City of Auburn, Maine
Office of Planning & Permitting
60 Court Street | Auburn, Maine 04210
www.auburnmaine.gov | 207.333.6601

PLANNING BOARD AGENDA
July 30, 2026 – 6:00 p.m.
City Council Chambers, 60 Court Street

1. **ROLL CALL**

2. **MINUTES:** Acceptance of the June 16, 2026 meeting minutes.

3. **NEW BUSINESS**

   A. **SITE PLAN AMENDMENT/SPECIAL EXCEPTION:** Tambrands, Inc. (Procter & Gamble), 2879 Hotel Road (PID 120-001) - Application submitted by Harriman Associates to expand the existing Procter & Gamble Tambrands factory to construct two new warehouses and expand existing paved access drives. The property is located in the Industrial (I) district and will be reviewed under Chapter 60, Article XVI, Division 2 – Site Plan Review and Division 3 – Special Exception
   B. **CHAPTER 60 ZONING AMENDMENT:** Discussion of an amendment to Sec. 60-145(b)(1)b. to strike the limit to four persons employed at a sawmill
   C. **LAKE AUBURN WATERSHED REPORT:** Staff will present building permit data in the Lake Auburn Watershed for the last year.

4. **OLD/CONTINUED BUSINESS**

   A. PRESENTATION: LD1829/2173 discussion of proposed ordinance changes and tradeoffs.
   B. PRESENTATION: Planning Board Training: How to Review Applications. Staff will provide guidance for the Planning Board on reviewing application materials.

5. **PUBLIC COMMENT**

6. **MISCELLANEOUS**

7. **PLANNING BOARD ITEMS FOR DISCUSSION**

8. ADJOURNMENT

Auburn Planning Board meetings can be viewed live on the City of Auburn YouTube channel (https://www.youtube.com/c/CityofAuburnMaine), and on Great Falls Television (Spectrum Cable Channel 11). Following live broadcasts, Planning Board meetings are rebroadcast at 7:00AM, noon, and 7:00PM on Tuesdays on GFTV and are available anytime on our YouTube channel.

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PLANNING BOARD MINUTES
June 16, 2026

1. ROLL CALL

Ed Bearor (Chair), Riley Bergeron, Tim DeRoche, Chelsea Eaton, Bob Hayes, and Andrea Westbye

Absent: Maureen Hopkins, Bilal Hussein, and Kathy Shaw

Staff members present: DeCarlo Brown (Planning Director) and Sam Peikes (Planning Coordinator)

Chelsea Eaton was elevated to a full voting member.

2. MINUTES: Acceptance of the May 12, 2026 and May 28, 2026 meeting minutes.

Motion made by Bob Hayes and seconded by Andera Westbye to approve the May 12, 2026 minutes. Vote 5-0-1 (Tim abstained) Motion Carries

Due to only three members being present that were at the May 28, 2026 meeting, the acceptance of the minutes was postponed until the July 16, 2026 meeting.

3. OLD BUSINESS

A. CONTINUED PUBLIC HEARING SITE PLAN/SPECIAL EXCEPTION REVIEW: Limitless Towing, 276 Riverside Drive (PID 202-006). Application submitted by Erica Flagg to operate a towing and recovery business. The property is located in the General Business (GB) district and will be reviewed under Chapter 60, Article XVI, Division 2 – Site Plan Review and Division 3 – Special Exception. This item is continued from the April 14, 2026 meeting.

The applicant has withdrawn the application for Limitless Towing.

4. OTHER BUSINESS

A. Planning Board vote to approve the findings written in the notice of decision letter for Bear Self Storage and Auto Sales Facility from the May 12, 2026 meeting.

Motion by Riley Bergeron and seconded by Andea Westbye to approve the findings written in the notice of decision letter for Bear Self Storage and Auto Sales facility. Vote 5-0-1 (Tim abstained) Motion Carries

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5. **PUBLIC COMMENT (Taken out of order)**
Michael Ouellette of 242 West Auburn Rd – said he would like to put solar and a windmill at his house, however, there is no ordinance on windmills. Planning staff suggested he talk to the Planning Board about potential ordinance changes.

Stephen Beale of 575 Johnson Road – pointed out that it is required under that watershed district ordinance that the Planning Director give a report on the new residences constructed in the watershed at the end of the fiscal year and suggested he give a report at the next meeting. He also indicated that the city has important standards for maximum grade of roads and maximum grade for construction of houses that are not found in the ordinance.

B. Continued discussion from May 28 of LD-1829/2173 overview of regulations and proposed ordinance changes.

DeCarlo gave a brief review of LD 1829 and LD 2173 and the new requirements. He discussed support systems, block standards, street standards and open space. He also reviewed a set of questions with the board prepared by Planning staff to guide the direction of upcoming changes to the ordinance.

C. Planning Board Training: How to Review Applications. Staff will provide guidance for the Planning Board on reviewing application materials.

The training was postponed to the July 14, 2026 meeting.

6. **MISCELLANEOUS:**
Sam indicated the Planning Board will need to review the Comprehensive Plan soon. She said the Comprehensive Plan Committee is working through the goals and policies and future land use map. She suggested the Board review the inventory and analysis section to get a head start. DeCarlo said they will be sending the Board a draft of the policies and actions.

7. **PLANNING BOARD ITEMS FOR DISCUSSION: None**

8. **ADJOURNMENT**

Motion by Tim DeRoche and seconded by Riley Bergeron to adjourn at 8:57 p.m. Vote 6-0 Motion Carries

DRAFT

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To: Auburn Planning Board
From: Sam Peikes, Planning Coordinator
Re: SITE PLAN AMENDMENT/SPECIAL EXCEPTION STAFF MEMO: Tambrands, Inc. (Procter & Gamble) – Application to expand the existing Tambrands Inc. factory to construct two new warehouse and expand existing paved access drives.
Location: 2879 Hotel Road (PID 120-001)
Zoning District: Industrial (I)
Review Type: Site Plan Amendment and Special Exception

Date: July 23, 2026

PROPOSAL OVERVIEW
Harriman Associates on behalf of Tambrands, Inc. has submitted an application to expand the existing Procter & Gamble Tambrands factory to construct two new warehouses and expand existing paved access drives. The proposed warehouse located on the south side of the existing facility will be used to store materials for the system process and includes a new employee wellness center and the proposed warehouse on the north side of the existing facility will be used to store finished products and other materials used in the manufacturing process. The proposal also includes the relocation of the existing access drive and gatehouse on Kittyhawk Avenue with the addition of a new gatehouse on Hotel Road. The proposed building expansions will total approximately 137,950 square feet of impervious area or 3.17 acres and the total developed area of the site is approximately 13 acres.

The application will be reviewed as an amended site plan pursuant to Chapter 60, Article XVI, Division 2 – Site Plan Review and Division 3 – Special Exception. In accordance with Sec. 60-45(a), since the proposed site plan expansion is greater than 10% of the existing land area, the development requires review and approval by the Planning Board. The development last received Planning Board approval in 2021 for a proposed 116,000 square foot expansion with associated paved drives, pads and truck maneuvering areas. The applicant received approval for a SLODA permit in 2021 for the proposed expansion. The applicant will be amending the SLODA permit due to the increase in impervious area for the project. The application will be discussed at the July 30 Planning Board meeting and will be reviewed under Chapter 60 Article XVI, Division 2 – Site Plan Review and Division 3 – Special Exception.

COMPLETENESS REVIEW
Staff have reviewed the application for completeness pursuant to Sec. 60-1301 and the application has been found complete. In accordance with Sec. 60-1303, the application has been accepted for processing, and a public hearing has been scheduled for July 30, 2026. Staff have corresponded with department heads regarding the proposed expansion and there are no additional comments.

SITE PLAN & SPECIAL EXCEPTION RELEVANT CRITERIA
Staff have noted the following relevant review criteria for the proposed development:

- Access: The existing Tambrands facility is currently accessed via the driveways off Hotel Road and Kittyhawk Ave. The existing driveway off Kittyhawk Ave will be closed and relocated further to the northwest for truck access. The access drive off Kittyhawk Ave will be repaved and will connect to the new construction laydown area located behind the new north warehouse. Staff have corresponded with the Fire Chief and there are no concerns regarding the proposed access and circulation for emergency access and fire safety. In accordance with Sec. 60-772, any building or addition which requires a building footprint of greater than 5,000 square feet is required to meet access management standards pertaining to safe site distance, driveway spacing, curb cuts and driveway access. The applicant should confirm that the proposed driveway location meets safe distance requirements pursuant to Sec. 60-799.
- Parking: The development currently includes 375 parking spaces with 8 handicapped parking spaces. The proposed expansion will not include additional parking. A new laydown construction area is proposed behind the new north warehouse for truck parking and maneuvering only. The existing parking layout is adequate to accommodate the proposed development expansion.
- Utilities: Utility locations are shown on sheet C40-1 of the plan set. The new buildings will be served by underground electric and public sewer and water. Public sewer and water lines will connect via the existing building and tie into the existing pump station located to the south. The applicant has indicated on sheet C40-1 that new water and sewer lines will be sized to match the existing lines. The Auburn Sewer and Water District reviewed the capacity to serve letter dated April 8, 2026, and stated in their response dated June 26, 2026, that the district will have sufficient capacity to serve the facility and proposed expansion. Both letters have been provided in exhibit 9 of the application.
- Stormwater Management: The proposed development will result in an increase of approximately 3 acres in impervious area. The stormwater management report in exhibit 5 of the application, has been designed to comply with Chapter 500 and city standards per Sec. 46-209. Locations of proposed stormwater infrastructure locations have been provided on the site grading and erosion control plan sheet C301-1. The stormwater pond will be relocated and resized to accommodate runoff leaving the site. Additionally, storm trap units will be installed to treat runoff from the new warehouse additions and portions of the proposed driveways. The stormwater calculations provided in exhibit 5 of the application demonstrate that the proposed impervious expansions will result in a net reduction in peak runoff for all storm intensities. At the request of the city engineer the applicant has provided a plan for stormwater management phasing and maintenance during construction in exhibit 16 of the application.

- Traffic: The existing development generates approximately 222 passenger equivalent trips in the peak hour. The applicant states in exhibit 14 of the application that the proposed expansion will not increase existing traffic to the development, and no additional employees will be on site. The applicant has requested a waiver from Sec. 46-233 “traffic impact analysis standards”. In accordance with Sec. 46-234, the city engineer has the authority to grant the waiver request. The city engineer has granted the applicants’ waiver request.
- Principal Buildings: In accordance with Sec. 60-579(3)d., more than one principal building may be erected on a lot in the Industrial (I) district provided that the buildings meet all yard setback requirements and are separated by a distance equivalent to the height of the higher building or 30 feet, whichever is greater. The existing development includes one principal building with two separate building expansions; therefore, this standard does not apply.
- Open and Unbuilt Spaces: In accordance with Sec. 60-579(3)f., any yard space required to be kept open and unbuilt on may be used for outdoor storage supplies and materials, except that such storage shall be screened from view of abutting residential property owners and the street. The proposed expansion will not include any outdoor storage of articles, supplies or materials as referenced in Sec. 60-579(3)f; therefore, this standard does not apply.
- Landscaping: The proposed building additions are surrounded by trees and are not visible from the road or public residences. The applicant is not proposing any new landscaping for the development. In accordance with Sec. 60-579g., landscaping shall be provided and maintained within a parking lot in an amount equal to ten percent of the area of the parking lot, the perimeter of a principal building in an amount equal to twenty percent of the building footprint and to screen all lots which abut a residential district. Though the parking lot does not include any landscaping, the applicant is not adding any new parking spaces or modifying the existing parking layout; therefore, this standard is out of the scope of this review and is not applicable.
- Exterior Lighting: The locations of proposed lighting and lighting details can be found on the second page of the supporting plans of the application. Exterior lighting will consist of two new 30-foot-tall pole lights to illuminate the new access road to the north warehouse and wall mounted hooded lights around the perimeter of the new buildings. The applicant states in exhibit 13 of the application that lighting will be horizontally mounted with light in a downward direction and that fixtures will be controlled and automatic on/off from dusk to dawn. The lighting for the new buildings will not create a hazard for motorists or recess onto abutting properties.
- Solid Waste Disposal: Solid waste from the development is currently picked up and hauled to the EcoMaine facility in Portland for disposal by Casella Waste Systems. The applicant states in exhibit 11 of the application that the proposed expansion will not increase or change solid waste disposal and that solid waste will be disposed of properly during construction. The location of the dumpster with screening is shown on sheet C20-1.
- Protection of Environmental Features and Natural Resources: Approximately 12,000 square feet of wetland will be impacted and filled for the proposed development expansion. The applicant states in exhibit 7 of the application that they are in the process of filing the NRPA permit with DEP for wetland impacts.

- Noise, Vibration, Odors and Air Pollution: The proposed development is not anticipated to exceed noise standards or generate vibration, odors or air pollution.
- Financial and Technical Capacity: The applicant has provided information on their financial and technical capacity to complete the project in exhibit 13 of the application. Harriman Architects and Engineers are a long-established Maine firm with a history of designing and building site projects for Tambrands in Auburns and have demonstrated the technical capacity to construct the project. The anticipated project cost is $39,260,000. Procter & Gamble intends to self-fund the proposed expansion as indicated in the financial capacity letter dated March 30, 2026.

PLANNING BOARD ACTION

The proposed project requires review and findings for approval under Sections 60-1277, 60-1304 and 60-1336. Staff have provided the following comments in bold under each finding.

Site Plan Review – Section 60-1277

In considering a site plan, the planning board shall make findings that the development has made provisions for:

(1) Protection of adjacent areas against detrimental or offensive uses on the site by provision of adequate surface water drainage, buffers against artificial and reflected light, sight, sound, dust and vibration; and preservation of light and air;

a. **The proposed development will include adequate provisions for surface water drainage, as outlined in the stormwater management plan. The applicant has demonstrated that runoff leaving the site will not increase beyond pre-development levels.**
b. **The proposed development will provide adequate exterior lighting. Lights will be downcast and hooded to not recess onto abutting properties.**
c. **The proposed development will not emit any harmful sounds, dust, vibration or air pollution.**

(2) Convenience and safety of vehicular and pedestrian movement within the site and in relation to adjacent areas;

a. **The proposed development will provide for safe and convenient vehicular access within the site.**
b. **The development is located in the Industrial district and does not include sidewalks for pedestrian circulation, but provides safe access and circulation for employees to and from the parking areas.**

(3)Adequacy of the methods of disposal for wastes; and

a. **The proposed development will dispose of solid waste adequately. As noted in exhibit 11 of the application, solid waste disposal will not increase as a result of the proposed expansion.**
b. **The location of the solid waste dumpster pad is shown on the site plan. The solid waste disposal area will be secured and screened.**

(4)Protection of environment features on the site and in adjacent areas.

a. **The applicant has applied for a NRPA permit for filling wetlands and will comply with erosion control Best Management Practices.**

Site Plan Review – Section 60-1304
Such final action of the board shall consist of:

(1) A finding and determination that the proposed project will constitute a suitable development and will not result in a detriment to the neighborhood or the environment.
    a. **The proposed development will constitute a suitable development and will not result in a detriment to the neighborhood or environment.**

Special Exception – Sec 60-1336
As conditions prerequisite to the granting of any special exceptions, the board shall require evidence of the following:

(1) That the special exception sought fulfills the specific requirements, if any, set forth in the zoning ordinance relative to such exception.
    a. The proposed development fulfills the requirements for special exception pursuant to Chapter 60 Article IV, Division 15 Sec. 60-579, Article XVI, Division 2 – Site Plan Review and Division 3 – Special Exception.
(2) That the special exception sought will neither create nor aggravate a traffic hazard, a fire hazard or any other safety hazard.
    a. The proposed development will not create nor aggravate a traffic hazard, a fire hazard of any other safety hazard.
    b. The proposed development will not increase existing traffic levels as noted in exhibit 14 of the application. The city engineer has granted the applicant's waiver from providing a traffic impact analysis.
    c. The Fire Chief has reviewed the proposed plan and does not believe the development will create a fire hazard or any other safety hazard.
(3) That the special exception sought will not block or hamper the master development plan pattern of highway circulation or of planned major public or semipublic land acquisition.
    a. The proposed development will not block or hamper the master development plan pattern of highway circulation or of planned major public or semipublic land acquisition.
(4) That the exception sought will not alter the essential characteristics of the neighborhood and will not tend to depreciate the value of property adjoining and neighboring the property under application.
    a. The proposed development will not alter the essential characteristics of the neighborhood and will not tend to depreciate the value of property adjoining and neighboring the property under application.
(5) That reasonable provisions have been made for adequate land space, lot width, lot area, stormwater management in accordance with section 60-1301(14), green space, driveway layout, road access, off-street parking, landscaping, building separation, sewage disposal, water supply, fire safety, and where applicable, a plan or contract for perpetual maintenance of all the common green space and clustered off-street parking areas to ensure all such areas will be maintained in a satisfactory manner.
    a. The proposed development complies with all dimensional standards and requirements pursuant to the Industrial District under Sec. 60-579.

b. **The proposed development includes locations for adequate driveway access and existing off-street parking areas. No additional parking spaces will be added.**
c. **The proposed development has adequate wastewater capacity and water supply. The Auburn Water and Sewer District has sufficient capacity to serve the expanded facility, as noted in exhibit 9 of the application.**

(6) That the standards imposed are, in all cases, at least as stringent as those elsewhere imposed by the city building code and by the provisions of this chapter.
   a. **The standards imposed for the proposed development are at least as stringent as those elsewhere imposed by the city building code and provisions of this chapter.**

(7) That essential city services which will be required for the project are presently available or can be made available without disrupting the city's master development plan.
   a. **The proposed development will provide for essential city services without disrupting the city's master development plan.**

STAFF RECOMMENDATION:
Staff recommend that the Board vote to approve the application with the following condition(s) of approval:

1. The applicant shall file FAA Form 7460-1 at least 45 days prior to the start of construction as recommended by the Transportation Director in relation to the airport area of influence.
2. The applicant shall provide the performance bond required for stormwater improvements prior to the start of construction.
3. The applicant shall provide the approved Maine Construction General Permit and the NRPA wetlands permit prior to the start of construction.

SUGGESTED MOTION:
I make a motion to **[approve/deny]** the application from Harriman Associates on behalf of Tambrands Inc. (Procter & Gamble) to expand the existing development located at 2879 Hotel Road, City Assessor's PID 120-001 in the Industrial (I) district pursuant to Chapter 60, Article XVI, Division 2 – Site Plan Review and Division 3 – Special Exception with the following conditions of approval *(see staff recommended conditions).*

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Findings of Fact, Conclusions of Law, & Decisions

Planning Board, City of Auburn, Maine

Regarding an application for

Tambrands Inc. warehouse expansions (Site Plan Amendment/Special Exception)

PID 120-001

Applicant
Procter & Gamble, Tambrands Inc.

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Findings of Fact

Street address:
2879 Hotel Road Auburn, Maine

Property ownership:
Procter & Gamble, Tambrands Inc.

Other parties to the application:
Harriman Associates

Description of the existing use(s) of the property:
The subject parcel is approximately 63 +/- acres in size and is located within the Industrial (I) district. The existing building is used for storage and manufacturing of Tambrands products. The subject parcel includes access drives off Hotel Road and Kittyhawk Ave.

Description of the proposed use(s) of the property and the nature of the application:
The project proposes expanding the existing Tambrands Inc. manufacturing facility by adding two new warehouses and expanding and relocating existing paved access drives. The proposed warehouse located on the south side of the existing facility will be used to store materials for the system process and includes a new employee wellness center and the proposed warehouse on the north side of the existing facility will be used to store finished products and other materials used in the manufacturing process.

The Use has been classified as a special exception pursuant to Sec. 60-578(b)(20), with the specific classification being “manufacture of cosmetics, toiletries and pharmaceuticals” and an amended site plan pursuant to Sec. 60-45(a).

Base zoning district:

Industrial (I) district

Overlay zoning district(s):
N/A

Other relevant regulatory districts:
N/A

List of materials submitted at each stage of the application process:

Materials submitted for the July 30, 2026 Planning Board Meeting:

Documents Submitted April 17, 2026

City of Auburn Development Review Application submitted by Harriman Associates on behalf of Procter & Gamble, Tambrands Inc. The document is dated April 17, 2026.

Development Review Checklist

Development Description outlining proposed development, required permits and previous approvals

Location map showing proposed warehouse locations

Original property deed dated February 13, 1967 and quitclaim deed dated September 8, 2021 to demonstrate right, title and interest

Financial and technical capacity

Wetland delineation report conducted by Jones Associates Inc. dated July, 2024

Androscoggin County NRCS soils report dated August 27, 2024

Stormwater management report

Post-construction stormwater and site maintenance plan dated April, 2026

Description of erosion control measures

Notification of DEP permit requests for filling wetlands

Sand and gravel aquifer map

Request for review of wastewater capacity sent to the Auburn Sewer and Water District dated April 8, 2026

Information on solid waste disposal

Location of flood hazard areas and attached FEMA flood map

Plan set dated April 17, 2026 which includes: Site Notes, Site Erosion Control Notes, Existing Site Conditions and Demolitions Plan, Pre-Development Drainage Plan, Post-Development

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Drainage Plan, Site Layout Plan, Site Grading and Erosion Control Plan, Site Utility Plan, Stormwater Utility Plan and Site Details

Documents Submitted July 9, 2026

City of Auburn Development Review Application submitted by Harriman Associates on behalf of Procter & Gamble, Tambrands Inc. The document is signed and dated July 9, 2026.

Development Review Checklist

Development Description outlining proposed development, required permits and previous approvals

Location map showing proposed warehouse locations

Original property deed dated February 13, 1967 and quitclaim deed dated September 8, 2021 to demonstrate right, title and interest

Financial and technical capacity

Wetland delineation report conducted by Jones Associates Inc. dated July, 2024

Androscoggin County NRCS soils report dated August 27, 2024

Stormwater management report

Post-construction stormwater and site maintenance plan dated April, 2026

Description of erosion control measures

Notification of DEP permit requests for filling wetlands

Sand and gravel aquifer map

Letter of approval from Auburn Sewer and Water District regarding capacity to serve the project dated June 26, 2026

Information on solid waste disposal

Location of flood hazard areas and attached FEMA flood map

Information on exterior lighting

Waiver from Traffic Impact Analysis granted by the city engineer June 25, 2026

Plan set dated April 17, 2026 which includes: Site Notes, Site Erosion Control Notes, Existing Site Conditions and Demolitions Plan, Pre-Development Drainage Plan, Post-Development Drainage Plan, Site Layout Plan, Site Grading and Erosion Control Plan, Site Utility Plan, Stormwater Utility Plan and Site Details

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Supporting plan sets: Boundary Survey prepared by Jones Associates Inc. dated June 18, 2026, Electrical Exterior Site Lighting Plan prepared by BSI Engineering dated July 9, 2026, floor plans and exterior elevations prepared by Oculus Inc. dated March 6, 2026.

Date(s) on which the Board met to consider the application:
July 30, 2026

***Date(s) on which the Board conducted a public hearing on the application**:*
July 30, 2026

Brief description of substantive materials and testimony received at the public hearing:

List of public comment via letters and email.

List of staff reports
Staff memo prepared by Sam Peikes; Planning Coordinator dated July 23, 2026

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Conclusions of Law

Planning Board Jurisdiction

Ordinances:
Auburn Zoning Ordinance, Chapter 60, Article II, Sec. 60-45(a)

Auburn Zoning Ordinance, Chapter 60 Article XVI, Division 2 – Site Plan and Division 3 – Special Exception, Article IV, Division 15 – Industrial District

Auburn Zoning Ordinance, Chapter 46, Article V, Division 3 – Drainage and Erosion Control Standards

Permits Required:
DEP NRPA PBR Tier 1 permit for alteration of freshwater wetlands

Building permit

Planning Board Approval Criteria

(Zoning Ordinance Sec. 60-1277, Sec. 60-1304 and Sec. 60-1336)

Site Plan Review – Sec. 60-1277

(1) Protection of adjacent areas against detrimental or offensive uses on the site by provision of adequate surface water drainage, buffers against artificial and reflected light, sight, sound, dust and vibration; and preservation of light and air;
   a. The proposed development will protect adjacent areas against detrimental or offensive uses on the site by provision of adequate surface water drainage, buffers against artificial and reflected light, sight, sound, dust and vibration; and preservation of light and air.

(2) Convenience and safety of vehicular and pedestrian movement within the site and in relation to adjacent areas;
   a. The proposed development will provide for convenient and safe vehicular and pedestrian movement within the site and in relation to adjacent areas.

(3) Adequacy of the methods of disposal for wastes; and

a. The proposed development will ensure adequate provisions are made for solid waste disposal.

(4) Protection of environment features on the site and in adjacent areas.

a. The proposed development will require necessary wetland permitting and will comply with erosion control measures to ensure environmental features on site and in adjacent areas are protected.

Site Plan Review – Sec. 60-1304

(1) A finding and determination that the proposed project will constitute a suitable development and will not result in a detriment to the neighborhood or the environment.

a. The proposed development will constitute a suitable development and will not result in a detriment to the neighborhood or environment.

Special Exception – Sec. 60-1336

(1) That the special exception sought fulfills the specific requirements, if any, set forth in the zoning ordinance relative to such exception.

a. The proposed development fulfills the requirements for special exception and other requirements pursuant to Chapter 60 Article IV, Division 15 Sec. 60-579, Article XVI, Division 2 – Site Plan and Division 3 – Special Exception.

(2) That the special exception sought will neither create nor aggravate a traffic hazard, a fire hazard or any other safety hazard.

a. The proposed development will neither create nor aggravate a traffic hazard, a fire hazard or any other safety hazard.

(3) That the special exception sought will not block or hamper the master development plan pattern of highway circulation or of planned major public or semipublic land acquisition.

a. The proposed development will not block or hamper the master development plan pattern of highway circulation or of planned major public or semipublic land acquisition.

(4) That the exception sought will not alter the essential characteristics of the neighborhood and will not tend to depreciate the value of property adjoining and neighboring the property under application.

a. The proposed development will not alter the essential characteristics of the neighborhood and will not tend to depreciate the value of property adjoining and neighboring the property under application.

(5) That reasonable provisions have been made for adequate land space, lot width, lot area, stormwater management in accordance with section 60-1301(14), green space, driveway layout, road access, off-street parking, landscaping, building separation, sewage disposal, water supply, fire safety, and where applicable, a plan or contract for perpetual maintenance of all the common green space and clustered off-street parking areas to ensure all such areas will be maintained in a satisfactory manner.
   a. The proposed development complies with all dimensional standards and requirements pursuant to the Industrial District under Sec. 60-579.

(6) That the standards imposed are, in all cases, at least as stringent as those elsewhere imposed by the city building code and by the provisions of this chapter.
   a. The standards imposed for the proposed development are at least as stringent as those elsewhere imposed by the city building code and provisions of this chapter.

(7) That essential city services which will be required for the project are presently available or can be made available without disrupting the city's master development plan.
   a. The proposed development will provide for essential city services without disrupting the city's master development plan.

Decisions

***Date Application Accepted as Complete for Review**:*

July 9, 2026

***Waiver(s) Granted**:*

N/A

Decision(s) voted on by Planning Board:

Final Plan Approval Date:

Conditions for Final Approval:

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Chair, Planning Board *Date*

DRAFT

Harriman

TAMBRANDS INC.
P & G OPTIMUS

Hotel Road
Auburn, Maine

CITY OF AUBURN

DEVELOPMENT REVIEW APPLICATION

July 9, 2026

Owner:
Tambrands, Inc.

Architect/Engineer:
Harriman

City of Auburn, Maine
Office of Planning & Permitting
60 Court Street | Auburn, Maine 04210
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Development Review Application

PROJECT NAME: **P&G Optimus**

PROPOSED DEVELOPMENT ADDRESS: **2879 Hotel Road**

PARCEL ID #: **120-001**

REVIEW TYPE:

Site Plan ☒	Site Plan Amendment ☐	Stormwater ☐
Subdivision ☐	Subdivision Amendment ☐	Traffic ☐
		Site Law ☒

PROJECT DESCRIPTION: **New building and pavement additions to the manufacturing and warehousing facility.**

CONTACT INFORMATION:

Applicant
Name: **contact: Danielle Brown**
Address: **Tambrands. Hotel Road**
City / State **Auburn, ME**
Zip Code **04210**
Work #:
Cell #: **513-713-6871**
Fax #:
Home #:
Email: **brown.d.27@pg.com**

Property Owner
Name: **SAME**
Address:
City / State
Zip Code
Work #:
Cell #:
Fax #:
Home #:
Email:

Project Representative
Name: **David Latham, PE**
Address: **Harriman, 80 Exchange St**
City / State **Portland, ME**
Zip Code **04101**
Work #: **(207) 784-5100**
Cell #: **(978) 852-4593**
Fax #:
Home #:
Email: **dlatham@harriman.com**

Other professional representatives for the project (surveyors, engineers, etc.),
Name: **Evan Jones**
Address: **Jones Assoc,280 Poland Sp.Rd.**
City / State **Auburn, ME**
Zip Code **04210**
Work #: **(207)241-0235**
Cell #:
Fax #:
Home #:
Email: **ejones@jonesai.com**

PROJECT DATA

The following information is required where applicable, in order complete the application

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	1,198,525 sq. ft
Proposed Total Impervious Area	1,336,476 sq. ft.
Proposed Impervious Net Change	137,951 sq. ft.
Impervious surface ratio existing	43.9 % of lot area
Impervious surface ratio proposed	50.5 % of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	600,135 sq. ft.
Proposed Building Footprint	649,683 sq. ft.
Proposed Building Footprint Net change	49,548 sq. ft.
Existing Total Building Floor Area	680,295 sq. ft.
Proposed Total Building Floor Area	729,843 sq. ft.
Proposed Building Floor Area Net Change	49,548 sq. ft
New Building	No (yes or no)
Building Area/Lot coverage existing	21.99 % of lot area
Building Area/Lot coverage proposed	23.80 % of lot area

ZONING

Existing	Industrial
Proposed, if applicable	

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	
Proposed Number of Residential Units	
Subdivision, Proposed Number of Lots	

PARKING SPACES

Existing Number of Parking Spaces	375
Proposed Number of Parking Spaces	0
Proposed Total Parking Spaces	375

ESTIMATED COST OF PROJECT:

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	1,198,525 sq. ft.
Proposed Disturbed Area	931,825 sq. ft.
Proposed Impervious Area	1,336,476 sq. ft.

1. *If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with MDEP.*
2. *If the proposed impervious area is greater than one acre including any impervious area crated since 11/16/05, then the applicant shall apply for a MDEP Stormwater Management Permit, Chapter 500, with the City.*
3. *If total impervious area (including structures, pavement, etc) is greater than 3 acres since 1971 but less than 7 acres, then the applicant shall apply for a Site Location of Development Permit with the City. If more than 7 acres then the application shall be made to MDEP unless determined otherwise.*
4. *If the development is a subdivision of more than 20 acres but less than 100 acres then the applicant shall apply for a Site Location of Development Permit with the City. If more than 100 acres then the application shall be made to MDEP unless determined otherwise.*

TRAFFIC ESTIMATE

Total traffic estimated in the peak hour-existing (Since July 1, 1997) 222 passenger car equivalents (PCE)

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) 222 passenger car equivalents (PCE)

If the proposed increase in traffic exceeds 100 one-way trips in the peak hour then a traffic movement permit will be required.

Zoning Summary

Min Lot Area	**0.86**	/	**62.66**
Street Frontage	**150 ft**	/	**3130 ft**
Min Front Yard	**35 ft**	/	**256.16 ft**
Min Rear Yard	**50 ft**	/	**343.0 ft**
Min Side Yard	**35 ft**	/	**65.3 ft**
Max. Building Height	**75 ft**	/	**69.5 ft**
Use Designation	**Manufacturing**	/	
Parking Requirement	1 space/ per_____ dwelling unit		
Total Parking:		/	**375 spaces**
Overlay zoning districts (if any):	**No**	/	/

DEVELOPMENT REVIEW APPLICATION SUBMISSION

Submissions shall include fifteen (15) complete packets containing the following materials:

1. 5 Full size plans and 10 smaller (no larger than 11" x 17") plans containing the information found in the attached sample plan checklist.
2. Application form that is completed and signed by the property owner or designated representative. (NOTE: All applications will be reviewed by staff and any incomplete application will not be accepted until all deficiencies are corrected.
3. Cover letter stating the nature of the project.
4. All written submittals including evidence of right, title and interest.
5. Copy of the checklist completed for the proposal listing the material contained in the submitted application.

Refer to the application checklist for a detailed list of submittal requirements.

To view the City of Auburn Zoning Ordinance, go to:
www.auburnmaine.gov under City Departments / Planning, Permitting & Code / Subdivisions / Land Use /Zoning Ordinance

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, I certify that the City's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for development review only; a Performance Guarantee, Inspection Fee, Building Permit Application and other associated fees and permits will be required prior to construction.

