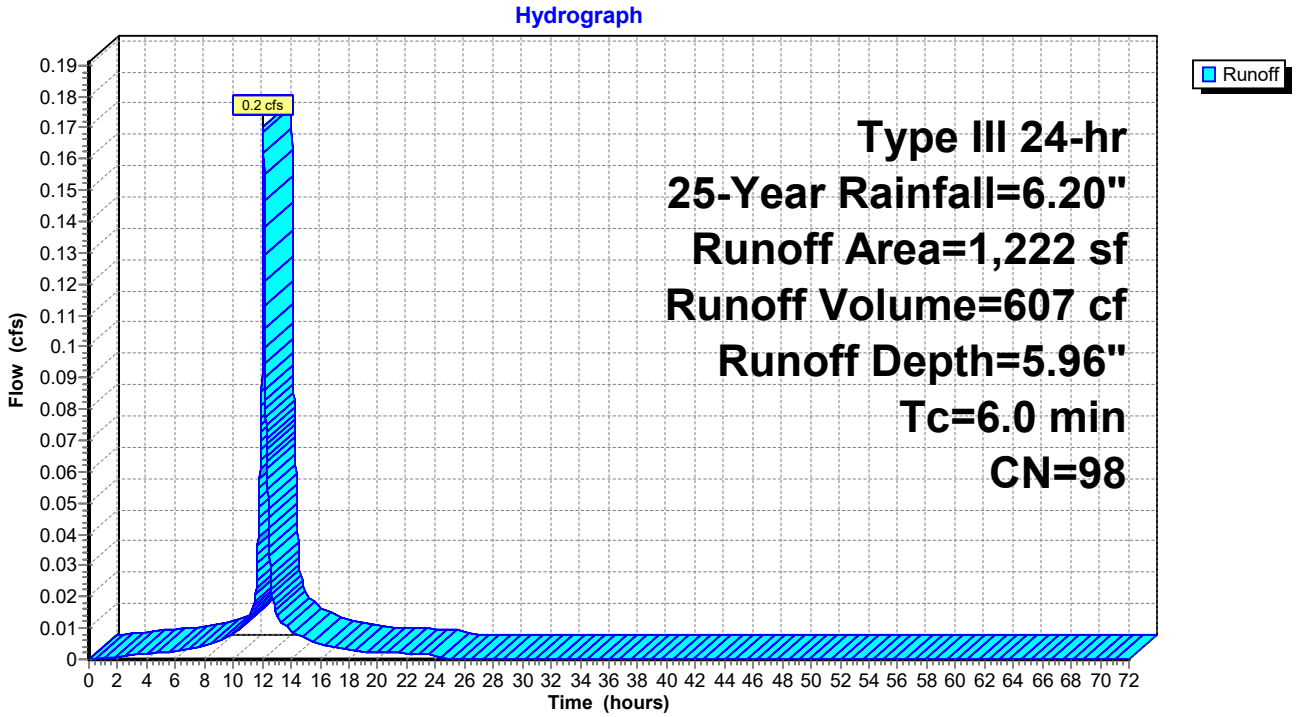
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 607 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,222	98	Paved roads w/curbs & sewers, HSG D
1,222		100.00% Impervious Area

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

Subcatchment S2.8: Subcatchment 2.8



Summary for Subcatchment S3.1: Subcatchment 3.1

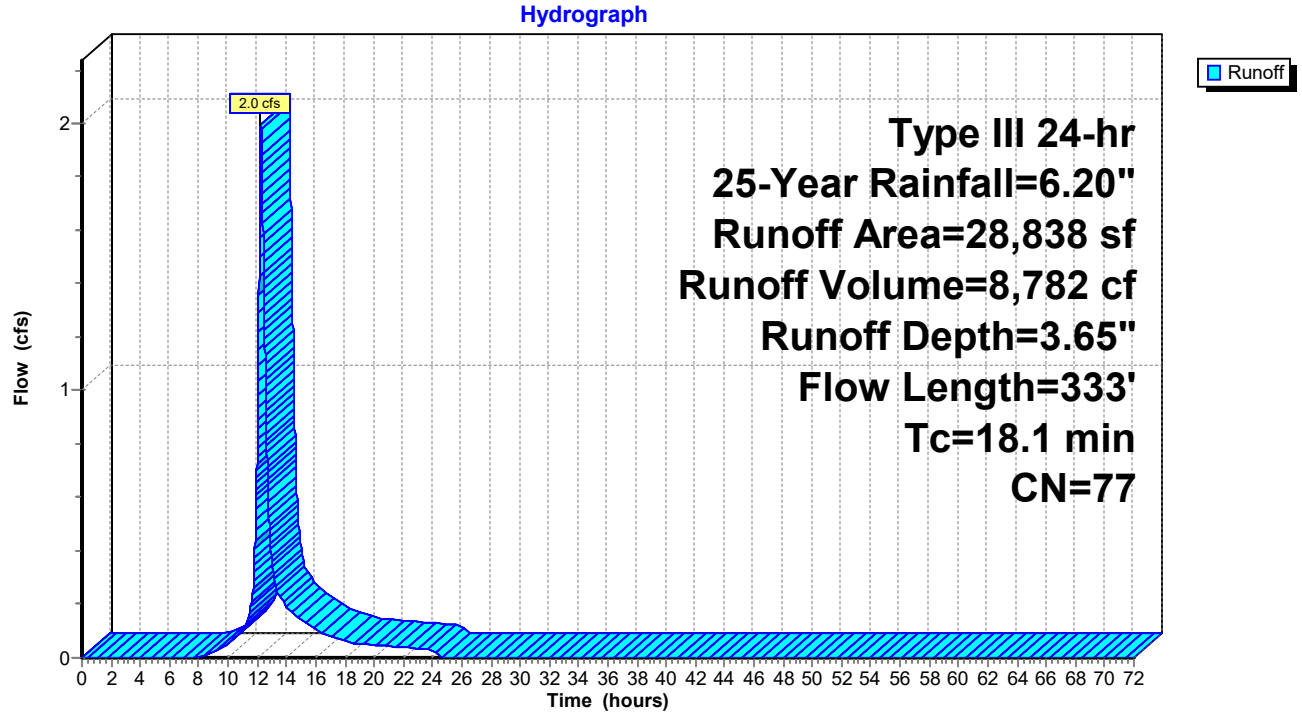
Runoff = 2.0 cfs @ 12.25 hrs, Volume= 8,782 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
15,787	77	Woods, Good, HSG D
10,424	80	>75% Grass cover, Good, HSG D
1,377	39	>75% Grass cover, Good, HSG A
1,250	98	Roofs, HSG D
28,838	77	Weighted Average
27,588		95.67% Pervious Area
1,250		4.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	150	0.0130	0.16		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
1.2	102	0.0392	1.39		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.0	81	0.0740	1.36		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
18.1	333	Total			

Subcatchment S3.1: Subcatchment 3.1



Summary for Subcatchment S3.2: Subcatchment 3.2

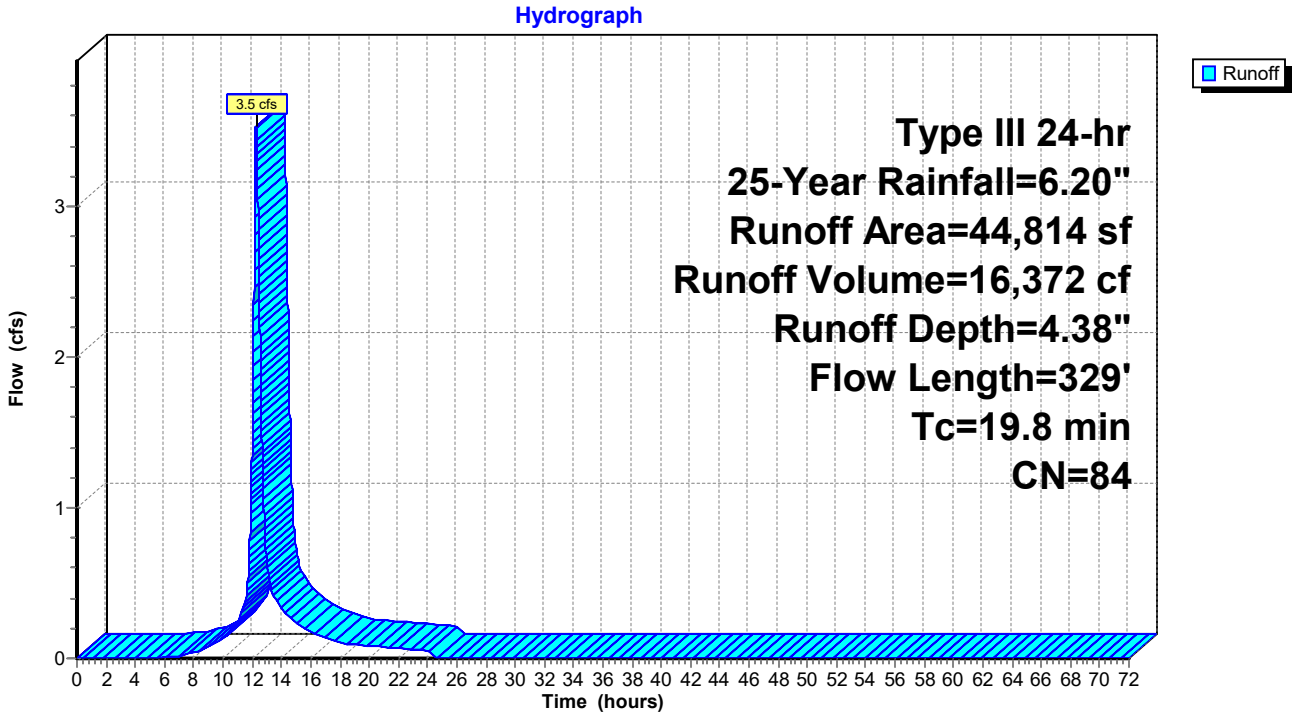
Runoff = 3.5 cfs @ 12.26 hrs, Volume= 16,372 cf, Depth= 4.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
34,169	80	>75% Grass cover, Good, HSG D
1,895	98	Paved parking, HSG D
8,750	98	Roofs, HSG D
44,814	84	Weighted Average
34,169		76.25% Pervious Area
10,645		23.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0100	0.14		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
2.2	179	0.0363	1.33		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.8	329	Total			

Subcatchment S3.2: Subcatchment 3.2



Summary for Subcatchment S4.1: Subcatchment 4.1

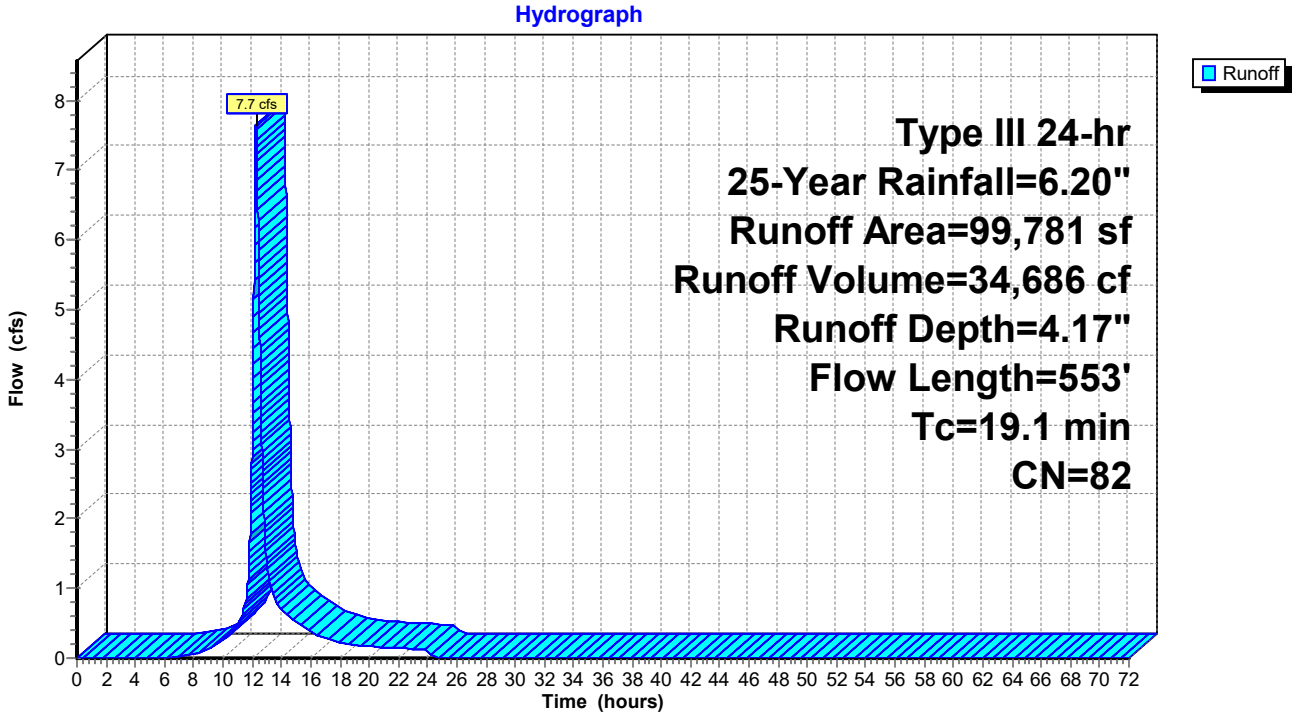
Runoff = 7.7 cfs @ 12.25 hrs, Volume= 34,686 cf, Depth= 4.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
17,618	77	Woods, Good, HSG D
70,163	80	>75% Grass cover, Good, HSG D
12,000	98	Roofs, HSG D
99,781	82	Weighted Average
87,781		87.97% Pervious Area
12,000		12.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	150	0.0330	0.23		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
7.1	300	0.0100	0.70		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.1	103	0.0485	1.54		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.1	553	Total			

Subcatchment S4.1: Subcatchment 4.1



Summary for Subcatchment S4.10: Subcatchment 4.10

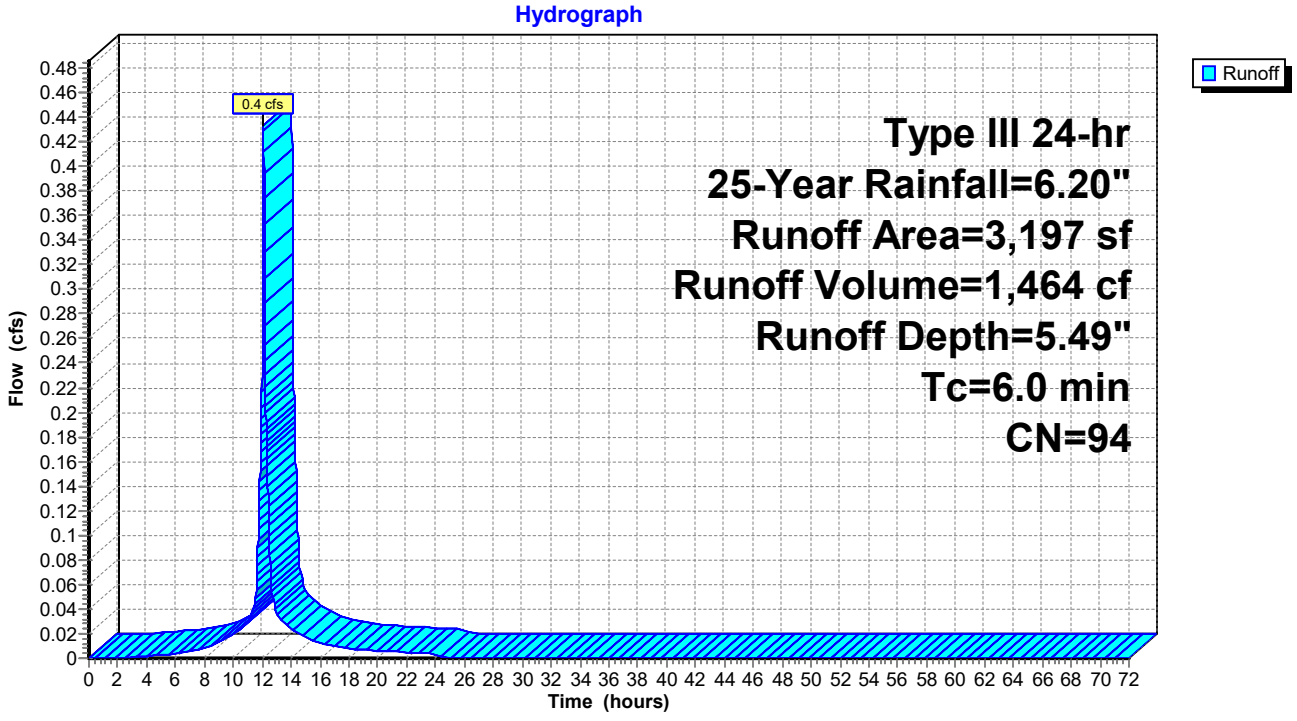
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,464 cf, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
2,320	98	Paved roads w/curbs & sewers, HSG D
148	96	Gravel surface, HSG D
729	80	>75% Grass cover, Good, HSG D
3,197	94	Weighted Average
877		27.43% Pervious Area
2,320		72.57% Impervious Area

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

Subcatchment S4.10: Subcatchment 4.10



Summary for Subcatchment S4.11: Subcatchment 4.11

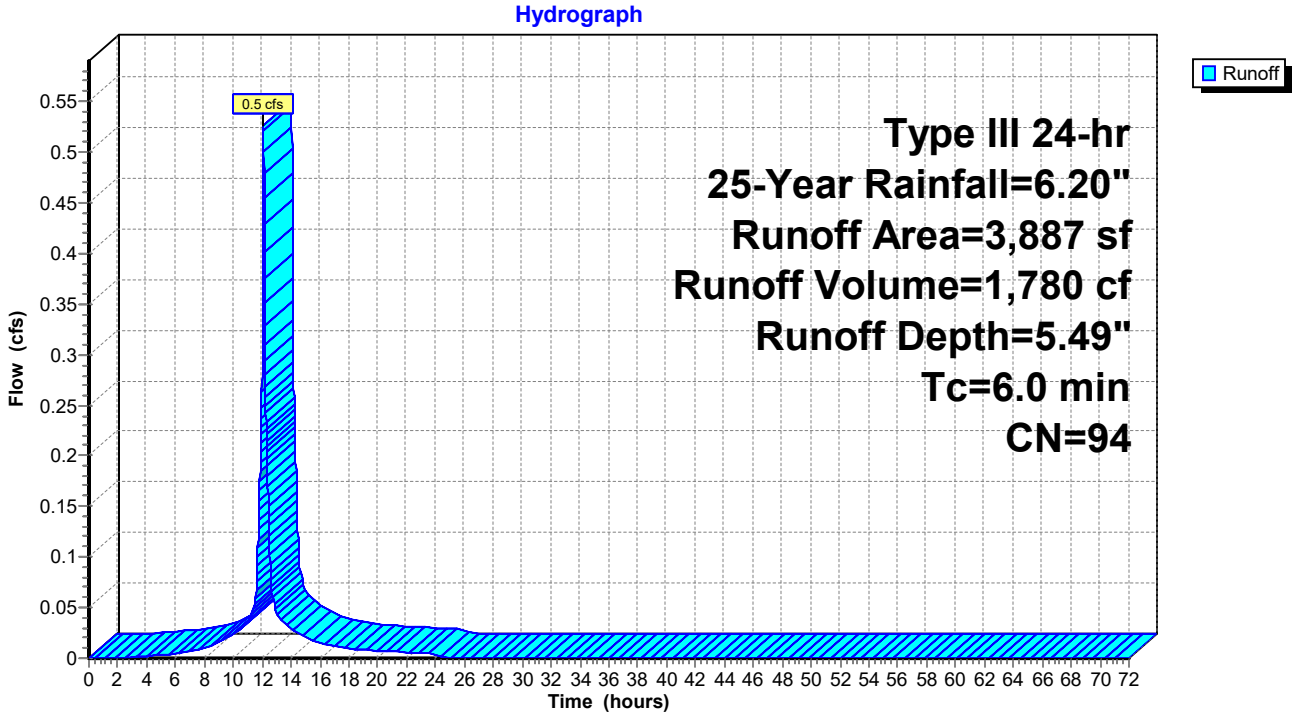
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,780 cf, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
2,903	98	Paved roads w/curbs & sewers, HSG D
163	96	Gravel surface, HSG D
821	80	>75% Grass cover, Good, HSG D
3,887	94	Weighted Average
984		25.32% Pervious Area
2,903		74.68% Impervious Area

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

Subcatchment S4.11: Subcatchment 4.11



Summary for Subcatchment S4.12: Subcatchment 4.12

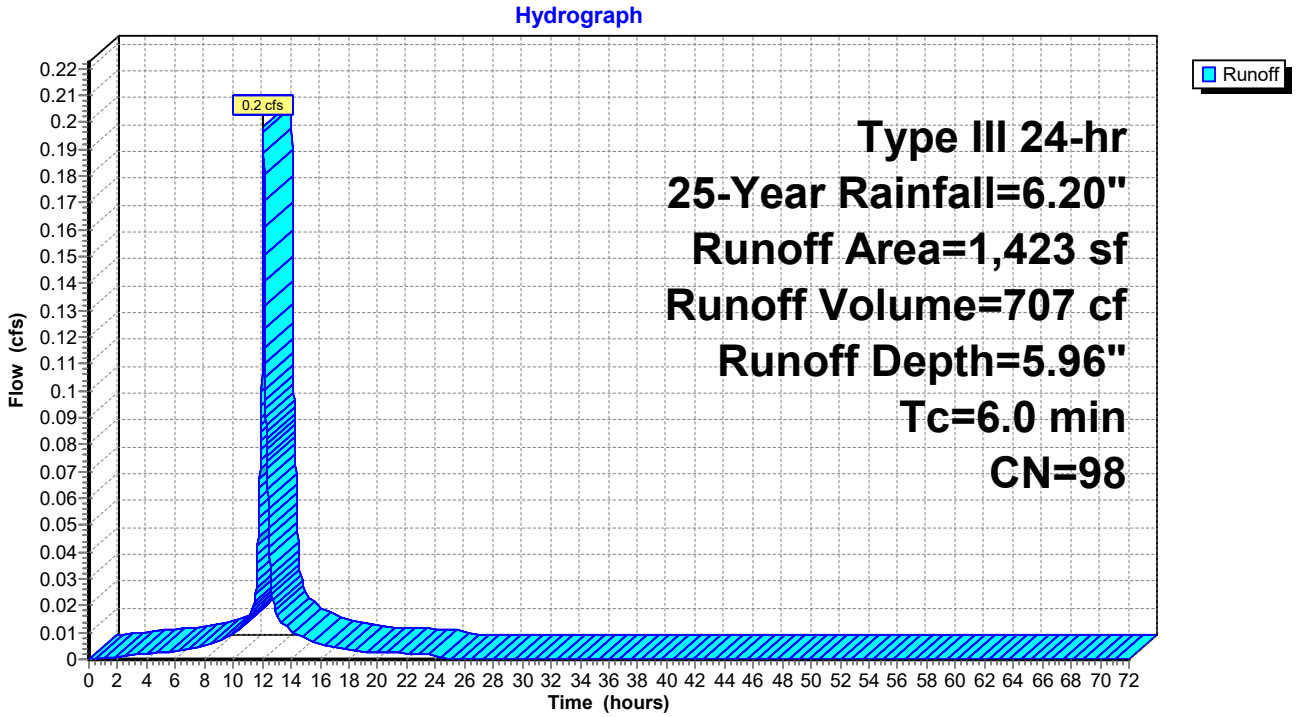
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 707 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,423	98	Paved roads w/curbs & sewers, HSG D
1,423		100.00% Impervious Area

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

Subcatchment S4.12: Subcatchment 4.12



Summary for Subcatchment S4.13: Subcatchment 4.13

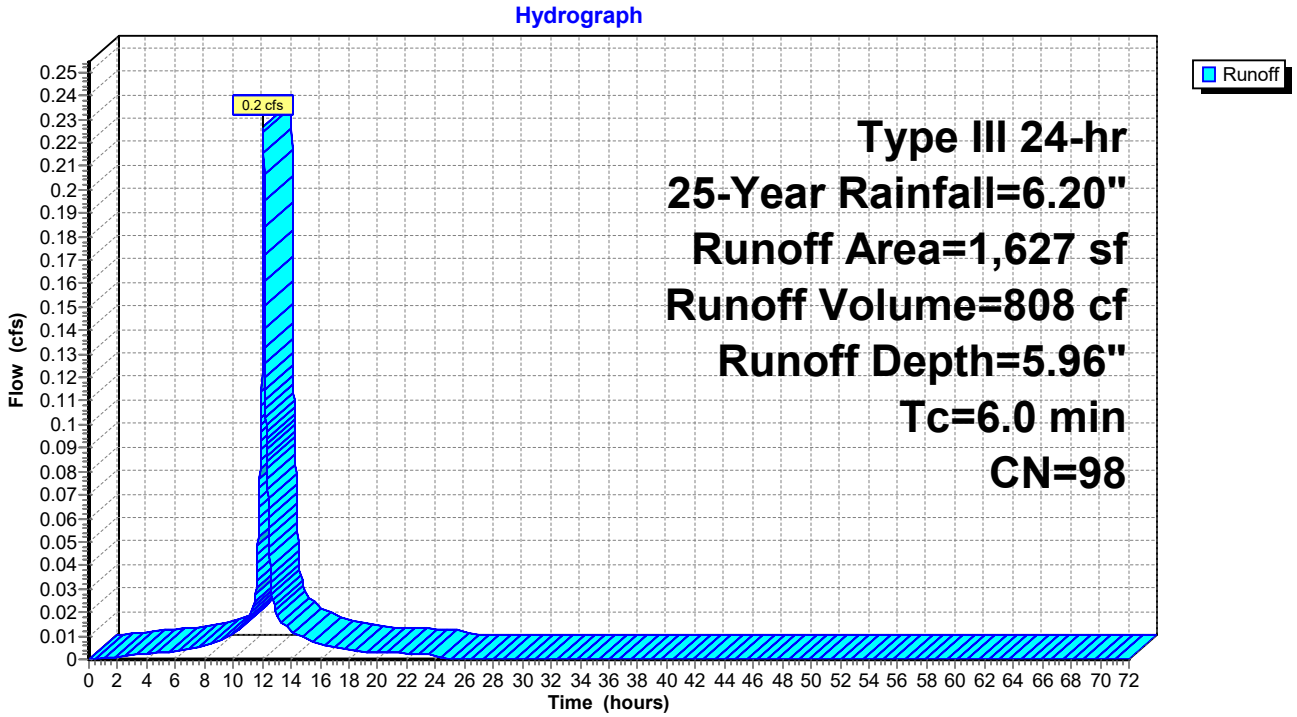
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 808 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,627	98	Paved roads w/curbs & sewers, HSG D
1,627		100.00% Impervious Area

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

Subcatchment S4.13: Subcatchment 4.13



Summary for Subcatchment S4.2: Subcatchment 4.2

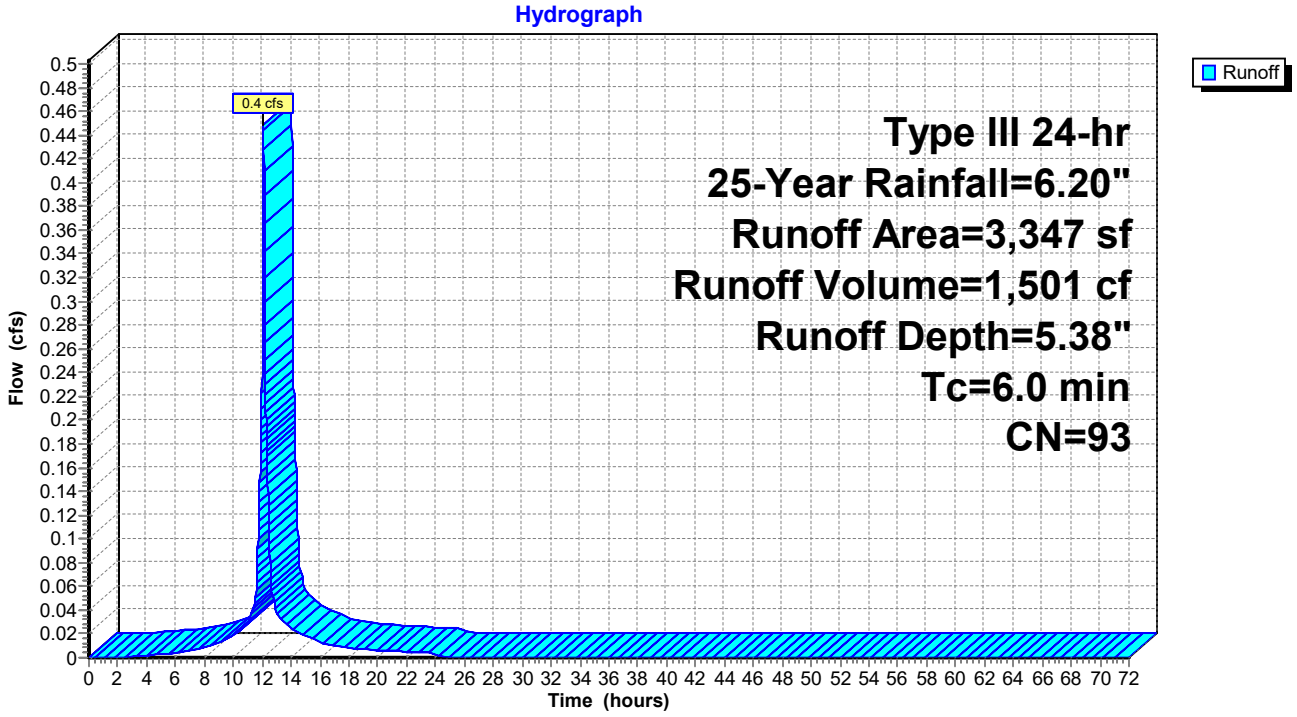
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,501 cf, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
796	98	Paved parking, HSG D
74	96	Gravel surface, HSG D
754	80	>75% Grass cover, Good, HSG D
1,602	98	Paved parking, HSG A
40	39	>75% Grass cover, Good, HSG A
81	96	Gravel surface, HSG A
3,347	93	Weighted Average
949		28.35% Pervious Area
2,398		71.65% Impervious Area

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

Subcatchment S4.2: Subcatchment 4.2



Summary for Subcatchment S4.3: Subcatchment 4.3

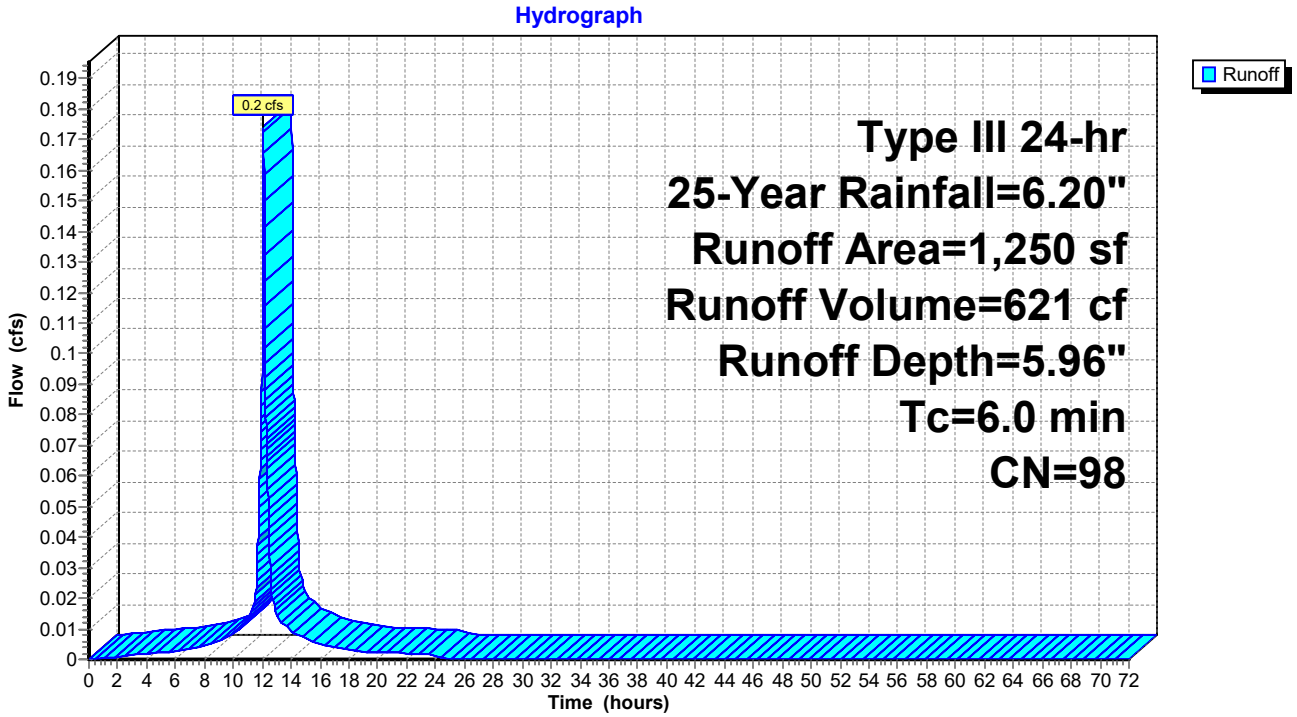
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.3: Subcatchment 4.3



Summary for Subcatchment S4.4: Subcatchment 4.4

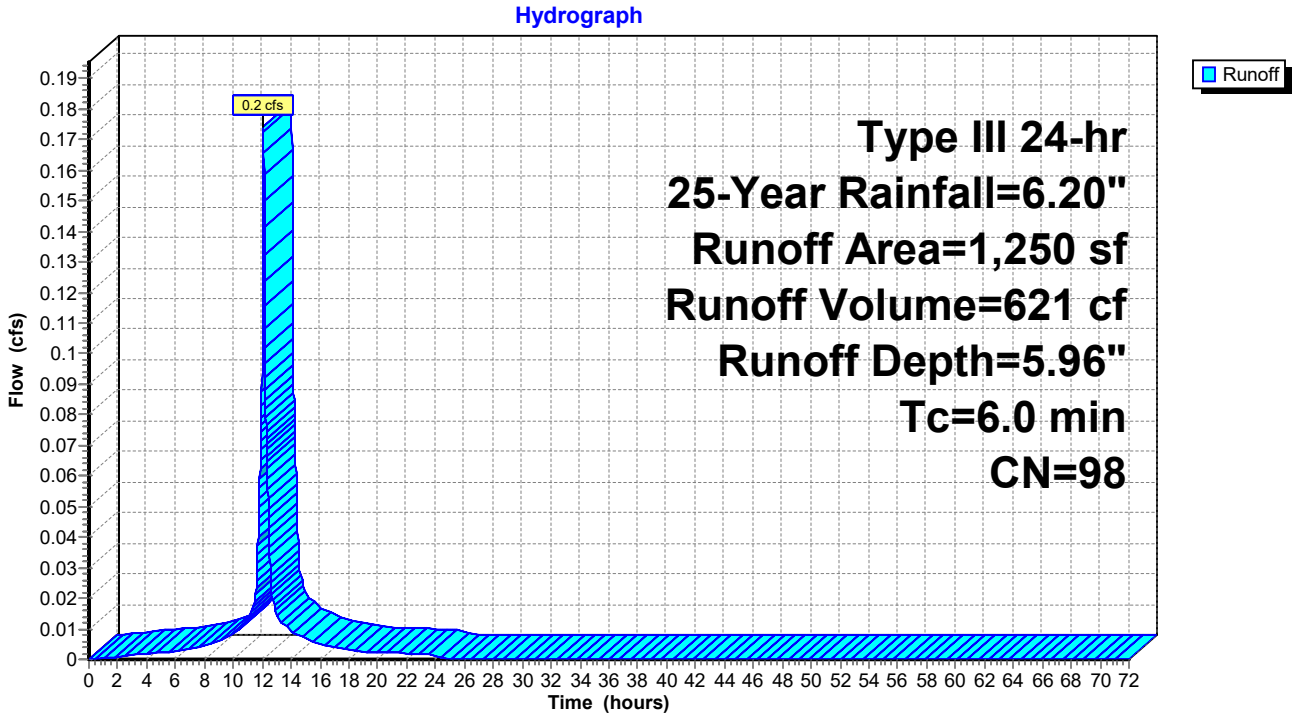
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.4: Subcatchment 4.4



Summary for Subcatchment S4.5: Subcatchment 4.5

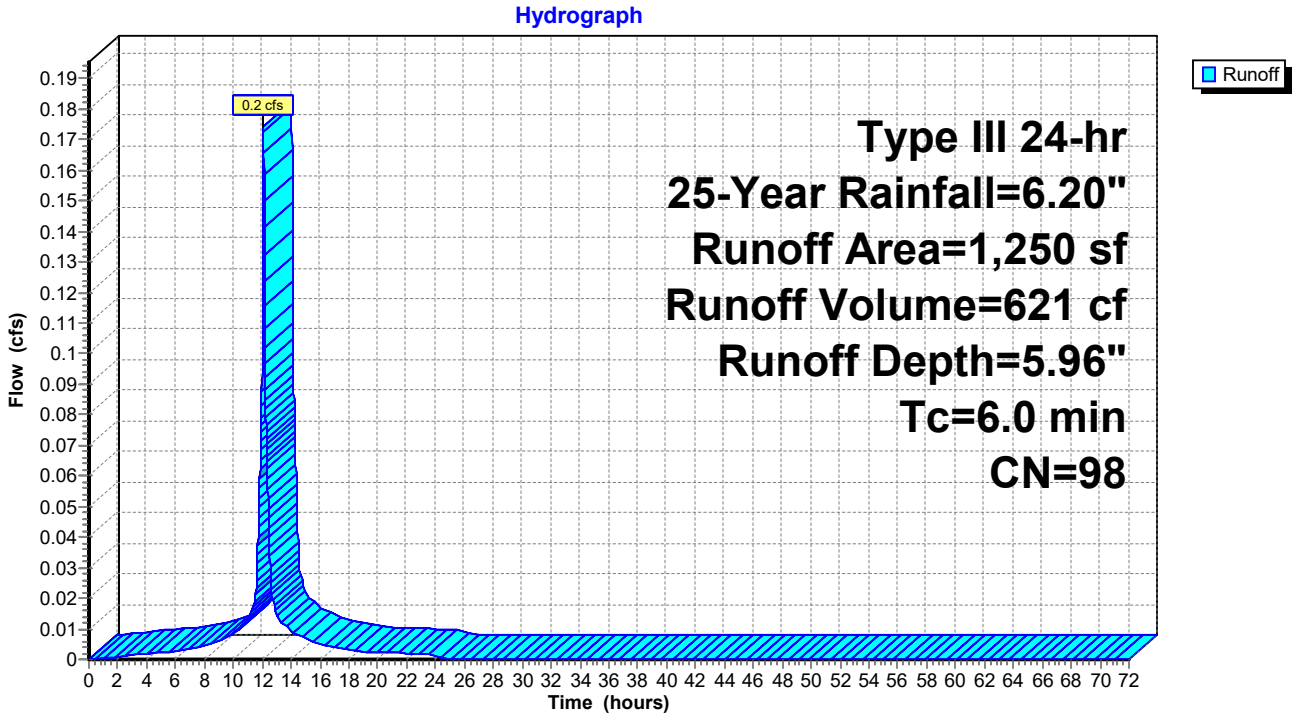
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.5: Subcatchment 4.5



Summary for Subcatchment S4.6: Subcatchment 4.6

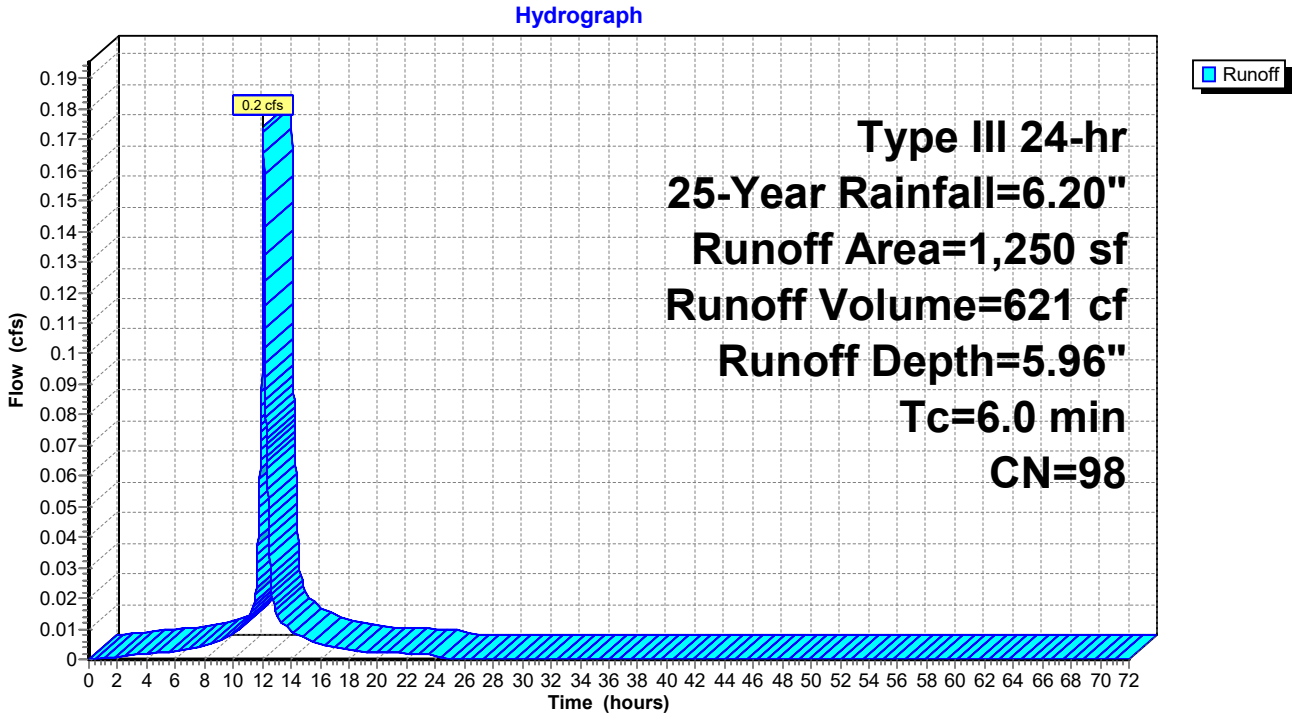
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.6: Subcatchment 4.6



Summary for Subcatchment S4.7: Subcatchment 4.7

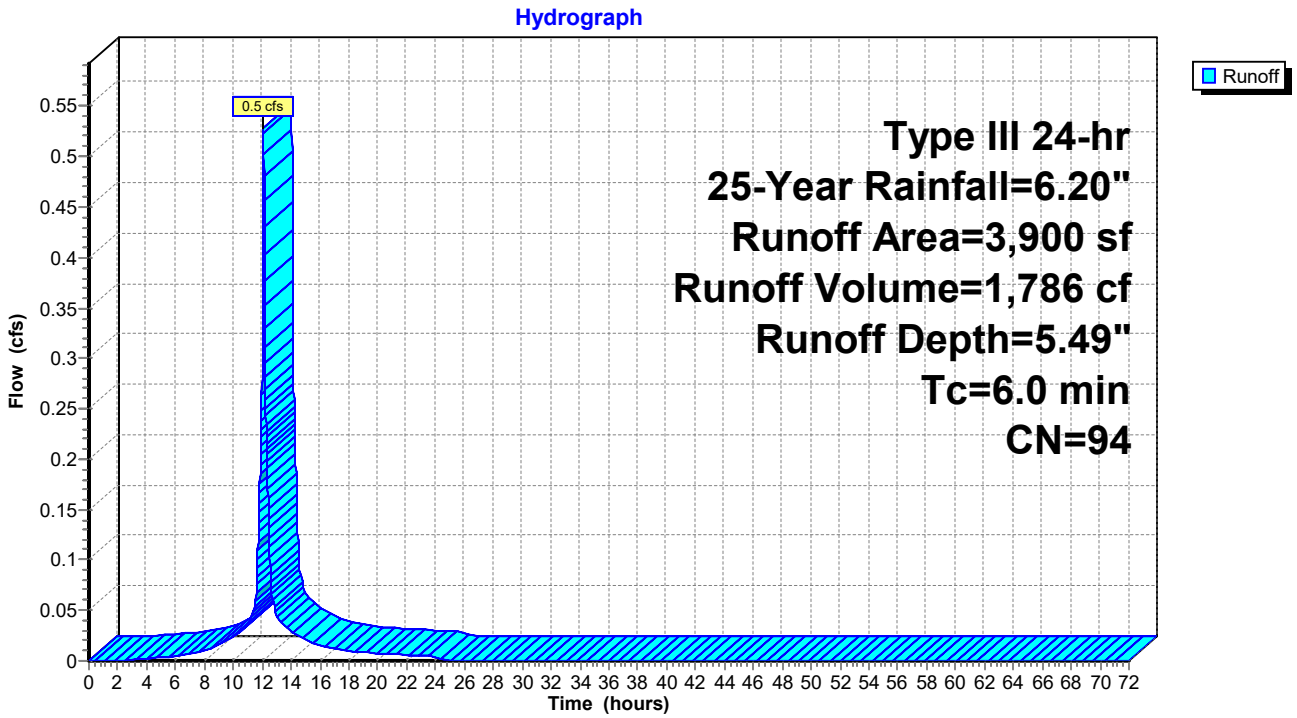
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,786 cf, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
874	80	>75% Grass cover, Good, HSG D
166	96	Gravel surface, HSG D
297	98	Paved roads w/curbs & sewers, HSG A
2,563	98	Paved roads w/curbs & sewers, HSG D
3,900	94	Weighted Average
1,040		26.67% Pervious Area
2,860		73.33% Impervious Area

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

Subcatchment S4.7: Subcatchment 4.7



Summary for Subcatchment S4.8: Subcatchment 4.8

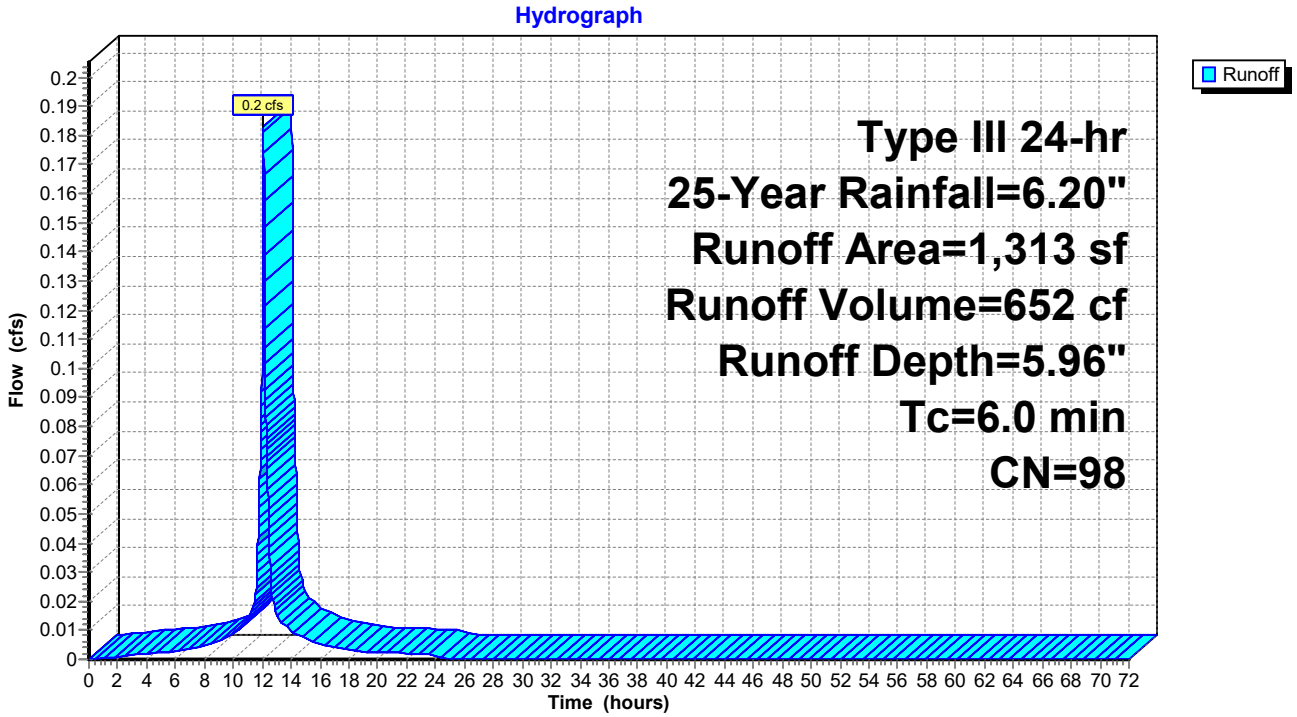
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 652 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,313	98	Paved roads w/curbs & sewers, HSG D
1,313		100.00% Impervious Area

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

Subcatchment S4.8: Subcatchment 4.8



Summary for Subcatchment S4.9: Subcatchment 4.9

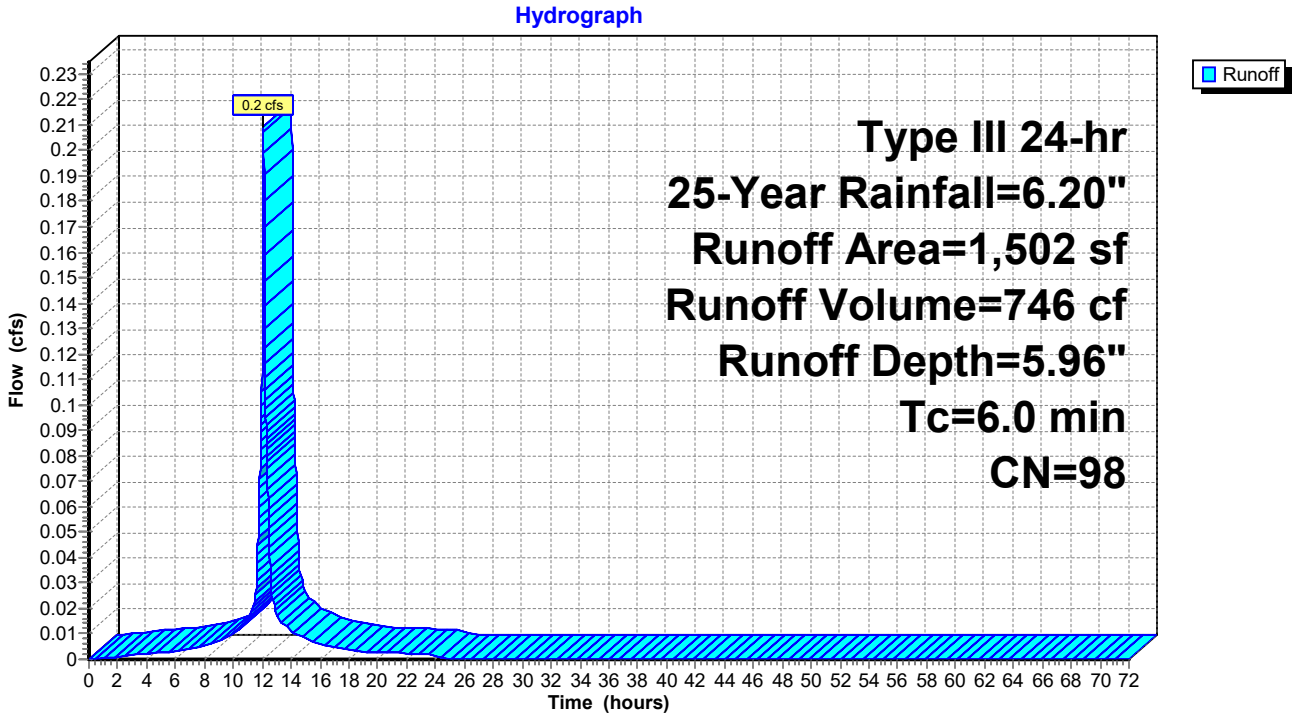
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 746 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,502	98	Paved roads w/curbs & sewers, HSG D
1,502		100.00% Impervious Area

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

Subcatchment S4.9: Subcatchment 4.9



Summary for Subcatchment S5.1: Subcatchment 5.1

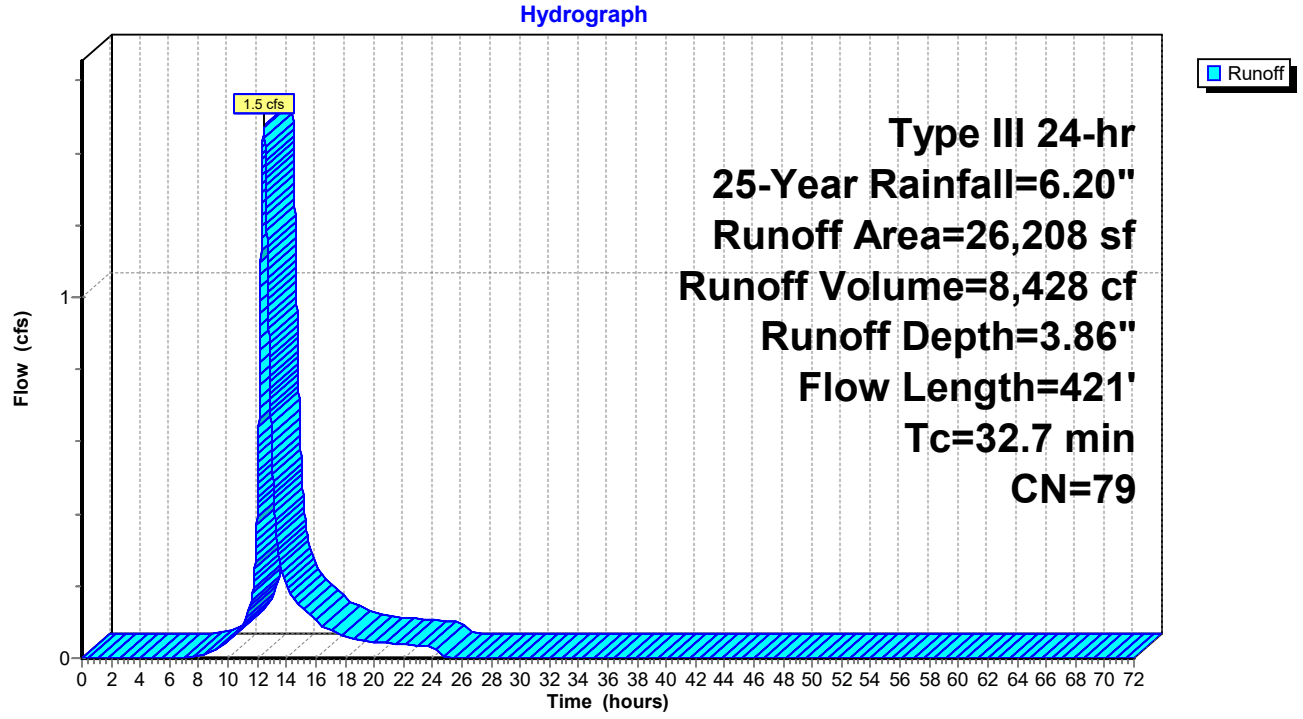
Runoff = 1.5 cfs @ 12.46 hrs, Volume= 8,428 cf, Depth= 3.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
12,258	77	Woods, Good, HSG D
13,250	80	>75% Grass cover, Good, HSG D
700	98	Roofs, HSG D
26,208	79	Weighted Average
25,508		97.33% Pervious Area
700		2.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	150	0.0267	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
1.8	53	0.0100	0.50		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
4.8	218	0.0229	0.76		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
32.7	421	Total			

Subcatchment S5.1: Subcatchment 5.1



Summary for Subcatchment S5.2: Subcatchment 5.2

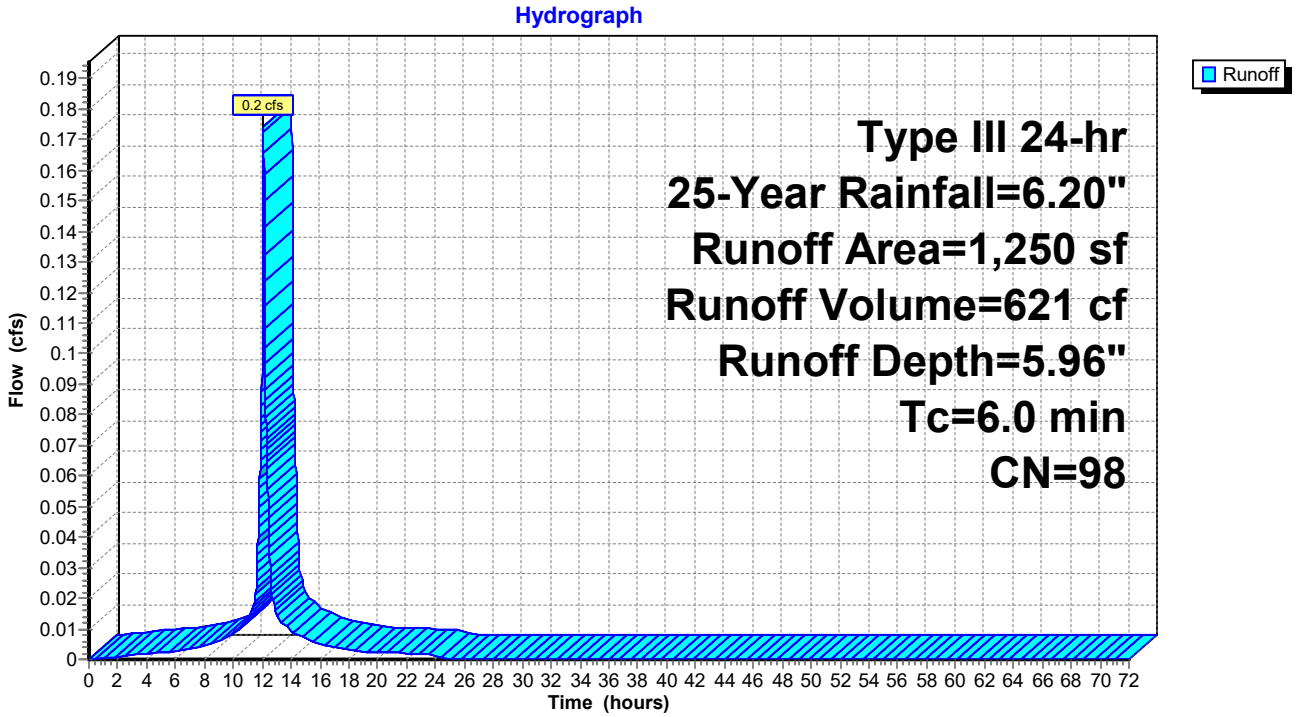
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.2: Subcatchment 5.2



Summary for Subcatchment S5.3: Subcatchment 5.3

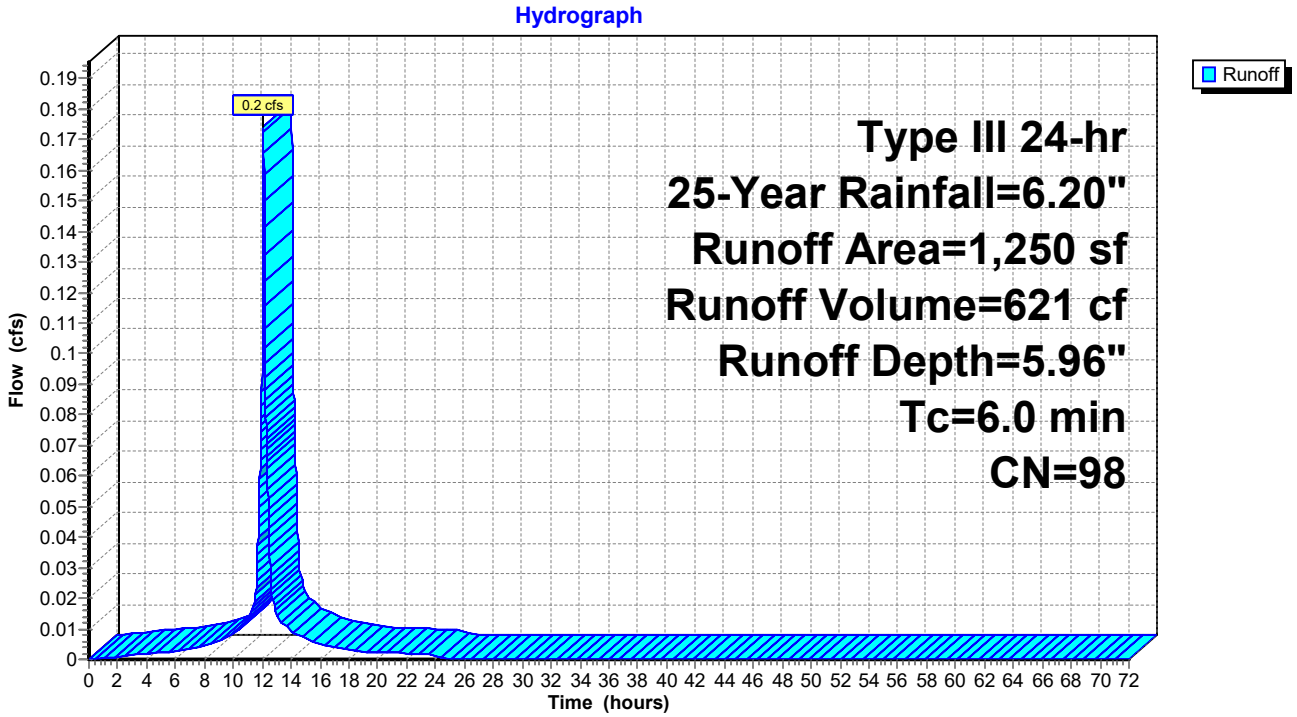
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.3: Subcatchment 5.3



Summary for Subcatchment S5.4: Subcatchment 5.4

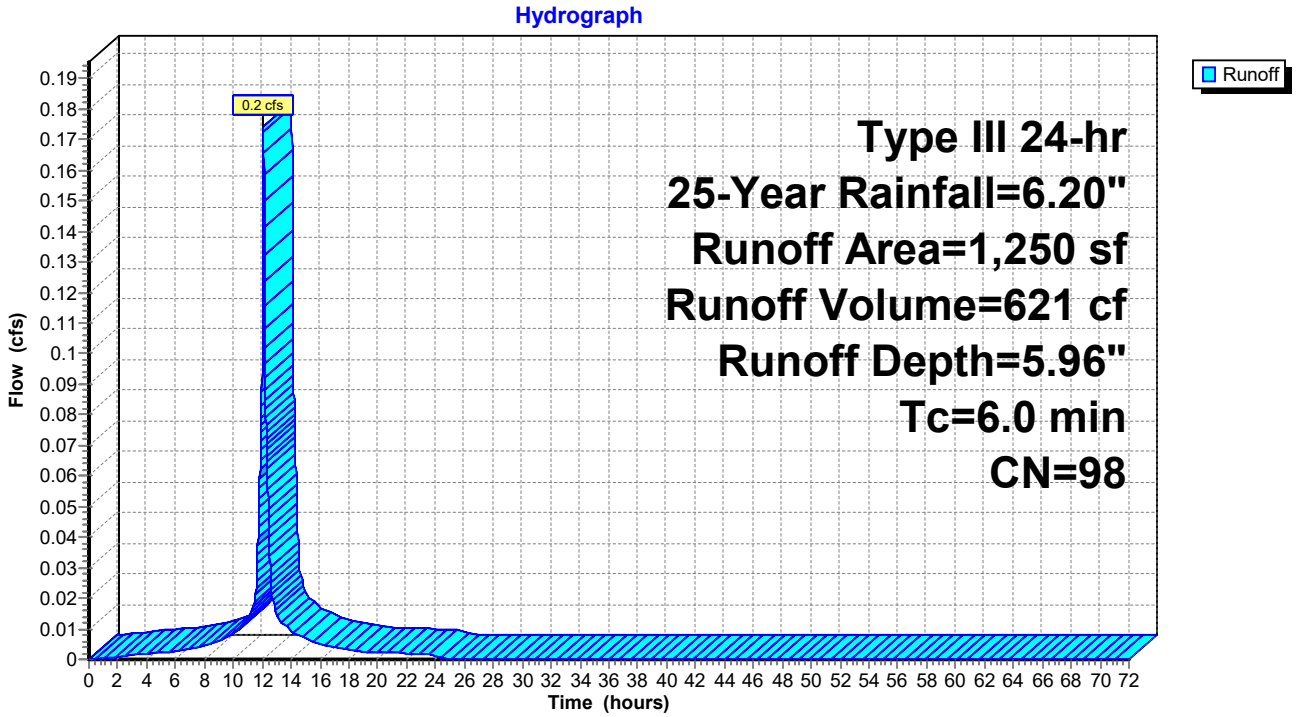
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.4: Subcatchment 5.4



Summary for Reach S1: Swale 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 4.38" for 25-Year event
Inflow = 3.5 cfs @ 12.26 hrs, Volume= 16,372 cf
Outflow = 3.5 cfs @ 12.28 hrs, Volume= 16,372 cf, Atten= 0%, Lag= 0.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.50 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.70 fps, Avg. Travel Time= 4.2 min

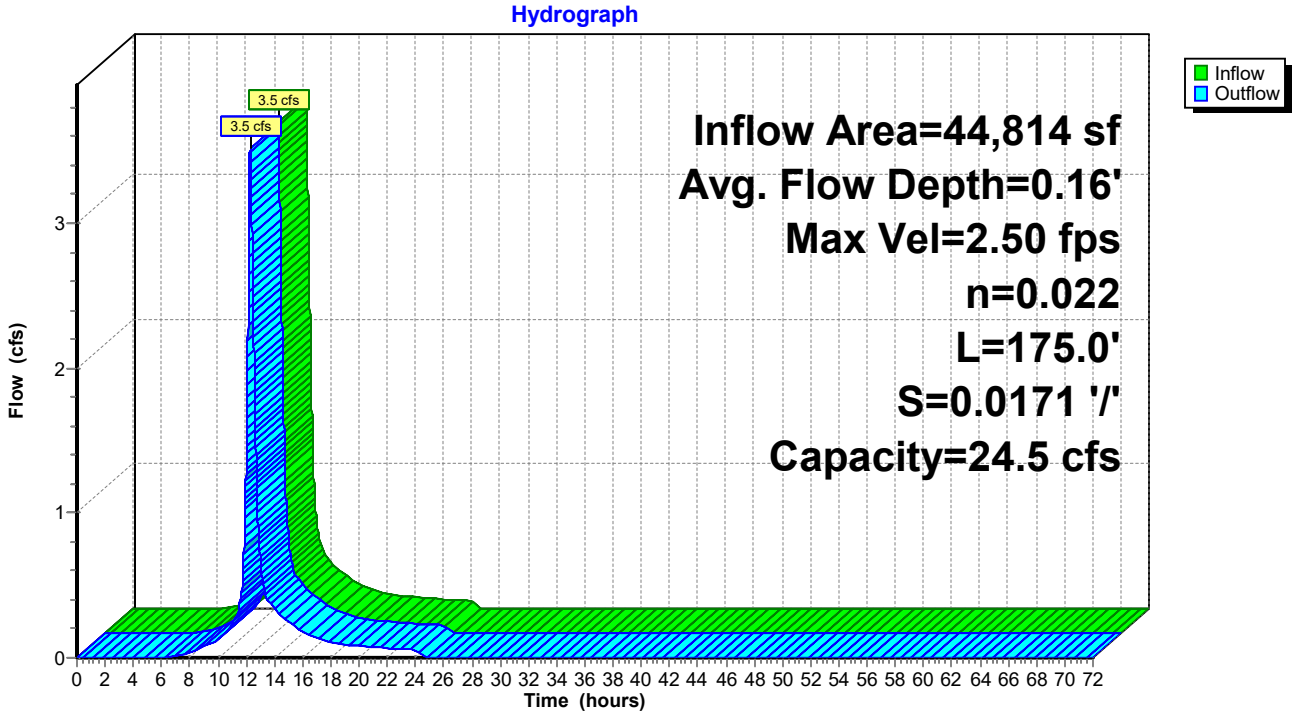
Peak Storage= 246 cf @ 12.28 hrs
Average Depth at Peak Storage= 0.16' , Surface Width= 9.30'
Bank-Full Depth= 0.50' Flow Area= 5.0 sf, Capacity= 24.5 cfs

8.00' x 0.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 4.0 '/' Top Width= 12.00'
Length= 175.0' Slope= 0.0171 '/'
Inlet Invert= 69.00', Outlet Invert= 66.00'



‡

Reach S1: Swale 1



Summary for Pond C1: Culvert 1

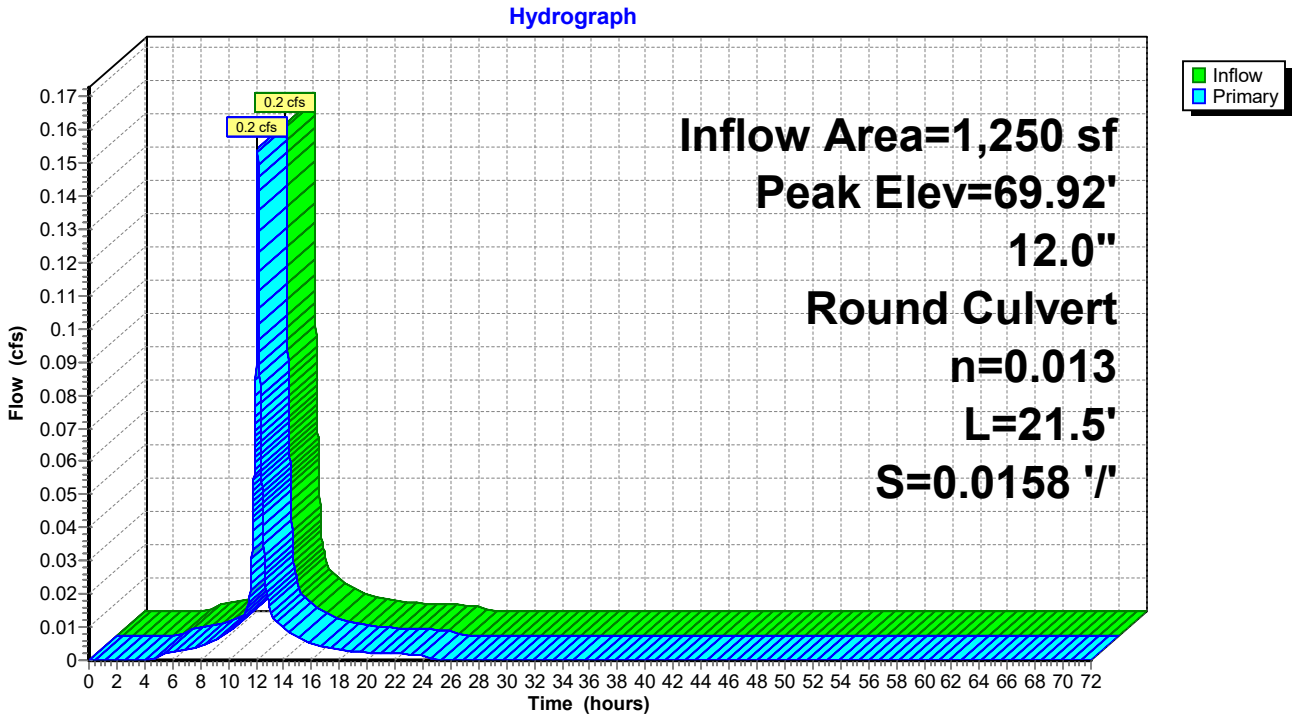
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.80" for 25-Year event
Inflow = 0.2 cfs @ 12.12 hrs, Volume= 604 cf
Outflow = 0.2 cfs @ 12.12 hrs, Volume= 604 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.12 hrs, Volume= 604 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.92' @ 12.13 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 21.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0158 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.91' TW=69.72' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.2 cfs @ 1.75 fps)

Pond C1: Culvert 1



Summary for Pond C10: Culvert 10

[57] Hint: Peaked at 69.67' (Flood elevation advised)

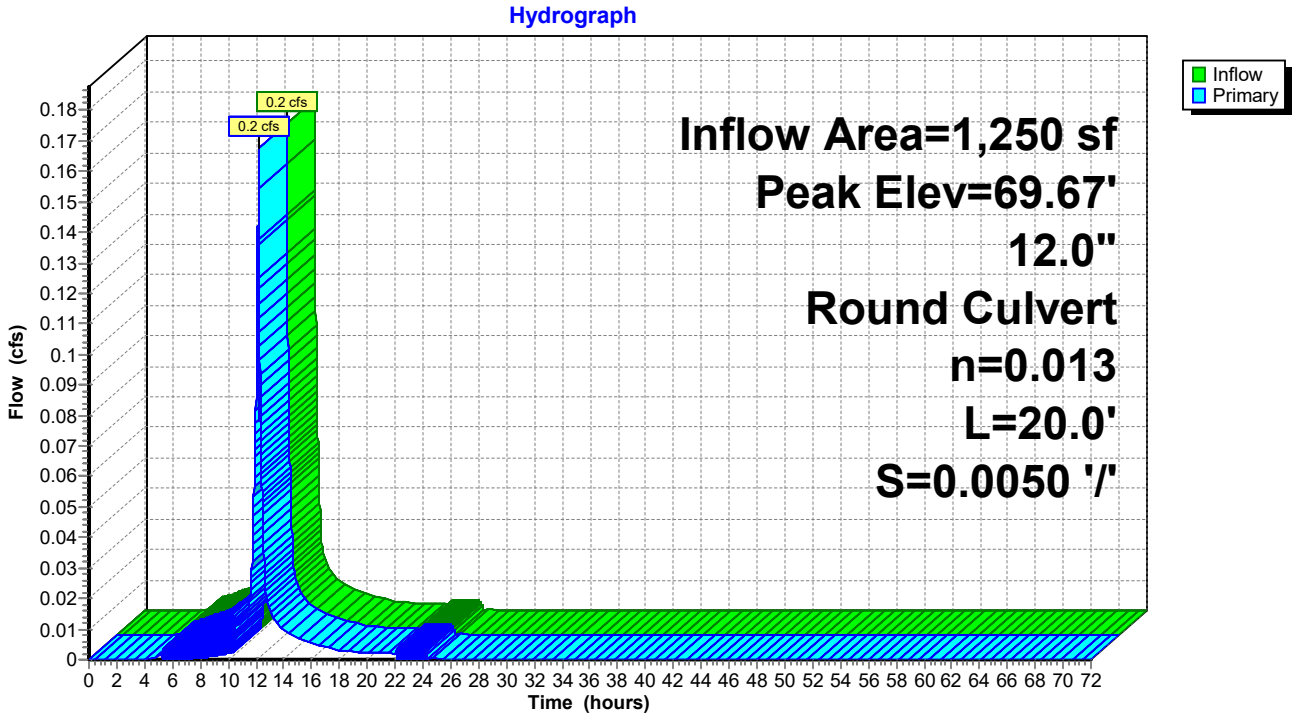
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.80" for 25-Year event
Inflow = 0.2 cfs @ 12.16 hrs, Volume= 605 cf
Outflow = 0.2 cfs @ 12.16 hrs, Volume= 605 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.16 hrs, Volume= 605 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.67' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**12.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.13' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.16 hrs HW=69.56' TW=69.52' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 0.94 fps)

Pond C10: Culvert 10



Summary for Pond C11: Culvert 11

[57] Hint: Peaked at 69.66' (Flood elevation advised)
[80] Warning: Exceeded Pond C10 by 0.05' @ 12.13 hrs (0.2 cfs 8 cf)

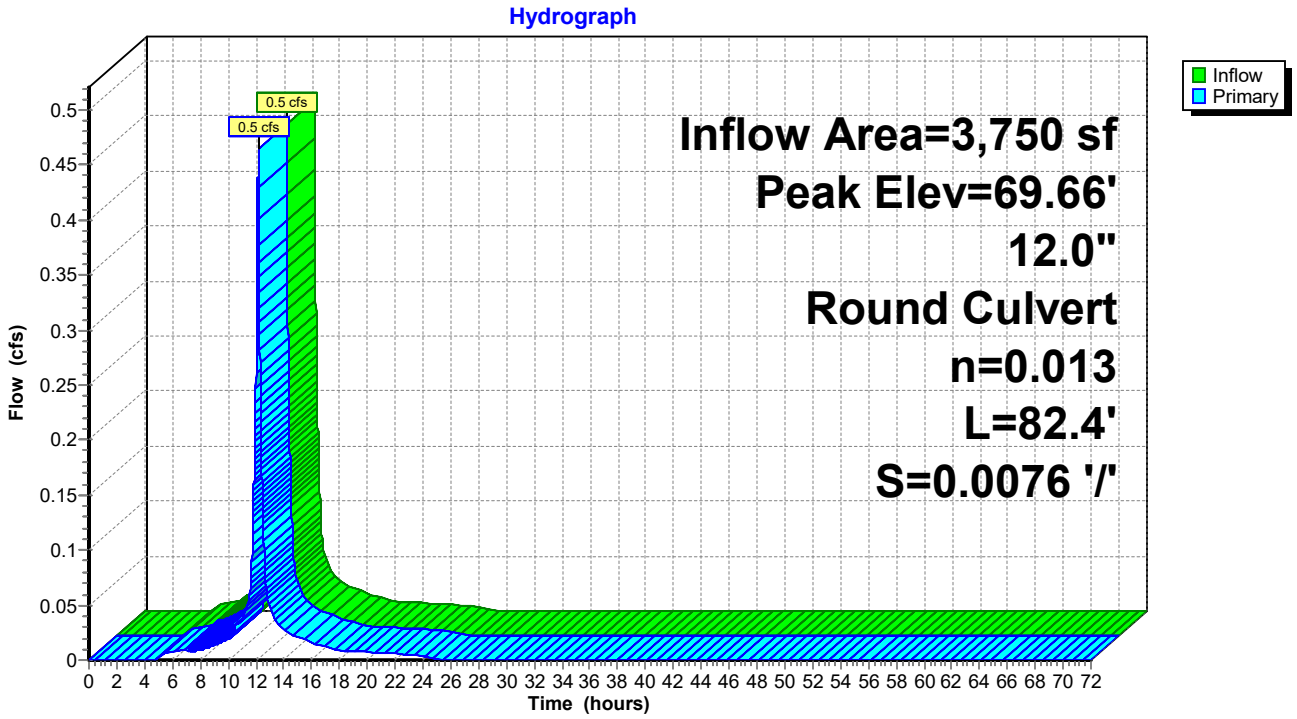
Inflow Area =	3,750 sf,100.00% Impervious,	Inflow Depth =	5.80"	for	25-Year event
Inflow =	0.5 cfs @ 12.16 hrs,	Volume=	1,812 cf		
Outflow =	0.5 cfs @ 12.16 hrs,	Volume=	1,812 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.5 cfs @ 12.16 hrs,	Volume=	1,812 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.66' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.13'	**12.0" Round Culvert** L= 82.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.13' / 68.50' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.16 hrs HW=69.52' TW=68.93' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.5 cfs @ 2.45 fps)

Pond C11: Culvert 11



Summary for Pond C2: Culvert 2

[57] Hint: Peaked at 69.72' (Flood elevation advised)
[80] Warning: Exceeded Pond RD2 by 0.01' @ 4.79 hrs (0.0 cfs 180 cf)

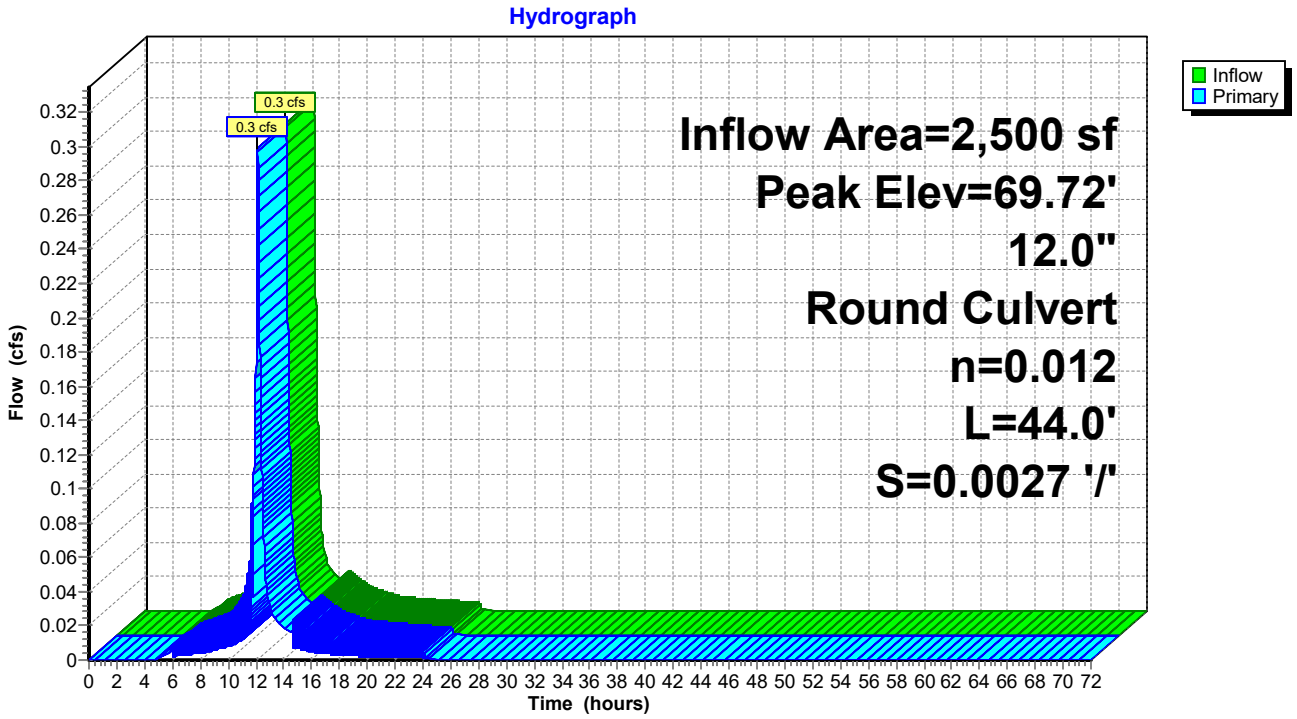
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	5.79"	for	25-Year event
Inflow =	0.3 cfs @	12.13 hrs, Volume=	1,207 cf		
Outflow =	0.3 cfs @	12.13 hrs, Volume=	1,207 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.3 cfs @	12.13 hrs, Volume=	1,207 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.72' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.23' S= 0.0027 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.13 hrs HW=69.72' TW=69.54' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.3 cfs @ 1.68 fps)

Pond C2: Culvert 2



Summary for Pond C3: Culvert 3

[57] Hint: Peaked at 69.54' (Flood elevation advised)

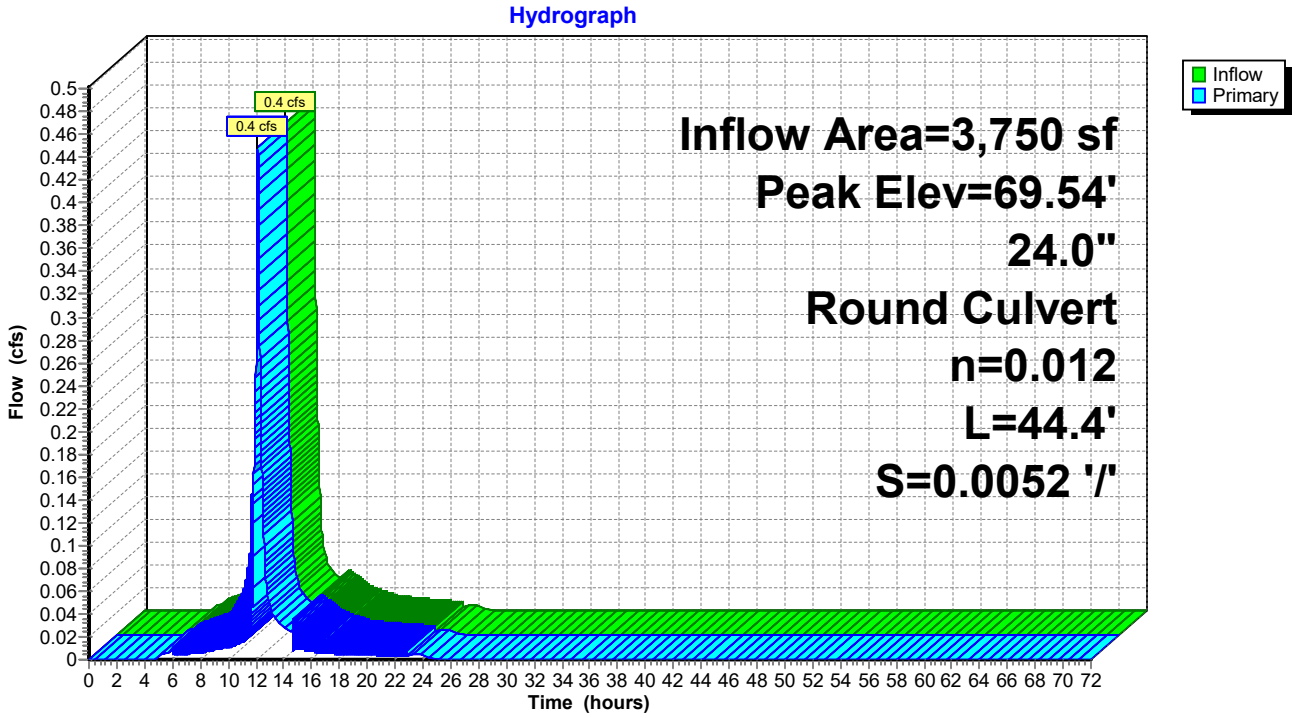
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 5.79" for 25-Year event
Inflow = 0.4 cfs @ 12.13 hrs, Volume= 1,810 cf
Outflow = 0.4 cfs @ 12.13 hrs, Volume= 1,810 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.13 hrs, Volume= 1,810 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.54' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**24.0" Round Culvert** L= 44.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.00' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.4 cfs @ 12.13 hrs HW=69.54' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.4 cfs @ 2.15 fps)

Pond C3: Culvert 3



Summary for Pond C4: Culvert 4

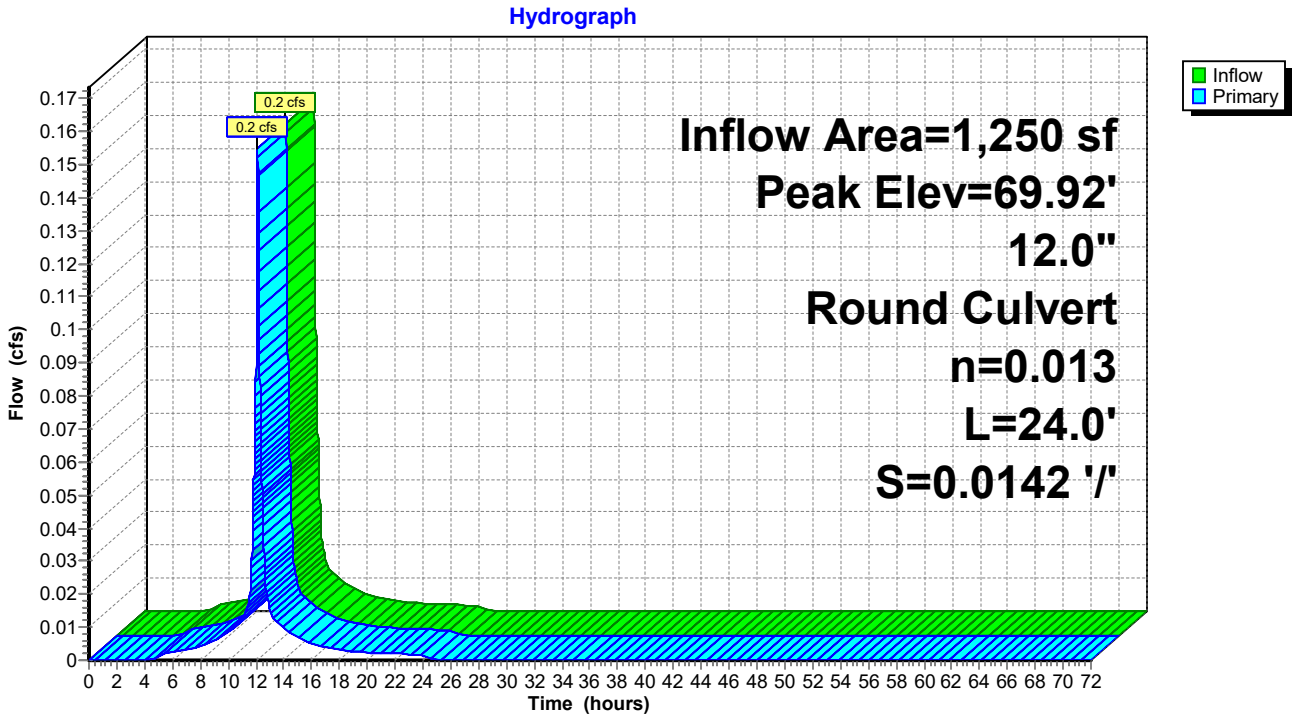
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.80" for 25-Year event
Inflow = 0.2 cfs @ 12.12 hrs, Volume= 604 cf
Outflow = 0.2 cfs @ 12.12 hrs, Volume= 604 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.12 hrs, Volume= 604 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.92' @ 12.15 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0142 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.91' TW=69.71' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.2 cfs @ 1.75 fps)

Pond C4: Culvert 4



Summary for Pond C7: Culvert 7

[80] Warning: Exceeded Pond RD7 by 1.58' @ 12.07 hrs (0.5 cfs 777 cf)

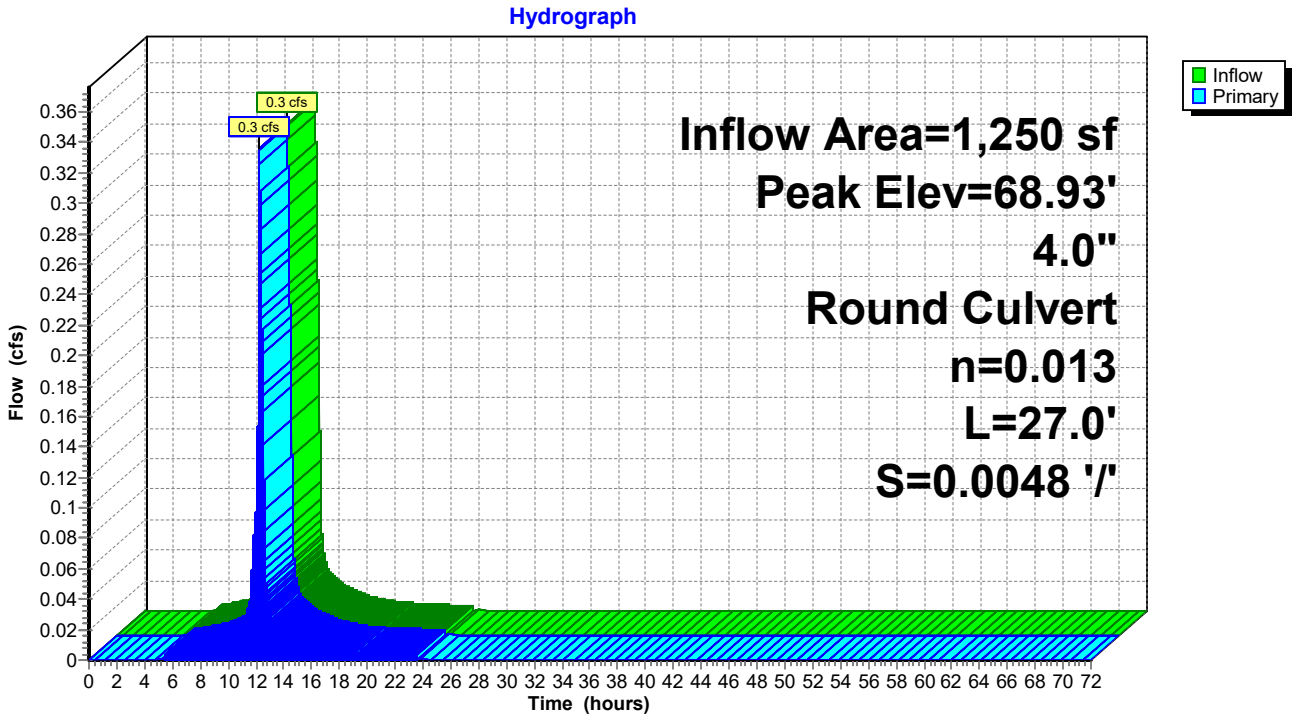
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.79" for 25-Year event
Inflow = 0.3 cfs @ 12.23 hrs, Volume= 603 cf
Outflow = 0.3 cfs @ 12.23 hrs, Volume= 603 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.23 hrs, Volume= 603 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.93' @ 12.07 hrs
Flood Elev= 69.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Round Culvert** L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.55' / 66.42' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.3 cfs @ 12.23 hrs HW=68.42' TW=67.14' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.3 cfs @ 3.85 fps)

Pond C7: Culvert 7



Summary for Pond C8: Culvert 8

[58] Hint: Peaked 3.44' above defined flood level

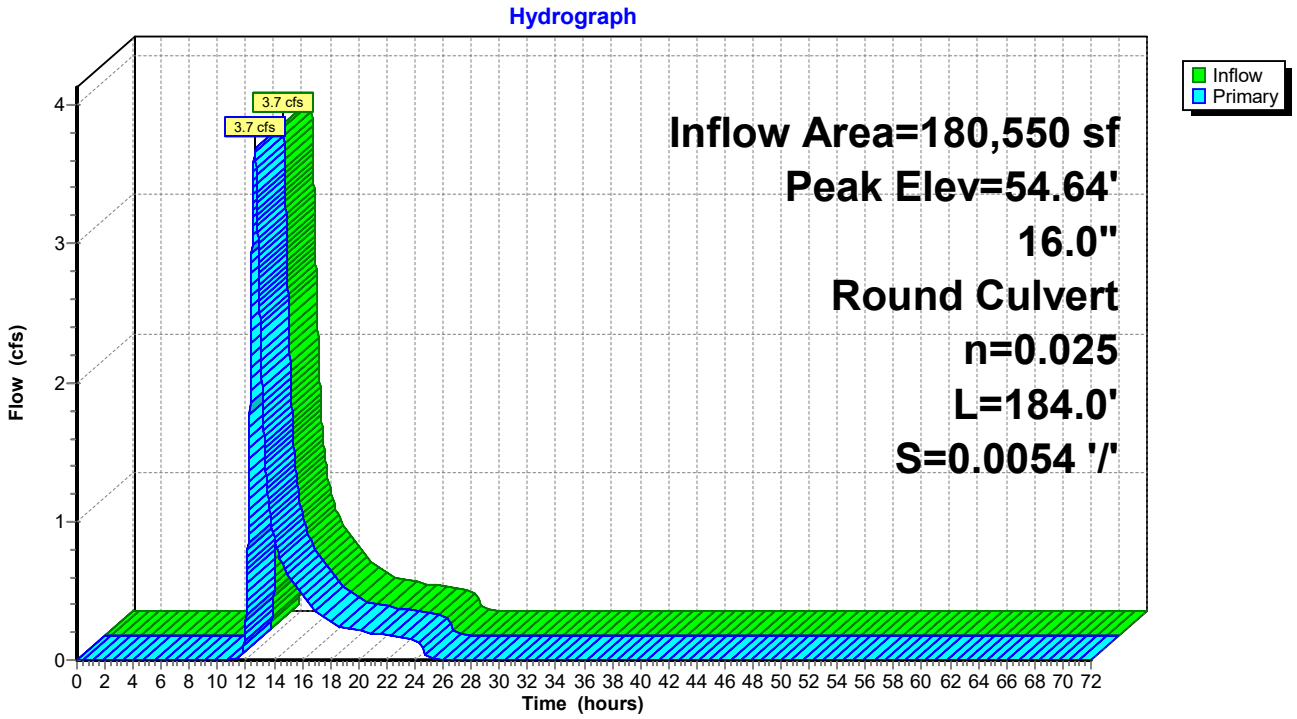
Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 1.72" for 25-Year event
Inflow = 3.7 cfs @ 12.63 hrs, Volume= 25,816 cf
Outflow = 3.7 cfs @ 12.63 hrs, Volume= 25,816 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.7 cfs @ 12.63 hrs, Volume= 25,816 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 54.64' @ 12.82 hrs
Flood Elev= 51.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.20'	**16.0" Round Culvert** L= 184.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.20' / 50.20' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=3.6 cfs @ 12.63 hrs HW=54.18' TW=52.45' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 3.6 cfs @ 2.60 fps)

Pond C8: Culvert 8



Summary for Pond C9: Culvert 9

[57] Hint: Peaked at 69.76' (Flood elevation advised)
[80] Warning: Exceeded Pond RD5 by 0.01' @ 4.79 hrs (0.0 cfs 4 cf)

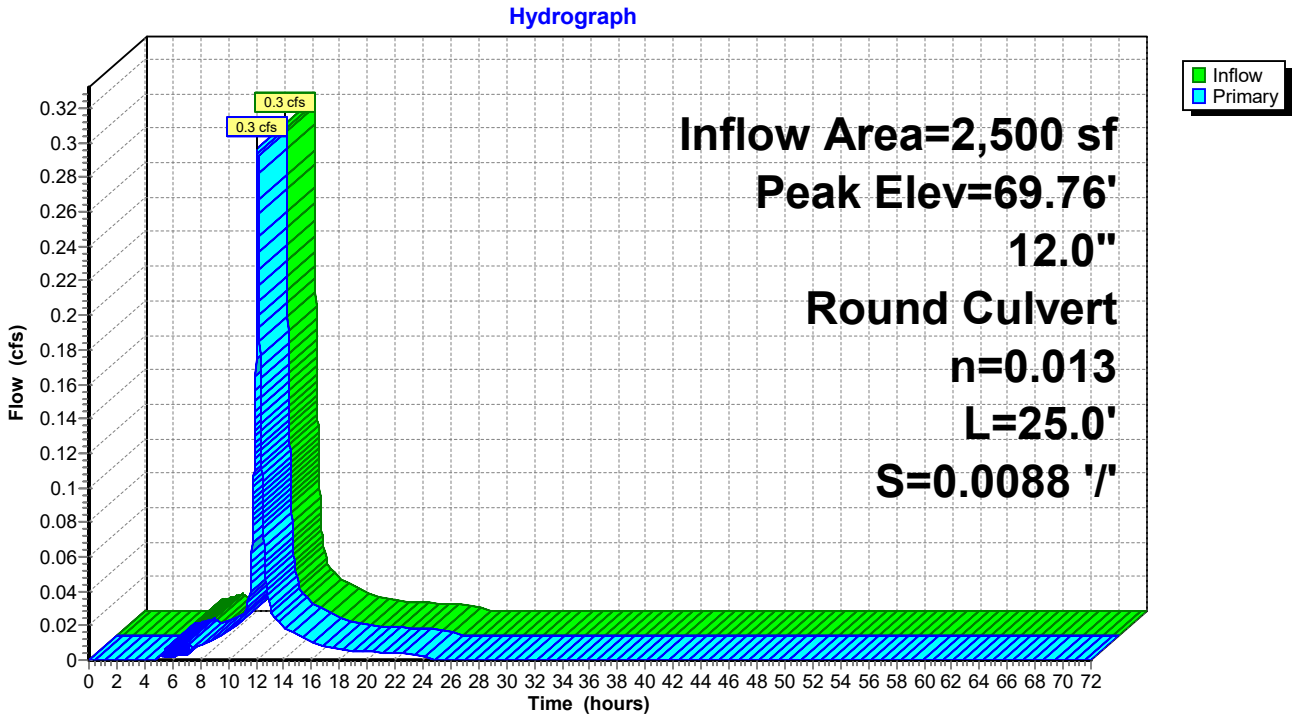
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	5.79"	for	25-Year event
Inflow =	0.3 cfs @ 12.11 hrs,	Volume=	1,207 cf		
Outflow =	0.3 cfs @ 12.11 hrs,	Volume=	1,207 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.3 cfs @ 12.11 hrs,	Volume=	1,207 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.76' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.13' S= 0.0088 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.11 hrs HW=69.70' TW=69.56' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.3 cfs @ 1.62 fps)

Pond C9: Culvert 9



Summary for Pond CB1: Catch Basin 1

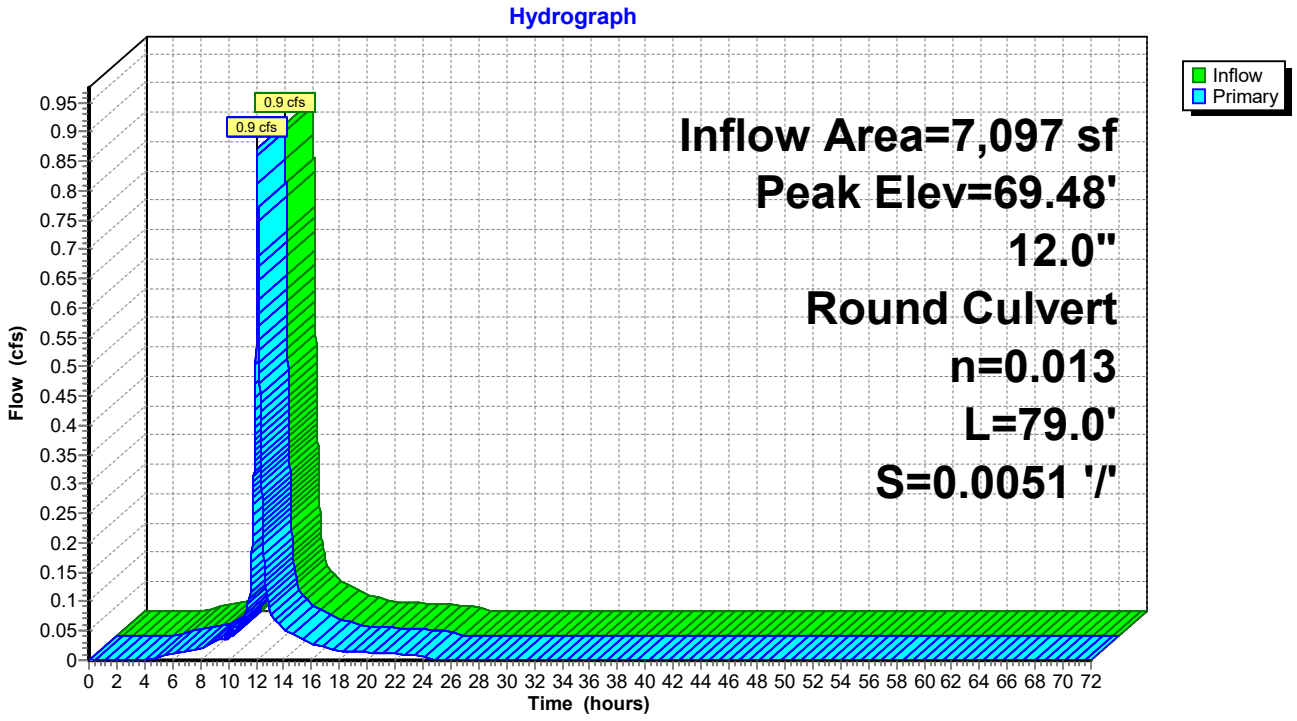
Inflow Area = 7,097 sf, 86.63% Impervious, Inflow Depth = 5.60" for 25-Year event
Inflow = 0.9 cfs @ 12.10 hrs, Volume= 3,312 cf
Outflow = 0.9 cfs @ 12.10 hrs, Volume= 3,312 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.9 cfs @ 12.10 hrs, Volume= 3,312 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.48' @ 12.12 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	**12.0" Round Culvert** L= 79.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.40' / 68.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.10 hrs HW=69.13' TW=69.09' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.3 cfs @ 0.75 fps)

Pond CB1: Catch Basin 1



Summary for Pond CB10: Catch Basin 10

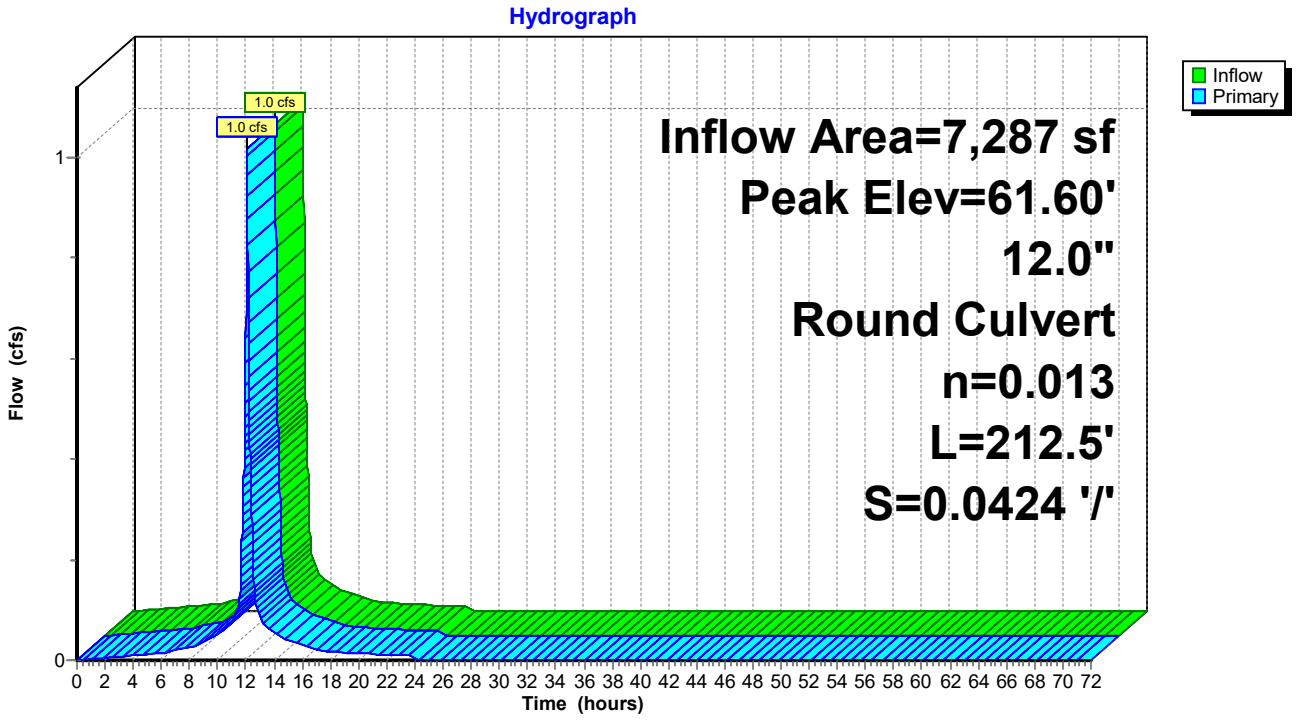
Inflow Area = 7,287 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 1.0 cfs @ 12.08 hrs, Volume= 3,620 cf
Outflow = 1.0 cfs @ 12.08 hrs, Volume= 3,620 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.0 cfs @ 12.08 hrs, Volume= 3,620 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.60' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**12.0" Round Culvert** L= 212.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 52.00' S= 0.0424 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.0 cfs @ 12.08 hrs HW=61.60' TW=52.70' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.0 cfs @ 2.08 fps)

Pond CB10: Catch Basin 10



Summary for Pond CB11: Catch Basin 11

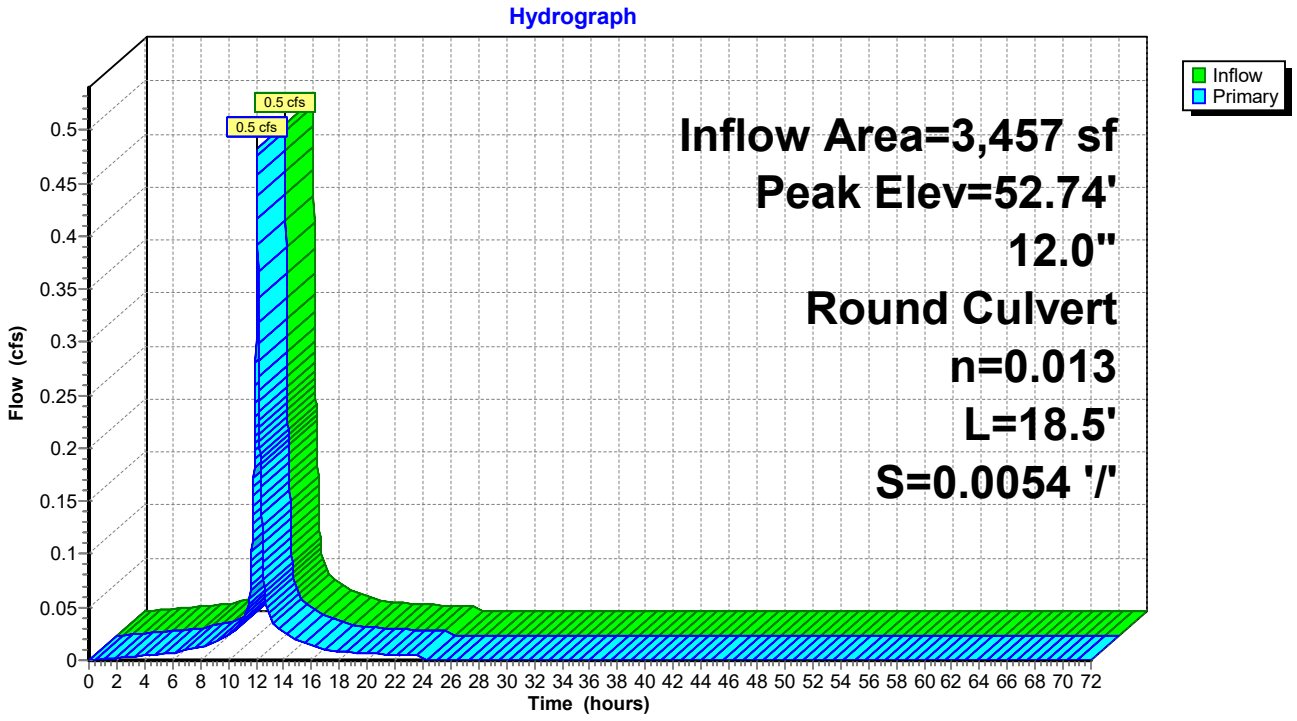
Inflow Area = 3,457 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.5 cfs @ 12.08 hrs, Volume= 1,717 cf
Outflow = 0.5 cfs @ 12.08 hrs, Volume= 1,717 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.08 hrs, Volume= 1,717 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.74' @ 12.09 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.00'	**12.0" Round Culvert** L= 18.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.00' / 51.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.08 hrs HW=52.74' TW=52.70' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.5 cfs @ 1.01 fps)

Pond CB11: Catch Basin 11



Summary for Pond CB12: Catch Basin 12

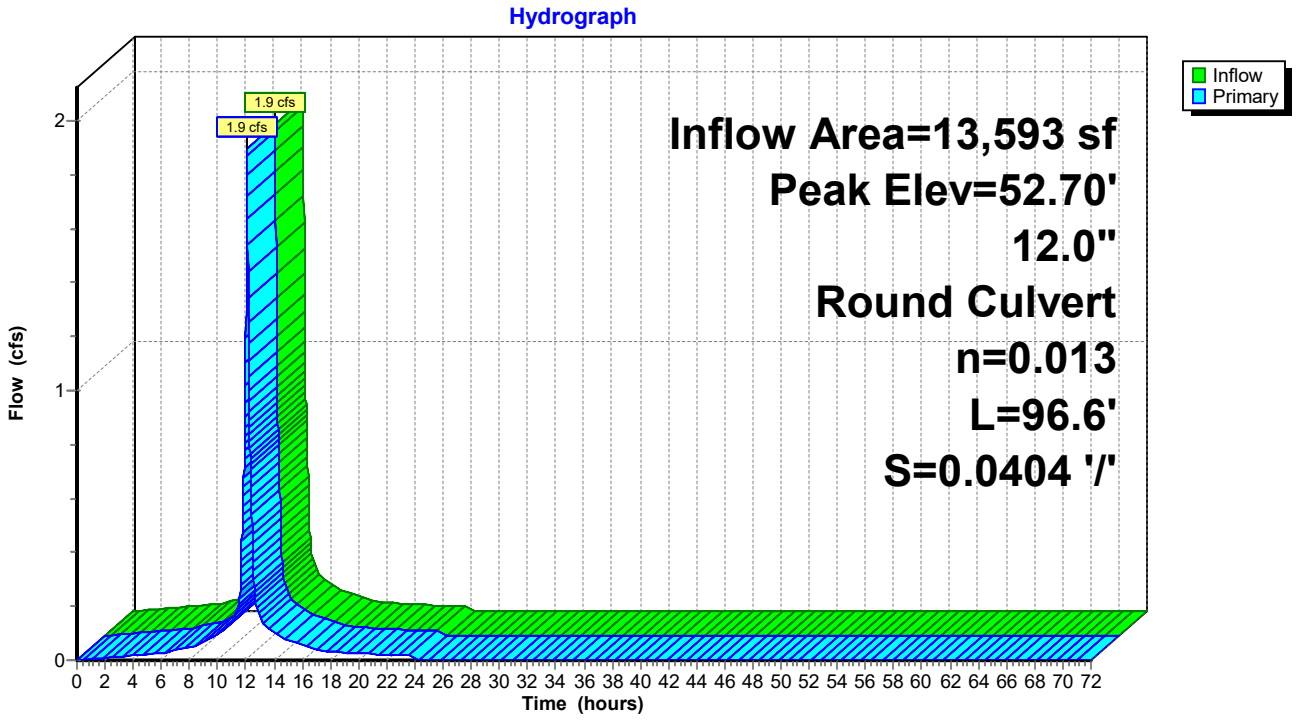
Inflow Area = 13,593 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 1.9 cfs @ 12.08 hrs, Volume= 6,753 cf
Outflow = 1.9 cfs @ 12.08 hrs, Volume= 6,753 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.9 cfs @ 12.08 hrs, Volume= 6,753 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.70' @ 12.08 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.80'	**12.0" Round Culvert** L= 96.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.80' / 47.90' S= 0.0404 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.9 cfs @ 12.08 hrs HW=52.70' TW=50.17' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.9 cfs @ 2.55 fps)

Pond CB12: Catch Basin 12



Summary for Pond CB13: Catch Basin 13

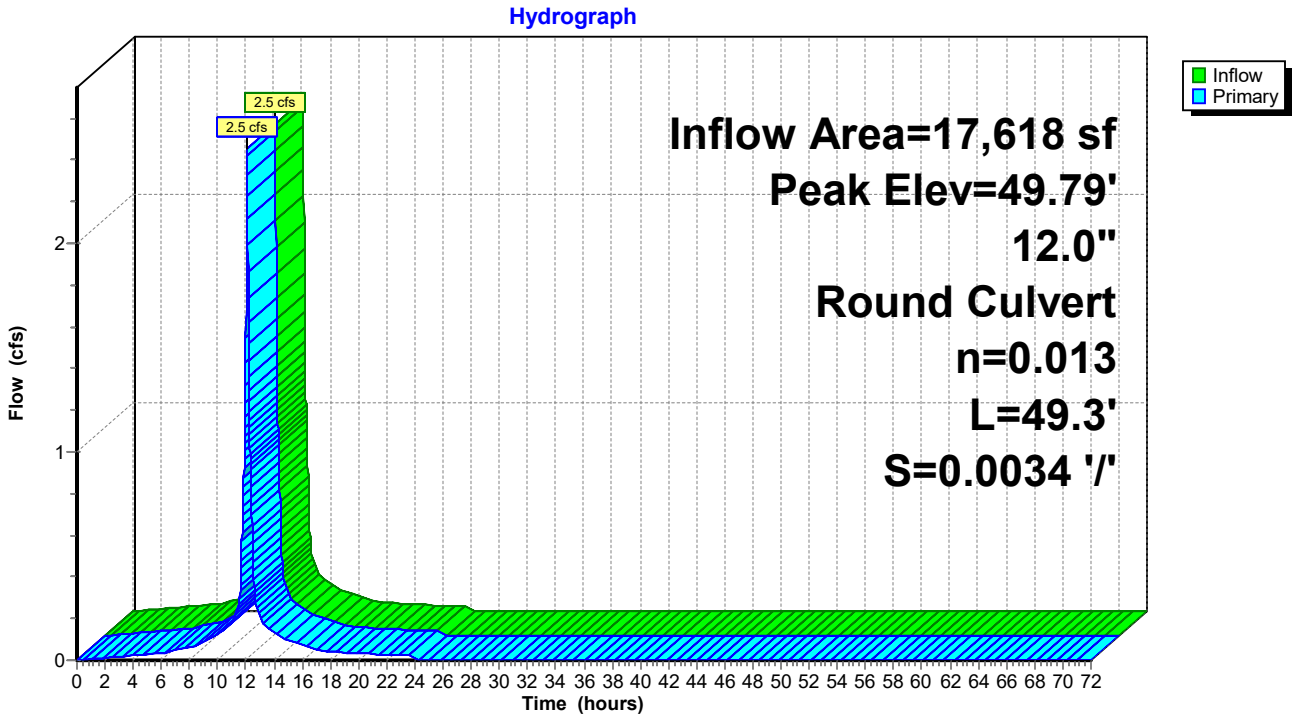
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf
Outflow = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.79' @ 12.09 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	**12.0" Round Culvert** L= 49.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.60' / 47.43' S= 0.0034 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.4 cfs @ 12.08 hrs HW=49.76' TW=49.11' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.4 cfs @ 3.06 fps)

Pond CB13: Catch Basin 13



Summary for Pond CB14: Catch Basin 14

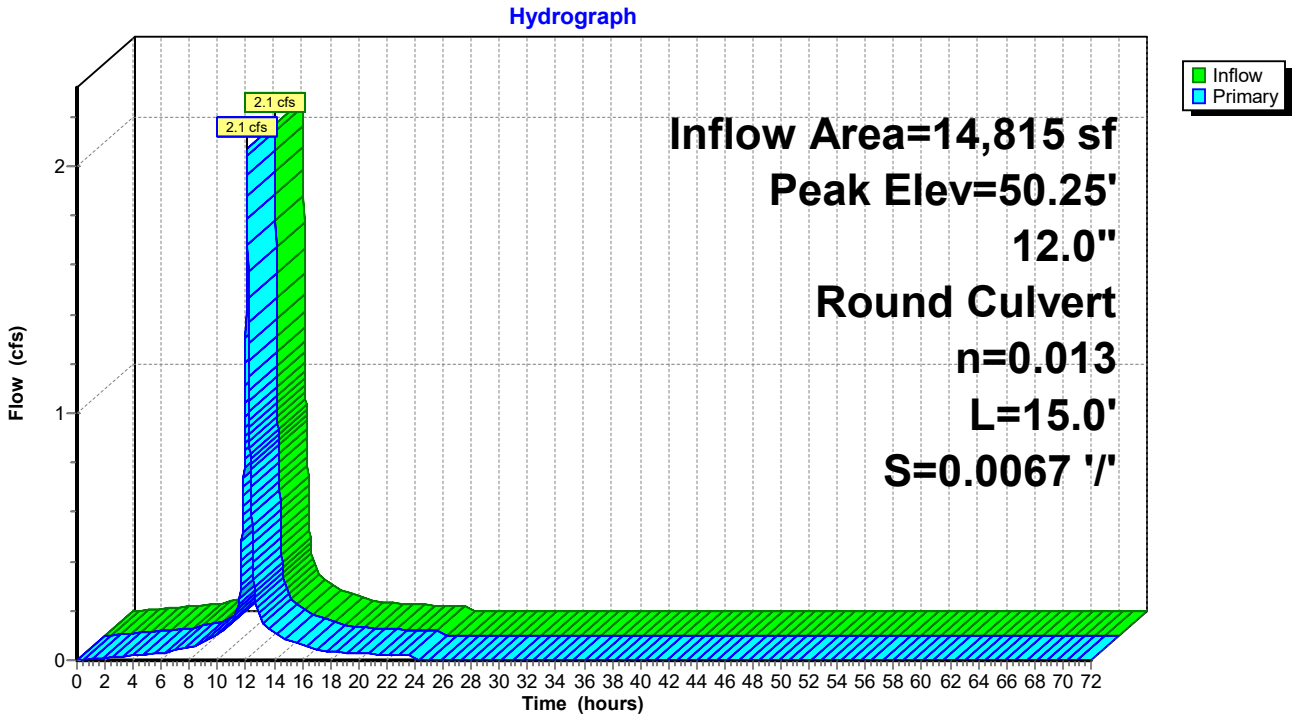
Inflow Area = 14,815 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 2.1 cfs @ 12.08 hrs, Volume= 7,360 cf
Outflow = 2.1 cfs @ 12.08 hrs, Volume= 7,360 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.1 cfs @ 12.08 hrs, Volume= 7,360 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.25' @ 12.10 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.80'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.80' / 47.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.9 cfs @ 12.08 hrs HW=50.17' TW=49.76' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.9 cfs @ 2.42 fps)

Pond CB14: Catch Basin 14



Summary for Pond CB2: Catch Basin 2

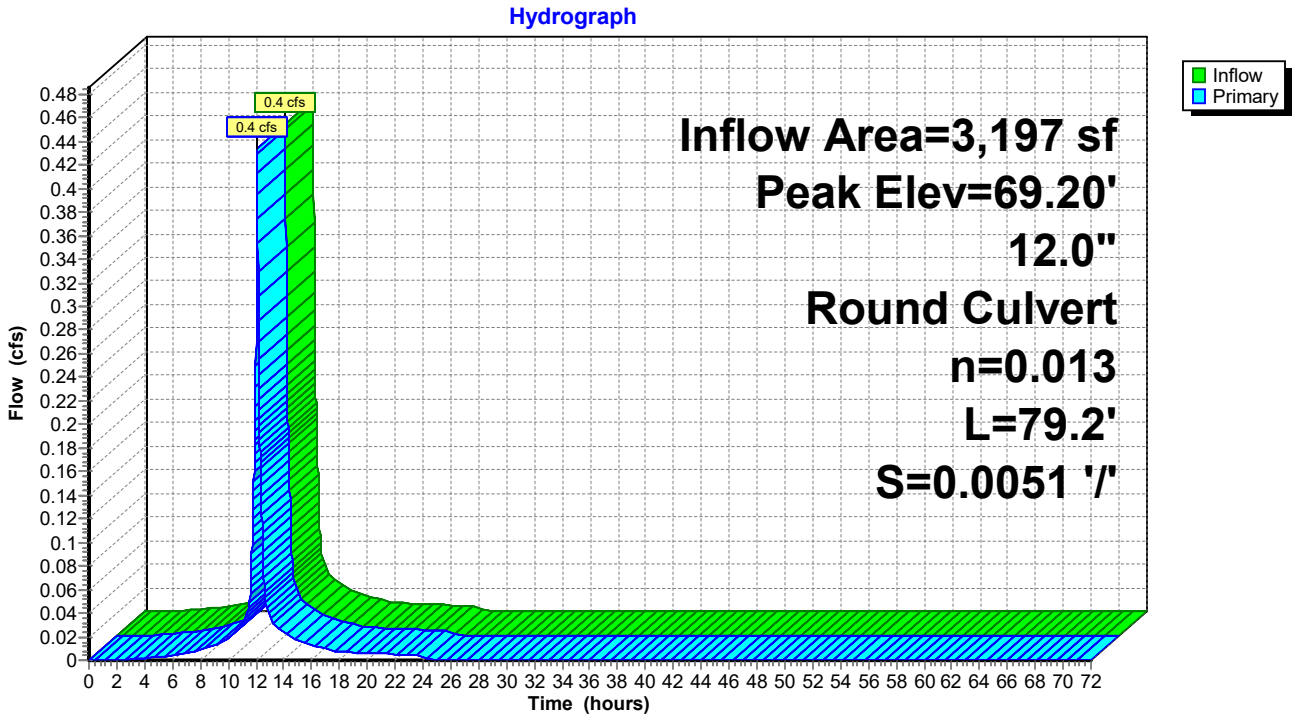
Inflow Area = 3,197 sf, 72.57% Impervious, Inflow Depth = 5.49" for 25-Year event
Inflow = 0.4 cfs @ 12.08 hrs, Volume= 1,464 cf
Outflow = 0.4 cfs @ 12.08 hrs, Volume= 1,464 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.08 hrs, Volume= 1,464 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.20' @ 12.11 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**12.0" Round Culvert** L= 79.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.00' / 67.60' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=68.64' TW=68.77' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB2: Catch Basin 2



Summary for Pond CB3: Catch Basin 3

[80] Warning: Exceeded Pond C7 by 1.21' @ 12.06 hrs (0.3 cfs 101 cf)
[80] Warning: Exceeded Pond CB1 by 0.11' @ 12.11 hrs (0.9 cfs 31 cf)

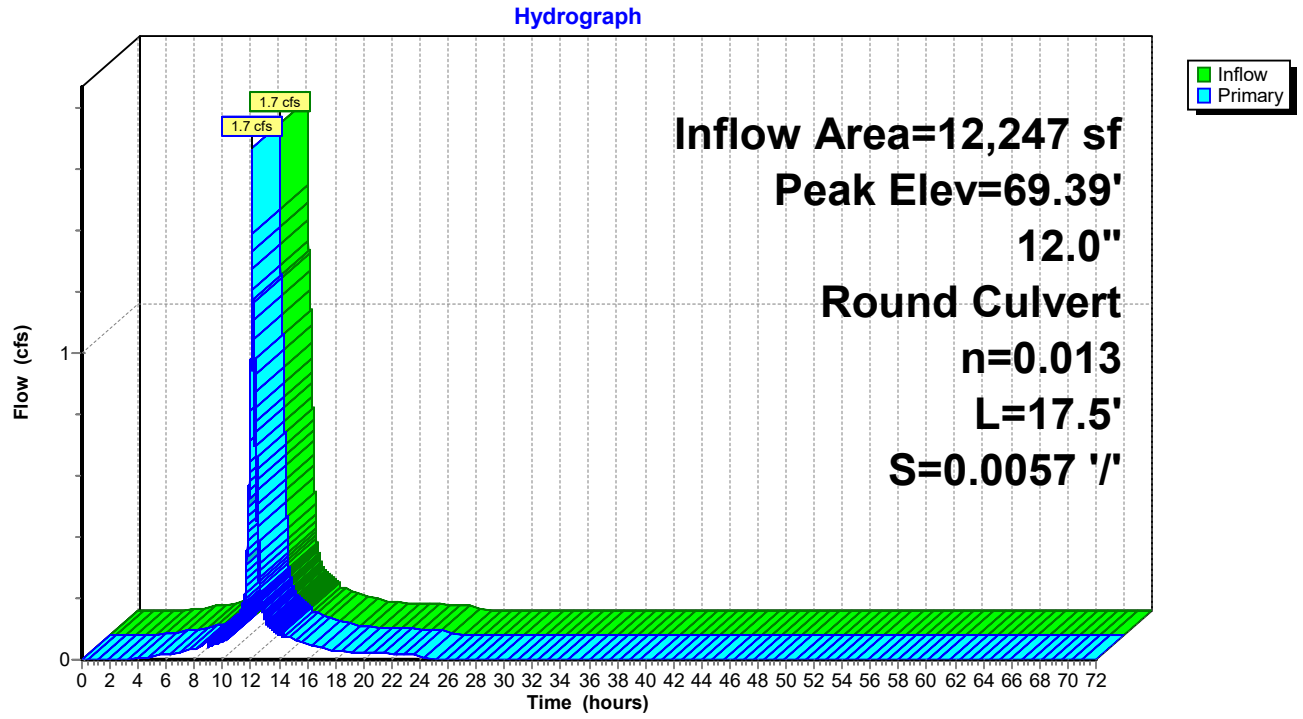
Inflow Area =	12,247 sf,	83.76% Impervious,	Inflow Depth =	5.59"	for 25-Year event
Inflow =	1.7 cfs @	12.07 hrs,	Volume=	5,701 cf	
Outflow =	1.7 cfs @	12.07 hrs,	Volume=	5,701 cf,	Atten= 0%, Lag= 0.0 min
Primary =	1.7 cfs @	12.07 hrs,	Volume=	5,701 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.39' @ 12.11 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.30'	**12.0" Round Culvert** L= 17.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.30' / 66.20' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.07 hrs HW=68.18' TW=68.46' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.0 cfs)

Pond CB3: Catch Basin 3



Summary for Pond CB4: Catch Basin 4

[80] Warning: Exceeded Pond CB2 by 0.24' @ 12.10 hrs (1.5 cfs 112 cf)
[80] Warning: Exceeded Pond CB3 by 0.29' @ 12.07 hrs (1.6 cfs 179 cf)

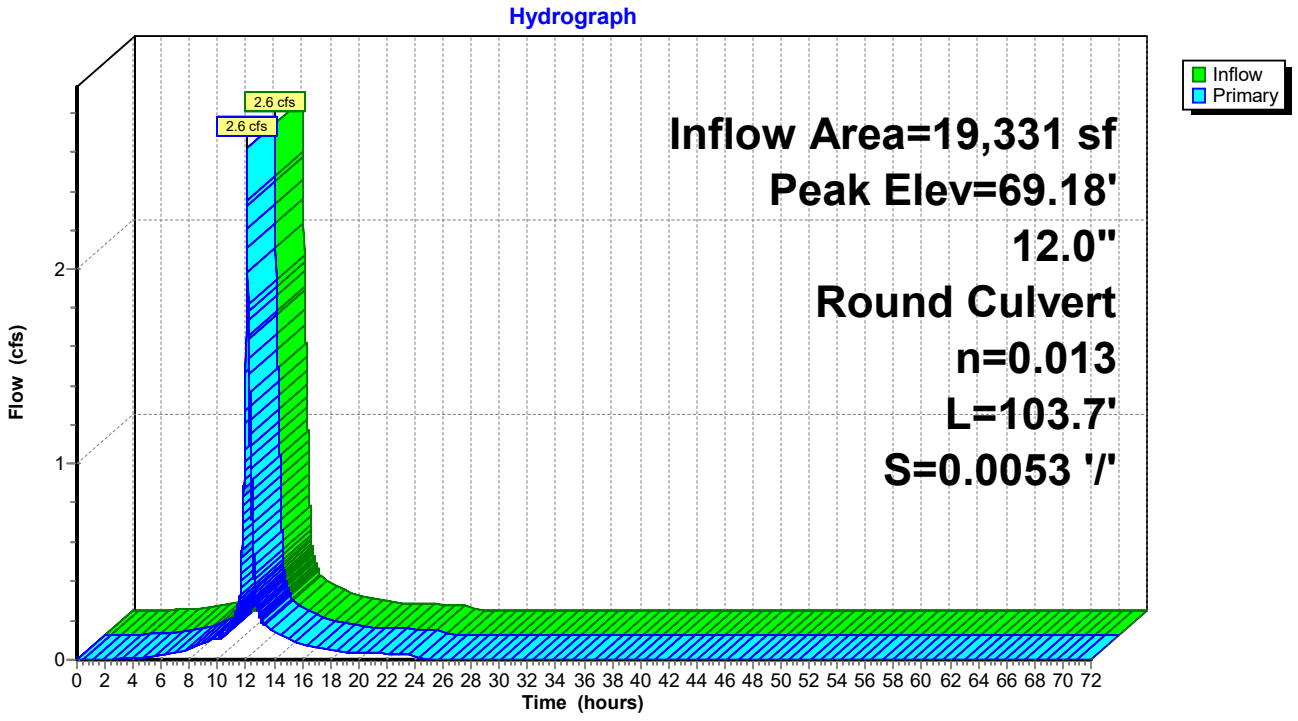
Inflow Area =	19,331 sf,	80.08% Impervious,	Inflow Depth =	5.55"	for 25-Year event
Inflow =	2.6 cfs @	12.07 hrs,	Volume=	8,945 cf	
Outflow =	2.6 cfs @	12.07 hrs,	Volume=	8,945 cf,	Atten= 0%, Lag= 0.0 min
Primary =	2.6 cfs @	12.07 hrs,	Volume=	8,945 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.18' @ 12.10 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.10'	**12.0" Round Culvert** L= 103.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.10' / 65.55' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.9 cfs @ 12.07 hrs HW=68.47' TW=67.99' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.9 cfs @ 2.43 fps)

Pond CB4: Catch Basin 4



Summary for Pond CB5: Catch Basin 5

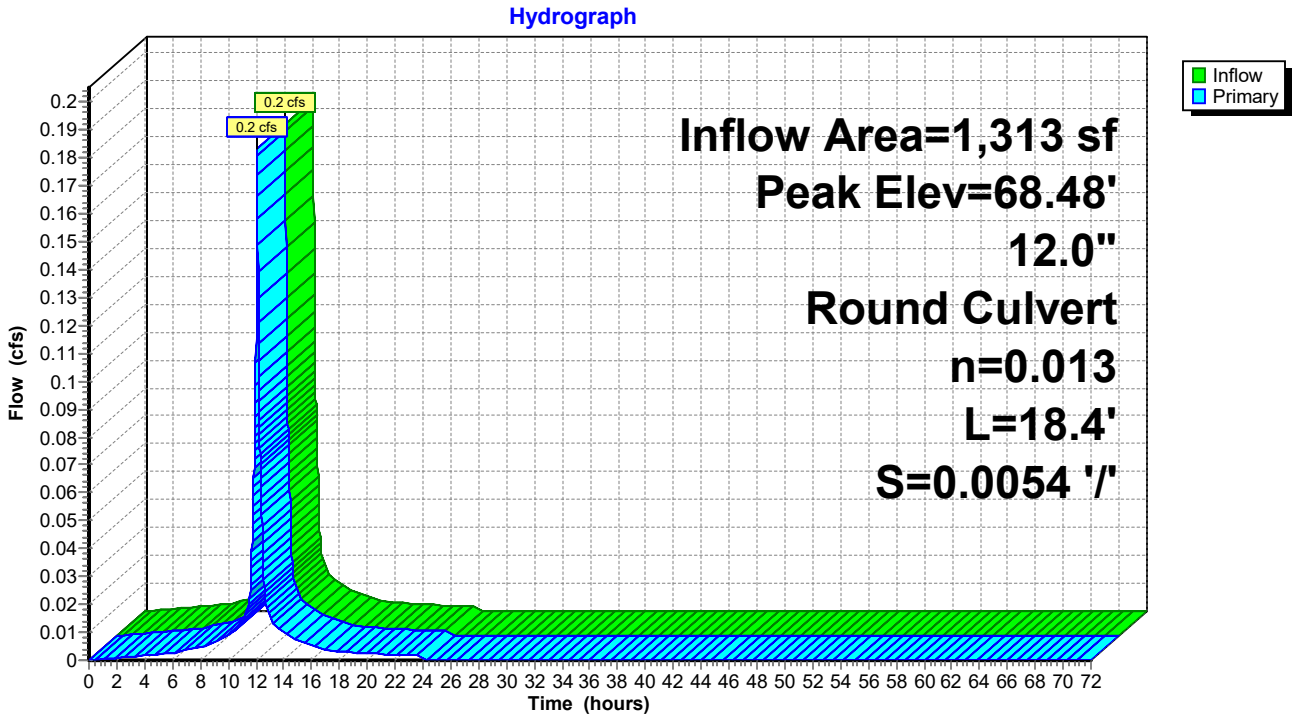
Inflow Area = 1,313 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 652 cf
Outflow = 0.2 cfs @ 12.08 hrs, Volume= 652 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.08 hrs, Volume= 652 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.48' @ 12.10 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	**12.0" Round Culvert** L= 18.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.00' / 65.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=68.05' TW=68.28' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB5: Catch Basin 5



Summary for Pond CB6: Catch Basin 6

[80] Warning: Exceeded Pond CB5 by 0.41' @ 12.07 hrs (1.9 cfs 430 cf)

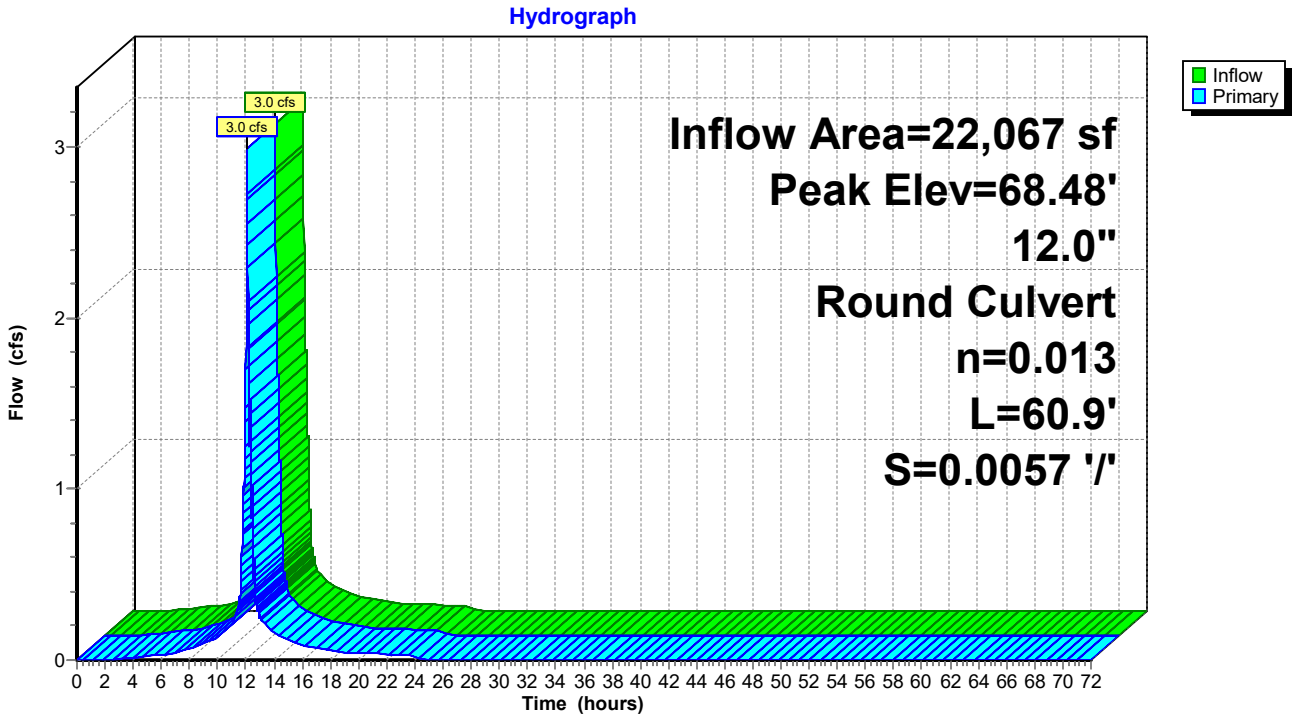
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 5.60" for 25-Year event
Inflow = 3.0 cfs @ 12.07 hrs, Volume= 10,304 cf
Outflow = 3.0 cfs @ 12.07 hrs, Volume= 10,304 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.0 cfs @ 12.07 hrs, Volume= 10,304 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.48' @ 12.09 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.45'	**12.0" Round Culvert** L= 60.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.45' / 65.10' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.07 hrs HW=68.00' TW=67.39' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.3 cfs @ 2.97 fps)

Pond CB6: Catch Basin 6



Summary for Pond CB7: Catch Basin 7

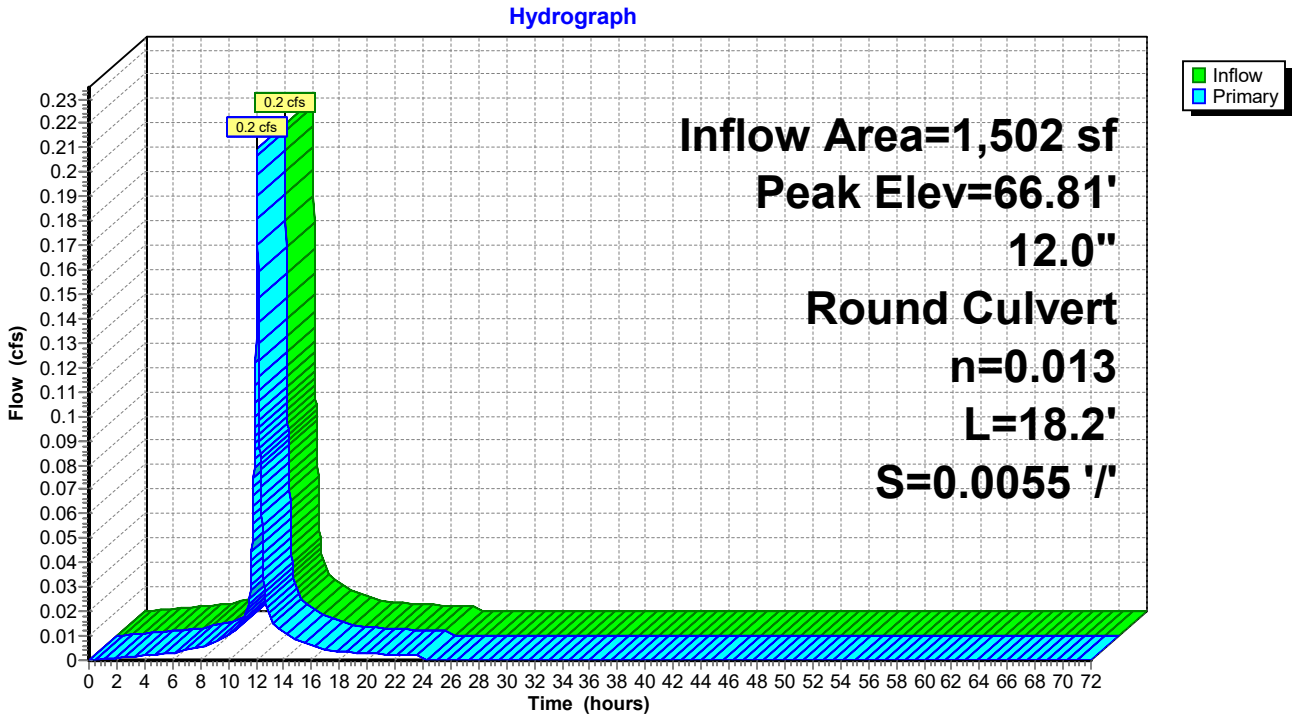
Inflow Area = 1,502 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 746 cf
Outflow = 0.2 cfs @ 12.08 hrs, Volume= 746 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.08 hrs, Volume= 746 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.81' @ 12.08 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.85'	**12.0" Round Culvert** L= 18.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.85' / 64.75' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.3 cfs @ 12.08 hrs HW=66.71' TW=66.52' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.3 cfs @ 1.69 fps)

Pond CB7: Catch Basin 7



Summary for Pond CB8: Catch Basin 8

[80] Warning: Exceeded Pond CB7 by 0.44' @ 12.07 hrs (2.0 cfs 724 cf)

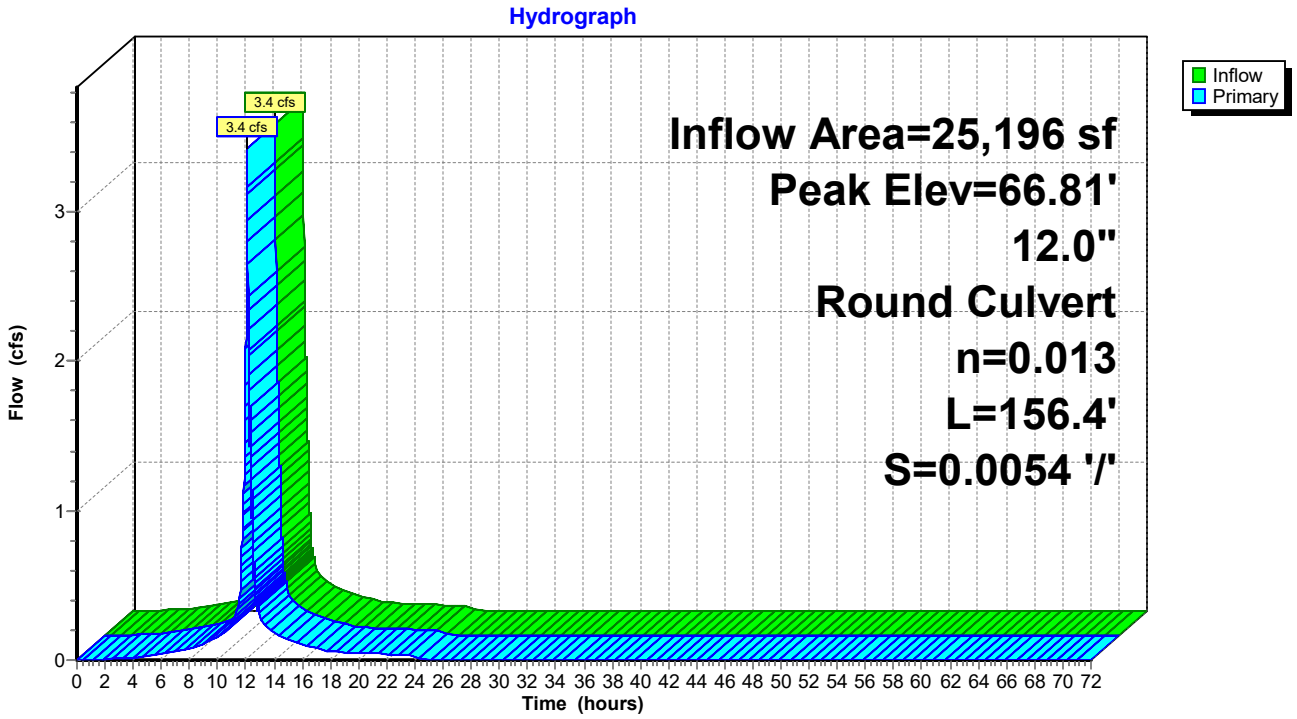
Inflow Area = 25,196 sf, 84.72% Impervious, Inflow Depth = 5.65" for 25-Year event
Inflow = 3.4 cfs @ 12.07 hrs, Volume= 11,859 cf
Outflow = 3.4 cfs @ 12.07 hrs, Volume= 11,859 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.4 cfs @ 12.07 hrs, Volume= 11,859 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.81' @ 12.07 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.65'	**12.0" Round Culvert** L= 156.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.65' / 63.80' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.4 cfs @ 12.07 hrs HW=66.77' TW=61.54' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 3.4 cfs @ 4.32 fps)

Pond CB8: Catch Basin 8



Summary for Pond CB9: Catch Basin 9

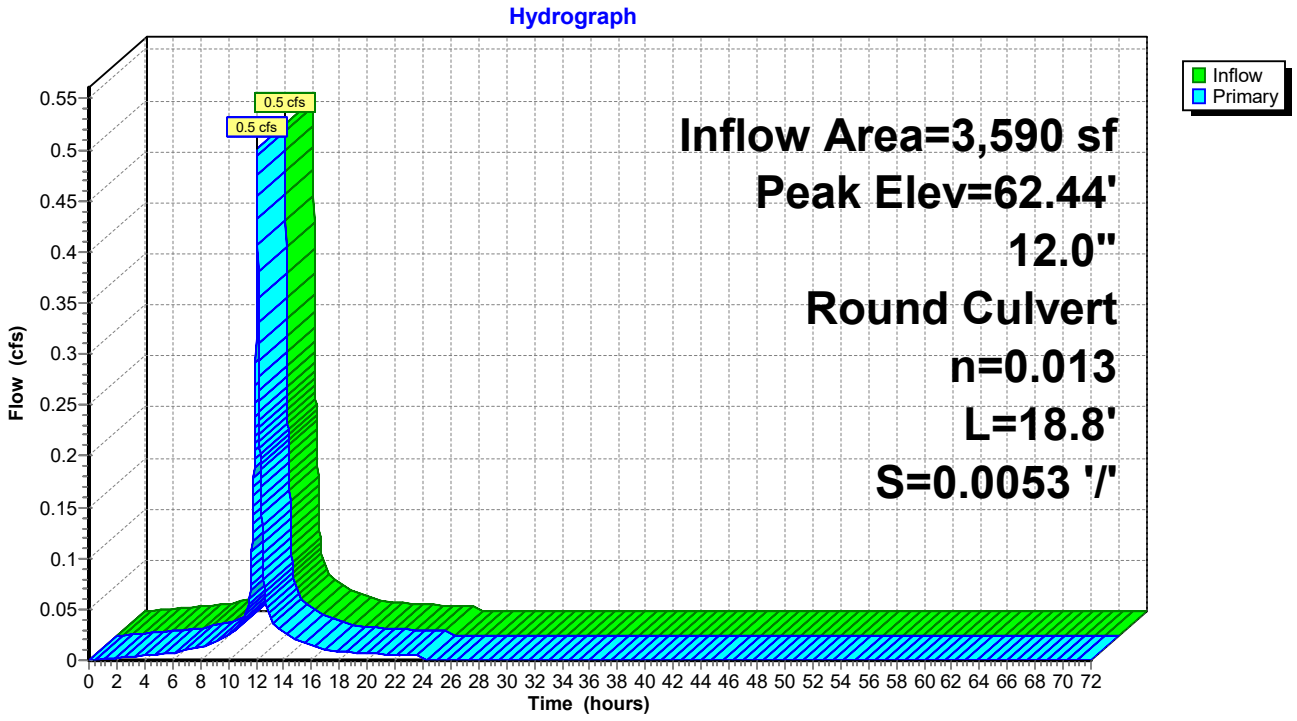
Inflow Area = 3,590 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.5 cfs @ 12.08 hrs, Volume= 1,784 cf
Outflow = 0.5 cfs @ 12.08 hrs, Volume= 1,784 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.08 hrs, Volume= 1,784 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.44' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	**12.0" Round Culvert** L= 18.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.90' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.08 hrs HW=62.44' TW=61.60' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.5 cfs @ 2.21 fps)

Pond CB9: Catch Basin 9



Summary for Pond CH1: Chamber 1

Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf
Outflow = 2.4 cfs @ 12.10 hrs, Volume= 8,753 cf, Atten= 1%, Lag= 0.8 min
Primary = 2.4 cfs @ 12.10 hrs, Volume= 8,753 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.59' @ 12.10 hrs Surf.Area= 1,773 sf Storage= 961 cf
Flood Elev= 50.50' Surf.Area= 1,773 sf Storage= 1,194 cf

Plug-Flow detention time= 9.7 min calculated for 8,751 cf (100% of inflow)
Center-of-Mass det. time= 9.7 min (754.4 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.90'	656 cf	**12.00'W x 74.40'L x 2.33'H Field A** 2,083 cf Overall - 442 cf Embedded = 1,641 cf x 40.0% Voids
#2A	47.40'	442 cf	**ADS_StormTech SC-310 +Cap** x 30 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 3 Rows
#3	44.73'	95 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,910 cf Overall x 5.0% Voids
		1,194 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.73	880	0	0
46.90	880	1,910	1,910

Device	Routing	Invert	Outlet Devices
#1	Primary	44.73'	**12.0" Round Culvert** L= 60.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.73' / 44.60' S= 0.0021 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	44.73'	**2.9" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	48.30'	**4.0' long x 4.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.4 cfs @ 12.10 hrs HW=48.59' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.4 cfs of 5.5 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.4 cfs @ 9.31 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Weir Controls 2.0 cfs @ 1.76 fps)

Pond CH1: Chamber 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 9.0" Spacing = 43.0" C-C Row Spacing

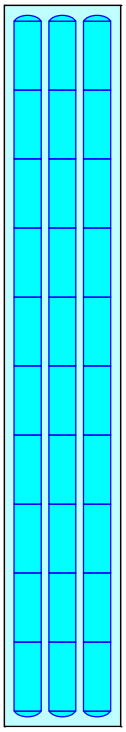
10 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 72.40' Row Length +12.0" End Stone x 2 = 74.40' Base Length
3 Rows x 34.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 12.00' Base Width
6.0" Stone Base + 16.0" Chamber Height + 6.0" Stone Cover = 2.33' Field Height

30 Chambers x 14.7 cf = 442.3 cf Chamber Storage

2,083.2 cf Field - 442.3 cf Chambers = 1,640.9 cf Stone x 40.0% Voids = 656.4 cf Stone Storage

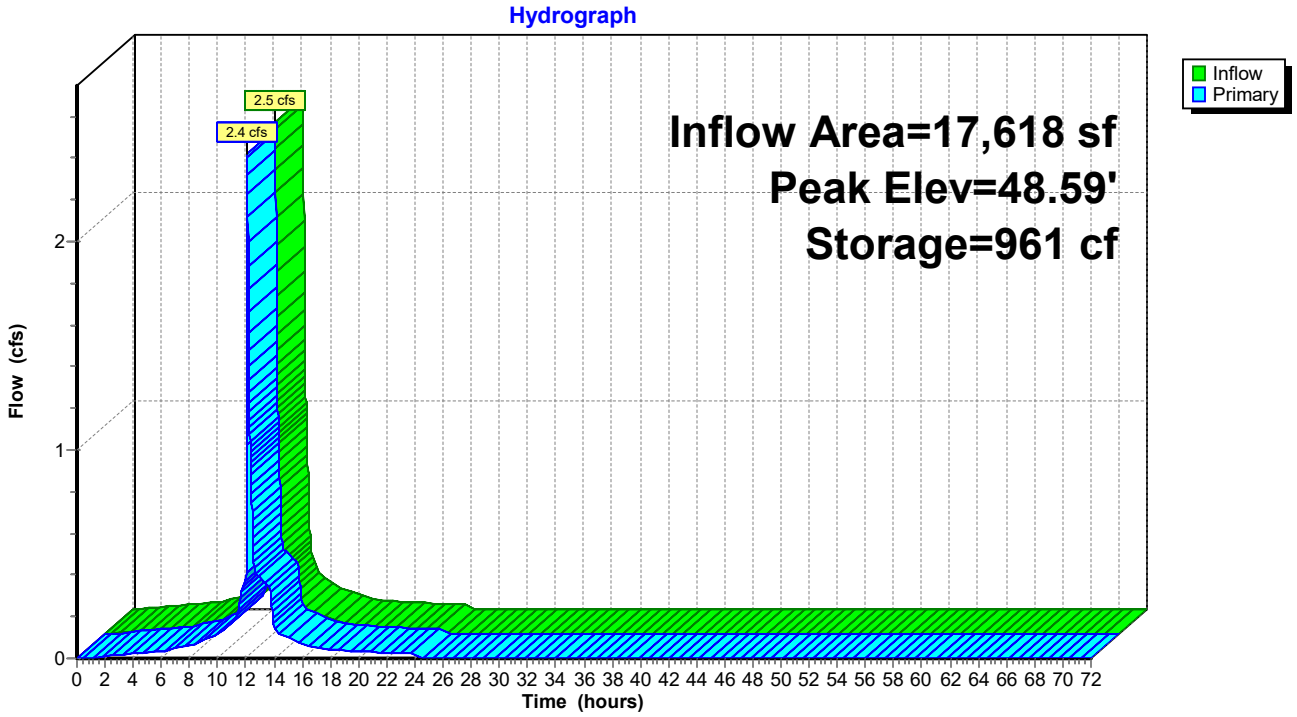
Chamber Storage + Stone Storage = 1,098.6 cf = 0.025 af
Overall Storage Efficiency = 52.7%
Overall System Size = 74.40' x 12.00' x 2.33'

30 Chambers
77.2 cy Field
60.8 cy Stone





Pond CH1: Chamber 1



Summary for Pond MH1: Manhole 1

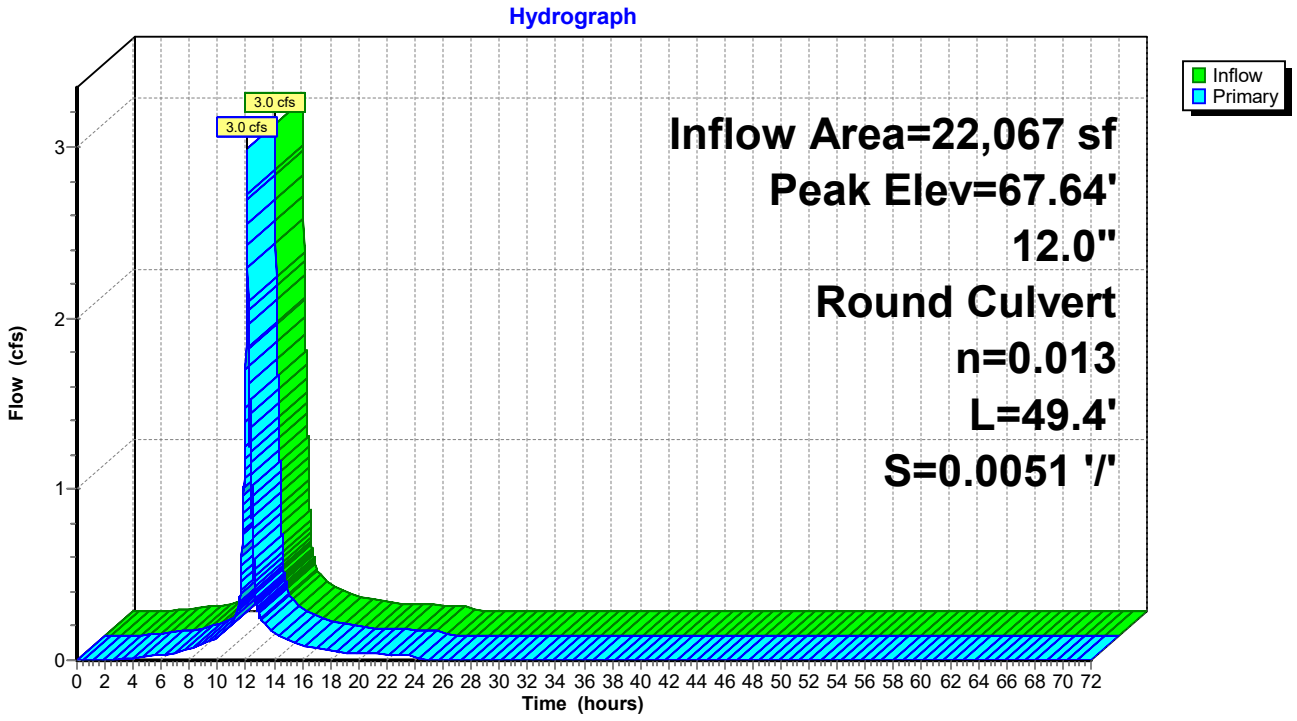
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 5.60" for 25-Year event
Inflow = 3.0 cfs @ 12.07 hrs, Volume= 10,304 cf
Outflow = 3.0 cfs @ 12.07 hrs, Volume= 10,304 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.0 cfs @ 12.07 hrs, Volume= 10,304 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.64' @ 12.08 hrs
Flood Elev= 68.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 49.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.00' / 64.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.07 hrs HW=67.39' TW=66.78' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.3 cfs @ 2.97 fps)

Pond MH1: Manhole 1



Summary for Pond MH2: Manhole 2

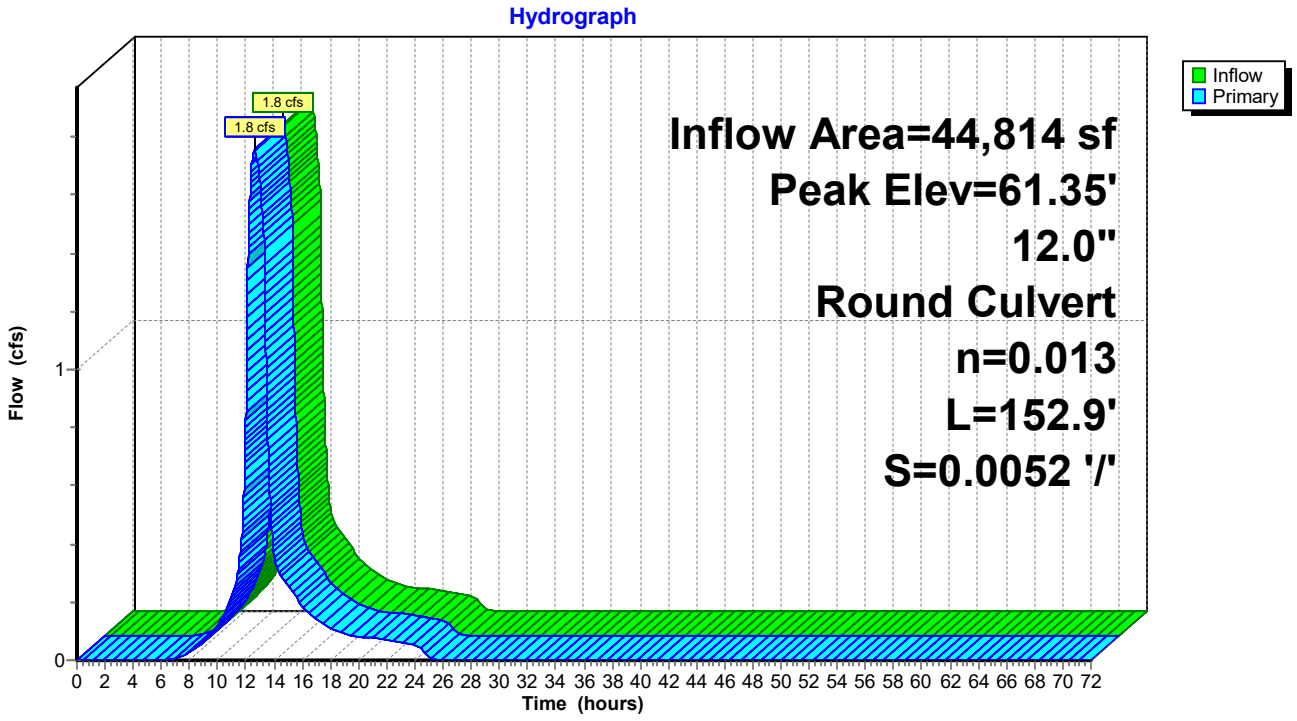
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 4.38" for 25-Year event
Inflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf
Outflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.35' @ 12.62 hrs
Flood Elev= 65.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.45'	**12.0" Round Culvert** L= 152.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.45' / 59.65' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.8 cfs @ 12.62 hrs HW=61.35' TW=60.46' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.8 cfs @ 3.13 fps)

Pond MH2: Manhole 2



Summary for Pond MH3: Manhole 3

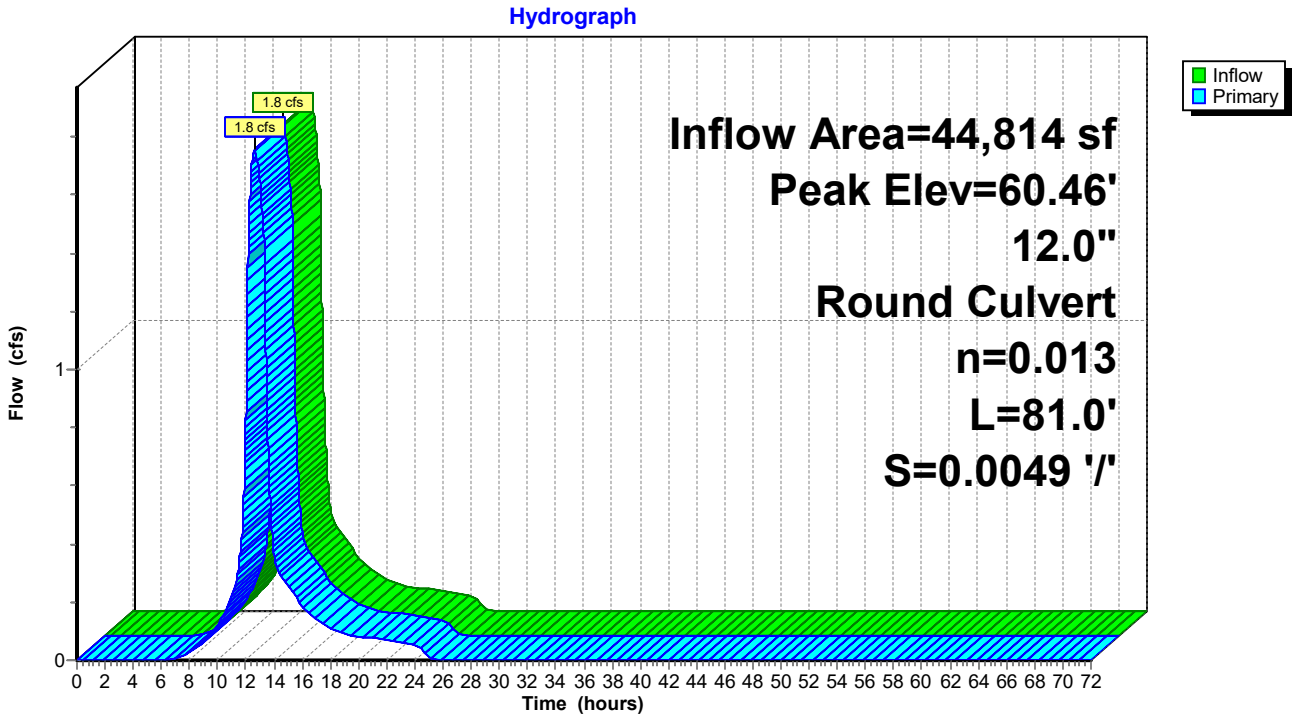
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 4.38" for 25-Year event
Inflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf
Outflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 60.46' @ 12.62 hrs
Flood Elev= 67.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.55'	**12.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.55' / 59.15' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.8 cfs @ 12.62 hrs HW=60.46' TW=59.89' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.8 cfs @ 3.06 fps)

Pond MH3: Manhole 3



Summary for Pond MH4: Manhole 4

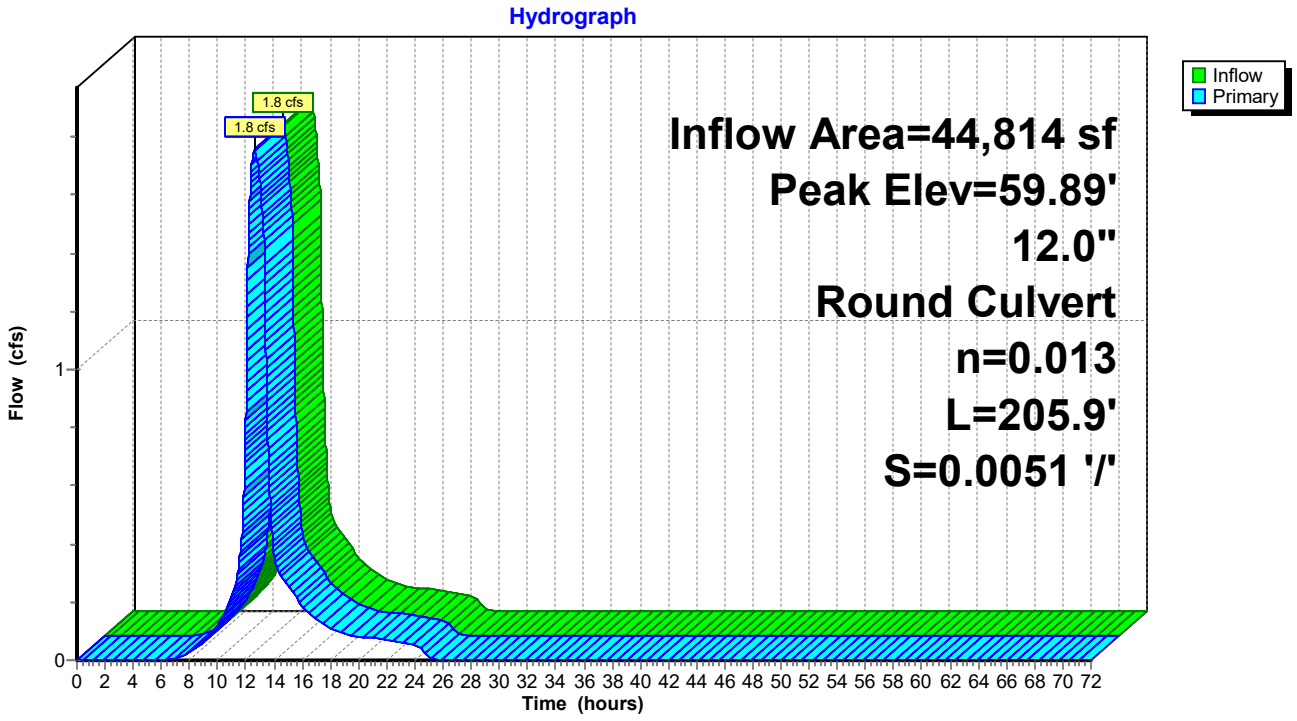
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 4.38" for 25-Year event
Inflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf
Outflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 59.89' @ 12.62 hrs
Flood Elev= 66.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.05'	**12.0" Round Culvert** L= 205.9' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 59.05' / 58.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.8 cfs @ 12.62 hrs HW=59.89' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.8 cfs @ 3.37 fps)

Pond MH4: Manhole 4



Summary for Pond MH5: Manhole 5

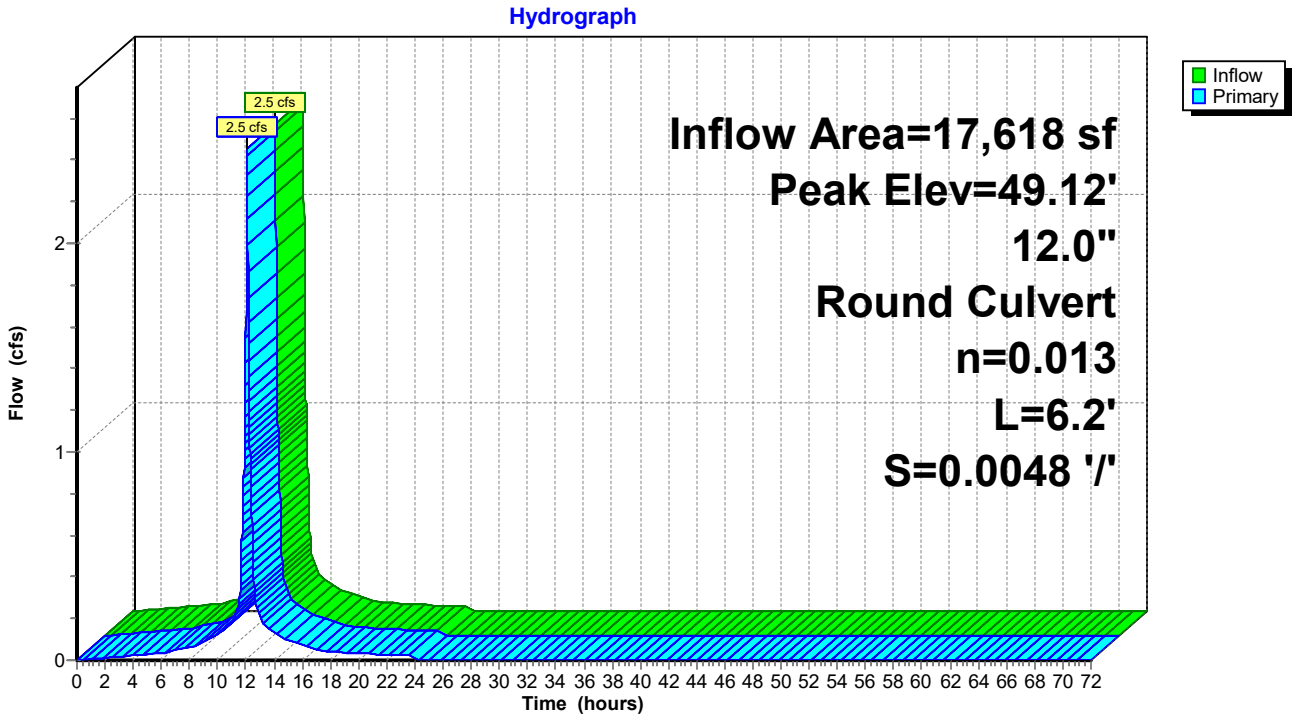
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf
Outflow = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.12' @ 12.09 hrs
Flood Elev= 50.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.43'	**12.0" Round Culvert** L= 6.2' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.43' / 47.40' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.4 cfs @ 12.08 hrs HW=49.11' TW=48.58' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.4 cfs @ 3.09 fps)

Pond MH5: Manhole 5



Summary for Pond P1: Pond 1

[80] Warning: Exceeded Pond C8 by 1.90' @ 25.27 hrs (3.5 cfs 29,820 cf)

Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 1.72" for 25-Year event
Inflow = 3.7 cfs @ 12.63 hrs, Volume= 25,816 cf
Outflow = 2.3 cfs @ 13.05 hrs, Volume= 24,926 cf, Atten= 38%, Lag= 25.2 min
Primary = 2.3 cfs @ 13.05 hrs, Volume= 24,926 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 53.59' @ 13.05 hrs Surf.Area= 2,895 sf Storage= 7,879 cf
Flood Elev= 55.50' Surf.Area= 3,752 sf Storage= 14,183 cf

Plug-Flow detention time= 481.6 min calculated for 24,922 cf (97% of inflow)
Center-of-Mass det. time= 463.3 min (1,367.6 - 904.3)

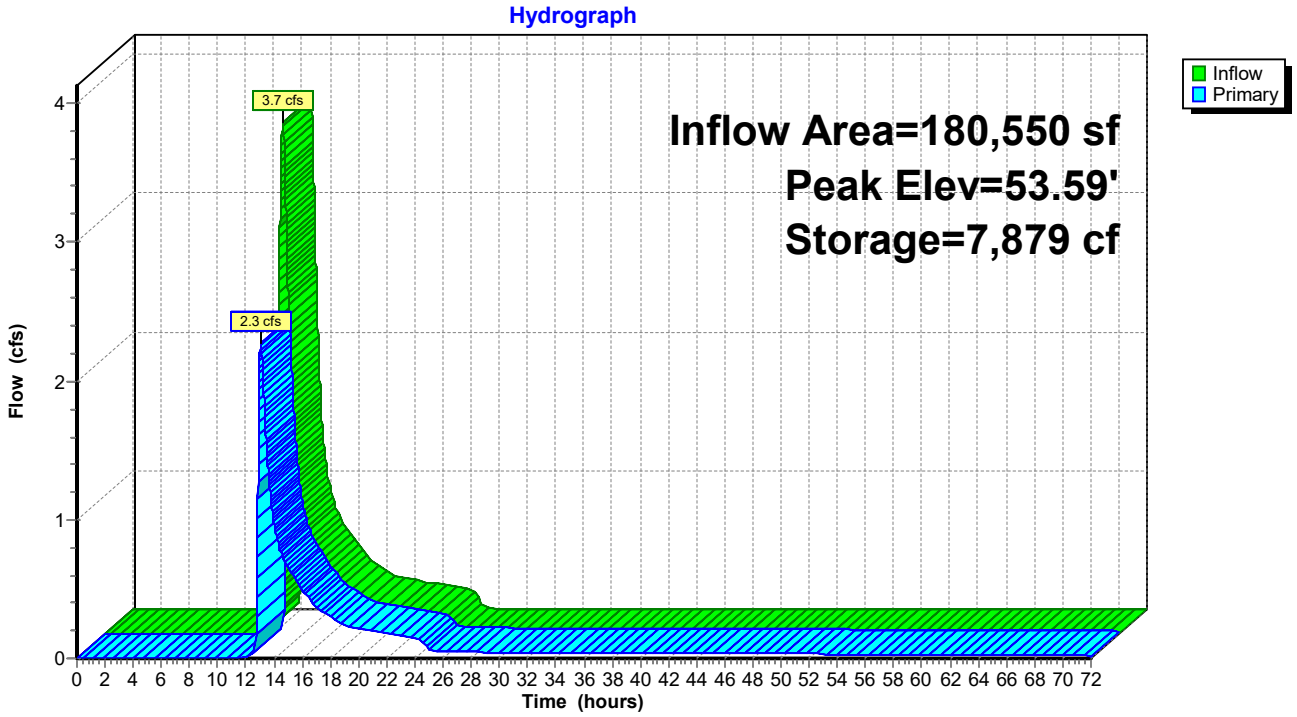
Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	16,121 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,503	0	0
51.00	1,882	1,693	1,693
52.00	2,267	2,075	3,767
53.00	2,662	2,465	6,232
54.00	3,055	2,859	9,090
55.00	3,503	3,279	12,369
56.00	4,000	3,752	16,121

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**12.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.00' / 46.40' S= 0.0180 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	50.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	53.10'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.3 cfs @ 13.05 hrs HW=53.59' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.3 cfs of 5.3 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.0 cfs @ 9.07 fps)
3=Orifice/Grate (Orifice Controls 2.2 cfs @ 2.25 fps)

Pond P1: Pond 1



Summary for Pond RD1: Roof Drain 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=757)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 603 cf, Atten= 14%, Lag= 2.7 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 603 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.67' @ 12.13 hrs Surf.Area= 241 sf Storage= 54 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 43.5 min calculated for 603 cf (97% of inflow)
Center-of-Mass det. time= 25.5 min (770.2 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

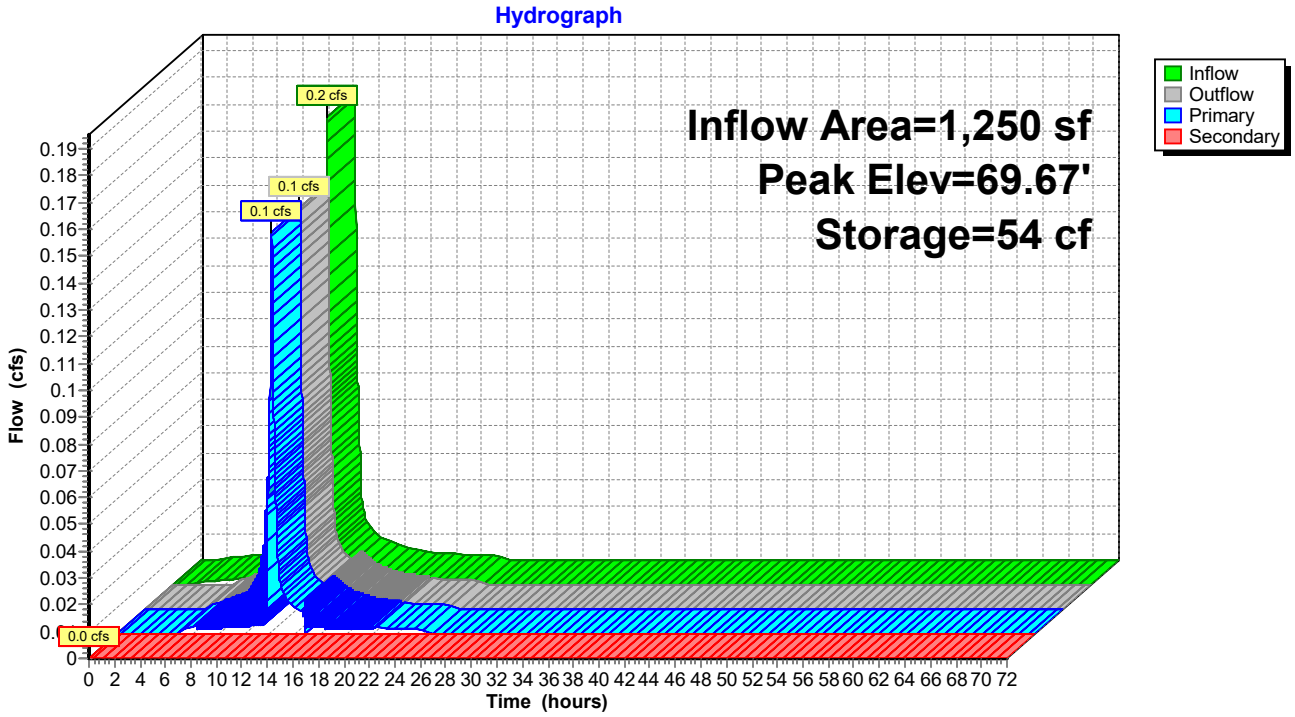
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.67' TW=69.54' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.71 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD1: Roof Drain 1



Summary for Pond RD2: Roof Drain 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=842)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 603 cf, Atten= 17%, Lag= 3.0 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 603 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.84' @ 12.14 hrs Surf.Area= 249 sf Storage= 61 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 46.9 min calculated for 603 cf (97% of inflow)
Center-of-Mass det. time= 28.7 min (773.4 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

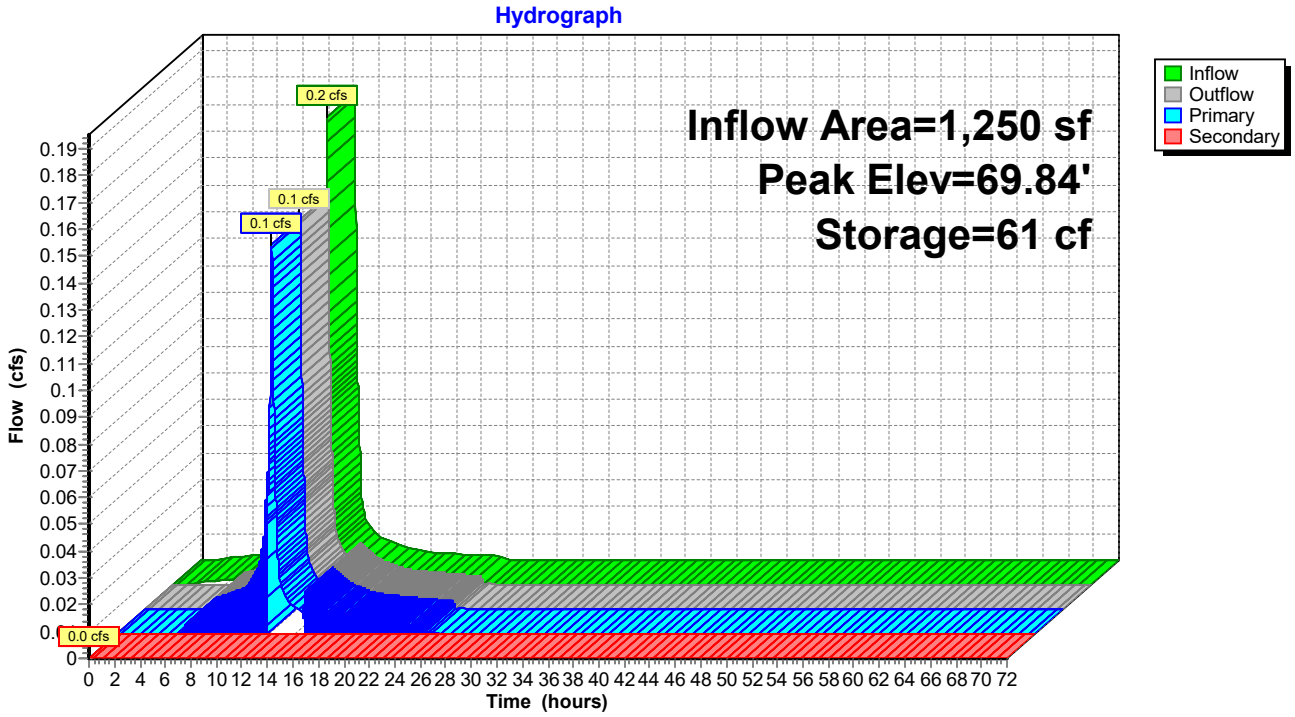
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.84' TW=69.72' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 0.1 cfs @ 1.66 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD2: Roof Drain 2



Summary for Pond RD3: Roof Drain 3

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.2 cfs @ 12.12 hrs, Volume= 604 cf, Atten= 12%, Lag= 2.2 min
Primary = 0.2 cfs @ 12.12 hrs, Volume= 604 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.05' @ 12.13 hrs Surf.Area= 232 sf Storage= 47 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 41.8 min calculated for 604 cf (97% of inflow)
Center-of-Mass det. time= 24.3 min (768.9 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

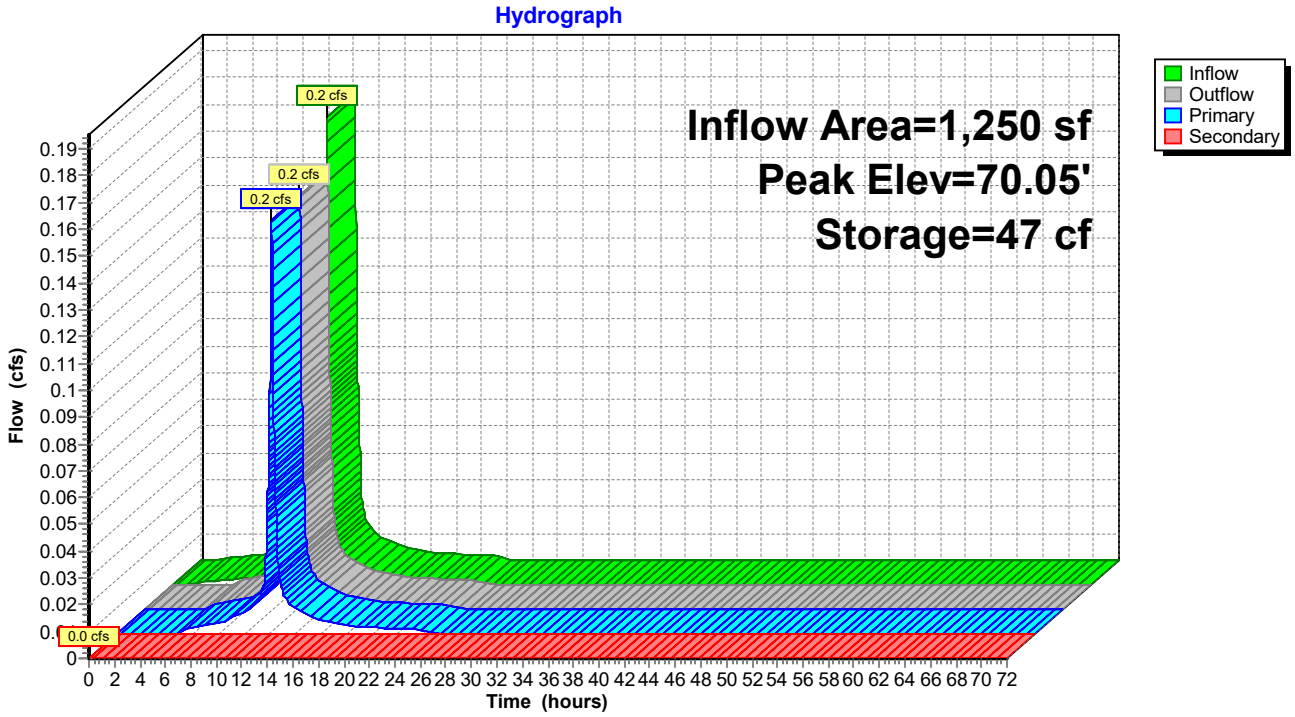
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=70.05' TW=69.91' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.2 cfs @ 1.76 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD3: Roof Drain 3



Summary for Pond RD4: Roof Drain 4

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.2 cfs @ 12.12 hrs, Volume= 604 cf, Atten= 11%, Lag= 2.1 min
Primary = 0.2 cfs @ 12.12 hrs, Volume= 604 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.05' @ 12.13 hrs Surf.Area= 231 sf Storage= 47 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 41.8 min calculated for 604 cf (97% of inflow)
Center-of-Mass det. time= 24.3 min (768.9 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

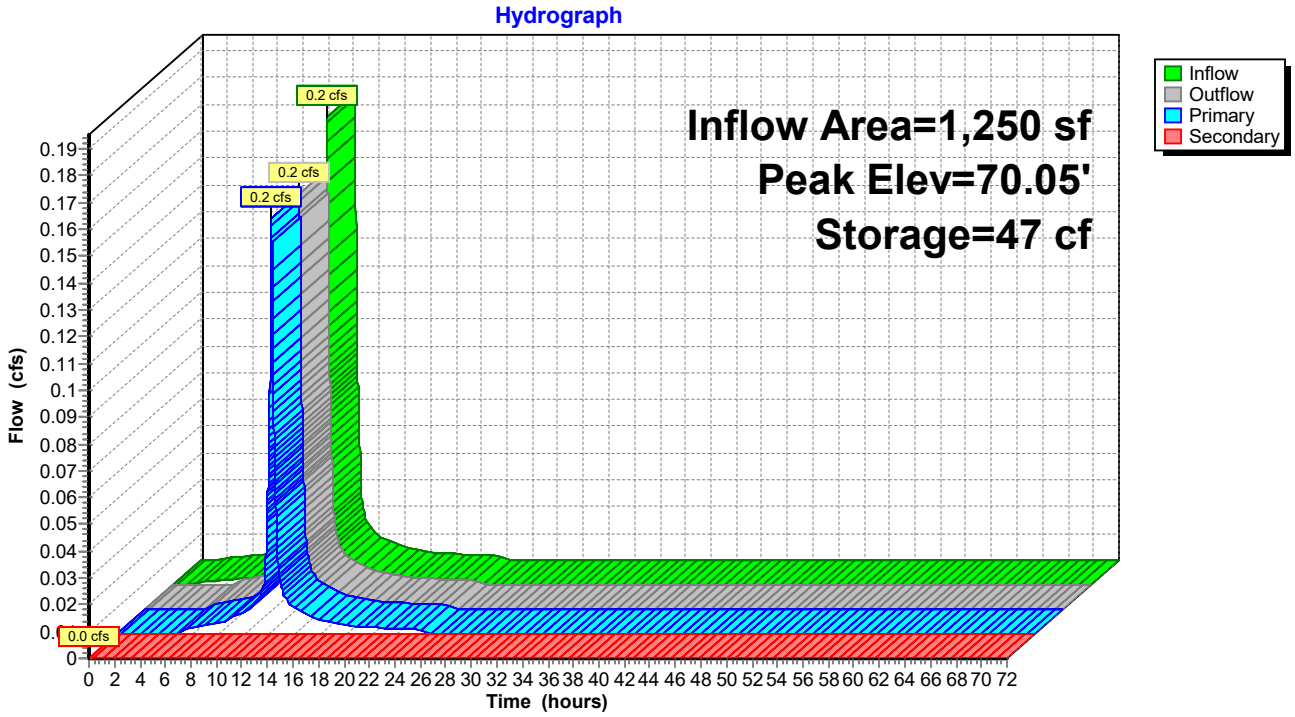
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=70.05' TW=69.91' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.2 cfs @ 1.76 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD4: Roof Drain 4



Summary for Pond RD5: Roof Drain 5

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=274)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.2 cfs @ 12.16 hrs, Volume= 603 cf, Atten= 10%, Lag= 4.8 min
Primary = 0.2 cfs @ 12.16 hrs, Volume= 603 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.83' @ 12.15 hrs Surf.Area= 248 sf Storage= 59 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 45.1 min calculated for 603 cf (97% of inflow)
Center-of-Mass det. time= 27.2 min (771.9 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

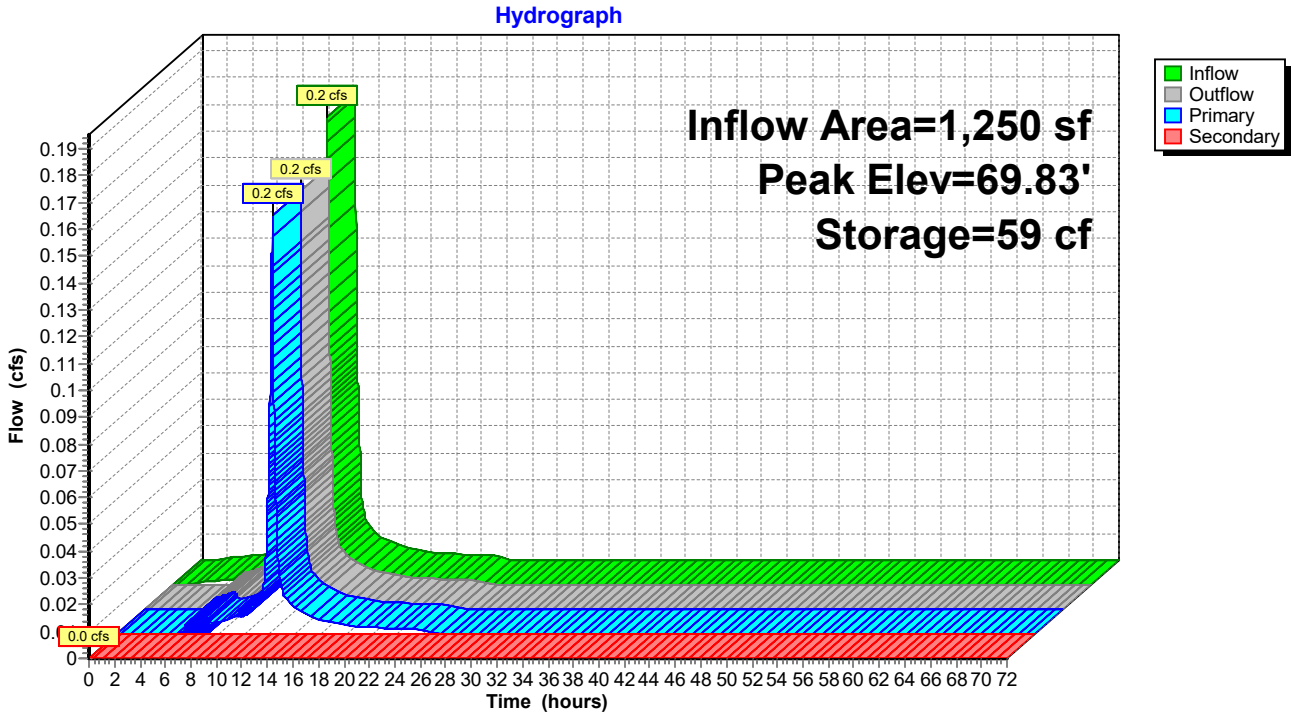
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.16 hrs HW=69.82' TW=69.69' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.1 cfs @ 1.72 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD5: Roof Drain 5



Summary for Pond RD6: Roof Drain 6

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=398)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.2 cfs @ 12.16 hrs, Volume= 605 cf, Atten= 4%, Lag= 4.9 min
Primary = 0.2 cfs @ 12.16 hrs, Volume= 605 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.71' @ 12.16 hrs Surf.Area= 245 sf Storage= 57 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 42.0 min calculated for 605 cf (97% of inflow)
Center-of-Mass det. time= 25.2 min (769.8 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

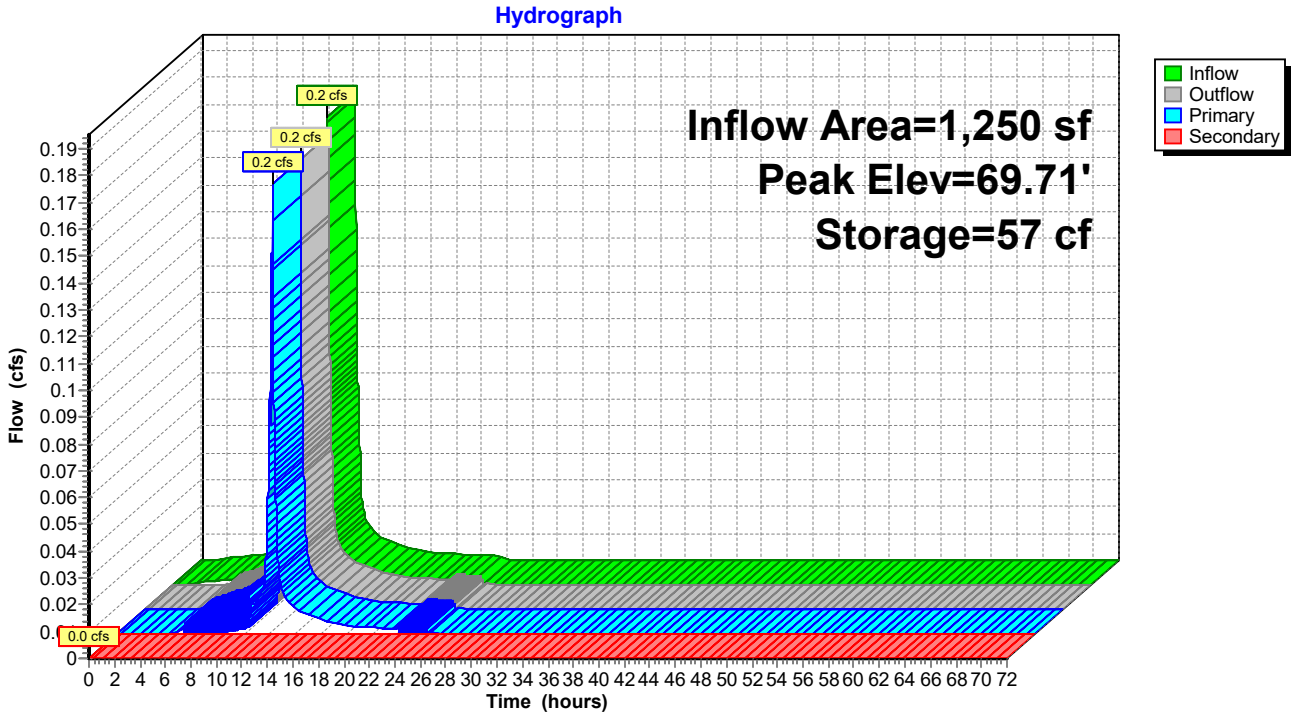
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.16 hrs HW=69.70' TW=69.56' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 0.2 cfs @ 1.78 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD6: Roof Drain 6



Summary for Pond RD7: Roof Drain 7

[92] Warning: Device #2 is above defined storage
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=948)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.3 cfs @ 12.23 hrs, Volume= 603 cf, Atten= 0%, Lag= 8.8 min
Primary = 0.3 cfs @ 12.23 hrs, Volume= 603 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.00' @ 12.19 hrs Surf.Area= 281 sf Storage= 137 cf
Flood Elev= 69.30' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 48.1 min calculated for 603 cf (97% of inflow)
Center-of-Mass det. time= 29.9 min (774.6 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	66.29'	271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

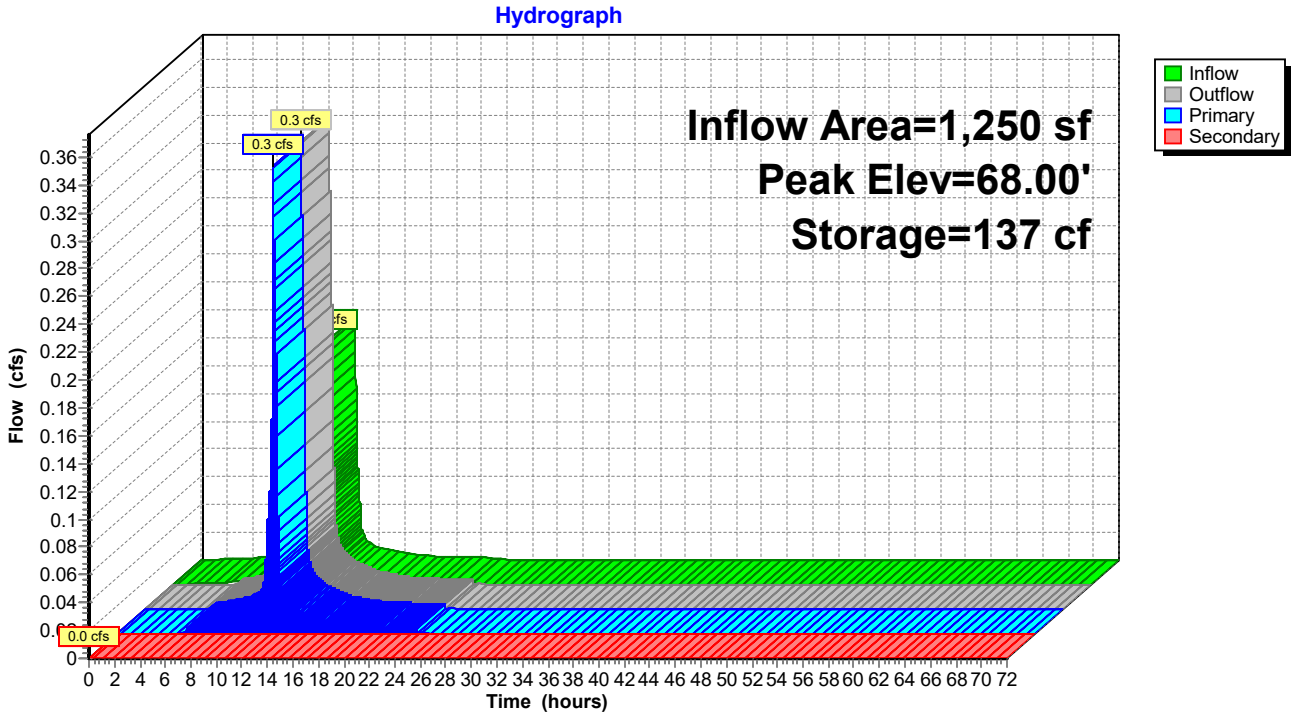
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.29	156	0.0	0	0
66.30	156	40.0	1	1
67.29	281	40.0	87	87
67.30	281	25.0	1	88
68.29	281	25.0	70	157
68.30	281	40.0	1	159
69.30	281	40.0	112	271

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	69.30'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.23 hrs HW=67.85' TW=68.42' (Dynamic Tailwater)
└**1=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=66.29' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD7: Roof Drain 7



Summary for Pond SF1: Soil Filter 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 4.38" for 25-Year event
Inflow = 3.5 cfs @ 12.28 hrs, Volume= 16,372 cf
Outflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf, Atten= 50%, Lag= 20.4 min
Primary = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 64.79' @ 12.62 hrs Surf.Area= 3,088 sf Storage= 2,965 cf
Flood Elev= 66.25' Surf.Area= 3,716 sf Storage= 5,562 cf

Plug-Flow detention time= 17.3 min calculated for 16,364 cf (100% of inflow)
Center-of-Mass det. time= 17.3 min (834.9 - 817.7)

Volume	Invert	Avail.Storage	Storage Description
#1	60.99'	981 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	63.50'	4,581 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		5,562 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.99	1,250	0.0	0	0
61.00	1,250	40.0	5	5
61.99	1,250	40.0	495	500
62.00	1,250	25.0	3	503
63.49	1,250	25.0	466	969
63.50	1,250	100.0	12	981

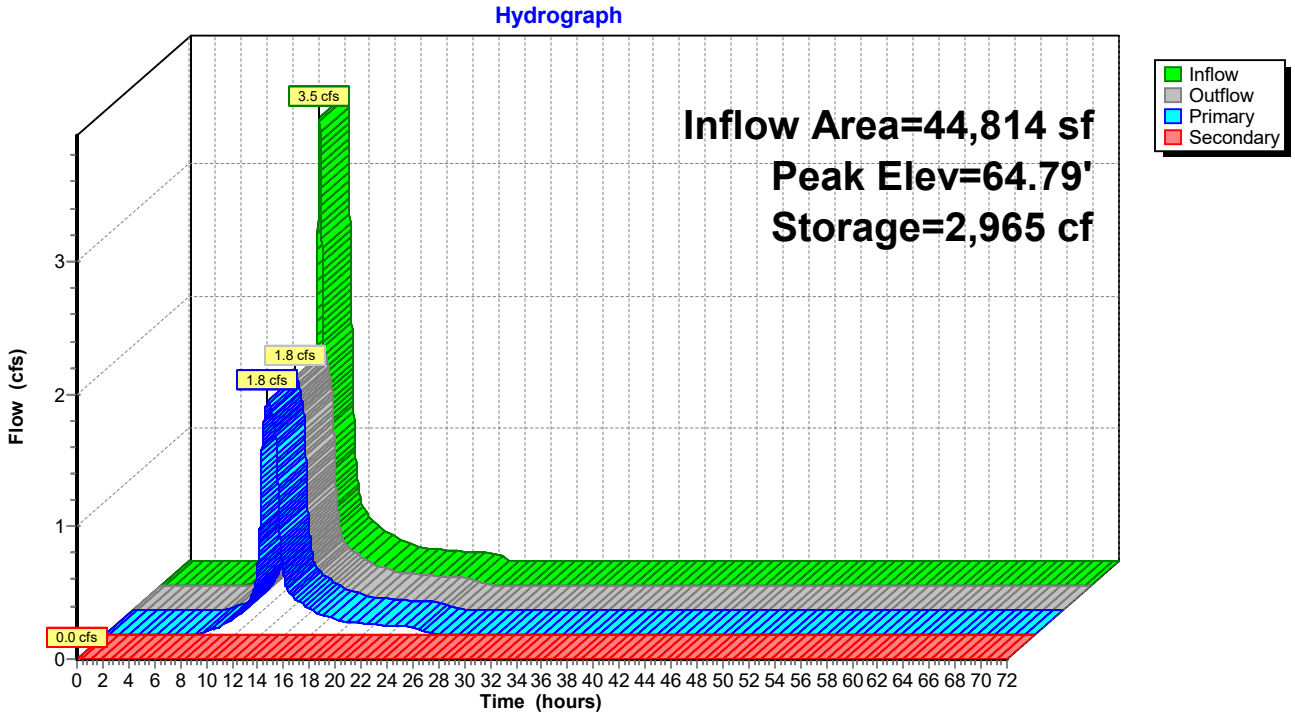
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.50	1,250	0	0
64.00	1,464	679	679
65.00	1,937	1,701	2,379
66.00	2,466	2,202	4,581

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**8.0" Round Culvert** L= 81.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 60.55' S= 0.0055 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.00'	**6.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.80'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	65.75'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.8 cfs @ 12.62 hrs HW=64.79' TW=61.35' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.8 cfs of 2.2 cfs potential flow)
  └─**2=Underdrain** (Orifice Controls 1.8 cfs @ 8.94 fps)
  └─**3=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=60.99' TW=51.20' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF1: Soil Filter 1



Summary for Pond SF2: Soil Filter 2

[95] Warning: Outlet Device #3 rise exceeded

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 4.47" for 25-Year event
Inflow = 9.6 cfs @ 12.23 hrs, Volume= 46,545 cf
Outflow = 2.7 cfs @ 12.75 hrs, Volume= 46,322 cf, Atten= 72%, Lag= 31.1 min
Primary = 2.7 cfs @ 12.75 hrs, Volume= 46,322 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 63.06' @ 12.75 hrs Surf.Area= 14,339 sf Storage= 19,341 cf
Flood Elev= 64.00' Surf.Area= 15,354 sf Storage= 27,812 cf

Plug-Flow detention time= 134.9 min calculated for 46,315 cf (100% of inflow)
Center-of-Mass det. time= 132.1 min (937.6 - 805.4)

Volume	Invert	Avail.Storage	Storage Description
#1	58.49'	4,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	61.00'	23,248 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		27,812 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.49	5,803	0.0	0	0
58.50	5,803	40.0	23	23
59.50	5,803	40.0	2,321	2,344
59.51	5,803	25.0	15	2,359
60.99	5,803	25.0	2,147	4,506
61.00	5,803	100.0	58	4,564

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	5,803	0	0
62.00	7,104	6,454	6,454
63.00	8,467	7,786	14,239
64.00	9,551	9,009	23,248

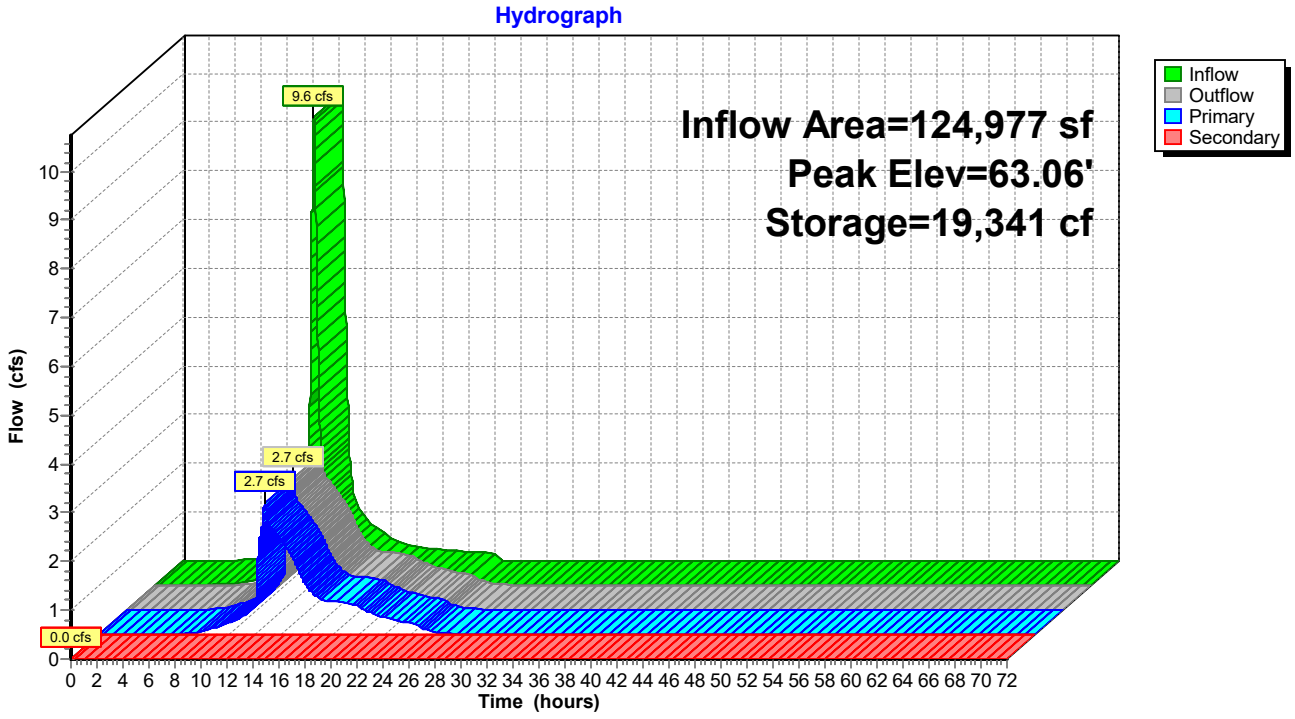
Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	**8.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 58.28' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	58.58'	**4.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	61.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.50 Width (feet) 0.50 0.50
#4	Device 1	63.00'	**24.0" x 24.0" Horiz. Structure Top** C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00

2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=2.7 cfs @ 12.75 hrs HW=63.06' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.7 cfs of 2.7 cfs potential flow)
  └─**2=Underdrain** (Orifice Controls 0.9 cfs @ 10.00 fps)
  └─**3=Custom Weir/Orifice** (Orifice Controls 1.4 cfs @ 5.62 fps)
  └─**4=Structure Top** (Weir Controls 0.4 cfs @ 0.82 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=58.49' TW=0.00' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF2: Soil Filter 2

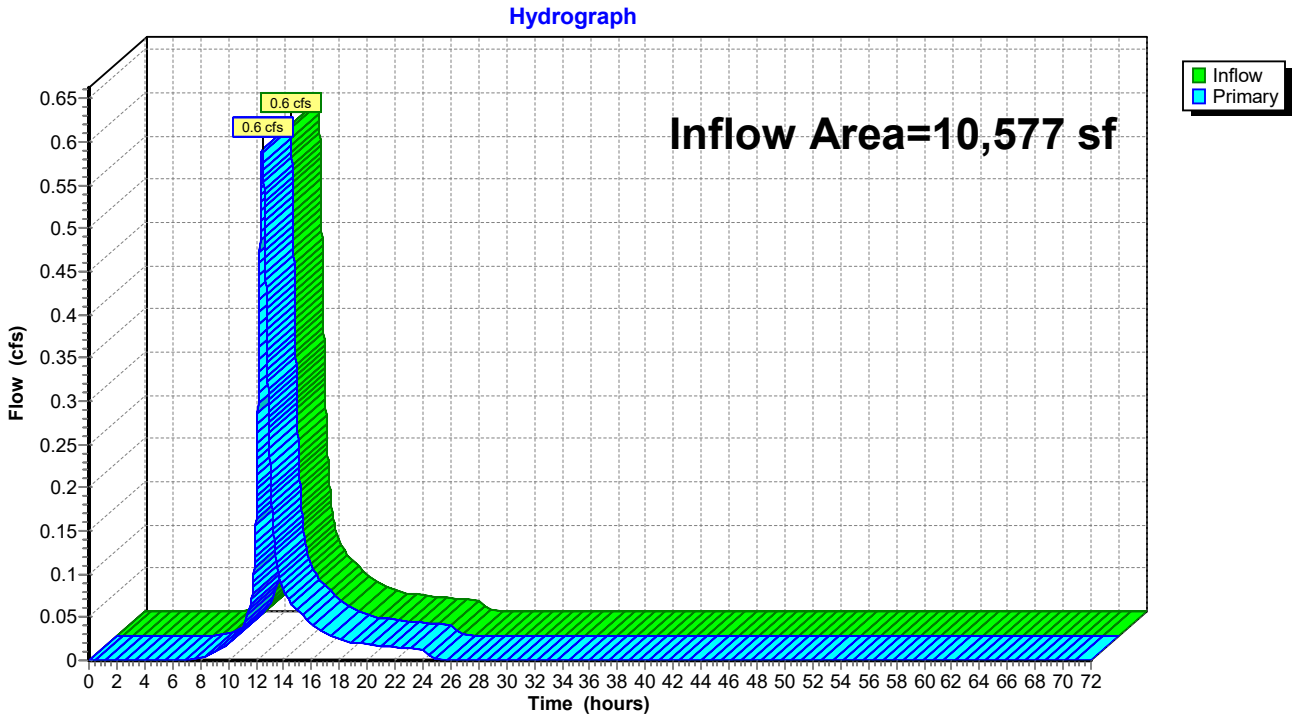


Summary for Link AP#1: Analysis Point 1

Inflow Area = 10,577 sf, 0.00% Impervious, Inflow Depth = 3.86" for 25-Year event
Inflow = 0.6 cfs @ 12.47 hrs, Volume= 3,401 cf
Primary = 0.6 cfs @ 12.47 hrs, Volume= 3,401 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

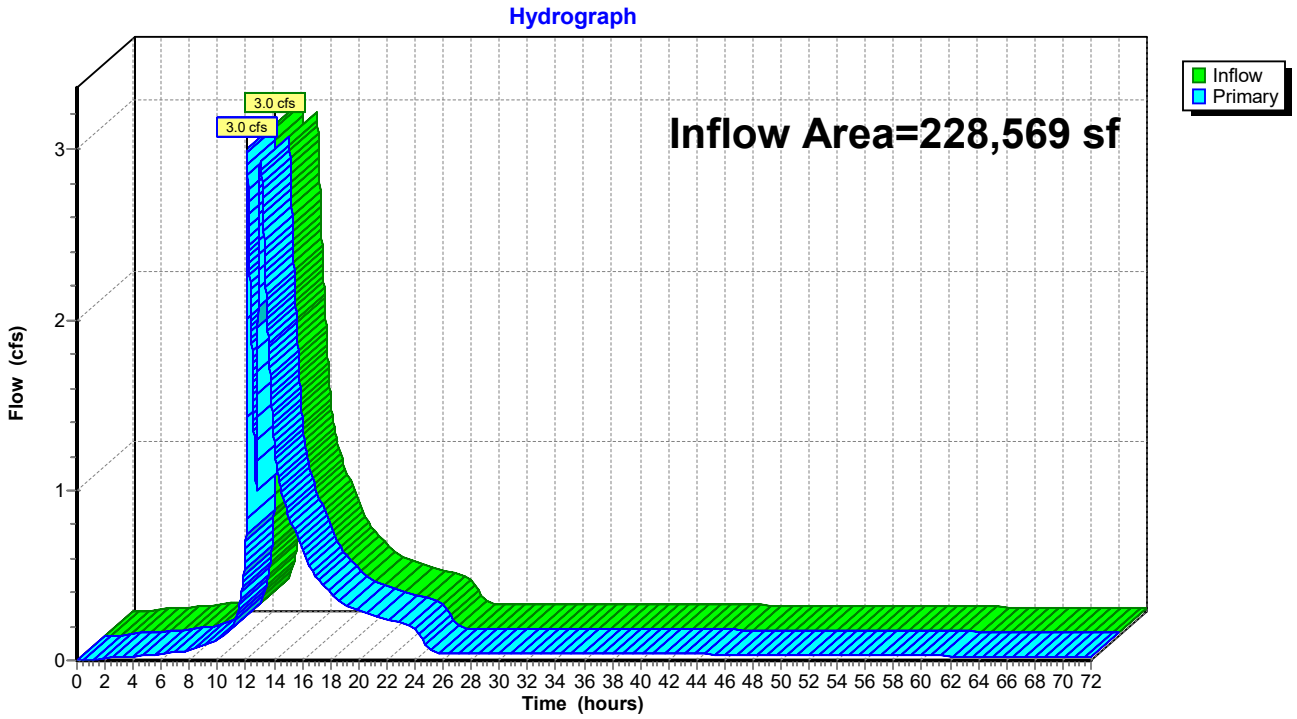


Summary for Link AP#2: Analysis Point 2

Inflow Area = 228,569 sf, 28.40% Impervious, Inflow Depth > 2.08" for 25-Year event
Inflow = 3.0 cfs @ 12.10 hrs, Volume= 39,549 cf
Primary = 3.0 cfs @ 12.10 hrs, Volume= 39,549 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

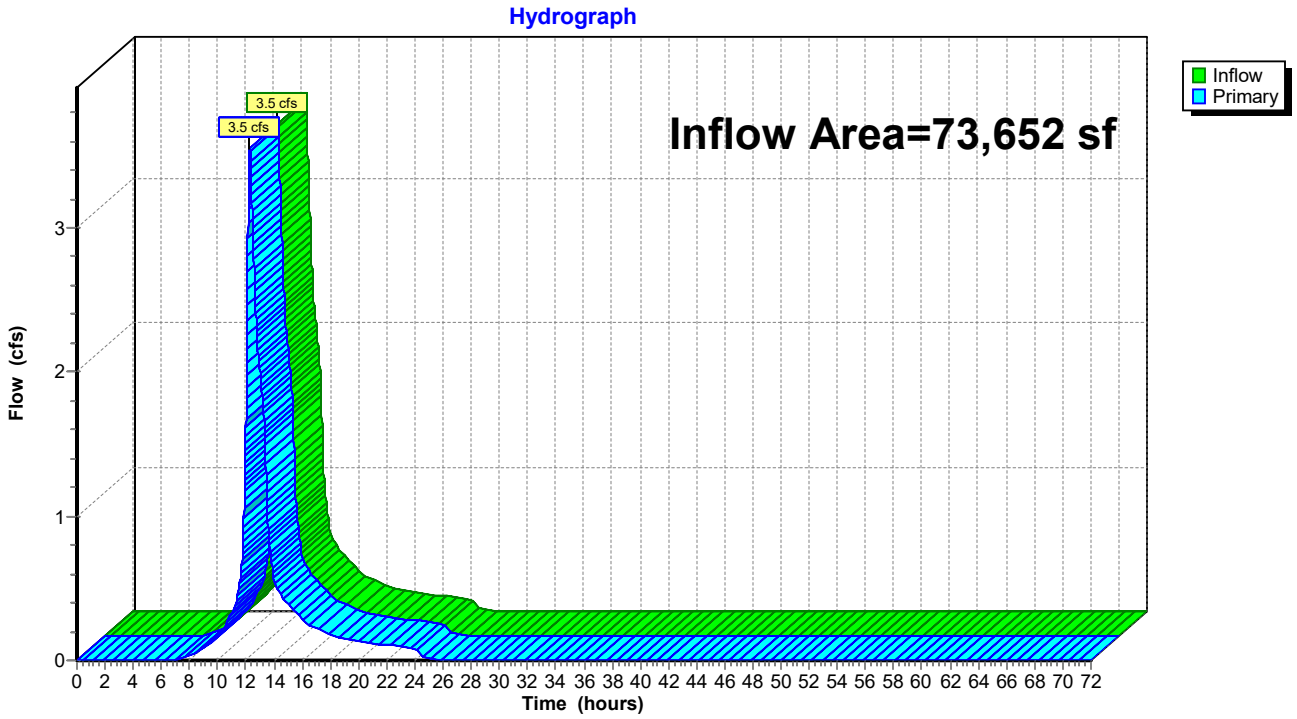


Summary for Link AP#3: Analysis Point 3

Inflow Area = 73,652 sf, 16.15% Impervious, Inflow Depth = 4.10" for 25-Year event
Inflow = 3.5 cfs @ 12.27 hrs, Volume= 25,148 cf
Primary = 3.5 cfs @ 12.27 hrs, Volume= 25,148 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

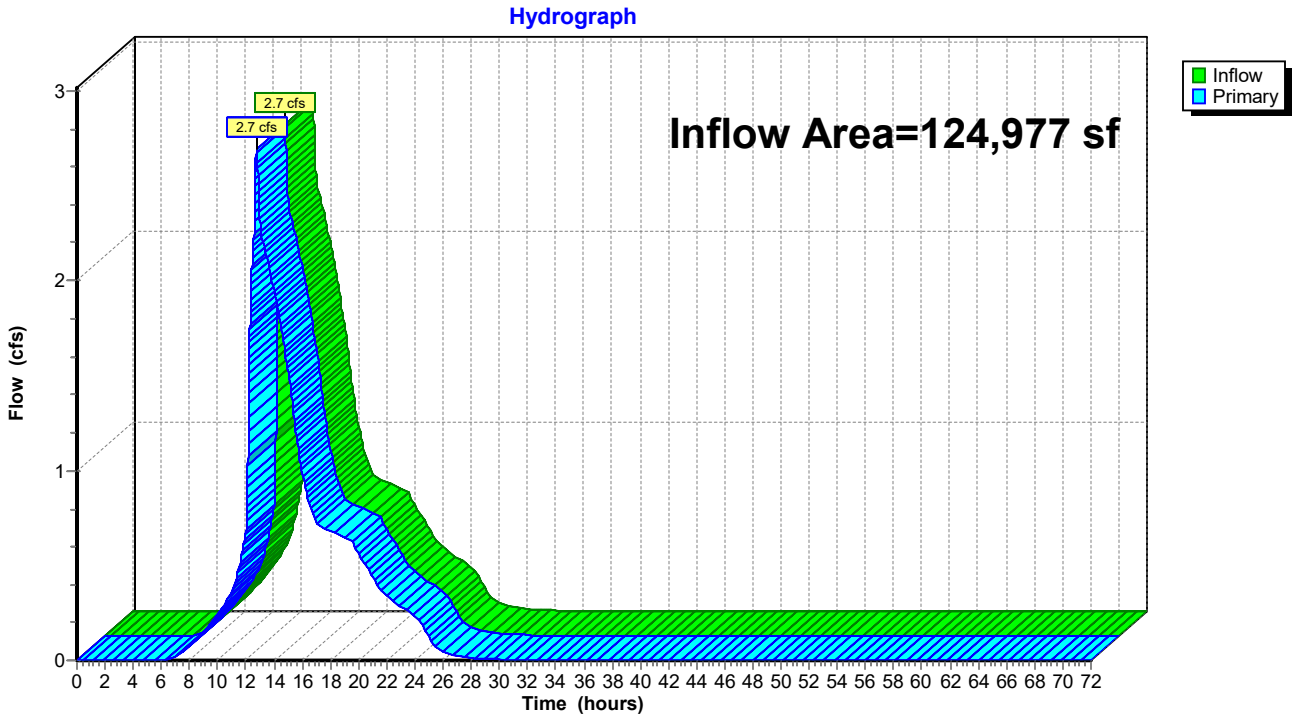


Summary for Link AP#4: Analysis Point 4

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 4.45" for 25-Year event
Inflow = 2.7 cfs @ 12.75 hrs, Volume= 46,322 cf
Primary = 2.7 cfs @ 12.75 hrs, Volume= 46,322 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

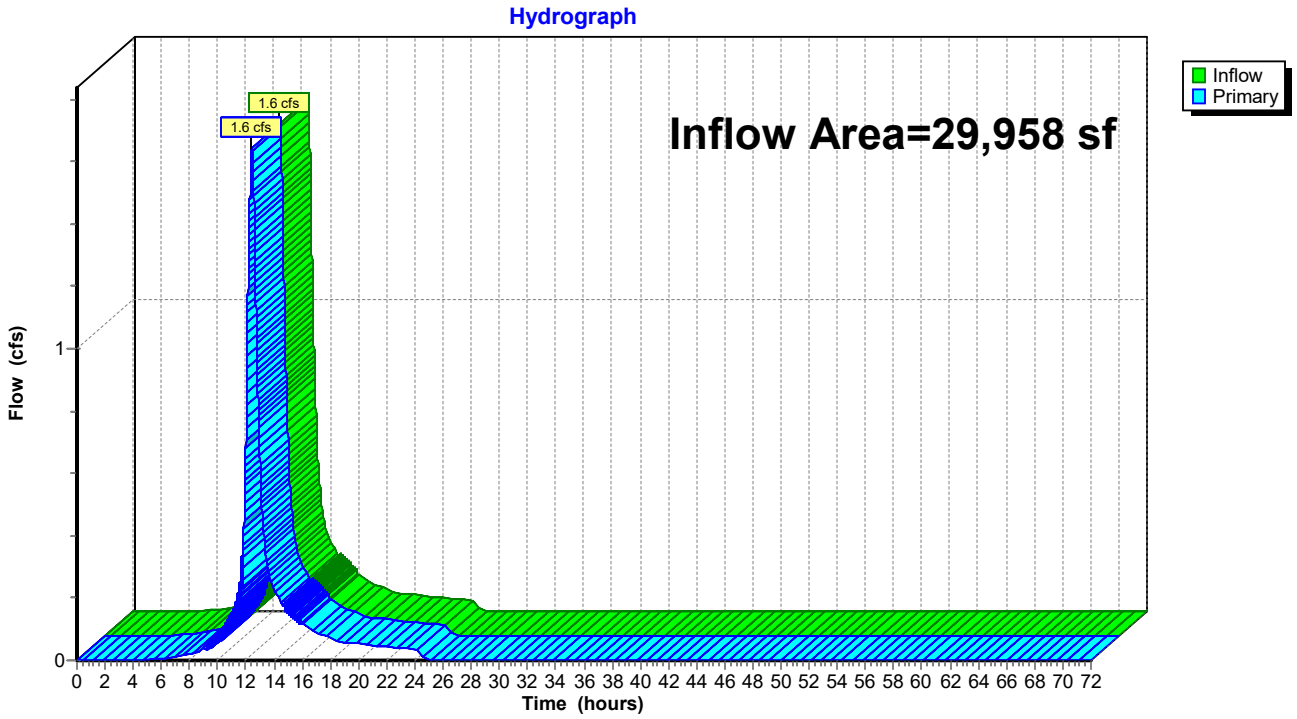


Summary for Link AP#5: Analysis Point 5

Inflow Area = 29,958 sf, 14.85% Impervious, Inflow Depth = 4.10" for 25-Year event
Inflow = 1.6 cfs @ 12.42 hrs, Volume= 10,238 cf
Primary = 1.6 cfs @ 12.42 hrs, Volume= 10,238 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

Subcatchment S1.1: Subcatchment 1.1 Runoff Area=10,577 sf 0.00% Impervious Runoff Depth=4.86"
Flow Length=131' Slope=0.0110 '/' Tc=33.3 min CN=79 Runoff=0.7 cfs 4,283 cf

Subcatchment S2.1: Subcatchment 2.1 Runoff Area=180,550 sf 19.58% Impervious Runoff Depth=2.42"
Flow Length=953' Tc=41.2 min CN=56 Runoff=5.4 cfs 36,343 cf

Subcatchment S2.2: Subcatchment S2.2 Runoff Area=30,401 sf 39.27% Impervious Runoff Depth=3.13"
Flow Length=280' Tc=22.3 min CN=63 Runoff=1.6 cfs 7,922 cf

Subcatchment S2.3: Subcatchment 2.3 Runoff Area=3,590 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.6 cfs 2,112 cf

Subcatchment S2.4: Subcatchment 2.4 Runoff Area=3,697 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.6 cfs 2,175 cf

Subcatchment S2.5: Subcatchment 2.5 Runoff Area=3,457 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.6 cfs 2,034 cf

Subcatchment S2.6: Subcatchment 2.6 Runoff Area=2,849 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,676 cf

Subcatchment S2.7: Subcatchment 2.7 Runoff Area=2,803 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,649 cf

Subcatchment S2.8: Subcatchment 2.8 Runoff Area=1,222 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 719 cf

Subcatchment S3.1: Subcatchment 3.1 Runoff Area=28,838 sf 4.33% Impervious Runoff Depth=4.64"
Flow Length=333' Tc=18.1 min CN=77 Runoff=2.5 cfs 11,142 cf

Subcatchment S3.2: Subcatchment 3.2 Runoff Area=44,814 sf 23.75% Impervious Runoff Depth=5.43"
Flow Length=329' Tc=19.8 min CN=84 Runoff=4.3 cfs 20,261 cf

Subcatchment S4.1: Subcatchment 4.1 Runoff Area=99,781 sf 12.03% Impervious Runoff Depth=5.20"
Flow Length=553' Tc=19.1 min CN=82 Runoff=9.5 cfs 43,221 cf

Subcatchment S4.10: Subcatchment 4.10 Runoff Area=3,197 sf 72.57% Impervious Runoff Depth=6.59"
Tc=6.0 min CN=94 Runoff=0.5 cfs 1,755 cf

Subcatchment S4.11: Subcatchment 4.11 Runoff Area=3,887 sf 74.68% Impervious Runoff Depth=6.59"
Tc=6.0 min CN=94 Runoff=0.6 cfs 2,133 cf

Subcatchment S4.12: Subcatchment 4.12 Runoff Area=1,423 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 837 cf

Subcatchment S4.13: Subcatchment 4.13 Runoff Area=1,627 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.3 cfs 957 cf

Subcatchment S4.2: Subcatchment 4.2 Runoff Area=3,347 sf 71.65% Impervious Runoff Depth=6.47"
Tc=6.0 min CN=93 Runoff=0.5 cfs 1,804 cf

Subcatchment S4.3: Subcatchment 4.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Subcatchment S4.4: Subcatchment 4.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Subcatchment S4.5: Subcatchment 4.5 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Subcatchment S4.6: Subcatchment 4.6 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Subcatchment S4.7: Subcatchment 4.7 Runoff Area=3,900 sf 73.33% Impervious Runoff Depth=6.59"
Tc=6.0 min CN=94 Runoff=0.6 cfs 2,141 cf

Subcatchment S4.8: Subcatchment 4.8 Runoff Area=1,313 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 773 cf

Subcatchment S4.9: Subcatchment 4.9 Runoff Area=1,502 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 884 cf

Subcatchment S5.1: Subcatchment 5.1 Runoff Area=26,208 sf 2.67% Impervious Runoff Depth=4.86"
Flow Length=421' Tc=32.7 min CN=79 Runoff=1.9 cfs 10,614 cf

Subcatchment S5.2: Subcatchment 5.2 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Subcatchment S5.3: Subcatchment 5.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Subcatchment S5.4: Subcatchment 5.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Reach S1: Swale 1 Avg. Flow Depth=0.18' Max Vel=2.70 fps Inflow=4.3 cfs 20,261 cf
n=0.022 L=175.0' S=0.0171 '/' Capacity=24.5 cfs Outflow=4.3 cfs 20,261 cf

Pond C1: Culvert 1 Peak Elev=69.94' Inflow=0.2 cfs 718 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0158 '/' Outflow=0.2 cfs 718 cf

Pond C10: Culvert 10 Peak Elev=71.05' Inflow=0.3 cfs 719 cf
12.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.3 cfs 719 cf

Pond C11: Culvert 11 Peak Elev=71.04' Inflow=0.6 cfs 2,155 cf
12.0" Round Culvert n=0.013 L=82.4' S=0.0076 '/' Outflow=0.6 cfs 2,155 cf

Pond C2: Culvert 2 Peak Elev=69.75' Inflow=0.3 cfs 1,436 cf
12.0" Round Culvert n=0.012 L=44.0' S=0.0027 '/' Outflow=0.3 cfs 1,436 cf

Pond C3: Culvert 3 Peak Elev=69.57' Inflow=0.5 cfs 2,154 cf
24.0" Round Culvert n=0.012 L=44.4' S=0.0052 '/' Outflow=0.5 cfs 2,154 cf

Pond C4: Culvert 4 Peak Elev=71.11' Inflow=0.3 cfs 718 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0142 '/' Outflow=0.3 cfs 718 cf

Pond C7: Culvert 7 Peak Elev=69.83' Inflow=0.4 cfs 718 cf
4.0" Round Culvert n=0.013 L=27.0' S=0.0048 '/' Outflow=0.4 cfs 718 cf

Pond C8: Culvert 8 Peak Elev=57.36' Inflow=5.4 cfs 36,343 cf
16.0" Round Culvert n=0.025 L=184.0' S=0.0054 '/' Outflow=5.4 cfs 36,343 cf

Pond C9: Culvert 9 Peak Elev=71.04' Inflow=0.6 cfs 1,436 cf
12.0" Round Culvert n=0.013 L=25.0' S=0.0088 '/' Outflow=0.6 cfs 1,436 cf

Pond CB1: Catch Basin 1 Peak Elev=71.04' Inflow=1.0 cfs 3,959 cf
12.0" Round Culvert n=0.013 L=79.0' S=0.0051 '/' Outflow=1.0 cfs 3,959 cf

Pond CB10: Catch Basin 10 Peak Elev=61.66' Inflow=1.2 cfs 4,288 cf
12.0" Round Culvert n=0.013 L=212.5' S=0.0424 '/' Outflow=1.2 cfs 4,288 cf

Pond CB11: Catch Basin 11 Peak Elev=52.90' Inflow=0.6 cfs 2,034 cf
12.0" Round Culvert n=0.013 L=18.5' S=0.0054 '/' Outflow=0.6 cfs 2,034 cf

Pond CB12: Catch Basin 12 Peak Elev=52.86' Inflow=2.2 cfs 7,998 cf
12.0" Round Culvert n=0.013 L=96.6' S=0.0404 '/' Outflow=2.2 cfs 7,998 cf

Pond CB13: Catch Basin 13 Peak Elev=50.31' Inflow=2.9 cfs 10,366 cf
12.0" Round Culvert n=0.013 L=49.3' S=0.0034 '/' Outflow=2.9 cfs 10,366 cf

Pond CB14: Catch Basin 14 Peak Elev=50.95' Inflow=2.4 cfs 8,717 cf
12.0" Round Culvert n=0.013 L=15.0' S=0.0067 '/' Outflow=2.4 cfs 8,717 cf

Pond CB2: Catch Basin 2 Peak Elev=70.72' Inflow=0.5 cfs 1,755 cf
12.0" Round Culvert n=0.013 L=79.2' S=0.0051 '/' Outflow=0.5 cfs 1,755 cf

Pond CB3: Catch Basin 3 Peak Elev=70.98' Inflow=1.9 cfs 6,818 cf
12.0" Round Culvert n=0.013 L=17.5' S=0.0057 '/' Outflow=1.9 cfs 6,818 cf

Pond CB4: Catch Basin 4 Peak Elev=70.70' Inflow=3.0 cfs 10,706 cf
12.0" Round Culvert n=0.013 L=103.7' S=0.0053 '/' Outflow=3.0 cfs 10,706 cf

Pond CB5: Catch Basin 5 Peak Elev=69.70' Inflow=0.2 cfs 773 cf
12.0" Round Culvert n=0.013 L=18.4' S=0.0054 '/' Outflow=0.2 cfs 773 cf

Pond CB6: Catch Basin 6 Peak Elev=69.70' Inflow=3.4 cfs 12,316 cf
12.0" Round Culvert n=0.013 L=60.9' S=0.0057 '/' Outflow=3.4 cfs 12,316 cf

Pond CB7: Catch Basin 7 Peak Elev=67.43' Inflow=0.2 cfs 884 cf
12.0" Round Culvert n=0.013 L=18.2' S=0.0055 '/' Outflow=0.2 cfs 884 cf

Pond CB8: Catch Basin 8 Peak Elev=67.42' Inflow=3.9 cfs 14,157 cf
12.0" Round Culvert n=0.013 L=156.4' S=0.0054 '/' Outflow=3.9 cfs 14,157 cf

Pond CB9: Catch Basin 9 Peak Elev=62.48' Inflow=0.6 cfs 2,112 cf
12.0" Round Culvert n=0.013 L=18.8' S=0.0053 '/' Outflow=0.6 cfs 2,112 cf

Pond CH1: Chamber 1 Peak Elev=48.63' Storage=977 cf Inflow=2.9 cfs 10,366 cf
Outflow=2.9 cfs 10,366 cf

Pond MH1: Manhole 1 Peak Elev=68.53' Inflow=3.4 cfs 12,316 cf
12.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=3.4 cfs 12,316 cf

Pond MH2: Manhole 2 Peak Elev=61.57' Inflow=2.3 cfs 20,255 cf
12.0" Round Culvert n=0.013 L=152.9' S=0.0052 '/' Outflow=2.3 cfs 20,256 cf

Pond MH3: Manhole 3 Peak Elev=60.67' Inflow=2.3 cfs 20,256 cf
12.0" Round Culvert n=0.013 L=81.0' S=0.0049 '/' Outflow=2.3 cfs 20,256 cf

Pond MH4: Manhole 4 Peak Elev=60.06' Inflow=2.3 cfs 20,256 cf
12.0" Round Culvert n=0.013 L=205.9' S=0.0051 '/' Outflow=2.3 cfs 20,256 cf

Pond MH5: Manhole 5 Peak Elev=49.38' Inflow=2.9 cfs 10,366 cf
12.0" Round Culvert n=0.013 L=6.2' S=0.0048 '/' Outflow=2.9 cfs 10,366 cf

Pond P1: Pond 1 Peak Elev=54.01' Storage=9,115 cf Inflow=5.4 cfs 36,343 cf
Outflow=3.9 cfs 35,446 cf

Pond RD1: Roof Drain 1 Peak Elev=69.74' Storage=60 cf Inflow=0.2 cfs 735 cf
Primary=0.2 cfs 718 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 718 cf

Pond RD2: Roof Drain 2 Peak Elev=69.91' Storage=68 cf Inflow=0.2 cfs 735 cf
Primary=0.2 cfs 718 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 718 cf

Pond RD3: Roof Drain 3 Peak Elev=70.11' Storage=53 cf Inflow=0.2 cfs 735 cf
Primary=0.2 cfs 718 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 718 cf

Pond RD4: Roof Drain 4 Peak Elev=70.25' Storage=67 cf Inflow=0.2 cfs 735 cf
Primary=0.3 cfs 718 cf Secondary=0.0 cfs 0 cf Outflow=0.3 cfs 718 cf

Pond RD5: Roof Drain 5 Peak Elev=70.23' Storage=97 cf Inflow=0.2 cfs 735 cf
Primary=0.4 cfs 718 cf Secondary=0.0 cfs 0 cf Outflow=0.4 cfs 718 cf

Pond RD6: Roof Drain 6 Peak Elev=69.93' Storage=80 cf Inflow=0.2 cfs 735 cf
Primary=0.3 cfs 719 cf Secondary=0.0 cfs 0 cf Outflow=0.3 cfs 719 cf

Pond RD7: Roof Drain 7 Peak Elev=68.38' Storage=167 cf Inflow=0.2 cfs 735 cf
Primary=0.4 cfs 718 cf Secondary=0.0 cfs 0 cf Outflow=0.4 cfs 718 cf

Pond SF1: Soil Filter 1 Peak Elev=65.22' Storage=3,799 cf Inflow=4.3 cfs 20,261 cf
Primary=2.3 cfs 20,255 cf Secondary=0.0 cfs 0 cf Outflow=2.3 cfs 20,255 cf

Pond SF2: Soil Filter 2 Peak Elev=63.58' Storage=23,867 cf Inflow=11.8 cfs 57,378 cf
Primary=2.9 cfs 56,774 cf Secondary=0.4 cfs 380 cf Outflow=3.3 cfs 57,154 cf

Link AP#1: Analysis Point 1 Inflow=0.7 cfs 4,283 cf
Primary=0.7 cfs 4,283 cf

Link AP#2: Analysis Point 2 Inflow=4.8 cfs 53,734 cf
Primary=4.8 cfs 53,734 cf

Link AP#3: Analysis Point 3 Inflow=4.3 cfs 31,398 cf
Primary=4.3 cfs 31,398 cf

Link AP#4: Analysis Point 4 Inflow=3.3 cfs 57,154 cf
Primary=3.3 cfs 57,154 cf

Link AP#5: Analysis Point 5 Inflow=2.0 cfs 12,767 cf
Primary=2.0 cfs 12,767 cf

Total Runoff Area = 467,733 sf Runoff Volume = 160,586 cf Average Runoff Depth = 4.12"
75.50% Pervious = 353,127 sf 24.50% Impervious = 114,606 sf

Summary for Subcatchment S1.1: Subcatchment 1.1

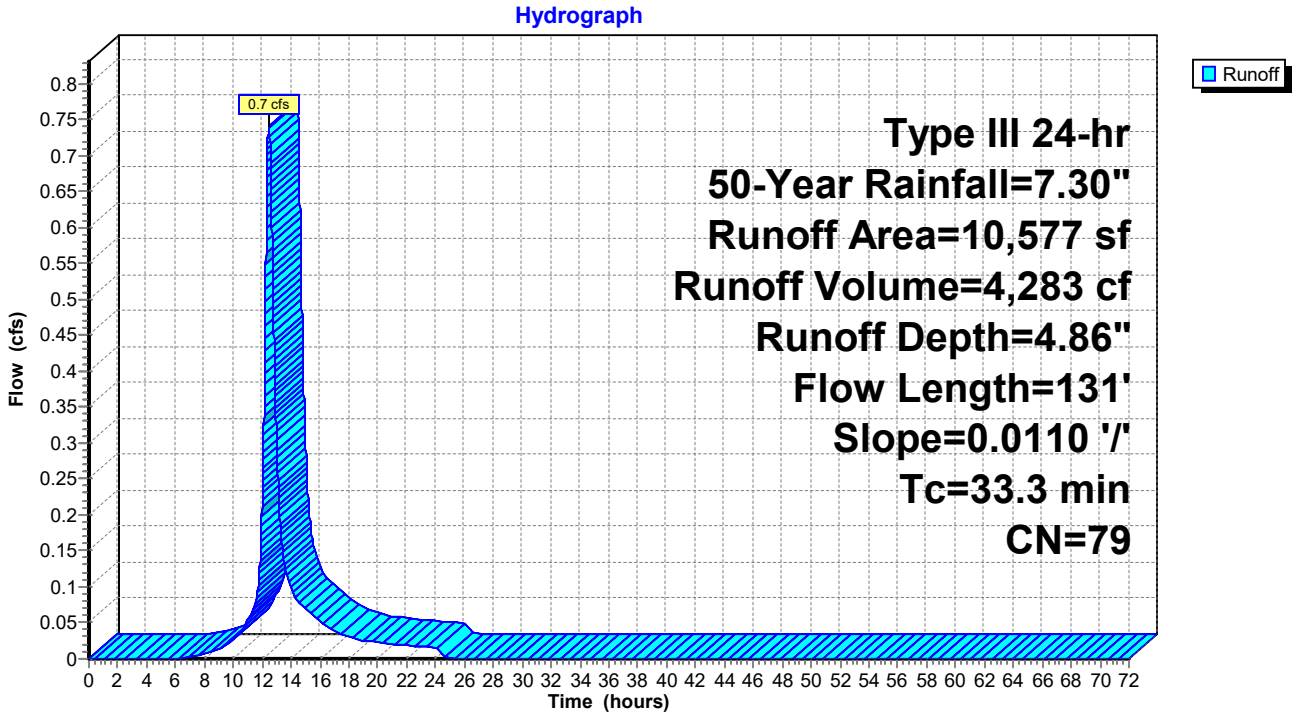
Runoff = 0.7 cfs @ 12.47 hrs, Volume= 4,283 cf, Depth= 4.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
6,431	80	>75% Grass cover, Good, HSG D
4,146	77	Woods, Good, HSG D
10,577	79	Weighted Average
10,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	131	0.0110	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"

Subcatchment S1.1: Subcatchment 1.1



Summary for Subcatchment S2.1: Subcatchment 2.1

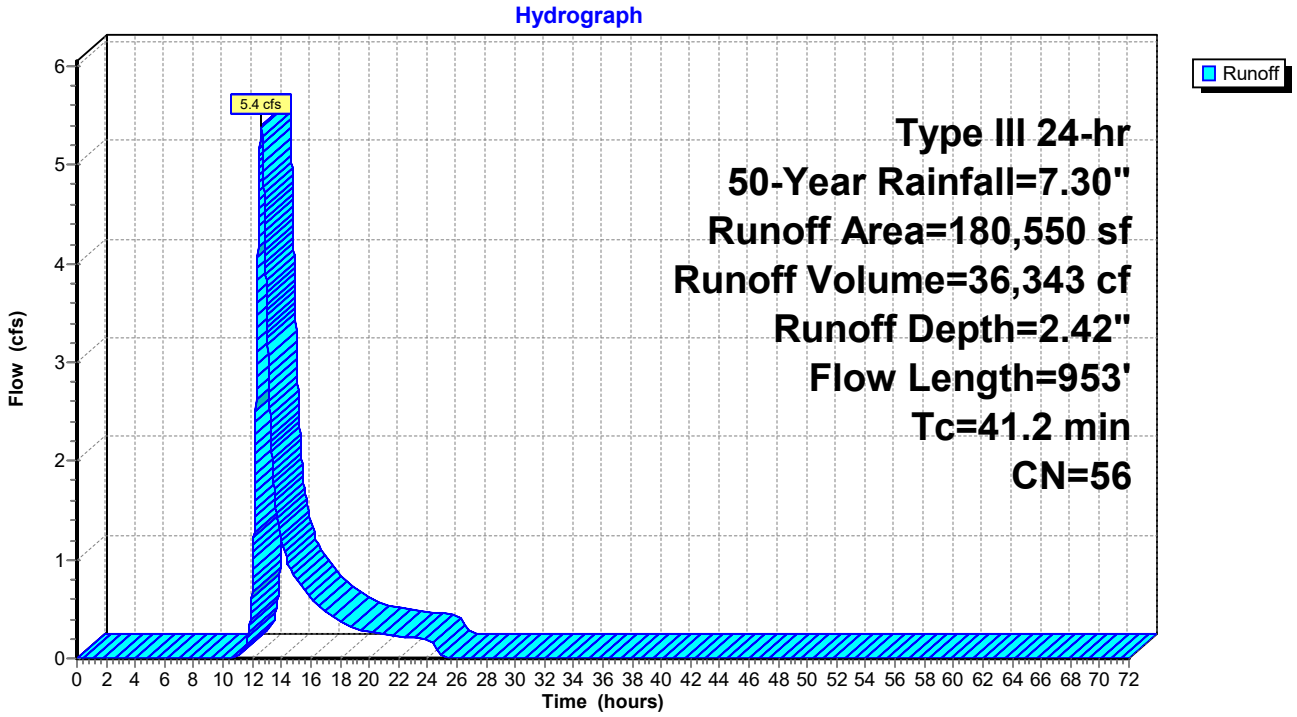
Runoff = 5.4 cfs @ 12.59 hrs, Volume= 36,343 cf, Depth= 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
12,432	39	>75% Grass cover, Good, HSG A
85,722	30	Woods, Good, HSG A
489	98	Paved parking, HSG A
17,787	80	>75% Grass cover, Good, HSG D
29,251	77	Woods, Good, HSG D
14,624	98	Paved parking, HSG D
3,134	98	Paved parking, HSG D
17,111	98	Roofs, HSG A
180,550	56	Weighted Average
145,192		80.42% Pervious Area
35,358		19.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	51	0.0196	0.15		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
13.5	99	0.0606	0.12		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
7.7	300	0.0167	0.65		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
4.3	203	0.0246	0.78		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
41.2	953	Total			

Subcatchment S2.1: Subcatchment 2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

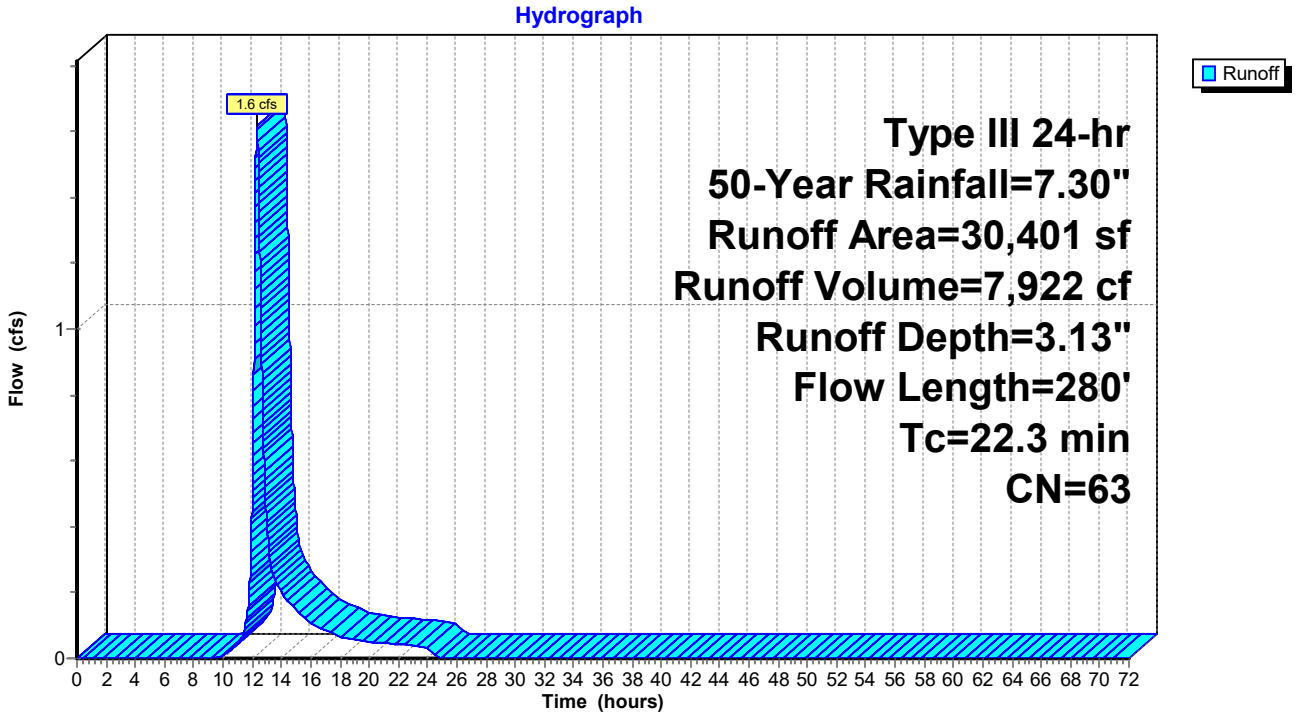
Runoff = 1.6 cfs @ 12.32 hrs, Volume= 7,922 cf, Depth= 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
5,813	98	Paved parking, HSG A
30,401	63	Weighted Average
18,462		60.73% Pervious Area
11,939		39.27% Impervious Area
6,060		50.76% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	150	0.0520	0.13		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.3	130	0.0350	0.94		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.3	280	Total			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment 2.3

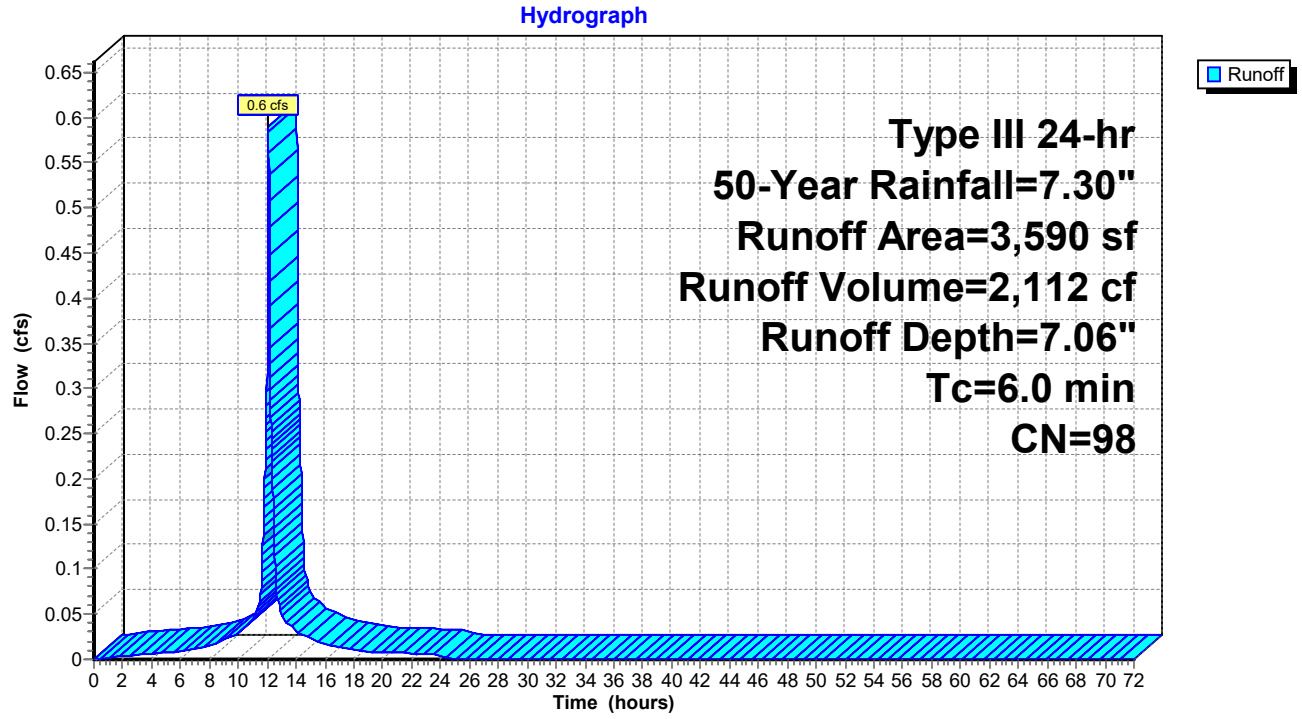
Runoff = 0.6 cfs @ 12.08 hrs, Volume= 2,112 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
3,590	98	Paved roads w/curbs & sewers, HSG D
3,590		100.00% Impervious Area

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

Subcatchment S2.3: Subcatchment 2.3



Summary for Subcatchment S2.4: Subcatchment 2.4

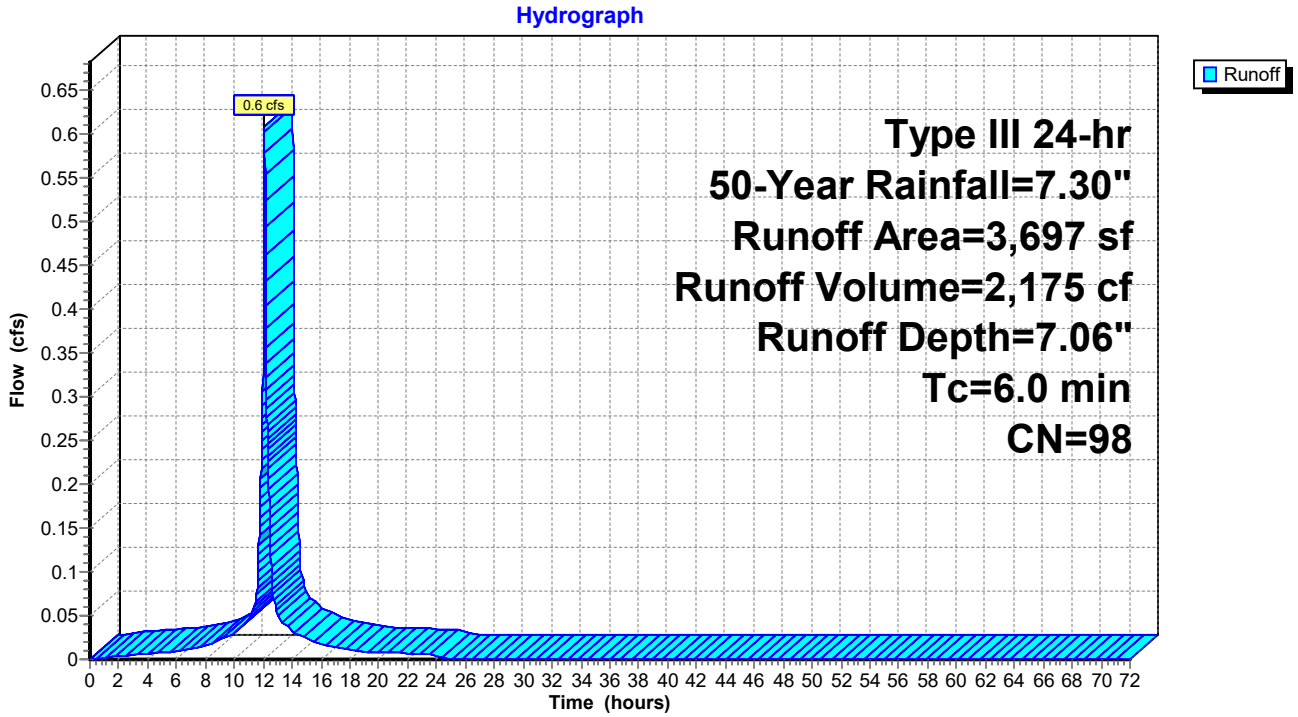
Runoff = 0.6 cfs @ 12.08 hrs, Volume= 2,175 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
3,697	98	Paved roads w/curbs & sewers, HSG D
3,697		100.00% Impervious Area

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

Subcatchment S2.4: Subcatchment 2.4



Summary for Subcatchment S2.5: Subcatchment 2.5

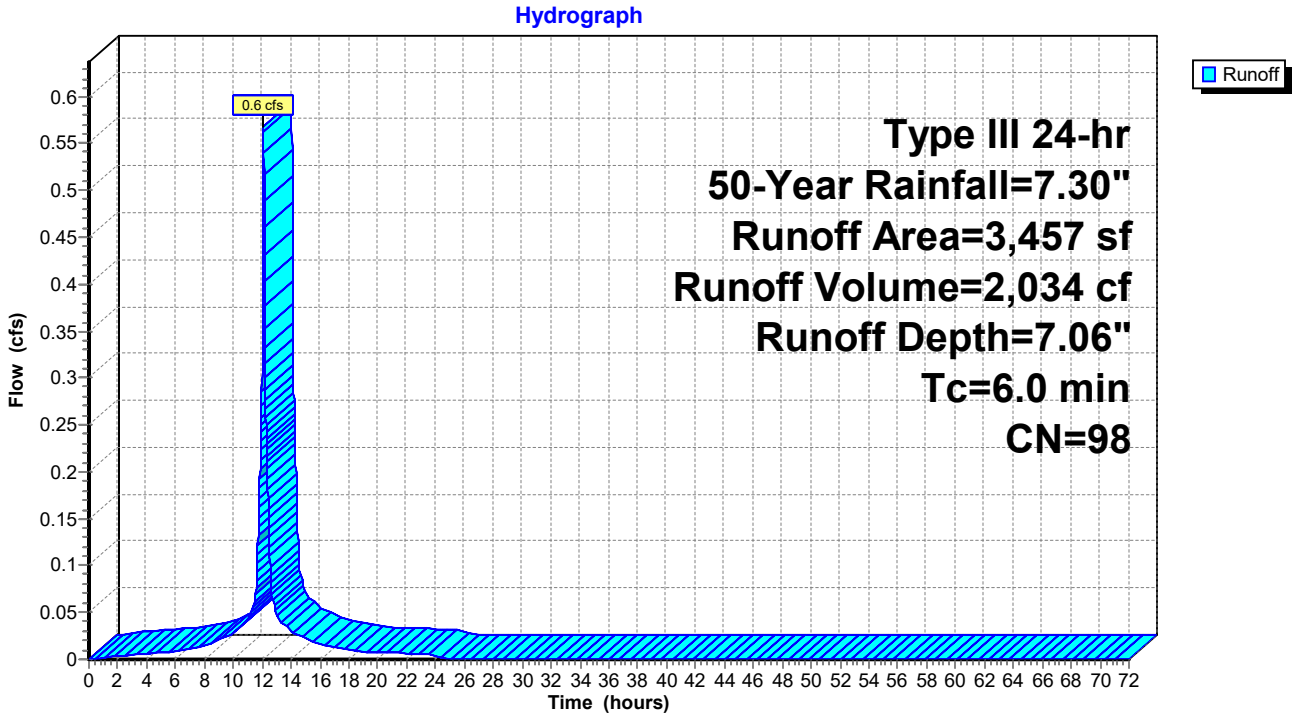
Runoff = 0.6 cfs @ 12.08 hrs, Volume= 2,034 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
3,457	98	Paved roads w/curbs & sewers, HSG D
3,457		100.00% Impervious Area

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

Subcatchment S2.5: Subcatchment 2.5



Summary for Subcatchment S2.6: Subcatchment 2.6

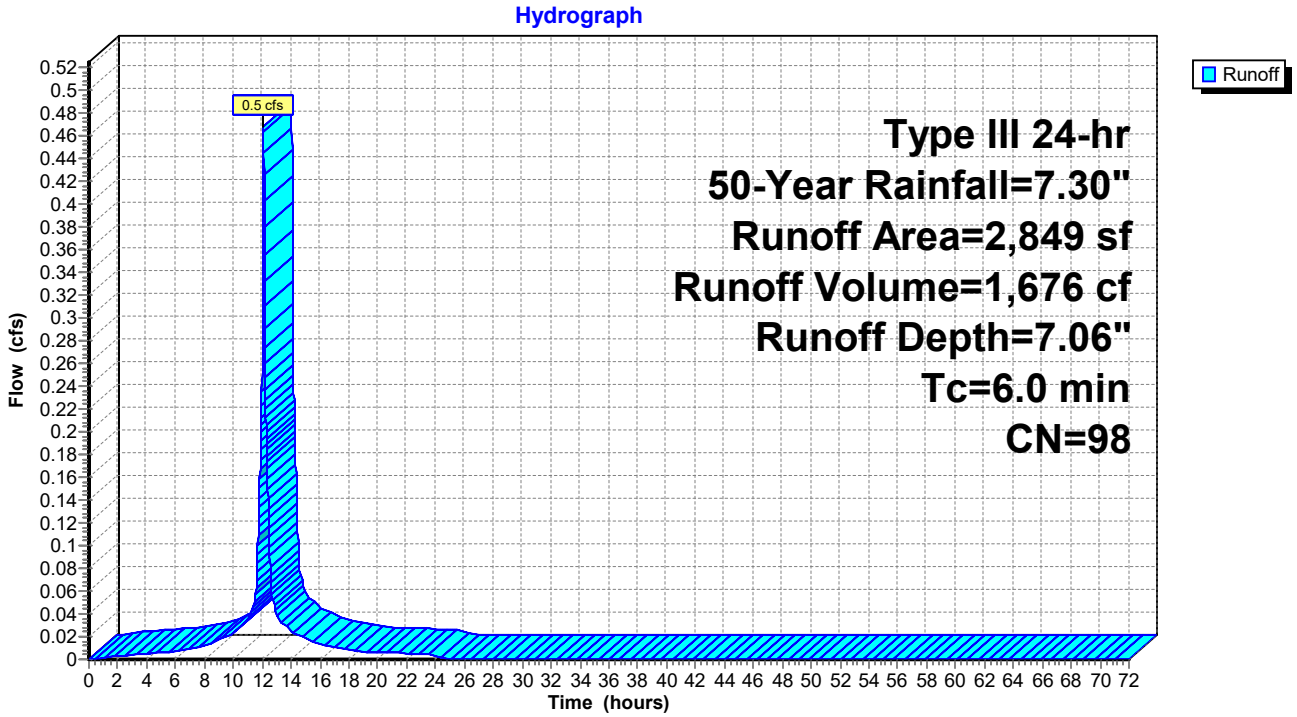
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,676 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
2,849	98	Paved roads w/curbs & sewers, HSG D
2,849		100.00% Impervious Area

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

Subcatchment S2.6: Subcatchment 2.6



Summary for Subcatchment S2.7: Subcatchment 2.7

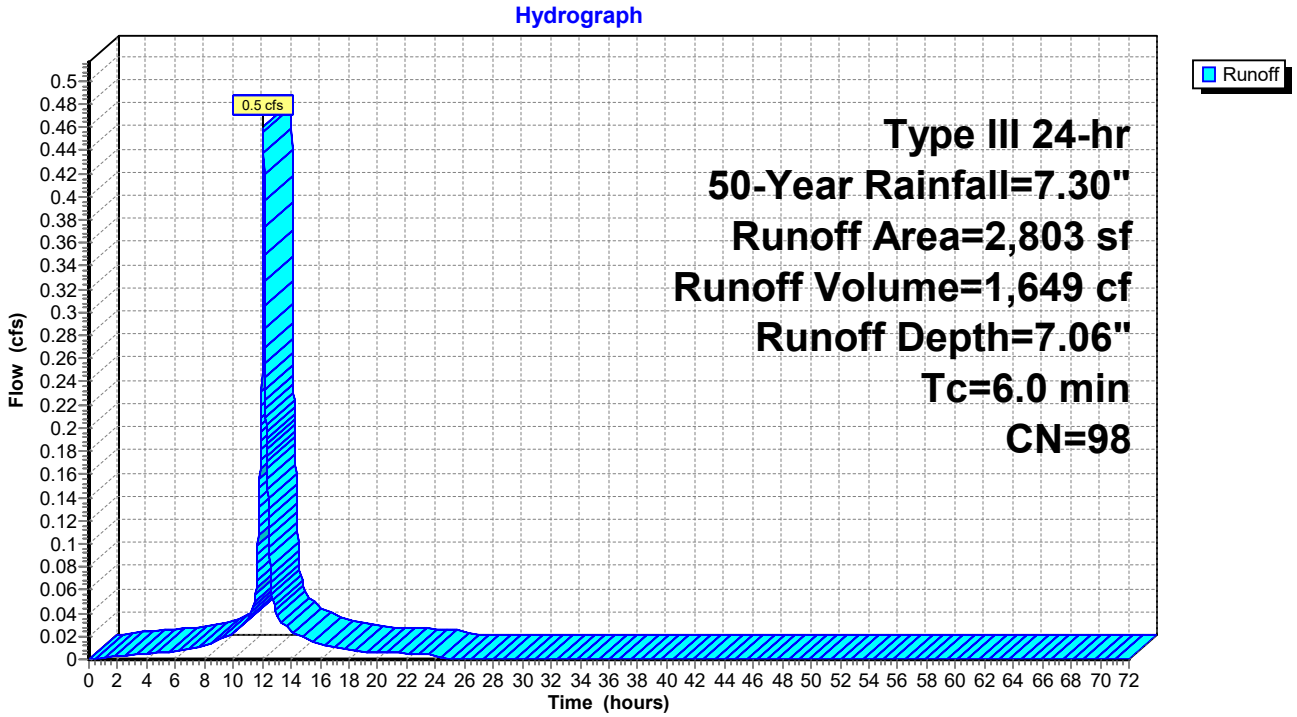
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,649 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
2,803	98	Paved roads w/curbs & sewers, HSG D
2,803		100.00% Impervious Area

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

Subcatchment S2.7: Subcatchment 2.7



Summary for Subcatchment S2.8: Subcatchment 2.8

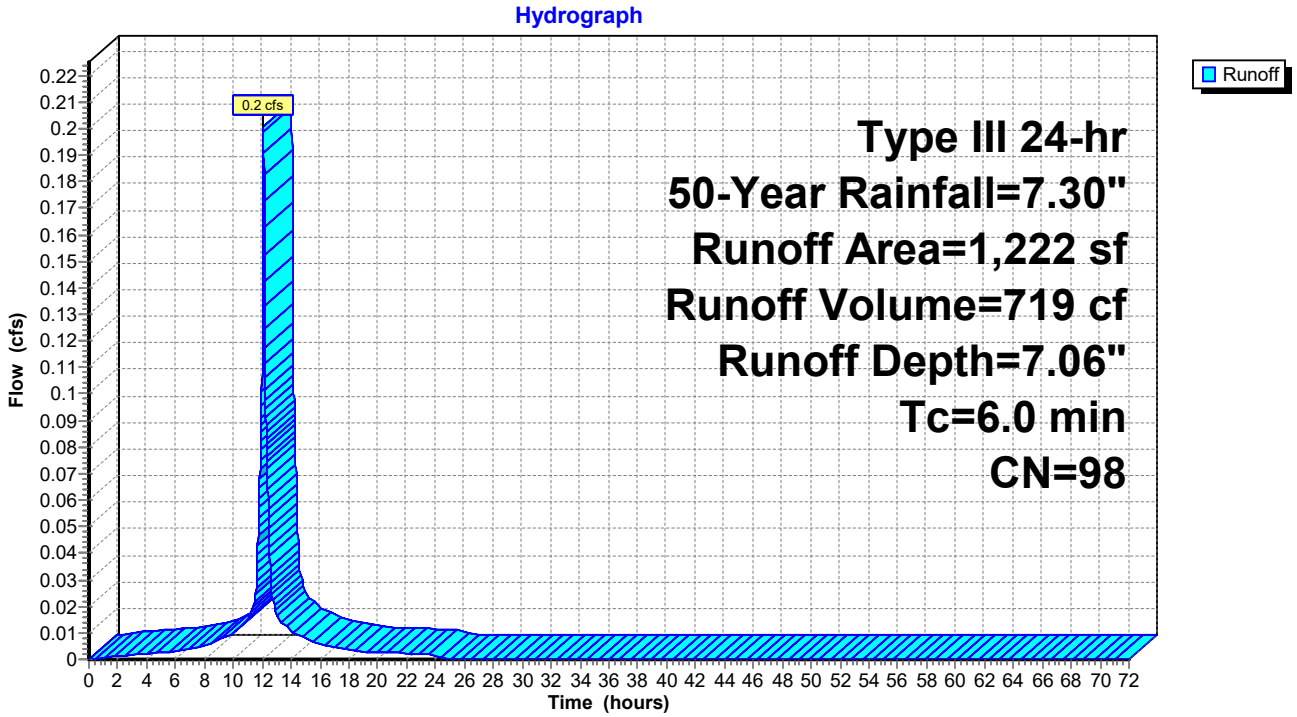
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 719 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,222	98	Paved roads w/curbs & sewers, HSG D
1,222		100.00% Impervious Area

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

Subcatchment S2.8: Subcatchment 2.8



Summary for Subcatchment S3.1: Subcatchment 3.1

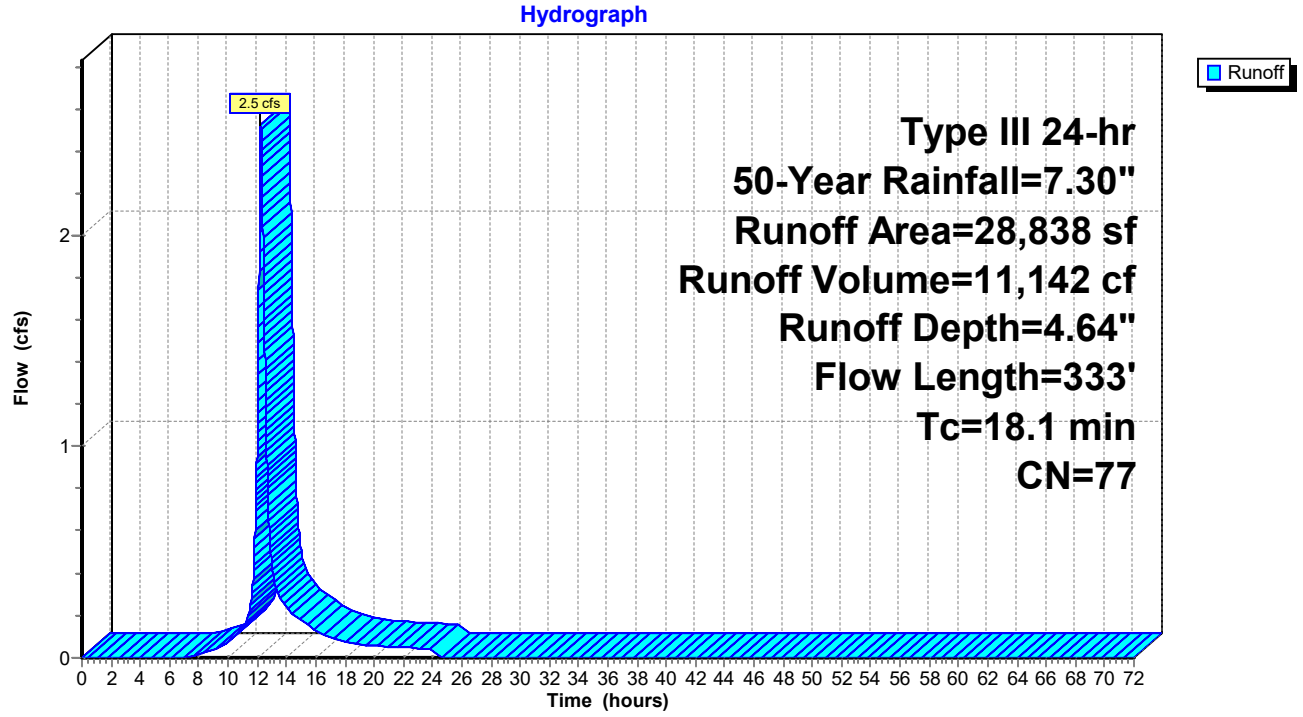
Runoff = 2.5 cfs @ 12.25 hrs, Volume= 11,142 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
15,787	77	Woods, Good, HSG D
10,424	80	>75% Grass cover, Good, HSG D
1,377	39	>75% Grass cover, Good, HSG A
1,250	98	Roofs, HSG D
28,838	77	Weighted Average
27,588		95.67% Pervious Area
1,250		4.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	150	0.0130	0.16		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
1.2	102	0.0392	1.39		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.0	81	0.0740	1.36		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
18.1	333	Total			

Subcatchment S3.1: Subcatchment 3.1



Summary for Subcatchment S3.2: Subcatchment 3.2

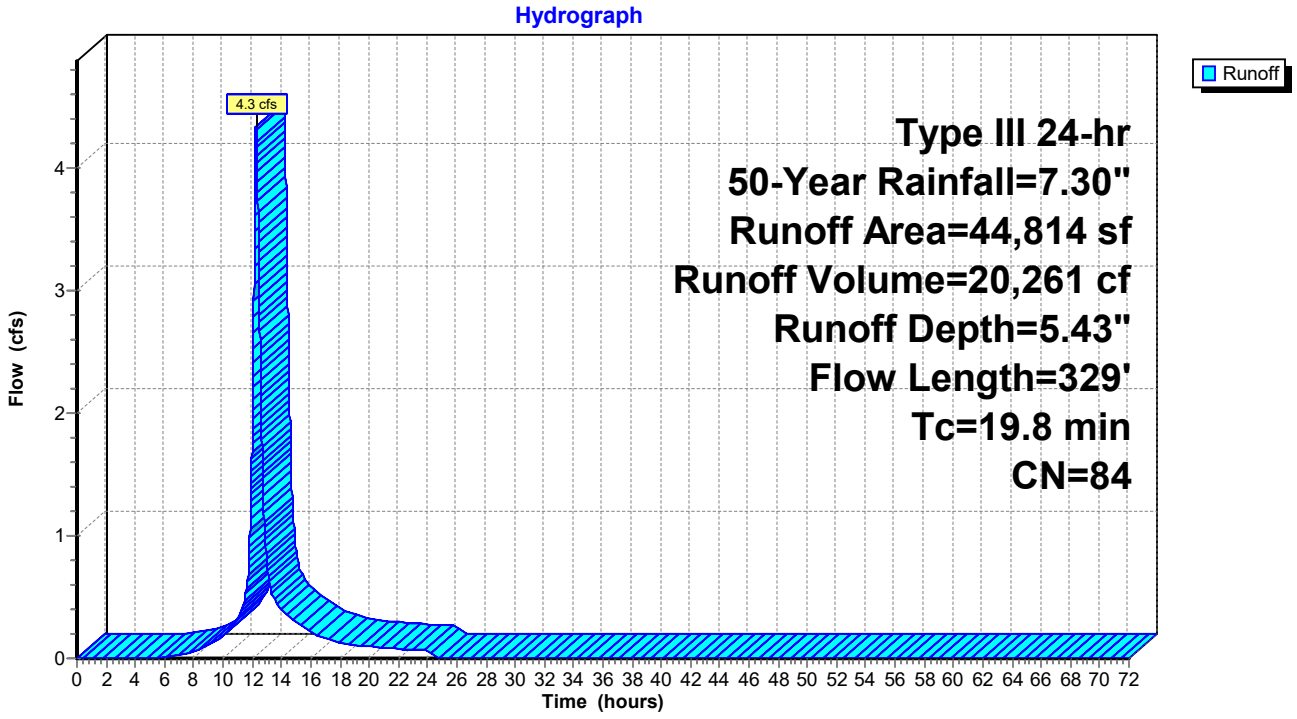
Runoff = 4.3 cfs @ 12.26 hrs, Volume= 20,261 cf, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
34,169	80	>75% Grass cover, Good, HSG D
1,895	98	Paved parking, HSG D
8,750	98	Roofs, HSG D
44,814	84	Weighted Average
34,169		76.25% Pervious Area
10,645		23.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0100	0.14		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
2.2	179	0.0363	1.33		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.8	329	Total			

Subcatchment S3.2: Subcatchment 3.2



Summary for Subcatchment S4.1: Subcatchment 4.1

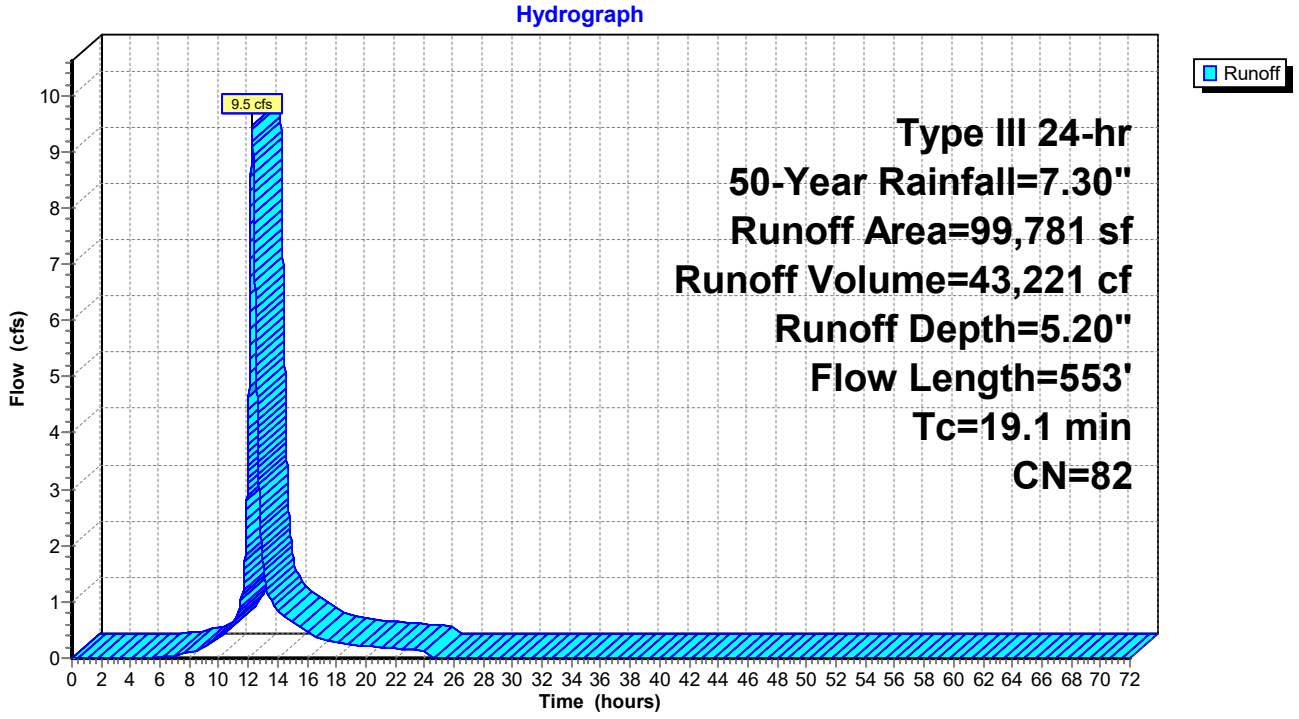
Runoff = 9.5 cfs @ 12.25 hrs, Volume= 43,221 cf, Depth= 5.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
17,618	77	Woods, Good, HSG D
70,163	80	>75% Grass cover, Good, HSG D
12,000	98	Roofs, HSG D
99,781	82	Weighted Average
87,781		87.97% Pervious Area
12,000		12.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	150	0.0330	0.23		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
7.1	300	0.0100	0.70		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.1	103	0.0485	1.54		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.1	553	Total			

Subcatchment S4.1: Subcatchment 4.1



Summary for Subcatchment S4.10: Subcatchment 4.10

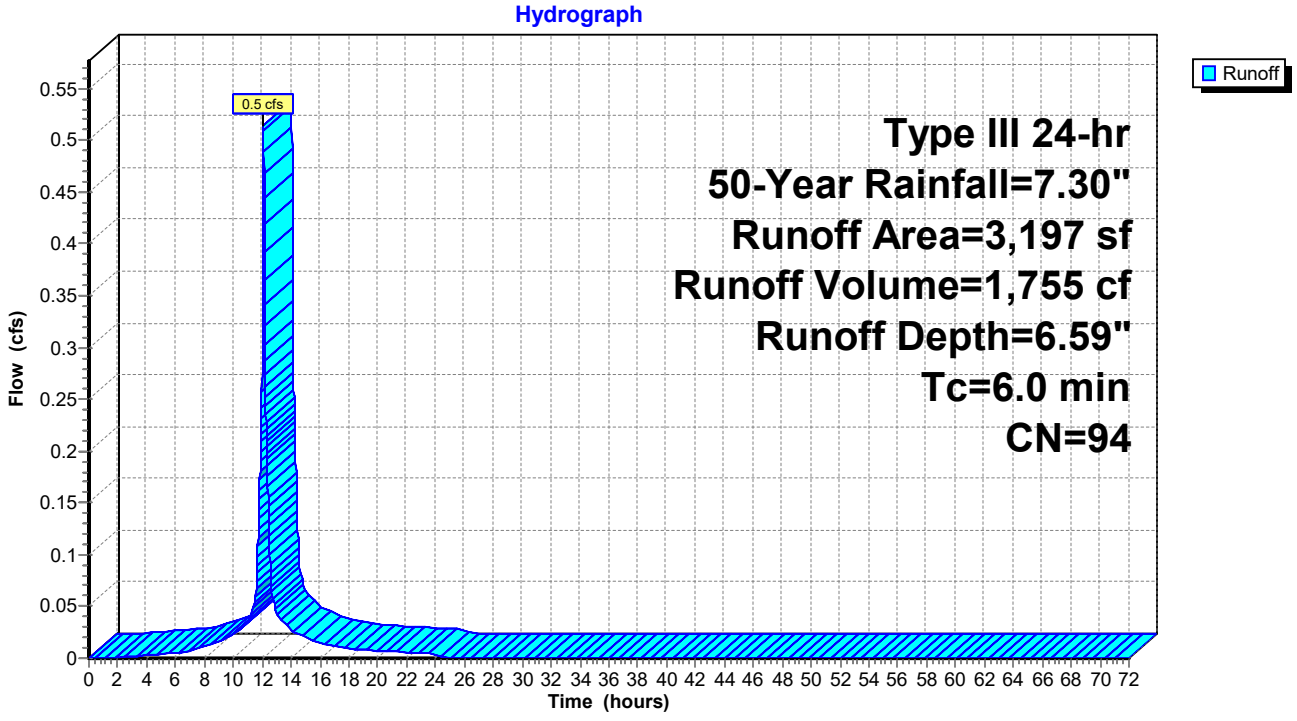
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,755 cf, Depth= 6.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
2,320	98	Paved roads w/curbs & sewers, HSG D
148	96	Gravel surface, HSG D
729	80	>75% Grass cover, Good, HSG D
3,197	94	Weighted Average
877		27.43% Pervious Area
2,320		72.57% Impervious Area

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

Subcatchment S4.10: Subcatchment 4.10



Summary for Subcatchment S4.11: Subcatchment 4.11

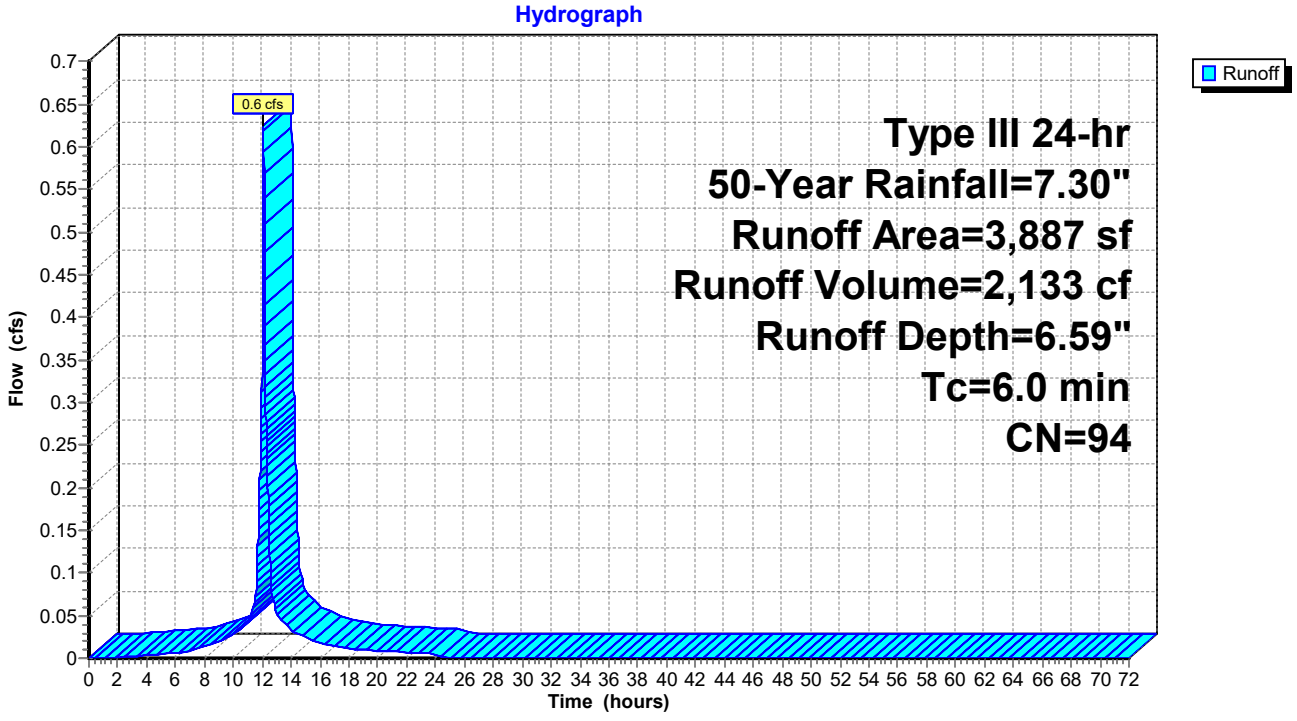
Runoff = 0.6 cfs @ 12.08 hrs, Volume= 2,133 cf, Depth= 6.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
2,903	98	Paved roads w/curbs & sewers, HSG D
163	96	Gravel surface, HSG D
821	80	>75% Grass cover, Good, HSG D
3,887	94	Weighted Average
984		25.32% Pervious Area
2,903		74.68% Impervious Area

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

Subcatchment S4.11: Subcatchment 4.11



Summary for Subcatchment S4.12: Subcatchment 4.12

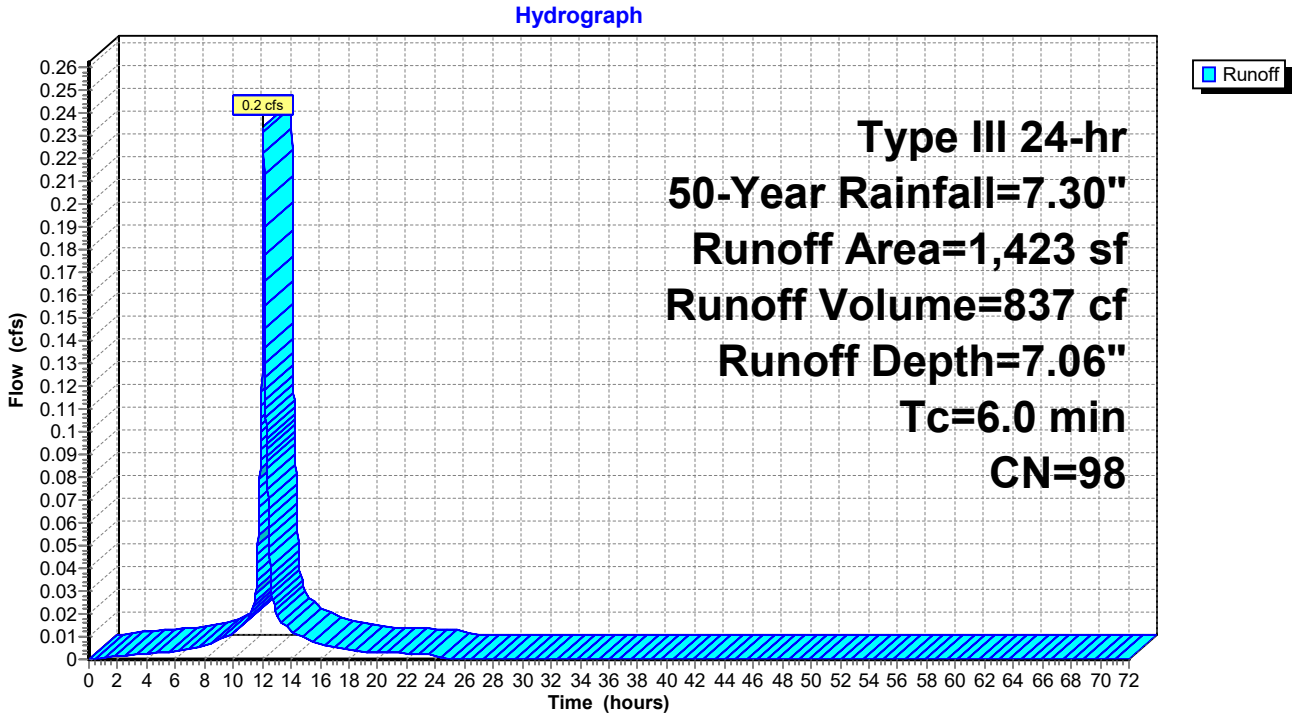
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 837 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,423	98	Paved roads w/curbs & sewers, HSG D
1,423		100.00% Impervious Area

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

Subcatchment S4.12: Subcatchment 4.12



Summary for Subcatchment S4.13: Subcatchment 4.13

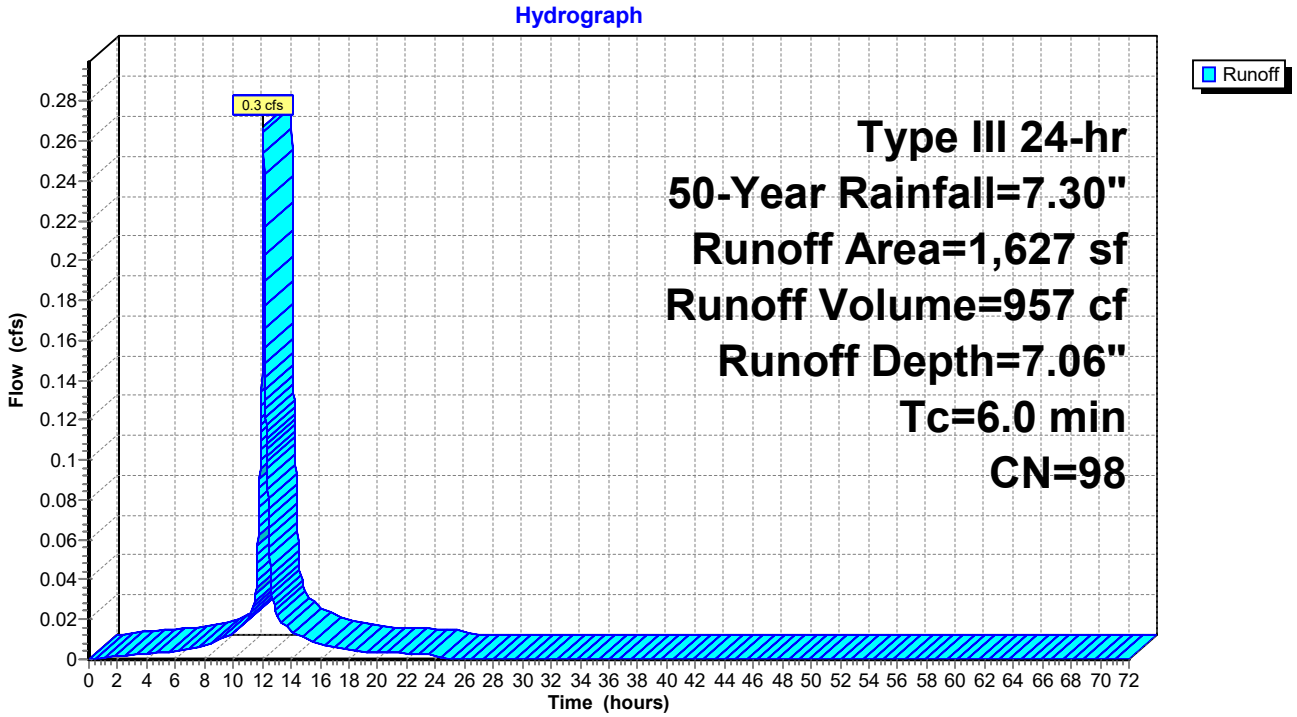
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 957 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,627	98	Paved roads w/curbs & sewers, HSG D
1,627		100.00% Impervious Area

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

Subcatchment S4.13: Subcatchment 4.13



Summary for Subcatchment S4.2: Subcatchment 4.2

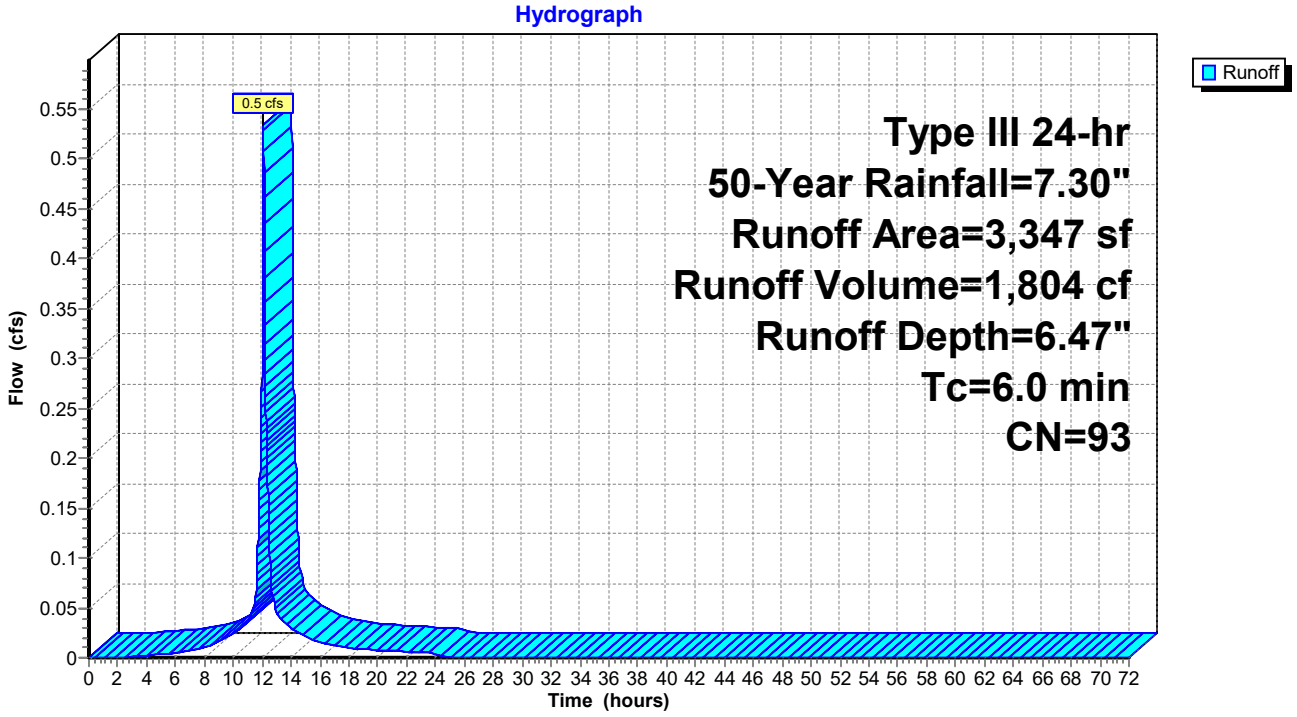
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,804 cf, Depth= 6.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
796	98	Paved parking, HSG D
74	96	Gravel surface, HSG D
754	80	>75% Grass cover, Good, HSG D
1,602	98	Paved parking, HSG A
40	39	>75% Grass cover, Good, HSG A
81	96	Gravel surface, HSG A
3,347	93	Weighted Average
949		28.35% Pervious Area
2,398		71.65% Impervious Area

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

Subcatchment S4.2: Subcatchment 4.2



Summary for Subcatchment S4.3: Subcatchment 4.3

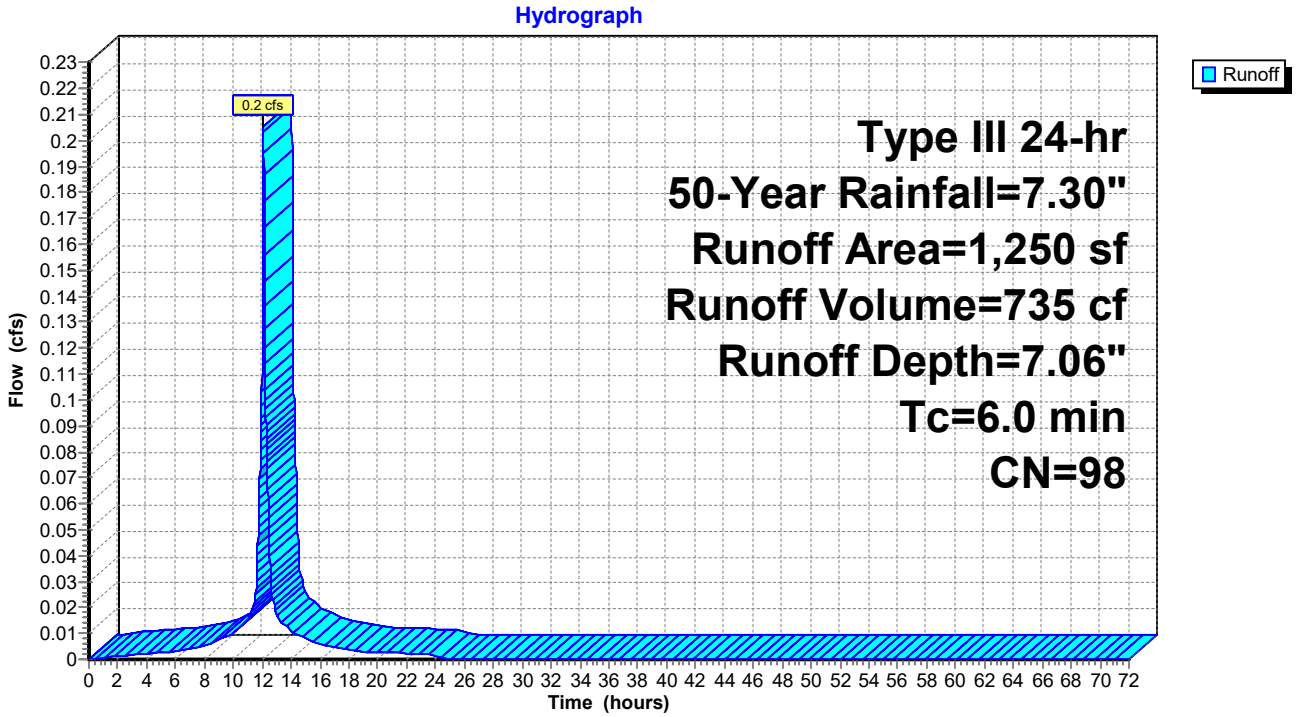
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.3: Subcatchment 4.3



Summary for Subcatchment S4.4: Subcatchment 4.4

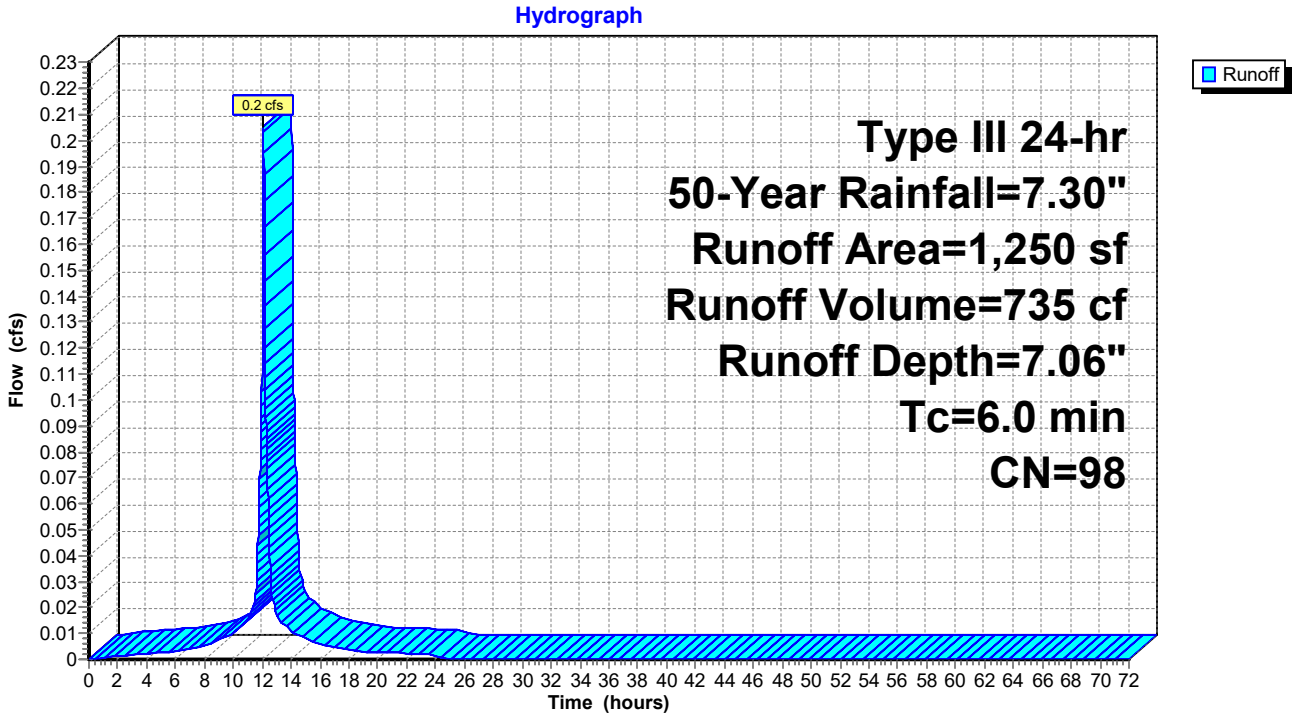
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.4: Subcatchment 4.4



Summary for Subcatchment S4.5: Subcatchment 4.5

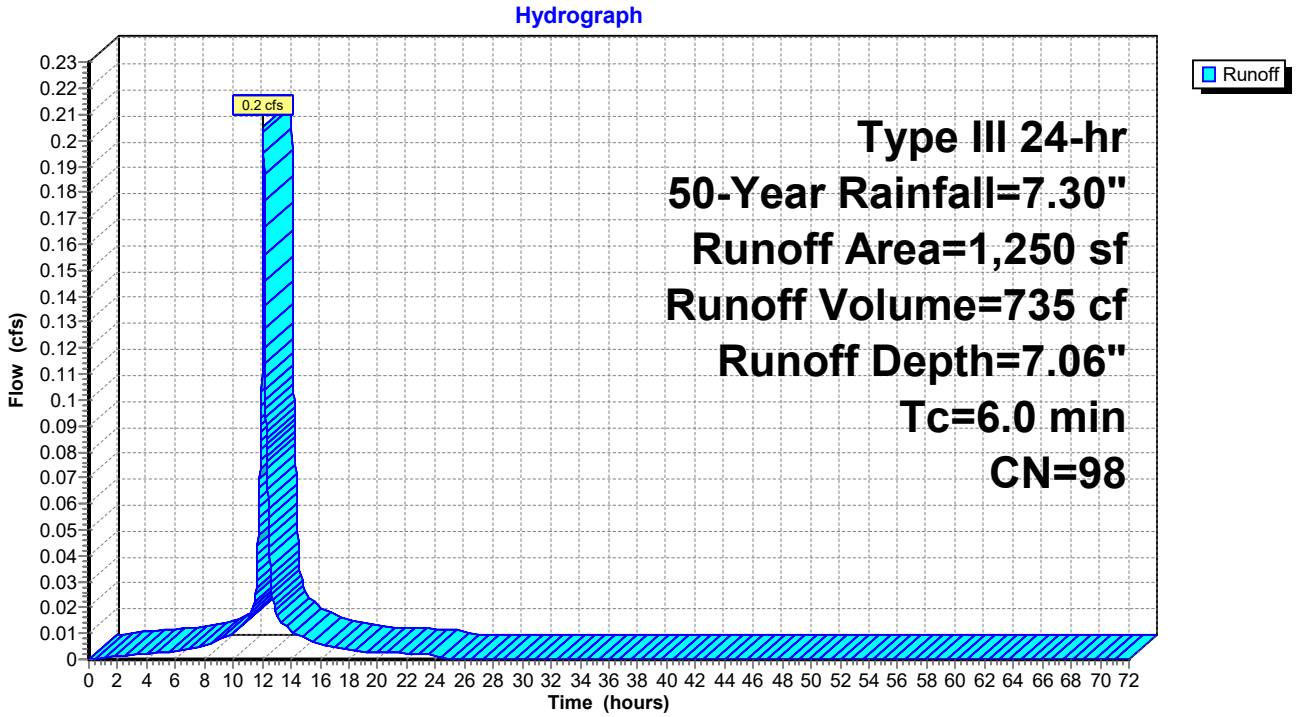
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.5: Subcatchment 4.5



Summary for Subcatchment S4.6: Subcatchment 4.6

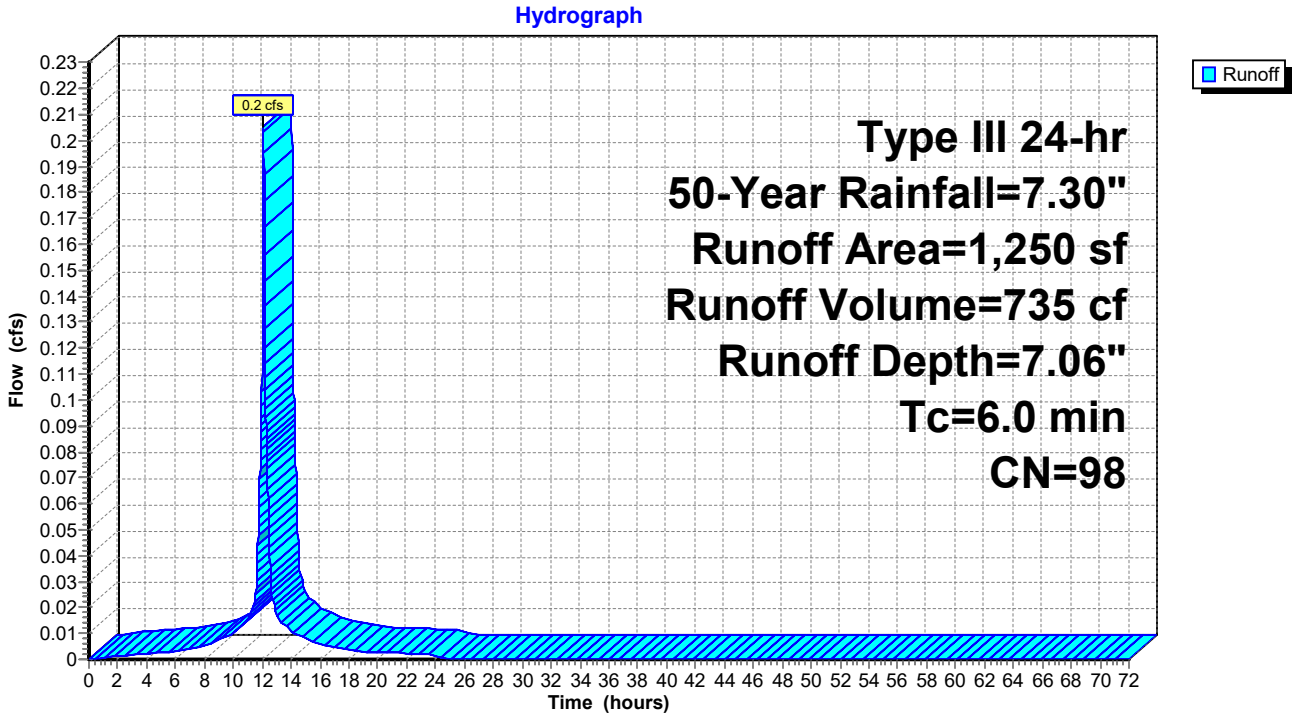
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.6: Subcatchment 4.6



Summary for Subcatchment S4.7: Subcatchment 4.7

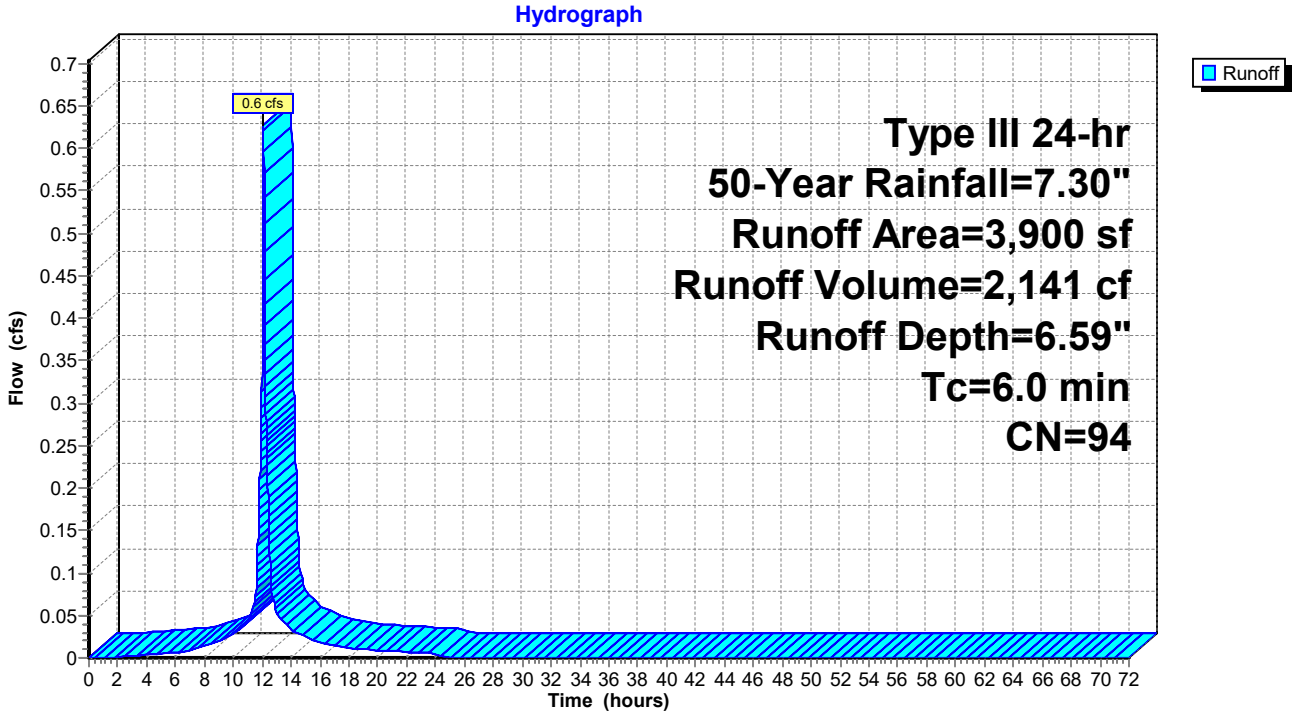
Runoff = 0.6 cfs @ 12.08 hrs, Volume= 2,141 cf, Depth= 6.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
874	80	>75% Grass cover, Good, HSG D
166	96	Gravel surface, HSG D
297	98	Paved roads w/curbs & sewers, HSG A
2,563	98	Paved roads w/curbs & sewers, HSG D
3,900	94	Weighted Average
1,040		26.67% Pervious Area
2,860		73.33% Impervious Area

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

Subcatchment S4.7: Subcatchment 4.7



Summary for Subcatchment S4.8: Subcatchment 4.8

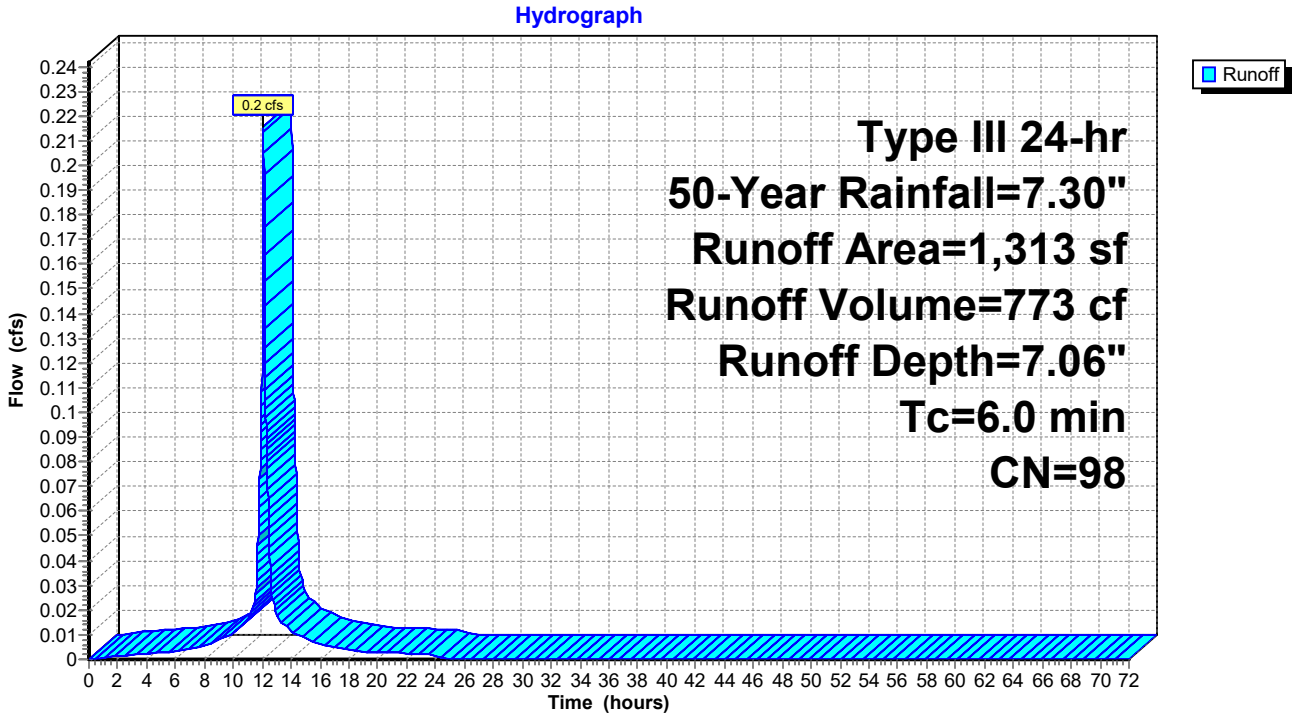
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 773 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,313	98	Paved roads w/curbs & sewers, HSG D
1,313		100.00% Impervious Area

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

Subcatchment S4.8: Subcatchment 4.8



Summary for Subcatchment S4.9: Subcatchment 4.9

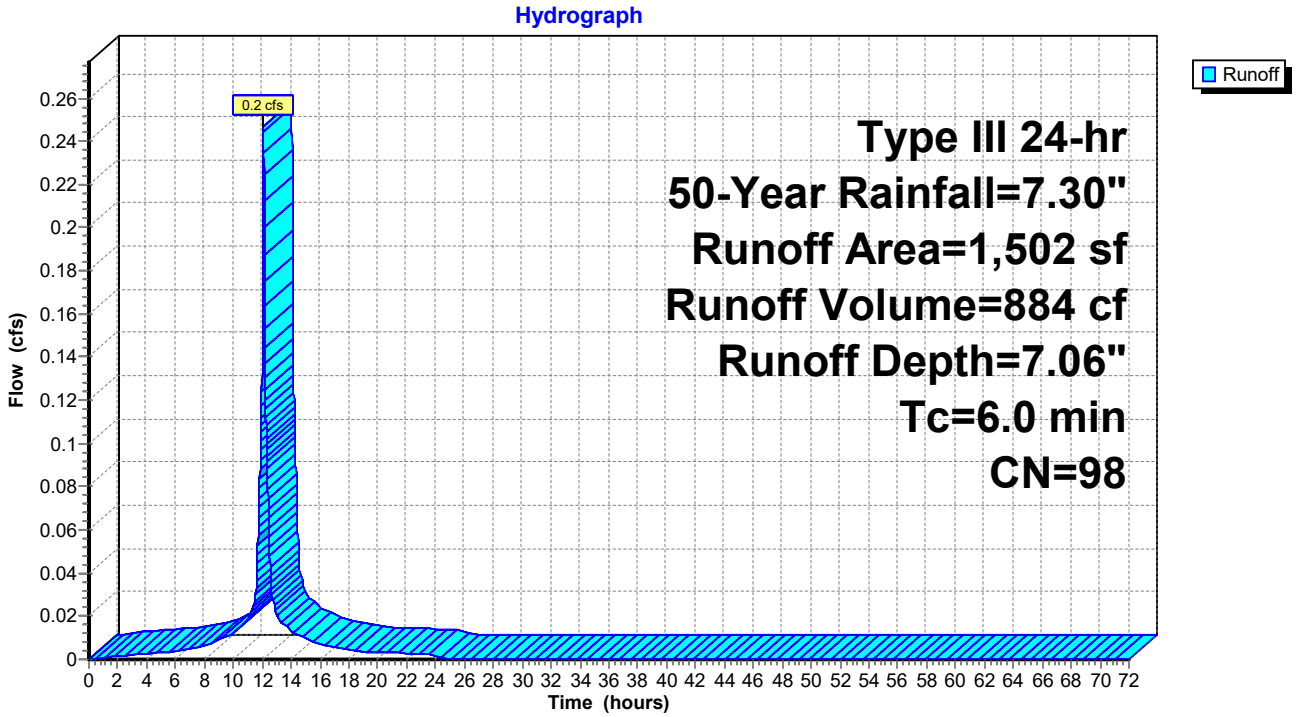
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 884 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,502	98	Paved roads w/curbs & sewers, HSG D
1,502		100.00% Impervious Area

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

Subcatchment S4.9: Subcatchment 4.9



Summary for Subcatchment S5.1: Subcatchment 5.1

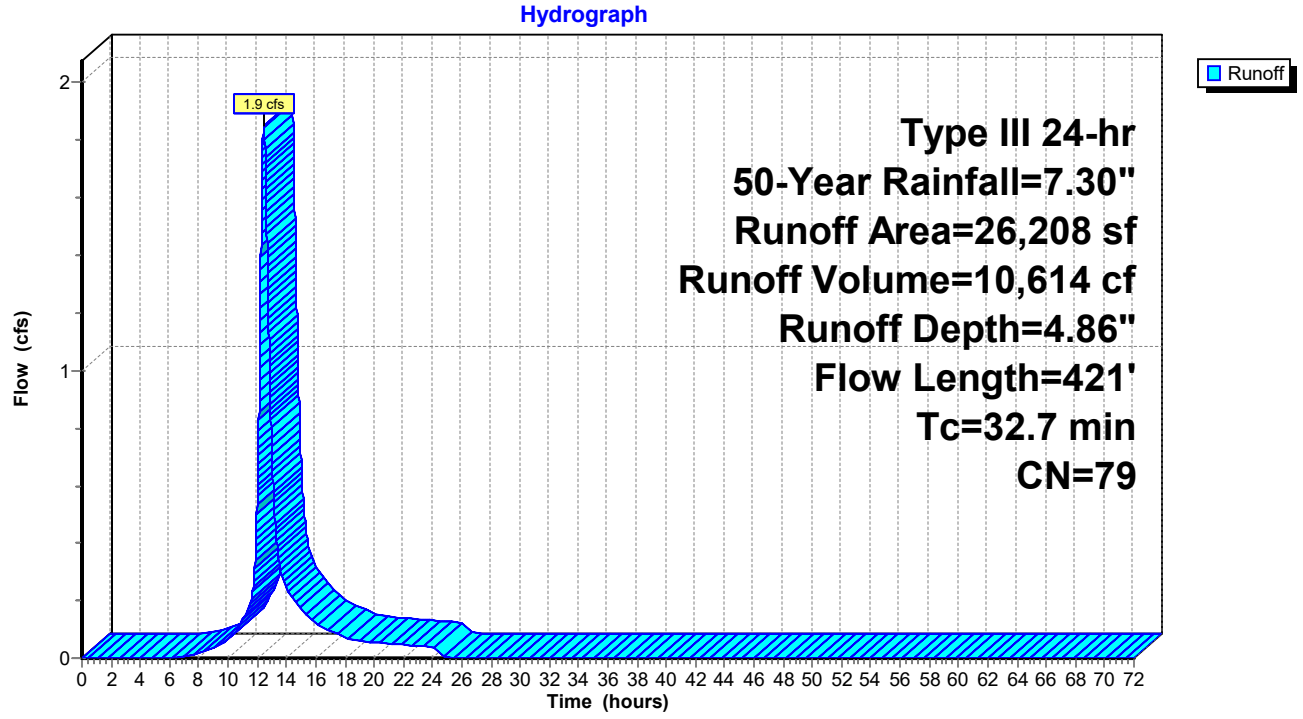
Runoff = 1.9 cfs @ 12.46 hrs, Volume= 10,614 cf, Depth= 4.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
12,258	77	Woods, Good, HSG D
13,250	80	>75% Grass cover, Good, HSG D
700	98	Roofs, HSG D
26,208	79	Weighted Average
25,508		97.33% Pervious Area
700		2.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	150	0.0267	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
1.8	53	0.0100	0.50		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
4.8	218	0.0229	0.76		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
32.7	421	Total			

Subcatchment S5.1: Subcatchment 5.1



Summary for Subcatchment S5.2: Subcatchment 5.2

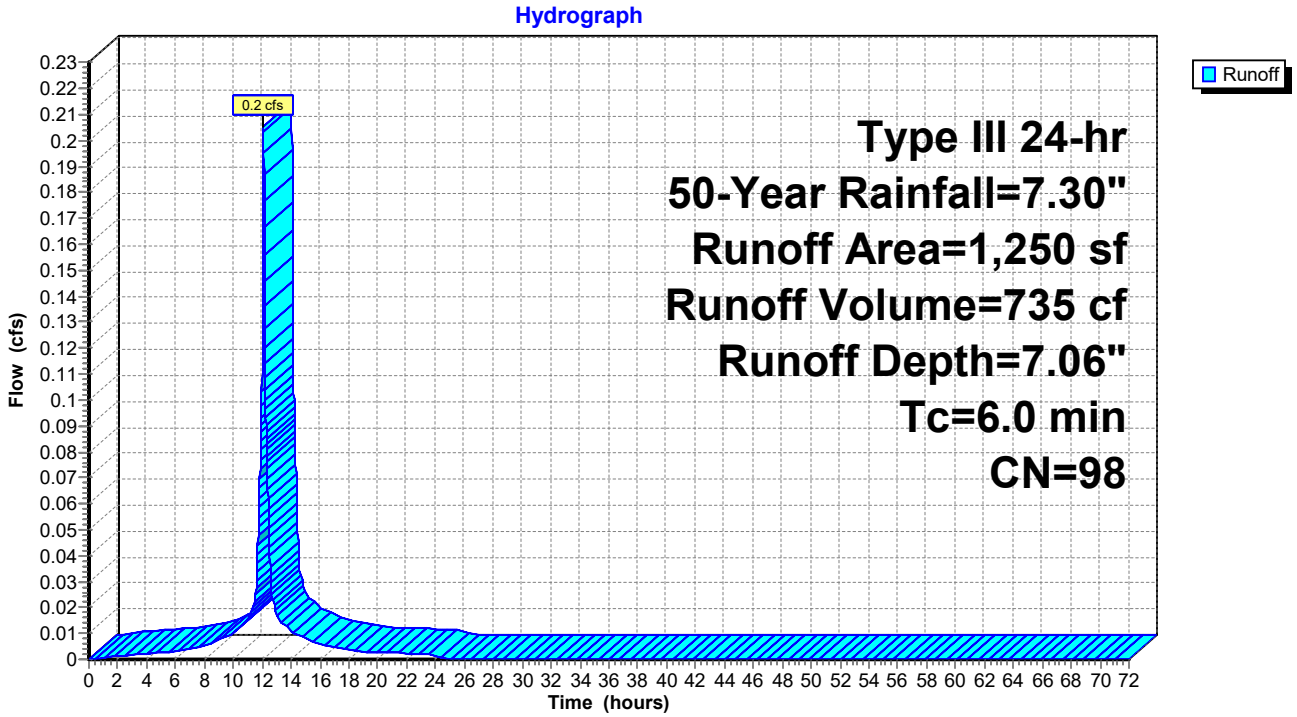
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.2: Subcatchment 5.2



Summary for Subcatchment S5.3: Subcatchment 5.3

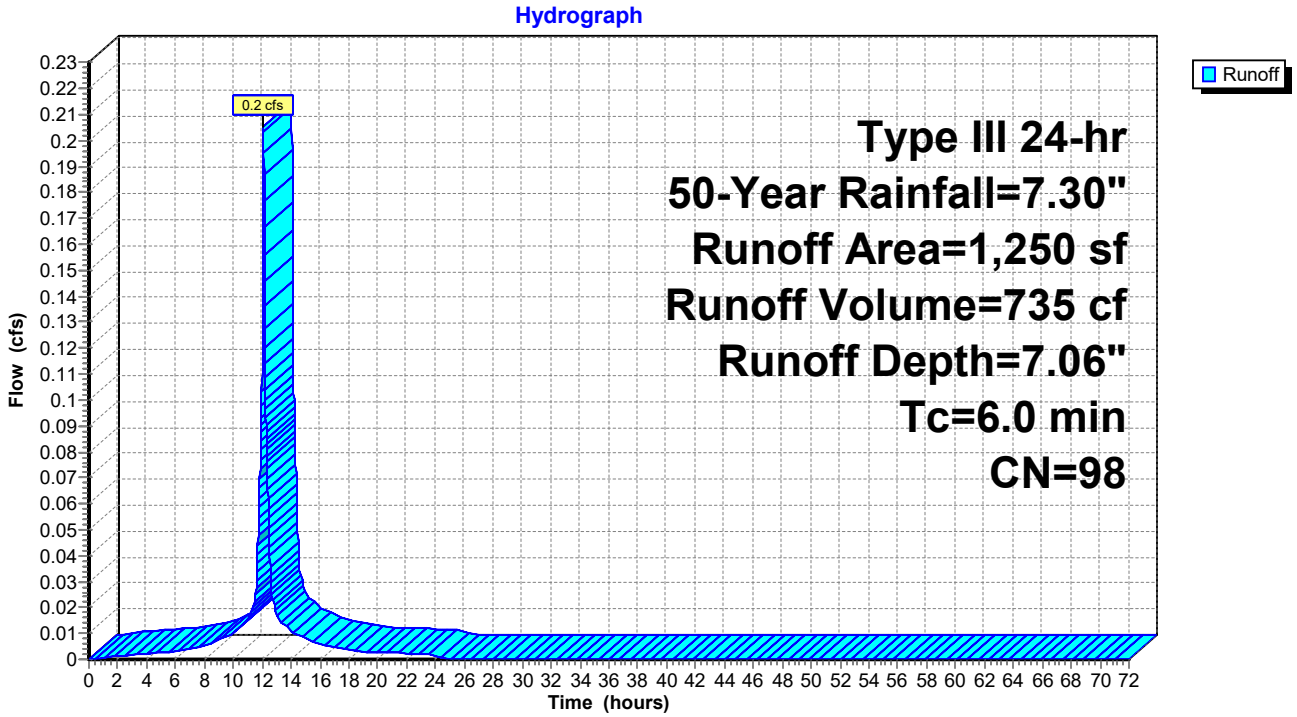
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.3: Subcatchment 5.3



Summary for Subcatchment S5.4: Subcatchment 5.4

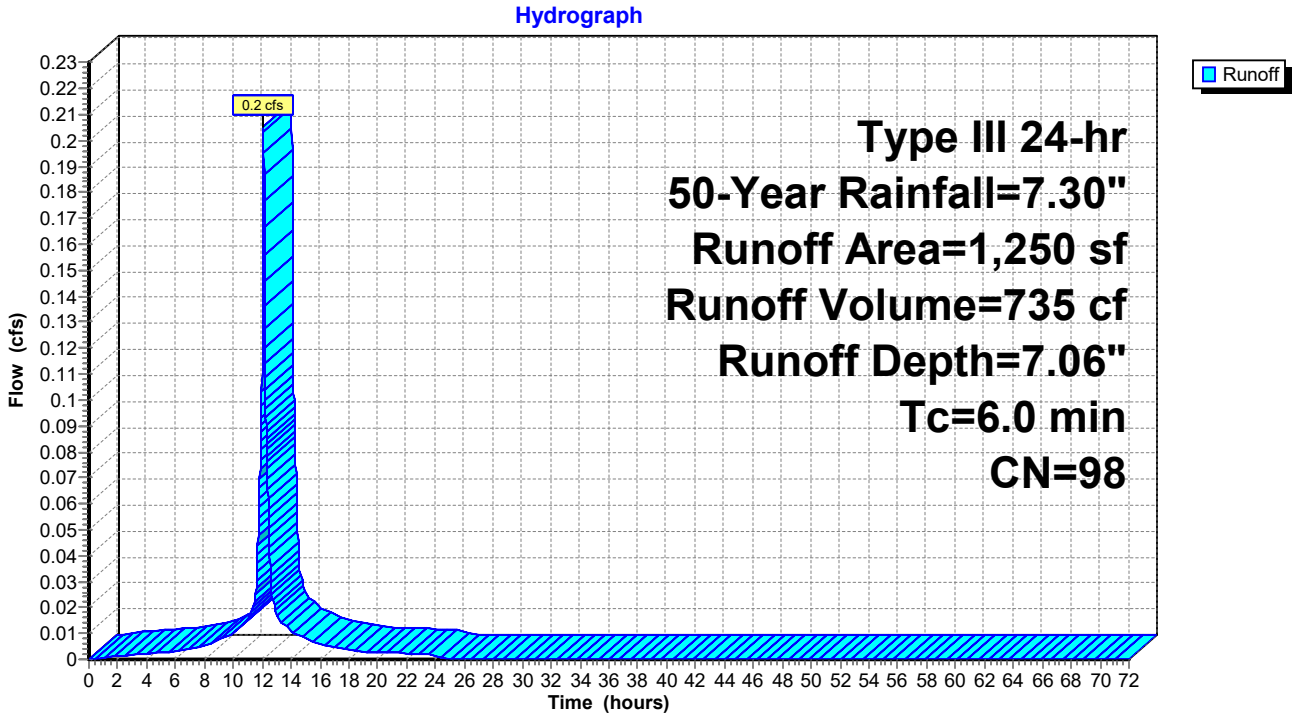
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.4: Subcatchment 5.4



Summary for Reach S1: Swale 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 5.43" for 50-Year event
Inflow = 4.3 cfs @ 12.26 hrs, Volume= 20,261 cf
Outflow = 4.3 cfs @ 12.27 hrs, Volume= 20,261 cf, Atten= 0%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.70 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 0.75 fps, Avg. Travel Time= 3.9 min

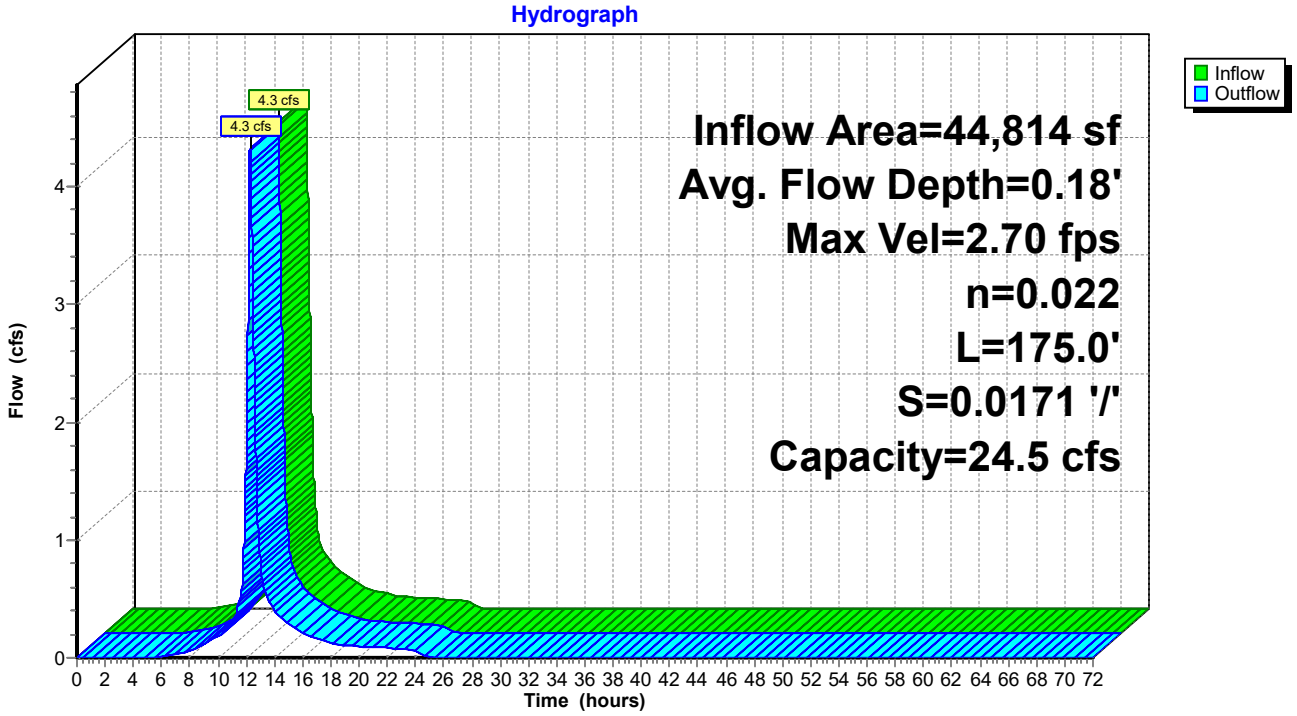
Peak Storage= 281 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.18' , Surface Width= 9.47'
Bank-Full Depth= 0.50' Flow Area= 5.0 sf, Capacity= 24.5 cfs

8.00' x 0.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 4.0 '/' Top Width= 12.00'
Length= 175.0' Slope= 0.0171 '/'
Inlet Invert= 69.00', Outlet Invert= 66.00'



‡

Reach S1: Swale 1



Summary for Pond C1: Culvert 1

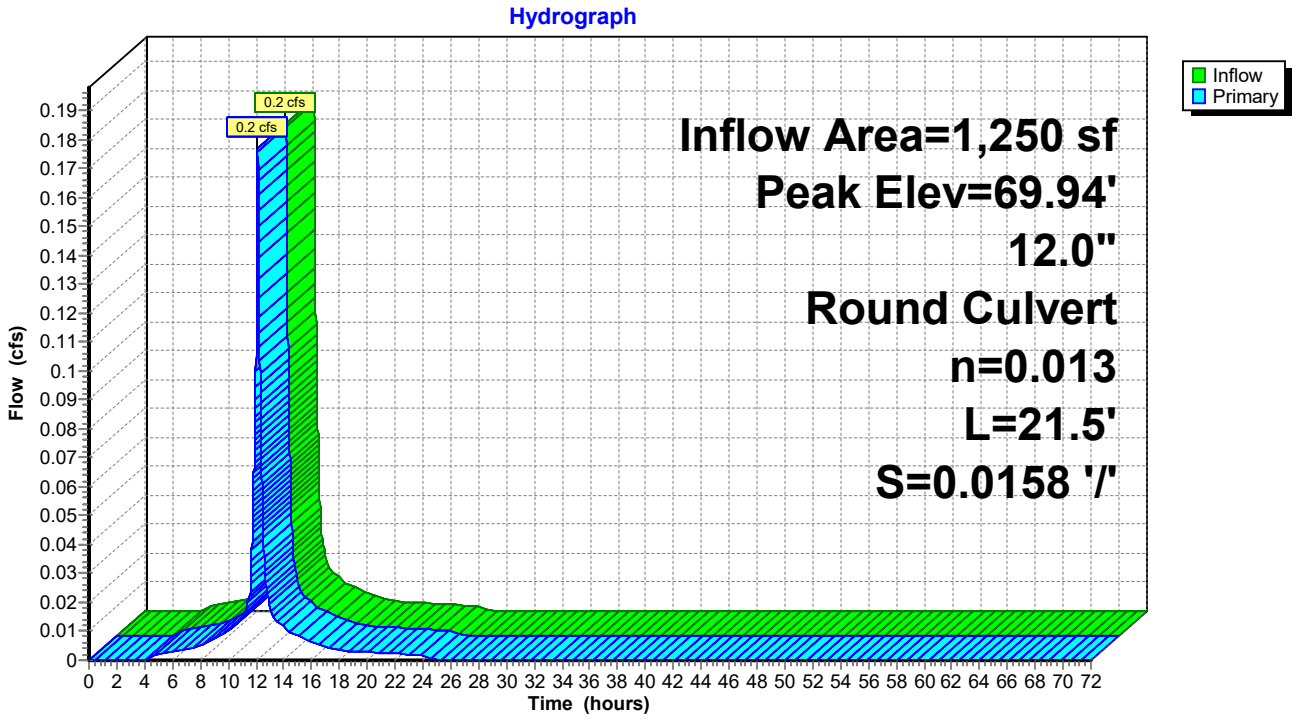
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 6.90" for 50-Year event
Inflow = 0.2 cfs @ 12.13 hrs, Volume= 718 cf
Outflow = 0.2 cfs @ 12.13 hrs, Volume= 718 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.13 hrs, Volume= 718 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.94' @ 12.13 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 21.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0158 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.13 hrs HW=69.94' TW=69.75' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.2 cfs @ 1.76 fps)

Pond C1: Culvert 1



Summary for Pond C10: Culvert 10

[57] Hint: Peaked at 71.05' (Flood elevation advised)
[80] Warning: Exceeded Pond RD6 by 1.20' @ 12.13 hrs (0.5 cfs 56 cf)

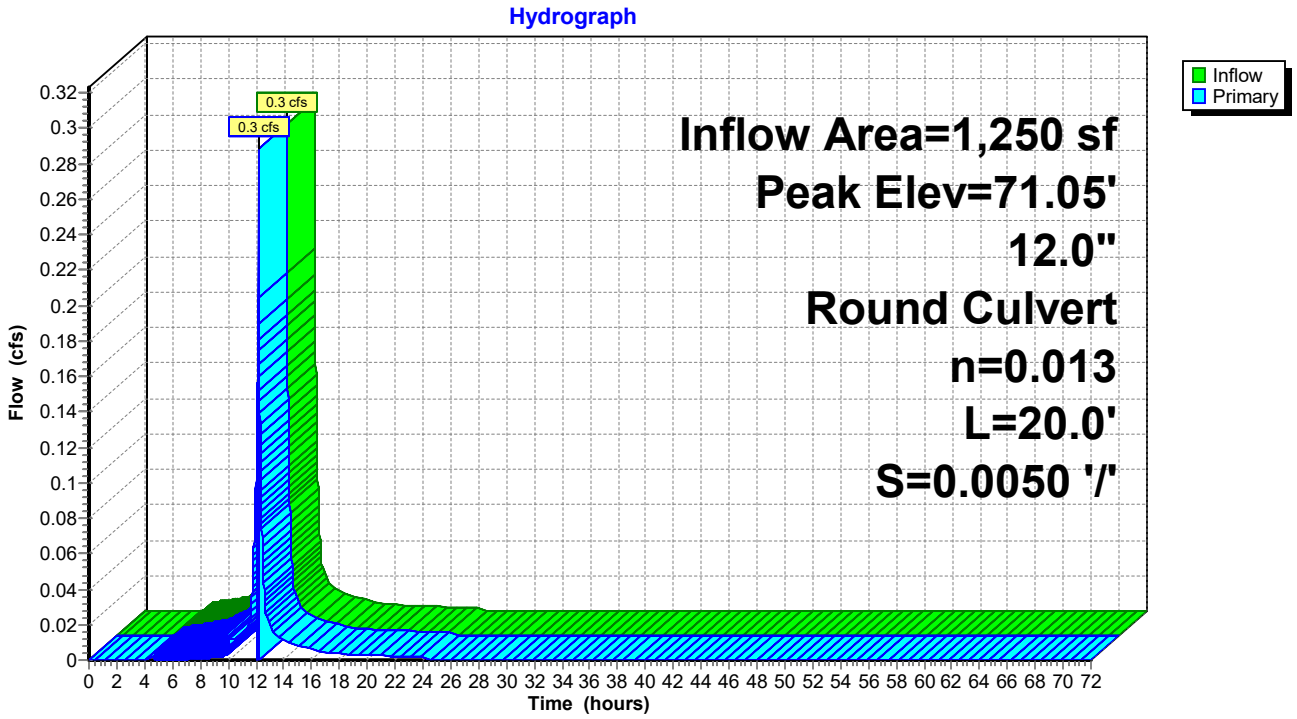
Inflow Area =	1,250 sf,100.00% Impervious,	Inflow Depth =	6.90"	for	50-Year event
Inflow =	0.3 cfs @	12.15 hrs, Volume=	719 cf		
Outflow =	0.3 cfs @	12.15 hrs, Volume=	719 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.3 cfs @	12.15 hrs, Volume=	719 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 71.05' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**12.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.13' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.8 cfs @ 12.15 hrs HW=70.47' TW=70.12' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.8 cfs @ 2.23 fps)

Pond C10: Culvert 10



Summary for Pond C11: Culvert 11

[57] Hint: Peaked at 71.04' (Flood elevation advised)
[80] Warning: Exceeded Pond C10 by 1.81' @ 12.12 hrs (3.4 cfs 379 cf)
[80] Warning: Exceeded Pond C9 by 0.42' @ 12.12 hrs (1.9 cfs 219 cf)

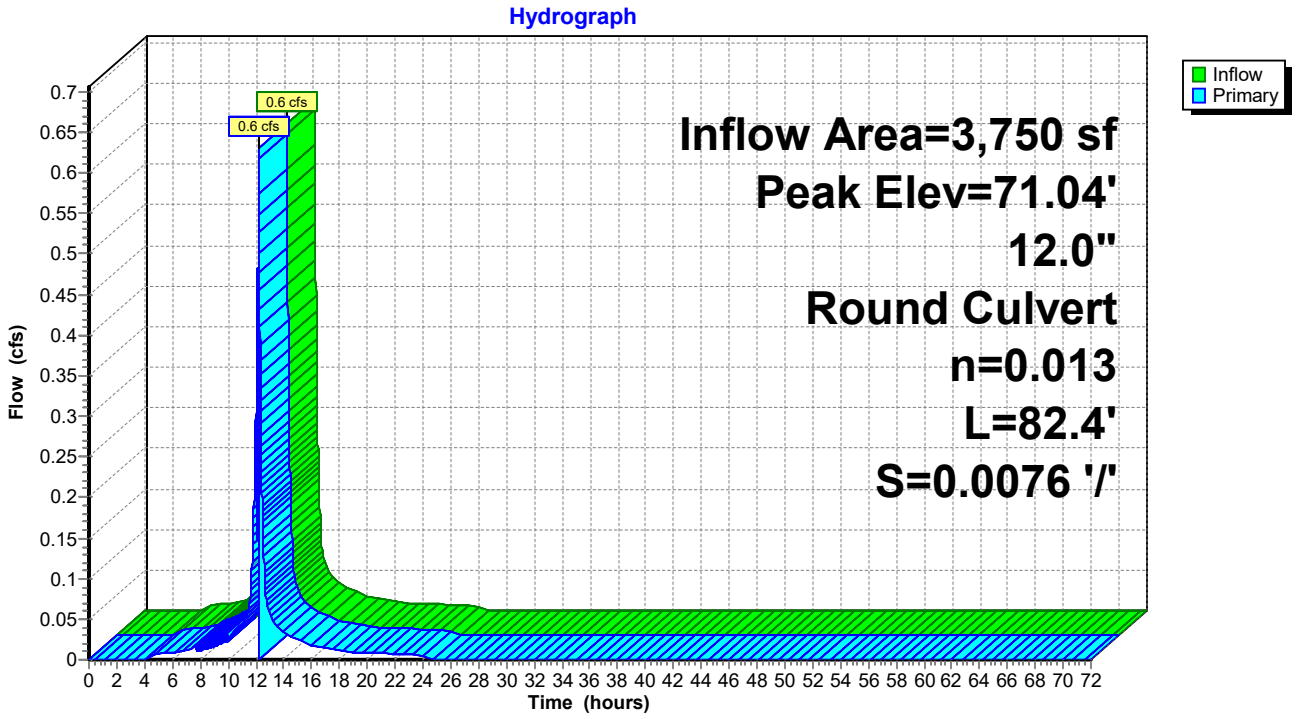
Inflow Area =	3,750 sf,	100.00% Impervious,	Inflow Depth =	6.90"	for 50-Year event
Inflow =	0.6 cfs @	12.18 hrs,	Volume=	2,155 cf	
Outflow =	0.6 cfs @	12.18 hrs,	Volume=	2,155 cf,	Atten= 0%, Lag= 0.0 min
Primary =	0.6 cfs @	12.18 hrs,	Volume=	2,155 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 71.04' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.13'	**12.0" Round Culvert** L= 82.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.13' / 68.50' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.6 cfs @ 12.18 hrs HW=69.60' TW=69.01' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.6 cfs @ 2.63 fps)

Pond C11: Culvert 11



Summary for Pond C2: Culvert 2

[57] Hint: Peaked at 69.75' (Flood elevation advised)
[80] Warning: Exceeded Pond RD2 by 0.01' @ 4.21 hrs (0.0 cfs 194 cf)

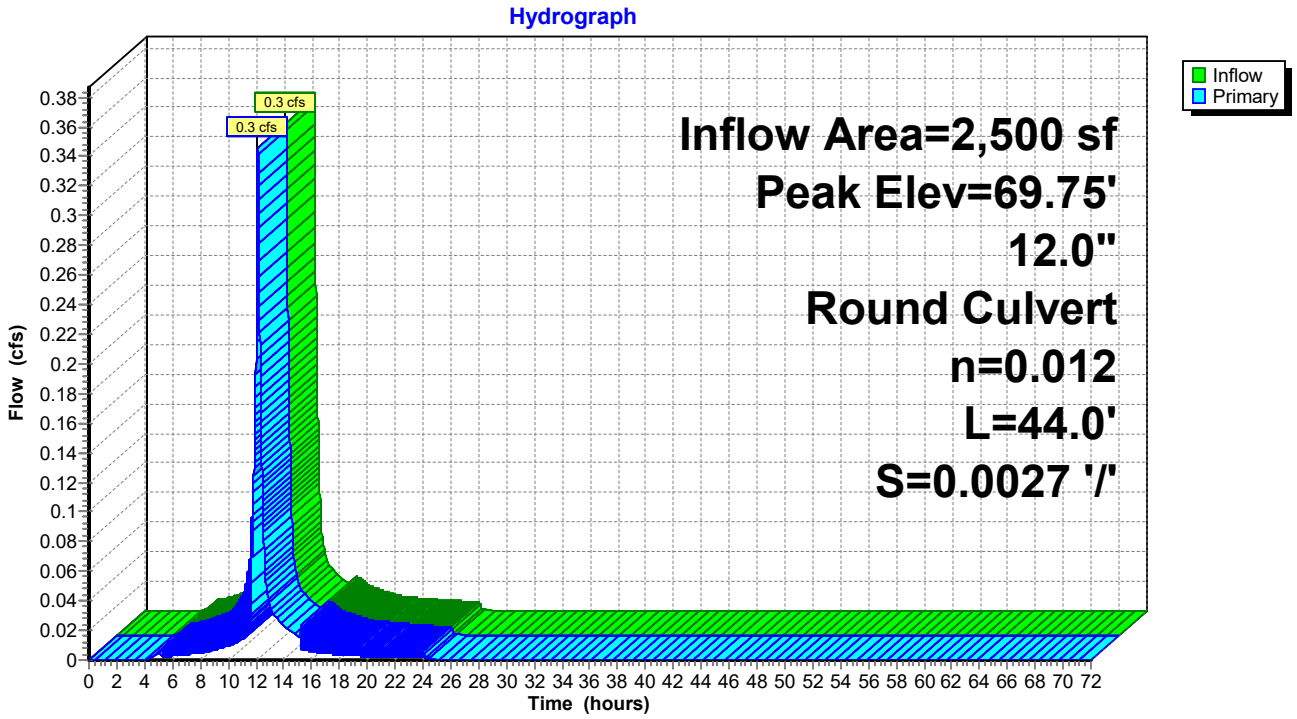
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	6.89"	for	50-Year event
Inflow =	0.3 cfs @	12.13 hrs, Volume=	1,436 cf		
Outflow =	0.3 cfs @	12.13 hrs, Volume=	1,436 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.3 cfs @	12.13 hrs, Volume=	1,436 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.75' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.23' S= 0.0027 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.13 hrs HW=69.75' TW=69.57' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.3 cfs @ 1.74 fps)

Pond C2: Culvert 2



Summary for Pond C3: Culvert 3

[57] Hint: Peaked at 69.57' (Flood elevation advised)

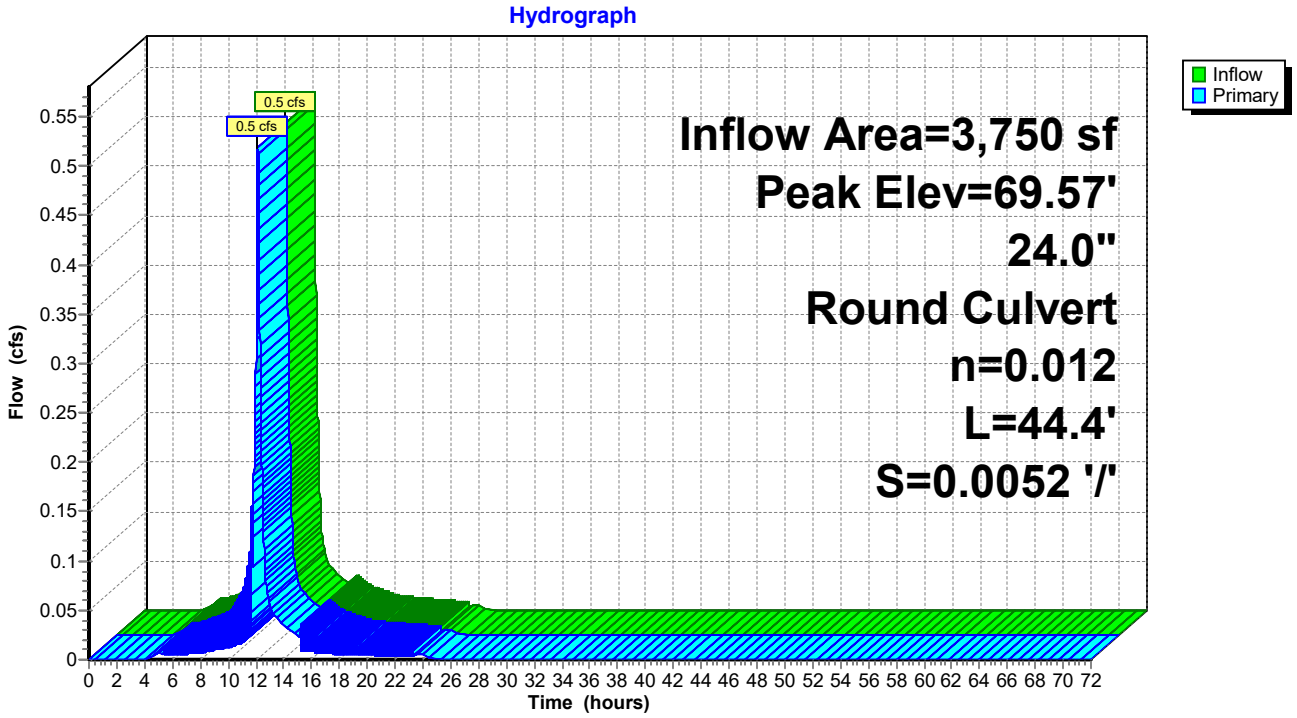
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 6.89" for 50-Year event
Inflow = 0.5 cfs @ 12.13 hrs, Volume= 2,154 cf
Outflow = 0.5 cfs @ 12.13 hrs, Volume= 2,154 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.13 hrs, Volume= 2,154 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.57' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**24.0" Round Culvert** L= 44.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.00' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.5 cfs @ 12.13 hrs HW=69.57' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.5 cfs @ 2.23 fps)

Pond C3: Culvert 3



Summary for Pond C4: Culvert 4

[80] Warning: Exceeded Pond RD4 by 0.87' @ 12.14 hrs (0.4 cfs 30 cf)

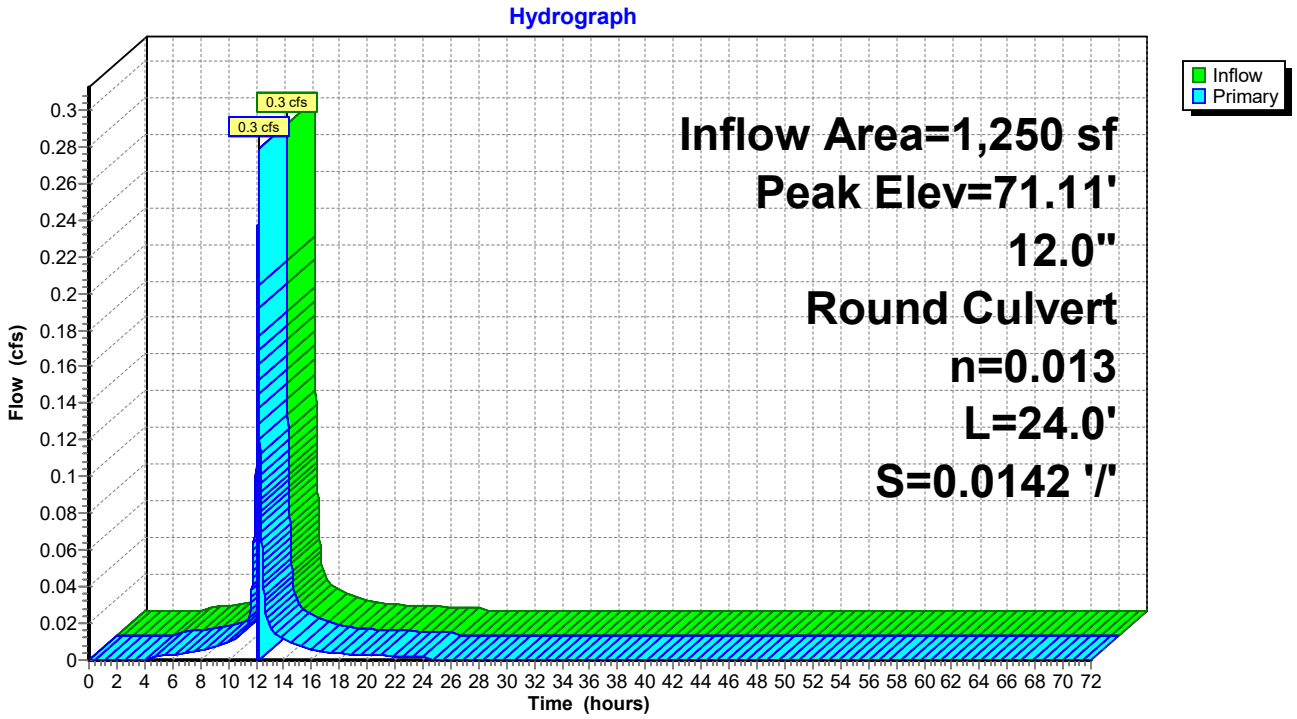
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 6.90" for 50-Year event
Inflow = 0.3 cfs @ 12.17 hrs, Volume= 718 cf
Outflow = 0.3 cfs @ 12.17 hrs, Volume= 718 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.17 hrs, Volume= 718 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 71.11' @ 12.14 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0142 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.17 hrs HW=69.98' TW=69.84' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.2 cfs @ 1.55 fps)

Pond C4: Culvert 4



Summary for Pond C7: Culvert 7

[58] Hint: Peaked 0.53' above defined flood level
[80] Warning: Exceeded Pond RD7 by 2.27' @ 12.06 hrs (0.6 cfs 969 cf)

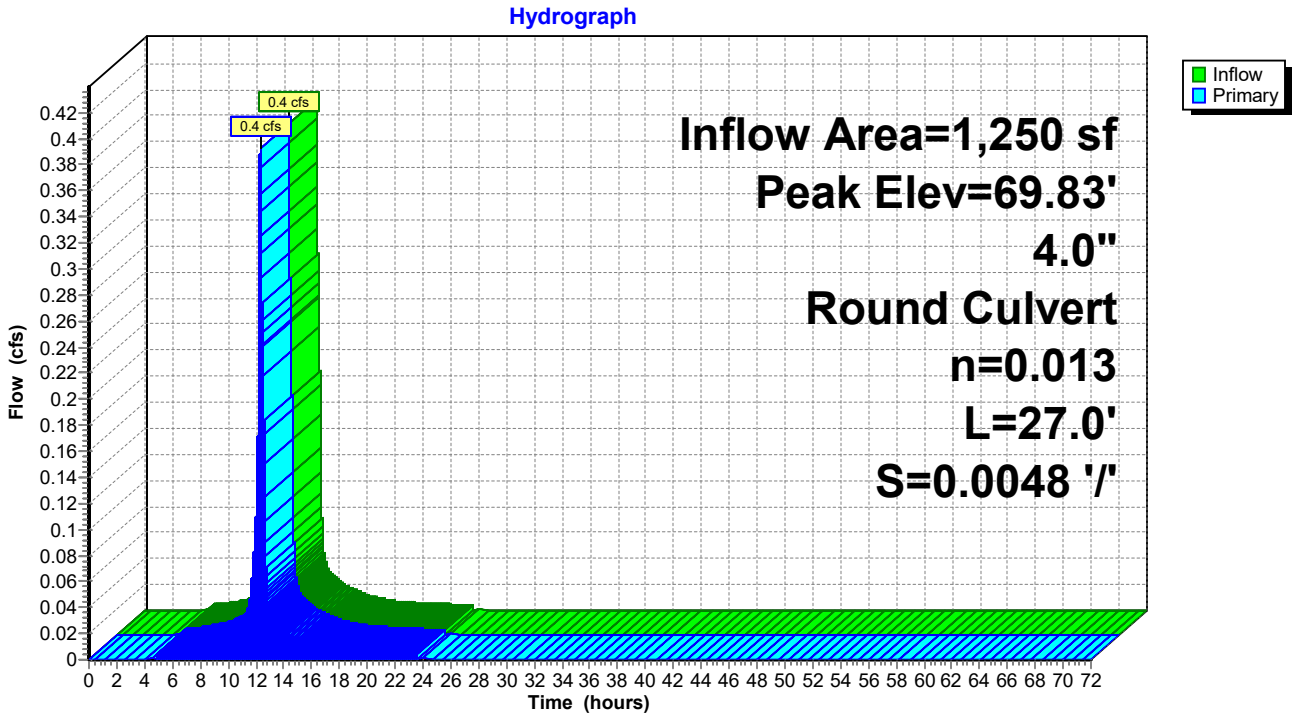
Inflow Area =	1,250 sf,100.00% Impervious,	Inflow Depth =	6.89"	for	50-Year event
Inflow =	0.4 cfs @	12.30 hrs, Volume=	718 cf		
Outflow =	0.4 cfs @	12.30 hrs, Volume=	718 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.4 cfs @	12.30 hrs, Volume=	718 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.83' @ 12.06 hrs
Flood Elev= 69.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Round Culvert** L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.55' / 66.42' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.4 cfs @ 12.30 hrs HW=68.89' TW=67.15' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.4 cfs @ 4.49 fps)

Pond C7: Culvert 7



Summary for Pond C8: Culvert 8

[58] Hint: Peaked 6.16' above defined flood level

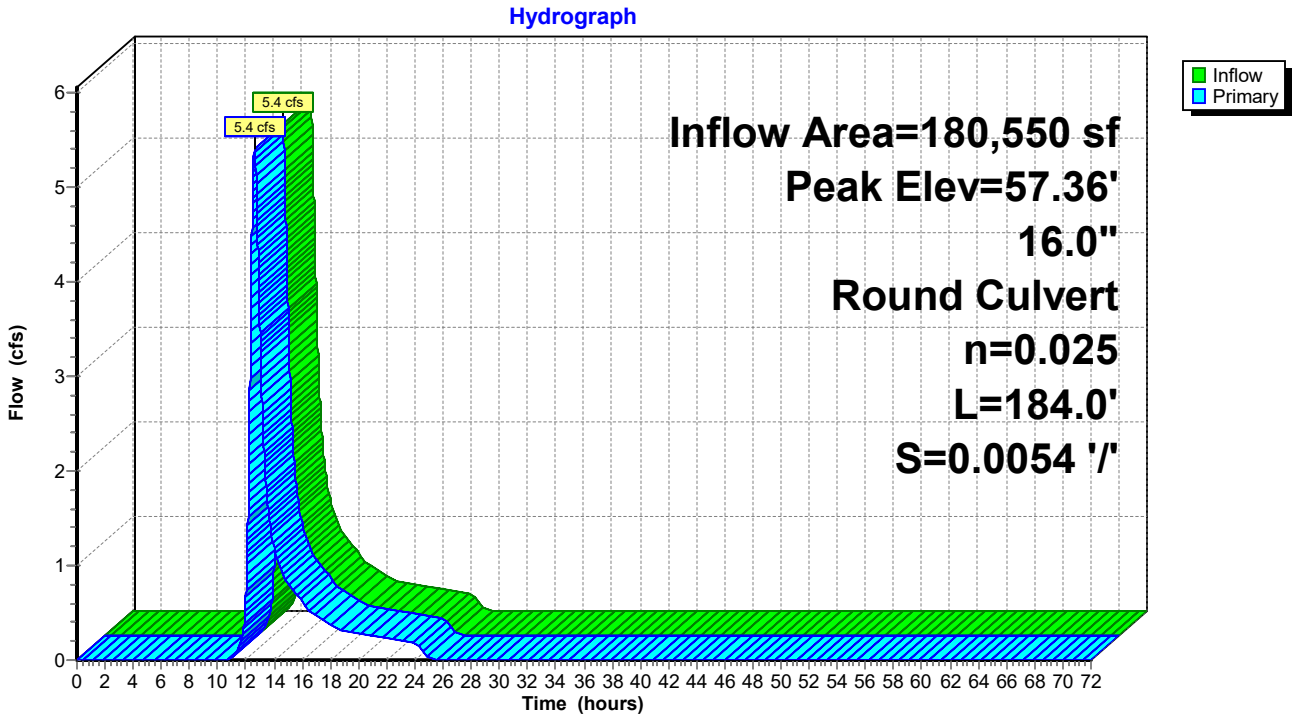
Inflow Area =	180,550 sf,	19.58% Impervious,	Inflow Depth =	2.42"	for 50-Year event
Inflow =	5.4 cfs @	12.59 hrs,	Volume=	36,343 cf	
Outflow =	5.4 cfs @	12.59 hrs,	Volume=	36,343 cf,	Atten= 0%, Lag= 0.0 min
Primary =	5.4 cfs @	12.59 hrs,	Volume=	36,343 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 57.36' @ 12.68 hrs
Flood Elev= 51.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.20'	**16.0" Round Culvert** L= 184.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.20' / 50.20' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=5.4 cfs @ 12.59 hrs HW=57.09' TW=53.33' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 5.4 cfs @ 3.84 fps)

Pond C8: Culvert 8



Summary for Pond C9: Culvert 9

[57] Hint: Peaked at 71.04' (Flood elevation advised)
[80] Warning: Exceeded Pond C4 by 1.35' @ 12.13 hrs (2.8 cfs 188 cf)
[80] Warning: Exceeded Pond RD5 by 1.02' @ 12.13 hrs (0.4 cfs 62 cf)

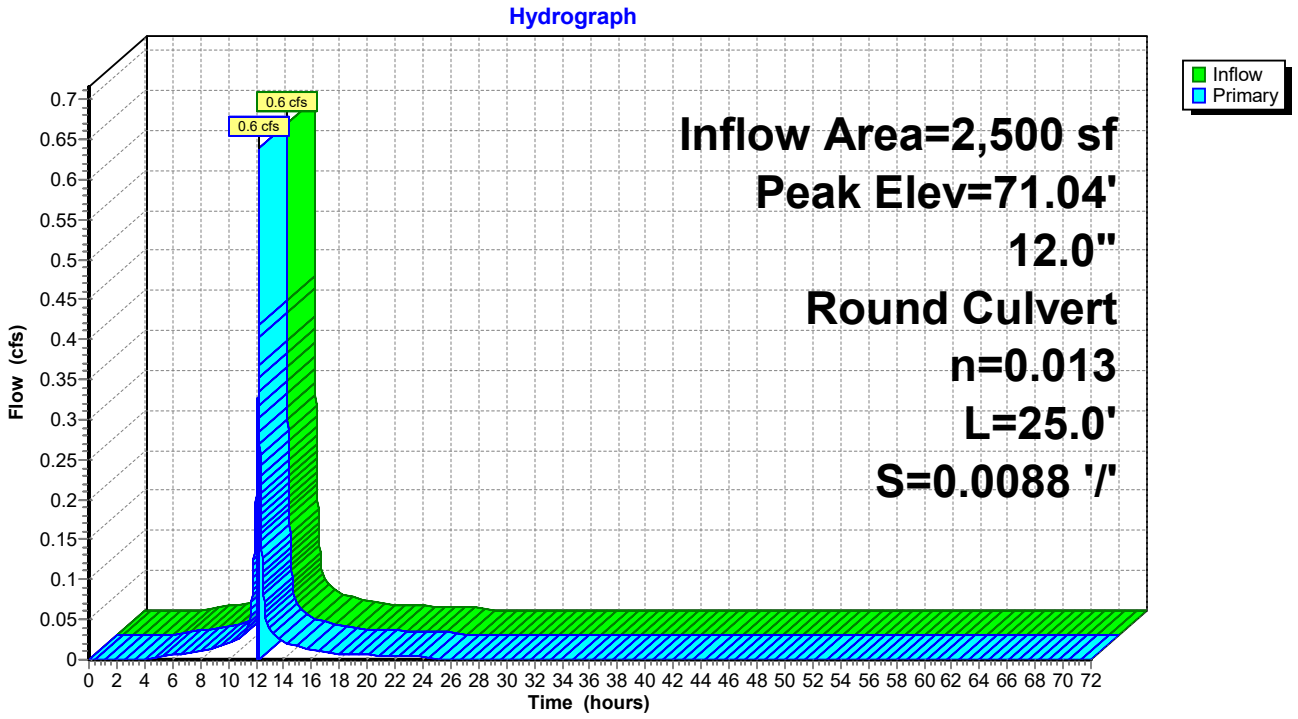
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	6.89"	for	50-Year event
Inflow =	0.6 cfs @ 12.17 hrs,	Volume=	1,436 cf		
Outflow =	0.6 cfs @ 12.17 hrs,	Volume=	1,436 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.6 cfs @ 12.17 hrs,	Volume=	1,436 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 71.04' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.13' S= 0.0088 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.6 cfs @ 12.17 hrs HW=69.85' TW=69.60' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.6 cfs @ 2.35 fps)

Pond C9: Culvert 9



Summary for Pond CB1: Catch Basin 1

[80] Warning: Exceeded Pond C11 by 0.42' @ 12.11 hrs (1.9 cfs 215 cf)

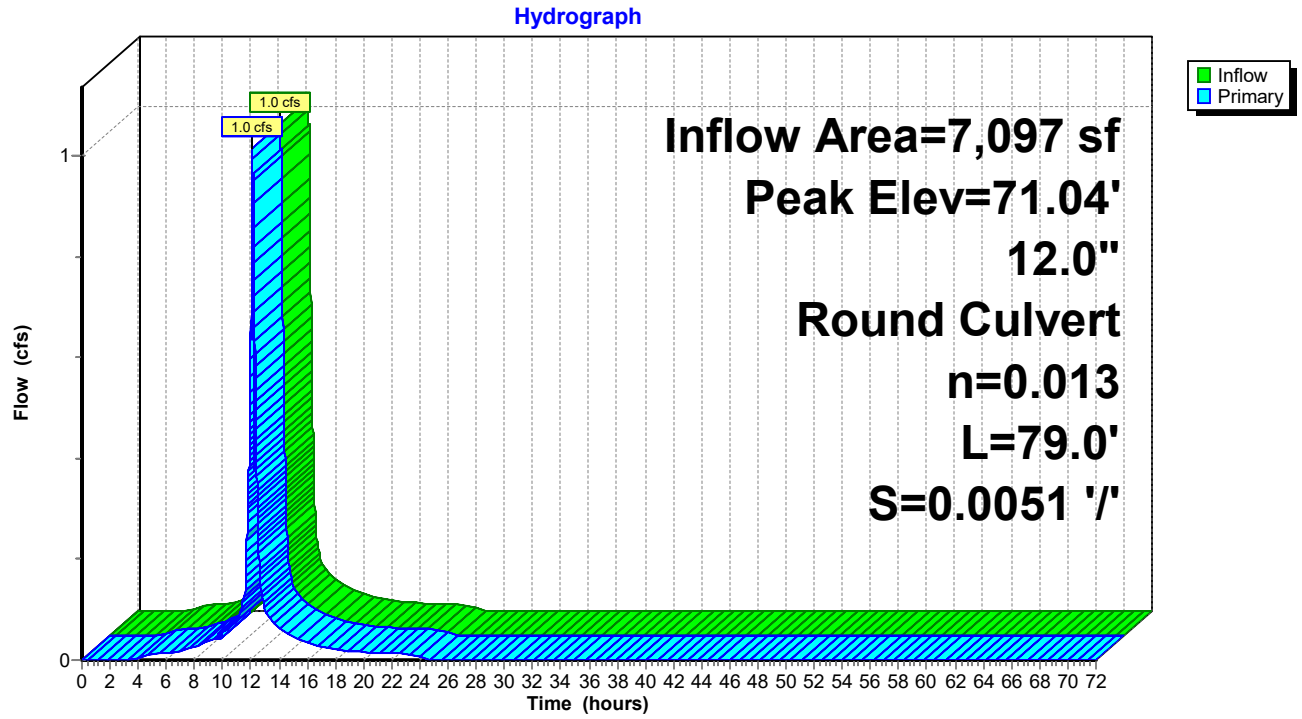
Inflow Area =	7,097 sf,	86.63% Impervious,	Inflow Depth =	6.69"	for 50-Year event
Inflow =	1.0 cfs @	12.09 hrs,	Volume=	3,959 cf	
Outflow =	1.0 cfs @	12.09 hrs,	Volume=	3,959 cf,	Atten= 0%, Lag= 0.0 min
Primary =	1.0 cfs @	12.09 hrs,	Volume=	3,959 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 71.04' @ 12.11 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	**12.0" Round Culvert** L= 79.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.40' / 68.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.09 hrs HW=70.15' TW=70.46' (Dynamic Tailwater)
↳**1=Culvert** (Controls 0.0 cfs)

Pond CB1: Catch Basin 1



Summary for Pond CB10: Catch Basin 10

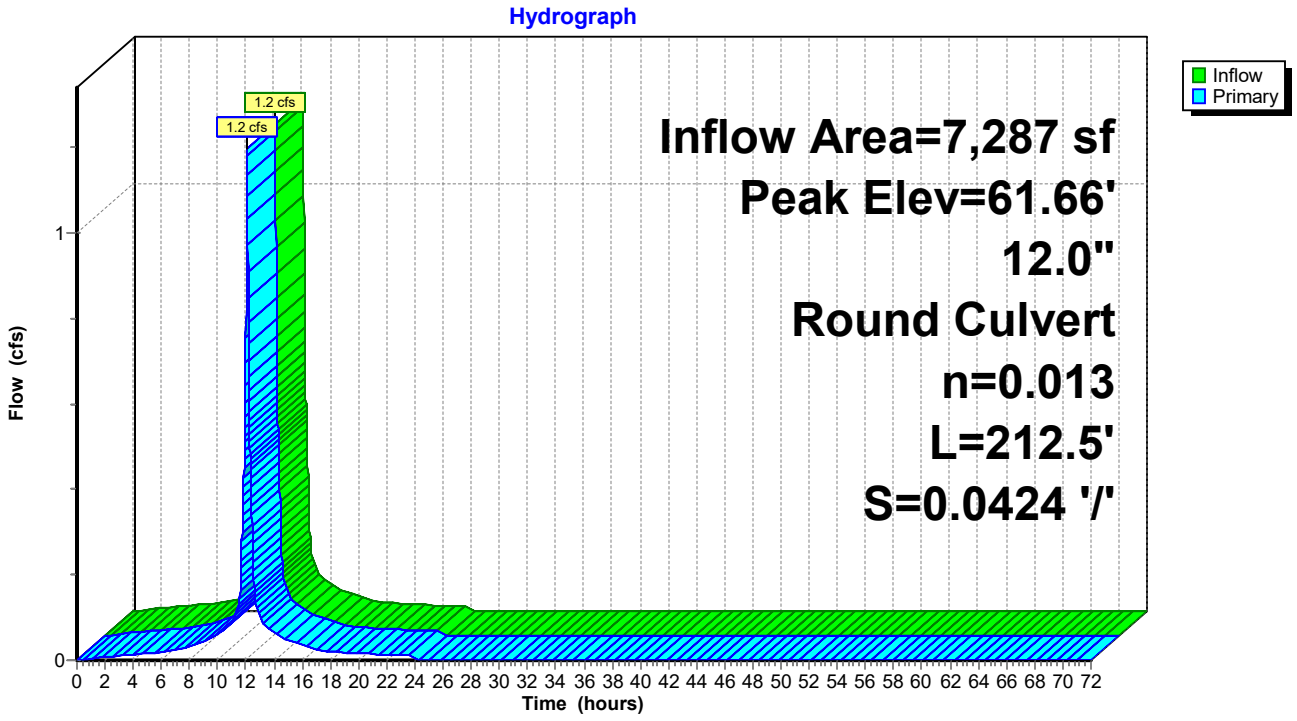
Inflow Area = 7,287 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 1.2 cfs @ 12.08 hrs, Volume= 4,288 cf
Outflow = 1.2 cfs @ 12.08 hrs, Volume= 4,288 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.2 cfs @ 12.08 hrs, Volume= 4,288 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.66' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**12.0" Round Culvert** L= 212.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 52.00' S= 0.0424 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.2 cfs @ 12.08 hrs HW=61.66' TW=52.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.2 cfs @ 2.18 fps)