Signature of Applicant:	**Date:**
	July 9, 2026

City of Auburn, Maine
Office of Planning & Permitting
60 Court Street | Auburn, Maine 04210
www.auburnmaine.gov | 207.333.6601

Development Review Checklist

The following information is required where applicable to be submitted for an application to be complete

PROJECT NAME: **P&G Optimus**
PROPOSED DEVELOPMENT ADDRESS: **2879 Hotel Road**
PARCEL #: **120-001**

Required Information		*Check when Submitted*		*Additional Comments*
Site Plan: Sec. 60-1301		*Applicant*	*Staff*	
	Sec. 60-1301(1): Name and address of owner and developer	X		
	Sec. 60-1301(2): Names of development, scale and meridian arrow	X		
	Sec. 60-1301(3): Name and addresses of all owners of record of all adjacent property	X		
	Sec. 60-1301(4): Current zoning boundaries and 100-year floodplain boundaries	X		
	Sec. 60-1301(5): Easements; rights-of-way	X		
	Sec. 60-1301(6): Topographic map of the site	X		
	Sec. 60-1301(7): Location of watercourses, wetlands, marshes, surface water, rock outcroppings, wooded areas, etc.	X		
	Sec. 60-1301(8): Location of buildings existing on the tract to be developed	X		
	Sec. 60-1301(9): Locations of water mains, sewer mains, wells, fire hydrants, culverts, drains, pipe sizes, grads and direction	X		
	Sec. 60-1301(10): Existing soil conditions and soil suitability test results	X		
	Sec. 60-1301(11): Location of proposed buildings	X		
	Sec. 60-1301(12): Proposed traffic circulation system	X		
	Sec. 60-1301(13): Location of existing and proposed public utility lines	X		

	Sec. 60-1301(14): Site developments requiring stormwater permits required plan	X		
	Sec. 60-1301(15): Location and design of proposed off-street parking and loading areas	X		
	Sec. 60-1301(16): Proposed location and direction of outdoor lighting	X		
	Sec. 60-1301(17): Existing and proposed planting, fences and walls, including landscaping and screening	N/A		
	Sec. 60-1301(18): Location, size, design and manner of illumination of signs	X		
	Sec. 60-1301(19): Disposal of sewage, trash, solid waste	X		
	Sec. 60-1301(20): Perimeter boundaries of the site with bearings, distances and radii of curves including the name and seal of the registered land surveyor who prepared the plan	X		
	Sec. 60-1301(21): Description and plan of capacity and location of means of sewage disposal	X		
	Sec. 60-1301(22): A statement of the amount of area of land involved in the site	X		
	Sec. 60-1301(23): Description and plan of a phase development concept	N/A		
	Sec. 60-1301(24): Demonstration of financial capacity	X		

Required Information		*Check when Submitted*		*Additional Comments*
Stormwater & Erosion Control Plan: Sec. 46-209		*Applicant*	*Staff*	
	Sec. 46-209(a)(1): Erosion and sedimentation control plan	X		
	Sec. 46-209(a)(3) a.: A stormwater management plan for 24-hour, 2, 10 and 25-year frequencies	X		
	Sec. 46-209(a)(3) b.: Stormwater quality	X		
	Sec. 46-209(b)(1) a.: Location map with the boundaries of development	X		
	Sec. 46-209(b)(1) b.: USGS topographic map	X		
	Sec. 46-209(b)(1) c.: A topographic map for the project showing predevelopment contours, post development contours, etc.	X		
	Sec. 46-209(b)(1) d.: SCS medium intensity soils map	X		
	Sec. 46-209(b)(1) e.: A high intensity soil survey	N/A		
	Sec. 46-209(b)(2) a.: Description of the development	X		
	Sec. 46-209(b)(2) b.: Description of stormwater handling	X		
	Sec. 46-209(b)(2) c.: Description of erosion and sedimentation control	X		
	Sec. 46-209(b)(2) d.: Schedule of construction	X		
	Sec. 46-209(b)(2) e.: A description of inspection and maintenance for sediment and erosion control measures	X		
	Sec. 46-209(b)(3) a.: Detailed drawings of any structural practices used	N/A		
	Sec. 46-209(b)(3) b.: Calculations for stormwater management practices	X		
	Sec. 46-209(b)(3) c.: Calculations for sediment and erosion control practices	X		

Required Information		*Check when Submitted*		*Additional Comments*
Traffic Impact Analysis: Sec. 46-215	N/A	*Applicant*	*Staff*	
	Sec. 46-235(a)(1) a.: Exact physical location of the proposed development			
	Sec. 46-235(a)(1) b.: Physical characteristics			
	Sec. 46-235(a)(1) c.: Existing land uses			
	Sec. 46-235(a)(1) d.: Land uses of adjacent property			
	Sec 46-235(a)(2): Proposed land use			
	Sec. 46-235(b)(1) a.: Current and proposed street network			
	Sec. 46-235(b)(1) b.: Geometrics and characteristics			
	Sec. 46-235(b)(1) c.: Intersection traffic control			
	Sec. 46-235(b)(1) d.: Signal timing and system operation at signalized intersections			
	Sec. 46-235(b)(1) e.: Existing or proposed intersection and development access points and configurations			
	Sec. 46-235(b)(1) f.: Existing and proposed rights-of-way			
	Sec. 46-235(b)(1) g.: Available hourly traffic counts			
	Sec. 46-235(b)(1) h.: Peak period turning movements at critical intersections			
	Sec. 46-235(b)(1) i.: Accident information			
	Sec. 46-235(b)(1) j.: Transit routes/headways			
	Sec. 46-235(b)(1) k.: Transit stops/station locations			
	Sec. 46-235(b)(2) a.: Comprehensive transportation plan			
	Sec. 46-235(b)(2) b.: Future improvements			
	Sec. 46-236: Traffic Movement Permit			

Harriman

TAMBRANDS, INC
P & G OPTIMUS
Auburn, Maine

DEVELOPMENT REVIEW APPLICATION

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EXHIBIT 1

DEVELOPMENT DESCRIPTION

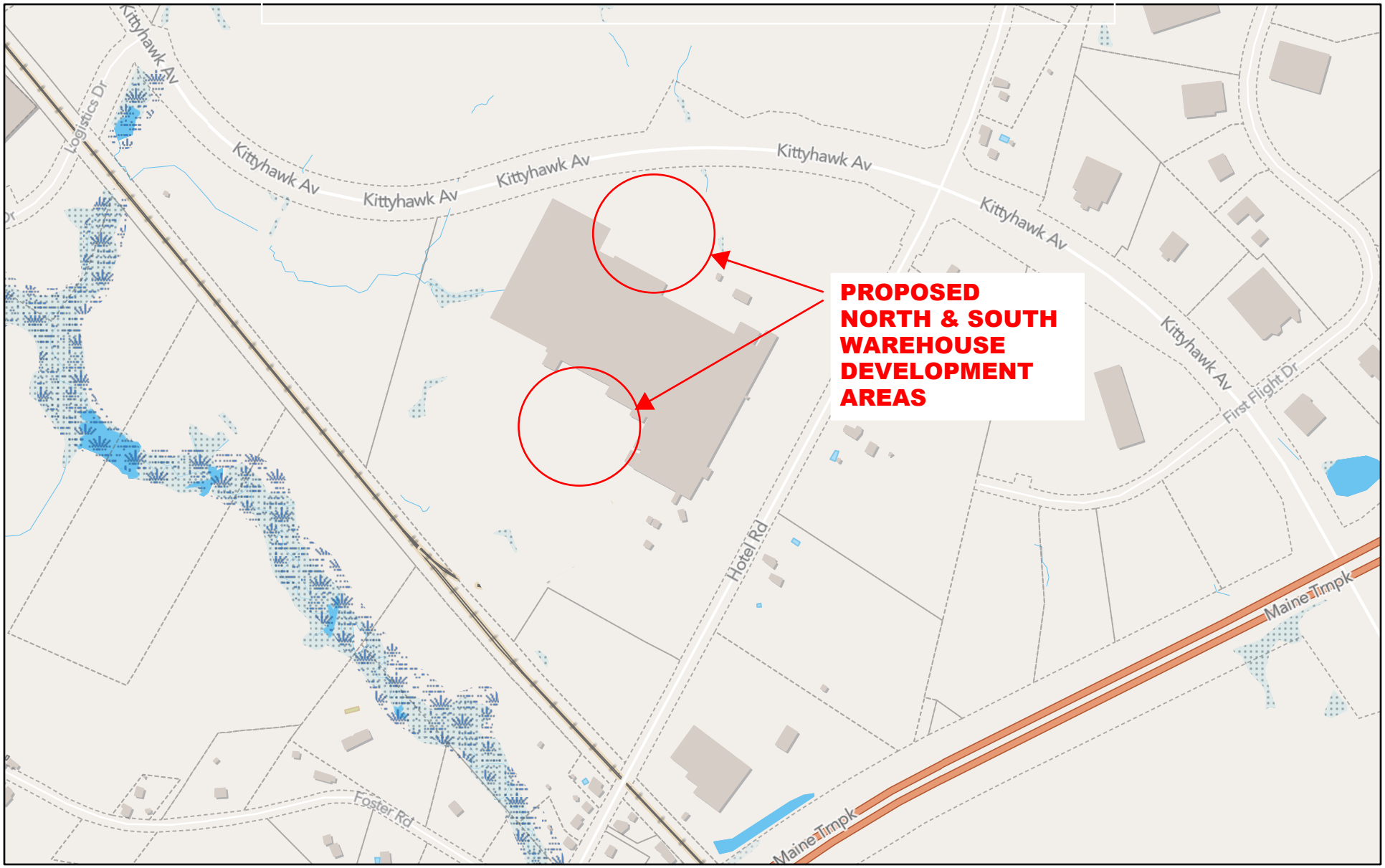
DEVELOPMENT DESCRIPTION

Tambrands, Inc.(Procter & Gamble) is proposing the construction of warehouse building additions and expansion of paved access drives at their Auburn, Maine facility on Hotel Road and Kittyhawk Avenue. The campus totals approximately 62.66-acres, with a total of 35.1 acres of impervious surfaces. Approximately 56% of the site remains vegetated. In 1972, Maine DEP first approved expansion of the existing manufacturing facility in permit #L-651-26-A-X. Site Location of Development Permit Amendments from 2012 through 2016 approved additional expansions of buildings and pavements as permit #L-651-23-E-A, #L-651-23-H-B, and #L-651-L6-F-N. In 2021, the latest major building expansion was permitted through the City of Auburn by their Delegated Authority for the DEP Site Location of Development.

Procter & Gamble is now proposing warehouse expansions to the north and south sides of the main building, as shown on the attached drawings. The project also includes relocating the access drive and gatehouse on Kittyhawk Avenue and adding a new gatehouse on Hotel Road. Internal drives and truck maneuvering/loading dock areas will also be added or reconfigured along the north and south sides of the existing building. The proposed building additions and the added paved drives, pads, and truck maneuvering areas will result in a net increase of approximately 137,950 sq.ft of impervious area (3.17 acres). The new 'developed' area, which includes the impervious area and new vegetated area, will total approximately 13 acres. Some existing stormwater treatment systems, consisting of vegetated underdrained soil filters, will be expanded or relocated on-site. Additional subsurface sand filters to treat the quality and quantity of stormwater runoff are also being added.

Procter & Gamble management understands that the necessary wetland impacts will need to be approved by DEP through their Natural Resource Protection (NRPA) and the Army Corps of Engineers (ACOE), which is not part of the City's Delegated Authority. Jones Associates has done a wetland assessment of the proposed site and we expect there will be approximately 12,262 sq.ft. of wetland impacts associated with this expansion.

P&G TAMBRANDS - 2879 Hotel Road, Auburn, ME



2/18/2026, 8:47:57 AM

Current Parcels _ Public

Wetlands

1:9,028

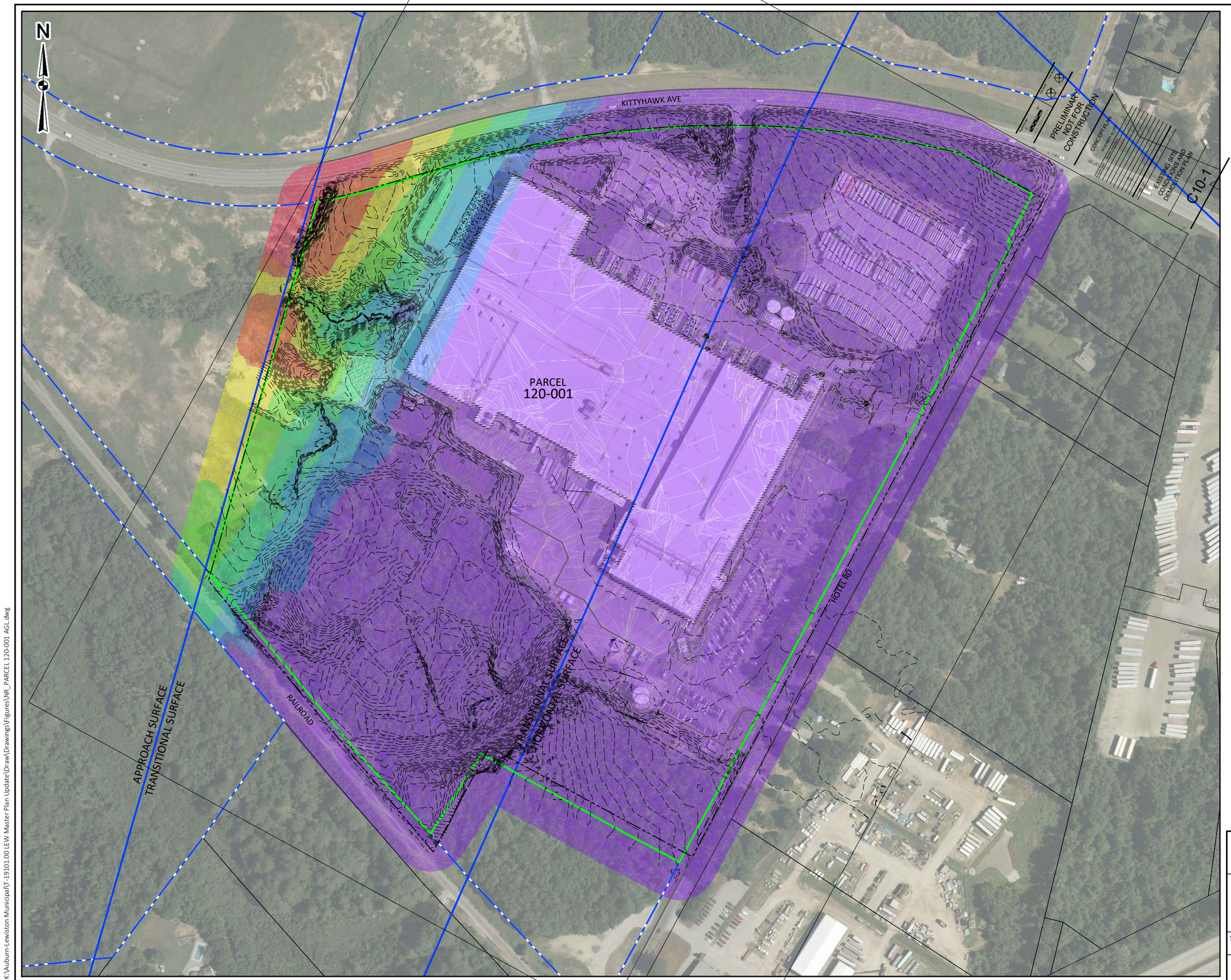
0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Web AppBuilder for ArcGIS

Credit should always be given to the data source and/or originator when the data is transferred or printed. | COA | Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA,



LEGEND

- AIRPORT PROPERTY BOUNDARY
- PARCEL BOUNDARY
- CFR PART 77 SURFACE

MAXIMUM ALLOWABLE HEIGHT ABOVE GROUND

- 100'
- 90'
- 80'
- 70'
- 60'
- 50'
- 40'

SCALE

0 250 500
FEET

AUBURN-LEWISTON MUNICIPAL AIRPORT

ANDROSCOGGIN COUNTY, MAINE

CFR PART 77 SURFACES MAXIMUM AGL

PARCEL 120-001

SCALE:	DATE:	FIGURE:
1" = 250'	FEBRUARY 2026	1

McFARLAND JOHNSON

K:\Auburn-Lewiston Municipal\T-19101.00 LEW Master Plan Update\Draw\Drawings\Figures\NR_PARCEL 120-001 AGL.dwg

EXHIBIT 2

TITLE, RIGHT, & INTEREST

KNOW ALL MEN BY THESE PRESENTS, THAT the CITY OF AUBURN and the CITY OF LEWISTON, both public municipal corporations of the State of Maine, and both located in the County of Androscoggin in said State, in consideration of One Dollar ($1.00) and other valuable considerations paid by Tampax Incorporated, a corporation duly organized and existing under the laws of the State of Delaware and having its principal place of business in the City of New York in the County and State of New York, the receipt whereof is hereby acknowledged, do hereby give, grant, bargain, sell and convey unto the said Tampax Incorporated, its successors and assigns, forever, the following described property:

A certain lot or parcel of land situated on Hotel Road, so-called, in Auburn, in the County of Androscoggin and State of Maine and bounded and described as follows:

Commencing at a point on the westerly side of Hotel Road, which point is marked by an iron pipe and is 500 feet northeasterly from the intersection of the westerly side of said Hotel Road with the center line of the rails of Canadian National Railway Company, successor by amalgamation to Grand Trunk Railway Company; thence northwesterly on a course of N 61° 17' W at right angles to said Hotel Road 500 feet in a straight line to a point marked by an iron pipe; thence southwesterly on a course of S 28° 43' W at right angles in a straight line 266.74 feet to an iron pipe and the northerly side of the right-of-way of said Canadian National Railway Company; thence northwesterly along the northerly side of said right-of-way of said Canadian National Railway Company 26.42 feet to an iron pipe; thence continuing northwesterly along the northerly side of said right-of-way of said Canadian National Railway Company 512.58 feet to a point marked by an iron pipe, which point is 1,100 feet from the westerly side of said Hotel Road measured perpendicular to said Hotel Road; thence northeasterly on a course of N 28° 43' E 2065.44 feet in a straight line to a point marked by an iron pipe, which point is distant 1,100 feet from the westerly side of said Hotel Road measured perpendicular to said Hotel Road; thence southeasterly on a course of S 61° 17' E, 1100 feet to an iron pipe and Hotel Road;

thence southwesterly on a course of S 28° 45' W, 2,000 feet along said Hotel Road to the point of beginning, containing 52.41 acres, more or less.

The above-described premises are a portion of the property conveyed to the Grantors by deeds of the United States of America dated December 18, 1947 and December 15, 1948 and recorded in the Androscoggin County Registry of Deeds in Book 611, Page 459 and Book 621, Page 627, respectively.

The above-described premises are conveyed subject to an easement reserved to the Grantors, their successors and assigns, to maintain, repair and replace the now existing line of water pipe which crosses the same and extends from a pumping station on adjoining land of the Grantors to the Lewiston-Auburn Airport, together with the right to enter for such purposes. All expenses in connection with the maintenance, repair and replacement of said line of water pipe shall be borne by the Grantors and their successors and assigns, except that if the Grantee, its successors and assigns should construct any building over said line of water pipe or any replacement thereof, then the Grantee, its successors and assigns, shall, at its expense, provide for necessary relocation of said line of water pipe.

Excepting and reserving to the Grantors, however, for the use and benefit of the public, as provided in Instrument of Release dated February 3, 1967 between the United States of America and the Grantors, to be recorded herewith in said Registry, a continuous navigation and hazard easement in the air space over the above described premises:

(a) for the unobstructed passage of all aircraft therein, together with the right to cause in said air space such noise and other effects as may be inherent in the operation of aircraft, now known, or hereafter used for navigation of or flight in air,

(b) to prevent the erection or growth upon the premises described of any building, structure, tree, or other object extending to a height in excess of 80 feet above the surface of the land,

(c) to prevent the use of the premises for purposes which will create or result in a hazard to flight such as, but not limited to, purposes which will (1) produce electrical interference with radio communications, (2) make it difficult for pilots to distinguish between airport lights and others, (3) project glare in the eyes of pilots, (4) impair visibility in the vicinity of the airport, or (5) otherwise endanger the landing, take-off and maneuvering of aircraft.

TO HAVE AND TO HOLD the aforegranted and bargained premises with all the privileges and appurtenances thereof to the said

Tampax Incorporated, its successors and assigns, to its and their use and behoof forever.

AND the Grantors do covenant with the said Grantee, its successors and assigns, that they are lawfully seized in fee of the premises, that they are free of all encumbrances, that they have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that they and their successors shall and will warrant and defend the same to the said Grantee, its successors and assigns forever, against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, the City of Auburn, by its City Manager, Woodbury E. Brackett, thereunto duly authorized by Resolve of its City Council, and the City of Lewiston by its Mayor, William Rochelseau, Jr., thereunto duly authorized by Resolve of its Board of Aldermen, have caused this instrument to be signed in their respective corporate names and sealed with their respective corporate seals this 13 day of February, 1967.

SIGNED, SEALED AND DELIVERED
in presence of

CITY OF AUBURN

By _____
City Manager

ATTEST: _____
City Clerk

CITY OF LEWISTON

By _____
Mayor

ATTEST: _____
City Clerk

STATE OF MAINE
ANDROSCOGGIN, SS.

February 13, 1967

Personally appeared the above named Woodbury E. Brackett, City Manager of the City of Auburn, Maine, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said City of Auburn.

Before me,

_____
Notary Public

BOOK 968 PAGE 775

STATE OF MAINE
ANDROSCOGGIN, SS.

February 13, 1967

Personally appeared the above named William Rocheleau, Jr., Mayor of the City of Lewiston, Maine and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said City of Lewiston.

Before me,

Notary Public

ANDROSCOGGIN, SS.
RECEIVED Feb 13 1967 11 PM 11 M.
and recorded from the original

Bk 10872 Pg147 #20564
09-10-2021 @ 03:13p

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QUITCLAIM DEED WITH COVENANT

DLN: 1002140161991

The **CITY OF AUBURN** and the **CITY OF LEWISTON**, each a Maine municipal corporation, with a mailing address c/o Auburn-Lewiston Municipal Airport, 80 Airport Drive, Auburn, Maine 04210 (collectively, "Grantor") FOR CONSIDERATION PAID, grant to **TAMBRANDS INC.**, a Delaware corporation with a mailing address of The Procter & Gamble Company, Attention: Real Estate Dept. (TE-3), 2 Procter & Gamble Plaza, Cincinnati, Ohio 45202 ("Grantee"), with QUITCLAIM COVENANT, certain real property together with any improvements thereon, situated in Auburn, County of Androscoggin, and State of Maine, and more particularly described on Exhibit A attached hereto and made a part hereof.

IN WITNESS WHEREOF, each of the CITY OF AUBURN and the CITY OF LEWISTON has caused this deed to be executed in its name and on its behalf under seal by Bettyann (a/k/a Betty Ann) Sheats, the Interim Airport Manager of the Auburn-Lewiston Municipal Airport, thereunto duly authorized as of this 8 day of September, 2021.

MAINE REAL ESTATE TRANSFER TAX PAID

CITY OF AUBURN and CITY OF LEWISTON
By: Auburn-Lewiston ~~Municipal~~ Airport, a Maine non-~~profit~~ corporation
Its ~~duly Authorized~~ Representative

Witness

By: _____
Bettyann (a/k/a Betty Ann) Sheats
Interim Airport Manager of the Auburn-Lewiston Municipal Airport

STATE OF MAINE
COUNTY OF ANDROSCOGGIN, ss. September 8, 2021

Personally appeared the above-named Bettyann (a/k/a Betty Ann) Sheats, the Interim Airport Manager of the Auburn-Lewiston Municipal Airport, the duly Authorized Representative of the City of Auburn and the City of Lewiston, as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said City of Auburn and City of Lewiston.

GLEN E. HOLMES NOTARY PUBLIC Expires 11/10/2025 STATE OF MAINE

Before me, _____

Notary Public/~~Attorney at Law~~
Print Name:
My Commission Expires:

SEAL

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EXHIBIT A

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A certain lot or parcel of land situated on the southerly side of Kittyhawk Avenue, so called, in the City of Auburn, County of Androscoggin, State of Maine, depicted on that certain unrecorded ALTA/NSPS Land Title Survey entitled "Portion of Land of City of Auburn and City of Lewiston to be Conveyed, Kittyhawk Avenue, Auburn, Maine 04210" made for Proctor & Gamble Tambrands by Jones Associates, Inc., dated March 16, 2021 and last revised September 1, 2021, Project No. 20-084 (the "Survey") and more particularly bounded and described as follows:

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NOT AN OFFICIAL COPY

Beginning at a capped rebar marked "1278" found on the southerly sideline of Kittyhawk Avenue and at the northwesterly corner of land now or formerly of Tampax Incorporated as described in a deed recorded at the Androscoggin County Registry of Deeds in Book 968, Page 772;

thence S 28°45'15" W along land of said Tampax Incorporated, a distance of 1642.45 feet to a capped rebar marked "1278" found on the northerly sideline of land now or formerly of St. Lawrence & Atlantic Railroad Company as described in the instrument recorded at said Registry of Deeds in Book 2409, Page 130;

thence N 39°14'23" W along the northerly sideline of land of said St. Lawrence & Atlantic Railroad Company, a distance of 361.04 feet to a capped rebar marked "2433" set;

thence N 16°04'19" E through land of the Grantor, a distance of 1026.81 feet to a capped rebar marked "2433" set on the southerly sideline of said Kittyhawk Avenue;

thence along the southerly sideline of Kittyhawk Avenue, along a curve turning to the left, having an arc length of 148.07 feet, a radius of 1116.74 feet, and a chord bearing of N 77°27'34" E, a chord length of 147.96 feet to a capped rebar marked "2433" set;

thence N 73°39'40" E along the southerly sideline of said Kittyhawk Avenue, a distance of 213.37 feet to a capped rebar marked "2433" set;

thence along a tangential curve turning to the right, having an arc length of 393.95 feet, and a radius of 2569.42 feet to the point of beginning.

All bearings noted are referenced to approximate NAD83 Maine State Plane West Zone Grid North.

The above described parcel contains 14.16 acres.

Meaning and intending to describe a portion of the premises conveyed to City of Auburn and City of Lewiston by deed from the United States of America, acting by and through the War Assets Administrator, recorded on January 23, 1948 at said Registry of Deeds in Book 611, Page 459 and by deed from the United States of America, acting by and through the War Assets Administrator, recorded on December 17, 1948 at said Registry of Deeds in Book 621, Page 627.

N O T A N O F F I C I A L C O P Y

The above described premises are conveyed subject to the following:

1. Exceptions, reservations, restrictions, easements and conditions set forth in a deed from the United States of America, acting by and through the War Assets Administrator to the Cities of Auburn and Lewiston dated December 18, 1947, and recorded at said Registry of Deeds in Book 611, Page 459, and in a Supplementary Release from the United States of America, acting by and through the War Assets Administrator to the City of Auburn and the City of Lewiston dated December 15, 1948, and recorded December 17, 1948 at said Registry of Deeds in Book 621, Page 627, as affected by that certain Deed of Release from the United States of America, acting by and through the Administrator of the Federal Aviation Administration, Department of Transportation, to the City of Auburn and the City of Lewiston dated September 8, 2021 to be recorded herewith at said Registry of Deeds.

2. Terms and conditions of that certain Interlocal Agreement between the Cities of Auburn and Lewiston recorded on December 30, 1980, at said Registry of Deeds in Book 1498 Page 218

3. Rights and easements granted by Auburn-Lewiston Municipal Airport to Auburn Sewerage District dated December 21, 2000, and recorded December 26, 2000 at said Registry of Deeds in Book 4564, Page 91.

4. Such state of facts as set forth on the above-referenced Survey, including the following:

   a. 25-foot wide sanitary sewer easement benefitting Auburn Sewerage District;
   b. Airport Obstacle Free Zone as shown thereon;
   c. Airport Runway Protection Zone as shown thereon; and
   d. Airport Runway Departure Surface as shown thereon.

There is specifically excepted from this conveyance and reserved to the Cities of Auburn and Lewiston, their successors and assigns, the following easements and rights:

1. A continuous avigation and hazard easement and right of way over the land herein conveyed for the use and benefit of the public, and for the unobstructed flight and passage of aircraft of all types, including, without limitation, private, commercial and military aircraft in the airspace above the surface of the land herein conveyed, together with the right to cause in said airspace such noise and effects as may be inherent in the operation of aircraft, and for use of said airspace for landing at, taking off from, or operating at the Auburn-Lewiston Municipal Airport (the "Airport"), as provided in that certain Deed of Release from the United States of America, acting by and through the Administrator of the Federal Aviation Administration, Department of Transportation, to the City of Auburn and the City of Lewiston dated September 8, 2021 to be recorded herewith at said Registry of Deeds.

2. Rights of entry, ingress and egress, with respect to the land herein conveyed; to prevent the erection or growth upon the land herein conveyed of any building, structure, tree, vegetation, or other object extending to a height exceeding the heights specified in 14 CFR Part 77, Obstructions Affecting Navigable Airspace; to remove or demolish any such buildings, structures, or

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other objects and to cut or top trees or other vegetation which might, at any time, exceed said heights; and to prevent the use of land herein conveyed for any purpose which may interfere with the use, operation, maintenance and further development of the Airport, or which shall create or result in a hazard to flight such as, but not limited to, any purpose which will: (i) create a potential for attracting birds and other wildlife that may pose a hazard to aircraft; (ii) produce electrical interference with radio communications; (iii) make it difficult for pilots to distinguish between airport lights and other lights; (iv) project glare in the eyes of pilots; (v) impair visibility in the vicinity of the Airport; or (vi) otherwise interfere with or endanger the landing, taking off and maneuvering of aircraft at the Airport or otherwise constitute an airport hazard.

By acceptance hereof, the Grantee herein expressly agrees for itself, its successors and assigns:

1. That no structures or objects of natural growth, which project or might project above the heights specified in 14 CFR Part 77, Obstructions Affecting Navigable Airspace, shall be erected, maintained or allowed on the land herein conveyed; and

2. That no use shall be made of the land herein conveyed for any purpose which may interfere with the use, operation, maintenance and further development of the Airport, or which shall create or result in a hazard to flight such as, but not limited to, any purpose which will: (i) create a potential for attracting birds and other wildlife that may pose a hazard to aircraft; (ii) produce electrical interference with radio communications; (iii) make it difficult for pilots to distinguish between airport lights and other lights; (iv) project glare in the eyes of pilots; (v) impair visibility in the vicinity of the Airport; or (vi) otherwise interfere with or endanger the landing, taking off and maneuvering of aircraft at the Airport or otherwise constitute an airport hazard; and

3. That the reservations and restrictions set forth in this instrument of conveyance shall run with the land herein conveyed which shall be the servient tenement, it being intended that the lands now and hereafter comprising the Airport shall be the dominant tenement; excepting, however, that such reservations and restriction shall become void and of no force and effect on such date as the lands comprised in the Airport shall cease to be used as an airport.

This conveyance is also made subject all utility easements which serve the premises herein conveyed, zoning and building restrictions, other easements, covenants, conditions and restrictions of record affecting the premises herein conveyed, and real estate taxes assessed but not yet due, which Grantee by acceptance hereof assumes and agrees to pay.

ANDROSCOGGIN COUNTY
TINA M CHOUINARD
REGISTER OF DEEDS

EXHIBIT 3

TECHNICAL AND FINANCIAL CAPACITY

TECHNICAL CAPACITY

Prior Experience:

Harriman Architects and Engineers have been retained by Tambrands, Inc. to design the site for the new building additions. Harriman is a long-established Maine firm with a long history of designing building and site work projects for Tambrands in Auburn, with personnel experienced in all aspects of environmental and site engineering design.

Some of our recent local Maine projects include:

1. Tambrands, Inc. Galena Addition, Auburn
2. Edward Little High School, Auburn
3. Lewiston Elementary School, Lewiston
4. Yarmouth High School, Yarmouth
5. Central Maine Community College, Auburn
6. Westbrook Middle School, Westbrook
7. Mountain Valley Consolidated School, Mexico

Tambrands, Inc.(Procter & Gamble) personnel have experience in operating and maintaining the existing manufacturing building and site. The same personnel will be responsible for the new building and site facilities.

FINANCIAL CAPACITY

A. Estimated Costs:

The estimated total manufacturing and warehouse project cost is approximately $40,000,000, which is itemized as follows:

Earthwork	$1,150,000
Pavements	$1,000,000
Erosion Control	$50,000
Storm Drains & Water Quality	$500,000
Grass	$60,000
Water Utilities	$300,000
Design, Fees, & Admin.	$1,200,000
Building Construction	$35,000,000
Total Project Cost	$39,260,000

B. Financing:

Tambrands, Inc.(Procter & Gamble) will fund the project from its development allocation, as described in the attached letter.

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TAMBRANDS, INC., A PROCTER & GAMBLE COMPANY

2879 Hotel Road - Auburn, Maine 04210

March 30, 2026

Eric Cousens
Public Services Executive Director
60 Court Street
Auburn, ME 04210

Re: Procter & Gamble - Tambrands
New Building Additions
Hotel Road
Auburn, Maine
Project No. 25229
Development Review Application

Dear Eric:

Tambrands, Inc. (owned by Procter & Gamble) is proposing two building additions, and associated drive modifications, to its manufacturing facility located at 2879 Hotel Road in Auburn. The building additions will be located on the existing Tambrands site. The building additions will be on the North and South side of the current building, with stormwater treatment and roadway modifications on the north, south, east, and west sides. The new building additions will be approximately 119,500 square feet of ground area, and new paved areas will be approximately 65,000 square feet.

Procter & Gamble is a Fortune 100 corporation. Procter & Gamble has, for many years, successfully funded and operated new development projects at the Auburn, Maine Tambrands facility, and intends to fund the 40 to 50 million dollar first phase of this proposed expansion from its development allocation for 2026-2027.

We trust this demonstrates our commitment to this building project, and our capacity to finance it with our current resources. Please let us know if there is anything else we can do to facilitate the review of this application.

Sincerely,

Ben Demeule
Auburn Plant Finance Manager
Procter & Gamble

EXHIBIT 4

SOILS AND WETLANDS

JONES ASSOCIATES

Foresters, Surveyors and Environmental Consultants

WETLAND REPORT

PROCTER & GAMBLE TAMBRANDS

2879 HOTEL ROAD

AUBURN, MAINE 04210

Prepared for:	Prepared by:
The Cianbro Companies 60 Cassidy Point Drive Portland, Maine 04102	Jones Associates, Inc. 280 Poland Spring Road Auburn, Maine 04210

This wetland delineation was conducted by: _____

Dave Forbes
Jones Associates, Inc.

JA Job #20-084AU
July 2024

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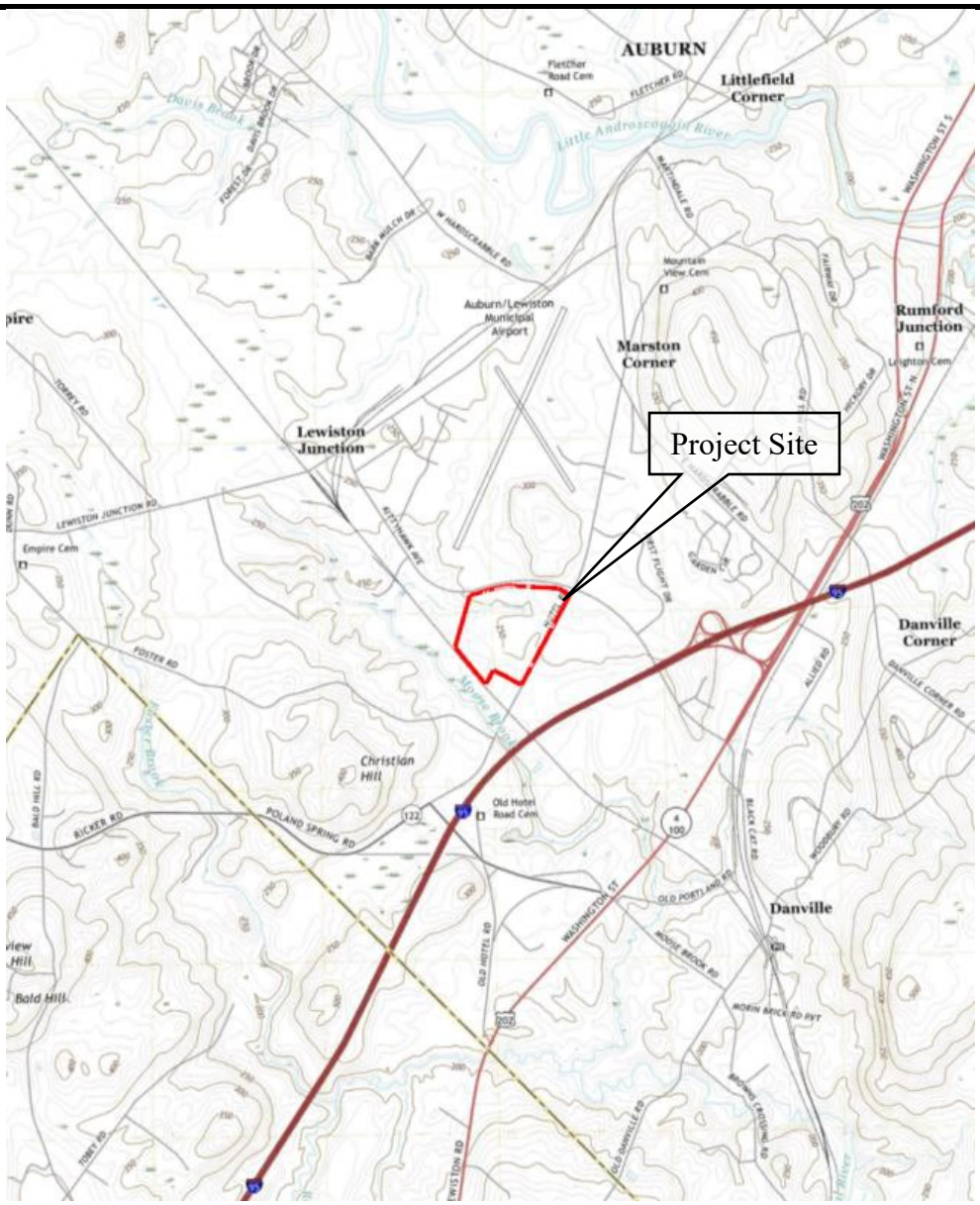
LOCATION MAP



Procter & Gamble Tambrands
Latitude: 44°2'14.38" N Longitude: 70°17'4.39" W
USGS MINOT QUADRANGLE (7.5 Minute Series) **NOT TO SCALE**
Obtained from USGS National Map Website: viewer.nationalmap.gov

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2879 Hotel Road
Auburn, Maine 04210

Jones Associates, Inc., 280 Poland Spring Rd, Auburn, Maine 04210 (207) 241-0235

INTRODUCTION

Jones Associates, Inc. was contracted to provide wetland delineation services for The Cianbro Companies on a +/- 62.66-acre lot (Tax Map 120, Lot 001) located off Hotel Road in Auburn, Maine 04210. The property is located at 2879 Hotel Road and contains the existing Procter & Gamble Tambrands facility. This wetland delineation includes an update of previously delineated wetlands, which were done by Jones Associates, Inc. in 2007, 2016, and 2020, as well as a search for any new wetlands on the additional portion of the property. The following report summarizes site conditions observed during site visits in July of 2024.

Wetland/upland boundaries were identified and delineated according to *U.S. Army Corps of Engineers (ACOE) Wetlands Delineation Manual (Environmental Laboratory 1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, January 2012*. Wetlands were identified based on the presence of hydric soil (inundated or saturated soil conditions resulting from permanent or periodic inundation by ground water or surface water), hydrology (movement and distribution of water), and predominance of hydrophytic species (Hydrophytes: vegetation typically adapted for life in saturated soil conditions).

Wetland delineations consist of transecting the property, examining periodic soil samples, observing any evidence of hydrology, and assessing each stratum of vegetation for its percentage of hydrophytic species. If all three factors were evident, the study plot was considered wetland habitat. Transitions between upland and wetland were clearly marked with blue sub-zero flagging every 30-40 feet and labeled with alphanumeric codes to identify individual systems (A1, A2, A3….).

Wetland flags were located using Leica Global Positioning System (GPS) technology with expected average accuracy of sub-meter. This method is recognized by both state and federal agencies. This being stated, Jones Associates, Inc. recommends that the wetland boundary be surveyed using a more precise method of location if any fill or regulated activities are to be performed within 20 feet of the GPS located wetland.

EXISTING CONDITIONS

The property is bound by Kittyhawk Avenue to the north, Hotel Road to the east, a railway owned by the St. Lawrence and Atlantic Railroad to the south, and a property owned by the City of Auburn to the west.

The existing Procter & Gamble Tambrands facility takes up most of the property. The southern portion of the property is mostly undeveloped and forested and contains some signs of historic development including an old railroad bed. The western portion of the property is partially cleared and shows evidence of previous logging activities. The wetlands on some portions of the property were delineated by Jones Associates, Inc. in 2007, 2016, and 2020. Some of these wetlands were impacted by expansions of the Procter & Gamble Tambrands facility located on-site. These wetlands were updated and additional wetlands were identified on the property.

The National Wetlands Inventory (NWI) was used as a preliminary resource in order to identify potential wetlands on-site. A narrow strip of wetland was identified using this information and described as palustrine (P), emergent (EM) wetlands, with persistent vegetation (1), that is

seasonally flooded (C) or (PEM1C). However, based on on-site observations, this mapped wetland is actually a stream, and additional wetlands were present on-site.

WETLAND CHARACTERISTICS

The term "wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

--Corps of Engineers Wetlands Delineation Manual (U.S. Army Corps of Engineers 1987)

The property contains eleven wetlands (Wetlands A, B, C, D, E, F, G, H, I, J, and K) which are shown on the attached Wetland Delineation Plan. Wetlands A, B, C, D, H, I, J, K, and a portion of Wetland G had been previously delineated by Jones Associates, Inc. and were updated during this delineation. Wetlands A, B, and D had been impacted by development on the property causing the wetland boundaries to be altered. Wetlands C, H, I, J, K, and a portion of Wetland G had remained unaltered from previous delineations. Wetlands E, F, and a portion of Wetland G were outside of previous areas of delineation and were therefore delineated for the first time by Jones Associates, Inc. in 2024.

Wetlands A, B, and C are located on the north end of the property, partially within the yard of the existing facility. Wetlands A and B were previously one continuous wetland but were impacted as part of the development on-site. Wetlands A, B, and C can be described using the wetlands and deepwater habitats classifications (below) as palustrine (P), forested wetlands (FO) with mostly broad-leaved deciduous vegetation (1), that are seasonally flooded/saturated (E), or (PFO1E). Hydrological indicators in these wetlands consist of saturation, water-stained leaves, drainage patterns, and FAC-neutral test. Vegetation observed in these wetlands includes northern red oak (*Quercus rubra*), red maple (*Acer rubrum*), speckled alder (*Alnus incana*), smooth arrowwood (*Viburnum dentatum*), sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmundastrum cinnamomeum*), broad-leaved cat-tail (*Typha latifolia*), wetland grasses (*Poa spp.*), and wetland sedges (*Carex spp.*). Soils in these wetlands were colored at 10YR 3/1 from 0-10 inches and 10YR 4/1 from 10-24 inches. These soils were classified with a hydric soil indicator of sandy mucky mineral.

Wetland D is located on the west end of the property and had been impacted by previous expansions of the facility on-site. Wetland D is associated with the stream that drains from a culvert from the on-site facility. This wetland can be described using the Wetlands and Deepwater Habitats Classifications as palustrine (P), forested wetlands (FO), with mostly broad-leaved deciduous vegetation (1), that is seasonally flooded/saturated (E) or (PFO1E). Hydrological indicators in this wetland consist of saturation, water-stained leaves, drainage patterns, geomorphic position, and FAC-neutral test. Vegetation observed in this wetland includes red maple (*Acer rubrum*), paper birch (*Betula papyrifera*), speckled alder (*Alnus incana*), Morrow's honeysuckle (*Lonicera morrowii*), sensitive fern (*Onoclea sensibilis*), interrupted fern (*Osmunda claytoniana*), wetland sedges (*Carex spp.*), and tall meadow-rue (*Thalictrum pubescens*). Soils in this wetland were colored at 10YR 2/1 from 0-7 inches, 10YR 4/1 from 7-10 inches, and 10YR 3/2 from 10-24 inches. These soils were classified with a hydric soil indicator of sandy mucky mineral.

Wetlands E, F, J, and K are isolated pockets of wetlands located on the southwest portion of the property. Wetland J contains a non-significant vernal pool that was monitored by Jones Associates, Inc. in 2023. These wetlands can be described using the Wetlands and Deepwater Habitats Classifications as palustrine (P), scrub-shrub (SS) wetlands, with mostly broad-leaved deciduous vegetation (1), that are seasonally flooded/saturate (E), or (PSS1E). Hydrological indicators in these wetlands consist of saturation, sparsely vegetated concave surface, water-stained leaves, geomorphic position, and FAC-neutral test. Vegetation observed in these wetlands includes balsam fir (*Abies balsamea*), red maple (*Acer rubrum*), smooth arrowwood (*Viburnum dentatum*), northern lady fern (*Athyrium angustum*), wetland grasses (*Poa spp.*), and woolgrass (*Scirpus cyperinus*). Soils in these wetlands were colored at 10YR 2/1 from 0-12 inches and 10YR 3/1 from 12-16 inches. These soils were classified with a hydric soil indicator of sandy mucky mineral.

Wetlands G, H, and K are located in the forested portion of the property on the southern end. These wetlands have relatively steep banks and are located adjacent to the railroad bed located on the property. Wetlands H and I contain short sections of streams which drain off the south end of the property adjacent to the railroad bed. Wetland H contains a non-significant vernal pool which was monitored by Jones Associates. Inc. in 2023. These wetlands can be described using the Wetlands and Deepwater Habitats Classifications as palustrine (P), forested wetlands (FO), with mostly broad-leaved deciduous vegetation (1), that are seasonally flooded/saturated (E), or (PFO1E). Hydrological indicators in these wetlands consist of saturation, water-stained leaves, drainage patterns, geomorphic position, and FAC-neutral test. Vegetation observed in these wetlands includes red maple (*Acer rubrum*), balsam fir (*Abies balsamea*), white pine (*Pinus strobus*), common winterberry (*Ilex verticillata*), speckled alder (*Alnus incana*), smooth arrowwood (*Viburnum dentatum*), wetland grasses (*Poa spp.*), and sensitive fern (*Onoclea sensibilis*). Soils in these wetlands were colored at 10YR 2/2 from 0-12 inches and 10YR 3/1 from 12-18 inches. These soils were classified with a hydric soil indicator of sandy mucky mineral.

WETLANDS OF SPECIAL SIGNIFICANCE (WOSS)

Wetland D is considered a wetland of special significance (WOSS) as it is within a mapped upland sandpiper habitat (state threatened species), according to data from the Maine Department of Inland Fisheries and Wildlife (MDIFW). However, during previous on-site expansions, MDIFW stated that the species would not be impacted. Additionally, the portions of Wetland D that are within 25 feet of the identified stream are considered WOSS. The portions of wetlands H and I are also considered WOSS where they are within 25 feet of the identified stream channels.

STREAMS

Jones Associates, Inc. identified three stream channels on the property which are shown on the attached Wetland Delineation Plan. The largest stream channel runs from east to west across the western portion of the property. This stream has a fork which drains into it from across Kittyhawk Ave. This stream has been previously impacted by development of the on-site facility and can be described using the Wetlands and Deepwater Habitats Classifications as riverine (R), lower perennial (2), with an unconsolidated bottom (UB), made up of sand (2), or (R2UB2). The stream in Wetland H can be described as riverine (R), intermittent (4), with a streambed bottom (SB), made up of mud (5), or (R4SB5). The stream in Wetland I can be described as riverine (R), lower perennial (2), with an unconsolidated bottom (UB), made up of cobble-gravel (1), or (R2UB1). Please refer to Addendum 4.B (Stream Channels) for more detailed information on stream criteria.

RARE OR UNUSUAL FEATURES AND VERNAL POOLS

Jones Associates Inc. monitored potential vernal pools on the property during the 2023 vernal pool breeding season. Two non-significant vernal pools were identified and are shown on the attached Wetland Delineation Plan. These pools are located in Wetlands J and H and did not meet the egg mass requirements to be considered a significant vernal pool. No unusual plant or animal species were observed within the property. Vegetation on this property was dominated by plant communities typical of this region of Maine.

NORTHERN LONG-EARED BAT

If impacts are proposed on-site, then the items found in Section 1 of the Addendum below will need to be addressed for Northern Long-Eared Bats (NLEB).

JONES ASSOCIATES
Foresters, Surveyors and Environmental Consultants

WETLAND DELINEATION CHECKLIST

Job #:	20-084AU		
Client:	Cianbro – Procter & Gamble Tambrands		
Site Address:	2879 Hotel Rd., Auburn, Maine 04210		

Wetland Scientist:	Dave Forbes
Date of Office Review:	07/2024
Date(s) of Field Delineation:	07/2024

Wetlands of Special Significance

Yes	No	
	X	Does the on-site or immediately adjacent wetland contain a mapped and numbered Deer Wintering Area (DWA)?
	X	Does the on-site or immediately adjacent wetland contain an Inland Waterfowl Wading Bird Habitat (IWWH)?
	X	Does the on-site or immediately adjacent wetland contain a potential significant vernal pool?
	X	Are there areas of open water or wetlands with emergent marsh vegetation greater than 20,000 sq. ft. on-site or immediately adjacent?
	X	Does the on-site or immediately adjacent wetland contain a 100-year flood plain?
	X	Does the on-site or immediately adjacent wetland contain a S1 or S2 community?
X		Does the on-site or immediately adjacent wetland contain a significant wildlife habitat?
	X	Is the on-site wetland within 250’ of a coastal wetland?
	X	Is the on-site wetland within 250’ of a great pond?
	X	Does the site contain peatlands?
X		Are there wetlands occurring within 25’ of a river, stream, or brook?

Stormwater Qualifications

	X	Is the site in the watershed of a Great Pond or Impaired stream?
	X	Is the site in a lake watershed?
	X	Is the site in a watershed most at risk?

Additional Comments:

FEMA flood zone FIRM:

Auburn 23001C0316E, Effective July 8, 2013

Watershed:

HUC_8: 01060001 Presumpscot
HUC_10: 0106000102 Royal River
HUC_12: 010600010201 Sabbathday Pond – Upper Royal River

PHOTOS

Characteristic Wetlands

Characteristic Uplands

Characteristic Wetlands

Characteristic Stream

ADDENDUM

1. NORTHERN LONG-EARED BAT

The Northern Long-Eared Bat (NLEB) (*Myotis septentrionalis*) is listed as endangered under the Endangered Species Act, as the bat faces extinction due to the wide range impacts of white-nose syndrome. The listing affects development that could cause purposeful or incidental take (e.g., kill, harm, or otherwise harass) of NLEB. This includes, but is not limited to, activities occurring within 0.25 miles of a known hibernaculum during hibernation or at any time of the year that may disrupt or alter a hibernaculum, tree clearing activities within 0.25 miles of a known hibernaculum at any time of the year, and tree clearing activities that result in cutting or destroying known, occupied maternity roost trees or any other trees within a 150-foot radius around the roost tree from June 1 – July 31, which is the generic pup season (i.e., the time of year when females care for young that are unable to fly). Should there be any plans for development on the property, Jones Associates, Inc. recommends additional consultation to determine if any activity could potentially lead to purposeful or incidental take of NLEB.

2. SOILS

According to U.S. Department of Agriculture, Natural Resources Conservation Service, two soil types are located within the project area. Characteristics of each series are described in the soil report according to: Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture, Official Soil Series Descriptions.

ADAMS SERIES

The Adams series consists of very deep, excessively and somewhat excessively drained soils formed in glacial-fluvial or glacio-lacustrine sand. They are on outwash plains, deltas, lake plains, moraines, terraces, and eskers. Saturated hydraulic conductivity is high or very high. Slope ranges from 0 through 70 percent. Mean annual temperature is 6 degrees C. and mean annual precipitation is 970 millimeters.

TYPICAL PEDON: Adams loamy fine sand, on a 1 percent slope in a forested area. (Colors are for moist soil unless otherwise noted.)

GEOGRAPHIC SETTING: Adams soils are on nearly level to very steep sand plains, kames, moraines, benches, eskers, deltas, and terraces. Slope ranges from 0 through 70 percent. These soils formed in sandy glaciofluvial or glaciolacustrine deposits from predominantly crystalline rock or meta-sandstone. Mean annual temperature ranges from 3 to 8 degrees C., mean annual precipitation ranges from 760 to 1270 millimeters, and mean annual frost-free period ranges from 70 to 160 days. Elevation ranges from 80 to 915 meters above sea level.

DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY: Somewhat excessively drained. Runoff is very slow to medium. Saturated hydraulic conductivity is high or very high in the mineral surface layer and upper part of the subsoil and very high in the lower part of the subsoil and substratum.

USE AND VEGETATION: Extensive areas are idle and support aspen, birch, and pine seedlings or sweet fern, spirea, and brambles. Uncleared areas support maple, beech, spruce, and pine. Farmed areas are used mainly for hay or pasture with limited acreages of corn and small grain.

NINIGRET SERIES

The Ninigret series consists of very deep, moderately well drained soils formed in loamy over sandy and gravelly glacial outwash. They are nearly level to strongly sloping soils on glaciofluvial landforms, typically in slight depressions and broad drainage ways. Slope ranges from 0 through 15 percent. Saturated hydraulic conductivity is moderately high or high in the solum and high or very high in the substratum. Mean annual temperature is about 49 degrees F. and mean annual precipitation is about 48 inches.

TYPICAL PEDON: Ninigret fine sandy loam - idle field, 2 percent slope. (Colors are for moist soil unless otherwise noted.)

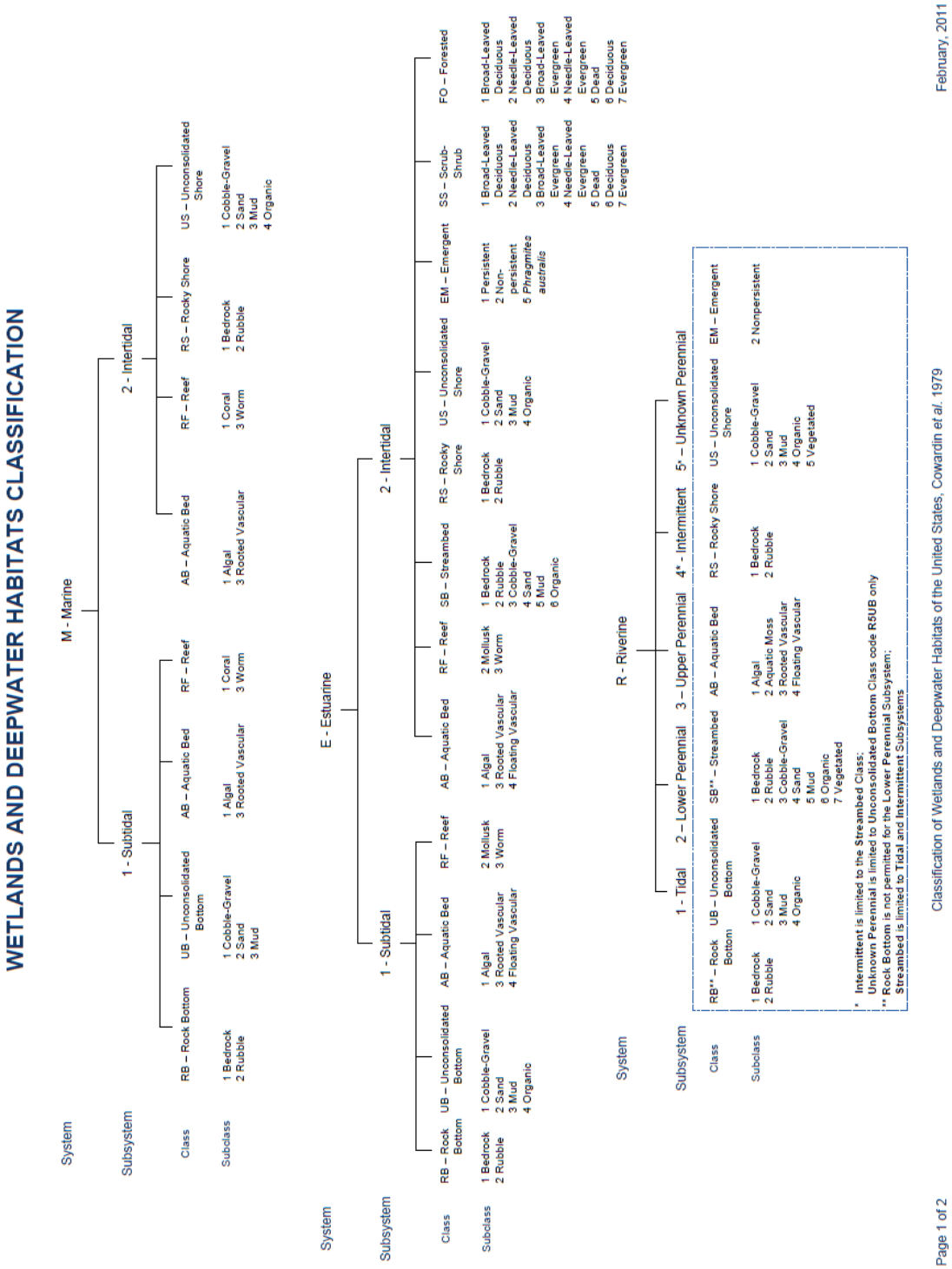
GEOGRAPHIC SETTING: Ninigret soils are nearly level to strongly sloping soils on glaciofluvial landforms. Slopes range from 0 through 15 percent, but commonly are 0 through 8 percent. The soils formed in loamy over stratified sandy and gravelly glacial outwash derived from a variety of acid rocks. Mean annual temperature ranges from 45 through 52 degrees F., mean annual precipitation ranges from 35 through 50 inches, and the growing season ranges from 120 through 195 days.

DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY: Moderately will drained. Surface runoff is negligible to medium. Saturated hydraulic conductivity is moderately high or high in the solum and high or very high in the substratum. The soil has a seasonal high water table.

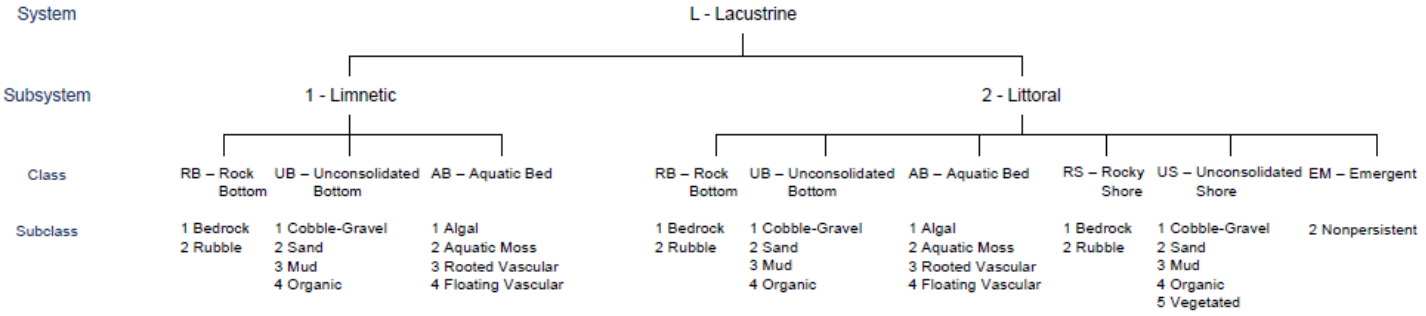
USE AND VEGETATION: Much of the acreage is used for cultivated crops, hay, or pasture. Common crops are silage corn, vegetables, tobacco, and nursery stock. Some areas are idle, wooded, or used for community development. Common trees are red, white and black oak, red maple, sugar maple, white pine, gray birch, white ash, and hemlock.

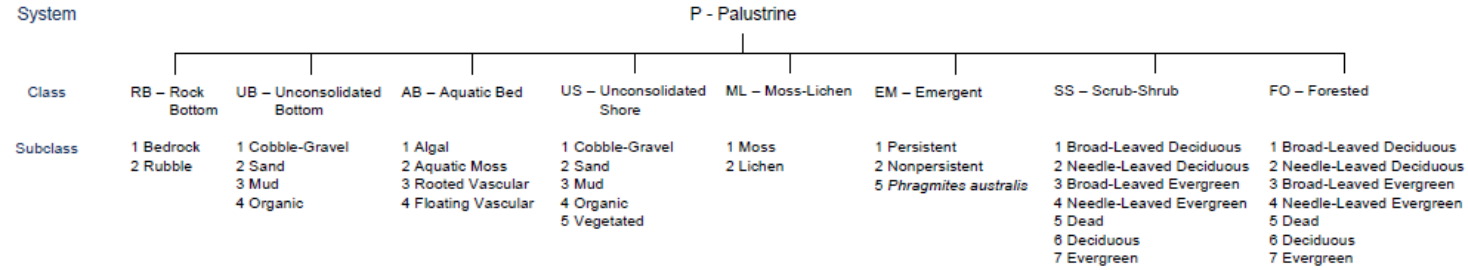
3. WETLANDS AND DEEPWATER HABITATS CLASSIFICATION

US Fish and Wildlife Service, http://www.fws.gov/wetlands/Documents/Wetlands-and-Deepwater-Habitats-Classification-chart.pdf



WETLANDS AND DEEPWATER HABITATS CLASSIFICATION





MODIFIERS

In order to more adequately describe the wetland and deepwater habitats, one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

Water Regime			Special Modifiers	Water Chemistry			Soil
Nontidal	**Saltwater Tidal**	**Freshwater Tidal**		**Coastal Halinity**	**Inland Salinity**	**pH Modifiers for all Fresh Water**	
A Temporarily Flooded	L Subtidal	S Temporarily Flooded-Tidal	b Beaver	1 Hyperhaline	7 Hypersaline	a Acid	g Organic
B Saturated	M Irregularly Exposed	R Seasonally Flooded-Tidal	d Partly Drained/Ditched	2 Euhaline	8 Eusaline	t Circumneutral	n Mineral
C Seasonally Flooded	N Regularly Flooded	T Semipermanently Flooded-Tidal	f Farmed	3 Mixohaline (Brackish)	9 Mixosaline	i Alkaline	
E Seasonally Flooded/ Saturated	P Irregularly Flooded	V Permanently Flooded-Tidal	h Diked/Impounded	4 Polyhaline	0 Fresh		
F Semipermanently Flooded			r Artificial	5 Mesohaline			
G Intermittently Exposed			s Spoil	6 Oligohaline			
H Permanently Flooded			x Excavated	0 Fresh			
J Intermittently Flooded							
K Artificially Flooded							

4. WETLAND RULES AND INFORMATION

A. WETLANDS OF SPECIAL SIGNIFICANCE

All coastal wetlands and great ponds are considered wetlands of special significance. In addition, certain freshwater wetlands are considered wetlands of special significance.

A. Freshwater Wetlands of Special Significance. A freshwater wetland of special significance 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 defined by 38 M.R.S.A. § 480-B (10).

(3) Location near coastal wetland. The freshwater wetland area is located within 250 feet of a coastal wetland.

(4) Location near GPA great pond. 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 GPA under 38 M.R.S.A. § 465-A.

(5) Aquatic vegetation, emergent marsh vegetation or open water. The freshwater wetland contains, under normal circumstances, at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water.

(6) Wetlands subject to flooding. The freshwater wetland area is inundated with floodwater during a 100-year flood event based on flood insurance maps produced by the Federal Emergency Management Agency or other site-specific information.

(7) Peatlands. The freshwater wetland is or contains peatlands, except that the department may determine that a previously mined peatland, or portion thereof, is not a wetland of special significance.

(8) River, stream or brook. The freshwater wetland area is located within 25 feet of a river, stream or brook.

B. Permit Process. Alterations of wetlands of special significance usually require an individual permit. However, some alterations of freshwater wetlands of special significance may be eligible for Tier 1 or 2 review if the department determines, at the applicant's request, that the activity will not negatively affect the freshwater wetlands or other protected natural resources present. In making this determination, the department considers such factors as the size of the alteration, functions of the impacted area, existing development or character of the area in and around the alteration site, elevation differences and hydrological connection to surface water or other protected natural resources, among other things.

C. Seasonal Factors. When determining the significance of a resource or impact from an activity, seasonal factors and events that temporarily reduce the numbers or visibility of plants or animals, or obscure the topography and characteristics of a wetland such as a

period of high water, snow and ice cover, erosion event, or drought, are taken into account. Determinations may be deferred for an amount of time necessary to allow an assessment of the resource without such seasonal factors.

B. STREAM CHANNELS

According to Maine's Natural Resource Protection Act, Title 38, Article 5-A, Protection of Natural Resources, §480-B Definitions:

"River, stream or brook" means a channel between defined banks. A channel is created by the action of surface water and has two or more of the following characteristics:

(1) It is depicted as a solid or broken blue line on the most recent edition of the U.S. Geological Survey 7.5-minute series topographic map or, if that is not available, a 15-minute series topographic map.

(2) It contains or is known to contain flowing water continuously for a period of at least 6 months of the year in most years.

(3) The channel bed is primarily composed of mineral material such as sand and gravel, parent material or bedrock that has been deposited or scoured by water.

(4) 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.

(5) The channel contains aquatic vegetation and is essentially devoid of upland vegetation.

"River, stream or brook" does not mean a ditch or other drainage way constructed, or constructed and maintained, solely for the purpose of draining storm water or a grassy swale.

C. VERNAL POOLS

As defined by Maine's Department of Environmental Protection (MDEP): A vernal pool, also referred to as a seasonal forest pool, is a natural, temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp (*Eubranchipus spp*.), as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition.

As of September 1, 2007, "Significant Vernal Pools" are defined by MDEP as "Significant Wildlife Habitat." As read in MDEP's Chapter 335 -- Significant Wildlife Habitat Rules, "Whether a vernal pool is a significant vernal pool 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 in Section 9(B). Significant vernal pool habitat consists of a vernal pool depression and a portion of the critical terrestrial habitat within a 250-foot radius of the spring or fall high water mark of the depression. An activity that takes place in, on, over, or adjacent to a significant vernal pool habitat must meet the standards of this chapter."

Species and abundance criteria required for Significant Vernal Pools.

Species	Abundance Criteria
Fairy shrimp	Presence in any life stage.
Blue spotted salamanders	Presence of 10 or more egg masses.
Spotted salamanders	Presence of 20 or more egg masses.
Wood frogs	Presence of 40 or more egg masses.

MDEP habitat management standards for significant vernal pools: To the greatest extent practicable, the following management practices must be followed within significant vernal pool habitat.

(1) No disturbance within the vernal pool depression;

(2) Maintain a minimum of 75% of the critical terrestrial habitat as unfragmented forest with at least a partly-closed canopy of overstory trees to provide shade, deep litter and woody debris.

(3) Maintain or restore forest corridors connecting wetlands and significant vernal pools;

(4) Minimize forest floor disturbance; and

(5) Maintain native understory vegetation and downed woody debris.

If more than 25% of the critical terrestrial habitat has been previously developed, restoring a portion of that area through supplemental planting or regrowth of native forest species may be considered toward meeting these standards, or towards standards for avoidance, minimization, or compensation. For purposes of Chapter 355, developed area includes disturbed areas excluding areas that are returned to a condition with the same drainage patterns and the same or improved cover type that existed prior to the disturbance;

Currently, Army Corps of Engineers (ACOE) regulate vernal pools but do not have specific characteristics that define a vernal pool, or a definition of which vernal pools require protection or buffering. They review each site on a case by case basis. ACOE's jurisdiction does not begin until the waters of the United States are impacted.

D. MDEP NRPA - PERMIT BY RULE

A "permit by rule" or "PBR", when approved by MDEP, is an approval for an activity that requires a permit under the Natural Resources Protection Act (NRPA). Only those activities described in Chapter 305 may proceed under the PBR process. A PBR activity will not significantly affect the environment if carried out in accordance with this chapter, and generally has less of an impact on the environment than an activity requiring an individual permit. A PBR satisfies the NRPA permit requirement and Water Quality Certification requirement. The following projects may be eligible as PBR activities:

Section (2) Activity Adjacent to Protected Natural Resource

> (An activity adjacent to (any land area within 75 feet, measured horizontally, of the normal high water line), but not in: a coastal wetland, great pond, river, stream or brook or significant wildlife habitat contained within a freshwater wetland; or freshwater wetlands consisting of or containing: under normal circumstances, at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water, except for artificial ponds or impoundments; or peatlands dominated by shrubs, sedges and sphagnum moss.

Section (3) Placement of permanent intake pipes and water monitoring devices (including drilled wells)

Section (4) Replacement of Structures

Section (6) Movement of Rocks or Vegetation

Section (7) Placement of outfall pipes (including ditches and drain tiles)

Section (8) Shoreline stabilization using vegetation or riprap

Section (9) Construction of crossings (utility lines, pipes and cables)

Section (10) Construction of stream crossings (bridges, culverts and fords)

Section (11) State Transportation Facilities

Section (12) Restoration of natural areas (i.e., "undoing" human alteration)

Section (13) Fisheries & wildlife habitat creation or enhancement and water quality improvement projects

Section (15) Public Boat Ramps

Section (16) Selected activities in coastal sand dunes

Section (17) Transfers and Permit Extensions

Section (18) One-time renewals of maintenance dredging permits

Section (19) Activities in/on/over significant vernal pool habitat

Section (20) Activities located in/on/over high or moderate value inland waterfowl & wading bird habitat or shorebird nesting, feeding & roosting areas

E. MDEP NRPA - TIER REVIEW PROCESS

NRPA's Tier Review process constitutes an application to the Maine Department of Environmental Protection (MDEP) for a proposed alteration to a freshwater wetland that qualifies for Tier 1, 2 or 3 review. The square footage of impact is based on the alteration or impact of the whole activity in the wetland. If any part of the overall activity requires a higher tier review, then the whole activity will be reviewed under that higher tier.

The Tier Review process is required for impacts larger than 4,300 square feet, and for requesting a permit for activities in, on, or over a protected natural resource. It is also used for activities adjacent to certain protected natural resources (38 MRSA 480-C(1)). The Tier Review process is required when the activity is not eligible for a PBR.

According to 38 M.R.S.A. Section 480-X(2), an application for a permit to undertake activities altering freshwater wetlands must be reviewed in accordance with the following:

(1) A Tier 1 review process applies to any activity that involves a freshwater wetland alteration up to 15,000 square feet and does not involve the alteration of freshwater wetlands listed in 38 M.R.S.A. Section 480-X(4);

(2) A Tier 2 review process applies to any activity that involves a freshwater wetland alteration of 15,000 square feet up to one acre and does not involve the alteration of freshwater wetlands listed in 38 M.R.S.A. Section 480-X (4 or 5);

(3) A Tier 3 review process applies to any activity that does involve a freshwater wetland alteration greater than one acre, or an alteration of a freshwater wetland listed in 38 M.R.S.A. Section 480-X (4 or 5).

According to 38 M.R.S.A. Section 480-X(4), the following activities are not eligible for Tier 1 or Tier 2 review unless MDEP determines that the activity will not negatively affect the freshwater wetlands and other protected natural resources present.

(1) Activities located within 250 feet of a coastal wetland;

(2) Activities located within 250 feet of the normal high-water line, and within the same watershed, of any lake or pond classified as GPA under section 465-A;

(3) Activities occurring in freshwater wetlands, other than artificial ponds or impoundments, containing under normal circumstances at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water;

(4) Activities occurring in freshwater wetlands that are inundated with floodwater during a 100-year flood event based on flood insurance maps produced by the Federal Emergency Management Agency or other site-specific information;

(5) Activities occurring in freshwater wetlands containing significant wildlife habitat that has been mapped, identified or defined, as required pursuant to section 480-B(10), at the time of the filing by the applicant;

(6) Activities occurring in peatlands dominated by shrubs, sedges and sphagnum moss, except that applications proposing work in previously mined peatlands may be considered by the department for Tier 1 or Tier 2 review, as applicable;

(7) Activities occurring within 25 feet of a river, stream or brook.

According to 38 M.R.S.A. Section 480-X(5), an activity in freshwater wetlands containing a natural community that is imperiled (S2) or critically imperiled (S1), as defined by the Natural Areas Program pursuant to Title 12, Section 544 is not eligible for Tier 2 review unless the department determines that the activity will not negatively affect the freshwater wetlands and other protected natural resources present.