Pond CB10: Catch Basin 10



Summary for Pond CB11: Catch Basin 11

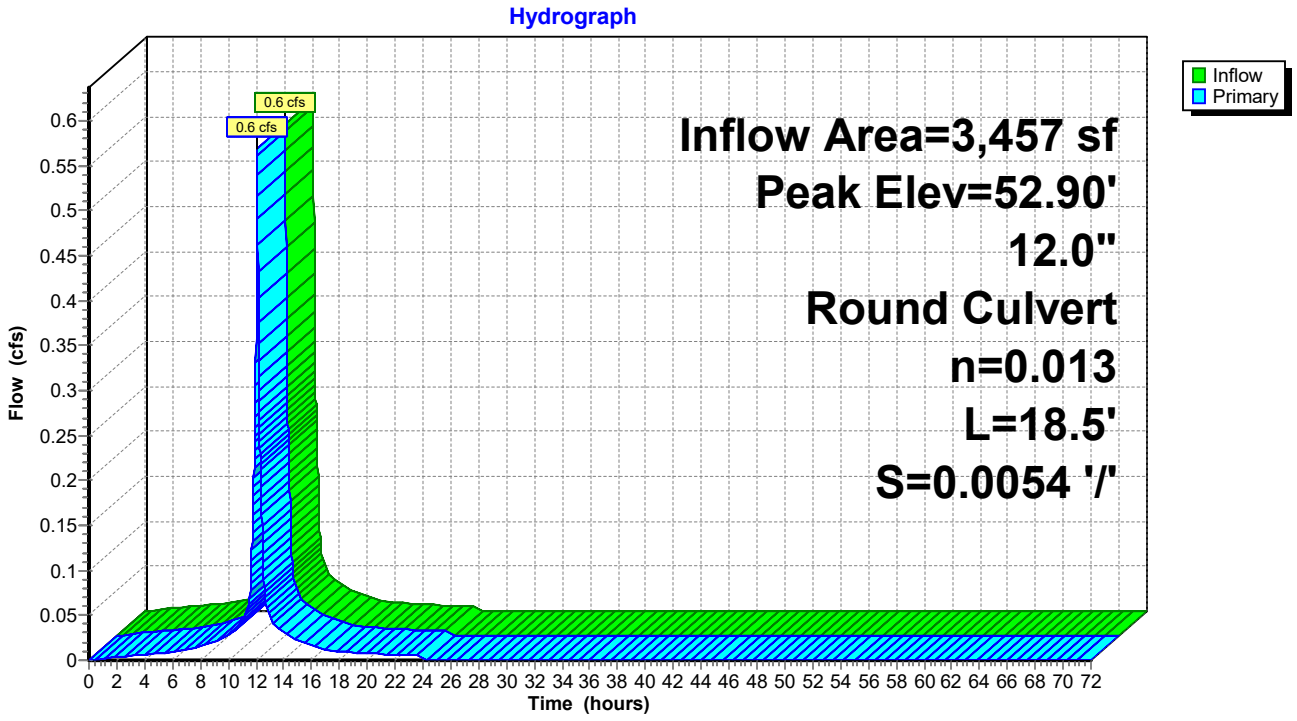
Inflow Area = 3,457 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.6 cfs @ 12.08 hrs, Volume= 2,034 cf
Outflow = 0.6 cfs @ 12.08 hrs, Volume= 2,034 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.6 cfs @ 12.08 hrs, Volume= 2,034 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.90' @ 12.09 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.00'	**12.0" Round Culvert** L= 18.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.00' / 51.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.08 hrs HW=52.89' TW=52.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.5 cfs @ 0.69 fps)

Pond CB11: Catch Basin 11



Summary for Pond CB12: Catch Basin 12

[80] Warning: Exceeded Pond CB11 by 0.01' @ 12.06 hrs (0.2 cfs 13 cf)

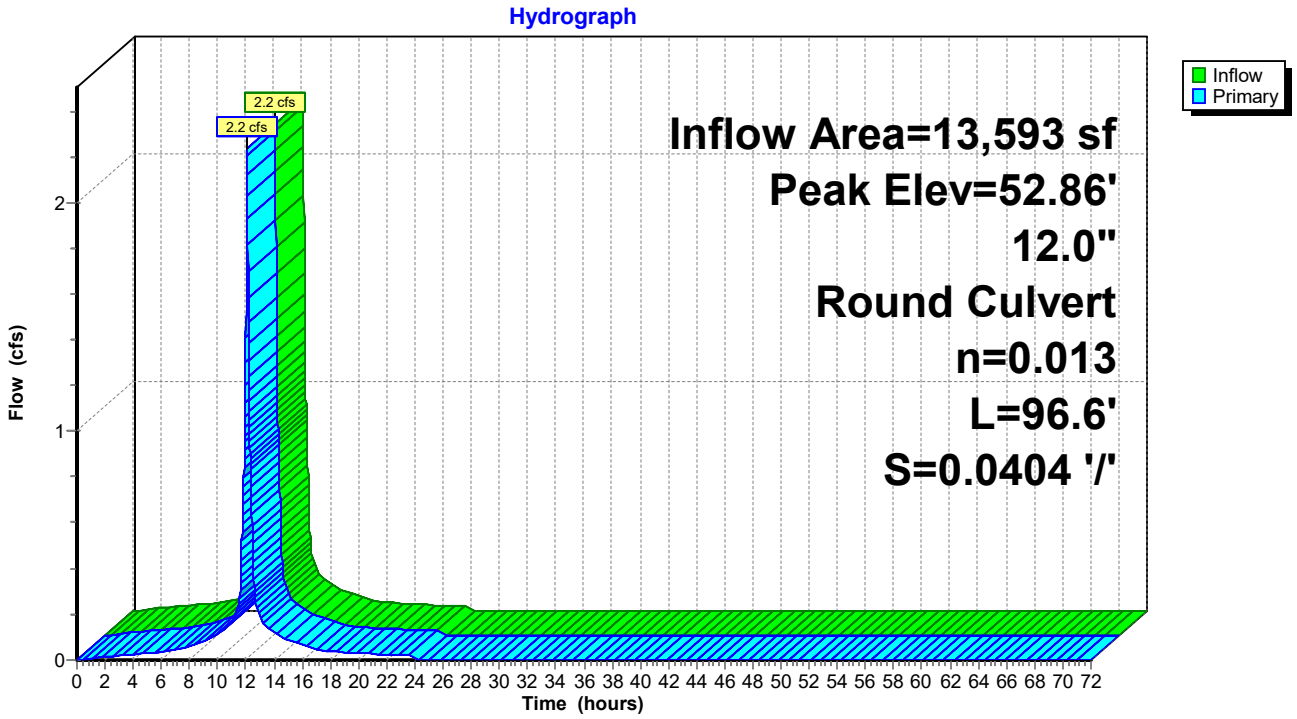
Inflow Area = 13,593 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 2.2 cfs @ 12.08 hrs, Volume= 7,998 cf
Outflow = 2.2 cfs @ 12.08 hrs, Volume= 7,998 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.2 cfs @ 12.08 hrs, Volume= 7,998 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.86' @ 12.08 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.80'	**12.0" Round Culvert** L= 96.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.80' / 47.90' S= 0.0404 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.2 cfs @ 12.08 hrs HW=52.86' TW=50.89' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.2 cfs @ 2.84 fps)

Pond CB12: Catch Basin 12



Summary for Pond CB13: Catch Basin 13

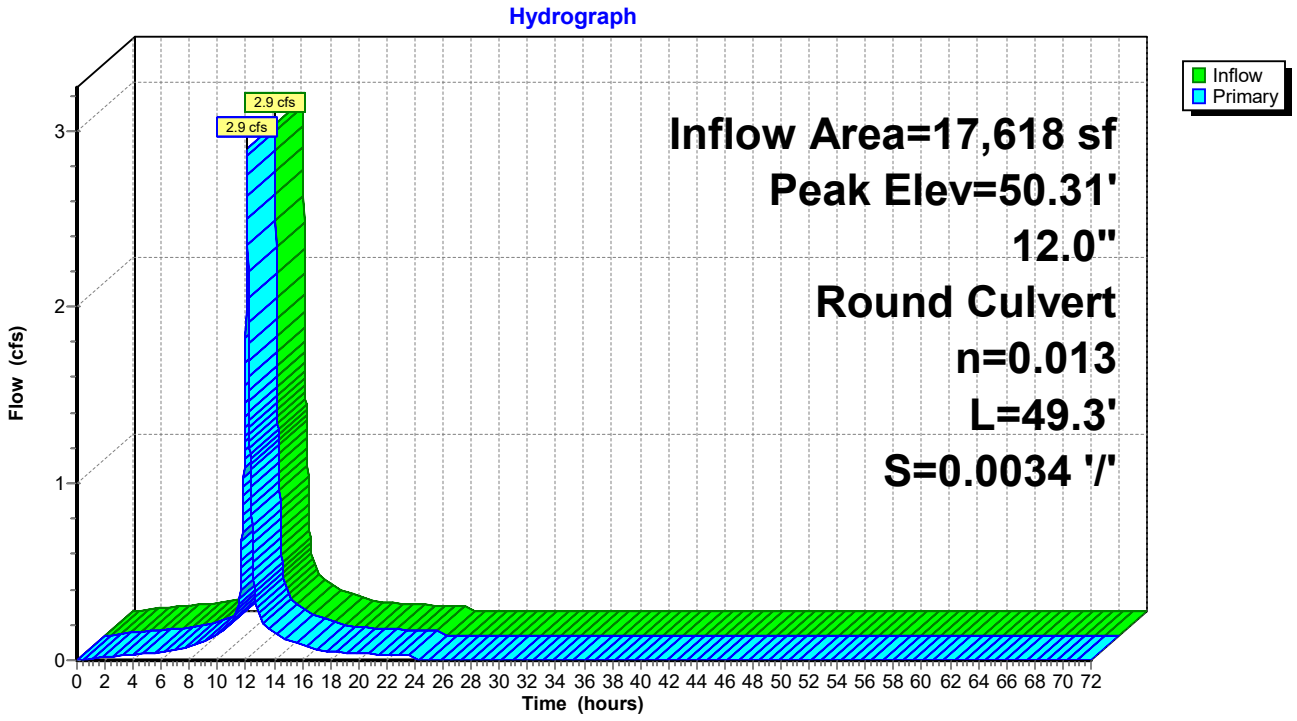
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf
Outflow = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.31' @ 12.09 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	**12.0" Round Culvert** L= 49.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.60' / 47.43' S= 0.0034 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.9 cfs @ 12.08 hrs HW=50.29' TW=49.37' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.9 cfs @ 3.64 fps)

Pond CB13: Catch Basin 13



Summary for Pond CB14: Catch Basin 14

[58] Hint: Peaked 0.05' above defined flood level

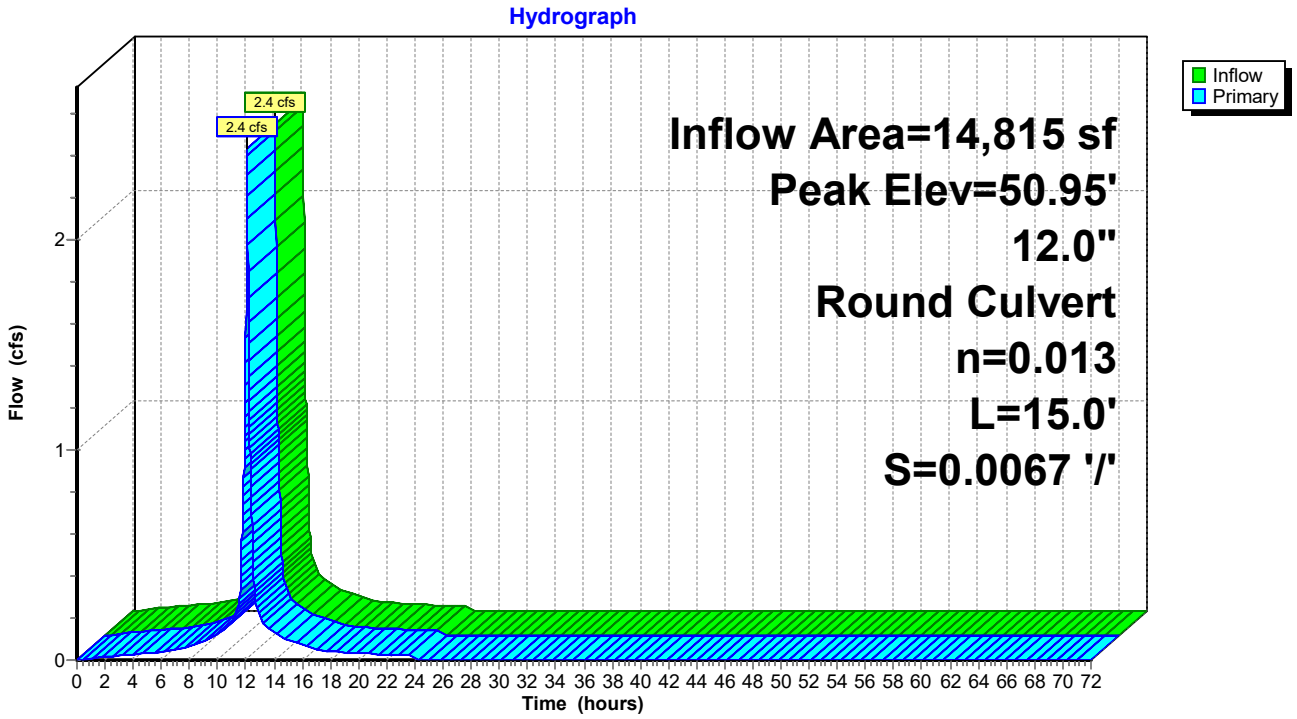
Inflow Area = 14,815 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 2.4 cfs @ 12.08 hrs, Volume= 8,717 cf
Outflow = 2.4 cfs @ 12.08 hrs, Volume= 8,717 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.4 cfs @ 12.08 hrs, Volume= 8,717 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.95' @ 12.10 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.80'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.80' / 47.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.08 hrs HW=50.89' TW=50.29' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.3 cfs @ 2.95 fps)

Pond CB14: Catch Basin 14



Summary for Pond CB2: Catch Basin 2

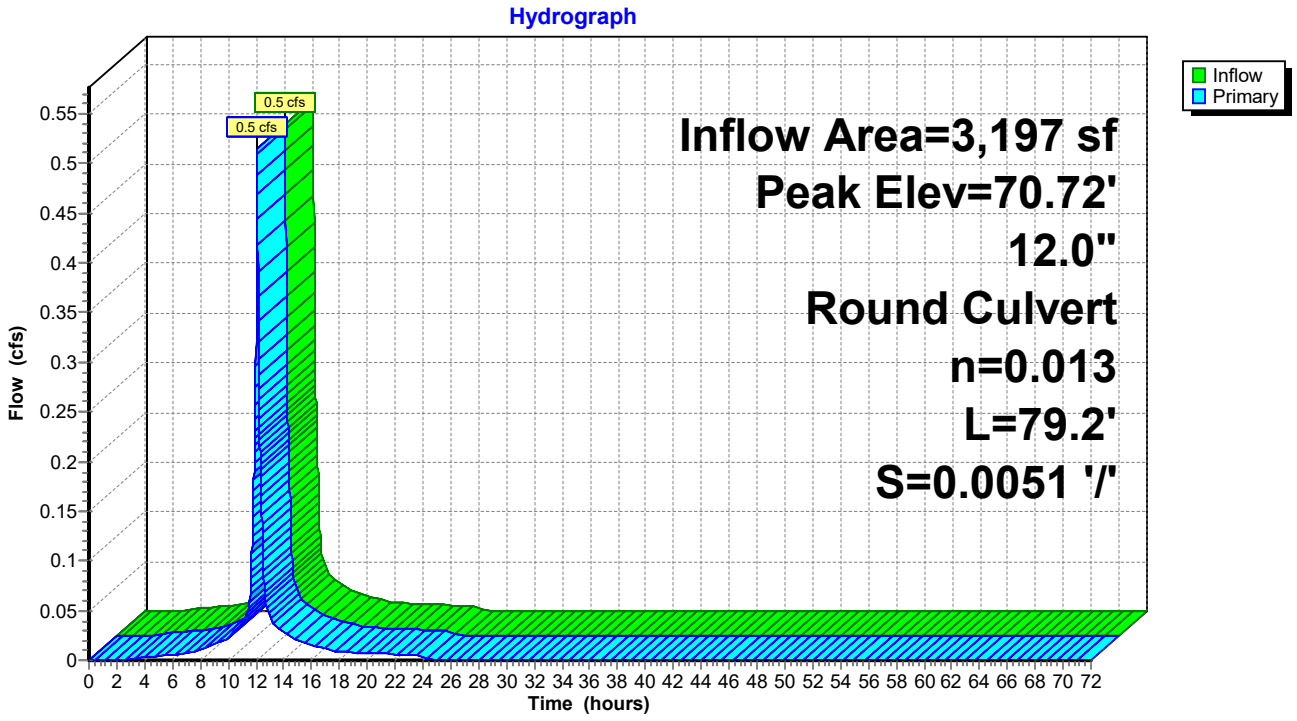
Inflow Area = 3,197 sf, 72.57% Impervious, Inflow Depth = 6.59" for 50-Year event
Inflow = 0.5 cfs @ 12.08 hrs, Volume= 1,755 cf
Outflow = 0.5 cfs @ 12.08 hrs, Volume= 1,755 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.08 hrs, Volume= 1,755 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.72' @ 12.10 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**12.0" Round Culvert** L= 79.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.00' / 67.60' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=69.96' TW=70.37' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB2: Catch Basin 2



Summary for Pond CB3: Catch Basin 3

[58] Hint: Peaked 0.34' above defined flood level
[80] Warning: Exceeded Pond C7 by 1.95' @ 12.10 hrs (0.4 cfs 147 cf)
[80] Warning: Exceeded Pond CB1 by 0.43' @ 12.07 hrs (2.0 cfs 257 cf)

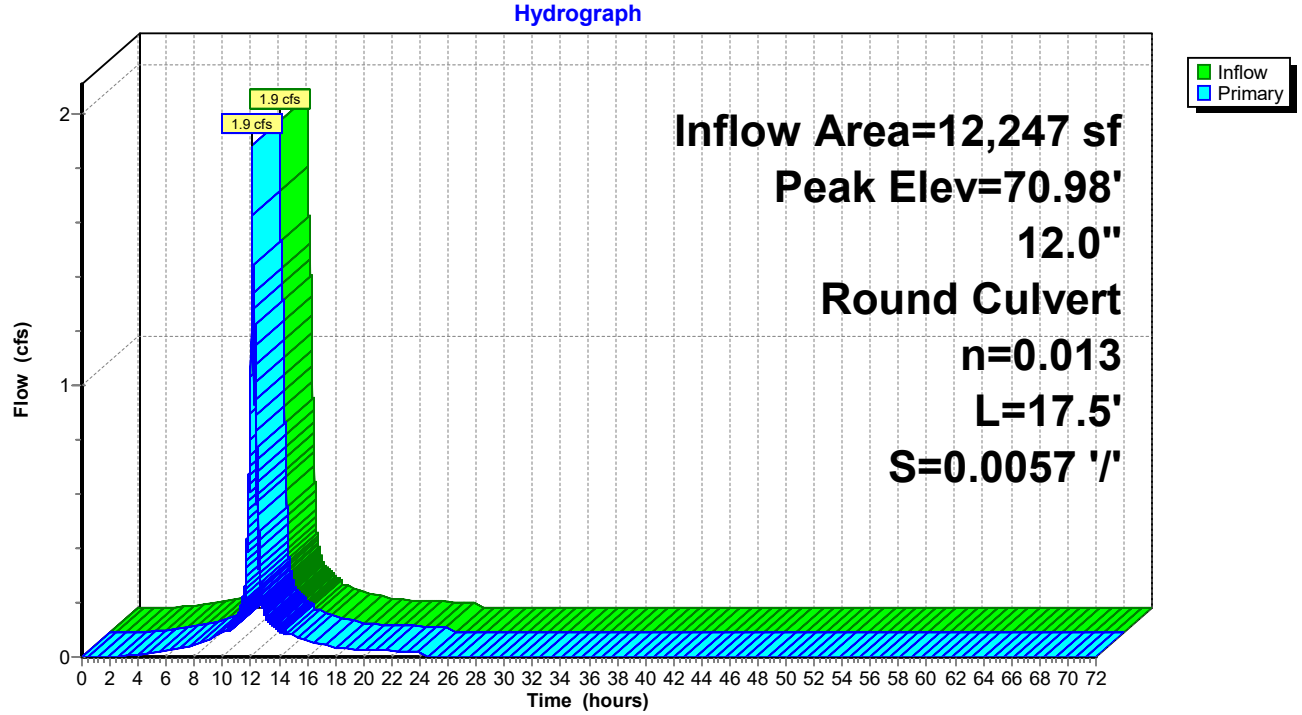
Inflow Area =	12,247 sf,	83.76% Impervious,	Inflow Depth =	6.68"	for 50-Year event
Inflow =	1.9 cfs @	12.06 hrs,	Volume=	6,818 cf	
Outflow =	1.9 cfs @	12.06 hrs,	Volume=	6,818 cf,	Atten= 0%, Lag= 0.0 min
Primary =	1.9 cfs @	12.06 hrs,	Volume=	6,818 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.98' @ 12.10 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.30'	**12.0" Round Culvert** L= 17.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.30' / 66.20' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.06 hrs HW=69.02' TW=69.39' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.0 cfs)

Pond CB3: Catch Basin 3



Summary for Pond CB4: Catch Basin 4

[58] Hint: Peaked 0.06' above defined flood level
[80] Warning: Exceeded Pond CB2 by 0.68' @ 12.06 hrs (2.5 cfs 311 cf)
[80] Warning: Exceeded Pond CB3 by 0.39' @ 12.06 hrs (1.9 cfs 373 cf)

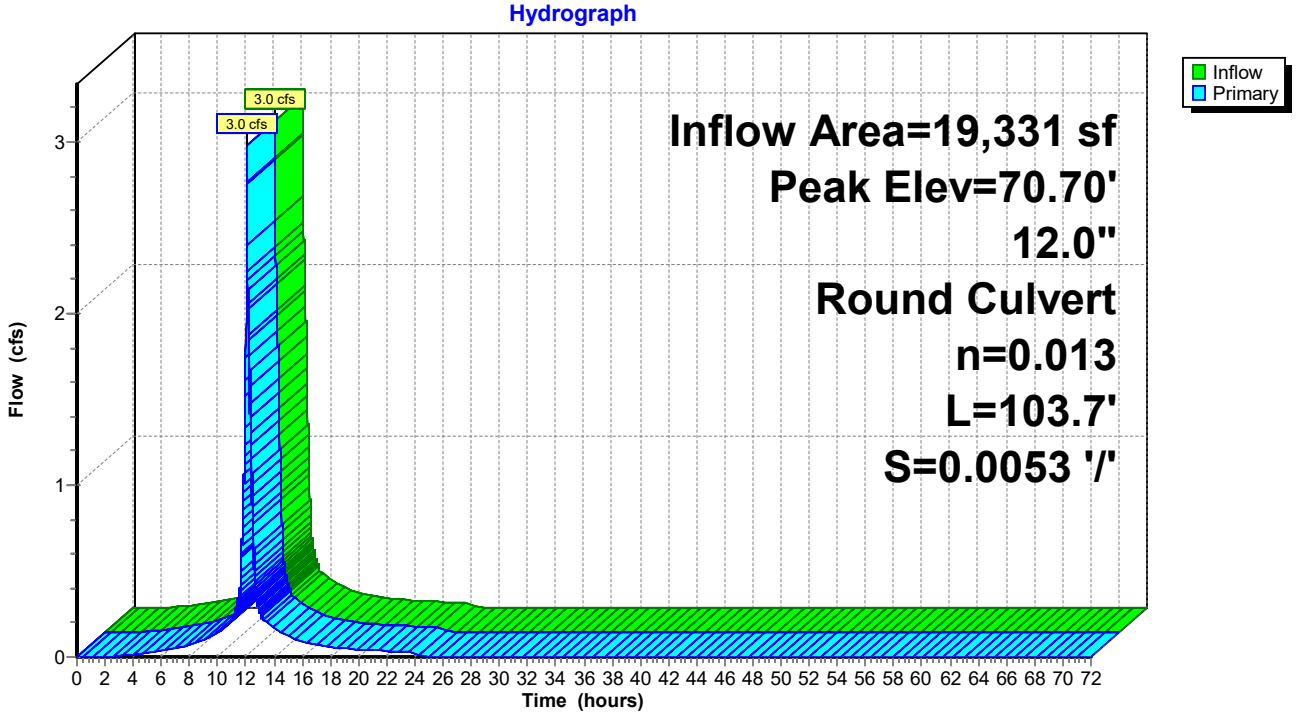
Inflow Area =	19,331 sf,	80.08% Impervious,	Inflow Depth =	6.65"	for 50-Year event
Inflow =	3.0 cfs @	12.06 hrs,	Volume=	10,706 cf	
Outflow =	3.0 cfs @	12.06 hrs,	Volume=	10,706 cf,	Atten= 0%, Lag= 0.0 min
Primary =	3.0 cfs @	12.06 hrs,	Volume=	10,706 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.70' @ 12.09 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.10'	**12.0" Round Culvert** L= 103.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.10' / 65.55' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.0 cfs @ 12.06 hrs HW=69.41' TW=68.87' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 2.0 cfs @ 2.60 fps)

Pond CB4: Catch Basin 4



Summary for Pond CB5: Catch Basin 5

[58] Hint: Peaked 0.65' above defined flood level

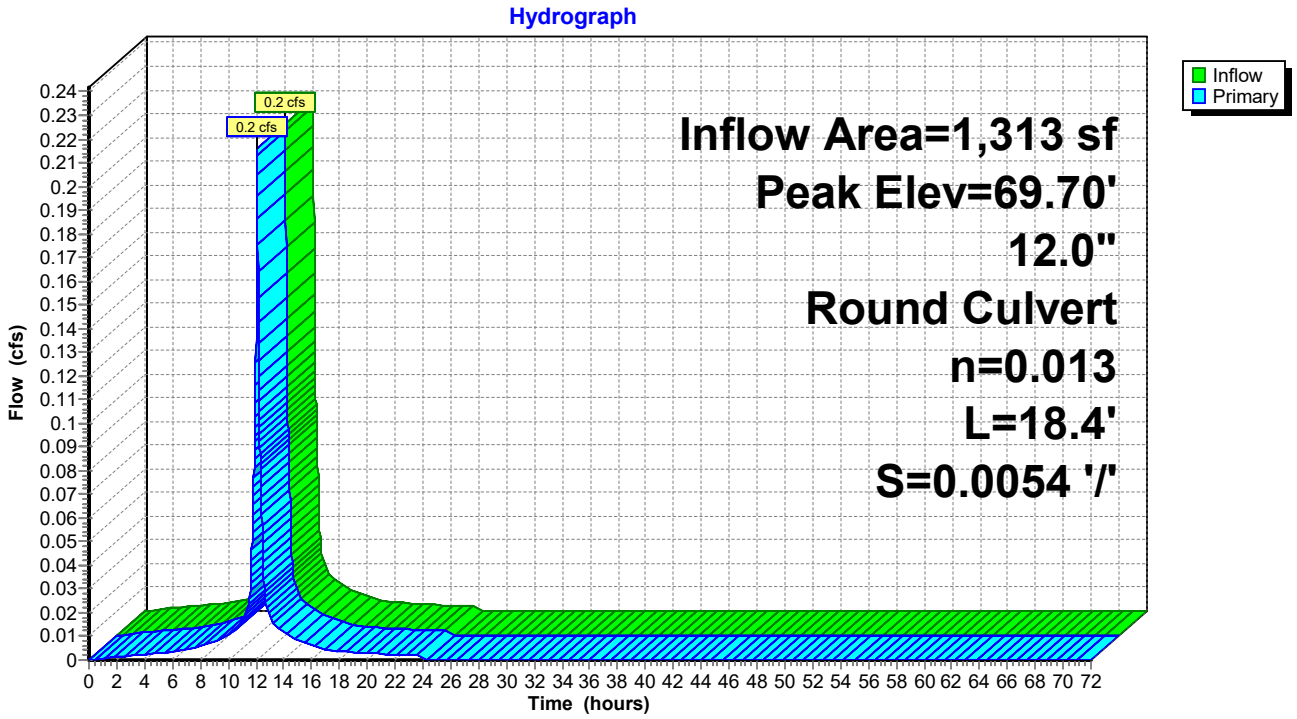
Inflow Area = 1,313 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 773 cf
Outflow = 0.2 cfs @ 12.08 hrs, Volume= 773 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.08 hrs, Volume= 773 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.70' @ 12.09 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	**12.0" Round Culvert** L= 18.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.00' / 65.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=69.36' TW=69.61' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB5: Catch Basin 5



Summary for Pond CB6: Catch Basin 6

[58] Hint: Peaked 0.65' above defined flood level
[80] Warning: Exceeded Pond CB5 by 0.61' @ 12.06 hrs (2.3 cfs 701 cf)

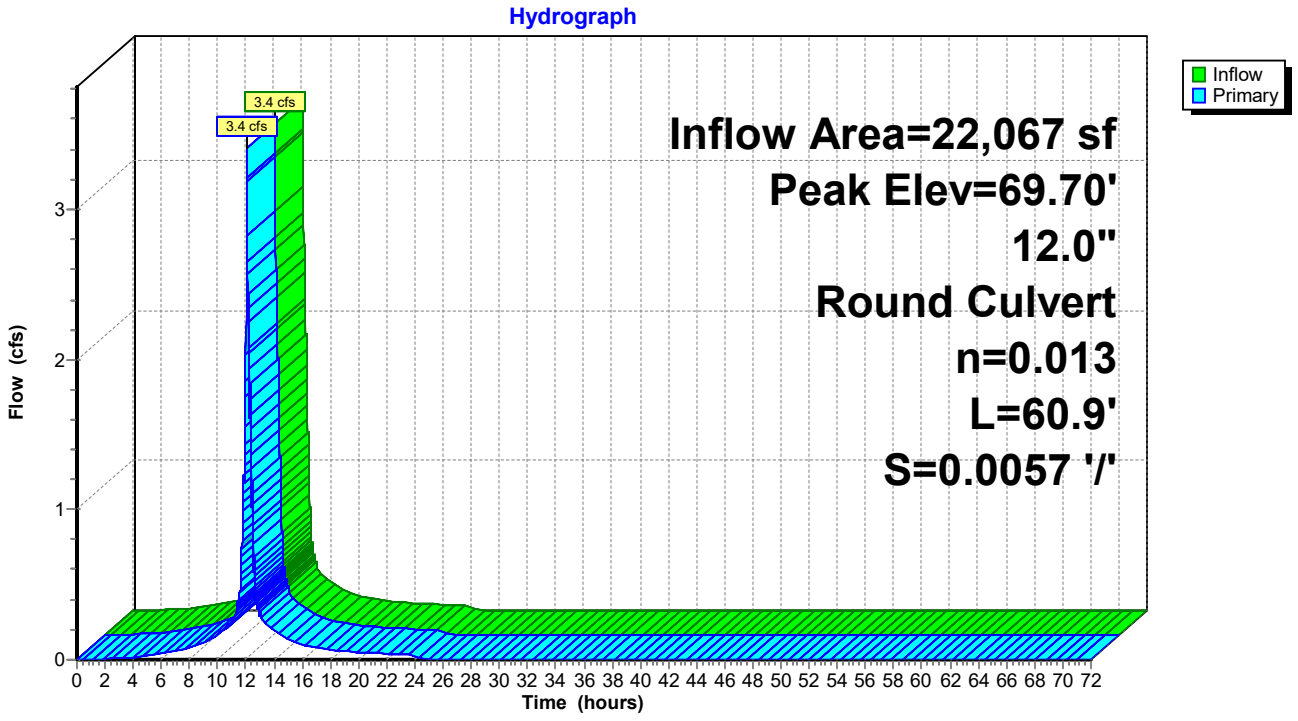
Inflow Area =	22,067 sf,	82.55% Impervious,	Inflow Depth =	6.70"	for 50-Year event
Inflow =	3.4 cfs @	12.06 hrs,	Volume=	12,316 cf	
Outflow =	3.4 cfs @	12.06 hrs,	Volume=	12,316 cf,	Atten= 0%, Lag= 0.0 min
Primary =	3.4 cfs @	12.06 hrs,	Volume=	12,316 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.70' @ 12.08 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.45'	**12.0" Round Culvert** L= 60.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.45' / 65.10' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.5 cfs @ 12.06 hrs HW=68.88' TW=68.15' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.5 cfs @ 3.24 fps)

Pond CB6: Catch Basin 6



Summary for Pond CB7: Catch Basin 7

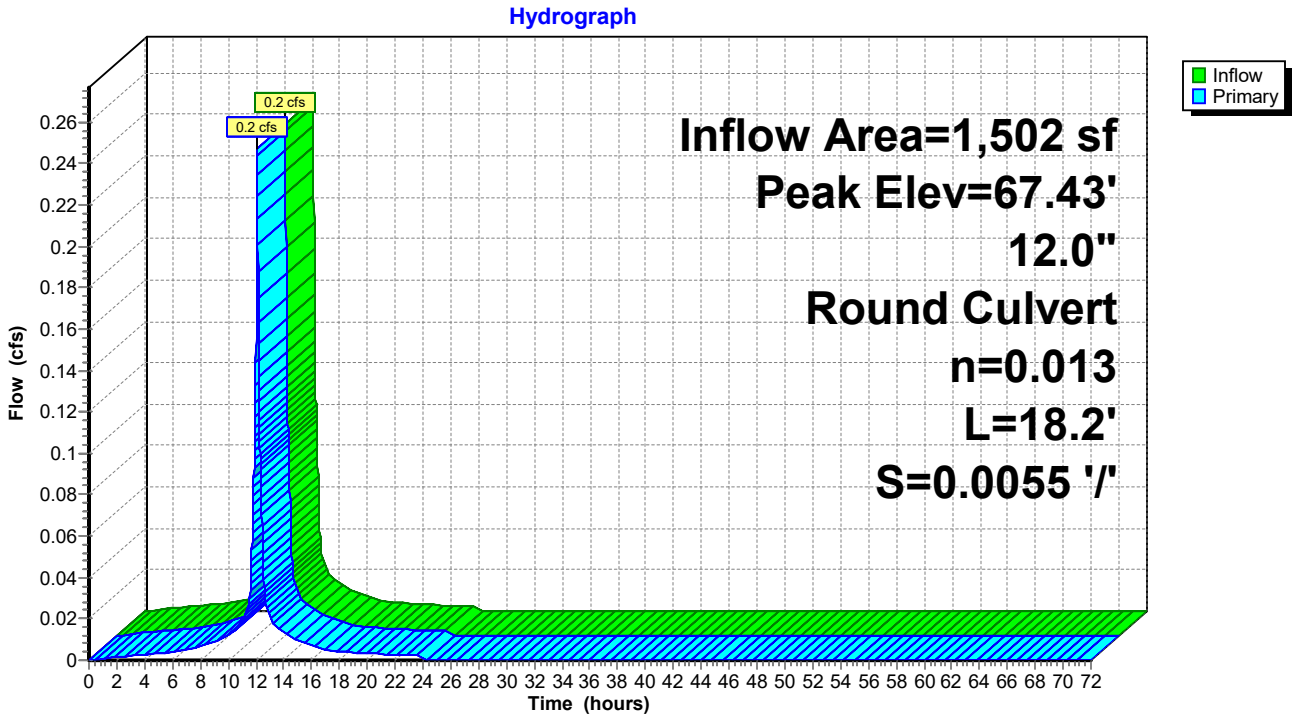
Inflow Area = 1,502 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 884 cf
Outflow = 0.2 cfs @ 12.08 hrs, Volume= 884 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.08 hrs, Volume= 884 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.43' @ 12.07 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.85'	**12.0" Round Culvert** L= 18.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.85' / 64.75' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=67.14' TW=67.19' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB7: Catch Basin 7



Summary for Pond CB8: Catch Basin 8

[80] Warning: Exceeded Pond CB7 by 0.62' @ 12.06 hrs (2.3 cfs 1,055 cf)

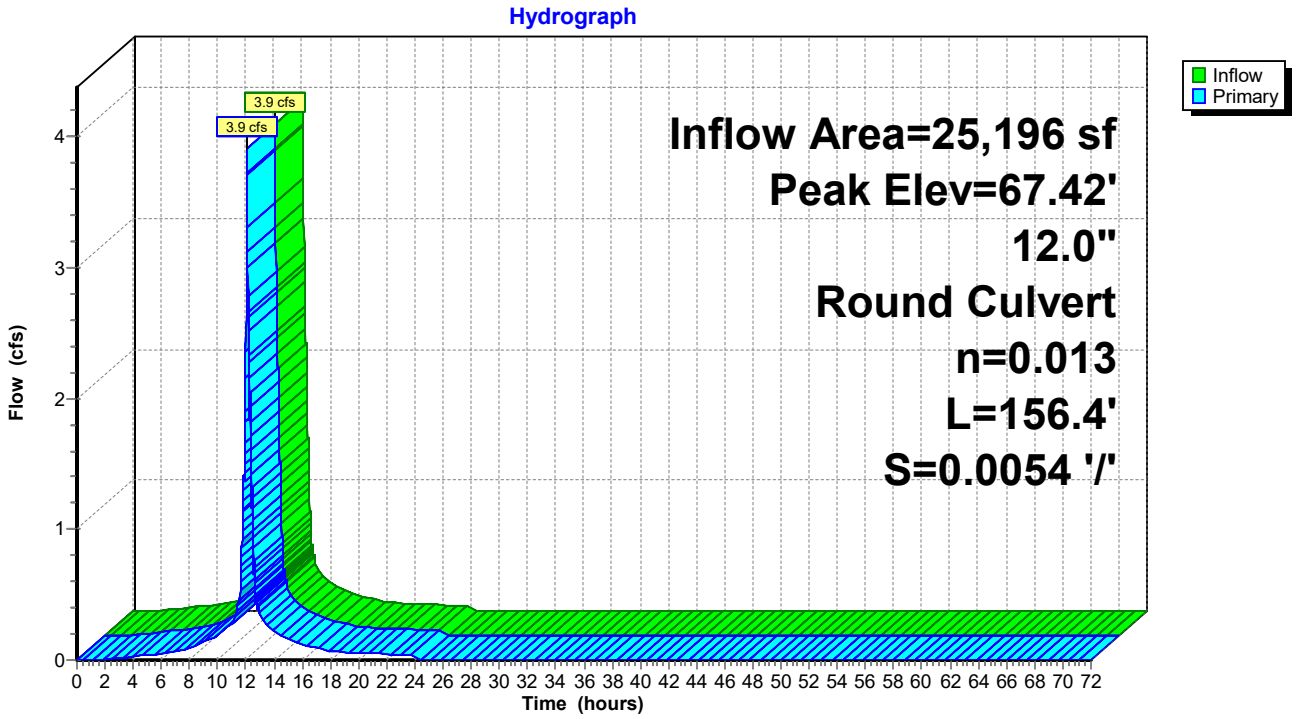
Inflow Area = 25,196 sf, 84.72% Impervious, Inflow Depth = 6.74" for 50-Year event
Inflow = 3.9 cfs @ 12.06 hrs, Volume= 14,157 cf
Outflow = 3.9 cfs @ 12.06 hrs, Volume= 14,157 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.9 cfs @ 12.06 hrs, Volume= 14,157 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.42' @ 12.06 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.65'	**12.0" Round Culvert** L= 156.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.65' / 63.80' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.9 cfs @ 12.06 hrs HW=67.35' TW=61.84' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 3.9 cfs @ 4.91 fps)

Pond CB8: Catch Basin 8



Summary for Pond CB9: Catch Basin 9

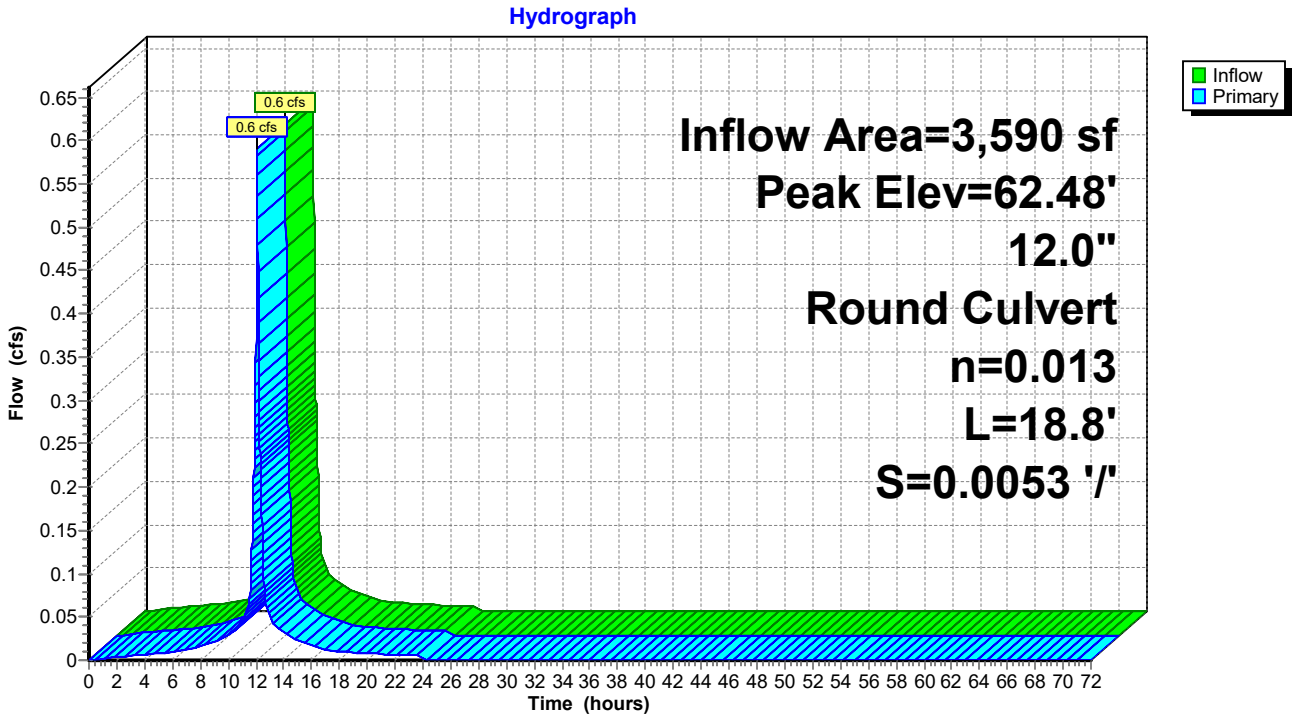
Inflow Area = 3,590 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.6 cfs @ 12.08 hrs, Volume= 2,112 cf
Outflow = 0.6 cfs @ 12.08 hrs, Volume= 2,112 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.6 cfs @ 12.08 hrs, Volume= 2,112 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.48' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	**12.0" Round Culvert** L= 18.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.90' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.6 cfs @ 12.08 hrs HW=62.48' TW=61.66' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.6 cfs @ 2.29 fps)

Pond CB9: Catch Basin 9



Summary for Pond CH1: Chamber 1

Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf
Outflow = 2.9 cfs @ 12.09 hrs, Volume= 10,366 cf, Atten= 1%, Lag= 0.6 min
Primary = 2.9 cfs @ 12.09 hrs, Volume= 10,366 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.63' @ 12.09 hrs Surf.Area= 1,773 sf Storage= 977 cf
Flood Elev= 50.50' Surf.Area= 1,773 sf Storage= 1,194 cf

Plug-Flow detention time= 9.6 min calculated for 10,366 cf (100% of inflow)
Center-of-Mass det. time= 9.4 min (751.8 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.90'	656 cf	**12.00'W x 74.40'L x 2.33'H Field A** 2,083 cf Overall - 442 cf Embedded = 1,641 cf x 40.0% Voids
#2A	47.40'	442 cf	**ADS_StormTech SC-310 +Cap** x 30 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 3 Rows
#3	44.73'	95 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,910 cf Overall x 5.0% Voids
		1,194 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.73	880	0	0
46.90	880	1,910	1,910

Device	Routing	Invert	Outlet Devices
#1	Primary	44.73'	**12.0" Round Culvert** L= 60.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.73' / 44.60' S= 0.0021 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	44.73'	**2.9" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	48.30'	**4.0' long x 4.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.9 cfs @ 12.09 hrs HW=48.63' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.9 cfs of 5.5 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.4 cfs @ 9.36 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Weir Controls 2.4 cfs @ 1.88 fps)

Pond CH1: Chamber 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 9.0" Spacing = 43.0" C-C Row Spacing

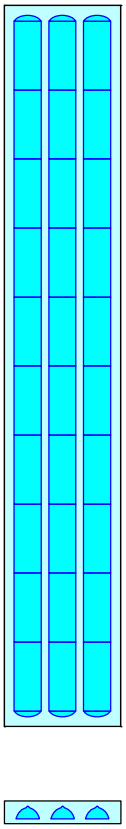
10 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 72.40' Row Length +12.0" End Stone x 2 = 74.40' Base Length
3 Rows x 34.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 12.00' Base Width
6.0" Stone Base + 16.0" Chamber Height + 6.0" Stone Cover = 2.33' Field Height

30 Chambers x 14.7 cf = 442.3 cf Chamber Storage

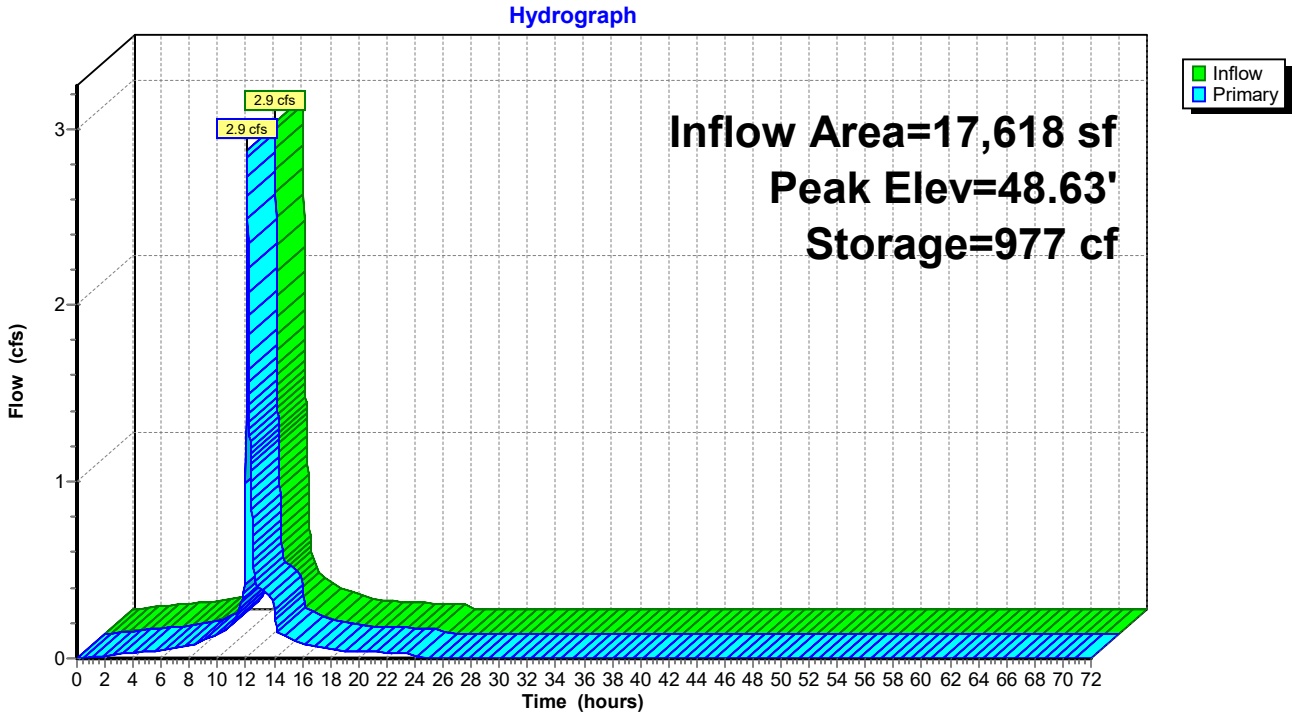
2,083.2 cf Field - 442.3 cf Chambers = 1,640.9 cf Stone x 40.0% Voids = 656.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,098.6 cf = 0.025 af
Overall Storage Efficiency = 52.7%
Overall System Size = 74.40' x 12.00' x 2.33'

30 Chambers
77.2 cy Field
60.8 cy Stone



Pond CH1: Chamber 1



Summary for Pond MH1: Manhole 1

[58] Hint: Peaked 0.13' above defined flood level

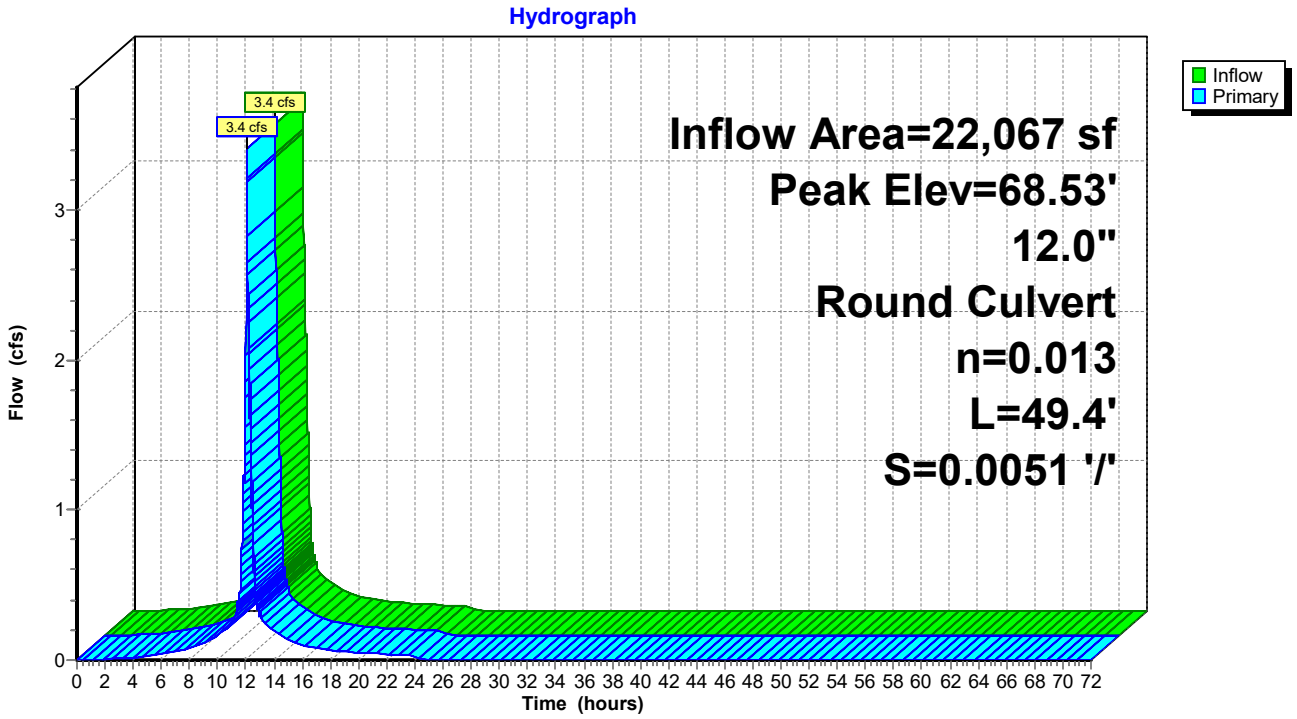
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 6.70" for 50-Year event
Inflow = 3.4 cfs @ 12.06 hrs, Volume= 12,316 cf
Outflow = 3.4 cfs @ 12.06 hrs, Volume= 12,316 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.4 cfs @ 12.06 hrs, Volume= 12,316 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.53' @ 12.07 hrs
Flood Elev= 68.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 49.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.00' / 64.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.7 cfs @ 12.06 hrs HW=68.15' TW=67.36' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.7 cfs @ 3.39 fps)

Pond MH1: Manhole 1



Summary for Pond MH2: Manhole 2

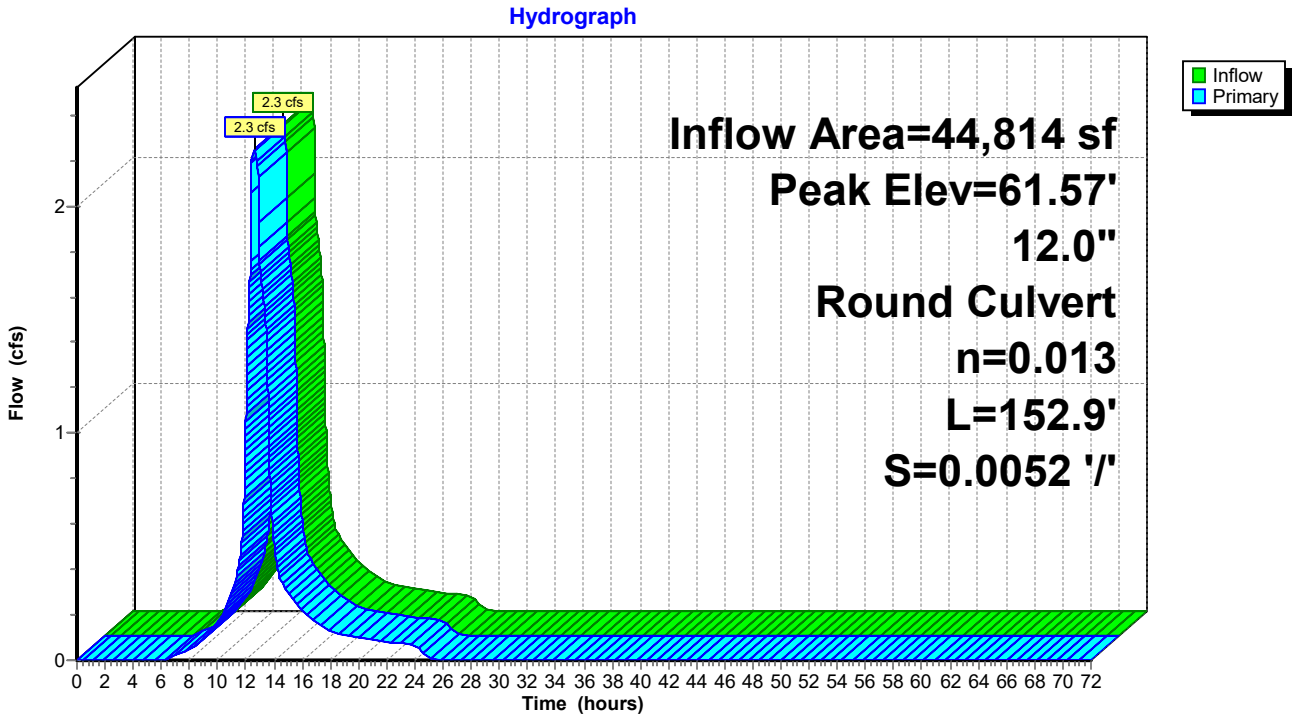
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 5.42" for 50-Year event
Inflow = 2.3 cfs @ 12.59 hrs, Volume= 20,255 cf
Outflow = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.57' @ 12.60 hrs
Flood Elev= 65.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.45'	**12.0" Round Culvert** L= 152.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.45' / 59.65' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.59 hrs HW=61.57' TW=60.67' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.3 cfs @ 3.21 fps)

Pond MH2: Manhole 2



Summary for Pond MH3: Manhole 3

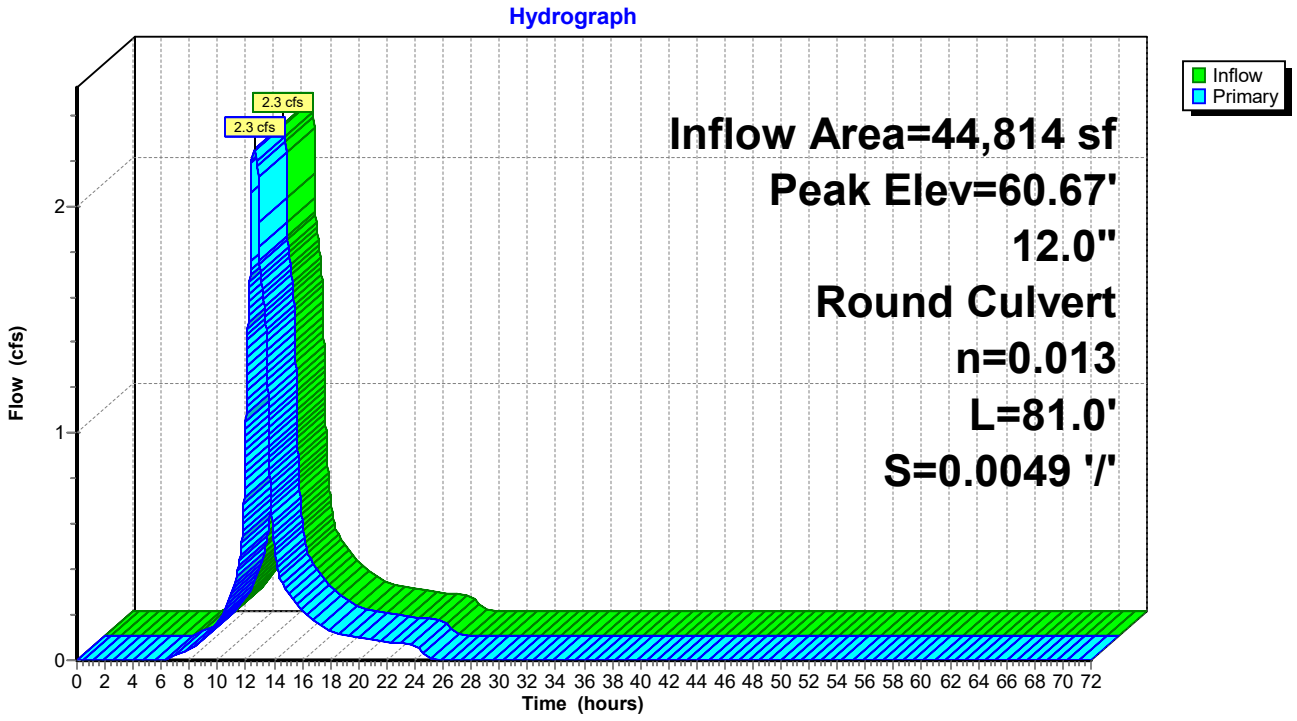
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 5.42" for 50-Year event
Inflow = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf
Outflow = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 60.67' @ 12.60 hrs
Flood Elev= 67.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.55'	**12.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.55' / 59.15' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.59 hrs HW=60.67' TW=60.06' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.3 cfs @ 3.20 fps)

Pond MH3: Manhole 3



Summary for Pond MH4: Manhole 4

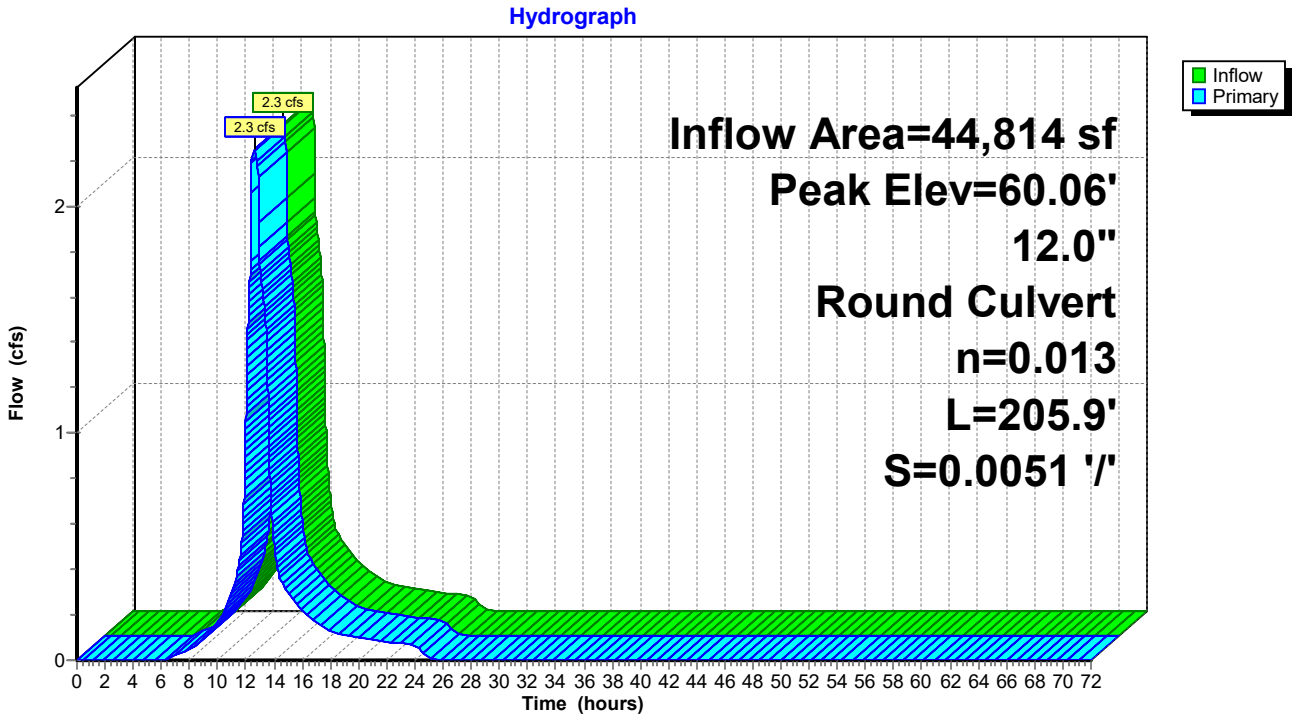
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 5.42" for 50-Year event
Inflow = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf
Outflow = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 60.06' @ 12.59 hrs
Flood Elev= 66.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.05'	**12.0" Round Culvert** L= 205.9' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 59.05' / 58.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.59 hrs HW=60.06' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.3 cfs @ 3.53 fps)

Pond MH4: Manhole 4



Summary for Pond MH5: Manhole 5

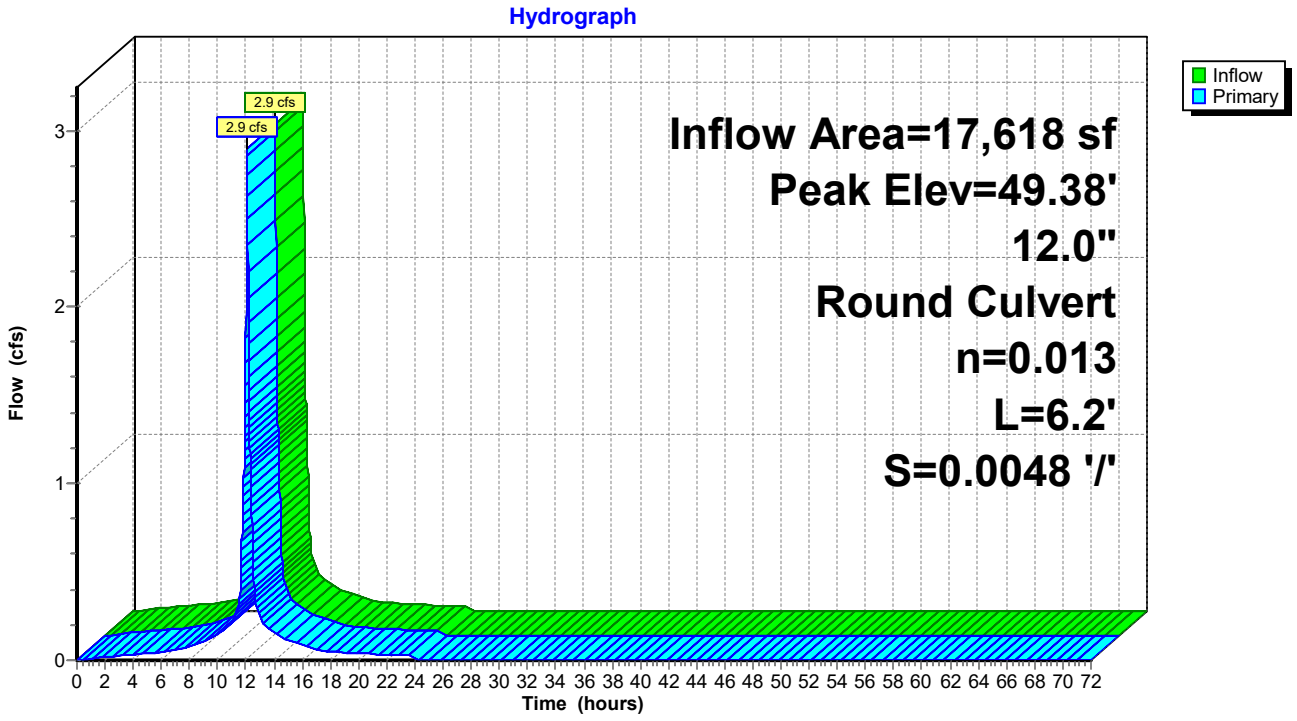
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf
Outflow = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.38' @ 12.09 hrs
Flood Elev= 50.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.43'	**12.0" Round Culvert** L= 6.2' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.43' / 47.40' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.9 cfs @ 12.08 hrs HW=49.37' TW=48.63' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.9 cfs @ 3.67 fps)

Pond MH5: Manhole 5



Summary for Pond P1: Pond 1

[80] Warning: Exceeded Pond C8 by 1.91' @ 25.25 hrs (3.5 cfs 34,034 cf)

Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 2.42" for 50-Year event
Inflow = 5.4 cfs @ 12.59 hrs, Volume= 36,343 cf
Outflow = 3.9 cfs @ 12.92 hrs, Volume= 35,446 cf, Atten= 27%, Lag= 19.7 min
Primary = 3.9 cfs @ 12.92 hrs, Volume= 35,446 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 54.01' @ 12.92 hrs Surf.Area= 3,059 sf Storage= 9,115 cf
Flood Elev= 55.50' Surf.Area= 3,752 sf Storage= 14,183 cf

Plug-Flow detention time= 344.4 min calculated for 35,441 cf (98% of inflow)
Center-of-Mass det. time= 331.0 min (1,224.4 - 893.5)

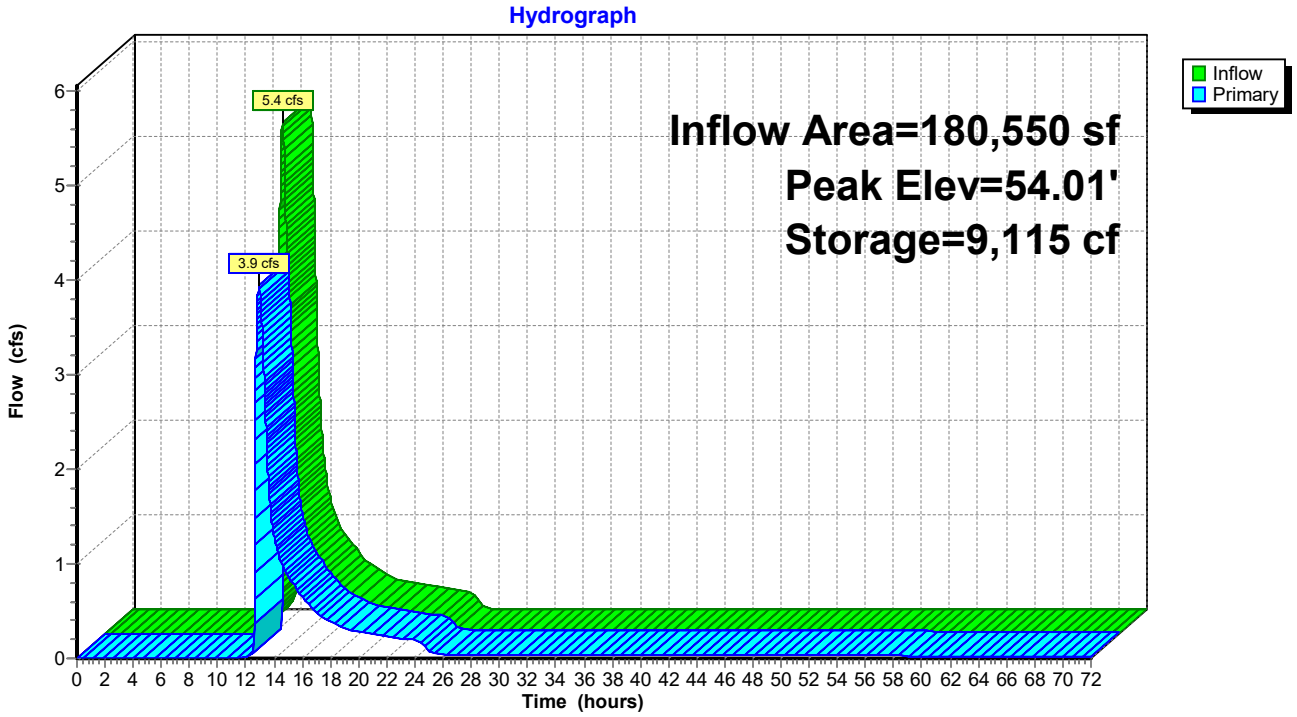
Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	16,121 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,503	0	0
51.00	1,882	1,693	1,693
52.00	2,267	2,075	3,767
53.00	2,662	2,465	6,232
54.00	3,055	2,859	9,090
55.00	3,503	3,279	12,369
56.00	4,000	3,752	16,121

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**12.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.00' / 46.40' S= 0.0180 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	50.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	53.10'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.9 cfs @ 12.92 hrs HW=54.01' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.9 cfs of 5.6 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.1 cfs @ 9.59 fps)
  └─**3=Orifice/Grate** (Orifice Controls 3.9 cfs @ 3.88 fps)

Pond P1: Pond 1



Summary for Pond RD1: Roof Drain 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=795)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 735 cf
Outflow = 0.2 cfs @ 12.13 hrs, Volume= 718 cf, Atten= 16%, Lag= 2.9 min
Primary = 0.2 cfs @ 12.13 hrs, Volume= 718 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.74' @ 12.13 hrs Surf.Area= 249 sf Storage= 60 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 38.5 min calculated for 718 cf (98% of inflow)
Center-of-Mass det. time= 23.1 min (765.5 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

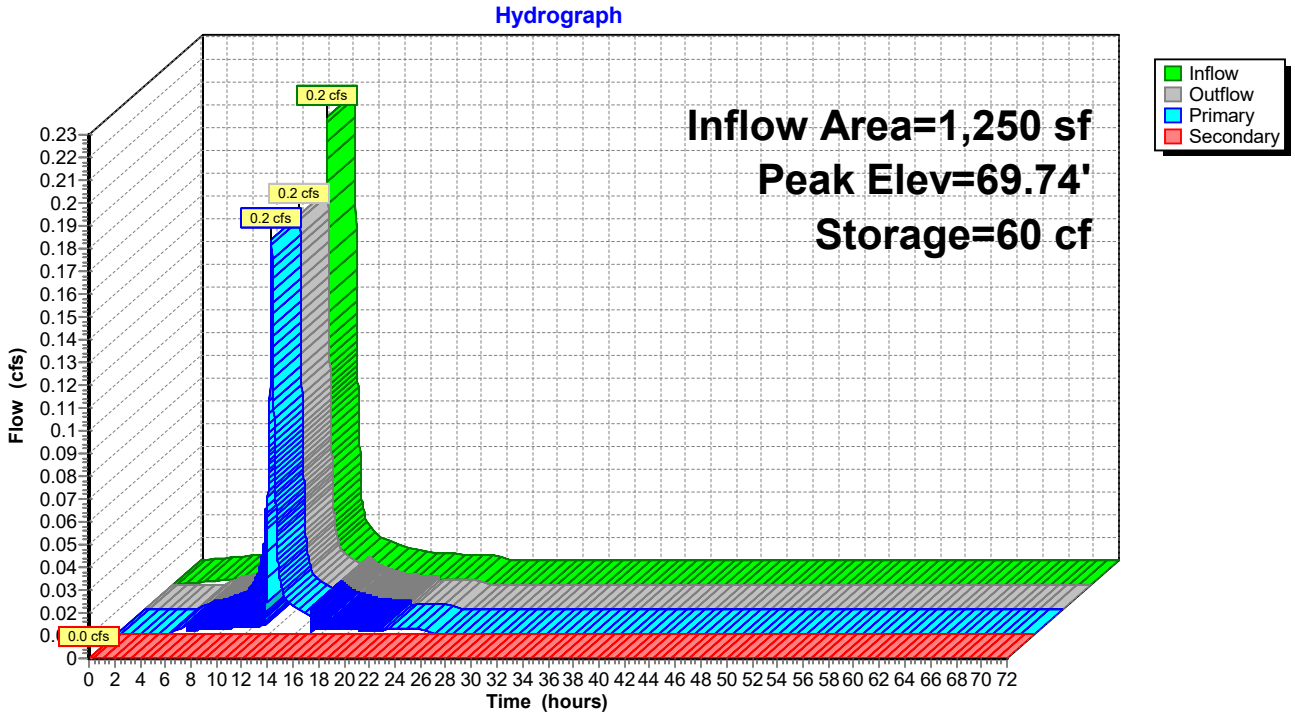
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.13 hrs HW=69.74' TW=69.57' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.2 cfs @ 1.98 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD1: Roof Drain 1



Summary for Pond RD2: Roof Drain 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=840)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 735 cf
Outflow = 0.2 cfs @ 12.13 hrs, Volume= 718 cf, Atten= 18%, Lag= 3.1 min
Primary = 0.2 cfs @ 12.13 hrs, Volume= 718 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.91' @ 12.14 hrs Surf.Area= 258 sf Storage= 68 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 41.3 min calculated for 718 cf (98% of inflow)
Center-of-Mass det. time= 25.9 min (768.3 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

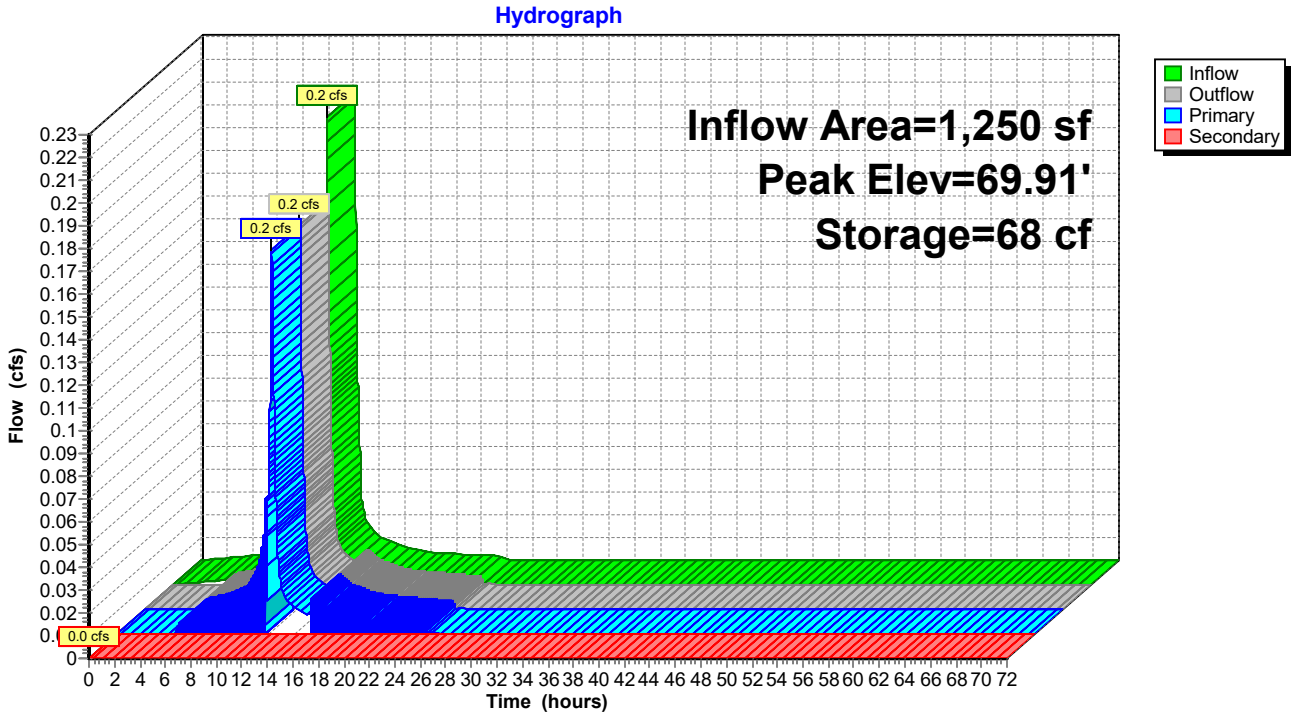
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.13 hrs HW=69.91' TW=69.75' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.2 cfs @ 1.93 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD2: Roof Drain 2



Summary for Pond RD3: Roof Drain 3

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 735 cf
Outflow = 0.2 cfs @ 12.13 hrs, Volume= 718 cf, Atten= 14%, Lag= 2.5 min
Primary = 0.2 cfs @ 12.13 hrs, Volume= 718 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.11' @ 12.13 hrs Surf.Area= 240 sf Storage= 53 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 36.6 min calculated for 718 cf (98% of inflow)
Center-of-Mass det. time= 21.8 min (764.2 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

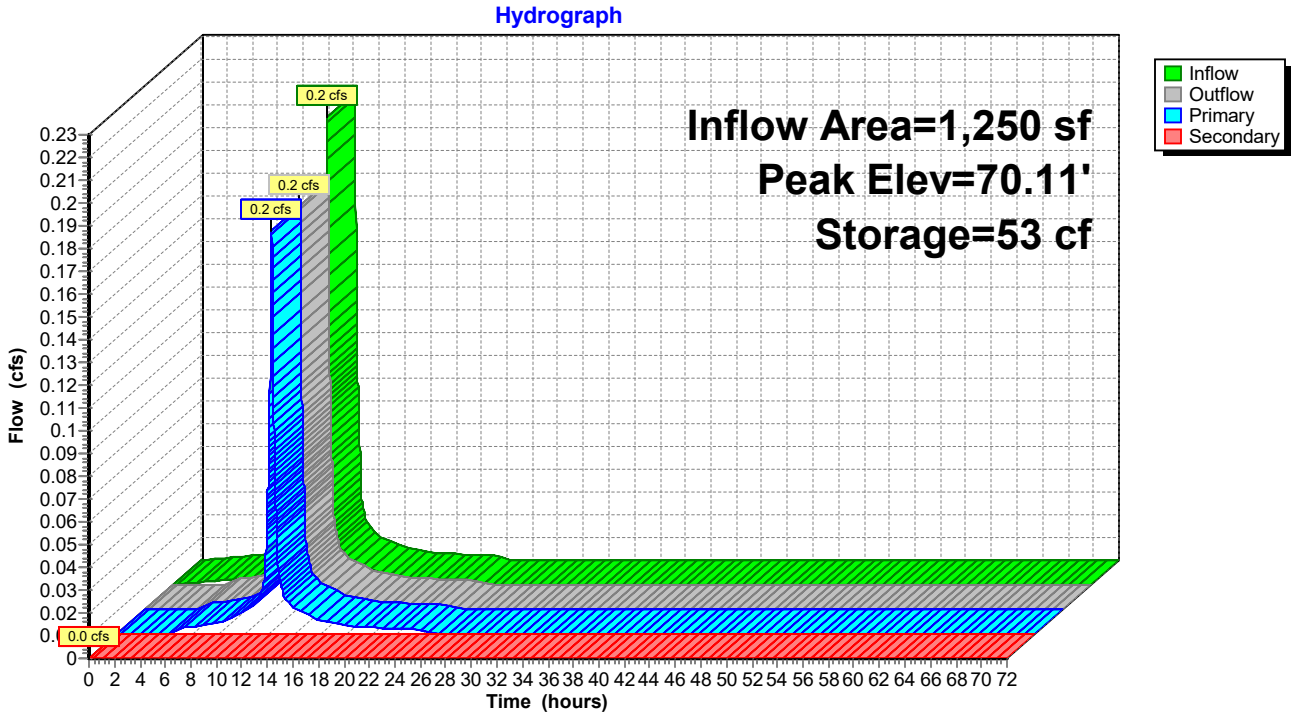
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.13 hrs HW=70.11' TW=69.94' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.2 cfs @ 2.02 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD3: Roof Drain 3



Summary for Pond RD4: Roof Drain 4

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=1)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 735 cf
Outflow = 0.3 cfs @ 12.17 hrs, Volume= 718 cf, Atten= 0%, Lag= 5.4 min
Primary = 0.3 cfs @ 12.17 hrs, Volume= 718 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.25' @ 12.17 hrs Surf.Area= 257 sf Storage= 67 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 37.0 min calculated for 718 cf (98% of inflow)
Center-of-Mass det. time= 21.9 min (764.3 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

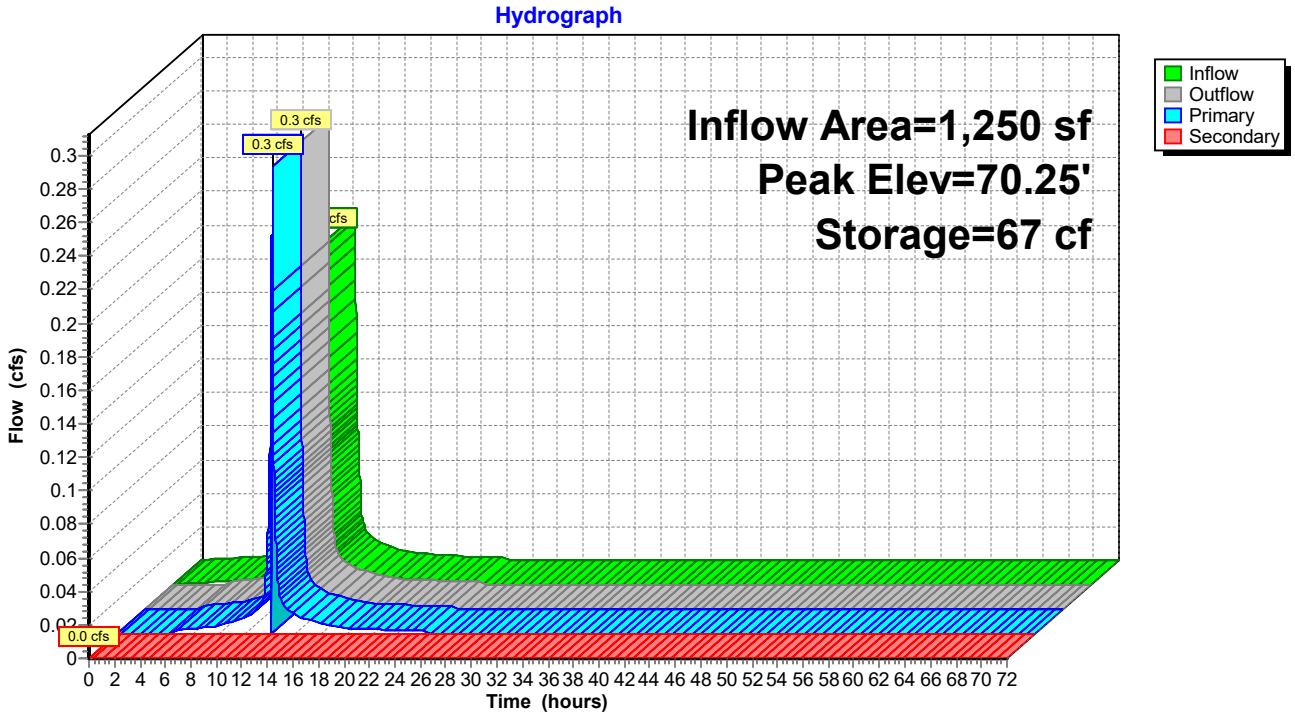
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.17 hrs HW=70.24' TW=69.98' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.2 cfs @ 2.43 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD4: Roof Drain 4



Summary for Pond RD5: Roof Drain 5

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=150)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 735 cf
Outflow = 0.4 cfs @ 12.17 hrs, Volume= 718 cf, Atten= 0%, Lag= 5.3 min
Primary = 0.4 cfs @ 12.17 hrs, Volume= 718 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.23' @ 12.16 hrs Surf.Area= 281 sf Storage= 97 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 40.2 min calculated for 718 cf (98% of inflow)
Center-of-Mass det. time= 24.8 min (767.2 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

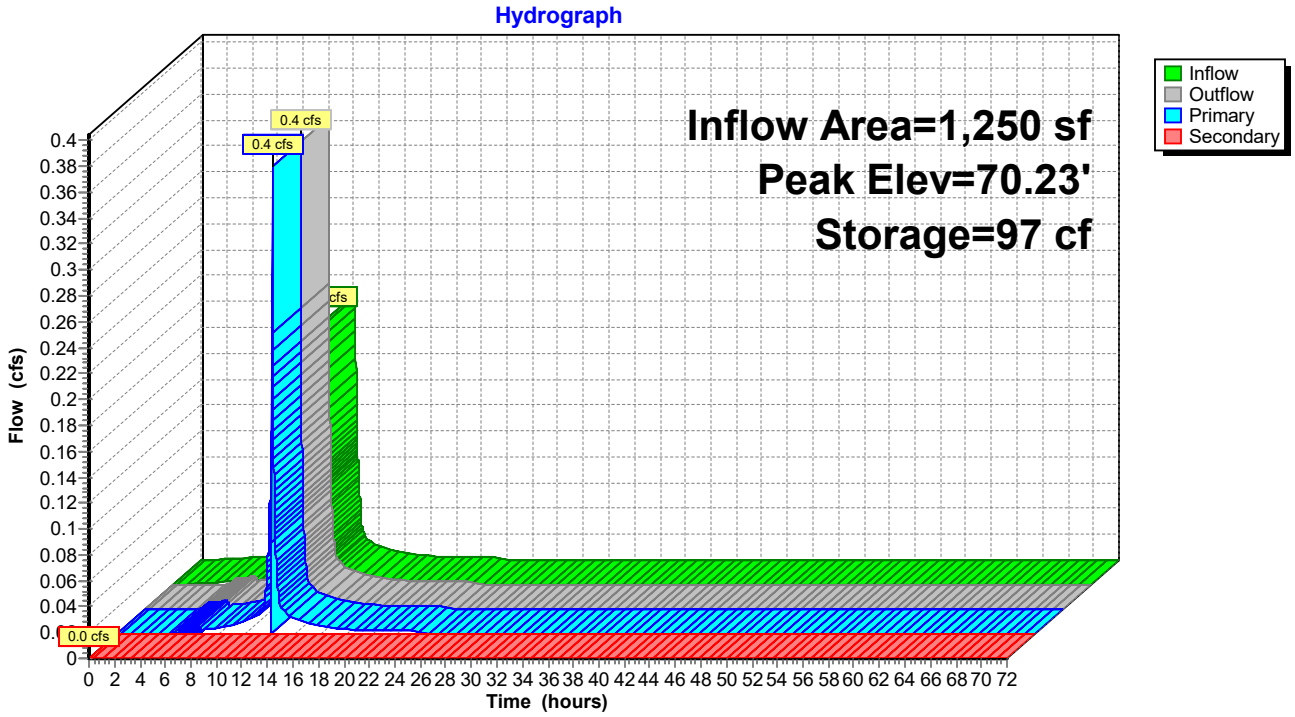
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.17 hrs HW=70.19' TW=69.85' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 0.2 cfs @ 2.80 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD5: Roof Drain 5



Summary for Pond RD6: Roof Drain 6

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=272)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 735 cf
Outflow = 0.3 cfs @ 12.15 hrs, Volume= 719 cf, Atten= 0%, Lag= 4.0 min
Primary = 0.3 cfs @ 12.15 hrs, Volume= 719 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.93' @ 12.18 hrs Surf.Area= 273 sf Storage= 80 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 37.3 min calculated for 719 cf (98% of inflow)
Center-of-Mass det. time= 22.8 min (765.2 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

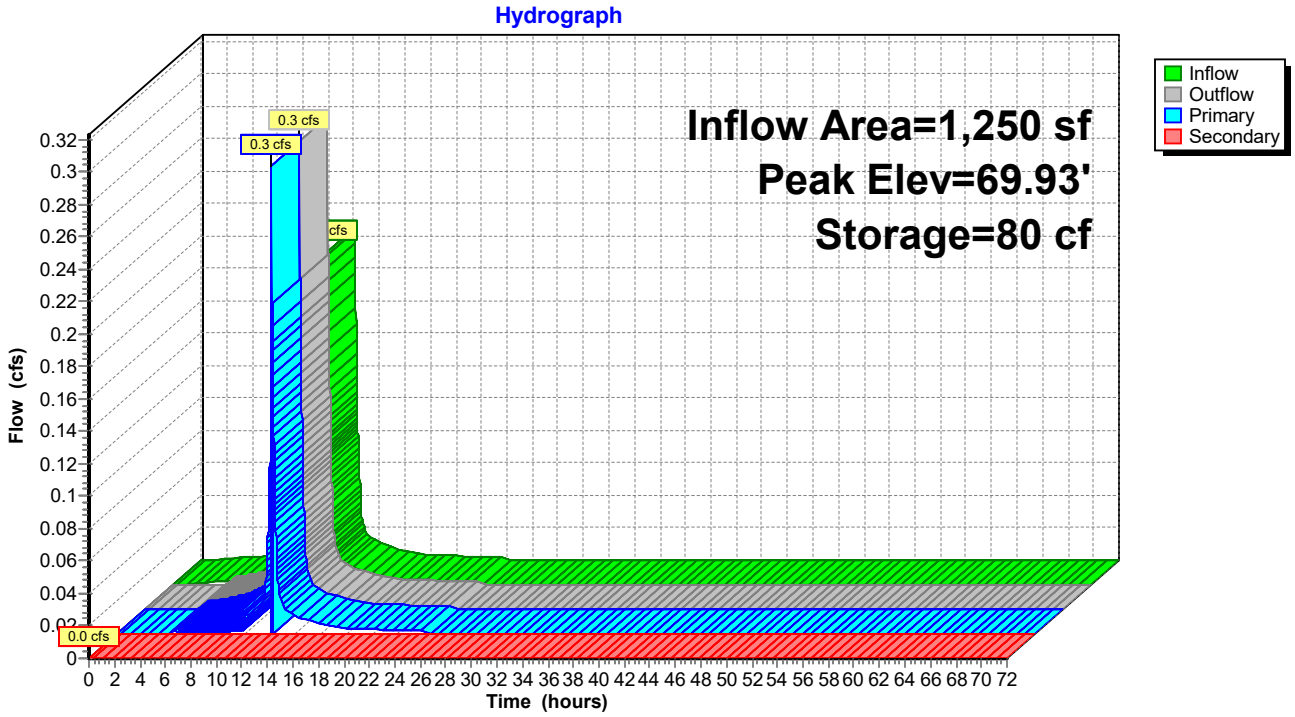
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.15 hrs HW=69.87' TW=70.47' (Dynamic Tailwater)
1=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD6: Roof Drain 6



Summary for Pond RD7: Roof Drain 7

[92] Warning: Device #2 is above defined storage
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=976)

Inflow Area =	1,250 sf,	100.00% Impervious,	Inflow Depth =	7.06"	for 50-Year event
Inflow =	0.2 cfs @	12.08 hrs, Volume=	735 cf		
Outflow =	0.4 cfs @	12.30 hrs, Volume=	718 cf,	Atten= 0%,	Lag= 13.0 min
Primary =	0.4 cfs @	12.30 hrs, Volume=	718 cf		
Secondary =	0.0 cfs @	0.00 hrs, Volume=	0 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.38' @ 12.19 hrs Surf.Area= 281 sf Storage= 167 cf
Flood Elev= 69.30' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 43.6 min calculated for 718 cf (98% of inflow)
Center-of-Mass det. time= 28.0 min (770.4 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	66.29'	271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

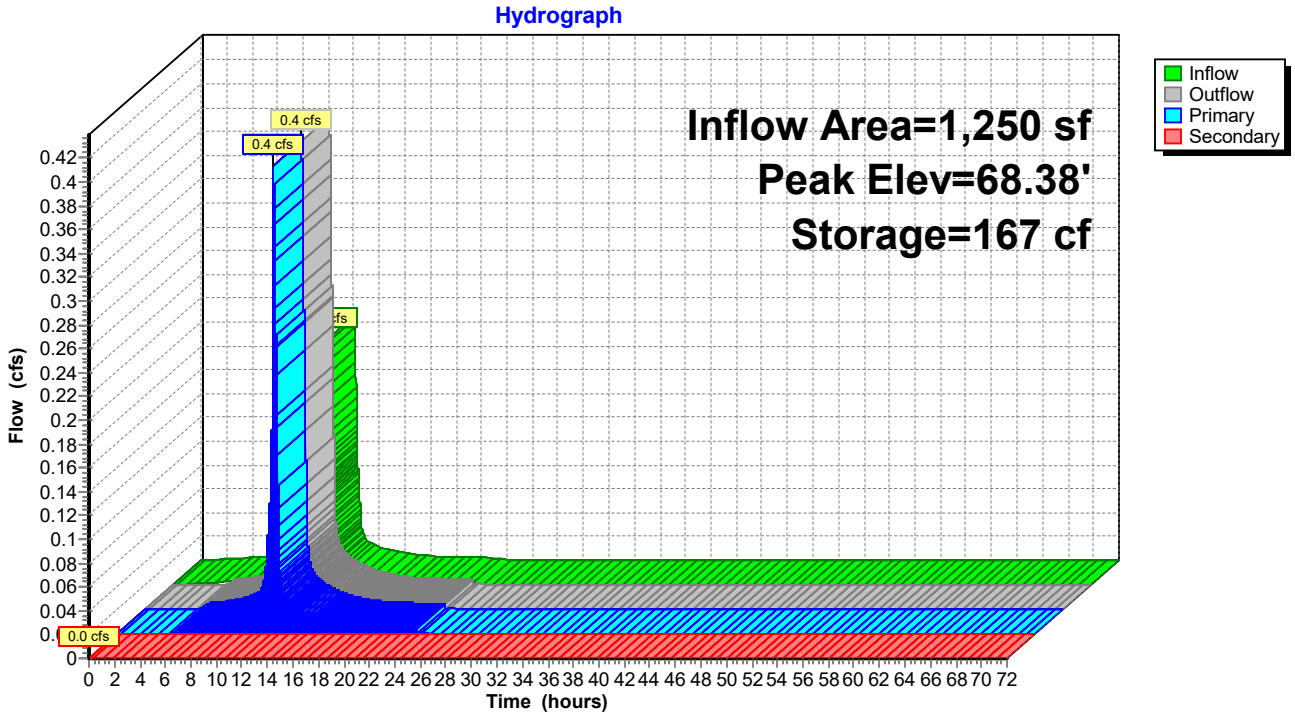
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.29	156	0.0	0	0
66.30	156	40.0	1	1
67.29	281	40.0	87	87
67.30	281	25.0	1	88
68.29	281	25.0	70	157
68.30	281	40.0	1	159
69.30	281	40.0	112	271

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	69.30'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.30 hrs HW=68.06' TW=68.89' (Dynamic Tailwater)
1=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=66.29' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD7: Roof Drain 7



Summary for Pond SF1: Soil Filter 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 5.43" for 50-Year event
Inflow = 4.3 cfs @ 12.27 hrs, Volume= 20,261 cf
Outflow = 2.3 cfs @ 12.59 hrs, Volume= 20,255 cf, Atten= 48%, Lag= 19.2 min
Primary = 2.3 cfs @ 12.59 hrs, Volume= 20,255 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.22' @ 12.60 hrs Surf.Area= 3,303 sf Storage= 3,799 cf
Flood Elev= 66.25' Surf.Area= 3,716 sf Storage= 5,562 cf

Plug-Flow detention time= 17.8 min calculated for 20,253 cf (100% of inflow)
Center-of-Mass det. time= 17.8 min (829.3 - 811.5)

Volume	Invert	Avail.Storage	Storage Description
#1	60.99'	981 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	63.50'	4,581 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		5,562 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.99	1,250	0.0	0	0
61.00	1,250	40.0	5	5
61.99	1,250	40.0	495	500
62.00	1,250	25.0	3	503
63.49	1,250	25.0	466	969
63.50	1,250	100.0	12	981

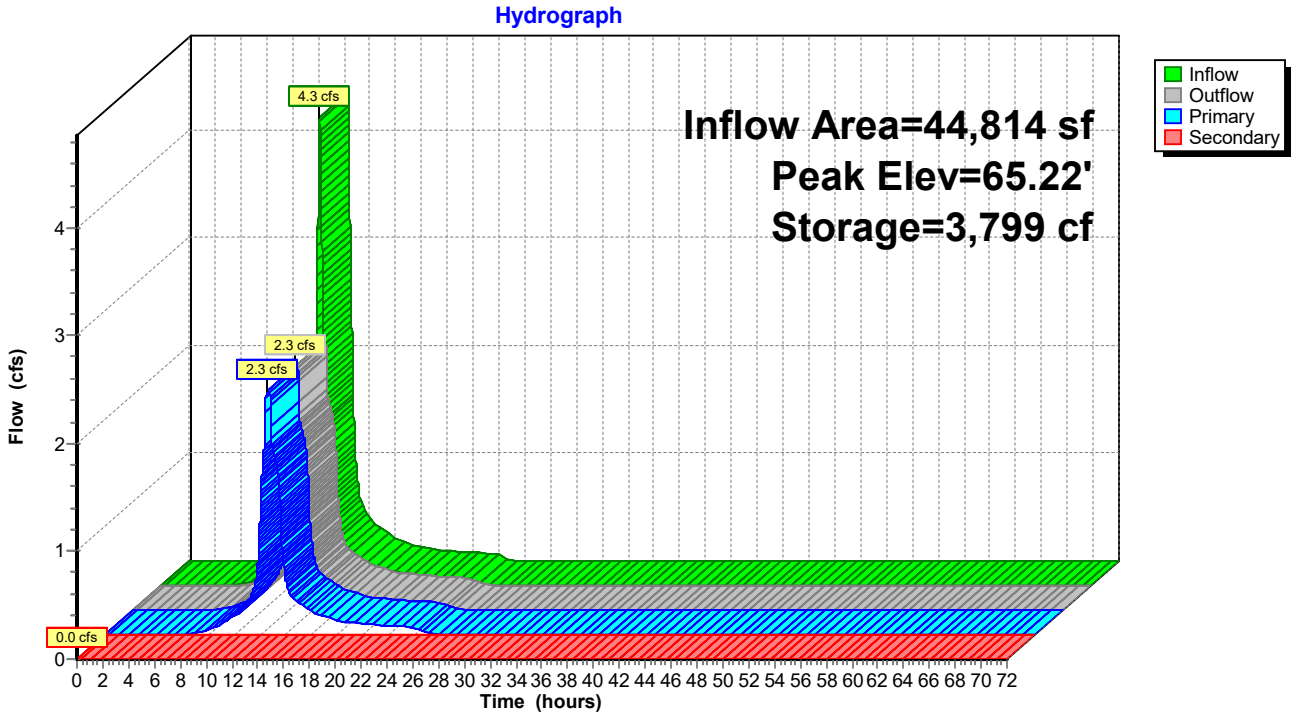
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.50	1,250	0	0
64.00	1,464	679	679
65.00	1,937	1,701	2,379
66.00	2,466	2,202	4,581

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**8.0" Round Culvert** L= 81.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 60.55' S= 0.0055 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.00'	**6.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.80'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	65.75'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=2.3 cfs @ 12.59 hrs HW=65.22' TW=61.57' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.3 cfs @ 6.45 fps)
  └─**2=Underdrain** (Passes < 1.8 cfs potential flow)
  └─**3=Orifice/Grate** (Passes < 7.1 cfs potential flow)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=60.99' TW=51.20' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF1: Soil Filter 1



Summary for Pond SF2: Soil Filter 2

[95] Warning: Outlet Device #3 rise exceeded

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 5.51" for 50-Year event
Inflow = 11.8 cfs @ 12.22 hrs, Volume= 57,378 cf
Outflow = 3.3 cfs @ 12.75 hrs, Volume= 57,154 cf, Atten= 72%, Lag= 31.8 min
Primary = 2.9 cfs @ 12.75 hrs, Volume= 56,774 cf
Secondary = 0.4 cfs @ 12.75 hrs, Volume= 380 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 63.58' @ 12.75 hrs Surf.Area= 14,895 sf Storage= 23,867 cf
Flood Elev= 64.00' Surf.Area= 15,354 sf Storage= 27,812 cf

Plug-Flow detention time= 133.7 min calculated for 57,154 cf (100% of inflow)
Center-of-Mass det. time= 131.2 min (931.4 - 800.3)

Volume	Invert	Avail.Storage	Storage Description
#1	58.49'	4,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	61.00'	23,248 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		27,812 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.49	5,803	0.0	0	0
58.50	5,803	40.0	23	23
59.50	5,803	40.0	2,321	2,344
59.51	5,803	25.0	15	2,359
60.99	5,803	25.0	2,147	4,506
61.00	5,803	100.0	58	4,564

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	5,803	0	0
62.00	7,104	6,454	6,454
63.00	8,467	7,786	14,239
64.00	9,551	9,009	23,248

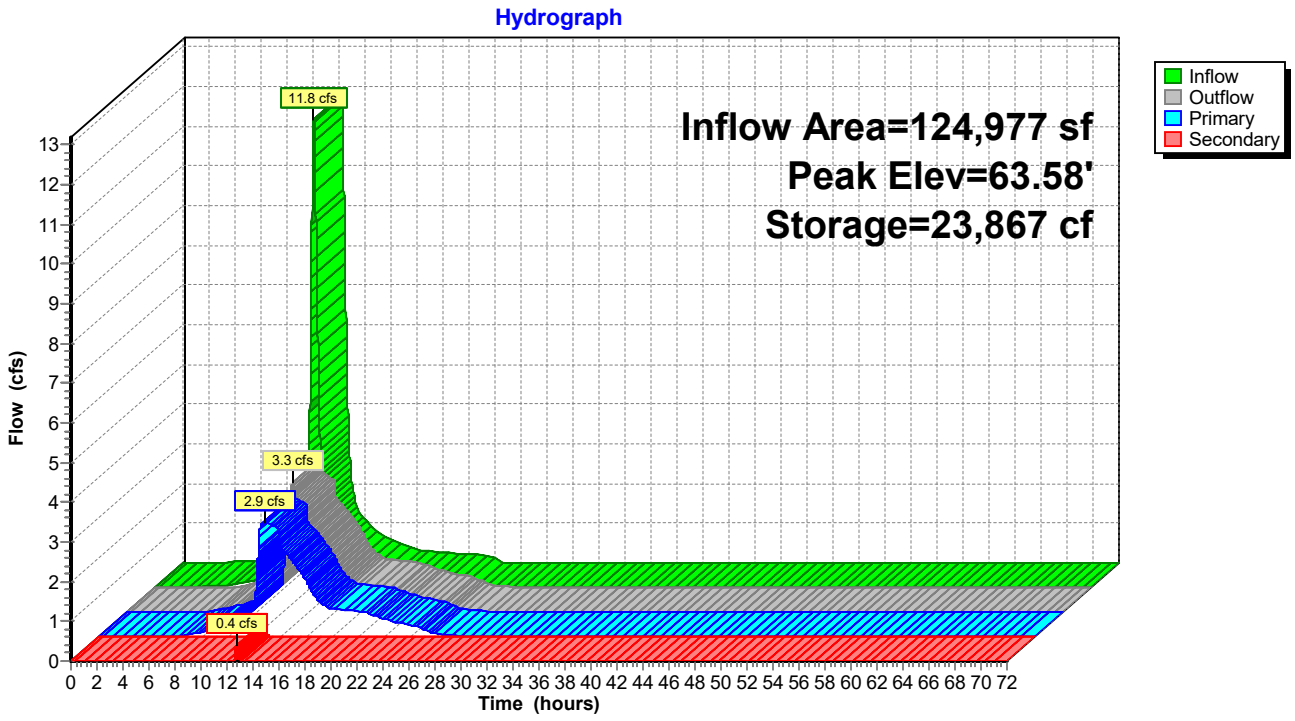
Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	**8.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 58.28' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	58.58'	**4.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	61.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.50 Width (feet) 0.50 0.50
#4	Device 1	63.00'	**24.0" x 24.0" Horiz. Structure Top** C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00

2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=2.9 cfs @ 12.75 hrs HW=63.58' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.9 cfs @ 8.21 fps)
  └─**2=Underdrain** (Passes < 0.9 cfs potential flow)
  └─**3=Custom Weir/Orifice** (Passes < 1.7 cfs potential flow)
  └─**4=Structure Top** (Passes < 11.5 cfs potential flow)

Secondary OutFlow Max=0.4 cfs @ 12.75 hrs HW=63.58' TW=0.00' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Weir Controls 0.4 cfs @ 0.66 fps)

Pond SF2: Soil Filter 2

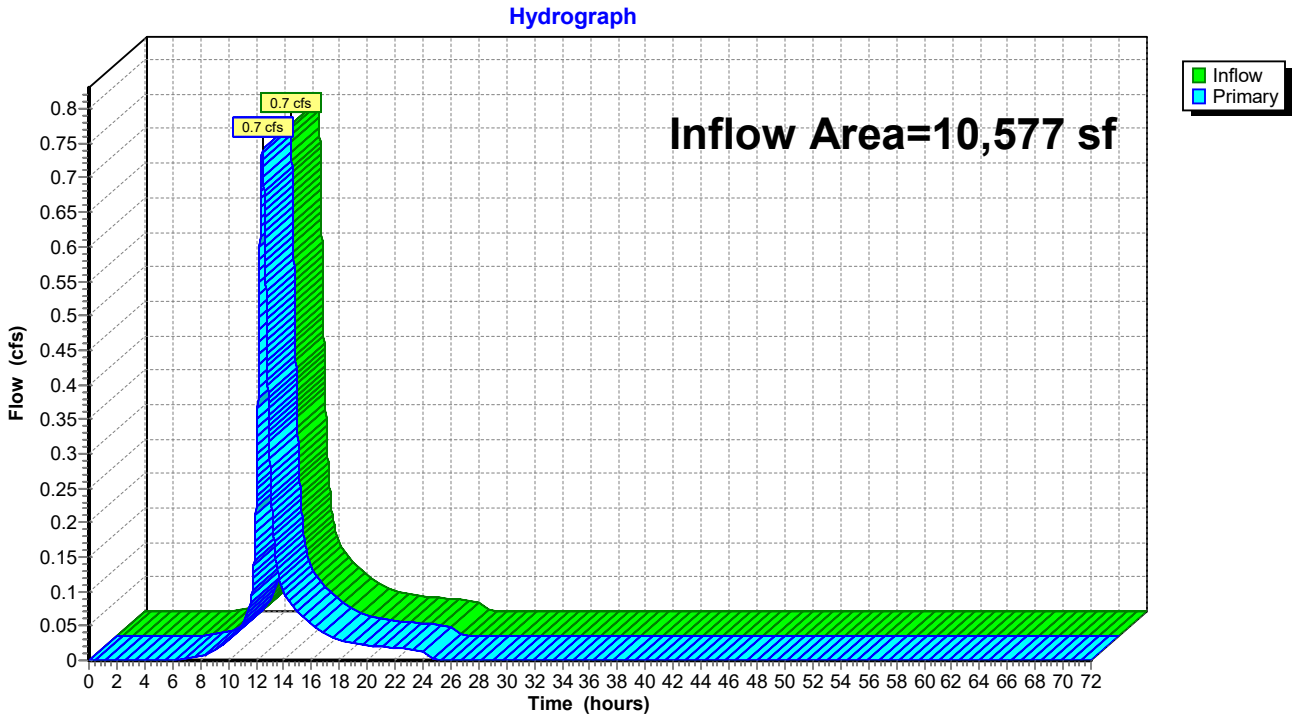


Summary for Link AP#1: Analysis Point 1

Inflow Area = 10,577 sf, 0.00% Impervious, Inflow Depth = 4.86" for 50-Year event
Inflow = 0.7 cfs @ 12.47 hrs, Volume= 4,283 cf
Primary = 0.7 cfs @ 12.47 hrs, Volume= 4,283 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

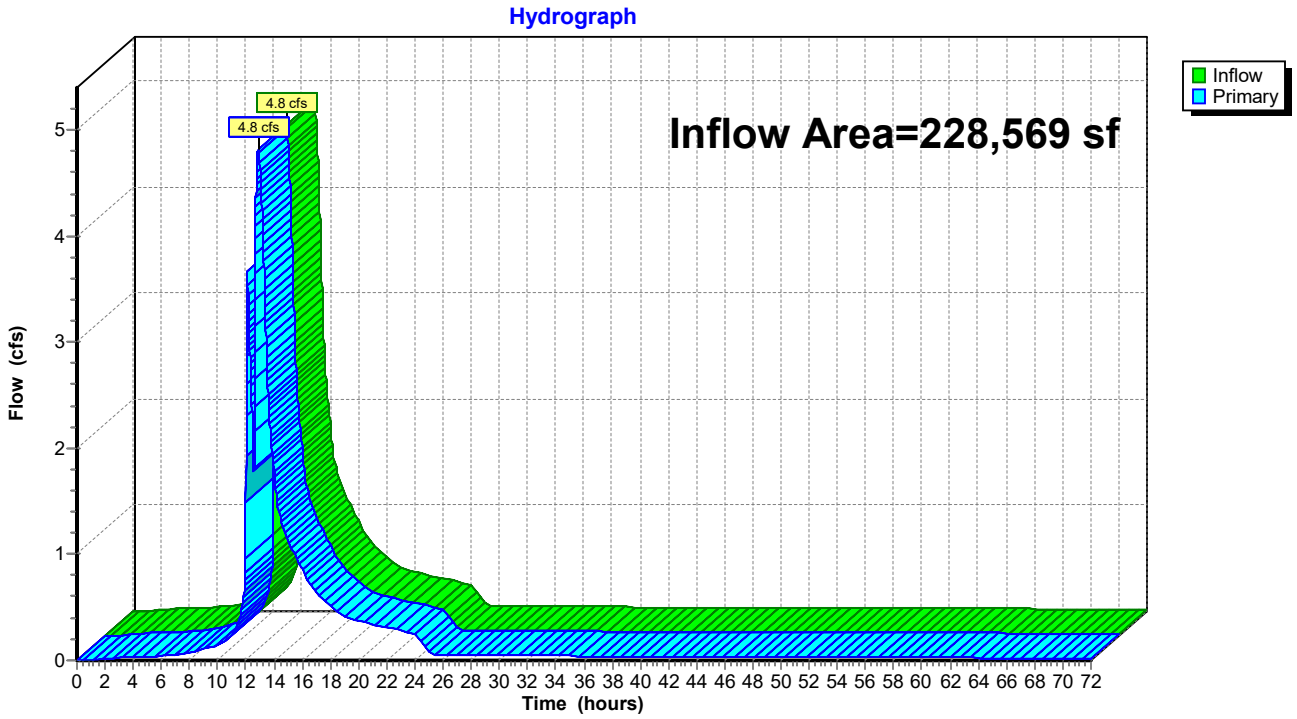


Summary for Link AP#2: Analysis Point 2

Inflow Area = 228,569 sf, 28.40% Impervious, Inflow Depth > 2.82" for 50-Year event
Inflow = 4.8 cfs @ 12.87 hrs, Volume= 53,734 cf
Primary = 4.8 cfs @ 12.87 hrs, Volume= 53,734 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

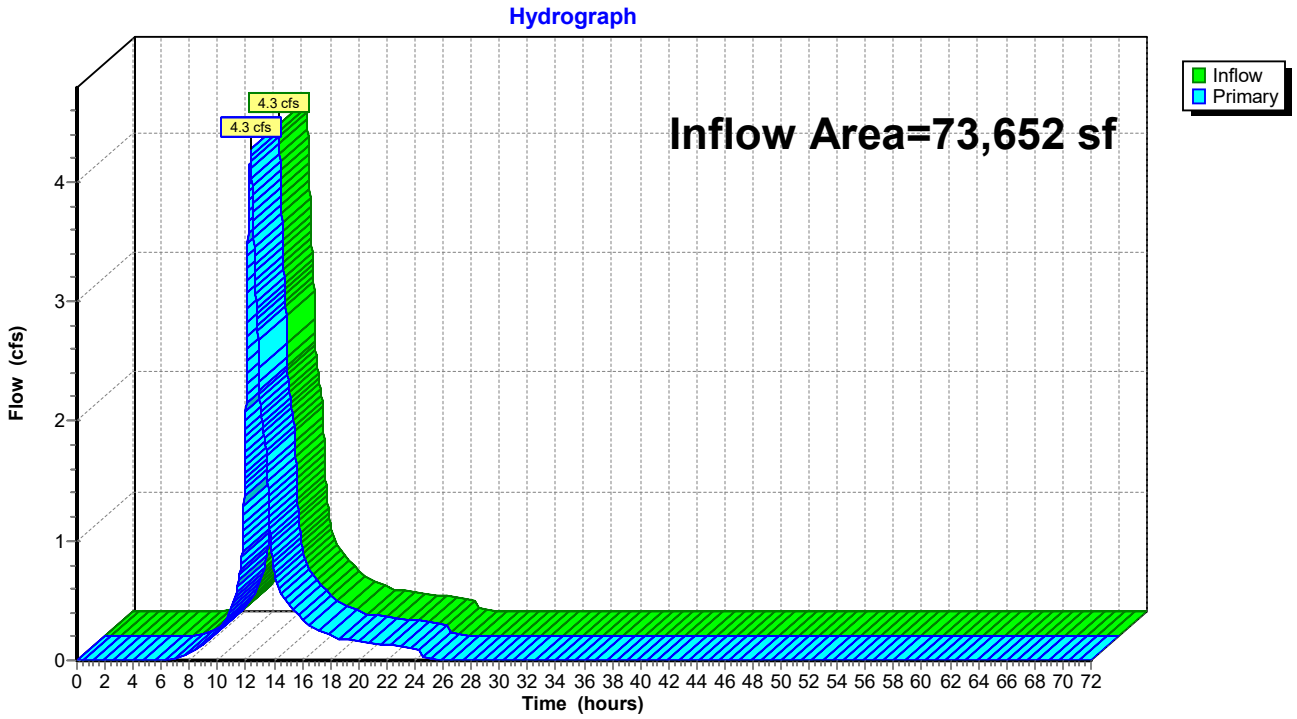


Summary for Link AP#3: Analysis Point 3

Inflow Area = 73,652 sf, 16.15% Impervious, Inflow Depth = 5.12" for 50-Year event
Inflow = 4.3 cfs @ 12.37 hrs, Volume= 31,398 cf
Primary = 4.3 cfs @ 12.37 hrs, Volume= 31,398 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

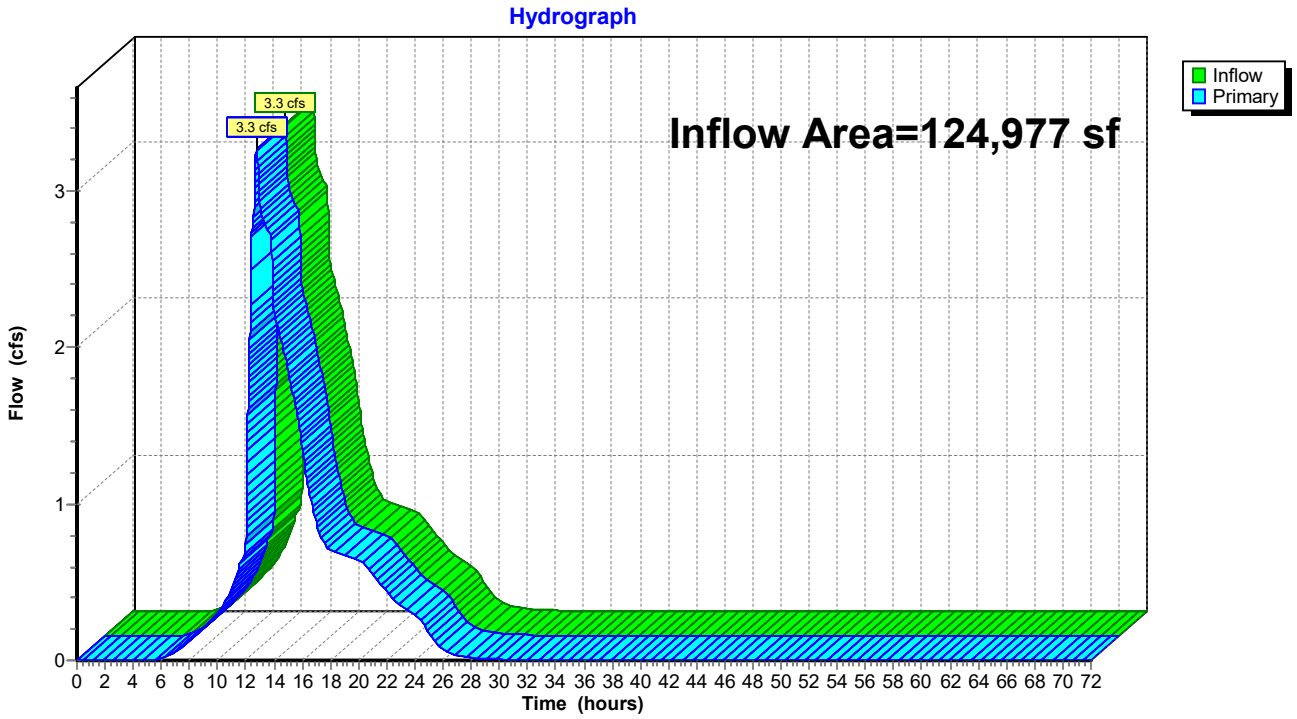


Summary for Link AP#4: Analysis Point 4

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 5.49" for 50-Year event
Inflow = 3.3 cfs @ 12.75 hrs, Volume= 57,154 cf
Primary = 3.3 cfs @ 12.75 hrs, Volume= 57,154 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

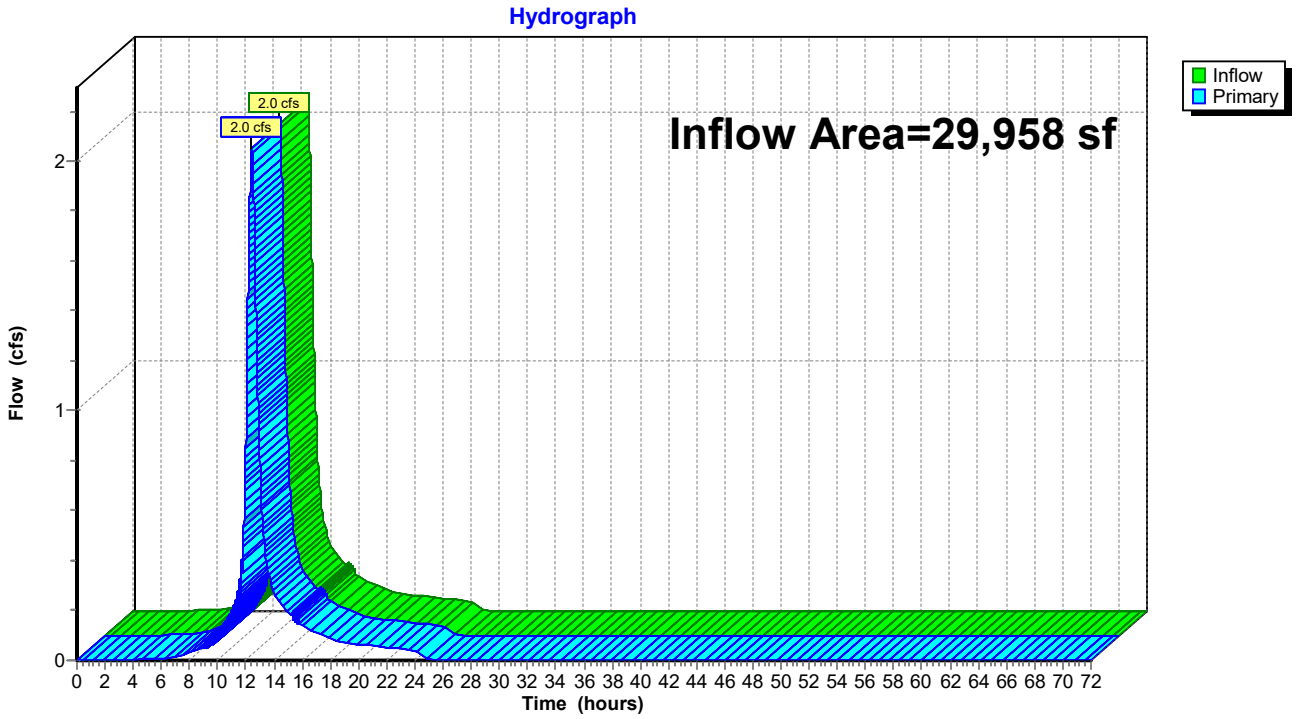


Summary for Link AP#5: Analysis Point 5

Inflow Area = 29,958 sf, 14.85% Impervious, Inflow Depth = 5.11" for 50-Year event
Inflow = 2.0 cfs @ 12.42 hrs, Volume= 12,767 cf
Primary = 2.0 cfs @ 12.42 hrs, Volume= 12,767 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



Appendix G

Post-Construction Stormwater System Inspection and Maintenance Plan

POST CONSTRUCTION INSPECTION AND MAINTENANCE PLAN OF STORMWATER MANAGEMENT FACILITIES
for
Arundel Lane Subdivision
526 Post Road, Wells, Maine 04090
January 21, 2026

Stormwater Management Facilities include swales, paved areas, drain pipes, catch basins, manholes, riprap aprons, roof dripline filters, subsurface detention/treatment chambers, and underdrained soil filters. Periodic inspection and maintenance of these site features and devices is necessary to prevent erosion, protect roadways, and remove pollutants from stormwater runoff.

RECORD KEEPING:

Inspections shall be conducted by someone with knowledge of erosion and stormwater controls, including standards and conditions in the permit. Post-construction inspection and corrective action records shall be retained for a minimum of five years after permanent stabilization has been achieved.

SWALES, DITCHES, AND PAVED SURFACES:

Swales, ditches, curbs, and paved surfaces are easily inspected during a site walk or even a ride-by. Since visual inspection is easy, their condition should be assessed during and/or after significant rainfall events such as thunder showers and periods of heavy or extended rainfall resulting in 0.5 inches of rain during a 24-hour period and during periods of significant snowmelt. Any damage or unusual condition such as sedimentation of a ditch, erosion, damaged curb, or dying vegetation should be recorded, dated, and initialed by the inspector when observed. Even if there is no damage, the inspector should make a record of these inspections at least twice annually.

Paved areas should be visually inspected monthly during the winter. The inspector should pay particular attention for evidence of erosion. The date and initials of the inspector should be recorded on the forms provided as well as a notation of any cleanup effort that was made and repairs to eroded areas.

Open swales and ditches shall be inspected twice per year (in spring and fall) to assure that debris and/or sediments do not reduce the effectiveness of the system. Debris and sediments shall be removed at that time. Any sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation for the stability of the ditches and slopes proper function. Maintenance shall include, but not be limited to, mowing, trimming and removal of vegetation in the ditches and slopes as required in order to prevent vegetation from blocking or diverting storm flows, replacement of riprap channel lining to prevent scour of the channel invert, removing vegetation and debris from the culverts.

Vegetated ditches should be mowed at least monthly during the growing season. Larger brush or trees must not be allowed to become established in the channel. Any areas where the vegetation fails will be subject to erosion and should be reseeded and mulched immediately.

CATCH BASINS AND DRAIN MANHOLES:

Catch Basins are precast concrete structures with sumps and cast-iron grates used to collect stormwater and trap heavy sediments. Drain Manholes are similar structures constructed with a channel instead of a sump and a solid cast iron cover instead of a grate. Drain Manholes exist at changes in direction and/or size of storm drain pipe. Catch Basins and drain manholes provide access to the closed storm drain system for inspection and maintenance.

Throughout the winter / spring sanding period, inspect catch basins monthly and after every significant rainfall event or period of heavy snowmelt. Clean catch basin sumps when sediment level is within 12 inches of the outlet pipe invert. At a minimum, remove floating debris and hydrocarbons at the time of the inspection. The removed material must be disposed of in accordance with the Maine Solid Waste Disposal Rules. Confined space entry safety procedures shall be practiced should entry into these structures be required.

Record dates of inspections, observations and maintenance measures implemented (if any) on the forms provided and initial the entry.

DRAIN PIPES:

Drain pipes are road culverts and pipes connecting drain manholes and catch basins. Inspect drain pipes when inspecting other stormwater facilities. At least annually make a visual inspection of the pipe. During the daylight you should be able to see light through most pipes as they have been laid to a straight line and grade. In some cases (e.g. pipe runs to a drain manhole or is blocked) you will need a light to inspect pipes.

Remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the pipe inlet and outlet. Sediment should be removed when its level exceeds 20% of the pipe diameter. This may be accomplished by hydraulic flushing or any mechanical means; however, care should be taken to contain the sediment at the pipe outlet, and not flush the sediments into the stormwater filter.

Record inspections on the forms provided noting condition of pipe and any maintenance procedures implemented.

UNDERGROUND DETENTION/TREATMENT CHAMBER SYSTEM:

Operation and maintenance requirements are similar to those for above-grade detention systems. Trash and sediment will need to be removed from the isolator row, if observed. Owner shall retain a qualified person to complete all inspections.

Inspect the isolator row of the detention/treatment system at least twice annually, and remove accumulated sediment as warranted by inspection, but no less than every three years. Inspect inlet and outlet structures at least twice annually and remove debris from structures when accumulation is within 12-inch of pipe inverts. Refer to the product manual of the exact chamber system installed for manufacturer-specified maintenance requirements.

ROOF DRIPLINE FILTERS

Roof dripline filters are designed to manage stormwater runoff from building roofs. Sediment and plant debris shall be removed from the roof dripline filters at least annually.

UNDERDRAINED SOIL FILTERS:

An underdrained soil filter is a landscaped depression with an underdrained soil bed or soil filter that exfiltrates the stormwater. The depression is designed to temporarily store runoff, which will drain through the soil filter into the underdrains; excess runoff will flow into structures or over earthen spillways.

Soil Filter Inspection: The soil filter should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining within 48 hours; and that, after storms that fill the system to overflow, it drains in no less than 24 hours. If the filter drains too rapidly, (i.e. prior to 24 hours), then an adjustable orifice shall be installed on the underdrain outlet pipe. The orifice shall be adjusted such that the filter completely drains within 24 to 72 hours.

Underdrain System: The soil filter outlet consists of a layer of planting loam and sand with a stone and perforated pipe underdrain. Outlet inspections shall include flushing of the underdrain through the cleanouts at the end of the pipes. Trash, sediment, and debris shall be removed from the vicinity of the outlet and must be disposed of in accordance with the Maine Solid Waste Disposal Rules.

Soil Filter Replacement: If the filter fails to drain within 72 hours, the surface of the pond shall be rototilled to promote aeration of the filter media and vegetation shall be re-established. If aeration of the surface soil fails to promote filtration of impounded water within 72 hours, then the filter media shall be replaced as necessary. The stone underdrain shall also be replaced at this time, along with the perforated pipe.

Sediment Removal: Sediment and plant debris should be removed from the pretreatment structure at least annually.

Mowing: Filters with grass cover should be mowed no more than 2 times per growing season to maintain grass heights less than 12 inches.

Fertilization: Fertilization of the underdrained filter area should be avoided unless absolutely necessary to establish vegetation.

Harvesting and Weeding: Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary. Add new mulch as necessary for bioretention cells.

Underdrained soil filters shall not be used for snow storage area. Vehicular equipment used to maintain or rehabilitate underdrained soil filters should work from the basin perimeter and not enter the basin area, as this will compact the soil surface and reduce the design infiltration rate. Record all maintenance on forms provided.

SEDIMENT DISPOSAL:

Any sediment or debris removed during maintenance of the stormwater system must be disposed of in accordance with the Maine Solid Waste Disposal Rules.

ARUNDEL LANE SUBDIVISION
WELLS, MAINE

INSPECTION / MAINTENANCE LOG

SWALES, DITCHES, AND PAVED SURFACES

I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED

DATE	INITIALS	ACTION	COMMENT
5/10/19	RST	I, C	EXAMPLE: Removed debris accumulated in swale.

ARUNDEL LANE SUBDIVISION WELLS, MAINE			
INSPECTION / MAINTENANCE LOG			
CATCH BASINS AND DRAIN MANHOLES			
I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
5/10/19	RST	I, C	EXAMPLE: CB inlet blocked by debris. Debris cleared from inlet to allow for designed flow.

ARUNDEL LANE SUBDIVISION
WELLS, MAINE

INSPECTION / MAINTENANCE LOG

DRAIN PIPES

I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED

DATE	INITIALS	ACTION	COMMENT
5/10/19	RST	I, C	EXAMPLE: Called XYZ to clean debris from culvert inlets along access drive.

ARUNDEL LANE SUBDIVISION
WELLS, MAINE

INSPECTION / MAINTENANCE LOG

UNDERGROUND DETENTION/TREATMENT CHAMBER SYSTEM

I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED

DATE	INITIALS	ACTION	COMMENT
5/10/19	RST	I	EXAMPLE: Inspected isolator row and called XYZ to remove sediment and debris.

ARUNDEL LANE SUBDIVISION WELLS, MAINE			
INSPECTION / MAINTENANCE LOG			
ROOF DRIPLINE FILTERS			
I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
5/10/19	RST	I, C	EXAMPLE: Removal of vegetation from the edges; including the roots.

ARUNDEL LANE SUBDIVISION WELLS, MAINE			
INSPECTION / MAINTENANCE LOG			
UNDERDRAINED SOIL FILTERS			
I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
5/10/19	RST	I, C	EXAMPLE: Pond X cleaned by subcontractor, 2 truckloads of sediment taken to facility

ARUNDEL LANE SUBDIVISION WELLS, MAINE					
STORMWATER MANAGEMENT SYSTEM MAINTENANCE PROGRAM SUMMARY CHECKLIST					
Item	**Commentary**	**Frequency**			
		Month	**Semi-Annual**	**Annual**	**Long-Term**
Paved Surfaces	Review for damage and buildup of debris and sand.	**X**	**X Sweep**		
Open Swale & Ditches	Inspect for debris accumulation, erosion, and excessive vegetation. Mow monthly, remove debris, repair, and revegetate any area of erosion	**X Mow**		**X**	
Drain Pipes and Riprap Aprons	Inspect for sediment buildup in pipe. Flush and remove as required.			**X**	
Catch basin and Drain Manholes	Inspect grates to assure optimum water flows into the structures. Inspect sumps for blockage and sediment accumulation. Clean out sumps .	**X Inspect**		**X Sediment removal**	
Roofline Drip Edge	Inspect over growing vegetation, clogging, and stone displacement.		**X**		
Underdrain Soil Filter	Mow twice per year. Inspect for erosion.		**X**		
Underground Detention	Inspect for sediment build-up in isolator row. Flush and remove as required.			**X**	

Appendix H

Stormwater Design Calculations

WALSH
ENGINEERING ASSOCIATES, INC.
1 Karen Drive, Suite 2A
Westbrook, ME 04092
P: (207) 553-9898 | www.walsh-eng.com

PROJECT: Arundel Lane Subdivision
PROJECT NO. 1005
CLIENT: The Grace Group, LLC
DESIGNED BY: MRM DATE: 1/21/2026
CHECKED BY: LLT/WRW DATE: 1/21/2026

Roof Dripline Filter Design Calculations

Per the Maine Stormwater Best Practices Manual, Volume III, Chapter 7.5

Sizing Parameter	Sizing Requirement	Required Value	Proposed Value	Unit
Capacity for Large Storm	To meet the Chapter 500 Flooding Standards requirements, the reservoir needs to provide a minimum storage capacity for the direct entry of the rain precipitation from a 24-hour, 25-year storm (5 + inches) or an overflow may be needed or provided for.	N/A - the Chapter 500 Flooding Standard is not applicable to this project		CF
Treatment Storage (Dripline Filter Width)	The width of the roof dripline filter must be sized based on the following parameters: the reservoir layer at the drip line must consist of crushed stone with a porosity of 40%; its depth must be 4” min to 12” max; and must be sized to treat the first 1-inch of runoff.	4.2	4.5	FT
Storage Volume Provided by Dripline Filter	Dripline (length) x (width) x (depth) x (percentage of voids)	N/A	270.3	CF
Detention Time	Stored volume needs to fully drain within 24 to 48 hours.	24-48	27	Hours

WALSH
ENGINEERING ASSOCIATES, INC.
1 Karen Drive, Suite 2A
Westbrook, ME 04092
P: (207) 553-9898 | www.walsh-eng.com

PROJECT: Arundel Lane Subdivision
PROJECT NO. 1005
CLIENT: The Grace Group, LLC
DESIGNED BY: MRM DATE: 2/10/2026
CHECKED BY: LLT DATE: 2/10/2026

Grassed Underdrained Soil Filter Design Calculations

Per the Maine Stormwater Best Practices Manual, Volume III, Chapter 7.1

Sizing Parameter	Sizing Requirement	Required Value	Proposed Value	Unit
Treatment Volume	An underdrained soil filter must detain and filter a runoff volume equal to 1.0 inch times the subcatchment's impervious area (10,645 SF) plus 0.4 inch times the subcatchment's landscaped developed area (34,169 SF), and 0.2 inch over the undeveloped contributing area (0 SF; 0.2 inch per DEP's Chapter 500 Rules, Part 4.C.(2).(b))	2,026	5,562	CF
Filter Area and Thickness	The surface area of the filter must be no less than the sum of 5% of the impervious area (10,645 SF) and 2% of the landscaped developed area (34,169 SF) draining to the filter.	1,216	1,250	SF
	The soil filter media must be at least 18 inches thick.	18	18	IN
Basin Size	The filter area should not exceed 3,000 square feet.	< 3,000	1,250	SF
	The filter area should not have more than 2.5 acres of subwatershed draining to the structure.	<2.5	1.0	AC
Drain Time	A filter basin must drain dry in no less than 24 and no more than 48 hours.	24-48	40	Hours
Impoundment Depth	The peak water quality storage depth may not exceed 18 inches over a grass filter.	18	0	IN
Sediment Pretreatment	Assuming an average of 10 storm events per year, the volume of a sediment trap should be calculated as follow: $\text{10 storms per year} \times \text{Sanded Area (acres)} \times \frac{\text{500 lbs.}}{\text{per acre-storm}} : \frac{\text{90 lbs.}}{\text{ft}^3} = \text{annual cubic feet of collected sediment}$	2.4	30	CF

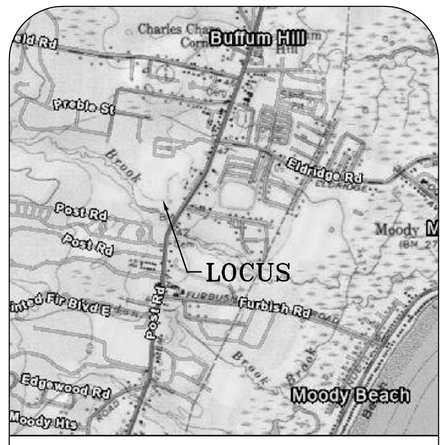
WALSH
ENGINEERING ASSOCIATES, INC.
1 Karen Drive, Suite 2A
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PROJECT: Arundel Lane Subdivision
PROJECT NO. 1005
CLIENT: The Grace Group, LLC
DESIGNED BY: MRM DATE: 2/10/2026
CHECKED BY: LLT DATE: 2/10/2026

Grassed Underdrained Soil Filter Design Calculations

Per the Maine Stormwater Best Practices Manual, Volume III, Chapter 7.1

Sizing Parameter	Sizing Requirement	Required Value	Proposed Value	Unit
Treatment Volume	An underdrained soil filter must detain and filter a runoff volume equal to 1.0 inch times the subcatchment's impervious area (33,978 SF) plus 0.4 inch times the subcatchment's landscaped developed area (73,381 SF), and 0.2 inch over the undeveloped contributing area (17,618 SF; 0.2 inch per DEP's Chapter 500 Rules, Part 4.C.(2).(b))	5,571	27,182 (cumulative storage for both soil filter cells)	CF
Filter Area and Thickness	The surface area of the filter must be no less than the sum of 5% of the impervious area (33,978 SF) and 2% of the landscaped developed area (73,381 SF) draining to the filter.	3,167	2,901 (per cell)	SF
	The soil filter media must be at least 18 inches thick.	18	18	IN
Basin Size	The filter area should not exceed 3,000 square feet.	< 3,000	2,901 (per cell)	SF
	The filter area should not have more than 2.5 acres of subwatershed draining to the structure.	<2.5	1.5 (per cell)	AC
Drain Time	A filter basin must drain dry in no less than 24 and no more than 48 hours.	24-48	44	Hours
Impoundment Depth	The peak water quality storage depth may not exceed 18 inches over a grass filter.	18	0	IN
Sediment Pretreatment	Assuming an average of 10 storm events per year, the volume of a sediment trap should be calculated as follow: $\text{10 storms per year} \times \text{Sanded Area (acres)} \times \frac{\text{500 lbs.}}{\text{per acre-storm}} : \frac{\text{90 lbs.}}{\text{ft}^3} = \text{annual cubic feet of collected sediment}$	21.6	295	CF



LOCUS MAP
SCALE: 1" = 1000'

N

N/F
JAMES F. & JANICE MANDEVILLE
3497/317
MAP 113, LOT 18

N/F
SUMMER HILL MHC HOLDINGS, LLC
19291/593
MAP 114, LOT 8

3/4" 0.8'A.G.
S82°49'35"E 46.74'
DRILL HOLE
S84°05'47"E 89.43'
S83°15'23"E 137.75'
5/8" 0.7'A.G.
N22°36'26"E 164.11'
3/4" 0.8'A.G.
N66°51'03"W 70.63'
3/4" 0.8'A.G.
313.98'
S07°20'17"W
5/8" 0.4'A.G.
S60°52'10"E 254.40'

N/F
RICHARD JERGENSEN & PAMELA HIGGINS
19532/765
MAP 27, LOT 8A

N28°07'50"E 241.07'
1-1/2" 1.4'A.G.
N02°35'08"E 59.18'
5/8" 0.6'A.G.
5/8" 0.2'A.G.
N02°46'39"E 86.49'
1-1/4" 1.2'A.G.
N08°21'09"E 111.54'
N03°29'39"E 54.20'
N11°25'40"W 53.80'
200.38' N63°45'20"W
29.98' N71°59'35"W
5/8" POST ROAD 0.7'A.G.

MAP 27, LOT 10-1
297,531 S.F.
6.83 AC.

N/F
THE WELLS CHURCH OF THE NAZARENE
3682/207
2281/318
MAP 114, LOT 1-EXE

5/8" POST ROAD 0.5'A.G.
163.85' N64°18'53"W
S21°41'38"W 294.77'
2.0'A.G.
L10
L9
451.20' N64°18'53"W
N64°18'53"W 314.07'
PROPOSED ARUNDEL LANE
50' PRIVATE RIGHT-OF-WAY
UTILITY POLE SERVICING ABUTTER SEE NOTE 7.A.

REMAINING LAND OF MORRISON CENTER
16810/234
MAP 27, LOT 10-EXE
57,385 S.F.
1.32 AC.

PAVED PARKING
FENCE
SHED
1 STORY BUILDING
PAVED DRIVE
S60°52'10"E 422.82'
ACCESS/UTILITY/DRAINAGE/GRADING EASEMENT FOR ARUNDEL LANE SUBDIVISION
6" FLUSH
SPIKE 0.1'B.G.
L4
L5
L6
L7
L2
L1
S33°03'54"W 126.38'
SIGN
59.42' S39°03'54"W
5/8" 0.1'B.G.
POST ROAD/U.S. ROUTE 1
OHU
WW
S

N/F
RICHARD JERGENSEN & PAMELA HIGGINS
9960/311
2944/169
MAP 27, LOT 8

LINE TABLE		
LINE	BEARING	LENGTH
L1	N64°18'53"W	32.20'
L2	N00°34'36"E	16.57'
L3	N31°23'43"E	90.62'
L4	N61°23'42"W	24.41'
L5	S29°29'44"W	82.96'
L6	S80°29'21"W	41.00'
L7	S64°18'53"E	61.41'
L8	N26°23'27"E	150.76'
L9	N64°18'53"W	50.00'
L10	S25°41'07"W	50.00'

0 50' 100' 200'

NORTH
GRID

LEGEND

	IRON PIPE FOUND (SIZE AS NOTED)
	UTILITY POLE (NUMBER AS NOTED)
	GUY WIRE ANCHOR
	FIRE HYDRANT
S	SEWER MANHOLE
	CATCH BASIN
W	WATER VALVE
	LIGHT POLE
	SIGN
	BOUNDARY LINE
	ABUTTER OR RIGHT-OF-WAY LINE
	STONE WALL
OHU	OVERHEAD UTILITIES
D	DRAIN/CULVERT
N/F	NOW OR FORMERLY
1234/567	DEED BOOK & PAGE
A.G.	ABOVE GROUND
B.G.	BELOW GROUND
■	GRANITE MONUMENT TO BE SET

NOTES

1. THE BASIS OF BEARING FOR THIS SURVEY IS NAD83 MAINE STATE PLANE COORDINATE SYSTEM–WEST ZONE, U.S. SURVEY FEET.
2. DEED AND PLAN BOOK REFERENCES ARE TO THE YORK COUNTRY REGISTRY OF DEED (YCRD).
3. REFERENCE IS MADE TO THE FOLLOWING DEEDS:
   A. A DEED FROM KKRS PROPERTIES, LLC TO MORRISON CENTER DEEDED APRIL 28, 2014 AND RECORDED IN BOOK 16810, PAGE 234.
4. REFERENCE IS MADE TO THE FOLLOWING PLANS:
   A. "PLAN SHOWING LAND OF REGINALD S. BACON WELL, MAINE" BY LIBBY & DOW DATED OCT. 1945 AND RECORDED IN PLAN BOOK 16, PAGE 52.
   B. "WELLS HIGHLANDS PHASE II SUBDIVISION OF LAND OF JELLEIGH REALTY CO. WELLS, MAINE BY MOULTON ENGINEERING, CO. DATED 2–3–75 AND RECORDED IN PLAN BOOK 72, PAGE 45.
   C. "REVISED PLAN OF WELLS HIGHLANDS PHASE II SUBDIVISION OF LAND OF JELLEIGH REALTY CO. WELLS, MAINE BY MOULTON ENGINEERING, CO. DATED 2–3–75 AND RECORDED IN PLAN BOOK 150, PAGE 3.
   D. "STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP STATE HIGHWAY "1" WELLS, YORK COUNTY, FEDERAL AID PROJECT NO. STP–6705(00)X" DATED AUGUST 1999 AND RECORDED IN PLAN BOOK 277, PAGES 31 & 32.
   E. "BOUNDARY SURVEY PLAN OF LAND OF RICHARD JORGENSEN & PAMELA HIGGINS F/K/A PAMELA JORGENSEN DEPICTING A FUTURE CONVEYANCE OF THE "SHOP LOT" LOCATED ON THE NORTHWESTERLY SIDE OF POST ROAD AND THE EASTERLY SIDE OF STEVENS BROOK WELLS, MAINE" BY ATTAR ENGINEERING, INC. DATED 11/01/2024 NOT RECORDED.
   F. "PLAN SHOWING A STANDARD BOUNDARY SURVEY MADE FOR RUTH M. KIMBALL WELLS, MAINE" BY DOW + COLOMBE, INC. DATED OCTOBER 7, 1985 NOT RECORDED.
   G. "MORRISON CENTER WELLS 526 POST ROAD/U.S. ROUTE ONE WELLS, MAINE GRADING, DRAINAGE AND UTILITIES PLAN" BY MITCHELL & ASSOCIATES DATED MAY 24, 2013 NOT RECORDED.
   H. "MORRISON CENTER WELLS 526 POST ROAD/U.S. ROUTE ONE WELLS, MAINE AMENDED LAYOUT, LIGHTING AND PLANTING PLAN" BY MITCHELL & ASSOCIATES DATED MAY 31, 2013 NOT RECORDED.
   I. "SUNDOG STEAK & SEAFOOD COMPANY AS–BUILT LANDSCAPING PLAN" BY LOUIS BERGER & ASSOCIATES, INC. DATED 4–99 NOT RECORDED.
5. THE LOT SURVEYED IS IDENTIFIED ON THE TOWN OF WELLS ASSESSOR'S MAP 27, LOT 10–EXE.
6. THE SIDELINE OF POST ROAD IS BASED ON THE PLANS REFERENCED IN NOTE 4.D. ABOVE AND FOUND MONUMENTATION.
7. REFERENCE IS MADE TO THE FOLLOWING EASEMENTS OF RECORD:
   A. THE LOCUS PROPERTY IS SUBJECT TO A UTILITY LINE EASEMENT AS RECORDED IN BOOK 1422, PAGE 547.
8. EASEMENTS OR OTHER UNWRITTEN RIGHTS MAY EXIST THAT ENCUMBER OR BENEFIT THE PROPERTY NOT SHOWN HEREON.
9. THE BOUNDARY SHOWN HEREON IS THE OPINION OF THIS SURVEYOR BASED ON THE INFORMATION DISCOVERED DURING THE PERIOD OF WORK AND MAY BE SUBJECT TO CHANGE IF ADDITIONAL INFORMATION BECOMES AVAILABLE.
10. EXCEPTIONS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS STANDARDS ARE AS FOLLOWS:
    A. NO SURVEY REPORT WAS PREPARED.
    B. NO REVISED LEGAL DESCRIPTION PREPARED
    C. MONUMENTS WERE NOT SET AT ALL ANGLE POINTS

NO.	DATE	BY:	REVISION DESCRIPTION

STATE OF MAINE
ISAIAH E. KIMBALL
PLS 2309
PROFESSIONAL LAND SURVEYOR

KIMBALL
SURVEY & DESIGN, INC.
30 FROST HILL ROAD
YORK, MAINE 03909
207-351-0226
ISAIAH@KIMBALLLANDSURVEYING.COM
WWW.KIMBALLLANDSURVEYING.COM
PROFESSIONAL LAND SURVEYING

Owner of Record:
Morrison Center
526 Post Road
Wells, Maine 04090

Division of Land
Map 27, Lot 10–EXE
526 Post Road
Wells, Maine

DATE: FEBRUARY 16, 2026

PROJECT NO. 2627

SCALE: 1" = 50'

CAD FILE: 2627.dwg

SHEET 1 OF 1

WALSH
ENGINEERING ASSOCIATES, INC.

February 10, 2026

Town of Wells Planning & Development Department
c/o Ms. Shannon Bellanger, Assistant Planner
208 Sanford Road
Wells, ME 04090

RE: Site Plan – Response to Staff Review Comments
526 Post Road, Wells, ME
Tax Map 128, Lot 10-EXE

To Whom It May Concern,

On behalf of The Grace Group, LLC, Walsh Engineering Associates, Inc. (WEA) is pleased to submit the enclosed revised site plan application documents for 526 Post Road based on Staff Review comments received within a memo dated January 23, 2026. The subject application is for the existing school located at 526 Post Road and the proposed lot division for the proposed Arundel Lane Subdivision. Please see below our responses to staff comments noted in red.

Staff Review Committee Memo Comments

i. 126' of street frontage along Route One is proposed. Approximately 401' of frontage proposed along Arundel Lane, the new street right of way proposed for the 12-unit subdivision to the west of the school which must create 100' of street frontage for the back lot. The proposed Arundel Lane R.O.W. has been extended 50' west of the commercial lot to provide 100' of frontage for the subdivision lot. Please note that the proposed Arundel Lane Subdivision has been updated to include 11 dwelling units, instead of the previously proposed 12 units.

ii. Parcel is proposed to abut a street right-of-way, per 145-35.O this 25' setback is permitted to be reduced to 15' as the setback and frontage is met from Route One. The setback off of the proposed lot line abutting the Arundel Lane R.O.W. has been reduced to 15' in the updated design plans included herein.

iii. Landscaping/Screening:
   1. A 15-foot-wide landscaped buffer is required along Route One. This buffer shall consist of 4 existing shade trees. Planning Board to consider if this buffer is suitable after a public hearing is determined. There are 4 existing mature trees along Route One frontage that provide adequate landscaping buffer.
   2. A 15-foot-wide landscaped buffer is required along Arundel Lane. Plan to identify is trees and plantings exist or if they are proposed. If they are proposed the diameter of two of the trees shall be 3". The 15-foot-wide landscaping buffer is shown in the updated design plans included herein. A landscaping plan detailing the proposed plantings will be provided in a future submission. There is a portion of this 15-foot buffer where no landscaping can be provided, due to the necessity of a stormwater detention basin to store stormwater runoff from the existing 526 Post Road site.
   3. The residential lot to the west is proposed to be screened by a 6' tall solid fence. Planning Board to consider if this is suitable after a public hearing is determined.

iv. Parking:
    1. ADA compliant signs for the handicap parking are required. To be identified on the plan. Existing ADA compliant signs for the handicap spaces are identified in the provided design plans.
    2. 7 classrooms for elementary or high school students requires 3 spaces per classroom. 7 x 3 = 21 spaces. 31 spaces are proposed. Plan to reflect this. The parking requirements are noted as described on the design plans included herein.
    3. 7 classrooms for up to 50 high school students proposed. 7 x 3 = 21 spaces. 50/5 =10 spaces. 21 + 10 = 31 spaces required. 31 spaces proposed. Plan to reflect this. The parking requirements are noted as described on the design plans included herein.

v. Stormwater:
    1. Town Engineer to review stormwater runoff once a system is designed to replace the existing detention pond. The stormwater management design, report, and calculations are provided herein.
    2. Proposed contours and grading are not identified on the site plan sheets. Proposed grading and drainage system design to be provided. Grading and erosion control plans are provided herein.

vi. Sign location to be identified. Sign to remain in the same location as previously approved.

vii. Plan to identify exterior building mounted lights. Existing light poles to be identified. Existing lighting including light poles and exterior wall-mounted lights have been shown on the provided Existing Conditions plan C1.0. Removal of several existing lighting features are identified on C1.1 – Site Preparation Plan. Existing lighting including exterior wall-mounted lights to remain are identified on C2.0 – Site Plan.

viii. Existing lot coverage is 41,991 SF or 12% of the 8.15 acre parcel. Minor correction to include shed in building total for existing coverage needed. The existing lot coverage calculations have been updated in the design plans included herein, to include the existing 120 square foot shed. The proposed lot coverage for the 1.3 acre lot is 29,946 square feet or 52%.

ix. The 8.15 acre parcel is proposed to be divided and the school to remain on 1.30 acres. An updated boundary plan depicting the 1.30 acre parcel to be provided? A stamped boundary survey plan for the proposed division will be provided as part of the final plan submission.

x. Plan to include a note that states the property falls within the Route One Corridor study area for sidewalk installation. Future development shall be reviewed for compliance with Chapter 201 regarding sidewalk construction. There is currently an existing bike lane striped on the west side of Route One adjacent to the 526 Post Road site.

xi. Easement proposed to grant access for Lot 10 to use Arundel Lane for vehicular, pedestrian, utility, and stormwater? Document not provided. Arundel Lane land area to be owned by the proposed subdivision and not 526 Post Rd. Access, grading, drainage, and utility rights within the Arundel Lane ROW will be granted to 526 Post Rd. Documents for the proposed easements are to be drafted and provided for Final Approval of the Arundel Lane subdivision.

xii. School use remains proposed. Planning Board to consider finding an updated capacity letter from WSD is not applicable. No response required.

xiii. School use remains proposed. Planning Board to consider finding an updated capacity letter from KKWWD is not applicable. No response required.

xiv. Utilities:
    1. Existing and proposed sewer lines to be verified and depicted. The existing sewer service within Route One has been corrected in the updated design plans included herein .
    2. An existing significant fiber optic line to be identified if located on the west side of Route One. The existing fiber optic line is located on the east side of Route One.

xv. Traffic Waiver:

1. The applicant has requested a waiver of 202-12G(2) for the subdivision application filed for abutting proposed lot 10-1. The school use and the subdivision shall use the Arundel Lane right of way that is proposed off Route One.
2. No change in use is proposed. A total of 31 parking spaces are proposed on the property.
3. The school use with 7 classrooms for elementary school/junior high students or 50 or less high school students trip generation is not provided. Please refer to the attached Traffic Assessment Report for 526 Post Road prepared by Barton & Loguidice, which utilizes historic traffic survey data at similar school sites in southern Maine to estimate the existing school's traffic count to be 159 daily trips (34 students x 4.69 trips/student = 159 daily trips).
4. Condominium units require 6 trips per day, per unit according to 202-12G(2)(b). 12 x 6 = 72 trips. Would a 7 classroom school use create more than 127 trips per day? Please note that the proposed Arundel Lane Subdivision has been updated to include 11 dwelling units, instead of the previously proposed 12 units, which will constitute 66 daily trips. These 66 trips combined with the 159 trips generated by the existing school total 225 daily trips, which is why the applicant has requested a waiver of 202-12G(2) for the subdivision application filed for abutting proposed lot 10-1.
5. 6,205 SF of Business Office, Contractor, Service, Personal Service, Wholesale and Retail would require 22 parking spaces and appears it would be well below the 127 trip per day threshold. Please refer to the response to #4 above.
6. A waiver of 202-12G(2) does not appear to be applicable as daily trip generation for both lots with multiple uses options appears to be less than 200. Please refer to the response to #4 above.

Additional Comments

Please refer to the attached spreadsheet regarding all other comments prepared by the Staff of the Town of Wells Planning and Development Department regarding the Site Plan Amendment Application.

We trust the appropriate information has been provided with this application, and we look forward to working with the committee to make this project a success.

Respectfully,

Werner Gilliam

Werner Gilliam, CFM, Permitting/Project Manager
Walsh Engineering Associates, Inc.

cc. The Grace Group, LLC – Chris Finneral
Walsh Engineering Associates, Inc. – William R. Walsh, III, PE; Leyna Tobey, PE

Enc. Updated Site Plan Amendment Application Documentation

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
145-77	**DATA REQUIREMENTS - COMPLETENESS REVIEW**				
A.(2)	Total floor area, ground coverage and location of each proposed building, structure or addition	Existing lot coverage is 41,991 SF or 12% of the 8.15 acre parcel. **Minor correction to include shed in building total for existing coverage needed.** Proposed lot coverage is 29,434 SF or 52% of the 1.30 acre parcel that is proposed. Building floor area/ gross area is 6,205 SF. Shed is 120 SF.	Y	C2.0	The lot coverage calculations have been updated to include the existing 120 square foot shed. The proposed lot coverage for the 1.3 acre lot is 29,946 square feet or 52% of the proposed 57,447 square foot commercial lot.
A.(3)	Perimeter survey of the parcel, made and certified by a registered land surveyor licensed in Maine, relating to reference points, showing true or magnetic North, graphic scale, corners of parcel, date of survey and total acreage. The requirement for a certified boundary survey may be waived by the reviewing authority if the proposed construction is located a distance equal to the required setback plus 10 feet from any lot line	A boundary plan of the existing 8.15 acre parcel prepared by Isaiah Plante, PLS 2334 of Kimball Survey & Design Inc dated 5-28-25 was provided. The 8.15 acre parcel is proposed to be divided and the school to remain on 1.30 acres. **An updated boundary plan depicting the 1.30 acre parcel to be provided?**	Y	N/A	A stamped boundary survey plan for the proposed division will be provided as part of the final plan submission.
A.(4)	All existing and proposed setback dimensions	15' lot line setbacks shown. 40' lot line setback from Route One shown. **25' lot line setback from Arundel Lane ROW proposed, Per 145-35.O this 25' setback can be reduced to 15'.**	Y	C2.0	The setback off of the proposed lot line abutting the Arundel Lane R.O.W. has been reduced to 15' in the updated design plans included herein.

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
A.(5)	The size, location, direction and intensity of illumination of all major outdoor lighting apparatus and signs.	Exterior lighting shall be shielded and downward directional as not to produce glare onto abutting lots or streets. See note 14 on C2.0. No changes to lighting proposed. **Existing building mounted lights and light pole near playground are not identified.**	Y	C2.0	Existing lighting including light poles and exterior wall-mounted lights have been shown on the provided Existing Conditions plan C1.0. Removal of several existing lighting features are identified on C1.1 – Site Preparation Plan. Existing lighting including exterior wall-mounted lights to remain are identified on C2.0 – Site Plan.
A.(8)	The location, type and size of all existing and proposed catch basins, storm drainage facilities, wetlands, streams and watercourses and all utilities, both above and below ground.	No wetlands identified. Existing and proposed utilities identified on sheet C3.0 The school has underground electrical connection from existing utility pole located near the northeasterly lot corner along Route One. **Town Engineer to review stormwater runoff once a system is designed to replace the existing detention pond. Existing and proposed sewer lines to be verified and depicted. An existing significant fiber optic line to be identified if located on the west side of Route One.**	Y	C2.0 C3.0	The stormwater management design, report, and calculations are provided herein. The applicable utility companies have been contacted for additional information. All underground utilities to be confirmed by Dig Safe prior to construction and excavation. The existing fiber optic line is located on the east side of Route One.

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
A.(9)	All existing contours and proposed finished grade elevations of the portions of the site which will be altered and the system of drainage proposed to be constructed. Contour intervals shall be specified by the reviewing authority. This requirement may be waived by the reviewing authority if no additional lot coverage is proposed or the proposed lot coverage is less than 30% and has an area of less than 15,000 square feet.	Existing one-foot contours are identified on C1.0. **Proposed contours and grading are not identified on the site plan sheets.** **Proposed grading and drainage system design to be provided.**	Y	C3.0	Grading and erosion control plans are provided herein.
A.(10)	The location, type and size of all curbs, sidewalks, driveways, fences, retaining walls and parking space areas and the layouts thereof, together with the dimensions.	The Route One Corridor plan requires a bike lane on the west side of Route One and a sidewalk on the east side of Route One. **Plan to include a note that states the property falls within the Route One Corridor study area for sidewalk installation. Future development shall be reviewed for compliance with Chapter 201 regarding sidewalk construction.** **Existing fence heights and types to be identified. Proposed fencing along westerly boundary to be located on the school property. Proposed road to be realigned and provide two exit lanes onto Route One.**	Y	C1.0 C2.0	In accordance with the Route One corridor study, a bicycle lane exists along the property street frontage, no improvements are required. Existing fence types and heights have been identified on the provided design plans. Proposed 6' tall fence for screening has been relocated onto the proposed school property. The applicant consulted Barton & Loguidice about the necessity of a second exit lane at the intersection of Route 1 and Arundel Lane. It was their opinion that the site's daily estimated traffic count is low enough that it likely does not warrant an extra turning lane leaving the site.

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
A.(11)	All landscaped areas, fencing and size and type of plant material upon the premises	A 15 foot wide landscaped buffer is required along Route One. This buffer shall consist of 4 existing shade trees. **Planning Board to consider if this buffer is suitable after a public hearing is determined**. A 15 foot wide landscaped buffer is required along Arundel Lane. **Plan to identify is trees and plantings exist or if they are proposed. If they are proposed the diameter of two of the trees shall be 3"**. This property abuts a church to the north. No visual screen is required. A 6' tall solid fence was approved to screen the school playground. The residential lot to the west is proposed to be screened by a 6' tall solid fence. **Planning Board to consider if this is suitable after a public hearing is determined**	Y	C2.0	There are 4 existing mature trees along Route One frontage that provide adequate landscaping buffer. The 15-foot-wide landscaping buffer is shown in the updated design plans included herein. A landscaping plan detailing the proposed plantings will be provided in a future submission. There is a portion of this 15-foot buffer where no landscaping can be provided, due to the necessity of a stormwater detention basin to store stormwater runoff from the existing 526 Post Road site.
A.(12)	All existing or proposed rights-of-way, easements and other legal restrictions which may affect the premises in question.	Arundel Lane is a new street ROW proposed. **Easement proposed to grant access for Lot 10 to use Arundel Lane for vehicular, pedestrian, utility and stormwater? Document not provided**			Documents for the proposed easements are to be drafted and provided for Final Approval of the Arundel Lane subdivision.
A.(13)	The locations, names and widths of all existing and proposed streets abutting the premises	Route One and Arundel Lane identified. Elmere Road to be identified. ROW widths not noted.	Y	C2.0	ROW widths and identification of Elmere Road are identified on the provided design plans herein.

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
A.(14)	The lot lines of all lots abutting the proposed development, including those lots across the street, together with the names on file in the Town offices as of the date of the application	All abutters are identified, except proposed Map 127, Lot 10-1	Y	C2.0	Proposed lot 10-1 has been identified on C2.0 - Site Plan.

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
G	Traffic data. Only the Planning Board may require that a site plan application include a traffic engineering study should the project be considered one of substantial magnitude along any of the Town's state highways where fast-moving traffic occurs (i.e., Route Nos. 1, 109, 9, 9-A and 9-B). Should a traffic study be requested by the Planning Board, the following data shall be included	No change in use is proposed. A total of 31 parking spaces are proposed on the property. **The school use with 7 classrooms for elementary school/junior high students or 50 or less high school students trip generation is not provided.** **The applicant has requested a waiver of 202-12G(2) for the subdivision application filed for abutting proposed lot 10-1. The school use and the subdivision shall use the Arundel Lane right of way that is proposed off Route One.** **Condominium units require 6 trips per day, per unit according to 202-12G(2)(b). 12 x 6 = 72 trips. Would a 7 classroom school use create more than 127 trips per day?** **6,205 SF of Business Office, Contractor, Service, Personal Service, Wholesale and Retail would require 22 parking spaces and appears it would be well below the 127 trip per day threshold.** **A waiver of 202-12G(2) does not appear to be applicable as daily trip generation for both lots appears to be less than 200**	Y	C2.0	The provided amended site plan identifies required parking calculations for both elementary/junior high students and high school as described in the staff comment.

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
H	A soil erosion and sedimentation control plan, prepared in accordance with the Maine Erosion and Sedimentation Control Handbook for Construction: Best Management Practices, published by the Maine Department of Environmental Protection and the Cumberland County Soil and Water Conservation District, 1991. [Amended 4-27-2007]	Best management practices for soil erosion and sedimentation control are a standard condition of approval. **Grading and erosion control plan not provided.**	Y	C3.0	Grading and erosion control plans are provided herein
I	A stormwater management plan, prepared by a registered professional engineer in accordance with the most recent edition of Stormwater Management For Maine: BMPS Technical Design Manual, published by the Maine Department of Environmental Protection, 2006. Another methodology may be used if the applicant can demonstrate it is equally or more applicable to the site. A drainage analysis may be waived by the Planning Board upon request of the applicant and submittal of a letter from a registered professional engineer stating that there will be no adverse impacts to adjacent or downstream properties. [Added 4-27-2007]	**Town Engineer to review stormwater runoff once a system is designed to replace the existing detention pond.**	Y		Stormwater management design, report, and calculations are provided herein.
J	Chapter 201, Article IV. Sidewalk Development.	**See recommended note.**	Y	C2.0	Comment addressed. See A.(10)

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
145-35	**TOWN WIDE REGULATIONS – GENEARL REGULATIONS**				
H	Any lot created after January 1, 1994, shall have frontage on a street which existed prior to January 1, 1994, or on a street which is constructed to the standards required by Chapter 201, Articles II and III of the Wells Municipal Code	**The proposed lot would have Route One street frontage. The back lot would require a street to be constructed and ROW with 100 feet of street frontage created.**	Y	C2.0	The proposed Arundel Lane R.O.W. has been extended 50' west of the commercial lot to provide 100' of frontage for the subdivision lot. Please note that the proposed Arundel Lane Subdivision has been updated to include 11 dwelling units, instead of the previously proposed 12 units.
0.(3)	If the lot has equal and/or greater than the street frontage requirement on two abutting street rights-of-way, the lot owner may choose which right-of-way shall meet the minimum setback of a lot line abutting a street right-of-way;	**It is recommended the setback requirement from Arundel Lane be reduced from 25' to 15', but this is not required. All setbacks are met**	Y	C2.0	The setback off of the proposed lot line abutting the Arundel Lane R.O.W. has been reduced to 15'.

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
145-38	**TOWN WIDE REGULATIONS – LANDSCAPING / BUFFERS**				
A	The setback areas along lot lines other than those along street rights-of-way on lots in nonresidential districts which abut a residential district shall be landscaped to provide a visual screen between residential and nonresidential uses. Parking lots, outdoor business storage areas and outdoor business uses shall be visually screened from adjacent residential lots. Said visual screening shall consist of a continuous border of shrubbery at least six feet in height and/or solid fencing six feet in height. Notwithstanding the above requirement, all visual screens shall comply with the sight distance requirements of Chapter 201, Articles II and III. The reviewing authority may waive all or part of this requirement for outdoor business uses if such uses are defined as a low-intensity commercial recreation use. Except in the Beach Business District, all business or institutional parking and outdoor storage areas shall be separated from a street right-of-way by a landscaped buffer strip at least 15 feet wide, planted with shade trees a minimum diameter of three inches at breast height (dbh). In the Beach Business District a landscaped strip four feet wide shall be provided between any outdoor business, storage area or parking lot and a street right-of-way.	A 15 foot wide landscaped buffer is required along Route One. This buffer shall consist of 4 existing shade trees. **Planning Board to consider if this buffer is suitable after a public hearing is determined.** A 15 foot wide landscaped buffer is required along Arundel Lane. **Plan to identify is trees and plantings exist or if they are proposed. If they are proposed the diameter of two of the trees shall be 3".** This property abuts a church to the north. No visual screen is required. A 6' tall solid fence was approved to screen the school playground. The residential lot to the west is proposed to be screened by a 6' tall solid fence. **Planning Board to consider if this is suitable after a public hearing is determined.**	Y	C2.0, L-1	The 15-foot-wide landscaping buffer is shown in the updated design plans included herein. A landscaping plan detailing the proposed plantings will be provided in a future submission. There is a portion of this 15-foot buffer where no landscaping can be provided, due to the necessity of a stormwater detention basin to store stormwater runoff from the existing 526 Post Road site.

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
145-39	**TOWN WIDE REGULATIONS - OFF-STREET PARKING**				
A	Off-street parking may be provided out of doors or within a building. Off-street parking shall be considered to be an accessory use when provided to serve any permitted or nonconforming use. In the calculation of the number of parking spaces required, any fractional number of spaces shall be rounded to the next highest whole number for each use existing or proposed on the property	**Parking within Route 1 and Arundel Lane is prohibited. See note 9.**	Y	C2.0	Note 9 on C2.0 has been updated to reflect the restriction of no parking on Arundel Lane
C.(3)	All required parking spaces shall be clearly designated. Handicapped and recreational vehicle spaces shall be identified with signs no smaller than nine inches wide by 12 inches high, posted four feet from the ground	ADA compliant signs for the handicap parking are required. **To be identified on the plan.**	Y	C1.0, C2.0	Existing ADA compliant signs marking handicap accessible parking spaces are identified on the design plans provided herein.
D	School: Elementary, junior high: 3 per classroom and other rooms used by students	7 classrooms for elementary or high school students requires 3 spaces per classroom. 7 x 3 = 21 spaces. 31 spaces are proposed. **Plan to reflect this.**	Y	C2.0	The parking requirements are noted as described on the design plans included herein.
D	School: High school 3 per classroom and other rooms used by students, plus 1 per 5 students	7 classrooms for up to 50 high school students proposed. 7 x 3 = 21 spaces. 50/5 =10 spaces. 21 + 10 = 31 spaces required. 31 spaces proposed. **Plan to reflect this**	Y	C2.0	The parking requirements are noted as described on the design plans included herein.

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
H	Parking areas shall be designed to prevent stormwater runoff from flowing directly or being piped directly into a water body, to allow for the settling of sediment and the removal of grease, oil and other pollutants.	**Town Engineer to review stormwater runoff once a system is designed to replace the existing detention pond.**	Y		Stormwater management design, report, and calculations are provided herein.
145-40	**TOWN WIDE REGULATIONS - SIGNS**				
A	Standards for all signs. All signs shall comply with these regulations, regardless of whether or not a permit is required	See plan note 13. Signage shall be in compliance with the Wells Land Use Ordinance. Signs shall obtain approval from the Wells Code Enforcement Office prior to be installed. **Plan to identify the sign location.**	Y	C2.0	Sign to remain in the same location as previously approved
145-41	**TOWN WIDE REGULATIONS – LIGHTING AND GLARE**				
A	The Town of Wells recognizes the need to minimize light pollutions and glare from illumination, whether lighting of grounds or by signs, in order to avoid unreasonable impacts on existing uses, abutting properties, and the natural environment. Unreasonable impacts may include contributions to artificial illumination of the night sky, impacts on persons in the surrounding area, and hazards to drivers.	See plan note 14. Exterior lighting shall be shielded and downward directional as not to produce glare onto abutting lots or streets. **Plan to identify exterior building mounted lights. Existing light poles to be identified**	Y	C2.0	Existing lighting including light poles and exterior wall-mounted lights have been shown on the provided Existing Conditions plan C1.0. Removal of several existing lighting features are identified on C1.1 – Site Preparation Plan. Existing lighting including exterior wall-mounted lights to remain are identified on C2.0 – Site Plan.

Barton & Loguidice

Traffic Assessment

Date: February 9, 2026

To: **Bill Walsh, P.E., LEED AP**
President and Principal Engineer
Walsh Engineering Associates, Inc.

From: Jacob W. Sirois, E.I.
Engineer II
Barton & Loguidice, LLC

John Q. Adams, P.E., PTOE
Senior Associate
Barton & Loguidice, LLC

Re: **Residential Development**
526 Post Road, Wells, ME

1 Introduction

The applicant is proposing the development of 11 condominium units on the parcel addressed 526 Post Road (US 1) in the Town of Wells (refer to Image 1 below for the project location). The development site is currently occupied by the Morrison Center, a facility that provides support services to children and adults with developmental disabilities. With the development of the project, the former Morrison Center site will remain a school use. Access to the development site will continue to be provided via the existing driveway entrance which intersects with the western side of Post Road.

The purpose of this traffic assessment is to evaluate and measure the level of impact on traffic operations and safety resulting with the development of the proposed project. Site generated trip projections are provided for "key" peak hour time periods throughout a typical week; road safety conditions were determined based upon a review of the MaineDOT's latest crash data, and intersection sight distance was field reviewed and measured to ensure safe and acceptable sight distance is provided at the existing site's intersection with Post Road.

Image 1 – Site Location



2 Residential Trip Generation

Daily and peak hour site trip generation estimates have been prepared for the proposed development based on the trip generation tables in the 11th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The ITE Manual provides numerous land use codes (LUC) and the volume of site-generated trips produced by each category.

Trip generation estimates for the 11 condominium units have been prepared using LUC #215 – Single-Family Attached Housing. The trip generation calculations are provided below in Table 1:

Table 1
ITE Trip Generation Calculations

Land Use	Single-Family Detached Housing - LUC 210					
Time Period	**Dwelling Units**	**Trip Generation Rate Trips/Dwelling Units**	**Trips Generated**	**Distribution Entering / Exiting**	**Enter**	**Exit**
Weekday*	11	6.00	66	50% / 50%	33	33
AM Weekday Peak Hour (Street)	11	0.70	8	26% / 74%	2	6
PM Weekday Peak Hour (Street)	11	0.94	11	63% / 37%	7	4
AM Weekday Peak Hour (Generator)	11	0.75	9	26% / 74%	2	7
PM Weekday Peak Hour (Generator)	11	0.99	11	64% / 36%	7	4

*Daily trip generation is based on Wells Subdivision Ordinance, Chapter 202 - Subdivision of Land, Part 12.G.(2).(b)., which gives a value of 6.0 trips per day per residential condominium unit

Table 1 shows that the proposed condominiums are expected to generate 8 trips during the AM peak hour of the adjacent street and 12 trips during the PM peak hour of the adjacent street. During the AM and PM peak hours of the generator, the residential units will produce 9 trips and 11 trips, respectively. During the typical weekday, they will generate 66 daily trips.

3 Daily School Trip Generation

In the past 10 years, the Morrison Center facility, a 34-student school for special needs students, was active on-site. With the development of the project, the former Morrison Center site will continue to be used as a special needs school.

Although the trips generated by the on-site school facility are grandfathered and not subject to approvals, we have prepared trip generation estimates for the school in order to determine its total daily traffic volume.

The trip generation estimates for the school have been prepared based on traffic surveys conducted at two JFMH school sites (similar sites for special education services for those with autism spectrum disorder, developmental disabilities, and emotional/behavioral disorders) located in Lewiston and Auburn. The two study sites are located at 655 Main Street in Lewiston and 180 Mount Auburn Avenue in the City of Auburn (no longer operating). Combined, at the time of the surveys, the two schools had an enrollment of 45 students and 65 staff members.

The traffic surveys were conducted on Thursday, January 10, 2019. All vehicles entering and exiting the sites were recorded in 15-minute intervals between 7:30 and 9:30 AM and again between 2:30 and 4:15 PM. A summary of the traffic survey is provided below in Table 2:

Table 2 JFMH School Counts										
Time of Day			Auburn School Site Trips			Lewiston School Site Trips			Total Trips		
			Enter Site	Exit Site	Total	Enter Site	Exit Site	Total	Enter Site	Exit Site	Total
7:00 AM	to	7:15	3	1	4	1	0	1	4	1	5
7:15	to	7:30	2	0	2	1	0	1	3	0	3
7:30	to	7:45	3	0	3	4	0	4	7	0	7
7:45	**to**	**8:00**	**6**	**1**	**7**	**16**	**1**	**17**	**22**	**2**	**24**
8:00	**to**	**8:15**	**8**	**5**	**13**	**17**	**0**	**17**	**25**	**5**	**30**
8:15	**to**	**8:30**	**10**	**4**	**14**	**7**	**1**	**8**	**17**	**5**	**22**
8:30	**to**	**8:45**	**7**	**4**	**11**	**9**	**12**	**21**	**16**	**16**	**32**
8:45	to	9:00	1	2	3	4	4	8	5	6	11
9:00	to	9:15	1	0	1	2	2	4	3	2	5
9:15	to	9:30	3	0	3	2	4	6	5	4	9
Peak Hour Total			**31**	**14**	**45**	**49**	**14**	**63**	**80**	**28**	**108**
2:30 PM	to	2:45	4	0	4	2	3	5	6	3	9
2:45	to	3:00	3	2	5	4	7	11	7	9	16
3:00	to	3:15	1	14	15	5	11	16	6	25	31
3:15	**to**	**3:30**	**5**	**0**	**5**	**5**	**5**	**10**	**10**	**5**	**15**
3:30	**to**	**3:45**	**1**	**2**	**3**	**2**	**2**	**4**	**3**	**4**	**7**
3:45	**to**	**4:00**	**0**	**19**	**19**	**1**	**7**	**8**	**1**	**26**	**27**
4:00	**to**	**4:15**	**0**	**2**	**2**	**0**	**31**	**31**	**0**	**33**	**33**
Peak Hour Total			**6**	**23**	**29**	**8**	**45**	**53**	**14**	**68**	**82**

As highlighted in the preceding table, the two JFMH schools, with a combined enrolment of 45 students, produced a total of 190 trips during the analyzed time period. Based on conversations with JFMH school personnel, these types of schools generate the majority of their trips during and around the AM and PM peak hours. Outside of these time periods, the sites generate few trips, since they do not allow visitors or host the typical after-school activities. Accordingly, we have assumed that 90% of the daily trips occurred within the time period analyzed above. Thus, the 45 students at the study sites are expected to produce 211 daily trips. This results in a daily trip rate of 4.69 trips per student. Applying this methodology to the project, **the 34-student school generates 159 daily trips**.

4 Daily Site Trip Generation

In Section 2, we confirmed that the proposed condominium units will generate 66 daily trips, and in Section 3, we demonstrated that the grandfathered 34-student school generates 159 daily trips. The calculations are summarized below in Table 3:

Table 3 ITE Trip Generation Calculations			
Land Use	**Single-Family Detached Housing - LUC 210**		
Time Period	**Independent variable**	**Trip Generation Rate Trips/Independent variable**	**Trips Generated**
Weekday (Residential)	11 Units	6.00	66
Weekday (School)	34 students	4.69	159
		TOTAL	**225**

Table 3 shows that the 11 condominium units and 34 students are anticipated to generate 225 trips on the typical weekday.

5 Intersection Sight Distance

Intersection sight distances were recorded from the site's existing driveway entrance on Post Road in accordance with the criteria established within the MaineDOT's *Highway Driveway and Entrance Rules* publication, which requires the following minimum sight distance for non-mobility roadways based on the posted speed limit:

MaineDOT Sight Distance Standards	
Posted Speed Limit	**Minimum Sight Distance**
25 mph	200 ft.
30 mph	250 ft.
35 mph	305 ft.
40 mph	**360 ft.**
45 mph	425 ft.
50 mph	495 ft.

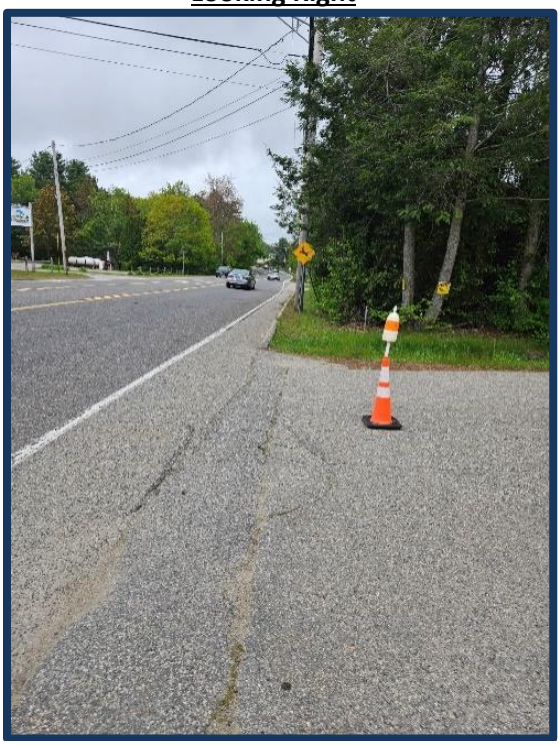
The section of Post Road fronting the development site is posted at 40 mph, requiring a minimum sight distance of 360 feet. MaineDOT's Rules and Regulations require sight distance to be measured in accordance with the following procedures: *"Sight distance is measured to and from the point on the centerline of the proposed access that is located 10 feet from the edge of traveled way. The height of the hypothetical person's view is considered to be 3½ feet above the pavement and the height of the object being viewed is considered to be 4¼ feet above the pavement."*

Our field measurements looking left and right directionally onto Post Road indicate that existing sight distances exceed the requirements, based on the 40 mph speed limit. Looking left and right, we recorded sight distances over 600 feet. Refer to the photos below:

Looking Left



Looking Right



6 Existing Road Safety Conditions

Crash data for the latest three-year time period (2022-2024) was provided by MaineDOT's Crash Records Section for the section of Post Road between and including the intersections at Eldridge Road and Furbish Road, for a distance of 0.6 miles. MaineDOT's crash report is attached in the *appendix*. A summary of the crash report is provided below:

Table 4
2022-2024 Crash Report Summary

#	Location		Total Crashes	Critical Rate Factor
1	Post Rd @	Furbish Rd	2	0.32
2	Post Rd @	Eldridge Rd	6	0.93
3	Post Rd @	Elmere Rd	0	0.00
4	Post Rd btw.	Furbish Rd and Elmere Rd	11	0.58
5	Post Rd btw.	Elmere Rd and Eldridge Rd	9	0.56

MaineDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more accidents in the latest 3-year period, and***
- ***A Critical Rate Factor greater than or equal to 1.00***

The crash data shows that there are no high crash locations within the study area.

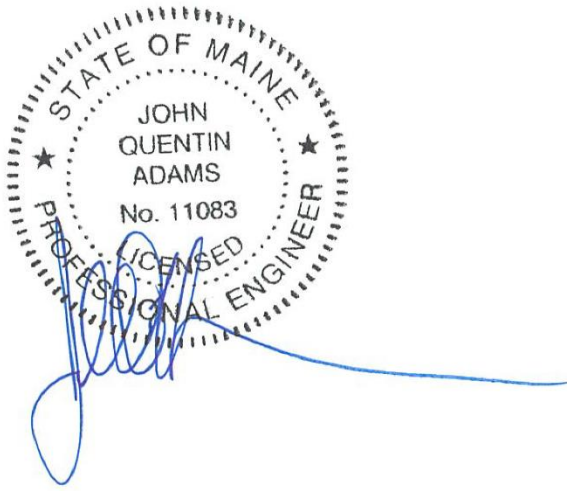
7 Summary

- The proposed 11 condominium units are expected to generate 9 trips during the AM peak hour of the generator and 11 trips during the PM peak hour of the generator. During the typical weekday, they will generate 66 daily trips. Overall, the project is a low trip generator and will remain well below the 100 new peak hour trip ends that would require a MaineDOT Traffic Movement Permit.

- Daily trip generation estimates have been prepared for the on-site school facility, whose trips are grandfathered and are not subject to approvals. Our calculations show that the recently vacated, 34-student school generated 165 daily trips.

- Vehicle sight distance measurements were field recorded, looking both left and right from the existing site entrance onto Post Road. Our field measurements looking left and right directionally onto Post Road indicate that existing sight distances are satisfactory, based on the 40 mph speed limit. Looking left and right, we recorded unobstructed sight distances in excess of 600 feet.

- Crash data for the latest three-year time period (2022-2024) was provided by MaineDOT's Crash Records Section for the section of Post Road between and including the intersections at Eldridge Road and Furbish Road, for a distance of 0.6 miles. A review of the crash data shows that there are no high crash locations within the study area.



John Q. Adams, PE, PTOE


Wells Highlands
56978
57354
Preble St
57353
51831
56572
Eldridge Rd
58139
59596
58138
58141
Wilson Ave
Sea Breeze Dr
51838
51841
58140
51842
51815
51837
57521
56571
Post Rd
1077686
Elmore Rd
51836
Gilkadee Ln
Stevens Brook
51840
Eldridge Rd
Webhannet Dr
51808
51810
51809
59597
Beachwood Ter
54494
57291
51806
57274
51807
57273
51805
51804
Moody Point
51802
51801
51803
51800
Moody Point
Ocean Av
56570
58128
Furbish Rd
58131
59583
Pointed Fir Blvd W
58129
58130
58132
51799
61166
63374
61171
Salt Marsh Cir
61169
56569
Old County Rd
Bragdon Brook
Scale: 1:10545
600ft

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Wells
Post Rd (Rte 1) from Furbish Rd (56570) to Eldridge Rd (56572)

REPORT PARAMETERS

Year 2022, Start Month 1 through Year 2024 End Month: 12

Route: **0001X**	Start Node: **56570**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **56572**	End Offset: **0**	☐ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
56570	0001X - 17.45	Int of FURBISH RD POST RD	2	2	0	0	0	1	1	50.0	5.377	0.12	0.37	0.00
												Statewide Crash Rate:	0.15	
56572	0001X - 18.05	Int of ELDRIDGE RD POST RD	2	6	0	0	1	1	4	33.3	6.049	0.33	0.36	0.93
												Statewide Crash Rate:	0.15	
56571	0001X - 17.79	Int of ELMERE RD POST RD	2	0	0	0	0	0	0	0.0	5.400	0.00	0.37	0.00
												Statewide Crash Rate:	0.15	
Study Years:	3.00	**NODE TOTALS:**		8	0	0	1	2	5	37.5	16.826	0.16	0.28	0.56

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
56570	56571	3114242	0 - 0.34	0001X - 17.45	0.34	2	11	0	0	1	0	10	9.1	0.01778	206.17	355.08	0.58
Int of FURBISH RD	POST RD			US 1											Statewide Crash Rate: 204.84		
56571	56572	3129582	0 - 0.26	0001X - 17.79	0.26	2	9	0	0	1	1	7	22.2	0.01436	208.95	370.88	0.56
Int of ELMERE RD	POST RD			US 1											Statewide Crash Rate: 204.84		
Study Years:	3.00			**Section Totals:**	0.60		20	0	0	2	1	17	15.0	0.03214	207.41	318.38	0.65
				Grand Totals:	0.60		28	0	0	3	3	22	21.4	0.03214	290.38	450.32	0.64

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
56570	56571	3114242	0 - 0.34	0001X - 17.45	11	0	0	1	0	10	2022-18874	06/28/2022	17.49	PD
											2024-31127	10/31/2024	17.54	PD
											2023-21795	07/29/2023	17.56	PD
											2022-23178	08/07/2022	17.63	PD
											2023-39138	12/21/2023	17.65	PD
											2022-39130	12/23/2022	17.66	PD
											2022-39882	12/31/2022	17.68	PD
											2024-32153	11/11/2024	17.74	PD
											2024-17767	06/27/2024	17.76	PD
											2024-16136	06/14/2024	17.77	B
											2024-4809	02/09/2024	17.77	PD
56571	56572	3129582	0 - 0.26	0001X - 17.79	9	0	0	1	1	7	2023-21790	07/26/2023	17.80	PD
											2023-8401	03/15/2023	17.80	PD
											2024-30872	10/13/2024	17.87	PD
											2024-31118	10/26/2024	17.89	PD
											2023-19884	07/05/2023	17.90	C
											2023-16805	06/11/2023	17.92	PD
											2023-9039	03/21/2023	17.92	PD
											2022-17148	06/09/2022	17.95	PD
											2022-15452	05/22/2022	18.03	B
				Totals:	20	0	0	2	1	17				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0	5
MONDAY	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2
WEDNESDAY	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	4
THURSDAY	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	1	0	1	0	1	0	0	6
FRIDAY	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	5
SATURDAY	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	4
Totals	0	0	0	0	0	0	1	3	1	3	0	1	2	4	2	1	2	1	2	0	3	1	1	0	0	**28**

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	15	23-Bicyclist	1
2-(Sport) Utility Vehicle	20	24-Witness	3
3-Passenger Van	0	25-Other	0
4-Cargo Van (10K lbs or Less)	0	26-Construction	0
5-Pickup	8	27-Farm Vehicle	0
6-Motor Home	0	28-Horse and Buggy	0
7-School Bus	0	**Total**	**49**
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	0		
12-Moped	2		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	0		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	0		

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	7	16	0	0	0	0	23
Ran Off Roadway	1	0	0	0	0	0	1
Failed to Yield Right-of-Way	4	0	0	0	0	0	4
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	1	0	0	0	0	0	1
Improper Turn	5	0	0	0	0	0	5
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	4	0	0	0	0	0	4
Failed to Keep in Proper Lane	3	0	0	0	0	0	3
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	1	0	0	0	0	0	1
Other Contributing Action	2	0	0	0	0	0	2
Unknown	0	0	0	0	0	0	0
Total	**28**	**16**	**0**	**0**	**0**	**0**	**44**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	27	16	0	0	0	1	44
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	1	0	0	0	0	0	1
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	**28**	**16**	**0**	**0**	**0**	**1**	**45**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	2	0	0	0	0	2
20-24	4	0	0	0	0	4
25-29	4	0	0	0	0	4
30-39	5	0	0	0	0	5
40-49	3	0	0	0	0	3
50-59	9	0	0	0	0	9
60-69	3	0	0	0	0	3
70-79	11	0	0	0	0	11
80-Over	4	0	0	0	0	4
Unknown	0	1	0	0	0	1
Total	**45**	**1**	**0**	**0**	**0**	**46**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**45**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	6		
13-Motor Vehicle in Transport	34		
14-Parked Motor Vehicle	1		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	2		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	1		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	1		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	3	4
C	3	6
PD	22	0
Total	**28**	**10**

Road Character

Road Grade	Total
1-Level	27
2-On Grade	1
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	**28**

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	5
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	1
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	22
14-Other	0
Total	**28**

Light

Light Condition	Total
1-Daylight	19
2-Dawn	0
3-Dusk	2
4-Dark - Lighted	1
5-Dark - Not Lighted	6
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**28**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2022	2023	2024	Total
JANUARY	1	0	0	1
FEBRUARY	1	0	1	2
MARCH	0	2	0	2
APRIL	0	0	0	0
MAY	2	0	1	3
JUNE	2	1	2	5
JULY	0	3	0	3
AUGUST	1	0	1	2
SEPTEMBER	0	0	0	0
OCTOBER	0	0	5	5
NOVEMBER	0	1	1	2
DECEMBER	2	1	0	3
Total	**9**	**8**	**11**	**28**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	1	0	2	0	0	1	0	0	0	0	0	0	0	0	4
Head-on - Sideswipe	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Intersection Movement	0	0	5	0	0	6	0	0	0	0	0	0	0	0	11
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	3	4	0	0	0	0	0	0	0	0	0	0	0	0	7
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**7**	**6**	**8**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Not Lighted	4	0	0	0	0	0	0	0	0	0	0	4
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	12	0	0	0	0	0	0	1	0	0	1	14
Dusk	2	0	0	0	0	0	0	0	0	0	0	2
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	3	0	0	0	0	0	0	1	0	0	0	4
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**23**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**3**	**28**

WALSH
ENGINEERING ASSOCIATES, INC.

STORMWATER MANAGEMENT REPORT

for

526 Post Road – Amended Site Plan Application
Wells, Maine 04090

January 22, 2026
Revision 1: February 10, 2026

Submitted to:
Town of Wells
208 Sanford Road
Wells, Maine 04090
&
Maine Department of Environmental Protection
312 Canco Road
Portland, Maine 04103

Submitted by:
Walsh Engineering Associates, Inc.
One Karen Drive, Suite 2A
Westbrook, Maine 04092

WALSH
ENGINEERING ASSOCIATES, INC.

STORMWATER MANAGEMENT REPORT

Arundel Lane Subdivision
526 Post Road – Wells, Maine 04090

January 22, 2026
Revision 1: February 10, 2026

Introduction

Walsh Engineering Associates, Inc. (WEA) was retained by The Grace Group, LLC, (Applicant) to provide site design and stormwater management design services for the construction of a proposed subdivision and associated access drive located at 526 Post Road in Wells, Maine.

This Stormwater Management Report assesses both pre-development and post-development peak rates of stormwater runoff from the project site. The analysis provided herein was completed in accordance with Maine Department of Environmental Protection (DEP) and Town of Wells stormwater standards.

Pre-Development (Existing) Site Conditions

The property at 526 Post Road in Wells abuts a church to the north, Post Road (Route 1) to the east, a private residence to the south, and wooded area on a private lot to the west. The existing property consists of the following improvements: a 6,205 square foot building; an associated access drive and parking lot; and a detention basin, which stores stormwater runoff from the existing building and its parking lot, and discharges into the Maine Department of Transportation (MDOT) drainage system within Route 1. The existing infrastructure on the project site is shown in the project Design Plans, included in **Appendix A**. It should be noted that management of stormwater quantity is presently occurring via the existing catch basin.

Land Cover and Soils

Land cover and soils datasets were used to develop hydrologic curve numbers for the project area. Land cover was evaluated by reviewing aerial photography and site survey data. Land cover on the project site consists of buildings, pavement, lawn, and woods.

Soil characteristics, including soil type and hydrologic soil groups (HSGs), were obtained from the United States Department of Agriculture's (USDA's) most recent Web Soil Survey. The soil types in the watershed are Adams loamy sand (HSG A), Croghan loamy fine sand (HSG A), Lyman loam (HSG D), and Lyman-Rock outcrop complex (HSG D). A map showing the soil types and hydrologic soil group classifications within the project vicinity from the USDA's Web Soil Survey is located in **Appendix B**.

One Karen Drive, Suite 2A | Westbrook, ME 04092 | 207.553.9898 | Walsh-Eng.com

Seven test pits were dug at the project site on January 12, 2026 to support the stormwater management design. Of the seven locations, four will have stormwater best management practices (BMPs) installed within their vicinity in the post-development site condition, including TP-3, TP-4, TP-5, and TP-7. Overall, the test pits across the project site showed mostly sandy/loamy soils and high bedrock and groundwater tables. The test pit locations are shown on the project Design Plans, included in **Appendix A**, and a copy of the test pit logs are included in **Appendix B**.

Topography

Subcatchment boundaries were delineated using site survey data. Topographically, the site drains in five different directions, each of which are referred to as "Analysis Points" in the *Stormwater Modeling* section of this report. In general, portions of the project site drain towards the church property to the north/east of the existing site, to the MDOT drainage system within Route 1, towards the private property to the south, towards Stevens Brook to the south, or towards the private property to the west. The existing site topography is shown in the project Design Plans, included in **Appendix A**.

Resource Areas

Albert Frick Associates located a mapped wetland system on the project site on April 24, 2025. This wetland ultimately drains to Stevens Brook, and is shown on the project Design Plans, included in **Appendix A**. Please note that the proposed project includes filling approximately 1,688.5 square feet of this wetland.

Post-Development (Proposed) Site Conditions

The existing school building and parking area onsite are proposed to divided from the existing 8.15-acre property into a separate lot, to be referred to as the "526 Post Road lot" herein. This proposed division of land is shown on the project Design Plans and has been submitted to the Town of Wells for consideration but has not yet been approved.

The following improvements are proposed to develop the remaining 6.85 acres of the property, most of which is currently wooded area: an 11-unit residential condominium development with detached single-family homes; an associated private road, to be named "Arundel Lane," for site access, with a cul-de-sac at its terminating end; water, sewer, and electric utilities servicing each condominium; and stormwater management and treatment systems provided where necessary to control the developed conditions.

Stormwater Modeling

Methodology

TR-55/TR-20 methodology was used to develop a hydrologic model of the Site. WEA used the computer program entitled HydroCAD Version 10.0, developed by HydroCAD Software Solutions, LLC, to create a stormwater model to analyze the site's hydrology. The analysis was conducted to establish the peak rates of runoff from the project site and evaluate pre-

and post-development conditions during various storm events. Contributing drainage areas were identified and soils, surface cover, watershed slope, and flow paths were evaluated to develop the necessary HydroCAD model input parameters. A minimum time of concentration (Tc) of 6 minutes was used in the calculations, as applicable.

Drainage calculations were performed for the pre- and post-development site conditions for the 2-, 10-, 25-, and 50-year, 24-hour, Type III storm events using rainfall data for York County from the table titled "*24 Hour Duration Rainfalls for Various Return Periods – Natural Resource Conservation Service County Rainfall Data,*" included in Appendix H of the Maine DEP's Chapter 500 Stormwater Management Rules. A copy of this table is included in **Appendix C** of this report.

The total precipitation depth for the project site associated with each rainfall event is outlined in **Table 1**, below.

Table 1: Design Rainfall Data

York County 24-Hour Storm Event (Frequency)	Rainfall Depth (Inches)
2-Year	3.3
10-Year	4.9
25-Year	6.2
50-Year	7.3

Two stormwater models have been developed for the site to compare the peak discharge rates from the pre-development site conditions to those in the post-development conditions. As further described herein, the models demonstrate that the post-development peak discharge rates of runoff will not exceed pre-development rates.

Subcatchments and Analysis Points

Existing and proposed subcatchments were delineated in order to compare pre- and post-development peak rates of runoff on the project site. Although the sizes and quantities of subcatchments differ between the existing and proposed site conditions, the total area analyzed between the two conditions remains the same. Analysis Points were selected for primary stormwater discharge locations from the project site. For this stormwater evaluation, five Analysis Points were identified for the project site, as described below:

- Analysis Point 1 (AP-1): represents runoff discharging to the church property to the north/east of the site.
- Analysis Point 2 (AP-2): represents runoff discharging to the MDOT drainage system within Route 1 (Post Road).
- Analysis Point 3 (AP-3): represents runoff discharging to the private property to the south of the site.
- Analysis Point 4 (AP-4): represents runoff discharging towards Stevens Brook to the south of the site.

- Analysis Point 5 (AP-5): represents runoff discharging to the private property to the west of the site.

The Analysis Points and subcatchment delineations are shown on the pre-development and post-development drainage figures included in **Appendix D**.

Modeling Results

Table 2, below, summarizes the pre- and post-development peak discharge rates for each Analysis Point during the 2-, 10-, and 25-year 24-hour storm events:

Table 2: Pre- and Post-Development Peak Rates of Runoff Comparison

Analysis Point	2-Year (cfs)			10-Year (cfs)			25-Year (cfs)			50-Year(cfs)		
	Pre-	Post-	Δ	Pre-	Post-	Δ	Pre-	Post-	Δ	Pre-	Post-	Δ
AP-1	0.2	0.2	0.0	0.4	0.4	0.0	0.6	0.6	0.0	0.8	0.7	-0.1
AP-2	0.6	0.6	0.0	2.5	2.1	-0.4	3.9	3.0	-0.9	4.8	4.8	0.0
AP-3	1.7	1.7	0.0	3.5	2.8	-0.7	5.0	3.5	-1.5	6.4	4.3	-2.1
AP-4	1.0	0.8	-0.2	2.0	1.8	-0.2	2.8	2.7	-0.1	3.6	3.3	-0.3
AP-5	1.1	0.6	-0.5	2.3	1.2	-1.1	3.3	1.6	-1.7	4.2	2.0	-2.2

Note: Δ represents the net difference between the pre- and post-development peak rates of runoff

Table 2 demonstrates a decrease in peak discharge rates between the existing and proposed site conditions for all storm scenarios and Analysis Points shown above. Complete copies of the pre- and post-development HydroCAD computer model outputs demonstrating that peak discharge rates decrease between the existing and proposed site conditions are included in **Appendices E and F**, respectively.

Compliance with Maine DEP Stormwater Standards

Basic Standards

Erosion and Sedimentation Controls

To prevent erosion, sedimentation, and the discharge of other pollutants during construction and land disturbance activities, erosion and sedimentation controls must be installed by the contractor, as required by, and shown on the project Design Plans in **Appendix A**. Proposed erosion and sedimentation controls include silt fence and/or filter berms of erosion control mix, a stabilized construction entrance, rolled erosion control matting, if deemed necessary, catch basin silt sacks, and permanent seeding. The contractor will be responsible for implementing the specified erosion and sedimentation control methods. These measures will be maintained and kept in place until the disturbed areas of the project have fully stabilized.

The proposed project exceeds one acre of total disturbance and therefore will be required to file a Notice of Intent in accordance with the Maine Construction General Permit (MCGP). A Stormwater Pollution Prevention Plan (SWPPP) will be submitted at the time of filing,

before land disturbance begins, and will outline the necessary measures to meet the requirements of this standard.

Inspection, Maintenance, and Good Housekeeping

During construction, the contractor will be responsible for good housekeeping of the project site, in accordance with the housekeeping requirements detailed in the Design Plans included in **Appendix A**. The owner/Applicant will be responsible for maintaining the proposed stormwater BMPs following construction of the proposed subdivision and will implement good housekeeping measures at the project site. A detailed Post-Construction Stormwater System Inspection and Maintenance Plan is included in **Appendix G**.

General Standards

Treatment Requirements

Table 3, below, shows the stormwater treatment area percentages achieved for the project.

Table 3: Stormwater Treatment Summary

Development Type	Area (SF)
New Non-Linear Impervious Area Treated	71,709
Total New Non-Linear Impervious Area	72,959
New Non-Linear Impervious Area % Treated	98%
New Non-Linear Developed Area Treated	109,475
Total New Non-Linear Developed Area	137,125
New Non-Linear Developed Area % Treated	80%

Table 3 demonstrates that the proposed stormwater management system treats at least 95% of new impervious areas and 80% of the developed area onsite.

Proposed BMPs

Stormwater runoff from the roofs of several condominium units will be managed using 4.5-foot-wide roof dripline stormwater BMPs located along the buildings' long edges, in locations shown in the Design Plans (**Appendix A**). Runoff from other new impervious and developed areas will be managed either by a lined underdrained soil filter or a subsurface chamber system. Sizing calculations for the roof dripline and underdrained soil filter BMPs are included in **Appendix H**. The proposed subsurface chamber system was sized using the post-development stormwater HydroCAD model, which is included in **Appendix F**.

Easement and Deed Restrictions Standard

The proposed locations of drainage and utility easements between the 526 Post Road lot and the Arundel Lane Subdivision lot are shown on the Design Plans in **Appendix A**. Please note that these proposed easements are contingent on approval from the Town of Wells. Furthermore, upon execution of the proposed lot split, both properties will be owned by the

same entity, thereby removing any potential for owner objection to the proposed drainage easements.

Discharges to Public Storm Sewer Systems Standard

Stormwater runoff from the existing development on the property is currently conveyed to a detention basin, which discharges via an outlet control structure and culvert pipe to the MDOT drainage system within Route 1 (Post Road), referred to as Analysis Point 2 in the *Stormwater Modeling* section of this report, above. In the post-development site condition, it is proposed to maintain a discharge from the site into the MDOT drainage system. However, as shown in **Table 2** in this report, there will be a decrease in peak discharge rates between the existing and proposed site conditions for all storm scenarios to Analysis Point 2.

Standards Not Applicable to Project

The following table (**Table 4**) summarizes the Maine DEP Stormwater Standards that are not applicable to this project:

Table 4: Maine DEP Stormwater Standards Not Applicable to Project

Maine DEP Stormwater Standard	Reason Standard Is Not Applicable
Phosphorus Standard	The project is not located within a lake watershed.
Urban Impaired Stream Standard	The project is not located within an urban impaired stream watershed.
Flooding Standard	The project does not result in 3 acres or more of impervious area or 20 acres or more of developed area and does not require a Site Law permit or permit modification.
Redistribution of Stormwater Discharges Standard	The project will not create a discharge of concentrated stormwater runoff.
Discharge to Wetlands Standard	The project does not propose to discharge stormwater runoff to a wetland.

Compliance with Town of Wells Stormwater Management Standards

Drainage Easements

The proposed locations of drainage easements between the 526 Post Road lot and the Arundel Lane Subdivision lot are shown on the Design Plans in **Appendix A**. Please note that these proposed easements are contingent on approval from the Town of Wells. Furthermore, upon execution of the proposed lot split, both properties will be owned by the same entity, thereby removing any potential for owner objection to the proposed drainage easements.

Peak Rates of Runoff

Refer to **Table 2**, located in the *Stormwater Modeling* section of this report, which demonstrates a decrease in peak discharge rates between the existing and proposed site conditions for the 2-, 10-, 25-, and 50- year storm events for all Analysis Points modeled for the site.

Stormwater Management Plan Requirements

As described throughout this report, the proposed stormwater management system for this project has been designed in accordance with the Maine DEP and Town of Wells standards/criteria, with consideration to mitigate the impacts of stormwater onsite, offsite, and to nearby resource areas.

Great Pond Watershed Requirements

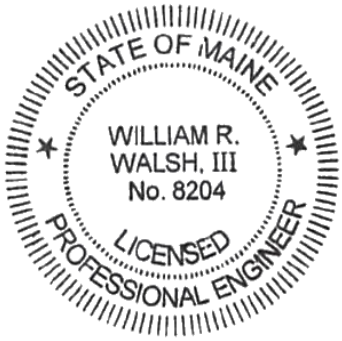
The proposed project is not located within the watershed of a great pond.

Conclusions

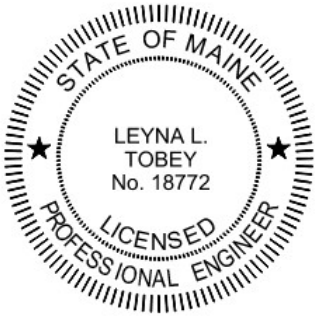
The proposed stormwater management system for this project consists of roof dripline filters, underdrained soil filters, a subsurface chamber system, and catch basin, manhole, and culvert conveyance systems. Stormwater modeling shows that there will be a decrease in peak discharge rates between the existing and proposed site conditions for the 2-, 10-, 25-, and 50-year storm events for all Analysis Points modeled for the site. It is our opinion that the proposed stormwater management system meets the requirements of the Maine DEP and the Town of Wells.

Respectfully,

William R. Walsh, III, PE
Walsh Engineering Associates, Inc.



Leyna L. Tobey, PE
Walsh Engineering Associates, Inc.



Appendices Not Included

- Appendix A – Project Design Plans, entitled “Arundel Lane Subdivision,” prepared by Walsh Engineering Associates, Inc., dated February 10, 2026
- Appendix B – Soils Data
- Appendix C – Rainfall Data
- Appendix D – Pre-Development and Post-Development Drainage Figures
- Appendix E – Pre-Development HydroCAD Model Report
- Appendix F – Post-Development HydroCAD Model Report
- Appendix G – Post-Construction Stormwater System Inspection and Maintenance Plan
- Appendix H – Stormwater Design Calculations

526 Post Road

526 Post Road (US Route 1)
Wells, Maine 04090

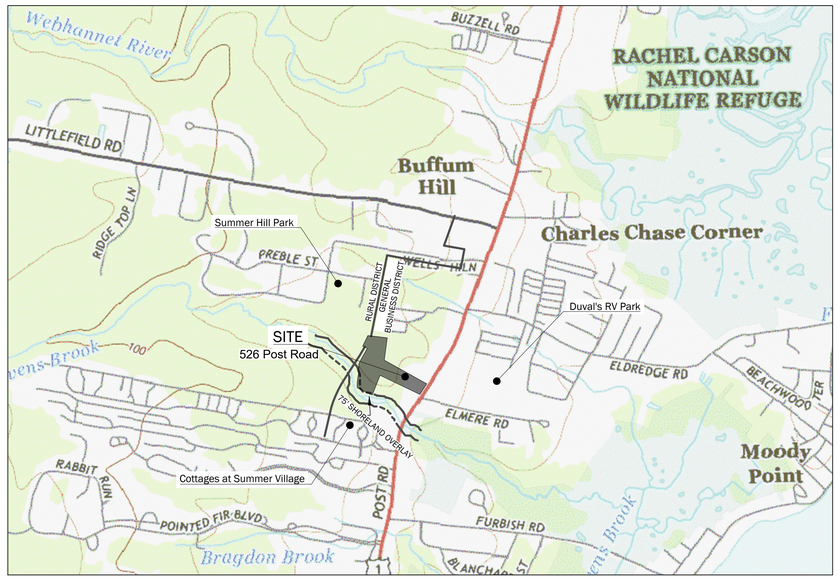
Prepared For:

The Grace Group, LLC
P. O. Box 2021
North Chelmsford, Massachusetts 01863

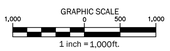
TOWN OF WELLS SITE PLAN AMENDMENT

WALSH
ENGINEERING ASSOCIATES, INC.

One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com







DRAWING LIST:

SHEET	SHEET TITLE
	COVER SHEET
	BOUNDARY SURVEY MAP 27, LOT 10-EXE PREPARED BY KIMBALL SURVEY
	AMENDED LAYOUT, LIGHTING AND PLANTING PLAN PREPARED BY MITCHELL & ASSOCIATES
C1.0	EXISTING CONDITIONS PLAN
C1.1	SITE PREPARATION PLAN
C2.0	SITE PLAN
C3.0	UTILITY PLAN
C3.1	GRADING PLAN
C3.2	EROSION CONTROL PLAN
C4.0	SITE DETAILS
C4.1	SITE DETAILS
C4.2	SITE DETAILS
C4.3	UTILITY DETAILS
C4.4	UTILITY DETAILS
C4.5	STORMWATER DETAILS

Submissions:

TYPE	JURISDICTION	DATE	STATUS
SITE PLAN AMENDMENT APPLICATION	TOWN OF WELLS	JANUARY 16, 2025	SUBMITTED
REVISED SITE PLAN APPLICATION SUBMISSION	TOWN OF WELLS	FEBRUARY 10, 2026	SUBMITTED

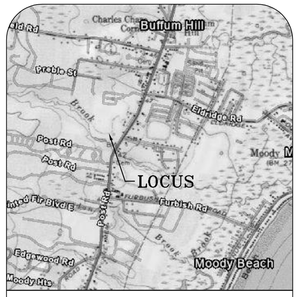
Record Owner:

THE GRACE GROUP, LLC
PO BOX 2021
NORTH CHELMSFORD, MA 01863

Parcel ID:

MAP 27
LOT 10-EXE

R:\2025_126\Plan Revs\ 26WO3_2025-126_Base.dwg Last Edited: 2/10/2026 11:04 AM



LOCUS MAP
SCALE: 1" = 1000'

N

N/F
JAMES F. & JANICE MANDEVILLE
3497/317
MAP 113, LOT 18

N/F
SUMMER HILL MHC HOLDINGS, LLC
19291/593
MAP 114, LOT 8

N/F
RICHARD JERGENSEN &
PAMELA HIGGINS
19532/765
MAP 27, LOT 8A

N/F
THE WELLS CHURCH OF THE
NAZARENE
3682/207
2281/318
MAP 114, LOT 1-EXE

N/F
MORRISON CENTER
16810/234
MAP 27, LOT 10-EXE
354,916 S.F.
8.15 AC.

N/F
RICHARD JERGENSEN &
PAMELA HIGGINS
9960/311
2944/169
MAP 27, LOT 8

3/4" 0.8'A.G.
S82°49'35"E 46.74'
DRILL HOLE
S84°05'47"E 89.43'
S83°15'23"E 137.75'
5/8" 0.7'A.G.
N29°56'26"E 164.11'
3/4" 0.8'A.G.
N86°51'03"W 70.63'
3/4" 0.8'A.G.
313.98'
S07°20'17"W
5/8" 0.4'A.G.
N29°20'30"E 241.07'
1-1/2" 1.4'A.G.
N02°35'08"E 59.18'
5/8" 0.6'A.G.
5/8" 0.2'A.G.
N02°46'39"E 86.49'
1-1/4" 1.2'A.G.
N08°21'09"E 111.54'
N03°29'39"E 54.20'
N11°25'40"W 33.80'
200.38'
N63°45'20"W
29.98'
N71°59'35"W)
5/8" POST ROAD 0.7'A.G.
S21°41'18"W 294.77'
5/8" POST ROAD 0.5'A.G.
2.0'A.G.
615.05'
N64°18'33"W
S60°32'10"E 877.22'
PAVED PARKING
FENCE
SHED
1 STORY BUILDING
PAVED DRIVE
UTILITY POLE SERVICING ABUTTER SEE NOTE 7.A.
OHU
SIGN
2" FLUSH
SPIKE 0.1'B.G.
S35°03'54"W 176.80'
5/8" 0.1'B.G.
WW
POST ROAD/U.S. ROUTE 1
NORTH
GRID
0
50'
100'
200'

LEGEND

	IRON PIPE FOUND (SIZE AS NOTED)
	UTILITY POLE (NUMBER AS NOTED)
	GUY WIRE ANCHOR
	FIRE HYDRANT
S	SEWER MANHOLE
	CATCH BASIN
W	WATER VALVE
	LIGHT POLE
	SIGN
	BOUNDARY LINE
	ABUTTER OR RIGHT-OF-WAY LINE
	STONE WALL
OHU	OVERHEAD UTILITIES
D	DRAIN/CULVERT
N/F	NOW OR FORMERLY
1234/567	DEED BOOK & PAGE
A.G.	ABOVE GROUND
B.G.	BELOW GROUND

NOTES

1. THE BASIS OF BEARING FOR THIS SURVEY IS NAD83 MAINE STATE PLANE COORDINATE SYSTEM-WEST ZONE, U.S. SURVEY FEET.
2. DEED AND PLAN BOOK REFERENCES ARE TO THE YORK COUNTRY REGISTRY OF DEED (YCRD).
3. REFERENCE IS MADE TO THE FOLLOWING DEEDS:
   A. A DEED FROM KKRS PROPERTIES, LLC TO MORRISON CENTER DEEDED APRIL 28, 2014 AND RECORDED IN BOOK 16810, PAGE 234.
4. REFERENCE IS MADE TO THE FOLLOWING PLANS:
   A. "PLAN SHOWING LAND OF REGINALD S. BACON WELL, MAINE" BY LIBBY & DOW DATED OCT. 1945 AND RECORDED IN PLAN BOOK 16, PAGE 52.
   B. "WELLS HIGHLANDS PHASE II SUBDIVISION OF LAND OF JELLEIGH REALTY CO. WELLS, MAINE BY MOULTON ENGINEERING, CO. DATED 2-3-75 AND RECORDED IN PLAN BOOK 72, PAGE 45.
   C. "REVISED PLAN OF WELLS HIGHLANDS PHASE II SUBDIVISION OF LAND OF JELLEIGH REALTY CO. WELLS, MAINE BY MOULTON ENGINEERING, CO. DATED 2-3-75 AND RECORDED IN PLAN BOOK 150, PAGE 3.
   D. "STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP STATE HIGHWAY "1" WELLS, YORK COUNTY, FEDERAL AID PROJECT NO. STP-6705(00)X" DATED AUGUST 1999 AND RECORDED IN PLAN BOOK 277, PAGES 31 & 32.
   E. "BOUNDARY SURVEY PLAN OF LAND OF RICHARD JORGENSEN & PAMELA HIGGINS F/K/A PAMELA JORGENSEN DEPICTING A FUTURE CONVEYANCE OF THE "SHOP LOT" LOCATED ON THE NORTHWESTERLY SIDE OF POST ROAD AND THE EASTERLY SIDE OF STEVENS BROOK WELLS, MAINE" BY ATTAR ENGINEERING, INC. DATED 11/01/2024 NOT RECORDED.
   F. "PLAN SHOWING A STANDARD BOUNDARY SURVEY MADE FOR RUTH M. KIMBALL WELLS, MAINE" BY DOW + COLOMBE, INC. DATED OCTOBER 7, 1985 NOT RECORDED.
   G. "MORRISON CENTER WELLS 526 POST ROAD/U.S. ROUTE ONE WELLS, MAINE GRADING, DRAINAGE AND UTILITIES PLAN" BY MITCHELL & ASSOCIATES DATED MAY 24, 2013 NOT RECORDED.
   H. "MORRISON CENTER WELLS 526 POST ROAD/U.S. ROUTE ONE WELLS, MAINE AMENDED LAYOUT, LIGHTING AND PLANTING PLAN" BY MITCHELL & ASSOCIATES DATED MAY 31, 2013 NOT RECORDED.
   I. "SUNDOG STEAK & SEAFOOD COMPANY AS-BUILT LANDSCAPING PLAN" BY LOUIS BERGER & ASSOCIATES, INC. DATED 4-99 NOT RECORDED.
5. THE LOT SURVEYED IS IDENTIFIED ON THE TOWN OF WELLS ASSESSOR'S MAP 27, LOT 10-EXE.
6. THE SIDELINE OF POST ROAD IS BASED ON THE PLANS REFERENCED IN NOTE 4.D. ABOVE AND FOUND MONUMENTATION.
7. REFERENCE IS MADE TO THE FOLLOWING EASEMENTS OF RECORD:
   A. THE LOCUS PROPERTY IS SUBJECT TO A UTILITY LINE EASEMENT AS RECORDED IN BOOK 1422, PAGE 547.
8. EASEMENTS OR OTHER UNWRITTEN RIGHTS MAY EXIST THAT ENCUMBER OR BENEFIT THE PROPERTY NOT SHOWN HEREON.
9. THE BOUNDARY SHOWN HEREON IS THE OPINION OF THIS SURVEYOR BASED ON THE INFORMATION DISCOVERED DURING THE PERIOD OF WORK AND MAY BE SUBJECT TO CHANGE IF ADDITIONAL INFORMATION BECOMES AVAILABLE.
10. EXCEPTIONS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS STANDARDS ARE AS FOLLOWS:
    A. NO SURVEY REPORT WAS PREPARED.
    B. NO REVISED LEGAL DESCRIPTION PREPARED
    C. MONUMENTS WERE NOT SET AT ALL ANGLE POINTS

NO.	DATE	BY:	REVISION DESCRIPTION

STATE OF MAINE
ISAIAH F. KIMBALL
PLS 2309
REGISTERED PROFESSIONAL LAND SURVEYOR

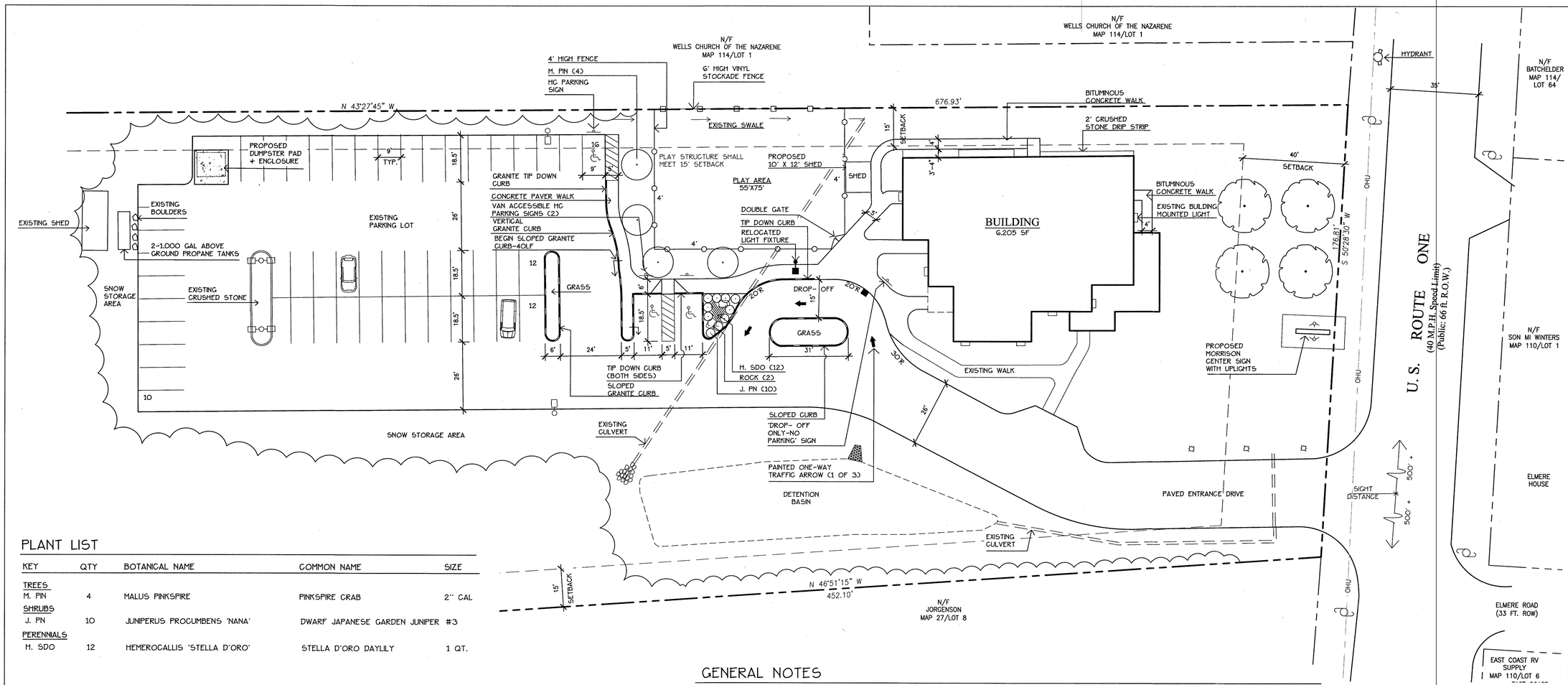
KIMBALL
SURVEY & DESIGN, INC.
30 FROST HILL ROAD
YORK, MAINE 03909
207-351-0226
ISAIAH@KIMBALLANDSURVEYING.COM
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PROFESSIONAL LAND SURVEYING

Prepared for:
Walsh Engineering Associates, Inc.
1 Karen Drive, #2A
Westbrook, Maine 04092

Boundary Survey
Map 27, Lot 10-EXE
526 Post Road
Wells, Maine

DATE: MAY 28, 2025
PROJECT NO. 2627
SCALE: 1" = 50'
CAD FILE: 2627.dwg

SHEET 1 OF 1



PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES				
M. PIN	4	MALUS PINKSPIRE	PINKSPIRE CRAB	2" CAL
SHRUBS				
J. PN	10	JUNIPERUS PROCUMBENS 'NANA'	DWARF JAPANESE GARDEN JUNIPER	#3
PERENNIALS				
H. SDO	12	HEMEROCALLIS 'STELLA D'ORO'	STELLA D'ORO DAYLILY	1 QT.

STANDARD CONDITIONS OF APPROVAL

1. SITE PLAN APPROVAL SECURED UNDER THE PROVISIONS OF THIS CHAPTER SHALL EXPIRE WITHIN 10 YEARS FROM THE DATE ON WHICH THE SITE PLAN IS SIGNED IF ALL ASPECTS OF THE SITE PLAN APPROVAL ARE NOT FULLY COMPLETED AND ESTABLISHED. (a145-74FC1J)
2. APPROVAL IS CONDITIONED UPON COMPLIANCE BY THE APPLICANT WITH THE PLANS AND SPECIFICATIONS WHICH HAVE BEEN RECEIVED BY THE TOWN IN CONNECTION WITH THIS DEVELOPMENT PROPOSAL.
3. ANY APPROVAL MAY INCLUDE A PHASING PLAN WHICH WOULD ALLOW THE ISSUANCE OF BUILDING PERMITS FOR A MULTI-BUILDING PROJECT TO BE PHASED ACCORDING TO A PROPOSED TIME SCHEDULE. (a145-74FC2J).
4. CONDITIONS OF APPROVAL OR NOTES WRITTEN ON THE FACE OF THE SITE PLAN MAY BE AMENDED ONLY BY THE REVIEWING AUTHORITY THAT APPROVED THE SITE PLAN. (a145-74GC1XB3J)
5. FAILURE TO COMPLY WITH ANY CONDITIONS OF APPROVAL SHALL BE CONSTRUED TO BE A VIOLATION OF ARTICLE X OF THE LAND USE ORDINANCE AND SHALL BE GROUNDS FOR REVOKING THE APPROVED DEVELOPMENT PLAN. INITIATING LEGAL PROCEEDINGS TO ENJOIN CONSTRUCTION DEVELOPMENT OR ANY SPECIFIC ACTIVITY VIOLATING THE CONDITIONS OF PLAN APPROVAL OR APPLYING THE LEGAL PENALTIES DETAILED IN a145-G4. (a145-79A3)
6. WHENEVER SEDIMENTATION IS CAUSED BY STRIPPING VEGETATION, REGRADING OR OTHER DEVELOPMENT, IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO IMMEDIATELY INSTALL SEDIMENTATION CONTROL DEVICES ON HIS LOT AND TO REMOVE SEDIMENT FROM ALL ADJOINING SURFACES. DRAINAGE SYSTEMS AND WATERCOURSES AND TO REPAIR ANY DRAINAGE. AT HIS EXPENSE, AS QUICKLY AS POSSIBLE. ANY LANDOWNER THAT FAILS TO DO SO WITHIN TWO WEEKS AFTER OFFICIAL WRITTEN NOTIFICATION BY THE CODE ENFORCEMENT OFFICER SHALL BE PENALIZED AS SET FORTH IN a145-G4. (a145-79B3)
7. EROSION OF SOIL AND SEDIMENTATION OF WATERCOURSES AND WATER BODIES SHALL BE MINIMIZED BY EMPLOYING THE FOLLOWING BEST-MANAGEMENT PRACTICES (a145-75F3)
   (A) STRIPPING OF VEGETATION, SOIL REMOVAL AND REGRADING OR OTHER DEVELOPMENT SHALL BE ACCOMPLISHED IN SUCH A WAY AS TO MINIMIZE EROSION.
   (B) THE DURATION OF EXPOSURE OF THE DISTURBED AREA SHALL BE KEPT TO A PRACTICAL MINIMUM.
   (C) TEMPORARY VEGETATION AND/OR MULCHING SHALL BE USED TO PROTECT EXPOSED CRITICAL AREAS DURING DEVELOPMENT.
   (D) PERMANENT (FINAL) VEGETATION AND MECHANICAL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE STANDARDS OF THE YORK COUNTY SOIL AND WATER CONSERVATION DISTRICT OR THE MAINE SOIL AND WATER CONSERVATION COMMISSION SHALL BE INSTALLED AS SOON AS PRACTICABLE AFTER CONSTRUCTION ENDS.
   (E) UNTIL A DISTURBED AREA IS STABILIZED, SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED BY THE USE OF DEBRIS BASINS, SILT TRAPS OR OTHER ACCEPTABLE METHODS AS DETERMINED BY THE REVIEWING AUTHORITY.
   (F) THE TOP OF A CUT OR THE BOTTOM OF A FILL SECTION WHICH ALTERS THE EXISTING GRADE BY MORE THAN TWO FEET SHALL NOT BE CLOSER THAN 10 FEET TO AN ADJOINING LOT.
   (G) DURING GRADING OPERATIONS, METHODS OF DUST CONTROL SHALL BE EMPLOYED.
   (H) THE PROPOSED SITE PLAN SHALL PREVENT SOIL EROSION AND SEDIMENTATION FROM ENTERING WATERBODIES, WETLANDS, AND ADJACENT PROPERTIES.
   (I) THE PROCEDURES OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE IMPLEMENTED DURING THE SITE PREPARATION, CONSTRUCTION, AND CLEAN-UP STAGES.
   (J) CUTTING OR REMOVAL OF VEGETATION ALONG WATERBODIES SHALL NOT INCREASE WATER TEMPERATURE OR RESULT IN SHORELINE EROSION OR SEDIMENTATION.
   (K) TOPSOIL SHALL BE CONSIDERED PART OF THE SITE PLAN AND SHALL NOT BE REMOVED FROM THE SITE EXCEPT FOR SURPLUS TOPSOIL FROM ROADS, PARKING AREAS, AND BUILDING EXCAVATIONS.
8. THE PROPERTY SHOWN ON THIS PLAN MAY BE DEVELOPED AND USED ONLY AS DEPICTED ON THIS APPROVED PLAN. ALL ELEMENTS AND FEATURES OF THE PLAN AND ALL REPRESENTATIONS MADE BY THE APPLICANT IN THE RECORD OF THE PLANNING BOARD AND/OR STAFF REVIEW COMMITTEE PROCEEDINGS ARE CONDITIONS OF THE APPROVAL. NO CHANGE FROM THE CONDITIONS OF APPROVAL IS PERMITTED UNLESS AN AMENDED PLAN IS FIRST SUBMITTED TO AND APPROVED BY THE PLANNING BOARD AND/OR STAFF REVIEW COMMITTEE.
9. APPROVAL OF THE APPLICATION OR AMENDMENT APPLICATION DOES NOT RELIEVE THE APPLICANT FROM THE RESPONSIBILITY TO OBTAIN BUILDING PERMITS PRIOR TO CONSTRUCTION AND USE PERMITS PRIOR TO OCCUPANCY.
10. IT IS THE APPLICANT'S RESPONSIBILITY TO CONTACT DIG SAFE PRIOR TO CONSTRUCTION.
11. IT IS THE OWNER/HOMEOWNERS ASSOCIATION/APPLICANT/DEVELOPER'S RESPONSIBILITY, NOT THE TOWN CODE OFFICE OR TOWN PLANNING OFFICE, TO CONTACT THE TOWN CLERK'S OFFICE TO APPLY FOR AND MAINTAIN ANY AND ALL BUSINESS LICENSE(S) FOR THE USE(S) CONDUCTED ON THIS SUBDIVISION/SITE PLAN PARCEL(S).
12. APPROVAL OF ANY PROPOSED FIELD CHANGES SHALL BE OBTAINED PRIOR TO CONSTRUCTION. SAID APPROVALS SHALL BE IN WRITING. THE CODE ENFORCEMENT OFFICE SHALL CONSULT WITH THE OFFICE OF PLANNING AND DEVELOPMENT PRIOR TO APPROVING ANY FIELD CHANGE.
13. PRIOR TO THE POURING OF A BUILDING FOOTING/FOUNDATION, THE LOCATION OF EACH COTTAGE AND/OR BUILDING TO BE CONSTRUCTED SHALL BE LOCATED ON THE FACE OF THE EARTH AND SHALL BE MARKED WITH SURVEYOR PINS OR STAKES. THE DEVELOPER SHALL RECEIVE APPROVAL OF EACH COTTAGE AND/OR BUILDING LOCATION FROM THE CODE ENFORCEMENT OFFICE PRIOR TO THE COMMENCEMENT OF FOOTING/FOUNDATION EXCAVATION.
14. IF THE PROPERTY WILL BE CONVERTED TO A CONDOMINIUM FORM OF OWNERSHIP, THE PROPOSED CONDOMINIUM DOCUMENTS MUST BE PRESENTED TO THE TOWN FOR REVIEW AND APPROVAL BY THE TOWN ATTORNEY. NO USE PERMIT SHALL BE ISSUED UNTIL THE TOWN ATTORNEY HAS INDICATED APPROVAL OF THE CONDOMINIUM DOCUMENTS.
15. UPON COMPLETION OF CONSTRUCTION, THE APPLICANT SHALL PROVIDE TO THE TOWN RECORD AS-BUILT DRAWINGS OF THE ROADWAY, DRAINAGE, AND UTILITY RELATED CONSTRUCTION WORK.
16. THE TOWN OF WELLS, MAINE MAY EMPLOY THE SERVICES OF AN ENGINEERING FIRM TO ASSIST IN THE INSPECTION OF ROADS AND OTHER INFRASTRUCTURE IF, IN THE OPINION OF THE CODE ENFORCEMENT OFFICE, THE WORK NECESSARY TO INSURE COMPLIANCE WITH TOWN ORDINANCES OR THE REQUIREMENTS OF THIS APPROVAL ARE BEYOND THOSE CAPACITIES AVAILABLE BY STAFF. THE COST OF SUCH ADDITIONAL SERVICES WILL BE BORN BY THE DEVELOPER.
17. ALL COMPONENTS, FEATURES, IMPROVEMENTS AND CONDITIONS OF SITE PLAN APPROVAL SHALL BE FULLY COMPLETED PRIOR TO ANY ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

GENERAL NOTES

1. APPLICANT: MORRISON DEVELOPMENTAL CENTER
   60 CHAMBERLAIN ROAD
   SCARBOROUGH, MAINE 04070
2. OWNER: KKRS PROPERTIES, L.L.C.
   1 WINTERBERRY LANE
   YORK, MAINE 03909
3. ZONING DISTRICT: GENERAL BUSINESS (GB) FOR 1,000 FEET BACK FROM ROUTE ONE AND 75 FOOT SHORELAND OVERLAY DISTRICT.
4. TOTAL SITE AREA: 8.15 ACRES (355,014 SF)
5. BOOK + PAGE: BOOK 10571, PAGE 051
6. TAX MAP + LOT NO: MAP 27, LOT 10
7. DIMENSIONAL REQUIREMENTS (GENERAL BUSINESS DISTRICT):

	REQUIRED	PROPOSED
MINIMUM LOT AREA	20,000 SF	355,014 SF
MINIMUM LOT FRONTAGE	100 FEET	676.93 FEET
MIN. SETBACK STATE HIGHWAY	40 FEET	176.81 FEET
MIN. SETBACK LOT LINE	15 FEET	69 FEET
MAXIMUM BUILDING HEIGHT	34 FEET	20 FEET
MAXIMUM LOT COVERAGE	65 PERCENT	10.7 PERCENT

8. EXISTING CONDITIONS, ELEVATIONS AND BOUNDARY INFORMATION TAKEN FROM A PLAN ENTITLED 'SUNDOG STEAK + SEAFOOD COMPANY, LANDSCAPING PLAN' PREPARED BY LOUIS BERGER + ASSOCIATES, INC. DATED SEPTEMBER 1997.
9. BUILDING SUMMARY:
   EXISTING GROSS FLOOR AREA: 6,205 SF
   PROPOSED GROSS FLOOR AREA: 6,205 SF
10. PARKING SUMMARY:
    7 CLASSROOMS (3 SPACES X 7 ROOMS) =21 SPACES
    34 STUDENTS (1 SPACE PER 5 STUDENTS) = 7 SPACES
    TOTAL REQUIRED SPACES 28 SPACES
    PROPOSED PARKING 52 SPACES
11. PROJECT INFORMATION:
    PROPOSED USE: SCHOOL
    WATER: PUBLIC WATER
    SEWER: PUBLIC SEWER
    EXISTING LOT COVERAGE: 43,080 SF OR 12.1 PERCENT
    PROPOSED LOT COVERAGE: 38,141 SF OR 10.7 PERCENT
12. ALL SIGNS SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 145-40 OF THE WELLS LAND USE CODE.
13. ALL EXTERIOR LIGHTING SHALL BE DOWNWARD DIRECTIONAL AND SHALL NOT PRODUCE GLARE ONTO ABUTTING LOTS OF RIGHTS OF WAYS AS TO IMPAIR THE VISION OF VEHICULAR TRAFFIC.
14. THE SOUTHWESTERLY BOUNDARY OF THIS PROPERTY IS WITHIN THE 75 FOOT SHORELAND OVERLAY DISTRICT BUT THAT NO DEVELOPMENT EXISTS OR IS PROPOSED WITHIN THIS AREA.
15. A KNOX BOX SHALL BE LOCATED ON THE BUILDING AS APPROVED BY THE WELLS FIRE DEPARTMENT.
16. THE PURPOSE OF THIS AMENDED SITE PLAN IS TO ADD A 10' X 12' SHED TO THE PROPERTY.
17. A NEW DRAINAGE SWALE WAS CONSTRUCTED BETWEEN THE EASTERLY SIDE OF THE PARKING LOT AND THE PLAY AREA IN ORDER TO CAPTURE AND DIVERT STORMWATER RUNOFF FROM FLOWING ACROSS THE PLAY AREA.
18. THE CEO AND TOWN ENGINEER/PLANNER MAY APPROVE THE ADDITION OF SHEDS NOT EXCEEDING 300 SF IN SIZE ON THE PROPERTY.

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
ABUTTING PROPERTY LINE		
CURB		
UTILITY POLE		
HYDRANT		
BUILDING MOUNTED LIGHT		
OVERHEAD UTILITIES	OHU	
LIGHT POLE FIXTURE		
SIGN		
FENCE		
STOCKADE FENCE		
CULVERT		
CATCHBASIN		

Prepared For:

Morrison Center
PO Box 1539
60 Chamberlain Road
Scarborough, Maine 04070

Prepared By:
MITCHELL & ASSOCIATES
Landscape Architects
The Staples School
70 Center Street
Portland, Maine 04101
Tel: (207) 774-4427

MORRISON CENTER-WELLS

526 Post Road/ U.S. Route One Wells, Maine

Approved: Wells Staff Review Committee
Date: Nov. 12, 2014
Chairman,
Board Members,
APPROVED

Date: MAY 31, 2013

Revisions:
June 13, 2013: Per Town Review Comments
October 27, 2014: 10' X 12' shed added
November 10, 2014: staff comments

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Title: AMENDED LAYOUT, LIGHTING AND PLANTING PLAN

Scale: 1"=20'
0 10 20 40 ft.

North:

Sheet No.: 2

010-800

PARCEL INFORMATION:

OWNER OF RECORD:	THE GRACE GROUP, LLC PO BOX 2021 NORTH CHELMSFORD, MA 01863
PARCEL IDENTIFICATION:	TOWN OF WELLS TAX MAP 27, LOT 10-EXE.
TOTAL LOT AREA :	354,916 SF, 8.15 ACRES
CURRENT ZONE:	GENERAL BUSINESS DISTRICT 75' SHORELAND OVERLAY

FLOOD ZONE:

CLASSIFICATION:
ZONE X - AREAS DETERMINED TO BE OF MINIMAL FLOOD RISK
ZONE AE - ELEVATION 57.0

FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER:
23031C0586G & 23031C0587G

EFFECTIVE DATE: JULY 17, 2024

PARKING REQUIREMENTS:

REQUIREMENT - 145 -39.D :

EXISTING NON-RESIDENTIAL SCHOOL, REQUIRED:
3 SPACES PER CLASSROOM, FOR ELEMENTARY / JUNIOR-HIGH AND 1 SPACE PER 5 STUDENTS

7 CLASSROOMS (7 X 3):	=	21 SPACES
34 STUDENTS (34/5):	=	7 SPACES
TOTAL REQUIRED	=	28 SPACES

PROVIDED:
31 - SPACES (28 - STANDARD & 3 - ACCESSIBLE W/ ACCESS AISLES)

ZONING INFORMATION:

ZONE: GENERAL BUSINESS DISTRICT, CHAPTER 145-26

CURRENT USES: SCHOOL
PROPOSED USES: SCHOOL

MIN. LOT SIZE: 20,000 SQ. FT. WITH PUBLIC SEWER

MIN. STREET FRONTAGE PER LOT: 100 FEET / 75 FEET ON A CUL-DE-SAC

MAX. LOT COVERAGE: 65% OR 2,500 SQ. FT. WHICHEVER IS GREATER

MAX. BUILDING HEIGHT: 34 FEET, NOT TO EXCEED 3 STORIES

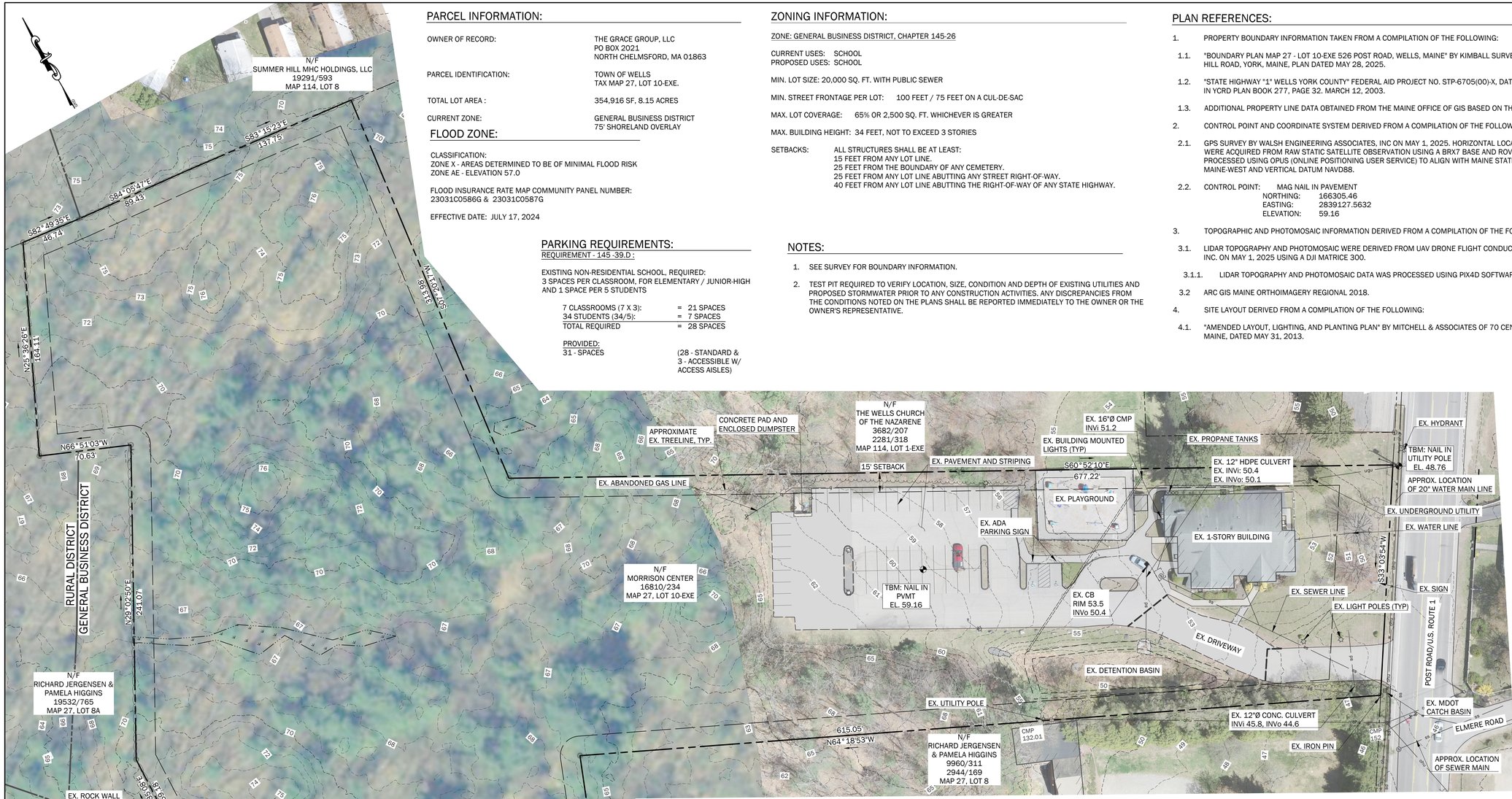
SETBACKS: ALL STRUCTURES SHALL BE AT LEAST:
15 FEET FROM ANY LOT LINE.
25 FEET FROM THE BOUNDARY OF ANY CEMETERY.
25 FEET FROM ANY LOT LINE ABUTTING ANY STREET RIGHT-OF-WAY.
40 FEET FROM ANY LOT LINE ABUTTING THE RIGHT-OF-WAY OF ANY STATE HIGHWAY.

NOTES:

1. SEE SURVEY FOR BOUNDARY INFORMATION.
2. TEST PIT REQUIRED TO VERIFY LOCATION, SIZE, CONDITION AND DEPTH OF EXISTING UTILITIES AND PROPOSED STORMWATER PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES FROM THE CONDITIONS NOTED ON THE PLANS SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR THE OWNER'S REPRESENTATIVE.

PLAN REFERENCES:

1. PROPERTY BOUNDARY INFORMATION TAKEN FROM A COMPILATION OF THE FOLLOWING:
   - 1.1. "BOUNDARY PLAN MAP 27 - LOT 10-EXE 526 POST ROAD, WELLS, MAINE" BY KIMBALL SURVEY & DESIGN, INC., 30 FROST HILL ROAD, YORK, MAINE, PLAN DATED MAY 28, 2025.
   - 1.2. "STATE HIGHWAY "1" WELLS YORK COUNTY" FEDERAL AID PROJECT NO. STP-6705(00)-X, DATED AUGUST 1999, RECORDED IN YCRD PLAN BOOK 277, PAGE 32. MARCH 12, 2003.
   - 1.3. ADDITIONAL PROPERTY LINE DATA OBTAINED FROM THE MAINE OFFICE OF GIS BASED ON THE TOWN OF WELLS TAX MAPS.
2. CONTROL POINT AND COORDINATE SYSTEM DERIVED FROM A COMPILATION OF THE FOLLOWING:
   - 2.1. GPS SURVEY BY WALSH ENGINEERING ASSOCIATES, INC ON MAY 1, 2025. HORIZONTAL LOCATION AND VERTICAL DATUM WERE ACQUIRED FROM RAW STATIC SATELLITE OBSERVATION USING A BRX7 BASE AND ROVER GPS SYSTEM. DATA WAS PROCESSED USING OPUS (ONLINE POSITIONING USER SERVICE) TO ALIGN WITH MAINE STATE COORDINATE SYSTEM, MAINE-WEST AND VERTICAL DATUM NAVD88.
   - 2.2. CONTROL POINT: MAG NAIL IN PAVEMENT
     NORTHING: 166305.46
     EASTING: 2839127.5632
     ELEVATION: 59.16
3. TOPOGRAPHIC AND PHOTOMOSAIC INFORMATION DERIVED FROM A COMPILATION OF THE FOLLOWING:
   - 3.1. LIDAR TOPOGRAPHY AND PHOTOMOSAIC WERE DERIVED FROM UAV DRONE FLIGHT CONDUCTED BY WALSH ENGINEERING, INC. ON MAY 1, 2025 USING A DJI MATRICE 300.
     - 3.1.1. LIDAR TOPOGRAPHY AND PHOTOMOSAIC DATA WAS PROCESSED USING PIX4D SOFTWARE.
   - 3.2 ARC GIS MAINE ORTHOIMAGERY REGIONAL 2018.
4. SITE LAYOUT DERIVED FROM A COMPILATION OF THE FOLLOWING:
   - 4.1. "AMENDED LAYOUT, LIGHTING, AND PLANTING PLAN" BY MITCHELL & ASSOCIATES OF 70 CENTER STREET PORTLAND, MAINE, DATED MAY 31, 2013.



EXISTING FEATURES LEGEND

EL=100.00	TEMPORARY BENCHMARK
	PROPERTY LINE
	ABUTTERS PROPERTY LINE
	STONEWALL
	SETBACK
	THREAD OF STREAM OR BROOK
	75' SHORELAND OVERLAY LIMIT
	FLOOD ZONE
	WETLANDS
	ZONING BOUNDARY
	IRON PIN OR PIPE FOUND
	REBAR SET
	BUILDING
	EDGE OF PAVEMENT
	BITUMINOUS CURB
100	INDEX CONTOUR
101	INTERMEDIATE CONTOUR
	TREELINE
w	WATERLINE
	WATER LINE GATE VALVE
ohu	OVERHEAD UTILITY
ugu	UNDERGROUND UTILITY
	STORM DRAIN CULVERT
	STORM DRAIN CATCH BASIN
sd	STORM DRAIN LINE
S	SANITARY SEWER MANHOLE
ss	SANITARY SEWER LINE
g	GAS LINE
	BOLLARD LIGHT
	UTILITY POLE
	SIGN

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.

WALSH
ENGINEERING ASSOCIATES, INC.
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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/13/2026

526 POST ROAD

526 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

PRELIMINARY - NOT FOR CONSTRUCTION

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	2/10/2026	Town Permit Updates	MRM	LLT

Sheet Title:
EXISTING CONDITIONS PLAN

Job No.: 1005	Sheet No.: C1.0
Date: 01/13/2026	
Scale: AS SHOWN	
Drawn: MBP/MRM	
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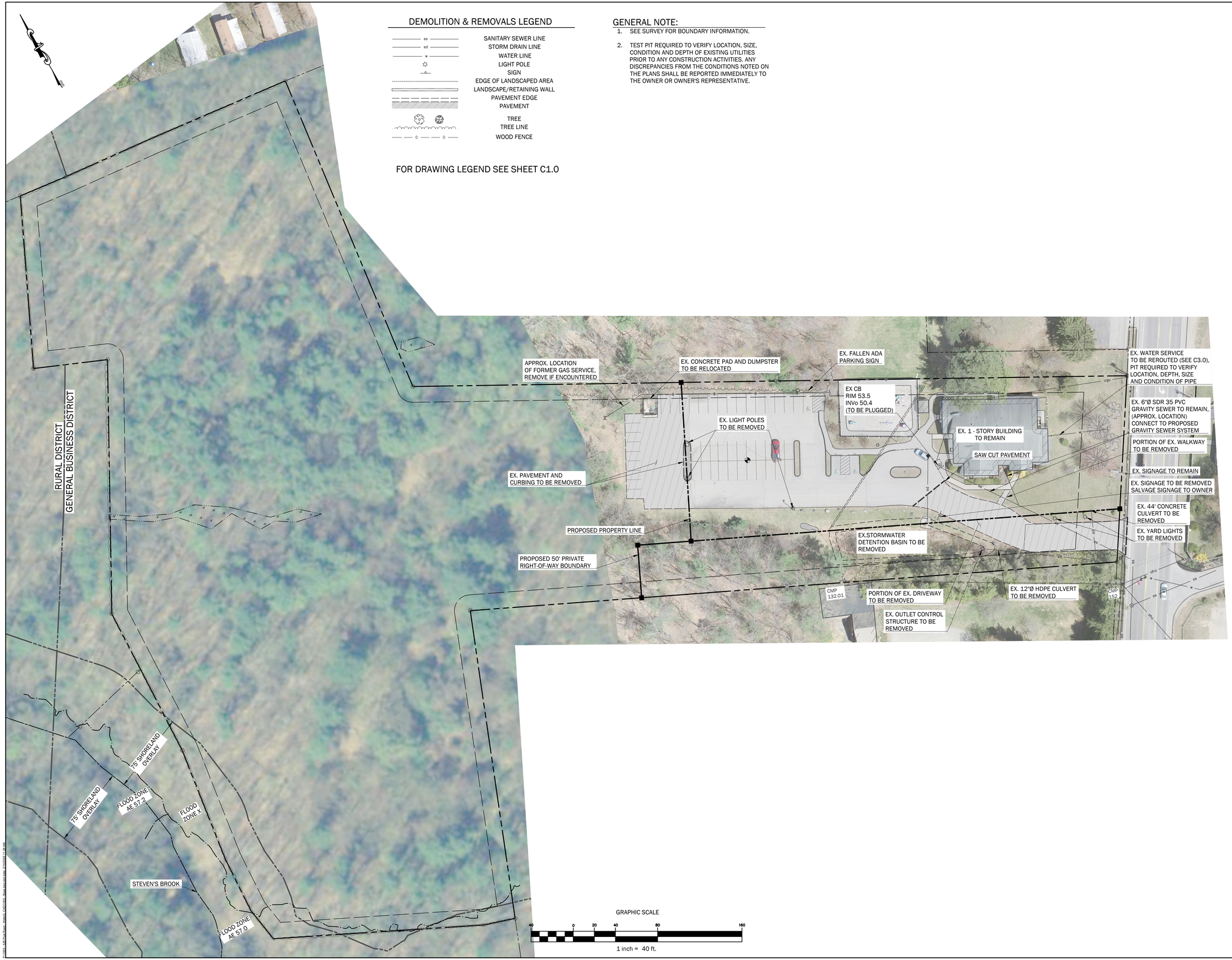
DEMOLITION & REMOVALS LEGEND

- SS — SANITARY SEWER LINE
- SD — STORM DRAIN LINE
- W — WATER LINE
- LIGHT POLE
- SIGN
- EDGE OF LANDSCAPED AREA
- LANDSCAPE/RETAINING WALL
- PAVEMENT EDGE
- PAVEMENT
- TREE
- TREE LINE
- WOOD FENCE

FOR DRAWING LEGEND SEE SHEET C1.0

GENERAL NOTE:

1. SEE SURVEY FOR BOUNDARY INFORMATION.
2. TEST PIT REQUIRED TO VERIFY LOCATION, SIZE, CONDITION AND DEPTH OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES FROM THE CONDITIONS NOTED ON THE PLANS SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.



GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/13/2026

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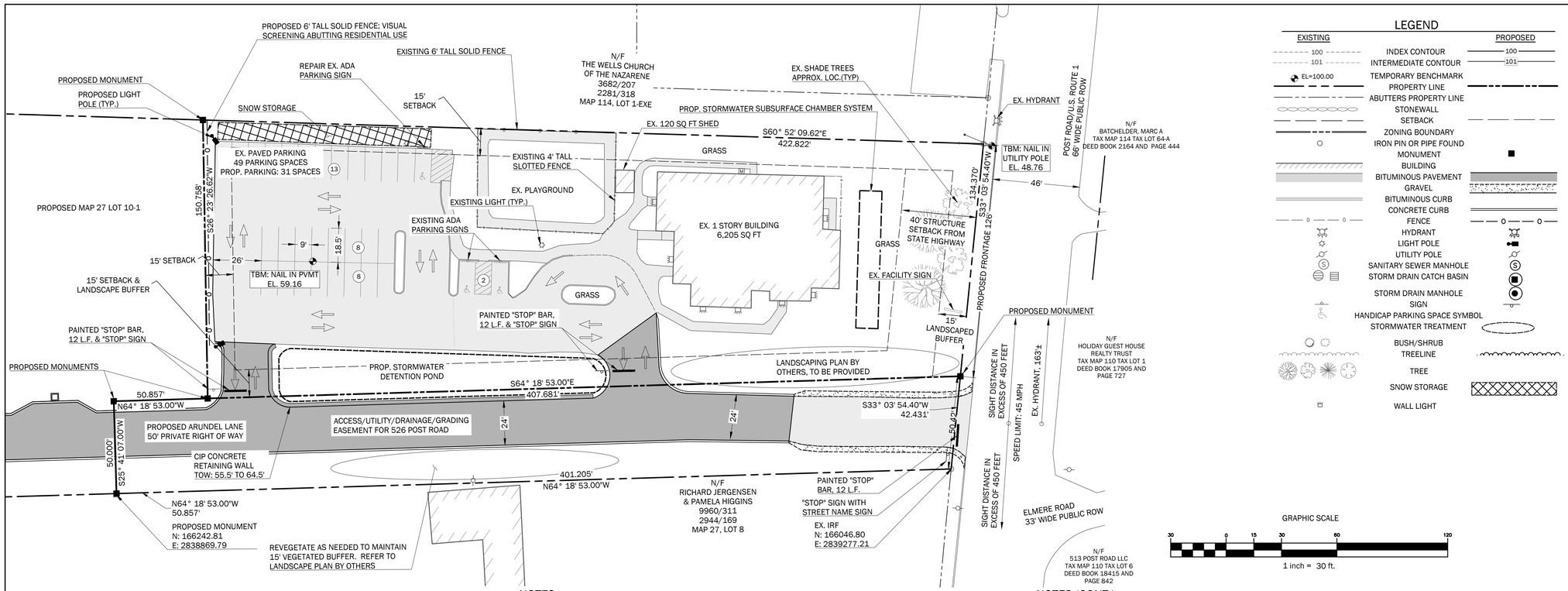
Sheet Title:
SITE PREPARATION PLAN

Job No.:	1005
Date:	01/13/2026
Scale:	AS SHOWN
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Sheet No.: C1.1

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LEGEND

EXISTING		PROPOSED
100	INDEX CONTOUR	100
101	INTERMEDIATE CONTOUR	101
EL=100.00	TEMPORARY BENCHMARK	
	PROPERTY LINE	
	ABUTTERS PROPERTY LINE	
	STONEWALL	
	SETBACK	
	ZONING BOUNDARY	
	IRON PIN OR PIPE FOUND	
	MONUMENT	
	BUILDING	
	BITUMINOUS PAVEMENT	
	GRAVEL	
	BITUMINOUS CURB	
	CONCRETE CURB	
	FENCE	
	HYDRANT	
	LIGHT POLE	
	UTILITY POLE	
	SANITARY SEWER MANHOLE	
	STORM DRAIN CATCH BASIN	
	STORM DRAIN MANHOLE	
	SIGN	
	HANDICAP PARKING SPACE SYMBOL	
	STORMWATER TREATMENT	
	BUSH/SHRUB	
	TREELINE	
	TREE	
	SNOW STORAGE	
	WALL LIGHT	

ZONING INFORMATION:

ZONE: GENERAL BUSINESS DISTRICT, CHAPTER 145-26

EXISTING PERMITTED USE(S): SCHOOL
CURRENT USES: SCHOOL

MIN. LOT SIZE:
20,000 SQ. FT. NET AREA WITH PUBLIC SEWER

MAXIMUM DENSITY: 1 DWELLING PER 20,000 SQ. FT. NET AREA WITH PUBLIC SEWER

MIN. STREET FRONTAGE PER LOT: 100 FEET / 75 FEET ON A CUL-DE-SAC

MAX. LOT COVERAGE: 65% OR 2,500 SQ. FT. WHICHEVER IS GREATER

MIN. BUILDING HEIGHT: 34 FEET, NOT TO EXCEED 3 STORIES

SETBACKS: ALL STRUCTURES SHALL BE AT LEAST:
15 FEET FROM ANY LOT LINE.
25 FEET FROM THE BOUNDARY OF ANY CEMETERY.
25 FEET FROM ANY LOT LINE ABUTTING ANY STREET RIGHT-OF-WAY.
40 FEET FROM ANY LOT LINE ABUTTING THE RIGHT-OF-WAY OF ANY STATE HIGHWAY.

PLAN REFERENCES:

1. PROPERTY BOUNDARY INFORMATION TAKEN FROM A COMPILATION OF THE FOLLOWING:

1.1. "BOUNDARY PLAN MAP 27 - LOT 10-EXE 526 POST ROAD, WELLS, MAINE" BY KIMBALL SURVEY & DESIGN, INC., 30 FROST HILL ROAD, YORK, MAINE, PLAN DATED MAY 28, 2025.

1.2. "STATE HIGHWAY "1" WELLS YORK COUNTY" FEDERAL AID PROJECT NO. STP-6705(00)-X, DATED AUGUST 1999, RECORDED IN YCRD PLAN BOOK 277, PAGE 32. MARCH 12, 2003.

1.3. ADDITIONAL PROPERTY LINE DATA OBTAINED FROM THE MAINE OFFICE OF GIS BASED ON THE TOWN OF WELLS TAX MAPS.

2. CONTROL POINT AND COORDINATE SYSTEM DERIVED FROM A COMPILATION OF THE FOLLOWING:

2.1. GPS SURVEY BY WALSH ENGINEERING ASSOCIATES, INC ON MAY 1, 2025. HORIZONTAL LOCATION AND VERTICAL DATUM WERE ACQUIRED FROM RAW STATIC SATELLITE OBSERVATION USING A BRX7 BASE AND ROVER GPS SYSTEM. DATA WAS PROCESSED USING OPUS (ONLINE POSITIONING USER SERVICE) TO ALIGN WITH MAINE STATE COORDINATE SYSTEM, MAINE-WEST AND VERTICAL DATUM NAVD88.

2.2. CONTROL POINT: MAG NAIL IN PAVEMENT
NORTHING: 166305.46
EASTING: 2839127.5632
ELEVATION: 59.16

3. TOPOGRAPHIC AND PHOTOMOSAIC INFORMATION DERIVED FROM A COMPILATION OF THE FOLLOWING:

3.1. LIDAR TOPOGRAPHY AND PHOTOMOSAIC WERE DERIVED FROM UAV DRONE FLIGHT CONDUCTED BY WALSH ENGINEERING, INC. ON MAY 1, 2025 USING A DJI MATRICE 300.
3.1.1. LIDAR TOPOGRAPHY AND PHOTOMOSAIC DATA WAS PROCESSED USING PIX4D SOFTWARE.

3.2 ARC GIS MAINE ORTHOIMAGERY REGIONAL 2018.

4. SITE LAYOUT DERIVED FROM A COMPILATION OF THE FOLLOWING:

4.1. "AMENDED LAYOUT, LIGHTING, AND PLANTING PLAN" BY MITCHELL & ASSOCIATES OF 70 CENTER STREET PORTLAND, MAINE, DATES MAY 31, 2013.

NOTES:

1. THE PURPOSE OF THIS SITE PLAN IS TO SEEK APPROVAL FOR SEPARATING THE COMMERCIAL LAND AREA FROM THE REMAINING LAND AREA.
2. OWNER: THE GRACE GROUP, LLC, LOCATED AT P.O. BOX 2021, NORTH CHELMSFORD, MASSACHUSETTS 01863.
3. APPLICANT: THE GRACE GROUP, LLC, LOCATED AT PO BOX 2021, NORTH CHELMSFORD, MASSACHUSETTS 01863.
4. EXISTING USES: 6,205 SF SCHOOL.
5. PROPOSED USES: 6,205 SF SCHOOL.
6. THIS SITE PLAN IS SUBJECT TO THE STANDARD CONDITIONS OF APPROVAL OF THE TOWN OF WELLS OFFICE OF PLANNING AND DEVELOPMENT AS DEFINED WITHIN THE SITE PLAN APPLICATION AND FINDINGS OF FACT OF THE REVIEWING AUTHORITY. CONDITIONS OF APPROVAL MAY BE AMENDED ONLY BY THE REVIEWING AUTHORITY THAT APPROVED THE SITE PLAN.
7. EXISTING & PROPOSED LOT COVERAGE:

EXISTING:		PROPOSED:	
EXISTING:	354,916 SF, 8.15 ACRES	PROPOSED:	57,447 SF, 1.32 ACRES
BUILDINGS:	6,325 SF	BUILDINGS:	6,325 SF
PAVEMENT&CURBS:	35,786 SF	PAVEMENT&CURBS:	23,563 SF
		RETAINING WALL:	58 SF
TOTAL:	42,111 SF = 12%	TOTAL:	29,946 SF = 52%

8. PARKING STRIPING AND DIRECTIONAL ARROWS ARE TO BE ADDED UPON COMPLETION OF PARKING LOT IMPROVEMENTS.
9. PARKING ALONG OR WITHIN THE ROUTE ONE AND ARUNDEL LANE RIGHT-OF-WAY IS PROHIBITED FOR ALL VEHICLES.
10. LANDSCAPING/BUFFERS :
10.1. 15' WIDE LANDSCAPED BUFFER ALONG LOT LINE ABUTTING STATE ROUTE 1 R.O.W. AND PRIVATE WAY TO BE PLANTED WITH SHADE TREES MIN. 3" DIAMETER AT BREAST HEIGHT AND LOW BUSHES (3'-4').
10.2. INSTALL 6' TALL SOLID FENCE, 120 LINEAR FEET ALONG REAR LOT LINE ABUTTING PROPOSED RESIDENTIAL USE.
11. ANY FENCES/SCREENING/BUFFERING/GRASSED AREAS SHALL BE MAINTAINED AND REPLACED IF DAMAGED.
12. IF EXISTING OR NEW LANDSCAPED PLANTINGS INCLUDING VISUAL SCREENING AND BUFFERS DIE OR ARE IN POOR HEALTH, THEY MUST BE REPLACED WITH AN ARBORVITAE OF APPROPRIATE SIZE.
13. ALL SIGNS SHALL BE IN CONFORMANCE WITH §145-40. ANY SIGN LIGHTING SHALL BE DIRECTED TO PREVENT GLARE ONTO ABUTTING STREETS OR PROPERTIES. A PORTION OF THE EXISTING SIGN TO BE RELOCATED OUT OF THE ROUTE ONE RIGHT-OF-WAY. INTERNALLY LUMINATED SIGNS ARE NOT PERMITTED.
14. ALL LIGHTING SHALL BE DIRECTIONAL AND/OR SHIELDED TO PREVENT GLARE ONTO STREETS OR ABUTTING PROPERTIES. NO NEW LIGHTING IS PROPOSED.
15. NO WASTE MATERIAL OR DEBRIS TO BE STORED OUTSIDE OF THE ROOFED BUILDINGS ON THE PROPERTY. ALL BUSINESS USES AND RELATED STORAGE, EXCEPT FOR THE SALE OF VEGETABLES, FRUITS, PLANTS, AND NATURAL CHRISTMAS TREES AND WREATHS, SHALL BE LOCATED ENTIRELY WITHIN AN ENCLOSED STRUCTURE, EXCEPT FOR DAY-CARE HOME OR DAY-CARE CENTER/NURSERY SCHOOL USES WITH A FENCED-IN AND/OR BUFFERED AREA NOT TO EXCEED 2,500 SQUARE FEET.
16. THE INSTALLATION OF A KNOX BOX IS RECOMMENDED. THE FIRE DEPARTMENT SHALL REVIEW THE LOCATION OF THE KNOX BOX PRIOR TO INSTALLATION.
17. PROPANE TANKS AND ALL EXPLOSIVE MATERIALS SHALL MEET NFPA & STATE STANDARDS
18. ON SITE TRASH DISPOSAL IS TO BE THE RESPONSIBILITY OF THE PROPERTY OWNER.

NOTES (CONT.):

1. THE PROPERTY IS TO BE SERVED BY PUBLIC WATER AND PUBLIC SEWER.
2. COMMERCIAL BUILDING DESIGN STANDARDS OF 145-24G APPLY TO THIS PROPERTY.
3. BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENTATION CONTROL SHALL BE FOLLOWED DURING SOIL DISTURBANCE.
4. ALL USES SHALL COMPLY WITH THE TOWN OF WELLS NOISE ORDINANCE.

SPECIAL CONDITION OF APPROVAL:

1. THIS SITE PLAN WILL BE SUBJECT TO SPECIAL CONDITIONS OF APPROVAL SET FORTH BY THE TOWN OF WELLS PLANNING AND DEVELOPMENT STAFF AND PLANNING BOARD.

PARKING REQUIREMENTS:

REQUIREMENT - 145 -39.D :

EXISTING NON-RESIDENTIAL SCHOOL, REQUIRED:
3 SPACES PER CLASSROOM, 1 PER 5 HIGH SCHOOL STUDENT

REQUIRED:

3 SPACES PER CLASSROOM, FOR ELEMENTARY /JUNIOR-HIGH

7 - CLASSROOMS (7 X 3):	=	21 SPACES
TOTAL REQUIRED	=	21 SPACES
OR		
7 - CLASSROOMS (7 x 3):	=	21 SPACES
UP TO 50 - STUDENTS (50 ÷ 5):	=	10 SPACES
TOTAL REQUIRED	=	31 SPACES

PROVIDED:
31 - SPACES (28 - STANDARD & 3 - ACCESSIBLE W/ ACCESS AISLES)

PARCEL INFORMATION:

OWNER OF RECORD:	THE GRACE GROUP, LLC PO BOX 2021 NORTH CHELMSFORD, MA 01863
PARCEL IDENTIFICATION (PORTION OF):	TOWN OF WELLS TAX MAP 27, LOT 10-EXE.
TOTAL LOT AREA (LOT 10-1 & 10):	354,916 SF, 8.15 ACRES
TOTAL AREA OF SITE PLAN LOT (10):	57,447 SF, 1.32 ACRES
TOTAL AREA OF SUBDIVISION LOT (10-1):	297,469 SF, 6.83 ACRES
CURRENT ZONE:	GENERAL BUSINESS DISTRICT 75' SHORELAND OVERLAY

PLANNING BOARD

APPROVED BY: DATE:

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WALSH
ENGINEERING ASSOCIATES, INC.
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WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/13/2026

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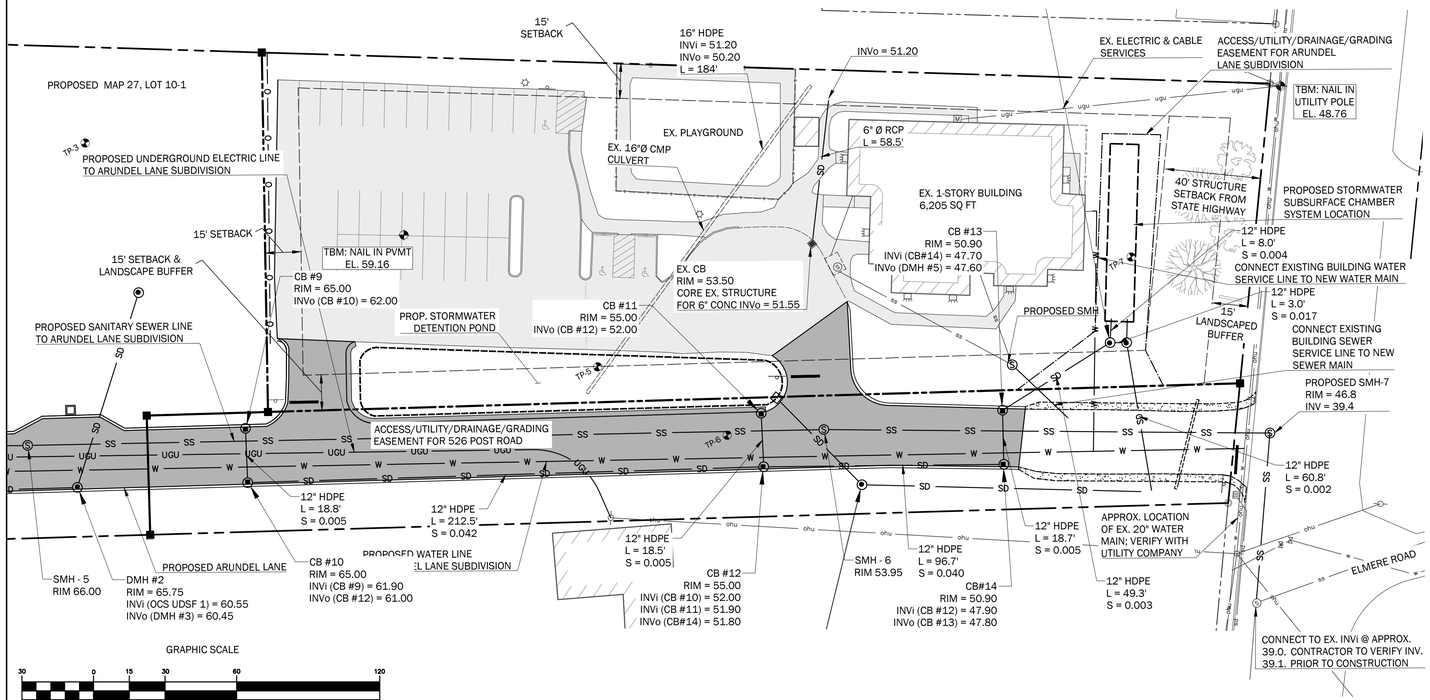
Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
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Sheet Title: SITE PLAN

Job No.:	1005
Date:	01/13/2026
Scale:	AS SHOWN
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Sheet No.: C2.0

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UTILITIES LEGEND

EXISTING		PROPOSED
●	SANITARY SEWER MANHOLE	◉
ss	SANITARY SEWER LINE	SS
w	WATERLINE	W
	HYDRANT	
ugu	UNDERGROUND UTILITY	UGU
T	ELECTRIC TRANSFORMER	T

FOR DESIGN DRAWING LEGEND SEE SHEET C2.0

GENERAL NOTE:

1. SEE SURVEY FOR BOUNDARY INFORMATION.
2. TEST PIT REQUIRED TO VERIFY LOCATION, SIZE, CONDITION AND DEPTH OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES FROM THE CONDITIONS NOTED ON THE PLANS SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.

GENERAL CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "DIG SAFE" AND LOCAL UTILITY COMPANIES AT LEAST THREE (3) BUSINESS DAYS, BUT NOT MORE THAN 30 CALENDAR DAYS, PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION, IN ACCORDANCE WITH MAINE STATE LAW. "DIG SAFE" TELEPHONE NUMBER IS 1-888-344-7233.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL AND ANY MEANS, METHODS, AND TECHNIQUES EMPLOYED TO PERFORM THE WORK SHOWN ON THE PLANS.
3. ALL WORK SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS INCLUDING ALL SAFETY REGULATIONS (OSHA).
4. ALL WORK SHALL BE IN CONFORMANCE ALL UTILITY COMPANIES STANDARDS.
5. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THE WORK SHOWN ON THESE PLANS PRIOR TO CONSTRUCTION.
6. ALL PAVEMENT/CONCRETE CUTS SHALL BE SAW CUT TO RESULT IN CLEAN EDGES. A TACK COAT SHALL BE APPLIED ALONG THE PAVEMENT CUT EDGES AND THE NEW PAVEMENT BUTTED TO IT, UNLESS OTHERWISE DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
7. ALL WORK SHALL COMPLY WITH THE TOWN OF WELLS STREET OPENING PERMIT REQUIREMENTS.
8. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING. REFER TO THE WRITTEN EROSION CONTROL PLAN AND DRAWINGS FOR FURTHER EROSION CONTROL GUIDELINES.
9. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS SHOWN ON THE DRAWINGS. IF ANY DISCREPANCIES ARE FOUND, THE OWNER OR OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IMMEDIATELY.

LAYOUT, MATERIALS, AND UTILITY NOTES:

1. REFER TO SURVEY FOR BOUNDARY INFORMATION AND SHEET C1.0 FOR EXISTING TOPOGRAPHIC INFORMATION.
2. ALL DIMENSIONS, LOCATIONS AND CONTROLS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.
3. DO NOT SCALE THE DRAWINGS FOR REQUIRED DIMENSIONS. ANY DISCREPANCIES IN DIMENSIONING SHALL BE REPORTED IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
4. ALL ANGLES ARE 90 DEGREES UNLESS OTHERWISE SHOWN.
5. ALL EDGES OF PAVING SHALL BE STAKED OUT BY THE CONTRACTOR AND REVIEWED BY THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
6. PROVIDE A SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING.
7. ALL DISTURBED AREAS NOT OTHERWISE TREATED SHALL BE LOAMED AND SEEDED.
8. CENTERLINES OF DRIVEWAY AND WALKWAY, PROPOSED PARKING LOT AND PROPOSED UTILITY LINES SHALL BE LOCATED AND LAID OUT BY PROFESSIONALLY LICENSED SURVEYOR.
9. SEE LANDSCAPING PLAN FOR NON-PAVED AREA SURFACE TREATMENTS AND CONCRETE PAVER PATTERN LAYOUTS.

TEST PIT NOTE:

TEST PIT REQUIRED TO VERIFY LOCATION, SIZE, CONDITION AND DEPTH OF EXISTING UTILITY PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES FROM THE CONDITIONS NOTED ON THE PLANS SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.

GRADING, DRAINAGE AND UTILITIES NOTES:

1. REFER TO SURVEY FOR BOUNDARY INFORMATION AND SHEET 1.2 FOR EXISTING TOPOGRAPHIC INFORMATION.
2. PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL VERIFY ALL AFFECTED GRADES. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.
3. ALL AREAS NOT REQUIRING GRADING SHALL BE LEFT UNDISTURBED. CONTRACTOR SHALL NOT DISTURB THESE AREAS AND PRESERVE EXISTING VEGETATION.
4. GRADE ALL NEW WORK FOR POSITIVE DRAINAGE AND NO PUDDLING. MATCH EXISTING GRADES SMOOTHLY AND CONTINUOUSLY.
5. OWNER AND PROJECT ENGINEER WILL BE MONITORING FINISH GRADING IN THE FIELD. CONTRACTOR SHALL PERFORM FINISH WORK AS DIRECTED BY THE OWNER OR PROJECT ENGINEER TO ACHIEVE THE FINISH GRADE CONDITIONS SHOWN ON THE PLANS.
6. ALL SITE IMPROVEMENTS INCLUDING UTILITIES MUST CONFORM TO THE TOWN OF WELL'S TECHNICAL GUIDELINES AND STANDARDS.

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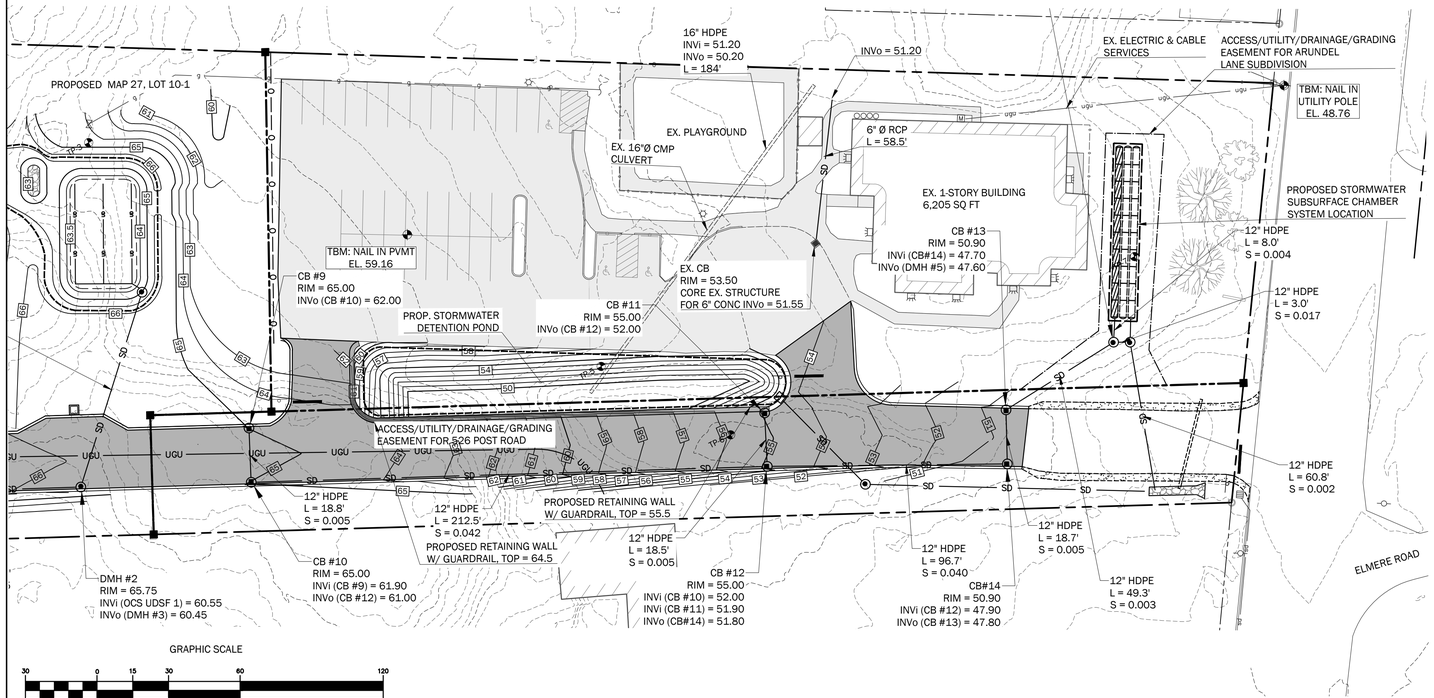
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UTILITY PLAN

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GRAPHIC SCALE

30 0 15 30 60 120

1 inch = 30 ft.

GRADING AND DRIANAGE LEGEND

EXISTING		PROPOSED
100	INDEX CONTOUR	100
101	INTERMEDIATE CONTOUR	101
■ □	STORM DRAIN CATCH BASIN	■
sd	STORM DRAIN LINE	SD
	RIP RAP IN/OUT PROTECTION APRON	
	SUBSURFACE CHAMBERS	

FOR DESIGN DRAWING LEGEND SEE SHEET C2.0

GENERAL NOTE:

1. SEE SURVEY FOR BOUNDARY INFORMATION.
2. TEST PIT REQUIRED TO VERIFY LOCATION, SIZE, CONDITION AND DEPTH OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES FROM THE CONDITIONS NOTED ON THE PLANS SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.
3. SEE GRADING NOTES ON SHEET C3.0

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GRADING & DRAINAGE PLAN

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PROJECT EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENTATION CONTROL MEASURES PRIOR TO CONSTRUCTION. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS.
2. THE CONTRACTOR SHALL COMPLY WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPS MANUAL AS PUBLISHED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S BUREAU OF LAND AND WATER QUALITY, MARCH 2003 OR LATEST EDITION.
3. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING. ALL DISTURBED AREAS ON SITE NOT COVERED BY BUILDINGS OR PAVED AREAS SHALL BE STABILIZED WITH LOAM AND SEED, OR BY OTHER METHODS AS REQUIRED BY THE WRITTEN EROSION CONTROL PLAN.
4. DISTURBED AREAS SHALL BE LIMITED TO ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION. FOR DISTURBED AREAS THAT ARE NOT UNDER ACTIVE CONSTRUCTION AND THAT CAN NOT YET UNDERGO FINAL GRADING, INSTALL TEMPORARY SEEDING AND MULCHING (REFER TO WRITTEN EROSION CONTROL PLAN).
5. PERMANENT SEEDING OR STABILIZATION SHALL BE CARRIED OUT IMMEDIATELY AFTER FINAL GRADING IS COMPLETED, OR TEMPORARY MEASURES SHALL BE APPLIED SUCH AS MULCHING OR SEEDING UNTIL PERMANENT STABILIZATION MEASURES ARE IN PLACE.
6. TOPSOIL SHALL BE STOCKPILED IN AREAS AWAY FROM PROTECTED NATURAL RESOURCES AND IN AREAS WHICH HAVE A MINIMAL POTENTIAL FOR EROSION; REFER TO OWNER FOR LOCATION OF MATERIAL STOCKPILE.
7. ALL EROSION CONTROL MEASURES SHALL BE ROUTINELY INSPECTED AND REPAIRED IN ACCORDANCE WITH THE WRITTEN EROSION CONTROL PLAN FOR THE DURATION OF THE PROJECT UNTIL ALL AREAS ARE STABILIZED. REMOVE ACCUMULATED SILT AND SEDIMENT AS NEEDED AND MAINTAIN SILT FENCE IN GOOD, OPERABLE CONDITION.

TOWN OF WELLS EROSION CONTROL REQUIREMENTS SECTION 145-75 F:

EROSION OF SOIL AND SEDIMENTATION OF WATERCOURSES AND WATER BODIES SHALL BE MINIMIZED BY EMPLOYING THE FOLLOWING BEST-MANAGEMENT PRACTICES:

1. STRIPPING OF VEGETATION, SOIL REMOVAL AND REGARDING OR OTHER DEVELOPMENT SHALL BE ACCOMPLISHED IN SUCH A WAY AS TO MINIMIZE EROSION.
2. THE DURATION OF EXPOSURE OF THE DISTURBED AREA SHALL BE KEPT TO A PRACTICAL MINIMUM.
3. TEMPORARY VEGETATION AND/OR MULCHING SHALL BE USED TO PROTECT EXPOSED CRITICAL AREAS DURING DEVELOPMENT.
4. PERMANENT (FINAL) VEGETATION AND MECHANICAL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE STANDARDS OF THE YORK COUNTY SOIL AND WATER CONSERVATION DISTRICT OR THE MAINE SOIL AND WATER CONSERVATION COMMISSION SHALL BE INSTALLED AS SOON AS PRACTICABLE AFTER CONSTRUCTION ENDS.
5. UNIT A DISTURBED AREA IS STABILIZED, SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED BY THE USE OF DEBRIS BASINS, SILT TRAPS OR OTHER ACCEPTABLE METHODS AS DETERMINED BY THE REVIEWING AUTHORITY.
6. THE TOP OF A CUT OR THE BOTTOM OF A FILL SECTION WHICH ALTERS THE EXISTING GRADE BY MORE THAN TWO FEET SHALL NOT BE CLOSER THAN 10 FEET TO AN ADJOINING LOT.
7. DURING GRADING OPERATIONS, METHODS OF DUST CONTROL SHALL BE EMPLOYED.
8. THE PROPOSED SITE PLAN SHALL PREVENT SOIL EROSION AND SEDIMENTATION FROM ENTERING WATERBODIES, WETLANDS, AND ADJACENT PROPERTIES.
9. THE PROCEDURES OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE IMPLEMENTED DURING THE SITE PREPARATION, CONSTRUCTION, AND CLEAN-UP STAGES.
10. CUTTING OR REMOVAL OF VEGETATION ALONG WATERBODIES SHALL NOT INCREASE WATER TEMPERATURE OR RESULT IN SHORELINE EROSION OR SEDIMENTATION.
11. TOPSOIL SHALL BE CONSIDERED PART OF THE SITE PLAN AND SHALL NOT BE REMOVED FROM THE SITE EXCEPT FOR SURPLUS TOPSOIL FROM ROADS, PARKING AREAS, AND BUILDING EXCAVATIONS.

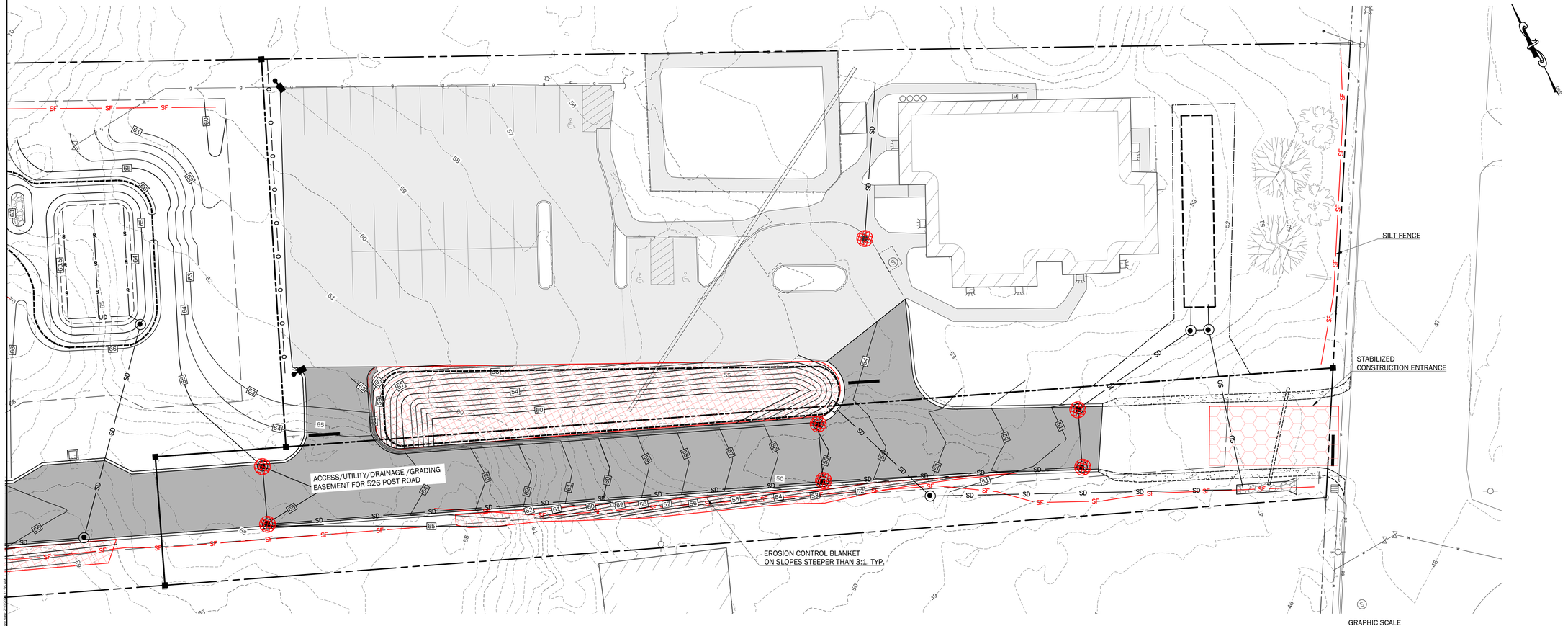
EROSION CONTROL LEGEND

- SF — SILT FENCE OR EROSION CONTROL BERM, CONTRACTOR'S OPTION
- EROSION CONTROL BLANKET
- CATCH BASIN INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE

FOR DESIGN DRAWING LEGEND SEE SHEET C2.0

GENERAL NOTE:

1. SEE SURVEY FOR BOUNDARY INFORMATION.
2. TEST PIT REQUIRED TO VERIFY LOCATION, SIZE, CONDITION AND DEPTH OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES FROM THE CONDITIONS NOTED ON THE PLANS SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.



GRAPHIC SCALE

20 0 10 20 40 80

1 inch = 20 ft.

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/13/2026

526 POST ROAD

526 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	2/10/2026	Town Permit Updates	MRM	LLT

Sheet Title:
EROSION CONTROL PLAN

Job No.:	1005
Date:	01/13/2026
Scale:	AS SHOWN
Drawn:	MBP/MRM
Checked:	WRW/LLT

Sheet No.: C3.2

PRELIMINARY - NOT FOR CONSTRUCTION

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INTRODUCTION

THE FOLLOWING PLAN FOR CONTROLLING SEDIMENTATION AND EROSION IN THIS PROJECT IS BASED ON CONSERVATION PRACTICES FOUND IN THE MAINE EROSION & SEDIMENT CONTROL BMPS MANUAL, OCTOBER 2016, AND MAINE EROSION AND SEDIMENT CONTROL PRACTICE FIELD GUIDE FOR CONTRACTORS, REVISED 2014, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION. THE CONTRACTOR WHO IMPLEMENTS THIS PLAN SHALL BE FAMILIAR WITH THESE PUBLICATIONS AND ADHERE TO THEM AND THE PRACTICES PRESENTED HEREIN

REFERENCE IS MADE TO THE GRADING AND DRAINAGE PLANS WITHIN THE PLAN SET, SHOWING THE LOCATIONS AND TYPES OF PROPOSED MEASURES TO BE IMPLEMENTED.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES

THE FOLLOWING IS A LIST OF GENERAL EROSION CONTROL PRACTICES THAT WILL BE USED TO PREVENT EROSION AND SEDIMENTATION BEFORE, DURING AND AFTER THE CONSTRUCTION OF THIS PROJECT. IN ADDITION, SPECIAL CARE SHALL BE USED AT ALL TIMES TO:
LIMIT DISTURBANCE AND, HENCE, EROSION
1) CORRECT ANY EROSION PROBLEMS IMMEDIATELY
2) REGULARLY MONITOR THE IMPLEMENTED PRACTICES, ESPECIALLY AFTER EVERY RAINFALL
3) REVEGETATE DISTURBED AREAS AS SOON AS POSSIBLE AFTER CONSTRUCTION
4) CONFORM TO ALL REQUIREMENTS/STANDARDS OF THE SITE'S MAINE DEP EROSION & SEDIMENT CONTROL BMP MANUAL.

SILT FENCE AND/OR EROSION CONTROL MIX SEDIMENT BARRIERS

SILT FENCE AND/OR EROSION CONTROL MIX SEDIMENT BARRIERS WILL BE INSTALLED ALONG THE DOWN GRADIENT SIDE OF THE PROPOSED GROUND DISTURBANCE AREAS PRIOR TO ANY CONSTRUCTION ACTIVITIES WHERE SLOPES EXCEED 8% OR THERE IS FLOWING WATER BOTH SILT FENCE AND EROSION CONTROL MATTING BERMS SHALL BE USED.

CATCH BASIN PROTECTION

CATCH BASIN PROTECTION WILL BE INSTALLED AT THE FIRST DOWNGRADIENT CATCH BASIN IN STREET ADJACENT TO ANY CONSTRUCTION ACTIVITIES AND IN ALL ONSITE CATCH BASINS UNTIL SITE HAS BEEN COMPLETELY STABILIZED.

CONSTRUCTION PHASE

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION DURING CONSTRUCTION ON THIS PROJECT:

1. EROSION AND SEDIMENTATION CONTROL BMPS SHALL BE INTALLED PRIOR TO THE COMMENCEMENT OF EARTHWORK ACTIVITIES.
2. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. AN AREA NO LARGER THAN WHAT CAN BE MULCHED IN ONE DAY MAY BE OPEN AT ONCE. ONCE CONSTRUCTION OF AN AREA IS COMPLETE, FINAL GRADING, LOAMING AND SEEDING SHALL OCCUR IMMEDIATELY (REFER TO "POST CONSTRUCTION REVEGETATION" SECTION). IF DURING FINAL GRADING, LOAMING AND SEEDING CAN NOT OCCUR IMMEDIATELY, IT SHALL BE DONE PRIOR TO ANY STORM EVENT AND WITHIN 15 DAYS OF COMPLETING CONSTRUCTION IN THE AREA. IF FINAL GRADING, LOAMING AND SEEDING CANNOT OCCUR WITHIN 7 DAYS, OR IF THE AREA IS NOT UNDER ACTIVE CONSTRUCTION FOR A PERIOD LONGER THAN 7 DAYS, SEE ITEM NO. 4 BELOW.
3. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SILT FENCING SHALL BE INSTALLED ON DOWNGRADIENT PORTIONS OF THE SITE AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION.
4. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM EXISTING DRAINAGE AREAS AND WETLANDS. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE:
   A. TREATED WITH ANCHORED MULCH (WITHIN 5 DAYS OF THE LAST DEPOSIT OF STOCKPILED SOIL).
   B. SEEDED WITH CONSERVATION MIX AND MULCHED IMMEDIATELY.
   C. STOCKPILES SHALL BE EITHER PLACED UPHILL OF AN EXISTING SEDIMENT BARRIER ON THE SITE OR ENCIRCLED BY A HAY BALE OR SILT FENCE BARRIER THE FIRST DAY THAT STOCKPILING COMMENCES.
5. ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE:
   A. TREATED WITH STRAW AT A RATE OF 70-90 LBS. PER 1000 SQUARE FEET FROM 4/16 TO 10/1, OR AT A RATE OF 150-200 LBS. PER 1000 SQUARE FEET FROM 10/1 TO 4/15.
   B. SEEDED WITH CONSERVATION MIX OF PERENNIAL RYE GRASS (1.0 LBS/1000 SQ.FT.) AND MULCHED IMMEDIATELY. FROM 10/1 TO 4/15, FOLLOW THE SEEDING RATES AS OUTLINED BELOW IN SUB-SECTION 4.D. OF THE "POST CONSTRUCTION REVEGETATION" SECTION.
   C. MONITORED EVERY TWO WEEKS UNTIL SEEDING CAN OCCUR AND REMULCHED AS NEEDED TO PROTECT SLOPES.
6. ALL GRADING WILL BE HELD TO A MAXIMUM 3:1 SLOPE WHERE PRACTICAL. GREATER SLOPES MAY BE USED WHERE THE BANKS ARE PROTECTED WITH SOFT ARMOUR MATTING, EROSION CONTROL MATTING, OR RIPRAP. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY AFTER FINAL GRADING IS COMPLETE. (IT IS UNDERSTOOD THAT IMMEDIATELY MEANS WITHIN 5 DAYS OF THE COMPLETION OF WORK. SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION).
7. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
8. CONSTRUCTION TRAFFIC WILL BE DIRECTED OVER THE EXISTING SITE ENTRANCE. THE ROAD SHALL BE SWEPT AND VACUUMED DAILY SHOULD SEDIMENT BE TRACKED ONTO IT.
9. ALL AREAS DRAINING TO A STORMWATER FILTER OR BMP SHALL BE STABILIZED PRIOR TO CONSTRUCTION OF FILTER MEDIA TO PREVENT SEDIMENT FROM CLOGGING MEDIA.

DEWATERING

1. ALL DEWATERING DISCHARGE LOCATIONS SHALL BE LOCATED ON RELATIVELY FLAT GROUND AT LEAST 75' FROM STREAMS AND 25' FROM WETLANDS. THE CONTRACTOR SHALL UTILIZE DIRTBAGS, EROSION CONTROL MIX BERMS, OR SIMILAR METHODS FOR FILTRATION OF DEWATERING AND SHALL CONFORM TO THE MAINE EROSION AND SEDIMENT CONTROL BMPS G-1, G-2, AND G-3.

POST CONSTRUCTION REVEGETATION

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING:

1. A MINIMUM OF 6" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE.
2. LAWN AREAS: "PARK MIX" GRASS SEED BY ALLEN, STERLING & LOTHROP (FALMOUTH, MAINE), OR APPROVED EQUAL.
3. MULCH SHALL BE HAY OR STRAW MULCHES THAT ARE DRY AND FREE FROM UNDESIRABLE SEEDS AND COURSE MATERIALS.
   A. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE.
   B. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
   C. BLANKET WITH TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING ON GRADES GREATER THAN 5%.
4. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF ASPHALT, WOOD FIBRE OR PAPER FIBRE AND WATER, WHICH IS SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 10/1 AND 4/15.
5. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN OCTOBER 1ST AND APRIL 15TH. SHOULD SEEDING BE NECESSARY BETWEEN THESE DATES, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED:
   A. ONLY UNFROZEN LOAM SHALL BE USED.
   B. LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED.
   C. WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1000 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
   D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.5 LBS/1000 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
   E. FERTILIZING, SEEDING AND MULCHING SHALL BE DONE ON LOAM THE DAY THE LOAM IS SPREAD.
   F. HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE. WINTER MULCHING RATES, SHALL BE DOUBLE AS SPECIFIED ABOVE IN SUBSECTION 3.A OF THE "POST CONSTRUCTION REVEGETATION" SECTION, SHOULD BE APPLIED DURING THIS PERIOD.
6. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 90% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE DESIGN PROFESSIONAL THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO.
MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL, AND AT LEAST ONCE A WEEK, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. SILT FENCE SHALL BE INSPECTED AND REPAIRED. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING.
2. CONSTRUCTION ENTRANCE SHALL BE VISUALLY INSPECTED AND REPAIRED AS NEEDED. ANY AREAS SUBJECT TO RUTTING SHALL BE STABILIZED IMMEDIATELY. IF THE VOIDS OF THE CONSTRUCTION ENTRANCE BECOME FILLED WITH MUD, MORE CRUSHED STONE SHALL BE ADDED AS NEEDED. THE PUBLIC ROADWAY SHALL BE SWEPT AND VACUUMED SHOULD MUD BE DEPOSITED/TRACKED ONTO THEM.

STANDARDS FOR STABILIZING SITES FOR THE WINTER

THE FOLLOWING STANDARDS AND METHODOLOGIES SHALL BE USED FOR STABILIZING THE SITE DURING THE WINTER CONSTRUCTION PERIOD:

1. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES (ANY AREA HAVING A GRADE GREATER THAN 25%) - THE CONTRACTOR WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15TH. IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15TH, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.
   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS: BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A RATE OF 3 POUNDS PER 1000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED HAY MULCH OVER THE SEEDING AT TWICE THE RATE AS SPECIFIED ABOVE IN SUBSECTION 3.A OF THE "POST CONSTRUCTION REVEGETATION" SECTION. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS.
   B. STABILIZE THE SLOPE WITH WOOD-WASTE COMPOST: THE CONTRACTOR WILL PLACE A SIX-INCH LAYER OF WOOD-WASTE COMPOST ON THE SLOPE BY NOVEMBER 15TH. THE CONTRACTOR WILL NOT USE WOOD-WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
   C. STABILIZE THE SLOPE WITH STONE RIPRAP: THE CONTRACTOR WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. THE DEVELOPMENT'S OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.
2. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS - BY SEPTEMBER 15TH THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON THE SITE. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ON OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION: BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER, 1, THEN THE CONTRACTOR WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM III OF THIS STANDARD.
   B. STABILIZE THE SOIL WITH SOD: THE CONTRACTOR WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
   C. STABILIZE THE SOIL WITH MULCH: BY NOVEMBER 15TH THE CONTRACTOR WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, THE CONTRACTOR WILL ANCHOR THE MULCH WITH NETTING OR OTHER METHOD TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

EROSION CONTROL REMOVAL

AN AREA IS CONSIDERED STABLE IF IT IS PAVED OR IF 90% GROWTH OF PLANTED SEEDS IS ESTABLISHED. ONCE AN AREA IS CONSIDERED STABLE, THE EROSION CONTROL MEASURES CAN BE REMOVED AS FOLLOWS:

1. SILT FENCE: SILT FENCE SHALL BE DISPOSED OF LEGALLY AND PROPERLY OFF-SITE. ALL SEDIMENT TRAPPED BEHIND THESE CONTROLS SHALL BE DISTRIBUTED TO AN AREA UNDERGOING FINAL GRADING OR REMOVED AND RELOCATED OFF-SITE.
2. STABILIZED CONSTRUCTION ENTRANCE: THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE REMOVED ONCE THE COMPACTED ROADWAY BASE IN IN PLACE. STONE AND SEDIMENT FROM THE CONSTRUCTION ENTRANCE SHALL BE REDISTRIBUTED TO AN AREA UNDERGOING GRADING OR REMOVED AND RELOCATED OFFSITE.
3. MISCELLANEOUS: ONCE ALL THE TRAPPED SEDIMENTS HAVE BEEN REMOVED FROM THE TEMPORARY SEDIMENTATION DEVICES THE DISTURBED AREA MUST BE REGRADED IN AN AESTHETIC MANNER TO CONFORM TO THE SURROUNDING TOPOGRAPHY. ONCE GRADED THESE DISTURBED AREAS MUST BE LOAMED (IF NECESSARY), FERTILIZED, SEEDED AND MULCHED IN ACCORDANCE WITH THE RATES PREVIOUSLY STATED.

THE ABOVE EROSION CONTROLS MUST BE REMOVED WITHIN 30 DAYS OF FINAL STABILIZATION OF THE SITE.
CONFORMANCE WITH THIS PLAN AND FOLLOWING THESE PRACTICES WILL RESULT IN A PROJECT THAT COMPLIES WITH THE STATE REGULATIONS AND THE STANDARDS OF THE NATURAL RESOURCES PROTECTION ACT, AND WILL PROTECT WATER QUALITY IN AREAS DOWNSTREAM FROM THE PROJECT.

MAINE CONSTRUCTION GENERAL PERMIT REQUIRED

SUBMISSION OF A MAINE CONSTRUCTION GENERAL PERMIT (MCGP) IS REQUIRED PRIOR TO COMMENCEMENT OF ANY EXCAVATION ACTIVITIES.

INSPECTION AND MAINTENANCE (APPENDIX B)

1. INSPECTION AND MAINTENANCE REQUIREMENTS: INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORMWATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK AS WELL AS BEFORE AND AFTER A SIGNIFICANT STORM EVENT (0.5 INCHES OF RAINFALL IN A 24-HOUR PERIOD) AND PRIOR TO COMPLETION OF PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS IN THE MCGP AND ANY DEPARTMENTAL COMPANION DOCUMENT TO THE MCGP, MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY, IMPLEMENTATION MUST BE STARTED BY THE END OF THE NEXT WORKIN DAY AND COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS AREA PERMANENTLY STABILIZED. DOCUMENTATION OF CORRECTION ACTIONS SHALL BE MAINTAINED WITH THE INSPECTION FORMS.
2. INSPECTION LOG (REPORT): A LOG (REPORT) MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATIONS(S) WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE INSPECTION LOG THE CORRECT ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO THE DEPARTMENT STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF THE PERMANENT STABILIZATION.

HOUSEKEEPING (APPENDIX C)

1. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

   NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT: HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/
2. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING

   INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR PRETREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

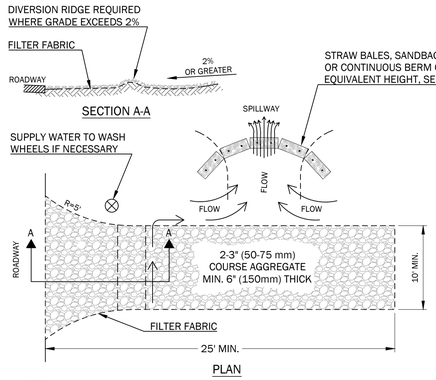
   NOTE:: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465-C(1).
3. FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

   NOTE: DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.
4. DEBRIS AND OTHER MATERIALS: MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

   NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST-CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.
5. EXCAVATION DEWATERING: EXCAVATION DEWATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND MUDDY AND REQUIRES CORRECT AND SAFE DEWATERING PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN, AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

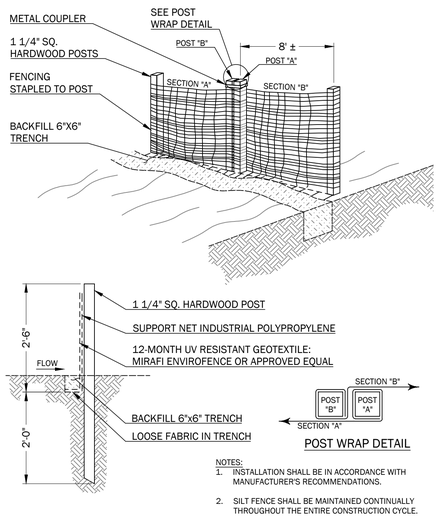
   NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE "MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."
6. AUTHORIZED NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:.
   - DISCHARGES FROM FIREFIGHTING ACTIVITY;
   - FIRE HYDRANT FLUSHINGS;
   - VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE, AND TRANSMISSION WASHING IS PROHIBITED);
   - DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3);
   - ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
   - PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
   - UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
   - UNCONTAMINATED GROUNDWATER OR SPRING U. WATER;
   - FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
   - UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
   - POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
   - LANDSCAPE IRRIGATION
7. UNAUTHORIZED NON-STORMWATER DISCHARGES: THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
   - WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
   - FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
   - SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
   - TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.
8. ADDITIONAL REQUIREMENTS: ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

1 EROSION AND SEDIMENTATION CONTROL NOTES
NOT TO SCALE



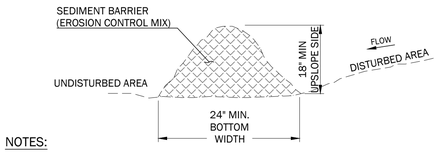
NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS ONTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. USE SANDBAGS, STRAW BALES OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED

2 STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



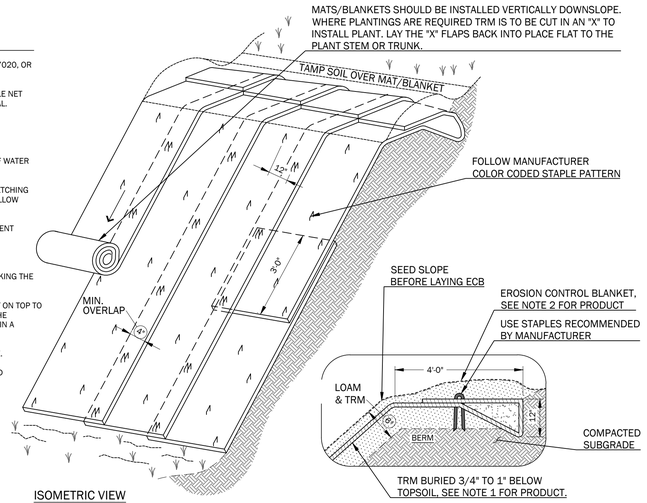
NOTES:
1. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. SILT FENCE SHALL BE MAINTAINED CONTINUALLY THROUGHOUT THE ENTIRE CONSTRUCTION CYCLE.

3 PREFABRICATED SILT FENCE
NOT TO SCALE


SEDIMENT BARRIER (EROSION CONTROL MIX)
UNDISTURBED AREA
18" MIN.
U

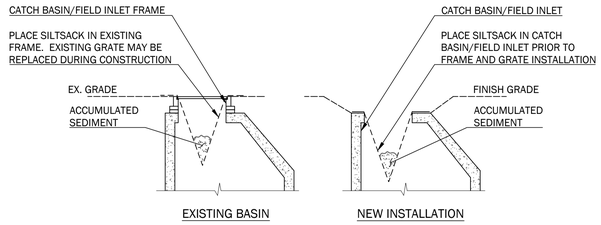
INSTALLATION INSTRUCTIONS:

1. TURF REINFORCEMENT MAT (TRM) MATERIAL SHALL BE ENKAMAT 7020, OR APPROVED EQUAL.
2. EROSION CONTROL BLANKET (ECB) SHALL BE BIONET S75BN SINGLE NET STRAW BLANKET BY NORTH AMERICAN GREEN OR APPROVED EQUAL.
3. FOR TRM INSTALLATION ONLY:
   - 3.1. APPLY 4" OF LOAM ONTO THE GROUND SURFACE.
   - 3.2. OVER TOP THE 4" OF LOAM, UNROLL MAT IN THE DIRECTION OF WATER FLOW.
4. MAT SHOULD LIE FLAT. DO NOT STRETCH MAT OVER GROUND. STRETCHING MAY CAUSE MAT TO BRIDGE DEPRESSIONS IN THE SURFACE AND ALLOW EROSION UNDERNEATH.
5. BURY TRANSVERSE TERMINAL ENDS OF MAT TO SECURE AND PREVENT EROSIVE FLOW UNDERNEATH.
6. SECURE MAT SNUGLY INTO ALL TRANSVERSE CHECK SLOTS.
7. BACKFILL AND COMPACT TRENCHES AND CHECK SLOTS AFTER STAKING THE MAT IN BOTTOM OF TRENCH.
8. OVERLAP ROLL ENDS BY THREE (3) FEET (MIN.) WITH UPSLOPE MAT ON TOP TO PREVENT UPLIFT OF MAT END BY WATER FLOW. IF INSTALLING IN THE DIRECTION OF A CONCENTRATED WATER FLOW, START NEW ROLLS IN A TRANSVERSE DITCH.
9. OVERLAP ADJACENT EDGES OF MAT BY 4 INCHES (MIN.) AND STAKE.
10. USE WOOD STAKES OR STAPLES FOR PINNING MAT TO THE GROUND SURFACE, PER MANUFACTURER'S RECOMMENDATIONS.
11. IN ALL TRANSVERSE TERMINAL TRENCHES AND CHECK SLOTS, STAKE EACH MAT AT ITS CENTER AND OVERLAP EDGES BEFORE BACKFILLING AND COMPACTING.
12. STAKE OVERLAPS LONGITUDINALLY AT 3 TO 5 FOOT INTERVALS.
13. WORK ADDITIONAL LOAM INTO THE MAT AND COVER THE MAT SURFACE WITH 3/4" TO 1" OF LOAM, THEN SEED AND COVER WITH ECB.



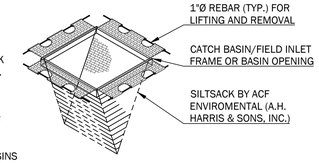
1 STRAW MATTING (ECB) AND TURF REINFORCEMENT MAT (TRM) FOR SLOPE EROSION CONTROL DETAILS

NOT TO SCALE



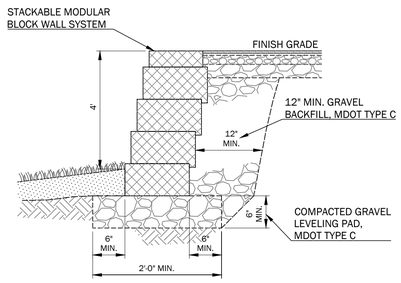
NOTES:

1. INSTALLATION PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
2. EMPTY AND REMOVE SEDIMENT FROM SILTSACK WHEN RESTRAINT CORD IS NO LONGER VISIBLE. CLEAN, RINSE AND REPLACE AS NEEDED.
3. CONTRACTOR SHALL INSPECT CATCH BASIN PROTECTION AFTER EACH MAJOR STORM EVENT AND CLEAN SILT AS NEEDED.
4. SILT SACKS TO BE INSTALLED IN ALL CATCH BASINS DURING CONSTRUCTION WHILE GROUND IS NOT PERMANENTLY STABILIZED.



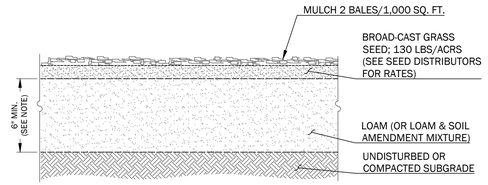
2 SILT SACK AT DRAINAGE STRUCTURE INLET DETAILS

NOT TO SCALE



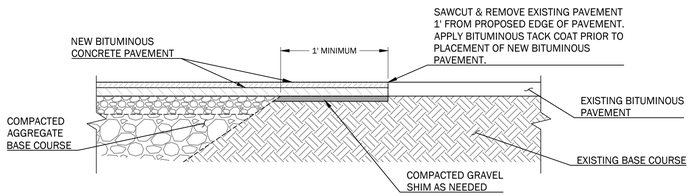
3 RETAINING WALL SECTION

NOT TO SCALE



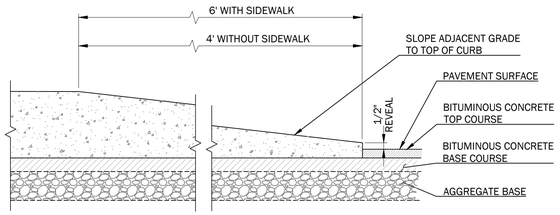
4 LOAM AND SEED DETAIL

NOT TO SCALE



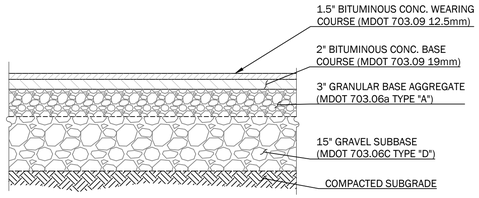
5 PAVEMENT SAW CUT DETAIL

NOT TO SCALE



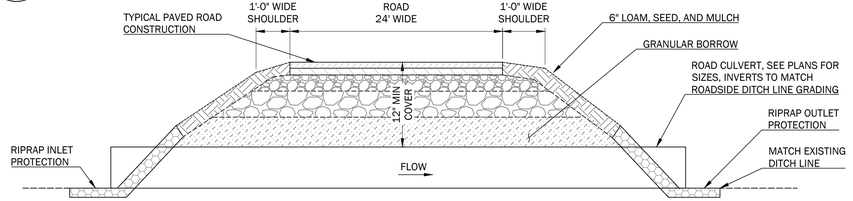
8 CURB TIPDOWN & TERMINAL END DETAIL SLIPFORM OR BITUMINOUS CONCRETE

NOT TO SCALE



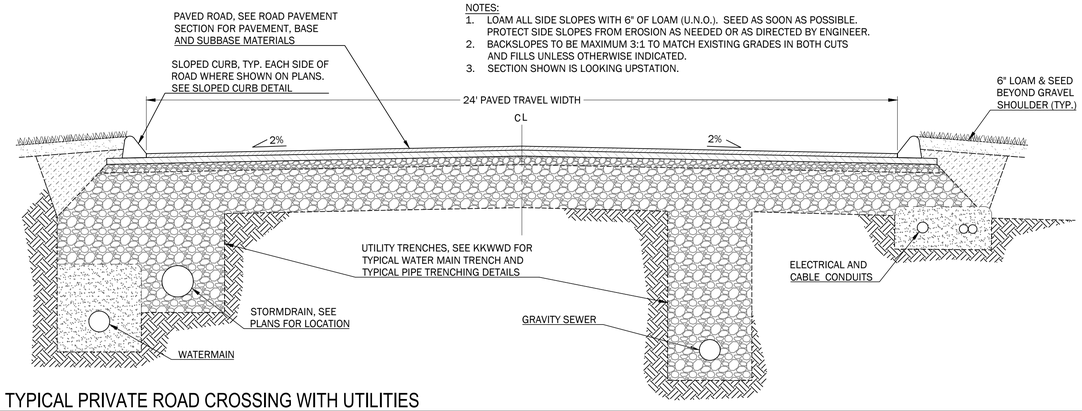
6 ROAD PAVEMENT SECTION

NOT TO SCALE



7 TYPICAL PRIVATE ROAD CULVERT

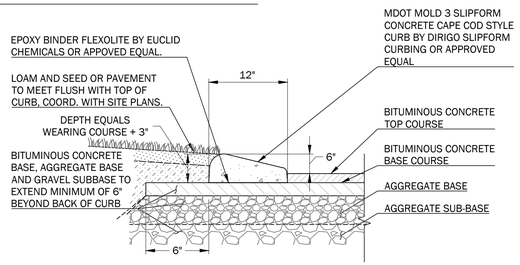
NOT TO SCALE



NOTES:
1. LOAM ALL SIDE SLOPES WITH 6" OF LOAM (U.N.O.). SEED AS SOON AS POSSIBLE. PROTECT SIDE SLOPES FROM EROSION AS NEEDED OR AS DIRECTED BY ENGINEER.
2. BACKSLOPES TO BE MAXIMUM 3:1 TO MATCH EXISTING GRADES IN BOTH CUTS AND FILLS UNLESS OTHERWISE INDICATED.
3. SECTION SHOWN IS LOOKING UPSTATION.

9 TYPICAL PRIVATE ROAD CROSSING WITH UTILITIES

NOT TO SCALE



CONCRETE NOTES:

1. MIN. 28 DAY COMPRESSIVE STRENGTH: 4,000 PSI
2. AIR ENTRAINMENT: 4% TO 6%
3. REINFORCING: FIBERMESH OR EQUIVALENT GRADE PRODUCT. STRAND LENGTH 1 1/2", 1" TO 1 1/2 LB/CUBIC YARD.
4. SLUMP: 1" TO 1 1/2"
5. FINISH: VERTICAL AND TOP FACES: SMOOTH SLIPFORM, SLOPED FACES: BROOM
6. CONTROL JOINTS: SAWCUT 10' O.C., 3" DEEP THE DAY AFTER PLACING.
7. EXPANSION JOINTS: LOCATE AT ENDS OF CURVE RADII OR WHERE CURB MEETS RIGID STRUCTURES i.e. BUILDING FOUNDATIONS OR HYDRANTS.
8. SEALER: SALTGUARD OR EQUAL WATER BASED SEALER.

10 CAPE COD CURB DETAIL - SLIPFORM CONCRETE, MDOT MOLD 3

NOT TO SCALE

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/13/2026

526 POST ROAD

526 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	2/10/2026	Town Permit Updates	MRM	LLT

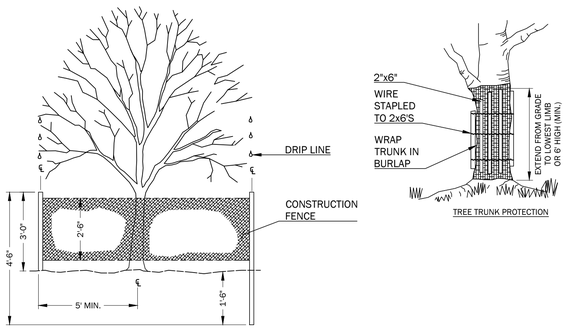
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SITE DETAILS

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Date:	01/13/2026
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Drawn:	MBP/MRM
Checked:	WRW/LLT

Sheet No.: C4.1

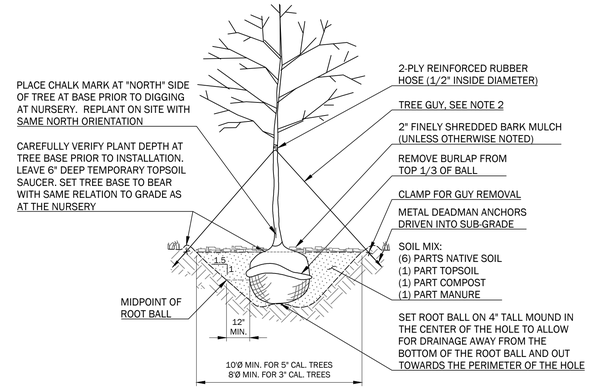
PRELIMINARY - NOT FOR CONSTRUCTION

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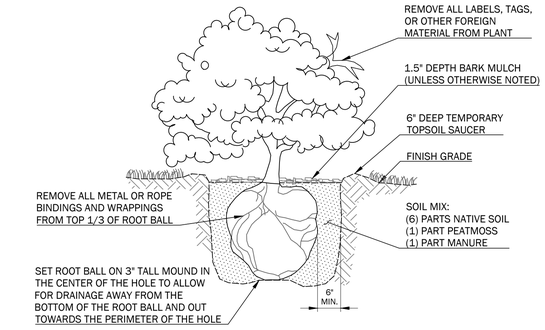
NOTE:
1. INSTALL FENCING AT LEAST 5' FROM THE BASE OF ALL TREES TO BE PROTECTED.
2. ERECT TREE PROTECTIVE PROTECTIVE FENCING AROUND ALL TREES SHOWN ON DRAWING TO BE PROTECTED.
3. TAKE SPECIAL CARE NOT TO COMPACT OR STORE MATERIAL UNDER AREA WITHIN DRIP LINE OF EXISTING TREE.
4. REMOVE PROTECTION ONLY AFTER ALL GRADING, INCLUDING SPREADING TOPSOIL IS COMPLETED.

1 EXISTING TREE PROTECTION DETAILS
NOT TO SCALE

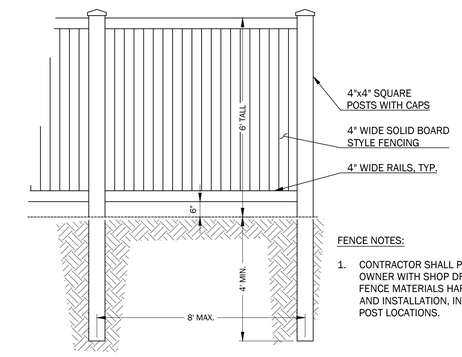


NOTES
1. PRUNE DEAD AND BROKEN BRANCHES, RETAINING NATURAL SHAPE. DO NOT CUT LEADER.
2. GUY TREES ONLY IF IN WINDY LOCATIONS, WITH #12 TWISTED ANNEALED GALVANIZED WIRE. 3 - GUYS PER TREE WITH 2" GALVANIZED TURNBUCKLES.

2 DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



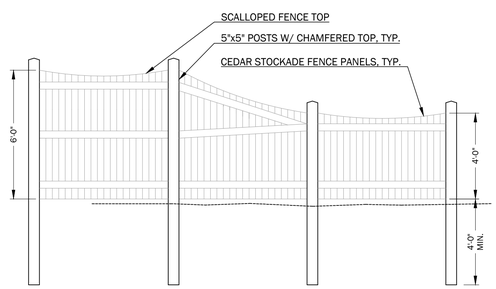
3 SHRUB PLANTING INSTALLATION DETAIL
NOT TO SCALE



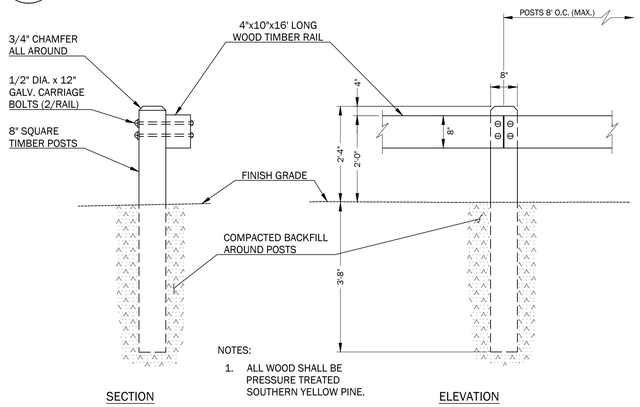
FENCE NOTES:
1. CONTRACTOR SHALL PROVIDE THE OWNER WITH SHOP DRAWINGS OF FENCE MATERIALS HARDWARE AND INSTALLATION, INCLUDING POST LOCATIONS.

4 STOCKADE STYLE FENCE DETAILS
NOT TO SCALE

NOTES:
1. FENCE MATERIAL:
PREMIUM CEDAR FINISH W/ 2-COATS OF STAIN
OR
WOOD TO BE PRESSURE TREATED TO A MIN. NET OF .40 lbs. CCA PER CUBIC FOOT OF WOOD AND EACH PIECE SHALL BEAR THE AMERICAN WOOD PRESERVER'S ASSOCIATES QUALITY MARK LP-22 "GROUND CONTACT USE."
2. ALL NAILS AND SCREWS TO BE GALVANIZED.



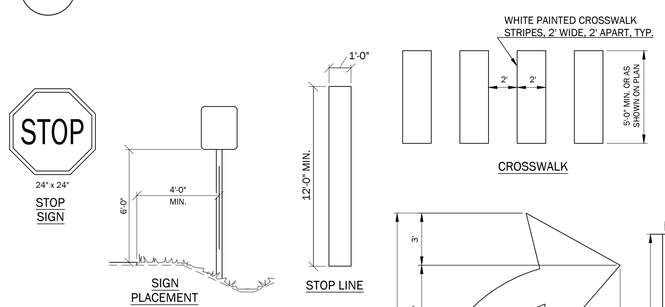
7 WOOD FENCE DETAIL
NOT TO SCALE



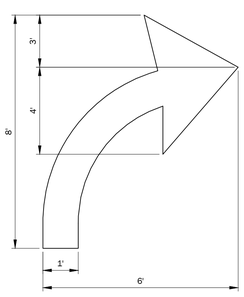
NOTES:
1. ALL WOOD SHALL BE PRESSURE TREATED SOUTHERN YELLOW PINE.

SECTION ELEVATION

5 WOODEN TIMBER GUARDRAIL DETAILS
NOT TO SCALE

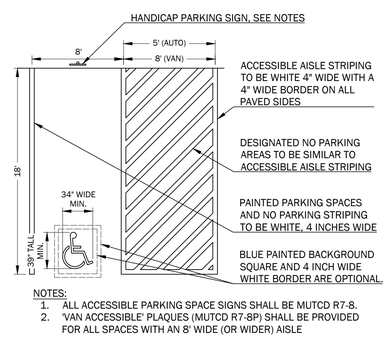


NOTES:
1. SIGNS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, MOST RECENT EDITION, SECTION 645.
2. ALL PERMANENT SIGNS ON THIS PROJECT ARE CLASSIFIED UNDER SECTION 645.03(b) TYPE 1 REGULATORY WARNING AND ROUTE MARKER ASSEMBLY SIGNS.
3. SIGN MATERIAL SHALL BE AS SPECIFIED IN SECTION 719 OF THE MDOT STANDARD SPECIFICATIONS.
4. POSTS SHALL BE METAL CHANNELS AS SPECIFIED IN SECTION 720.08. ALTERNATE POSTS MAY BE 4"x6" WOOD AS SPECIFIED IN SECTION 720.12, AS APPROVED BY ENGINEER.
5. POSTS IN THE PUBLIC RIGHT-OF-WAY TO BE ON BREAKAWAY POSTS AS SPECIFIED IN SECTION 720 OF THE MDOT STANDARD SPECIFICATIONS.



EXIT TURING ARROW

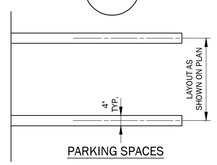
8 SIGNAGE & PAINTED TRAFFIC CONTROL DETAILS
NOT TO SCALE



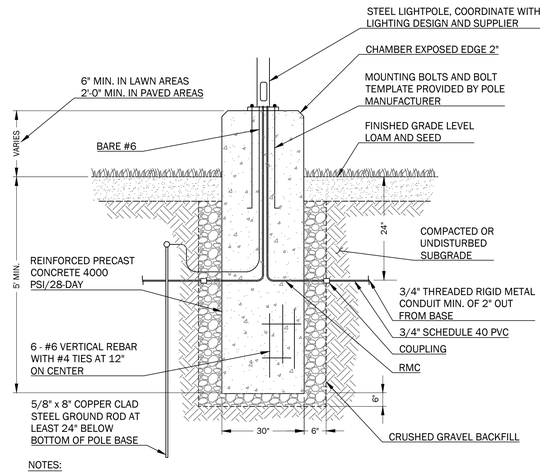
NOTES:
1. ALL ACCESSIBLE PARKING SPACE SIGNS SHALL BE MUTCD R7-8.
2. 'VAN ACCESSIBLE' PLAQUES (MUTCD R7-8P) SHALL BE PROVIDED FOR ALL SPACES WITH AN 8' WIDE (OR WIDER) AISLE

BARRIER FREE STALL LAYOUT & SYMBOL

6 CONCRETE LIGHT POLE BASE DETAIL
NOT TO SCALE



PARKING SPACES



NOTES:
1. SUBMIT SHOP DRAWING FOR APPROVAL PRIOR TO ORDERING.
2. COORDINATE WITH ELECTRICAL SPECIFICATIONS/LIGHT BOLT PATTERN.
3. COLD-GALVANIZE ALL CUTS.
4. APPROVED PRECAST BASE MAY BE USED.

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WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/13/2026

PRELIMINARY - NOT FOR CONSTRUCTION

526 POST ROAD
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PREPARED FOR:
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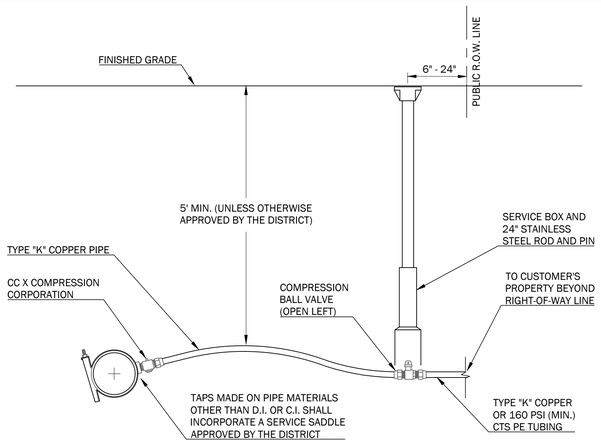
Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
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Sheet Title:
SITE DETAILS

Job No.:	1005
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Drawn:	MBP/MRM
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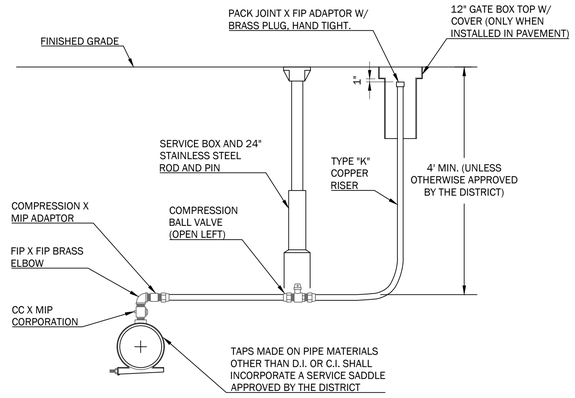
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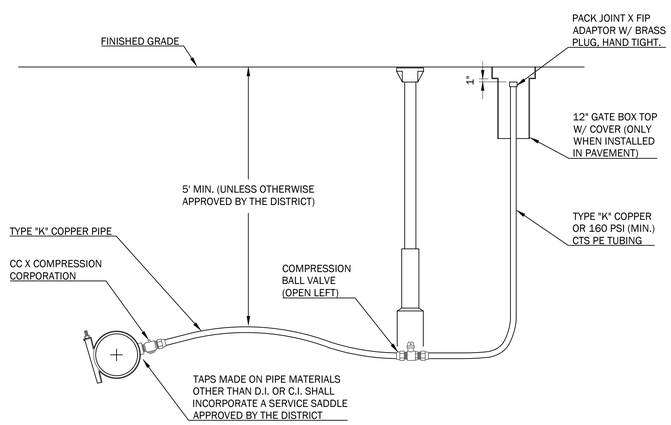
1 KKWWD 1"Ø SERVICE DETAIL

NOT TO SCALE



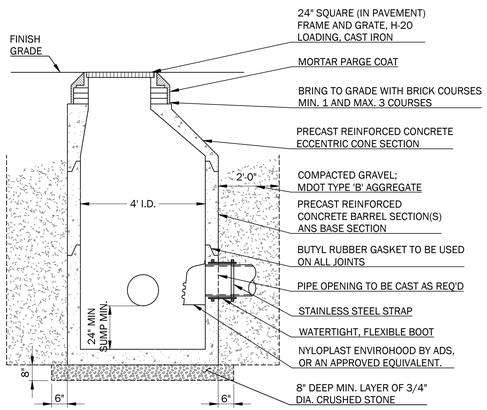
2 KKWWD AIR RELEASE DETAIL

NOT TO SCALE



3 KKWWD BLOW-OFF DETAIL

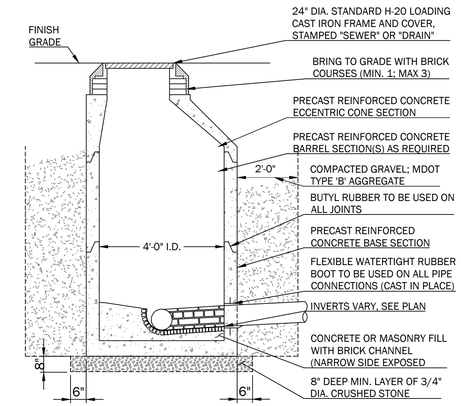
NOT TO SCALE



NOTES:
1. CONCRETE 4000 PSI AFTER 28 DAYS.
2. REINFORCING H-20 LOADING 4x4 / 4x4 WWM. SLAB TOP - NO. 5 BARS.
3. EACH CASTING TO HAVE LIFTING HOLES TO BE FILLED WITH NON-SHRINK MORTAR.
4. APPLY TWO COATS OF BITUMASTIC PAINT ON ALL EXTERIOR SECTIONS.
5. PROVIDE INLET PROTECTION FOR OPEN FRAME STRUCTURES DURING CONSTRUCTION, OR UNTIL ALL DISTURBED AREAS ARE FULLY STABILIZED.ALL
6. NEW CATCH BASINS SHALL BE INSTALLED WITH OUTLET HOOD ON ALL OUTLETS.

4 PRECAST CONCRETE CATCH BASIN WITH ECCENTRIC CONE

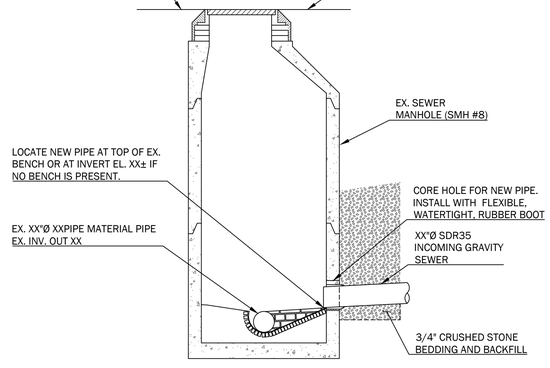
NOT TO SCALE



NOTES:
1. CONCRETE 4000 PSI AFTER 28 DAYS.
2. REINFORCING H-20 LOADING 4x4 / 4x4 WWM.
3. EACH CASTING TO HAVE LIFTING HOLES TO BE FILLED WITH NON-SHRINK MORTAR.
4. APPLY TWO COATS OF BITUMASTIC PAINT ON ALL EXTERIOR SECTIONS.
5. MANHOLE CHANNELS REQUIRING CHANGE OF ALIGNMENT, TO BE BUILT ON SMOOTH RADIUS. CHANNEL TO BE SHAPED TO ACCEPT ADDITIONAL INLET PIPES.
6. ALL MANHOLE COVERS SHALL HAVE "SEWER" or "DRAIN" CAST INTO THE COVER AS APPLICABLE.
7. ALL SANITARY STRUCTURES SHALL MEET LOCAL SANITARY DISTRICT REQUIREMENTS.

5 TYPICAL SEWER OR DRAIN MANHOLE DETAIL

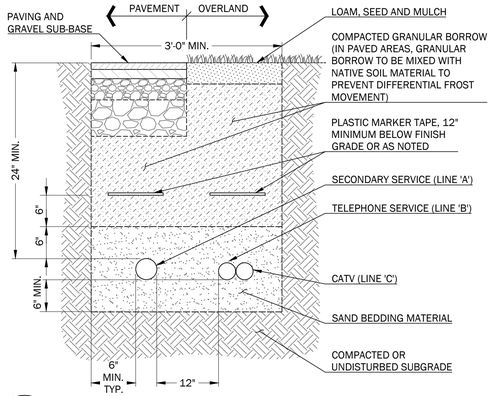
NOT TO SCALE



NOTES:
1. EXISTING GRAVITY SEWER PIPE IN POST ROAD IS DESCRIBED AS ASBESTOS CONCRETE BY THE SEWER DEPARTMENT.
2. ASBESTOS CONCRETE SEWER PIPE TO TO BE UNDISTURBED DURING PROPOSED PIPE INSTALLATION.
3. IF HANDLING OF EXISTING ASBESTOS PIPE IS REQUIRED, CONTRACTOR IS TO COMPLY WITH ALL STATE AND FEDERAL REQUIREMENTS FOR HANDLING ASBESTOS MATERIALS.
4. CONTRACTOR MAY CHOOSE TO EXCAVATE STRUCTURE AND SEPARATE EXISTING SECTIONS TO BE ABLE TO CORE HOLE FOR NEW SERVICE WITHOUT DISTURBING THE EXISTING PIPES.
5. IF MANHOLE SECTIONS ARE DISASSEMBLED, REINSTALL WITH BUTYL RUBBER GASKET ON ALL JOINTS.
6. FOR ADDITIONAL REINSTALLATION REQUIREMENTS SEE TYP. MANHOLE DETAIL.
7. SANITARY STRUCTURES SHALL MEET LOCAL SANITARY DISTRICT REQUIREMENTS.

6 EXISTING SANITARY SEWER MANHOLE - REBUILT BENCH DETAIL

NOT TO SCALE

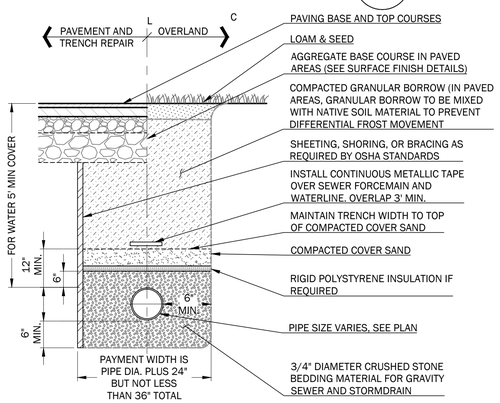


SERVICE	CONDUIT SIZE*	CONDUIT TYPE	UTILITY
'A'	2.5"	SCHEDULE 40 P.V.C. ELECTRICAL GRADE	SECONDARY POWER
'B'	1.5"	SCHEDULE 40 P.V.C. ELECTRICAL GRADE	CATV
'C'	2"	SCHEDULE 40 P.V.C. ELECTRICAL GRADE	TELEPHONE

NOTES:
1. ALL WORK SHALL COMPLY WITH THE RESPECTIVE UTILITY COMPANY STANDARDS.
2. SEE UTILITIES PLANS FOR CONDUIT LOCATIONS.
3. CONTRACTOR TO PROVIDE 1/4" POLYPROPYLENE PULL ROPES IN ALL CONDUITS.
4. CONTRACTOR SHALL VERIFY SIZE, QUANTITY, AND MATERIAL OF ALL CONDUIT WITH APPLICABLE UTILITY COMPANIES PRIOR TO CONSTRUCTION.

7 UNDERGROUND UTILITY TRENCH SECTION

NOT TO SCALE



8 TYPICAL PIPE TRENCHING DETAIL

NOT TO SCALE

WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/13/2026

526 POST ROAD

526 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	2/10/2026	Town Permit Updates	MRM	LLT

Sheet Title:
UTILITY DETAILS

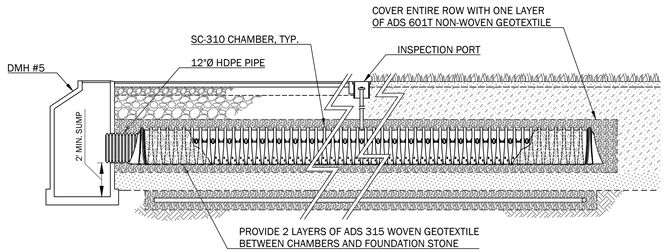
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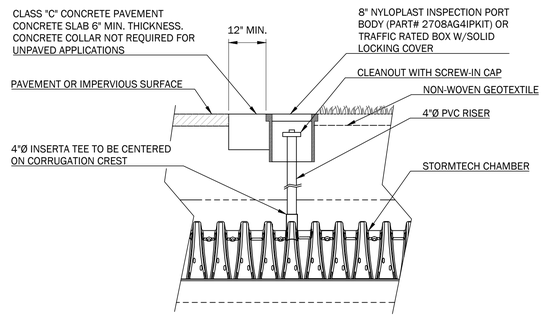
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PRELIMINARY - NOT FOR CONSTRUCTION

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OUTLET CONTROL STRUCTURE

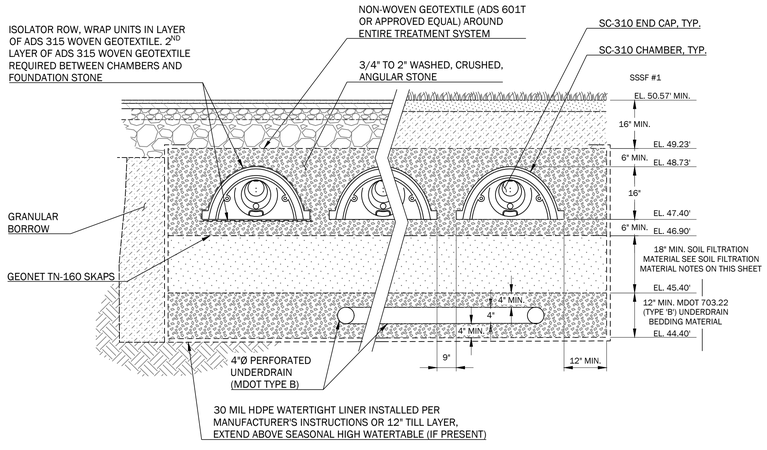




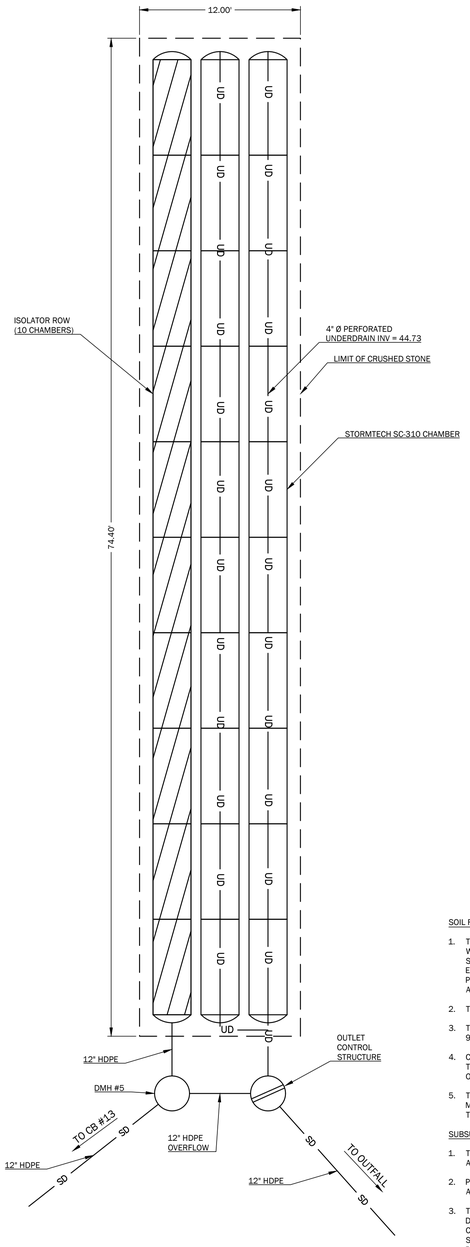
NOTES:
1. INSTALL INSPECTION PORTS AS SHOWN ON SYSTEM PLAN.
2. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.
3. A MINIMUM OF ONE INSPECTION PORT PER 500 S.F. OF CHAMBER AREA IS REQUIRED.

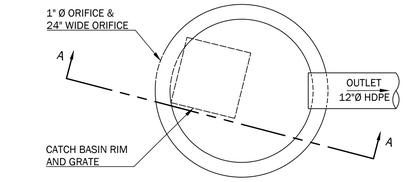
INSPECTION PORT DETAIL

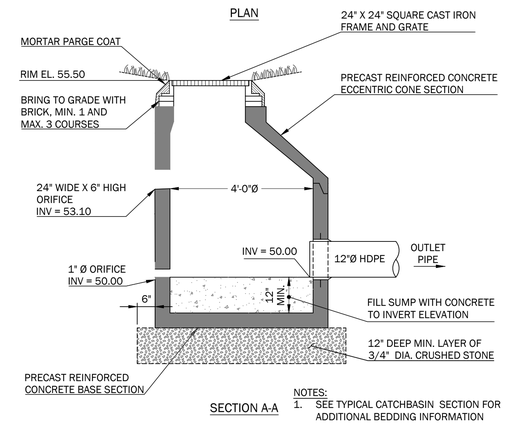
SUBSURFACE SAND FILTER SCHEDULE							
SUBSURFACE SAND FILTER FILTER #	UNDERDRAIN INVERT	UNDERDRAIN OUTLET INVERT	FILTER AREA (SQ. FT.)	FILTER VOLUME (CU. FT)	PEAK WATER ELEVATION		
					2-YEAR STORM	10-YEAR STORM	25-YEAR STORM
SSSF #1	44.73	44.73	893	1,099	48.27	45.52	48.59



2 STORMWATER SAND FILTER TREATMENT SYSTEM SECTIONS AND DETAILS
NOT TO SCALE







NOTES:
1. SEE TYPICAL CATCHBASIN SECTION FOR ADDITIONAL BEDDING INFORMATION

2 OUTLET CONTROL STRUCTURE POND #1
NOT TO SCALE

SOIL FILTRATION MATERIAL NOTES:

1. THE SOIL FILTER MATERIAL SHALL CONSIST OF MDOT SPEC. 703.01 WITH A FINES CONTENT BETWEEN 8% AND 10% (PASSING THE #200 SIEVE) AND NO ORGANICS. CLAY CONTENT IN THE SOIL SHALL NOT EXCEED 2%. THE SOIL FILTRATION MATERIAL SHALL HAVE A PERMEABILITY RATE OF 0.75 INCHES/HOUR ±15% AS CERTIFIED BY AN APPROVED LABORATORY.
2. THE SOIL FILTRATION BED SHALL BE 18 INCHES IN DEPTH.
3. THE SOIL BED MATERIAL SHALL BE COMPACTED BETWEEN 92% AND 95%.
4. CONTRACTOR SHALL MAKE PROVISIONS TO EXCLUDE RUNOFF FROM THE TREATMENT SYSTEM CONSTRUCTION UNTIL THE BASE COURSE OF PAVEMENT IS IN PLACE.
5. THE CONTRACTOR SHALL SUBMIT A SAMPLE OF THE SOIL FILTER MEDIA, GRAIN SIZE ANALYSIS, AND PERMEABILITY TEST RESULTS TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.

SUBSURFACE STORMWATER TREATMENT SYSTEM NOTES:

1. THE UNDERGROUND TREATMENT SYSTEM SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
2. PROVIDE SHOP DRAWINGS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION.
3. THE UNDERGROUND STORM WATER TREATMENT SYSTEM HAS BEEN DESIGNED BASED ON THE STORMTECH CHAMBER SYSTEM. IF THE CONTRACTOR PROPOSES TO INSTALL ANOTHER UNDERGROUND SYSTEM, THE DESIGN SHALL BE ANALYZED AND APPROVED BY THE DESIGN ENGINEER.
4. 30 SC-310 CHAMBERS REQUIRED FOR STORMWATER TREATMENT SYSTEM, SSSF 1.3-1.
5. IMPERMEABLE LINER TO RUN UNDER AND AROUND TREATMENT SYSTEM AND STORAGE SYSTEM. DO NOT SEPARATE SYSTEMS WITH LINER.

CONSTRUCTION OVERSIGHT:

INSPECTION OF THE STORMWATER TREATMENT SYSTEM SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER WITH REQUIRED REPORTING TO THE DEP. AT A MINIMUM, INSPECTIONS WILL OCCUR:

1. AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES.
2. AFTER THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
3. AFTER UNDERDRAIN PIPES ARE BACKFILLED.
4. AFTER THE INSTALLATION OF THE FILTER MEDIA.
5. AFTER PLACEMENT OF THE CHAMBERS, BUT BEFORE THEY ARE BACKFILLED.
6. AFTER THE CHAMBERS ARE BACKFILLED.

WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/13/2026

526 POST ROAD
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WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

PRELIMINARY - NOT FOR CONSTRUCTION

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	2/10/2026	Town Permit Updates	MRM	LLT

Sheet Title:
STORMWATER DETAILS

Job No.:	1005
Date:	01/13/2026
Scale:	AS SHOWN
Drawn:	MBP/MRM
Checked:	WRW/LLT

Sheet No.:
C4.5

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Planning & Development
208 Sanford Road, Wells, Maine 04090
Phone: (207) 646-5187, Fax: (207) 646-7046
Website: www.wellstown.org

Michael G. Livingston, Town Engineer/Planner	*mlivingston@wellstown.org*
Shannon L.M. . Belanger, Assistant Planner	*sbelanger@wellstown.org*

Major Subdivision Preliminary Application Memo

Date: February 20, 2026

To: Planning Board

From: Planning Office

Re: Arundel Lane Subdivision - Map 27, Lot 10- EXE to become 10-EXE and 10-1

Project Description:

Walsh Engineering has submitted a Preliminary Subdivision Application on behalf of the owner The Grace Group, LLC for a major subdivision consisting of 11 single family dwelling units on 6.30 acres of land as a Multifamily Development on a Lot to be identified as 10-1. The existing school use to remain on a 1.32 acre lot. A 50' wide private street to be named Arundel Lane is proposed as access and street frontage for the subdivision lot. The development shall be served by public sewer and public water. The subdivision is located within the General Business, Rural and 75' Shoreland Overlay Districts. Tax Map 27, Lot 10-EXE to become Lots 10-EXE and 10-1.

§ 202-8. Preliminary plan for major subdivision.

A. Procedure. [Amended 5-16-1996; 7-11-1996; 7-9-2002; 4-16-2004; 11-5-2024]

(1) Within six months after the on-site inspection by the Board, the subdivider shall submit an application for approval of a preliminary plan at least 10 days prior to a scheduled meeting of the Board. Failure to do so shall require resubmission of the sketch plan to the Board. The preliminary plan shall approximate the layout shown on the sketch plan, plus any recommendations made by the Board. **Preliminary Subdivision Application received 1/13/26. Planning Board received the application on 1/26/26.**

(2) All applications for preliminary plan approval for a major subdivision shall be accompanied by an application fee in the amount established by the Board of Selectmen following notice and a public hearing. In addition, the applicant shall pay a fee of $25 per lot or dwelling unit, to be deposited in a special account designated for that subdivision application, to be used by the Planning Board for abutter notices and hiring independent consulting services to review the application. If the balance in this special account shall be drawn down by 75%, the Board shall notify the applicant and require that an additional $10 per lot or dwelling unit be deposited by the applicant. The Board shall continue to notify the applicant and require that an additional $10 per lot or dwelling unit be deposited as necessary whenever the balance of the account is drawn down by 75% of the original deposit. Any balance in the account remaining after a final decision on the subdivision application by the Board shall be returned to the applicant.**]** **Application fee and escrow provided.**

(3) If a subdivider is in default of a previously approved subdivision or site plan in the Town of Wells, the Planning Board may refuse to review an application. The Planning Board shall conduct a review of any such defaults, determine the default(s) and may suspend the application's review until the defaults are resolved. **No defaults known.**

(4) Notices describing the proposed project and scheduled meeting date with the Planning Board shall be mailed by the Planning Office to the abutters via regular mail at least 10 days prior to a scheduled meeting of the Board. The addresses of these abutters shall be obtained from the Town of Wells Tax Assessor's records. In the case of an abutting condominium, the condominium association shall be notified, not the individual unit owners. The applicant shall provide the Planning Office with cash escrow funds to pay for the cost of said notices. **Abutters mailed notice of the preliminary application on 1/16/25. PB meeting was on 1/26/26.**

(5) If a subdivision abuts or includes a portion of land of another municipality, the Planning Office, within 10 days prior to the Board meeting at which the application is to be received, shall notify by regular mail the Town Clerk and Planning Board of that municipality. The Planning Office shall also notify by regular mail a public drinking water supplier if a subdivision is within its source water protection area. The notice shall include the location of the proposed subdivision and a general description of the proposed development and date, time and location of the hearing. **Not abutting or within another municipality**

(6) The subdivider, or his duly authorized representative, shall attend the meeting of the Board in person to discuss the preliminary plan. **Yes**

(7) The application shall be received by the Planning Board at the scheduled meeting. **Planning Board recieved the application on 1/26/26**

(8) If the subdivision is located in more than one municipality, the Board shall have a joint meeting with the Planning Board of the adjacent municipality to discuss the plan. **Not abutting or within another municipality**

(9) Within 30 days of receipt of a preliminary plan application form and fee, the Board shall notify the applicant in writing whether or not the application is complete and what, if any, additional submissions are required for a complete application. A request for any extension shall be submitted in writing by the applicant to the Board if additional time is needed for the applicant to address completeness. If the Planning Board agrees the request is reasonable, an extension period shall be mutually agreed to by the Board and the subdivider. Failure of the applicant to provide the required submissions to be deemed complete may result in the denial of the application. **To be determined**

(10) Within 30 days of determining a complete application has been submitted, the Board shall hold a public hearing on the preliminary plan application. The Planning Office shall publish notice of the date, time and place of the hearing in a newspaper of general circulation in the municipality at least two times, the date of the first publication to be at least seven days prior to the hearing and the notice of the hearing shall be posted in at least three prominent places at least seven days prior to the hearing. The Planning Office shall notify, by certified mail, the applicant, all abutters, and the Town Clerk and Planning Board of any abutting municipality, if the development abuts or falls within another municipality. The Planning Office shall also notify by regular mail a public drinking water supplier if a subdivision is within its source water protection area. Abutter notices shall include the date, time, and place of the hearing as well as the project description. The applicant shall provide the Planning Office with cash escrow funds to pay for the cost of advertising and postal notification of the public hearing. **To be determined**

(11) The Board shall, within 30 days of a public hearing or within another time limit as may be otherwise mutually agreed to by the Board and the subdivider, make findings of fact on the application and approve, approve with conditions or deny the preliminary plan. The Board shall specify in writing its findings of fact and reasons for any conditions or denial.

(12) When granting approval to a preliminary plan, the Board shall state the conditions of such approval, if any, with respect to: **To be determined**

(a) The specific changes which it will required in the final plan;

(b) The character and extent of the required improvements for which waivers may have been requested and which in the Board's opinion may be waived without jeopardy to the public health, safety and general welfare; and

(c) The amount of all performance guaranties which it will require as prerequisite to the approval of the final plan.

(13) Approval of a preliminary plan shall not constitute approval of the final plan or intent to approve the final plan, but rather it shall be deemed an expression of approval of the design of the preliminary plan as a guide to the preparation of the final plan. The final plan shall be submitted for approval of the Board upon fulfillment of the requirements of these regulations and the conditions of preliminary approval, if any. Prior to the approval of the final plan, the Board may require additional changes as a result of the further study of the subdivision or as a result of new information received. **To be determined**

B. Submissions.

(1) Location map. The preliminary plan shall be accompanied by a location map adequate to show the relationship of the proposed subdivision to the adjacent properties and to allow the Board to locate the subdivision within the municipality. The location map shall show:

(a) Existing subdivisions adjacent to the proposed subdivision.

(b) Locations and names of existing and proposed streets.

(c) Boundaries and designations of zoning districts.

(d) An outline of the proposed subdivision and any remaining portion of the owner's property if the preliminary plan submitted covers only a portion of the owner's entire contiguous holding.

(2) Preliminary plan. The preliminary plan shall be submitted in three copies of one or more maps or drawings which may be printed or reproduced on paper, with all dimensions shown in feet or decimals of a foot. The preliminary plan shall be drawn to a scale of not more than 100 feet to the inch. Plans shall be no larger than 24 inches by 36 inches in size and shall have a margin of two inches outside the border lines on the left side for binding and one inch margin outside the border along the remaining sides. A signature block shall be provided for endorsement by the Board located in the lower left corner of the plan. In addition, the applicant shall submit to the Office of Planning and Development 12 copies of the plan(s) reduced to a size of 11 inches by 17 inches and all accompanying information assembled into a booklet no less than 10 days prior to the meeting. A digital version (PDF) of the submittal materials and the plan(s) shall also be provided. The following information shall either be shown on the preliminary plan or accompany the application for preliminary approval: **To be determined**

Recommendations and conclusions:

1. The Planning Board to consider the following:
    a. Review the following initial review comments for Article V, VII and draft completeness (applicant to address plan markups):
        i. Lot area and density calculation need some correction. Density allows 11 dwelling units. 11 dwellings are proposed.
        ii. Boundary survey for the subdivision provided: Some metes and bounds and monumentation still needed.
        iii. Existing utilities detailed on utility plan sheet.

iv. Grading and erosion control plans provided. To be reviewed.
v. Stormwater design and analysis provided. To be reviewed.
vi. Easements to be depicted on the plan.
vii. Plan notes that a condominium to manage land; private street/ ROW agreements/ covenants. Draft condominium documents to be provided with the final subdivision submission.
viii. 15' wide setback/ no-cut buffer to be detailed on the plan. Landscaping sheet provided. Planning Board to make buffer determinations after a public hearing.
ix. The subdivision abuts a residential lot in the rural district (Map 113, Lot 18). Plan to identify what visual screen is proposed for this parcel. Planning Board to review and determine if suitable after a public hearing is determined.
x. Planning Board to consider applicants waiver request to identify trees greater than 24 inch diameter at breast height.
xi. Proposed road placement to be reviewed. A 10 feet deviation from the center appears to be proposed. .
xii. A vernal pool evaluation was conducted in May 2025. Report provided.
xiii. Traffic engineers were consulted regarding a 2nd exit lane. See response in letter and report on generation, sight distances and accident data.
xiv. 2,500 SF building envelopes proposed.
xv. A 25' setback from the internal roadway of the multifamily development is not required. A 25' setback from the lot line abutting the Arundel Lane right of way is required.
xvi. Total wetland area and its percentage within the open space of the subdivision noted.
xvii. A bicycle lane is required along Route One and one exists. A sidewalk is not required along the frontage of lot 10.
xviii. No accessory dwelling units to be proposed or allowed in the subdivision.
xix. Monumentation to be determined with the final plan submission.
xx. IF&W letter has not been provided.

b. The Planning Board to consider continuing the workshop for 30 days or appoint the Planning Office as the completeness agent so a public hearing could be scheduled once complete.

Project Name/Map & Lot #:	Arundel Lane Subdivision/ Tax Map 27, Lot 10-1	District:	GB and ShO
Prepared By:	Planning Office	Review Date:	2/20/26
Plans Dated:	1/22/26	Prelim. Plan Revisions Submittal Date:	2/10/26

Chapter 202
Subdivision of Land

§ 202- 8. Preliminary Plan for Major Subdivision		Application Meet Requirements				
		Yes	No	NA	Waiver	Comments
B.	Submissions:					
	(1) Location map. The preliminary plan shall be accompanied by a location map adequate to show the relationship of the proposed subdivision to the adjacent properties and to allow the Board to locate the subdivision within the municipality. The location map shall show:	**Y**				Location Maps provided
	(a) Existing subdivisions adjacent to the proposed subdivision.	**Y**				Existing developments noted.
	(b) Locations and names of existing and proposed streets.	**Y**				Route One, Elmere Rd, etc are identified.
	(c) Boundaries and designations of zoning districts.	**Y**				General Business, Rural and Shoreland Overlay zones identified.
	(d) An outline of the proposed subdivision and any remaining portion of the owner's property if the preliminary plan submitted covers only a portion of the owner's entire contiguous holding.	**Y**				Subdivision lot and outsale lot identified.

Project Name/Map & Lot #:	Arundel Lane Subdivision/ Tax Map 27, Lot 10-1	District:	GB and ShO
Prepared By:	Planning Office	Review Date:	2/20/26
Plans Dated:	1/22/26	Prelim. Plan Revisions Submittal Date:	2/10/26

§ 202- 8. Preliminary Plan for Major Subdivision		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
	(2) Preliminary plan. The preliminary plan shall be submitted in three copies of one or more maps or drawings which may be printed or reproduced on paper, with all dimensions shown in feet or decimals of a foot. The preliminary plan shall be drawn to a scale of not more than 100 feet to the inch. Plans shall be no larger than 24 inches by 36 inches in size and shall have a margin of two inches outside the border lines on the left side for binding and one inch margin outside the border along the remaining sides. A signature block shall be provided for endorsement by the Board located in the lower left corner of the plan. In addition, the applicant shall submit to the Office of Planning and Development 12 copies of the plan(s) reduced to a size of 11 inches by 17 inches and all accompanying information assembled into a booklet no less than 10 days prior to the meeting. A digital version (PDF) of the submittal materials and the plan(s) shall also be provided. The following information shall either be shown on the preliminary plan or accompany the application for preliminary approval: **[Amended 4-12-1999; 11-5-2024]**	**Y***				Plan scale is 1" = 40 feet. Boundary plan is 1" = 50 feet. Signature block in lower left corner. **Subdivision Plan C2.0 also to be stamped by PLS at final plan.**
	(a) The proposed name of the subdivision and the name of the municipality in which it is located, plus the Tax Assessor's map and lot numbers.	**Y***				Arundel Lane Subdivision noted. Map 27, Lot 10 to be divided. Lot 10 to become **1.32 or 1.36 acres**. Lot 10-1 for the Multifamily Development to become 6.30 acres.
	(b) An actual field survey of the boundary lines of the tract, giving complete descriptive data by bearings and distances, made and certified by a licensed land surveyor. The corners of the tract shall be located on the ground and marked by monuments. The plan shall indicate the type of monument set or found at each lot corner.	**Y***				Division of Land plan prepared by Isaiah Plante, PLS #2334 dated 2/16/26 provided. **Existing monuments to be described on C2.0.** **Proposed monument types to be determined.** **When will the lot be conveyed?**

Project Name/Map & Lot #:	Arundel Lane Subdivision/ Tax Map 27, Lot 10-1	District:	GB and ShO
Prepared By:	Planning Office	Review Date:	2/20/26
Plans Dated:	1/22/26	Prelim. Plan Revisions Submittal Date:	2/10/26

§ 202- 8. Preliminary Plan for Major Subdivision		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
	(c) A copy of the deed from which the survey was based and a copy of all covenants or deed restrictions, easements, rights-of-way or other encumbrances currently affecting the property.	**Y***				Quitclaim Deed Book 19672, Page 10 provided. **Draft Condominium documents and sample deed to be provided and to be reviewed by the Town Planner and Town Attorney.**
	(d) A copy of any covenants or deed restrictions intended to cover all or part of the lots in the subdivision.	**Y***				Plan notes a Condominium Association shall be responsible for maintenance and ownership of the roads, stormwater, open space and landscaping. **Draft Condominium documents and sample deed to be provided and to be reviewed by the Town Planner and Town Attorney.** **Drainage easements to be identified on the plan.** **Easement to Morrison Center lot and maintenance agreement to be provided.**
	(e) Contour lines at the interval specified by the Planning Board, showing elevations in relation to mean sea level.	**Y**				Plan depicts 1 foot contours.

Project Name/Map & Lot #:	Arundel Lane Subdivision/ Tax Map 27, Lot 10-1	District:	GB and ShO
Prepared By:	Planning Office	Review Date:	2/20/26
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§ 202- 8. Preliminary Plan for Major Subdivision	**Application Meet Requirements**				
	Yes	**No**	**NA**	**Waiver**	**Comments**
(f) The number of acres within the proposed subdivision, location of property lines, existing buildings, watercourses, vegetative cover type and other essential existing physical features. The location of any trees larger than 24 inches in diameter at breast height shall be shown on the plan.	**Y***				Total Area of subdivision is 6.30 acres with a 22,953 SF ROW. **Density calculations on the plan to be corrected. The subdivision net lot area is approximately 6.30 acres or 274,516 SF. (net area only deducts the street ROW area, not wetland area).** A Multifamily Development per 145-48 is proposed. Density must be calculated using 6.30 acres as the lot area then deduct the common roadway area, stormwater area, utilities, etc. which is not the located ROW of Arundel Lane. **233,343** SF / 20,000 SF results in 11 dwelling units. 11 are proposed. **Plan purpose to be revised.** **Trees greater than 24" in diameter are note identified. 24" trees to be retained are not identified. Applicant requests a waiver of having to depict such trees.**
(g) Indication of the type of sewage disposal to be used in the subdivision.					The subdivision shall be served by public sewer (Wells Sanitary District.)
[1] When sewage disposal is to be accomplished by connection to the public sewer, a letter from the Wells Sanitary District indicating that there is adequate capacity within the district's system to transport and treat the sewage shall be submitted.	**Y**				A letter from the WSD dated 8-14-25 was provided.

Project Name/Map & Lot #:	Arundel Lane Subdivision/ Tax Map 27, Lot 10-1	District:	GB and ShO
Prepared By:	Planning Office	Review Date:	2/20/26
Plans Dated:	1/22/26	Prelim. Plan Revisions Submittal Date:	2/10/26

§ 202- 8. Preliminary Plan for Major Subdivision	**Application Meet Requirements**				
	Yes	**No**	**NA**	**Waiver**	**Comments**
[2] When sewage disposal is to be accomplished by subsurface sewage disposal systems, test pit analyses prepared by a licensed site evaluator shall be provided. A map showing the location of all test pits dug on the site shall be submitted.				**NA**	
(h) Indication of the type of water supply system(s) to be used in the subdivision. When water is to be supplied by public water supply, a letter from the Kennebunk, Kennebunkport and Wells Water District shall be submitted indicating that there is adequate supply and pressure for the subdivision.	**Y**				The subdivision shall be served by public water (KKW Water District.) A letter from the KKWWD dated 8-14-25 was provided.
(i) The date the plan was prepared, North point (identified as true or magnetic), graphic map scale, and names and addresses of the record owner, subdivider and individual or company who or which prepared the plan.	**Y**				Grid North. Plan scale is 1" = 40 feet. Record owner/developer noted.
(j) The names and addresses of owners of record of adjacent property, including any property directly across an existing public street from the subdivision.	**Y**				Abutters are identified.

Project Name/Map & Lot #:	Arundel Lane Subdivision/ Tax Map 27, Lot 10-1	District:	GB and ShO
Prepared By:	Planning Office	Review Date:	2/20/26
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§ 202- 8. Preliminary Plan for Major Subdivision		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
	(k) The location of any zoning boundaries affecting the subdivision.	**Y***				**It is recommended that the GB zoning district regulations be applied to the entire subdivision lot per 145-19B. The zoning district boundary of the rural zone to be moved to follow the property line. Plan to identify zone relocation.** General Business and Shoreland Overlay District dimensional requirements noted. **25' setback from the multifamily development internal roadway is not required. A 25' setback is required from the lot line abutting the street ROW of Arundel Lane.**
	(l) The location and size of existing and proposed sewers, water mains, culverts and drainageways on or adjacent to the property to be subdivided.	**Y***				Utility plan provided C3.0. **To be reviewed.** Grading plan provided. C3.1. Road profile provided C3.2. **To be reviewed.** Stormwater Management Report prepared by William Walsh, PE and Leyna Tobey, PE of Walsh Engineering dated 1/22/26, revised 2/10/26.**To be reviewed by Town Engineer.**
	(m) The location, names and present widths of existing and proposed streets, highways, easements, building lines, parks and other open spaces on or adjacent to the subdivision.	**Y***				Arundel Lane ROW identified. Existing adjacent buildings identified. **Propsoed easements to be identified. Open space areas to be labelled.**
	(n) The width and location of any streets or public improvements shown upon the Official Map and the Comprehensive Plan, if any, within the subdivision.			**NA**		No such public improvements proposed.

Project Name/Map & Lot #:	Arundel Lane Subdivision/ Tax Map 27, Lot 10-1	District:	GB and ShO
Prepared By:	Planning Office	Review Date:	2/20/26
Plans Dated:	1/22/26	Prelim. Plan Revisions Submittal Date:	2/10/26

§ 202- 8. Preliminary Plan for Major Subdivision	**Application Meet Requirements**				
	Yes	**No**	**NA**	**Waiver**	**Comments**
(0) The proposed lot lines with approximate dimensions and lot areas.	**Y**				Lot lines depicted.
(p) All parcels of land proposed to be dedicated to public use and the conditions of such dedication.			**NA**		No such dedication proposed.
(q) The location of any open space to be preserved and an indication of its improvement and management.	**Y**				Open space proposed. Plan notes a Condominium Association shall be responsible for maintenance and ownership of the roads, stormwater, open space and landscaping.
(r) A copy of that portion of the county soil survey covering the subdivision. When the medium-intensity soil survey shows soils which are generally unsuitable for the uses proposed, the Board may require the submittal of a report by a registered soil scientist indicating the suitability of soil conditions for those uses.	**Y**				SCS Map provided
(s) If any portion of the subdivision is in a flood-prone area, the boundaries of any flood hazard areas and the one-hundred-year-flood elevation shall be delineated on the plan.	**Y**				Subdivision classified in Zone X and AE per FIRM panel 23031C0586G and 577G.
(t) A hydrogeologic assessment prepared by a certified geologist or registered professional engineer, experienced in hydrogeology, when the subdivision is not served by public sewer and:			**NA**		Not required as the subdivision shall be served by public sewer.
[1] Any part of the subdivision is located over a sand and gravel aquifer, as shown on a map entitled "Hydrogeologic Data for Significant Sand and Gravel Aquifers" by the Maine Geological Survey, 1985, Map Nos. 2 and 4; or					
[2] The subdivision has an average density of less than 100,000 square feet per dwelling unit.					
(u) The location of any wetlands, streams, rivers, brooks or ponds located within or adjacent (within 75 feet) to the proposed subdivision.	**Y**				Stevens Brook identified. Wetland delineation report from Brady Frick dated 5/26/25 of Albert Frick Associations.
(v) The location of any significant wildlife or fisheries habitat as located by the Department of Inland Fisheries and Wildlife.		**N**			**A letter from IF&W not yet provided.**

Project Name/Map & Lot #:	Arundel Lane Subdivision/ Tax Map 27, Lot 10-1	District:	GB and ShO
Prepared By:	Planning Office	Review Date:	2/20/26
Plans Dated:	1/22/26	Prelim. Plan Revisions Submittal Date:	2/10/26

§ 202- 8. Preliminary Plan for Major Subdivision			**Application Meet Requirements**				
			Yes	**No**	**NA**	**Waiver**	**Comments**
	(w) Traffic data. The Planning Board may require a traffic engineering study should the project be considered one of substantial magnitude along any location where fast-moving traffic occurs or the scope of the development significantly increases the volume of traffic on a street or impacts pedestrian safety. Should a traffic study be requested by the Planning Board, the following data shall be included: **[Added 11-5-2024]**		**Y***				Traffic Assessment provided. Prepared by Jacob W. Sirois EI of Barton & Loguidice, LLC dated 2/9/26. **To be reviewed.** **Does not appear to address addition of a turning lane, although the cover letter states it was considered.**
	[1]	The estimated peak-hour traffic to be generated by the proposal.					
	[2]	Existing traffic counts and volumes on surrounding roads during peak seasons.					
	[3]	Traffic accident data covering a recent three-year period.					
	[4]	The capacity of surrounding roads, municipal facilities, parking and any improvements which may be necessary on such roads and facilities to accommodate anticipated traffic generation.					
	[5]	The need for traffic signals and signs or other directional markers to regulate anticipated traffic.					
	[6]	The need for sidewalks or other pedestrian safety measures.					
C.	Rights vested. The submittal of the preliminary application, plans, other associated submittals in accordance with § 202-8B and submittal of the application fee shall be considered as substantial for the purposes of bringing the plan under the protection of 1 M.R.S.A. § 302. **[Added 6-14-2022]**						

WALSH
ENGINEERING ASSOCIATES, INC.

February 10, 2026

Town of Wells Planning & Development Department
c/o Ms. Shannon Bellanger, Assistant Planner
208 Sanford Road
Wells, ME 04090

RE: Major Subdivision Preliminary – Response to Staff Review Comments
Arundel Lane Subdivision, Wells, ME
Proposed Tax Map 128, Lot 10-1

To Whom It May Concern,

On behalf of The Grace Group, LLC, Walsh Engineering Associates, Inc. (WEA) is pleased to submit the enclosed revised plan set for the proposed Arundel Lane Subdivision located on Post Road in Wells based on Staff Review comments received within a memo dated January 23, 2026. The subject application is proposed 11-unit residential development with a private way. Please see below our responses to staff comments noted in red.

Staff Review Committee 1/23/2026 Memo Comments:

i. Is the school lot part of the subdivision application? It is the intention of the applicant for the commercial lot to be divided out as a separate and distinct lot from the residential development. The commercial lot is not proposed as a lot or unit within the proposed 11-unit subdivision. (Please note that the proposed Arundel Lane Subdivision has been updated to include 11 dwelling units, instead of the previously proposed 12 units.)
ii. Lot area and density calculation needs to be correct and exact areas calculated to confirm the dwelling unit number allowed. Lot area and density calculations have been updated.
iii. Boundary survey for the subdivision not provided: Metes and bounds and monumentation needed. A stamped boundary survey plan of the existing parcel has been provided. A proposed survey boundary plan will be submitted as part of a final approval submission.
iv. Plan copies provided are not to scale. The provided plan copies may have contained an error in printing within the margins. Updated plan copies have been confirmed to be to scale.
v. Existing utilities to be confirmed and depicted. Existing utilities have been identified on all sheets. We are in the process of verifying utility locations and other pertinent information with KKWWD, Wells Sanitary District, and MDOT.
vi. Grading and erosion control plans not provided. Grading and erosion control plans have been provided in the updated design plans included herein.
vii. Stormwater design and analysis not provided. The stormwater management design, report, and calculations are provided herein.
viii. Proposed documents not outlined or provided: condominium to manage land; private street / ROW agreements / covenants. Documents for the proposed condominium, private way, and easements are being drafted and will be provided for Final Approval of the Arundel Lane subdivision.
ix. Buffers not specified: no-cut and/or proposed plantings? The proposed landscaped buffers are to be no-cut except where otherwise noted on the provided plans.
x. Natural and historic features not identified: stone walls and trees greater than 24 inch diameter at breast height. Existing stone walls are identified on the provided plan set. Existing trees greater than 24" diameter at breast height are not included, and a waiver request has been submitted for the requirement for a tree survey, based on the project's site walk and Planning Board comments. One large tree was observed during the project site walk, however, this tree cannot be saved.

xi. Proposed road to be in the center of the right-of-way, unless in conflict with existing features allow up to a 10 feet deviation. The proposed private road has been shifted towards the center of the 50' ROW strip of land to provide the 15-foot vegetated buffer.

xii. A vernal pool evaluation should be considered. A vernal pool evaluation was conducted for the project site and no vernal pools were observed. Please see the attached Wetland Delineation Report prepared by Frick Associates, dated May 16, 2025.

xiii. Three lanes at Route 1 should be considered. The applicant consulted Barton & Loguidice, the traffic engineers that prepared the Traffic Assessment Report for 526 Post Road, about the necessity of a second exit lane at the intersection of Route 1 and Arundel Lane. It was Barton & Loguidice's opinion that the site's daily estimated traffic count is low enough that it likely does not warrant an extra turning lane leaving the site, and may even have the result of inhibiting turning movement site distances at the site exit if two cars are side-by-side utilizing each exit lane.

xiv. Are the 2,500 square feet boxes on the plan building envelopes or exact building footprints? Will decks, porches, patios, generators, sheds, fire pits, HVAC units, etc. be allowed for each unit? If so, lot coverage to facture. The 2,500-square-foot boxes shown on the plans represent approximate building envelopes that cap the building, deck, porch, generator, HVAC, and other impervious features at 2,500 square feet per unit. Lot-coverage calculations are based on this maximum; actual as-built coverage may be less but will not exceed the 2,500-square-foot allowance shown on plan C2.0.

xv. The plan to note the total wetland area and its percentage within the open space of the subdivision. This has been added to the updated design plans included herein.

xvi. The subdivision abuts a residential lot in the rural district (Map 113, Lot 18). Plan to identify what visual screen is proposed for this parcel. Planning Board to review and determine if suitable after a public hearing is determined. A no-cut buffer ranging from 25 to 40 feet wide is proposed adjacent to the residential lot within the rural zone (Map 113, Lot 18), as shown on the subdivision plan.

xvii. The construction of a sidewalk along Route 1 is required per 201-41(5) In reviewing the exhibits for the Route One Corridor Study, the provided cross section of Route One at 526 Post Rd anticipates a bicycle lane along the frontage of the 526 Post Rd property. As a bicycle lane already exists along this stretch of frontage, we believe that no additional pedestrian/bicycle improvements are warranted. The frontage across the street where a sidewalk is anticipated is outside of the development area of this project.

Planning Board 2/9/2026 Meeting Comments:

Accessory Dwelling Units

The members of the Planning Board requested that a statement be provided regarding the potential for future construction of accessory dwelling units within the multifamily development. The Applicant certifies that there will be no accessory dwelling units constructed now or in the future within the Arundel Lane Subdivison. The Applicant recognizes that this may be a special condition of approval for the development at the purview of the Planning Board.

Additional Comments

Please refer to the attached spreadsheet regarding all other comments prepared by the Staff of the Town of Wells Planning and Development Department regarding the Subdivision Application.

WEA reviewed the abutter's January 20, 2026 comment regarding potential increased flooding of their campground. The boundary with the campground includes a minimum 20-foot no-cut buffer, and buildings near this boundary will use roof drains to capture and store stormwater before conveying it south to a subsurface soil filter. An existing topographic high point between the proposed development and the campground's property boundary will remain

undisturbed. WEA conducted a stormwater analysis which demonstrated that post-development stormwater runoff rates to the campground are lower than those in the pre-development conditions, and no additional runoff will be directed toward the abutter's property. It is WEA's opinion that the project will not impact drainage or flooding on the abutting campground.

We trust the appropriate information has been provided with this application, and we look forward to working with the committee to make this project a success.

Respectfully,

Werner Gilliam

Werner Gilliam, CFM, Permitting/Project Manager
Walsh Engineering Associates, Inc.

cc. The Grace Group, LLC – Chris Finneral
Walsh Engineering Associates, Inc. – William R. Walsh, III, PE; Leyna Tobey, PE

Enc. Updated Arundel Lane Subdivision Application Documentation

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
145-26	**GENERAL BUSINESS DISTRICT - REGULATIONS**				
(39).	School, private and public	**Is the school lot part of the subdivision? A school use to remain on the 1.30 acre lot.**	Y	N/A	The commercial lot is not proposed as a lot within the 11-unit subdivision
F.	Dimensional requirements	**It is recommended that the GB zoning district regulations be applied to the entire subdivision lot per 145-19B. The zoning district boundary of the rural zone to be moved to follow the property line.**	Y	All Sheets	The rural zone boundary has been adjusted to follow the property boundary and plan notes have been updated to reflect this.
F.(1)	Minimum lot size: 20,000 square feet on net area if served by public sewer; 40,000 square feet of net area if not served by public sewer	The currently parcel lot size is 8.15 acres. The school to be divided off and remain on 1.30 acres. A private 50' wide ROW to be named Arundel Lane is proposed and is approximately 22,350 SF in area. The subdivision lot area is 6.85 acres or 298,246 SF. The subdivision net lot total area is approximately 275,896 SF or 6.33 acres. **To be calculated and noted on the plan.** The subdivision lot to be served by public sewer (WSD)	Y	C1.0, C2.0	Lot area and density calculations have been updated.
F.(2).A	MAXIMUM DENSITY: One dwelling unit for each 20,000 square feet of net area if served by public sewer.	**Density calculations on the plan to be corrected. The subdivision net lot area is approximately 6.33 acres or 275,896 SF, not 8.15 acres. A Multifamily Development per 145-48 is proposed. Density must be calculated using 6.33 +/- as the lot area then deduct the common roadway area, stormwater area, utilities, etc. which is not the located ROW of Arundel Lane. To be calculated, but approximately 32,500 SF in deduction based on these features on proposed lot 10-1 (excluding the School Lot and Arundel Lane ROW). 275,896 SF – 2,500 SF = 243,396 SF/ 20,000 = 12.1. Density appears to permit 12 dwelling units. Correct calculations needed to clarify.**	Y	C1.0, C2.0	Density calculations have been updated. 11 Units permitted. Please note that the proposed Arundel Lane Subdivision has been updated to include 11 dwelling units, instead of the previously proposed 12 units

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
F.(3)	Minimum street frontage per lot: 100 feet, which may be reduced to 75 feet for frontage entirely on a cul-de-sac	**The subdivision lot depicts only 50' of street frontage on Arundel Lane ROW. It is recommend the 50' ROW be extended another 50' so that 100 feet of street frontage can be achieved.**	Y	C2.0	The ROW boundary line has been adjusted to provide 100' of frontage to the Subdivision lot.
F.(4)	Maximum lot coverage: 65% (20% within the Shoreland Overlay District) or 2500 square feet, whichever is greater, except that the maximum lot coverage shall be 40% of the entire lot on any lot that was legally created prior to January 1, 1994, if at least 75% of the lot is located within the Shoreland Overlay District	The 65% maximum lot coverage of the GB zone is noted on the plan. **The proposed lot coverage is not noted.** **Are the 2,500 SF boxes on the plan building envelopes or exact building footprints? Will decks, porches, patios, generators, sheds, fire pits, HVAC units, etc. be allowed for each unit? If so, lot coverage to facture.**	Y	C2.0	Lot coverage calculations have been added to the proposed Site Plan / Subdivision Plan based on the 2,500 square foot building envelopes and the proposed Arundel Lane.
F.(6).a. [3]	Twenty-five feet from any lot line abutting any street right-of-way.	**Parcel does abut the Arundel Lane ROW. 25' setback to be identified.**	Y	C2.0	Proposed 25' setback off of Arundel Lane ROW has been added.
145-48	**PERFORMANCE STANDARDS - MULTIFAMILY DEVELOPMENTS**				
A.(1)	A landscaped buffer the width of the required setbacks of Article V along all lot boundaries shall be required. The buffer strip shall not contain parking areas or structures, but may contain a perpendicular access driveway(s) or road(s) to connect with existing streets	15' wide landscaped buffer along all lot lines noted. **Label corrections needed.** Arundel Lane roadway serving the multifamily development crosses the buffer required from the street ROW.	Y	All Sheets	Labels for the proposed 15' landscaped buffers for the multifamily development have been updated accordingly on all sheets.
A.(4)	One-family dwelling structures shall be separated by at least 30 feet.	**Single family dwellings shall be separated by a minimum of 30 feet. Measurements between the units on the plan appear to be 28 or 29', not 30'.** **Plan provided is not to scale.**	Y	All Sheets	Confirmation that all building envelopes are separated by 30 feet. Plans have been printed with correct margins to provide accurate scale.

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
A.(5)	A buffer strip managed by the condominium association or lot owner shall be required on the property along any adjacent property line. The buffer strip shall be a no cut buffer and consist of natural vegetation, or the Planning Board or reviewing authority shall require natural evergreen plantings to establish a visual screen except at driveway locations. The buffer strip width shall be the required lot line setback of Article V along the adjoining lot line or greater if necessary, as determined by the Planning Board or reviewing authority, to screen the development from the view from adjacent property lines. The Planning Board or reviewing authority may require additional screening or restrict the removal of vegetation within the buffer	15' wide landscaped buffer along all lot lines noted. **Label corrections needed to state the 15' setback is also a no-cut buffer.** **Planning Board to review what the no-cut buffer shall consist of. A landscape plan is recommended.**	Y	All Sheets	Labels for the proposed 15' landscaped buffers for the multifamily development have been updated accordingly on all sheets. 15' landscaped buffer is no-cut buffer.
A.(7)	The open space shall consist of no more than 50% coastal wetland or freshwater wetland as defined in § 145-10 except freshwater wetlands shall also include wetlands dominated by trees or woody vegetation of any height in any district	**The plan to note the total wetland area and its percentage within the open space of the subdivision.**	Y	C2.0	The open space notes on the Subdivision plan have been updated to show the total amount of wetland to remain, and the percentage of open space that is wetland.
B	On any lot divided by a zoning district boundary line, the lot coverage for any portion of the lot lying within a specific zoning district shall not exceed the permitted lot coverage for that district, except as otherwise specified in § 145-48D through H below.	**The property shall be entirely within the General Business District per 145-19B.** **Proposed lot coverage of the GB zone and Shoreland Overlay zone to be identified.**	Y	C2.0	Lot coverage has been shown for both General Business zone and Shoreland Overlay zone.

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
C	In any multifamily development abutting a residential use in a residential or rural zoning district, the landscape buffer shall include a visual screen abutting the residential use. Said visual screening shall consist of a continuous border of staggered evergreen shrubbery at least six feet in height, trees or, if required by the Planning Board, solid fencing six feet in height. Said multifamily development shall be screened from the view of any dwelling unit located within 200 feet of the multifamily development's boundaries. Said visual screening shall be owned in fee, managed and maintained by the owner or by an association of the owners of the development.	**The subdivision abuts a residential lot in the rural district (Map 113, Lot 18). Plan to identify what visual screen is proposed for this parcel. Planning Board to review and determine if suitable after a public hearing is determined.**	Y	C2.0	A no-cut buffer ranging from 25 to 40 feet wide is proposed adjacent to the residential lot within the rural zone (Map 113, Lot 18), as shown on the subdivision plan.
H.(1)	DENSITY: In order to determine the maximum number of dwelling units permitted on a tract of land the net residential acreage shall be determined by calculating net area and subtracting the area of common roads, stormwater facilities, utilities, fire protection systems and common parking or infrastructure.	**Density calculations on the plan to be corrected.** **The subdivision net lot area is approximately 6.33 acres or 275,896 SF, not 8.15 acres.** **A Multifamily Development per 145-48 is proposed. Density must be calculated using 6.33 +/- as the lot area then deduct the common roadway area, stormwater area, utilities, etc. which is not the located ROW of Arundel Lane. To be calculated, but approximately 32,500 SF in deduction based on these features on proposed lot 10-1 (excluding the School Lot and Arundel Lane ROW). 275,896 SF – 32,500 SF = 243,396 SF/ 20,000 = 12.1. Density appears to permit 12 dwelling units.** **Correct calculations needed to clarify.**	Y	C1.0, C2.0	Density calculations have been updated. 11 Units permitted. Please note that the proposed Arundel Lane Subdivision has been updated to include 11 dwelling units, instead of the previously proposed 12 units

ITEM NUMBER	DESCRIPTION	STAFF COMMENT 1/23/2026	COMMENT ADDRESSED	DRAWING / SHEET NUMBER	COMMENT RESPONSE 2/10/2026
	A development layout shall be submitted indicating the minimum required open space per § 202-12B.	35% Open space noted to be required. **Total area of the subdivision lot to be determined.** **It appears approximately 96,563 SF of Open Space is required and 127,071 SF is proposed.**	Y	C1.0, C2.0	Minimum required and proposed open space areas are updated on the provided design plans.
	Innovative open space bonuses as specified in § 145-49D may be awarded by the Planning Board.	**Density appears to permit 12 dwelling units. Correct calculations needed to confirm.**	Y	C1.0, C2.0	Density calculations have been updated. 11 Units permitted.

Barton & Loguidice

Traffic Assessment

Date: February 9, 2026

To: **Bill Walsh, P.E., LEED AP**
President and Principal Engineer
Walsh Engineering Associates, Inc.

From: Jacob W. Sirois, E.I.
Engineer II
Barton & Loguidice, LLC

John Q. Adams, P.E., PTOE
Senior Associate
Barton & Loguidice, LLC

Re: **Residential Development**
526 Post Road, Wells, ME

1 Introduction

The applicant is proposing the development of 11 condominium units on the parcel addressed 526 Post Road (US 1) in the Town of Wells (refer to Image 1 below for the project location). The development site is currently occupied by the Morrison Center, a facility that provides support services to children and adults with developmental disabilities. With the development of the project, the former Morrison Center site will remain a school use. Access to the development site will continue to be provided via the existing driveway entrance which intersects with the western side of Post Road.

The purpose of this traffic assessment is to evaluate and measure the level of impact on traffic operations and safety resulting with the development of the proposed project. Site generated trip projections are provided for "key" peak hour time periods throughout a typical week; road safety conditions were determined based upon a review of the MaineDOT's latest crash data, and intersection sight distance was field reviewed and measured to ensure safe and acceptable sight distance is provided at the existing site's intersection with Post Road.

Image 1 – Site Location



2 Residential Trip Generation

Daily and peak hour site trip generation estimates have been prepared for the proposed development based on the trip generation tables in the 11th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The ITE Manual provides numerous land use codes (LUC) and the volume of site-generated trips produced by each category.

Trip generation estimates for the 11 condominium units have been prepared using LUC #215 – Single-Family Attached Housing. The trip generation calculations are provided below in Table 1:

Table 1
ITE Trip Generation Calculations

Land Use	Single-Family Detached Housing - LUC 210					
Time Period	**Dwelling Units**	**Trip Generation Rate Trips/Dwelling Units**	**Trips Generated**	**Distribution Entering / Exiting**	**Enter**	**Exit**
Weekday*	11	6.00	66	50% / 50%	33	33
AM Weekday Peak Hour (Street)	11	0.70	8	26% / 74%	2	6
PM Weekday Peak Hour (Street)	11	0.94	11	63% / 37%	7	4
AM Weekday Peak Hour (Generator)	11	0.75	9	26% / 74%	2	7
PM Weekday Peak Hour (Generator)	11	0.99	11	64% / 36%	7	4

*Daily trip generation is based on Wells Subdivision Ordinance, Chapter 202 - Subdivision of Land, Part 12.G.(2).(b)., which gives a value of 6.0 trips per day per residential condominium unit

Table 1 shows that the proposed condominiums are expected to generate 8 trips during the AM peak hour of the adjacent street and 12 trips during the PM peak hour of the adjacent street. During the AM and PM peak hours of the generator, the residential units will produce 9 trips and 11 trips, respectively. During the typical weekday, they will generate 66 daily trips.

3 Daily School Trip Generation

In the past 10 years, the Morrison Center facility, a 34-student school for special needs students, was active on-site. With the development of the project, the former Morrison Center site will continue to be used as a special needs school.

Although the trips generated by the on-site school facility are grandfathered and not subject to approvals, we have prepared trip generation estimates for the school in order to determine its total daily traffic volume.

The trip generation estimates for the school have been prepared based on traffic surveys conducted at two JFMH school sites (similar sites for special education services for those with autism spectrum disorder, developmental disabilities, and emotional/behavioral disorders) located in Lewiston and Auburn. The two study sites are located at 655 Main Street in Lewiston and 180 Mount Auburn Avenue in the City of Auburn (no longer operating). Combined, at the time of the surveys, the two schools had an enrollment of 45 students and 65 staff members.

The traffic surveys were conducted on Thursday, January 10, 2019. All vehicles entering and exiting the sites were recorded in 15-minute intervals between 7:30 and 9:30 AM and again between 2:30 and 4:15 PM. A summary of the traffic survey is provided below in Table 2:

Table 2 JFMH School Counts										
Time of Day			Auburn School Site Trips			Lewiston School Site Trips			Total Trips		
			Enter Site	Exit Site	Total	Enter Site	Exit Site	Total	Enter Site	Exit Site	Total
7:00 AM	to	7:15	3	1	4	1	0	1	4	1	5
7:15	to	7:30	2	0	2	1	0	1	3	0	3
7:30	to	7:45	3	0	3	4	0	4	7	0	7
7:45	**to**	**8:00**	**6**	**1**	**7**	**16**	**1**	**17**	**22**	**2**	**24**
8:00	**to**	**8:15**	**8**	**5**	**13**	**17**	**0**	**17**	**25**	**5**	**30**
8:15	**to**	**8:30**	**10**	**4**	**14**	**7**	**1**	**8**	**17**	**5**	**22**
8:30	**to**	**8:45**	**7**	**4**	**11**	**9**	**12**	**21**	**16**	**16**	**32**
8:45	to	9:00	1	2	3	4	4	8	5	6	11
9:00	to	9:15	1	0	1	2	2	4	3	2	5
9:15	to	9:30	3	0	3	2	4	6	5	4	9
Peak Hour Total			**31**	**14**	**45**	**49**	**14**	**63**	**80**	**28**	**108**
2:30 PM	to	2:45	4	0	4	2	3	5	6	3	9
2:45	to	3:00	3	2	5	4	7	11	7	9	16
3:00	to	3:15	1	14	15	5	11	16	6	25	31
3:15	**to**	**3:30**	**5**	**0**	**5**	**5**	**5**	**10**	**10**	**5**	**15**
3:30	**to**	**3:45**	**1**	**2**	**3**	**2**	**2**	**4**	**3**	**4**	**7**
3:45	**to**	**4:00**	**0**	**19**	**19**	**1**	**7**	**8**	**1**	**26**	**27**
4:00	**to**	**4:15**	**0**	**2**	**2**	**0**	**31**	**31**	**0**	**33**	**33**
Peak Hour Total			**6**	**23**	**29**	**8**	**45**	**53**	**14**	**68**	**82**

As highlighted in the preceding table, the two JFMH schools, with a combined enrolment of 45 students, produced a total of 190 trips during the analyzed time period. Based on conversations with JFMH school personnel, these types of schools generate the majority of their trips during and around the AM and PM peak hours. Outside of these time periods, the sites generate few trips, since they do not allow visitors or host the typical after-school activities. Accordingly, we have assumed that 90% of the daily trips occurred within the time period analyzed above. Thus, the 45 students at the study sites are expected to produce 211 daily trips. This results in a daily trip rate of 4.69 trips per student. Applying this methodology to the project, **the 34-student school generates 159 daily trips**.

4 Daily Site Trip Generation

In Section 2, we confirmed that the proposed condominium units will generate 66 daily trips, and in Section 3, we demonstrated that the grandfathered 34-student school generates 159 daily trips. The calculations are summarized below in Table 3:

Table 3 ITE Trip Generation Calculations			
Land Use	**Single-Family Detached Housing - LUC 210**		
Time Period	**Independent variable**	**Trip Generation Rate Trips/Independent variable**	**Trips Generated**
Weekday (Residential)	11 Units	6.00	66
Weekday (School)	34 students	4.69	159
		TOTAL	**225**

Table 3 shows that the 11 condominium units and 34 students are anticipated to generate 225 trips on the typical weekday.

5 Intersection Sight Distance

Intersection sight distances were recorded from the site's existing driveway entrance on Post Road in accordance with the criteria established within the MaineDOT's *Highway Driveway and Entrance Rules* publication, which requires the following minimum sight distance for non-mobility roadways based on the posted speed limit:

MaineDOT Sight Distance Standards	
Posted Speed Limit	**Minimum Sight Distance**
25 mph	200 ft.
30 mph	250 ft.
35 mph	305 ft.
40 mph	**360 ft.**
45 mph	425 ft.
50 mph	495 ft.

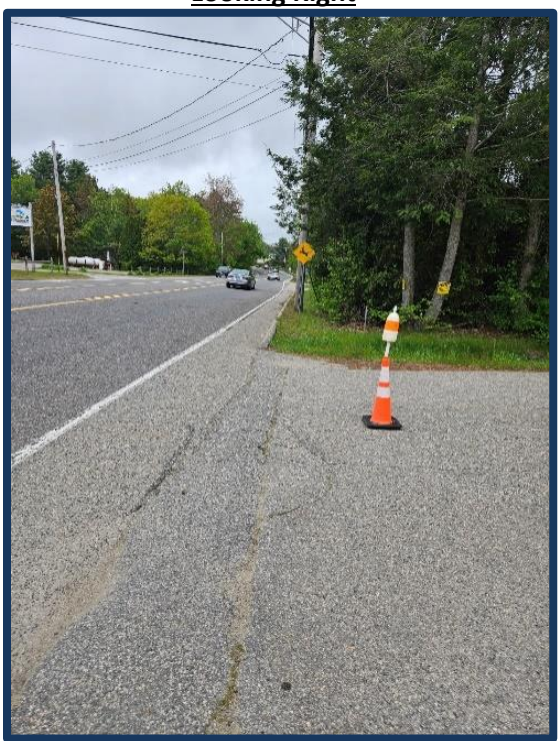
The section of Post Road fronting the development site is posted at 40 mph, requiring a minimum sight distance of 360 feet. MaineDOT's Rules and Regulations require sight distance to be measured in accordance with the following procedures: *"Sight distance is measured to and from the point on the centerline of the proposed access that is located 10 feet from the edge of traveled way. The height of the hypothetical person's view is considered to be 3½ feet above the pavement and the height of the object being viewed is considered to be 4¼ feet above the pavement."*

Our field measurements looking left and right directionally onto Post Road indicate that existing sight distances exceed the requirements, based on the 40 mph speed limit. Looking left and right, we recorded sight distances over 600 feet. Refer to the photos below:

Looking Left



Looking Right



6 Existing Road Safety Conditions

Crash data for the latest three-year time period (2022-2024) was provided by MaineDOT's Crash Records Section for the section of Post Road between and including the intersections at Eldridge Road and Furbish Road, for a distance of 0.6 miles. MaineDOT's crash report is attached in the *appendix*. A summary of the crash report is provided below:

Table 4
2022-2024 Crash Report Summary

#	Location		Total Crashes	Critical Rate Factor
1	Post Rd @	Furbish Rd	2	0.32
2	Post Rd @	Eldridge Rd	6	0.93
3	Post Rd @	Elmere Rd	0	0.00
4	Post Rd btw.	Furbish Rd and Elmere Rd	11	0.58
5	Post Rd btw.	Elmere Rd and Eldridge Rd	9	0.56

MaineDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more accidents in the latest 3-year period, and***
- ***A Critical Rate Factor greater than or equal to 1.00***

The crash data shows that there are no high crash locations within the study area.

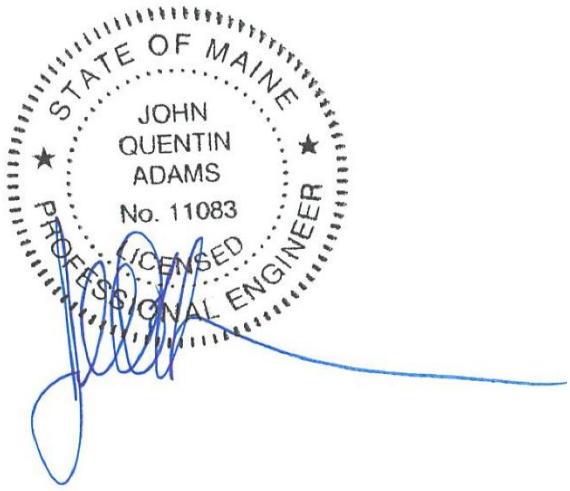
7 Summary

- The proposed 11 condominium units are expected to generate 9 trips during the AM peak hour of the generator and 11 trips during the PM peak hour of the generator. During the typical weekday, they will generate 66 daily trips. Overall, the project is a low trip generator and will remain well below the 100 new peak hour trip ends that would require a MaineDOT Traffic Movement Permit.

- Daily trip generation estimates have been prepared for the on-site school facility, whose trips are grandfathered and are not subject to approvals. Our calculations show that the recently vacated, 34-student school generated 165 daily trips.

- Vehicle sight distance measurements were field recorded, looking both left and right from the existing site entrance onto Post Road. Our field measurements looking left and right directionally onto Post Road indicate that existing sight distances are satisfactory, based on the 40 mph speed limit. Looking left and right, we recorded unobstructed sight distances in excess of 600 feet.

- Crash data for the latest three-year time period (2022-2024) was provided by MaineDOT's Crash Records Section for the section of Post Road between and including the intersections at Eldridge Road and Furbish Road, for a distance of 0.6 miles. A review of the crash data shows that there are no high crash locations within the study area.



John Q. Adams, PE, PTOE


Wells Highlands
56978
57354
Preble St
57353
51831
56572
Eldridge Rd
58139
59596
58138
58141
Wilson Ave
Sea Breeze Dr
51838
51841
58140
51842
51815
51837
57521
56571
Post Rd
1077686
Elmore Rd
51836
Gilkadee Ln
Stevens Brook
51840
Eldridge Rd
Webhannet Dr
51808
51810
51809
59597
Beachwood Ter
54494
57291
51806
57274
51807
57273
51805
51804
Moody Point
51802
51801
51803
51800
Moody Point
Ocean Av
56570
58128
Furbish Rd
58131
59583
Pointed Fir Blvd W
58129
58130
58132
51799
61166
63374
61171
Salt Marsh Cir
61169
56569
Old County Rd
Bragdon Brook
Scale: 1:10545
600ft

Maine Department Of Transportation - Office of Safety, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Wells
Post Rd (Rte 1) from Furbish Rd (56570) to Eldridge Rd (56572)

REPORT PARAMETERS

Year 2022, Start Month 1 through Year 2024 End Month: 12

Route: **0001X**	Start Node: **56570**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **56572**	End Offset: **0**	☐ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
56570	0001X - 17.45	Int of FURBISH RD POST RD	2	2	0	0	0	1	1	50.0	5.377	0.12	0.37	0.00
												Statewide Crash Rate:	0.15	
56572	0001X - 18.05	Int of ELDRIDGE RD POST RD	2	6	0	0	1	1	4	33.3	6.049	0.33	0.36	0.93
												Statewide Crash Rate:	0.15	
56571	0001X - 17.79	Int of ELMERE RD POST RD	2	0	0	0	0	0	0	0.0	5.400	0.00	0.37	0.00
												Statewide Crash Rate:	0.15	
Study Years:	3.00	**NODE TOTALS:**		8	0	0	1	2	5	37.5	16.826	0.16	0.28	0.56

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
56570	56571	3114242	0 - 0.34	0001X - 17.45	0.34	2	11	0	0	1	0	10	9.1	0.01778	206.17	355.08	0.58
Int of FURBISH RD	POST RD			US 1											Statewide Crash Rate: 204.84		
56571	56572	3129582	0 - 0.26	0001X - 17.79	0.26	2	9	0	0	1	1	7	22.2	0.01436	208.95	370.88	0.56
Int of ELMERE RD	POST RD			US 1											Statewide Crash Rate: 204.84		
Study Years:	3.00			**Section Totals:**	0.60		20	0	0	2	1	17	15.0	0.03214	207.41	318.38	0.65
				Grand Totals:	0.60		28	0	0	3	3	22	21.4	0.03214	290.38	450.32	0.64

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
56570	56571	3114242	0 - 0.34	0001X - 17.45	11	0	0	1	0	10	2022-18874	06/28/2022	17.49	PD
											2024-31127	10/31/2024	17.54	PD
											2023-21795	07/29/2023	17.56	PD
											2022-23178	08/07/2022	17.63	PD
											2023-39138	12/21/2023	17.65	PD
											2022-39130	12/23/2022	17.66	PD
											2022-39882	12/31/2022	17.68	PD
											2024-32153	11/11/2024	17.74	PD
											2024-17767	06/27/2024	17.76	PD
											2024-16136	06/14/2024	17.77	B
											2024-4809	02/09/2024	17.77	PD
56571	56572	3129582	0 - 0.26	0001X - 17.79	9	0	0	1	1	7	2023-21790	07/26/2023	17.80	PD
											2023-8401	03/15/2023	17.80	PD
											2024-30872	10/13/2024	17.87	PD
											2024-31118	10/26/2024	17.89	PD
											2023-19884	07/05/2023	17.90	C
											2023-16805	06/11/2023	17.92	PD
											2023-9039	03/21/2023	17.92	PD
											2022-17148	06/09/2022	17.95	PD
											2022-15452	05/22/2022	18.03	B
				Totals:	20	0	0	2	1	17				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0	5
MONDAY	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2
WEDNESDAY	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	4
THURSDAY	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	1	0	1	0	1	0	0	6
FRIDAY	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	5
SATURDAY	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	4
Totals	0	0	0	0	0	0	1	3	1	3	0	1	2	4	2	1	2	1	2	0	3	1	1	0	0	**28**

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	15	23-Bicyclist	1
2-(Sport) Utility Vehicle	20	24-Witness	3
3-Passenger Van	0	25-Other	0
4-Cargo Van (10K lbs or Less)	0	26-Construction	0
5-Pickup	8	27-Farm Vehicle	0
6-Motor Home	0	28-Horse and Buggy	0
7-School Bus	0	**Total**	**49**
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	0		
12-Moped	2		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	0		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	0		

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	7	16	0	0	0	0	23
Ran Off Roadway	1	0	0	0	0	0	1
Failed to Yield Right-of-Way	4	0	0	0	0	0	4
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	1	0	0	0	0	0	1
Improper Turn	5	0	0	0	0	0	5
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	4	0	0	0	0	0	4
Failed to Keep in Proper Lane	3	0	0	0	0	0	3
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	1	0	0	0	0	0	1
Other Contributing Action	2	0	0	0	0	0	2
Unknown	0	0	0	0	0	0	0
Total	**28**	**16**	**0**	**0**	**0**	**0**	**44**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	27	16	0	0	0	1	44
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	1	0	0	0	0	0	1
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	**28**	**16**	**0**	**0**	**0**	**1**	**45**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	2	0	0	0	0	2
20-24	4	0	0	0	0	4
25-29	4	0	0	0	0	4
30-39	5	0	0	0	0	5
40-49	3	0	0	0	0	3
50-59	9	0	0	0	0	9
60-69	3	0	0	0	0	3
70-79	11	0	0	0	0	11
80-Over	4	0	0	0	0	4
Unknown	0	1	0	0	0	1
Total	**45**	**1**	**0**	**0**	**0**	**46**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	**Total**	**45**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	6		
13-Motor Vehicle in Transport	34		
14-Parked Motor Vehicle	1		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	2		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	1		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	1		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	3	4
C	3	6
PD	22	0
Total	**28**	**10**

Road Character

Road Grade	Total
1-Level	27
2-On Grade	1
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	**28**

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	5
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	1
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	22
14-Other	0
Total	**28**

Light

Light Condition	Total
1-Daylight	19
2-Dawn	0
3-Dusk	2
4-Dark - Lighted	1
5-Dark - Not Lighted	6
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**28**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2022	2023	2024	Total
JANUARY	1	0	0	1
FEBRUARY	1	0	1	2
MARCH	0	2	0	2
APRIL	0	0	0	0
MAY	2	0	1	3
JUNE	2	1	2	5
JULY	0	3	0	3
AUGUST	1	0	1	2
SEPTEMBER	0	0	0	0
OCTOBER	0	0	5	5
NOVEMBER	0	1	1	2
DECEMBER	2	1	0	3
Total	**9**	**8**	**11**	**28**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	1	0	2	0	0	1	0	0	0	0	0	0	0	0	4
Head-on - Sideswipe	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Intersection Movement	0	0	5	0	0	6	0	0	0	0	0	0	0	0	11
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	3	4	0	0	0	0	0	0	0	0	0	0	0	0	7
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**7**	**6**	**8**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Not Lighted	4	0	0	0	0	0	0	0	0	0	0	4
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	12	0	0	0	0	0	0	1	0	0	1	14
Dusk	2	0	0	0	0	0	0	0	0	0	0	2
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	3	0	0	0	0	0	0	1	0	0	0	4
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	1	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**23**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**3**	**28**

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WETLAND DELINEATION REPORT

Prepared for:

Walsh Engineering Associates, Inc.

Location:
526 Post Road, Wells, ME
5/26/25

Prepared by:

Brady A. Frick
731 Foss Road
Limerick, ME 04048

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May 26, 2025

Re: 526 Post Road, Wells, ME

1.0 INTRODUCTION

Albert Frick Associates, Inc. (AFA) performed a wetland delineation, and natural resource reconnaissance throughout April & May of 2025. The wetland delineation was completed by Brady A. Frick, Licensed Site Evaluator and USACE Certified Wetland Delineator, utilizing the methods prescribed by the US Army Corps of Engineers Wetland Delineation Manual, version 1987. (See Section 5.1). Blue wetland flags were placed generally at intervals of 25-50 feet apart and were located by Walsh Engineering Associates, Inc.

2.0 PROJECT AREA DESCRIPTION

2.1 Site Location

The wetland delineation was performed on 526 Post Road, Wells. See Wetland Delineation Plan showing the edge of the wetland boundaries (Appendix A).

2.2 Site Description

The topography of the subject property is:

Nearly level (0-3%)
Gently sloping (3-8%)

Landforms include:

Nearly level to gently sloping forest.

2.3 Surrounding Area Description

The subject property is mostly forested other than the developed area around the old Morrison Center. The abutting parcels are mixed between residential and commercial properties.

3.0 WETLAND CRITERIA UTILIZED

3.1 Federal

Wetlands are identified in the State of Maine using the U.S. Army Corps of Engineers Wetland Delineation manual, version 1987 as: those areas that are inundated or saturated by surface or groundwater at a frequency and duration to support, and that under normal

conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Diagnostic environmental characteristics include:

1.) Vegetation: The prevalent vegetation consists of macrophytes that are adapted to areas having hydrologic and soil descriptions described above. Hydrophytic species have the ability to compete, reproduce and flourish in anaerobic (oxygen deficient) soil conditions.

2.) Hydric Soils: A hydric soil is a soil that is saturated, flooded or ponded for durations long enough during the growing season (soil temperatures at or above biologic zero) to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation. In Maine, these soils are generally characterized by persistent seasonal high groundwater tables within 7" of the mineral soil surface.

3.) Wetland Hydrology: This term encompasses all hydrologic characteristics of areas of inundated or with soil saturated to the surface during the growing season. The presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively. Hydrology indicators include but are not limited to: drift lines, sediment deposition, watermarks, drainage patterns and water-stained leaves.

Federal jurisdiction of activities within wetland areas is by the US Army Corps of Engineers (ACOE) through Section 404 of the Clean Water Act, for discharge of dredged or fill materials into waters of the United States. Work and structures that are located in, or that affect, navigable waters of the United States are regulated by the Corps through Section 10 of the Rivers and Harbors Act of 1899.

The New England District of the US Army Corps of Engineers currently issues a Category 1-reporting only or Category 2-individual permits that expedites review of minimal impact work in coastal and inland waters and wetlands within the State of Maine. This review often occurs in conjunction with applications for wetland alterations by the Maine Department of Environmental Protection.

3.2 State

Wetlands in the State of Maine are regulated by the Maine Department of Environmental Protection (MDEP) Natural Resources Protection Act (NRPA). The MDEP definition of wetlands is the same as that indicated by ACOE, however, excludes areas that are part of a great pond, coastal wetlands, river, stream, or brook since these are protected by other provisions of NRPA.

Certain activities within wetland areas require review and permitting by MDEP. Among these activities are:

- Dredging, bulldozing, removing or displacing soil, sand, vegetations or other materials;

- Draining or otherwise dewatering
- Filling, including adding sand or other material to a sand dune; or
- Any construction, repair, or alteration of any permanent structure

The application process compels an applicant to first avoid impacts if possible, and where not possible, minimizes impacts to the resource. The MDEP Application process provides a three-tiered review process as follows:

> The **Tier 1** review process applies to any activity that involves a freshwater wetland alteration up to 15,000 sq. ft. and does not involve wetlands described in 'Projects not eligible for Tier I or Tier 2 review' (see next paragraph)
>
> The **Tier 2** review process applies to any activity that involves a freshwater wetland alteration of 15,000 sq. ft. up to 1 acre and does not involve wetlands referenced in the next paragraph.
>
> The **Tier 3** review process applies to any activity that involves a freshwater wetland alteration of one acre or more or an alteration listed in the following paragraph.

Projects that are not eligible for Tier 1 or Tier 2 review unless the MDEP determines that the activity will not negatively affect the freshwater wetlands or other protected natural resources present:

> A. Activities located within 250 feet of:
>
> 1. A coastal wetland or
> 2. The normal high-water line, and within the same watershed, of any lake or pond classified as a Great Pond (i.e., in excess of 10 surface acres);
>
> B. Activities occurring within freshwater wetlands, other than artificial ponds or impoundments, containing under normal circumstances at least 20,000 sq. ft. of aquatic vegetation, emergent marsh vegetation or open water;
>
> C. Activities occurring within freshwater wetlands that are inundated during a 100-year flood event based on flood insurance maps produced by the Federal Emergency Management Agency (FEMA) or other site-specific information;
>
> D. Activities occurring within freshwater wetlands containing significant wildlife habitat that has been mapped, identified, or defined in either subsection of MDEP rule.
>
> E. Activities occurring in peatlands dominated by shrubs, and sphagnum moss; or
>
> F. Activities occurring within 25 feet of a river, stream or brook.

3.2.a Wetlands of Special Significance (WOSS)

All coastal wetlands are considered *wetlands of special significance.* Further, freshwater wetlands may be defined as *wetlands of special significance,* if it has one or more of the following characteristics.

1. Critically imperiled or imperiled community. The freshwater wetland contains a natural community that is critically imperiled (S1) or imperiled (S2) as defined by the Natural Areas Program.

2. Significant wildlife habitat. The freshwater wetland contains significant wildlife habitat as described in the following section.

3. The freshwater wetland area is within 250 feet of a coastal wetland.

4. The freshwater wetland area is located within 250 feet of the normal high-water line and within the same watershed, of any lake or pond classified as a Great Pond (i.e., 10 or more surface acres)

5. The freshwater wetland contains, under normal circumstances, at least 20,000 sq. ft. of aquatic or emergent vegetation, or open water, unless the 20,000 or more square foot area is the result of an artificial pond or impoundment.

Note: MDEP field staff have verified that none on-site qualify for this designation.

6. The freshwater wetland is flooded during a 100-year storm event based on flood insurance maps produced by FEMA.

7. The freshwater wetland is or contains peatlands.

8. The freshwater wetland area is located within 25 feet of a river, stream or brook.

3.2.b Significant Wildlife Habitat

This subsection of NRPA provides protection for wildlife habitat comprised either of wetland area or adjacent upland areas. Some of these areas have previously been mapped by the Maine Department of Inland Fisheries and Wildlife. These include federally listed endangered or threatened animal species, high and moderate value deer wintering area and travel corridors, seabird nesting areas, and critical spawning and nursery areas for Atlantic salmon.

Other significant wildlife habitats that are further included are:

1. Significant vernal pool habitat

2. High and moderate value waterfowl and wading bird habitat, including nesting and feeding areas; and

3. Shorebird nesting, feeding and staging areas.

3.2.c Permit-By-Rule

A "permit-by-rule" or PBR, when approved by MDEP, is an approval for an activity that will not significantly affect the environment if carried out in accordance with MDEP guidelines, and generally has less impact on the environment than an activity requiring an individual (Tier) permit. A PBR satisfies the NRPA permitting requirement.

Applicants must file notice of the activity with MDEP prior to beginning work on the activity. The notification is on the form provided by MDEP. The PBR becomes effective 14 calendar days after receipt by MDEP, unless MDEP approves or denies the PBR prior to that date. If the MDEP does not contact the applicant, either in writing or by conversation, within the 14-day period, the applicant may proceed with the activity. PBR's that are part of a larger MDEP project (i.e., Site Location of Development or Stormwater Management Acts) may not proceed until any permits required by those other laws are obtained from MDEP.

3.3 Local

Local municipalities may, by Maine Law, have local wetland protection ordinances that are more stringent than those established by the State. Consultation with the Town of Wells is recommended to meet all local requirements.

A 75-foot Shoreland Overlay District is shown on the Wells Zoning Map around Stevens Brook. Although the brook is off the property, the overlay district is shown on the south/southwest corner of the parcel. (see Appendix G).

4.0 UNIQUE WETLAND TYPES & SPECIAL FEATURES

4.1 Emergent Wetland Areas in Excess of 20,000 sq. ft.

These wetland areas generally occur on nearly level slopes, and are so wet that virtually no or very little woody plants exist within the vegetation strata. Soils are typically very poorly drained (i.e., ponded above the soil surface or water table at or very near the soil surface for long durations during the growing season). These wetland areas are often found associated with lakes or ponds, rivers and streams and occur on the same or similar elevations as the water body. These areas are considered *wetlands of special significance*, per Maine Department of Environmental Protection, Natural Resources Protection Act definitions and standards.

None were identified inside the project area.

4.2 River, Stream or Brook

River, stream or brook means a channel between defined banks. Per MDEP definitions, a channel is created by the action of surface water and has two or more of the following characteristics.

A. It is depicted as a solid or broken blue line on the most recent edition of the US Geological Survey 7.5-Minute series topographic map, or if that is not available, a 15-Minute series topographic map.

B. It contains or is known to contain flowing water continuously for a period of at least 6 months of the year in most years.

C. The channel bed is primarily composed of mineral material or bedrock that has been deposited or scoured by water.

D. The channel contains aquatic animals such as fish, aquatic insects or mollusks in the water or, if no surface water is present, within the stream bed.

E. The channel contains aquatic vegetation and is essentially void of upland vegetation.

Stevens Brook is not located on the subject parcel, however the 75-foot stream setback does fall within the property limits.

4.3 Vernal Pools

Vernal pools, also referred to as seasonal forest pools, are natural, temporary to semi-permanent bodies of water that occur in shallow depressions that typically fill during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet, and no viable populations of predatory fish. A vernal pool may contain primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamander (*Ambystoma maculatum*), blue-spotted salamander (*Ambystoma laterale*), and fairy shrimp (*Eubranchipus sp.*), as well as habitat for other rare, threatened, and endangered plant or wildlife species.

Whether a vernal pool is *significant*, and therefore considered significant wildlife habitat, is determined by the number and type of pool-breeding amphibian egg masses in a pool, or the presence of fairy shrimp, or use by threatened or endangered species as specified by MDEP standards.

Significant vernal pool identification criteria include abundance levels for any given year for the following species as shown:

Species	Abundance
Fairy Shrimp	Presence in any life stage
Blue-Spotted Salamander	Presence of 10 or more egg masses
Spotted Salamander	Presence of 20 or more egg masses
Wood Frogs	Presence of 40 or more egg masses

The period for egg mass identification is generally from April 7-May 21 in southern Maine and May 1-May 31 for sites in northern Maine.

For those sites that meet significance criteria, there is a voluntary identification program to create a GIS data layer maintained by the State, and a 250' zone of area surrounding the pool that is now regulated by the NRPA rules as significant wildlife habitat. Projects that require Army Corps of Engineers review/approval may include additional area beyond the 250' required by MDEP for protection as terrestrial vernal pool habitat. For pools officially added to the GIS layer as significant, it is eligible for removal only after three consecutive years of data demonstrating that it no longer meets significance criteria.

One potential vernal pool (PVP) was identified during our natural resource reconnaissance. The PVP was studied during MDEP's spring VP survey period and did not meet the "significance" criteria. Since no amphibian egg masses or threatened species were observed in or around the PVP, the pool is considered a wetland. Attached are the Maine State Vernal Pool Assessment Form that has been sent to Inland Fisheries & Wildlife for review.

4.4 Wetlands Associated with Great Ponds

Wetlands that are located within 250' of the normal high-water line of any lake or pond classified as a great pond (i.e., 10 or more contiguous surface acres) is, by MDEP definitions and standards, a *wetland of special significance.* As such, these wetlands are generally not eligible for use of the 4,300 sq. ft. exemption from notification requirements for impacts to freshwater wetlands not considered *wetlands of special significance.*

These wetland areas often occur on the same or very near the same elevation as the great pond, and at "full pond" levels may be flooded or inundated. Often, they are very poorly drained and do not support overstory vegetation with woody stems (i.e., emergent or shrub-scrub vegetation only).

None were identified inside the project area.

4.5 Peatlands

A freshwater wetland, typically called a bog or fen, dominated by ericaceous shrubs (heath family), sedges, and sphagnum moss and usually having a saturated water regime. They

usually occur on broad, nearly level plains and sometimes contain an associated watercourse. These, by NRPA definition, area also considered *wetlands of special significance*. As such, impacts into these wetland areas are not eligible for the 4,300 sq. ft. exemption permissible in other forested wetlands.

None were identified inside the project area.

4.6 Floodplain Wetlands

These are wetlands adjacent to a river, stream or brook that are inundated with floodwater during a 100-year flood event that under normal circumstances support a prevalence of wetland vegetation typically adjusted for life in saturated soils. Floodplain wetlands are, by MDEP definitions and standards, considered *wetlands of special significance*. As such impacts into this wetland type are not eligible for the 4,300 sq. ft. exemption provided for other forested wetlands.

No flood zones are within the project area. See Maine Flood Hazard Map attached in "Appendix E".

5.0 WETLAND DELINEATION REPORT

5.1 Methodology

Albert Frick Associates, Inc. utilized the three-parameter approach outlined in the U.S. Army Corps of Engineers, Wetland Delineation Manual (1987 version) and the supplemental northeast region update. Wetlands were identified on the combined basis of vegetation, hydric soils and hydrology, where all characteristics are present and dominant. Vegetation criteria are broken into 3 echelons: the overstory canopy, which encompasses all trees in excess of 20' in height, the shrub/scrub layer which is generally 3.2'-20' in height, and the herbaceous layer, which generally includes all non-woody vegetation less than 3.2' in height.

5.2 Wetlands Results/Findings

The wetlands within the project limits are comprised of forested (PFO) wetlands. These freshwater wetlands are typical of wetlands found throughout southern Maine. ***No wetlands of special significance, significant vernal pools, MDEP regulated streams*** or ***flood plain wetlands*** exist inside the project area. See Appendix A for wetland locations. Consultation with MDEP and Army Corps of Engineers is recommended to address project permitting.

APPENDIX A

Wetland Delineation Plan

APPENDIX B

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 526 Post Road, Wells City/County: Wells/York Sampling Date: 4/29/25

Applicant/Owner: Walsh Enginnering Associates, Inc./Grace Group LLC State: ME Sampling Point: DP-UP1

Investigator(s): Brady A. Frick Section, Township, Range: Cumberland

Landform (hillside, terrace, etc.): Knoll Local relief (concave, convex, none): convex Slope %: 0-3

Subregion (LRR or MLRA): LRR R, MLRA 144B Lat: N43 17' 22.44" Long: W70 35' 41.73" Datum: WGS84

Soil Map Unit Name: Lyman NWI classification: Forested Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No x	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No x	**within a Wetland?** **Yes** ____ **No** x
Wetland Hydrology Present?	Yes ____	No x	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP-UP1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	5	No	FAC
2. *Quercus rubra*	25	Yes	FACU
3. *Pinus strobus*	50	Yes	FACU
4.			
5.			
6.			
7.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Pinus strobus*	5	Yes	FACU
2. *Lonicera (invasive)*	10	Yes	
3.			
4.			
5.			
6.			
7.			
	15	=Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Maianthemum canadense*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals:	90 (A)		355 (B)

Prevalence Index = B/A = 3.94

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** x

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-UP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-20	10YR 3/4	100					Sandy Loam	Dark Yellowish Brown

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Bedrock

Depth (inches): 20

Hydric Soil Present? **Yes** ___ **No** x

Remarks:

526 Post Road, Wells

Data Plot: "DP-UP1"



Photograph of Test Pit on April 29, 2025



Photograph of Wetland on April 29, 2025

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 526 Post Road, Wells City/County: Wells/York Sampling Date: 4/29/25

Applicant/Owner: Walsh Enginnering Associates, Inc./Grace Group LLC State: ME Sampling Point: DP-WET1

Investigator(s): Brady A. Frick Section, Township, Range: Cumberland

Landform (hillside, terrace, etc.): Low Land Local relief (concave, convex, none): concave Slope %: 0-3

Subregion (LRR or MLRA): LRR R, MLRA 144B Lat: N43 17' 21.17" Long: W70 35' 42" Datum: WGS84

Soil Map Unit Name: Naumburg NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes x	No ____	**within a Wetland?** **Yes** x **No** ____
Wetland Hydrology Present?	Yes x	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Sparsely Vegetated Concave Surface (B8)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- x Geomorphic Position (D2)
- x Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No x	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 1

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP-WET1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	60	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
		=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		180 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-WET1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Loamy Sand	Black
6-24	5YR 5/1	100			D		Sand	Gray

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- x Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Cemented

Depth (inches): 20

Hydric Soil Present? **Yes** x **No** ___

Remarks:

526 Post Road, Wells

Data Plot: "DP-WET1"



Photograph of Test Pit on April 29, 2025



Photograph of Wetland on April 29, 2025

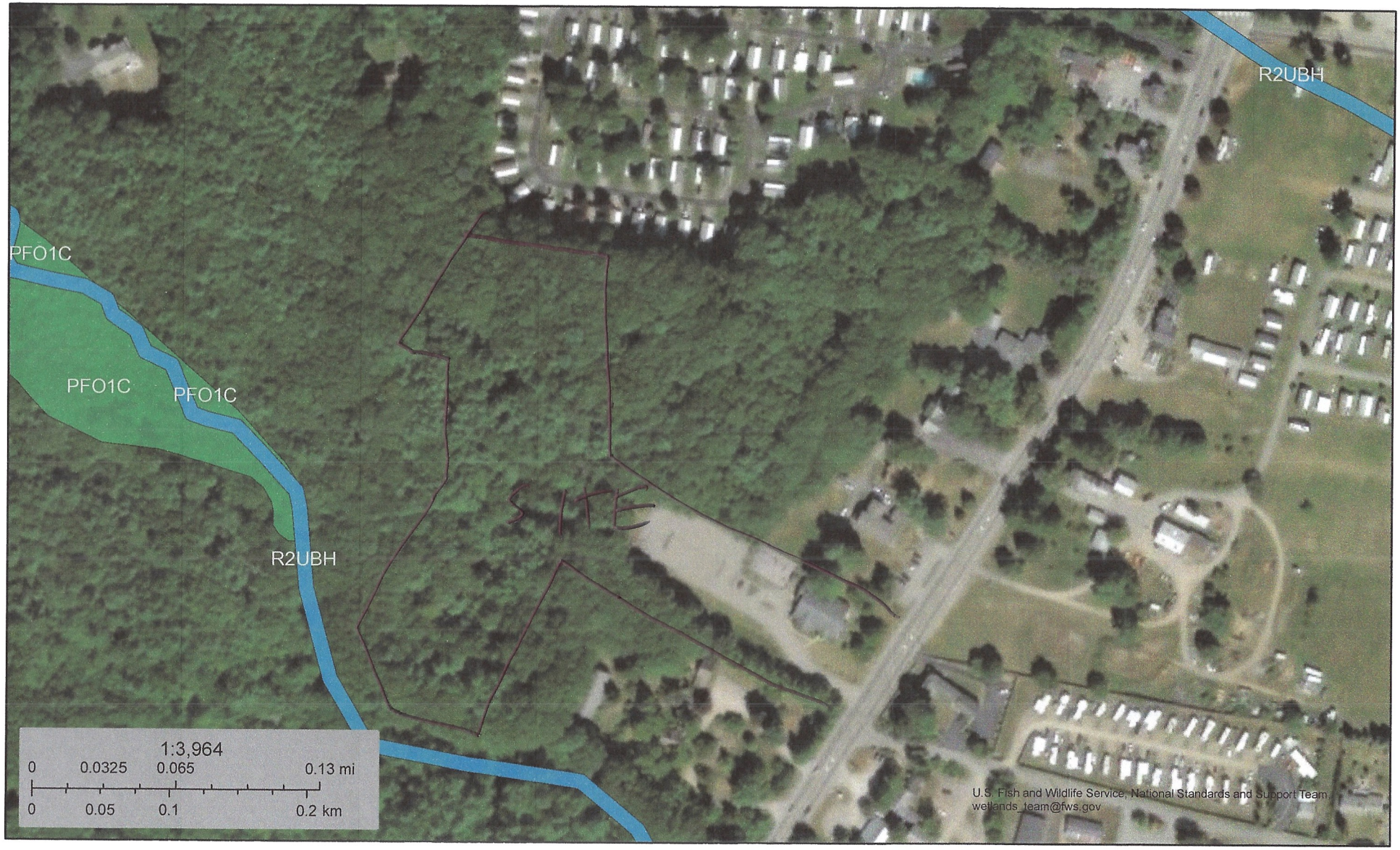
APPENDIX C

National Wetland Inventory Map

U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetlands



May 26, 2025

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

APPENDIX D

Beginning with Habitat Map

Beginning With Habitat



May 26, 2025

1:18,056

0 0.15 0.3 0.6 mi

0 0.23 0.45 0.9 km

Beginning with Habitat Program for Planning Purposes Only
Map Created With BWH Map Viewer

APPENDIX E

Maine Flood Hazard Map

Maine Flood Hazard Map



5/26/2025, 5:02:25 AM

- E911 Address Points
- FIRM Panels
- Political Jurisdictions
- Profile Baselines
- Cross-Sections
- Base Flood Elevations

General Structures
- Bridge

Flood Hazard Boundaries
- SFHA / Flood Zone Boundary

Flood Hazard Zones
- 1% Annual Chance Flood Hazard
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- World Imagery
- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations
- 1.2m Resolution Metadata

1:5,318

0 0.03 0.07 0.13 mi

0 0.05 0.1 0.2 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

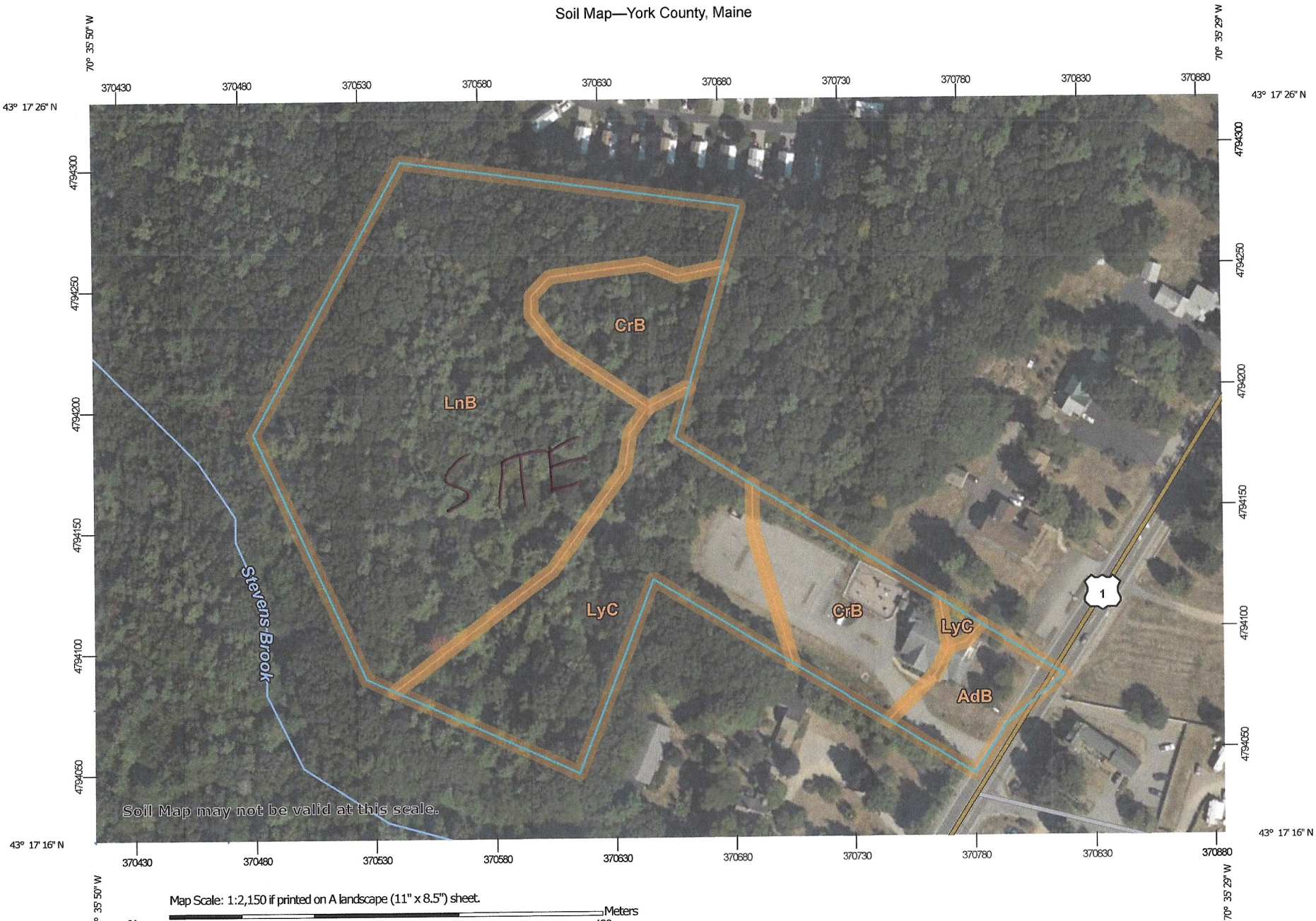
Maine Floodplain Management Program

2017; This web mapping application is for general planning purposes only. To print an official Flood Insurance Rate Map, use the dynamic FIRMette print feature the FEMA Map Service Center.

APPENDIX F

Web Soil Survey

Soil Map—York County, Maine



Map Scale: 1:2,150 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: York County, Maine
Survey Area Data: Version 23, Aug 26, 2024

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

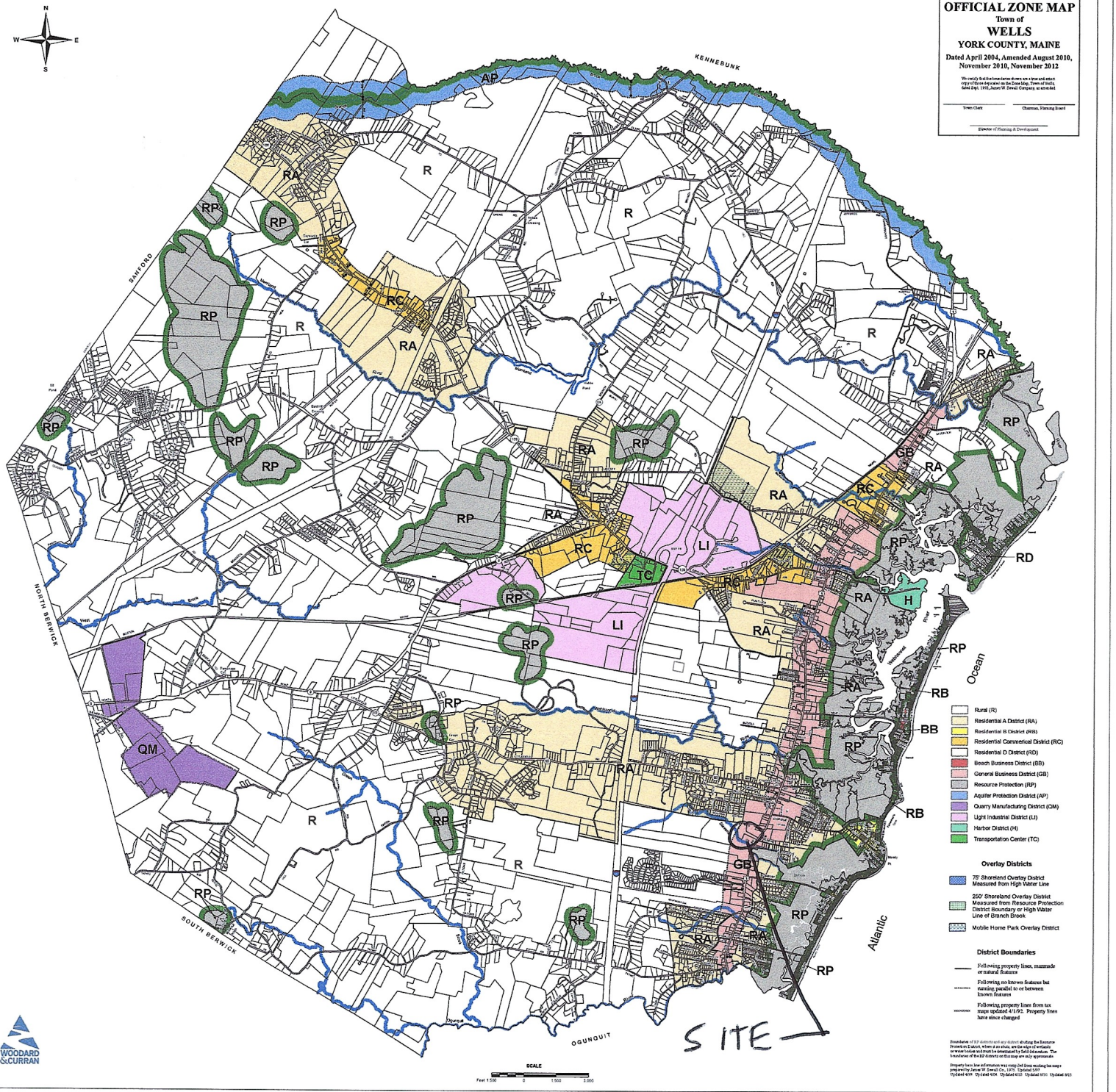
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AdB	Adams loamy sand, 0 to 8 percent slopes	0.5	5.0%
CrB	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	1.8	17.3%
LnB	Lyman loam, 3 to 8 percent slopes, rocky	5.8	55.2%
LyC	Lyman-Rock outcrop complex, 8 to 15 percent slopes	2.4	22.5%
Totals for Area of Interest		**10.6**	**100.0%**

APPENDIX G

Town of Wells Zoning Map


OFFICIAL ZONE MAP
Town of
WELLS
YORK COUNTY, MAINE
Dated April 2004, Amended August 2010, November 2010, November 2012
We certify that the boundaries shown are a true and exact copy of those depicted on the Zone Map, Town of Wells, dated Sept. 1995, James W. Sewall Company, as amended
Town Clerk
Chairman, Planning Board
Director of Planning & Development
N
W
E
S
KENNEBUNK
SANFORD
NORTH BERWICK
SOUTH BERWICK
OGUNQUIT
Ocean
Atlantic
AP
R
RA
RP
RC
RB
RD
BB
GB
LI
TC
H
QM
SITE
Rural (R)
Residential A District (RA)
Residential B District (RB)
Residential Commercial District (RC)
Residential D District (RD)
Beach Business District (BB)
General Business District (GB)
Resource Protection (RP)
Aquifer Protection District (AP)
Quarry Manufacturing District (QM)
Light Industrial District (LI)
Harbor District (H)
Transportation Center (TC)
Overlay Districts
75' Shoreland Overlay District Measured from High Water Line
250' Shoreland Overlay District Measured from Resource Protection District Boundary or High Water Line of Branch Brook
Mobile Home Park Overlay District
District Boundaries
Following property lines, manmade or natural features
Following no known features but running parallel to or between known features
Following property lines from tax maps updated 4/1/92. Property lines have since changed
SCALE
Feet 1,500 0 1,500 3,000
WOODARD &CURRAN

APPENDIX H

Maine State Vernal Pool Assessment Form

Maine State Vernal Pool Assessment Form

INSTRUCTIONS:

- **Complete all 3 pages of form thoroughly. Most fields are required for pool registration.**
- **Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.**

Observer's Pool ID: VP-1 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: Brady A. Frick

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ○ other _____

b. Contact and credentials previously provided? ○ No (submit Addendum 1) ◉ Yes

c. Project Name: Wells -Walsh Associates Inc.

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? ○ Yes ◉ No If no, was landowner permission obtained for survey? ◉ Yes ○ No

b. Landowner's contact information (required)

Name: Grace Group LLC Phone: (207) 553-9898 E-mail: bill@Walsh-eng.com

Street Address: 487 Groton Road City: Westford State: MA Zip: 01886

c. ☐ Large Projects: check if separate project landowner data file submitted

The Maine Department of Environmental Protection will e-mail official status letters to the project contact and landowner. Please check these data for completeness and accuracy to prevent delay in mailings. E-mail is the preferred method of notification; please provide e-mail addresses for the project contact and the landowner when available.

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Wells

Brief site directions to the pool (using mapped landmarks):

Drive to 526 Post Road (Route 1) Wells, ME 04090. The address is the Morrison Center. Drive to the end on the parking lot and follow the trail for approximately 200'. Pool is on right. (See site plan)

b. Mapping Requirements

i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. **GPS location of vernal pool (use Datum NAD83 / WGS84)**

Longitude/Easting: W70° 35' 43.93" Latitude/Northing: N43° 17' 21.79"

Coordinate system: UTM ME83-WF

Check one: ◉ GIS shapefile
- send to VernalPool.MDIFW@maine.gov; observer has reviewed shape accuracy

○ (Best) The pool perimeter is delineated by multiple GPS points. (Excellent)
- Include map or spreadsheet with coordinates.

○ The above GPS point is at the center of the pool. (Good)

5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ◉ Isolated depression
- ○ Floodplain depression
- ○ Pool associated with larger wetland complex
- ○ Other: _____

■ Check all wetland types that best apply to this pool:

- ☑ Forested swamp
- ☐ Shrub swamp
- ☐ Peatland (fen or bog)
- ☐ Emergent marsh
- ☐ Wet meadow
- ☐ Lake or pond cove
- ☐ Abandoned beaver flowage
- ☐ Active beaver flowage
- ☐ Slow stream
- ☐ Floodplain
- ☐ Mostly unvegetated pool
- ☐ ATV or skidder rut
- ☐ Dug pond or borrow pit
- ☐ Roadside ditch
- ☐ Other: _____

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ◉ Natural ○ Natural-Modified ○ Unnatural ○ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (**required**):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale in box (**required**):

- ○ Permanent
- ○ Semi-permanent (drying partially in all years and completely in drought years)
- ◉ Ephemeral (drying out completely in most years)
- ○ Unknown

Explain:

Pool was observed to be dry on 4/24/25. See attached photos.

■ Maximum depth at survey: ◉ 0-12" (0-1 ft.) ○ 12-36" (1-3 ft.) ○ 36-60" (3-5 ft.) ○ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 20 ○ m ◉ ft Length: 80 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort)
- ☑ No vegetation in pool

■ Faunal indicators (check all that apply):

- ☐ Fish
- ☐ Bullfrog or Green Frog tadpoles
- ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ○ No inlet or outlet
- ◉ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/15/25, 4/24/25

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? ○ Yes ◉ No
- Was the entire pool surveyed for egg masses? ◉ Yes ○ No; what % of entire pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)									Tadpoles/Larvae[4]					
	Visit #1	Visit #2	Visit #3	Confidence Level[1]			Egg Mass Maturity[2]			Observed			Confidence Level[1]		
Wood Frog	0	0		3	3										
Spotted Salamander	0	0		3	3										
Blue-spotted Salamander	0	0		3	3										
Fairy Shrimp[3]	0	0		3	3										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%
2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching
3-Fairy shrimp: X = present
4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen
**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☑ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

This pool doe not meet MDEP's biological criteria for a significant vernal pool. It also dried out on or before 4/24/25.

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

NOTE: Digital submissions are preferred but if not possible, please mail to: Maine Department of Inland Fisheries and Wildlife
Attn: Vernal Pools
106 Hogan Road, Suite 1
Bangor, ME 04401

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

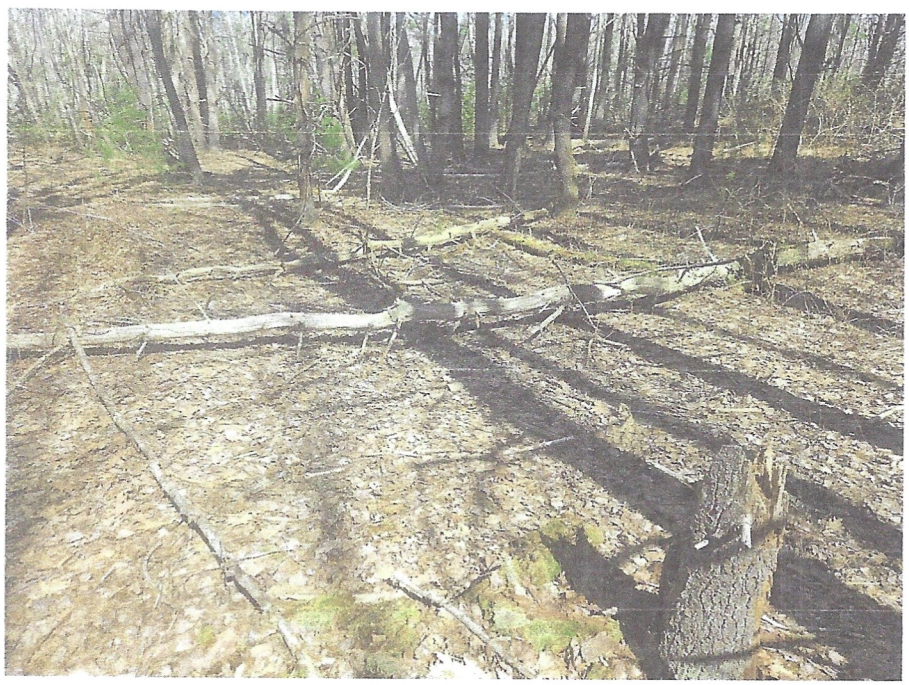
This pool is: ☐ **Significant** ☐ **Potentially Significant** but lacking critical data ☐ **Not Significant** due to: ○ does not meet biological criteria. ○ does not meet MDEP vernal pool criteria.

Comments:

Pictures of VP-1
526 Post Road, Wells



Photograph of the pool on 4/15/25



Photograph of the pool on 4/24/25. The pool had dried out. No standing water observed.

WALSH
ENGINEERING ASSOCIATES, INC.

STORMWATER MANAGEMENT REPORT

for

Arundel Lane Subdivision
526 Post Road
Wells, Maine 04090

January 22, 2026
Revision 1: February 10, 2026

Submitted to:
Town of Wells
208 Sanford Road
Wells, Maine 04090
&
Maine Department of Environmental Protection
312 Canco Road
Portland, Maine 04103

Submitted by:
Walsh Engineering Associates, Inc.
One Karen Drive, Suite 2A
Westbrook, Maine 04092

WALSH
ENGINEERING ASSOCIATES, INC.

STORMWATER MANAGEMENT REPORT

Arundel Lane Subdivision
526 Post Road – Wells, Maine 04090

January 22, 2026
Revision 1: February 10, 2026

Introduction

Walsh Engineering Associates, Inc. (WEA) was retained by The Grace Group, LLC, (Applicant) to provide site design and stormwater management design services for the construction of a proposed subdivision and associated access drive located at 526 Post Road in Wells, Maine.

This Stormwater Management Report assesses both pre-development and post-development peak rates of stormwater runoff from the project site. The analysis provided herein was completed in accordance with Maine Department of Environmental Protection (DEP) and Town of Wells stormwater standards.

Pre-Development (Existing) Site Conditions

The property at 526 Post Road in Wells abuts a church to the north, Post Road (Route 1) to the east, a private residence to the south, and wooded area on a private lot to the west. The existing property consists of the following improvements: a 6,205 square foot building; an associated access drive and parking lot; and a detention basin, which stores stormwater runoff from the existing building and its parking lot, and discharges into the Maine Department of Transportation (MDOT) drainage system within Route 1. The existing infrastructure on the project site is shown in the project Design Plans, included in **Appendix A**. It should be noted that management of stormwater quantity is presently occurring via the existing catch basin.

Land Cover and Soils

Land cover and soils datasets were used to develop hydrologic curve numbers for the project area. Land cover was evaluated by reviewing aerial photography and site survey data. Land cover on the project site consists of buildings, pavement, lawn, and woods.

Soil characteristics, including soil type and hydrologic soil groups (HSGs), were obtained from the United States Department of Agriculture's (USDA's) most recent Web Soil Survey. The soil types in the watershed are Adams loamy sand (HSG A), Croghan loamy fine sand (HSG A), Lyman loam (HSG D), and Lyman-Rock outcrop complex (HSG D). A map showing the soil types and hydrologic soil group classifications within the project vicinity from the USDA's Web Soil Survey is located in **Appendix B**.

One Karen Drive, Suite 2A | Westbrook, ME 04092 | 207.553.9898 | Walsh-Eng.com

Seven test pits were dug at the project site on January 12, 2026 to support the stormwater management design. Of the seven locations, four will have stormwater best management practices (BMPs) installed within their vicinity in the post-development site condition, including TP-3, TP-4, TP-5, and TP-7. Overall, the test pits across the project site showed mostly sandy/loamy soils and high bedrock and groundwater tables. The test pit locations are shown on the project Design Plans, included in **Appendix A**, and a copy of the test pit logs are included in **Appendix B**.

Topography

Subcatchment boundaries were delineated using site survey data. Topographically, the site drains in five different directions, each of which are referred to as "Analysis Points" in the *Stormwater Modeling* section of this report. In general, portions of the project site drain towards the church property to the north/east of the existing site, to the MDOT drainage system within Route 1, towards the private property to the south, towards Stevens Brook to the south, or towards the private property to the west. The existing site topography is shown in the project Design Plans, included in **Appendix A**.

Resource Areas

Albert Frick Associates located a mapped wetland system on the project site on April 24, 2025. This wetland ultimately drains to Stevens Brook, and is shown on the project Design Plans, included in **Appendix A**. Please note that the proposed project includes filling approximately 1,688.5 square feet of this wetland.

Post-Development (Proposed) Site Conditions

The existing school building and parking area onsite are proposed to divided from the existing 8.15-acre property into a separate lot, to be referred to as the "526 Post Road lot" herein. This proposed division of land is shown on the project Design Plans and has been submitted to the Town of Wells for consideration but has not yet been approved.

The following improvements are proposed to develop the remaining 6.85 acres of the property, most of which is currently wooded area: an 11-unit residential condominium development with detached single-family homes; an associated private road, to be named "Arundel Lane," for site access, with a cul-de-sac at its terminating end; water, sewer, and electric utilities servicing each condominium; and stormwater management and treatment systems provided where necessary to control the developed conditions.

Stormwater Modeling

Methodology

TR-55/TR-20 methodology was used to develop a hydrologic model of the Site. WEA used the computer program entitled HydroCAD Version 10.0, developed by HydroCAD Software Solutions, LLC, to create a stormwater model to analyze the site's hydrology. The analysis was conducted to establish the peak rates of runoff from the project site and evaluate pre-

and post-development conditions during various storm events. Contributing drainage areas were identified and soils, surface cover, watershed slope, and flow paths were evaluated to develop the necessary HydroCAD model input parameters. A minimum time of concentration (Tc) of 6 minutes was used in the calculations, as applicable.

Drainage calculations were performed for the pre- and post-development site conditions for the 2-, 10-, 25-, and 50-year, 24-hour, Type III storm events using rainfall data for York County from the table titled "*24 Hour Duration Rainfalls for Various Return Periods – Natural Resource Conservation Service County Rainfall Data,*" included in Appendix H of the Maine DEP's Chapter 500 Stormwater Management Rules. A copy of this table is included in **Appendix C** of this report.

The total precipitation depth for the project site associated with each rainfall event is outlined in **Table 1**, below.

Table 1: Design Rainfall Data

York County 24-Hour Storm Event (Frequency)	Rainfall Depth (Inches)
2-Year	3.3
10-Year	4.9
25-Year	6.2
50-Year	7.3

Two stormwater models have been developed for the site to compare the peak discharge rates from the pre-development site conditions to those in the post-development conditions. As further described herein, the models demonstrate that the post-development peak discharge rates of runoff will not exceed pre-development rates.

Subcatchments and Analysis Points

Existing and proposed subcatchments were delineated in order to compare pre- and post-development peak rates of runoff on the project site. Although the sizes and quantities of subcatchments differ between the existing and proposed site conditions, the total area analyzed between the two conditions remains the same. Analysis Points were selected for primary stormwater discharge locations from the project site. For this stormwater evaluation, five Analysis Points were identified for the project site, as described below:

- Analysis Point 1 (AP-1): represents runoff discharging to the church property to the north/east of the site.
- Analysis Point 2 (AP-2): represents runoff discharging to the MDOT drainage system within Route 1 (Post Road).
- Analysis Point 3 (AP-3): represents runoff discharging to the private property to the south of the site.
- Analysis Point 4 (AP-4): represents runoff discharging towards Stevens Brook to the south of the site.

- Analysis Point 5 (AP-5): represents runoff discharging to the private property to the west of the site.

The Analysis Points and subcatchment delineations are shown on the pre-development and post-development drainage figures included in **Appendix D**.

Modeling Results

Table 2, below, summarizes the pre- and post-development peak discharge rates for each Analysis Point during the 2-, 10-, and 25-year 24-hour storm events:

Table 2: Pre- and Post-Development Peak Rates of Runoff Comparison

Analysis Point	2-Year (cfs)			10-Year (cfs)			25-Year (cfs)			50-Year(cfs)		
	Pre-	Post-	Δ	Pre-	Post-	Δ	Pre-	Post-	Δ	Pre-	Post-	Δ
AP-1	0.2	0.2	0.0	0.4	0.4	0.0	0.6	0.6	0.0	0.8	0.7	-0.1
AP-2	0.6	0.6	0.0	2.5	2.1	-0.4	3.9	3.0	-0.9	4.8	4.8	0.0
AP-3	1.7	1.7	0.0	3.5	2.8	-0.7	5.0	3.5	-1.5	6.4	4.3	-2.1
AP-4	1.0	0.8	-0.2	2.0	1.8	-0.2	2.8	2.7	-0.1	3.6	3.3	-0.3
AP-5	1.1	0.6	-0.5	2.3	1.2	-1.1	3.3	1.6	-1.7	4.2	2.0	-2.2

Note: Δ represents the net difference between the pre- and post-development peak rates of runoff

Table 2 demonstrates a decrease in peak discharge rates between the existing and proposed site conditions for all storm scenarios and Analysis Points shown above. Complete copies of the pre- and post-development HydroCAD computer model outputs demonstrating that peak discharge rates decrease between the existing and proposed site conditions are included in **Appendices E and F**, respectively.

Compliance with Maine DEP Stormwater Standards

Basic Standards

Erosion and Sedimentation Controls

To prevent erosion, sedimentation, and the discharge of other pollutants during construction and land disturbance activities, erosion and sedimentation controls must be installed by the contractor, as required by, and shown on the project Design Plans in **Appendix A**. Proposed erosion and sedimentation controls include silt fence and/or filter berms of erosion control mix, a stabilized construction entrance, rolled erosion control matting, if deemed necessary, catch basin silt sacks, and permanent seeding. The contractor will be responsible for implementing the specified erosion and sedimentation control methods. These measures will be maintained and kept in place until the disturbed areas of the project have fully stabilized.

The proposed project exceeds one acre of total disturbance and therefore will be required to file a Notice of Intent in accordance with the Maine Construction General Permit (MCGP). A Stormwater Pollution Prevention Plan (SWPPP) will be submitted at the time of filing,

before land disturbance begins, and will outline the necessary measures to meet the requirements of this standard.

Inspection, Maintenance, and Good Housekeeping

During construction, the contractor will be responsible for good housekeeping of the project site, in accordance with the housekeeping requirements detailed in the Design Plans included in **Appendix A**. The owner/Applicant will be responsible for maintaining the proposed stormwater BMPs following construction of the proposed subdivision and will implement good housekeeping measures at the project site. A detailed Post-Construction Stormwater System Inspection and Maintenance Plan is included in **Appendix G**.

General Standards

Treatment Requirements

Table 3, below, shows the stormwater treatment area percentages achieved for the project.

Table 3: Stormwater Treatment Summary

Development Type	Area (SF)
New Non-Linear Impervious Area Treated	71,709
Total New Non-Linear Impervious Area	72,959
New Non-Linear Impervious Area % Treated	98%
New Non-Linear Developed Area Treated	109,475
Total New Non-Linear Developed Area	137,125
New Non-Linear Developed Area % Treated	80%

Table 3 demonstrates that the proposed stormwater management system treats at least 95% of new impervious areas and 80% of the developed area onsite.

Proposed BMPs

Stormwater runoff from the roofs of several condominium units will be managed using 4.5-foot-wide roof dripline stormwater BMPs located along the buildings' long edges, in locations shown in the Design Plans (**Appendix A**). Runoff from other new impervious and developed areas will be managed either by a lined underdrained soil filter or a subsurface chamber system. Sizing calculations for the roof dripline and underdrained soil filter BMPs are included in **Appendix H**. The proposed subsurface chamber system was sized using the post-development stormwater HydroCAD model, which is included in **Appendix F**.

Easement and Deed Restrictions Standard

The proposed locations of drainage and utility easements between the 526 Post Road lot and the Arundel Lane Subdivision lot are shown on the Design Plans in **Appendix A**. Please note that these proposed easements are contingent on approval from the Town of Wells. Furthermore, upon execution of the proposed lot split, both properties will be owned by the

same entity, thereby removing any potential for owner objection to the proposed drainage easements.

Discharges to Public Storm Sewer Systems Standard

Stormwater runoff from the existing development on the property is currently conveyed to a detention basin, which discharges via an outlet control structure and culvert pipe to the MDOT drainage system within Route 1 (Post Road), referred to as Analysis Point 2 in the *Stormwater Modeling* section of this report, above. In the post-development site condition, it is proposed to maintain a discharge from the site into the MDOT drainage system. However, as shown in **Table 2** in this report, there will be a decrease in peak discharge rates between the existing and proposed site conditions for all storm scenarios to Analysis Point 2.

Standards Not Applicable to Project

The following table (**Table 4**) summarizes the Maine DEP Stormwater Standards that are not applicable to this project:

Table 4: Maine DEP Stormwater Standards Not Applicable to Project

Maine DEP Stormwater Standard	Reason Standard Is Not Applicable
Phosphorus Standard	The project is not located within a lake watershed.
Urban Impaired Stream Standard	The project is not located within an urban impaired stream watershed.
Flooding Standard	The project does not result in 3 acres or more of impervious area or 20 acres or more of developed area and does not require a Site Law permit or permit modification.
Redistribution of Stormwater Discharges Standard	The project will not create a discharge of concentrated stormwater runoff.
Discharge to Wetlands Standard	The project does not propose to discharge stormwater runoff to a wetland.

Compliance with Town of Wells Stormwater Management Standards

Drainage Easements

The proposed locations of drainage easements between the 526 Post Road lot and the Arundel Lane Subdivision lot are shown on the Design Plans in **Appendix A**. Please note that these proposed easements are contingent on approval from the Town of Wells. Furthermore, upon execution of the proposed lot split, both properties will be owned by the same entity, thereby removing any potential for owner objection to the proposed drainage easements.

Peak Rates of Runoff

Refer to **Table 2**, located in the *Stormwater Modeling* section of this report, which demonstrates a decrease in peak discharge rates between the existing and proposed site conditions for the 2-, 10-, 25-, and 50- year storm events for all Analysis Points modeled for the site.

Stormwater Management Plan Requirements

As described throughout this report, the proposed stormwater management system for this project has been designed in accordance with the Maine DEP and Town of Wells standards/criteria, with consideration to mitigate the impacts of stormwater onsite, offsite, and to nearby resource areas.

Great Pond Watershed Requirements

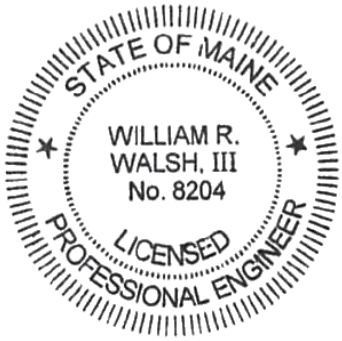
The proposed project is not located within the watershed of a great pond.

Conclusions

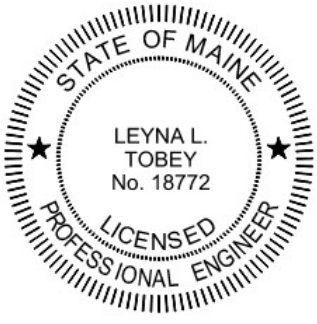
The proposed stormwater management system for this project consists of roof dripline filters, underdrained soil filters, a subsurface chamber system, and catch basin, manhole, and culvert conveyance systems. Stormwater modeling shows that there will be a decrease in peak discharge rates between the existing and proposed site conditions for the 2-, 10-, 25-, and 50-year storm events for all Analysis Points modeled for the site. It is our opinion that the proposed stormwater management system meets the requirements of the Maine DEP and the Town of Wells.

Respectfully,

William R. Walsh, III, PE
Walsh Engineering Associates, Inc.



Leyna L. Tobey, PE
Walsh Engineering Associates, Inc.



Appendices Not Included

- Appendix A – Project Design Plans, entitled “Arundel Lane Subdivision,” prepared by Walsh Engineering Associates, Inc., dated February 10, 2026
- Appendix B – Soils Data
- Appendix C – Rainfall Data
- Appendix D – Pre-Development and Post-Development Drainage Figures
- Appendix E – Pre-Development HydroCAD Model Report
- Appendix F – Post-Development HydroCAD Model Report
- Appendix G – Post-Construction Stormwater System Inspection and Maintenance Plan
- Appendix H – Stormwater Design Calculations

Arundel Lane Subdivison

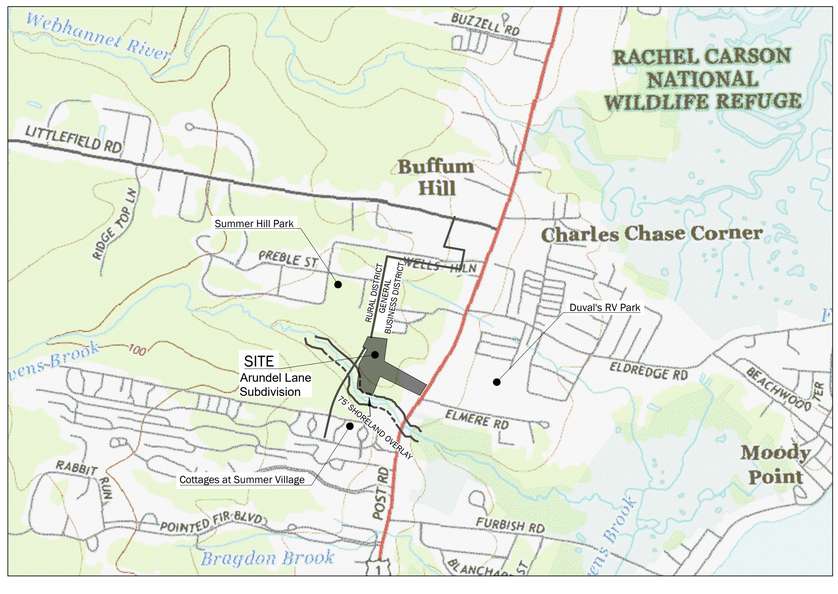
526 Post Road (US Route 1)
Wells, Maine 04090

Prepared For:
The Grace Group, LLC
P. O. Box 2021
North Chelmsford, Massachusetts 01863

TOWN OF WELLS MAJOR SUBDIVISION APPLICATION

WALSH
ENGINEERING ASSOCIATES, INC.

One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com



DRAWING LIST:

SHEET	SHEET TITLE
	COVER SHEET
	"BOUNDARY SURVEY MAP 27, LOT 10-EXE" PREPARED BY KIMBALL SURVEY
C1.0	EXISTING CONDITIONS PLAN
C1.1	SITE PREPARATIONS PLAN
C2.0	SUBDIVISION PLAN
C3.0	UTILITIES PLAN
C3.1	GRADING PLAN
C3.2	ROAD PROFILE
C3.3	EROSION CONTROL PLAN
C4.0	SITE DETAILS
C4.1	SITE DETAILS
C4.2	SITE DETAILS
C4.3	UTILITY DETAILS
C4.4	UTILITY DETAILS
C4.5	UTILITY DETAILS
C4.6	STORMWATER DETAILS
C4.7	STORMWATER DETAILS

Submissions:

TYPE	JURISDICTION	DATE	STATUS
MAJOR SUBDIVISION APPLICATION	TOWN OF WELLS	JANUARY 16, 2026	SUBMITTED
STORMWATER PERMIT APPLICATION	MAINE DEP	JANUARY 22, 2026	SUBMITTED
REVISED MAJOR SUBDIVISION APPLICATION	TOWN OF WELLS	FEBRUARY 10, 2026	SUBMITTED

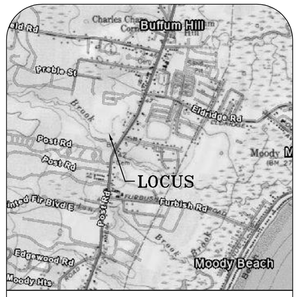
Record Owner:

THE GRACE GROUP, LLC
PO BOX 2021
NORTH CHELMSFORD, MA 01863

Parcel ID:

MAP 27
LOT 10-EXE

au 2026 2:58pm Revit Model: Arundel Ln Subdivision_2026_2026 - Base Map.rvt Last Saved: 2/10/2026 11:43 AM



LOCUS MAP
SCALE: 1" = 1000'

N

N/F
JAMES F. & JANICE MANDEVILLE
3497/317
MAP 113, LOT 18

N/F
SUMMER HILL MHC HOLDINGS, LLC
19291/593
MAP 114, LOT 8

N/F
RICHARD JERGENSEN &
PAMELA HIGGINS
19532/765
MAP 27, LOT 8A

N/F
THE WELLS CHURCH OF THE
NAZARENE
3682/207
2281/318
MAP 114, LOT 1-EXE

N/F
MORRISON CENTER
16810/234
MAP 27, LOT 10-EXE
354,916 S.F.
8.15 AC.

N/F
RICHARD JERGENSEN &
PAMELA HIGGINS
9960/311
2944/169
MAP 27, LOT 8

3/4" 0.8'A.G.
S82°49'35"E 46.74'
DRILL HOLE
S84°05'47"E 89.43'
S83°15'23"E 137.75'
5/8" 0.7'A.G.
N29°56'26"E 164.11'
3/4" 0.8'A.G.
N86°51'03"W 70.63'
3/4" 0.8'A.G.
313.98'
S07°20'17"W
5/8" 0.4'A.G.
N29°20'30"E 241.07'
1-1/2" 1.4'A.G.
N02°35'08"E 59.18'
5/8" 0.6'A.G.
5/8" 0.2'A.G.
N02°46'39"E 86.49'
1-1/4" 1.2'A.G.
N08°21'09"E 111.54'
N03°29'39"E 54.20'
N11°25'40"W 33.80'
200.38'
N63°45'20"W
29.98'
N71°59'35"W)
5/8" POST ROAD 0.7'A.G.
S21°41'18"W 294.77'
5/8" POST ROAD 0.5'A.G.
2.0'A.G.
615.05'
N64°18'33"W
S60°32'10"E 877.22'
PAVED PARKING
FENCE
SHED
1 STORY BUILDING
PAVED DRIVE
UTILITY POLE SERVICING ABUTTER SEE NOTE 7.A.
OHU
SIGN
2" FLUSH
SPIKE 0.1'B.G.
S35°03'54"W 176.80'
5/8" 0.1'B.G.
WW
POST ROAD/U.S. ROUTE 1
NORTH
GRID
0
50'
100'
200'

LEGEND

	IRON PIPE FOUND (SIZE AS NOTED)
	UTILITY POLE (NUMBER AS NOTED)
	GUY WIRE ANCHOR
	FIRE HYDRANT
S	SEWER MANHOLE
	CATCH BASIN
W	WATER VALVE
	LIGHT POLE
	SIGN
	BOUNDARY LINE
	ABUTTER OR RIGHT-OF-WAY LINE
	STONE WALL
OHU	OVERHEAD UTILITIES
D	DRAIN/CULVERT
N/F	NOW OR FORMERLY
1234/567	DEED BOOK & PAGE
A.G.	ABOVE GROUND
B.G.	BELOW GROUND

NOTES

1. THE BASIS OF BEARING FOR THIS SURVEY IS NAD83 MAINE STATE PLANE COORDINATE SYSTEM-WEST ZONE, U.S. SURVEY FEET.
2. DEED AND PLAN BOOK REFERENCES ARE TO THE YORK COUNTRY REGISTRY OF DEED (YCRD).
3. REFERENCE IS MADE TO THE FOLLOWING DEEDS:
   A. A DEED FROM KKRS PROPERTIES, LLC TO MORRISON CENTER DEEDED APRIL 28, 2014 AND RECORDED IN BOOK 16810, PAGE 234.
4. REFERENCE IS MADE TO THE FOLLOWING PLANS:
   A. "PLAN SHOWING LAND OF REGINALD S. BACON WELL, MAINE" BY LIBBY & DOW DATED OCT. 1945 AND RECORDED IN PLAN BOOK 16, PAGE 52.
   B. "WELLS HIGHLANDS PHASE II SUBDIVISION OF LAND OF JELLEIGH REALTY CO. WELLS, MAINE BY MOULTON ENGINEERING, CO. DATED 2-3-75 AND RECORDED IN PLAN BOOK 72, PAGE 45.
   C. "REVISED PLAN OF WELLS HIGHLANDS PHASE II SUBDIVISION OF LAND OF JELLEIGH REALTY CO. WELLS, MAINE BY MOULTON ENGINEERING, CO. DATED 2-3-75 AND RECORDED IN PLAN BOOK 150, PAGE 3.
   D. "STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP STATE HIGHWAY "1" WELLS, YORK COUNTY, FEDERAL AID PROJECT NO. STP-6705(00)X" DATED AUGUST 1999 AND RECORDED IN PLAN BOOK 277, PAGES 31 & 32.
   E. "BOUNDARY SURVEY PLAN OF LAND OF RICHARD JORGENSEN & PAMELA HIGGINS F/K/A PAMELA JORGENSEN DEPICTING A FUTURE CONVEYANCE OF THE "SHOP LOT" LOCATED ON THE NORTHWESTERLY SIDE OF POST ROAD AND THE EASTERLY SIDE OF STEVENS BROOK WELLS, MAINE" BY ATTAR ENGINEERING, INC. DATED 11/01/2024 NOT RECORDED.
   F. "PLAN SHOWING A STANDARD BOUNDARY SURVEY MADE FOR RUTH M. KIMBALL WELLS, MAINE" BY DOW + COLOMBE, INC. DATED OCTOBER 7, 1985 NOT RECORDED.
   G. "MORRISON CENTER WELLS 526 POST ROAD/U.S. ROUTE ONE WELLS, MAINE GRADING, DRAINAGE AND UTILITIES PLAN" BY MITCHELL & ASSOCIATES DATED MAY 24, 2013 NOT RECORDED.
   H. "MORRISON CENTER WELLS 526 POST ROAD/U.S. ROUTE ONE WELLS, MAINE AMENDED LAYOUT, LIGHTING AND PLANTING PLAN" BY MITCHELL & ASSOCIATES DATED MAY 31, 2013 NOT RECORDED.
   I. "SUNDOG STEAK & SEAFOOD COMPANY AS-BUILT LANDSCAPING PLAN" BY LOUIS BERGER & ASSOCIATES, INC. DATED 4-99 NOT RECORDED.
5. THE LOT SURVEYED IS IDENTIFIED ON THE TOWN OF WELLS ASSESSOR'S MAP 27, LOT 10-EXE.
6. THE SIDELINE OF POST ROAD IS BASED ON THE PLANS REFERENCED IN NOTE 4.D. ABOVE AND FOUND MONUMENTATION.
7. REFERENCE IS MADE TO THE FOLLOWING EASEMENTS OF RECORD:
   A. THE LOCUS PROPERTY IS SUBJECT TO A UTILITY LINE EASEMENT AS RECORDED IN BOOK 1422, PAGE 547.
8. EASEMENTS OR OTHER UNWRITTEN RIGHTS MAY EXIST THAT ENCUMBER OR BENEFIT THE PROPERTY NOT SHOWN HEREON.
9. THE BOUNDARY SHOWN HEREON IS THE OPINION OF THIS SURVEYOR BASED ON THE INFORMATION DISCOVERED DURING THE PERIOD OF WORK AND MAY BE SUBJECT TO CHANGE IF ADDITIONAL INFORMATION BECOMES AVAILABLE.
10. EXCEPTIONS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS STANDARDS ARE AS FOLLOWS:
    A. NO SURVEY REPORT WAS PREPARED.
    B. NO REVISED LEGAL DESCRIPTION PREPARED
    C. MONUMENTS WERE NOT SET AT ALL ANGLE POINTS

NO.	DATE	BY:	REVISION DESCRIPTION

STATE OF MAINE
ISAIAH F. KIMBALL
PLS 2309
REGISTERED PROFESSIONAL LAND SURVEYOR

KIMBALL
SURVEY & DESIGN, INC.
30 FROST HILL ROAD
YORK, MAINE 03909
207-351-0226
ISAIAH@KIMBALLANDSURVEYING.COM
WWW.KIMBALLANDSURVEYING.COM
PROFESSIONAL LAND SURVEYING

Prepared for:
Walsh Engineering Associates, Inc.
1 Karen Drive, #2A
Westbrook, Maine 04092

Boundary Survey
Map 27, Lot 10-EXE
526 Post Road
Wells, Maine

DATE: MAY 28, 2025
PROJECT NO. 2627
SCALE: 1" = 50'
CAD FILE: 2627.dwg

SHEET 1 OF 1

PARCEL INFORMATION:

OWNER OF RECORD:	THE GRACE GROUP, LLC PO BOX 2021 NORTH CHELMSFORD, MA 01863
PARCEL IDENTIFICATION (PORTION OF):	TOWN OF WELLS TAX MAP 27, LOT 10-EXE.
TOTAL LOT AREA (LOT 10-1 & 10):	354,916 SF, 8.15 ACRES
TOTAL AREA OF SITE PLAN LOT (10):	57,447 SF, 1.32 ACRES
TOTAL AREA OF SUBDIVISION LOT (10-1):	297,469 SF, 6.83 ACRES
CURRENT ZONE:	GENERAL BUSINESS DISTRICT RURAL DISTRICT 75' SHORELAND OVERLAY

NOTES:

1. SEE SURVEY FOR BOUNDARY INFORMATION.
2. TEST PIT REQUIRED TO VERIFY LOCATION, SIZE, CONDITION AND DEPTH OF EXISTING UTILITIES AND PROPOSED STORMWATER PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES FROM THE CONDITIONS NOTED ON THE PLANS SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR THE OWNER'S REPRESENTATIVE.

FLOOD ZONE:

CLASSIFICATION:
ZONE X - AREAS DETERMINED TO BE OF MINIMAL FLOOD RISK
ZONE AE - ELEVATION 57.0

FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER:
23031C0586G & 23031C0587G

EFFECTIVE DATE: JULY 17, 2024

EXISTING FEATURES LEGEND

- EL=100.00 — TEMPORARY BENCHMARK
- PROPERTY LINE
- ABUTTERS PROPERTY LINE
- STONEWALL
- SETBACK
- THREAD OF STREAM OR BROOK
- 75' SHORELAND OVERLAY LIMIT
- FLOOD ZONE
- WETLANDS
- ZONING BOUNDARY
- IRON PIN OR PIPE FOUND
- MONUMENT
- BUILDING
- EDGE OF PAVEMENT
- BITUMINOUS CURB
- 100 — INDEX CONTOUR
- 101 — INTERMEDIATE CONTOUR
- TREELINE
- w — WATERLINE
- WATER LINE GATE VALVE
- ohu — OVERHEAD UTILITY
- ugu — UNDERGROUND UTILITY
- STORM DRAIN CULVERT
- STORM DRAIN CATCH BASIN
- sd — STORM DRAIN LINE
- SANITARY SEWER MANHOLE
- ss — SANITARY SEWER LINE
- g — GAS LINE
- BOLLARD LIGHT
- UTILITY POLE
- SIGN

PLAN REFERENCES:

1. PROPERTY BOUNDARY INFORMATION TAKEN FROM A COMPILATION OF THE FOLLOWING:

1.1. "BOUNDARY PLAN MAP 27 - LOT 10-EXE 526 POST ROAD, WELLS, MAINE" BY KIMBALL SURVEY & DESIGN, INC., 30 FROST HILL ROAD, YORK, MAINE, PLAN DATED MAY 28, 2025.

1.2. "STATE HIGHWAY "1" WELLS YORK COUNTY" FEDERAL AID PROJECT NO. STP-6705(00)-X, DATED AUGUST 1999, RECORDED IN YCRD PLAN BOOK 277, PAGE 32. MARCH 12, 2003.

1.3. ADDITIONAL PROPERTY LINE DATA OBTAINED FROM THE MAINE OFFICE OF GIS BASED ON THE TOWN OF WELLS TAX MAPS.

2. CONTROL POINT AND COORDINATE SYSTEM DERIVED FROM A COMPILATION OF THE FOLLOWING:

2.1. GPS SURVEY BY WALSH ENGINEERING ASSOCIATES, INC ON MAY 1, 2025. HORIZONTAL LOCATION AND VERTICAL DATUM WERE ACQUIRED FROM RAW STATIC SATELLITE OBSERVATION USING A BRX7 BASE AND ROVER GPS SYSTEM. DATA WAS PROCESSED USING OPUS (ONLINE POSITIONING USER SERVICE) TO ALIGN WITH MAINE STATE COORDINATE SYSTEM, MAINE-WEST AND VERTICAL DATUM NAVD88.

2.2. CONTROL POINT: MAG NAIL IN PAVEMENT
NORTHING: 166305.46
EASTING: 2839127.5632
ELEVATION: 59.16

3. TOPOGRAPHIC AND PHOTOMOSAIC INFORMATION DERIVED FROM A COMPILATION OF THE FOLLOWING:

3.1. LIDAR TOPOGRAPHY AND PHOTOMOSAIC WERE DERIVED FROM UAV DRONE FLIGHT CONDUCTED BY WALSH ENGINEERING, INC. ON MAY 1, 2025 USING A DJI MATRICE 300.

3.2. LIDAR TOPOGRAPHY AND PHOTOMOSAIC DATA WAS PROCESSED USING PIX4D SOFTWARE.

4.0. WETLAND DELINEATION BY ALBERT FRICK ASSOCIATES, INC. DATED APRIL 24, 2025.

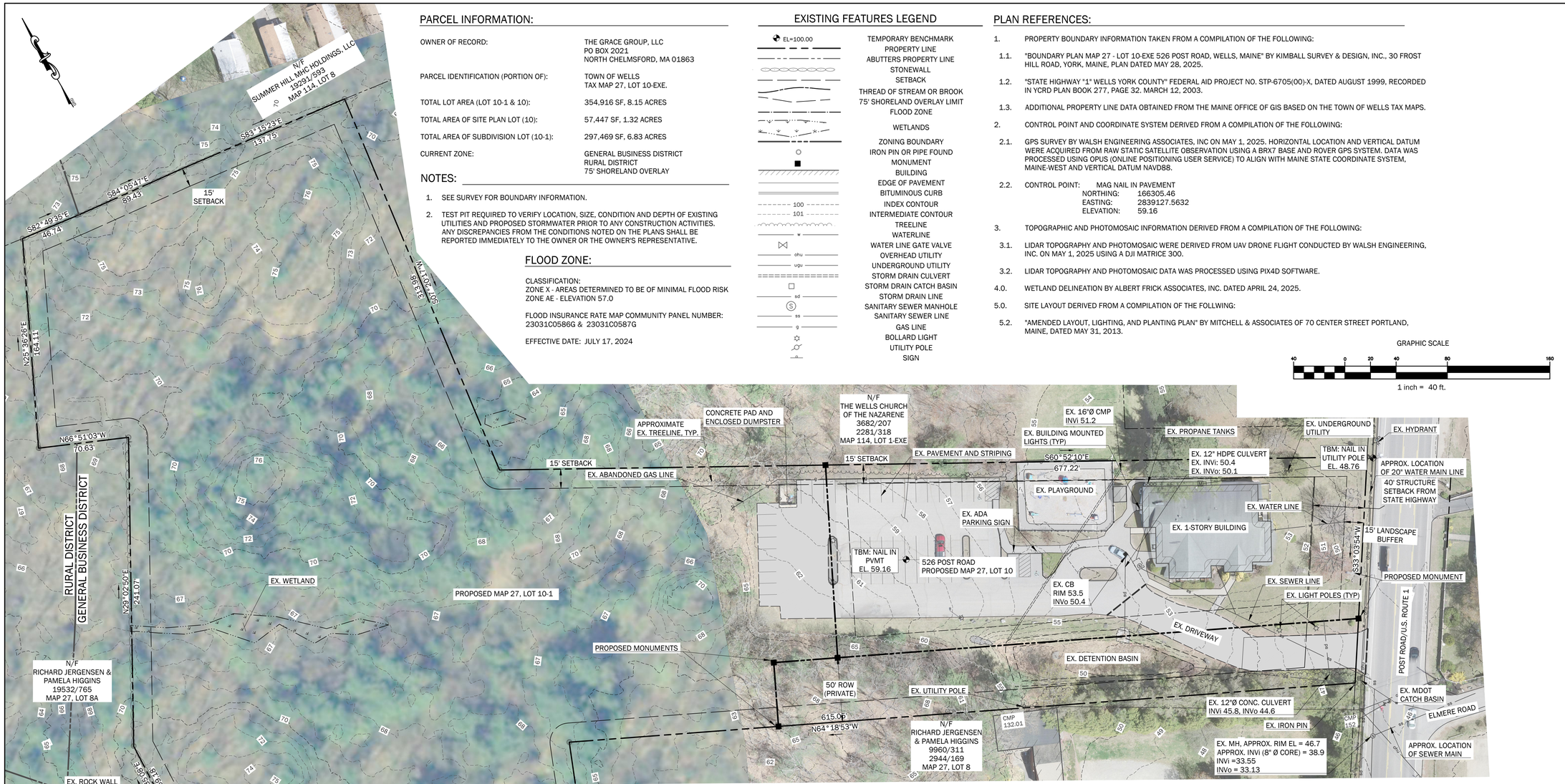
5.0. SITE LAYOUT DERIVED FROM A COMPILATION OF THE FOLLWING:

5.2. "AMENDED LAYOUT, LIGHTING, AND PLANTING PLAN" BY MITCHELL & ASSOCIATES OF 70 CENTER STREET PORTLAND, MAINE, DATED MAY 31, 2013.

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.



ZONING INFORMATION:

ZONE: GENERAL BUSINESS DISTRICT, CHAPTER 145-26

PERMITTED USES:	DWELLINGS: ONE FAMILY
PROPOSED USES:	11 - SINGLE FAMILY DWELLING UNITS
MIN. LOT SIZE:	20,000 SQ. FT. WITH PUBLIC SEWER
MAX. DENSITY:	(a) 1 DWELLING PER 20,000 WITH PUBLIC SEWER* DWELLINGS TO BE SERVICED BY PUBLIC SEWER AND PUBLIC WATER * SEE MULTI-FAMILY DEVELOPMENT, CHAPTER 145-48
MIN. STREET FRONTAGE PER LOT:	100 FEET / 75 FEET ON A CUL-DE-SAC
MAX. LOT COVERAGE:	65% OR 2,500 SQ. FT. WHICHEVER IS GREATER
MAX. BUILDING HEIGHT:	34 FEET, NOT TO EXCEED 3 STORIES
SETBACKS:	ALL STRUCTURES SHALL BE AT LEAST: 15 FEET FROM ANY LOT LINE. 25 FEET FROM THE BOUNDARY OF ANY CEMETERY. 25 FEET FROM ANY LOT LINE ABUTTING ANY STREET RIGHT-OF-WAY. 40 FEET FROM ANY LOT LINE ABUTTING THE RIGHT-OF-WAY OF ANY STATE HIGHWAY.

PARKING REQUIREMENTS:

REQUIREMENT - 145 -39.D :

EXISTING NON-RESIDENTIAL SCHOOL, REQUIRED:
3 SPACES PER CLASSROOM, FOR ELEMENTARY / JUNIOR-HIGH AND 1 SPACE PER 5 STUDENTS

7 CLASSROOMS (7 X 3):	= 21 SPACES
34 STUDENTS (34/5):	= 7 SPACES
TOTAL REQUIRED	= 28 SPACES

PROVIDED:
31 - SPACES (28 - STANDARD & 3 - ACCESSIBLE W/ ACCESS AISLES)

WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/22/2026

ARUNDEL LANE SUBDIVISION

526 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

PRELIMINARY - NOT FOR CONSTRUCTION

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	02/10/2026	Town Permit Updates	MRM/TEF	LLT

Sheet Title:
EXISTING CONDITIONS PLAN

Job No.:	1005
Date:	01/22/2026
Scale:	AS SHOWN
Drawn:	MBP/MRM
Checked:	WRW/LLT

Sheet No.:
C1.0

P:\1005_Old Post Road - Wells\3_CAD\1005_three sheet plan.dwg, 2/10/2026 11:32 AM



DEMOLITION & REMOVALS LEGEND

- SANITARY SEWER LINE
- LIGHT POLE
- SIGN
- EDGE OF LANDSCAPED AREA
- LANDSCAPE/RETAINING WALL
- PAVEMENT EDGE
- PAVEMENT
- TREELINE
- TREE
- HARDWOOD CLUMP
- TREE LABEL
- WOOD FENCE
- WETLAND IMPACT

FOR DESIGN DRAWING LEGEND SEE SHEET C1.0

GENERAL NOTE:

1. SEE SURVEY FOR BOUNDARY INFORMATION.
2. TEST PIT REQUIRED TO VERIFY LOCATION, SIZE, CONDITION AND DEPTH OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES FROM THE CONDITIONS NOTED ON THE PLANS SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.

WALSH
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ph: 207.553.9898 | www.walsh-eng.com

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/22/2026

ARUNDEL LANE SUBDIVISION

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

526 POST ROAD
WELLS, ME 04090

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	02/10/2026	Town Permit Updates	MRM/TEF	LLT

Sheet Title:
SITE PREPARATION PLAN

Job No.:	1005
Date:	01/22/2026
Scale:	AS SHOWN
Drawn:	MBP/MRM
Checked:	WRW/LLT

Sheet No.:
C1.1

PRELIMINARY - NOT FOR CONSTRUCTION

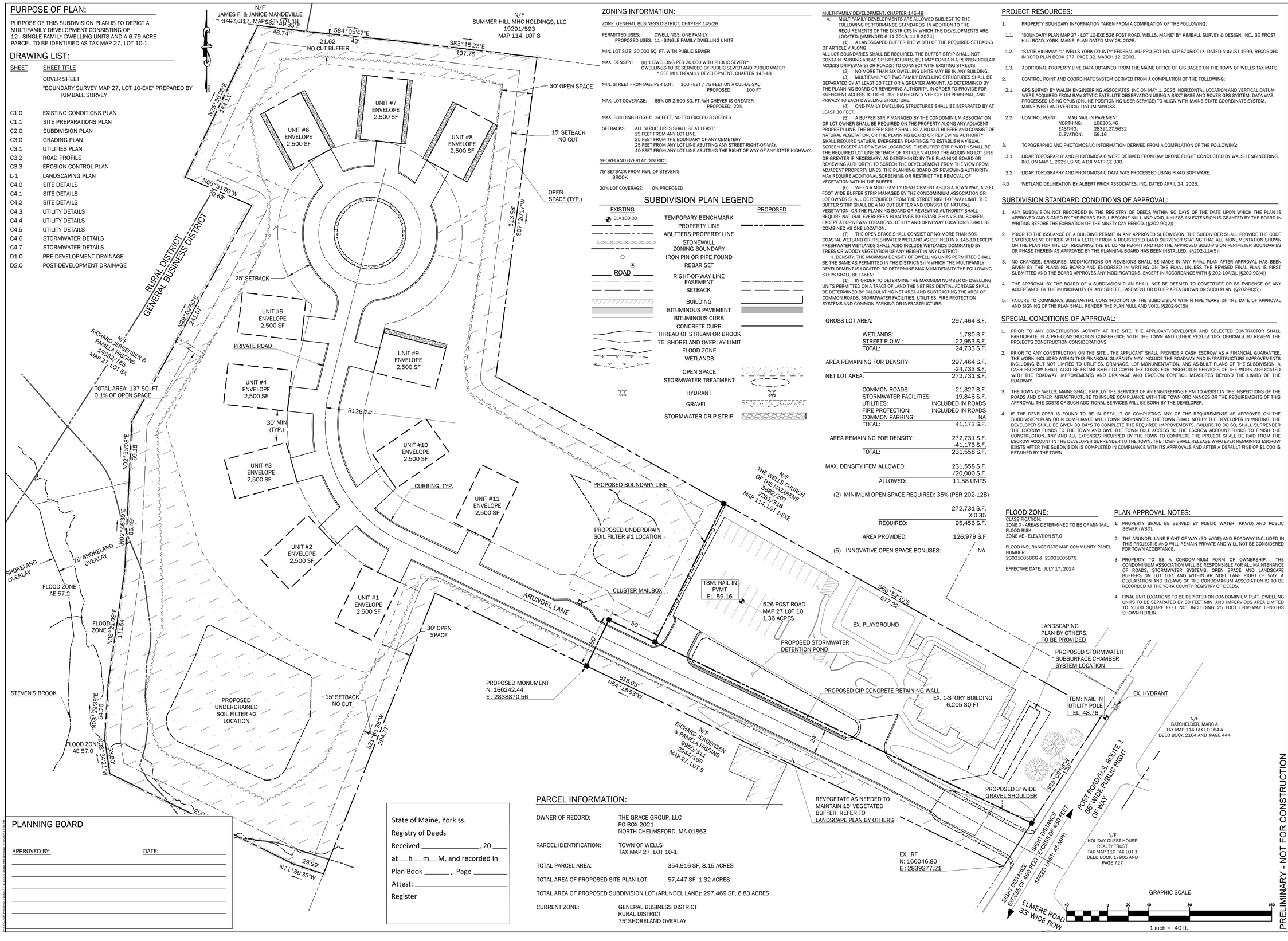
P:\1005 - Outl Post Road, Wells\5 CAD\1005 - Base.dwg, 2/10/2026 12:32 PM

PURPOSE OF PLAN:

PURPOSE OF THIS SUBDIVISION PLAN IS TO DEPICT A MULTIFAMILY DEVELOPMENT CONSISTING OF 12 - SINGLE FAMILY DWELLING UNITS AND A 6.79 ACRE PARCEL TO BE IDENTIFIED AS TAX MAP 27, LOT 10-1.

DRAWING LIST:

SHEET	SHEET TITLE
	COVER SHEET
	"BOUNDARY SURVEY MAP 27, LOT 10-EXE" PREPARED BY KIMBALL SURVEY
C1.0	EXISTING CONDITIONS PLAN
C1.1	SITE PREPARATIONS PLAN
C2.0	SUBDIVISION PLAN
C3.0	GRADING PLAN
C3.1	UTILITIES PLAN
C3.2	ROAD PROFILE
C3.3	EROSION CONTROL PLAN
L-1	LANDSCAPING PLAN
C4.0	SITE DETAILS
C4.1	SITE DETAILS
C4.2	SITE DETAILS
C4.3	UTILITY DETAILS
C4.4	UTILITY DETAILS
C4.5	UTILITY DETAILS
C4.6	STORMWATER DETAILS
C4.7	STORMWATER DETAILS
D1.0	PRE-DEVELOPMENT DRAINAGE
D2.0	POST-DEVELOPMENT DRAINAGE



ZONING INFORMATION:

ZONE: GENERAL BUSINESS DISTRICT, CHAPTER 145-26

PERMITTED USES: DWELLINGS: ONE FAMILY
PROPOSED USES: 11 - SINGLE FAMILY DWELLING UNITS

MIN. LOT SIZE: 20,000 SQ. FT. WITH PUBLIC SEWER

MAX. DENSITY: (a) 1 DWELLING PER 20,000 WITH PUBLIC SEWER*
DWELLINGS TO BE SERVICED BY PUBLIC SEWER AND PUBLIC WATER
* SEE MULTI-FAMILY DEVELOPMENT, CHAPTER 145-48

MIN. STREET FRONTAGE PER LOT: 100 FEET / 75 FEET ON A CUL-DE-SAC
PROPOSED: 100 FT

MAX. LOT COVERAGE: 65% OR 2,500 SQ. FT. WHICHEVER IS GREATER
PROPOSED: 22%

MAX. BUILDING HEIGHT: 34 FEET, NOT TO EXCEED 3 STORIES

SETBACKS: ALL STRUCTURES SHALL BE AT LEAST:
15 FEET FROM ANY LOT LINE.
25 FEET FROM THE BOUNDARY OF ANY CEMETERY
25 FEET FROM ANY LOT LINE ABUTTING ANY STREET RIGHT-OF-WAY.
40 FEET FROM ANY LOT LINE ABUTTING THE RIGHT-OF-WAY OF ANY STATE HIGHWAY.

SHORELAND OVERLAY DISTRICT

75' SETBACK FROM HWL OF STEVEN'S BROOK

20% LOT COVERAGE: 0% PROPOSED

SUBDIVISION PLAN LEGEND

EXISTING		PROPOSED
EL=100.00	TEMPORARY BENCHMARK	
	PROPERTY LINE	
	ABUTTERS PROPERTY LINE	
	STONEWALL	
	ZONING BOUNDARY	
	IRON PIN OR PIPE FOUND	
	REBAR SET	
ROAD	RIGHT-OF-WAY LINE	
	EASEMENT	
	SETBACK	
	BUILDING	
	BITUMINOUS PAVEMENT	
	BITUMINOUS CURB	
	CONCRETE CURB	
	THREAD OF STREAM OR BROOK	
	75' SHORELAND OVERLAY LIMIT	
	FLOOD ZONE	
	WETLANDS	
	OPEN SPACE	
	STORMWATER TREATMENT	
	HYDRANT	
	GRAVEL	
	STORMWATER DRIP STRIP	

MULTI-FAMILY DEVELOPMENT, CHAPTER 145-48

A. MULTIFAMILY DEVELOPMENTS ARE ALLOWED SUBJECT TO THE FOLLOWING PERFORMANCE STANDARDS IN ADDITION TO THE REQUIREMENTS OF THE DISTRICTS IN WHICH THE DEVELOPMENTS ARE LOCATED: [AMENDED 6-11-2019; 11-5-2024]

(1) A LANDSCAPED BUFFER THE WIDTH OF THE REQUIRED SETBACKS OF ARTICLE V ALONG
ALL LOT BOUNDARIES SHALL BE REQUIRED. THE BUFFER STRIP SHALL NOT CONTAIN PARKING AREAS OR STRUCTURES, BUT MAY CONTAIN A PERPENDICULAR ACCESS DRIVEWAY(S) OR ROAD(S) TO CONNECT WITH EXISTING STREETS.

(2) NO MORE THAN SIX DWELLING UNITS MAY BE IN ANY BUILDING.

(3) MULTIFAMILY OR TWO-FAMILY DWELLING STRUCTURES SHALL BE SEPARATED BY AT LEAST 30 FEET OR A GREATER AMOUNT, AS DETERMINED BY THE PLANNING BOARD OR REVIEWING AUTHORITY, IN ORDER TO PROVIDE FOR SUFFICIENT ACCESS TO LIGHT, AIR, EMERGENCY VEHICLE OR PERSONAL, AND PRIVACY TO EACH DWELLING STRUCTURE.

(4) ONE-FAMILY DWELLING STRUCTURES SHALL BE SEPARATED BY AT LEAST 30 FEET.

(5) A BUFFER STRIP MANAGED BY THE CONDOMINIUM ASSOCIATION OR LOT OWNER SHALL BE REQUIRED ON THE PROPERTY ALONG ANY ADJACENT PROPERTY LINE. THE BUFFER STRIP SHALL BE A NO CUT BUFFER AND CONSIST OF NATURAL VEGETATION, OR THE PLANNING BOARD OR REVIEWING AUTHORITY SHALL REQUIRE NATURAL EVERGREEN PLANTINGS TO ESTABLISH A VISUAL SCREEN EXCEPT AT DRIVEWAY LOCATIONS. THE BUFFER STRIP WIDTH SHALL BE THE REQUIRED LOT LINE SETBACK OF ARTICLE V ALONG THE ADJOINING LOT LINE OR GREATER IF NECESSARY, AS DETERMINED BY THE PLANNING BOARD OR REVIEWING AUTHORITY, TO SCREEN THE DEVELOPMENT FROM THE VIEW FROM ADJACENT PROPERTY LINES. THE PLANNING BOARD OR REVIEWING AUTHORITY MAY REQUIRE ADDITIONAL SCREENING OR RESTRICT THE REMOVAL OF VEGETATION WITHIN THE BUFFER.

(6) WHEN A MULTIFAMILY DEVELOPMENT ABUTS A TOWN WAY, A 200 FOOT WIDE BUFFER STRIP MANAGED BY THE CONDOMINIUM ASSOCIATION OR LOT OWNER SHALL BE REQUIRED FROM THE STREET RIGHT-OF-WAY LIMIT. THE BUFFER STRIP SHALL BE A NO CUT BUFFER AND CONSIST OF NATURAL VEGETATION, OR THE PLANNING BOARD OR REVIEWING AUTHORITY SHALL REQUIRE NATURAL EVERGREEN PLANTINGS TO ESTABLISH A VISUAL SCREEN, EXCEPT AT DRIVEWAY LOCATIONS. UTILITY AND DRIVEWAY LOCATIONS SHALL BE COMBINED AS ONE LOCATION.

(7) THE OPEN SPACE SHALL CONSIST OF NO MORE THAN 50% COASTAL WETLAND OR FRESHWATER WETLAND AS DEFINED IN § 145-10 EXCEPT FRESHWATER WETLANDS SHALL ALSO INCLUDE WETLANDS DOMINATED BY TREES OR WOODY VEGETATION OF ANY HEIGHT IN ANY DISTRICT

H. DENSITY. THE MAXIMUM DENSITY OF DWELLING UNITS PERMITTED SHALL BE THE SAME AS PERMITTED IN THE DISTRICT(S) IN WHICH THE MULTIFAMILY DEVELOPMENT IS LOCATED. TO DETERMINE MAXIMUM DENSITY THE FOLLOWING STEPS SHALL BE TAKEN:

(1) IN ORDER TO DETERMINE THE MAXIMUM NUMBER OF DWELLING UNITS PERMITTED ON A TRACT OF LAND THE NET RESIDENTIAL ACREAGE SHALL BE DETERMINED BY CALCULATING NET AREA AND SUBTRACTING THE AREA OF COMMON ROADS, STORMWATER FACILITIES, UTILITIES, FIRE PROTECTION SYSTEMS AND COMMON PARKING OR INFRASTRUCTURE.

GROSS LOT AREA:		297,464 S.F.
	WETLANDS:	1,780 S.F.
	STREET R.O.W.:	22,953 S.F.
	TOTAL:	24,733 S.F.
AREA REMAINING FOR DENSITY:		297,464 S.F.
		-24,733 S.F.
NET LOT AREA:		272,731 S.F.
	COMMON ROADS:	21,327 S.F.
	STORMWATER FACILITIES:	19,846 S.F.
	UTILITIES:	INCLUDED IN ROADS
	FIRE PROTECTION:	INCLUDED IN ROADS
	COMMON PARKING:	NA
	TOTAL:	41,173 S.F.
AREA REMAINING FOR DENSITY:		272,731 S.F.
		-41,173 S.F.
	TOTAL:	231,558 S.F.
MAX. DENSITY ITEM ALLOWED:		231,558 S.F.
		/20,000 S.F.
	ALLOWED:	11.58 UNITS

(2) MINIMUM OPEN SPACE REQUIRED: 35% (PER 202-12B)

	272,731 S.F.
	X 0.35
REQUIRED:	95,456 S.F.
AREA PROVIDED:	126,979 S.F
(5) INNOVATIVE OPEN SPACE BONUSES:	NA

PROJECT RESOURCES:

1. PROPERTY BOUNDARY INFORMATION TAKEN FROM A COMPILATION OF THE FOLLOWING:

1.1. "BOUNDARY PLAN MAP 27 - LOT 10-EXE 526 POST ROAD, WELLS, MAINE" BY KIMBALL SURVEY & DESIGN, INC., 30 FROST HILL ROAD, YORK, MAINE, PLAN DATED MAY 28, 2025.

1.2. "STATE HIGHWAY "1" WELLS YORK COUNTY" FEDERAL AID PROJECT NO. STP-6705(00)-X, DATED AUGUST 1999, RECORDED IN YCRD PLAN BOOK 277, PAGE 32. MARCH 12, 2003.

1.3. ADDITIONAL PROPERTY LINE DATA OBTAINED FROM THE MAINE OFFICE OF GIS BASED ON THE TOWN OF WELLS TAX MAPS.

2. CONTROL POINT AND COORDINATE SYSTEM DERIVED FROM A COMPILATION OF THE FOLLOWING:

2.1. GPS SURVEY BY WALSH ENGINEERING ASSOCIATES, INC ON MAY 1, 2025. HORIZONTAL LOCATION AND VERTICAL DATUM WERE ACQUIRED FROM RAW STATIC SATELLITE OBSERVATION USING A BRX7 BASE AND ROVER GPS SYSTEM. DATA WAS PROCESSED USING OPUS (ONLINE POSITIONING USER SERVICE) TO ALIGN WITH MAINE STATE COORDINATE SYSTEM, MAINE-WEST AND VERTICAL DATUM NAVD88.

2.2. CONTROL POINT: MAG NAIL IN PAVEMENT
NORTHING: 166305.46
EASTING: 2839127.5632
ELEVATION: 59.16

3. TOPOGRAPHIC AND PHOTOMOSAIC INFORMATION DERIVED FROM A COMPILATION OF THE FOLLOWING:

3.1. LIDAR TOPOGRAPHY AND PHOTOMOSAIC WERE DERIVED FROM UAV DRONE FLIGHT CONDUCTED BY WALSH ENGINEERING, INC. ON MAY 1, 2025 USING A DJI MATRICE 300.

3.2. LIDAR TOPOGRAPHY AND PHOTOMOSAIC DATA WAS PROCESSED USING PIX4D SOFTWARE.

4.0 WETLAND DELINEATION BY ALBERT FRICK ASSOCIATES, INC. DATED APRIL 24, 2025.

SUBDIVISION STANDARD CONDITIONS OF APPROVAL:

1. ANY SUBDIVISION NOT RECORDED IN THE REGISTRY OF DEEDS WITHIN 90 DAYS OF THE DATE UPON WHICH THE PLAN IS APPROVED AND SIGNED BY THE BOARD SHALL BECOME NULL AND VOID, UNLESS AN EXTENSION IS GRANTED BY THE BOARD IN WRITING BEFORE THE EXPIRATION OF THE NINETY-DAY PERIOD. (§202-9C(2))

2. PRIOR TO THE ISSUANCE OF A BUILDING PERMIT IN ANY APPROVED SUBDIVISION, THE SUBDIVIDER SHALL PROVIDE THE CODE ENFORCEMENT OFFICER WITH A LETTER FROM A REGISTERED LAND SURVEYOR STATING THAT ALL MONUMENTATION SHOWN ON THE PLAN FOR THE LOT RECEIVING THE BUILDING PERMIT AND FOR THE APPROVED SUBDIVISION PERIMETER BOUNDARIES OR PHASE THEREIN AS APPROVED BY THE PLANNING BOARD HAS BEEN INSTALLED. (§202-11A(5))

3. NO CHANGES, ERASURES, MODIFICATIONS OR REVISIONS SHALL BE MADE IN ANY FINAL PLAN AFTER APPROVAL HAS BEEN GIVEN BY THE PLANNING BOARD AND ENDORSED IN WRITING ON THE PLAN, UNLESS THE REVISED FINAL PLAN IS FIRST SUBMITTED AND THE BOARD APPROVES ANY MODIFICATIONS, EXCEPT IN ACCORDANCE WITH § 202-10A(3). (§202-9C(4))

4. THE APPROVAL BY THE BOARD OF A SUBDIVISION PLAN SHALL NOT BE DEEMED TO CONSTITUTE OR BE EVIDENCE OF ANY ACCEPTANCE BY THE MUNICIPALITY OF ANY STREET, EASEMENT OR OTHER AREA SHOWN ON SUCH PLAN. (§202-9C(5))

5. FAILURE TO COMMENCE SUBSTANTIAL CONSTRUCTION OF THE SUBDIVISION WITHIN FIVE YEARS OF THE DATE OF APPROVAL AND SIGNING OF THE PLAN SHALL RENDER THE PLAN NULL AND VOID. (§202-9C(6))

SPECIAL CONDITIONS OF APPROVAL:

1. PRIOR TO ANY CONSTRUCTION ACTIVITY AT THE SITE, THE APPLICANT/DEVELOPER AND SELECTED CONTRACTOR SHALL PARTICIPATE IN A PRE-CONSTRUCTION CONFERENCE WITH THE TOWN AND OTHER REGULATORY OFFICIALS TO REVIEW THE PROJECT'S CONSTRUCTION CONSIDERATIONS.

2. PRIOR TO ANY CONSTRUCTION ON THE SITE , THE APPLICANT SHALL PROVIDE A CASH ESCROW AS A FINANCIAL GUARANTEE. THE WORK INCLUDED WITHIN THIS FINANCIAL GUARANTY MAY INCLUDE THE ROADWAY AND INFRASTRUCTURE IMPROVEMENTS INCLUDING BUT NOT LIMITED TO UTILITIES, DRAINAGE, LOT MONUMENTATION, AND AS-BUILT PLANS OF THE SUBDIVISION. A CASH ESCROW SHALL ALSO BE ESTABLISHED TO COVER THE COSTS FOR INSPECTION SERVICES OF THE WORK ASSOCIATED WITH THE ROADWAY IMPROVEMENTS AND DRAINAGE AND EROSION CONTROL MEASURES BEYOND THE LIMITS OF THE ROADWAY.

3. THE TOWN OF WELLS, MAINE SHALL EMPLOY THE SERVICES OF AN ENGINEERING FIRM TO ASSIST IN THE INSPECTIONS OF THE ROADS AND OTHER INFRASTRUCTURE TO INSURE COMPLIANCE WITH THE TOWN ORDINANCES OR THE REQUIREMENTS OF THIS APPROVAL. THE COSTS OF SUCH ADDITIONAL SERVICES WILL BE BORN BY THE DEVELOPER.

4. IF THE DEVELOPER IS FOUND TO BE IN DEFAULT OF COMPLETING ANY OF THE REQUIREMENTS AS APPROVED ON THE SUBDIVISION PLAN OR N COMPLIANCE WITH TOWN ORDINANCES, THE TOWN SHALL NOTIFY THE DEVELOPER IN WRITING. THE DEVELOPER SHALL BE GIVEN 30 DAYS TO COMPLETE THE REQUIRED IMPROVEMENTS. FAILURE TO DO SO, SHALL SURRENDER THE ESCROW FUNDS TO THE TOWN AND GIVE THE TOWN FULL ACCESS TO THE ESCROW ACCOUNT FUNDS TO FINISH THE CONSTRUCTION. ANY AND ALL EXPENSES INCURRED BY THE TOWN TO COMPLETE THE PROJECT SHALL BE PAID FROM THE ESCROW ACCOUNT IN THE DEVELOPER SURRENDER TO THE TOWN. THE TOWN SHALL RELEASE WHATEVER REMAINING ESCROW EXISTS AFTER THE SUBDIVISION IS COMPLETED IN COMPLIANCE WITH ITS APPROVALS AND AFTER A DEFAULT FINE OF $1,000 IS RETAINED BY THE TOWN.

FLOOD ZONE:

CLASSIFICATION:
ZONE X - AREAS DETERMINED TO BE OF MINIMAL FLOOD RISK
ZONE AE - ELEVATION 57.0

FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER:
23031C0586G & 23031C0587G

EFFECTIVE DATE: JULY 17, 2024

PLAN APPROVAL NOTES:

1. PROPERTY SHALL BE SERVED BY PUBLIC WATER (KKWD) AND PUBLIC SEWER (WSD).
2. THE ARUNDEL LANE RIGHT OF WAY (50' WIDE) AND ROADWAY INCLUDED IN THIS PROJECT IS AND WILL REMAIN PRIVATE AND WILL NOT BE CONSIDERED FOR TOWN ACCEPTANCE.
3. PROPERTY TO BE A CONDOMINIUM FORM OF OWNERSHIP. THE CONDOMINIUM ASSOCIATION WILL BE RESPONSIBLE FOR ALL MAINTENANCE OF ROADS, STORMWATER SYSTEMS, OPEN SPACE AND LANDSCAPE BUFFERS ON LOT 10-1 AND WITHIN ARUNDEL LANE RIGHT OF WAY. A DECLARATION AND BYLAWS OF THE CONDOMINIUM ASSOCIATION IS TO BE RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS.
4. FINAL UNIT LOCATIONS TO BE DEPICTED ON CONDOMINIUM PLAT. DWELLING UNITS TO BE SEPARATED BY 30 FEET MIN. AND IMPERVIOUS AREA LIMITED TO 2,500 SQUARE FEET NOT INCLUDING 25 FOOT DRIVEWAY LENGTHS SHOWN HEREIN.

PARCEL INFORMATION:

OWNER OF RECORD:	THE GRACE GROUP, LLC PO BOX 2021 NORTH CHELMSFORD, MA 01863
PARCEL IDENTIFICATION:	TOWN OF WELLS TAX MAP 27, LOT 10-1.
TOTAL PARCEL AREA:	354,916 SF, 8.15 ACRES
TOTAL AREA OF PROPOSED SITE PLAN LOT:	57,447 SF, 1.32 ACRES
TOTAL AREA OF PROPOSED SUBDIVISION LOT (ARUNDEL LANE):	297,469 SF, 6.83 ACRES
CURRENT ZONE:	GENERAL BUSINESS DISTRICT RURAL DISTRICT 75' SHORELAND OVERLAY

PLANNING BOARD

APPROVED BY: _____ DATE: _____

State of Maine, York ss.
Registry of Deeds
Received _____, 20 ____
at __h__ m__M, and recorded in
Plan Book _____, Page _____
Attest: _____
Register

GRAPHIC SCALE
40 0 20 40 80 160
1 inch = 40 ft.

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WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/22/2026

ARUNDEL LANE SUBDIVISION

526 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

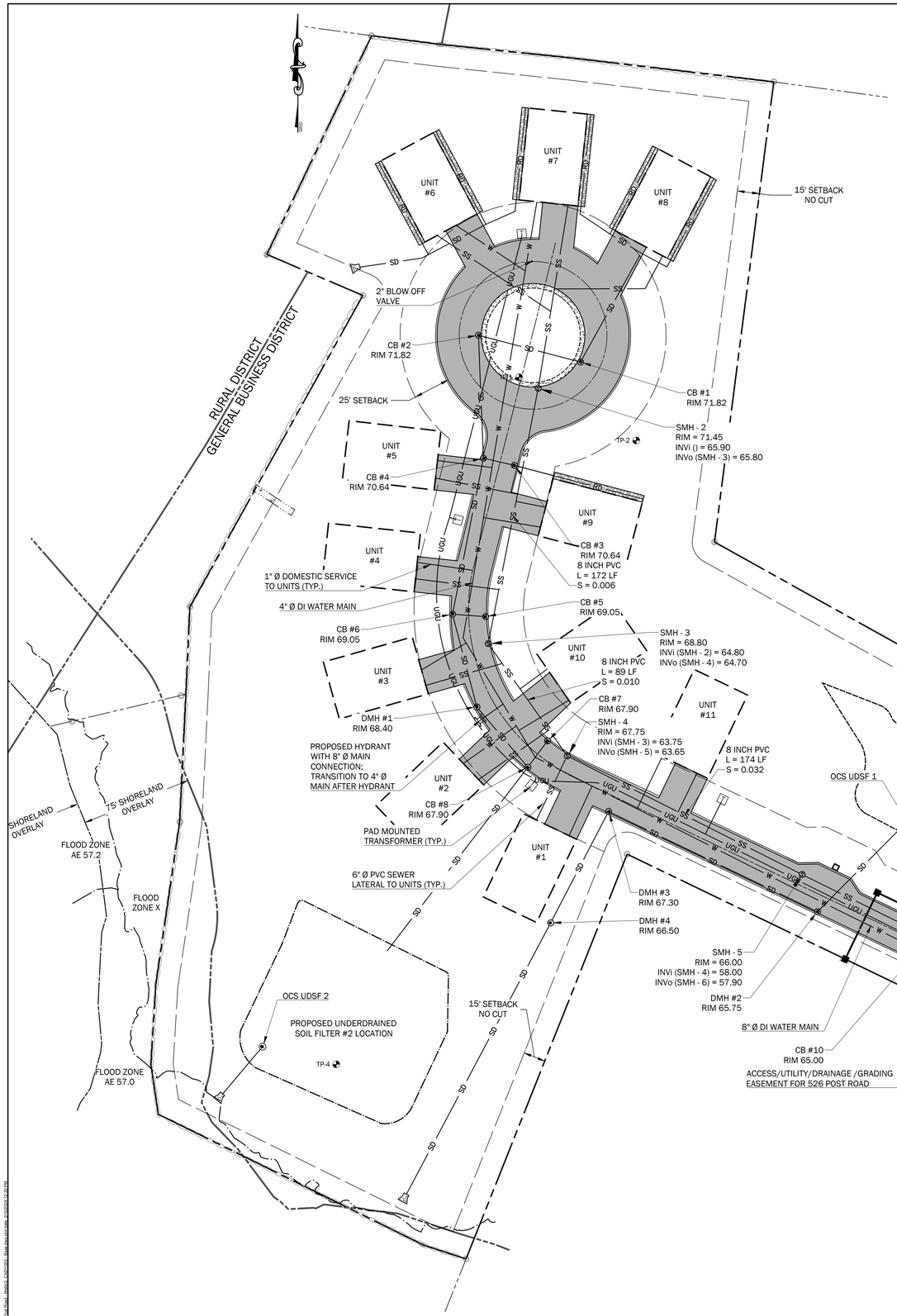
Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	02/10/2026	Town Permit Updates	MRM/TEF	LLT

Sheet Title:
SUBDIVISION PLAN

Job No.:	1005
Date:	01/22/2026
Scale:	AS SHOWN
Drawn:	MBP/MRM
Checked:	WRW/LLT

Sheet No.: C2.0

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UTILITIES LEGEND

EXISTING		PROPOSED
●	SANITARY SEWER MANHOLE	Ⓢ
ss	SANITARY SEWER LINE	SS
w	WATERLINE	W
	HYDRANT	
ugu	UNDERGROUND UTILITY	UGU
T	ELECTRIC TRANSFORMER	T
☼	LIGHT POLE	
	STORM DRAIN CATCH BASIN	
	STORM DRAIN LINE	SD
	STORM DRAIN MANHOLE	

FOR DESIGN DRAWING LEGEND SEE SHEET C2.0

GENERAL NOTE:

1. SEE SURVEY FOR BOUNDARY INFORMATION.
2. TEST PIT REQUIRED TO VERIFY LOCATION, SIZE, CONDITION AND DEPTH OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES FROM THE CONDITIONS NOTED ON THE PLANS SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.

GENERAL CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "DIG SAFE" AND LOCAL UTILITY COMPANIES AT LEAST THREE (3) BUSINESS DAYS, BUT NOT MORE THAN 30 CALENDAR DAYS, PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION, IN ACCORDANCE WITH MAINE STATE LAW. "DIG SAFE" TELEPHONE NUMBER IS 1-888-344-7233.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL AND ANY MEANS, METHODS, AND TECHNIQUES EMPLOYED TO PERFORM THE WORK SHOWN ON THE PLANS.
3. ALL WORK SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS INCLUDING ALL SAFETY REGULATIONS (OSHA).
4. ALL WORK SHALL BE IN CONFORMANCE ALL UTILITY COMPANIES STANDARDS.
5. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THE WORK SHOWN ON THESE PLANS PRIOR TO CONSTRUCTION.
6. ALL PAVEMENT/CONCRETE CUTS SHALL BE SAW CUT TO RESULT IN CLEAN EDGES. A TACK COAT SHALL BE APPLIED ALONG THE PAVEMENT CUT EDGES AND THE NEW PAVEMENT BUTTED TO IT, UNLESS OTHERWISE DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
7. ALL WORK SHALL COMPLY WITH THE TOWN OF WELLS STREET OPENING PERMIT REQUIREMENTS.
8. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING. REFER TO THE WRITTEN EROSION CONTROL PLAN AND DRAWINGS FOR FURTHER EROSION CONTROL GUIDELINES.
9. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS SHOWN ON THE DRAWINGS. IF ANY DISCREPANCIES ARE FOUND, THE OWNER OR OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IMMEDIATELY.

TEST PIT NOTE:

TEST PIT REQUIRED TO VERIFY LOCATION, SIZE, CONDITION AND DEPTH OF EXISTING UTILITY PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES FROM THE CONDITIONS NOTED ON THE PLANS SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.

LAYOUT, MATERIALS, AND UTILITY NOTES:

1. REFER TO SURVEY FOR BOUNDARY INFORMATION AND SHEET C1.0 FOR EXISTING TOPOGRAPHIC INFORMATION.
2. ALL DIMENSIONS, LOCATIONS AND CONTROLS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.
3. DO NOT SCALE THE DRAWINGS FOR REQUIRED DIMENSIONS. ANY DISCREPANCIES IN DIMENSIONING SHALL BE REPORTED IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
4. ALL ANGLES ARE 90 DEGREES UNLESS OTHERWISE SHOWN.
5. ALL EDGES OF PAVING SHALL BE STAKED OUT BY THE CONTRACTOR AND REVIEWED BY THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
6. PROVIDE A SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING.
7. ALL DISTURBED AREAS NOT OTHERWISE TREATED SHALL BE LOAMED AND SEEDED.
8. CENTERLINES OF DRIVEWAY AND WALKWAY, PROPOSED PARKING LOT AND PROPOSED UTILITY LINES SHALL BE LOCATED AND LAID OUT BY PROFESSIONALLY LICENSED SURVEYOR.
9. SEE LANDSCAPING PLAN FOR NON-PAVED AREA SURFACE TREATMENTS AND CONCRETE PAVER PATTERN LAYOUTS.

GRADING, DRAINAGE AND UTILITIES NOTES:

1. REFER TO SURVEY FOR BOUNDARY INFORMATION AND SHEET C1.0 FOR EXISTING TOPOGRAPHIC INFORMATION.
2. PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL VERIFY ALL AFFECTED GRADES. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.
3. ALL AREAS NOT REQUIRING GRADING SHALL BE LEFT UNDISTURBED. CONTRACTOR SHALL NOT DISTURB THESE AREAS AND PRESERVE EXISTING VEGETATION.
4. GRADE ALL NEW WORK FOR POSITIVE DRAINAGE AND NO PUDDLING. MATCH EXISTING GRADES SMOOTHLY AND CONTINUOUSLY.
5. DRAINAGE AT TERMINUS OF CURBING SHALL BE RIP-RAPPED UNLESS OTHERWISE SPECIFIED OR NOTED ON THE PLANS, OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
6. OWNER AND PROJECT ENGINEER WILL BE CLOSELY MONITORING FINISH GRADING IN THE FIELD. CONTRACTOR SHALL PERFORM FINISH WORK AS DIRECTED BY THE OWNER OR PROJECT ENGINEER TO ACHIEVE THE FINISH GRADE CONDITIONS SHOWN ON THE PLANS.
7. ALL SITE IMPROVEMENTS INCLUDING UTILITIES MUST CONFORM TO THE TOWN OF WELL'S TECHNICAL GUIDELINES AND STANDARDS.

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No. 8204
LICENSED PROFESSIONAL ENGINEER
01/22/2026

ARUNDEL LANE SUBDIVISION

526 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

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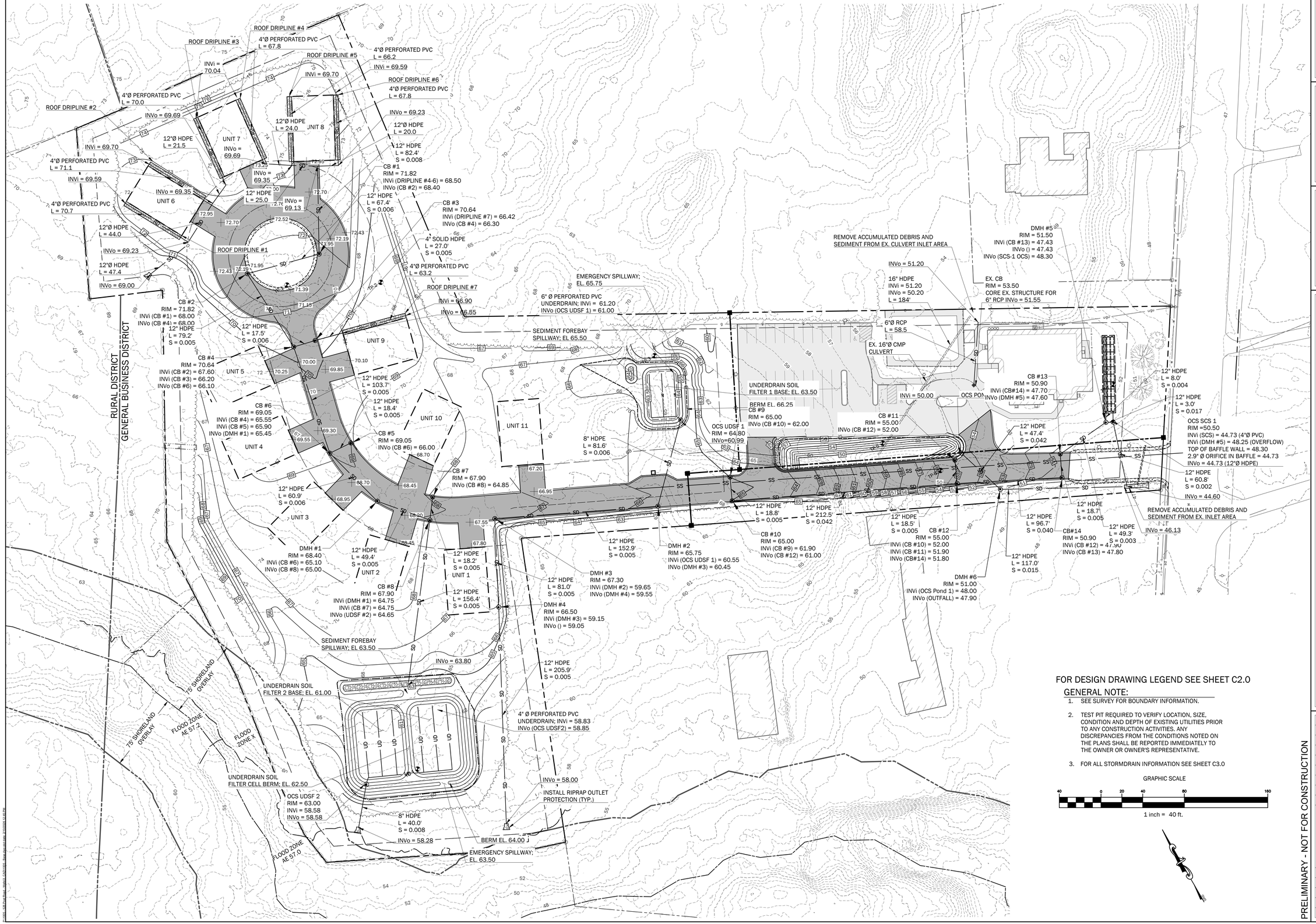
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1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	02/10/2026	Town Permit Updates	MRM/TEF	LLT

Sheet Title:
UTILITY PLAN

Job No.:	1005
Date:	01/22/2026
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Checked:	WRW/LLT

Sheet No.:
C3.0

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FOR DESIGN DRAWING LEGEND SEE SHEET C2.0

GENERAL NOTE:

1. SEE SURVEY FOR BOUNDARY INFORMATION.
2. TEST PIT REQUIRED TO VERIFY LOCATION, SIZE, CONDITION AND DEPTH OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES FROM THE CONDITIONS NOTED ON THE PLANS SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.
3. FOR ALL STORMDRAIN INFORMATION SEE SHEET C3.0

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.

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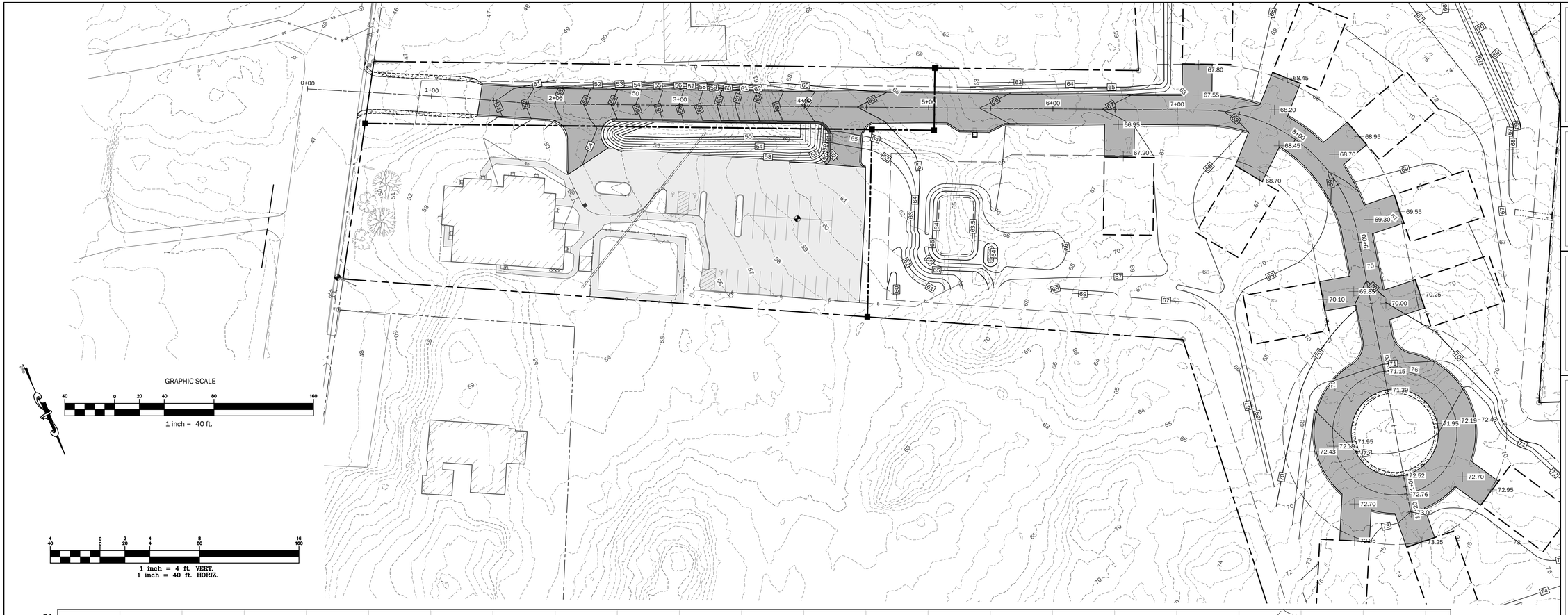
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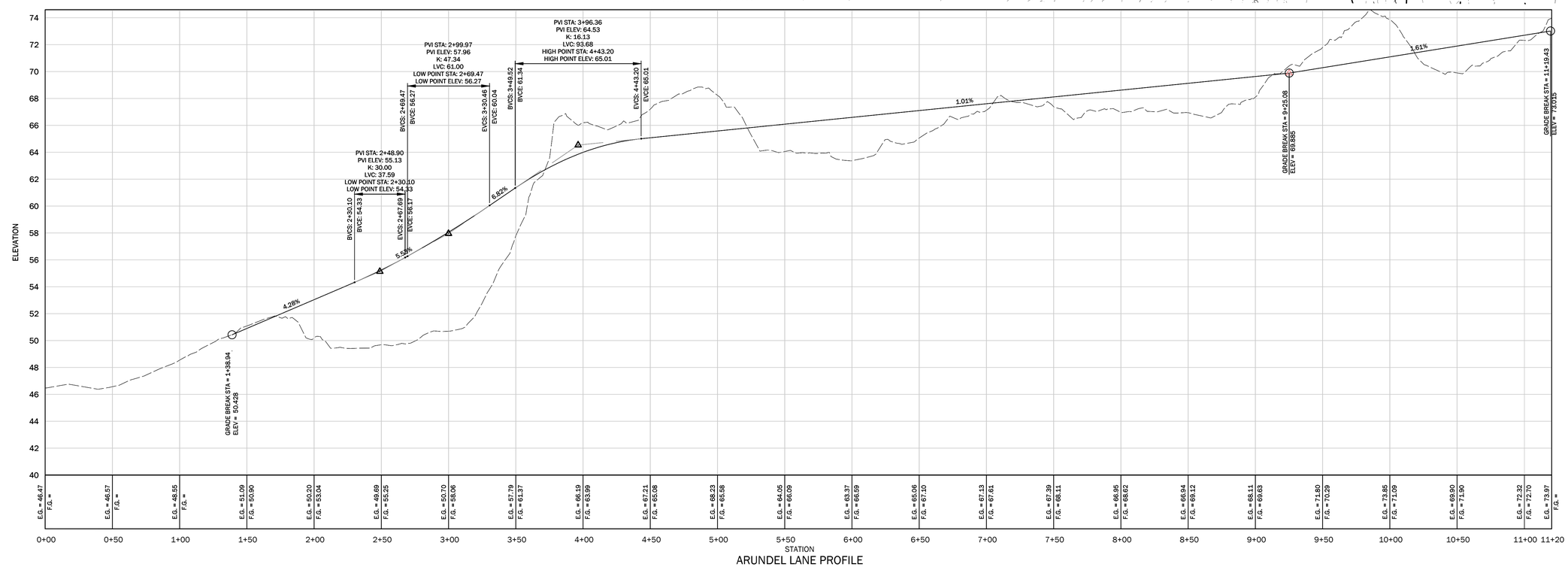
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GRADING PLAN

Job No.:	1005
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C3.1

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Sheet Title:
ROAD PROFILE

Job No.:	1005
Date:	01/22/2026
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Sheet No.:
C3.2

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GENERAL NOTE:

SEE SHEET C1.1 FOR:
PARCEL INFORMATION, ZONING INFORMATION, PARKING REQUIREMENTS, PROJECT RESOURCES AND FLOOD ZONE CLASSIFICATION

SEE SHEET C2.2 FOR: DESIGN PLAN LEGEND

EROSION CONTROL LEGEND

- SF — SILT FENCE OR EROSION CONTROL BERM, CONTRACTOR'S OPTION
- EROSION CONTROL BLANKET
- CATCH BASIN INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE

RURAL DISTRICT
GENERAL BUSINESS DISTRICT

N/F
MORRISON CENTER
16810/234
MAP 27, LOT 10-EXE

TBM: NAIL IN PVMT
EL. 59.16

TBM: NAIL IN UTILITY POLE
EL. 48.76

SILT FENCE

EROSION CONTROL BLANKET
ON SLOPES STEEPER THAN 3:1, TYP.

STABILIZED
CONSTRUCTION ENTRANCE

SILT FENCE, TYP.

75' SHORELAND OVERLAY

75' SHORELAND OVERLAY

EROSION CONTROL
MAT AT SPILLWAY,
TYP. 3 PLACES

SILT FENCE OR EROSION
CONTROL BERM,
CONTRACTOR'S OPTION, TYP.

EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENTATION CONTROL MEASURES PRIOR TO CONSTRUCTION. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS.
2. THE CONTRACTOR SHALL COMPLY WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPS MANUAL AS PUBLISHED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S BUREAU OF LAND AND WATER QUALITY, MARCH 2003 OR LATEST EDITION.
3. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING. ALL DISTURBED AREAS ON SITE NOT COVERED BY BUILDINGS OR PAVED AREAS SHALL BE STABILIZED WITH LOAM AND SEED, OR BY OTHER METHODS AS REQUIRED BY THE WRITTEN EROSION CONTROL PLAN.
4. DISTURBED AREAS SHALL BE LIMITED TO ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION. FOR DISTURBED AREAS THAT ARE NOT UNDER ACTIVE CONSTRUCTION AND THAT CAN NOT YET UNDERGO FINAL GRADING, INSTALL TEMPORARY SEEDING AND MULCHING (REFER TO WRITTEN EROSION CONTROL PLAN).
5. PERMANENT SEEDING OR STABILIZATION SHALL BE CARRIED OUT IMMEDIATELY AFTER FINAL GRADING IS COMPLETED, OR TEMPORARY MEASURES SHALL BE APPLIED SUCH AS MULCHING OR SEEDING UNTIL PERMANENT STABILIZATION MEASURES ARE IN PLACE.
6. TOPSOIL SHALL BE STOCKPILED IN AREAS AWAY FROM PROTECTED NATURAL RESOURCES AND IN AREAS WHICH HAVE A MINIMAL POTENTIAL FOR EROSION; REFER TO OWNER FOR LOCATION OF MATERIAL STOCKPILE.
7. ALL EROSION CONTROL MEASURES SHALL BE ROUTINELY INSPECTED AND REPAIRED IN ACCORDANCE WITH THE WRITTEN EROSION CONTROL PLAN FOR THE DURATION OF THE PROJECT UNTIL ALL AREAS ARE STABILIZED. REMOVE ACCUMULATED SILT AND SEDIMENT AS NEEDED AND MAINTAIN SILT FENCE IN GOOD, OPERABLE CONDITION.

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.

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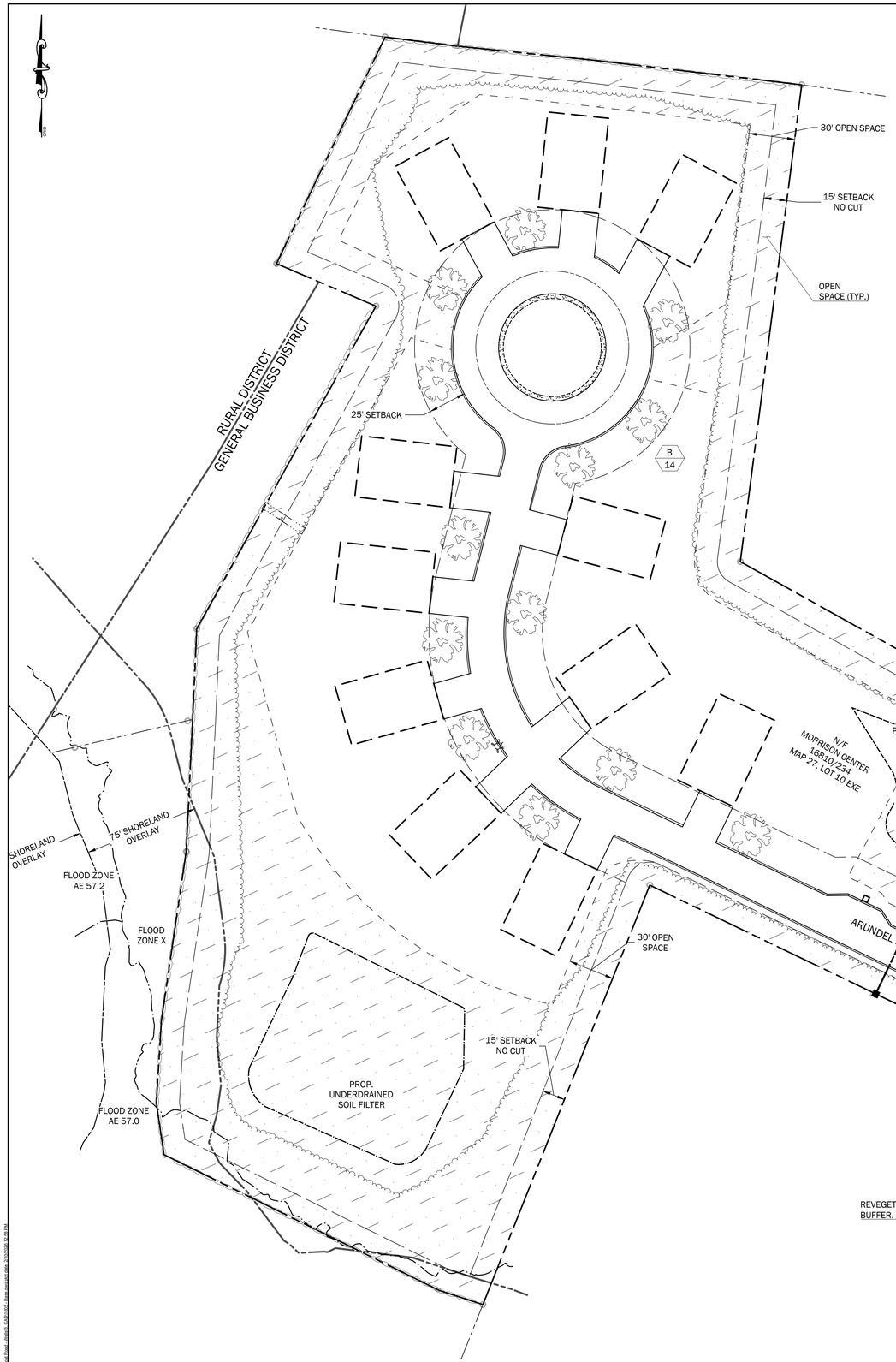
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1	1/22/2026	DEP Stormwater Permit	MRM	LLT
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Sheet Title:
EROSION CONTROL PLAN

Job No.: 1005	Sheet No.: C3.3
Date: 01/22/2026	
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PLANT LIST

A / 12 — PLANT KEY / QUANTITY

PLANT I.D.	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
A	2	ACER PENSYLVANICUM	STRIPED MAPLE	2 -2.5" CAL	
B	14	ACER RUBRUM "OCTOBER GLORY"	RED MAPLE	2 - 2.5' CAL	
C	6	ILEX VERTICILLATA	WINTERBERRY	2 GAL.	MIN. ONE MALE PLANT FOR BERRIES, WINTER INTEREST
D	4	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	5-6' TALL	

VEGETATION

EXISTING		PROPOSED
	BUSH/SHRUB	
	TREELINE	
	TREE	

LANDSCAPE NOTES:

1. PRIOR TO THE START OF ANY EXCAVATION FOR THE PROJECT BOTH ON AND OFF THE SITE, THE CONTRACTOR SHALL NOTIFY DIGSAFE AND BE PROVIDED WITH A DIGSAFE NUMBER INDICATING THAT ALL EXISTING UTILITYS HAVE BEEN LOCATED AND MARKED.
2. LANDSCAPE CONTRACTOR IS ENCOURAGED TO PROVIDE THE LANDSCAPE ARCHITECT WITH CONCERNS AND/OR SUGGESTIONS WITH REGARDS TO PROPOSED PLANT MATERIAL SELECTION PRIOR TO PLACING A PURCHASE ORDER.
3. THE LANDSCAPE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE ALL PLANTINGS SHWON GRAPHICALLY ON THIS DRAWING. CLARIFY ANY DISCREPANCIES WITH THE LANDSCAPE ARCHITECT PRIOR TO PRICING ANY PLANT MATERIAL.
4. ALL PLANT MATERIALS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE ALTEST EDITION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S "AMERICAN STANDARD OF NURSERY STOCK".
5. ALL PLANT MATERIALS ARE SUBJECT TO THE APPROVAL OF TEH OWNER'S REPRESENTATIVE AT THE SITE. PLANTS WHICH ARE REJECTED SHALL BE REMOVED FROM THE SITE IMMEDIATELY AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.
6. ALL TREES AND SHRUBS TO BE BALLED IN BURLAP OR CONTAINERIZED.
7. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS, STRUCTURES, AND PLANTING BEDS.
8. NO PLANTS SHALL BE PLANTED BEFORE ACCEPTANCE OF ROUGH GRADING AND BEFORE CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
9. ALL SHRUB GROUPINGS SHALL BE INCORPORATED INTO BEDS. WHERE MULCHED PLANT BED ABUTS LAWN, CONTRACTOR SHALL PROVIDED A TURF CUT EDGE.
10. ALL STREET TREES SHALL BEGIN BRANCHING AT 6' HEIGHT MIN.
11. ALL PLANT MATERIAL OR REPRESENTATIVE MATERIALS SHALL BE LEGIBLY TAGGED WITH PROPER COMMON AND BOTANICAL NAMES. TAGS SHALL REMIAN ON THE PLANTS UNTIL FINAL ACCEPTANCE.
12. CONTRACTOR SHALL LOAM ALL DISTURBED AREAS CALLED OUT AS LAWN WITH A 6 INCH MINIMUM DEPTH OF TOPSOIL. TOPSOIL SHALL BE NATURAL, FERTILE LOAM TYPICAL OF CULTIVATED TOPSOIL OF THE LOCALITY, CONTAINING NOT LESS THAN 3.5 PERCENT OR MORE THAN 8 PERCENT BY WEIGHT, OF DECAYED ORGANIC MATTER (HUMUS) AS DETERMINED BY ASTM F1647. TOPSOIL SHALL BE OBTAINED FROM A WELL DRAINED ARABLE SITE, FREE OF SUBSOIL, EARTH CLODS, LARGE STONES, STICKS, STUMPS, CLAY LUMPS, ROOTS, OR OTHER OBJECTIONABLE, EXTRANEOUS MATTER OR DEBRIS. SCREEN TOPSOIL TO A MAXIMUM STONE SIZE OF 3/4 INCH. TOPSOIL SHALL BE FREE OF ALL PRIMARY NOXIOUS WEEDS. TOPSOIL SHALL HAVE A PH OF NOT LESS THAN 6.0 OR GREATER THAN 6.8. TOPSOIL SHALL HAVE A LOAM TEXTURE CLASSIFICATION. DO NOT DELIVER OR USE WHILE IN A FROZEN OR MUDDY CONDITION. TOPSOIL SHALL CONFORM TO THE FOLLOWING PARTICLE SIZE DISTRIBUTION, AS DETERMINED BY PIPETTE METHOD IN COMPLIANCE WITH ASTM F1632.
    a. SAND: 40-60 PERCENT.
    b. SILT: 30-40 PERCENT.
    c. CLAY: 5-20 PERCENT.
13. SEED MIXTURE FOR LAWN AREAS SHALL BE "PARK MIX" FOR SUNNY AREAS AND "SHADY MIX" FOR THE AREAS IN SHADE AS DISTRIBUTED BY ALLEN STERLING AND LOTHRUP OF FALMOUTH, MAINE. SEEDING RATE TO BE AS RECOMMENDED BY THE DISTRIBUTOR, BUT NOT LESS THAN 5 LBS. PER 1,000 S.F.
14. CONTRACTOR SHALL BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING AND WILL CONTINUE UNTIL FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF WATERING AND MAINTENANCE.
15. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR ONE (1) FULL YEAR FROM DATE OF FINAL ACCEPTANCE.
16. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.
17. THE CONTRACTOR SHALL INSTALL WATERING BAGS SUCH AS THE TREEGATOR OR APPROVED EQUIVALENT ON ALL TREES AT THE TIME OF INSTALLATION AND THEY SHALL REMAIN UNTIL THE AREA IS HIT WITH FREEZING TEMPERATURES.

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01/22/2026

PRELIMINARY - NOT FOR CONSTRUCTION

ARUNDEL LANE SUBDIVISION

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Sheet Title:
LANDSCAPING PLAN

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Date:	01/22/2026
Scale:	AS SHOWN
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INTRODUCTION

THE FOLLOWING PLAN FOR CONTROLLING SEDIMENTATION AND EROSION IN THIS PROJECT IS BASED ON CONSERVATION PRACTICES FOUND IN THE MAINE EROSION & SEDIMENT CONTROL BMPS MANUAL, OCTOBER 2016, AND MAINE EROSION AND SEDIMENT CONTROL PRACTICE FIELD GUIDE FOR CONTRACTORS, REVISED 2014, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION. THE CONTRACTOR WHO IMPLEMENTS THIS PLAN SHALL BE FAMILIAR WITH THESE PUBLICATIONS AND ADHERE TO THEM AND THE PRACTICES PRESENTED HEREIN

REFERENCE IS MADE TO THE GRADING AND DRAINAGE PLANS WITHIN THE PLAN SET, SHOWING THE LOCATIONS AND TYPES OF PROPOSED MEASURES TO BE IMPLEMENTED.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES

THE FOLLOWING IS A LIST OF GENERAL EROSION CONTROL PRACTICES THAT WILL BE USED TO PREVENT EROSION AND SEDIMENTATION BEFORE, DURING AND AFTER THE CONSTRUCTION OF THIS PROJECT. IN ADDITION, SPECIAL CARE SHALL BE USED AT ALL TIMES TO:
LIMIT DISTURBANCE AND, HENCE, EROSION
1) CORRECT ANY EROSION PROBLEMS IMMEDIATELY
2) REGULARLY MONITOR THE IMPLEMENTED PRACTICES, ESPECIALLY AFTER EVERY RAINFALL
3) REVEGETATE DISTURBED AREAS AS SOON AS POSSIBLE AFTER CONSTRUCTION
4) CONFORM TO ALL REQUIREMENTS/STANDARDS OF THE SITE'S MAINE DEP EROSION & SEDIMENT CONTROL BMP MANUAL.

SILT FENCE AND/OR EROSION CONTROL MIX SEDIMENT BARRIERS

SILT FENCE AND/OR EROSION CONTROL MIX SEDIMENT BARRIERS WILL BE INSTALLED ALONG THE DOWN GRADIENT SIDE OF THE PROPOSED GROUND DISTURBANCE AREAS PRIOR TO ANY CONSTRUCTION ACTIVITIES WHERE SLOPES EXCEED 8% OR THERE IS FLOWING WATER BOTH SILT FENCE AND EROSION CONTROL MATTING BERMS SHALL BE USED.

CATCH BASIN PROTECTION

CATCH BASIN PROTECTION WILL BE INSTALLED AT THE FIRST DOWNGRADIENT CATCH BASIN IN STREET ADJACENT TO ANY CONSTRUCTION ACTIVITIES AND IN ALL ONSITE CATCH BASINS UNTIL SITE HAS BEEN COMPLETELY STABILIZED.

CONSTRUCTION PHASE

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION DURING CONSTRUCTION ON THIS PROJECT:

1. EROSION AND SEDIMENTATION CONTROL BMPS SHALL BE INTALLED PRIOR TO THE COMMENCEMENT OF EARTHWORK ACTIVITIES.
2. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. AN AREA NO LARGER THAN WHAT CAN BE MULCHED IN ONE DAY MAY BE OPEN AT ONCE. ONCE CONSTRUCTION OF AN AREA IS COMPLETE, FINAL GRADING, LOAMING AND SEEDING SHALL OCCUR IMMEDIATELY (REFER TO "POST CONSTRUCTION REVEGETATION" SECTION). IF DURING FINAL GRADING, LOAMING AND SEEDING CAN NOT OCCUR IMMEDIATELY, IT SHALL BE DONE PRIOR TO ANY STORM EVENT AND WITHIN 15 DAYS OF COMPLETING CONSTRUCTION IN THAT AREA. IF FINAL GRADING, LOAMING AND SEEDING CANNOT OCCUR WITHIN 7 DAYS, OR IF THE AREA IS NOT UNDER ACTIVE CONSTRUCTION FOR A PERIOD LONGER THAN 7 DAYS, SEE ITEM NO. 4 BELOW.
3. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SILT FENCING SHALL BE INSTALLED ON DOWNGRADIENT PORTIONS OF THE SITE AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION.
4. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM EXISTING DRAINAGE AREAS AND WETLANDS. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE:
   A. TREATED WITH ANCHORED MULCH (WITHIN 5 DAYS OF THE LAST DEPOSIT OF STOCKPILED SOIL).
   B. SEEDED WITH CONSERVATION MIX AND MULCHED IMMEDIATELY.
   C. STOCKPILES SHALL BE EITHER PLACED UPHILL OF AN EXISTING SEDIMENT BARRIER ON THE SITE OR ENCIRCLED BY A HAY BALE OR SILT FENCE BARRIER THE FIRST DAY THAT STOCKPILING COMMENCES.
5. ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE:
   A. TREATED WITH STRAW AT A RATE OF 70-90 LBS. PER 1000 SQUARE FEET FROM 4/16 TO 10/1, OR AT A RATE OF 150-200 LBS. PER 1000 SQUARE FEET FROM 10/1 TO 4/15.
   B. SEEDED WITH CONSERVATION MIX OF PERENNIAL RYE GRASS (1.0 LBS/1000 SQ.FT.) AND MULCHED IMMEDIATELY. FROM 10/1 TO 4/15, FOLLOW THE SEEDING RATES AS OUTLINED BELOW IN SUB-SECTION 4.D. OF THE "POST CONSTRUCTION REVEGETATION" SECTION.
   C. MONITORED EVERY TWO WEEKS UNTIL SEEDING CAN OCCUR AND REMULCHED AS NEEDED TO PROTECT SLOPES.
6. ALL GRADING WILL BE HELD TO A MAXIMUM 3:1 SLOPE WHERE PRACTICAL. GREATER SLOPES MAY BE USED WHERE THE BANKS ARE PROTECTED WITH SOFT ARMOUR MATTING, EROSION CONTROL MATTING, OR RIPRAP. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY AFTER FINAL GRADING IS COMPLETE. (IT IS UNDERSTOOD THAT IMMEDIATELY MEANS WITHIN 5 DAYS OF THE COMPLETION OF WORK. SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION).
7. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
8. CONSTRUCTION TRAFFIC WILL BE DIRECTED OVER THE EXISTING SITE ENTRANCE. THE ROAD SHALL BE SWEPT AND VACUUMED DAILY SHOULD SEDIMENT BE TRACKED ONTO IT.
9. ALL AREAS DRAINING TO A STORMWATER FILTER OR BMP SHALL BE STABILIZED PRIOR TO CONSTRUCTION OF FILTER MEDIA TO PREVENT SEDIMENT FROM CLOGGING MEDIA.

DEWATERING

1. ALL DEWATERING DISCHARGE LOCATIONS SHALL BE LOCATED ON RELATIVELY FLAT GROUND AT LEAST 75' FROM STREAMS AND 25' FROM WETLANDS. THE CONTRACTOR SHALL UTILIZE DIRTBAGS, EROSION CONTROL MIX BERMS, OR SIMILAR METHODS FOR FILTRATION OF DEWATERING AND SHALL CONFORM TO THE MAINE EROSION AND SEDIMENT CONTROL BMPS G-1, G-2, AND G-3.

POST CONSTRUCTION REVEGETATION

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING:

1. A MINIMUM OF 6" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE.
2. LAWN AREAS: "PARK MIX" GRASS SEED BY ALLEN, STERLING & LOTHROP (FALMOUTH, MAINE), OR APPROVED EQUAL.
3. MULCH SHALL BE HAY OR STRAW MULCHES THAT ARE DRY AND FREE FROM UNDESIRABLE SEEDS AND COURSE MATERIALS.
   A. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE.
   B. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
   C. BLANKET WITH TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING ON GRADES GREATER THAN 5%.
4. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF ASPHALT, WOOD FIBRE OR PAPER FIBRE AND WATER, WHICH IS SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 10/1 AND 4/15.
5. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN OCTOBER 1ST AND APRIL 15TH. SHOULD SEEDING BE NECESSARY BETWEEN THESE DATES, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED:
   A. ONLY UNFROZEN LOAM SHALL BE USED.
   B. LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED.
   C. WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1000 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
   D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.5 LBS/1000 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
   E. FERTILIZING, SEEDING AND MULCHING SHALL BE DONE ON LOAM THE DAY THE LOAM IS SPREAD.
   F. HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE. WINTER MULCHING RATES, SHALL BE DOUBLE AS SPECIFIED ABOVE IN SUBSECTION 3.A OF THE "POST CONSTRUCTION REVEGETATION" SECTION, SHOULD BE APPLIED DURING THIS PERIOD.
6. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 90% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE DESIGN PROFESSIONAL THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO.
MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL, AND AT LEAST ONCE A WEEK, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. SILT FENCE SHALL BE INSPECTED AND REPAIRED. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING.
2. CONSTRUCTION ENTRANCE SHALL BE VISUALLY INSPECTED AND REPAIRED AS NEEDED. ANY AREAS SUBJECT TO RUTTING SHALL BE STABILIZED IMMEDIATELY. IF THE VOIDS OF THE CONSTRUCTION ENTRANCE BECOME FILLED WITH MUD, MORE CRUSHED STONE SHALL BE ADDED AS NEEDED. THE PUBLIC ROADWAY SHALL BE SWEPT AND VACUUMED SHOULD MUD BE DEPOSITED/TRACKED ONTO THEM.

STANDARDS FOR STABILIZING SITES FOR THE WINTER

THE FOLLOWING STANDARDS AND METHODOLOGIES SHALL BE USED FOR STABILIZING THE SITE DURING THE WINTER CONSTRUCTION PERIOD:

1. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES (ANY AREA HAVING A GRADE GREATER THAN 25%) - THE CONTRACTOR WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15TH. IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15TH, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.
   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS: BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A RATE OF 3 POUNDS PER 1000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED HAY MULCH OVER THE SEEDING AT TWICE THE RATE AS SPECIFIED ABOVE IN SUBSECTION 3.A OF THE "POST CONSTRUCTION REVEGETATION" SECTION. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS.
   B. STABILIZE THE SLOPE WITH WOOD-WASTE COMPOST: THE CONTRACTOR WILL PLACE A SIX-INCH LAYER OF WOOD-WASTE COMPOST ON THE SLOPE BY NOVEMBER 15TH. THE CONTRACTOR WILL NOT USE WOOD-WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
   C. STABILIZE THE SLOPE WITH STONE RIPRAP: THE CONTRACTOR WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. THE DEVELOPMENT'S OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.
2. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS - BY SEPTEMBER 15TH THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON THE SITE. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ON OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION: BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER, 1, THEN THE CONTRACTOR WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM III OF THIS STANDARD.
   B. STABILIZE THE SOIL WITH SOD: THE CONTRACTOR WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
   C. STABILIZE THE SOIL WITH MULCH: BY NOVEMBER 15TH THE CONTRACTOR WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, THE CONTRACTOR WILL ANCHOR THE MULCH WITH NETTING OR OTHER METHOD TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

EROSION CONTROL REMOVAL

AN AREA IS CONSIDERED STABLE IF IT IS PAVED OR IF 90% GROWTH OF PLANTED SEEDS IS ESTABLISHED. ONCE AN AREA IS CONSIDERED STABLE, THE EROSION CONTROL MEASURES CAN BE REMOVED AS FOLLOWS:

1. SILT FENCE: SILT FENCE SHALL BE DISPOSED OF LEGALLY AND PROPERLY OFF-SITE. ALL SEDIMENT TRAPPED BEHIND THESE CONTROLS SHALL BE DISTRIBUTED TO AN AREA UNDERGOING FINAL GRADING OR REMOVED AND RELOCATED OFF-SITE.
2. STABILIZED CONSTRUCTION ENTRANCE: THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE REMOVED ONCE THE COMPACTED ROADWAY BASE IN IN PLACE. STONE AND SEDIMENT FROM THE CONSTRUCTION ENTRANCE SHALL BE REDISTRIBUTED TO AN AREA UNDERGOING GRADING OR REMOVED AND RELOCATED OFFSITE.
3. MISCELLANEOUS: ONCE ALL THE TRAPPED SEDIMENTS HAVE BEEN REMOVED FROM THE TEMPORARY SEDIMENTATION DEVICES THE DISTURBED AREAS SHALL BE REGRADED IN AN AESTHETIC MANNER TO CONFORM TO THE SURROUNDING TOPOGRAPHY. ONCE GRADED THESE DISTURBED AREAS MUST BE LOAMED (IF NECESSARY), FERTILIZED, SEEDED AND MULCHED IN ACCORDANCE WITH THE RATES PREVIOUSLY STATED.

THE ABOVE EROSION CONTROLS MUST BE REMOVED WITHIN 30 DAYS OF FINAL STABILIZATION OF THE SITE.
CONFORMANCE WITH THIS PLAN AND FOLLOWING THESE PRACTICES WILL RESULT IN A PROJECT THAT COMPLIES WITH THE STATE REGULATIONS AND THE STANDARDS OF THE NATURAL RESOURCES PROTECTION ACT, AND WILL PROTECT WATER QUALITY IN AREAS DOWNSTREAM FROM THE PROJECT.

MAINE CONSTRUCTION GENERAL PERMIT REQUIRED

SUBMISSION OF A MAINE CONSTRUCTION GENERAL PERMIT (MCGP) IS REQUIRED PRIOR TO COMMENCEMENT OF ANY EXCAVATION ACTIVITIES.

INSPECTION AND MAINTENANCE (APPENDIX B)

1. INSPECTION AND MAINTENANCE REQUIREMENTS: INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORMWATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK AS WELL AS BEFORE AND AFTER A SIGNIFICANT STORM EVENT (0.5 INCHES OF RAINFALL IN A 24-HOUR PERIOD) AND PRIOR TO COMPLETION OF PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS IN THE MCGP AND ANY DEPARTMENTAL COMPANION DOCUMENT TO THE MCGP, MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY, IMPLEMENTATION MUST BE STARTED BY THE END OF THE NEXT WORKIN DAY AND COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS AREA PERMANENTLY STABILIZED. DOCUMENTATION OF CORRECTION ACTIONS SHALL BE MAINTAINED WITH THE INSPECTION FORMS.
2. INSPECTION LOG (REPORT): A LOG (REPORT) MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATIONS(S) WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE INSPECTION LOG THE CORRECT ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO THE DEPARTMENT STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF THE PERMANENT STABILIZATION.

HOUSEKEEPING (APPENDIX C)

1. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

   NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT: HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/
2. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING

   INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR PRE-TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

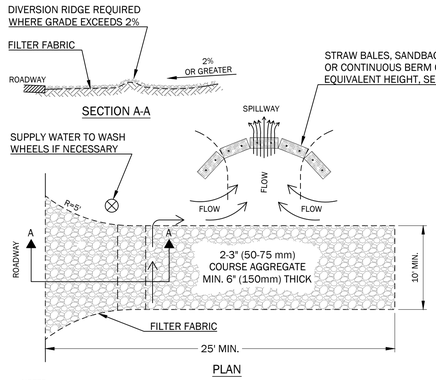
   NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465-C(1).
3. FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

   NOTE: DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.
4. DEBRIS AND OTHER MATERIALS: MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

   NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST-CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.
5. EXCAVATION DEWATERING: EXCAVATION DEWATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND MUDDIED AND CORRECT AND SAFE DISPOSAL OF THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN, AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

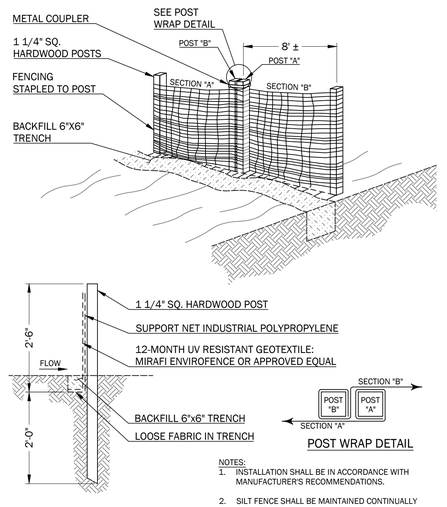
   NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE "MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."
6. AUTHORIZED NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:.
   - DISCHARGES FROM FIREFIGHTING ACTIVITY;
   - FIRE HYDRANT FLUSHINGS;
   - VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE, AND TRANSMISSION WASHING IS PROHIBITED);
   - DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3);
   - ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
   - PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
   - UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
   - UNCONTAMINATED GROUNDWATER OR SPRING U. WATER;
   - FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
   - UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
   - POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
   - LANDSCAPE IRRIGATION
7. UNAUTHORIZED NON-STORMWATER DISCHARGES: THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
   - WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
   - FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
   - SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
   - TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.
8. ADDITIONAL REQUIREMENTS: ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

1 EROSION AND SEDIMENTATION CONTROL NOTES
NOT TO SCALE



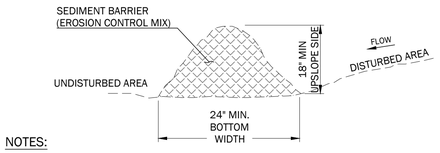
NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS ONTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. USE SANDBAGS, STRAW BALES OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED

2 STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



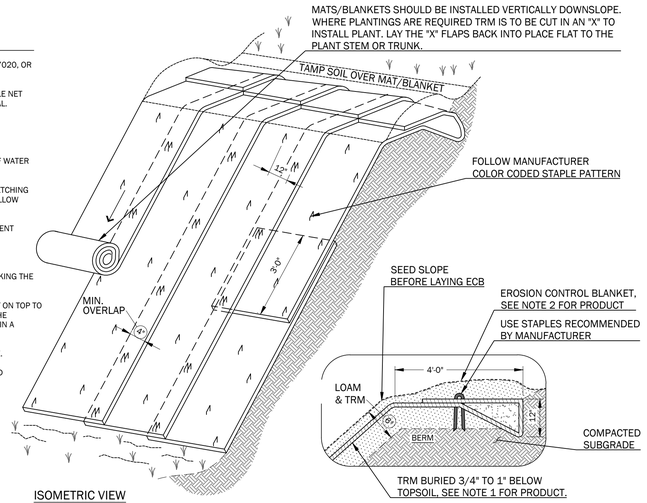
NOTES:
1. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. SILT FENCE SHALL BE MAINTAINED CONTINUALLY THROUGHOUT THE ENTIRE CONSTRUCTION CYCLE.

3 PREFABRICATED SILT FENCE
NOT TO SCALE


SEDIMENT BARRIER (EROSION CONTROL MIX)
UNDISTURBED AREA
18" MIN.
UPSLOPE

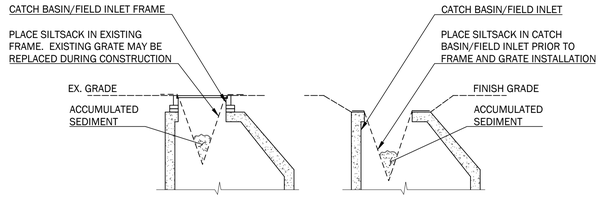
INSTALLATION INSTRUCTIONS:

1. TURF REINFORCEMENT MAT (TRM) MATERIAL SHALL BE ENKAMAT 7020, OR APPROVED EQUAL.
2. EROSION CONTROL BLANKET (ECB) SHALL BE BIONET S75BN SINGLE NET STRAW BLANKET BY NORTH AMERICAN GREEN OR APPROVED EQUAL.
3. FOR TRM INSTALLATION ONLY:
   - 3.1. APPLY 4" OF LOAM ONTO THE GROUND SURFACE.
   - 3.2. OVER TOP THE 4" OF LOAM, UNROLL MAT IN THE DIRECTION OF WATER FLOW.
4. MAT SHOULD LIE FLAT. DO NOT STRETCH MAT OVER GROUND. STRETCHING MAY CAUSE MAT TO BRIDGE DEPRESSIONS IN THE SURFACE AND ALLOW EROSION UNDERNEATH.
5. BURY TRANSVERSE TERMINAL ENDS OF MAT TO SECURE AND PREVENT EROSIVE FLOW UNDERNEATH.
6. SECURE MAT SNUGLY INTO ALL TRANSVERSE CHECK SLOTS.
7. BACKFILL AND COMPACT TRENCHES AND CHECK SLOTS AFTER STAKING THE MAT IN BOTTOM OF TRENCH.
8. OVERLAP ROLL ENDS BY THREE (3) FEET (MIN.) WITH UPSLOPE MAT ON TOP TO PREVENT UPLIFT OF MAT END BY WATER FLOW. IF INSTALLING IN THE DIRECTION OF A CONCENTRATED WATER FLOW, START NEW ROLLS IN A TRANSVERSE DITCH.
9. OVERLAP ADJACENT EDGES OF MAT BY 4 INCHES (MIN.) AND STAKE.
10. USE WOOD STAKES OR STAPLES FOR PINNING MAT TO THE GROUND SURFACE, PER MANUFACTURER'S RECOMMENDATIONS.
11. IN ALL TRANSVERSE TERMINAL TRENCHES AND CHECK SLOTS, STAKE EACH MAT AT ITS CENTER AND OVERLAP EDGES BEFORE BACKFILLING AND COMPACTING.
12. STAKE OVERLAPS LONGITUDINALLY AT 3 TO 5 FOOT INTERVALS.
13. WORK ADDITIONAL LOAM INTO THE MAT AND COVER THE MAT SURFACE WITH 3/4" TO 1" OF LOAM, THEN SEED AND COVER WITH ECB.



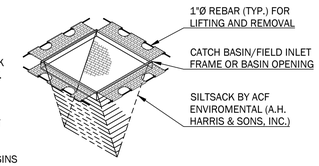
1 STRAW MATTING (ECB) AND TURF REINFORCEMENT MAT (TRM) FOR SLOPE EROSION CONTROL DETAILS

NOT TO SCALE



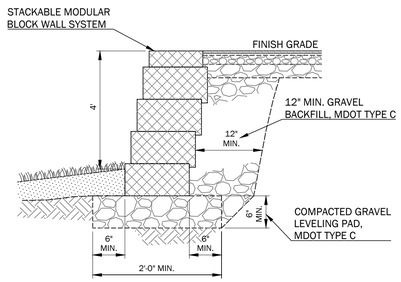
NOTES:

1. INSTALLATION PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
2. EMPTY AND REMOVE SEDIMENT FROM SILTSACK WHEN RESTRAINT CORD IS NO LONGER VISIBLE. CLEAN, RINSE AND REPLACE AS NEEDED.
3. CONTRACTOR SHALL INSPECT CATCH BASIN PROTECTION AFTER EACH MAJOR STORM EVENT AND CLEAN SILT AS NEEDED.
4. SILT SACKS TO BE INSTALLED IN ALL CATCH BASINS DURING CONSTRUCTION WHILE GROUND IS NOT PERMANENTLY STABILIZED.



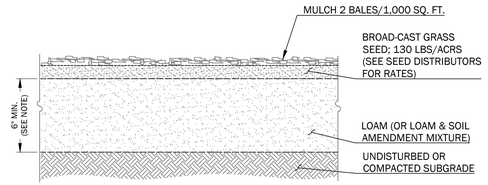
2 SILT SACK AT DRAINAGE STRUCTURE INLET DETAILS

NOT TO SCALE



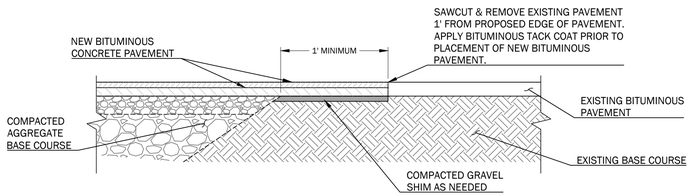
3 RETAINING WALL SECTION

NOT TO SCALE



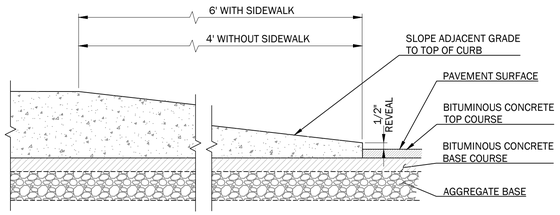
4 LOAM AND SEED DETAIL

NOT TO SCALE



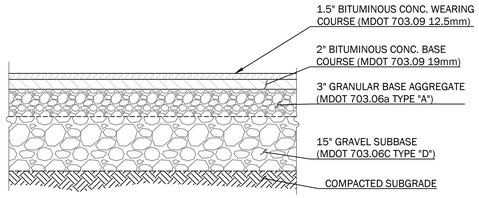
5 PAVEMENT SAW CUT DETAIL

NOT TO SCALE



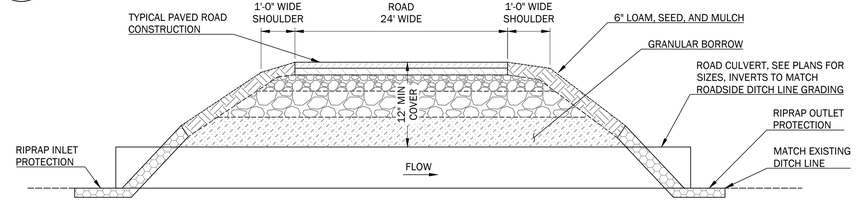
8 CURB TIPDOWN & TERMINAL END DETAIL SLIPFORM OR BITUMINOUS CONCRETE

NOT TO SCALE



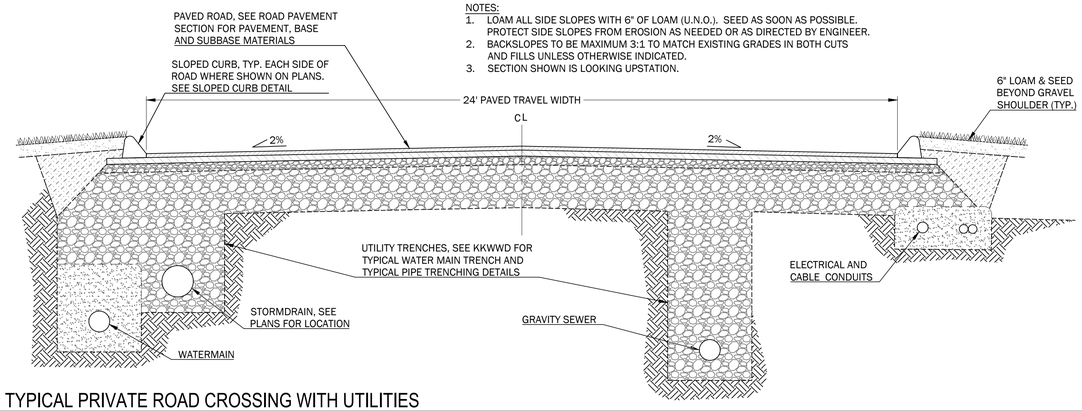
6 ROAD PAVEMENT SECTION

NOT TO SCALE



7 TYPICAL PRIVATE ROAD CULVERT

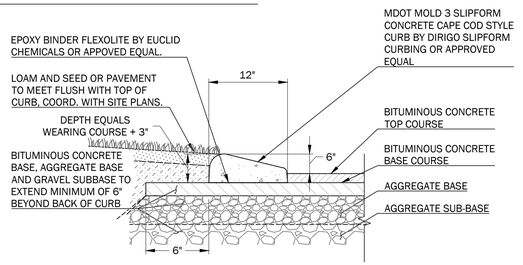
NOT TO SCALE



NOTES:
1. LOAM ALL SIDE SLOPES WITH 6" OF LOAM (U.N.O.). SEED AS SOON AS POSSIBLE. PROTECT SIDE SLOPES FROM EROSION AS NEEDED OR AS DIRECTED BY ENGINEER.
2. BACKSLOPES TO BE MAXIMUM 3:1 TO MATCH EXISTING GRADES IN BOTH CUTS AND FILLS UNLESS OTHERWISE INDICATED.
3. SECTION SHOWN IS LOOKING UPSTATION.

9 TYPICAL PRIVATE ROAD CROSSING WITH UTILITIES

NOT TO SCALE



CONCRETE NOTES:

1. MIN. 28 DAY COMPRESSIVE STRENGTH: 4,000 PSI
2. AIR ENTRAINMENT: 4% TO 6%
3. REINFORCING: FIBERMESH OR EQUIVALENT GRADE PRODUCT. STRAND LENGTH 1 1/2", 1" TO 1 1/2 LB/CUBIC YARD.
4. SLUMP: 1" TO 1 1/2"
5. FINISH: VERTICAL AND TOP FACES: SMOOTH SLIPFORM, SLOPED FACES: BROOM
6. CONTROL JOINTS: SAWCUT 10' O.C., 3" DEEP THE DAY AFTER PLACING.
7. EXPANSION JOINTS: LOCATE AT ENDS OF CURVE RADII OR WHERE CURB MEETS RIGID STRUCTURES i.e. BUILDING FOUNDATIONS OR HYDRANTS.
8. SEALER: SALTGUARD OR EQUAL WATER BASED SEALER.

10 CAPE COD CURB DETAIL - SLIPFORM CONCRETE, MDOT MOLD 3

NOT TO SCALE

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ph: 207.553.9898 | www.walsh-eng.com

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/22/2026

526 POST ROAD

528 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	2/10/2026	Town Permit Updates	MRM	LLT

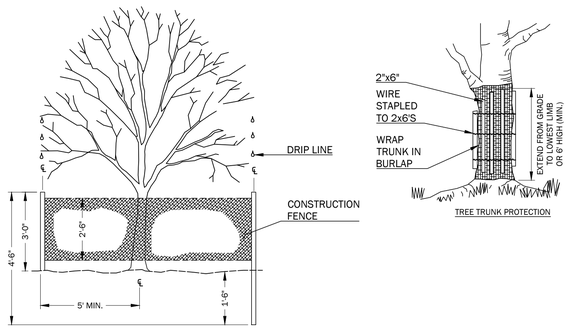
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SITE DETAILS

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Drawn:	MBP/MRM
Checked:	WRW/LLT

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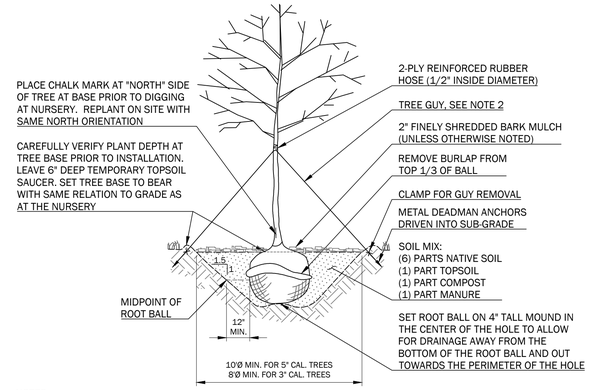
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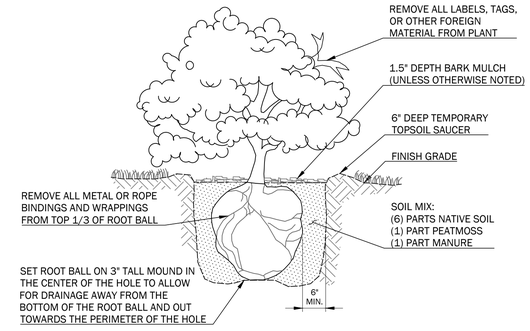
NOTE:
1. INSTALL FENCING AT LEAST 5' FROM THE BASE OF ALL TREES TO BE PROTECTED.
2. ERECT TREE PROTECTIVE PROTECTIVE FENCING AROUND ALL TREES SHOWN ON DRAWING TO BE PROTECTED.
3. TAKE SPECIAL CARE NOT TO COMPACT OR STORE MATERIAL UNDER AREA WITHIN DRIP LINE OF EXISTING TREE.
4. REMOVE PROTECTION ONLY AFTER ALL GRADING, INCLUDING SPREADING TOPSOIL IS COMPLETED.

1 EXISTING TREE PROTECTION DETAILS
NOT TO SCALE

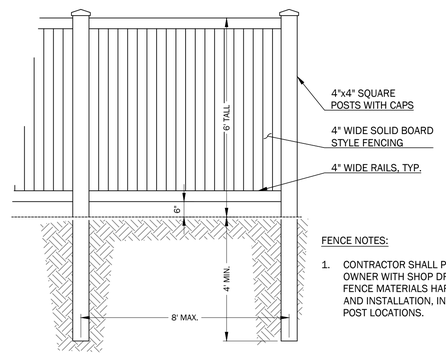


NOTES
1. PRUNE DEAD AND BROKEN BRANCHES, RETAINING NATURAL SHAPE. DO NOT CUT LEADER.
2. GUY TREES ONLY IF IN WINDY LOCATIONS, WITH #12 TWISTED ANNEALED GALVANIZED WIRE. 3 - GUYS PER TREE WITH 2" GALVANIZED TURNBUCKLES.

2 DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE

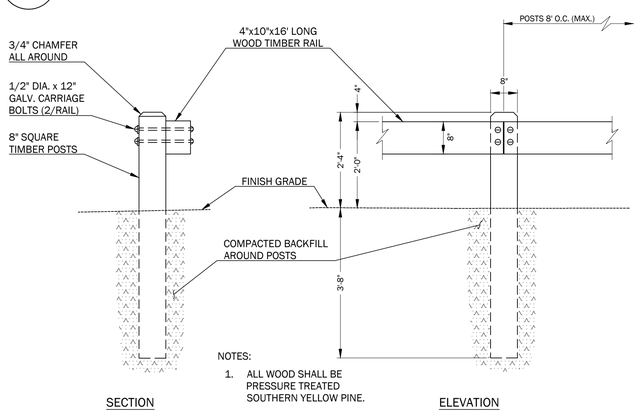


3 SHRUB PLANTING INSTALLATION DETAIL
NOT TO SCALE



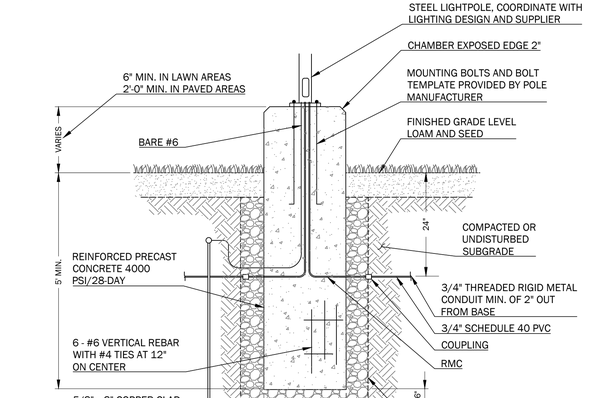
FENCE NOTES:
1. CONTRACTOR SHALL PROVIDE THE OWNER WITH SHOP DRAWINGS OF FENCE MATERIALS HARDWARE AND INSTALLATION, INCLUDING POST LOCATIONS.

4 STOCKADE STYLE FENCE DETAILS
NOT TO SCALE



NOTES:
1. ALL WOOD SHALL BE PRESSURE TREATED SOUTHERN YELLOW PINE.

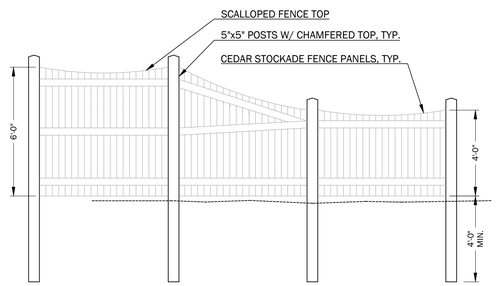
5 WOODEN TIMBER GUARDRAIL DETAILS
NOT TO SCALE



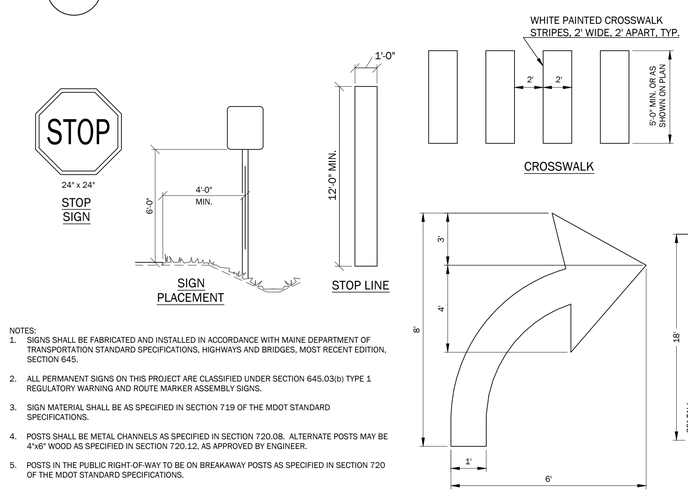
NOTES:
1. SUBMIT SHOP DRAWING FOR APPROVAL PRIOR TO ORDERING.
2. COORDINATE WITH ELECTRICAL SPECIFICATIONS/LIGHT BOLT PATTERN.
3. COLD-GALVANIZE ALL CUTS.
4. APPROVED PRECAST BASE MAY BE USED.

6 CONCRETE LIGHT POLE BASE DETAIL
NOT TO SCALE

NOTES:
1. FENCE MATERIAL:
   PREMIUM CEDAR FINISH W/ 2-COATS OF STAIN
   OR
   WOOD TO BE PRESSURE TREATED TO A MIN. NET OF .40 lbs. CCA PER CUBIC FOOT OF WOOD AND EACH PIECE SHALL BEAR THE AMERICAN WOOD PRESERVER'S ASSOCIATES QUALITY MARK LP-22 "GROUND CONTACT USE."
2. ALL NAILS AND SCREWS TO BE GALVANIZED.

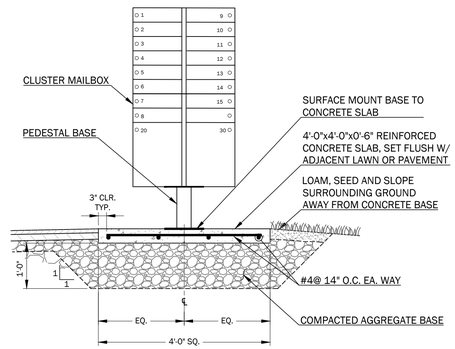


7 WOOD FENCE DETAIL
NOT TO SCALE



NOTES:
1. SIGNS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, MOST RECENT EDITION, SECTION 645.
2. ALL PERMANENT SIGNS ON THIS PROJECT ARE CLASSIFIED UNDER SECTION 645.03(b) TYPE 1 REGULATORY WARNING AND ROUTE MARKER ASSEMBLY SIGNS.
3. SIGN MATERIAL SHALL BE AS SPECIFIED IN SECTION 719 OF THE MDOT STANDARD SPECIFICATIONS.
4. POSTS SHALL BE METAL CHANNELS AS SPECIFIED IN SECTION 720.08. ALTERNATE POSTS MAY BE 4"x6" WOOD AS SPECIFIED IN SECTION 720.12, AS APPROVED BY ENGINEER.
5. POSTS IN THE PUBLIC RIGHT-OF-WAY TO BE ON BREAKAWAY POSTS AS SPECIFIED IN SECTION 720 OF THE MDOT STANDARD SPECIFICATIONS.

8 SIGNAGE & PAINTED TRAFFIC CONTROL DETAILS
NOT TO SCALE



9 CLUSTER MAIL BOX INSTALLATION
NOT TO SCALE

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/22/2026

526 POST ROAD
526 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	2/10/2026	Town Permit Updates	MRM	LLT

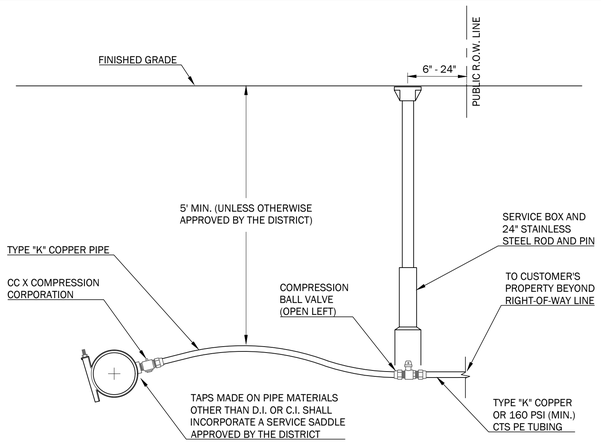
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SITE DETAILS

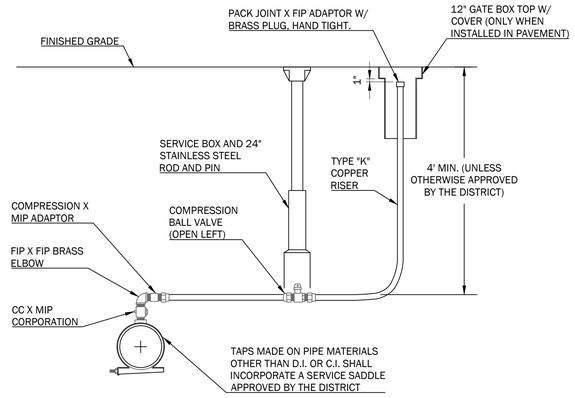
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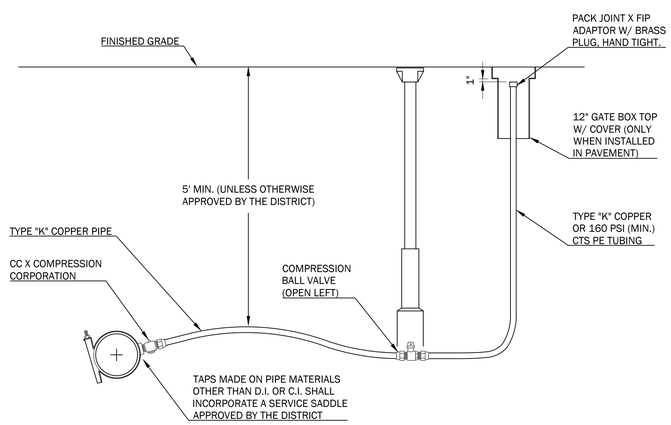
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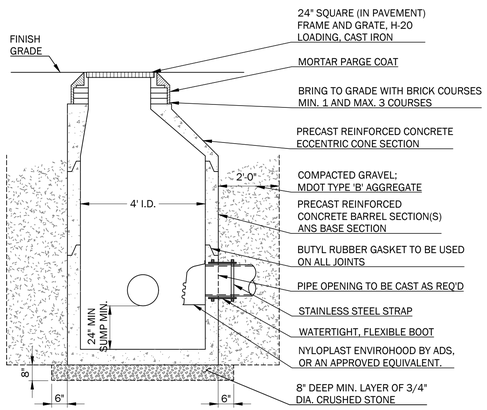
1 KKWWD 1"Ø SERVICE DETAIL
NOT TO SCALE



2 KKWWD AIR RELEASE DETAIL
NOT TO SCALE

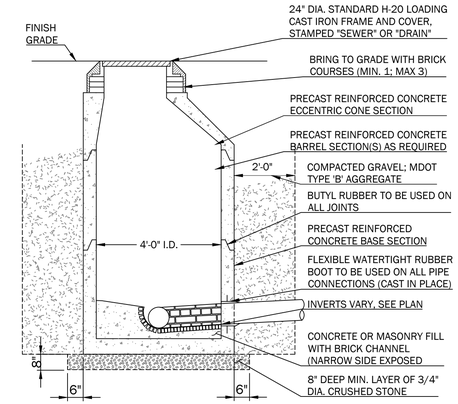


3 KKWWD BLOW-OFF DETAIL
NOT TO SCALE



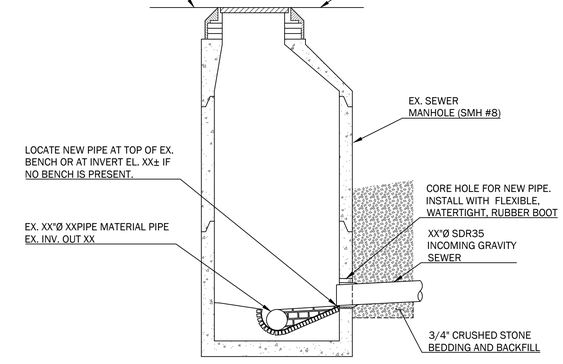
NOTES:
1. CONCRETE 4000 PSI AFTER 28 DAYS.
2. REINFORCING H-20 LOADING 4x4 / 4x4 WWM. SLAB TOP - NO. 5 BARS.
3. EACH CASTING TO HAVE LIFTING HOLES TO BE FILLED WITH NON-SHRINK MORTAR.
4. APPLY TWO COATS OF BITUMASTIC PAINT ON ALL EXTERIOR SECTIONS.
5. PROVIDE INLET PROTECTION FOR OPEN FRAME STRUCTURES DURING CONSTRUCTION, OR UNTIL ALL DISTURBED AREAS ARE FULLY STABILIZED.ALL
6. NEW CATCH BASINS SHALL BE INSTALLED WITH OUTLET HOOD ON ALL OUTLETS.

4 PRECAST CONCRETE CATCH BASIN WITH ECCENTRIC CONE
NOT TO SCALE



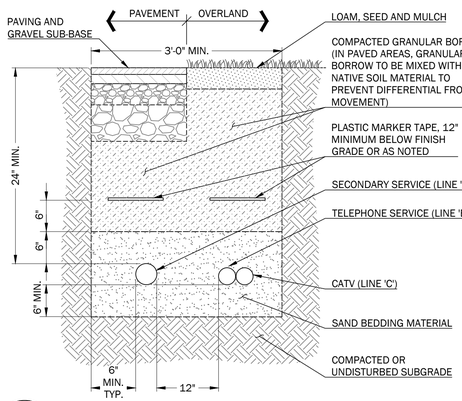
NOTES:
1. CONCRETE 4000 PSI AFTER 28 DAYS.
2. REINFORCING H-20 LOADING 4x4 / 4x4 WWM.
3. EACH CASTING TO HAVE LIFTING HOLES TO BE FILLED WITH NON-SHRINK MORTAR.
4. APPLY TWO COATS OF BITUMASTIC PAINT ON ALL EXTERIOR SECTIONS.
5. MANHOLE CHANNELS REQUIRING CHANGE OF ALIGNMENT, TO BE BUILT ON SMOOTH RADIUS. CHANNEL TO BE SHAPED TO ACCEPT ADDITIONAL INLET PIPES.
6. ALL MANHOLE COVERS SHALL HAVE "SEWER" or "DRAIN" CAST INTO THE COVER AS APPLICABLE.
7. ALL SANITARY STRUCTURES SHALL MEET LOCAL SANITARY DISTRICT REQUIREMENTS.

5 TYPICAL SEWER OR DRAIN MANHOLE DETAIL
NOT TO SCALE



NOTES:
1. EXISTING GRAVITY SEWER PIPE IN POST ROAD IS DESCRIBED AS ASBESTOS CONCRETE BY THE SEWER DEPARTMENT.
2. ASBESTOS CONCRETE SEWER PIPE TO TO BE UNDISTURBED DURING PROPOSED PIPE INSTALLATION.
3. IF HANDLING OF EXISTING ASBESTOS PIPE IS REQUIRED, CONTRACTOR IS TO COMPLY WITH ALL STATE AND FEDERAL REQUIREMENTS FOR HANDLING ASBESTOS MATERIALS.
4. CONTRACTOR MAY CHOOSE TO EXCAVATE STRUCTURE AND SEPARATE EXISTING SECTIONS TO BE ABLE TO CORE HOLE FOR NEW SERVICE WITHOUT DISTURBING THE EXISTING PIPES.
5. IF MANHOLE SECTIONS ARE DISASSEMBLED, REINSTALL WITH BUTYL RUBBER GASKET ON ALL JOINTS.
6. FOR ADDITIONAL REINSTALLATION REQUIREMENTS SEE TYP. MANHOLE DETAIL.
7. SANITARY STRUCTURES SHALL MEET LOCAL SANITARY DISTRICT REQUIREMENTS.

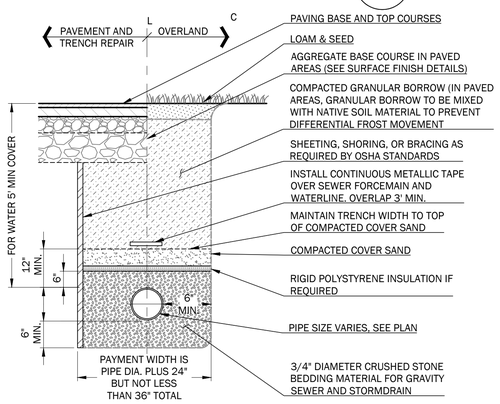
6 EXISTING SANITARY SEWER MANHOLE - REBUILT BENCH DETAIL
NOT TO SCALE



SERVICE	CONDUIT SIZE*	CONDUIT TYPE	UTILITY
'A'	2.5"	SCHEDULE 40 P.V.C. ELECTRICAL GRADE	SECONDARY POWER
'B'	1.5"	SCHEDULE 40 P.V.C. ELECTRICAL GRADE	CATV
'C'	2"	SCHEDULE 40 P.V.C. ELECTRICAL GRADE	TELEPHONE

NOTES:
1. ALL WORK SHALL COMPLY WITH THE RESPECTIVE UTILITY COMPANY STANDARDS.
2. SEE UTILITIES PLANS FOR CONDUIT LOCATIONS.
3. CONTRACTOR TO PROVIDE 1/4" POLYPROPYLENE PULL ROPES IN ALL CONDUITS.
4. CONTRACTOR SHALL VERIFY SIZE, QUANTITY, AND MATERIAL OF ALL CONDUIT WITH APPLICABLE UTILITY COMPANIES PRIOR TO CONSTRUCTION.

7 UNDERGROUND UTILITY TRENCH SECTION
NOT TO SCALE



8 TYPICAL PIPE TRENCHING DETAIL
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WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/22/2026

526 POST ROAD

526 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

Rev.	Date	Description	Drawn	Check
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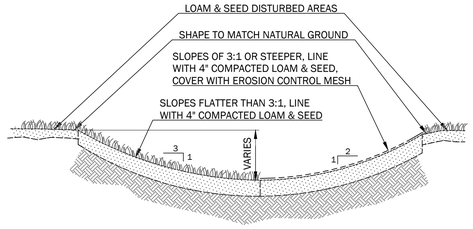
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UTILITY DETAILS

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Date:	01/22/2026
Scale:	AS SHOWN
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Checked:	WRW/LLT

Sheet No.: C4.3

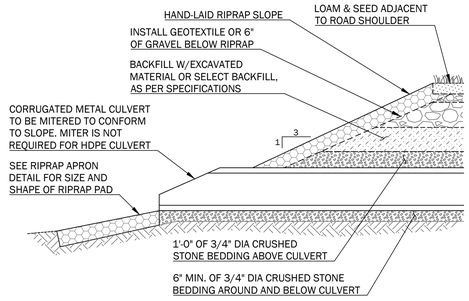
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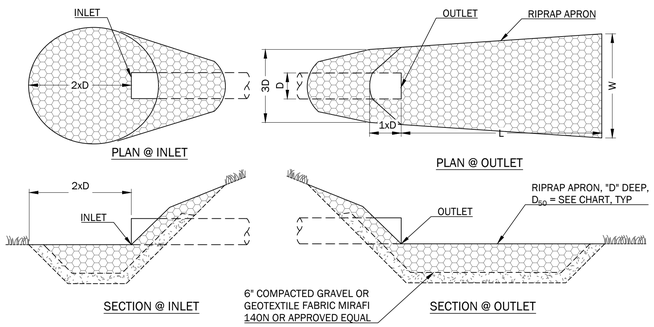
1 TYPICAL GRASS SWALE SECTION - ROUND BOTTOM

NOT TO SCALE



3 CULVERT OUTLET AND BEDDING SECTION

NOT TO SCALE



NOTES:

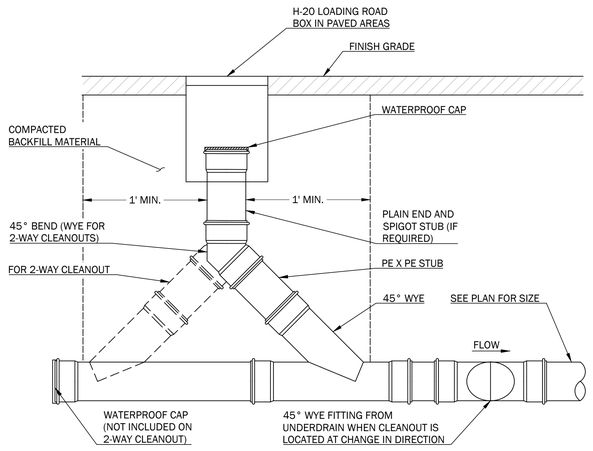
1. USE D_{50} NOTED ON TABLE UNLESS OTHERWISE SPECIFIED ON PLANS.
2. UNDERLAY RIPRAP WITH 6" OF GRAVEL OR GEOTEXTILE
3. USE WIDTHS NOTED ABOVE OR CONFORM TO NATURAL CHANNEL OR TOPOGRAPHY.
4. RIPRAP INLET PROTECTION SHALL BE A CIRCULAR APRON WITH A RADIUS OF 1X THE PIPE DIAMETER.

RIPRAP PAD SIZE CHART			
D	L	W	D_{50}
12"	6'	4'	5"
15"	7'	5'	6"
18"	8'	6'	8"

APRON DEPTH = 2.25 x D_{50}

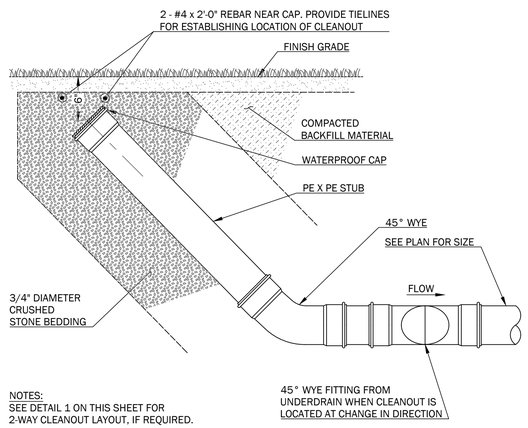
4 RIPRAP APRON SECTIONS

NOT TO SCALE



1 SEWER/STORMDRAIN CLEANOUT AT PAVEMENT DETAIL

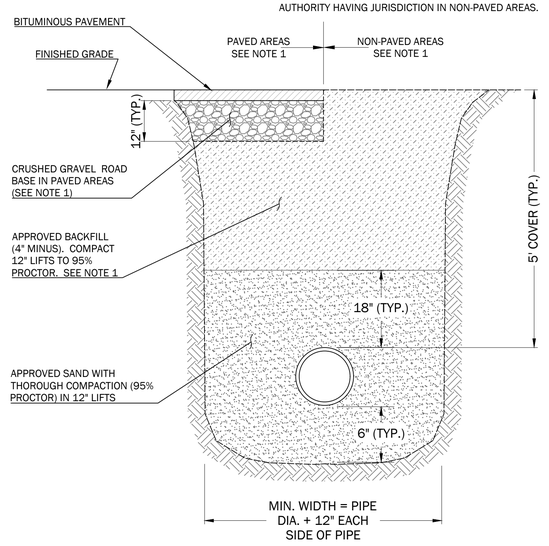
NOT TO SCALE



2 SEWER/STORMDRAIN CLEANOUT AT LAWN DETAIL

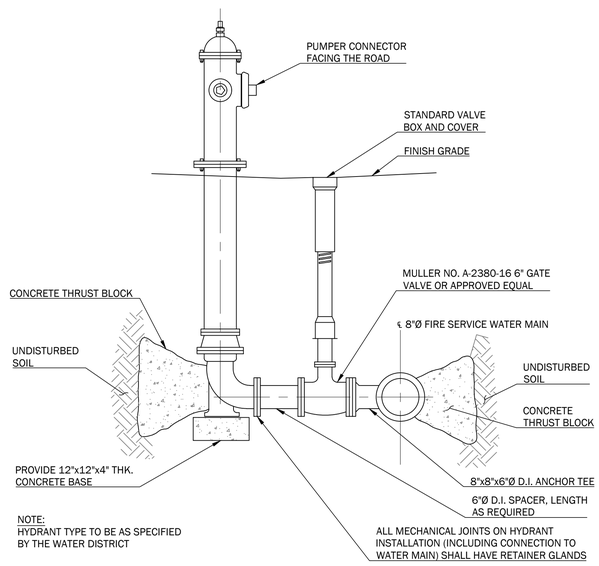
NOT TO SCALE

NOTE 1:
MATERIAL TYPE AND PLACEMENT REQUIREMENTS TO BE IN ACCORDANCE WITH AUTHORITY HAVING JURISDICTION IN PAVED AREAS. GRAVEL, LOAM AND SEED IN ACCORDANCE WITH AUTHORITY HAVING JURISDICTION IN NON-PAVED AREAS.



3 KKWWD TYPICAL WATER MAIN TRENCH

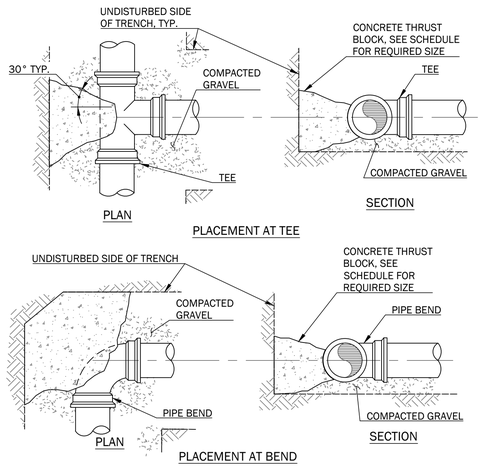
NOT TO SCALE



4 HYDRANT DETAIL

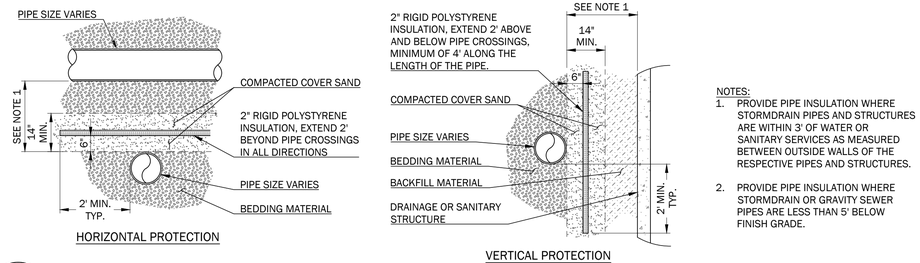
NOT TO SCALE

SIZE REQUIREMENTS FOR CONCRETE THRUST BLOCKS				
		BEARING ON UNDISTURBED SOIL (SQ. FT.)		
FITTINGS		90° BENDS	45° BENDS	TEES & PLUGS
PIPE SIZE	4"Ø	2.0	1.0	1.0
	6"Ø	3.0	2.0	2.0
	8"Ø	5.0	3.0	4.0



5 THRUST BLOCK DETAILS

NOT TO SCALE



NOTES:

1. PROVIDE PIPE INSULATION WHERE STORMDRAIN PIPES AND STRUCTURES ARE WITHIN 3' OF WATER OR SANITARY SERVICES AS MEASURED BETWEEN OUTSIDE WALLS OF THE RESPECTIVE PIPES AND STRUCTURES.
2. PROVIDE PIPE INSULATION WHERE STORMDRAIN OR GRAVITY SEWER PIPES ARE LESS THAN 5' BELOW FINISH GRADE.

5 RIGID INSULATION DETAILS

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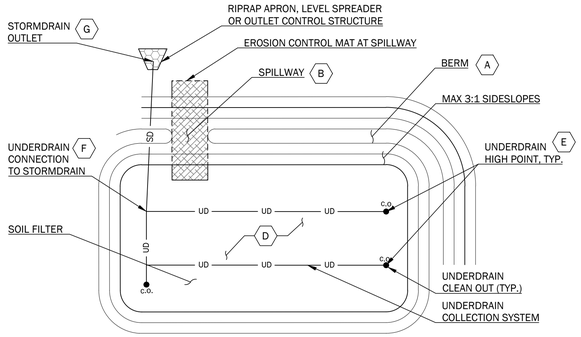
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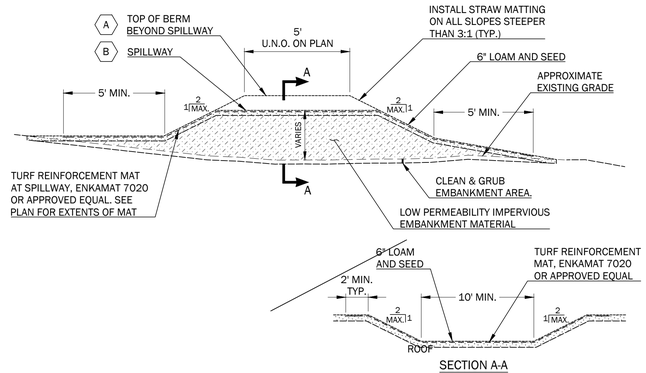
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1 GRASSED UNDERDRAIN SOIL FILTER ILLUSTRATIVE LAYOUT PLAN

NOT TO SCALE

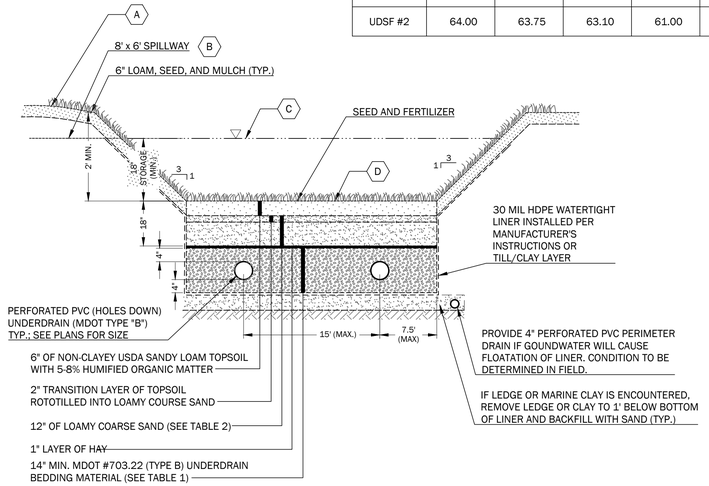


2 TYPICAL EMBANKMENT/SPILLWAY DETAIL

NOT TO SCALE

GRASSED UNDERDRAINED SOIL FILTER SCHEDULE

GRASSED UNDERDRAIN SOIL FILTER NAME	CREST ELEVATION (A)	SPILLWAY ELEVATION (B)	TOP OF WATER ELEVATION (C)	BOTTOM OF STORAGE ELEVATION (D)	UNDERDRAIN INVERT (E)	UNDERDRAIN CONNECTION INVERT (F)	STORMDRAIN OUTLET INVERT (G)	FILTER AREA (SQ. FT.) REQUIRED	FILTER AREA (SQ. FT.) PROVIDED	FILTER VOLUME (CU. FT) REQUIRED	FILTER VOLUME (CU. FT) PROVIDED	PEAK WATER ELEVATION		
												2 YEAR STORM	10 YEAR STORM	25 YEAR STORM
UDSF #1	66.25	65.50	64.84	63.50	61.20	60.99	60.58	1,216	1,250	2,026	5,562	62.95	64.12	64.84
UDSF #2	64.00	63.75	63.10	61.00	58.83	58.48	58.28	3,167	5,803	5,571	23,172	61.65	62.47	63.10



3 GRASSED UNDERDRAIN SOIL FILTER TYPICAL CROSS SECTION

NOT TO SCALE

GRASSED UNDERDRAINED SOIL FILTER NOTES:

1. THE SOIL BED SHALL BE 18" IN DEPTH AND CONSIST OF THE FOLLOWING:
   - 6" OF NON-CLAYEY USDA SANDY LOAM TOPSOIL WITH 5-8% HUMIFIED ORGANIC MATTER
   - 12" OF LOAMY COARSE SAND
2. BOTTOM 2" OF SANDY LOAM TOPSOIL SHALL BE ROTOTILLED INTO TOP SURFACE OF LOAMY COARSE SAND TO CREATE TRANSITION ZONE.
3. THE SOIL BED MATERIAL SHALL BE LIGHTLY COMPACTED (90% TO 92% STANDARD PROCTOR) USING WATER. IF HEAVY COMPACTION OCCURS, ROTOTILL AGAIN PRIOR TO SEEDING OR SODDING.
4. A 1" LAYER OF HAY SHALL BE PLACED BETWEEN THE BOTTOM OF THE SOIL BED AND THE TOP OF THE UNDERDRAIN MATERIAL.
5. THE FILTER SHOULD BE SEEDED WITH THE FOLLOWING SEED MIXTURE:
   - CREEPING RED FESCUE: 20LBS/ACRE
   - TALL FESCUE: 20LBS/ACRE
   - BIRDSFOOT TREFOIL: 8LBS/ACRE
   - TOTAL: 48LBS/ACRE
6. REFER TO GRADING PLANS FOR UNDERDRAIN LAYOUT.
7. THE MAXIMUM DISTANCE BETWEEN UNDERDRAIN PIPES SHALL BE 15 FEET.
8. GRASSED UNDERDRAINED SOIL FILTER MEDIA SHALL NOT BE INSTALLED UNTIL THE TRIBUTARY AREA HAS BEEN PERMANENTLY STABILIZED.

TABLE 1
MDOT SPECIFICATIONS FOR UNDERDRAIN TYPE B (MDOT #703.22)

SIEVE SIZE	% BY WEIGHT
1"	90-100
1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

TABLE 2
MDEP LOAMY COARSE SAND GRADATION

SIEVE SIZE	% BY WEIGHT
#10	85-100
#20	70-100
#60	15-40
#200	8-15
#200 CLAY SIZE	<2%

CONSTRUCTION OVERSIGHT

THE APPLICANT WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION FOR ALL STORMWATER MANAGEMENT STRUCTURES. IF NECESSARY, THE INSPECTING ENGINEER WILL INTERPRET THE POND'S CONSTRUCTION PLAN FOR THE CONTRACTOR. ONCE ALL STORMWATER MANAGEMENT STRUCTURES ARE CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER WILL NOTIFY THE DEPARTMENT IN WRITING WITHIN 30 DAYS TO STATE THAT THE POND HAS BEEN COMPLETED. ACCOMPANYING THE ENGINEER'S NOTIFICATION MUST BE A LOG OF THE ENGINEER'S INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT, AND INCLUDE ANY TESTING DATA OR SIEVE ANALYSIS DATA OF EERY MINERAL SOIL AND SOIL MEDIA SPECIFIED IN THE PLANS AND USED ON SITE.

CONSTRUCTION SEQUENCE: THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER AS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.

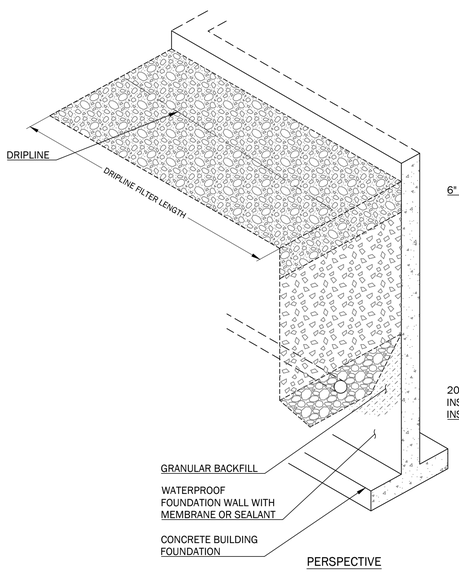
COMPACTION OF SOIL FILTER: FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST 2 LIFTS OF 9 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.

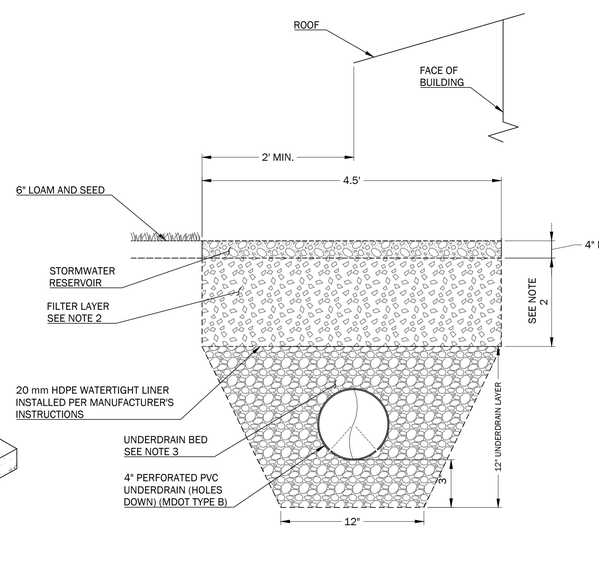
CONSTRUCTION INSPECTIONS: AT A MINIMUM, THE PROFESSIONAL ENGINEER'S INSPECTION WILL OCCUR:

- AFTER THE THE FILTER HAS BEEN CONSTRUCTED TO SUBGRADE.
- AFTER INSTALLATION OF THE FILTER LINER.
- AFTER INSTALLATION OF THE UNDERDRAIN PIPES HAVE BEEN INSTALLED BUT NOT BACKFILLED.
- AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO INSTALLATION OF THE SOIL FILTER MEDIA.
- AFTER THE SOIL FILTER MEDIA HAS BEEN INSTALLED, SEEDED AND MULCHED.
- AFTER ONE YEAR TO INSPECT VEGETATION AND MAKE CORRECTIONS.
- ALL THE MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.

TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:

- SUBMIT SAMPLES OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.
- PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES; 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL.
- PERFORM A PERMEABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90-92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.





4 TYPICAL ROOF DRIPLINE FILTER DETAILS

NOT TO SCALE

DRIPLINE FILTER NOTES:

1. DRIPLINE FILTER TO BE INSTALLED TO CAPTURE THE MAXIMUM ROOF AREA POSSIBLE.
2. 12" FILTER LAYER (SANDY SOIL WITH 4 - 7 % FINES - BACKFILL MAY BE APPROPRIATE)
3. UNDERDRAIN BED SHALL CONSIST OF GRAVEL MEETING MDOT SPEC. 703.22, TYPE C.
4. THE DRIPLINE FILTER SHALL EXTEND THE LENGTH OF THE BUILDING OR AREA OF ROOF TO BE TREATED.
5. THE DRIPLINE IS PART OF THE STORMWATER TREATMENT SYSTEM AND CAN NOT BE REMOVED OR ALTERED IN ANY WAY.

CONSTRUCTION OVERSIGHT

1. INSPECTIONS BY A PROFESSIONAL ENGINEER SHALL CONSIST OF WEEKLY VISITS TO THE SITE TO INSPECT EACH OF THE ROOF DRIP EDGE FILTER'S UNDERDRAIN CONSTRUCTION, FILTER MATERIAL PLACEMENT, AND OVERFLOW FROM INITIAL GROUND DISTURBANCE TO FINAL STABILIZATION OF THE FILTER.

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01/22/2026

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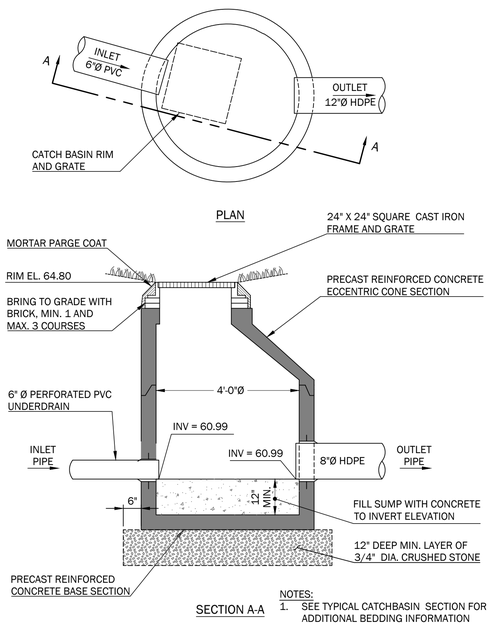
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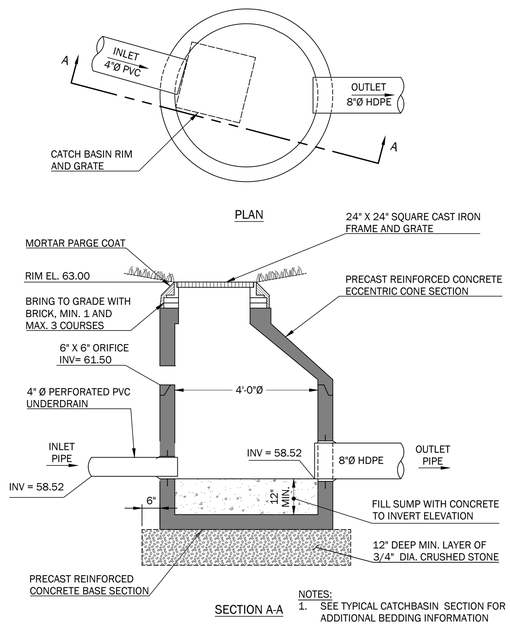
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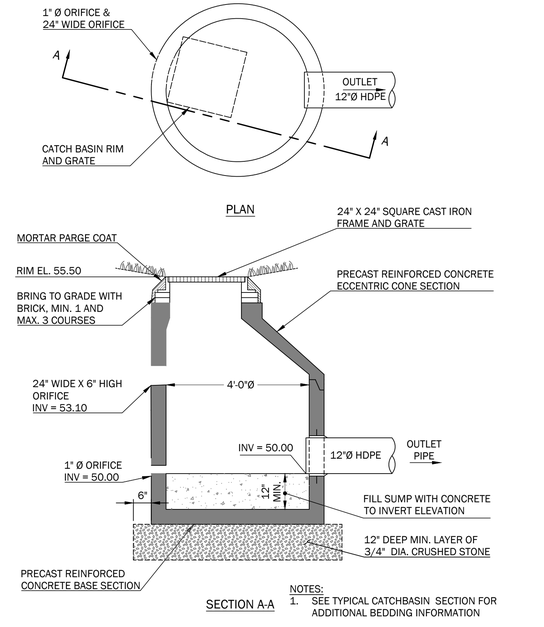
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1 OUTLET CONTROL STRUCTURE UDSF#1
NOT TO SCALE



2 OUTLET CONTROL STRUCTURE UDSF#2
NOT TO SCALE



3 OUTLET CONTROL STRUCTURE POND #1
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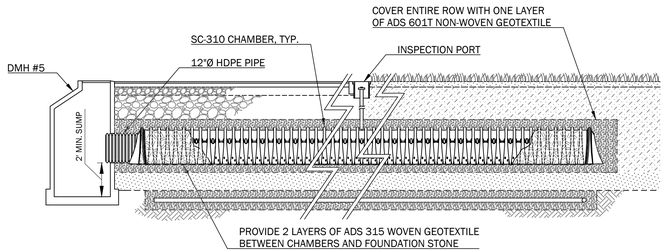
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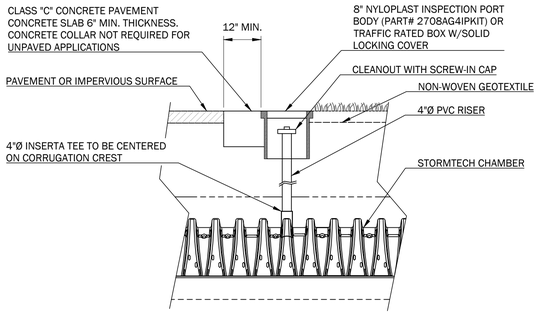
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OUTLET CONTROL STRUCTURE

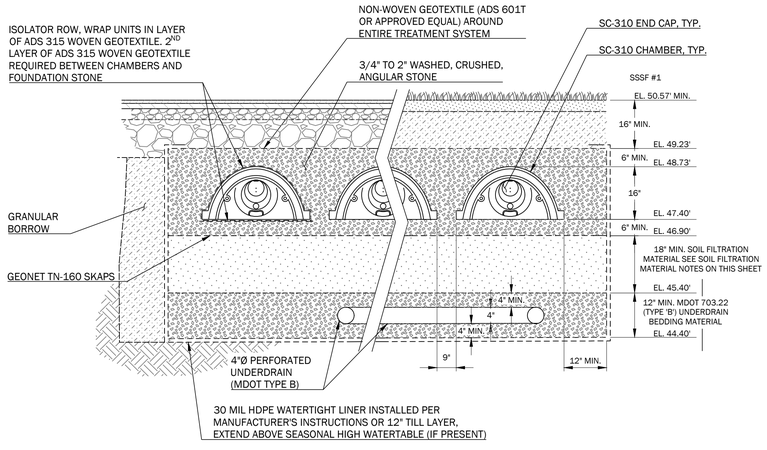




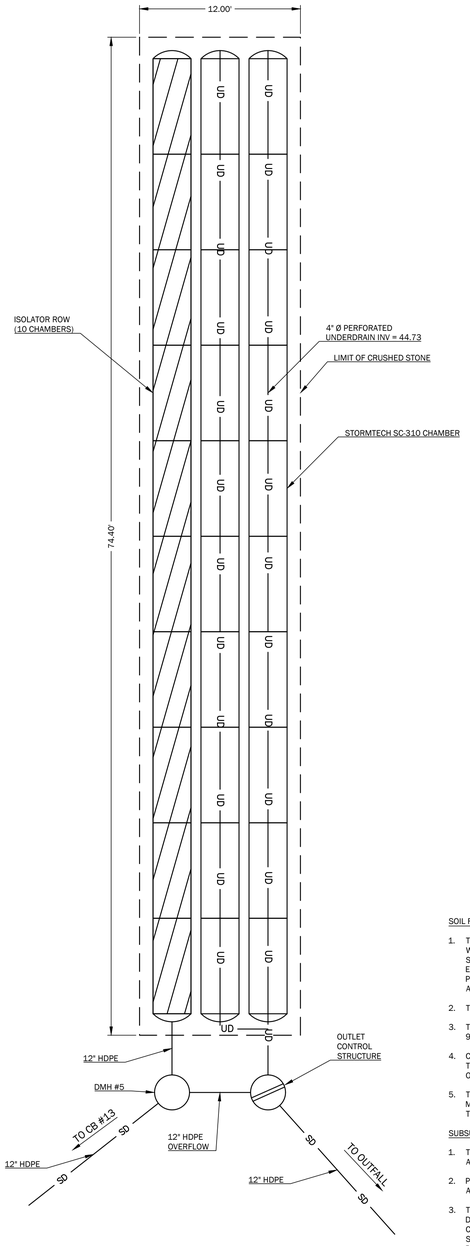
NOTES:
1. INSTALL INSPECTION PORTS AS SHOWN ON SYSTEM PLAN.
2. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.
3. A MINIMUM OF ONE INSPECTION PORT PER 500 S.F. OF CHAMBER AREA IS REQUIRED.

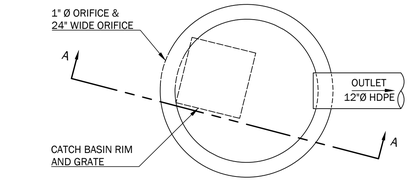
INSPECTION PORT DETAIL

SUBSURFACE SAND FILTER SCHEDULE							
SUBSURFACE SAND FILTER FILTER #	UNDERDRAIN INVERT	UNDERDRAIN OUTLET INVERT	FILTER AREA (SQ. FT.)	FILTER VOLUME (CU. FT)	PEAK WATER ELEVATION		
					2-YEAR STORM	10-YEAR STORM	25-YEAR STORM
SSSF #1	44.73	44.73	893	1,099	48.27	45.52	48.59

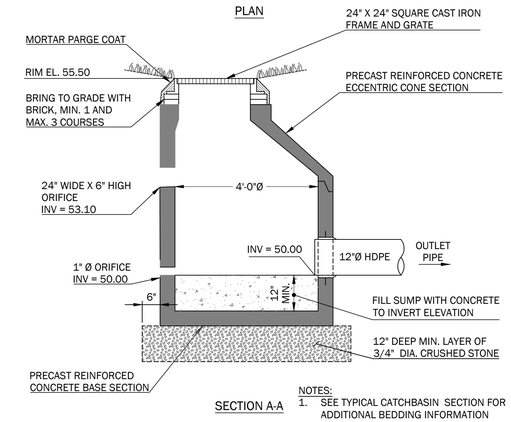


2 STORMWATER SAND FILTER TREATMENT SYSTEM SECTIONS AND DETAILS
NOT TO SCALE





PLAN



SECTION A-A

NOTES:
1. SEE TYPICAL CATCHBASIN SECTION FOR ADDITIONAL BEDDING INFORMATION

2 OUTLET CONTROL STRUCTURE POND #1
NOT TO SCALE

SOIL FILTRATION MATERIAL NOTES:

1. THE SOIL FILTER MATERIAL SHALL CONSIST OF MDOT SPEC. 703.01 WITH A FINES CONTENT BETWEEN 8% AND 10% (PASSING THE #200 SIEVE) AND NO ORGANICS. CLAY CONTENT IN THE SOIL SHALL NOT EXCEED 2%. THE SOIL FILTRATION MATERIAL SHALL HAVE A PERMEABILITY RATE OF 0.75 INCHES/HOUR ±15% AS CERTIFIED BY AN APPROVED LABORATORY.
2. THE SOIL FILTRATION BED SHALL BE 18 INCHES IN DEPTH.
3. THE SOIL BED MATERIAL SHALL BE COMPACTED BETWEEN 92% AND 95%.
4. CONTRACTOR SHALL MAKE PROVISIONS TO EXCLUDE RUNOFF FROM THE TREATMENT SYSTEM CONSTRUCTION UNTIL THE BASE COURSE OF PAVEMENT IS IN PLACE.
5. THE CONTRACTOR SHALL SUBMIT A SAMPLE OF THE SOIL FILTER MEDIA, GRAIN SIZE ANALYSIS, AND PERMEABILITY TEST RESULTS TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.

SUBSURFACE STORMWATER TREATMENT SYSTEM NOTES:

1. THE UNDERGROUND TREATMENT SYSTEM SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
2. PROVIDE SHOP DRAWINGS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION.
3. THE UNDERGROUND STORM WATER TREATMENT SYSTEM HAS BEEN DESIGNED BASED ON THE STORMTECH CHAMBER SYSTEM. IF THE CONTRACTOR PROPOSES TO INSTALL ANOTHER UNDERGROUND SYSTEM, THE DESIGN SHALL BE ANALYZED AND APPROVED BY THE DESIGN ENGINEER.
4. 30 SC-310 CHAMBERS REQUIRED FOR STORMWATER TREATMENT SYSTEM, SSSF 1.3-1.
5. IMPERMEABLE LINER TO RUN UNDER AND AROUND TREATMENT SYSTEM AND STORAGE SYSTEM. DO NOT SEPARATE SYSTEMS WITH LINER.

CONSTRUCTION OVERSIGHT:

INSPECTION OF THE STORMWATER TREATMENT SYSTEM SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER WITH REQUIRED REPORTING TO THE DEP. AT A MINIMUM, INSPECTIONS WILL OCCUR:

1. AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES.
2. AFTER THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
3. AFTER UNDERDRAIN PIPES ARE BACKFILLED.
4. AFTER THE INSTALLATION OF THE FILTER MEDIA.
5. AFTER PLACEMENT OF THE CHAMBERS, BUT BEFORE THEY ARE BACKFILLED.
6. AFTER THE CHAMBERS ARE BACKFILLED.

WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/22/2026

526 POST ROAD
526 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	2/10/2026	Town Permit Updates	MRM	LLT

Sheet Title:
STORMWATER DETAILS

Job No.:	1005
Date:	01/22/2026
Scale:	AS SHOWN
Drawn:	MBP/MRM
Checked:	WRW/LLT

Sheet No.: C4.7

PRELIMINARY - NOT FOR CONSTRUCTION

P:\1005_526 Post Road - Wells_CAD\1005_Cherie.mxe.dwg, 2/10/2026 1:42 PM

WALSH
ENGINEERING ASSOCIATES, INC.

STORMWATER MANAGEMENT REPORT

for

Arundel Lane Subdivision
526 Post Road
Wells, Maine 04090

January 22, 2026
Revision 1: February 10, 2026

Submitted to:
Town of Wells
208 Sanford Road
Wells, Maine 04090
&
Maine Department of Environmental Protection
312 Canco Road
Portland, Maine 04103

Submitted by:
Walsh Engineering Associates, Inc.
One Karen Drive, Suite 2A
Westbrook, Maine 04092

WALSH
ENGINEERING ASSOCIATES, INC.

STORMWATER MANAGEMENT REPORT

Arundel Lane Subdivision
526 Post Road – Wells, Maine 04090

January 22, 2026
Revision 1: February 10, 2026

Introduction

Walsh Engineering Associates, Inc. (WEA) was retained by The Grace Group, LLC, (Applicant) to provide site design and stormwater management design services for the construction of a proposed subdivision and associated access drive located at 526 Post Road in Wells, Maine.

This Stormwater Management Report assesses both pre-development and post-development peak rates of stormwater runoff from the project site. The analysis provided herein was completed in accordance with Maine Department of Environmental Protection (DEP) and Town of Wells stormwater standards.

Pre-Development (Existing) Site Conditions

The property at 526 Post Road in Wells abuts a church to the north, Post Road (Route 1) to the east, a private residence to the south, and wooded area on a private lot to the west. The existing property consists of the following improvements: a 6,205 square foot building; an associated access drive and parking lot; and a detention basin, which stores stormwater runoff from the existing building and its parking lot, and discharges into the Maine Department of Transportation (MDOT) drainage system within Route 1. The existing infrastructure on the project site is shown in the project Design Plans, included in **Appendix A**. It should be noted that management of stormwater quantity is presently occurring via the existing catch basin.

Land Cover and Soils

Land cover and soils datasets were used to develop hydrologic curve numbers for the project area. Land cover was evaluated by reviewing aerial photography and site survey data. Land cover on the project site consists of buildings, pavement, lawn, and woods.

Soil characteristics, including soil type and hydrologic soil groups (HSGs), were obtained from the United States Department of Agriculture's (USDA's) most recent Web Soil Survey. The soil types in the watershed are Adams loamy sand (HSG A), Croghan loamy fine sand (HSG A), Lyman loam (HSG D), and Lyman-Rock outcrop complex (HSG D). A map showing the soil types and hydrologic soil group classifications within the project vicinity from the USDA's Web Soil Survey is located in **Appendix B**.

One Karen Drive, Suite 2A | Westbrook, ME 04092 | 207.553.9898 | Walsh-Eng.com

Seven test pits were dug at the project site on January 12, 2026 to support the stormwater management design. Of the seven locations, four will have stormwater best management practices (BMPs) installed within their vicinity in the post-development site condition, including TP-3, TP-4, TP-5, and TP-7. Overall, the test pits across the project site showed mostly sandy/loamy soils and high bedrock and groundwater tables. The test pit locations are shown on the project Design Plans, included in **Appendix A**, and a copy of the test pit logs are included in **Appendix B**.

Topography

Subcatchment boundaries were delineated using site survey data. Topographically, the site drains in five different directions, each of which are referred to as "Analysis Points" in the *Stormwater Modeling* section of this report. In general, portions of the project site drain towards the church property to the north/east of the existing site, to the MDOT drainage system within Route 1, towards the private property to the south, towards Stevens Brook to the south, or towards the private property to the west. The existing site topography is shown in the project Design Plans, included in **Appendix A**.

Resource Areas

Albert Frick Associates located a mapped wetland system on the project site on April 24, 2025. This wetland ultimately drains to Stevens Brook, and is shown on the project Design Plans, included in **Appendix A**. Please note that the proposed project includes filling approximately 1,688.5 square feet of this wetland.

Post-Development (Proposed) Site Conditions

The existing school building and parking area onsite are proposed to divided from the existing 8.15-acre property into a separate lot, to be referred to as the "526 Post Road lot" herein. This proposed division of land is shown on the project Design Plans and has been submitted to the Town of Wells for consideration but has not yet been approved.

The following improvements are proposed to develop the remaining 6.85 acres of the property, most of which is currently wooded area: an 11-unit residential condominium development with detached single-family homes; an associated private road, to be named "Arundel Lane," for site access, with a cul-de-sac at its terminating end; water, sewer, and electric utilities servicing each condominium; and stormwater management and treatment systems provided where necessary to control the developed conditions.

Stormwater Modeling

Methodology

TR-55/TR-20 methodology was used to develop a hydrologic model of the Site. WEA used the computer program entitled HydroCAD Version 10.0, developed by HydroCAD Software Solutions, LLC, to create a stormwater model to analyze the site's hydrology. The analysis was conducted to establish the peak rates of runoff from the project site and evaluate pre-

and post-development conditions during various storm events. Contributing drainage areas were identified and soils, surface cover, watershed slope, and flow paths were evaluated to develop the necessary HydroCAD model input parameters. A minimum time of concentration (Tc) of 6 minutes was used in the calculations, as applicable.

Drainage calculations were performed for the pre- and post-development site conditions for the 2-, 10-, 25-, and 50-year, 24-hour, Type III storm events using rainfall data for York County from the table titled "*24 Hour Duration Rainfalls for Various Return Periods – Natural Resource Conservation Service County Rainfall Data,*" included in Appendix H of the Maine DEP's Chapter 500 Stormwater Management Rules. A copy of this table is included in **Appendix C** of this report.

The total precipitation depth for the project site associated with each rainfall event is outlined in **Table 1**, below.

Table 1: Design Rainfall Data

York County 24-Hour Storm Event (Frequency)	Rainfall Depth (Inches)
2-Year	3.3
10-Year	4.9
25-Year	6.2
50-Year	7.3

Two stormwater models have been developed for the site to compare the peak discharge rates from the pre-development site conditions to those in the post-development conditions. As further described herein, the models demonstrate that the post-development peak discharge rates of runoff will not exceed pre-development rates.

Subcatchments and Analysis Points

Existing and proposed subcatchments were delineated in order to compare pre- and post-development peak rates of runoff on the project site. Although the sizes and quantities of subcatchments differ between the existing and proposed site conditions, the total area analyzed between the two conditions remains the same. Analysis Points were selected for primary stormwater discharge locations from the project site. For this stormwater evaluation, five Analysis Points were identified for the project site, as described below:

- Analysis Point 1 (AP-1): represents runoff discharging to the church property to the north/east of the site.
- Analysis Point 2 (AP-2): represents runoff discharging to the MDOT drainage system within Route 1 (Post Road).
- Analysis Point 3 (AP-3): represents runoff discharging to the private property to the south of the site.
- Analysis Point 4 (AP-4): represents runoff discharging towards Stevens Brook to the south of the site.

- Analysis Point 5 (AP-5): represents runoff discharging to the private property to the west of the site.

The Analysis Points and subcatchment delineations are shown on the pre-development and post-development drainage figures included in **Appendix D**.

Modeling Results

Table 2, below, summarizes the pre- and post-development peak discharge rates for each Analysis Point during the 2-, 10-, and 25-year 24-hour storm events:

Table 2: Pre- and Post-Development Peak Rates of Runoff Comparison

Analysis Point	2-Year (cfs)			10-Year (cfs)			25-Year (cfs)			50-Year(cfs)		
	Pre-	Post-	Δ	Pre-	Post-	Δ	Pre-	Post-	Δ	Pre-	Post-	Δ
AP-1	0.2	0.2	0.0	0.4	0.4	0.0	0.6	0.6	0.0	0.8	0.7	-0.1
AP-2	0.6	0.6	0.0	2.5	2.1	-0.4	3.9	3.0	-0.9	4.8	4.8	0.0
AP-3	1.7	1.7	0.0	3.5	2.8	-0.7	5.0	3.5	-1.5	6.4	4.3	-2.1
AP-4	1.0	0.8	-0.2	2.0	1.8	-0.2	2.8	2.7	-0.1	3.6	3.3	-0.3
AP-5	1.1	0.6	-0.5	2.3	1.2	-1.1	3.3	1.6	-1.7	4.2	2.0	-2.2

Note: Δ represents the net difference between the pre- and post-development peak rates of runoff

Table 2 demonstrates a decrease in peak discharge rates between the existing and proposed site conditions for all storm scenarios and Analysis Points shown above. Complete copies of the pre- and post-development HydroCAD computer model outputs demonstrating that peak discharge rates decrease between the existing and proposed site conditions are included in **Appendices E and F**, respectively.

Compliance with Maine DEP Stormwater Standards

Basic Standards

Erosion and Sedimentation Controls

To prevent erosion, sedimentation, and the discharge of other pollutants during construction and land disturbance activities, erosion and sedimentation controls must be installed by the contractor, as required by, and shown on the project Design Plans in **Appendix A**. Proposed erosion and sedimentation controls include silt fence and/or filter berms of erosion control mix, a stabilized construction entrance, rolled erosion control matting, if deemed necessary, catch basin silt sacks, and permanent seeding. The contractor will be responsible for implementing the specified erosion and sedimentation control methods. These measures will be maintained and kept in place until the disturbed areas of the project have fully stabilized.

The proposed project exceeds one acre of total disturbance and therefore will be required to file a Notice of Intent in accordance with the Maine Construction General Permit (MCGP). A Stormwater Pollution Prevention Plan (SWPPP) will be submitted at the time of filing,

before land disturbance begins, and will outline the necessary measures to meet the requirements of this standard.

Inspection, Maintenance, and Good Housekeeping

During construction, the contractor will be responsible for good housekeeping of the project site, in accordance with the housekeeping requirements detailed in the Design Plans included in **Appendix A**. The owner/Applicant will be responsible for maintaining the proposed stormwater BMPs following construction of the proposed subdivision and will implement good housekeeping measures at the project site. A detailed Post-Construction Stormwater System Inspection and Maintenance Plan is included in **Appendix G**.

General Standards

Treatment Requirements

Table 3, below, shows the stormwater treatment area percentages achieved for the project.

Table 3: Stormwater Treatment Summary

Development Type	Area (SF)
New Non-Linear Impervious Area Treated	71,709
Total New Non-Linear Impervious Area	72,959
New Non-Linear Impervious Area % Treated	98%
New Non-Linear Developed Area Treated	109,475
Total New Non-Linear Developed Area	137,125
New Non-Linear Developed Area % Treated	80%

Table 3 demonstrates that the proposed stormwater management system treats at least 95% of new impervious areas and 80% of the developed area onsite.

Proposed BMPs

Stormwater runoff from the roofs of several condominium units will be managed using 4.5-foot-wide roof dripline stormwater BMPs located along the buildings' long edges, in locations shown in the Design Plans (**Appendix A**). Runoff from other new impervious and developed areas will be managed either by a lined underdrained soil filter or a subsurface chamber system. Sizing calculations for the roof dripline and underdrained soil filter BMPs are included in **Appendix H**. The proposed subsurface chamber system was sized using the post-development stormwater HydroCAD model, which is included in **Appendix F**.

Easement and Deed Restrictions Standard

The proposed locations of drainage and utility easements between the 526 Post Road lot and the Arundel Lane Subdivision lot are shown on the Design Plans in **Appendix A**. Please note that these proposed easements are contingent on approval from the Town of Wells. Furthermore, upon execution of the proposed lot split, both properties will be owned by the

same entity, thereby removing any potential for owner objection to the proposed drainage easements.

Discharges to Public Storm Sewer Systems Standard

Stormwater runoff from the existing development on the property is currently conveyed to a detention basin, which discharges via an outlet control structure and culvert pipe to the MDOT drainage system within Route 1 (Post Road), referred to as Analysis Point 2 in the *Stormwater Modeling* section of this report, above. In the post-development site condition, it is proposed to maintain a discharge from the site into the MDOT drainage system. However, as shown in **Table 2** in this report, there will be a decrease in peak discharge rates between the existing and proposed site conditions for all storm scenarios to Analysis Point 2.

Standards Not Applicable to Project

The following table (**Table 4**) summarizes the Maine DEP Stormwater Standards that are not applicable to this project:

Table 4: Maine DEP Stormwater Standards Not Applicable to Project

Maine DEP Stormwater Standard	Reason Standard Is Not Applicable
Phosphorus Standard	The project is not located within a lake watershed.
Urban Impaired Stream Standard	The project is not located within an urban impaired stream watershed.
Flooding Standard	The project does not result in 3 acres or more of impervious area or 20 acres or more of developed area and does not require a Site Law permit or permit modification.
Redistribution of Stormwater Discharges Standard	The project will not create a discharge of concentrated stormwater runoff.
Discharge to Wetlands Standard	The project does not propose to discharge stormwater runoff to a wetland.

Compliance with Town of Wells Stormwater Management Standards

Drainage Easements

The proposed locations of drainage easements between the 526 Post Road lot and the Arundel Lane Subdivision lot are shown on the Design Plans in **Appendix A**. Please note that these proposed easements are contingent on approval from the Town of Wells. Furthermore, upon execution of the proposed lot split, both properties will be owned by the same entity, thereby removing any potential for owner objection to the proposed drainage easements.

Peak Rates of Runoff

Refer to **Table 2**, located in the *Stormwater Modeling* section of this report, which demonstrates a decrease in peak discharge rates between the existing and proposed site conditions for the 2-, 10-, 25-, and 50- year storm events for all Analysis Points modeled for the site.

Stormwater Management Plan Requirements

As described throughout this report, the proposed stormwater management system for this project has been designed in accordance with the Maine DEP and Town of Wells standards/criteria, with consideration to mitigate the impacts of stormwater onsite, offsite, and to nearby resource areas.

Great Pond Watershed Requirements

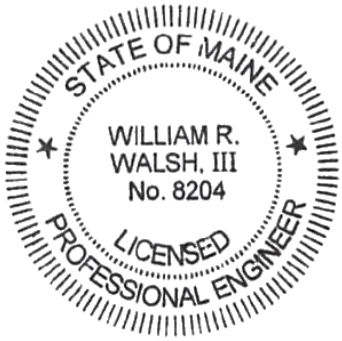
The proposed project is not located within the watershed of a great pond.

Conclusions

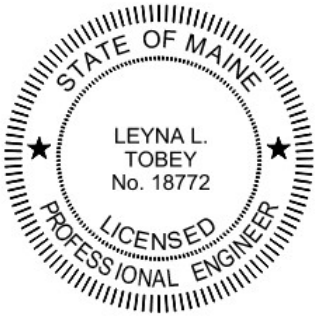
The proposed stormwater management system for this project consists of roof dripline filters, underdrained soil filters, a subsurface chamber system, and catch basin, manhole, and culvert conveyance systems. Stormwater modeling shows that there will be a decrease in peak discharge rates between the existing and proposed site conditions for the 2-, 10-, 25-, and 50-year storm events for all Analysis Points modeled for the site. It is our opinion that the proposed stormwater management system meets the requirements of the Maine DEP and the Town of Wells.

Respectfully,

William R. Walsh, III, PE
Walsh Engineering Associates, Inc.



Leyna L. Tobey, PE
Walsh Engineering Associates, Inc.



Appendices

- Appendix A – Project Design Plans, entitled “Arundel Lane Subdivision,” prepared by Walsh Engineering Associates, Inc., dated February 10, 2026
- Appendix B – Soils Data
- Appendix C – Rainfall Data
- Appendix D – Pre-Development and Post-Development Drainage Figures
- Appendix E – Pre-Development HydroCAD Model Report
- Appendix F – Post-Development HydroCAD Model Report
- Appendix G – Post-Construction Stormwater System Inspection and Maintenance Plan
- Appendix H – Stormwater Design Calculations

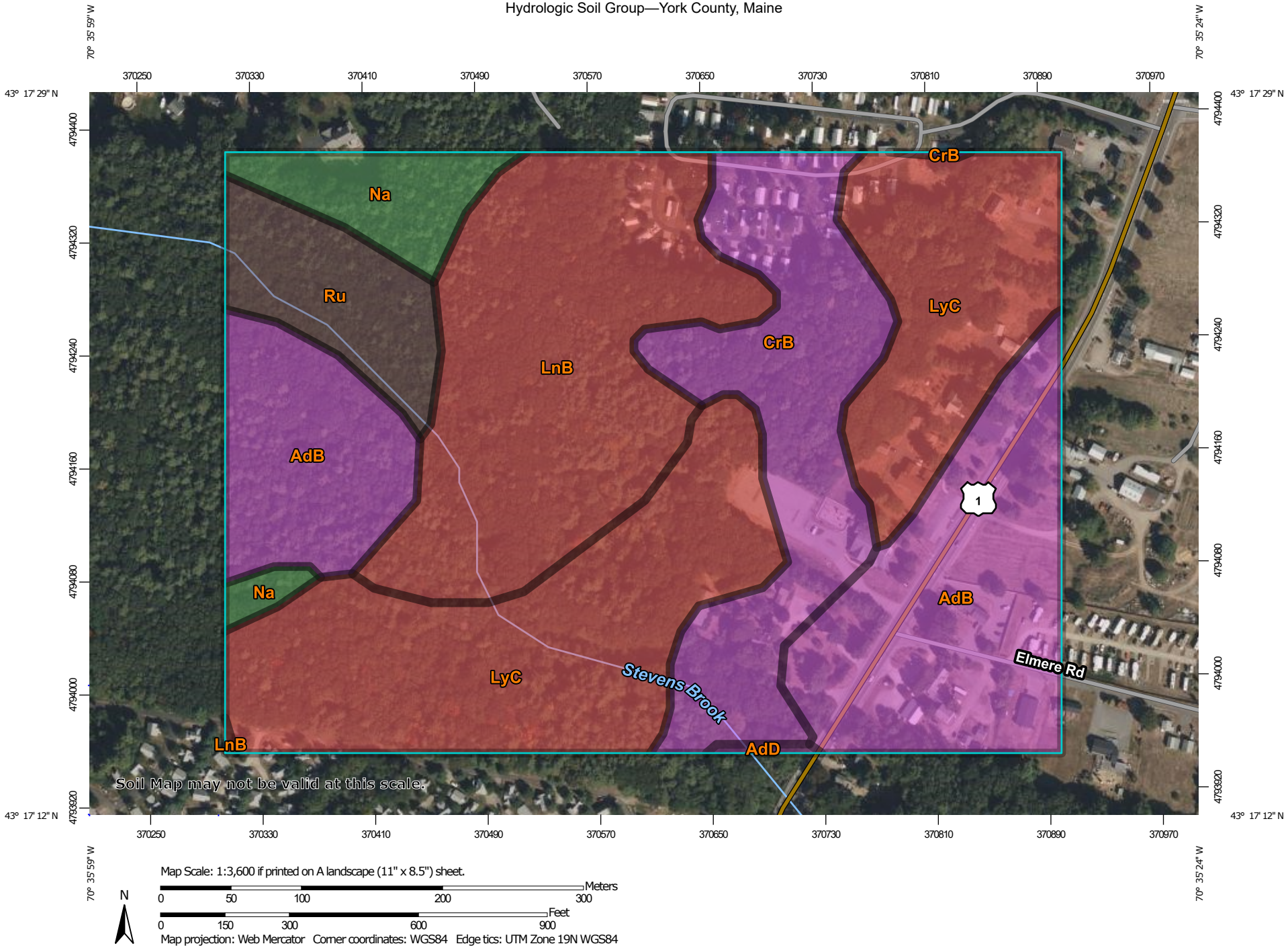
Appendix A

Project Design Plans, entitled “Arundel Lane Subdivision,” prepared by Walsh Engineering Associates, Inc., dated February 10, 2026

Under a Separate Cover

Appendix B

Soils Data



Map Scale: 1:3,600 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: York County, Maine
Survey Area Data: Version 24, Aug 29, 2025

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AdB	Adams loamy sand, 0 to 8 percent slopes	A	14.1	22.4%
AdD	Adams loamy sand, 15 to 60 percent slopes	A	0.1	0.2%
CrB	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	A	9.5	15.1%
LnB	Lyman loam, 3 to 8 percent slopes, rocky	D	13.4	21.4%
LyC	Lyman-Rock outcrop complex, 8 to 15 percent slopes	D	19.2	30.6%
Na	Naumburg sand	A/D	2.9	4.6%
Ru	Rumney fine sandy loam, 0 to 3 percent slopes, frequently flooded	B/D	3.6	5.7%
Totals for Area of Interest			**62.8**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

SOIL TEST PIT PROFILE DESCRIPTIONS

LONGVIEW PARTNERS, LLC
6 SECOND STREET BUXTON, MAINE

Town, City, Plantation: **WELLS**

Street, Road, Subdivision: **526 POST ROAD**

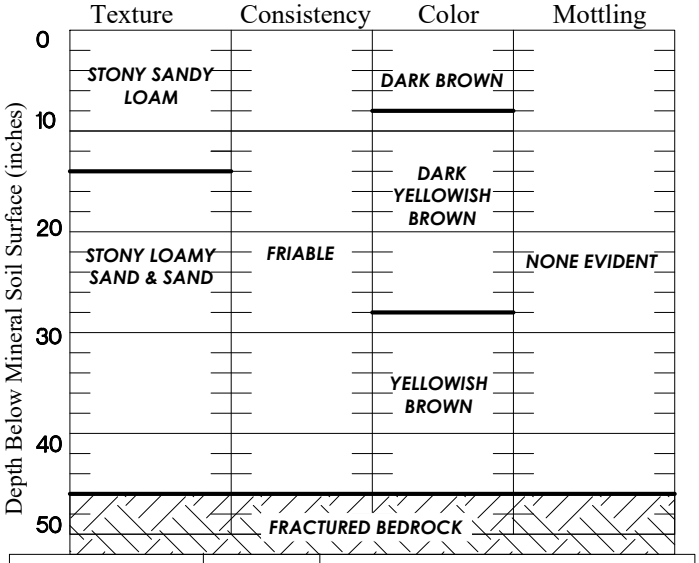
Owner's Name: **WALSH ENGINEERING ASSOCIATES, INC.**

SOIL DESCRIPTION AND CLASSIFICATION (PER STATE OF MAINE SUBSURFACE WASTEWATER DISPOSAL RULES)

Observation Hole **TP 1** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

SOIL TEST PIT BY BACKHOE

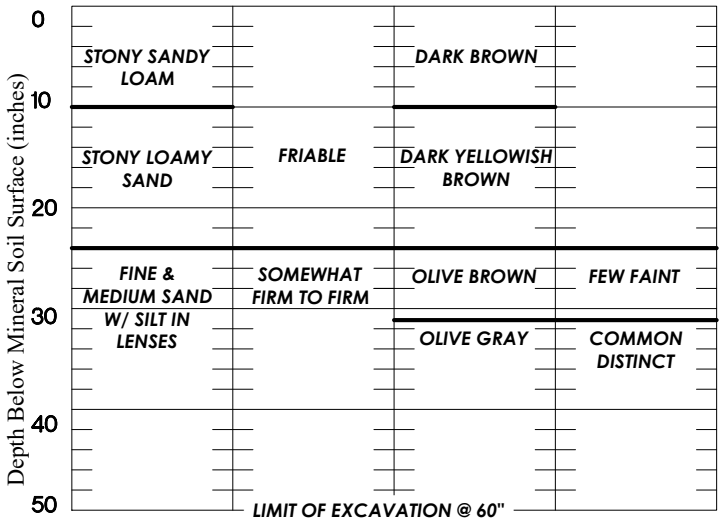


Soil Classification	Slope	Limiting Factor	
TUNBRIDGE (Profile / Condition)	_____ %	**46** "	[ ] Ground Water [ ] Restrictive Layer [X] Bedrock [ ] Pit Depth

Observation Hole **TP 2** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

SOIL TEST PIT BY BACKHOE



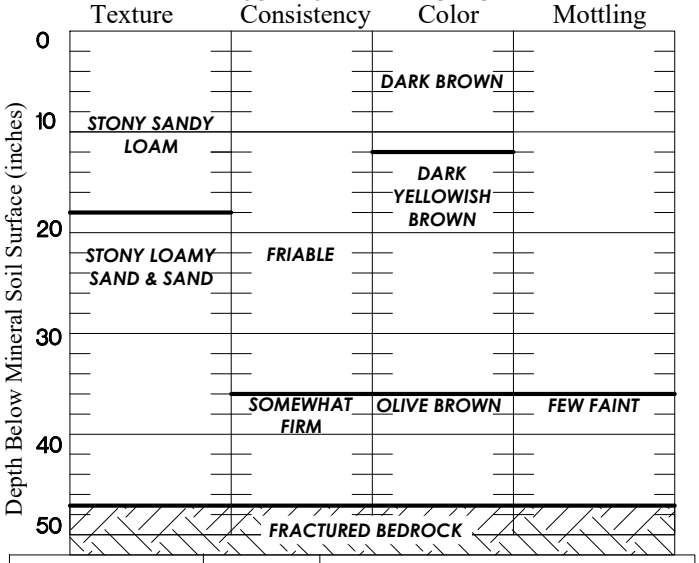
Soil Classification	Slope	Limiting Factor	
ELMWOOD (ELDRIDGE) (Profile / Condition)	_____ %	**24** "	[X] Ground Water [X] Restrictive Layer [ ] Bedrock [ ] Pit Depth

SOIL DESCRIPTION AND CLASSIFICATION (PER STATE OF MAINE SUBSURFACE WASTEWATER DISPOSAL RULES)

Observation Hole **TP 3** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

SOIL TEST PIT BY BACKHOE

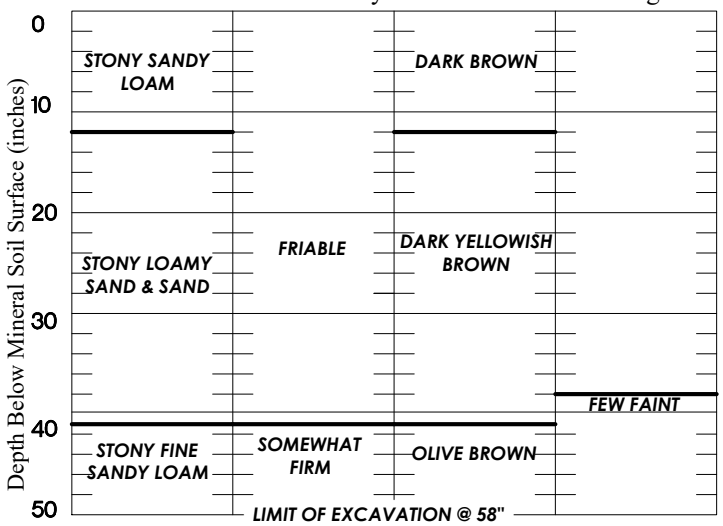


Soil Classification	Slope	Limiting Factor	
TUNBRIDGE (Profile / Condition)	_____ %	**47** "	[ ] Ground Water [ ] Restrictive Layer [X] Bedrock [ ] Pit Depth

Observation Hole **TP 4** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

SOIL TEST PIT BY BACKHOE



Soil Classification	Slope	Limiting Factor	
SKERRY (Profile / Condition)	_____ %	**38** "	[X] Ground Water [X] Restrictive Layer [ ] Bedrock [ ] Pit Depth

James Logan — SIGNATURE

237/213 — LSE/LSS #

1/12/26 — DATE

SOIL TEST PIT PROFILE DESCRIPTIONS

LONGVIEW PARTNERS, LLC
6 SECOND STREET BUXTON, MAINE

Town, City, Plantation: **WELLS**

Street, Road, Subdivision: **526 POST ROAD**

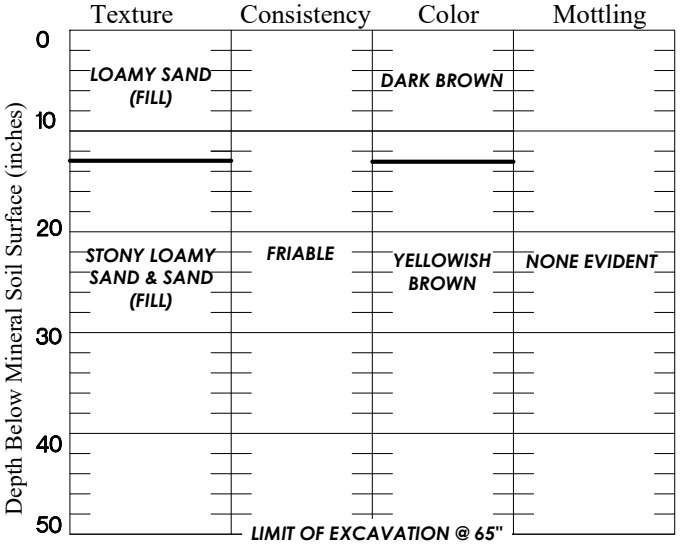
Owner's Name: **WALSH ENGINEERING ASSOCIATES, INC.**

SOIL DESCRIPTION AND CLASSIFICATION (PER STATE OF MAINE SUBSURFACE WASTEWATER DISPOSAL RULES)

Observation Hole **TP 5** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

SOIL TEST PIT BY BACKHOE

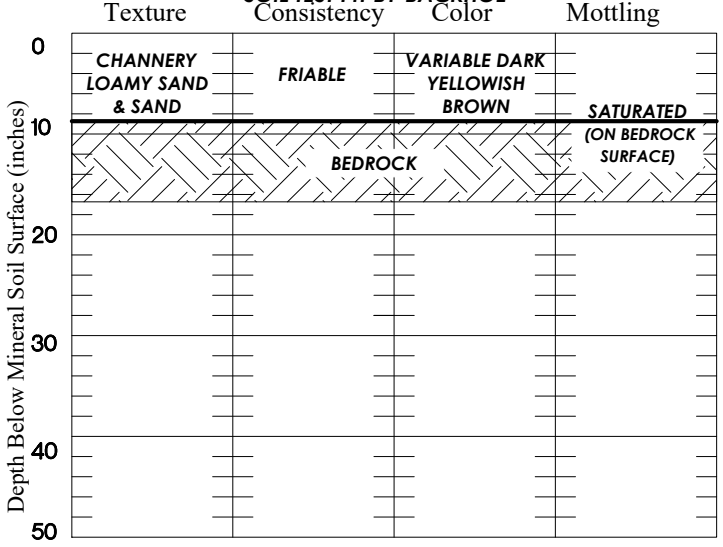


Soil Classification	Slope	Limiting Factor	
FILLED/MADE LAND (Profile Condition)	_____ %	_____ "	[ ] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole **TP 6** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

SOIL TEST PIT BY BACKHOE



Soil Classification	Slope	Limiting Factor	
MADE LAND (Profile Condition) **"NASKEAG-LIKE"**	_____ %	**9** "	[X] Ground Water [ ] Restrictive Layer [X] Bedrock [ ] Pit Depth

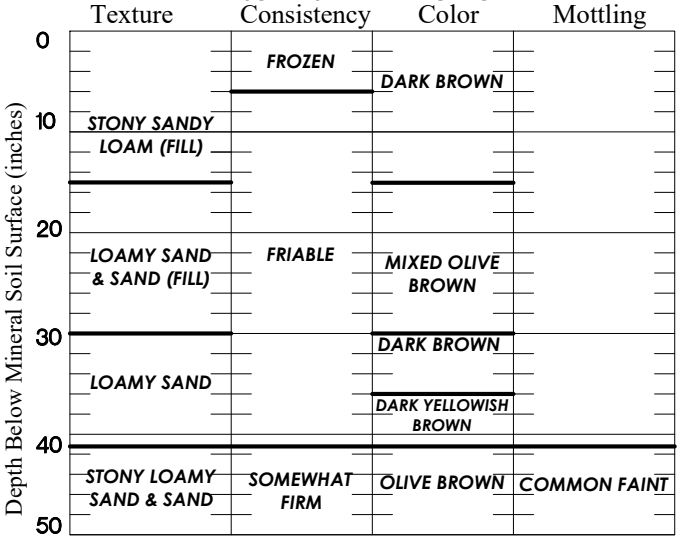
EDGE OF DRIVEWAY — BOTTOM OF STORMWATER BASIN

SOIL DESCRIPTION AND CLASSIFICATION (PER STATE OF MAINE SUBSURFACE WASTEWATER DISPOSAL RULES)

Observation Hole **TP 7** ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

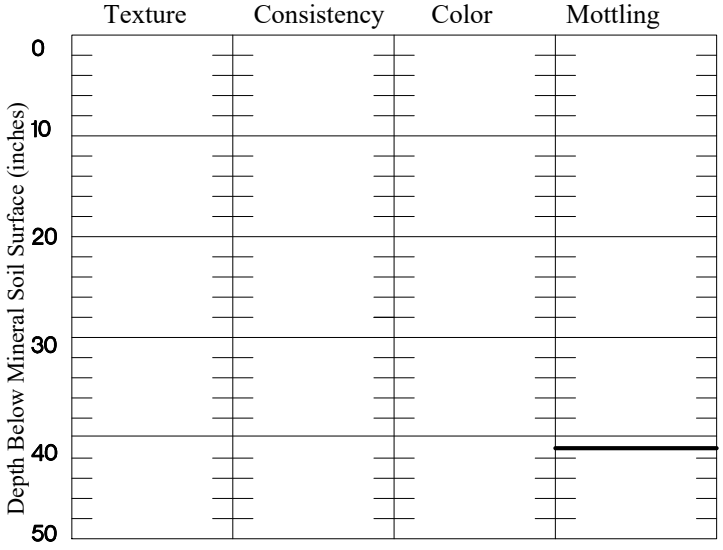
SOIL TEST PIT BY BACKHOE



Soil Classification	Slope	Limiting Factor	
FILLED LAND OVER SKERRY (Profile Condition)	_____ %	**41** "	[X] Ground Water [X] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole _____ ■ Test Pit □ Boring

_____ " Depth of Organic Horizon Above Mineral Soil



Soil Classification	Slope	Limiting Factor	
_____ _____ (Profile Condition)	_____ %	_____ "	[ ] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

James Logan — **SIGNATURE**

237/213 — **LSE/LSS #**

1/12/26 — **DATE**

ELMWOOD (Eldridge)
(Aquic Dystric Eutrocrepts)

SETTING

Parent Material: Sandy glaciofluvial deposits underlain by loamy or clayey marine or lacustrine sediments.

Landform: Glacial lake plains, terraces, and glacial outwash areas.

Position in Landscape: Intermediate to upper positions in landform.

Slope Gradient Ranges: **(A)** 0-3% **(B)** 3-8% **(C)** 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately well drained with a perched water table 1.5 to 3.5 feet beneath the soil surface from November through May, or during periods of heavy precipitation.

Typical Profile Description:

Surface layer:	Very dark grayish brown sandy loam or loamy sand, 0-9"
Subsurface layer:	Olive brown loamy sand, 9-17"
Subsoil layer:	Olive brown loamy sand, 17-27"
Substratum:	Olive very fine sand, silt, or silty clay, 27-65"

Hydrologic Group: Group C

Surface Run Off: Moderately rapid to rapid

Permeability: Rapid in the solum and moderately slow or slow in substratum.

Depth to Bedrock: Deep, greater than 40".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Nicholville

Dissimilar: Elmwood (S.W.P.), Lamoine

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness, due to the presence of a water table for some portion of the year. Proper foundation drainage or other site modification is recommended for construction.

Stormwater design: Elmwood (Eldridge) soils are generally moderately well drained. Permeability is expected to be 2-6 inches/hour in upper horizons, and less than 0.2 inches/hour in the substratum (23" – 60").

FILLED LAND/MADE LAND

SETTING

Parent Material: Variable

Landform: N/A

Position in Landscape: N/A

Slope Gradient Ranges: **(A)** 0-3% **(B)** 3-8% **(C)** 3-20%

COMPOSITION AND SOIL CHARACTERISTICS

Note**:** This map unit consist of filled land interspersed with regarded original soils that are no longer classifiable by taxonomy.

Drainage Class: N/A

Typical Profile Description:

Surface layer:)
Subsurface layer:) Typically loamy sand
Subsoil layer:) and gravelly sand fill
Substratum:)

Hydrologic Group: Not assigned a hydrologic group due to variability.

Surface Run Off: Variable

Permeability: Variable

Depth to Bedrock: N/A

Hazard to Flooding: None

INCLUSIONS

(Within Mapping Unit)

Similar: Made Land
Dissimilar: None

Development with Public Sewer and Water: The limiting factor for building site development is wetness, due to firm or restrictive layers within map units within 40" of the existing surface. Proper foundation drainage or other site modification is recommended for construction.

MADE LAND (EXISTING GRAVEL ROAD)
(Udorthents)

SETTING

Parent Material: Variable, placed or regraded by man. This map unit consists of nearly level to moderately sloping areas where the original soils have been cut away or covered with variable fill material (ranging from sandy loam to gravel). Most areas have been graded to a smooth surface. Areas are dominantly on uplands but are in almost every landscape position. Areas range in size. Map unit can be linear when exhibiting old road construction. Slopes are smooth or irregular, and range form 0 to 25 percent, but are dominantly 0 to 10 percent. Where the original soil has been cut away, Udorthents, loamy, typically consist of the exposed substrata of underlying soil. In areas that have been filled, they consist of variable soil material.

Landform: Variable. Generally less than 15% maximum grade

Position in Landscape: Variable. Generally in lower elevations and along mountain sideslopes.

Slope Gradient Ranges: **(A)** 0-3% **(B)** 3-8% **(C)** 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: None assigned

Typical Profile Description:
Surface layer:) Typically this map unit
Subsurface layer:) consists of areas
Subsoil layer:) excavated and reworked
Substratum:) by man, then smoothed.
Note: These map units generally consist of existing gravel roads and associated disturbed area. Ditch turn-outs, fill piles and stump tailings are often present along map unit boundaries.

Hydrologic Group: Variable

Surface Run Off: Variable

Permeability: Variable

Depth to Bedrock: Variable

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Filled Land

Dissimilar: Small 'made' depressions that contain standing water or have other drainage implications. These may be caused by compaction by vehicular traffic, which is not synonymous with seasonal water tables.

USE AND MANAGEMENT

This map unit consists of areas reworked by man, so that the soils are no longer taxonomically classifiable. Limiting factor for development is soil drainage, though somewhat difficult to determine in these map units. This map unit usually has sandy soil material over the underlying finer textured original soils (silty and silty clay).

SKERRY
(Aquic Haplorthods)

SETTING

Parent Material: Loamy glacial till underlain by sandy textured denser till.

Landform: Drumlins and glaciated uplands.

Position in Landscape: Usually occupies upper components of landform.

Slope Gradient Ranges: **(B)** 3-8% **(C)** 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately well-drained, with a perched water table 1.5 to 3.5 feet below the soil surface from November through May.

Typical Profile Description:

Surface layer: Light gray fine sandy loam, 0-4"
Subsurface layer: Dark reddish brown fine sandy loam, 4-20"
Subsoil layer: Yellowish brown fine sandy loam, 20-25"
Substratum: Mixed brown and light olive brown fine sandy loam and sand, 25-65"

Hydrologic Group: Group C

Surface Run Off: Moderate

Permeability: Moderate in solum and slow or moderately slow in the compact substratum.

Depth to Bedrock: Deep, greater than 40".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Dixfield, Chesuncook, Herman

Dissimilar: Tunbridge, Lyman (less than 40" to bedrock), Colonel

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is wetness due to the presence of a water table 1.5 to 3.5 feet beneath the soil surface for some period during the year. Proper foundation drainage is recommended for construction.

Soil limitations for proposed use: Skerry soils are generally suited for development of power transmission projects, in that these soils are moderately well drained with basal till substratum. Depths to seasonal high groundwater table can be overcome by redirection of surface water run-off, and/or importation of coarse granular fill. Stony soil map units have stony or boulder surfaces, which have limitations for vehicular traffic. Large excavation equipment or blasting of large glacial erratics may be necessary for excavation and/or site preparation.

Stormwater design: Skerry soils are moderately well drained. Soil permeabilities are expected to be 0.6 – 2.0 inches/hour in the upper portions of soil profile, and 0.06 – 0.6 inches/hour in the compact substratum, generally 25" – 65" beneath the soil surface.

TUNBRIDGE
(Typic Haplorthods)

SETTING

Parent Material: Loamy glacial till.

Landform: Glaciated uplands.

Position in Landscape: Upper positions on landform.

Slope Gradient Ranges: **(B)** 3-8% **(C)** 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Somewhat excessively to well drained, with no evidence of a water table, or only inches from the bedrock surface during spring and during periods of heavy precipitation.

Typical Profile Description:

Surface layer: Black and reddish brown loam and fine sandy loam, 0-4"

Subsurface layer: Very dusky red loam, 4-6"

Subsoil layer: Dark red loam, 6-10"

Substratum layer: Dark brown to brown loam, 10-25". Bedrock at 25".

Hydrologic Group: Group C/D

Surface Run Off: Rapid

Permeability: Moderate or moderately rapid.

Depth to Bedrock: Moderately deep, 20-40".

Hazard to Flooding: None

INCLUSIONS
(Within Mapping Unit)

Similar: Dixfield, Skerry

Dissimilar: Lamoine, Lyman Variant, Naskeag, Adams

USE AND MANAGEMENT

Development with public sewer and water: The limiting factor for building site development is shallow depth to bedrock. This map unit has limitations for construction of houses with foundations. Proper foundation drainage or other site modification is recommended for construction.

Soil Limitations for Proposed Use: The soil limitation for proposed development is depth to bedrock. Filling is not a problem for this soil, however, areas of road alignment or buried underground electrical cables requiring blasting increases expense. Adjusting grades with filling, where possible, as opposed to blasting, is recommended to address bedrock concerns.

Stormwater design: Tunbridge soils are shallow to bedrock, and offer limitations for subsurface stormwater design due to the 'ledge' blasting potential. The expected permeability of the upper 2.0' is 0.6 to 6.0 inches/hour, and 0.01 to 20.0 inches/hour in the lower horizons.

Appendix C

Rainfall Data

24-Hour Duration Rainfalls for Various Return Periods Natural Resources Conservation Service County Rainfall Data									
COUNTY	**Storm Type**	**1-YR**	**2-YR**	**5-YR**	**10-YR**	**25-YR**	**50-YR**	**100-YR**	**500-YR**
ANDROSCOGGIN	III	2.5	3.0	3.7	4.3	5.4	6.4	7.6	11.1
AROOSTOOK C (Presque Isle Area)	II	1.9	2.3	2.8	3.2	3.9	4.6	5.3	7.6
AROOSTOOK N (Fort Kent Area)	II	1.9	2.2	2.7	3.1	3.7	4.3	5.0	7.0
AROOSTOOK S (Houlton Area)	II	2.1	2.5	3.0	3.4	4.1	4.7	5.4	7.5
CUMBERLAND NW (Bridgton Area)	III	2.5	3.0	3.7	4.3	5.4	6.3	7.5	10.9
CUMBERLAND SE (N Windham Area)	III	2.6	3.1	3.9	4.6	5.8	6.9	8.1	12.1
FRANKLIN	II	2.0	2.4	2.9	3.4	4.2	4.9	5.7	8.2
HANCOCK	III	2.5	2.9	3.6	4.2	5.2	6.1	7.2	10.5
KENNEBEC	III	2.4	2.8	3.5	4.2	5.2	6.1	7.2	10.6
KNOX	III	2.6	3.2	3.9	4.6	5.7	6.7	7.9	11.5
LINCOLN	III	2.5	3.1	3.8	4.5	5.5	6.5	7.6	11.1
OXFORD E (Rumford Area)	II[1]	2.3	2.7	3.3	3.9	4.8	5.7	6.7	9.7
OXFORD W (Gilead Area)	II	2.2	2.7	3.4	4.0	4.9	5.8	6.9	10.1
PENOBSCOT N (Millinocket Area)	II	2.2	2.6	3.2	3.8	4.7	5.6	6.5	9.5
PENOBSCOT S (Hudson Area)	II	2.3	2.7	3.4	3.9	4.9	5.7	6.7	9.7
PISCATAQUIS N (Chesuncook Area)	II	2.0	2.4	2.9	3.4	4.2	5.0	5.8	8.5
PISCATAQUIS S (Monson Area)	II	2.2	2.7	3.3	3.9	4.8	5.7	6.8	10.0
SAGADAHOC	III	2.6	3.2	3.9	4.6	5.7	6.7	7.8	11.4
SOMERSET N (Pittston Farm Area)	II	2.0	2.3	2.8	3.3	4.0	4.7	5.4	7.8
SOMERSET S (Solon Area)	II	2.3	2.7	3.4	3.9	4.9	5.7	6.7	9.8
WALDO	III	2.4	2.9	3.6	4.2	5.2	6.1	7.2	10.5
WASHINGTON	III	2.5	2.8	3.4	3.9	4.8	5.5	6.4	9.0
YORK	III	2.6	3.3	4.1	4.9	6.2	7.3	8.7	13.2

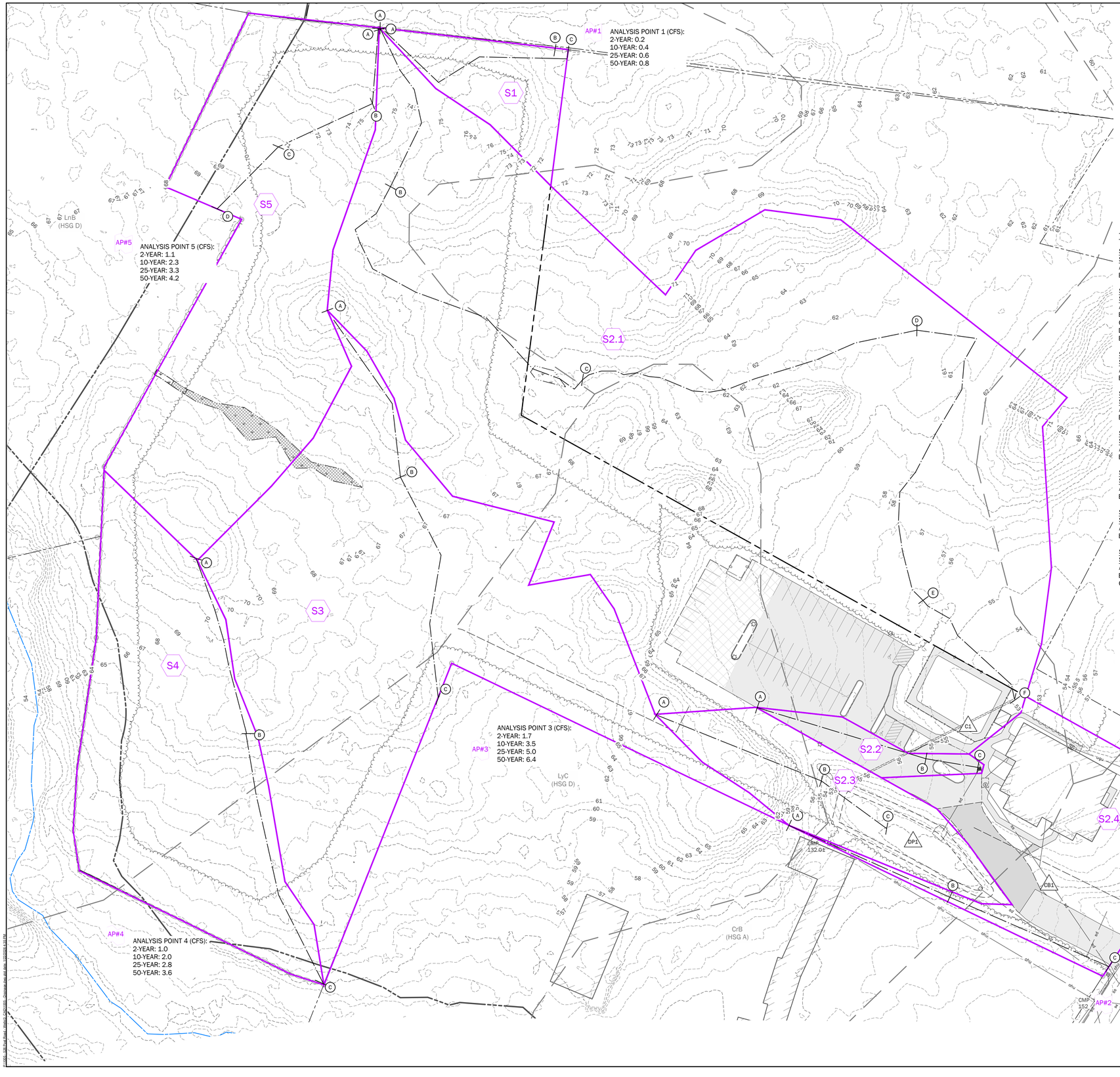
1 Use Type III rainfall for the towns of Brownfield, Buckfield, Denmark, Hartford, Hebron, Hiram, Oxford, and Porter.

Source: Data extracted by the Maine Department of Environmental Protection from the Northeast Regional Climate Center website (http://precip.eas.cornell.edu), Extreme Precipitation Tables. Data from this website was obtained from the National Oceanic and Atmospheric Administration's Regional Climate Center Program. June 2014

More current and up-dated 24-hour rainfall amount and returning frequency can be found on the website: http://precip.eas.cornell.edu which is managed by the University of Cornell for the USDA Natural Resource Conservation Service. That data may be used for sizing new structures as a replacement to the information found above.

Appendix D

Pre-Development and Post-Development Drainage Figures



DRAINAGE ANALYSIS - EXISTING CONDITIONS

- SUBCATCHMENT BOUNDARY
- 1 — SUBCATCHMENT DESIGNATION
- A — TIME OF CONCENTRATION FLOW
- AP# — ANALYSIS POINT
- 1 — POND DESIGNATION
- POND LINE
- SOILS BOUNDARY
- Sn (HSG C) — SOILS DESIGNATION

Tc FLOW LINE DATA:

SUBCATCHMENT S1

SEGMENT	TIME(MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	22.0	150	0.0407	SHEET FLOW
BC	0.3	16	0.0381	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S2.1

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	29.2	150	0.0200	SHEET FLOW
BC	5.8	300	0.0300	SHALLOW CONCENTRATED FLOW
CD	9.5	300	0.0110	SHALLOW CONCENTRATED FLOW
DE	8.7	300	0.0133	SHALLOW CONCENTRATED FLOW
EF	2.4	117	0.0256	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S2.2

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	1.3	150	0.0392	SHEET FLOW
BC	0.2	45	0.0362	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S2.3

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	15.8	150	0.0926	SHEET FLOW
BC	0.6	69	0.0864	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S2.4

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	20.9	150	0.0466	SHEET FLOW
BC	2.7	148	0.0322	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S3

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	20.4	150	0.0490	SHEET FLOW
BC	6.8	198	0.0093	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S4

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	23.9	150	0.0333	SHEET FLOW
BC	3.6	226	0.0440	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S5

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	13.6	64	0.0248	SHEET FLOW
BC	13.5	88	0.0477	SHEET FLOW
CD	1.6	74	0.0242	SHALLOW CONCENTRATED FLOW

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/13/2026

ARUNDEL LANE SUBDIVISION

526 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

PRELIMINARY - NOT FOR CONSTRUCTION

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT

Sheet Title:
PRE DEVELOPMENT CONDITIONS

Job No.:	1005
Date:	01/22/2026
Scale:	AS SHOWN
Drawn:	MBP/MRM
Checked:	WRW/LLT

Sheet No.:
D1.0

P:\1005 - 526 Post Road - Wells\5. CAD\1005_Drainage.dwg, split date: 1/22/2026 4:16 PM

AP#1

ANALYSIS POINT 1 (CFS):
2-YEAR: 0.2
10-YEAR: 0.4
25-YEAR: 0.6
50-YEAR: 0.7

AP#5

ANALYSIS POINT 5 (CFS):
2-YEAR: 0.6
10-YEAR: 1.2
25-YEAR: 1.6
50-YEAR: 2.0

AP#3

ANALYSIS POINT 3 (CFS):
2 - YEAR: 1.7
10 - YEAR: 2.8
25 - YEAR: 3.5
50 - YEAR: 4.3

AP#4

ANALYSIS POINT 4 (CFS):
2 - YEAR: 0.8
10 - YEAR: 1.8
25 - YEAR: 2.7
50 - YEAR: 3.3

AP#2

ANALYSIS POINT 2 (CFS):
2 - YEAR: 0.6
10 - YEAR: 2.1
25 - YEAR: 3.0
50 - YEAR: 4.8

Tc FLOW LINE DATA:

SUBCATCHMENT S1.1

SEGMENT	TIME(MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	33.3	131	0.0110	SHEET FLOW

SUBCATCHMENT S2.1

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	5.7	51	0.0196	SHEET FLOW
BC	13.5	99	0.0606	SHEET FLOW
CD	7.7	300	0.0167	SHALLOW CONCENTRATED FLOW
DE	10.0	300	0.0100	SHALLOW CONCENTRATED FLOW
EF	4.3	203	0.0246	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S2.2

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	20.0	150	0.0520	SHEET FLOW
BC	2.3	130	0.0350	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S2.3

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S2.4

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S2.5

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S2.6

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S2.7

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S2.8

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S3.1

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	15.9	150	0.0130	SHEET FLOW
BC	1.2	102	0.0392	SHALLOW CONCENTRATED FLOW
CD	1.0	81	0.0740	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S3.2

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	17.6	150	0.0100	SHEET FLOW
BC	2.2	179	0.0363	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S4.1

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	10.9	150	0.0330	SHEET FLOW
BC	7.1	300	0.0100	SHALLOW CONCENTRATED FLOW
CD	1.1	103	0.0485	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S4.2

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.3

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.4

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.5

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.6

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.7

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.8

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.9

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.10

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.11

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S4.12

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S5.1

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE
AB	26.1	150	0.0267	SHEET FLOW
BC	1.8	53	0.0100	SHALLOW CONCENTRATED FLOW
CD	4.8	218	0.0229	SHALLOW CONCENTRATED FLOW

SUBCATCHMENT S5.2

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S5.3

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

SUBCATCHMENT S5.4

SEGMENT	TIME (MIN.)	LENGTH (FT.)	SLOPE (FT./FT.)	FLOW TYPE

MINIMUM TC PATH 6 MINUTES DIRECT

DRAINAGE ANALYSIS - PROPOSED CONDITIONS

- SUBCATCHMENT BOUNDARY
- S — SUBCATCHMENT DESIGNATION
- A — TIME OF CONCENTRATION FLOW
- C — POND DESIGNATION
- AP# — ANALYSIS POINT
- S# — REACH DESIGNATION
- SOILS BOUNDARY
- Sn (HSG C) — SOILS DESIGNATION

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.

PRELIMINARY - NOT FOR CONSTRUCTION

WALSH
ENGINEERING ASSOCIATES, INC.
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ph: 207.553.9898 | www.walsh-eng.com

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 8204
LICENSED PROFESSIONAL ENGINEER
01/13/2026

Rev.	Date	Description	Drawn	Check
1	1/22/2026	DEP Stormwater Permit	MRM	LLT
2	03/10/2026	Town Permit Updates	MRM/ TEF	LLT

Sheet Title:
POST DEVELOPMENT CONDITIONS

ARUNDEL LANE SUBDIVISION
528 POST ROAD
WELLS, ME 04090

PREPARED FOR:
THE GRACE GROUP, LLC
P.O. BOX 2021
NORTH CHELMSFORD, MASSACHUSETTS 01863

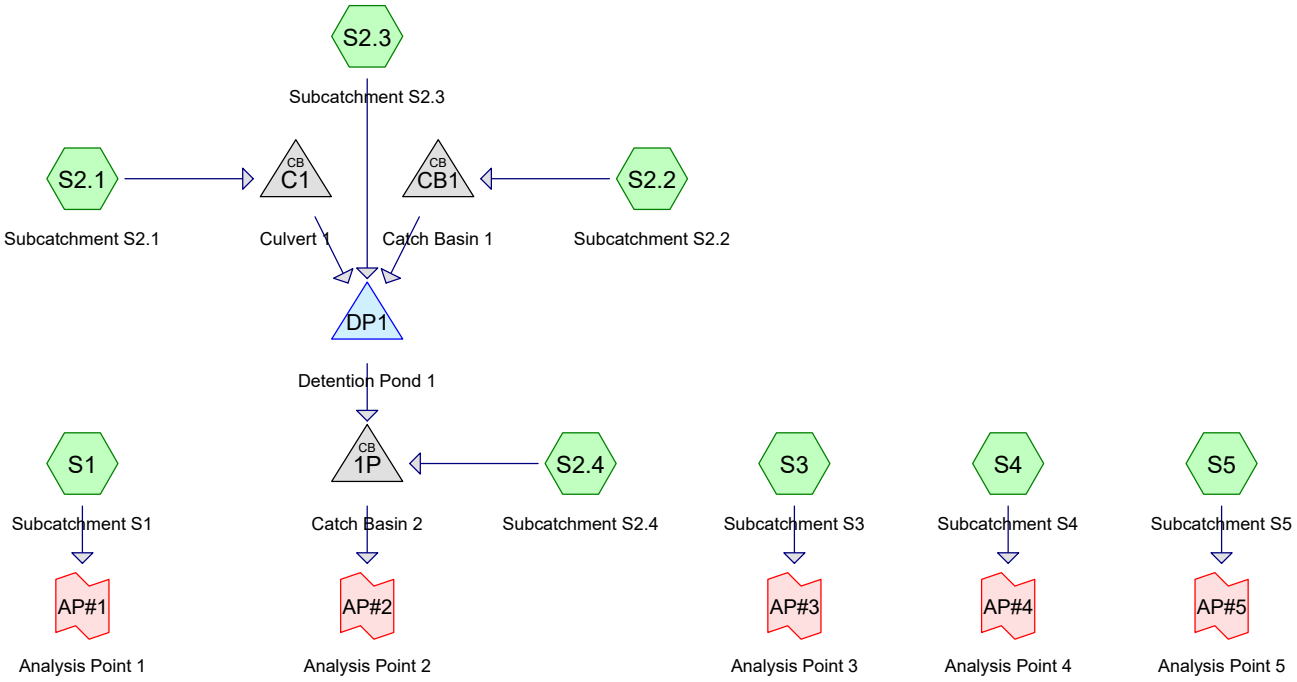
Job No.:	1005
Date:	01/22/2026
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Drawn:	MBP/MRM
Checked:	WRW/LLT

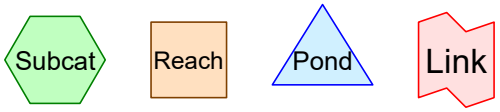
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Appendix E

Pre-Development HydroCAD Model Report





Routing Diagram for 2026-01-21 Pre-Development Model - Arundel Lane
Prepared by Walsh Engineering Associates, Inc., Printed 1/22/2026
HydroCAD® 10.10-5a s/n 02135 © 2020 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.30	2
2	10-Year	Type III 24-hr		Default	24.00	1	4.90	2
3	25-Year	Type III 24-hr		Default	24.00	1	6.20	2
4	50-Year	Type III 24-hr		Default	24.00	1	7.30	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
33,022	39	>75% Grass cover, Good, HSG A (S2.1, S2.2, S2.3, S2.4)
15,489	80	>75% Grass cover, Good, HSG D (S2.1, S2.3, S2.4)
15,186	98	Parking/Building HSG A (S2.1)
11,832	98	Paved parking, HSG A (S2.2, S2.4)
8,569	98	Paved parking, HSG D (S2.1, S2.2, S2.4)
5,533	98	Unconnected roofs, HSG A (S2.4)
527	98	Unconnected roofs, HSG D (S2.4)
1,780	98	Wetland, HSG D (S3, S5)
95,646	30	Woods, Good, HSG A (S1, S2.1, S2.3, S2.4)
280,149	77	Woods, Good, HSG D (S1, S2.1, S2.3, S3, S4, S5)
467,733	**67**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
161,219	HSG A	S1, S2.1, S2.2, S2.3, S2.4
0	HSG B	
0	HSG C	
306,514	HSG D	S1, S2.1, S2.2, S2.3, S2.4, S3, S4, S5
0	Other	
467,733		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
33,022	0	0	15,489	0	48,511	>75% Grass cover, Good	
15,186	0	0	0	0	15,186	Parking/Building	
11,832	0	0	8,569	0	20,401	Paved parking	
5,533	0	0	527	0	6,060	Unconnected roofs	
0	0	0	1,780	0	1,780	Wetland	
95,646	0	0	280,149	0	375,795	Woods, Good	
161,219	**0**	**0**	**306,514**	**0**	**467,733**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	1P	43.50	42.97	106.6	0.0050	0.013	0.0	15.0	0.0
2	C1	51.16	49.80	160.0	0.0085	0.025	0.0	16.0	0.0
3	CB1	50.40	50.07	61.0	0.0054	0.011	0.0	12.0	0.0
4	DP1	48.00	44.58	105.0	0.0326	0.020	0.0	12.0	0.0

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

SubcatchmentS1: SubcatchmentS1 Runoff Area=9,607 sf 0.00% Impervious Runoff Depth=1.28"
Flow Length=166' Tc=22.5 min CN=77 Runoff=0.21 cfs 1,028 cf

SubcatchmentS2.1: SubcatchmentS2.1 Runoff Area=209,689 sf 11.16% Impervious Runoff Depth=0.34"
Flow Length=1,167' Tc=55.6 min CN=57 Runoff=0.46 cfs 6,006 cf

SubcatchmentS2.2: SubcatchmentS2.2 Runoff Area=4,021 sf 95.82% Impervious Runoff Depth=2.85"
Flow Length=195' Tc=6.0 min CN=96 Runoff=0.29 cfs 954 cf

SubcatchmentS2.3: SubcatchmentS2.3 Runoff Area=17,765 sf 0.00% Impervious Runoff Depth=0.34"
Flow Length=219' Tc=16.4 min CN=57 Runoff=0.06 cfs 509 cf

SubcatchmentS2.4: SubcatchmentS2.4 Runoff Area=32,865 sf 43.82% Impervious Runoff Depth=0.65"
Flow Length=298' Tc=23.6 min CN=65 Runoff=0.29 cfs 1,779 cf

SubcatchmentS3: SubcatchmentS3 Runoff Area=86,591 sf 0.56% Impervious Runoff Depth=1.28"
Flow Length=348' Tc=27.2 min CN=77 Runoff=1.72 cfs 9,263 cf

SubcatchmentS4: SubcatchmentS4 Runoff Area=48,755 sf 0.00% Impervious Runoff Depth=1.28"
Flow Length=376' Tc=27.5 min CN=77 Runoff=0.96 cfs 5,216 cf

SubcatchmentS5: SubcatchmentS5 Runoff Area=58,440 sf 2.22% Impervious Runoff Depth=1.28"
Flow Length=226' Tc=28.7 min CN=77 Runoff=1.13 cfs 6,252 cf

Pond 1P: Catch Basin 2 Peak Elev=43.93' Inflow=0.63 cfs 9,248 cf
15.0" Round Culvert n=0.013 L=106.6' S=0.0050 '/' Outflow=0.63 cfs 9,248 cf

Pond C1: Culvert 1 Peak Elev=51.58' Inflow=0.46 cfs 6,006 cf
16.0" Round Culvert n=0.025 L=160.0' S=0.0085 '/' Outflow=0.46 cfs 6,006 cf

Pond CB1: Catch Basin 1 Peak Elev=50.69' Inflow=0.29 cfs 954 cf
12.0" Round Culvert n=0.011 L=61.0' S=0.0054 '/' Outflow=0.29 cfs 954 cf

Pond DP1: Detention Pond 1 Peak Elev=49.00' Storage=0 cf Inflow=0.51 cfs 7,469 cf
12.0" Round Culvert n=0.020 L=105.0' S=0.0326 '/' Outflow=0.51 cfs 7,469 cf

Link AP#1: Analysis Point 1 Inflow=0.21 cfs 1,028 cf
Primary=0.21 cfs 1,028 cf

Link AP#2: Analysis Point 2 Inflow=0.63 cfs 9,248 cf
Primary=0.63 cfs 9,248 cf

Link AP#3: Analysis Point 3 Inflow=1.72 cfs 9,263 cf
Primary=1.72 cfs 9,263 cf

Link AP#4: Analysis Point 4 Inflow=0.96 cfs 5,216 cf
Primary=0.96 cfs 5,216 cf

Link AP#5: Analysis Point 5

Inflow=1.13 cfs 6,252 cf
Primary=1.13 cfs 6,252 cf

Total Runoff Area = 467,733 sf Runoff Volume = 31,007 cf Average Runoff Depth = 0.80"
90.72% Pervious = 424,306 sf 9.28% Impervious = 43,427 sf

Summary for Subcatchment S1: Subcatchment S1

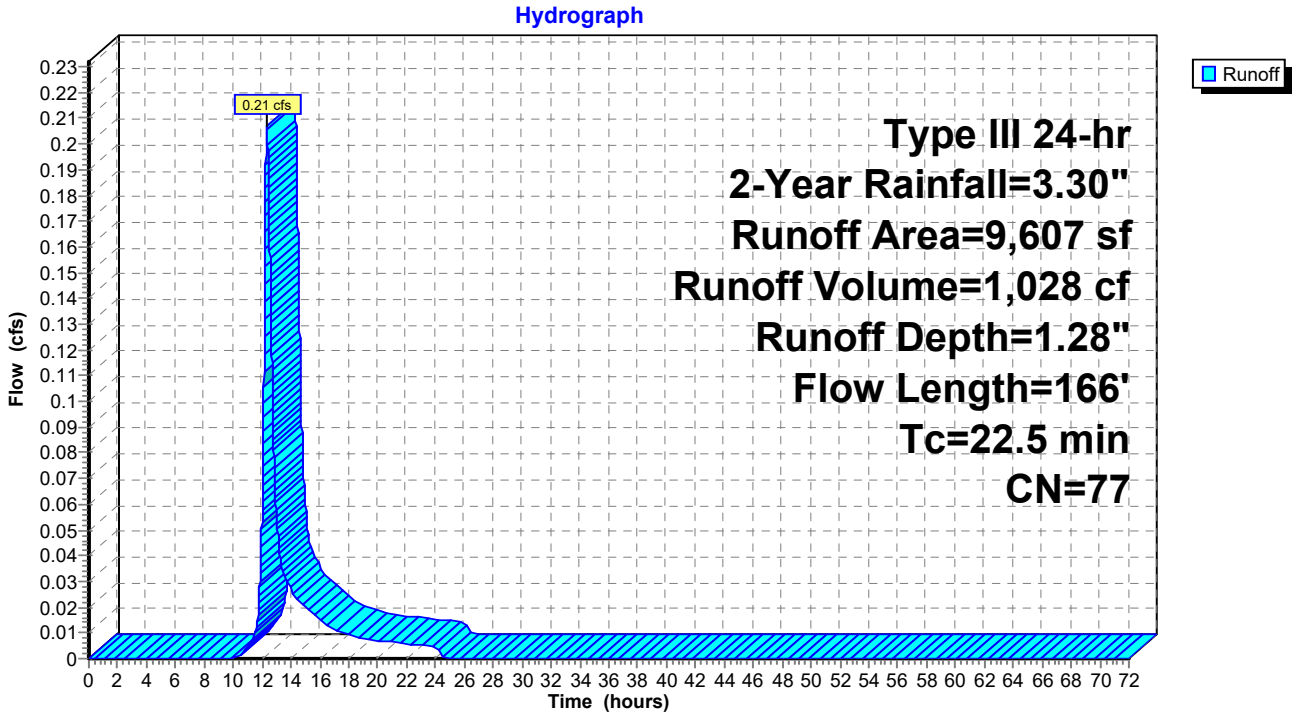
Runoff = 0.21 cfs @ 12.33 hrs, Volume= 1,028 cf, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
87	30	Woods, Good, HSG A
9,520	77	Woods, Good, HSG D
9,607	77	Weighted Average
9,607		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	150	0.0400	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.3	16	0.0381	0.98		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.5	166	Total			

Subcatchment S1: Subcatchment S1



Summary for Subcatchment S2.1: Subcatchment S2.1

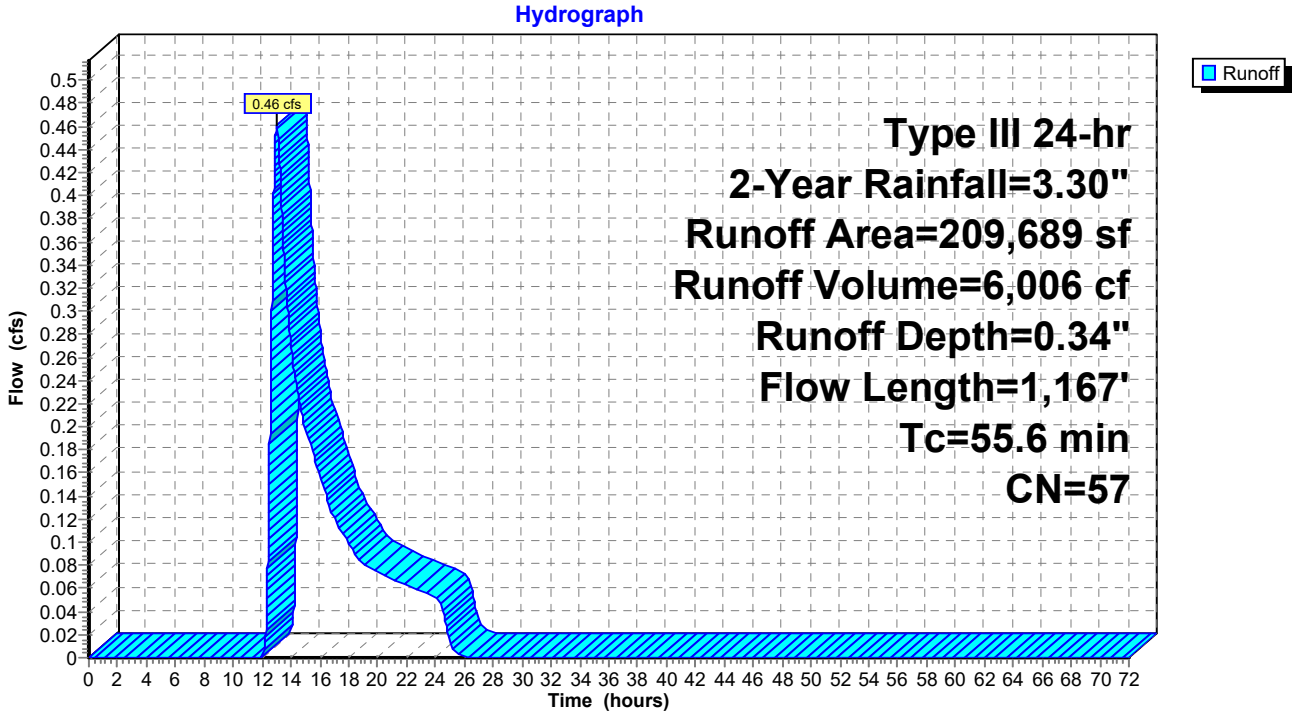
Runoff = 0.46 cfs @ 13.03 hrs, Volume= 6,006 cf, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

	Area (sf)	CN	Description
	8,317	39	>75% Grass cover, Good, HSG A
	8,025	80	>75% Grass cover, Good, HSG D
	8,205	98	Paved parking, HSG D
*	15,186	98	Parking/Building HSG A
	92,645	30	Woods, Good, HSG A
	77,311	77	Woods, Good, HSG D
	209,689	57	Weighted Average
	186,298		88.84% Pervious Area
	23,391		11.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.2	150	0.0200	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
5.8	300	0.0300	0.87		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
9.5	300	0.0110	0.52		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
8.7	300	0.0133	0.58		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
2.4	117	0.0256	0.80		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
55.6	1,167	Total			

Subcatchment S2.1: Subcatchment S2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

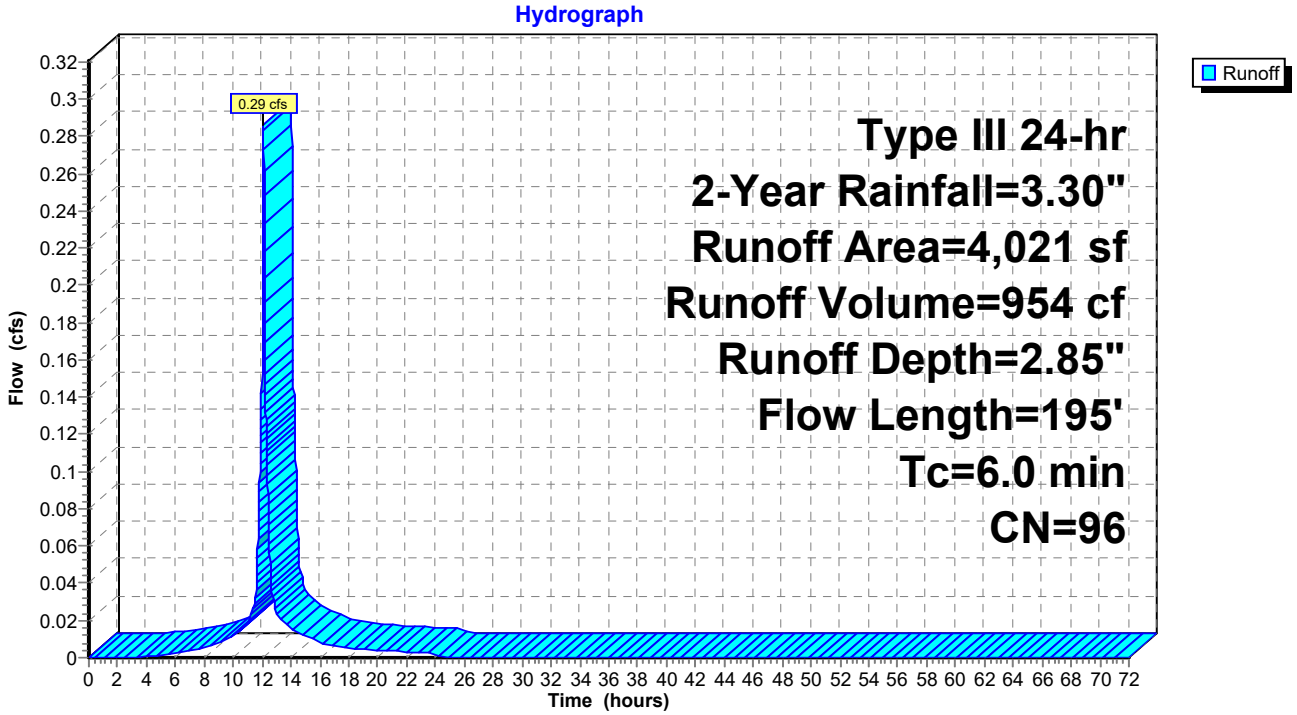
Runoff = 0.29 cfs @ 12.08 hrs, Volume= 954 cf, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
168	39	>75% Grass cover, Good, HSG A
3,555	98	Paved parking, HSG A
298	98	Paved parking, HSG D
4,021	96	Weighted Average
168		4.18% Pervious Area
3,853		95.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	150	0.0392	1.98		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.30"
0.2	45	0.0362	3.86		**Shallow Concentrated Flow, BC** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 6.0 min			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment S2.3

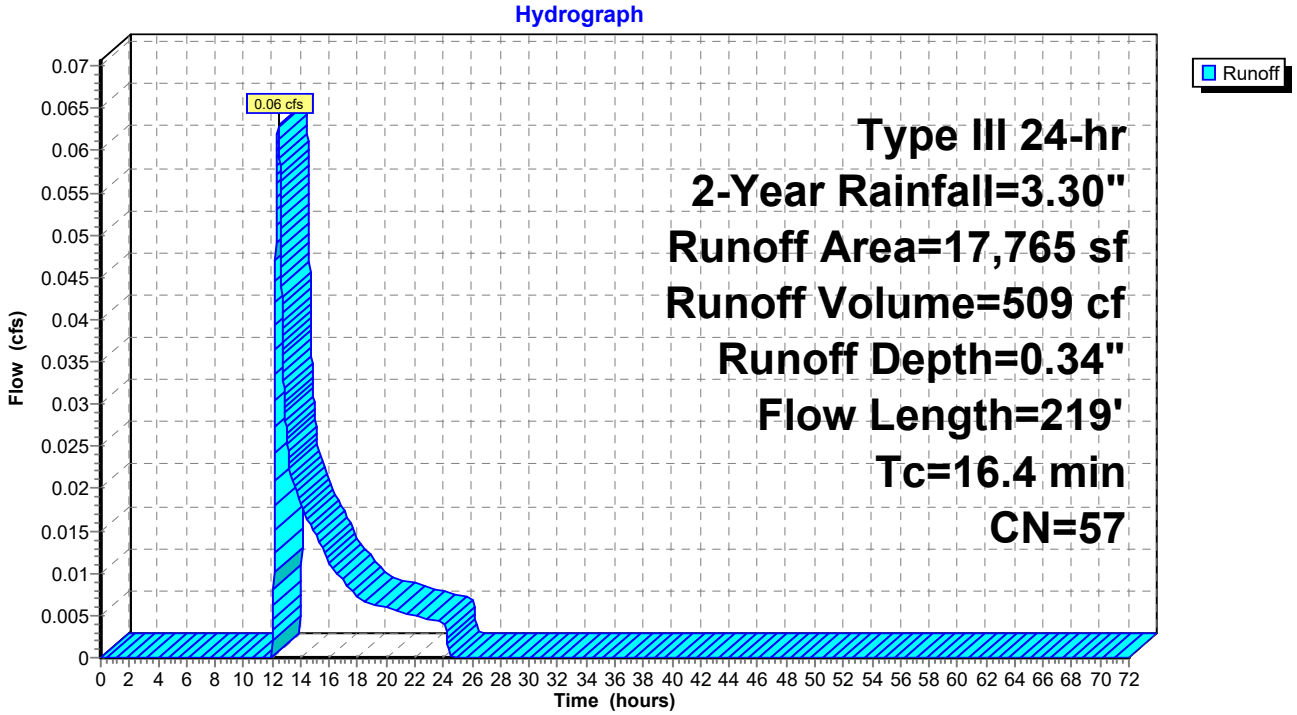
Runoff = 0.06 cfs @ 12.43 hrs, Volume= 509 cf, Depth= 0.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
205	30	Woods, Good, HSG A
1,312	77	Woods, Good, HSG D
6,540	80	>75% Grass cover, Good, HSG D
9,708	39	>75% Grass cover, Good, HSG A
17,765	57	Weighted Average
17,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	150	0.0926	0.16		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.6	69	0.0864	2.06		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
16.4	219	Total			

Subcatchment S2.3: Subcatchment S2.3



Summary for Subcatchment S2.4: Subcatchment S2.4

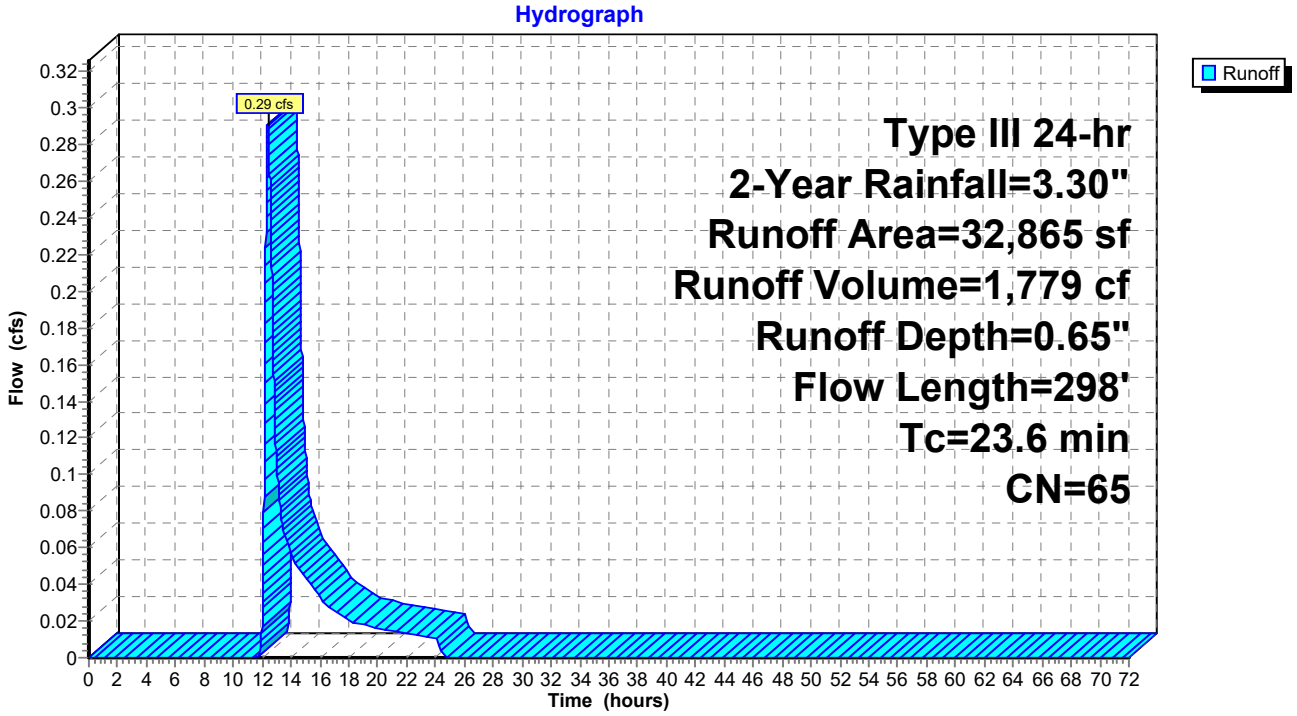
Runoff = 0.29 cfs @ 12.40 hrs, Volume= 1,779 cf, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
8,277	98	Paved parking, HSG A
32,865	65	Weighted Average
18,462		56.18% Pervious Area
14,403		43.82% Impervious Area
6,060		42.07% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	150	0.0466	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.7	148	0.0322	0.90		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
23.6	298	Total			

Subcatchment S2.4: Subcatchment S2.4



Summary for Subcatchment S3: Subcatchment S3

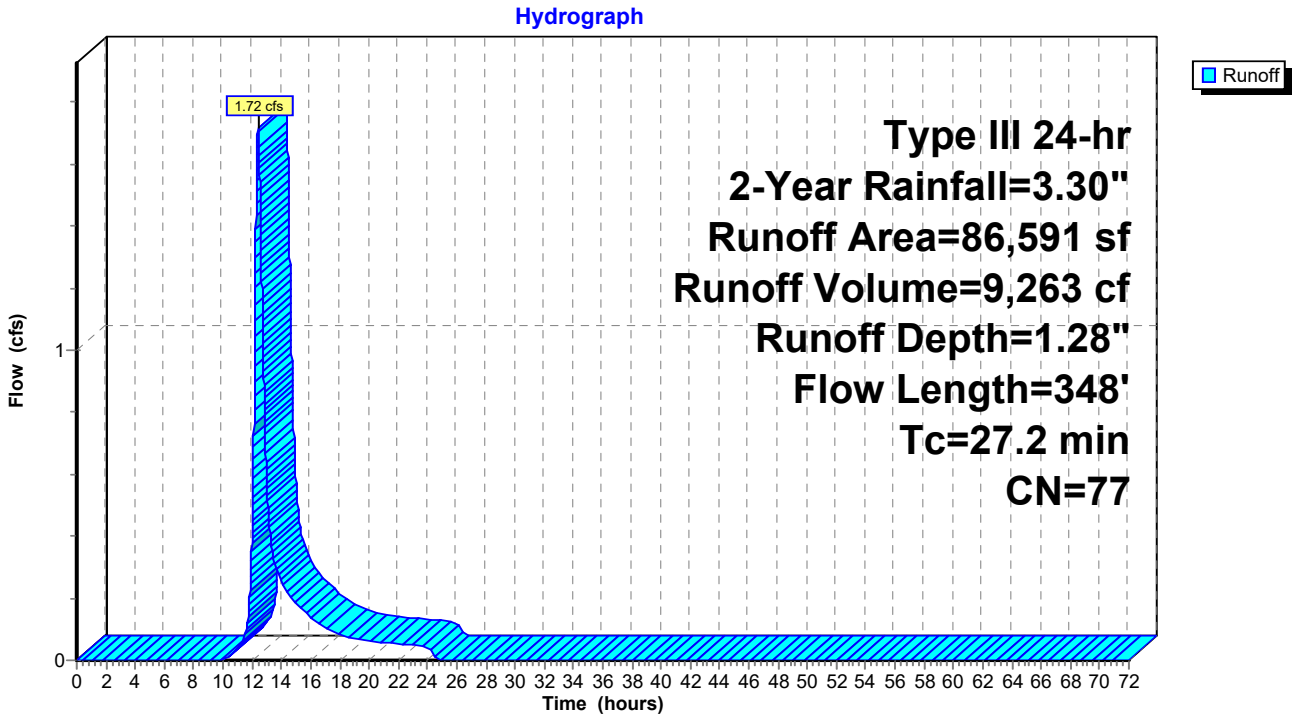
Runoff = 1.72 cfs @ 12.40 hrs, Volume= 9,263 cf, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

	Area (sf)	CN	Description
	86,108	77	Woods, Good, HSG D
*	483	98	Wetland, HSG D
	86,591	77	Weighted Average
	86,108		99.44% Pervious Area
	483		0.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	150	0.0490	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
6.8	198	0.0093	0.48		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.2	348	Total			

Subcatchment S3: Subcatchment S3



Summary for Subcatchment S4: Subcatchment S4

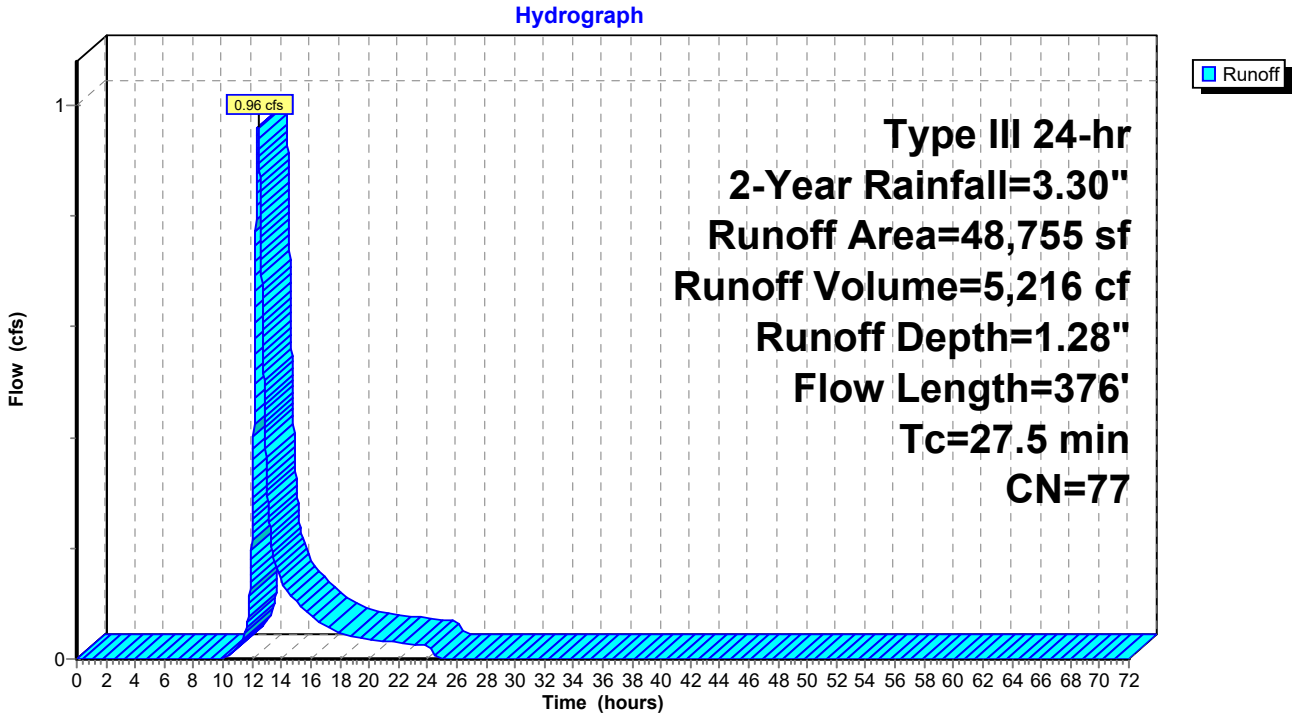
Runoff = 0.96 cfs @ 12.40 hrs, Volume= 5,216 cf, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
48,755	77	Woods, Good, HSG D
48,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.9	150	0.0333	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
3.6	226	0.0440	1.05		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.5	376	Total			

Subcatchment S4: Subcatchment S4



Summary for Subcatchment S5: Subcatchment S5

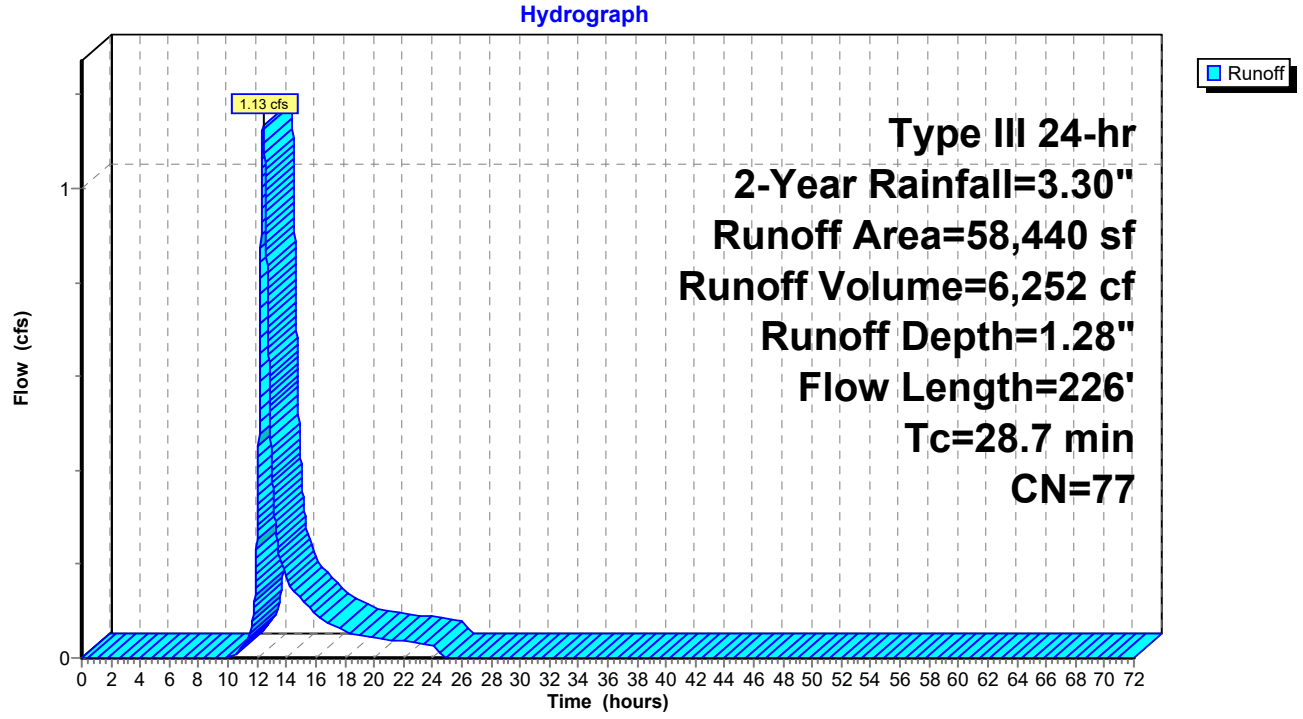
Runoff = 1.13 cfs @ 12.41 hrs, Volume= 6,252 cf, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

	Area (sf)	CN	Description
	57,143	77	Woods, Good, HSG D
*	1,297	98	Wetland, HSG D
	58,440	77	Weighted Average
	57,143		97.78% Pervious Area
	1,297		2.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	64	0.0248	0.08		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
13.5	88	0.0477	0.11		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
1.6	74	0.0242	0.78		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
28.7	226	Total			

Subcatchment S5: Subcatchment S5



Summary for Pond 1P: Catch Basin 2

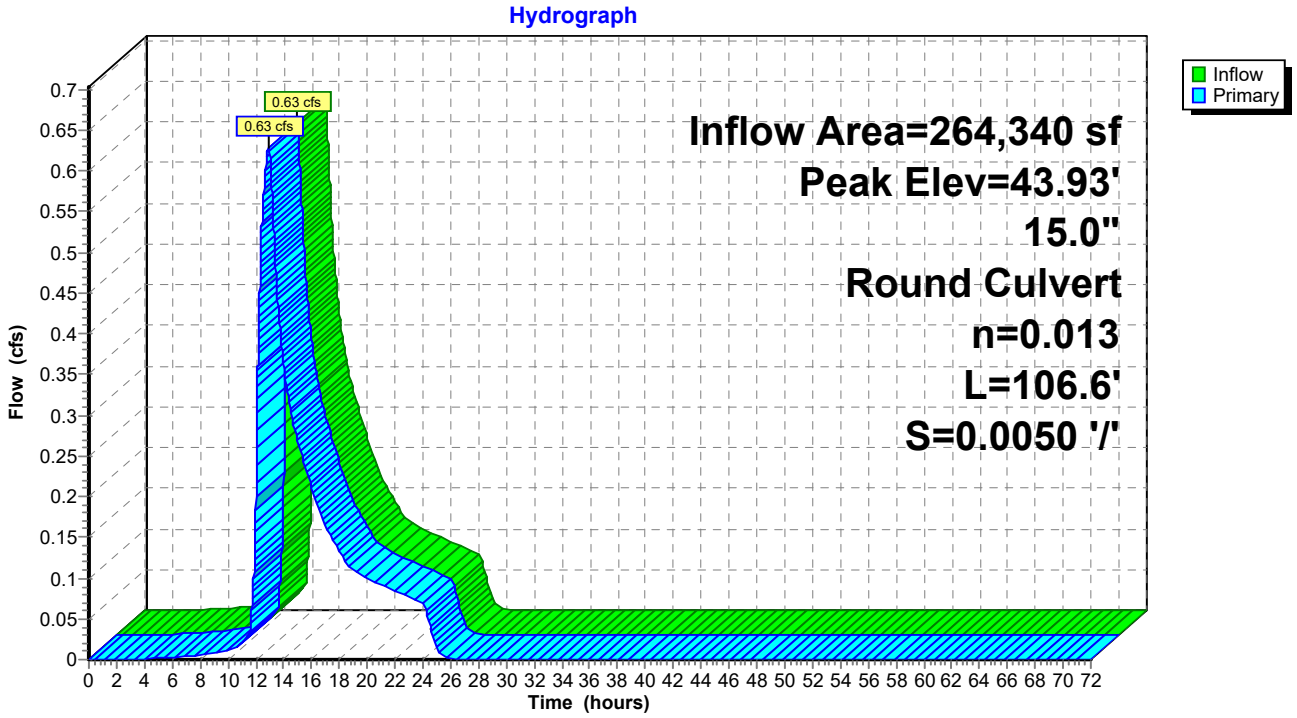
Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 0.42" for 2-Year event
Inflow = 0.63 cfs @ 12.91 hrs, Volume= 9,248 cf
Outflow = 0.63 cfs @ 12.91 hrs, Volume= 9,248 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.63 cfs @ 12.91 hrs, Volume= 9,248 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 43.93' @ 12.91 hrs
Flood Elev= 46.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.50'	**15.0" Round Culvert** L= 106.6' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 43.50' / 42.97' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.63 cfs @ 12.91 hrs HW=43.93' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.63 cfs @ 2.50 fps)

Pond 1P: Catch Basin 2



Summary for Pond C1: Culvert 1

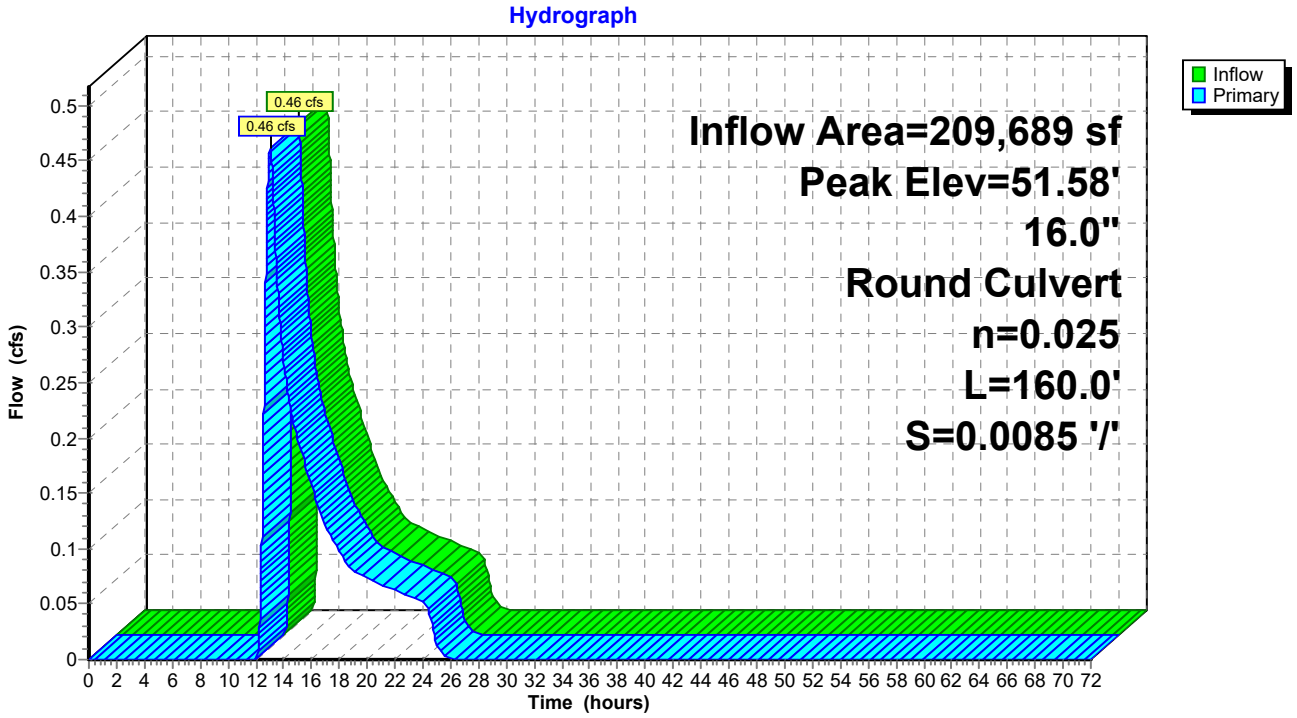
Inflow Area = 209,689 sf, 11.16% Impervious, Inflow Depth = 0.34" for 2-Year event
Inflow = 0.46 cfs @ 13.03 hrs, Volume= 6,006 cf
Outflow = 0.46 cfs @ 13.03 hrs, Volume= 6,006 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.46 cfs @ 13.03 hrs, Volume= 6,006 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 51.58' @ 13.03 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.16'	**16.0" Round Culvert** L= 160.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.16' / 49.80' S= 0.0085 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=0.46 cfs @ 13.03 hrs HW=51.58' TW=49.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.46 cfs @ 1.80 fps)

Pond C1: Culvert 1



Summary for Pond CB1: Catch Basin 1

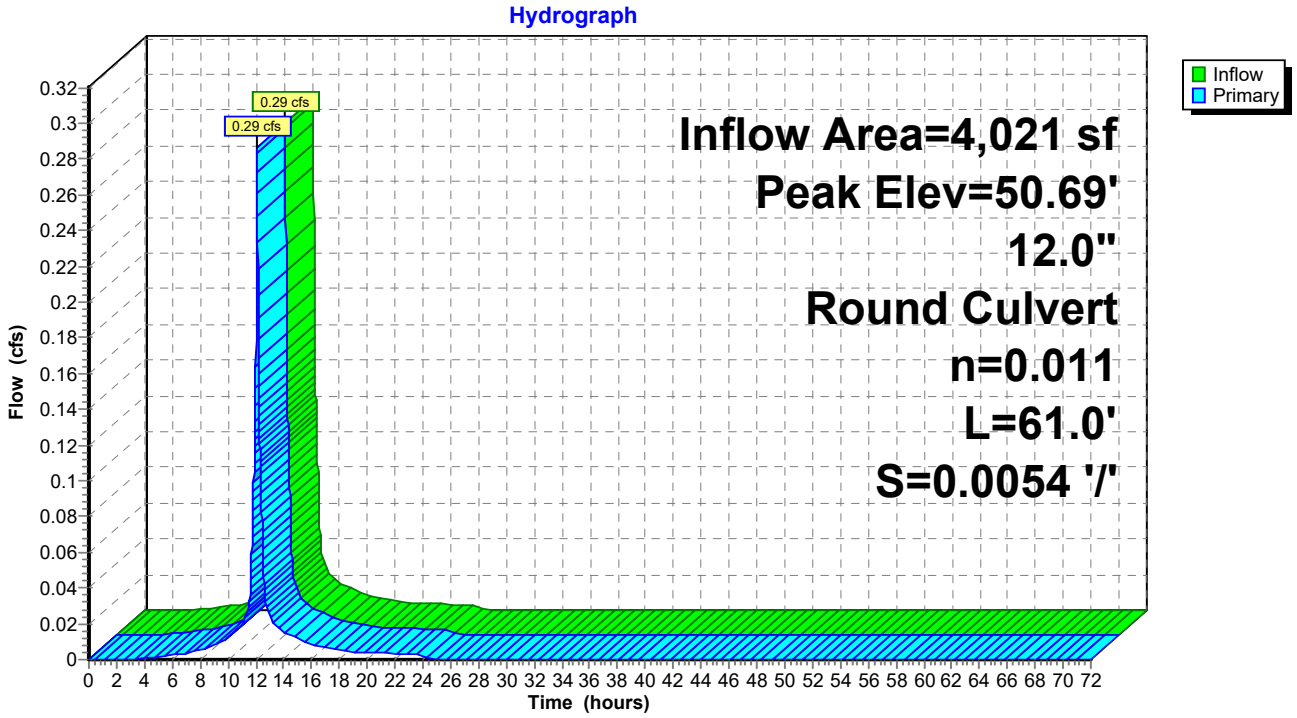
Inflow Area = 4,021 sf, 95.82% Impervious, Inflow Depth = 2.85" for 2-Year event
Inflow = 0.29 cfs @ 12.08 hrs, Volume= 954 cf
Outflow = 0.29 cfs @ 12.08 hrs, Volume= 954 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.29 cfs @ 12.08 hrs, Volume= 954 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.69' @ 12.08 hrs
Flood Elev= 53.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.40'	**12.0" Round Culvert** L= 61.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 50.40' / 50.07' S= 0.0054 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.29 cfs @ 12.08 hrs HW=50.69' TW=49.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.29 cfs @ 2.28 fps)

Pond CB1: Catch Basin 1



Summary for Pond DP1: Detention Pond 1

Inflow Area = 231,475 sf, 11.77% Impervious, Inflow Depth = 0.39" for 2-Year event
Inflow = 0.51 cfs @ 12.98 hrs, Volume= 7,469 cf
Outflow = 0.51 cfs @ 12.98 hrs, Volume= 7,469 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.51 cfs @ 12.98 hrs, Volume= 7,469 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.00' @ 0.00 hrs Storage= 0 cf
Flood Elev= 52.00' Surf.Area= 4,820 sf Storage= 7,829 cf

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

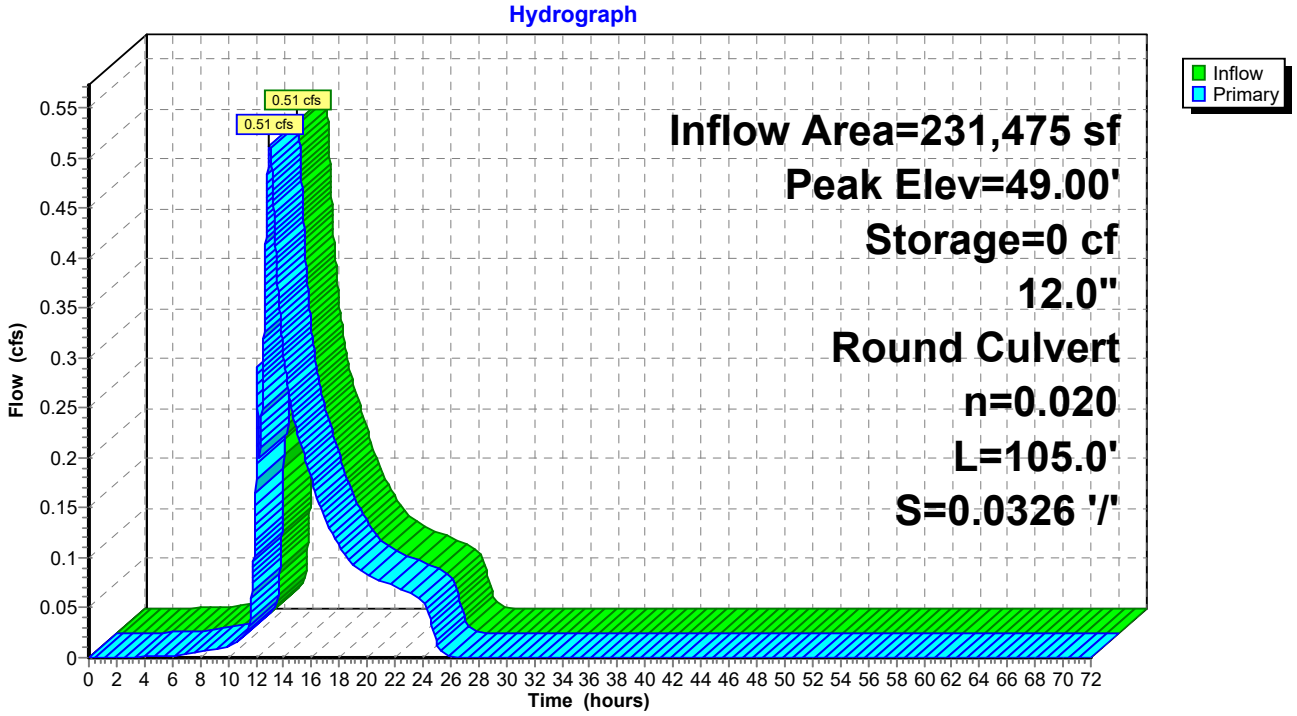
Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	7,829 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
49.00	0	0	0
50.00	3,400	1,700	1,700
51.00	4,299	3,850	5,550
51.50	4,820	2,280	7,829

Device	Routing	Invert	Outlet Devices
#1	Primary	48.00'	**12.0" Round Culvert** L= 105.0' Ke= 0.900 Inlet / Outlet Invert= 48.00' / 44.58' S= 0.0326 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 12.98 hrs HW=49.00' TW=43.93' (Dynamic Tailwater)
↑—**1=Culvert** (Passes 0.00 cfs of 2.11 cfs potential flow)

Pond DP1: Detention Pond 1

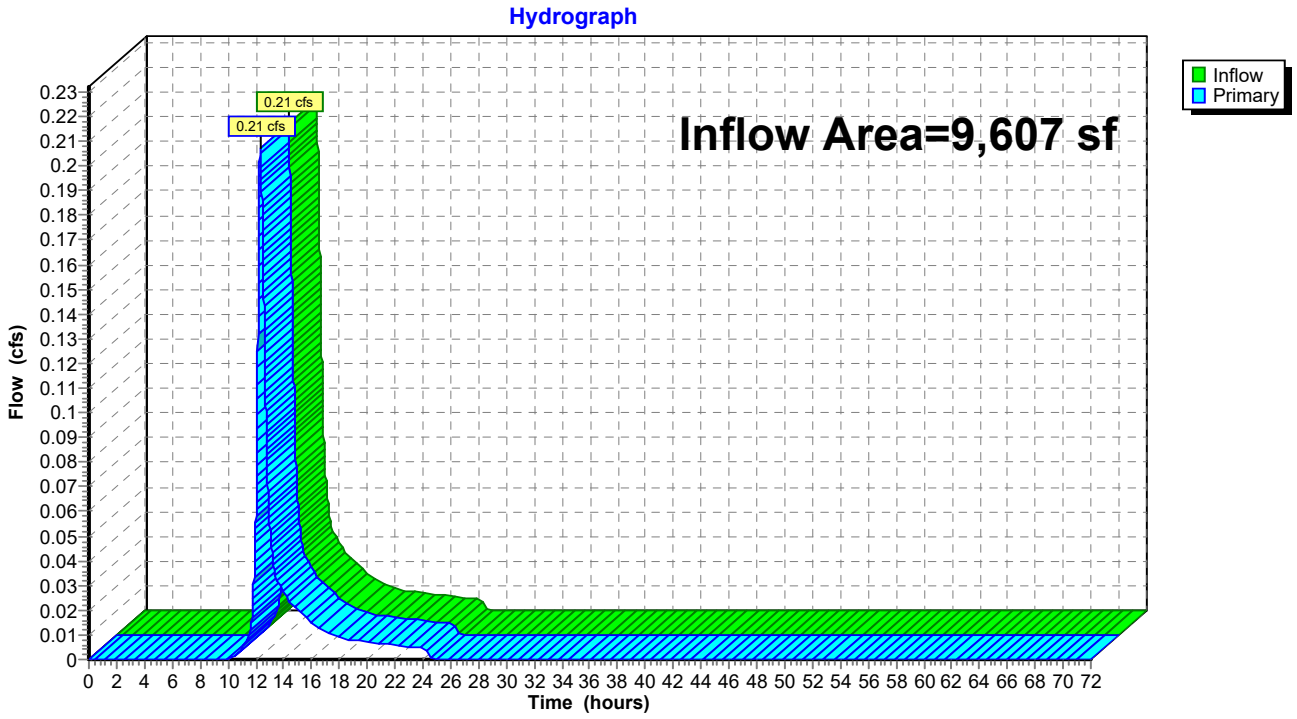


Summary for Link AP#1: Analysis Point 1

Inflow Area = 9,607 sf, 0.00% Impervious, Inflow Depth = 1.28" for 2-Year event
Inflow = 0.21 cfs @ 12.33 hrs, Volume= 1,028 cf
Primary = 0.21 cfs @ 12.33 hrs, Volume= 1,028 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

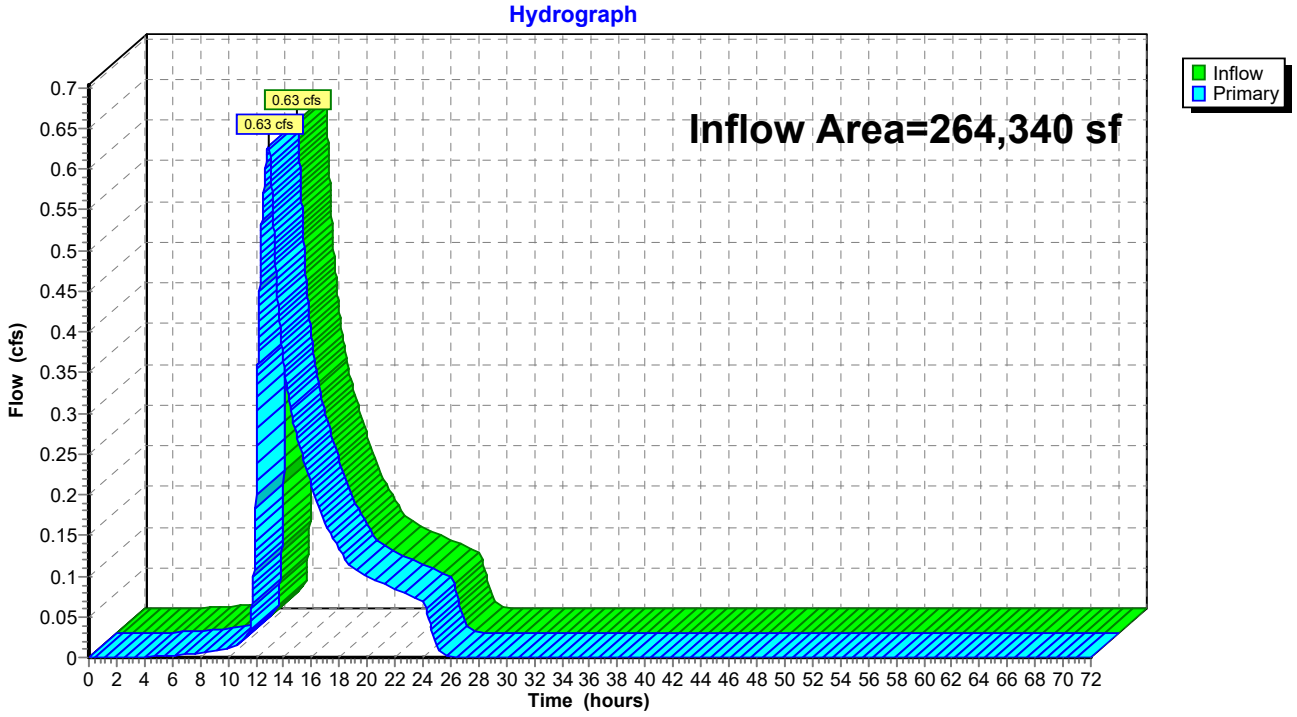


Summary for Link AP#2: Analysis Point 2

Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 0.42" for 2-Year event
Inflow = 0.63 cfs @ 12.91 hrs, Volume= 9,248 cf
Primary = 0.63 cfs @ 12.91 hrs, Volume= 9,248 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

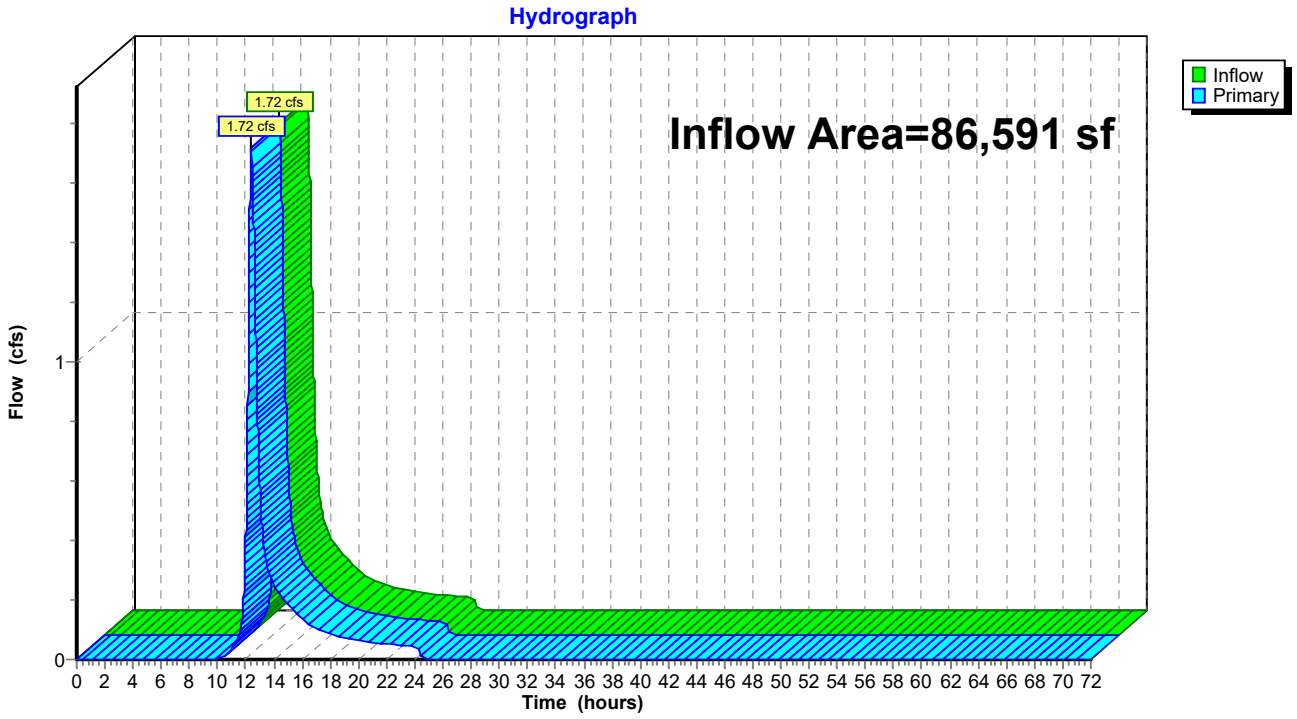


Summary for Link AP#3: Analysis Point 3

Inflow Area = 86,591 sf, 0.56% Impervious, Inflow Depth = 1.28" for 2-Year event
Inflow = 1.72 cfs @ 12.40 hrs, Volume= 9,263 cf
Primary = 1.72 cfs @ 12.40 hrs, Volume= 9,263 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

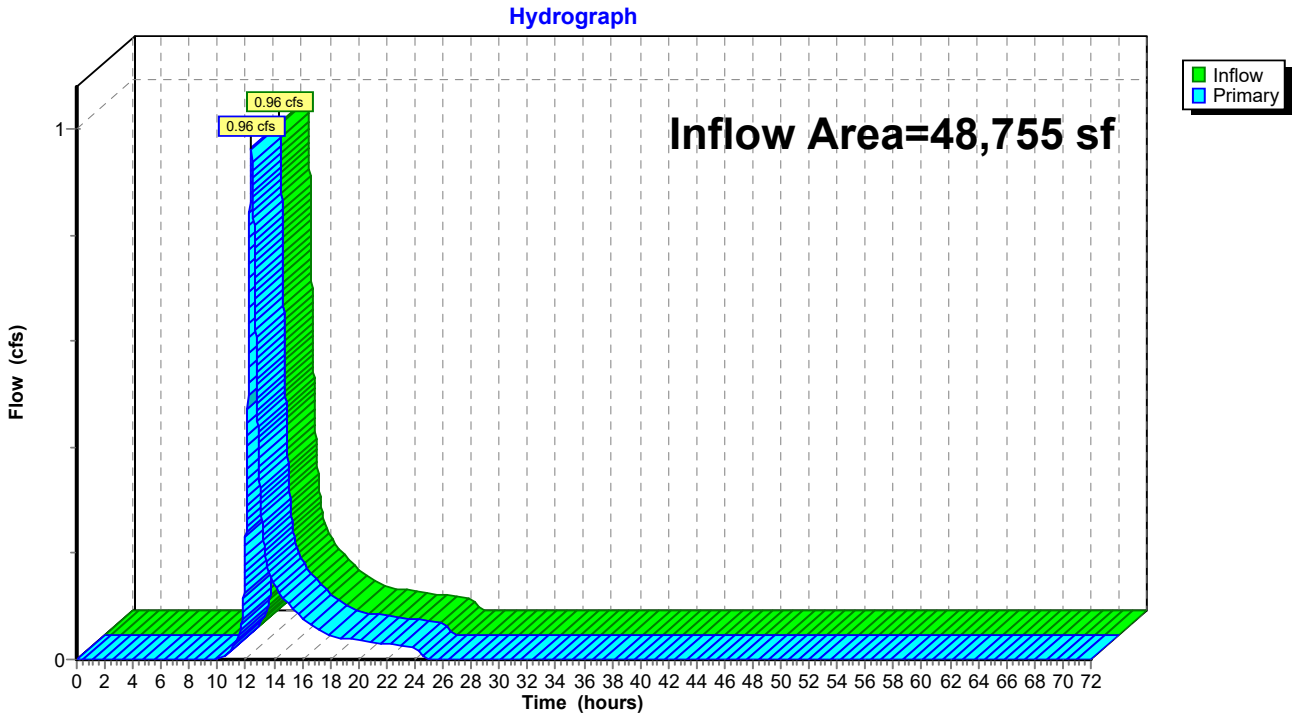


Summary for Link AP#4: Analysis Point 4

Inflow Area = 48,755 sf, 0.00% Impervious, Inflow Depth = 1.28" for 2-Year event
Inflow = 0.96 cfs @ 12.40 hrs, Volume= 5,216 cf
Primary = 0.96 cfs @ 12.40 hrs, Volume= 5,216 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

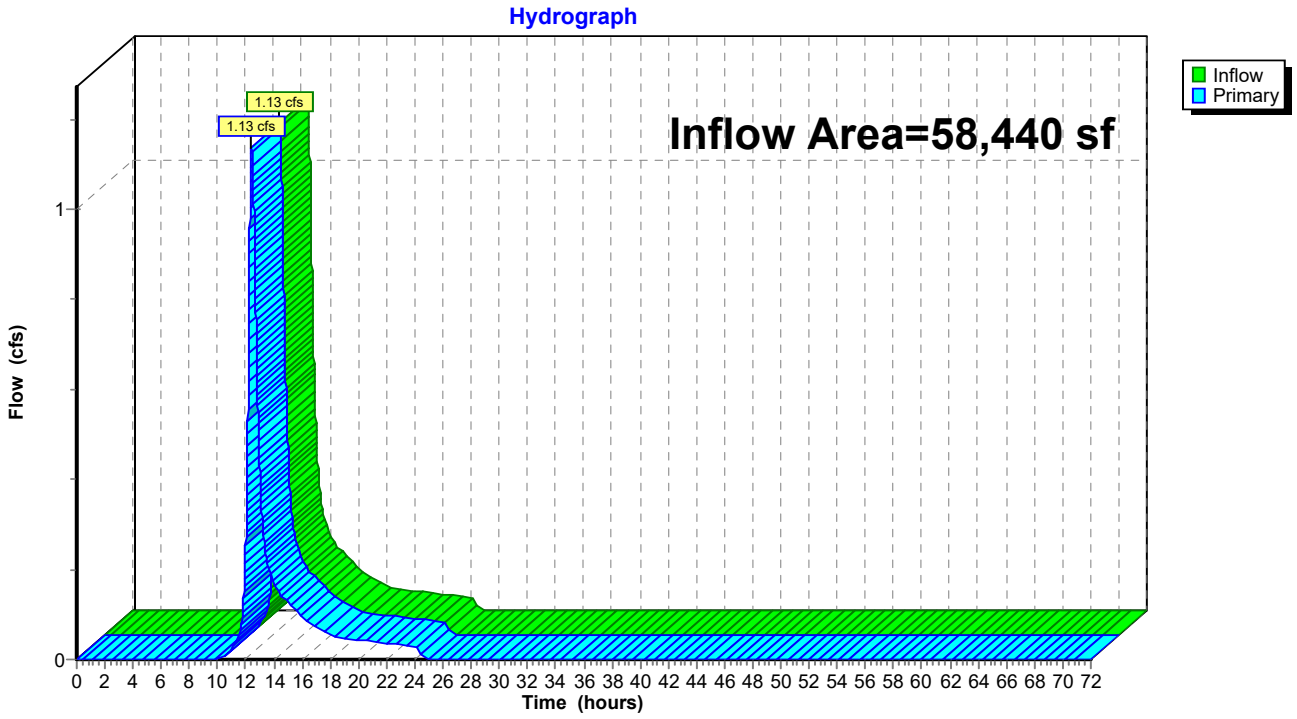


Summary for Link AP#5: Analysis Point 5

Inflow Area = 58,440 sf, 2.22% Impervious, Inflow Depth = 1.28" for 2-Year event
Inflow = 1.13 cfs @ 12.41 hrs, Volume= 6,252 cf
Primary = 1.13 cfs @ 12.41 hrs, Volume= 6,252 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

SubcatchmentS1: SubcatchmentS1 Runoff Area=9,607 sf 0.00% Impervious Runoff Depth=2.54"
Flow Length=166' Tc=22.5 min CN=77 Runoff=0.42 cfs 2,033 cf

SubcatchmentS2.1: SubcatchmentS2.1 Runoff Area=209,689 sf 11.16% Impervious Runoff Depth=1.05"
Flow Length=1,167' Tc=55.6 min CN=57 Runoff=2.04 cfs 18,377 cf

SubcatchmentS2.2: SubcatchmentS2.2 Runoff Area=4,021 sf 95.82% Impervious Runoff Depth=4.43"
Flow Length=195' Tc=6.0 min CN=96 Runoff=0.43 cfs 1,485 cf

SubcatchmentS2.3: SubcatchmentS2.3 Runoff Area=17,765 sf 0.00% Impervious Runoff Depth=1.05"
Flow Length=219' Tc=16.4 min CN=57 Runoff=0.30 cfs 1,557 cf

SubcatchmentS2.4: SubcatchmentS2.4 Runoff Area=32,865 sf 43.82% Impervious Runoff Depth=1.59"
Flow Length=298' Tc=23.6 min CN=65 Runoff=0.83 cfs 4,347 cf

SubcatchmentS3: SubcatchmentS3 Runoff Area=86,591 sf 0.56% Impervious Runoff Depth=2.54"
Flow Length=348' Tc=27.2 min CN=77 Runoff=3.49 cfs 18,325 cf

SubcatchmentS4: SubcatchmentS4 Runoff Area=48,755 sf 0.00% Impervious Runoff Depth=2.54"
Flow Length=376' Tc=27.5 min CN=77 Runoff=1.96 cfs 10,318 cf

SubcatchmentS5: SubcatchmentS5 Runoff Area=58,440 sf 2.22% Impervious Runoff Depth=2.54"
Flow Length=226' Tc=28.7 min CN=77 Runoff=2.30 cfs 12,368 cf

Pond 1P: Catch Basin 2 Peak Elev=44.44' Inflow=2.53 cfs 25,767 cf
15.0" Round Culvert n=0.013 L=106.6' S=0.0050 '/' Outflow=2.53 cfs 25,767 cf

Pond C1: Culvert 1 Peak Elev=52.10' Inflow=2.04 cfs 18,377 cf
16.0" Round Culvert n=0.025 L=160.0' S=0.0085 '/' Outflow=2.04 cfs 18,377 cf

Pond CB1: Catch Basin 1 Peak Elev=50.76' Inflow=0.43 cfs 1,485 cf
12.0" Round Culvert n=0.011 L=61.0' S=0.0054 '/' Outflow=0.43 cfs 1,485 cf

Pond DP1: Detention Pond 1 Peak Elev=49.03' Storage=2 cf Inflow=2.17 cfs 21,420 cf
12.0" Round Culvert n=0.020 L=105.0' S=0.0326 '/' Outflow=2.17 cfs 21,420 cf

Link AP#1: Analysis Point 1 Inflow=0.42 cfs 2,033 cf
Primary=0.42 cfs 2,033 cf

Link AP#2: Analysis Point 2 Inflow=2.53 cfs 25,767 cf
Primary=2.53 cfs 25,767 cf

Link AP#3: Analysis Point 3 Inflow=3.49 cfs 18,325 cf
Primary=3.49 cfs 18,325 cf

Link AP#4: Analysis Point 4 Inflow=1.96 cfs 10,318 cf
Primary=1.96 cfs 10,318 cf

Link AP#5: Analysis Point 5 Inflow=2.30 cfs 12,368 cf
Primary=2.30 cfs 12,368 cf

Total Runoff Area = 467,733 sf Runoff Volume = 68,811 cf Average Runoff Depth = 1.77"
90.72% Pervious = 424,306 sf 9.28% Impervious = 43,427 sf