NRPA General Requirements for both the Tier 1 and Tier 2 review process require that the proposed freshwater wetland alteration must be avoided, if feasible, after considering cost, logistics, technology and the overall purpose of the project. However, if unavoidable, the alteration must be limited to the minimum amount necessary to complete the project. The project must utilize both temporary and permanent erosion control measures to prevent sedimentation of any protected natural resource. In addition, the alteration site must maintain an undisturbed 25 foot buffer strip between the activity and any river, stream or brook and must not violate any state water quality law, including those governing the classification of the State's waters.

F. U.S. ARMY CORPS OF ENGINEERS REVIEW PROCESS

The New England District of the U.S. Army Corps of Engineers (ACOE) requires authorization regardless of the amount of proposed alterations to freshwater wetlands. The New England District of ACOE issues 23 General Permits (GPs), for activities subject to ACOE jurisdiction in waters of the United States within the boundaries of the State of Maine including tribal lands, and in adjacent ocean waters to the seaward limit of the outer continental shelf. These GPs are issued in accordance with ACOE regulations at 33 CFR 320 – 332 and specifically 33 CFR 325.2(e)(2).

Permits are required from the ACOE for the following work:

A. The construction of any structure in, over, or under any navigable water of the U.S. (see 33 CFR 328), the excavating or dredging from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters. The ACOE regulates these activities under Section 10 of the Rivers and Harbors Act of 1899 (see 33 CFR 322);

B. The discharge of dredged or fill material and certain discharges associated with excavation into waters of the U.S. including wetlands. The ACOE regulates these activities under Section 404 of the Clean Water Act (see 33 CFR 323); and

C. The transportation of dredged material for the purpose of disposal in the ocean. The Corps regulates these activities under Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (see 33 CFR 324).

In order for activities to qualify for these General Permits (GPs), they shall meet the GPs terms and eligibility criteria within pages 1-4 of the Department of the Army General Permits for the State of Maine, all applicable general conditions (GCs) in Section IV of the Department of the Army General Permits for the State of Maine, and terms of the Maine General Permits in Section V of the Department of the Army General Permits for the State of Maine. Any activity not specifically listed may still be eligible for authorization under these GPs; prospective permittees are advised to contact the ACOE for specific eligibility determination.

Under these GPs, activities may qualify for the following:

• Self-Verification (SV): Prospective permittees shall confirm that the activity meets all the applicable terms and conditions of SV. Consultation with the ACOE and/or other relevant federal and state agencies may be necessary to ensure compliance with the applicable general conditions (GCs) and related federal laws such as the National Historic Preservation Act (GC 15), the Endangered Species Act (GC 16), the Magnuson-Stevens Fishery Conservation and Management Act (GC 17), and the Wild and Scenic Rivers Act (GC 13). Activities that are eligible for SV are authorized under these GPs provided the prospective permittee has:

i. Confirmed that the activity meets all applicable terms and conditions of SV.
ii. Provided notifications to the State Historic Preservation Officer (SHPO) (the SHPO in the State of Maine is the Maine Historic Preservation Commission, or MHPC) and all

five federally-recognized tribes in the State of Maine (Tribal Historic Preservation Officers, or THPOs) listed in Section VIII before submitting the SV to the ACOE in order to be reviewed for the presence of historic, archeological, architectural, or tribal resources in the action area that the activity may affect (see GC 15). Prospective permittees are not required to wait for a response to their notifications before submitting the SV to the ACOE.

iii. At least two weeks before work is to commence, submitted to the ACOE a Self-Verification Notification Form (SVNF, page 36) with all of the following attachments: location map, project plans, and an Official Species List of federally threatened and endangered species that may occur in the activity's action area and the email address of the person who generated the list (see GC 16).

NOTE: A copy of a state permit application form may be an acceptable surrogate for the SVNF itself; however, the applicant shall not rely on the state permitting agency to provide the Corps a copy of their state permit application.

• Pre-Construction Notification (PCN): Notification to, and written verification from the ACOE is required. For activities that do not qualify for SV or where otherwise required by the terms and conditions of the GPs, the prospective permittee shall submit a PCN and obtain written verification from the ACOE before starting work in Corps jurisdiction. The ACOE will coordinate review of all PCN activities with other federal and state agencies, as appropriate. The ACOE will attempt to issue written verification of the PCN within 60 days of receiving a complete application.

All prospective permittees for PCN activities shall follow the instructions on found on pages 37 – 42, and in particular:

i. Submit directly to the ACOE application form *ENG Form 4345* (pages 40 – 42), or the surrogate state permit application form as noted above.
ii. Provide project information outlined on pages 37 – 42 (Content of a Pre-Construction Notification).
iii. Submit an Official Species List of federally threatened and endangered species that may occur in the activity's action area and the email address of the person who generated the list (GC 16).
iv. Provide notifications to the SHPO (MHPC) and all five THPOs in the State of Maine listed in Section VIII before submitting the PCN to the ACOE in order to be reviewed for the presence of historic, archeological, architectural, or tribal resources in the action area that the activity may affect (see GC 15). The PCN shall include documentation that MHPC and all of the THPOs were notified (a copy of the prospective permittee's cover letter or emails to MHPC and the THPOs is acceptable). Prospective permittees are not required to wait for a response to their notifications before submitting a PCN to the ACOE.

Projects that are not eligible for GPs require an Individual Permit.

- Individual Permit (IP): Prospective permittees shall submit an application directly to the ACOE. These GPs do not affect the ACOE IP review process or activities exempt from ACOE regulation. For general information regarding IPs prospective permittees are encouraged to contact the ACOE.

  In addition, the ACOE retains discretionary authority on a case-by-case basis to elevate GP-eligible activities to an IP based on concerns for the aquatic environment or for any other factor of the public interest (33 CFR 320.4(a)). Whenever the ACOE notifies a prospective permittee that an IP is required, no work in ACOE jurisdiction may be conducted until the ACOE issues the required authorization in writing indicating that the work may proceed

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United States Fish and Wildlife Service, National Wetlands inventory: www.fws.gov/wetlands/

United States Army Corps of Engineers, New England District: www.nae.usace.army.mil/Missions/Regulatory.aspx

United States Natural Resources Conservation Service, United States Department of Agriculture, Official Soil Series Descriptions: soils.usda.gov/technical/classification/osd/index.html.

ATTACHMENTS:

- **NRCS CUSTOM SOIL RESOURCE REPORT**
- **WETLAND DELINEATION DATASHEETS**
- **WETLAND DELINEATION PLAN**

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 Androscoggin and Sagadahoc Counties, Maine

August 27, 2024

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.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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: 1:4,900 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

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 1:15,800.

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: Androscoggin and Sagadahoc Counties, Maine
Survey Area Data: Version 24, Sep 5, 2023

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

Date(s) aerial images were photographed: Jul 11, 2021—Oct 29, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

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
AaB	Adams loamy sand, 0 to 8 percent slopes	40.2	64.2%
AaC	Adams loamy sand, 8 to 15 percent slopes	10.3	16.5%
NgB	Ninigret fine sandy loam, 0 to 8 percent slopes	12.1	19.3%
Totals for Area of Interest		**62.7**	**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.

Androscoggin and Sagadahoc Counties, Maine

AaB—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

AaC—Adams loamy sand, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2wqn8
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: Not prime farmland

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): Side 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: 8 to 15 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): 4e
Hydrologic Soil Group: A
Ecological site: F144BY601ME - Dry Sand
Hydric soil rating: No

NgB—Ninigret fine sandy loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9kdx
Elevation: 20 to 2,000 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ninigret and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ninigret

Setting

Landform: Outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy glaciofluvial deposits derived from slate

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 28 inches: fine sandy loam
H3 - 28 to 65 inches: loamy fine 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 (0.60 to 2.00 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Ecological site: F144BY505ME - Loamy over Sandy
Hydric soil rating: No

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U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Procter & Gamble Tambrands City/County: Auburn Sampling Date: 7/25/2024

Applicant/Owner: Cianbro State: ME Sampling Point: UPL B

Investigator(s): DF Section, Township, Range:

Landform (hillside, terrace, etc.): Forest Local relief (concave, convex, none): None Slope %: 2

Subregion (LRR or MLRA): LRR R Lat: 44°02'24.55" Long: 70°16'56.24" Datum: NAD83

Soil Map Unit Name: Adams loamy sand NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation N, Soil N, or Hydrology N 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: UPL B

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	30	Yes	FACU
2. *Acer rubrum*	20	Yes	FAC
3. *Quercus rubra*	10	No	FACU
4. *Tsuga canadensis*	20	Yes	FACU
5.			
6.			
7.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Tsuga canadensis*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Aralia nudicaulis*	10	Yes	FACU
2. *Dryopteris marginalis*	10	Yes	FACU
3. *Maianthemum canadense*	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 14.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	120 (A)		460 (B)

Prevalence Index = B/A = 3.83

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 UPL B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2							Duff
2-6	10YR 3/1						Sandy	
6-13	10YR 5/1						Sandy	
13-24	10YR 4/6						Sandy	

[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)
___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
___ 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**)
___ Red Parent Material (F21) **(MLRA 145)**

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**)
___ Red Parent Material (F21) **(outside MLRA 145)**
___ 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: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Procter & Gamble Tambrands City/County: Auburn Sampling Date: 7/25/2024

Applicant/Owner: Cianbro State: ME Sampling Point: WETB

Investigator(s): DF Section, Township, Range:

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 3

Subregion (LRR or MLRA): LRR R Lat: 44°02'22.99" Long: 70°16'58.33" Datum: NAD83

Soil Map Unit Name: Adams loamy sand NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N 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)
- ___ 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)
- ___ 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)
- X 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)
- X 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 X	No	Depth (inches): 4

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: WETB

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	10	Yes	FACU
2. *Acer rubrum*	30	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	40	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Alnus incana*	40	Yes	FACW
2. *Acer rubrum*	5	No	FAC
3. *Viburnum dentatum*	5	No	FAC
4.			
5.			
6.			
7.			
	50	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Onoclea sensibilis*	20	Yes	FACW
2. *Osmundastrum cinnamomeum*	5	No	FACW
3. *Typha latifolia*	10	Yes	OBL
4. *Poa spp.*	10	Yes	FACW
5. *Carex spp.*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	80	x 2 =	160
FAC species	40	x 3 =	120
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	140 (A)		330 (B)

Prevalence Index = B/A = 2.36

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 WETB

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1						Mucky Sand	
10-24	10YR 4/1						Mucky Sand	

[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)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- X 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**)
- ___ Red Parent Material (F21) **(MLRA 145)**

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**)
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ 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: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ____

Remarks:

U.S. Army Corps of Engineers **WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region** See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R	***OMB Control #: 0710-0024, Exp: 11/30/2024*** ***Requirement Control Symbol EXEMPT:*** ***(Authority: AR 335-15, paragraph 5-2a)***

Project/Site: Procter & Gamble Tambrands City/County: Auburn Sampling Date: 7/25/2024

Applicant/Owner: Cianbro State: ME Sampling Point: UPLD

Investigator(s): DF Section, Township, Range:

Landform (hillside, terrace, etc.): Forest Local relief (concave, convex, none): none Slope %: 3

Subregion (LRR or MLRA): LRR R Lat: 44°02'08.38" Long: 70°17'02.79" Datum: NAD83

Soil Map Unit Name: Adams loamy sand NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , or Hydrology N 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: UPLD

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	30	Yes	FACU
2. *Acer rubrum*	20	Yes	FAC
3. *Quercus rubra*	20	Yes	FACU
4. *Tsuga Canadensis*	30	Yes	FACU
5.			
6.			
7.			
	100	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Tsuga canadensis*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Aralia nudicaulis*	10	Yes	FACU
2. *Dryopteris marginalis*	10	Yes	FACU
3. *Maianthemum canadense*	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
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: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 12.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	120	x 4 =	480
UPL species	0	x 5 =	0
Column Totals:	140 (A)		540 (B)

Prevalence Index = B/A = 3.86

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 UPLD

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2							Duff
2-4	10YR 3/1						Sandy	
4-10	10YR 5/1						Sandy	
10-24	7.5YR 4/6						Sandy	

[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)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- ___ 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**)
- ___ Red Parent Material (F21) **(MLRA 145)**

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**)
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ 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: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Procter & Gamble Tambrands City/County: Auburn Sampling Date: 7/25/2024

Applicant/Owner: Cianbro State: ME Sampling Point: WETD

Investigator(s): DF Section, Township, Range:

Landform (hillside, terrace, etc.): Stream Corridor Local relief (concave, convex, none): Concave Slope %: 5

Subregion (LRR or MLRA): LRR R Lat: 44°02'20.95" Long: 70°17'13.76" Datum: NAD83

Soil Map Unit Name: Adams loamy sand NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation N , Soil N , or Hydrology N 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)
- ___ 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)
- ___ 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)
- X 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)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X 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 X	No ___	Depth (inches): 4

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: WETD

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	40	Yes	FAC
2. *Betula papyrifera*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
	45	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer rubrum*	40	Yes	FAC
2. *Alnus incana*	20	Yes	FACW
3. *Lonicera morrowii*	5	No	FACU
4.			
5.			
6.			
7.			
	65	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Onoclea sensibilis*	50	Yes	FACW
2. *Osmunda claytoniana*	10	No	FAC
3. *Carex spp.*	10	No	FACW
4. *Thalictrum pubescens*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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	85	x 2 =	170
FAC species	90	x 3 =	270
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	185 (A)		480 (B)

Prevalence Index = B/A = 2.59

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 WETD

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/1						Mucky Sand	
7-10	10YR 4/1						Mucky Sand	
10-24	10YR 3/2						Mucky Sand	

[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)
___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
_X_ 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**)
___ Red Parent Material (F21) **(MLRA 145)**

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**)
___ Red Parent Material (F21) **(outside MLRA 145)**
___ 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: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _X_ **No** ____

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Procter & Gamble Tambrands City/County: Auburn Sampling Date: 7/25/2024

Applicant/Owner: Cianbro State: ME Sampling Point: UPLG

Investigator(s): DF Section, Township, Range:

Landform (hillside, terrace, etc.): Upland Local relief (concave, convex, none): None Slope %: 0

Subregion (LRR or MLRA): LRR R Lat: 44°02'13.93" Long: 70°17'10.86" Datum: NAD83

Soil Map Unit Name: Adams loamy sand NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N 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 within a Wetland?** **Yes** **No** X
Hydric Soil Present?	Yes	No X	If yes, optional Wetland Site ID:
Wetland Hydrology Present?	Yes	No X	

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: UPLG

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	20	Yes	FACU
2. *Acer rubrum*	40	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Populus tremuloides*	20	Yes	FACU
2. *Quercus rubra*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	30	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Pteridium aquilinum*	10	No	FACU
2. *Pinus strobus*	20	Yes	FACU
3. *Populus tremuloides*	5	No	FACU
4. *Gaultheria procumbens*	20	Yes	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
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: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals:	145 (A)		540 (B)

Prevalence Index = B/A = 3.72

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 UPLG

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2								Organic Duff
2-12	10YR 4/4						Sandy	

[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)
___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
___ 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**)
___ Red Parent Material (F21) **(MLRA 145)**

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**)
___ Red Parent Material (F21) **(outside MLRA 145)**
___ 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: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Procter & Gamble Tambrands City/County: Auburn Sampling Date: 7/25/2024

Applicant/Owner: Cianbro State: ME Sampling Point: WETG

Investigator(s): DF Section, Township, Range:

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 4

Subregion (LRR or MLRA): LRR R Lat: 44°02'11.92" Long: 70°17'14.08" Datum: NAD83

Soil Map Unit Name: Adams loamy sand NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation N , Soil N , or Hydrology N 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 Water-Stained Leaves (B9)	___ Aquatic Fauna (B13)
___ High Water Table (A2)	___ Marl Deposits (B15)	X Saturation (A3)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Sediment Deposits (B2)
___ Drift Deposits (B3)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)	___ Presence of Reduced Iron (C4)	___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)	___ 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)	X 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)	___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)	X 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 X	No ___	Depth (inches): 18

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: WETG

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Yes	FAC
2. *Abies balsamea*	10	Yes	FAC
3. *Pinus strobus*	10	Yes	FACU
4.			
5.			
6.			
7.			
	40	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Ilex verticillata*	20	Yes	FACW
2. *Alnus incana*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	30	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Viburnum dentatum*	10	No	FAC
2. *Poa spp.*	60	Yes	FACW
3. *Onoclea sensibilis*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	40	x 3 =	120
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	150 (A)		360 (B)

Prevalence Index = B/A = 2.40

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 WETG

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2						Mucky Sand	
12-18	10YR 3/1						Mucky Sand	

[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)
___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
_X_ 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**)
___ Red Parent Material (F21) **(MLRA 145)**

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**)
___ Red Parent Material (F21) **(outside MLRA 145)**
___ 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: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _X_ **No** ____

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Procter & Gamble Tambrands City/County: Auburn Sampling Date: 7/25/2024

Applicant/Owner: Cianbro State: ME Sampling Point: UPLK

Investigator(s): DF Section, Township, Range:

Landform (hillside, terrace, etc.): Upland Local relief (concave, convex, none): None Slope %: 0

Subregion (LRR or MLRA): LRR R Lat: 44°02'14.48" Long: 70°17'12.97" Datum: NAD83

Soil Map Unit Name: Adams loamy sand NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N 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 within a Wetland?** **Yes** **No** X
Hydric Soil Present?	Yes	No X	If yes, optional Wetland Site ID:
Wetland Hydrology Present?	Yes	No X	

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: UPLK

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	20	Yes	FACU
2. *Acer rubrum*	40	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Populus tremuloides*	20	Yes	FACU
2. *Quercus rubra*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	30	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Pteridium aquilinum*	10	No	FACU
2. *Pinus strobus*	20	Yes	FACU
3. *Populus tremuloides*	5	No	FACU
4. *Gaultheria procumbens*	20	Yes	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
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: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals:	145 (A)		540 (B)

Prevalence Index = B/A = 3.72

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 UPLK

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2								Organic Duff
2-12	10YR 4/4						Sandy	

[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)
___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
___ 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**)
___ Red Parent Material (F21) **(MLRA 145)**

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**)
___ Red Parent Material (F21) **(outside MLRA 145)**
___ 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: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Procter & Gamble Tambrands City/County: Auburn Sampling Date: 7/25/2024

Applicant/Owner: Cianbro State: ME Sampling Point: WETK

Investigator(s): DF Section, Township, Range:

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 2

Subregion (LRR or MLRA): LRR R Lat: 44°0214.06" Long: 70°17'14.86" Datum: NAD83

Soil Map Unit Name: Adams loamy sand NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No

Are Vegetation N, Soil N, or Hydrology N 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)
- ___ 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)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X 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 X	No	Depth (inches): 16

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: WETK

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	10	Yes	FAC
2. *Acer rubrum*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Viburnum dentatum*	35	Yes	FAC
2. *Athyrium angustum*	5	No	FAC
3. *Poa spp.*	5	No	FACW
4. *Scirpus cyperinus*	15	Yes	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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	15	x 1 =	15
FACW species	5	x 2 =	10
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		205 (B)

Prevalence Index = B/A = 2.56

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 WETK

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1						Mucky Sand	
12-16	10YR 3/1						Mucky Sand	

[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)
- ___ Mesic Spodic (A17) **(MLRA 144A, 145, 149B)**
- X 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**)
- ___ Red Parent Material (F21) **(MLRA 145)**

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**)
- ___ Red Parent Material (F21) **(outside MLRA 145)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

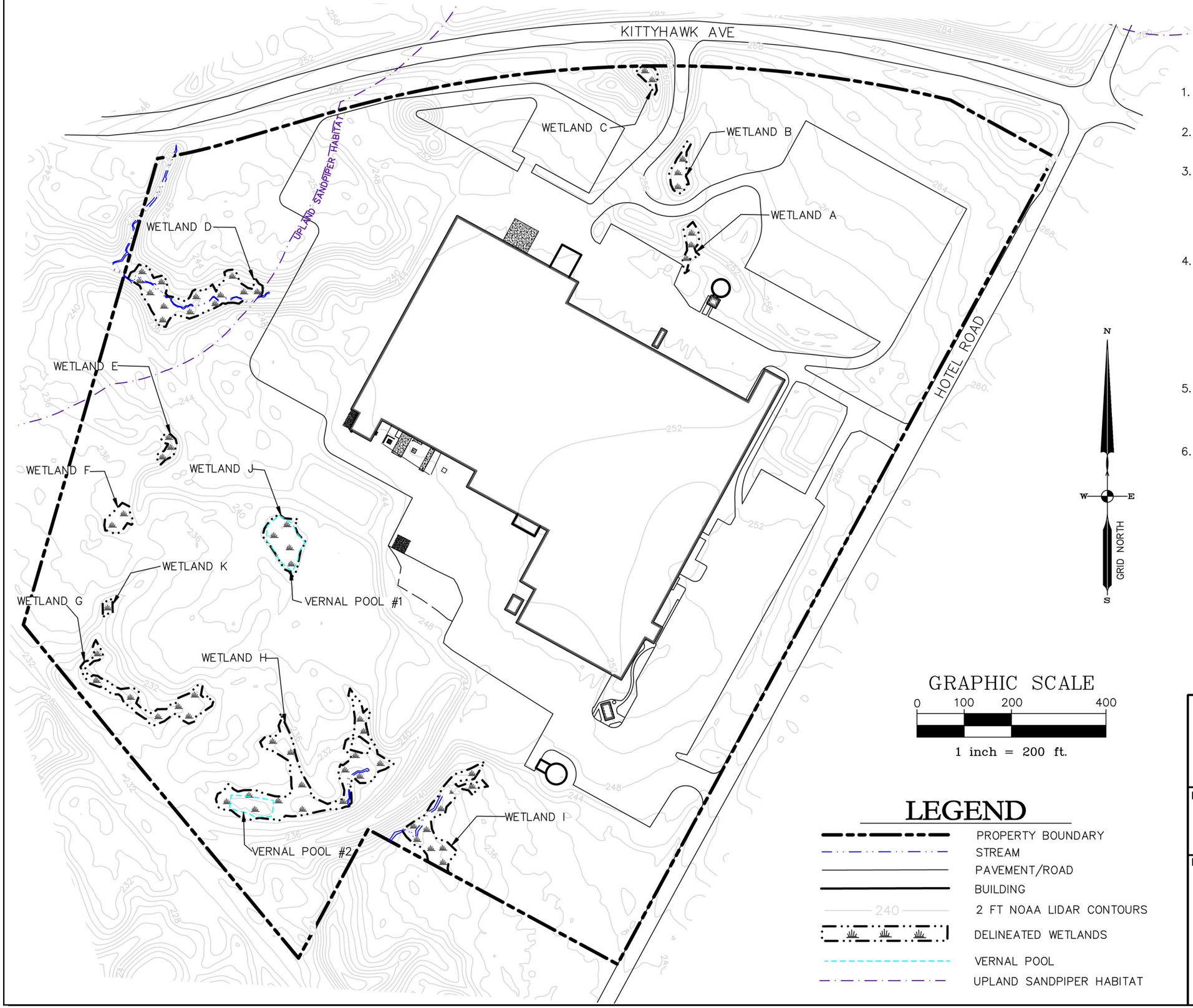
Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ____

Remarks:



N

W E

GRID NORTH

S

NOTES:

1. DATUM: NAD83 STATE PLANE MAINE WEST (U.S. SURVEY FEET).
2. 2 FOOT CONTOURS OBTAINED FROM NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA).
3. WETLAND BOUNDARIES WERE IDENTIFIED AND DELINEATED BY JONES ASSOCIATES INC IN JULY OF 2024 ACCORDING TO U.S. ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL (1987) AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION.
4. WETLAND FLAGS WERE LOCATED USING LEICA GLOBAL POSITIONING SYSTEM (GPS) TECHNOLOGY WITH EXPECTED AVERAGE ACCURACY OF SUB-METER. THIS METHOD IS RECOGNIZED BY BOTH STATE AND FEDERAL AGENCIES. HOWEVER, JONES ASSOCIATES INC RECOMMENDS THAT THE WETLAND BOUNDARY BE SURVEYED USING A MORE PRECISE METHOD IF ANY FILL OR REGULATED ACTIVITIES ARE TO BE PERFORMED WITHIN 20 FEET OF THE GPS LOCATED WETLAND.
5. ONE EDGE OF THE STREAMS WERE LOCATED USING SUB-METER GPS. STREAM WIDTHS WERE THEN ESTIMATED VISUALLY BASED ON FIELD OBSERVATIONS AND ARE APPROXIMATE ONLY.
6. VERNAL POOLS ON THE PROPERTY WERE MONITORED BY JONES ASSOCIATES, INC. DURING THE 2023 VERNAL POOL BREEDING SEASON. VERNAL POOLS #1 AND #2 DID NOT CONTAIN ENOUGH EGG MASSES TO BE CLASSIFIED AS SIGINIFICANT VERNAL POOLS. VERNAL POOLS #1 AND #2 ARE CONSIDERED NON-SIGNIFICANT VERNRAL POOLS.

GRAPHIC SCALE

0 100 200 400

1 inch = 200 ft.

LEGEND

- PROPERTY BOUNDARY
- STREAM
- PAVEMENT/ROAD
- BUILDING
- 240 — 2 FT NOAA LIDAR CONTOURS
- DELINEATED WETLANDS
- VERNAL POOL
- UPLAND SANDPIPER HABITAT

REVISIONS			
NO.	DATE	DESCRIPTION	BY

PLAN TITLE:

WETLAND DELINEATION PLAN

PROCTER & GAMBLE TAMBRANDS
2879 HOTEL ROAD
AUBURN, MAINE 04210

PREPARED FOR:

THE CIANBRO COMPANIES
60 CASSIDY POINT DRIVE
PORTLAND, MAINE 04102

PREPARED BY:

JONES ASSOCIATES INC.
Foresters, Surveyors And Environmental Consultants
280 POLAND SPRING ROAD, AUBURN, MAINE 04210
(207) 241-0235

PLAN DATE: AUGUST 28, 2024

FIELD WORK DATE: JULY, 2024

SCALE: 1"=200'

PROJ. #: 20-084AU

EXHIBIT 5

STORMWATER MANAGEMENT

STORMWATER MANAGEMENT NARRATIVE:

City of Auburn, Maine
Development Review Application

Proctor and Gamble Tambrands – "Optimus Prime" North and South Warehouse Expansion
Auburn, Maine
April 6, 2026

INTRODUCTION:

This stormwater management narrative has been prepared to present analyses performed to address the potential impacts associated with the Optimus Prime project due to the proposed modification in stormwater runoff characteristics and land cover changes. The stormwater management controls that are outlined in this report has been designed to suit the proposed development and to comply with applicable regulatory requirements.

EXISTING CONDITIONS:

The project site consists of previously developed land at 2879 Hotel Road (Parcel ID: 120-001), located in Auburn, ME. The total area of project disturbance is approximately 931,825 square feet. This site is adjacent to the Auburn-Lewiston Municipal Airport and is generally comprised of the existing warehouse building, associated pavement, and wooded vegetation surrounding the site. Grade generally slopes away from the building and towards the property lines, adjacent culverts, or existing catch basins.

Plan sheets include the following:

C00-1	Site Notes
C00-2	Site Erosion Control Notes
C10-1	Existing Site Conditions and Demolition Plan
C11-1	Pre-Development Conditions Plan
C12-1	Post-Development Conditions Plan
C20-1	Site Layout Plan
C30-1	Grading and Erosion Control Plan
C40-1	Site Utility Plan
C40-2	Stormwater Utility Plan
C50-1	Site Details
C60-1	Stormwater Details

PROPOSED DEVELOPMENT:

This project proposes the creation of new warehouse expansions on the north and south faces of the existing building, as well as a new future employee wellness center connected to the new south warehouse addition. This project also proposes the creation of a new truck loop for on-site vehicular travel along with the closure of the existing driveway on Kittyhawk and the creation of a new temporary access point at Kittyhawk west of the existing development.

New storm drain infrastructure will be installed throughout the project site to direct and capture stormwater via pre-cast catch basins, high-density polyethylene (HDPE) storm drainpipes, surface sand filter basins, and underground stormwater treatment units.

Total new impervious cover within the limits of work on the site after completion of the project will include **1,336,476 square feet** in new pavement/building area (a net increase of 137,951 square feet).

STORMWATER BEST MANAGEMENT PRACTICES:

Treatment of the stormwater is primarily through filtration practices. New impervious areas will be treated and have been designed to convey stormwater to pretreatment practices prior to discharge to a large surface sand filter

basin or underground treatment chamber. Surface sand filter basin and underground stormwater chambers have been sized to provide both quality treatment and reduce peak flow rates at each watershed analysis point (WAP).

The existing surface sand filters on the south side of the development are to be filled with gravel in the proposed condition, and three new ponds along the south property line have been designed to detain the existing pond's drainage area, the new gravel surface from the filled-in ponds, and the additional area between the new and existing ponds. The area between these ponds has been modeled as an impervious surface, as Proctor and Gamble's master plan includes turning this area into employee parking (not part of this project).

Two of the existing sand filters on the north side of the building near the existing drop lot have been re-sized and re-graded to detain the additional runoff created by the new impervious areas. Additionally, StormTrap ST2 Double-Trap units will be installed to detain and treat the roof runoff from the new North Warehouse addition, as well as a portion of the proposed and existing paved driveways. The existing westernmost pond will be split in two by the new Kittyhawk access point and will be re-graded as required to meet regulatory compliance requirements.

The post-development peak flow rates for the storms analyzed (2-year, 10-year, 25-year) are all lower than those in the pre-development at each of the watershed analysis points.

Sediment and Erosion Control

Sediment and erosion control to be in accordance with Chapter 500 of the Maine Department of Environmental Protection. All perimeter erosion control measures are to be installed before any activities that disturb site soils. The contractor shall install channel protection and temporary sediment basins where required before substantial earth-moving activities. All erosion control shall be maintained during construction. Sediment filter sacks shall be installed in all area catch basins. The Contractor shall be responsible for preparing a Stormwater Pollution Prevention Plan and conducting inspections relative to the document. The finalized SWPPP that is prepared by the Contractor shall be utilized as the final design of sediment and erosion control measures.

Erosion control measures proposed for this site include a perimeter silt fence and catch basin sediment filter sacks. All new catch basins will be protected by silt sacks or other appropriate inlet erosion control BMP. All disturbed areas shall be stabilized within 72 hours of completion of final grades. Plan sheet C00-2 has an extensive set of erosion and sediment control notes to cover the site construction. In addition, sediment and erosion control Best Management Practices are depicted on plan sheet C30-1.

Treatment Areas

The construction sequence of treatment areas shall include general excavation to reach design elevations, followed by the installation of crushed stone materials and stormwater BMPs, including installation of filter media. Stormwater flows shall not be directed to the associated treatment practice area until contributing areas have been fully stabilized.

Because the existing stormwater ponds have been designed by Harriman Associates in previous years, a matching infiltration rate of **2.4 inches per hour** was used for the HydroCAD analysis (value used in "Galena" submission).

PEAK RATES OF DISCHARGE:

HydroCAD stormwater analysis software is from HydroCAD Software Solutions LLC of Tamworth, New Hampshire. HydroCAD is based on the Natural Resource Conservation Service TR-20 hydrology modeling methodology. Stormwater modeling for this application uses extreme precipitation tables from the Northeast Regional Climate Center (http://precip.eas.cornell.edu/). A table of 24-hour rainfall values used in these calculations is included in this application.

Watershed Analysis Point	Storm Intensity	Pre-Development (CFS)	Post-Development (CFS)	Change (CFS)
1R (WAP A)	2-YEAR	3.33	2.96	-0.37
	10-YEAR	5.92	5.20	-0.72
	25-YEAR	7.84	7.52	-0.32
2R (WAP B)	2-YEAR	0.00	0.00	0.00
	10-YEAR	0.61	0.00	-0.61
	25-YEAR	2.04	0.88	-1.16
2.1R (WAP C)	2-YEAR	0.01	0.00	-0.01
	10-YEAR	0.17	0.10	-0.07
	25-YEAR	0.84	0.53	-0.31

The stormwater calculations demonstrate that the proposed site design results in a net reduction in peak runoff in all the storms. HydroCAD calculations demonstrating these results are provided as part of this application.

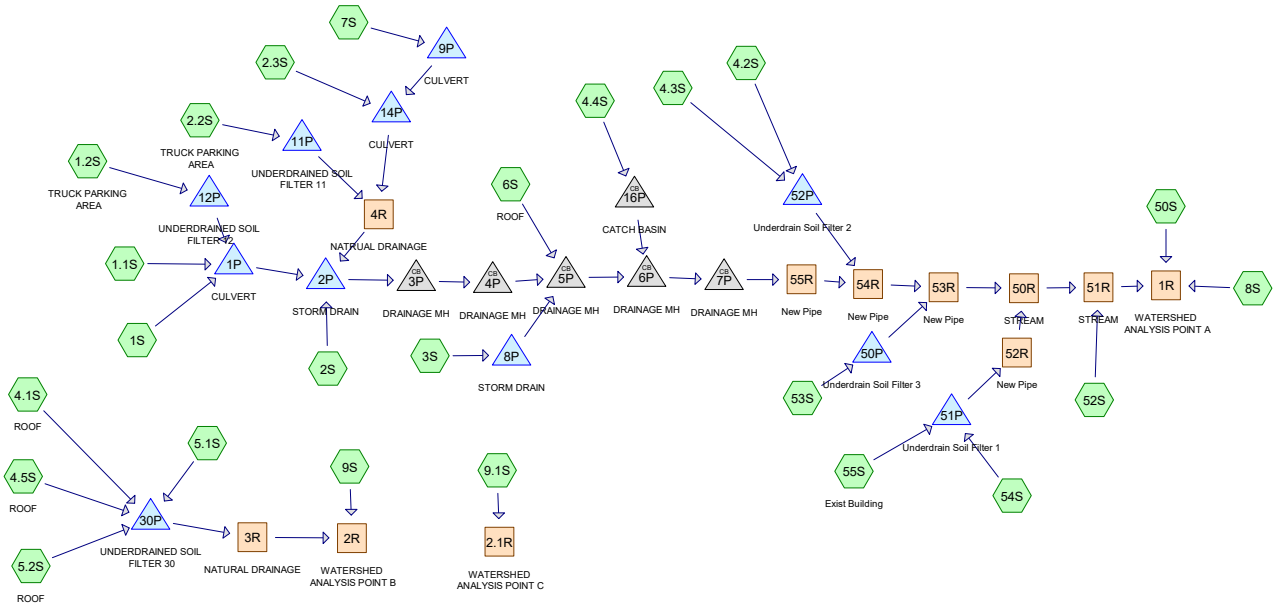
Impervious Areas:

This project will result in a net increase of 137,951 square feet of on-site impervious area (3.17 acres). Surface sand filters and underground stormwater chambers will be installed to detain the additional impervious area and ensure that the water quality improves in the post-development condition.

	Existing Condition (AC)	Proposed Condition (AC)
Total Impervious*	17.938	24.488
Treated Impervious*	12.502	20.902
Untreated Impervious Area Leaving Site*	5.436	3.586
Net Change In Untreated Impervious Area Leaving Site*		-1.850

* Value includes on-site impervious sources and off-site impervious sources that drain onto the site.

Despite the increase in overall impervious area added to the site, the proposed development will result in a decrease of nearly two acres of untreated impervious area leaving the site. HydroCAD calculations demonstrating these results are provided as part of this application.