Summary for Subcatchment S1: Subcatchment S1

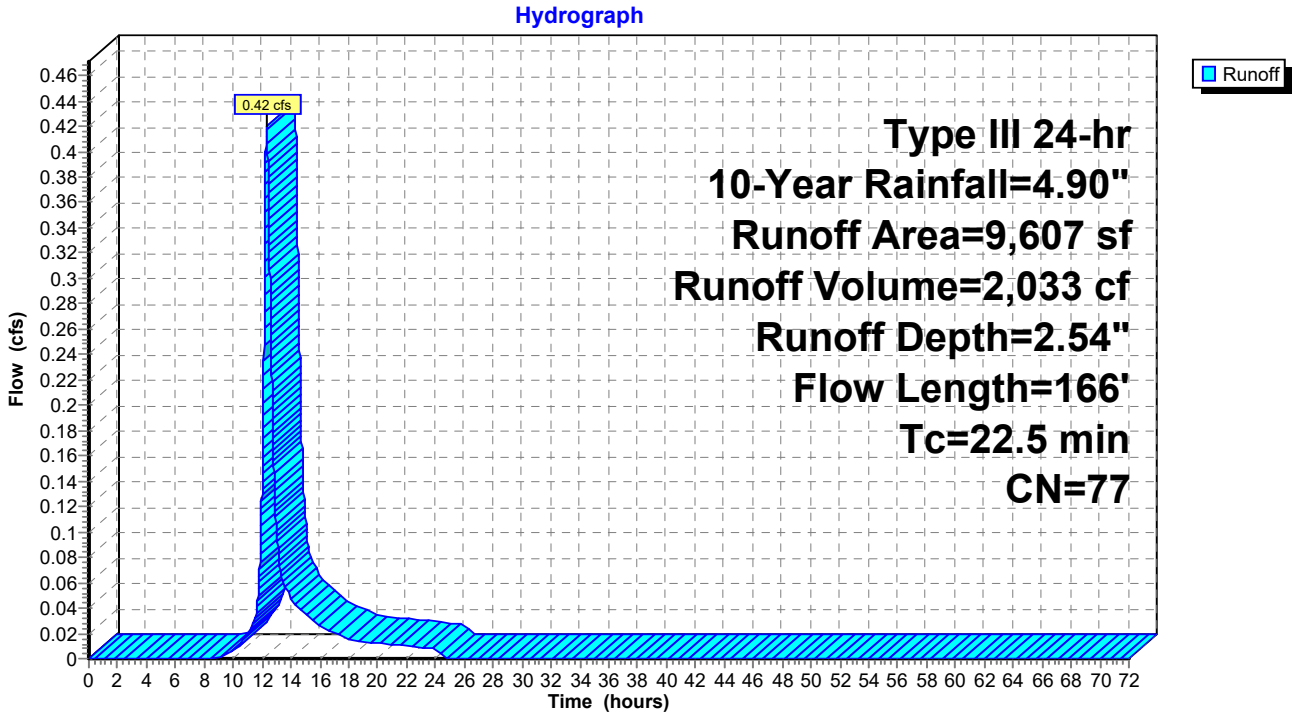
Runoff = 0.42 cfs @ 12.32 hrs, Volume= 2,033 cf, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
87	30	Woods, Good, HSG A
9,520	77	Woods, Good, HSG D
9,607	77	Weighted Average
9,607		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	150	0.0400	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.3	16	0.0381	0.98		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.5	166	Total			

Subcatchment S1: Subcatchment S1



Summary for Subcatchment S2.1: Subcatchment S2.1

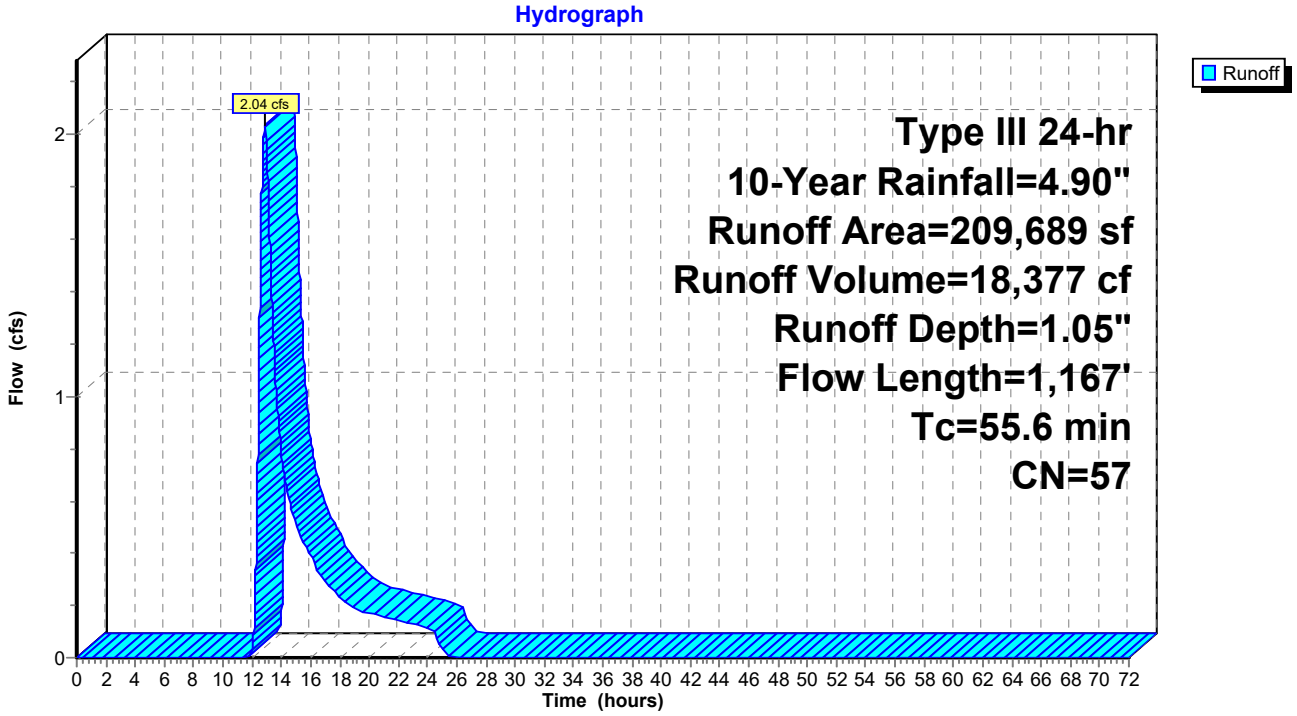
Runoff = 2.04 cfs @ 12.85 hrs, Volume= 18,377 cf, Depth= 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

	Area (sf)	CN	Description
	8,317	39	>75% Grass cover, Good, HSG A
	8,025	80	>75% Grass cover, Good, HSG D
	8,205	98	Paved parking, HSG D
*	15,186	98	Parking/Building HSG A
	92,645	30	Woods, Good, HSG A
	77,311	77	Woods, Good, HSG D
	209,689	57	Weighted Average
	186,298		88.84% Pervious Area
	23,391		11.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.2	150	0.0200	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
5.8	300	0.0300	0.87		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
9.5	300	0.0110	0.52		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
8.7	300	0.0133	0.58		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
2.4	117	0.0256	0.80		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
55.6	1,167	Total			

Subcatchment S2.1: Subcatchment S2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

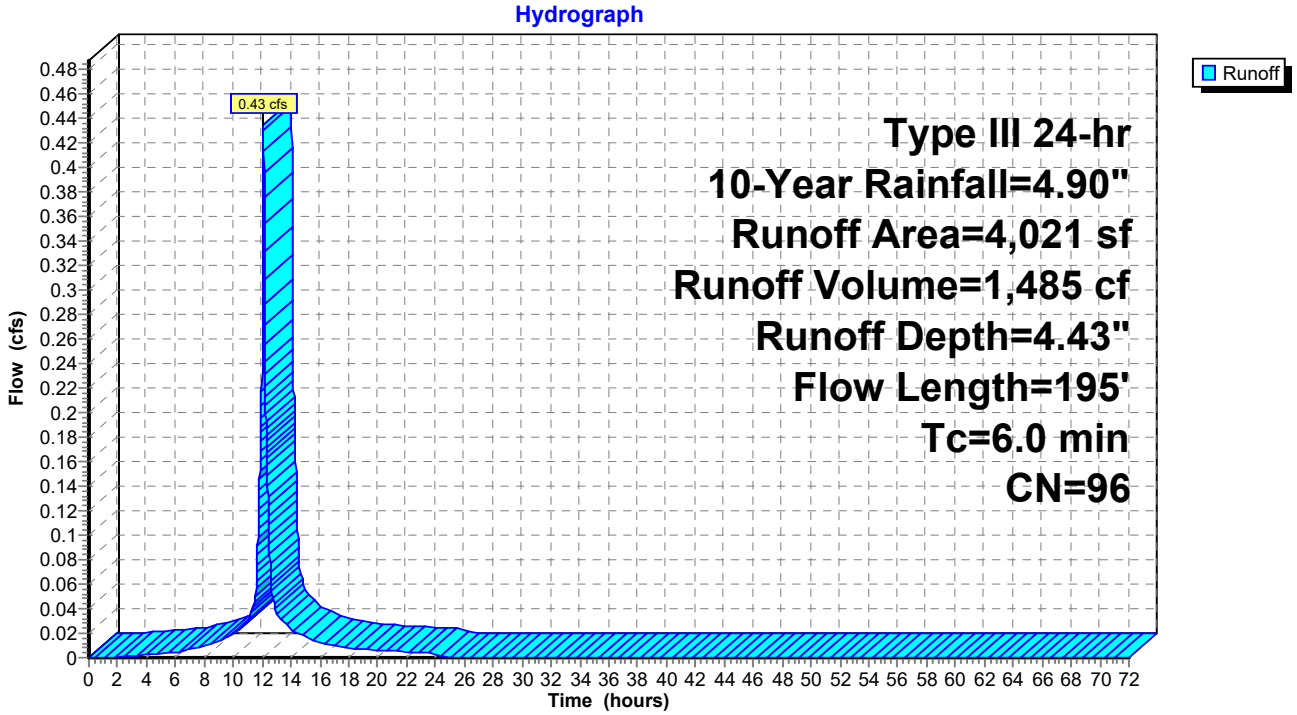
Runoff = 0.43 cfs @ 12.08 hrs, Volume= 1,485 cf, Depth= 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
168	39	>75% Grass cover, Good, HSG A
3,555	98	Paved parking, HSG A
298	98	Paved parking, HSG D
4,021	96	Weighted Average
168		4.18% Pervious Area
3,853		95.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	150	0.0392	1.98		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.30"
0.2	45	0.0362	3.86		**Shallow Concentrated Flow, BC** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 6.0 min			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment S2.3

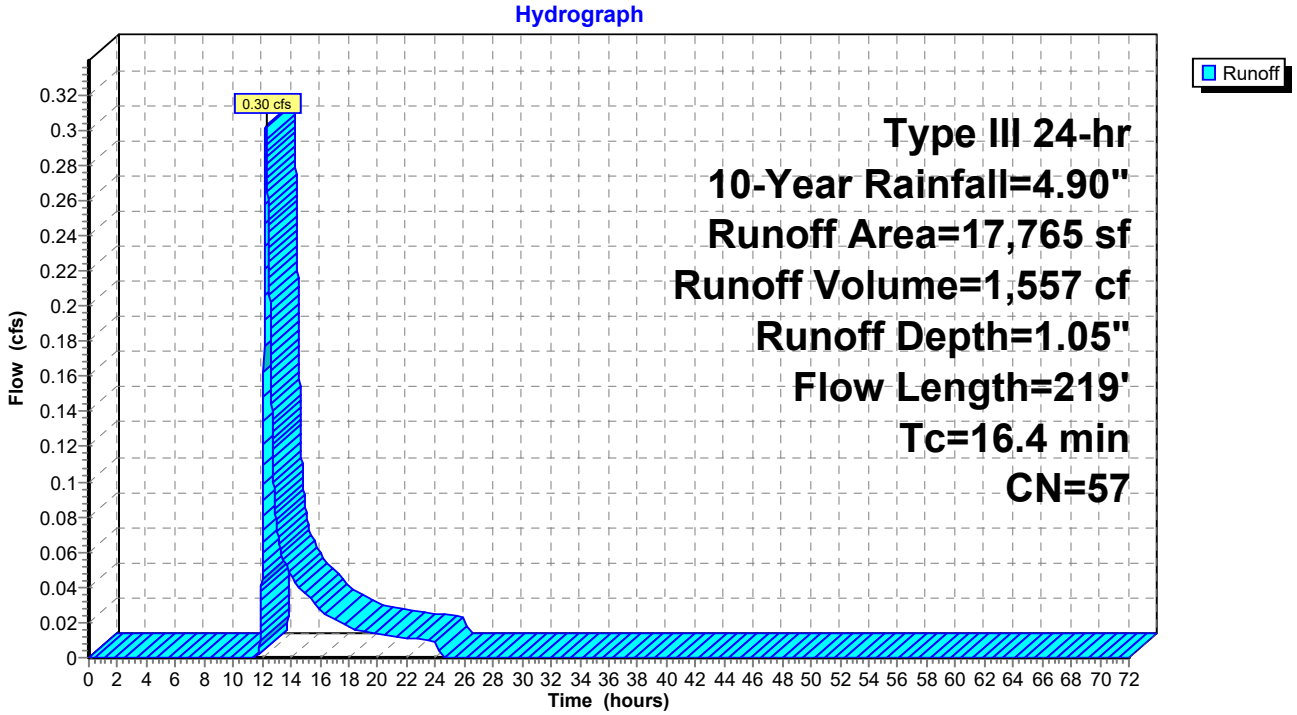
Runoff = 0.30 cfs @ 12.26 hrs, Volume= 1,557 cf, Depth= 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
205	30	Woods, Good, HSG A
1,312	77	Woods, Good, HSG D
6,540	80	>75% Grass cover, Good, HSG D
9,708	39	>75% Grass cover, Good, HSG A
17,765	57	Weighted Average
17,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	150	0.0926	0.16		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.6	69	0.0864	2.06		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
16.4	219	Total			

Subcatchment S2.3: Subcatchment S2.3



Summary for Subcatchment S2.4: Subcatchment S2.4

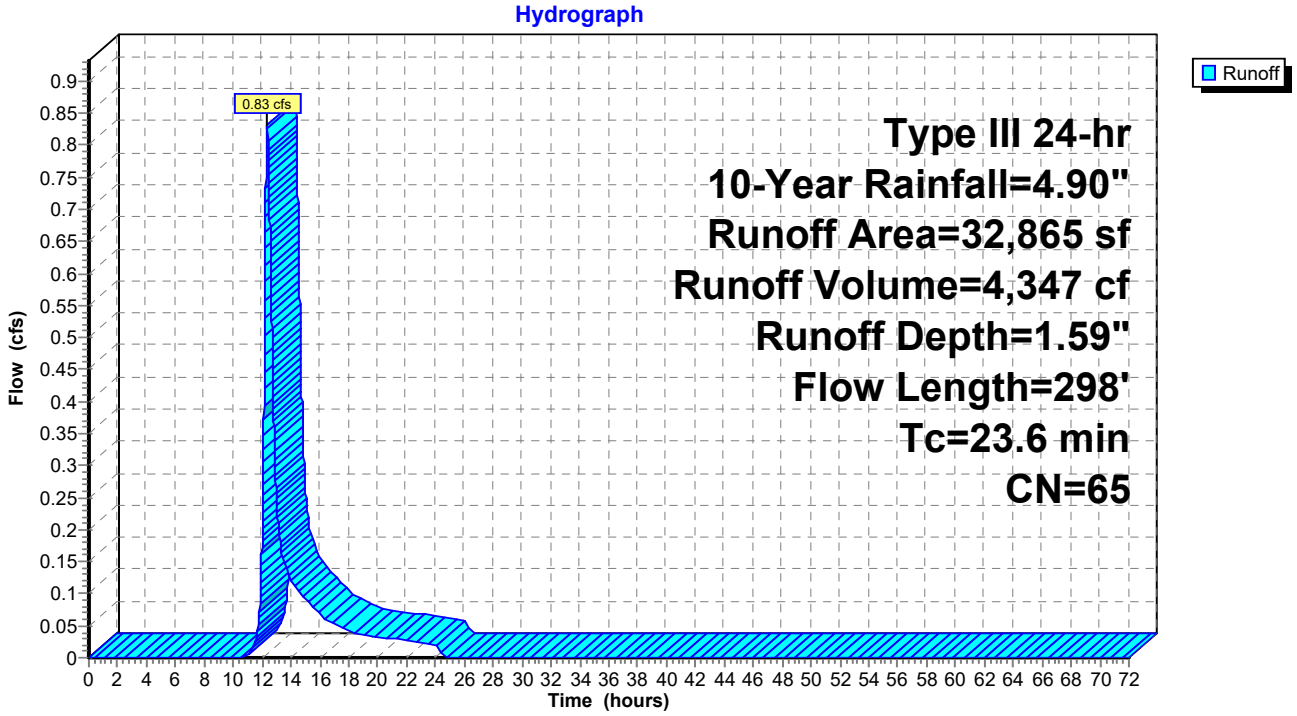
Runoff = 0.83 cfs @ 12.35 hrs, Volume= 4,347 cf, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
8,277	98	Paved parking, HSG A
32,865	65	Weighted Average
18,462		56.18% Pervious Area
14,403		43.82% Impervious Area
6,060		42.07% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	150	0.0466	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.7	148	0.0322	0.90		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
23.6	298	Total			

Subcatchment S2.4: Subcatchment S2.4



Summary for Subcatchment S3: Subcatchment S3

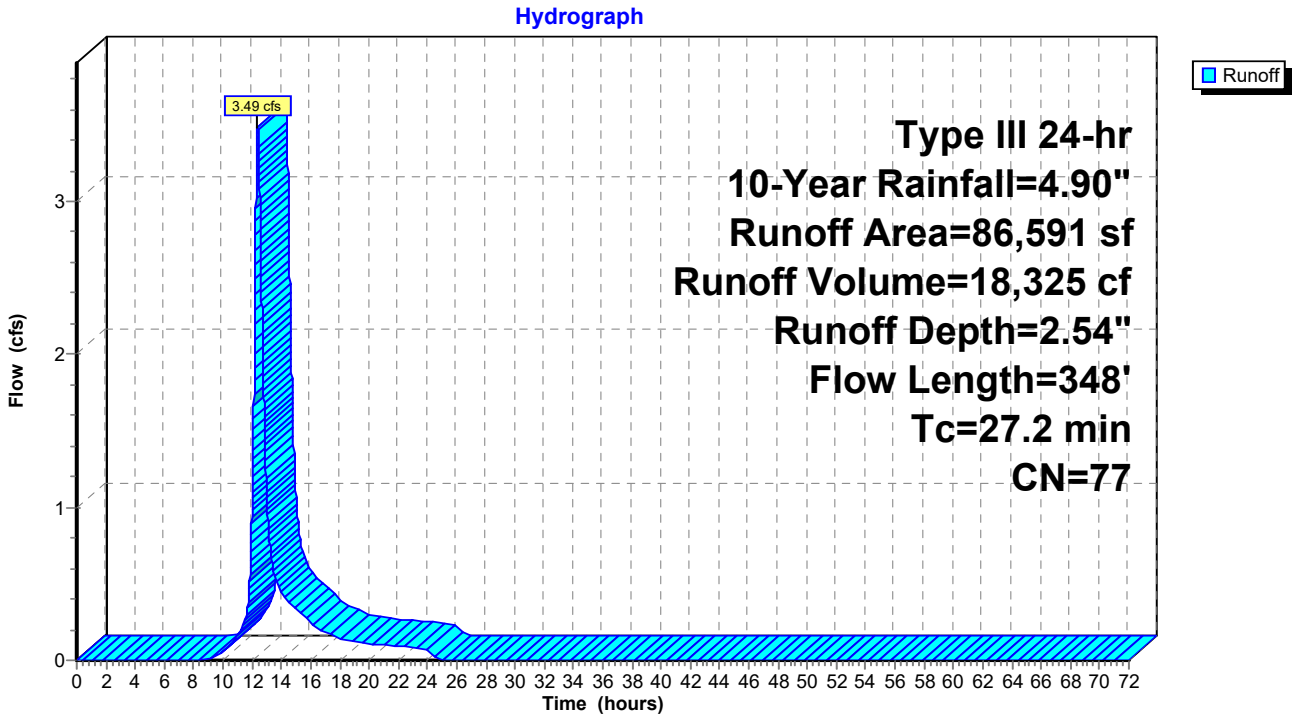
Runoff = 3.49 cfs @ 12.37 hrs, Volume= 18,325 cf, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

	Area (sf)	CN	Description
	86,108	77	Woods, Good, HSG D
*	483	98	Wetland, HSG D
	86,591	77	Weighted Average
	86,108		99.44% Pervious Area
	483		0.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	150	0.0490	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
6.8	198	0.0093	0.48		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.2	348	Total			

Subcatchment S3: Subcatchment S3



Summary for Subcatchment S4: Subcatchment S4

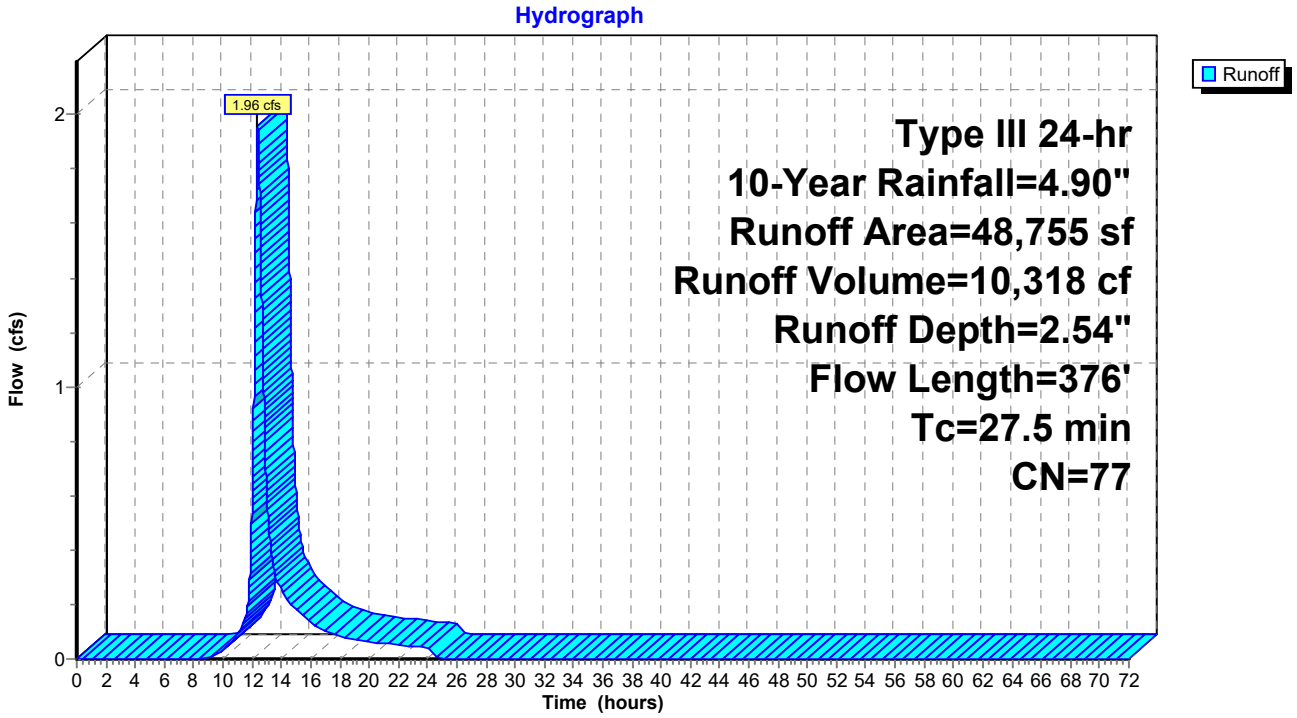
Runoff = 1.96 cfs @ 12.38 hrs, Volume= 10,318 cf, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
48,755	77	Woods, Good, HSG D
48,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.9	150	0.0333	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
3.6	226	0.0440	1.05		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.5	376	Total			

Subcatchment S4: Subcatchment S4



Summary for Subcatchment S5: Subcatchment S5

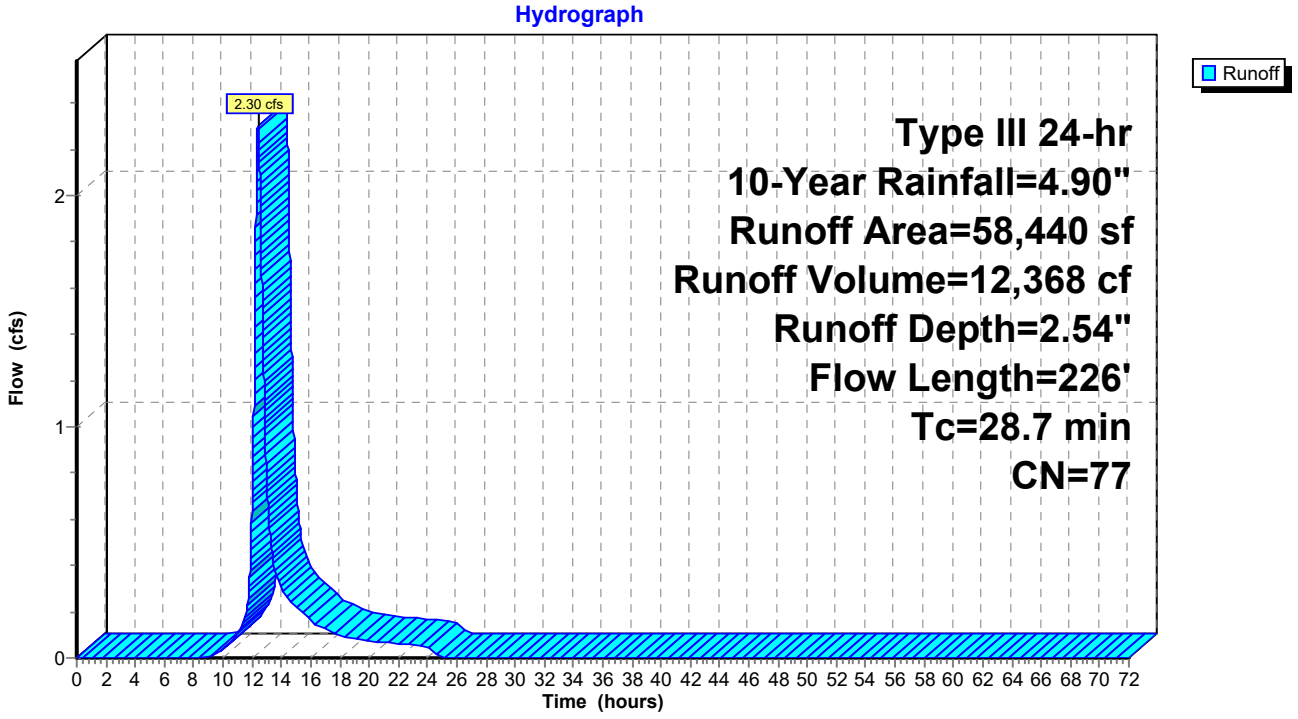
Runoff = 2.30 cfs @ 12.40 hrs, Volume= 12,368 cf, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

	Area (sf)	CN	Description
	57,143	77	Woods, Good, HSG D
*	1,297	98	Wetland, HSG D
	58,440	77	Weighted Average
	57,143		97.78% Pervious Area
	1,297		2.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	64	0.0248	0.08		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
13.5	88	0.0477	0.11		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
1.6	74	0.0242	0.78		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
28.7	226	Total			

Subcatchment S5: Subcatchment S5



Summary for Pond 1P: Catch Basin 2

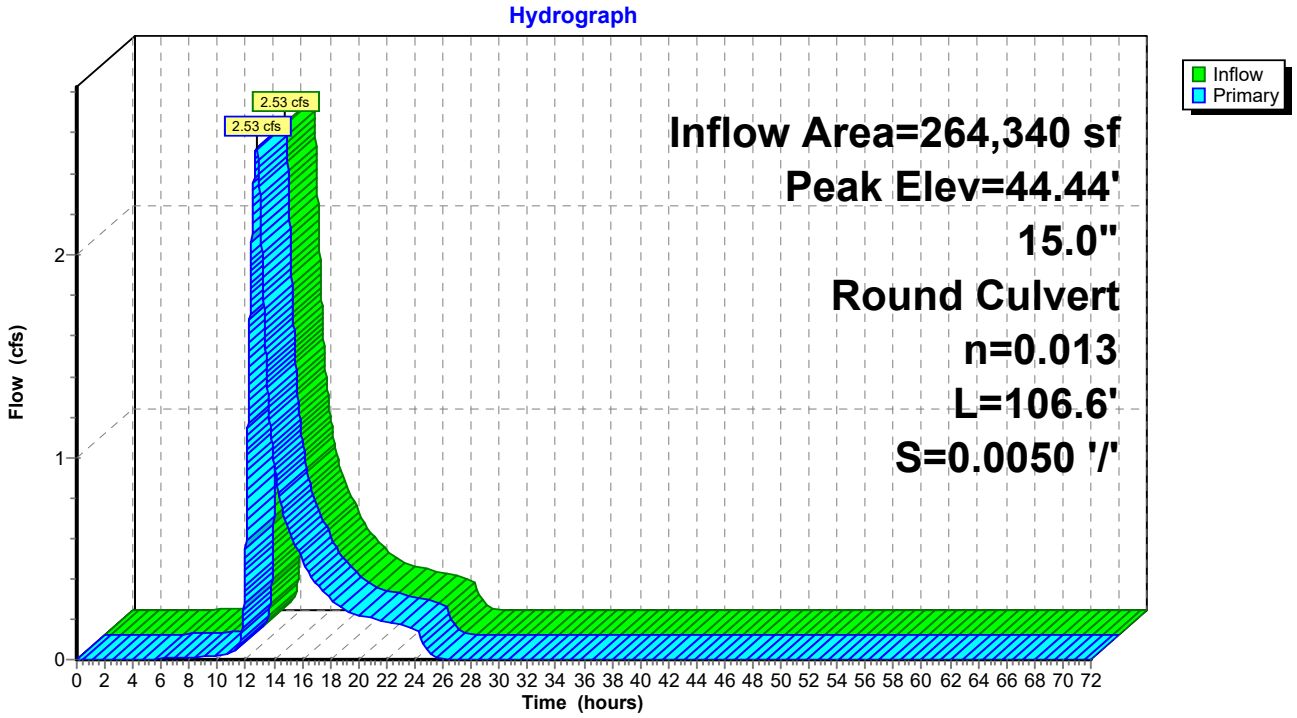
Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 1.17" for 10-Year event
Inflow = 2.53 cfs @ 12.78 hrs, Volume= 25,767 cf
Outflow = 2.53 cfs @ 12.78 hrs, Volume= 25,767 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.53 cfs @ 12.78 hrs, Volume= 25,767 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 44.44' @ 12.78 hrs
Flood Elev= 46.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.50'	**15.0" Round Culvert** L= 106.6' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 43.50' / 42.97' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.53 cfs @ 12.78 hrs HW=44.44' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.53 cfs @ 3.53 fps)

Pond 1P: Catch Basin 2



Summary for Pond C1: Culvert 1

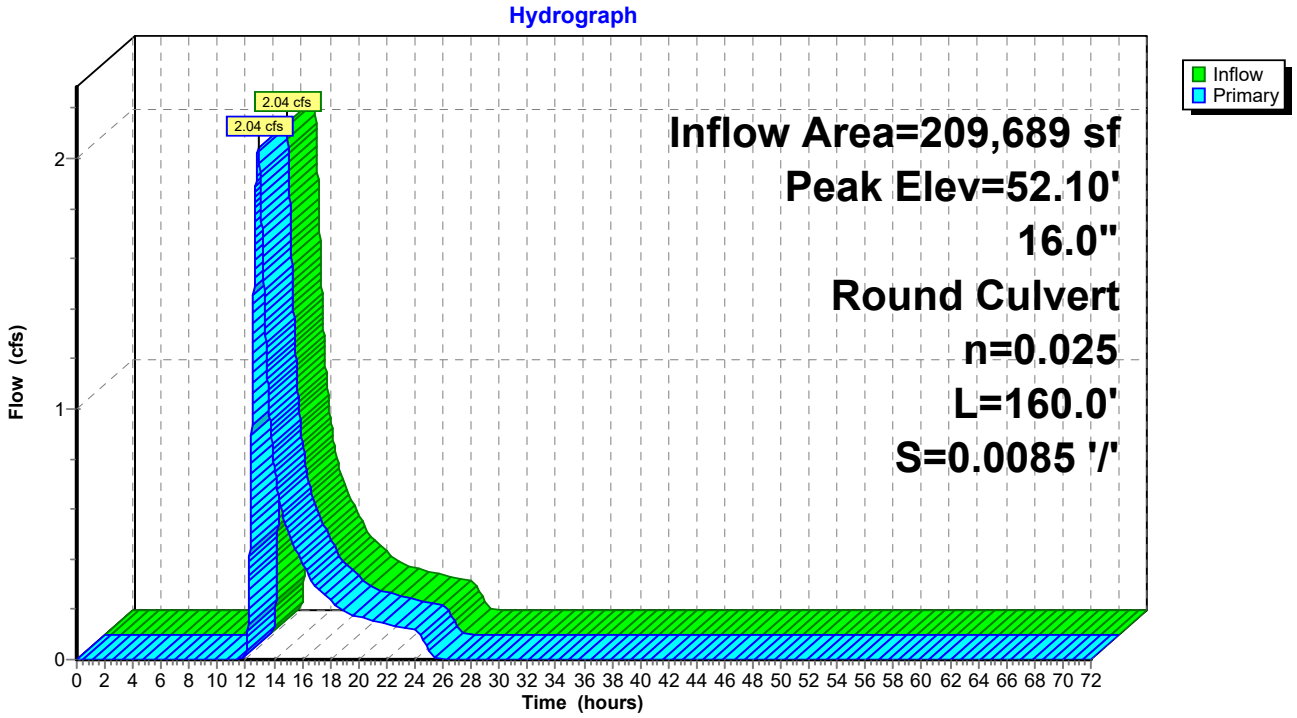
Inflow Area = 209,689 sf, 11.16% Impervious, Inflow Depth = 1.05" for 10-Year event
Inflow = 2.04 cfs @ 12.85 hrs, Volume= 18,377 cf
Outflow = 2.04 cfs @ 12.85 hrs, Volume= 18,377 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.04 cfs @ 12.85 hrs, Volume= 18,377 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.10' @ 12.85 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.16'	**16.0" Round Culvert** L= 160.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.16' / 49.80' S= 0.0085 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=2.04 cfs @ 12.85 hrs HW=52.10' TW=49.03' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.04 cfs @ 2.71 fps)

Pond C1: Culvert 1



Summary for Pond CB1: Catch Basin 1

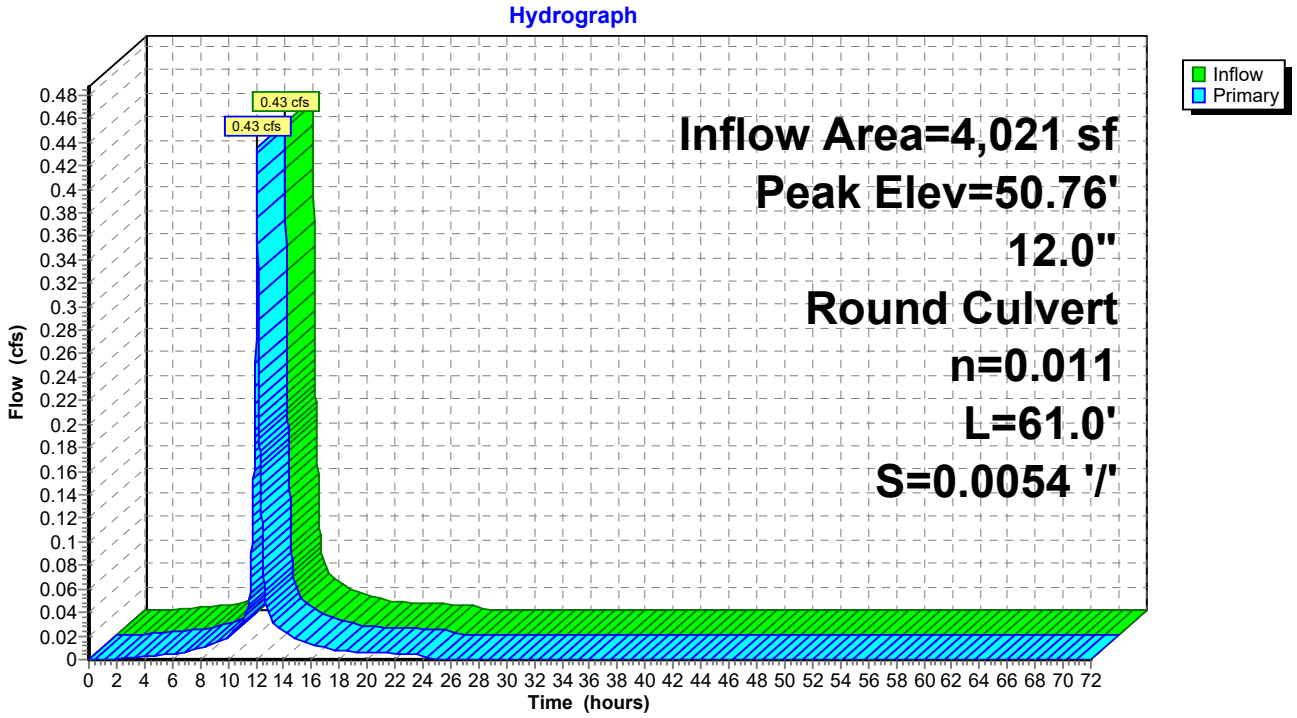
Inflow Area = 4,021 sf, 95.82% Impervious, Inflow Depth = 4.43" for 10-Year event
Inflow = 0.43 cfs @ 12.08 hrs, Volume= 1,485 cf
Outflow = 0.43 cfs @ 12.08 hrs, Volume= 1,485 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.43 cfs @ 12.08 hrs, Volume= 1,485 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.76' @ 12.08 hrs
Flood Elev= 53.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.40'	**12.0" Round Culvert** L= 61.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 50.40' / 50.07' S= 0.0054 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.43 cfs @ 12.08 hrs HW=50.76' TW=49.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.43 cfs @ 2.52 fps)

Pond CB1: Catch Basin 1



Summary for Pond DP1: Detention Pond 1

Inflow Area = 231,475 sf, 11.77% Impervious, Inflow Depth = 1.11" for 10-Year event
Inflow = 2.17 cfs @ 12.85 hrs, Volume= 21,420 cf
Outflow = 2.17 cfs @ 12.86 hrs, Volume= 21,420 cf, Atten= 0%, Lag= 0.6 min
Primary = 2.17 cfs @ 12.86 hrs, Volume= 21,420 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.03' @ 12.86 hrs Surf.Area= 102 sf Storage= 2 cf
Flood Elev= 52.00' Surf.Area= 4,820 sf Storage= 7,829 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (918.6 - 918.6)

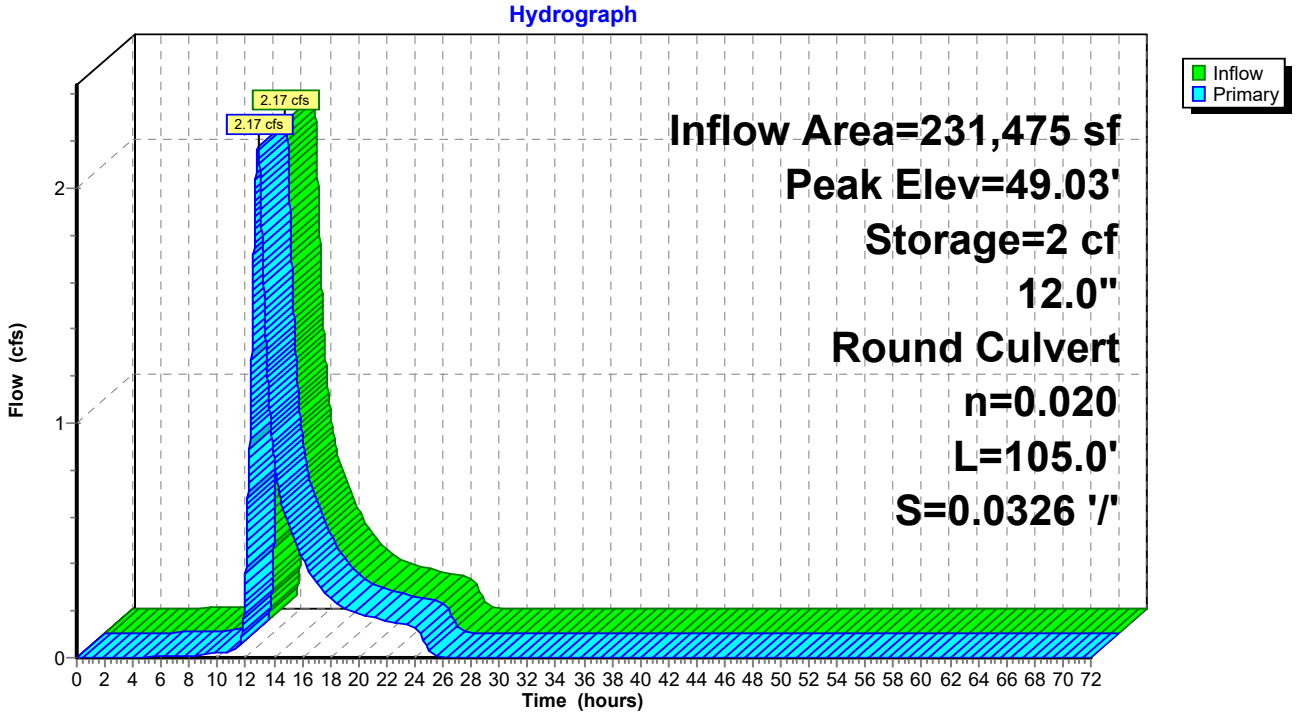
Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	7,829 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
49.00	0	0	0
50.00	3,400	1,700	1,700
51.00	4,299	3,850	5,550
51.50	4,820	2,280	7,829

Device	Routing	Invert	Outlet Devices
#1	Primary	48.00'	**12.0" Round Culvert** L= 105.0' Ke= 0.900 Inlet / Outlet Invert= 48.00' / 44.58' S= 0.0326 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.17 cfs @ 12.86 hrs HW=49.03' TW=44.43' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 2.17 cfs @ 2.77 fps)

Pond DP1: Detention Pond 1

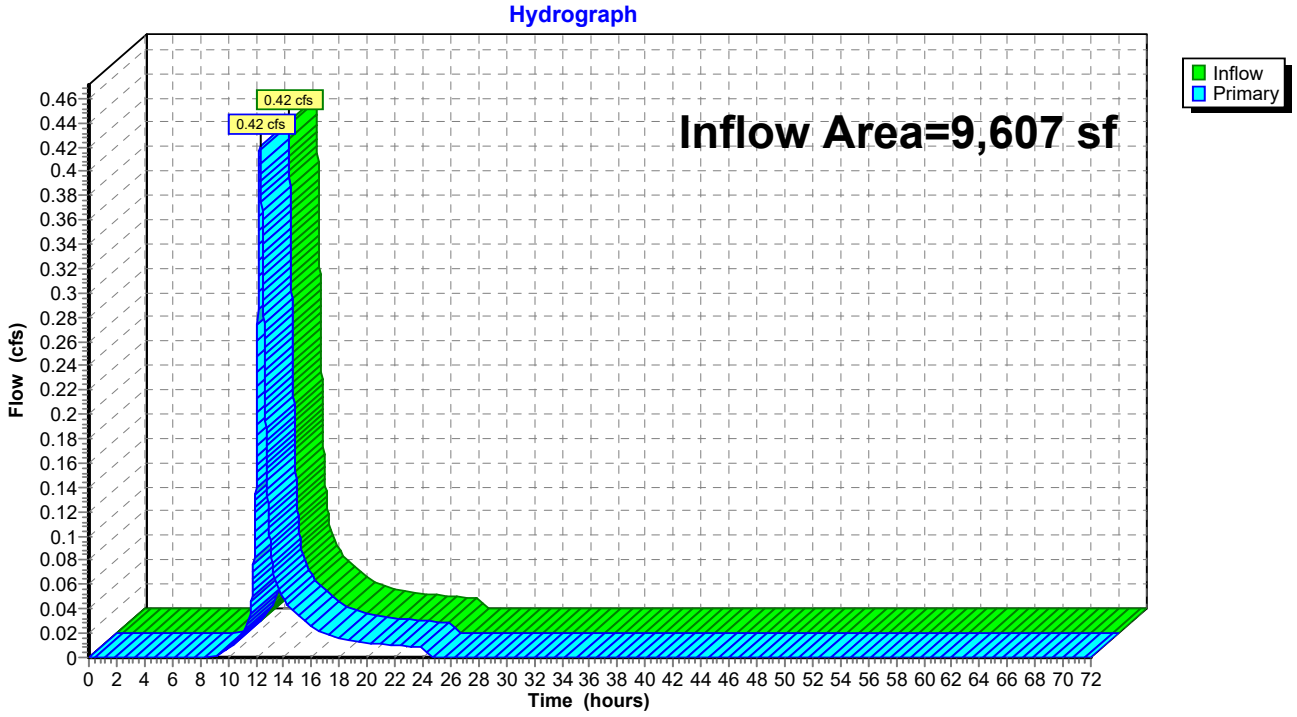


Summary for Link AP#1: Analysis Point 1

Inflow Area = 9,607 sf, 0.00% Impervious, Inflow Depth = 2.54" for 10-Year event
Inflow = 0.42 cfs @ 12.32 hrs, Volume= 2,033 cf
Primary = 0.42 cfs @ 12.32 hrs, Volume= 2,033 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

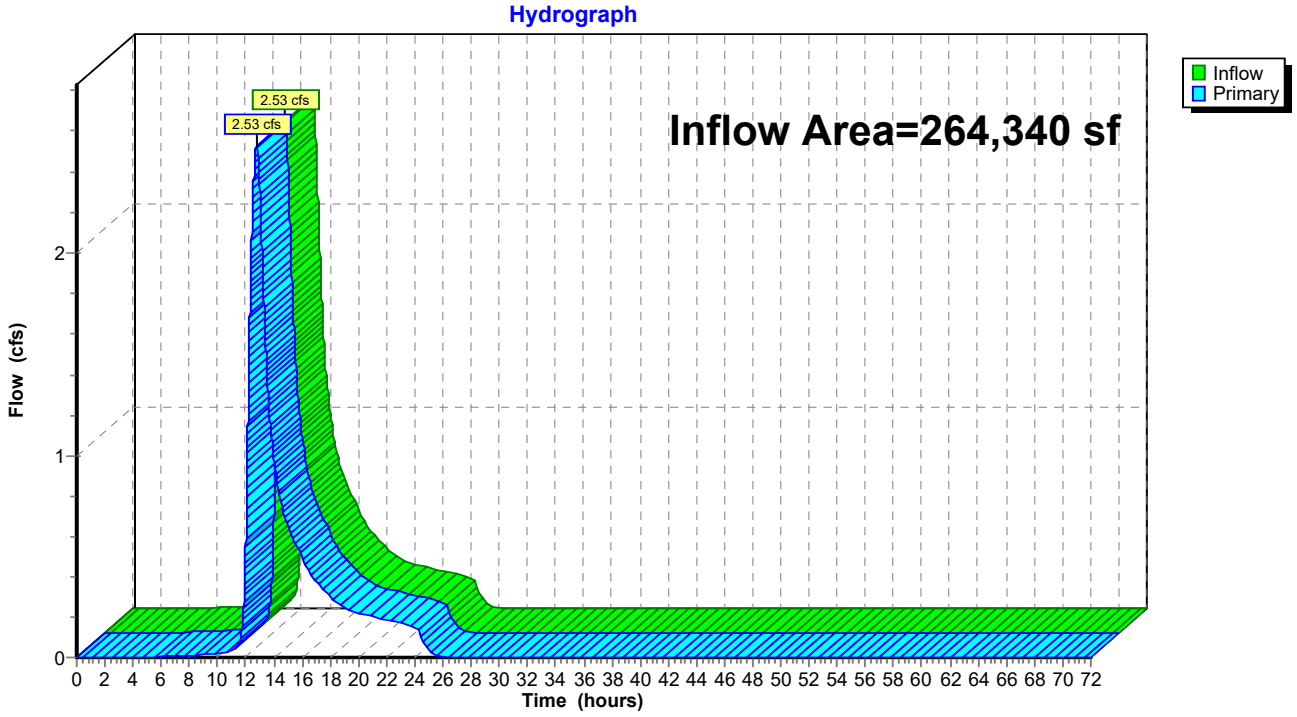


Summary for Link AP#2: Analysis Point 2

Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 1.17" for 10-Year event
Inflow = 2.53 cfs @ 12.78 hrs, Volume= 25,767 cf
Primary = 2.53 cfs @ 12.78 hrs, Volume= 25,767 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

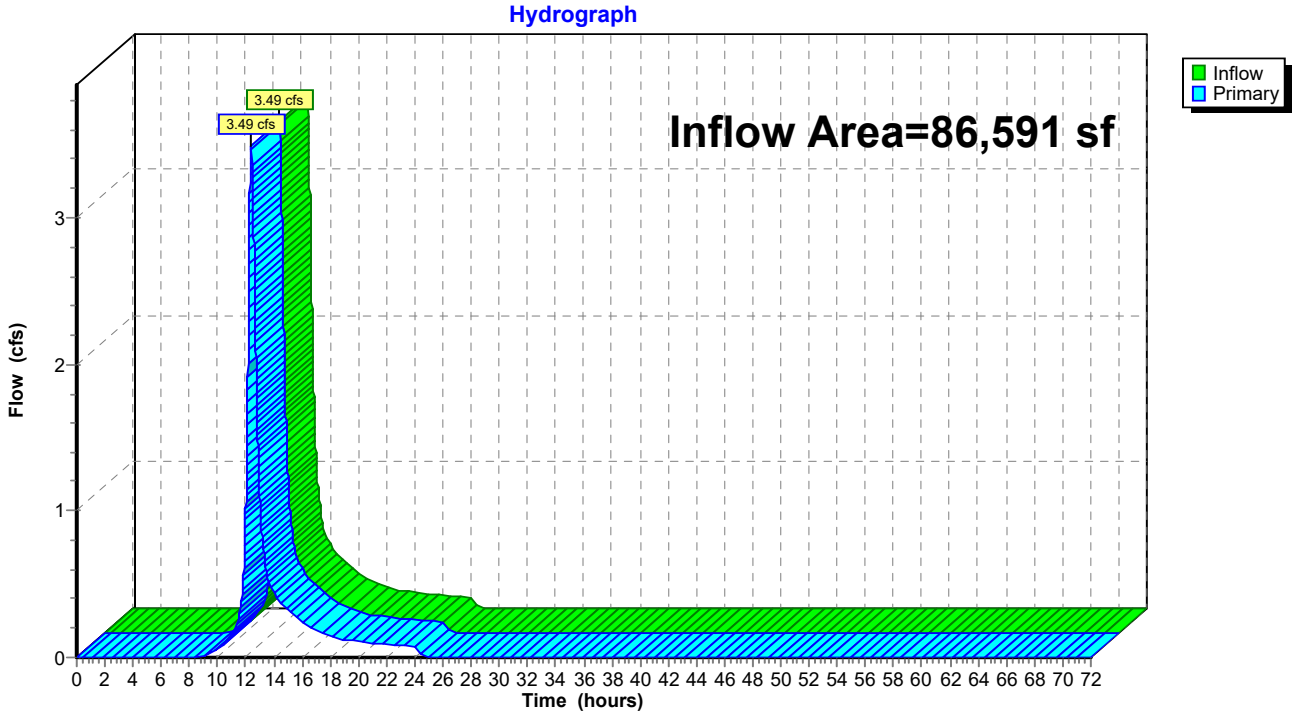


Summary for Link AP#3: Analysis Point 3

Inflow Area = 86,591 sf, 0.56% Impervious, Inflow Depth = 2.54" for 10-Year event
Inflow = 3.49 cfs @ 12.37 hrs, Volume= 18,325 cf
Primary = 3.49 cfs @ 12.37 hrs, Volume= 18,325 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

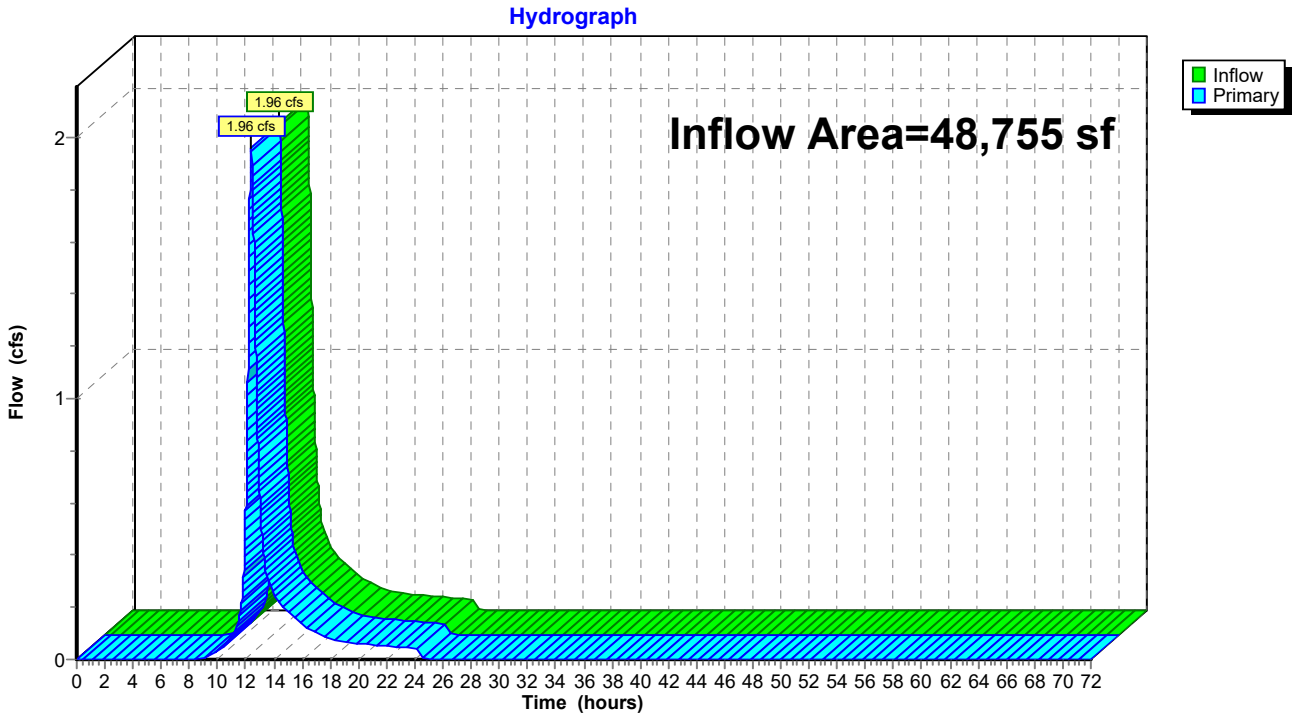


Summary for Link AP#4: Analysis Point 4

Inflow Area = 48,755 sf, 0.00% Impervious, Inflow Depth = 2.54" for 10-Year event
Inflow = 1.96 cfs @ 12.38 hrs, Volume= 10,318 cf
Primary = 1.96 cfs @ 12.38 hrs, Volume= 10,318 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

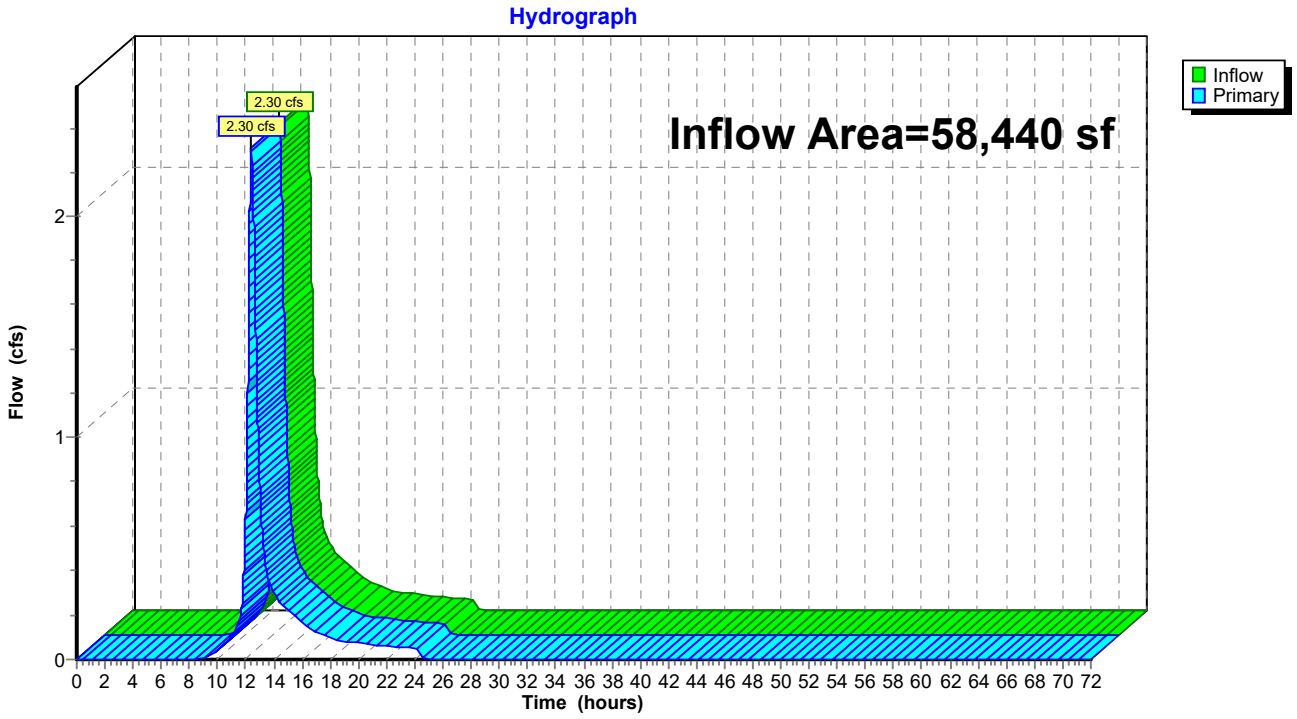


Summary for Link AP#5: Analysis Point 5

Inflow Area = 58,440 sf, 2.22% Impervious, Inflow Depth = 2.54" for 10-Year event
Inflow = 2.30 cfs @ 12.40 hrs, Volume= 12,368 cf
Primary = 2.30 cfs @ 12.40 hrs, Volume= 12,368 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

SubcatchmentS1: SubcatchmentS1 Runoff Area=9,607 sf 0.00% Impervious Runoff Depth=3.65"
Flow Length=166' Tc=22.5 min CN=77 Runoff=0.61 cfs 2,926 cf

SubcatchmentS2.1: SubcatchmentS2.1 Runoff Area=209,689 sf 11.16% Impervious Runoff Depth=1.80"
Flow Length=1,167' Tc=55.6 min CN=57 Runoff=3.83 cfs 31,431 cf

SubcatchmentS2.2: SubcatchmentS2.2 Runoff Area=4,021 sf 95.82% Impervious Runoff Depth=5.73"
Flow Length=195' Tc=6.0 min CN=96 Runoff=0.55 cfs 1,919 cf

SubcatchmentS2.3: SubcatchmentS2.3 Runoff Area=17,765 sf 0.00% Impervious Runoff Depth=1.80"
Flow Length=219' Tc=16.4 min CN=57 Runoff=0.57 cfs 2,663 cf

SubcatchmentS2.4: SubcatchmentS2.4 Runoff Area=32,865 sf 43.82% Impervious Runoff Depth=2.50"
Flow Length=298' Tc=23.6 min CN=65 Runoff=1.36 cfs 6,841 cf

SubcatchmentS3: SubcatchmentS3 Runoff Area=86,591 sf 0.56% Impervious Runoff Depth=3.65"
Flow Length=348' Tc=27.2 min CN=77 Runoff=5.04 cfs 26,369 cf

SubcatchmentS4: SubcatchmentS4 Runoff Area=48,755 sf 0.00% Impervious Runoff Depth=3.65"
Flow Length=376' Tc=27.5 min CN=77 Runoff=2.82 cfs 14,847 cf

SubcatchmentS5: SubcatchmentS5 Runoff Area=58,440 sf 2.22% Impervious Runoff Depth=3.65"
Flow Length=226' Tc=28.7 min CN=77 Runoff=3.32 cfs 17,796 cf

Pond 1P: Catch Basin 2 Peak Elev=44.77' Inflow=3.87 cfs 42,857 cf
15.0" Round Culvert n=0.013 L=106.6' S=0.0050 '/' Outflow=3.87 cfs 42,857 cf

Pond C1: Culvert 1 Peak Elev=52.64' Inflow=3.83 cfs 31,431 cf
16.0" Round Culvert n=0.025 L=160.0' S=0.0085 '/' Outflow=3.83 cfs 31,431 cf

Pond CB1: Catch Basin 1 Peak Elev=50.81' Inflow=0.55 cfs 1,919 cf
12.0" Round Culvert n=0.011 L=61.0' S=0.0054 '/' Outflow=0.55 cfs 1,919 cf

Pond DP1: Detention Pond 1 Peak Elev=49.88' Storage=1,303 cf Inflow=4.06 cfs 36,013 cf
12.0" Round Culvert n=0.020 L=105.0' S=0.0326 '/' Outflow=3.50 cfs 36,016 cf

Link AP#1: Analysis Point 1 Inflow=0.61 cfs 2,926 cf
Primary=0.61 cfs 2,926 cf

Link AP#2: Analysis Point 2 Inflow=3.87 cfs 42,857 cf
Primary=3.87 cfs 42,857 cf

Link AP#3: Analysis Point 3 Inflow=5.04 cfs 26,369 cf
Primary=5.04 cfs 26,369 cf

Link AP#4: Analysis Point 4 Inflow=2.82 cfs 14,847 cf
Primary=2.82 cfs 14,847 cf

Link AP#5: Analysis Point 5 Inflow=3.32 cfs 17,796 cf
Primary=3.32 cfs 17,796 cf

Total Runoff Area = 467,733 sf Runoff Volume = 104,792 cf Average Runoff Depth = 2.69"
90.72% Pervious = 424,306 sf 9.28% Impervious = 43,427 sf

Summary for Subcatchment S1: Subcatchment S1

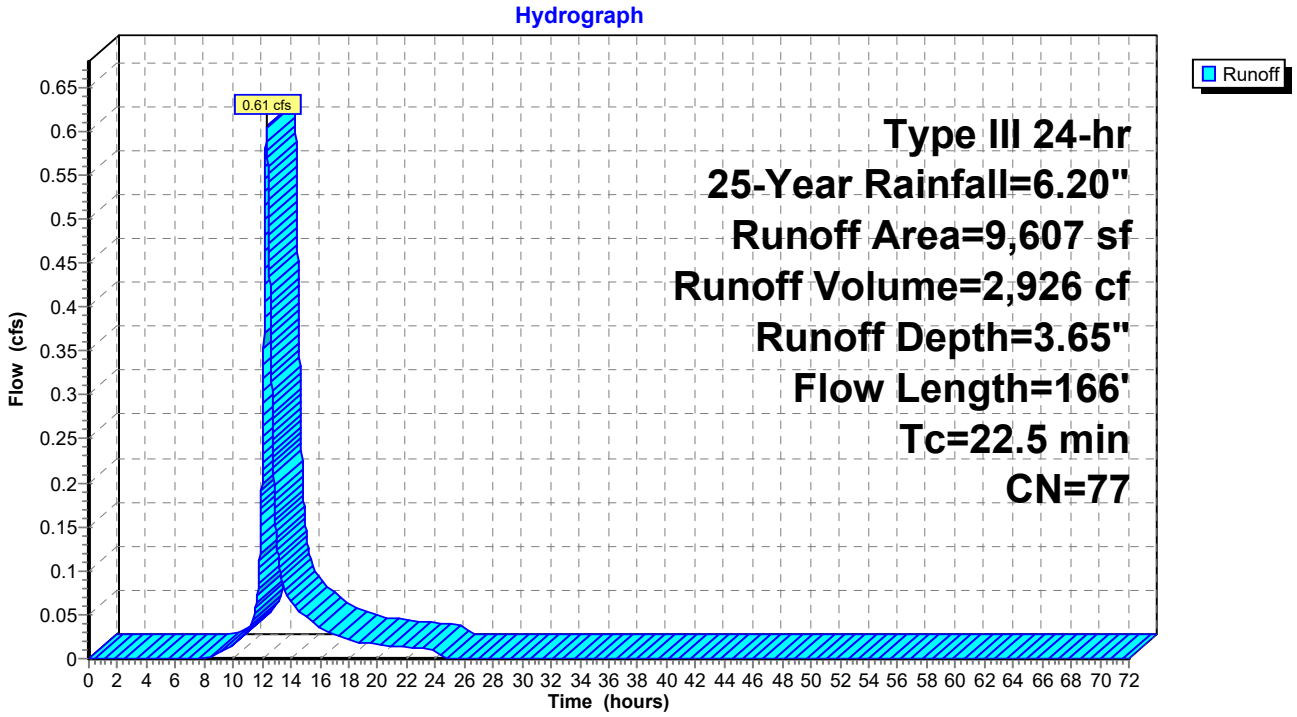
Runoff = 0.61 cfs @ 12.32 hrs, Volume= 2,926 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
87	30	Woods, Good, HSG A
9,520	77	Woods, Good, HSG D
9,607	77	Weighted Average
9,607		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	150	0.0400	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.3	16	0.0381	0.98		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.5	166	Total			

Subcatchment S1: Subcatchment S1



Summary for Subcatchment S2.1: Subcatchment S2.1

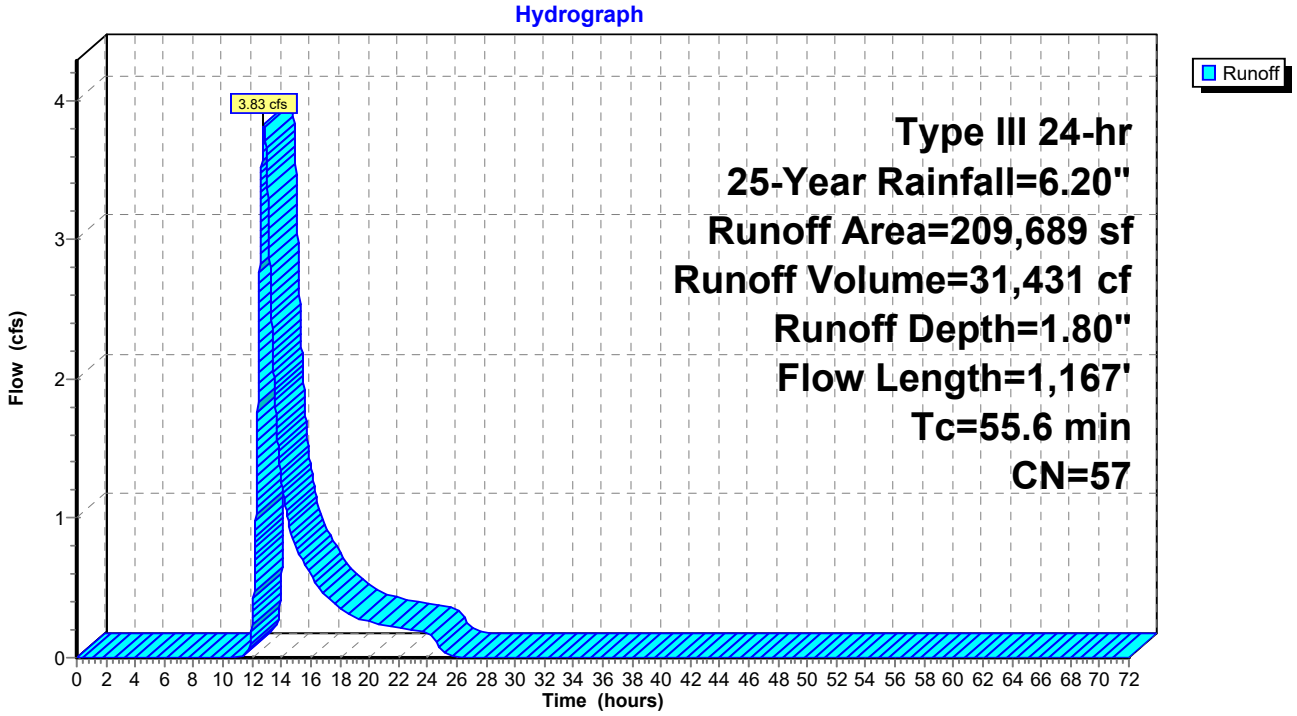
Runoff = 3.83 cfs @ 12.80 hrs, Volume= 31,431 cf, Depth= 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
	8,317	39	>75% Grass cover, Good, HSG A
	8,025	80	>75% Grass cover, Good, HSG D
	8,205	98	Paved parking, HSG D
*	15,186	98	Parking/Building HSG A
	92,645	30	Woods, Good, HSG A
	77,311	77	Woods, Good, HSG D
	209,689	57	Weighted Average
	186,298		88.84% Pervious Area
	23,391		11.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.2	150	0.0200	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
5.8	300	0.0300	0.87		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
9.5	300	0.0110	0.52		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
8.7	300	0.0133	0.58		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
2.4	117	0.0256	0.80		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
55.6	1,167	Total			

Subcatchment S2.1: Subcatchment S2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

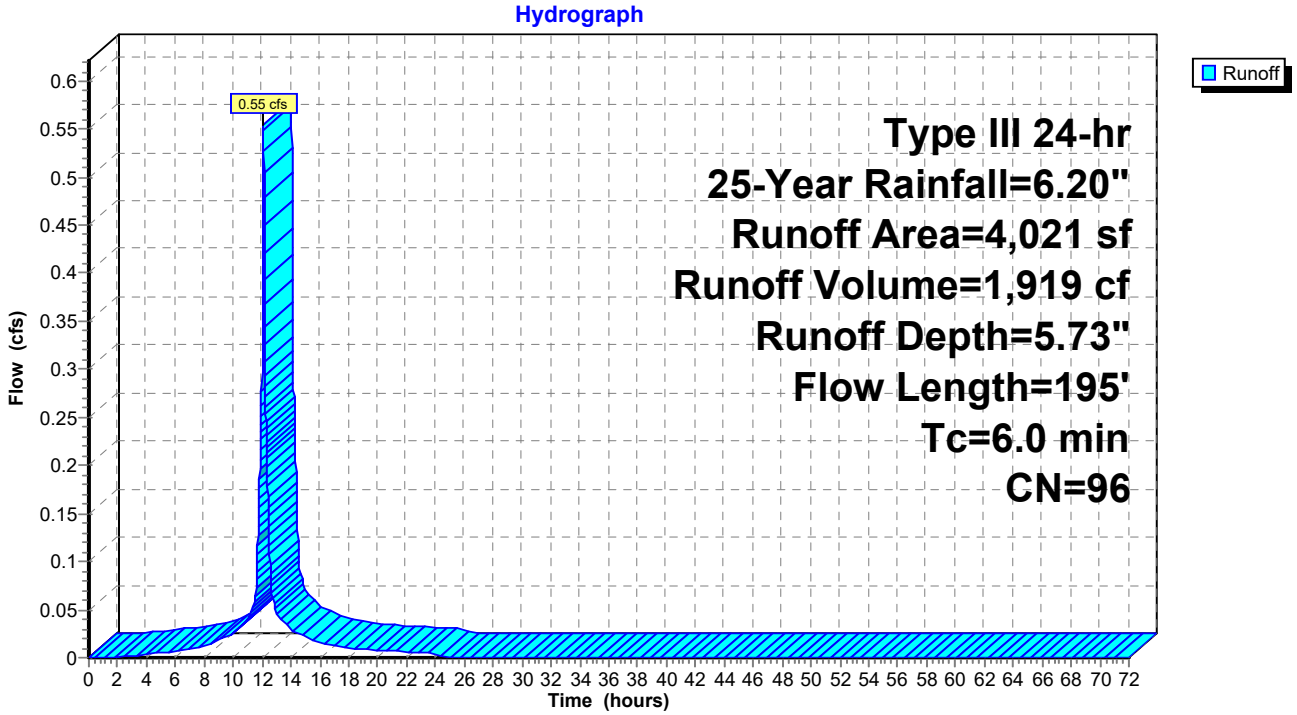
Runoff = 0.55 cfs @ 12.08 hrs, Volume= 1,919 cf, Depth= 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
168	39	>75% Grass cover, Good, HSG A
3,555	98	Paved parking, HSG A
298	98	Paved parking, HSG D
4,021	96	Weighted Average
168		4.18% Pervious Area
3,853		95.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	150	0.0392	1.98		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.30"
0.2	45	0.0362	3.86		**Shallow Concentrated Flow, BC** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 6.0 min			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment S2.3

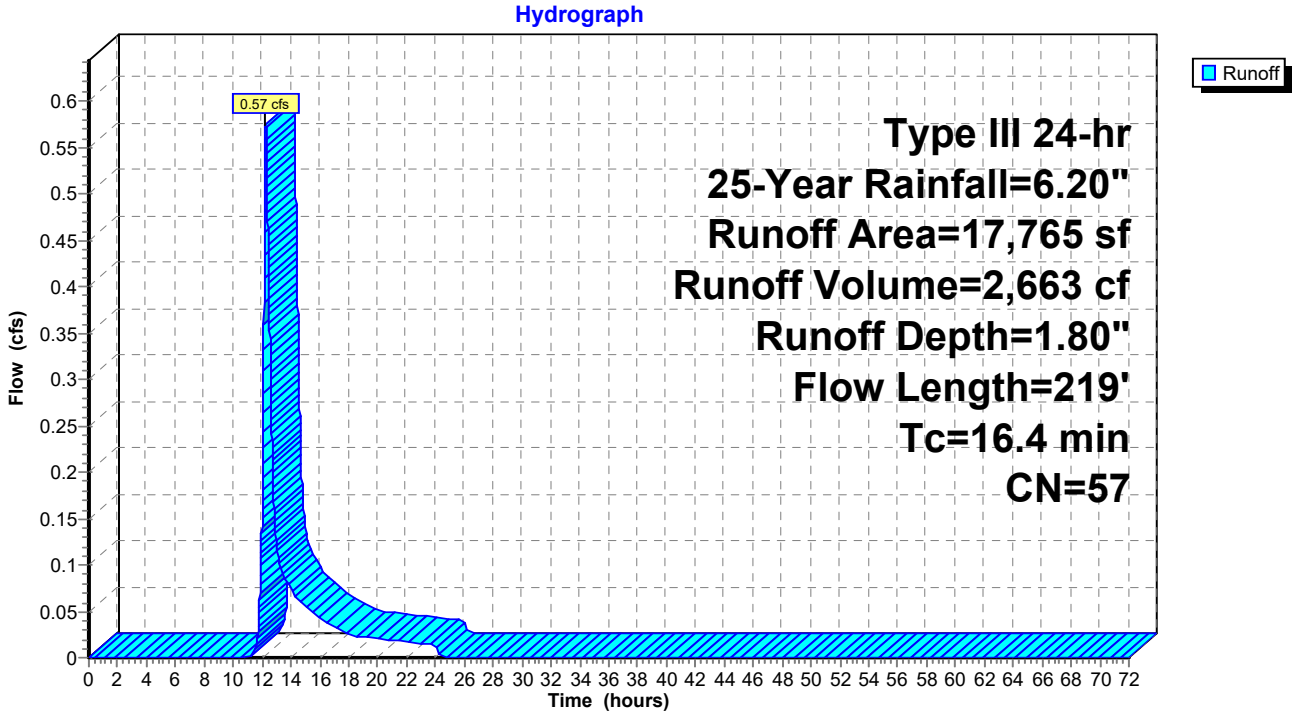
Runoff = 0.57 cfs @ 12.25 hrs, Volume= 2,663 cf, Depth= 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
205	30	Woods, Good, HSG A
1,312	77	Woods, Good, HSG D
6,540	80	>75% Grass cover, Good, HSG D
9,708	39	>75% Grass cover, Good, HSG A
17,765	57	Weighted Average
17,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	150	0.0926	0.16		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.6	69	0.0864	2.06		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
16.4	219	Total			

Subcatchment S2.3: Subcatchment S2.3



Summary for Subcatchment S2.4: Subcatchment S2.4

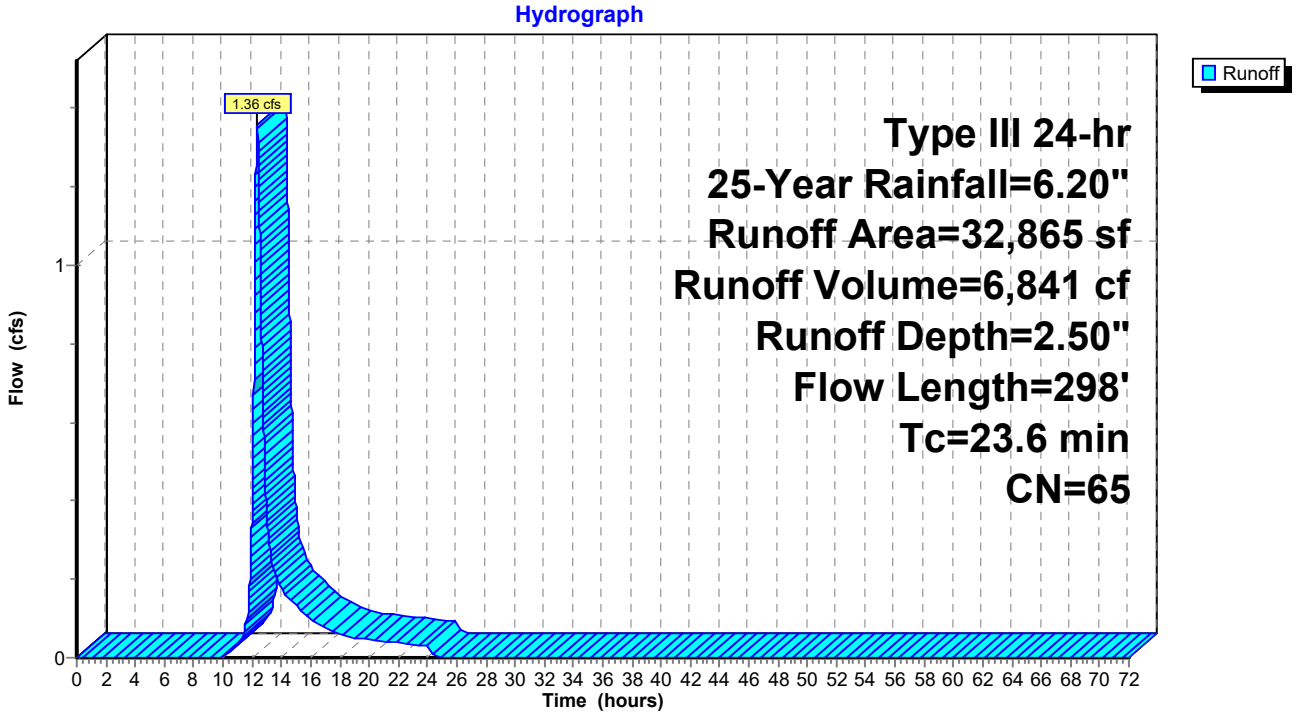
Runoff = 1.36 cfs @ 12.35 hrs, Volume= 6,841 cf, Depth= 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
8,277	98	Paved parking, HSG A
32,865	65	Weighted Average
18,462		56.18% Pervious Area
14,403		43.82% Impervious Area
6,060		42.07% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	150	0.0466	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.7	148	0.0322	0.90		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
23.6	298	Total			

Subcatchment S2.4: Subcatchment S2.4



Summary for Subcatchment S3: Subcatchment S3

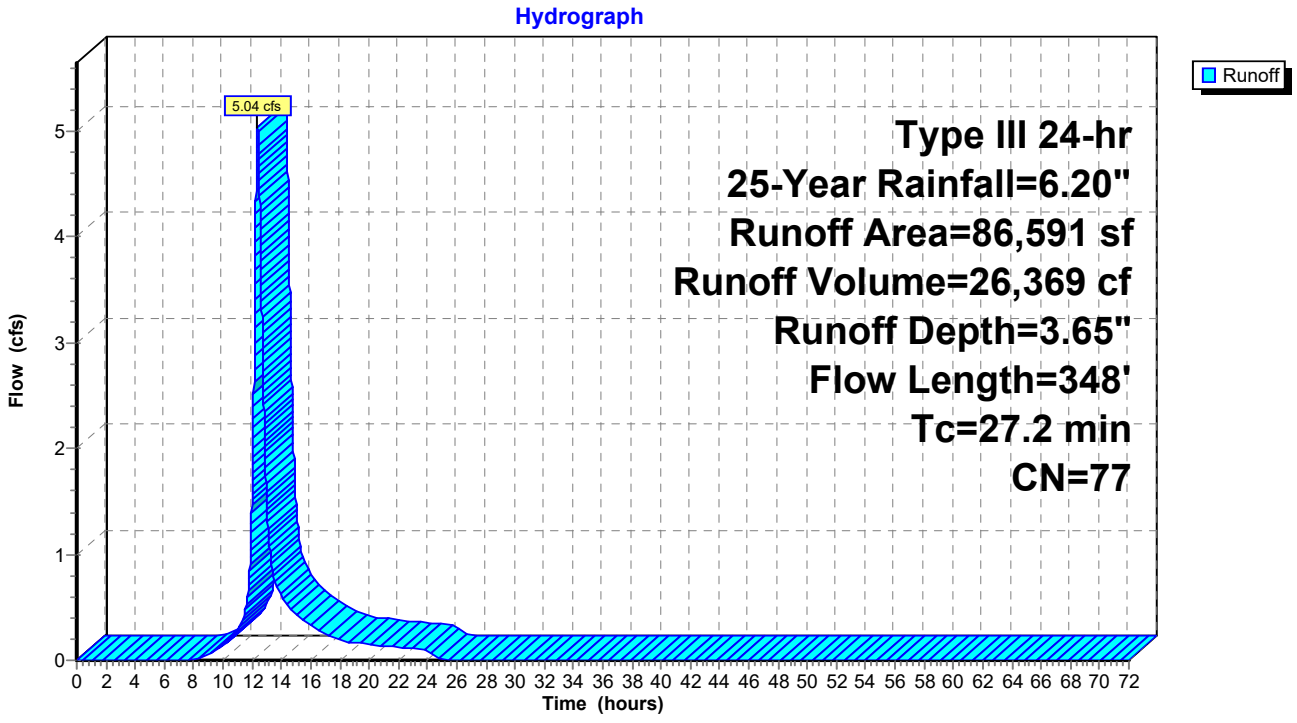
Runoff = 5.04 cfs @ 12.37 hrs, Volume= 26,369 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
	86,108	77	Woods, Good, HSG D
*	483	98	Wetland, HSG D
	86,591	77	Weighted Average
	86,108		99.44% Pervious Area
	483		0.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	150	0.0490	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
6.8	198	0.0093	0.48		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.2	348	Total			

Subcatchment S3: Subcatchment S3



Summary for Subcatchment S4: Subcatchment S4

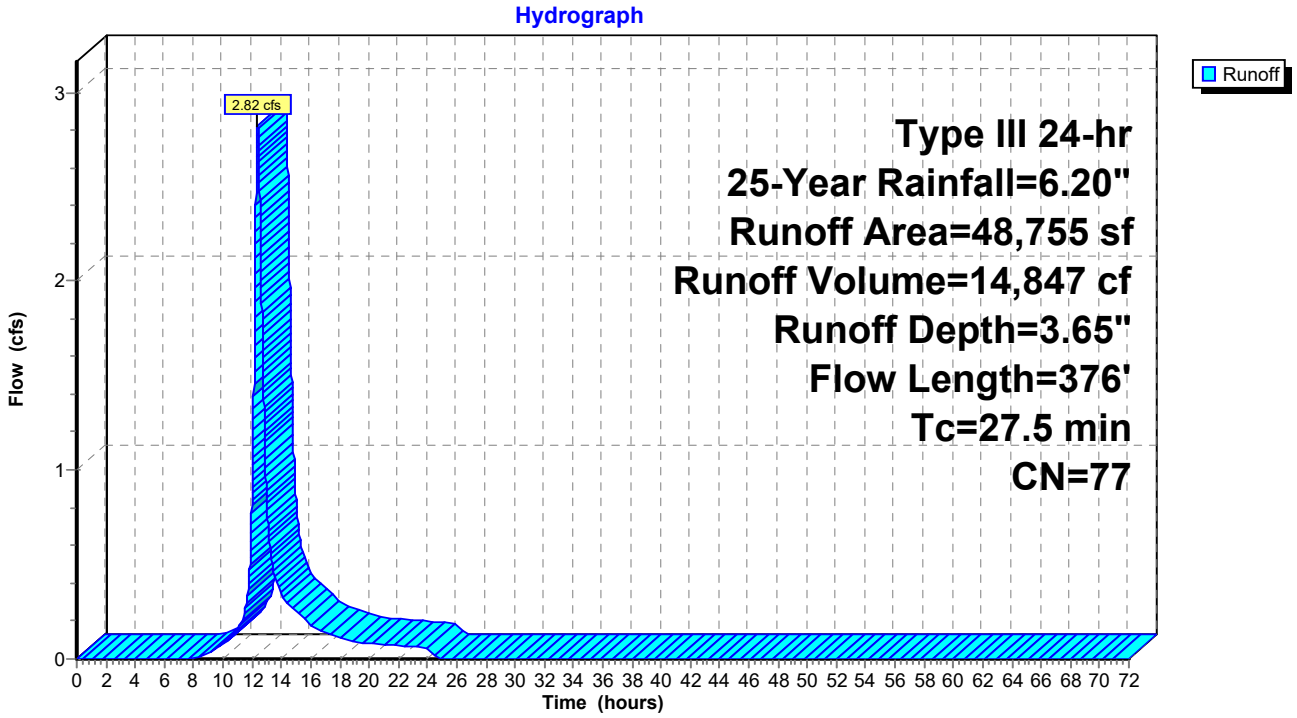
Runoff = 2.82 cfs @ 12.38 hrs, Volume= 14,847 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
48,755	77	Woods, Good, HSG D
48,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.9	150	0.0333	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
3.6	226	0.0440	1.05		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.5	376	Total			

Subcatchment S4: Subcatchment S4



Summary for Subcatchment S5: Subcatchment S5

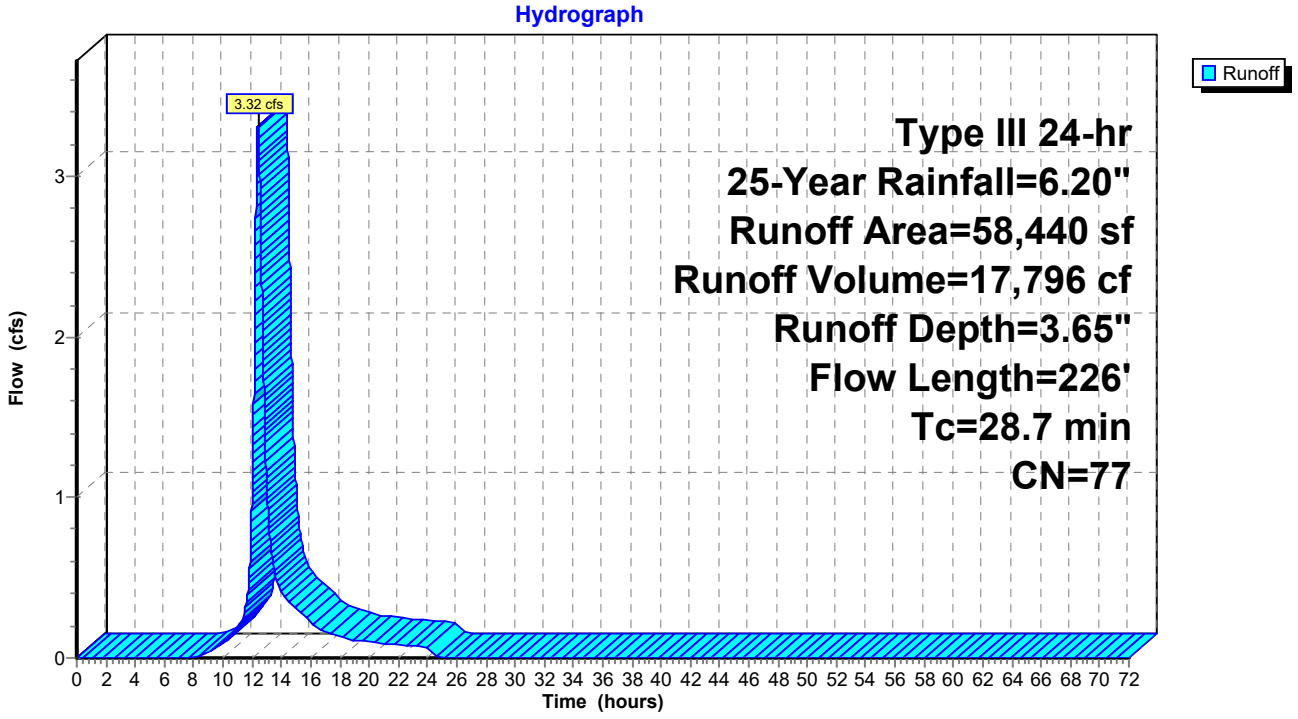
Runoff = 3.32 cfs @ 12.40 hrs, Volume= 17,796 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
	57,143	77	Woods, Good, HSG D
*	1,297	98	Wetland, HSG D
	58,440	77	Weighted Average
	57,143		97.78% Pervious Area
	1,297		2.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	64	0.0248	0.08		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
13.5	88	0.0477	0.11		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
1.6	74	0.0242	0.78		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
28.7	226	Total			

Subcatchment S5: Subcatchment S5



Summary for Pond 1P: Catch Basin 2

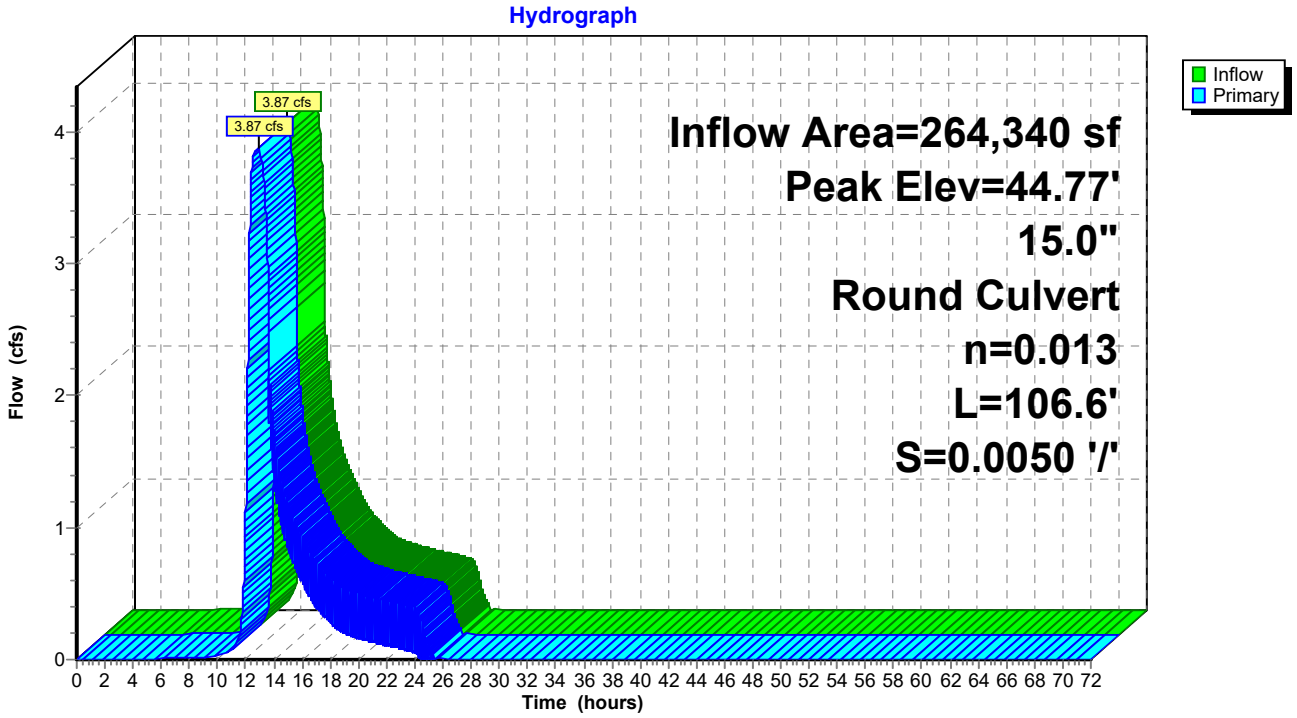
Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 1.95" for 25-Year event
Inflow = 3.87 cfs @ 12.87 hrs, Volume= 42,857 cf
Outflow = 3.87 cfs @ 12.87 hrs, Volume= 42,857 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.87 cfs @ 12.87 hrs, Volume= 42,857 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 44.77' @ 12.87 hrs
Flood Elev= 46.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.50'	**15.0" Round Culvert** L= 106.6' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 43.50' / 42.97' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.87 cfs @ 12.87 hrs HW=44.77' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.87 cfs @ 3.88 fps)

Pond 1P: Catch Basin 2



Summary for Pond C1: Culvert 1

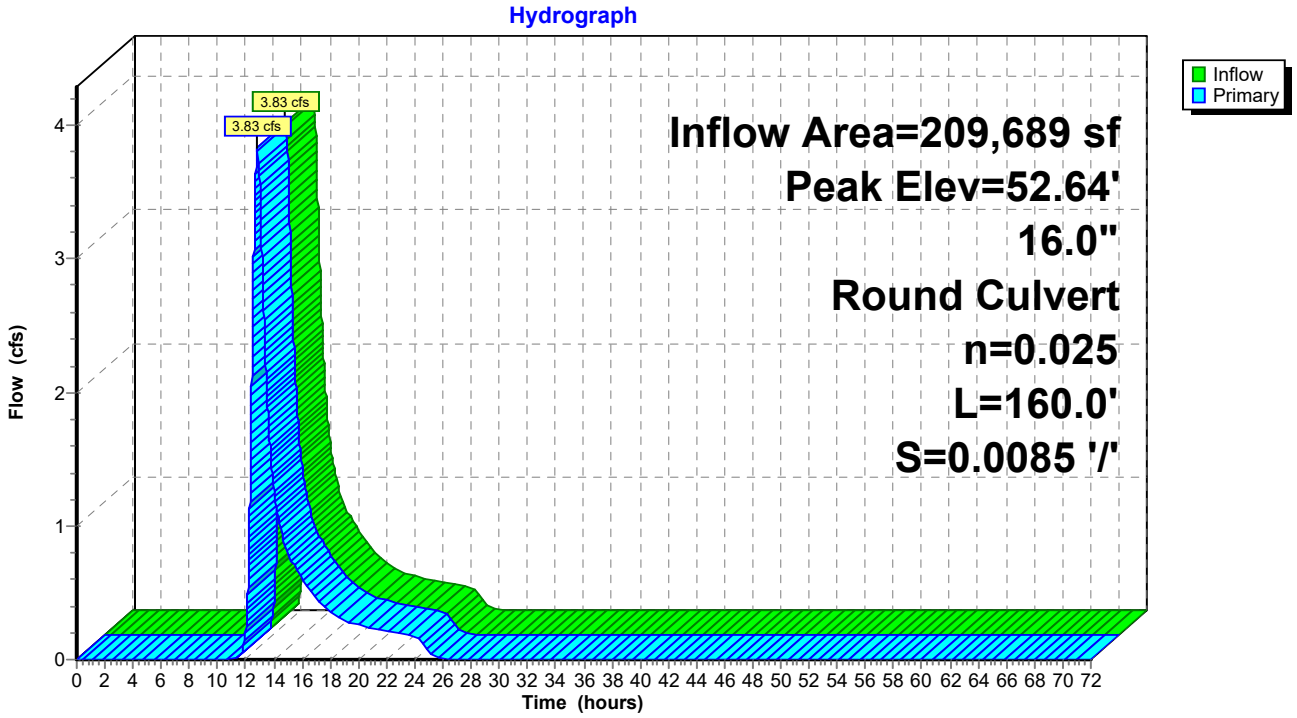
Inflow Area = 209,689 sf, 11.16% Impervious, Inflow Depth = 1.80" for 25-Year event
Inflow = 3.83 cfs @ 12.80 hrs, Volume= 31,431 cf
Outflow = 3.83 cfs @ 12.80 hrs, Volume= 31,431 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.83 cfs @ 12.80 hrs, Volume= 31,431 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.64' @ 12.80 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.16'	**16.0" Round Culvert** L= 160.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.16' / 49.80' S= 0.0085 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=3.83 cfs @ 12.80 hrs HW=52.64' TW=49.73' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.83 cfs @ 3.09 fps)

Pond C1: Culvert 1



Summary for Pond CB1: Catch Basin 1

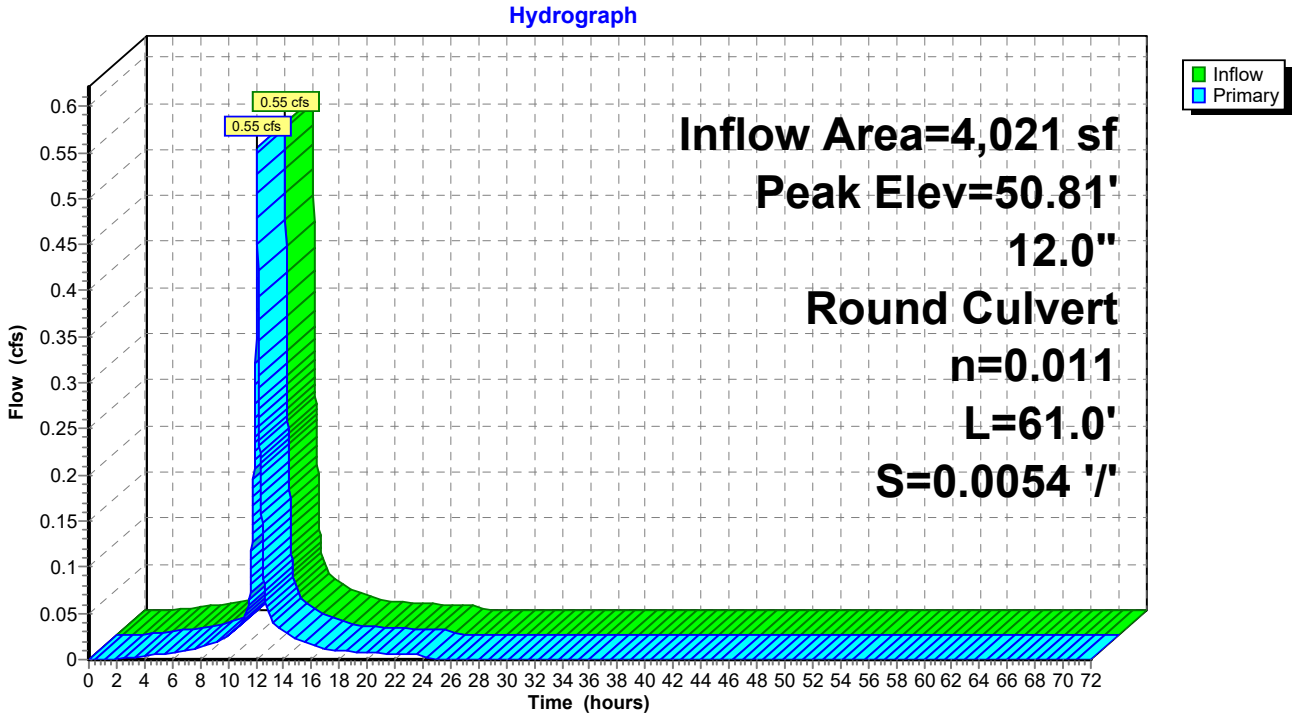
Inflow Area = 4,021 sf, 95.82% Impervious, Inflow Depth = 5.73" for 25-Year event
Inflow = 0.55 cfs @ 12.08 hrs, Volume= 1,919 cf
Outflow = 0.55 cfs @ 12.08 hrs, Volume= 1,919 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.55 cfs @ 12.08 hrs, Volume= 1,919 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.81' @ 12.08 hrs
Flood Elev= 53.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.40'	**12.0" Round Culvert** L= 61.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 50.40' / 50.07' S= 0.0054 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.55 cfs @ 12.08 hrs HW=50.81' TW=49.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.55 cfs @ 2.68 fps)

Pond CB1: Catch Basin 1



Summary for Pond DP1: Detention Pond 1

Inflow Area = 231,475 sf, 11.77% Impervious, Inflow Depth = 1.87" for 25-Year event
Inflow = 4.06 cfs @ 12.79 hrs, Volume= 36,013 cf
Outflow = 3.50 cfs @ 13.06 hrs, Volume= 36,016 cf, Atten= 14%, Lag= 16.2 min
Primary = 3.50 cfs @ 13.06 hrs, Volume= 36,016 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.88' @ 13.06 hrs Surf.Area= 2,977 sf Storage= 1,303 cf
Flood Elev= 52.00' Surf.Area= 4,820 sf Storage= 7,829 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 1.6 min (905.3 - 903.8)

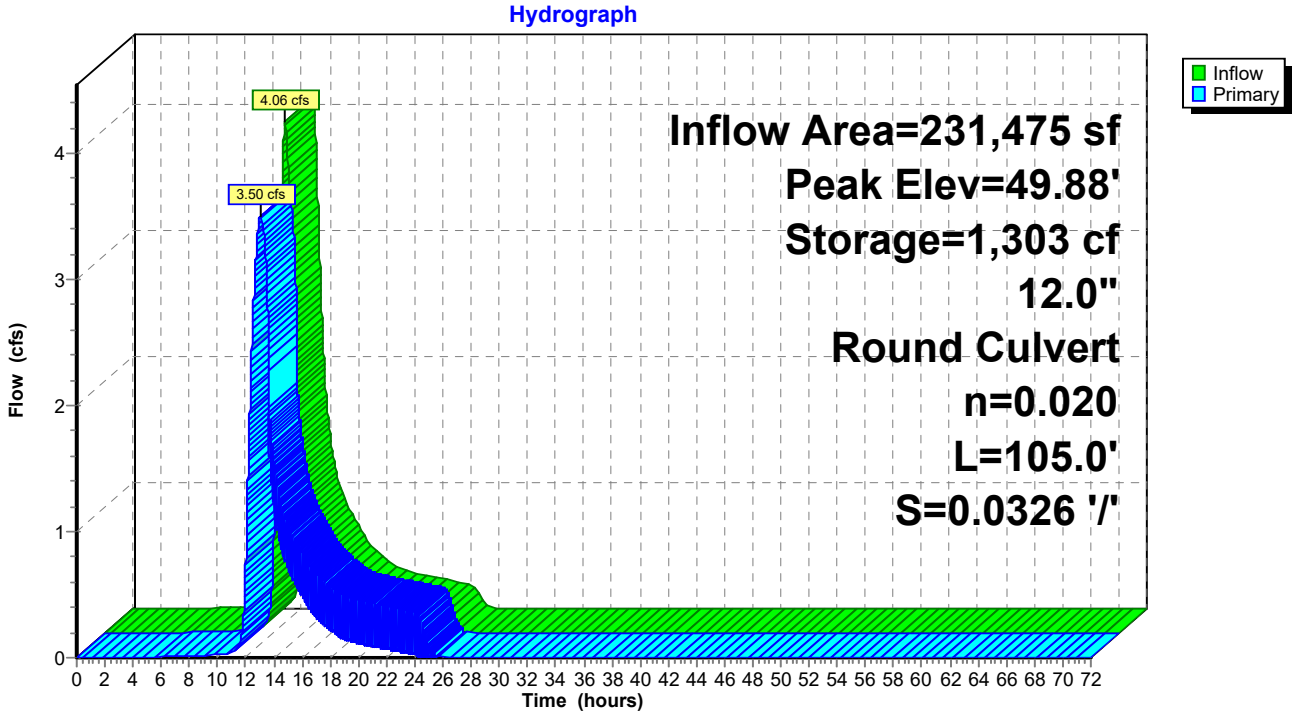
Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	7,829 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
49.00	0	0	0
50.00	3,400	1,700	1,700
51.00	4,299	3,850	5,550
51.50	4,820	2,280	7,829

Device	Routing	Invert	Outlet Devices
#1	Primary	48.00'	**12.0" Round Culvert** L= 105.0' Ke= 0.900 Inlet / Outlet Invert= 48.00' / 44.58' S= 0.0326 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.50 cfs @ 13.06 hrs HW=49.88' TW=44.76' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 3.50 cfs @ 4.46 fps)

Pond DP1: Detention Pond 1

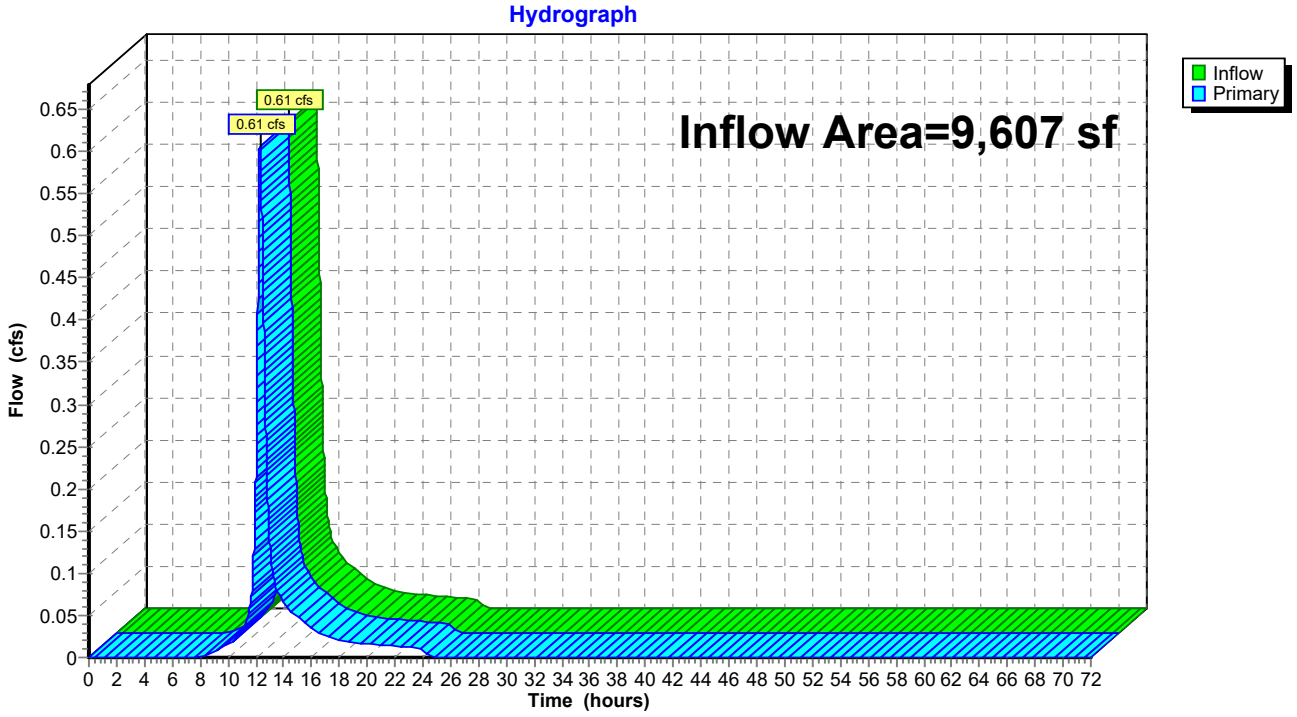


Summary for Link AP#1: Analysis Point 1

Inflow Area = 9,607 sf, 0.00% Impervious, Inflow Depth = 3.65" for 25-Year event
Inflow = 0.61 cfs @ 12.32 hrs, Volume= 2,926 cf
Primary = 0.61 cfs @ 12.32 hrs, Volume= 2,926 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

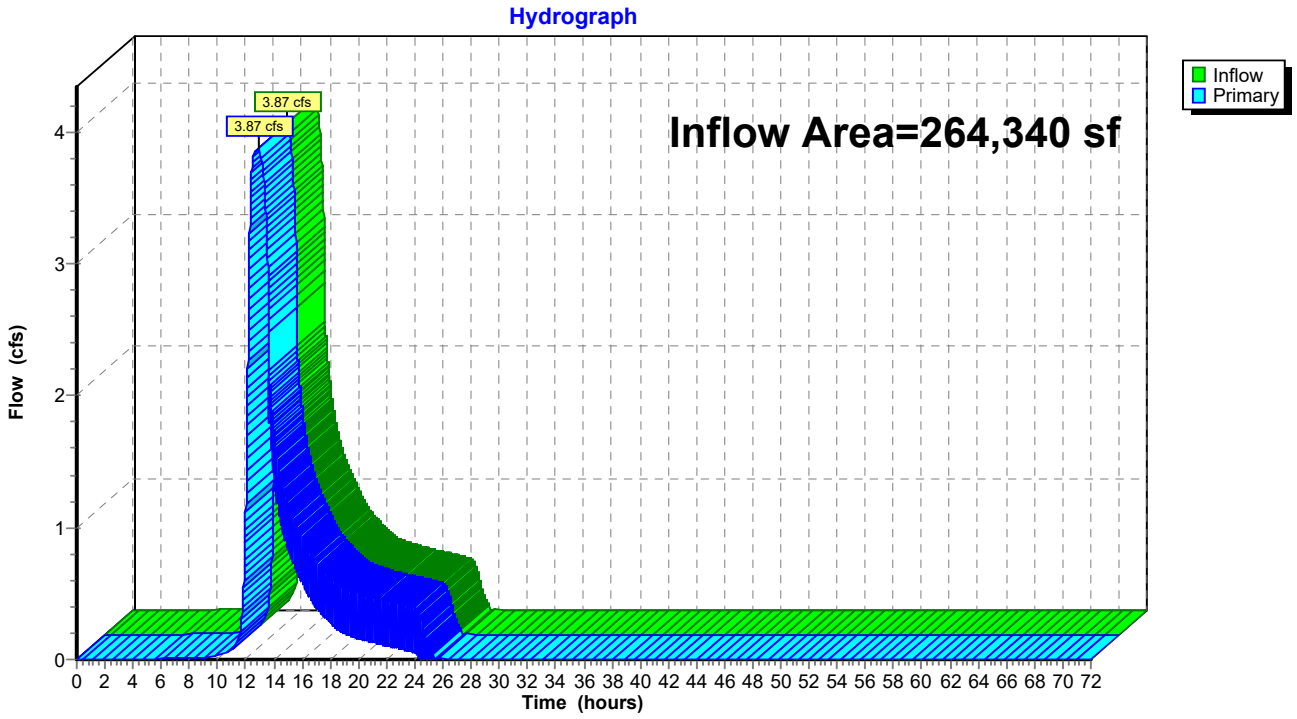


Summary for Link AP#2: Analysis Point 2

Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 1.95" for 25-Year event
Inflow = 3.87 cfs @ 12.87 hrs, Volume= 42,857 cf
Primary = 3.87 cfs @ 12.87 hrs, Volume= 42,857 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

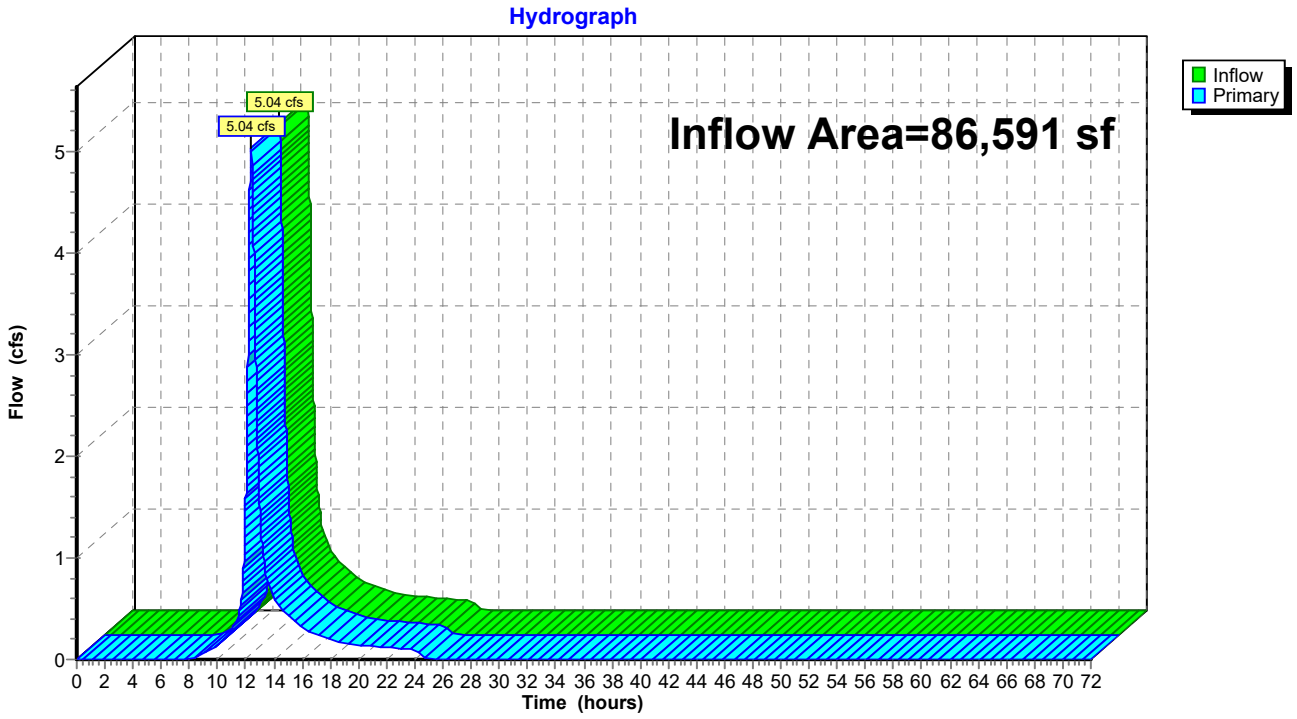


Summary for Link AP#3: Analysis Point 3

Inflow Area = 86,591 sf, 0.56% Impervious, Inflow Depth = 3.65" for 25-Year event
Inflow = 5.04 cfs @ 12.37 hrs, Volume= 26,369 cf
Primary = 5.04 cfs @ 12.37 hrs, Volume= 26,369 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

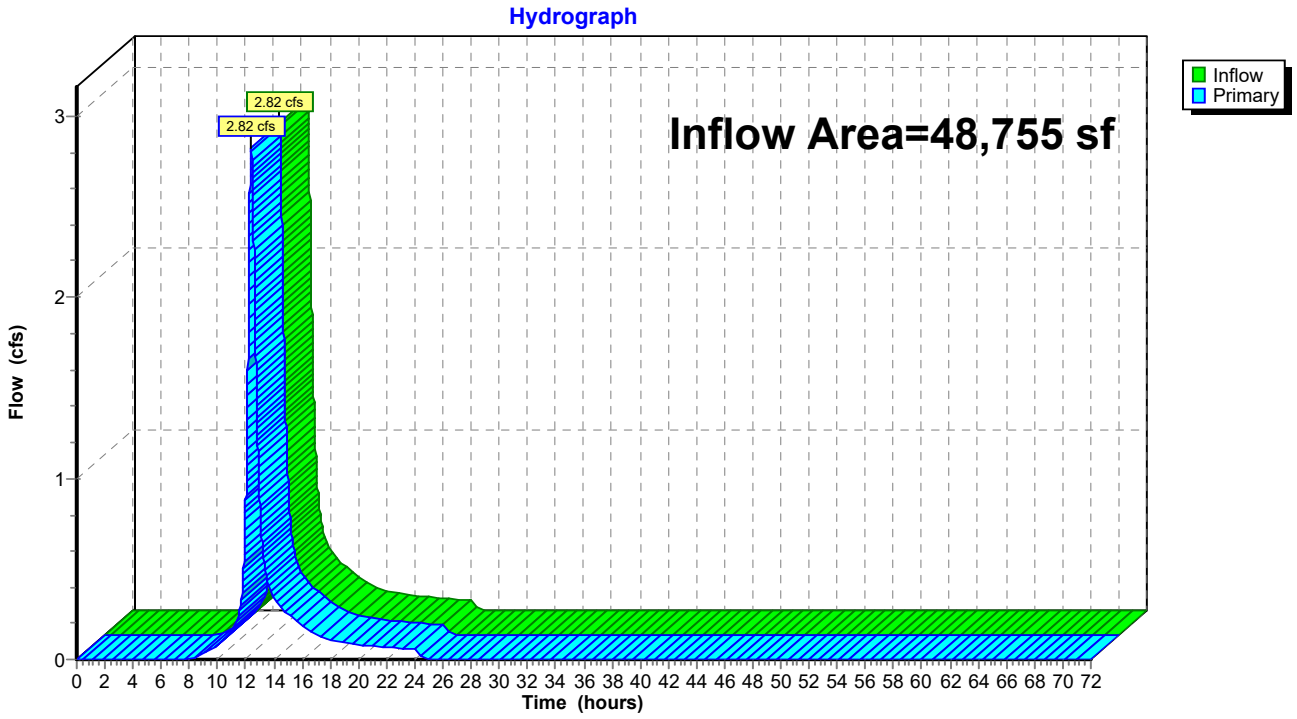


Summary for Link AP#4: Analysis Point 4

Inflow Area = 48,755 sf, 0.00% Impervious, Inflow Depth = 3.65" for 25-Year event
Inflow = 2.82 cfs @ 12.38 hrs, Volume= 14,847 cf
Primary = 2.82 cfs @ 12.38 hrs, Volume= 14,847 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

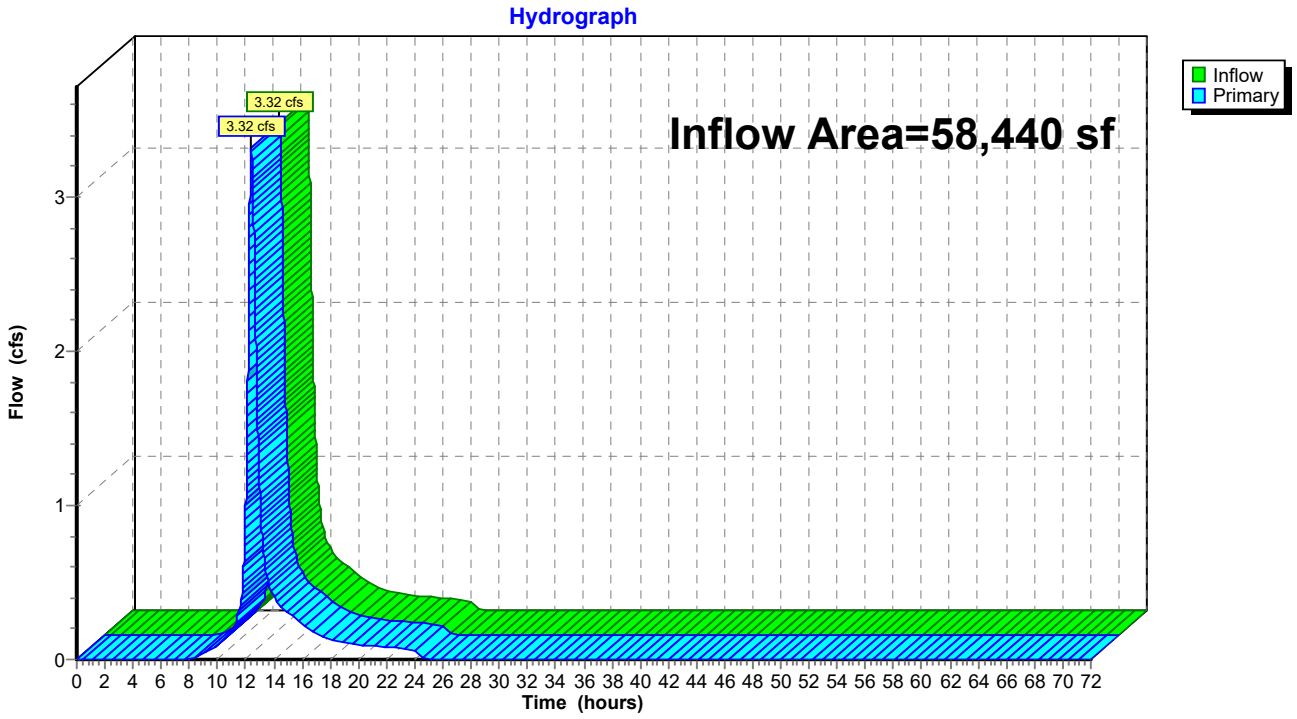


Summary for Link AP#5: Analysis Point 5

Inflow Area = 58,440 sf, 2.22% Impervious, Inflow Depth = 3.65" for 25-Year event
Inflow = 3.32 cfs @ 12.40 hrs, Volume= 17,796 cf
Primary = 3.32 cfs @ 12.40 hrs, Volume= 17,796 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

SubcatchmentS1: SubcatchmentS1 Runoff Area=9,607 sf 0.00% Impervious Runoff Depth=4.64"
Flow Length=166' Tc=22.5 min CN=77 Runoff=0.77 cfs 3,712 cf

SubcatchmentS2.1: SubcatchmentS2.1 Runoff Area=209,689 sf 11.16% Impervious Runoff Depth=2.52"
Flow Length=1,167' Tc=55.6 min CN=57 Runoff=5.57 cfs 43,948 cf

SubcatchmentS2.2: SubcatchmentS2.2 Runoff Area=4,021 sf 95.82% Impervious Runoff Depth=6.82"
Flow Length=195' Tc=6.0 min CN=96 Runoff=0.66 cfs 2,286 cf

SubcatchmentS2.3: SubcatchmentS2.3 Runoff Area=17,765 sf 0.00% Impervious Runoff Depth=2.52"
Flow Length=219' Tc=16.4 min CN=57 Runoff=0.84 cfs 3,723 cf

SubcatchmentS2.4: SubcatchmentS2.4 Runoff Area=32,865 sf 43.82% Impervious Runoff Depth=3.34"
Flow Length=298' Tc=23.6 min CN=65 Runoff=1.84 cfs 9,137 cf

SubcatchmentS3: SubcatchmentS3 Runoff Area=86,591 sf 0.56% Impervious Runoff Depth=4.64"
Flow Length=348' Tc=27.2 min CN=77 Runoff=6.38 cfs 33,456 cf

SubcatchmentS4: SubcatchmentS4 Runoff Area=48,755 sf 0.00% Impervious Runoff Depth=4.64"
Flow Length=376' Tc=27.5 min CN=77 Runoff=3.58 cfs 18,837 cf

SubcatchmentS5: SubcatchmentS5 Runoff Area=58,440 sf 2.22% Impervious Runoff Depth=4.64"
Flow Length=226' Tc=28.7 min CN=77 Runoff=4.20 cfs 22,579 cf

Pond 1P: Catch Basin 2 Peak Elev=45.09' Inflow=4.79 cfs 59,097 cf
15.0" Round Culvert n=0.013 L=106.6' S=0.0050 '/' Outflow=4.79 cfs 59,097 cf

Pond C1: Culvert 1 Peak Elev=54.73' Inflow=5.57 cfs 43,948 cf
16.0" Round Culvert n=0.025 L=160.0' S=0.0085 '/' Outflow=5.57 cfs 43,948 cf

Pond CB1: Catch Basin 1 Peak Elev=50.85' Inflow=0.66 cfs 2,286 cf
12.0" Round Culvert n=0.011 L=61.0' S=0.0054 '/' Outflow=0.66 cfs 2,286 cf

Pond DP1: Detention Pond 1 Peak Elev=50.65' Storage=4,105 cf Inflow=5.87 cfs 49,958 cf
12.0" Round Culvert n=0.020 L=105.0' S=0.0326 '/' Outflow=4.38 cfs 49,959 cf

Link AP#1: Analysis Point 1 Inflow=0.77 cfs 3,712 cf
Primary=0.77 cfs 3,712 cf

Link AP#2: Analysis Point 2 Inflow=4.79 cfs 59,097 cf
Primary=4.79 cfs 59,097 cf

Link AP#3: Analysis Point 3 Inflow=6.38 cfs 33,456 cf
Primary=6.38 cfs 33,456 cf

Link AP#4: Analysis Point 4 Inflow=3.58 cfs 18,837 cf
Primary=3.58 cfs 18,837 cf

Link AP#5: Analysis Point 5 Inflow=4.20 cfs 22,579 cf
Primary=4.20 cfs 22,579 cf

Total Runoff Area = 467,733 sf Runoff Volume = 137,679 cf Average Runoff Depth = 3.53"
90.72% Pervious = 424,306 sf 9.28% Impervious = 43,427 sf

Summary for Subcatchment S1: Subcatchment S1

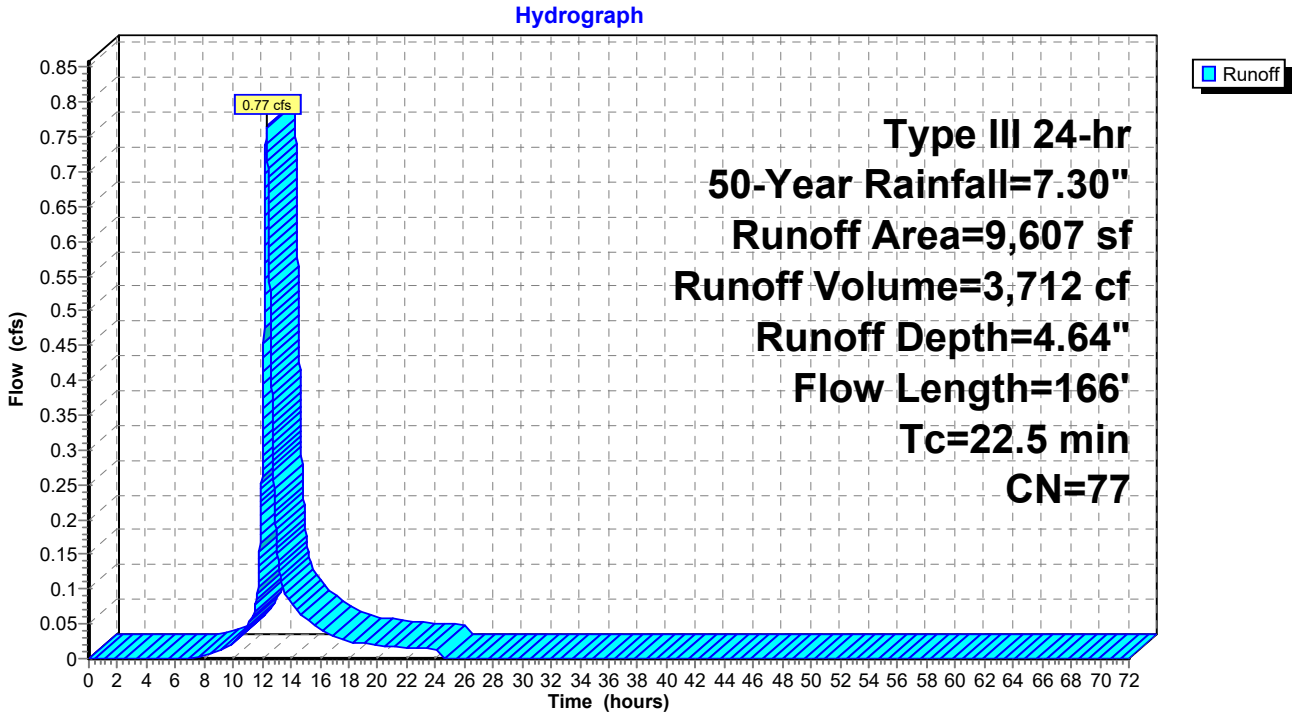
Runoff = 0.77 cfs @ 12.31 hrs, Volume= 3,712 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
87	30	Woods, Good, HSG A
9,520	77	Woods, Good, HSG D
9,607	77	Weighted Average
9,607		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.2	150	0.0400	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.3	16	0.0381	0.98		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.5	166	Total			

Subcatchment S1: Subcatchment S1



Summary for Subcatchment S2.1: Subcatchment S2.1

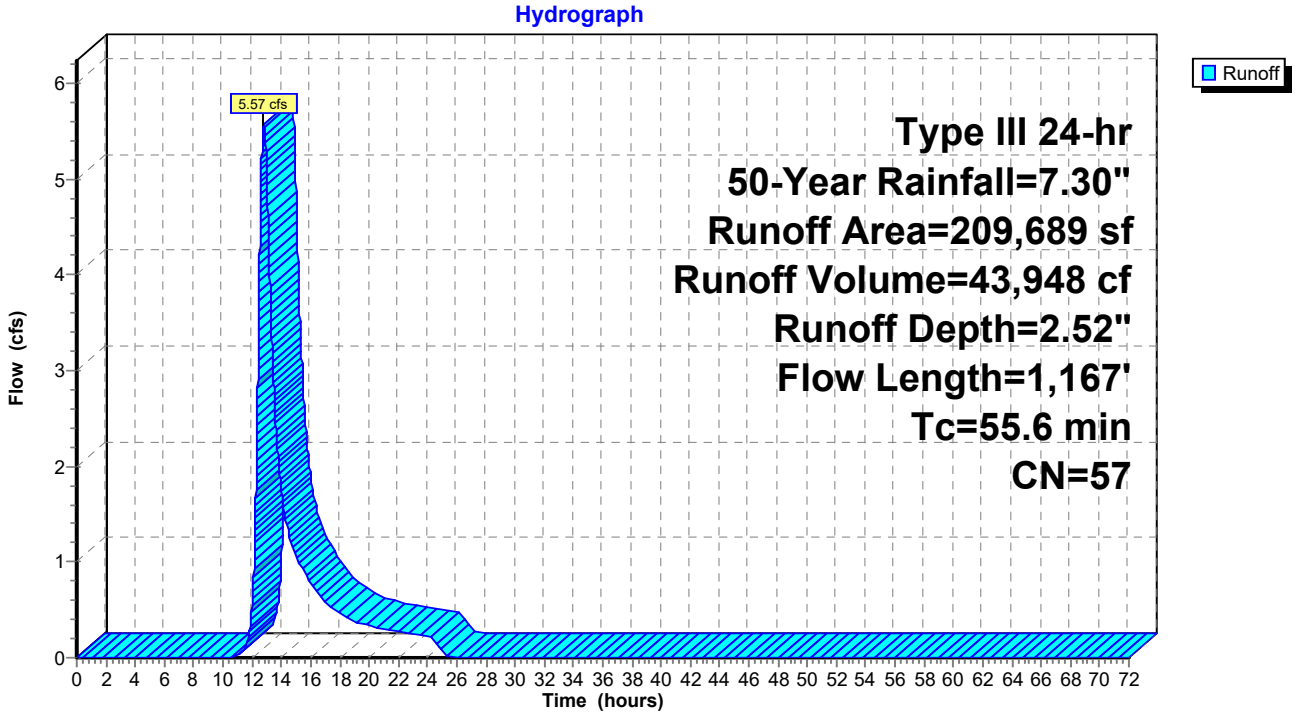
Runoff = 5.57 cfs @ 12.79 hrs, Volume= 43,948 cf, Depth= 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

	Area (sf)	CN	Description
	8,317	39	>75% Grass cover, Good, HSG A
	8,025	80	>75% Grass cover, Good, HSG D
	8,205	98	Paved parking, HSG D
*	15,186	98	Parking/Building HSG A
	92,645	30	Woods, Good, HSG A
	77,311	77	Woods, Good, HSG D
	209,689	57	Weighted Average
	186,298		88.84% Pervious Area
	23,391		11.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.2	150	0.0200	0.09		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
5.8	300	0.0300	0.87		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
9.5	300	0.0110	0.52		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
8.7	300	0.0133	0.58		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
2.4	117	0.0256	0.80		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
55.6	1,167	Total			

Subcatchment S2.1: Subcatchment S2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

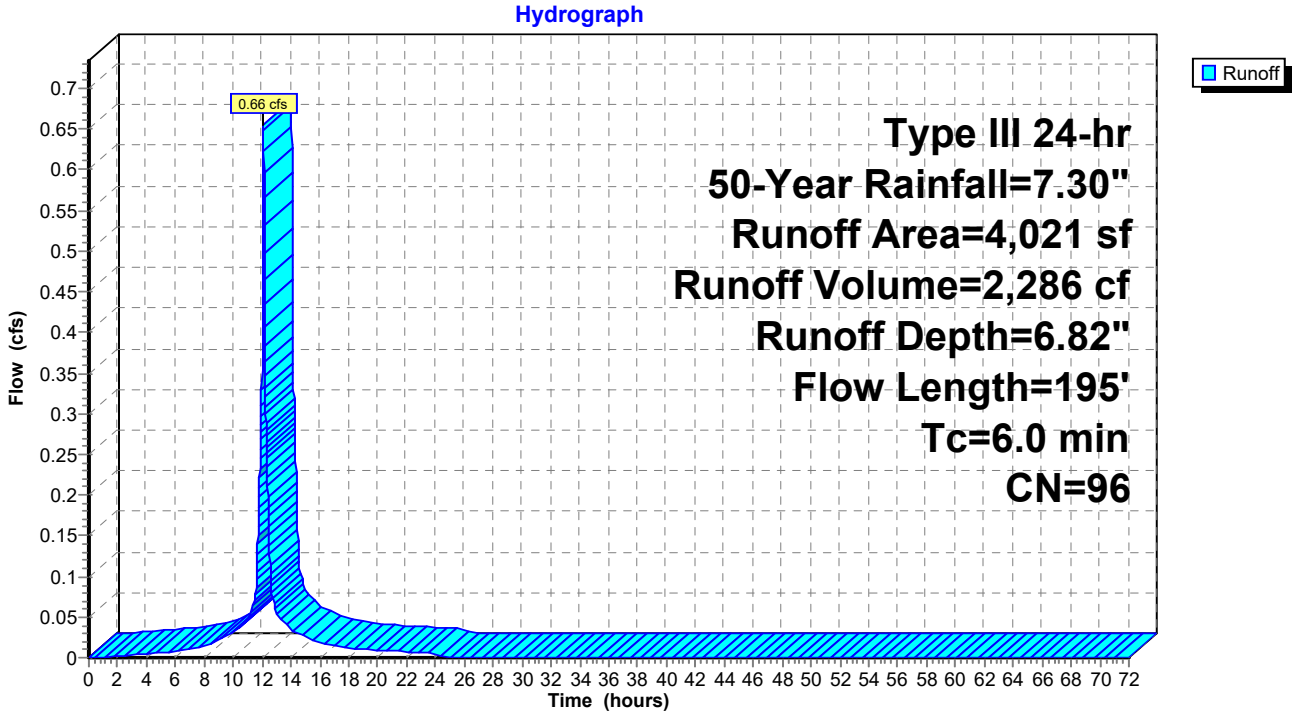
Runoff = 0.66 cfs @ 12.08 hrs, Volume= 2,286 cf, Depth= 6.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
168	39	>75% Grass cover, Good, HSG A
3,555	98	Paved parking, HSG A
298	98	Paved parking, HSG D
4,021	96	Weighted Average
168		4.18% Pervious Area
3,853		95.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	150	0.0392	1.98		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.30"
0.2	45	0.0362	3.86		**Shallow Concentrated Flow, BC** Paved Kv= 20.3 fps
1.5	195	Total, Increased to minimum Tc = 6.0 min			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment S2.3

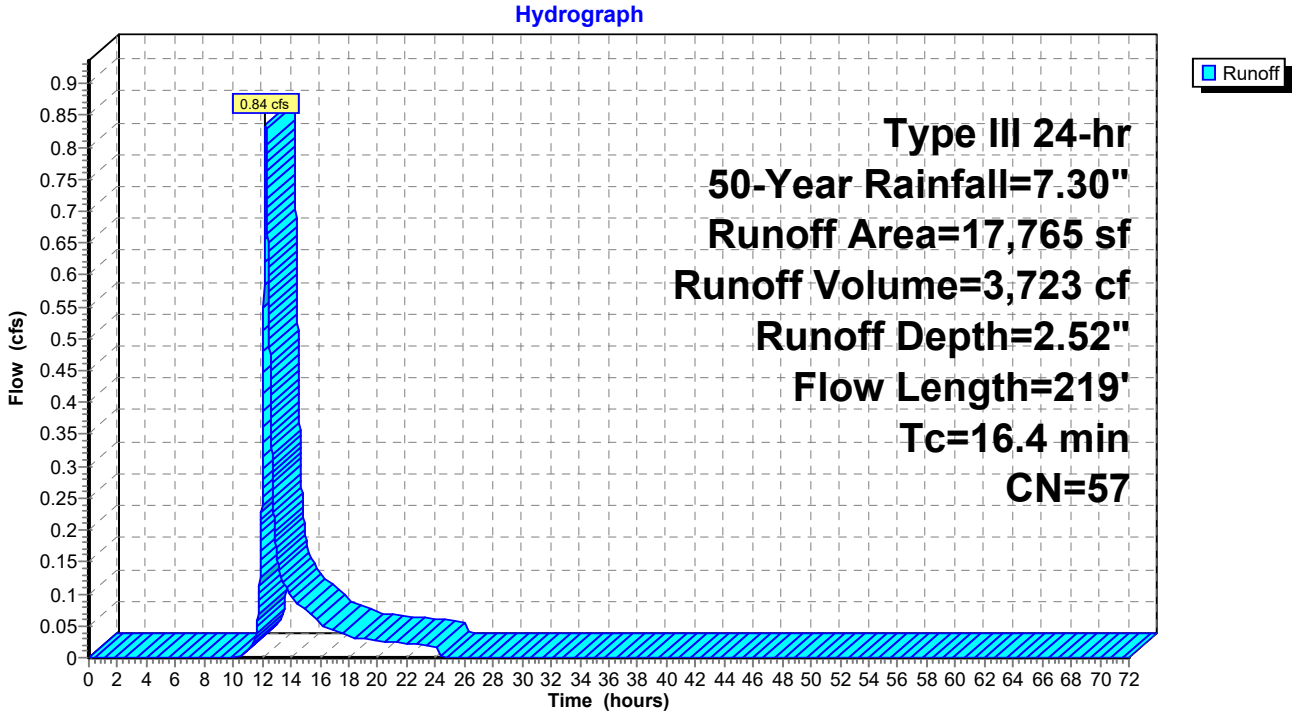
Runoff = 0.84 cfs @ 12.24 hrs, Volume= 3,723 cf, Depth= 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
205	30	Woods, Good, HSG A
1,312	77	Woods, Good, HSG D
6,540	80	>75% Grass cover, Good, HSG D
9,708	39	>75% Grass cover, Good, HSG A
17,765	57	Weighted Average
17,765		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	150	0.0926	0.16		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
0.6	69	0.0864	2.06		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
16.4	219	Total			

Subcatchment S2.3: Subcatchment S2.3



Summary for Subcatchment S2.4: Subcatchment S2.4

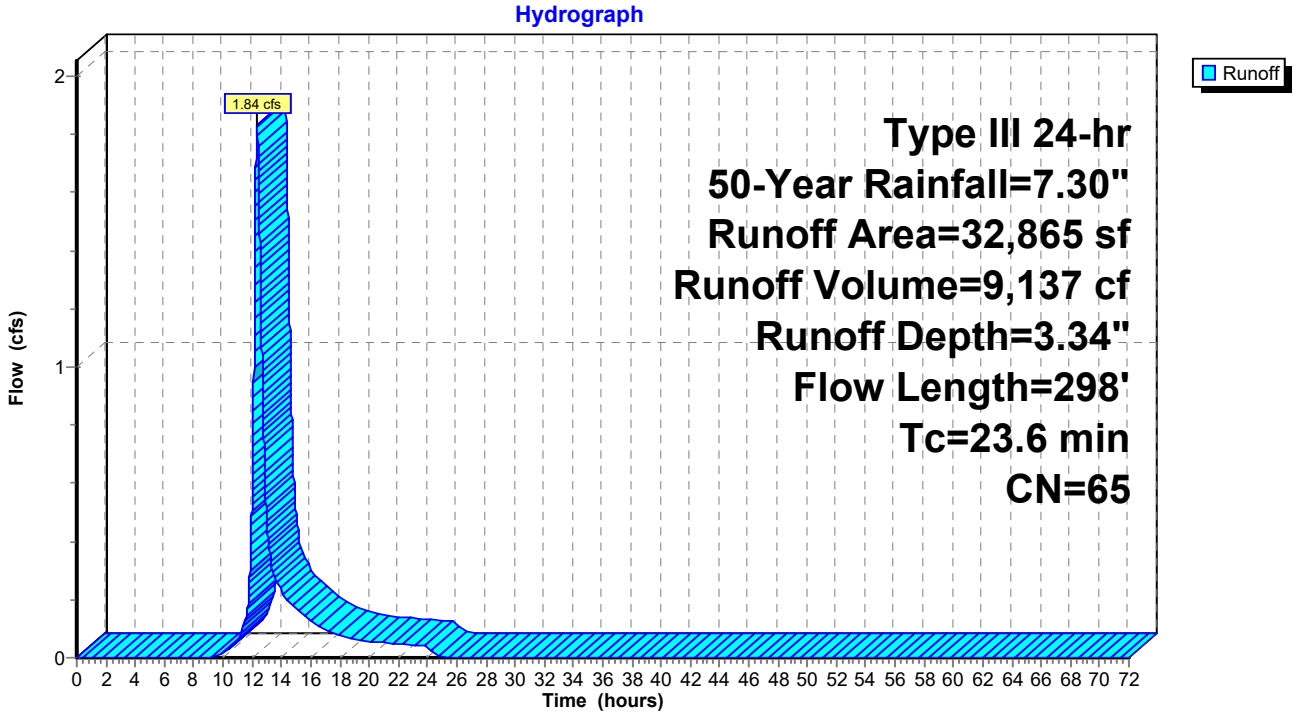
Runoff = 1.84 cfs @ 12.35 hrs, Volume= 9,137 cf, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
8,277	98	Paved parking, HSG A
32,865	65	Weighted Average
18,462		56.18% Pervious Area
14,403		43.82% Impervious Area
6,060		42.07% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.9	150	0.0466	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.7	148	0.0322	0.90		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
23.6	298	Total			

Subcatchment S2.4: Subcatchment S2.4



Summary for Subcatchment S3: Subcatchment S3

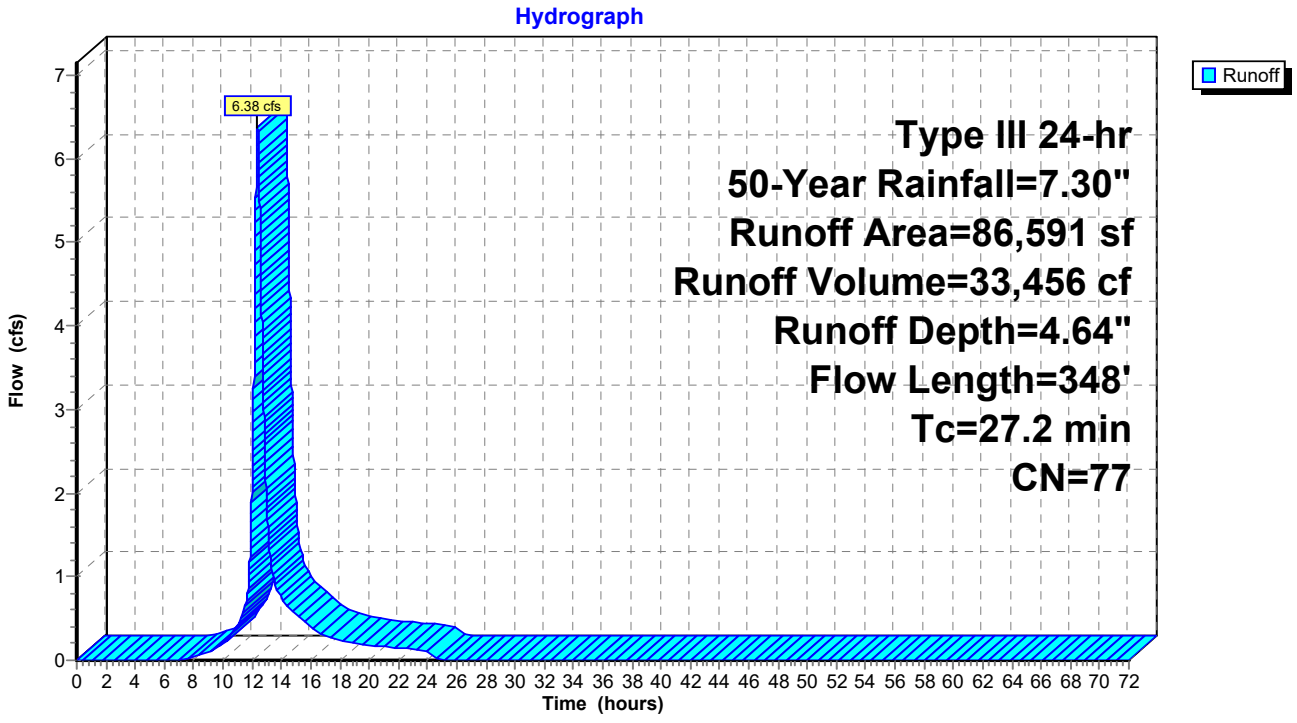
Runoff = 6.38 cfs @ 12.36 hrs, Volume= 33,456 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

	Area (sf)	CN	Description
	86,108	77	Woods, Good, HSG D
*	483	98	Wetland, HSG D
	86,591	77	Weighted Average
	86,108		99.44% Pervious Area
	483		0.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	150	0.0490	0.12		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
6.8	198	0.0093	0.48		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.2	348	Total			

Subcatchment S3: Subcatchment S3



Summary for Subcatchment S4: Subcatchment S4

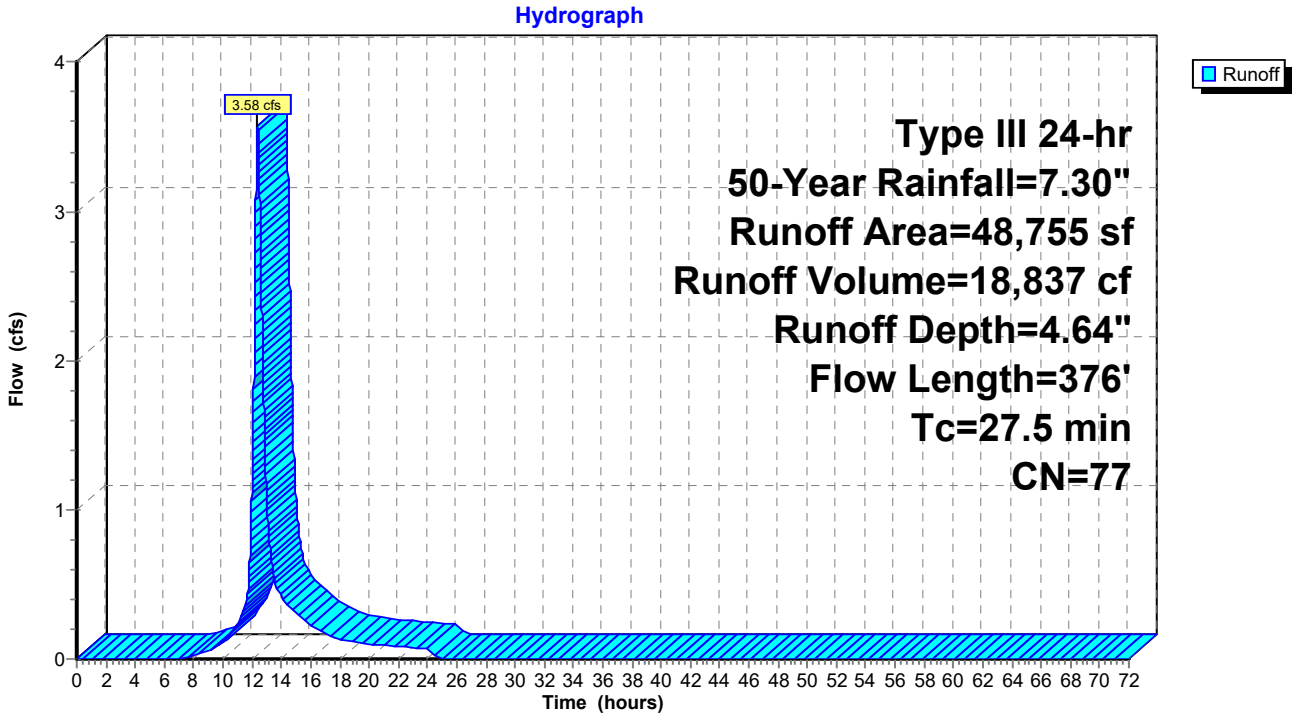
Runoff = 3.58 cfs @ 12.38 hrs, Volume= 18,837 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
48,755	77	Woods, Good, HSG D
48,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.9	150	0.0333	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
3.6	226	0.0440	1.05		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
27.5	376	Total			

Subcatchment S4: Subcatchment S4



Summary for Subcatchment S5: Subcatchment S5

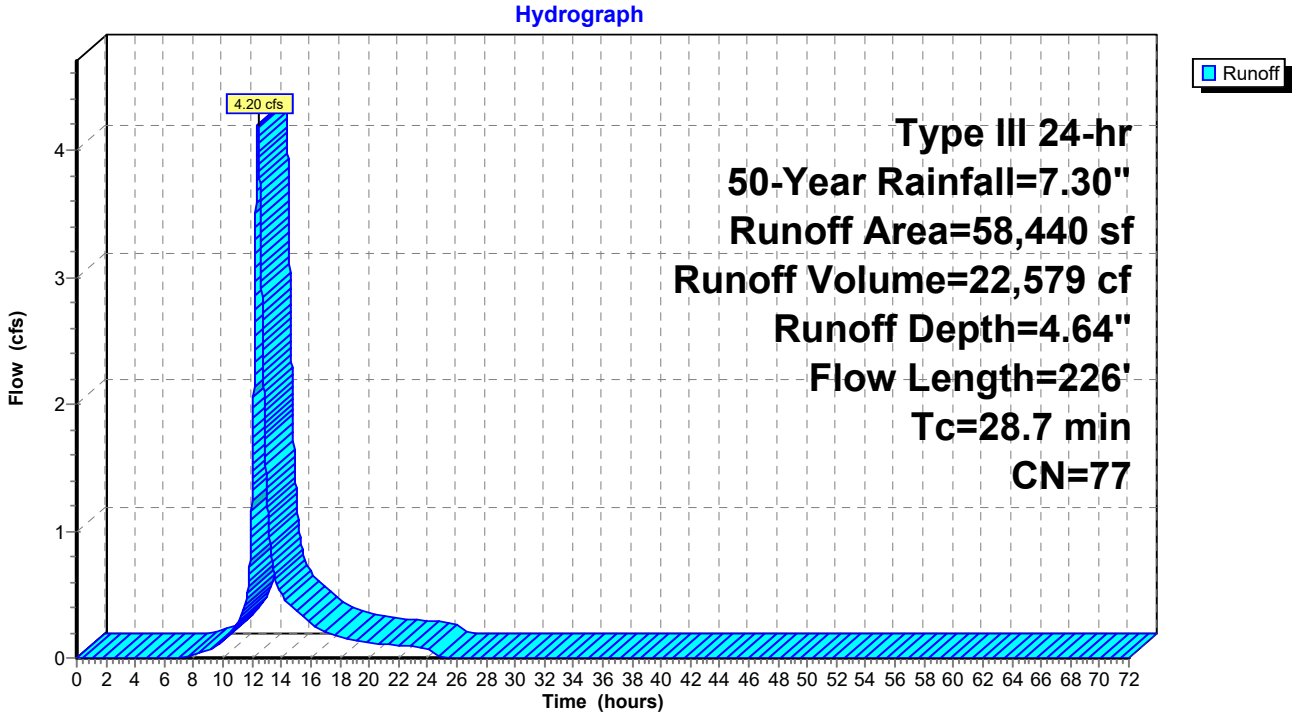
Runoff = 4.20 cfs @ 12.40 hrs, Volume= 22,579 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

	Area (sf)	CN	Description
	57,143	77	Woods, Good, HSG D
*	1,297	98	Wetland, HSG D
	58,440	77	Weighted Average
	57,143		97.78% Pervious Area
	1,297		2.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	64	0.0248	0.08		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
13.5	88	0.0477	0.11		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
1.6	74	0.0242	0.78		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
28.7	226	Total			

Subcatchment S5: Subcatchment S5



Summary for Pond 1P: Catch Basin 2

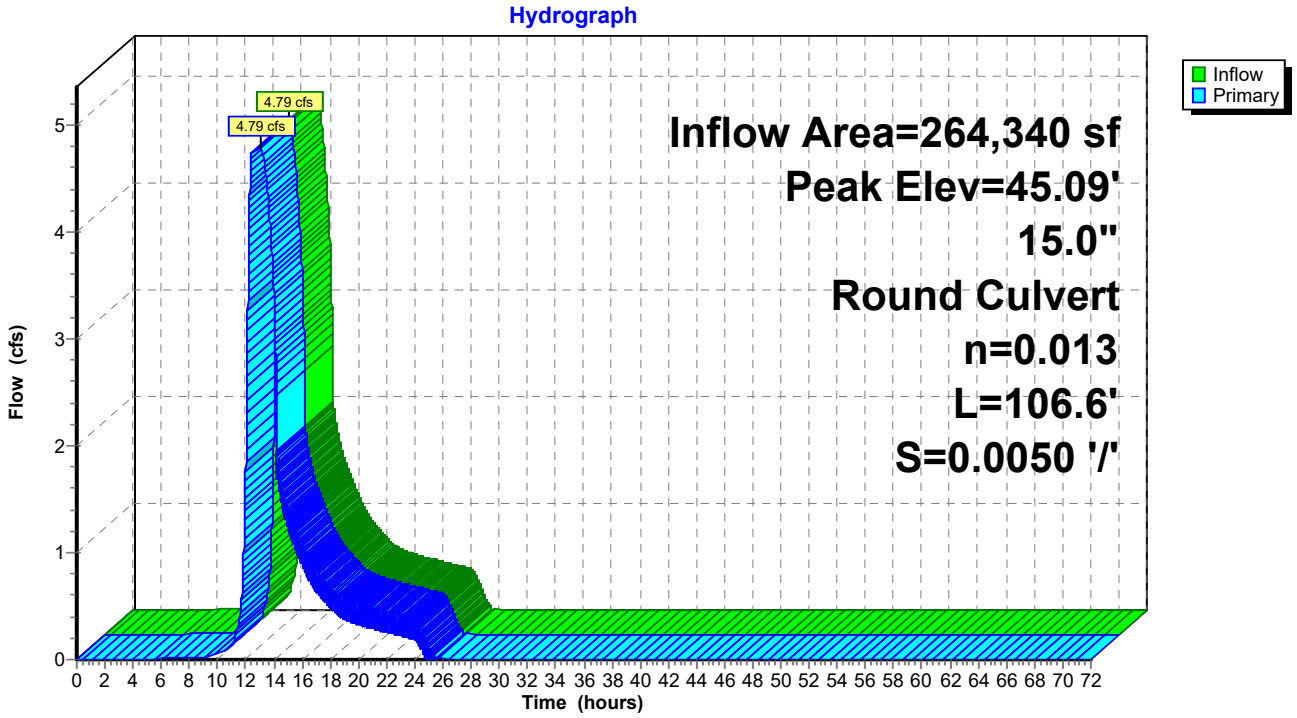
Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 2.68" for 50-Year event
Inflow = 4.79 cfs @ 13.03 hrs, Volume= 59,097 cf
Outflow = 4.79 cfs @ 13.03 hrs, Volume= 59,097 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.79 cfs @ 13.03 hrs, Volume= 59,097 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 45.09' @ 13.03 hrs
Flood Elev= 46.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.50'	**15.0" Round Culvert** L= 106.6' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 43.50' / 42.97' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=4.79 cfs @ 13.03 hrs HW=45.09' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 4.79 cfs @ 3.97 fps)

Pond 1P: Catch Basin 2



Summary for Pond C1: Culvert 1

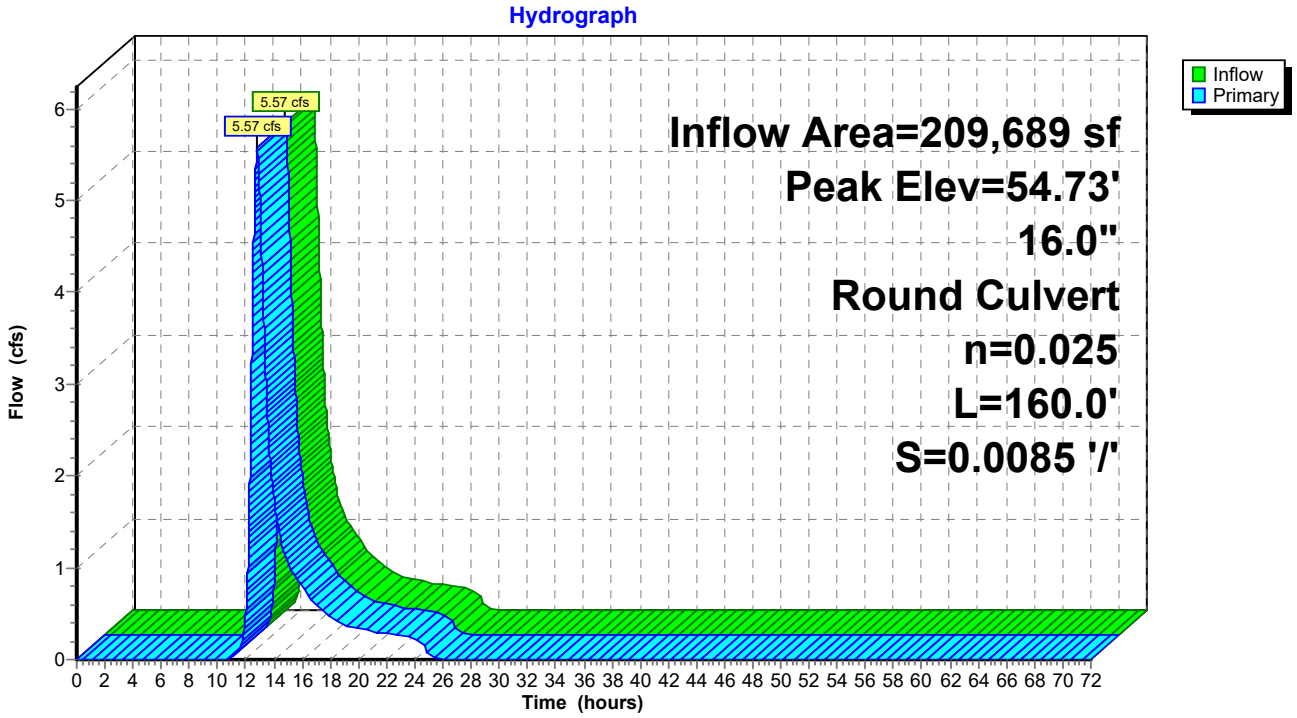
Inflow Area = 209,689 sf, 11.16% Impervious, Inflow Depth = 2.52" for 50-Year event
Inflow = 5.57 cfs @ 12.79 hrs, Volume= 43,948 cf
Outflow = 5.57 cfs @ 12.79 hrs, Volume= 43,948 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.57 cfs @ 12.79 hrs, Volume= 43,948 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 54.73' @ 12.79 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.16'	**16.0" Round Culvert** L= 160.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.16' / 49.80' S= 0.0085 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=5.57 cfs @ 12.79 hrs HW=54.73' TW=50.29' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 5.57 cfs @ 3.99 fps)

Pond C1: Culvert 1



Summary for Pond CB1: Catch Basin 1

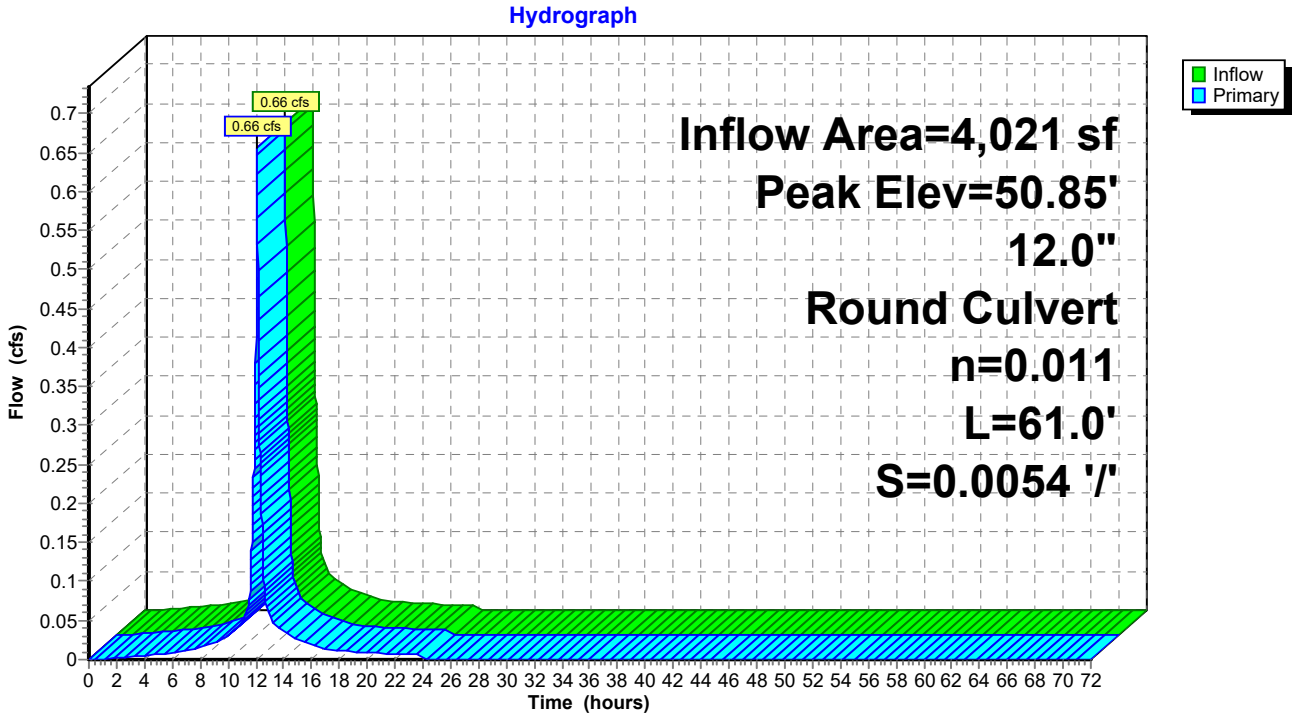
Inflow Area = 4,021 sf, 95.82% Impervious, Inflow Depth = 6.82" for 50-Year event
Inflow = 0.66 cfs @ 12.08 hrs, Volume= 2,286 cf
Outflow = 0.66 cfs @ 12.08 hrs, Volume= 2,286 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.66 cfs @ 12.08 hrs, Volume= 2,286 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.85' @ 12.08 hrs
Flood Elev= 53.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.40'	**12.0" Round Culvert** L= 61.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 50.40' / 50.07' S= 0.0054 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.65 cfs @ 12.08 hrs HW=50.85' TW=49.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.65 cfs @ 2.78 fps)

Pond CB1: Catch Basin 1



Summary for Pond DP1: Detention Pond 1

Inflow Area = 231,475 sf, 11.77% Impervious, Inflow Depth = 2.59" for 50-Year event
Inflow = 5.87 cfs @ 12.79 hrs, Volume= 49,958 cf
Outflow = 4.38 cfs @ 13.17 hrs, Volume= 49,959 cf, Atten= 25%, Lag= 22.6 min
Primary = 4.38 cfs @ 13.17 hrs, Volume= 49,959 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.65' @ 13.17 hrs Surf.Area= 3,986 sf Storage= 4,105 cf
Flood Elev= 52.00' Surf.Area= 4,820 sf Storage= 7,829 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 5.2 min (899.9 - 894.8)

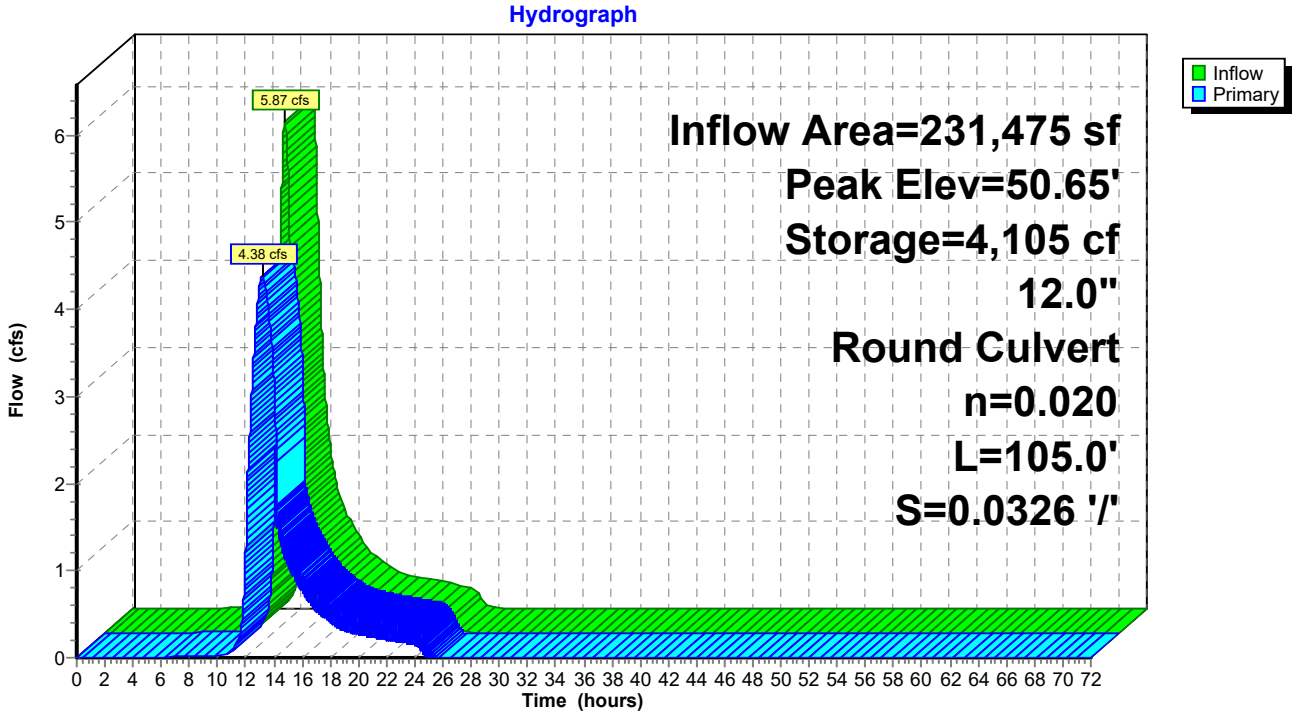
Volume	Invert	Avail.Storage	Storage Description
#1	49.00'	7,829 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
49.00	0	0	0
50.00	3,400	1,700	1,700
51.00	4,299	3,850	5,550
51.50	4,820	2,280	7,829

Device	Routing	Invert	Outlet Devices
#1	Primary	48.00'	**12.0" Round Culvert** L= 105.0' Ke= 0.900 Inlet / Outlet Invert= 48.00' / 44.58' S= 0.0326 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.38 cfs @ 13.17 hrs HW=50.65' TW=45.06' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 4.38 cfs @ 5.58 fps)

Pond DP1: Detention Pond 1

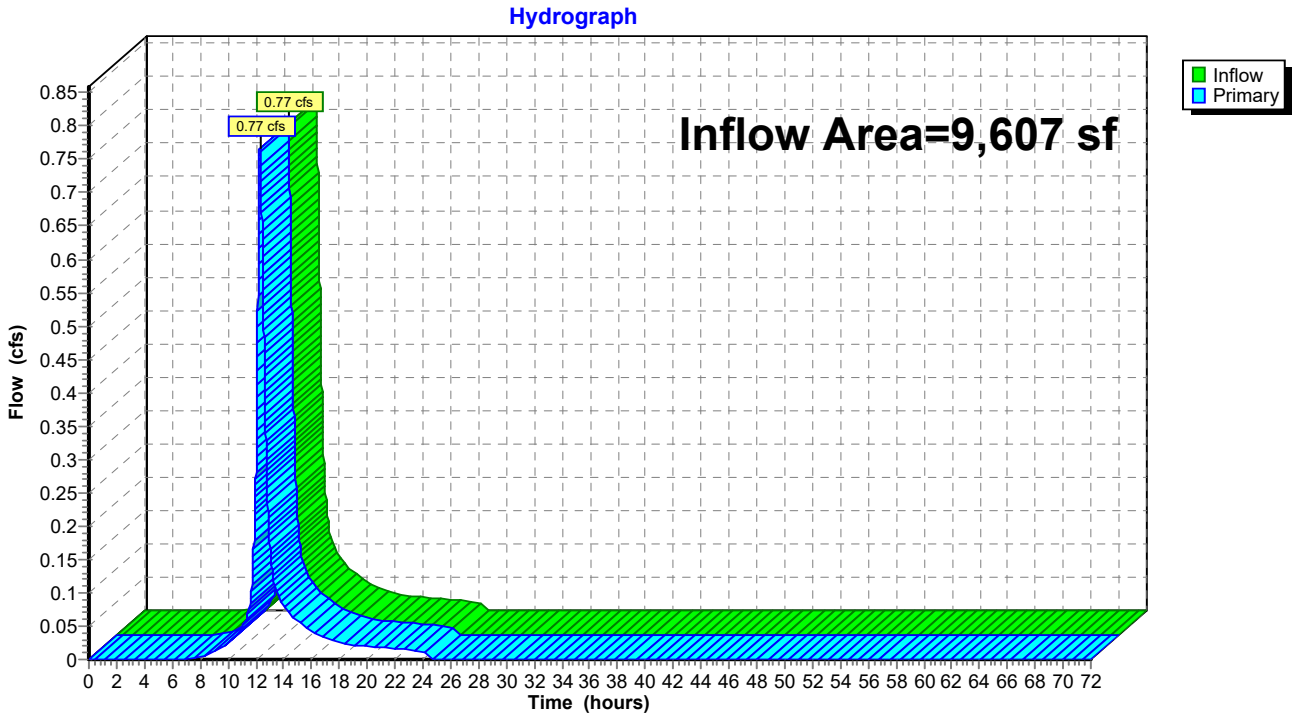


Summary for Link AP#1: Analysis Point 1

Inflow Area = 9,607 sf, 0.00% Impervious, Inflow Depth = 4.64" for 50-Year event
Inflow = 0.77 cfs @ 12.31 hrs, Volume= 3,712 cf
Primary = 0.77 cfs @ 12.31 hrs, Volume= 3,712 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

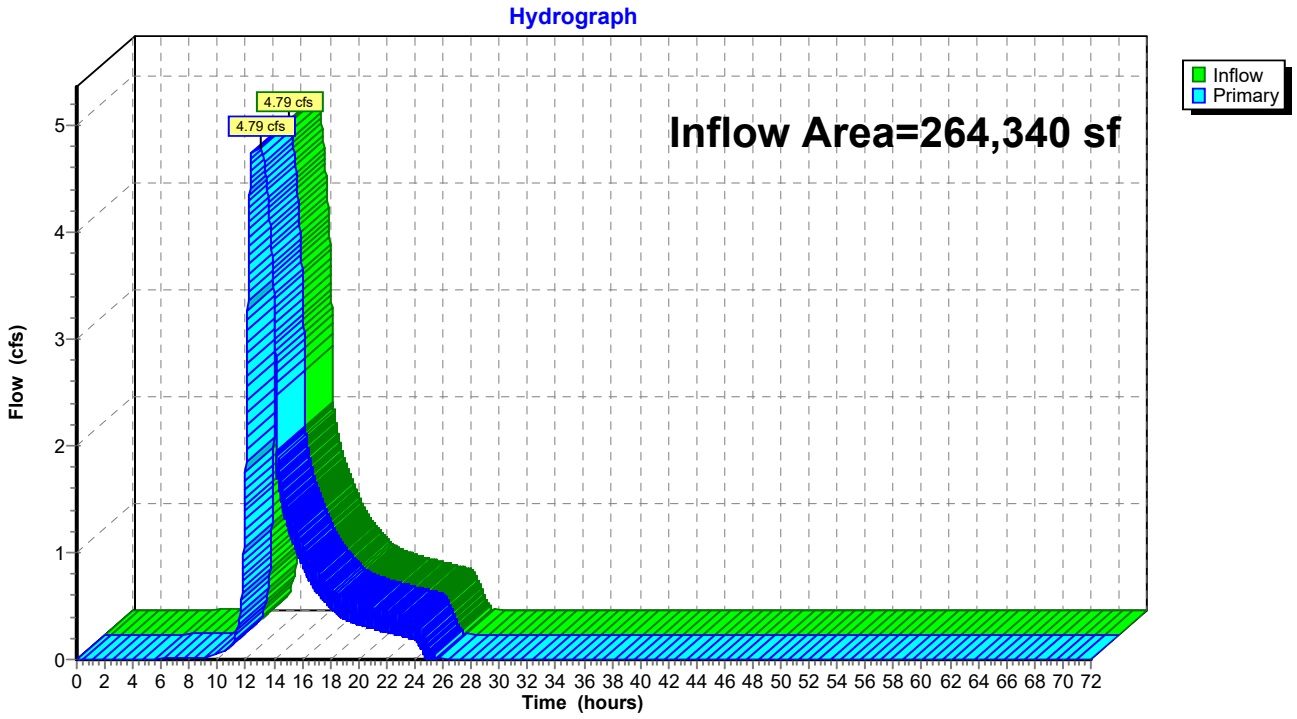


Summary for Link AP#2: Analysis Point 2

Inflow Area = 264,340 sf, 15.76% Impervious, Inflow Depth = 2.68" for 50-Year event
Inflow = 4.79 cfs @ 13.03 hrs, Volume= 59,097 cf
Primary = 4.79 cfs @ 13.03 hrs, Volume= 59,097 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

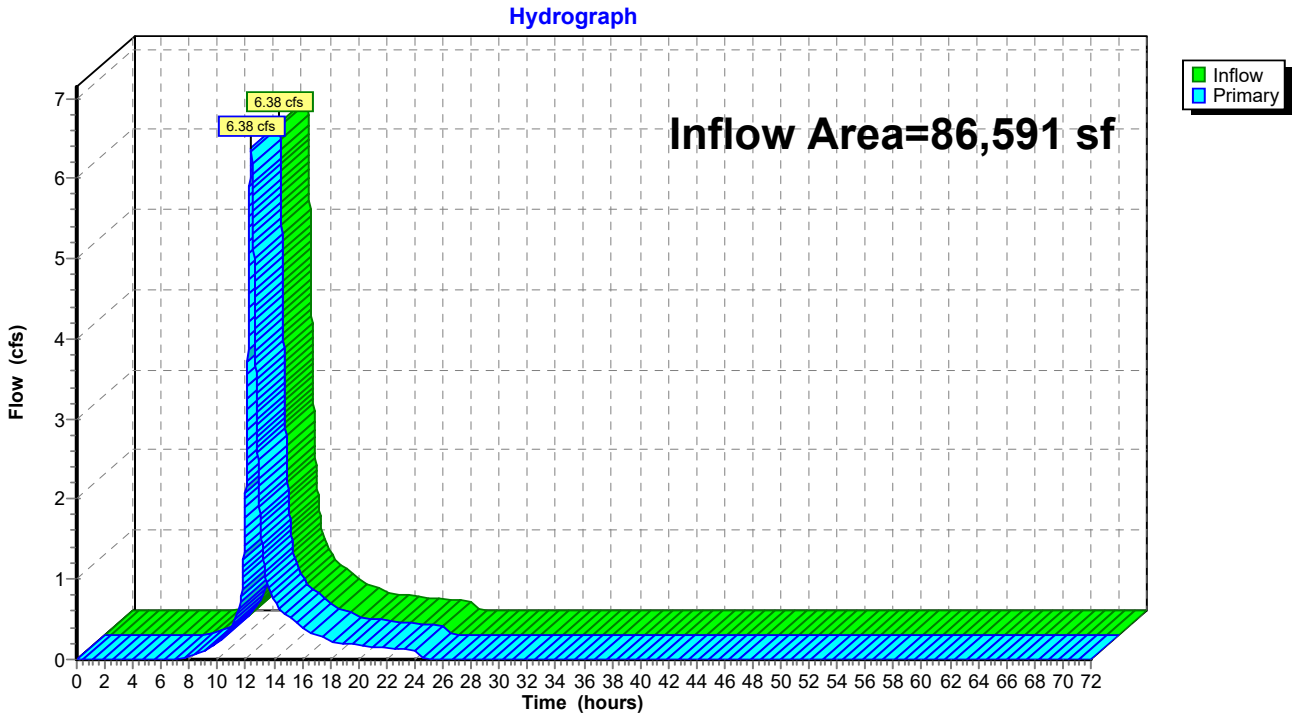


Summary for Link AP#3: Analysis Point 3

Inflow Area = 86,591 sf, 0.56% Impervious, Inflow Depth = 4.64" for 50-Year event
Inflow = 6.38 cfs @ 12.36 hrs, Volume= 33,456 cf
Primary = 6.38 cfs @ 12.36 hrs, Volume= 33,456 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

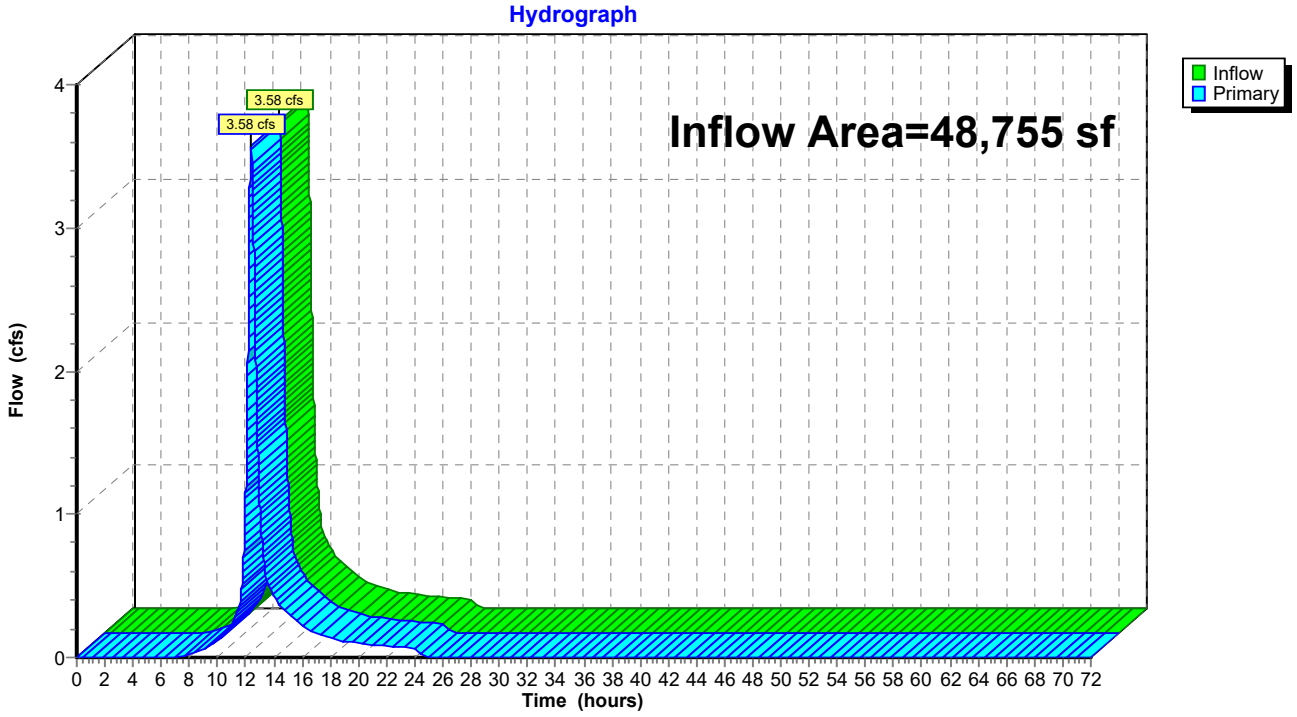


Summary for Link AP#4: Analysis Point 4

Inflow Area = 48,755 sf, 0.00% Impervious, Inflow Depth = 4.64" for 50-Year event
Inflow = 3.58 cfs @ 12.38 hrs, Volume= 18,837 cf
Primary = 3.58 cfs @ 12.38 hrs, Volume= 18,837 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

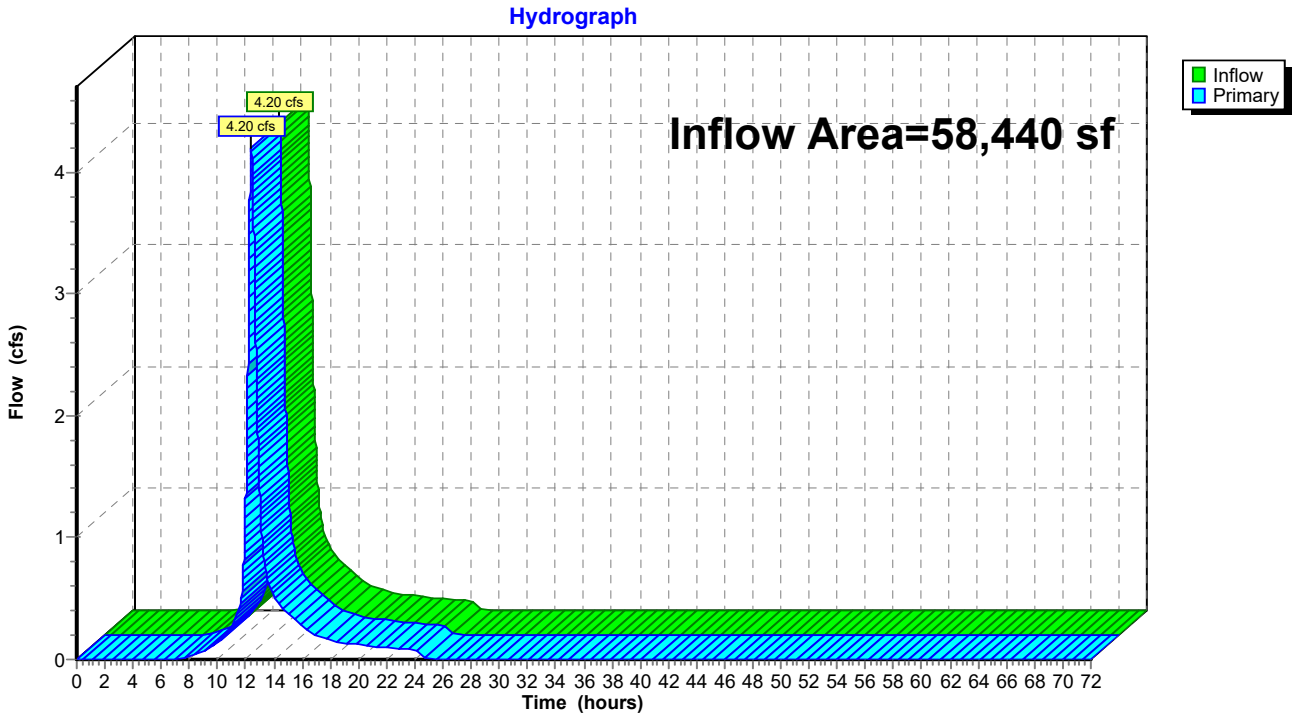


Summary for Link AP#5: Analysis Point 5

Inflow Area = 58,440 sf, 2.22% Impervious, Inflow Depth = 4.64" for 50-Year event
Inflow = 4.20 cfs @ 12.40 hrs, Volume= 22,579 cf
Primary = 4.20 cfs @ 12.40 hrs, Volume= 22,579 cf, Atten= 0%, Lag= 0.0 min

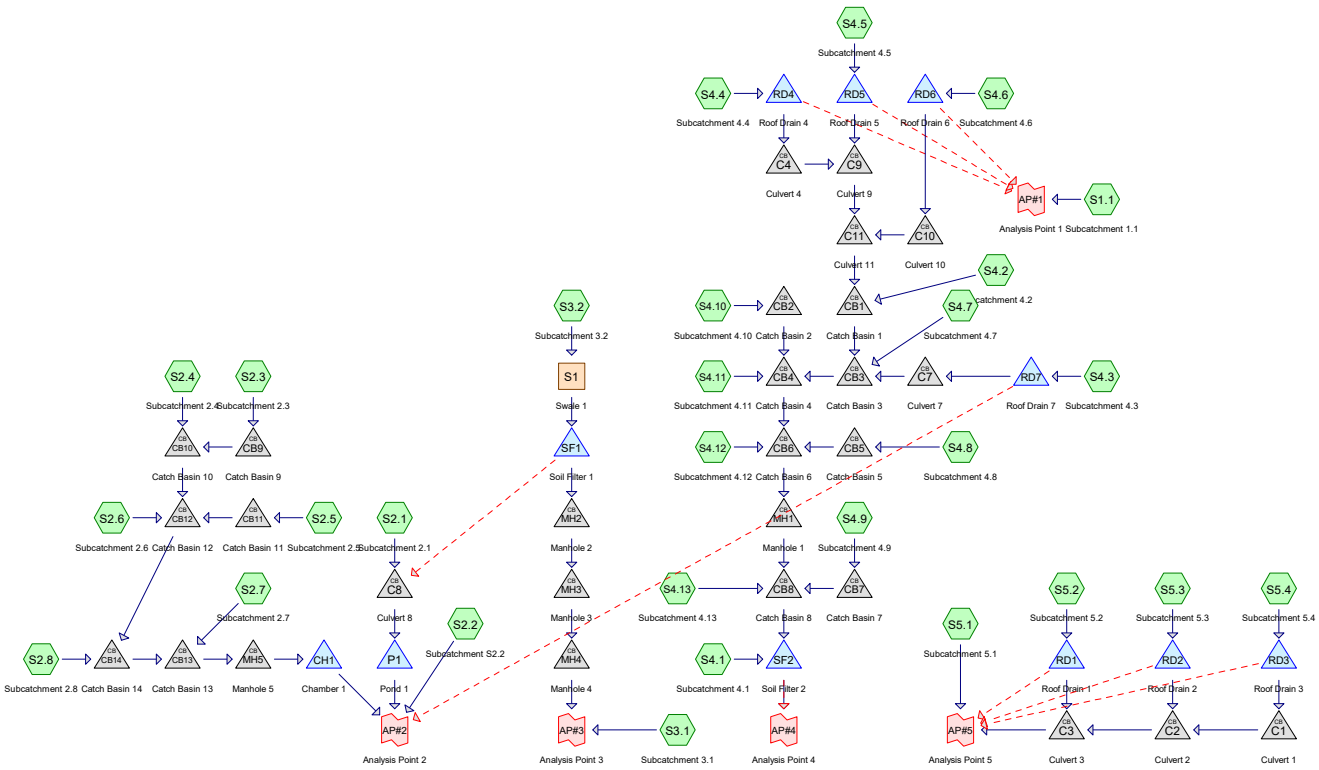
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link AP#5: Analysis Point 5



Appendix F

Post-Development HydroCAD Model Report



Subcat Reach Pond Link

Routing Diagram for 2026-02-10 Post-Development Model - Arundel Lane

Prepared by {enter your company name here}, Printed 2/9/2026

HydroCAD® 10.10-5a s/n 02135 © 2020 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Inch	Type III 24-hr		Default	24.00	1	1.00	2
2	2-Year	Type III 24-hr		Default	24.00	1	3.30	2
3	10-Year	Type III 24-hr		Default	24.00	1	4.90	2
4	25-Year	Type III 24-hr		Default	24.00	1	6.20	2
5	50-Year	Type III 24-hr		Default	24.00	1	7.30	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
28,678	39	>75% Grass cover, Good, HSG A (S2.1, S2.2, S3.1, S4.2)
156,326	80	>75% Grass cover, Good, HSG D (S1.1, S2.1, S2.2, S3.1, S3.2, S4.1, S4.10, S4.11, S4.2, S4.7, S5.1)
81	96	Gravel surface, HSG A (S4.2)
551	96	Gravel surface, HSG D (S4.10, S4.11, S4.2, S4.7)
7,904	98	Paved parking, HSG A (S2.1, S2.2, S4.2)
20,515	98	Paved parking, HSG D (S2.1, S2.2, S3.2, S4.2)
297	98	Paved roads w/curbs & sewers, HSG A (S4.7)
31,269	98	Paved roads w/curbs & sewers, HSG D (S2.3, S2.4, S2.5, S2.6, S2.7, S2.8, S4.10, S4.11, S4.12, S4.13, S4.7, S4.8, S4.9)
17,111	98	Roofs, HSG A (S2.1)
31,450	98	Roofs, HSG D (S3.1, S3.2, S4.1, S4.3, S4.4, S4.5, S4.6, S5.1, S5.2, S5.3, S5.4)
5,533	98	Unconnected roofs, HSG A (S2.2)
527	98	Unconnected roofs, HSG D (S2.2)
88,431	30	Woods, Good, HSG A (S2.1, S2.2)
79,060	77	Woods, Good, HSG D (S1.1, S2.1, S3.1, S4.1, S5.1)
467,733	**72**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
148,035	HSG A	S2.1, S2.2, S3.1, S4.2, S4.7
0	HSG B	
0	HSG C	
319,698	HSG D	S1.1, S2.1, S2.2, S2.3, S2.4, S2.5, S2.6, S2.7, S2.8, S3.1, S3.2, S4.1, S4.10, S4.11, S4.12, S4.13, S4.2, S4.3, S4.4, S4.5, S4.6, S4.7, S4.8, S4.9, S5.1, S5.2, S5.3, S5.4
0	Other	
467,733		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
28,678	0	0	156,326	0	185,004	>75% Grass cover, Good
81	0	0	551	0	632	Gravel surface
7,904	0	0	20,515	0	28,419	Paved parking
297	0	0	31,269	0	31,566	Paved roads w/curbs & sewers
17,111	0	0	31,450	0	48,561	Roofs
5,533	0	0	527	0	6,060	Unconnected roofs
88,431	0	0	79,060	0	167,491	Woods, Good
148,035	**0**	**0**	**319,698**	**0**	**467,733**	**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	C1	69.69	69.35	21.5	0.0158	0.013	0.0	12.0	0.0
2	C10	69.23	69.13	20.0	0.0050	0.013	0.0	12.0	0.0
3	C11	69.13	68.50	82.4	0.0076	0.013	0.0	12.0	0.0
4	C2	69.35	69.23	44.0	0.0027	0.012	0.0	12.0	0.0
5	C3	69.23	69.00	44.4	0.0052	0.012	0.0	24.0	0.0
6	C4	69.69	69.35	24.0	0.0142	0.013	0.0	12.0	0.0
7	C7	66.55	66.42	27.0	0.0048	0.013	0.0	4.0	0.0
8	C8	51.20	50.20	184.0	0.0054	0.025	0.0	16.0	0.0
9	C9	69.35	69.13	25.0	0.0088	0.013	0.0	12.0	0.0
10	CB1	68.40	68.00	79.0	0.0051	0.013	0.0	12.0	0.0
11	CB10	61.00	52.00	212.5	0.0424	0.013	0.0	12.0	0.0
12	CB11	52.00	51.90	18.5	0.0054	0.013	0.0	12.0	0.0
13	CB12	51.80	47.90	96.6	0.0404	0.013	0.0	12.0	0.0
14	CB13	47.60	47.43	49.3	0.0034	0.013	0.0	12.0	0.0
15	CB14	47.80	47.70	15.0	0.0067	0.013	0.0	12.0	0.0
16	CB2	68.00	67.60	79.2	0.0051	0.013	0.0	12.0	0.0
17	CB3	66.30	66.20	17.5	0.0057	0.013	0.0	12.0	0.0
18	CB4	66.10	65.55	103.7	0.0053	0.013	0.0	12.0	0.0
19	CB5	66.00	65.90	18.4	0.0054	0.013	0.0	12.0	0.0
20	CB6	65.45	65.10	60.9	0.0057	0.013	0.0	12.0	0.0
21	CB7	64.85	64.75	18.2	0.0055	0.013	0.0	12.0	0.0
22	CB8	64.65	63.80	156.4	0.0054	0.013	0.0	12.0	0.0
23	CB9	62.00	61.90	18.8	0.0053	0.013	0.0	12.0	0.0
24	CH1	44.73	44.60	60.8	0.0021	0.012	0.0	12.0	0.0
25	MH1	65.00	64.75	49.4	0.0051	0.013	0.0	12.0	0.0
26	MH2	60.45	59.65	152.9	0.0052	0.013	0.0	12.0	0.0
27	MH3	59.55	59.15	81.0	0.0049	0.013	0.0	12.0	0.0
28	MH4	59.05	58.00	205.9	0.0051	0.013	0.0	12.0	0.0
29	MH5	47.43	47.40	6.2	0.0048	0.013	0.0	12.0	0.0
30	P1	50.00	46.40	200.0	0.0180	0.012	0.0	12.0	0.0
31	SF1	61.00	60.55	81.6	0.0055	0.012	0.0	8.0	0.0
32	SF2	58.58	58.28	40.0	0.0075	0.013	0.0	8.0	0.0

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

Subcatchment S1.1: Subcatchment 1.1 Runoff Area=10,577 sf 0.00% Impervious Runoff Depth=0.07"
Flow Length=131' Slope=0.0110 '/' Tc=33.3 min CN=79 Runoff=0.0 cfs 62 cf

Subcatchment S2.1: Subcatchment 2.1 Runoff Area=180,550 sf 19.58% Impervious Runoff Depth=0.00"
Flow Length=953' Tc=41.2 min CN=56 Runoff=0.0 cfs 0 cf

Subcatchment S2.2: Subcatchment S2.2 Runoff Area=30,401 sf 39.27% Impervious Runoff Depth=0.00"
Flow Length=280' Tc=22.3 min CN=63 Runoff=0.0 cfs 0 cf

Subcatchment S2.3: Subcatchment 2.3 Runoff Area=3,590 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.1 cfs 237 cf

Subcatchment S2.4: Subcatchment 2.4 Runoff Area=3,697 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.1 cfs 244 cf

Subcatchment S2.5: Subcatchment 2.5 Runoff Area=3,457 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.1 cfs 228 cf

Subcatchment S2.6: Subcatchment 2.6 Runoff Area=2,849 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.1 cfs 188 cf

Subcatchment S2.7: Subcatchment 2.7 Runoff Area=2,803 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.1 cfs 185 cf

Subcatchment S2.8: Subcatchment 2.8 Runoff Area=1,222 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 81 cf

Subcatchment S3.1: Subcatchment 3.1 Runoff Area=28,838 sf 4.33% Impervious Runoff Depth=0.05"
Flow Length=333' Tc=18.1 min CN=77 Runoff=0.0 cfs 115 cf

Subcatchment S3.2: Subcatchment 3.2 Runoff Area=44,814 sf 23.75% Impervious Runoff Depth=0.15"
Flow Length=329' Tc=19.8 min CN=84 Runoff=0.1 cfs 567 cf

Subcatchment S4.1: Subcatchment 4.1 Runoff Area=99,781 sf 12.03% Impervious Runoff Depth=0.11"
Flow Length=553' Tc=19.1 min CN=82 Runoff=0.1 cfs 949 cf

Subcatchment S4.10: Subcatchment 4.10 Runoff Area=3,197 sf 72.57% Impervious Runoff Depth=0.50"
Tc=6.0 min CN=94 Runoff=0.0 cfs 134 cf

Subcatchment S4.11: Subcatchment 4.11 Runoff Area=3,887 sf 74.68% Impervious Runoff Depth=0.50"
Tc=6.0 min CN=94 Runoff=0.1 cfs 163 cf

Subcatchment S4.12: Subcatchment 4.12 Runoff Area=1,423 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 94 cf

Subcatchment S4.13: Subcatchment 4.13 Runoff Area=1,627 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 107 cf

Subcatchment S4.2: Subcatchment 4.2 Runoff Area=3,347 sf 71.65% Impervious Runoff Depth=0.45"
Tc=6.0 min CN=93 Runoff=0.0 cfs 126 cf

Subcatchment S4.3: Subcatchment 4.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Subcatchment S4.4: Subcatchment 4.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Subcatchment S4.5: Subcatchment 4.5 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Subcatchment S4.6: Subcatchment 4.6 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Subcatchment S4.7: Subcatchment 4.7 Runoff Area=3,900 sf 73.33% Impervious Runoff Depth=0.50"
Tc=6.0 min CN=94 Runoff=0.1 cfs 164 cf

Subcatchment S4.8: Subcatchment 4.8 Runoff Area=1,313 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 87 cf

Subcatchment S4.9: Subcatchment 4.9 Runoff Area=1,502 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 99 cf

Subcatchment S5.1: Subcatchment 5.1 Runoff Area=26,208 sf 2.67% Impervious Runoff Depth=0.07"
Flow Length=421' Tc=32.7 min CN=79 Runoff=0.0 cfs 153 cf

Subcatchment S5.2: Subcatchment 5.2 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Subcatchment S5.3: Subcatchment 5.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Subcatchment S5.4: Subcatchment 5.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=98 Runoff=0.0 cfs 82 cf

Reach S1: Swale 1 Avg. Flow Depth=0.02' Max Vel=0.60 fps Inflow=0.1 cfs 567 cf
n=0.022 L=175.0' S=0.0171 '/' Capacity=24.5 cfs Outflow=0.1 cfs 567 cf

Pond C1: Culvert 1 Peak Elev=69.77' Inflow=0.0 cfs 65 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0158 '/' Outflow=0.0 cfs 65 cf

Pond C10: Culvert 10 Peak Elev=69.33' Inflow=0.0 cfs 66 cf
12.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.0 cfs 66 cf

Pond C11: Culvert 11 Peak Elev=69.26' Inflow=0.1 cfs 196 cf
12.0" Round Culvert n=0.013 L=82.4' S=0.0076 '/' Outflow=0.1 cfs 196 cf

Pond C2: Culvert 2 Peak Elev=69.51' Inflow=0.1 cfs 130 cf
12.0" Round Culvert n=0.012 L=44.0' S=0.0027 '/' Outflow=0.1 cfs 130 cf

Pond C3: Culvert 3 Peak Elev=69.37' Inflow=0.1 cfs 194 cf
24.0" Round Culvert n=0.012 L=44.4' S=0.0052 '/' Outflow=0.1 cfs 194 cf

Pond C4: Culvert 4 Peak Elev=69.77' Inflow=0.0 cfs 65 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0142 '/' Outflow=0.0 cfs 65 cf

Pond C7: Culvert 7 Peak Elev=66.72' Inflow=0.0 cfs 65 cf
4.0" Round Culvert n=0.013 L=27.0' S=0.0048 '/' Outflow=0.0 cfs 65 cf

Pond C8: Culvert 8 Peak Elev=51.20' Inflow=0.0 cfs 0 cf
16.0" Round Culvert n=0.025 L=184.0' S=0.0054 '/' Outflow=0.0 cfs 0 cf

Pond C9: Culvert 9 Peak Elev=69.46' Inflow=0.0 cfs 130 cf
12.0" Round Culvert n=0.013 L=25.0' S=0.0088 '/' Outflow=0.0 cfs 130 cf

Pond CB1: Catch Basin 1 Peak Elev=68.58' Inflow=0.1 cfs 322 cf
12.0" Round Culvert n=0.013 L=79.0' S=0.0051 '/' Outflow=0.1 cfs 322 cf

Pond CB10: Catch Basin 10 Peak Elev=61.21' Inflow=0.1 cfs 480 cf
12.0" Round Culvert n=0.013 L=212.5' S=0.0424 '/' Outflow=0.1 cfs 480 cf

Pond CB11: Catch Basin 11 Peak Elev=52.18' Inflow=0.1 cfs 228 cf
12.0" Round Culvert n=0.013 L=18.5' S=0.0054 '/' Outflow=0.1 cfs 228 cf

Pond CB12: Catch Basin 12 Peak Elev=52.09' Inflow=0.3 cfs 896 cf
12.0" Round Culvert n=0.013 L=96.6' S=0.0404 '/' Outflow=0.3 cfs 896 cf

Pond CB13: Catch Basin 13 Peak Elev=48.01' Inflow=0.4 cfs 1,161 cf
12.0" Round Culvert n=0.013 L=49.3' S=0.0034 '/' Outflow=0.4 cfs 1,161 cf

Pond CB14: Catch Basin 14 Peak Elev=48.15' Inflow=0.3 cfs 976 cf
12.0" Round Culvert n=0.013 L=15.0' S=0.0067 '/' Outflow=0.3 cfs 976 cf

Pond CB2: Catch Basin 2 Peak Elev=68.12' Inflow=0.0 cfs 134 cf
12.0" Round Culvert n=0.013 L=79.2' S=0.0051 '/' Outflow=0.0 cfs 134 cf

Pond CB3: Catch Basin 3 Peak Elev=66.56' Inflow=0.2 cfs 550 cf
12.0" Round Culvert n=0.013 L=17.5' S=0.0057 '/' Outflow=0.2 cfs 550 cf

Pond CB4: Catch Basin 4 Peak Elev=66.40' Inflow=0.3 cfs 847 cf
12.0" Round Culvert n=0.013 L=103.7' S=0.0053 '/' Outflow=0.3 cfs 847 cf

Pond CB5: Catch Basin 5 Peak Elev=66.10' Inflow=0.0 cfs 87 cf
12.0" Round Culvert n=0.013 L=18.4' S=0.0054 '/' Outflow=0.0 cfs 87 cf

Pond CB6: Catch Basin 6 Peak Elev=65.78' Inflow=0.3 cfs 1,028 cf
12.0" Round Culvert n=0.013 L=60.9' S=0.0057 '/' Outflow=0.3 cfs 1,028 cf

Pond CB7: Catch Basin 7 Peak Elev=65.02' Inflow=0.0 cfs 99 cf
12.0" Round Culvert n=0.013 L=18.2' S=0.0055 '/' Outflow=0.0 cfs 99 cf

Pond CB8: Catch Basin 8 Peak Elev=65.01' Inflow=0.4 cfs 1,234 cf
12.0" Round Culvert n=0.013 L=156.4' S=0.0054 '/' Outflow=0.4 cfs 1,234 cf

Pond CB9: Catch Basin 9 Peak Elev=62.16' Inflow=0.1 cfs 237 cf
12.0" Round Culvert n=0.013 L=18.8' S=0.0053 '/' Outflow=0.1 cfs 237 cf

Pond CH1: Chamber 1 Peak Elev=46.42' Storage=74 cf Inflow=0.4 cfs 1,161 cf
Outflow=0.3 cfs 1,161 cf

Pond MH1: Manhole 1 Peak Elev=65.34' Inflow=0.3 cfs 1,028 cf
12.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=0.3 cfs 1,028 cf

Pond MH2: Manhole 2 Peak Elev=60.59' Inflow=0.1 cfs 561 cf
12.0" Round Culvert n=0.013 L=152.9' S=0.0052 '/' Outflow=0.1 cfs 561 cf

Pond MH3: Manhole 3 Peak Elev=59.69' Inflow=0.1 cfs 561 cf
12.0" Round Culvert n=0.013 L=81.0' S=0.0049 '/' Outflow=0.1 cfs 561 cf

Pond MH4: Manhole 4 Peak Elev=59.19' Inflow=0.1 cfs 561 cf
12.0" Round Culvert n=0.013 L=205.9' S=0.0051 '/' Outflow=0.1 cfs 561 cf

Pond MH5: Manhole 5 Peak Elev=47.81' Inflow=0.4 cfs 1,161 cf
12.0" Round Culvert n=0.013 L=6.2' S=0.0048 '/' Outflow=0.4 cfs 1,161 cf

Pond P1: Pond 1 Peak Elev=50.00' Storage=0 cf Inflow=0.0 cfs 0 cf
Outflow=0.0 cfs 0 cf

Pond RD1: Roof Drain 1 Peak Elev=69.37' Storage=27 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 65 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 65 cf

Pond RD2: Roof Drain 2 Peak Elev=69.50' Storage=30 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 65 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 65 cf

Pond RD3: Roof Drain 3 Peak Elev=69.80' Storage=26 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 65 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 65 cf

Pond RD4: Roof Drain 4 Peak Elev=69.80' Storage=26 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 65 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 65 cf

Pond RD5: Roof Drain 5 Peak Elev=69.48' Storage=28 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 65 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 65 cf

Pond RD6: Roof Drain 6 Peak Elev=69.35' Storage=26 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 66 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 66 cf

Pond RD7: Roof Drain 7 Peak Elev=66.68' Storage=28 cf Inflow=0.0 cfs 82 cf
Primary=0.0 cfs 65 cf Secondary=0.0 cfs 0 cf Outflow=0.0 cfs 65 cf

Pond SF1: Soil Filter 1 Peak Elev=61.15' Storage=80 cf Inflow=0.1 cfs 567 cf
Primary=0.1 cfs 561 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 561 cf

Pond SF2: Soil Filter 2 Peak Elev=58.82' Storage=764 cf Inflow=0.4 cfs 2,183 cf
Primary=0.1 cfs 1,960 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 1,960 cf

Link AP#1: Analysis Point 1 Inflow=0.0 cfs 62 cf
Primary=0.0 cfs 62 cf

Link AP#2: Analysis Point 2 Inflow=0.3 cfs 1,161 cf
Primary=0.3 cfs 1,161 cf

Link AP#3: Analysis Point 3 Inflow=0.1 cfs 676 cf
Primary=0.1 cfs 676 cf

Link AP#4: Analysis Point 4 Inflow=0.1 cfs 1,960 cf
Primary=0.1 cfs 1,960 cf

Link AP#5: Analysis Point 5 Inflow=0.1 cfs 348 cf
Primary=0.1 cfs 348 cf

Total Runoff Area = 467,733 sf Runoff Volume = 4,558 cf Average Runoff Depth = 0.12"
75.50% Pervious = 353,127 sf 24.50% Impervious = 114,606 sf

Summary for Subcatchment S1.1: Subcatchment 1.1

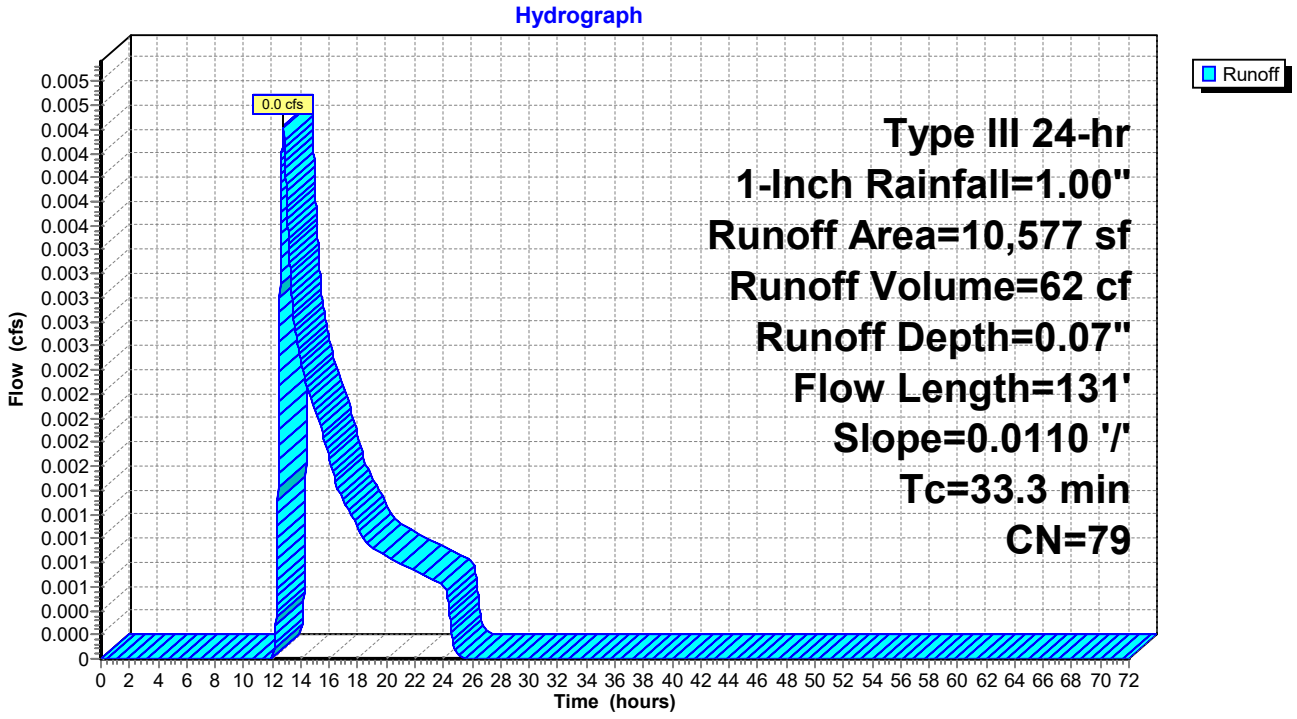
Runoff = 0.0 cfs @ 12.77 hrs, Volume= 62 cf, Depth= 0.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
6,431	80	>75% Grass cover, Good, HSG D
4,146	77	Woods, Good, HSG D
10,577	79	Weighted Average
10,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	131	0.0110	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"

Subcatchment S1.1: Subcatchment 1.1



Summary for Subcatchment S2.1: Subcatchment 2.1

[45] Hint: Runoff=Zero

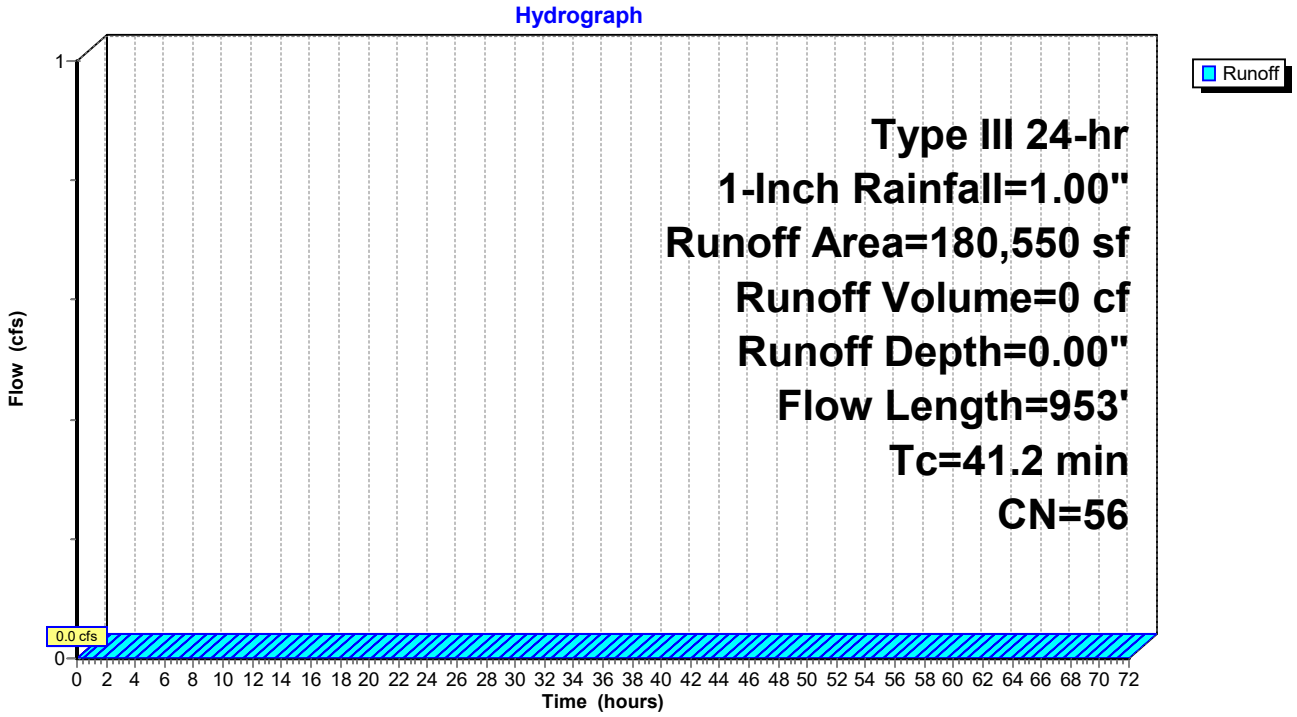
Runoff = 0.0 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
12,432	39	>75% Grass cover, Good, HSG A
85,722	30	Woods, Good, HSG A
489	98	Paved parking, HSG A
17,787	80	>75% Grass cover, Good, HSG D
29,251	77	Woods, Good, HSG D
14,624	98	Paved parking, HSG D
3,134	98	Paved parking, HSG D
17,111	98	Roofs, HSG A
180,550	56	Weighted Average
145,192		80.42% Pervious Area
35,358		19.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	51	0.0196	0.15		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
13.5	99	0.0606	0.12		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
7.7	300	0.0167	0.65		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
4.3	203	0.0246	0.78		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
41.2	953	Total			

Subcatchment S2.1: Subcatchment 2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

[45] Hint: Runoff=Zero

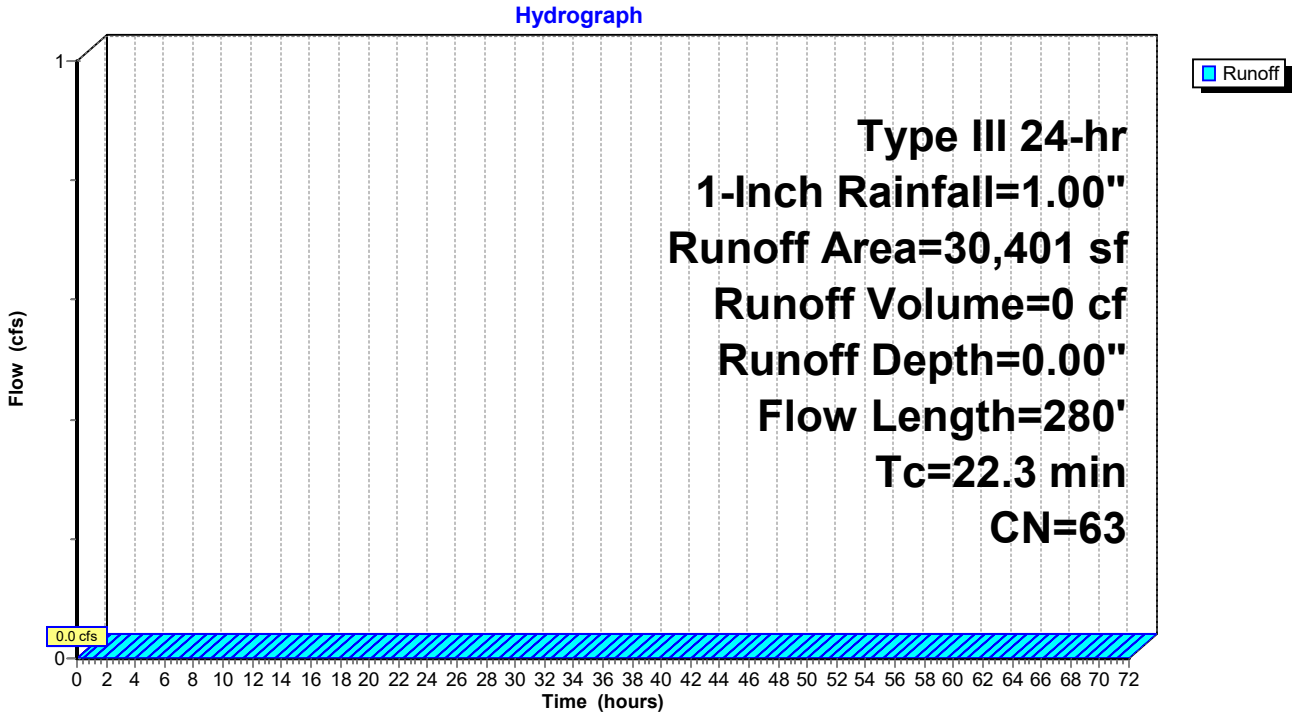
Runoff = 0.0 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
5,813	98	Paved parking, HSG A
30,401	63	Weighted Average
18,462		60.73% Pervious Area
11,939		39.27% Impervious Area
6,060		50.76% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	150	0.0520	0.13		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.3	130	0.0350	0.94		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.3	280	Total			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment 2.3

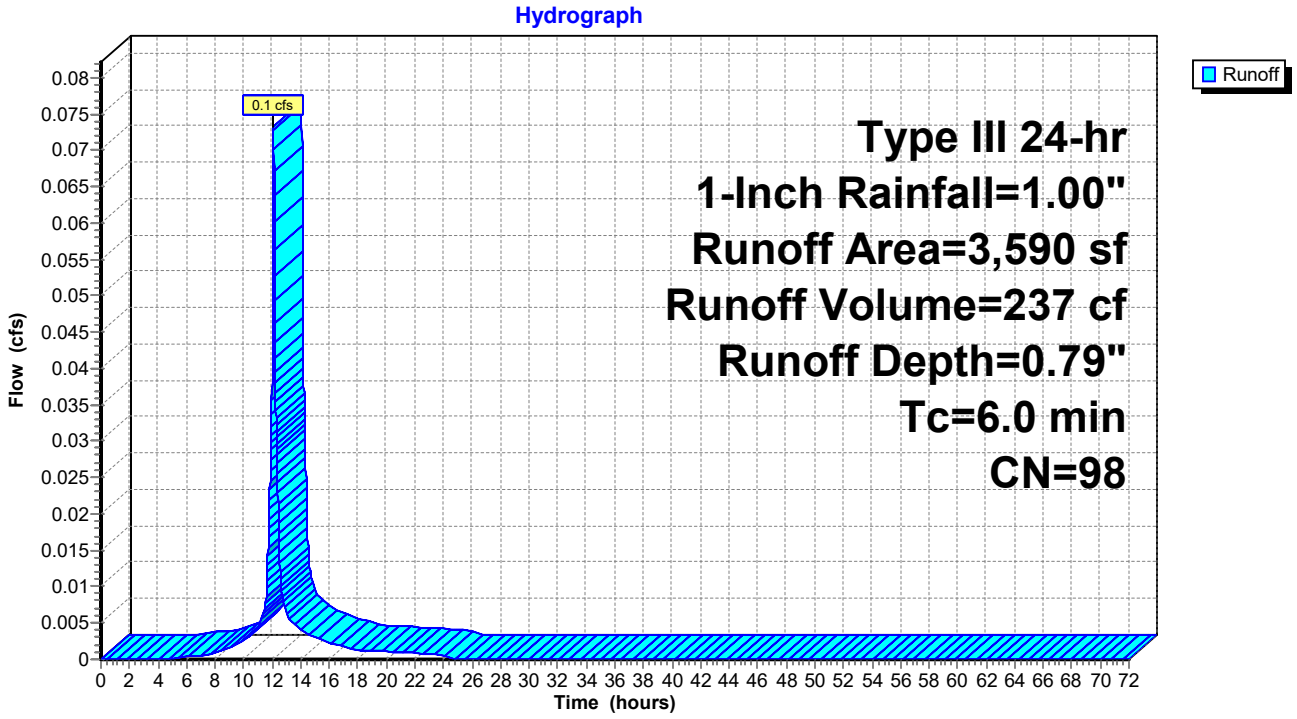
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 237 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
3,590	98	Paved roads w/curbs & sewers, HSG D
3,590		100.00% Impervious Area

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

Subcatchment S2.3: Subcatchment 2.3



Summary for Subcatchment S2.4: Subcatchment 2.4

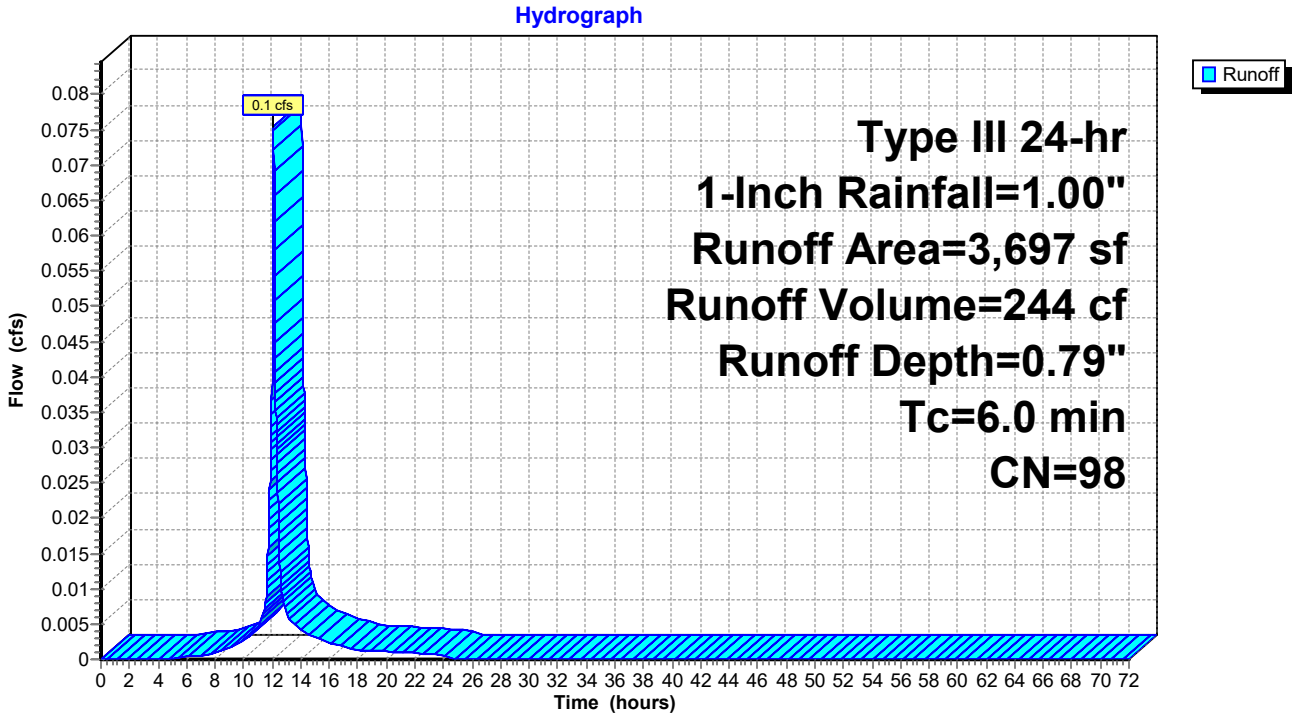
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 244 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
3,697	98	Paved roads w/curbs & sewers, HSG D
3,697		100.00% Impervious Area

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

Subcatchment S2.4: Subcatchment 2.4



Summary for Subcatchment S2.5: Subcatchment 2.5

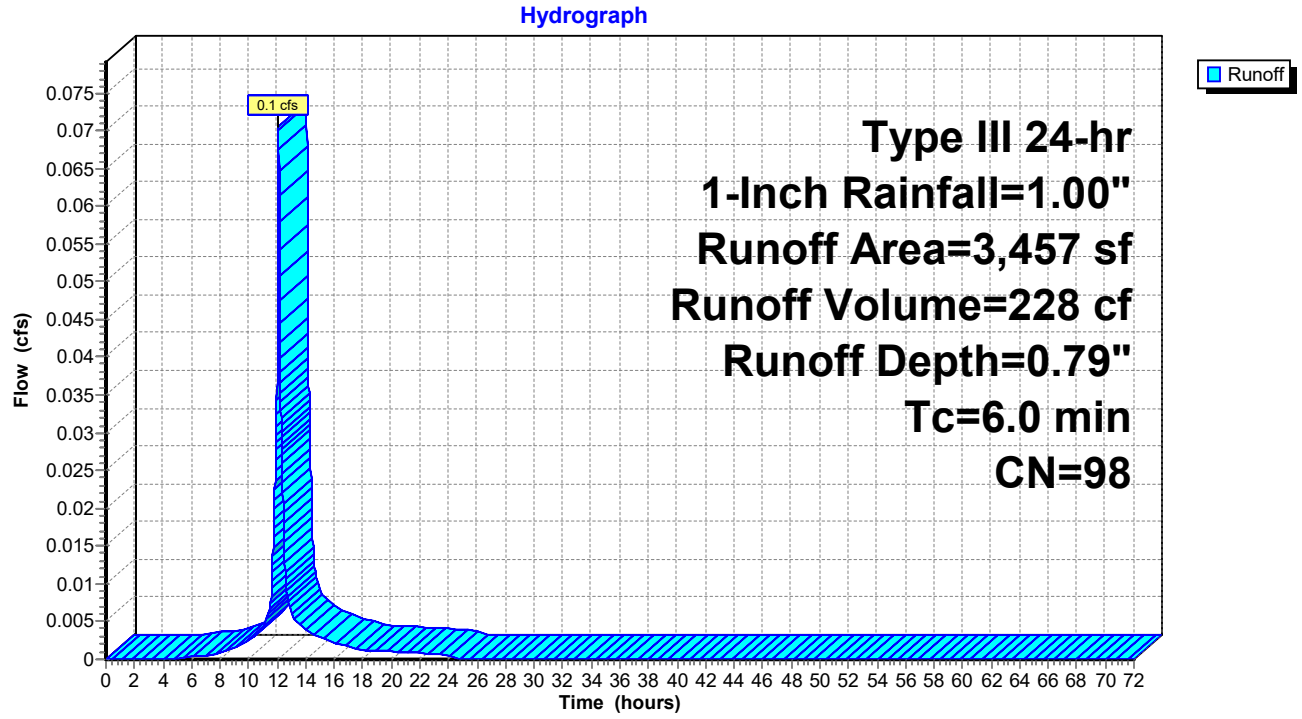
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 228 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
3,457	98	Paved roads w/curbs & sewers, HSG D
3,457		100.00% Impervious Area

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

Subcatchment S2.5: Subcatchment 2.5



Summary for Subcatchment S2.6: Subcatchment 2.6

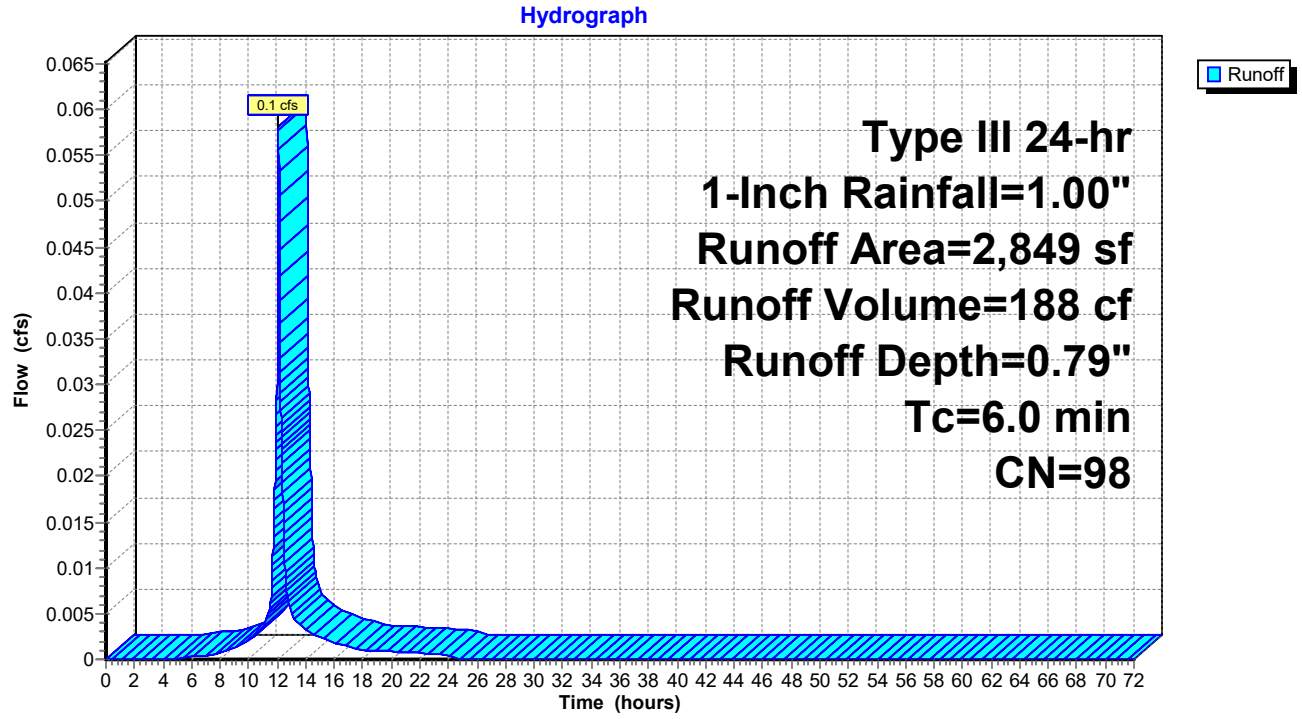
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 188 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
2,849	98	Paved roads w/curbs & sewers, HSG D
2,849		100.00% Impervious Area

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

Subcatchment S2.6: Subcatchment 2.6



Summary for Subcatchment S2.7: Subcatchment 2.7

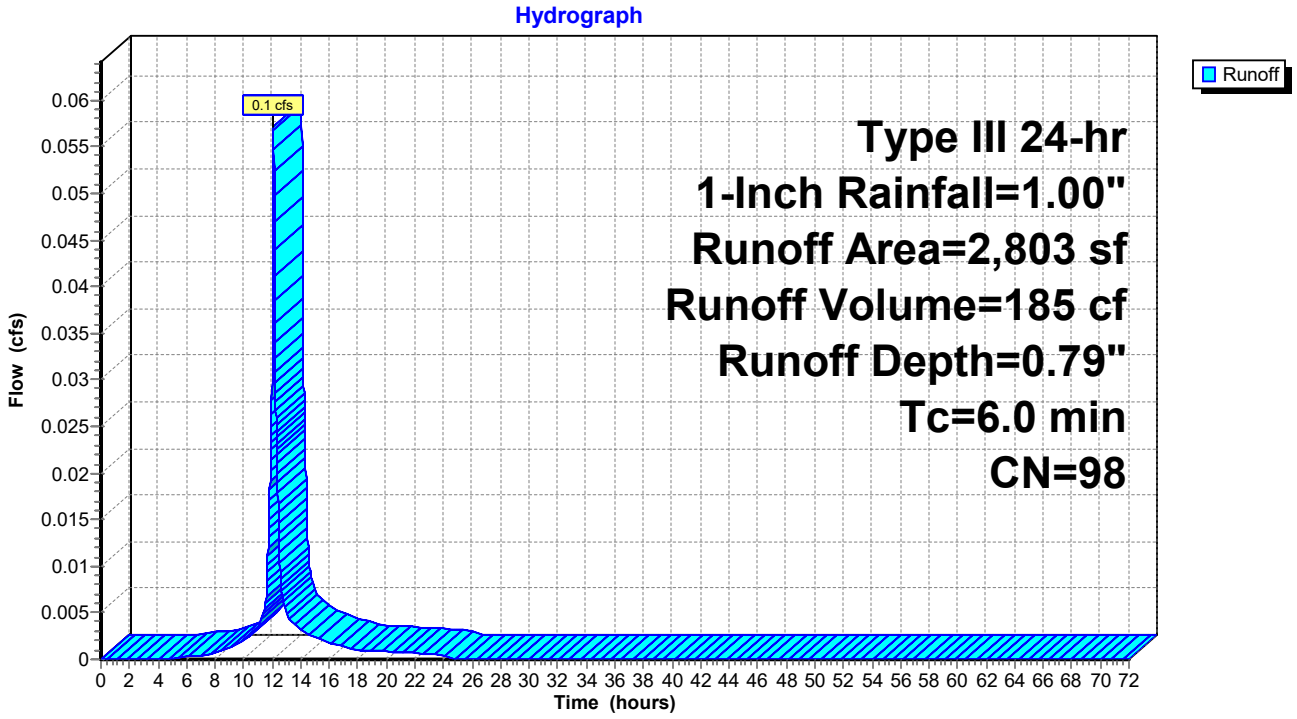
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 185 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
2,803	98	Paved roads w/curbs & sewers, HSG D
2,803		100.00% Impervious Area

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

Subcatchment S2.7: Subcatchment 2.7



Summary for Subcatchment S2.8: Subcatchment 2.8

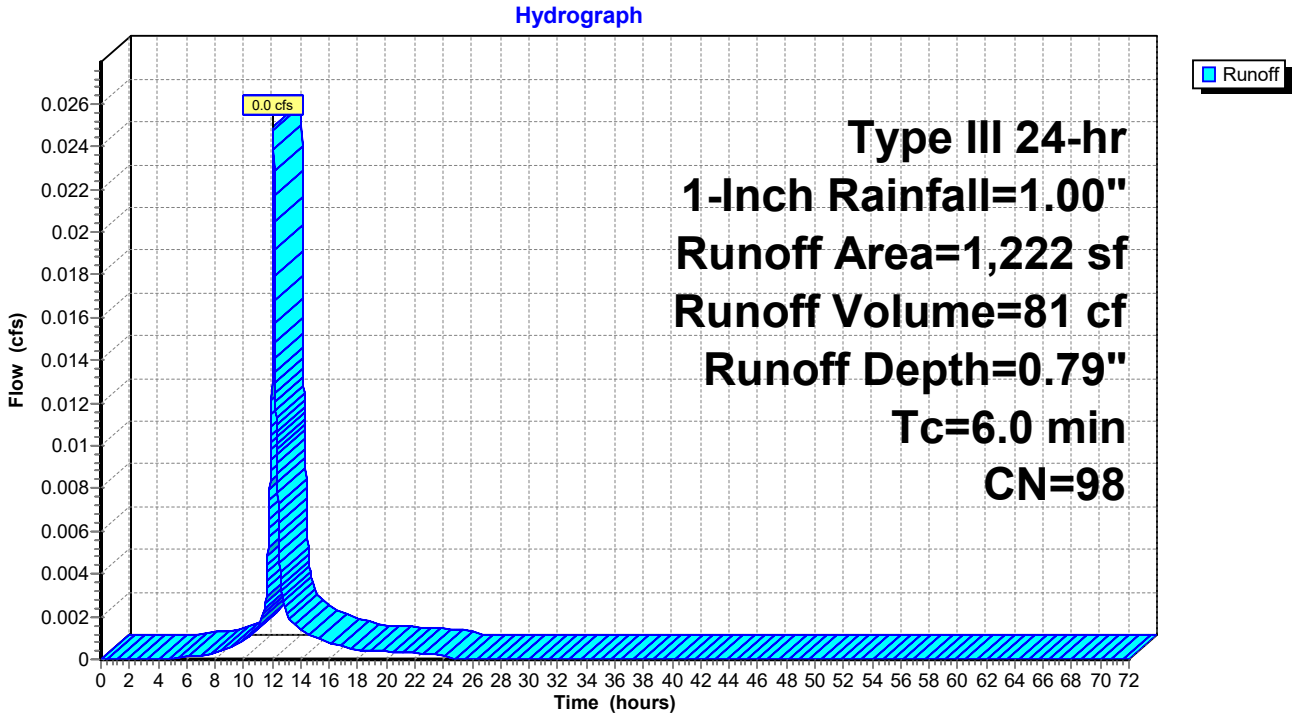
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 81 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,222	98	Paved roads w/curbs & sewers, HSG D
1,222		100.00% Impervious Area

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

Subcatchment S2.8: Subcatchment 2.8



Summary for Subcatchment S3.1: Subcatchment 3.1

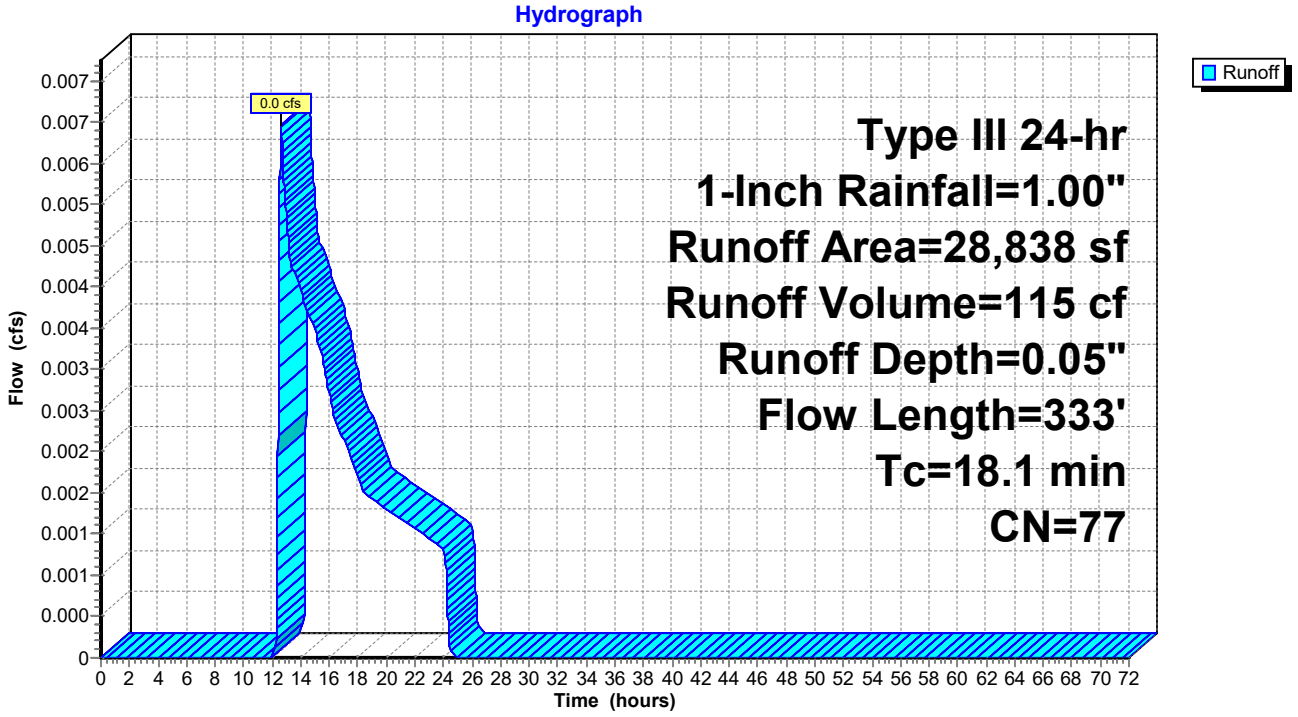
Runoff = 0.0 cfs @ 12.62 hrs, Volume= 115 cf, Depth= 0.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
15,787	77	Woods, Good, HSG D
10,424	80	>75% Grass cover, Good, HSG D
1,377	39	>75% Grass cover, Good, HSG A
1,250	98	Roofs, HSG D
28,838	77	Weighted Average
27,588		95.67% Pervious Area
1,250		4.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	150	0.0130	0.16		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
1.2	102	0.0392	1.39		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.0	81	0.0740	1.36		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
18.1	333	Total			

Subcatchment S3.1: Subcatchment 3.1



Summary for Subcatchment S3.2: Subcatchment 3.2

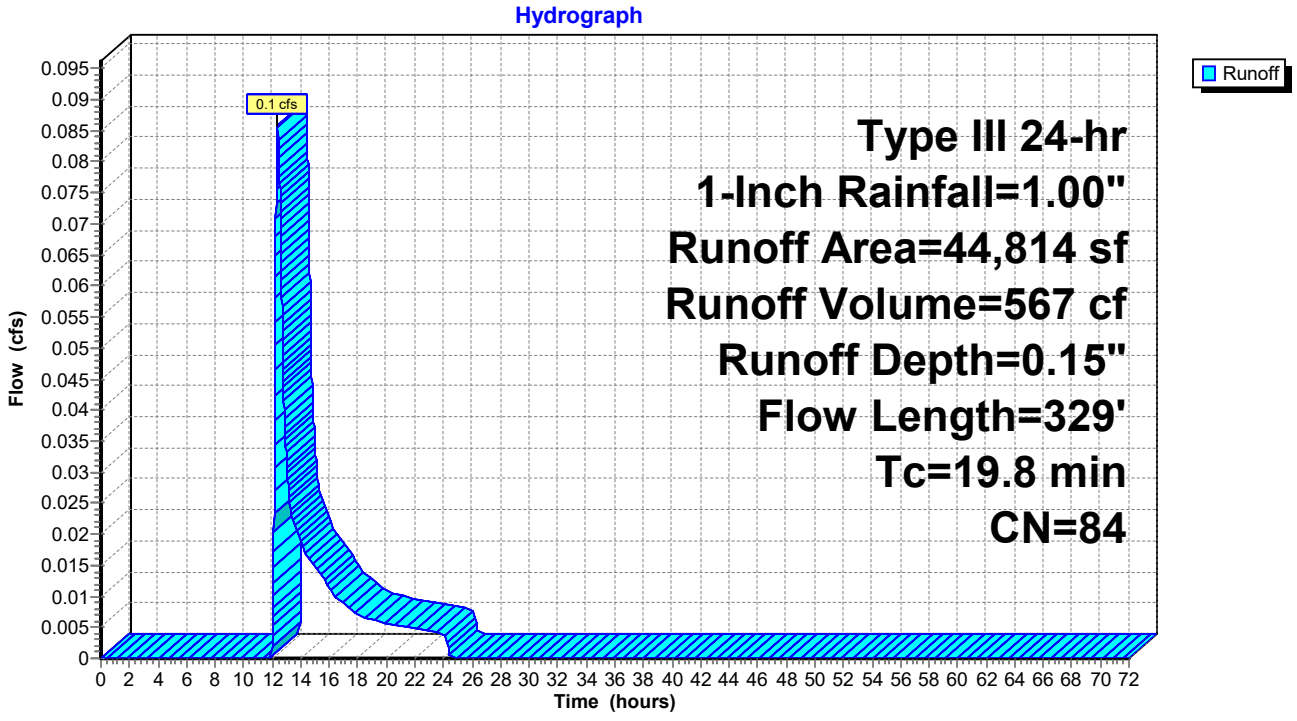
Runoff = 0.1 cfs @ 12.38 hrs, Volume= 567 cf, Depth= 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
34,169	80	>75% Grass cover, Good, HSG D
1,895	98	Paved parking, HSG D
8,750	98	Roofs, HSG D
44,814	84	Weighted Average
34,169		76.25% Pervious Area
10,645		23.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0100	0.14		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
2.2	179	0.0363	1.33		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.8	329	Total			

Subcatchment S3.2: Subcatchment 3.2



Summary for Subcatchment S4.1: Subcatchment 4.1

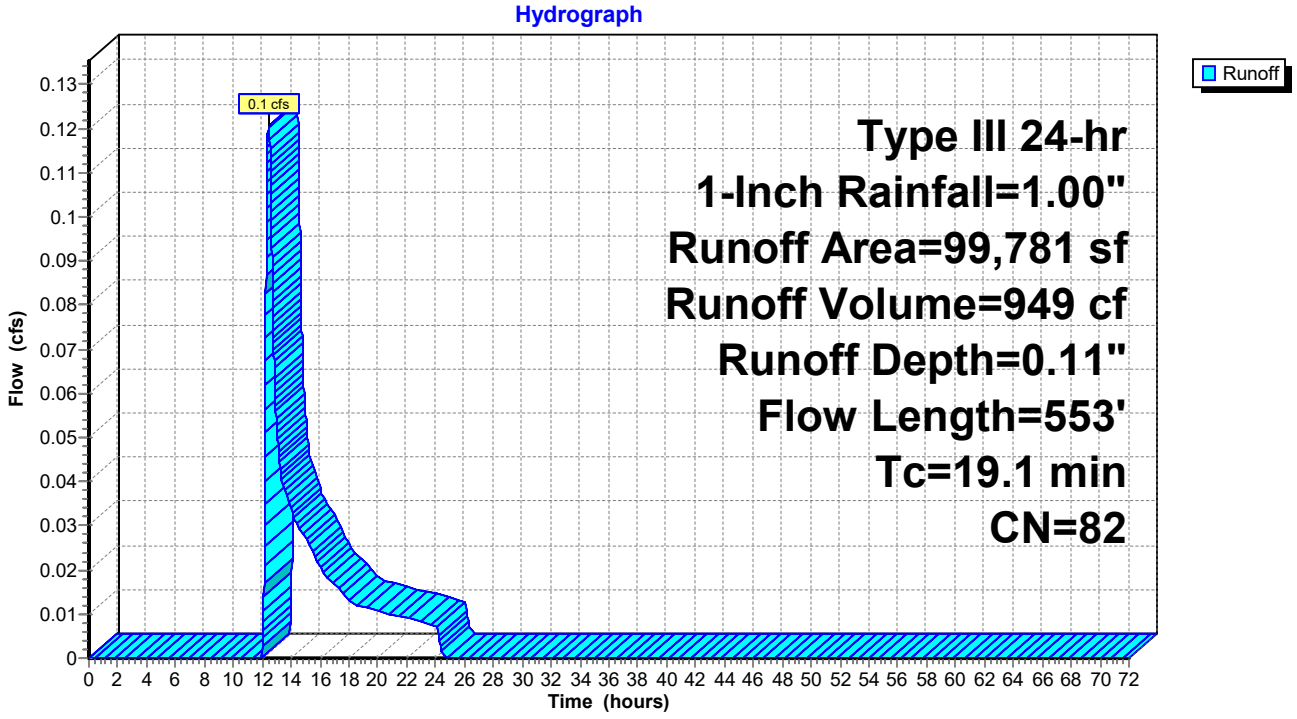
Runoff = 0.1 cfs @ 12.45 hrs, Volume= 949 cf, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
17,618	77	Woods, Good, HSG D
70,163	80	>75% Grass cover, Good, HSG D
12,000	98	Roofs, HSG D
99,781	82	Weighted Average
87,781		87.97% Pervious Area
12,000		12.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	150	0.0330	0.23		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
7.1	300	0.0100	0.70		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.1	103	0.0485	1.54		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.1	553	Total			

Subcatchment S4.1: Subcatchment 4.1



Summary for Subcatchment S4.10: Subcatchment 4.10

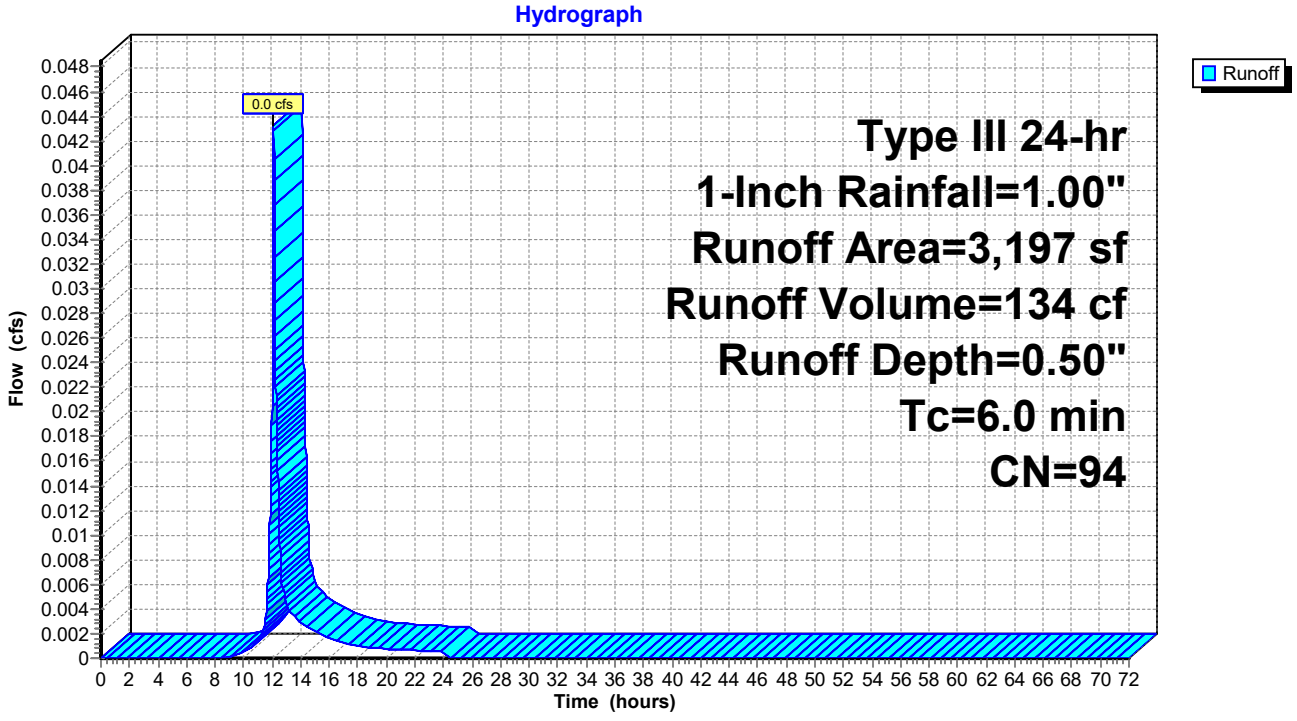
Runoff = 0.0 cfs @ 12.09 hrs, Volume= 134 cf, Depth= 0.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
2,320	98	Paved roads w/curbs & sewers, HSG D
148	96	Gravel surface, HSG D
729	80	>75% Grass cover, Good, HSG D
3,197	94	Weighted Average
877		27.43% Pervious Area
2,320		72.57% Impervious Area

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

Subcatchment S4.10: Subcatchment 4.10



Summary for Subcatchment S4.11: Subcatchment 4.11

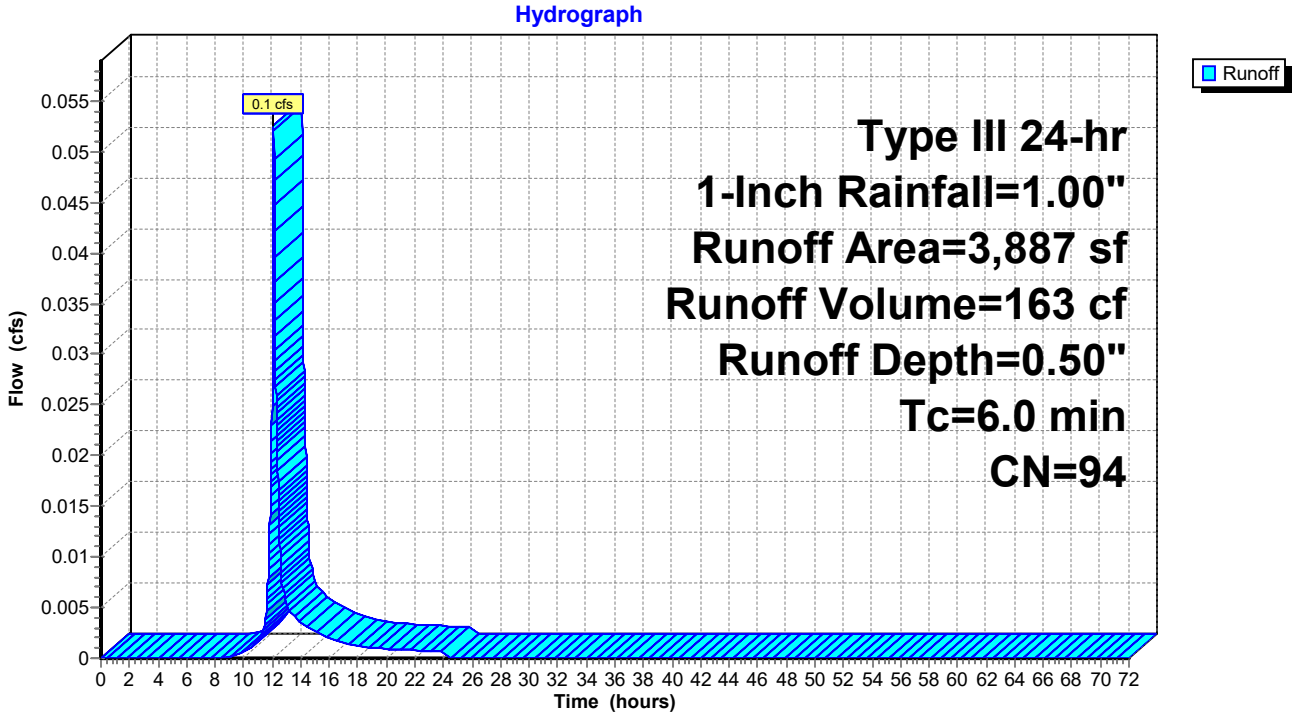
Runoff = 0.1 cfs @ 12.09 hrs, Volume= 163 cf, Depth= 0.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
2,903	98	Paved roads w/curbs & sewers, HSG D
163	96	Gravel surface, HSG D
821	80	>75% Grass cover, Good, HSG D
3,887	94	Weighted Average
984		25.32% Pervious Area
2,903		74.68% Impervious Area

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

Subcatchment S4.11: Subcatchment 4.11



Summary for Subcatchment S4.12: Subcatchment 4.12

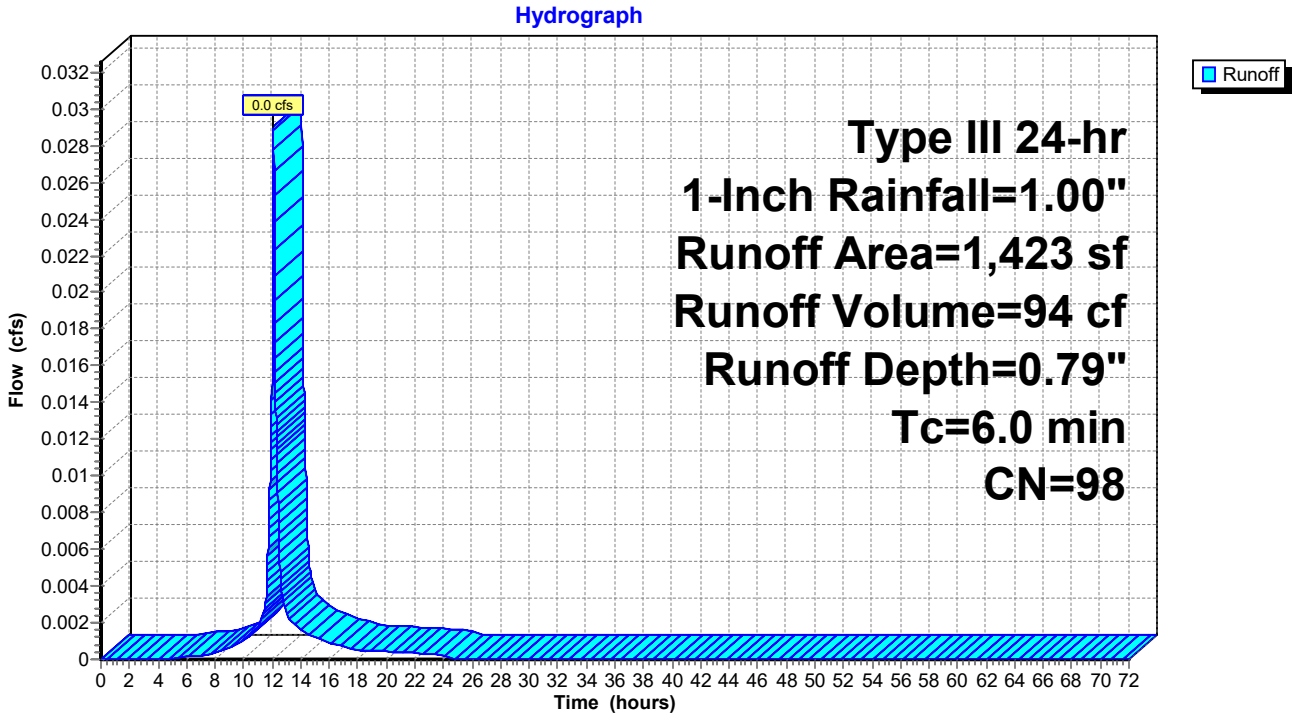
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 94 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,423	98	Paved roads w/curbs & sewers, HSG D
1,423		100.00% Impervious Area

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

Subcatchment S4.12: Subcatchment 4.12



Summary for Subcatchment S4.13: Subcatchment 4.13

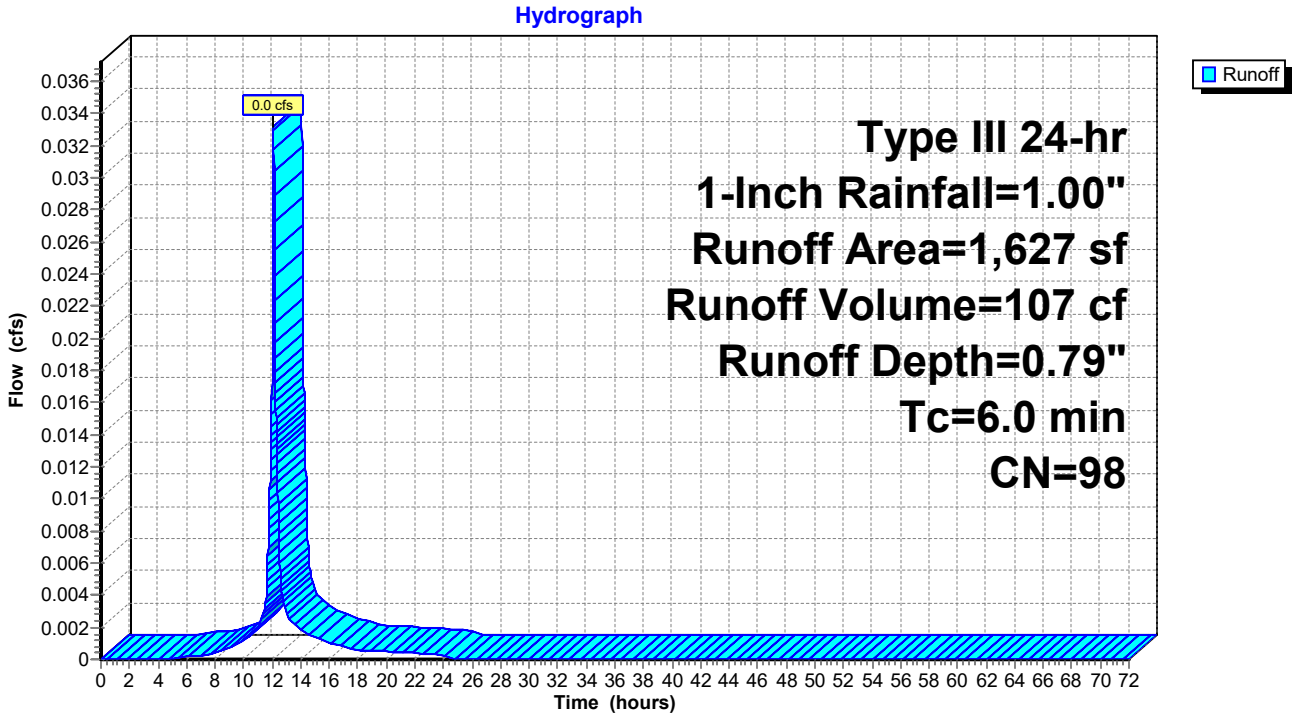
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 107 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,627	98	Paved roads w/curbs & sewers, HSG D
1,627		100.00% Impervious Area

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

Subcatchment S4.13: Subcatchment 4.13



Summary for Subcatchment S4.2: Subcatchment 4.2

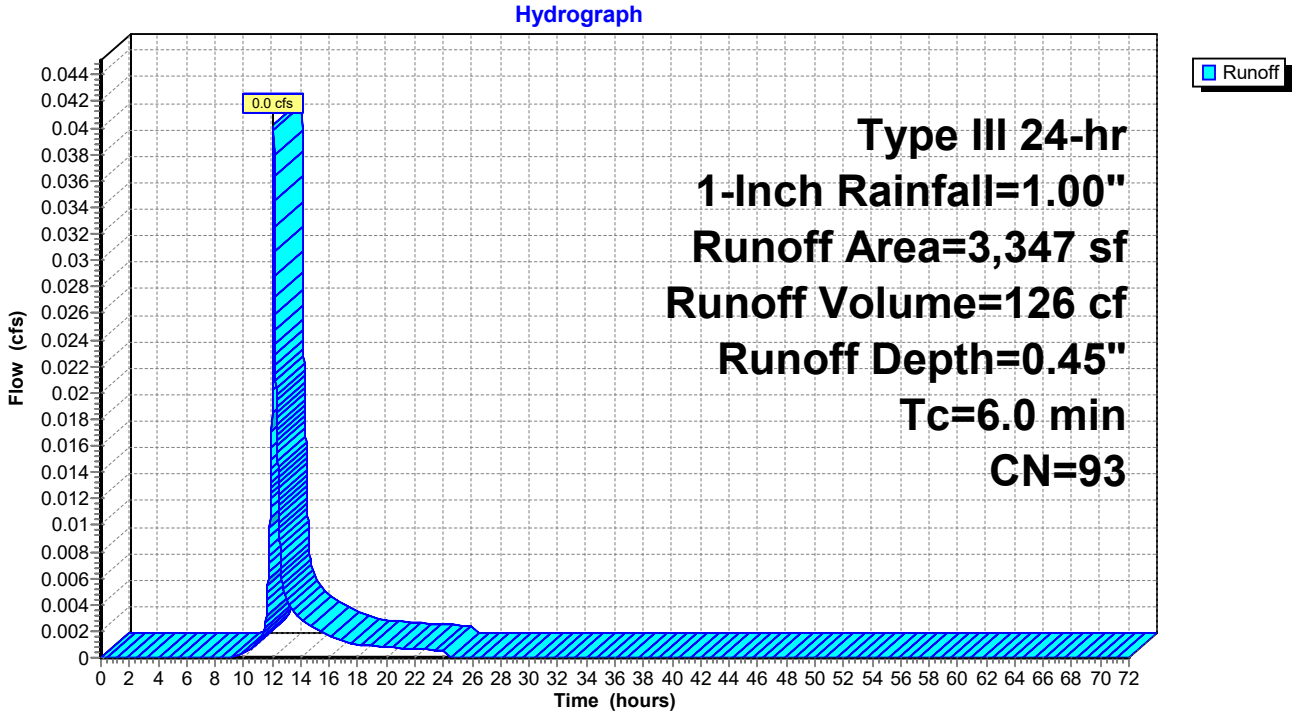
Runoff = 0.0 cfs @ 12.09 hrs, Volume= 126 cf, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
796	98	Paved parking, HSG D
74	96	Gravel surface, HSG D
754	80	>75% Grass cover, Good, HSG D
1,602	98	Paved parking, HSG A
40	39	>75% Grass cover, Good, HSG A
81	96	Gravel surface, HSG A
3,347	93	Weighted Average
949		28.35% Pervious Area
2,398		71.65% Impervious Area

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

Subcatchment S4.2: Subcatchment 4.2



Summary for Subcatchment S4.3: Subcatchment 4.3

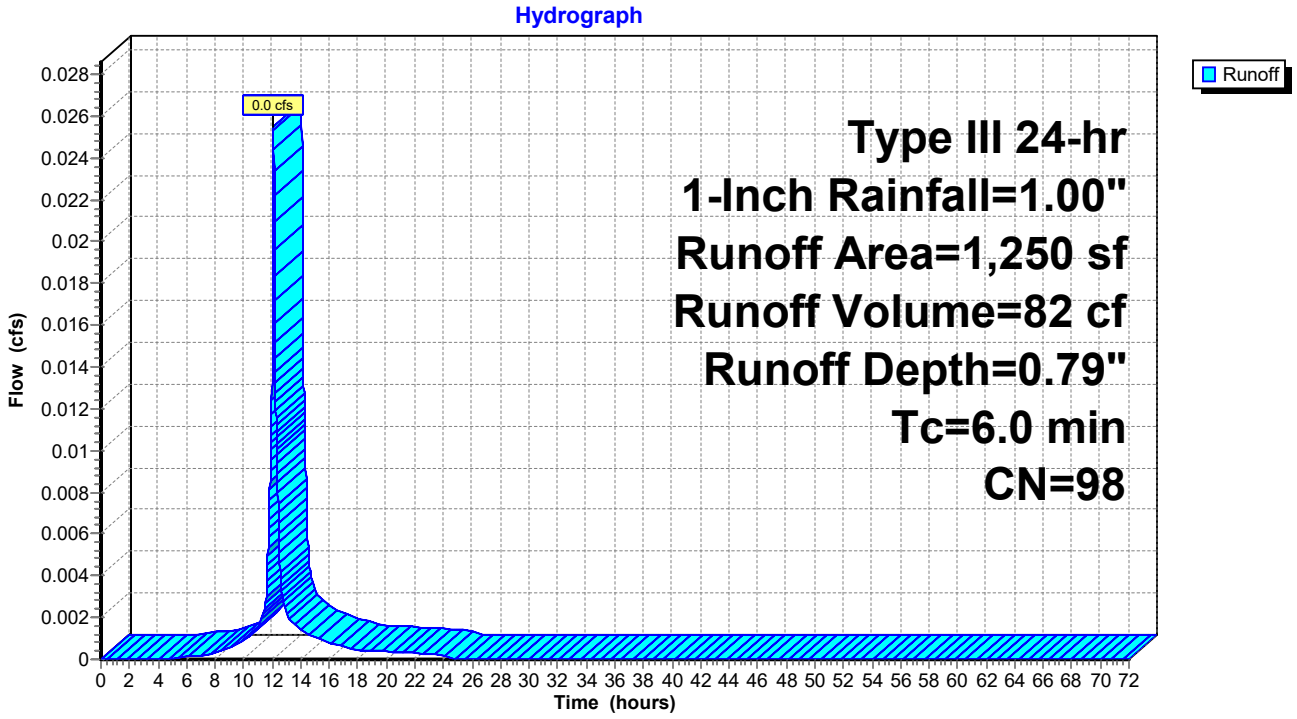
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.3: Subcatchment 4.3



Summary for Subcatchment S4.4: Subcatchment 4.4

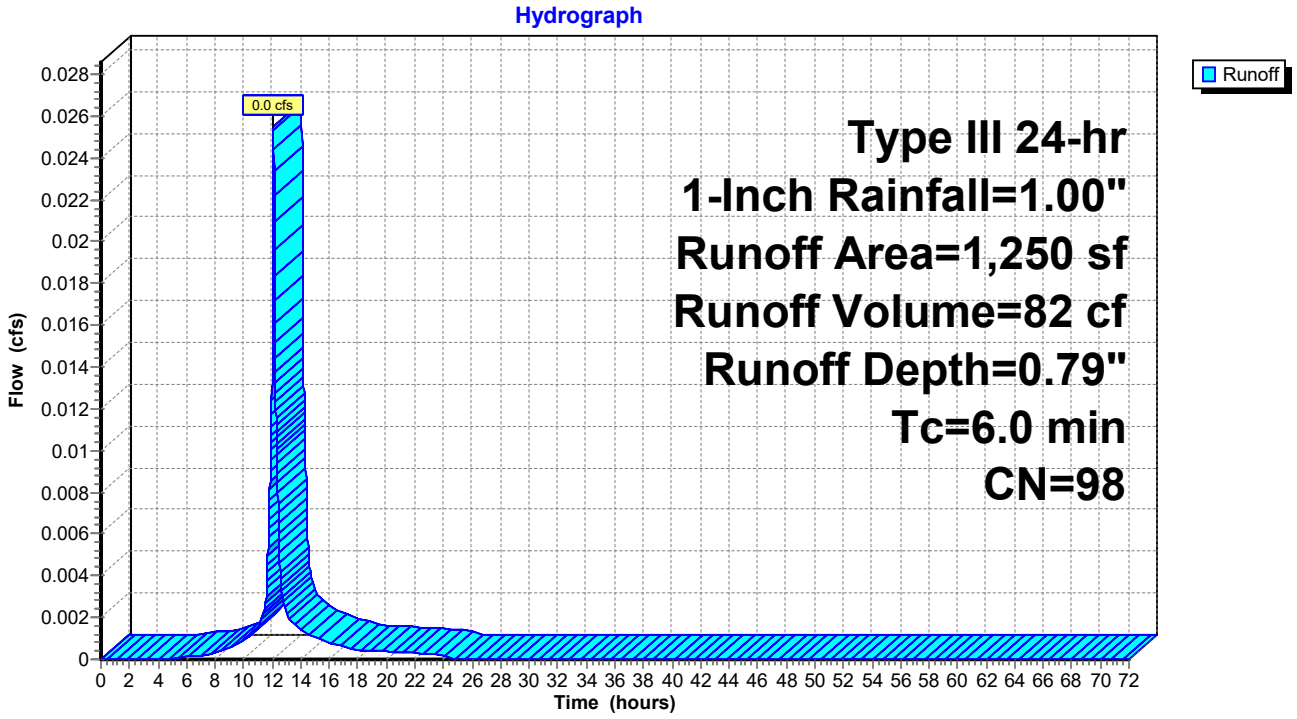
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.4: Subcatchment 4.4



Summary for Subcatchment S4.5: Subcatchment 4.5

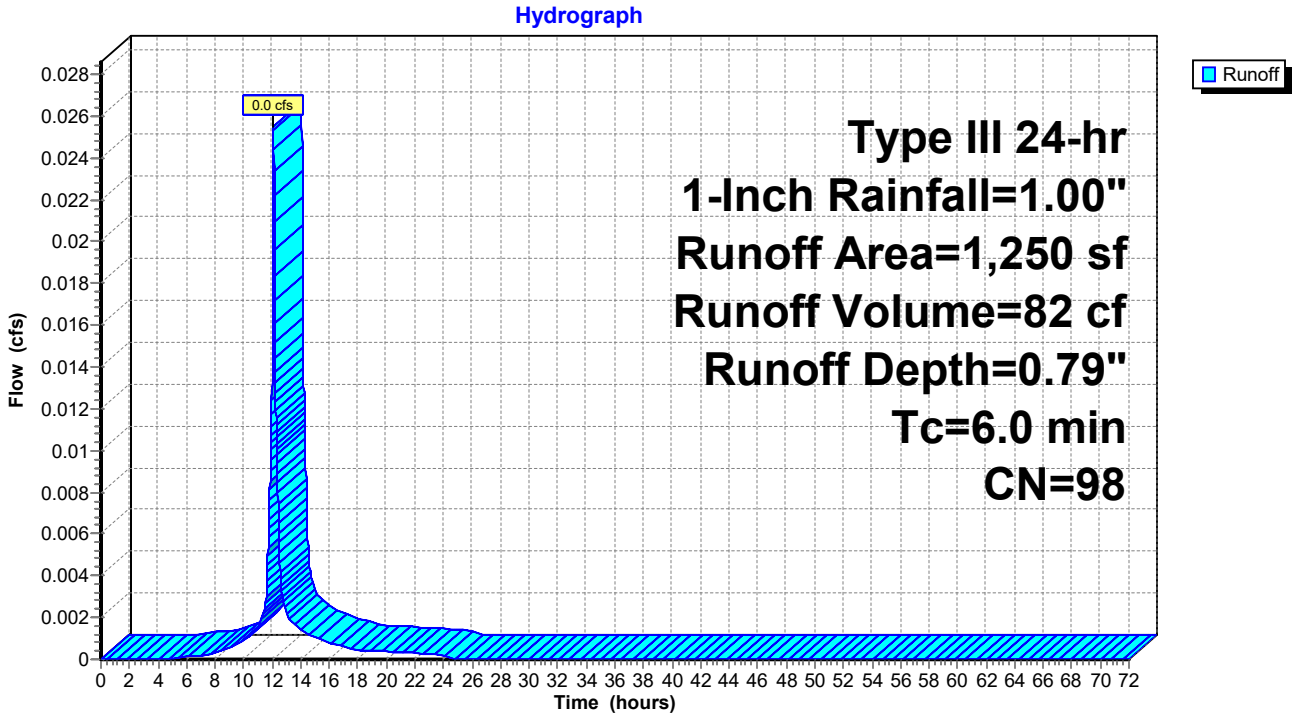
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.5: Subcatchment 4.5



Summary for Subcatchment S4.6: Subcatchment 4.6

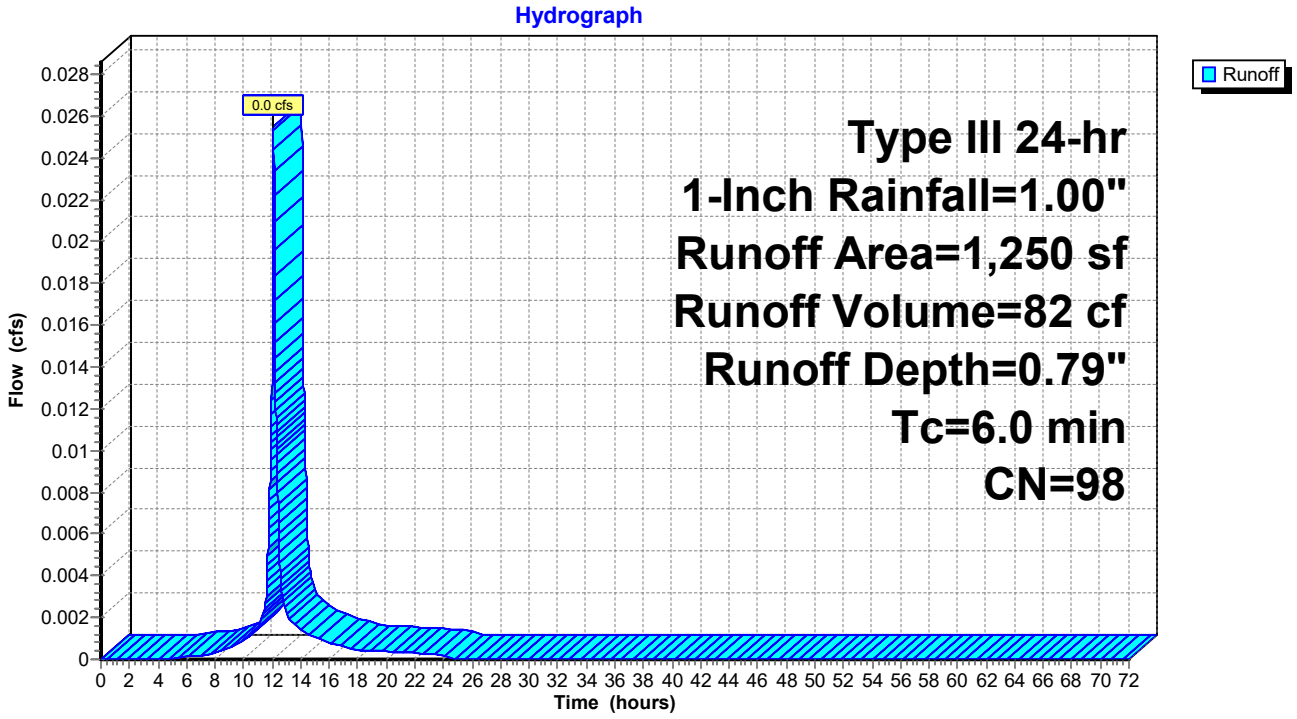
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.6: Subcatchment 4.6



Summary for Subcatchment S4.7: Subcatchment 4.7

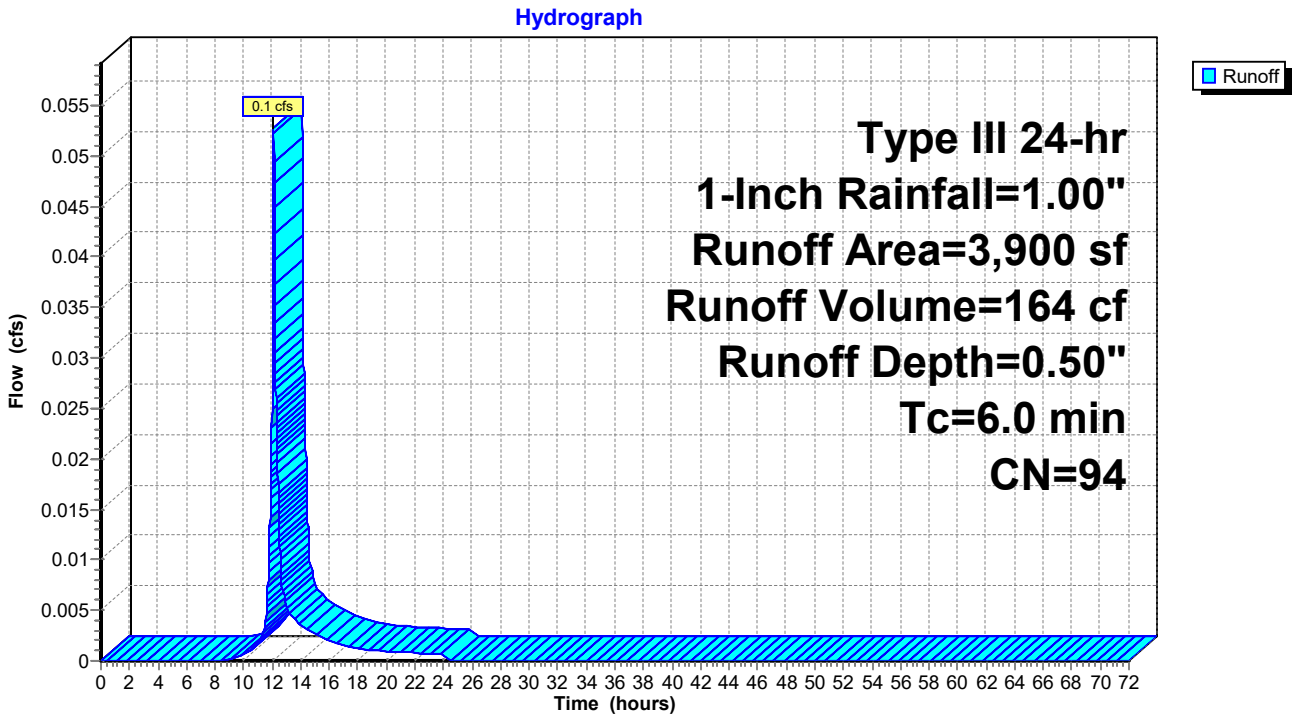
Runoff = 0.1 cfs @ 12.09 hrs, Volume= 164 cf, Depth= 0.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
874	80	>75% Grass cover, Good, HSG D
166	96	Gravel surface, HSG D
297	98	Paved roads w/curbs & sewers, HSG A
2,563	98	Paved roads w/curbs & sewers, HSG D
3,900	94	Weighted Average
1,040		26.67% Pervious Area
2,860		73.33% Impervious Area

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

Subcatchment S4.7: Subcatchment 4.7



Summary for Subcatchment S4.8: Subcatchment 4.8

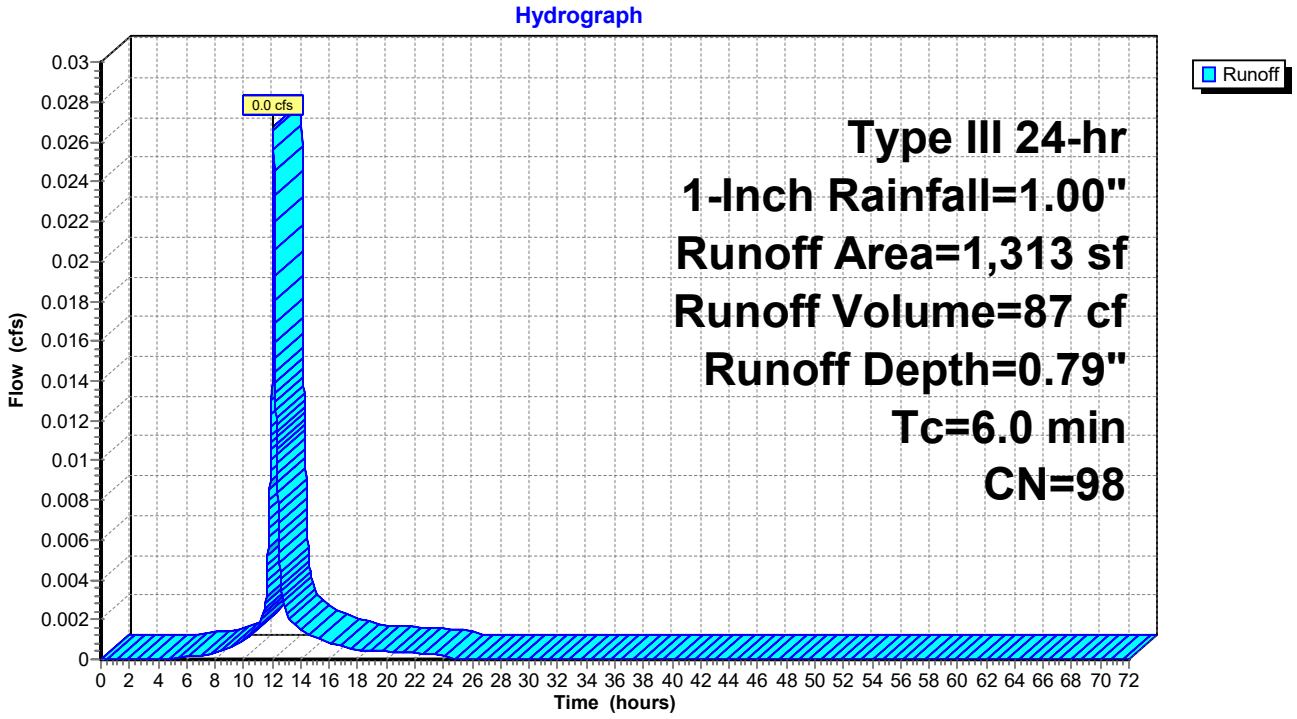
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 87 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,313	98	Paved roads w/curbs & sewers, HSG D
1,313		100.00% Impervious Area

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

Subcatchment S4.8: Subcatchment 4.8



Summary for Subcatchment S4.9: Subcatchment 4.9

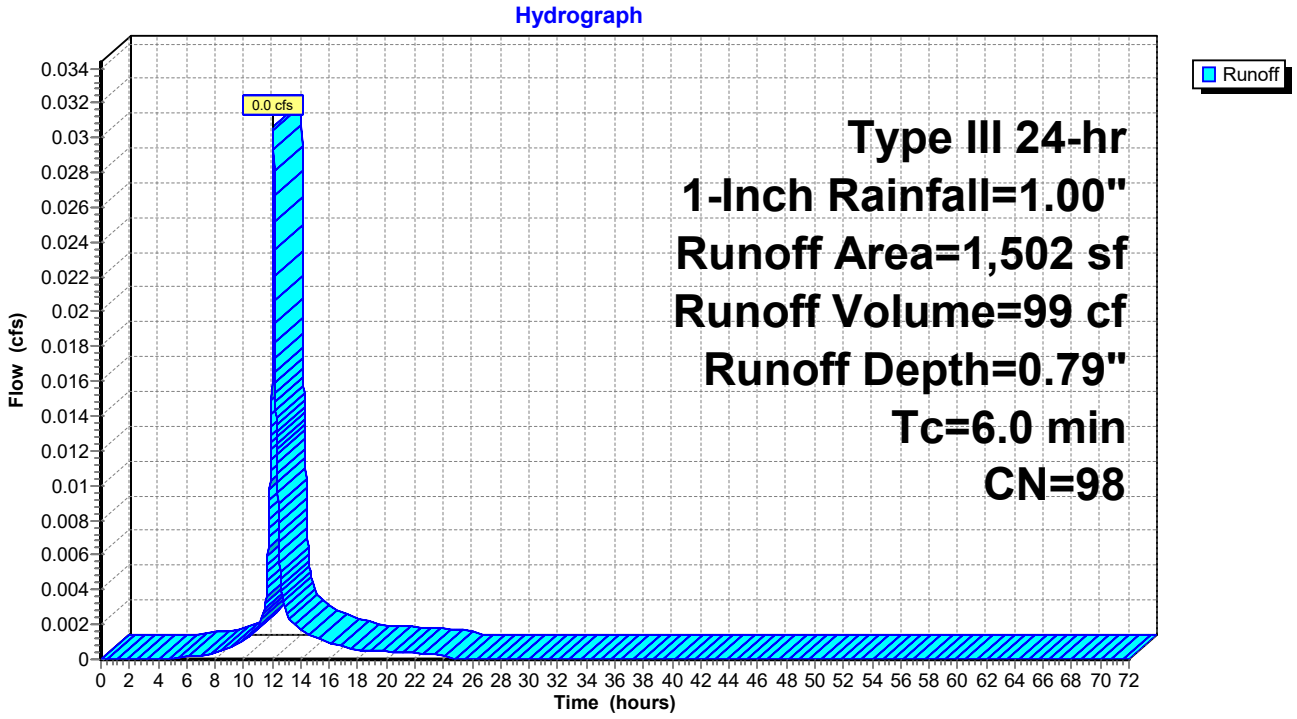
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 99 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,502	98	Paved roads w/curbs & sewers, HSG D
1,502		100.00% Impervious Area

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

Subcatchment S4.9: Subcatchment 4.9



Summary for Subcatchment S5.1: Subcatchment 5.1

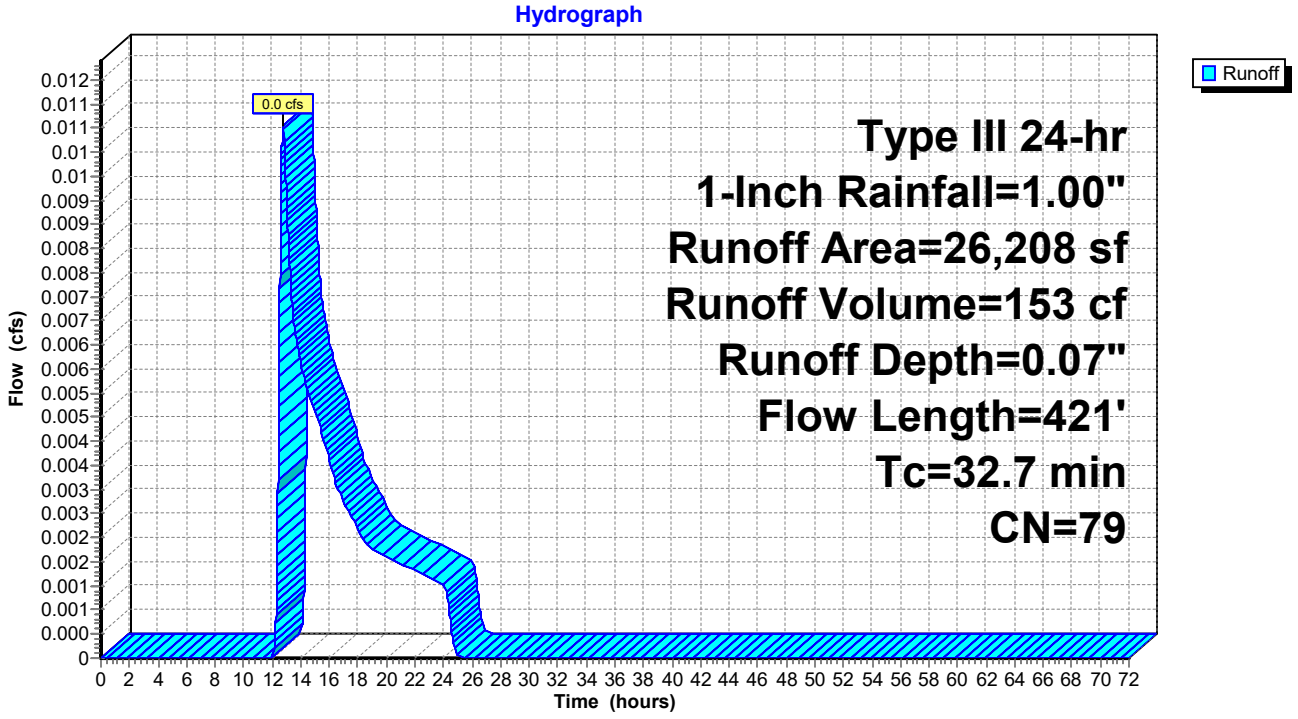
Runoff = 0.0 cfs @ 12.75 hrs, Volume= 153 cf, Depth= 0.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
12,258	77	Woods, Good, HSG D
13,250	80	>75% Grass cover, Good, HSG D
700	98	Roofs, HSG D
26,208	79	Weighted Average
25,508		97.33% Pervious Area
700		2.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	150	0.0267	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
1.8	53	0.0100	0.50		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
4.8	218	0.0229	0.76		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
32.7	421	Total			

Subcatchment S5.1: Subcatchment 5.1



Summary for Subcatchment S5.2: Subcatchment 5.2

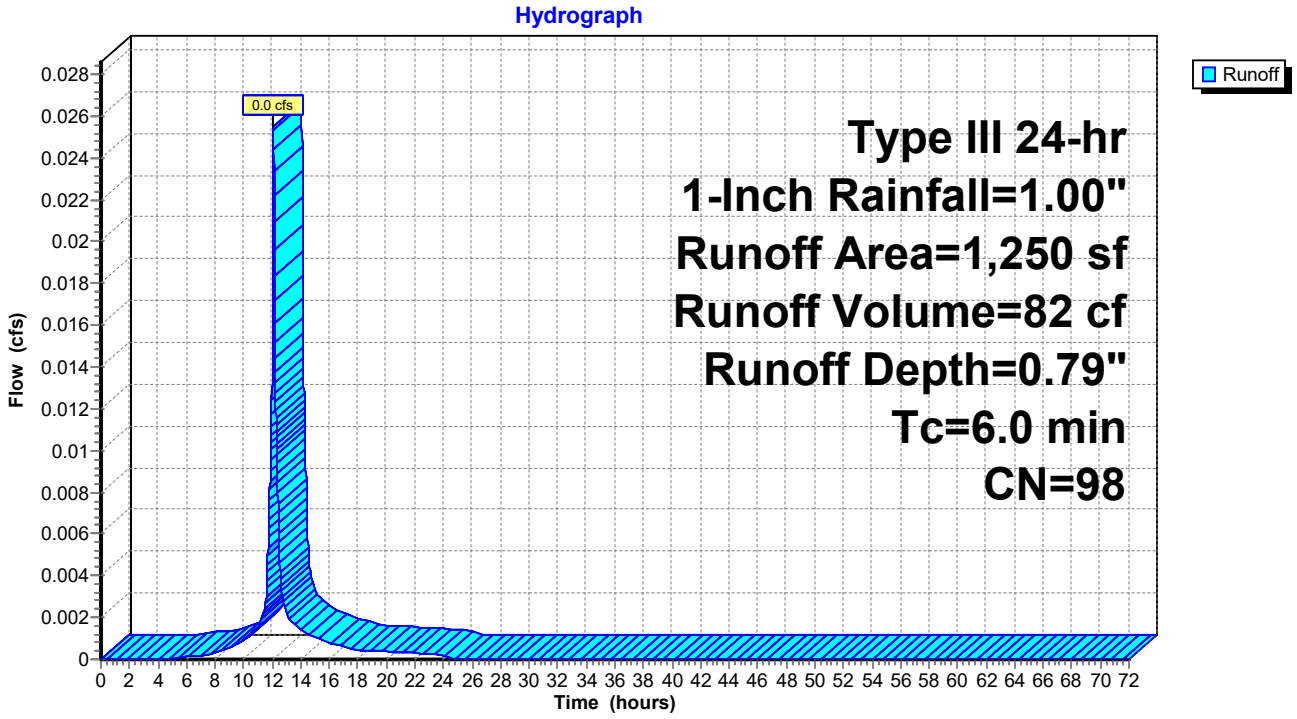
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.2: Subcatchment 5.2



Summary for Subcatchment S5.3: Subcatchment 5.3

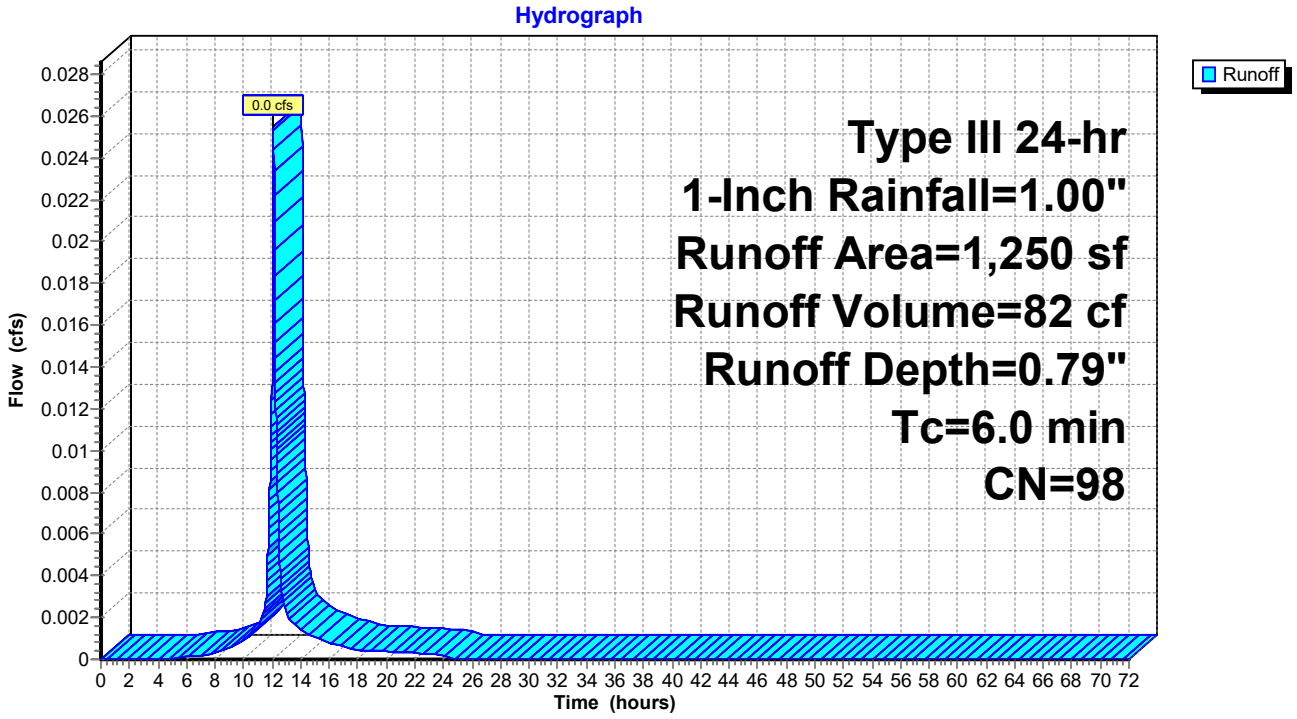
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.3: Subcatchment 5.3



Summary for Subcatchment S5.4: Subcatchment 5.4

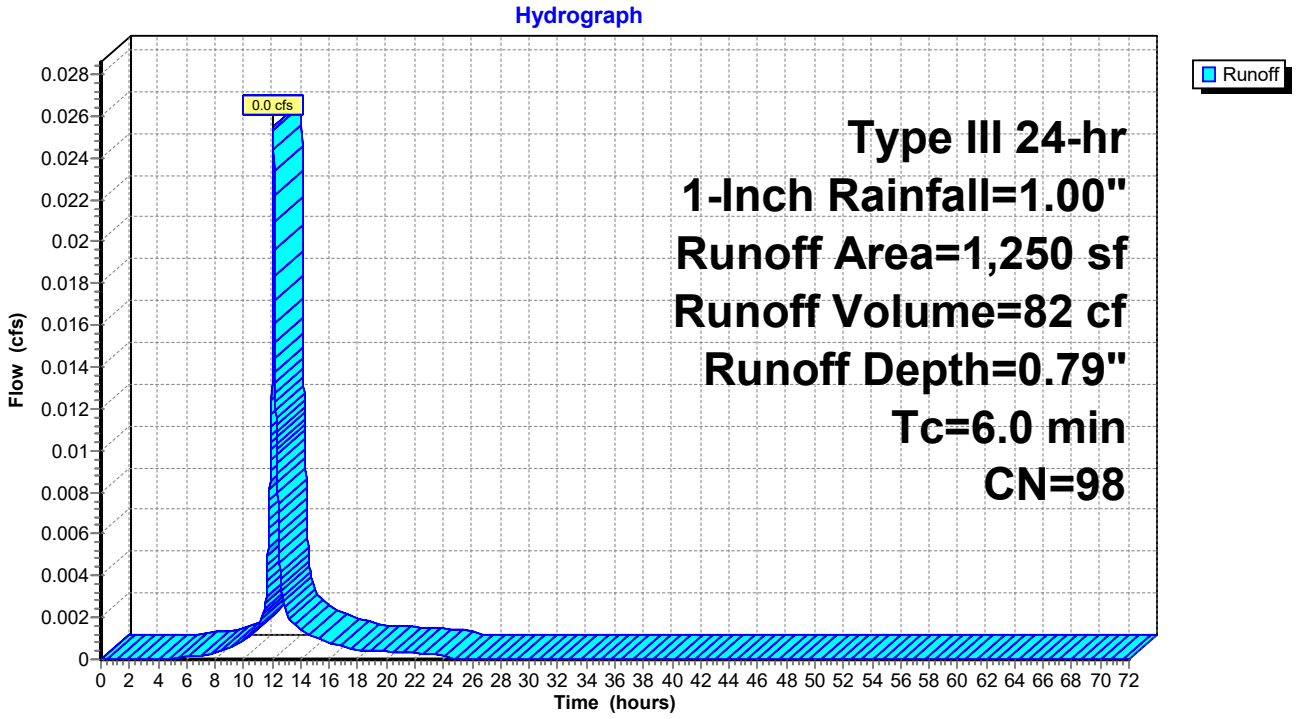
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 82 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Inch Rainfall=1.00"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.4: Subcatchment 5.4



Summary for Reach S1: Swale 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 0.15" for 1-Inch event
Inflow = 0.1 cfs @ 12.38 hrs, Volume= 567 cf
Outflow = 0.1 cfs @ 12.44 hrs, Volume= 567 cf, Atten= 3%, Lag= 4.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.60 fps, Min. Travel Time= 4.9 min
Avg. Velocity = 0.29 fps, Avg. Travel Time= 10.0 min

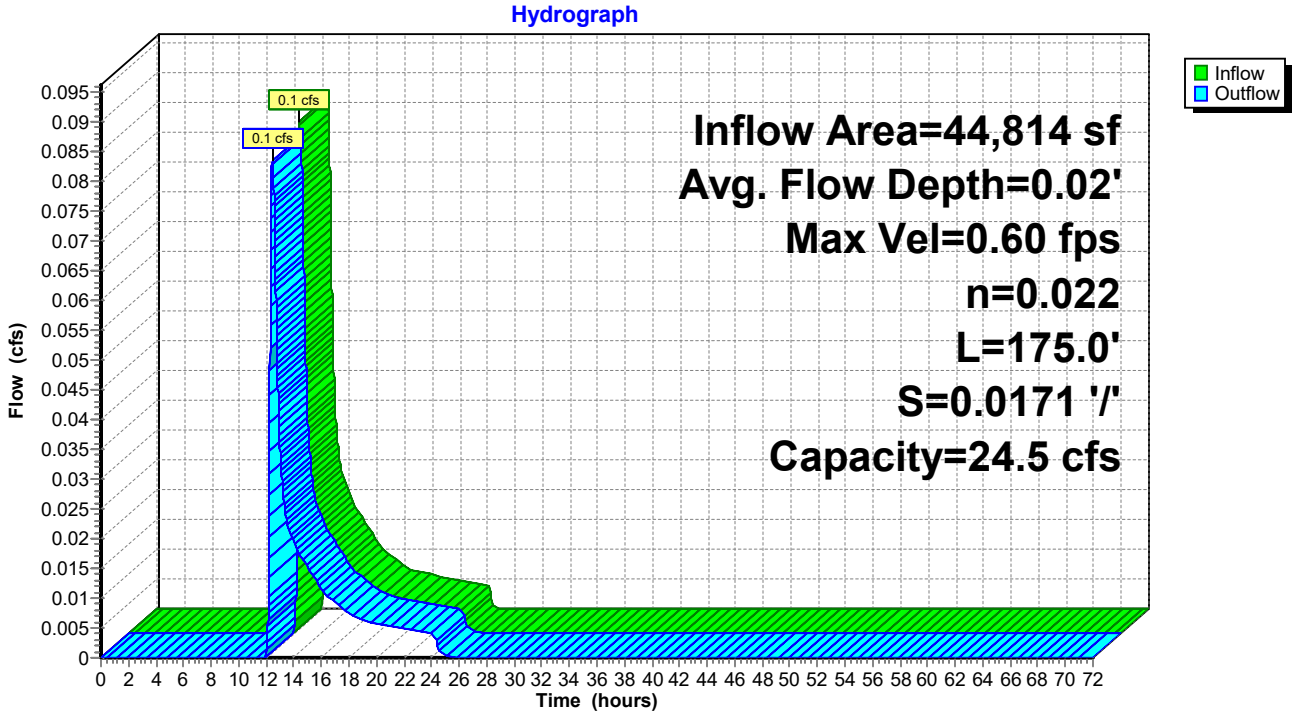
Peak Storage= 25 cf @ 12.44 hrs
Average Depth at Peak Storage= 0.02' , Surface Width= 8.14'
Bank-Full Depth= 0.50' Flow Area= 5.0 sf, Capacity= 24.5 cfs

8.00' x 0.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 4.0 '/' Top Width= 12.00'
Length= 175.0' Slope= 0.0171 '/'
Inlet Invert= 69.00', Outlet Invert= 66.00'



‡

Reach S1: Swale 1



Summary for Pond C1: Culvert 1

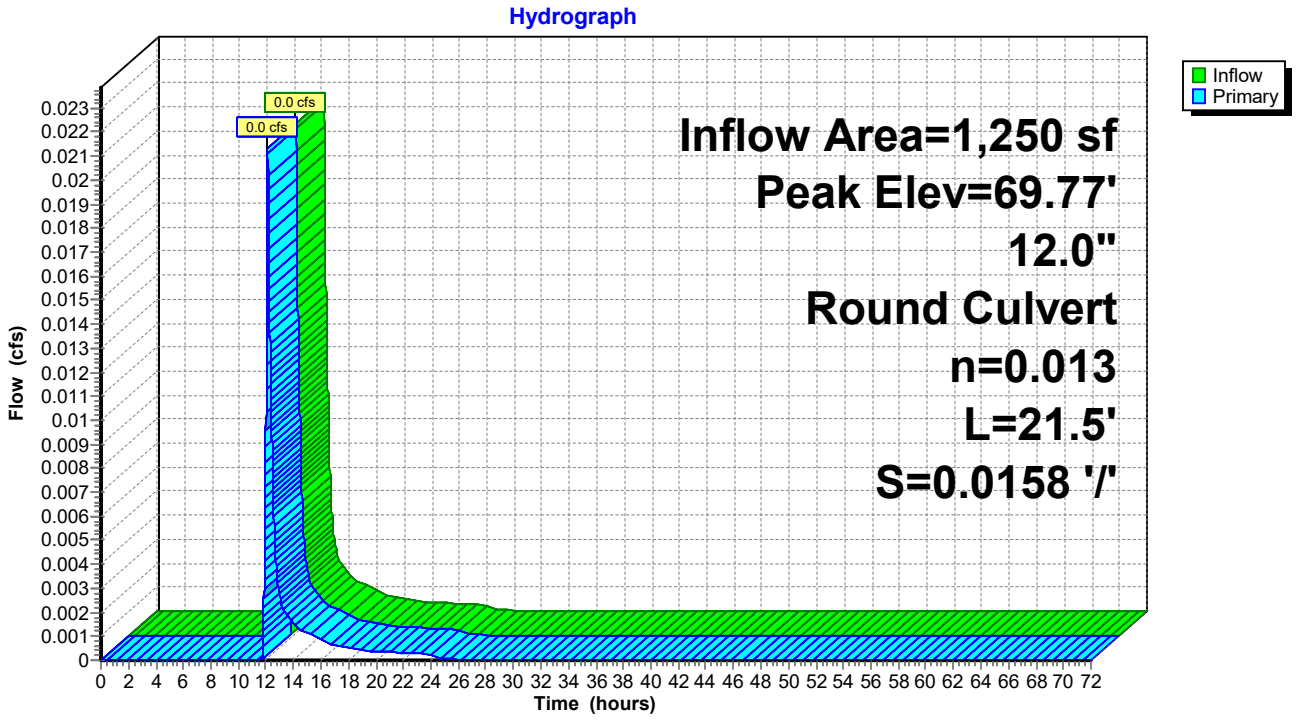
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.63" for 1-Inch event
Inflow = 0.0 cfs @ 12.13 hrs, Volume= 65 cf
Outflow = 0.0 cfs @ 12.13 hrs, Volume= 65 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.13 hrs, Volume= 65 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.77' @ 12.13 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 21.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0158 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.13 hrs HW=69.77' TW=69.49' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.0 cfs @ 0.75 fps)

Pond C1: Culvert 1



Summary for Pond C10: Culvert 10

[57] Hint: Peaked at 69.33' (Flood elevation advised)

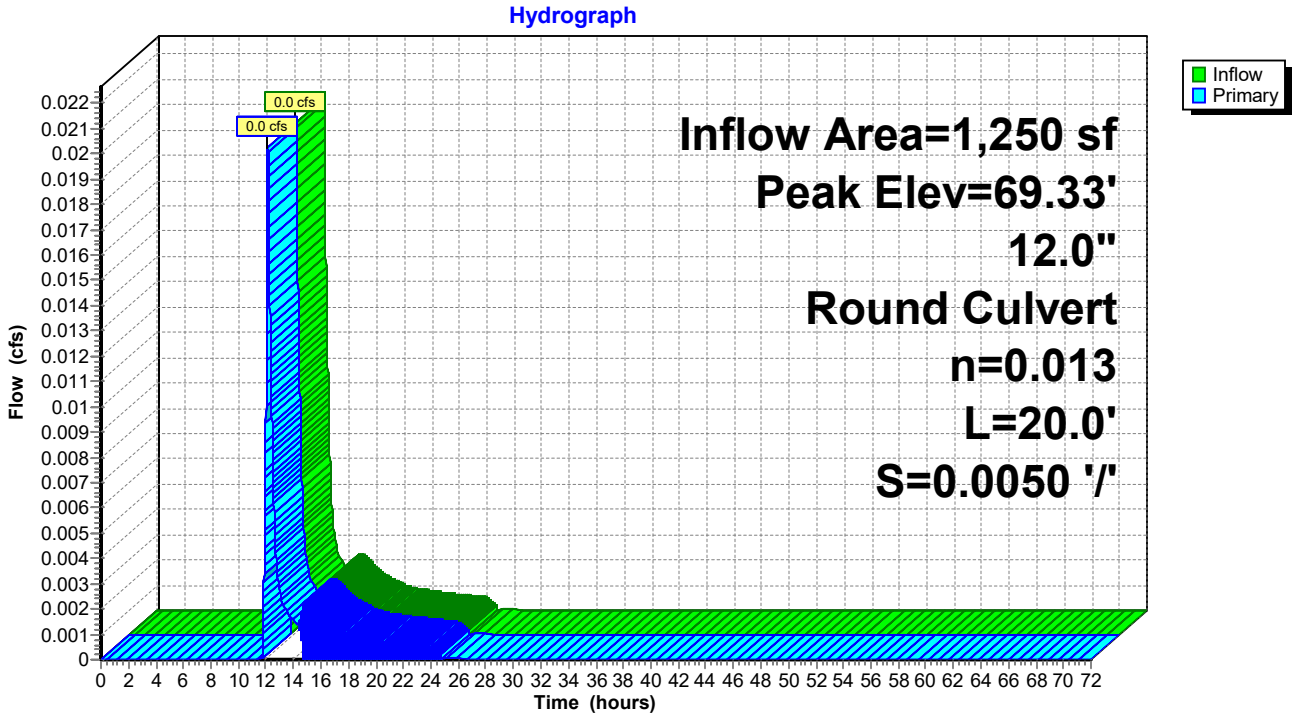
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.63" for 1-Inch event
Inflow = 0.0 cfs @ 12.14 hrs, Volume= 66 cf
Outflow = 0.0 cfs @ 12.14 hrs, Volume= 66 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.14 hrs, Volume= 66 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.33' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**12.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.13' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.14 hrs HW=69.33' TW=69.26' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.0 cfs @ 0.75 fps)

Pond C10: Culvert 10



Summary for Pond C11: Culvert 11

[57] Hint: Peaked at 69.26' (Flood elevation advised)

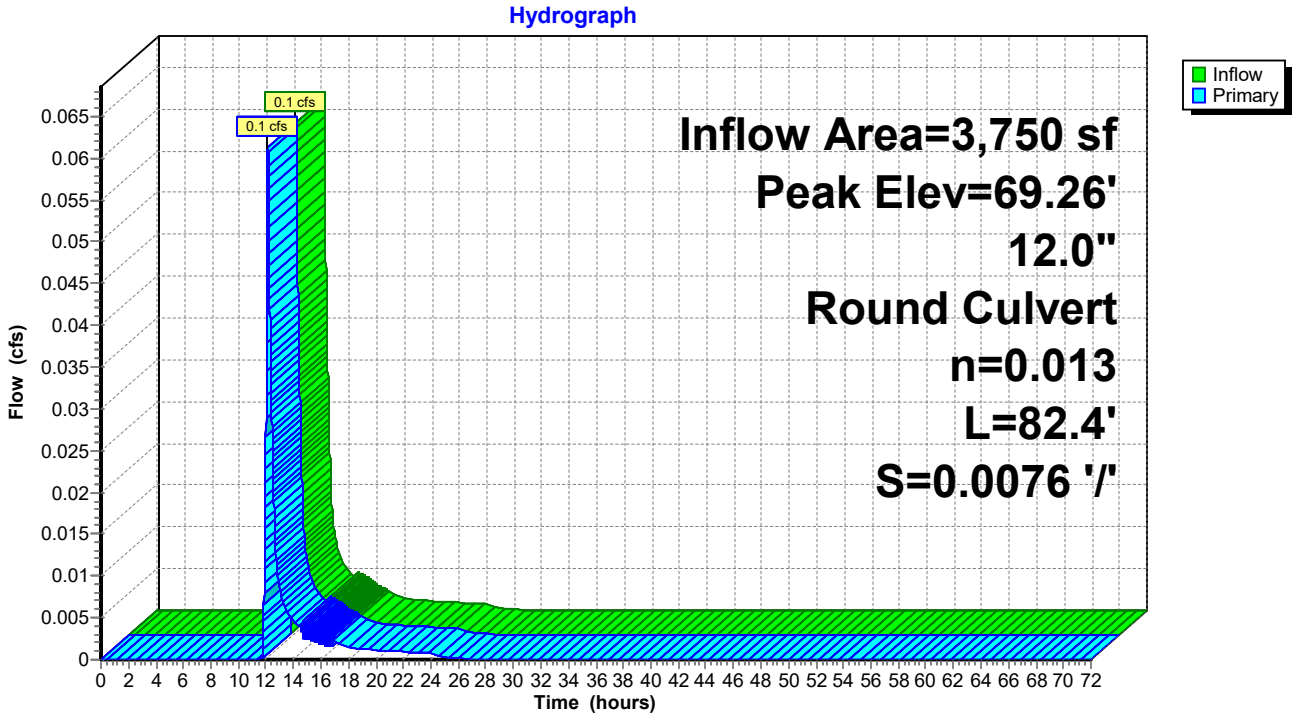
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 0.63" for 1-Inch event
Inflow = 0.1 cfs @ 12.14 hrs, Volume= 196 cf
Outflow = 0.1 cfs @ 12.14 hrs, Volume= 196 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.14 hrs, Volume= 196 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.26' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.13'	**12.0" Round Culvert** L= 82.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.13' / 68.50' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.14 hrs HW=69.26' TW=68.58' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.1 cfs @ 0.98 fps)

Pond C11: Culvert 11



Summary for Pond C2: Culvert 2

[57] Hint: Peaked at 69.51' (Flood elevation advised)
[80] Warning: Exceeded Pond RD2 by 0.01' @ 11.75 hrs (0.0 cfs 51 cf)

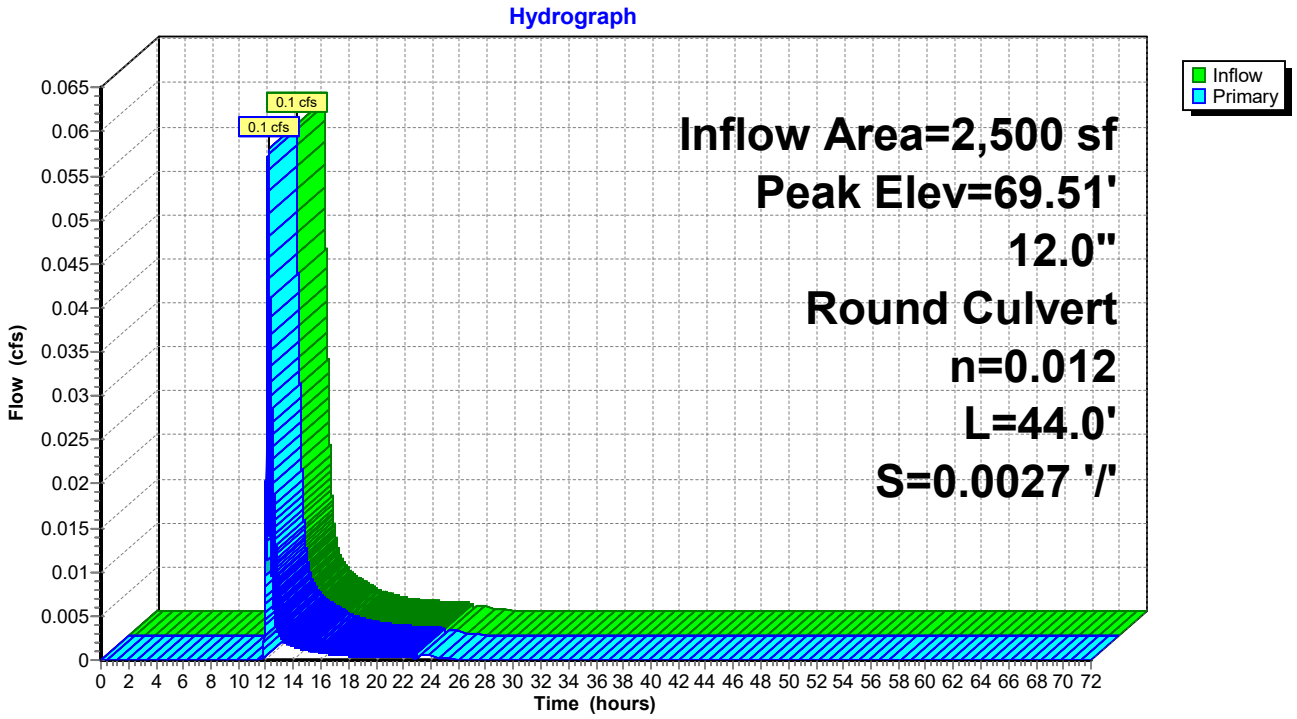
Inflow Area = 2,500 sf,100.00% Impervious, Inflow Depth = 0.62" for 1-Inch event
Inflow = 0.1 cfs @ 12.15 hrs, Volume= 130 cf
Outflow = 0.1 cfs @ 12.15 hrs, Volume= 130 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.15 hrs, Volume= 130 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.51' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.23' S= 0.0027 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.15 hrs HW=69.51' TW=69.37' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.1 cfs @ 1.04 fps)

Pond C2: Culvert 2



Summary for Pond C3: Culvert 3

[57] Hint: Peaked at 69.37' (Flood elevation advised)

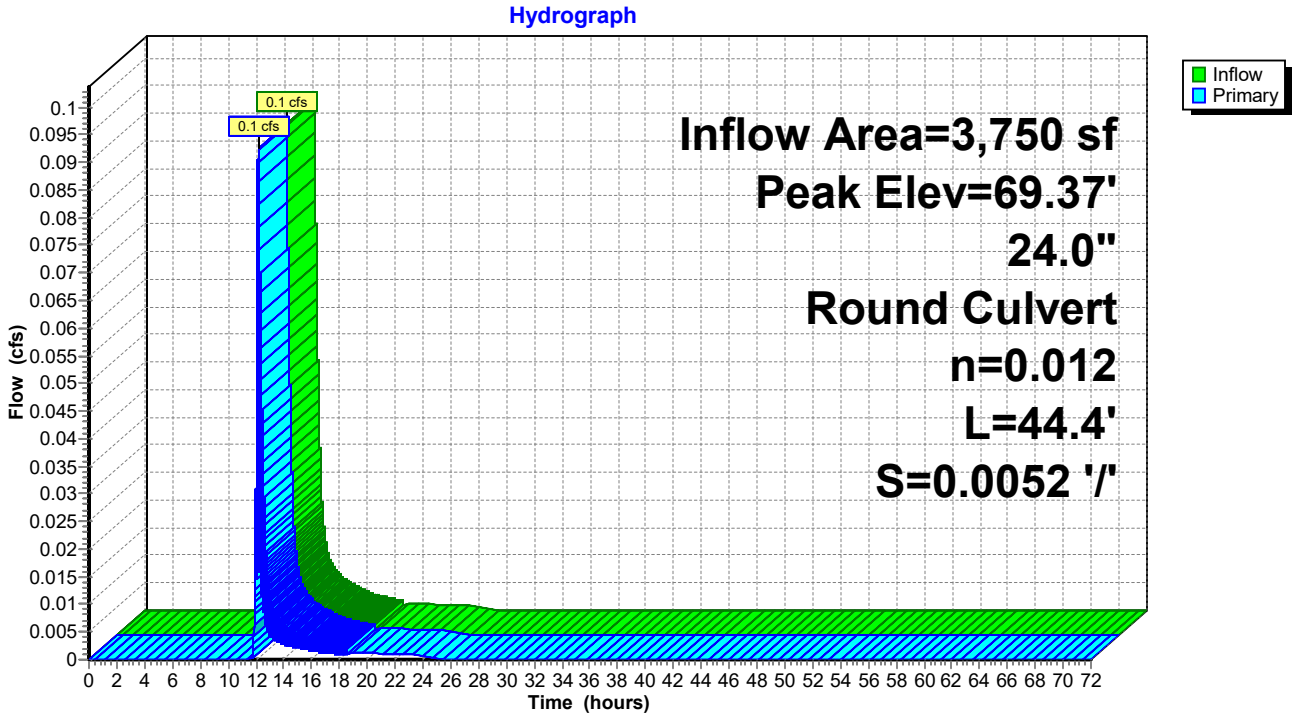
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 0.62" for 1-Inch event
Inflow = 0.1 cfs @ 12.15 hrs, Volume= 194 cf
Outflow = 0.1 cfs @ 12.15 hrs, Volume= 194 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.15 hrs, Volume= 194 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.37' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**24.0" Round Culvert** L= 44.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.00' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.1 cfs @ 12.15 hrs HW=69.37' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.1 cfs @ 1.42 fps)

Pond C3: Culvert 3



Summary for Pond C4: Culvert 4

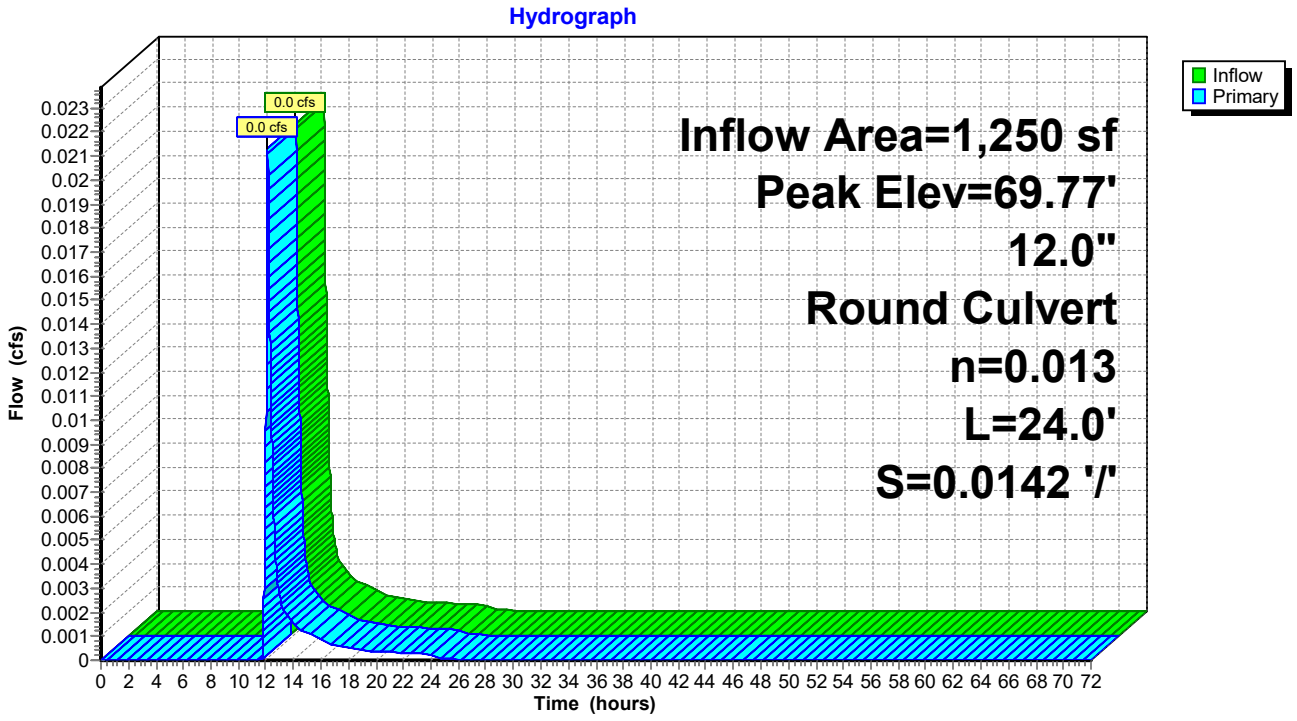
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.63" for 1-Inch event
Inflow = 0.0 cfs @ 12.13 hrs, Volume= 65 cf
Outflow = 0.0 cfs @ 12.13 hrs, Volume= 65 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.13 hrs, Volume= 65 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.77' @ 12.13 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0142 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.13 hrs HW=69.77' TW=69.46' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.0 cfs @ 0.75 fps)

Pond C4: Culvert 4



Summary for Pond C7: Culvert 7

[80] Warning: Exceeded Pond RD7 by 0.04' @ 12.16 hrs (0.0 cfs 79 cf)

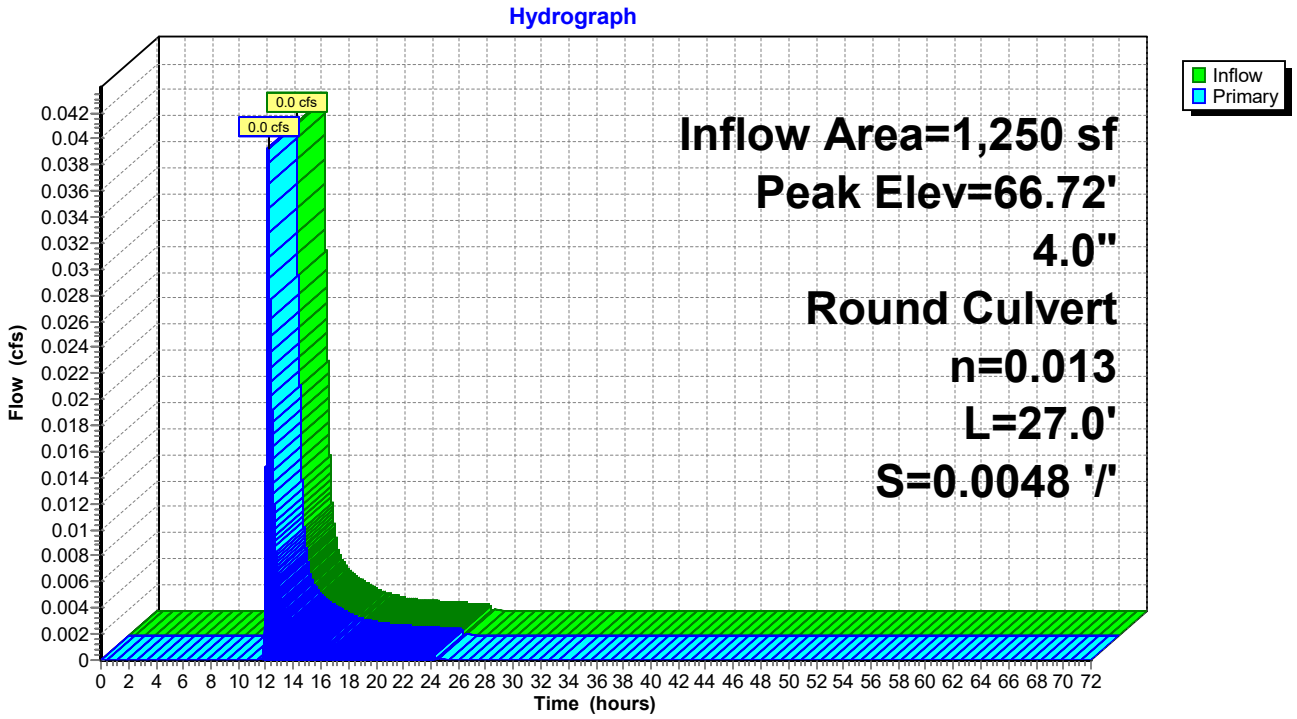
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.62" for 1-Inch event
Inflow = 0.0 cfs @ 12.16 hrs, Volume= 65 cf
Outflow = 0.0 cfs @ 12.16 hrs, Volume= 65 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.16 hrs, Volume= 65 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.72' @ 12.16 hrs
Flood Elev= 69.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Round Culvert** L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.55' / 66.42' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.0 cfs @ 12.16 hrs HW=66.72' TW=66.54' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 0.0 cfs @ 1.29 fps)

Pond C7: Culvert 7



Summary for Pond C8: Culvert 8

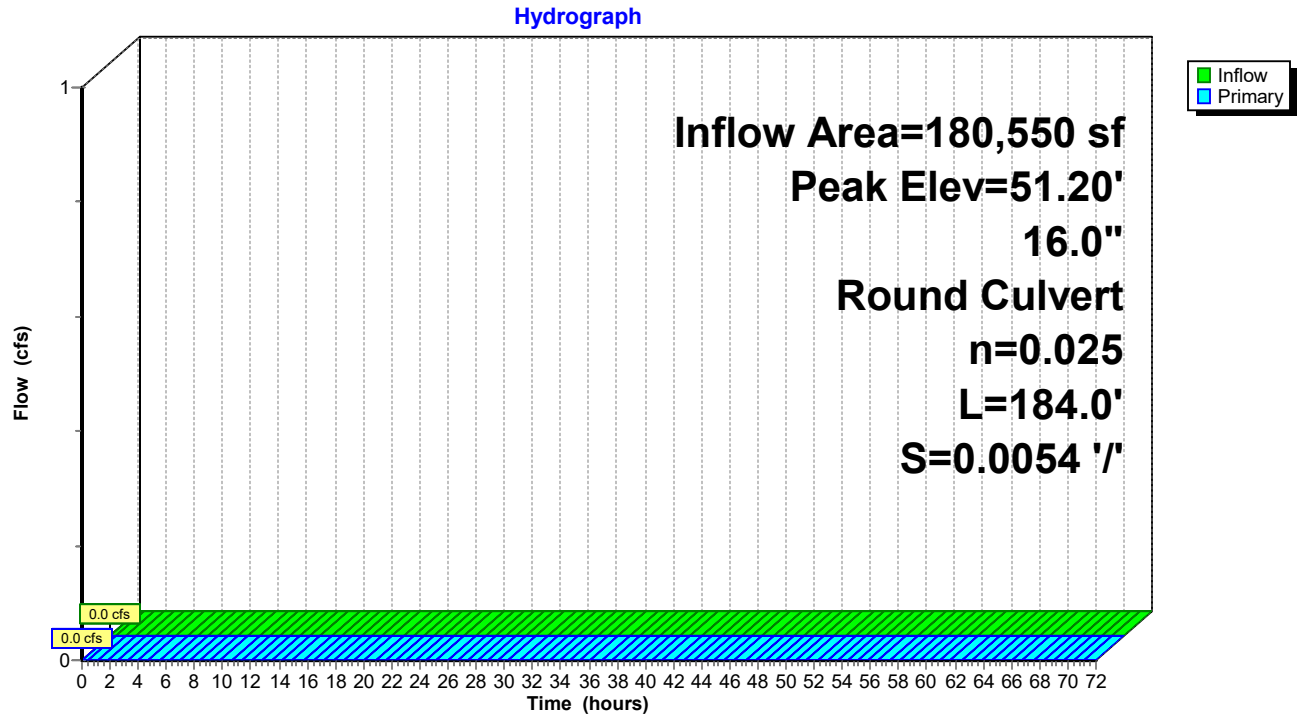
Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 0.00" for 1-Inch event
Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 51.20' @ 0.00 hrs
Flood Elev= 51.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.20'	**16.0" Round Culvert** L= 184.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.20' / 50.20' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=51.20' TW=50.00' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond C8: Culvert 8



Summary for Pond C9: Culvert 9

[57] Hint: Peaked at 69.46' (Flood elevation advised)
[80] Warning: Exceeded Pond RD5 by 0.01' @ 11.74 hrs (0.0 cfs 5 cf)

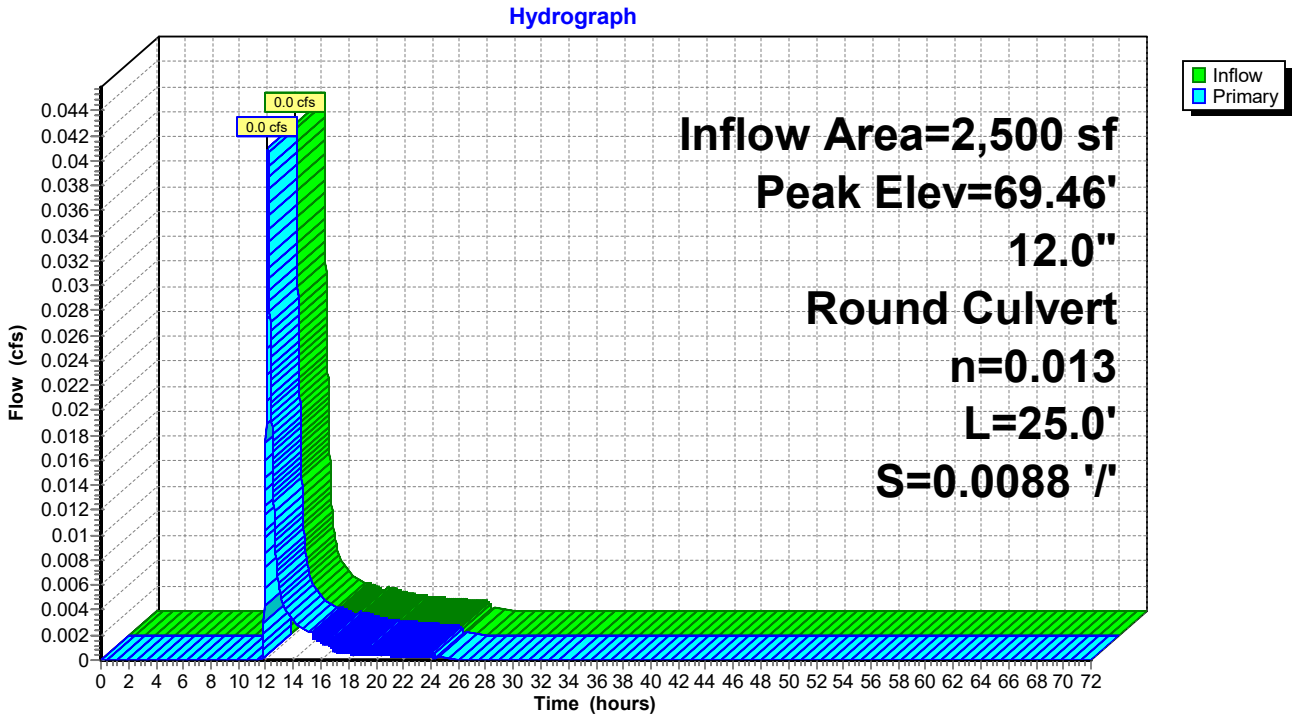
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	0.62"	for	1-Inch event
Inflow =	0.0 cfs @ 12.14 hrs,	Volume=	130 cf		
Outflow =	0.0 cfs @ 12.14 hrs,	Volume=	130 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.0 cfs @ 12.14 hrs,	Volume=	130 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.46' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.13' S= 0.0088 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.14 hrs HW=69.46' TW=69.26' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.0 cfs @ 1.28 fps)

Pond C9: Culvert 9



Summary for Pond CB1: Catch Basin 1

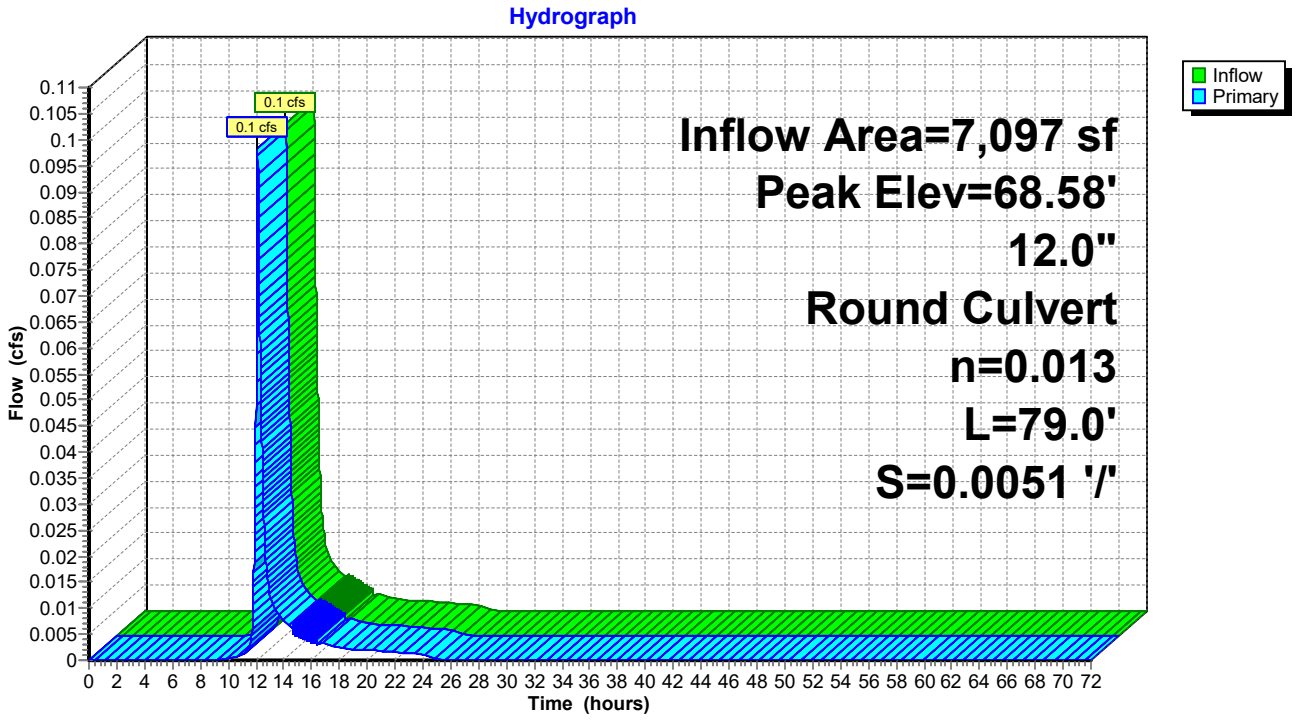
Inflow Area = 7,097 sf, 86.63% Impervious, Inflow Depth = 0.54" for 1-Inch event
Inflow = 0.1 cfs @ 12.12 hrs, Volume= 322 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 322 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 322 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.58' @ 12.12 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	**12.0" Round Culvert** L= 79.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.40' / 68.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=68.58' TW=66.55' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.1 cfs @ 1.52 fps)

Pond CB1: Catch Basin 1



Summary for Pond CB10: Catch Basin 10

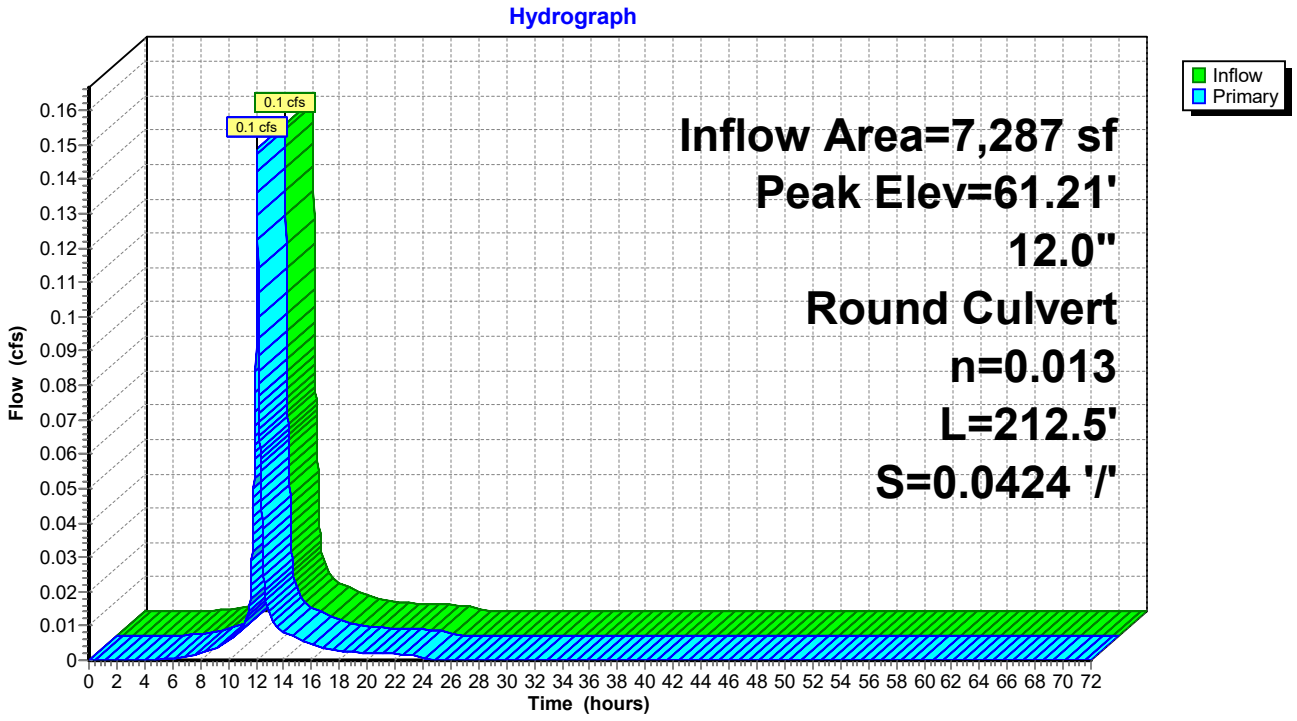
Inflow Area = 7,287 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 480 cf
Outflow = 0.1 cfs @ 12.08 hrs, Volume= 480 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.08 hrs, Volume= 480 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.21' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**12.0" Round Culvert** L= 212.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 52.00' S= 0.0424 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.08 hrs HW=61.21' TW=52.09' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.1 cfs @ 1.23 fps)

Pond CB10: Catch Basin 10



Summary for Pond CB11: Catch Basin 11

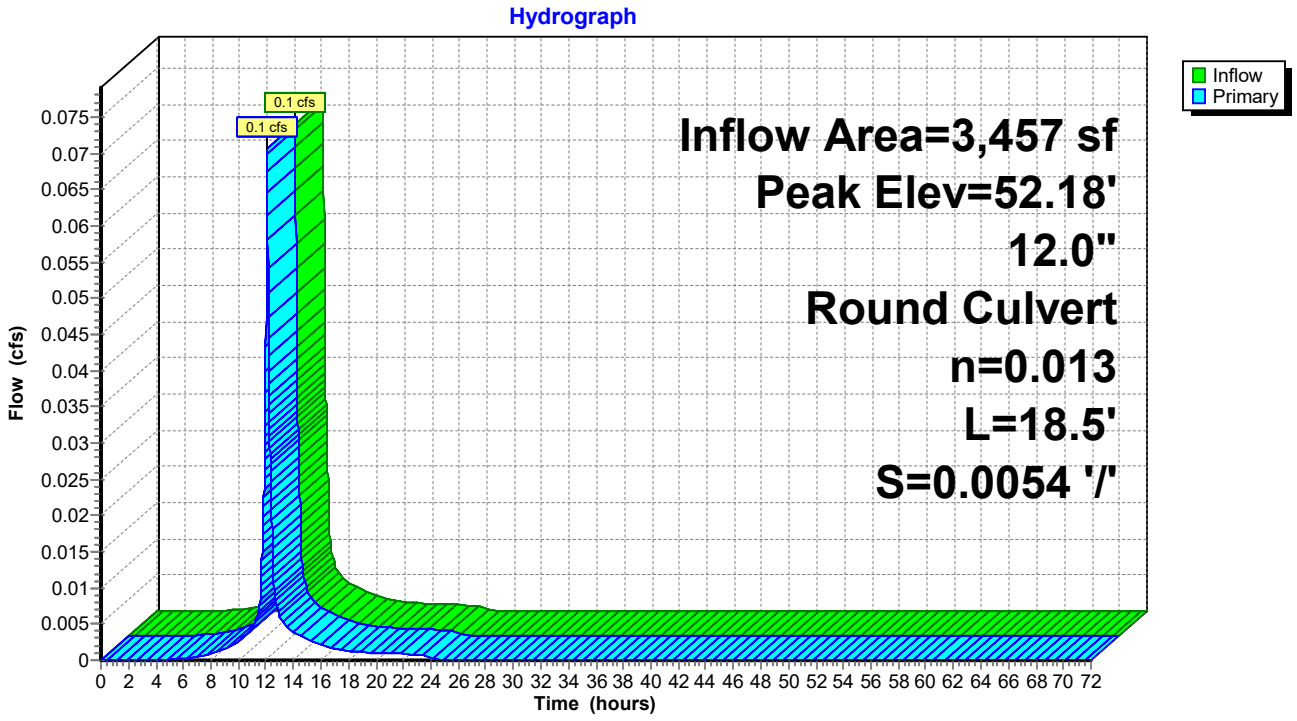
Inflow Area = 3,457 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 228 cf
Outflow = 0.1 cfs @ 12.08 hrs, Volume= 228 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.08 hrs, Volume= 228 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.18' @ 12.09 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.00'	**12.0" Round Culvert** L= 18.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.00' / 51.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.08 hrs HW=52.18' TW=52.09' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 1.12 fps)

Pond CB11: Catch Basin 11



Summary for Pond CB12: Catch Basin 12

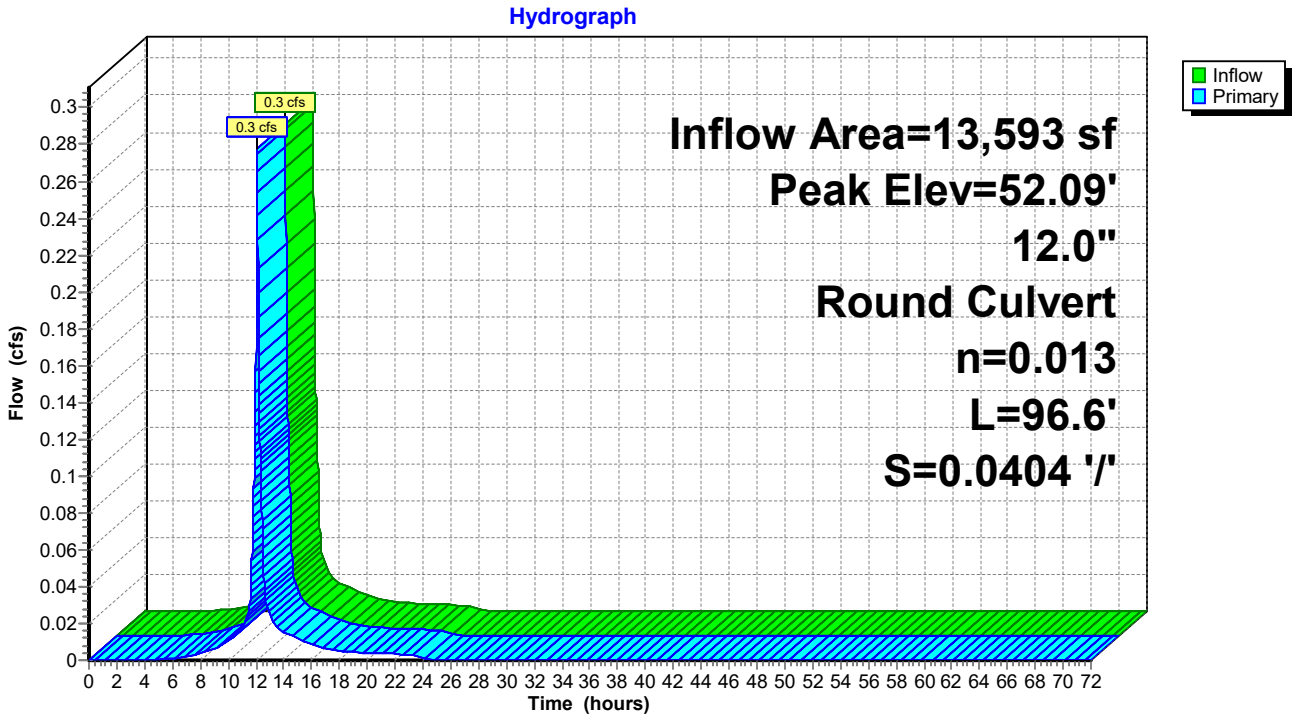
Inflow Area = 13,593 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.3 cfs @ 12.08 hrs, Volume= 896 cf
Outflow = 0.3 cfs @ 12.08 hrs, Volume= 896 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.08 hrs, Volume= 896 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.09' @ 12.08 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.80'	**12.0" Round Culvert** L= 96.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.80' / 47.90' S= 0.0404 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.08 hrs HW=52.09' TW=48.15' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.3 cfs @ 1.45 fps)

Pond CB12: Catch Basin 12



Summary for Pond CB13: Catch Basin 13

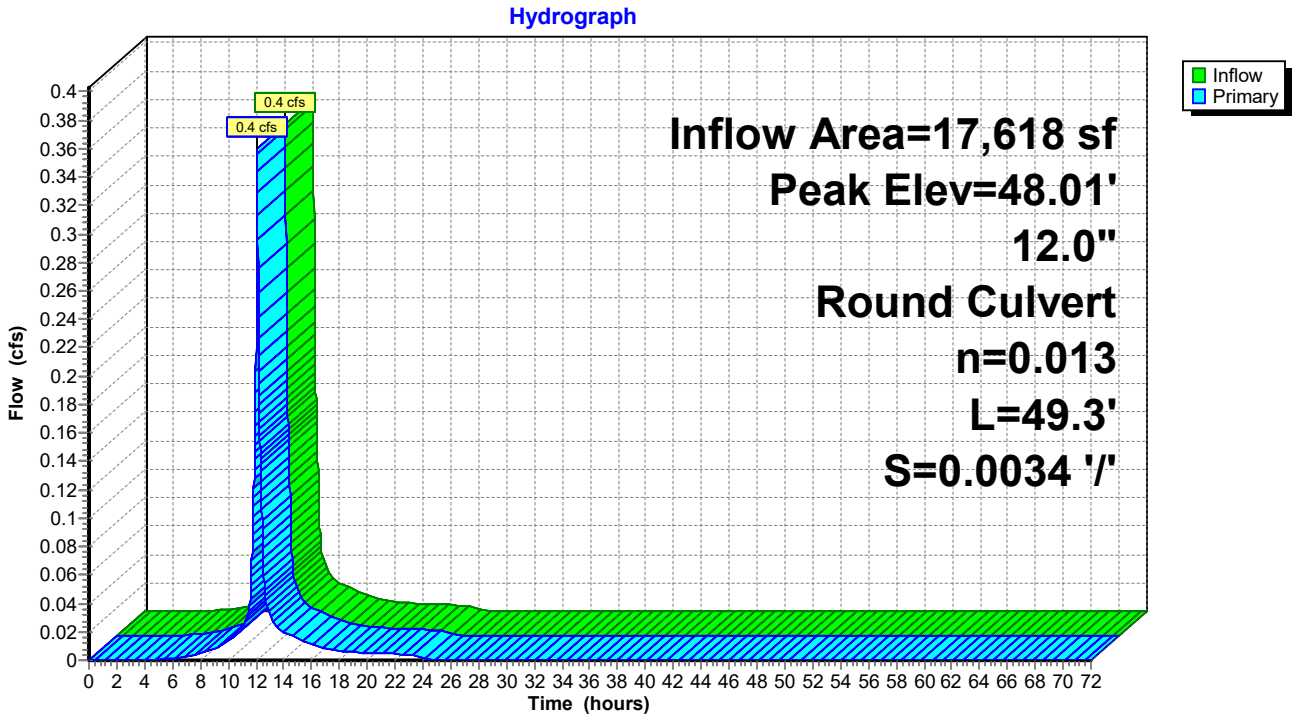
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf
Outflow = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.01' @ 12.09 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	**12.0" Round Culvert** L= 49.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.60' / 47.43' S= 0.0034 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.08 hrs HW=48.01' TW=47.81' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.4 cfs @ 1.74 fps)

Pond CB13: Catch Basin 13



Summary for Pond CB14: Catch Basin 14

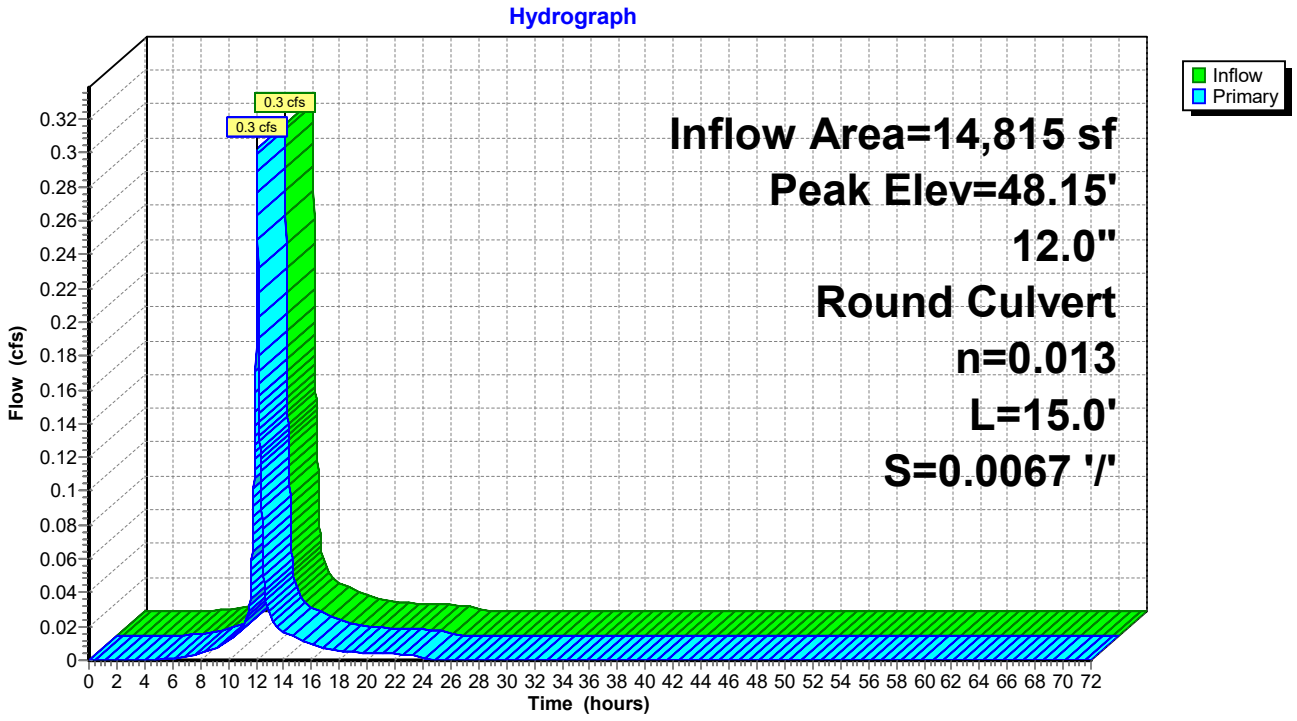
Inflow Area = 14,815 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.3 cfs @ 12.08 hrs, Volume= 976 cf
Outflow = 0.3 cfs @ 12.08 hrs, Volume= 976 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.08 hrs, Volume= 976 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.15' @ 12.09 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.80'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.80' / 47.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.08 hrs HW=48.15' TW=48.01' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.3 cfs @ 1.80 fps)

Pond CB14: Catch Basin 14



Summary for Pond CB2: Catch Basin 2

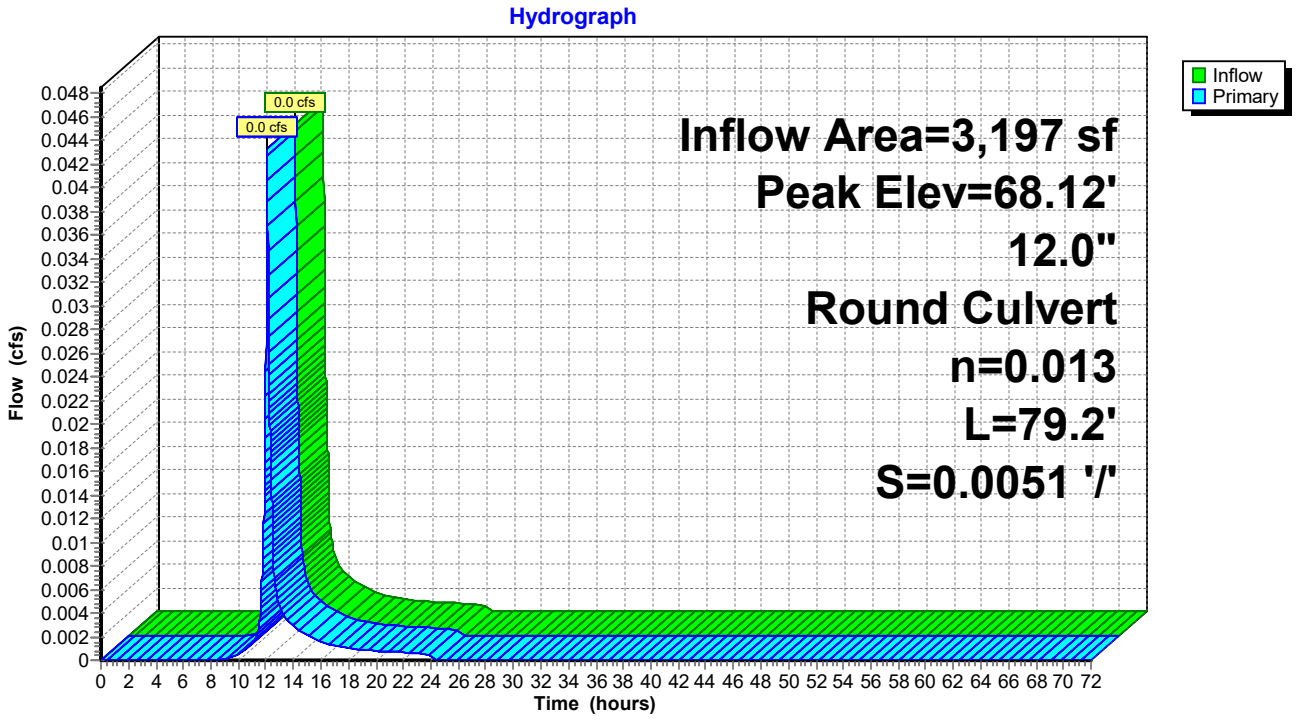
Inflow Area = 3,197 sf, 72.57% Impervious, Inflow Depth = 0.50" for 1-Inch event
Inflow = 0.0 cfs @ 12.09 hrs, Volume= 134 cf
Outflow = 0.0 cfs @ 12.09 hrs, Volume= 134 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.09 hrs, Volume= 134 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.12' @ 12.09 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**12.0" Round Culvert** L= 79.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.00' / 67.60' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.09 hrs HW=68.12' TW=66.38' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.0 cfs @ 1.20 fps)

Pond CB2: Catch Basin 2



Summary for Pond CB3: Catch Basin 3

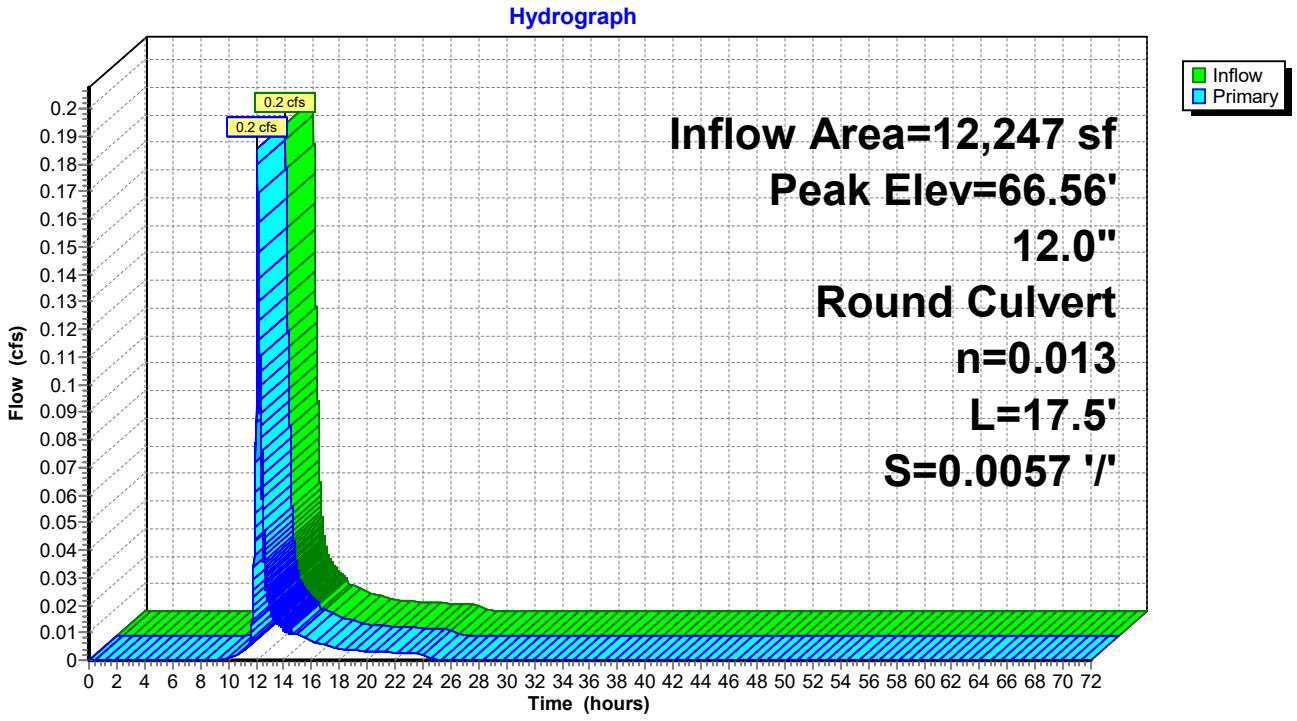
Inflow Area = 12,247 sf, 83.76% Impervious, Inflow Depth = 0.54" for 1-Inch event
Inflow = 0.2 cfs @ 12.12 hrs, Volume= 550 cf
Outflow = 0.2 cfs @ 12.12 hrs, Volume= 550 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.12 hrs, Volume= 550 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.56' @ 12.12 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.30'	**12.0" Round Culvert** L= 17.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.30' / 66.20' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=66.56' TW=66.40' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.2 cfs @ 1.71 fps)

Pond CB3: Catch Basin 3



Summary for Pond CB4: Catch Basin 4

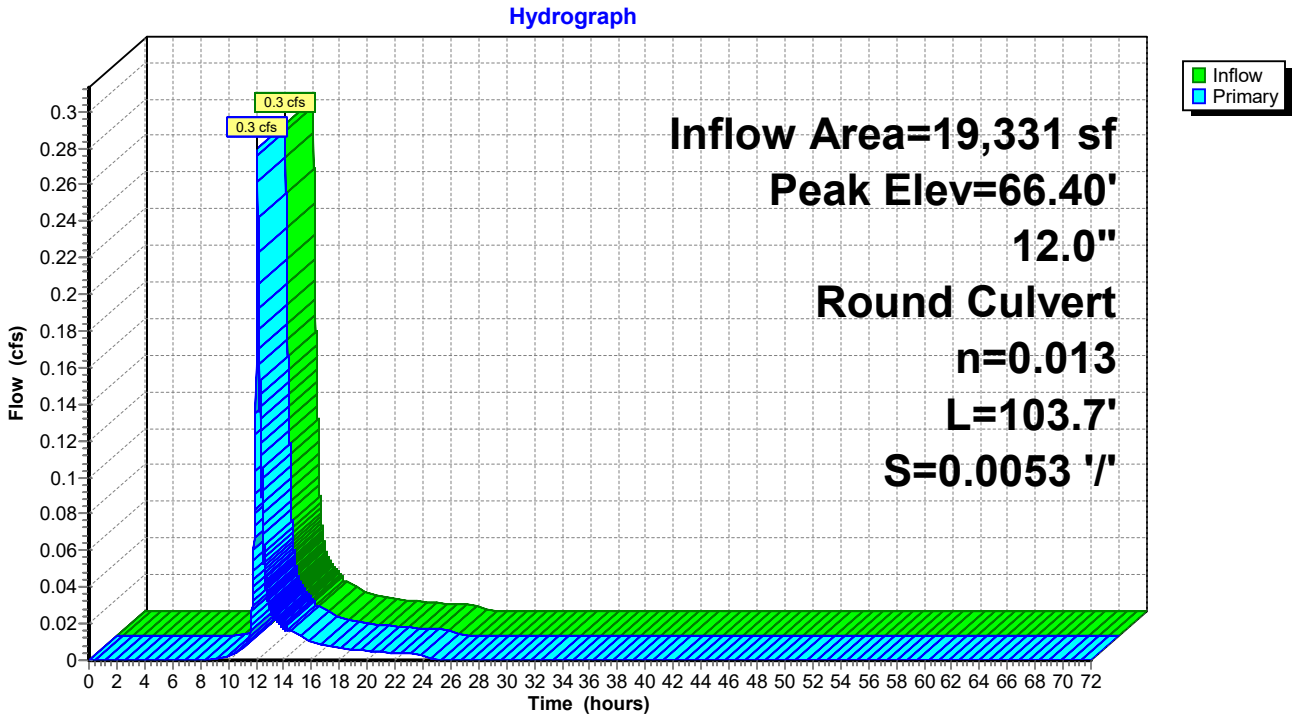
Inflow Area = 19,331 sf, 80.08% Impervious, Inflow Depth = 0.53" for 1-Inch event
Inflow = 0.3 cfs @ 12.10 hrs, Volume= 847 cf
Outflow = 0.3 cfs @ 12.10 hrs, Volume= 847 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.10 hrs, Volume= 847 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.40' @ 12.10 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.10'	**12.0" Round Culvert** L= 103.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.10' / 65.55' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.10 hrs HW=66.40' TW=65.78' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.3 cfs @ 2.07 fps)

Pond CB4: Catch Basin 4



Summary for Pond CB5: Catch Basin 5

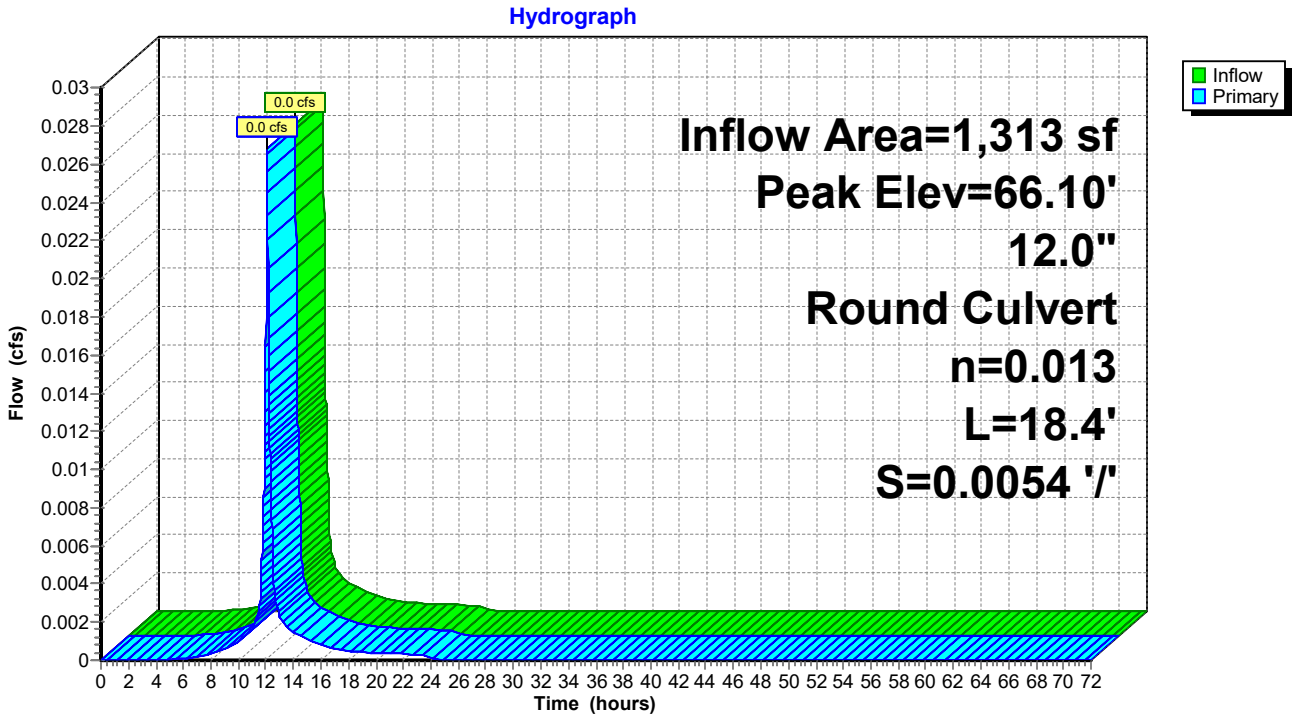
Inflow Area = 1,313 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 87 cf
Outflow = 0.0 cfs @ 12.08 hrs, Volume= 87 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.08 hrs, Volume= 87 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.10' @ 12.08 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	**12.0" Round Culvert** L= 18.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.00' / 65.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=66.10' TW=65.77' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.0 cfs @ 1.05 fps)

Pond CB5: Catch Basin 5



Summary for Pond CB6: Catch Basin 6

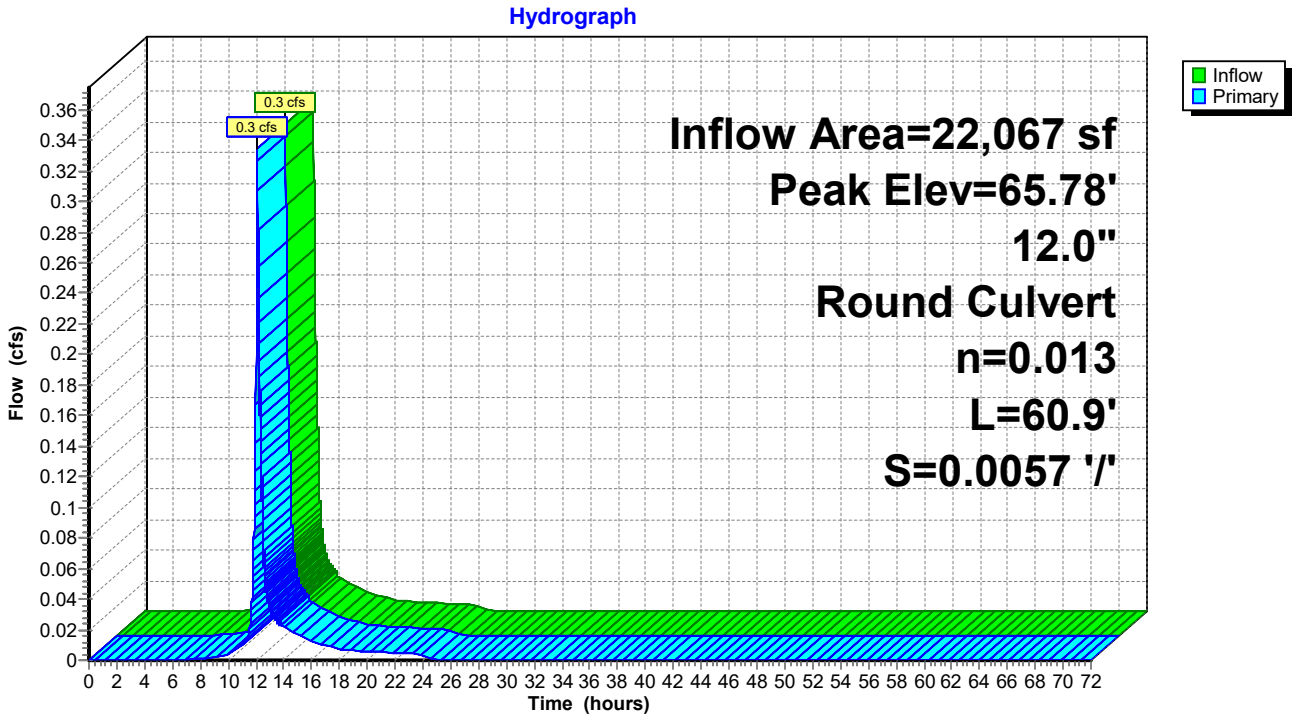
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 0.56" for 1-Inch event
Inflow = 0.3 cfs @ 12.10 hrs, Volume= 1,028 cf
Outflow = 0.3 cfs @ 12.10 hrs, Volume= 1,028 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.10 hrs, Volume= 1,028 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.78' @ 12.10 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.45'	**12.0" Round Culvert** L= 60.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.45' / 65.10' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.10 hrs HW=65.78' TW=65.34' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.3 cfs @ 2.19 fps)

Pond CB6: Catch Basin 6



Summary for Pond CB7: Catch Basin 7

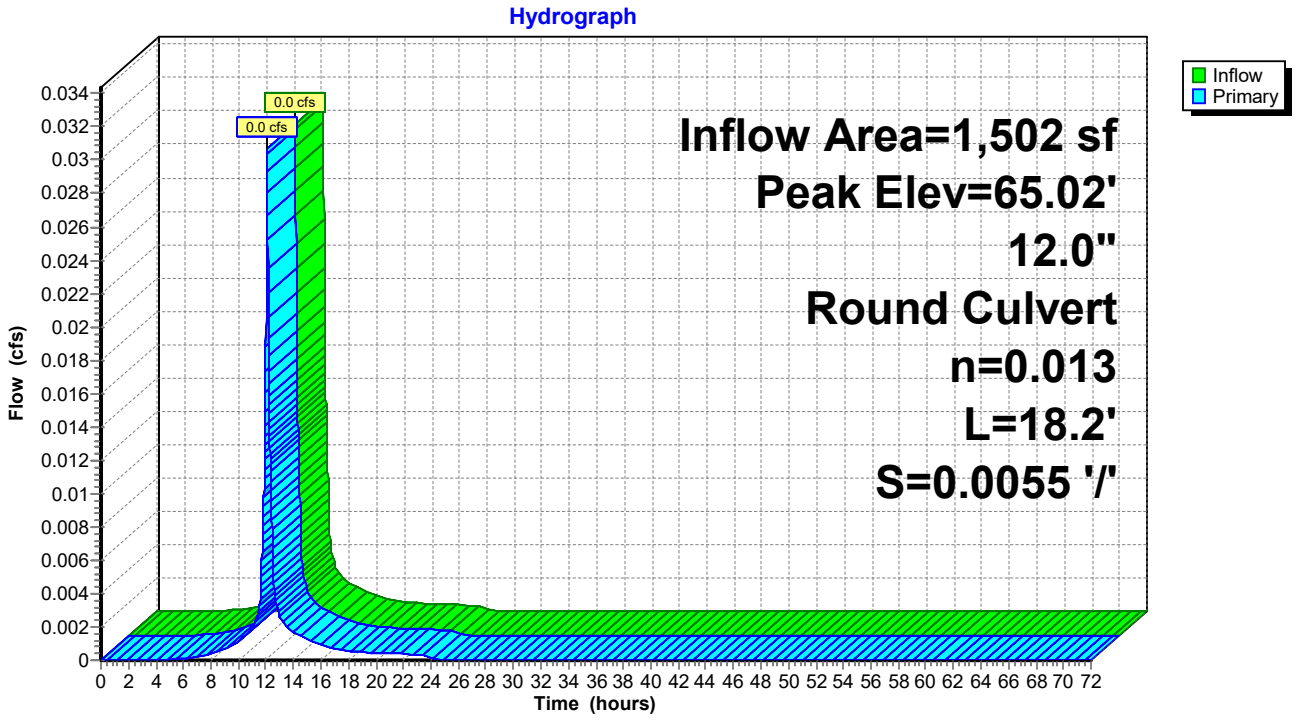
Inflow Area = 1,502 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 99 cf
Outflow = 0.0 cfs @ 12.08 hrs, Volume= 99 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 12.08 hrs, Volume= 99 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.02' @ 12.11 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.85'	**12.0" Round Culvert** L= 18.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.85' / 64.75' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=65.02' TW=65.00' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.0 cfs @ 0.49 fps)

Pond CB7: Catch Basin 7



Summary for Pond CB8: Catch Basin 8

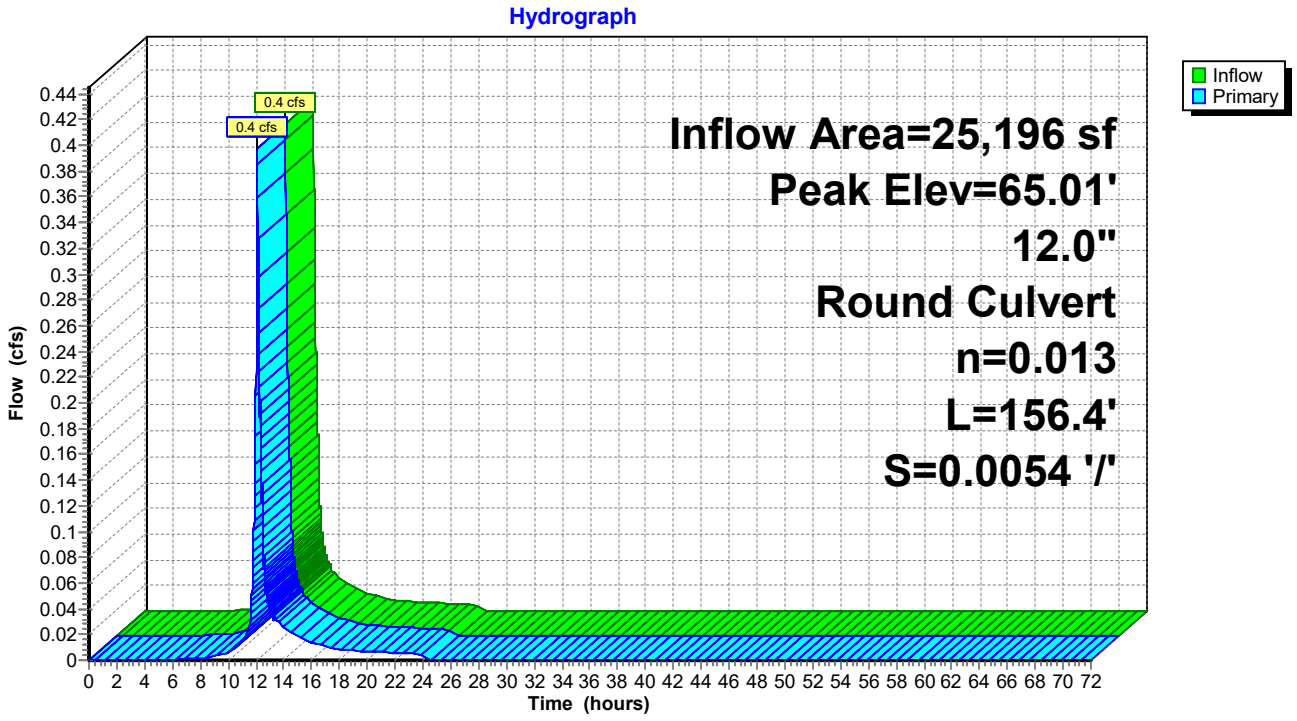
Inflow Area = 25,196 sf, 84.72% Impervious, Inflow Depth = 0.59" for 1-Inch event
Inflow = 0.4 cfs @ 12.10 hrs, Volume= 1,234 cf
Outflow = 0.4 cfs @ 12.10 hrs, Volume= 1,234 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.10 hrs, Volume= 1,234 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.01' @ 12.10 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.65'	**12.0" Round Culvert** L= 156.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.65' / 63.80' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.10 hrs HW=65.01' TW=58.64' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.4 cfs @ 2.33 fps)

Pond CB8: Catch Basin 8



Summary for Pond CB9: Catch Basin 9

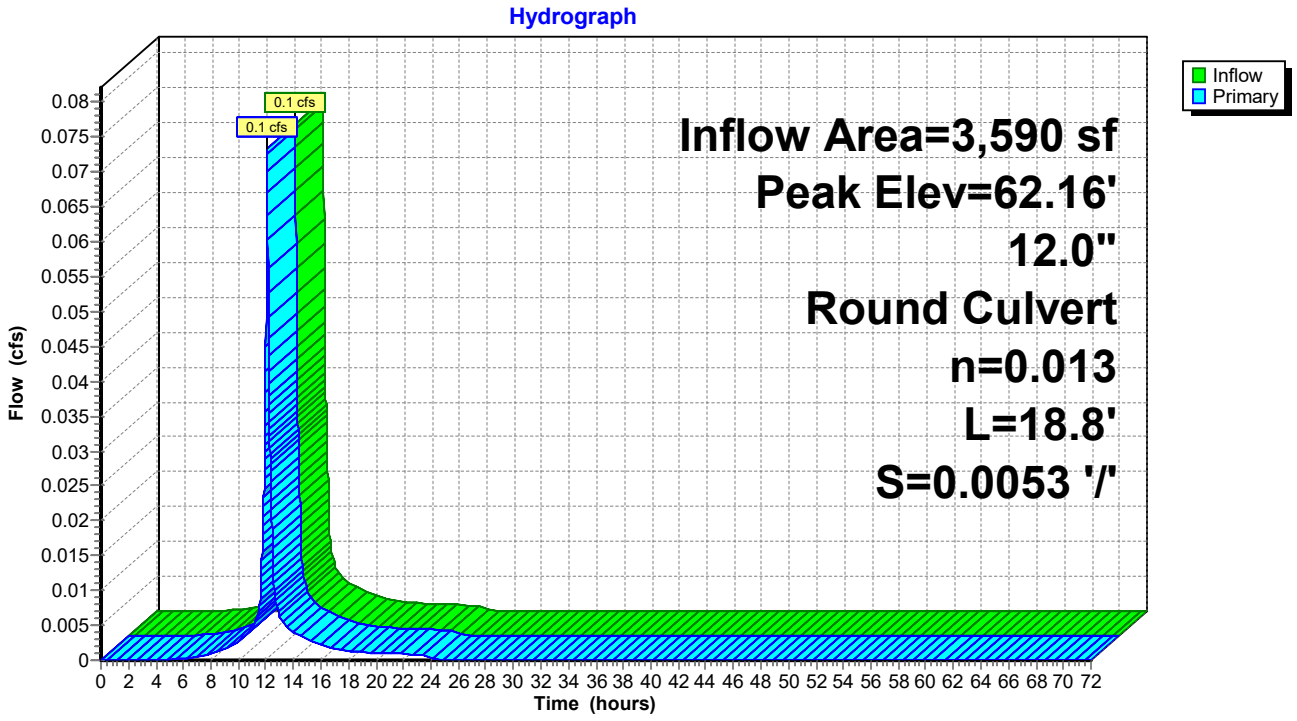
Inflow Area = 3,590 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 237 cf
Outflow = 0.1 cfs @ 12.08 hrs, Volume= 237 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.08 hrs, Volume= 237 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.16' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	**12.0" Round Culvert** L= 18.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.90' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.08 hrs HW=62.16' TW=61.21' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.1 cfs @ 1.37 fps)

Pond CB9: Catch Basin 9



Summary for Pond CH1: Chamber 1

Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf
Outflow = 0.3 cfs @ 12.15 hrs, Volume= 1,161 cf, Atten= 23%, Lag= 3.9 min
Primary = 0.3 cfs @ 12.15 hrs, Volume= 1,161 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 46.42' @ 12.15 hrs Surf.Area= 880 sf Storage= 74 cf
Flood Elev= 50.50' Surf.Area= 1,773 sf Storage= 1,194 cf

Plug-Flow detention time= 4.3 min calculated for 1,161 cf (100% of inflow)
Center-of-Mass det. time= 4.3 min (792.2 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.90'	656 cf	**12.00'W x 74.40'L x 2.33'H Field A** 2,083 cf Overall - 442 cf Embedded = 1,641 cf x 40.0% Voids
#2A	47.40'	442 cf	**ADS_StormTech SC-310 +Cap** x 30 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 3 Rows
#3	44.73'	95 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,910 cf Overall x 5.0% Voids
		1,194 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.73	880	0	0
46.90	880	1,910	1,910

Device	Routing	Invert	Outlet Devices
#1	Primary	44.73'	**12.0" Round Culvert** L= 60.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.73' / 44.60' S= 0.0021 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	44.73'	**2.9" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	48.30'	**4.0' long x 4.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.3 cfs @ 12.15 hrs HW=46.42' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.3 cfs of 3.0 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.3 cfs @ 6.03 fps)
  - **3=Sharp-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond CH1: Chamber 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 9.0" Spacing = 43.0" C-C Row Spacing

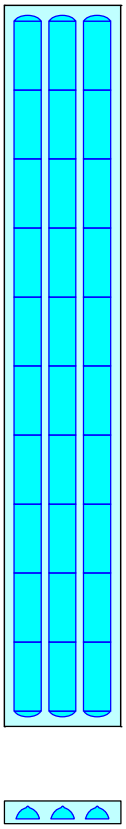
10 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 72.40' Row Length +12.0" End Stone x 2 = 74.40' Base Length
3 Rows x 34.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 12.00' Base Width
6.0" Stone Base + 16.0" Chamber Height + 6.0" Stone Cover = 2.33' Field Height

30 Chambers x 14.7 cf = 442.3 cf Chamber Storage

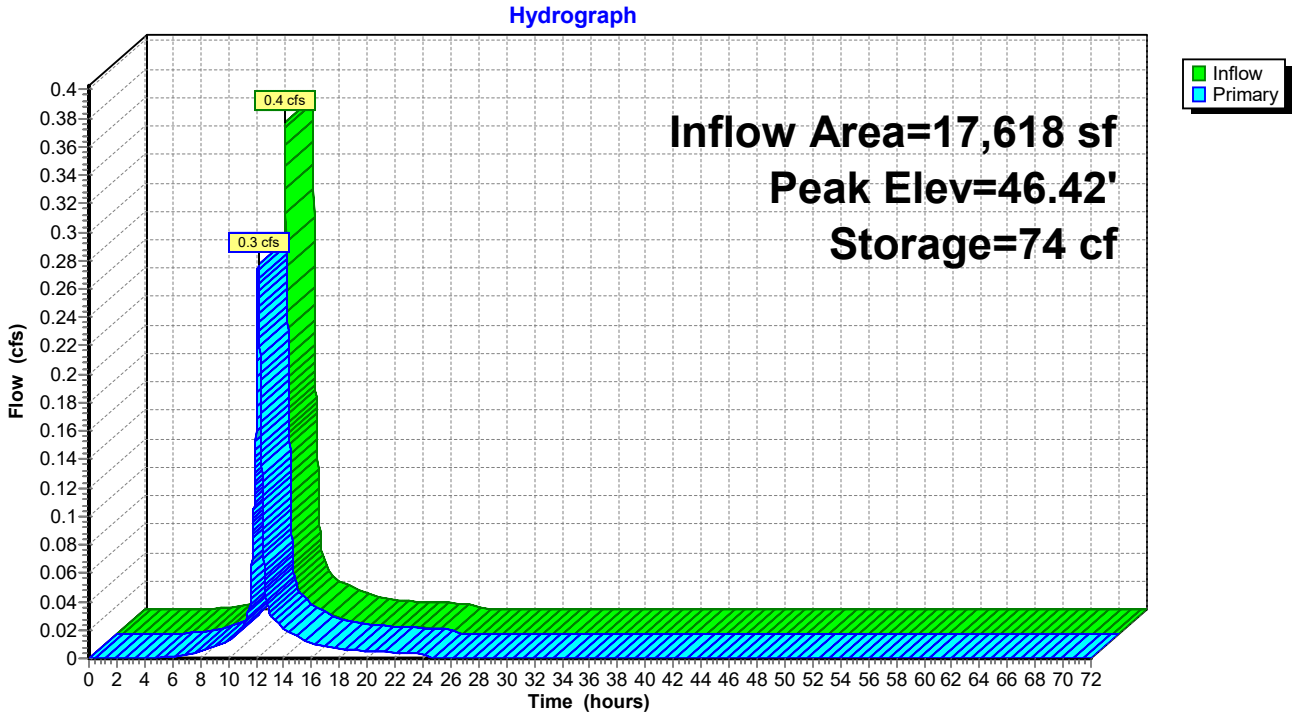
2,083.2 cf Field - 442.3 cf Chambers = 1,640.9 cf Stone x 40.0% Voids = 656.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,098.6 cf = 0.025 af
Overall Storage Efficiency = 52.7%
Overall System Size = 74.40' x 12.00' x 2.33'

30 Chambers
77.2 cy Field
60.8 cy Stone



Pond CH1: Chamber 1



Summary for Pond MH1: Manhole 1

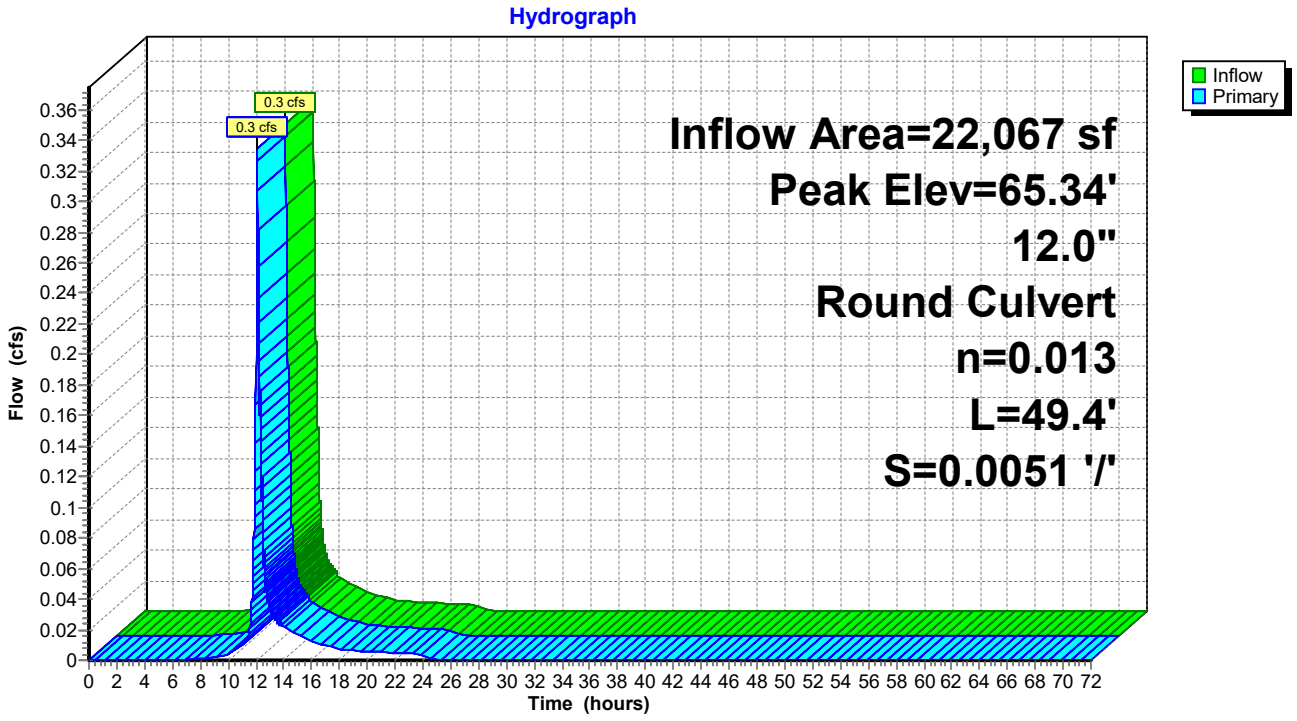
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 0.56" for 1-Inch event
Inflow = 0.3 cfs @ 12.10 hrs, Volume= 1,028 cf
Outflow = 0.3 cfs @ 12.10 hrs, Volume= 1,028 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.10 hrs, Volume= 1,028 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.34' @ 12.10 hrs
Flood Elev= 68.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 49.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.00' / 64.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.10 hrs HW=65.34' TW=65.01' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.3 cfs @ 2.09 fps)

Pond MH1: Manhole 1



Summary for Pond MH2: Manhole 2

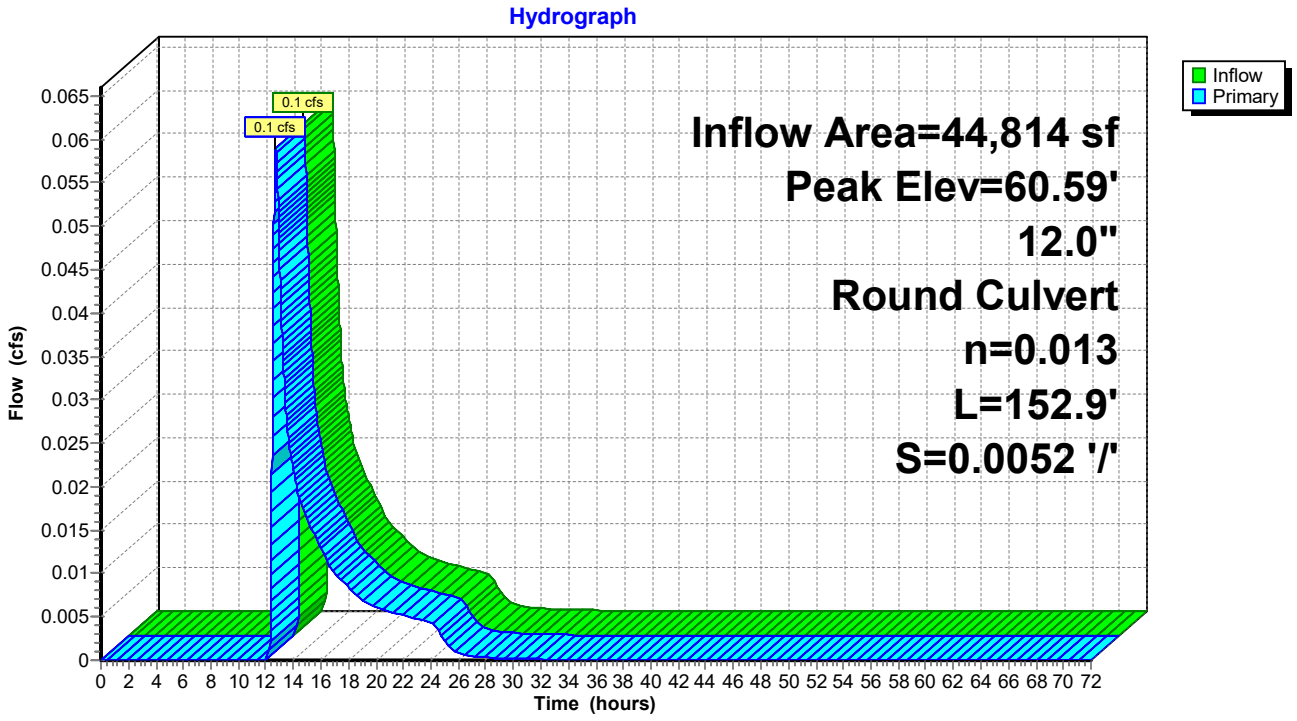
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 0.15" for 1-Inch event
Inflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf
Outflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.72 hrs, Volume= 561 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 60.59' @ 12.72 hrs
Flood Elev= 65.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.45'	**12.0" Round Culvert** L= 152.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.45' / 59.65' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.72 hrs HW=60.59' TW=59.69' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.1 cfs @ 1.34 fps)

Pond MH2: Manhole 2



Summary for Pond MH3: Manhole 3

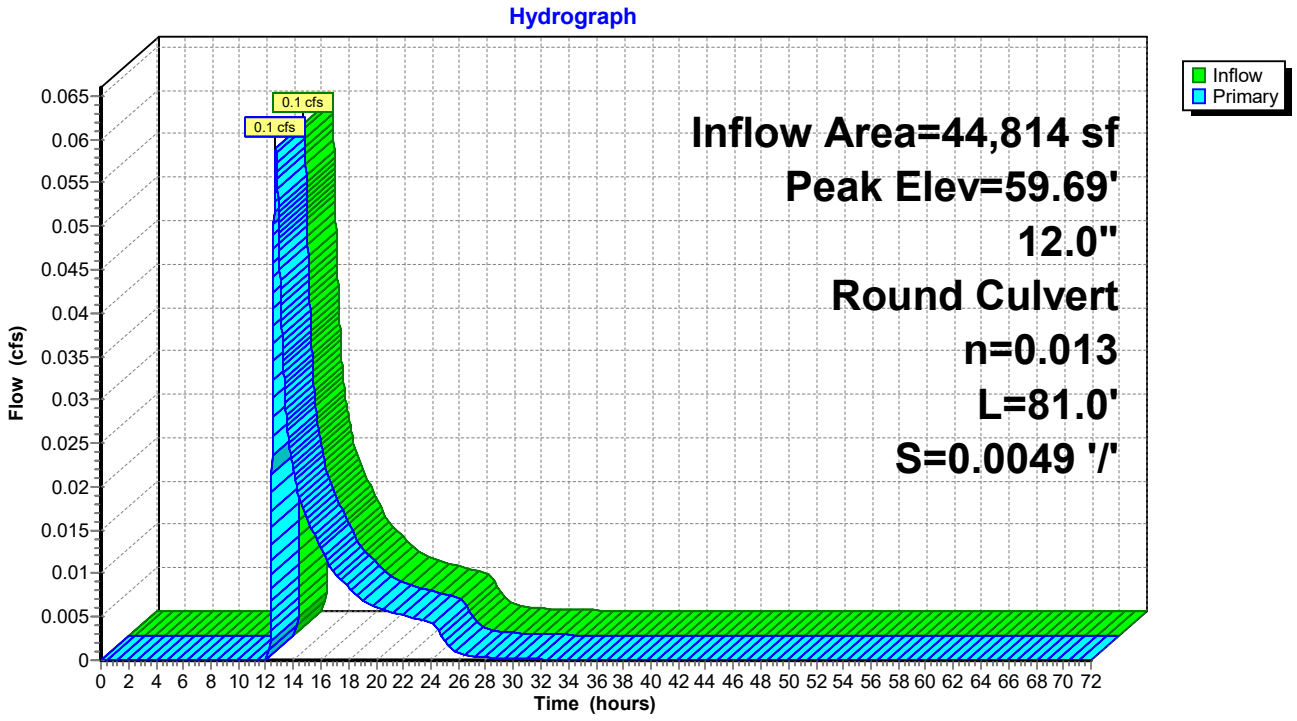
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth > 0.15" for 1-Inch event
Inflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf
Outflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.72 hrs, Volume= 561 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 59.69' @ 12.72 hrs
Flood Elev= 67.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.55'	**12.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.55' / 59.15' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.72 hrs HW=59.69' TW=59.19' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.1 cfs @ 1.31 fps)

Pond MH3: Manhole 3



Summary for Pond MH4: Manhole 4

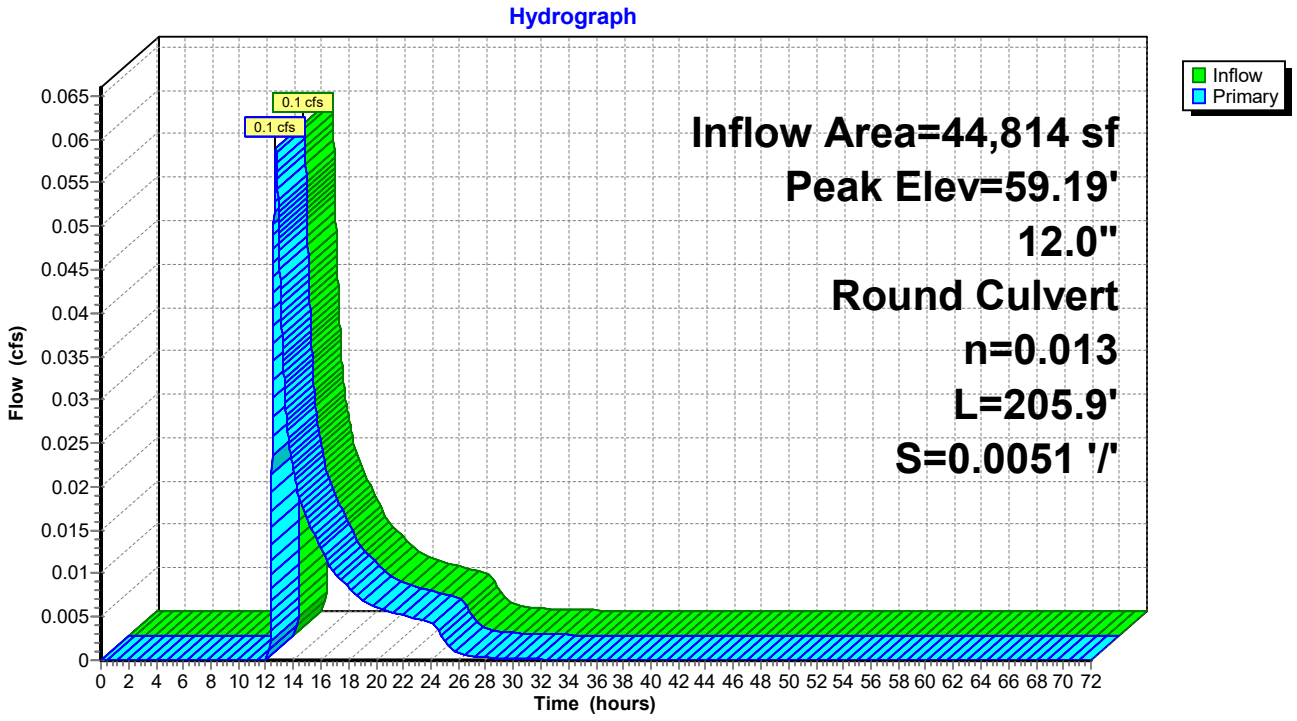
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth > 0.15" for 1-Inch event
Inflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf
Outflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.72 hrs, Volume= 561 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 59.19' @ 12.72 hrs
Flood Elev= 66.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.05'	**12.0" Round Culvert** L= 205.9' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 59.05' / 58.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.72 hrs HW=59.19' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.1 cfs @ 1.33 fps)

Pond MH4: Manhole 4



Summary for Pond MH5: Manhole 5

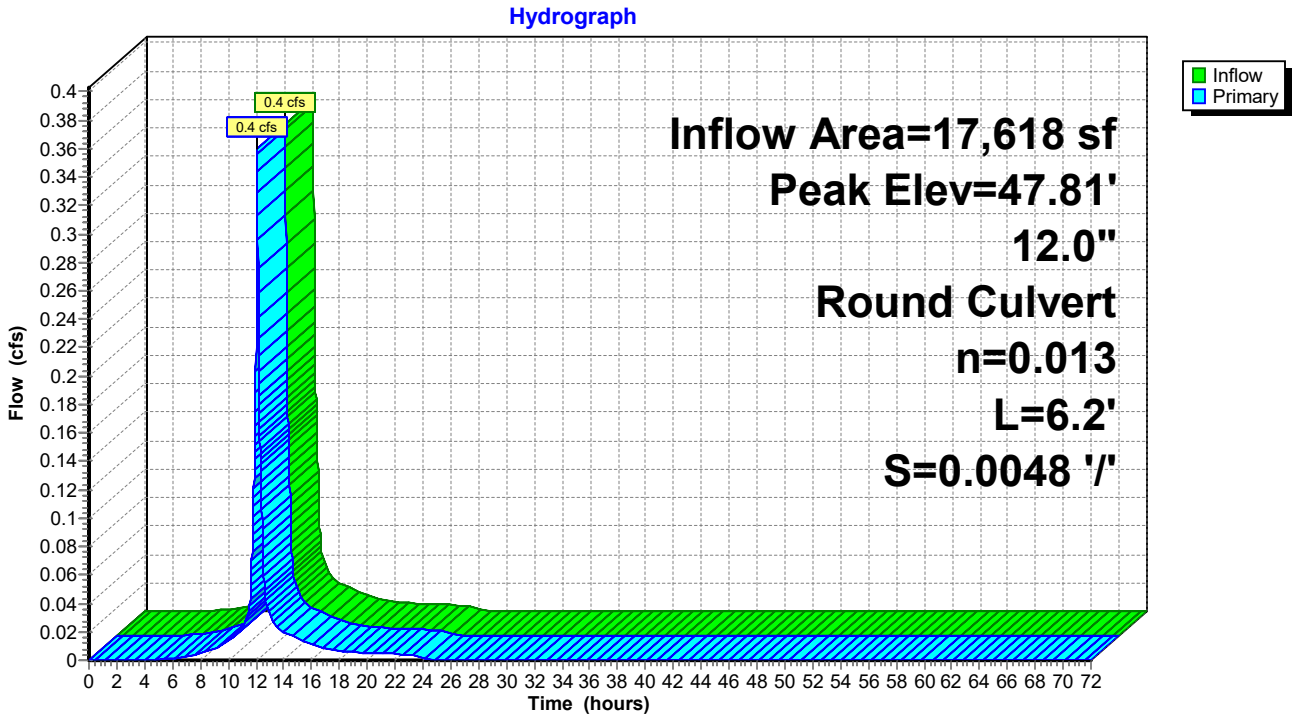
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf
Outflow = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.08 hrs, Volume= 1,161 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 47.81' @ 12.08 hrs
Flood Elev= 50.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.43'	**12.0" Round Culvert** L= 6.2' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.43' / 47.40' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.08 hrs HW=47.81' TW=46.09' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.4 cfs @ 1.98 fps)

Pond MH5: Manhole 5



Summary for Pond P1: Pond 1

Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 0.00" for 1-Inch event
Inflow = 0.0 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.0 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.00' @ 0.00 hrs Surf.Area= 1,503 sf Storage= 0 cf
Flood Elev= 55.50' Surf.Area= 3,752 sf Storage= 14,183 cf

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

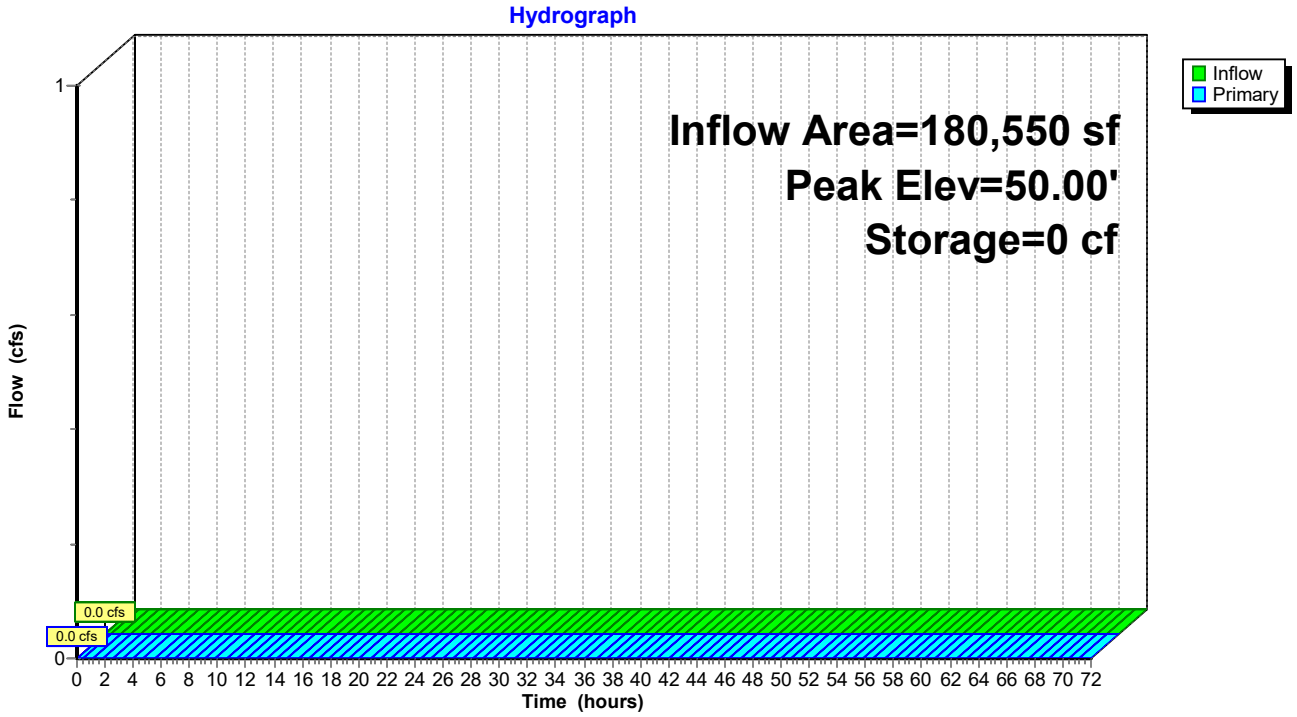
Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	16,121 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,503	0	0
51.00	1,882	1,693	1,693
52.00	2,267	2,075	3,767
53.00	2,662	2,465	6,232
54.00	3,055	2,859	9,090
55.00	3,503	3,279	12,369
56.00	4,000	3,752	16,121

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**12.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.00' / 46.40' S= 0.0180 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	50.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	53.10'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=50.00' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.0 cfs)
  ├─**2=Orifice/Grate** (Controls 0.0 cfs)
  └─**3=Orifice/Grate** (Controls 0.0 cfs)

Pond P1: Pond 1



Summary for Pond RD1: Roof Drain 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=169)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.17 hrs, Volume= 65 cf, Atten= 0%, Lag= 5.1 min
Primary = 0.0 cfs @ 12.17 hrs, Volume= 65 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.37' @ 12.17 hrs Surf.Area= 203 sf Storage= 27 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 147.7 min calculated for 65 cf (78% of inflow)
Center-of-Mass det. time= 69.0 min (856.9 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

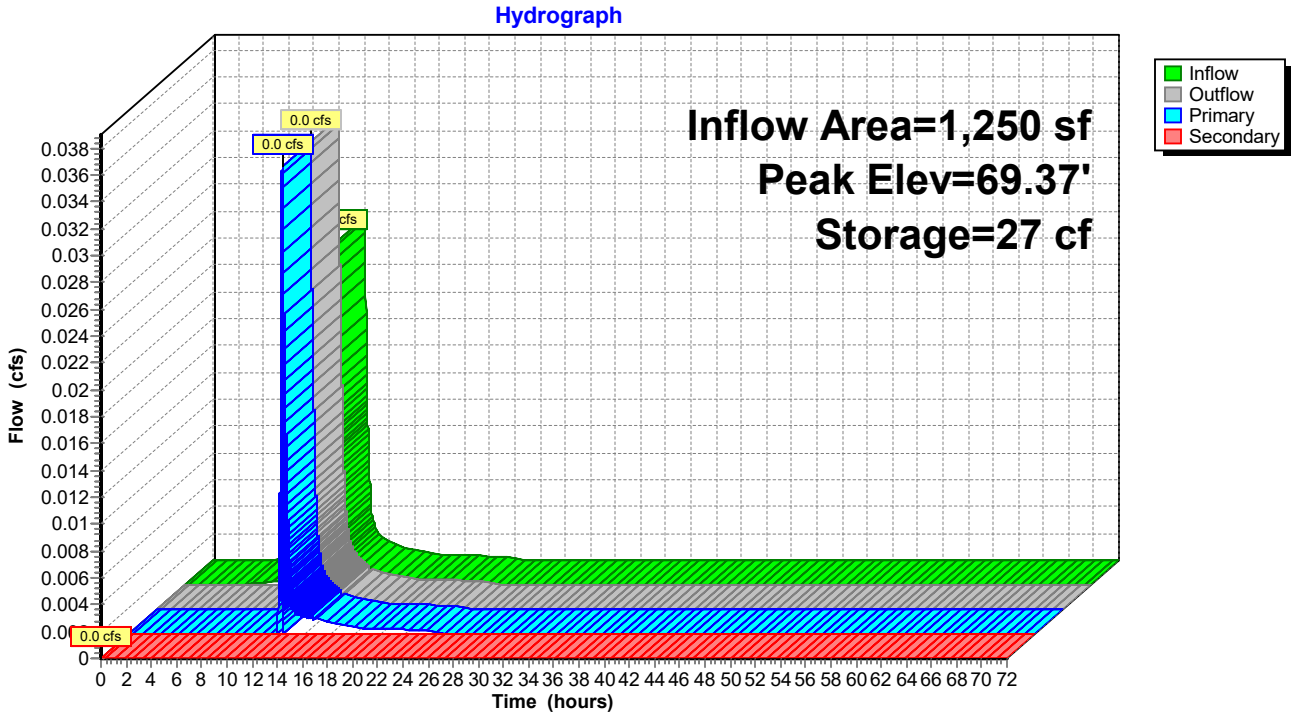
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.17 hrs HW=69.37' TW=69.37' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 0.0 cfs @ 0.12 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD1: Roof Drain 1



Summary for Pond RD2: Roof Drain 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=657)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.17 hrs, Volume= 65 cf, Atten= 0%, Lag= 5.1 min
Primary = 0.0 cfs @ 12.17 hrs, Volume= 65 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.50' @ 12.16 hrs Surf.Area= 206 sf Storage= 30 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 158.7 min calculated for 65 cf (78% of inflow)
Center-of-Mass det. time= 80.5 min (868.4 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

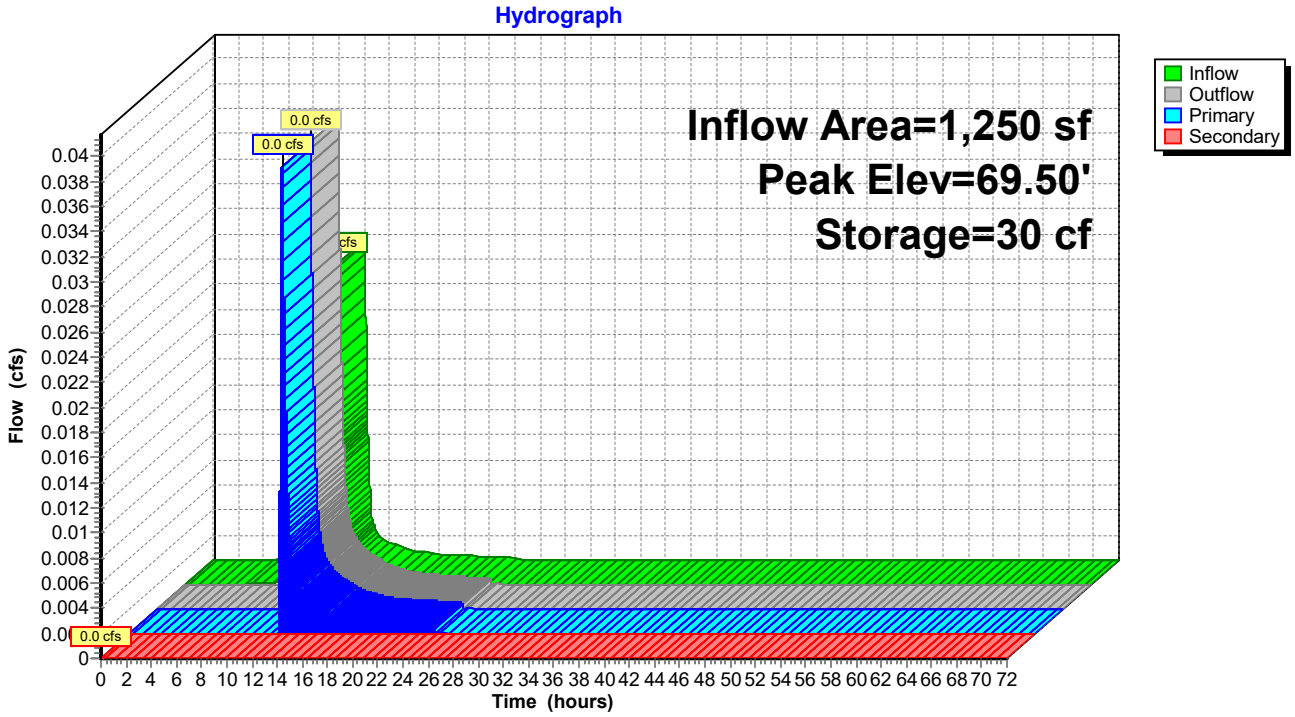
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.17 hrs HW=69.50' TW=69.50' (Dynamic Tailwater)
1=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD2: Roof Drain 2



Summary for Pond RD3: Roof Drain 3

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.13 hrs, Volume= 65 cf, Atten= 17%, Lag= 2.9 min
Primary = 0.0 cfs @ 12.13 hrs, Volume= 65 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.80' @ 12.14 hrs Surf.Area= 200 sf Storage= 26 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 145.7 min calculated for 65 cf (79% of inflow)
Center-of-Mass det. time= 68.8 min (856.7 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

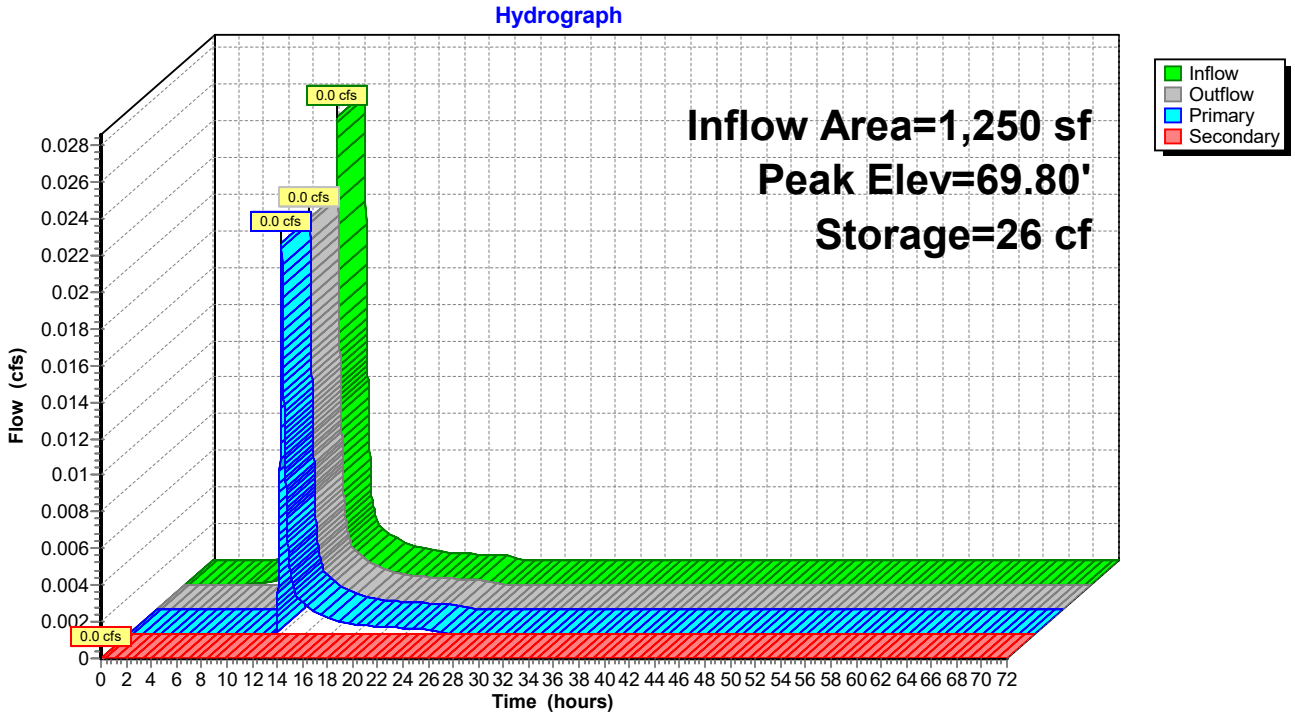
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.13 hrs HW=69.80' TW=69.77' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.0 cfs @ 0.85 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD3: Roof Drain 3



Summary for Pond RD4: Roof Drain 4

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.13 hrs, Volume= 65 cf, Atten= 17%, Lag= 2.9 min
Primary = 0.0 cfs @ 12.13 hrs, Volume= 65 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.80' @ 12.14 hrs Surf.Area= 200 sf Storage= 26 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 145.4 min calculated for 65 cf (79% of inflow)
Center-of-Mass det. time= 68.9 min (856.8 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

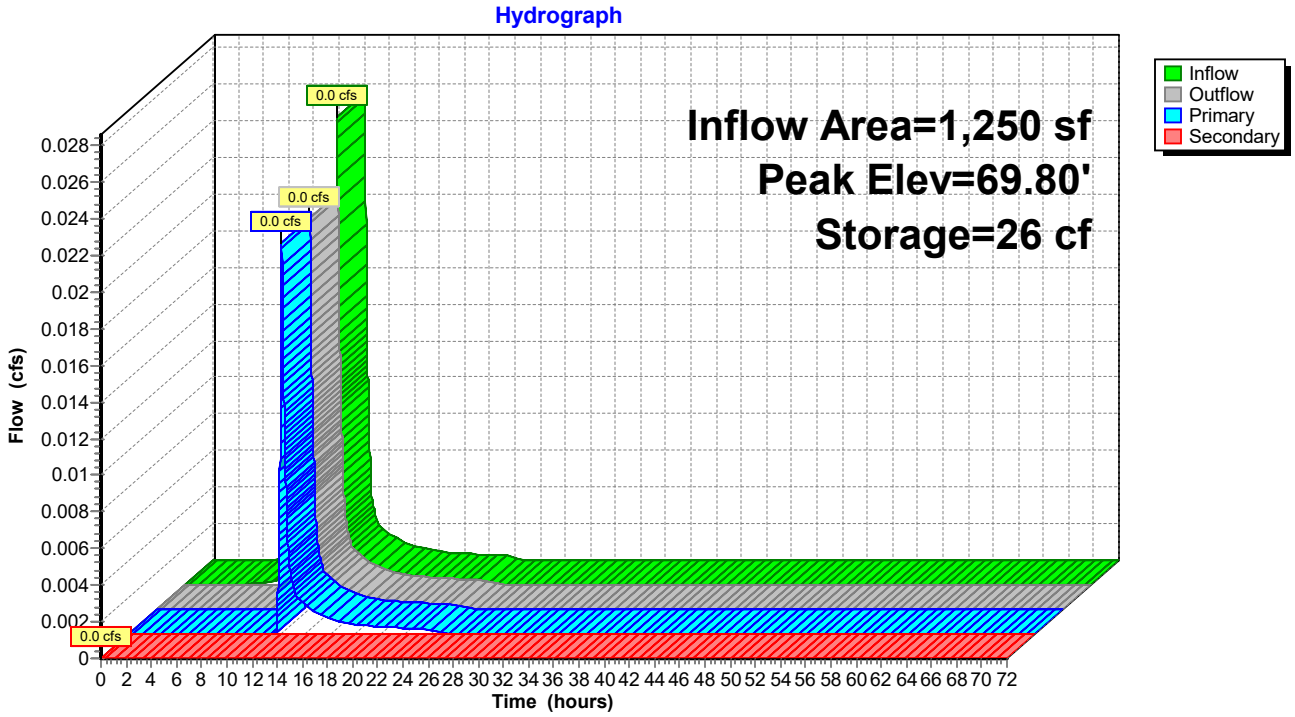
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.13 hrs HW=69.80' TW=69.77' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.0 cfs @ 0.85 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD4: Roof Drain 4



Summary for Pond RD5: Roof Drain 5

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=556)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.15 hrs, Volume= 65 cf, Atten= 23%, Lag= 3.7 min
Primary = 0.0 cfs @ 12.15 hrs, Volume= 65 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.48' @ 12.15 hrs Surf.Area= 204 sf Storage= 28 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 155.6 min calculated for 65 cf (78% of inflow)
Center-of-Mass det. time= 77.0 min (864.9 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

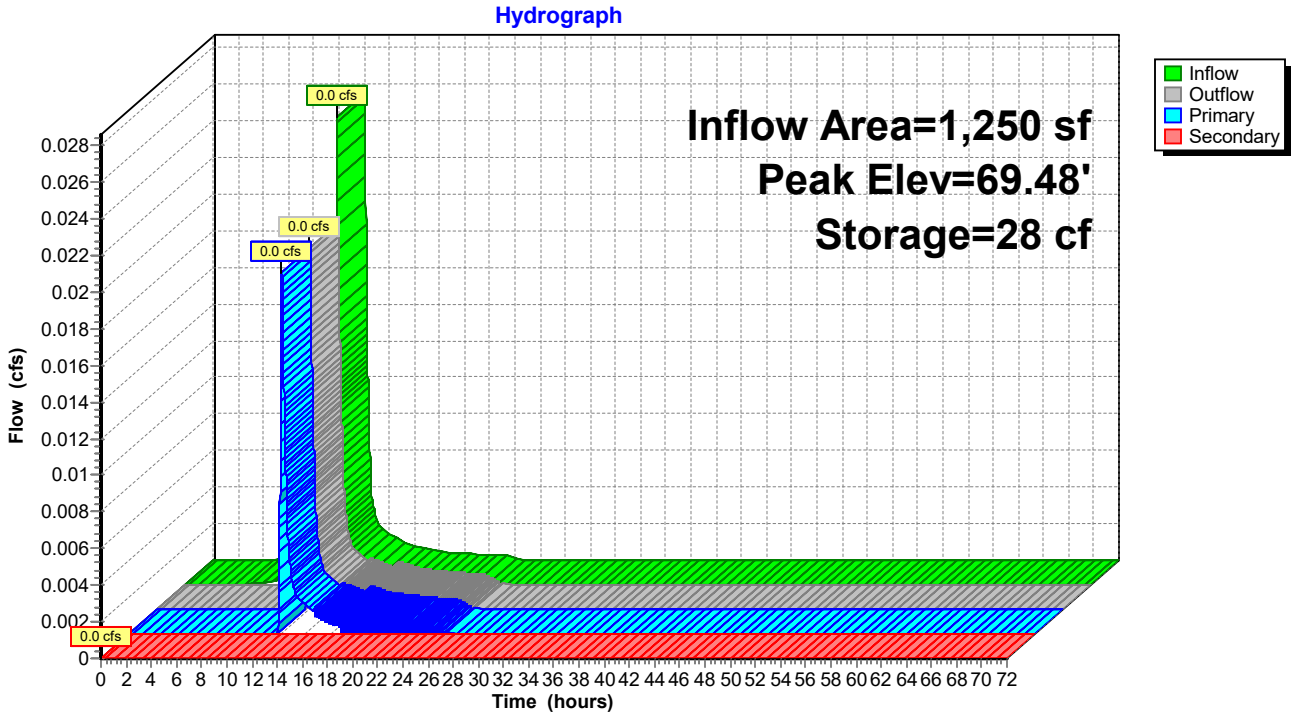
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.15 hrs HW=69.48' TW=69.46' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.0 cfs @ 0.63 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD5: Roof Drain 5



Summary for Pond RD6: Roof Drain 6

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=563)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.14 hrs, Volume= 66 cf, Atten= 21%, Lag= 3.2 min
Primary = 0.0 cfs @ 12.14 hrs, Volume= 66 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.35' @ 12.15 hrs Surf.Area= 200 sf Storage= 26 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 145.5 min calculated for 66 cf (80% of inflow)
Center-of-Mass det. time= 70.9 min (858.8 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

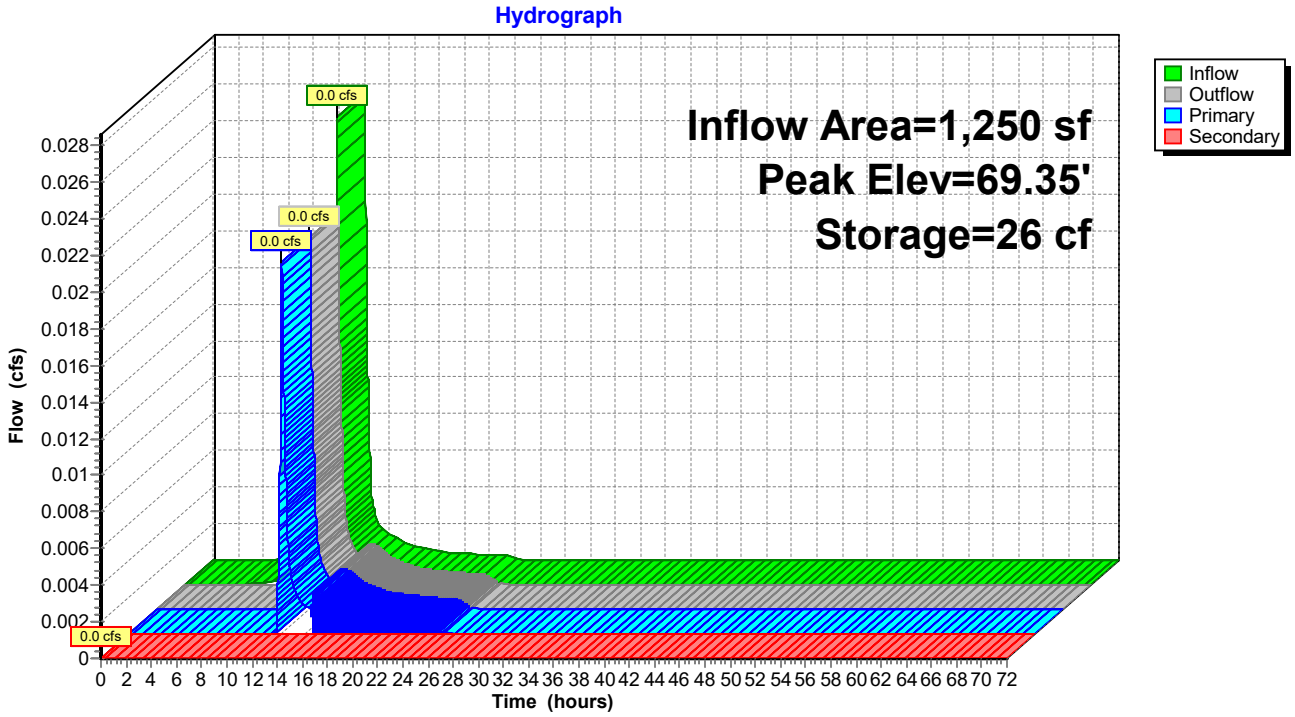
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.14 hrs HW=69.35' TW=69.33' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 0.0 cfs @ 0.70 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD6: Roof Drain 6



Summary for Pond RD7: Roof Drain 7

[92] Warning: Device #2 is above defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=646)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 0.79" for 1-Inch event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 82 cf
Outflow = 0.0 cfs @ 12.16 hrs, Volume= 65 cf, Atten= 0%, Lag= 4.5 min
Primary = 0.0 cfs @ 12.16 hrs, Volume= 65 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.68' @ 12.15 hrs Surf.Area= 204 sf Storage= 28 cf
Flood Elev= 69.30' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 154.4 min calculated for 65 cf (78% of inflow)
Center-of-Mass det. time= 75.8 min (863.7 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	66.29'	271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

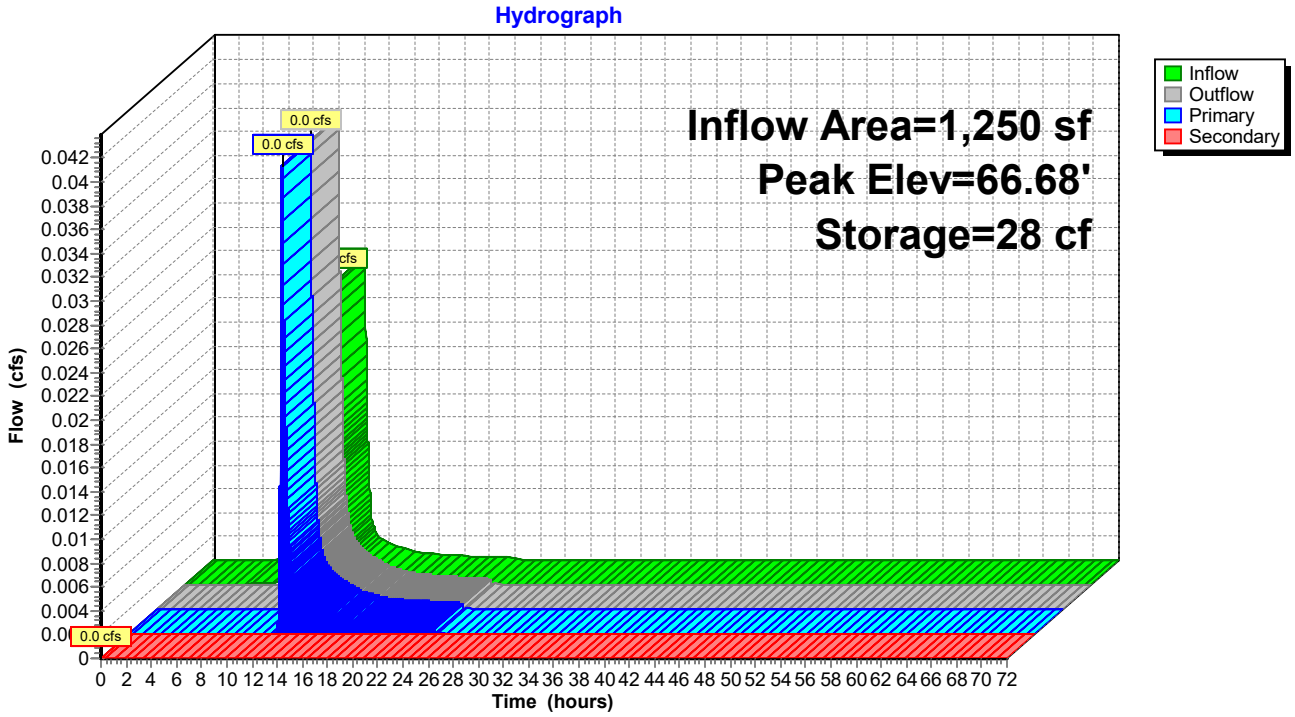
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.29	156	0.0	0	0
66.30	156	40.0	1	1
67.29	281	40.0	87	87
67.30	281	25.0	1	88
68.29	281	25.0	70	157
68.30	281	40.0	1	159
69.30	281	40.0	112	271

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	69.30'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.16 hrs HW=66.68' TW=66.72' (Dynamic Tailwater)
└**1=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=66.29' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD7: Roof Drain 7



Summary for Pond SF1: Soil Filter 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 0.15" for 1-Inch event
Inflow = 0.1 cfs @ 12.44 hrs, Volume= 567 cf
Outflow = 0.1 cfs @ 12.72 hrs, Volume= 561 cf, Atten= 29%, Lag= 16.6 min
Primary = 0.1 cfs @ 12.72 hrs, Volume= 561 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.15' @ 12.72 hrs Surf.Area= 1,250 sf Storage= 80 cf
Flood Elev= 66.25' Surf.Area= 3,716 sf Storage= 5,562 cf

Plug-Flow detention time= 58.1 min calculated for 561 cf (99% of inflow)
Center-of-Mass det. time= 52.6 min (982.8 - 930.2)

Volume	Invert	Avail.Storage	Storage Description
#1	60.99'	981 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	63.50'	4,581 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		5,562 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.99	1,250	0.0	0	0
61.00	1,250	40.0	5	5
61.99	1,250	40.0	495	500
62.00	1,250	25.0	3	503
63.49	1,250	25.0	466	969
63.50	1,250	100.0	12	981

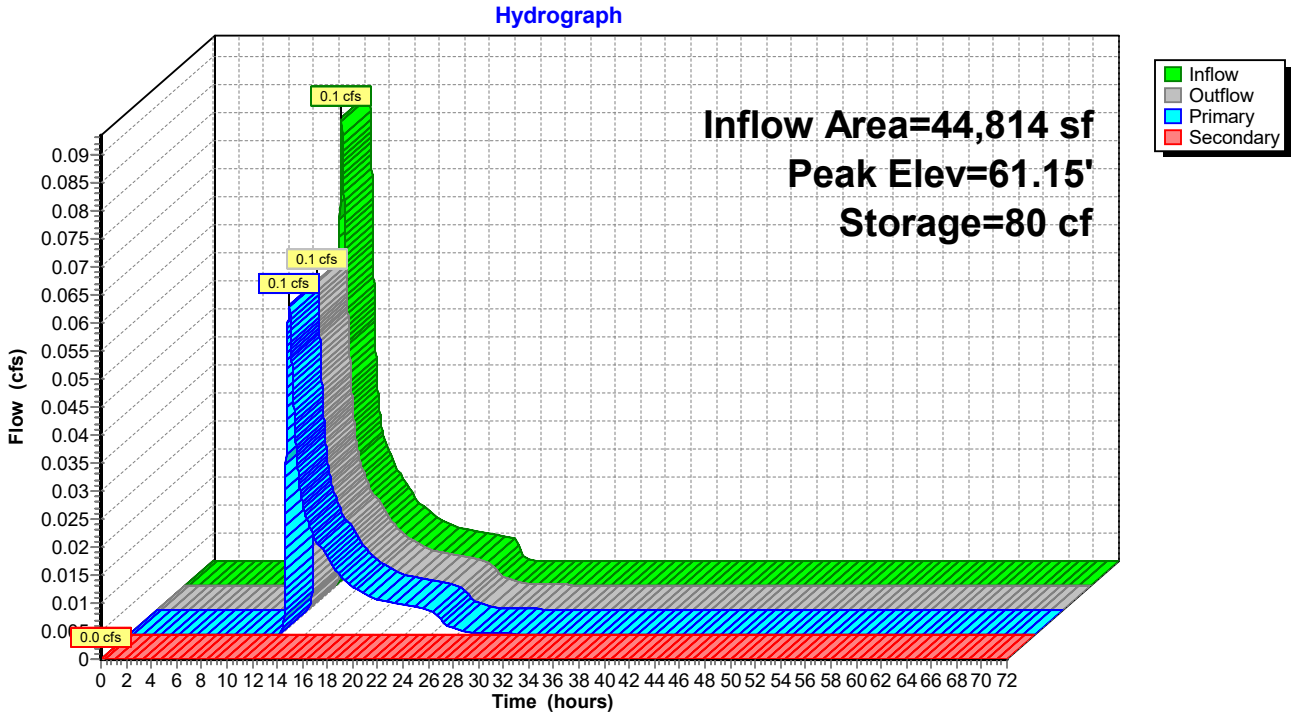
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.50	1,250	0	0
64.00	1,464	679	679
65.00	1,937	1,701	2,379
66.00	2,466	2,202	4,581

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**8.0" Round Culvert** L= 81.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 60.55' S= 0.0055 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.00'	**6.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.80'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	65.75'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.1 cfs @ 12.72 hrs HW=61.15' TW=60.59' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.1 cfs @ 1.50 fps)
  └─**2=Underdrain** (Passes 0.1 cfs of 0.1 cfs potential flow)
  └─**3=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=60.99' TW=51.20' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF1: Soil Filter 1



Summary for Pond SF2: Soil Filter 2

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 0.21" for 1-Inch event
Inflow = 0.4 cfs @ 12.10 hrs, Volume= 2,183 cf
Outflow = 0.1 cfs @ 12.85 hrs, Volume= 1,960 cf, Atten= 73%, Lag= 45.0 min
Primary = 0.1 cfs @ 12.85 hrs, Volume= 1,960 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 58.82' @ 12.85 hrs Surf.Area= 5,803 sf Storage= 764 cf
Flood Elev= 64.00' Surf.Area= 15,354 sf Storage= 27,812 cf

Plug-Flow detention time= 213.6 min calculated for 1,960 cf (90% of inflow)
Center-of-Mass det. time= 162.5 min (1,037.9 - 875.4)

Volume	Invert	Avail.Storage	Storage Description
#1	58.49'	4,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	61.00'	23,248 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		27,812 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.49	5,803	0.0	0	0
58.50	5,803	40.0	23	23
59.50	5,803	40.0	2,321	2,344
59.51	5,803	25.0	15	2,359
60.99	5,803	25.0	2,147	4,506
61.00	5,803	100.0	58	4,564

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	5,803	0	0
62.00	7,104	6,454	6,454
63.00	8,467	7,786	14,239
64.00	9,551	9,009	23,248

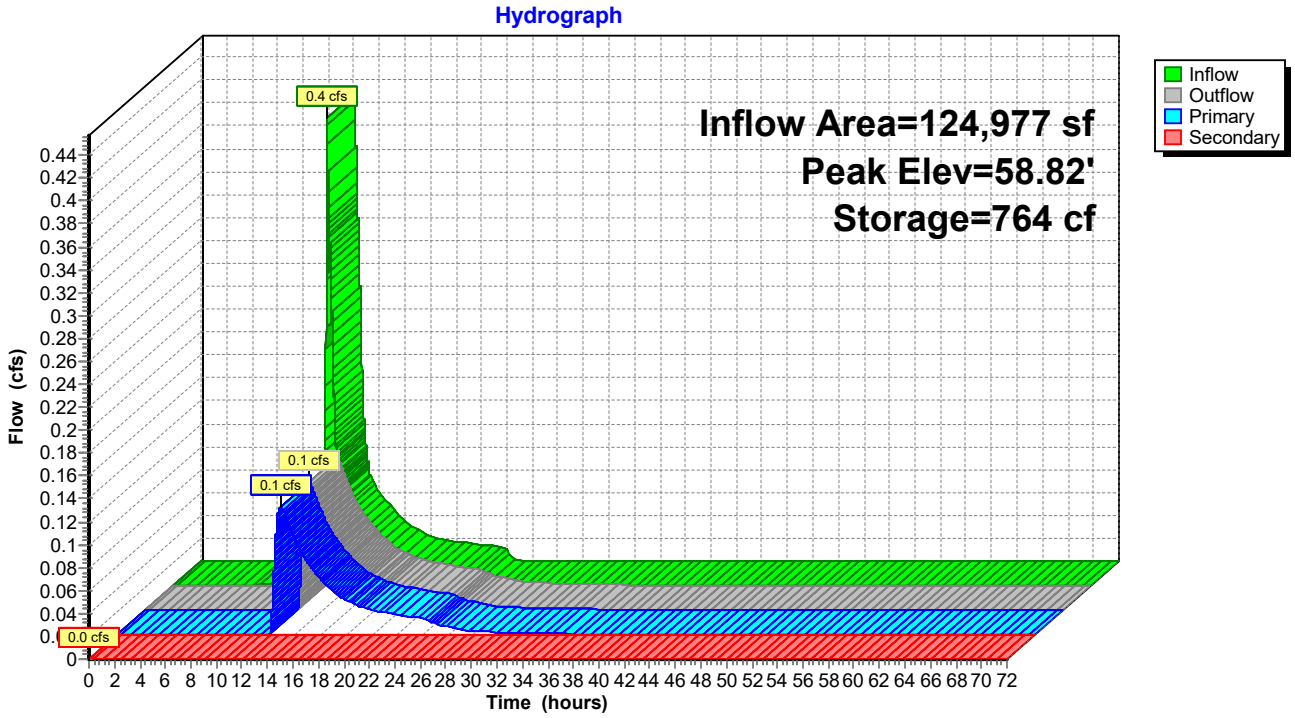
Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	**8.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 58.28' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	58.58'	**4.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	61.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.50 Width (feet) 0.50 0.50
#4	Device 1	63.00'	**24.0" x 24.0" Horiz. Structure Top** C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65

2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.1 cfs @ 12.85 hrs HW=58.82' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.1 cfs of 0.1 cfs potential flow)
  ├─**2=Underdrain** (Orifice Controls 0.1 cfs @ 1.67 fps)
  ├─**3=Custom Weir/Orifice** (Controls 0.0 cfs)
  └─**4=Structure Top** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=58.49' TW=0.00' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF2: Soil Filter 2

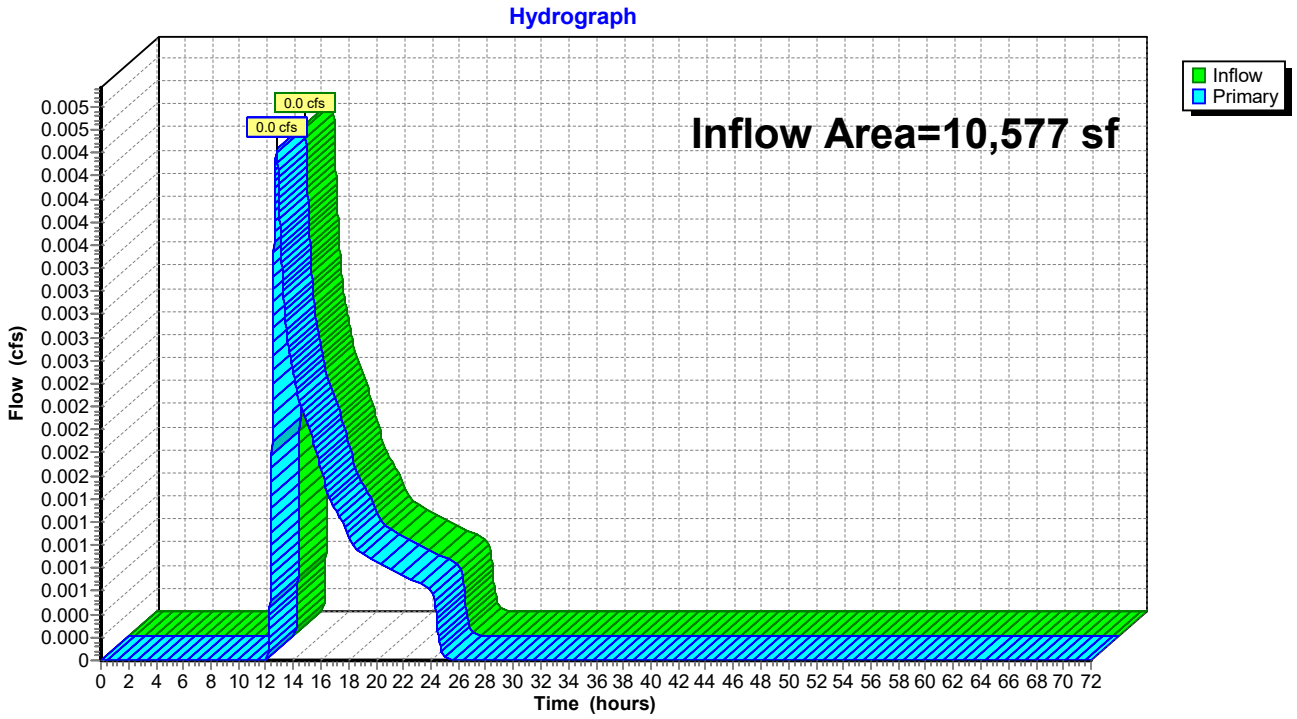


Summary for Link AP#1: Analysis Point 1

Inflow Area = 10,577 sf, 0.00% Impervious, Inflow Depth = 0.07" for 1-Inch event
Inflow = 0.0 cfs @ 12.77 hrs, Volume= 62 cf
Primary = 0.0 cfs @ 12.77 hrs, Volume= 62 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

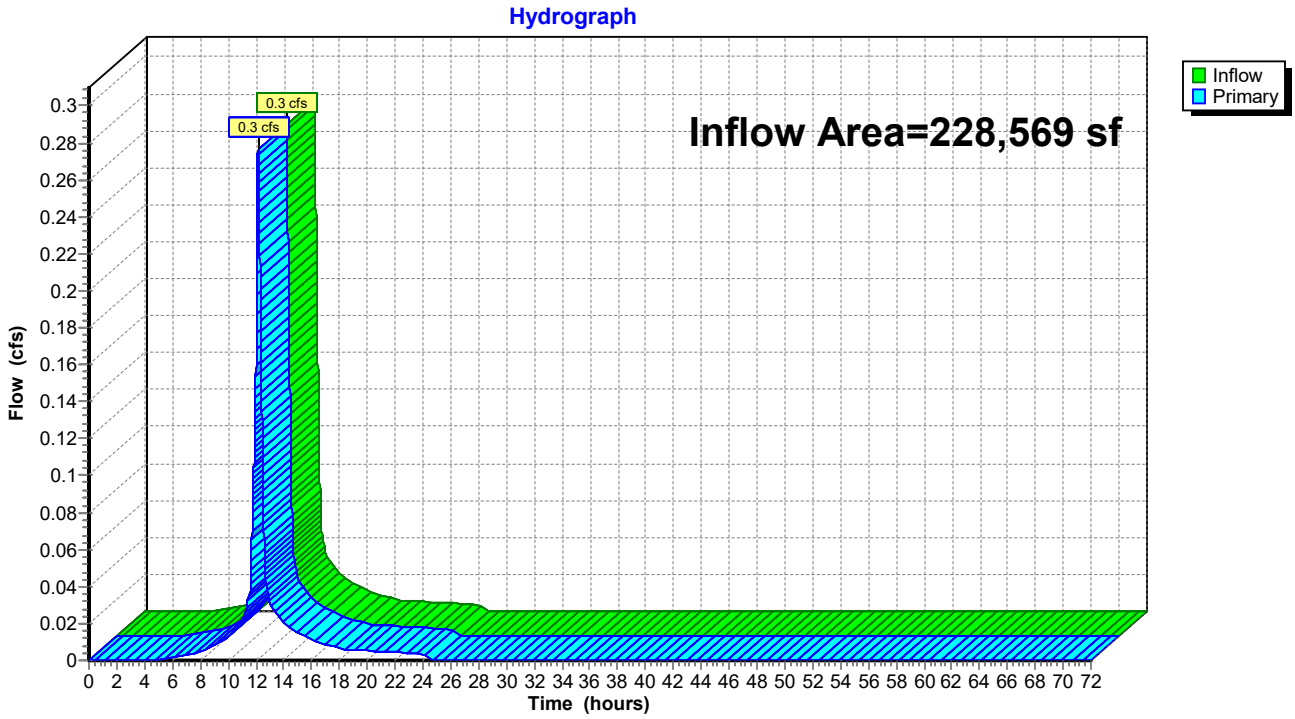


Summary for Link AP#2: Analysis Point 2

Inflow Area = 228,569 sf, 28.40% Impervious, Inflow Depth = 0.06" for 1-Inch event
Inflow = 0.3 cfs @ 12.15 hrs, Volume= 1,161 cf
Primary = 0.3 cfs @ 12.15 hrs, Volume= 1,161 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

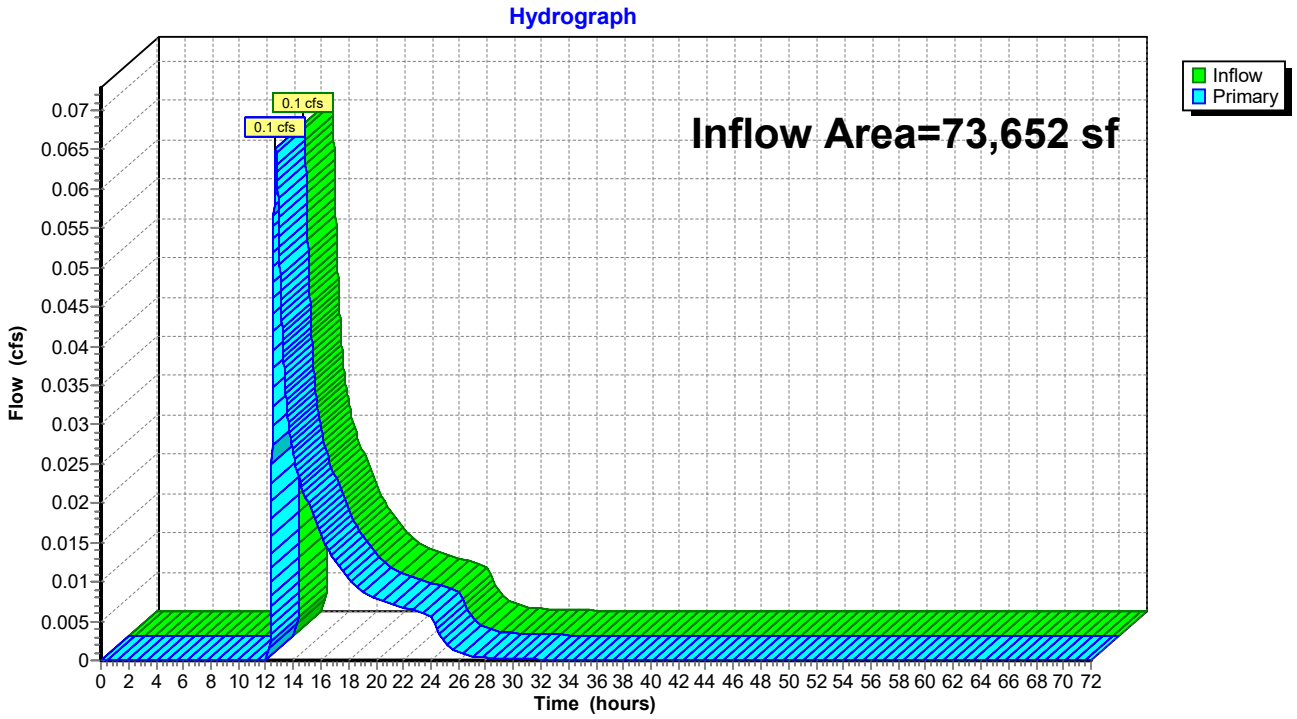


Summary for Link AP#3: Analysis Point 3

Inflow Area = 73,652 sf, 16.15% Impervious, Inflow Depth > 0.11" for 1-Inch event
Inflow = 0.1 cfs @ 12.71 hrs, Volume= 676 cf
Primary = 0.1 cfs @ 12.71 hrs, Volume= 676 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

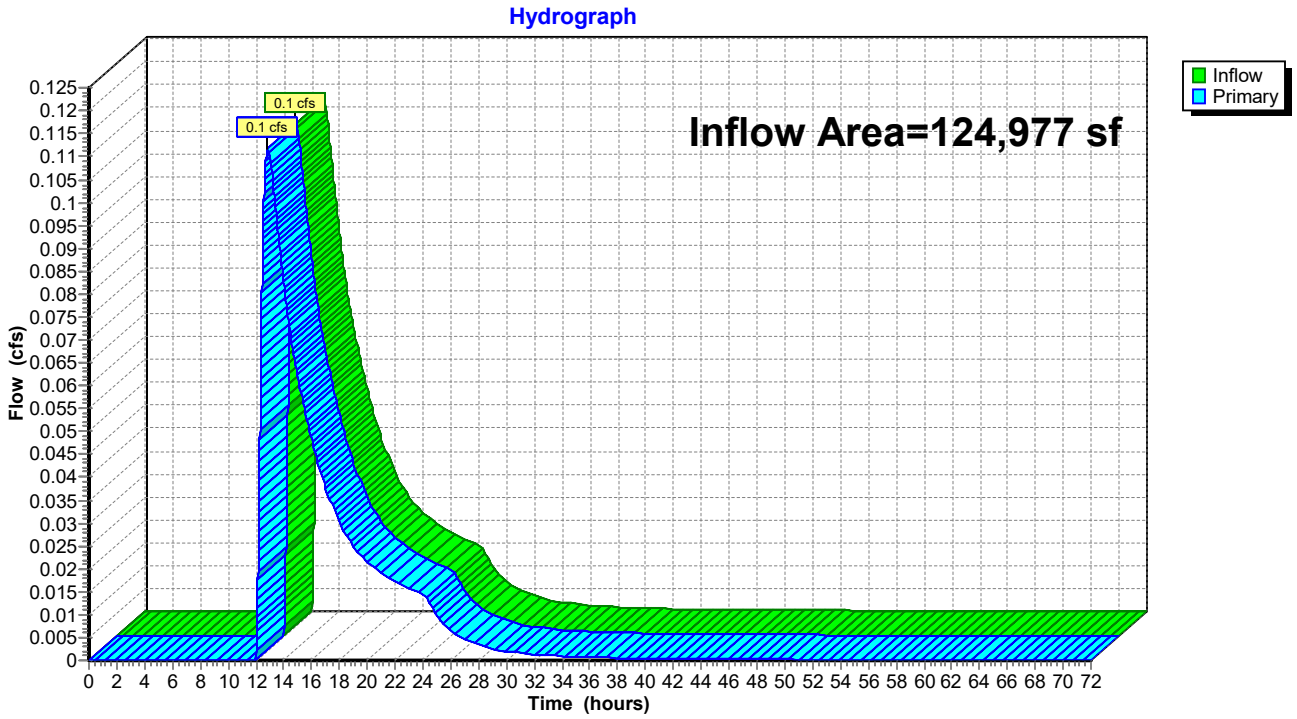


Summary for Link AP#4: Analysis Point 4

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth > 0.19" for 1-Inch event
Inflow = 0.1 cfs @ 12.85 hrs, Volume= 1,960 cf
Primary = 0.1 cfs @ 12.85 hrs, Volume= 1,960 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

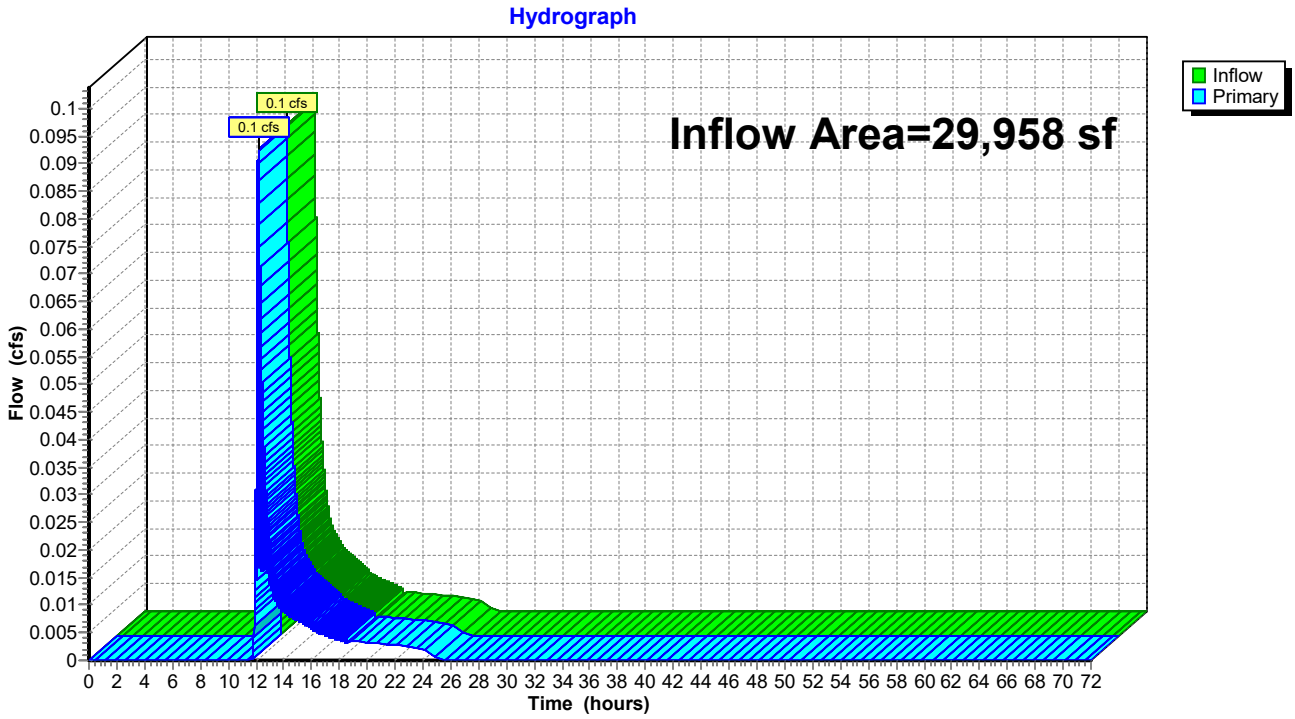


Summary for Link AP#5: Analysis Point 5

Inflow Area = 29,958 sf, 14.85% Impervious, Inflow Depth = 0.14" for 1-Inch event
Inflow = 0.1 cfs @ 12.15 hrs, Volume= 348 cf
Primary = 0.1 cfs @ 12.15 hrs, Volume= 348 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

Subcatchment S1.1: Subcatchment 1.1 Runoff Area=10,577 sf 0.00% Impervious Runoff Depth=1.41"
Flow Length=131' Slope=0.0110 '/' Tc=33.3 min CN=79 Runoff=0.2 cfs 1,245 cf

Subcatchment S2.1: Subcatchment 2.1 Runoff Area=180,550 sf 19.58% Impervious Runoff Depth=0.31"
Flow Length=953' Tc=41.2 min CN=56 Runoff=0.4 cfs 4,690 cf

Subcatchment S2.2: Subcatchment S2.2 Runoff Area=30,401 sf 39.27% Impervious Runoff Depth=0.56"
Flow Length=280' Tc=22.3 min CN=63 Runoff=0.2 cfs 1,431 cf

Subcatchment S2.3: Subcatchment 2.3 Runoff Area=3,590 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.3 cfs 918 cf

Subcatchment S2.4: Subcatchment 2.4 Runoff Area=3,697 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.3 cfs 945 cf

Subcatchment S2.5: Subcatchment 2.5 Runoff Area=3,457 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.3 cfs 884 cf

Subcatchment S2.6: Subcatchment 2.6 Runoff Area=2,849 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.2 cfs 728 cf

Subcatchment S2.7: Subcatchment 2.7 Runoff Area=2,803 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.2 cfs 716 cf

Subcatchment S2.8: Subcatchment 2.8 Runoff Area=1,222 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 312 cf

Subcatchment S3.1: Subcatchment 3.1 Runoff Area=28,838 sf 4.33% Impervious Runoff Depth=1.28"
Flow Length=333' Tc=18.1 min CN=77 Runoff=0.7 cfs 3,085 cf

Subcatchment S3.2: Subcatchment 3.2 Runoff Area=44,814 sf 23.75% Impervious Runoff Depth=1.77"
Flow Length=329' Tc=19.8 min CN=84 Runoff=1.4 cfs 6,597 cf

Subcatchment S4.1: Subcatchment 4.1 Runoff Area=99,781 sf 12.03% Impervious Runoff Depth=1.62"
Flow Length=553' Tc=19.1 min CN=82 Runoff=3.0 cfs 13,461 cf

Subcatchment S4.10: Subcatchment 4.10 Runoff Area=3,197 sf 72.57% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=94 Runoff=0.2 cfs 704 cf

Subcatchment S4.11: Subcatchment 4.11 Runoff Area=3,887 sf 74.68% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=94 Runoff=0.3 cfs 855 cf

Subcatchment S4.12: Subcatchment 4.12 Runoff Area=1,423 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 364 cf

Subcatchment S4.13: Subcatchment 4.13 Runoff Area=1,627 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 416 cf

Subcatchment S4.2: Subcatchment 4.2 Runoff Area=3,347 sf 71.65% Impervious Runoff Depth=2.54"
Tc=6.0 min CN=93 Runoff=0.2 cfs 709 cf

Subcatchment S4.3: Subcatchment 4.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Subcatchment S4.4: Subcatchment 4.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Subcatchment S4.5: Subcatchment 4.5 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Subcatchment S4.6: Subcatchment 4.6 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Subcatchment S4.7: Subcatchment 4.7 Runoff Area=3,900 sf 73.33% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=94 Runoff=0.3 cfs 858 cf

Subcatchment S4.8: Subcatchment 4.8 Runoff Area=1,313 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 336 cf

Subcatchment S4.9: Subcatchment 4.9 Runoff Area=1,502 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 384 cf

Subcatchment S5.1: Subcatchment 5.1 Runoff Area=26,208 sf 2.67% Impervious Runoff Depth=1.41"
Flow Length=421' Tc=32.7 min CN=79 Runoff=0.5 cfs 3,084 cf

Subcatchment S5.2: Subcatchment 5.2 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Subcatchment S5.3: Subcatchment 5.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Subcatchment S5.4: Subcatchment 5.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=98 Runoff=0.1 cfs 319 cf

Reach S1: Swale 1 Avg. Flow Depth=0.10' Max Vel=1.79 fps Inflow=1.4 cfs 6,597 cf
n=0.022 L=175.0' S=0.0171 '/' Capacity=24.5 cfs Outflow=1.4 cfs 6,597 cf

Pond C1: Culvert 1 Peak Elev=69.85' Inflow=0.1 cfs 302 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0158 '/' Outflow=0.1 cfs 302 cf

Pond C10: Culvert 10 Peak Elev=69.45' Inflow=0.1 cfs 303 cf
12.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.1 cfs 303 cf

Pond C11: Culvert 11 Peak Elev=69.40' Inflow=0.2 cfs 907 cf
12.0" Round Culvert n=0.013 L=82.4' S=0.0076 '/' Outflow=0.2 cfs 907 cf

Pond C2: Culvert 2 Peak Elev=69.62' Inflow=0.2 cfs 604 cf
12.0" Round Culvert n=0.012 L=44.0' S=0.0027 '/' Outflow=0.2 cfs 604 cf

Pond C3: Culvert 3 Peak Elev=69.46' Inflow=0.2 cfs 906 cf
24.0" Round Culvert n=0.012 L=44.4' S=0.0052 '/' Outflow=0.2 cfs 906 cf

Pond C4: Culvert 4 Peak Elev=69.85' Inflow=0.1 cfs 302 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0142 '/' Outflow=0.1 cfs 302 cf

Pond C7: Culvert 7 Peak Elev=67.15' Inflow=0.2 cfs 302 cf
4.0" Round Culvert n=0.013 L=27.0' S=0.0048 '/' Outflow=0.2 cfs 302 cf

Pond C8: Culvert 8 Peak Elev=51.81' Inflow=0.4 cfs 4,690 cf
16.0" Round Culvert n=0.025 L=184.0' S=0.0054 '/' Outflow=0.4 cfs 4,690 cf

Pond C9: Culvert 9 Peak Elev=69.59' Inflow=0.2 cfs 604 cf
12.0" Round Culvert n=0.013 L=25.0' S=0.0088 '/' Outflow=0.2 cfs 604 cf

Pond CB1: Catch Basin 1 Peak Elev=68.80' Inflow=0.5 cfs 1,616 cf
12.0" Round Culvert n=0.013 L=79.0' S=0.0051 '/' Outflow=0.5 cfs 1,616 cf

Pond CB10: Catch Basin 10 Peak Elev=61.42' Inflow=0.5 cfs 1,863 cf
12.0" Round Culvert n=0.013 L=212.5' S=0.0424 '/' Outflow=0.5 cfs 1,863 cf

Pond CB11: Catch Basin 11 Peak Elev=52.44' Inflow=0.3 cfs 884 cf
12.0" Round Culvert n=0.013 L=18.5' S=0.0054 '/' Outflow=0.3 cfs 884 cf

Pond CB12: Catch Basin 12 Peak Elev=52.39' Inflow=1.0 cfs 3,474 cf
12.0" Round Culvert n=0.013 L=96.6' S=0.0404 '/' Outflow=1.0 cfs 3,474 cf

Pond CB13: Catch Basin 13 Peak Elev=48.47' Inflow=1.3 cfs 4,503 cf
12.0" Round Culvert n=0.013 L=49.3' S=0.0034 '/' Outflow=1.3 cfs 4,503 cf

Pond CB14: Catch Basin 14 Peak Elev=48.64' Inflow=1.1 cfs 3,787 cf
12.0" Round Culvert n=0.013 L=15.0' S=0.0067 '/' Outflow=1.1 cfs 3,787 cf

Pond CB2: Catch Basin 2 Peak Elev=68.27' Inflow=0.2 cfs 704 cf
12.0" Round Culvert n=0.013 L=79.2' S=0.0051 '/' Outflow=0.2 cfs 704 cf

Pond CB3: Catch Basin 3 Peak Elev=66.98' Inflow=0.8 cfs 2,776 cf
12.0" Round Culvert n=0.013 L=17.5' S=0.0057 '/' Outflow=0.8 cfs 2,776 cf

Pond CB4: Catch Basin 4 Peak Elev=66.85' Inflow=1.3 cfs 4,335 cf
12.0" Round Culvert n=0.013 L=103.7' S=0.0053 '/' Outflow=1.3 cfs 4,335 cf

Pond CB5: Catch Basin 5 Peak Elev=66.30' Inflow=0.1 cfs 336 cf
12.0" Round Culvert n=0.013 L=18.4' S=0.0054 '/' Outflow=0.1 cfs 336 cf

Pond CB6: Catch Basin 6 Peak Elev=66.28' Inflow=1.5 cfs 5,035 cf
12.0" Round Culvert n=0.013 L=60.9' S=0.0057 '/' Outflow=1.5 cfs 5,035 cf

Pond CB7: Catch Basin 7 Peak Elev=65.48' Inflow=0.1 cfs 384 cf
12.0" Round Culvert n=0.013 L=18.2' S=0.0055 '/' Outflow=0.1 cfs 384 cf

Pond CB8: Catch Basin 8 Peak Elev=65.47' Inflow=1.7 cfs 5,834 cf
12.0" Round Culvert n=0.013 L=156.4' S=0.0054 '/' Outflow=1.7 cfs 5,834 cf

Pond CB9: Catch Basin 9 Peak Elev=62.31' Inflow=0.3 cfs 918 cf
12.0" Round Culvert n=0.013 L=18.8' S=0.0053 '/' Outflow=0.3 cfs 918 cf

Pond CH1: Chamber 1 Peak Elev=48.27' Storage=811 cf Inflow=1.3 cfs 4,503 cf
Outflow=0.4 cfs 4,503 cf

Pond MH1: Manhole 1 Peak Elev=65.84' Inflow=1.5 cfs 5,035 cf
12.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=1.5 cfs 5,035 cf

Pond MH2: Manhole 2 Peak Elev=61.12' Inflow=1.1 cfs 6,591 cf
12.0" Round Culvert n=0.013 L=152.9' S=0.0052 '/' Outflow=1.1 cfs 6,591 cf

Pond MH3: Manhole 3 Peak Elev=60.23' Inflow=1.1 cfs 6,591 cf
12.0" Round Culvert n=0.013 L=81.0' S=0.0049 '/' Outflow=1.1 cfs 6,591 cf

Pond MH4: Manhole 4 Peak Elev=59.69' Inflow=1.1 cfs 6,591 cf
12.0" Round Culvert n=0.013 L=205.9' S=0.0051 '/' Outflow=1.1 cfs 6,591 cf

Pond MH5: Manhole 5 Peak Elev=48.29' Inflow=1.3 cfs 4,503 cf
12.0" Round Culvert n=0.013 L=6.2' S=0.0048 '/' Outflow=1.3 cfs 4,503 cf

Pond P1: Pond 1 Peak Elev=51.81' Storage=3,338 cf Inflow=0.4 cfs 4,690 cf
Outflow=0.0 cfs 4,625 cf

Pond RD1: Roof Drain 1 Peak Elev=69.51' Storage=39 cf Inflow=0.1 cfs 319 cf
Primary=0.1 cfs 302 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 302 cf

Pond RD2: Roof Drain 2 Peak Elev=69.66' Storage=43 cf Inflow=0.1 cfs 319 cf
Primary=0.1 cfs 302 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 302 cf

Pond RD3: Roof Drain 3 Peak Elev=69.92' Storage=36 cf Inflow=0.1 cfs 319 cf
Primary=0.1 cfs 302 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 302 cf

Pond RD4: Roof Drain 4 Peak Elev=69.92' Storage=36 cf Inflow=0.1 cfs 319 cf
Primary=0.1 cfs 302 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 302 cf

Pond RD5: Roof Drain 5 Peak Elev=69.63' Storage=41 cf Inflow=0.1 cfs 319 cf
Primary=0.1 cfs 302 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 302 cf

Pond RD6: Roof Drain 6 Peak Elev=69.50' Storage=38 cf Inflow=0.1 cfs 319 cf
Primary=0.1 cfs 303 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 303 cf

Pond RD7: Roof Drain 7 Peak Elev=67.03' Storage=60 cf Inflow=0.1 cfs 319 cf
Primary=0.2 cfs 302 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 302 cf

Pond SF1: Soil Filter 1 Peak Elev=62.71' Storage=725 cf Inflow=1.4 cfs 6,597 cf
Primary=1.1 cfs 6,591 cf Secondary=0.0 cfs 0 cf Outflow=1.1 cfs 6,591 cf

Pond SF2: Soil Filter 2 Peak Elev=61.59' Storage=8,195 cf Inflow=3.9 cfs 19,295 cf
Primary=0.8 cfs 19,072 cf Secondary=0.0 cfs 0 cf Outflow=0.8 cfs 19,072 cf

Link AP#1: Analysis Point 1 Inflow=0.2 cfs 1,245 cf
Primary=0.2 cfs 1,245 cf

Link AP#2: Analysis Point 2 Inflow=0.6 cfs 10,559 cf
Primary=0.6 cfs 10,559 cf

Link AP#3: Analysis Point 3 Inflow=1.7 cfs 9,676 cf
Primary=1.7 cfs 9,676 cf

Link AP#4: Analysis Point 4 Inflow=0.8 cfs 19,072 cf
Primary=0.8 cfs 19,072 cf

Link AP#5: Analysis Point 5 Inflow=0.6 cfs 3,990 cf
Primary=0.6 cfs 3,990 cf

Total Runoff Area = 467,733 sf Runoff Volume = 44,958 cf Average Runoff Depth = 1.15"
75.50% Pervious = 353,127 sf 24.50% Impervious = 114,606 sf

Summary for Subcatchment S1.1: Subcatchment 1.1

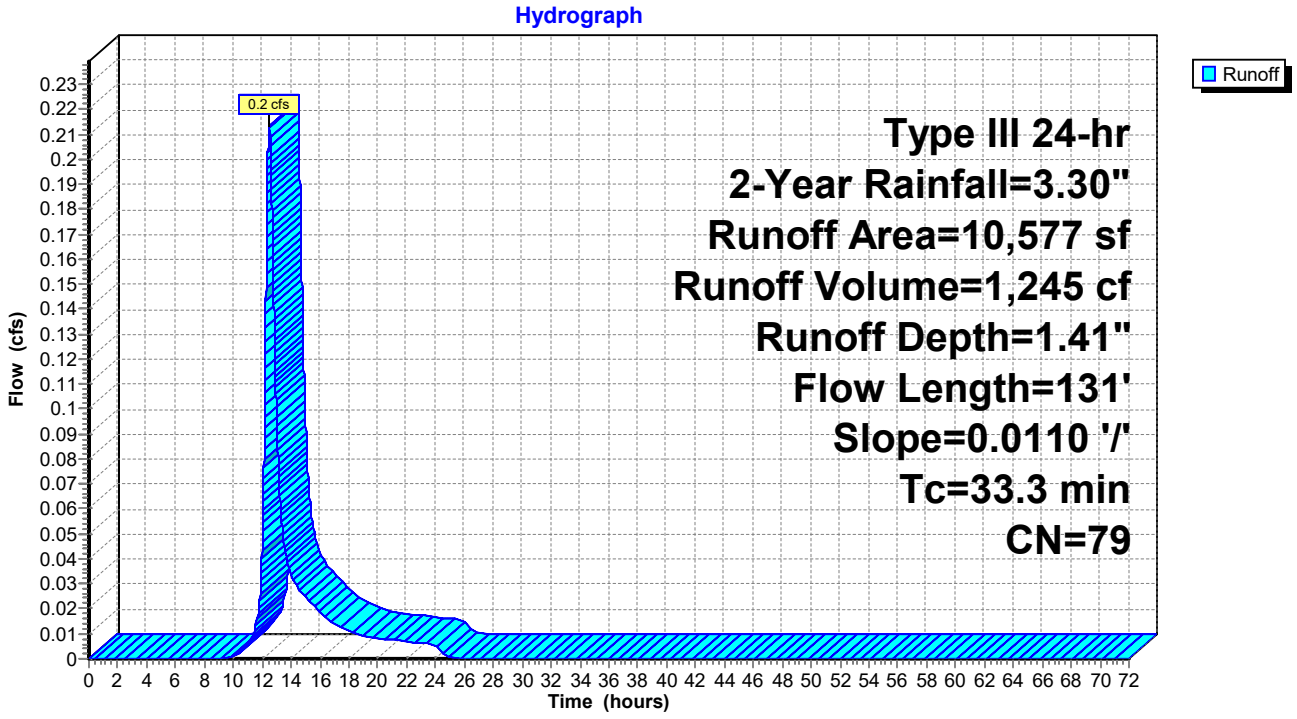
Runoff = 0.2 cfs @ 12.47 hrs, Volume= 1,245 cf, Depth= 1.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
6,431	80	>75% Grass cover, Good, HSG D
4,146	77	Woods, Good, HSG D
10,577	79	Weighted Average
10,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	131	0.0110	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"

Subcatchment S1.1: Subcatchment 1.1



Summary for Subcatchment S2.1: Subcatchment 2.1

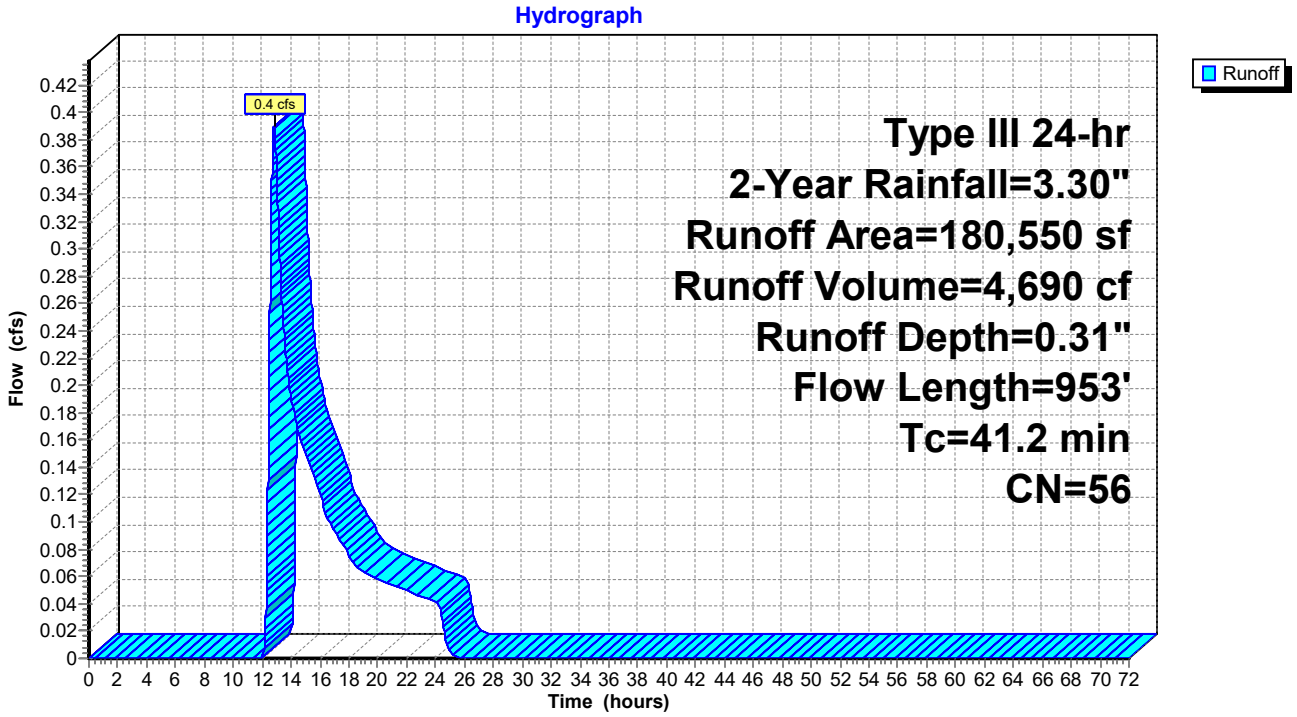
Runoff = 0.4 cfs @ 12.81 hrs, Volume= 4,690 cf, Depth= 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
12,432	39	>75% Grass cover, Good, HSG A
85,722	30	Woods, Good, HSG A
489	98	Paved parking, HSG A
17,787	80	>75% Grass cover, Good, HSG D
29,251	77	Woods, Good, HSG D
14,624	98	Paved parking, HSG D
3,134	98	Paved parking, HSG D
17,111	98	Roofs, HSG A
180,550	56	Weighted Average
145,192		80.42% Pervious Area
35,358		19.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	51	0.0196	0.15		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
13.5	99	0.0606	0.12		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
7.7	300	0.0167	0.65		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
4.3	203	0.0246	0.78		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
41.2	953	Total			

Subcatchment S2.1: Subcatchment 2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

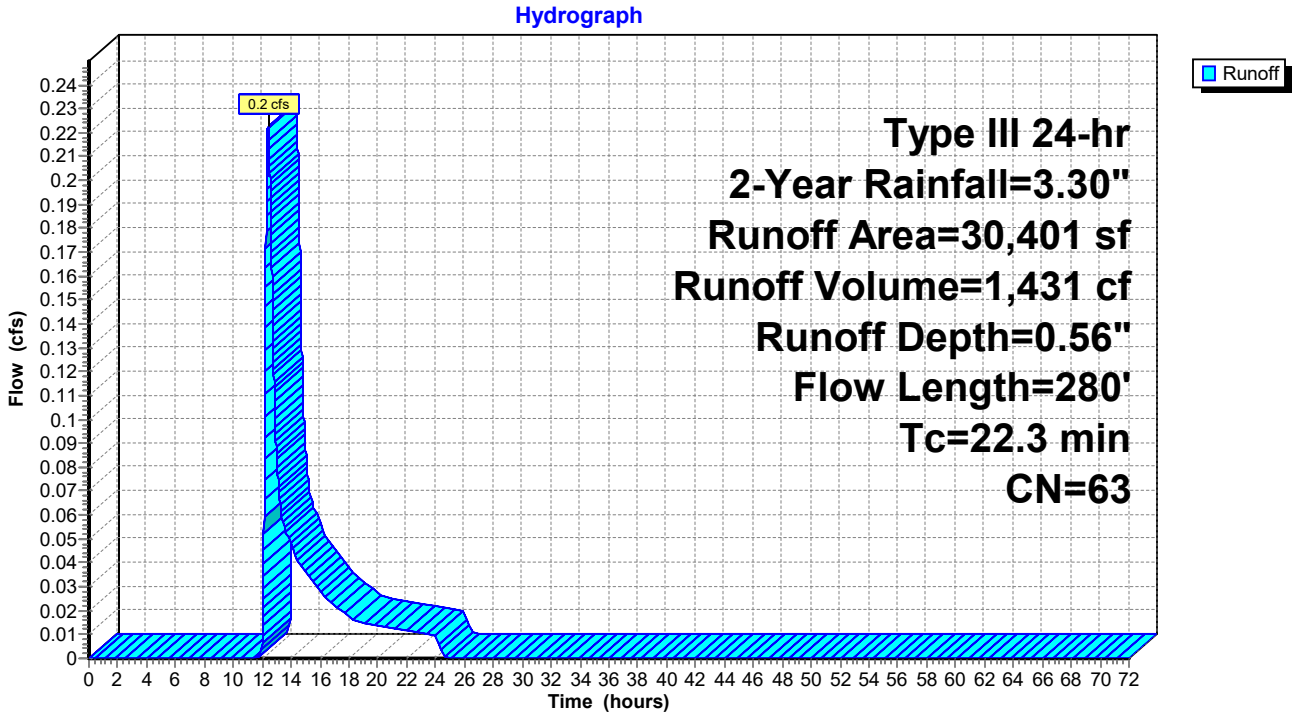
Runoff = 0.2 cfs @ 12.41 hrs, Volume= 1,431 cf, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
5,813	98	Paved parking, HSG A
30,401	63	Weighted Average
18,462		60.73% Pervious Area
11,939		39.27% Impervious Area
6,060		50.76% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	150	0.0520	0.13		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.3	130	0.0350	0.94		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.3	280	Total			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment 2.3

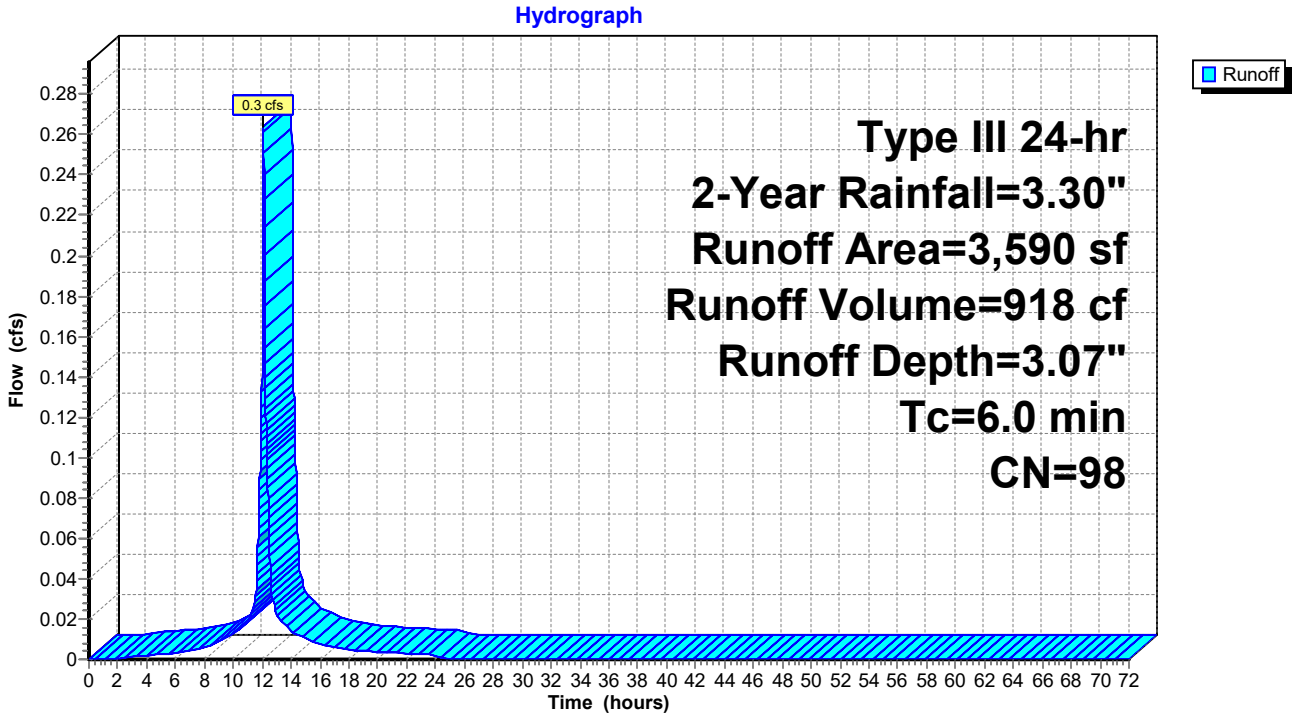
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 918 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
3,590	98	Paved roads w/curbs & sewers, HSG D
3,590		100.00% Impervious Area

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

Subcatchment S2.3: Subcatchment 2.3



Summary for Subcatchment S2.4: Subcatchment 2.4

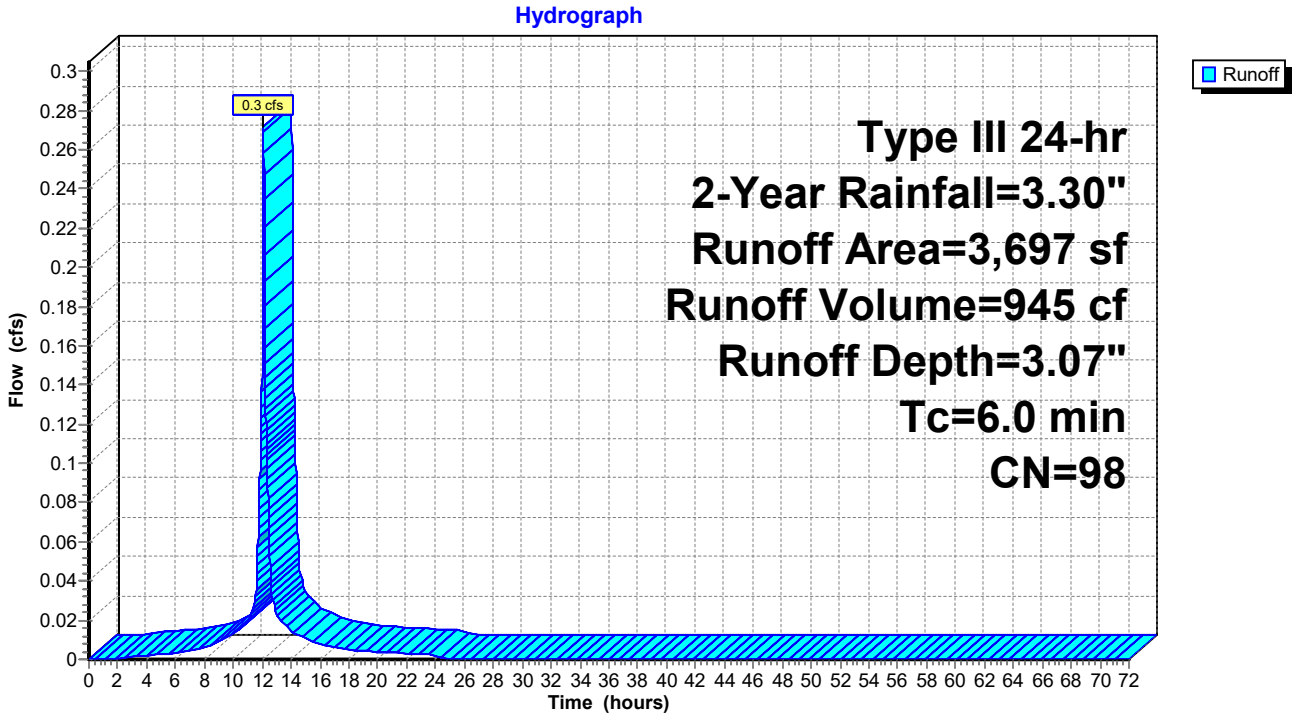
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 945 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
3,697	98	Paved roads w/curbs & sewers, HSG D
3,697		100.00% Impervious Area

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

Subcatchment S2.4: Subcatchment 2.4



Summary for Subcatchment S2.5: Subcatchment 2.5

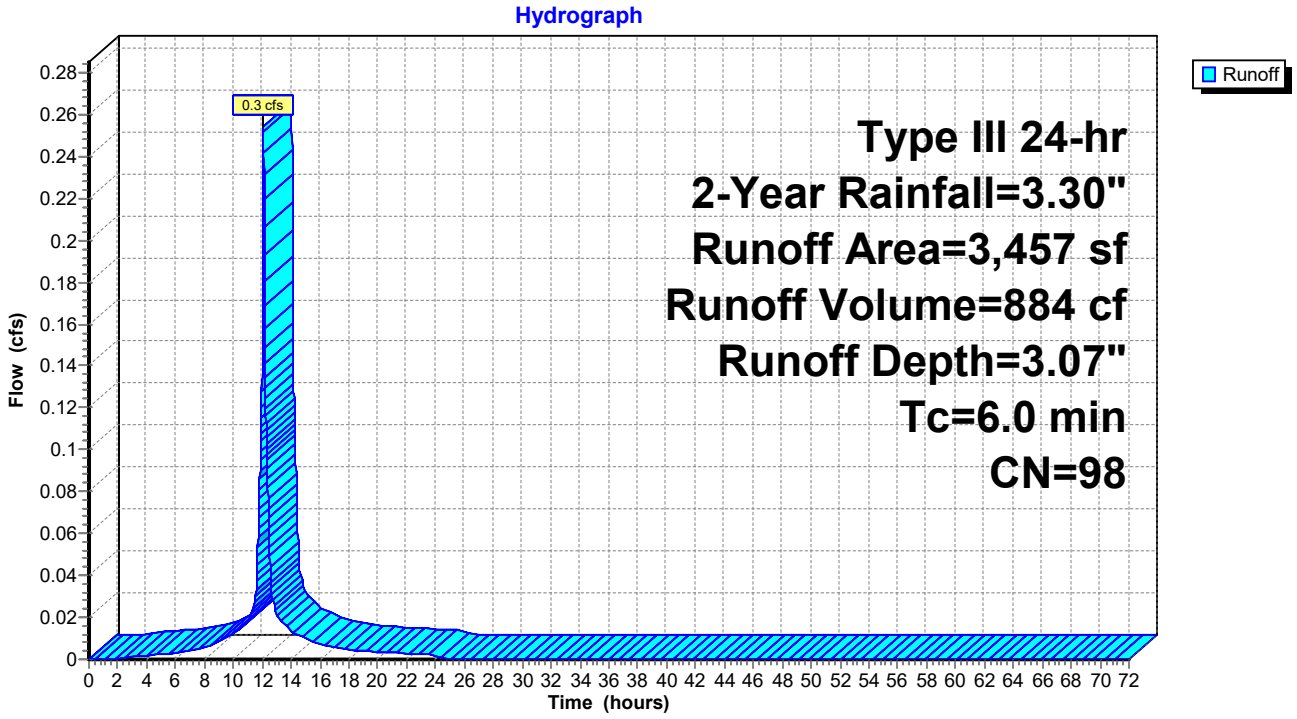
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 884 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
3,457	98	Paved roads w/curbs & sewers, HSG D
3,457		100.00% Impervious Area

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

Subcatchment S2.5: Subcatchment 2.5



Summary for Subcatchment S2.6: Subcatchment 2.6

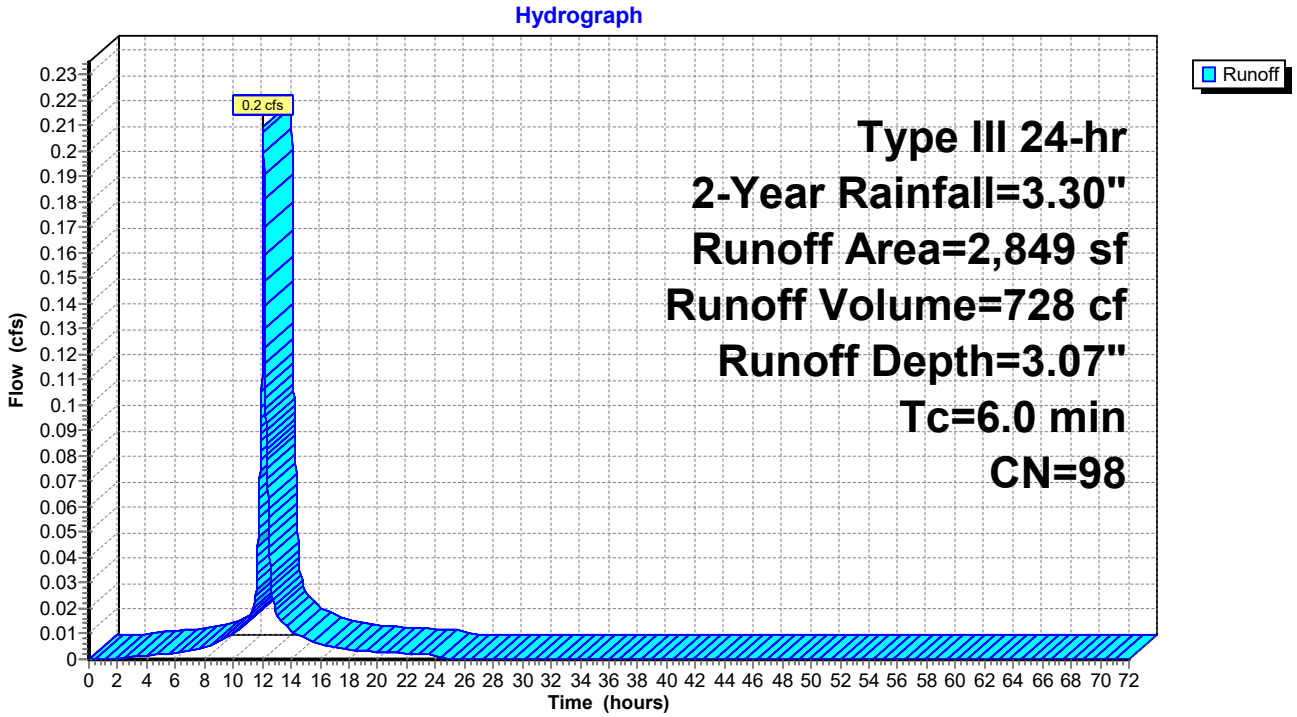
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 728 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
2,849	98	Paved roads w/curbs & sewers, HSG D
2,849		100.00% Impervious Area

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

Subcatchment S2.6: Subcatchment 2.6



Summary for Subcatchment S2.7: Subcatchment 2.7

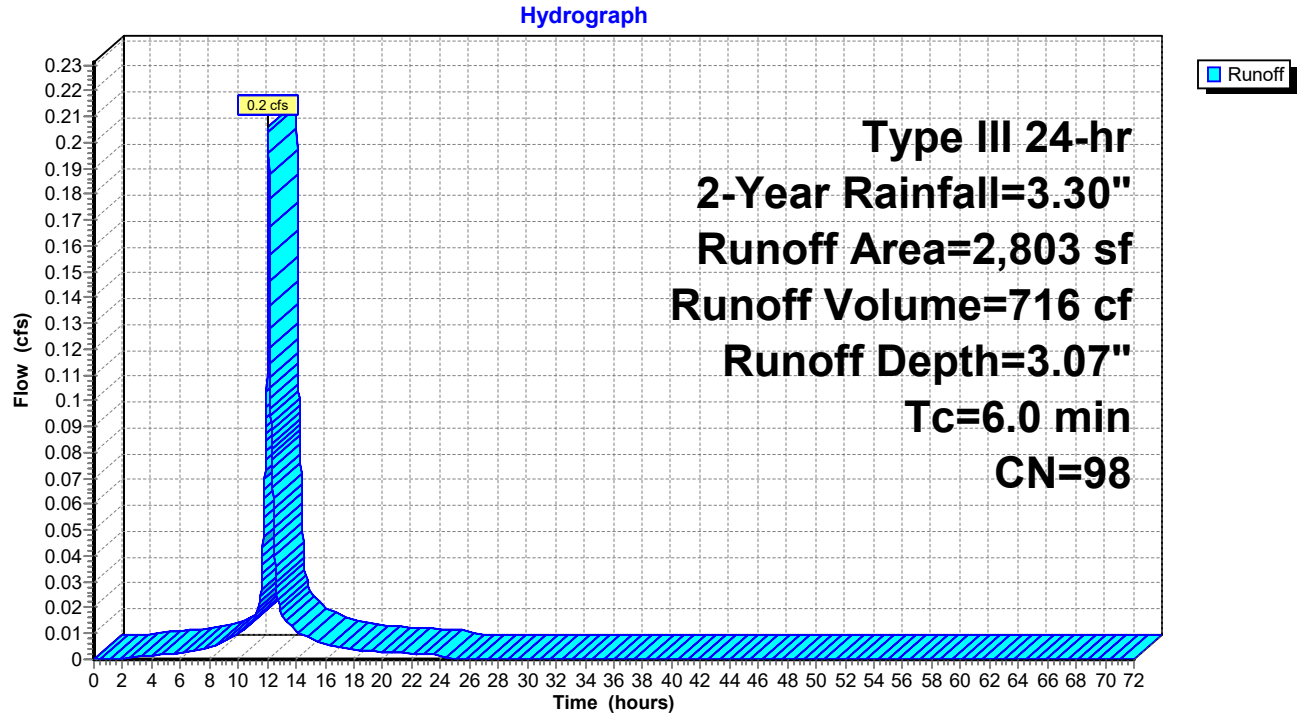
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 716 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
2,803	98	Paved roads w/curbs & sewers, HSG D
2,803		100.00% Impervious Area

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

Subcatchment S2.7: Subcatchment 2.7



Summary for Subcatchment S2.8: Subcatchment 2.8

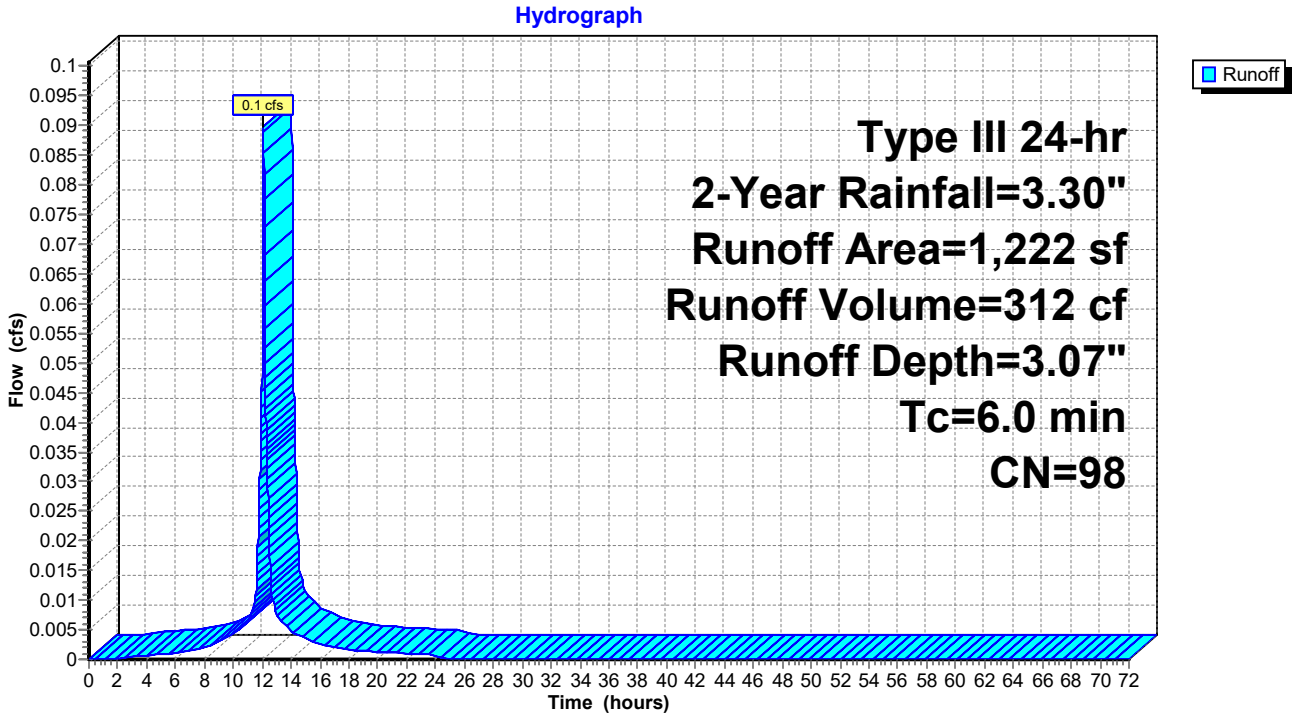
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 312 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,222	98	Paved roads w/curbs & sewers, HSG D
1,222		100.00% Impervious Area

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

Subcatchment S2.8: Subcatchment 2.8



Summary for Subcatchment S3.1: Subcatchment 3.1

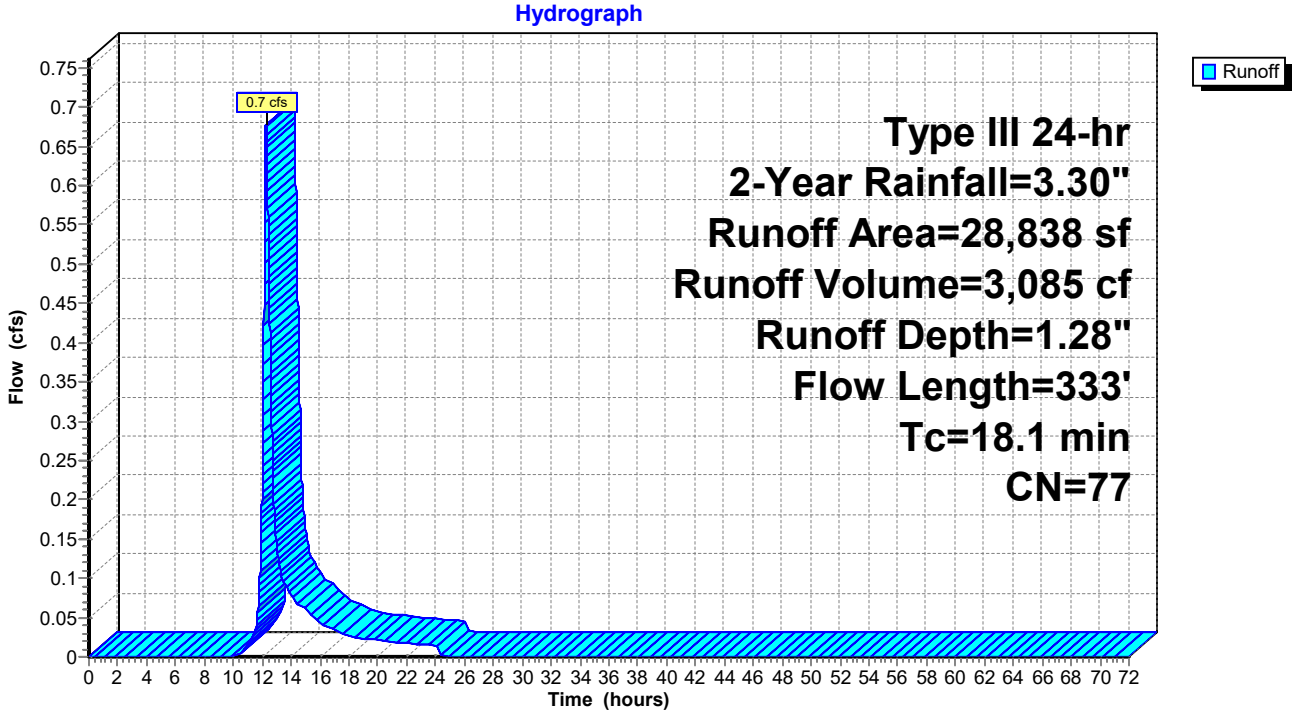
Runoff = 0.7 cfs @ 12.26 hrs, Volume= 3,085 cf, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
15,787	77	Woods, Good, HSG D
10,424	80	>75% Grass cover, Good, HSG D
1,377	39	>75% Grass cover, Good, HSG A
1,250	98	Roofs, HSG D
28,838	77	Weighted Average
27,588		95.67% Pervious Area
1,250		4.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	150	0.0130	0.16		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
1.2	102	0.0392	1.39		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.0	81	0.0740	1.36		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
18.1	333	Total			

Subcatchment S3.1: Subcatchment 3.1



Summary for Subcatchment S3.2: Subcatchment 3.2

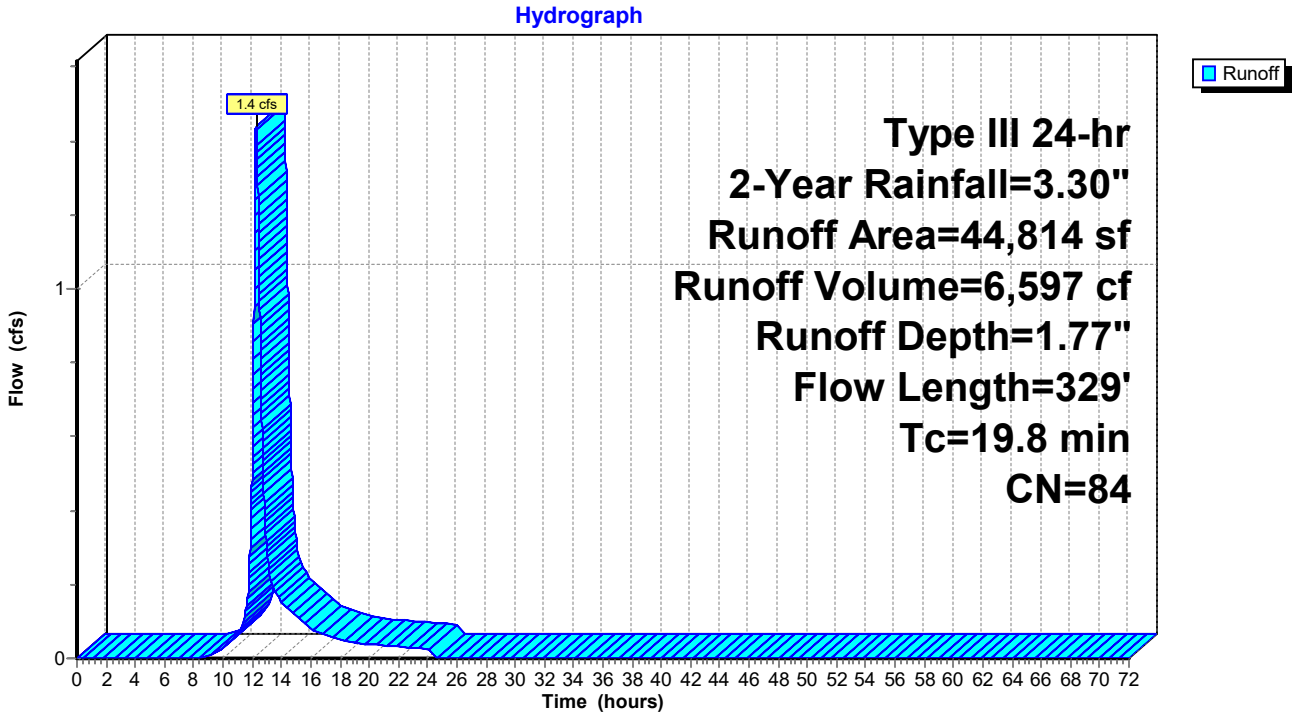
Runoff = 1.4 cfs @ 12.27 hrs, Volume= 6,597 cf, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
34,169	80	>75% Grass cover, Good, HSG D
1,895	98	Paved parking, HSG D
8,750	98	Roofs, HSG D
44,814	84	Weighted Average
34,169		76.25% Pervious Area
10,645		23.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0100	0.14		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
2.2	179	0.0363	1.33		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.8	329	Total			

Subcatchment S3.2: Subcatchment 3.2



Summary for Subcatchment S4.1: Subcatchment 4.1

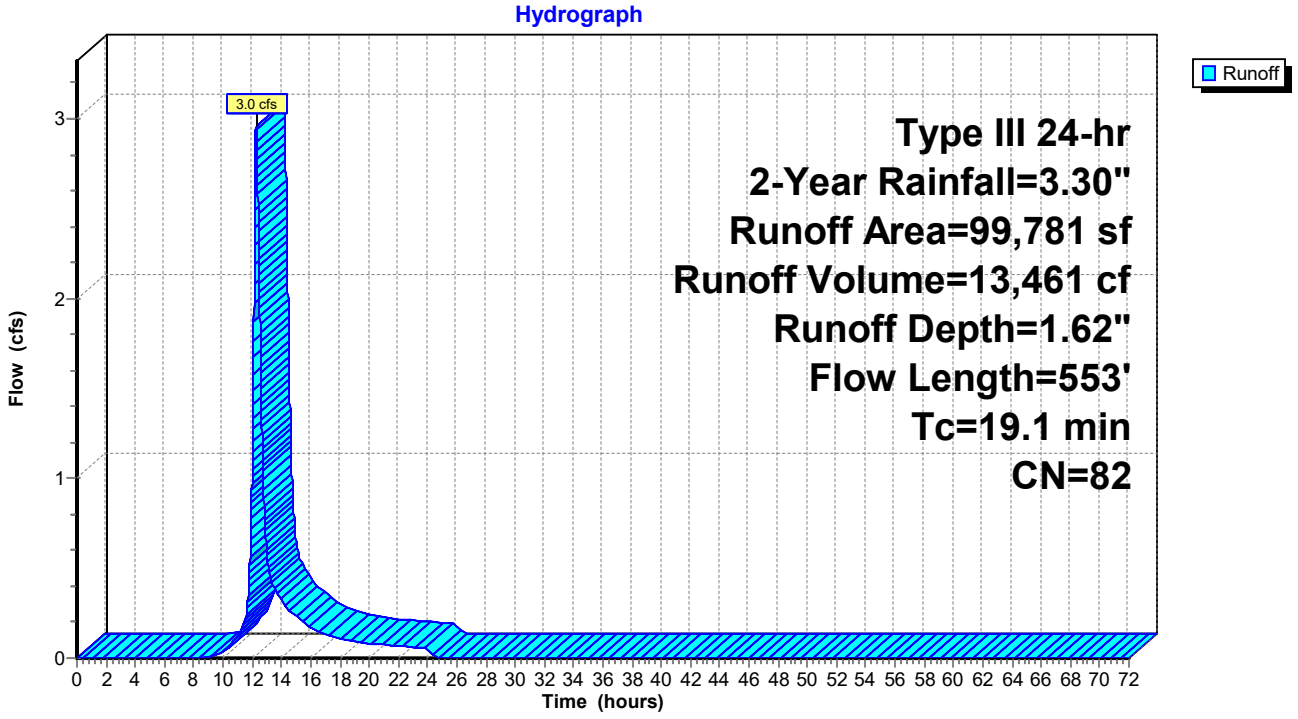
Runoff = 3.0 cfs @ 12.27 hrs, Volume= 13,461 cf, Depth= 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
17,618	77	Woods, Good, HSG D
70,163	80	>75% Grass cover, Good, HSG D
12,000	98	Roofs, HSG D
99,781	82	Weighted Average
87,781		87.97% Pervious Area
12,000		12.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	150	0.0330	0.23		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
7.1	300	0.0100	0.70		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.1	103	0.0485	1.54		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.1	553	Total			

Subcatchment S4.1: Subcatchment 4.1



Summary for Subcatchment S4.10: Subcatchment 4.10

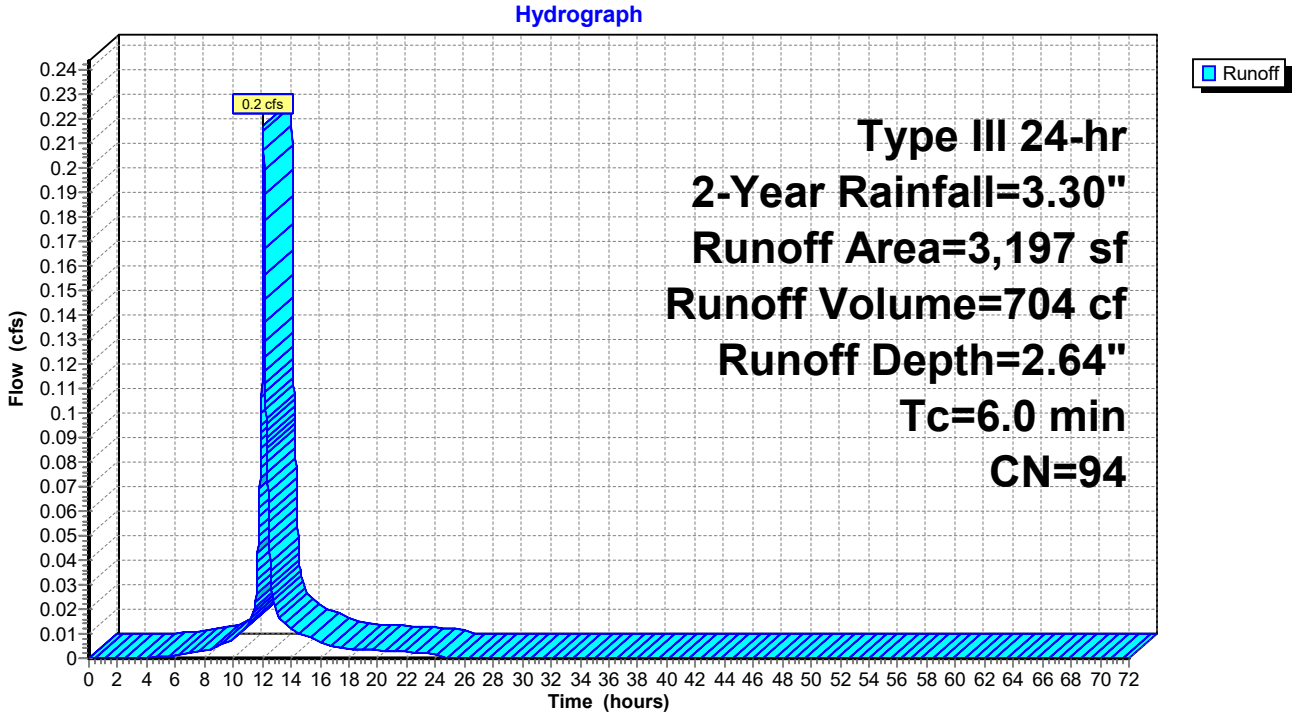
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 704 cf, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
2,320	98	Paved roads w/curbs & sewers, HSG D
148	96	Gravel surface, HSG D
729	80	>75% Grass cover, Good, HSG D
3,197	94	Weighted Average
877		27.43% Pervious Area
2,320		72.57% Impervious Area

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

Subcatchment S4.10: Subcatchment 4.10



Summary for Subcatchment S4.11: Subcatchment 4.11

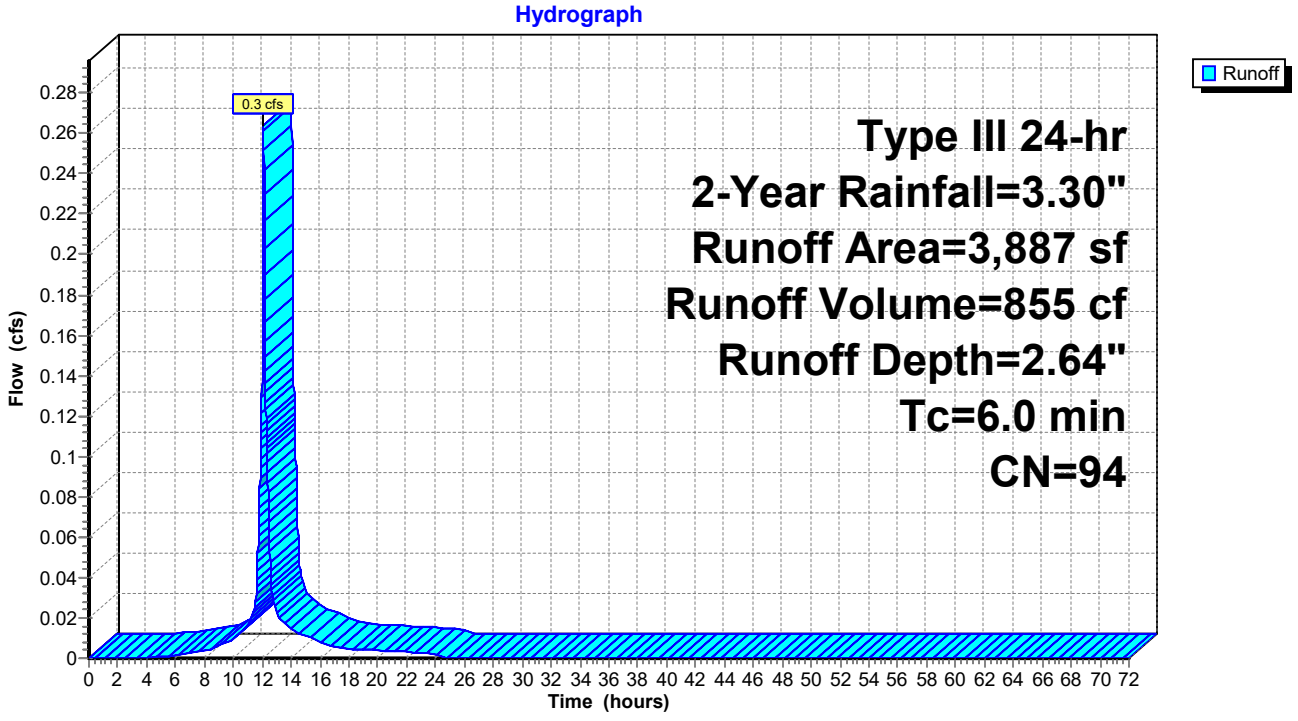
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 855 cf, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
2,903	98	Paved roads w/curbs & sewers, HSG D
163	96	Gravel surface, HSG D
821	80	>75% Grass cover, Good, HSG D
3,887	94	Weighted Average
984		25.32% Pervious Area
2,903		74.68% Impervious Area

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

Subcatchment S4.11: Subcatchment 4.11



Summary for Subcatchment S4.12: Subcatchment 4.12

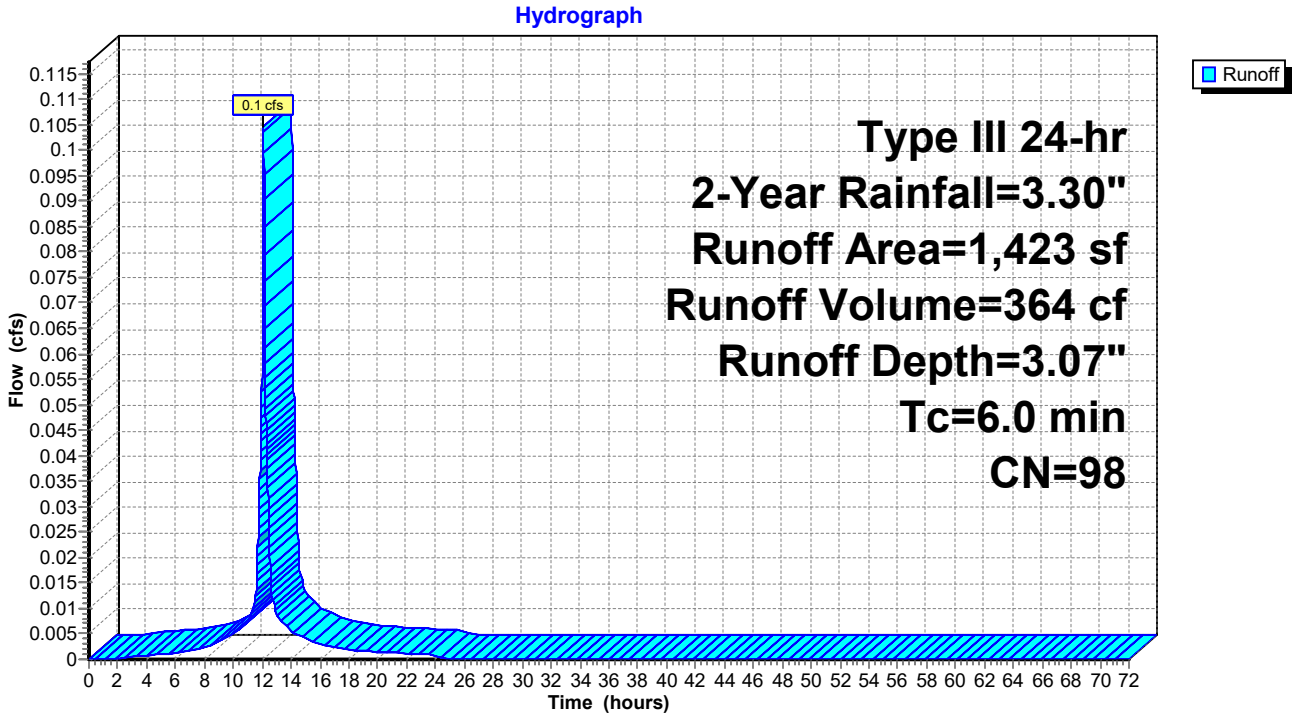
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 364 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,423	98	Paved roads w/curbs & sewers, HSG D
1,423		100.00% Impervious Area

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

Subcatchment S4.12: Subcatchment 4.12



Summary for Subcatchment S4.13: Subcatchment 4.13

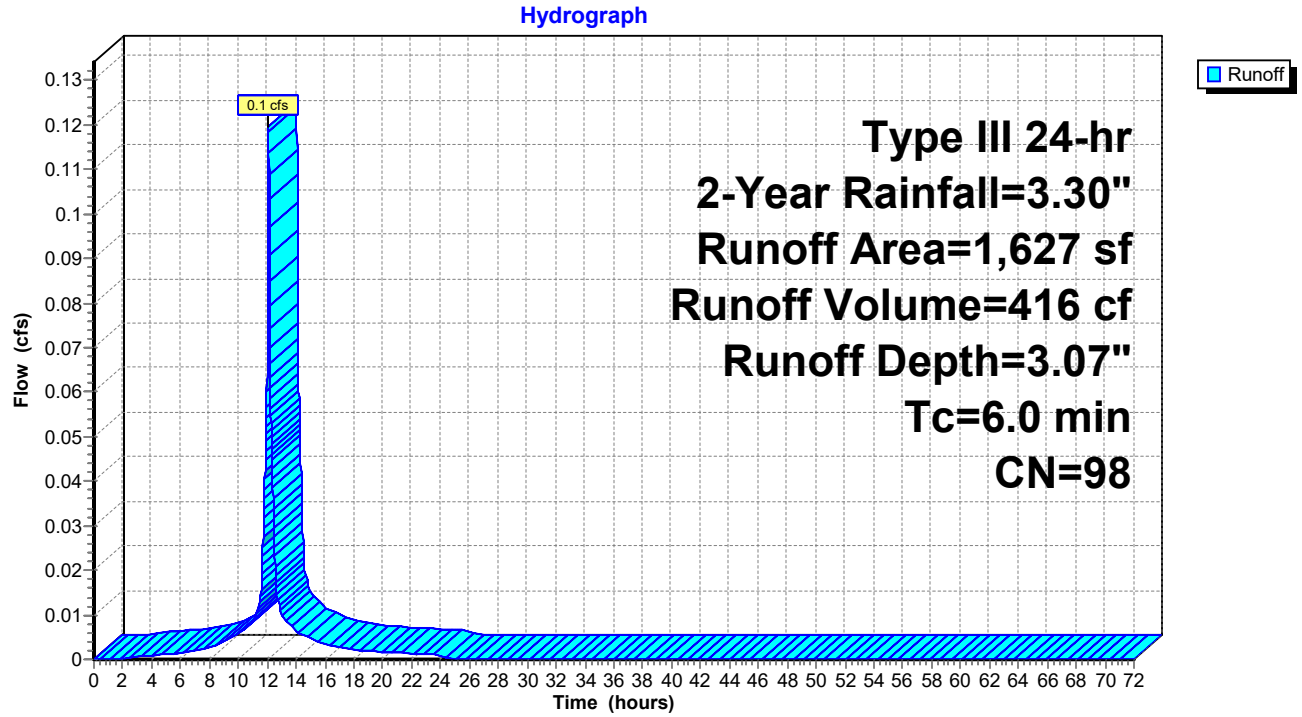
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 416 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,627	98	Paved roads w/curbs & sewers, HSG D
1,627		100.00% Impervious Area

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

Subcatchment S4.13: Subcatchment 4.13



Summary for Subcatchment S4.2: Subcatchment 4.2

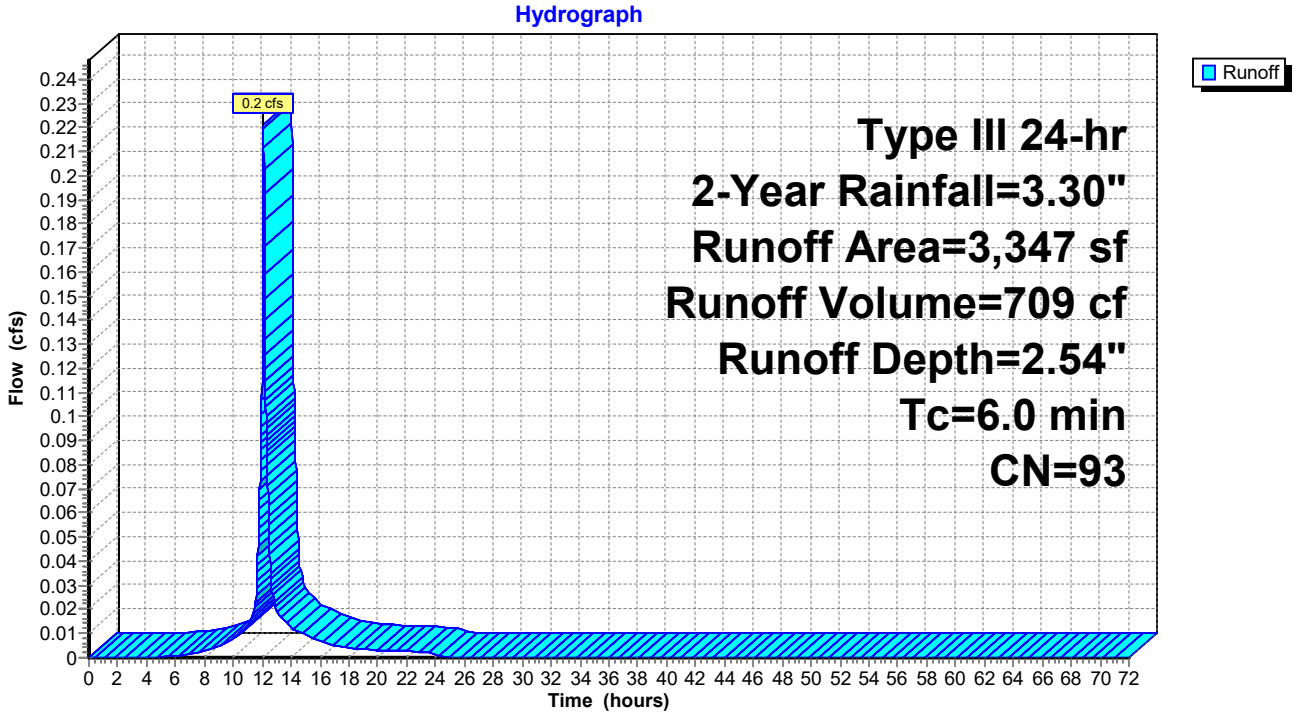
Runoff = 0.2 cfs @ 12.09 hrs, Volume= 709 cf, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
796	98	Paved parking, HSG D
74	96	Gravel surface, HSG D
754	80	>75% Grass cover, Good, HSG D
1,602	98	Paved parking, HSG A
40	39	>75% Grass cover, Good, HSG A
81	96	Gravel surface, HSG A
3,347	93	Weighted Average
949		28.35% Pervious Area
2,398		71.65% Impervious Area

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

Subcatchment S4.2: Subcatchment 4.2



Summary for Subcatchment S4.3: Subcatchment 4.3

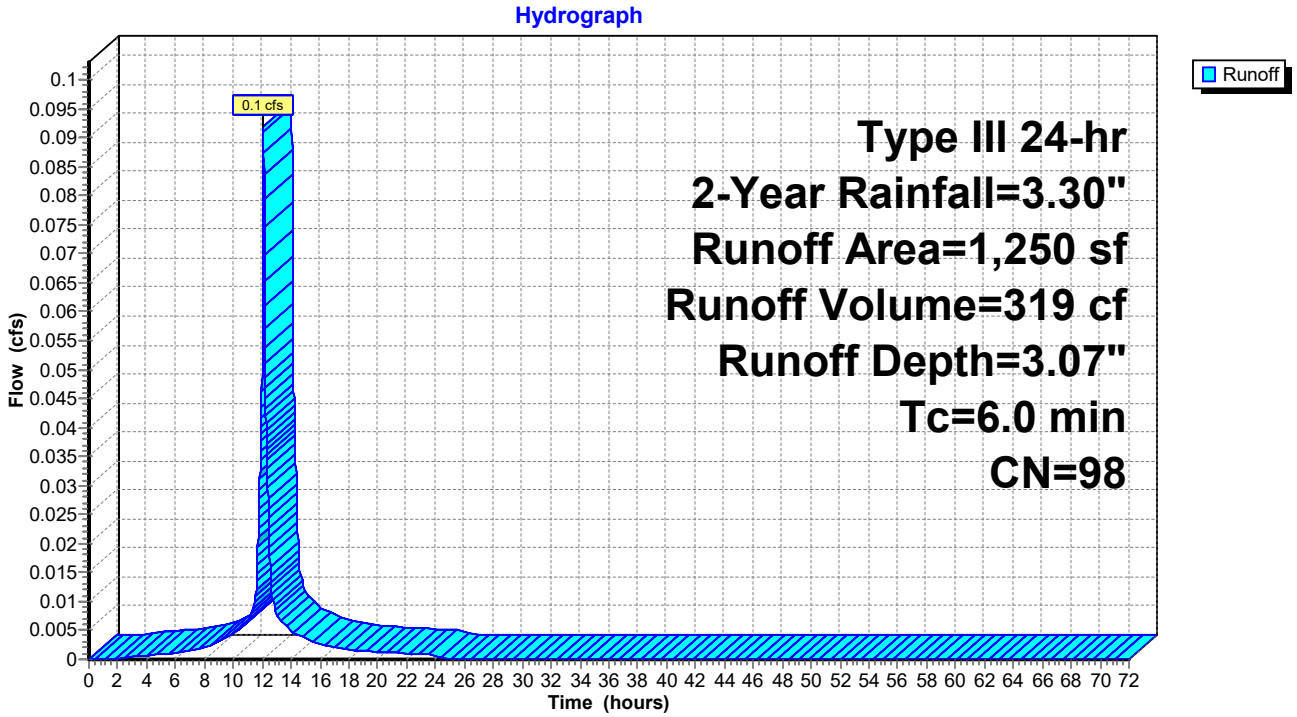
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.3: Subcatchment 4.3



Summary for Subcatchment S4.4: Subcatchment 4.4

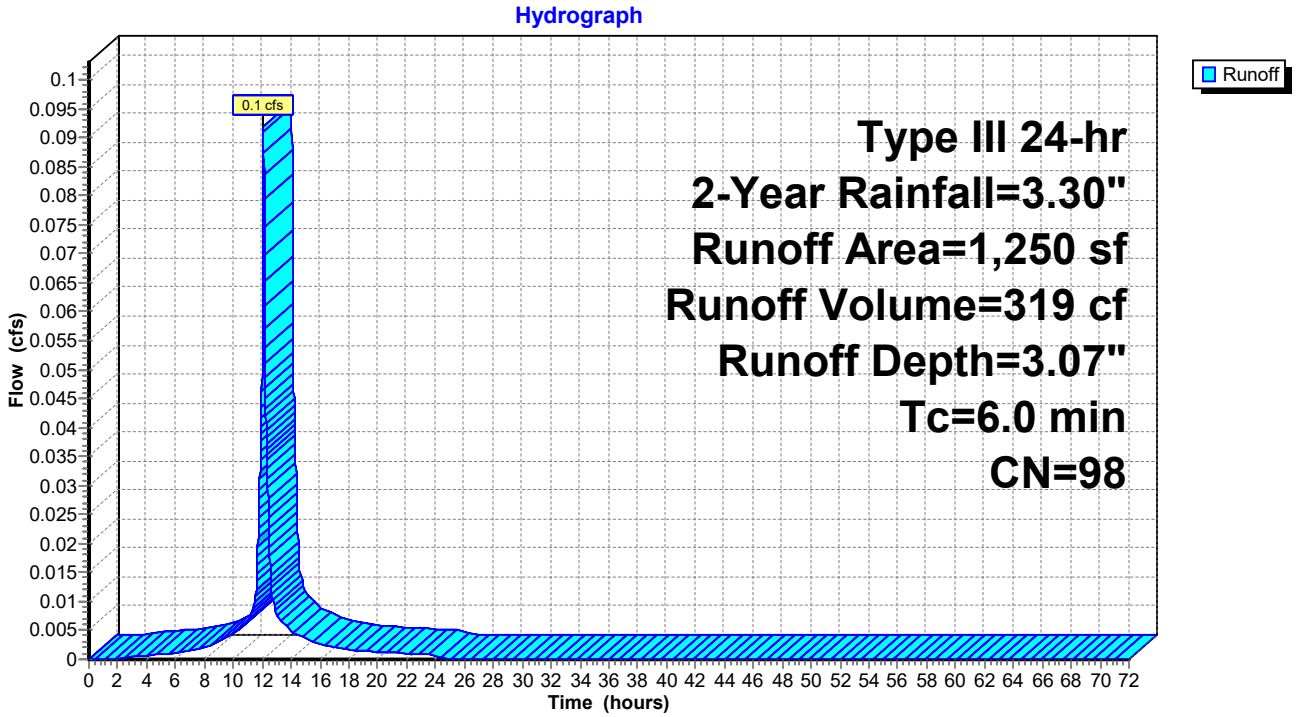
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.4: Subcatchment 4.4



Summary for Subcatchment S4.5: Subcatchment 4.5

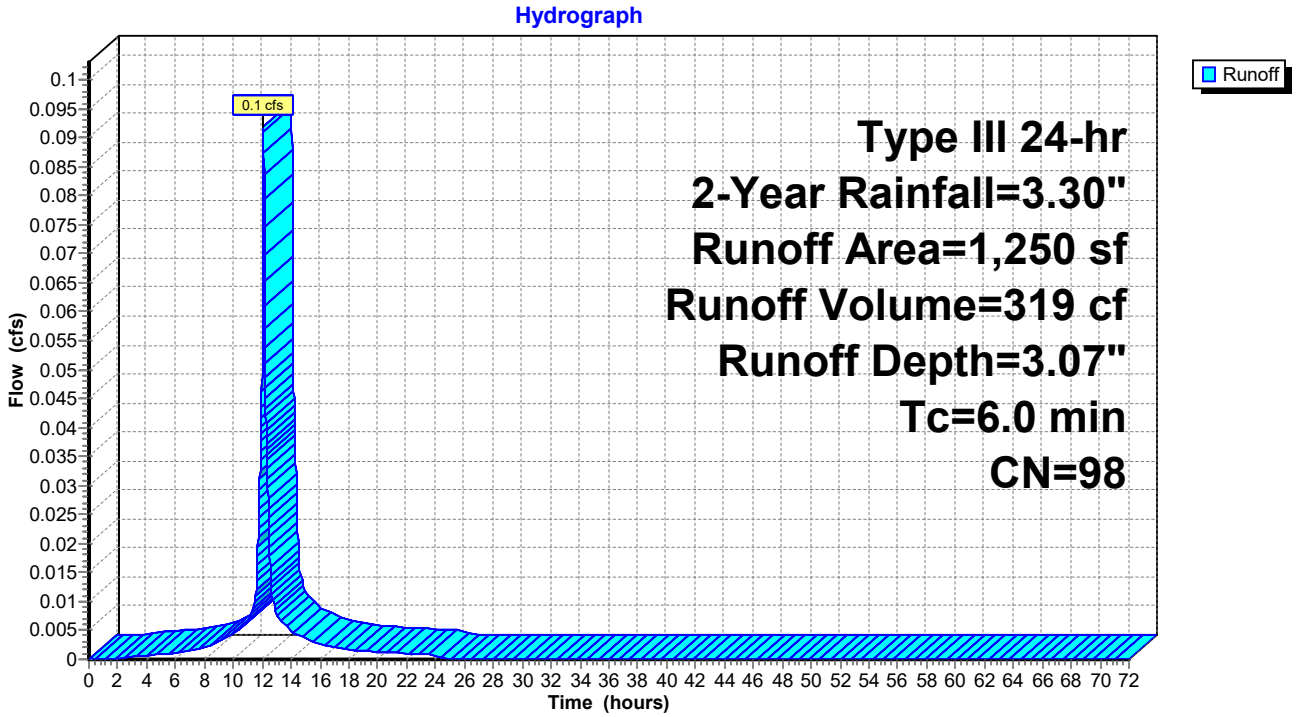
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.5: Subcatchment 4.5



Summary for Subcatchment S4.6: Subcatchment 4.6

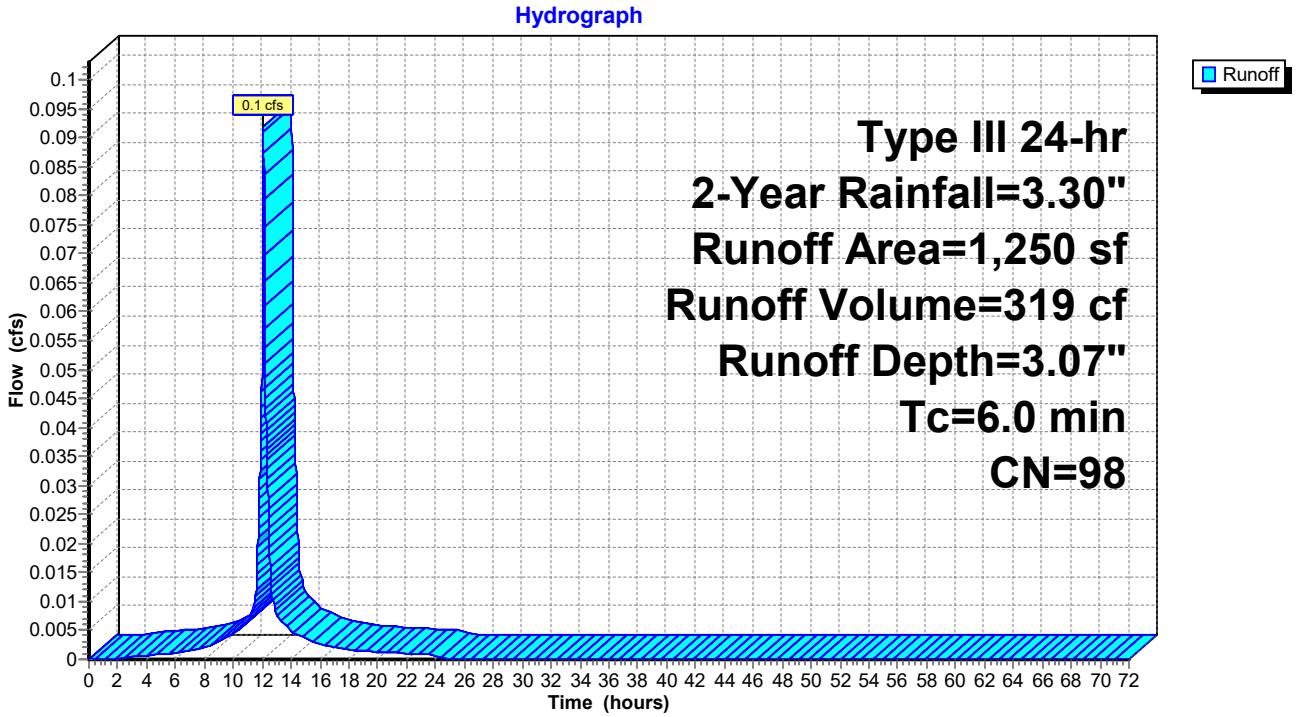
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.6: Subcatchment 4.6



Summary for Subcatchment S4.7: Subcatchment 4.7

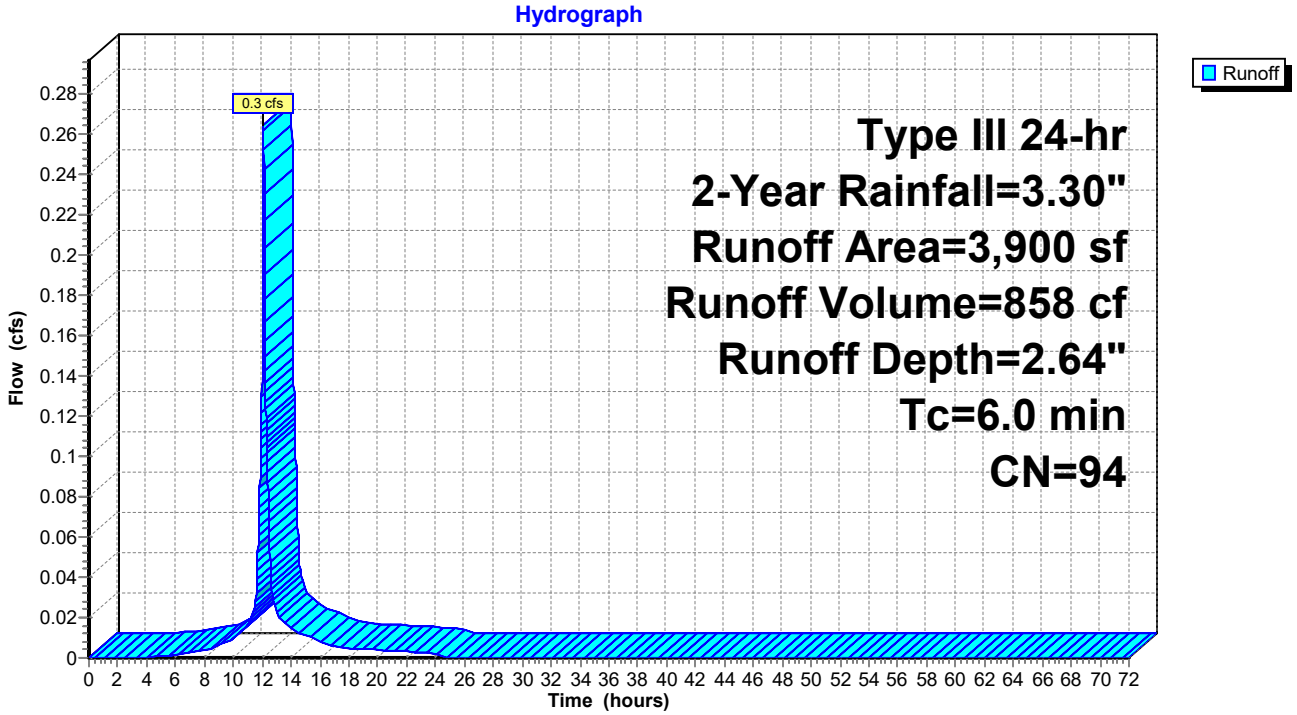
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 858 cf, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
874	80	>75% Grass cover, Good, HSG D
166	96	Gravel surface, HSG D
297	98	Paved roads w/curbs & sewers, HSG A
2,563	98	Paved roads w/curbs & sewers, HSG D
3,900	94	Weighted Average
1,040		26.67% Pervious Area
2,860		73.33% Impervious Area

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

Subcatchment S4.7: Subcatchment 4.7



Summary for Subcatchment S4.8: Subcatchment 4.8

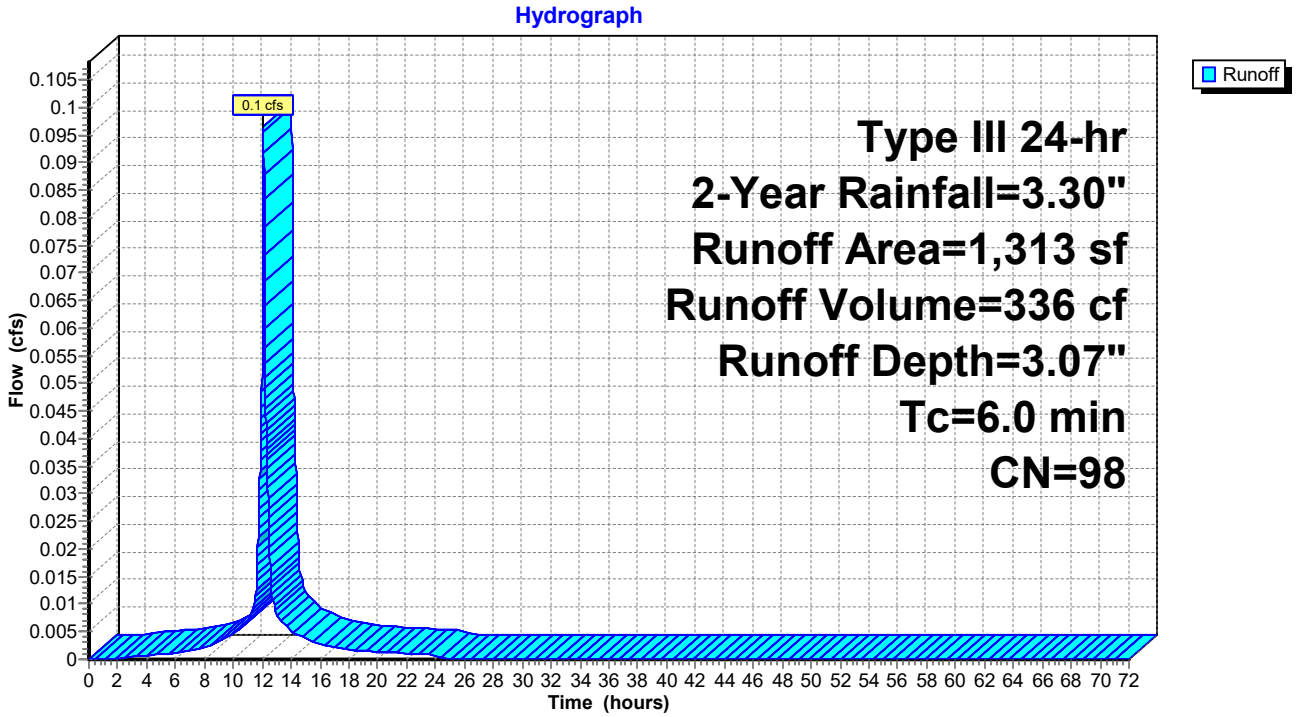
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 336 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,313	98	Paved roads w/curbs & sewers, HSG D
1,313		100.00% Impervious Area

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

Subcatchment S4.8: Subcatchment 4.8



Summary for Subcatchment S4.9: Subcatchment 4.9

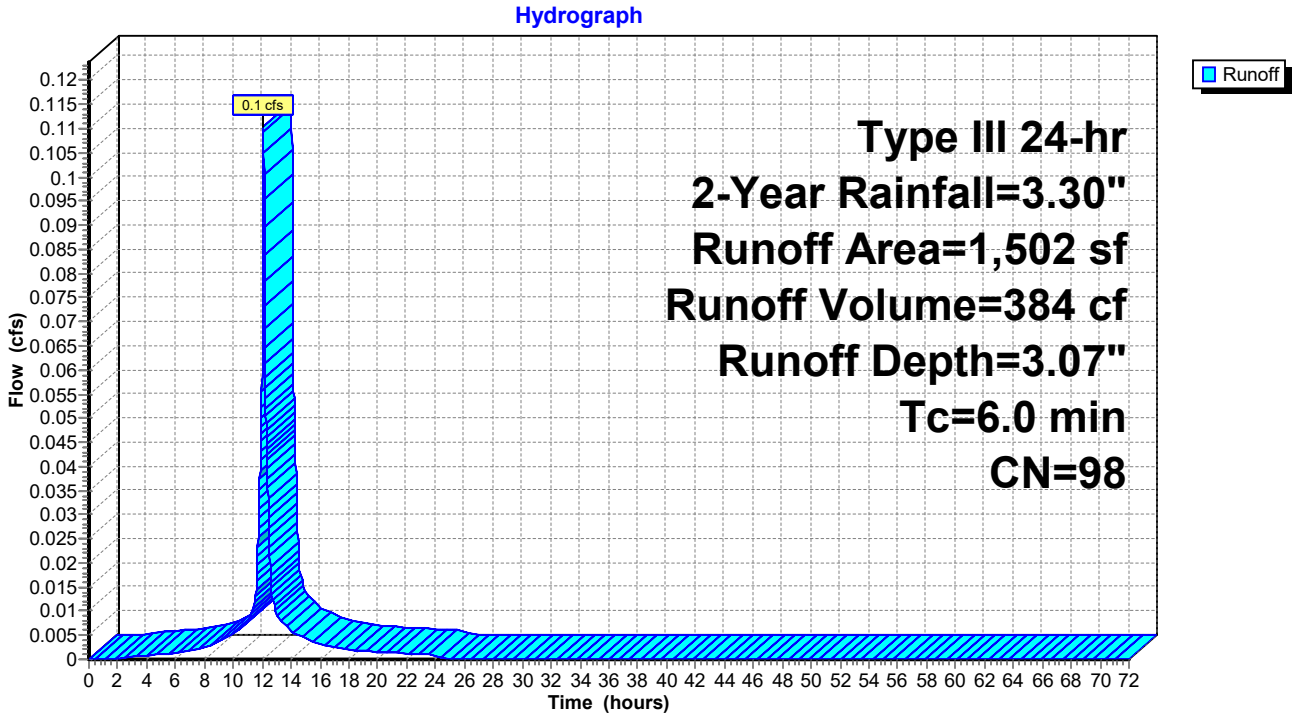
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 384 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,502	98	Paved roads w/curbs & sewers, HSG D
1,502		100.00% Impervious Area

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

Subcatchment S4.9: Subcatchment 4.9



Summary for Subcatchment S5.1: Subcatchment 5.1

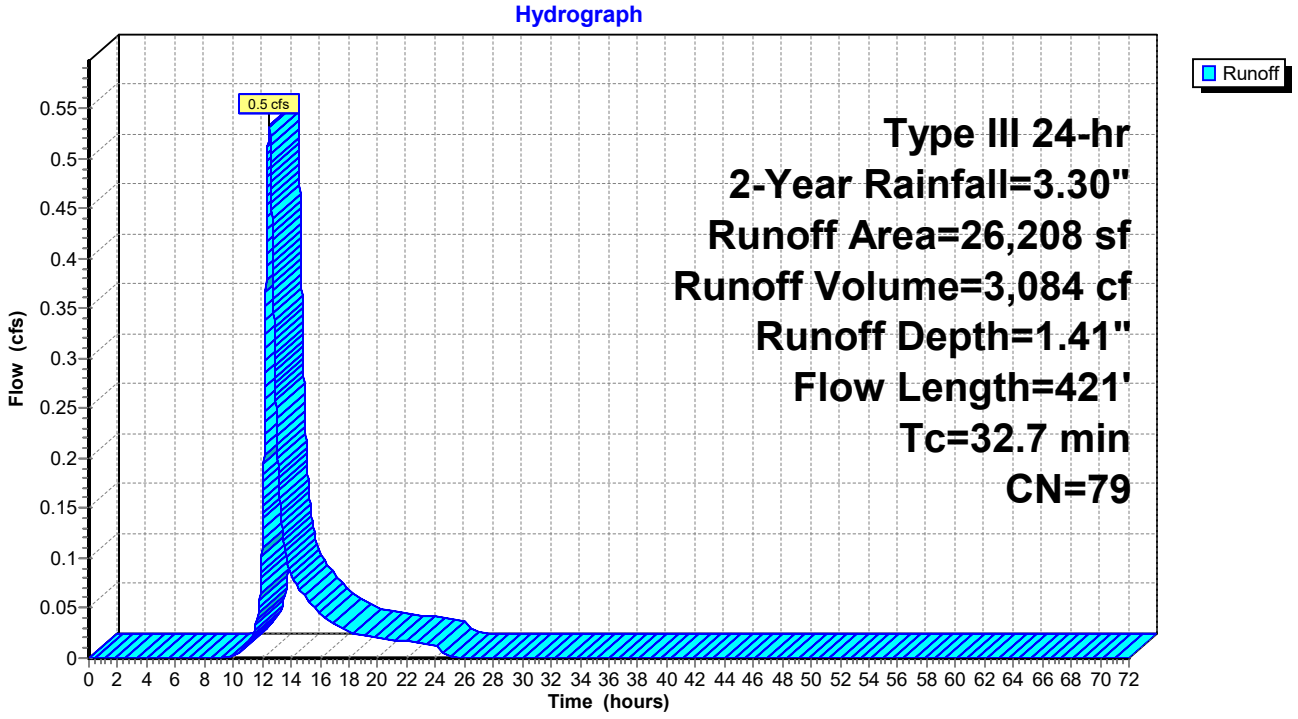
Runoff = 0.5 cfs @ 12.47 hrs, Volume= 3,084 cf, Depth= 1.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
12,258	77	Woods, Good, HSG D
13,250	80	>75% Grass cover, Good, HSG D
700	98	Roofs, HSG D
26,208	79	Weighted Average
25,508		97.33% Pervious Area
700		2.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	150	0.0267	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
1.8	53	0.0100	0.50		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
4.8	218	0.0229	0.76		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
32.7	421	Total			

Subcatchment S5.1: Subcatchment 5.1



Summary for Subcatchment S5.2: Subcatchment 5.2

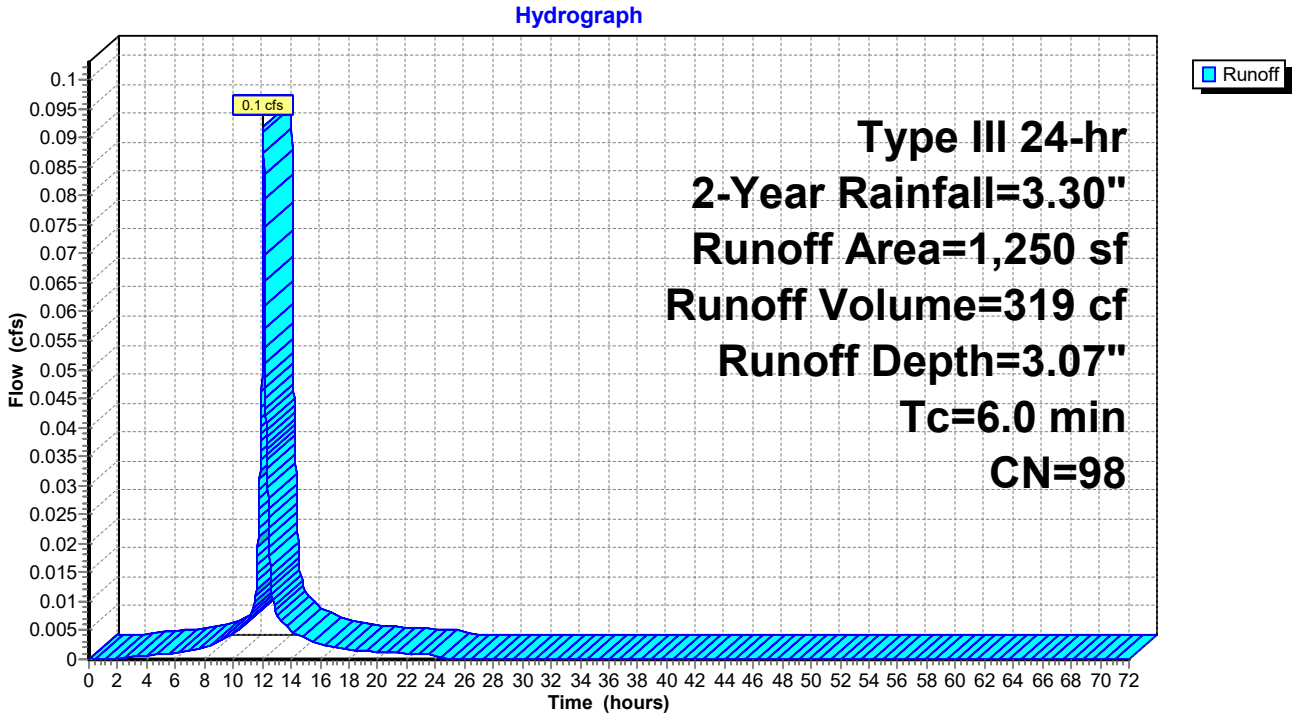
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.2: Subcatchment 5.2



Summary for Subcatchment S5.3: Subcatchment 5.3

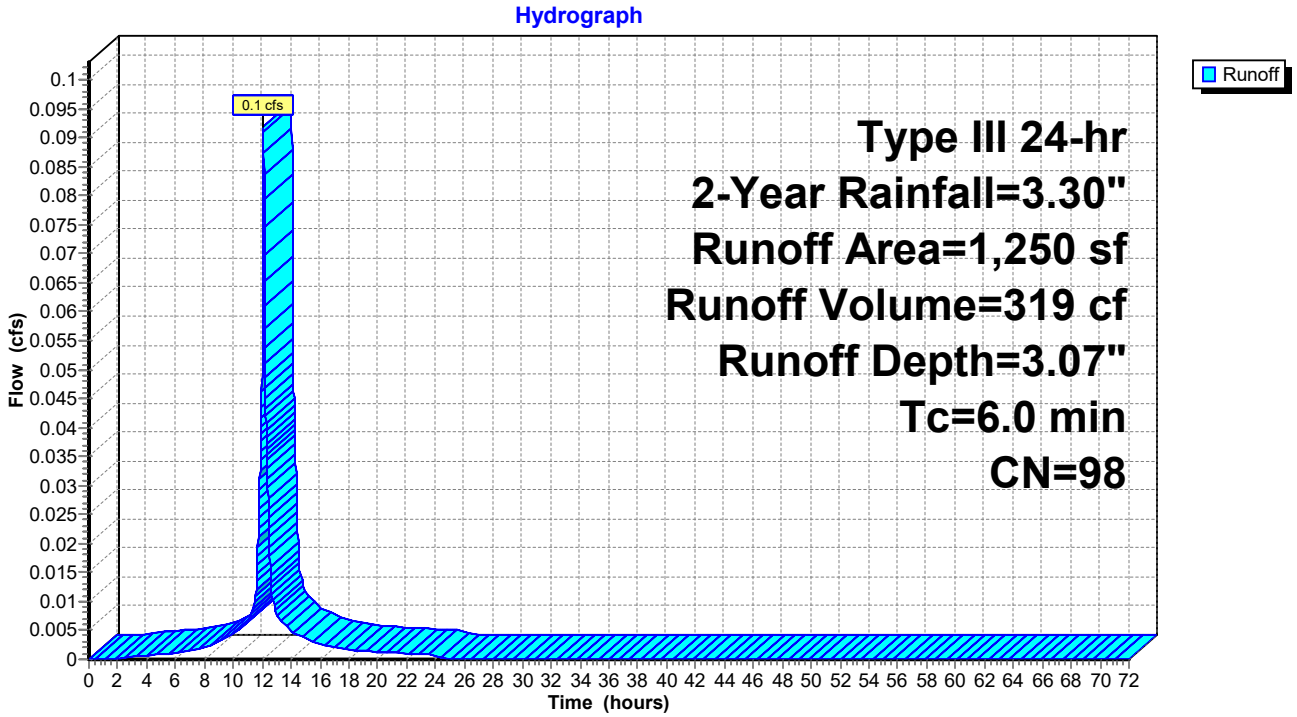
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.3: Subcatchment 5.3



Summary for Subcatchment S5.4: Subcatchment 5.4

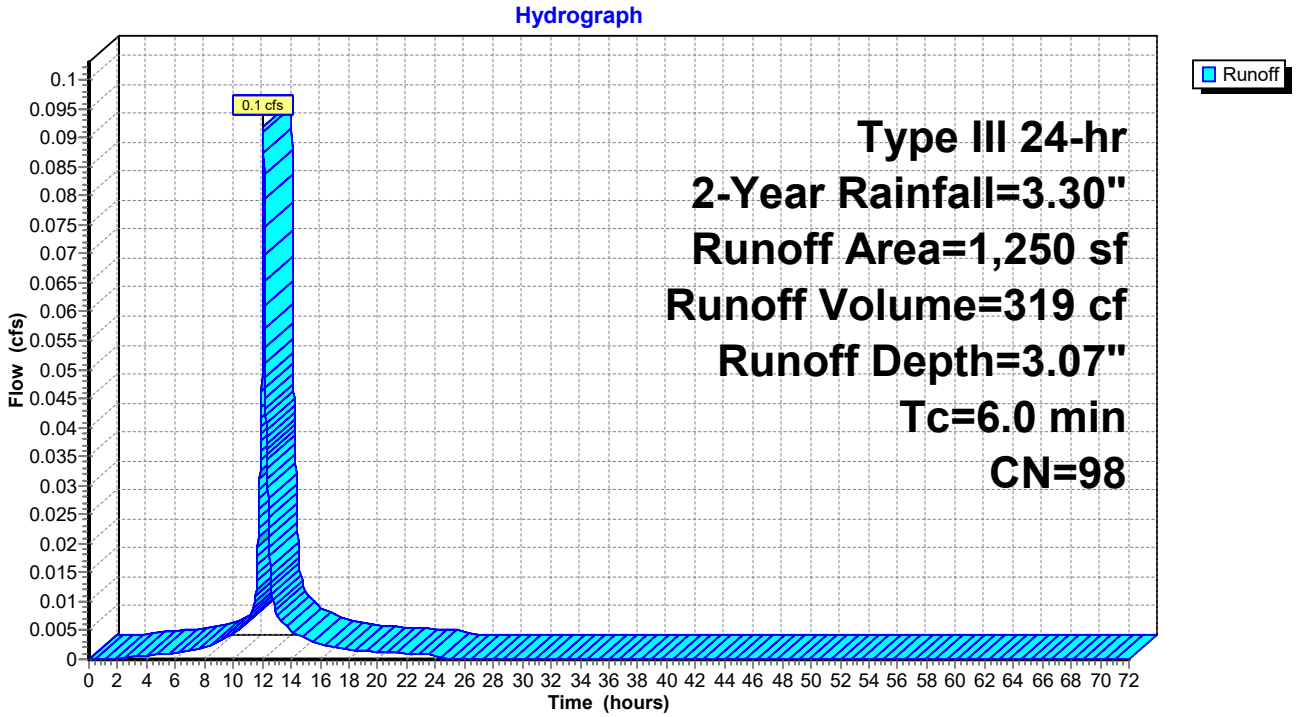
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 319 cf, Depth= 3.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.4: Subcatchment 5.4



Summary for Reach S1: Swale 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 1.77" for 2-Year event
Inflow = 1.4 cfs @ 12.27 hrs, Volume= 6,597 cf
Outflow = 1.4 cfs @ 12.29 hrs, Volume= 6,597 cf, Atten= 0%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.79 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 0.54 fps, Avg. Travel Time= 5.4 min

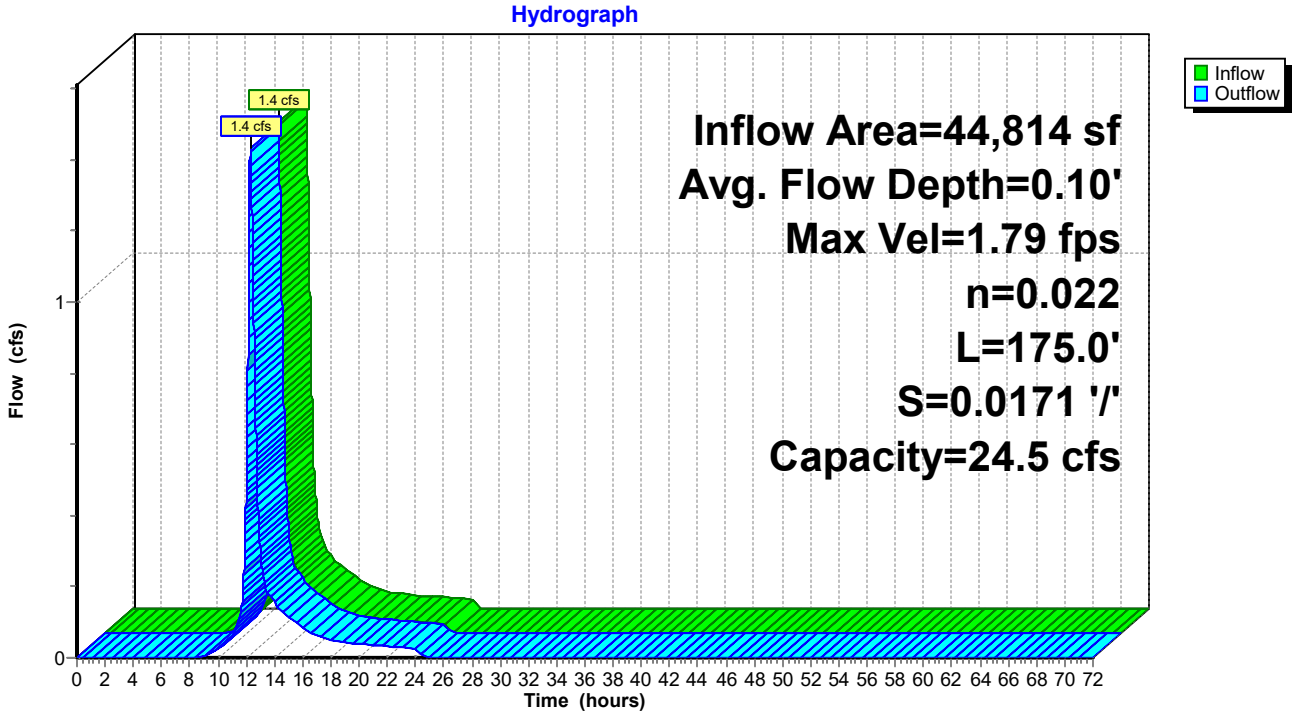
Peak Storage= 140 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.10' , Surface Width= 8.76'
Bank-Full Depth= 0.50' Flow Area= 5.0 sf, Capacity= 24.5 cfs

8.00' x 0.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 4.0 '/' Top Width= 12.00'
Length= 175.0' Slope= 0.0171 '/'
Inlet Invert= 69.00', Outlet Invert= 66.00'



‡

Reach S1: Swale 1



Summary for Pond C1: Culvert 1

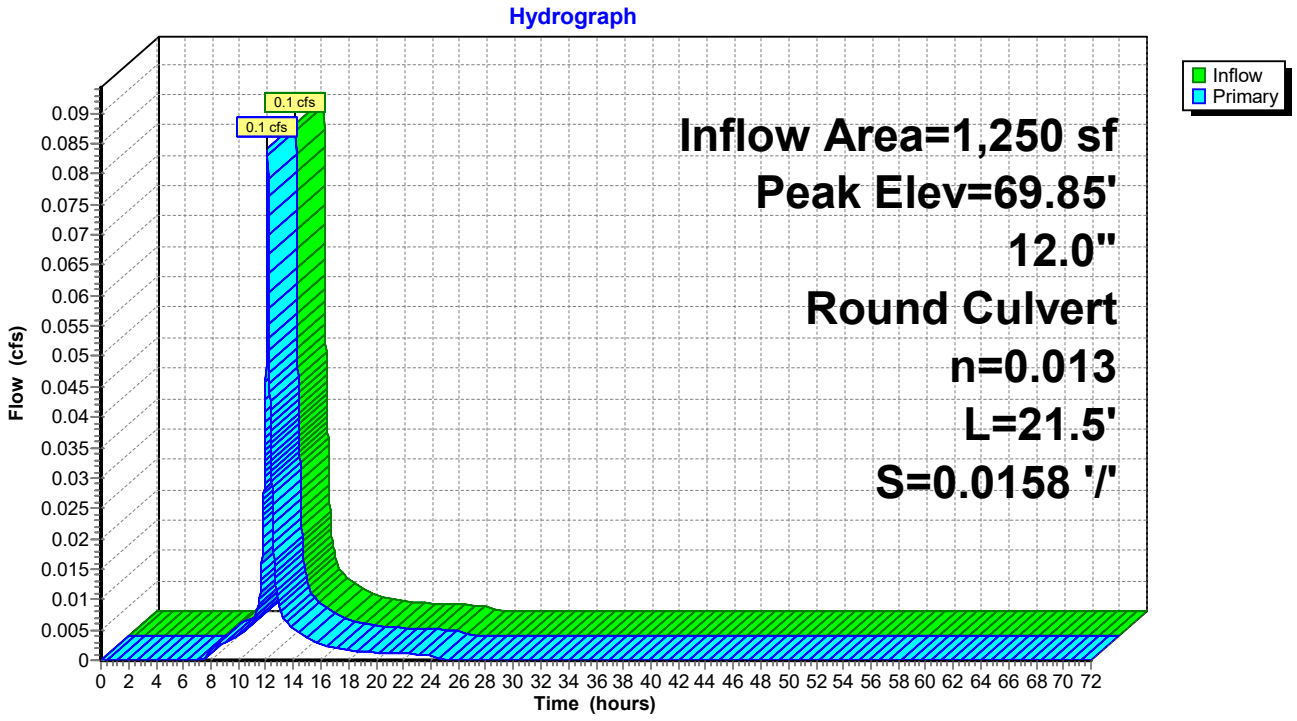
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 2.90" for 2-Year event
Inflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 302 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.85' @ 12.12 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 21.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0158 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.85' TW=69.62' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.1 cfs @ 1.06 fps)

Pond C1: Culvert 1



Summary for Pond C10: Culvert 10

[57] Hint: Peaked at 69.45' (Flood elevation advised)

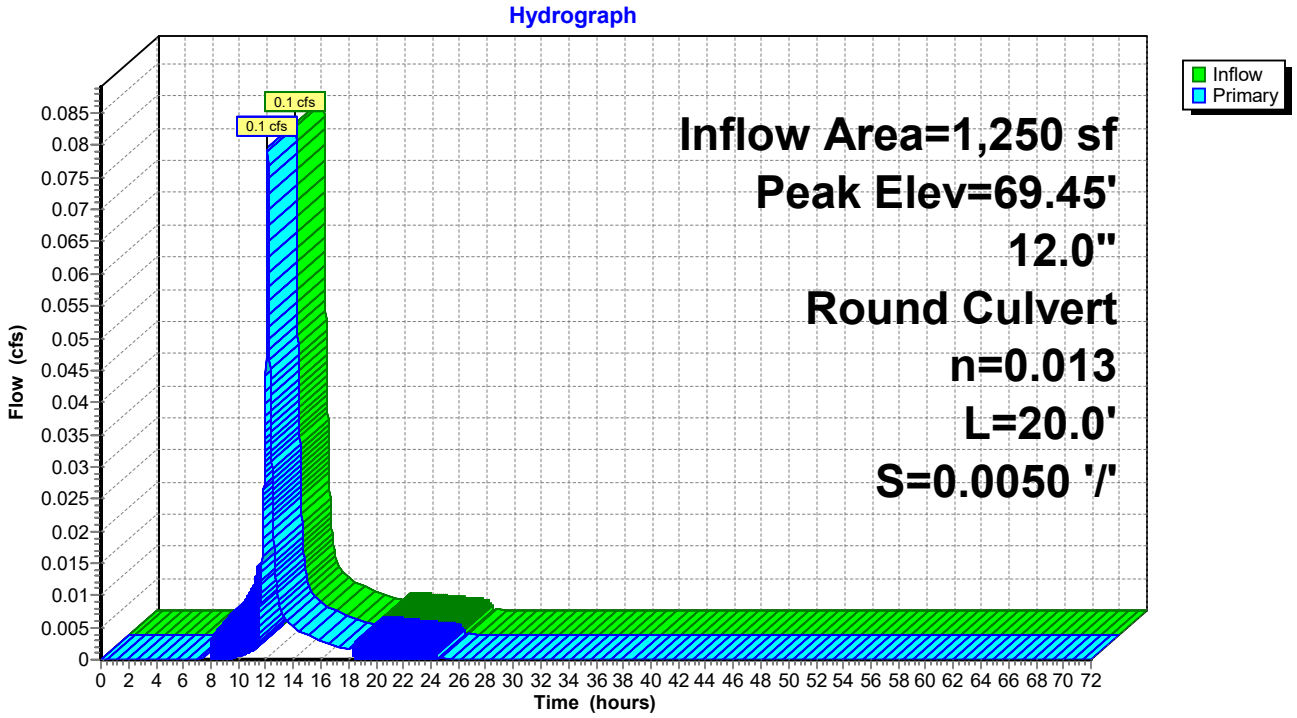
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 2.91" for 2-Year event
Inflow = 0.1 cfs @ 12.12 hrs, Volume= 303 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 303 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 303 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.45' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**12.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.13' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.45' TW=69.40' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 0.91 fps)

Pond C10: Culvert 10



Summary for Pond C11: Culvert 11

[57] Hint: Peaked at 69.40' (Flood elevation advised)

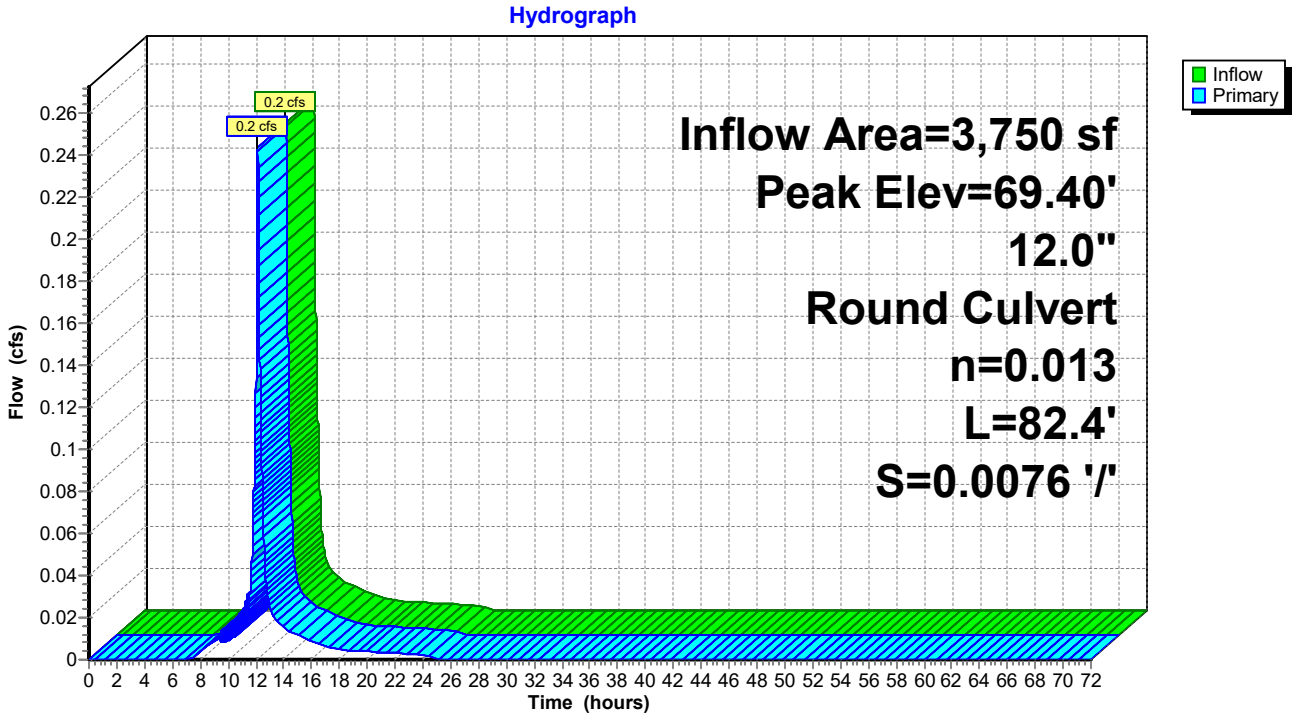
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 2.90" for 2-Year event
Inflow = 0.2 cfs @ 12.12 hrs, Volume= 907 cf
Outflow = 0.2 cfs @ 12.12 hrs, Volume= 907 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.12 hrs, Volume= 907 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.40' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.13'	**12.0" Round Culvert** L= 82.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.13' / 68.50' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.40' TW=68.79' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.2 cfs @ 1.40 fps)

Pond C11: Culvert 11



Summary for Pond C2: Culvert 2

[57] Hint: Peaked at 69.62' (Flood elevation advised)
[80] Warning: Exceeded Pond RD2 by 0.01' @ 7.46 hrs (0.0 cfs 121 cf)

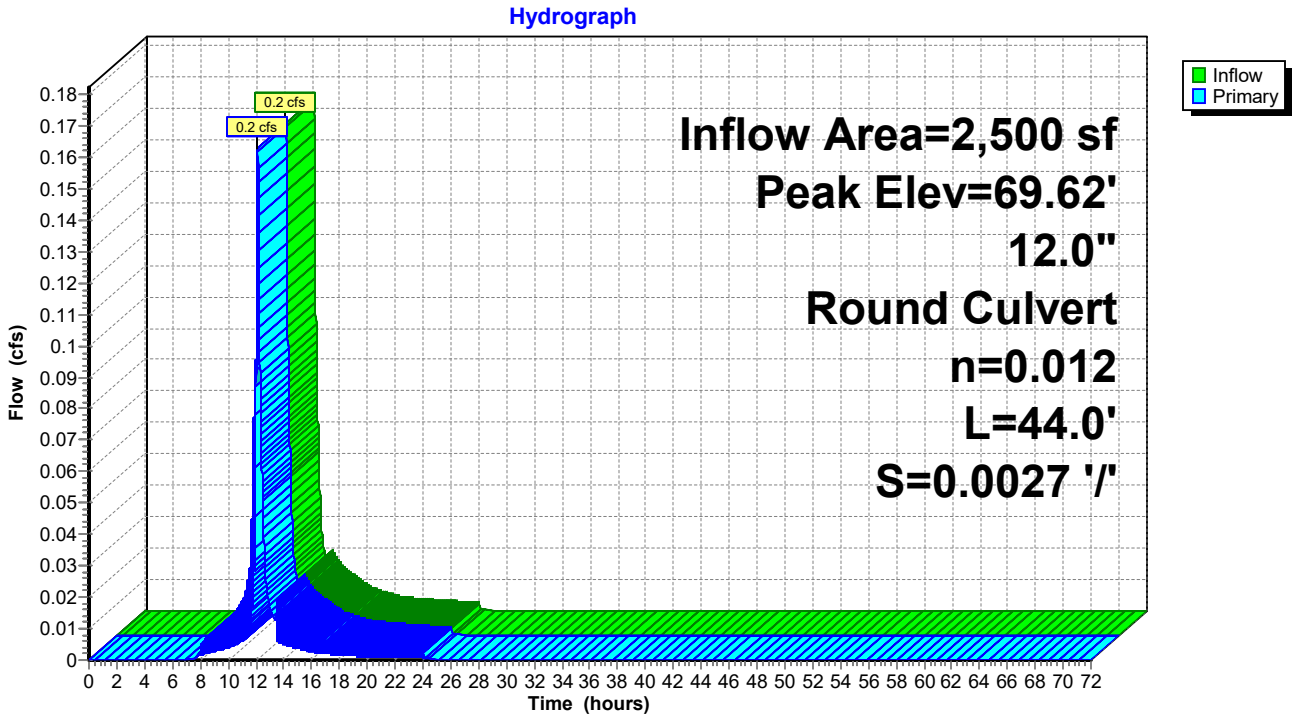
Inflow Area =	2,500 sf,	100.00% Impervious,	Inflow Depth =	2.90"	for 2-Year event
Inflow =	0.2 cfs @	12.12 hrs,	Volume=	604 cf	
Outflow =	0.2 cfs @	12.12 hrs,	Volume=	604 cf,	Atten= 0%, Lag= 0.0 min
Primary =	0.2 cfs @	12.12 hrs,	Volume=	604 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.62' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.23' S= 0.0027 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.62' TW=69.46' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.2 cfs @ 1.43 fps)

Pond C2: Culvert 2



Summary for Pond C3: Culvert 3

[57] Hint: Peaked at 69.46' (Flood elevation advised)

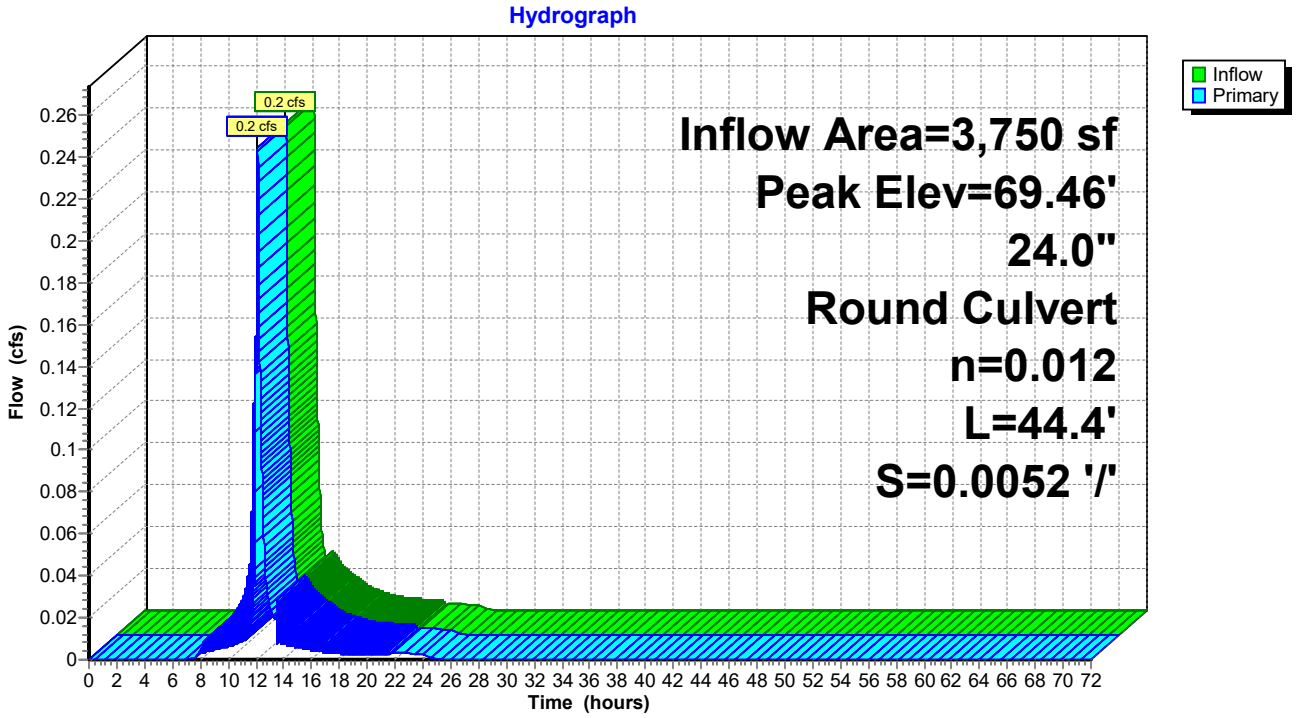
Inflow Area =	3,750 sf,100.00% Impervious,	Inflow Depth =	2.90"	for 2-Year event
Inflow =	0.2 cfs @ 12.12 hrs,	Volume=	906 cf	
Outflow =	0.2 cfs @ 12.12 hrs,	Volume=	906 cf,	Atten= 0%, Lag= 0.0 min
Primary =	0.2 cfs @ 12.12 hrs,	Volume=	906 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.46' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**24.0" Round Culvert** L= 44.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.00' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.46' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 0.2 cfs @ 1.85 fps)

Pond C3: Culvert 3



Summary for Pond C4: Culvert 4

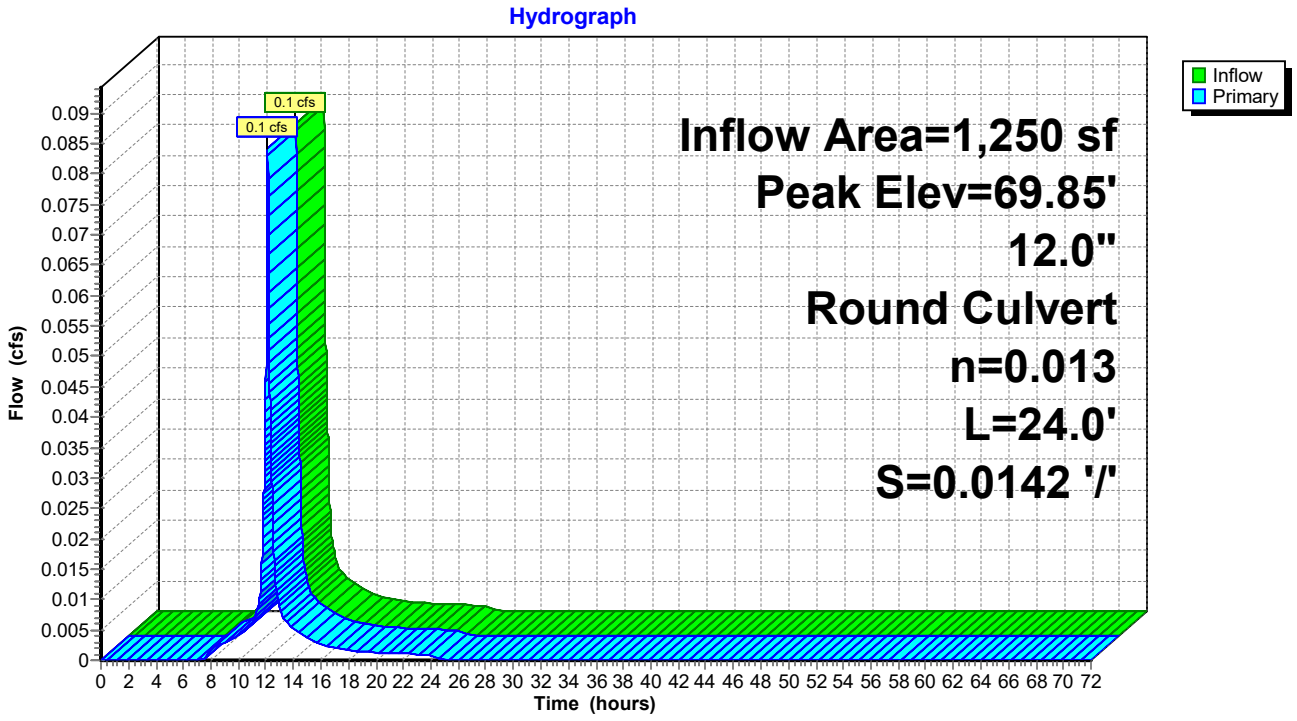
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 2.90" for 2-Year event
Inflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 302 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.85' @ 12.12 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0142 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.85' TW=69.59' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.1 cfs @ 1.06 fps)

Pond C4: Culvert 4



Summary for Pond C7: Culvert 7

[80] Warning: Exceeded Pond RD7 by 0.14' @ 12.20 hrs (0.2 cfs 347 cf)

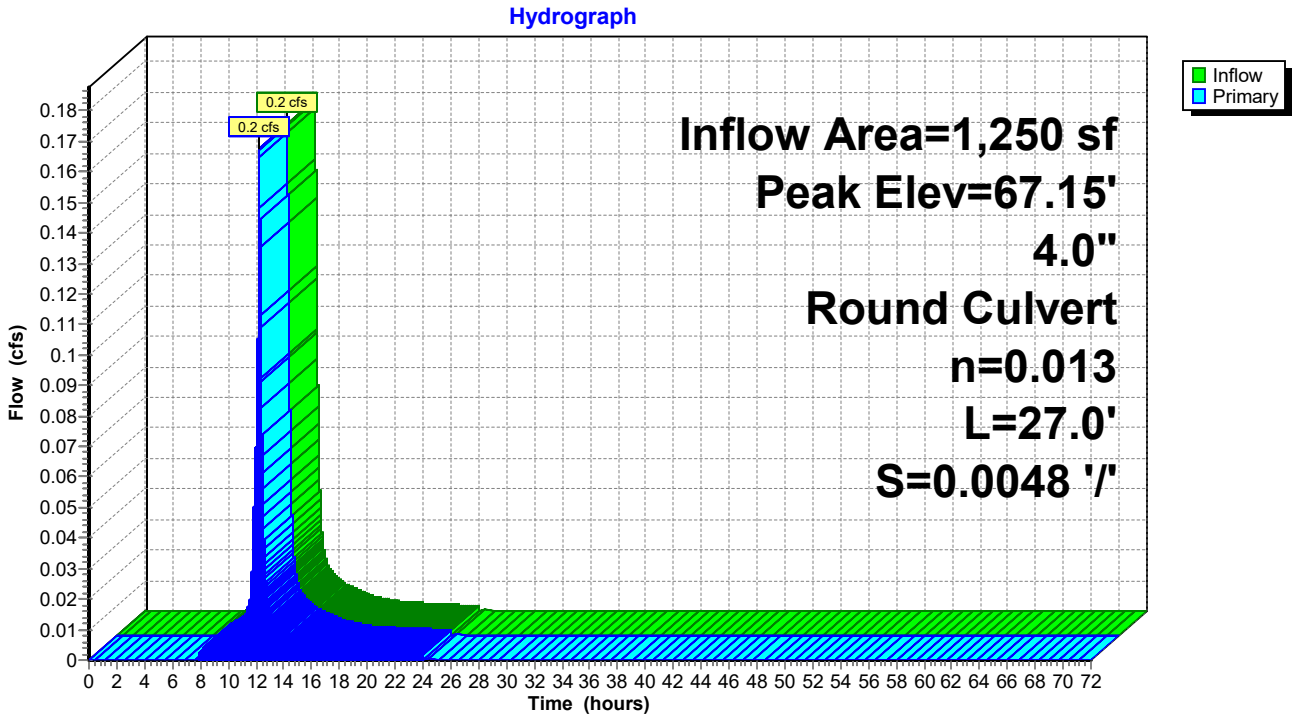
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 2.90" for 2-Year event
Inflow = 0.2 cfs @ 12.22 hrs, Volume= 302 cf
Outflow = 0.2 cfs @ 12.22 hrs, Volume= 302 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.22 hrs, Volume= 302 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.15' @ 12.20 hrs
Flood Elev= 69.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Round Culvert** L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.55' / 66.42' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.2 cfs @ 12.22 hrs HW=67.12' TW=66.82' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.2 cfs @ 1.88 fps)

Pond C7: Culvert 7



Summary for Pond C8: Culvert 8

[58] Hint: Peaked 0.61' above defined flood level

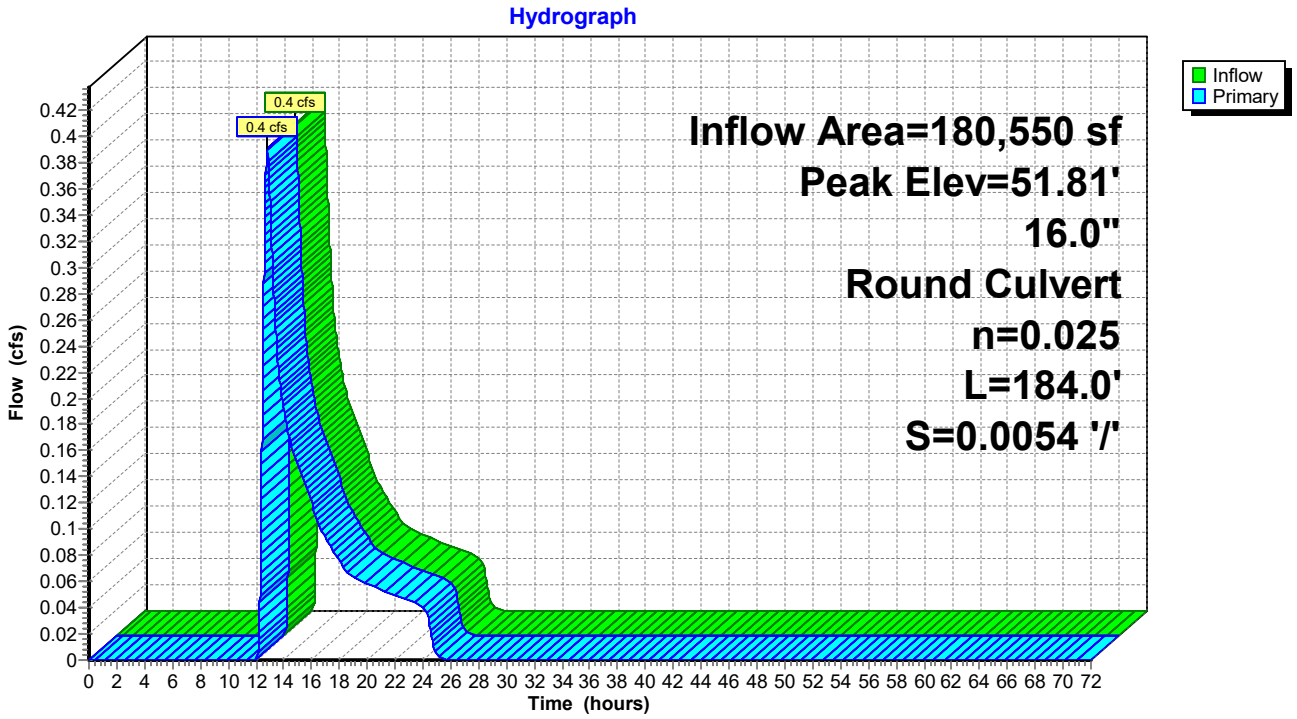
Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 0.31" for 2-Year event
Inflow = 0.4 cfs @ 12.81 hrs, Volume= 4,690 cf
Outflow = 0.4 cfs @ 12.81 hrs, Volume= 4,690 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.81 hrs, Volume= 4,690 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 51.81' @ 24.27 hrs
Flood Elev= 51.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.20'	**16.0" Round Culvert** L= 184.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.20' / 50.20' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=0.4 cfs @ 12.81 hrs HW=51.63' TW=50.30' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 0.4 cfs @ 1.48 fps)

Pond C8: Culvert 8



Summary for Pond C9: Culvert 9

[57] Hint: Peaked at 69.59' (Flood elevation advised)
[80] Warning: Exceeded Pond RD5 by 0.01' @ 7.45 hrs (0.0 cfs 3 cf)

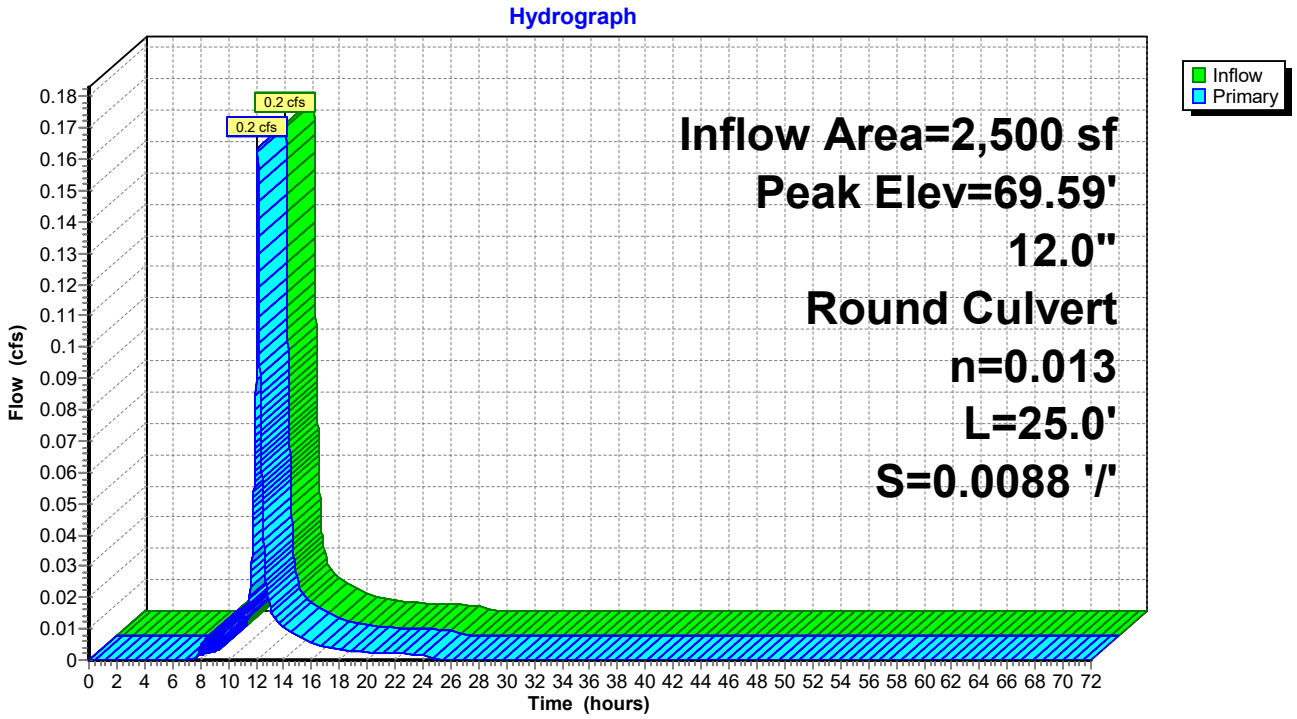
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	2.90"	for	2-Year event
Inflow =	0.2 cfs @	12.12 hrs, Volume=	604 cf		
Outflow =	0.2 cfs @	12.12 hrs, Volume=	604 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.2 cfs @	12.12 hrs, Volume=	604 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.59' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.13' S= 0.0088 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.59' TW=69.40' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.2 cfs @ 1.69 fps)

Pond C9: Culvert 9



Summary for Pond CB1: Catch Basin 1

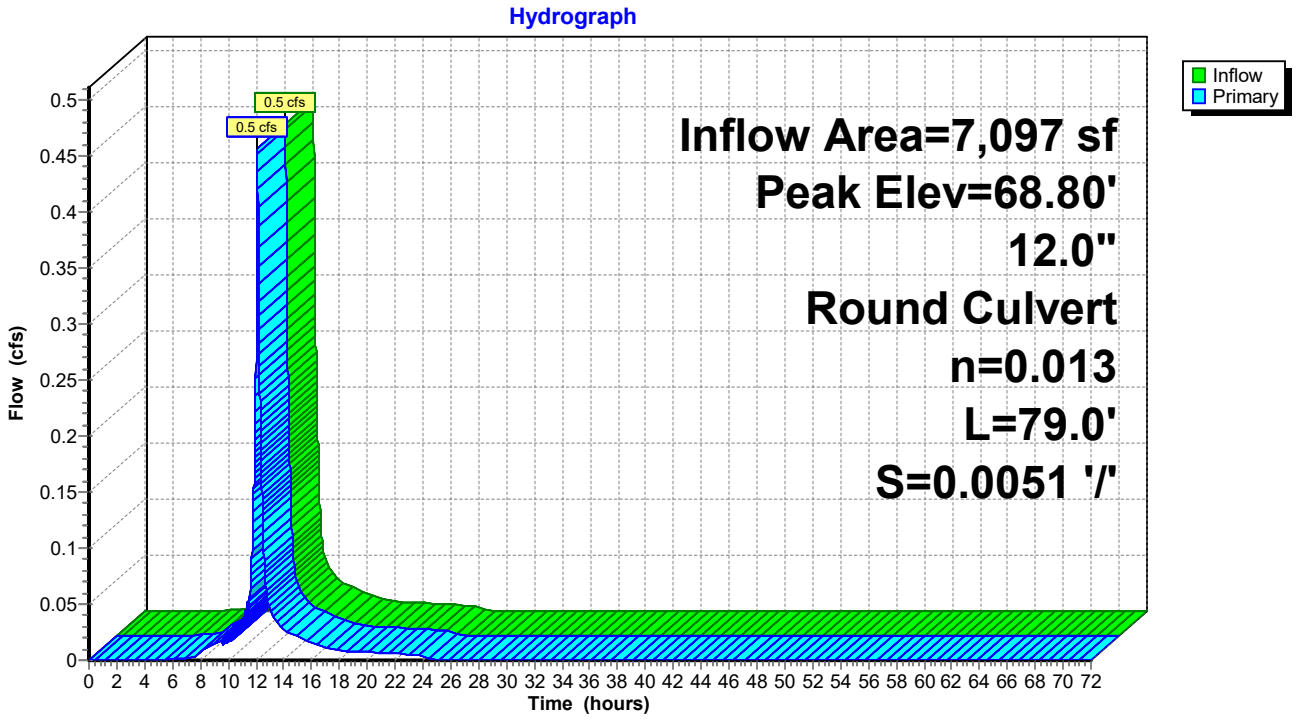
Inflow Area = 7,097 sf, 86.63% Impervious, Inflow Depth = 2.73" for 2-Year event
Inflow = 0.5 cfs @ 12.10 hrs, Volume= 1,616 cf
Outflow = 0.5 cfs @ 12.10 hrs, Volume= 1,616 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.10 hrs, Volume= 1,616 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.80' @ 12.10 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	**12.0" Round Culvert** L= 79.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.40' / 68.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.10 hrs HW=68.80' TW=66.98' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.5 cfs @ 2.31 fps)

Pond CB1: Catch Basin 1



Summary for Pond CB10: Catch Basin 10

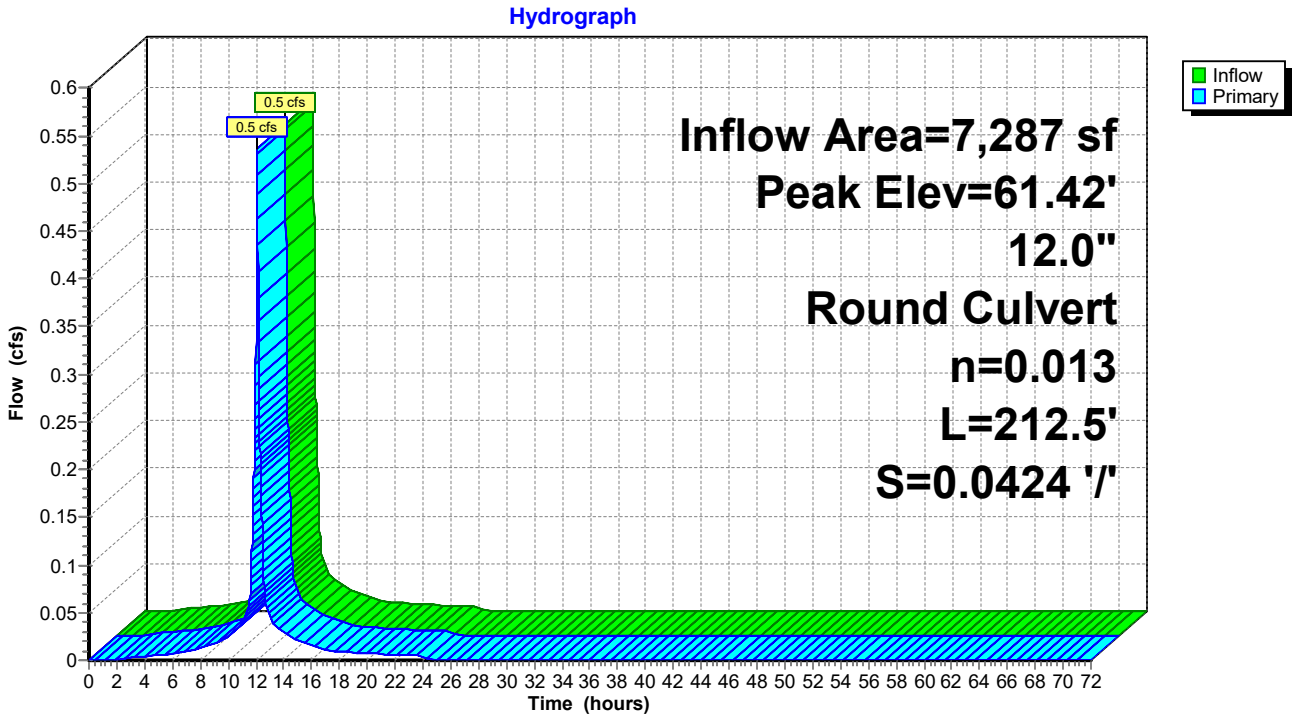
Inflow Area = 7,287 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.5 cfs @ 12.08 hrs, Volume= 1,863 cf
Outflow = 0.5 cfs @ 12.08 hrs, Volume= 1,863 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.08 hrs, Volume= 1,863 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.42' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**12.0" Round Culvert** L= 212.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 52.00' S= 0.0424 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.08 hrs HW=61.42' TW=52.39' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.5 cfs @ 1.73 fps)

Pond CB10: Catch Basin 10



Summary for Pond CB11: Catch Basin 11

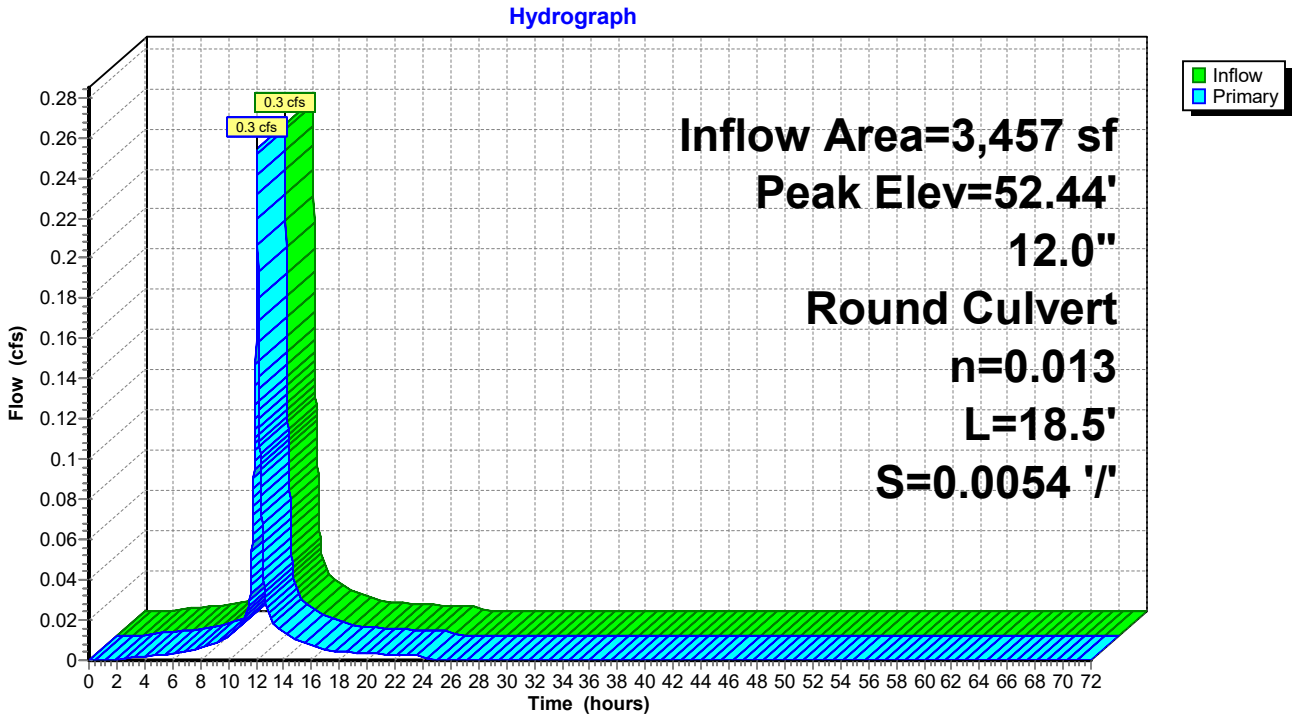
Inflow Area = 3,457 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.3 cfs @ 12.08 hrs, Volume= 884 cf
Outflow = 0.3 cfs @ 12.08 hrs, Volume= 884 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.08 hrs, Volume= 884 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.44' @ 12.09 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.00'	**12.0" Round Culvert** L= 18.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.00' / 51.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.08 hrs HW=52.44' TW=52.39' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.2 cfs @ 1.09 fps)

Pond CB11: Catch Basin 11



Summary for Pond CB12: Catch Basin 12

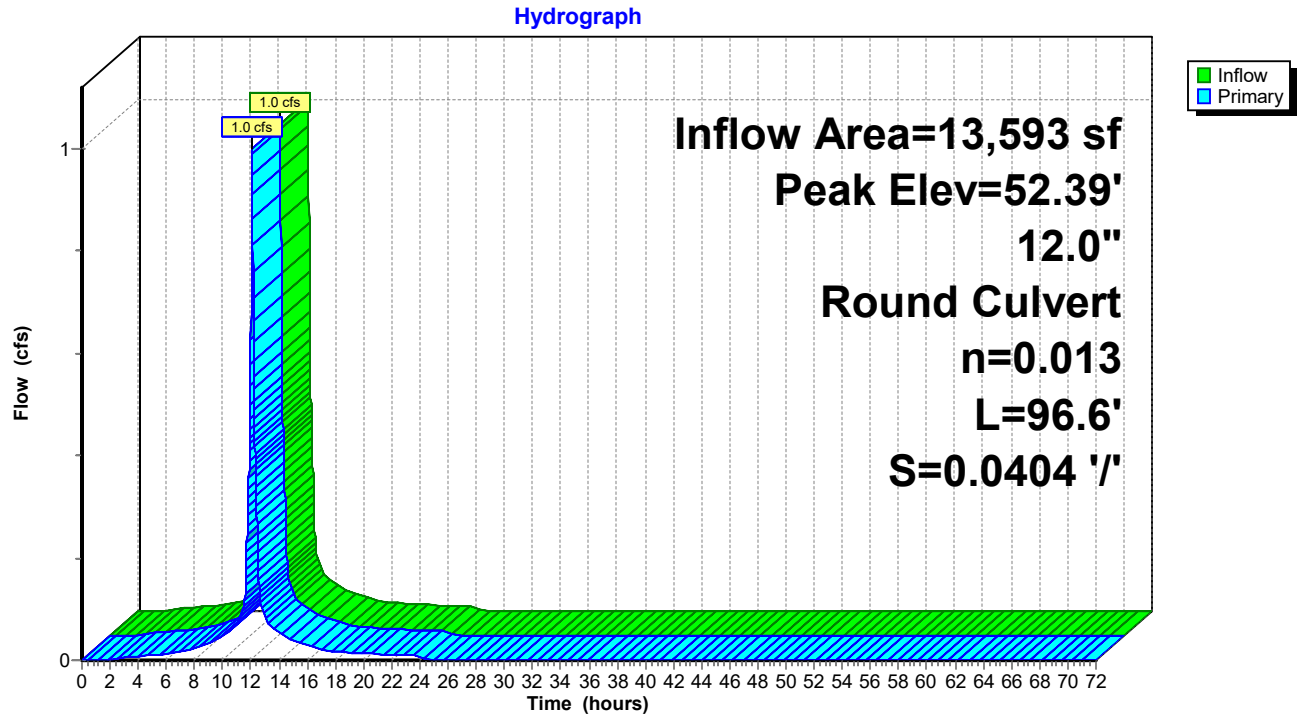
Inflow Area = 13,593 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 1.0 cfs @ 12.08 hrs, Volume= 3,474 cf
Outflow = 1.0 cfs @ 12.08 hrs, Volume= 3,474 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.0 cfs @ 12.08 hrs, Volume= 3,474 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.39' @ 12.08 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.80'	**12.0" Round Culvert** L= 96.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.80' / 47.90' S= 0.0404 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.0 cfs @ 12.08 hrs HW=52.39' TW=48.63' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.0 cfs @ 2.07 fps)

Pond CB12: Catch Basin 12



Summary for Pond CB13: Catch Basin 13

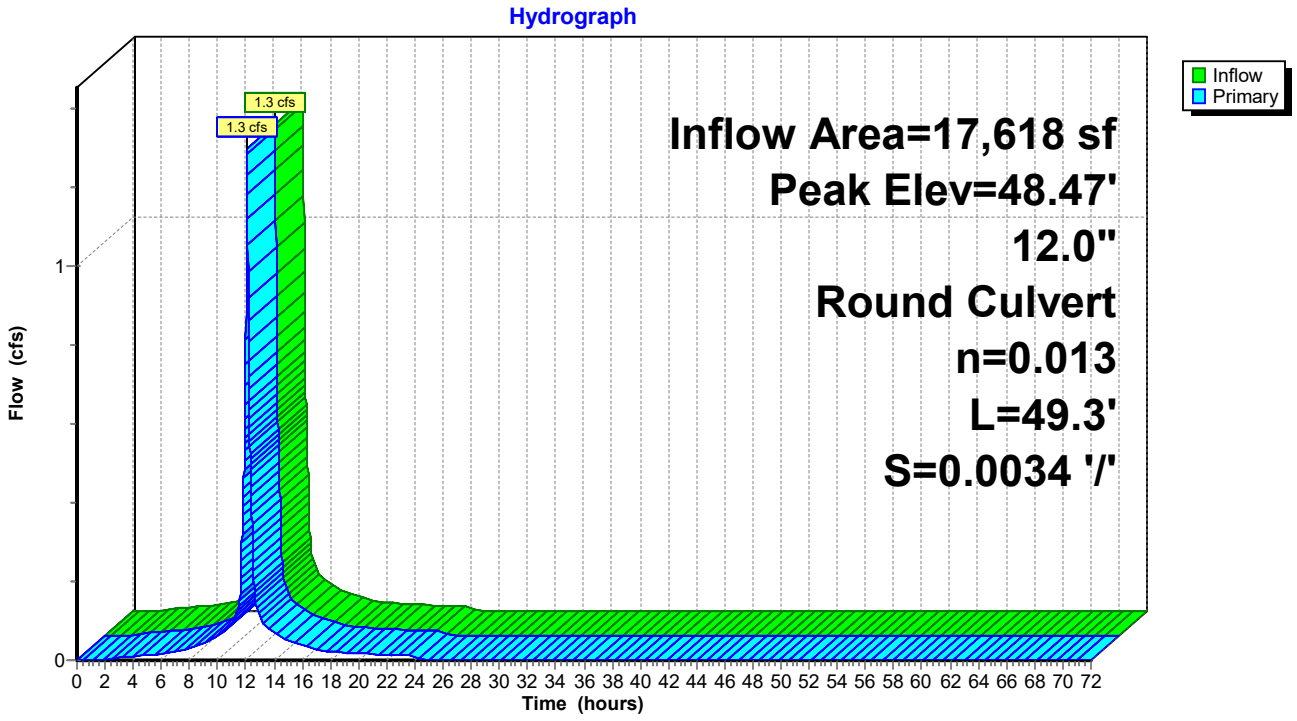
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf
Outflow = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.47' @ 12.09 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	**12.0" Round Culvert** L= 49.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.60' / 47.43' S= 0.0034 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.3 cfs @ 12.08 hrs HW=48.47' TW=48.20' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.3 cfs @ 2.36 fps)

Pond CB13: Catch Basin 13



Summary for Pond CB14: Catch Basin 14

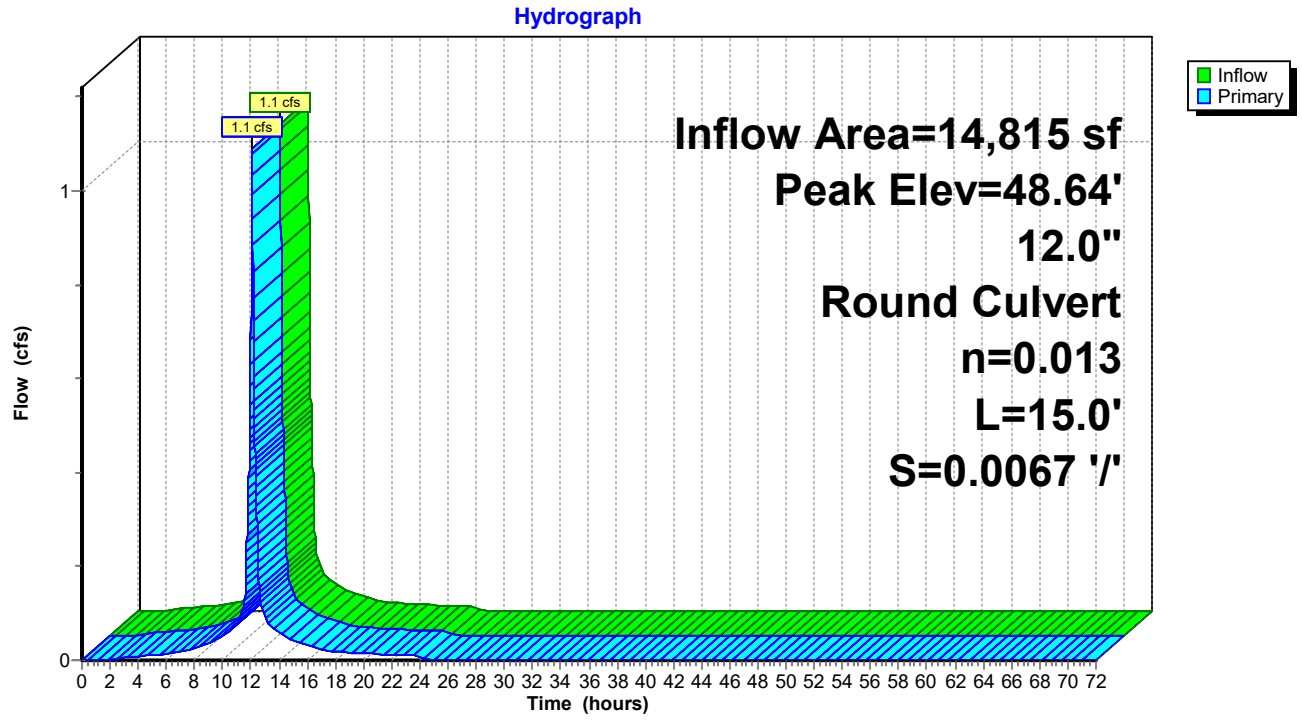
Inflow Area = 14,815 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 1.1 cfs @ 12.08 hrs, Volume= 3,787 cf
Outflow = 1.1 cfs @ 12.08 hrs, Volume= 3,787 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.08 hrs, Volume= 3,787 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.64' @ 12.09 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.80'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.80' / 47.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.1 cfs @ 12.08 hrs HW=48.63' TW=48.47' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.1 cfs @ 1.52 fps)

Pond CB14: Catch Basin 14



Summary for Pond CB2: Catch Basin 2

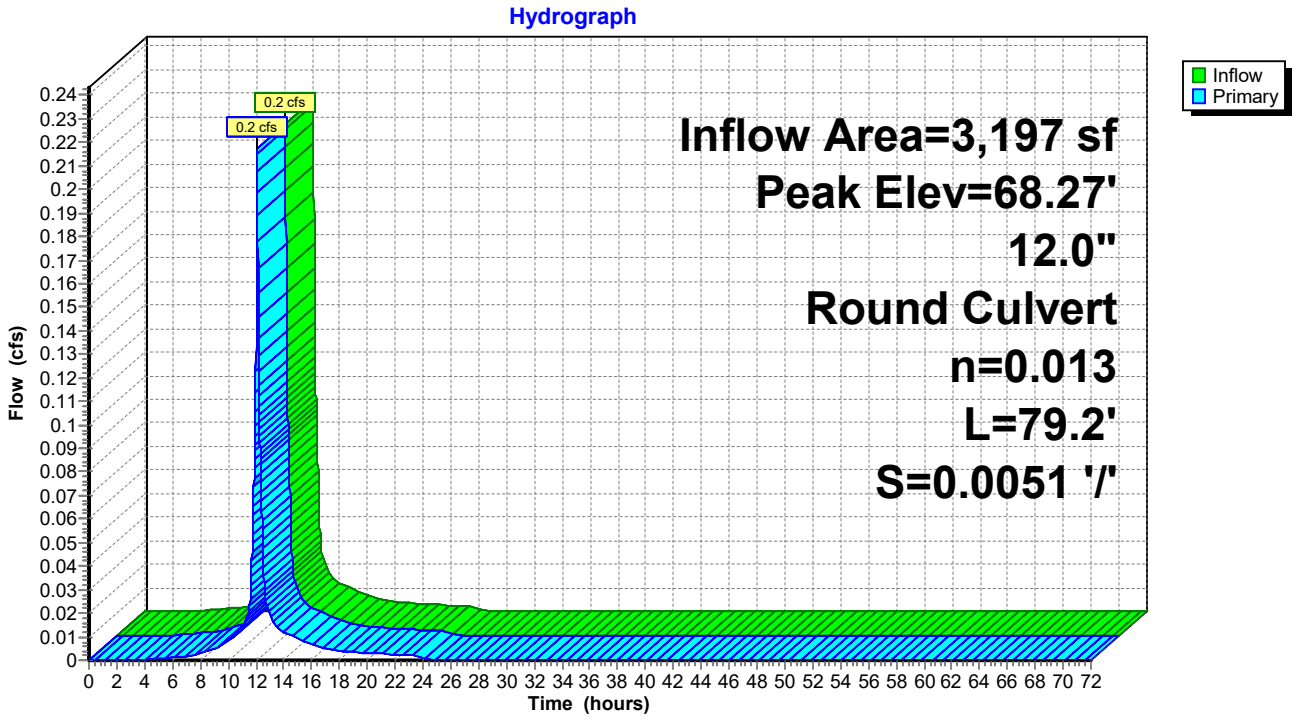
Inflow Area = 3,197 sf, 72.57% Impervious, Inflow Depth = 2.64" for 2-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 704 cf
Outflow = 0.2 cfs @ 12.08 hrs, Volume= 704 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.08 hrs, Volume= 704 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.27' @ 12.08 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**12.0" Round Culvert** L= 79.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.00' / 67.60' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.08 hrs HW=68.27' TW=66.83' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.2 cfs @ 1.90 fps)

Pond CB2: Catch Basin 2



Summary for Pond CB3: Catch Basin 3

[80] Warning: Exceeded Pond C7 by 0.04' @ 12.01 hrs (0.0 cfs 10 cf)

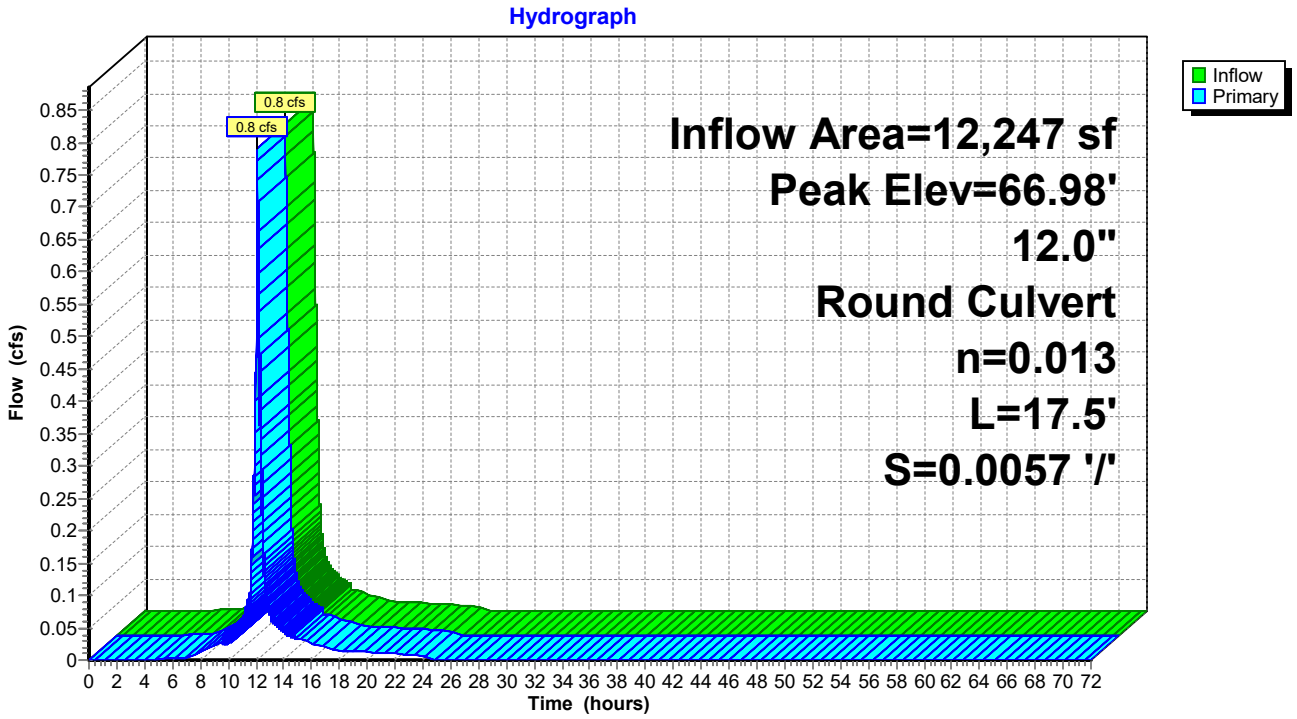
Inflow Area = 12,247 sf, 83.76% Impervious, Inflow Depth = 2.72" for 2-Year event
Inflow = 0.8 cfs @ 12.10 hrs, Volume= 2,776 cf
Outflow = 0.8 cfs @ 12.10 hrs, Volume= 2,776 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.8 cfs @ 12.10 hrs, Volume= 2,776 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.98' @ 12.10 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.30'	**12.0" Round Culvert** L= 17.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.30' / 66.20' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.7 cfs @ 12.10 hrs HW=66.98' TW=66.85' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.7 cfs @ 1.85 fps)

Pond CB3: Catch Basin 3



Summary for Pond CB4: Catch Basin 4

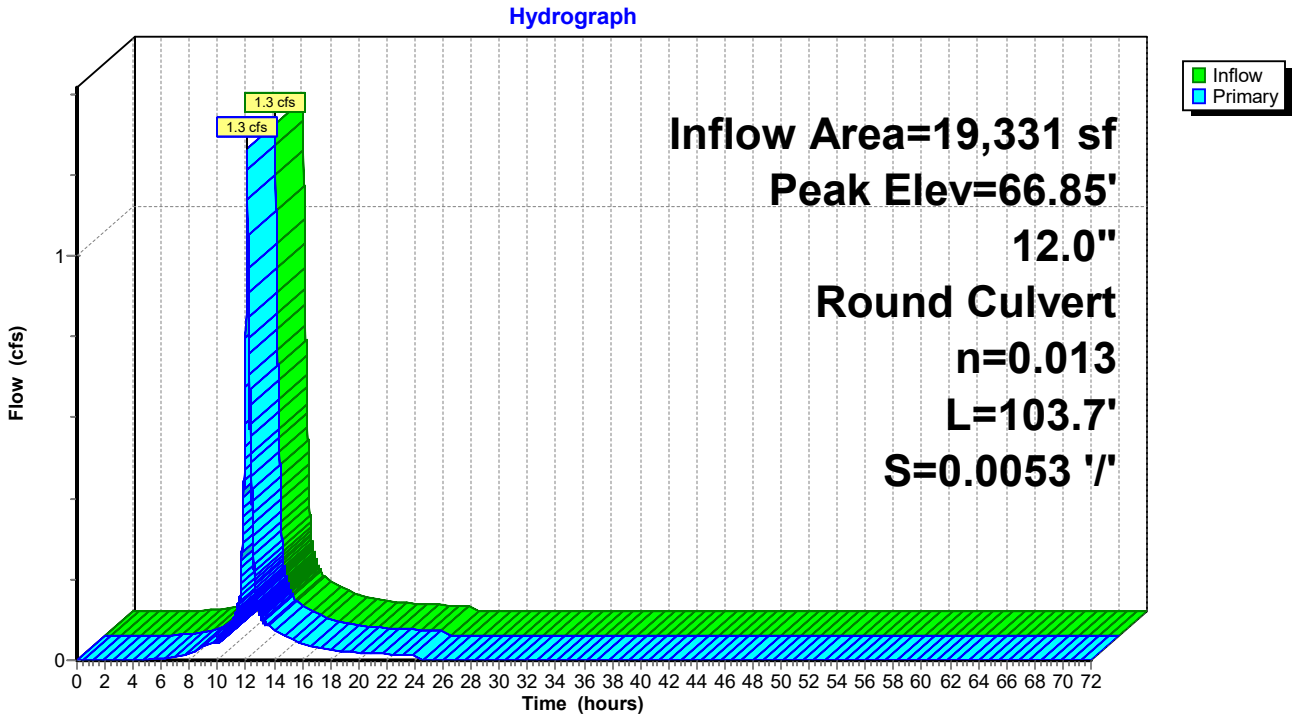
Inflow Area = 19,331 sf, 80.08% Impervious, Inflow Depth = 2.69" for 2-Year event
Inflow = 1.3 cfs @ 12.10 hrs, Volume= 4,335 cf
Outflow = 1.3 cfs @ 12.10 hrs, Volume= 4,335 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.3 cfs @ 12.10 hrs, Volume= 4,335 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.85' @ 12.10 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.10'	**12.0" Round Culvert** L= 103.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.10' / 65.55' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.2 cfs @ 12.10 hrs HW=66.85' TW=66.28' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.2 cfs @ 2.74 fps)

Pond CB4: Catch Basin 4



Summary for Pond CB5: Catch Basin 5

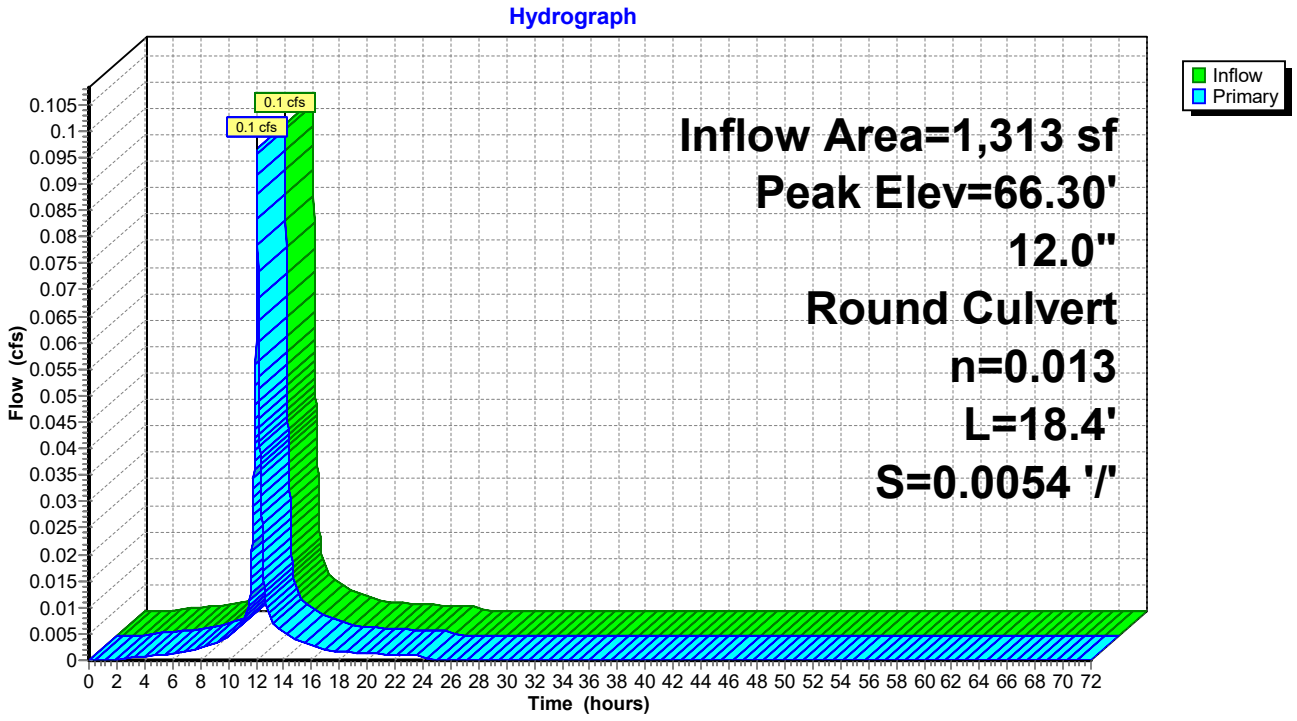
Inflow Area = 1,313 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 336 cf
Outflow = 0.1 cfs @ 12.08 hrs, Volume= 336 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.08 hrs, Volume= 336 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.30' @ 12.11 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	**12.0" Round Culvert** L= 18.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.00' / 65.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.08 hrs HW=66.28' TW=66.26' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 0.58 fps)

Pond CB5: Catch Basin 5



Summary for Pond CB6: Catch Basin 6

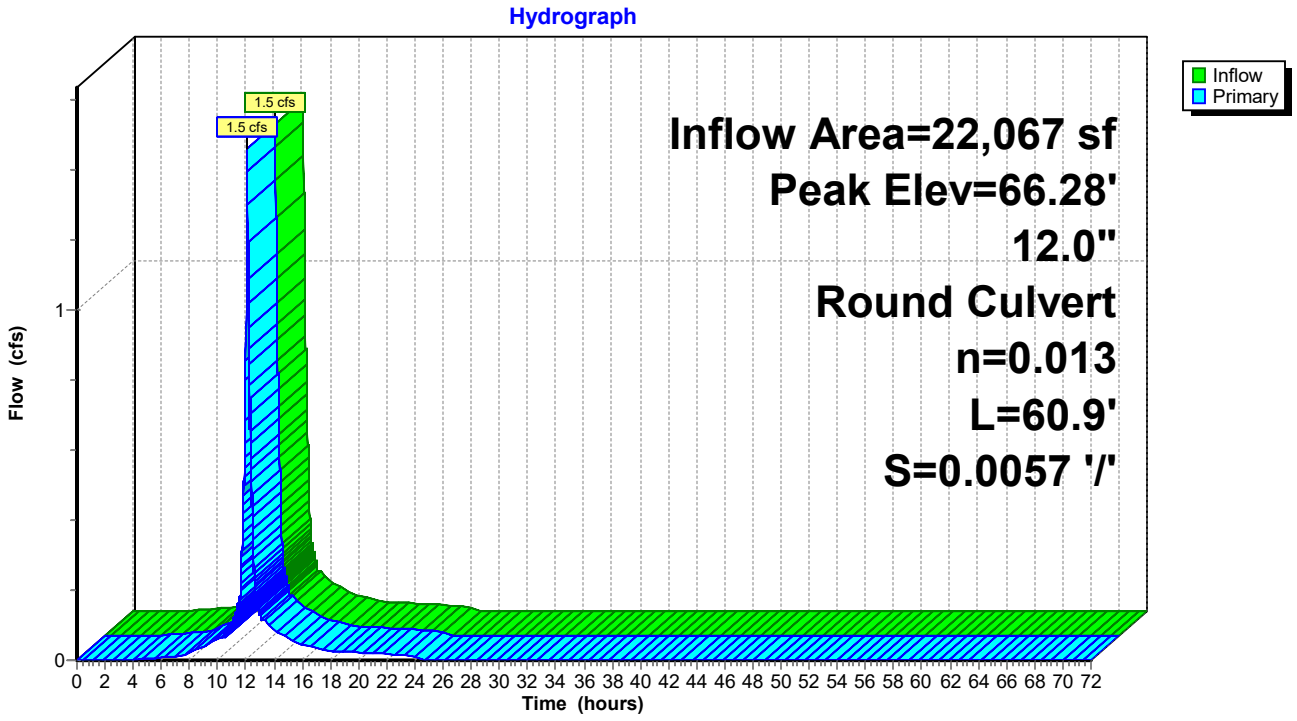
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 2.74" for 2-Year event
Inflow = 1.5 cfs @ 12.10 hrs, Volume= 5,035 cf
Outflow = 1.5 cfs @ 12.10 hrs, Volume= 5,035 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.5 cfs @ 12.10 hrs, Volume= 5,035 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.28' @ 12.10 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.45'	**12.0" Round Culvert** L= 60.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.45' / 65.10' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.4 cfs @ 12.10 hrs HW=66.28' TW=65.84' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.4 cfs @ 2.82 fps)

Pond CB6: Catch Basin 6



Summary for Pond CB7: Catch Basin 7

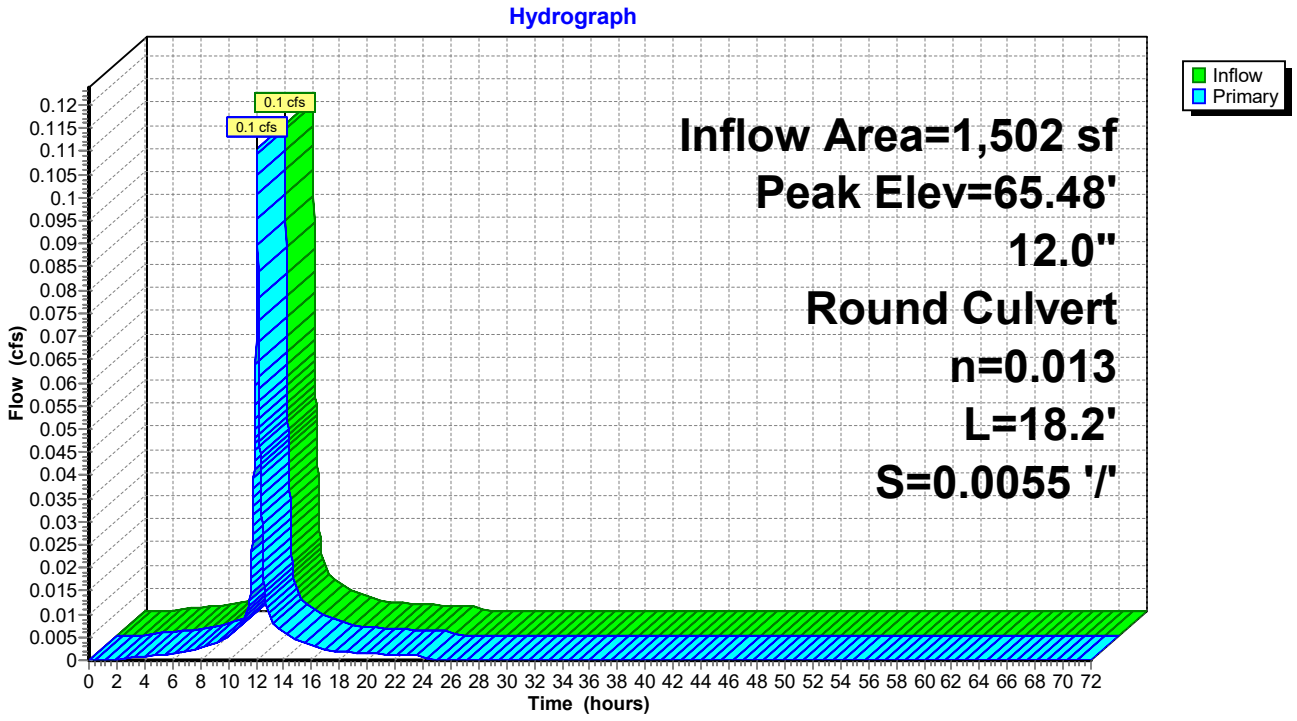
Inflow Area = 1,502 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 384 cf
Outflow = 0.1 cfs @ 12.08 hrs, Volume= 384 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.08 hrs, Volume= 384 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.48' @ 12.11 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.85'	**12.0" Round Culvert** L= 18.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.85' / 64.75' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=65.45' TW=65.46' (Dynamic Tailwater)
↑**1=Culvert** (Controls 0.0 cfs)

Pond CB7: Catch Basin 7



Summary for Pond CB8: Catch Basin 8

[80] Warning: Exceeded Pond CB7 by 0.05' @ 12.02 hrs (0.3 cfs 182 cf)

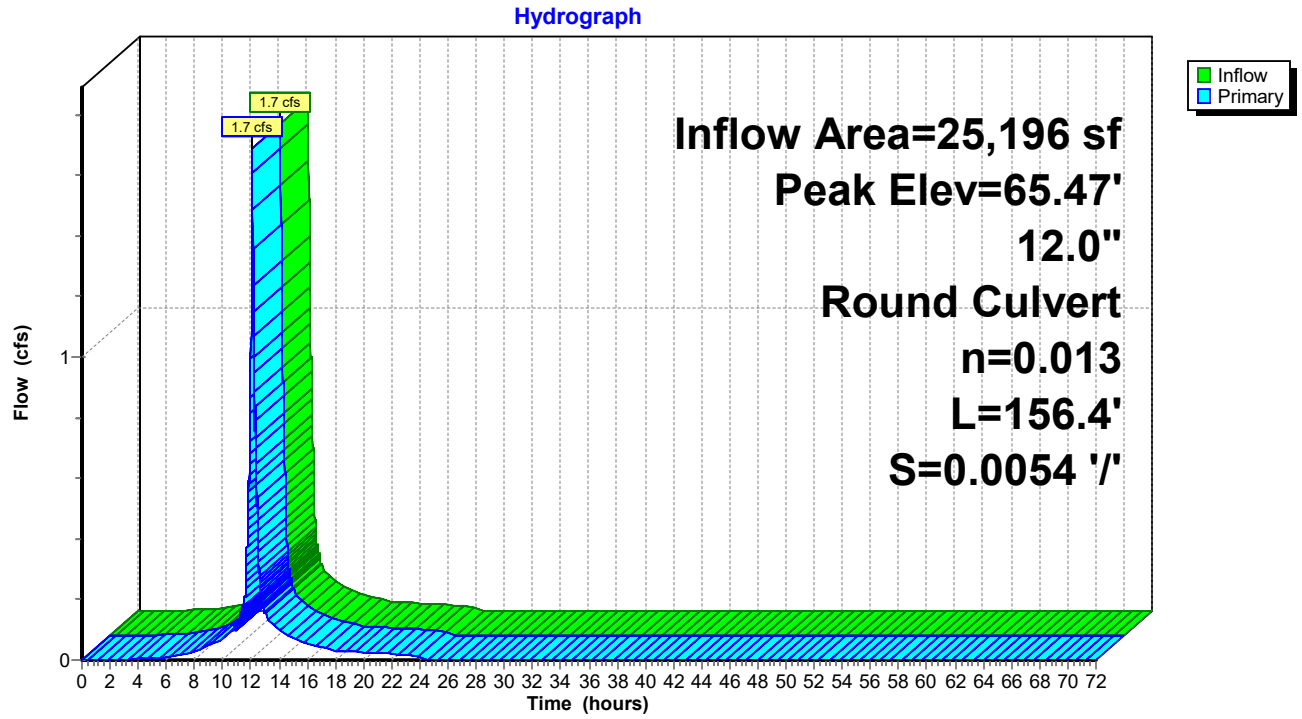
Inflow Area = 25,196 sf, 84.72% Impervious, Inflow Depth = 2.78" for 2-Year event
Inflow = 1.7 cfs @ 12.10 hrs, Volume= 5,834 cf
Outflow = 1.7 cfs @ 12.10 hrs, Volume= 5,834 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.7 cfs @ 12.10 hrs, Volume= 5,834 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.47' @ 12.10 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.65'	**12.0" Round Culvert** L= 156.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.65' / 63.80' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.7 cfs @ 12.10 hrs HW=65.47' TW=60.04' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.7 cfs @ 2.43 fps)

Pond CB8: Catch Basin 8



Summary for Pond CB9: Catch Basin 9

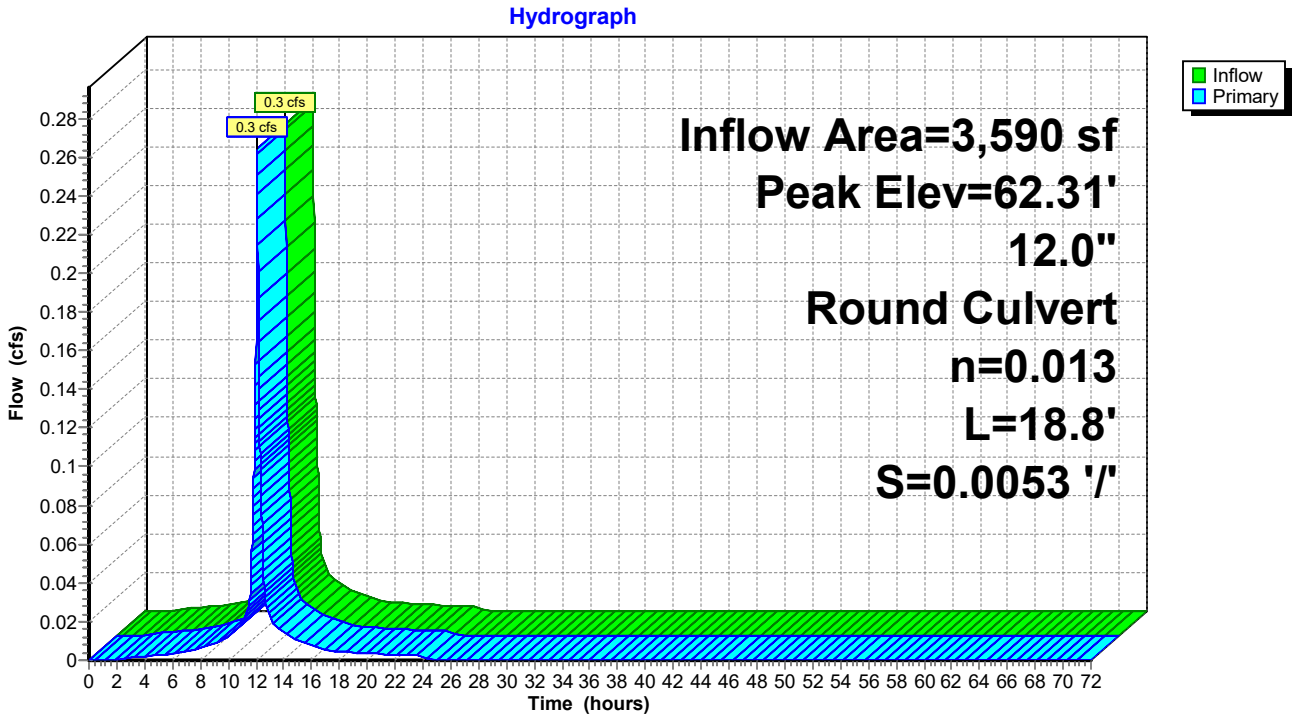
Inflow Area = 3,590 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.3 cfs @ 12.08 hrs, Volume= 918 cf
Outflow = 0.3 cfs @ 12.08 hrs, Volume= 918 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.08 hrs, Volume= 918 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.31' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	**12.0" Round Culvert** L= 18.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.90' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.08 hrs HW=62.31' TW=61.42' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.3 cfs @ 1.89 fps)

Pond CB9: Catch Basin 9



Summary for Pond CH1: Chamber 1

Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf
Outflow = 0.4 cfs @ 12.38 hrs, Volume= 4,503 cf, Atten= 69%, Lag= 17.9 min
Primary = 0.4 cfs @ 12.38 hrs, Volume= 4,503 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.27' @ 12.38 hrs Surf.Area= 1,773 sf Storage= 811 cf
Flood Elev= 50.50' Surf.Area= 1,773 sf Storage= 1,194 cf

Plug-Flow detention time= 11.6 min calculated for 4,503 cf (100% of inflow)
Center-of-Mass det. time= 11.4 min (767.2 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.90'	656 cf	**12.00'W x 74.40'L x 2.33'H Field A** 2,083 cf Overall - 442 cf Embedded = 1,641 cf x 40.0% Voids
#2A	47.40'	442 cf	**ADS_StormTech SC-310 +Cap** x 30 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 3 Rows
#3	44.73'	95 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,910 cf Overall x 5.0% Voids
		1,194 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.73	880	0	0
46.90	880	1,910	1,910

Device	Routing	Invert	Outlet Devices
#1	Primary	44.73'	**12.0" Round Culvert** L= 60.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.73' / 44.60' S= 0.0021 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	44.73'	**2.9" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	48.30'	**4.0' long x 4.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.4 cfs @ 12.38 hrs HW=48.27' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.4 cfs of 5.2 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.4 cfs @ 8.90 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond CH1: Chamber 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 9.0" Spacing = 43.0" C-C Row Spacing

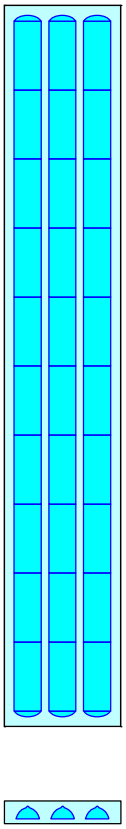
10 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 72.40' Row Length +12.0" End Stone x 2 = 74.40' Base Length
3 Rows x 34.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 12.00' Base Width
6.0" Stone Base + 16.0" Chamber Height + 6.0" Stone Cover = 2.33' Field Height

30 Chambers x 14.7 cf = 442.3 cf Chamber Storage

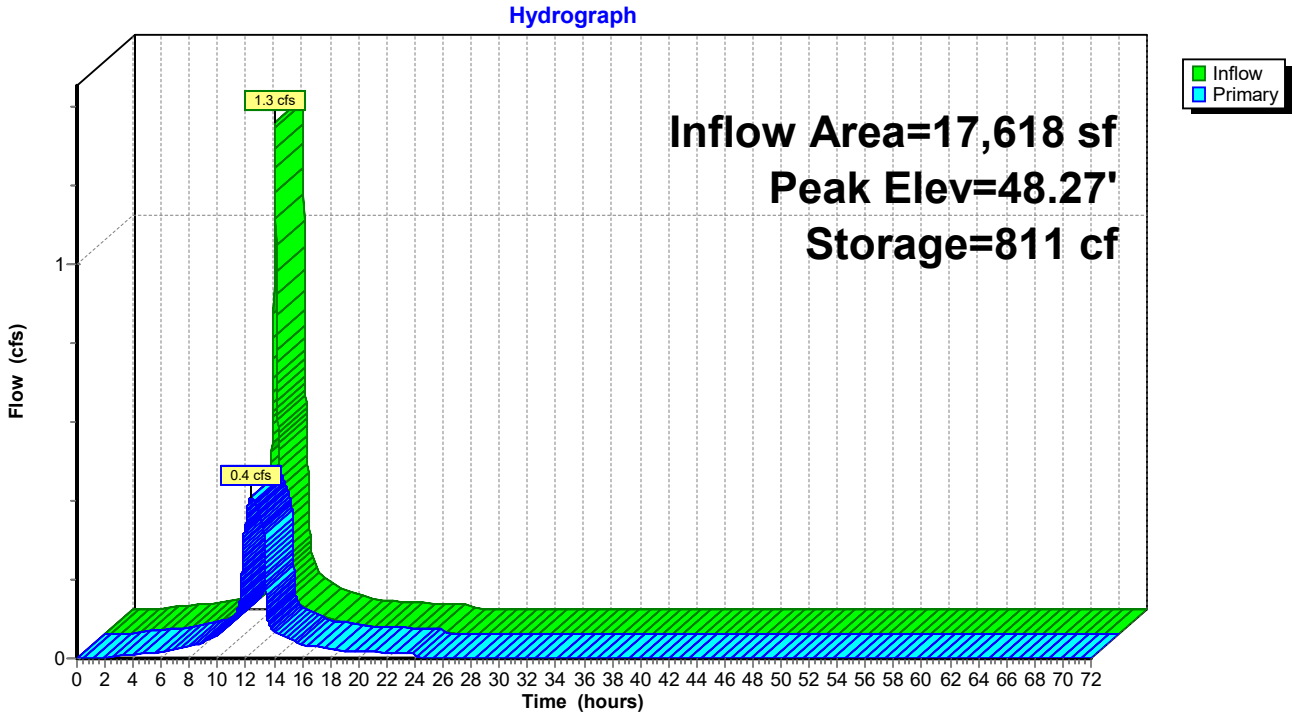
2,083.2 cf Field - 442.3 cf Chambers = 1,640.9 cf Stone x 40.0% Voids = 656.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,098.6 cf = 0.025 af
Overall Storage Efficiency = 52.7%
Overall System Size = 74.40' x 12.00' x 2.33'

30 Chambers
77.2 cy Field
60.8 cy Stone



Pond CH1: Chamber 1



Summary for Pond MH1: Manhole 1

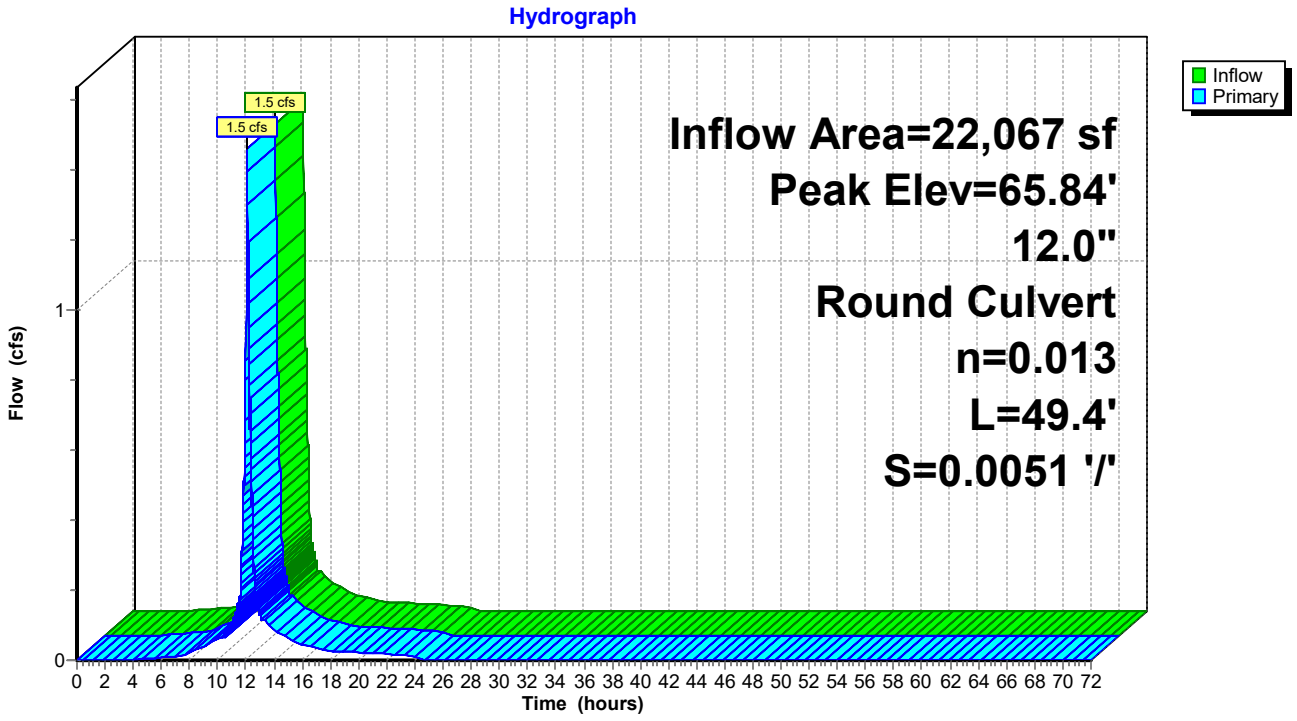
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 2.74" for 2-Year event
Inflow = 1.5 cfs @ 12.10 hrs, Volume= 5,035 cf
Outflow = 1.5 cfs @ 12.10 hrs, Volume= 5,035 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.5 cfs @ 12.10 hrs, Volume= 5,035 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.84' @ 12.10 hrs
Flood Elev= 68.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 49.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.00' / 64.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.4 cfs @ 12.10 hrs HW=65.84' TW=65.47' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.4 cfs @ 2.73 fps)

Pond MH1: Manhole 1



Summary for Pond MH2: Manhole 2

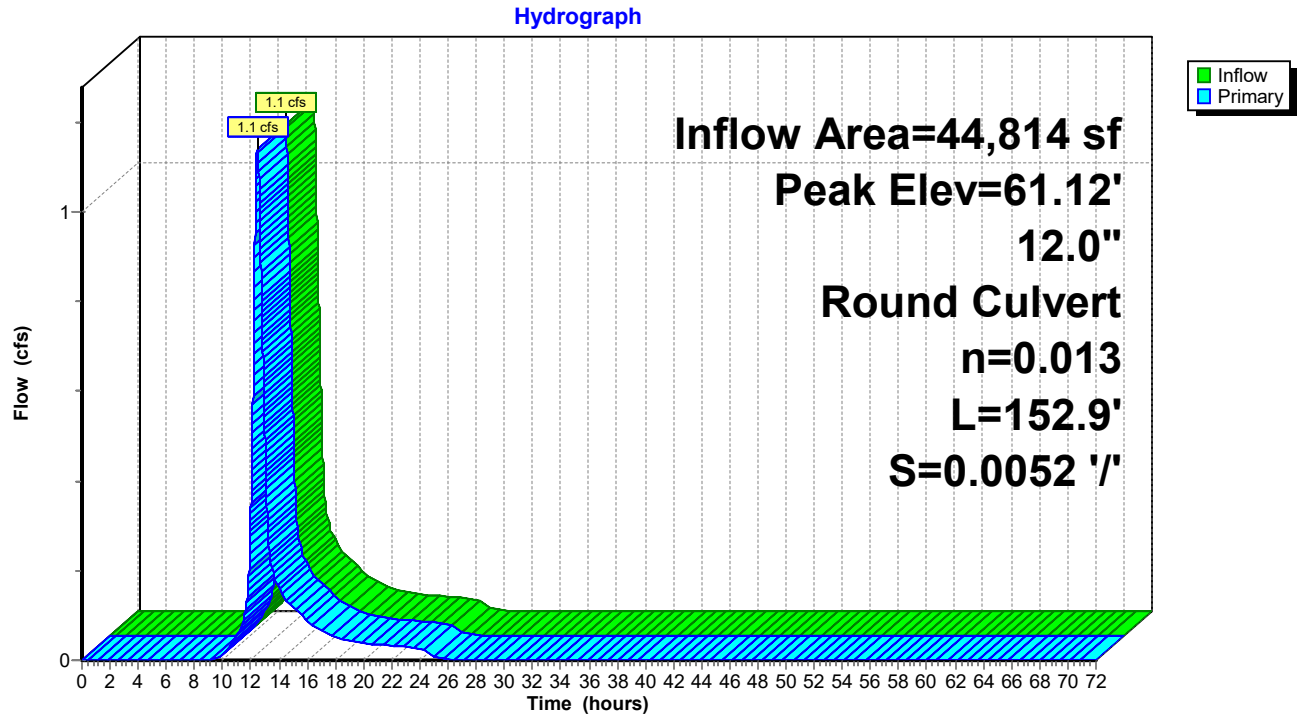
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 1.76" for 2-Year event
Inflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf
Outflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.12' @ 12.45 hrs
Flood Elev= 65.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.45'	**12.0" Round Culvert** L= 152.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.45' / 59.65' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.1 cfs @ 12.45 hrs HW=61.12' TW=60.23' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.1 cfs @ 2.91 fps)

Pond MH2: Manhole 2



Summary for Pond MH3: Manhole 3

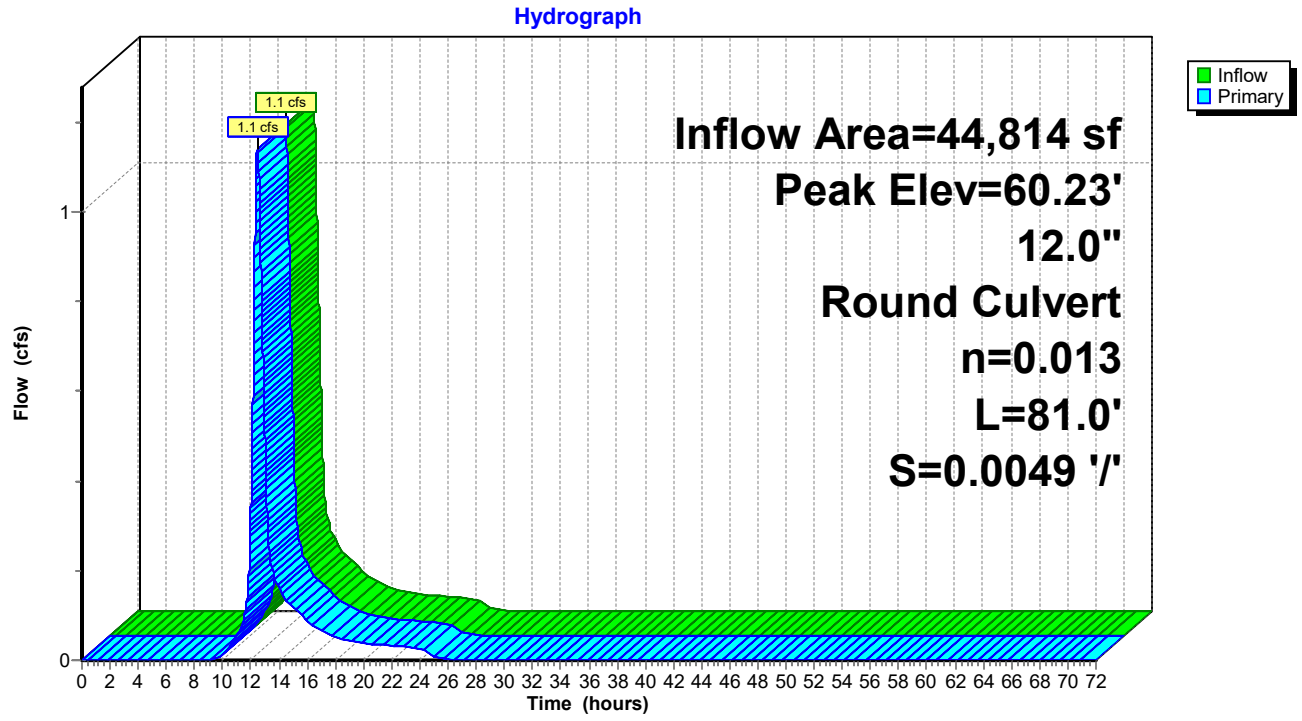
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 1.76" for 2-Year event
Inflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf
Outflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 60.23' @ 12.45 hrs
Flood Elev= 67.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.55'	**12.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.55' / 59.15' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.1 cfs @ 12.45 hrs HW=60.23' TW=59.69' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.1 cfs @ 2.82 fps)

Pond MH3: Manhole 3



Summary for Pond MH4: Manhole 4

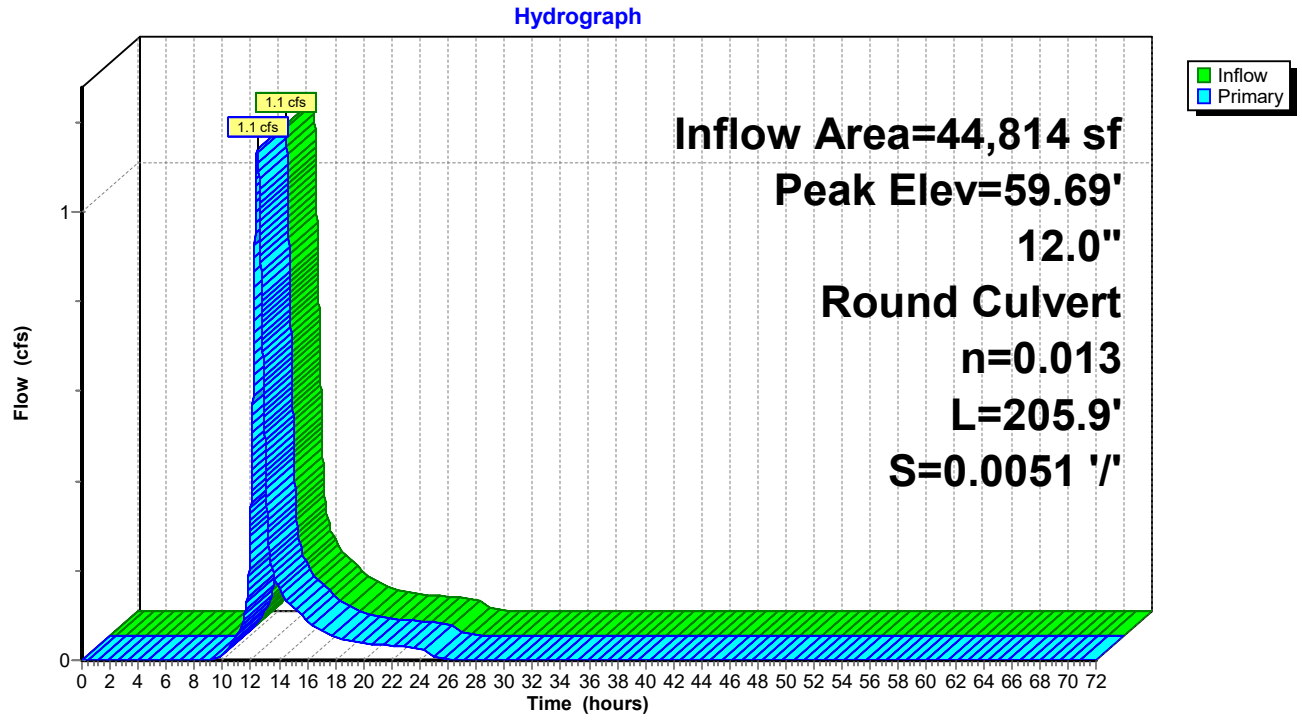
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 1.76" for 2-Year event
Inflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf
Outflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 59.69' @ 12.45 hrs
Flood Elev= 66.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.05'	**12.0" Round Culvert** L= 205.9' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 59.05' / 58.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.1 cfs @ 12.45 hrs HW=59.69' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.1 cfs @ 3.05 fps)

Pond MH4: Manhole 4



Summary for Pond MH5: Manhole 5

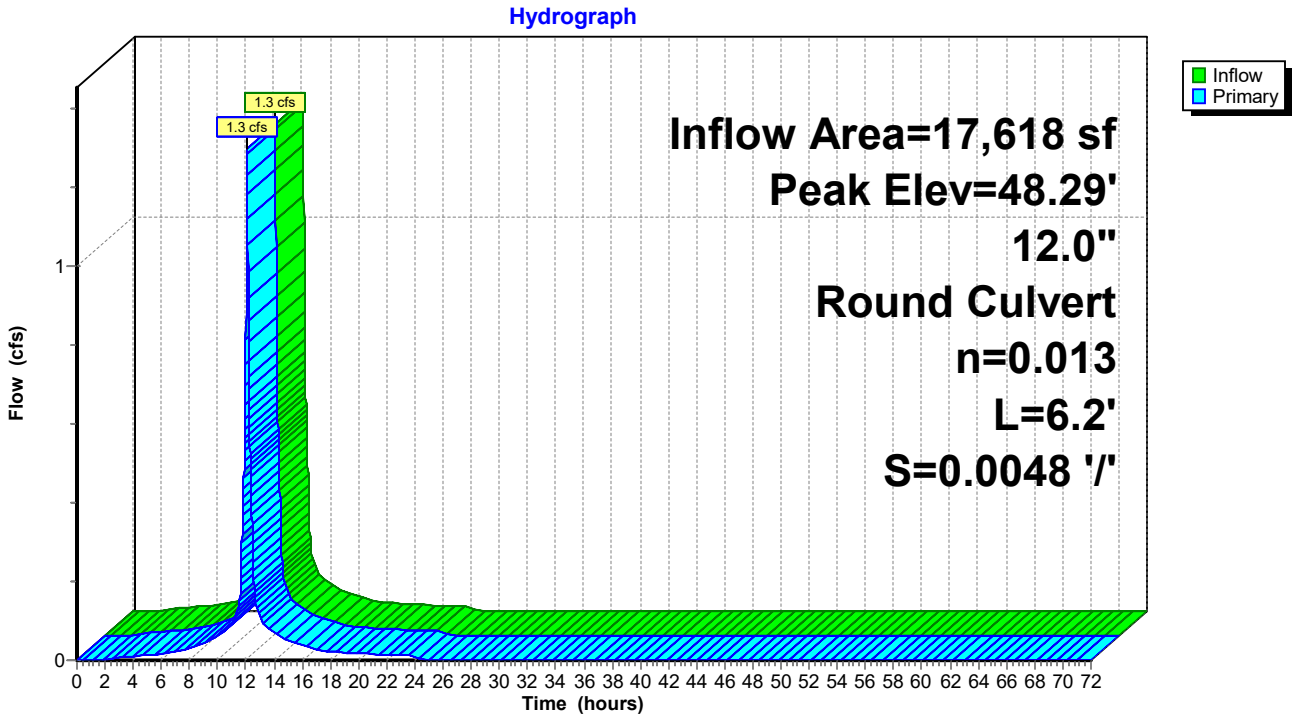
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf
Outflow = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.3 cfs @ 12.08 hrs, Volume= 4,503 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.29' @ 12.38 hrs
Flood Elev= 50.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.43'	**12.0" Round Culvert** L= 6.2' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.43' / 47.40' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.3 cfs @ 12.08 hrs HW=48.20' TW=47.67' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.3 cfs @ 2.76 fps)

Pond MH5: Manhole 5



Summary for Pond P1: Pond 1

[80] Warning: Exceeded Pond C8 by 0.56' @ 25.54 hrs (0.5 cfs 1,293 cf)

Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 0.31" for 2-Year event
Inflow = 0.4 cfs @ 12.81 hrs, Volume= 4,690 cf
Outflow = 0.0 cfs @ 24.34 hrs, Volume= 4,625 cf, Atten= 91%, Lag= 691.7 min
Primary = 0.0 cfs @ 24.34 hrs, Volume= 4,625 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 51.81' @ 24.34 hrs Surf.Area= 2,193 sf Storage= 3,338 cf
Flood Elev= 55.50' Surf.Area= 3,752 sf Storage= 14,183 cf

Plug-Flow detention time= 1,127.8 min calculated for 4,624 cf (99% of inflow)
Center-of-Mass det. time= 1,121.1 min (2,095.2 - 974.1)

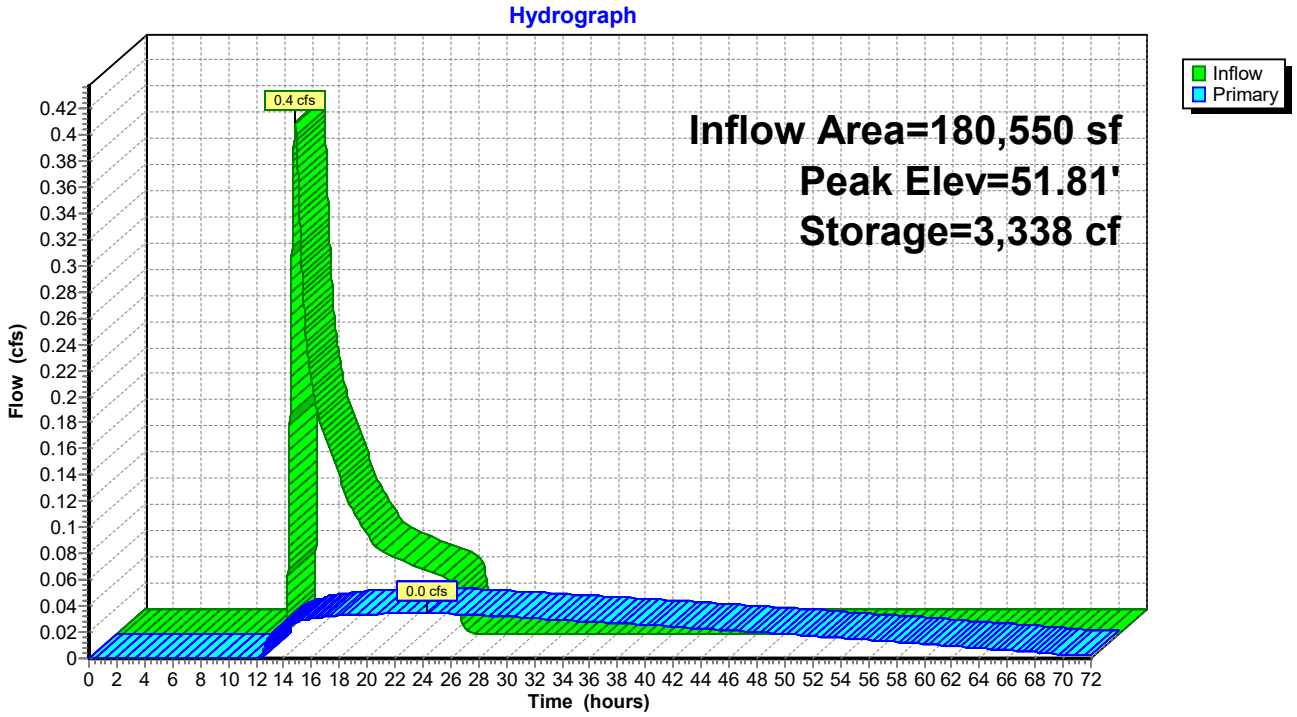
Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	16,121 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,503	0	0
51.00	1,882	1,693	1,693
52.00	2,267	2,075	3,767
53.00	2,662	2,465	6,232
54.00	3,055	2,859	9,090
55.00	3,503	3,279	12,369
56.00	4,000	3,752	16,121

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**12.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.00' / 46.40' S= 0.0180 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	50.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	53.10'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.0 cfs @ 24.34 hrs HW=51.81' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.0 cfs of 3.4 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.0 cfs @ 6.40 fps)
  └─**3=Orifice/Grate** (Controls 0.0 cfs)

Pond P1: Pond 1



Summary for Pond RD1: Roof Drain 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=501)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 319 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf, Atten= 11%, Lag= 2.2 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 302 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.51' @ 12.13 hrs Surf.Area= 221 sf Storage= 39 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 68.4 min calculated for 302 cf (94% of inflow)
Center-of-Mass det. time= 36.9 min (792.6 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

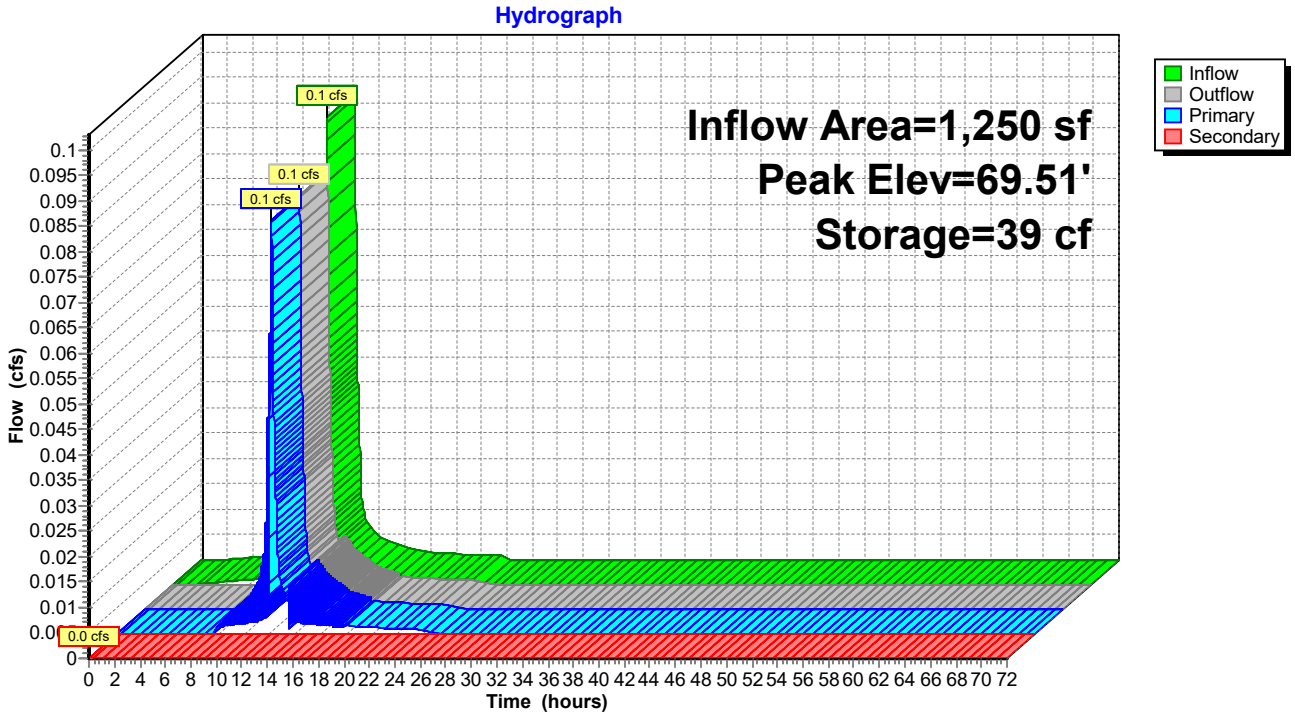
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.51' TW=69.46' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.10 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD1: Roof Drain 1



Summary for Pond RD2: Roof Drain 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=788)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 319 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 302 cf, Atten= 14%, Lag= 2.6 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 302 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.66' @ 12.13 hrs Surf.Area= 226 sf Storage= 43 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 73.4 min calculated for 302 cf (94% of inflow)
Center-of-Mass det. time= 41.6 min (797.3 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

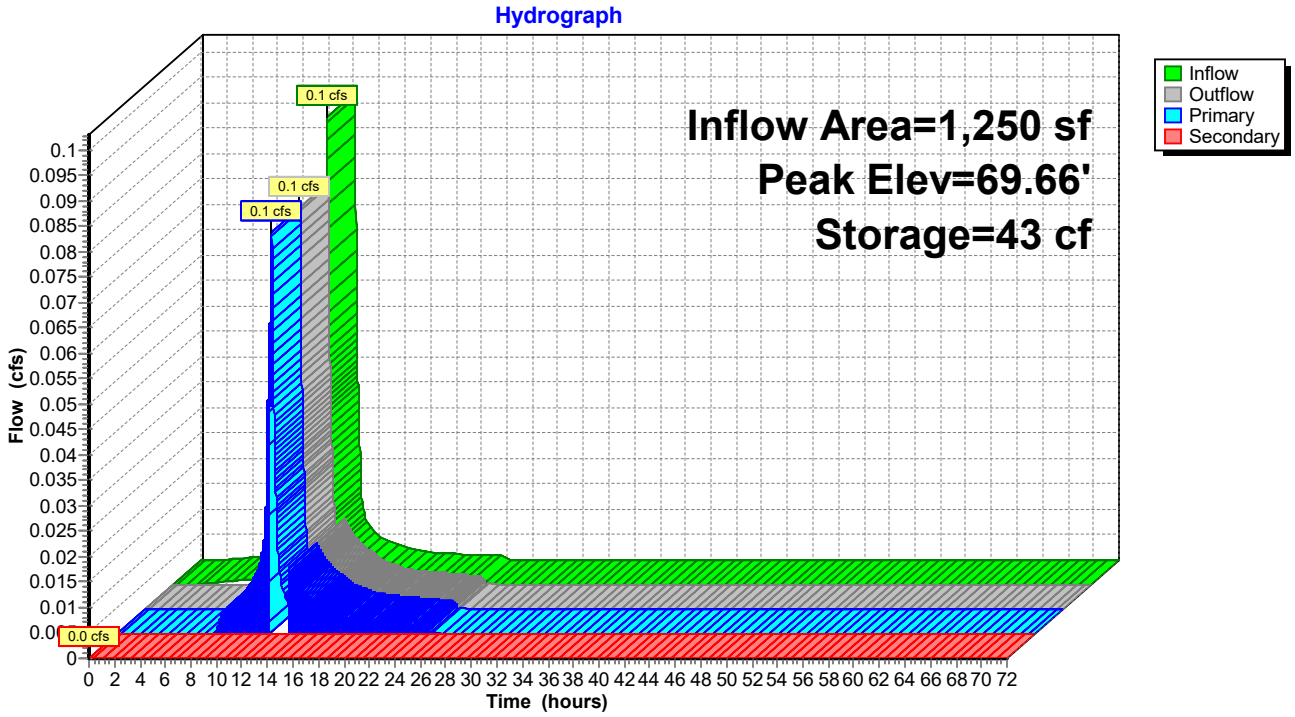
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.66' TW=69.62' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.1 cfs @ 0.94 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD2: Roof Drain 2



Summary for Pond RD3: Roof Drain 3

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 319 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf, Atten= 9%, Lag= 1.9 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 302 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.92' @ 12.12 hrs Surf.Area= 215 sf Storage= 36 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 66.5 min calculated for 302 cf (95% of inflow)
Center-of-Mass det. time= 35.8 min (791.5 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

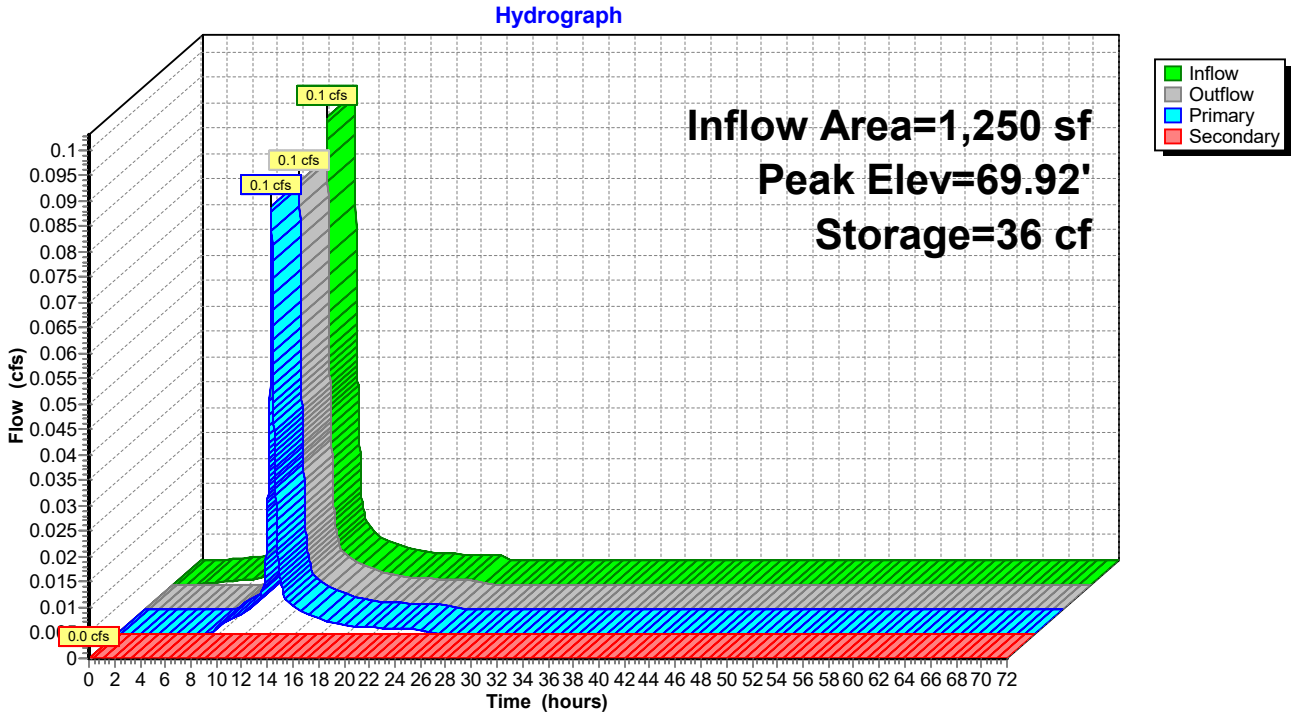
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.92' TW=69.85' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.30 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD3: Roof Drain 3



Summary for Pond RD4: Roof Drain 4

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 319 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 302 cf, Atten= 9%, Lag= 1.9 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 302 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.92' @ 12.12 hrs Surf.Area= 215 sf Storage= 36 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 66.5 min calculated for 302 cf (95% of inflow)
Center-of-Mass det. time= 35.8 min (791.5 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

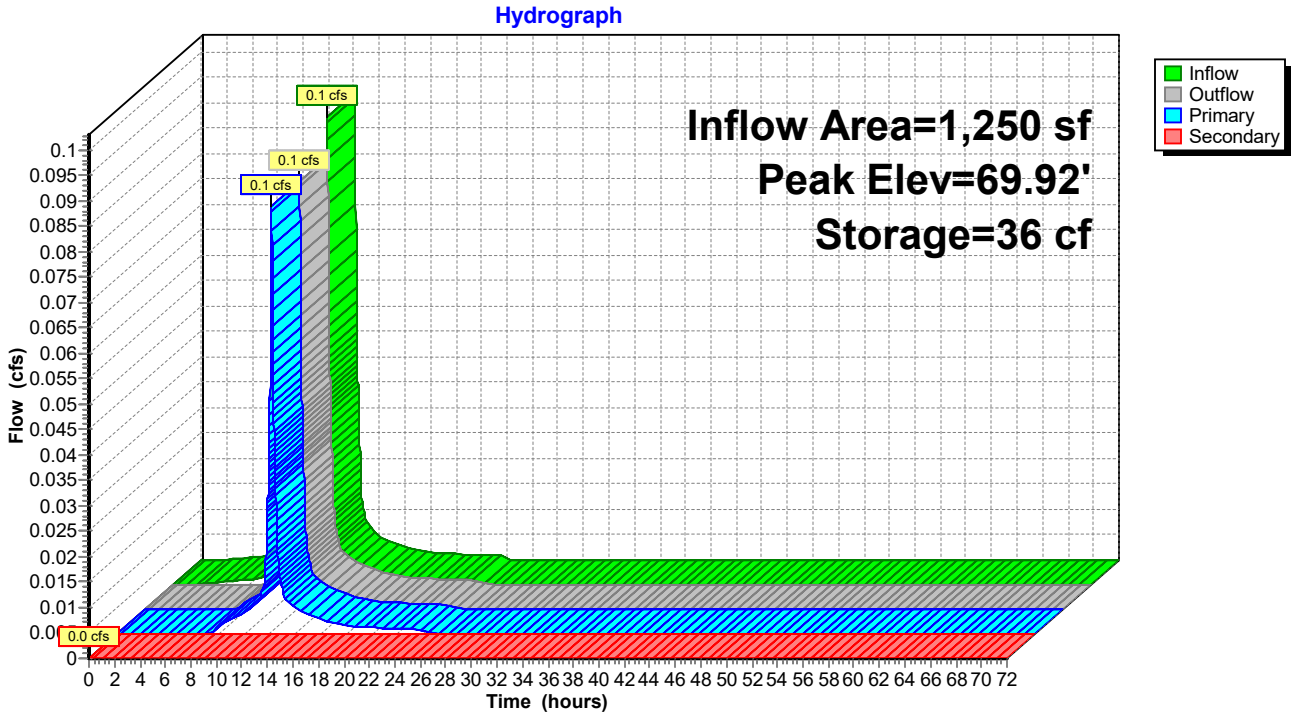
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.92' TW=69.85' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.30 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD4: Roof Drain 4



Summary for Pond RD5: Roof Drain 5

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=505)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 319 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 302 cf, Atten= 14%, Lag= 2.5 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 302 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.63' @ 12.13 hrs Surf.Area= 223 sf Storage= 41 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 71.4 min calculated for 302 cf (94% of inflow)
Center-of-Mass det. time= 39.6 min (795.4 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

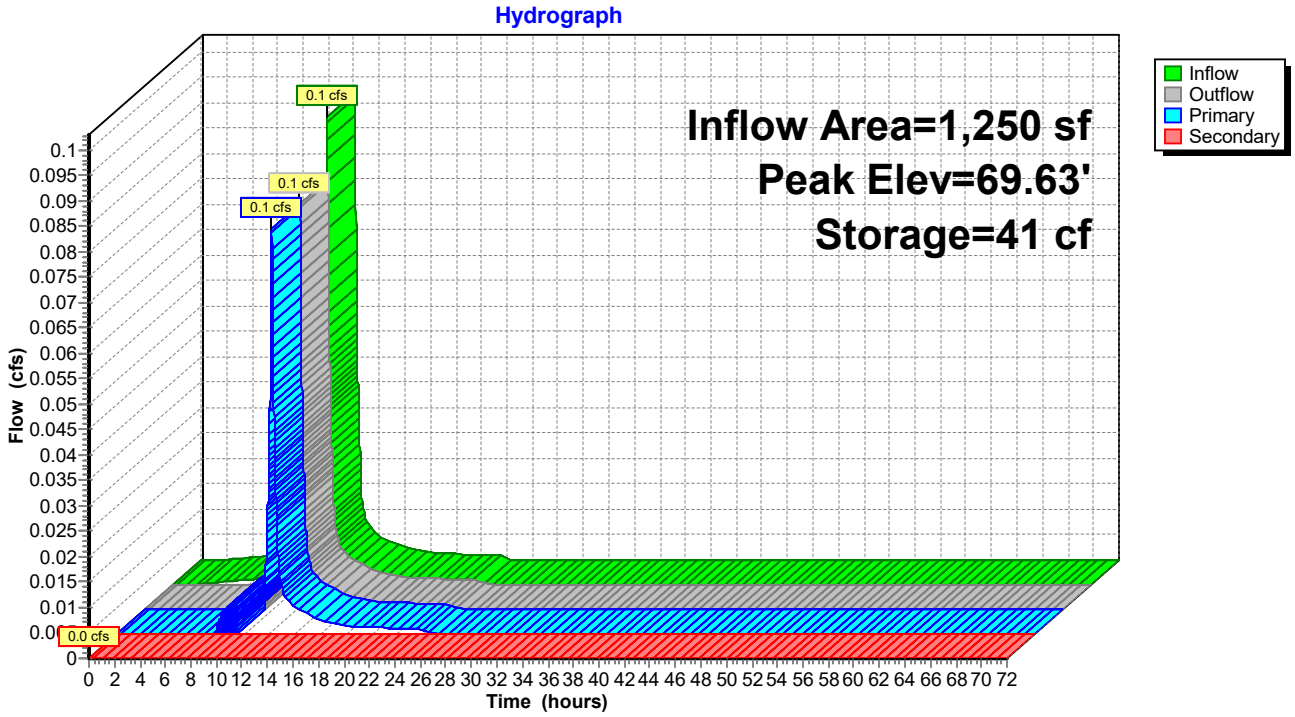
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.63' TW=69.59' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.1 cfs @ 1.00 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD5: Roof Drain 5



Summary for Pond RD6: Roof Drain 6

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=514)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 3.07" for 2-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 319 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 303 cf, Atten= 14%, Lag= 2.2 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 303 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.50' @ 12.13 hrs Surf.Area= 219 sf Storage= 38 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 66.2 min calculated for 303 cf (95% of inflow)
Center-of-Mass det. time= 36.8 min (792.6 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

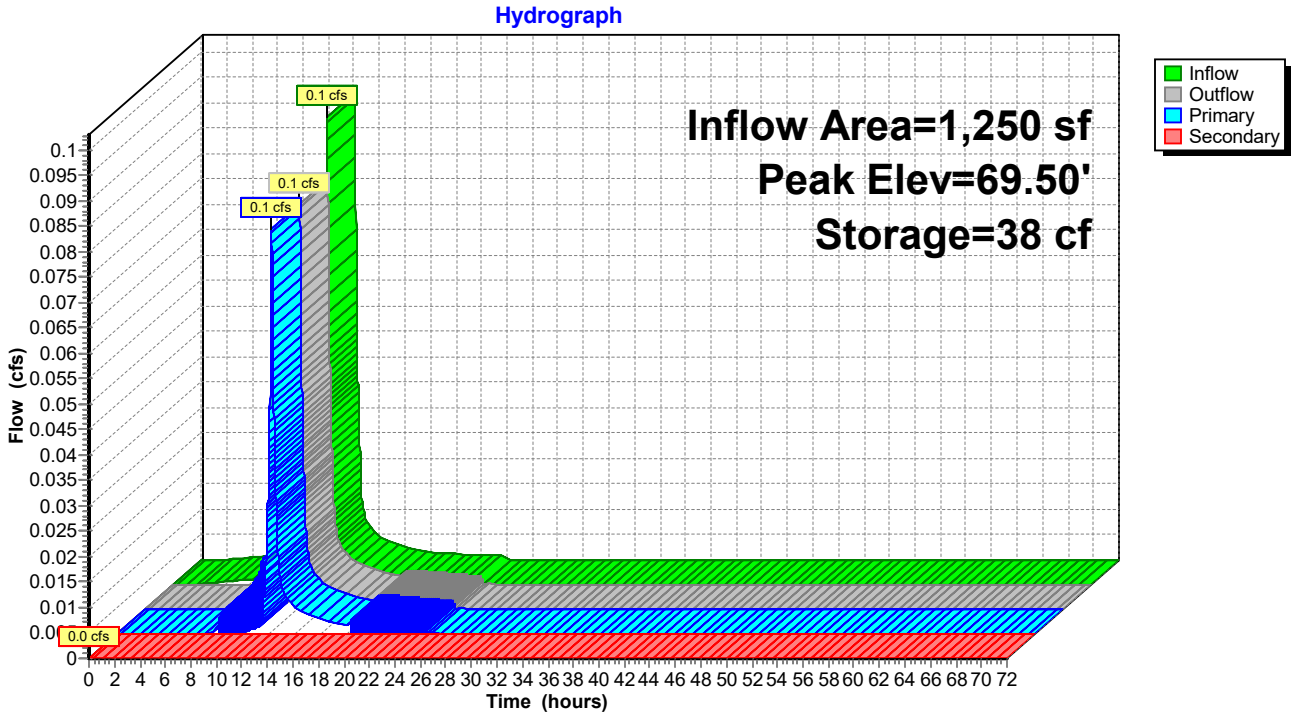
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.50' TW=69.45' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.04 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD6: Roof Drain 6



Summary for Pond RD7: Roof Drain 7

[92] Warning: Device #2 is above defined storage
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=827)

Inflow Area =	1,250 sf,	100.00% Impervious,	Inflow Depth =	3.07"	for 2-Year event
Inflow =	0.1 cfs @	12.08 hrs, Volume=	319 cf		
Outflow =	0.2 cfs @	12.22 hrs, Volume=	302 cf,	Atten= 0%,	Lag= 8.2 min
Primary =	0.2 cfs @	12.22 hrs, Volume=	302 cf		
Secondary =	0.0 cfs @	0.00 hrs, Volume=	0 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.03' @ 12.16 hrs Surf.Area= 249 sf Storage= 60 cf
Flood Elev= 69.30' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 72.2 min calculated for 302 cf (94% of inflow)
Center-of-Mass det. time= 40.4 min (796.1 - 755.8)

Volume	Invert	Avail.Storage	Storage Description
#1	66.29'	271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

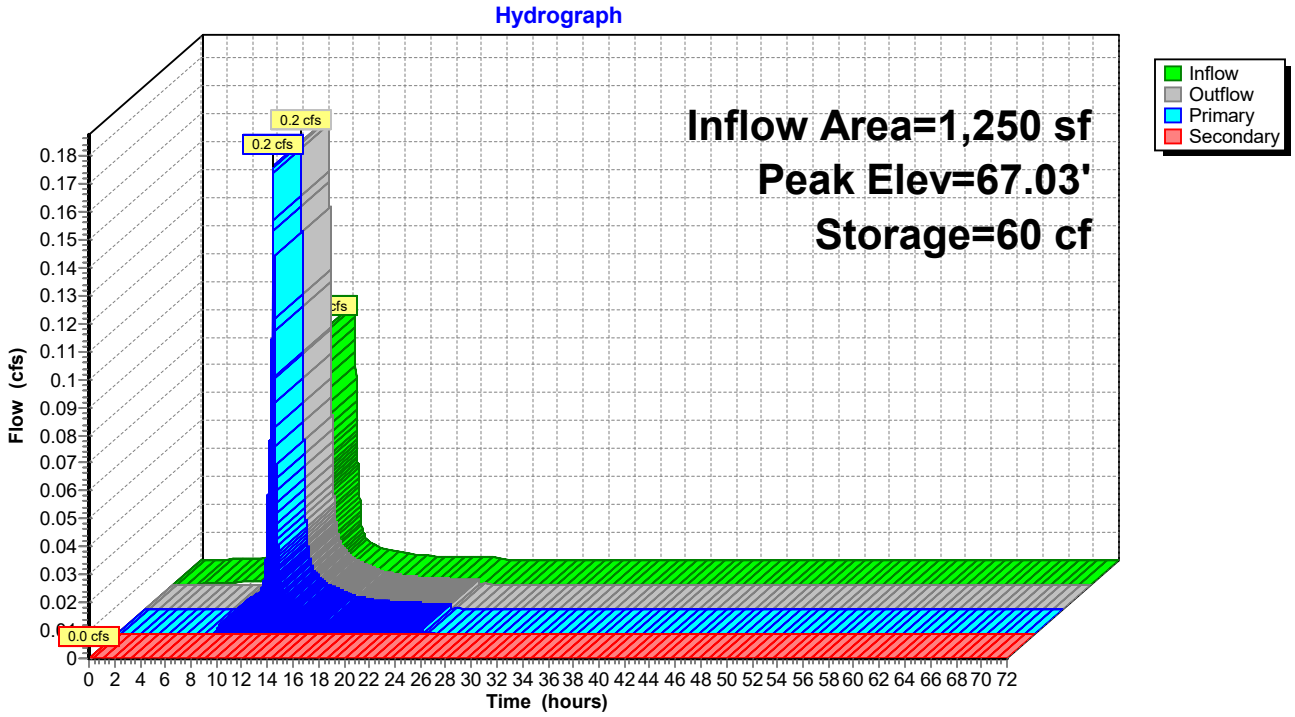
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.29	156	0.0	0	0
66.30	156	40.0	1	1
67.29	281	40.0	87	87
67.30	281	25.0	1	88
68.29	281	25.0	70	157
68.30	281	40.0	1	159
69.30	281	40.0	112	271

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	69.30'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.22 hrs HW=66.98' TW=67.12' (Dynamic Tailwater)
1=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=66.29' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD7: Roof Drain 7



Summary for Pond SF1: Soil Filter 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 1.77" for 2-Year event
Inflow = 1.4 cfs @ 12.29 hrs, Volume= 6,597 cf
Outflow = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf, Atten= 20%, Lag= 9.5 min
Primary = 1.1 cfs @ 12.45 hrs, Volume= 6,591 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.71' @ 12.45 hrs Surf.Area= 1,250 sf Storage= 725 cf
Flood Elev= 66.25' Surf.Area= 3,716 sf Storage= 5,562 cf

Plug-Flow detention time= 16.1 min calculated for 6,591 cf (100% of inflow)
Center-of-Mass det. time= 15.5 min (860.0 - 844.5)

Volume	Invert	Avail.Storage	Storage Description
#1	60.99'	981 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	63.50'	4,581 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		5,562 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.99	1,250	0.0	0	0
61.00	1,250	40.0	5	5
61.99	1,250	40.0	495	500
62.00	1,250	25.0	3	503
63.49	1,250	25.0	466	969
63.50	1,250	100.0	12	981

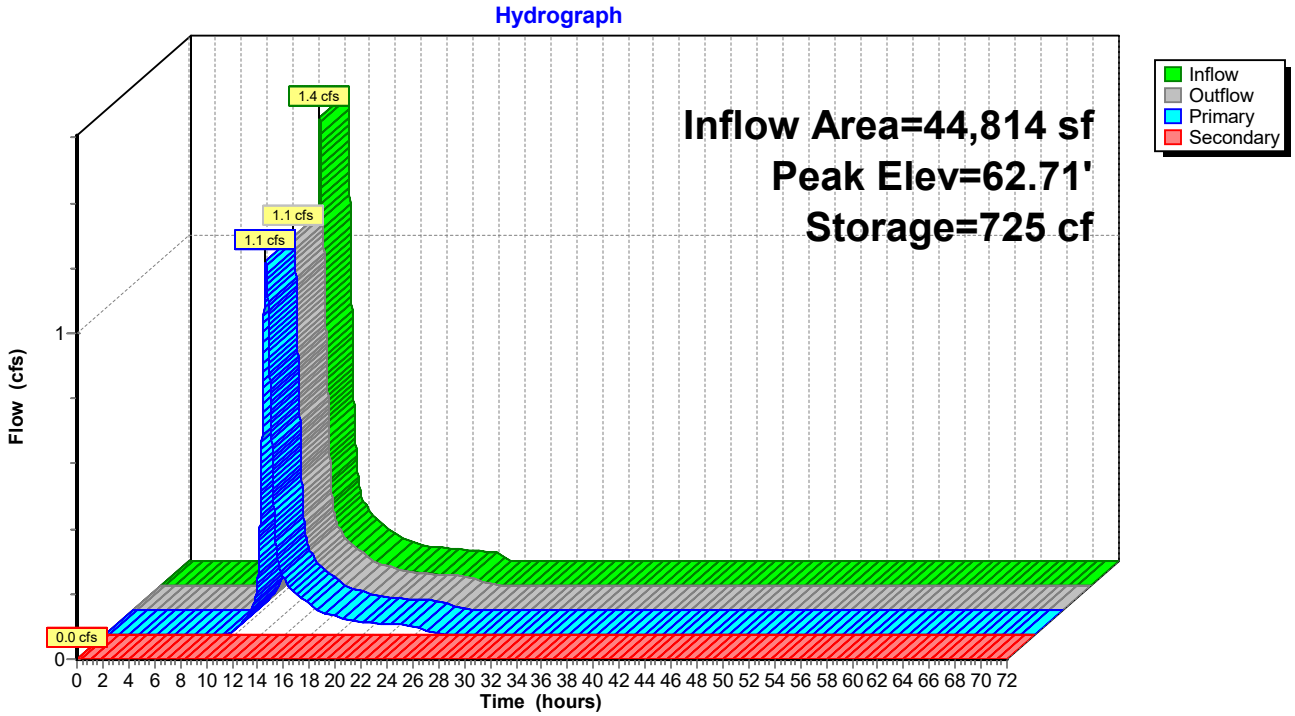
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.50	1,250	0	0
64.00	1,464	679	679
65.00	1,937	1,701	2,379
66.00	2,466	2,202	4,581

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**8.0" Round Culvert** L= 81.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 60.55' S= 0.0055 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.00'	**6.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.80'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	65.75'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.1 cfs @ 12.45 hrs HW=62.71' TW=61.12' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.1 cfs of 1.4 cfs potential flow)
  └─**2=Underdrain** (Orifice Controls 1.1 cfs @ 5.82 fps)
  └─**3=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=60.99' TW=51.20' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF1: Soil Filter 1



Summary for Pond SF2: Soil Filter 2

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 1.85" for 2-Year event
Inflow = 3.9 cfs @ 12.24 hrs, Volume= 19,295 cf
Outflow = 0.8 cfs @ 13.00 hrs, Volume= 19,072 cf, Atten= 81%, Lag= 45.6 min
Primary = 0.8 cfs @ 13.00 hrs, Volume= 19,072 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.59' @ 13.00 hrs Surf.Area= 12,370 sf Storage= 8,195 cf
Flood Elev= 64.00' Surf.Area= 15,354 sf Storage= 27,812 cf

Plug-Flow detention time= 142.4 min calculated for 19,072 cf (99% of inflow)
Center-of-Mass det. time= 135.2 min (962.1 - 826.9)

Volume	Invert	Avail.Storage	Storage Description
#1	58.49'	4,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	61.00'	23,248 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		27,812 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.49	5,803	0.0	0	0
58.50	5,803	40.0	23	23
59.50	5,803	40.0	2,321	2,344
59.51	5,803	25.0	15	2,359
60.99	5,803	25.0	2,147	4,506
61.00	5,803	100.0	58	4,564

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	5,803	0	0
62.00	7,104	6,454	6,454
63.00	8,467	7,786	14,239
64.00	9,551	9,009	23,248

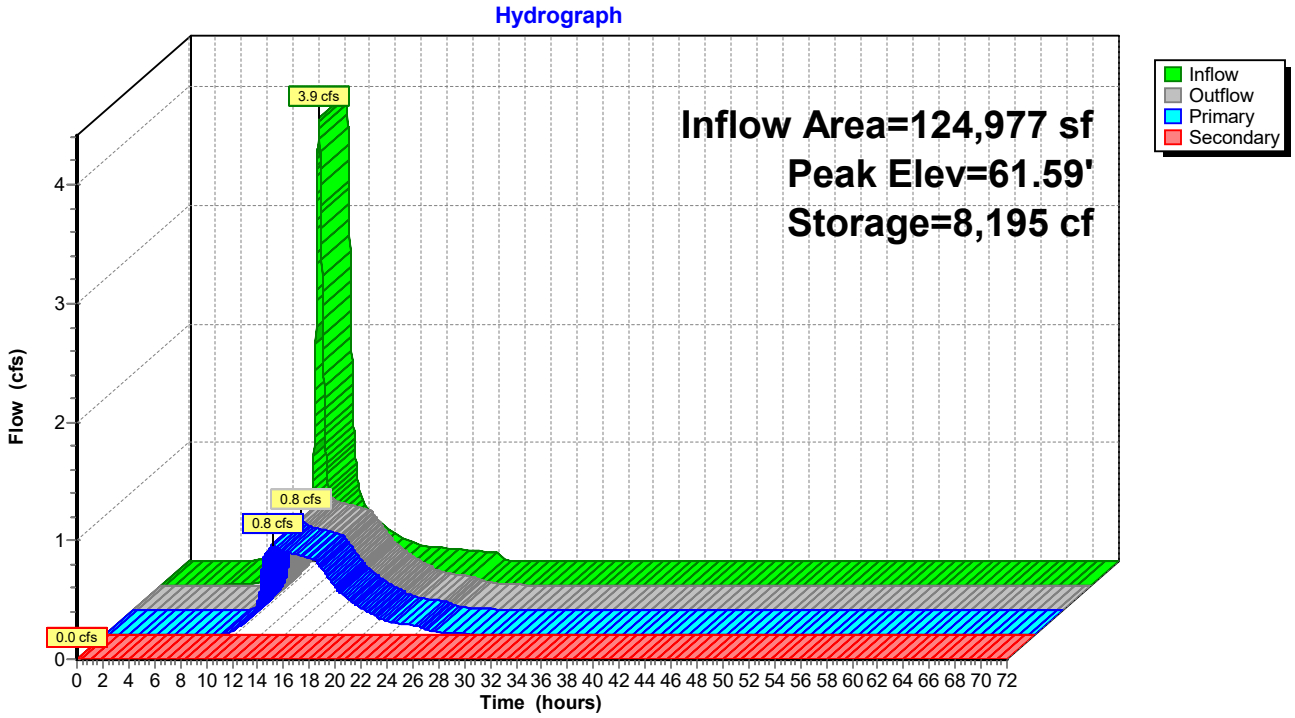
Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	**8.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 58.28' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	58.58'	**4.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	61.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.50 Width (feet) 0.50 0.50
#4	Device 1	63.00'	**24.0" x 24.0" Horiz. Structure Top** C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65

2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.8 cfs @ 13.00 hrs HW=61.59' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.8 cfs of 2.2 cfs potential flow)
  ├─**2=Underdrain** (Orifice Controls 0.7 cfs @ 8.11 fps)
  ├─**3=Custom Weir/Orifice** (Weir Controls 0.0 cfs @ 0.97 fps)
  └─**4=Structure Top** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=58.49' TW=0.00' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF2: Soil Filter 2

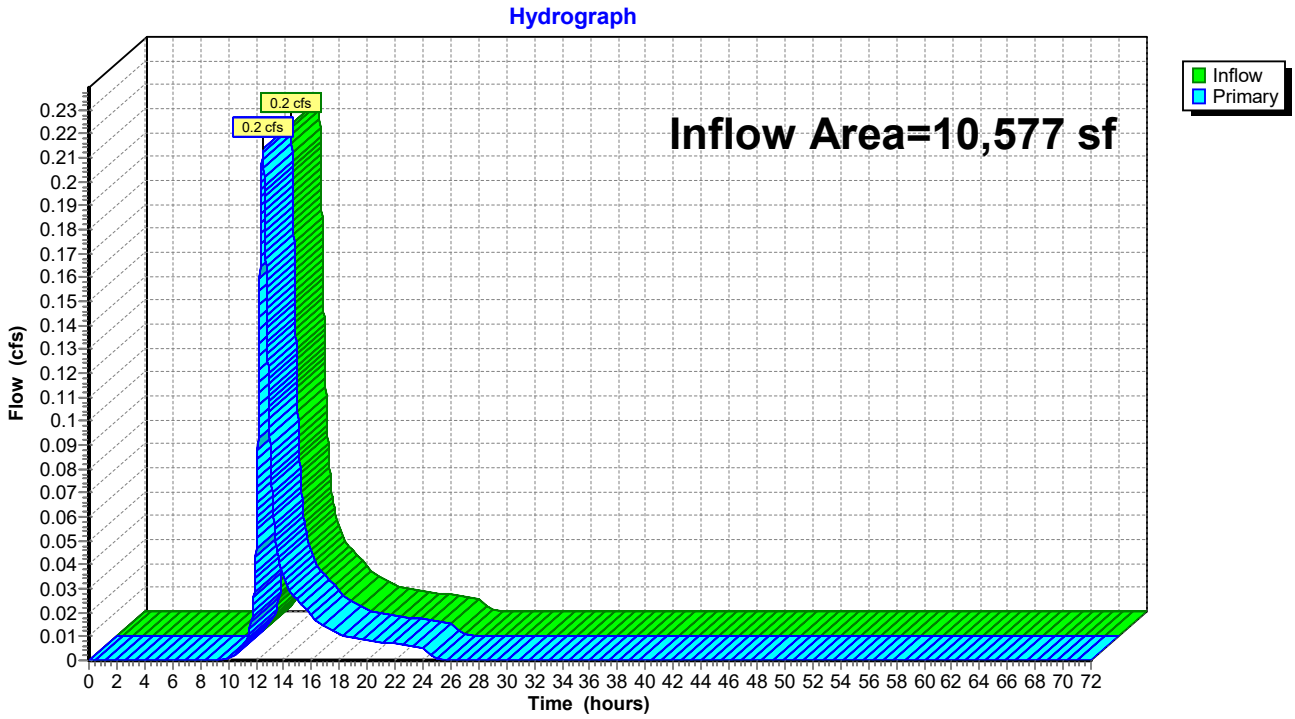


Summary for Link AP#1: Analysis Point 1

Inflow Area = 10,577 sf, 0.00% Impervious, Inflow Depth = 1.41" for 2-Year event
Inflow = 0.2 cfs @ 12.47 hrs, Volume= 1,245 cf
Primary = 0.2 cfs @ 12.47 hrs, Volume= 1,245 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

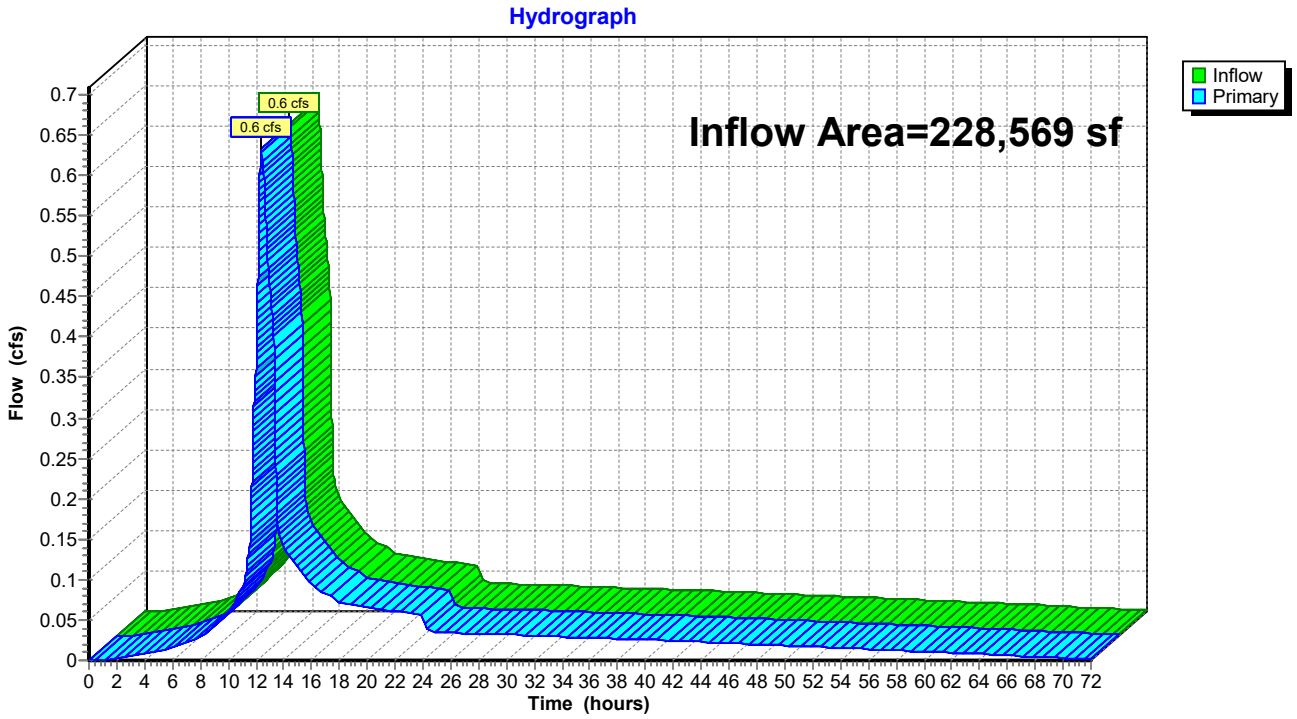


Summary for Link AP#2: Analysis Point 2

Inflow Area = 228,569 sf, 28.40% Impervious, Inflow Depth > 0.55" for 2-Year event
Inflow = 0.6 cfs @ 12.41 hrs, Volume= 10,559 cf
Primary = 0.6 cfs @ 12.41 hrs, Volume= 10,559 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

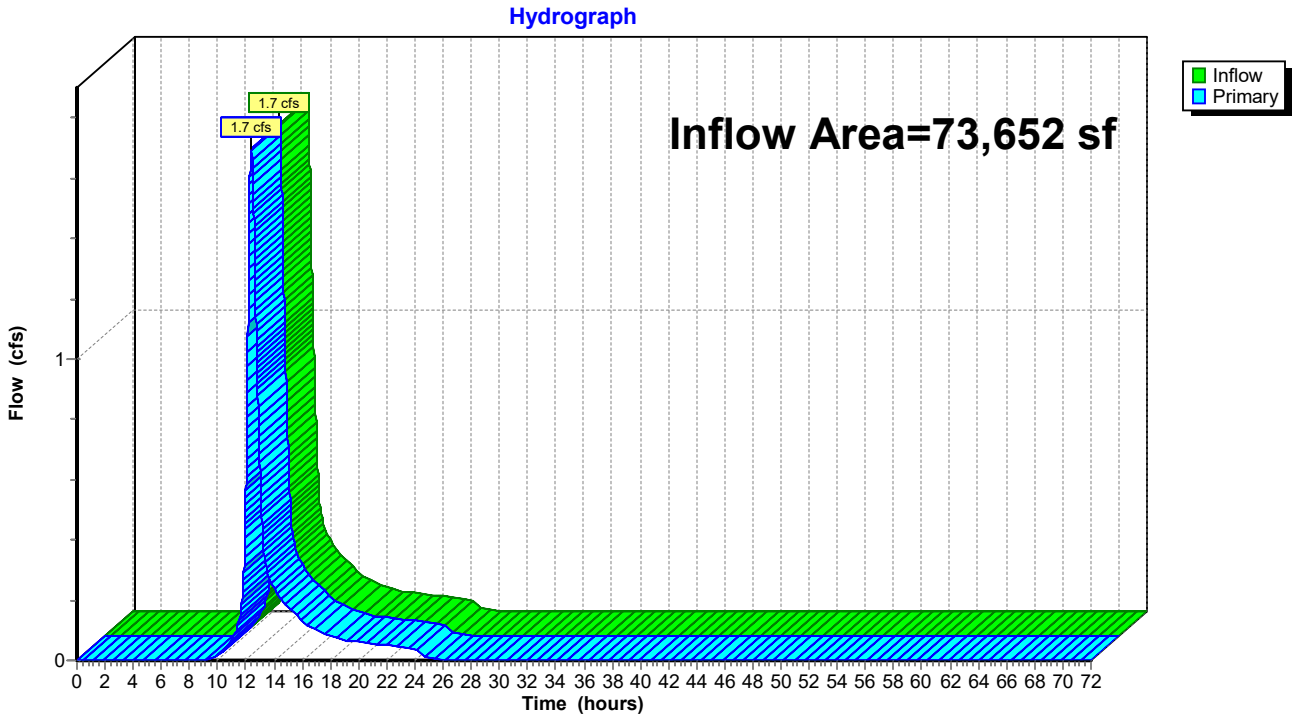


Summary for Link AP#3: Analysis Point 3

Inflow Area = 73,652 sf, 16.15% Impervious, Inflow Depth = 1.58" for 2-Year event
Inflow = 1.7 cfs @ 12.37 hrs, Volume= 9,676 cf
Primary = 1.7 cfs @ 12.37 hrs, Volume= 9,676 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

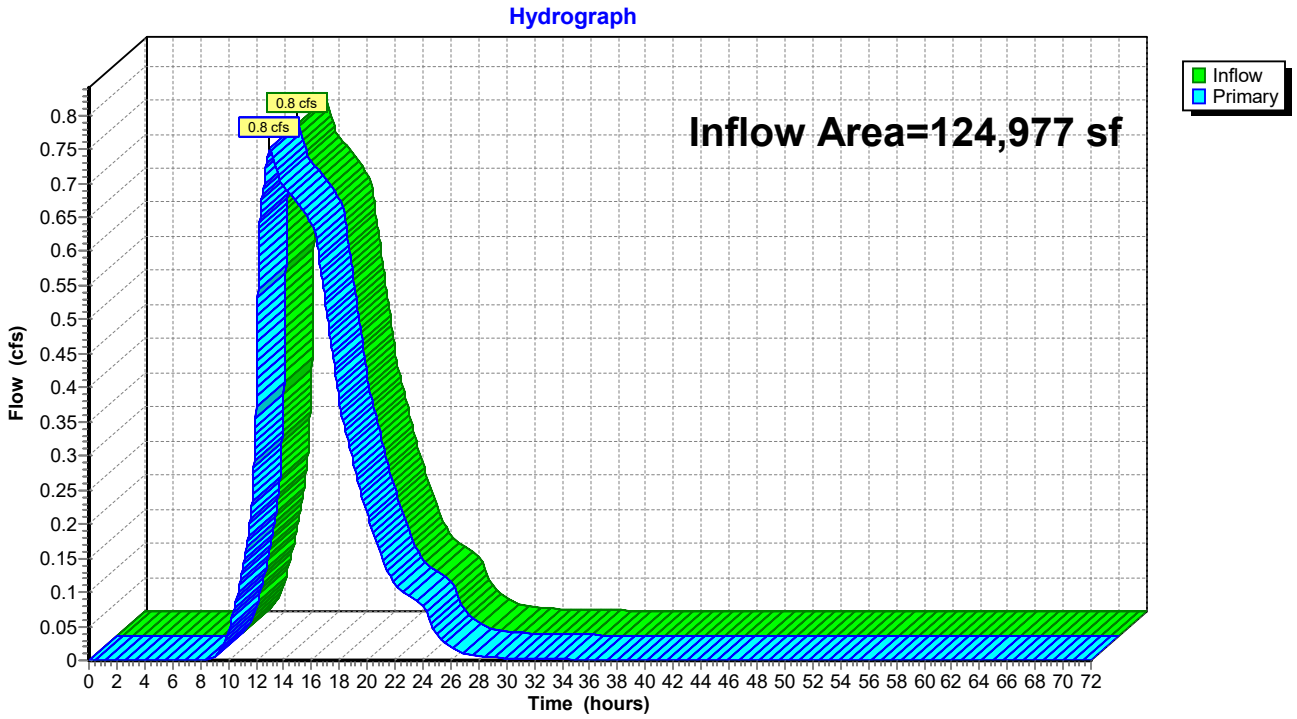


Summary for Link AP#4: Analysis Point 4

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 1.83" for 2-Year event
Inflow = 0.8 cfs @ 13.00 hrs, Volume= 19,072 cf
Primary = 0.8 cfs @ 13.00 hrs, Volume= 19,072 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

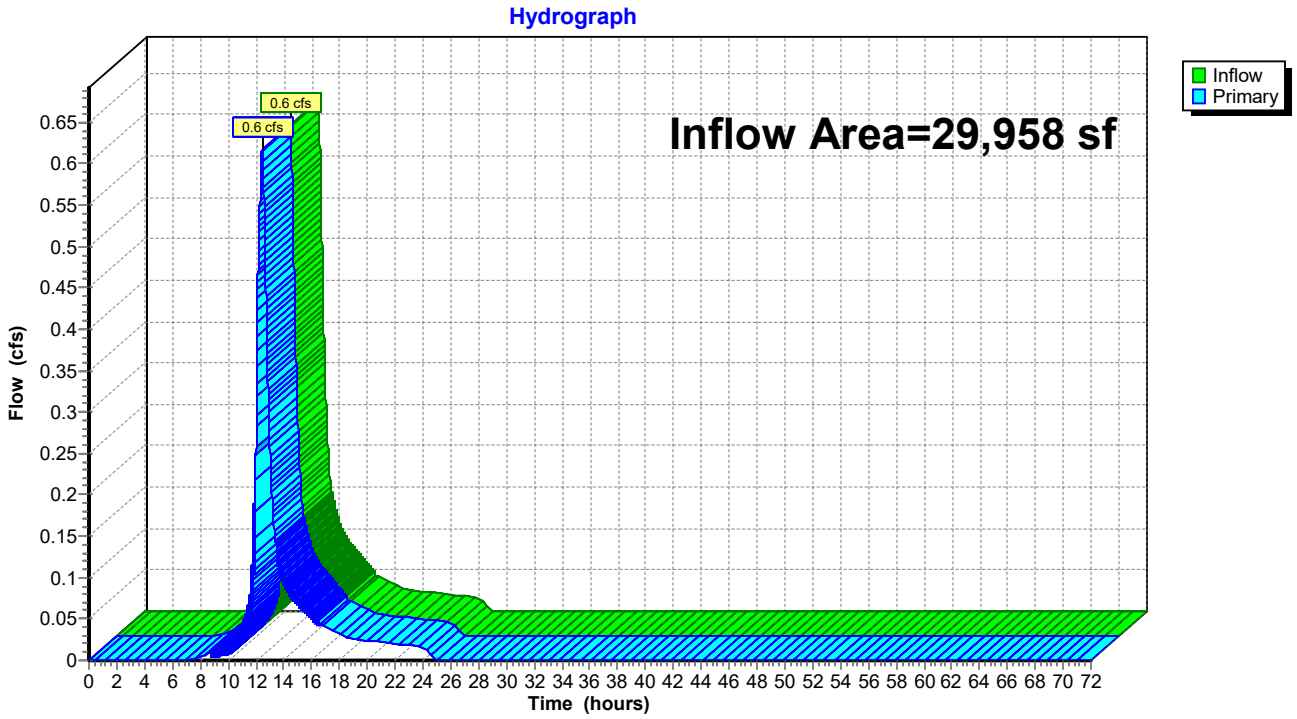


Summary for Link AP#5: Analysis Point 5

Inflow Area = 29,958 sf, 14.85% Impervious, Inflow Depth = 1.60" for 2-Year event
Inflow = 0.6 cfs @ 12.43 hrs, Volume= 3,990 cf
Primary = 0.6 cfs @ 12.43 hrs, Volume= 3,990 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

Subcatchment S1.1: Subcatchment 1.1 Runoff Area=10,577 sf 0.00% Impervious Runoff Depth=2.72"
Flow Length=131' Slope=0.0110 '/' Tc=33.3 min CN=79 Runoff=0.4 cfs 2,394 cf

Subcatchment S2.1: Subcatchment 2.1 Runoff Area=180,550 sf 19.58% Impervious Runoff Depth=0.99"
Flow Length=953' Tc=41.2 min CN=56 Runoff=1.9 cfs 14,903 cf

Subcatchment S2.2: Subcatchment S2.2 Runoff Area=30,401 sf 39.27% Impervious Runoff Depth=1.45"
Flow Length=280' Tc=22.3 min CN=63 Runoff=0.7 cfs 3,663 cf

Subcatchment S2.3: Subcatchment 2.3 Runoff Area=3,590 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.4 cfs 1,395 cf

Subcatchment S2.4: Subcatchment 2.4 Runoff Area=3,697 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.4 cfs 1,437 cf

Subcatchment S2.5: Subcatchment 2.5 Runoff Area=3,457 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.4 cfs 1,343 cf

Subcatchment S2.6: Subcatchment 2.6 Runoff Area=2,849 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.3 cfs 1,107 cf

Subcatchment S2.7: Subcatchment 2.7 Runoff Area=2,803 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.3 cfs 1,089 cf

Subcatchment S2.8: Subcatchment 2.8 Runoff Area=1,222 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 475 cf

Subcatchment S3.1: Subcatchment 3.1 Runoff Area=28,838 sf 4.33% Impervious Runoff Depth=2.54"
Flow Length=333' Tc=18.1 min CN=77 Runoff=1.4 cfs 6,103 cf

Subcatchment S3.2: Subcatchment 3.2 Runoff Area=44,814 sf 23.75% Impervious Runoff Depth=3.18"
Flow Length=329' Tc=19.8 min CN=84 Runoff=2.6 cfs 11,872 cf

Subcatchment S4.1: Subcatchment 4.1 Runoff Area=99,781 sf 12.03% Impervious Runoff Depth=2.99"
Flow Length=553' Tc=19.1 min CN=82 Runoff=5.5 cfs 24,860 cf

Subcatchment S4.10: Subcatchment 4.10 Runoff Area=3,197 sf 72.57% Impervious Runoff Depth=4.21"
Tc=6.0 min CN=94 Runoff=0.3 cfs 1,121 cf

Subcatchment S4.11: Subcatchment 4.11 Runoff Area=3,887 sf 74.68% Impervious Runoff Depth=4.21"
Tc=6.0 min CN=94 Runoff=0.4 cfs 1,363 cf

Subcatchment S4.12: Subcatchment 4.12 Runoff Area=1,423 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.2 cfs 553 cf

Subcatchment S4.13: Subcatchment 4.13 Runoff Area=1,627 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.2 cfs 632 cf

Subcatchment S4.2: Subcatchment 4.2 Runoff Area=3,347 sf 71.65% Impervious Runoff Depth=4.10"
Tc=6.0 min CN=93 Runoff=0.3 cfs 1,143 cf

Subcatchment S4.3: Subcatchment 4.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Subcatchment S4.4: Subcatchment 4.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Subcatchment S4.5: Subcatchment 4.5 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Subcatchment S4.6: Subcatchment 4.6 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Subcatchment S4.7: Subcatchment 4.7 Runoff Area=3,900 sf 73.33% Impervious Runoff Depth=4.21"
Tc=6.0 min CN=94 Runoff=0.4 cfs 1,368 cf

Subcatchment S4.8: Subcatchment 4.8 Runoff Area=1,313 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 510 cf

Subcatchment S4.9: Subcatchment 4.9 Runoff Area=1,502 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.2 cfs 584 cf

Subcatchment S5.1: Subcatchment 5.1 Runoff Area=26,208 sf 2.67% Impervious Runoff Depth=2.72"
Flow Length=421' Tc=32.7 min CN=79 Runoff=1.0 cfs 5,931 cf

Subcatchment S5.2: Subcatchment 5.2 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Subcatchment S5.3: Subcatchment 5.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Subcatchment S5.4: Subcatchment 5.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=98 Runoff=0.1 cfs 486 cf

Reach S1: Swale 1 Avg. Flow Depth=0.14' Max Vel=2.23 fps Inflow=2.6 cfs 11,872 cf
n=0.022 L=175.0' S=0.0171 '/' Capacity=24.5 cfs Outflow=2.6 cfs 11,872 cf

Pond C1: Culvert 1 Peak Elev=69.89' Inflow=0.1 cfs 469 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0158 '/' Outflow=0.1 cfs 469 cf

Pond C10: Culvert 10 Peak Elev=69.52' Inflow=0.1 cfs 469 cf
12.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.1 cfs 469 cf

Pond C11: Culvert 11 Peak Elev=69.47' Inflow=0.4 cfs 1,406 cf
12.0" Round Culvert n=0.013 L=82.4' S=0.0076 '/' Outflow=0.4 cfs 1,406 cf

Pond C2: Culvert 2 Peak Elev=69.68' Inflow=0.2 cfs 937 cf
12.0" Round Culvert n=0.012 L=44.0' S=0.0027 '/' Outflow=0.2 cfs 937 cf

Pond C3: Culvert 3 Peak Elev=69.51' Inflow=0.4 cfs 1,405 cf
24.0" Round Culvert n=0.012 L=44.4' S=0.0052 '/' Outflow=0.4 cfs 1,405 cf

Pond C4: Culvert 4 Peak Elev=69.88' Inflow=0.1 cfs 469 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0142 '/' Outflow=0.1 cfs 469 cf

Pond C7: Culvert 7 Peak Elev=68.66' Inflow=0.3 cfs 468 cf
4.0" Round Culvert n=0.013 L=27.0' S=0.0048 '/' Outflow=0.3 cfs 468 cf

Pond C8: Culvert 8 Peak Elev=53.30' Inflow=1.9 cfs 14,903 cf
16.0" Round Culvert n=0.025 L=184.0' S=0.0054 '/' Outflow=1.9 cfs 14,903 cf

Pond C9: Culvert 9 Peak Elev=69.65' Inflow=0.2 cfs 937 cf
12.0" Round Culvert n=0.013 L=25.0' S=0.0088 '/' Outflow=0.2 cfs 937 cf

Pond CB1: Catch Basin 1 Peak Elev=68.90' Inflow=0.7 cfs 2,550 cf
12.0" Round Culvert n=0.013 L=79.0' S=0.0051 '/' Outflow=0.7 cfs 2,550 cf

Pond CB10: Catch Basin 10 Peak Elev=61.52' Inflow=0.8 cfs 2,832 cf
12.0" Round Culvert n=0.013 L=212.5' S=0.0424 '/' Outflow=0.8 cfs 2,832 cf

Pond CB11: Catch Basin 11 Peak Elev=52.61' Inflow=0.4 cfs 1,343 cf
12.0" Round Culvert n=0.013 L=18.5' S=0.0054 '/' Outflow=0.4 cfs 1,343 cf

Pond CB12: Catch Basin 12 Peak Elev=52.56' Inflow=1.5 cfs 5,282 cf
12.0" Round Culvert n=0.013 L=96.6' S=0.0404 '/' Outflow=1.5 cfs 5,282 cf

Pond CB13: Catch Basin 13 Peak Elev=49.12' Inflow=1.9 cfs 6,847 cf
12.0" Round Culvert n=0.013 L=49.3' S=0.0034 '/' Outflow=1.9 cfs 6,847 cf

Pond CB14: Catch Basin 14 Peak Elev=49.36' Inflow=1.6 cfs 5,757 cf
12.0" Round Culvert n=0.013 L=15.0' S=0.0067 '/' Outflow=1.6 cfs 5,757 cf

Pond CB2: Catch Basin 2 Peak Elev=68.34' Inflow=0.3 cfs 1,121 cf
12.0" Round Culvert n=0.013 L=79.2' S=0.0051 '/' Outflow=0.3 cfs 1,121 cf

Pond CB3: Catch Basin 3 Peak Elev=67.45' Inflow=1.3 cfs 4,386 cf
12.0" Round Culvert n=0.013 L=17.5' S=0.0057 '/' Outflow=1.3 cfs 4,386 cf

Pond CB4: Catch Basin 4 Peak Elev=67.30' Inflow=2.0 cfs 6,870 cf
12.0" Round Culvert n=0.013 L=103.7' S=0.0053 '/' Outflow=2.0 cfs 6,870 cf

Pond CB5: Catch Basin 5 Peak Elev=66.90' Inflow=0.1 cfs 510 cf
12.0" Round Culvert n=0.013 L=18.4' S=0.0054 '/' Outflow=0.1 cfs 510 cf

Pond CB6: Catch Basin 6 Peak Elev=66.89' Inflow=2.3 cfs 7,934 cf
12.0" Round Culvert n=0.013 L=60.9' S=0.0057 '/' Outflow=2.3 cfs 7,934 cf

Pond CB7: Catch Basin 7 Peak Elev=65.88' Inflow=0.2 cfs 584 cf
12.0" Round Culvert n=0.013 L=18.2' S=0.0055 '/' Outflow=0.2 cfs 584 cf

Pond CB8: Catch Basin 8 Peak Elev=65.88' Inflow=2.6 cfs 9,150 cf
12.0" Round Culvert n=0.013 L=156.4' S=0.0054 '/' Outflow=2.6 cfs 9,150 cf

Pond CB9: Catch Basin 9 Peak Elev=62.39' Inflow=0.4 cfs 1,395 cf
12.0" Round Culvert n=0.013 L=18.8' S=0.0053 '/' Outflow=0.4 cfs 1,395 cf

Pond CH1: Chamber 1 Peak Elev=48.52' Storage=931 cf Inflow=1.9 cfs 6,847 cf
Outflow=1.7 cfs 6,847 cf

Pond MH1: Manhole 1 Peak Elev=66.38' Inflow=2.3 cfs 7,934 cf
12.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=2.3 cfs 7,934 cf

Pond MH2: Manhole 2 Peak Elev=61.28' Inflow=1.6 cfs 11,866 cf
12.0" Round Culvert n=0.013 L=152.9' S=0.0052 '/' Outflow=1.6 cfs 11,866 cf

Pond MH3: Manhole 3 Peak Elev=60.39' Inflow=1.6 cfs 11,866 cf
12.0" Round Culvert n=0.013 L=81.0' S=0.0049 '/' Outflow=1.6 cfs 11,866 cf

Pond MH4: Manhole 4 Peak Elev=59.83' Inflow=1.6 cfs 11,866 cf
12.0" Round Culvert n=0.013 L=205.9' S=0.0051 '/' Outflow=1.6 cfs 11,866 cf

Pond MH5: Manhole 5 Peak Elev=48.78' Inflow=1.9 cfs 6,847 cf
12.0" Round Culvert n=0.013 L=6.2' S=0.0048 '/' Outflow=1.9 cfs 6,847 cf

Pond P1: Pond 1 Peak Elev=53.27' Storage=6,953 cf Inflow=1.9 cfs 14,903 cf
Outflow=0.5 cfs 14,024 cf

Pond RD1: Roof Drain 1 Peak Elev=69.59' Storage=47 cf Inflow=0.1 cfs 486 cf
Primary=0.1 cfs 468 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 468 cf

Pond RD2: Roof Drain 2 Peak Elev=69.76' Storage=52 cf Inflow=0.1 cfs 486 cf
Primary=0.1 cfs 468 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 468 cf

Pond RD3: Roof Drain 3 Peak Elev=69.99' Storage=41 cf Inflow=0.1 cfs 486 cf
Primary=0.1 cfs 469 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 469 cf

Pond RD4: Roof Drain 4 Peak Elev=69.99' Storage=41 cf Inflow=0.1 cfs 486 cf
Primary=0.1 cfs 469 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 469 cf

Pond RD5: Roof Drain 5 Peak Elev=69.73' Storage=50 cf Inflow=0.1 cfs 486 cf
Primary=0.1 cfs 468 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 468 cf

Pond RD6: Roof Drain 6 Peak Elev=69.59' Storage=46 cf Inflow=0.1 cfs 486 cf
Primary=0.1 cfs 469 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 469 cf

Pond RD7: Roof Drain 7 Peak Elev=67.39' Storage=94 cf Inflow=0.1 cfs 486 cf
Primary=0.3 cfs 468 cf Secondary=0.0 cfs 0 cf Outflow=0.3 cfs 468 cf

Pond SF1: Soil Filter 1 Peak Elev=64.04' Storage=1,717 cf Inflow=2.6 cfs 11,872 cf
Primary=1.6 cfs 11,866 cf Secondary=0.0 cfs 0 cf Outflow=1.6 cfs 11,866 cf

Pond SF2: Soil Filter 2 Peak Elev=62.41' Storage=14,054 cf Inflow=7.0 cfs 34,010 cf
Primary=1.8 cfs 33,787 cf Secondary=0.0 cfs 0 cf Outflow=1.8 cfs 33,787 cf

Link AP#1: Analysis Point 1 Inflow=0.4 cfs 2,394 cf
Primary=0.4 cfs 2,394 cf

Link AP#2: Analysis Point 2 Inflow=2.1 cfs 24,534 cf
Primary=2.1 cfs 24,534 cf

Link AP#3: Analysis Point 3 Inflow=2.8 cfs 17,969 cf
Primary=2.8 cfs 17,969 cf

Link AP#4: Analysis Point 4 Inflow=1.8 cfs 33,787 cf
Primary=1.8 cfs 33,787 cf

Link AP#5: Analysis Point 5 Inflow=1.2 cfs 7,336 cf
Primary=1.2 cfs 7,336 cf

Total Runoff Area = 467,733 sf Runoff Volume = 87,249 cf Average Runoff Depth = 2.24"
75.50% Pervious = 353,127 sf 24.50% Impervious = 114,606 sf

Summary for Subcatchment S1.1: Subcatchment 1.1

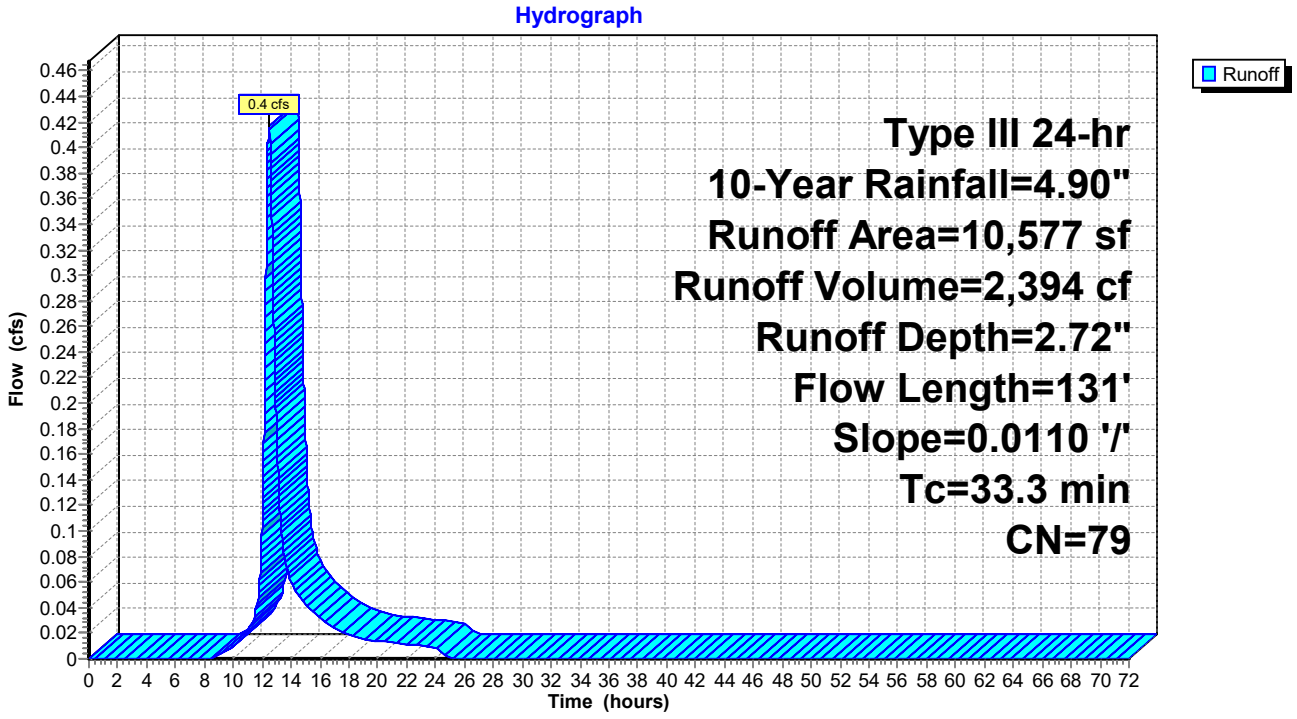
Runoff = 0.4 cfs @ 12.47 hrs, Volume= 2,394 cf, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
6,431	80	>75% Grass cover, Good, HSG D
4,146	77	Woods, Good, HSG D
10,577	79	Weighted Average
10,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	131	0.0110	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"

Subcatchment S1.1: Subcatchment 1.1



Summary for Subcatchment S2.1: Subcatchment 2.1

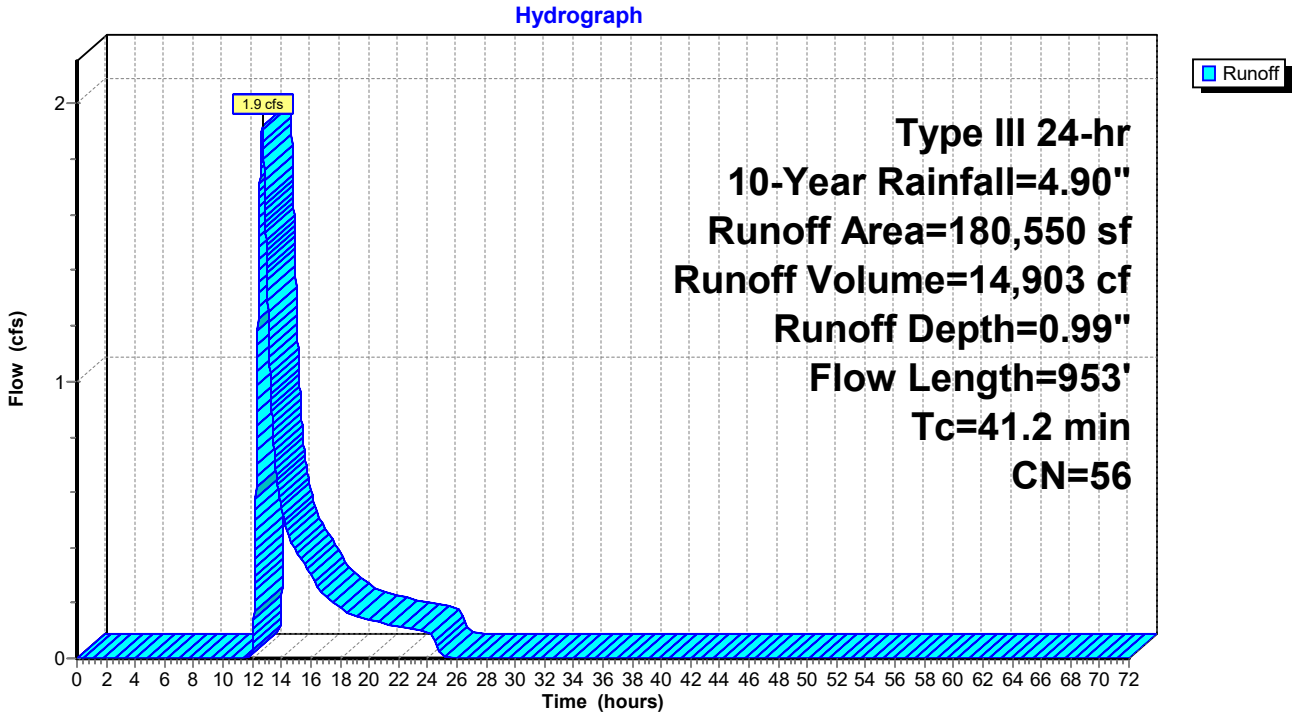
Runoff = 1.9 cfs @ 12.68 hrs, Volume= 14,903 cf, Depth= 0.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
12,432	39	>75% Grass cover, Good, HSG A
85,722	30	Woods, Good, HSG A
489	98	Paved parking, HSG A
17,787	80	>75% Grass cover, Good, HSG D
29,251	77	Woods, Good, HSG D
14,624	98	Paved parking, HSG D
3,134	98	Paved parking, HSG D
17,111	98	Roofs, HSG A
180,550	56	Weighted Average
145,192		80.42% Pervious Area
35,358		19.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	51	0.0196	0.15		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
13.5	99	0.0606	0.12		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
7.7	300	0.0167	0.65		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
4.3	203	0.0246	0.78		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
41.2	953	Total			

Subcatchment S2.1: Subcatchment 2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

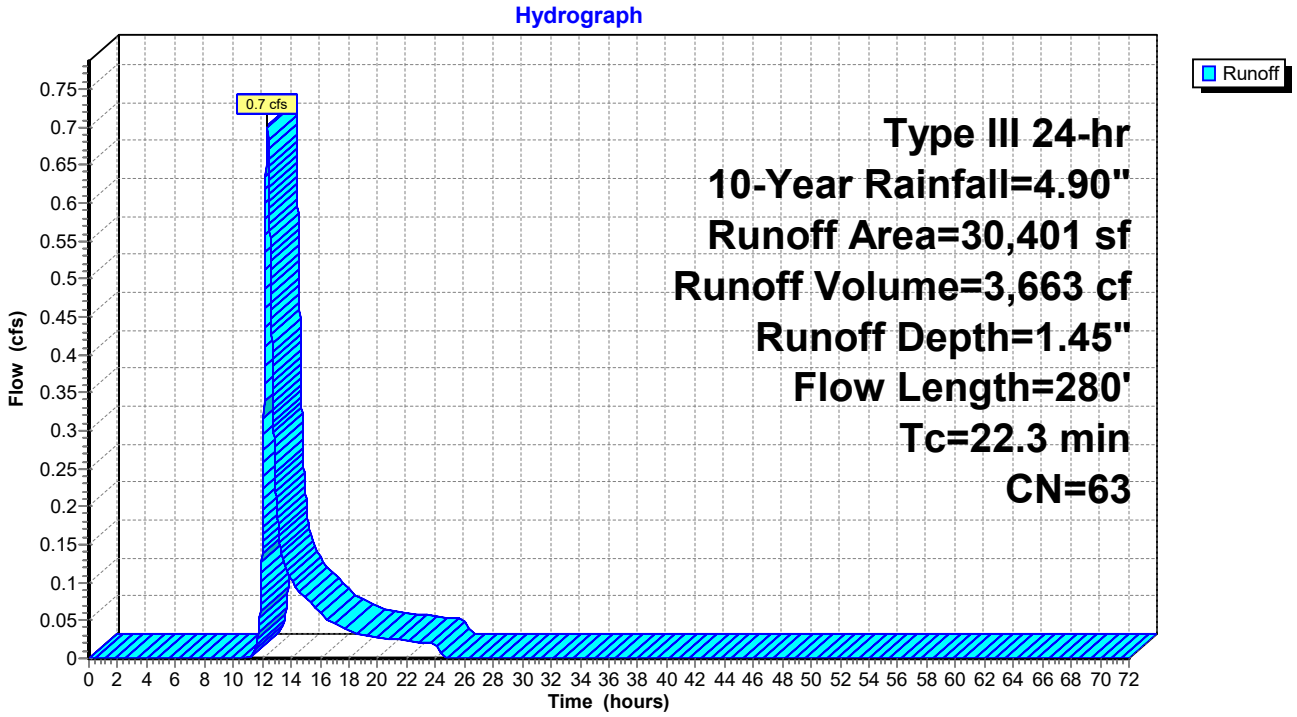
Runoff = 0.7 cfs @ 12.34 hrs, Volume= 3,663 cf, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
5,813	98	Paved parking, HSG A
30,401	63	Weighted Average
18,462		60.73% Pervious Area
11,939		39.27% Impervious Area
6,060		50.76% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	150	0.0520	0.13		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.3	130	0.0350	0.94		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.3	280	Total			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment 2.3

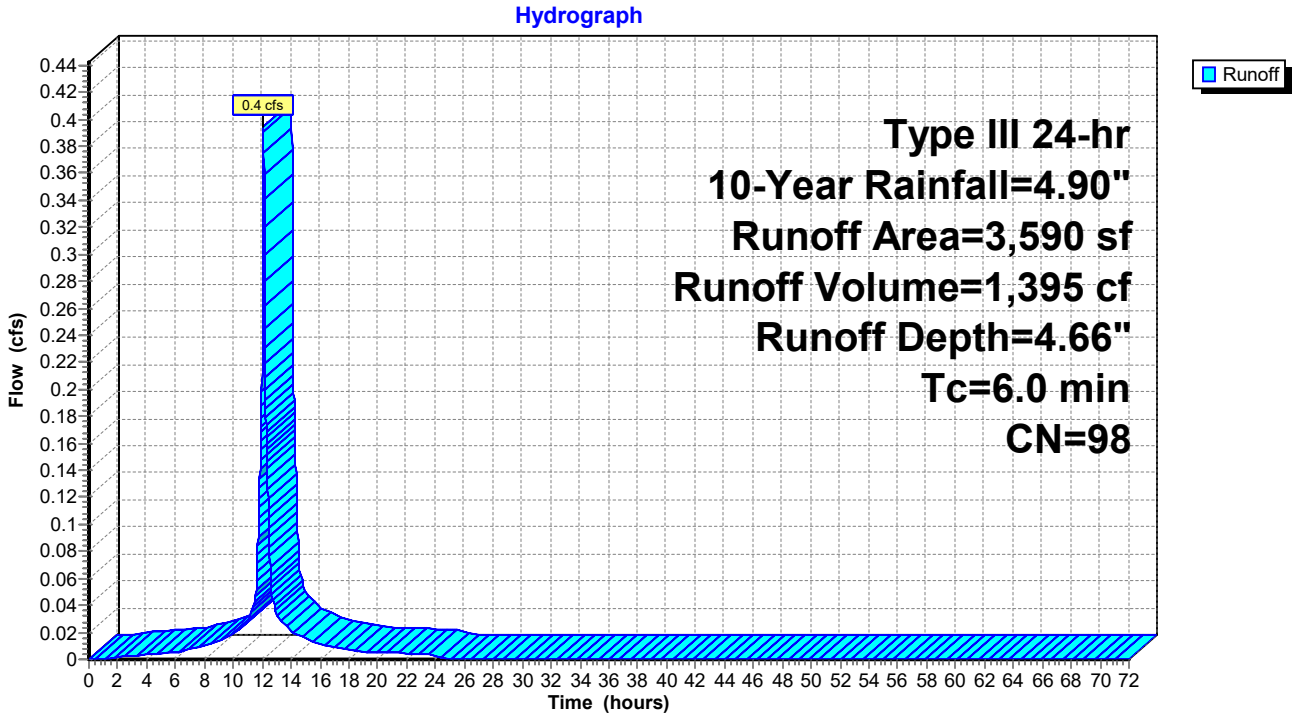
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,395 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
3,590	98	Paved roads w/curbs & sewers, HSG D
3,590		100.00% Impervious Area

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

Subcatchment S2.3: Subcatchment 2.3



Summary for Subcatchment S2.4: Subcatchment 2.4

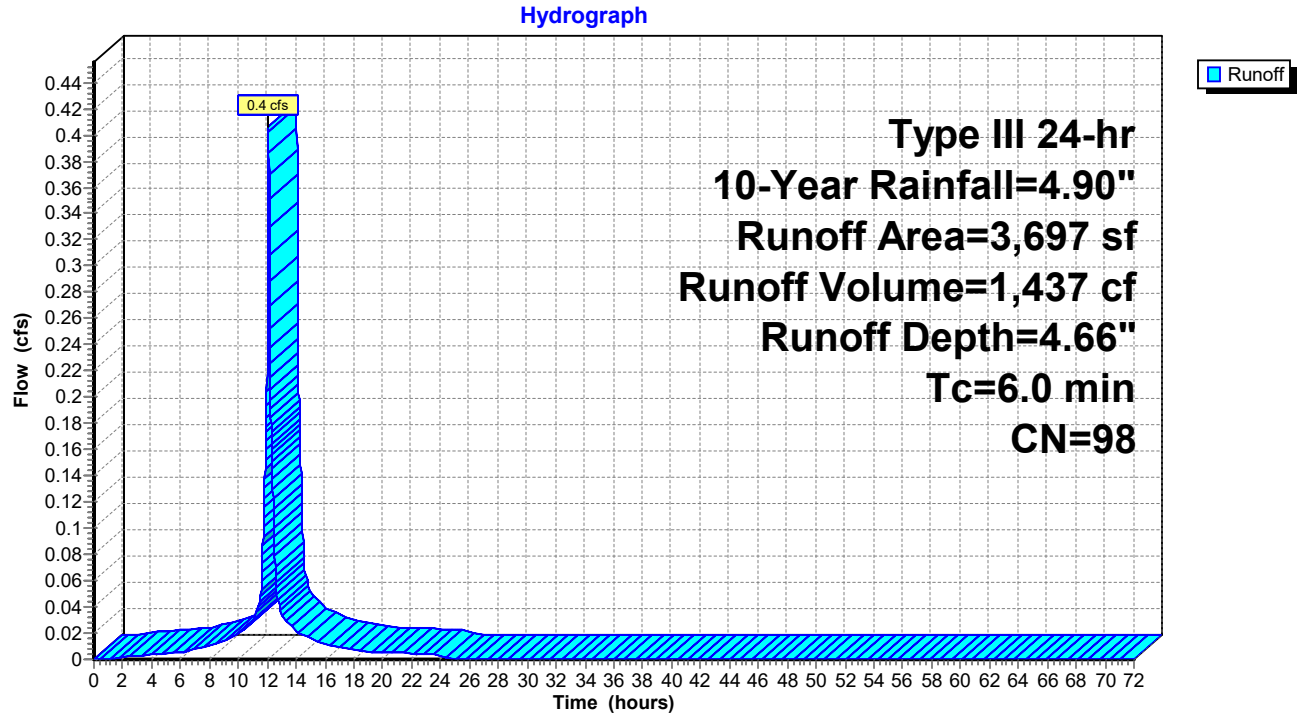
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,437 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
3,697	98	Paved roads w/curbs & sewers, HSG D
3,697		100.00% Impervious Area