Subcat Reach Pond Link

Routing Diagram for P&G-OPTIMUS PRIME PRE-DEVELOPMENT
Prepared by {enter your company name here}, Printed 3/23/2026
HydroCAD® 10.00-24 s/n 00770 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
6.351	39	>75% Grass cover, Good, HSG A (1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.2S, 4.3S, 4.4S, 5.1S, 7S, 9.1S, 9S, 50S, 52S, 53S, 54S)
1.171	61	>75% Grass cover, Good, HSG B (1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S)
0.170	98	Impervious (50S)
3.067	98	Paved (8S, 9.1S, 9S, 52S, 53S, 54S)
12.020	98	Paved parking & roofs (1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.1S, 4.2S, 4.3S, 4.4S, 4.5S, 5.1S, 5.2S, 6S, 7S)
2.680	98	Roof (55S)
21.080	30	Woods, Good, HSG A (1.1S, 1S, 2.3S, 2S, 3S, 4.3S, 7S, 8S, 9.1S, 9S, 50S, 52S)
1.344	55	Woods, Good, HSG B (1S, 2.3S, 2S, 7S)
47.883	**58**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
27.431	HSG A	1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.2S, 4.3S, 4.4S, 5.1S, 7S, 8S, 9.1S, 9S, 50S, 52S, 53S, 54S
2.515	HSG B	1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 7S
0.000	HSG C	
0.000	HSG D	
17.938	Other	1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.1S, 4.2S, 4.3S, 4.4S, 4.5S, 5.1S, 5.2S, 6S, 7S, 8S, 9.1S, 9S, 50S, 52S, 53S, 54S, 55S
47.883		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
6.351	1.171	0.000	0.000	0.000	7.522	>75% Grass cover, Good	1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.2S, 4.3S, 4.4S, 5.1S, 7S, 9.1S, 9S, 50S, 52S, 53S, 54S
0.000	0.000	0.000	0.000	0.170	0.170	Impervious	50S
0.000	0.000	0.000	0.000	3.067	3.067	Paved	8S, 9.1S, 9S, 52S, 53S, 54S
0.000	0.000	0.000	0.000	12.020	12.020	Paved parking & roofs	1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.1S, 4.2S, 4.3S, 4.4S, 4.5S, 5.1S, 5.2S, 6S, 7S
0.000	0.000	0.000	0.000	2.680	2.680	Roof	55S
21.080	1.344	0.000	0.000	0.000	22.424	Woods, Good	1.1S, 1S, 2.3S, 2S, 3S, 4.3S, 7S, 8S, 9.1S,

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
27.431	**2.515**	**0.000**	**0.000**	**17.938**	**47.883**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	55S	0.00	0.00	80.0	0.0100	0.010	8.0	0.0	0.0
2	55S	0.00	0.00	300.0	0.0100	0.010	12.0	0.0	0.0
3	55S	0.00	0.00	250.0	0.0100	0.010	24.0	0.0	0.0
4	52R	238.60	236.00	210.0	0.0124	0.010	12.0	0.0	0.0
5	53R	236.75	236.00	140.0	0.0054	0.010	36.0	0.0	0.0
6	54R	238.49	236.75	315.0	0.0055	0.010	36.0	0.0	0.0
7	55R	240.39	238.49	340.0	0.0056	0.010	36.0	0.0	0.0
8	1P	246.25	245.40	77.0	0.0110	0.024	12.0	0.0	0.0
9	2P	245.02	243.57	122.0	0.0119	0.012	18.0	0.0	0.0
10	3P	243.47	242.65	73.0	0.0112	0.012	30.0	0.0	0.0
11	4P	242.65	242.23	28.0	0.0150	0.012	36.0	0.0	0.0
12	5P	242.13	240.76	112.0	0.0122	0.012	36.0	0.0	0.0
13	6P	240.76	239.59	96.0	0.0122	0.012	36.0	0.0	0.0
14	7P	240.39	239.72	135.0	0.0050	0.012	36.0	0.0	0.0
15	8P	244.02	243.73	80.0	0.0036	0.012	12.0	0.0	0.0
16	9P	249.91	248.20	153.0	0.0112	0.012	12.0	0.0	0.0
17	14P	247.50	247.00	80.0	0.0063	0.010	15.0	0.0	0.0
18	16P	244.50	241.43	153.0	0.0201	0.012	12.0	0.0	0.0

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 1.1S: Runoff Area=57,730 sf 59.83% Impervious Runoff Depth=1.31"
Flow Length=170' Tc=1.9 min CN=81 Runoff=2.35 cfs 0.145 af

Subcatchment 1.2S: TRUCK PARKING Runoff Area=127,973 sf 83.72% Impervious Runoff Depth=1.98"
Flow Length=350' Tc=5.3 min CN=90 Runoff=6.95 cfs 0.486 af

Subcatchment 1S: Runoff Area=104,035 sf 3.43% Impervious Runoff Depth=0.00"
Flow Length=970' Tc=59.4 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment 2.2S: TRUCK PARKING Runoff Area=26,444 sf 74.03% Impervious Runoff Depth=1.45"
Flow Length=180' Tc=1.4 min CN=83 Runoff=1.21 cfs 0.073 af

Subcatchment 2.3S: Runoff Area=185,828 sf 22.66% Impervious Runoff Depth=0.15"
Flow Length=620' Tc=61.3 min CN=53 Runoff=0.10 cfs 0.053 af

Subcatchment 2S: Runoff Area=69,126 sf 54.91% Impervious Runoff Depth=1.02"
Flow Length=210' Tc=50.8 min CN=76 Runoff=0.78 cfs 0.134 af

Subcatchment 3S: Runoff Area=31,528 sf 80.43% Impervious Runoff Depth=1.66"
Flow Length=187' Tc=11.5 min CN=86 Runoff=1.18 cfs 0.100 af

Subcatchment 4.1S: ROOF Runoff Area=38,895 sf 100.00% Impervious Runoff Depth=2.77"
Tc=5.0 min CN=98 Runoff=2.69 cfs 0.206 af

Subcatchment 4.2S: Runoff Area=39,906 sf 92.26% Impervious Runoff Depth=2.25"
Flow Length=230' Tc=3.2 min CN=93 Runoff=2.60 cfs 0.172 af

Subcatchment 4.3S: Runoff Area=111,953 sf 35.74% Impervious Runoff Depth=0.19"
Flow Length=278' Tc=8.1 min CN=55 Runoff=0.17 cfs 0.042 af

Subcatchment 4.4S: Runoff Area=11,914 sf 48.15% Impervious Runoff Depth=0.58"
Flow Length=200' Tc=1.2 min CN=67 Runoff=0.18 cfs 0.013 af

Subcatchment 4.5S: ROOF Runoff Area=57,428 sf 100.00% Impervious Runoff Depth=2.77"
Tc=5.0 min CN=98 Runoff=3.97 cfs 0.304 af

Subcatchment 5.1S: Runoff Area=50,853 sf 50.19% Impervious Runoff Depth=0.67"
Flow Length=200' Tc=1.9 min CN=69 Runoff=0.90 cfs 0.065 af

Subcatchment 5.2S: ROOF Runoff Area=33,515 sf 100.00% Impervious Runoff Depth=2.77"
Tc=5.0 min CN=98 Runoff=2.32 cfs 0.177 af

Subcatchment 6S: ROOF Runoff Area=5,972 sf 100.00% Impervious Runoff Depth=2.77"
Tc=5.0 min CN=98 Runoff=0.41 cfs 0.032 af

Subcatchment 7S: Runoff Area=30,541 sf 31.01% Impervious Runoff Depth=0.27"
Flow Length=151' Tc=21.9 min CN=58 Runoff=0.07 cfs 0.016 af

Subcatchment 8S: Runoff Area=84,456 sf 1.03% Impervious Runoff Depth=0.00"
Flow Length=310' Slope=0.0100 '/' Tc=32.2 min CN=31 Runoff=0.00 cfs 0.000 af

Subcatchment 9.1S: Runoff Area=282,040 sf 17.20% Impervious Runoff Depth=0.01"
Flow Length=445' Tc=45.1 min CN=43 Runoff=0.01 cfs 0.005 af

Subcatchment 9S: Runoff Area=321,421 sf 4.10% Impervious Runoff Depth=0.00"
Flow Length=565' Tc=48.6 min CN=33 Runoff=0.00 cfs 0.000 af

Subcatchment 50S: Runoff Area=53,919 sf 13.70% Impervious Runoff Depth=0.00"
Flow Length=315' Tc=16.2 min CN=40 Runoff=0.00 cfs 0.000 af

Subcatchment 52S: Runoff Area=112,022 sf 1.87% Impervious Runoff Depth=0.00"
Flow Length=385' Tc=14.7 min CN=34 Runoff=0.00 cfs 0.000 af

Subcatchment 53S: Runoff Area=84,481 sf 58.21% Impervious Runoff Depth=0.86"
Flow Length=286' Tc=18.5 min CN=73 Runoff=1.24 cfs 0.139 af

Subcatchment 54S: Runoff Area=47,064 sf 42.00% Impervious Runoff Depth=0.47"
Flow Length=120' Tc=3.2 min CN=64 Runoff=0.46 cfs 0.042 af

Subcatchment 55S: Exist Building Runoff Area=116,751 sf 100.00% Impervious Runoff Depth=2.77"
Flow Length=730' Slope=0.0100 '/' Tc=3.2 min CN=98 Runoff=8.61 cfs 0.618 af

Reach 1R: WATERSHED ANALYSIS POINT A Inflow=3.33 cfs 0.493 af
Outflow=3.33 cfs 0.493 af

Reach 2.1R: WATERSHED ANALYSIS POINT C Inflow=0.01 cfs 0.005 af
Outflow=0.01 cfs 0.005 af

Reach 2R: WATERSHED ANALYSIS POINT B Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Reach 3R: NATURAL DRAINAGE Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.800 L=590.0' S=0.0220 '/' Capacity=6.82 cfs Outflow=0.00 cfs 0.000 af

Reach 4R: NATRUAL DRAINAGE Avg. Flow Depth=0.04' Max Vel=0.22 fps Inflow=0.13 cfs 0.069 af
n=0.080 L=130.0' S=0.0115 '/' Capacity=33.14 cfs Outflow=0.13 cfs 0.069 af

Reach 50R: STREAM Avg. Flow Depth=0.53' Max Vel=2.49 fps Inflow=3.47 cfs 0.493 af
n=0.023 L=320.0' S=0.0053 '/' Capacity=10.29 cfs Outflow=3.38 cfs 0.493 af

Reach 51R: STREAM Avg. Flow Depth=0.41' Max Vel=3.35 fps Inflow=3.38 cfs 0.493 af
n=0.023 L=340.0' S=0.0126 '/' Capacity=15.87 cfs Outflow=3.33 cfs 0.493 af

Reach 52R: New Pipe Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
12.0" Round Pipe n=0.010 L=210.0' S=0.0124 '/' Capacity=5.15 cfs Outflow=0.00 cfs 0.000 af

Reach 53R: New Pipe Avg. Flow Depth=0.48' Max Vel=4.81 fps Inflow=3.47 cfs 0.493 af
36.0" Round Pipe n=0.010 L=140.0' S=0.0054 '/' Capacity=63.46 cfs Outflow=3.47 cfs 0.493 af

Reach 54R: New Pipe Avg. Flow Depth=0.47' Max Vel=4.86 fps Inflow=3.50 cfs 0.493 af
36.0" Round Pipe n=0.010 L=315.0' S=0.0055 '/' Capacity=64.44 cfs Outflow=3.47 cfs 0.493 af

Reach 55R: New Pipe Avg. Flow Depth=0.47' Max Vel=4.89 fps Inflow=3.53 cfs 0.493 af
36.0" Round Pipe n=0.010 L=340.0' S=0.0056 '/' Capacity=64.82 cfs Outflow=3.50 cfs 0.493 af

Pond 1P: CULVERT Peak Elev=247.44' Storage=85 cf Inflow=2.35 cfs 0.145 af
12.0" Round Culvert n=0.024 L=77.0' S=0.0110 '/' Outflow=2.19 cfs 0.145 af

Pond 2P: STORM DRAIN Peak Elev=245.76' Storage=626 cf Inflow=2.30 cfs 0.348 af
18.0" Round Culvert n=0.012 L=122.0' S=0.0119 '/' Outflow=2.02 cfs 0.348 af

Pond 3P: DRAINAGE MH Peak Elev=244.02' Inflow=2.02 cfs 0.348 af
30.0" Round Culvert n=0.012 L=73.0' S=0.0112 '/' Outflow=2.02 cfs 0.348 af

Pond 4P: DRAINAGE MH Peak Elev=243.21' Inflow=2.02 cfs 0.348 af
36.0" Round Culvert n=0.012 L=28.0' S=0.0150 '/' Outflow=2.02 cfs 0.348 af

Pond 5P: DRAINAGE MH Peak Elev=242.81' Inflow=3.42 cfs 0.480 af
36.0" Round Culvert n=0.012 L=112.0' S=0.0122 '/' Outflow=3.42 cfs 0.480 af

Pond 6P: DRAINAGE MH Peak Elev=241.67' Inflow=3.53 cfs 0.493 af
36.0" Round Culvert n=0.012 L=96.0' S=0.0122 '/' Outflow=3.53 cfs 0.493 af

Pond 7P: DRAINAGE MH Peak Elev=241.30' Inflow=3.53 cfs 0.493 af
36.0" Round Culvert n=0.012 L=135.0' S=0.0050 '/' Outflow=3.53 cfs 0.493 af

Pond 8P: STORM DRAIN Peak Elev=244.73' Storage=12 cf Inflow=1.18 cfs 0.100 af
12.0" Round Culvert n=0.012 L=80.0' S=0.0036 '/' Outflow=1.18 cfs 0.100 af

Pond 9P: CULVERT Peak Elev=250.05' Storage=22 cf Inflow=0.07 cfs 0.016 af
12.0" Round Culvert n=0.012 L=153.0' S=0.0112 '/' Outflow=0.07 cfs 0.016 af

Pond 11P: UNDERDRAINED SOIL FILTER 11 Peak Elev=254.54' Storage=1,130 cf Inflow=1.21 cfs 0.073 af
Discarded=0.12 cfs 0.073 af Primary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.073 af

Pond 12P: UNDERDRAINED SOIL FILTER 12 Peak Elev=254.89' Storage=8,477 cf Inflow=6.95 cfs 0.486 af
Discarded=0.63 cfs 0.486 af Primary=0.00 cfs 0.000 af Outflow=0.63 cfs 0.486 af

Pond 14P: CULVERT Peak Elev=247.68' Storage=125 cf Inflow=0.13 cfs 0.069 af
15.0" Round Culvert n=0.010 L=80.0' S=0.0063 '/' Outflow=0.13 cfs 0.069 af

Pond 16P: CATCH BASIN Peak Elev=244.70' Inflow=0.18 cfs 0.013 af
12.0" Round Culvert n=0.012 L=153.0' S=0.0201 '/' Outflow=0.18 cfs 0.013 af

Pond 30P: UNDERDRAINED SOIL FILTER Peak Elev=243.23' Storage=27,007 cf Inflow=9.81 cfs 0.753 af
Discarded=0.14 cfs 0.203 af Primary=0.00 cfs 0.000 af Outflow=0.14 cfs 0.203 af

Pond 50P: Underdrain Soil Filter 3 Peak Elev=245.42' Storage=1,773 cf Inflow=1.24 cfs 0.139 af
Discarded=0.26 cfs 0.139 af Primary=0.00 cfs 0.000 af Outflow=0.26 cfs 0.139 af

Pond 51P: Underdrain Soil Filter 1 Peak Elev=241.67' Storage=9,523 cf Inflow=9.03 cfs 0.661 af
Discarded=0.82 cfs 0.661 af Primary=0.00 cfs 0.000 af Outflow=0.82 cfs 0.661 af

Pond 52P: Underdrain Soil Filter 2 Peak Elev=246.22' Storage=2,073 cf Inflow=2.60 cfs 0.214 af
Discarded=0.46 cfs 0.214 af Primary=0.00 cfs 0.000 af Outflow=0.46 cfs 0.214 af

Total Runoff Area = 47.883 ac Runoff Volume = 2.823 af Average Runoff Depth = 0.71"
62.54% Pervious = 29.946 ac 37.46% Impervious = 17.938 ac

Summary for Subcatchment 1.1S:

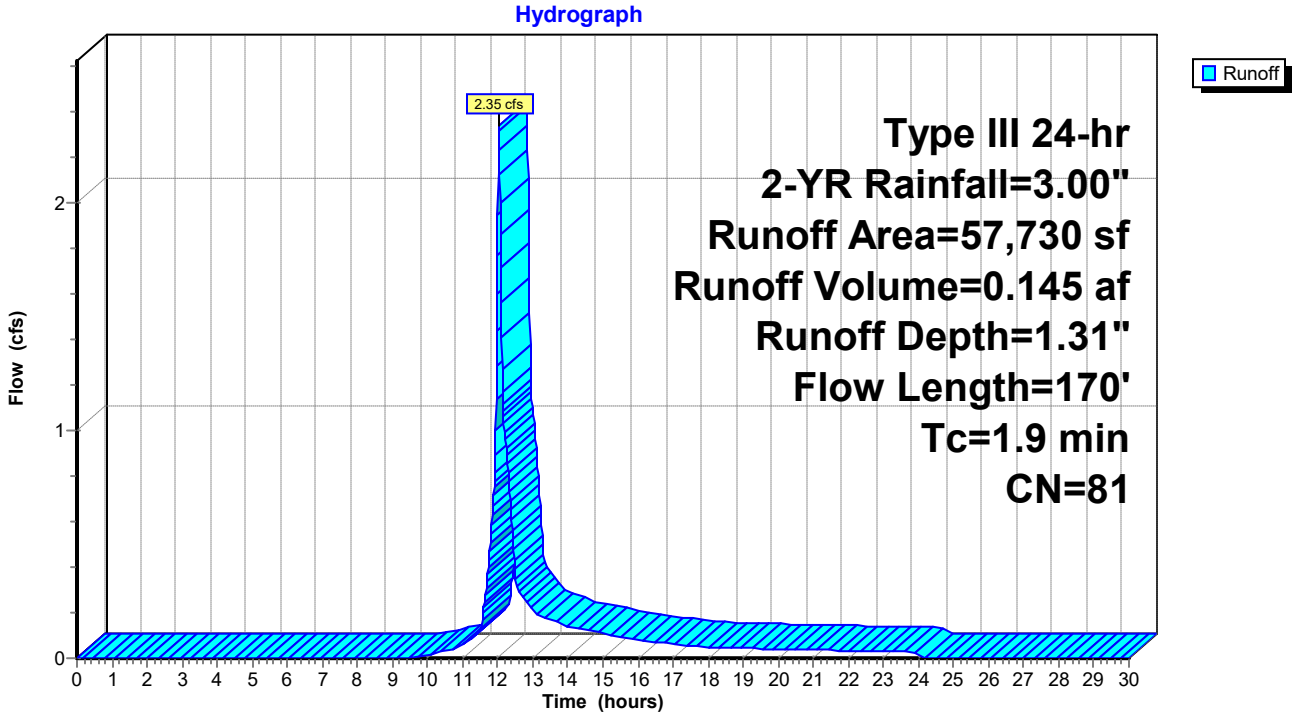
Runoff = 2.35 cfs @ 12.03 hrs, Volume= 0.145 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
34,540	98	Paved parking & roofs
19,191	61	>75% Grass cover, Good, HSG B
3,090	39	>75% Grass cover, Good, HSG A
0	55	Woods, Good, HSG B
909	30	Woods, Good, HSG A
57,730	81	Weighted Average
23,190		40.17% Pervious Area
34,540		59.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0166	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	70	0.0180	2.01		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	170	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S: TRUCK PARKING AREA

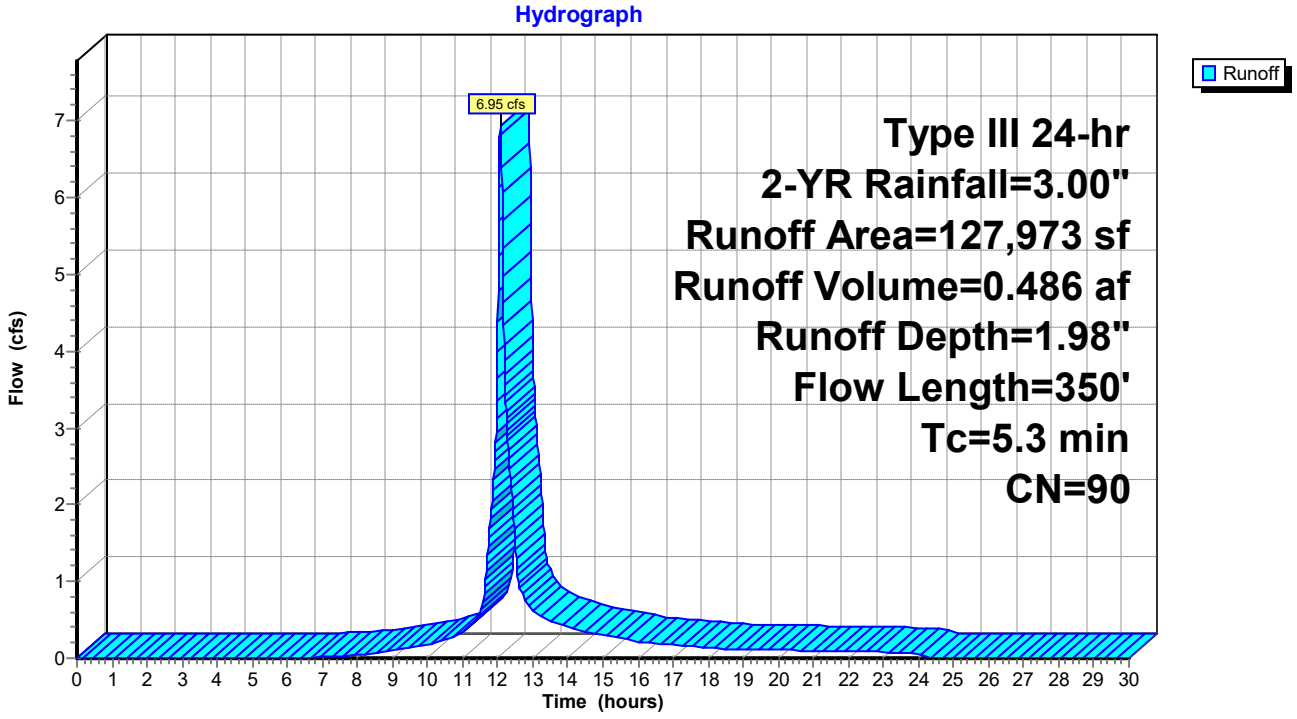
Runoff = 6.95 cfs @ 12.08 hrs, Volume= 0.486 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
107,137	98	Paved parking & roofs
7,705	61	>75% Grass cover, Good, HSG B
13,131	39	>75% Grass cover, Good, HSG A
127,973	90	Weighted Average
20,836		16.28% Pervious Area
107,137		83.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	300	0.0230	1.75		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	20	0.0300	1.14		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.2	30	0.0830	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
5.3	350	Total			

Subcatchment 1.2S: TRUCK PARKING AREA



Summary for Subcatchment 1S:

[45] Hint: Runoff=Zero

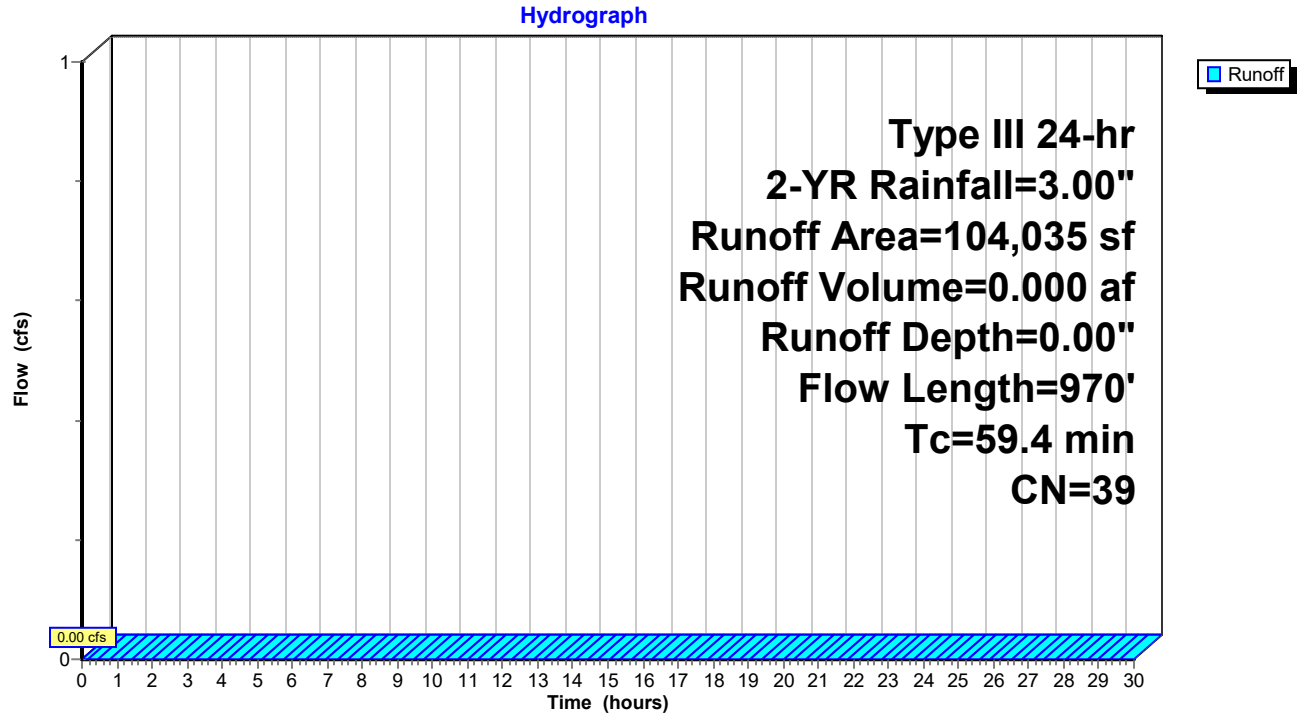
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
3,573	98	Paved parking & roofs
9,459	61	>75% Grass cover, Good, HSG B
32,870	39	>75% Grass cover, Good, HSG A
3,907	55	Woods, Good, HSG B
54,226	30	Woods, Good, HSG A
104,035	39	Weighted Average
100,462		96.57% Pervious Area
3,573		3.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
18.9	820	0.0210	0.72		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
59.4	970	Total			

Subcatchment 1S:



Summary for Subcatchment 2.2S: TRUCK PARKING AREA

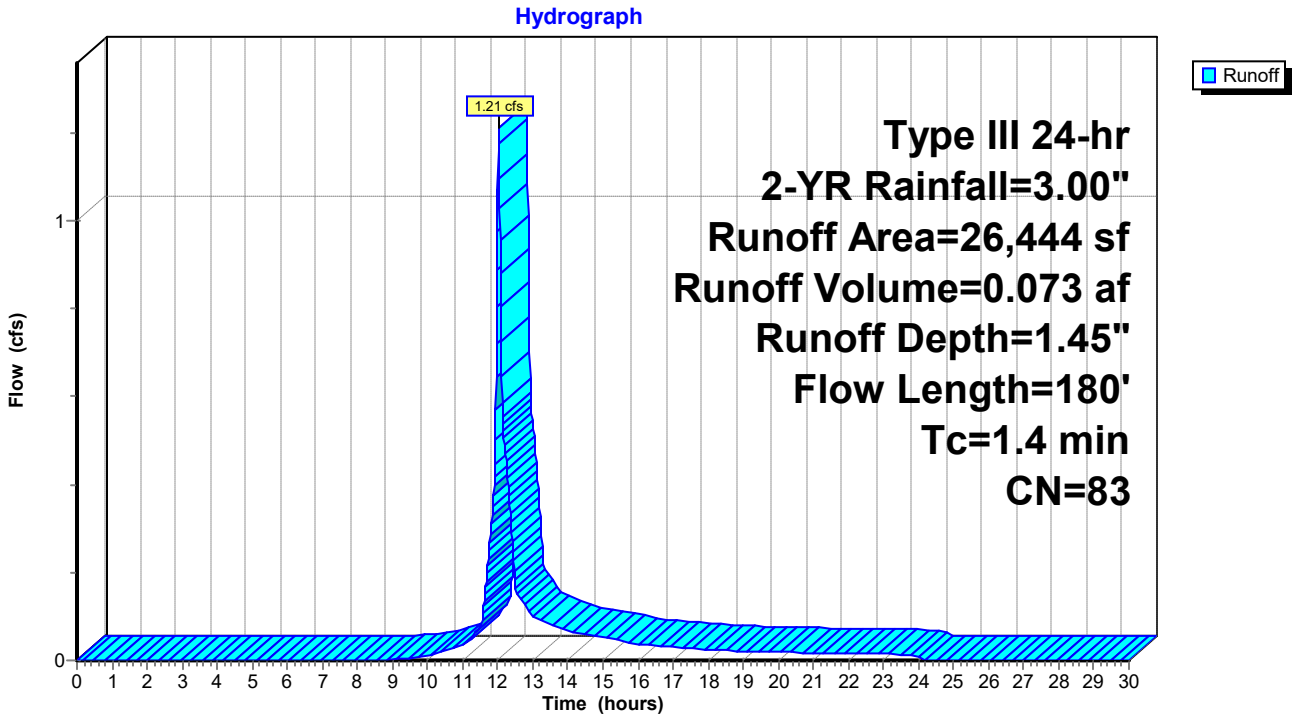
Runoff = 1.21 cfs @ 12.02 hrs, Volume= 0.073 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
19,576	98	Paved parking & roofs
129	61	>75% Grass cover, Good, HSG B
6,739	39	>75% Grass cover, Good, HSG A
26,444	83	Weighted Average
6,868		25.97% Pervious Area
19,576		74.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	140	0.0330	1.74		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.1	40	0.0800	4.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.4	180	Total			

Subcatchment 2.2S: TRUCK PARKING AREA



Summary for Subcatchment 2.3S:

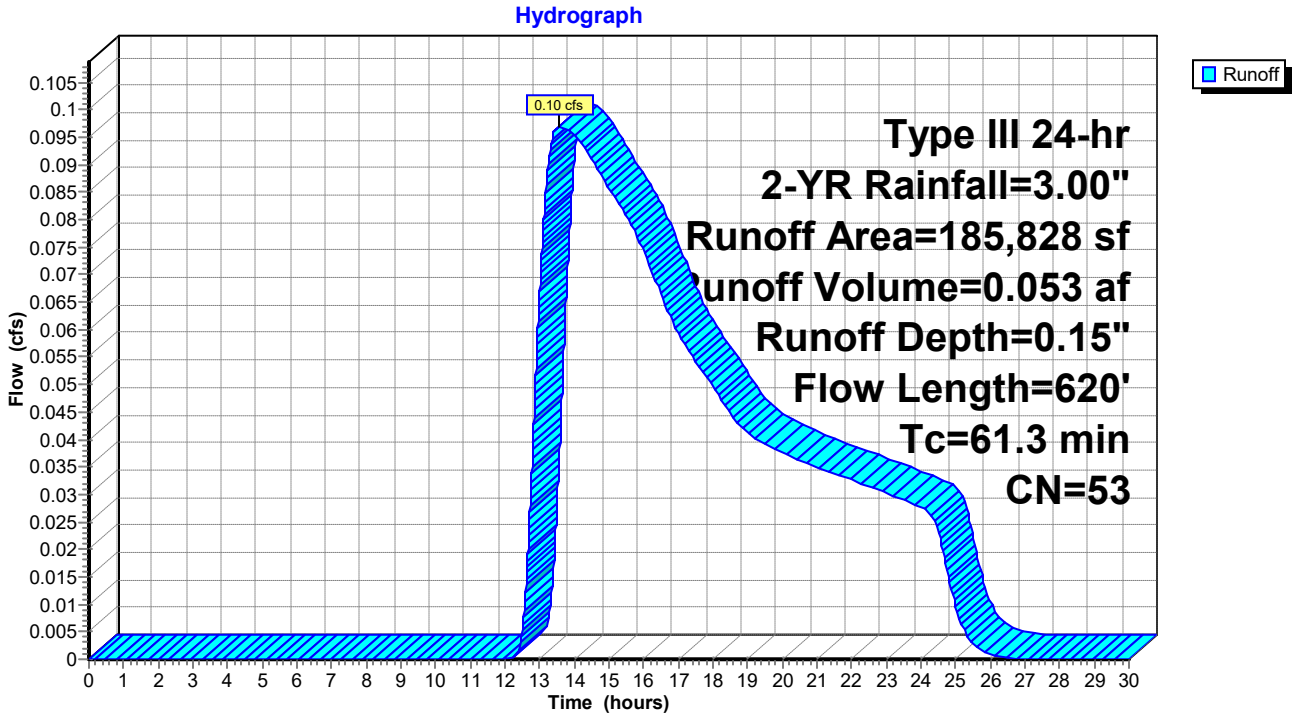
Runoff = 0.10 cfs @ 13.56 hrs, Volume= 0.053 af, Depth= 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
42,100	98	Paved parking & roofs
7,939	61	>75% Grass cover, Good, HSG B
24,024	39	>75% Grass cover, Good, HSG A
34,947	55	Woods, Good, HSG B
76,818	30	Woods, Good, HSG A
185,828	53	Weighted Average
143,728		77.34% Pervious Area
42,100		22.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
50.5	150	0.0230	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
10.4	420	0.0180	0.67		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	50	0.1600	2.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
61.3	620	Total			

Subcatchment 2.3S:



Summary for Subcatchment 2S:

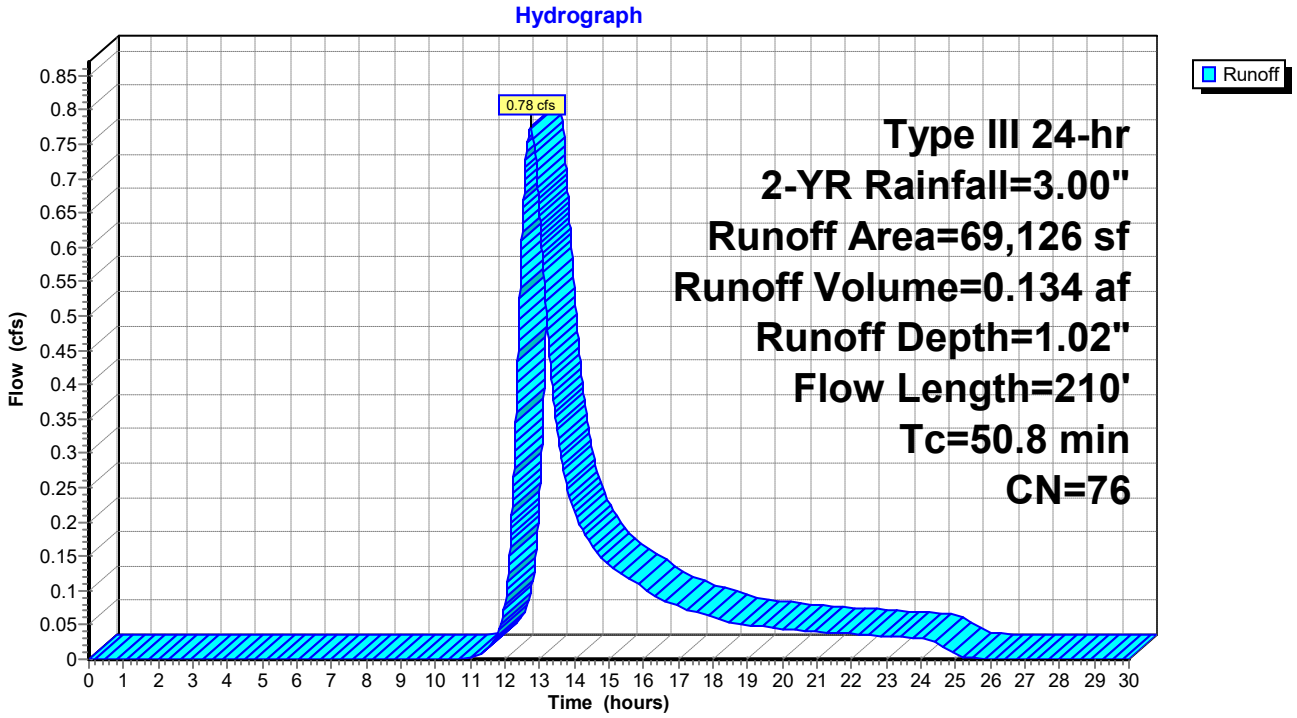
Runoff = 0.78 cfs @ 12.75 hrs, Volume= 0.134 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
37,958	98	Paved parking & roofs
6,600	61	>75% Grass cover, Good, HSG B
9,699	39	>75% Grass cover, Good, HSG A
11,579	55	Woods, Good, HSG B
3,290	30	Woods, Good, HSG A
69,126	76	Weighted Average
31,168		45.09% Pervious Area
37,958		54.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
46.8	90	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.0	30	0.2670	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	90	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
50.8	210	Total			

Subcatchment 2S:



Summary for Subcatchment 3S:

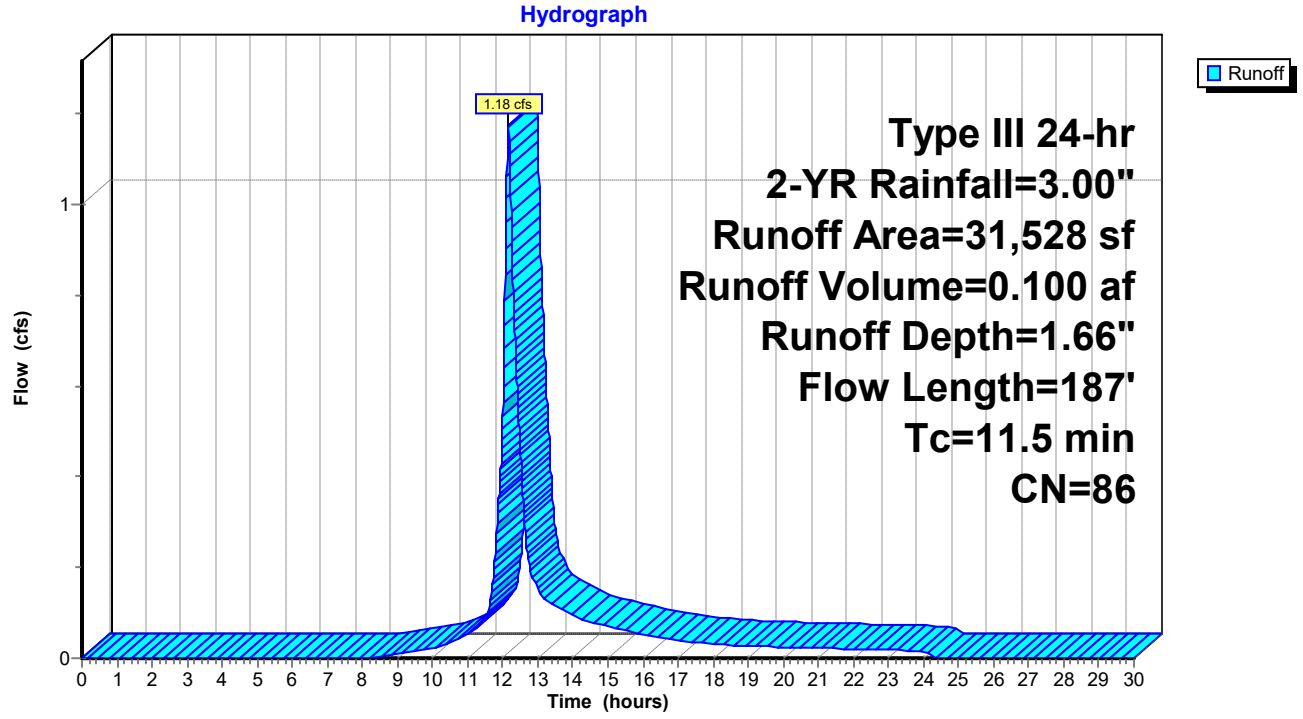
Runoff = 1.18 cfs @ 12.16 hrs, Volume= 0.100 af, Depth= 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
25,357	98	Paved parking & roofs
5,453	39	>75% Grass cover, Good, HSG A
718	30	Woods, Good, HSG A
31,528	86	Weighted Average
6,171		19.57% Pervious Area
25,357		80.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	65	0.2200	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
6.5	35	0.0190	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
1.0	87	0.0455	1.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.5	187	Total			

Subcatchment 3S:



Summary for Subcatchment 4.1S: ROOF

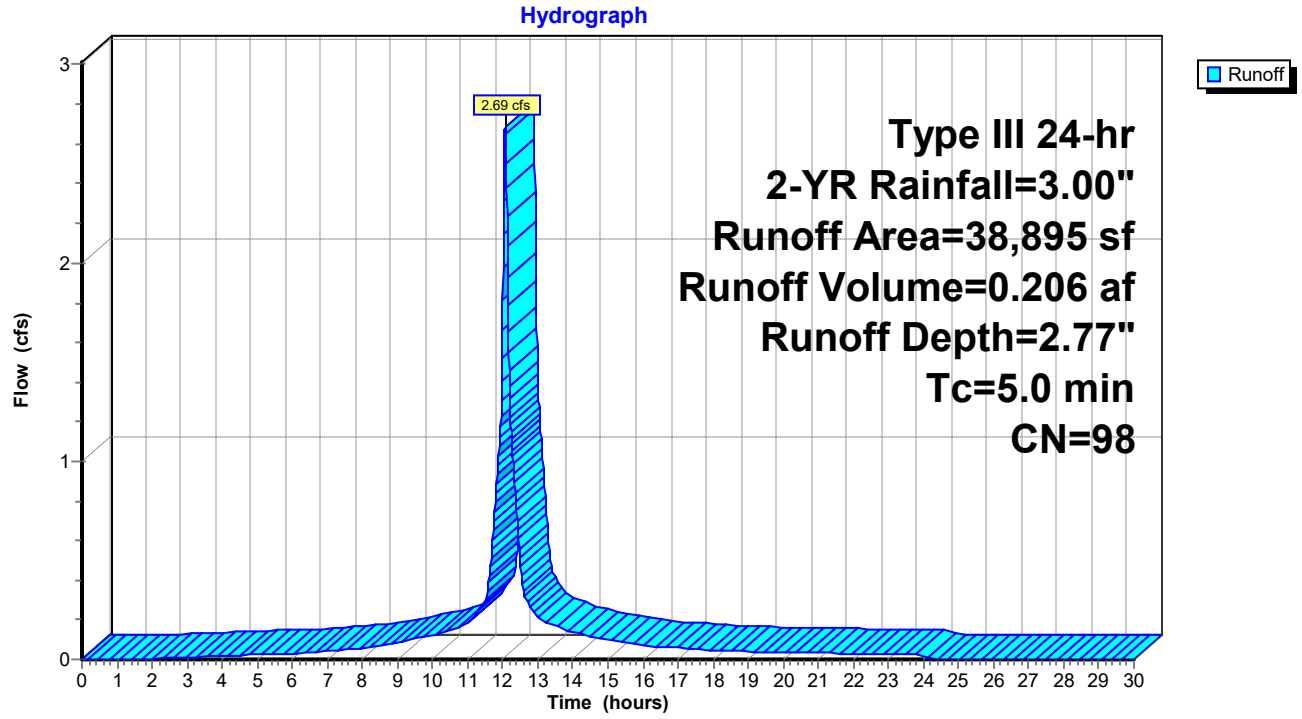
Runoff = 2.69 cfs @ 12.07 hrs, Volume= 0.206 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
38,895	98	Paved parking & roofs
38,895		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.1S: ROOF



Summary for Subcatchment 4.2S:

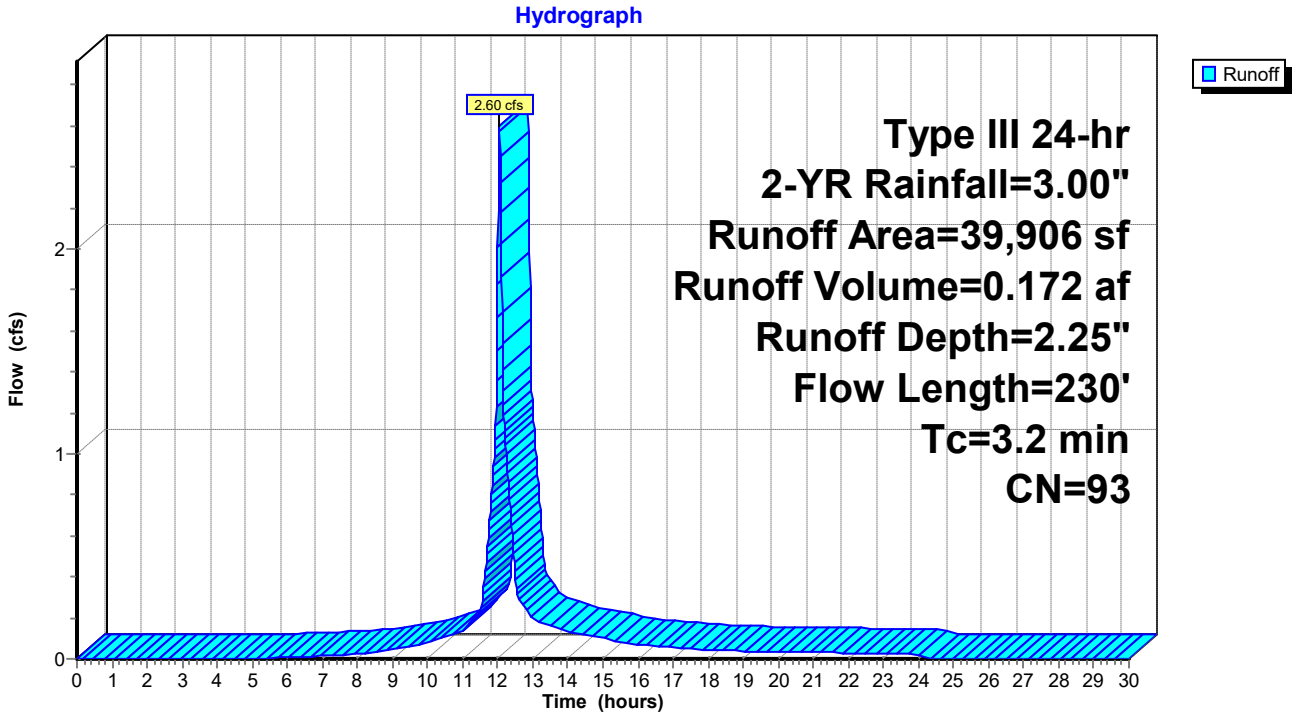
Runoff = 2.60 cfs @ 12.05 hrs, Volume= 0.172 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
36,816	98	Paved parking & roofs
3,090	39	>75% Grass cover, Good, HSG A
39,906	93	Weighted Average
3,090		7.74% Pervious Area
36,816		92.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	140	0.0100	1.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.0	90	0.0055	1.51		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.2	230	Total			

Subcatchment 4.2S:



Summary for Subcatchment 4.3S:

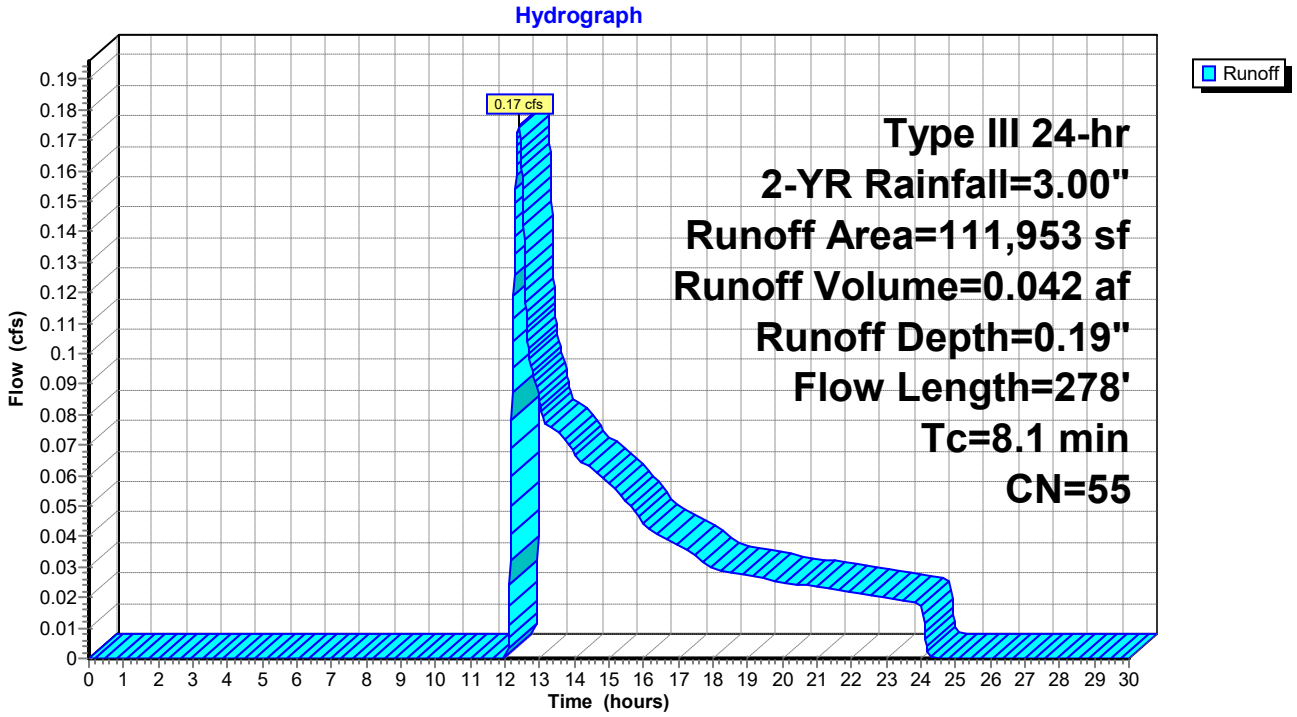
Runoff = 0.17 cfs @ 12.41 hrs, Volume= 0.042 af, Depth= 0.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
40,012	98	Paved parking & roofs
13,040	39	>75% Grass cover, Good, HSG A
58,901	30	Woods, Good, HSG A
111,953	55	Weighted Average
71,941		64.26% Pervious Area
40,012		35.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.7	45	0.2000	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	30	0.1000	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.8	75	0.0300	1.48		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	105	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	23	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	278	Total			

Subcatchment 4.3S:



Summary for Subcatchment 4.4S:

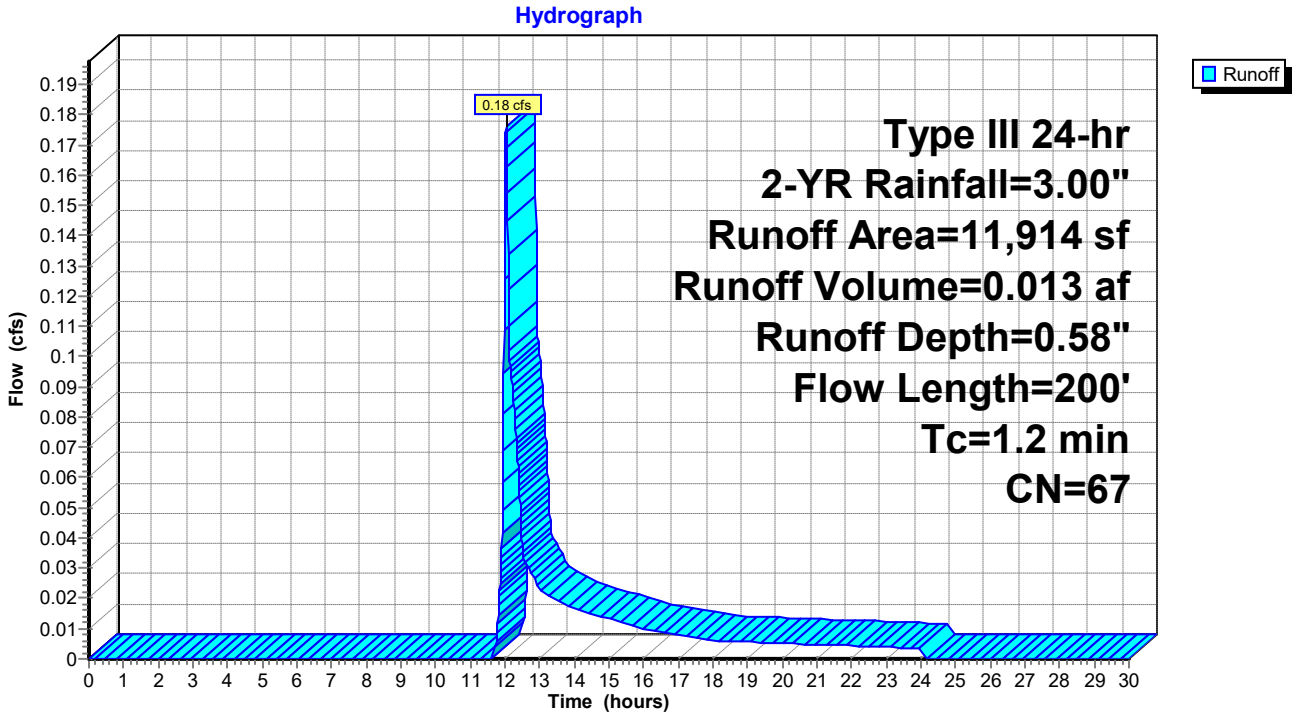
Runoff = 0.18 cfs @ 12.03 hrs, Volume= 0.013 af, Depth= 0.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
5,736	98	Paved parking & roofs
6,178	39	>75% Grass cover, Good, HSG A
11,914	67	Weighted Average
6,178		51.85% Pervious Area
5,736		48.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0400	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	150	0.0530	3.45		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.2	200	Total			

Subcatchment 4.4S:



Summary for Subcatchment 4.5S: ROOF

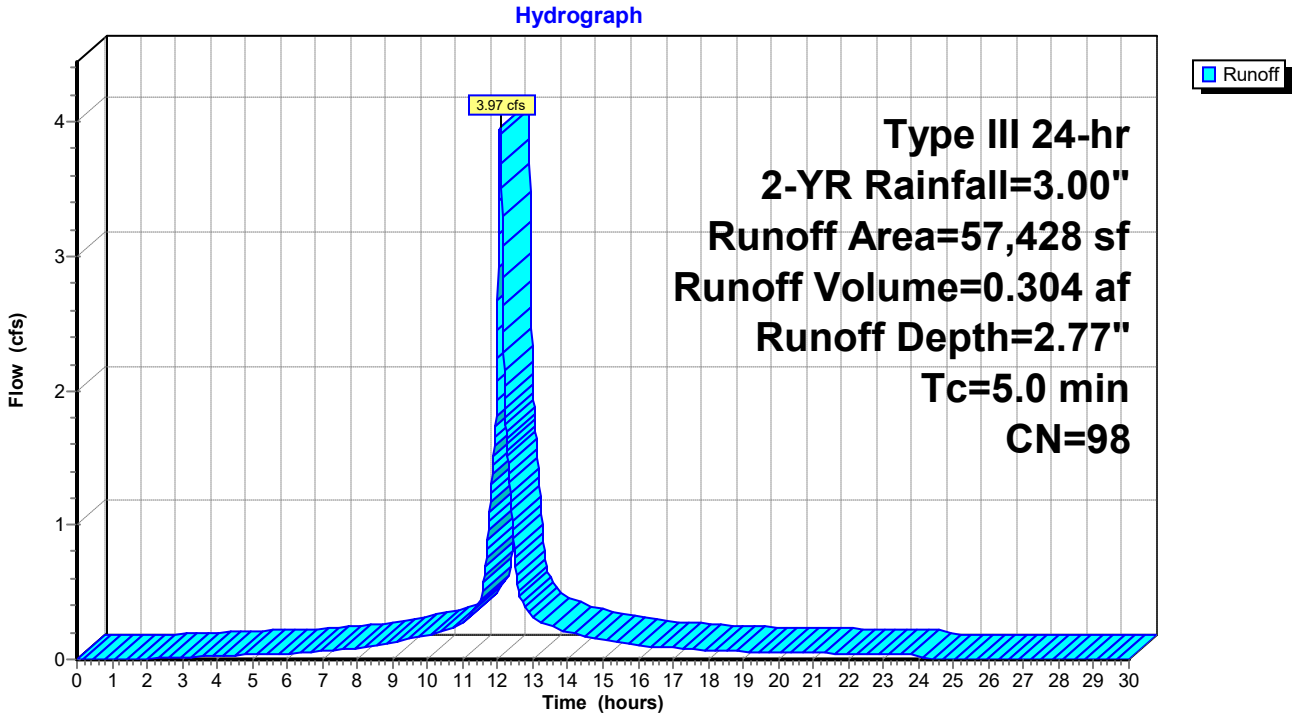
Runoff = 3.97 cfs @ 12.07 hrs, Volume= 0.304 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
57,428	98	Paved parking & roofs
57,428		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.5S: ROOF



Summary for Subcatchment 5.1S:

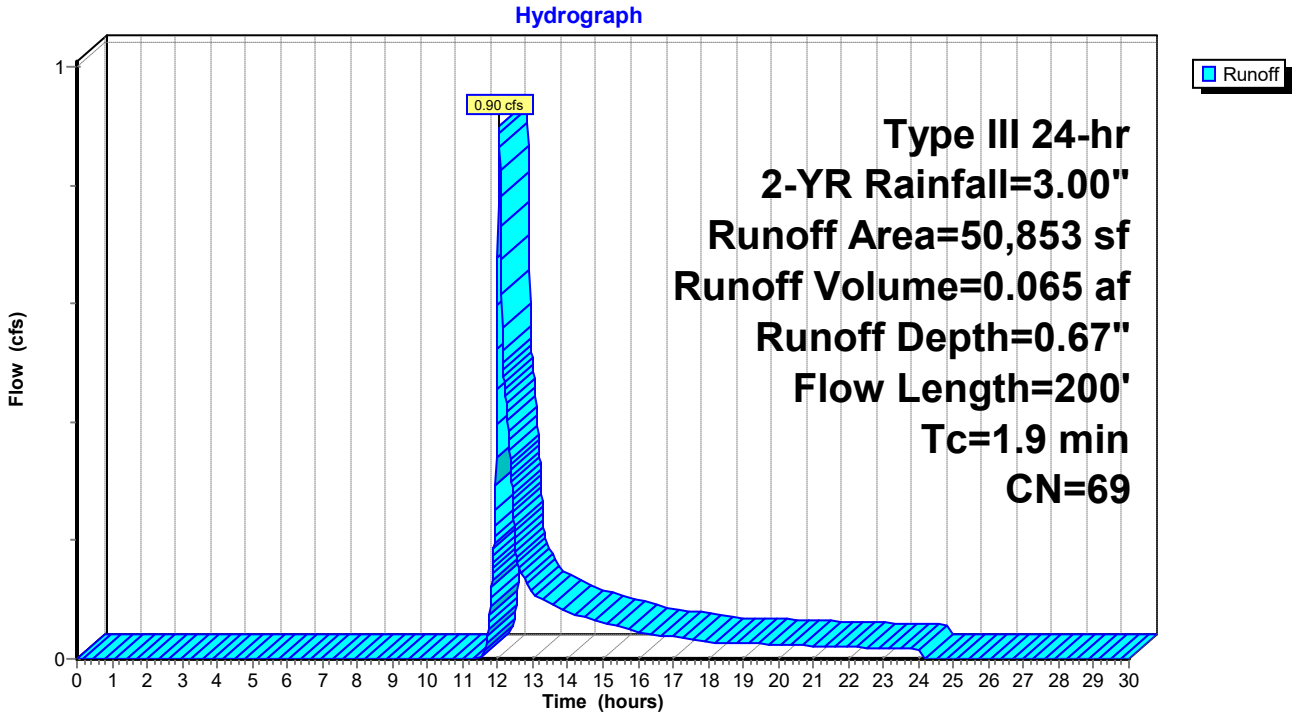
Runoff = 0.90 cfs @ 12.04 hrs, Volume= 0.065 af, Depth= 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
25,524	98	Paved parking & roofs
25,329	39	>75% Grass cover, Good, HSG A
50,853	69	Weighted Average
25,329		49.81% Pervious Area
25,524		50.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	130	0.0250	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	70	0.1100	2.32		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	200	Total			

Subcatchment 5.1S:



Summary for Subcatchment 5.2S: ROOF

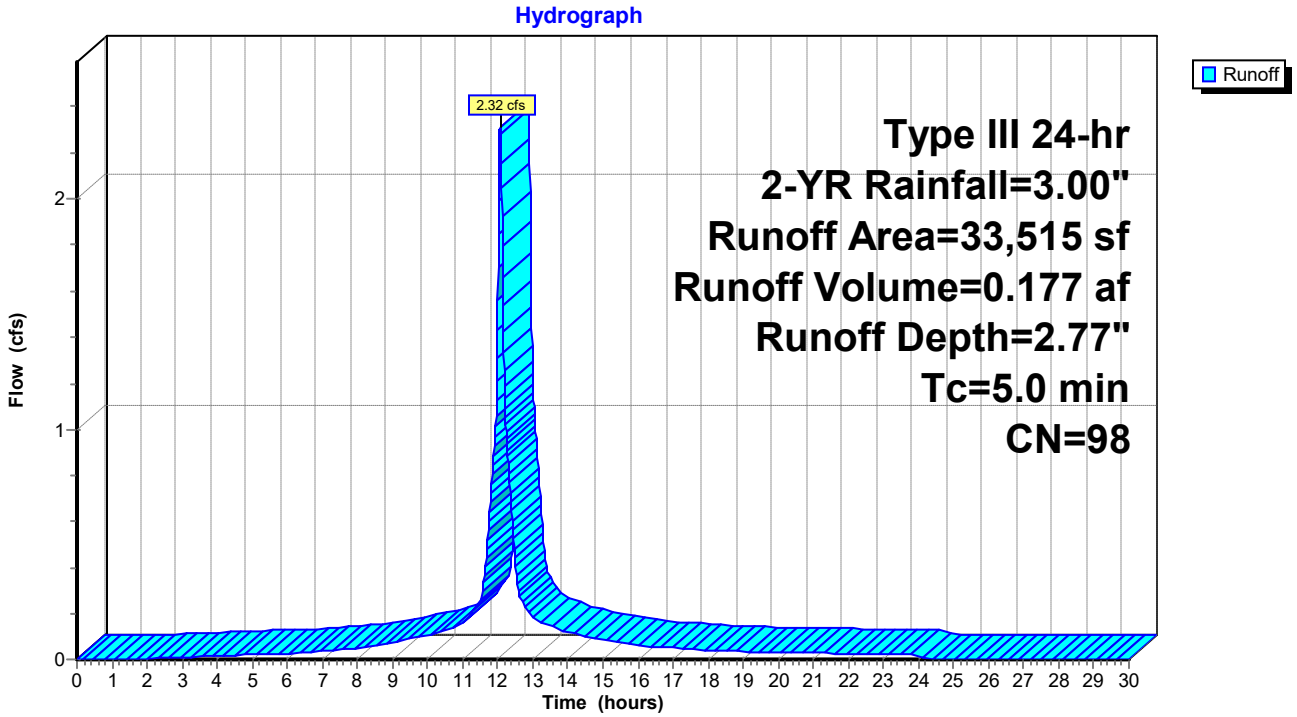
Runoff = 2.32 cfs @ 12.07 hrs, Volume= 0.177 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
33,515	98	Paved parking & roofs
33,515		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 5.2S: ROOF



Summary for Subcatchment 6S: ROOF

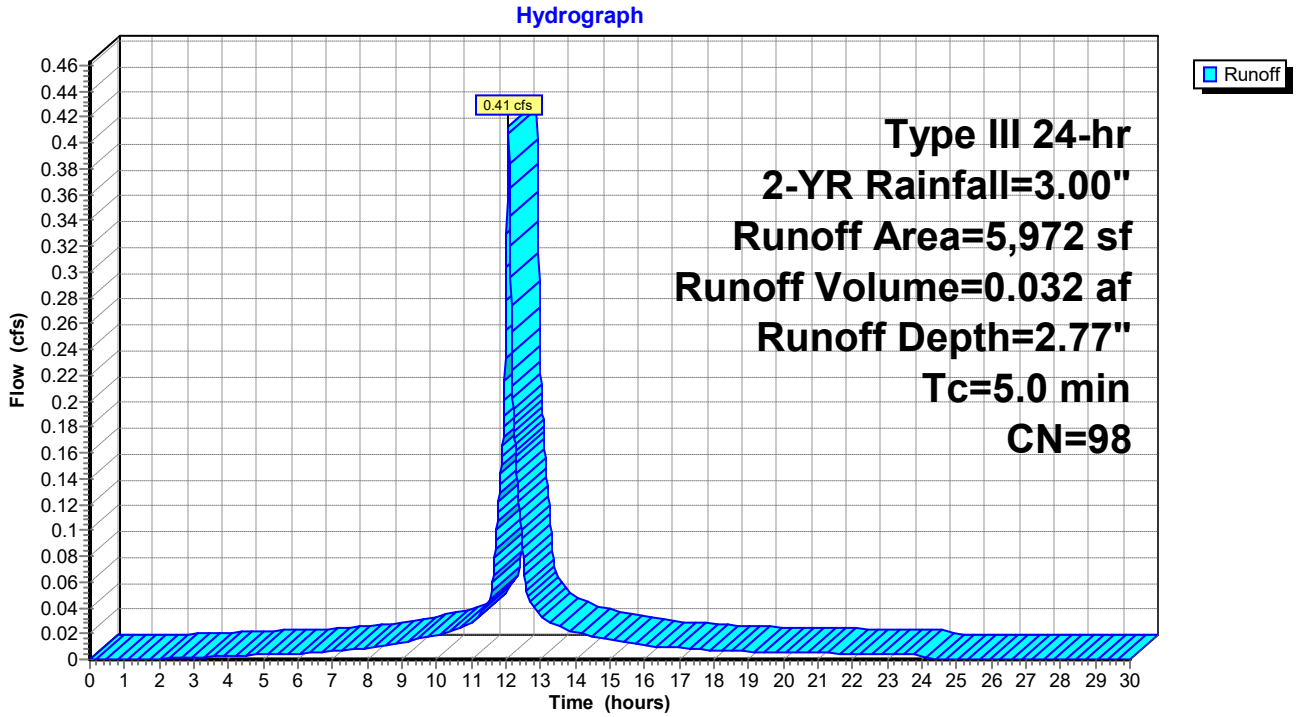
Runoff = 0.41 cfs @ 12.07 hrs, Volume= 0.032 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
5,972	98	Paved parking & roofs
5,972		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 6S: ROOF



Summary for Subcatchment 7S:

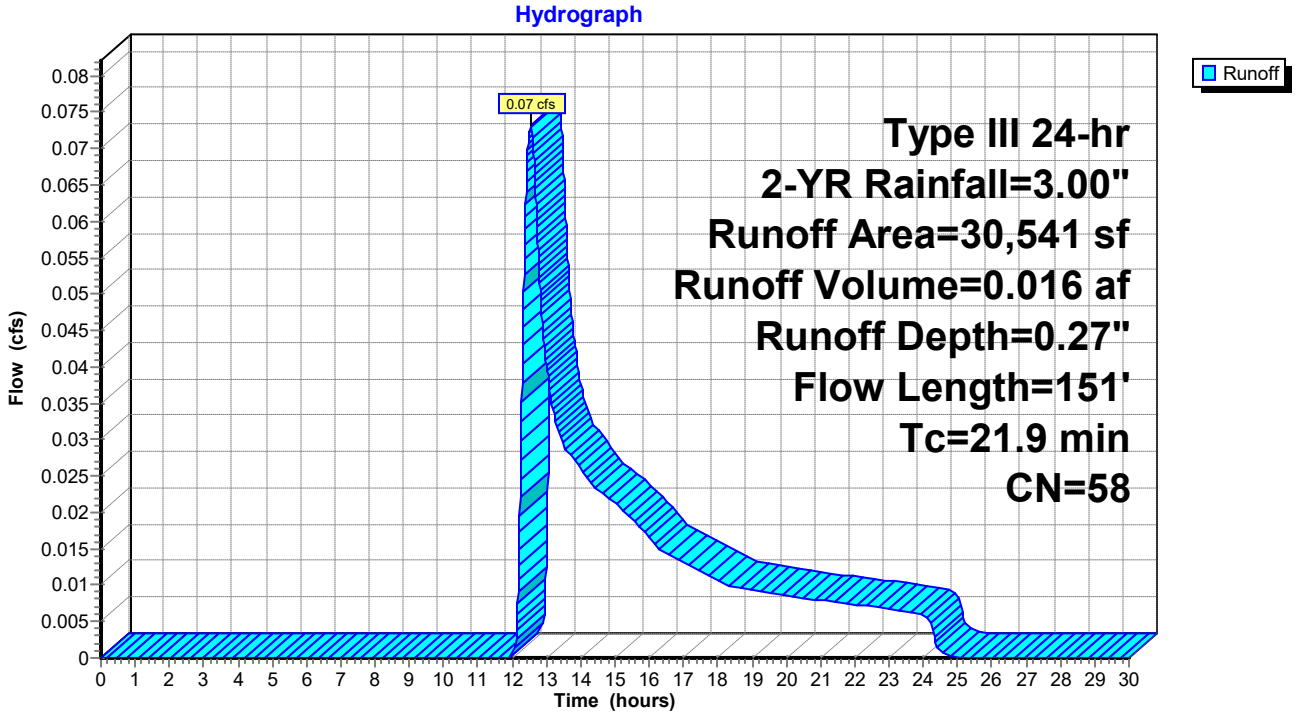
Runoff = 0.07 cfs @ 12.53 hrs, Volume= 0.016 af, Depth= 0.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
9,471	98	Paved parking & roofs
990	39	>75% Grass cover, Good, HSG A
8,095	55	Woods, Good, HSG B
11,985	30	Woods, Good, HSG A
30,541	58	Weighted Average
21,070		68.99% Pervious Area
9,471		31.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	100	0.0920	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
0.9	51	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.9	151	Total			

Subcatchment 7S:



Summary for Subcatchment 8S:

[45] Hint: Runoff=Zero

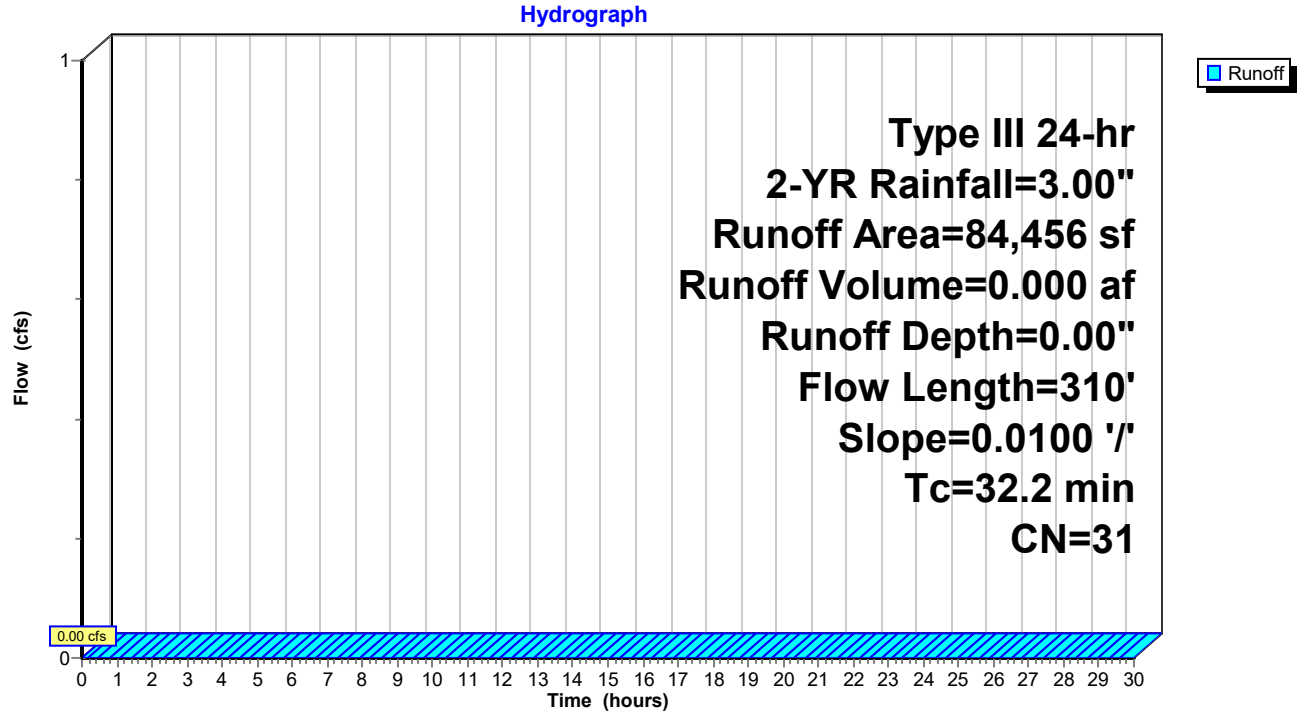
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	868	98	Paved
	83,588	30	Woods, Good, HSG A
	84,456	31	Weighted Average
	83,588		98.97% Pervious Area
	868		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	80	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
7.7	230	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.2	310	Total			

Subcatchment 8S:



Summary for Subcatchment 9.1S:

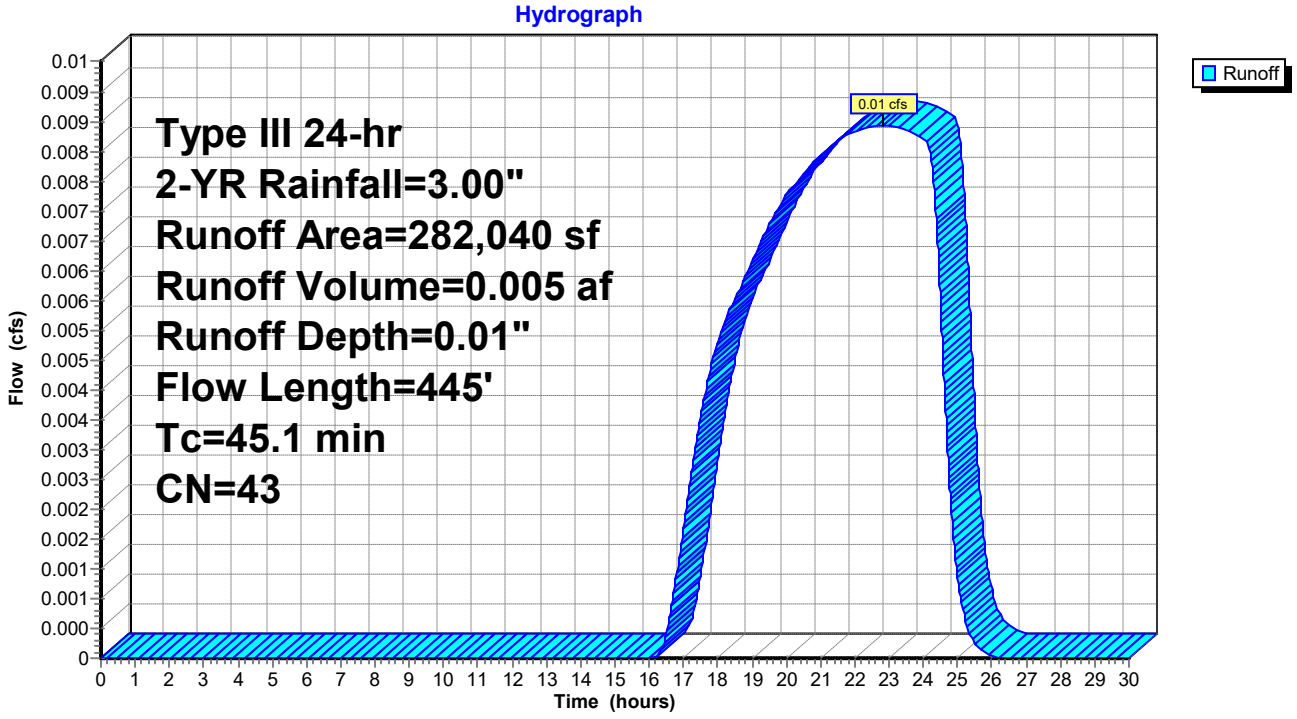
Runoff = 0.01 cfs @ 22.80 hrs, Volume= 0.005 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	48,522	98	Paved
	33,490	39	>75% Grass cover, Good, HSG A
	200,028	30	Woods, Good, HSG A
	282,040	43	Weighted Average
	233,518		82.80% Pervious Area
	48,522		17.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0100	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	30	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.6	265	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
45.1	445	Total			

Subcatchment 9.1S:



Summary for Subcatchment 9S:

[45] Hint: Runoff=Zero

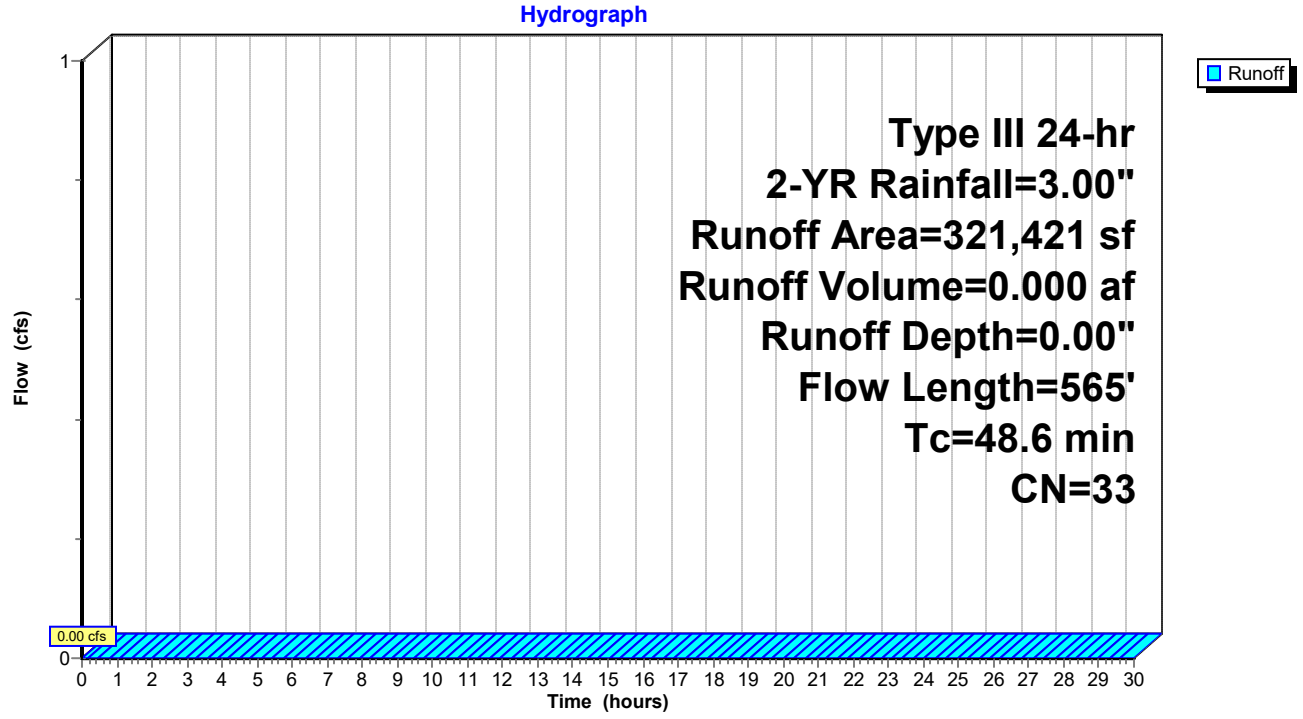
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	13,186	98	Paved
	3,563	39	>75% Grass cover, Good, HSG A
	304,672	30	Woods, Good, HSG A
	321,421	33	Weighted Average
	308,235		95.90% Pervious Area
	13,186		4.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0100	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
8.1	415	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
48.6	565	Total			

Subcatchment 9S:



Summary for Subcatchment 50S:

[45] Hint: Runoff=Zero

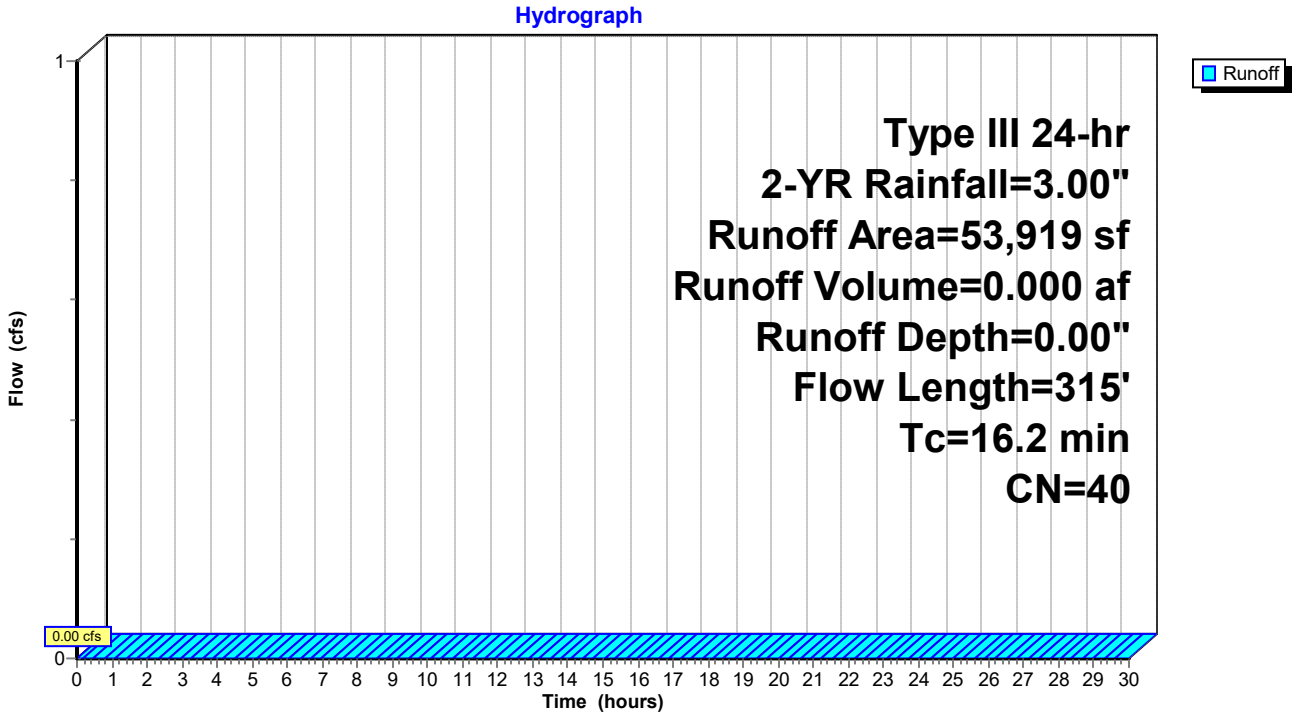
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	7,388	98	Impervious
	3,461	39	>75% Grass cover, Good, HSG A
	43,070	30	Woods, Good, HSG A
	53,919	40	Weighted Average
	46,531		86.30% Pervious Area
	7,388		13.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	120	0.0750	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	45	0.1560	1.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	100	0.0300	2.60		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0200	6.14	18.43	**Channel Flow,** Area= 3.0 sf Perim= 4.8' r= 0.63' n= 0.025 Earth, clean & winding
16.2	315	Total			

Subcatchment 50S:



Summary for Subcatchment 52S:

[45] Hint: Runoff=Zero

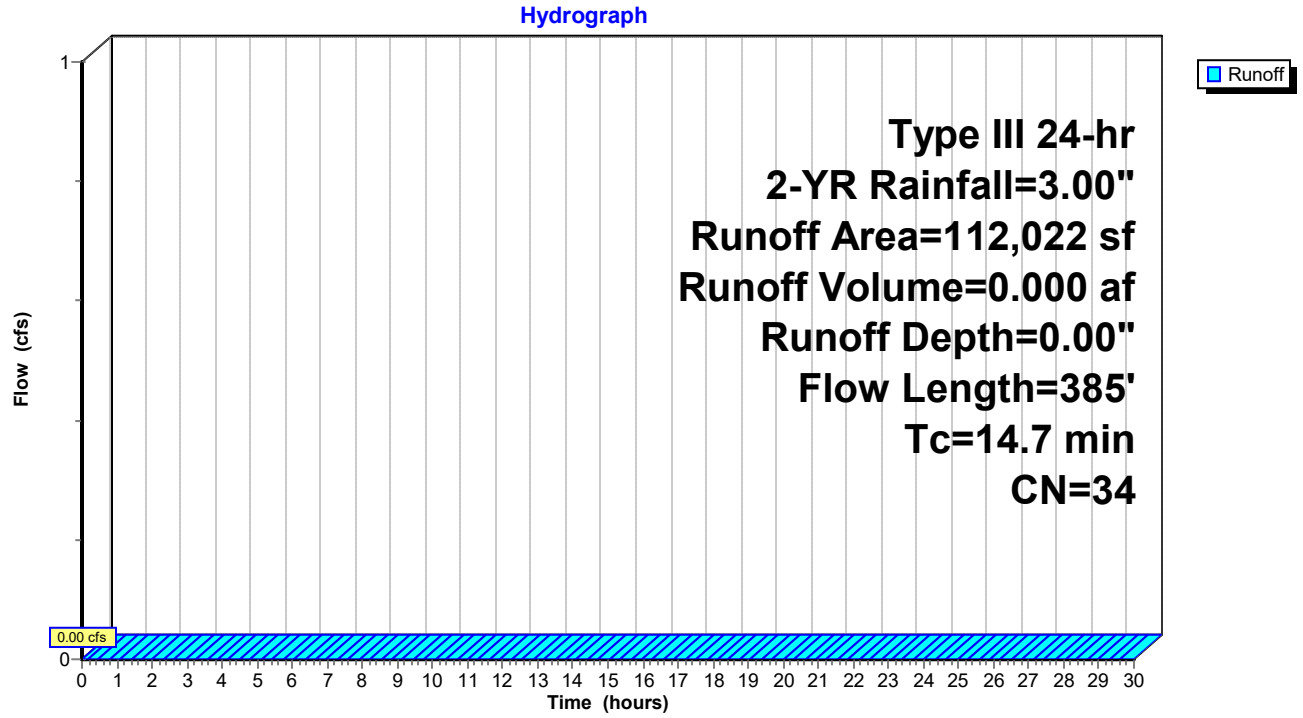
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	2,091	98	Paved
	29,887	39	>75% Grass cover, Good, HSG A
	80,044	30	Woods, Good, HSG A
	112,022	34	Weighted Average
	109,931		98.13% Pervious Area
	2,091		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	70	0.0660	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
4.3	290	0.0517	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	25	0.0400	3.00		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
14.7	385	Total			

Subcatchment 52S:



Summary for Subcatchment 53S:

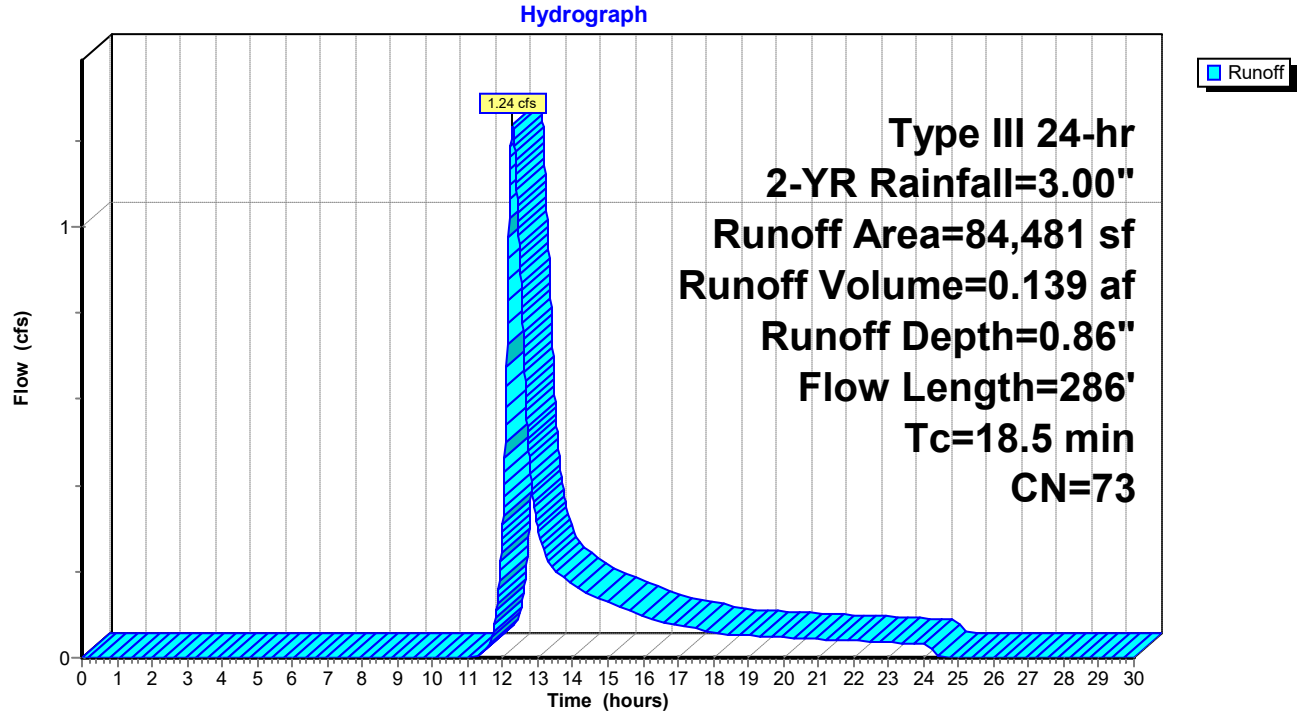
Runoff = 1.24 cfs @ 12.28 hrs, Volume= 0.139 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	49,176	98	Paved
	35,305	39	>75% Grass cover, Good, HSG A
	84,481	73	Weighted Average
	35,305		41.79% Pervious Area
	49,176		58.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	116	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	40	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	30	0.0860	2.05		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.5	286	Total			

Subcatchment 53S:



Summary for Subcatchment 54S:

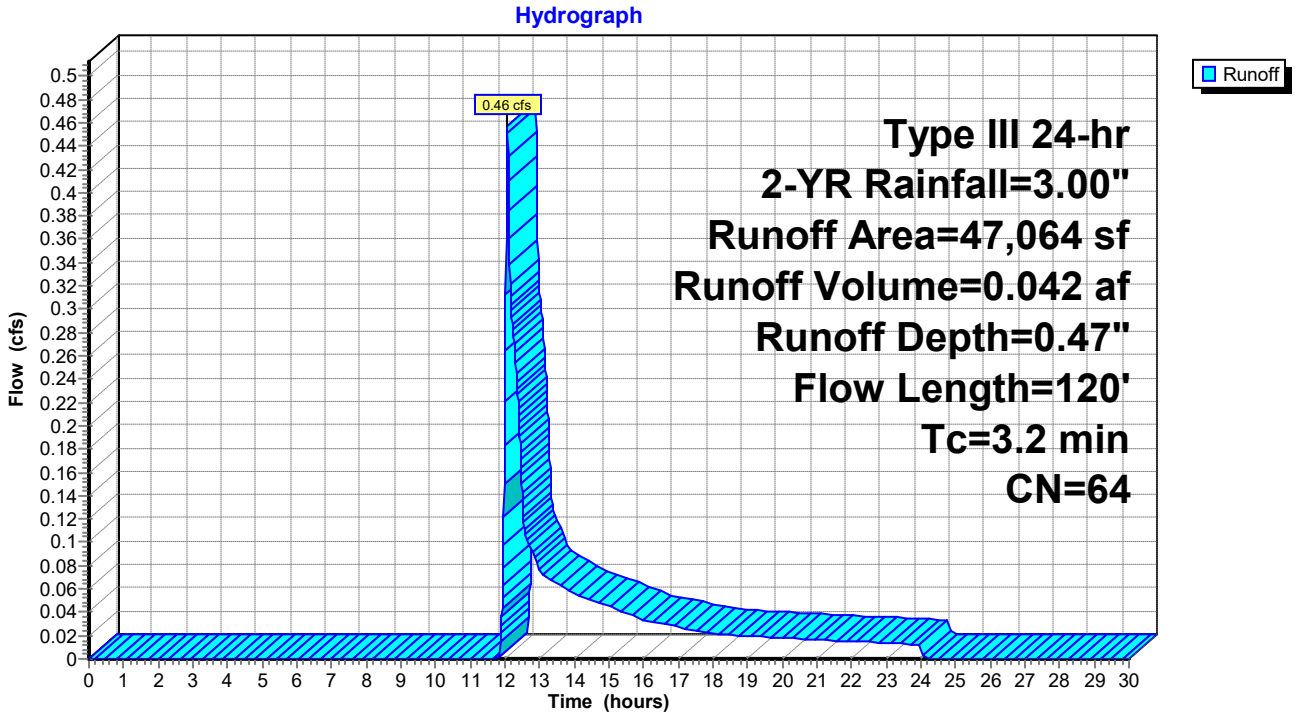
Runoff = 0.46 cfs @ 12.07 hrs, Volume= 0.042 af, Depth= 0.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	19,766	98	Paved
	27,298	39	>75% Grass cover, Good, HSG A
	47,064	64	Weighted Average
	27,298		58.00% Pervious Area
	19,766		42.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	70	0.0460	1.73		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.5	50	0.1600	0.33		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
3.2	120	Total			

Subcatchment 54S:



Summary for Subcatchment 55S: Exist Building

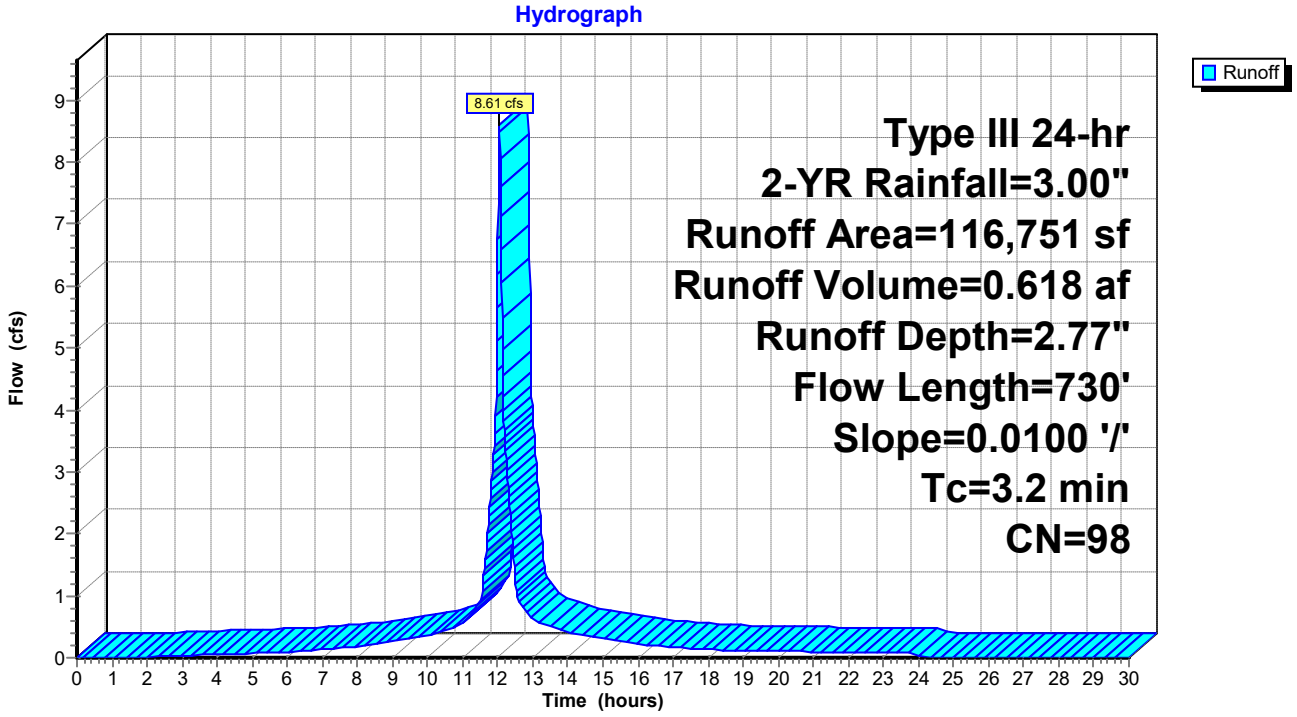
Runoff = 8.61 cfs @ 12.05 hrs, Volume= 0.618 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	116,751	98	Roof
	116,751		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0100	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	80	0.0100	4.50	1.57	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
0.8	300	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
0.4	250	0.0100	9.36	29.41	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
3.2	730	Total			

Subcatchment 55S: Exist Building



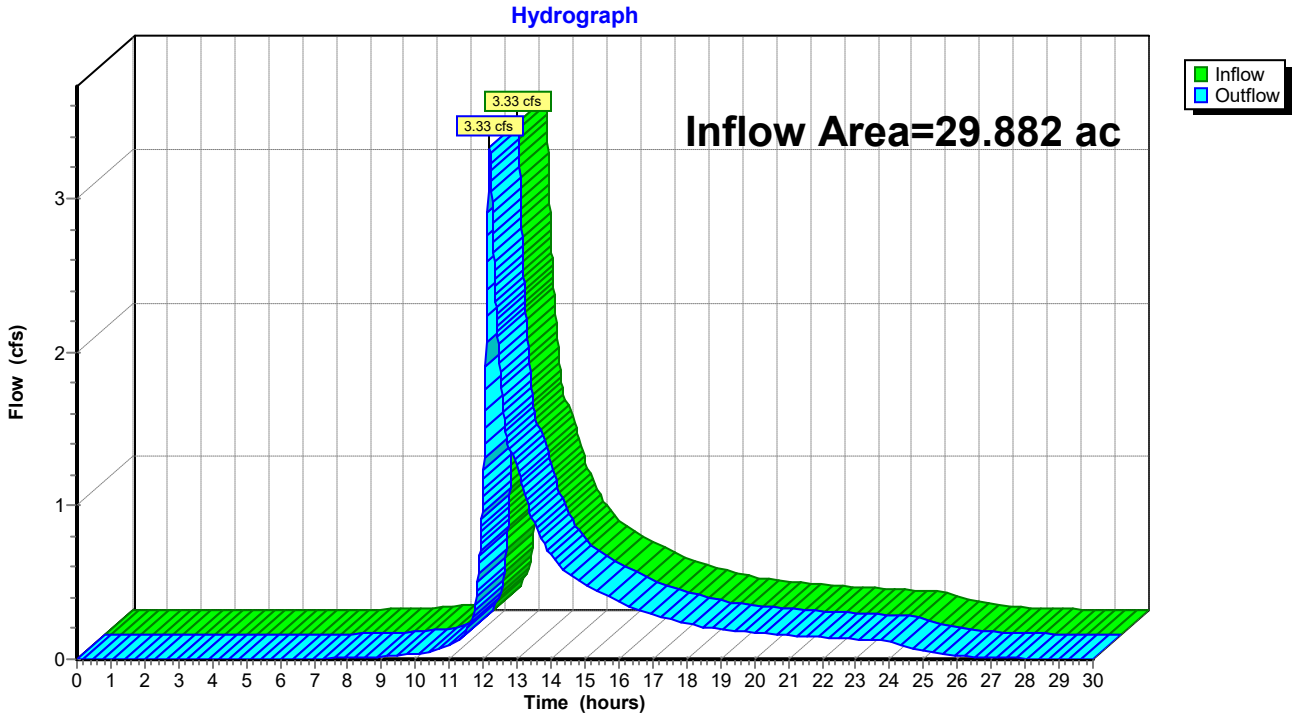
Summary for Reach 1R: WATERSHED ANALYSIS POINT A

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 29.882 ac, 43.35% Impervious, Inflow Depth > 0.20" for 2-YR event
Inflow = 3.33 cfs @ 12.19 hrs, Volume= 0.493 af
Outflow = 3.33 cfs @ 12.19 hrs, Volume= 0.493 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 1R: WATERSHED ANALYSIS POINT A



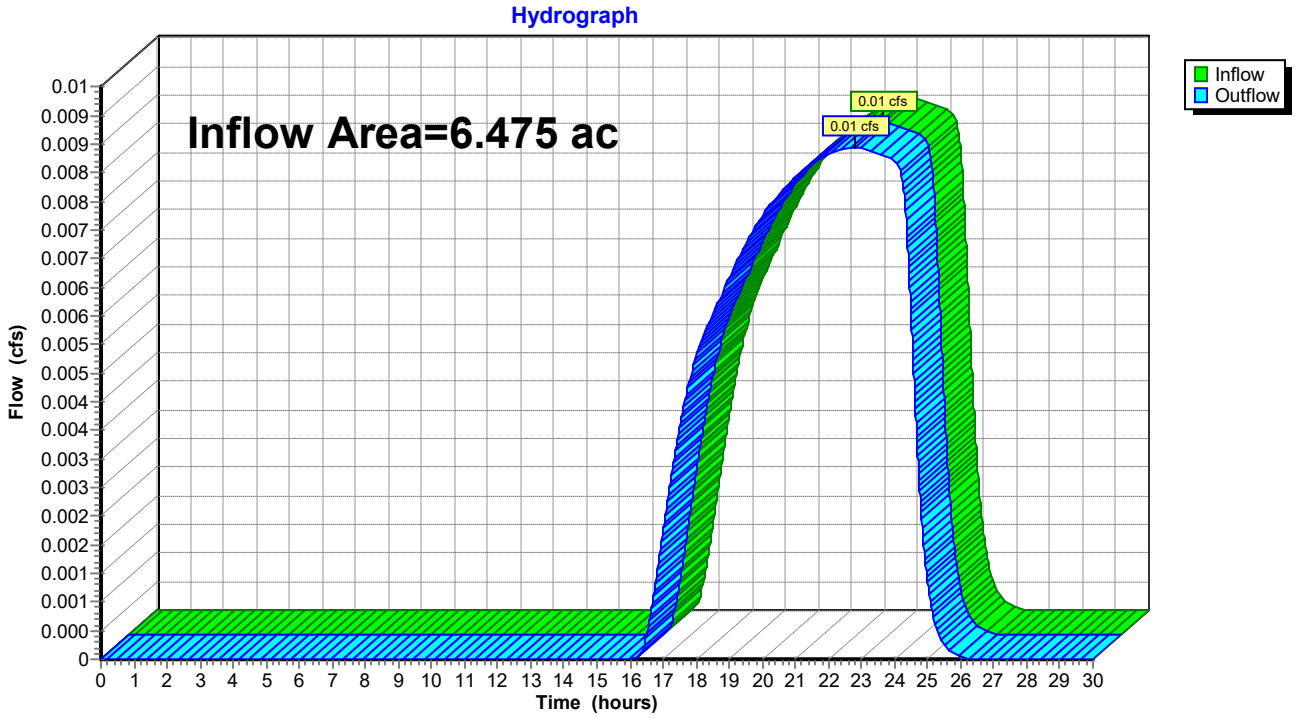
Summary for Reach 2.1R: WATERSHED ANALYSIS POINT C

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.475 ac, 17.20% Impervious, Inflow Depth = 0.01" for 2-YR event
Inflow = 0.01 cfs @ 22.80 hrs, Volume= 0.005 af
Outflow = 0.01 cfs @ 22.80 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 2.1R: WATERSHED ANALYSIS POINT C



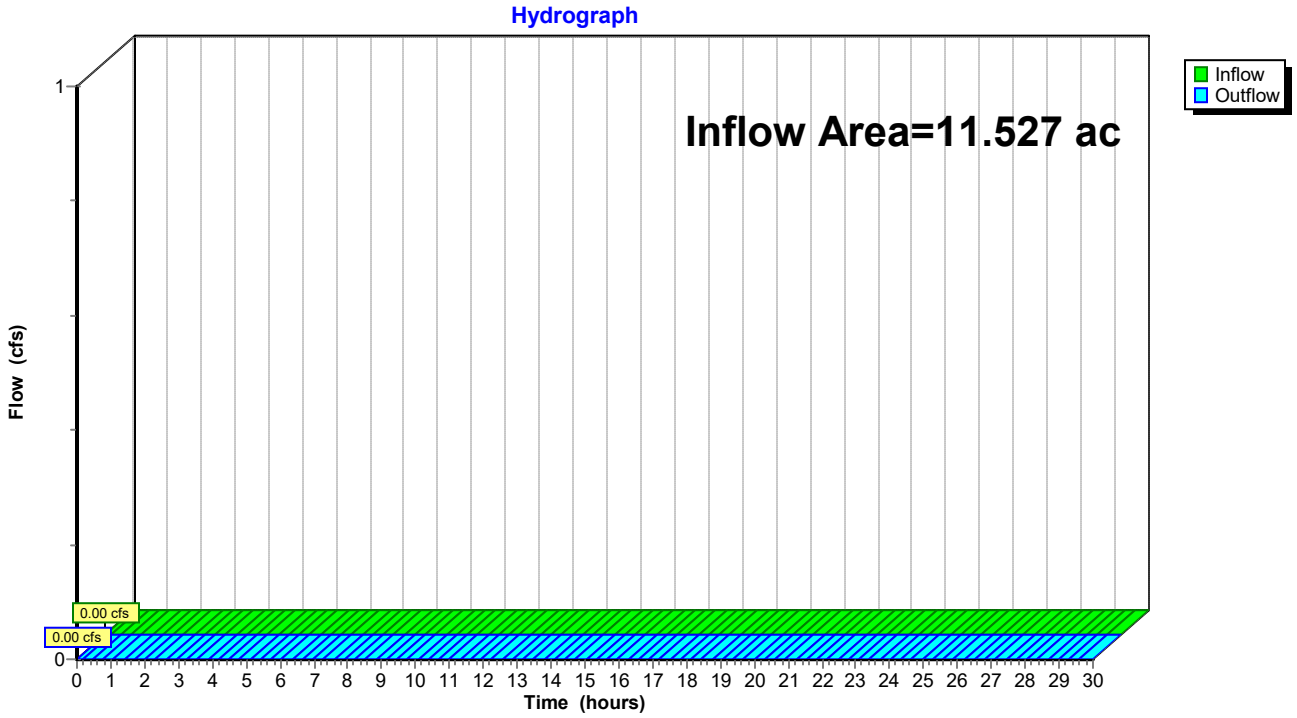
Summary for Reach 2R: WATERSHED ANALYSIS POINT B