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

Subcatchment S2.4: Subcatchment 2.4



Summary for Subcatchment S2.5: Subcatchment 2.5

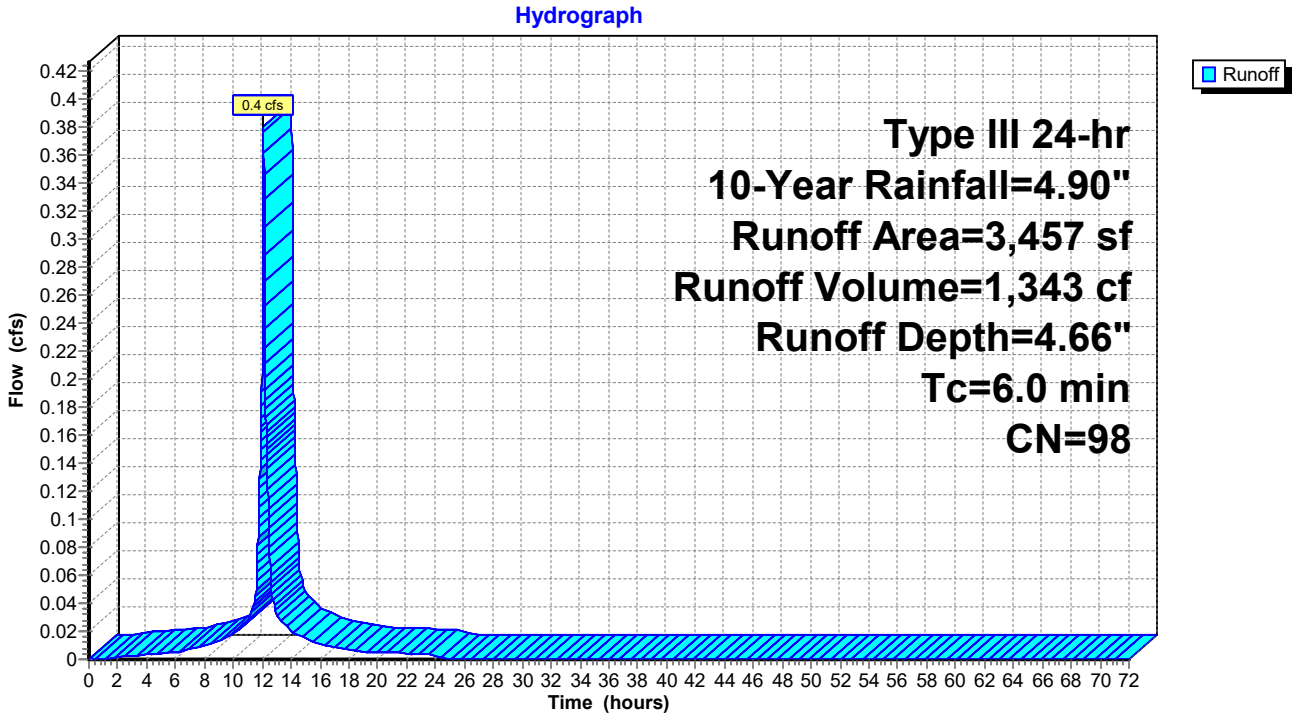
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,343 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
3,457	98	Paved roads w/curbs & sewers, HSG D
3,457		100.00% Impervious Area

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

Subcatchment S2.5: Subcatchment 2.5



Summary for Subcatchment S2.6: Subcatchment 2.6

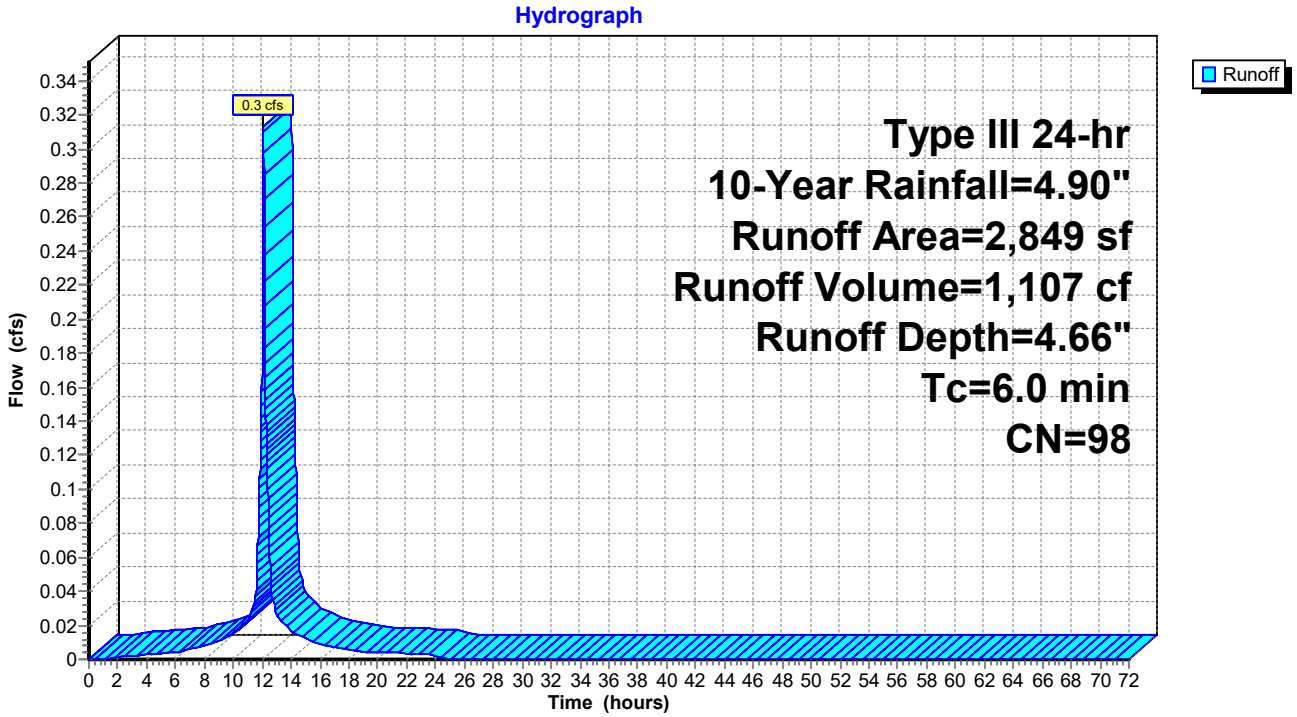
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 1,107 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
2,849	98	Paved roads w/curbs & sewers, HSG D
2,849		100.00% Impervious Area

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

Subcatchment S2.6: Subcatchment 2.6



Summary for Subcatchment S2.7: Subcatchment 2.7

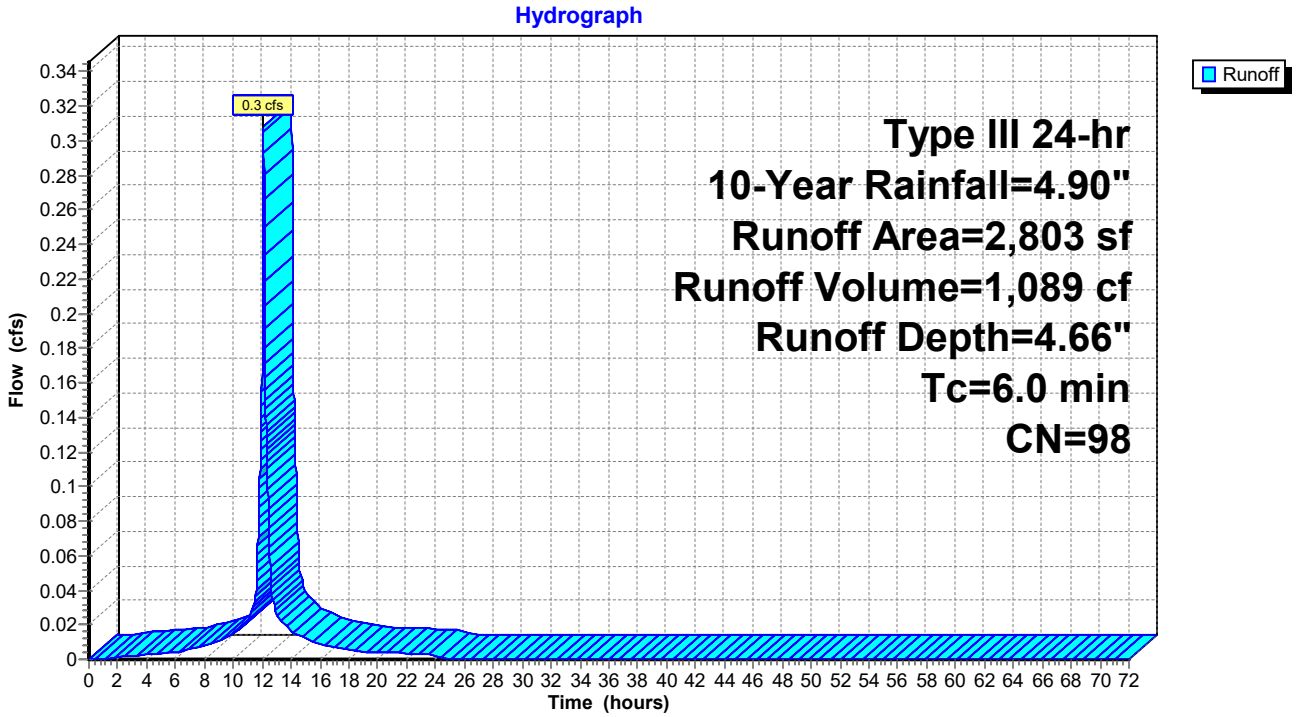
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 1,089 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
2,803	98	Paved roads w/curbs & sewers, HSG D
2,803		100.00% Impervious Area

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

Subcatchment S2.7: Subcatchment 2.7



Summary for Subcatchment S2.8: Subcatchment 2.8

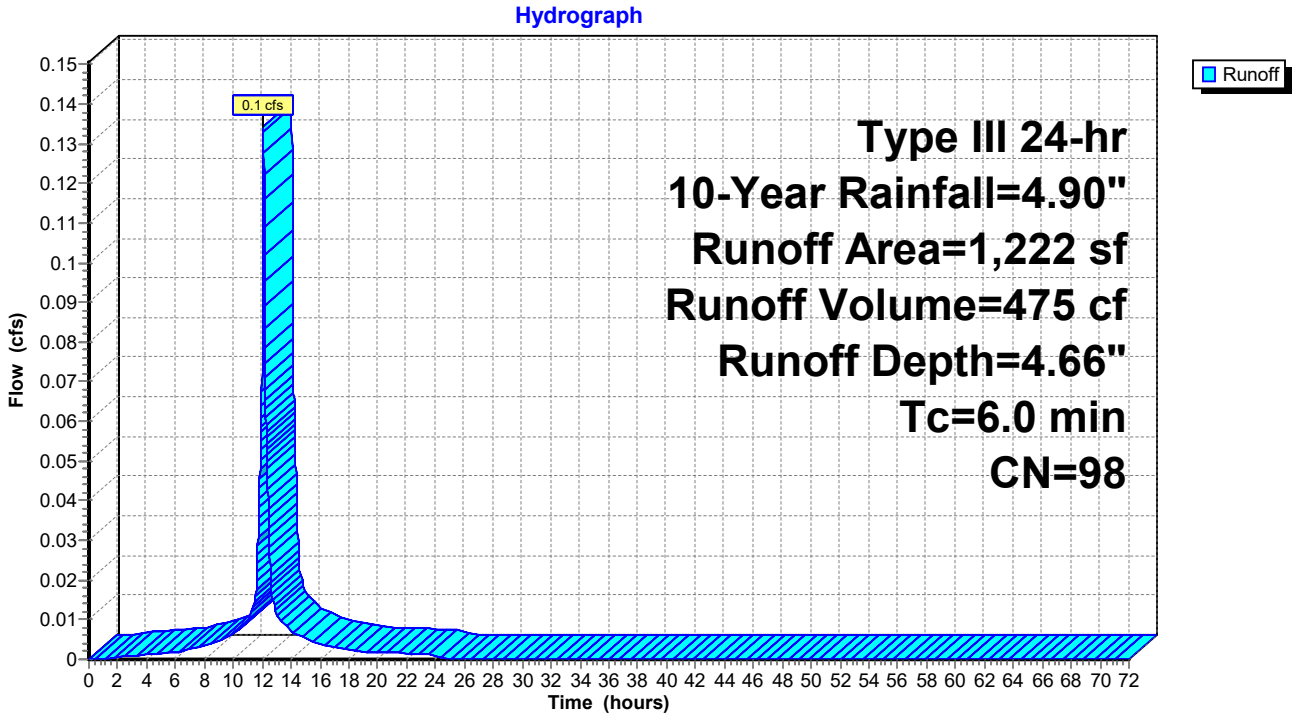
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 475 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,222	98	Paved roads w/curbs & sewers, HSG D
1,222		100.00% Impervious Area

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

Subcatchment S2.8: Subcatchment 2.8



Summary for Subcatchment S3.1: Subcatchment 3.1

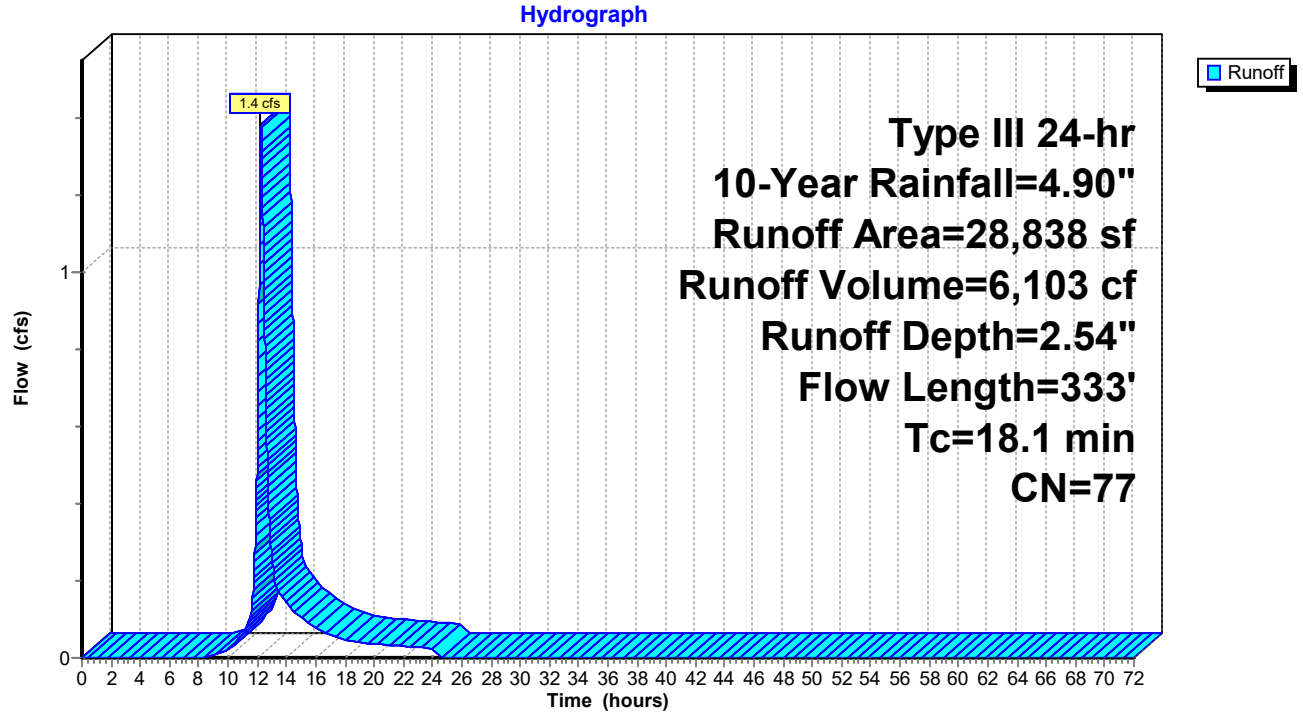
Runoff = 1.4 cfs @ 12.25 hrs, Volume= 6,103 cf, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
15,787	77	Woods, Good, HSG D
10,424	80	>75% Grass cover, Good, HSG D
1,377	39	>75% Grass cover, Good, HSG A
1,250	98	Roofs, HSG D
28,838	77	Weighted Average
27,588		95.67% Pervious Area
1,250		4.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	150	0.0130	0.16		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
1.2	102	0.0392	1.39		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.0	81	0.0740	1.36		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
18.1	333	Total			

Subcatchment S3.1: Subcatchment 3.1



Summary for Subcatchment S3.2: Subcatchment 3.2

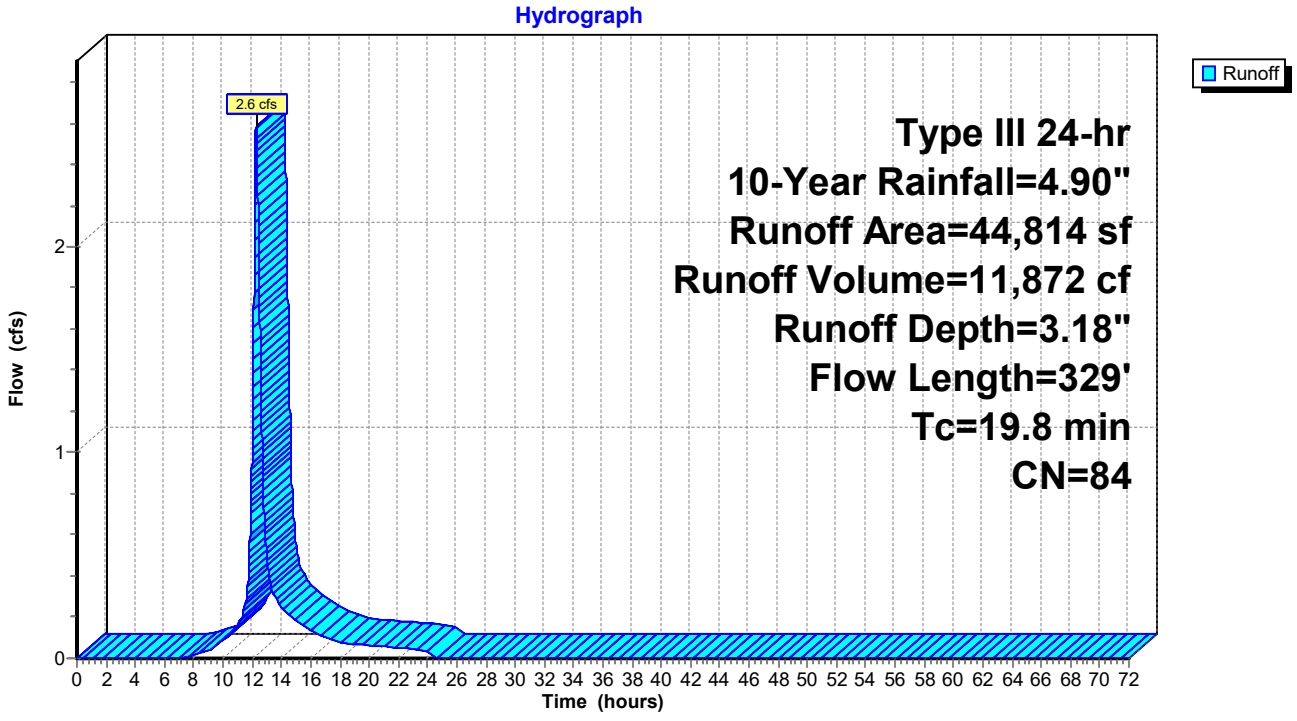
Runoff = 2.6 cfs @ 12.26 hrs, Volume= 11,872 cf, Depth= 3.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
34,169	80	>75% Grass cover, Good, HSG D
1,895	98	Paved parking, HSG D
8,750	98	Roofs, HSG D
44,814	84	Weighted Average
34,169		76.25% Pervious Area
10,645		23.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0100	0.14		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
2.2	179	0.0363	1.33		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.8	329	Total			

Subcatchment S3.2: Subcatchment 3.2



Summary for Subcatchment S4.1: Subcatchment 4.1

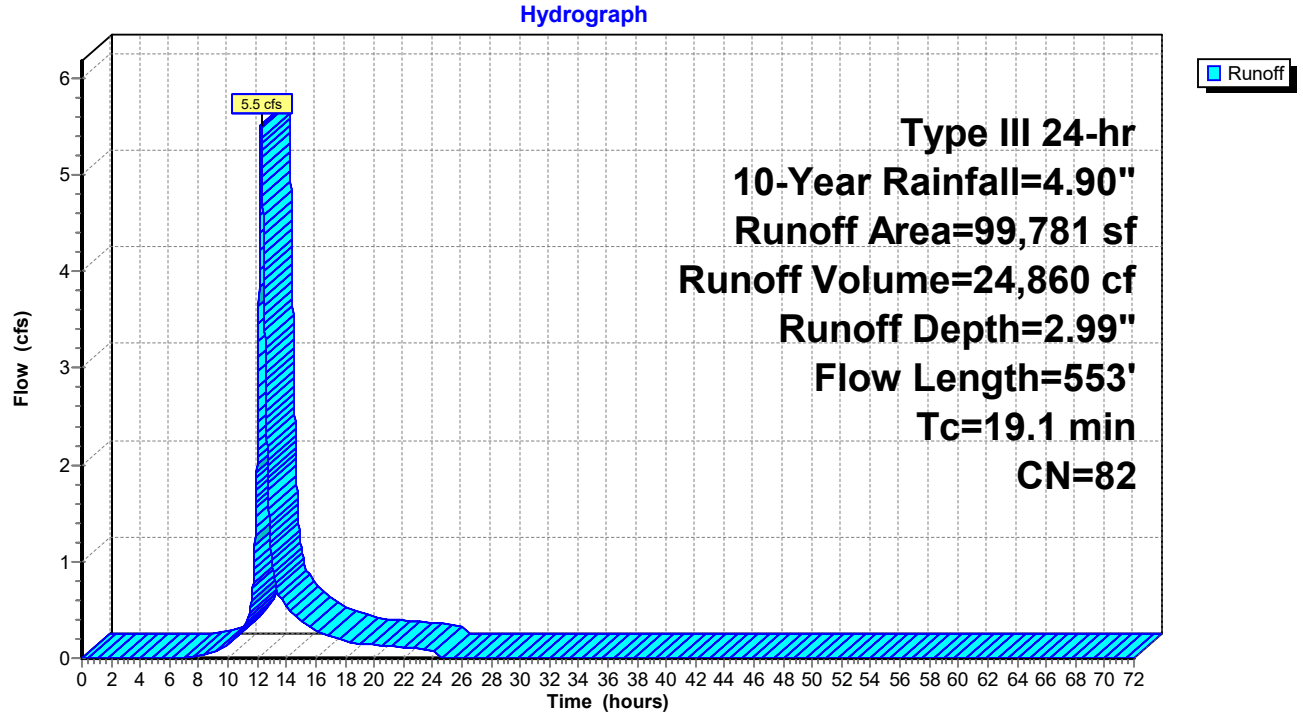
Runoff = 5.5 cfs @ 12.25 hrs, Volume= 24,860 cf, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
17,618	77	Woods, Good, HSG D
70,163	80	>75% Grass cover, Good, HSG D
12,000	98	Roofs, HSG D
99,781	82	Weighted Average
87,781		87.97% Pervious Area
12,000		12.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	150	0.0330	0.23		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
7.1	300	0.0100	0.70		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.1	103	0.0485	1.54		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.1	553	Total			

Subcatchment S4.1: Subcatchment 4.1



Summary for Subcatchment S4.10: Subcatchment 4.10

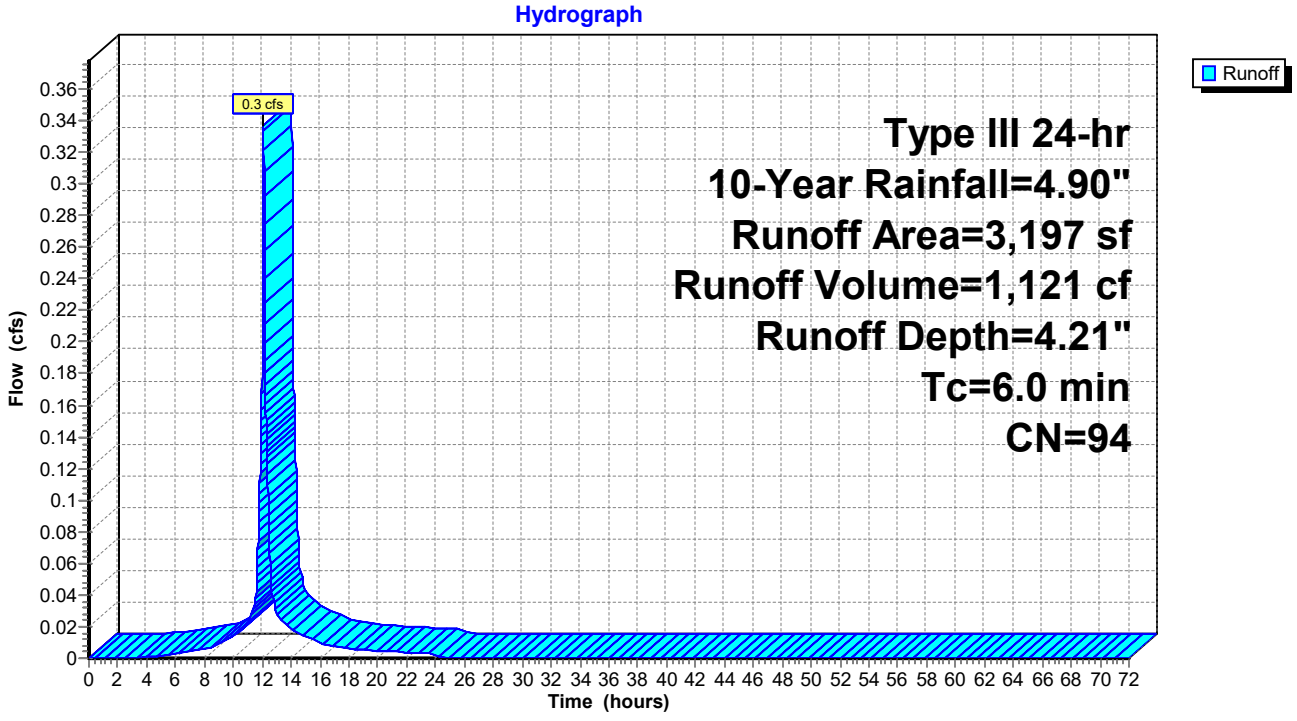
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 1,121 cf, Depth= 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
2,320	98	Paved roads w/curbs & sewers, HSG D
148	96	Gravel surface, HSG D
729	80	>75% Grass cover, Good, HSG D
3,197	94	Weighted Average
877		27.43% Pervious Area
2,320		72.57% Impervious Area

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

Subcatchment S4.10: Subcatchment 4.10



Summary for Subcatchment S4.11: Subcatchment 4.11

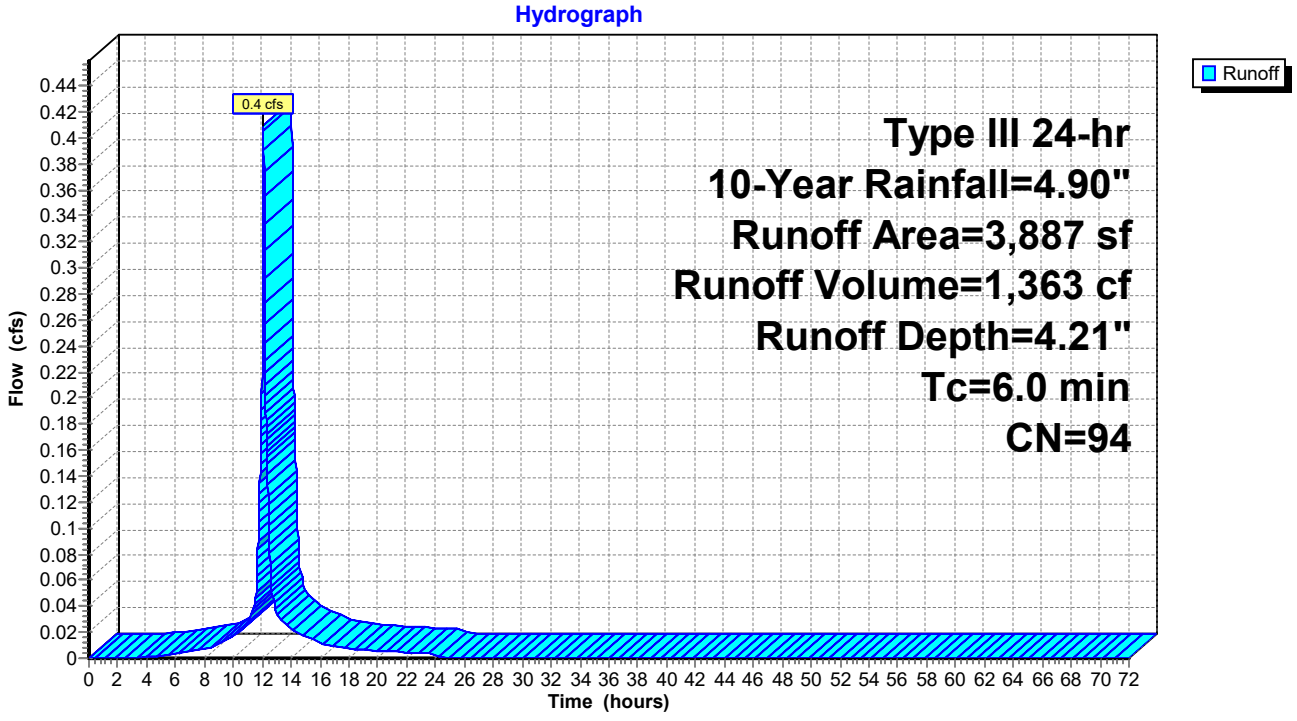
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,363 cf, Depth= 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
2,903	98	Paved roads w/curbs & sewers, HSG D
163	96	Gravel surface, HSG D
821	80	>75% Grass cover, Good, HSG D
3,887	94	Weighted Average
984		25.32% Pervious Area
2,903		74.68% Impervious Area

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

Subcatchment S4.11: Subcatchment 4.11



Summary for Subcatchment S4.12: Subcatchment 4.12

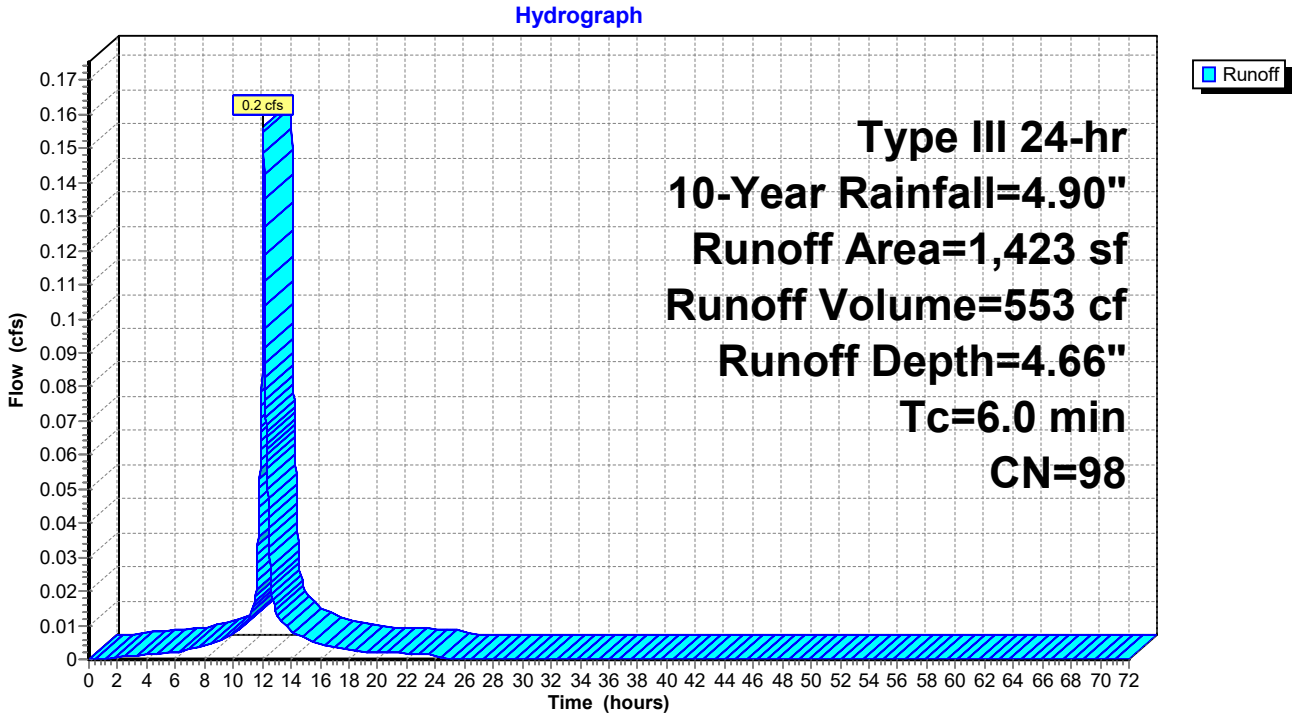
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 553 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,423	98	Paved roads w/curbs & sewers, HSG D
1,423		100.00% Impervious Area

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

Subcatchment S4.12: Subcatchment 4.12



Summary for Subcatchment S4.13: Subcatchment 4.13

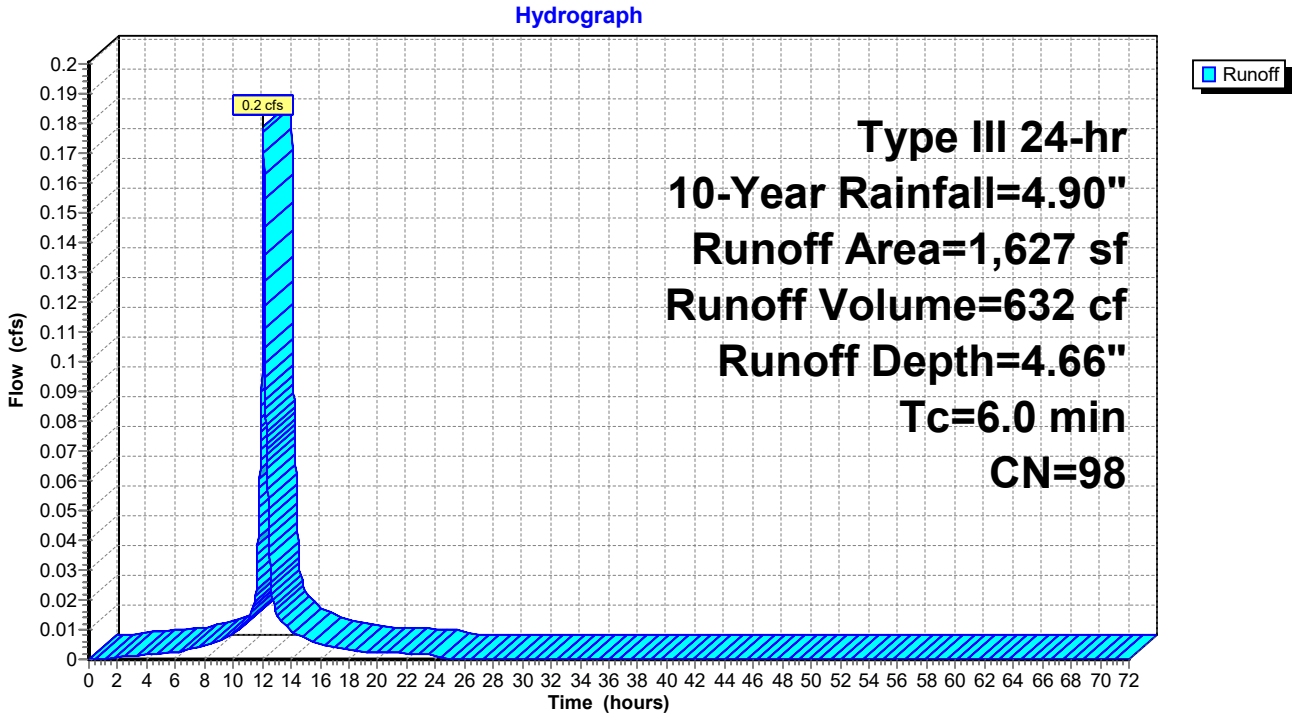
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 632 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,627	98	Paved roads w/curbs & sewers, HSG D
1,627		100.00% Impervious Area

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

Subcatchment S4.13: Subcatchment 4.13



Summary for Subcatchment S4.2: Subcatchment 4.2

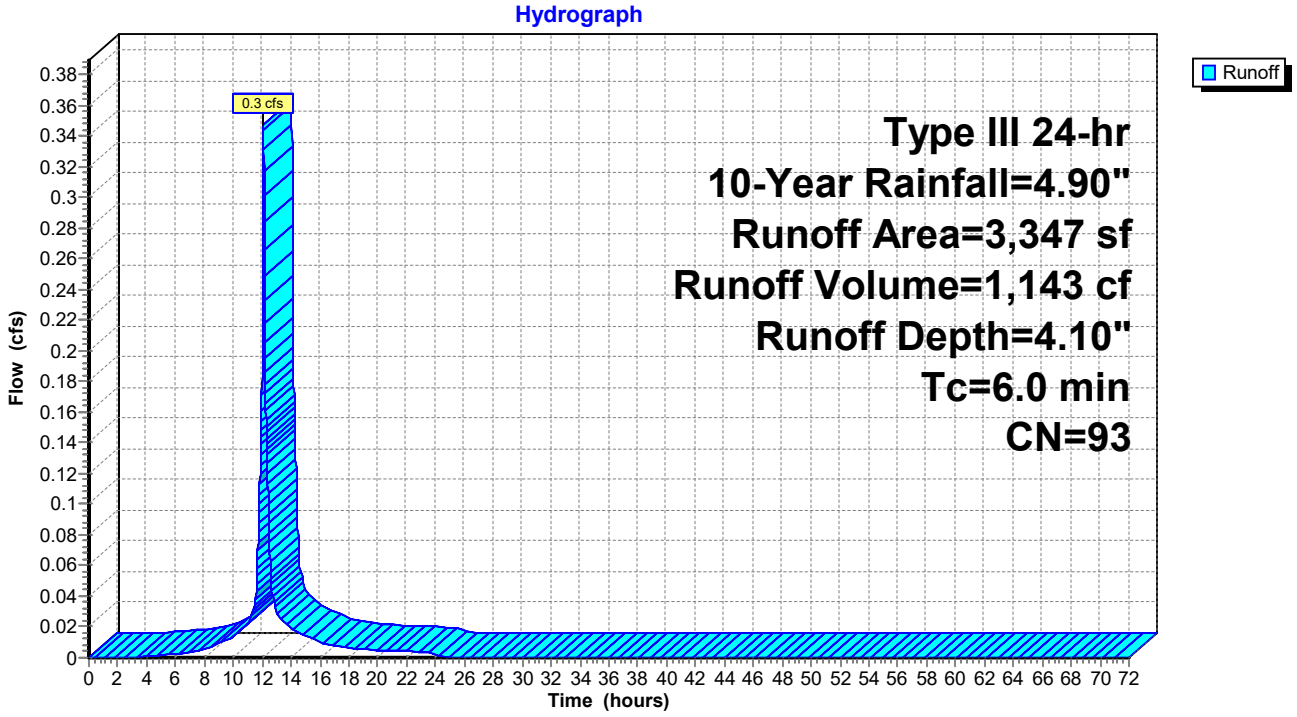
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 1,143 cf, Depth= 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
796	98	Paved parking, HSG D
74	96	Gravel surface, HSG D
754	80	>75% Grass cover, Good, HSG D
1,602	98	Paved parking, HSG A
40	39	>75% Grass cover, Good, HSG A
81	96	Gravel surface, HSG A
3,347	93	Weighted Average
949		28.35% Pervious Area
2,398		71.65% Impervious Area

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

Subcatchment S4.2: Subcatchment 4.2



Summary for Subcatchment S4.3: Subcatchment 4.3

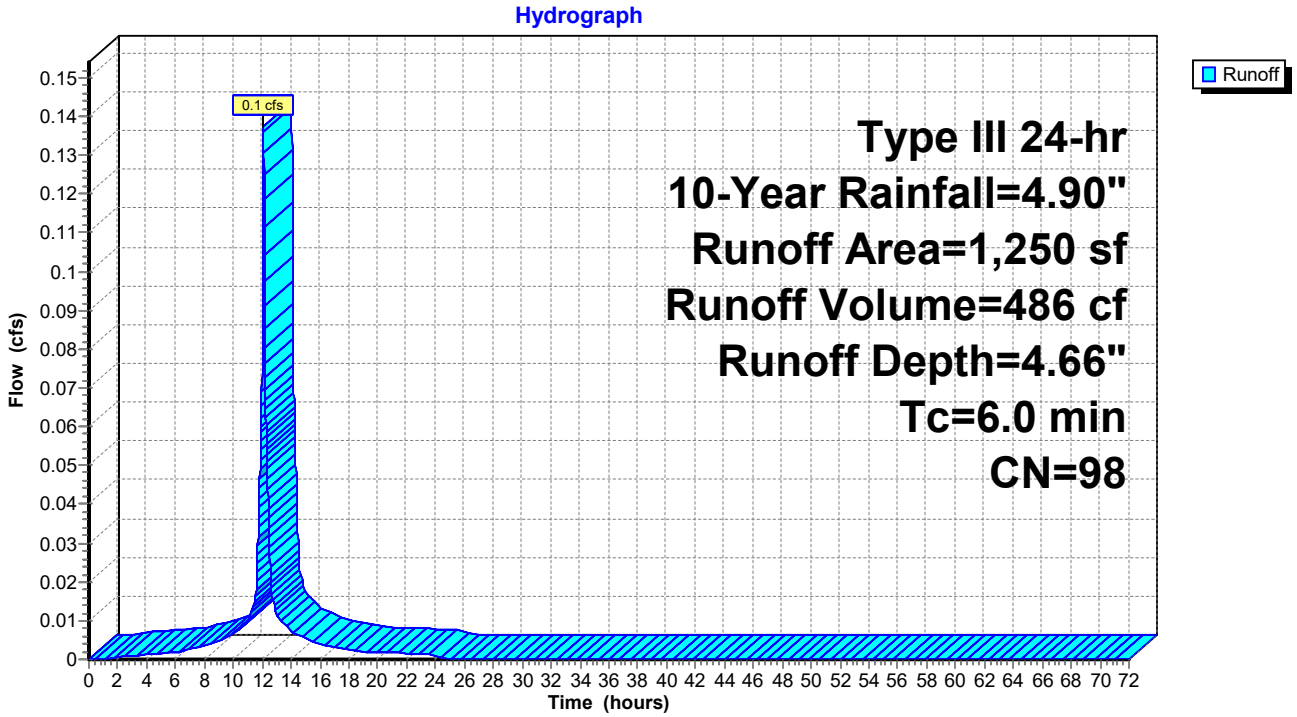
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.3: Subcatchment 4.3



Summary for Subcatchment S4.4: Subcatchment 4.4

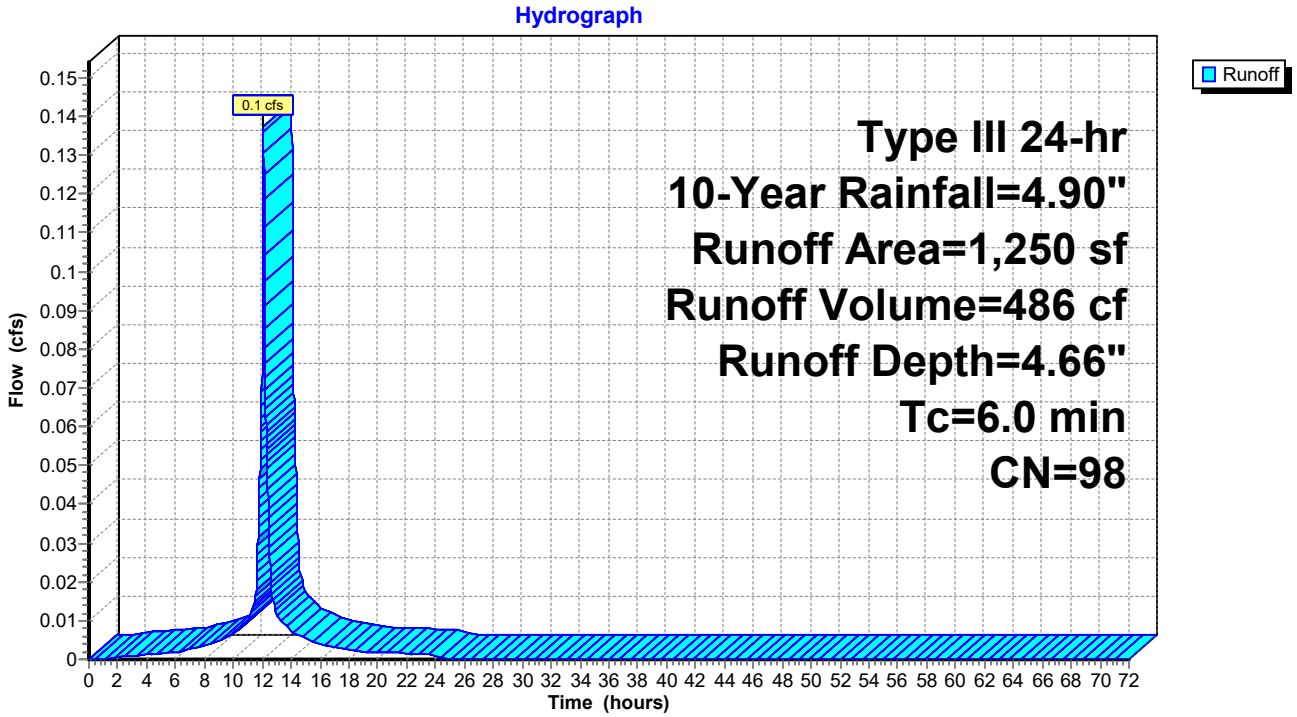
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.4: Subcatchment 4.4



Summary for Subcatchment S4.5: Subcatchment 4.5

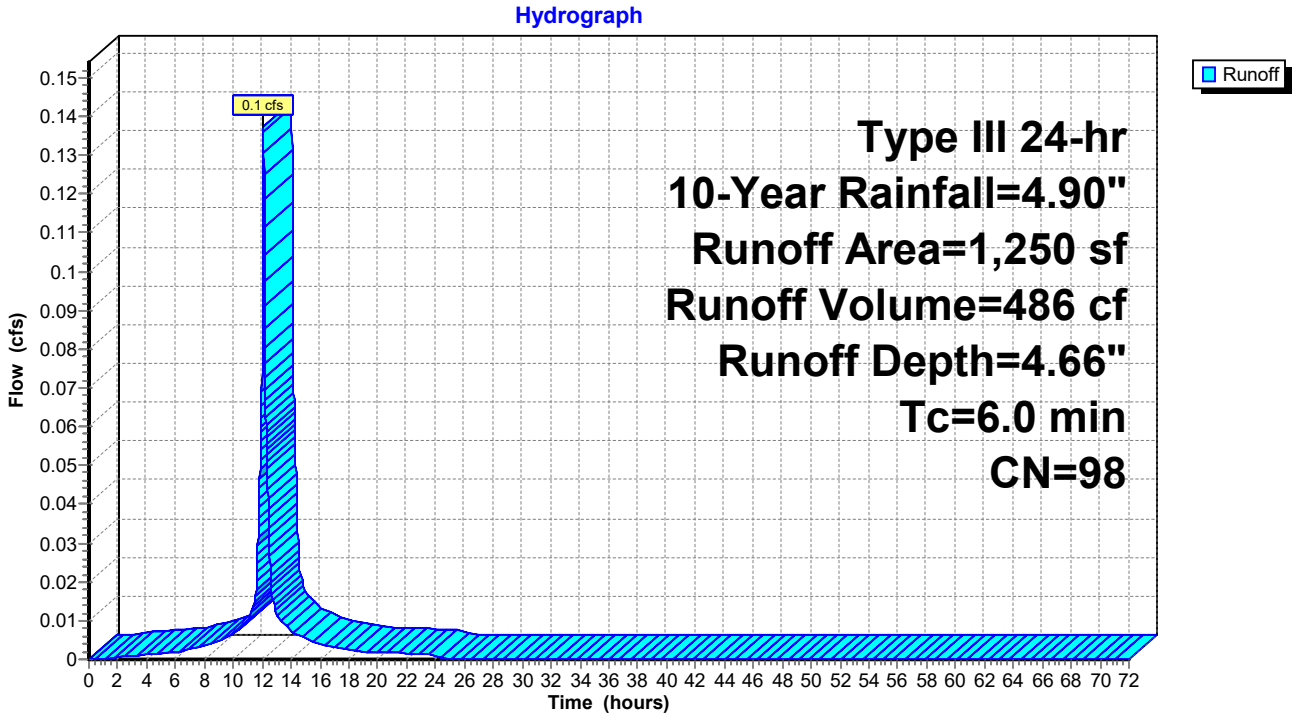
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.5: Subcatchment 4.5



Summary for Subcatchment S4.6: Subcatchment 4.6

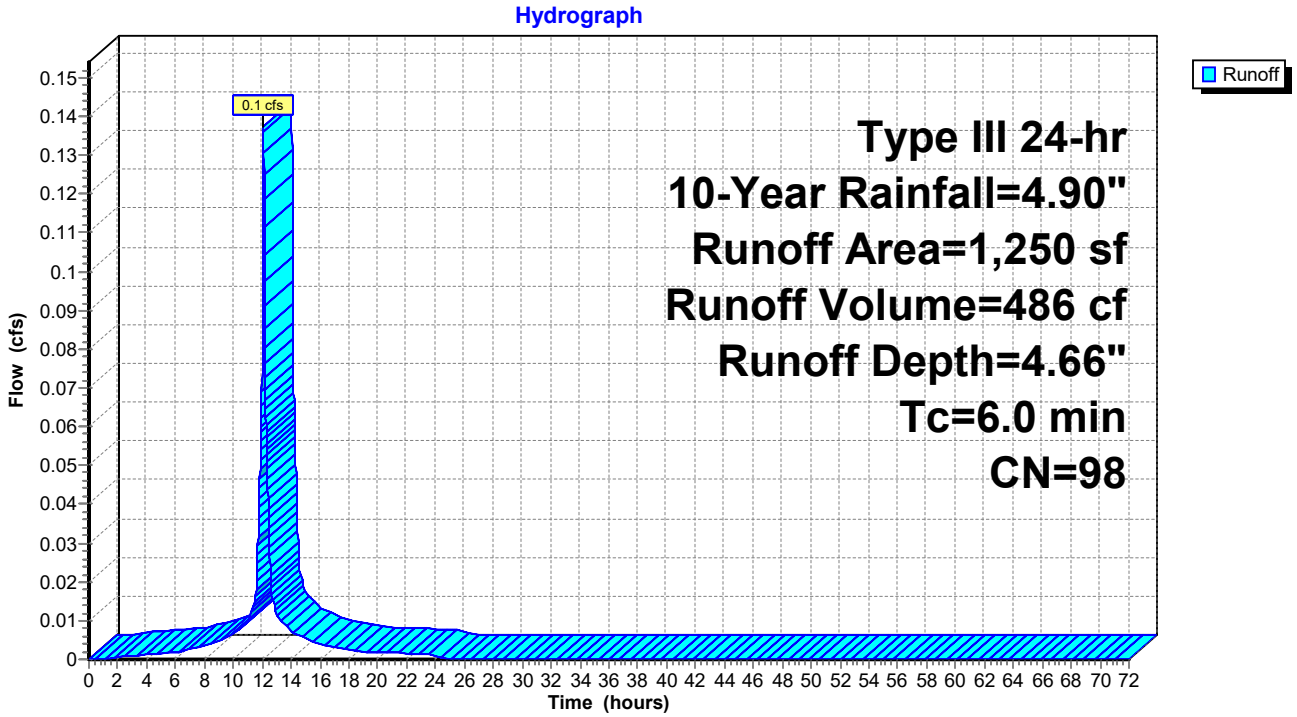
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.6: Subcatchment 4.6



Summary for Subcatchment S4.7: Subcatchment 4.7

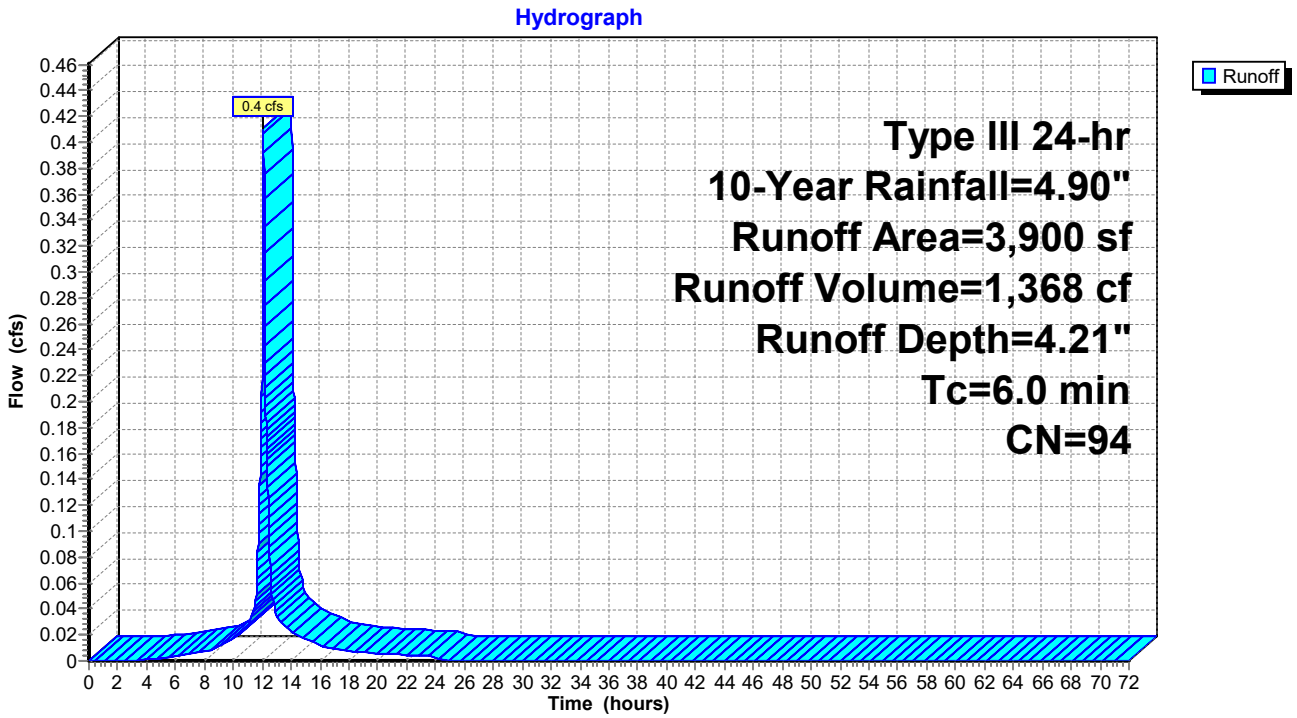
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,368 cf, Depth= 4.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
874	80	>75% Grass cover, Good, HSG D
166	96	Gravel surface, HSG D
297	98	Paved roads w/curbs & sewers, HSG A
2,563	98	Paved roads w/curbs & sewers, HSG D
3,900	94	Weighted Average
1,040		26.67% Pervious Area
2,860		73.33% Impervious Area

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

Subcatchment S4.7: Subcatchment 4.7



Summary for Subcatchment S4.8: Subcatchment 4.8

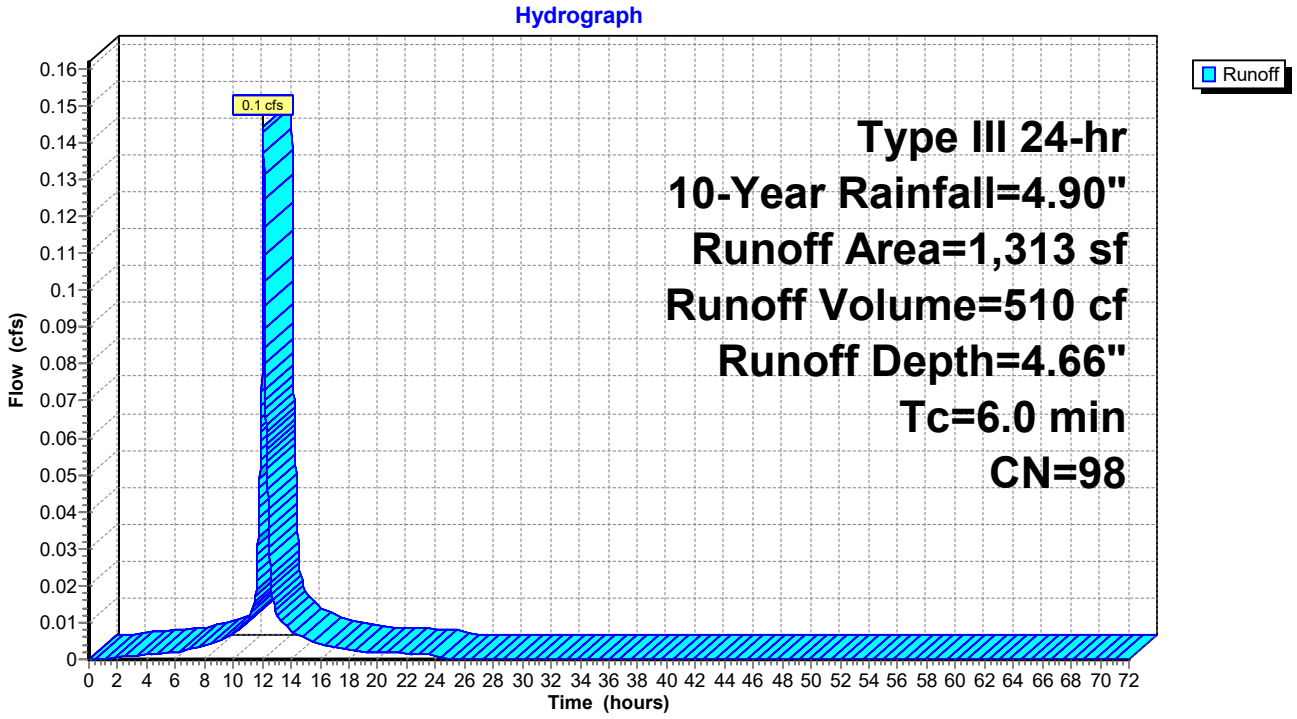
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 510 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,313	98	Paved roads w/curbs & sewers, HSG D
1,313		100.00% Impervious Area

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

Subcatchment S4.8: Subcatchment 4.8



Summary for Subcatchment S4.9: Subcatchment 4.9

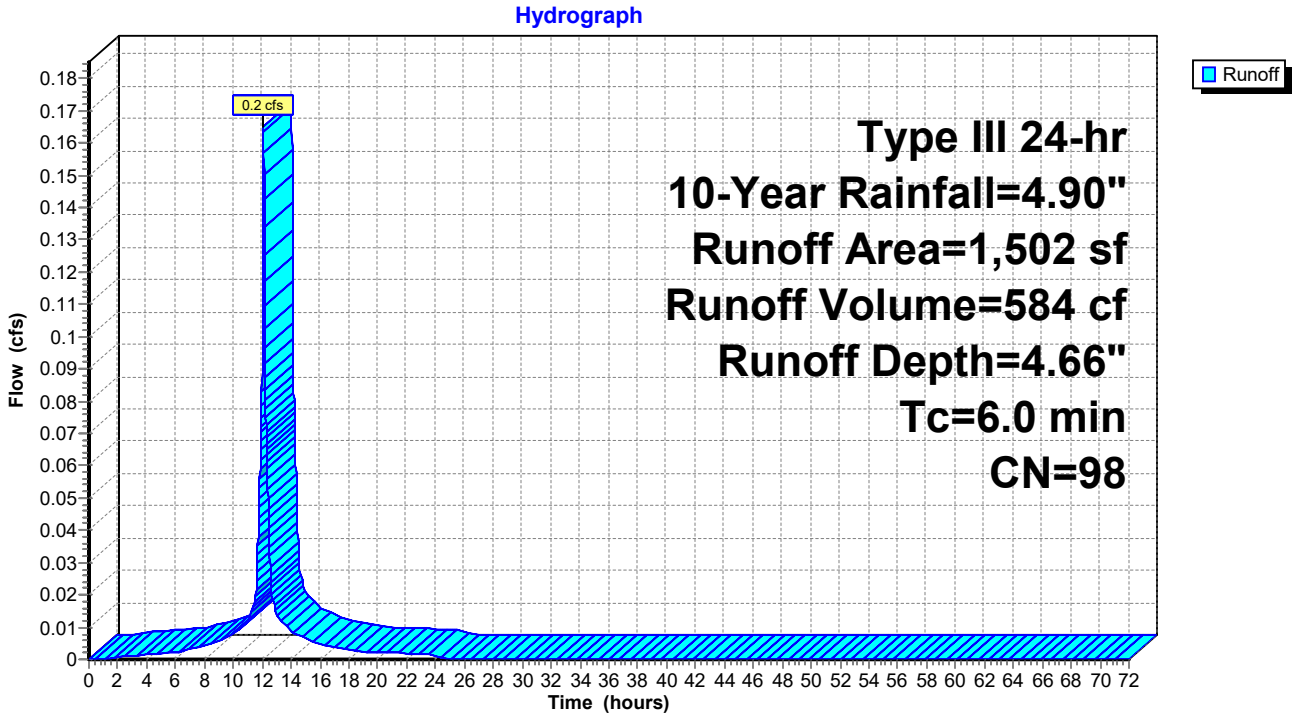
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 584 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,502	98	Paved roads w/curbs & sewers, HSG D
1,502		100.00% Impervious Area

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

Subcatchment S4.9: Subcatchment 4.9



Summary for Subcatchment S5.1: Subcatchment 5.1

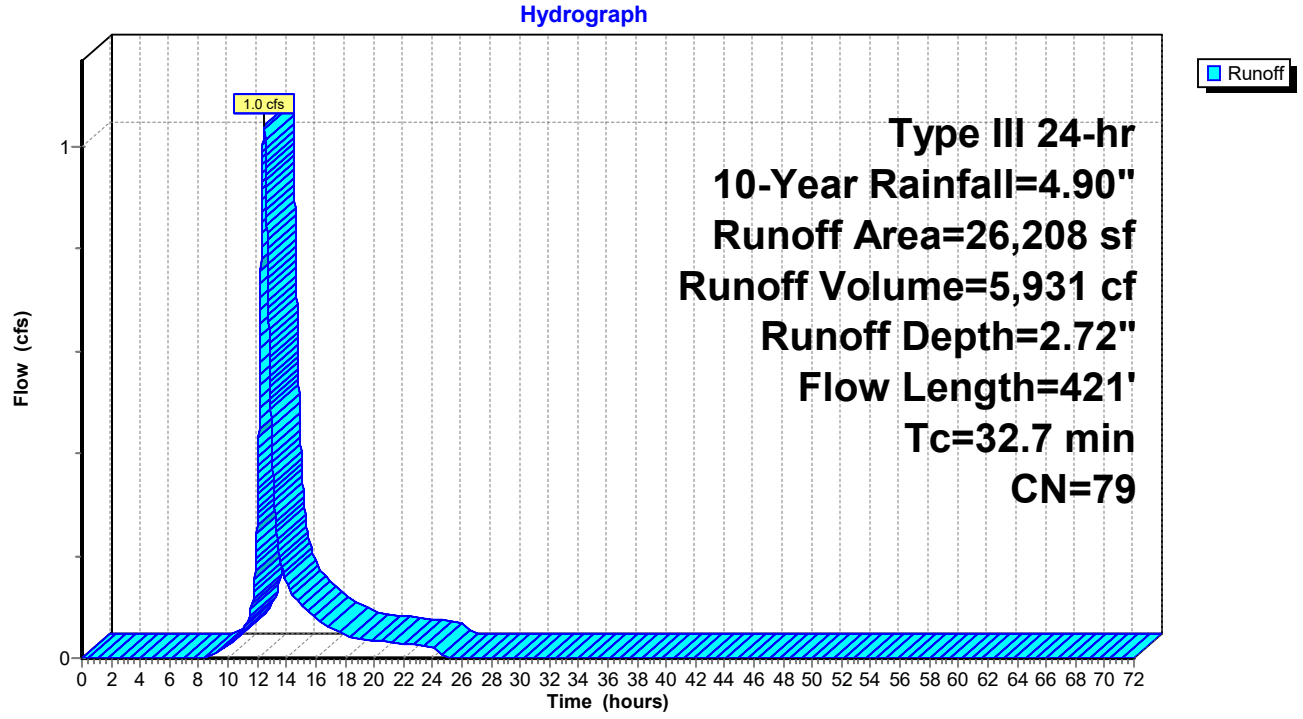
Runoff = 1.0 cfs @ 12.46 hrs, Volume= 5,931 cf, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
12,258	77	Woods, Good, HSG D
13,250	80	>75% Grass cover, Good, HSG D
700	98	Roofs, HSG D
26,208	79	Weighted Average
25,508		97.33% Pervious Area
700		2.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	150	0.0267	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
1.8	53	0.0100	0.50		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
4.8	218	0.0229	0.76		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
32.7	421	Total			

Subcatchment S5.1: Subcatchment 5.1



Summary for Subcatchment S5.2: Subcatchment 5.2

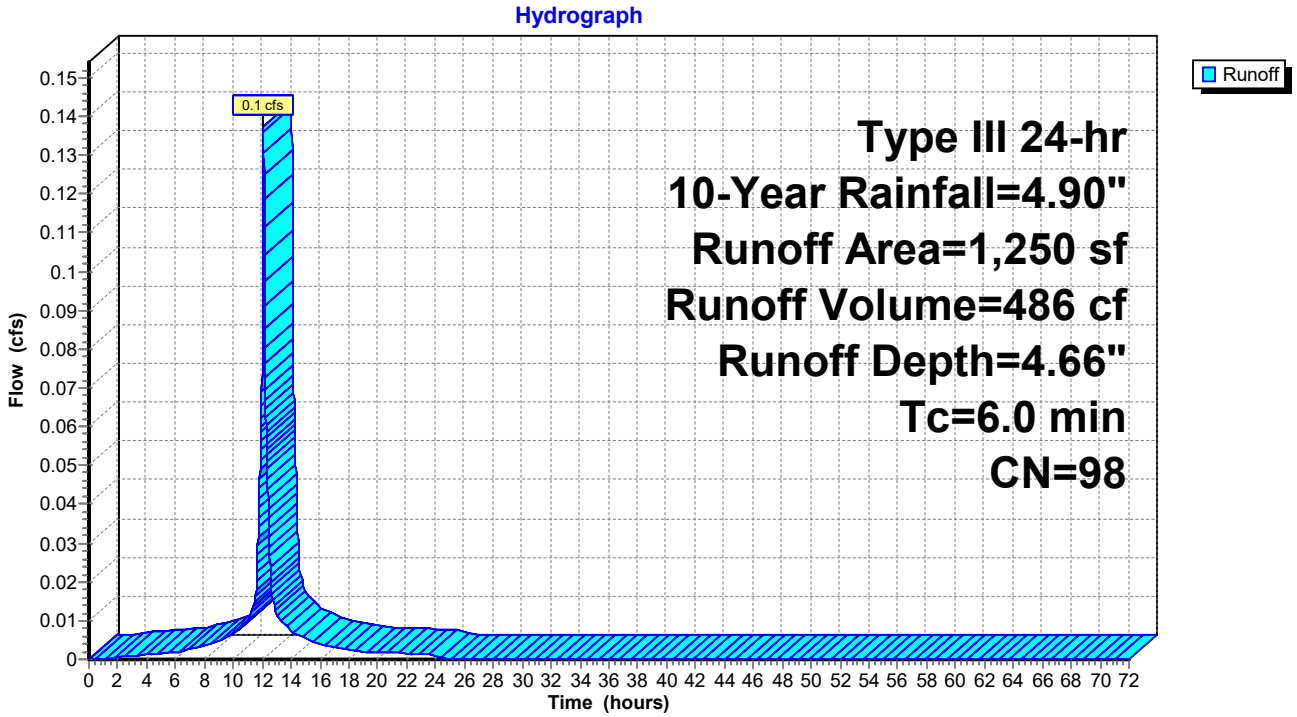
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.2: Subcatchment 5.2



Summary for Subcatchment S5.3: Subcatchment 5.3

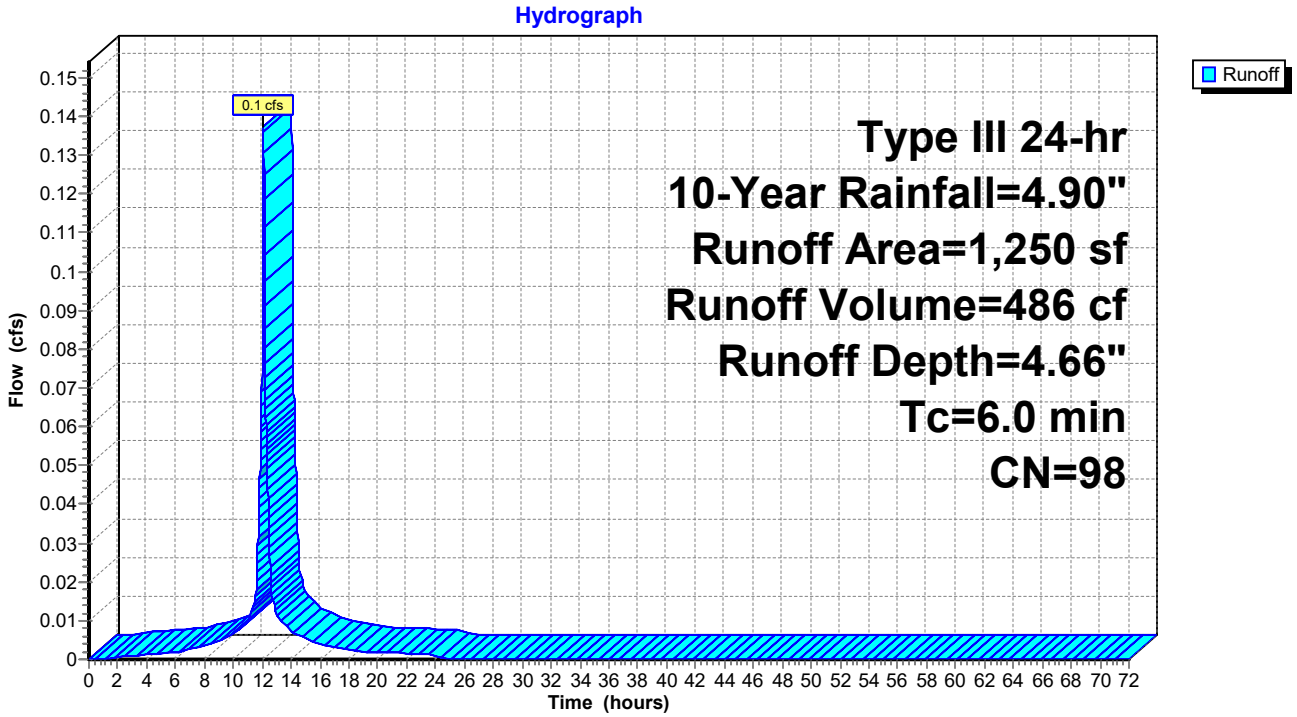
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.3: Subcatchment 5.3



Summary for Subcatchment S5.4: Subcatchment 5.4

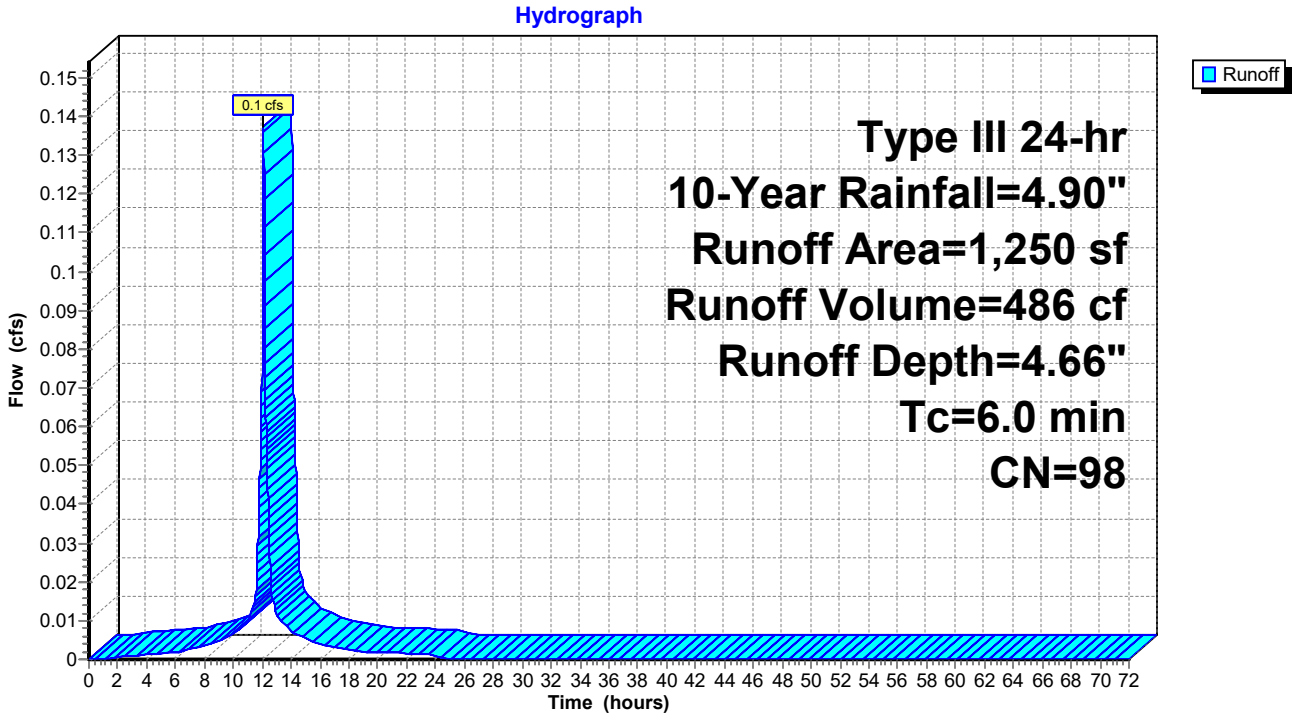
Runoff = 0.1 cfs @ 12.08 hrs, Volume= 486 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.4: Subcatchment 5.4



Summary for Reach S1: Swale 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 3.18" for 10-Year event
Inflow = 2.6 cfs @ 12.26 hrs, Volume= 11,872 cf
Outflow = 2.6 cfs @ 12.28 hrs, Volume= 11,872 cf, Atten= 0%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.23 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 0.64 fps, Avg. Travel Time= 4.6 min

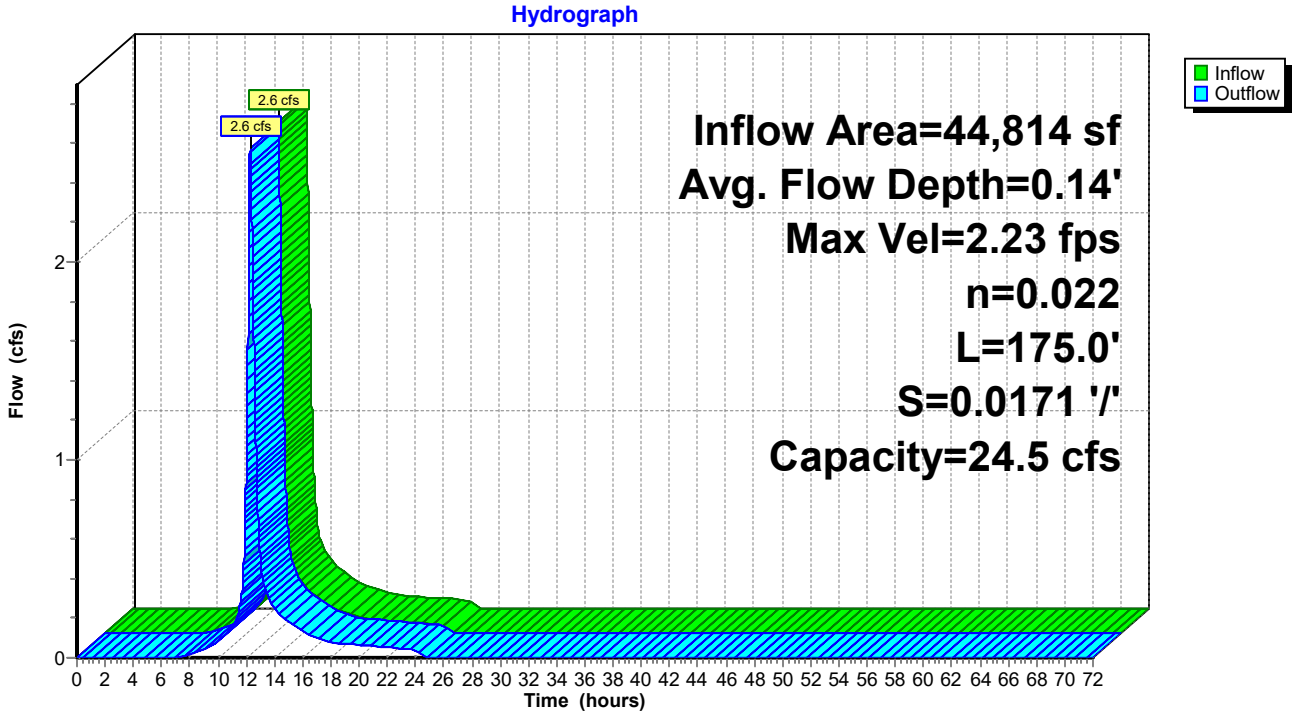
Peak Storage= 202 cf @ 12.28 hrs
Average Depth at Peak Storage= 0.14' , Surface Width= 9.08'
Bank-Full Depth= 0.50' Flow Area= 5.0 sf, Capacity= 24.5 cfs

8.00' x 0.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 4.0 '/' Top Width= 12.00'
Length= 175.0' Slope= 0.0171 '/'
Inlet Invert= 69.00', Outlet Invert= 66.00'



‡

Reach S1: Swale 1



Summary for Pond C1: Culvert 1

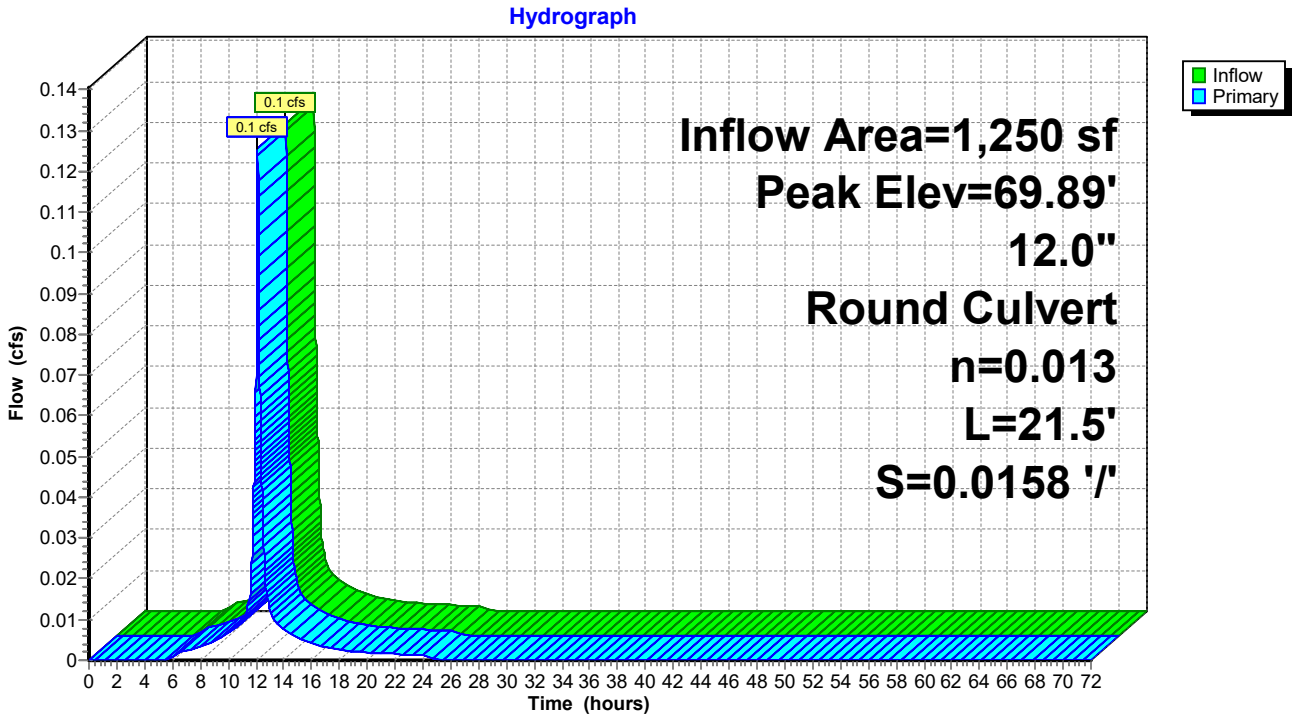
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.50" for 10-Year event
Inflow = 0.1 cfs @ 12.11 hrs, Volume= 469 cf
Outflow = 0.1 cfs @ 12.11 hrs, Volume= 469 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.11 hrs, Volume= 469 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.89' @ 12.12 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 21.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0158 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.11 hrs HW=69.89' TW=69.68' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 1.73 fps)

Pond C1: Culvert 1



Summary for Pond C10: Culvert 10

[57] Hint: Peaked at 69.52' (Flood elevation advised)

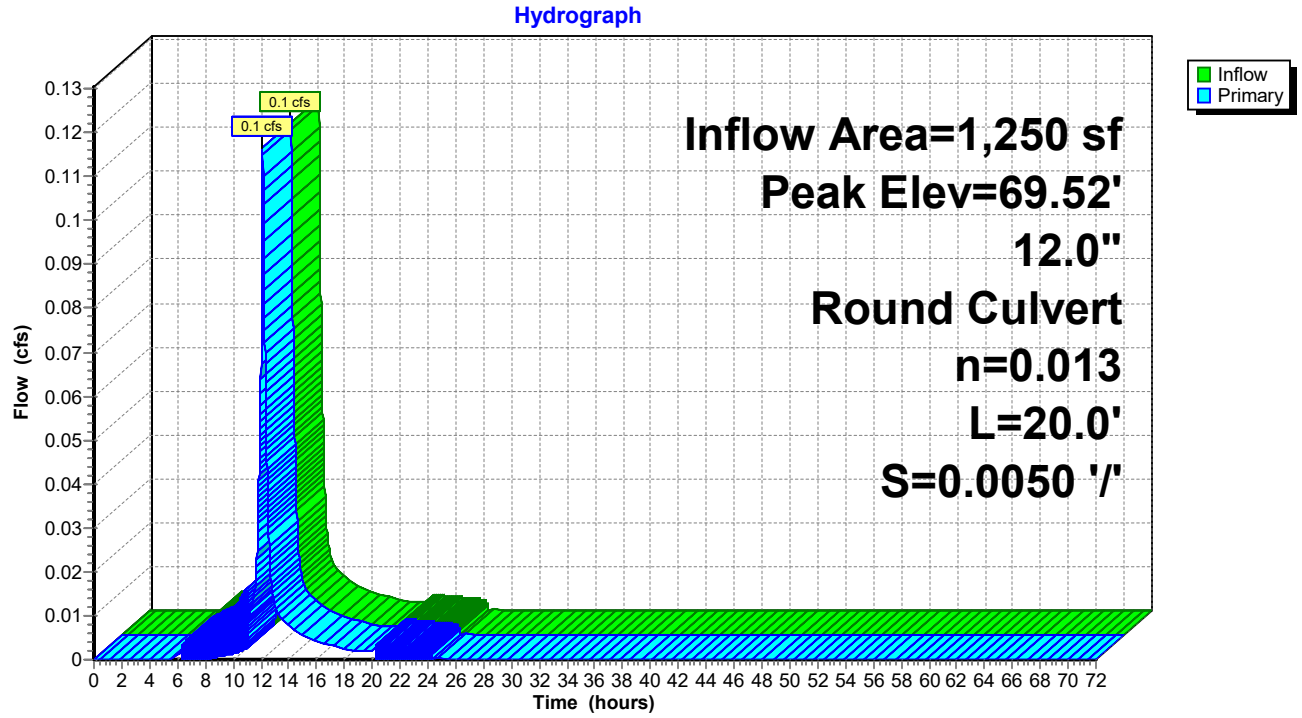
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.51" for 10-Year event
Inflow = 0.1 cfs @ 12.13 hrs, Volume= 469 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 469 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 469 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.52' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**12.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.13' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.52' TW=69.47' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 0.95 fps)

Pond C10: Culvert 10



Summary for Pond C11: Culvert 11

[57] Hint: Peaked at 69.47' (Flood elevation advised)

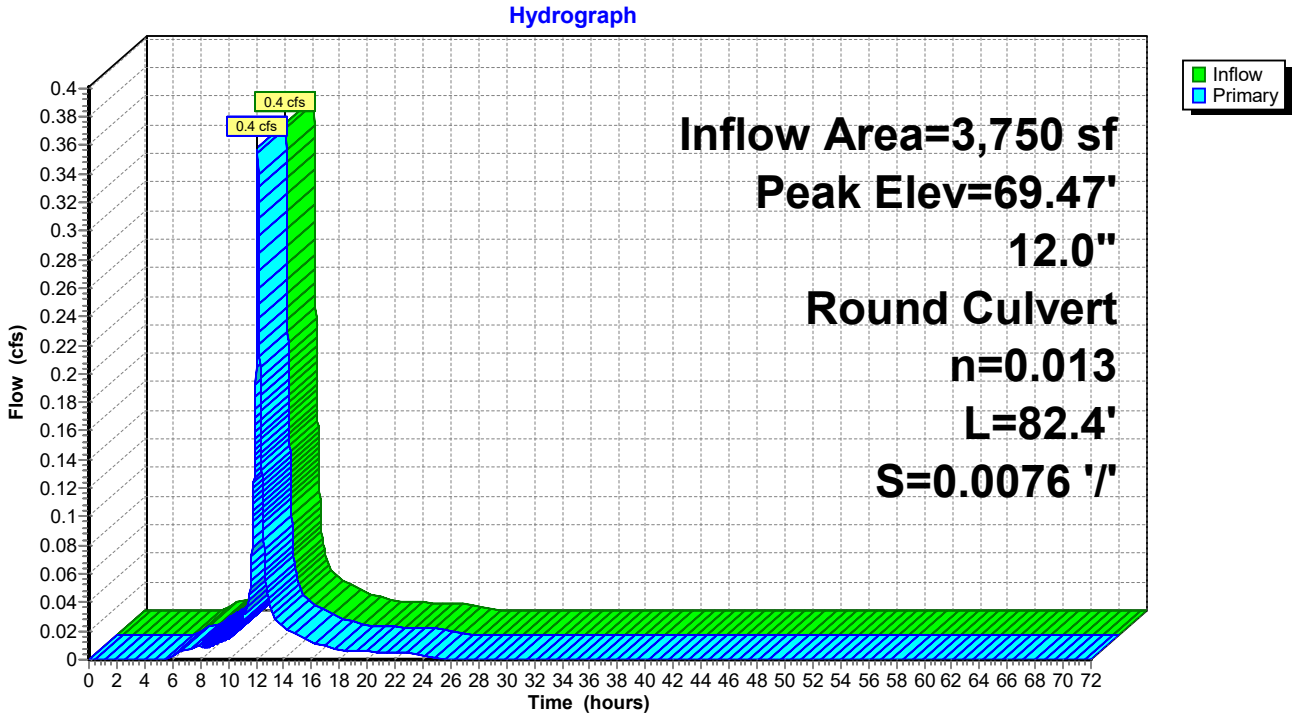
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 4.50" for 10-Year event
Inflow = 0.4 cfs @ 12.12 hrs, Volume= 1,406 cf
Outflow = 0.4 cfs @ 12.12 hrs, Volume= 1,406 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.12 hrs, Volume= 1,406 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.47' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.13'	**12.0" Round Culvert** L= 82.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.13' / 68.50' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.12 hrs HW=69.47' TW=68.89' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.4 cfs @ 2.29 fps)

Pond C11: Culvert 11



Summary for Pond C2: Culvert 2

[57] Hint: Peaked at 69.68' (Flood elevation advised)
[80] Warning: Exceeded Pond RD2 by 0.01' @ 5.73 hrs (0.0 cfs 157 cf)

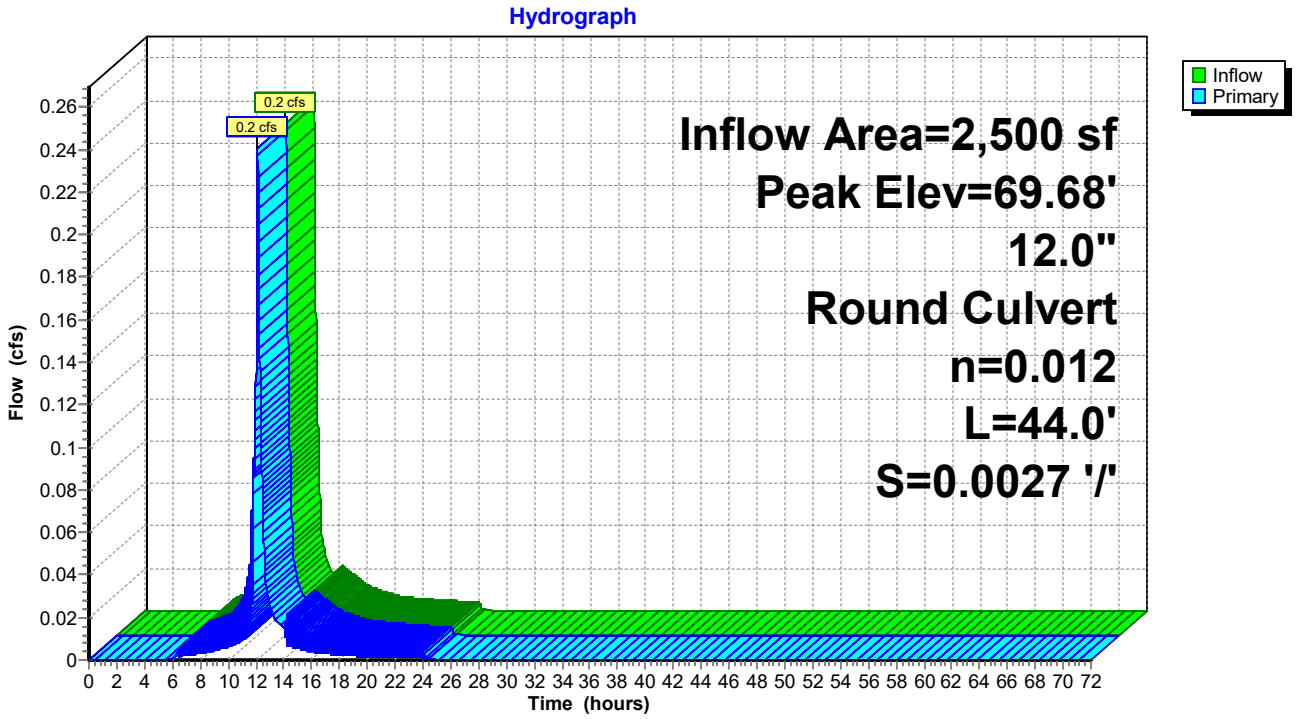
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	4.50"	for	10-Year event
Inflow =	0.2 cfs @ 12.12 hrs,	Volume=	937 cf		
Outflow =	0.2 cfs @ 12.12 hrs,	Volume=	937 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.2 cfs @ 12.12 hrs,	Volume=	937 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.68' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.23' S= 0.0027 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.68' TW=69.51' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.2 cfs @ 1.58 fps)

Pond C2: Culvert 2



Summary for Pond C3: Culvert 3

[57] Hint: Peaked at 69.51' (Flood elevation advised)

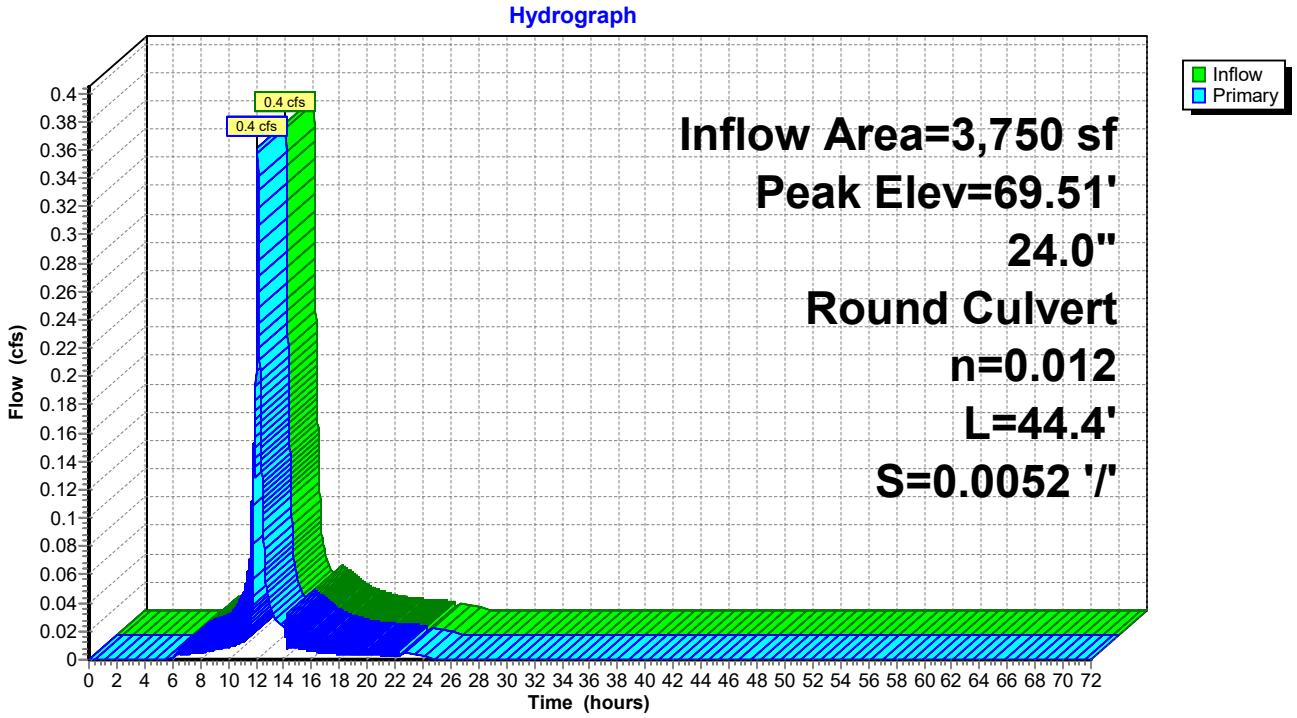
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 4.49" for 10-Year event
Inflow = 0.4 cfs @ 12.12 hrs, Volume= 1,405 cf
Outflow = 0.4 cfs @ 12.12 hrs, Volume= 1,405 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.12 hrs, Volume= 1,405 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.51' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**24.0" Round Culvert** L= 44.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.00' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.4 cfs @ 12.12 hrs HW=69.51' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.4 cfs @ 2.04 fps)

Pond C3: Culvert 3



Summary for Pond C4: Culvert 4

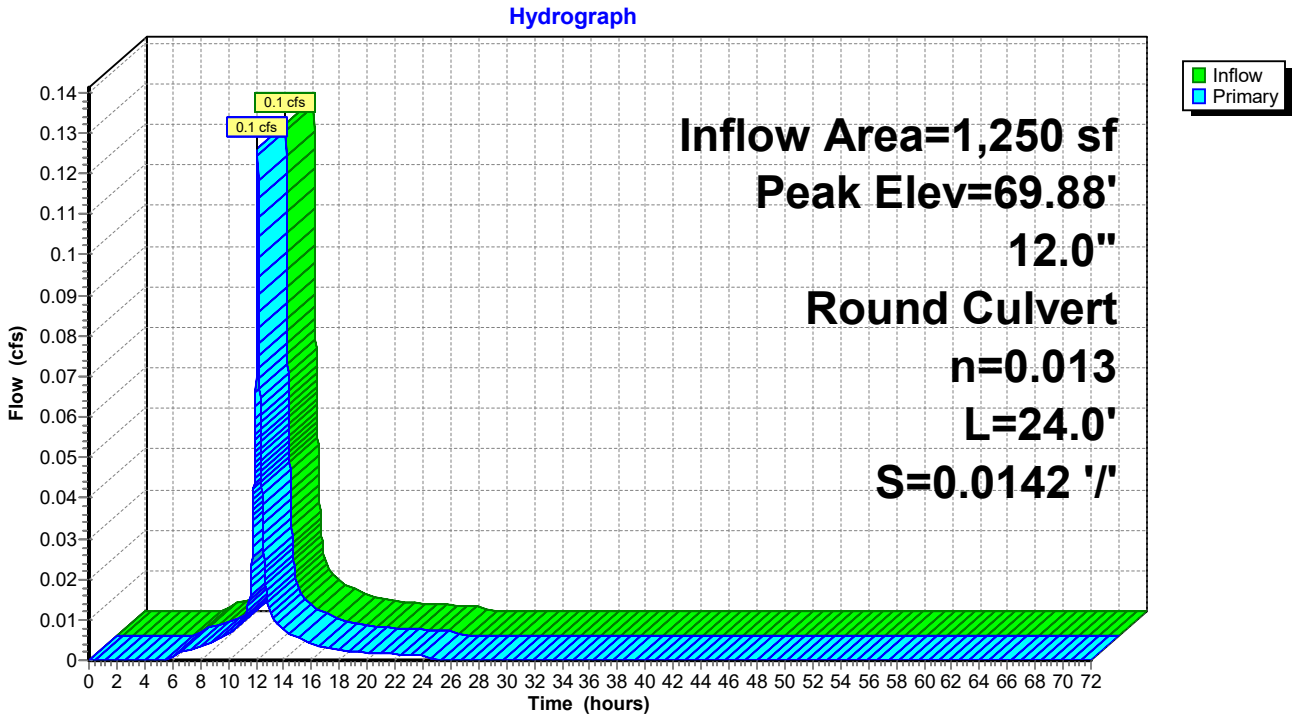
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.50" for 10-Year event
Inflow = 0.1 cfs @ 12.11 hrs, Volume= 469 cf
Outflow = 0.1 cfs @ 12.11 hrs, Volume= 469 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.11 hrs, Volume= 469 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.88' @ 12.12 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0142 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.11 hrs HW=69.88' TW=69.65' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 1.76 fps)

Pond C4: Culvert 4



Summary for Pond C7: Culvert 7

[80] Warning: Exceeded Pond RD7 by 1.31' @ 12.13 hrs (0.5 cfs 547 cf)

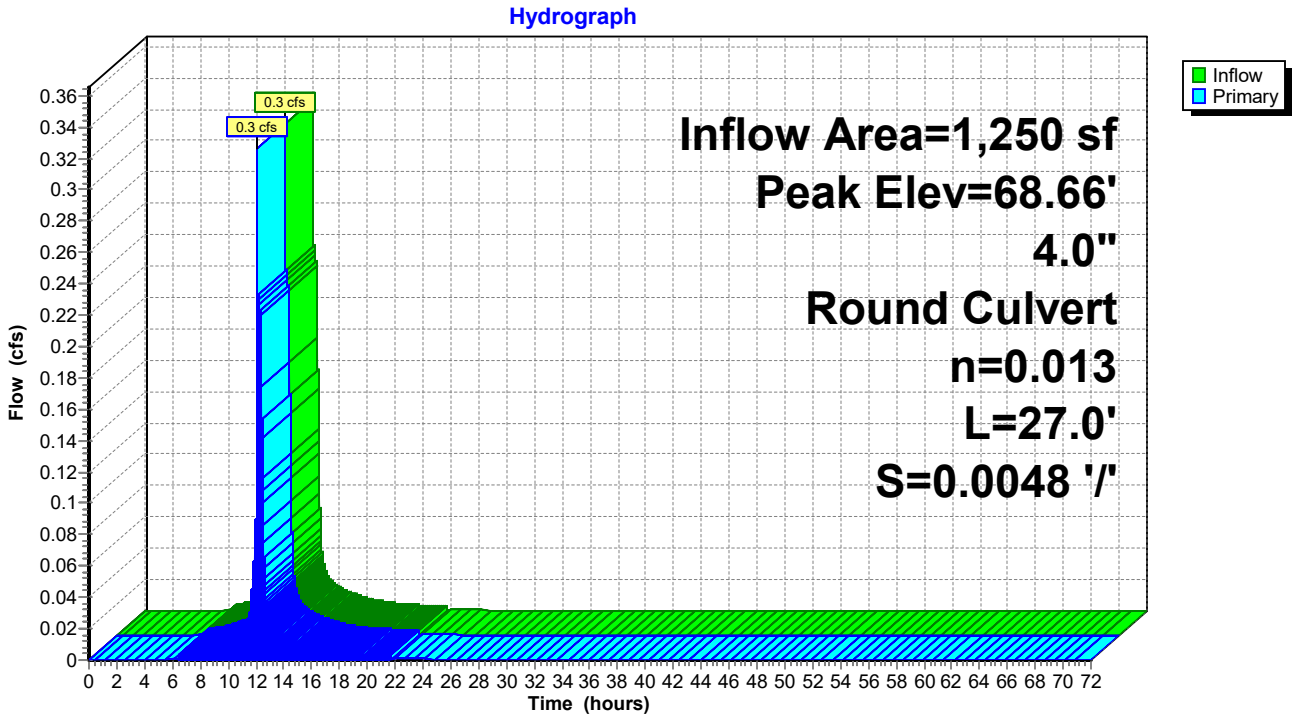
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.49" for 10-Year event
Inflow = 0.3 cfs @ 12.13 hrs, Volume= 468 cf
Outflow = 0.3 cfs @ 12.13 hrs, Volume= 468 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.13 hrs, Volume= 468 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.66' @ 12.13 hrs
Flood Elev= 69.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Round Culvert** L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.55' / 66.42' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.3 cfs @ 12.13 hrs HW=68.63' TW=67.45' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.3 cfs @ 3.69 fps)

Pond C7: Culvert 7



Summary for Pond C8: Culvert 8

[58] Hint: Peaked 2.10' above defined flood level

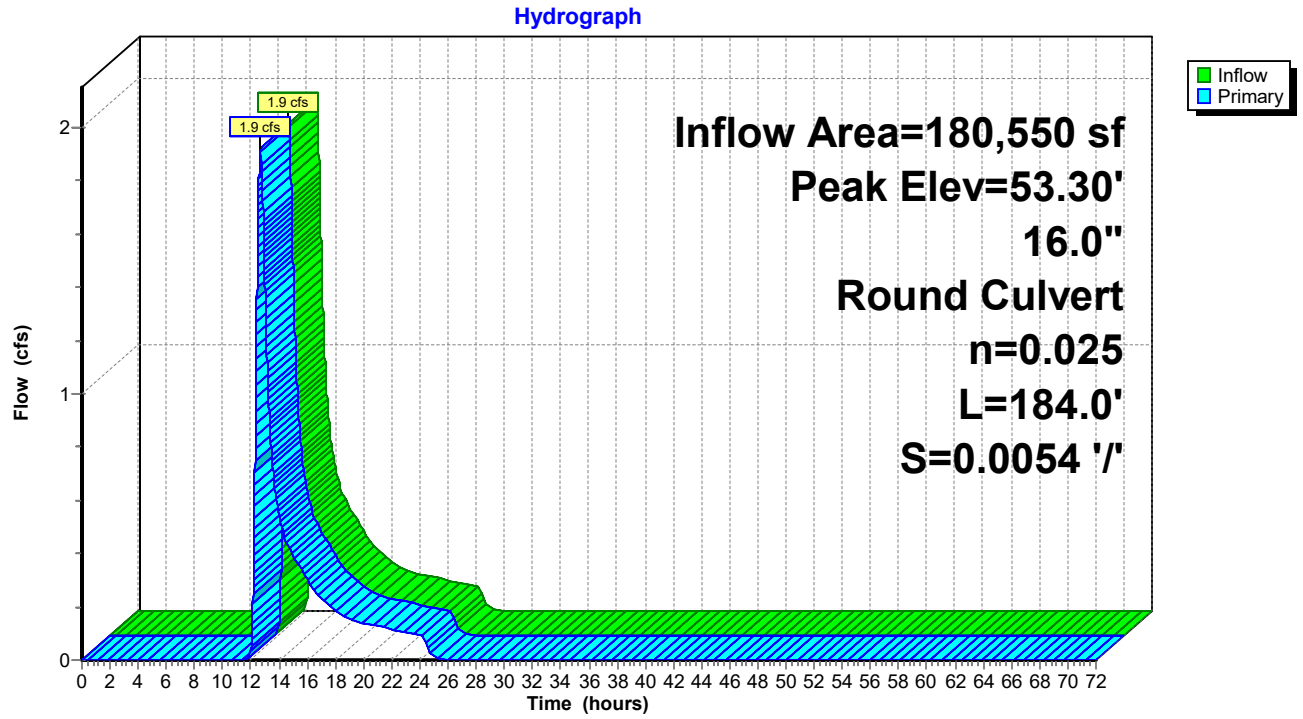
Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 0.99" for 10-Year event
Inflow = 1.9 cfs @ 12.68 hrs, Volume= 14,903 cf
Outflow = 1.9 cfs @ 12.68 hrs, Volume= 14,903 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.9 cfs @ 12.68 hrs, Volume= 14,903 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 53.30' @ 14.22 hrs
Flood Elev= 51.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.20'	**16.0" Round Culvert** L= 184.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.20' / 50.20' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=1.9 cfs @ 12.68 hrs HW=52.31' TW=51.36' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 1.9 cfs @ 2.07 fps)

Pond C8: Culvert 8



Summary for Pond C9: Culvert 9

[57] Hint: Peaked at 69.65' (Flood elevation advised)
[80] Warning: Exceeded Pond RD5 by 0.01' @ 5.73 hrs (0.0 cfs 4 cf)

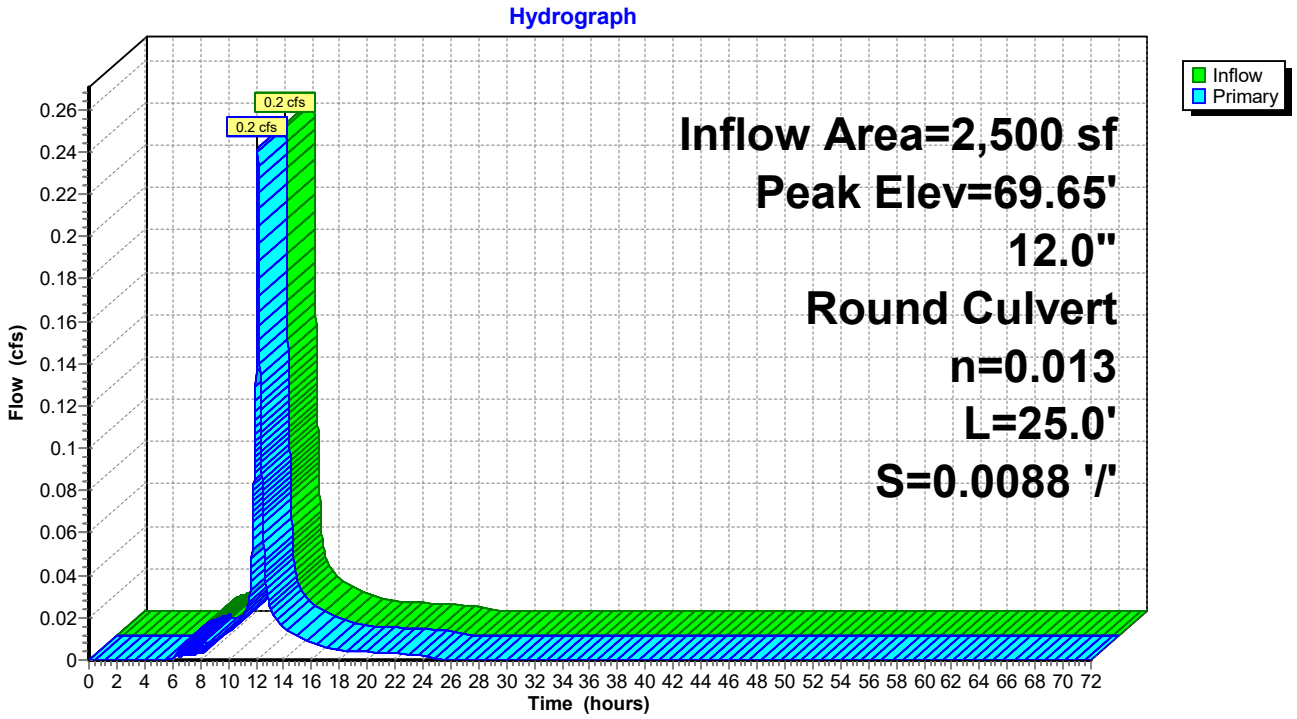
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	4.50"	for	10-Year event
Inflow =	0.2 cfs @ 12.12 hrs,	Volume=	937 cf		
Outflow =	0.2 cfs @ 12.12 hrs,	Volume=	937 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.2 cfs @ 12.12 hrs,	Volume=	937 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.65' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.13' S= 0.0088 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.65' TW=69.47' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.2 cfs @ 1.80 fps)

Pond C9: Culvert 9



Summary for Pond CB1: Catch Basin 1

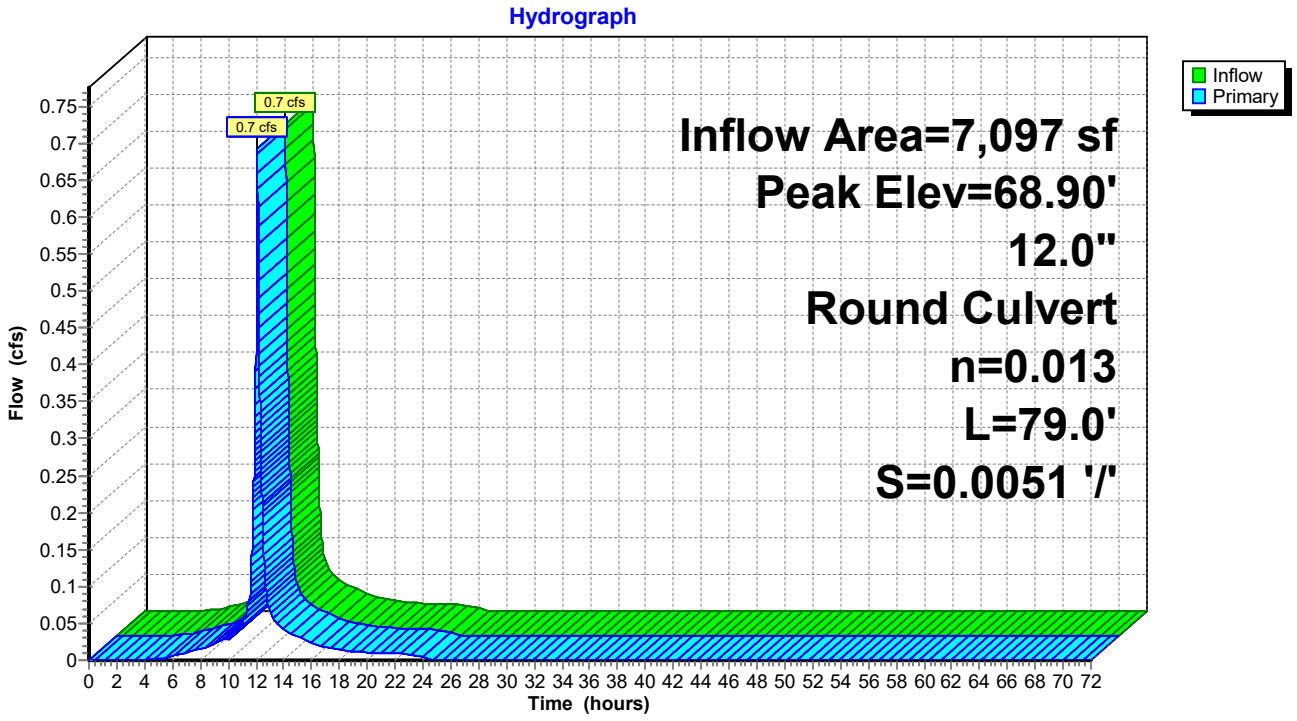
Inflow Area = 7,097 sf, 86.63% Impervious, Inflow Depth = 4.31" for 10-Year event
Inflow = 0.7 cfs @ 12.10 hrs, Volume= 2,550 cf
Outflow = 0.7 cfs @ 12.10 hrs, Volume= 2,550 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.7 cfs @ 12.10 hrs, Volume= 2,550 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.90' @ 12.10 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	**12.0" Round Culvert** L= 79.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.40' / 68.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.7 cfs @ 12.10 hrs HW=68.90' TW=67.39' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.7 cfs @ 2.56 fps)

Pond CB1: Catch Basin 1



Summary for Pond CB10: Catch Basin 10

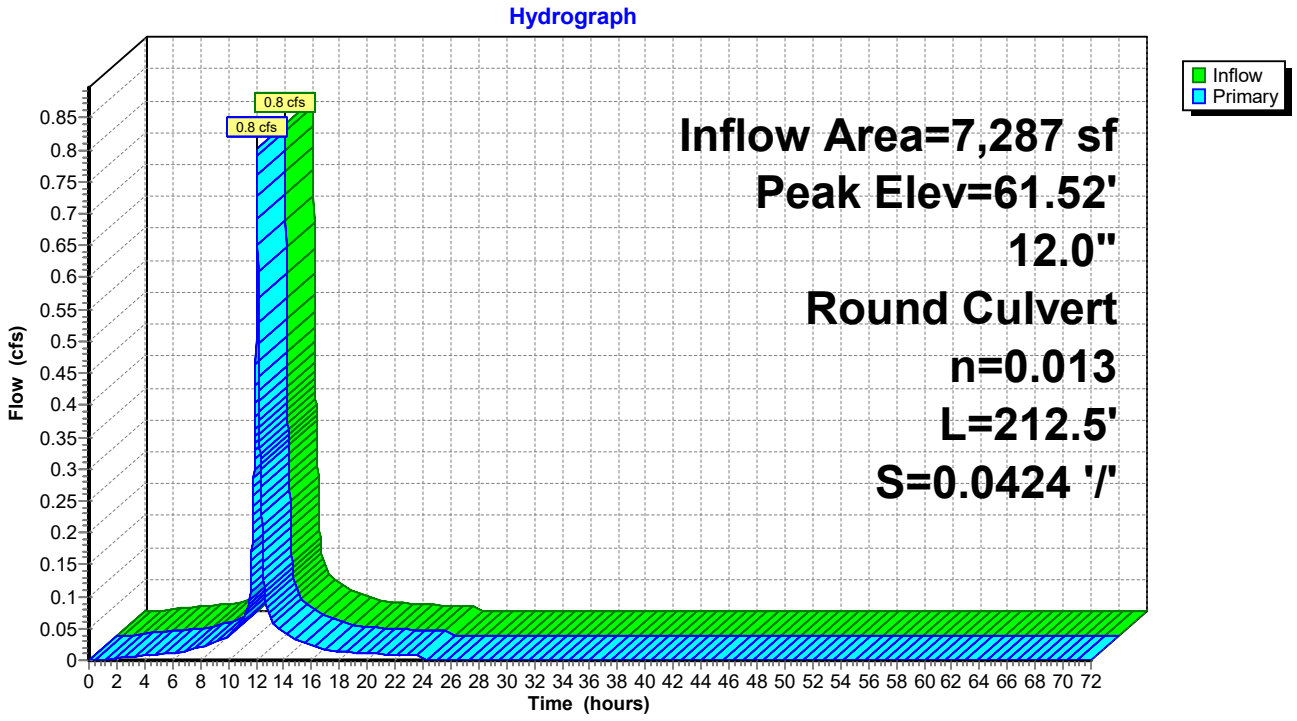
Inflow Area = 7,287 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.8 cfs @ 12.08 hrs, Volume= 2,832 cf
Outflow = 0.8 cfs @ 12.08 hrs, Volume= 2,832 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.8 cfs @ 12.08 hrs, Volume= 2,832 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.52' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**12.0" Round Culvert** L= 212.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 52.00' S= 0.0424 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.8 cfs @ 12.08 hrs HW=61.52' TW=52.56' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.8 cfs @ 1.94 fps)

Pond CB10: Catch Basin 10



Summary for Pond CB11: Catch Basin 11

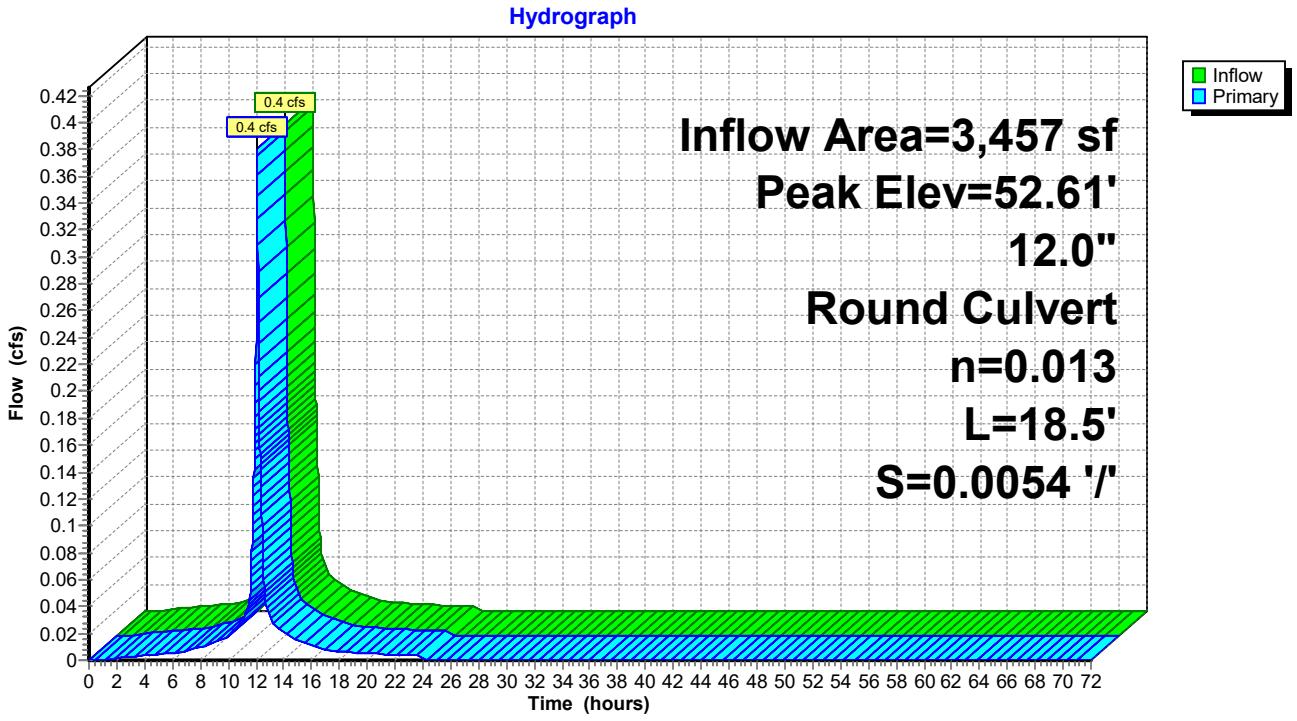
Inflow Area = 3,457 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.4 cfs @ 12.08 hrs, Volume= 1,343 cf
Outflow = 0.4 cfs @ 12.08 hrs, Volume= 1,343 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.08 hrs, Volume= 1,343 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.61' @ 12.09 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.00'	**12.0" Round Culvert** L= 18.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.00' / 51.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.08 hrs HW=52.60' TW=52.56' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.4 cfs @ 1.06 fps)

Pond CB11: Catch Basin 11



Summary for Pond CB12: Catch Basin 12

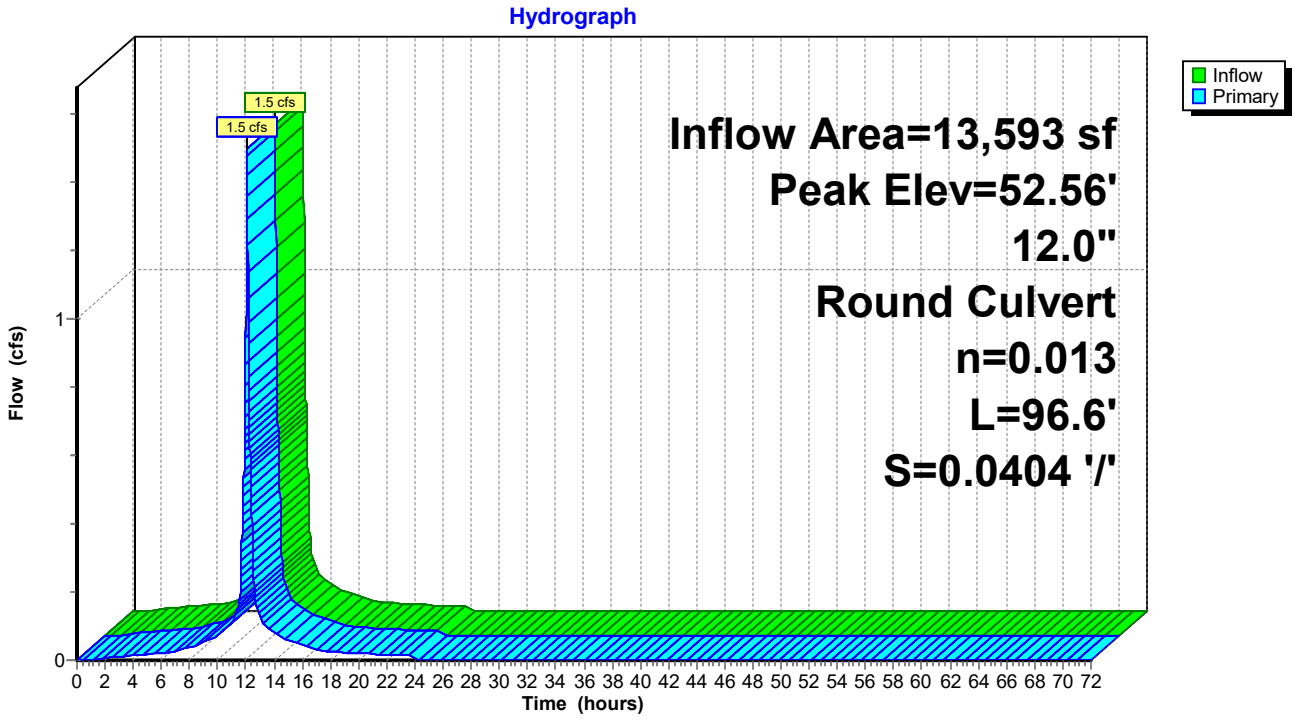
Inflow Area = 13,593 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 1.5 cfs @ 12.08 hrs, Volume= 5,282 cf
Outflow = 1.5 cfs @ 12.08 hrs, Volume= 5,282 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.5 cfs @ 12.08 hrs, Volume= 5,282 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.56' @ 12.08 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.80'	**12.0" Round Culvert** L= 96.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.80' / 47.90' S= 0.0404 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.5 cfs @ 12.08 hrs HW=52.56' TW=49.12' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.5 cfs @ 2.34 fps)

Pond CB12: Catch Basin 12



Summary for Pond CB13: Catch Basin 13

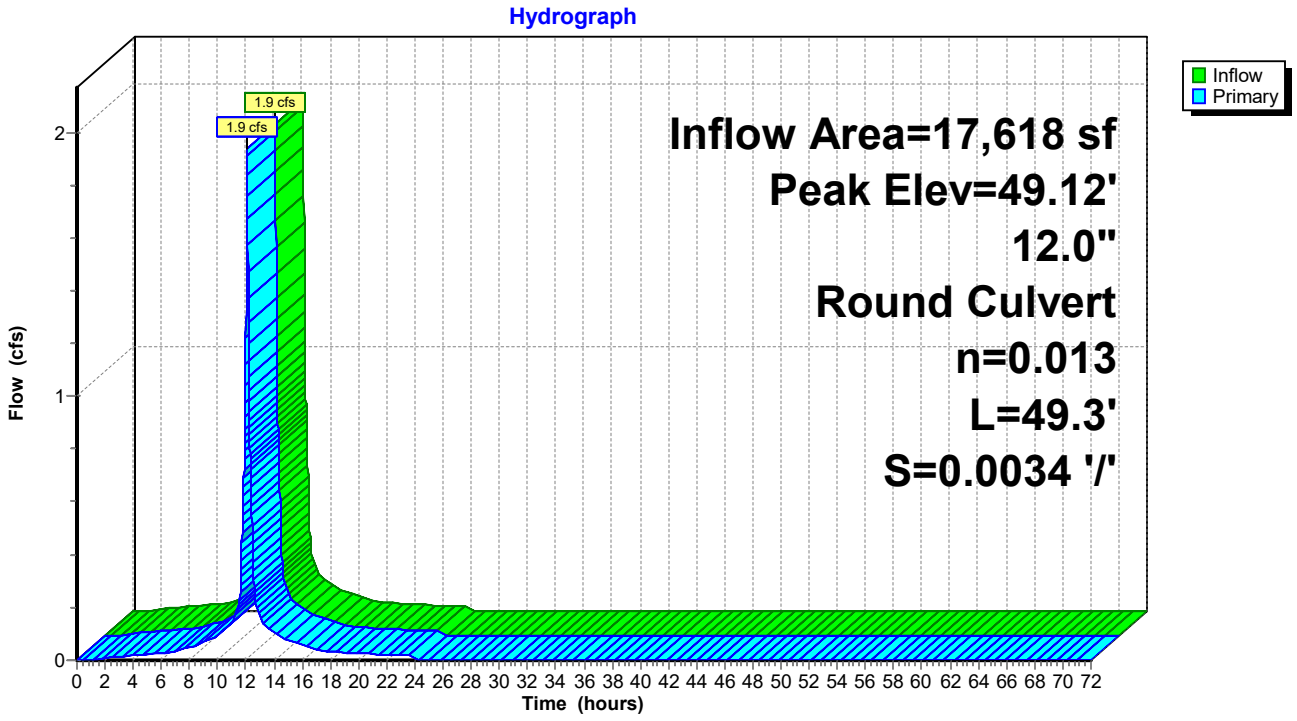
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf
Outflow = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.12' @ 12.12 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	**12.0" Round Culvert** L= 49.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.60' / 47.43' S= 0.0034 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.7 cfs @ 12.08 hrs HW=48.90' TW=48.58' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.7 cfs @ 2.14 fps)

Pond CB13: Catch Basin 13



Summary for Pond CB14: Catch Basin 14

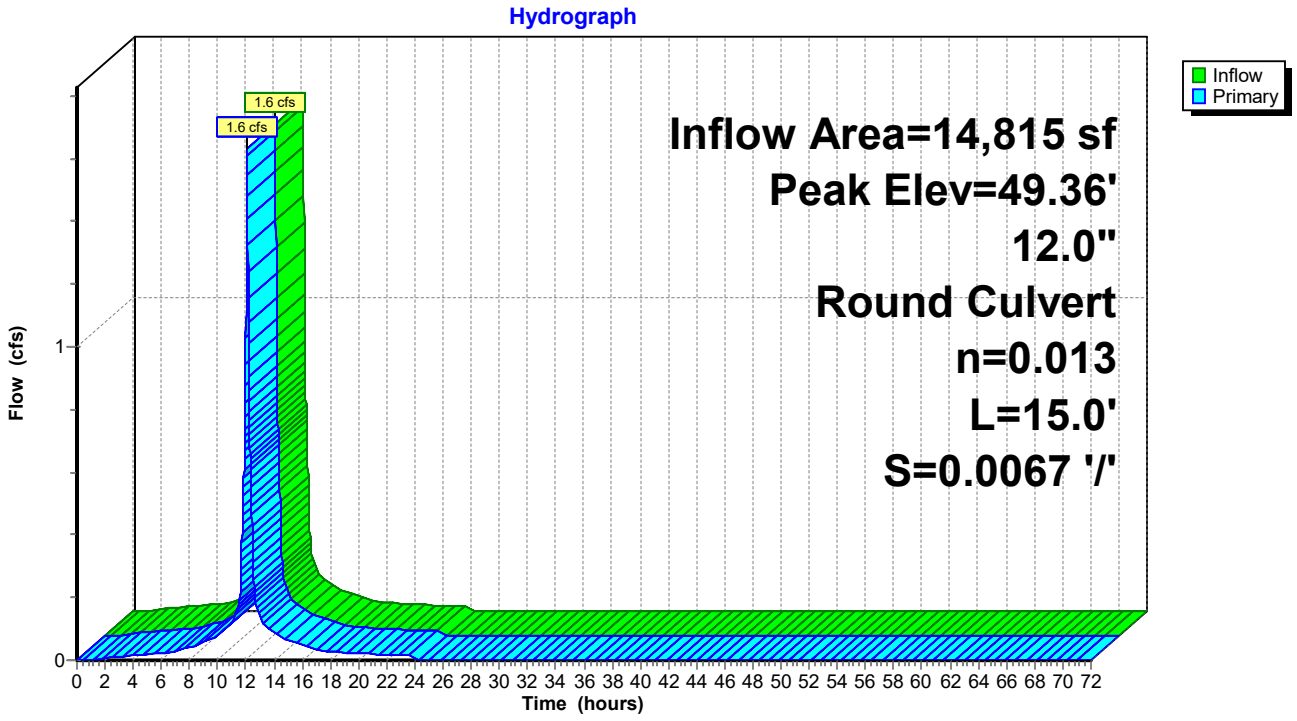
Inflow Area = 14,815 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 1.6 cfs @ 12.08 hrs, Volume= 5,757 cf
Outflow = 1.6 cfs @ 12.08 hrs, Volume= 5,757 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.6 cfs @ 12.08 hrs, Volume= 5,757 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.36' @ 12.12 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.80'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.80' / 47.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.4 cfs @ 12.08 hrs HW=49.12' TW=48.90' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.4 cfs @ 1.78 fps)

Pond CB14: Catch Basin 14



Summary for Pond CB2: Catch Basin 2

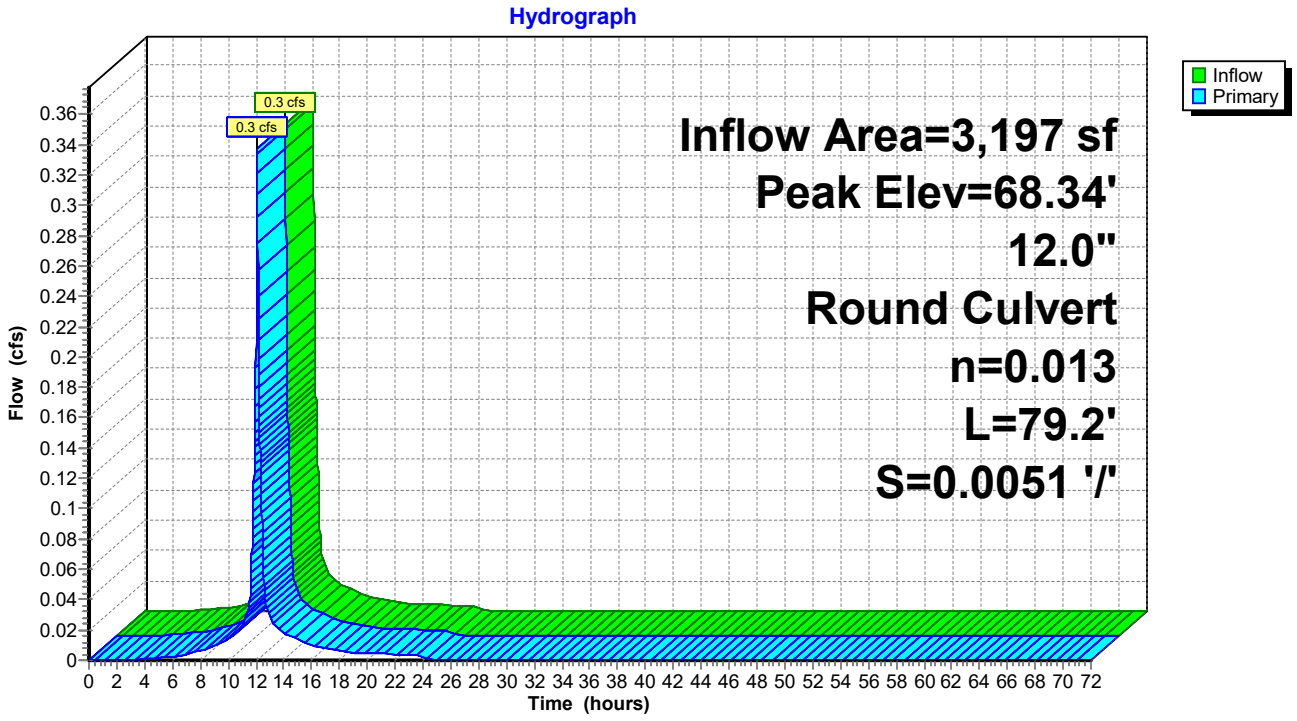
Inflow Area = 3,197 sf, 72.57% Impervious, Inflow Depth = 4.21" for 10-Year event
Inflow = 0.3 cfs @ 12.08 hrs, Volume= 1,121 cf
Outflow = 0.3 cfs @ 12.08 hrs, Volume= 1,121 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.08 hrs, Volume= 1,121 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.34' @ 12.08 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**12.0" Round Culvert** L= 79.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.00' / 67.60' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.08 hrs HW=68.34' TW=67.22' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.3 cfs @ 2.13 fps)

Pond CB2: Catch Basin 2



Summary for Pond CB3: Catch Basin 3

[80] Warning: Exceeded Pond C7 by 0.87' @ 12.12 hrs (0.2 cfs 42 cf)

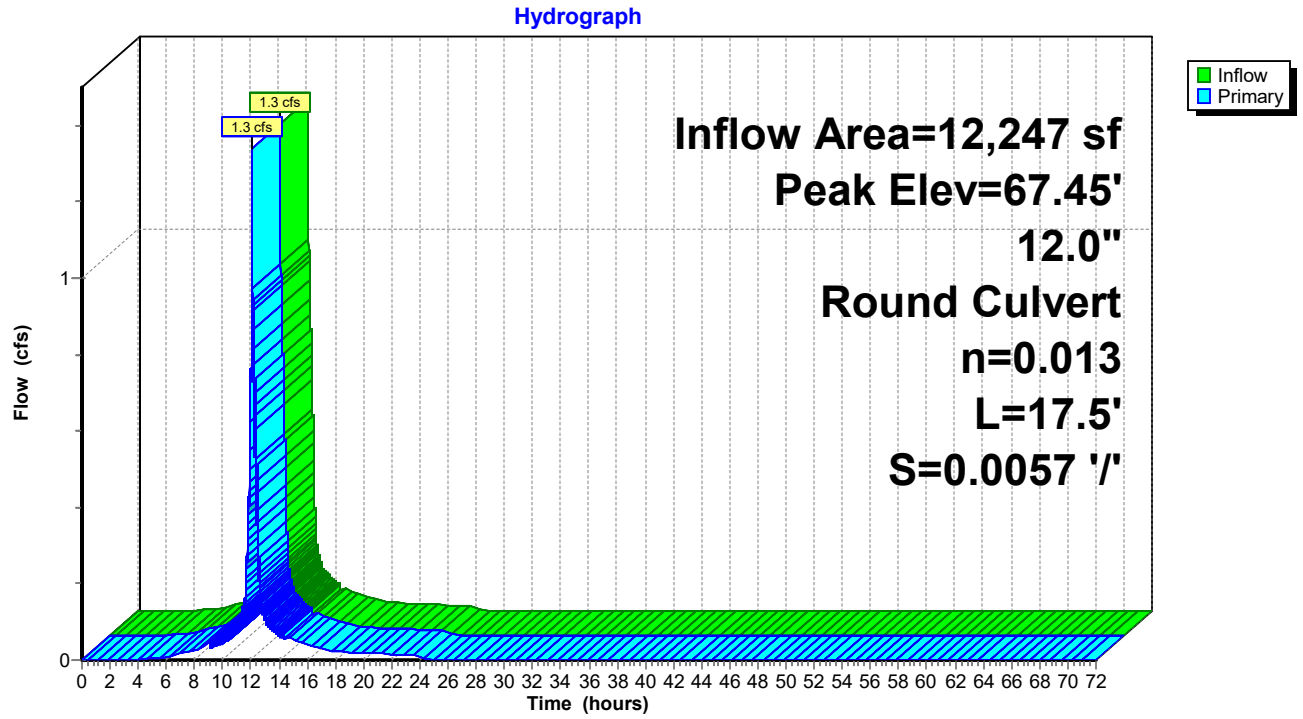
Inflow Area =	12,247 sf,	83.76% Impervious,	Inflow Depth =	4.30"	for 10-Year event
Inflow =	1.3 cfs @	12.13 hrs,	Volume=	4,386 cf	
Outflow =	1.3 cfs @	12.13 hrs,	Volume=	4,386 cf,	Atten= 0%, Lag= 0.0 min
Primary =	1.3 cfs @	12.13 hrs,	Volume=	4,386 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.45' @ 12.13 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.30'	**12.0" Round Culvert** L= 17.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.30' / 66.20' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.2 cfs @ 12.13 hrs HW=67.45' TW=67.28' (Dynamic Tailwater)
↳**1=Culvert** (Inlet Controls 1.2 cfs @ 1.55 fps)

Pond CB3: Catch Basin 3



Summary for Pond CB4: Catch Basin 4

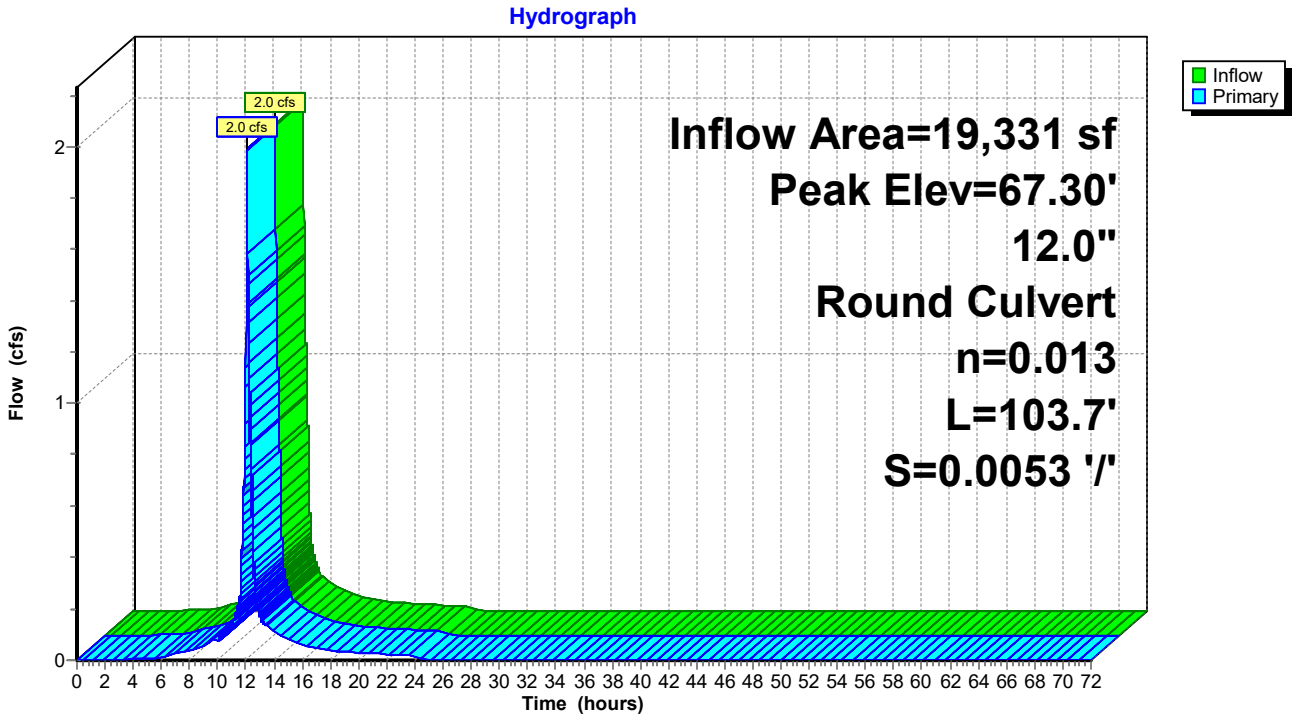
Inflow Area = 19,331 sf, 80.08% Impervious, Inflow Depth = 4.26" for 10-Year event
Inflow = 2.0 cfs @ 12.13 hrs, Volume= 6,870 cf
Outflow = 2.0 cfs @ 12.13 hrs, Volume= 6,870 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.0 cfs @ 12.13 hrs, Volume= 6,870 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.30' @ 12.11 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.10'	**12.0" Round Culvert** L= 103.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.10' / 65.55' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.9 cfs @ 12.13 hrs HW=67.28' TW=66.81' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.9 cfs @ 2.60 fps)

Pond CB4: Catch Basin 4



Summary for Pond CB5: Catch Basin 5

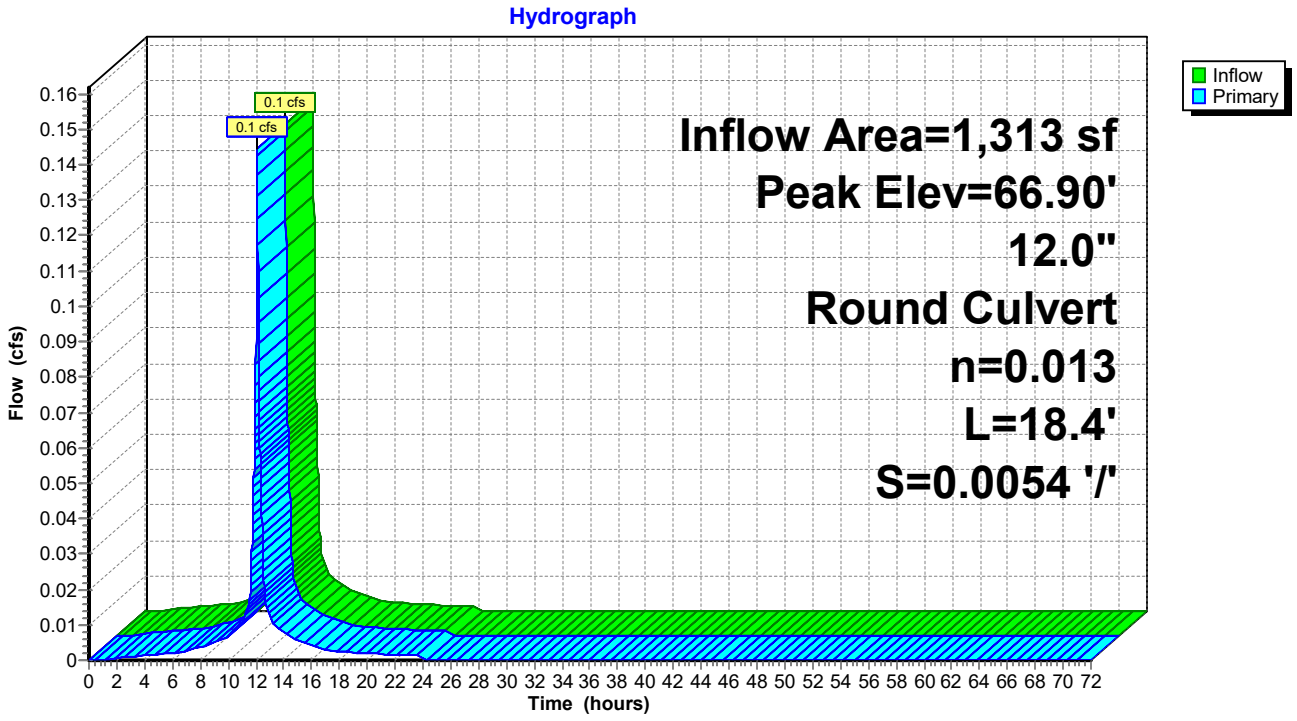
Inflow Area = 1,313 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 510 cf
Outflow = 0.1 cfs @ 12.08 hrs, Volume= 510 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.1 cfs @ 12.08 hrs, Volume= 510 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.90' @ 12.11 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	**12.0" Round Culvert** L= 18.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.00' / 65.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=66.74' TW=66.83' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB5: Catch Basin 5



Summary for Pond CB6: Catch Basin 6

[80] Warning: Exceeded Pond CB5 by 0.12' @ 12.08 hrs (0.9 cfs 153 cf)

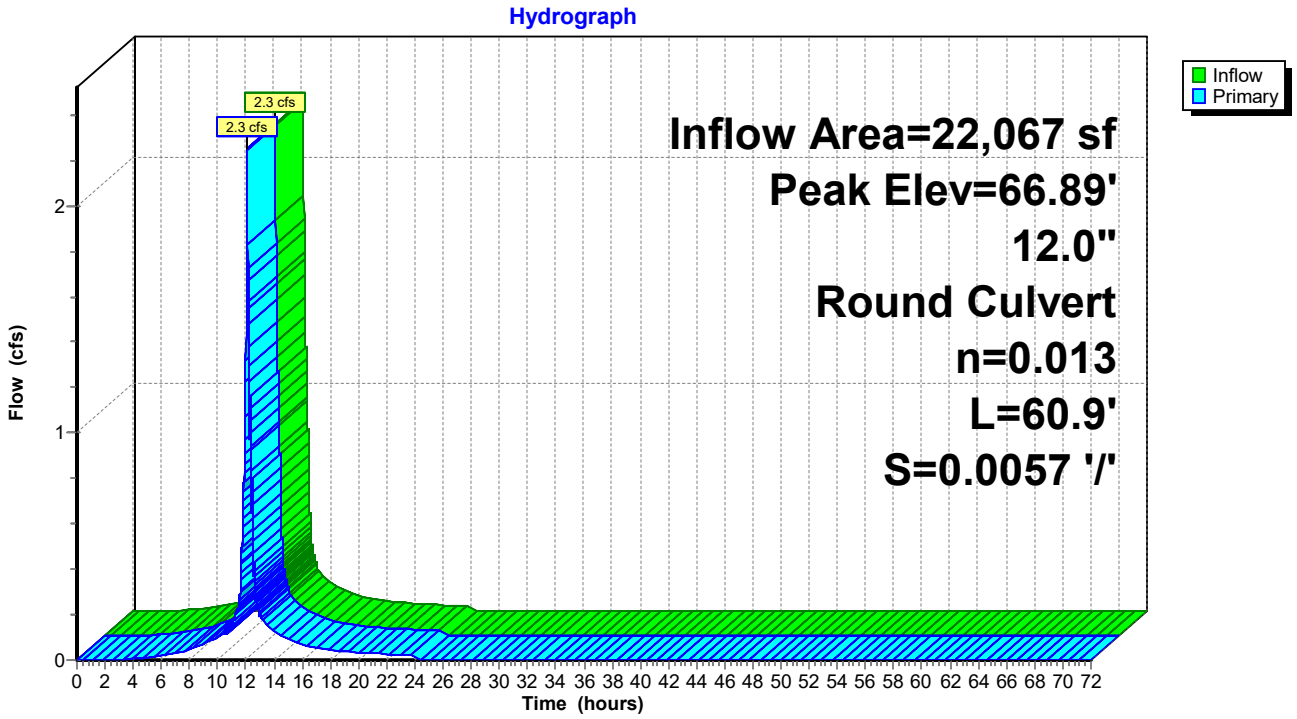
Inflow Area =	22,067 sf,	82.55% Impervious,	Inflow Depth =	4.31"	for 10-Year event
Inflow =	2.3 cfs @	12.13 hrs,	Volume=	7,934 cf	
Outflow =	2.3 cfs @	12.13 hrs,	Volume=	7,934 cf,	Atten= 0%, Lag= 0.0 min
Primary =	2.3 cfs @	12.13 hrs,	Volume=	7,934 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.89' @ 12.10 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.45'	**12.0" Round Culvert** L= 60.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.45' / 65.10' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.1 cfs @ 12.13 hrs HW=66.81' TW=66.31' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.1 cfs @ 2.69 fps)

Pond CB6: Catch Basin 6



Summary for Pond CB7: Catch Basin 7

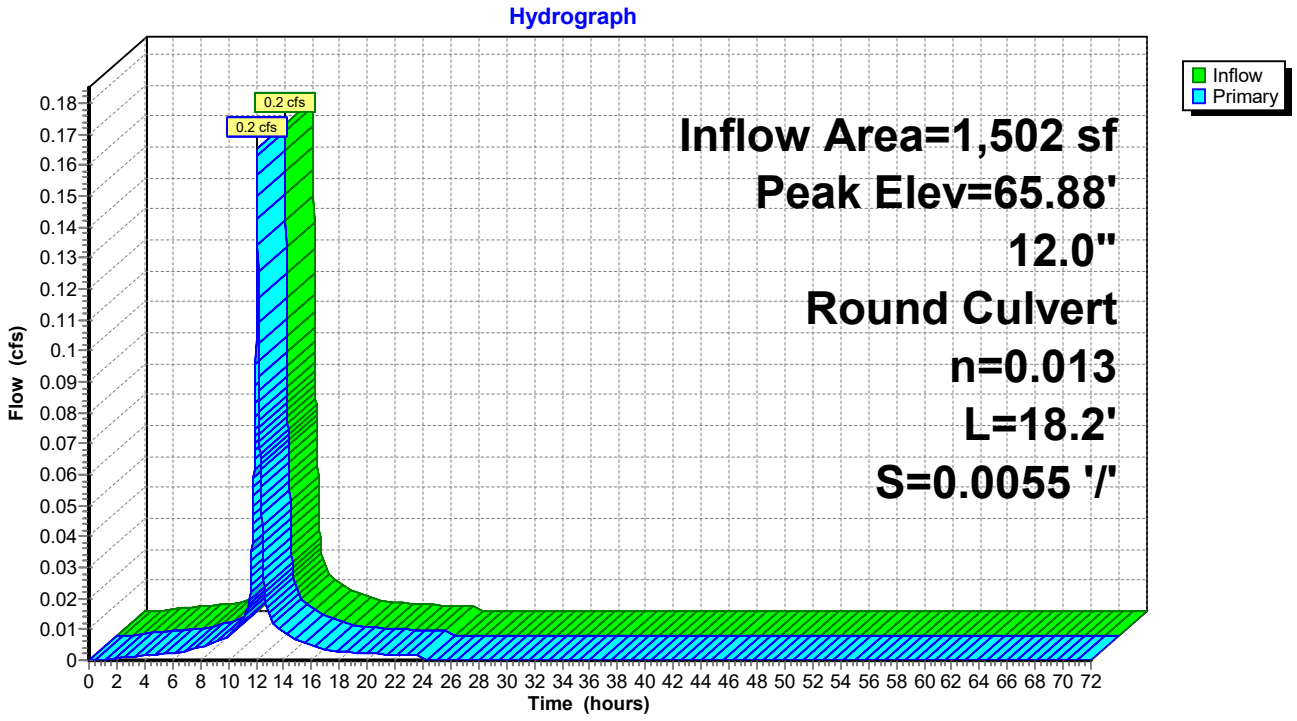
Inflow Area = 1,502 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 584 cf
Outflow = 0.2 cfs @ 12.08 hrs, Volume= 584 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.08 hrs, Volume= 584 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.88' @ 12.14 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.85'	**12.0" Round Culvert** L= 18.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.85' / 64.75' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=65.83' TW=65.85' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB7: Catch Basin 7



Summary for Pond CB8: Catch Basin 8

[80] Warning: Exceeded Pond CB7 by 0.12' @ 12.13 hrs (1.0 cfs 446 cf)

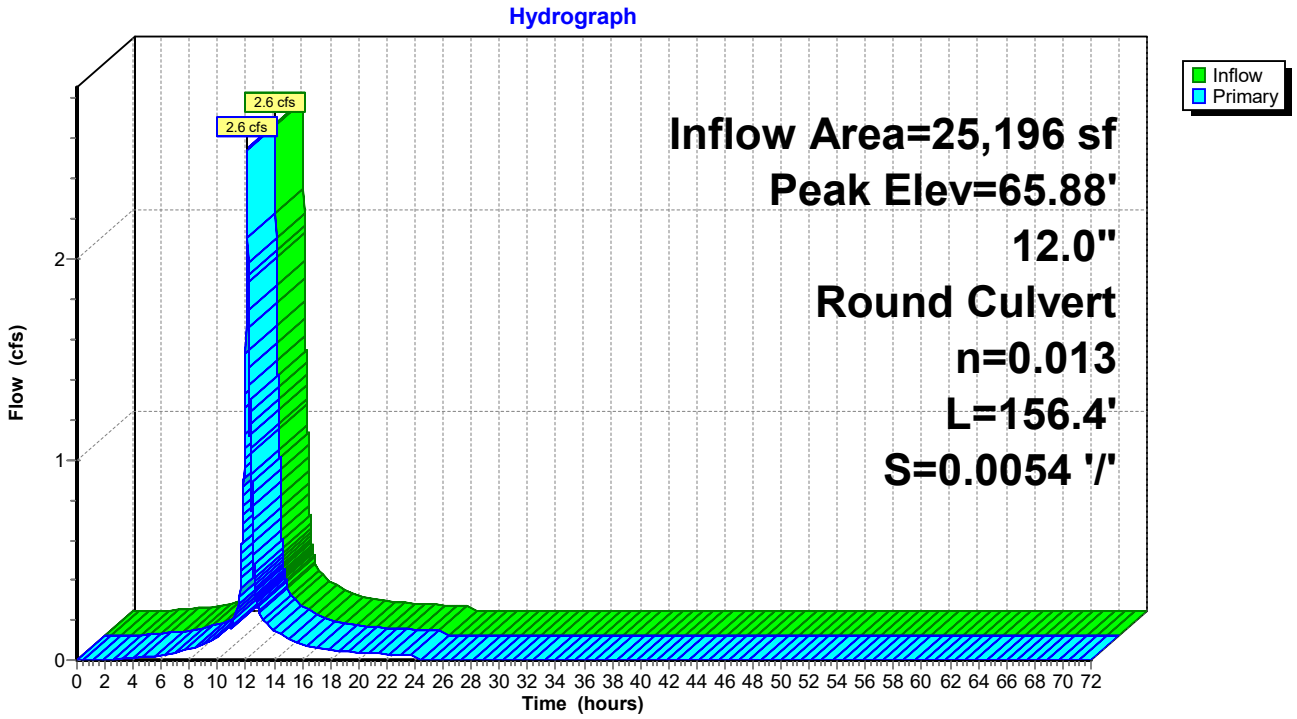
Inflow Area = 25,196 sf, 84.72% Impervious, Inflow Depth = 4.36" for 10-Year event
Inflow = 2.6 cfs @ 12.13 hrs, Volume= 9,150 cf
Outflow = 2.6 cfs @ 12.13 hrs, Volume= 9,150 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.6 cfs @ 12.13 hrs, Volume= 9,150 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.88' @ 12.13 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.65'	**12.0" Round Culvert** L= 156.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.65' / 63.80' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.5 cfs @ 12.13 hrs HW=65.86' TW=61.32' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.5 cfs @ 3.20 fps)

Pond CB8: Catch Basin 8



Summary for Pond CB9: Catch Basin 9

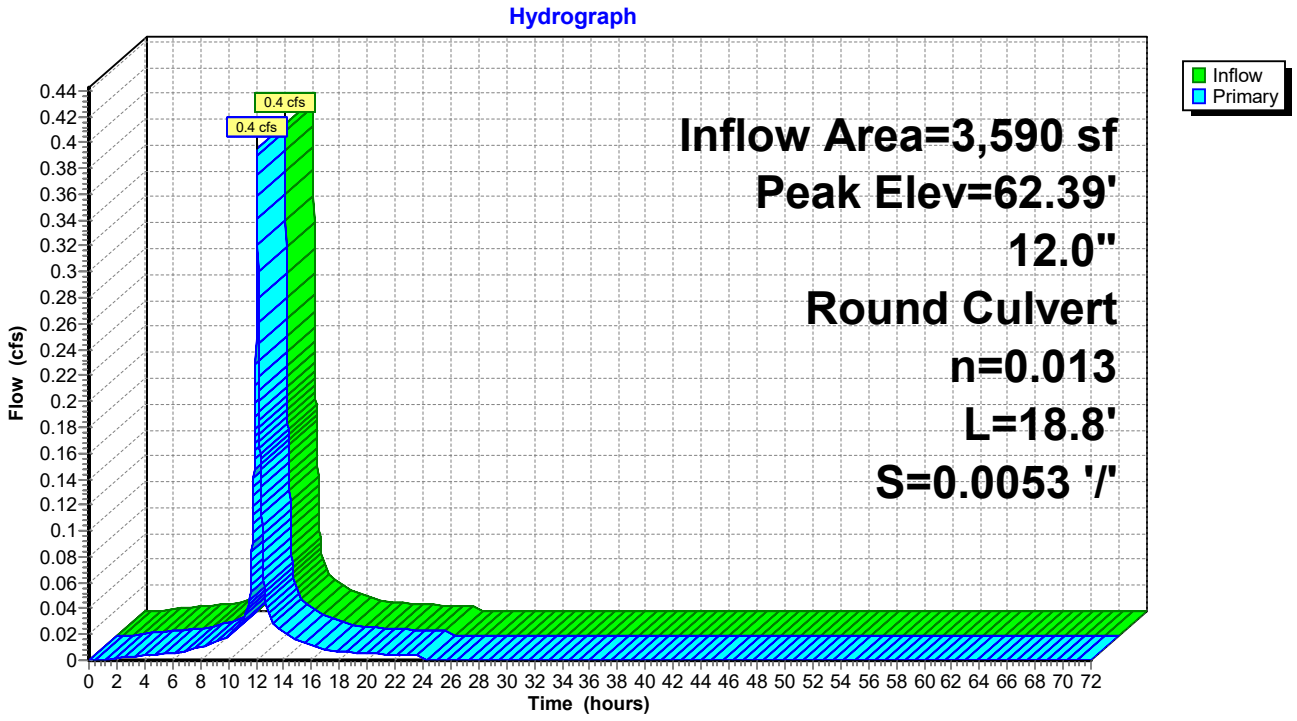
Inflow Area = 3,590 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.4 cfs @ 12.08 hrs, Volume= 1,395 cf
Outflow = 0.4 cfs @ 12.08 hrs, Volume= 1,395 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.08 hrs, Volume= 1,395 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.39' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	**12.0" Round Culvert** L= 18.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.90' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.4 cfs @ 12.08 hrs HW=62.39' TW=61.52' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.4 cfs @ 2.08 fps)

Pond CB9: Catch Basin 9



Summary for Pond CH1: Chamber 1

Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf
Outflow = 1.7 cfs @ 12.13 hrs, Volume= 6,847 cf, Atten= 11%, Lag= 2.6 min
Primary = 1.7 cfs @ 12.13 hrs, Volume= 6,847 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.52' @ 12.13 hrs Surf.Area= 1,773 sf Storage= 931 cf
Flood Elev= 50.50' Surf.Area= 1,773 sf Storage= 1,194 cf

Plug-Flow detention time= 10.4 min calculated for 6,846 cf (100% of inflow)
Center-of-Mass det. time= 10.4 min (758.8 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.90'	656 cf	**12.00'W x 74.40'L x 2.33'H Field A** 2,083 cf Overall - 442 cf Embedded = 1,641 cf x 40.0% Voids
#2A	47.40'	442 cf	**ADS_StormTech SC-310 +Cap** x 30 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 3 Rows
#3	44.73'	95 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,910 cf Overall x 5.0% Voids
		1,194 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.73	880	0	0
46.90	880	1,910	1,910

Device	Routing	Invert	Outlet Devices
#1	Primary	44.73'	**12.0" Round Culvert** L= 60.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.73' / 44.60' S= 0.0021 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	44.73'	**2.9" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	48.30'	**4.0' long x 4.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.7 cfs @ 12.13 hrs HW=48.51' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.7 cfs of 5.4 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.4 cfs @ 9.22 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.3 cfs @ 1.52 fps)

Pond CH1: Chamber 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 9.0" Spacing = 43.0" C-C Row Spacing

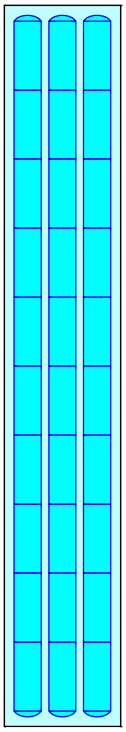
10 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 72.40' Row Length +12.0" End Stone x 2 = 74.40' Base Length
3 Rows x 34.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 12.00' Base Width
6.0" Stone Base + 16.0" Chamber Height + 6.0" Stone Cover = 2.33' Field Height

30 Chambers x 14.7 cf = 442.3 cf Chamber Storage

2,083.2 cf Field - 442.3 cf Chambers = 1,640.9 cf Stone x 40.0% Voids = 656.4 cf Stone Storage

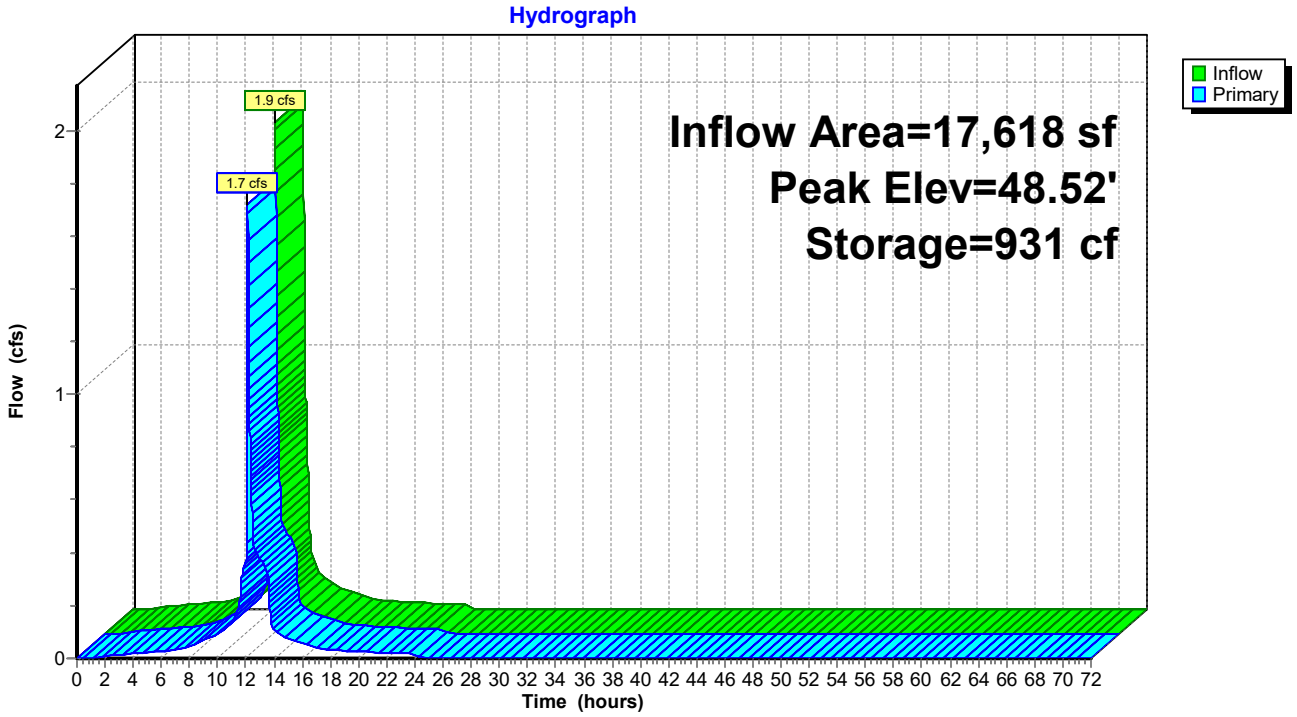
Chamber Storage + Stone Storage = 1,098.6 cf = 0.025 af
Overall Storage Efficiency = 52.7%
Overall System Size = 74.40' x 12.00' x 2.33'

30 Chambers
77.2 cy Field
60.8 cy Stone





Pond CH1: Chamber 1



Summary for Pond MH1: Manhole 1

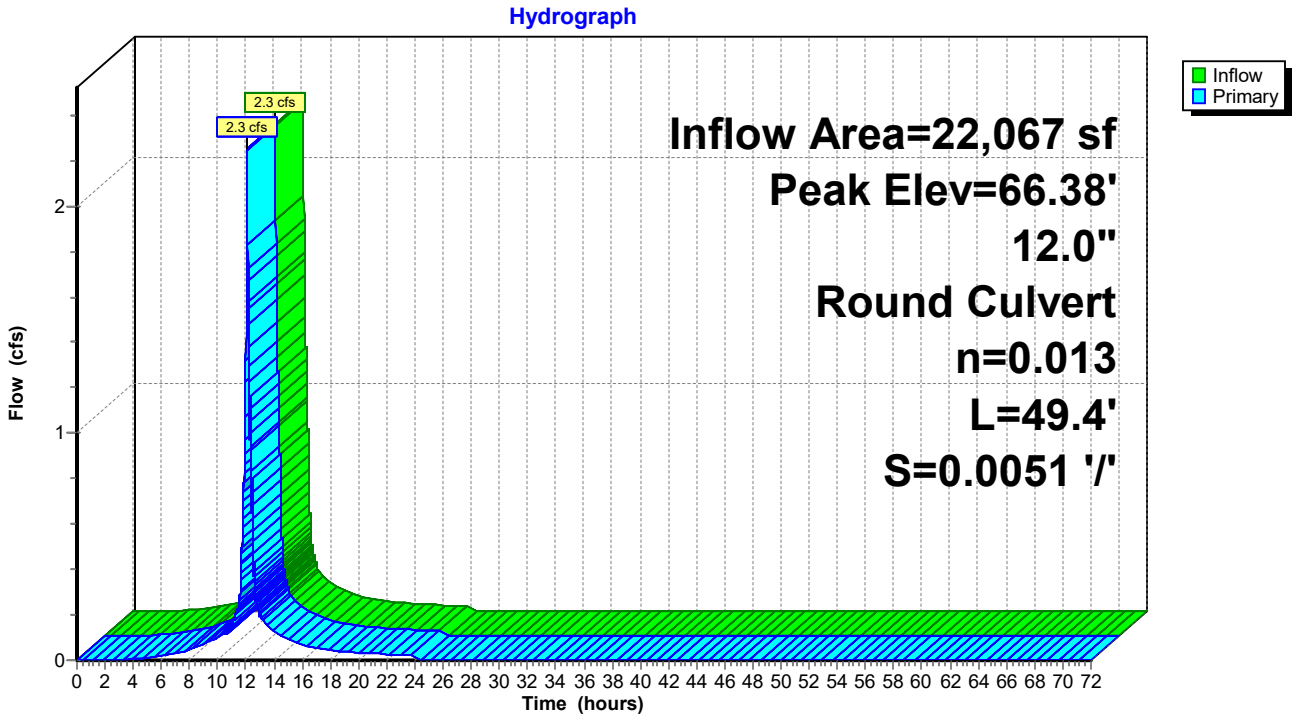
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 4.31" for 10-Year event
Inflow = 2.3 cfs @ 12.13 hrs, Volume= 7,934 cf
Outflow = 2.3 cfs @ 12.13 hrs, Volume= 7,934 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.3 cfs @ 12.13 hrs, Volume= 7,934 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.38' @ 12.09 hrs
Flood Elev= 68.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 49.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.00' / 64.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.0 cfs @ 12.13 hrs HW=66.31' TW=65.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.0 cfs @ 2.55 fps)

Pond MH1: Manhole 1



Summary for Pond MH2: Manhole 2

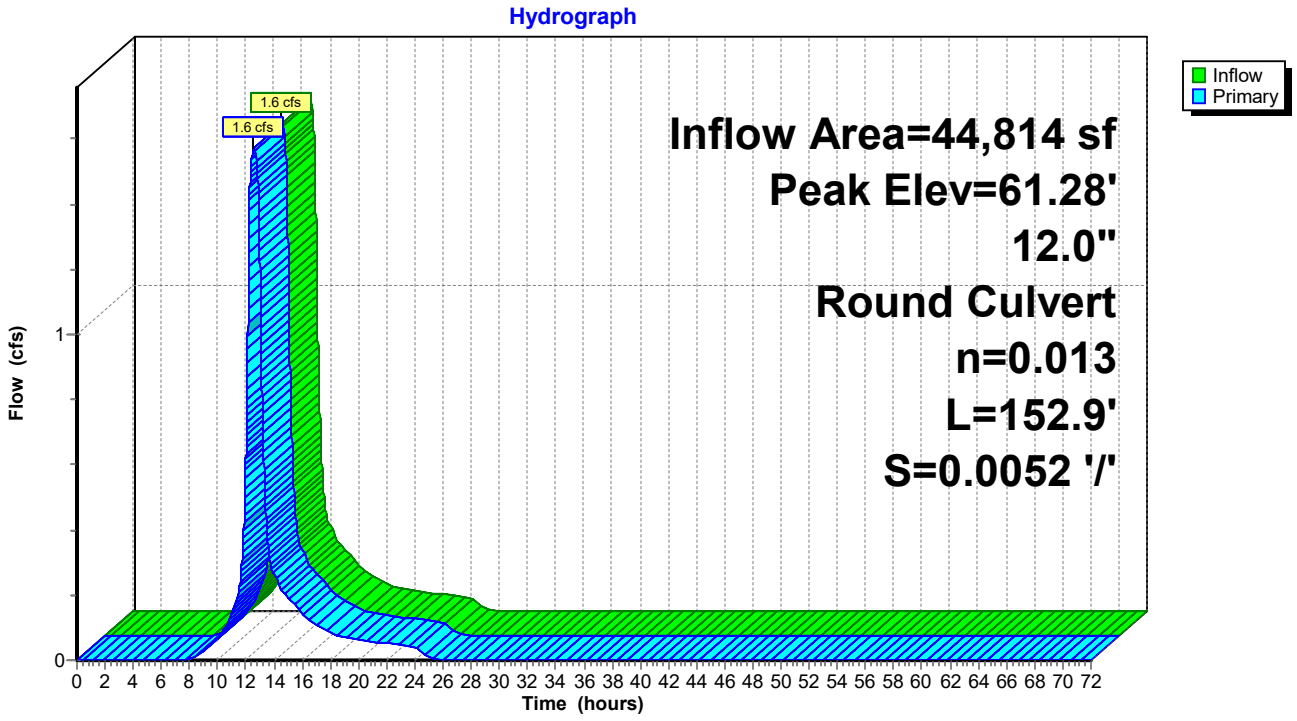
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 3.18" for 10-Year event
Inflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf
Outflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.28' @ 12.55 hrs
Flood Elev= 65.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.45'	**12.0" Round Culvert** L= 152.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.45' / 59.65' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.6 cfs @ 12.55 hrs HW=61.28' TW=60.39' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.6 cfs @ 3.08 fps)

Pond MH2: Manhole 2



Summary for Pond MH3: Manhole 3

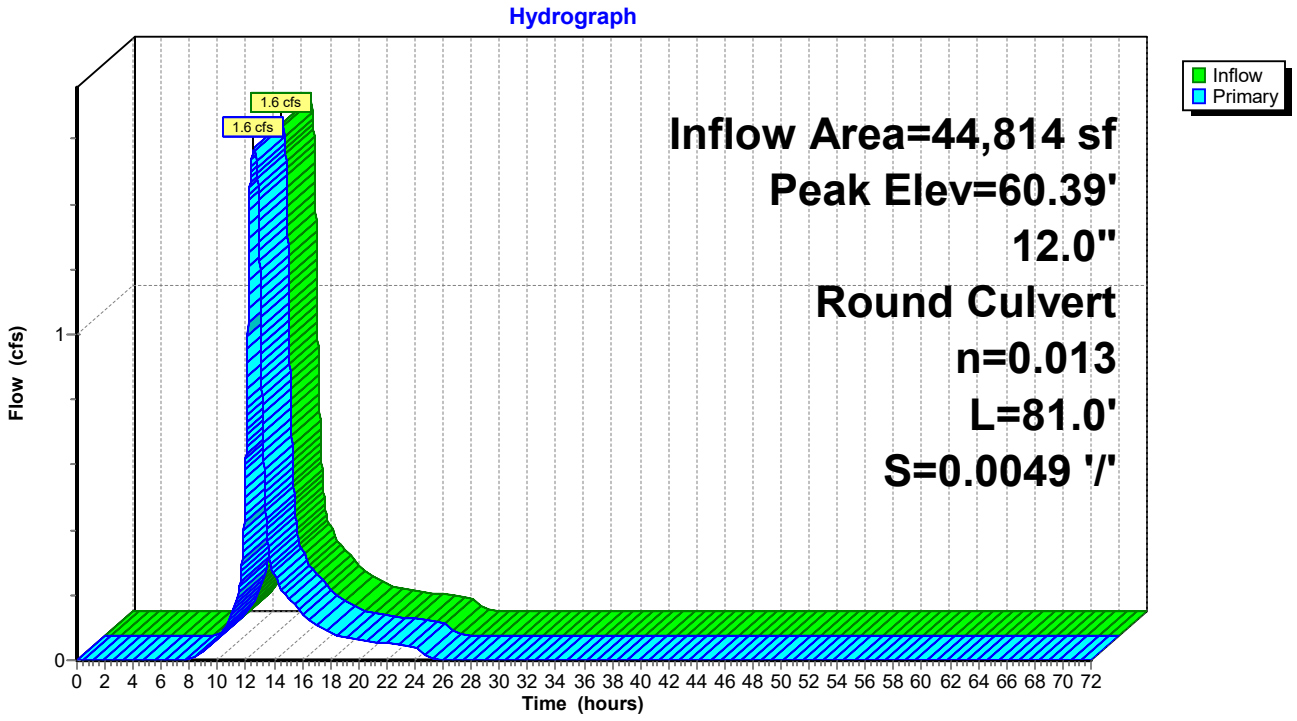
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 3.18" for 10-Year event
Inflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf
Outflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 60.39' @ 12.55 hrs
Flood Elev= 67.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.55'	**12.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.55' / 59.15' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.6 cfs @ 12.55 hrs HW=60.39' TW=59.83' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.6 cfs @ 3.00 fps)

Pond MH3: Manhole 3



Summary for Pond MH4: Manhole 4

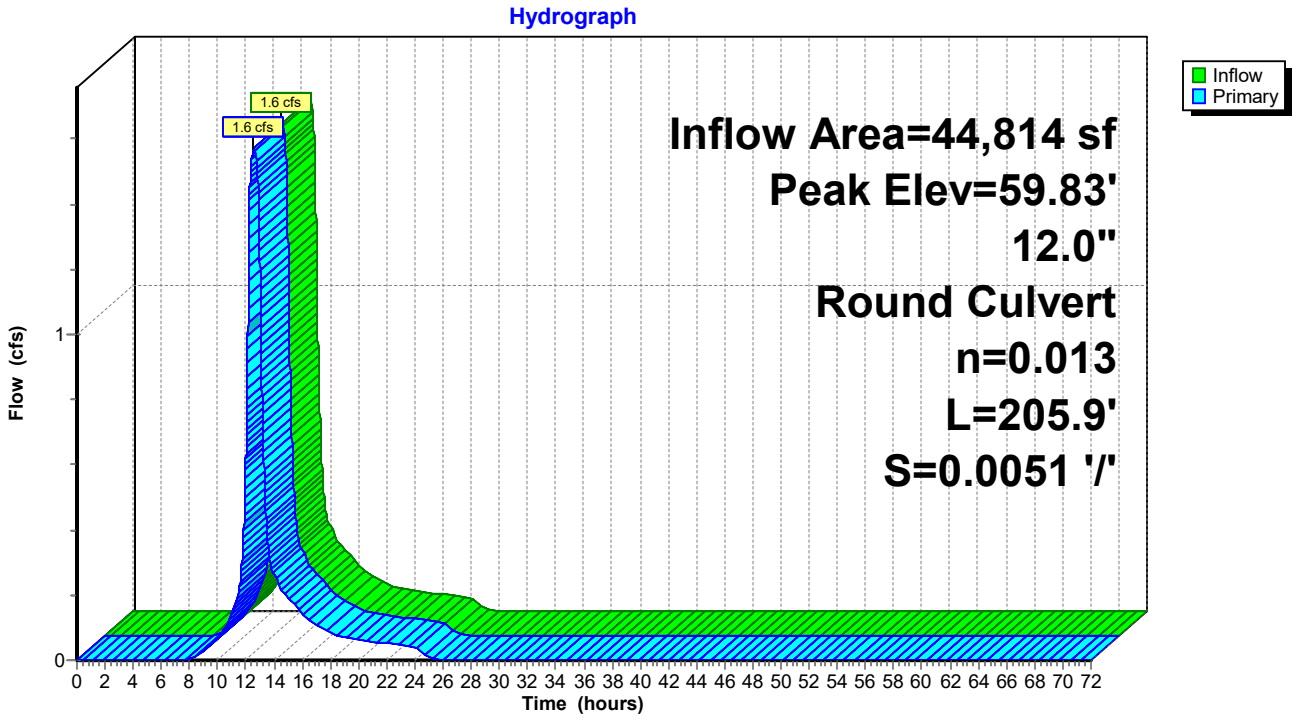
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 3.18" for 10-Year event
Inflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf
Outflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 59.83' @ 12.55 hrs
Flood Elev= 66.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.05'	**12.0" Round Culvert** L= 205.9' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 59.05' / 58.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.6 cfs @ 12.55 hrs HW=59.83' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.6 cfs @ 3.29 fps)

Pond MH4: Manhole 4



Summary for Pond MH5: Manhole 5

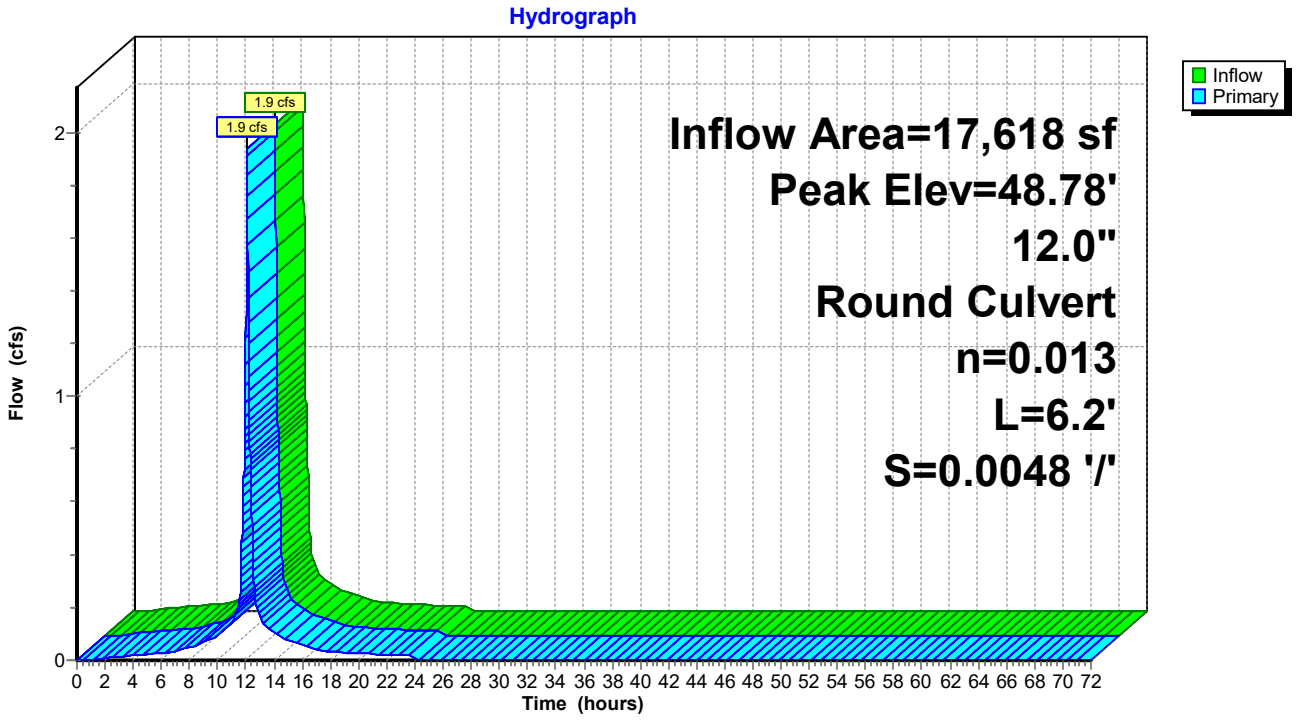
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf
Outflow = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.9 cfs @ 12.08 hrs, Volume= 6,847 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.78' @ 12.12 hrs
Flood Elev= 50.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.43'	**12.0" Round Culvert** L= 6.2' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.43' / 47.40' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.6 cfs @ 12.08 hrs HW=48.58' TW=48.35' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.6 cfs @ 2.08 fps)

Pond MH5: Manhole 5



Summary for Pond P1: Pond 1

[80] Warning: Exceeded Pond C8 by 1.88' @ 25.56 hrs (3.4 cfs 27,075 cf)

Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 0.99" for 10-Year event
Inflow = 1.9 cfs @ 12.68 hrs, Volume= 14,903 cf
Outflow = 0.5 cfs @ 14.29 hrs, Volume= 14,024 cf, Atten= 75%, Lag= 96.6 min
Primary = 0.5 cfs @ 14.29 hrs, Volume= 14,024 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 53.27' @ 14.29 hrs Surf.Area= 2,766 sf Storage= 6,953 cf
Flood Elev= 55.50' Surf.Area= 3,752 sf Storage= 14,183 cf

Plug-Flow detention time= 832.8 min calculated for 14,022 cf (94% of inflow)
Center-of-Mass det. time= 803.0 min (1,726.4 - 923.4)

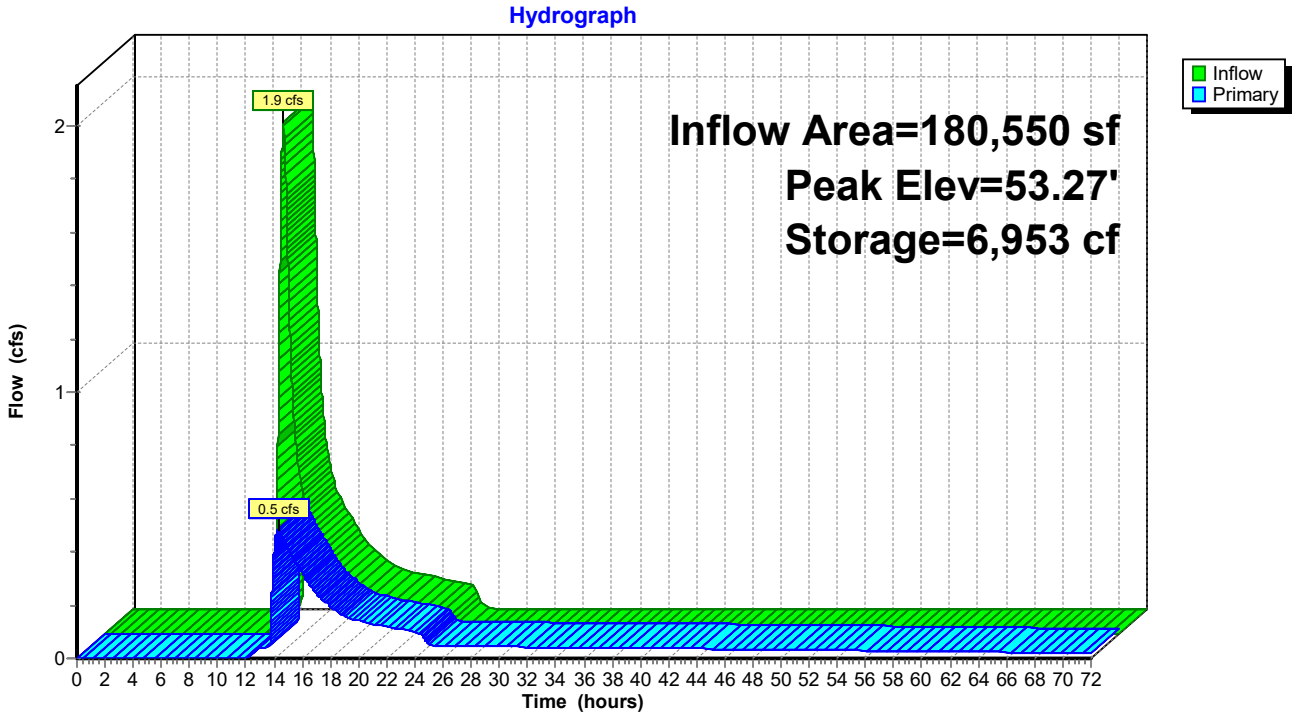
Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	16,121 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,503	0	0
51.00	1,882	1,693	1,693
52.00	2,267	2,075	3,767
53.00	2,662	2,465	6,232
54.00	3,055	2,859	9,090
55.00	3,503	3,279	12,369
56.00	4,000	3,752	16,121

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**12.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.00' / 46.40' S= 0.0180 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	50.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	53.10'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.5 cfs @ 14.29 hrs HW=53.27' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.5 cfs of 5.0 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.0 cfs @ 8.65 fps)
3=Orifice/Grate (Orifice Controls 0.4 cfs @ 1.31 fps)

Pond P1: Pond 1



Summary for Pond RD1: Roof Drain 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=669)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 486 cf
Outflow = 0.1 cfs @ 12.12 hrs, Volume= 468 cf, Atten= 12%, Lag= 2.3 min
Primary = 0.1 cfs @ 12.12 hrs, Volume= 468 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.59' @ 12.13 hrs Surf.Area= 231 sf Storage= 47 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 51.7 min calculated for 468 cf (96% of inflow)
Center-of-Mass det. time= 29.4 min (777.8 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

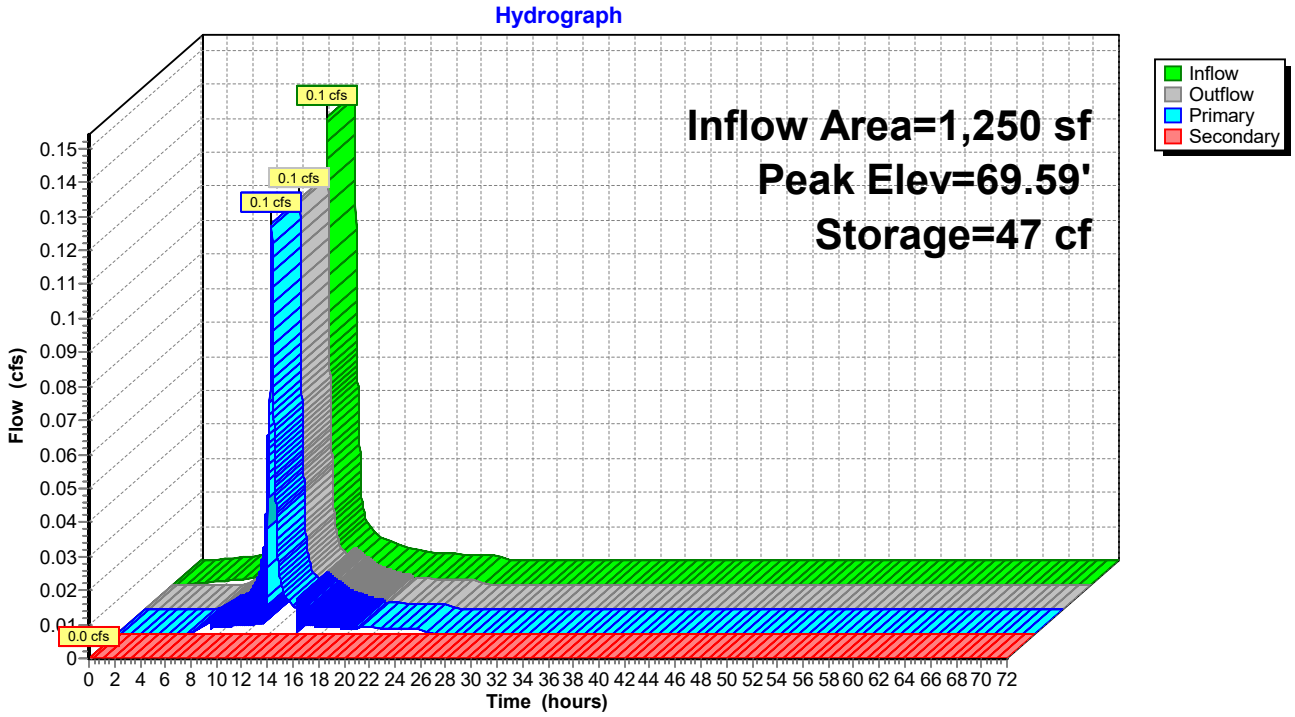
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.12 hrs HW=69.59' TW=69.51' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.38 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD1: Roof Drain 1



Summary for Pond RD2: Roof Drain 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=826)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 486 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 468 cf, Atten= 16%, Lag= 3.0 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 468 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.76' @ 12.13 hrs Surf.Area= 239 sf Storage= 52 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 55.3 min calculated for 468 cf (96% of inflow)
Center-of-Mass det. time= 33.1 min (781.5 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

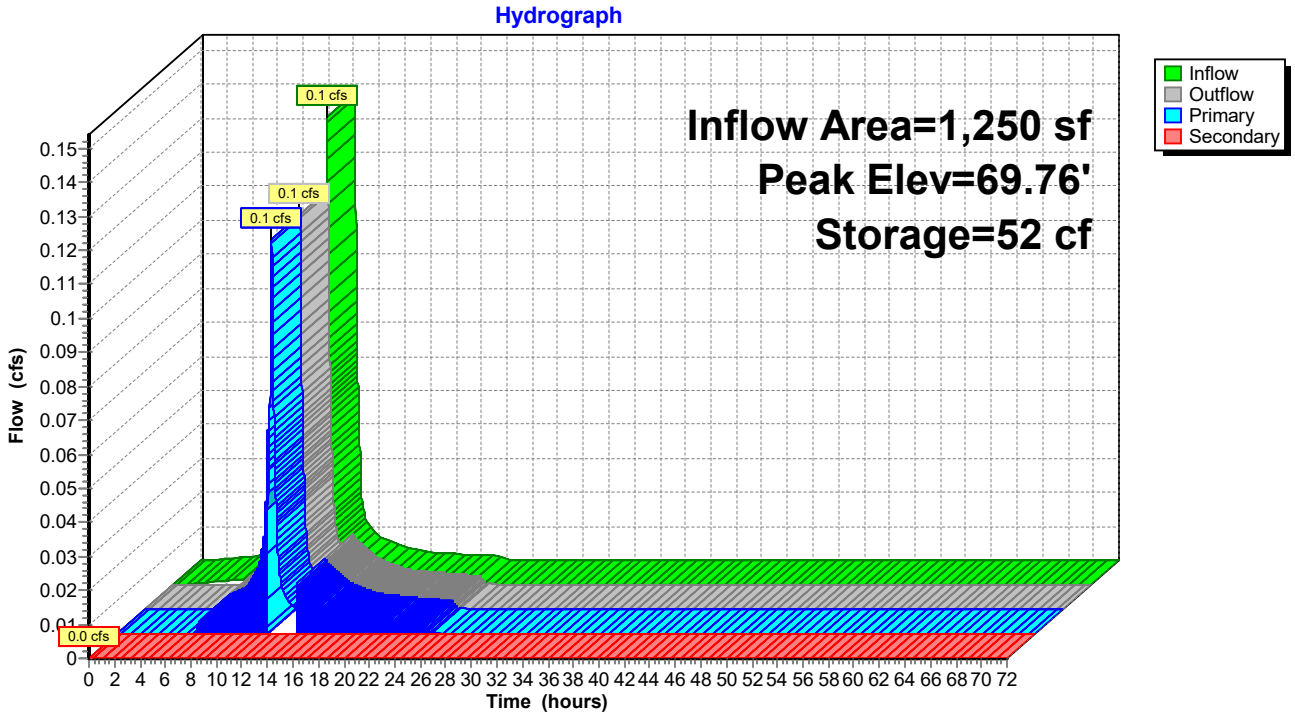
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.76' TW=69.68' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 0.1 cfs @ 1.33 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD2: Roof Drain 2



Summary for Pond RD3: Roof Drain 3

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 486 cf
Outflow = 0.1 cfs @ 12.11 hrs, Volume= 469 cf, Atten= 9%, Lag= 1.8 min
Primary = 0.1 cfs @ 12.11 hrs, Volume= 469 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.99' @ 12.12 hrs Surf.Area= 224 sf Storage= 41 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 49.9 min calculated for 469 cf (96% of inflow)
Center-of-Mass det. time= 28.2 min (776.6 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

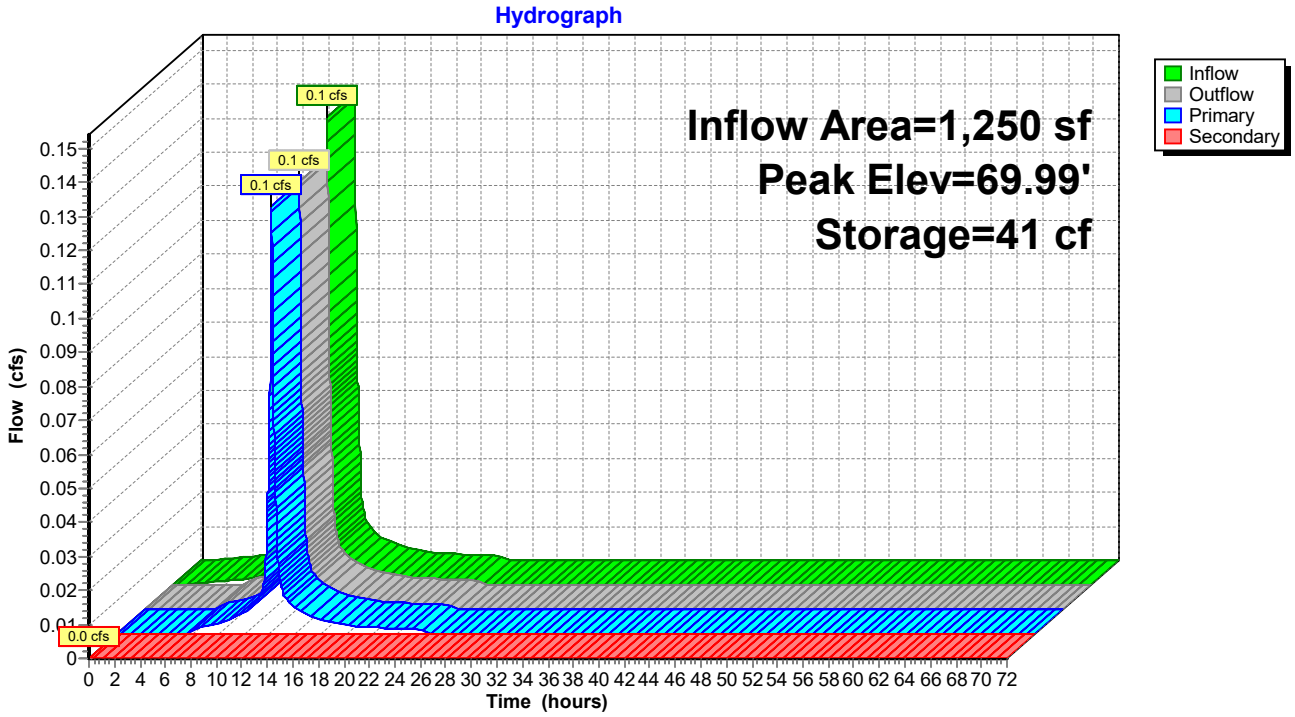
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.11 hrs HW=69.99' TW=69.89' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.52 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD3: Roof Drain 3



Summary for Pond RD4: Roof Drain 4

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 486 cf
Outflow = 0.1 cfs @ 12.11 hrs, Volume= 469 cf, Atten= 8%, Lag= 1.8 min
Primary = 0.1 cfs @ 12.11 hrs, Volume= 469 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.99' @ 12.12 hrs Surf.Area= 224 sf Storage= 41 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 49.9 min calculated for 469 cf (96% of inflow)
Center-of-Mass det. time= 28.2 min (776.6 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

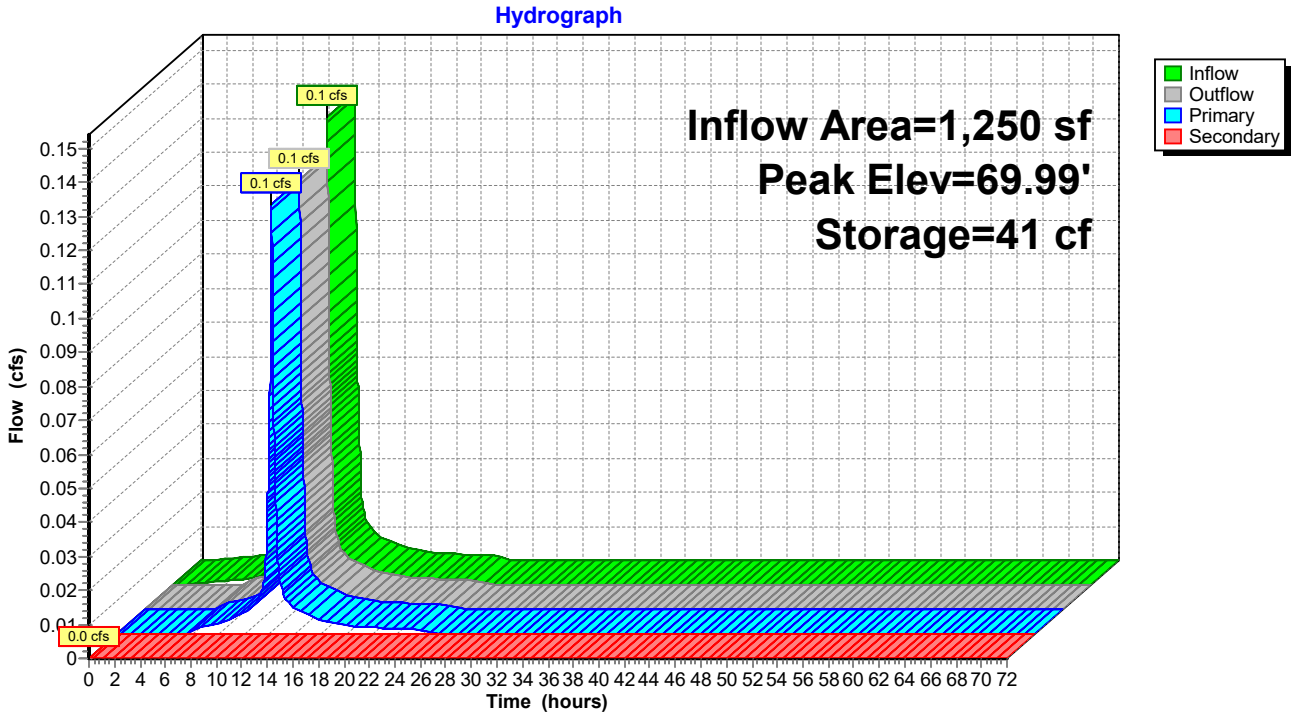
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.11 hrs HW=69.99' TW=69.88' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.53 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD4: Roof Drain 4



Summary for Pond RD5: Roof Drain 5

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=351)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 486 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 468 cf, Atten= 15%, Lag= 3.0 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 468 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.73' @ 12.13 hrs Surf.Area= 236 sf Storage= 50 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 53.7 min calculated for 468 cf (96% of inflow)
Center-of-Mass det. time= 31.4 min (779.8 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

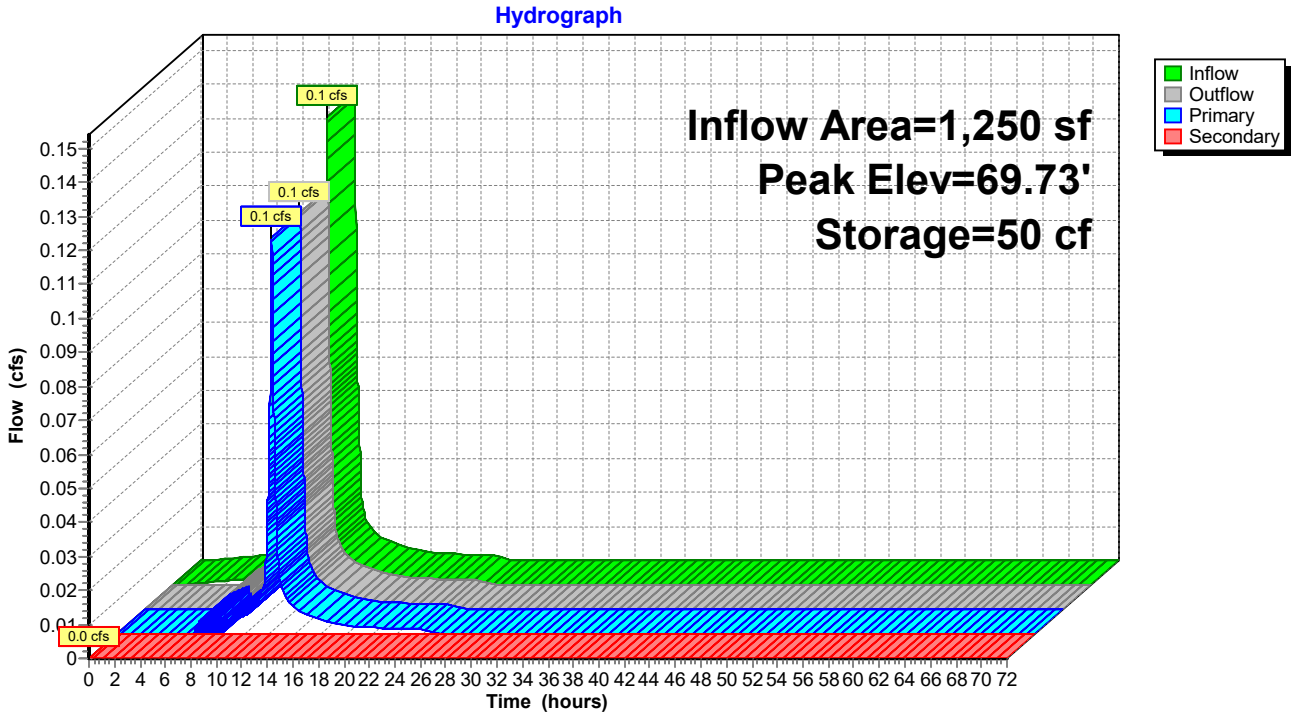
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.73' TW=69.65' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.34 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD5: Roof Drain 5



Summary for Pond RD6: Roof Drain 6

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=484)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
Inflow = 0.1 cfs @ 12.08 hrs, Volume= 486 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 469 cf, Atten= 15%, Lag= 2.6 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 469 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.59' @ 12.13 hrs Surf.Area= 231 sf Storage= 46 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 49.7 min calculated for 469 cf (97% of inflow)
Center-of-Mass det. time= 29.1 min (777.5 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

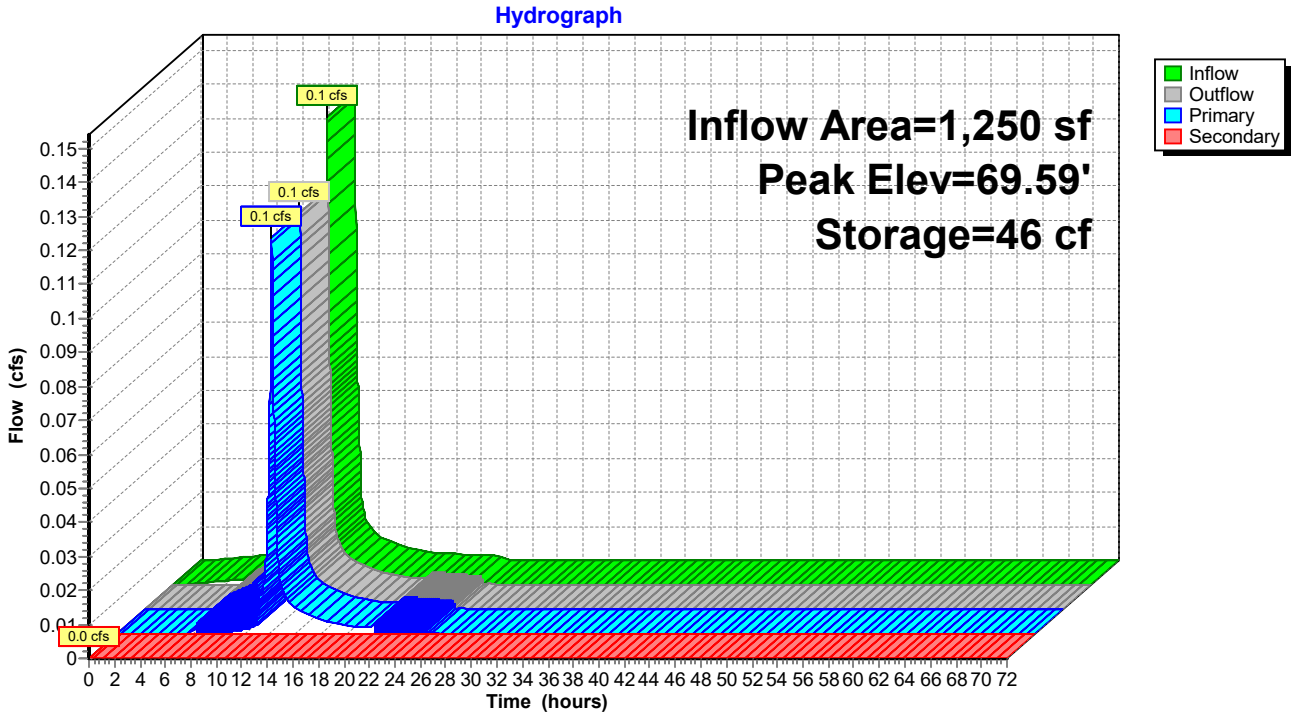
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.59' TW=69.52' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.33 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD6: Roof Drain 6



Summary for Pond RD7: Roof Drain 7

[92] Warning: Device #2 is above defined storage
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=899)

Inflow Area =	1,250 sf,	100.00% Impervious,	Inflow Depth =	4.66"	for 10-Year event
Inflow =	0.1 cfs @	12.08 hrs, Volume=	486 cf		
Outflow =	0.3 cfs @	12.13 hrs, Volume=	468 cf,	Atten= 0%,	Lag= 2.8 min
Primary =	0.3 cfs @	12.13 hrs, Volume=	468 cf		
Secondary =	0.0 cfs @	0.00 hrs, Volume=	0 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.39' @ 12.17 hrs Surf.Area= 281 sf Storage= 94 cf
Flood Elev= 69.30' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 55.5 min calculated for 468 cf (96% of inflow)
Center-of-Mass det. time= 33.3 min (781.7 - 748.4)

Volume	Invert	Avail.Storage	Storage Description
#1	66.29'	271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

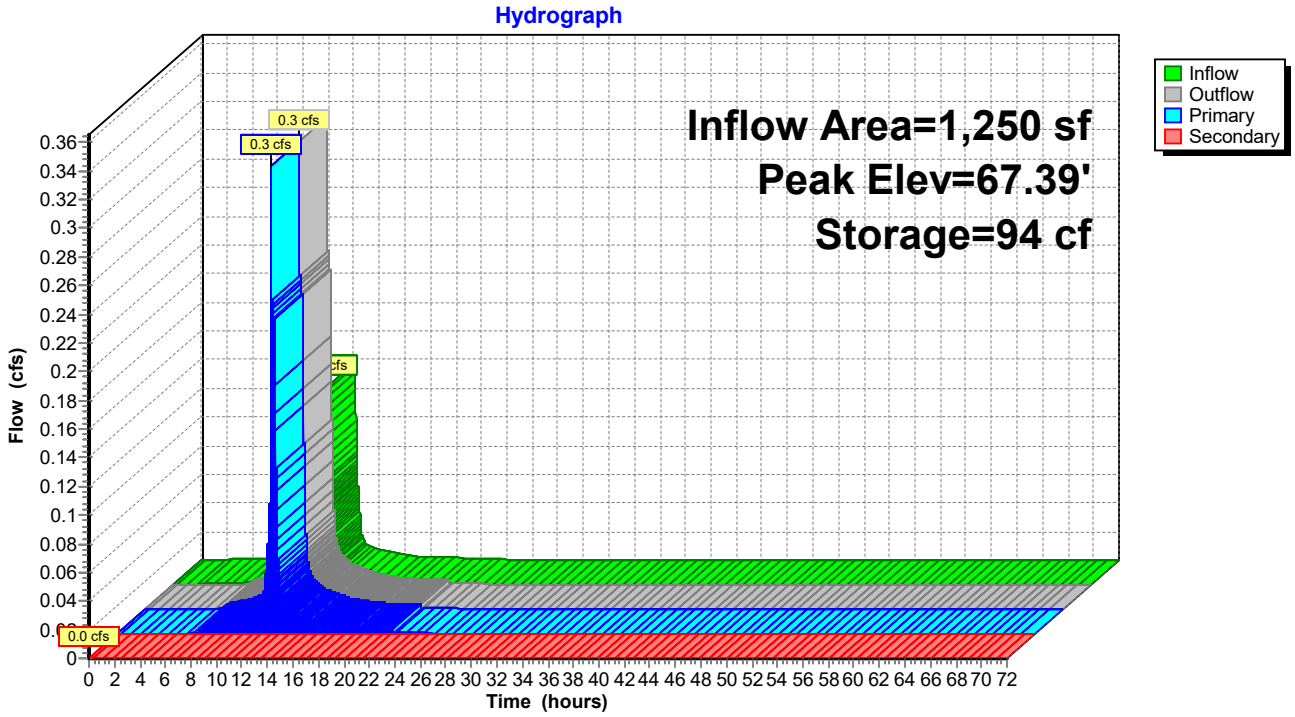
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.29	156	0.0	0	0
66.30	156	40.0	1	1
67.29	281	40.0	87	87
67.30	281	25.0	1	88
68.29	281	25.0	70	157
68.30	281	40.0	1	159
69.30	281	40.0	112	271

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	69.30'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.13 hrs HW=67.32' TW=68.63' (Dynamic Tailwater)
└**1=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=66.29' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD7: Roof Drain 7



Summary for Pond SF1: Soil Filter 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 3.18" for 10-Year event
Inflow = 2.6 cfs @ 12.28 hrs, Volume= 11,872 cf
Outflow = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf, Atten= 39%, Lag= 16.1 min
Primary = 1.6 cfs @ 12.55 hrs, Volume= 11,866 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 64.04' @ 12.55 hrs Surf.Area= 2,732 sf Storage= 1,717 cf
Flood Elev= 66.25' Surf.Area= 3,716 sf Storage= 5,562 cf

Plug-Flow detention time= 15.1 min calculated for 11,865 cf (100% of inflow)
Center-of-Mass det. time= 15.0 min (842.1 - 827.1)

Volume	Invert	Avail.Storage	Storage Description
#1	60.99'	981 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	63.50'	4,581 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		5,562 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.99	1,250	0.0	0	0
61.00	1,250	40.0	5	5
61.99	1,250	40.0	495	500
62.00	1,250	25.0	3	503
63.49	1,250	25.0	466	969
63.50	1,250	100.0	12	981

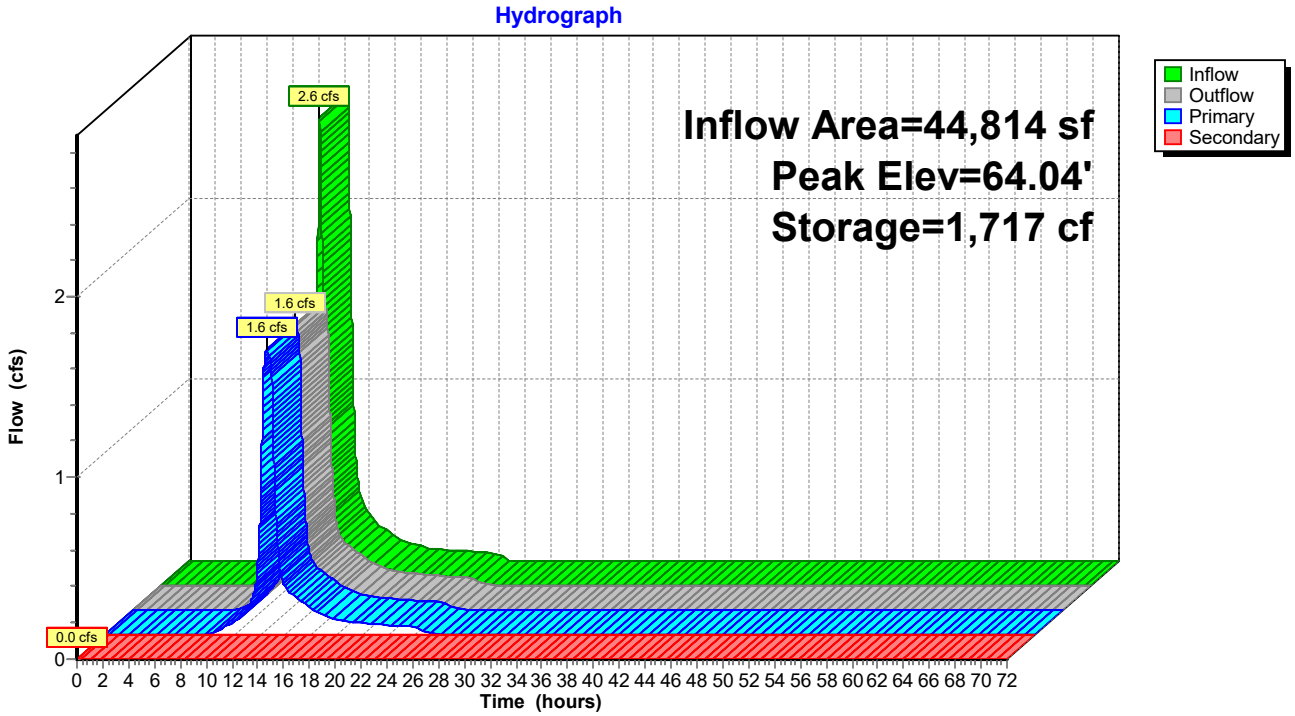
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.50	1,250	0	0
64.00	1,464	679	679
65.00	1,937	1,701	2,379
66.00	2,466	2,202	4,581

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**8.0" Round Culvert** L= 81.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 60.55' S= 0.0055 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.00'	**6.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.80'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	65.75'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.6 cfs @ 12.55 hrs HW=64.04' TW=61.28' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.6 cfs of 2.0 cfs potential flow)
  └─**2=Underdrain** (Orifice Controls 1.6 cfs @ 8.00 fps)
  └─**3=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=60.99' TW=51.20' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF1: Soil Filter 1



Summary for Pond SF2: Soil Filter 2

[95] Warning: Outlet Device #3 rise exceeded

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 3.27" for 10-Year event
Inflow = 7.0 cfs @ 12.23 hrs, Volume= 34,010 cf
Outflow = 1.8 cfs @ 12.80 hrs, Volume= 33,787 cf, Atten= 74%, Lag= 33.9 min
Primary = 1.8 cfs @ 12.80 hrs, Volume= 33,787 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.41' @ 12.80 hrs Surf.Area= 13,468 sf Storage= 14,054 cf
Flood Elev= 64.00' Surf.Area= 15,354 sf Storage= 27,812 cf

Plug-Flow detention time= 136.6 min calculated for 33,782 cf (99% of inflow)
Center-of-Mass det. time= 132.8 min (945.9 - 813.1)

Volume	Invert	Avail.Storage	Storage Description
#1	58.49'	4,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	61.00'	23,248 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		27,812 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.49	5,803	0.0	0	0
58.50	5,803	40.0	23	23
59.50	5,803	40.0	2,321	2,344
59.51	5,803	25.0	15	2,359
60.99	5,803	25.0	2,147	4,506
61.00	5,803	100.0	58	4,564

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	5,803	0	0
62.00	7,104	6,454	6,454
63.00	8,467	7,786	14,239
64.00	9,551	9,009	23,248

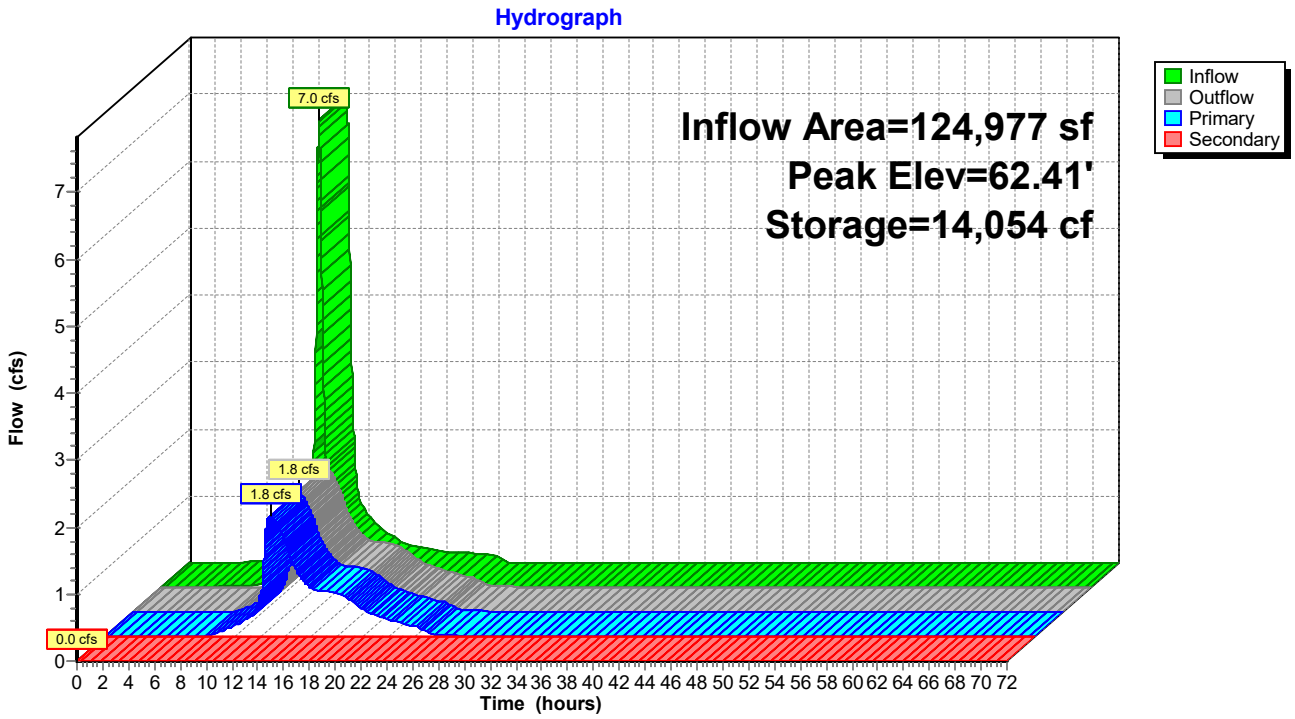
Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	**8.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 58.28' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	58.58'	**4.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	61.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.50 Width (feet) 0.50 0.50
#4	Device 1	63.00'	**24.0" x 24.0" Horiz. Structure Top** C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00

2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.8 cfs @ 12.80 hrs HW=62.41' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.8 cfs of 2.5 cfs potential flow)
  └─**2=Underdrain** (Orifice Controls 0.8 cfs @ 9.22 fps)
  └─**3=Custom Weir/Orifice** (Orifice Controls 1.0 cfs @ 3.97 fps)
  └─**4=Structure Top** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=58.49' TW=0.00' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF2: Soil Filter 2

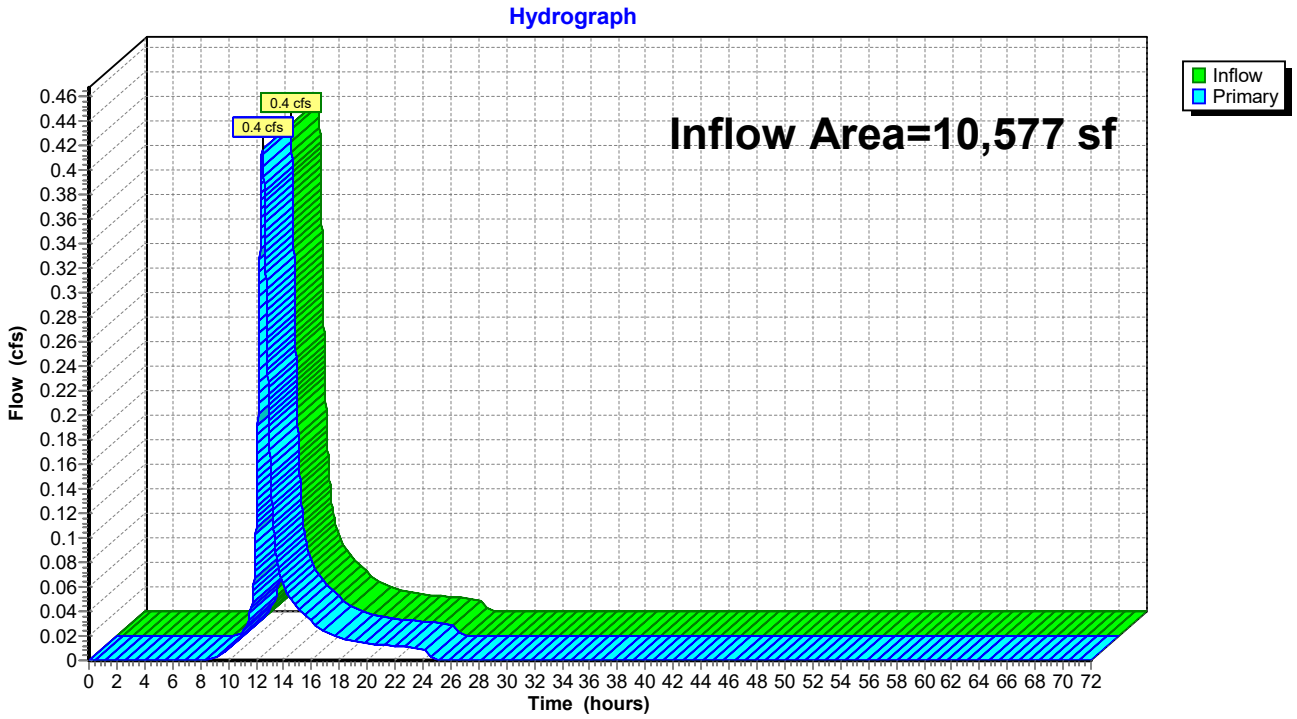


Summary for Link AP#1: Analysis Point 1

Inflow Area = 10,577 sf, 0.00% Impervious, Inflow Depth = 2.72" for 10-Year event
Inflow = 0.4 cfs @ 12.47 hrs, Volume= 2,394 cf
Primary = 0.4 cfs @ 12.47 hrs, Volume= 2,394 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

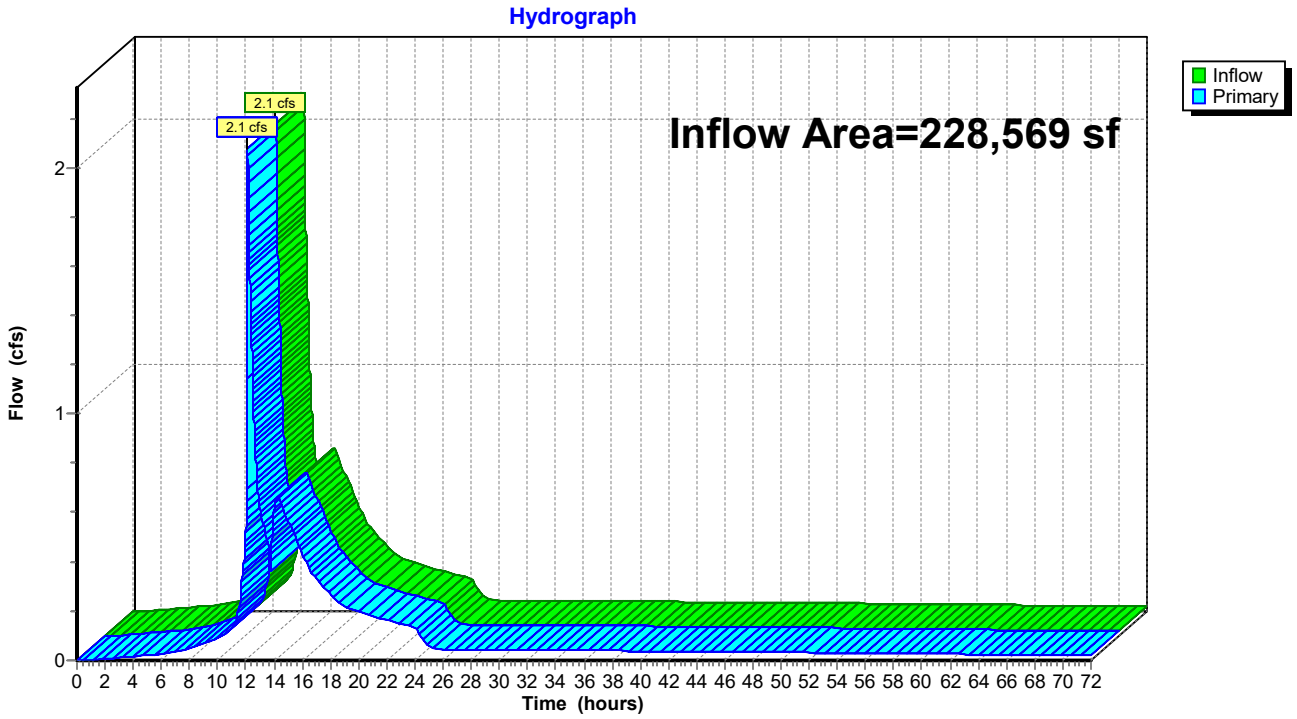


Summary for Link AP#2: Analysis Point 2

Inflow Area = 228,569 sf, 28.40% Impervious, Inflow Depth > 1.29" for 10-Year event
Inflow = 2.1 cfs @ 12.13 hrs, Volume= 24,534 cf
Primary = 2.1 cfs @ 12.13 hrs, Volume= 24,534 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

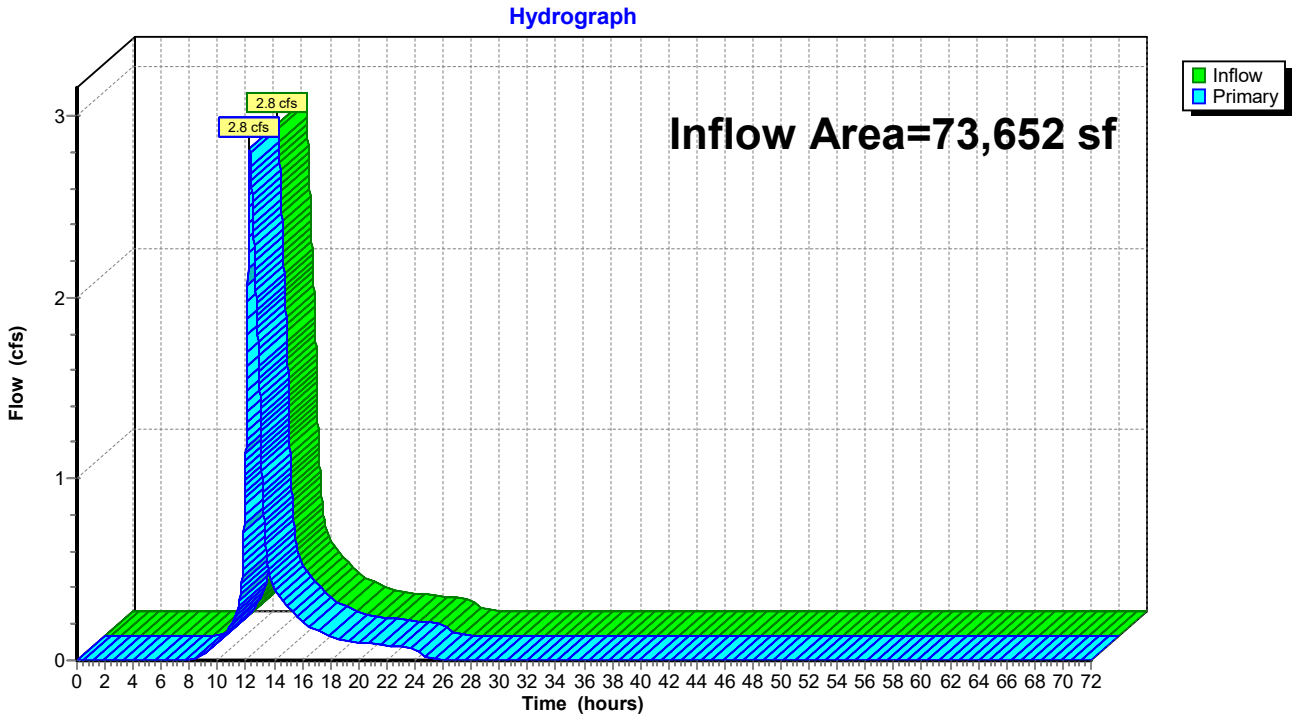


Summary for Link AP#3: Analysis Point 3

Inflow Area = 73,652 sf, 16.15% Impervious, Inflow Depth = 2.93" for 10-Year event
Inflow = 2.8 cfs @ 12.28 hrs, Volume= 17,969 cf
Primary = 2.8 cfs @ 12.28 hrs, Volume= 17,969 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

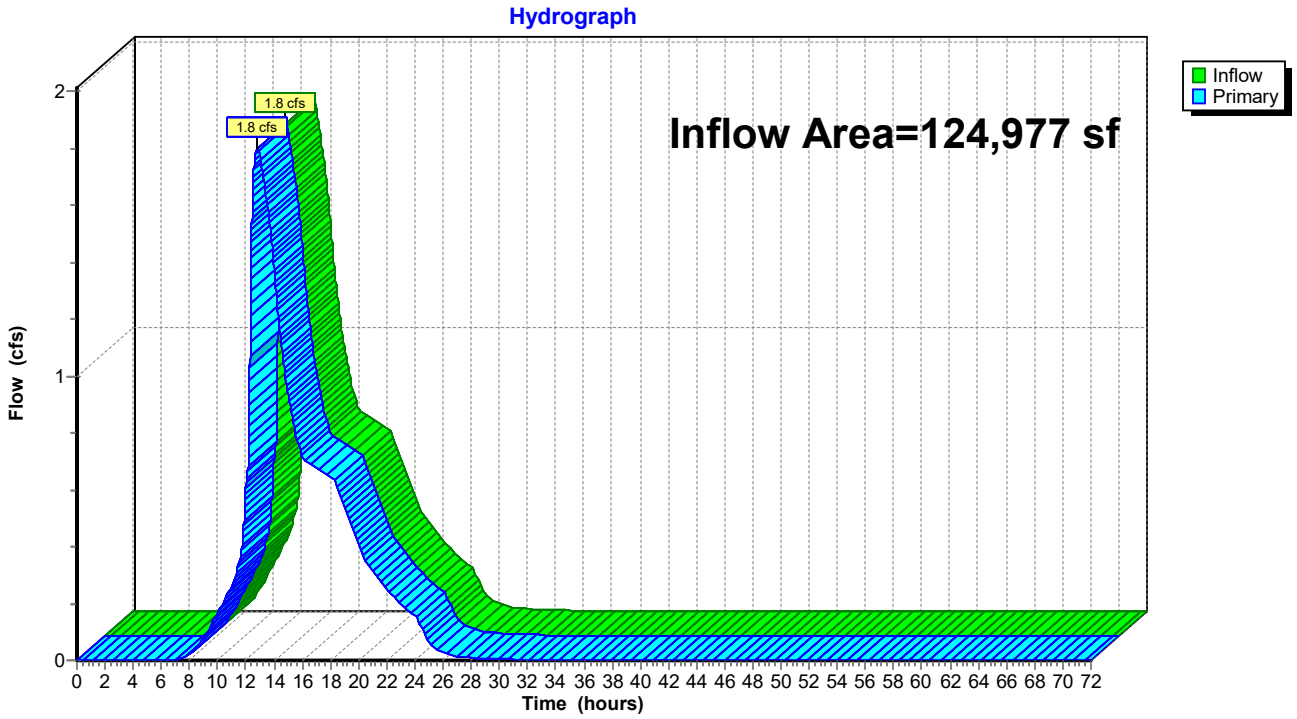


Summary for Link AP#4: Analysis Point 4

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 3.24" for 10-Year event
Inflow = 1.8 cfs @ 12.80 hrs, Volume= 33,787 cf
Primary = 1.8 cfs @ 12.80 hrs, Volume= 33,787 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

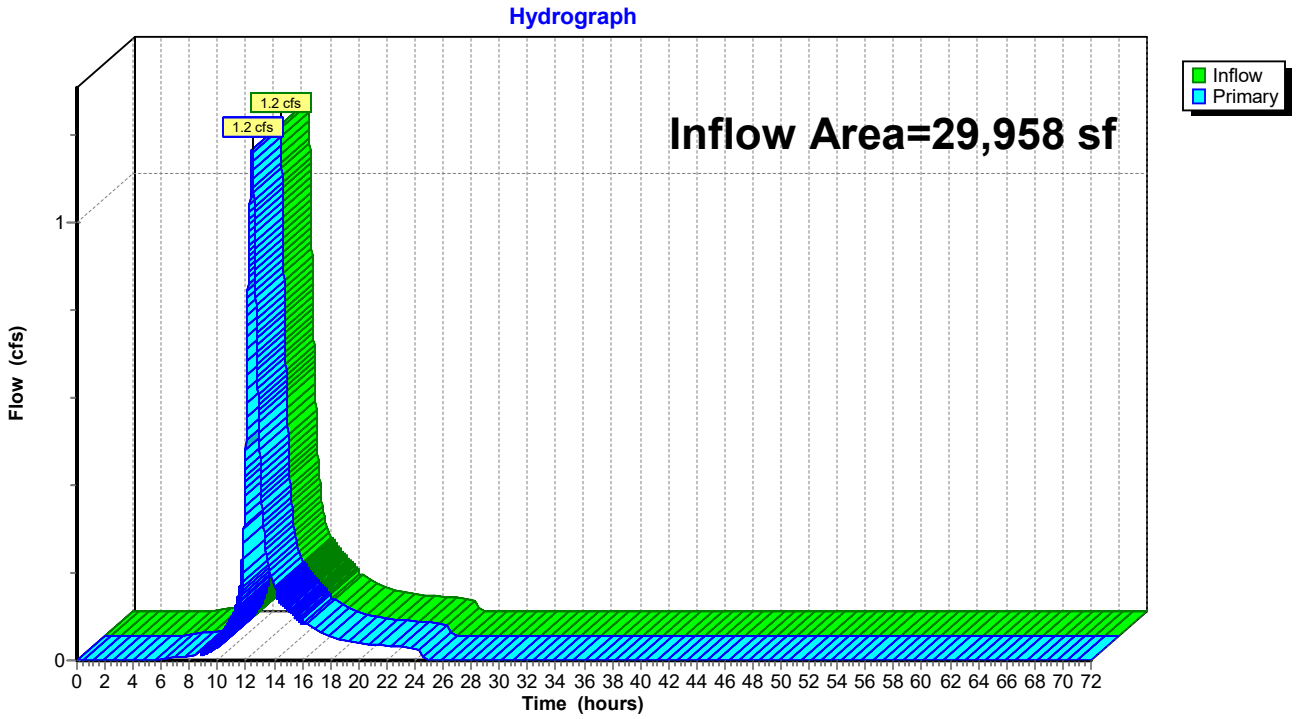


Summary for Link AP#5: Analysis Point 5

Inflow Area = 29,958 sf, 14.85% Impervious, Inflow Depth = 2.94" for 10-Year event
Inflow = 1.2 cfs @ 12.43 hrs, Volume= 7,336 cf
Primary = 1.2 cfs @ 12.43 hrs, Volume= 7,336 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

Subcatchment S1.1: Subcatchment 1.1 Runoff Area=10,577 sf 0.00% Impervious Runoff Depth=3.86"
Flow Length=131' Slope=0.0110 '/' Tc=33.3 min CN=79 Runoff=0.6 cfs 3,401 cf

Subcatchment S2.1: Subcatchment 2.1 Runoff Area=180,550 sf 19.58% Impervious Runoff Depth=1.72"
Flow Length=953' Tc=41.2 min CN=56 Runoff=3.7 cfs 25,816 cf

Subcatchment S2.2: Subcatchment S2.2 Runoff Area=30,401 sf 39.27% Impervious Runoff Depth=2.32"
Flow Length=280' Tc=22.3 min CN=63 Runoff=1.2 cfs 5,871 cf

Subcatchment S2.3: Subcatchment 2.3 Runoff Area=3,590 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,784 cf

Subcatchment S2.4: Subcatchment 2.4 Runoff Area=3,697 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,837 cf

Subcatchment S2.5: Subcatchment 2.5 Runoff Area=3,457 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,717 cf

Subcatchment S2.6: Subcatchment 2.6 Runoff Area=2,849 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.4 cfs 1,415 cf

Subcatchment S2.7: Subcatchment 2.7 Runoff Area=2,803 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.4 cfs 1,393 cf

Subcatchment S2.8: Subcatchment 2.8 Runoff Area=1,222 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 607 cf

Subcatchment S3.1: Subcatchment 3.1 Runoff Area=28,838 sf 4.33% Impervious Runoff Depth=3.65"
Flow Length=333' Tc=18.1 min CN=77 Runoff=2.0 cfs 8,782 cf

Subcatchment S3.2: Subcatchment 3.2 Runoff Area=44,814 sf 23.75% Impervious Runoff Depth=4.38"
Flow Length=329' Tc=19.8 min CN=84 Runoff=3.5 cfs 16,372 cf

Subcatchment S4.1: Subcatchment 4.1 Runoff Area=99,781 sf 12.03% Impervious Runoff Depth=4.17"
Flow Length=553' Tc=19.1 min CN=82 Runoff=7.7 cfs 34,686 cf

Subcatchment S4.10: Subcatchment 4.10 Runoff Area=3,197 sf 72.57% Impervious Runoff Depth=5.49"
Tc=6.0 min CN=94 Runoff=0.4 cfs 1,464 cf

Subcatchment S4.11: Subcatchment 4.11 Runoff Area=3,887 sf 74.68% Impervious Runoff Depth=5.49"
Tc=6.0 min CN=94 Runoff=0.5 cfs 1,780 cf

Subcatchment S4.12: Subcatchment 4.12 Runoff Area=1,423 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 707 cf

Subcatchment S4.13: Subcatchment 4.13 Runoff Area=1,627 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 808 cf

Subcatchment S4.2: Subcatchment 4.2 Runoff Area=3,347 sf 71.65% Impervious Runoff Depth=5.38"
Tc=6.0 min CN=93 Runoff=0.4 cfs 1,501 cf

Subcatchment S4.3: Subcatchment 4.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Subcatchment S4.4: Subcatchment 4.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Subcatchment S4.5: Subcatchment 4.5 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Subcatchment S4.6: Subcatchment 4.6 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Subcatchment S4.7: Subcatchment 4.7 Runoff Area=3,900 sf 73.33% Impervious Runoff Depth=5.49"
Tc=6.0 min CN=94 Runoff=0.5 cfs 1,786 cf

Subcatchment S4.8: Subcatchment 4.8 Runoff Area=1,313 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 652 cf

Subcatchment S4.9: Subcatchment 4.9 Runoff Area=1,502 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 746 cf

Subcatchment S5.1: Subcatchment 5.1 Runoff Area=26,208 sf 2.67% Impervious Runoff Depth=3.86"
Flow Length=421' Tc=32.7 min CN=79 Runoff=1.5 cfs 8,428 cf

Subcatchment S5.2: Subcatchment 5.2 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Subcatchment S5.3: Subcatchment 5.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Subcatchment S5.4: Subcatchment 5.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=5.96"
Tc=6.0 min CN=98 Runoff=0.2 cfs 621 cf

Reach S1: Swale 1 Avg. Flow Depth=0.16' Max Vel=2.50 fps Inflow=3.5 cfs 16,372 cf
n=0.022 L=175.0' S=0.0171 '/' Capacity=24.5 cfs Outflow=3.5 cfs 16,372 cf

Pond C1: Culvert 1 Peak Elev=69.92' Inflow=0.2 cfs 604 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0158 '/' Outflow=0.2 cfs 604 cf

Pond C10: Culvert 10 Peak Elev=69.67' Inflow=0.2 cfs 605 cf
12.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.2 cfs 605 cf

Pond C11: Culvert 11 Peak Elev=69.66' Inflow=0.5 cfs 1,812 cf
12.0" Round Culvert n=0.013 L=82.4' S=0.0076 '/' Outflow=0.5 cfs 1,812 cf

Pond C2: Culvert 2 Peak Elev=69.72' Inflow=0.3 cfs 1,207 cf
12.0" Round Culvert n=0.012 L=44.0' S=0.0027 '/' Outflow=0.3 cfs 1,207 cf

Pond C3: Culvert 3 Peak Elev=69.54' Inflow=0.4 cfs 1,810 cf
24.0" Round Culvert n=0.012 L=44.4' S=0.0052 '/' Outflow=0.4 cfs 1,810 cf

Pond C4: Culvert 4 Peak Elev=69.92' Inflow=0.2 cfs 604 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0142 '/' Outflow=0.2 cfs 604 cf

Pond C7: Culvert 7 Peak Elev=68.93' Inflow=0.3 cfs 603 cf
4.0" Round Culvert n=0.013 L=27.0' S=0.0048 '/' Outflow=0.3 cfs 603 cf

Pond C8: Culvert 8 Peak Elev=54.64' Inflow=3.7 cfs 25,816 cf
16.0" Round Culvert n=0.025 L=184.0' S=0.0054 '/' Outflow=3.7 cfs 25,816 cf

Pond C9: Culvert 9 Peak Elev=69.76' Inflow=0.3 cfs 1,207 cf
12.0" Round Culvert n=0.013 L=25.0' S=0.0088 '/' Outflow=0.3 cfs 1,207 cf

Pond CB1: Catch Basin 1 Peak Elev=69.48' Inflow=0.9 cfs 3,312 cf
12.0" Round Culvert n=0.013 L=79.0' S=0.0051 '/' Outflow=0.9 cfs 3,312 cf

Pond CB10: Catch Basin 10 Peak Elev=61.60' Inflow=1.0 cfs 3,620 cf
12.0" Round Culvert n=0.013 L=212.5' S=0.0424 '/' Outflow=1.0 cfs 3,620 cf

Pond CB11: Catch Basin 11 Peak Elev=52.74' Inflow=0.5 cfs 1,717 cf
12.0" Round Culvert n=0.013 L=18.5' S=0.0054 '/' Outflow=0.5 cfs 1,717 cf

Pond CB12: Catch Basin 12 Peak Elev=52.70' Inflow=1.9 cfs 6,753 cf
12.0" Round Culvert n=0.013 L=96.6' S=0.0404 '/' Outflow=1.9 cfs 6,753 cf

Pond CB13: Catch Basin 13 Peak Elev=49.79' Inflow=2.5 cfs 8,753 cf
12.0" Round Culvert n=0.013 L=49.3' S=0.0034 '/' Outflow=2.5 cfs 8,753 cf

Pond CB14: Catch Basin 14 Peak Elev=50.25' Inflow=2.1 cfs 7,360 cf
12.0" Round Culvert n=0.013 L=15.0' S=0.0067 '/' Outflow=2.1 cfs 7,360 cf

Pond CB2: Catch Basin 2 Peak Elev=69.20' Inflow=0.4 cfs 1,464 cf
12.0" Round Culvert n=0.013 L=79.2' S=0.0051 '/' Outflow=0.4 cfs 1,464 cf

Pond CB3: Catch Basin 3 Peak Elev=69.39' Inflow=1.7 cfs 5,701 cf
12.0" Round Culvert n=0.013 L=17.5' S=0.0057 '/' Outflow=1.7 cfs 5,701 cf

Pond CB4: Catch Basin 4 Peak Elev=69.18' Inflow=2.6 cfs 8,945 cf
12.0" Round Culvert n=0.013 L=103.7' S=0.0053 '/' Outflow=2.6 cfs 8,945 cf

Pond CB5: Catch Basin 5 Peak Elev=68.48' Inflow=0.2 cfs 652 cf
12.0" Round Culvert n=0.013 L=18.4' S=0.0054 '/' Outflow=0.2 cfs 652 cf

Pond CB6: Catch Basin 6 Peak Elev=68.48' Inflow=3.0 cfs 10,304 cf
12.0" Round Culvert n=0.013 L=60.9' S=0.0057 '/' Outflow=3.0 cfs 10,304 cf

Pond CB7: Catch Basin 7 Peak Elev=66.81' Inflow=0.2 cfs 746 cf
12.0" Round Culvert n=0.013 L=18.2' S=0.0055 '/' Outflow=0.2 cfs 746 cf

Pond CB8: Catch Basin 8 Peak Elev=66.81' Inflow=3.4 cfs 11,859 cf
12.0" Round Culvert n=0.013 L=156.4' S=0.0054 '/' Outflow=3.4 cfs 11,859 cf

Pond CB9: Catch Basin 9 Peak Elev=62.44' Inflow=0.5 cfs 1,784 cf
12.0" Round Culvert n=0.013 L=18.8' S=0.0053 '/' Outflow=0.5 cfs 1,784 cf

Pond CH1: Chamber 1 Peak Elev=48.59' Storage=961 cf Inflow=2.5 cfs 8,753 cf
Outflow=2.4 cfs 8,753 cf

Pond MH1: Manhole 1 Peak Elev=67.64' Inflow=3.0 cfs 10,304 cf
12.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=3.0 cfs 10,304 cf

Pond MH2: Manhole 2 Peak Elev=61.35' Inflow=1.8 cfs 16,366 cf
12.0" Round Culvert n=0.013 L=152.9' S=0.0052 '/' Outflow=1.8 cfs 16,366 cf

Pond MH3: Manhole 3 Peak Elev=60.46' Inflow=1.8 cfs 16,366 cf
12.0" Round Culvert n=0.013 L=81.0' S=0.0049 '/' Outflow=1.8 cfs 16,366 cf

Pond MH4: Manhole 4 Peak Elev=59.89' Inflow=1.8 cfs 16,366 cf
12.0" Round Culvert n=0.013 L=205.9' S=0.0051 '/' Outflow=1.8 cfs 16,366 cf

Pond MH5: Manhole 5 Peak Elev=49.12' Inflow=2.5 cfs 8,753 cf
12.0" Round Culvert n=0.013 L=6.2' S=0.0048 '/' Outflow=2.5 cfs 8,753 cf

Pond P1: Pond 1 Peak Elev=53.59' Storage=7,879 cf Inflow=3.7 cfs 25,816 cf
Outflow=2.3 cfs 24,926 cf

Pond RD1: Roof Drain 1 Peak Elev=69.67' Storage=54 cf Inflow=0.2 cfs 621 cf
Primary=0.1 cfs 603 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 603 cf

Pond RD2: Roof Drain 2 Peak Elev=69.84' Storage=61 cf Inflow=0.2 cfs 621 cf
Primary=0.1 cfs 603 cf Secondary=0.0 cfs 0 cf Outflow=0.1 cfs 603 cf

Pond RD3: Roof Drain 3 Peak Elev=70.05' Storage=47 cf Inflow=0.2 cfs 621 cf
Primary=0.2 cfs 604 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 604 cf

Pond RD4: Roof Drain 4 Peak Elev=70.05' Storage=47 cf Inflow=0.2 cfs 621 cf
Primary=0.2 cfs 604 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 604 cf

Pond RD5: Roof Drain 5 Peak Elev=69.83' Storage=59 cf Inflow=0.2 cfs 621 cf
Primary=0.2 cfs 603 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 603 cf

Pond RD6: Roof Drain 6 Peak Elev=69.71' Storage=57 cf Inflow=0.2 cfs 621 cf
Primary=0.2 cfs 605 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 605 cf

Pond RD7: Roof Drain 7 Peak Elev=68.00' Storage=137 cf Inflow=0.2 cfs 621 cf
Primary=0.3 cfs 603 cf Secondary=0.0 cfs 0 cf Outflow=0.3 cfs 603 cf

Pond SF1: Soil Filter 1 Peak Elev=64.79' Storage=2,965 cf Inflow=3.5 cfs 16,372 cf
Primary=1.8 cfs 16,366 cf Secondary=0.0 cfs 0 cf Outflow=1.8 cfs 16,366 cf

Pond SF2: Soil Filter 2 Peak Elev=63.06' Storage=19,341 cf Inflow=9.6 cfs 46,545 cf
Primary=2.7 cfs 46,322 cf Secondary=0.0 cfs 0 cf Outflow=2.7 cfs 46,322 cf

Link AP#1: Analysis Point 1 Inflow=0.6 cfs 3,401 cf
Primary=0.6 cfs 3,401 cf

Link AP#2: Analysis Point 2 Inflow=3.0 cfs 39,549 cf
Primary=3.0 cfs 39,549 cf

Link AP#3: Analysis Point 3 Inflow=3.5 cfs 25,148 cf
Primary=3.5 cfs 25,148 cf

Link AP#4: Analysis Point 4 Inflow=2.7 cfs 46,322 cf
Primary=2.7 cfs 46,322 cf

Link AP#5: Analysis Point 5 Inflow=1.6 cfs 10,238 cf
Primary=1.6 cfs 10,238 cf

Total Runoff Area = 467,733 sf Runoff Volume = 125,900 cf Average Runoff Depth = 3.23"
75.50% Pervious = 353,127 sf 24.50% Impervious = 114,606 sf

Summary for Subcatchment S1.1: Subcatchment 1.1

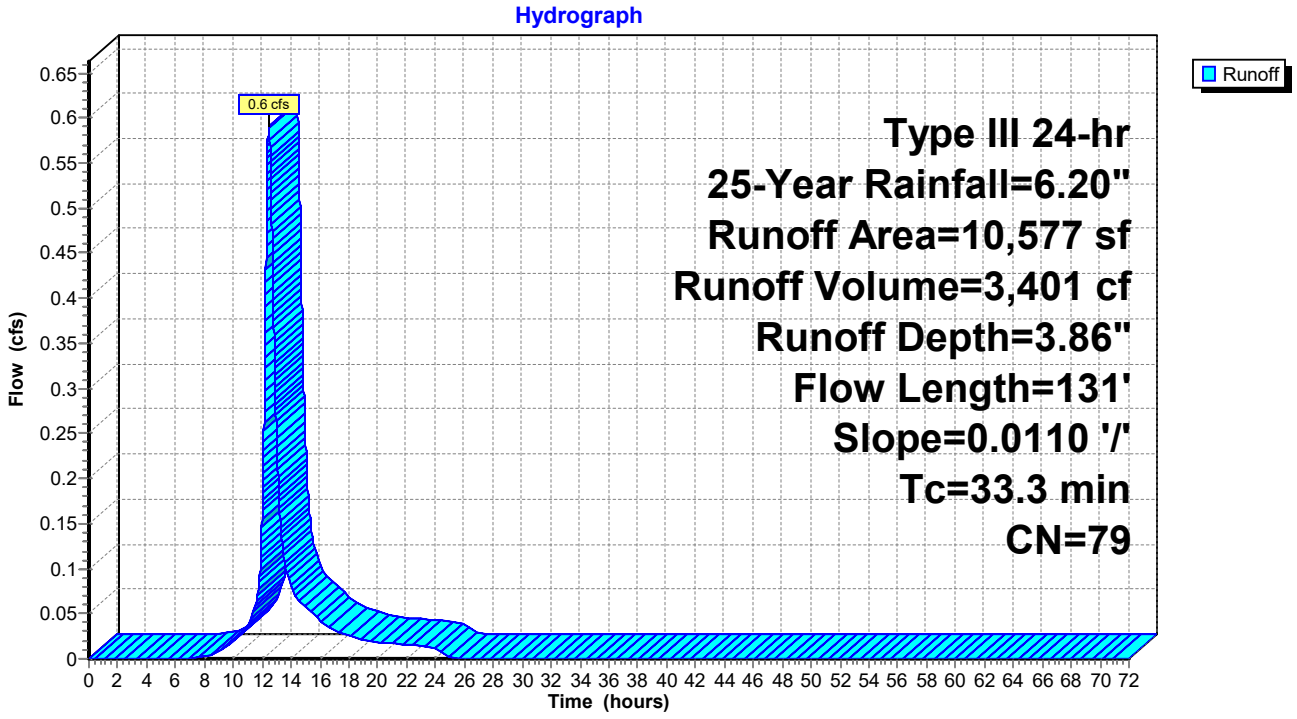
Runoff = 0.6 cfs @ 12.47 hrs, Volume= 3,401 cf, Depth= 3.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
6,431	80	>75% Grass cover, Good, HSG D
4,146	77	Woods, Good, HSG D
10,577	79	Weighted Average
10,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	131	0.0110	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"

Subcatchment S1.1: Subcatchment 1.1



Summary for Subcatchment S2.1: Subcatchment 2.1

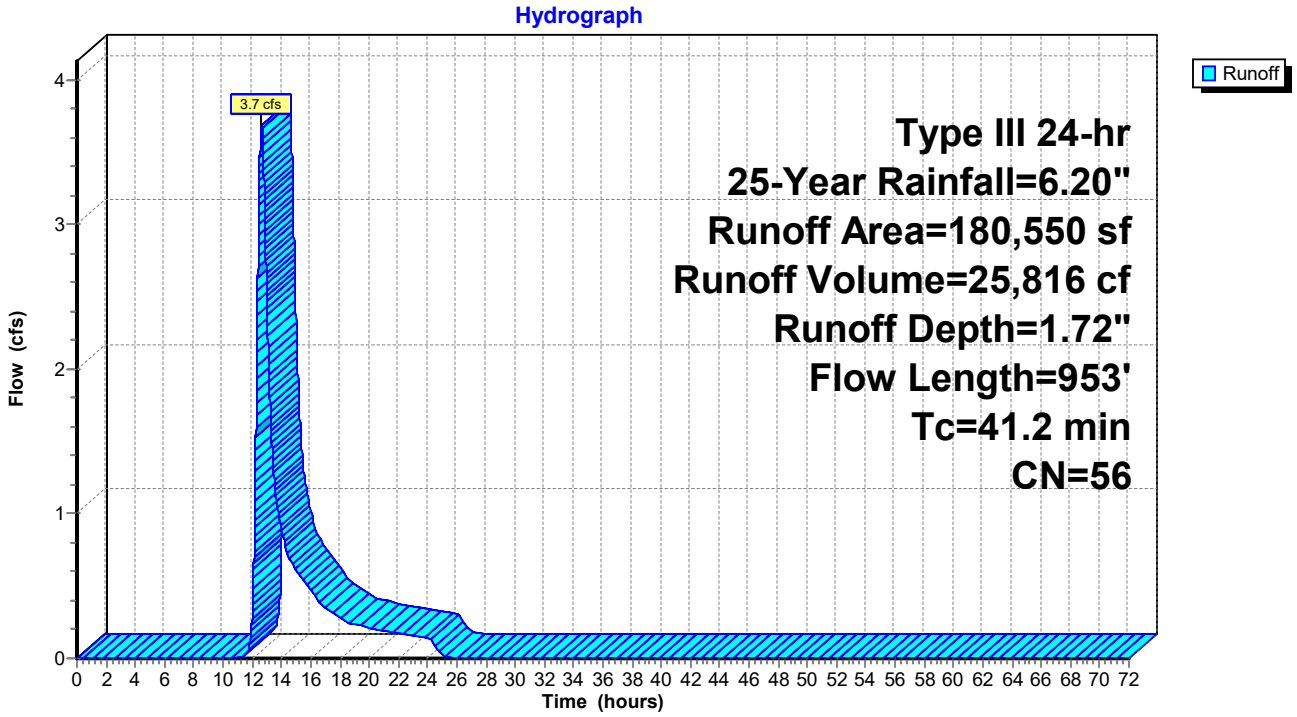
Runoff = 3.7 cfs @ 12.63 hrs, Volume= 25,816 cf, Depth= 1.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
12,432	39	>75% Grass cover, Good, HSG A
85,722	30	Woods, Good, HSG A
489	98	Paved parking, HSG A
17,787	80	>75% Grass cover, Good, HSG D
29,251	77	Woods, Good, HSG D
14,624	98	Paved parking, HSG D
3,134	98	Paved parking, HSG D
17,111	98	Roofs, HSG A
180,550	56	Weighted Average
145,192		80.42% Pervious Area
35,358		19.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	51	0.0196	0.15		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
13.5	99	0.0606	0.12		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
7.7	300	0.0167	0.65		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
4.3	203	0.0246	0.78		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
41.2	953	Total			

Subcatchment S2.1: Subcatchment 2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

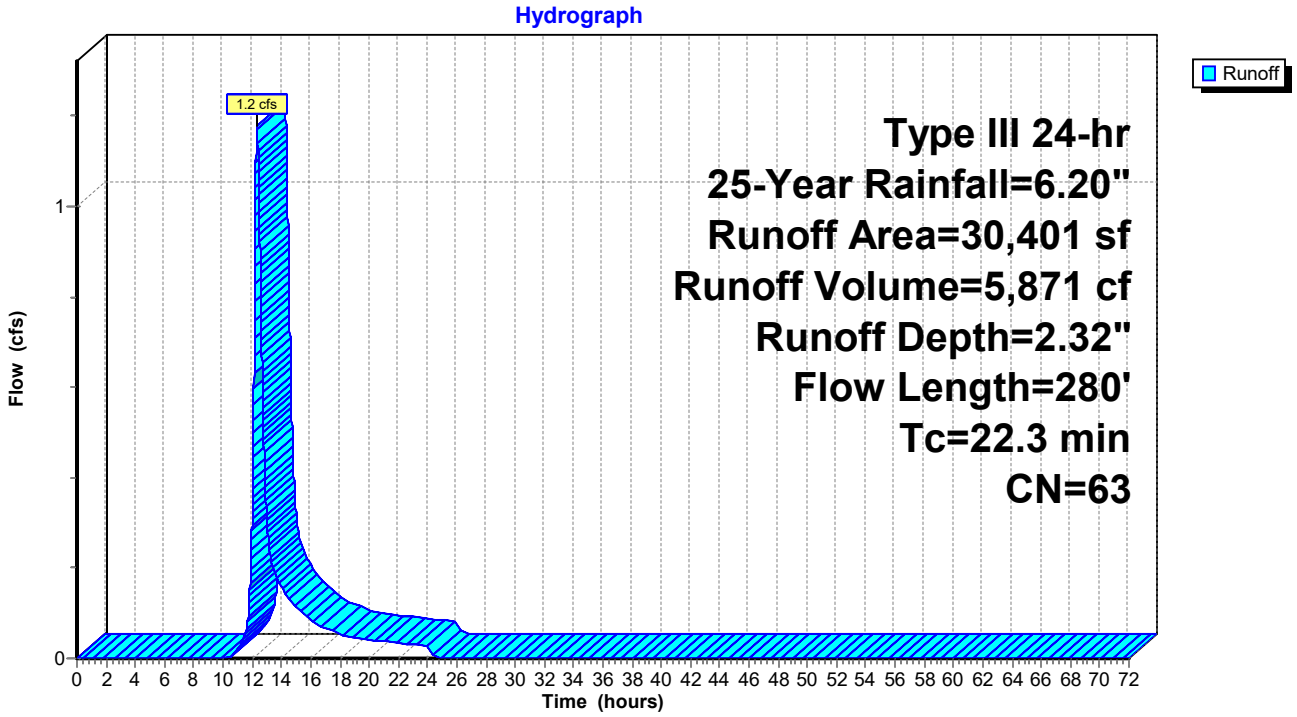
Runoff = 1.2 cfs @ 12.32 hrs, Volume= 5,871 cf, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
5,813	98	Paved parking, HSG A
30,401	63	Weighted Average
18,462		60.73% Pervious Area
11,939		39.27% Impervious Area
6,060		50.76% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	150	0.0520	0.13		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.3	130	0.0350	0.94		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.3	280	Total			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment 2.3

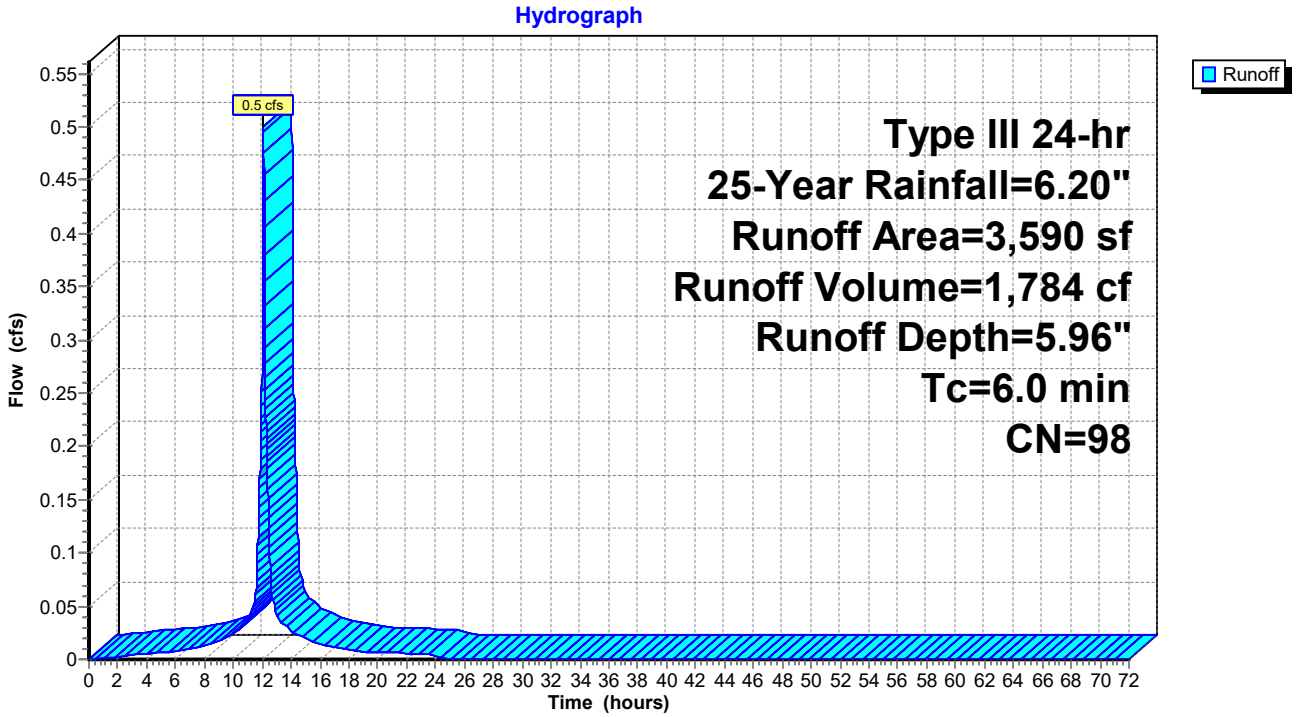
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,784 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
3,590	98	Paved roads w/curbs & sewers, HSG D
3,590		100.00% Impervious Area

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

Subcatchment S2.3: Subcatchment 2.3



Summary for Subcatchment S2.4: Subcatchment 2.4

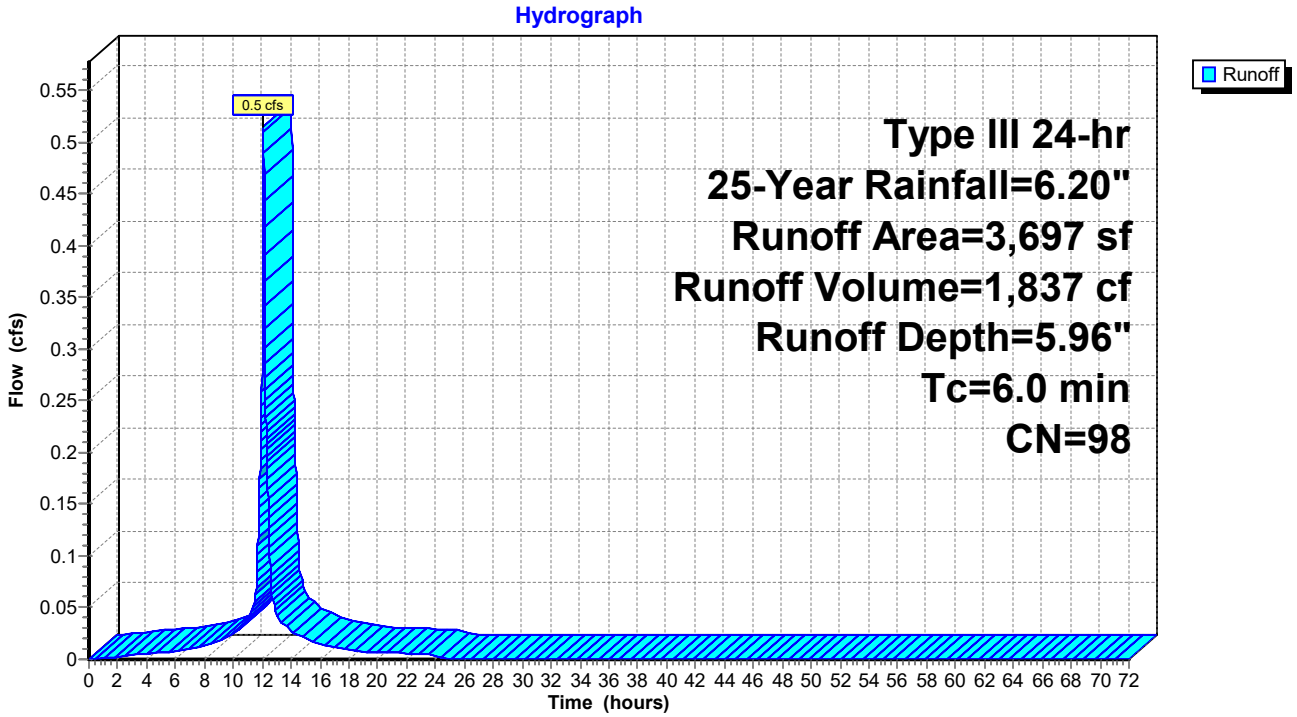
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,837 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
3,697	98	Paved roads w/curbs & sewers, HSG D
3,697		100.00% Impervious Area

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

Subcatchment S2.4: Subcatchment 2.4



Summary for Subcatchment S2.5: Subcatchment 2.5

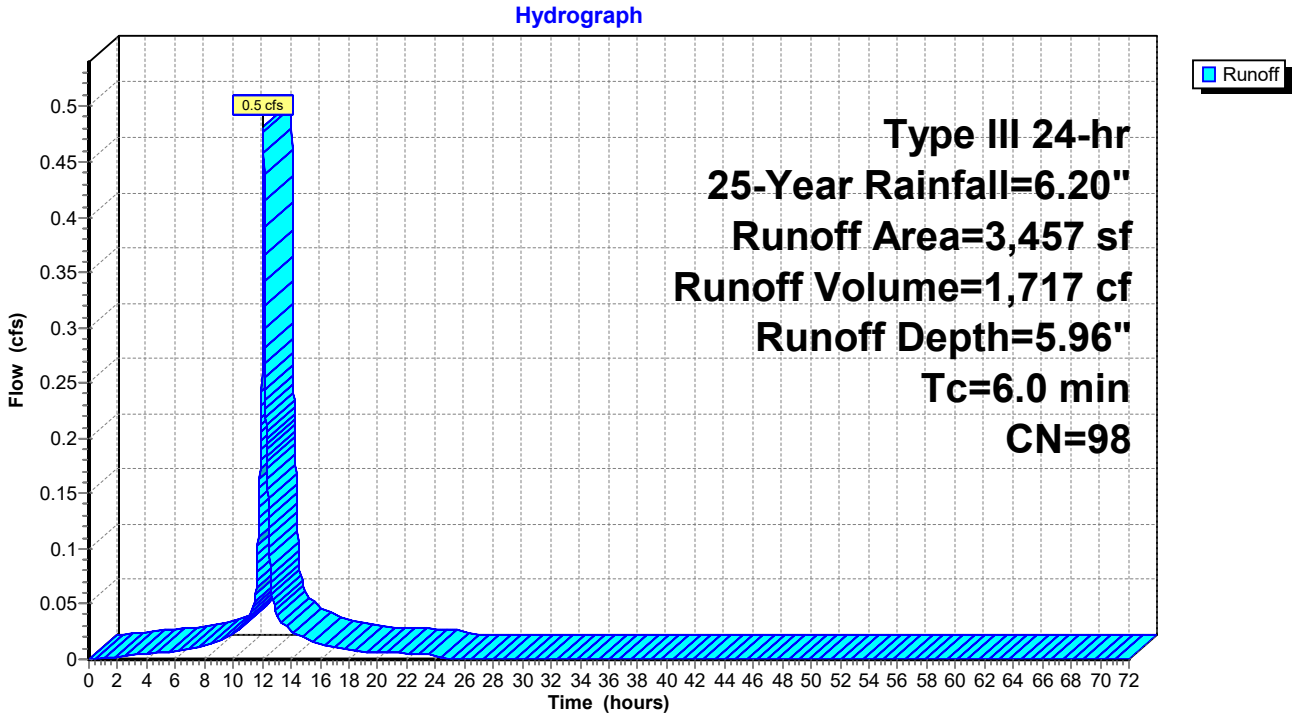
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,717 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
3,457	98	Paved roads w/curbs & sewers, HSG D
3,457		100.00% Impervious Area

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

Subcatchment S2.5: Subcatchment 2.5



Summary for Subcatchment S2.6: Subcatchment 2.6

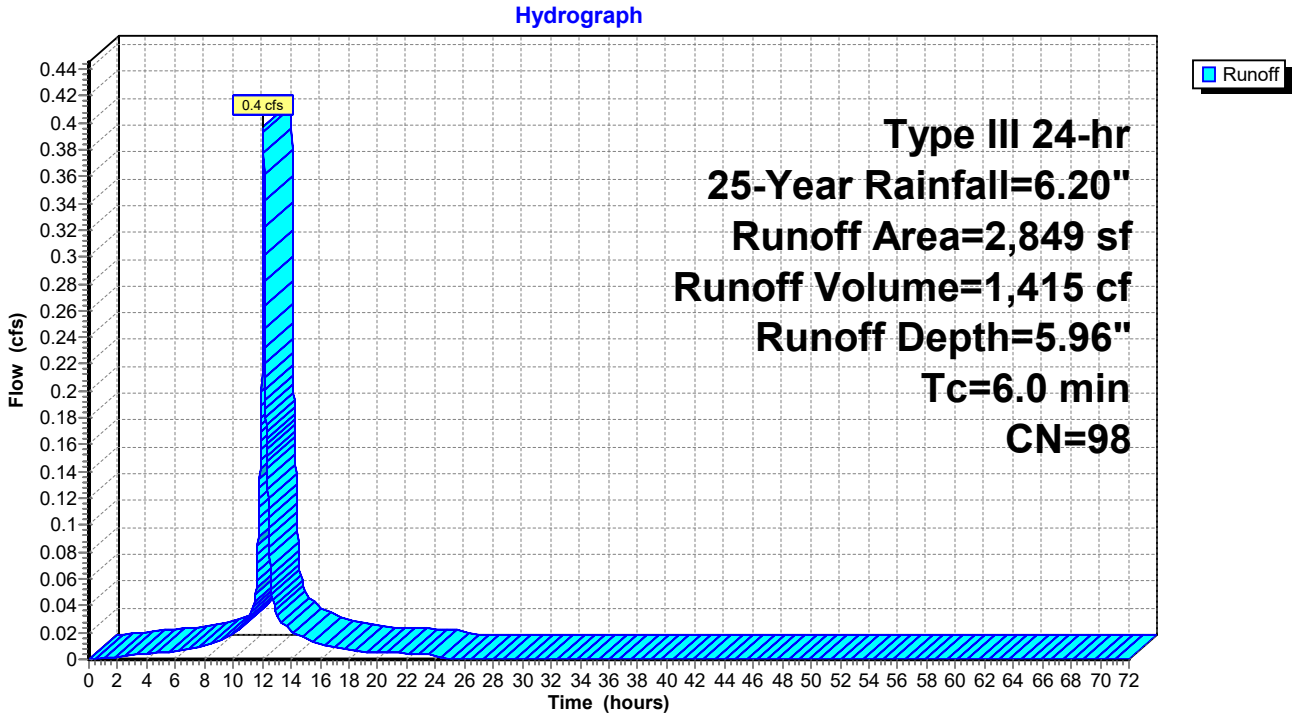
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,415 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
2,849	98	Paved roads w/curbs & sewers, HSG D
2,849		100.00% Impervious Area

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

Subcatchment S2.6: Subcatchment 2.6



Summary for Subcatchment S2.7: Subcatchment 2.7

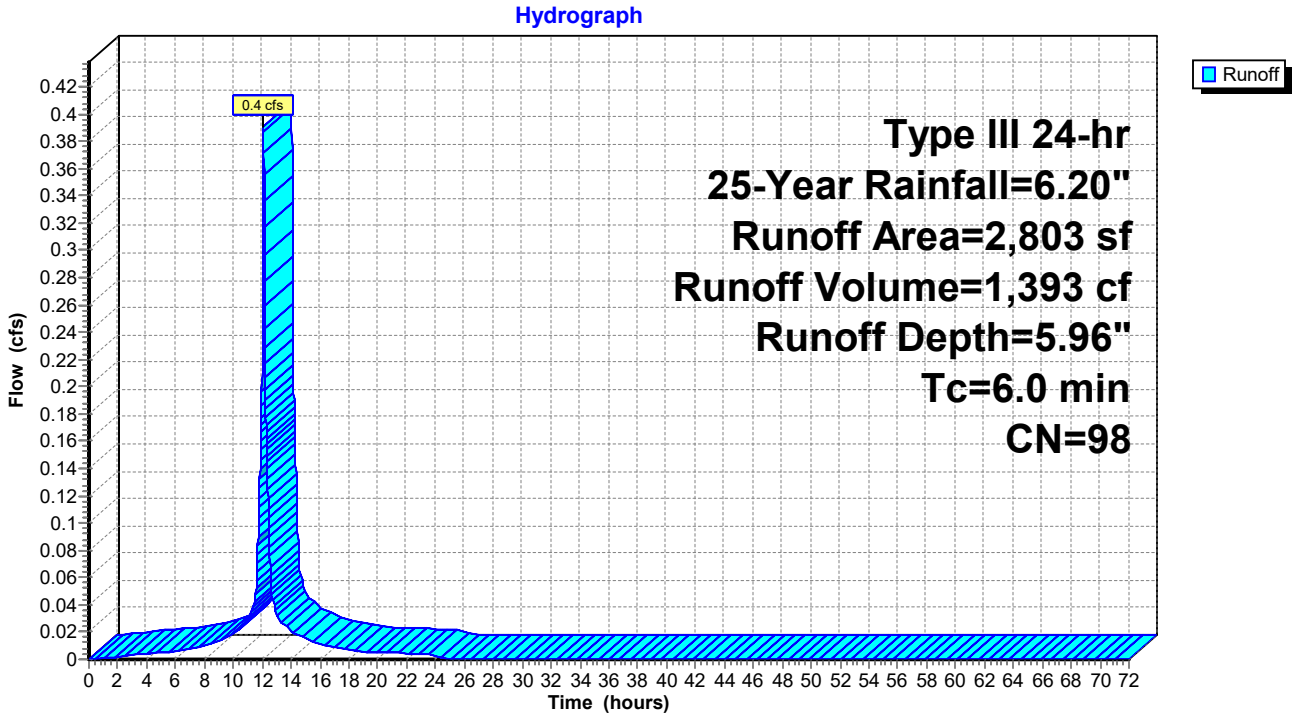
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,393 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
2,803	98	Paved roads w/curbs & sewers, HSG D
2,803		100.00% Impervious Area

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

Subcatchment S2.7: Subcatchment 2.7



Summary for Subcatchment S2.8: Subcatchment 2.8

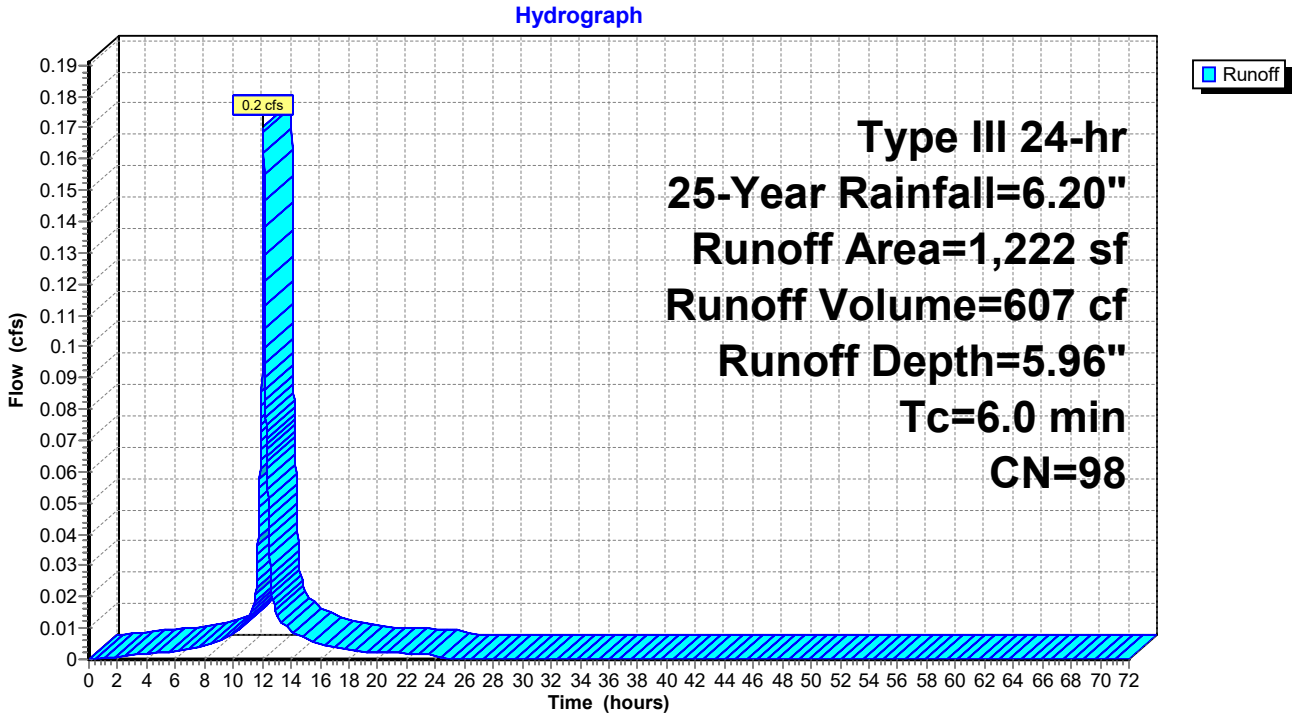
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 607 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,222	98	Paved roads w/curbs & sewers, HSG D
1,222		100.00% Impervious Area

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

Subcatchment S2.8: Subcatchment 2.8



Summary for Subcatchment S3.1: Subcatchment 3.1

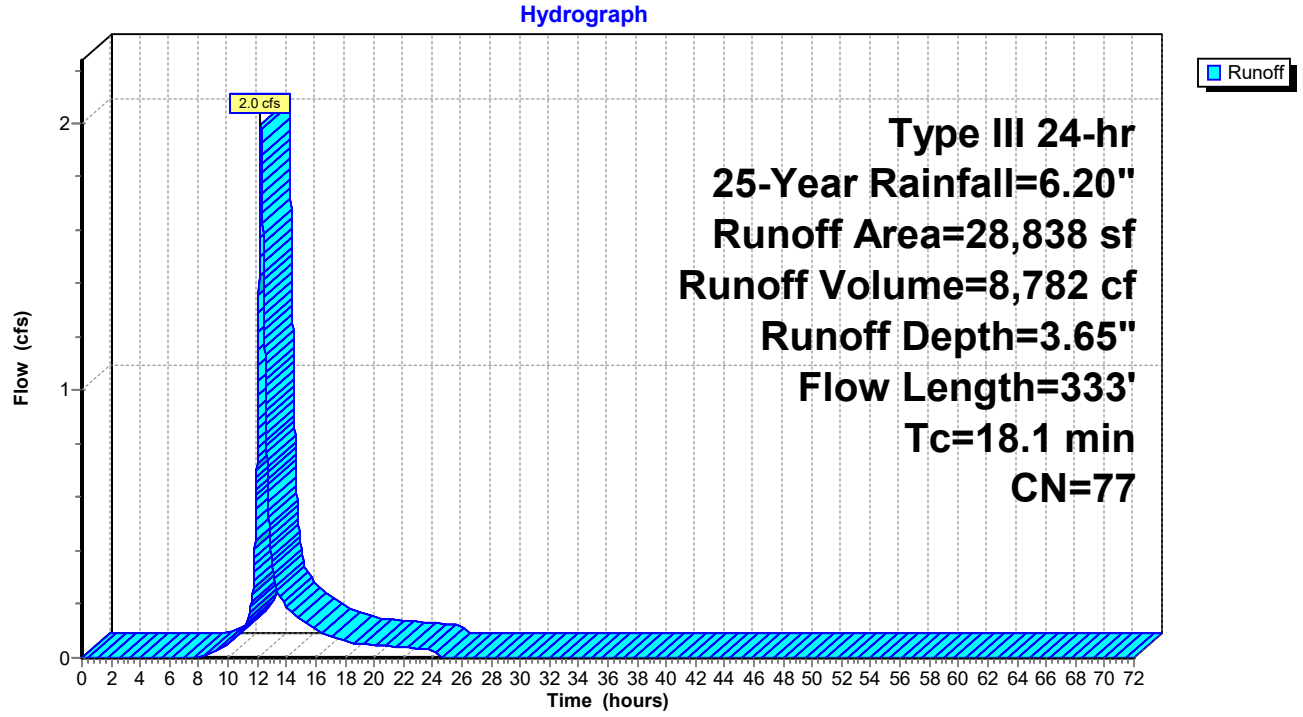
Runoff = 2.0 cfs @ 12.25 hrs, Volume= 8,782 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
15,787	77	Woods, Good, HSG D
10,424	80	>75% Grass cover, Good, HSG D
1,377	39	>75% Grass cover, Good, HSG A
1,250	98	Roofs, HSG D
28,838	77	Weighted Average
27,588		95.67% Pervious Area
1,250		4.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	150	0.0130	0.16		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
1.2	102	0.0392	1.39		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.0	81	0.0740	1.36		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
18.1	333	Total			

Subcatchment S3.1: Subcatchment 3.1



Summary for Subcatchment S3.2: Subcatchment 3.2

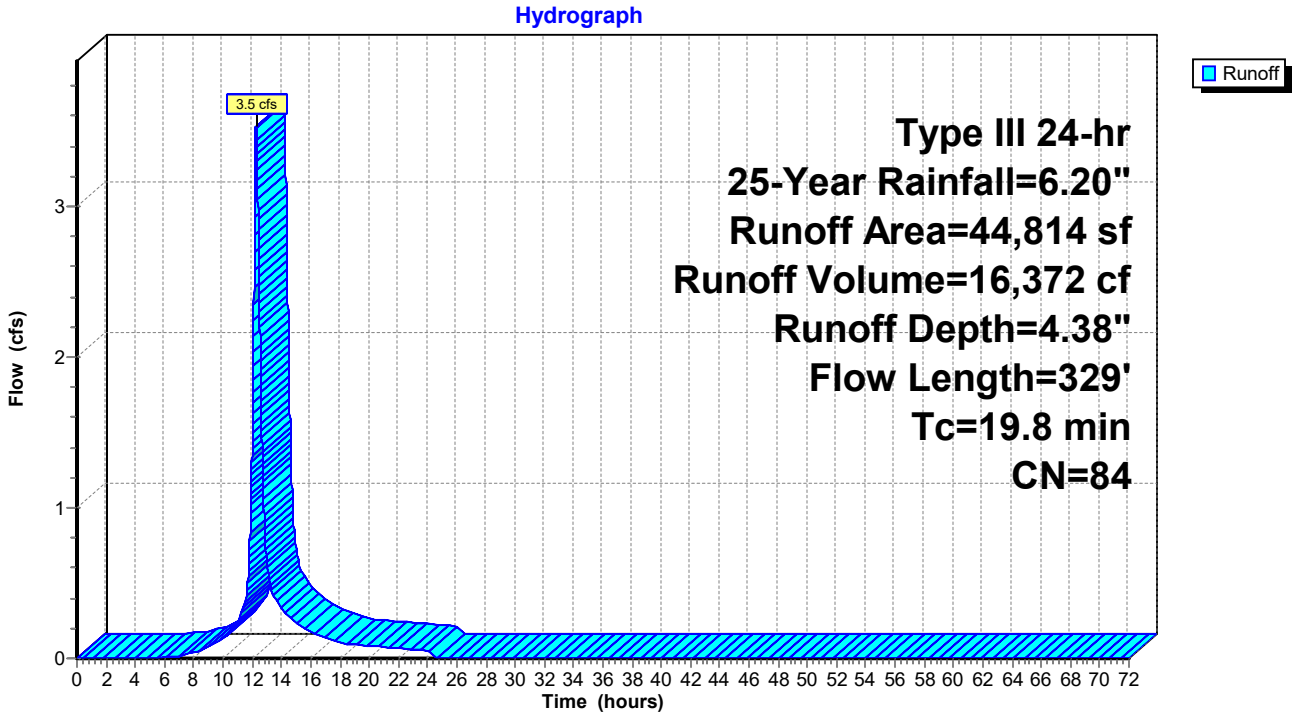
Runoff = 3.5 cfs @ 12.26 hrs, Volume= 16,372 cf, Depth= 4.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
34,169	80	>75% Grass cover, Good, HSG D
1,895	98	Paved parking, HSG D
8,750	98	Roofs, HSG D
44,814	84	Weighted Average
34,169		76.25% Pervious Area
10,645		23.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0100	0.14		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
2.2	179	0.0363	1.33		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.8	329	Total			

Subcatchment S3.2: Subcatchment 3.2



Summary for Subcatchment S4.1: Subcatchment 4.1

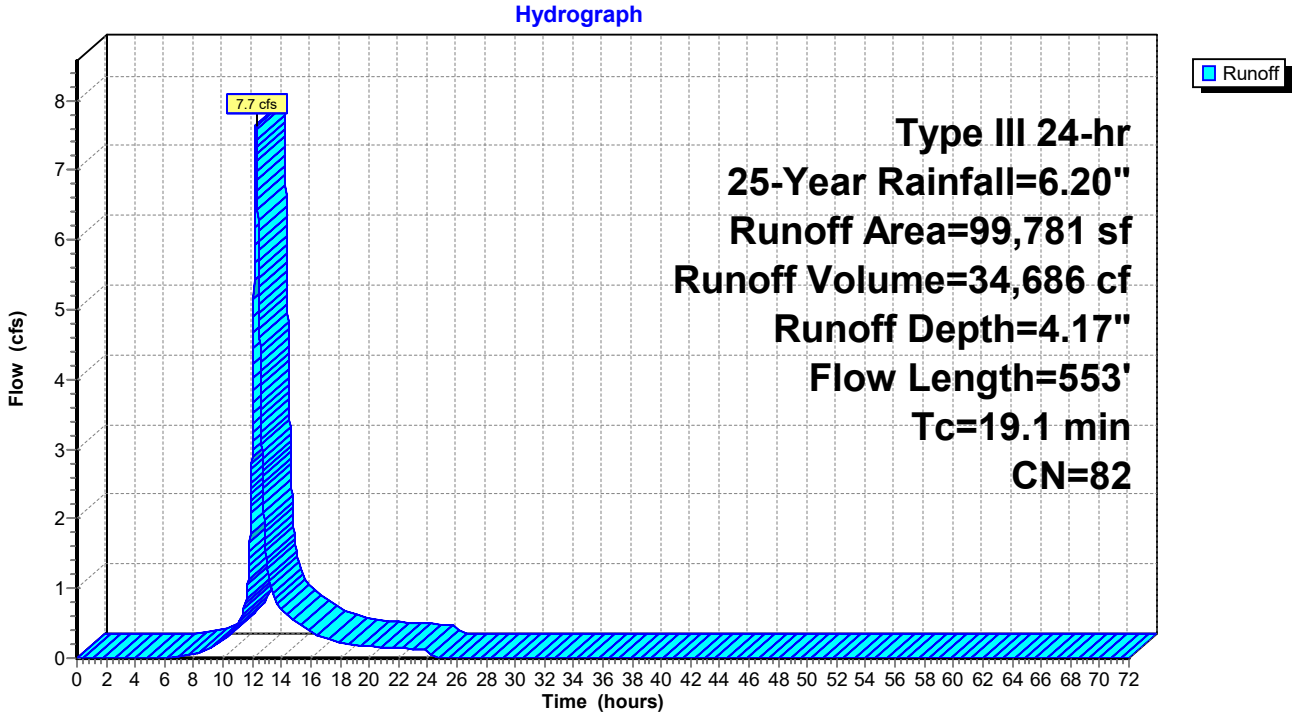
Runoff = 7.7 cfs @ 12.25 hrs, Volume= 34,686 cf, Depth= 4.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
17,618	77	Woods, Good, HSG D
70,163	80	>75% Grass cover, Good, HSG D
12,000	98	Roofs, HSG D
99,781	82	Weighted Average
87,781		87.97% Pervious Area
12,000		12.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	150	0.0330	0.23		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
7.1	300	0.0100	0.70		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.1	103	0.0485	1.54		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.1	553	Total			

Subcatchment S4.1: Subcatchment 4.1



Summary for Subcatchment S4.10: Subcatchment 4.10

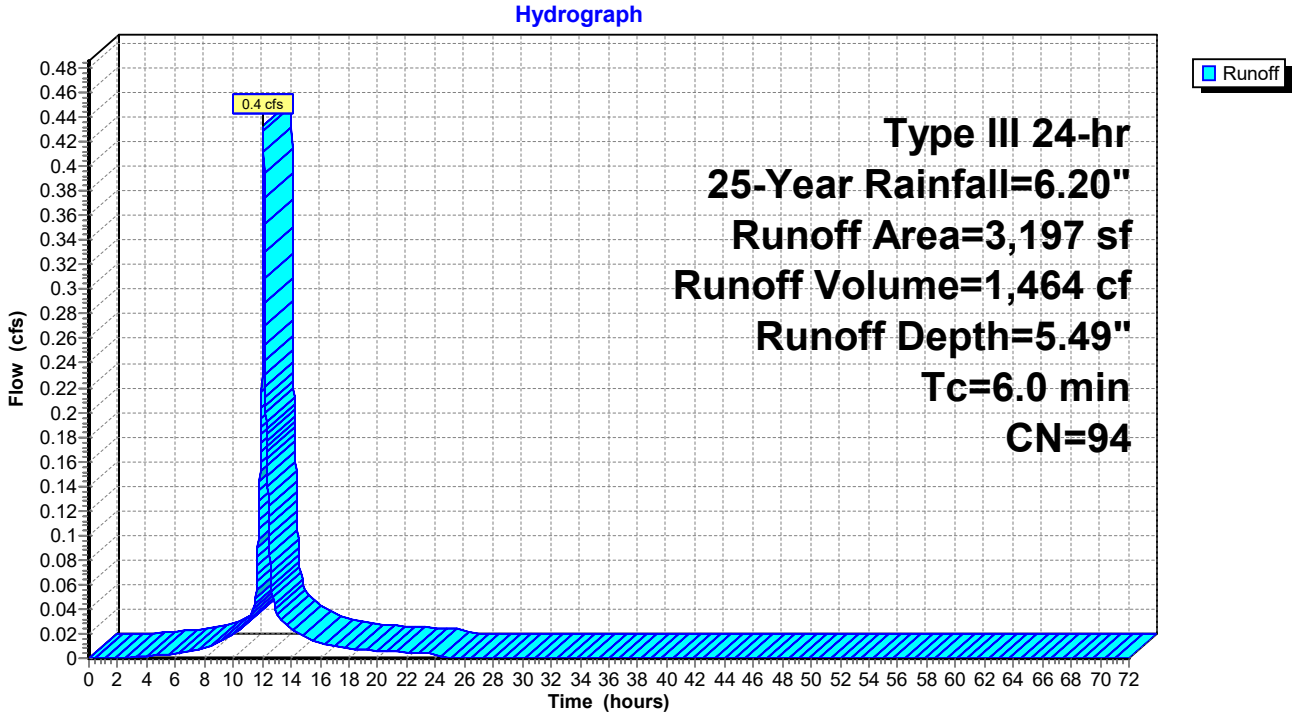
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,464 cf, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
2,320	98	Paved roads w/curbs & sewers, HSG D
148	96	Gravel surface, HSG D
729	80	>75% Grass cover, Good, HSG D
3,197	94	Weighted Average
877		27.43% Pervious Area
2,320		72.57% Impervious Area

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

Subcatchment S4.10: Subcatchment 4.10



Summary for Subcatchment S4.11: Subcatchment 4.11

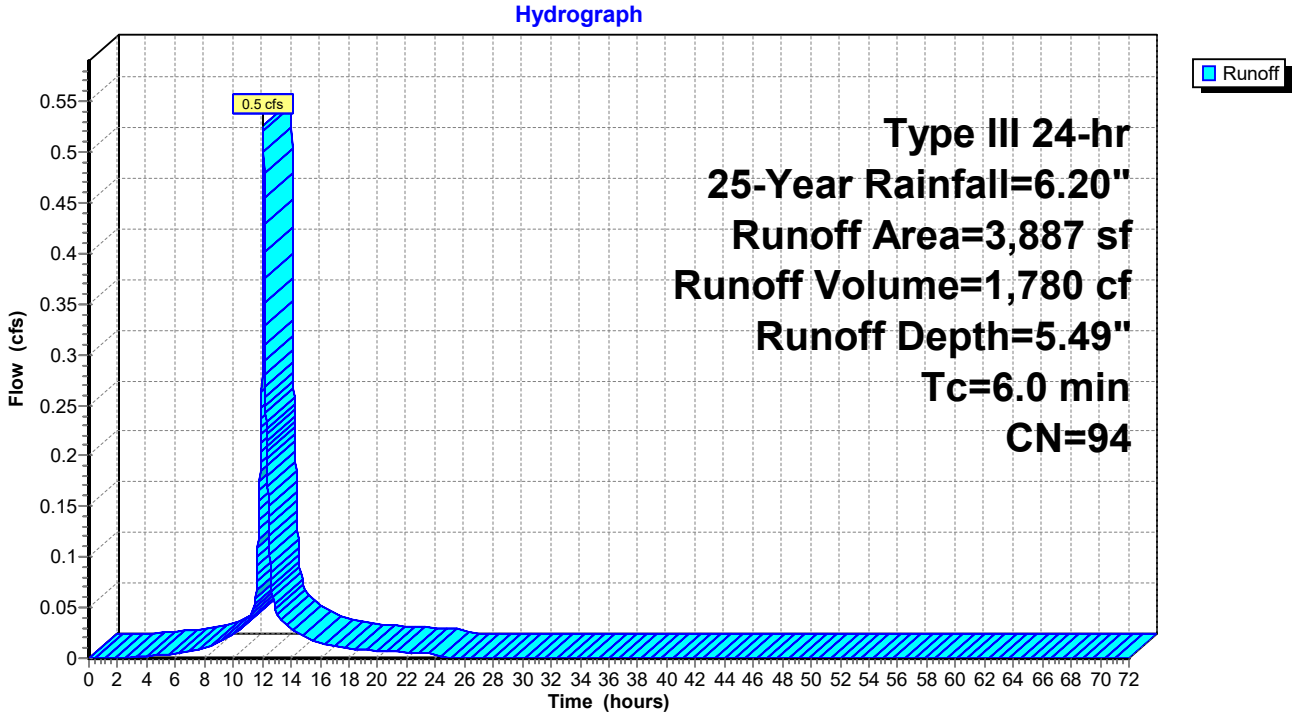
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,780 cf, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
2,903	98	Paved roads w/curbs & sewers, HSG D
163	96	Gravel surface, HSG D
821	80	>75% Grass cover, Good, HSG D
3,887	94	Weighted Average
984		25.32% Pervious Area
2,903		74.68% Impervious Area

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

Subcatchment S4.11: Subcatchment 4.11



Summary for Subcatchment S4.12: Subcatchment 4.12

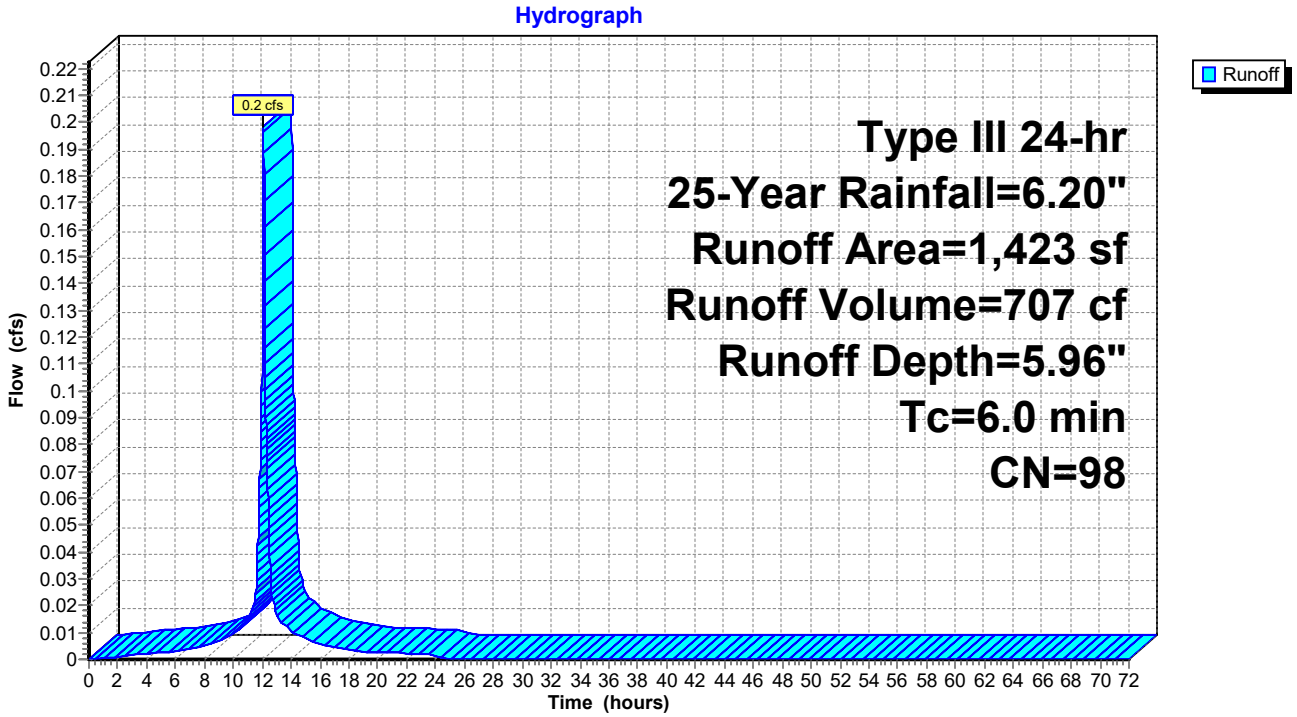
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 707 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,423	98	Paved roads w/curbs & sewers, HSG D
1,423		100.00% Impervious Area

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

Subcatchment S4.12: Subcatchment 4.12



Summary for Subcatchment S4.13: Subcatchment 4.13

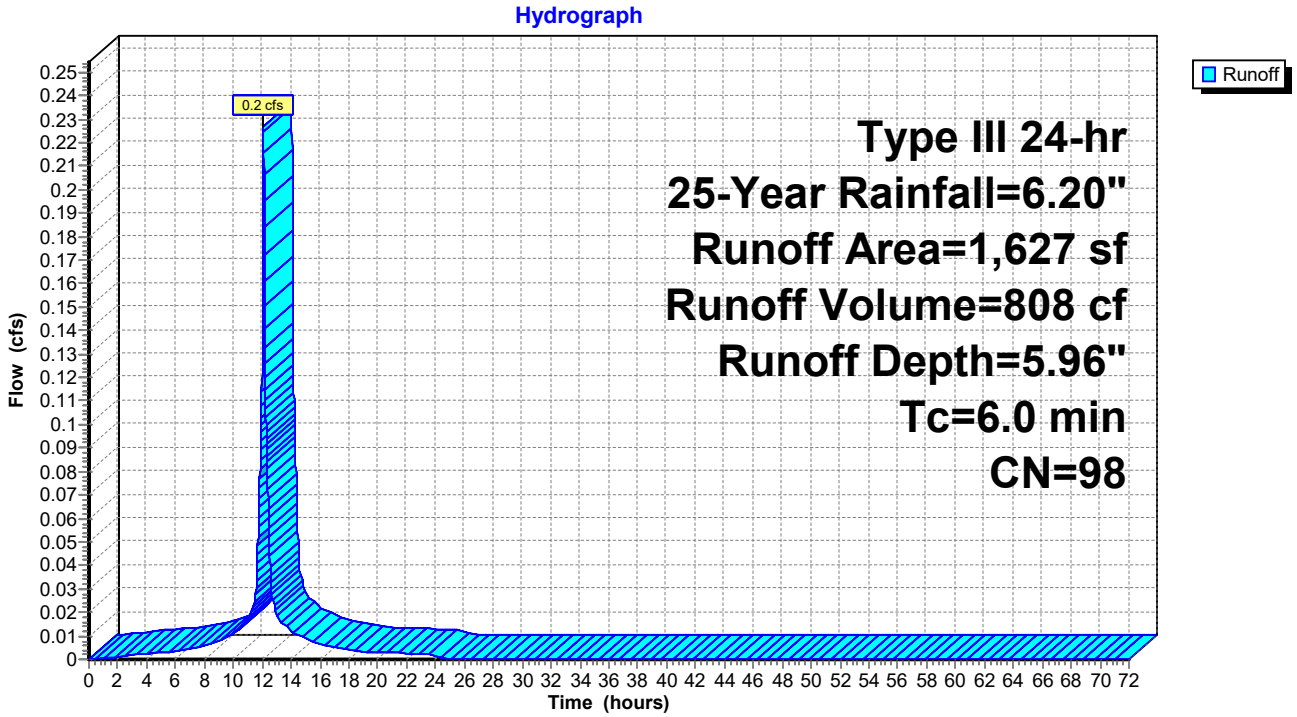
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 808 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,627	98	Paved roads w/curbs & sewers, HSG D
1,627		100.00% Impervious Area

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

Subcatchment S4.13: Subcatchment 4.13



Summary for Subcatchment S4.2: Subcatchment 4.2

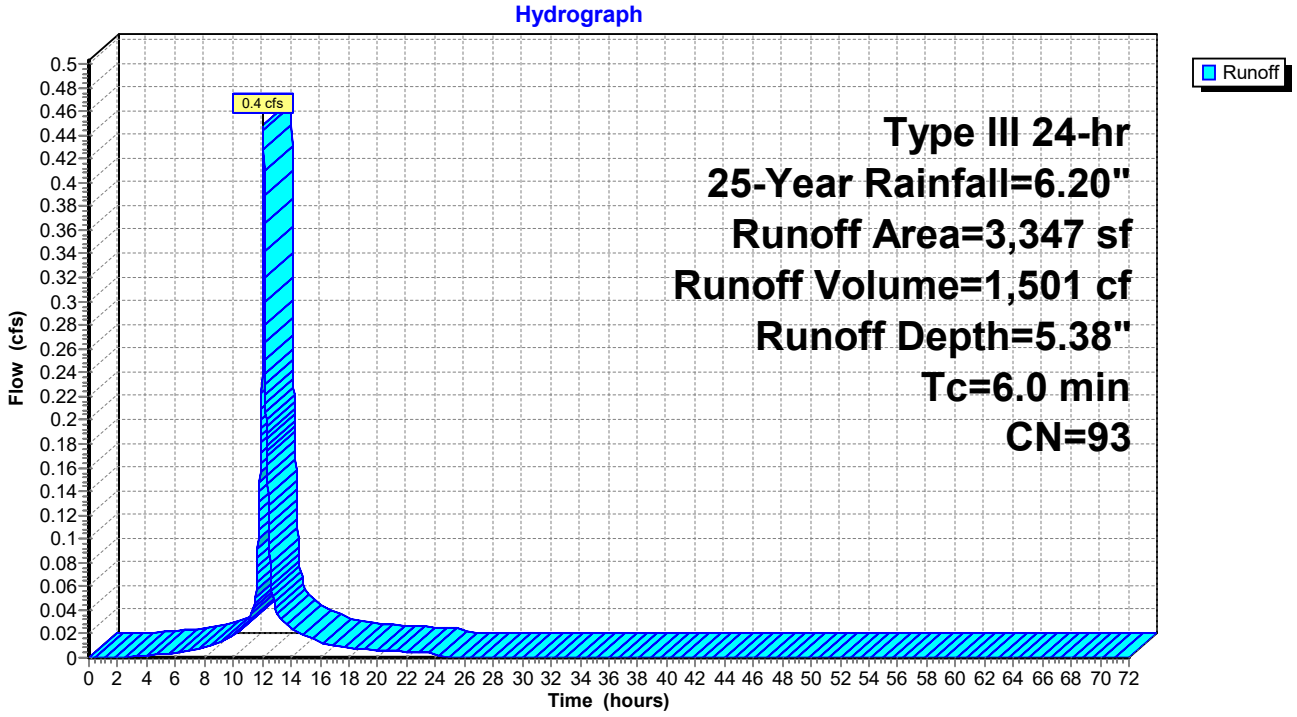
Runoff = 0.4 cfs @ 12.08 hrs, Volume= 1,501 cf, Depth= 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
796	98	Paved parking, HSG D
74	96	Gravel surface, HSG D
754	80	>75% Grass cover, Good, HSG D
1,602	98	Paved parking, HSG A
40	39	>75% Grass cover, Good, HSG A
81	96	Gravel surface, HSG A
3,347	93	Weighted Average
949		28.35% Pervious Area
2,398		71.65% Impervious Area

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

Subcatchment S4.2: Subcatchment 4.2



Summary for Subcatchment S4.3: Subcatchment 4.3

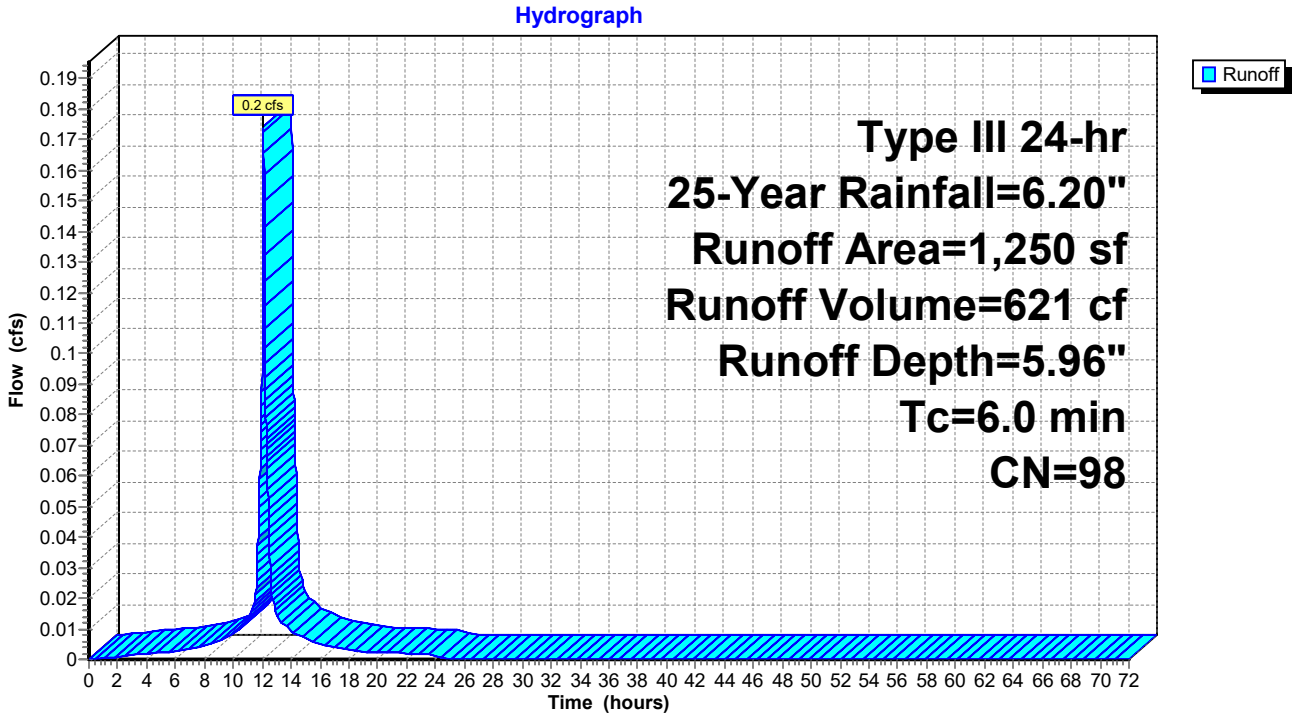
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.3: Subcatchment 4.3



Summary for Subcatchment S4.4: Subcatchment 4.4

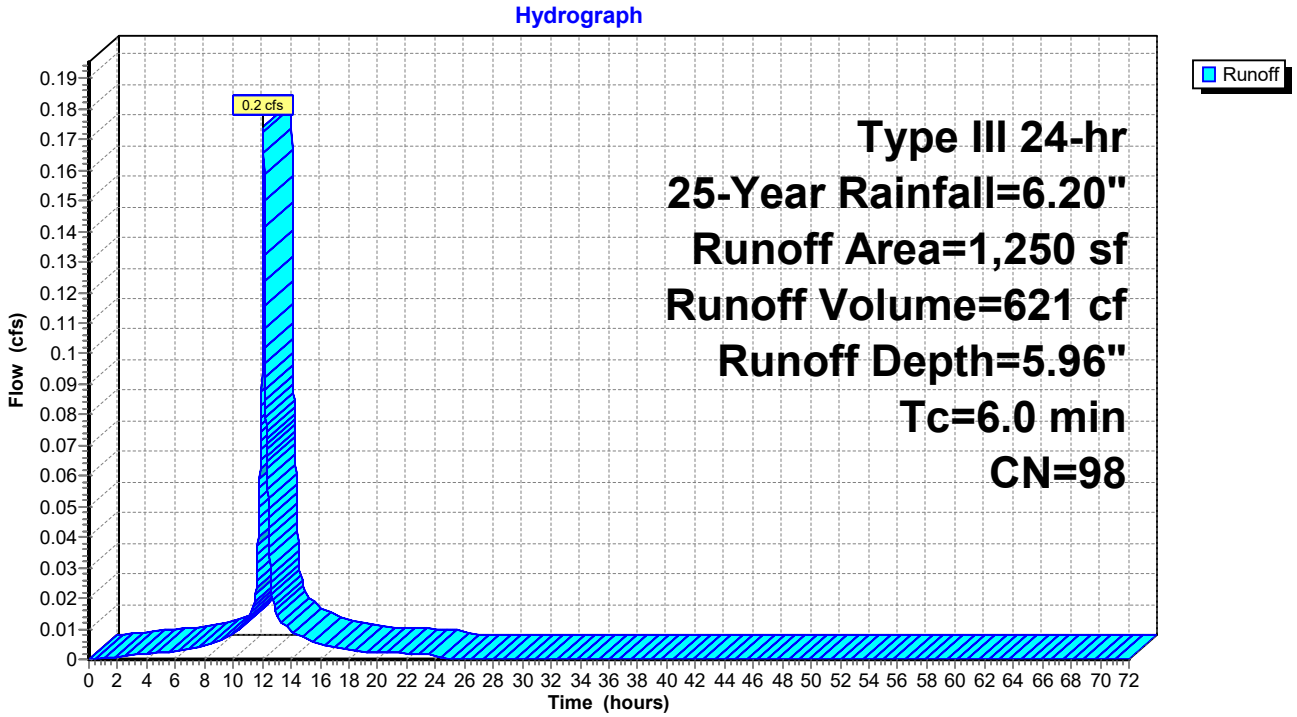
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.4: Subcatchment 4.4



Summary for Subcatchment S4.5: Subcatchment 4.5

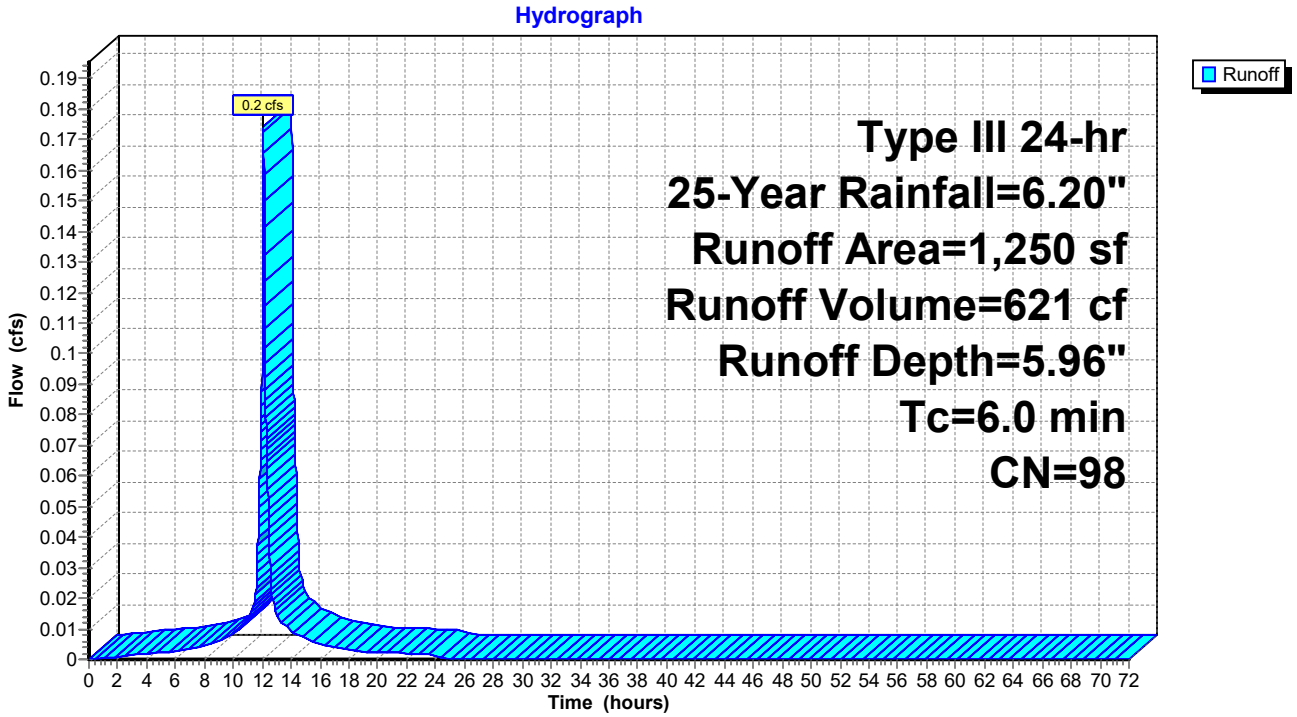
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.5: Subcatchment 4.5



Summary for Subcatchment S4.6: Subcatchment 4.6

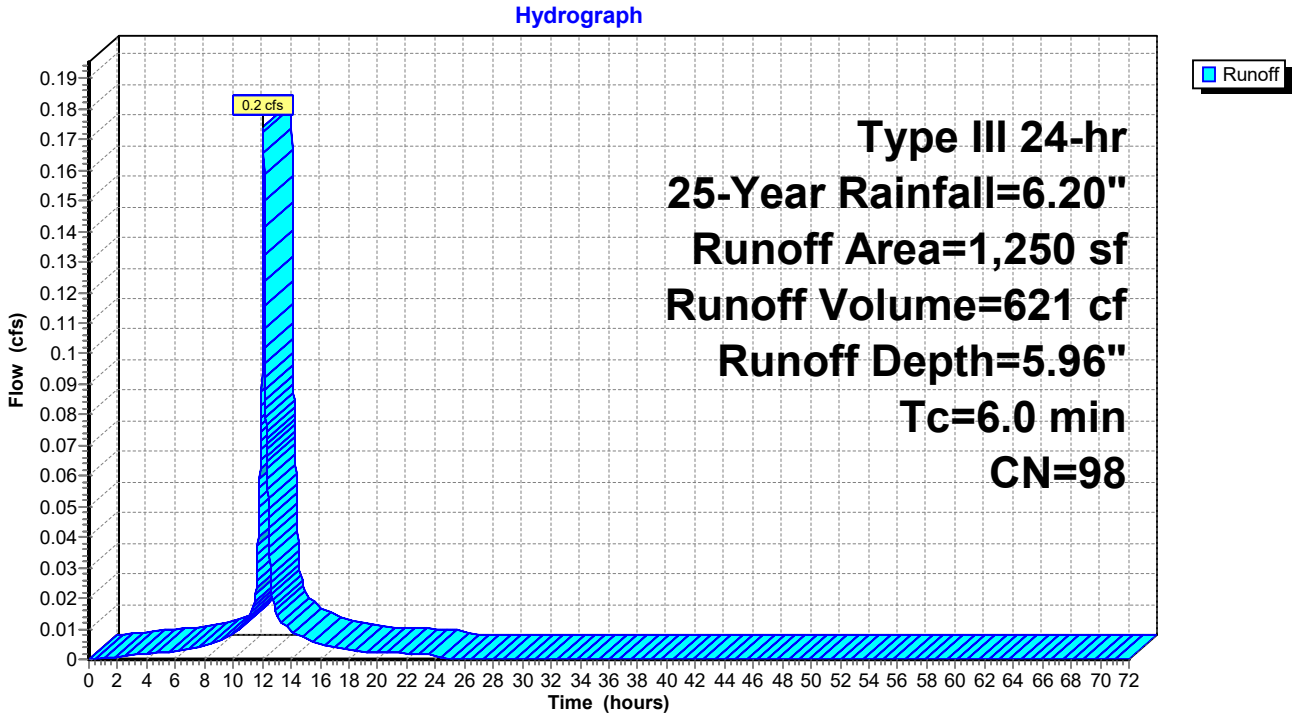
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.6: Subcatchment 4.6



Summary for Subcatchment S4.7: Subcatchment 4.7

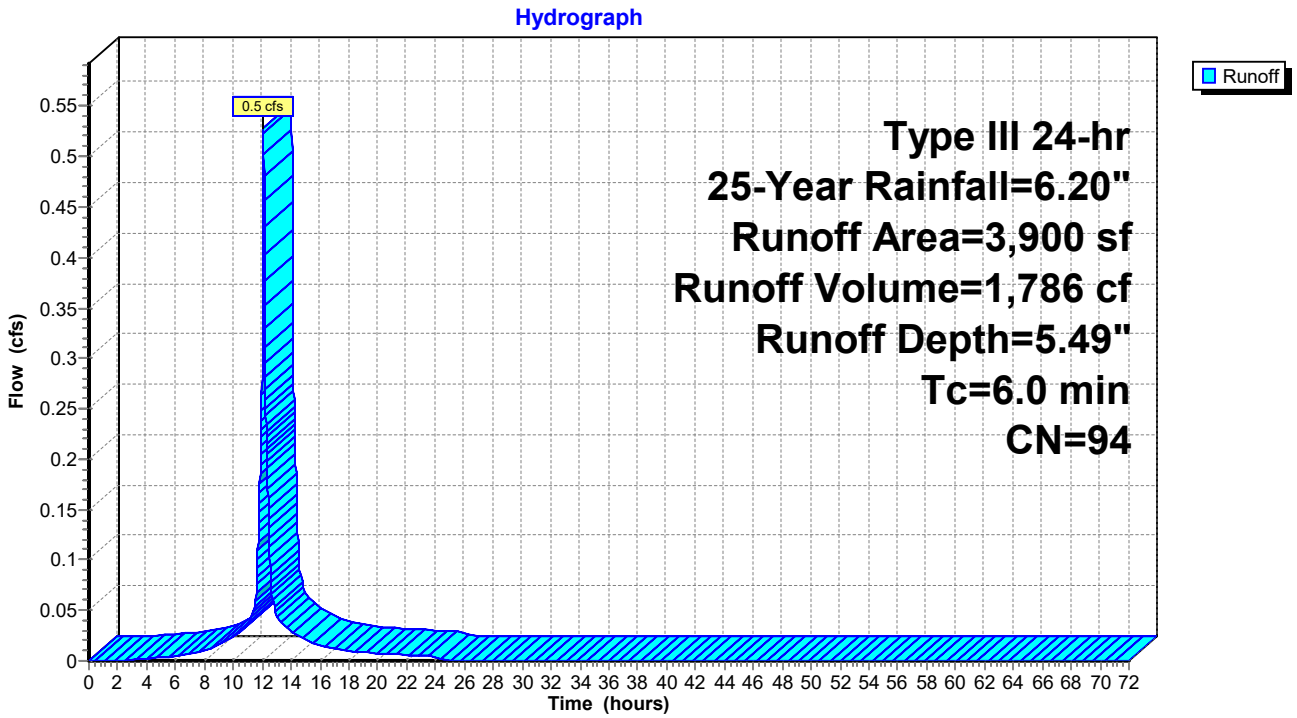
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,786 cf, Depth= 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
874	80	>75% Grass cover, Good, HSG D
166	96	Gravel surface, HSG D
297	98	Paved roads w/curbs & sewers, HSG A
2,563	98	Paved roads w/curbs & sewers, HSG D
3,900	94	Weighted Average
1,040		26.67% Pervious Area
2,860		73.33% Impervious Area

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

Subcatchment S4.7: Subcatchment 4.7



Summary for Subcatchment S4.8: Subcatchment 4.8

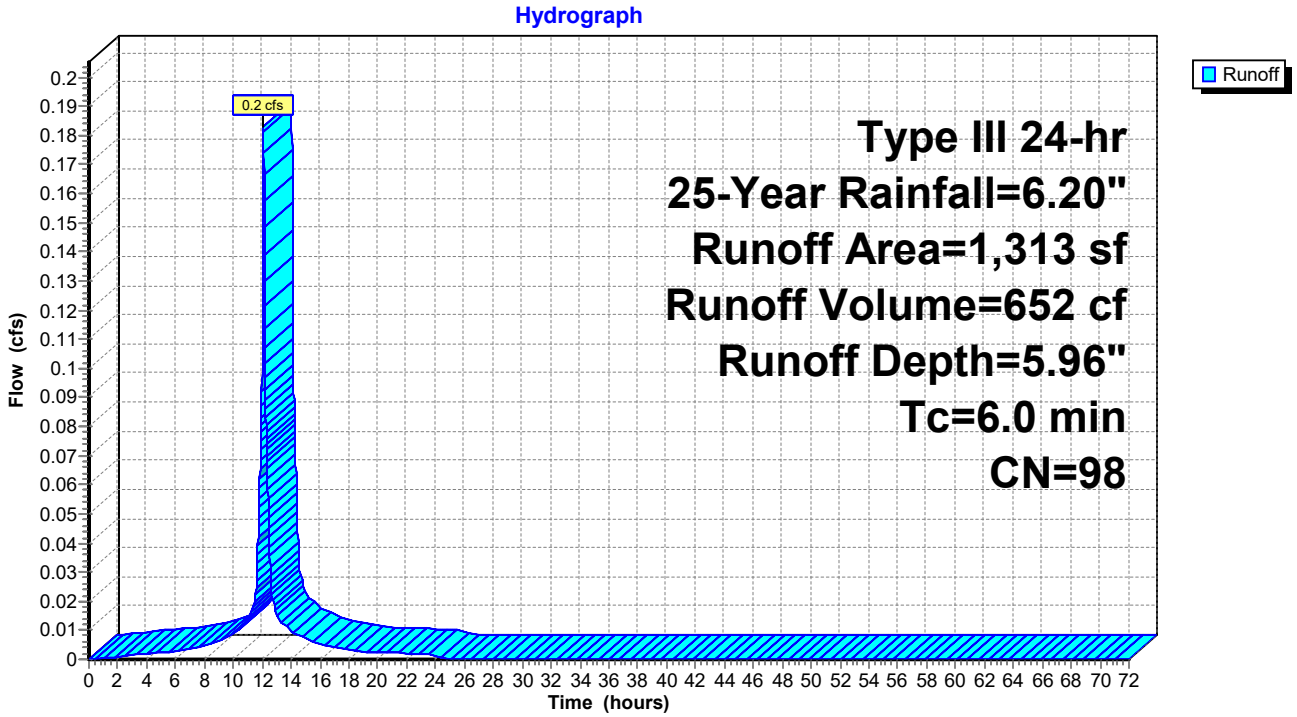
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 652 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,313	98	Paved roads w/curbs & sewers, HSG D
1,313		100.00% Impervious Area

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

Subcatchment S4.8: Subcatchment 4.8



Summary for Subcatchment S4.9: Subcatchment 4.9

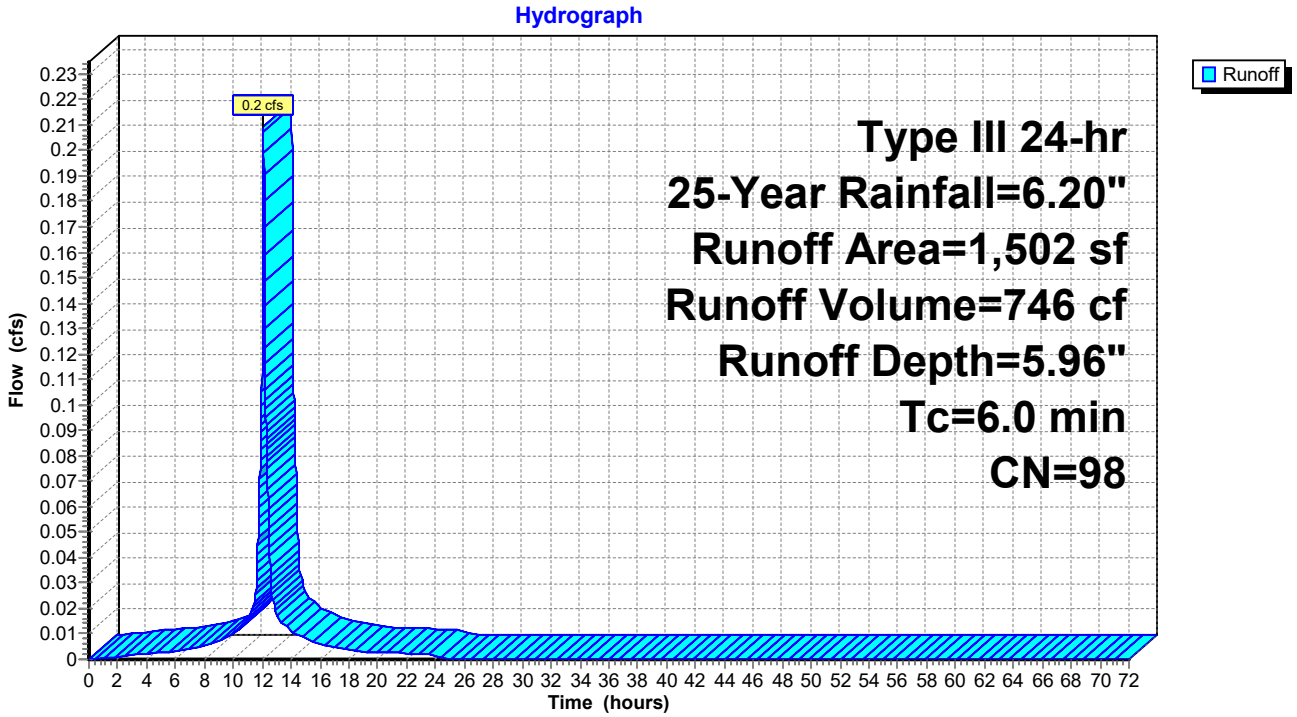
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 746 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,502	98	Paved roads w/curbs & sewers, HSG D
1,502		100.00% Impervious Area

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

Subcatchment S4.9: Subcatchment 4.9



Summary for Subcatchment S5.1: Subcatchment 5.1

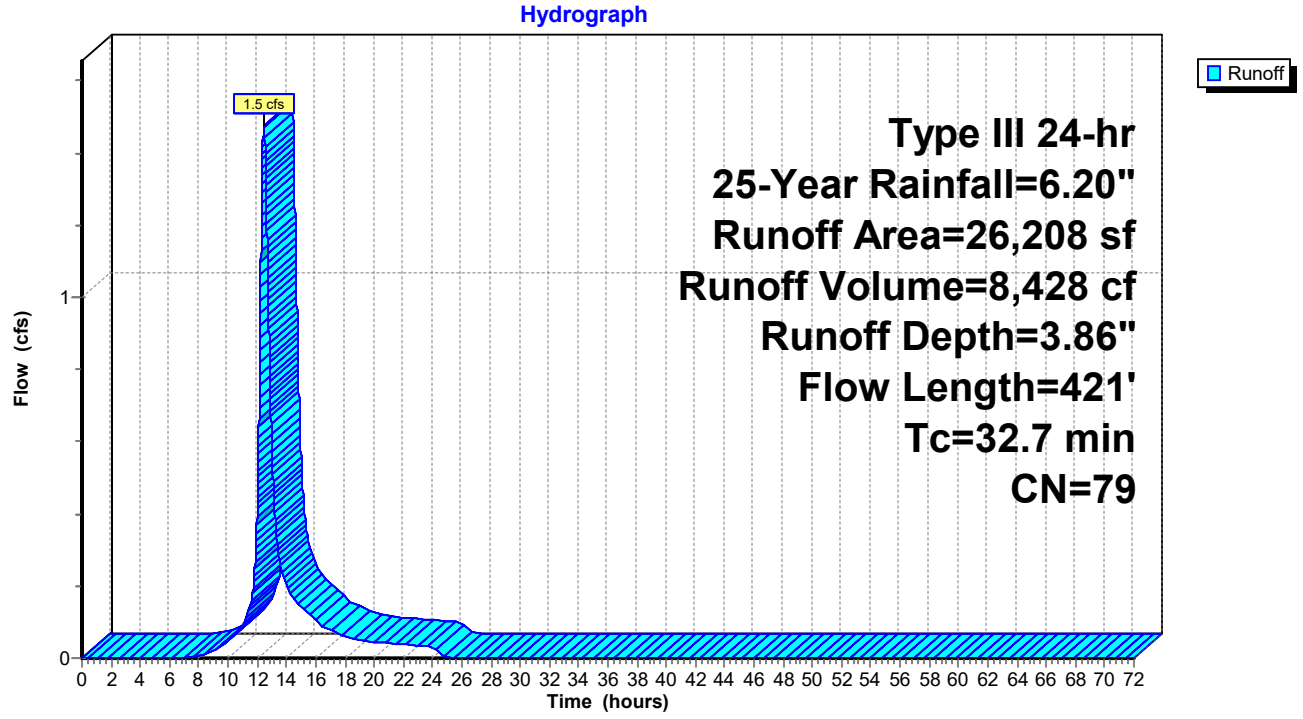
Runoff = 1.5 cfs @ 12.46 hrs, Volume= 8,428 cf, Depth= 3.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
12,258	77	Woods, Good, HSG D
13,250	80	>75% Grass cover, Good, HSG D
700	98	Roofs, HSG D
26,208	79	Weighted Average
25,508		97.33% Pervious Area
700		2.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	150	0.0267	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
1.8	53	0.0100	0.50		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
4.8	218	0.0229	0.76		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
32.7	421	Total			

Subcatchment S5.1: Subcatchment 5.1



Summary for Subcatchment S5.2: Subcatchment 5.2

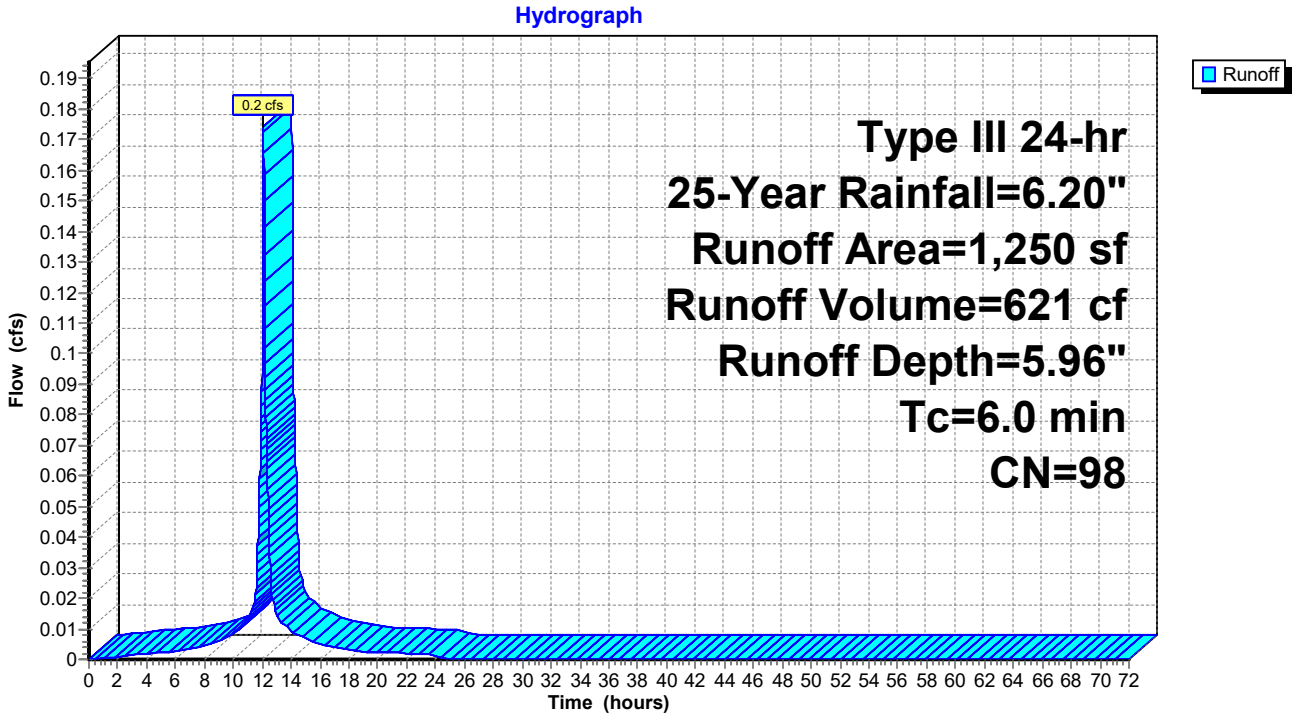
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.2: Subcatchment 5.2



Summary for Subcatchment S5.3: Subcatchment 5.3

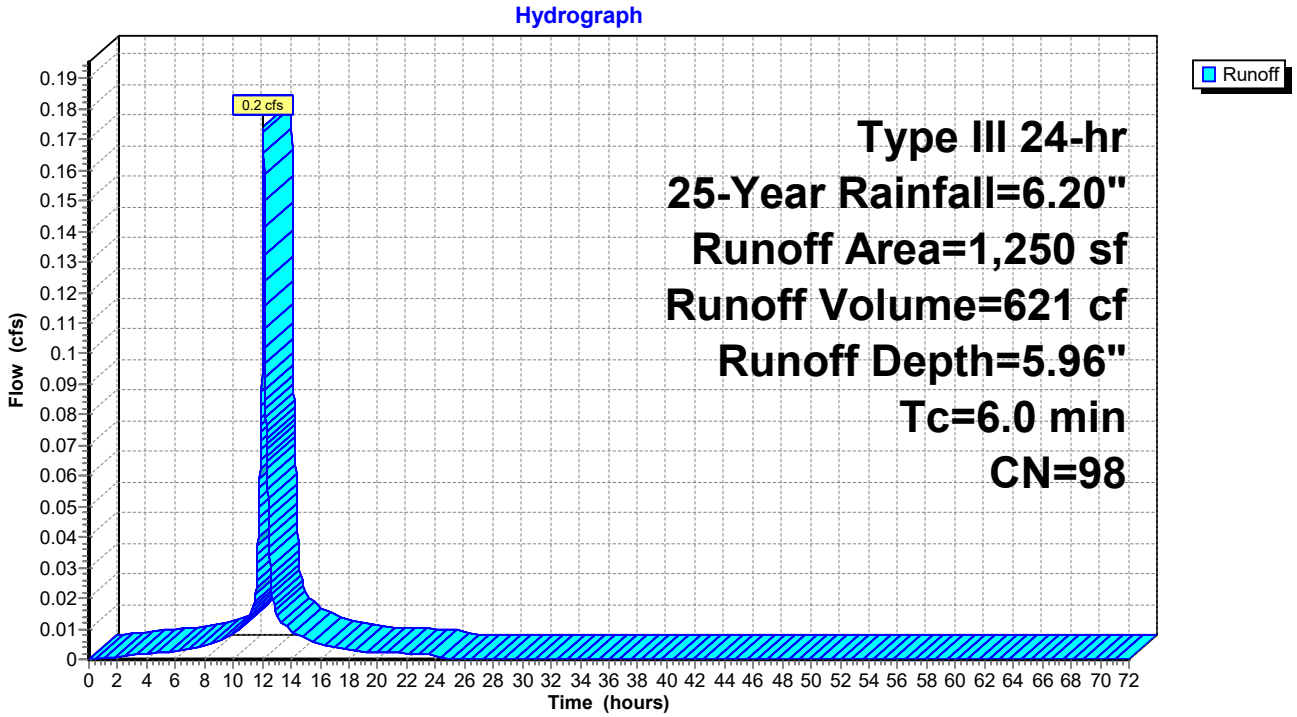
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.3: Subcatchment 5.3



Summary for Subcatchment S5.4: Subcatchment 5.4

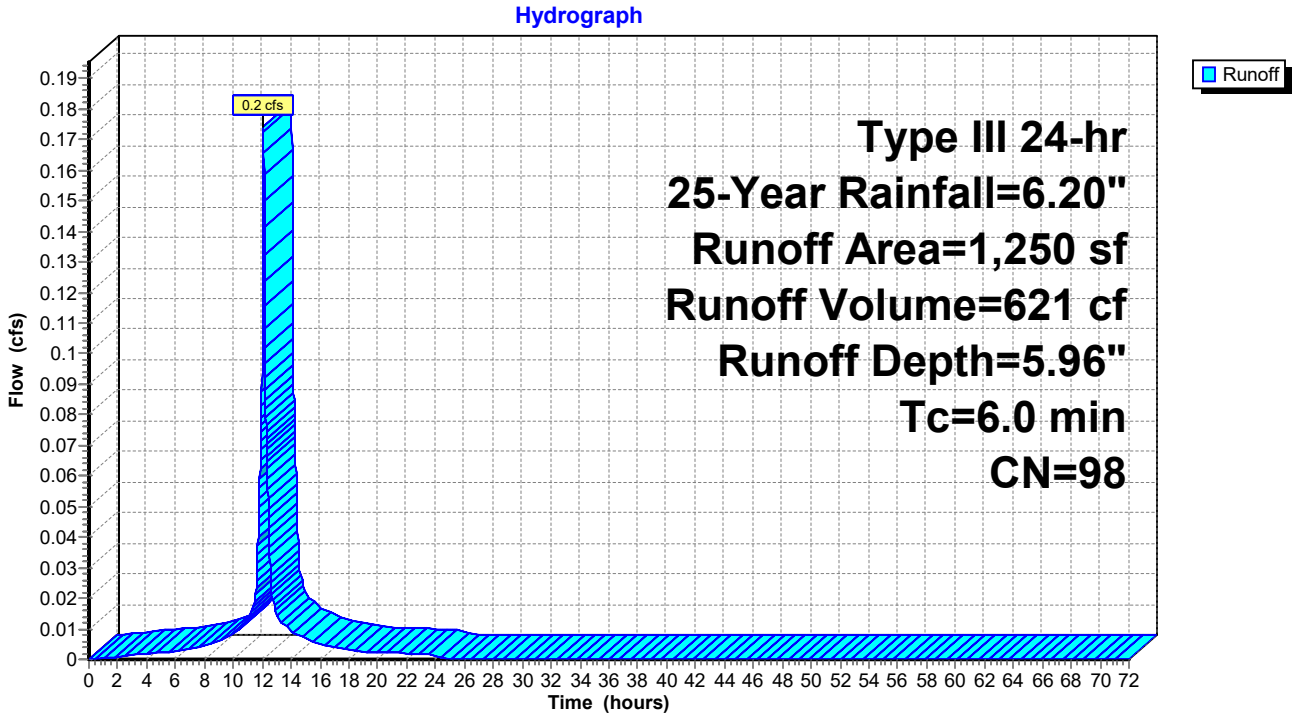
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 621 cf, Depth= 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.4: Subcatchment 5.4



Summary for Reach S1: Swale 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 4.38" for 25-Year event
Inflow = 3.5 cfs @ 12.26 hrs, Volume= 16,372 cf
Outflow = 3.5 cfs @ 12.28 hrs, Volume= 16,372 cf, Atten= 0%, Lag= 0.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.50 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.70 fps, Avg. Travel Time= 4.2 min

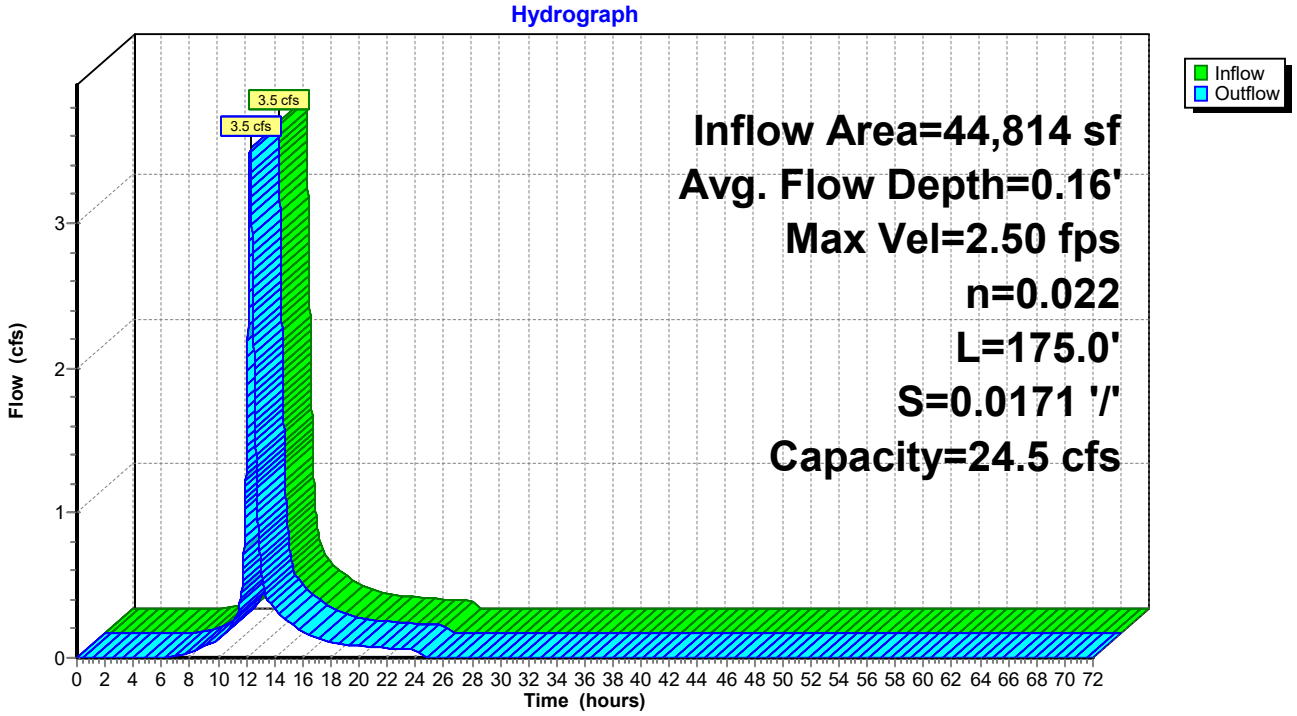
Peak Storage= 246 cf @ 12.28 hrs
Average Depth at Peak Storage= 0.16' , Surface Width= 9.30'
Bank-Full Depth= 0.50' Flow Area= 5.0 sf, Capacity= 24.5 cfs

8.00' x 0.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 4.0 '/' Top Width= 12.00'
Length= 175.0' Slope= 0.0171 '/'
Inlet Invert= 69.00', Outlet Invert= 66.00'



‡

Reach S1: Swale 1



Summary for Pond C1: Culvert 1

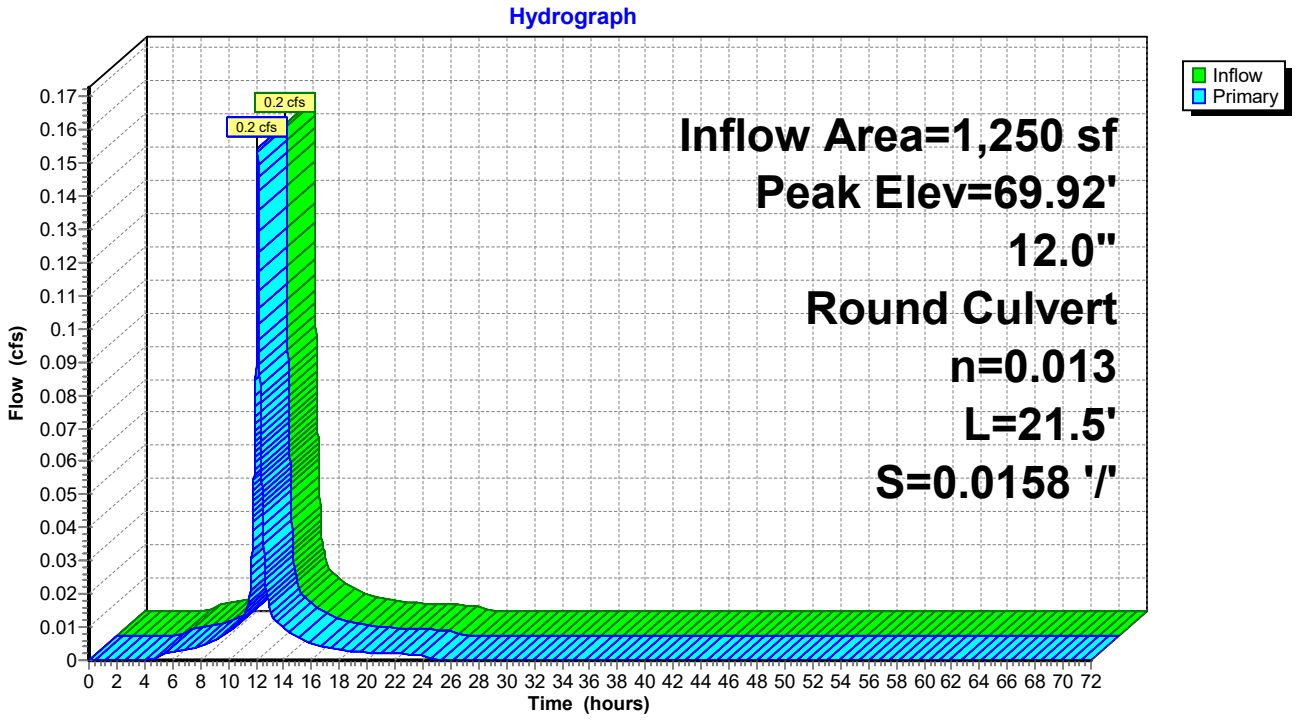
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.80" for 25-Year event
Inflow = 0.2 cfs @ 12.12 hrs, Volume= 604 cf
Outflow = 0.2 cfs @ 12.12 hrs, Volume= 604 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.12 hrs, Volume= 604 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.92' @ 12.13 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 21.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0158 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.91' TW=69.72' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.2 cfs @ 1.75 fps)

Pond C1: Culvert 1



Summary for Pond C10: Culvert 10

[57] Hint: Peaked at 69.67' (Flood elevation advised)

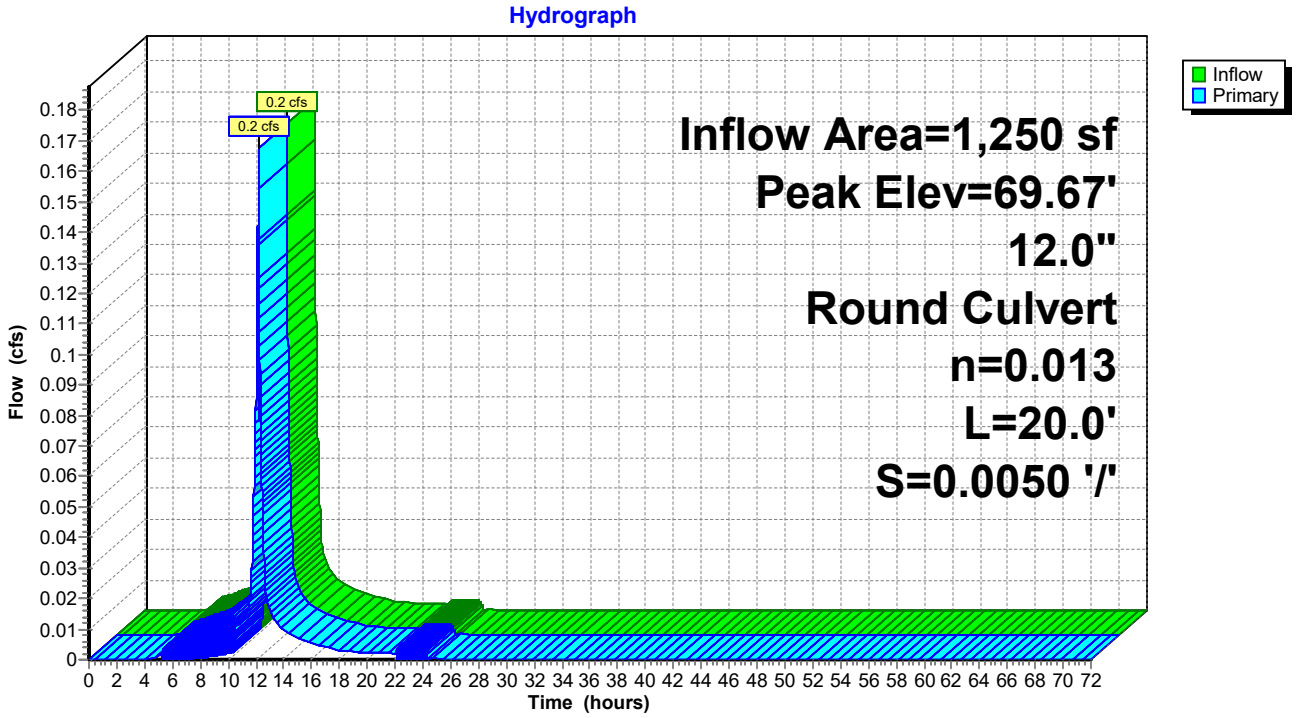
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.80" for 25-Year event
Inflow = 0.2 cfs @ 12.16 hrs, Volume= 605 cf
Outflow = 0.2 cfs @ 12.16 hrs, Volume= 605 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.16 hrs, Volume= 605 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.67' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**12.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.13' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.1 cfs @ 12.16 hrs HW=69.56' TW=69.52' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.1 cfs @ 0.94 fps)

Pond C10: Culvert 10



Summary for Pond C11: Culvert 11

[57] Hint: Peaked at 69.66' (Flood elevation advised)
[80] Warning: Exceeded Pond C10 by 0.05' @ 12.13 hrs (0.2 cfs 8 cf)

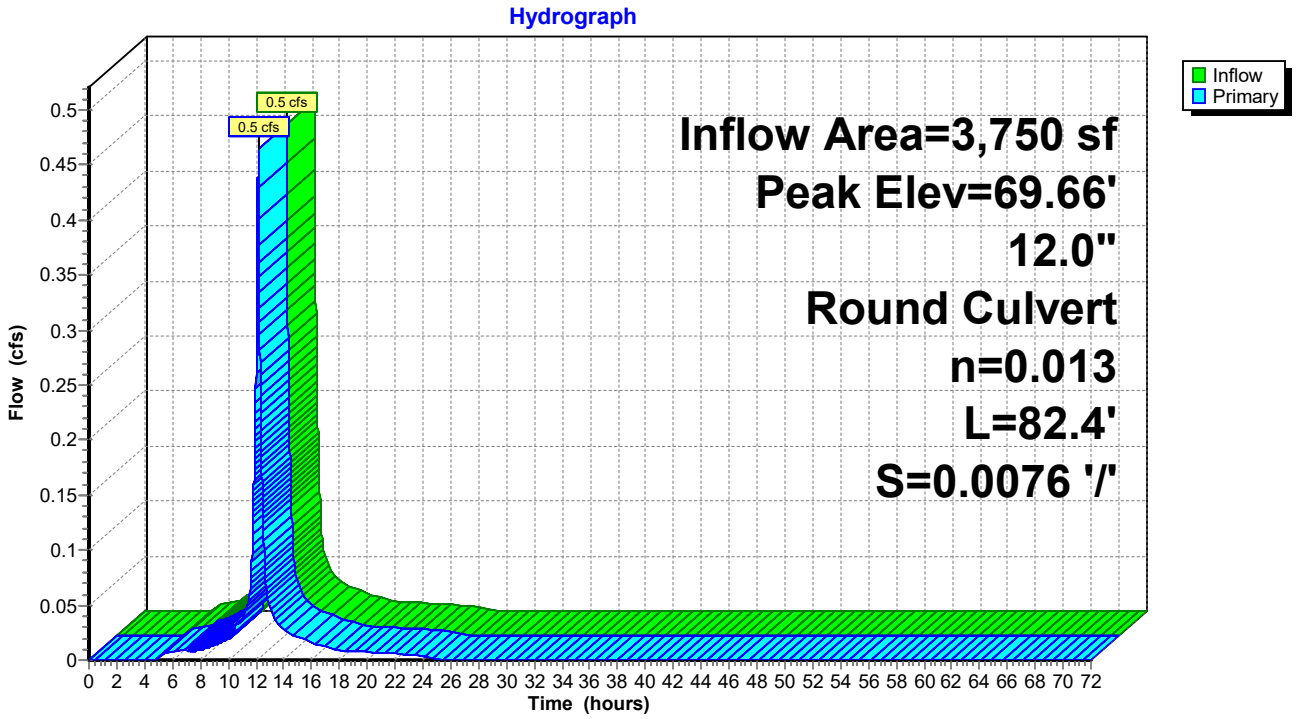
Inflow Area =	3,750 sf,100.00% Impervious,	Inflow Depth =	5.80"	for	25-Year event
Inflow =	0.5 cfs @ 12.16 hrs,	Volume=	1,812 cf		
Outflow =	0.5 cfs @ 12.16 hrs,	Volume=	1,812 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.5 cfs @ 12.16 hrs,	Volume=	1,812 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.66' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.13'	**12.0" Round Culvert** L= 82.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.13' / 68.50' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.16 hrs HW=69.52' TW=68.93' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.5 cfs @ 2.45 fps)

Pond C11: Culvert 11



Summary for Pond C2: Culvert 2

[57] Hint: Peaked at 69.72' (Flood elevation advised)
[80] Warning: Exceeded Pond RD2 by 0.01' @ 4.79 hrs (0.0 cfs 180 cf)

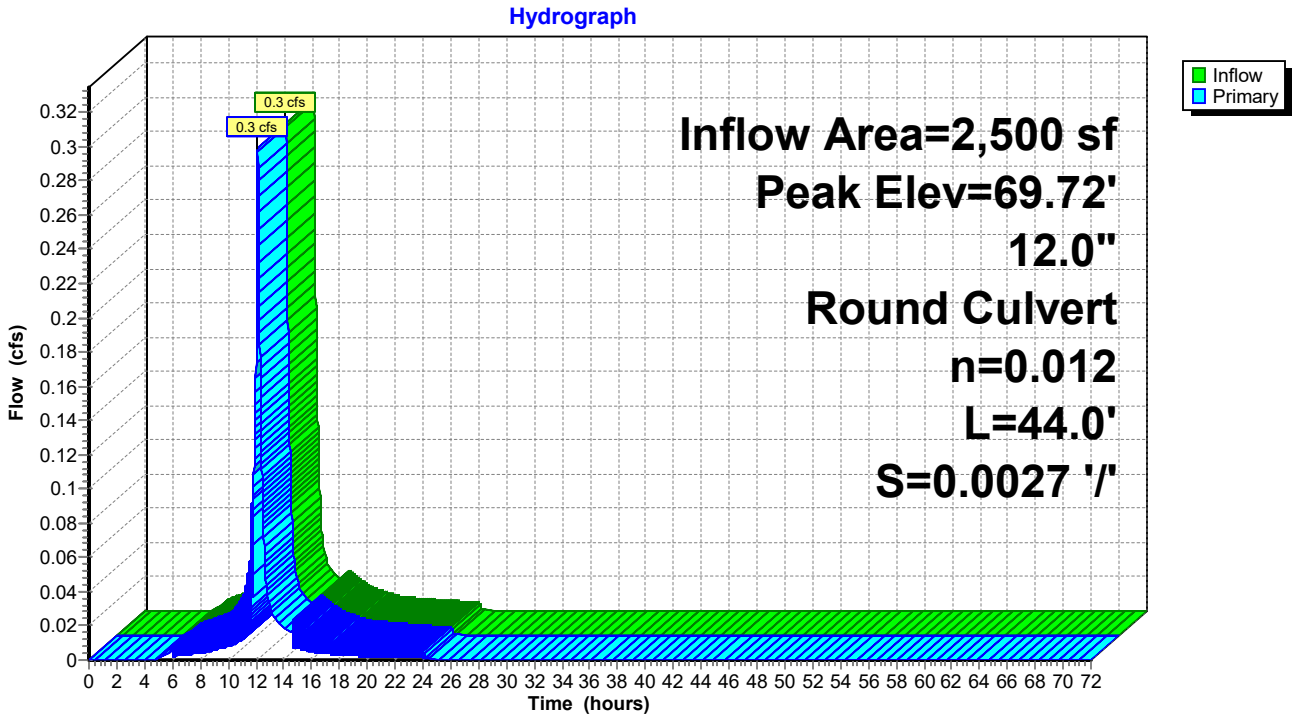
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	5.79"	for	25-Year event
Inflow =	0.3 cfs @	12.13 hrs, Volume=	1,207 cf		
Outflow =	0.3 cfs @	12.13 hrs, Volume=	1,207 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.3 cfs @	12.13 hrs, Volume=	1,207 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.72' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.23' S= 0.0027 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.13 hrs HW=69.72' TW=69.54' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.3 cfs @ 1.68 fps)

Pond C2: Culvert 2



Summary for Pond C3: Culvert 3

[57] Hint: Peaked at 69.54' (Flood elevation advised)

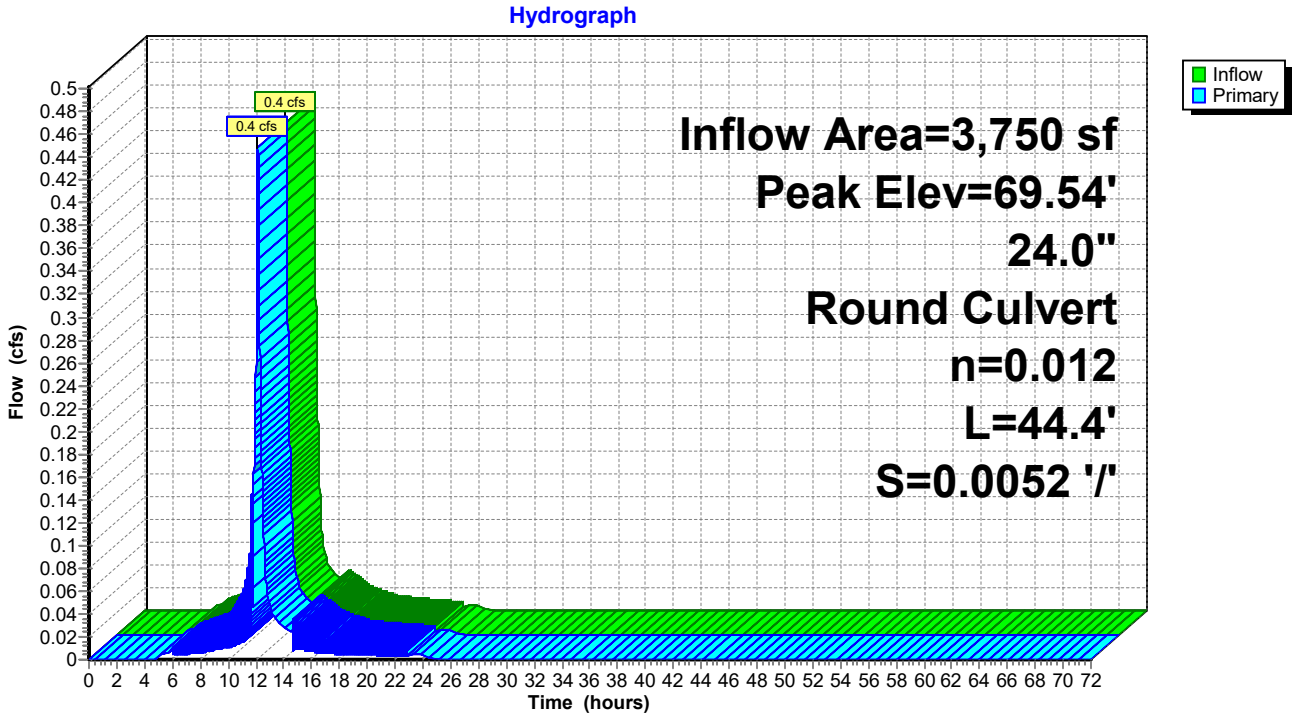
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 5.79" for 25-Year event
Inflow = 0.4 cfs @ 12.13 hrs, Volume= 1,810 cf
Outflow = 0.4 cfs @ 12.13 hrs, Volume= 1,810 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.13 hrs, Volume= 1,810 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.54' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**24.0" Round Culvert** L= 44.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.00' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.4 cfs @ 12.13 hrs HW=69.54' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.4 cfs @ 2.15 fps)

Pond C3: Culvert 3



Summary for Pond C4: Culvert 4

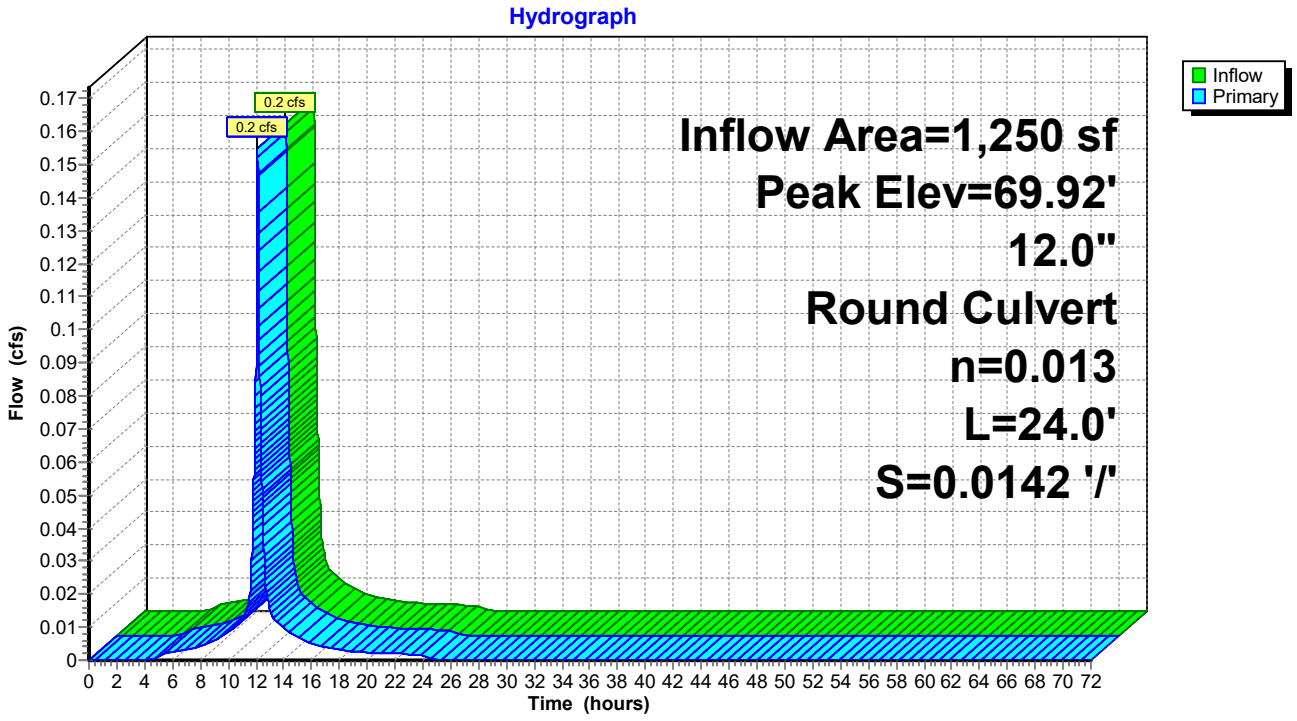
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.80" for 25-Year event
Inflow = 0.2 cfs @ 12.12 hrs, Volume= 604 cf
Outflow = 0.2 cfs @ 12.12 hrs, Volume= 604 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.12 hrs, Volume= 604 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.92' @ 12.15 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0142 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=69.91' TW=69.71' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.2 cfs @ 1.75 fps)

Pond C4: Culvert 4



Summary for Pond C7: Culvert 7

[80] Warning: Exceeded Pond RD7 by 1.58' @ 12.07 hrs (0.5 cfs 777 cf)

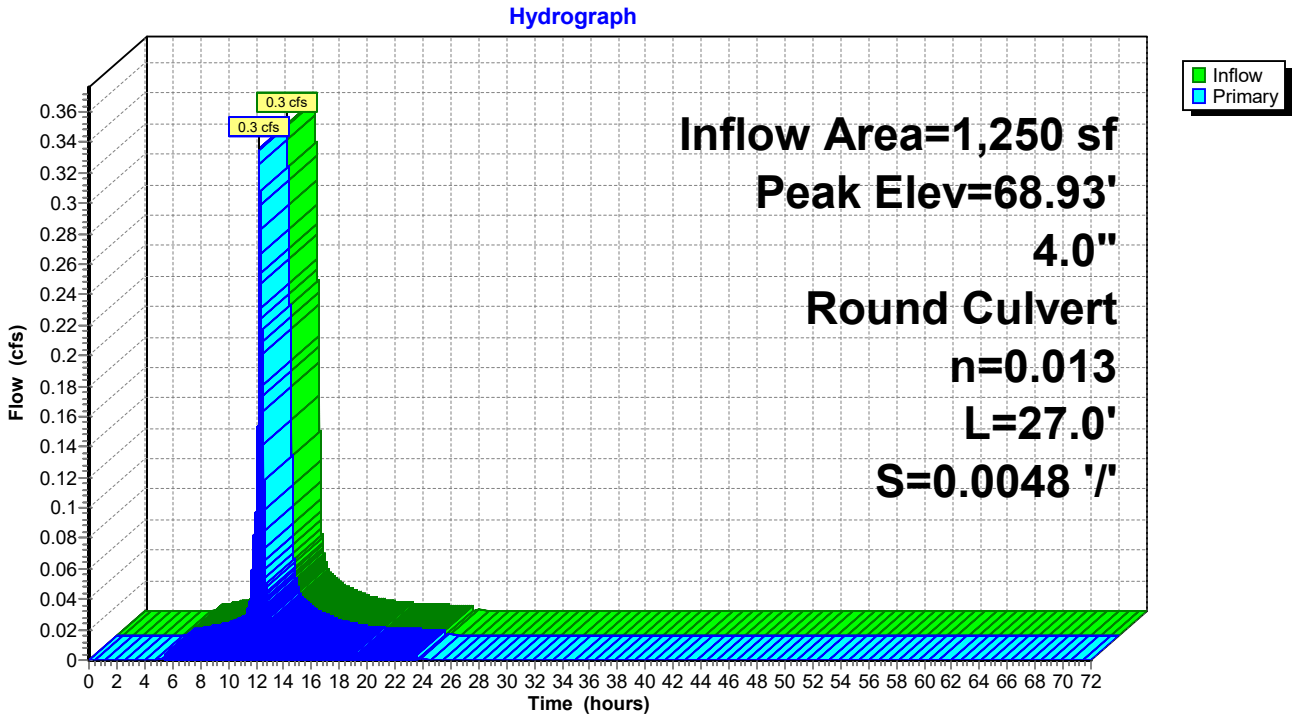
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.79" for 25-Year event
Inflow = 0.3 cfs @ 12.23 hrs, Volume= 603 cf
Outflow = 0.3 cfs @ 12.23 hrs, Volume= 603 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.23 hrs, Volume= 603 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.93' @ 12.07 hrs
Flood Elev= 69.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Round Culvert** L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.55' / 66.42' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.3 cfs @ 12.23 hrs HW=68.42' TW=67.14' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.3 cfs @ 3.85 fps)

Pond C7: Culvert 7



Summary for Pond C8: Culvert 8

[58] Hint: Peaked 3.44' above defined flood level

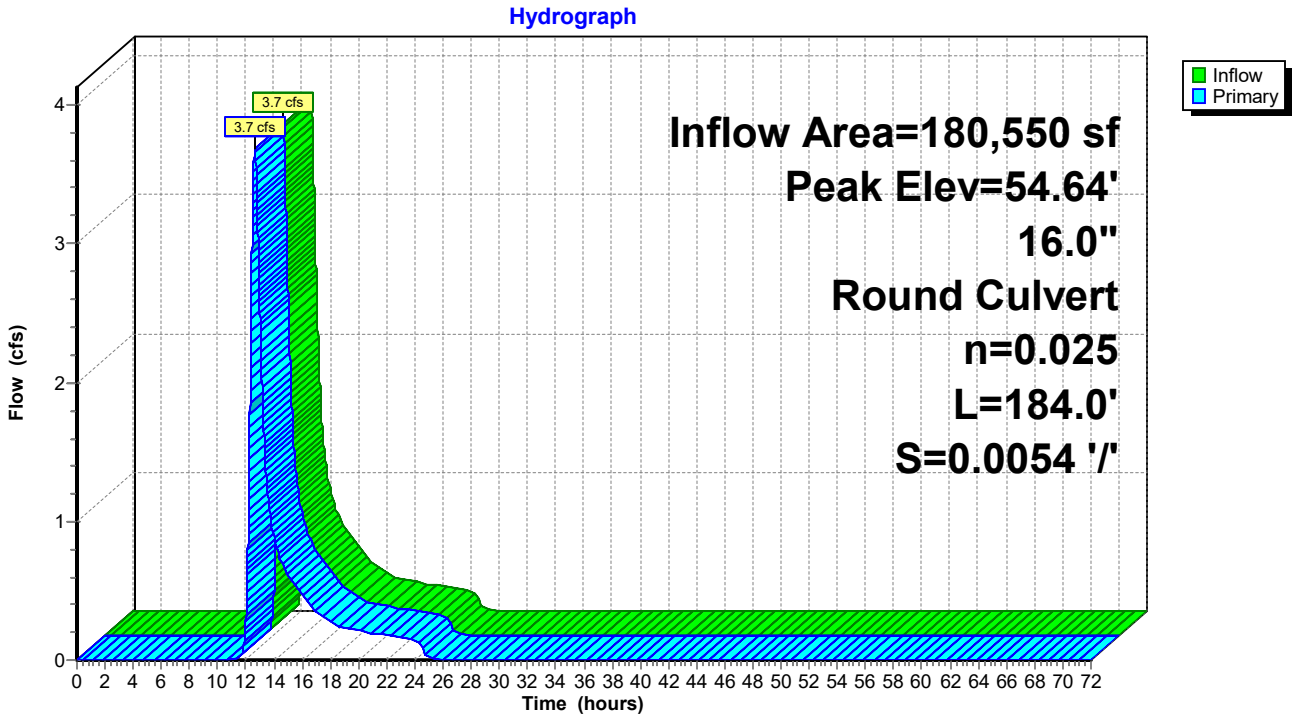
Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 1.72" for 25-Year event
Inflow = 3.7 cfs @ 12.63 hrs, Volume= 25,816 cf
Outflow = 3.7 cfs @ 12.63 hrs, Volume= 25,816 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.7 cfs @ 12.63 hrs, Volume= 25,816 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 54.64' @ 12.82 hrs
Flood Elev= 51.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.20'	**16.0" Round Culvert** L= 184.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.20' / 50.20' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=3.6 cfs @ 12.63 hrs HW=54.18' TW=52.45' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 3.6 cfs @ 2.60 fps)

Pond C8: Culvert 8



Summary for Pond C9: Culvert 9

[57] Hint: Peaked at 69.76' (Flood elevation advised)
[80] Warning: Exceeded Pond RD5 by 0.01' @ 4.79 hrs (0.0 cfs 4 cf)

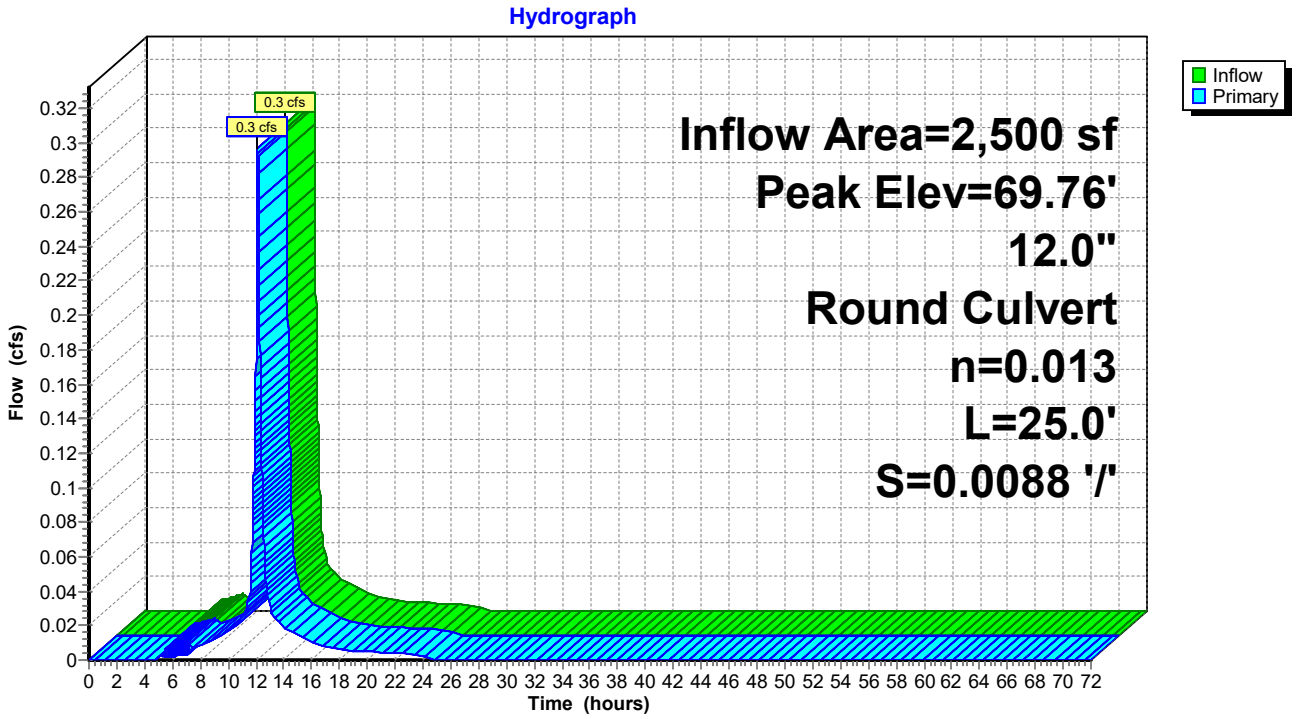
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	5.79"	for	25-Year event
Inflow =	0.3 cfs @ 12.11 hrs,	Volume=	1,207 cf		
Outflow =	0.3 cfs @ 12.11 hrs,	Volume=	1,207 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.3 cfs @ 12.11 hrs,	Volume=	1,207 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.76' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.13' S= 0.0088 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.11 hrs HW=69.70' TW=69.56' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.3 cfs @ 1.62 fps)

Pond C9: Culvert 9



Summary for Pond CB1: Catch Basin 1

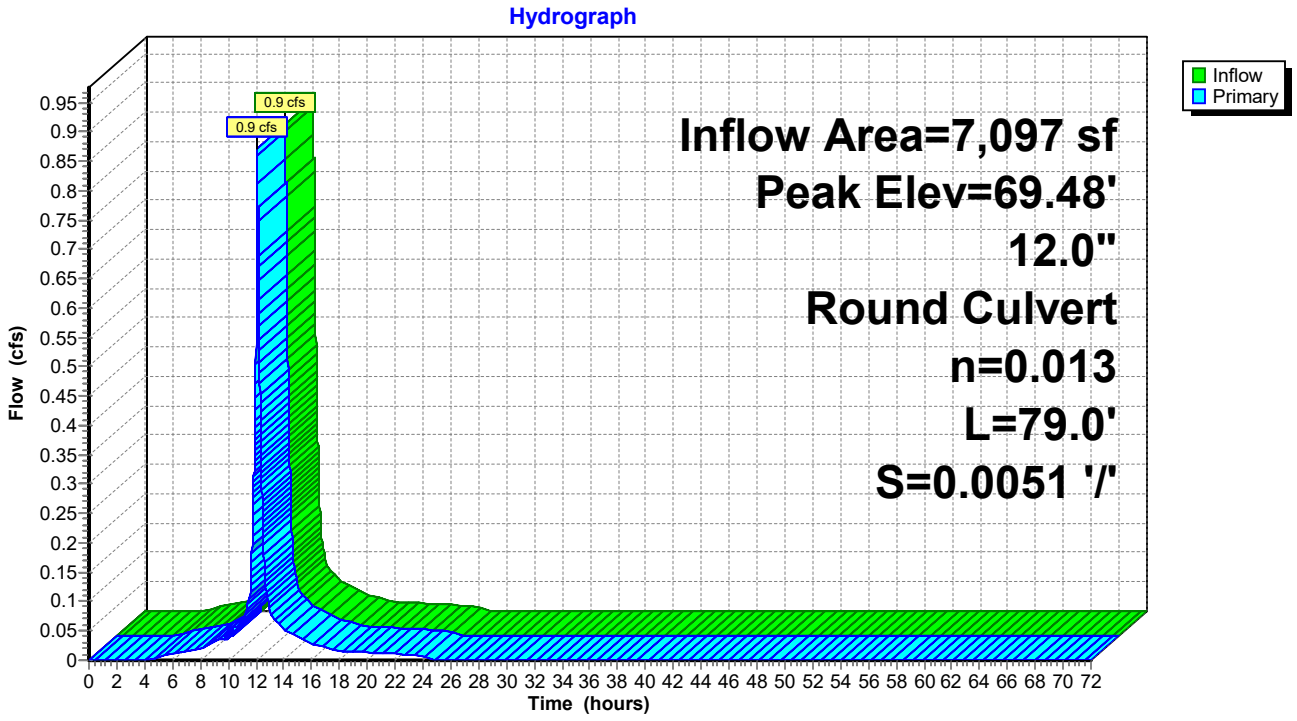
Inflow Area = 7,097 sf, 86.63% Impervious, Inflow Depth = 5.60" for 25-Year event
Inflow = 0.9 cfs @ 12.10 hrs, Volume= 3,312 cf
Outflow = 0.9 cfs @ 12.10 hrs, Volume= 3,312 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.9 cfs @ 12.10 hrs, Volume= 3,312 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.48' @ 12.12 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	**12.0" Round Culvert** L= 79.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.40' / 68.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.10 hrs HW=69.13' TW=69.09' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.3 cfs @ 0.75 fps)

Pond CB1: Catch Basin 1



Summary for Pond CB10: Catch Basin 10

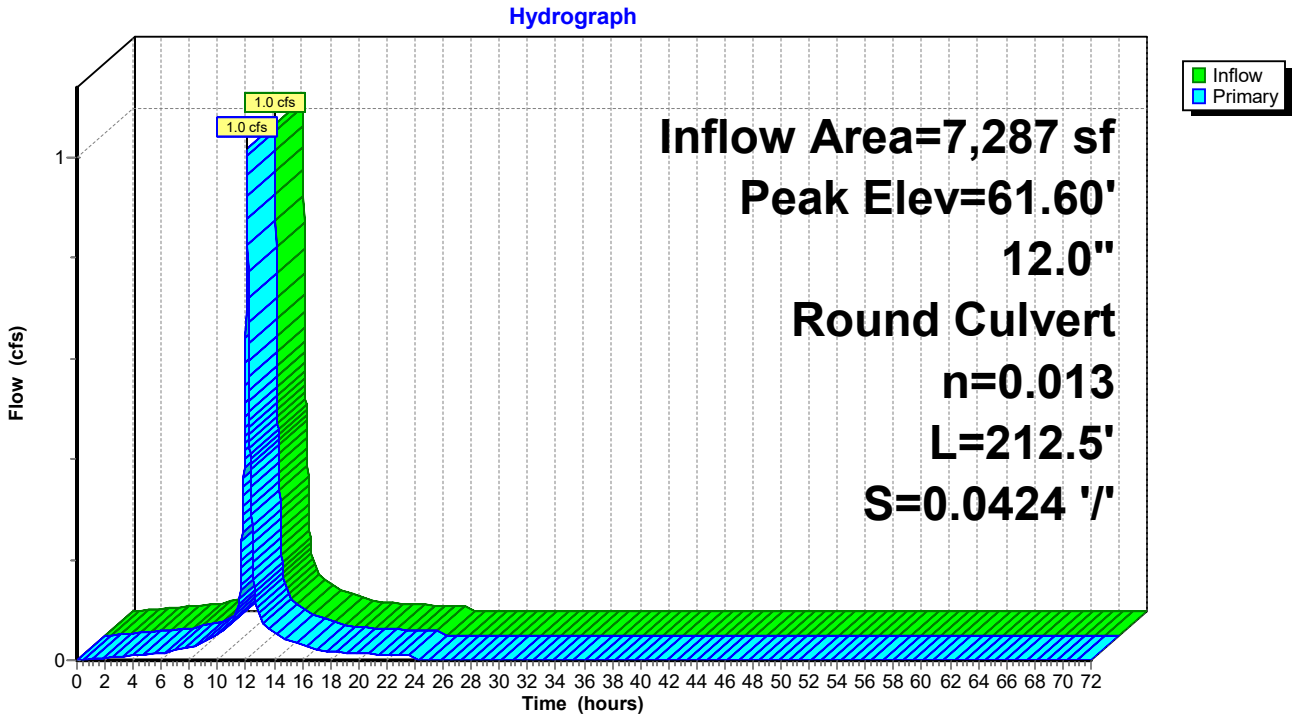
Inflow Area = 7,287 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 1.0 cfs @ 12.08 hrs, Volume= 3,620 cf
Outflow = 1.0 cfs @ 12.08 hrs, Volume= 3,620 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.0 cfs @ 12.08 hrs, Volume= 3,620 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.60' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**12.0" Round Culvert** L= 212.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 52.00' S= 0.0424 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.0 cfs @ 12.08 hrs HW=61.60' TW=52.70' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.0 cfs @ 2.08 fps)

Pond CB10: Catch Basin 10



Summary for Pond CB11: Catch Basin 11

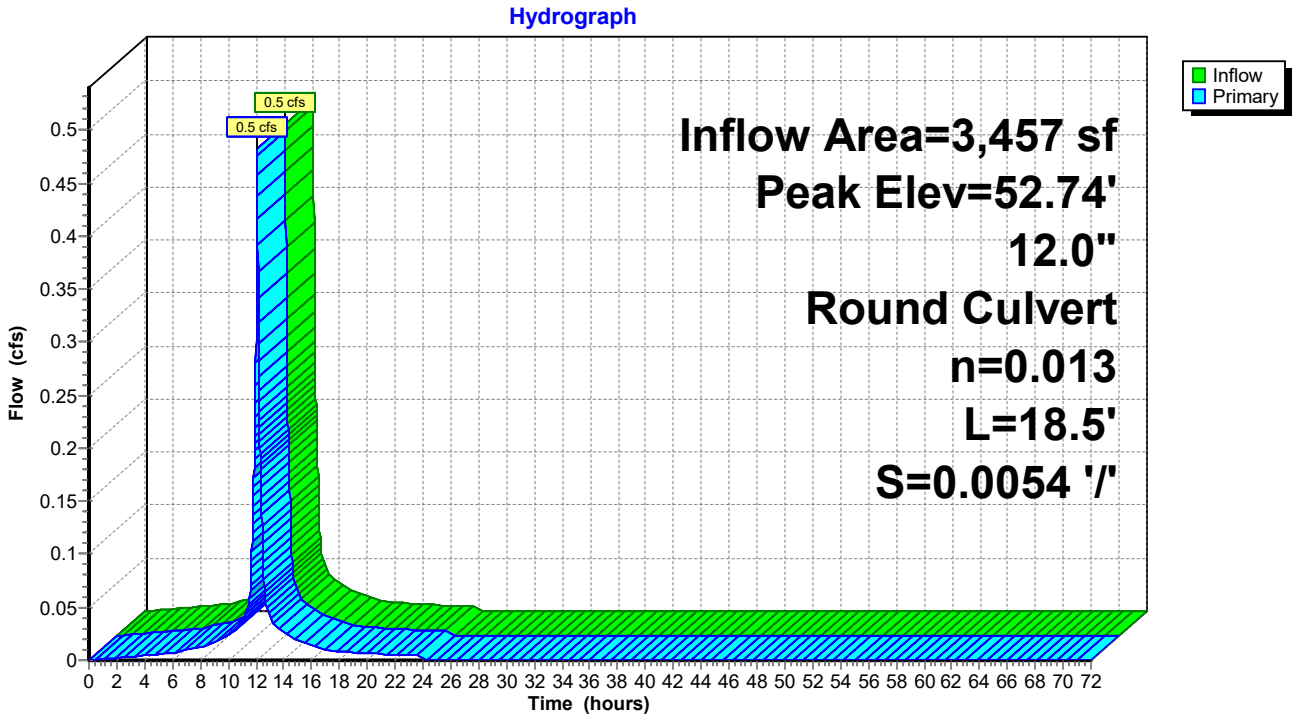
Inflow Area = 3,457 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.5 cfs @ 12.08 hrs, Volume= 1,717 cf
Outflow = 0.5 cfs @ 12.08 hrs, Volume= 1,717 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.08 hrs, Volume= 1,717 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.74' @ 12.09 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.00'	**12.0" Round Culvert** L= 18.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.00' / 51.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.08 hrs HW=52.74' TW=52.70' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.5 cfs @ 1.01 fps)

Pond CB11: Catch Basin 11



Summary for Pond CB12: Catch Basin 12

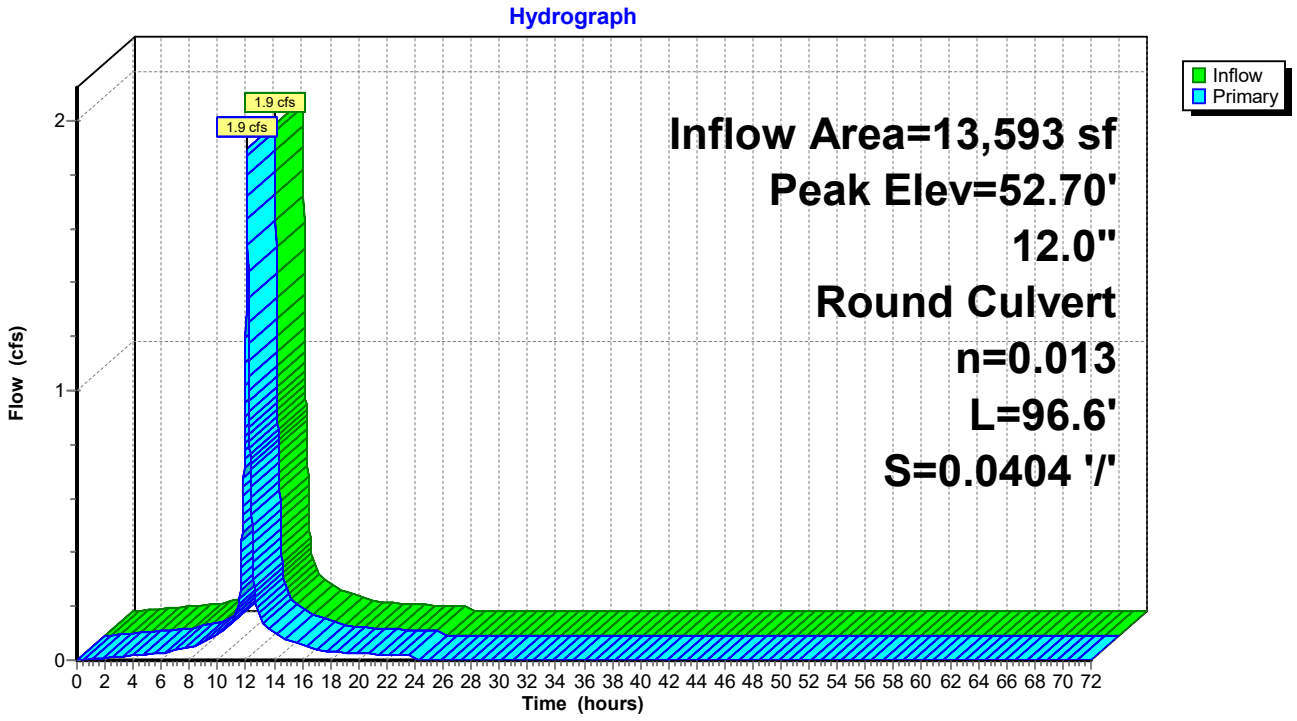
Inflow Area = 13,593 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 1.9 cfs @ 12.08 hrs, Volume= 6,753 cf
Outflow = 1.9 cfs @ 12.08 hrs, Volume= 6,753 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.9 cfs @ 12.08 hrs, Volume= 6,753 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.70' @ 12.08 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.80'	**12.0" Round Culvert** L= 96.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.80' / 47.90' S= 0.0404 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.9 cfs @ 12.08 hrs HW=52.70' TW=50.17' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.9 cfs @ 2.55 fps)

Pond CB12: Catch Basin 12



Summary for Pond CB13: Catch Basin 13

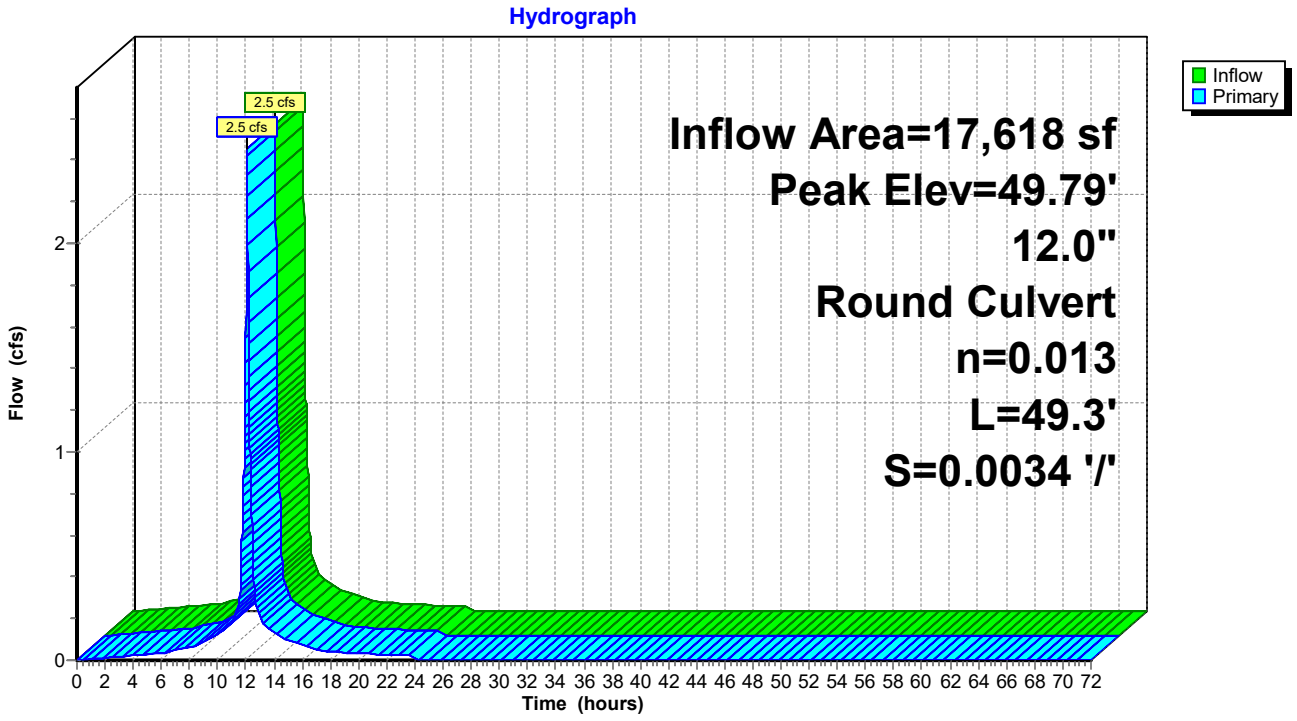
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf
Outflow = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.79' @ 12.09 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	**12.0" Round Culvert** L= 49.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.60' / 47.43' S= 0.0034 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.4 cfs @ 12.08 hrs HW=49.76' TW=49.11' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.4 cfs @ 3.06 fps)

Pond CB13: Catch Basin 13



Summary for Pond CB14: Catch Basin 14

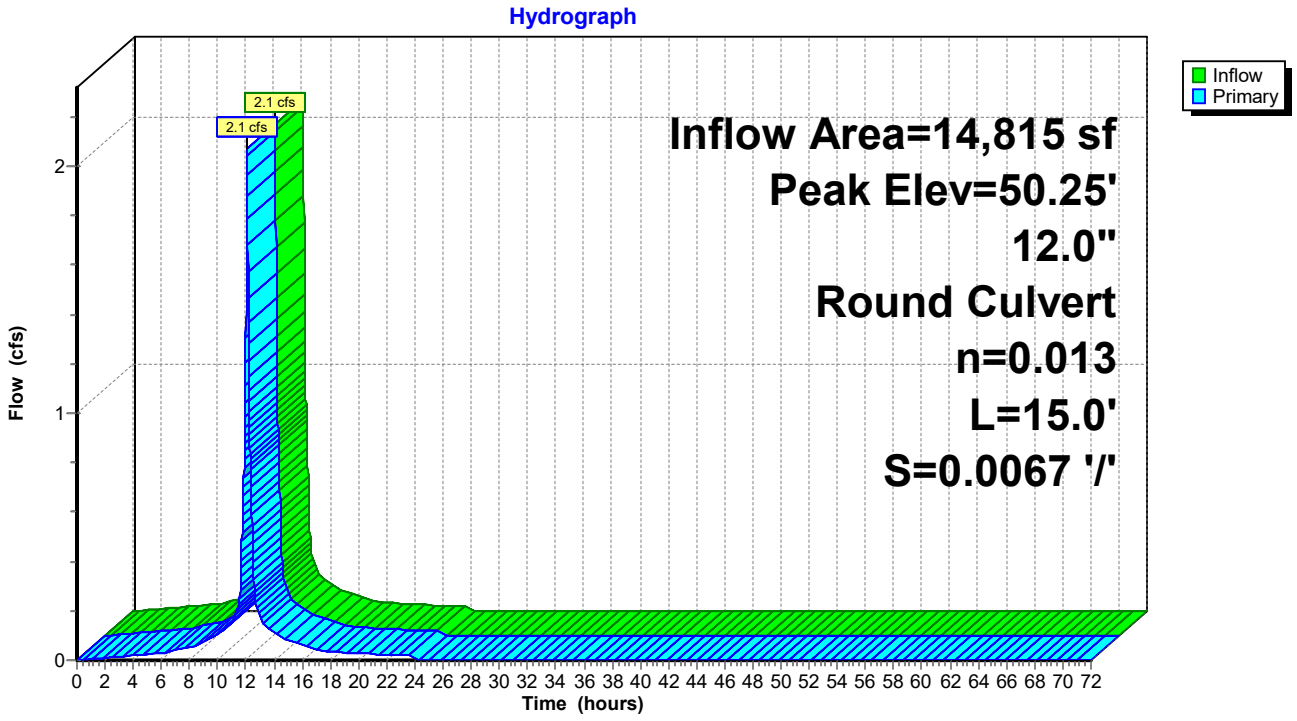
Inflow Area = 14,815 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 2.1 cfs @ 12.08 hrs, Volume= 7,360 cf
Outflow = 2.1 cfs @ 12.08 hrs, Volume= 7,360 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.1 cfs @ 12.08 hrs, Volume= 7,360 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.25' @ 12.10 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.80'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.80' / 47.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.9 cfs @ 12.08 hrs HW=50.17' TW=49.76' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.9 cfs @ 2.42 fps)

Pond CB14: Catch Basin 14



Summary for Pond CB2: Catch Basin 2

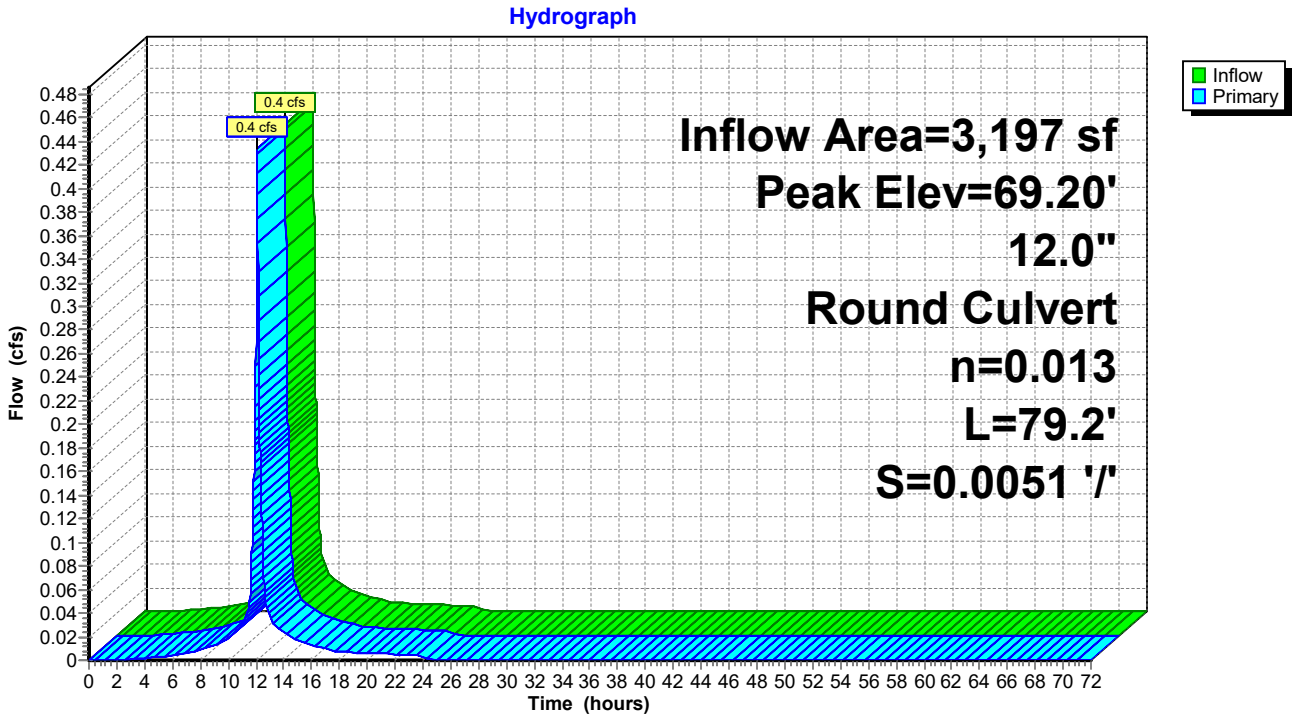
Inflow Area = 3,197 sf, 72.57% Impervious, Inflow Depth = 5.49" for 25-Year event
Inflow = 0.4 cfs @ 12.08 hrs, Volume= 1,464 cf
Outflow = 0.4 cfs @ 12.08 hrs, Volume= 1,464 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.4 cfs @ 12.08 hrs, Volume= 1,464 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.20' @ 12.11 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**12.0" Round Culvert** L= 79.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.00' / 67.60' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=68.64' TW=68.77' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB2: Catch Basin 2



Summary for Pond CB3: Catch Basin 3

[80] Warning: Exceeded Pond C7 by 1.21' @ 12.06 hrs (0.3 cfs 101 cf)
[80] Warning: Exceeded Pond CB1 by 0.11' @ 12.11 hrs (0.9 cfs 31 cf)

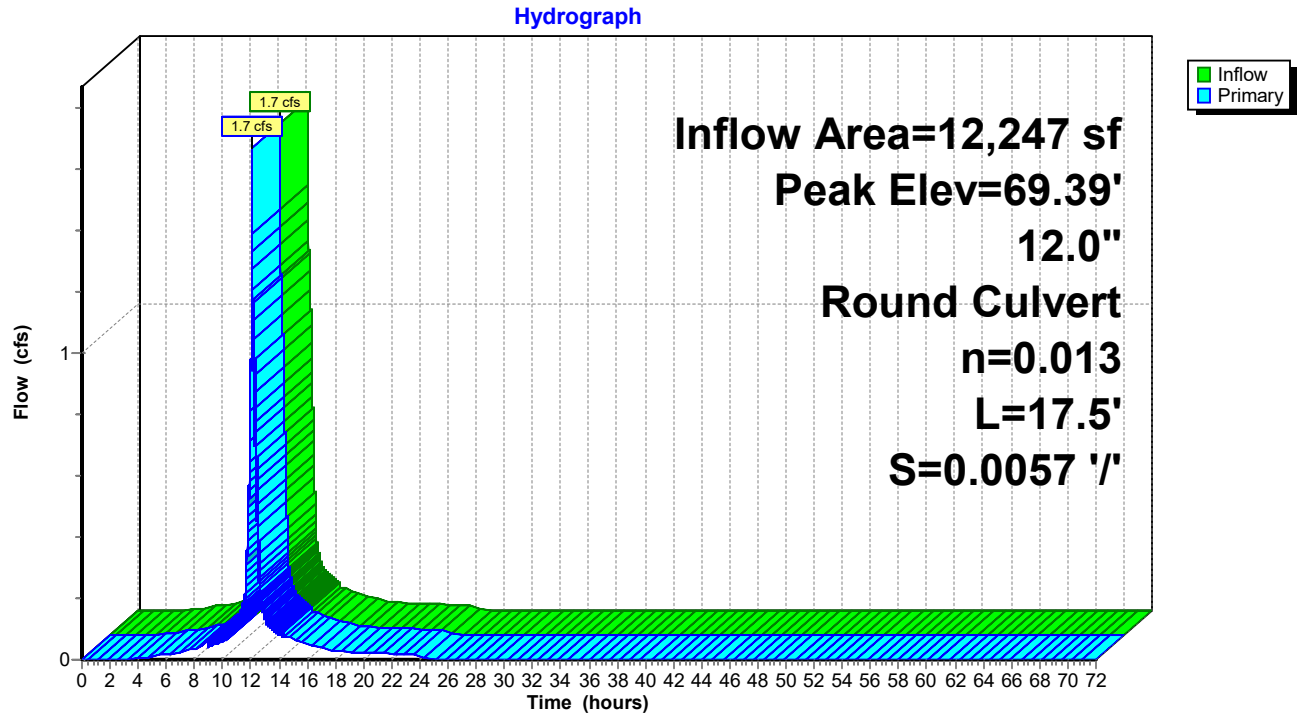
Inflow Area =	12,247 sf,	83.76% Impervious,	Inflow Depth =	5.59"	for 25-Year event
Inflow =	1.7 cfs @	12.07 hrs,	Volume=	5,701 cf	
Outflow =	1.7 cfs @	12.07 hrs,	Volume=	5,701 cf,	Atten= 0%, Lag= 0.0 min
Primary =	1.7 cfs @	12.07 hrs,	Volume=	5,701 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.39' @ 12.11 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.30'	**12.0" Round Culvert** L= 17.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.30' / 66.20' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.07 hrs HW=68.18' TW=68.46' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.0 cfs)

Pond CB3: Catch Basin 3



Summary for Pond CB4: Catch Basin 4

[80] Warning: Exceeded Pond CB2 by 0.24' @ 12.10 hrs (1.5 cfs 112 cf)
[80] Warning: Exceeded Pond CB3 by 0.29' @ 12.07 hrs (1.6 cfs 179 cf)

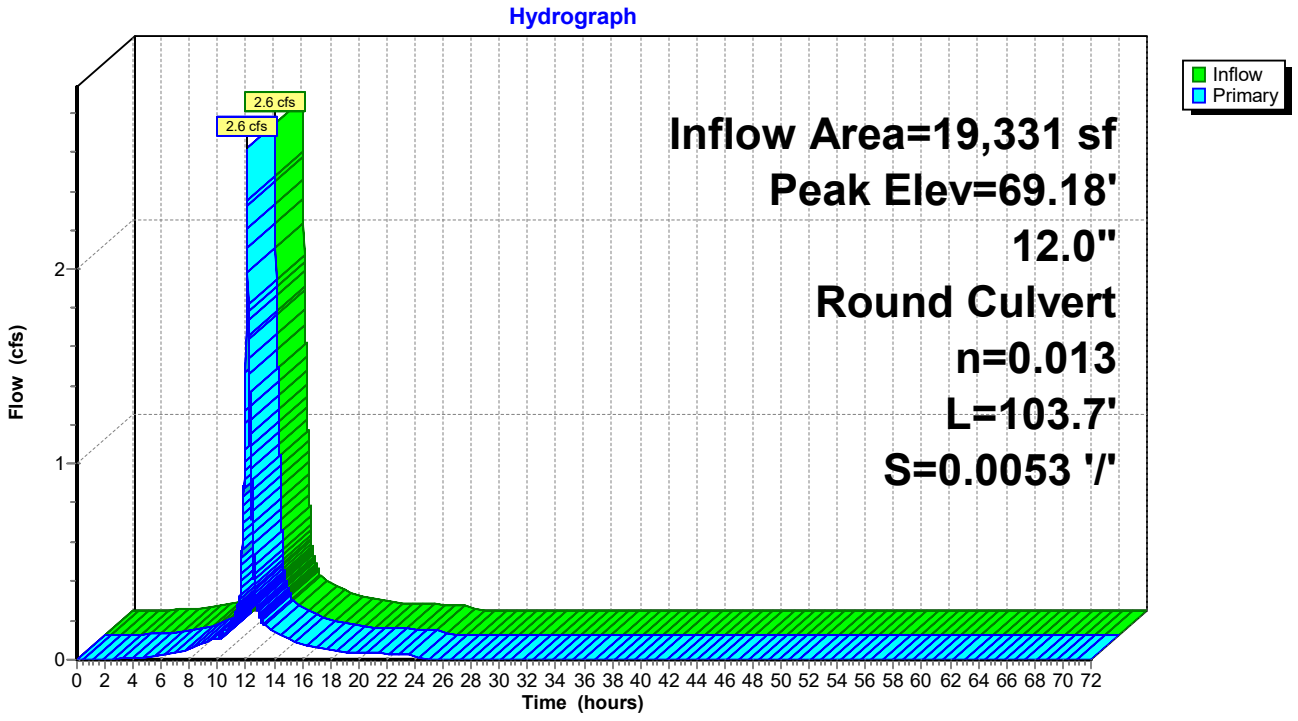
Inflow Area =	19,331 sf,	80.08% Impervious,	Inflow Depth =	5.55"	for 25-Year event
Inflow =	2.6 cfs @	12.07 hrs,	Volume=	8,945 cf	
Outflow =	2.6 cfs @	12.07 hrs,	Volume=	8,945 cf,	Atten= 0%, Lag= 0.0 min
Primary =	2.6 cfs @	12.07 hrs,	Volume=	8,945 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.18' @ 12.10 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.10'	**12.0" Round Culvert** L= 103.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.10' / 65.55' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.9 cfs @ 12.07 hrs HW=68.47' TW=67.99' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.9 cfs @ 2.43 fps)

Pond CB4: Catch Basin 4



Summary for Pond CB5: Catch Basin 5

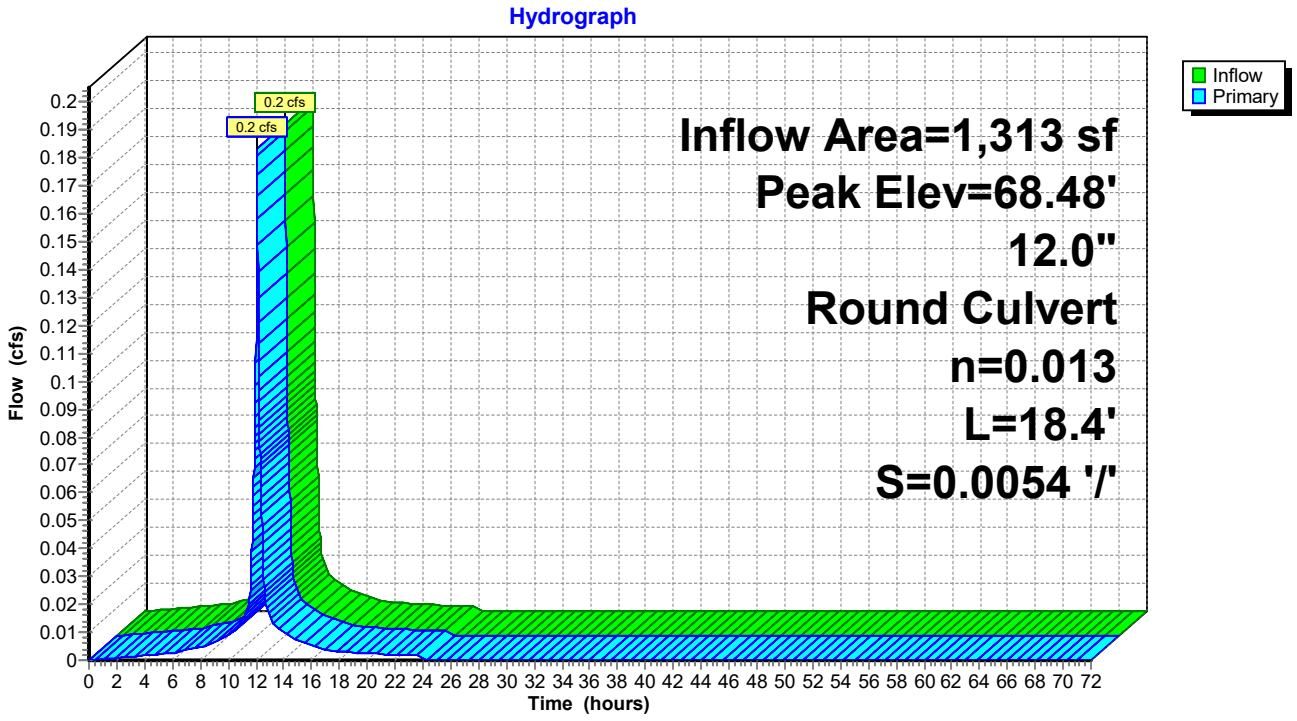
Inflow Area = 1,313 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 652 cf
Outflow = 0.2 cfs @ 12.08 hrs, Volume= 652 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.08 hrs, Volume= 652 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.48' @ 12.10 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	**12.0" Round Culvert** L= 18.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.00' / 65.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=68.05' TW=68.28' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB5: Catch Basin 5



Summary for Pond CB6: Catch Basin 6

[80] Warning: Exceeded Pond CB5 by 0.41' @ 12.07 hrs (1.9 cfs 430 cf)

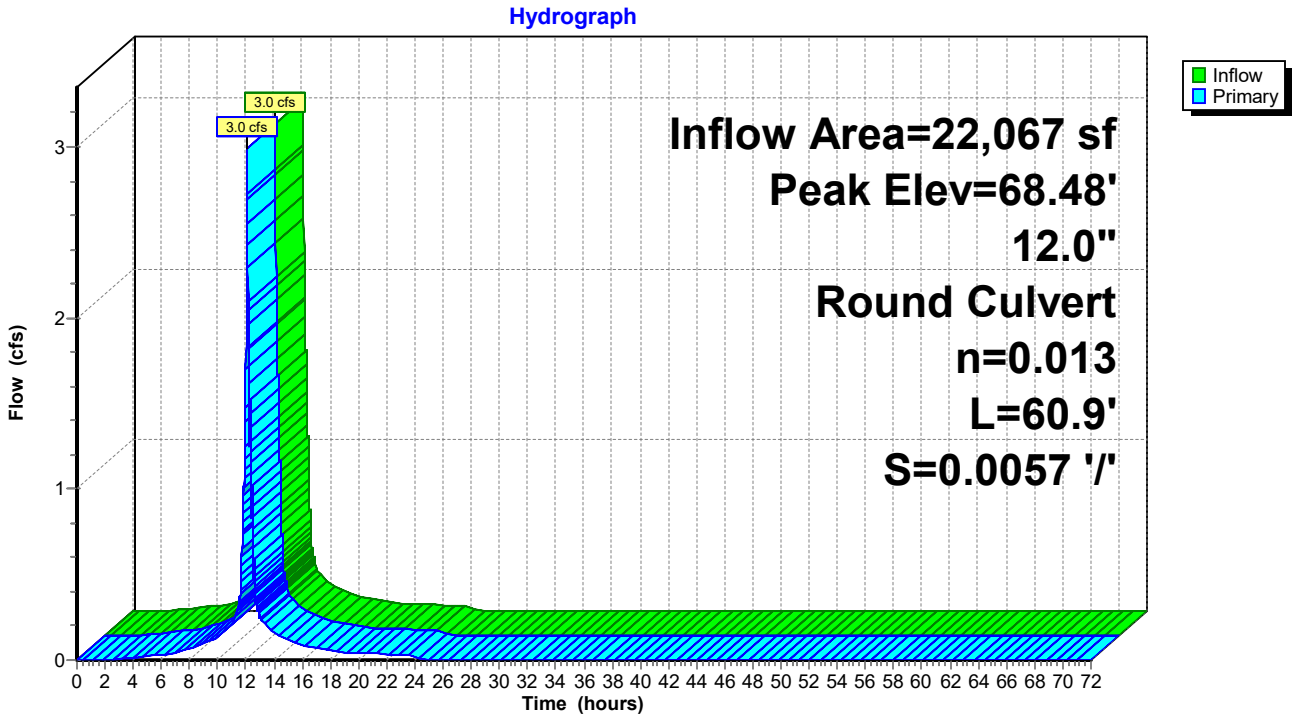
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 5.60" for 25-Year event
Inflow = 3.0 cfs @ 12.07 hrs, Volume= 10,304 cf
Outflow = 3.0 cfs @ 12.07 hrs, Volume= 10,304 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.0 cfs @ 12.07 hrs, Volume= 10,304 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.48' @ 12.09 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.45'	**12.0" Round Culvert** L= 60.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.45' / 65.10' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.07 hrs HW=68.00' TW=67.39' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.3 cfs @ 2.97 fps)

Pond CB6: Catch Basin 6



Summary for Pond CB7: Catch Basin 7

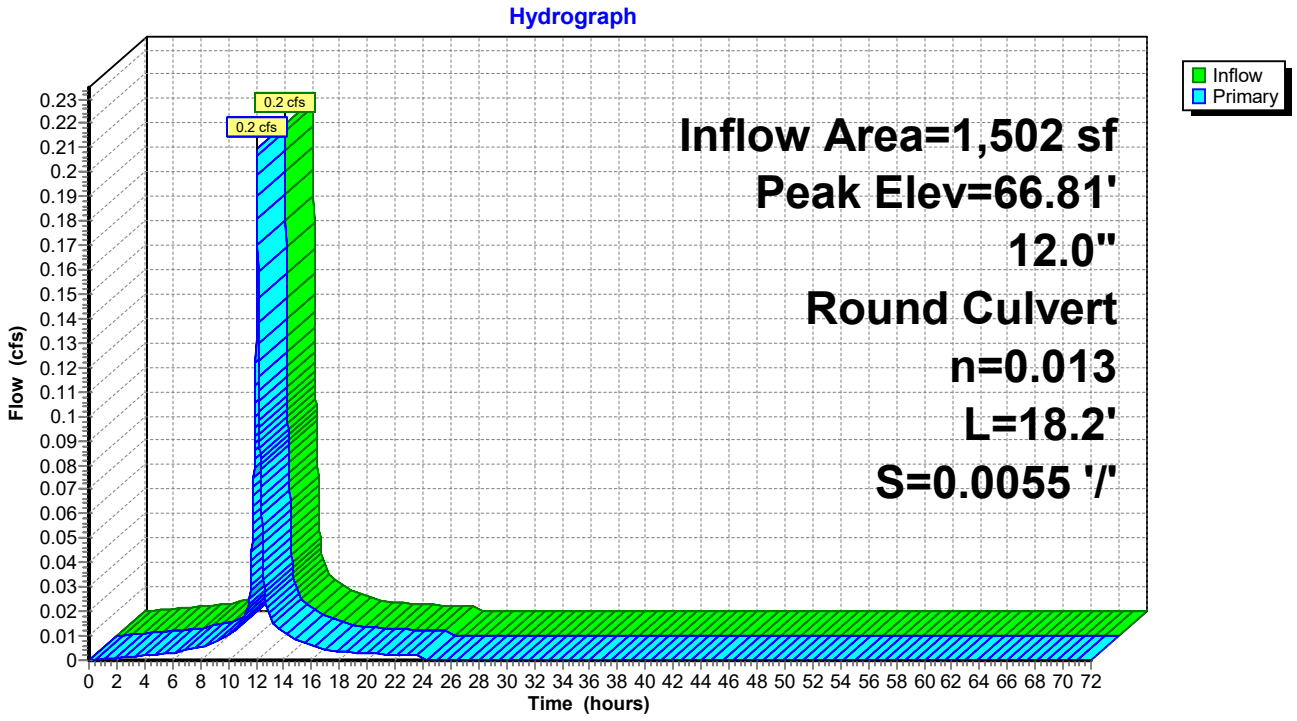
Inflow Area = 1,502 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 746 cf
Outflow = 0.2 cfs @ 12.08 hrs, Volume= 746 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.08 hrs, Volume= 746 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.81' @ 12.08 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.85'	**12.0" Round Culvert** L= 18.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.85' / 64.75' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.3 cfs @ 12.08 hrs HW=66.71' TW=66.52' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.3 cfs @ 1.69 fps)

Pond CB7: Catch Basin 7



Summary for Pond CB8: Catch Basin 8

[80] Warning: Exceeded Pond CB7 by 0.44' @ 12.07 hrs (2.0 cfs 724 cf)

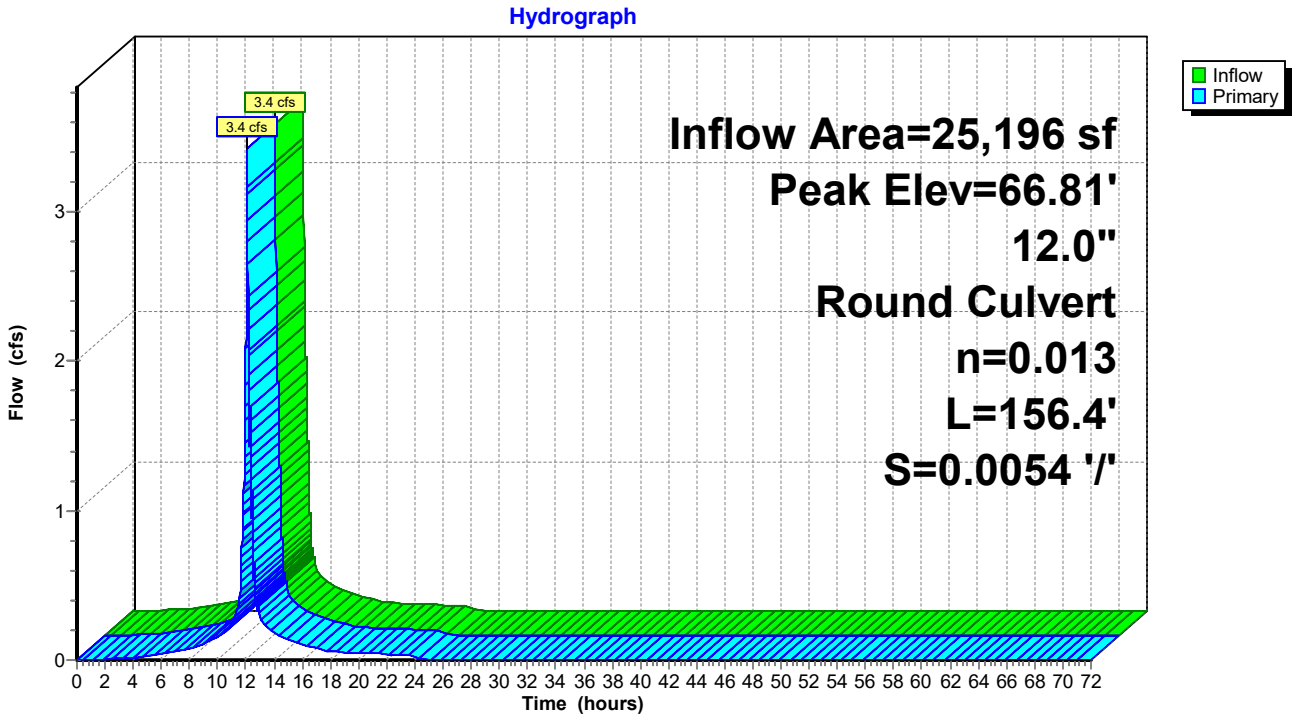
Inflow Area = 25,196 sf, 84.72% Impervious, Inflow Depth = 5.65" for 25-Year event
Inflow = 3.4 cfs @ 12.07 hrs, Volume= 11,859 cf
Outflow = 3.4 cfs @ 12.07 hrs, Volume= 11,859 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.4 cfs @ 12.07 hrs, Volume= 11,859 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 66.81' @ 12.07 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.65'	**12.0" Round Culvert** L= 156.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.65' / 63.80' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.4 cfs @ 12.07 hrs HW=66.77' TW=61.54' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 3.4 cfs @ 4.32 fps)

Pond CB8: Catch Basin 8



Summary for Pond CB9: Catch Basin 9

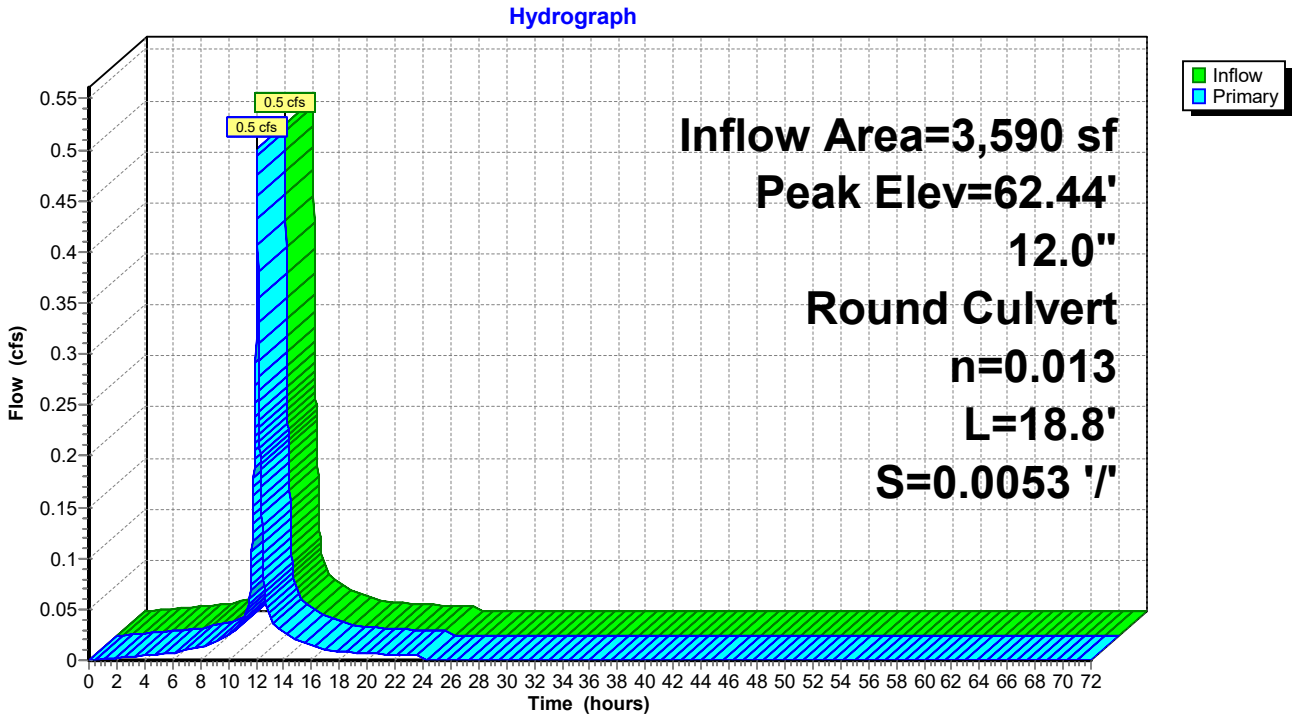
Inflow Area = 3,590 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.5 cfs @ 12.08 hrs, Volume= 1,784 cf
Outflow = 0.5 cfs @ 12.08 hrs, Volume= 1,784 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.08 hrs, Volume= 1,784 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.44' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	**12.0" Round Culvert** L= 18.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.90' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.08 hrs HW=62.44' TW=61.60' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.5 cfs @ 2.21 fps)

Pond CB9: Catch Basin 9



Summary for Pond CH1: Chamber 1

Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf
Outflow = 2.4 cfs @ 12.10 hrs, Volume= 8,753 cf, Atten= 1%, Lag= 0.8 min
Primary = 2.4 cfs @ 12.10 hrs, Volume= 8,753 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.59' @ 12.10 hrs Surf.Area= 1,773 sf Storage= 961 cf
Flood Elev= 50.50' Surf.Area= 1,773 sf Storage= 1,194 cf

Plug-Flow detention time= 9.7 min calculated for 8,751 cf (100% of inflow)
Center-of-Mass det. time= 9.7 min (754.4 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.90'	656 cf	**12.00'W x 74.40'L x 2.33'H Field A** 2,083 cf Overall - 442 cf Embedded = 1,641 cf x 40.0% Voids
#2A	47.40'	442 cf	**ADS_StormTech SC-310 +Cap** x 30 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 3 Rows
#3	44.73'	95 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,910 cf Overall x 5.0% Voids
		1,194 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.73	880	0	0
46.90	880	1,910	1,910

Device	Routing	Invert	Outlet Devices
#1	Primary	44.73'	**12.0" Round Culvert** L= 60.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.73' / 44.60' S= 0.0021 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	44.73'	**2.9" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	48.30'	**4.0' long x 4.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.4 cfs @ 12.10 hrs HW=48.59' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.4 cfs of 5.5 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.4 cfs @ 9.31 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Weir Controls 2.0 cfs @ 1.76 fps)

Pond CH1: Chamber 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 9.0" Spacing = 43.0" C-C Row Spacing

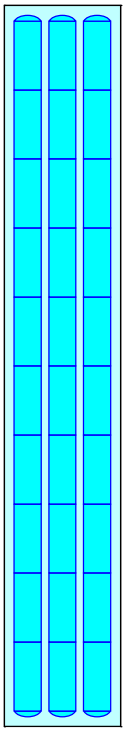
10 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 72.40' Row Length +12.0" End Stone x 2 = 74.40' Base Length
3 Rows x 34.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 12.00' Base Width
6.0" Stone Base + 16.0" Chamber Height + 6.0" Stone Cover = 2.33' Field Height

30 Chambers x 14.7 cf = 442.3 cf Chamber Storage

2,083.2 cf Field - 442.3 cf Chambers = 1,640.9 cf Stone x 40.0% Voids = 656.4 cf Stone Storage

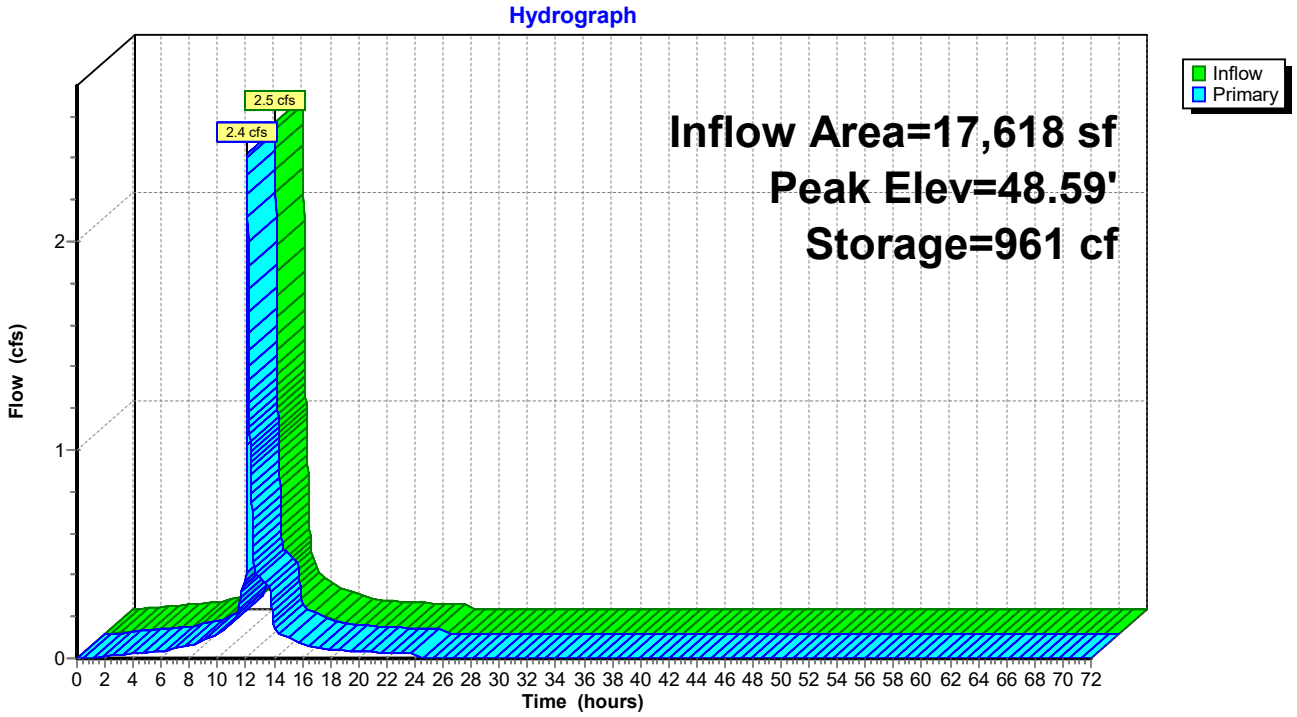
Chamber Storage + Stone Storage = 1,098.6 cf = 0.025 af
Overall Storage Efficiency = 52.7%
Overall System Size = 74.40' x 12.00' x 2.33'

30 Chambers
77.2 cy Field
60.8 cy Stone





Pond CH1: Chamber 1



Summary for Pond MH1: Manhole 1

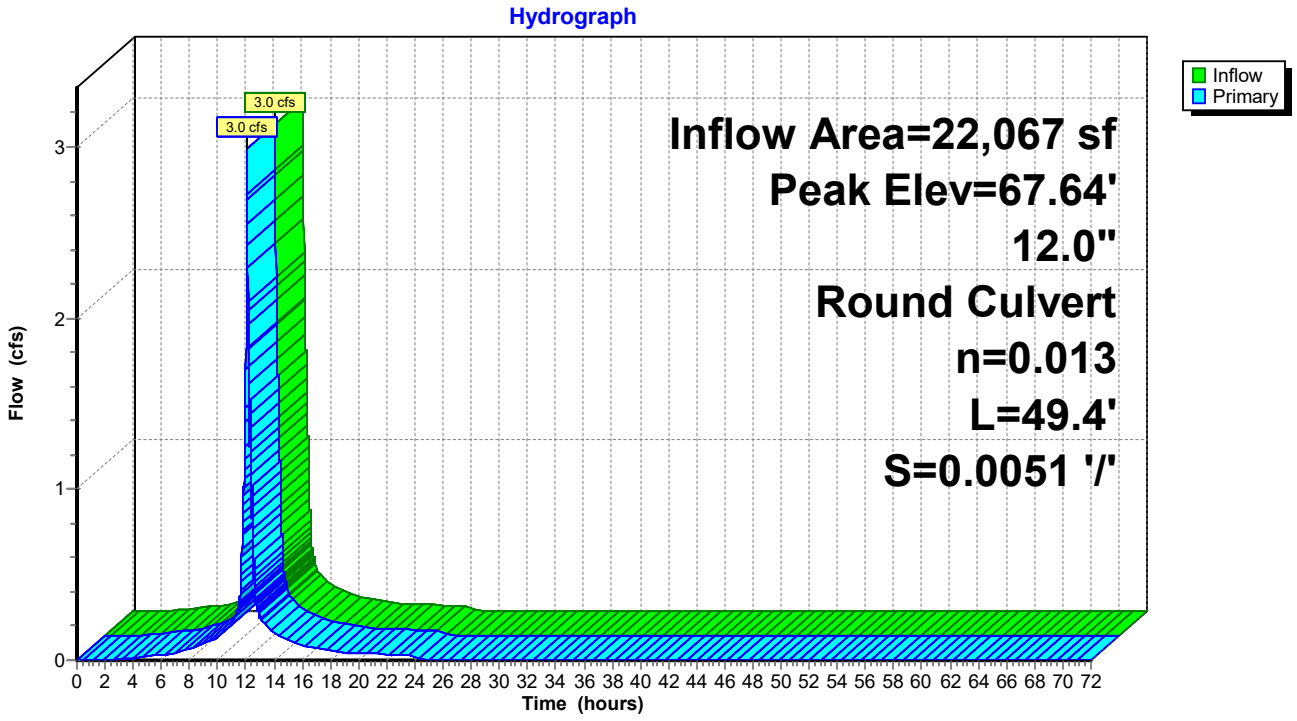
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 5.60" for 25-Year event
Inflow = 3.0 cfs @ 12.07 hrs, Volume= 10,304 cf
Outflow = 3.0 cfs @ 12.07 hrs, Volume= 10,304 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.0 cfs @ 12.07 hrs, Volume= 10,304 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.64' @ 12.08 hrs
Flood Elev= 68.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 49.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.00' / 64.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.07 hrs HW=67.39' TW=66.78' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.3 cfs @ 2.97 fps)

Pond MH1: Manhole 1



Summary for Pond MH2: Manhole 2

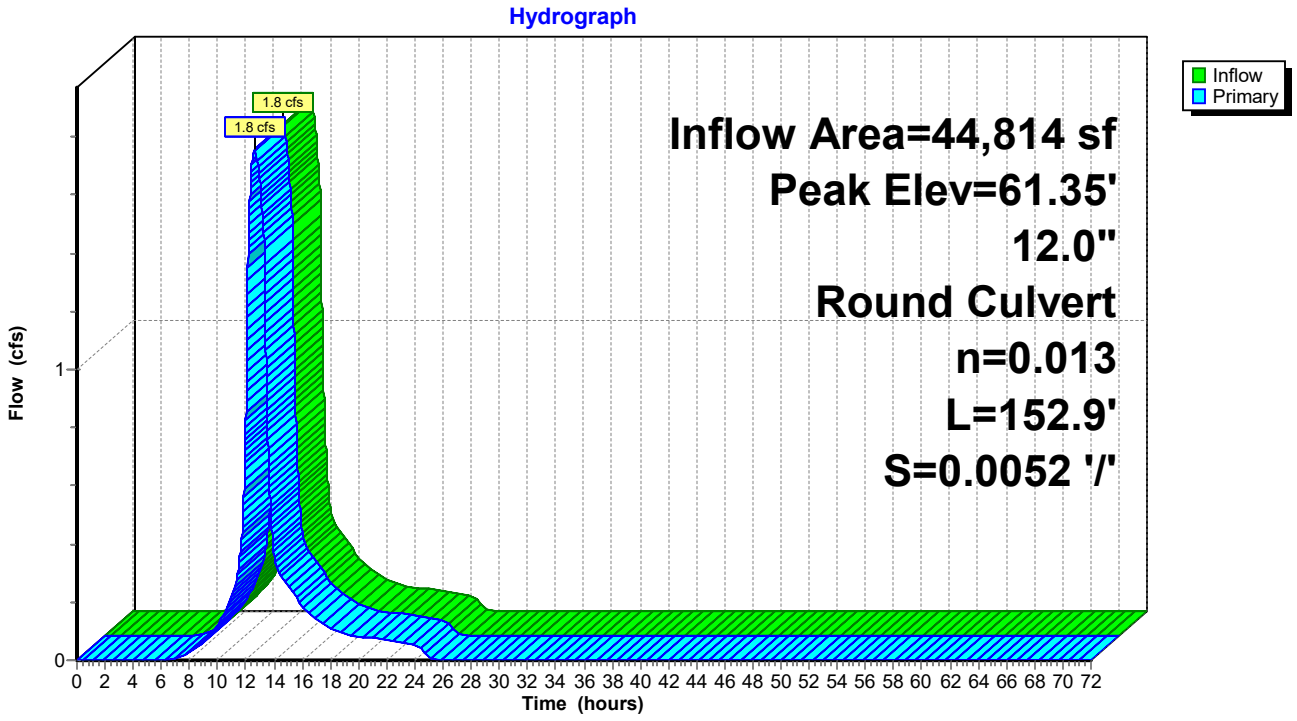
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 4.38" for 25-Year event
Inflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf
Outflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.35' @ 12.62 hrs
Flood Elev= 65.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.45'	**12.0" Round Culvert** L= 152.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.45' / 59.65' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.8 cfs @ 12.62 hrs HW=61.35' TW=60.46' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.8 cfs @ 3.13 fps)

Pond MH2: Manhole 2



Summary for Pond MH3: Manhole 3

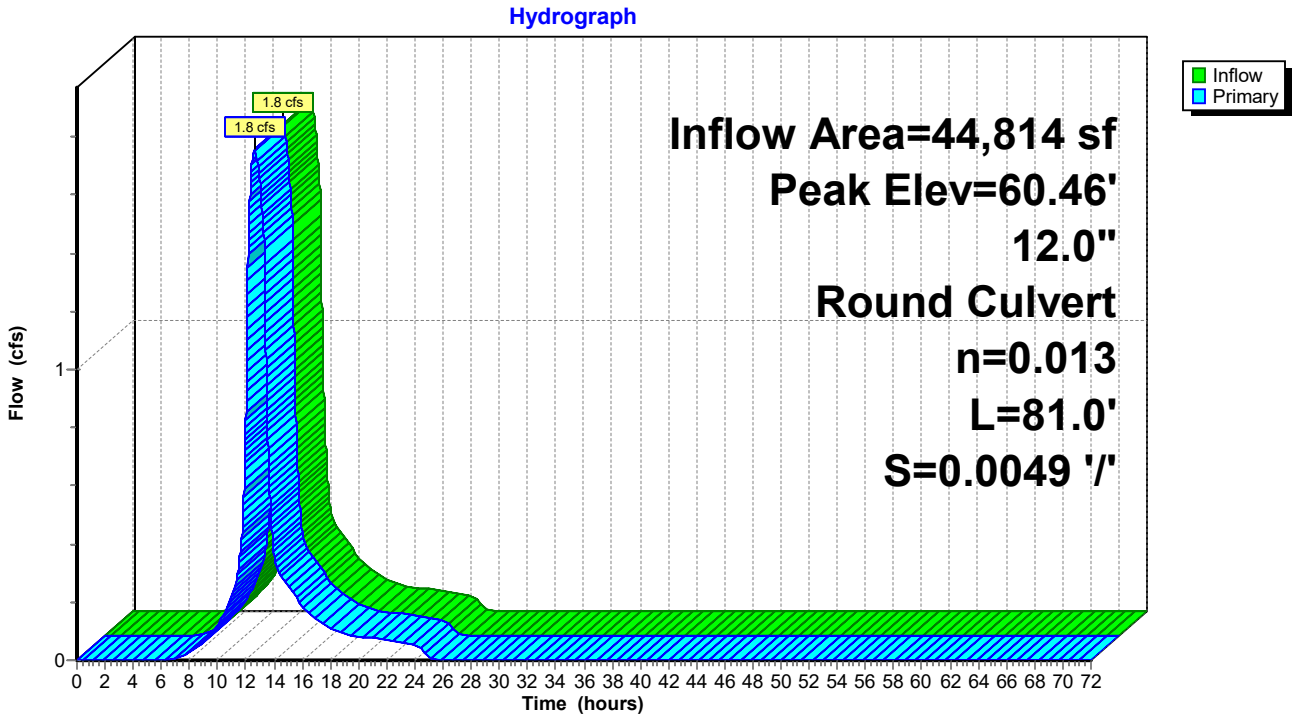
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 4.38" for 25-Year event
Inflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf
Outflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 60.46' @ 12.62 hrs
Flood Elev= 67.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.55'	**12.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.55' / 59.15' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.8 cfs @ 12.62 hrs HW=60.46' TW=59.89' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.8 cfs @ 3.06 fps)

Pond MH3: Manhole 3



Summary for Pond MH4: Manhole 4

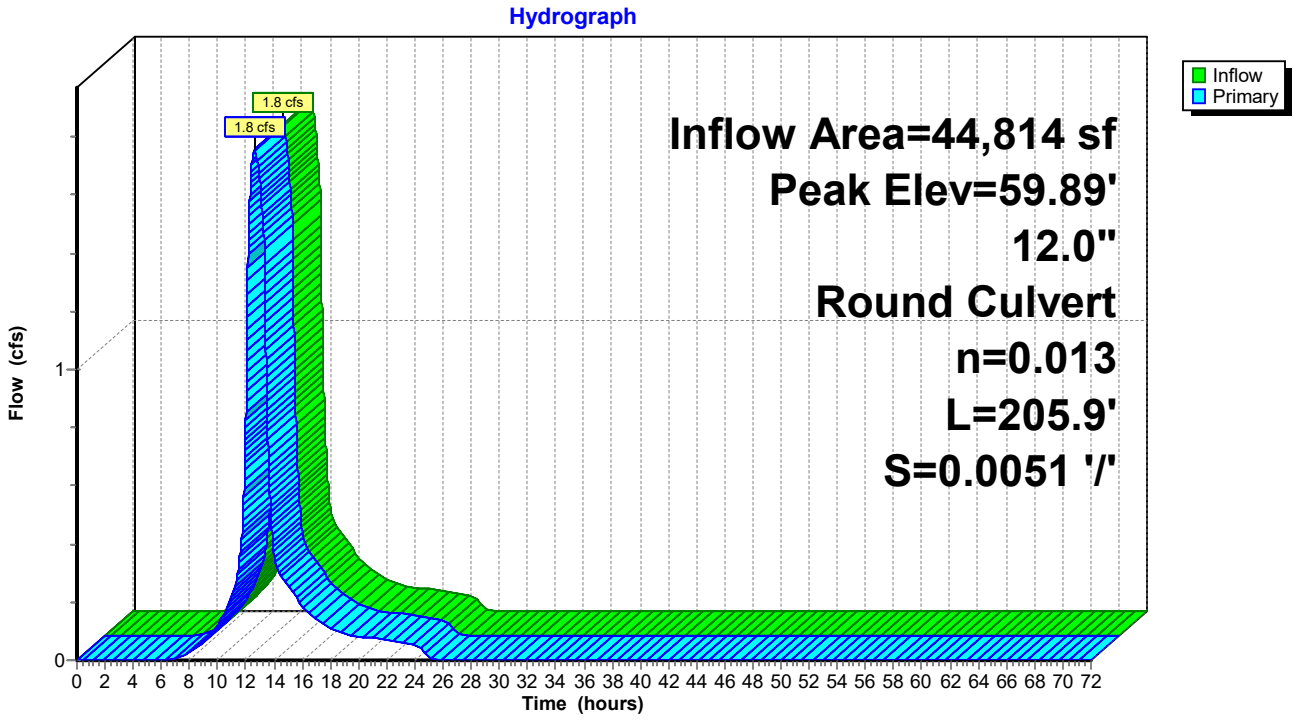
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 4.38" for 25-Year event
Inflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf
Outflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 59.89' @ 12.62 hrs
Flood Elev= 66.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.05'	**12.0" Round Culvert** L= 205.9' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 59.05' / 58.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.8 cfs @ 12.62 hrs HW=59.89' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.8 cfs @ 3.37 fps)

Pond MH4: Manhole 4



Summary for Pond MH5: Manhole 5

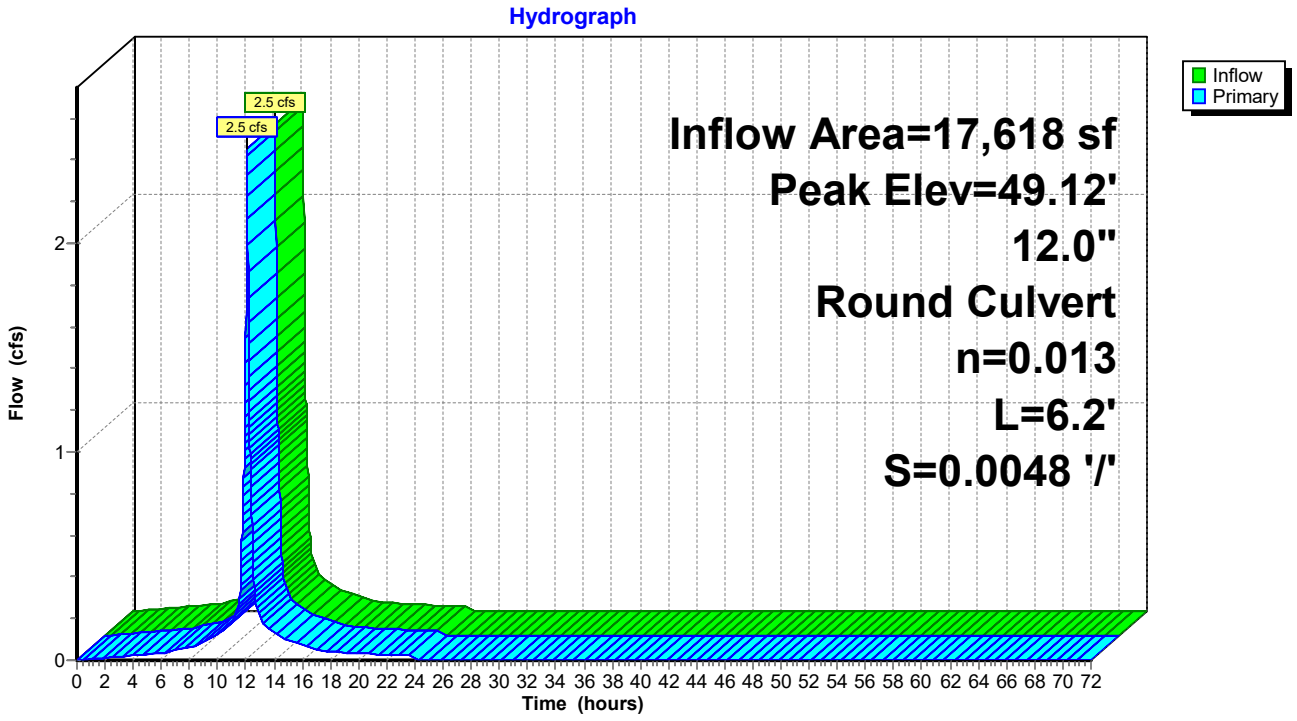
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf
Outflow = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.5 cfs @ 12.08 hrs, Volume= 8,753 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.12' @ 12.09 hrs
Flood Elev= 50.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.43'	**12.0" Round Culvert** L= 6.2' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.43' / 47.40' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.4 cfs @ 12.08 hrs HW=49.11' TW=48.58' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.4 cfs @ 3.09 fps)

Pond MH5: Manhole 5



Summary for Pond P1: Pond 1

[80] Warning: Exceeded Pond C8 by 1.90' @ 25.27 hrs (3.5 cfs 29,820 cf)

Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 1.72" for 25-Year event
Inflow = 3.7 cfs @ 12.63 hrs, Volume= 25,816 cf
Outflow = 2.3 cfs @ 13.05 hrs, Volume= 24,926 cf, Atten= 38%, Lag= 25.2 min
Primary = 2.3 cfs @ 13.05 hrs, Volume= 24,926 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 53.59' @ 13.05 hrs Surf.Area= 2,895 sf Storage= 7,879 cf
Flood Elev= 55.50' Surf.Area= 3,752 sf Storage= 14,183 cf

Plug-Flow detention time= 481.6 min calculated for 24,922 cf (97% of inflow)
Center-of-Mass det. time= 463.3 min (1,367.6 - 904.3)

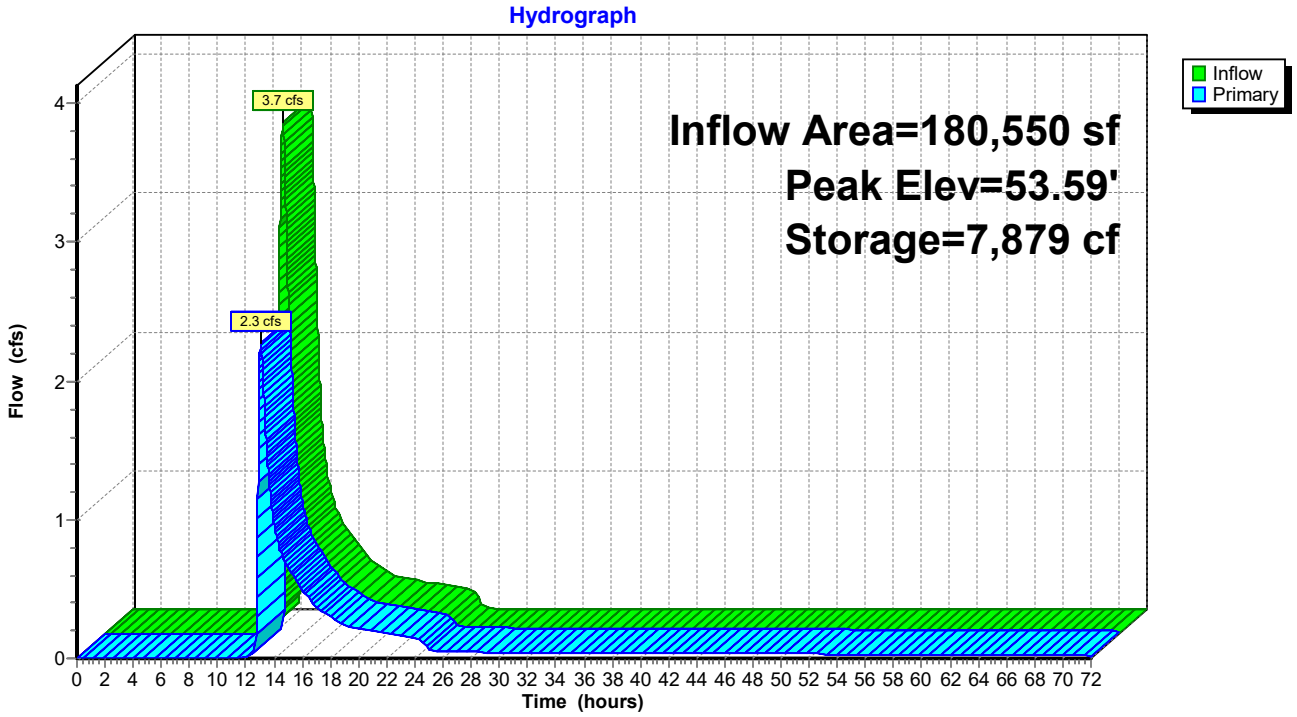
Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	16,121 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,503	0	0
51.00	1,882	1,693	1,693
52.00	2,267	2,075	3,767
53.00	2,662	2,465	6,232
54.00	3,055	2,859	9,090
55.00	3,503	3,279	12,369
56.00	4,000	3,752	16,121

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**12.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.00' / 46.40' S= 0.0180 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	50.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	53.10'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.3 cfs @ 13.05 hrs HW=53.59' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Passes 2.3 cfs of 5.3 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.0 cfs @ 9.07 fps)
3=Orifice/Grate (Orifice Controls 2.2 cfs @ 2.25 fps)

Pond P1: Pond 1



Summary for Pond RD1: Roof Drain 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=757)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 603 cf, Atten= 14%, Lag= 2.7 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 603 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.67' @ 12.13 hrs Surf.Area= 241 sf Storage= 54 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 43.5 min calculated for 603 cf (97% of inflow)
Center-of-Mass det. time= 25.5 min (770.2 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

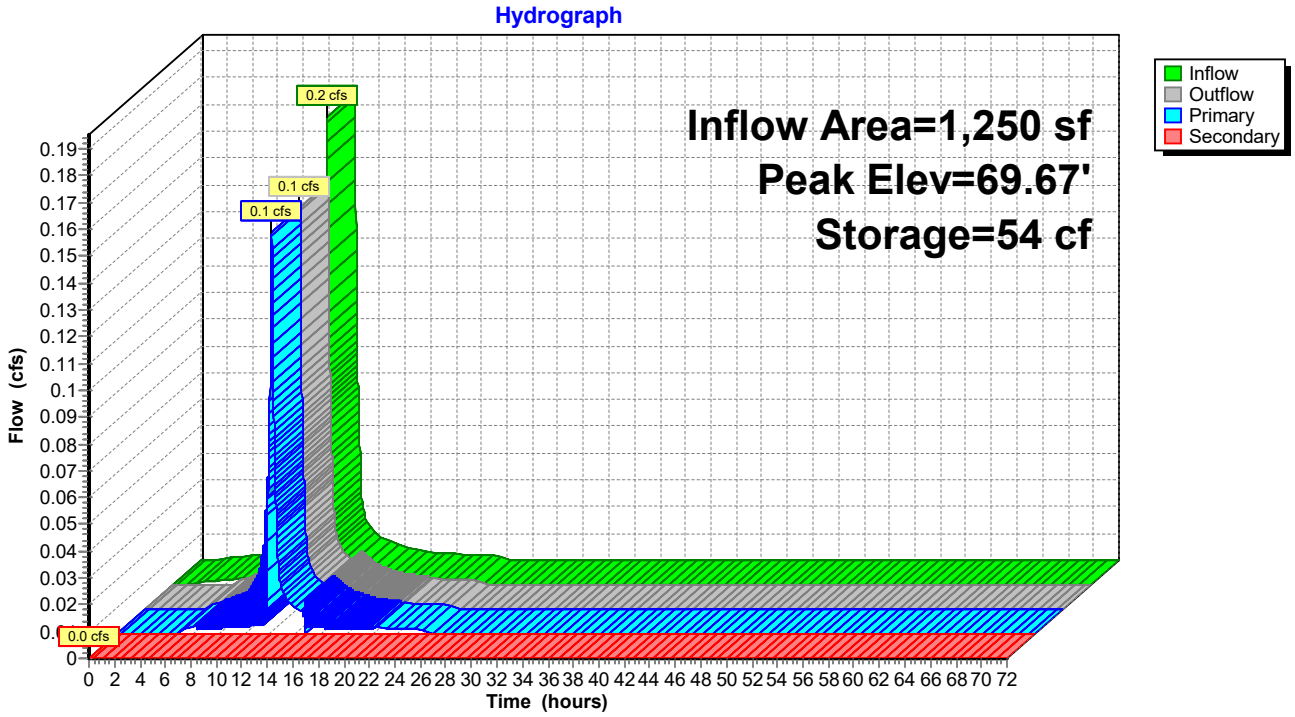
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.67' TW=69.54' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.1 cfs @ 1.71 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD1: Roof Drain 1



Summary for Pond RD2: Roof Drain 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=842)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.1 cfs @ 12.13 hrs, Volume= 603 cf, Atten= 17%, Lag= 3.0 min
Primary = 0.1 cfs @ 12.13 hrs, Volume= 603 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.84' @ 12.14 hrs Surf.Area= 249 sf Storage= 61 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 46.9 min calculated for 603 cf (97% of inflow)
Center-of-Mass det. time= 28.7 min (773.4 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

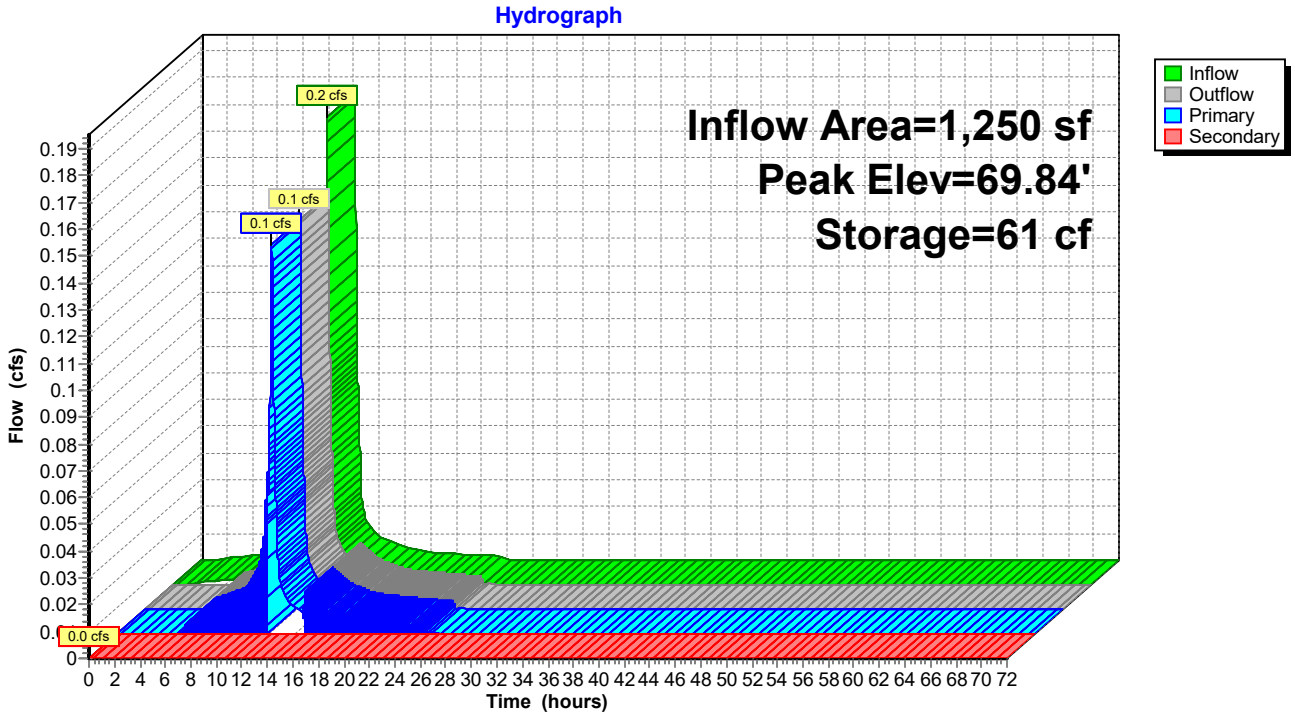
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.13 hrs HW=69.84' TW=69.72' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 0.1 cfs @ 1.66 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD2: Roof Drain 2



Summary for Pond RD3: Roof Drain 3

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.2 cfs @ 12.12 hrs, Volume= 604 cf, Atten= 12%, Lag= 2.2 min
Primary = 0.2 cfs @ 12.12 hrs, Volume= 604 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.05' @ 12.13 hrs Surf.Area= 232 sf Storage= 47 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 41.8 min calculated for 604 cf (97% of inflow)
Center-of-Mass det. time= 24.3 min (768.9 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

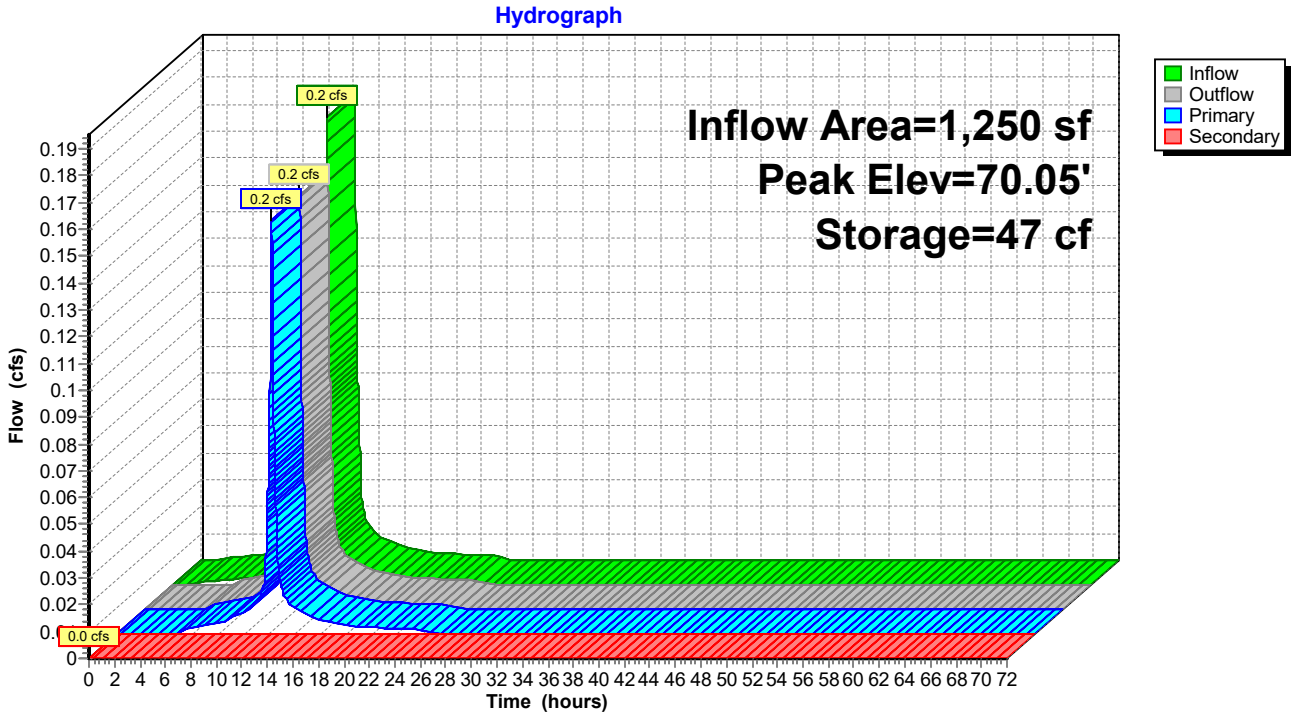
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=70.05' TW=69.91' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.2 cfs @ 1.76 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD3: Roof Drain 3



Summary for Pond RD4: Roof Drain 4

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.2 cfs @ 12.12 hrs, Volume= 604 cf, Atten= 11%, Lag= 2.1 min
Primary = 0.2 cfs @ 12.12 hrs, Volume= 604 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.05' @ 12.13 hrs Surf.Area= 231 sf Storage= 47 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 41.8 min calculated for 604 cf (97% of inflow)
Center-of-Mass det. time= 24.3 min (768.9 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

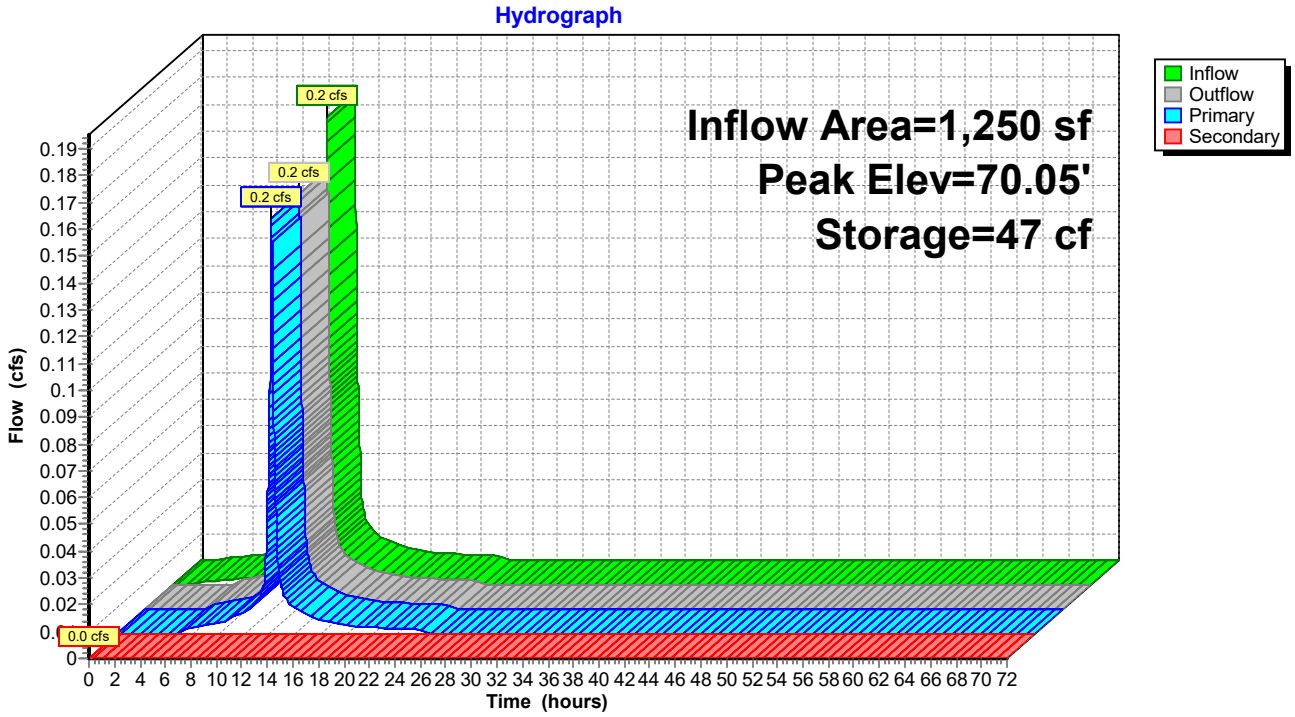
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.12 hrs HW=70.05' TW=69.91' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.2 cfs @ 1.76 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD4: Roof Drain 4



Summary for Pond RD5: Roof Drain 5

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=274)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.2 cfs @ 12.16 hrs, Volume= 603 cf, Atten= 10%, Lag= 4.8 min
Primary = 0.2 cfs @ 12.16 hrs, Volume= 603 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.83' @ 12.15 hrs Surf.Area= 248 sf Storage= 59 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 45.1 min calculated for 603 cf (97% of inflow)
Center-of-Mass det. time= 27.2 min (771.9 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

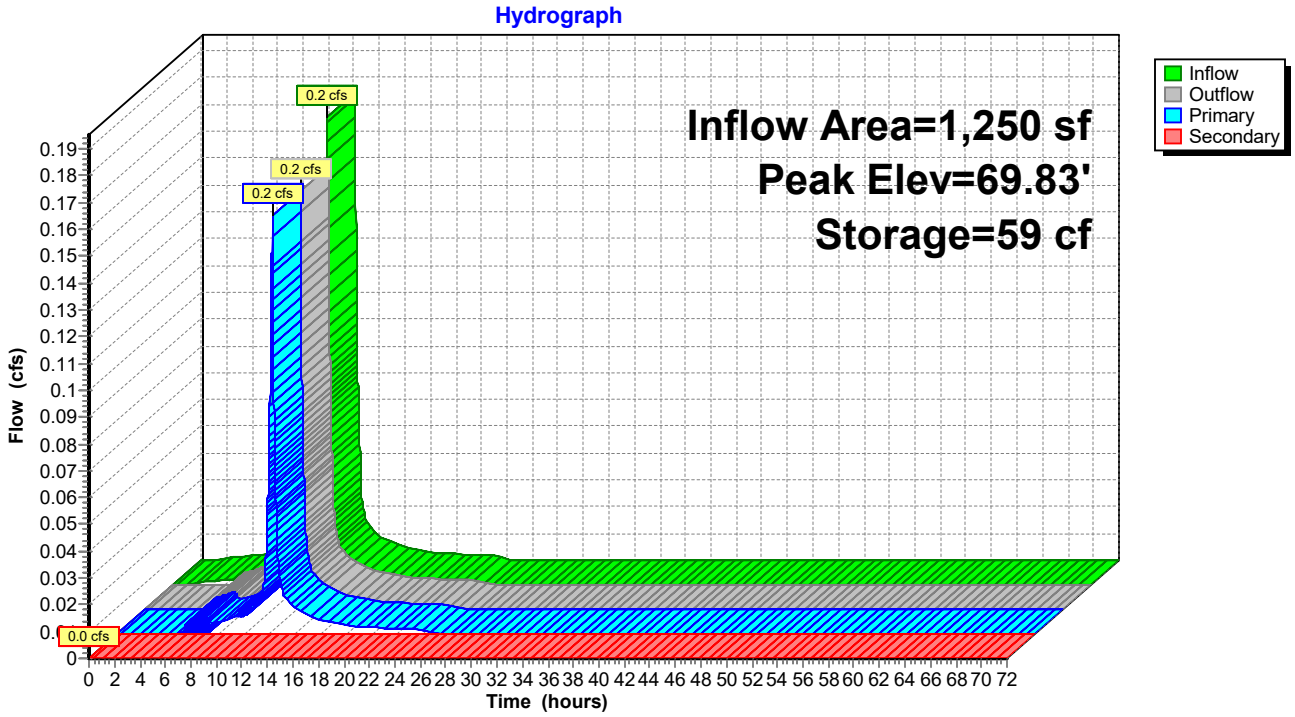
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.1 cfs @ 12.16 hrs HW=69.82' TW=69.69' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.1 cfs @ 1.72 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD5: Roof Drain 5



Summary for Pond RD6: Roof Drain 6

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=398)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.2 cfs @ 12.16 hrs, Volume= 605 cf, Atten= 4%, Lag= 4.9 min
Primary = 0.2 cfs @ 12.16 hrs, Volume= 605 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.71' @ 12.16 hrs Surf.Area= 245 sf Storage= 57 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 42.0 min calculated for 605 cf (97% of inflow)
Center-of-Mass det. time= 25.2 min (769.8 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

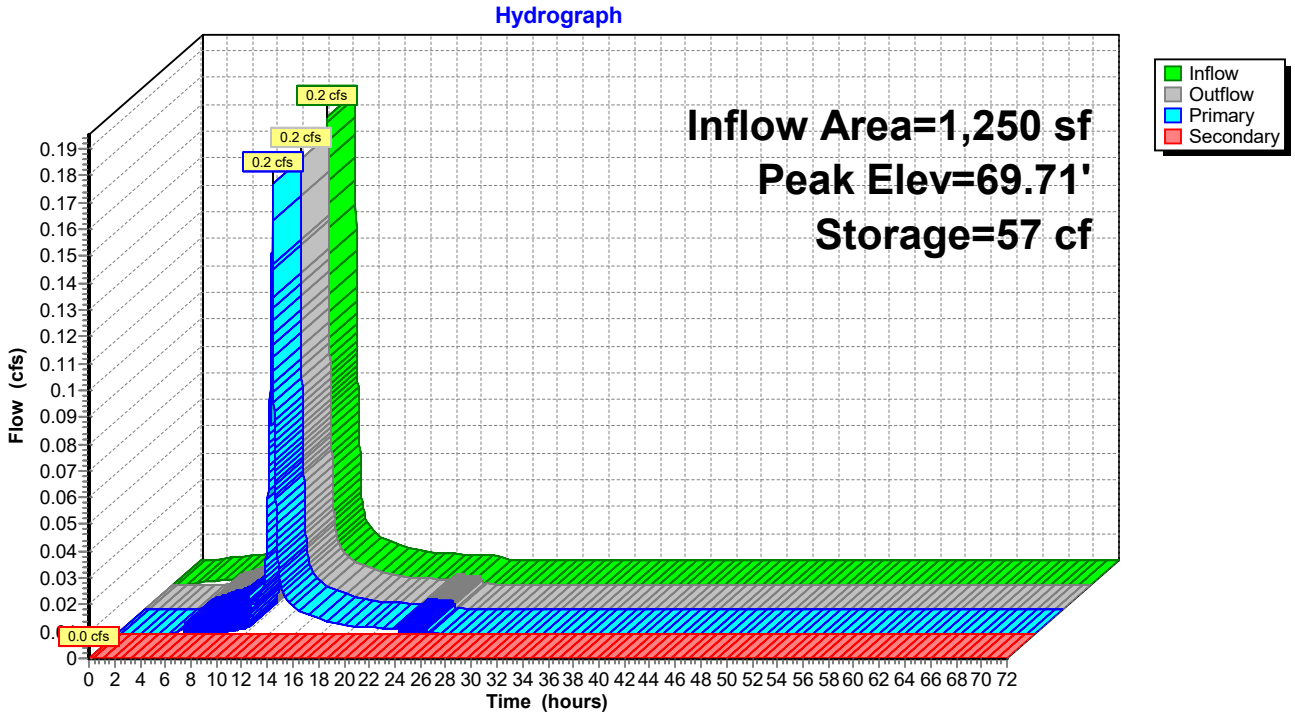
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.16 hrs HW=69.70' TW=69.56' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 0.2 cfs @ 1.78 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD6: Roof Drain 6



Summary for Pond RD7: Roof Drain 7

[92] Warning: Device #2 is above defined storage
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=948)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 5.96" for 25-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 621 cf
Outflow = 0.3 cfs @ 12.23 hrs, Volume= 603 cf, Atten= 0%, Lag= 8.8 min
Primary = 0.3 cfs @ 12.23 hrs, Volume= 603 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.00' @ 12.19 hrs Surf.Area= 281 sf Storage= 137 cf
Flood Elev= 69.30' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 48.1 min calculated for 603 cf (97% of inflow)
Center-of-Mass det. time= 29.9 min (774.6 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	66.29'	271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

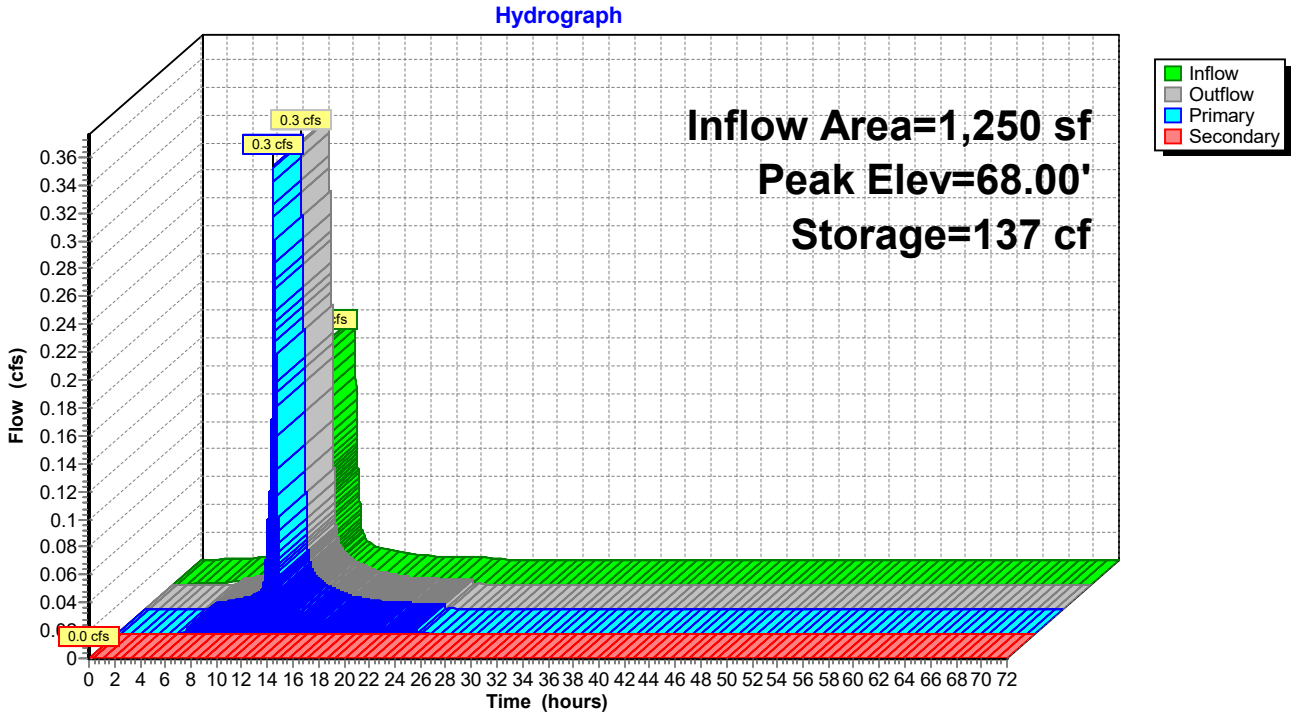
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.29	156	0.0	0	0
66.30	156	40.0	1	1
67.29	281	40.0	87	87
67.30	281	25.0	1	88
68.29	281	25.0	70	157
68.30	281	40.0	1	159
69.30	281	40.0	112	271

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	69.30'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.23 hrs HW=67.85' TW=68.42' (Dynamic Tailwater)
└**1=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=66.29' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD7: Roof Drain 7



Summary for Pond SF1: Soil Filter 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 4.38" for 25-Year event
Inflow = 3.5 cfs @ 12.28 hrs, Volume= 16,372 cf
Outflow = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf, Atten= 50%, Lag= 20.4 min
Primary = 1.8 cfs @ 12.62 hrs, Volume= 16,366 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 64.79' @ 12.62 hrs Surf.Area= 3,088 sf Storage= 2,965 cf
Flood Elev= 66.25' Surf.Area= 3,716 sf Storage= 5,562 cf

Plug-Flow detention time= 17.3 min calculated for 16,364 cf (100% of inflow)
Center-of-Mass det. time= 17.3 min (834.9 - 817.7)

Volume	Invert	Avail.Storage	Storage Description
#1	60.99'	981 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	63.50'	4,581 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		5,562 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.99	1,250	0.0	0	0
61.00	1,250	40.0	5	5
61.99	1,250	40.0	495	500
62.00	1,250	25.0	3	503
63.49	1,250	25.0	466	969
63.50	1,250	100.0	12	981

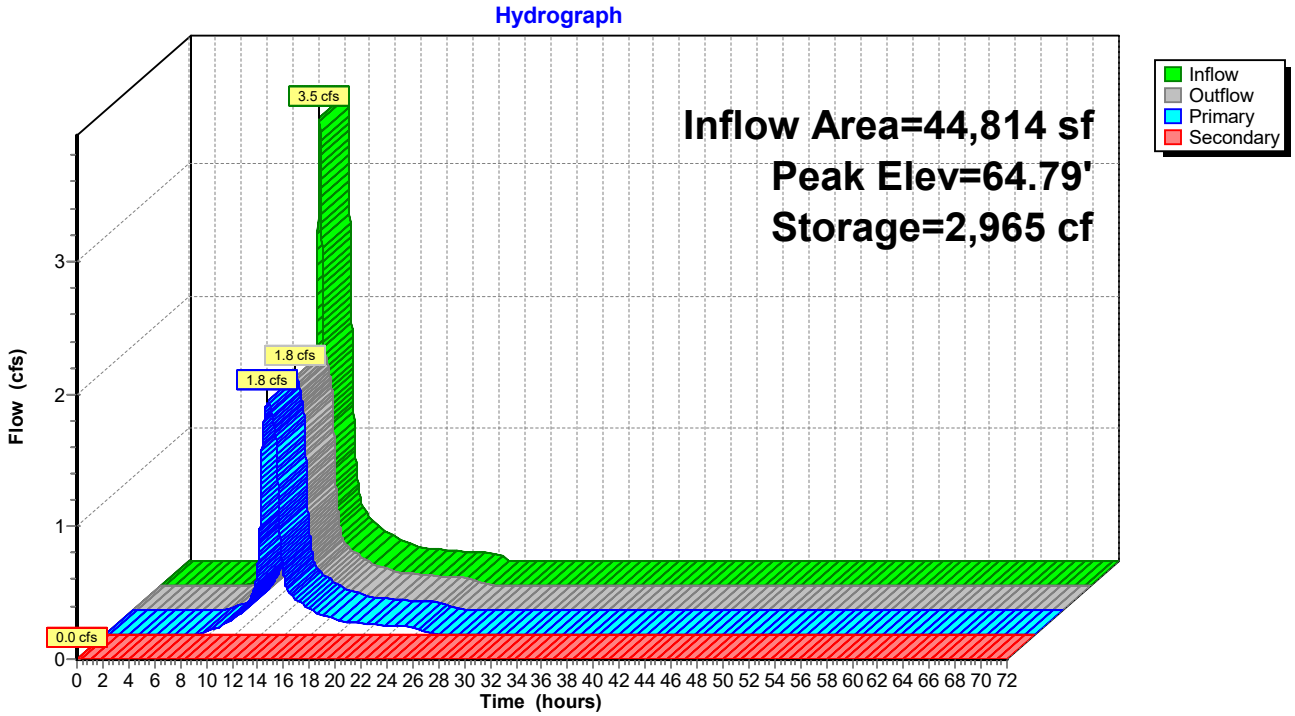
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.50	1,250	0	0
64.00	1,464	679	679
65.00	1,937	1,701	2,379
66.00	2,466	2,202	4,581

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**8.0" Round Culvert** L= 81.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 60.55' S= 0.0055 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.00'	**6.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.80'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	65.75'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.8 cfs @ 12.62 hrs HW=64.79' TW=61.35' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.8 cfs of 2.2 cfs potential flow)
  └─**2=Underdrain** (Orifice Controls 1.8 cfs @ 8.94 fps)
  └─**3=Orifice/Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=60.99' TW=51.20' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF1: Soil Filter 1



Summary for Pond SF2: Soil Filter 2

[95] Warning: Outlet Device #3 rise exceeded

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 4.47" for 25-Year event
Inflow = 9.6 cfs @ 12.23 hrs, Volume= 46,545 cf
Outflow = 2.7 cfs @ 12.75 hrs, Volume= 46,322 cf, Atten= 72%, Lag= 31.1 min
Primary = 2.7 cfs @ 12.75 hrs, Volume= 46,322 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 63.06' @ 12.75 hrs Surf.Area= 14,339 sf Storage= 19,341 cf
Flood Elev= 64.00' Surf.Area= 15,354 sf Storage= 27,812 cf

Plug-Flow detention time= 134.9 min calculated for 46,315 cf (100% of inflow)
Center-of-Mass det. time= 132.1 min (937.6 - 805.4)

Volume	Invert	Avail.Storage	Storage Description
#1	58.49'	4,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	61.00'	23,248 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		27,812 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.49	5,803	0.0	0	0
58.50	5,803	40.0	23	23
59.50	5,803	40.0	2,321	2,344
59.51	5,803	25.0	15	2,359
60.99	5,803	25.0	2,147	4,506
61.00	5,803	100.0	58	4,564

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	5,803	0	0
62.00	7,104	6,454	6,454
63.00	8,467	7,786	14,239
64.00	9,551	9,009	23,248

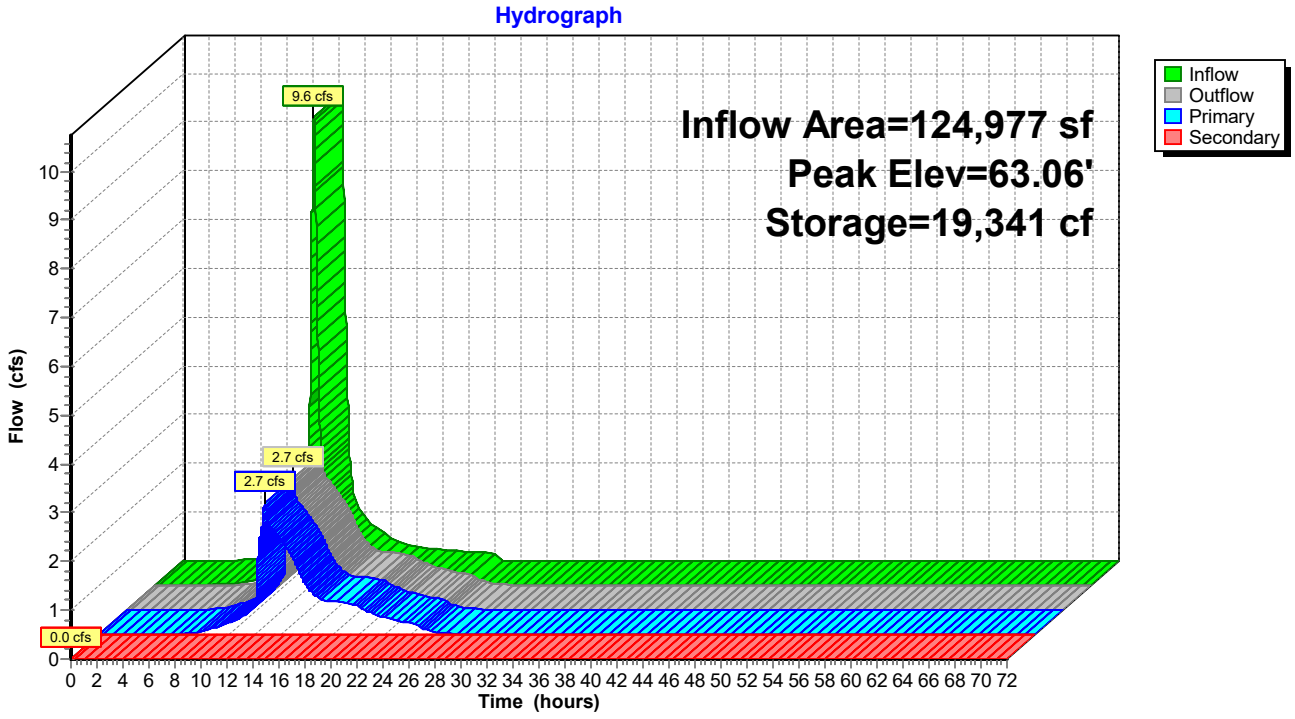
Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	**8.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 58.28' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	58.58'	**4.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	61.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.50 Width (feet) 0.50 0.50
#4	Device 1	63.00'	**24.0" x 24.0" Horiz. Structure Top** C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00

2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=2.7 cfs @ 12.75 hrs HW=63.06' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.7 cfs of 2.7 cfs potential flow)
  └─**2=Underdrain** (Orifice Controls 0.9 cfs @ 10.00 fps)
  └─**3=Custom Weir/Orifice** (Orifice Controls 1.4 cfs @ 5.62 fps)
  └─**4=Structure Top** (Weir Controls 0.4 cfs @ 0.82 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=58.49' TW=0.00' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF2: Soil Filter 2

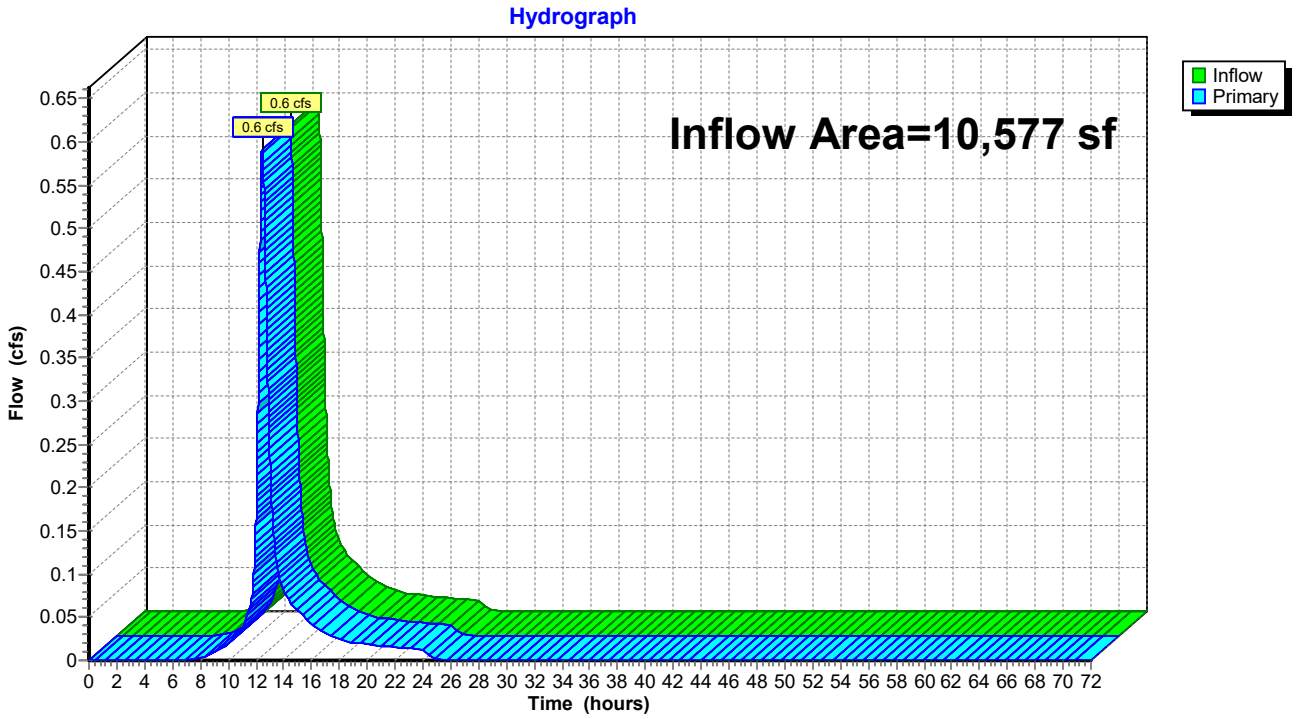


Summary for Link AP#1: Analysis Point 1

Inflow Area = 10,577 sf, 0.00% Impervious, Inflow Depth = 3.86" for 25-Year event
Inflow = 0.6 cfs @ 12.47 hrs, Volume= 3,401 cf
Primary = 0.6 cfs @ 12.47 hrs, Volume= 3,401 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

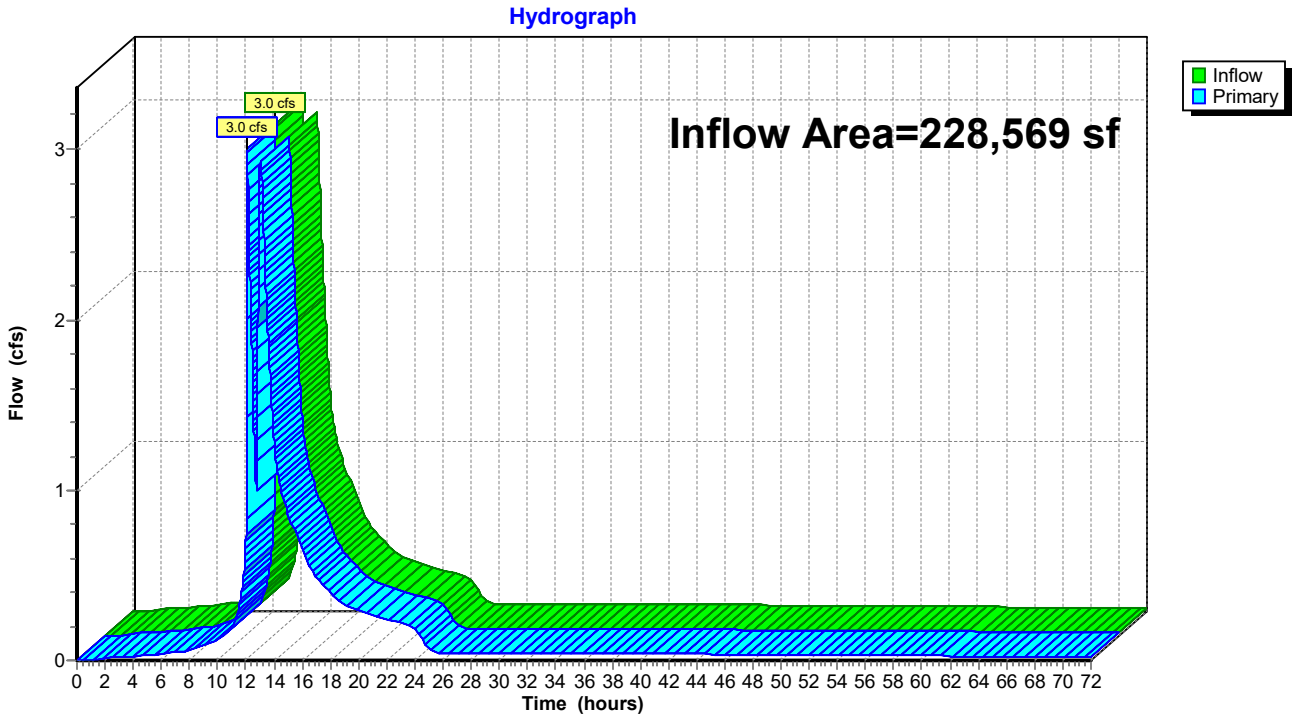


Summary for Link AP#2: Analysis Point 2

Inflow Area = 228,569 sf, 28.40% Impervious, Inflow Depth > 2.08" for 25-Year event
Inflow = 3.0 cfs @ 12.10 hrs, Volume= 39,549 cf
Primary = 3.0 cfs @ 12.10 hrs, Volume= 39,549 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

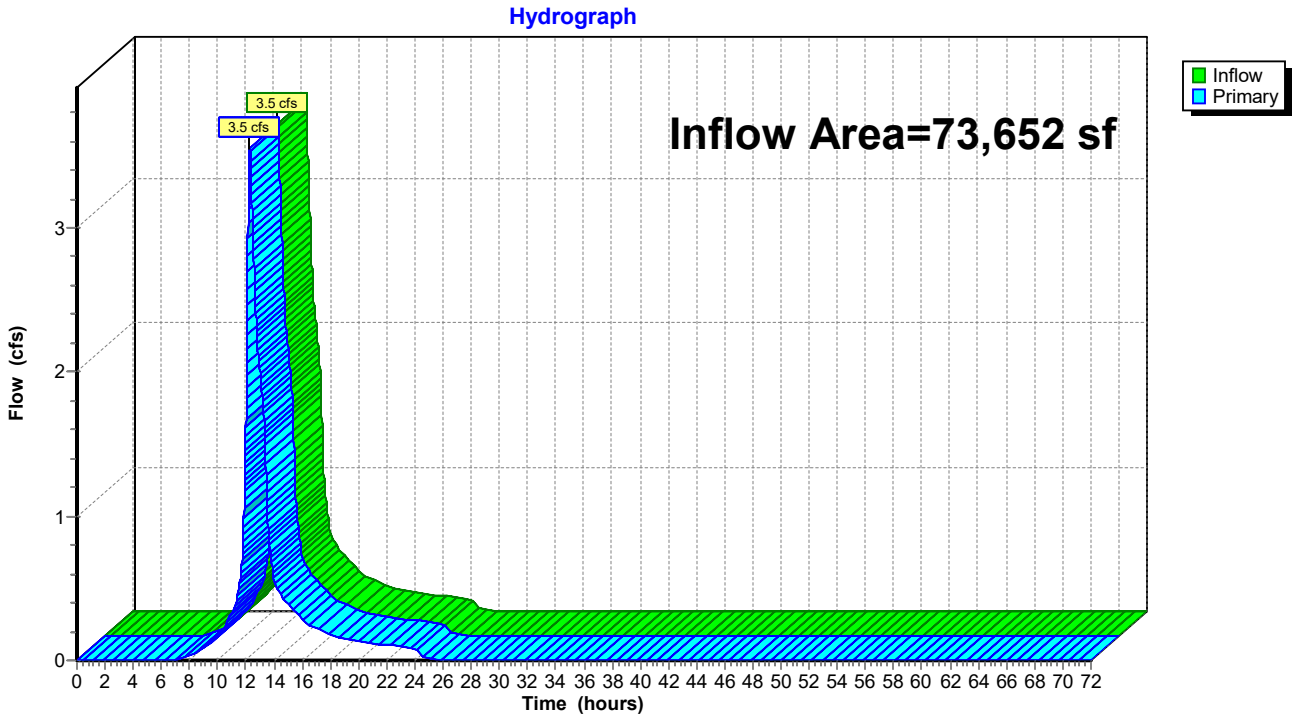


Summary for Link AP#3: Analysis Point 3

Inflow Area = 73,652 sf, 16.15% Impervious, Inflow Depth = 4.10" for 25-Year event
Inflow = 3.5 cfs @ 12.27 hrs, Volume= 25,148 cf
Primary = 3.5 cfs @ 12.27 hrs, Volume= 25,148 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

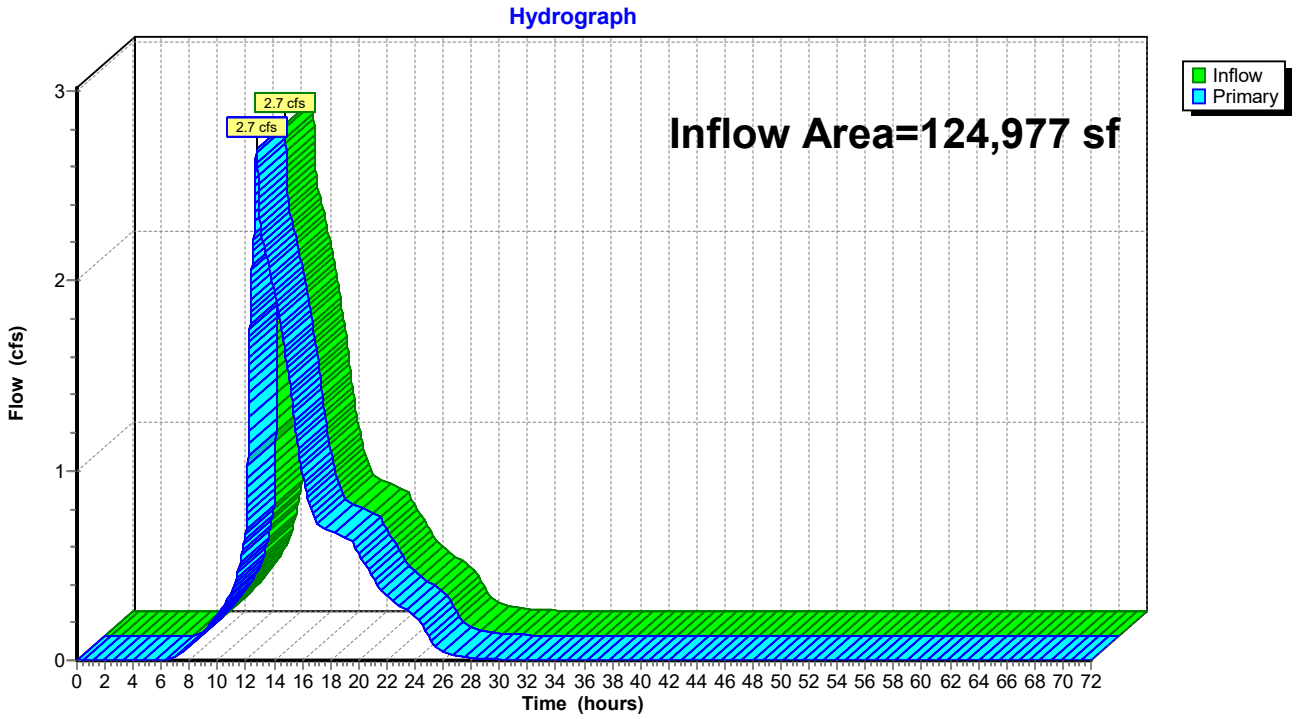


Summary for Link AP#4: Analysis Point 4

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 4.45" for 25-Year event
Inflow = 2.7 cfs @ 12.75 hrs, Volume= 46,322 cf
Primary = 2.7 cfs @ 12.75 hrs, Volume= 46,322 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

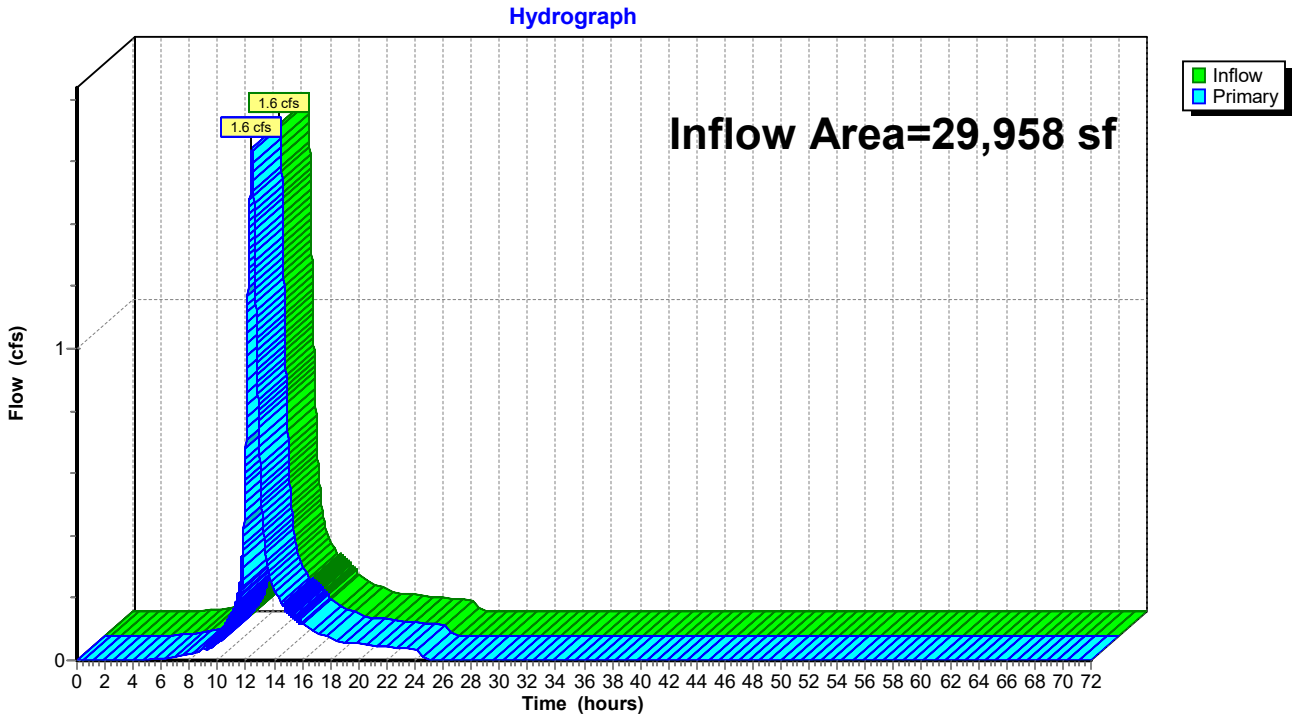


Summary for Link AP#5: Analysis Point 5

Inflow Area = 29,958 sf, 14.85% Impervious, Inflow Depth = 4.10" for 25-Year event
Inflow = 1.6 cfs @ 12.42 hrs, Volume= 10,238 cf
Primary = 1.6 cfs @ 12.42 hrs, Volume= 10,238 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



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

Subcatchment S1.1: Subcatchment 1.1 Runoff Area=10,577 sf 0.00% Impervious Runoff Depth=4.86"
Flow Length=131' Slope=0.0110 '/' Tc=33.3 min CN=79 Runoff=0.7 cfs 4,283 cf

Subcatchment S2.1: Subcatchment 2.1 Runoff Area=180,550 sf 19.58% Impervious Runoff Depth=2.42"
Flow Length=953' Tc=41.2 min CN=56 Runoff=5.4 cfs 36,343 cf

Subcatchment S2.2: Subcatchment S2.2 Runoff Area=30,401 sf 39.27% Impervious Runoff Depth=3.13"
Flow Length=280' Tc=22.3 min CN=63 Runoff=1.6 cfs 7,922 cf

Subcatchment S2.3: Subcatchment 2.3 Runoff Area=3,590 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.6 cfs 2,112 cf

Subcatchment S2.4: Subcatchment 2.4 Runoff Area=3,697 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.6 cfs 2,175 cf

Subcatchment S2.5: Subcatchment 2.5 Runoff Area=3,457 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.6 cfs 2,034 cf

Subcatchment S2.6: Subcatchment 2.6 Runoff Area=2,849 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,676 cf

Subcatchment S2.7: Subcatchment 2.7 Runoff Area=2,803 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.5 cfs 1,649 cf

Subcatchment S2.8: Subcatchment 2.8 Runoff Area=1,222 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 719 cf

Subcatchment S3.1: Subcatchment 3.1 Runoff Area=28,838 sf 4.33% Impervious Runoff Depth=4.64"
Flow Length=333' Tc=18.1 min CN=77 Runoff=2.5 cfs 11,142 cf

Subcatchment S3.2: Subcatchment 3.2 Runoff Area=44,814 sf 23.75% Impervious Runoff Depth=5.43"
Flow Length=329' Tc=19.8 min CN=84 Runoff=4.3 cfs 20,261 cf

Subcatchment S4.1: Subcatchment 4.1 Runoff Area=99,781 sf 12.03% Impervious Runoff Depth=5.20"
Flow Length=553' Tc=19.1 min CN=82 Runoff=9.5 cfs 43,221 cf

Subcatchment S4.10: Subcatchment 4.10 Runoff Area=3,197 sf 72.57% Impervious Runoff Depth=6.59"
Tc=6.0 min CN=94 Runoff=0.5 cfs 1,755 cf

Subcatchment S4.11: Subcatchment 4.11 Runoff Area=3,887 sf 74.68% Impervious Runoff Depth=6.59"
Tc=6.0 min CN=94 Runoff=0.6 cfs 2,133 cf

Subcatchment S4.12: Subcatchment 4.12 Runoff Area=1,423 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 837 cf

Subcatchment S4.13: Subcatchment 4.13 Runoff Area=1,627 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.3 cfs 957 cf

Subcatchment S4.2: Subcatchment 4.2 Runoff Area=3,347 sf 71.65% Impervious Runoff Depth=6.47"
Tc=6.0 min CN=93 Runoff=0.5 cfs 1,804 cf

Subcatchment S4.3: Subcatchment 4.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Subcatchment S4.4: Subcatchment 4.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Subcatchment S4.5: Subcatchment 4.5 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Subcatchment S4.6: Subcatchment 4.6 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Subcatchment S4.7: Subcatchment 4.7 Runoff Area=3,900 sf 73.33% Impervious Runoff Depth=6.59"
Tc=6.0 min CN=94 Runoff=0.6 cfs 2,141 cf

Subcatchment S4.8: Subcatchment 4.8 Runoff Area=1,313 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 773 cf

Subcatchment S4.9: Subcatchment 4.9 Runoff Area=1,502 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 884 cf

Subcatchment S5.1: Subcatchment 5.1 Runoff Area=26,208 sf 2.67% Impervious Runoff Depth=4.86"
Flow Length=421' Tc=32.7 min CN=79 Runoff=1.9 cfs 10,614 cf

Subcatchment S5.2: Subcatchment 5.2 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Subcatchment S5.3: Subcatchment 5.3 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Subcatchment S5.4: Subcatchment 5.4 Runoff Area=1,250 sf 100.00% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=98 Runoff=0.2 cfs 735 cf

Reach S1: Swale 1 Avg. Flow Depth=0.18' Max Vel=2.70 fps Inflow=4.3 cfs 20,261 cf
n=0.022 L=175.0' S=0.0171 '/' Capacity=24.5 cfs Outflow=4.3 cfs 20,261 cf

Pond C1: Culvert 1 Peak Elev=69.94' Inflow=0.2 cfs 718 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0158 '/' Outflow=0.2 cfs 718 cf

Pond C10: Culvert 10 Peak Elev=71.05' Inflow=0.3 cfs 719 cf
12.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.3 cfs 719 cf

Pond C11: Culvert 11 Peak Elev=71.04' Inflow=0.6 cfs 2,155 cf
12.0" Round Culvert n=0.013 L=82.4' S=0.0076 '/' Outflow=0.6 cfs 2,155 cf

Pond C2: Culvert 2 Peak Elev=69.75' Inflow=0.3 cfs 1,436 cf
12.0" Round Culvert n=0.012 L=44.0' S=0.0027 '/' Outflow=0.3 cfs 1,436 cf

Pond C3: Culvert 3 Peak Elev=69.57' Inflow=0.5 cfs 2,154 cf
24.0" Round Culvert n=0.012 L=44.4' S=0.0052 '/' Outflow=0.5 cfs 2,154 cf

Pond C4: Culvert 4 Peak Elev=71.11' Inflow=0.3 cfs 718 cf
12.0" Round Culvert n=0.013 L=24.0' S=0.0142 '/' Outflow=0.3 cfs 718 cf

Pond C7: Culvert 7 Peak Elev=69.83' Inflow=0.4 cfs 718 cf
4.0" Round Culvert n=0.013 L=27.0' S=0.0048 '/' Outflow=0.4 cfs 718 cf

Pond C8: Culvert 8 Peak Elev=57.36' Inflow=5.4 cfs 36,343 cf
16.0" Round Culvert n=0.025 L=184.0' S=0.0054 '/' Outflow=5.4 cfs 36,343 cf

Pond C9: Culvert 9 Peak Elev=71.04' Inflow=0.6 cfs 1,436 cf
12.0" Round Culvert n=0.013 L=25.0' S=0.0088 '/' Outflow=0.6 cfs 1,436 cf

Pond CB1: Catch Basin 1 Peak Elev=71.04' Inflow=1.0 cfs 3,959 cf
12.0" Round Culvert n=0.013 L=79.0' S=0.0051 '/' Outflow=1.0 cfs 3,959 cf

Pond CB10: Catch Basin 10 Peak Elev=61.66' Inflow=1.2 cfs 4,288 cf
12.0" Round Culvert n=0.013 L=212.5' S=0.0424 '/' Outflow=1.2 cfs 4,288 cf

Pond CB11: Catch Basin 11 Peak Elev=52.90' Inflow=0.6 cfs 2,034 cf
12.0" Round Culvert n=0.013 L=18.5' S=0.0054 '/' Outflow=0.6 cfs 2,034 cf

Pond CB12: Catch Basin 12 Peak Elev=52.86' Inflow=2.2 cfs 7,998 cf
12.0" Round Culvert n=0.013 L=96.6' S=0.0404 '/' Outflow=2.2 cfs 7,998 cf

Pond CB13: Catch Basin 13 Peak Elev=50.31' Inflow=2.9 cfs 10,366 cf
12.0" Round Culvert n=0.013 L=49.3' S=0.0034 '/' Outflow=2.9 cfs 10,366 cf

Pond CB14: Catch Basin 14 Peak Elev=50.95' Inflow=2.4 cfs 8,717 cf
12.0" Round Culvert n=0.013 L=15.0' S=0.0067 '/' Outflow=2.4 cfs 8,717 cf

Pond CB2: Catch Basin 2 Peak Elev=70.72' Inflow=0.5 cfs 1,755 cf
12.0" Round Culvert n=0.013 L=79.2' S=0.0051 '/' Outflow=0.5 cfs 1,755 cf

Pond CB3: Catch Basin 3 Peak Elev=70.98' Inflow=1.9 cfs 6,818 cf
12.0" Round Culvert n=0.013 L=17.5' S=0.0057 '/' Outflow=1.9 cfs 6,818 cf

Pond CB4: Catch Basin 4 Peak Elev=70.70' Inflow=3.0 cfs 10,706 cf
12.0" Round Culvert n=0.013 L=103.7' S=0.0053 '/' Outflow=3.0 cfs 10,706 cf

Pond CB5: Catch Basin 5 Peak Elev=69.70' Inflow=0.2 cfs 773 cf
12.0" Round Culvert n=0.013 L=18.4' S=0.0054 '/' Outflow=0.2 cfs 773 cf

Pond CB6: Catch Basin 6 Peak Elev=69.70' Inflow=3.4 cfs 12,316 cf
12.0" Round Culvert n=0.013 L=60.9' S=0.0057 '/' Outflow=3.4 cfs 12,316 cf

Pond CB7: Catch Basin 7 Peak Elev=67.43' Inflow=0.2 cfs 884 cf
12.0" Round Culvert n=0.013 L=18.2' S=0.0055 '/' Outflow=0.2 cfs 884 cf

Pond CB8: Catch Basin 8 Peak Elev=67.42' Inflow=3.9 cfs 14,157 cf
12.0" Round Culvert n=0.013 L=156.4' S=0.0054 '/' Outflow=3.9 cfs 14,157 cf

Pond CB9: Catch Basin 9 Peak Elev=62.48' Inflow=0.6 cfs 2,112 cf
12.0" Round Culvert n=0.013 L=18.8' S=0.0053 '/' Outflow=0.6 cfs 2,112 cf

Pond CH1: Chamber 1 Peak Elev=48.63' Storage=977 cf Inflow=2.9 cfs 10,366 cf
Outflow=2.9 cfs 10,366 cf

Pond MH1: Manhole 1 Peak Elev=68.53' Inflow=3.4 cfs 12,316 cf
12.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=3.4 cfs 12,316 cf

Pond MH2: Manhole 2 Peak Elev=61.57' Inflow=2.3 cfs 20,255 cf
12.0" Round Culvert n=0.013 L=152.9' S=0.0052 '/' Outflow=2.3 cfs 20,256 cf

Pond MH3: Manhole 3 Peak Elev=60.67' Inflow=2.3 cfs 20,256 cf
12.0" Round Culvert n=0.013 L=81.0' S=0.0049 '/' Outflow=2.3 cfs 20,256 cf

Pond MH4: Manhole 4 Peak Elev=60.06' Inflow=2.3 cfs 20,256 cf
12.0" Round Culvert n=0.013 L=205.9' S=0.0051 '/' Outflow=2.3 cfs 20,256 cf

Pond MH5: Manhole 5 Peak Elev=49.38' Inflow=2.9 cfs 10,366 cf
12.0" Round Culvert n=0.013 L=6.2' S=0.0048 '/' Outflow=2.9 cfs 10,366 cf

Pond P1: Pond 1 Peak Elev=54.01' Storage=9,115 cf Inflow=5.4 cfs 36,343 cf
Outflow=3.9 cfs 35,446 cf

Pond RD1: Roof Drain 1 Peak Elev=69.74' Storage=60 cf Inflow=0.2 cfs 735 cf
Primary=0.2 cfs 718 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 718 cf

Pond RD2: Roof Drain 2 Peak Elev=69.91' Storage=68 cf Inflow=0.2 cfs 735 cf
Primary=0.2 cfs 718 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 718 cf

Pond RD3: Roof Drain 3 Peak Elev=70.11' Storage=53 cf Inflow=0.2 cfs 735 cf
Primary=0.2 cfs 718 cf Secondary=0.0 cfs 0 cf Outflow=0.2 cfs 718 cf

Pond RD4: Roof Drain 4 Peak Elev=70.25' Storage=67 cf Inflow=0.2 cfs 735 cf
Primary=0.3 cfs 718 cf Secondary=0.0 cfs 0 cf Outflow=0.3 cfs 718 cf

Pond RD5: Roof Drain 5 Peak Elev=70.23' Storage=97 cf Inflow=0.2 cfs 735 cf
Primary=0.4 cfs 718 cf Secondary=0.0 cfs 0 cf Outflow=0.4 cfs 718 cf

Pond RD6: Roof Drain 6 Peak Elev=69.93' Storage=80 cf Inflow=0.2 cfs 735 cf
Primary=0.3 cfs 719 cf Secondary=0.0 cfs 0 cf Outflow=0.3 cfs 719 cf

Pond RD7: Roof Drain 7 Peak Elev=68.38' Storage=167 cf Inflow=0.2 cfs 735 cf
Primary=0.4 cfs 718 cf Secondary=0.0 cfs 0 cf Outflow=0.4 cfs 718 cf

Pond SF1: Soil Filter 1 Peak Elev=65.22' Storage=3,799 cf Inflow=4.3 cfs 20,261 cf
Primary=2.3 cfs 20,255 cf Secondary=0.0 cfs 0 cf Outflow=2.3 cfs 20,255 cf

Pond SF2: Soil Filter 2 Peak Elev=63.58' Storage=23,867 cf Inflow=11.8 cfs 57,378 cf
Primary=2.9 cfs 56,774 cf Secondary=0.4 cfs 380 cf Outflow=3.3 cfs 57,154 cf

Link AP#1: Analysis Point 1 Inflow=0.7 cfs 4,283 cf
Primary=0.7 cfs 4,283 cf

Link AP#2: Analysis Point 2 Inflow=4.8 cfs 53,734 cf
Primary=4.8 cfs 53,734 cf

Link AP#3: Analysis Point 3 Inflow=4.3 cfs 31,398 cf
Primary=4.3 cfs 31,398 cf

Link AP#4: Analysis Point 4 Inflow=3.3 cfs 57,154 cf
Primary=3.3 cfs 57,154 cf

Link AP#5: Analysis Point 5 Inflow=2.0 cfs 12,767 cf
Primary=2.0 cfs 12,767 cf

Total Runoff Area = 467,733 sf Runoff Volume = 160,586 cf Average Runoff Depth = 4.12"
75.50% Pervious = 353,127 sf 24.50% Impervious = 114,606 sf

Summary for Subcatchment S1.1: Subcatchment 1.1

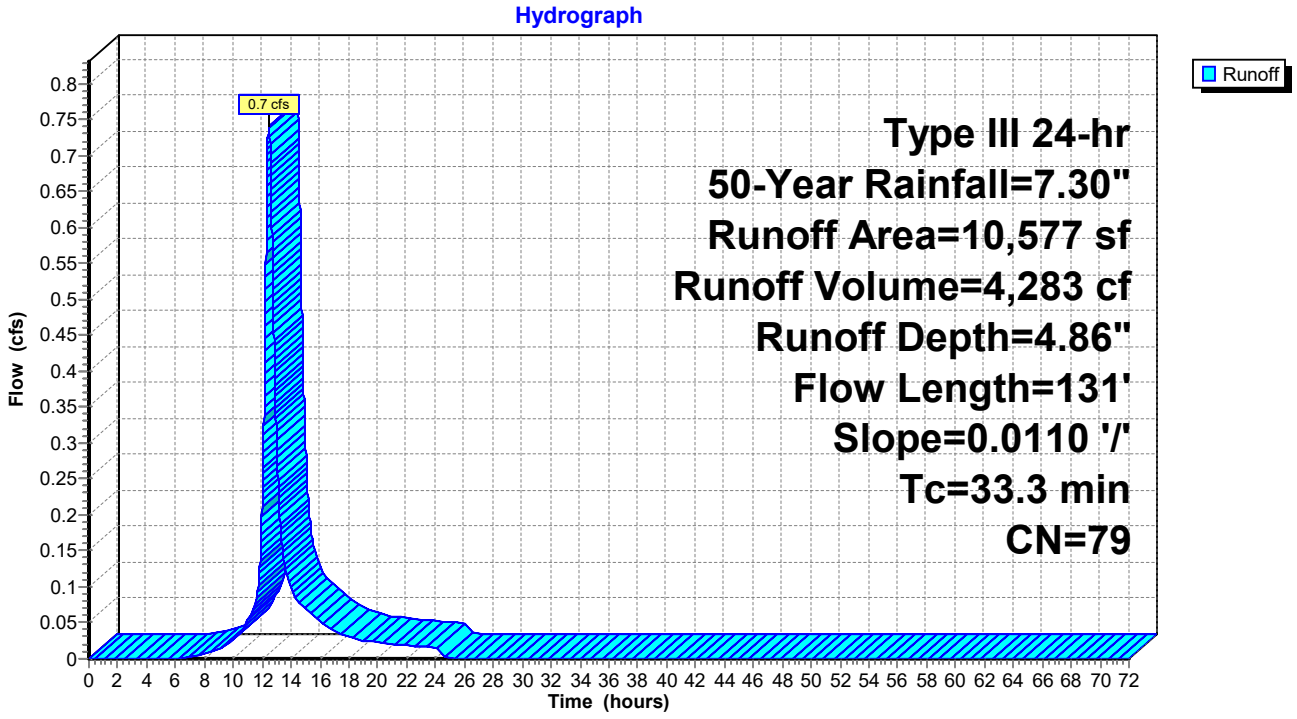
Runoff = 0.7 cfs @ 12.47 hrs, Volume= 4,283 cf, Depth= 4.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
6,431	80	>75% Grass cover, Good, HSG D
4,146	77	Woods, Good, HSG D
10,577	79	Weighted Average
10,577		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
33.3	131	0.0110	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.30"

Subcatchment S1.1: Subcatchment 1.1



Summary for Subcatchment S2.1: Subcatchment 2.1

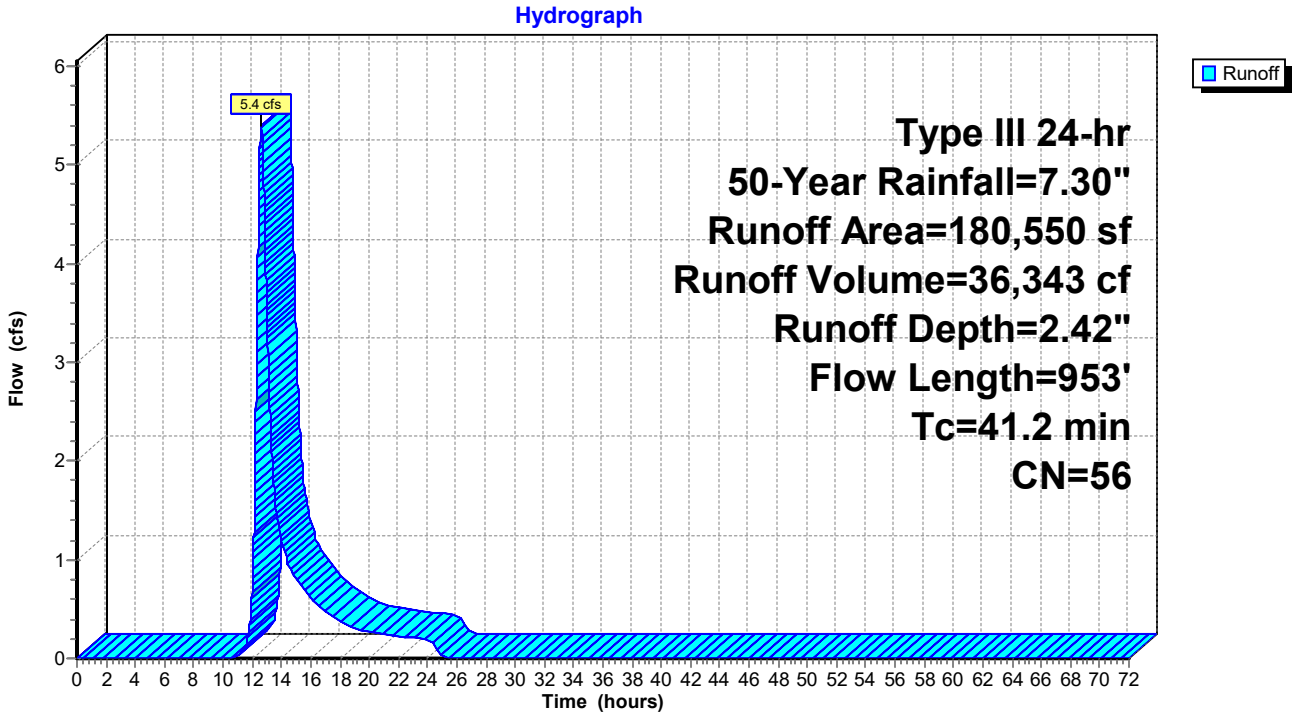
Runoff = 5.4 cfs @ 12.59 hrs, Volume= 36,343 cf, Depth= 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
12,432	39	>75% Grass cover, Good, HSG A
85,722	30	Woods, Good, HSG A
489	98	Paved parking, HSG A
17,787	80	>75% Grass cover, Good, HSG D
29,251	77	Woods, Good, HSG D
14,624	98	Paved parking, HSG D
3,134	98	Paved parking, HSG D
17,111	98	Roofs, HSG A
180,550	56	Weighted Average
145,192		80.42% Pervious Area
35,358		19.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	51	0.0196	0.15		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
13.5	99	0.0606	0.12		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
7.7	300	0.0167	0.65		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
10.0	300	0.0100	0.50		**Shallow Concentrated Flow, DE** Woodland Kv= 5.0 fps
4.3	203	0.0246	0.78		**Shallow Concentrated Flow, EF** Woodland Kv= 5.0 fps
41.2	953	Total			

Subcatchment S2.1: Subcatchment 2.1



Summary for Subcatchment S2.2: Subcatchment S2.2

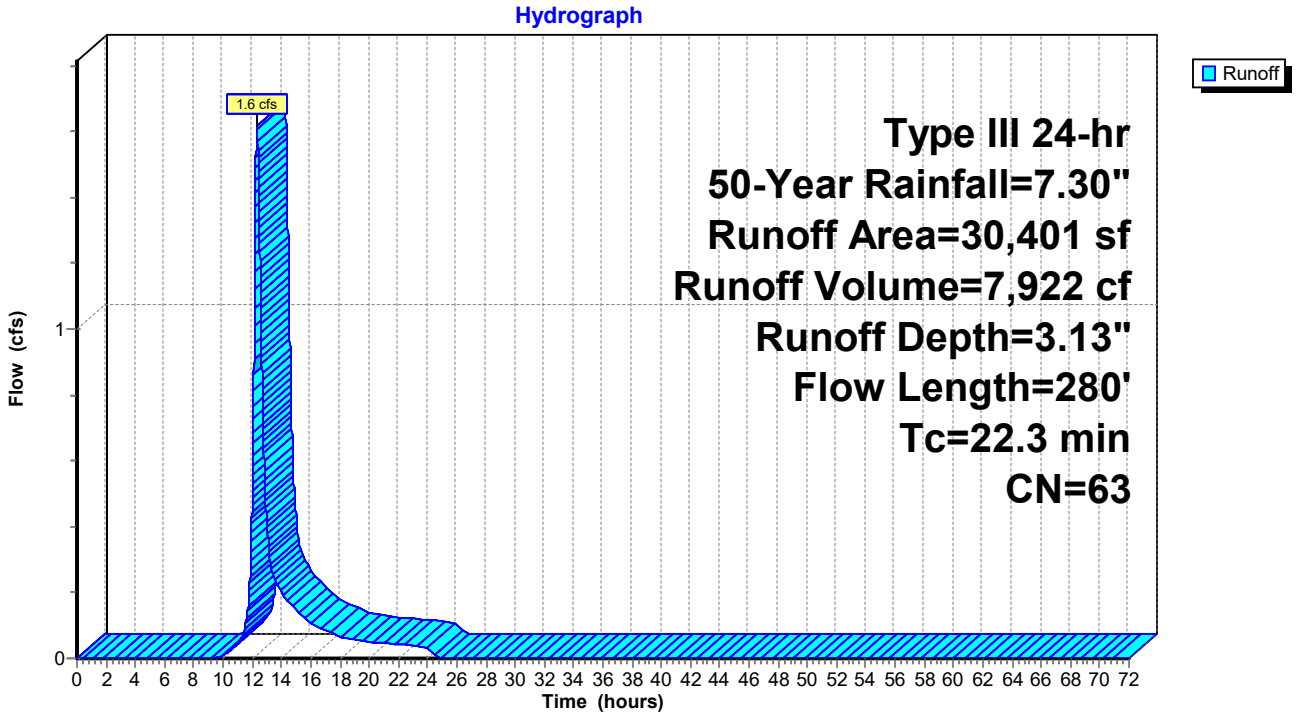
Runoff = 1.6 cfs @ 12.32 hrs, Volume= 7,922 cf, Depth= 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
14,829	39	>75% Grass cover, Good, HSG A
924	80	>75% Grass cover, Good, HSG D
66	98	Paved parking, HSG D
527	98	Unconnected roofs, HSG D
5,533	98	Unconnected roofs, HSG A
2,709	30	Woods, Good, HSG A
5,813	98	Paved parking, HSG A
30,401	63	Weighted Average
18,462		60.73% Pervious Area
11,939		39.27% Impervious Area
6,060		50.76% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	150	0.0520	0.13		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
2.3	130	0.0350	0.94		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
22.3	280	Total			

Subcatchment S2.2: Subcatchment S2.2



Summary for Subcatchment S2.3: Subcatchment 2.3

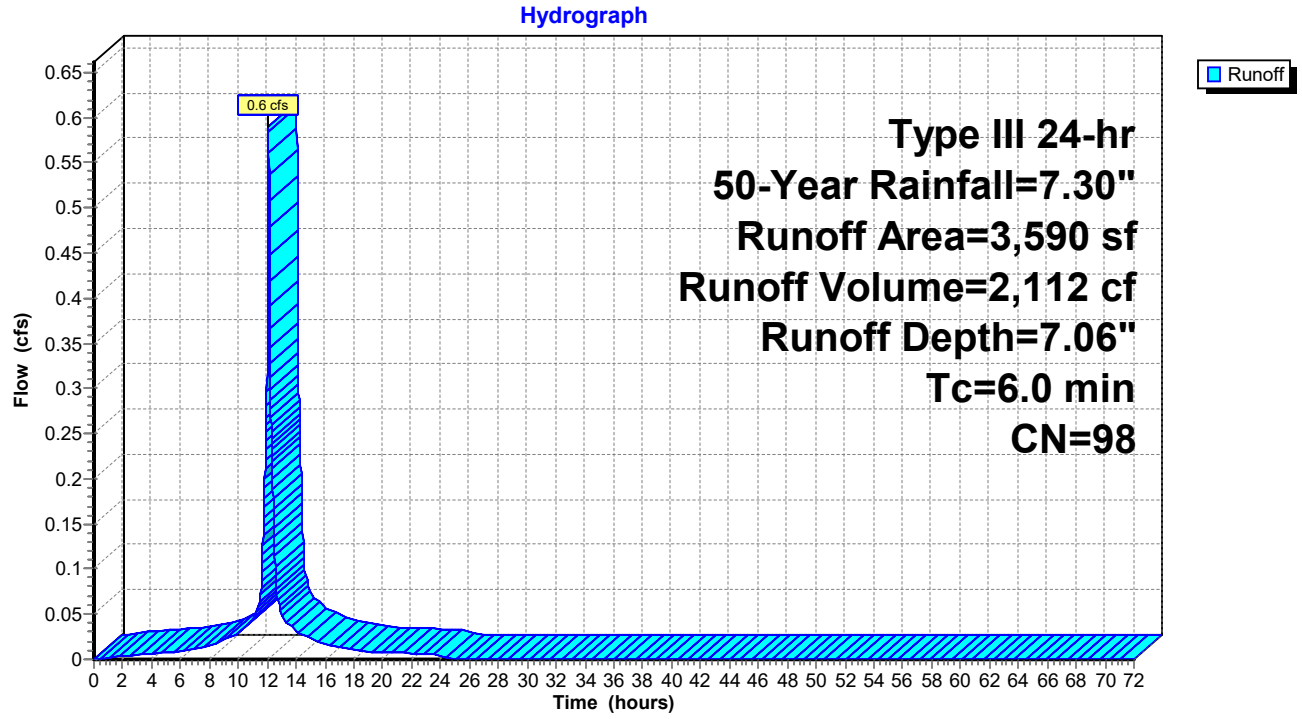
Runoff = 0.6 cfs @ 12.08 hrs, Volume= 2,112 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
3,590	98	Paved roads w/curbs & sewers, HSG D
3,590		100.00% Impervious Area

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

Subcatchment S2.3: Subcatchment 2.3



Summary for Subcatchment S2.4: Subcatchment 2.4

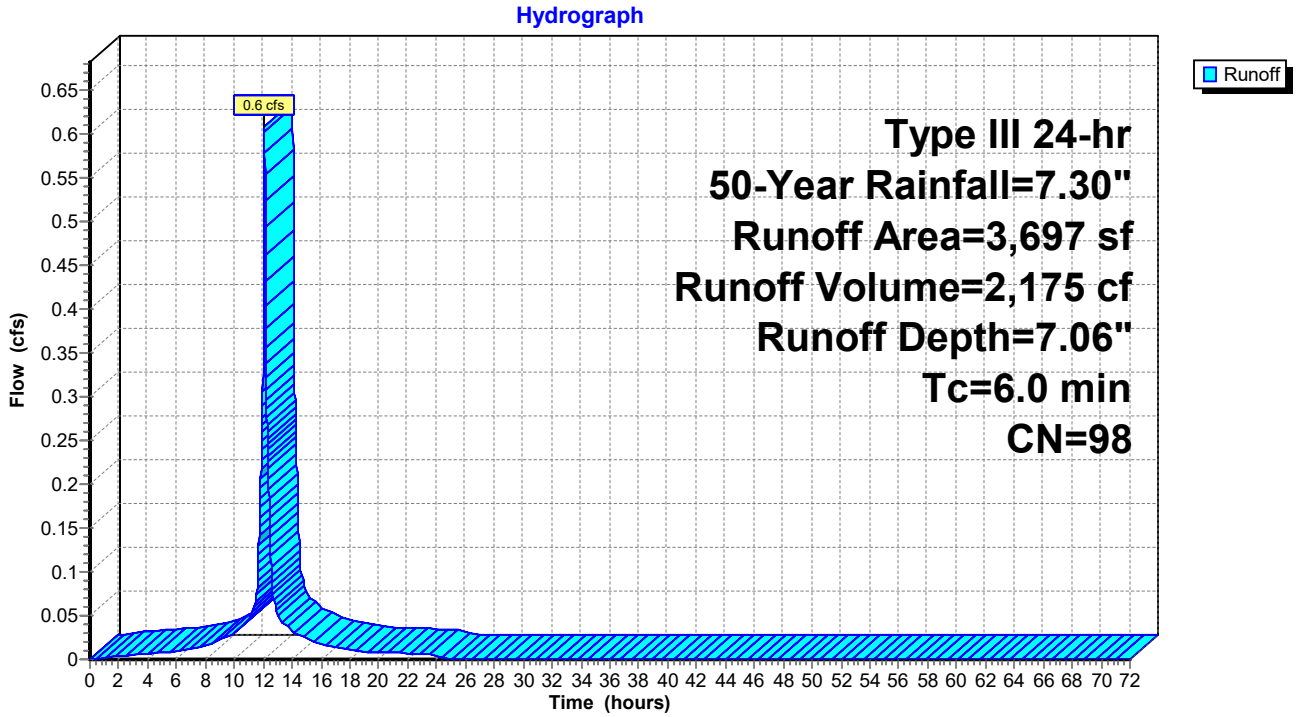
Runoff = 0.6 cfs @ 12.08 hrs, Volume= 2,175 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
3,697	98	Paved roads w/curbs & sewers, HSG D
3,697		100.00% Impervious Area

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

Subcatchment S2.4: Subcatchment 2.4



Summary for Subcatchment S2.5: Subcatchment 2.5

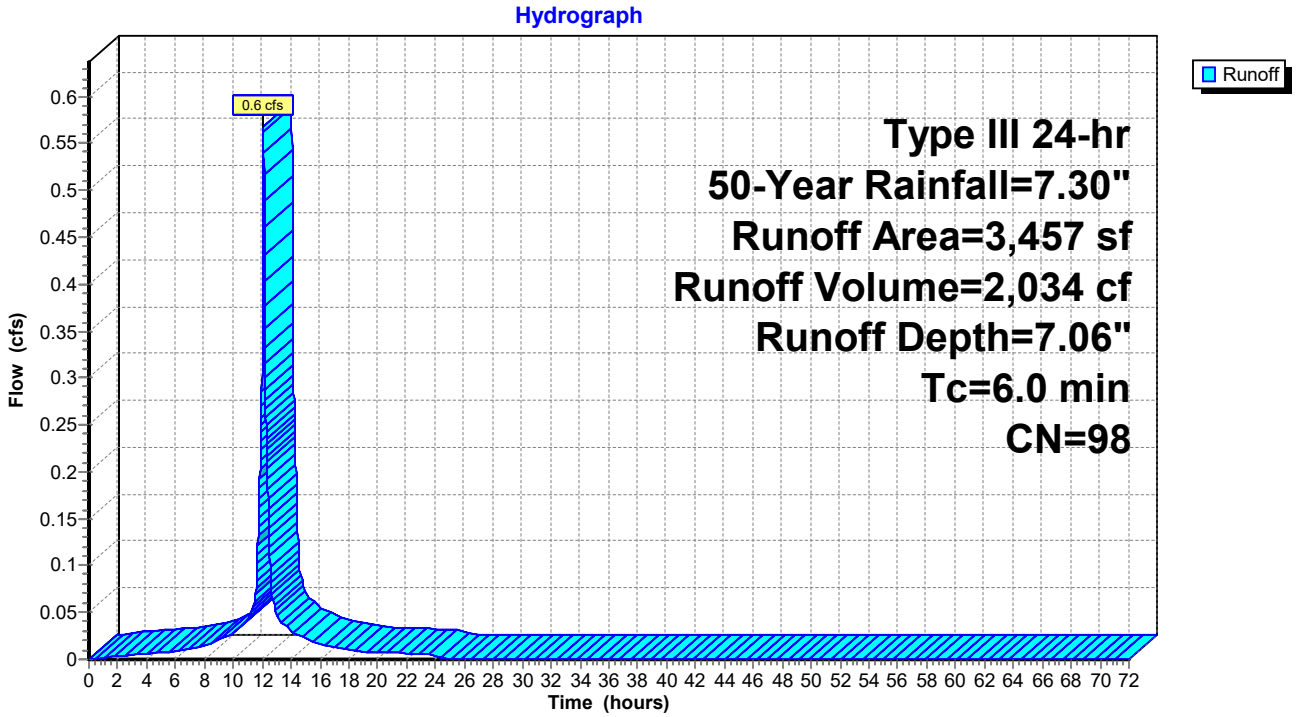
Runoff = 0.6 cfs @ 12.08 hrs, Volume= 2,034 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
3,457	98	Paved roads w/curbs & sewers, HSG D
3,457		100.00% Impervious Area

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

Subcatchment S2.5: Subcatchment 2.5



Summary for Subcatchment S2.6: Subcatchment 2.6

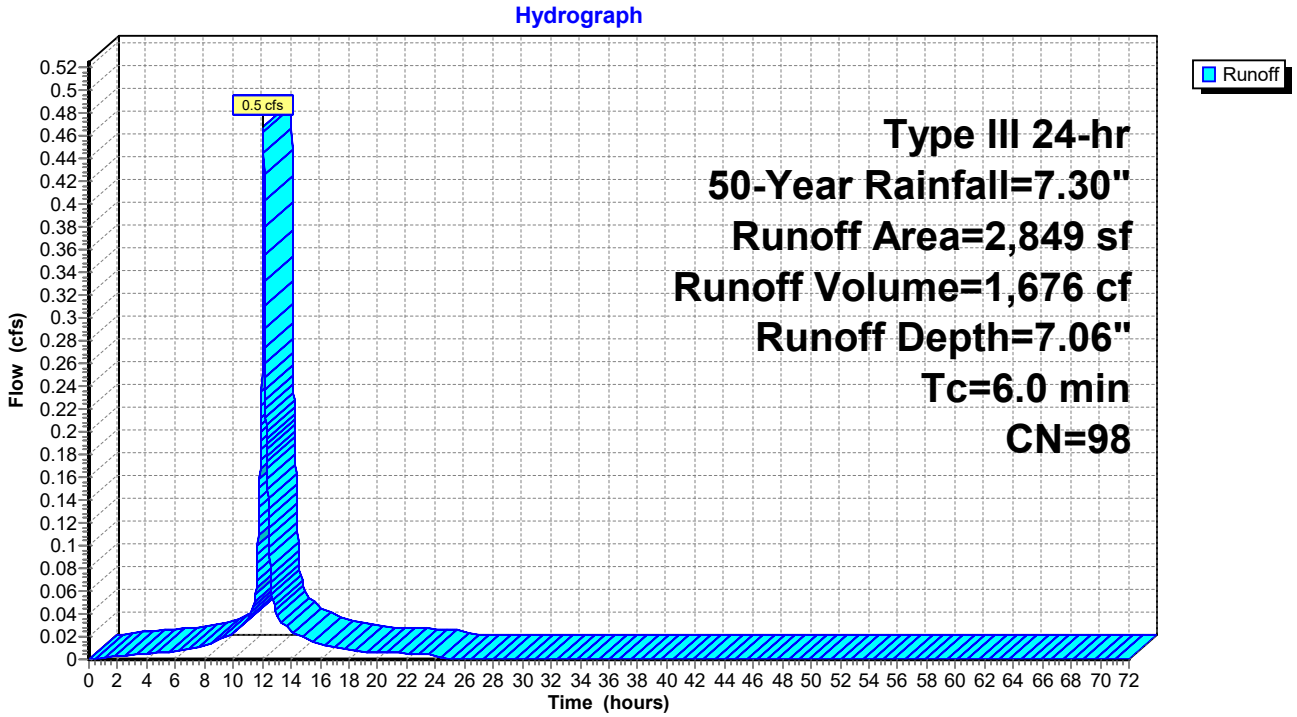
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,676 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
2,849	98	Paved roads w/curbs & sewers, HSG D
2,849		100.00% Impervious Area

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

Subcatchment S2.6: Subcatchment 2.6



Summary for Subcatchment S2.7: Subcatchment 2.7

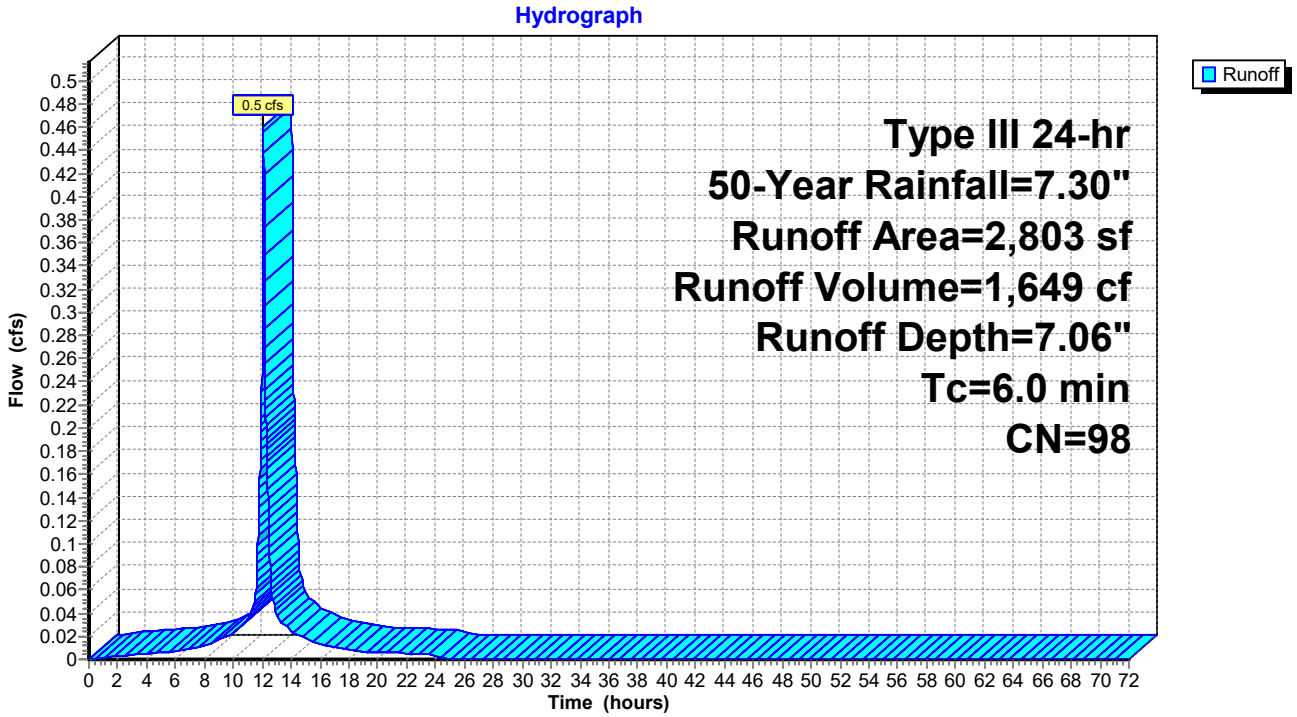
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,649 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
2,803	98	Paved roads w/curbs & sewers, HSG D
2,803		100.00% Impervious Area

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

Subcatchment S2.7: Subcatchment 2.7



Summary for Subcatchment S2.8: Subcatchment 2.8

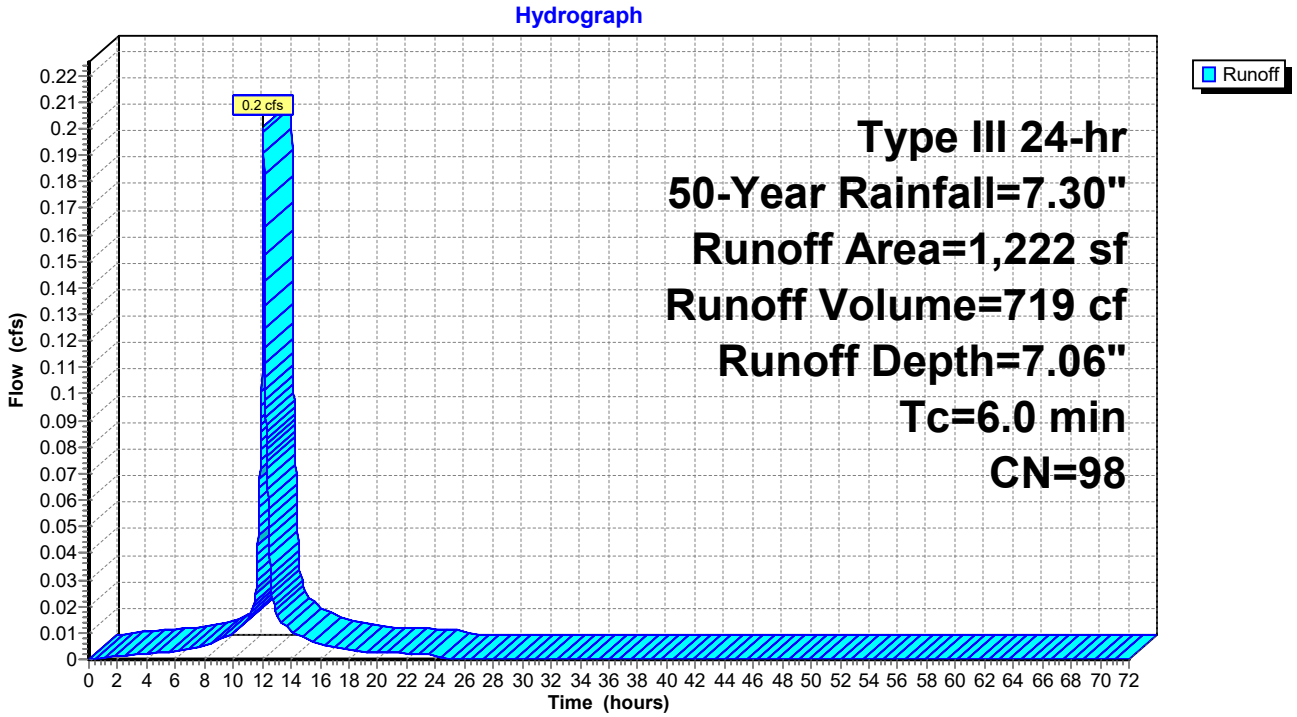
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 719 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,222	98	Paved roads w/curbs & sewers, HSG D
1,222		100.00% Impervious Area

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

Subcatchment S2.8: Subcatchment 2.8



Summary for Subcatchment S3.1: Subcatchment 3.1

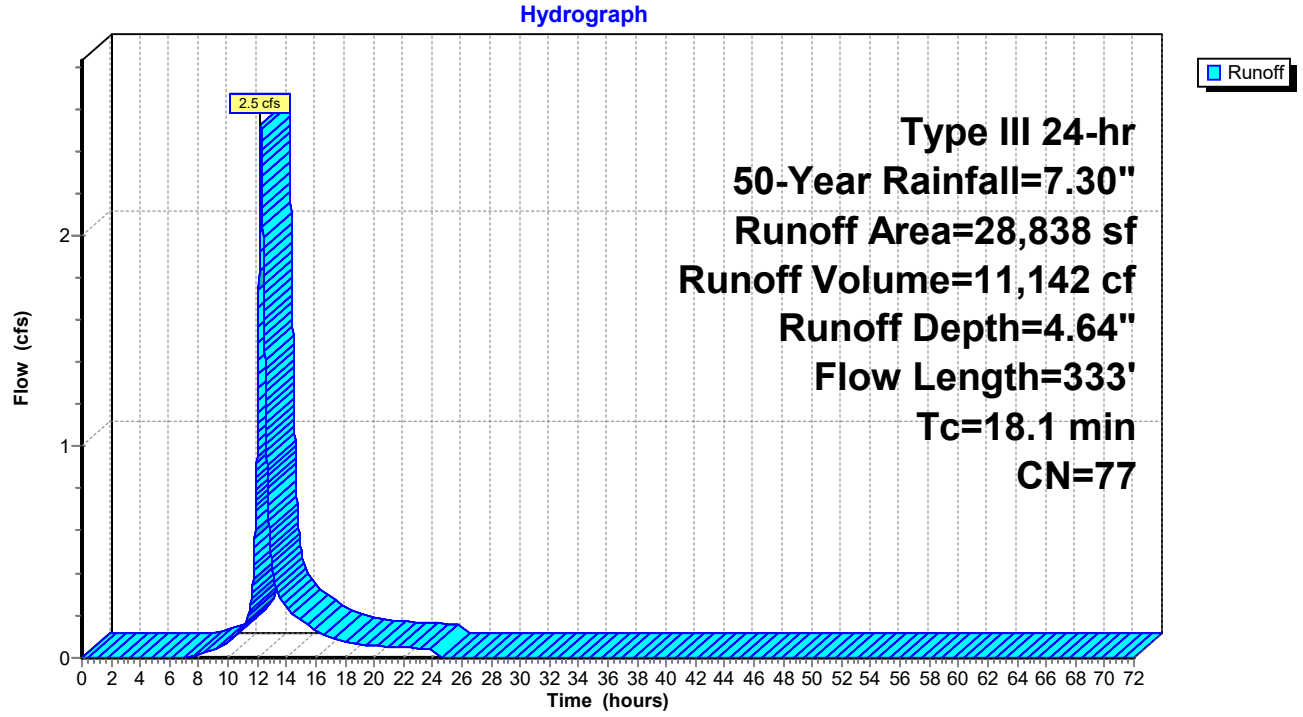
Runoff = 2.5 cfs @ 12.25 hrs, Volume= 11,142 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
15,787	77	Woods, Good, HSG D
10,424	80	>75% Grass cover, Good, HSG D
1,377	39	>75% Grass cover, Good, HSG A
1,250	98	Roofs, HSG D
28,838	77	Weighted Average
27,588		95.67% Pervious Area
1,250		4.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	150	0.0130	0.16		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
1.2	102	0.0392	1.39		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.0	81	0.0740	1.36		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
18.1	333	Total			

Subcatchment S3.1: Subcatchment 3.1



Summary for Subcatchment S3.2: Subcatchment 3.2

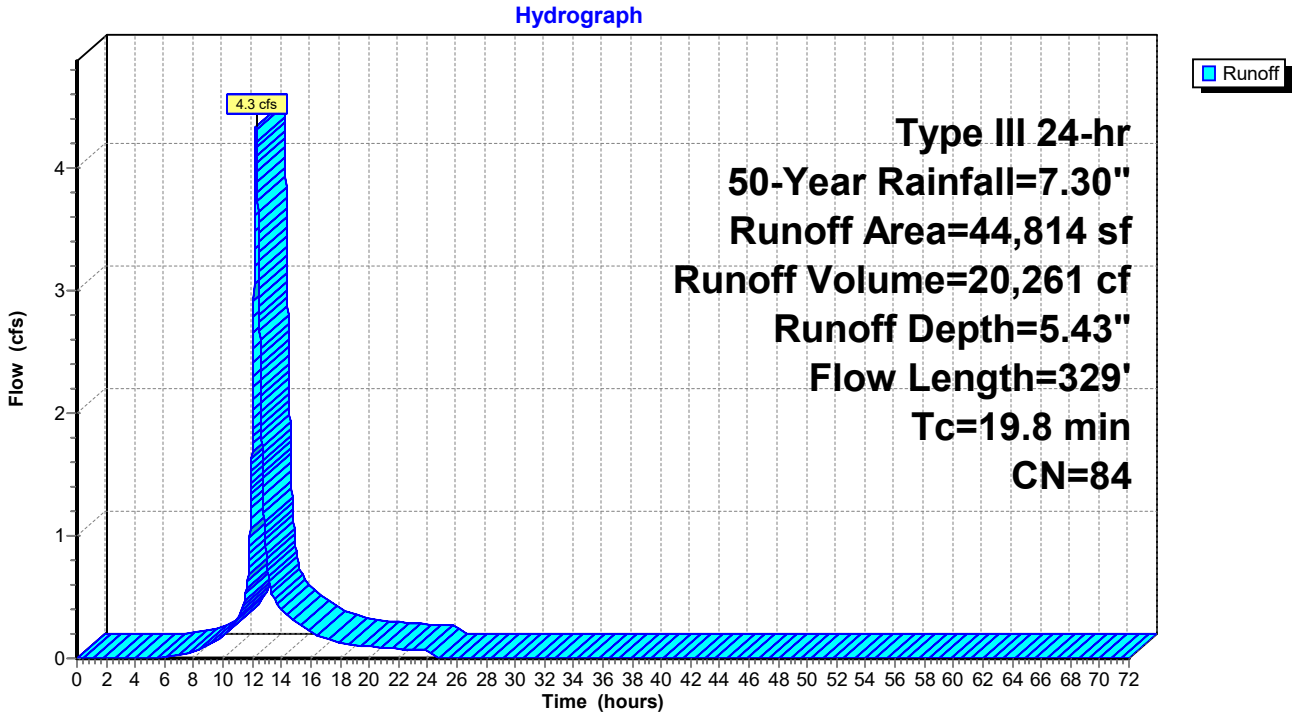
Runoff = 4.3 cfs @ 12.26 hrs, Volume= 20,261 cf, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
34,169	80	>75% Grass cover, Good, HSG D
1,895	98	Paved parking, HSG D
8,750	98	Roofs, HSG D
44,814	84	Weighted Average
34,169		76.25% Pervious Area
10,645		23.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0100	0.14		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
2.2	179	0.0363	1.33		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.8	329	Total			

Subcatchment S3.2: Subcatchment 3.2



Summary for Subcatchment S4.1: Subcatchment 4.1

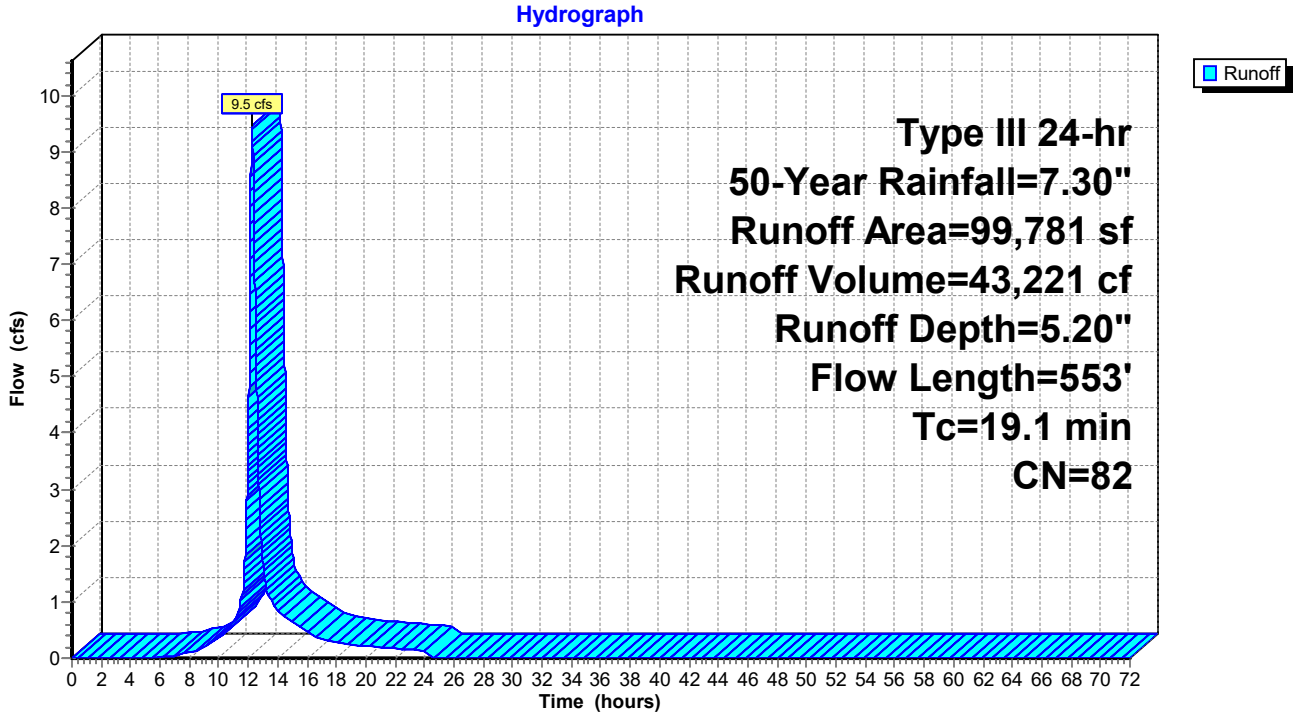
Runoff = 9.5 cfs @ 12.25 hrs, Volume= 43,221 cf, Depth= 5.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
17,618	77	Woods, Good, HSG D
70,163	80	>75% Grass cover, Good, HSG D
12,000	98	Roofs, HSG D
99,781	82	Weighted Average
87,781		87.97% Pervious Area
12,000		12.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	150	0.0330	0.23		**Sheet Flow, AB** Grass: Short n= 0.150 P2= 3.30"
7.1	300	0.0100	0.70		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
1.1	103	0.0485	1.54		**Shallow Concentrated Flow, CD** Short Grass Pasture Kv= 7.0 fps
19.1	553	Total			

Subcatchment S4.1: Subcatchment 4.1



Summary for Subcatchment S4.10: Subcatchment 4.10

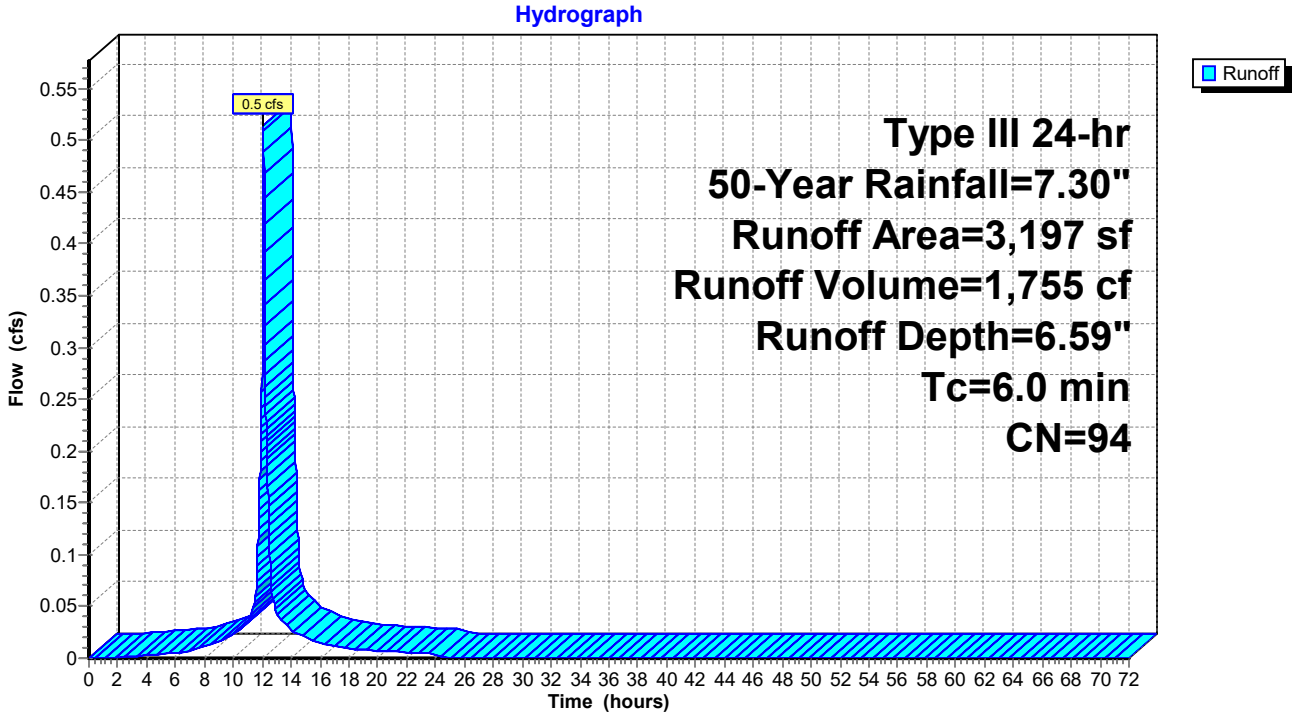
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,755 cf, Depth= 6.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
2,320	98	Paved roads w/curbs & sewers, HSG D
148	96	Gravel surface, HSG D
729	80	>75% Grass cover, Good, HSG D
3,197	94	Weighted Average
877		27.43% Pervious Area
2,320		72.57% Impervious Area

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

Subcatchment S4.10: Subcatchment 4.10



Summary for Subcatchment S4.11: Subcatchment 4.11

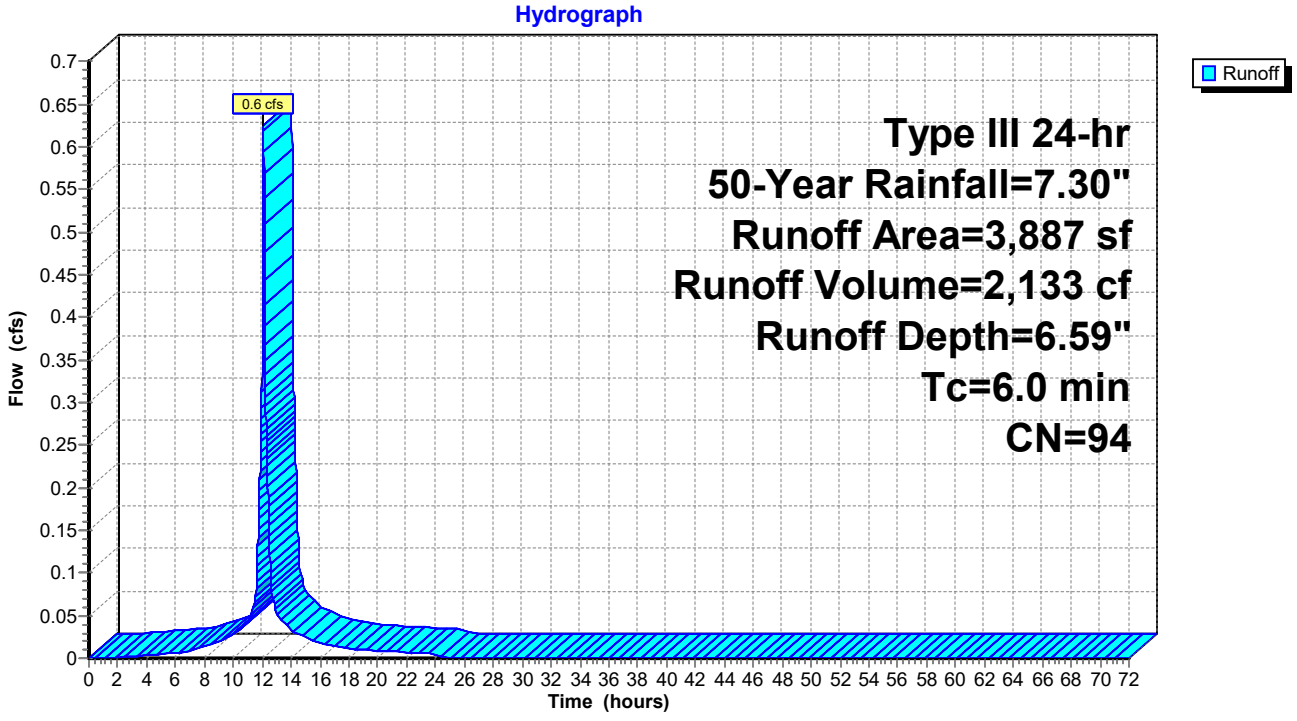
Runoff = 0.6 cfs @ 12.08 hrs, Volume= 2,133 cf, Depth= 6.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
2,903	98	Paved roads w/curbs & sewers, HSG D
163	96	Gravel surface, HSG D
821	80	>75% Grass cover, Good, HSG D
3,887	94	Weighted Average
984		25.32% Pervious Area
2,903		74.68% Impervious Area

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

Subcatchment S4.11: Subcatchment 4.11



Summary for Subcatchment S4.12: Subcatchment 4.12

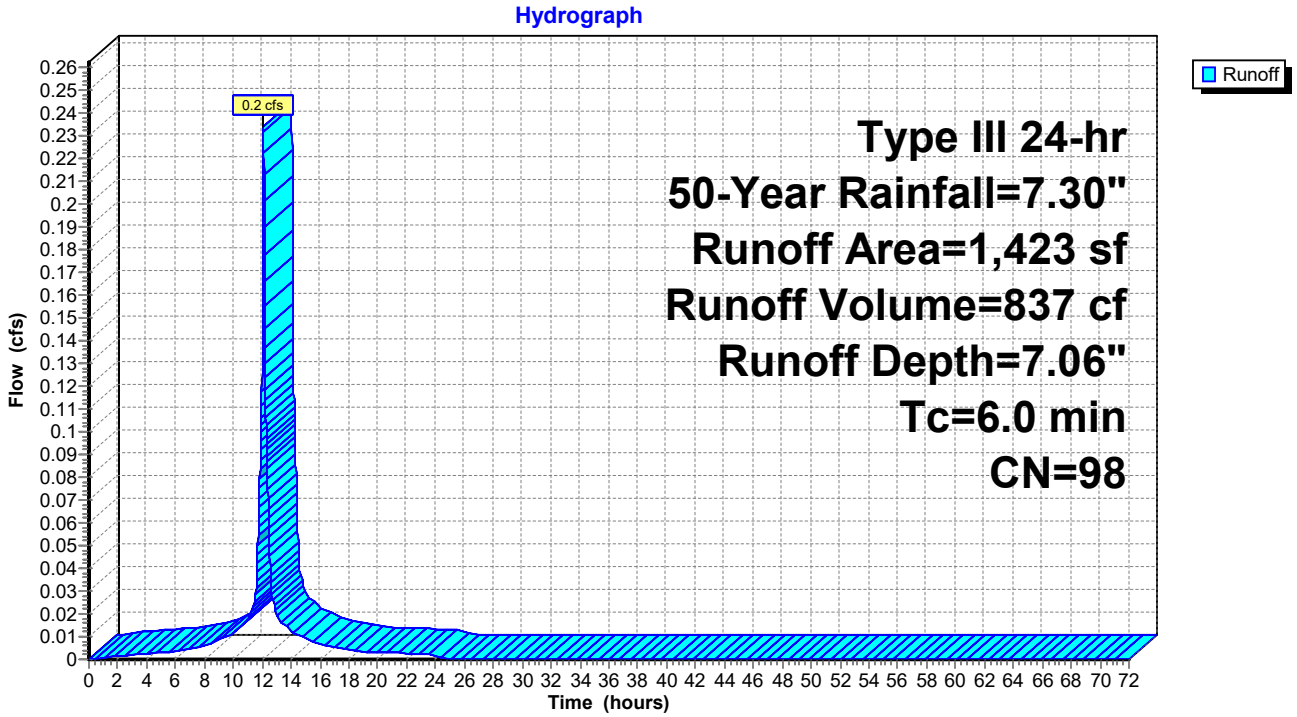
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 837 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,423	98	Paved roads w/curbs & sewers, HSG D
1,423		100.00% Impervious Area

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

Subcatchment S4.12: Subcatchment 4.12



Summary for Subcatchment S4.13: Subcatchment 4.13

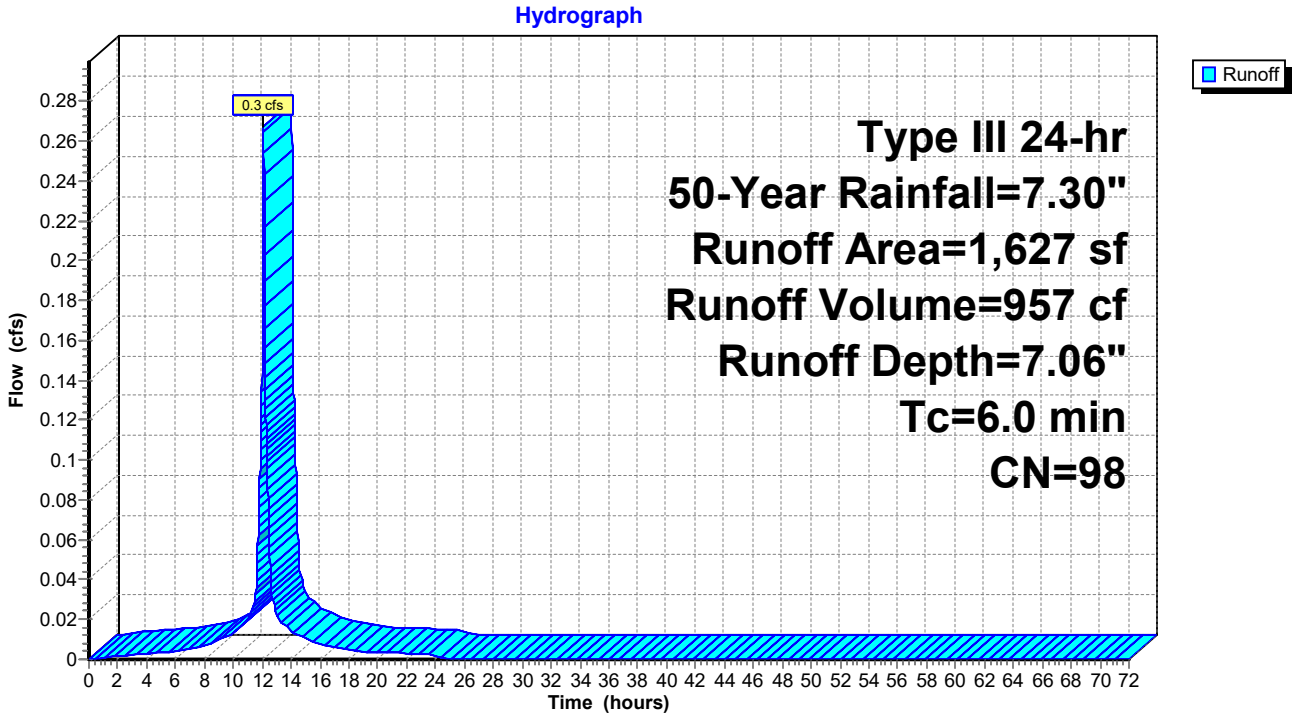
Runoff = 0.3 cfs @ 12.08 hrs, Volume= 957 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,627	98	Paved roads w/curbs & sewers, HSG D
1,627		100.00% Impervious Area

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

Subcatchment S4.13: Subcatchment 4.13



Summary for Subcatchment S4.2: Subcatchment 4.2

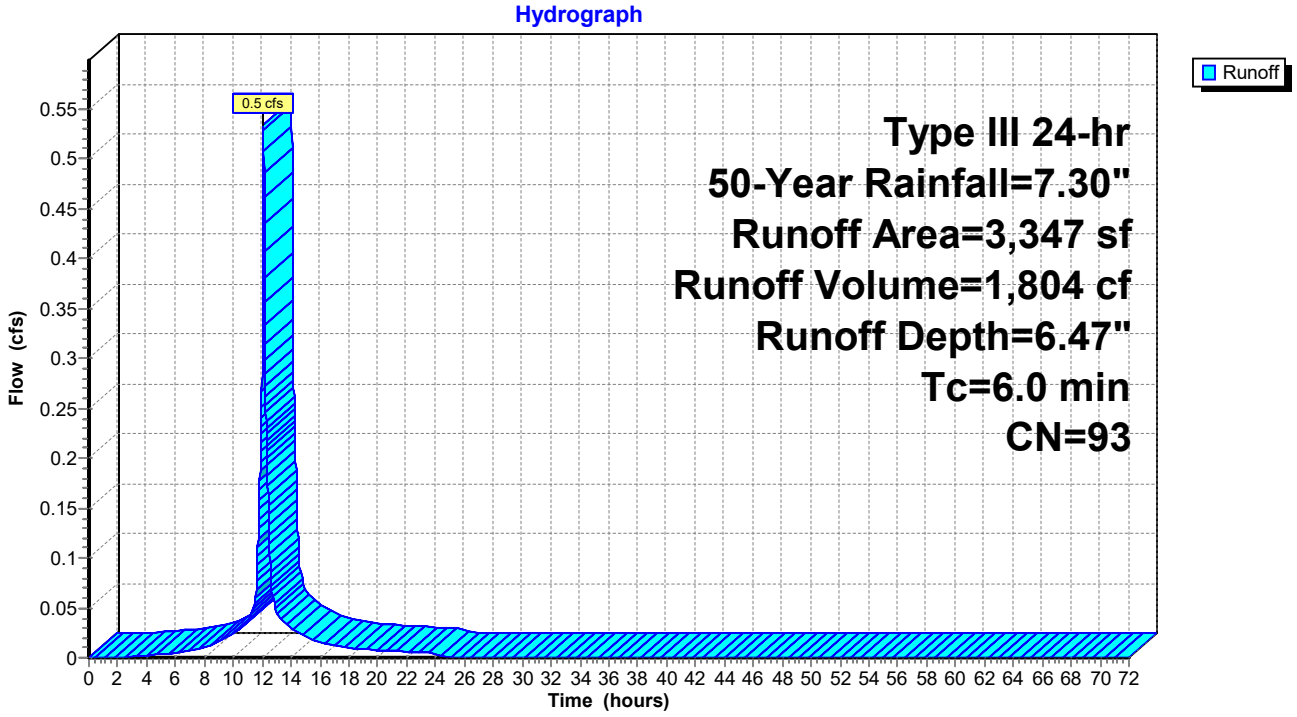
Runoff = 0.5 cfs @ 12.08 hrs, Volume= 1,804 cf, Depth= 6.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
796	98	Paved parking, HSG D
74	96	Gravel surface, HSG D
754	80	>75% Grass cover, Good, HSG D
1,602	98	Paved parking, HSG A
40	39	>75% Grass cover, Good, HSG A
81	96	Gravel surface, HSG A
3,347	93	Weighted Average
949		28.35% Pervious Area
2,398		71.65% Impervious Area

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

Subcatchment S4.2: Subcatchment 4.2



Summary for Subcatchment S4.3: Subcatchment 4.3

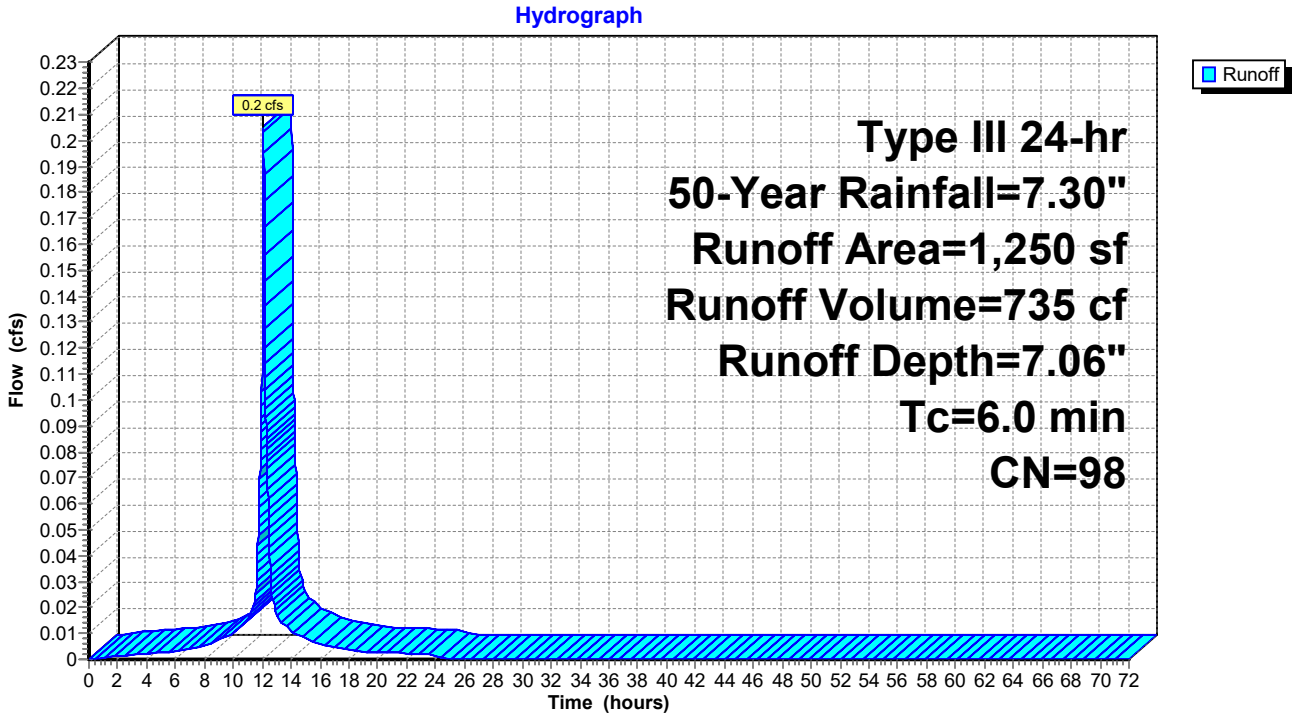
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.3: Subcatchment 4.3



Summary for Subcatchment S4.4: Subcatchment 4.4

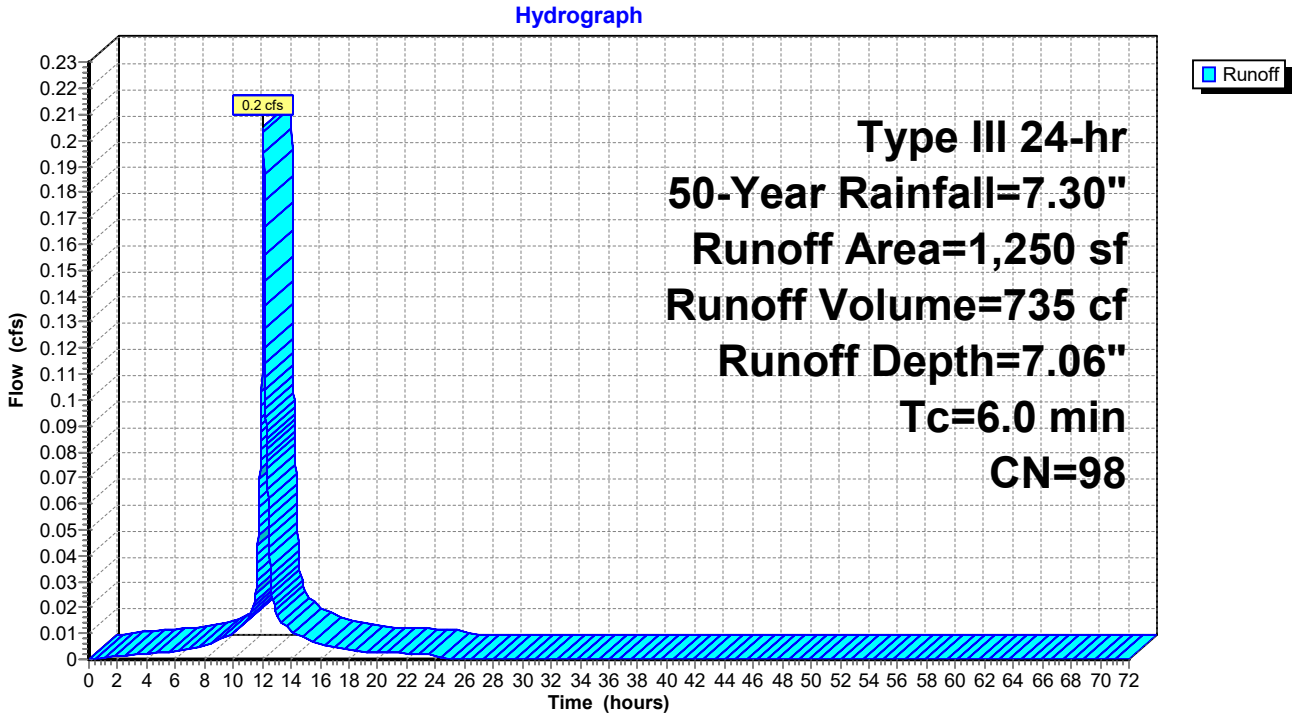
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.4: Subcatchment 4.4



Summary for Subcatchment S4.5: Subcatchment 4.5

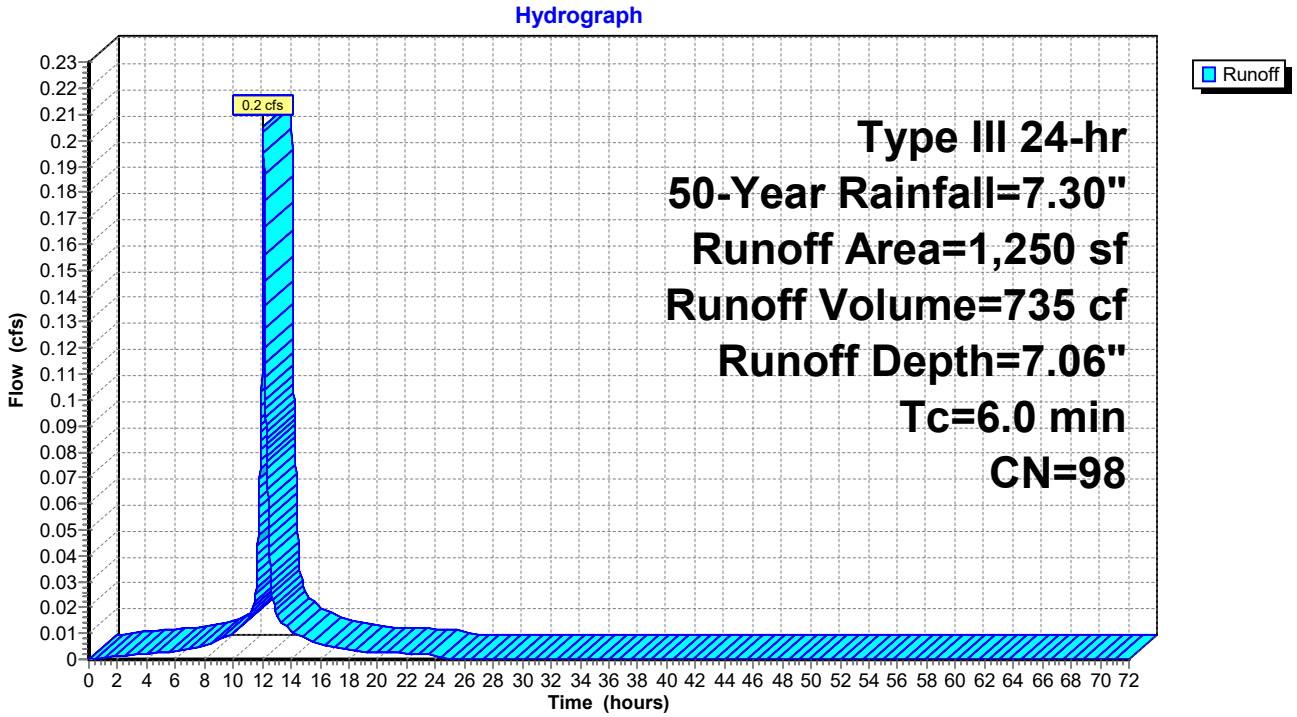
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.5: Subcatchment 4.5



Summary for Subcatchment S4.6: Subcatchment 4.6

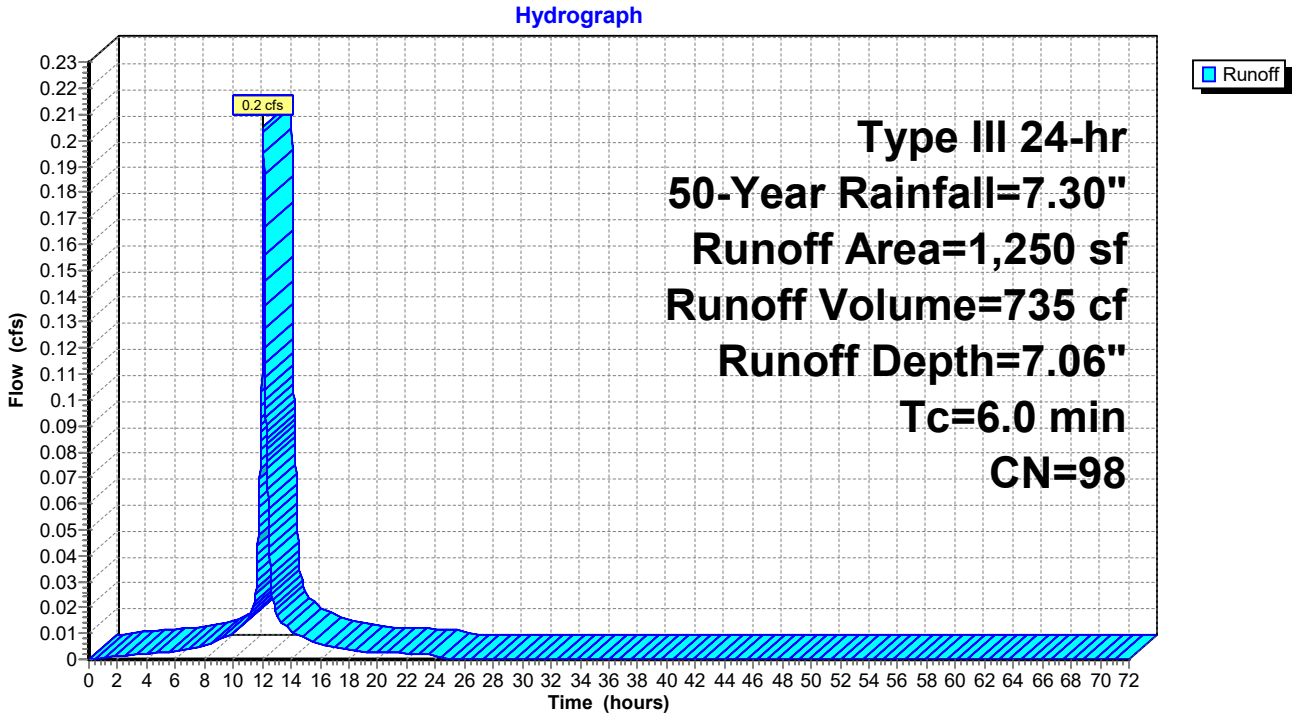
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S4.6: Subcatchment 4.6



Summary for Subcatchment S4.7: Subcatchment 4.7

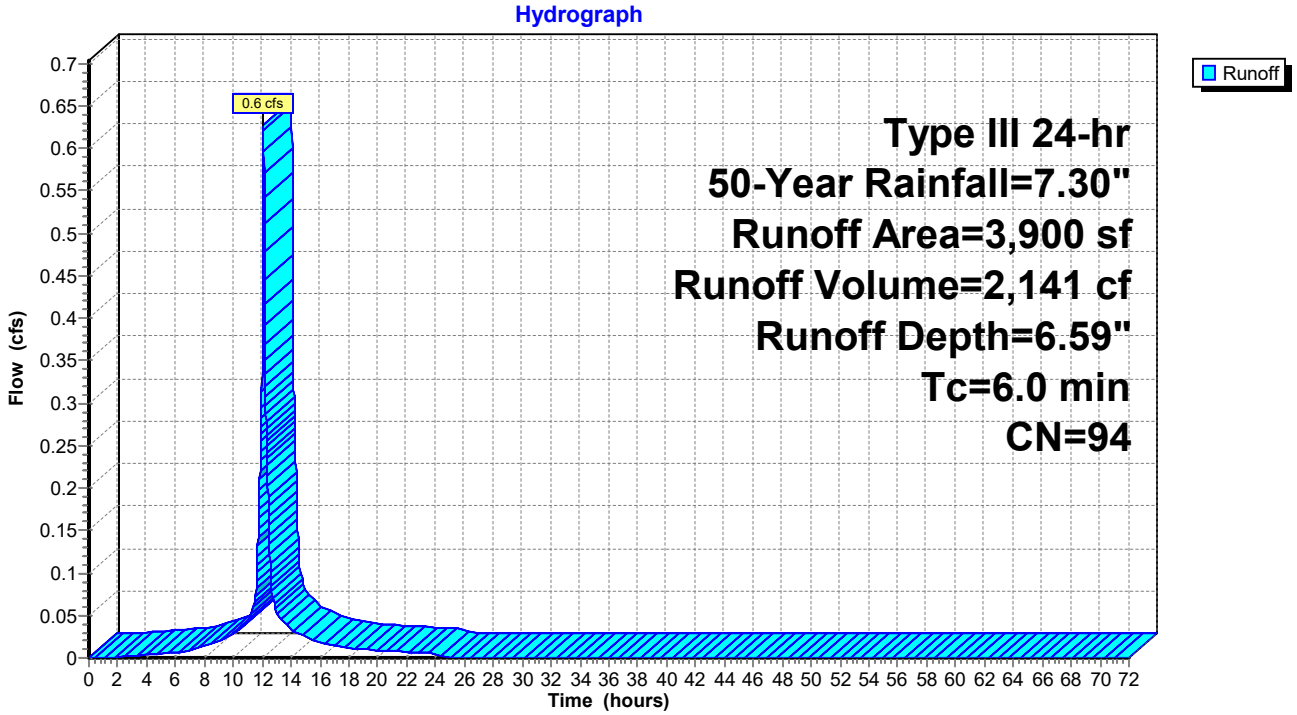
Runoff = 0.6 cfs @ 12.08 hrs, Volume= 2,141 cf, Depth= 6.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
874	80	>75% Grass cover, Good, HSG D
166	96	Gravel surface, HSG D
297	98	Paved roads w/curbs & sewers, HSG A
2,563	98	Paved roads w/curbs & sewers, HSG D
3,900	94	Weighted Average
1,040		26.67% Pervious Area
2,860		73.33% Impervious Area

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

Subcatchment S4.7: Subcatchment 4.7



Summary for Subcatchment S4.8: Subcatchment 4.8

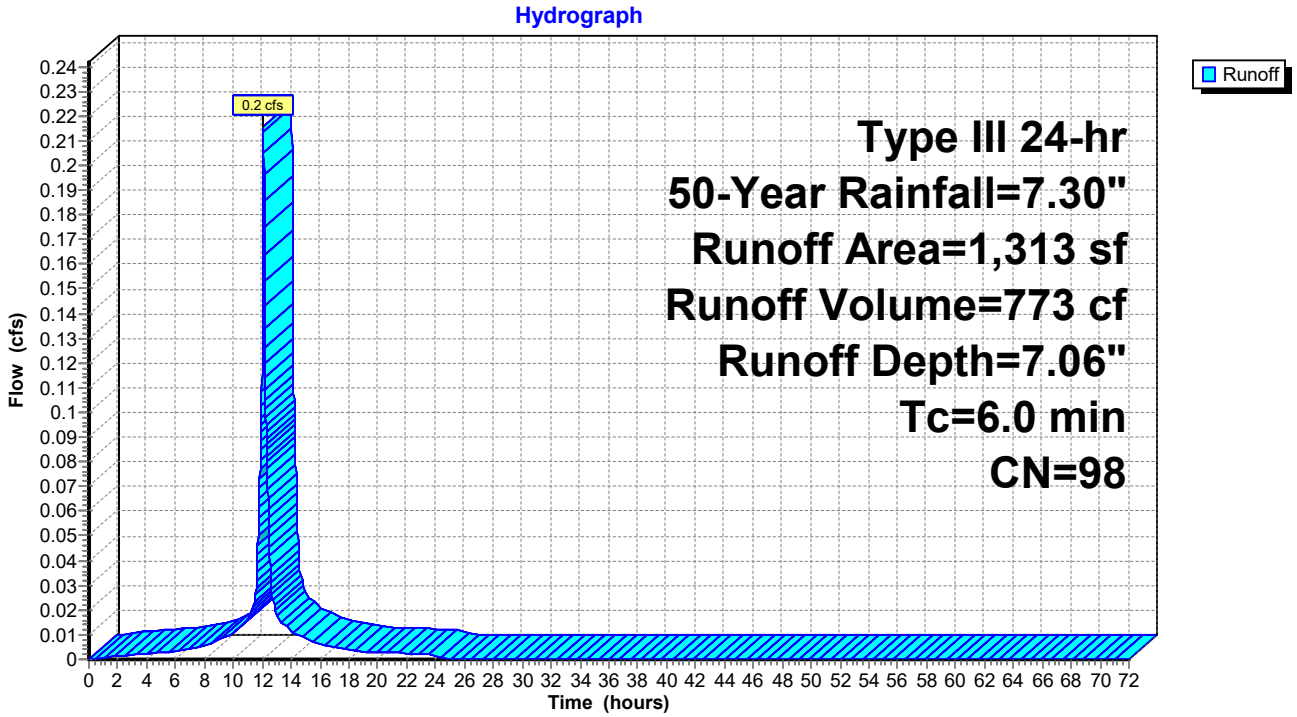
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 773 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,313	98	Paved roads w/curbs & sewers, HSG D
1,313		100.00% Impervious Area

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

Subcatchment S4.8: Subcatchment 4.8



Summary for Subcatchment S4.9: Subcatchment 4.9

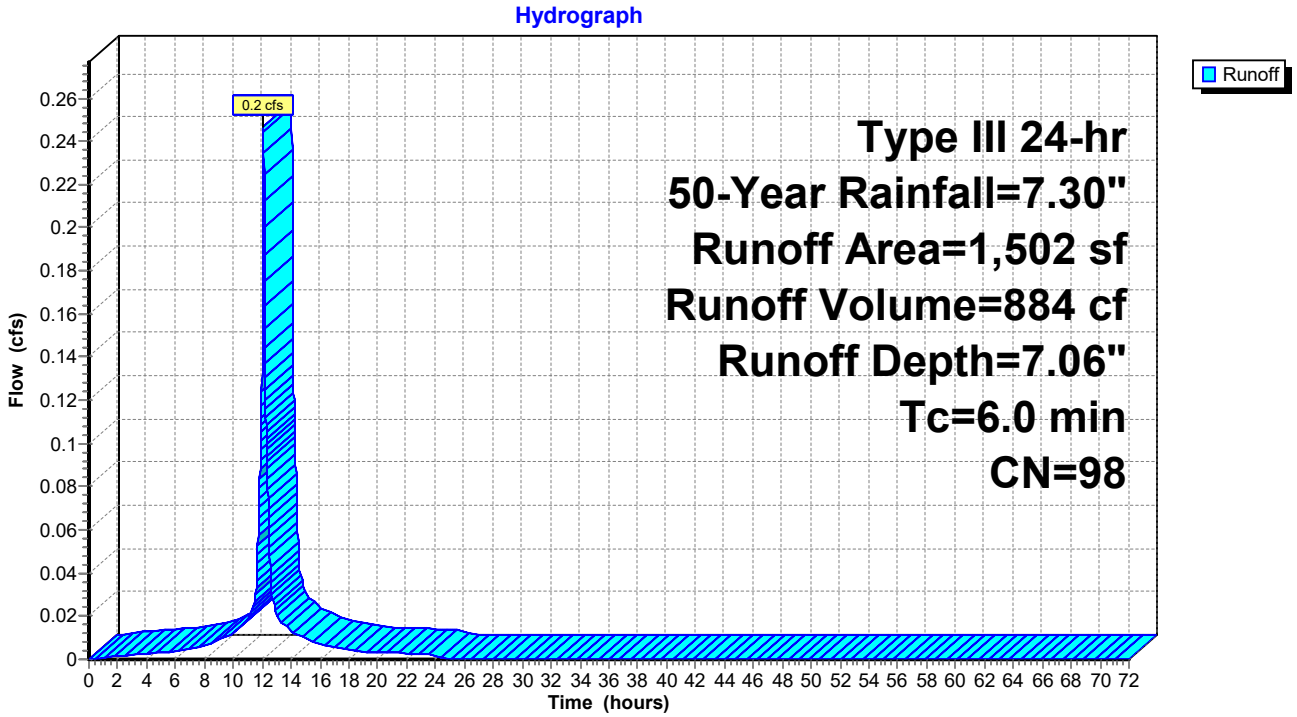
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 884 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,502	98	Paved roads w/curbs & sewers, HSG D
1,502		100.00% Impervious Area

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

Subcatchment S4.9: Subcatchment 4.9



Summary for Subcatchment S5.1: Subcatchment 5.1

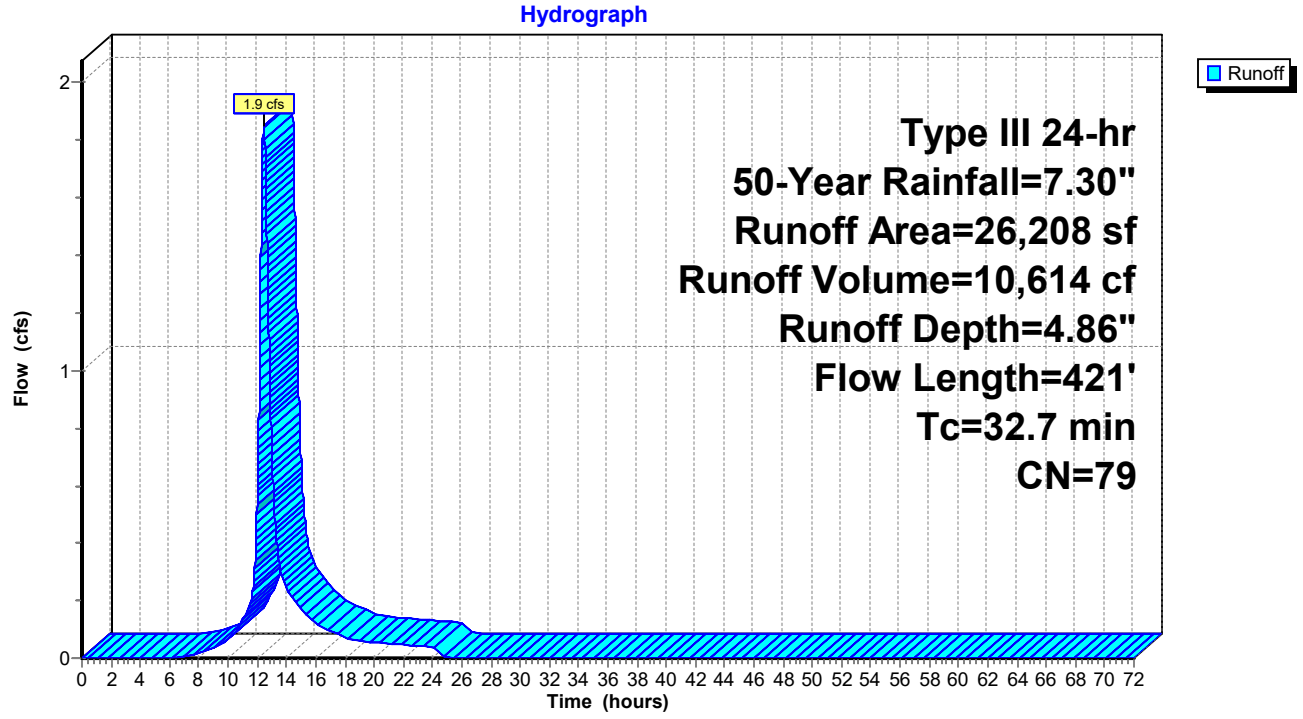
Runoff = 1.9 cfs @ 12.46 hrs, Volume= 10,614 cf, Depth= 4.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
12,258	77	Woods, Good, HSG D
13,250	80	>75% Grass cover, Good, HSG D
700	98	Roofs, HSG D
26,208	79	Weighted Average
25,508		97.33% Pervious Area
700		2.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1	150	0.0267	0.10		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
1.8	53	0.0100	0.50		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
4.8	218	0.0229	0.76		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
32.7	421	Total			

Subcatchment S5.1: Subcatchment 5.1



Summary for Subcatchment S5.2: Subcatchment 5.2

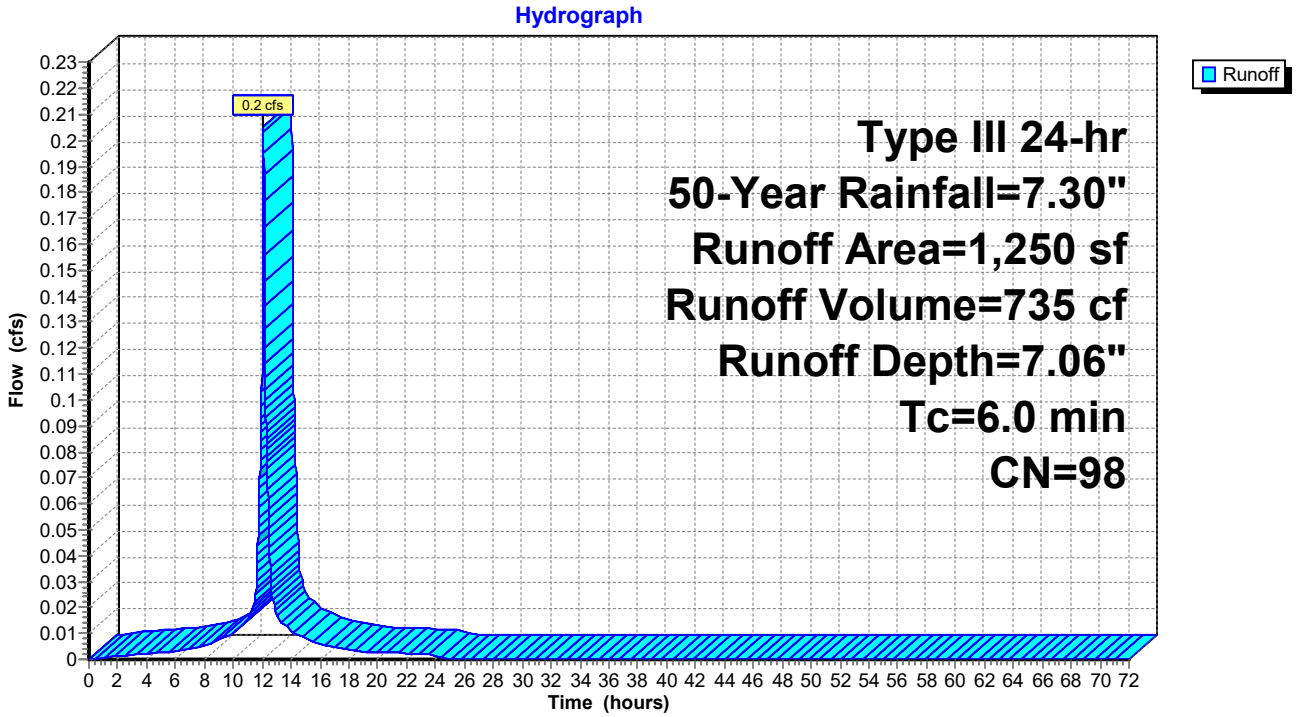
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.2: Subcatchment 5.2



Summary for Subcatchment S5.3: Subcatchment 5.3

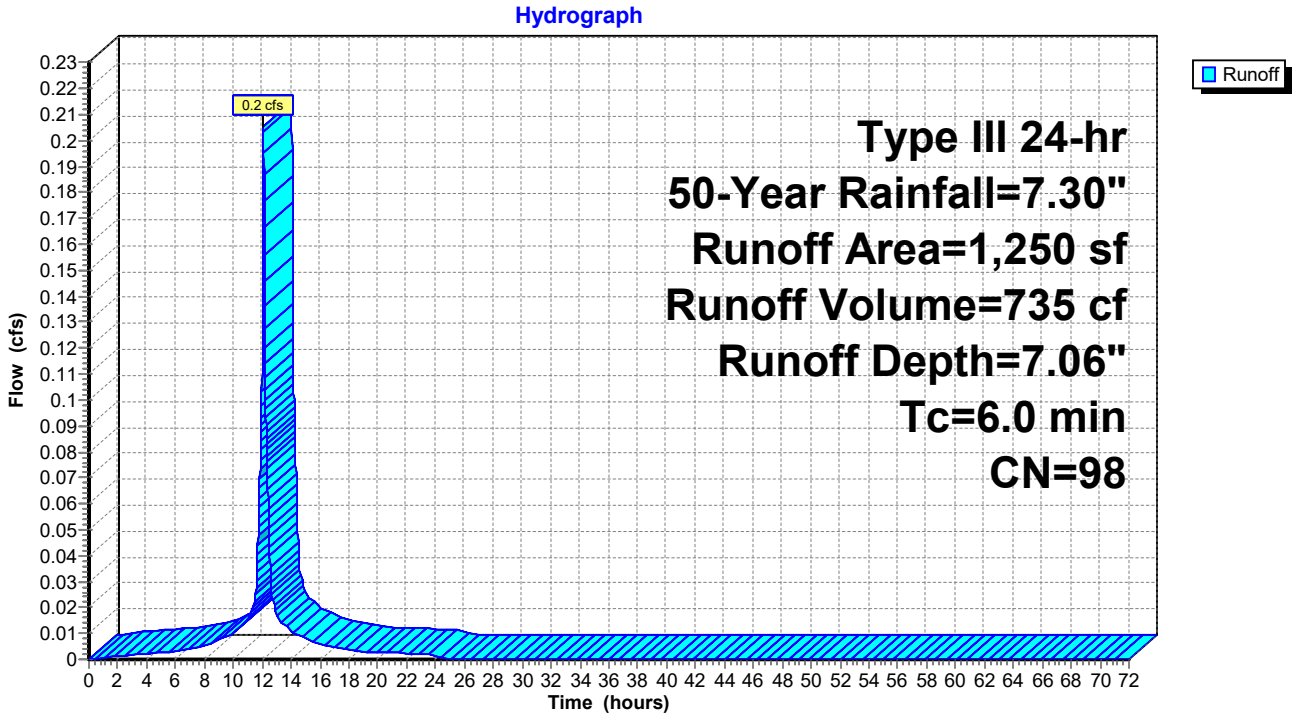
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.3: Subcatchment 5.3



Summary for Subcatchment S5.4: Subcatchment 5.4

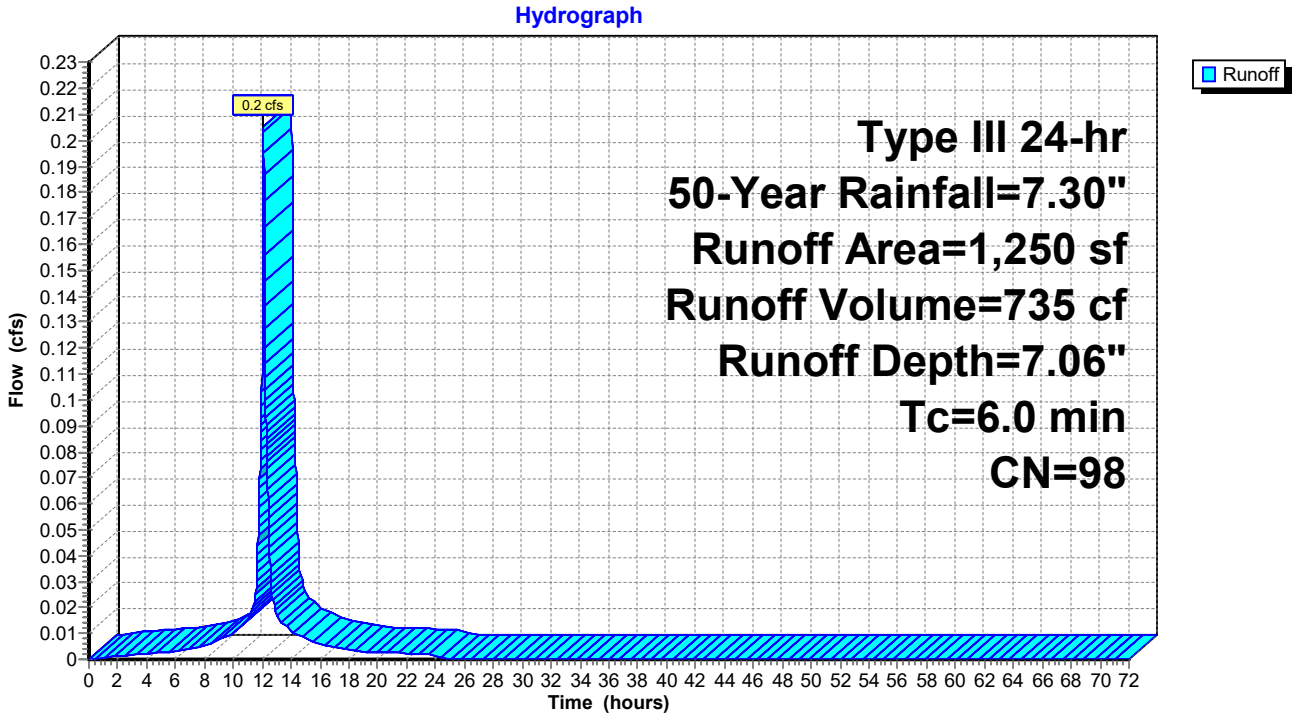
Runoff = 0.2 cfs @ 12.08 hrs, Volume= 735 cf, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.30"

Area (sf)	CN	Description
1,250	98	Roofs, HSG D
1,250		100.00% Impervious Area

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

Subcatchment S5.4: Subcatchment 5.4



Summary for Reach S1: Swale 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 5.43" for 50-Year event
Inflow = 4.3 cfs @ 12.26 hrs, Volume= 20,261 cf
Outflow = 4.3 cfs @ 12.27 hrs, Volume= 20,261 cf, Atten= 0%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.70 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 0.75 fps, Avg. Travel Time= 3.9 min

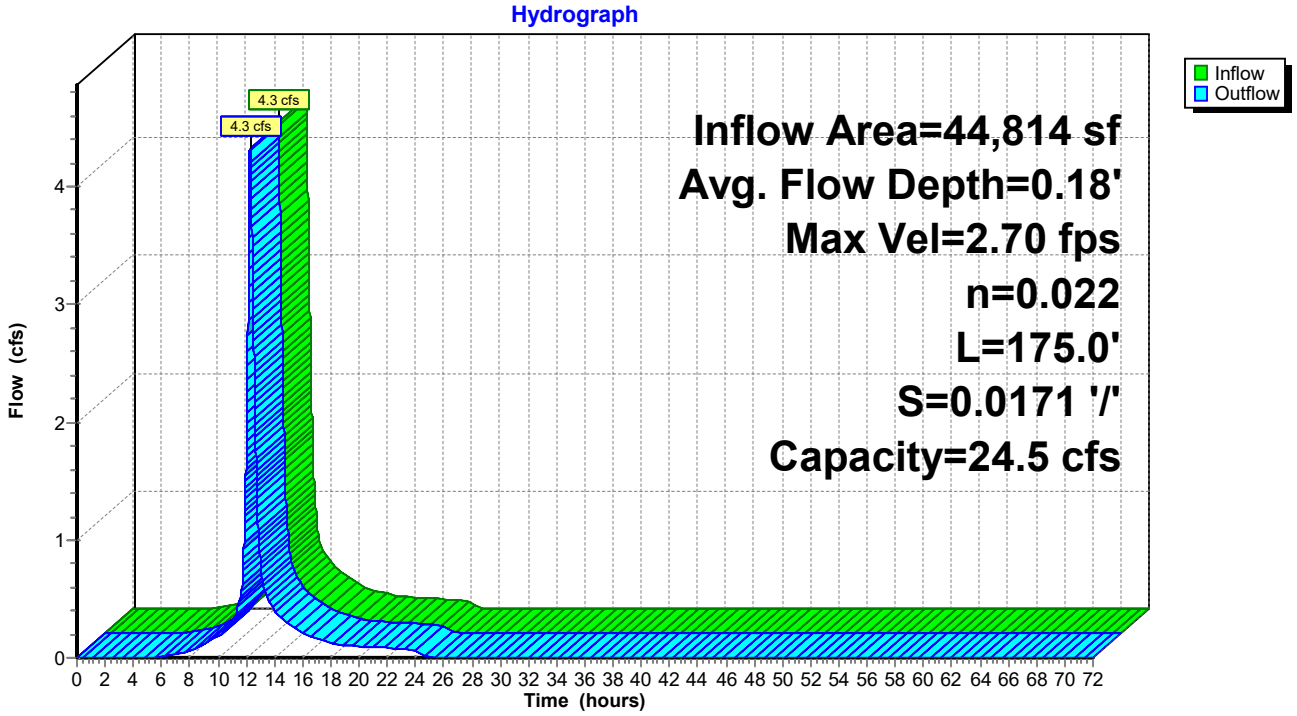
Peak Storage= 281 cf @ 12.27 hrs
Average Depth at Peak Storage= 0.18' , Surface Width= 9.47'
Bank-Full Depth= 0.50' Flow Area= 5.0 sf, Capacity= 24.5 cfs

8.00' x 0.50' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 4.0 '/' Top Width= 12.00'
Length= 175.0' Slope= 0.0171 '/'
Inlet Invert= 69.00', Outlet Invert= 66.00'



‡

Reach S1: Swale 1



Summary for Pond C1: Culvert 1

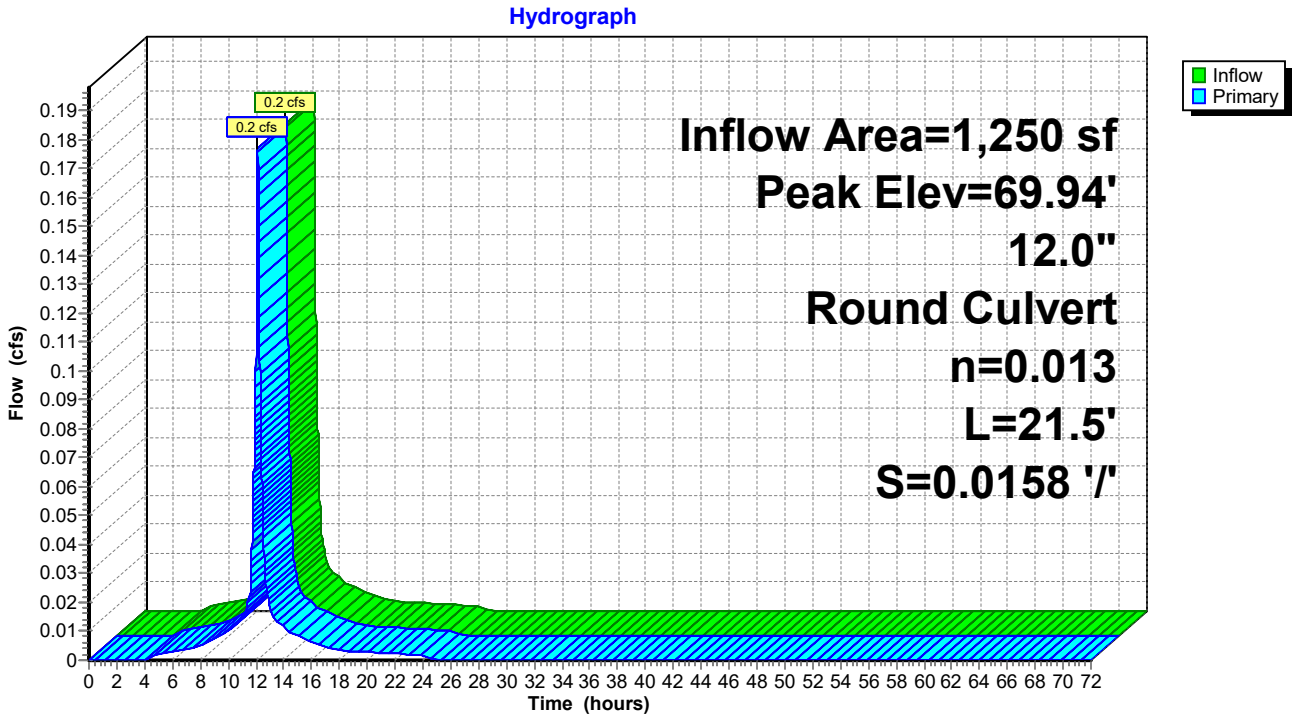
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 6.90" for 50-Year event
Inflow = 0.2 cfs @ 12.13 hrs, Volume= 718 cf
Outflow = 0.2 cfs @ 12.13 hrs, Volume= 718 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.13 hrs, Volume= 718 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.94' @ 12.13 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 21.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0158 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.13 hrs HW=69.94' TW=69.75' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.2 cfs @ 1.76 fps)

Pond C1: Culvert 1



Summary for Pond C10: Culvert 10

[57] Hint: Peaked at 71.05' (Flood elevation advised)
[80] Warning: Exceeded Pond RD6 by 1.20' @ 12.13 hrs (0.5 cfs 56 cf)

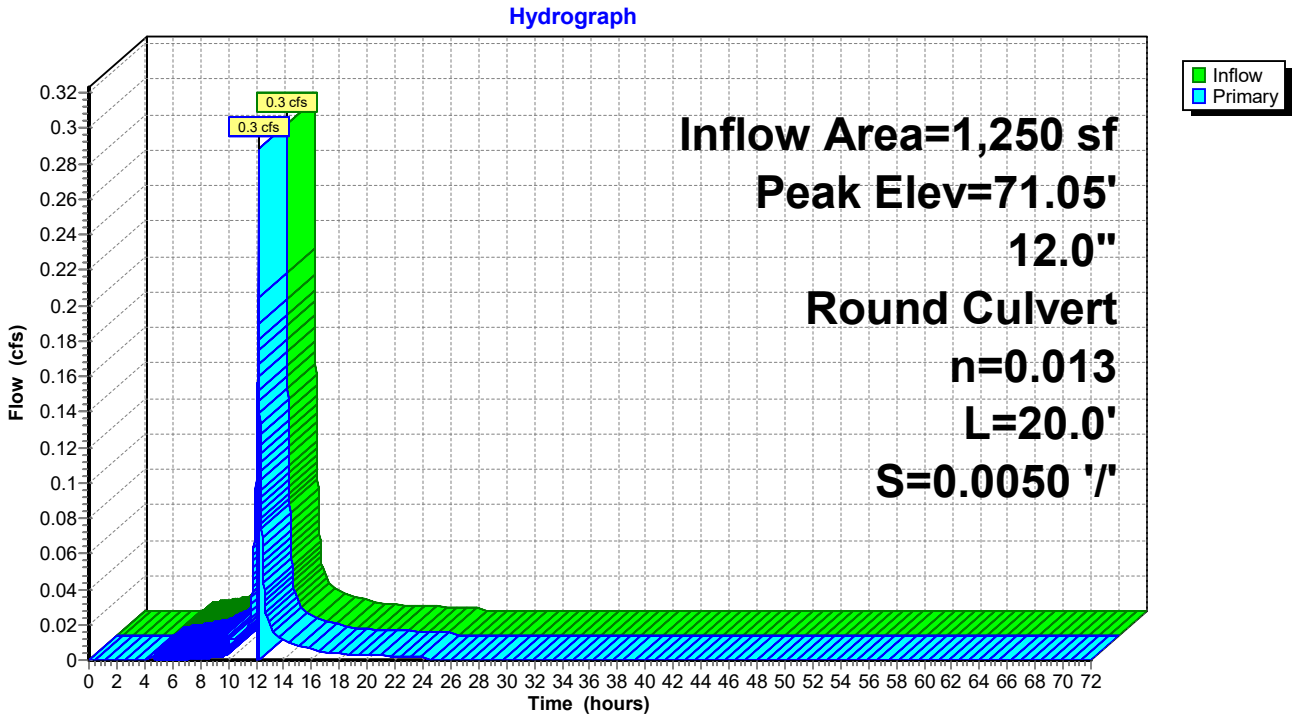
Inflow Area =	1,250 sf,100.00% Impervious,	Inflow Depth =	6.90"	for	50-Year event
Inflow =	0.3 cfs @	12.15 hrs, Volume=	719 cf		
Outflow =	0.3 cfs @	12.15 hrs, Volume=	719 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.3 cfs @	12.15 hrs, Volume=	719 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 71.05' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**12.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.13' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.8 cfs @ 12.15 hrs HW=70.47' TW=70.12' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.8 cfs @ 2.23 fps)

Pond C10: Culvert 10



Summary for Pond C11: Culvert 11

[57] Hint: Peaked at 71.04' (Flood elevation advised)
[80] Warning: Exceeded Pond C10 by 1.81' @ 12.12 hrs (3.4 cfs 379 cf)
[80] Warning: Exceeded Pond C9 by 0.42' @ 12.12 hrs (1.9 cfs 219 cf)

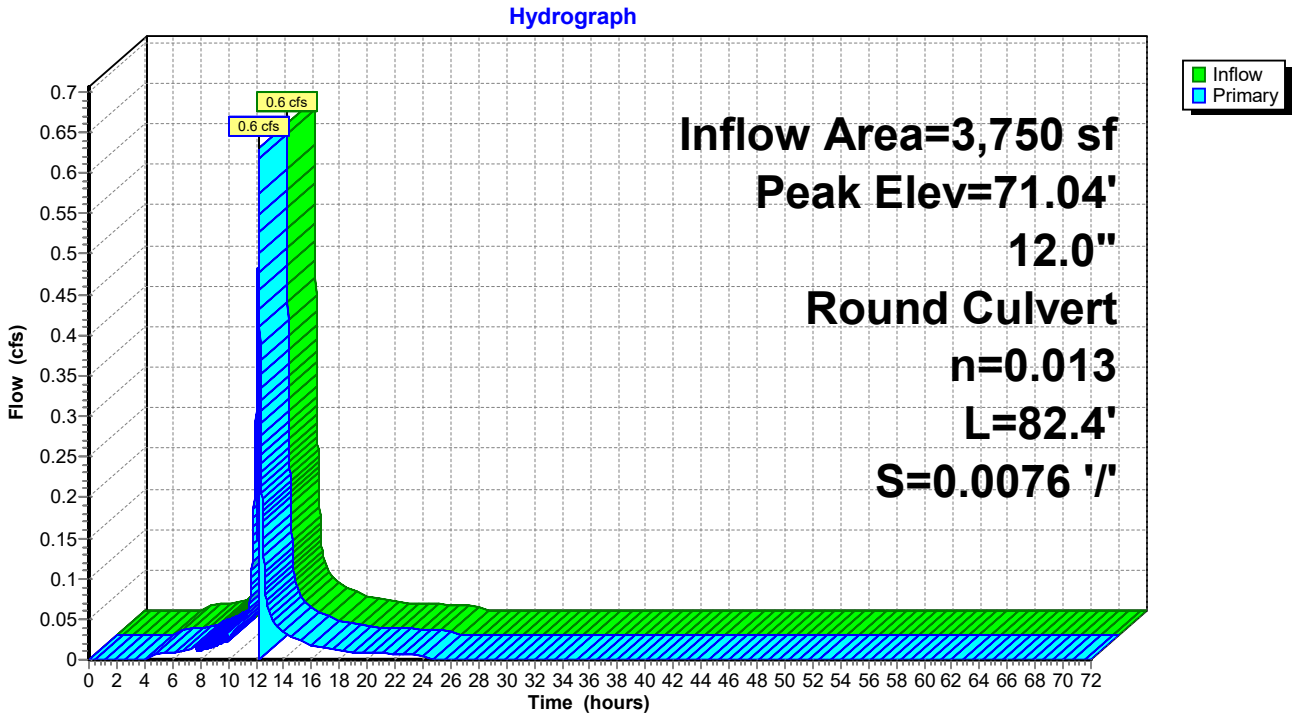
Inflow Area =	3,750 sf,	100.00% Impervious,	Inflow Depth =	6.90"	for 50-Year event
Inflow =	0.6 cfs @	12.18 hrs,	Volume=	2,155 cf	
Outflow =	0.6 cfs @	12.18 hrs,	Volume=	2,155 cf,	Atten= 0%, Lag= 0.0 min
Primary =	0.6 cfs @	12.18 hrs,	Volume=	2,155 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 71.04' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.13'	**12.0" Round Culvert** L= 82.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.13' / 68.50' S= 0.0076 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.6 cfs @ 12.18 hrs HW=69.60' TW=69.01' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.6 cfs @ 2.63 fps)

Pond C11: Culvert 11



Summary for Pond C2: Culvert 2

[57] Hint: Peaked at 69.75' (Flood elevation advised)
[80] Warning: Exceeded Pond RD2 by 0.01' @ 4.21 hrs (0.0 cfs 194 cf)

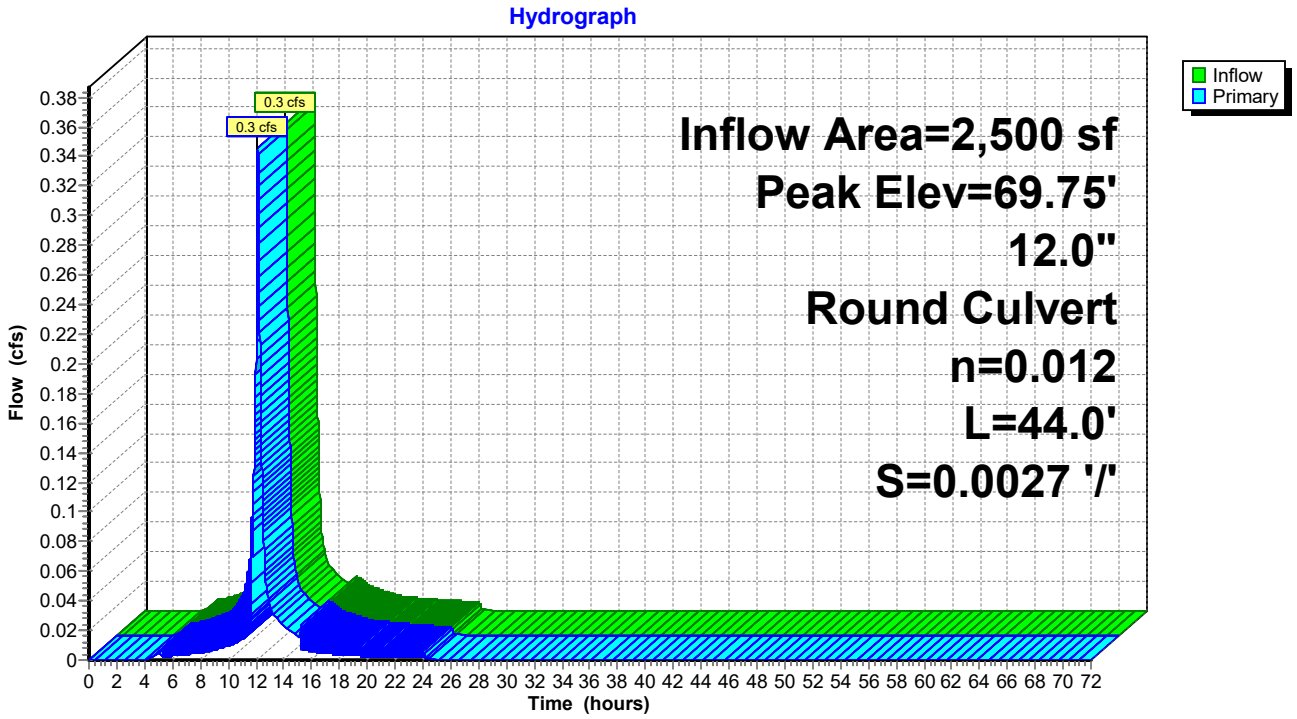
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	6.89"	for	50-Year event
Inflow =	0.3 cfs @	12.13 hrs, Volume=	1,436 cf		
Outflow =	0.3 cfs @	12.13 hrs, Volume=	1,436 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.3 cfs @	12.13 hrs, Volume=	1,436 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.75' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.23' S= 0.0027 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.3 cfs @ 12.13 hrs HW=69.75' TW=69.57' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.3 cfs @ 1.74 fps)

Pond C2: Culvert 2



Summary for Pond C3: Culvert 3

[57] Hint: Peaked at 69.57' (Flood elevation advised)

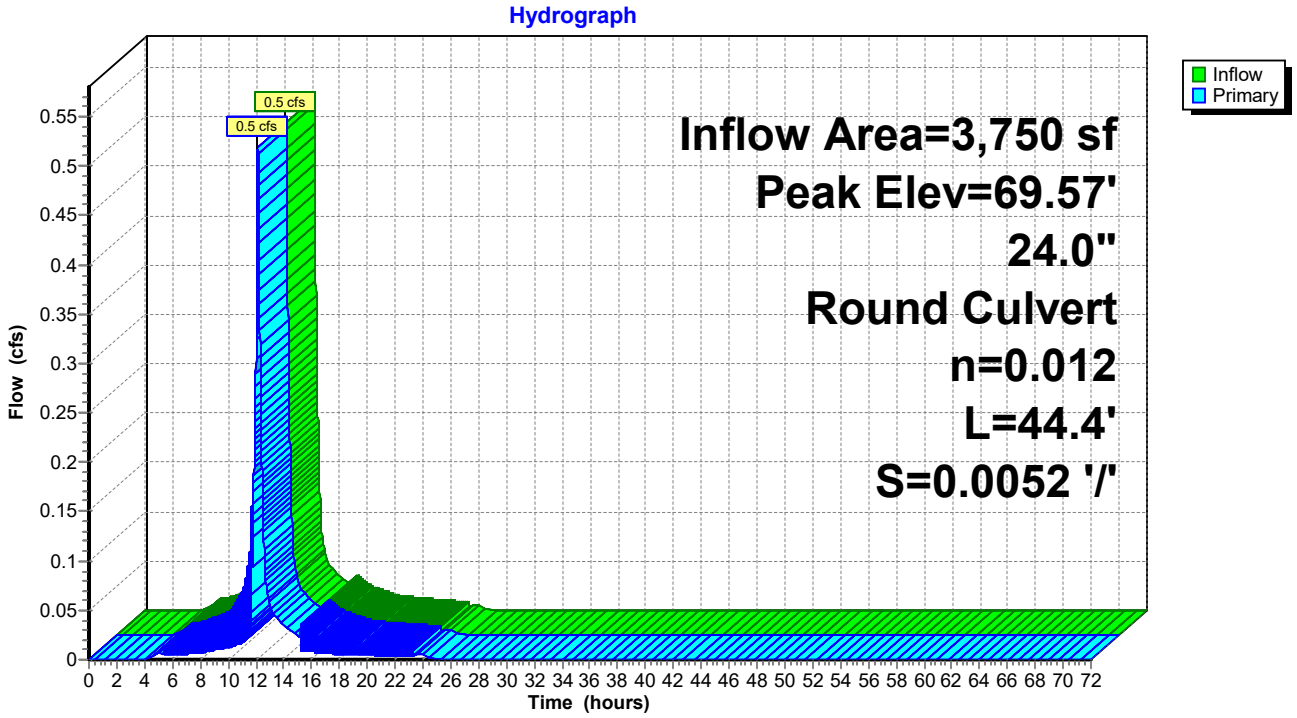
Inflow Area = 3,750 sf,100.00% Impervious, Inflow Depth = 6.89" for 50-Year event
Inflow = 0.5 cfs @ 12.13 hrs, Volume= 2,154 cf
Outflow = 0.5 cfs @ 12.13 hrs, Volume= 2,154 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.13 hrs, Volume= 2,154 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.57' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**24.0" Round Culvert** L= 44.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.23' / 69.00' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.5 cfs @ 12.13 hrs HW=69.57' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.5 cfs @ 2.23 fps)

Pond C3: Culvert 3



Summary for Pond C4: Culvert 4

[80] Warning: Exceeded Pond RD4 by 0.87' @ 12.14 hrs (0.4 cfs 30 cf)

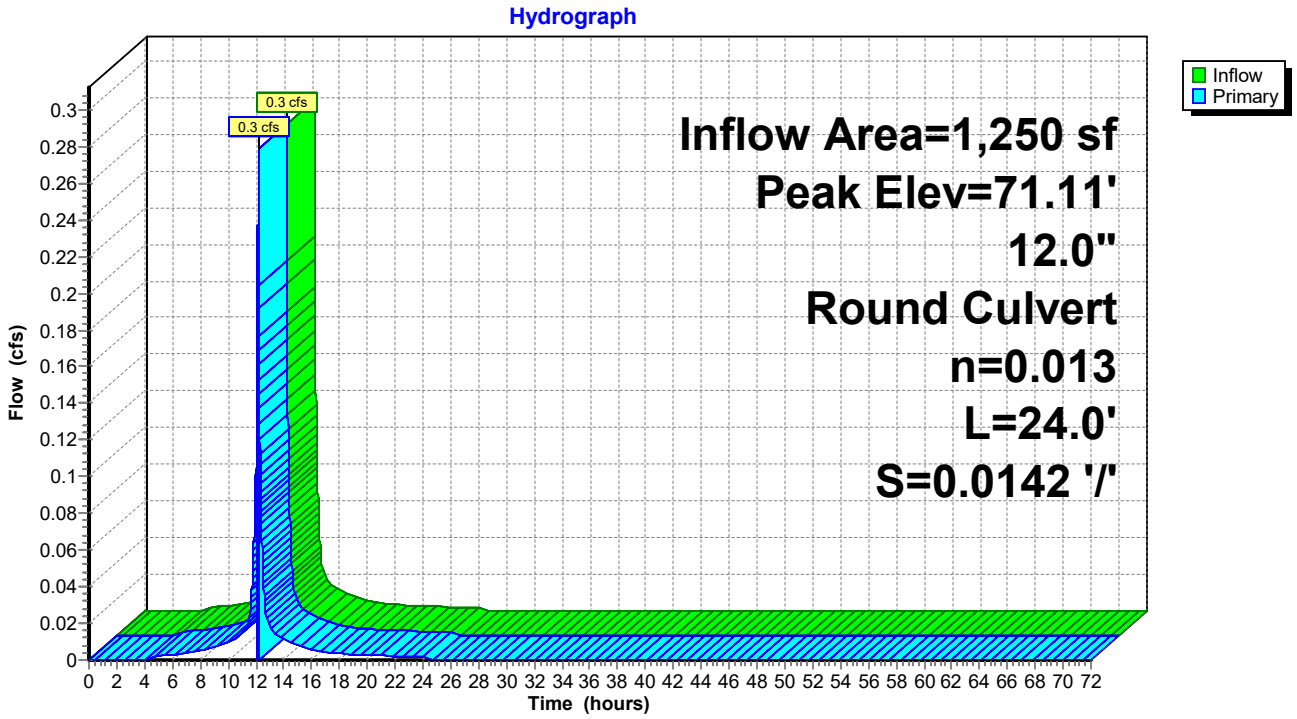
Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 6.90" for 50-Year event
Inflow = 0.3 cfs @ 12.17 hrs, Volume= 718 cf
Outflow = 0.3 cfs @ 12.17 hrs, Volume= 718 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.3 cfs @ 12.17 hrs, Volume= 718 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 71.11' @ 12.14 hrs
Flood Elev= 72.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.69' / 69.35' S= 0.0142 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.2 cfs @ 12.17 hrs HW=69.98' TW=69.84' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.2 cfs @ 1.55 fps)

Pond C4: Culvert 4



Summary for Pond C7: Culvert 7

[58] Hint: Peaked 0.53' above defined flood level
[80] Warning: Exceeded Pond RD7 by 2.27' @ 12.06 hrs (0.6 cfs 969 cf)

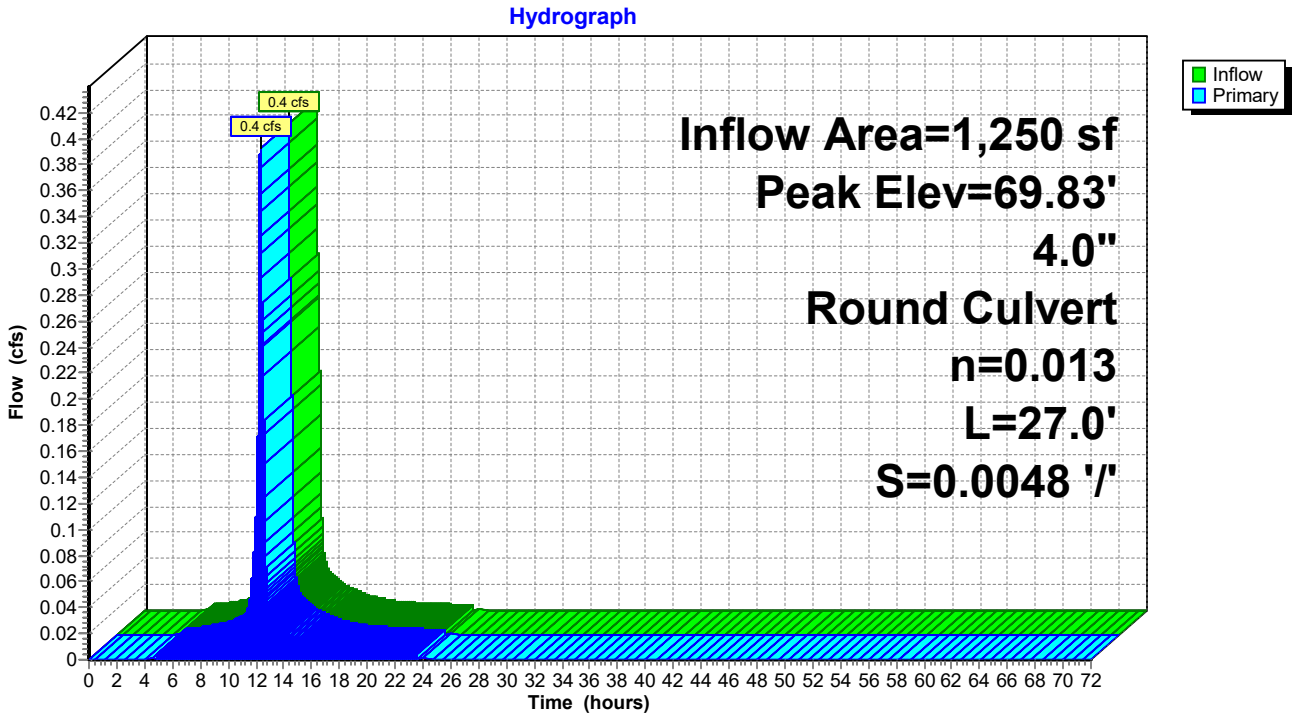
Inflow Area =	1,250 sf,100.00% Impervious,	Inflow Depth =	6.89"	for	50-Year event
Inflow =	0.4 cfs @	12.30 hrs, Volume=	718 cf		
Outflow =	0.4 cfs @	12.30 hrs, Volume=	718 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.4 cfs @	12.30 hrs, Volume=	718 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.83' @ 12.06 hrs
Flood Elev= 69.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Round Culvert** L= 27.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.55' / 66.42' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.4 cfs @ 12.30 hrs HW=68.89' TW=67.15' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.4 cfs @ 4.49 fps)

Pond C7: Culvert 7



Summary for Pond C8: Culvert 8

[58] Hint: Peaked 6.16' above defined flood level

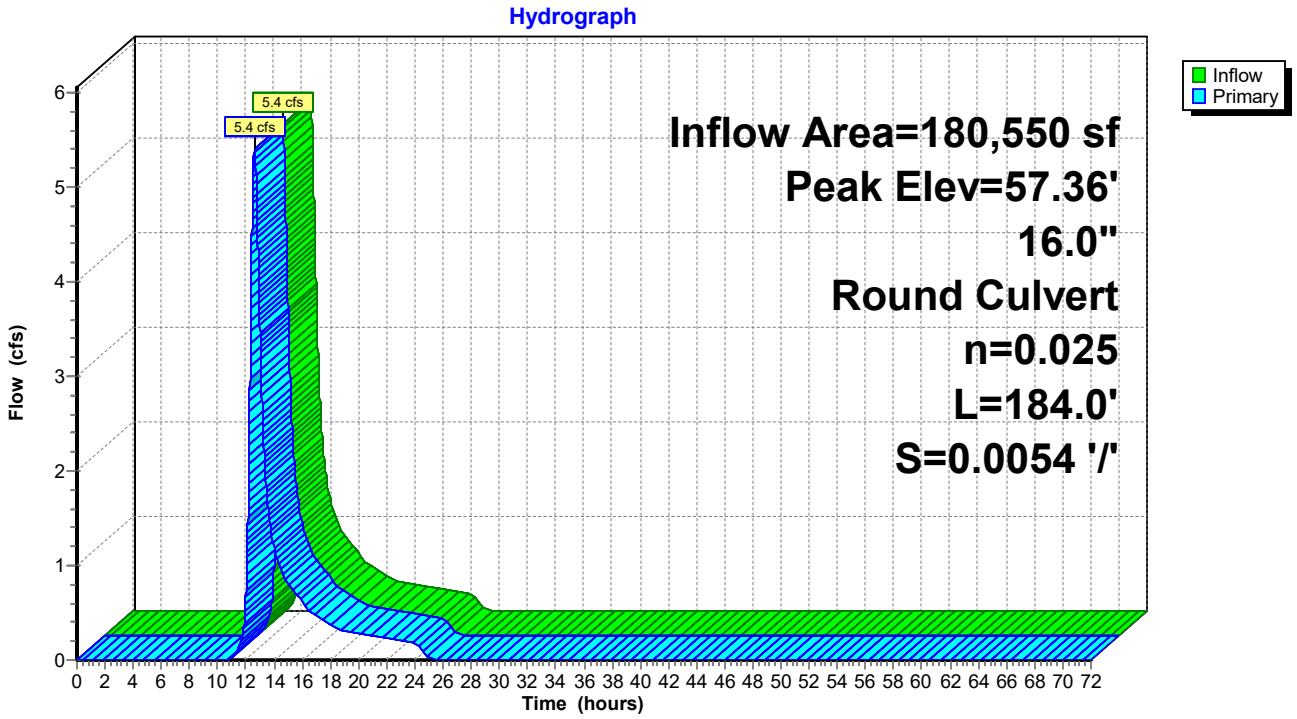
Inflow Area =	180,550 sf,	19.58% Impervious,	Inflow Depth =	2.42"	for 50-Year event
Inflow =	5.4 cfs @	12.59 hrs,	Volume=	36,343 cf	
Outflow =	5.4 cfs @	12.59 hrs,	Volume=	36,343 cf,	Atten= 0%, Lag= 0.0 min
Primary =	5.4 cfs @	12.59 hrs,	Volume=	36,343 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 57.36' @ 12.68 hrs
Flood Elev= 51.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.20'	**16.0" Round Culvert** L= 184.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.20' / 50.20' S= 0.0054 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.40 sf

Primary OutFlow Max=5.4 cfs @ 12.59 hrs HW=57.09' TW=53.33' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 5.4 cfs @ 3.84 fps)

Pond C8: Culvert 8



Summary for Pond C9: Culvert 9

[57] Hint: Peaked at 71.04' (Flood elevation advised)
[80] Warning: Exceeded Pond C4 by 1.35' @ 12.13 hrs (2.8 cfs 188 cf)
[80] Warning: Exceeded Pond RD5 by 1.02' @ 12.13 hrs (0.4 cfs 62 cf)

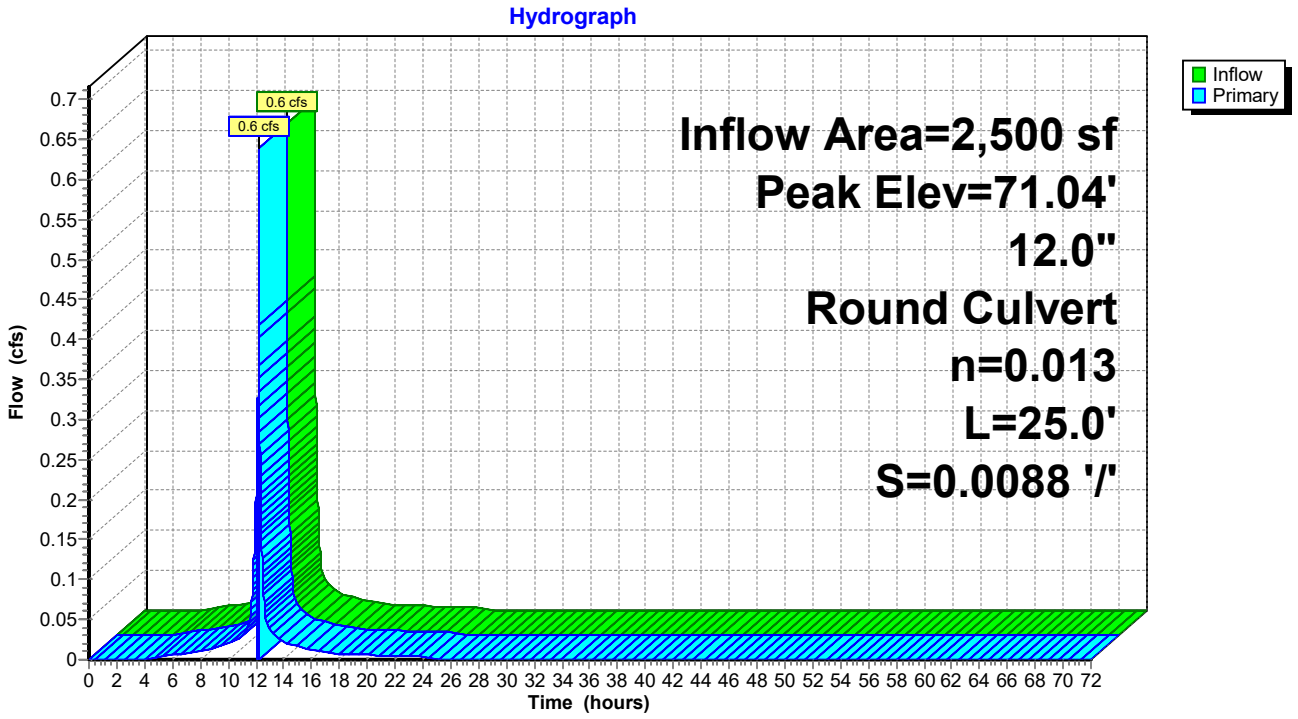
Inflow Area =	2,500 sf,100.00% Impervious,	Inflow Depth =	6.89"	for	50-Year event
Inflow =	0.6 cfs @ 12.17 hrs,	Volume=	1,436 cf		
Outflow =	0.6 cfs @ 12.17 hrs,	Volume=	1,436 cf,	Atten= 0%,	Lag= 0.0 min
Primary =	0.6 cfs @ 12.17 hrs,	Volume=	1,436 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 71.04' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**12.0" Round Culvert** L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.35' / 69.13' S= 0.0088 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.6 cfs @ 12.17 hrs HW=69.85' TW=69.60' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.6 cfs @ 2.35 fps)

Pond C9: Culvert 9



Summary for Pond CB1: Catch Basin 1

[80] Warning: Exceeded Pond C11 by 0.42' @ 12.11 hrs (1.9 cfs 215 cf)

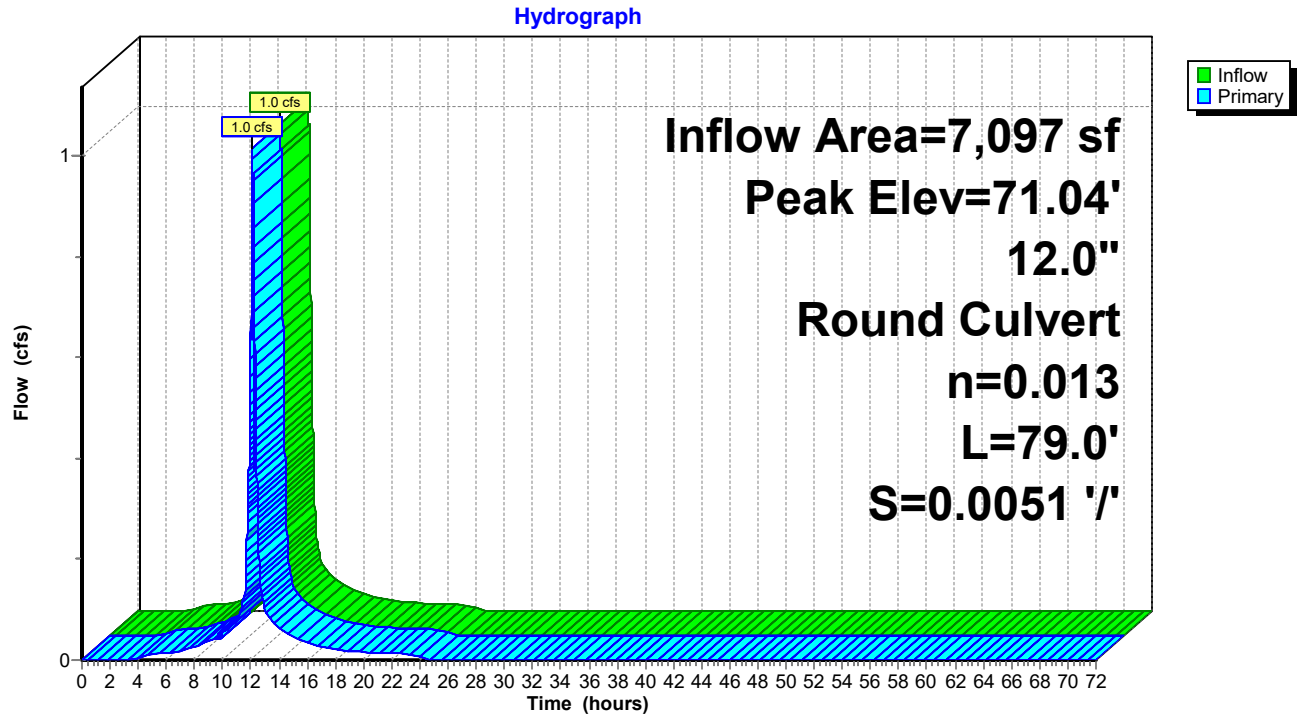
Inflow Area =	7,097 sf,	86.63% Impervious,	Inflow Depth =	6.69"	for 50-Year event
Inflow =	1.0 cfs @	12.09 hrs,	Volume=	3,959 cf	
Outflow =	1.0 cfs @	12.09 hrs,	Volume=	3,959 cf,	Atten= 0%, Lag= 0.0 min
Primary =	1.0 cfs @	12.09 hrs,	Volume=	3,959 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 71.04' @ 12.11 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	**12.0" Round Culvert** L= 79.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.40' / 68.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.09 hrs HW=70.15' TW=70.46' (Dynamic Tailwater)
↳**1=Culvert** (Controls 0.0 cfs)

Pond CB1: Catch Basin 1



Summary for Pond CB10: Catch Basin 10

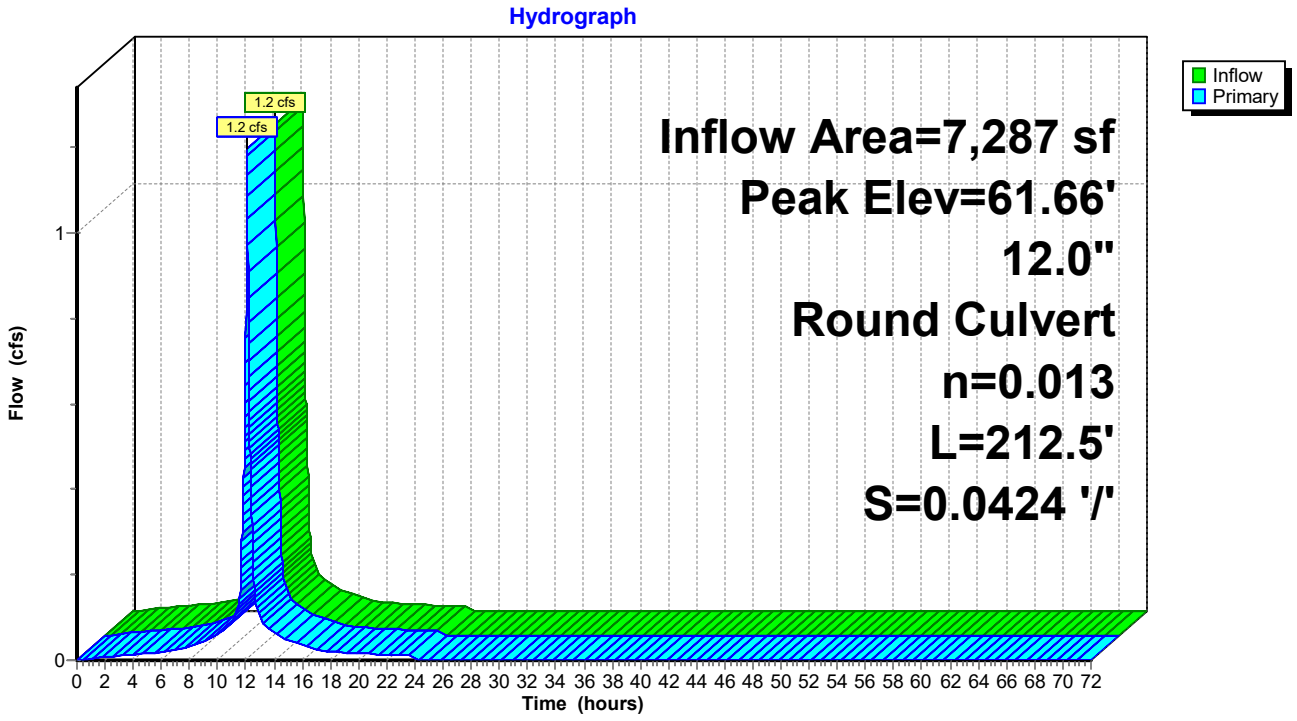
Inflow Area = 7,287 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 1.2 cfs @ 12.08 hrs, Volume= 4,288 cf
Outflow = 1.2 cfs @ 12.08 hrs, Volume= 4,288 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.2 cfs @ 12.08 hrs, Volume= 4,288 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.66' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**12.0" Round Culvert** L= 212.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 52.00' S= 0.0424 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.2 cfs @ 12.08 hrs HW=61.66' TW=52.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.2 cfs @ 2.18 fps)

Pond CB10: Catch Basin 10



Summary for Pond CB11: Catch Basin 11

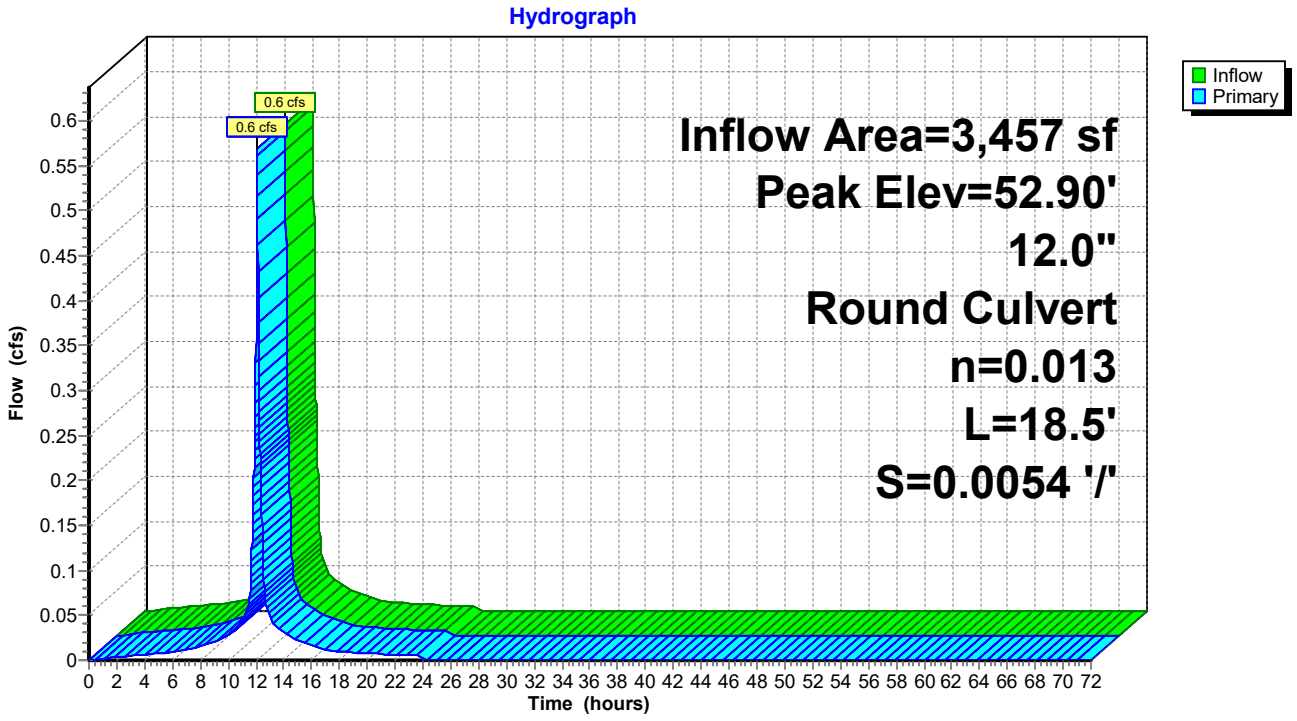
Inflow Area = 3,457 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.6 cfs @ 12.08 hrs, Volume= 2,034 cf
Outflow = 0.6 cfs @ 12.08 hrs, Volume= 2,034 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.6 cfs @ 12.08 hrs, Volume= 2,034 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.90' @ 12.09 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.00'	**12.0" Round Culvert** L= 18.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.00' / 51.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.5 cfs @ 12.08 hrs HW=52.89' TW=52.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.5 cfs @ 0.69 fps)

Pond CB11: Catch Basin 11



Summary for Pond CB12: Catch Basin 12

[80] Warning: Exceeded Pond CB11 by 0.01' @ 12.06 hrs (0.2 cfs 13 cf)

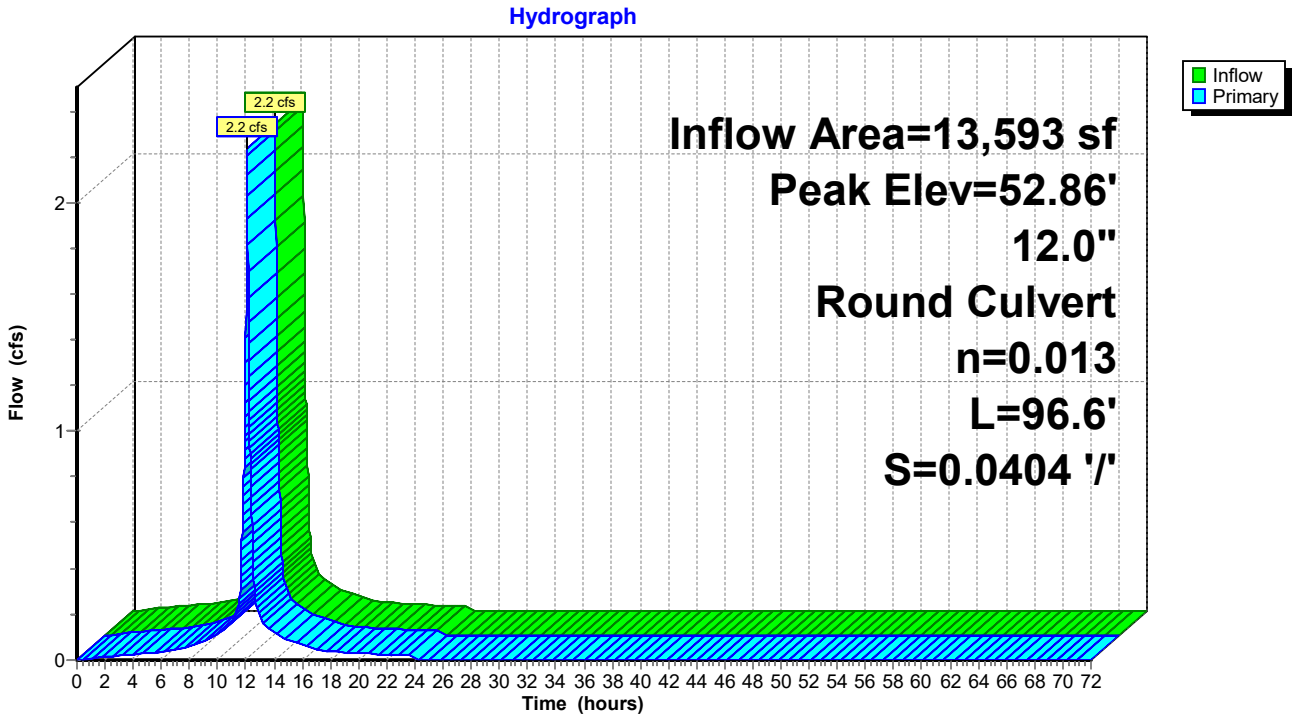
Inflow Area = 13,593 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 2.2 cfs @ 12.08 hrs, Volume= 7,998 cf
Outflow = 2.2 cfs @ 12.08 hrs, Volume= 7,998 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.2 cfs @ 12.08 hrs, Volume= 7,998 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.86' @ 12.08 hrs
Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.80'	**12.0" Round Culvert** L= 96.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.80' / 47.90' S= 0.0404 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.2 cfs @ 12.08 hrs HW=52.86' TW=50.89' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.2 cfs @ 2.84 fps)

Pond CB12: Catch Basin 12



Summary for Pond CB13: Catch Basin 13

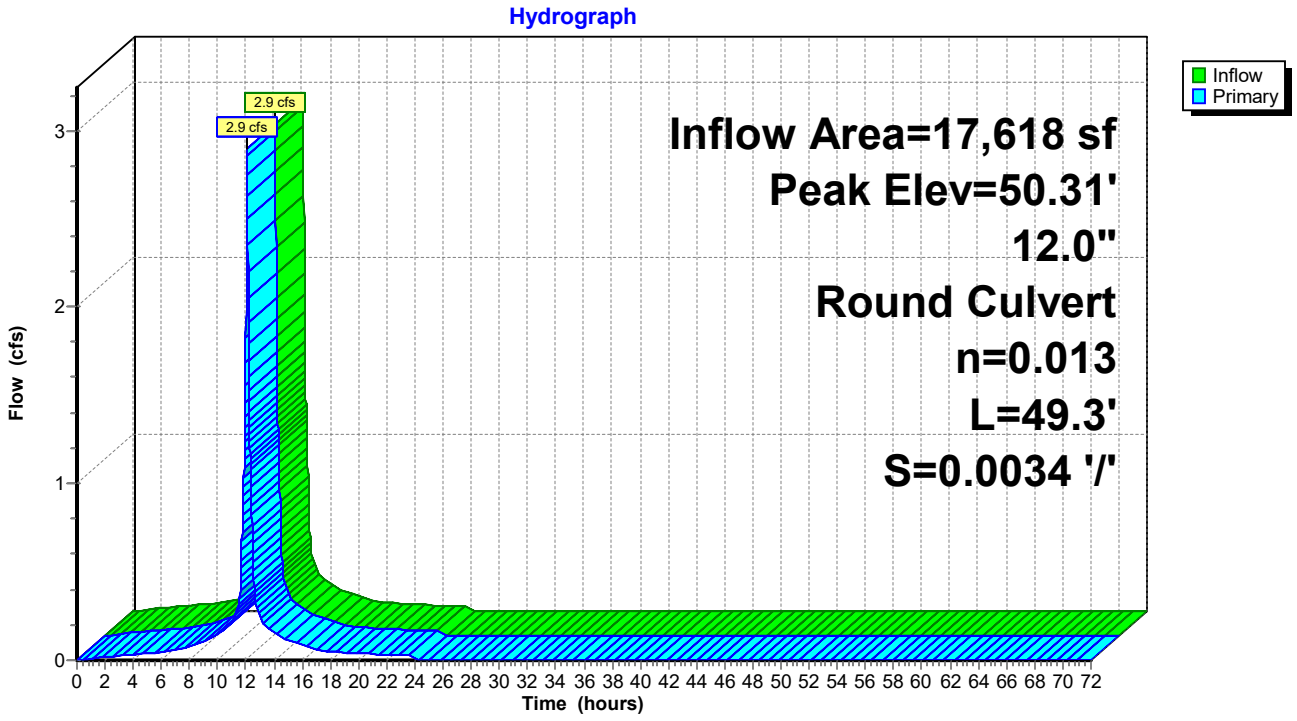
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf
Outflow = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.31' @ 12.09 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	**12.0" Round Culvert** L= 49.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.60' / 47.43' S= 0.0034 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.9 cfs @ 12.08 hrs HW=50.29' TW=49.37' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.9 cfs @ 3.64 fps)

Pond CB13: Catch Basin 13



Summary for Pond CB14: Catch Basin 14

[58] Hint: Peaked 0.05' above defined flood level

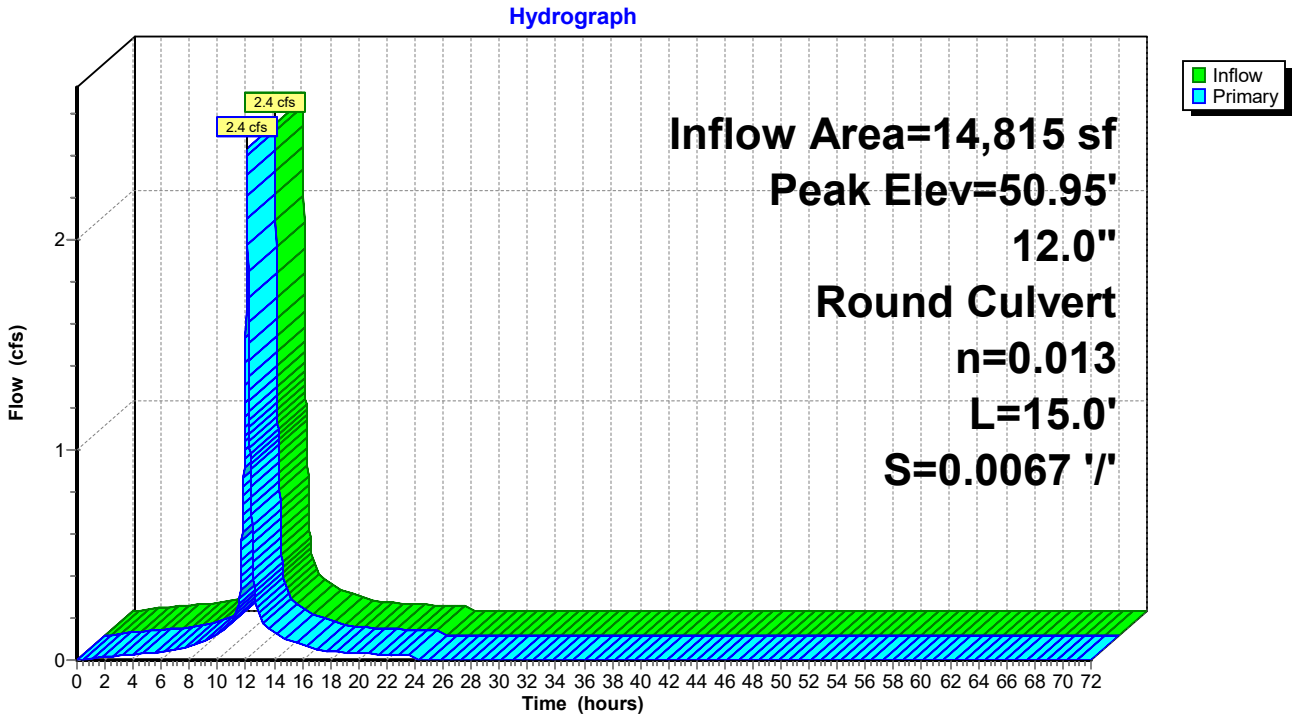
Inflow Area = 14,815 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 2.4 cfs @ 12.08 hrs, Volume= 8,717 cf
Outflow = 2.4 cfs @ 12.08 hrs, Volume= 8,717 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.4 cfs @ 12.08 hrs, Volume= 8,717 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 50.95' @ 12.10 hrs
Flood Elev= 50.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.80'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.80' / 47.70' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.08 hrs HW=50.89' TW=50.29' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.3 cfs @ 2.95 fps)

Pond CB14: Catch Basin 14



Summary for Pond CB2: Catch Basin 2

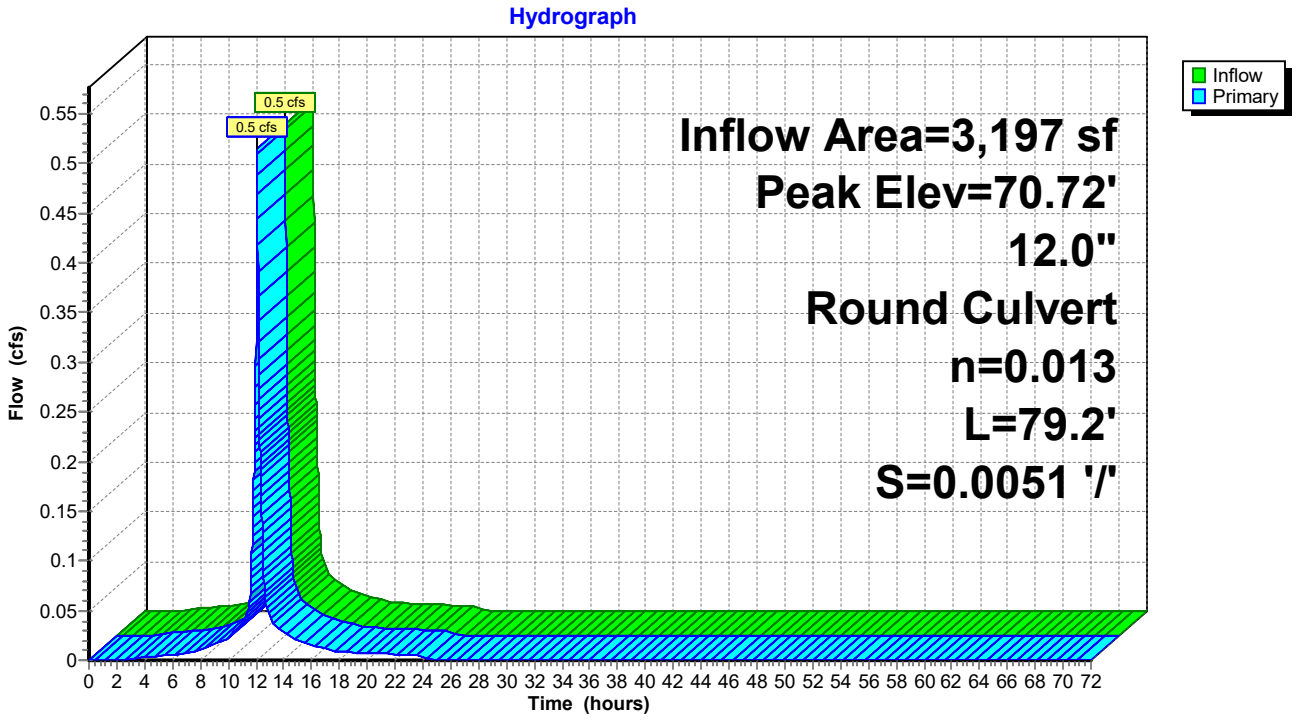
Inflow Area = 3,197 sf, 72.57% Impervious, Inflow Depth = 6.59" for 50-Year event
Inflow = 0.5 cfs @ 12.08 hrs, Volume= 1,755 cf
Outflow = 0.5 cfs @ 12.08 hrs, Volume= 1,755 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.5 cfs @ 12.08 hrs, Volume= 1,755 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.72' @ 12.10 hrs
Flood Elev= 71.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**12.0" Round Culvert** L= 79.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 68.00' / 67.60' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=69.96' TW=70.37' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB2: Catch Basin 2



Summary for Pond CB3: Catch Basin 3

[58] Hint: Peaked 0.34' above defined flood level
[80] Warning: Exceeded Pond C7 by 1.95' @ 12.10 hrs (0.4 cfs 147 cf)
[80] Warning: Exceeded Pond CB1 by 0.43' @ 12.07 hrs (2.0 cfs 257 cf)

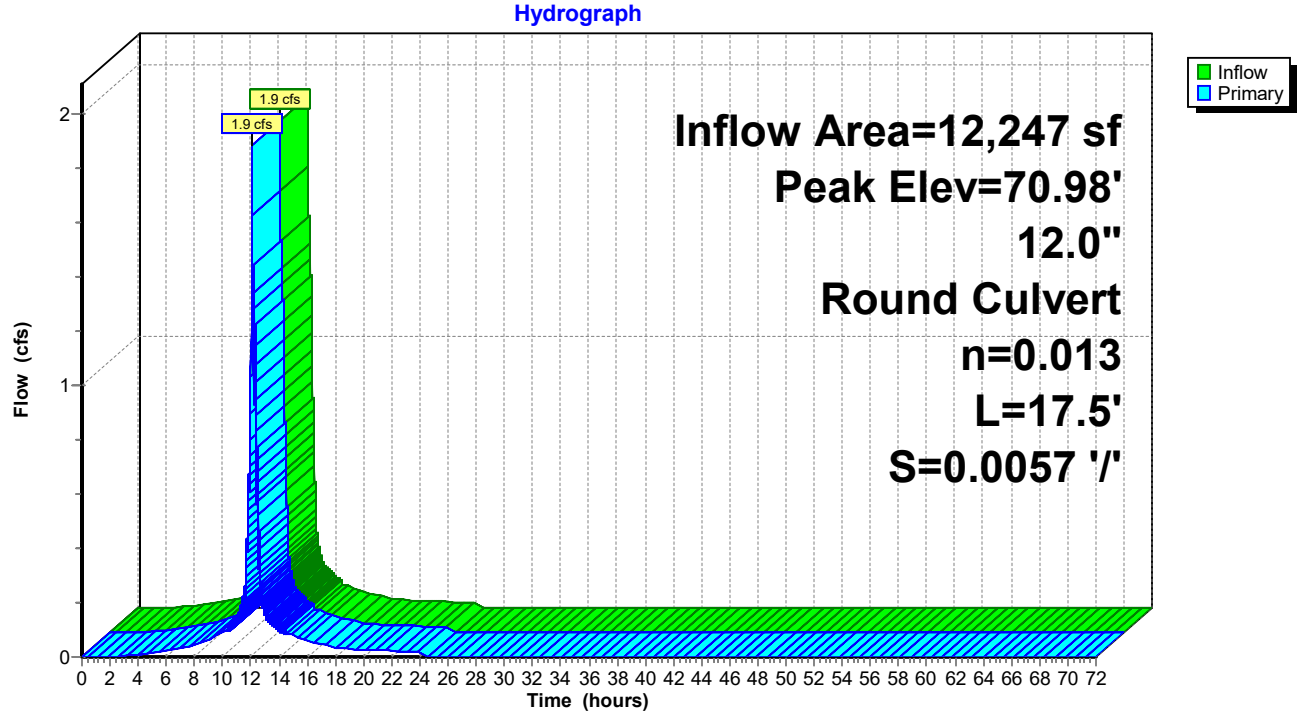
Inflow Area =	12,247 sf,	83.76% Impervious,	Inflow Depth =	6.68"	for 50-Year event
Inflow =	1.9 cfs @	12.06 hrs,	Volume=	6,818 cf	
Outflow =	1.9 cfs @	12.06 hrs,	Volume=	6,818 cf,	Atten= 0%, Lag= 0.0 min
Primary =	1.9 cfs @	12.06 hrs,	Volume=	6,818 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.98' @ 12.10 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.30'	**12.0" Round Culvert** L= 17.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.30' / 66.20' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.06 hrs HW=69.02' TW=69.39' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.0 cfs)

Pond CB3: Catch Basin 3



Summary for Pond CB4: Catch Basin 4

[58] Hint: Peaked 0.06' above defined flood level
[80] Warning: Exceeded Pond CB2 by 0.68' @ 12.06 hrs (2.5 cfs 311 cf)
[80] Warning: Exceeded Pond CB3 by 0.39' @ 12.06 hrs (1.9 cfs 373 cf)

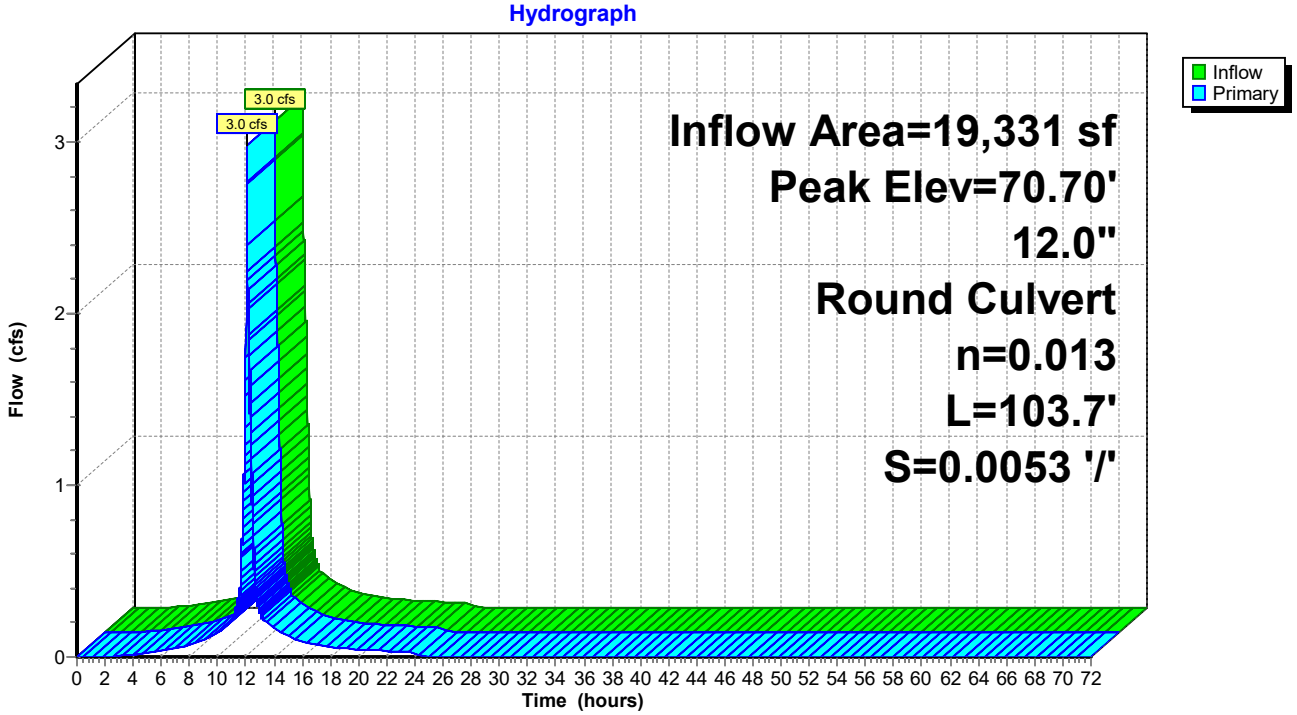
Inflow Area =	19,331 sf,	80.08% Impervious,	Inflow Depth =	6.65"	for 50-Year event
Inflow =	3.0 cfs @	12.06 hrs,	Volume=	10,706 cf	
Outflow =	3.0 cfs @	12.06 hrs,	Volume=	10,706 cf,	Atten= 0%, Lag= 0.0 min
Primary =	3.0 cfs @	12.06 hrs,	Volume=	10,706 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.70' @ 12.09 hrs
Flood Elev= 70.64'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.10'	**12.0" Round Culvert** L= 103.7' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.10' / 65.55' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.0 cfs @ 12.06 hrs HW=69.41' TW=68.87' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 2.0 cfs @ 2.60 fps)

Pond CB4: Catch Basin 4



Summary for Pond CB5: Catch Basin 5

[58] Hint: Peaked 0.65' above defined flood level

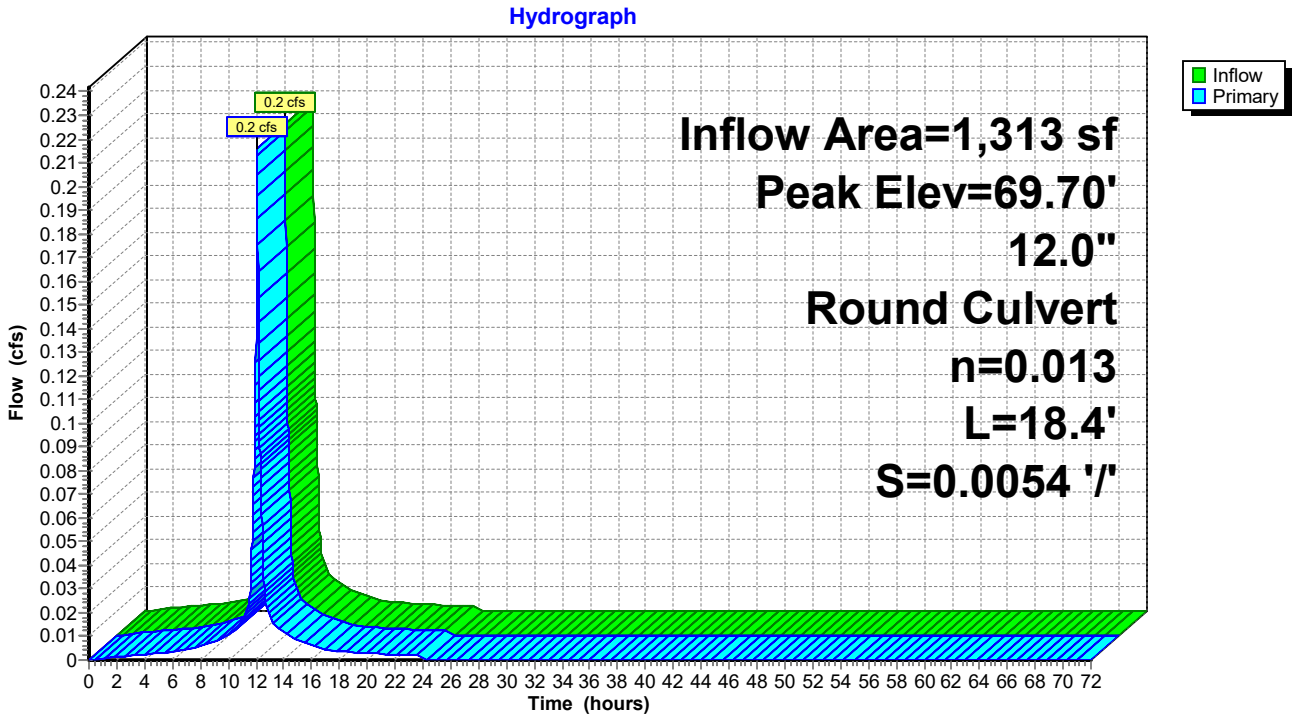
Inflow Area = 1,313 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 773 cf
Outflow = 0.2 cfs @ 12.08 hrs, Volume= 773 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.08 hrs, Volume= 773 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.70' @ 12.09 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	66.00'	**12.0" Round Culvert** L= 18.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 66.00' / 65.90' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=69.36' TW=69.61' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB5: Catch Basin 5



Summary for Pond CB6: Catch Basin 6

[58] Hint: Peaked 0.65' above defined flood level
[80] Warning: Exceeded Pond CB5 by 0.61' @ 12.06 hrs (2.3 cfs 701 cf)

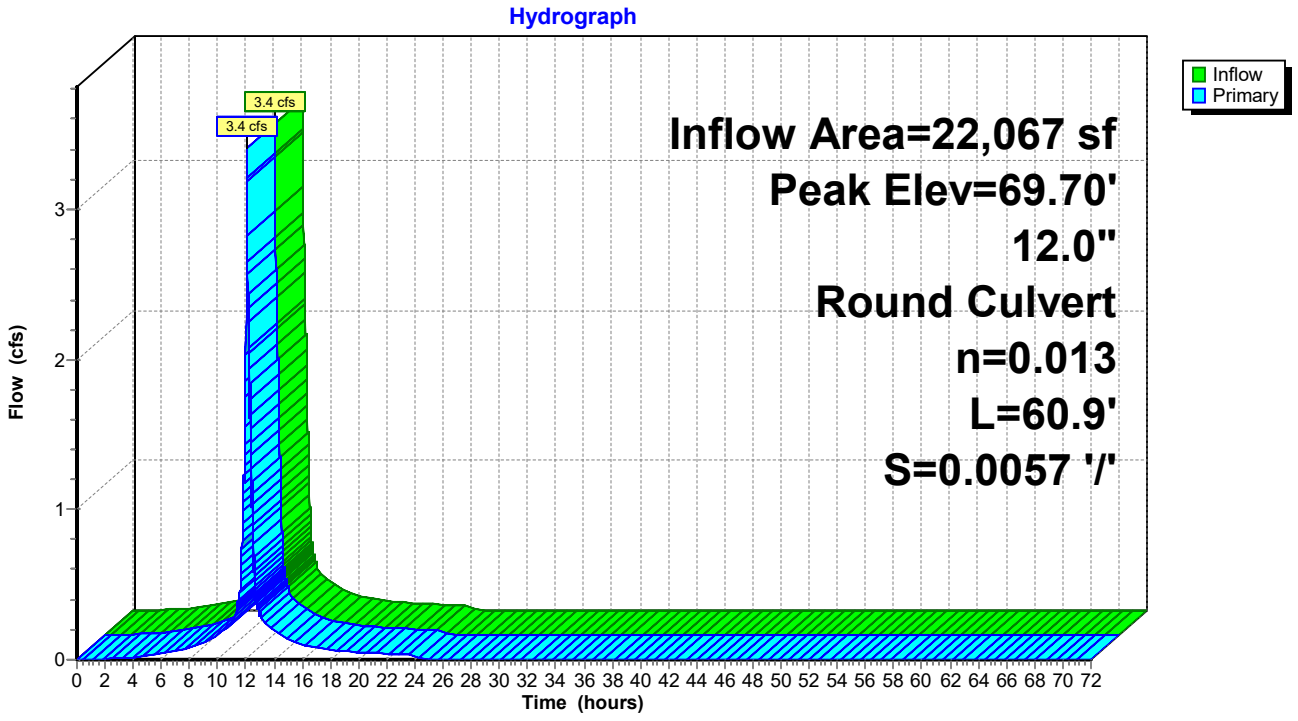
Inflow Area =	22,067 sf,	82.55% Impervious,	Inflow Depth =	6.70"	for 50-Year event
Inflow =	3.4 cfs @	12.06 hrs,	Volume=	12,316 cf	
Outflow =	3.4 cfs @	12.06 hrs,	Volume=	12,316 cf,	Atten= 0%, Lag= 0.0 min
Primary =	3.4 cfs @	12.06 hrs,	Volume=	12,316 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.70' @ 12.08 hrs
Flood Elev= 69.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.45'	**12.0" Round Culvert** L= 60.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.45' / 65.10' S= 0.0057 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.5 cfs @ 12.06 hrs HW=68.88' TW=68.15' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.5 cfs @ 3.24 fps)

Pond CB6: Catch Basin 6



Summary for Pond CB7: Catch Basin 7

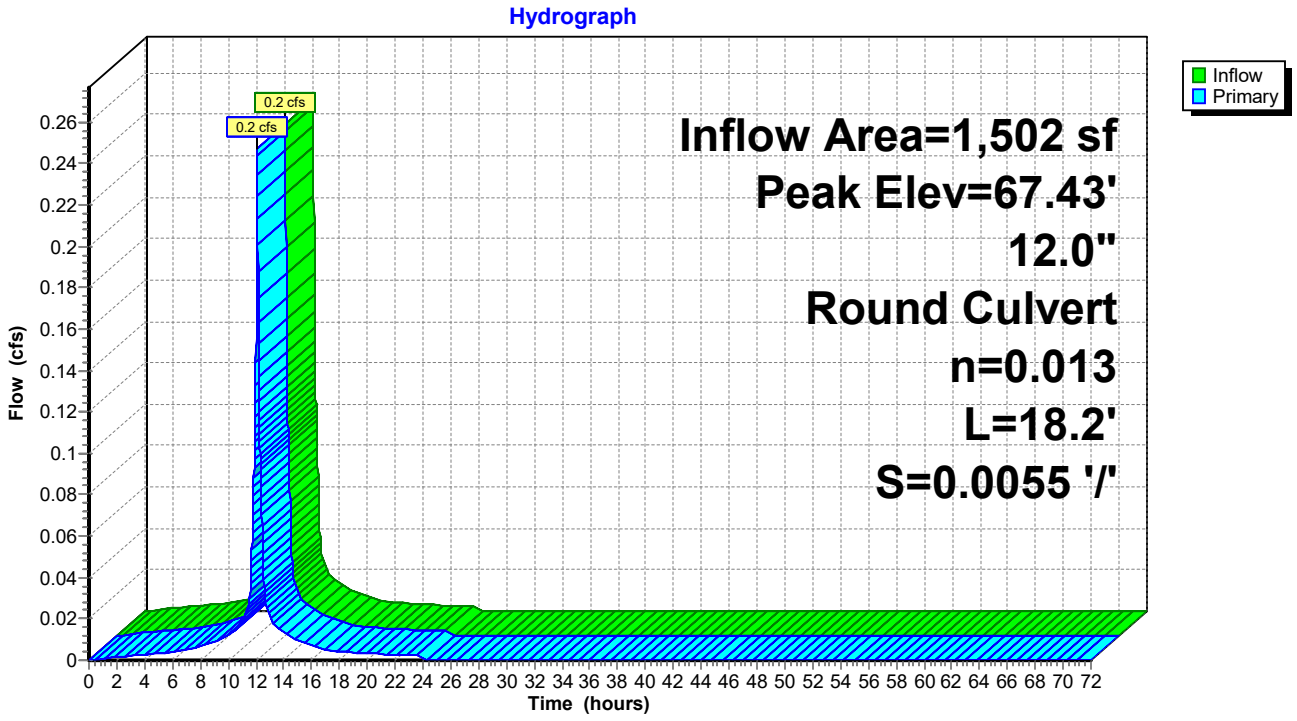
Inflow Area = 1,502 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 884 cf
Outflow = 0.2 cfs @ 12.08 hrs, Volume= 884 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.2 cfs @ 12.08 hrs, Volume= 884 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.43' @ 12.07 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.85'	**12.0" Round Culvert** L= 18.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.85' / 64.75' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.0 cfs @ 12.08 hrs HW=67.14' TW=67.19' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond CB7: Catch Basin 7



Summary for Pond CB8: Catch Basin 8

[80] Warning: Exceeded Pond CB7 by 0.62' @ 12.06 hrs (2.3 cfs 1,055 cf)

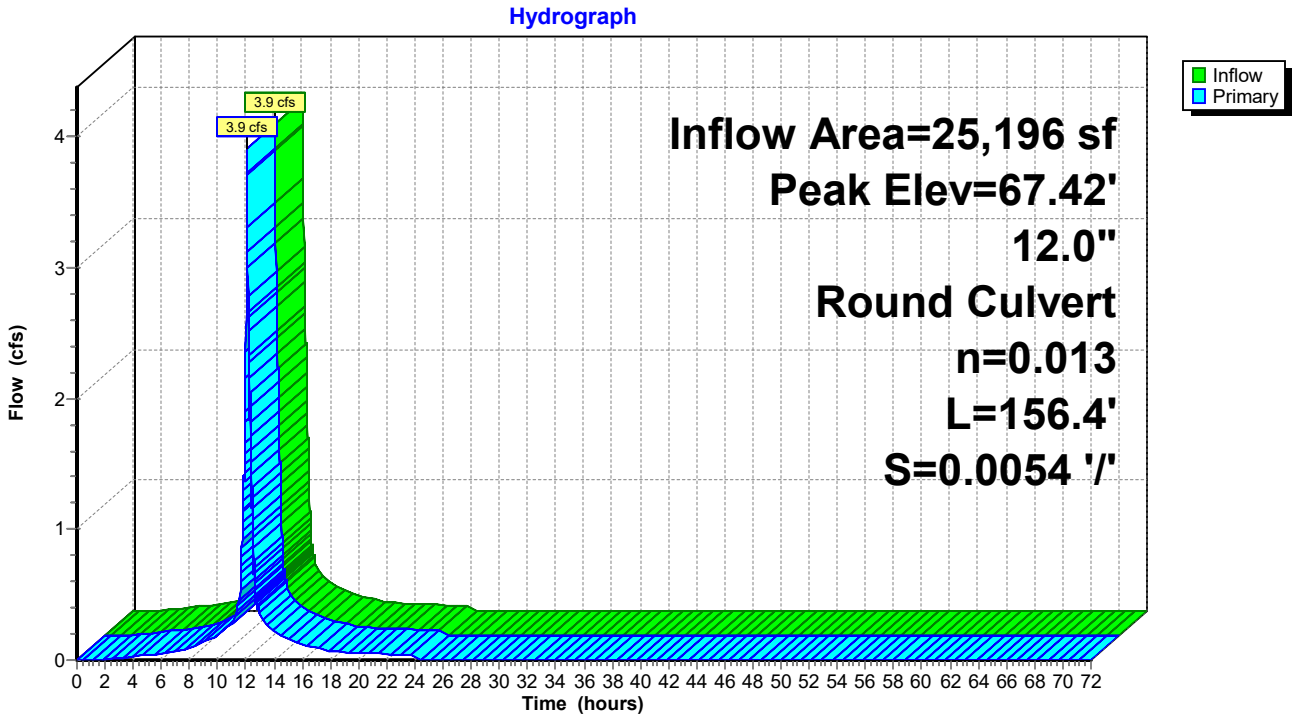
Inflow Area = 25,196 sf, 84.72% Impervious, Inflow Depth = 6.74" for 50-Year event
Inflow = 3.9 cfs @ 12.06 hrs, Volume= 14,157 cf
Outflow = 3.9 cfs @ 12.06 hrs, Volume= 14,157 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.9 cfs @ 12.06 hrs, Volume= 14,157 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 67.42' @ 12.06 hrs
Flood Elev= 67.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	64.65'	**12.0" Round Culvert** L= 156.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 64.65' / 63.80' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.9 cfs @ 12.06 hrs HW=67.35' TW=61.84' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 3.9 cfs @ 4.91 fps)

Pond CB8: Catch Basin 8



Summary for Pond CB9: Catch Basin 9

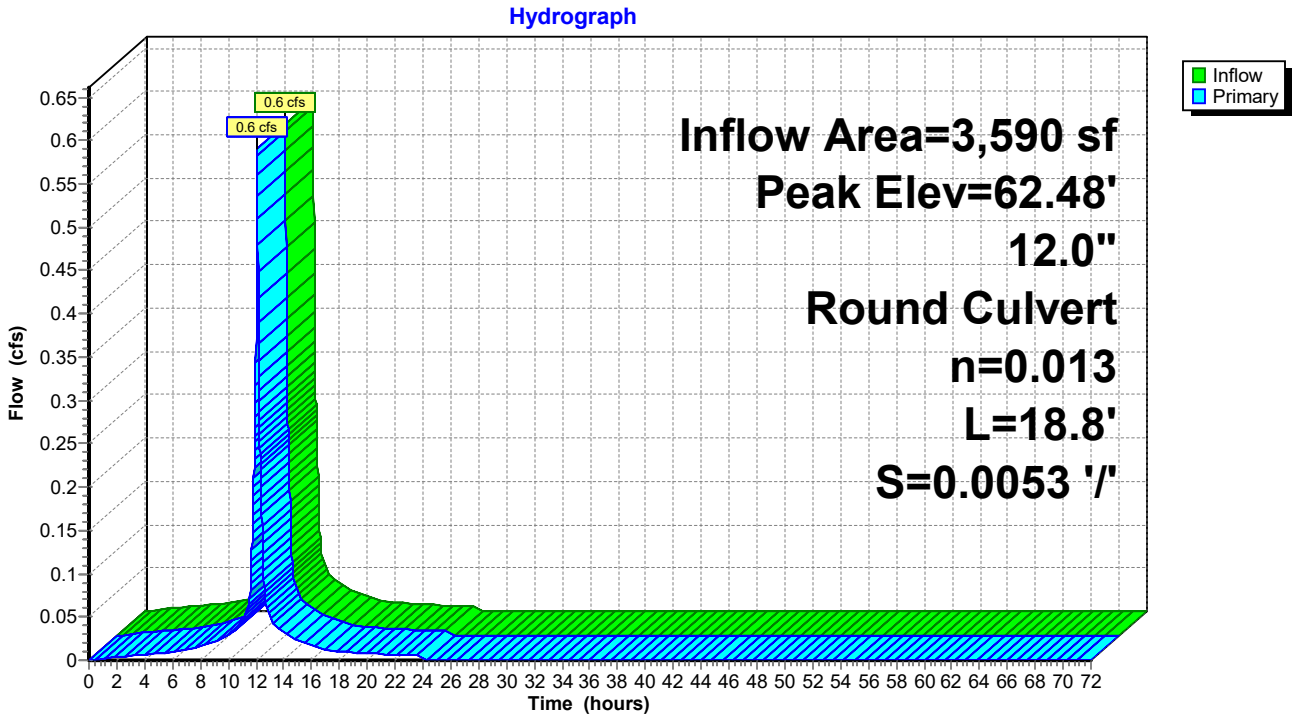
Inflow Area = 3,590 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.6 cfs @ 12.08 hrs, Volume= 2,112 cf
Outflow = 0.6 cfs @ 12.08 hrs, Volume= 2,112 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.6 cfs @ 12.08 hrs, Volume= 2,112 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 62.48' @ 12.08 hrs
Flood Elev= 65.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	**12.0" Round Culvert** L= 18.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 62.00' / 61.90' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.6 cfs @ 12.08 hrs HW=62.48' TW=61.66' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.6 cfs @ 2.29 fps)

Pond CB9: Catch Basin 9



Summary for Pond CH1: Chamber 1

Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf
Outflow = 2.9 cfs @ 12.09 hrs, Volume= 10,366 cf, Atten= 1%, Lag= 0.6 min
Primary = 2.9 cfs @ 12.09 hrs, Volume= 10,366 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.63' @ 12.09 hrs Surf.Area= 1,773 sf Storage= 977 cf
Flood Elev= 50.50' Surf.Area= 1,773 sf Storage= 1,194 cf

Plug-Flow detention time= 9.6 min calculated for 10,366 cf (100% of inflow)
Center-of-Mass det. time= 9.4 min (751.8 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	46.90'	656 cf	**12.00'W x 74.40'L x 2.33'H Field A** 2,083 cf Overall - 442 cf Embedded = 1,641 cf x 40.0% Voids
#2A	47.40'	442 cf	**ADS_StormTech SC-310 +Cap** x 30 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 3 Rows
#3	44.73'	95 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 1,910 cf Overall x 5.0% Voids
		1,194 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.73	880	0	0
46.90	880	1,910	1,910

Device	Routing	Invert	Outlet Devices
#1	Primary	44.73'	**12.0" Round Culvert** L= 60.8' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 44.73' / 44.60' S= 0.0021 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	44.73'	**2.9" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	48.30'	**4.0' long x 4.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.9 cfs @ 12.09 hrs HW=48.63' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.9 cfs of 5.5 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.4 cfs @ 9.36 fps)
  └─**3=Sharp-Crested Rectangular Weir** (Weir Controls 2.4 cfs @ 1.88 fps)

Pond CH1: Chamber 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 9.0" Spacing = 43.0" C-C Row Spacing

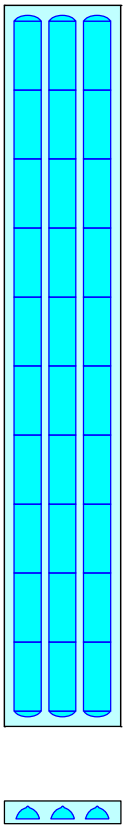
10 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 72.40' Row Length +12.0" End Stone x 2 = 74.40' Base Length
3 Rows x 34.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 12.00' Base Width
6.0" Stone Base + 16.0" Chamber Height + 6.0" Stone Cover = 2.33' Field Height

30 Chambers x 14.7 cf = 442.3 cf Chamber Storage

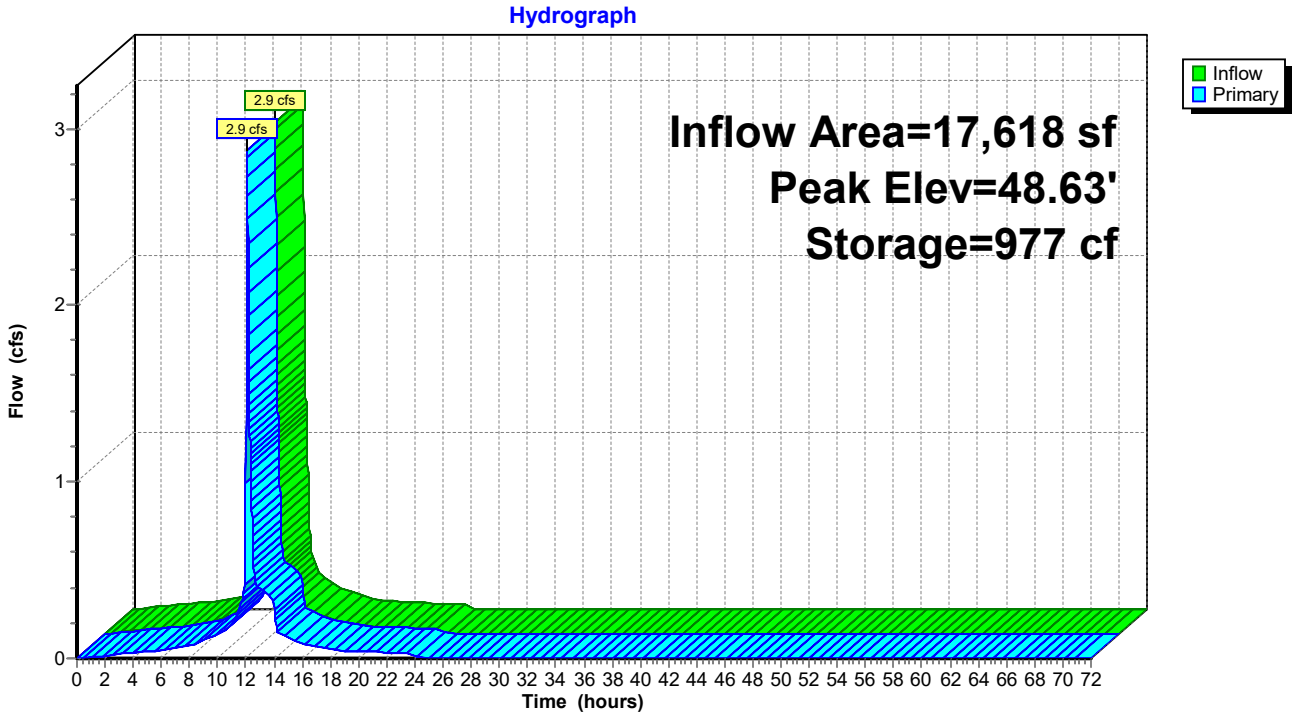
2,083.2 cf Field - 442.3 cf Chambers = 1,640.9 cf Stone x 40.0% Voids = 656.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,098.6 cf = 0.025 af
Overall Storage Efficiency = 52.7%
Overall System Size = 74.40' x 12.00' x 2.33'

30 Chambers
77.2 cy Field
60.8 cy Stone



Pond CH1: Chamber 1



Summary for Pond MH1: Manhole 1

[58] Hint: Peaked 0.13' above defined flood level

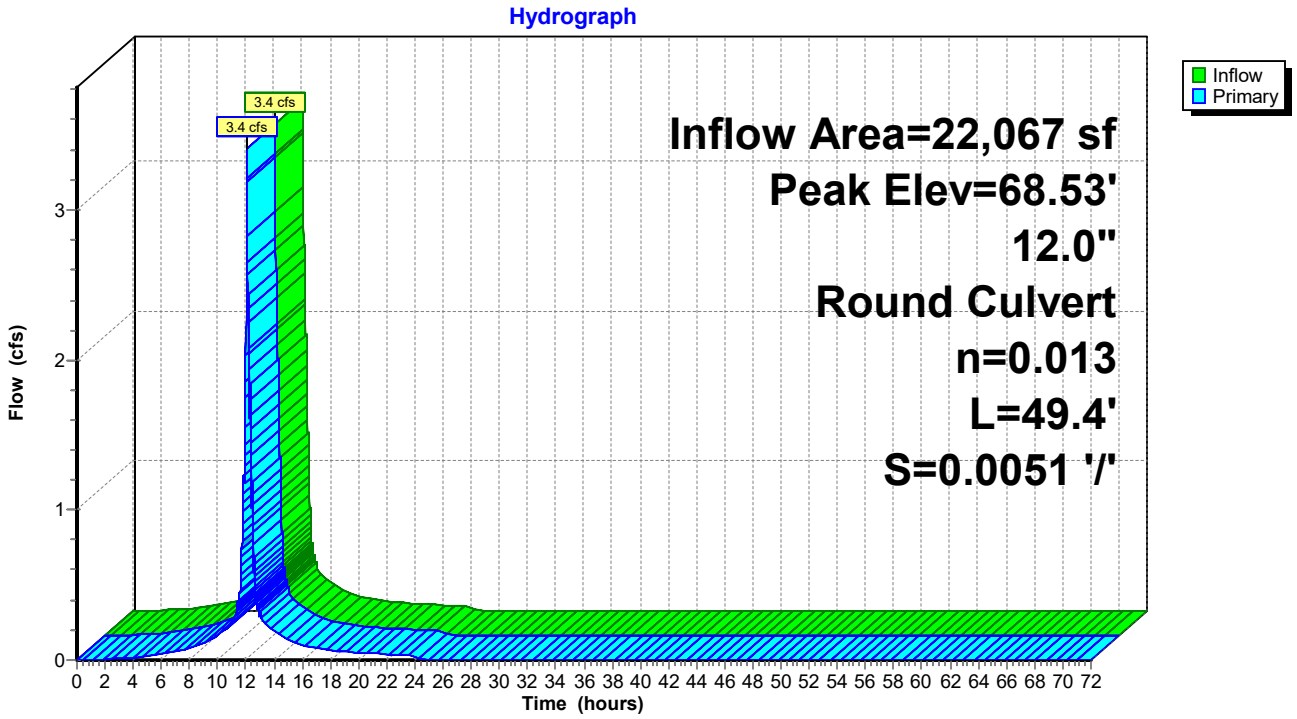
Inflow Area = 22,067 sf, 82.55% Impervious, Inflow Depth = 6.70" for 50-Year event
Inflow = 3.4 cfs @ 12.06 hrs, Volume= 12,316 cf
Outflow = 3.4 cfs @ 12.06 hrs, Volume= 12,316 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.4 cfs @ 12.06 hrs, Volume= 12,316 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.53' @ 12.07 hrs
Flood Elev= 68.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	**12.0" Round Culvert** L= 49.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.00' / 64.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.7 cfs @ 12.06 hrs HW=68.15' TW=67.36' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.7 cfs @ 3.39 fps)

Pond MH1: Manhole 1



Summary for Pond MH2: Manhole 2

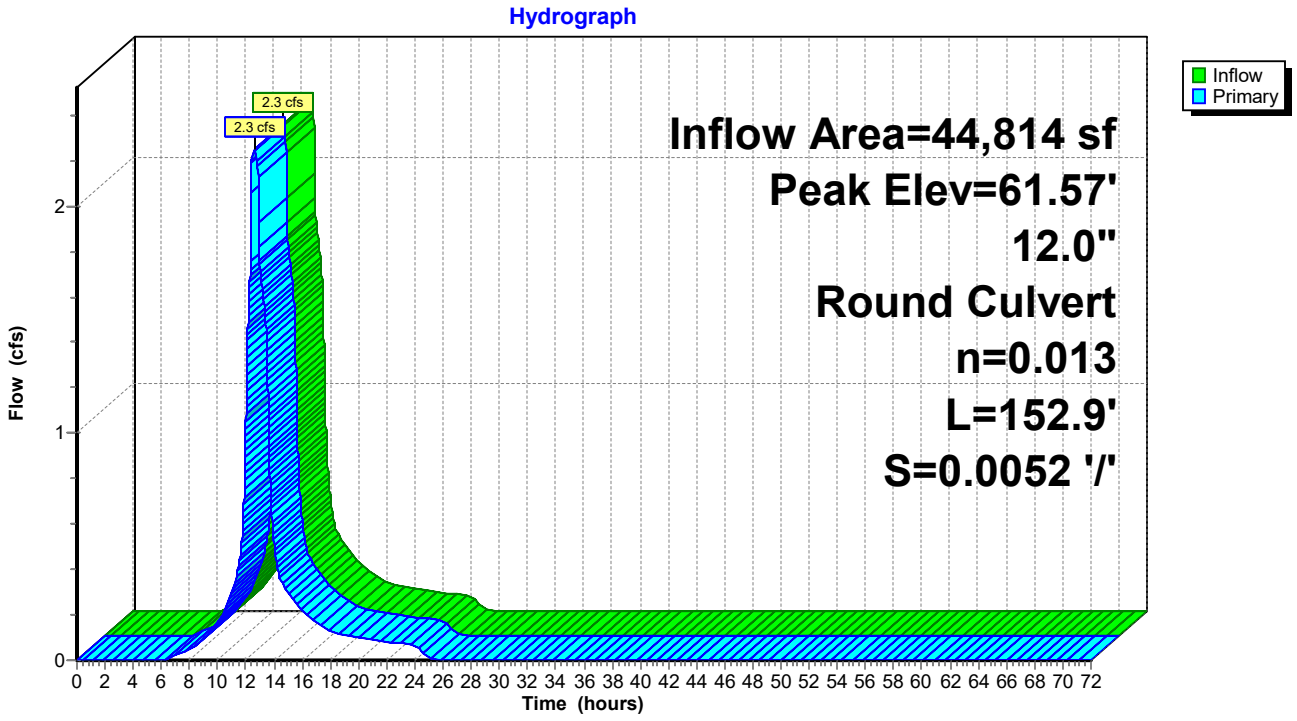
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 5.42" for 50-Year event
Inflow = 2.3 cfs @ 12.59 hrs, Volume= 20,255 cf
Outflow = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 61.57' @ 12.60 hrs
Flood Elev= 65.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	60.45'	**12.0" Round Culvert** L= 152.9' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 60.45' / 59.65' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.59 hrs HW=61.57' TW=60.67' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.3 cfs @ 3.21 fps)

Pond MH2: Manhole 2



Summary for Pond MH3: Manhole 3

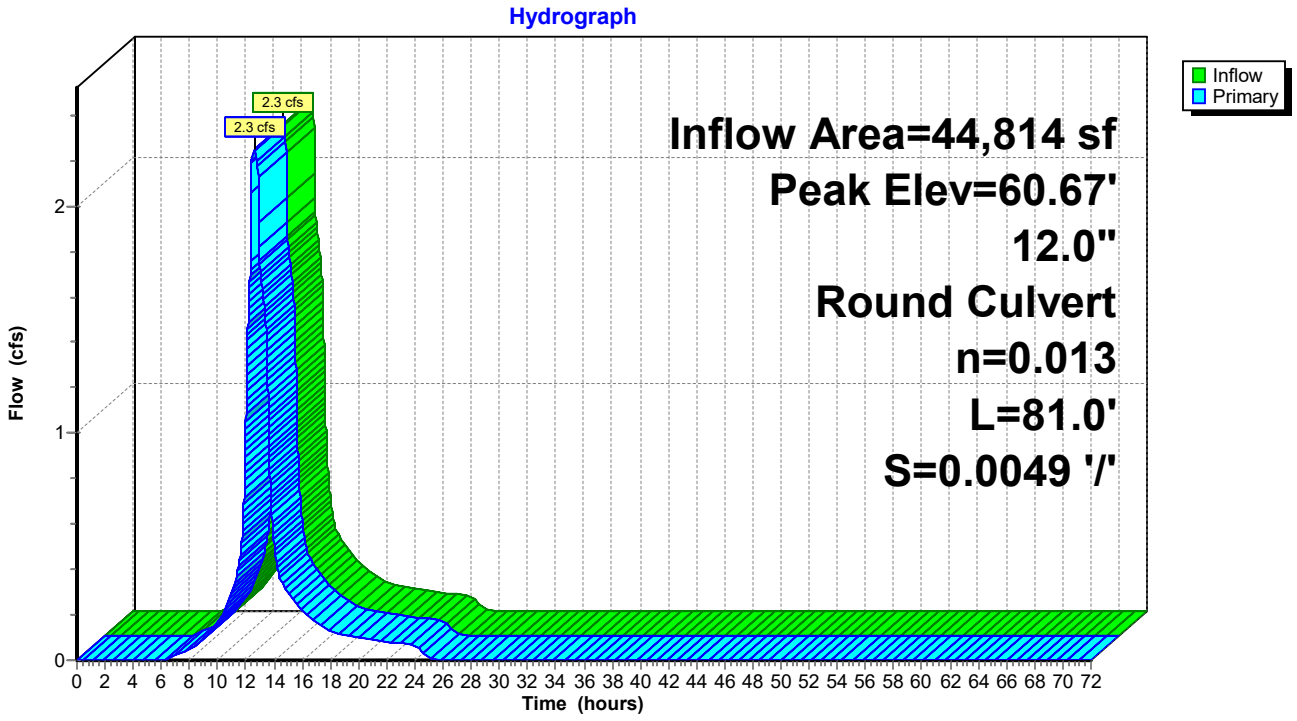
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 5.42" for 50-Year event
Inflow = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf
Outflow = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 60.67' @ 12.60 hrs
Flood Elev= 67.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.55'	**12.0" Round Culvert** L= 81.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.55' / 59.15' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.59 hrs HW=60.67' TW=60.06' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.3 cfs @ 3.20 fps)

Pond MH3: Manhole 3



Summary for Pond MH4: Manhole 4

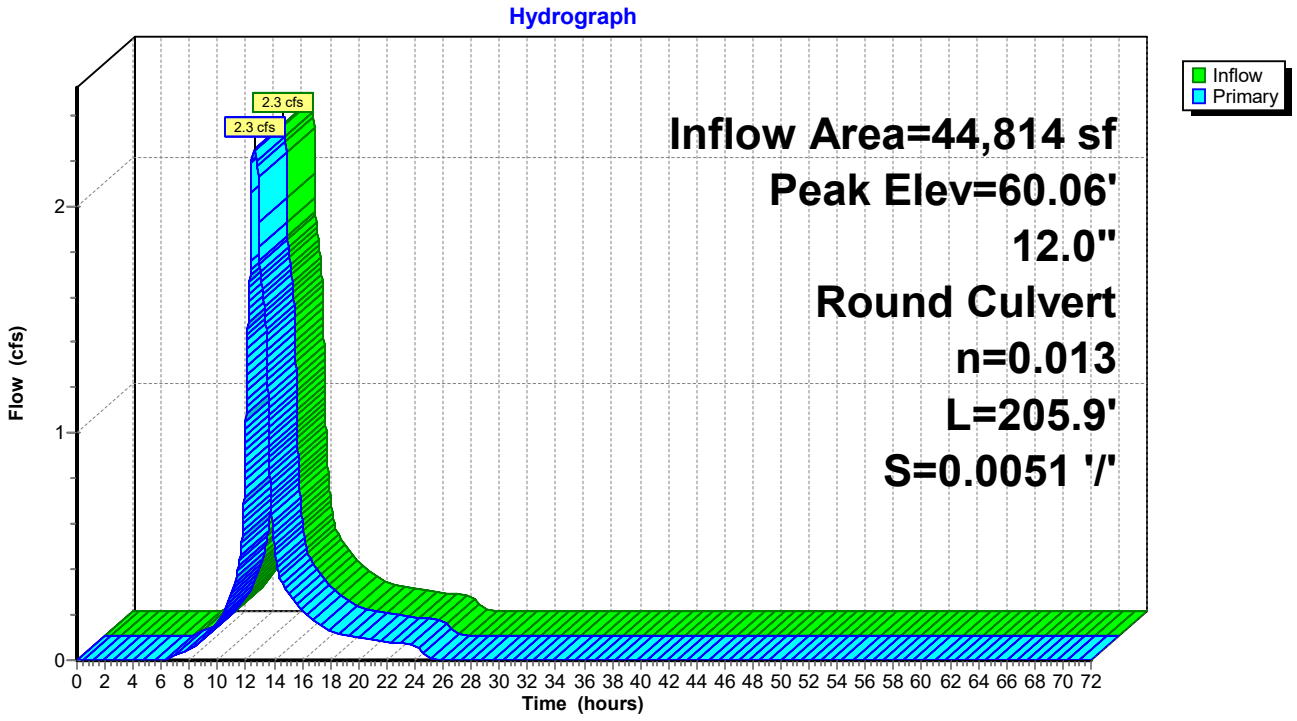
Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 5.42" for 50-Year event
Inflow = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf
Outflow = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.3 cfs @ 12.59 hrs, Volume= 20,256 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 60.06' @ 12.59 hrs
Flood Elev= 66.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	59.05'	**12.0" Round Culvert** L= 205.9' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 59.05' / 58.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.59 hrs HW=60.06' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.3 cfs @ 3.53 fps)

Pond MH4: Manhole 4



Summary for Pond MH5: Manhole 5

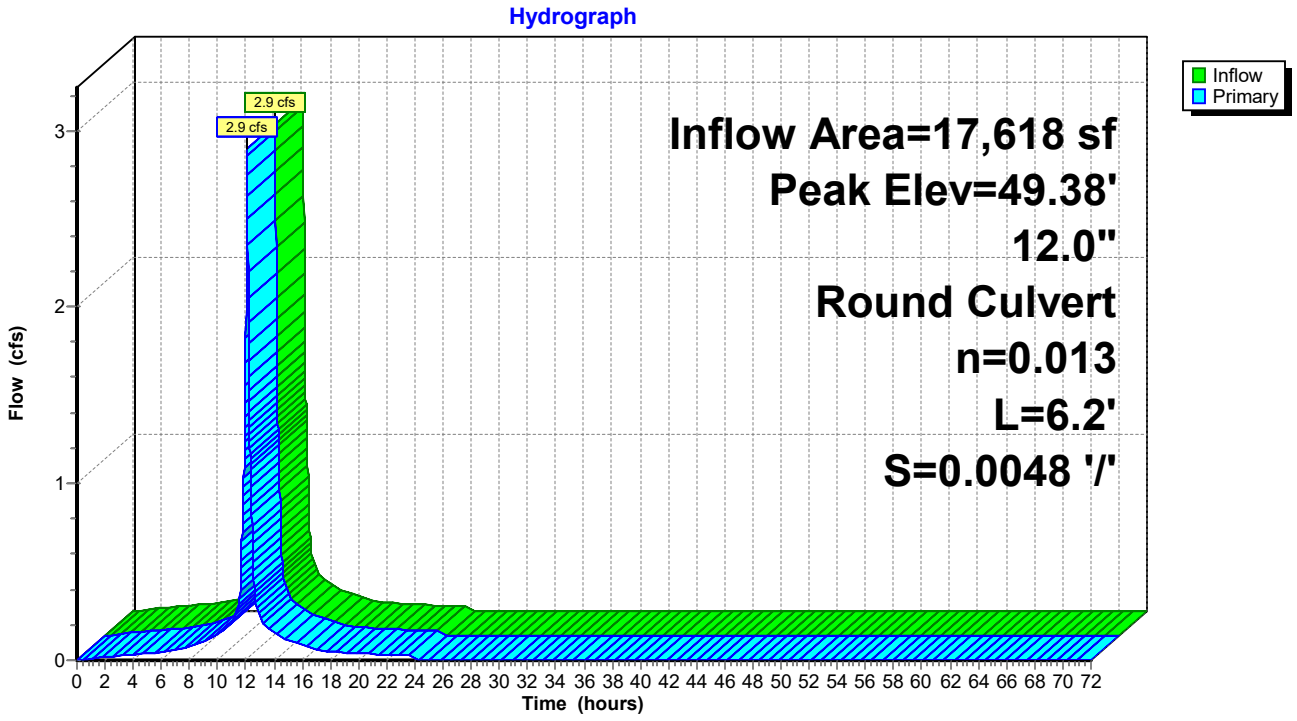
Inflow Area = 17,618 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf
Outflow = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.9 cfs @ 12.08 hrs, Volume= 10,366 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 49.38' @ 12.09 hrs
Flood Elev= 50.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.43'	**12.0" Round Culvert** L= 6.2' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 47.43' / 47.40' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.9 cfs @ 12.08 hrs HW=49.37' TW=48.63' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.9 cfs @ 3.67 fps)

Pond MH5: Manhole 5



Summary for Pond P1: Pond 1

[80] Warning: Exceeded Pond C8 by 1.91' @ 25.25 hrs (3.5 cfs 34,034 cf)

Inflow Area = 180,550 sf, 19.58% Impervious, Inflow Depth = 2.42" for 50-Year event
Inflow = 5.4 cfs @ 12.59 hrs, Volume= 36,343 cf
Outflow = 3.9 cfs @ 12.92 hrs, Volume= 35,446 cf, Atten= 27%, Lag= 19.7 min
Primary = 3.9 cfs @ 12.92 hrs, Volume= 35,446 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 54.01' @ 12.92 hrs Surf.Area= 3,059 sf Storage= 9,115 cf
Flood Elev= 55.50' Surf.Area= 3,752 sf Storage= 14,183 cf

Plug-Flow detention time= 344.4 min calculated for 35,441 cf (98% of inflow)
Center-of-Mass det. time= 331.0 min (1,224.4 - 893.5)

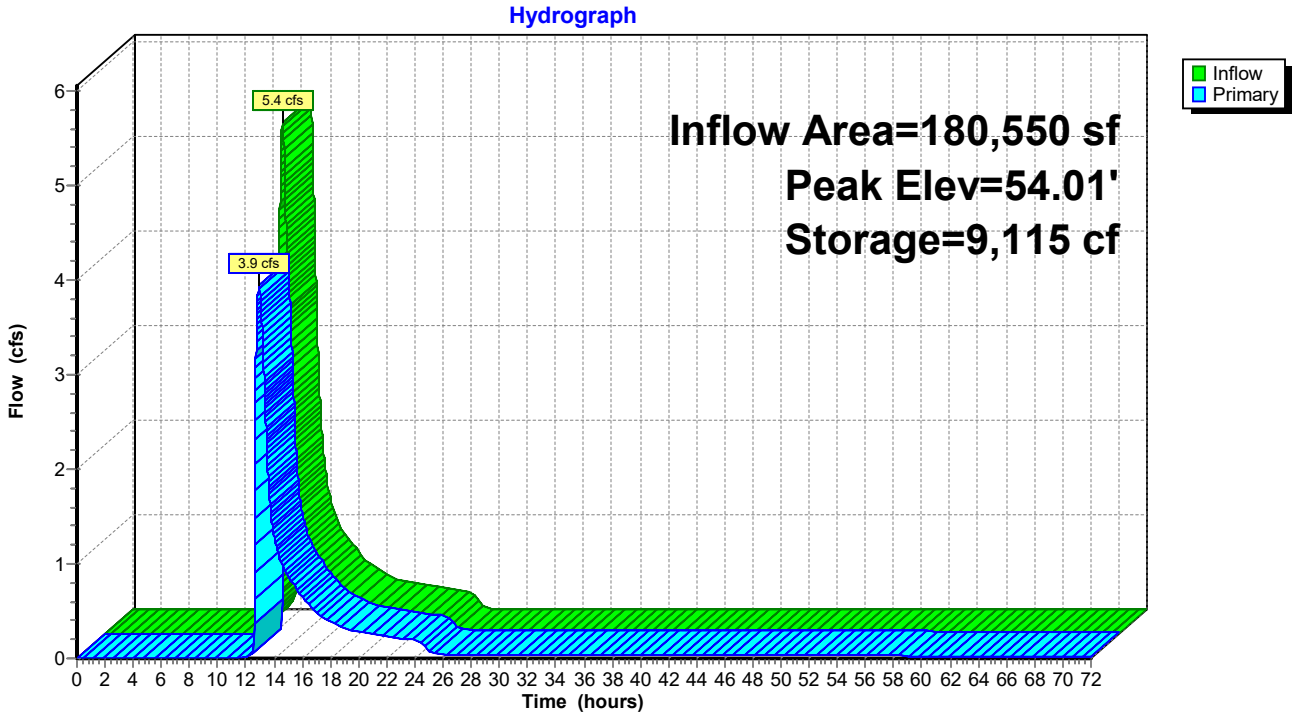
Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	16,121 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	1,503	0	0
51.00	1,882	1,693	1,693
52.00	2,267	2,075	3,767
53.00	2,662	2,465	6,232
54.00	3,055	2,859	9,090
55.00	3,503	3,279	12,369
56.00	4,000	3,752	16,121

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**12.0" Round Culvert** L= 200.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.00' / 46.40' S= 0.0180 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	50.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	53.10'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.9 cfs @ 12.92 hrs HW=54.01' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.9 cfs of 5.6 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.1 cfs @ 9.59 fps)
  └─**3=Orifice/Grate** (Orifice Controls 3.9 cfs @ 3.88 fps)

Pond P1: Pond 1



Summary for Pond RD1: Roof Drain 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=795)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 735 cf
Outflow = 0.2 cfs @ 12.13 hrs, Volume= 718 cf, Atten= 16%, Lag= 2.9 min
Primary = 0.2 cfs @ 12.13 hrs, Volume= 718 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.74' @ 12.13 hrs Surf.Area= 249 sf Storage= 60 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 38.5 min calculated for 718 cf (98% of inflow)
Center-of-Mass det. time= 23.1 min (765.5 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

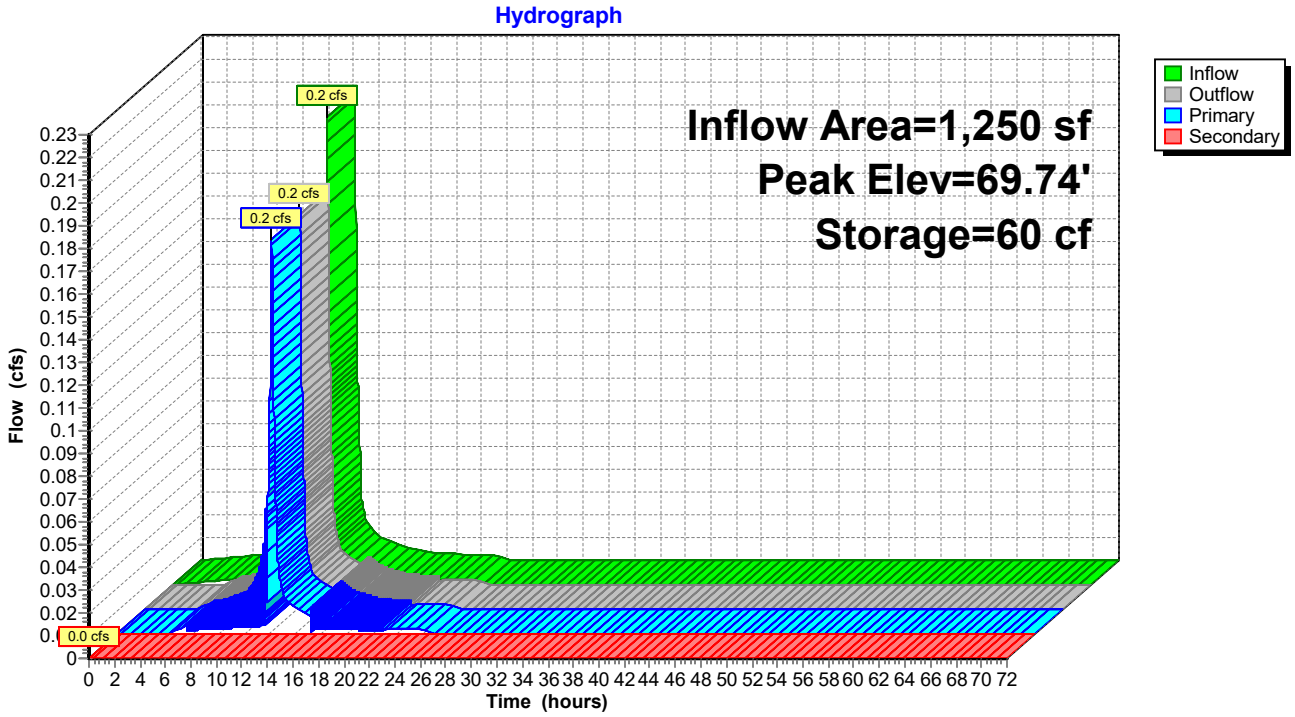
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.25'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.13 hrs HW=69.74' TW=69.57' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.2 cfs @ 1.98 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD1: Roof Drain 1



Summary for Pond RD2: Roof Drain 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=840)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 735 cf
Outflow = 0.2 cfs @ 12.13 hrs, Volume= 718 cf, Atten= 18%, Lag= 3.1 min
Primary = 0.2 cfs @ 12.13 hrs, Volume= 718 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.91' @ 12.14 hrs Surf.Area= 258 sf Storage= 68 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 41.3 min calculated for 718 cf (98% of inflow)
Center-of-Mass det. time= 25.9 min (768.3 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

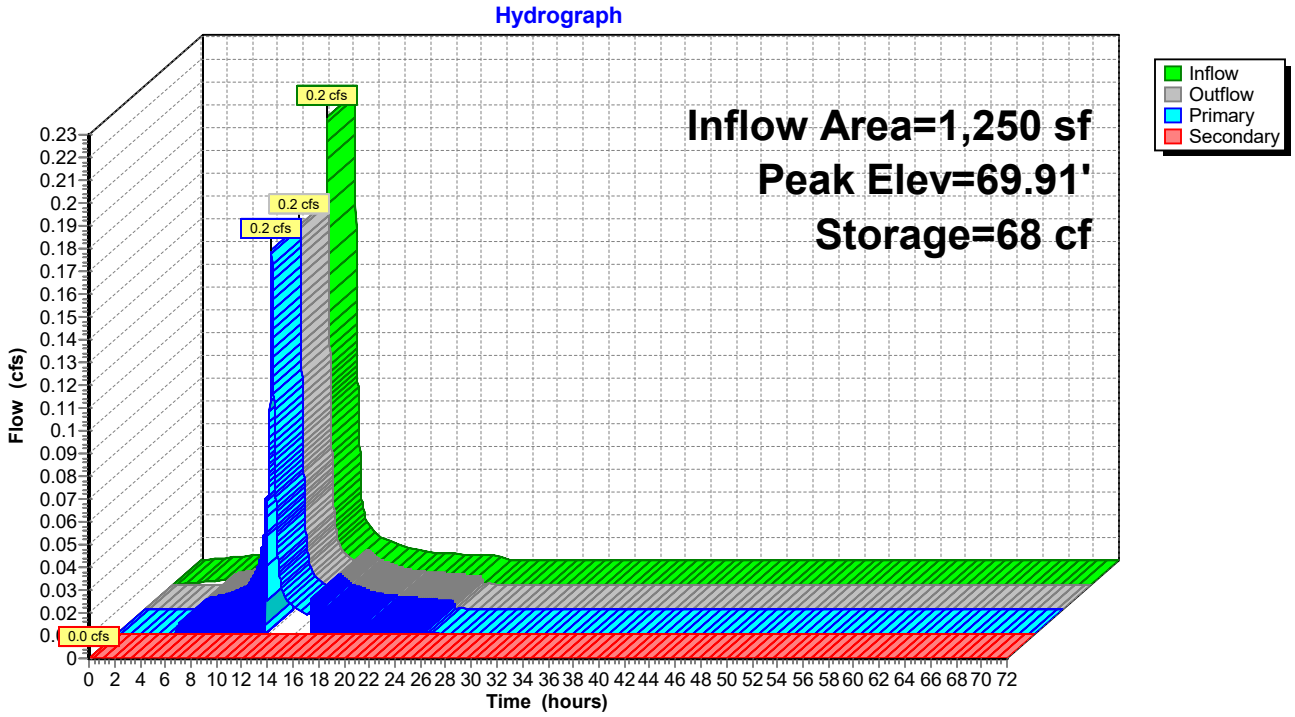
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.13 hrs HW=69.91' TW=69.75' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.2 cfs @ 1.93 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD2: Roof Drain 2



Summary for Pond RD3: Roof Drain 3

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 735 cf
Outflow = 0.2 cfs @ 12.13 hrs, Volume= 718 cf, Atten= 14%, Lag= 2.5 min
Primary = 0.2 cfs @ 12.13 hrs, Volume= 718 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.11' @ 12.13 hrs Surf.Area= 240 sf Storage= 53 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 36.6 min calculated for 718 cf (98% of inflow)
Center-of-Mass det. time= 21.8 min (764.2 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

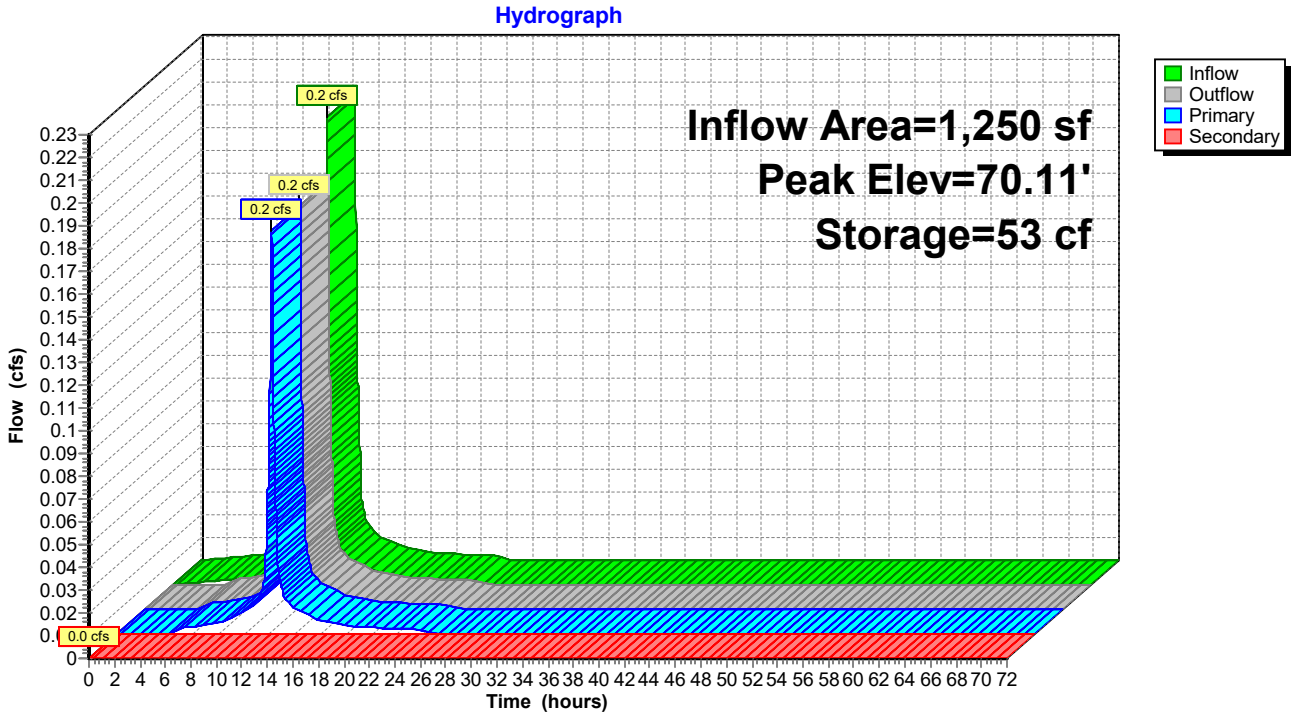
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.13 hrs HW=70.11' TW=69.94' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.2 cfs @ 2.02 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD3: Roof Drain 3



Summary for Pond RD4: Roof Drain 4

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=1)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 735 cf
Outflow = 0.3 cfs @ 12.17 hrs, Volume= 718 cf, Atten= 0%, Lag= 5.4 min
Primary = 0.3 cfs @ 12.17 hrs, Volume= 718 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.25' @ 12.17 hrs Surf.Area= 257 sf Storage= 67 cf
Flood Elev= 72.75' Surf.Area= 281 sf Storage= 272 cf

Plug-Flow detention time= 37.0 min calculated for 718 cf (98% of inflow)
Center-of-Mass det. time= 21.9 min (764.3 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.44'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

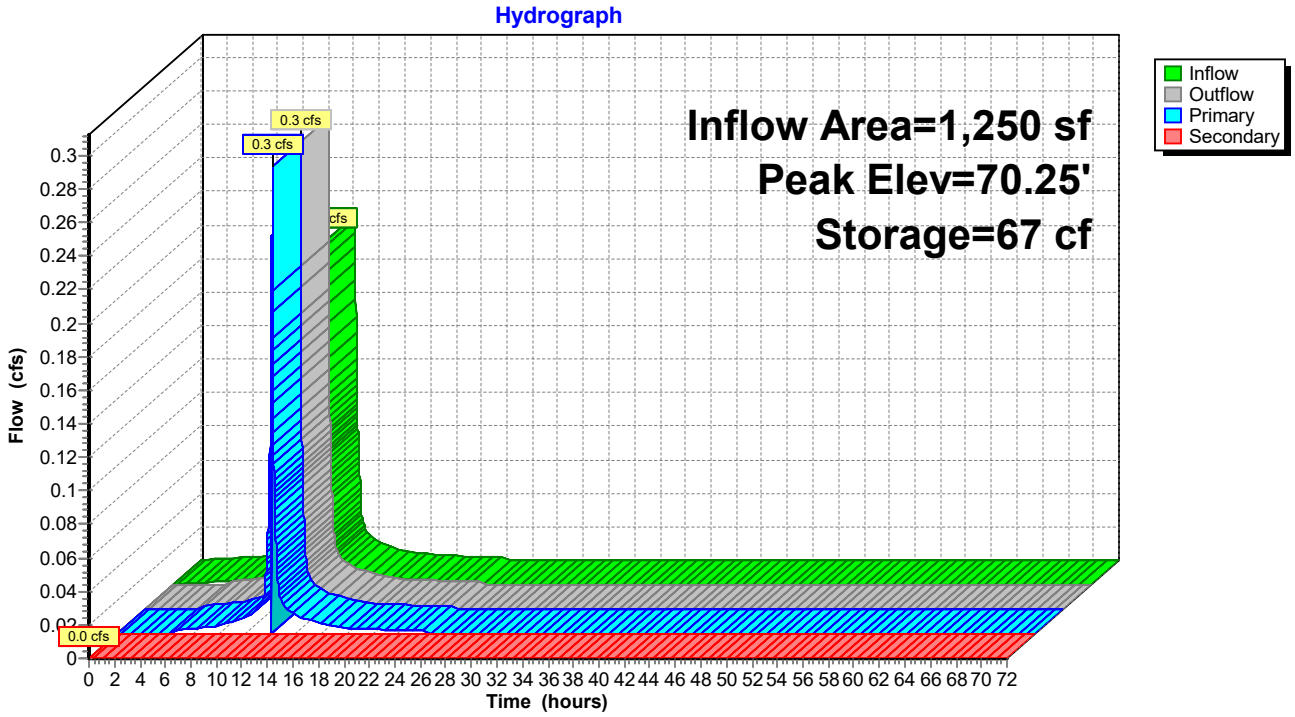
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.44	156	0.0	0	0
69.45	156	40.0	1	1
70.44	281	40.0	87	87
70.45	281	25.0	1	88
71.44	281	25.0	70	157
71.45	281	40.0	1	159
72.46	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.69'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.45'	**62.5' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.17 hrs HW=70.24' TW=69.98' (Dynamic Tailwater)
1=Orifice/Grate (Orifice Controls 0.2 cfs @ 2.43 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.44' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD4: Roof Drain 4



Summary for Pond RD5: Roof Drain 5

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=150)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 735 cf
Outflow = 0.4 cfs @ 12.17 hrs, Volume= 718 cf, Atten= 0%, Lag= 5.3 min
Primary = 0.4 cfs @ 12.17 hrs, Volume= 718 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 70.23' @ 12.16 hrs Surf.Area= 281 sf Storage= 97 cf
Flood Elev= 72.10' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 40.2 min calculated for 718 cf (98% of inflow)
Center-of-Mass det. time= 24.8 min (767.2 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.09'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

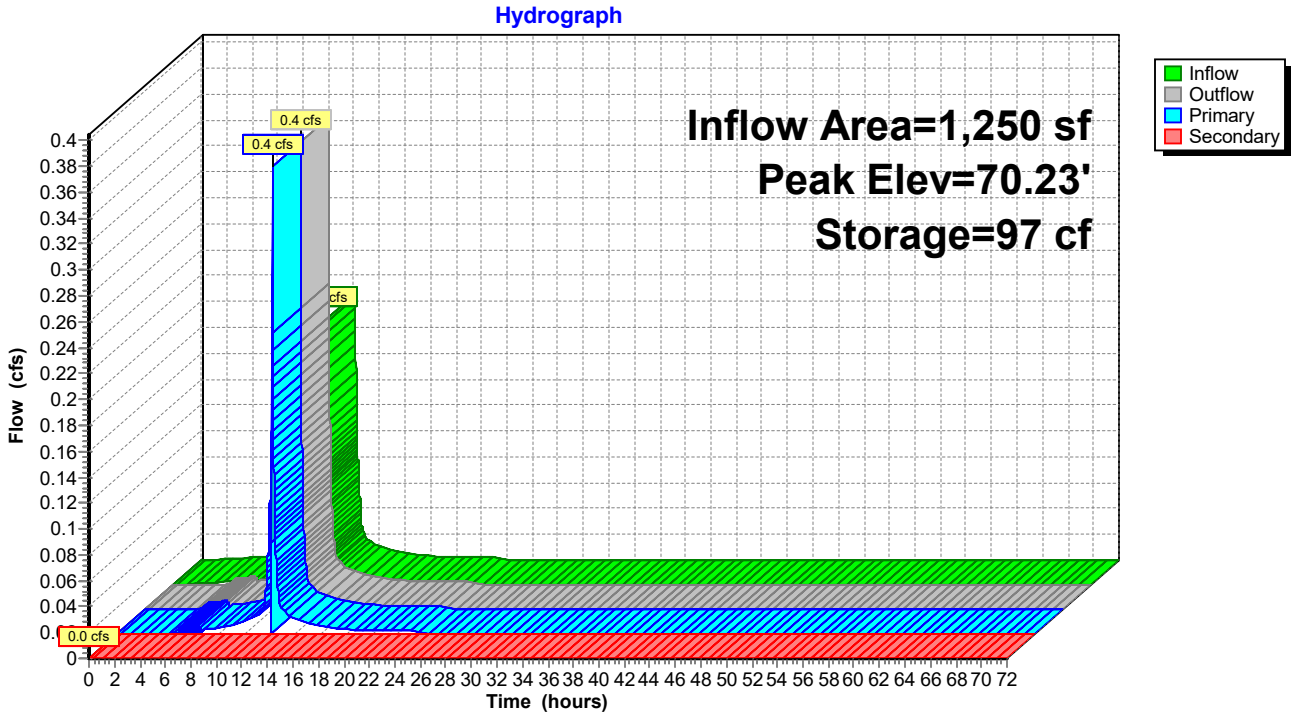
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.09	156	0.0	0	0
69.10	156	40.0	1	1
70.09	281	40.0	87	87
70.10	281	25.0	1	88
71.09	281	25.0	70	157
71.10	281	40.0	1	159
72.11	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.35'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.10'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.2 cfs @ 12.17 hrs HW=70.19' TW=69.85' (Dynamic Tailwater)
└**1=Orifice/Grate** (Orifice Controls 0.2 cfs @ 2.80 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=69.09' TW=0.00' (Dynamic Tailwater)
└**2=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond RD5: Roof Drain 5



Summary for Pond RD6: Roof Drain 6

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=272)

Inflow Area = 1,250 sf,100.00% Impervious, Inflow Depth = 7.06" for 50-Year event
Inflow = 0.2 cfs @ 12.08 hrs, Volume= 735 cf
Outflow = 0.3 cfs @ 12.15 hrs, Volume= 719 cf, Atten= 0%, Lag= 4.0 min
Primary = 0.3 cfs @ 12.15 hrs, Volume= 719 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 69.93' @ 12.18 hrs Surf.Area= 273 sf Storage= 80 cf
Flood Elev= 72.00' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 37.3 min calculated for 719 cf (98% of inflow)
Center-of-Mass det. time= 22.8 min (765.2 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	68.99'	272 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

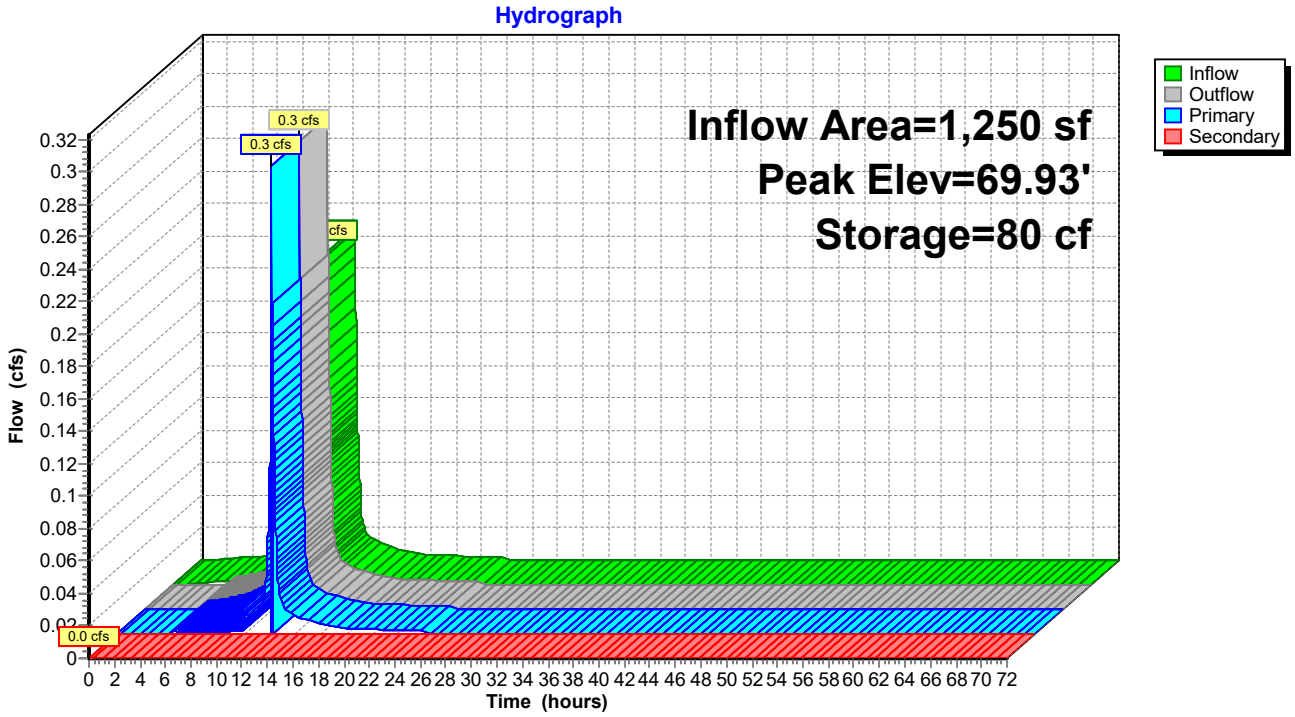
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.99	156	0.0	0	0
69.00	156	40.0	1	1
69.99	281	40.0	87	87
70.00	281	25.0	1	88
70.99	281	25.0	70	157
71.00	281	40.0	1	159
72.01	281	40.0	114	272

Device	Routing	Invert	Outlet Devices
#1	Primary	69.23'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	72.00'	**63.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.15 hrs HW=69.87' TW=70.47' (Dynamic Tailwater)
1=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=68.99' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD6: Roof Drain 6



Summary for Pond RD7: Roof Drain 7

[92] Warning: Device #2 is above defined storage
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=976)

Inflow Area =	1,250 sf,	100.00% Impervious,	Inflow Depth =	7.06"	for 50-Year event
Inflow =	0.2 cfs @	12.08 hrs, Volume=	735 cf		
Outflow =	0.4 cfs @	12.30 hrs, Volume=	718 cf,	Atten= 0%,	Lag= 13.0 min
Primary =	0.4 cfs @	12.30 hrs, Volume=	718 cf		
Secondary =	0.0 cfs @	0.00 hrs, Volume=	0 cf		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 68.38' @ 12.19 hrs Surf.Area= 281 sf Storage= 167 cf
Flood Elev= 69.30' Surf.Area= 281 sf Storage= 271 cf

Plug-Flow detention time= 43.6 min calculated for 718 cf (98% of inflow)
Center-of-Mass det. time= 28.0 min (770.4 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1	66.29'	271 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

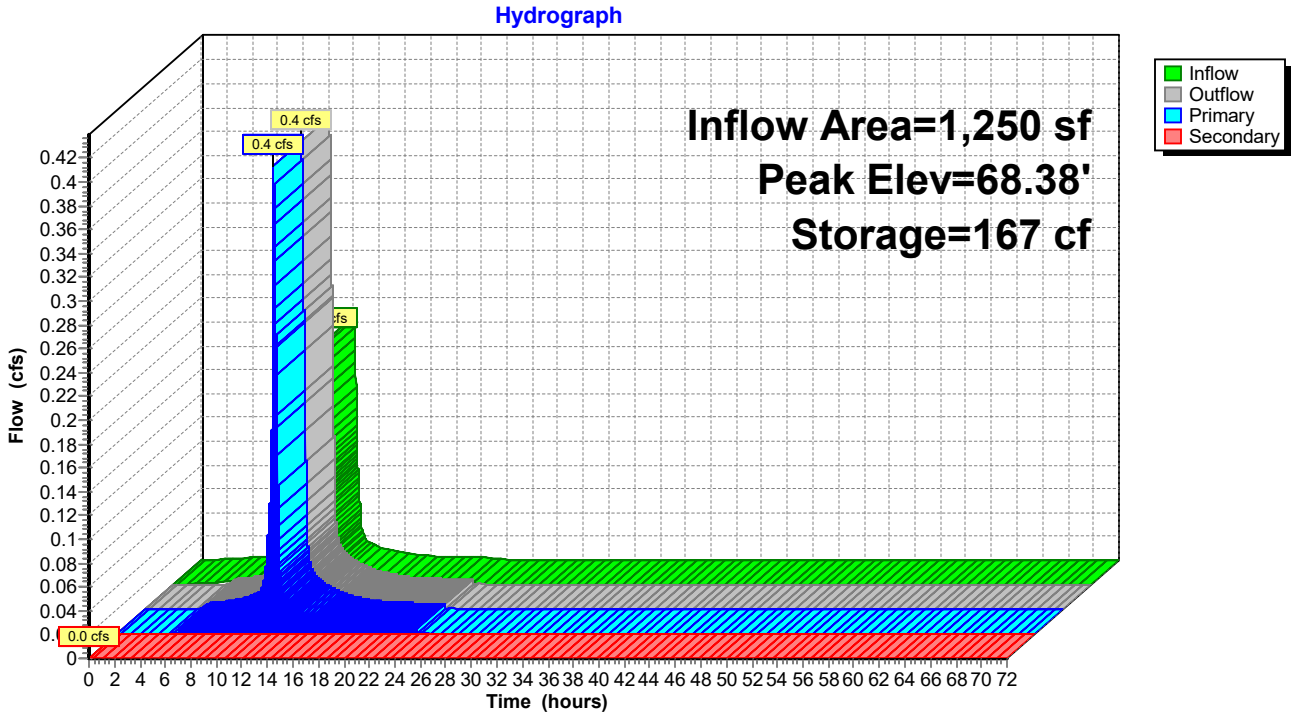
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
66.29	156	0.0	0	0
66.30	156	40.0	1	1
67.29	281	40.0	87	87
67.30	281	25.0	1	88
68.29	281	25.0	70	157
68.30	281	40.0	1	159
69.30	281	40.0	112	271

Device	Routing	Invert	Outlet Devices
#1	Primary	66.55'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	69.30'	**62.0' long x 4.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10

Primary OutFlow Max=0.0 cfs @ 12.30 hrs HW=68.06' TW=68.89' (Dynamic Tailwater)
1=Orifice/Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=66.29' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond RD7: Roof Drain 7



Summary for Pond SF1: Soil Filter 1

Inflow Area = 44,814 sf, 23.75% Impervious, Inflow Depth = 5.43" for 50-Year event
Inflow = 4.3 cfs @ 12.27 hrs, Volume= 20,261 cf
Outflow = 2.3 cfs @ 12.59 hrs, Volume= 20,255 cf, Atten= 48%, Lag= 19.2 min
Primary = 2.3 cfs @ 12.59 hrs, Volume= 20,255 cf
Secondary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 65.22' @ 12.60 hrs Surf.Area= 3,303 sf Storage= 3,799 cf
Flood Elev= 66.25' Surf.Area= 3,716 sf Storage= 5,562 cf

Plug-Flow detention time= 17.8 min calculated for 20,253 cf (100% of inflow)
Center-of-Mass det. time= 17.8 min (829.3 - 811.5)

Volume	Invert	Avail.Storage	Storage Description
#1	60.99'	981 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	63.50'	4,581 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		5,562 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
60.99	1,250	0.0	0	0
61.00	1,250	40.0	5	5
61.99	1,250	40.0	495	500
62.00	1,250	25.0	3	503
63.49	1,250	25.0	466	969
63.50	1,250	100.0	12	981

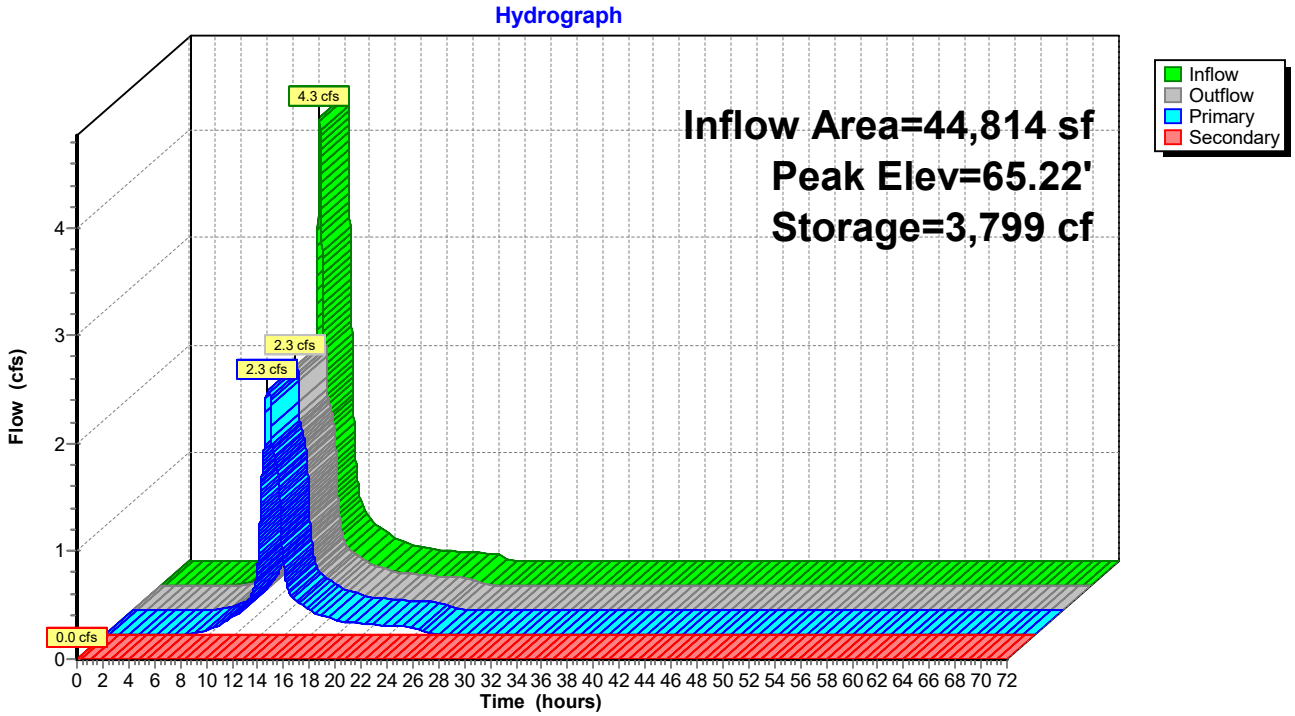
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
63.50	1,250	0	0
64.00	1,464	679	679
65.00	1,937	1,701	2,379
66.00	2,466	2,202	4,581

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**8.0" Round Culvert** L= 81.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 61.00' / 60.55' S= 0.0055 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Device 1	61.00'	**6.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.80'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	65.75'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=2.3 cfs @ 12.59 hrs HW=65.22' TW=61.57' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.3 cfs @ 6.45 fps)
  └─**2=Underdrain** (Passes < 1.8 cfs potential flow)
  └─**3=Orifice/Grate** (Passes < 7.1 cfs potential flow)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=60.99' TW=51.20' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond SF1: Soil Filter 1



Summary for Pond SF2: Soil Filter 2

[95] Warning: Outlet Device #3 rise exceeded

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 5.51" for 50-Year event
Inflow = 11.8 cfs @ 12.22 hrs, Volume= 57,378 cf
Outflow = 3.3 cfs @ 12.75 hrs, Volume= 57,154 cf, Atten= 72%, Lag= 31.8 min
Primary = 2.9 cfs @ 12.75 hrs, Volume= 56,774 cf
Secondary = 0.4 cfs @ 12.75 hrs, Volume= 380 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 63.58' @ 12.75 hrs Surf.Area= 14,895 sf Storage= 23,867 cf
Flood Elev= 64.00' Surf.Area= 15,354 sf Storage= 27,812 cf

Plug-Flow detention time= 133.7 min calculated for 57,154 cf (100% of inflow)
Center-of-Mass det. time= 131.2 min (931.4 - 800.3)

Volume	Invert	Avail.Storage	Storage Description
#1	58.49'	4,564 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
#2	61.00'	23,248 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		27,812 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.49	5,803	0.0	0	0
58.50	5,803	40.0	23	23
59.50	5,803	40.0	2,321	2,344
59.51	5,803	25.0	15	2,359
60.99	5,803	25.0	2,147	4,506
61.00	5,803	100.0	58	4,564

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
61.00	5,803	0	0
62.00	7,104	6,454	6,454
63.00	8,467	7,786	14,239
64.00	9,551	9,009	23,248

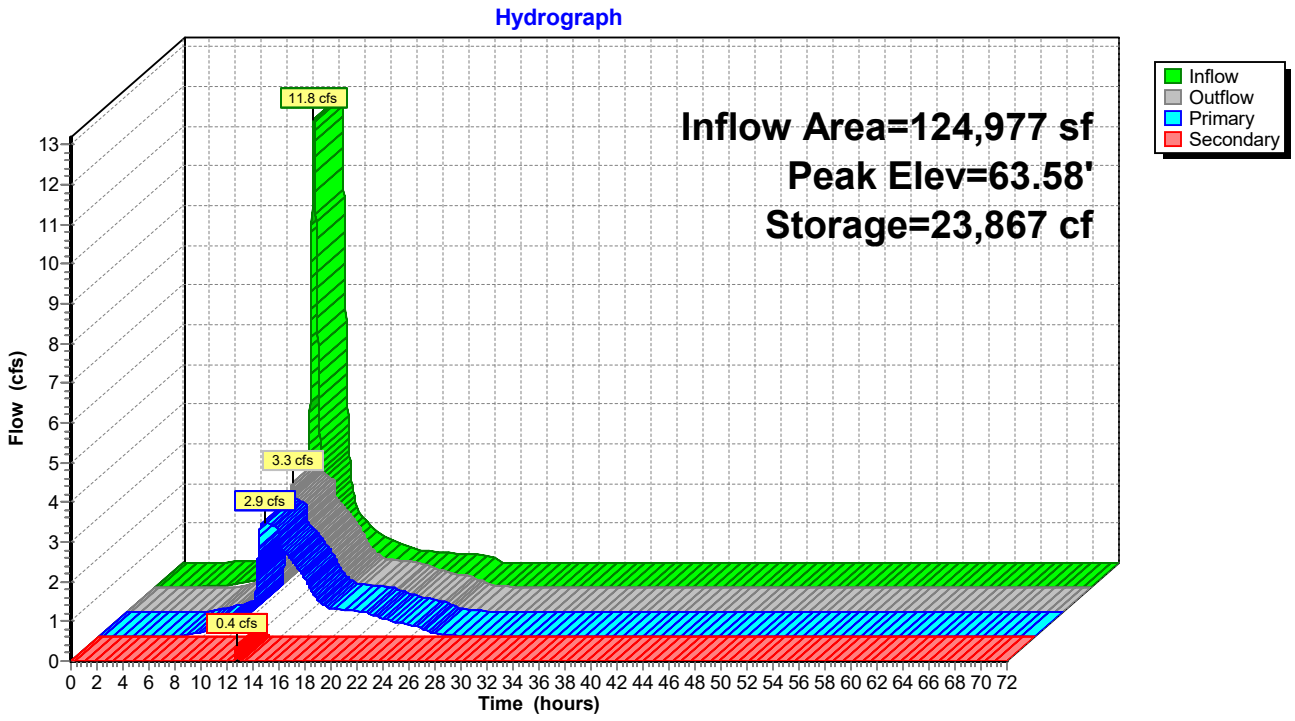
Device	Routing	Invert	Outlet Devices
#1	Primary	58.58'	**8.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.58' / 58.28' S= 0.0075 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	58.58'	**4.0" Vert. Underdrain** C= 0.600 Limited to weir flow at low heads
#3	Device 1	61.50'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.50 Width (feet) 0.50 0.50
#4	Device 1	63.00'	**24.0" x 24.0" Horiz. Structure Top** C= 0.600 Limited to weir flow at low heads
#5	Secondary	63.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00

2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=2.9 cfs @ 12.75 hrs HW=63.58' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.9 cfs @ 8.21 fps)
  └─**2=Underdrain** (Passes < 0.9 cfs potential flow)
  └─**3=Custom Weir/Orifice** (Passes < 1.7 cfs potential flow)
  └─**4=Structure Top** (Passes < 11.5 cfs potential flow)

Secondary OutFlow Max=0.4 cfs @ 12.75 hrs HW=63.58' TW=0.00' (Dynamic Tailwater)
└─**5=Broad-Crested Rectangular Weir** (Weir Controls 0.4 cfs @ 0.66 fps)

Pond SF2: Soil Filter 2

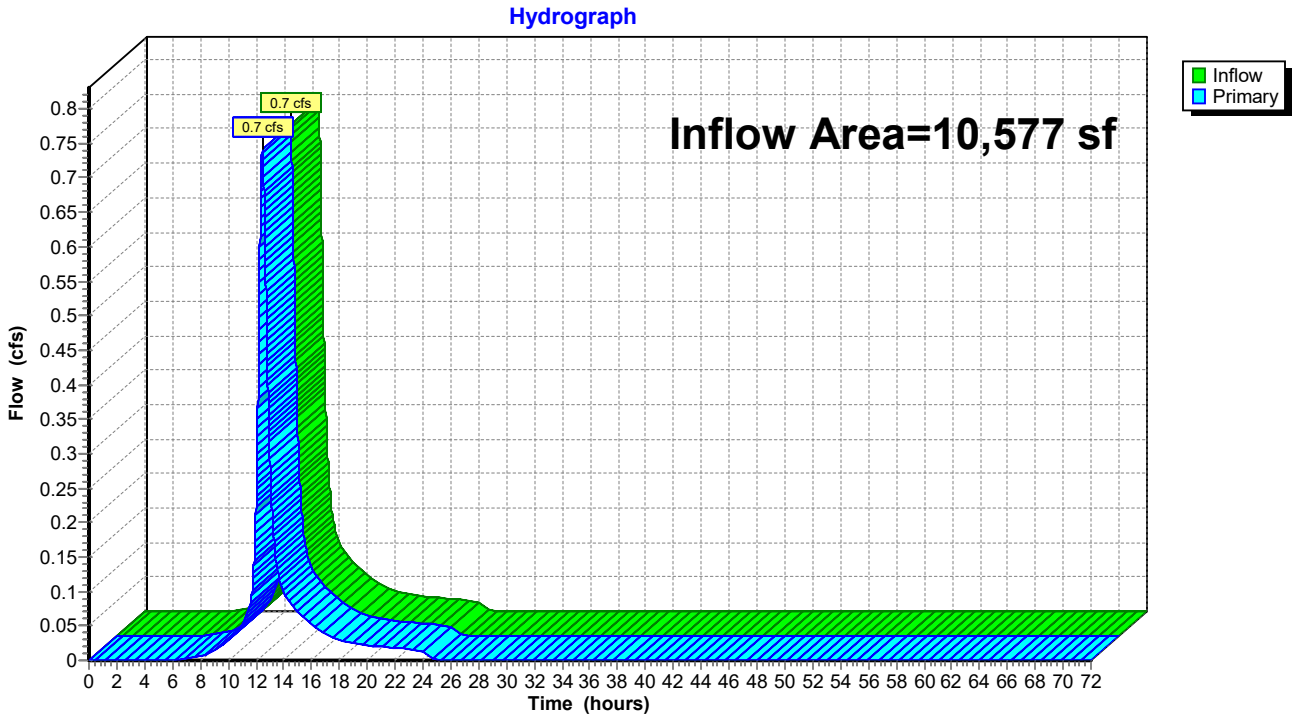


Summary for Link AP#1: Analysis Point 1

Inflow Area = 10,577 sf, 0.00% Impervious, Inflow Depth = 4.86" for 50-Year event
Inflow = 0.7 cfs @ 12.47 hrs, Volume= 4,283 cf
Primary = 0.7 cfs @ 12.47 hrs, Volume= 4,283 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#1: Analysis Point 1

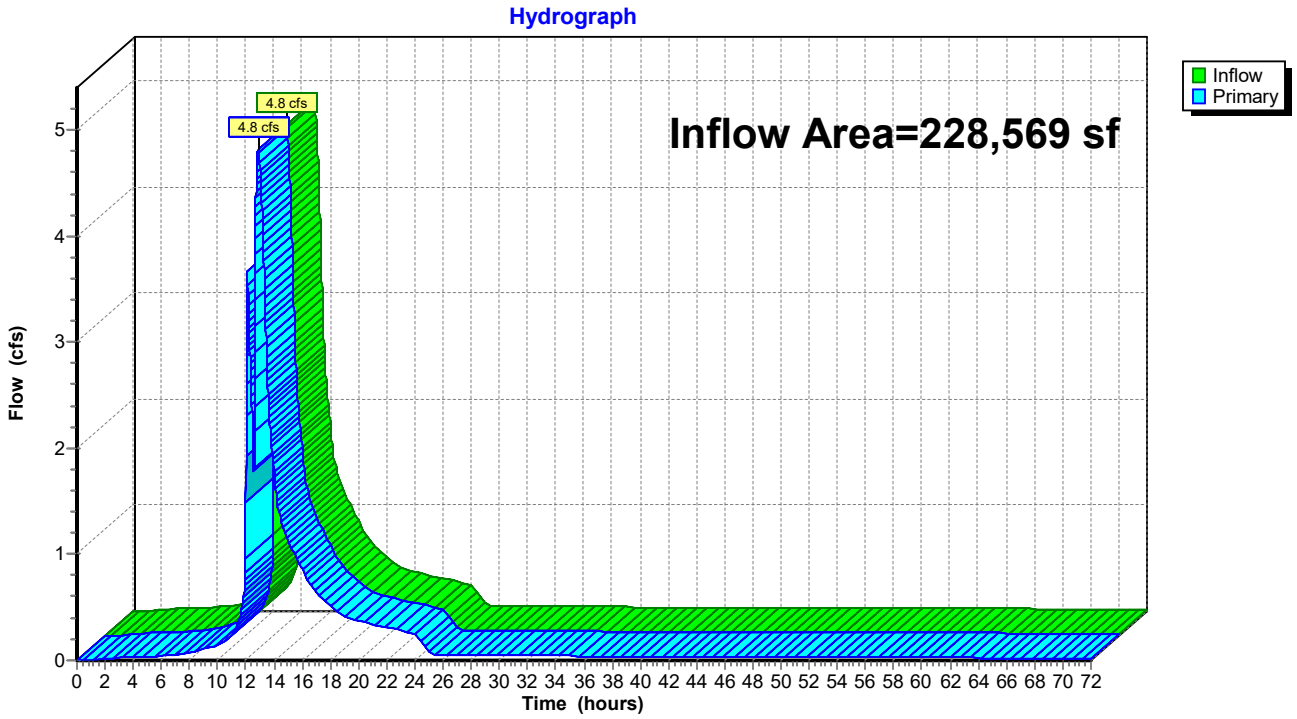


Summary for Link AP#2: Analysis Point 2

Inflow Area = 228,569 sf, 28.40% Impervious, Inflow Depth > 2.82" for 50-Year event
Inflow = 4.8 cfs @ 12.87 hrs, Volume= 53,734 cf
Primary = 4.8 cfs @ 12.87 hrs, Volume= 53,734 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#2: Analysis Point 2

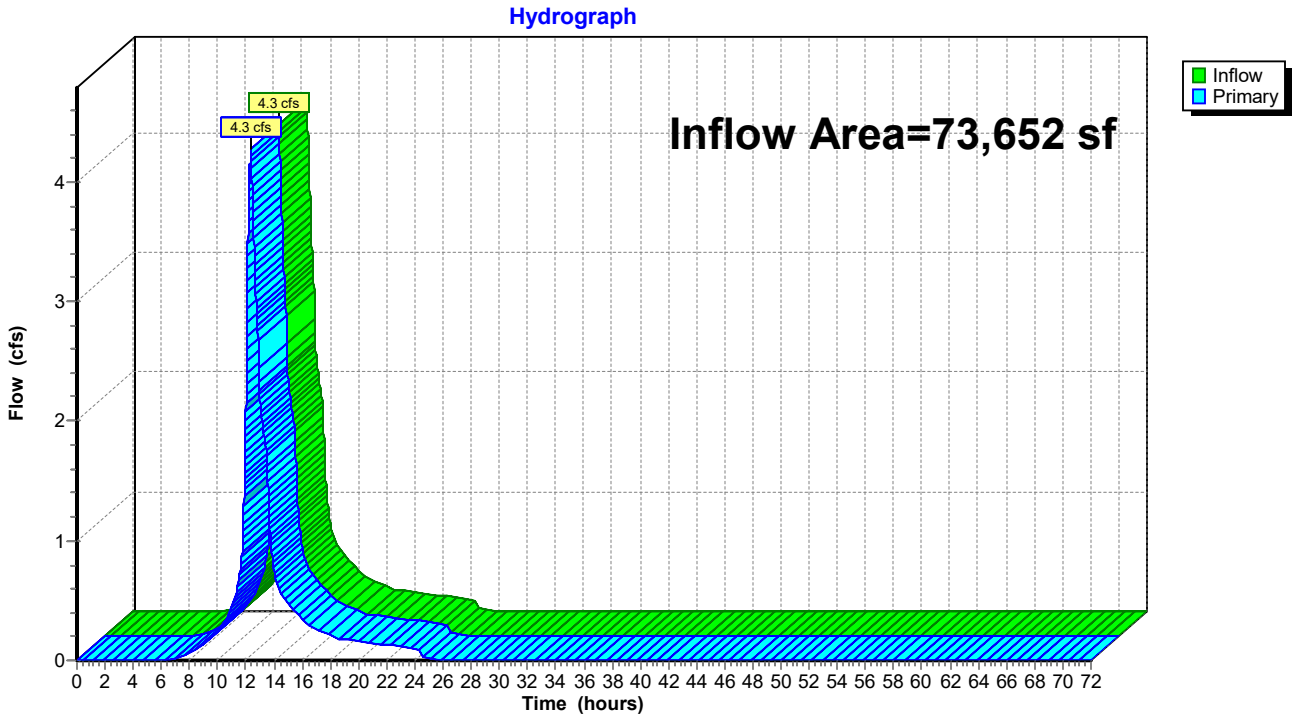


Summary for Link AP#3: Analysis Point 3

Inflow Area = 73,652 sf, 16.15% Impervious, Inflow Depth = 5.12" for 50-Year event
Inflow = 4.3 cfs @ 12.37 hrs, Volume= 31,398 cf
Primary = 4.3 cfs @ 12.37 hrs, Volume= 31,398 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#3: Analysis Point 3

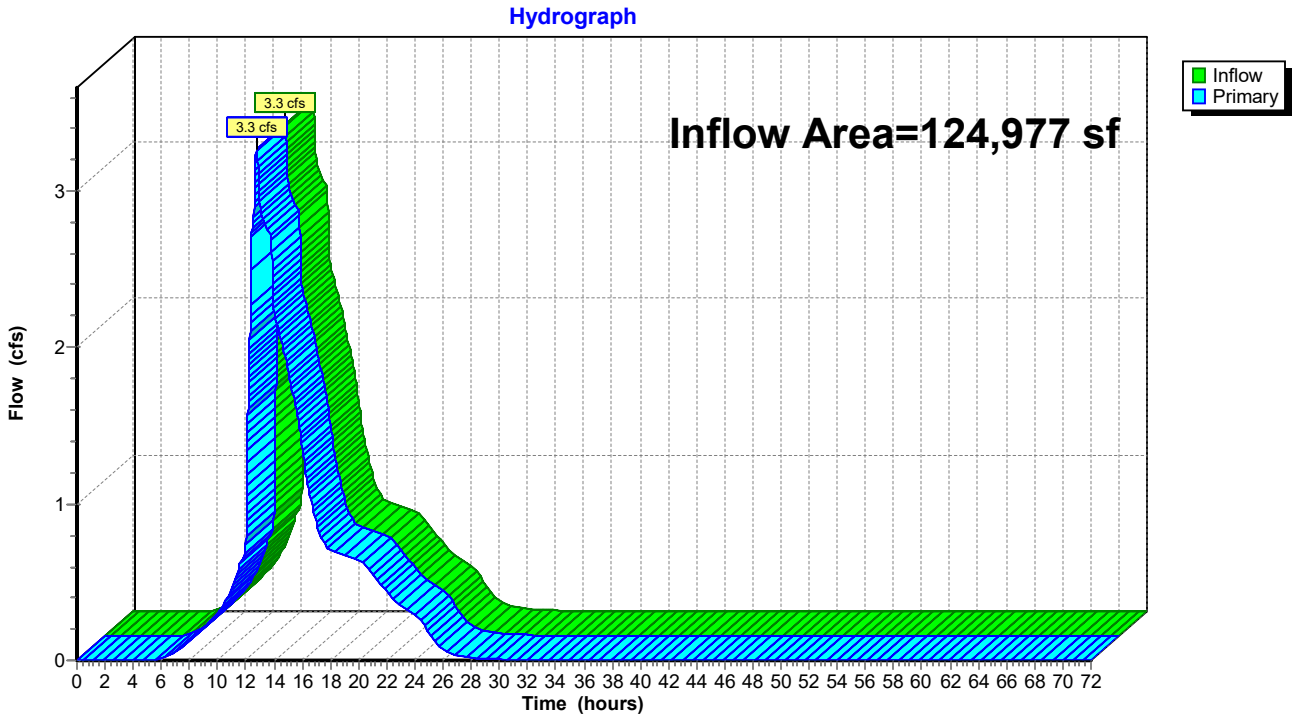


Summary for Link AP#4: Analysis Point 4

Inflow Area = 124,977 sf, 26.68% Impervious, Inflow Depth = 5.49" for 50-Year event
Inflow = 3.3 cfs @ 12.75 hrs, Volume= 57,154 cf
Primary = 3.3 cfs @ 12.75 hrs, Volume= 57,154 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#4: Analysis Point 4

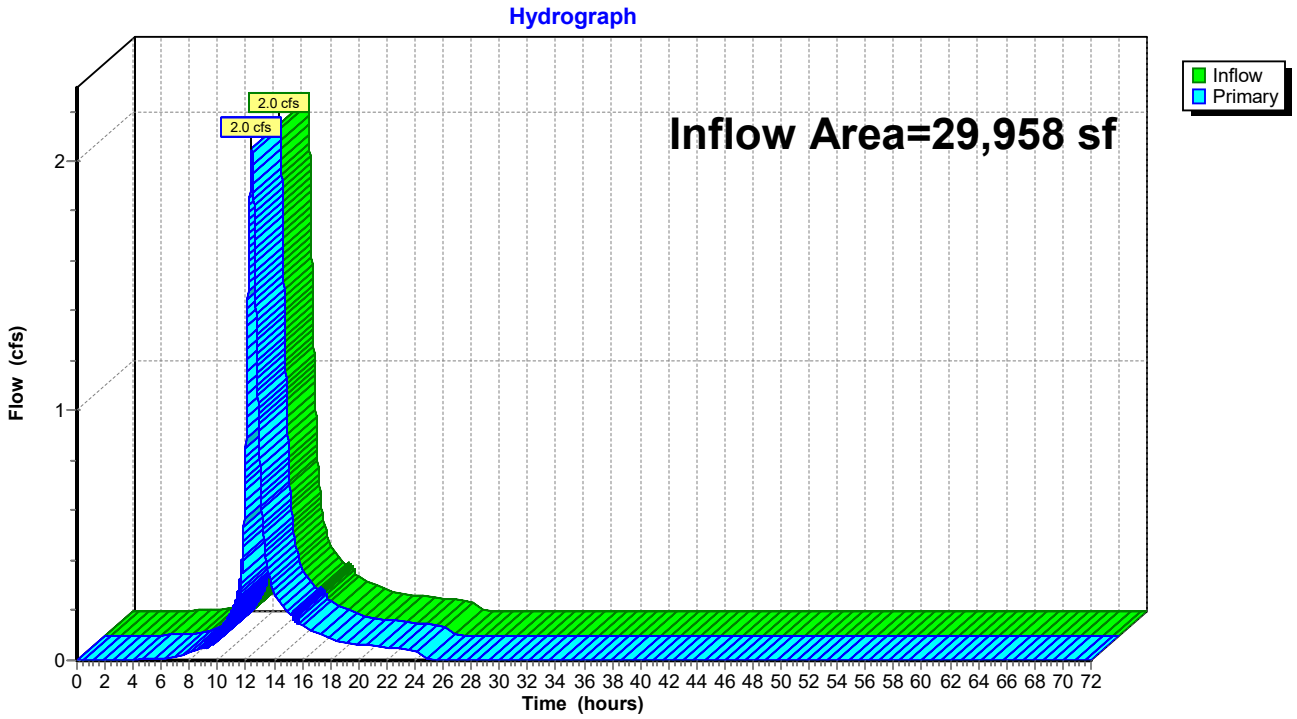


Summary for Link AP#5: Analysis Point 5

Inflow Area = 29,958 sf, 14.85% Impervious, Inflow Depth = 5.11" for 50-Year event
Inflow = 2.0 cfs @ 12.42 hrs, Volume= 12,767 cf
Primary = 2.0 cfs @ 12.42 hrs, Volume= 12,767 cf, Atten= 0%, Lag= 0.0 min

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

Link AP#5: Analysis Point 5



Appendix G

Post-Construction Stormwater System Inspection and Maintenance Plan

POST CONSTRUCTION INSPECTION AND MAINTENANCE PLAN OF STORMWATER MANAGEMENT FACILITIES
for
Arundel Lane Subdivision
526 Post Road, Wells, Maine 04090
January 21, 2026

Stormwater Management Facilities include swales, paved areas, drain pipes, catch basins, manholes, riprap aprons, roof dripline filters, subsurface detention/treatment chambers, and underdrained soil filters. Periodic inspection and maintenance of these site features and devices is necessary to prevent erosion, protect roadways, and remove pollutants from stormwater runoff.

RECORD KEEPING:

Inspections shall be conducted by someone with knowledge of erosion and stormwater controls, including standards and conditions in the permit. Post-construction inspection and corrective action records shall be retained for a minimum of five years after permanent stabilization has been achieved.

SWALES, DITCHES, AND PAVED SURFACES:

Swales, ditches, curbs, and paved surfaces are easily inspected during a site walk or even a ride-by. Since visual inspection is easy, their condition should be assessed during and/or after significant rainfall events such as thunder showers and periods of heavy or extended rainfall resulting in 0.5 inches of rain during a 24-hour period and during periods of significant snowmelt. Any damage or unusual condition such as sedimentation of a ditch, erosion, damaged curb, or dying vegetation should be recorded, dated, and initialed by the inspector when observed. Even if there is no damage, the inspector should make a record of these inspections at least twice annually.

Paved areas should be visually inspected monthly during the winter. The inspector should pay particular attention for evidence of erosion. The date and initials of the inspector should be recorded on the forms provided as well as a notation of any cleanup effort that was made and repairs to eroded areas.

Open swales and ditches shall be inspected twice per year (in spring and fall) to assure that debris and/or sediments do not reduce the effectiveness of the system. Debris and sediments shall be removed at that time. Any sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation for the stability of the ditches and slopes proper function. Maintenance shall include, but not be limited to, mowing, trimming and removal of vegetation in the ditches and slopes as required in order to prevent vegetation from blocking or diverting storm flows, replacement of riprap channel lining to prevent scour of the channel invert, removing vegetation and debris from the culverts.

Vegetated ditches should be mowed at least monthly during the growing season. Larger brush or trees must not be allowed to become established in the channel. Any areas where the vegetation fails will be subject to erosion and should be reseeded and mulched immediately.

CATCH BASINS AND DRAIN MANHOLES:

Catch Basins are precast concrete structures with sumps and cast-iron grates used to collect stormwater and trap heavy sediments. Drain Manholes are similar structures constructed with a channel instead of a sump and a solid cast iron cover instead of a grate. Drain Manholes exist at changes in direction and/or size of storm drain pipe. Catch Basins and drain manholes provide access to the closed storm drain system for inspection and maintenance.

Throughout the winter / spring sanding period, inspect catch basins monthly and after every significant rainfall event or period of heavy snowmelt. Clean catch basin sumps when sediment level is within 12 inches of the outlet pipe invert. At a minimum, remove floating debris and hydrocarbons at the time of the inspection. The removed material must be disposed of in accordance with the Maine Solid Waste Disposal Rules. Confined space entry safety procedures shall be practiced should entry into these structures be required.

Record dates of inspections, observations and maintenance measures implemented (if any) on the forms provided and initial the entry.

DRAIN PIPES:

Drain pipes are road culverts and pipes connecting drain manholes and catch basins. Inspect drain pipes when inspecting other stormwater facilities. At least annually make a visual inspection of the pipe. During the daylight you should be able to see light through most pipes as they have been laid to a straight line and grade. In some cases (e.g. pipe runs to a drain manhole or is blocked) you will need a light to inspect pipes.

Remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the pipe inlet and outlet. Sediment should be removed when its level exceeds 20% of the pipe diameter. This may be accomplished by hydraulic flushing or any mechanical means; however, care should be taken to contain the sediment at the pipe outlet, and not flush the sediments into the stormwater filter.

Record inspections on the forms provided noting condition of pipe and any maintenance procedures implemented.

UNDERGROUND DETENTION/TREATMENT CHAMBER SYSTEM:

Operation and maintenance requirements are similar to those for above-grade detention systems. Trash and sediment will need to be removed from the isolator row, if observed. Owner shall retain a qualified person to complete all inspections.

Inspect the isolator row of the detention/treatment system at least twice annually, and remove accumulated sediment as warranted by inspection, but no less than every three years. Inspect inlet and outlet structures at least twice annually and remove debris from structures when accumulation is within 12-inch of pipe inverts. Refer to the product manual of the exact chamber system installed for manufacturer-specified maintenance requirements.

ROOF DRIPLINE FILTERS

Roof dripline filters are designed to manage stormwater runoff from building roofs. Sediment and plant debris shall be removed from the roof dripline filters at least annually.

UNDERDRAINED SOIL FILTERS:

An underdrained soil filter is a landscaped depression with an underdrained soil bed or soil filter that exfiltrates the stormwater. The depression is designed to temporarily store runoff, which will drain through the soil filter into the underdrains; excess runoff will flow into structures or over earthen spillways.

Soil Filter Inspection: The soil filter should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining within 48 hours; and that, after storms that fill the system to overflow, it drains in no less than 24 hours. If the filter drains too rapidly, (i.e. prior to 24 hours), then an adjustable orifice shall be installed on the underdrain outlet pipe. The orifice shall be adjusted such that the filter completely drains within 24 to 72 hours.

Underdrain System: The soil filter outlet consists of a layer of planting loam and sand with a stone and perforated pipe underdrain. Outlet inspections shall include flushing of the underdrain through the cleanouts at the end of the pipes. Trash, sediment, and debris shall be removed from the vicinity of the outlet and must be disposed of in accordance with the Maine Solid Waste Disposal Rules.

Soil Filter Replacement: If the filter fails to drain within 72 hours, the surface of the pond shall be rototilled to promote aeration of the filter media and vegetation shall be re-established. If aeration of the surface soil fails to promote filtration of impounded water within 72 hours, then the filter media shall be replaced as necessary. The stone underdrain shall also be replaced at this time, along with the perforated pipe.

Sediment Removal: Sediment and plant debris should be removed from the pretreatment structure at least annually.

Mowing: Filters with grass cover should be mowed no more than 2 times per growing season to maintain grass heights less than 12 inches.

Fertilization: Fertilization of the underdrained filter area should be avoided unless absolutely necessary to establish vegetation.

Harvesting and Weeding: Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary. Add new mulch as necessary for bioretention cells.

Underdrained soil filters shall not be used for snow storage area. Vehicular equipment used to maintain or rehabilitate underdrained soil filters should work from the basin perimeter and not enter the basin area, as this will compact the soil surface and reduce the design infiltration rate. Record all maintenance on forms provided.

SEDIMENT DISPOSAL:

Any sediment or debris removed during maintenance of the stormwater system must be disposed of in accordance with the Maine Solid Waste Disposal Rules.

ARUNDEL LANE SUBDIVISION
WELLS, MAINE

INSPECTION / MAINTENANCE LOG

SWALES, DITCHES, AND PAVED SURFACES

I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED

DATE	INITIALS	ACTION	COMMENT
5/10/19	RST	I, C	EXAMPLE: Removed debris accumulated in swale.

ARUNDEL LANE SUBDIVISION WELLS, MAINE			
INSPECTION / MAINTENANCE LOG			
CATCH BASINS AND DRAIN MANHOLES			
I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
5/10/19	RST	I, C	EXAMPLE: CB inlet blocked by debris. Debris cleared from inlet to allow for designed flow.

ARUNDEL LANE SUBDIVISION
WELLS, MAINE

INSPECTION / MAINTENANCE LOG

DRAIN PIPES

I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED

DATE	INITIALS	ACTION	COMMENT
5/10/19	RST	I, C	EXAMPLE: Called XYZ to clean debris from culvert inlets along access drive.

ARUNDEL LANE SUBDIVISION
WELLS, MAINE

INSPECTION / MAINTENANCE LOG

UNDERGROUND DETENTION/TREATMENT CHAMBER SYSTEM

I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED

DATE	INITIALS	ACTION	COMMENT
5/10/19	RST	I	EXAMPLE: Inspected isolator row and called XYZ to remove sediment and debris.

ARUNDEL LANE SUBDIVISION WELLS, MAINE			
INSPECTION / MAINTENANCE LOG			
ROOF DRIPLINE FILTERS			
I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
5/10/19	RST	I, C	EXAMPLE: Removal of vegetation from the edges; including the roots.

ARUNDEL LANE SUBDIVISION WELLS, MAINE			
INSPECTION / MAINTENANCE LOG			
UNDERDRAINED SOIL FILTERS			
I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED			
DATE	**INITIALS**	**ACTION**	**COMMENT**
5/10/19	RST	I, C	EXAMPLE: Pond X cleaned by subcontractor, 2 truckloads of sediment taken to facility

ARUNDEL LANE SUBDIVISION WELLS, MAINE					
STORMWATER MANAGEMENT SYSTEM MAINTENANCE PROGRAM SUMMARY CHECKLIST					
Item	**Commentary**	**Frequency**			
		Month	**Semi-Annual**	**Annual**	**Long-Term**
Paved Surfaces	Review for damage and buildup of debris and sand.	**X**	**X Sweep**		
Open Swale & Ditches	Inspect for debris accumulation, erosion, and excessive vegetation. Mow monthly, remove debris, repair, and revegetate any area of erosion	**X Mow**		**X**	
Drain Pipes and Riprap Aprons	Inspect for sediment buildup in pipe. Flush and remove as required.			**X**	
Catch basin and Drain Manholes	Inspect grates to assure optimum water flows into the structures. Inspect sumps for blockage and sediment accumulation. Clean out sumps .	**X Inspect**		**X Sediment removal**	
Roofline Drip Edge	Inspect over growing vegetation, clogging, and stone displacement.		**X**		
Underdrain Soil Filter	Mow twice per year. Inspect for erosion.		**X**		
Underground Detention	Inspect for sediment build-up in isolator row. Flush and remove as required.			**X**	

Appendix H

Stormwater Design Calculations

WALSH
ENGINEERING ASSOCIATES, INC.
1 Karen Drive, Suite 2A
Westbrook, ME 04092
P: (207) 553-9898 | www.walsh-eng.com

PROJECT: Arundel Lane Subdivision
PROJECT NO. 1005
CLIENT: The Grace Group, LLC
DESIGNED BY: MRM DATE: 1/21/2026
CHECKED BY: LLT/WRW DATE: 1/21/2026

Roof Dripline Filter Design Calculations

Per the Maine Stormwater Best Practices Manual, Volume III, Chapter 7.5

Sizing Parameter	Sizing Requirement	Required Value	Proposed Value	Unit
Capacity for Large Storm	To meet the Chapter 500 Flooding Standards requirements, the reservoir needs to provide a minimum storage capacity for the direct entry of the rain precipitation from a 24-hour, 25-year storm (5 + inches) or an overflow may be needed or provided for.	N/A - the Chapter 500 Flooding Standard is not applicable to this project		CF
Treatment Storage (Dripline Filter Width)	The width of the roof dripline filter must be sized based on the following parameters: the reservoir layer at the drip line must consist of crushed stone with a porosity of 40%; its depth must be 4” min to 12” max; and must be sized to treat the first 1-inch of runoff.	4.2	4.5	FT
Storage Volume Provided by Dripline Filter	Dripline (length) x (width) x (depth) x (percentage of voids)	N/A	270.3	CF
Detention Time	Stored volume needs to fully drain within 24 to 48 hours.	24-48	27	Hours

WALSH
ENGINEERING ASSOCIATES, INC.
1 Karen Drive, Suite 2A
Westbrook, ME 04092
P: (207) 553-9898 | www.walsh-eng.com

PROJECT: Arundel Lane Subdivision
PROJECT NO. 1005
CLIENT: The Grace Group, LLC
DESIGNED BY: MRM DATE: 2/10/2026
CHECKED BY: LLT DATE: 2/10/2026

Grassed Underdrained Soil Filter Design Calculations

Per the Maine Stormwater Best Practices Manual, Volume III, Chapter 7.1

Sizing Parameter	Sizing Requirement	Required Value	Proposed Value	Unit
Treatment Volume	An underdrained soil filter must detain and filter a runoff volume equal to 1.0 inch times the subcatchment's impervious area (10,645 SF) plus 0.4 inch times the subcatchment's landscaped developed area (34,169 SF), and 0.2 inch over the undeveloped contributing area (0 SF; 0.2 inch per DEP's Chapter 500 Rules, Part 4.C.(2).(b))	2,026	5,562	CF
Filter Area and Thickness	The surface area of the filter must be no less than the sum of 5% of the impervious area (10,645 SF) and 2% of the landscaped developed area (34,169 SF) draining to the filter.	1,216	1,250	SF
	The soil filter media must be at least 18 inches thick.	18	18	IN
Basin Size	The filter area should not exceed 3,000 square feet.	< 3,000	1,250	SF
	The filter area should not have more than 2.5 acres of subwatershed draining to the structure.	<2.5	1.0	AC
Drain Time	A filter basin must drain dry in no less than 24 and no more than 48 hours.	24-48	40	Hours
Impoundment Depth	The peak water quality storage depth may not exceed 18 inches over a grass filter.	18	0	IN
Sediment Pretreatment	Assuming an average of 10 storm events per year, the volume of a sediment trap should be calculated as follow: $\text{10 storms per year} \times \text{Sanded Area (acres)} \times \frac{\text{500 lbs.}}{\text{per acre-storm}} : \frac{\text{90 lbs.}}{\text{ft}^3} = \text{annual cubic feet of collected sediment}$	2.4	30	CF

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1 Karen Drive, Suite 2A
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PROJECT: Arundel Lane Subdivision
PROJECT NO. 1005
CLIENT: The Grace Group, LLC
DESIGNED BY: MRM DATE: 2/10/2026
CHECKED BY: LLT DATE: 2/10/2026

Grassed Underdrained Soil Filter Design Calculations

Per the Maine Stormwater Best Practices Manual, Volume III, Chapter 7.1

Sizing Parameter	Sizing Requirement	Required Value	Proposed Value	Unit
Treatment Volume	An underdrained soil filter must detain and filter a runoff volume equal to 1.0 inch times the subcatchment's impervious area (33,978 SF) plus 0.4 inch times the subcatchment's landscaped developed area (73,381 SF), and 0.2 inch over the undeveloped contributing area (17,618 SF; 0.2 inch per DEP's Chapter 500 Rules, Part 4.C.(2).(b))	5,571	27,182 (cumulative storage for both soil filter cells)	CF
Filter Area and Thickness	The surface area of the filter must be no less than the sum of 5% of the impervious area (33,978 SF) and 2% of the landscaped developed area (73,381 SF) draining to the filter.	3,167	2,901 (per cell)	SF
	The soil filter media must be at least 18 inches thick.	18	18	IN
Basin Size	The filter area should not exceed 3,000 square feet.	< 3,000	2,901 (per cell)	SF
	The filter area should not have more than 2.5 acres of subwatershed draining to the structure.	<2.5	1.5 (per cell)	AC
Drain Time	A filter basin must drain dry in no less than 24 and no more than 48 hours.	24-48	44	Hours
Impoundment Depth	The peak water quality storage depth may not exceed 18 inches over a grass filter.	18	0	IN
Sediment Pretreatment	Assuming an average of 10 storm events per year, the volume of a sediment trap should be calculated as follow: $\text{10 storms per year} \times \text{Sanded Area (acres)} \times \frac{\text{500 lbs.}}{\text{per acre-storm}} : \frac{\text{90 lbs.}}{\text{ft}^3} = \text{annual cubic feet of collected sediment}$	21.6	295	CF

WALSH
ENGINEERING ASSOCIATES, INC.

August 14, 2025

Wells Sanitary District
197 Eldridge Road,
Wells, ME 04090
wsd@wellssanitarydistrict.com

RE: Request for Ability to Serve
526 Post Road, Wells
Tax Map 27, Lot 10-EXE

To whom it may concern,

Walsh Engineering Associates, Inc. (WEA), is respectfully requesting an updated "Ability to Serve" letter for wastewater service for the proposed development located at 526 Post Road. The property is identified by the Town of Wells Tax Assessor's office as map 27, lot 10-EXE. I have enclosed a sketch plan for the project showing a concept for the proposed development and existing utilities in the area. It is our understanding that the existing Morrison Center on the property is served by the Sanitary District connected to the gravity sewer main in Post Road.

The proposed development is for **15 residential dwelling units** to be connected to the existing wastewater system in Post Road. The existing service for the Morrison Center is shown on the provided sketch plan and is to remain in service. At this time, the proposed use of the existing Morrison Center building is unknown and will be treated separately from the subject residential development.

Utilizing the Maine Subsurface Wastewater Disposal Rules, WEA anticipates the following flows:

Maine Subsurface Wastewater Disposal Rules Design Flows / Wells Sanitary District Standards				
Type of Facility	**Design Flow (GPD)**		**Total Units**	**Estimated Daily Design Flow (GPD)**
Three Bedroom Single Family Unit	300	Per Unit	15	4500

Thank you for your review of this project, we look forward to working with the Sanitary District to make this project a success.

Respectfully,

Matthew Pittsley
Walsh Engineering Associates, Inc.

enc. Sketch Plan, Tax Map parcel location

526 Post Road

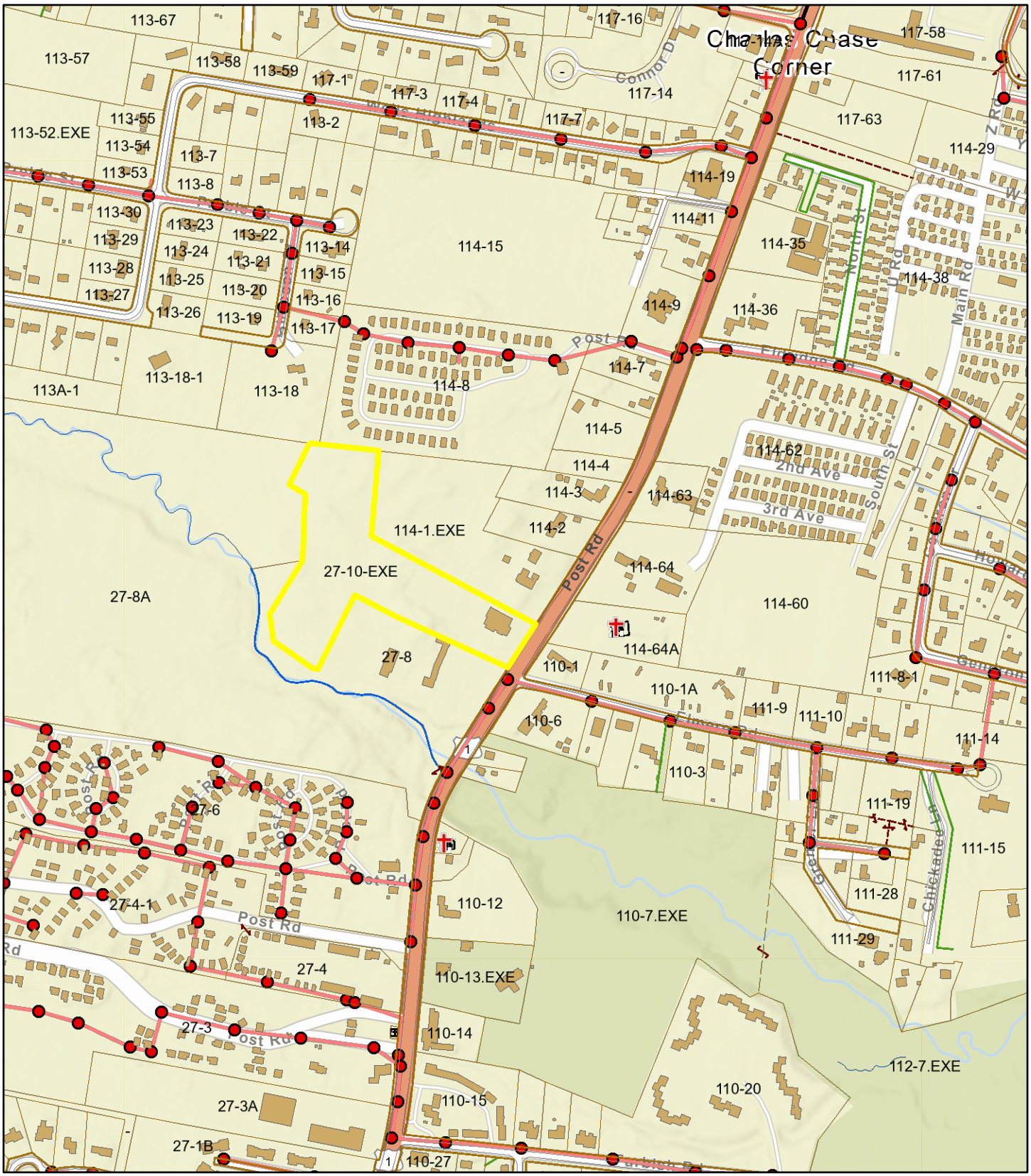
Wells, ME

1 inch = 500 Feet

0 500 1000 1500

August 1, 2025

CAI Technologies
Precision Mapping. Geospatial Solutions.
www.cai-tech.com



Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

Planning & Development
208 Sanford Road, Wells, Maine 04090
Phone: (207) 646-5187, Fax: (207) 646-7046
Website: www.wellstown.org

Michael G. Livingston, Town Engineer/Planner	*mlivingston@wellstown.org*
Shannon M. L. Belanger, Assistant Planner	*sbelanger@wellstown.org*

Site Plan Application Memo

Date: February 20, 2026

To: Planning Board

From: Planning Office

Re: Nortey Dental – Map 126, Lots 20 and 21 to become Lot 21

Project Description:

Sebago Technics has filed a site plan application on behalf of the applicant Nortey Dental, PLLC for the properties owned by Marilyn Darling. The properties are identified as Tax Map 126, Lots 20 and 21. The application proposed to remove the existing two single family dwelling units and construct a 5,400 SF building for Personal Service Business (dental office) use. Associated parking and infrastructure proposed. The property to be served by public water and public sewer. The properties fall within the General Business District. To be Tax Map 126, Lot 21.

§ 145-74. Review and approval process.

D. Planning Board review process.

(1) If there are site plan approval applications to review, the Planning Board shall meet at least two times a month and its meeting agenda shall be posted in the Town Hall at least seven days prior to the meeting. Applications and other supporting submittals shall be filed by the applicant in the Office of Planning and Development at least 10 days before the meeting. Additional materials received from an applicant less than 10 days before a meeting will be held by the Office of Planning and Development staff until the meeting and will be distributed when the application is discussed. Such late submittals may only be considered at the discretion of the Planning Board. The Board shall only consider accepting late submittals upon finding that the content is nontechnical, brief and may be easily reviewed in a short time period, and any parties to the proceeding will have adequate time to review and respond to the submittals. **Planning Board to receive the Site Plan Application on 2/23/26.**

(2) Applications for site plan approval are to be filed with the Office of Planning and Development. The application shall be accompanied by a site plan and the required fee along with a certification that the applicant has sent or delivered notices to the abutters of the filing of the site plan approval application. If the abutters have been notified by the Code Enforcement Officer of a preapplication for the same project within the last 60 days pursuant to Subsection **A(1)(b)[1]**, the applicant shall be exempted from notifying the abutters of the site plan application filing. Within seven days of receipt of the application by the Office of Planning and Development, the Code Enforcement Officer shall determine if the proposed use meets the

requirements of Articles **V**, **VI** and **VII**. If it does not, the Code Enforcement Officer shall notify the applicant in writing. If it does, the application shall be reviewed for completeness by the Planning Board's agent or placed on a Planning Board agenda for the Planning Board to review for completeness. The applicant may request, in writing, that the Board waive submission of the requirements of § **145-77**. The Board may waive any of the submission requirements listed in § **145-77** if it determines that they would not be applicable or are not necessary to determine that the standards of § **145-75** have been or will be met. **Abutters mailed notice of application on 2/13/26**

(3) It is the responsibility of the Planning Board, or its agent if so designated, to determine if the application is complete. If it is the responsibility of the Board to determine whether the application is complete it must be done within 21 days of receipt of the application by the Board. If it is the responsibility of the Board's agent to determine whether the application is complete it must be done within 14 days of receipt of the application by the Office of Planning and Development. The time period for determining completeness may be extended by mutual consent of the applicant and the Planning Board or its agent. If the application is complete it shall be placed on an agenda for presentation to the Board at a public hearing. If the application is not complete, the applicant shall be notified, in writing, of the additional information needed to complete the application. If the additional information or a written request for an extension is not submitted within 60 days of the notification, the application shall be considered to be withdrawn. If the Planning Board's agent has determined that the application is not complete and the applicant believes it is complete, the applicant may request in writing for the application to be placed on the agenda for the next Planning Board meeting and have the Planning Board review the application for completeness. **To be determined**

(4) Upon determining that a complete application has been submitted, the Office of Planning and Development shall notify the Staff Review Committee members of the application and request their comments on the application in writing. **To be determined**

(5) Within 35 days of determining that the application is complete the Planning Board shall hold a public hearing on the application. **To be determined**

(a) In scheduling public hearings under this section, the Planning Board shall publish notice of the hearing at least 10 days in advance in a newspaper of general circulation in the area. The applicant shall be responsible for paying the cost of such notices.

(b) The Planning Board shall notify, by certified mail, the applicant and all abutters of the lot involved, including owners of lots on the opposite side of the street, at least 10 days in advance of the hearing, of the nature of the application and of the time and place of the public hearing.

(c) The lot owners shall be considered to be those against whom taxes are assessed. In the case of condominiums, the condominium association, not each unit owner, shall be notified. Failure of any lot owner to receive a notice of public hearing shall not necessitate another hearing or invalidate any action by the Planning Board.

(d) At any hearing, a person may be represented by his agent or attorney. Hearings shall not be continued to other times except for good cause.

(e) The applicant's case shall be heard first. To maintain orderly procedure, each side shall proceed without interruption. Questions shall be asked through the Chair. All persons at the hearing shall abide by the order of the Chairman.

(6) Within 35 days of the public hearing or a period of time agreed to by the applicant and the Planning Board, the Planning Board shall reach a decision based on the criteria found in § **145-75** and shall inform the applicant in writing within seven days of its decision stating its reasons. The Board shall prepare detailed, written findings of fact and conclusions, based on the evidence presented at the public hearing and evidence presented by the applicant and evidence presented by Town staff. **To be determined**

Recommendations and conclusions:

1. Planning Board to consider receiving the site plan application
2. Applicant to give presentation

3. Planning Board to consider the following:
    a. Minor note labels and various plan notes recommended.
    b. Building on abutting Lot 22A encroaches into Lot 21. A 5' wide access easement/ maintenance easement is proposed. The building has existed for over 20 years. An adverse possession claim exists. A boundary line agreement is recommended.
    c. Proposed lot coverage is not detailed on the plan.
    d. Maximum density requirements of the GB zone to be noted within note 12 on the plan. Plan to note that no dwellings to remain or are proposed on the lot.
    e. A 15 foot wide landscaped buffer is required along Route 1. Sheet L-101 depicts the proposed landscaping. Two birch trees are proposed near the 15' wide landscaped buffer and need to be adjusted to fall within the buffer. Birch trees are required to have a 3" diameter at breast height. Plan updates needed. Buffer determination to be made after the public hearing is considered.
    f. This property abuts a residential lot to the east. L-101 depicts 5 spruce trees, 4' to 5' in height. Planning Board to consider if this is a suitable visual screen for lot 20B and lot 26.
    g. Existing tree line is proposed to be maintained along the northeasterly corner abutting Lot 19A to the north. Planning Board to consider if this is a suitable visual screen for lot 19A.
    h. Parking requirement corrections needed.
    i. Filter barriers to be extended for erosion control.
    j. Stormwater management plan provided. To be reviewed.
    k. Applicant and owner information to be corrected and noted on the plan.
    l. Planning Board signature block needed,
    m. Planning Board to determine if additional traffic data is needed.
4. Planning Board to consider appointing the Planning Office as completeness agent to schedule a public hearing once complete.

Project Name/District:	Nortey Dental / General Business District – Tax Map 126, Lot 20 and 21 (To become Lot 21).	Date of Review:	02/20/26
Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

Article X
Site Plan Approval

§ 145-77. Data Requirements [Amended 4-26-1996]		Application Meet Requirements				
		Yes	No	NA	Waiver	Comments
Any application presented for approval shall include the following information if applicable:						
A.	A site plan drawn at a scale not smaller than one inch equals 40 feet and is on a plan 24 inches by 36 inches in size with a one-inch minimum border which shall contain the following information: **[Amended 6-12-2012]**	**Y**				Scale is 1" = 20 feet.
	(1) The name and address of the applicant plus the name of the proposed development.	**Y***				**Applicant name and address to be corrected? (Ed Pease from Johns Creek, GA?)** **Owners information to be added.** Business name and address noted.
	(2) Total floor area, ground coverage and location of each proposed building, structure or addition.		**N**			Building area is noted to be 5,400 SF. **Proposed lot coverage is not detailed on the plan.** Maximum allowed coverage of 65% in the General Business District is noted.

Project Name/District: Nortey Dental / General Business District – Tax Map 126, Lot 20 and 21 (To become Lot 21). Date of Review: 02/20/26

Prepared By: Office of Planning & Development Company Name: Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]			**Application Meet Requirements**				
			Yes	**No**	**NA**	**Waiver**	**Comments**
	(3)	Perimeter survey of the parcel, made and certified by a registered land surveyor licensed in Maine, relating to reference points, showing true or magnetic North, graphic scale, corners of parcel, date of survey and total acreage. The requirement for a certified boundary survey may be waived by the reviewing authority if the proposed construction is located a distance equal to the required setback plus 10 feet from any lot line.	**Y***				An ALTA/ NSPS Land Title Survey prepared by Brian Stoddard, PLS #2628 of Sebago Technics dated 10/13/2025 provided. **An encroachment by Lot 22A is identified. A boundary line agreement is recommended. The building falls within the setback requirement for Lot 21 and makes lot 21 non-conforming. An access/maintenance easement does not resolve the non-conformity.**
	(4)	All existing and proposed setback dimensions.	**Y***				See note 12. **Setback terminology to be corrected.** 15' lot line setback, 25' street ROW setback, 40' Route One setback and 25' cemetery boundary setback to be noted. **The building falls within the setback requirement for Lot 21 and makes lot 21 non-conforming.**
	(5)	The size, location, direction and intensity of illumination of all major outdoor lighting apparatus and signs.	**Y**				Proposed exterior building mounted lights and light poles are identified. **Light and glare note to be added to sheet C-101.** Photometric plan provided. No impacts to be abutters.
	(6)	The type, size and location of all incineration devices.			**NA**		No such devices exist nor are proposed.
	(7)	The type, size and location of all machinery likely to generate appreciable noise at the lot lines.			**NA**		No such machinery identified or proposed.

Project Name/District: Nortey Dental / General Business District – Tax Map 126, Lot 20 and 21 (To become Lot 21). Date of Review: 02/20/26

Prepared By: Office of Planning & Development Company Name: Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]			**Application Meet Requirements**				
			Yes	**No**	**NA**	**Waiver**	**Comments**
	(8)	The location, type and size of all existing and proposed catch basins, storm drainage facilities, wetlands, streams and watercourses and all utilities, both above and below ground.	**Y***				Sheet C-104 depicts the proposed grading and utilities. Underground electrical proposed from an existing utility pole. **<u>Water line and sewer line utility work proposed.</u>** Notes on C104 state test pits to be done to verify separations can be met at water and sewer crossings. 3-ring binder location has been identified.
	(9)	All existing contours and proposed finished grade elevations of the portions of the site which will be altered and the system of drainage proposed to be constructed. Contour intervals shall be specified by the reviewing authority. This requirement may be waived by the reviewing authority if no additional lot coverage is proposed or the proposed lot coverage is less than 30% and has an area of less than 15,000 square feet.	**Y**				Existing and proposed one foot property contours are shown on sheet C-104.

Project Name/District: Nortey Dental / General Business District – Tax Map 126, Lot 20 and 21 (To become Lot 21).

Date of Review: 02/20/26

Prepared By: Office of Planning & Development

Company Name: Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
(10)	The location, type and size of all curbs, sidewalks, driveways, fences, retaining walls and parking space areas and the layouts thereof, together with the dimensions.	**Y**				Proposed entrance onto Route One to be 26' wide. Existing sidewalks along Route One shall be maintained, with tip downs and crosswalk proposed. Stop bar and stop sign depicted. All parking shall be 90 degree with 9' x 18.5' in dimension and 26' wide two-way travel aisles. **Plan to note all parking lot striping, arrows, etc shall be maintained to be clearly visible.** Parking along or within Route 1 is prohibited. **Plan to note.** 2 handicap accessible spaces are proposed. 1 space is required. 5,400 / 400 = 14 spaces are required, **not 13 as noted in note 15**. 25 spaces are proposed, (23 standard and 2 handicap accessible, **not 22 standard). Plan note revisions needed.** 6' tall solid fence enclosure proposed around the dumpster.

Project Name/District: Nortey Dental / General Business District – Tax Map 126, Lot 20 and 21 (To become Lot 21). Date of Review: 02/20/26

Prepared By: Office of Planning & Development Company Name: Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
(11)	All landscaped areas, fencing and size and type of plant material upon the premises.	**Y***				A 15 foot wide landscaped buffer is required along Route 1. Sheet L-101 depicts the proposed landscaping. **Two birch trees are proposed near the 15' wide landscaped buffer and need to be adjusted to fall within the buffer. Birch trees are required to have a 3" diameter at breast height. Plan updates needed.** This property abuts a residential lot to the east. L-101 depicts 5 spruce trees, 4' to 5' in height. **Planning Board to consider if this is a suitable visual screen for lot 20B and lot 26.** Existing tree line is proposed to be maintained along the northeasterly corner abutting Lot 19A to the north. **Planning Board to consider if this is a suitable visual screen for lot 19A.** **Some plantings on L101 appear to conflict with the proposed retaining wall.** **Determinations on buffering and screening to be made after a public hearing is considered.**

Project Name/District: Nortey Dental / General Business District – Tax Map 126, Lot 20 and 21 (To become Lot 21). Date of Review: 02/20/26

Prepared By: Office of Planning & Development Company Name: Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
(12)	All existing or proposed rights-of-way, easements and other legal restrictions which may affect the premises in question.	**Y***				50' wide right of way, access and utility easement noted along the easterly boundary of the lot. Easements are proposed for access/maintenance of lot 22A, for access/maintenance of light poles for Lot 23 and temporary construction easement to install drainage improvements on lot 19. **To be reviewed.** **A permanent easement on Lot 19 recommended to address repair and maintenance rights and responsibilities.**
(13)	The locations, names and widths of all existing and proposed streets abutting the premises.	**Y**				Route One identified. Width of 66' noted.
(14)	The lot lines of all lots abutting the proposed development, including those lots across the street, together with the names on file in the Town offices as of the date of the application.	**Y**				All abutters are identified.
(15)	An appropriate place for the signature(s) of the reviewing authority.		**N**			**Planning Board signature block not provided.**
B.	Documentation of right, title or interest in the proposed site.	**Y***				Purchase and Sale Agreement provided dated 7/28/25. **Agreement appears to be expired? An extension to be provided.**
C.	An on-site soils investigation report by a Maine Department of Human Services licensed site evaluator (unless the site is to be served by public sewer). The report shall identify the types of soil, location of test pits and proposed location and design for the subsurface disposal system.			**NA**		Property shall be served by public sewer.
D.	The amount and type of any raw, finished or waste materials to be stored outside of roofed buildings, including their physical and chemical properties, if appropriate.	**Y***				Plan identifies an on-site dumpster. **Refuse disposal note recommended: Property to be served by an on-site dumpster. Refuse shall be properly and promptly disposed of. Dumpster shall meet setback requirements and be screened by a 6' tall solid fence enclosure.**

Project Name/District: Nortey Dental / General Business District – Tax Map 126, Lot 20 and 21 (To become Lot 21). Date of Review: 02/20/26

Prepared By: Office of Planning & Development Company Name: Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]			**Application Meet Requirements**				
			Yes	**No**	**NA**	**Waiver**	**Comments**
E.	If the proposed use will be connected to the Wells Sanitary District's sewer system, a letter from the Sanitary District stating that adequate line and plant capacity to dispose of the generated sewage will be available.		**Y**				Property shall be served by public sewer. A WSD capacity letter dated 12/19/25 has been provided for the dental office.
F.	If the proposed use will be connected to the Kennebunk, Kennebunkport and Wells Water District water system, a letter from the Water District stating that adequate line and supply capacity to serve the proposed use will be available.		**Y**				Property shall be served by public water. A KKWWD capacity letter dated 1/27/26 has been provided for the property.
G.	Traffic data. Only the Planning Board may require that a site plan application include a traffic engineering study should the project be considered one of substantial magnitude along any of the Town's state highways where fast-moving traffic occurs (i.e., Route Nos. 1, 109, 9, 9-A and 9-B). Should a traffic study be requested by the Planning Board, the following data shall be included:		**Y**				Traffic information provided. Traffic Impact Assessment prepared by Nikki Conant, PE of Sebago Technics dated 1/22/26 provided.
	(1)	The estimated peak-hour traffic to be generated by the proposal.					Estimate Peak Hour AM trips is 20. Estimated Peak House PM trips is 21.
	(2)	Existing traffic counts and volumes on surrounding roads.					
	(3)	Traffic accident data covering a recent three-year period.					
	(4)	The capacity of surrounding roads, municipal facilities, parking and any improvements which may be necessary on such roads and facilities to accommodate anticipated traffic generation.					
	(5)	The need for traffic signals and signs or other directional markers to regulate anticipated traffic.					
H.	A soil erosion and sedimentation control plan, prepared in accordance with the Maine Erosion and Sedimentation Control Handbook for Construction: Best Management Practices, published by the Maine Department of Environmental Protection and the Cumberland County Soil and Water Conservation District, 1991. **[Amended 4-27-2007]**		**Y***				Best management practices for soil erosion and sedimentation control are a standard condition of approval. **See recommended plan notes.** See sheet D-501. **See recommended filter barrier extensions.**

Project Name/District:	Nortey Dental / General Business District – Tax Map 126, Lot 20 and 21 (To become Lot 21).	Date of Review:	02/20/26
Prepared By:	Office of Planning & Development	Company Name:	Town of Wells

§ 145-77. Data Requirements [Amended 4-26-1996]		**Application Meet Requirements**				
		Yes	**No**	**NA**	**Waiver**	**Comments**
I.	A stormwater management plan, prepared by a registered professional engineer in accordance with the most recent edition of Stormwater Management For Maine: BMPS Technical Design Manual, published by the Maine Department of Environmental Protection, 2006. Another methodology may be used if the applicant can demonstrate it is equally or more applicable to the site. A drainage analysis may be waived by the Planning Board upon request of the applicant and submittal of a letter from a registered professional engineer stating that there will be no adverse impacts to adjacent or downstream properties. **[Added 4-27-2007]**	**Y***				Stormwater Management Report prepared by Jake S. Hunnewell, PE and Robert A. McSorley, PE of Sebago Technics dated February 2026 provided. **Town Engineer to review.**
J.	Any other information or data the reviewing authority determines is necessary to demonstrate compliance with the standards of § 145-75. **[Added 4-27-2007]**					
	Chapter 201, Article IV. Sidewalk Development.	**Y**				Property falls within Route One Sidewalk Study. Existing sidewalks to be maintained.

Notes:

1. See Article V, VI review comments.
2. See plan markups provided dated 2/20/26.

SEBAGO TECHNICS

CIVIL ENGINEERING ▪ SURVEYING ▪ LANDSCAPE ARCHITECTURE

Site Plan Application
Town of Wells

For:

Nortey Dental Office

1223, 1229 Post Road

Prepared for:
Nortey Dental, PLLC
1332 Post Road, Suite #1
Wells, Maine 04090

Prepared by:
Sebago Technics, Inc.
75 John Roberts Road, Suite 4A
South Portland, Maine 04106

February 2026

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Dental Office

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Exhibit 10	Soils Information
Exhibit 11	Proposed Easements
Exhibit 12	Other Permits/Approvals
Exhibit 13	Photometrics
Exhibit 14	Performance Standards
ATTACHED:	Plan Set

Exhibit 1

Application Form, Agent Authorization

TOWN OF WELLS
Office of Planning & Development
208 Sanford Road, Wells, Maine 04090

Phone: (207) 646-5187, Fax: (207) 646-7046
Website: www.wellstown.org

New _____

Amendment _____
(follow 145-74A)

(Check One)

For office use only
Fees Paid _____

SITE PLAN APPLICATION – §145-74B/C/D/G

1. Project/Business Name: _____

2. Street Address (of project):

3. Assessor's Tax Map Number(s): _____ Lot Number(s) :

4. Property Owner: _____

   Mailing Address: _____

   _____

   Telephone: _____Fax:_____

   Email Address: _____

5. Applicant (if different from owner):

   Mailing Address: _____

   _____

   Telephone: _____ Fax:_____

   Email Address: [redacted] _____

6. Agent (Engineer, Surveyor, etc):

   Mailing Address: _____

   _____

   Telephone: _____ Fax:_____

   Email Address: [redacted] _____

7. All correspondence should be sent to:
   (specify one of the above) [redacted] _____ [redacted]

8. Zoning District(s) of the property: _____

9. 75' or 250' Shoreland Overlay District(s) on property: Yes_____ No _____

10. Is the parcel within the Sidewalk Development zone? Yes_____ No_____
    (Along Route One from Upper Landing Road to Public Library and along Route 109 from Route 1 to Interstate)

11. Land Use(s): *(See attached Land Use Table, pages 11-12 for Permitted Use Listing and correct Use terminology)*

All Existing Use(s): Business, Service and Dwelling, 1 Family

All Proposed Uses(s): Business, Personal Service

12. What legal interest does applicant have in the property?

Ownership ____ Option _____ Purchase & Sales Contract X Other _____

Documentation of right, title or interest must accompany the application

13. Is any part of parcel within 200 feet from high-water line of the Merriland River, Webhannet River, Ogunquit River, Ell Pond, or the Branch Brook? Yes _____ No X

14. Is any part of parcel within a special flood hazard area as identified by FEMA? Yes_____No X

15. Area of parcel: 1.44 (tot) Acres and/or 62,726.4 SF (square feet)
(based on boundary plan, deed, Tax Assessor information)

16. Lot Coverage: (see prior site plan, boundary plan, tax assessor records for information)
PRIOR APPROVED (if applicable)

a) Total Gross Floor Area of All Structures (based on approvals): _____SF

b) Total Area considered lot coverage:_____SF
(This includes structures, buildings, paved or gravel surfaces, anything not vegetated)

EXISTING (current as-built conditions)

a) Total Gross Floor Area of All Structures (as-built): 3,791 SF

b) Total Area considered lot coverage: 5,484 SF
(This includes structures, buildings, paved or gravel surfaces, anything not vegetated)

PROPOSED (Prior Approved (if applicable) + new or existing area identified on as-built + proposed)

a) Total Gross Floor Area of All Structures: 5,406 SF (all phases)

b) Total Area considered lot coverage: 23,708 SF
(This includes structures, buildings, paved or gravel surfaces, anything not vegetated)

17. Number of Existing Parking Spaces: 5 Total Number of Parking Spaces as proposed: 25

18. Estimated Traffic Generation at peak hour: Existing 3 trips As proposed : 21
One trip is one vehicle entering OR one vehicle exiting. Therefore, one car driving in and then leaving an establishment equals 2 'trips'. Trucks are equivalent to two cars, therefore, one truck entering and then leaving an establishment equals 4 'trips'. It is the responsibility of the applicant to seek a Traffic Movement Permit from Maine DOT if one is necessary (over 100 trips per peak hour).

19. Description of proposal: Dental office facility

CERTIFICATION. To the best of my knowledge, all information submitted with this site plan application is true and correct.

Signature of Applicant

1/27/26
Date

THE APPLICANT MUST SUBMIT THE FOLLOWING MATERIALS AND INFORMATION TO THE PLANNING OFFICE WITH THE PREAPPLICATION FORM IN ORDER FOR THE SUBMISSION TO BE CONSIDERED AND PROCESSED FOR AN UPCOMING AGENDA.

Submitted	Not Submitted	Site Plan Submission shall include the following:
		Copies of a site plan drawn in compliance of 145-77 of the subject property showing existing and proposed buildings, parking areas, lot boundaries, adjacent streets, entrances to the property, water bodies, and any other significant features and required in Chapter 145 Articles V, VI, VII, 145-77 and 145-75. (see page 4 for plan copy details).
		Application Fee (calculated by the Planning Office per the Fee Schedule) and an escrow deposit in the amound of $40 to cover the initial costs of abutter notification and copying. (Planning Office recommends applicants permit the Planning Office to notify abutters on their behalf.)
		Proof of Right, Title and Interest (Deed, Purchase & Sale, Lease, Written permission from the property owner(s) or Association, etc)
		12 copies of the completed, signed and dated Application Form (all pages).
		A list of names and addresses of abutters to the proposed project. (see page 4 of this form). The addresses of these abutters shall be obtained from the Town of Wells Tax Assessor's records or by using the WebGIS Abutter tool at https://www.axisgis.com/WellsME/

- See the Land Use Ordinance, Chapter 145 of the Town Code, regarding the zoning district regulations, land use standards, and site plan review process. The entire Wells Town Code is online at **www.wellstown.org** under the 'Government'drop down menu entitled 'Town Code & Charter." Section 145-74A details the Preapplication procedures.

- This application must be accompanied by the application fee and all information required by Chapter 145-75 and 77, unless waivers are requested. All requests for waivers must be submitted in writing, specifying the section number of the item to be waived and the rationale for why you believe it should be waived. Waivers may or may not be granted by the Reviewing Authority.

- The site plan checklist is provided to assist in gathering and presenting an application. The applicant is responsible for presenting information showing that all Land Use Ordinance standards will be met. The reviewing authority may require additional information to determine completeness and compliance.

- The Code Enforcement Officer will determine the required Reviewing Authority for the application review. The Reviewing Authorities include the Code Enforcement Officer/ Town Planner, the Staff Review Committee or the Planning Board. The Code Enforcement Officer will also determine if the proposed use is permitted in the zoning district(s).

- Contact the Planning Department at (207) 646-5187 with questions.

- **Amendments to Approved Plans:** "Upon reciept of an application to amend a previously approved site plan, the Code Enforcement Officer shall follow the procedure for reviewing a site plan review preapplication as set forth in 145-74A. **Notice of the filing of an application to amend an approved site plan shall follow the notice procedure for the filing of a preapplication for site plan review as set forth in 145-74A. (The Planning Office is responsible for notifying abutters of the site plan amendment application).**

Plan Copies to be provided

Copies of the site plan for Planning Board applications to be provided in 1 of the following ways:

3 plans measuring 24" by 36 inches plus 9 plans measuring 11" by 17 inches; or
12 plans measuring 24" by 36 inches. Please have plans pre-folded.

Copies of the site plan for Staff Review Committee applications to be provided in 1 of the following ways:

3 plans measuring 24" by 36 inches plus 5 plans measuring 11" by 17 inches; or
8 plans measuring 24" by 36 inches. Please have plans pre-folded.

Copies of the site plan for Code Officer/Town Planner application to be provided as follows:
3 plans measuring 24” by 36 inches

Digital Submission

Please provide submissions in digital format via email, link (google drive, dropbox,etc) or via thumb drive.

Site Plan Fees

Site Plan Review	Planning Board – Greater of $500 or $0.10 per square foot of new building GFA/Use and new Lot Coverage Staff Review Committee – Greater of $300 or $0.10 per square foot of new building GFA/Use and new Lot Coverage Planner/Code Office – Greater of $200 or $0.10 per square foot of new building GFA/Use and new Lot Coverage
Site Plan Amendment Review	Greater of $200 or $0.10 per square foot of new building GFA/Use and new Lot Coverage

Escrow Deposit

Cash deposits are also required throughout the application review process and construction process for direct reimbursable expenses such as postage costs, public notice advertising costs, copying, legal review, peer reviews, 3rd party inspections, etc.

All Fee and Escrow payments are made payable to the “Town of Wells” and to be provided to the attention of the Planning Office upon submission of an application.

TOWN OF WELLS
Office of Planning & Development
208 Sanford Road, Wells, Maine 04090
Phone: (207) 646-5187, Fax: (207) 646-7046
Website: www.wellstown.org

AN APPLICATION COMPLETENESS REVIEW CHECKLIST
(This Checklist MUST be submitted)

Project Name: _____ Applicant:_____
Checklist Prepared By: _____ Date: _____
Checklist Reviewed By: _____Date:_____

Please use this Checklist as a guide to prepare your Application. Check the appropriate blank boxes. Shaded boxes indicate the action in the heading cannot be taken. The Checklist does not substitute for the requirements for Site Plan Approval in Article 10 of Chapter 145 of the Land Use Ordinance.

		Response (Please check applicable box)			
Code Section	***I. General***	Included in Site Plan Submission	Pending Submission	Not Applicable	Applicant Requests Waiver
145-72	Completed Application form (Existing and proposed uses clearly defined per Land Use Permitted use chart, see pages 11-12)				
145-73	Application Fee per Fee Schedule and Escrow Deposit				
145-77.B	Documentation of right, title or interest in property (Deed, Purchase & Sale, Lease, or written permission from owner)				
145-77.C	Site evaluation and system design if subsurface wastewater disposal system is to be utilized				
145-77.D	Amount and type of materials to be stored outside of buildings				
145-77.E	Statement of capacity and approval for connection from Wells Sanitary District if public sewage is to be utilized (call 207-646-5906)				
145-77.F	Statement of capacity and approval from KKW Water District if public water is to be utilized (call 207-985-3385)				
145-77.G	Traffic study (if required by PB)				
145-77.H	Soil erosion and sedimentation plan				
145-77.I	Stormwater Management Plan, prepared by a professional engineer (if applicable)				
MRSA	HOA or Condominium documents (if applicable)				
MRSA	Agreement for enforcement of handicapped parking (see page 9 of this form)				
145-74	List of abutters (see page 7 of this form)				
	II. Perimeter or Boundary Survey				
145-77.A.3	North point				
145-77.A.3	Graphic scale				
145-77.A.3	Parcel corners				
145-77.A.3	Date of Survey				
145-77.A.3	Total acreage of the property				
145-77.A.3	Seal and signature of Surveyor				
Code Section	***III. Site Plan Data Requirements***				
145.77.A	Scale of plan, 1"=40' or less (1"=20' preferred)				
145-77.A.1	Name of development and name and address of applicant				

145-77.A.2	Total floor area, ground coverage, and location of all existing and proposed buildings				
145-77.A.4	All existing and proposed setback dimensions				
145-77.A.5	Location, size and direction and intensity of outdoor lighting				
145-77.A.5	Locations, size and design of signage				
145-77.A.6	Type, size and location of all incineration devices				
145-77.A.7	Type, size and location of machinery that produces noise				
145-77.A.8	Location, type and size of all existing and proposed catch basins, storm drainage facilities, wetlands, streams and watercourses, and all utilities above or below ground.				
145-77.A.9	Existing contours and proposed finish grade elevations				
145-77.A.10	Location, type and size of all curbs, sidewalks, driveways, fences, retaining walls, and parking space areas and the layouts thereof, together with the dimensions of parking spaces, driveway or aisle width, etc.				
145-77.A.11	Landscaped areas, fencing and size and type of plant material upon the premises				
145-77.A.12	Location of existing and proposed rights of way, easements				
145-77.A.13	The locations, names and widths of existing and proposed streets abutting or within the proposed project				
145-77.A.14	Property lot lines of all properties abutting and across the street from proposed development				
145-77.A.15	Appropriate space for signature(s) of reviewing authority				
Art V	Zoning and Shoreland Overlay district(s) in which property is located				
Art VI	Speed limits on abutting streets				
Art VI	Sight distances along existing streets from entrances and exits				
Art VI	Locations of access and exit of properties across abutting streets				
Art VI	Location or type of refuse facilities and appropriate fencing				
145-75	Standard Conditions of Approval Notes and Erosion Control Notes per 145-75.F				
145-75	Location of Fire Hydrants or distance to nearest Fire Hydrants; Knox Box identified				
Art VI	Snow Storage Areas or form of snow removal				
Art VI	Description of proposed and existing uses, sq. ft. of use area(s), and required parking calculations				
145-75	Location of on-site fuel tanks and protective material for tanks				
Code Section	***III. Site Plan Data Requirements***	Submitted By Applicant	To Be Submitted by Applicant	Not Applicable	Applicant Requests Waiver
Art V	Zoning dimensional requirements: Lot Size, Density, Setbacks, Street frontage, building height, lot coverage, Shore frontage				
Art VII	Performance Standards noted (as applicable)				
145-77	Seal and signature of designing engineer or person who prepared the plan				
	Site Plan copies pre-folded (12 copies for PB, 8 copies for SRC, 3 copies for CEO/Planner)				
	Digital submission of application materials				

LISTING OF ABUTTERS TO A PROPOSED SITE PLAN APPLICATION OR AMENDMENT

Project Name: Nortey Dental

Street Address of Project: 1223, 1229 Post Road, Wells ME

Map/ Lot# of Project: Map 126, Lots 20, 21

This form is used to list the names, addresses, and tax map/lot numbers of all properties which abut a property on which a new site plan or a site plan amendment is proposed. The definition of ABUTTER is "A person who owns adjacent land or land across a street right-of-way from the subject lot". Notification of abutters is a requirement for all site plan preapplications and site plan amendments; re-notification also may be required for site plan applications if sufficient time has lapsed between the preapplication abutter notification and the time that a site plan application is submitted. Abutter information shall be obtained from the Town Tax Assessor's records. If an abutter is an Association notice is only required to be made to the president or management company of the Association.

New Site Plan Application Notice to abutters is to be mailed by the Applicant. **(However, Planning Office recommends applicants permit the Planning Office to notify abutters on applicants behalf). If you permit the Planning Office to notify abutters on your behalf initial here.** [X]

Site Plan Amendment Application Notice to abutters is required to be mailed by the Planning Office.

Please list all abutters below or attach additional sheets if necessary.

Names, Addresses, and Tax Map & Lot Numbers of Abutters to Proposed Project

Name	Address	Tax Map	Lot
	See attached list.		
	See Attached Abutter List		

I hereby certify that the abutter information provided with this pre-application or application is complete and accurate as of this date, and represents all abutters to the subject property as defined by the Town of Wells.

Signature of Applicant — Date: 1/27/26

200 feet Abutters List Report

Wells, ME
October 17, 2025

Subject Properties:

Parcel Number:	0126-020	Mailing Address:	DARLING, MARILYN
CAMA Number:	126-020		111 DARLING DR
Property Address:	1229 POST RD		WELLS, ME 04090
Parcel Number:	0126-021	Mailing Address:	DARLING, MARILYN
CAMA Number:	126-021		111 DARLING DR
Property Address:	1223 POST RD		WELLS, ME 04090

Abutters:

Parcel Number:	0126-005	Mailing Address:	FINNELL, SUZANN
CAMA Number:	126-005		1206 POST RD
Property Address:	1206 POST RD		WELLS, ME 04090
Parcel Number:	0126-006	Mailing Address:	MORSE, SAMUEL A
CAMA Number:	126-006		1244 POST RD
Property Address:	1244 POST RD		WELLS, ME 04090
Parcel Number:	0126-018	Mailing Address:	A M MORSE & SON LLC
CAMA Number:	126-018		1274 POST RD
Property Address:	1259 POST RD		WELLS, ME 04090
Parcel Number:	0126-019	Mailing Address:	LANE, JOAN L
CAMA Number:	126-019		PO BOX 723
Property Address:	1239 POST RD		WELLS, ME 04090-0723
Parcel Number:	0126-019-A	Mailing Address:	LANE, JOAN L
CAMA Number:	126-019-A		PO BOX 723
Property Address:	1245 POST RD		WELLS, ME 04090
Parcel Number:	0126-019-B	Mailing Address:	LANE, JOAN L
CAMA Number:	126-019-B		PO BOX 723
Property Address:	0 POST RD		WELLS, ME 04090-0723
Parcel Number:	0126-020-A	Mailing Address:	DARLING, MARILYN
CAMA Number:	126-020-A		111 DARLING DR
Property Address:	0 TIDAL CT		WELLS, ME 04090
Parcel Number:	0126-020-A	Mailing Address:	BANKS, FRANCES
CAMA Number:	126-020-A-L		PO BOX 374
Property Address:	12 TIDAL CT		WELLS, ME 04090
Parcel Number:	0126-020-B	Mailing Address:	LEDGE LANE LLC
CAMA Number:	126-020-B		1865 NORTH BERWICK RD
Property Address:	68 BAYVIEW TER		WELLS, ME 04090

200 feet Abutters List Report

Wells, ME
October 17, 2025

Parcel Number:	0126-022	Mailing Address:	THORNTON, KATHLEEN M
CAMA Number:	126-022		PO BOX 881
Property Address:	1213 POST RD		WELLS, ME 04090
Parcel Number:	0126-022-A	Mailing Address:	RAMSDELL, GLENN C RAMSDELL, ELIZABETH A
CAMA Number:	126-022-A		125 BELLE ISLE CIR
Property Address:	1217 POST RD		NAPLES, FL 34112
Parcel Number:	0126-023	Mailing Address:	KERSHAW, DAVID W TRUSTEE
CAMA Number:	126-023		KERSHAW REVOCABLE REAL ESTATE TRUST
Property Address:	1205 POST RD		PO BOX 100
			WELLS, ME 04090
Parcel Number:	0126-024	Mailing Address:	SACCONE, DAVID R
CAMA Number:	126-024		2455 FINLANDIA LN APT 23
Property Address:	48 BAYVIEW TER		CLEARWATER, FL 33763
Parcel Number:	0126-025	Mailing Address:	BALKAM, EDWARD THOMAS TRUSTEE
CAMA Number:	126-025		BALKAM, HORACE E+BALKAM, ANNE M LIV T
Property Address:	58 BAYVIEW TER		58 BAYVIEW TER
			WELLS, ME 04090
Parcel Number:	0126-026	Mailing Address:	CHURCHILL, CARLA PETERSON
CAMA Number:	126-026		CHURCHILL, RICKEY MICHAEL
Property Address:	64 BAYVIEW TER		64 BAYVIEW TER
			WELLS, ME 04090
Parcel Number:	0126-027	Mailing Address:	ESTES, MARYANNE TRUSTEE
CAMA Number:	126-027		MARYANNE ESTES REVOCABLE TRUST
Property Address:	80 BAYVIEW TER		23 ATLANTIC AVE
			WELLS, ME 04090
Parcel Number:	0126-028	Mailing Address:	JEFFERSON, GWEN E JEFFERSON, ROBERT J
CAMA Number:	126-028		27 PARK CIRCLE
Property Address:	88 BAYVIEW TER		ARLINGTON, MA 02476
Parcel Number:	0126-031	Mailing Address:	LAFRAMBOISE, CECILE M
CAMA Number:	126-031		KITTERY ESTATES 220 STATE RD APT 220
Property Address:	87 BAYVIEW TER		KITTERY, ME 03904
Parcel Number:	0126-032	Mailing Address:	GALLANT, DAVID L JR SAVOIE, BEVERLY J
CAMA Number:	126-032		79 BAYVIEW TER
Property Address:	79 BAYVIEW TER		WELLS, ME 04090
Parcel Number:	0043-007-C	Mailing Address:	MORSE, SETH E
CAMA Number:	43-007-C		29 CHAPEL RD
Property Address:	29 CHAPEL RD		WELLS, ME 04090

TOWN OF WELLS
Office of Planning & Development
208 Sanford Road, Wells, Maine 04090
Phone: (207) 646-5187, Fax: (207) 646-7046
Website: www.wellstown.org

SITE PLAN APPLICATION NOTICE TO ABUTTERS

This Site Plan Application Notice to Abutters is required to be mailed to abutters per §145-74B(1); §145-74C(5); and §145-74(2). The Site Plan Preapplication and Amendment Application Notice to Abutters is mailed by the Planning Office per §145-74A(1) & 145-74G(2). ***If applicants wish to notify abutters instead of the allowing the Planning Office to do so, please use this form.***

To Whom It May Concern:

A property owner adjacent to or across the street from your property has filed a Site Plan Application with the Town of Wells Planning Office. The Site Plan Application and proposed plans are currently available for public inspection at the Wells Planning Office.

The Wells Code Enforcement Officer will determine the appropriate reviewing authority (Code Officer, Staff Review Committee, or Planning Board) to review and possibly approve this application. All Staff Review Committee and Planning Board meetings are open to the public for informational purposes. Only Planning Board PUBLIC HEARINGS, of which abutters are mailed certified mail notice, give the opportunity to concerned abutters/Wells residents to speak at a scheduled meeting about this application. Please feel free to mail or email your concerns in writing to the attention of the Planning Office at the address noted above. Copies of the written concerns will be provided to the Reviewing Authority at a scheduled meeting.

For dates and times when this application will be discussed at a scheduled meeting, please call the Planning Office at (207) 646-5187 or visit www.wellstown.org and click on the 'Agendas & Minutes' to view the upcoming meeting agendas.

Any decision made by the Code Officer, Staff Review Committee or Planning Board may be appealed within 30 days of that decision. Please refer to §145-78 of the Land Use Code for Appeal procedure requirements.

Applicant's Name: Nortey Dental, PLLC **Applicant's Signed Initials:** MNL

Applicant's Mailing Address: 1332 Post Road, Wells, ME 04090

Street Address of Project: 1223-1229 Post Road, Wells ME 04090

Zoning and Shoreland Overlay District(s): General Business (GB)

Property Assessor's Tax Map(s): 126 **Lot(s):** 20,21

Description of Proposal: Dental office building

TOWN OF WELLS

208 Sanford Road, Wells, Maine 04090
Phone: (207) 646-5187, Fax: (207) 646-2935
Website: www.wellstown.org

AGREEMENT TO ENFORCE HANDICAPPED PARKING REGULATIONS ON PRIVATE PROPERTY

This Agreement is entered into this _____ day of _____, _____, by and between the Town of Wells (the "Town") and (the "Owner") to enforce handicapped parking regulations and laws applicable to the handicapped parking spaces in the parking lot located at 1223,1229 Post Road **(the "Premises") as follows:**

1. Owner hereby authorizes and permits the Wells Police Department and/or any deputized volunteer parking enforcement specialist if the Police Department establishes a volunteer parking enforcement program as authorized by Title 30-A, M.R.S.A. section 472 and 3009(D), to enter upon the Premises for the purpose of ensuring that parking spaces designated for the handicapped are used appropriately by handicapped persons. It shall be Owner's responsibility to clearly mark handicapped parking spaces by signs painted on the pavement and/or vertical standing signs such that the signs are visible under all weather conditions.

2. Owner and Town hereby agree that any vehicle or motorcycle, parked in a space, which does not bear a special registration plate or placard issued under Title 29 M.R.S.A. section 252, 252-A, or 252-C or a similar plate or placard issued by another state, shall be ticketed and cited for a forfeiture of not less than $50.00, all as more fully set forth in Title 30-A M.R.S.A. section 3009(D) and the Town of Wells municipal Code Chapter 159.

3. The Town and its Police Department shall have the right but not the obligation to respond to any complaints about improper use of designated handicapped spaces on the Premises, whether initiated by Owner, its agents or others, and to monitor use of designated handicapped parking spaces, using personnel and other resources, as determined appropriate by the Wells Police Department. Nothing in this Agreement shall require or obligate the Town or its Police Department to allocate any particular level of personnel or resources to the enforcement of handicapped parking regulations or laws applicable to the Premises.

4. This agreement shall remain in full force and effect for five years, provided that either party may revoke the Agreement with 10 days written notice to the other party.

Owner/Applicant Nii Norte Lokko, DMD

Nortey Dental, PLLC

Michael Pardue, Town Manager
Town of Wells

The following Standard Conditions of Approval must be included on every submitted site plan or referenced in a note on the Site Plan.

Standard Conditions of Approval

1. Site Plan approval secured under the provisions of this chapter shall expire within 10 years from the date on which the site plan is signed if all aspects of the site plan approval are not fully completed and established. Any site plan approval may include a phasing plan according to an approved time schedule not to exceed 10 years from the date on which the site plan is signed. Site plan approval shall expire if a use has been established and then discontinued for five years or more. §145-74F
2. Approval is conditioned upon compliance by the applicant with the Findings of Fact, plans and specifications, and reports which have been received and relied upon by the Town in connection with this development's proposed compliance with Town Ordinances.
3. Conditions of approval or notes written on the face of the site plan may be amended only by the reviewing authority that approved the site plan per the Reviewing Authority Chart. §145-74G(1)(b)
4. Failure to comply with any conditions of approval shall be construed to be a violation of Article X of the Land Use Ordinance and shall be grounds for denial of a site plan approval or denial of a building permit (§145-61.C.1, §145-74.J.), revoking the approved development plan, initiating legal proceedings to enjoin construction development or any specific activity violating the conditions of plan approval or applying the legal penalties detailed in §145-64, §145-79A
5. Whenever sedimentation is caused by stripping vegetation, regrading or other development, it shall be the responsibility of the owner to immediately install sedimentation control devices on his lot and to remove sediment from all adjoining surfaces, drainage systems and watercourses and to repair any drainage, at his expense, as quickly as possible. Any landowner that fails to do so within two weeks after official written notification by the Code Enforcement Officer shall be penalized as set forth in §145-6, §145-79B.
6. Erosion of soil and sedimentation of watercourses and water bodies shall be minimized by employing the following best-management practices: §145-75F
   (a) Stripping of vegetation, soil removal and regrading or other development shall be accomplished in such a way as to minimize erosion.
   (b) The duration of exposure of the disturbed area shall be kept to a practical minimum.
   (c) Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development.
   (d) Permanent (final) vegetation and mechanical erosion control measures in accordance with the standards of the York County Soil and Water Conservation District or the Maine Soil and Water Conservation Commission shall be installed as soon as practicable after construction ends.
   (e) Until a disturbed area is stabilized, sediment in runoff water shall be trapped by the use of debris basins, silt traps or other acceptable methods as determined by the reviewing authority.
   (f) The top of a cut or the bottom of a fill section which alters the existing grade by more than two feet shall not be closer than 10 feet to an adjoining lot.
   (g) During grading operations, methods of dust control shall be employed.
   (h) The proposed site plan shall prevent soil erosion and sedimentation from entering waterbodies, wetlands, and adjacent properties.
   (i) The procedures outlined in the erosion and sedimentation control plan shall be implemented during the site preparation, construction, and clean-up stages.
   (j) Cutting or removal of vegetation along waterbodies shall not increase water temperature or result in shoreline erosion or sedimentation.
   (k) Topsoil shall be considered part of the site plan and shall not be removed from the site except for surplus topsoil from roads, parking areas, and building excavations.
7. The property shown on this plan may be developed and used only as depicted on this approved plan. All elements and features of the plan and all representations made by the applicant in the record of the Planning Board and/or Staff Review Committee and/or Town Staff proceedings are conditions of the approval. No change from the conditions of approval is permitted unless an amended plan is first submitted to and approved by the Planning Board or Staff Review Committee or Town Staff. §145-74G
8. Approval of the application or amendment application does not relieve the applicant from the responsibility to obtain building permits prior to construction and a certificate of occupancy prior to occupancy. §145-61, §145-62
9. It is the applicant's responsibility to contact Dig Safe prior to construction.
10. It is the Owner/Tenant's/Homeowners or Condominium Association's/ Applicant's/-Developer's responsibility, not the Town Code Office or Town Planning Office, to contact the Town Clerk's Office to apply for and maintain all business license(s) for the use(s) conducted on this parcel(s). §150-4
11. Approval of any proposed field changes shall be obtained prior to construction. Said approvals shall be in writing. The Code Enforcement Office shall consult with the Office of Planning and Development prior to approving any field change. §145-74. I.4
12. Prior to the pouring of a building footing/foundation, the location of each building to be constructed shall be located on the face of the earth and shall be marked and certified by a surveyor or engineer with pins or stakes. The developer shall receive approval of each building location from the Code Enforcement Office prior to the commencement of footing/foundation excavation. §145-74I
13. If the property is converted to a condominium form of ownership, the proposed condominium documents must be consistent with this site plan approval.
14. Upon completion of construction, the applicant shall provide to the Town record as-built drawings of the property to include buildings, roadways, drainage, screening and landscaped areas, and utility related construction work. §145-74I
15. The Town of Wells, Maine may employ the services of an engineering firm to assist in the inspection of roads and other infrastructure if, in the opinion of the Code Enforcement Office, the work necessary to ensure compliance with Town ordinances or the requirements of this approval are beyond those capacities available by staff. The cost of such additional services will be born by the developer. §145-74I
16. All components, features, improvements and conditions of site plan approval shall be fully completed prior to any issuance of a certificate of occupancy. §145-74E

LAND USE CHART

Land Use	RA	RB	RD	RC	BB	GB	H	LI	QM	R	AP	RP	MHP	TC	CD
Adult Business Establishment								PR							
Agriculture	P-1	P-1	P-1	P-1		P-1		P-4	P	P	P-1				
Animal Husbandry	PR-11									P					
Aquaculture							P-2					PR			
Bank				PR		PR								PR-24	
B & B / Small Inn				PR	PR-14	PR-14				PR-14					
Bus Depot														PR	
Business Contractor				PR		PR		PR							
Business Office				PR	PR	PR		PR	PR-18					PR	
Business Personal Service				PR	PR	PR								PR-20	
Business Retail				PR-15	PR	PR-6									
Business Service				PR	PR	PR		PR						PR-20	
Business Wholesale				PR		PR-17		PR							
Cemetery	P-7			P-7		P-7				P-7					
Church	PR			PR		PR				PR					
Club				PR		PR				PR					
Concerts							P-23								
Congregate Care Facility	PR			PR		PR				PR					
Convenience Store														PR	
Day Care Home	PR	PR	PR	PR	PR	PR				PR					
Day Care Cent/Nursery Sch				PR	PR	PR				PR					
Dormitory Housing															PR
Drug Abuse Shelter				PR-28		PR									
Dwelling - 1 Family	P-14	P	P	P-14	P-14	P-14				P-14	P-14				
Dwelling - 2 Family	P	P		P	P	P				P	P-14				
Dwelling -Multifamily	P-14			P-14		P-14				P-14					
Elderly Housing	PR			PR		PR									
Estuarine/Marine Ed							PR			P-22					
Fairs/ Bazaars							P-23								
Freestanding Res. Detox				PR		PR									
Function Hall				PR-10	PR	PR									PR
Gasoline Service Station														PR	
Hotel / Motel					PR-14	PR-14								PR-14	
Housing, Congregate	PR			PR		PR									
Kennel										PR					
Lifecare Facility	PR					PR									
Livestock, domestic (small)	P			P		P				P	P				
Livestock, domestic (large)	P			P						P					
Manufacturing								PR							
Manuf-asphlt/concrete prod.									PR						
Marina							PR								
Medical Care Facility	PR-9			PR-9		PR									
Medical Marijuana Cultivation								PR							
Mineral Extraction									PR-8	PR-14	PR-14				
Mobile Home Park													PR-20		
Motor Vehicle Rental								PR						PR	
Municipal Facility	PR	PR	PR	PR	PR	PR	PR	PR	PR	PR	PR	PR		PR-25	
Museum	PR-5			PR	PR	PR				PR-5					
Neighborhood Conv Store				PR-16	PR	PR				PR					
Nursing Home	PR			PR		PR									
Parking Lot -Commercial					PR	PR		PR						PR	
Piers, Docks, Wharves												P			
Poultry, domestic (small)	P	P	P	P	P	P				P	P				
Poultry, domestic (large)	P			P						P					
Private Non-Medical Inst.				PR		PR									
Public Gathering							P-23								
Public Transp. Shelter					PR	PR	PR	PR							PR
Public Utility Facility	PR	PR	PR	PR	PR	PR	PR	PR	PR	PR	PR	PR		PR-26	PR
Recreation Active	PR	PR	PR	PR	PR	PR	PR			PR	PR				PR
Recreation Camp															PR
Recreation-High Intensity					PR	PR									

Recreation-Medium Intensity				PR		PR		PR							PR
Recreation-Low Intensity	PR				PR	PR	P-21			PR					PR
Recreation Passive	P-12	P-12	P-12	P-12	P-12	P-12	P-12	P-12	P-12	P-12	P-12	P-12			P-12
Recycling Facility								PR							
Registered Marijuana Disp.						PR-27									
Research & Dev. Facility								PR							
Restaurant Standard				PR-20	PR	PR	PR	PR		PR-19				PR	PR
Restaurant Fast Food					PR	PR		PR						PR	PR
Sawmill						PR-3				PR					
School College															PR
School Public & Private	PR			PR		PR				PR					PR
School Vocational-Tech	PR-20							PR		PR-20					PR
Self Storage Facility								PR						PR	
Shows (boat, craft, etc.)							P-23								
Store/Repair Mineral Ext Equip									PR						
Student Housing															PR
Tent & RV Park						PR-14				PR-14					
Timber Harvesting	P-12			P-12		P-12		P-12	P-12	P-12	P-13				P-12
Transmission Tower/Radio								PR		PR	PR				
Transportation Facility						PR		PR						PR	
Truck Terminal								PR							
Warehousing								PR							
Wildlife Habitat Management												P-20			

P-Permitted with Use Permit **PR-Permitted with Site Plan Approval**

LAND USE TABLE

1. Limited to the raising of crops and plants out of doors, review is required with any structure
2. Any structures require site plan approval
3. Producing less than 100,000 board feet of lumber per year
4. Wholesale greenhouses require site plan approval
5. Occupying less than 5,000 sq. ft. of floor area
6. Includes the manufacturing of goods offered for sale on premises
7. Cemeteries containing buildings and/or structures and having an area larger than 20,000 sq. ft. requires site plan approval
8. Includes the manufacturing of asphalt and concrete products, repair facilities and offices related to mineral extraction use.
9. Excludes hospitals
10. Without commercial type cooking facilities
11. On lots larger than 25 acres
12. No use permit required
13. No use permit required but site plan approval is required within 250' of Branch Brook
14. See Article 7 - Performance Standards
15. Including products manufactured on site
16. Excluding the sale of motor vehicle fuels and including a restaurant area not exceeding 15 seats
17. Having a gross floor area of less than 5,000 sq. ft.
18. For a mineral extraction use
19. Containing less than 75 seats
20. See Article 5 - District Regulations
21. Limited to uses requiring access to water
22. Facilities located east of U.S. Route 1
23. With approval of Selectmen and CEO
24. Including ATMs
25. Related to providing services to the traveling public
26. Not including Electrical Generation Facilities
27. No more than 3 dispensaries allowed in Town of Wells
28. Must have frontage on Route One or within 150 feet of Route One

AGENT AUTHORIZATION

APPLICANT/ OWNER	Name			
PROPERTY DESCRIPTION	Physical Address		Map	
			Lot	
APPLICANT'S AGENT INFORMATION	Name			
	Phone		Business Name & Mailing Address	Sebago Technics, Inc. 75 John Roberts Road, Suite 4A South Portland, ME 04106

APPLICANT SIGNATURE DATE

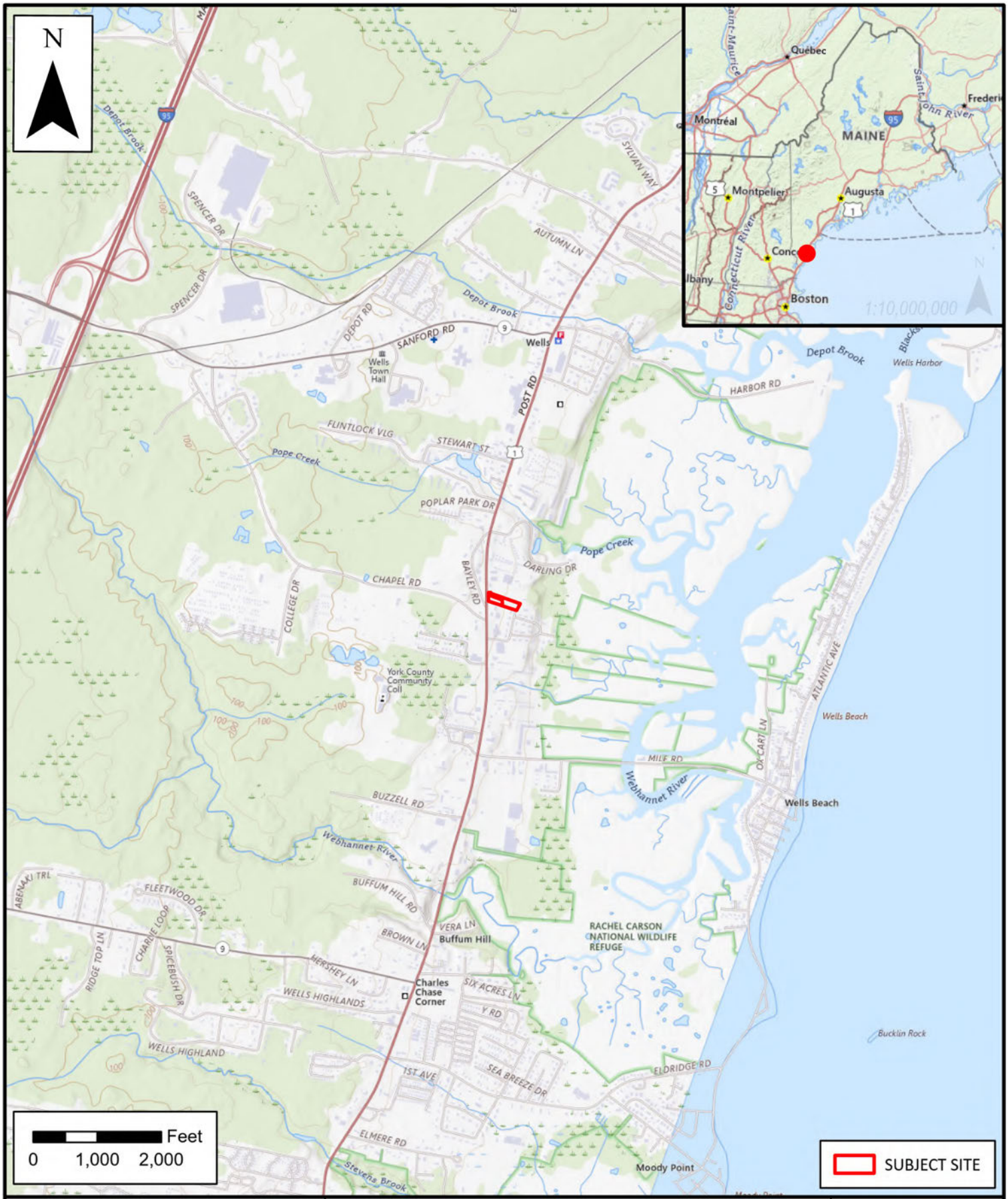
10/2/25

APPLICANT'S AGENT SIGNATURE DATE

240448

Exhibit 2

Vicinity Maps



SEBAGO TECHNICS

WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

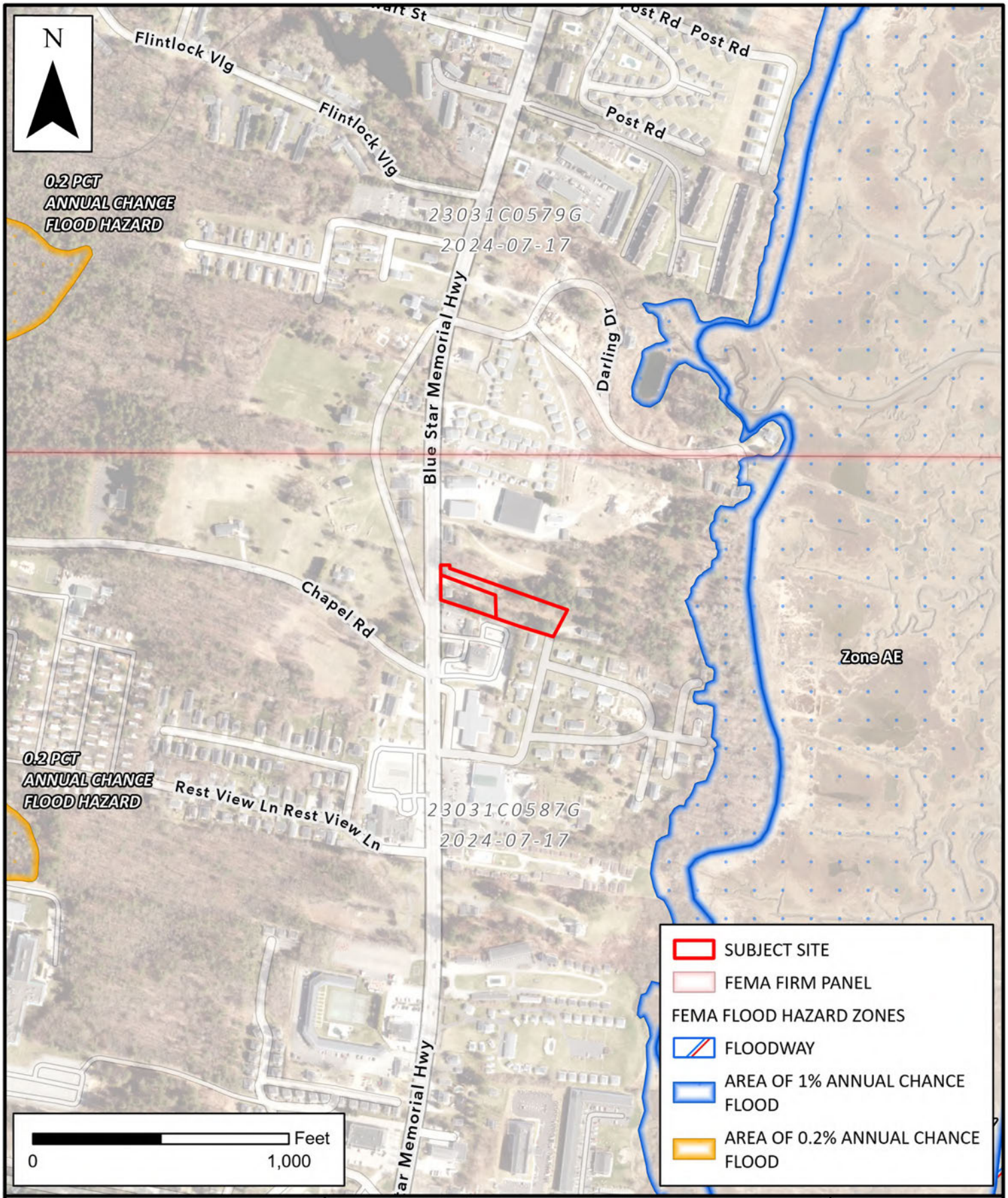
LOCATION MAP

1223-1229 POST ROAD

SCALE:	1:24,000
DATE:	10/1/2025

LOCATION:
1223-1229 POST RD / RTE 1
WELLS, ME

INFORMATION:
MAINE GEOLIBRARY
USGS QUADRANGLE



SEBAGO TECHNICS

WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd. - Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

FEMA NATIONAL FLOOD HAZARDS

1223-1229 POST ROAD

SCALE: 1:6,000

DATE: 10/1/2025

LOCATION:
1223-1229 POST RD / RTE 1
WELLS, ME

INFORMATION:
FEMA NATIONAL FLOOD HAZARD LAYER
EFFECTIVE JULY 17, 2024

Exhibit 3

Right, Title, or Interest

Exhibit 3

Right, Title, or Interest

In this exhibit, please find a copy of the Purchase and Sale Agreement between Rebecca R. Darling and Timothy J. Darling, Co-Trustees of the Russell E. Darling Family Trust, and Nortey Dental, PLLC. The Purchase and Sale Agreement is dated July 28, 2025, and serves as proof of right, title or interest for the applicant.

Docusign Envelope ID: FFD79234-345D-43D1-98C3-DAD57FCE8640

PURCHASE AND SALE AGREEMENT

THIS PURCHASE AND SALE AGREEMENT (this "Agreement") is entered into on this 28 July, 2025 (the "Effective Date"), by and between **REBECCA R. DARLING and TIMOTHY J. DARLING, CO-TRUSTEES OF THE RUSSELL E. DARLING FAMILY TRUST, U/W DATED NOVEMBER 26, 1996,** having a mailing address of 26 Tenney Lane, Scarborough, ME 04074 ("Seller") and **NORTEY DENTAL, PLLC,** a Maine professional limited liability company having a mailing address of 1332 Post Road, Suite 1, Wells, ME 04090 ("Buyer") In consideration of the mutual covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and confirmed, the parties hereby agree as follows:

1. PREMISES. Seller agrees to sell and Buyer agrees to buy, on the terms and conditions hereinafter set forth, two certain lots or parcels of land, and all the buildings thereon, all improvements and fixtures thereon, and all rights appurtenant thereto, and commonly known and designated as 1223 and 1229 Post Road in the Town of Wells, York County, State of Maine, as more particularly described in two certain deeds from Marilyn Darling to Seller, dated September 8, 2023, and recorded in the York County Registry of Deeds in Book 19359, Page 594 and Book 19359, Page 595, respectively, on December 11, 2023 (collectively referred to as the "Property").

2. PURCHASE PRICE. Subject to any adjustments and prorations hereinafter described, Buyer agrees to pay for the Property the sum of **$380,000.00** in lawful currency of the United States of America (the "Purchase Price"). The Purchase Price shall be due and payable as follows:

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a. Deposits. The sum of **$5,000.00** as an initial earnest money deposit (the "First Deposit") shall be held by buyer's counsel in a secure client escrow account, which Deposit shall be credited towards the Purchase Price at and in the event of Closing, and otherwise held and disposed of in accordance with the terms hereof. Buyer shall remit the deposit within five (5) business days of the execution of this Agreement. The First Deposit shall become non-refundable, except in the event of a default by Seller, upon Buyer receiving Site Plan Approval from the Town of Wells and Entry Permits from the Maine Department of Transportation. Upon expiration of the initial Inspection Period, as defined in Section 6 of this Agreement, Buyer shall remit to its counsel, another deposit in the amount of **$10,000.00,** to be held in escrow and which shall, except for the default of Seller, be non-refundable. (the "Second Deposit").

b. Balance. Subject to the contingencies, adjustments, and prorations set forth below, the balance of the Purchase Price **($365,000.00)** shall be paid to Seller at the Closing.

3. CLOSING. The closing of the transaction contemplated in this Agreement shall take place on or before the date that is thirty (30) calendar days after the expiration of the Inspection Period, and any extension thereof, as defined in Section 6 of this Agreement, at the Wells office of Desmond, Rand & Guerard, P.A. located at 1332 Post Road, Suite 4B, Wells, ME 04090 or, if Buyer and Seller shall mutually agree in advance and in writing, at another date or location (the "Closing").

4. SECURITY. Not Applicable.

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5. TRANSFER OF TITLE. Seller shall convey the Property to Buyer at the closing in fee simple with good and insurable title, free and clear of liens and encumbrances except permitted exceptions ("Permitted Exceptions"), which shall mean: (i) all customary utility easements of record benefiting the Property; (ii) the effect of existing land use, zoning, or governmental subdivision regulations so long as the Property is in material compliance therewith; (iii) any lien for taxes or assessments that are not yet due as of the date of the Closing or are due and payable, but not yet delinquent; and (iv) any state of facts that would be shown by a current ALTA/ASCM land title survey of the Property. The term "insurable title" as used herein shall mean title evidenced by a duly executed 2021 ALTA Commitment for an ALTA 2021 Owner's Policy, and if applicable, Lender's Policy, providing insurance coverage in an amount equal to the agreed upon price for the Property, and otherwise disclosing and insuring title to the Property subject only to Permitted Exceptions. Seller shall execute and deliver to Buyer, against payment of the purchase price, a Trustee's Deed with Quitclaim Covenants to the Property, in accordance with the Short Form Deeds Act, 33 M.R.S.A. §761 et seq. (the "Deed"). If Seller is unable to convey in accordance with this section, then Seller shall have a reasonable time period, not to exceed thirty (30) calendar days, from the time Seller is notified of the defect, unless otherwise agreed to in writing by both Buyer and Seller, to remedy the title. If, at the later of the closing date set forth above or the expiration of such reasonable time period, Seller is unable to remedy the title, Buyer may close and accept the Deed with the title defect or this Agreement shall become null and void in which case the parties shall be relieved of any further obligations hereunder and the Deposit shall be returned to Buyer.

6. DUE DILIGENCE. Seller shall make available to Buyer and Buyer's representatives, and give them access to inspect, the physical properties and books, records and

Docusign Envelope ID: FFD79234-345D-43D1-98C3-DAD57FCE8640

information of Seller pertaining to the Property and its operations, at reasonable times and upon reasonable conditions. Upon notice to Seller, Buyer shall have the right to conduct soil testing which may include borings and test pits, Buyer shall not otherwise conduct any intrusive or invasive investigations that involve boring into the earth or otherwise disturbing the surface of the earth without Seller's consent, which may be withheld in Seller's sole discretion. Buyer shall solely bear the cost of any inspections, which shall occur at reasonable times and upon reasonable prior notice to Seller. Buyer shall restore any damage to the Property or any adjacent property caused by such investigations to substantially the same condition as existed prior to the Buyer's actions. Buyer shall indemnify, defend, and save Seller and its trustees, beneficiaries, and agents harmless from and against any and all costs, claims and/or liabilities, including reasonable attorneys' fees, that Seller may suffer or be subject to by reason of or in any manner relating to such entry and inspections. Buyer shall have until the date that is 120 calendar days from the Effective Date (the "Inspection Period") to determine whether the results of its due diligence investigations, including without limitation title review, are satisfactory. Buyer may, at its sole option and in its sole discretion, extend the Inspection Period for another 60 calendar day period upon giving notice to Seller at least 3 business days before the end of the initial 120 day Inspection Period and timely making the Second Deposit. If Buyer decides, in its sole and absolute discretion, to not continue with the closing of the transaction contemplated in this Agreement, then so long as Buyer provides to Seller a Notice of Termination prior to the expiration of the initial Inspection Period, this Agreement shall be terminated and the First Deposit immediately returned to Buyer in full. If Buyer does not give a Notice of Termination or fails to extend the Inspection Period prior to the expiration of the Inspection Period then Buyer shall be deemed to have waived its right to

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terminate this Agreement under this Section and the First and Second Deposits shall become non-refundable, except in the event of a default by Seller.

7. FINANCING CONTINGENCY. This Agreement and the obligations of Buyer hereunder are contingent upon the Buyer obtaining a commercial financing commitment on terms and conditions satisfactory to Buyer in its sole and absolute discretion. Buyer shall use commercially reasonable efforts to secure a loan commitment from a reputable financial institution or lender in an amount sufficient to finance the purchase of the Property (the "Loan"). The Buyer shall provide written notice to the Seller of its approval or denial of financing on or before 120 calendar days after the date of the execution of this Agreement (the "Financing Contingency Date"). If the Buyer fails to obtain a term sheet or commitment letter from its lender to make the Loan by the Financing Contingency Date or determines that the terms and conditions of the Loan are unsatisfactory, Buyer may, at its sole option and in its sole and absolute discretion, terminate this Agreement by providing written notice to the Seller. Upon such termination, the First Deposit shall be returned to Buyer and neither party shall have any further obligation under this Agreement. If the Buyer does not terminate this Agreement pursuant to this contingency by the Financing Contingency Date, then Buyer shall be deemed to have waived this financing contingency.

8. POSSESSION OF THE PROPERTY. Seller represents that Seller is in sole possession of the Property and that no leases or rental agreements exist in connection with the Property except as has been disclosed by Seller to Buyer.

9. SELLER REPRESENTATIONS AND WARRANTIES. Seller represents and warrants to Buyer as follows on the Effective Date and as of the Closing:

a. Formation. Seller is a duly formed and validly existing Trust, and in good standing under the laws of the State of Maine and is permitted to own and sell real property.

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b. Authority. Seller has the requisite legal power and authority to execute and deliver this Agreement, to perform its obligations hereunder, and to consummate the transactions contemplated hereby, all of which have been duly authorized and approved by all necessary action and for which no consent of any other person or governmental authority is required. This Agreement constitutes Seller's valid and legally binding obligation, enforceable in accordance with its terms, subject only to the application of the Bankruptcy Code of the United States and any other applicable liquidation, conservatorship, bankruptcy or similar state or federal law from time to time in effect affecting the rights of creditors generally.

c. Compliance. To Seller's knowledge, the Property complies in all respects with all laws, rules and regulations, applicable zoning, and other laws, ordinances, regulations and building codes, and Seller has not received any notice of any violation thereof which has not been cured.

d. Litigation. There are no actions, suits or legal proceedings pending, or, to Seller's knowledge, threatened, against or affecting Seller or the Property which might adversely affect Seller's power or authority to carry out the transactions to be performed by Seller hereunder.

e. Disclosure. No representation or warranty made by Seller in this Agreement, or in any statement, certificate, or other instrument furnished to Buyer pursuant hereto, or in connection with the transactions contemplated hereby, contains (or will contain, when furnished) any untrue statement of a material fact or omits (or will omit, when furnished) a material fact necessary to make the statements herein or therein not misleading.

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10. BUYER REPRESENTATIONS AND WARRANTIES. Buyer represents and warrants to Seller as follows on the Effective Date and as of the Closing Date:

a. Formation. Buyer's entity is duly formed, validly existing, and in good standing under the laws of the State of Maine. Buyer's assignees will be an entity duly formed and validly existing with authority to conduct business in Maine on the Closing Date.

b. Authority. Buyer has the requisite legal power and authority to execute and deliver this Agreement, to perform the obligations of Buyer hereunder, and to consummate the transactions contemplated hereby, all of which have been duly authorized and approved by all necessary entity action and for which no consent of any person or governmental authority is required which has not been obtained, and no filing with or other notification to any person or governmental authority is required which has not been properly completed. This Agreement constitutes the valid and legally binding obligation of Buyer, enforceable in accordance with its terms, subject only to the application of debtor relief laws and general equitable principles.

11. RISK OF LOSS, DAMAGE, DESTRUCTION AND INSURANCE. Buyer acknowledges that Seller carries liability insurance upon the Property, but does not carry fire or extended casualty damage insurance given the useful remaining life and condition of the current improvements to the Property. Prior to closing, risk of loss, damage, or destruction of the Property shall be assumed solely by the Seller. Buyer, upon reasonable notice to Seller, may have access to the Property for a "walk-through" immediately before closing. Seller shall keep the Property insured for general liability purposes, but not against fire and other extended casualty risks prior to closing. If the improvements to the Property are damaged or destroyed prior to expiration of the

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initial Inspection Period, Buyer may terminate this Agreement and receive a return of the initial Deposit. If such damage or destruction occurs during the extension of the Inspection Period, Buyer may terminate this Agreement and receive a return of the initial Deposit only, with the Second Deposit to be released to the Seller. If Buyer has not terminated this Agreement by the expiration of the Inspection Period as extended, Buyer shall accept the Property "as is", "where is" and "with all defects."

12. INDEMNIFICATION. Except as expressly otherwise provided herein with respect to uninsured fire or casualty damage to the improvements to the Property prior to closing, Seller hereby agrees and shall indemnify, protect, defend, reimburse, and hold Buyer harmless against any costs, liens, judgments, expenses, loss, liability, claims for injury or death to persons or damage to property, including attorney's fees, directly or indirectly related to the use or occupancy of the Property or to the Seller's ownership and operation of the Property, whether known or unknown, pending or threatened, and arising prior to the Closing Date. Buyer hereby agrees and shall indemnify, protect, defend, reimburse, and hold Seller harmless against any costs, liens, judgments, expenses, loss, liability, claims for injury or death to persons or damage to property, including attorney's fees, directly or indirectly related to the use or occupancy of the Property or the Buyer's ownership and operation of the Property, whether known or unknown, pending or threatened, and arising at or after the Closing Date.

13. BROKERAGE. Seller and Buyer represent and warrant that they have each engaged their own brokers in connection with this transaction. Seller has engaged Andrew Ingalls of Malone Commercial Brokers and Buyer has engaged Ed Pease of NU Real Estate Advisors LLC. Seller shall be solely responsible for the payment of any fees or commissions due to Malone Commercial Brokers, which shall be subject to any co-brokerage agreement between Malone

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Commercial Brokers and NU Real Estate Advisors LLC to share Seller's brokerage commission to Malone Commercial Brokers. Each party agrees to indemnify and hold the other party harmless from any claims for brokerage commissions arising out of its own broker's engagement.

14. DEFAULT AND REMEDIES. If Buyer defaults or fails in the performance of its obligations under this Agreement, and Seller is then ready, able and willing to perform, then Seller may exercise all available legal and equitable remedies. If Seller defaults or fails in the performance of its obligations under this Agreement, and Buyer is then ready, willing, and able to perform, Buyer may exercise all available legal and equitable remedies including specific performance. In the event of a default, the non-defaulting party, and/or the substantially prevailing party in any court or arbitration action, shall be entitled to reasonable attorneys' and paralegals' fees and costs.

15. ADJUSTMENTS, PRORATIONS AND CLOSING COSTS.

a. Real estate taxes, assessments and utilities, if any, shall be prorated as of the closing.

b. The Maine Real Estate Transfer Tax shall be paid by Buyer and Seller in accordance with 36 M.R.S.A. §4641-A.

c. The deed preparation, and the recording cost of discharges of any encumbrances other than Permitted Exceptions, shall be paid by Seller.

d. Seller shall be responsible for any services performed on their behalf, including its attorneys' fees and costs.

e. Buyer shall be responsible for closing settlement fees and costs performed on their behalf, including Buyer's attorneys' fees and costs, the costs of recording the deed, and the cost of title insurance required by the lender or requested by Buyer.

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16. PRIOR STATEMENTS. Any representations, statements and agreements are not valid unless contained herein. This Agreement completely expresses the obligations of the parties.

17. HEIRS AND ASSIGNS. This Agreement shall extend to and be obligatory upon the heirs, personal representatives, successors and assigns of Seller and Buyer.

18. COUNTERPARTS. This Agreement may be signed on any number of identical counterparts with the same binding effect as if the signatures were on one instrument. Original, faxed or other electronically transmitted signatures are binding.

19. SHORELAND ZONE SEPTIC SYSTEM. Seller represents that the Property does not contain a septic system within the Shoreland Zone.

20. NOTICE. All notices, requests, consents, approvals and other communications required or permitted under this Agreement (collectively, "Notices") must be in writing and shall be deemed duly given when delivered by one of the following methods: (a) by personal delivery, upon receipt; (b) by a nationally recognized overnight courier service, one (1) business day after delivery; (c) by certified mail, return receipt requested, three (3) business days after deposit in the U.S. mail, postage prepaid; or (d) by email (with PDF attachment), upon confirmation of receipt by the recipient's email system, provided that a copy is sent by one of the foregoing methods on the same day.

If to Buyer, to:
Nortey Dental, PLLC
c/o Dr. Nii Norte Lokko
1332 Post Road
Suite 1
Wells, ME 04090

With a copy, to:
Desmond, Rand & Guerard, P.A.
Attn: Julien D. Guerard, Esq.
P.O. Box 1858
Wells, ME 04090
[redacted]

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If to Seller, to: The Russell E. Darling Family Trust
c/o Rebecca R. Darling & Timothy J. Darling, Co-Trustees
26 Tenney Lane
Scarborough, ME 04074

With a copy, to: Jensen Baird
Attn: Richard N. Bryant, Esq.
10 Free Street
Portland, ME 04101

21. EFFECTIVE DATE. This Agreement is a binding contract effective as of the Effective Date first set forth above. Time is of the essence.

22. GOVERNING LAW/JURISDICTION. This Agreement and all rights and obligations hereunder, including matters of construction, validity and performance, shall be governed by the laws of the State of Maine, without regard to its conflict of laws principles.

23. JURY WAIVER. IN ANY CIVIL ACTION, COUNTERCLAIM OR PROCEEDING, WHETHER AT LAW OR IN EQUITY, WHICH ARISES OUT OF, CONCERNS OR RELATES TO THIS AGREEMENT, ANY AND ALL TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT, THE PERFORMANCE OF THIS AGREEMENT OR THE RELATIONSHIP CREATED BY THIS AGREEMENT, WHETHER SOUNDING IN CONTRACT, TORT, STRICT LIABILITY OR OTHERWISE, TRIAL SHALL BE TO A COURT OF COMPETENT JURISDICTION AND NOT TO A JURY. THE PARTIES HEREBY IRREVOCABLY WAIVE ANY RIGHT THEY MAY HAVE TO A TRIAL BY JURY. ANY PARTY MAY FILE AN ORIGINAL COUNTERPART OR A COPY OF THIS AGREEMENT WITH ANY COURT AS WRITTEN EVIDENCE OF THE CONSENT OF THE OTHER PARTY TO THIS AGREEMENT OF THE WAIVER OF ITS RIGHT TO TRIAL BY JURY. THIS WAIVER IS KNOWINGLY, INTENTIONALLY AND VOLUNTARILY MADE BY EACH PARTY AND EACH PARTY HEREBY REPRESENTS AND WARRANTS THAT NO

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PERSONS OR ENTITIES ACTING ON BEHALF OF THE OTHER PARTY HAS MADE ANY REPRESENTATIONS OF FACT TO INDUCE THIS WAIVER OF TRIAL BY JURY OR IN ANY WAY TO MODIFY OR NULLIFY ITS EFFECT. EACH PARTY ACKNOWLEDGES TO THE OTHER THAT IT HAS READ AND UNDERSTANDS THE EFFECT OF THIS JURY WAIVER PROVISION.

24. SEVERABILITY. If any term, condition, or provision of this Agreement or the application thereof to any person or circumstance shall, to any extent, be held invalid or unenforceable according to a court of competent jurisdiction, then the remaining terms, conditions, and provisions of this Agreement shall not be affected thereby, and each term, condition, and provision of this Agreement shall be valid and enforced to the fullest extent permitted by law.

25. AMENDMENT. This Agreement may only be modified by a writing signed by both Buyer and Seller.

26. ASSIGNMENT. Buyer, in its sole and absolute discretion, may assign this Agreement to an entity which is principally owned by Dr. Nii Norte Lokko. Seller, in its sole and absolute discretion, may assign this Agreement to any beneficiary of the Russell E. Darling Family Trust or an entity controlled by or for the benefit of such a beneficiary.

27. FURTHER ASSURANCES. Upon Buyer's request at any time, Seller shall take any reasonable act (excluding assumption of any liability or expenditure of out-of-pocket costs), including executing and delivering any document, necessary or advisable to transfer to and vest in Buyer, and protect its rights, title and interest in and enjoyment of the Property and otherwise to carry out the provisions of this Agreement.

28. WAIVER. No waiver by a party of any default shall be effective unless in writing. A party's failure to exercise any right or remedy available to it shall not operate as a waiver of any

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obligation against the other party. No such act or omission on the part of either party shall constitute a modification of this Agreement or a waiver of any other default which may occur at a later date.

29. DUE DILIGENCE MATERIALS: If Buyer exercises any contingency or otherwise fails to close, Buyer shall provide Seller with copies of all Buyer's due diligence reports and inspection information with respect to the Property. This provision shall survive termination of this Agreement.

IN WITNESS WHEREOF, Seller and Buyer have executed this Agreement as of the date first above written.

BUYER:
NORTEY DENTAL, PLLC

Signed by:
Dr. Nii Norte Lokko
A4B67F2D49B9452...
Dr. Nii Norte Lokko, its Sole Member,
Thereunto Duly Authorized

SELLER:
THE RUSSELL E. DARLING FAMILY TRUST, U/W DATED NOVEMBER 26, 1996

By: Signed by:
Timothy J. Darling
627C11972BAC44D...
Timothy J. Darling, Co-Trustee
Thereunto Duly Authorized

By: Signed by:
Rebecca R. Darling
EF49A15FE2B349F...
Rebecca R. Darling, Co-Trustee
Thereunto Duly Authorized

Exhibit 4

Utility Information

Exhibit 4

Utility Information

Please find in this section copies of ability to serve letters sent to the Wells Sanitary District for wastewater flows, and the Kennebunk, Kennebunkport, & Wells Water District for public water. Responses from both confirming their ability to serve are enclosed within this exhibit as well.

January 14, 2026
250519

Paul Cote, Assistant Distribution Manager
Kennebunk, Kennebunkport, & Wells Water District
92 Main Street
Kennebunk, ME 04043

Ability to Serve Request – Nortey Dental
1223-1229 Post Road, Wells, Maine 04909 – Map 126 Lot 20 & 21

Dear Paul,

On behalf of our client, NU Real Estate Advisors, we respectfully request a letter of capacity for the proposed dental office to be constructed at 1223-1229 Post Road in Wells. The project is located on Lots 20 and 21 on Tax Map 126.

The proposed project anticipates connecting to one of the existing services that currently extends to the lot. For that we are requesting service cards to determine if one of existing lines will be sufficient. At this time, we are not anticipating requiring a fire service.

Anticipated Water Demand
80 GPD per medical staff
5 GPD per patient
80 GPD/medical staff * 15 medical staff = 1,120 GPD
5 GPD/patient * 12 patients = 60 GPD
1,120 GPD + 60 GPD = **1,180 GPD**

We are hopeful that we have provided sufficient information to allow the District to provide a letter of capacity to serve the proposed development. Please call with any questions or if you require additional information. I can be reached best on my direct line at 207-200-2139. Thank you for your consideration.

Sincerely,
SEBAGO TECHNICS, INC.

Jake Hunnewell, PE
Project Engineer

December 18, 2025
250519

Nick Rico, PE, Superintendent
Wells Sanitary District
197 Eldridge Road
Wells, ME 04090

Acceptance of Wastewater Flow Request – Nortey Dental
1223-1229 Post Road, Wells, Maine 04909 – Map 126 Lot 20 & 21

Dear Nick,

On behalf of our client NU Real Estate Advisors, we respectfully request a letter of capacity for the proposed dental office to be constructed at 1223 & 1229 Post Road in Wells. This project is located on Lots 20 & 21 on Tax Map 126.

The proposed project includes 12 treatment rooms and 3 restrooms that will discharge through a service line that will connect to the 8" sewer main under Post Road.

Based on Maine Subsurface Wastewater Rules Table 5c, the calculation below shows the anticipated wastewater generation for the development.

Anticipated Wastewater Generation
80 GPD per medical staff
5 GPD per patient
80 GPD/medical staff * 15 medical staff = 1,200 GPD
5 GPD/patient * 12 patients = 60 GPD
1,200 GPD + 60 GPD = **1,260 GPD**

In addition, we would appreciate any information you may have about the existing services for the properties. We are hopeful that we have provided sufficient information to allow the District to provide a letter of capacity to serve the proposed development. Please call with any questions or if you require additional information. I can be reached best on my direct line at 207-200-2139. Thank you for your consideration.

Sincerely,
SEBAGO TECHNICS, INC.

Jake Hunnnewell, PE
Project engineer

Wells Sanitary District

Nick Rico, P.E. Superintendent
197 ELDRIDGE RD, WELLS, MAINE 04090 - (207) 646-5906
Website: www.wellssanitarydistrict.com • E-mail: wsd@wellssanitarydistrict.com

Mission Statement

To provide the highest quality wastewater collection and treatment services at the lowest possible cost to our customers, while protecting human health, the environment, and Wells beaches and marshes.

December 19, 2025

Mr. Jake Hunnewell, P.E.
Project Engineer
Sebago Technics
75 John Roberts Road
Suite 4A
South Portland, ME 04106
(sent via email to: [redacted])

Re: WSD Capacity
1223 & 1229 Post Road in Wells, ME
Map 126, Lots 20 & 21

Dear Mr. Hunnewell:

This letter is in response to your letter requesting capacity dated December 18, 2025. Wells Sanitary District (WSD) does have capacity for your proposed project that includes a dental office at 1223 & 1229 Post Road in Wells, Maine (Map 126, Lots 20 & 21).

Your project will be subject to WSD's **Sewer Capacity Reserve Fee** (SCRF). The SCRF for your project is **$10,062**. This fee must be paid to WSD **prior to construction**. Please note that if the SCRF is paid after December 31, 2025, it will be subject to the new rate, at a price of **$13,710** (see attached Statement #374).

A copy of this letter will be emailed to the Wells Code Enforcement Office and to your client. If you have any questions, please let me know.

Sincerely,

Nick Rico, P.E.
Superintendent

cc: Wells Code Enforcement Office via email
Dr. Nii Lokko (Nortey Dental, LLC) via email [redacted]

WELLS SANITARY DISTRICT
197 Eldridge Road
Wells, ME 04090

RESERVE CAPACITY FEE
STATEMENT 374

December 19, 2025

Nortey Dental, LLC
1332 Post Rd, Wells, ME 04090
(207) 646-5297
Dr. Nii Lokko
info@norteydental.com

Tax Map/Lot 126/20 & 21
1223-1229 Post Rd

Proposed Structures(s): (gpd = gallons per day)					
1	Dental Office				
15	Dental Personnel	80	gpd	1200	gpd
12	Patients per day	5	gpd	60	gpd
TOTAL PROPOSED FLOW				**1200**	**gpd**
Credit for current use(s):					
1	3-Bedroom Home	300	gpd	300	gpd
1	Retail Property	300	gpd	300	gpd
TOTAL CREDITED FLOW				***600***	***gpd***
TOTAL DESIGN FLOW:				***600***	***gpd***
SEWER CAPACITY RESERVE FUND RATE				***$ 16.77***	per gpd
TOTAL SEWER CAPACITY RESERVE FEE DUE					***$ 10,062.00*** if paid in 2025
A FINANCE CHARGE of 8% will be applied to unpaid balances after 30 days following billing				**$ 22.85**	**$ 13,710.00** if paid in 2026

DATE PAID: _____

Kennebunk, Kennebunkport & Wells Water District

Proudly serving since 1921

Trustees:
Thomas P. Oliver (Wells)
Robert Emmons (Kennebunk)
James E. Burrows (Kennebunkport)
Frederick A. Lynk (Ogunquit)

Stephen P. Cox, Superintendent
Scott J. Minor, Assistant Superintendent
Wayne A. Brockway, Treasurer

January 27, 2026

Jake Hunnewell
1223 &1229 Post Road
Wells ME 04090

Subject: **1223 & 1229 Post Road Wells map 126 lots 1223 & 1229**

Dear Mr. Hunnewell:

This letter is to inform you that at the above location an adequate domestic water supply is available from the District's 20-inch water main along U. S. Route One (Post Road). Water pressure in this area typically averages approximately 50 PSI. For fire suppression purposes approximately 1000 gallons per minute at 40 PSI residual pressure is available along Post Road near this location. This figure is an estimate for planning purposes only. An actual field test should be performed by the owner's agent prior to designing any fire suppression system.

The owner may be assessed an appropriate share of the costs of system expansion which will include but may not be limited to a System Development Charge, based upon meter size and/or anticipated water consumption, as approved by the Maine Public Utilities Commission.

The 2 properties are currently served by a 1" service line and 5/8" meter each. If new units are added or upgraded service is needed to meet any additional demand that may result from this change of use, the owner will be allowed to request one pursuant to the District's rules and regulations in effect at that time. **Keep in mind all units must be metered separately with individual outside shut-offs or in a District approved common space on a manifold. Also any discontinued services must be shut off and cut off at the 20" water main in the street.**

If you need any additional information, feel free to call.

Sincerely,

Paul Coates

Assistant Distribution Manager

92 Main Street, P.O. Box 88, Kennebunk, ME 04043
Phone 207-985-3385, Fax 207-985-3102
Visit us at www.kkw.org

Exhibit 5

Traffic Analysis

Exhibit 5

Traffic Analysis

Please find in this section a copy of a traffic memorandum, written by Sebago Technics, Inc. providing information on expected traffic impacts from the development.

Memorandum

250519

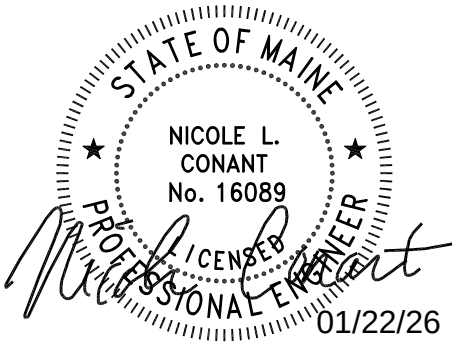
To: Robert McSorley, P.E., Sebago Technics

From: Nikki Conant, P.E., Sebago Technics

Griffin Steinman, EI, Sebago Technics

Date: January 22, 2026

Subject: Traffic Impact Assessment
Nortey Dental
1223 – 1229 Post Road, Wells, Maine



Introduction

The purpose of this memorandum is to provide a Traffic Impact Assessment (TIA) for the proposed redevelopment of 1223 and 1229 Post Road (Route 1) in Wells, Maine on the parcels identified as Lots 20 and 21 on Map 126 by the Town. The redevelopment is proposed to consist of a 5,400 square-foot (SF) dental office replacing the existing 718 SF commercial building and single-family home. Access to the site is proposed via a reconstructed full-movement driveway to Post Road (Route 1).

This memorandum details the calculated trip generation for the redevelopment, provides a crash data review for roadways in the vicinity of the site, and evaluates sight distance for the proposed reconstructed full-movement driveway.

Trip Generation

Vehicular primary trip generation was completed for the proposed development by utilizing the 11th Edition of the Institute of Transportation Engineers (ITE), *Trip Generation Manual*. Trip generation for the proposed development was calculated utilizing land use code (LUC) 720 – Medical-Dental Office Building based on a total of 5,400 SF, outlined in Table 1.

Table 1 – Proposed ITE Trip Generation
Land Use Code 720 – Medical-Dental Office Building
5,400 SF

Time Period	*Fitted Curve Equation or Average Rate*	*Total Trips*	*Entering Trips*	*Exiting Trips*
Weekday	T = 42.97(X) - 108.01	124	62 (50%)	62 (50%)
AM Peak Hour of Adjacent Street	Ln(T) = 0.90 Ln(X) + 1.34	17	14 (79%)	3 (21%)
AM Peak Hour – Generator	3.74	20	12 (59%)	8 (41%)
PM Peak Hour of Adjacent Street	3.93	21	6 (30%)	15 (70%)
PM Peak Hour – Generator*	3.93	21	6 (30%)	15 (70%)

*PM Peak Hour of Adjacent Street was utilized as it generated more than the PM Generator

As demonstrated in the previous table, the proposed dental office is estimated to generate 20 trips and 21 trips during the AM and PM peak hour periods of the generator, respectively. A Maine Department of Transportation (MaineDOT) Traffic Movement Permit (TMP) is not required as the trip generation is less than 100 peak hour trips.

Crash Data

The MaineDOT Public Map Viewer was utilized to determine if there are any high crash locations (HCL) within the immediate vicinity of the site. An intersection or section of roadway is deemed an HCL if two criteria are met: a Critical Rate Factor (CRF) greater than 1.0 and a minimum of eight (8) crashes in a three-year period.

Post Road (Route 1) in the immediate vicinity of the site was reviewed for the most recently published three-year period from 2022 to 2024. Based on the available crash information, the segment of Post Road between Chapel Road and Bayley Road is not currently a high crash location.

Entrance Analysis

Route 1 at the proposed access is a three-lane cross-section with one travel lane in each direction and a two-way left-turn lane serving the site access. Route 1 is an urban state highway which is classified as a minor arterial. The posted speed limit in the vicinity of the site is 35 miles per hour.

Sight distance at the proposed full-movement driveway was reviewed in the field on December 31, 2025. The sight distance measurement was completed in accordance with the standards set forth by MaineDOT's *Chapter 299: Highway Driveway and Entrance Rules* and the Town of Wells *Streets and Sidewalks Ordinance*, measured ten (10) feet behind the edge of the travel way, considering a height of eye of 3.5 feet and a height of object of 4.25 feet. Sight distance requirements from both MaineDOT and the Town of Wells are shown in Table 2.

Table 2 – Sight Distance Requirements

Posted Speed (MPH)	*MaineDOT Sight Distance (feet)*	*Town of Wells Sight Distance (feet)*
20	155	200
25	200	250
30	250	300
35	305	350
40	360	400
45	425	450
50	495	500
55	570	550
60	645	600

The posted speed limit on Post Road is 35 MPH, thus corresponding to a minimum sight distance of 350 feet per the more restrictive Town requirements. At the proposed full-movement access, sight distance was measured to exceed 800 feet looking to the left, as shown in Image 1, and measured to be approximately 655 feet looking to the right, as shown in Image 2.



Image 1: Sight Distance Looking Left



Image 2: Sight Distance Looking Right

Conclusion

Sebago Technics, Inc. has completed the traffic impact assessment for the proposed Nortey Dental Office redevelopment in Wells, Maine and provides the following conclusions:

- The proposed redevelopment consists of a 5,400 square-foot dental office. It is estimated to generate 20 trips and 21 trips during the AM and PM peak hour periods of the generator, respectively. As such, a TMP is not required from MaineDOT.
- The segment of Post Road (Route 1) between Chapel Road and Bayley Road is not currently a high crash location.
- Sight distance from the proposed reconstructed full-movement connection to Post Road exceeds the Town of Wells minimum requirements for a 35 MPH roadway.

Exhibit 6

Soil Erosion and Sedimentation Control

Exhibit 6

Soil Erosion and Sedimentation Control

Please refer to the grading plan, as well as the erosion control details & notes in the plan set for more information regarding on-site soil erosion & sedimentation control.

Exhibit 7

Stormwater Management

Exhibit 7

Stormwater Management

Please see the *Stormwater Management Narrative* prepared for this development included within the submitted application materials. The proposed project does not trigger the requirements for a Maine Department of Environmental Protection stormwater permit. Prior to construction, the project will be required to submit for coverage under the Maine Construction General Permit (MCGP). Appended to the *Stormwater Management Report* are two (2) plans that show the pre-development drainage conditions and post-development drainage conditions of the subject property.

SEBAGO TECHNICS

CIVIL ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE

STORMWATER MANAGEMENT REPORT

For

NORTEY DENTAL
WELLS, MAINE

Prepared for:

NU Real Estate Advisors
315 Dewpoint Lane
Johns Creek, GA 30022

Prepared by:

Sebago Technics, Inc.
75 John Roberts Rd, Suite 4A
South Portland, ME 04106

February, 2026

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General Standard - Chapter 500, Section 4(C) 3

Flooding Standard - Chapter 500, Section 4(F) 3

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Appendices

Appendix 1: Stormwater Quality Calculations
Appendix 2A: Hydrologic Modeling– Existing Conditions (HydroCAD)Summary
Appendix 2B: Hydrologic Modeling – Proposed Conditions (HydroCAD) Summary
Appendix 3: Inspection, Maintenance and Housekeeping Plan
Appendix 4: Subsurface Investigations
Appendix 5: Stormwater Management Plans

STORMWATER MANAGEMENT REPORT
NORTEY DENTAL
WELLS, MAINE

1. Introduction

This Stormwater Management Report has been prepared to present analyses performed to address the potential impacts associated with the project due to proposed modification in stormwater runoff characteristics and land cover changes. The stormwater management controls that are outlined in this report have been designed to suit the proposed development and to comply with applicable regulatory requirements.

2. Existing Conditions

The project site consists of undeveloped land located in Wells, Maine. The site is approximately 1.44 acres and is bounded by Post Road to the west, a commercial store to the north, and residential developments to the east and south. Slopes on the site range from 0% to 8% and site drainage is tributary to the Atlantic Ocean.

The proposed development area of the site is not located in an identified flood zone per the FEMA Flood Insurance Rate Map for the town of Wells, 23031C0587G and revised on July 17, 2024.

3. Soils

A Class 'D' Medium Intensity Soil Survey for the site was obtained from the United States Department of Agriculture (USDS) Web Soil Survey. The Hydrologic Groups (HSG) of the soils is classified by Technical Release TR-55 of the Soil Conservation Service as follows:

Soil Map Symbol	Soil Name	Slope (%)	HSG
AdB	Adams	0-8	A
CrB	Croghan	15-60	A
LnB	Lyman	3-8	D
LnC	Lyman	8-15	D

Hydrologic Soil Group boundaries are delineated on the Subcatchment Map. A copy of the Class Medium Intensity Soil Survey is included as Appendix 4.

4. Proposed Site Improvements

The proposed development will consist of a dental office with a 5,400 square-foot footprint, landscaped area, and parking. The site will also be equipped with an underdrained soil filter

to address stormwater quality and quantity control. The project will result in the creation of approximately 0.57 acres of impervious area and 1.11 acres of developed area.

5. Existing Conditions Model

The existing conditions subcatchment plan consists of three subcatchments labeled 1.0S, 2.0S, and 3.0S in the HydroCAD model. There is one location identified as a Point of Analysis (POA) for comparing peak runoff rates.

POA-1 is located in the north-east corner of the lot where runoff drains to via a grassed swale. Three subcatchments contribute runoff to this study point. Subcatchment 1S flows directly into POA-1. Subcatchment 2.0S drains directly into pond 2P that represents the western ditchline along Post Road and a cross culvert outlet that drains onto the project parcel. Pond 2P then flows into a drainage swale modeled as reach 2.2R and then to POA-1. Subcatchment 3.0S drains into pond 3P that represents a low point and cross culvert that drains to pond 2P. The overall tributary area associated with POA-1 is approximately 13.62 acres.

6. Proposed Conditions Model

The proposed conditions subcatchment area consists of the same overall area as the existing conditions plan, however, the existing conditions subcatchments have been broken into smaller subcatchments as a result of the proposed development.

POA-1: HydroCAD nodes 2.0S, 3.0S, 2P, and 3P do not change in the proposed conditions. Proposed conditions subcatchment 1.0S is broken up into 1.1S and 1.2S. Subcatchment 1.1S represents the majority of the proposed development area, including the building, parking lot, and landscaped areas that drains directly into the proposed underdrained soil filter labeled as pond 1P. Pond 1P then drains to a portion of the existing ditchline labeled as reach 1R before draining to POA-1. The overall tributary area associated with POA-1 is approximately 13.62 acres.

The Best Management Practice (underdrained soil filter) has been designed in accordance with DEP BMP standards contained within Chapter 500 and the BMP Manual. Sizing calculations can be found in Appendix 1.

7. Stormwater Management

Basic Standard - Chapter 500, Section 4(B)

Since the project will disturb more than one (1) acre of land area, MDEP Basic Standards apply, requiring that grading or other construction activities on the site do not impede or otherwise alter drainage ways to have an unreasonable adverse impact. We have avoided adverse impacts by providing an Erosion & Sedimentation Control Plan, and an Inspection, Maintenance and Housekeeping Plan (Appendix 3) to be implemented during construction and post-construction stabilization of the site. These construction requirements have been developed following Best Management Practice guidelines.

General Standard - Chapter 500, Section 4(C)

Since the project will not create more than one (1) acre of impervious surface, MDEP General Standards do not apply. However, this project has provided stormwater treatment for 97.48% of the proposed onsite impervious area through the use of an underdrained soil filter. The implementation of an underdrain soil filter as opposed to a detention basin was done in an effort to provide a LID stormwater measure.

Through the use of the aforementioned BMP 97.48% of new impervious area and 64.31% of new developed area will be receiving treatment. BMP sizing and treatment calculations are provided as Appendix 1.

Flooding Standard - Chapter 500, Section 4(F)

Since the planned project will not create more than three (3) acres of impervious surface, MDEP Flooding Standards do not need to be met. However, the Town of Wells per ordinance standard §202-12 F.(4)(C) requires that peak runoff from the development onto other properties shall not be increased either in volume or duration from the peak runoff characteristics existing prior to development for a 50-year storm event

As such, a runoff evaluation was performed using the methodology outlined in the USDA Soil Conservation Service's "Urban Hydrology for Small Subcatchments - Technical Release #55 (TR-55)". HydroCAD computer software was utilized to perform the calculations.

HydroCAD Stormwater Analysis

Runoff curve numbers were determined for each of the subcatchments by measuring the area of each hydrologic soil group within each type of land cover. The type of land cover was determined based on survey data, field reconnaissance and aerial photography. Times of concentration were determined from site topographic maps in accordance with SCS procedures.

The 24-hour rainfall values utilized in the hydrologic model were obtained from Appendix H of MDEP's Chapter 500: Stormwater Management (effective date August 2015). Rainfall values for York County are listed in the table below.

Storm Frequency Precipitation (in./24 hr) York County	
50-year	7.3

The following table presents the results of the peak runoff calculations at the analysis points for the existing and proposed conditions.

Peak Runoff Rate Summary Table			
Analysis Point	**Storm Event**	**Existing Conditions (cfs)**	**Proposed Conditions (cfs)**
POA-1	50-year	20.9	20.9

The HydroCAD Data output sheets from this analysis are appended to this report (Appendix 2) along with the Stormwater Management Plans (Appendix 5). The model predicts that the peak runoff rates in the proposed conditions at Point of Analysis 1 are at or below existing conditions runoff rates for the 50-year storm event with implementation of the proposed stormwater management practice.

8. Summary

The proposed development has been designed to manage stormwater runoff through Best Management Practices approved by MDEP. The stormwater BMP provides treatment to 97.48% (0% required) of impervious areas, and 64.31% (0% required) of the total developed area. The proposed stormwater BMP provides detention for runoff discharging from the site resulting in flows that will be at or below existing conditions for the 50-year storm event at the study point. Additionally, erosion and sedimentation controls along with associated maintenance and housekeeping procedures have been outlined to prevent unreasonable impacts on the site and to the surrounding environment.

Prepared by:

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2/02/2026

Appendix 1

Stormwater Quality Calculations

Table 1: MDEP GENERAL STANDARD CALCULATIONS

250519

AREA ID	WATERSHED SIZE (S.F.)	EXISTING ONSITE IMPERVIOUS AREA TO REMAIN (S.F.)	NEW ONSITE IMPERVIOUS AREA (S.F.)	EXISTING ONSITE LANDSCAPED AREA TO REMAIN (S.F.)	NEW ONSITE LANDSCAPED AREA (S.F.)	NET NEW DEVELOPED AREA (S.F.)	NET EXISTING DEVELOPED AREAS (S.F.)	TREATMENT PROVIDED?	IMPERVIOUS AREA TREATED (S.F.)	LANDSCAPED AREA TREATED (S.F.)	DEVELOPED AREA TREATED (S.F.)	TREATMENT BMP
1.1S	34,020	0	24,005	0	7,030	31,035	0	YES	24,005	7,030	31,035	UDSF-1 (1P)
1.2S	130,585	950	620	2,645	16,600	17,220	3,595	NO	0	0	0	
2.0S	76,580	0	0	0	0	0	0	NO	0	0	0	
3.0S	352,020	0	0	0	0	0	0	NO	0	0	0	
TOTAL (S.F.)	**593,205**	**950**	**24,625**	**2,645**	**23,630**	**48,255**	**3,595**		**24,005**	**7,030**	**31,035**	

TOTAL NEW ONSITE IMPERVIOUS AREA (S.F.)	**24,625**	**TOTAL NEW ONSITE DEVELOPED AREA (S.F.)**	**48,255**
TOTAL IMPERVIOUS AREA RECEIVING TREATMENT (S.F.)	**24,005**	**TOTAL AREA RECEIVING TREATMENT (S.F.)**	**31,035**
% OF IMPERVIOUS AREA RECEIVING TREATMENT	**97.48%**	**% OF AREA RECEIVING TREATMENT**	**64.31%**

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JOB
SHEET NO. 1 OF 1
CALCULATED BY DATE 3/2/2017
FILE NAME PRNT DATE 2/2/2026

UNDERDRAINED SOIL FILTER

Task: Calculate water quality volume per MDEP chapter 500 regulations

References
1. Maine DEP Chapter 500, Section 4.C.(3)(b)
   a. "must detain a runoff volume equal to 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area"
2. Maine DEP Best Management Practices Stormwater Manual, Section 7.1
   a. "surface should represent 5% of impervious area and 2% of landscaped area"

Tributary to Underdrained Filter: UDSF

Landscaped Area	7,030.00	SF			
Impervious Area	24,005.00	SF			

Minimum Surface Area

Required (2% X Landscaped + 5%" X Impervious)

Total Landscaped Area	7,030.00	SF	Area	140.6	SF
Total Impervious Area	24,005.00	SF	Area	1,200.3	SF
Required Minimum Surface Area				1,340.9	SF
Provided Surface Area				1,985.0	SF

Treatment Volume

Required (0.4" X Landscaped + 1.0" X Impervious)

Landscaped Area	7,030.00	SF	Volume	234.3				
Impervious Area	24,005.00	SF	Volume	2,000.4				
Treatment Volume Required				2,234.8	CF	0.051	AF	
Provided Treatment Volume				2,475.0	CF	From elev. 56' to 57'		

Sediment Pre-Treatment

Per Reference 2, Chapter 7.1 "Pretreatment devices shall be provided to minimize discharge of sediment to the soil filter"

Annual Sediment Load: 55 cubic feet per acre per year of sanded area

Area to be sanded:	24,005.00	SF					
Sediment Volume	30	CF					
Provided	62	CF	6	Inch Deep Forebay	with area of	124	sf

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JOB	250519		
SHEET NO.	1	OF	1
CALCULATED BY	JSH	DATE	5/16/2019
CHECKED BY	JSH		
FILE NAME	250519 WQC	PRINT DATE	2/2/2026

ORIFICE SIZING CALCULATION

Stormwater BMP: UDSF-1

Orifice Equation $Q = CA\sqrt{(2gh)}$

Q = Rate of Discharge (cfs)
A = Orifice Area (sf)
G = Gravitational Constant (32.2 ft/s^2)
h = Depth of water above the flow line (center) of the orifice (ft)
C = 0.6 Orifice coefficient (usually assumed = 0.6)

Average discharge rate required to drawdown the treatment volume in a desired amount of time is:

$$Q = \frac{WQv}{Tcf}$$

TV = Treatment Volume (cf)
T = Target Drain Time (Hours)
cf = Conversion Factor = 3600 sec/hr

TV = 2,475 cf
t = 24 hr

$$Q = \frac{TV}{tCF}$$ 0.03 cfs Target Rate for 24 hour discharge

surface area of filter = 1,985 SF

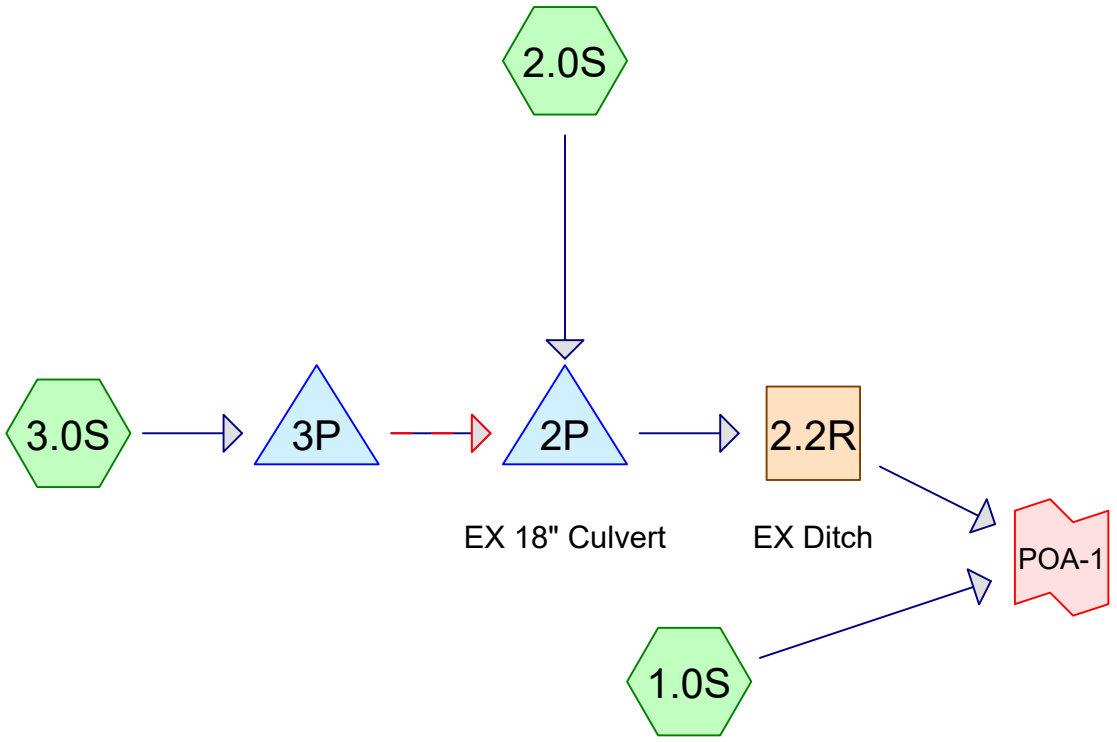
hmax = 1.25 ft h/2= 0.62 ft

$$A = \frac{Q}{C\sqrt{(2gh)}}$$ A = 0.008 sf = 1.09 sq. in.

Diam = 1.18 in

Appendix 2A

Existing Conditions HydroCAD Summary



Subcat Reach Pond Link

Routing Diagram for 250519 Pre
Prepared by Sebago Technics, Printed 2/2/2026
HydroCAD® 10.20-7a s/n 00643 © 2025 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
62,050	39	>75% Grass cover, Good, HSG A (1.0S, 2.0S, 3.0S)
286,155	80	>75% Grass cover, Good, HSG D (1.0S, 2.0S, 3.0S)
7,565	98	Gravel (1.0S, 2.0S, 3.0S)
107,435	98	Road (1.0S, 2.0S, 3.0S)
27,660	98	Roof (1.0S, 2.0S, 3.0S)
85,660	30	Woods, Good, HSG A (1.0S)
16,680	77	Woods, Good, HSG D (3.0S)
593,205	**73**	**TOTAL AREA**

Summary for Subcatchment 1.0S:

Runoff = 8.1 cfs @ 12.19 hrs, Volume= 33,134 cf, Depth= 2.42"
Routed to Link POA-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR Rainfall=7.30"

	Area (sf)	CN	Description
*	9,060	98	Roof
*	46,830	98	Road
*	4,040	98	Gravel
	16,625	39	>75% Grass cover, Good, HSG A
	85,660	30	Woods, Good, HSG A
	2,390	80	>75% Grass cover, Good, HSG D
	164,605	56	Weighted Average
	104,675	33	63.59% Pervious Area
	59,930	98	36.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	50	0.1000	0.13		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.30"
6.5	325	0.0277	0.83		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
12.9	375	Total			

Summary for Subcatchment 2.0S:

Runoff = 10.5 cfs @ 12.09 hrs, Volume= 33,896 cf, Depth= 5.31"
Routed to Pond 2P : EX 18" Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR Rainfall=7.30"

	Area (sf)	CN	Description
*	7,760	98	Roof
*	23,390	98	Road
*	2,880	98	Gravel
	8,775	39	>75% Grass cover, Good, HSG A
	33,775	80	>75% Grass cover, Good, HSG D
	76,580	83	Weighted Average
	42,550	72	55.56% Pervious Area
	34,030	98	44.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	35	0.0540	0.14		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.30"
0.1	15	0.2140	3.24		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
2.0	305	0.0164	2.60		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
0.4	65	0.0307	2.63		**Shallow Concentrated Flow, D-E** Grassed Waterway Kv= 15.0 fps
6.6	420	Total			

Summary for Subcatchment 3.0S:

Runoff = 28.6 cfs @ 12.31 hrs, Volume= 139,278 cf, Depth= 4.75"
Routed to Pond 3P :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR Rainfall=7.30"

	Area (sf)	CN	Description
	36,650	39	>75% Grass cover, Good, HSG A
*	645	98	Gravel
*	37,215	98	Road
*	10,840	98	Roof
	16,680	77	Woods, Good, HSG D
	249,990	80	>75% Grass cover, Good, HSG D
	352,020	78	Weighted Average
	303,320	75	86.17% Pervious Area
	48,700	98	13.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.3	150	0.0267	0.14		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.30"
1.7	130	0.0350	1.31		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.8	120	0.0250	2.37		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
0.1	30	0.0100	4.54	3.56	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Concrete pipe, bends & connections
1.0	200	0.0450	3.18		**Shallow Concentrated Flow, E-F** Grassed Waterway Kv= 15.0 fps
1.8	235	0.0213	2.19		**Shallow Concentrated Flow, F-G** Grassed Waterway Kv= 15.0 fps
22.7	865	Total			

Summary for Reach 2.2R: EX Ditch

Inflow Area = 428,600 sf, 19.30% Impervious, Inflow Depth = 4.85" for 50-YR event
Inflow = 14.8 cfs @ 12.69 hrs, Volume= 173,162 cf
Outflow = 14.8 cfs @ 12.71 hrs, Volume= 173,162 cf, Atten= 0%, Lag= 1.1 min
Routed to Link POA-1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.34 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 0.93 fps, Avg. Travel Time= 7.2 min

Peak Storage= 1,362 cf @ 12.71 hrs
Average Depth at Peak Storage= 0.59' , Surface Width= 7.54'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 40.5 cfs

4.00' x 1.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 3.0 '/' Top Width= 10.00'
Length= 400.0' Slope= 0.0312 '/'
Inlet Invert= 61.47', Outlet Invert= 49.00'



‡

Summary for Pond 2P: EX 18" Culvert

Inflow Area = 428,600 sf, 19.30% Impervious, Inflow Depth = 4.85" for 50-YR event
Inflow = 41.7 cfs @ 12.38 hrs, Volume= 173,162 cf
Outflow = 14.8 cfs @ 12.69 hrs, Volume= 173,162 cf, Atten= 65%, Lag= 18.6 min
Primary = 14.8 cfs @ 12.69 hrs, Volume= 173,162 cf
Routed to Reach 2.2R : EX Ditch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 70.87' @ 12.69 hrs Surf.Area= 18,130 sf Storage= 14,741 cf

Plug-Flow detention time= 4.7 min calculated for 173,133 cf (100% of inflow)
Center-of-Mass det. time= 4.7 min (852.2 - 847.5)

Volume	Invert	Avail.Storage	Storage Description
#1	65.25'	17,258 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.25	10	0	0
66.00	50	23	23
67.00	100	75	98
68.00	225	163	260
69.00	1,050	638	898
70.00	5,835	3,443	4,340
71.00	20,000	12,918	17,258

Device	Routing	Invert	Outlet Devices
#1	Primary	65.28'	**18.0" Round Culvert** L= 179.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.28' / 61.47' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=14.8 cfs @ 12.69 hrs HW=70.87' TW=62.06' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 14.8 cfs @ 8.36 fps)

Summary for Pond 3P:

Inflow Area = 352,020 sf, 13.83% Impervious, Inflow Depth = 4.75" for 50-YR event
Inflow = 28.6 cfs @ 12.31 hrs, Volume= 139,278 cf
Outflow = 38.0 cfs @ 12.38 hrs, Volume= 139,266 cf, Atten= 0%, Lag= 4.3 min
Primary = 6.5 cfs @ 12.38 hrs, Volume= 87,697 cf
Routed to Pond 2P : EX 18" Culvert
Secondary = 31.5 cfs @ 12.38 hrs, Volume= 51,568 cf
Routed to Pond 2P : EX 18" Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 72.10' @ 12.38 hrs Surf.Area= 35,000 sf Storage= 24,993 cf

Plug-Flow detention time= 32.7 min calculated for 139,266 cf (100% of inflow)
Center-of-Mass det. time= 32.6 min (859.2 - 826.6)

Volume	Invert	Avail.Storage	Storage Description
#1	69.00'	24,993 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.00	2,200	0	0
70.00	9,210	5,705	5,705
70.50	16,470	6,420	12,125
71.00	35,000	12,868	24,993

Device	Routing	Invert	Outlet Devices
#1	Secondary	70.05'	**4.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

#2	Primary	69.00'	**15.0" Round Culvert** L= 35.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.00' / 68.65' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=6.4 cfs @ 12.38 hrs HW=72.09' TW=70.21' (Dynamic Tailwater)
└**2=Culvert** (Inlet Controls 6.4 cfs @ 5.22 fps)

Secondary OutFlow Max=31.3 cfs @ 12.38 hrs HW=72.10' TW=70.21' (Dynamic Tailwater)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 31.3 cfs @ 3.81 fps)

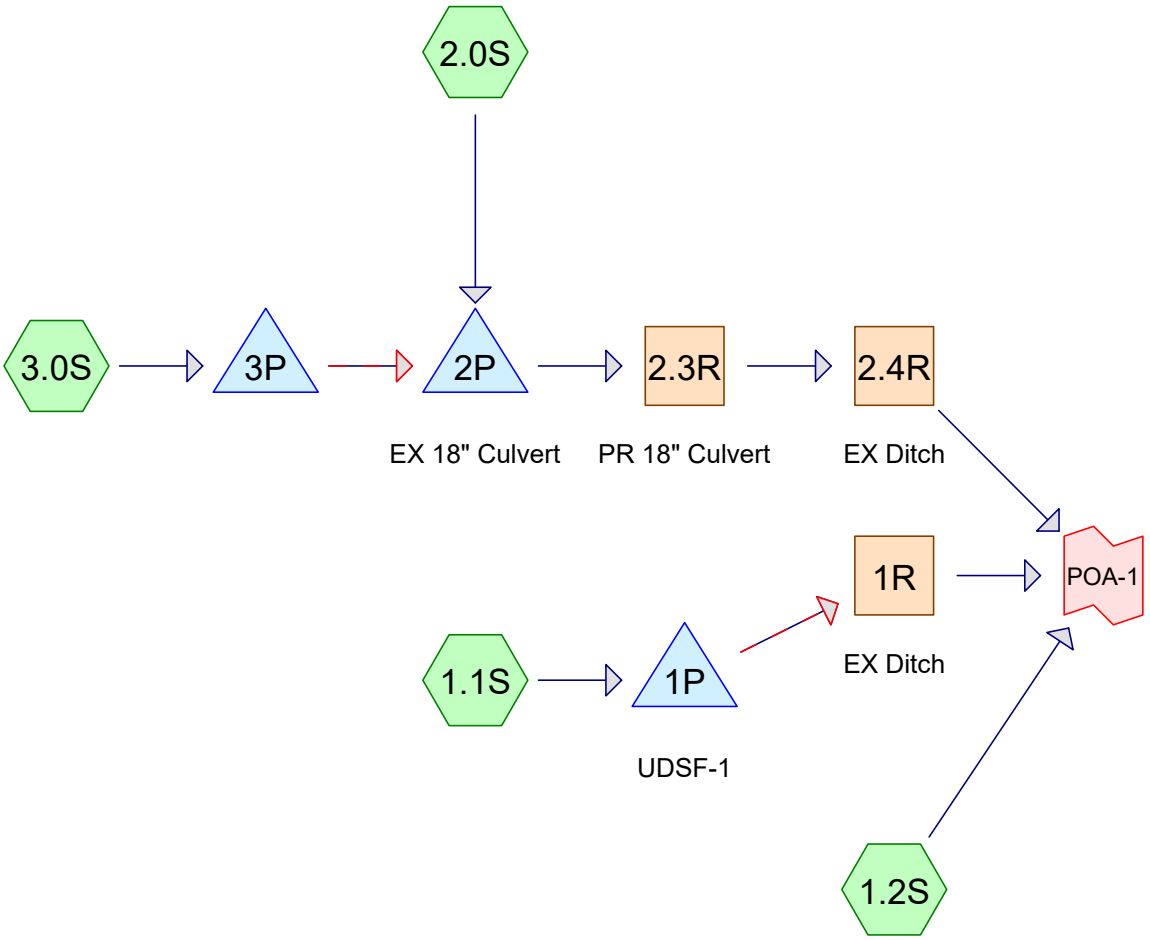
Summary for Link POA-1:

Inflow Area = 593,205 sf, 24.05% Impervious, Inflow Depth = 4.17" for 50-YR event
Inflow = 20.9 cfs @ 12.20 hrs, Volume= 206,295 cf
Primary = 20.9 cfs @ 12.20 hrs, Volume= 206,295 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Appendix 2B

Proposed Conditions
HydroCAD Summary



Subcat Reach Pond Link

Routing Diagram for 250519 SW POST
Prepared by Sebago Technics, Printed 2/2/2026
HydroCAD® 10.20-7a s/n 00643 © 2025 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
97,340	39	>75% Grass cover, Good, HSG A (1.1S, 1.2S, 2.0S, 3.0S)
286,410	80	>75% Grass cover, Good, HSG D (1.2S, 2.0S, 3.0S)
3,525	98	Gravel (2.0S, 3.0S)
2,985	98	Offsite Pavement (1.1S)
17,970	98	Onsite Pavement (1.1S)
101,860	98	Road (1.2S, 2.0S, 3.0S)
24,635	98	Roof (1.1S, 2.0S, 3.0S)
7,370	98	Roofs (1.2S)
34,430	30	Woods, Good, HSG A (1.2S)
16,680	77	Woods, Good, HSG D (3.0S)
593,205	**75**	**TOTAL AREA**

Summary for Subcatchment 1.1S:

Runoff = 5.0 cfs @ 12.09 hrs, Volume= 16,031 cf, Depth= 5.65"
Routed to Pond 1P : UDSF-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR Rainfall=7.30"

	Area (sf)	CN	Description
*	6,035	98	Roof
*	17,970	98	Onsite Pavement
	7,030	39	>75% Grass cover, Good, HSG A
*	2,985	98	Offsite Pavement
	34,020	86	Weighted Average
	7,030	39	20.66% Pervious Area
	26,990	98	79.34% Impervious Area

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

Summary for Subcatchment 1.2S:

Runoff = 7.6 cfs @ 12.17 hrs, Volume= 29,559 cf, Depth= 2.72"
Routed to Link POA-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR Rainfall=7.30"

	Area (sf)	CN	Description
*	7,370	98	Roofs
*	41,255	98	Road
	44,885	39	>75% Grass cover, Good, HSG A
	34,430	30	Woods, Good, HSG A
	2,645	80	>75% Grass cover, Good, HSG D
	130,585	59	Weighted Average
	81,960	37	62.76% Pervious Area
	48,625	98	37.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	70	0.0570	0.11		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.30"
1.5	265	0.0370	2.89		**Shallow Concentrated Flow, BC** Grassed Waterway Kv= 15.0 fps
12.0	335	Total			

Summary for Subcatchment 2.0S:

Runoff = 10.5 cfs @ 12.09 hrs, Volume= 33,896 cf, Depth= 5.31"
Routed to Pond 2P : EX 18" Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR Rainfall=7.30"

	Area (sf)	CN	Description
*	7,760	98	Roof
*	23,390	98	Road
*	2,880	98	Gravel
	8,775	39	>75% Grass cover, Good, HSG A
	33,775	80	>75% Grass cover, Good, HSG D
	76,580	83	Weighted Average
	42,550	72	55.56% Pervious Area
	34,030	98	44.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	35	0.0540	0.14		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.30"
0.1	15	0.2140	3.24		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
2.0	305	0.0164	2.60		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
0.4	65	0.0307	2.63		**Shallow Concentrated Flow, D-E** Grassed Waterway Kv= 15.0 fps
6.6	420	Total			

Summary for Subcatchment 3.0S:

Runoff = 28.6 cfs @ 12.31 hrs, Volume= 139,278 cf, Depth= 4.75"
Routed to Pond 3P :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-YR Rainfall=7.30"

	Area (sf)	CN	Description
	36,650	39	>75% Grass cover, Good, HSG A
*	645	98	Gravel
*	37,215	98	Road
*	10,840	98	Roof
	16,680	77	Woods, Good, HSG D
	249,990	80	>75% Grass cover, Good, HSG D
	352,020	78	Weighted Average
	303,320	75	86.17% Pervious Area
	48,700	98	13.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.3	150	0.0267	0.14		**Sheet Flow, A-B** Grass: Dense n= 0.240 P2= 3.30"
1.7	130	0.0350	1.31		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
0.8	120	0.0250	2.37		**Shallow Concentrated Flow, C-D** Grassed Waterway Kv= 15.0 fps
0.1	30	0.0100	4.54	3.56	**Pipe Channel, D-E** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Concrete pipe, bends & connections
1.0	200	0.0450	3.18		**Shallow Concentrated Flow, E-F** Grassed Waterway Kv= 15.0 fps
1.8	235	0.0213	2.19		**Shallow Concentrated Flow, F-G** Grassed Waterway Kv= 15.0 fps
22.7	865	Total			

Summary for Reach 1R: EX Ditch

Inflow Area = 34,020 sf, 79.34% Impervious, Inflow Depth = 5.65" for 50-YR event
Inflow = 1.5 cfs @ 12.41 hrs, Volume= 16,032 cf
Outflow = 1.5 cfs @ 12.42 hrs, Volume= 16,032 cf, Atten= 0%, Lag= 0.5 min
Routed to Link POA-1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.28 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.76 fps, Avg. Travel Time= 2.1 min

Peak Storage= 63 cf @ 12.42 hrs
Average Depth at Peak Storage= 0.15' , Surface Width= 4.89'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 47.1 cfs

4.00' x 1.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 3.0 '/' Top Width= 10.00'
Length= 95.0' Slope= 0.0421 '/'
Inlet Invert= 53.00', Outlet Invert= 49.00'



‡

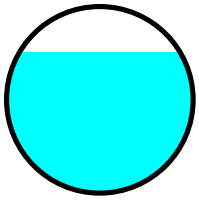
Summary for Reach 2.3R: PR 18" Culvert

Inflow Area = 428,600 sf, 19.30% Impervious, Inflow Depth = 4.85" for 50-YR event
Inflow = 14.8 cfs @ 12.69 hrs, Volume= 173,162 cf
Outflow = 14.8 cfs @ 12.70 hrs, Volume= 173,162 cf, Atten= 0%, Lag= 0.4 min
Routed to Reach 2.4R : EX Ditch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Max. Velocity= 10.31 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 2.51 fps, Avg. Travel Time= 1.5 min

Peak Storage= 330 cf @ 12.70 hrs
Average Depth at Peak Storage= 1.13' , Surface Width= 1.29'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 16.1 cfs

18.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 230.0' Slope= 0.0233 '/'
Inlet Invert= 61.37', Outlet Invert= 56.00'



Summary for Reach 2.4R: EX Ditch

Inflow Area = 428,600 sf, 19.30% Impervious, Inflow Depth = 4.85" for 50-YR event
Inflow = 14.8 cfs @ 12.70 hrs, Volume= 173,162 cf
Outflow = 14.8 cfs @ 12.70 hrs, Volume= 173,162 cf, Atten= 0%, Lag= 0.4 min
Routed to Link POA-1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.78 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.03 fps, Avg. Travel Time= 2.7 min

Peak Storage= 525 cf @ 12.70 hrs
Average Depth at Peak Storage= 0.55' , Surface Width= 7.28'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 46.5 cfs

4.00' x 1.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 3.0 '/' Top Width= 10.00'
Length= 170.0' Slope= 0.0412 '/'
Inlet Invert= 56.00', Outlet Invert= 49.00'



‡

Summary for Pond 1P: UDSF-1

Inflow Area = 34,020 sf, 79.34% Impervious, Inflow Depth = 5.65" for 50-YR event
Inflow = 5.0 cfs @ 12.09 hrs, Volume= 16,031 cf
Outflow = 1.5 cfs @ 12.41 hrs, Volume= 16,032 cf, Atten= 70%, Lag= 19.4 min
Primary = 1.4 cfs @ 12.41 hrs, Volume= 15,980 cf
Routed to Reach 1R : EX Ditch
Secondary = 0.1 cfs @ 12.41 hrs, Volume= 52 cf
Routed to Reach 1R : EX Ditch

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 58.47' @ 12.41 hrs Surf.Area= 3,830 sf Storage= 7,252 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 574.2 min (1,365.1 - 790.8)

Volume	Invert	Avail.Storage	Storage Description
#1	53.83'	12,186 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
53.83	1,985	0.0	0	0
53.84	1,985	0.0	0	0
55.99	1,985	0.0	0	0
56.00	1,985	100.0	20	20
57.00	2,760	100.0	2,373	2,392
58.00	3,516	100.0	3,138	5,530
59.00	4,185	100.0	3,851	9,381
59.60	5,165	100.0	2,805	12,186

Device	Routing	Invert	Outlet Devices
#1	Primary	53.73'	**15.0" Round Stormdrain** L= 27.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 53.73' / 53.00' S= 0.0270 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Device 1	53.83'	**1.2" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	58.25'	**1.3" x 1.3" Horiz. Beehive Grate X 7.00 columns** X 7 rows C= 0.600 Limited to weir flow at low heads
#4	Device 2	53.83'	**6.0" Round Underdrain** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 53.83' / 53.83' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#5	Device 4	53.83'	**2.960 in/hr Exfiltration over Surface area**
#6	Secondary	58.45'	**20.0' long x 12.2' breadth Overflow Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=1.4 cfs @ 12.41 hrs HW=58.47' TW=53.15' (Dynamic Tailwater)
- **1=Stormdrain** (Passes 1.4 cfs of 12.0 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.1 cfs @ 10.31 fps)
    - **4=Underdrain** (Passes 0.1 cfs of 1.5 cfs potential flow)
      - **5=Exfiltration** (Passes 0.1 cfs of 0.3 cfs potential flow)
  - **3=Beehive Grate** (Orifice Controls 1.3 cfs @ 2.25 fps)

Secondary OutFlow Max=0.1 cfs @ 12.41 hrs HW=58.47' TW=53.15' (Dynamic Tailwater)
- **6=Overflow Spillway** (Weir Controls 0.1 cfs @ 0.35 fps)

Summary for Pond 2P: EX 18" Culvert

Inflow Area = 428,600 sf, 19.30% Impervious, Inflow Depth = 4.85" for 50-YR event
Inflow = 41.7 cfs @ 12.38 hrs, Volume= 173,162 cf
Outflow = 14.8 cfs @ 12.69 hrs, Volume= 173,162 cf, Atten= 65%, Lag= 18.6 min
Primary = 14.8 cfs @ 12.69 hrs, Volume= 173,162 cf
Routed to Reach 2.3R : PR 18" Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 70.87' @ 12.69 hrs Surf.Area= 18,130 sf Storage= 14,741 cf

Plug-Flow detention time= 4.7 min calculated for 173,133 cf (100% of inflow)
Center-of-Mass det. time= 4.7 min (852.2 - 847.5)

Volume	Invert	Avail.Storage	Storage Description
#1	65.25'	17,258 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.25	10	0	0
66.00	50	23	23
67.00	100	75	98
68.00	225	163	260
69.00	1,050	638	898
70.00	5,835	3,443	4,340
71.00	20,000	12,918	17,258

Device	Routing	Invert	Outlet Devices
#1	Primary	65.28'	**18.0" Round Culvert** L= 179.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 65.28' / 61.47' S= 0.0213 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=14.8 cfs @ 12.69 hrs HW=70.87' TW=62.50' (Dynamic Tailwater)
- **1=Culvert** (Inlet Controls 14.8 cfs @ 8.36 fps)

Summary for Pond 3P:

Inflow Area = 352,020 sf, 13.83% Impervious, Inflow Depth = 4.75" for 50-YR event
Inflow = 28.6 cfs @ 12.31 hrs, Volume= 139,278 cf
Outflow = 38.0 cfs @ 12.38 hrs, Volume= 139,266 cf, Atten= 0%, Lag= 4.3 min
Primary = 6.5 cfs @ 12.38 hrs, Volume= 87,697 cf
Routed to Pond 2P : EX 18" Culvert
Secondary = 31.5 cfs @ 12.38 hrs, Volume= 51,568 cf
Routed to Pond 2P : EX 18" Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 72.10' @ 12.38 hrs Surf.Area= 35,000 sf Storage= 24,993 cf

Plug-Flow detention time= 32.7 min calculated for 139,266 cf (100% of inflow)
Center-of-Mass det. time= 32.6 min (859.2 - 826.6)

Volume	Invert	Avail.Storage	Storage Description
#1	69.00'	24,993 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.00	2,200	0	0
70.00	9,210	5,705	5,705
70.50	16,470	6,420	12,125
71.00	35,000	12,868	24,993

Device	Routing	Invert	Outlet Devices
#1	Secondary	70.05'	**4.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Primary	69.00'	**15.0" Round Culvert** L= 35.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 69.00' / 68.65' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=6.4 cfs @ 12.38 hrs HW=72.09' TW=70.21' (Dynamic Tailwater)
└**2=Culvert** (Inlet Controls 6.4 cfs @ 5.22 fps)

Secondary OutFlow Max=31.3 cfs @ 12.38 hrs HW=72.10' TW=70.21' (Dynamic Tailwater)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 31.3 cfs @ 3.81 fps)

Summary for Link POA-1:

Inflow Area = 593,205 sf, 26.69% Impervious, Inflow Depth = 4.43" for 50-YR event
Inflow = 20.9 cfs @ 12.22 hrs, Volume= 218,753 cf
Primary = 20.9 cfs @ 12.22 hrs, Volume= 218,753 cf, Atten= 0%, Lag= 0.0 min

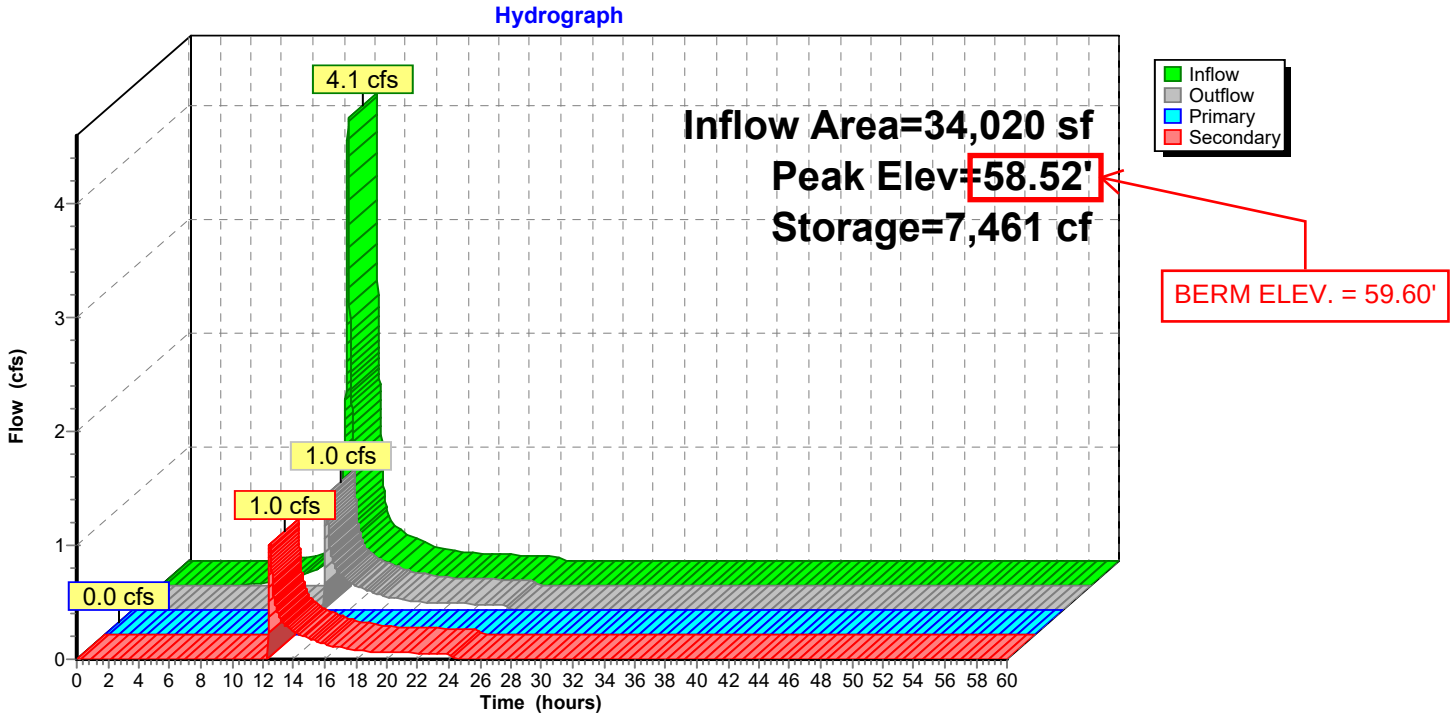
Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

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Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=53.83' TW=53.00' (Dynamic Tailwater)
└─**1=Stormdrain** (Controls 0.0 cfs)
└─**2=Orifice/Grate** (Controls 0.0 cfs)
└─**4=Underdrain** (Controls 0.0 cfs)
└─**5=Exfiltration** (Passes 0.0 cfs of 0.1 cfs potential flow)
└─**3=Beehive Grate** (Controls 0.0 cfs)

Secondary OutFlow Max=1.0 cfs @ 12.47 hrs HW=58.52' TW=53.12' (Dynamic Tailwater)
└─**6=Overflow Spillway** (Weir Controls 1.0 cfs @ 0.69 fps)

Pond 1P: UDSF-1



Appendix 3

Inspection, Maintenance and Housekeeping Plan

INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

For:
Nortey Dental
Wells, Maine

By:
Sebago Technics, Inc.
75 John Roberts Road, Suite 4A
South Portland, Maine

Introduction

The following plan outlines the anticipated inspection and maintenance procedures for the erosion and sedimentation control measures as well as stormwater management facilities for the project. This plan also outlines several housekeeping requirements that shall be followed during and after construction. These procedures shall be followed in order to ensure the intended function of the designed measures and to prevent unreasonably adverse impacts to the surrounding environment.

The procedures outlined in this Inspection, Maintenance and Housekeeping Plan are provided as an overview of the anticipated practices to be used on this site. In some instances, additional measures may be required due to unexpected conditions. For additional detail on any of the erosion and sedimentation control measures or stormwater management devices to be utilized on this project, refer to the most recently revised edition of the "Maine Erosion and Sedimentation Control BMP" manual and/or the "Stormwater Management for Maine: Best Management Practices" manual as published by the Maine Department of Environmental Protection (MDEP).

During Construction

1. **Inspection:** During the construction process, it is the Contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. These responsibilities include inspecting disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected at least once a week as well as before and after a storm event (0.5" of rainfall), and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in any applicable permits, shall conduct the inspections.

2. **Maintenance:** All measures shall be maintained in an effective operating condition until areas are permanently stabilized. If Best Management Practices (BMPs) need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within 7 calendar days and prior to any storm event (0.5" of rainfall).

3. **Documentation:** A log summarizing the inspections and any corrective action taken must be maintained on-site. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, material storage areas, and vehicle access points to the site. Major observations must include BMPs that need maintenance, BMPs that failed

to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

4. **Specific Inspection and Maintenance Tasks:** The following is a list of erosion control and stormwater management measures and the specific inspection and maintenance tasks to be performed during construction.

A. Sediment Barriers:

- Hay bale barriers, silt fences, and filter berms shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
- If the fabric on a silt fence or filter barrier should decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, it shall be replaced.
- Sediment deposits should be removed after each storm event (0.5" of rainfall). They must be removed before deposits reach approximately one-half the height of the barrier.
- Filter berms shall be reshaped as needed.
- Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared, and seeded.

B. Riprap Materials:

- Once a riprap installation has been completed, it should require very little maintenance. It shall, however, be inspected periodically to determine if high flows have caused scour beneath the riprap or dislodged any of the stone.

C. Erosion Control Blankets:

- Inspect these reinforced areas semi-annually and after significant rainfall events for slumping, sliding, seepage, and scour. Pay close attention to unreinforced areas adjacent to the erosion control blankets, which may experience accelerated erosion.
- Review all applicable inspection and maintenance procedures recommended by the specific blanket manufacturer. These tasks shall be included in addition to the requirements of this plan.

D. Stabilized Construction Entrances/Exits:

- The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way.
- When the control pad becomes ineffective, the stone shall be removed along with the collected soil material. The entrance should then be reconstructed.
- Areas that have received mud-tracking or sediment deposits shall be swept or washed. Washing shall be done on an area stabilized with aggregate, which drains

into an approved sediment-trapping device (not into storm drains, ditches, or waterways).

E. Temporary Seed and Mulch:

- Mulched areas should be inspected after rain events to check for rill erosion.
- If less than 90% of the soil surface is covered by mulch, additional mulch shall be applied in bare areas.
- In applications where seeding and mulch have been applied in conjunction with erosion control blankets, the blankets must be inspected after rain events for dislocation or undercutting.
- Mulch shall continue to be reapplied until 95% of the soil surface has established temporary vegetative cover.

F. Stabilized Temporary Drainage Swales:

- Sediment accumulation in the swale shall be removed once the cross section of the swale is reduced by 25%.
- The swales shall be inspected after rainfall events. Any evidence of sloughing of the side slopes or channel erosion shall be repaired and corrective action should be taken to prevent reoccurrence of the problem.
- In addition to the stabilized lining of the channel (i.e. erosion control blankets), stone check dams may be needed to further reduce channel velocity.

5. **Housekeeping:** The following general performance standards apply to the proposed project.

A. Spill prevention: Controls must be used to prevent pollutants from being discharged from materials on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.

B. Groundwater protection: During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors, accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.

C. Fugitive sediment and dust: Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.

D. Debris and other materials: Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

E. Trench or foundation dewatering: Trench dewatering is the removal of water from trenches, foundations, cofferdams, ponds, and other areas within the construction area

that retain water after excavation. In most cases, the collected water is heavily silted and hinders correct and safe construction practices. The collected water must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved.

Post-Construction

1. **Inspection:** After construction, it is the responsibility of the owner or assigned heirs to comply with the inspection and maintenance procedures outlined in this section. All measures must be maintained in effective operating condition. The owner shall inspect and maintain the BMPs, including but not limited to any parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures, in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan.

2. **Specific Inspection and Maintenance Tasks:** The following is a list of permanent erosion control and stormwater management measures and the inspection and maintenance tasks to be performed after construction. If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action(s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide a record of the deficiency and corrective action(s) to the local municipality in the annual report.

   A. Vegetated Areas:

   - Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains (>0.5”) to identify active or potential erosion problems.
   - Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

   B. Ditches, Swales and Other Open Channels:

   - Inspect ditches, swales, level spreaders and other open stormwater channels in the spring, in the late fall, and after heavy rains to remove any obstructions to flow. Remove accumulated sediments and debris, remove woody vegetative growth that could obstruct flow, and repair any erosion of the ditch lining.
   - Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity.
   - Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable.
   - If the ditch has a riprap lining, replace riprap in areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged.

C. Culverts:

- Inspect culverts in the spring, in the late fall, and after heavy rains (>0.5") to remove any obstructions to flow.
- Remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit.
- Inspect and repair any erosion damage at the culvert's inlet and outlet.

D. Removal of Winter Sand:

- Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring.
- Accumulations on pavement may be removed by pavement sweeping.
- Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader or other acceptable method.

E. Underdrain Soil Filter:

- Following storms that fill the system and overflow is observed, the soil filter should drain in no less than 24 to 48 hours. If the system drains too fast, an orifice may need to be added on the underdrain outlet or, if already present, may need to be modified.
- Soil Filter Replacement: The top several inches of the filter shall be replaced with fresh material when water ponds on the surface of the bed for more than 72 hours. Removed sediments should be disposed of in an acceptable manner.
- Sediment Removal: Sediment and plant debris should be removed from the pretreatment structure at least annually.
- Mowing: If mowing is desired, only handheld string trimmers or push-mowers are allowed on the filter (no tractor) and the grass bed should be mowed no more than 2 times per growing season to maintain grass heights of no less than 6 inches.
- Fertilization: Fertilization of the underdrained filter area should be avoided unless absolutely necessary to establish vegetation.
- Harvesting and Weeding: Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary.
- Snow storage is prohibited within the underdrained soil filter areas.
- See inspection log within Attachment 1 of this document for the inspection requirements of this BMP.

3. Documentation:

A. The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, as required by the MDEP, provide a completed and signed certification, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they required maintenance or repair, including the record of the deficiency and corrective action(s) taken.

B. A log summarizing the inspections and any corrective action taken must be maintained. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of controls. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. A sample "Stormwater Inspection and Maintenance Form" has been included as Attachment 1 of this Inspection, Maintenance, and Housekeeping Plan.

4. Duration of Maintenance: Perform maintenance as described and required for any associated permits unless and until the system is formally accepted by a municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system. If a municipality or quasi-municipal district chooses to accept a stormwater management system, or a component of a stormwater system, it must provide a letter to the MDEP stating that it assumes responsibility for the system. The letter must specify the components of the system for which the municipality or district will assume responsibility, and that the municipality or district agrees to maintain those components of the system in compliance with MDEP standards. Upon such assumption of responsibility, and approval by the MDEP, the municipality, quasi-municipal district, or association becomes a co-permittee for this purpose only and must comply with all terms and conditions of the permit.

ATTACHMENT 1 – STORMWATER INSPECTION AND MAINTENANCE LOG

Nortey Dental
Wells, Maine

This log is intended to accompany the Inspection, Maintenance, and Housekeeping Plan for the proposed Nortey Dental Wells, Maine. The following items shall be checked, cleaned, and maintained on a regular basis as specified in the Maintenance Plan and as described in the sections below. This log shall be kept on file for a minimum of five (5) years and shall be available for review by the Town of Wells and the Maine DEP. Qualified personnel familiar with the drainage systems and soils shall perform all inspections. A copy of the construction and post-construction maintenance logs are provided.

INSPECTION MAINTENANCE AND HOUSEKEEPING FORM			
General Information			
Project Name:		**Inspection Date:**	
Project Location:		**Current Weather:**	
		Date / Amount Last Precip:	
BMP Owner:		**Company conducting inspection:**	
Owner Mailing Address:		**Company Mailing Address**	
Owner Phone #:		**Company Phone #:**	
Owner Email:		**Inspector Name:**	
		Inspector Email:	

Site Element	Suggested Maintenance (recm'd frequency)	Observations	Inspection Notes/Recommended Action
Vegetated Areas	Inspect Slopes/Embankments for erosion (annually)		
	Replant bare areas or areas of sparse growth (annually)		
Ditches/Swales	Remove obstructions/debris/sediment (monthly)		
	Inspect for erosion/repair as needed (annually)		
	Remove woody vegetation (annually)		
	Mow vegetated ditches (annually)		
Catch Basins	Remove sediment/debris from sump (annually)		
	Remove accumulated debris from inlet grate		
Culverts	Remove sediment/debris from inlet/outlet aprons (annually)		
	Inspect inlet/outlet aprons for erosion, repair as needed (annually)		
	Inspect, repair as needed, riprap aprons for dislodged/sparse coverage (annually)		
Pipe Outlets	Remove sediment/debris from outlet aprons (annually)		
	Inspect outlet aprons for erosion, repair as needed (annually)		
	Inspect, repair as needed, riprap aprons for dislodged/sparse coverage (annually)		

Additional Notes/Observations:

Underdrain Soil Filter

INSPECTION MAINTENANCE AND HOUSEKEEPING FORM			
General Information			
Project Name:		**Inspection Date:**	
Project Location:		**Current Weather:**	
		Date / Amount Last Precip:	
BMP Owner:		**Company conducting inspection:**	
Owner Mailing Address:		**Company Mailing Address**	
Owner Phone #:		**Company Phone #:**	
Owner Email:		**Inspector Name:**	
		Inspector Email:	

BMP Element	Suggested Maintenance (recm'd frequency)	Observations	Inspection Notes/Recommended Action
Forebay/Pretreatment	Sediment/Debris Removal (Annually)		
	Inspect for bare areas or rill erosion (Annually)		
Outlet Control Structure	Sediment Depth (Annually)		
	Floatables/Debris (Annually)		
Discharge Pipe	Ground Stabilized (>1" rain, Annually)		
Emergency Spillway	Review for signs of erosion (Twice Annually)		
	Review for signs of discharge (>1" rain, twice annually)		
Embankments	Review for signs of erosion (Twice Annually)		
Filter Bed	Trim overgrown vegetation with string trimmer (annually)		
	Review basin for evidence of vehicular traffic or storage of snow within footprint (annually)		
	Confirm pond drains in 24-48 hours for water quality volume (annually)		

Additional Notes/Observations:

Appendix 4

Subsurface Investigations

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 York County, Maine



January 28, 2026

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:3,420 if printed on A landscape (11" x 8.5") sheet.

N

0 50 100 200 300 Meters

0 150 300 600 900 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: York County, Maine
Survey Area Data: Version 24, Aug 29, 2025

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AdB	Adams loamy sand, 0 to 8 percent slopes	5.5	18.6%
CrB	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	6.9	23.6%
LnB	Lyman loam, 3 to 8 percent slopes, rocky	12.4	42.3%
LnC	Lyman loam, 8 to 15 percent slopes, rocky	3.5	12.0%
Na	Naumburg sand	1.0	3.5%
Totals for Area of Interest		**29.4**	**100.0%**

Map Unit Descriptions

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.

York County, Maine

AdB—Adams loamy sand, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2wqn9
Landscape: Outwash plains
Elevation: 10 to 2,000 feet
Mean annual precipitation: 31 to 95 inches
Mean annual air temperature: 27 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Adams and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams

Setting

Landscape: Outwash plains
Landform: Outwash terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits

Typical profile

Ap - 0 to 7 inches: loamy sand
Bs - 7 to 21 inches: sand
BC - 21 to 27 inches: sand
C - 27 to 65 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144BY601ME - Dry Sand
Hydric soil rating: No

CrB—Croghan loamy fine sand, 0 to 8 percent slopes, wooded

Map Unit Setting

National map unit symbol: 2wqp0
Landscape: Outwash plains
Elevation: 150 to 2,300 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 90 to 135 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Croghan and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Croghan

Setting

Landscape: Outwash plains
Landform: Outwash deltas, Marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, base slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Sandy glaciofluvial deposits

Typical profile

Oa - 0 to 4 inches: highly decomposed plant material
E - 4 to 6 inches: loamy fine sand
Bs - 6 to 17 inches: loamy fine sand
BC - 17 to 30 inches: fine sand
C - 30 to 65 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Ecological site: F144BY602ME - Sandy Toeslope
Hydric soil rating: No

LnB—Lyman loam, 3 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trq7
Landscape: Glaciated uplands
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 60 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lyman, rocky, and similar soils: 86 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman, Rocky

Setting

Landscape: Glaciated uplands
Landform: Mountains, Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountainbase, mountaintop, crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Brayton, rocky

Percent of map unit: 1 percent
Landscape: Glaciated uplands
Landform: Mountains, Hills
Microfeatures of landform position: Closed depressions, closed depressions
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Mountaintop, mountainbase, crest, side slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

LnC—Lyman loam, 8 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trq9
Landscape: Glaciated uplands
Elevation: 0 to 690 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 60 to 160 days
Farmland classification: Farmland of local importance

Map Unit Composition

Lyman, rocky, and similar soils: 86 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman, Rocky

Setting

Landscape: Glaciated uplands
Landform: Mountains, Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainbase, mountainflank, crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Brayton, rocky

Percent of map unit: 1 percent
Landscape: Glaciated uplands
Landform: Mountains, Hills
Microfeatures of landform position: Open depressions, closed depressions, closed depressions, open depressions
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Mountaintop, mountainbase, mountainflank, crest, side slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Na—Naumburg sand

Map Unit Setting

National map unit symbol: 9k67
Elevation: 10 to 2,800 feet
Mean annual precipitation: 34 to 50 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Naumburg and similar soils: 85 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Naumburg

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from granite and gneiss

Typical profile

Oa - 0 to 2 inches: highly decomposed plant material
H1 - 2 to 9 inches: sand
H2 - 9 to 32 inches: sand
H3 - 32 to 65 inches: sand

Properties and qualities

Slope: 0 to 3 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 (1.42 to 6.00 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Au gres

Percent of map unit: 4 percent
Landform: Outwash deltas, Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Searsport

Percent of map unit: 3 percent
Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave

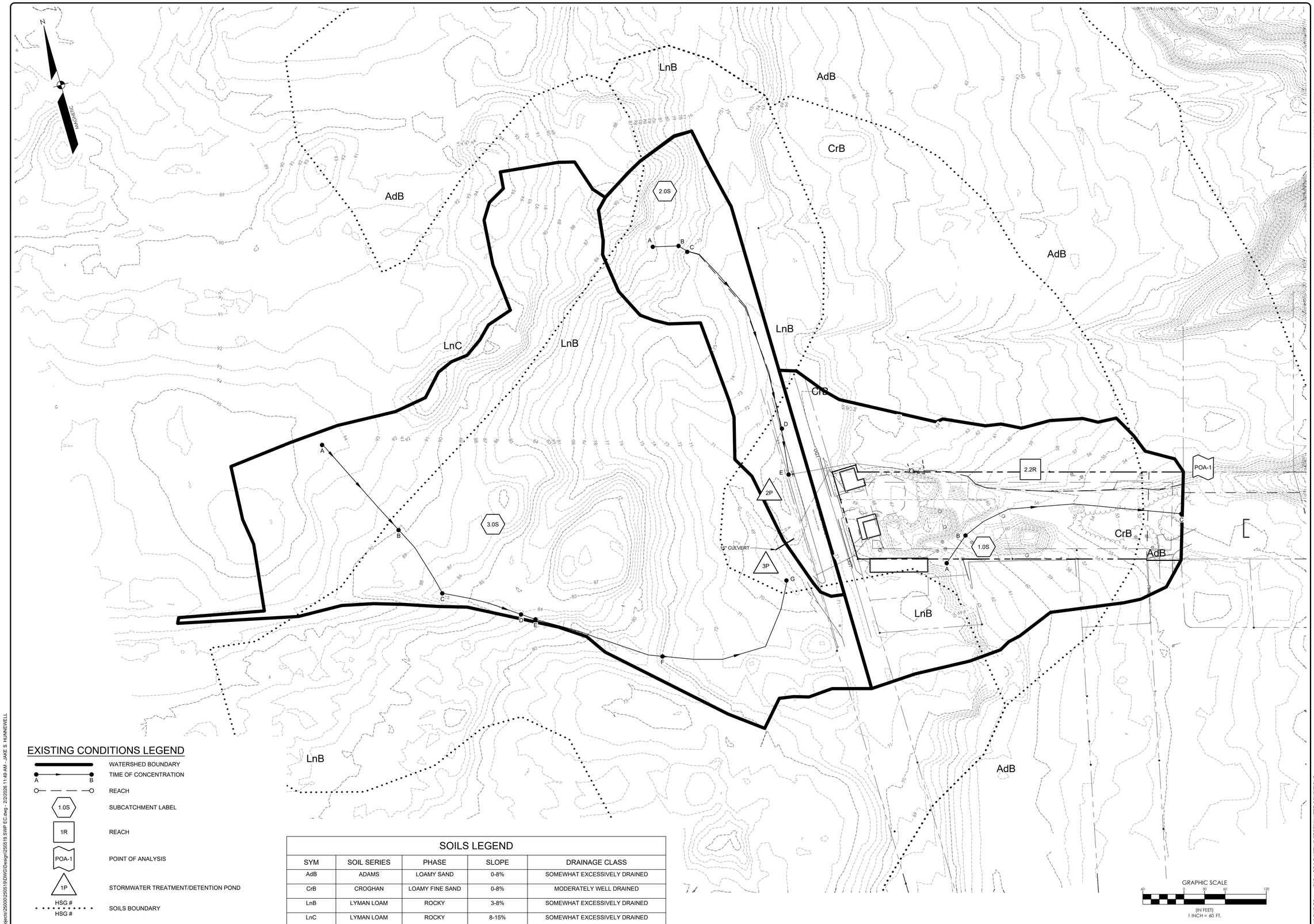
Hydric soil rating: Yes

Chocorua

Percent of map unit: 1 percent
Landform: Bogs
Hydric soil rating: Yes

Appendix 5

Stormwater Management Plans



EXISTING CONDITIONS LEGEND

- WATERSHED BOUNDARY
- TIME OF CONCENTRATION (A — B)
- REACH
- 1.0S — SUBCATCHMENT LABEL
- 1R — REACH
- POA-1 — POINT OF ANALYSIS
- 1P — STORMWATER TREATMENT/DETENTION POND
- HSG # / HSG # — SOILS BOUNDARY

SOILS LEGEND

SYM	SOIL SERIES	PHASE	SLOPE	DRAINAGE CLASS
AdB	ADAMS	LOAMY SAND	0-8%	SOMEWHAT EXCESSIVELY DRAINED
CrB	CROGHAN	LOAMY FINE SAND	0-8%	MODERATELY WELL DRAINED
LnB	LYMAN LOAM	ROCKY	3-8%	SOMEWHAT EXCESSIVELY DRAINED
LnC	LYMAN LOAM	ROCKY	8-15%	SOMEWHAT EXCESSIVELY DRAINED

GRAPHIC SCALE
40 0 20 40 120
(IN FEET)
1 INCH = 60 FT.

STATE OF MAINE
JACOB S. HUNNEWELL
No. 19416
REGISTERED PROFESSIONAL ENGINEER
2/03/2026

ROBERT A. MCSORLEY, PE # 8588
2/03/2026

REV.	BY:	DATE:	STATUS
A	RAM	2/03/2026	SUBMITTED TO THE TOWN OF WELLS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS INC.

SEBAGO TECHNICS
SEBAGOTECHNICS.COM
75 John Roberts Road, Suite 4A
South Portland, ME 04106
207-200-2100
South Portland, Bridgton, Sanford and Bath

EXISTING STORMWATER CONDITIONS

OF:
NORTEY DENTAL
1223-1229 POST ROAD
WELLS, MAINE

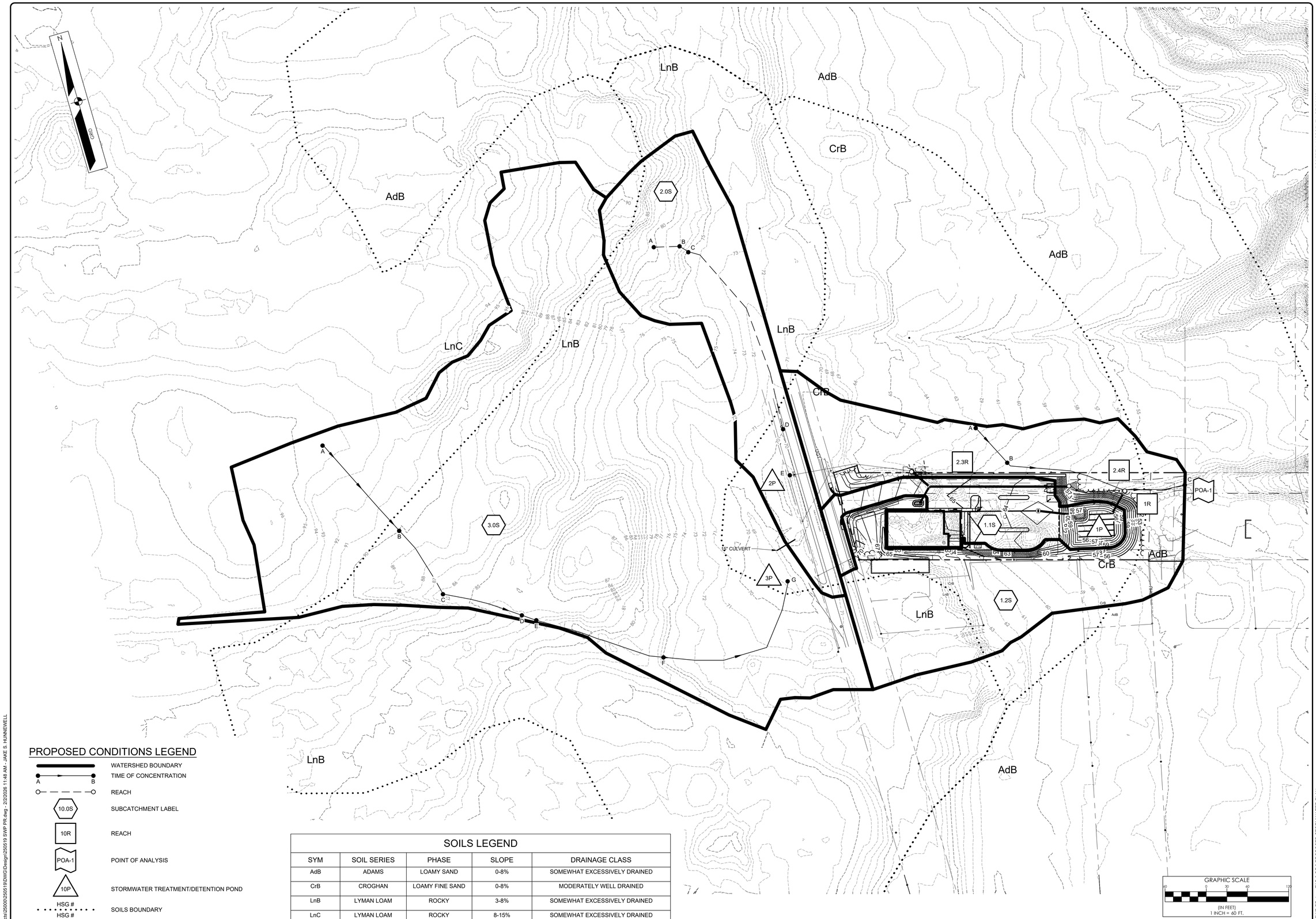
FOR:
NU REAL ESTATE ADVISORS
315 DEWPOINT LANE
JOHNS CREEK, GA 30022

DESIGNED	JSH
DRAWN	RGL
CHECKED	RAM
DATE	12/23/2025
SCALE	1" = 60'
PROJECT	250519

SHEET 1 OF 2

F:\Projects\250000\250519\DWG\Design\250519 SWP EC.dwg - 2/2/2026 11:49 AM - JAKE S. HUNNEWELL

250519 SWP EC.dwg, TAB:1 OF 2 EXISTING STORMWATER CONDITIONS



PROPOSED CONDITIONS LEGEND

- WATERSHED BOUNDARY
- TIME OF CONCENTRATION (A — B)
- REACH
- 10.0S — SUBCATCHMENT LABEL
- 10R — REACH
- POA-1 — POINT OF ANALYSIS
- 10P — STORMWATER TREATMENT/DETENTION POND
- HSG # / HSG # — SOILS BOUNDARY

SOILS LEGEND

SYM	SOIL SERIES	PHASE	SLOPE	DRAINAGE CLASS
AdB	ADAMS	LOAMY SAND	0-8%	SOMEWHAT EXCESSIVELY DRAINED
CrB	CROGHAN	LOAMY FINE SAND	0-8%	MODERATELY WELL DRAINED
LnB	LYMAN LOAM	ROCKY	3-8%	SOMEWHAT EXCESSIVELY DRAINED
LnC	LYMAN LOAM	ROCKY	8-15%	SOMEWHAT EXCESSIVELY DRAINED

STATE OF MAINE — JACOB S. HUNNEWELL — No. 19416 — REGISTERED PROFESSIONAL ENGINEER — 2/03/2026

ROBERT A. MCSORLEY, PE # 8588 — 2/03/2026

REV.	BY:	DATE:	STATUS
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SEBAGO TECHNICS
SEBAGOTECHNICS.COM
75 John Roberts Road, Suite A
South Portland, ME 04106
207-200-2100
South Portland, Bridgton, Sanford and Bath

PROPOSED STORMWATER PLAN

OF:
NORTEY DENTAL
1223-1229 POST ROAD
WELLS, MAINE

FOR:
NU REAL ESTATE ADVISORS
315 DEWPOINT LANE
JOHNS CREEK, GA 30022

DESIGNED	JSH
DRAWN	RGL
CHECKED	RAM
DATE	12/23/2025
SCALE	1" = 60'
PROJECT	250519

SHEET 2 OF 2

F:\Projects\250000\250519\DWG\Design\250519 SWP PR.dwg - 2/2/2026 11:48 AM - JAKE S. HUNNEWELL

250519 SWP PR.dwg, TAB 2 OF 2 PROPOSED STORMWATER PLAN

Exhibit 8

HOA or Condominium Documents

Exhibit 8

HOA or Condominium Documents

Because the use of the site is not residential in nature, also not proposing a condominium development, this standard is not applicable.

Exhibit 9

Abutter Information

Exhibit 9

Abutter Information

Enclosed in this exhibit are a list of abutters within 200 feet of the subject site, as well as an abutters map with the same radius.

200 feet Abutters List Report

Wells, ME
November 06, 2025

Subject Properties:

Parcel Number:	0126-020	Mailing Address:	DARLING, MARILYN
CAMA Number:	126-020		111 DARLING DR
Property Address:	1229 POST RD		WELLS, ME 04090
Parcel Number:	0126-021	Mailing Address:	DARLING, MARILYN
CAMA Number:	126-021		111 DARLING DR
Property Address:	1223 POST RD		WELLS, ME 04090

Abutters:

Parcel Number:	0126-005	Mailing Address:	FINNELL, SUZANN
CAMA Number:	126-005		1206 POST RD
Property Address:	1206 POST RD		WELLS, ME 04090
Parcel Number:	0126-006	Mailing Address:	MORSE, SAMUEL A
CAMA Number:	126-006		1244 POST RD
Property Address:	1244 POST RD		WELLS, ME 04090
Parcel Number:	0126-018	Mailing Address:	A M MORSE & SON LLC
CAMA Number:	126-018		1274 POST RD
Property Address:	1259 POST RD		WELLS, ME 04090
Parcel Number:	0126-019	Mailing Address:	LANE, JOAN L
CAMA Number:	126-019		PO BOX 723
Property Address:	1239 POST RD		WELLS, ME 04090-0723
Parcel Number:	0126-019-A	Mailing Address:	LANE, JOAN L
CAMA Number:	126-019-A		PO BOX 723
Property Address:	1245 POST RD		WELLS, ME 04090
Parcel Number:	0126-019-B	Mailing Address:	LANE, JOAN L
CAMA Number:	126-019-B		PO BOX 723
Property Address:	0 POST RD		WELLS, ME 04090-0723
Parcel Number:	0126-020-A	Mailing Address:	DARLING, MARILYN
CAMA Number:	126-020-A		111 DARLING DR
Property Address:	0 TIDAL CT		WELLS, ME 04090
Parcel Number:	0126-020-A	Mailing Address:	BANKS, FRANCES
CAMA Number:	126-020-A-L		PO BOX 374
Property Address:	12 TIDAL CT		WELLS, ME 04090
Parcel Number:	0126-020-B	Mailing Address:	LEDGE LANE LLC
CAMA Number:	126-020-B		1865 NORTH BERWICK RD
Property Address:	68 BAYVIEW TER		WELLS, ME 04090

200 feet Abutters List Report

Wells, ME
November 06, 2025

Parcel Number:	0126-022	Mailing Address:	THORNTON, KATHLEEN M
CAMA Number:	126-022		PO BOX 881
Property Address:	1213 POST RD		WELLS, ME 04090
Parcel Number:	0126-022-A	Mailing Address:	RAMSDELL, GLENN C RAMSDELL, ELIZABETH A
CAMA Number:	126-022-A		125 BELLE ISLE CIR
Property Address:	1217 POST RD		NAPLES, FL 34112
Parcel Number:	0126-023	Mailing Address:	KERSHAW, DAVID W TRUSTEE
CAMA Number:	126-023		KERSHAW REVOCABLE REAL ESTATE TRUST
Property Address:	1205 POST RD		PO BOX 100
			WELLS, ME 04090
Parcel Number:	0126-024	Mailing Address:	SACCONE, DAVID R
CAMA Number:	126-024		2455 FINLANDIA LN APT 23
Property Address:	48 BAYVIEW TER		CLEARWATER, FL 33763
Parcel Number:	0126-025	Mailing Address:	LIVERNOIS, JASON A LIVERNOIS, JESSICA J
CAMA Number:	126-025		58 BAYVIEW TER
Property Address:	58 BAYVIEW TER		WELLS, ME 04090
Parcel Number:	0126-026	Mailing Address:	CHURCHILL, CARLA PETERSON CHURCHILL, RICKEY MICHAEL
CAMA Number:	126-026		64 BAYVIEW TER
Property Address:	64 BAYVIEW TER		WELLS, ME 04090
Parcel Number:	0126-027	Mailing Address:	ESTES, MARYANNE TRUSTEE
CAMA Number:	126-027		MARYANNE ESTES REVOCABLE TRUST
Property Address:	80 BAYVIEW TER		23 ATLANTIC AVE
			WELLS, ME 04090
Parcel Number:	0126-028	Mailing Address:	JEFFERSON, GWEN E JEFFERSON, ROBERT J
CAMA Number:	126-028		27 PARK CIRCLE
Property Address:	88 BAYVIEW TER		ARLINGTON, MA 02476
Parcel Number:	0126-031	Mailing Address:	LAFRAMBOISE, CECILE M
CAMA Number:	126-031		KITTERY ESTATES 220 STATE RD APT 220
Property Address:	87 BAYVIEW TER		KITTERY, ME 03904
Parcel Number:	0126-032	Mailing Address:	GALLANT, DAVID L JR SAVOIE, BEVERLY J
CAMA Number:	126-032		79 BAYVIEW TER
Property Address:	79 BAYVIEW TER		WELLS, ME 04090
Parcel Number:	0043-007-C	Mailing Address:	MORSE, SETH E
CAMA Number:	43-007-C		29 CHAPEL RD
Property Address:	29 CHAPEL RD		WELLS, ME 04090

Nortey Dental Abutter Map (200')

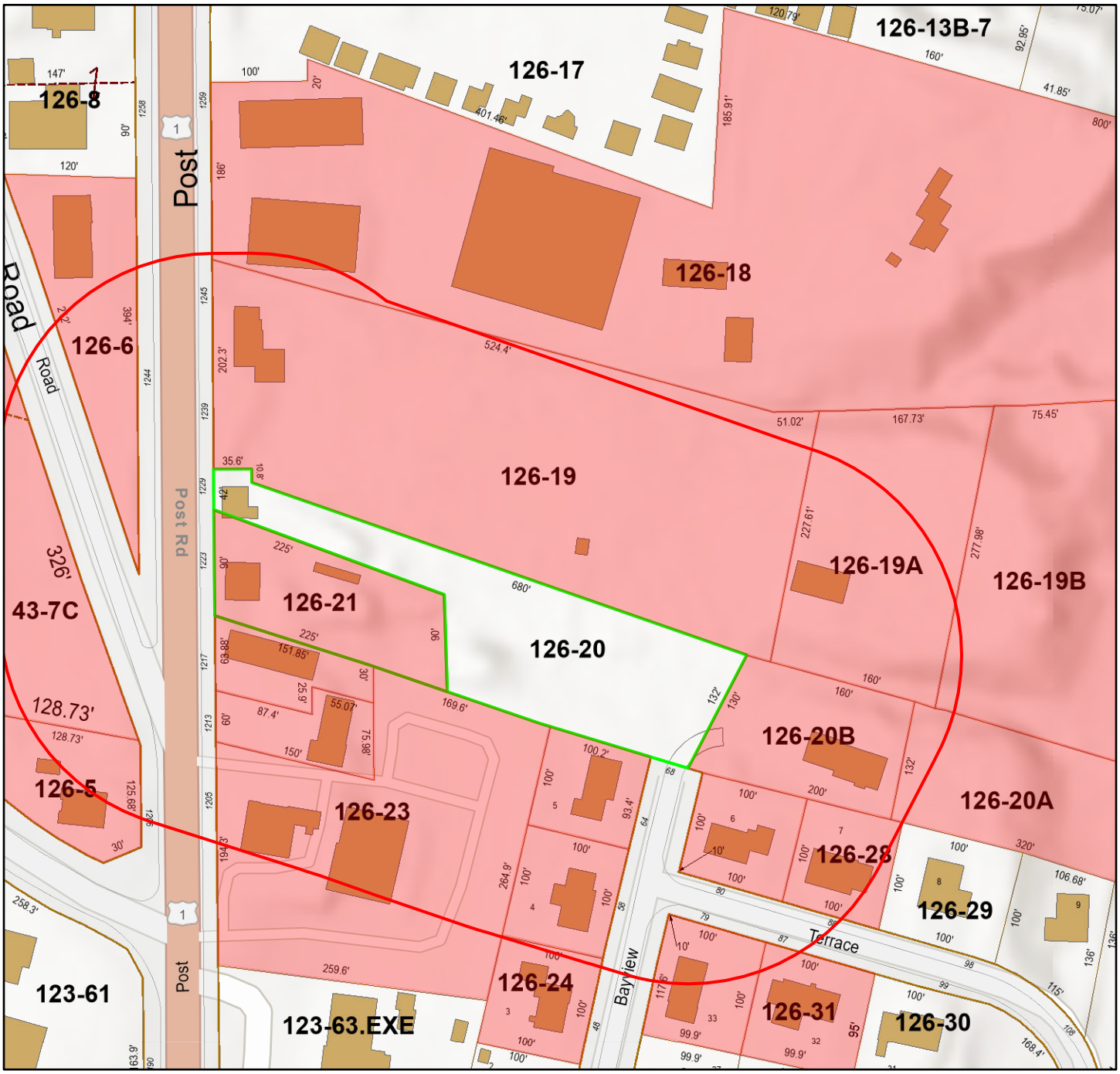
Wells, ME

1 inch = 138 Feet

0 138 276 414

November 19, 2025

CAI Technologies
Precision Mapping. Geospatial Solutions.
www.cai-tech.com



CAI Town Line
Property Line
Public Road
PropNotPar
Property Hook
Tract Line
Travel Way
Map & Lot
Buildings
Right of Ways

Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

Exhibit 10

Soils Information

Exhibit 10

Soils Information

Please find in this exhibit soil log information, as well as a report generated from the Web Soil Survey regarding on-site soils.

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 York County, Maine



December 15, 2025

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: York County, Maine
Survey Area Data: Version 24, Aug 29, 2025

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AdB	Adams loamy sand, 0 to 8 percent slopes	0.2	12.6%
CrB	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	1.3	87.4%
Totals for Area of Interest		**1.4**	**100.0%**

Map Unit Descriptions

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,

York County, Maine

AdB—Adams loamy sand, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2wqn9
Elevation: 10 to 2,000 feet
Mean annual precipitation: 31 to 95 inches
Mean annual air temperature: 27 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Adams and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams

Setting

Landform: Outwash terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits

Typical profile

Ap - 0 to 7 inches: loamy sand
Bs - 7 to 21 inches: sand
BC - 21 to 27 inches: sand
C - 27 to 65 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144BY601ME - Dry Sand
Hydric soil rating: No

CrB—Croghan loamy fine sand, 0 to 8 percent slopes, wooded

Map Unit Setting

National map unit symbol: 2wqp0
Elevation: 150 to 2,300 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 90 to 135 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Croghan and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Croghan

Setting

Landform: Outwash deltas, marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, base slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Sandy glaciofluvial deposits

Typical profile

Oa - 0 to 4 inches: highly decomposed plant material
E - 4 to 6 inches: loamy fine sand
Bs - 6 to 17 inches: loamy fine sand
BC - 17 to 30 inches: fine sand
C - 30 to 65 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Ecological site: F144BY602ME - Sandy Toeslope
Hydric soil rating: No

FORM F 250519

SOIL PROFILE/CLASSIFICATION INFORMATION

Detailed Description of Subsurface Conditions at Project Sites

Project Name:	Applicant Name:	Project Location (municipality):
NORTEY DENTAL	NU REAL ESTATE ADVISORS	WELLS

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-1 ■ Test Pit ☐ Boring

1-2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistence	Color	Redox
		10YR 3/2	
SANDY LOAM			
		VERY DARK	
		GRAYISH BROWN	
	FRIABLE		
		10YR 4/6	
GRAVELLY		DARK YELLOWISH	
LOAMY SAND		BROWN	
		2.5Y 5/6	
GRAVELLY SAND	CEMENTED	LIGHT OLIVE	COMMON, MEDIUM
		BROWN	AND DISTINCT
		7.5YR 3/3	
COARSE SAND		DARK BROWN	

LIMIT OF EXCAVATION = 92"

hydric	Slope %	Limiting factor	ground water
■ non-hydric	0-3	36"	■ restrictive layer
			☐ bedrock

L.S.S. Soil Series / phase name: CROGHAN | MWD Drainage Class | A Hydrologic Group

L.S.E. Soil Classification: _____ Profile | _____ Drainage Condition

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: TP-2 ■ Test Pit ☐ Boring

1-2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistence	Color	Redox
		10YR 3/3	
SANDY LOAM			
		DARK BROWN	
	FRIABLE		
LOAMY SAND		10YR 5/6	
		YELLOWISH	
		BROWN	
GRAVELLY SAND		2.5Y 5/6	
		LIGHT OLIVE	
		BROWN	COMMON, MEDIUM
		2.5Y 5/4	AND DISTINCT
MEDIUM SAND	CEMENTED	LIGHT OLIVE	
		BROWN	
		7.5YR 3/4	
COARSE SAND		DARK BROWN	

hydric	Slope %	Limiting factor	ground water
■ non-hydric	0-3	30"	■ restrictive layer
			☐ bedrock

L.S.S. Soil Series / phase name: CROGHAN | MWD Drainage Class | A Hydrologic Group

L.S.E. Soil Classification: _____ Profile | _____ Drainage Condition

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: _____ ☐ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistence	Color	Redox

hydric	Slope %	Limiting factor	ground water
☐ non-hydric	_____	_____	☐ restrictive layer
			☐ bedrock

L.S.S. Soil Series / phase name: _____ Drainage Class | _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile | _____ Drainage Condition

SOIL DESCRIPTION AND CLASSIFICATION

Exploration Symbol: _____ ☐ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)

Texture	Consistence	Color	Redox

hydric	Slope %	Limiting factor	ground water
☐ non-hydric	_____	_____	☐ restrictive layer
			☐ bedrock

L.S.S. Soil Series / phase name: _____ Drainage Class | _____ Hydrologic Group

L.S.E. Soil Classification: _____ Profile | _____ Drainage Condition

Professional Endorsements *(as applicable)*

L.S.S. signature: [signature] Date: 11/13/25

name printed/typed: Gary M. Fullerton Lic.#: 462

L.S.E. signature: Date:

name printed/typed: Lic.#:

STATE OF MAINE GARY M. FULLERTON NO. 462 LICENSED SOIL SCIENTIST

affix professional seal

Exhibit 11

Proposed Easements

Exhibit 11

Proposed Easements

Attached are draft easements for the project; they include the following:

1. Construction easement to connect to the existing culvert on the adjacent property to the north.
2. Drainage easement for runoff from the adjacent through the proposed culvert and existing drainage ditch on the property.
3. Access and maintenance easements for property encroachments of building and lighting from adjacent two properties adjacent to the south property line.

Preliminary conversations were held with the abutter's representatives at the site walk relative to the proposed easements to connect to the existing culvert. We will work with them relative to the easement and the necessary permit for the Army Corps of Engineers to make the proposed connection.

TEMPORARY CONSTRUCTION EASEMENT

KNOW ALL PERSONS BY THESE PRESENTS,

THAT Joan L. Lane, of Wells, York County, Maine, for consideration paid, grants to **Nortey Dental, PLLC**, a Maine limited liability company with a mailing address of 1332 Post Road, Wells, ME 04090, its agents, servants, contractors and employees, an easement for access to, on and over the real property of the Grantor described in a deed dated February 6, 2009, recorded in the York Registry of Deeds in Book 15559, Page 526, for the purpose of repairing and/or replacing the 15" HDPE and associated outlet pipe located on the property of the Grantor in the highlighted area shown on Exhibit A annexed hereto and made a part hereof.

Said right of access shall include the right to enter onto the said real estate with construction and excavation equipment, and to do other acts necessary and appropriate to repair and/or replace the 15" HDPE and associated outlet pipe. The condition of this right of access is that the Grantee covenants and agrees to restore said real estate to a condition similar to the condition it was in prior to such construction, subject, nevertheless, to the changes incident to the repair and replacement of the 15" HDPE and associated outlet pipe. This right of access shall commence as of the date hereof and shall continue until said project is complete or within eighteen months, whichever shall first occur.

Witness my hand and seal this day of the month of _____. 2026.

Signed, Sealed and Delivered
in presence of

_____ _____
Joan L. Lane

STATE OF MAINE
COUNTY OF YORK, ss. , 2026

Personally appeared the above-named Joan L. Lane and acknowledged the foregoing instrument to be her free act and deed.

_____
Notary Public/Attorney at Law

Print Name: _____
My commission expires:

EASEMENT DEED
KNOW ALL PERSONS BY THESE PRESENTS,

THAT NORTEY DENTAL, PLLC, a Maine limited liability company with offices in Wells, in the County of York and State of Maine, for consideration paid, grants to **JOAN L. LANE**, whose mailing address is PO Box 723, Wells, ME 04090, her heirs and assigns forever, a perpetual easement in common with the Grantor and others to flow storm and surface water to, across and through the historically preexisting drainage swale located on property of Nortey Dental, PLLC, described in a deed recorded in the York County Registry of Deeds in Book ___, Page ___, the location of which is shown as the cross-hatched area on Exhibit ___ annexed hereto and made a part hereof.

Together with the right to enter upon the said easement area with men, machinery and equipment, for the purpose of repairing and maintaining such drainage swale; provided that, by acceptance of this deed, the Grantee, her heirs and assigns, covenants that she shall restore any damage or disturbance of the surface of the ground in as good condition as when entered upon by the Grantee or her agents.

IN WITNESS WHEREOF, Nortey Dental, PLLC has caused this instrument to be signed by _____, its Manager thereunto duly authorized this day of _____ 2026.

Signed, Sealed and Delivered
in presence of

Nortey Dental, PLLC

_____ by:_____

Its Manager, duly authorized

STATE OF MAINE
COUNTY OF YORK, ss. , 2026

Personally appeared the above named _____ in his capacity as Manager of Nortey Dental, PLLC, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of Nortey Dental, PLLC.

_____
Notary Public/Attorney at Law

Print Name: _____

My commission expires:

Return to:

EASEMENT DEED
KNOW ALL PERSONS BY THESE PRESENTS,

THAT Nortey Dental, PLLC, a Maine limited liability company with offices in Wells, in the County of York and State of Maine, for consideration paid, grants to **David W. Kershaw as Trustee of the Kershaw Revocable Real Estate Trust, u/a dated July 18, 2019,** of Wells, in the County of York and State of Maine, its successors and assigns, the right and easement to enter upon the property of the Grantor for the purpose of repairing and maintaining seven existing light poles and lights located along the northerly property line of the Grantee, described in a deed recorded in the York County registry of Deeds in Book 19461, Page 46, and the southerly property line of the Grantor. The location of the poles and lights are shown on Exhibit A annexed hereto and made a part hereof and the easement area is depicted as the cross-hatched area on Exhibit A.

Together with the right to enter upon the said easement area with men, machinery and equipment, for the purpose of repairing and maintaining such poles and lights; provided that, by acceptance of this deed, the Grantee, its successors and assigns, covenants that it shall immediately restore any damage or disturbance of the surface of the ground in the easement area in as good condition as when entered upon by the Grantee or its agents; and provided, further, that this easement shall be of indefinite duration and shall terminate when such poles and lights are no longer operational or repairable without replacement.

IN WITNESS WHEREOF, Nortey Dental, PLLC has caused this instrument to be signed by _____, its Manager thereunto duly authorized this day of _____ 2026.

Signed, Sealed and Delivered
in presence of

Nortey Dental, PLLC

_____ by:_____

Its Manager, duly authorized

STATE OF MAINE
COUNTY OF YORK, ss. , 2026

Personally appeared the above named _____ in his capacity as Manager of Nortey Dental, PLLC, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of Nortey Dental, PLLC.

_____
Notary Public/Attorney at Law

Print Name: _____

My commission expires:

Return to:

EASEMENT DEED
KNOW ALL PERSONS BY THESE PRESENTS,

THAT Nortey Dental, PLLC, a Maine limited liability company with offices in Wells, in the County of York and State of Maine, for consideration paid, grants to **Glenn C. Ramsdell and Elizabeth A. Ramsdell**, of Wells**,** in the County of York and State of Maine, their heirs and assigns forever, the right and easement to enter upon the property of the Grantor for the purpose of repairing, replacing and maintaining the building structure and repairing and maintaining an air conditioning unit located on, along and over the northerly property line of the Grantees, described in a deed recorded in the York County Registry of Deeds in Book 16789, Page 86, and the southerly property line of the Grantor. The location of the said building structure and air conditioning unit is shown on Exhibit A annexed hereto and made a part hereof and the easement area is depicted as the cross-hatched area on Exhibit A. This easement shall be of indefinite duration and shall terminate in respect to the air conditioning unit when such unit is no longer operational or repairable without replacement.

Together with the right to enter upon the said easement area with men, machinery and equipment, for the purpose of repairing and maintaining such structure; provided that, by acceptance of this deed, the Grantees, their heirs and assigns, covenant that they shall immediately restore any damage or disturbance to the surface of the ground in the easement area to as good condition as when entered upon by the Grantees or their agents.

IN WITNESS WHEREOF, Nortey Dental, PLLC has caused this instrument to be signed by _____, its Manager thereunto duly authorized this day of _____ 2026.

Signed, Sealed and Delivered
in presence of

Nortey Dental, PLLC

_____ by:_____

Its Manager, duly authorized

STATE OF MAINE
COUNTY OF YORK, ss. , 2026

Personally appeared the above named _____ in his capacity as Manager of Nortey Dental, PLLC, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of Nortey Dental, PLLC.

_____
Notary Public/Attorney at Law

Print Name: _____

My commission expires:

Return to:

Exhibit 12

Other Permits/Approvals

Exhibit 12

Other Permits/Approvals

This project will require approval from the U.S. Army Corps of Engineers (ACOE) relative to wetland impacts as seen on the attached plan set. In this exhibit, please find a copy of the forms submitted to them through their RRS portal.

Appendix B. Aquatic Resource Inventory:

Aquatic Resource Name	*State*	*Cowardin System*	*Cowardin Class*	*HGM Class*	*Local Waterway Name*	*Measurement Type*	*Measurement Amount*	*Measurement Units*	*Waters Type*	*Latitude*	*Longitude*
Unnamed Wetland	MAINE					Area	130	SQ_FT		43.3113337	-70.5842792

Draft

Appendix C. Impact Inventory:

Water Name	*Impact Name*	*Activity*	*Type of Material Being Discharged*	*Resource Type*	*Permanent Loss (Y/N)*	*Impact Duration*	*Amount Type*	*Proposed Length*	*Proposed Width*	*Proposed Amount*	*Amount Units*
Unnamed Wetland	Fill	Discharge of fill material	Fill from Construction	Non-Tidal Wetland	No	Temporary	Fill Area			183	Square Feet

Provide any additional information you may have about the proposed quantity of wetlands, streams, or other types of waters directly affected by the proposed activity. This level of detail is helpful to better understand the type of impacts that are proposed for your project.

Temporary Wetland Impact on the northerly side of the property of ~183 square feet.

Draft

Definitions and help text

Water Name: The name of the wetland, stream, or other type of water that would be impacted.

Impact Name: Useful if entering more than one impact for the same or multiple waters (e.g., linear projects) and name accordingly. This may be different than the Water Name; keep it short and simple. For example, if Stream-1 is the water, the impact name could be “Crossing-1,” “Crossing-2,” “Crossing-3.” A short name helps describe the impact and is useful when looking at a list of impacts.

Activity: Options are:

- Conversion of waters type (forested wetland to emergent wetland, stream to lake)
- Discharge of dredged material
- Discharge of fill material
- Dredging (Section 10)
- Ecological restoration
- Other (Aquaculture, Work, Aerial or Submarine cable crossings)
- Removal (Sec 10 structures)
- Structure (Sec 10 only)
- Transport of dredged material (Sec 103)

Type of Material Being Discharged: Describe the material to be discharged within USACE jurisdiction. Make sure this description is consistent with your illustrations. Discharge material includes: rock, sand, clay, concrete, etc.

Resource Type: Options are Harbor/Ocean, Lake, Non-Tidal wetland, Other, Pond, River/Stream, and Tidal wetland.

Permanent Loss (Y/N): Only enter “YES” when the ‘discharge of dredged or fill material’ activity types are chosen. A permanent loss means the conversion of an aquatic resource to dry land.

Impact Duration: Options are Permanent or Temporary. An example of a temporary impact is the discharge of fill for temporary access roads that are later removed and returned to pre-construction contours.

Amount Type: Options are Area or Volume.

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Amount Units: Options are Acre or Square Feet if Amount Type=Area, Cubic Yards if Amount Type=Volume.

Proposed Length and Proposed Width: Unit is linear feet.

Proposed Amount: Unit is square feet.

Draft

Appendix H. Supporting Information:

Document Type	*Document Created Date (YYYY-MM-DD)*	*Document Label*	*Information Source/Citation*	*Uploaded file name*
Endangered Threatened Species Information	2025-10-31	DIFW Correspondence	Maine DIFW	DIFW_Outgoing.pdf
Endangered Threatened Species Information	2025-10-31	DIFW Correspondence	Maine DIFW	MDIFWResponse_ERid9591_ERVerID11135-FINAL.pdf
Historic Properties Cultural Resources Information	2025-10-17	MHPC Correspondence	MHPC	MHPC Response.pdf
Endangered Threatened Species Information	2025-10-06	MNAP Correspondence	Maine Natural Areas Program	MNAP Response 10-6-25.pdf
Endangered Threatened Species Information	2025-10-06	MNAP Correspondence	Maine Natural Areas Program	MNAP_Outgoing.pdf
Historic Properties Cultural Resources Information	2025-10-03	Maliseet Correspondence	Maliseets	Maliseets Outgoing.pdf
Historic Properties Cultural Resources Information	2025-10-03	MicMac Correspondence	MicMac	Micmac_Outgoing.pdf
Historic Properties Cultural Resources Information	2025-10-31	Passamaquoddy	Passamaquoddy	Passamaquoddy Outgoing.pdf
Historic Properties Cultural Resources Information	2025-10-31	Penobscot Correspondence	Penobscot Nation	Penobscot Nation_250519.pdf
Endangered Threatened Species Information	2025-10-31	DIFW Correspondence	Maine DIFW	Project Map_ERid9591_ERVerID11135.pdf

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U.S. Army Corps of Engineers (USACE)

NATIONWIDE PERMIT PRE-CONSTRUCTION NOTIFICATION (PCN)

For use of this form, see 33 CFR 330; the proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003
Expires: 2027-10-31

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Regulatory Program of the Corps of Engineers (Corps); Final Rule 33 CFR 320-332.

Principal Purpose Information provided on this form will be used in evaluating the nationwide permit pre-construction notification.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of the agency coordination process.

Disclosure Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can

The public reporting burden for this collection of information, 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR RESPONSE TO THE ABOVE EMAIL.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (*see sample drawings and/or instructions*) and be submitted to the district engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
		01/29/2026	

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (*agent is not required*)
First – Nii Middle – Last – Lokko	First – Robert Middle – A. Last – McSorley
Company – Nortey Dental, PLLC	Company – Sebago Technics, Inc.
Company Title –	E-mail Address – rmcsorley@sebagotechnics.com
E-mail Address – info@norteydental.com	
6. APPLICANT'S ADDRESS	**9. AGENT'S ADDRESS**
Address – 1332 Post Rd Ste 1	Address – 75 John Roberts Rd Ste 4 A
City – Wells State – ME ZIP – 04090 Country – US	City – S Portland State – ME ZIP – 04106 Country – US
7. APPLICANT'S PHONE NOs. with AREA CODE	**10. AGENT'S PHONE NOs. with AREA CODE**
a. Business b. c. Fax	a. Business b. c. Fax
+12076465297	+12072002074

Draft

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Robert A. McSorley to act in my behalf as my agent in the processing of this nationwide permit pre-construction notification and to furnish, upon request, supplemental information in support of this nationwide permit pre-construction notification.

/s/ - provided on authorized agent form 01/29/2026

SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME or TITLE (*see instructions*)

Nortey Dental Office

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

13. NAME OF WATERBODY, IF KNOWN (*if applicable*)

14. PROPOSED ACTIVITY STREET ADDRESS (*if applicable*)

Address: 1223 Post Rd

15. LOCATION OF PROPOSED ACTIVITY (*see instructions*)

Latitude: 43.3110431 °N Longitude: -70.5844866 °W

City: Wells State: ME Zip: 04090

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (*see instructions*)

Section – Township – Range –

County – York County Project Area – 1.44 Acres State Tax Parcel ID – M 126 L 20, 21

17. DIRECTIONS TO THE SITE

Get on ME-703 from Philbrook Ave
4 min (1.0 mi)

Follow I-95 S/Maine Turnpike to Wells. Take exit 19 from I-95 S/Maine Turnpike
23 min (25.8 mi)

Continue on ME-109 S/ME-9 E/Sanford Rd. Drive to Post Rd/U.S. Rte 1 S
5 min (2.4 mi)

Turn left onto ME-109 S/ME-9 E/Sanford Rd

1.6 mi

Turn right onto Post Rd/U.S. Rte 1 S
Destination will be on the left

18. IDENTIFY THE SPECIFIC NATIONWIDE PERMIT(S) YOU PROPOSE TO USE

I'm not sure

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19. DESCRIPTION OF PROPOSED NATIONWIDE PERMIT ACTIVITY (*see instructions*)

Proposed minor wetland fill to connect to and extend existing culvert through proposed development.
The project will consist of demolishing the existing print shop, and residence located on the separate lots. Also, construction of a 5,400 square foot dental office to expand Nortey Dental's existing practice. No fill or pile or float supported platform. 26 parking spaces are proposed to accommodate the demand from day-to-day operations and appointments.

20. DESCRIPTION OF PROPOSED MITIGATION MEASURES (*see instructions*)

Please see erosion control notes and details.

21. PURPOSE OF NATIONWIDE PERMIT ACTIVITY (*Describe the reason or purpose of the project, see instructions*)

The purpose of the proposed project is to relocate Nortey Dental's existing dental practice. The office space will be used by them and their customers. A parking area will be paved outside of the office, utilities will be tied in along Post Road to the building.

22. QUANTITY OF WETLANDS, STREAMS, OR OTHER TYPES OF WATERS DIRECTLY AFFECTED BY PROPOSED NATIONWIDE PERMIT ACTIVITY (*see instructions*)

Acres | Linear Feet | Cubic Yards Dredged or Discharged

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site.

23. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. (*see instructions*)

24. If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and/or the loss of greater than 3/100-acre of stream bed and requires pre-construction notification, explain how the compensatory mitigation requirement in paragraph (c) and/or paragraph (d) of general condition 23 will be satisfied, or explain why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required for the proposed activity.

25. Is any portion of the nationwide permit activity already complete? ☐ Yes ☑ No

If Yes, describe the completed work:

26. List the name(s) of any species listed as endangered or threatened under the Endangered Species Act that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. (*see instructions*)

Piping Plover,Monarch butterfly,Tricolored bat
ADDITIONAL AFFECTED SPECIES:
The three species above match iPAC species list generated.

27. List any historic properties that have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic property or properties. (*see instructions*)

Letter sent to MHPC 10-3-25, response from MHPC 10-15 saying no historic properties expected to be affected.

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28. For a proposed NWP activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, identify the Wild and Scenic River or the "study river":

29. If the proposed NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, have you submitted a written request for section 408 permission from the Corps district having jurisdiction over that project? ☐ Yes ☑ No

If "yes", please provide the date your request was submitted to the Corps district:

30. If the terms of the NWP(s) you want to use require additional information to be included in the PCN, please include that information in this space or provide it on an additional sheet of paper marked Block 30. (*see instructions*)

31. Pre-construction notification is hereby made for one or more nationwide permit(s) to authorize the work described in this notification. I certify that the information in this pre-construction notification is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

/s/ - provided on authorized agent form		Robert A. McSorley	01/29/2026
SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE

The pre-construction notification must be signed by the person who desires to undertake the proposed activity (applicant) and, if the statement in Block 11 has been filled out and signed, the authorized agent.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

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Instructions for Preparing a

Department of the Army

Nationwide Permit (NWP) Pre-Construction Notification (PCN)

Blocks 1 through 4. To be completed by the Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the e-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the preconstruction notification, please attach a sheet of paper with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the PCN. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant's Telephone Number(s). Please provide the telephone number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, consultant, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by the applicant, if an agent is to be employed.

Block 12. Proposed Nationwide Permit Activity Name or Title. Please provide a name identifying the proposed NWP activity, e.g., Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

Block 13. Name of Waterbody. Please provide the name (if it has a name) of any stream, lake, marsh, or other waterway to be directly impacted by the NWP activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Activity Street Address. If the proposed NWP activity is located at a site having a street address (not a box number), please enter it in Block 14.

Block 15. Location of Proposed Activity. Enter the latitude and longitude of where the proposed NWP activity is located. Indicate whether the project location provided is the center of the project or whether the project location is provided as the latitude and longitude for each of the "corners" of the project area requiring evaluation. If there are multiple sites, please list the latitude and longitude of each site (center or corners) on a separate sheet of paper and mark as Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality where the site is located.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed NWP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed NWP activity site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed NWP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

Block 18. Identify the Specific Nationwide Permit(s) You Propose to Use. List the number(s) of the Nationwide Permit(s) you want to use to authorize the proposed activity (e.g., NWP 29).

Block 19. Description of the Proposed Nationwide Permit Activity. Describe the proposed NWP activity, including the direct and indirect adverse environmental effects the activity would cause. The description of the proposed activity should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal. Identify the materials to be used in construction, as well as the methods by which the work is to be done.

Provide sketches when necessary to show that the proposed NWP activity complies with the terms of the applicable NWP(s). Sketches usually clarify the activity and result in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed NWP activity (e.g.,a conceptual plan), but do not need to be detailed engineering plans.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19.

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Block 20. Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed NWP activity. The description of any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or additional mitigation measures.

Block 21. Purpose of Nationwide Permit Activity. Describe the purpose and need for the proposed NWP activity. What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

Block 22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by the Proposed Nationwide Permit Activity. For discharges of dredged or fill material into waters of the United States, provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed NWP activity. For structures or work in navigable waters of the United States subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, or occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed NWP activity.

For multiple NWPs, or for separate and distant crossings of waters of the United States authorized by NWPs 12 or 14, attach an extra sheet of paper marked Block 21 to provide the quantities of wetlands, streams, or other types of waters filled, flooded, excavated, or drained (or dredged or occupied by structures, if in waters subject to Section 10 of the Rivers and Harbors Act of 1899) for each NWP. For NWPs 12 and 14, include the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained for each separate and distant crossing of waters or wetlands. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Identify Any Other Nationwide Permit(s), Regional General Permit(s), or Individual Permit(s) Used to Authorize Any Part of Proposed Activity or Any Related Activity. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. For linear projects, list other separate and distant crossings of waters and wetlands authorized by NWPs 12 or 14 that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 23.

Block 24. Compensatory Mitigation Statement for Losses of Greater Than 1/10-Acre of Wetlands and/or of Greater Than 3/100-Acre of Stream Bed When Pre-Construction Notification is Required. Paragraphs (c) and (d) of NWP general condition 23 require compensatory mitigation at a minimum one-for-one replacement ratio for all wetland losses that exceed 1/10-acre and/or for all losses of stream bed that exceed 3/100-acre, unless the district engineer determines in writing that either some other form of mitigation is more environmentally appropriate or the adverse environmental effects of the proposed NWP activity are no more than minimal without compensatory mitigation, and provides an activity-specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than 1/10 acre and/or for losses of stream bed that exceed 3/100-acre, or provide an explanation of why the district engineer should not require wetland and/or stream compensatory mitigation for the proposed NWP activity. If more space is needed, attach an extra sheet of paper marked Block 24.

Block 25. Is Any Portion of the Nationwide Permit Activity Already Complete? Describe any work that has already been completed for the NWP activity.

Block 26. List the Name(s) of Any Species Listed As Endangered or Threatened under the Endangered Species Act that Might be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed NWP activity, or if the proposed NWP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 7 of the Endangered Species Act.

Block 27. List Any Historic Properties that Have the Potential to be Affected by the Nationwide Permit Activity. If you are not a Federal agency, and if any historic properties have the potential to be affected by the proposed NWP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

Draft

Block 28. List the Wild and Scenic River or Congressionally Designated Study River if the Nationwide Permit Activity Would Occur in such a River. If the proposed NWP activity will occur in a river in the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" under the Wild and Scenic Rivers Act, provide the name of the river. For a list of Wild and Scenic Rivers and study rivers, please visit http://www.rivers.gov/.

Block 29. Nationwide Permit Activities that also Require Permission from the Corps Under 33 U.S.C. 408. If the proposed NWP activity also requires permission from the Corps under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a Corps federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the Corps district having jurisdiction over that project.

Block 30. Other Information Required For Nationwide Permit Pre Construction Notifications. The terms of some of the Nationwide Permits include additional information requirements for preconstruction notifications:

* NWP 3, Maintenance –information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
* NWP 31, Maintenance of Existing Flood Control Facilities –a description of the maintenance baseline and the dredged material disposal site.
* NWP 33, Temporary Construction, Access, and Dewatering –a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre project conditions.
* NWP 44, Mining Activities –if reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre construction notification.
* NWP 45, Repair of Uplands Damaged by Discrete Events –documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration.
* NWP 48, Commercial Shellfish Aquaculture Activities –(1) a map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required).
* NWP 49, Coal Remining Activities –a document describing how the overall mining plan will result in a net increase in aquatic resource functions must be submitted to the district engineer and receive written authorization prior to commencing the activity.
* NWP 50, Underground Coal Mining Activities –if reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre construction notification.

If more space is needed, attach an extra sheet of paper marked Block 30.

Block 31. Signature of Applicant or Agent. The PCN must be signed by the person proposing to undertake the NWP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the NWP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the NWP activity (including compliance with special conditions, mitigation, etc.).

DELINEATION OF WETLANDS, OTHER SPECIAL AQUATIC SITES, AND OTHER WATERS

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. The 45 day PCN review period will not start until the delineation is submitted or has been completed by the Corps.

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross Section Map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient

Draft

drawings should also be included. Please submit one original, or good quality copy, of all drawings on 8½x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross section). While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.

ADDITIONAL INFORMATION AND REQUIREMENTS

For proposed NWP activities that involve discharges into waters of the United States, water quality certification from the State, Tribe, or EPA must be obtained or waived (see NWP general condition 25). Some States, Tribes, or EPA have issued water quality certification for one or more NWPs. Please check the appropriate Corps district web site to see if water quality certification has already been issued for the NWP(s) you wish to use. For proposed NWP activities in coastal states, state Coastal Zone Management Act consistency concurrence must be obtained, or a presumption of concurrence must occur (see NWP general condition 26). Some States have issued Coastal Zone Management Act consistency concurrences for one or more NWPs. Please check the appropriate Corps district web site to see if Coastal Zone Management Act consistency concurrence has already been issued for the NWP(s) you wish to use.

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Exhibit 13

Photometrics

Exhibit 13

Photometrics

Please find in this exhibit cut sheets for the lighting fixtures proposed on-site. A photometrics plan is attached in the site plan set.

Project		**Catalog #**		**Type**	
Prepared by		**Notes**		**Date**	



McGraw-Edison

GWS Galleon II Wall Slim

Wall Mount Luminaire

Product Features

Light ARchitect™

Interactive Menu

- Ordering Information page 2
- Product Specifications page 2
- Energy and Performance Data page 3
- Control Options page 9

Product Certifications

Quick Facts

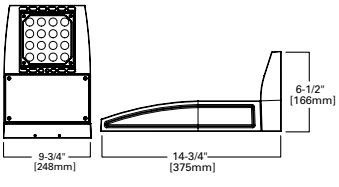
- Lumen packages range from 2,700 - 52,000 (20W - 373W)
- 14 optical distributions
- Efficacy up to 160 LPW

Connected Systems

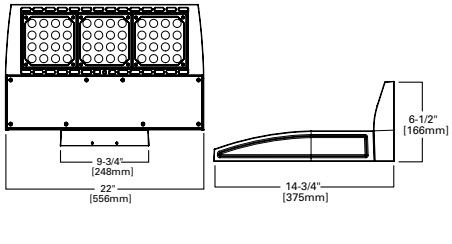
- WaveLinx PRO Wireless
- WaveLinx LITE Wireless

Dimensional Details

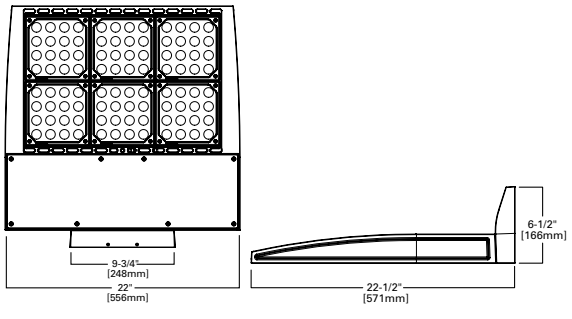
1 Square - Housing



2-3 Square - Housing



4-6 Square - Housing



NOTES:
1. Visit https://www.designlights.org/search/ to confirm qualification. Not all product variations are DLC qualified.
2. IDA Certified for 3000K CCT and warmer only.

Ordering Information

SAMPLE NUMBER: **GWS-SA1C-740-U-T2-GM**

Product Family [1, 2]	Light Engine		Color Temperature	Voltage	Distribution and IES NEMA Type (HxV)	Finish
	Configuration	Drive Current				
GWS=Galleon Wall Slim **BAA-GWS**=Galleon Wall Slim Buy American Act Compliant [18] **TAA-GWS**=Galleon Wall Slim Trade Agreements Act Compliant [18] **BABA-GWS**=Galleon Wall Slim Build America Buy America [21]	**SA1**=1 Square **SA2**=2 Squares **SA3**=3 Squares **SA4**=4 Squares **SA5**=5 Squares **SA6**=6 Squares	**A**=350mA[3] **B**=450mA **C**=615mA **D**=800mA **E**=1050mA **F**=1200mA **Z**=Configured [19]	**722**=70CRI, 2200K **727**=70CRI, 2700K **730**=70CRI, 3000K **735**=70CRI, 3500K **740**=70CRI, 4000K **750**=70CRI, 5000K **760**=70CRI, 6000K **827**=80CRI, 2700K **830**=80CRI, 3000K	**U**=120-277V **1**=120V **2**=208V **3**=240V **4**=277V **8**=480V [5] **9**=347V	**T1**=Type I **T2**=Type II **T3**=Type III **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **5NQ**=Type V Square Narrow **5MQ**=Type V Square Medium **5WQ**=Type V Square Wide	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

Options (Add as Suffix)	Controls and Systems Options (Add as Suffix)	Accessories (Order Separately)
DIM=External 0-10V Dimming Leads [6] **F**=Single Fuse[7] **FF**=Double Fuse[7] **20K**=20kV surge protective device **2L**=Two Circuits [8, 20] **CC**=Coastal Construction **L90**=Optics Rotated 90° Left **R90**=Optics Rotated 90° Right **HSS**=Factory Installed House Side Shield [9] **GRSBK**=Glare Reducing Shield, Black [4] **GRSWH**=Glare Reducing Shield, White [4] **AHD145**=After Hours Dim, 5 Hours[10] **AHD245**=After Hours Dim, 6 Hours[10] **AHD255**=After Hours Dim, 7 Hours[10] **AHD355**=After Hours Dim, 8 Hours[10] **HA**=50°C High Ambient **DALI**=DALI Drivers **WG**=Factory installed Wire Guard [11] **SLD**=Factory installed Vandal Shield **TB**=3-position Terminal Block	**BPC**=Button Type Photocontrol (120, 208, 240 or 277V. Must Specify Voltage) **PR**=NEMA 3-PIN Photocontrol Receptacle **PR7**=NEMA 7-PIN Photocontrol Receptacle[12] **WPS2XX**=WaveLinx PRO, SR Driver, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting [17] **WPS4XX**=WaveLinx PRO, SR Driver, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting [17] **WLS2XX**=WaveLinx LITE, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 7' - 15' Mounting [17] **WLS4XX**=WaveLinx LITE, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting [17] **SPB1**=Dimming Motion and Daylight Sensor, Bluetooth Programmable, < 8' Mounting[14] **SPB2**=Dimming Motion and Daylight Sensor, Bluetooth Programmable, 8' - 20' Mounting[14] **SPB4**=Dimming Motion and Daylight Sensor, Bluetooth Programmable, 21' - 40' Mounting[14] **DIM10-L08**=AirMesh Occupancy Sensor (<8' Mounting)[12] **DIM10-L20**=AirMesh Occupancy Sensor (9'-20' Mounting)[12] **DIM10-L40**=AirMesh Occupancy Sensor (21'-40' Mounting)[12]	**OA/RA1016**=NEMA Photocontrol Multi-Tap - 105-285V **OA/RA1027**=NEMA Photocontrol - 480V **OA/RA1201**=NEMA Photocontrol - 347V **OA/RA1013**=Photocontrol Shorting Cap **OA/RA1014**=120V Photocontrol **MA1252**=10kV Surge Module Replacement **WOLC-7P-10A**=WaveLinx Outdoor Control Module [15] **TL7-HVG**=AirMesh 7-PIN node, 110-480V [15] **LS/HSS**=Field Installed House Side Shield [9, 16] **LS/GRSBK-2PK**=Glare Reducing Shield, Black [16, 4] **LS/GRSWH-2PK**=Glare Reducing Shield, White [16, 4] **LS/PFS**=Perimeter Shield, Black [13] **LS/WG/1**=Field installed Wire Guard, 1 Sq [11] **LS/WG/3**=Field installed Wire Guard, 3 Sq [11] **LS/WG/6**=Field installed Wire Guard, 6 Sq [11] **LS/SLD/1**=Field installed Vandal Shield, 1 Sq **LS/SLD/3**=Field installed Vandal Shield, 3 Sq **LS/SLD/6**=Field installed Vandal Shield, 6 Sq

NOTES:

1. Customer is responsible for engineering analysis to confirm fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information
2. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details
3. Available with SA1 only. Not available with 347V or 480V.
4. Not for use with T4FT, T4W or SL4 optics. See IES files for details.
5. 480V not to be used with ungrounded or impedance grounded systems.
6. Low voltage control lead brought out 18" outside fixture. Not available with DALI or integrated controls options
7. Single fuse (F) specify voltage 120V, 277V or 347V. Double fuse (FF) specify voltage 208V, 240V or 480V.
8. 2L is not available with SPB at 347V or 480V. Not available with WaveLinx or Enlighted sensors, or 20kV surge option
9. Not for use with 5NQ, 5MQ, 5WQ or RW optics. The light square trim plate is painted black when the HSS option is selected
10. Requires the use of BPC photocontrol or the PR7 or PR photocontrol receptacle with photocontrol accessory.
11. Extended lead times may apply.
12. Not available if any SPB or WaveLinx sensor is selected
13. Set of 4 pcs. One set required per Light Square.
14. Sensor configuration mobile application required for configuration. See controls page for details
15. Requires PR7 receptacle
16. Order one shield per Light Square.
17. WAC Gateway required to enable field-configurability: Order WAC-PoE and WPOE-120 (10V to PoE injector) power supply if needed. WAC not required for Bluetooth Programmable sensors
18. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
19. Customer specific specifications utilizes standard products with small adjustments to meet unique requirements such as packaging, labels, wattage adjustments, etc.
20. Available with SA1A for 120V only.
21. Only product configurations with these prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or the Build America Buy America Act (BABA). BABA is the minimum Government compliance requirement for the Build America Buy America standards which is part of the Infrastructure and Investment Jobs Act (IIJA). Individual Government Agencies may have more stringent compliance standards. Please refer to the DOMESTIC PREFERENCES website or consult the CLS Domestic Preferences team for more information. Components shipped separately may be separately analyzed under domestic preference requirements.

Product Specifications

Construction

- Single-piece die-cast aluminum housing with integrated heat sink
- Available in three housing sizes: small (1 light square), medium (2 or 3 light squares), and large (4, 5, or 6 light squares)
- Housing and optics IK10 impact rated
- Housing and optics IP66 rated

Optics

- High-efficiency injection-molded AccuLED Optics technology
- 14 optical distributions for wall mount applications
- 3 shielding options include HSS, GRS and PFS
- SLD constructed of Makrolon GP, UV stabilized clear polycarbonate, with a thickness of 3/16" and impact rated IK10; Secured at 4 fastening points and spaced 3/16" from optical lens
- WG constructed of 11-guage wire in a 1"x1" cell pattern; Chrome color poly powder coat finish
- IDA Certified (3000K CCT and warmer only)

Electrical

- Standard with 0-10V dimming
- Standard with 10kV surge module, optional 20kV surge module
- Suitable for operation in -40°C to 40°C ambient environments
- Optional 50°C high ambient (HA) configuration

Mounting

- Gasketed and zinc plated rigid steel mounting attachment for wall mount only

Typical Applications

- Exterior Wall, Walkway

Finish

- 6 standard finishes use super durable TGIC polyester powder coat paint, providing 2.5 mil nominal thickness and salt-spray tested to 3,000 hours per ASTM B117
- RAL and custom color matches available
- Coastal Construction (CC) option available

Compliance

- This Cooper product is manufactured in the US and meets the BABA cost of components rule. To verify a configured product with specific accessories and options meets BABA Domestic Preference Requirements; submit this catalog number to Cooper Lighting Quotation team for validation by our Engineering and Manufacturing teams. Our BABA designation is based on the minimum compliance requirement for BABA. Individual Government Agencies may have more stringent compliance standards
- Please refer to the DOMESTIC PREFERENCES website or consult the CLS Domestic Preferences team for more information. Components shipped separately may be separately analyzed under domestic preference requirements

Warranty

- Five year limited warranty, consult website for details www.cooperlighting.com/legal

Energy and Performance Data

View GWS IES files

1 Square Performance Table

Drive Current		350mA	450mA	615mA	800mA	1050mA	1200mA
Nominal Power (watts)		19.7	25.0	34.1	44.3	58.4	67.2
Input Current @ 120V (A)		0.151	0.207	0.283	0.367	0.478	0.546
Input Current @ 208V (A)		0.089	0.121	0.165	0.213	0.279	0.318
Input Current @ 240V (A)		0.078	0.105	0.143	0.184	0.243	0.276
Input Current @ 277V (A)		0.069	0.092	0.125	0.160	0.213	0.241
Input Current @ 347V (A)		-	0.072	0.098	0.125	0.164	0.187
Input Current @ 480V (A)		-	0.054	0.073	0.092	0.121	0.138
Optic							
T1	Lumens	2,839	3,578	4,798	6,053	7,564	8,410
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3
	Lumens per Watt	144	143	141	137	130	125
T2	Lumens	2,821	3,556	4,769	6,016	7,518	8,359
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2
	Lumens per Watt	143	142	140	136	129	124
T3	Lumens	2,846	3,587	4,810	6,068	7,583	8,431
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2
	Lumens per Watt	144	143	141	137	130	125
T4FT	Lumens	2,747	3,462	4,643	5,857	7,319	8,138
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2
	Lumens per Watt	139	138	136	132	125	121
T4W	Lumens	2,819	3,553	4,765	6,012	7,513	8,353
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2
	Lumens per Watt	143	142	140	136	129	124
SL2	Lumens	2,795	3,522	4,723	5,959	7,446	8,279
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2
	Lumens per Watt	142	141	139	135	128	123
SL3	Lumens	2,786	3,512	4,710	5,941	7,425	8,255
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2
	Lumens per Watt	141	140	138	134	127	123
SL4	Lumens	2,731	3,442	4,616	5,824	7,278	8,091
	BUG Rating	B0-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2
	Lumens per Watt	139	138	135	131	125	120
SLL	Lumens	2,665	3,359	4,505	5,683	7,102	7,896
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2
	Lumens per Watt	135	134	132	128	122	118
SLR	Lumens	2,693	3,394	4,551	5,741	7,175	7,977
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2
	Lumens per Watt	137	136	133	130	123	119
RW	Lumens	2,927	3,690	4,948	6,242	7,801	8,673
	BUG Rating	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3
	Lumens per Watt	149	148	145	141	134	129
5NQ	Lumens	2,972	3,746	5,024	6,338	7,920	8,806
	BUG Rating	B1-U0-G0	B2-U0-G0	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G1
	Lumens per Watt	151	150	147	143	136	131
5MQ	Lumens	2,945	3,712	4,978	6,280	7,847	8,725
	BUG Rating	B2-U0-G0	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2
	Lumens per Watt	149	148	146	142	134	130
5WQ	Lumens	2,883	3,634	4,873	6,147	7,682	8,541
	BUG Rating	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2
	Lumens per Watt	146	145	143	139	132	127

2 Square Performance Table

Drive Current		450mA	615mA	800mA	1050mA	1200mA
Nominal Power (watts)		46.4	63.2	82.1	108.2	124.5
Input Current @ 120V (A)		0.387	0.529	0.689	0.905	1.041
Input Current @ 208V (A)		0.226	0.309	0.401	0.532	0.610
Input Current @ 240V (A)		0.198	0.270	0.347	0.458	0.523
Input Current @ 277V (A)		0.173	0.237	0.303	0.404	0.460
Input Current @ 347V (A)		0.133	0.181	0.235	0.322	0.370
Input Current @ 480V (A)		0.098	0.133	0.172	0.235	0.269
Optic						
T1	Lumens	6,889	9,238	11,655	14,564	16,193
	BUG Rating	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4
	Lumens per Watt	148	146	142	135	130
T2	Lumens	6,847	9,183	11,584	14,477	16,095
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
	Lumens per Watt	148	145	141	134	129
T3	Lumens	6,906	9,262	11,684	14,601	16,234
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
	Lumens per Watt	149	147	142	135	130
T4FT	Lumens	6,666	8,940	11,278	14,094	15,670
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3
	Lumens per Watt	144	141	137	130	126
T4W	Lumens	6,842	9,176	11,576	14,466	16,084
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3
	Lumens per Watt	147	145	141	134	129
SL2	Lumens	6,782	9,095	11,474	14,338	15,942
	BUG Rating	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3
	Lumens per Watt	146	144	140	133	128
SL3	Lumens	6,762	9,069	11,441	14,297	15,895
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3
	Lumens per Watt	146	143	139	132	128
SL4	Lumens	6,628	8,889	11,214	14,013	15,580
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3
	Lumens per Watt	143	141	137	130	125
SLL	Lumens	6,468	8,674	10,943	13,675	15,204
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3
	Lumens per Watt	139	137	133	126	122
SLR	Lumens	6,534	8,763	11,055	13,815	15,360
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
	Lumens per Watt	141	139	135	128	123
RW	Lumens	7,104	9,528	12,020	15,020	16,700
	BUG Rating	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4
	Lumens per Watt	153	151	146	139	134
5NQ	Lumens	7,213	9,674	12,204	15,251	16,956
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2
	Lumens per Watt	155	153	149	141	136
5MQ	Lumens	7,147	9,585	12,092	15,110	16,800
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	154	152	147	140	135
5WQ	Lumens	6,996	9,383	11,837	14,792	16,447
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	151	148	144	137	132

3 Square Performance Table

Drive Current		450mA	615mA	800mA	1050mA	1200mA
Nominal Power (watts)		68.3	93.0	120.8	159.2	183.2
Input Current @ 120V (A)		0.569	0.778	1.014	1.338	1.535
Input Current @ 208V (A)		0.336	0.460	0.594	0.780	0.893
Input Current @ 240V (A)		0.291	0.398	0.510	0.664	0.758
Input Current @ 277V (A)		0.258	0.352	0.449	0.582	0.662
Input Current @ 347V (A)		0.199	0.272	0.355	0.471	0.543
Input Current @ 480V (A)		0.146	0.200	0.258	0.341	0.391
Optic						
T1	Lumens	10,382	13,924	17,566	21,951	24,406
	BUG Rating	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G4
	Lumens per Watt	152	150	145	138	133
T2	Lumens	10,320	13,840	17,460	21,819	24,259
	BUG Rating	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4
	Lumens per Watt	151	149	145	137	132
T3	Lumens	10,409	13,959	17,610	22,007	24,467
	BUG Rating	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4
	Lumens per Watt	152	150	146	138	134
T4FT	Lumens	10,047	13,474	16,998	21,242	23,617
	BUG Rating	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4
	Lumens per Watt	147	145	141	133	129
T4W	Lumens	10,312	13,830	17,447	21,803	24,241
	BUG Rating	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4
	Lumens per Watt	151	149	144	137	132
SL2	Lumens	10,221	13,708	17,294	21,611	24,027
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4
	Lumens per Watt	150	147	143	136	131
SL3	Lumens	10,192	13,668	17,243	21,548	23,957
	BUG Rating	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4
	Lumens per Watt	149	147	143	135	131
SL4	Lumens	9,990	13,397	16,901	21,121	23,482
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G4	B2-U0-G4
	Lumens per Watt	146	144	140	133	128
SLL	Lumens	9,749	13,074	16,494	20,611	22,916
	BUG Rating	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4
	Lumens per Watt	143	141	137	129	125
SLR	Lumens	9,849	13,208	16,663	20,823	23,151
	BUG Rating	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4
	Lumens per Watt	144	142	138	131	126
RW	Lumens	10,708	14,360	18,116	22,639	25,170
	BUG Rating	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G4
	Lumens per Watt	157	154	150	142	137
5NQ	Lumens	10,872	14,580	18,394	22,986	25,556
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	159	157	152	144	139
5MQ	Lumens	10,772	14,446	18,225	22,774	25,321
	BUG Rating	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3
	Lumens per Watt	158	155	151	143	138
5WQ	Lumens	10,545	14,142	17,841	22,295	24,788
	BUG Rating	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3
	Lumens per Watt	154	152	148	140	135

4 Square Performance Table

Drive Current		450mA	615mA	800mA	1050mA	1200mA
Nominal Power (watts)		94.4	128.5	162.1	202.6	225.3
Input Current @ 120V (A)		0.774	1.058	1.378	1.810	2.082
Input Current @ 208V (A)		0.452	0.618	0.802	1.064	1.219
Input Current @ 240V (A)		0.395	0.540	0.694	0.916	1.046
Input Current @ 277V (A)		0.346	0.473	0.605	0.808	0.920
Input Current @ 347V (A)		0.265	0.362	0.471	0.644	0.740
Input Current @ 480V (A)		0.195	0.267	0.344	0.469	0.537
Optic						
T1	Lumens	14,448	19,376	24,444	30,547	33,962
	BUG Rating	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G4	B5-U0-G5
	Lumens per Watt	153	151	151	151	151
T2	Lumens	14,361	19,259	24,297	30,362	33,758
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
	Lumens per Watt	152	150	150	150	150
T3	Lumens	14,484	19,425	24,506	30,624	34,048
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
	Lumens per Watt	153	151	151	151	151
T4FT	Lumens	13,981	18,750	23,654	29,560	32,865
	BUG Rating	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5
	Lumens per Watt	148	146	146	146	146
T4W	Lumens	14,350	19,245	24,279	30,340	33,733
	BUG Rating	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5
	Lumens per Watt	152	150	150	150	150
SL2	Lumens	14,224	19,076	24,065	30,073	33,436
	BUG Rating	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
	Lumens per Watt	151	148	148	148	148
SL3	Lumens	14,182	19,020	23,995	29,985	33,338
	BUG Rating	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5
	Lumens per Watt	150	148	148	148	148
SL4	Lumens	13,901	18,643	23,519	29,391	32,677
	BUG Rating	B2-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5
	Lumens per Watt	147	145	145	145	145
SLL	Lumens	13,566	18,193	22,952	28,682	31,889
	BUG Rating	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
	Lumens per Watt	144	142	142	142	142
SLR	Lumens	13,705	18,380	23,187	28,976	32,216
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
	Lumens per Watt	145	143	143	143	143
RW	Lumens	14,900	19,983	25,210	31,503	35,026
	BUG Rating	B4-U0-G4	B4-U0-G4	B4-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	158	156	156	155	155
5NQ	Lumens	15,129	20,289	25,596	31,986	35,562
	BUG Rating	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G2
	Lumens per Watt	160	158	158	158	158
5MQ	Lumens	14,990	20,103	25,361	31,692	35,236
	BUG Rating	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4
	Lumens per Watt	159	156	156	156	156
5WQ	Lumens	14,674	19,680	24,827	31,025	34,494
	BUG Rating	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	155	153	153	153	153

5 Square Performance Table

Drive Current		450mA	615mA	800mA	1050mA	1200mA
Nominal Power (watts)		115.7	157.5	204.6	269.6	310.3
Input Current @ 120V (A)		0.959	1.310	1.704	2.244	2.578
Input Current @ 208V (A)		0.564	0.771	0.997	1.313	1.504
Input Current @ 240V (A)		0.491	0.671	0.860	1.123	1.282
Input Current @ 277V (A)		0.425	0.581	0.757	0.997	1.133
Input Current @ 347V (A)		0.332	0.454	0.592	0.795	0.915
Input Current @ 480V (A)		0.245	0.335	0.432	0.579	0.663
Optic						
T1	Lumens	17,723	23,769	29,986	37,472	41,662
	BUG Rating	B4-U0-G4	B4-U0-G4	B4-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	153	151	147	139	134
T2	Lumens	17,616	23,626	29,805	37,246	41,411
	BUG Rating	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	152	150	146	138	133
T3	Lumens	17,768	23,829	30,061	37,566	41,767
	BUG Rating	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	154	151	147	139	135
T4FT	Lumens	17,151	23,001	29,017	36,261	40,316
	BUG Rating	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	148	146	142	134	130
T4W	Lumens	17,604	23,609	29,784	37,219	41,381
	BUG Rating	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5
	Lumens per Watt	152	150	146	138	133
SL2	Lumens	17,448	23,400	29,521	36,891	41,016
	BUG Rating	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5
	Lumens per Watt	151	149	144	137	132
SL3	Lumens	17,398	23,332	29,435	36,783	40,896
	BUG Rating	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	150	148	144	136	132
SL4	Lumens	17,053	22,869	28,851	36,054	40,085
	BUG Rating	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	147	145	141	134	129
SLL	Lumens	16,641	22,318	28,156	35,185	39,119
	BUG Rating	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	144	142	138	131	126
SLR	Lumens	16,812	22,547	28,444	35,545	39,520
	BUG Rating	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	145	143	139	132	127
RW	Lumens	18,278	24,513	30,925	38,645	42,967
	BUG Rating	B4-U0-G4	B4-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	158	156	151	143	138
5NQ	Lumens	18,558	24,889	31,399	39,237	43,625
	BUG Rating	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3
	Lumens per Watt	160	158	153	146	141
5MQ	Lumens	18,388	24,660	31,110	38,877	43,224
	BUG Rating	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	159	157	152	144	139
5WQ	Lumens	18,001	24,141	30,456	38,059	42,314
	BUG Rating	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	156	153	149	141	136

6 Square Performance Table

Drive Current		450mA	615mA	800mA	1050mA	1200mA
Nominal Power (watts)		138.9	189.2	245.7	323.8	372.6
Input Current @ 120V (A)		1.139	1.556	2.027	2.675	3.070
Input Current @ 208V (A)		0.673	0.919	1.188	1.559	1.786
Input Current @ 240V (A)		0.582	0.796	1.021	1.328	1.516
Input Current @ 277V (A)		0.516	0.705	0.898	1.164	1.325
Input Current @ 347V (A)		0.398	0.544	0.710	0.943	1.085
Input Current @ 480V (A)		0.293	0.400	0.517	0.681	0.782
Optic						
T1	Lumens	21,134	28,343	35,756	44,683	49,679
	BUG Rating	B4-U0-G4	B4-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	152	150	146	138	133
T2	Lumens	21,006	28,172	35,541	44,413	49,379
	BUG Rating	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5
	Lumens per Watt	151	149	145	137	133
T3	Lumens	21,187	28,414	35,846	44,795	49,804
	BUG Rating	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5
	Lumens per Watt	153	150	146	138	134
T4FT	Lumens	20,451	27,427	34,601	43,239	48,074
	BUG Rating	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	147	145	141	134	129
T4W	Lumens	20,991	28,152	35,515	44,381	49,344
	BUG Rating	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	151	149	145	137	132
SL2	Lumens	20,806	27,903	35,202	43,990	48,908
	BUG Rating	B3-U0-G3	B3-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5
	Lumens per Watt	150	147	143	136	131
SL3	Lumens	20,745	27,822	35,099	43,861	48,766
	BUG Rating	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	149	147	143	135	131
SL4	Lumens	20,334	27,270	34,403	42,992	47,799
	BUG Rating	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	146	144	140	133	128
SLL	Lumens	19,844	26,613	33,573	41,955	46,646
	BUG Rating	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5
	Lumens per Watt	143	141	137	130	125
SLR	Lumens	20,047	26,885	33,918	42,385	47,125
	BUG Rating	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5
	Lumens per Watt	144	142	138	131	126
RW	Lumens	21,796	29,230	36,876	46,082	51,235
	BUG Rating	B4-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	157	154	150	142	138
5NQ	Lumens	22,130	29,678	37,441	46,788	52,020
	BUG Rating	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
	Lumens per Watt	159	157	152	144	140
5MQ	Lumens	21,926	29,405	37,097	46,358	51,542
	BUG Rating	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	158	155	151	143	138
5WQ	Lumens	21,465	28,787	36,316	45,382	50,457
	BUG Rating	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5
	Lumens per Watt	155	152	148	140	135

Control Options

0-10V (DIM)
This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

Photocontrol (BPC, PR and PR7)
Optional button-type photocontrol (BPC) and photocontrol receptacles (PR and PR7) provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PR7 receptacle.

After Hours Dim (AHD)
This feature allows photocontrol-enabled luminaires to achieve additional energy savings by dimming during scheduled portions of the night. The dimming profile will automatically take effect after a "dusk-to-dawn" period has been calculated from the photocontrol input. Specify the desired dimming profile for a simple, factory-shipped dimming solution requiring no external control wiring. Reference the After Hours Dim supplemental guide for additional information.

Dimming Occupancy Sensor (SPB)
These passive infrared (PIR) sensors are connected to a standard dimming driver, activating the luminaire at night when motion is detected. After a prescribed time period, the luminaire turns off or is dimmed to a selected level. The sensor default parameters are listed in the table below. The SPB can be configured utilizing the Sensor Configuration mobile application for iOS and Android devices. An integral photocontrol can be activated with the app for "dusk-to-dawn" control or daylight harvesting - the factory default is off. Three sensor lenses are available to optimize the coverage pattern for mounting heights up to 40'. Four sensor colors are available; Bronze, Black, Gray and White, and are automatically selected based on the luminaire finish as indicated by the table below.

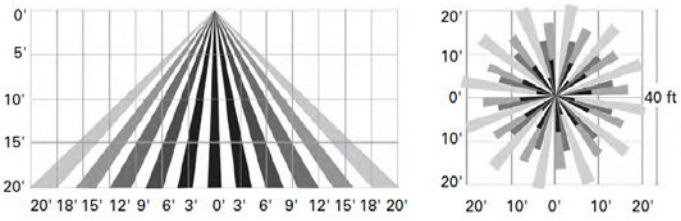
SPB sensor finish matched to luminaire finish		
Luminaire Finish		SPB Sensor Finish
WH	White	White
BK	Black	Black
GM	Graphite Metallic	Black
BZ	Bronze	Bronze
AP	Gray	Gray
DP	Dark Platinum	Gray

WaveLinx Wireless Control and Monitoring System
Operates on a wireless mesh network based on IEEE 802.15.4 standards enabling wireless control of outdoor lighting. The WOLC control module utilizes a 7-PIN receptacle.

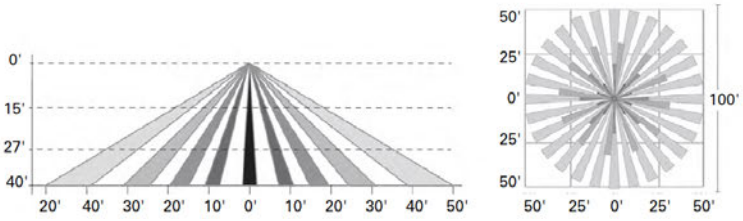
WaveLinx PRO (WPS2 and WPS4) outdoor wireless sensors offer passive infrared (PIR) occupancy and photocell for closed loop daylight harvesting, and can be factory or field-installed. Sensors are factory preset to dim down to 50% after 15 minutes of no motion detected. Two lens options are available for mounting heights of 7' to 40'. Use the WaveLinx mobile application for set-up and configuration. At least one Wireless Area Controller (WAC) is required for full functionality and remote communication (including adjustment of any factory pre-sets).

WaveLinx LITE (WLS4 and WLS2) outdoor wireless sensors provide PIR occupancy and photocell for closed loop daylight harvesting, and can be factory or field-installed. Sensors are factory preset to dim down to 50% after 15 minutes of no motion detected. Two lens options are available for mounting heights of 7' to 40'. Use the WaveLinx Lite mobile application for set-up and configuration. WAC not required.

For mounting heights up to 15' (WPS2 and WLS2)



For mounting heights up to 40' (WPS4 and WLS4)



Default Program Settings (Out of the Box Functionality)

Occupancy Sensor			
Setting	SPB	WaveLinx Light Commercial	WaveLinx
High Mode %	100%	100%	100%
Low Mode %	10%	50%	50%
Time Delay	5 min	15 min	15 min
Cut Off Delay	1 hr	Disabled	Disabled
Photocell Enabled	No	Yes	Yes

WaveLinx Outdoor Control Module (WOLC-7P-10A) accessory provides a photocontrol enabling astronomic or time-based schedules to provide ON, OFF and dimming control of fixtures utilizing a 7-PIN receptacle. The out-of-box functionality is ON at dusk and OFF at dawn.

AirMesh (DIM10)
AirMesh integrated wireless controls system includes factory installed DIM10 Synapse control module and FSP-201 motion sensor; requires additional AirMesh components for operation. Contact Synapse at www.synapsewireless.com for product support, warranty and terms and conditions.

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Specifications and dimensions
subject to change without notice.

Project		**Catalog #**		**Type**	
Prepared by		**Notes**		**Date**	



McGraw-Edison

GALN Galleon II

Area / Site Luminaire

Product Features

BABA · BAA · TAA · FADC · Light ARchitect™

Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Optical Distributions page 5
- Product Specifications page 5
- Energy and Performance Data page 6
- Control Options page 17

Product Certifications

ISO Systems Certified · DLC Listed · DLC Listed Premium · 3G VIB · IP66 · UL Certified · DarkSky Approved · 5 Year Limited Warranty · RoHS Compliant · Declare.

Quick Facts

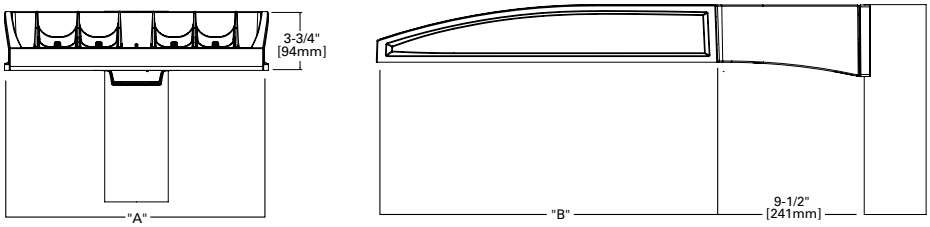
- Lumen packages range from 3,300 - 102,700 (33W - 658W)
- 22 optical distributions
- Efficacy up to 178 LPW

Connected Systems

- Wavelinx LITE Wireless
- Wavelinx PRO Wireless
- AirMesh Wireless

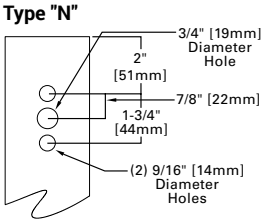
Dimensional Details

Standard Pole Mount Arm



Pole Drilling Pattern

Type "N"



Number of Light Squares	Width "A"	Housing Length "B"	Weight with Standard or QM Arm	EPA with Standard or QM Arm
1-4	16"	22"	29 lb	0.95
5-6	22"	22"	39 lb	0.95
7-9	22"	28-1/8"	48 lb	1.1

NOTES: For arm selection requirements and additional line art, see Mounting Details section.

NOTES:
1. IDA Certified (3000K CCT and warmer only, fixed mounting options)

Ordering Information

SAMPLE NUMBER: **GALN-SA4C-740-U-T4FT-GM**

Product Family [1, 2]	Light Engine Configuration			Color Temperature	Voltage	Distribution	Mounting	Finish
	Light Square	Square Count	Lumen Output					
GALN=Galleon II **BAA-GALN**=Galleon II Buy American Act Compliant [26] **TAA-GALN**=Galleon II Trade Agreements Act Compliant [26] **BABA-GALN**=Galleon II BABA/IIJA Compliant [38]	**SA**=16 LED Light Square **SB**=26 LED Light Square	**1**=1 Light Square **2**=2 Light Squares **3**=3 Light Squares **4**=4 Light Squares **5**=5 Light Squares **6**=6 Light Squares **7**=7 Light Squares **8**=8 Light Squares **9**=9 Light Squares	**A**=Output Level 1 **B**=Output Level 2 **C**=Output Level 3 **D**=Output Level 4 [4, 16] **Z**=Configured Output [32]	**722**=70CRI, 2200K **727**=70CRI, 2700K **730**=70CRI, 3000K **735**=70CRI, 3500K **740**=70CRI, 4000K **750**=70CRI, 5000K **760**=70CRI, 6000K **827**=80CRI, 2700K **830**=80CRI, 3000K **835**=80CRI, 3500K **840**=80CRI, 4000K **930**=90CRI, 3000K **935**=90CRI, 3500K **940**=90CRI, 4000K **950**=90CRI, 5000K **AMB**=Amber [14, 16]	**U**=120-277V **H**=347V-480V [7, 29] **1**=120V **2**=208V **3**=240V **4**=277V **8**=480V [7, 29] **9**=347V [7] **DV**=277V-480V DuraVolt Drivers [28, 29, 30]	**T1**=Type I **T2**=Type II **T2R**=Type II Roadway **T3**=Type III **T3R**=Type III Roadway **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **5NQ**=Type V Narrow **5MQ**=Type V Square Medium **5WQ**=Type V Square Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **AFL**=Automotive Frontline **T2BC**=Type II w/ Backlight Control [39] **T3BC**=Type III w/ Backlight Control [39] **T4BC**=Type IV w/ Backlight Control [39] **LBC**=90° Left w/ Backlight Control [39] **RBC**=90° Right w/ Backlight Control [39]	**[Blank]**=Standard Pole Mount Arm **QU**=Quick Mount Universal Arm **QM**=Pole Mount Arm with Quick Mount Adaptor **PA**=Pole Mount, Adjustable **SP**=3" Slipfitter, Adjustable [8] **SP2**=2-3/8" Slipfitter, Adjustable [8] **QMA**=Quick Mount Mast Arm, Fixed **MA**=Mast Arm, Fixed **WM**=Wall Mount, Fixed **WA**=Wall Mount, Adjustable **UP**=Upswept Arm	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White **RALXX**=Custom Color

Options (Add as Suffix)

DIM=External 0-10V Dimming Leads [19]
F=Single Fuse (120, 277 or 347V Specify Voltage)
FF=Double Fuse (208, 240 or 480V Specify Voltage)
20K=20kV UL 1449 fused surge protective device [10]
2L=Two Circuits [10]
HA=50°C High Ambient [16]
HSS=Installed House Side Shield [17]
BCS=Backlight Control Shield [17, 37]
GRSBK=Glare Reducing Shield, Black [22]
GRSWH=Glare Reducing Shield, White [22]
LCF=Light Square Trim Painted to Match Housing [25]
TH=Tool-less Door Hardware [5]
CC=Coastal Construction finish [3]
L90=Optics Rotated 90° Left
R90=Optics Rotated 90° Right
3SDCM=3 Standard Deviation Color Matching [36]
AHD145=After Hours Dim, 5 Hours [21]
AHD245=After Hours Dim, 6 Hours [21]
AHD255=After Hours Dim, 7 Hours [21]
AHD355=After Hours Dim, 8 Hours [21]
DALI=DALI Drivers
CDW=Non-programmable Drivers [41]

Controls and Systems Options (Add as Suffix)

BPC=Button Type Photocontrol. Must specify voltage 120V, 208V, 240V or 277V. [6]
PR=NEMA 3-PIN Photocontrol Receptacle
PR7=NEMA 7-PIN Photocontrol Receptacle [20]
FADC=Field Adjustable Dimming Controller [31]
PSC=Photocontrol Shorting Cap
SPB2=Dimming Motion Sensor, 9'-20' mounting [23]
SPB4=Dimming Motion Sensor, 21'-40' mounting [23]
SPB2/X=Dimming Motion Sensor, limited square count, 9'-20' mounting [23]
SPB4/X=Dimming Motion Sensor, limited square count, 21'-40' mounting [23]
MS/DIM-L20=Motion Sensor for Dimming Operation, 9'-20' Mounting [33, 40]
MS/DIM-L40=Motion Sensor for Dimming Operation, 21'-40' Mounting [33, 40]
WLS2XX=WaveLinx LITE, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 7' - 15' Mounting [12, 18, 34]
WLS4XX=WaveLinx LITE, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting [12, 18, 34]
WPS2XX=WaveLinx PRO, SR Driver, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting [12, 13, 18, 34]
WPS4XX=WaveLinx PRO, SR Driver, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting [12, 13, 18, 34]
DIM10-L20=AirMesh Occupancy Sensor (9'-20' Mounting) [18, 35]
DIM10-L40=AirMesh Occupancy Sensor (21'-40' Mounting) [18, 35]

Accessories (Order Separately) [27]

OA/RA1016=NEMA Photocontrol Multi-Tap - 105-285V
OA/RA1027=NEMA Photocontrol - 480V
OA/RA1201=NEMA Photocontrol - 347V
OA/RA1013=Photocontrol Shorting Cap
OA/RA1014=120V Photocontrol
MA1252=10kV Surge Module Replacement
MA1036-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon
MA1037-XX=2@180° Tenon Adapter for 2-3/8" O.D. Tenon
MA1197-XX=3@120° Tenon Adapter for 2-3/8" O.D. Tenon
MA1188-XX=4@90° Tenon Adapter for 2-3/8" O.D. Tenon
MA1189-XX=2@90° Tenon Adapter for 2-3/8" O.D. Tenon
MA1190-XX=3@90° Tenon Adapter for 2-3/8" O.D. Tenon
MA1191-XX=2@120° Tenon Adapter for 2-3/8" O.D. Tenon
MA1038-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon
MA1039-XX=2@180° Tenon Adapter for 3-1/2" O.D. Tenon
MA1192-XX=3@120° Tenon Adapter for 3-1/2" O.D. Tenon
MA1193-XX=4@90° Tenon Adapter for 3-1/2" O.D. Tenon
MA1194-XX=2@90° Tenon Adapter for 3-1/2" O.D. Tenon
MA1195-XX=3@90° Tenon Adapter for 3-1/2" O.D. Tenon
SRA238=Adapter kit for mounting 3" SP arm to 2-3/8" O.D. vertical tenon
FSIR-100=Wireless Configuration Tool for MS/DIM [33]
LS/HSS=Field Installed House Side Shield for SA Light Squares [9, 17]
LS/HSS-SB=Field Installed House Side Shield for SB Light Squares [9, 17]
LS/BCS=Backlight Control Shield [9, 17, 37]
LS/GRSBK-2PK =Glare Reducing Shield, Black [9, 22]
LS/GRSWH-2PK =Glare Reducing Shield, White [9, 22]
LS/PFS=Perimeter Shield, Black [15]
WOLC-7P-10A=WaveLinx Outdoor Control Module [11, 18, 13]
TL7-G1-HV= AirMesh 7-PIN node, 110-480V [11, 18, 35]
CBSSW-450-002= AirMesh central base station with 5-button control [35]

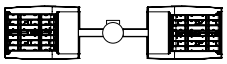
NOTES:

1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information.
2. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
3. Coastal construction finish salt spray tested to over 5,000-hours per ASTM B117, with a scribe rating of 9 per ASTM D1654. Not available with TH option.
4. When using SA light squares, Output Level 4 not available with color temperatures 722, 727, 827, 830 or 930 when HSS is used.
5. TH option not 3G rated. Not available with Coastal Construction (CC) option.
6. Not available with voltage options H, 8 or 9.
7. Not available with SB1A or SB2A configurations. Not available in combination with HA high ambient and sensor options at Output Level 3. H voltage not available with sensor options, choose voltage 8 or 9.
8. SP arm limited to 3" O.D. vertical tenon. SP2 limited to 2-3/8" O.D. vertical tenon.
9. One required for each Light Square.
10. 2L is not available with SB light squares. Not available with SPB at 347V or 480V. Not available with WaveLinx or 20kV surge option.
11. Requires PR7.
12. Replace XX with sensor color (WH, BZ or BK.).
13. WAC Gateway required to enable field-configurability: Order WAC-PoE and WPOE-120 (10V to PoE injector) power supply if needed. WAC not required for LC Bluetooth sensors.
14. Narrow-band 590nm +/- 5nm for wildlife and observatory use. Choose Output Level 1; supplied at 500mA drive current only. Not available with SB light squares. Exact luminaire wattage available in IES files. Available with 5WQ, 5MQ, SL2, SL3 and SL4 distributions. Can be used with HSS option.
15. Set of 4 pcs. One set required per Light Square.
16. HA option not available with Output Level 4 or AMB Amber.
17. Not for use with T1, 5NQ, 5MQ, 5WQ or RW optics.
18. Cannot be used with other control options.
19. Low voltage control lead brought out 18" outside fixture. Not available with DALI or integrated controls options.
20. Not available if any SPB, or WaveLinx sensor is selected. Motion sensor has an integral photocell.
21. Requires the use of BPC photocontrol or the PR7 or PR photocontrol receptacle with photocontrol accessory. Not available with SB light squares when using Output Level 4.
22. Not for use with T1, T4FT, T4W or SL optics. See IES files for details. Not available with SB light squares.
23. Sensor configuration mobile application required for configuration. See controls page for details.
24. Replace X with number of Light Squares controlled by the SPB, referencing the "SPB/X Availability Table" on the controls page.
25. Not available with HSS, GRSWH or GRSBK.
26. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
27. For BAA or TAA requirements, Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.
28. DuraVolt drivers feature added protection from power quality issues such as loss of neutral, transients and voltage fluctuations. Visit www.signify.com/duravolt for more information.
29. 480V not to be used with ungrounded or impedance grounded systems.
30. Not available with SA1A or SA1B. Not available with SB1, or any SB configuration using Output Level 1. Not available with any control option except SPB
31. Cannot be used with DALI, PR7, or other motion response control options. Not available with SB light squares when using Output Level 4.
32. Use GALN Product Configurator to specify lumen output, drive current and wattage. Not available with AMB. Not available with SB light squares.
33. Uses the FSP-211 motion sensor. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting Solutions for more information.
34. Controls system is not available with photocontrol receptacles (PR , PR7) or other controls systems (FADC, SPBx).
35. Requires AirMesh central base station CBSSW-450-002 and Synapse commissioning for operation.
36. 3-step MacAdam ellipse binning. Available in 740 CRI/CCT only. Longer lead times apply, consult your lighting representative at Cooper Lighting Solutions for more information.
37. Not available with SB light squares.
38. Only product configurations with these prefixes are built to be compliant with theBuy American Act of 1933 (BAA) or the Build America Buy America Act (BABA).BABA is the minimum Government compliance requirement for the Build America Buy America standards which is part of the Infrastructure and Investment JobsAct (IIJA). Individual Government Agencies may have more stringent compliancestandards. Please refer to the DOMESTIC PREFERENCES website or consult the CLSDomestic Preferences team for more information. Components shipped separatelymay be separately analyzed under domestic preference requirements.
39. Select SA light square. Only available with Output Levels 1, 2 or 3. Not compatible with HSS, GRS, BCS or PFS shield options, or LCF.
40. Not compatible with DALI.
41. Uses non-NFC (Near Field Communication) drivers to eliminate field-programmability.

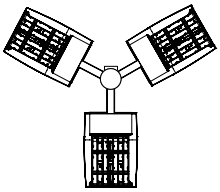
Mounting Details

Pole Configuration Options

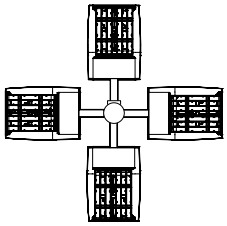
2 @ 180°



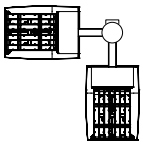
3 @ 120° (Round poles only)



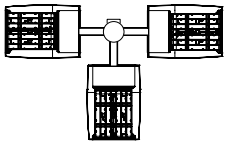
4 @ 90°



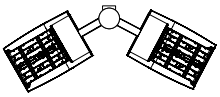
2 @ 90°



3 @ 90°

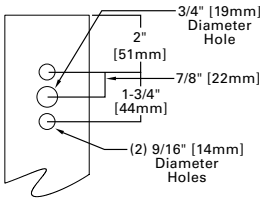


2 @ 120° (Round poles only)

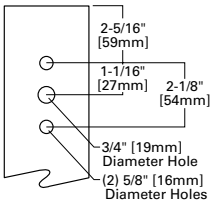


Pole Drilling Patterns

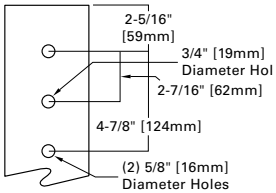
Type "N"



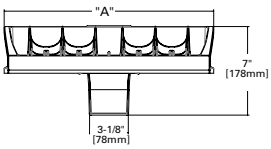
Type "R"

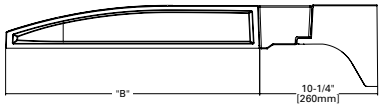


Type "M"



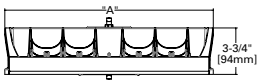
Quick Mount Universal Arm (QU)



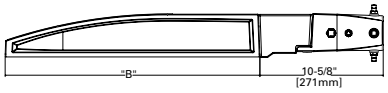


*NOTE: Universal bolt pattern compatible with Type N through Type M drilling patterns

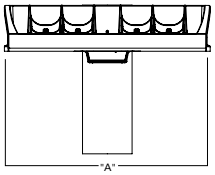
Quick Mount Mast Arm (QMA)

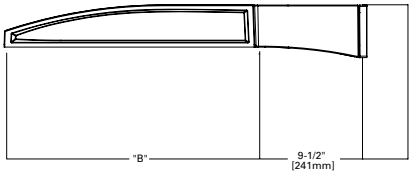


*NOTE: Fits 2-3/8" O.D. tenon



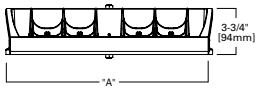
Pole Mount Arm with Quick Mount Adaptor (QM)



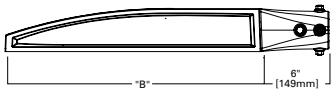


*NOTE: Use Type N drilling pattern

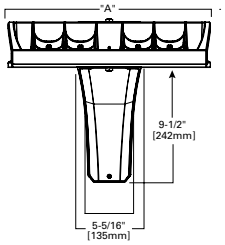
Mast Arm, Fixed (MA)

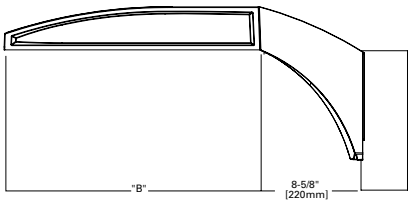


*NOTE: Fits 2-3/8" O.D. tenon



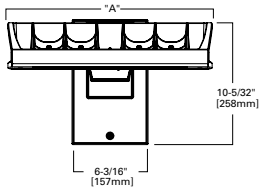
Upswept Arm (UP)

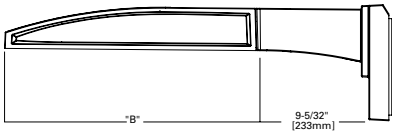




*NOTE: Universal bolt pattern compatible with Type N through Type M drilling patterns

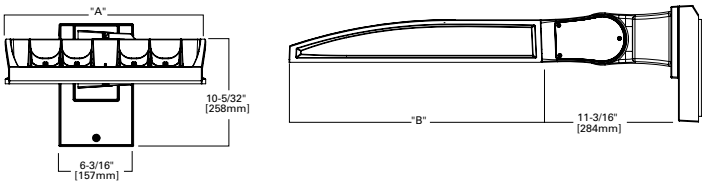
Wall Mount, Fixed (WM)



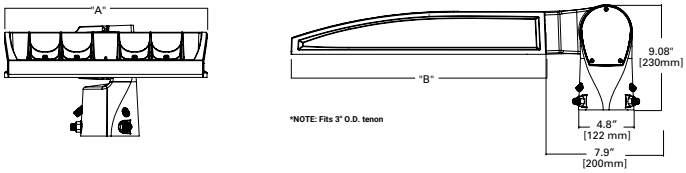


Mounting Details

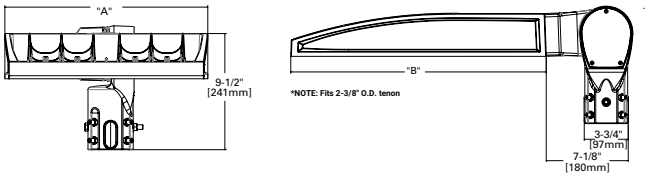
Wall Mount, Adjustable (WA)



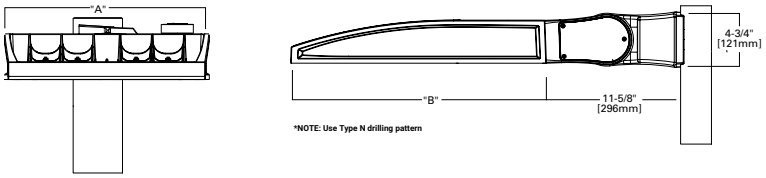
3" Slipfitter, Adjustable (SP)



2-3/8" Slipfitter, Adjustable (SP2)

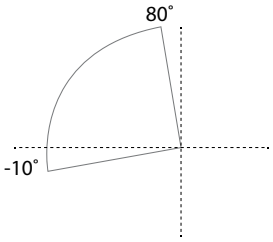


Pole Mount, Adjustable Arm (PA)



Adjustable Arm Range of Motion

- Includes WA, SP, SP2 and PA mounting options
- Adjustable in increments of 5°
- Must maintain downward facing orientation

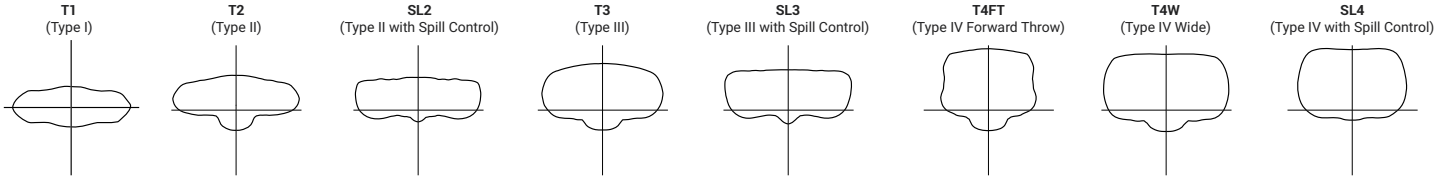


Fixture Weights and EPAs

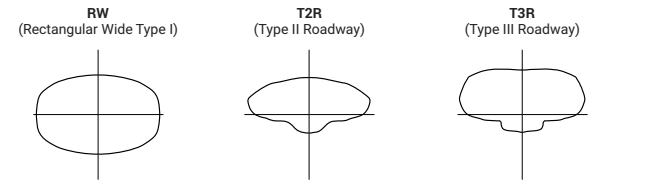
Tilt Angle (Degrees)	Number of Light Squares	Weight	1 @ 90°	2 @ 180°	2 @ 90°	2 @ 120°	3 @ 90°	3 @ 120°	4 @ 90°
0°	1-4	33.5 lb (15.2 kg)	0.85	1.70	1.46	1.66	2.31	2.25	2.35
	5-6	43.5 lb (19.7 kg)	0.86	1.71	1.62	1.80	2.49	2.35	2.50
	7-9	52.5 lb (23.8 kg)	0.98	1.95	1.75	1.98	2.73	2.55	2.76
15°	1-4	33.5 lb (15.2 kg)	1.10	1.71	1.95	2.26	2.81	3.30	2.87
	5-6	43.5 lb (19.7 kg)	1.42	1.71	2.27	2.72	3.13	3.63	3.15
	7-9	52.5 lb (23.8 kg)	1.69	1.96	2.67	3.22	3.65	4.38	3.72
30°	1-4	33.5 lb (15.2 kg)	1.72	1.81	2.58	3.21	3.44	4.59	3.53
	5-6	43.5 lb (19.7 kg)	2.26	2.29	3.11	4.00	3.97	5.27	4.00
	7-9	52.5 lb (23.8 kg)	2.75	2.85	3.73	4.83	4.71	6.45	4.81
45°	1-4	33.5 lb (15.2 kg)	2.25	2.36	3.10	4.00	3.96	5.63	4.08
	5-6	43.5 lb (19.7 kg)	2.96	2.99	3.81	5.06	4.67	6.49	4.71
	7-9	52.5 lb (23.8 kg)	3.63	3.76	3.73	6.17	5.59	8.03	5.73
60°	1-4	33.5 lb (15.2 kg)	2.63	2.77	3.49	4.58	4.34	6.21	4.48
	5-6	43.5 lb (19.7 kg)	3.46	3.51	4.32	5.84	5.19	7.01	5.22
	7-9	52.5 lb (23.8 kg)	4.27	4.44	5.25	7.15	6.23	8.80	6.40

Optical Distributions

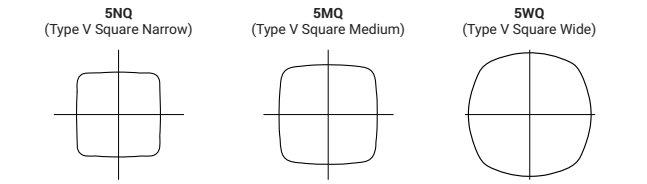
Asymmetric Area Distributions



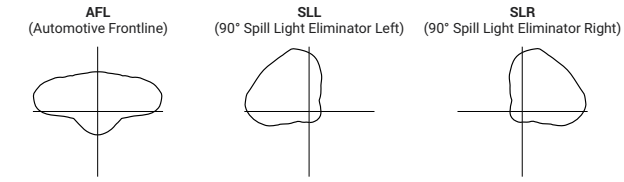
Asymmetric Roadway Distributions



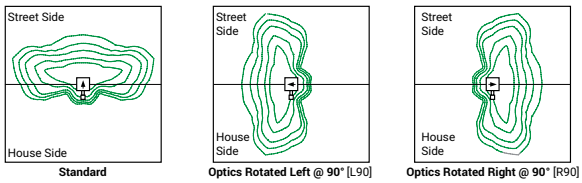
Symmetric Distributions



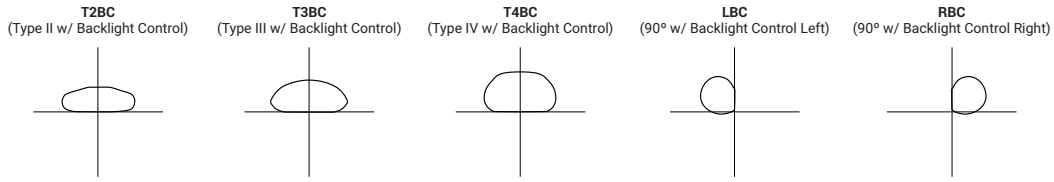
Specialized Distributions



Rotated Optics



Backlight Control Distributions



Product Specifications

Construction
- Die-cast aluminum housing and heat sink
- Three housing sizes, using 1 to 9 light squares

Optics
- High-efficiency injection-molded AccuLED Optics technology
- 22 optical distributions for area site and roadway applications
- 4 shielding options include HSS, BCS, GRS and PFS
- IDA Certified (3000K CCT and warmer only, fixed mounting options)
- 5 step MacAdam ellipse binning (5 SDCM) standard with 70CRI and 80CRI. 3SDCM option available with 740 CRI/CCT. 3 step MacAdam ellipse binning standard with 90CRI

Electrical
- Removable power tray assembly includes drivers, surge modules and control modules for ease of maintenance and serviceability
- Standard with 0-10V dimming
- Standard with 10kV surge module, optional 20kV surge module
- Suitable for operation in -40°C to 40°C ambient environments. Optional 50°C high ambient (HA) configuration
- Luminaire available with the field adjustable dimming controller (FADC) to manually adjust wattage and reduce the total lumen output and light levels. Comes pre-set to the highest position at the lumen output selected

Mounting
- Arms are factory installed, enabling closed-housing installation
- All arms suitable for round or square pole installation
- All arms provide clearance for multiple fixture installations at 90°

Finish
- 6 standard finishes use super durable TGIC polyester powder coat paint, providing 2.5 mil nominal thickness and salt-spray tested to 3,000 hours per ASTM B117
- RAL and custom color matches available
- Coastal Construction (CC) option salt-spray tested to 5,000 hours per ASTM B117, achieving a scribe rating of 9 per ASTM D1654

Compliance
- Visit https://www.designlights.org/search/ to confirm qualification. Not all product variations are DLC qualified
- IDA Certified (3000K CCT and warmer only, fixed mounting options)
- Declare compliant
- This Cooper product is manufactured in the US and meets the BABA cost of components rule. To verify a configured product with specific accessories and options meets BABA Domestic Preference Requirements; submit this catalog number to Cooper Lighting Quotation team for validation by our Engineering and Manufacturing teams. Our BABA designation is based on the minimum compliance requirement for BABA. Individual Government Agencies may have more stringent compliance standards.
- Please refer to the DOMESTIC PREFERENCES website or consult the CLS Domestic Preferences team for more information. Components shipped separately may be separately analyzed under domestic preference requirements

Typical Applications
- Outdoor, Parking Lots, Walkways, Roadways, Building Areas
- Sports lighting, including tennis, pickleball, basketball courts

Warranty
- Five-year limited warranty. Consult website for details. www.cooperlighting.com/legal

Energy and Performance Data

Lumen Maintenance (TM-21)

Output Level	Ambient Temperature	25,000 hours*	50,000 hours*	60,000 hours*	100,000 hours**	Theoretical L70 hours**
Output Levels 1-3	25°C	99.4%	99.0%	98.9%	98.3%	> 2.4M
	40°C	98.7%	98.3%	98.1%	97.4%	> 1.9M
	50°C	98.2%	97.2%	96.8%	95.2%	> 851,000
Output Level 4	25°C	99.4%	99.0%	98.9%	98.3%	> 2.4M
	40°C	98.5%	97.9%	97.7%	96.7%	> 1.3M

* Supported by IES TM-21 standards
** Theoretical values represent estimations commonly used; however, refer to the IES position on LED Product Lifetime Prediction, IES PS-10-18, explaining proper use of IES TM-21 and LM-80.

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0ºC	1.02
10ºC	1.01
25ºC	1.00
40ºC	0.99
50ºC	0.97

FADC Settings
SA1-SA3 (All Output Levels)

FADC Position	Percent of Typical Lumen Output
1	25%
2	48%
3	56%
4	65%
5	75%
6	80%
7	85%
8	90%
9	95%
10	100%

Note: +/-5% typical value

FADC Settings
SA4-SA6 (All Output Levels)

FADC Position	Percent of Typical Lumen Output
1	14%
2	25%
3	32%
4	43%
5	49%
6	57%
7	65%
8	72%
9	80%
10	100%

Note: +/-5% typical value

FADC Settings
SA7-SA9 (All Output Levels)

FADC Position	Percent of Typical Lumen Output
1	19%
2	38%
3	47%
4	63%
5	74%
6	85%
7	95%
8	97%
9	100%
10	100%

Note: +/-5% typical value

Drive Currents

Lumen Output	SA Light Squares	SB Light Squares
Output Level 1	615mA	350mA
Output Level 2	800mA	450mA
Output Level 3	1050mA	615mA
Output Level 4	1200mA	900mA

SA Light Squares, Output Level 1, 4000K CCT, 70 CRI

Galleon II IES Files | Supplemental Lumen Tables

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		33	63	93	121	154	182	215	244	274
Input Current @ 120V		0.283	0.529	0.778	1.058	1.310	1.556	1.839	2.089	2.335
Input Current @ 208V		0.165	0.309	0.460	0.618	0.771	0.919	1.082	1.240	1.379
Input Current @ 240V		0.143	0.270	0.398	0.540	0.671	0.796	0.944	1.078	1.194
Input Current @ 277V		0.125	0.237	0.352	0.473	0.581	0.705	0.818	0.962	1.057
Input Current @ 347V		0.098	0.181	0.272	0.362	0.454	0.544	0.636	0.738	0.816
Input Current @ 480V		0.073	0.133	0.200	0.267	0.335	0.400	0.470	0.554	0.600
Optics										
T1	Lumens	4,619	9,180	13,628	18,059	22,861	27,070	31,796	36,863	41,385
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
	Lumens per Watt	140	146	147	149	148	149	148	151	151
T2	Lumens	4,654	9,249	13,730	18,194	23,032	27,273	32,034	37,138	41,694
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	141	147	148	150	150	150	149	152	152
T2R	Lumens	4,716	9,372	13,913	18,437	23,340	27,637	32,462	37,634	42,251
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
	Lumens per Watt	143	149	150	152	152	152	151	154	154
T3	Lumens	4,589	9,120	13,538	17,940	22,711	26,892	31,587	36,620	41,112
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G4
	Lumens per Watt	139	145	146	148	147	148	147	150	150
T3R	Lumens	4,735	9,411	13,970	18,513	23,436	27,751	32,596	37,790	42,425
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	143	149	150	153	152	152	152	155	155
T4FT	Lumens	4,617	9,176	13,622	18,051	22,851	27,058	31,782	36,847	41,366
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	140	146	146	149	148	149	148	151	151
T4W	Lumens	4,631	9,203	13,662	18,104	22,918	27,138	31,876	36,955	41,488
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	140	146	147	150	149	149	148	151	151
SL2	Lumens	4,619	9,180	13,627	18,058	22,860	27,069	31,795	36,861	41,383
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5
	Lumens per Watt	140	146	147	149	148	149	148	151	151
SL3	Lumens	4,586	9,115	13,531	17,931	22,699	26,879	31,571	36,602	41,091
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	139	145	145	148	147	148	147	150	150
SL4	Lumens	4,529	9,002	13,363	17,708	22,417	26,544	31,178	36,146	40,580
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G4	B2-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	137	143	144	146	146	146	145	148	148
5NQ	Lumens	4,829	9,598	14,247	18,880	23,901	28,301	33,242	38,539	43,266
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3
	Lumens per Watt	146	152	153	156	155	155	155	158	158
5MQ	Lumens	4,853	9,645	14,318	18,974	24,020	28,442	33,407	38,731	43,482
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	147	153	154	157	156	156	155	159	159
5WQ	Lumens	4,843	9,625	14,288	18,934	23,969	28,382	33,337	38,649	43,390
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
	Lumens per Watt	147	153	154	156	156	156	155	158	158
SLL/ SLR	Lumens	3,989	7,927	11,768	15,594	19,741	23,375	27,456	31,831	35,736
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	121	126	127	129	128	128	128	130	130
RW	Lumens	4,774	9,488	14,085	18,665	23,628	27,979	32,863	38,100	42,774
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
	Lumens per Watt	145	151	151	154	153	154	153	156	156
AFL	Lumens	4,673	9,286	13,785	18,268	23,126	27,384	32,164	37,290	41,864
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3
	Lumens per Watt	142	147	148	151	150	150	150	153	153

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

SA Light Squares, Output Level 2, 4000K CCT, 70 CRI

Galleon II IES Files | Supplemental Lumen Tables

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		44	82	121	164	204	243	286	325	364
Input Current @ 120V		0.367	0.689	1.014	1.378	1.704	2.027	2.393	2.716	3.041
Input Current @ 208V		0.213	0.401	0.594	0.802	0.997	1.188	1.400	1.605	1.782
Input Current @ 240V		0.184	0.347	0.510	0.694	0.860	1.021	1.210	1.386	1.531
Input Current @ 277V		0.160	0.303	0.449	0.605	0.757	0.898	1.065	1.242	1.347
Input Current @ 347V		0.125	0.235	0.355	0.471	0.592	0.710	0.828	0.958	1.065
Input Current @ 480V		0.092	0.172	0.258	0.344	0.432	0.517	0.605	0.706	0.775
Optics										
T1	Lumens	5,748	11,423	16,957	22,470	28,446	33,683	39,563	45,867	51,494
	BUG Rating	B2-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	131	139	140	137	139	139	138	141	141
T2	Lumens	5,790	11,508	17,083	22,638	28,658	33,935	39,859	46,210	51,879
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	132	140	141	138	140	140	139	142	143
T2R	Lumens	5,868	11,662	17,311	22,941	29,041	34,388	40,391	46,827	52,572
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5
	Lumens per Watt	133	142	143	140	142	142	141	144	144
T3	Lumens	5,710	11,347	16,845	22,322	28,258	33,461	39,303	45,565	51,155
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5
	Lumens per Watt	130	138	139	136	139	138	137	140	141
T3R	Lumens	5,892	11,710	17,383	23,035	29,161	34,530	40,558	47,020	52,788
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	134	143	144	140	143	142	142	145	145
T4FT	Lumens	5,745	11,418	16,949	22,460	28,433	33,668	39,546	45,847	51,471
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	131	139	140	137	139	139	138	141	141
T4W	Lumens	5,762	11,451	16,999	22,526	28,517	33,767	39,662	45,982	51,622
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	131	140	140	137	140	139	139	141	142
SL2	Lumens	5,747	11,422	16,956	22,469	28,444	33,681	39,561	45,865	51,491
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	131	139	140	137	139	139	138	141	141
SL3	Lumens	5,707	11,342	16,836	22,311	28,244	33,444	39,283	45,542	51,129
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	130	138	139	136	138	138	137	140	140
SL4	Lumens	5,636	11,201	16,627	22,034	27,893	33,028	38,794	44,976	50,493
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G4	B2-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	128	137	137	134	137	136	136	138	139
5NQ	Lumens	6,009	11,942	17,727	23,492	29,739	35,214	41,362	47,953	53,835
	BUG Rating	B2-U0-G1	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
	Lumens per Watt	137	146	147	143	146	145	145	148	148
5MQ	Lumens	6,039	12,001	17,816	23,609	29,887	35,389	41,568	48,191	54,103
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
	Lumens per Watt	137	146	147	144	147	146	145	148	149
5WQ	Lumens	6,026	11,976	17,778	23,559	29,824	35,315	41,480	48,090	53,989
	BUG Rating	B3-U0-G1	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	137	146	147	144	146	145	145	148	148
SLL/ SLR	Lumens	4,963	9,863	14,642	19,403	24,563	29,085	34,163	39,607	44,465
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	113	120	121	118	120	120	119	122	122
RW	Lumens	5,940	11,806	17,526	23,224	29,400	34,813	40,891	47,407	53,222
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	135	144	145	142	144	143	143	146	146
AFL	Lumens	5,814	11,555	17,153	22,730	28,775	34,073	40,021	46,398	52,090
	BUG Rating	B1-U0-G1	B2-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4
	Lumens per Watt	132	141	142	139	141	140	140	143	143

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

SA Light Squares, Output Level 3, 4000K CCT, 70 CRI

Galleon II IES Files | Supplemental Lumen Tables

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		57	108	160	213	269	321	377	429	481
Input Current @ 120V		0.478	0.905	1.338	1.810	2.244	2.675	3.150	3.584	4.013
Input Current @ 208V		0.279	0.532	0.780	1.064	1.313	1.559	1.845	2.093	2.339
Input Current @ 240V		0.243	0.458	0.664	0.916	1.123	1.328	1.582	1.788	1.991
Input Current @ 277V		0.213	0.404	0.582	0.808	0.997	1.164	1.401	1.589	1.745
Input Current @ 347V		0.164	0.322	0.471	0.644	0.795	0.943	1.117	1.269	1.414
Input Current @ 480V		0.121	0.235	0.341	0.469	0.579	0.681	0.814	0.923	1.022
Optics										
T1	Lumens	7,101	14,113	20,950	27,763	35,146	41,616	48,882	56,671	63,623
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	125	131	131	130	131	130	130	132	132
T2	Lumens	7,154	14,219	21,107	27,970	35,408	41,927	49,247	57,094	64,098
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	126	132	132	131	132	131	131	133	133
T2R	Lumens	7,250	14,408	21,389	28,344	35,881	42,487	49,905	57,857	64,954
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	127	133	134	133	133	132	132	135	135
T3	Lumens	7,054	14,020	20,812	27,580	34,914	41,342	48,560	56,297	63,203
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	124	130	130	129	130	129	129	131	131
T3R	Lumens	7,280	14,468	21,477	28,461	36,029	42,663	50,111	58,096	65,222
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	128	134	134	134	134	133	133	135	136
T4FT	Lumens	7,098	14,107	20,941	27,751	35,130	41,598	48,860	56,646	63,594
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	125	131	131	130	131	130	130	132	132
T4W	Lumens	7,119	14,148	21,003	27,832	35,233	41,720	49,004	56,812	63,781
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	125	131	131	131	131	130	130	132	133
SL2	Lumens	7,101	14,112	20,949	27,761	35,144	41,614	48,879	56,668	63,619
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	125	131	131	130	131	130	130	132	132
SL3	Lumens	7,051	14,013	20,802	27,566	34,897	41,321	48,535	56,269	63,172
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	124	130	130	129	130	129	129	131	131
SL4	Lumens	6,963	13,839	20,543	27,223	34,463	40,808	47,932	55,569	62,386
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	122	128	128	128	128	127	127	130	130
5NQ	Lumens	7,424	14,755	21,903	29,025	36,743	43,508	51,104	59,247	66,515
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	130	137	137	136	137	136	136	138	138
5MQ	Lumens	7,461	14,828	22,012	29,169	36,926	43,725	51,359	59,542	66,846
	BUG Rating	B3-U0-G1	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	131	137	138	137	137	136	136	139	139
5WQ	Lumens	7,445	14,797	21,966	29,108	36,849	43,633	51,250	59,417	66,705
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	131	137	137	137	137	136	136	139	139
SLL/ SLR	Lumens	6,132	12,187	18,091	23,973	30,348	35,936	42,210	48,935	54,938
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	108	113	113	113	113	112	112	114	114
RW	Lumens	7,340	14,587	21,653	28,694	36,325	43,013	50,522	58,573	65,757
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	129	135	135	135	135	134	134	137	137
AFL	Lumens	7,183	14,276	21,193	28,084	35,552	42,098	49,448	57,327	64,359
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G4
	Lumens per Watt	126	132	132	132	132	131	131	134	134

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

SA Light Squares, Output Level 4, 4000K CCT, 70 CRI

Galleon II IES Files | Supplemental Lumen Tables

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		65	125	184	245	309	368	433	493	552
Input Current @ 120V		0.546	1.041	1.535	2.082	2.578	3.070	3.619	4.114	4.605
Input Current @ 208V		0.318	0.610	0.893	1.219	1.504	1.786	2.113	2.397	2.679
Input Current @ 240V		0.276	0.523	0.758	1.046	1.282	1.516	1.806	2.041	2.274
Input Current @ 277V		0.241	0.460	0.662	0.920	1.133	1.325	1.593	1.807	1.987
Input Current @ 347V		0.187	0.370	0.543	0.740	0.915	1.085	1.285	1.459	1.628
Input Current @ 480V		0.138	0.269	0.391	0.537	0.663	0.782	0.932	1.057	1.173
Optics										
T1	Lumens	7,814	15,529	23,053	30,549	38,672	45,793	53,787	62,358	70,007
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	120	124	125	125	125	124	124	126	127
T2	Lumens	7,872	15,645	23,225	30,777	38,962	46,135	54,189	62,824	70,530
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	121	125	126	126	126	125	125	127	128
T2R	Lumens	7,977	15,854	23,535	31,188	39,482	46,751	54,913	63,663	71,472
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	123	127	128	127	128	127	127	129	129
T3	Lumens	7,762	15,427	22,901	30,348	38,418	45,491	53,433	61,947	69,546
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	119	123	124	124	124	124	123	126	126
T3R	Lumens	8,010	15,920	23,632	31,317	39,645	46,944	55,139	63,925	71,767
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	123	127	128	128	128	128	127	130	130
T4FT	Lumens	7,810	15,522	23,043	30,535	38,655	45,772	53,763	62,330	69,976
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	120	124	125	125	125	124	124	126	127
T4W	Lumens	7,833	15,568	23,110	30,625	38,769	45,907	53,921	62,513	70,182
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	121	125	126	125	125	125	125	127	127
SL2	Lumens	7,813	15,528	23,052	30,547	38,670	45,790	53,784	62,354	70,003
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	120	124	125	125	125	124	124	126	127
SL3	Lumens	7,758	15,419	22,889	30,332	38,398	45,468	53,406	61,916	69,511
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	119	123	124	124	124	124	123	126	126
SL4	Lumens	7,662	15,228	22,605	29,955	37,921	44,903	52,742	61,146	68,646
	BUG Rating	B1-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	118	122	123	122	123	122	122	124	124
5NQ	Lumens	8,169	16,235	24,101	31,938	40,431	47,874	56,232	65,193	73,190
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	126	130	131	130	131	130	130	132	133
5MQ	Lumens	8,210	16,316	24,221	32,097	40,632	48,113	56,512	65,517	73,554
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	126	131	132	131	131	131	131	133	133
5WQ	Lumens	8,192	16,282	24,170	32,029	40,546	48,011	56,393	65,379	73,399
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	126	130	131	131	131	130	130	133	133
SLL/ SLR	Lumens	6,747	13,410	19,906	26,379	33,394	39,542	46,445	53,846	60,451
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	104	107	108	108	108	107	107	109	110
RW	Lumens	8,076	16,050	23,826	31,574	39,970	47,329	55,592	64,450	72,356
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
	Lumens per Watt	124	128	129	129	129	129	128	131	131
AFL	Lumens	7,904	15,709	23,320	30,902	39,120	46,323	54,410	63,079	70,817
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B4-U0-G4	B4-U0-G4
	Lumens per Watt	122	126	127	126	127	126	126	128	128

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

SB Light Squares, Output Level 1, 4000K, 70 CRI

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		31	57	85	114	142	171	199	227	256
Input Current @ 120V		0.263	0.484	0.717	0.952	1.201	1.434	1.685	1.918	2.151
Input Current @ 208V		0.154	0.280	0.420	0.552	0.700	0.839	0.979	1.119	1.259
Input Current @ 240V		0.136	0.245	0.370	0.483	0.615	0.740	0.860	0.985	1.110
Input Current @ 277V		0.122	0.216	0.330	0.425	0.546	0.660	0.762	0.876	0.989
Input Current @ 347V		-	-	0.248	0.328	0.413	0.495	0.577	0.665	0.743
Input Current @ 480V		-	-	0.182	0.238	0.304	0.364	0.426	0.493	0.547
Optics										
T1	Lumens	4,696	9,389	14,086	18,816	23,716	28,470	33,388	37,964	42,763
	BUG Rating	B2-U0-G1	B3-U0-G1	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4
	Lumens per Watt	152	164	166	165	167	167	168	167	167
T2	Lumens	4,704	9,404	14,109	18,846	23,754	28,515	33,442	38,024	42,831
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G5
	Lumens per Watt	152	164	167	165	168	167	168	167	168
T2R	Lumens	4,835	9,667	14,503	19,373	24,418	29,313	34,377	39,087	44,029
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
	Lumens per Watt	156	169	171	170	172	172	173	172	172
T3	Lumens	4,751	9,497	14,249	19,033	23,989	28,798	33,773	38,401	43,256
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G4
	Lumens per Watt	154	166	168	167	169	169	170	169	169
T3R	Lumens	4,874	9,743	14,618	19,526	24,611	29,544	34,648	39,396	44,376
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5
	Lumens per Watt	158	170	173	171	174	173	174	173	174
T4FT	Lumens	4,692	9,380	14,074	18,799	23,694	28,444	33,358	37,929	42,724
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	152	164	166	165	167	166	168	167	167
T4W	Lumens	4,738	9,472	14,211	18,983	23,926	28,723	33,685	38,300	43,142
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	153	165	168	167	169	168	169	169	169
SL2	Lumens	4,719	9,433	14,153	18,905	23,828	28,605	33,546	38,143	42,965
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G4	B4-U0-G5
	Lumens per Watt	153	165	167	166	168	167	168	168	168
SL3	Lumens	4,640	9,276	13,916	18,589	23,430	28,127	32,986	37,506	42,247
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	150	162	164	163	165	165	166	165	165
SL4	Lumens	4,706	9,408	14,115	18,854	23,764	28,527	33,456	38,040	42,849
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	152	164	167	165	168	167	168	168	168
5NQ	Lumens	4,975	9,945	14,921	19,931	25,121	30,157	35,367	40,213	45,297
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
	Lumens per Watt	161	174	176	175	177	176	178	177	177
5MQ	Lumens	4,972	9,939	14,912	19,919	25,106	30,139	35,346	40,189	45,269
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	161	173	176	175	177	176	178	177	177
5WQ	Lumens	4,802	9,600	14,403	19,239	24,249	29,110	34,139	38,817	43,724
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
	Lumens per Watt	155	168	170	169	171	170	171	171	171
SLL/SLR	Lumens	4,730	9,457	14,188	18,952	23,887	28,676	33,630	38,238	43,072
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	153	165	168	166	169	168	169	168	169
RW	Lumens	4,889	9,773	14,663	19,586	24,686	29,635	34,755	39,517	44,513
	BUG Rating	B2-U0-G1	B3-U0-G1	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4
	Lumens per Watt	158	171	173	172	174	173	175	174	174
AFL	Lumens	4,828	9,652	14,482	19,344	24,381	29,269	34,325	39,029	43,963
	BUG Rating	B1-U0-G1	B2-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3
	Lumens per Watt	156	168	171	170	172	171	172	172	172

SB Light Squares, Output Level 2, 4000K, 70 CRI

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		40	74	109	147	183	220	257	293	330
Input Current @ 120V		0.330	0.627	0.919	1.255	1.547	1.838	2.174	2.466	2.758
Input Current @ 208V		0.192	0.370	0.533	0.739	0.902	1.066	1.272	1.435	1.598
Input Current @ 240V		0.169	0.327	0.467	0.655	0.794	0.933	1.121	1.260	1.400
Input Current @ 277V		0.150	0.294	0.412	0.588	0.706	0.823	1.000	1.118	1.235
Input Current @ 347V		0.112	0.215	0.316	0.431	0.531	0.632	0.746	0.847	0.947
Input Current @ 480V		0.086	0.160	0.230	0.320	0.390	0.460	0.550	0.620	0.690
Optics										
T1	Lumens	5,895	11,786	17,683	23,620	29,771	35,739	41,913	47,656	53,681
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	148	159	162	161	163	162	163	163	163
T2	Lumens	5,905	11,805	17,711	23,658	29,818	35,796	41,980	47,732	53,766
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5
	Lumens per Watt	148	160	162	161	163	162	164	163	163
T2R	Lumens	6,070	12,135	18,206	24,319	30,652	36,797	43,154	49,067	55,270
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5
	Lumens per Watt	153	164	167	165	168	167	168	168	168
T3	Lumens	5,963	11,922	17,887	23,892	30,114	36,151	42,396	48,206	54,300
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5
	Lumens per Watt	150	161	164	163	165	164	165	165	165
T3R	Lumens	6,118	12,231	18,350	24,511	30,894	37,087	43,494	49,454	55,706
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	154	166	168	167	169	168	169	169	169
T4FT	Lumens	5,890	11,775	17,667	23,599	29,744	35,706	41,875	47,613	53,632
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	148	159	162	161	163	162	163	163	163
T4W	Lumens	5,948	11,891	17,840	23,830	30,035	36,056	42,285	48,079	54,157
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	149	161	163	162	164	164	165	164	164
SL2	Lumens	5,923	11,842	17,766	23,732	29,912	35,908	42,111	47,882	53,935
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5
	Lumens per Watt	149	160	163	161	164	163	164	164	164
SL3	Lumens	5,824	11,644	17,469	23,335	29,412	35,308	41,407	47,081	53,033
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	146	158	160	159	161	160	161	161	161
SL4	Lumens	5,907	11,810	17,718	23,668	29,831	35,811	41,998	47,752	53,789
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5
	Lumens per Watt	148	160	162	161	163	162	164	163	163
5NQ	Lumens	6,245	12,484	18,731	25,020	31,535	37,857	44,397	50,480	56,862
	BUG Rating	B2-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	157	169	172	170	173	172	173	172	173
5MQ	Lumens	6,241	12,477	18,719	25,005	31,516	37,834	44,370	50,450	56,827
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	157	169	171	170	173	172	173	172	172
5WQ	Lumens	6,028	12,051	18,080	24,151	30,440	36,542	42,855	48,728	54,887
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	151	163	166	164	167	166	167	166	167
SLL/SLR	Lumens	5,938	11,871	17,811	23,791	29,986	35,997	42,216	48,001	54,069
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	149	161	163	162	164	163	164	164	164
RW	Lumens	6,137	12,268	18,406	24,587	30,989	37,201	43,628	49,606	55,877
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	154	166	169	167	170	169	170	169	170
AFL	Lumens	6,061	12,117	18,179	24,283	30,606	36,742	43,089	48,993	55,187
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4
	Lumens per Watt	152	164	166	165	168	167	168	167	167

SB Light Squares, Output Level 3, 4000K, 70 CRI

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		54	101	149	201	250	301	351	400	450
Input Current @ 120V		0.437	0.857	1.259	1.714	2.116	2.518	2.973	3.375	3.776
Input Current @ 208V		0.254	0.498	0.721	0.996	1.219	1.442	1.717	1.940	2.163
Input Current @ 240V		0.223	0.437	0.628	0.874	1.065	1.256	1.501	1.693	1.884
Input Current @ 277V		0.197	0.386	0.550	0.772	0.936	1.100	1.322	1.485	1.649
Input Current @ 347V		0.150	0.292	0.432	0.584	0.724	0.863	1.016	1.155	1.295
Input Current @ 480V		0.111	0.213	0.311	0.427	0.525	0.622	0.738	0.836	0.933
Optics										
T1	Lumens	7,841	15,675	23,517	31,414	39,594	47,531	55,743	63,381	71,393
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
	Lumens per Watt	144	155	158	157	159	158	159	159	159
T2	Lumens	7,853	15,700	23,555	31,464	39,657	47,607	55,832	63,482	71,507
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	144	156	158	157	159	158	159	159	159
T2R	Lumens	8,073	16,139	24,214	32,344	40,766	48,938	57,393	65,257	73,507
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	148	160	162	161	163	163	164	163	163
T3	Lumens	7,931	15,856	23,789	31,776	40,051	48,080	56,386	64,112	72,217
	BUG Rating	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5
	Lumens per Watt	146	157	160	158	161	160	161	160	161
T3R	Lumens	8,137	16,267	24,405	32,599	41,088	49,325	57,846	65,773	74,087
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	150	161	164	162	165	164	165	165	165
T4FT	Lumens	7,834	15,661	23,496	31,385	39,558	47,488	55,692	63,324	71,329
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5
	Lumens per Watt	144	155	158	156	159	158	159	158	159
T4W	Lumens	7,910	15,814	23,726	31,693	39,946	47,953	56,238	63,944	72,027
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	145	157	159	158	160	159	160	160	160
SL2	Lumens	7,878	15,749	23,629	31,562	39,781	47,756	56,006	63,681	71,731
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	145	156	158	157	159	159	160	159	159
SL3	Lumens	7,746	15,486	23,234	31,035	39,117	46,958	55,070	62,616	70,532
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	142	153	156	155	157	156	157	157	157
SL4	Lumens	7,857	15,707	23,565	31,477	39,674	47,627	55,855	63,509	71,538
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	144	156	158	157	159	158	159	159	159
5NQ	Lumens	8,305	16,604	24,911	33,275	41,940	50,348	59,046	67,137	75,624
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	153	165	167	166	168	167	168	168	168
5MQ	Lumens	8,300	16,594	24,896	33,255	41,915	50,318	59,010	67,097	75,578
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	153	164	167	166	168	167	168	168	168
5WQ	Lumens	8,017	16,027	24,046	32,120	40,484	48,600	56,996	64,806	72,998
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	147	159	161	160	162	162	163	162	162
SLL/SLR	Lumens	7,897	15,788	23,687	31,641	39,880	47,875	56,146	63,839	71,909
	BUG Rating	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5
	Lumens per Watt	145	156	159	158	160	159	160	160	160
RW	Lumens	8,162	16,317	24,480	32,699	41,215	49,476	58,024	65,975	74,315
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
	Lumens per Watt	150	162	164	163	165	164	166	165	165
AFL	Lumens	8,061	16,115	24,177	32,295	40,705	48,865	57,307	65,160	73,397
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G4	B4-U0-G4
	Lumens per Watt	148	160	162	161	163	162	164	163	163

SB Light Squares, Output Level 4, 4000K, 70 CRI

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		80	148	218	294	365	440	513	585	658
Input Current @ 120V		0.638	1.234	1.840	2.469	3.094	3.680	4.349	4.934	5.519
Input Current @ 208V		0.367	0.705	1.045	1.410	1.779	2.090	2.513	2.824	3.135
Input Current @ 240V		0.320	0.614	0.913	1.227	1.567	1.827	2.220	2.480	2.740
Input Current @ 277V		0.280	0.537	0.813	1.075	1.402	1.626	1.992	2.215	2.439
Input Current @ 347V		0.219	0.430	0.640	0.897	1.089	1.280	1.537	1.729	1.920
Input Current @ 480V		0.160	0.313	0.479	0.700	0.829	0.958	1.179	1.308	1.437
Optics										
T1	Lumens	10,654	21,299	31,955	42,684	53,800	64,585	75,742	86,121	97,008
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	134	144	147	145	147	147	148	147	147
T2	Lumens	10,671	21,333	32,006	42,752	53,886	64,688	75,863	86,258	97,162
	BUG Rating	B2-U0-G2	B3-U0-G3	B4-U0-G4	B4-U0-G5	B4-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	134	145	147	146	148	147	148	147	148
T2R	Lumens	10,969	21,929	32,901	43,948	55,392	66,496	77,984	88,670	99,879
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5
	Lumens per Watt	138	149	151	150	152	151	152	152	152
T3	Lumens	10,777	21,545	32,324	43,177	54,420	65,329	76,616	87,114	98,127
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	135	146	148	147	149	148	149	149	149
T3R	Lumens	11,056	22,103	33,161	44,295	55,830	67,022	78,600	89,371	100,668
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	139	150	152	151	153	152	153	153	153
T4FT	Lumens	10,644	21,280	31,926	42,646	53,751	64,526	75,674	86,043	96,920
	BUG Rating	B2-U0-G3	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	134	144	146	145	147	147	148	147	147
T4W	Lumens	10,748	21,488	32,239	43,063	54,277	65,158	76,414	86,885	97,869
	BUG Rating	B2-U0-G2	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	135	146	148	147	149	148	149	149	149
SL2	Lumens	10,704	21,400	32,106	42,886	54,054	64,890	76,100	86,528	97,467
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	134	145	147	146	148	147	148	148	148
SL3	Lumens	10,525	21,042	31,570	42,169	53,151	63,805	74,828	85,082	95,837
	BUG Rating	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	132	143	145	144	146	145	146	145	146
SL4	Lumens	10,675	21,342	32,020	42,771	53,908	64,715	75,895	86,295	97,204
	BUG Rating	B2-U0-G3	B3-U0-G4	B4-U0-G5	B4-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	134	145	147	146	148	147	148	148	148
5NQ	Lumens	11,285	22,561	33,849	45,214	56,988	68,412	80,230	91,224	102,756
	BUG Rating	B3-U0-G1	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	142	153	155	154	156	155	156	156	156
5MQ	Lumens	11,278	22,547	33,828	45,187	56,954	68,371	80,182	91,169	102,694
	BUG Rating	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	142	153	155	154	156	155	156	156	156
5WQ	Lumens	10,893	21,778	32,673	43,644	55,009	66,037	77,445	88,057	99,189
	BUG Rating	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	137	148	150	149	151	150	151	151	151
SLL/SLR	Lumens	10,731	21,453	32,186	42,993	54,189	65,051	76,290	86,743	97,709
	BUG Rating	B2-U0-G3	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	135	145	148	146	149	148	149	148	148
RW	Lumens	11,090	22,171	33,263	44,431	56,001	67,228	78,842	89,645	100,978
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	139	150	153	151	153	153	154	153	153
AFL	Lumens	10,953	21,897	32,852	43,882	55,309	66,397	77,868	88,538	99,730
	BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5	B5-U0-G5
	Lumens per Watt	138	148	151	149	152	151	152	151	152

Backlight Control Optics, Output Level 1, 4000K CCT, 70 CRI

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		29	56	82	108	136	162	193	218	245
Input Current @ 120V		0.247	0.469	0.680	0.939	1.150	1.361	1.619	1.829	2.041
Input Current @ 208V		0.144	0.273	0.396	0.546	0.669	0.792	0.942	1.070	1.188
Input Current @ 240V		0.126	0.240	0.348	0.480	0.588	0.696	0.828	0.944	1.045
Input Current @ 277V		0.111	0.212	0.310	0.424	0.522	0.620	0.734	0.844	0.929
Input Current @ 347V		0.087	0.160	0.240	0.319	0.400	0.481	0.559	0.650	0.721
Input Current @ 480V		0.066	0.118	0.177	0.237	0.295	0.354	0.414	0.483	0.532
Optics		**SA1A**	**SA2A**	**SA3A**	**SA4A**	**SA5A**	**SA6A**	**SA7A**	**SA8A**	**SA9A**
T2BC	Lumens	3,639	7,299	10,947	14,537	17,743	21,263	24,840	28,510	32,106
	BUG Rating	B0-U0-G1	B0-U0-G2	B0-U0-G2	B0-U0-G3	B0-U0-G3	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G4
	Lumens per Watt	125	131	134	135	130	131	129	131	131
T3BC	Lumens	3,824	7,670	11,504	15,276	18,645	22,344	26,103	29,960	33,739
	BUG Rating	B0-U0-G1	B0-U0-G2	B0-U0-G2	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G4	B0-U0-G5	B0-U0-G5
	Lumens per Watt	132	137	141	142	136	137	135	138	138
T4BC	Lumens	3,698	7,417	11,125	14,772	18,030	21,607	25,242	28,972	32,626
	BUG Rating	B0-U0-G2	B0-U0-G3	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G5	B0-U0-G5	B0-U0-G5	B0-U0-G5
	Lumens per Watt	128	133	137	138	132	133	131	133	133
RBC	Lumens	3,327	6,673	10,008	13,290	16,221	19,439	22,709	26,065	29,352
	BUG Rating	B0-U0-G1	B0-U0-G2	B0-U0-G2	B0-U0-G2	B0-U0-G3	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G4
	Lumens per Watt	115	120	123	124	119	119	118	120	120
LBC	Lumens	3,327	6,673	10,008	13,290	16,221	19,439	22,709	26,064	29,352
	BUG Rating	B0-U0-G1	B0-U0-G2	B0-U0-G2	B0-U0-G2	B0-U0-G3	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G4
	Lumens per Watt	115	120	123	124	119	119	118	120	120

Backlight Control Optics, Output Level 2, 4000K CCT, 70 CRI

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		39	73	106	144	179	213	249	283	314
Input Current @ 120V		0.320	0.610	0.890	1.220	1.500	1.781	2.110	2.385	2.671
Input Current @ 208V		0.185	0.352	0.513	0.704	0.865	1.027	1.217	1.380	1.540
Input Current @ 240V		0.161	0.307	0.449	0.615	0.756	0.898	1.064	1.210	1.347
Input Current @ 277V		0.141	0.270	0.395	0.539	0.665	0.790	0.934	1.069	1.185
Input Current @ 347V		0.111	0.207	0.314	0.414	0.522	0.629	0.729	0.847	0.943
Input Current @ 480V		0.083	0.152	0.229	0.303	0.380	0.457	0.532	0.620	0.686
Optics		**SA1B**	**SA2B**	**SA3B**	**SA4B**	**SA5B**	**SA6B**	**SA7B**	**SA8B**	**SA9B**
T2BC	Lumens	4,549	9,135	14,026	17,976	22,214	26,621	31,146	35,647	39,532
	BUG Rating	B0-U0-G1	B0-U0-G2	B0-U0-G2	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G4	B0-U0-G5	B0-U0-G5
	Lumens per Watt	118	125	132	125	124	125	125	126	126
T3BC	Lumens	4,780	9,599	14,739	18,890	23,344	27,975	32,730	37,460	41,542
	BUG Rating	B0-U0-G2	B0-U0-G2	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G4	B0-U0-G5	B0-U0-G5	B0-U0-G5
	Lumens per Watt	124	132	139	131	131	131	131	132	133
T4BC	Lumens	4,622	9,282	14,253	18,267	22,574	27,052	31,650	36,224	40,172
	BUG Rating	B0-U0-G2	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G5	B0-U0-G5	B0-U0-G5	B0-U0-G5	B0-U0-G5
	Lumens per Watt	119	128	134	127	126	127	127	128	128
RBC	Lumens	4,159	8,351	12,823	16,434	20,309	24,338	28,475	32,590	36,141
	BUG Rating	B0-U0-G1	B0-U0-G2	B0-U0-G2	B0-U0-G3	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G4	B0-U0-G5
	Lumens per Watt	107	115	121	114	114	114	114	115	116
LBC	Lumens	4,158	8,351	12,822	16,434	20,308	24,337	28,474	32,589	36,140
	BUG Rating	B0-U0-G1	B0-U0-G2	B0-U0-G2	B0-U0-G3	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G4	B0-U0-G5
	Lumens per Watt	107	115	121	114	114	114	114	115	116

Backlight Control Optics, Output Level 3, 4000K CCT, 70 CRI

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		50	96	140	190	236	283	330	377	417
Input Current @ 120V		0.427	0.803	1.176	1.606	1.979	2.352	2.782	3.155	3.528
Input Current @ 208V		0.248	0.465	0.672	0.929	1.136	1.343	1.601	1.808	2.015
Input Current @ 240V		0.218	0.407	0.586	0.814	0.993	1.171	1.399	1.578	1.757
Input Current @ 277V		0.192	0.359	0.512	0.718	0.872	1.025	1.231	1.384	1.537
Input Current @ 347V		0.144	0.286	0.418	0.573	0.704	0.836	0.991	1.122	1.253
Input Current @ 480V		0.108	0.209	0.301	0.418	0.510	0.602	0.719	0.811	0.903
Optics		**SA1C**	**SA2C**	**SA3C**	**SA4C**	**SA5C**	**SA6C**	**SA7C**	**SA8C**	**SA9C**
T2BC	Lumens	5,676	11,326	16,920	22,428	27,616	33,094	38,563	43,758	49,195
	BUG Rating	B0-U0-G2	B0-U0-G2	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G4	B0-U0-G5	B0-U0-G5	B0-U0-G5
	Lumens per Watt	113	118	121	118	117	117	117	116	118
T3BC	Lumens	5,965	11,902	17,780	23,568	29,020	34,777	40,524	45,983	51,697
	BUG Rating	B0-U0-G2	B0-U0-G2	B0-U0-G3	B0-U0-G4	B0-U0-G5	B0-U0-G5	B0-U0-G5	B0-U0-G5	B0-U0-G5
	Lumens per Watt	119	124	127	124	123	123	123	121	124
T4BC	Lumens	5,768	11,509	17,194	22,791	28,063	33,630	39,187	44,466	49,992
	BUG Rating	B0-U0-G2	B0-U0-G3	B0-U0-G4	B0-U0-G5	B0-U0-G5	B0-U0-G5	B0-U0-G5	B0-U0-G5	B0-U0-G5
	Lumens per Watt	115	120	122	120	119	119	119	117	120
RBC	Lumens	5,189	10,355	15,468	20,504	25,247	30,255	35,255	40,004	44,976
	BUG Rating	B0-U0-G2	B0-U0-G2	B0-U0-G3	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G5	B0-U0-G5	B0-U0-G5
	Lumens per Watt	103	108	110	108	107	107	107	106	108
LBC	Lumens	5,189	10,354	15,468	20,503	25,246	30,255	35,255	40,004	44,975
	BUG Rating	B0-U0-G2	B0-U0-G2	B0-U0-G3	B0-U0-G3	B0-U0-G4	B0-U0-G4	B0-U0-G5	B0-U0-G5	B0-U0-G5
	Lumens per Watt	103	108	110	108	107	107	107	106	108

Control Options

0-10V (DIM)
This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

Photocontrol (BPC, PR and PR7)
Optional button-type photocontrol (BPC) and photocontrol receptacles (PR and PR7) provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PR7 receptacle.

After Hours Dim (AHD)
This feature allows photocontrol-enabled luminaires to achieve additional energy savings by dimming during scheduled portions of the night. The dimming profile will automatically take effect after a "dusk-to-dawn" period has been calculated from the photocontrol input. Specify the desired dimming profile for a simple, factory-shipped dimming solution requiring no external control wiring. Reference the After Hours Dim supplemental guide for additional information.

Dimming Occupancy Sensor (SPB and MS/DIM-LXX)
These passive infrared (PIR) sensors are factory installed in the luminaire housing. When the SPB (FSP-321 or FSP-311) or MS/DIM (FSP-211) sensor options are selected, the occupancy sensor is connected to a dimming driver and the luminaire dims when no motion is detected. After a set period of time, the luminaire turns off, and when motion is detected, the luminaire returns to full light output. Both sensors are factory preset to dim down to approximately 10% power with a time delay of five minutes. The MS/DIM sensor requires the FSIR-100 programming tool to adjust factory defaults. The SPB sensor default parameters are listed in the table below and can be configured utilizing the Sensor Configuration mobile application for iOS and Android devices. The SPB/X is configured to control only the specified number of light squares (See SPB/X Availability Table below.) An integral photocontrol can be activated with the app for "dusk-to-dawn" control or daylight harvesting - the factory default is off. Four sensor colors are available; Bronze, Black, Gray and White, and are automatically selected based on the luminaire finish as indicated by the table below.

SPB sensor finish matched to luminaire finish		
Luminaire Finish		SPB Sensor Finish*
WH	White	White
BK	Black	Black
GM	Graphite Metallic	Black
BZ	Bronze	Bronze
AP	Gray	Gray
DP	Dark Platinum	Gray

*SPB bezel color automatically selected based on luminaire finish

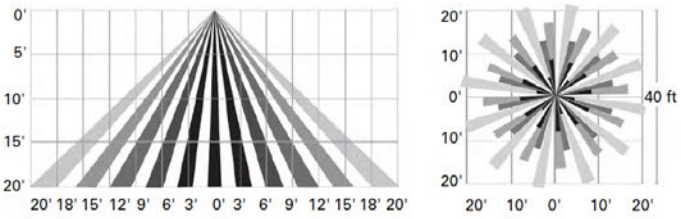
SPB/X Availability Table	
Fixture Square Count	Available SPB/X Square Count
1	Not Available
2	Not Available
3	Not Available
4	2
5	2 or 3
6	3
7	2, 3, 4 or 5
8	2, 3, 5 or 6
9	3 or 6

Default Program Settings (Out of the Box Functionality)

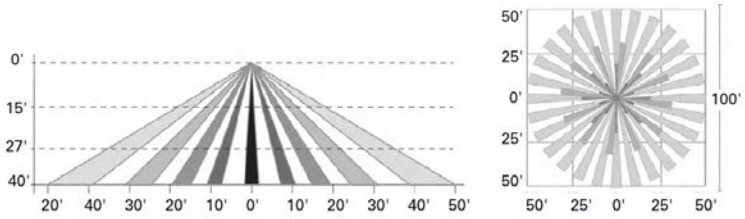
Occupancy Sensor				
Setting	MS/DIM	SPB	WaveLinx Lite (WLS4 / WLS2)	WaveLinx (WPS)
High Mode %	100%	100%	100%	100%
Low Mode %	10%	10%	50%	50%
Time Delay	5 min	5 min	15 min	15 min
Cut Off Delay	1 hr	1 hr	Disabled	Disabled
Photocell Enabled	No	No	Yes	Yes

WaveLinx Wireless Control and Monitoring System
Operates on a wireless mesh network based on IEEE 802.15.4 standards enabling wireless control of outdoor lighting. WaveLinx (WPS2 to WPS4) outdoor wireless sensors offer passive infrared (PIR) occupancy and photocell for closed loop daylight harvesting. Sensors are factory preset to dim down to 50% after 15 minutes of no motion detected. Two lens options are available for mounting heights of 7' to 40'. Use the WaveLinx mobile application for set-up and configuration. At least one Wireless Area Controller (WAC) is required for full functionality and remote communication (including adjustment of any factory pre-sets). WaveLinx Lite (WLS4 and WLS2) outdoor wireless sensors provide PIR occupancy and photocell for closed loop daylight harvesting. Sensors are factory preset to dim down to 50% after 15 minutes of no motion detected. Two lens options are available for mounting heights of 7' to 40'. Use the WaveLinx Lite mobile application for set-up and configuration. WAC not required. WaveLinx Outdoor Control Module (WOLC-7P-10A) accessory provides a photocontrol enabling astronomic or time-based schedules to provide ON, OFF and dimming control of fixtures utilizing a 7-PIN receptacle. The out-of-box functionality is ON at dusk and OFF at dawn.

For mounting heights up to 15' (WPS2 and WLS2)



For mounting heights up to 40' (WPS4 and WLS4)



AirMesh (DIM10)
AirMesh integrated wireless controls system includes factory installed DIM10 Synapse control module and FSP-201 motion sensor; requires additional AirMesh components for operation. Contact Synapse at www.synapsewireless.com for product support, warranty and terms and conditions.

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Specifications and dimensions subject to change without notice.

Exhibit 14

Performance Standards

Exhibit 14

Performance Standards

§145-75-Wells Land Use Code

The following standards shall be applied to all applications for site plan approval. These standards are intended to provide a frame of reference for the applicant in the development of his plans and a method of review. These standards shall be applied reasonably and fairly, when applicable, taking into account any extenuating circumstances or special features of the property or its neighborhood.

A. Traffic.

Please see the provided traffic memorandum in Exhibit 5 for more information.

B. Dust, fumes, vapors and gases.

There are no harmful dust, fumes, vapors or gas emissions expected as a result of this project, nor any that would soil or stain nearby property. This standard is not applicable.

C. Odor.

There are no harmful or offensive odors expected as a result of this project. This standard is not applicable.

D. Glare.

There is no expected strong, dazzling light or reflection expected, nor onto any neighboring lots impairing nearby drivers. Please see the lighting information included in the application.

E. Stormwater runoff.

Please review the enclosed Stormwater Management Narrative and the plan set for more information on stormwater runoff.

F. Erosion control.

Please review the enclosed Stormwater Management Narrative and the erosion control details & notes in the plan set for more information on erosion control relating to the site.

G. Setbacks and screening

Please see the site plan, where on-site setbacks, and buffers are displayed in greater detail.

H. Explosive materials

There are no highly flammable or explosive liquids, solids or gases expected to be stored in bulk above ground. However, should it become necessary, storage will be compliant with NFPA standards.

I. Water quality

There are no aboveground for fuel, chemicals, chemical or industrial wastes and potentially harmful raw materials. The project will connect to the municipal sewer system of the Wells Sanitary District and will not have a subsurface disposal system. Dumpsters will be enclosed as shown in the plan set.

J. Preservation of landscape.

Please see the grading plan for adjustments to on-site grades, and the landscape plan for any tree clearing done on-site.

K. Refuse disposal.

Disposal of all waste will be through a dumpster proposed on the property. Necessary provisions will be taken to handle dental waste.

L. Water supply

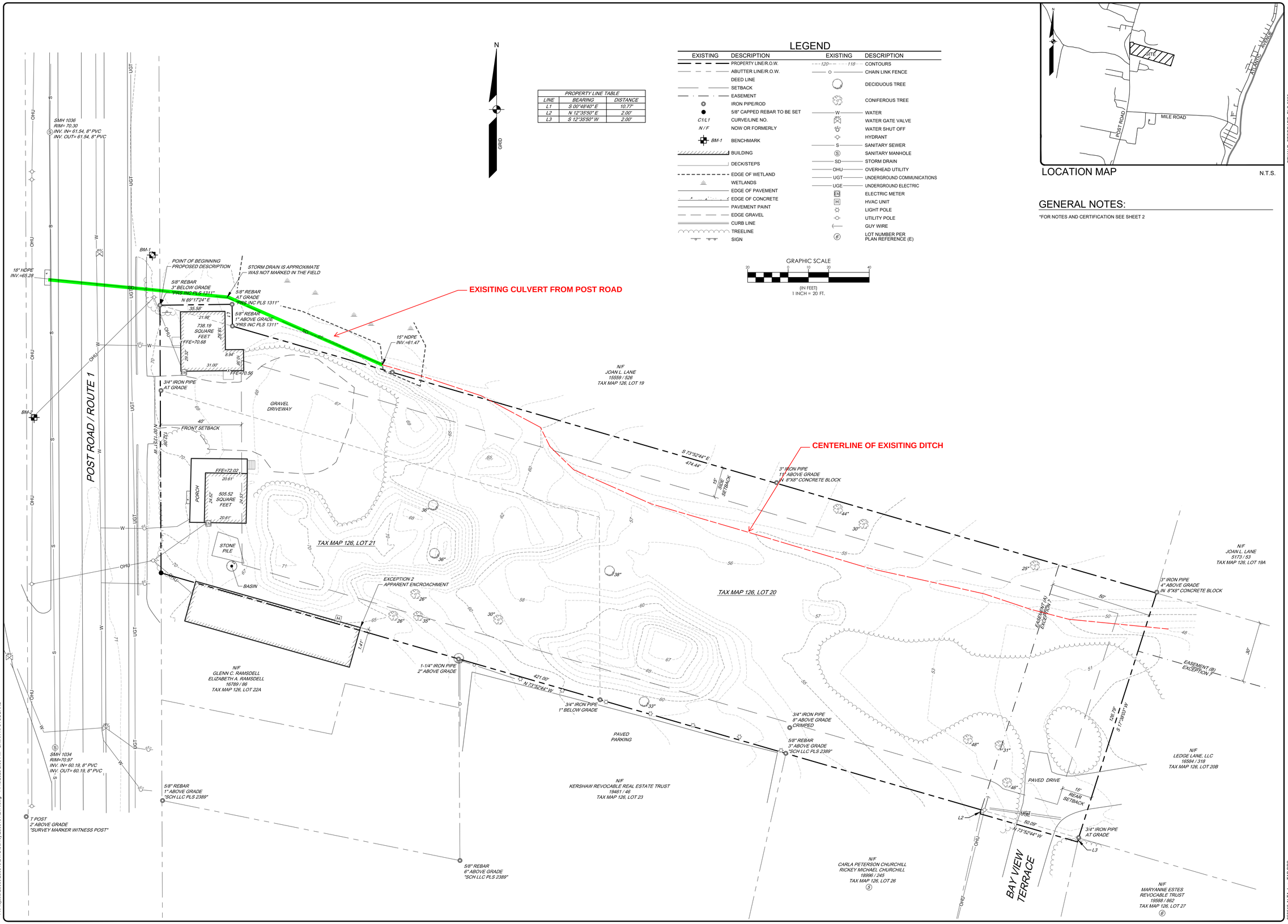
Please see the water capacity correspondence included within this application with the KK&W Water District.

M. Sewage disposal

Please see the sewer capacity/ability to serve correspondence with the Wells Sanitary District enclosed within this application.

N. Fire safety

Please see the site plan/turning movement templates for fire vehicle/equipment access. The building will be designed and constructed according to applicable NFPA criteria. There is a fire hydrant on Post Road approximately 25 feet north of the property.



LOCATION MAP N.T.S.

GENERAL NOTES:

*FOR NOTES AND CERTIFICATION SEE SHEET 2

THIS SPACE INTENTIONALLY LEFT BLANK

BRIAN R. STODDARD, PLS 2628

STATE OF MAINE
BRIAN R. STODDARD #2628
PROFESSIONAL LAND SURVEYOR

REV.:	BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. (ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

SEBAGO TECHNICS
SEBAGOTECHNICS.COM
75 John Roberts Road, Suite A
South Portland, ME 04106
207-200-2100
South Portland, Bridgton, Sanford

ALTA/ NSPS LAND TITLE SURVEY

OF:
NORTEY DENTAL
1223 - 1229 POST ROAD
WELLS, ME

FOR:
NORTEY DENTAL, LLC
1322 POST ROAD
WELLS, MAINE 04090

DESIGNED	-
DRAWN	JMC / CNV
CHECKED	BRS
DATE	10/13/2025
SCALE	1" = 20'
PROJECT	250519

SHEET 1 OF 2

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250519 ALTA.dwg T48 BRS

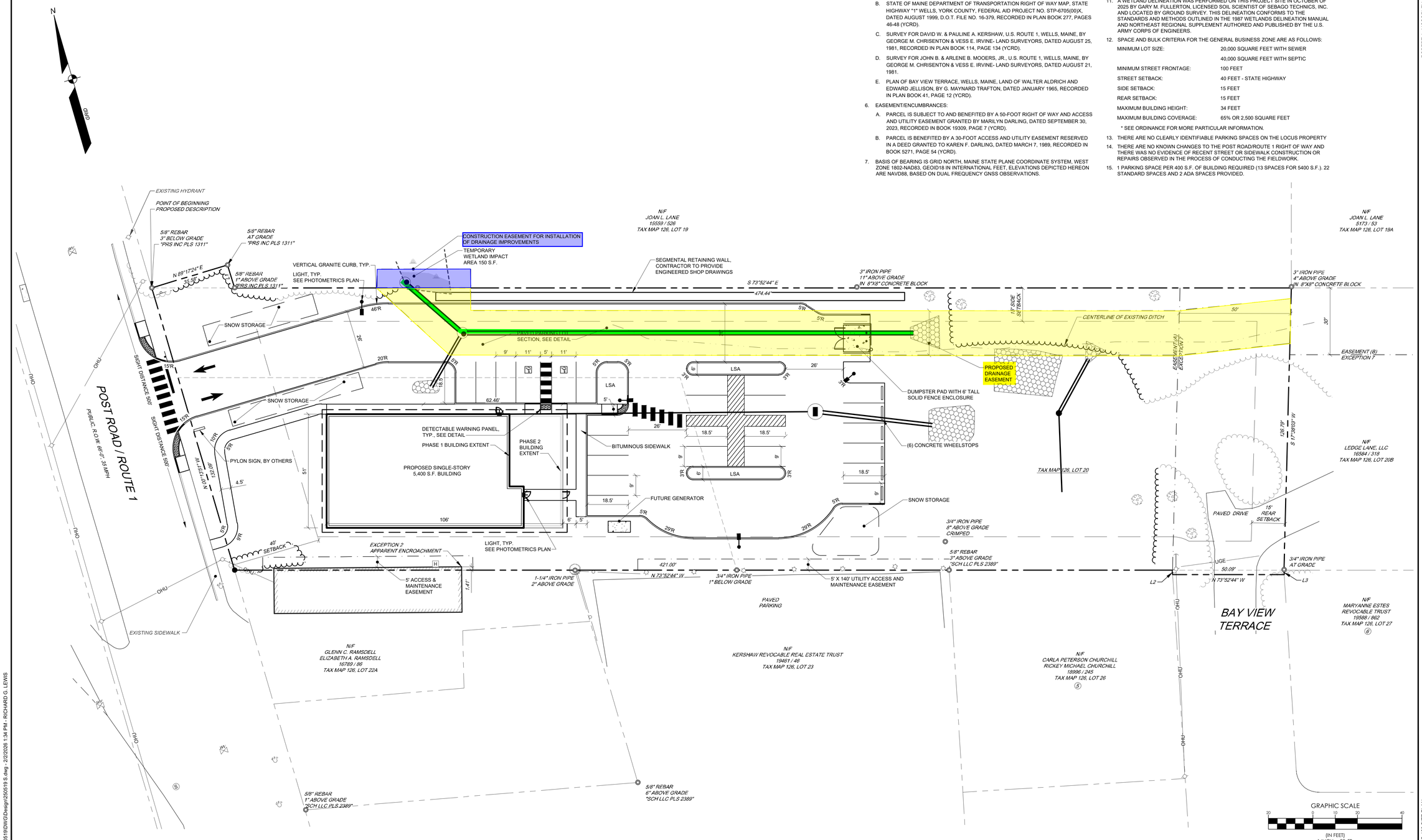
PROPERTY LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 00°48'40" W	10.77'
L2	S 12°35'50" W	2.00'
L3	N 12°35'50" E	2.00'

GENERAL NOTES:

1. THE RECORD OWNERS OF THE PARCEL ARE MARILYN DARLING BY DEED DATED OCTOBER 5, 1984 AND RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS (YCRD) IN BOOK 3388, PAGE 162, AND BY DEED DATED OCTOBER 12, 1984 AND RECORDED IN BOOK 3392, PAGE 128 (YCRD), AND RUSSELL E. DARLING FAMILY TRUST BY DEED DATED SEPTEMBER 8, 2023 AND RECORDED IN BOOK 19359, PAGES 594 AND 595 (YCRD).
2. THE PROPERTY IS SHOWN AS LOTS 20 & 21 ON THE TOWN OF WELLS TAX MAP 126 AND IS LOCATED IN THE GENERAL BUSINESS ZONE (GB).
3. TOTAL AREA OF PARCEL IS APPROXIMATELY 62,571 SQUARE FEET OR 1.44 ACRES.
4. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON FIELD WORK PERFORMED BY SEBAGO TECHNICS, INC. IN SEPTEMBER & OCTOBER OF 2025.
5. PLAN REFERENCES:
   A. BOUNDARY LINE RETRACEMENT SURVEY & DIVISION PLAN, PREPARED FOR JOAN L. LANE, BY POST ROAD SURVEYING, DATED FEBRUARY 15, 2017.
   B. STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, STATE HIGHWAY "1" WELLS, YORK COUNTY, FEDERAL AID PROJECT NO. STP-6705(00)X, DATED AUGUST 1999, D.O.T. FILE NO. 16-379, RECORDED IN PLAN BOOK 277, PAGES 46-48 (YCRD).
   C. SURVEY FOR DAVID W. & PAULINE A. KERSHAW, U.S. ROUTE 1, WELLS, MAINE, BY GEORGE M. CHRISENTON & VESS E. IRVINE- LAND SURVEYORS, DATED AUGUST 25, 1981, RECORDED IN PLAN BOOK 114, PAGE 134 (YCRD).
   D. SURVEY FOR JOHN B. & ARLENE B. MOOERS, JR., U.S. ROUTE 1, WELLS, MAINE, BY GEORGE M. CHRISENTON & VESS E. IRVINE- LAND SURVEYORS, DATED AUGUST 21, 1981.
   E. PLAN OF BAY VIEW TERRACE, WELLS, MAINE, LAND OF WALTER ALDRICH AND EDWARD JELLISON, BY G. MAYNARD TRAFTON, DATED JANUARY 1965, RECORDED IN PLAN BOOK 41, PAGE 12 (YCRD).
6. EASEMENT/ENCUMBRANCES:
   A. PARCEL IS SUBJECT TO AND BENEFITED BY A 50-FOOT RIGHT OF WAY AND ACCESS AND UTILITY EASEMENT GRANTED BY MARILYN DARLING, DATED SEPTEMBER 30, 2023, RECORDED IN BOOK 19309, PAGE 7 (YCRD).
   B. PARCEL IS BENEFITED BY A 30-FOOT ACCESS AND UTILITY EASEMENT RESERVED IN A DEED GRANTED TO KAREN F. DARLING, DATED MARCH 7, 1989, RECORDED IN BOOK 5271, PAGE 54 (YCRD).
7. BASIS OF BEARING IS GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NAD83, GEOID18 IN INTERNATIONAL FEET, ELEVATIONS DEPICTED HEREON ARE NAVD88, BASED ON DUAL FREQUENCY GNSS OBSERVATIONS.
8. BENCHMARK:
   BM-1 "X" CUT ON HYDRANT BOLT ELEVATION: 72.13' (NAVD88)
   BM-2 SPIKE IN UTILITY POLE ELEVATION: 70.57' (NAVD88)
9. UTILITY INFORMATION DEPICTED HEREON, UNLESS OTHERWISE NOTED, IS OF QUALITY LEVEL B PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD CI/ASCE 38-02. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION AND/OR EXCAVATION. PROMARK UTILITY LOCATING INC. MARKED THE UNDERGROUND UTILITIES SHOWN HEREON ON SEPTEMBER 15, 2025, AND THEY WERE FIELD LOCATED BY SEBAGO TECHNICS, INC.
10. THE LOCUS PROPERTY AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR WELLS, MAINE, YORK COUNTY, MAP NUMBER 23031C0587G, HAVING AN EFFECTIVE DATE OF JULY 17, 2024. THE LOCUS FALLS WITHIN AN AREA IDENTIFIED AS ZONE X, AREAS OF MINIMAL FLOOD HAZARD.
11. A WETLAND DELINEATION WAS PERFORMED ON THIS PROJECT SITE IN OCTOBER OF 2025 BY GARY M. FULLERTON, LICENSED SOIL SCIENTIST OF SEBAGO TECHNICS, INC. AND LOCATED BY GROUND SURVEY. THIS DELINEATION CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN THE 1987 WETLANDS DELINEATION MANUAL AND NORTHEAST REGIONAL SUPPLEMENT AUTHORED AND PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS.
12. SPACE AND BULK CRITERIA FOR THE GENERAL BUSINESS ZONE ARE AS FOLLOWS:

MINIMUM LOT SIZE:	20,000 SQUARE FEET WITH SEWER
	40,000 SQUARE FEET WITH SEPTIC
MINIMUM STREET FRONTAGE:	100 FEET
STREET SETBACK:	40 FEET - STATE HIGHWAY
SIDE SETBACK:	15 FEET
REAR SETBACK:	15 FEET
MAXIMUM BUILDING HEIGHT:	34 FEET
MAXIMUM BUILDING COVERAGE:	65% OR 2,500 SQUARE FEET

   * SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.
13. THERE ARE NO CLEARLY IDENTIFIABLE PARKING SPACES ON THE LOCUS PROPERTY
14. THERE ARE NO KNOWN CHANGES TO THE POST ROAD/ROUTE 1 RIGHT OF WAY AND THERE WAS NO EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.
15. 1 PARKING SPACE PER 400 S.F. OF BUILDING REQUIRED (13 SPACES FOR 5400 S.F.). 22 STANDARD SPACES AND 2 ADA SPACES PROVIDED.



PROGRESS PRINT

STATE OF MAINE
ROBERT A. MCSORLEY
LICENSED PROFESSIONAL ENGINEER
2/03/2026

ROBERT A. MCSORLEY, PE # 8598

REV	BY	DATE	STATUS
A.	RAM	2/03/2026	SUBMITTED TO THE TOWN OF WELLS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, NOT AUTHORIZED BY SEBAGO TECHNICS, INC., SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

SEBAGO TECHNICS

SEBAGOTECHNICS.COM
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South Portland, ME 04106
207-200-2100
South Portland, Bridgton, Sanford and Bath

SITE PLAN
OF:
NORTEY DENTAL
1223-1229 POST ROAD
WELLS, MAINE
FOR:
ED PEASE
315 DEWPONT LANE
JOHNS CREEK, GA 30022

DESIGNED	JSH
DRAWN	RGL
CHECKED	RAM
DATE	12/23/2025
SCALE	1" = 20'
PROJECT	250519

SHEET C-103

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250519 S.dwg TAB:C-103 SITE PLAN