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 11.527 ac, 33.57% Impervious, Inflow Depth = 0.00" for 2-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 2R: WATERSHED ANALYSIS POINT B



Summary for Reach 3R: NATURAL DRAINAGE

Inflow Area = 4.148 ac, 85.98% Impervious, Inflow Depth = 0.00" for 2-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

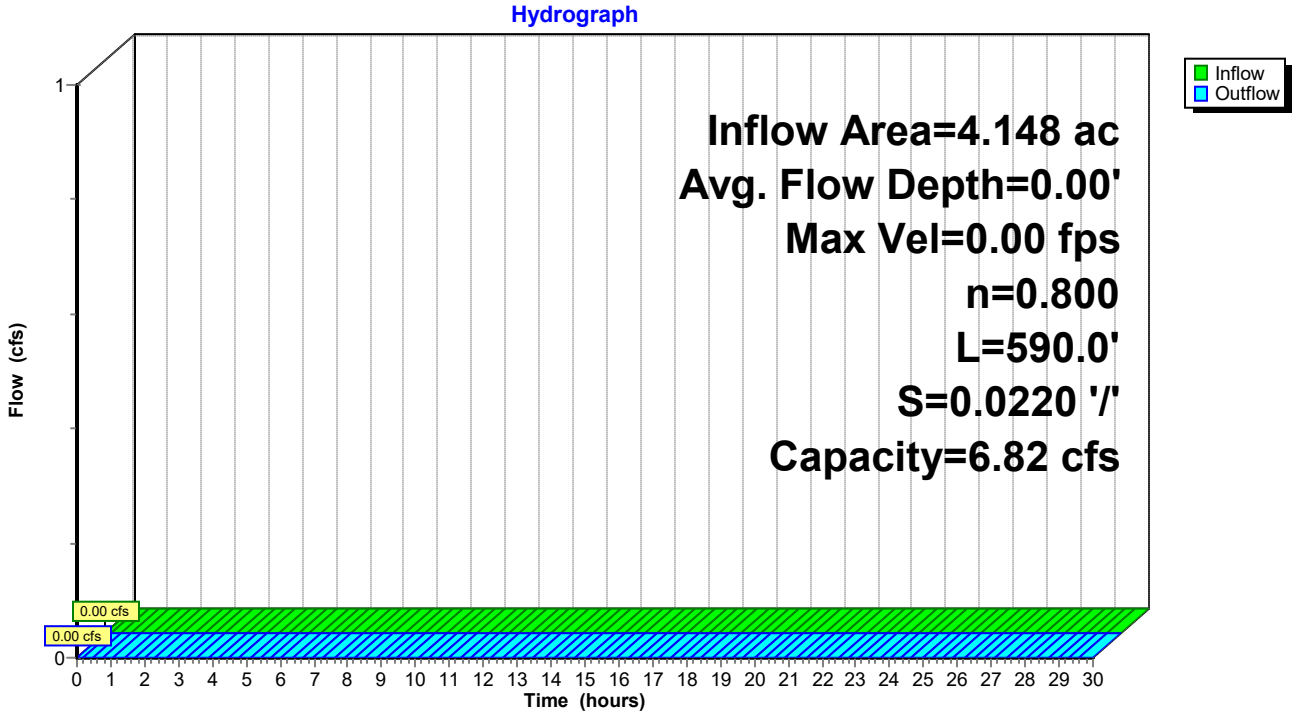
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 30.0 sf, Capacity= 6.82 cfs

20.00' x 1.00' deep channel, n= 0.800 Sheet flow: Woods+dense brush
Side Slope Z-value= 10.0 '/' Top Width= 40.00'
Length= 590.0' Slope= 0.0220 '/'
Inlet Invert= 239.00', Outlet Invert= 226.00'

‡

Reach 3R: NATURAL DRAINAGE



Summary for Reach 4R: NATRUAL DRAINAGE

Inflow Area = 5.574 ac, 29.30% Impervious, Inflow Depth > 0.15" for 2-YR event
Inflow = 0.13 cfs @ 13.59 hrs, Volume= 0.069 af
Outflow = 0.13 cfs @ 13.73 hrs, Volume= 0.069 af, Atten= 1%, Lag= 8.7 min

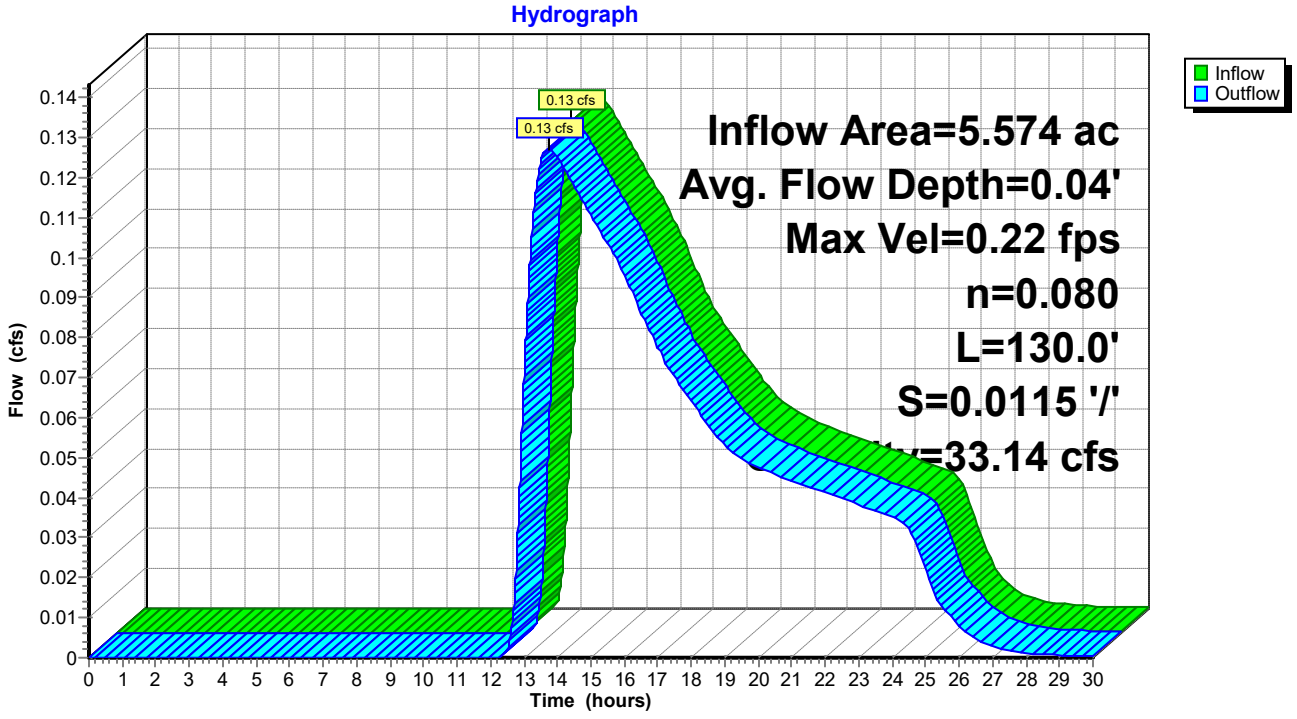
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.22 fps, Min. Travel Time= 9.7 min
Avg. Velocity = 0.15 fps, Avg. Travel Time= 14.9 min

Peak Storage= 74 cf @ 13.73 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 1.00' Flow Area= 19.0 sf, Capacity= 33.14 cfs

15.00' x 1.00' deep channel, n= 0.080
Side Slope Z-value= 4.0 '/' Top Width= 23.00'
Length= 130.0' Slope= 0.0115 '/'
Inlet Invert= 247.00', Outlet Invert= 245.50'

‡

Reach 4R: NATRUAL DRAINAGE



Summary for Reach 50R: STREAM

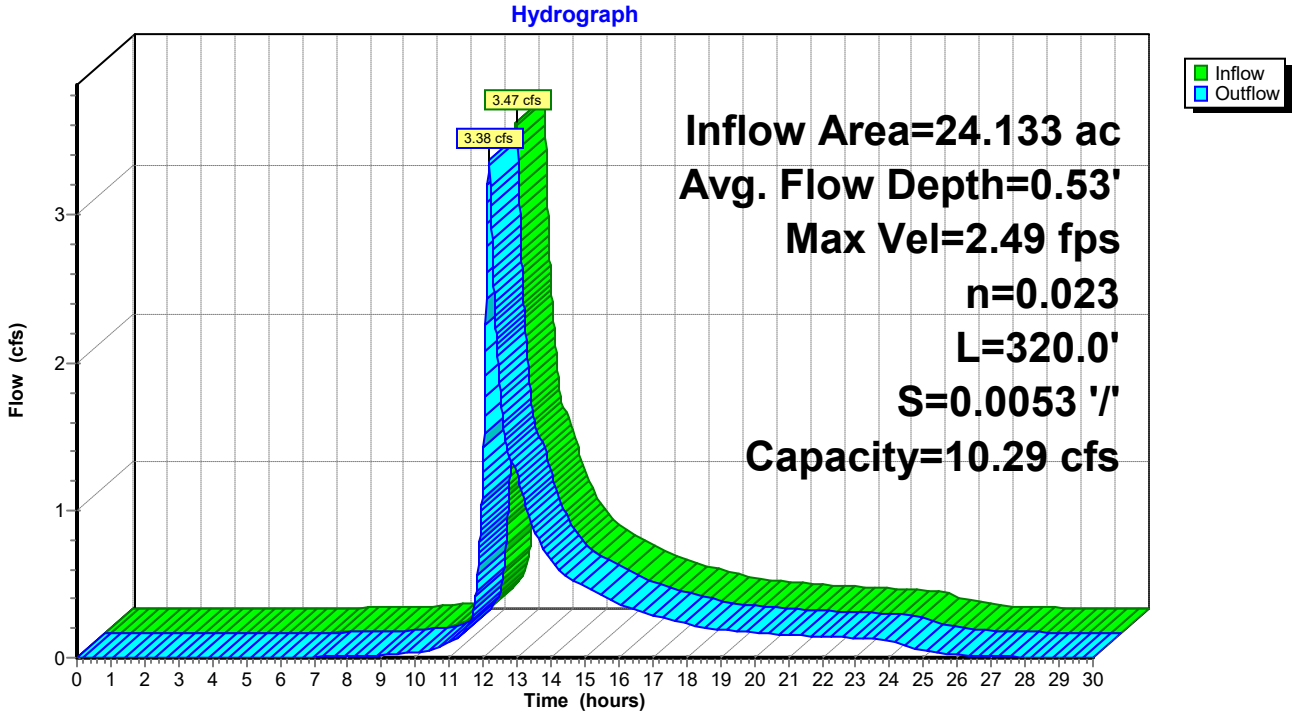
Inflow Area = 24.133 ac, 52.69% Impervious, Inflow Depth > 0.25" for 2-YR event
Inflow = 3.47 cfs @ 12.14 hrs, Volume= 0.493 af
Outflow = 3.38 cfs @ 12.17 hrs, Volume= 0.493 af, Atten= 3%, Lag= 1.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 2.49 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 0.70 fps, Avg. Travel Time= 7.6 min

Peak Storage= 433 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.29 cfs

2.00' x 1.00' deep channel, n= 0.023 Earth, clean & winding
Side Slope Z-value= 1.0 '/' Top Width= 4.00'
Length= 320.0' Slope= 0.0053 '/'
Inlet Invert= 235.00', Outlet Invert= 233.30'

Reach 50R: STREAM



Summary for Reach 51R: STREAM

[61] Hint: Exceeded Reach 50R outlet invert by 0.41' @ 12.19 hrs

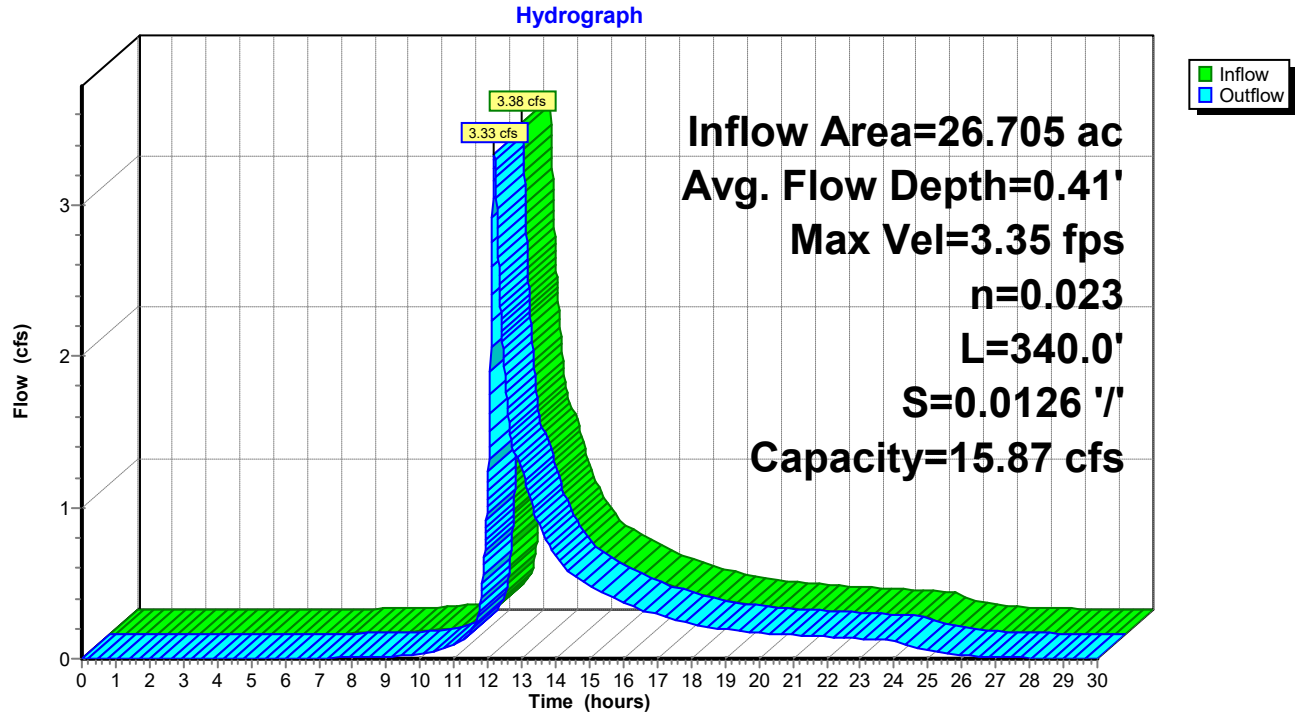
Inflow Area = 26.705 ac, 47.80% Impervious, Inflow Depth > 0.22" for 2-YR event
Inflow = 3.38 cfs @ 12.17 hrs, Volume= 0.493 af
Outflow = 3.33 cfs @ 12.19 hrs, Volume= 0.493 af, Atten= 1%, Lag= 1.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 3.35 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.94 fps, Avg. Travel Time= 6.0 min

Peak Storage= 338 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.41'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 15.87 cfs

2.00' x 1.00' deep channel, n= 0.023
Side Slope Z-value= 1.0 '/' Top Width= 4.00'
Length= 340.0' Slope= 0.0126 '/'
Inlet Invert= 233.30', Outlet Invert= 229.00'

Reach 51R: STREAM



Summary for Reach 52R: New Pipe

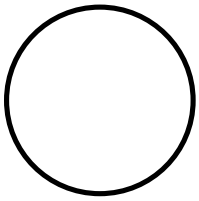
[52] Hint: Inlet/Outlet conditions not evaluated

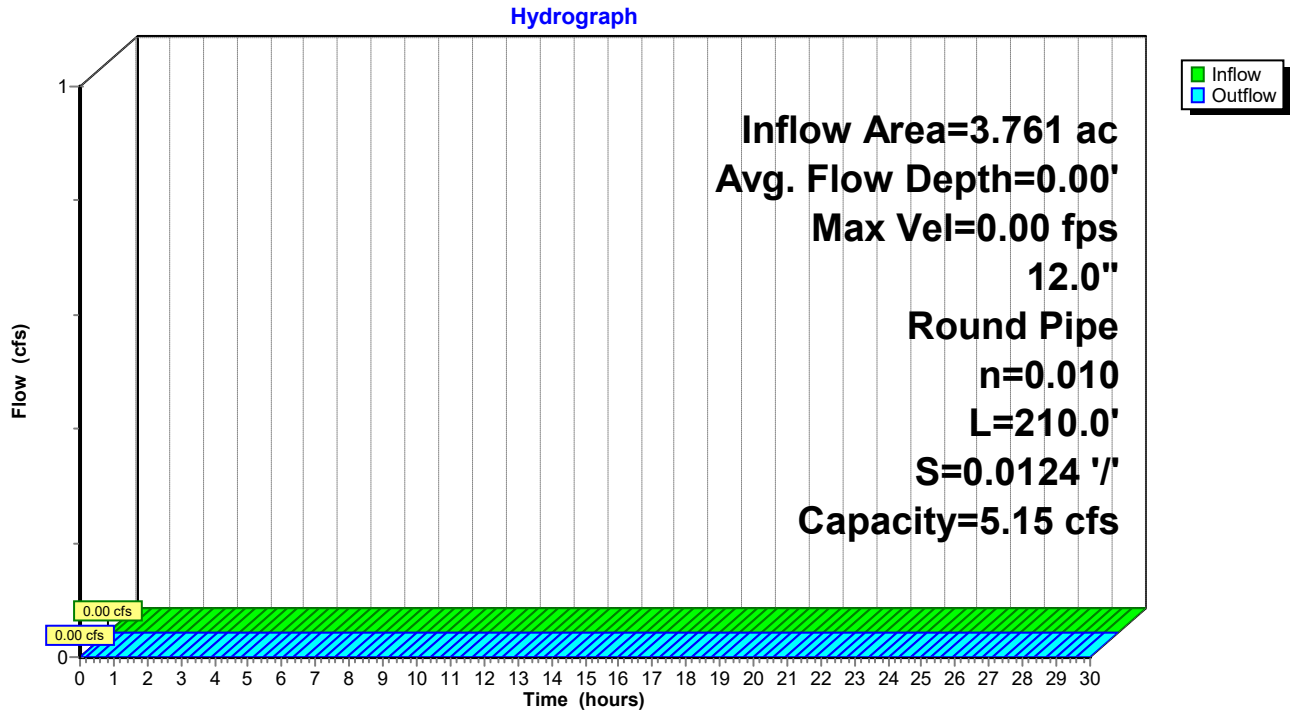
Inflow Area = 3.761 ac, 83.34% Impervious, Inflow Depth = 0.00" for 2-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.15 cfs

12.0" Round Pipe
n= 0.010
Length= 210.0' Slope= 0.0124 '/'
Inlet Invert= 238.60', Outlet Invert= 236.00'





Summary for Reach 53R: New Pipe

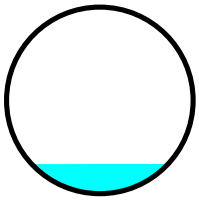
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach 54R OUTLET depth by 0.01' @ 12.21 hrs

Inflow Area = 20.373 ac, 47.04% Impervious, Inflow Depth > 0.29" for 2-YR event
Inflow = 3.47 cfs @ 12.13 hrs, Volume= 0.493 af
Outflow = 3.47 cfs @ 12.14 hrs, Volume= 0.493 af, Atten= 0%, Lag= 0.4 min

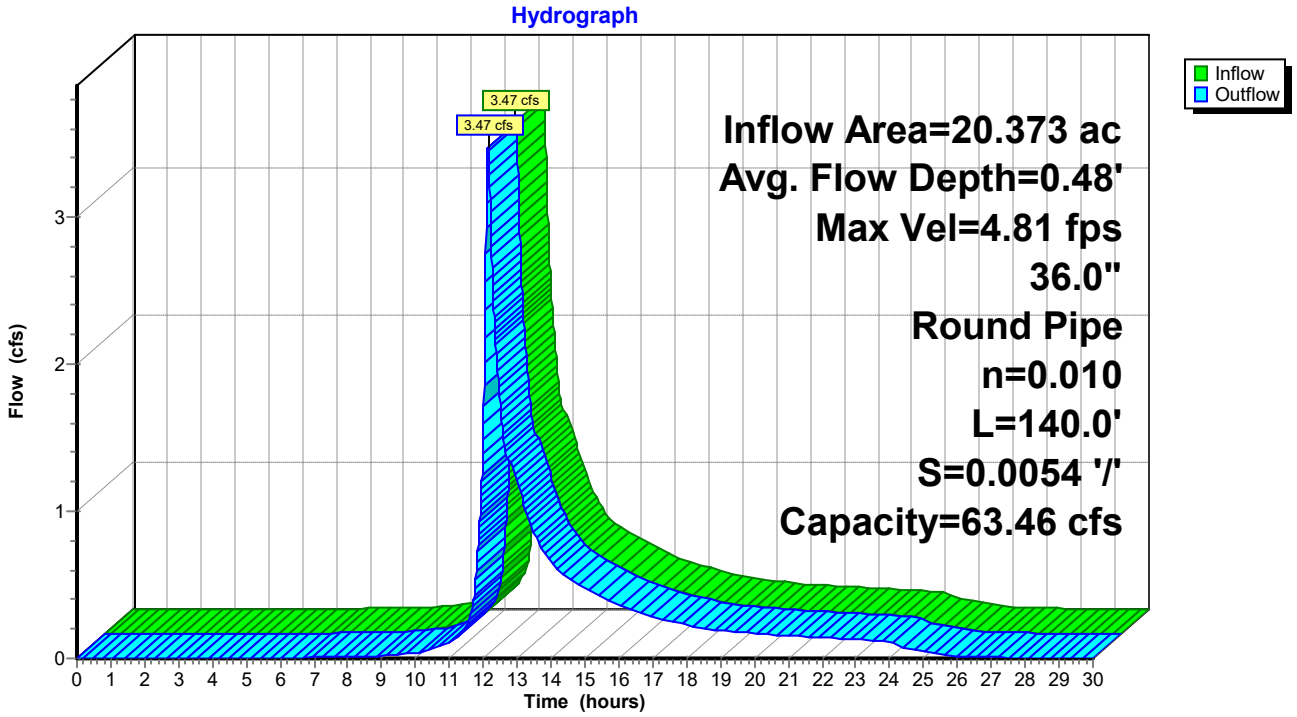
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 4.81 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.60 fps, Avg. Travel Time= 1.5 min

Peak Storage= 101 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.48'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 63.46 cfs

36.0" Round Pipe
n= 0.010
Length= 140.0' Slope= 0.0054 '/'
Inlet Invert= 236.75', Outlet Invert= 236.00'



Reach 53R: New Pipe



Summary for Reach 54R: New Pipe

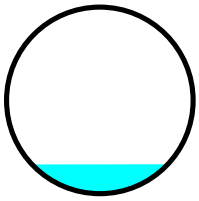
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach 55R OUTLET depth by 0.01' @ 12.20 hrs

Inflow Area = 18.433 ac, 45.86% Impervious, Inflow Depth > 0.32" for 2-YR event
Inflow = 3.50 cfs @ 12.12 hrs, Volume= 0.493 af
Outflow = 3.47 cfs @ 12.13 hrs, Volume= 0.493 af, Atten= 1%, Lag= 0.8 min

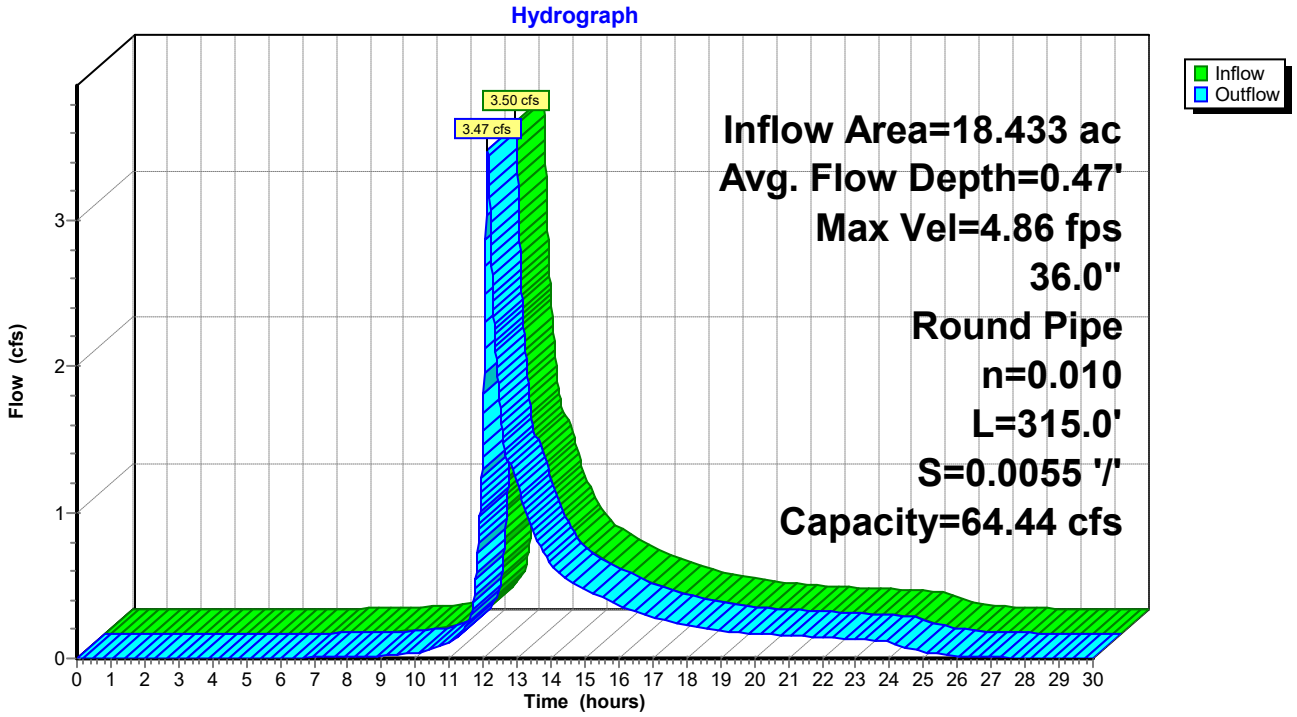
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 4.86 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.61 fps, Avg. Travel Time= 3.3 min

Peak Storage= 225 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 64.44 cfs

36.0" Round Pipe
n= 0.010
Length= 315.0' Slope= 0.0055 '/'
Inlet Invert= 238.49', Outlet Invert= 236.75'



Reach 54R: New Pipe



Summary for Reach 55R: New Pipe

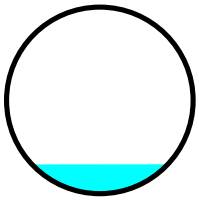
[52] Hint: Inlet/Outlet conditions not evaluated

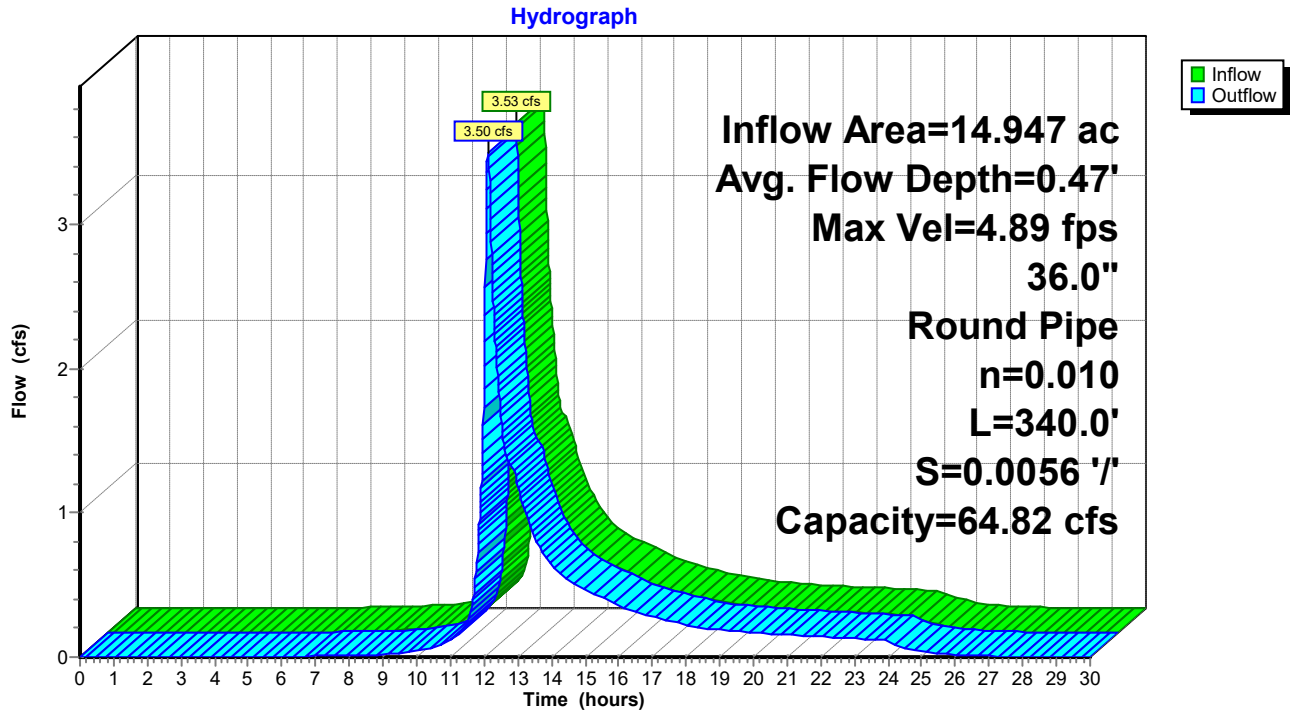
Inflow Area = 14.947 ac, 44.76% Impervious, Inflow Depth > 0.40" for 2-YR event
Inflow = 3.53 cfs @ 12.10 hrs, Volume= 0.493 af
Outflow = 3.50 cfs @ 12.12 hrs, Volume= 0.493 af, Atten= 1%, Lag= 0.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 4.89 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.62 fps, Avg. Travel Time= 3.5 min

Peak Storage= 243 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.47'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 64.82 cfs

36.0" Round Pipe
n= 0.010
Length= 340.0' Slope= 0.0056 '/'
Inlet Invert= 240.39', Outlet Invert= 238.49'





Summary for Pond 1P: CULVERT

[58] Hint: Peaked 246.44' above defined flood level

Inflow Area = 6.651 ac, 50.13% Impervious, Inflow Depth = 0.26" for 2-YR event
Inflow = 2.35 cfs @ 12.03 hrs, Volume= 0.145 af
Outflow = 2.19 cfs @ 12.05 hrs, Volume= 0.145 af, Atten= 6%, Lag= 1.3 min
Primary = 2.19 cfs @ 12.05 hrs, Volume= 0.145 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 247.44' @ 12.05 hrs Surf.Area= 91 sf Storage= 85 cf
Flood Elev= 1.00' Surf.Area= 0 sf Storage= 0 cf

Plug-Flow detention time= 0.5 min calculated for 0.145 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (839.5 - 839.0)

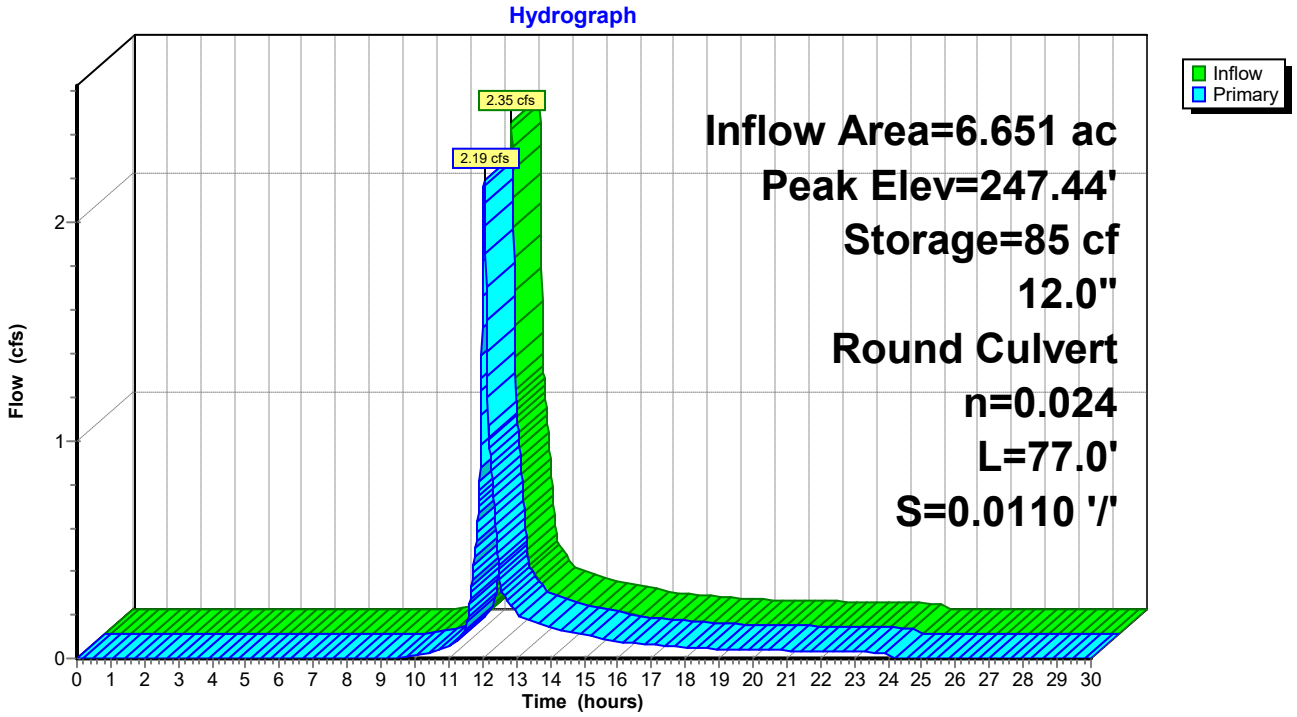
Volume	Invert	Avail.Storage	Storage Description
#1	246.25'	345 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.25	0	0	0
247.00	33	12	12
249.00	300	333	345

Device	Routing	Invert	Outlet Devices
#1	Primary	246.25'	**12.0" Round Culvert** L= 77.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.25' / 245.40' S= 0.0110 '/' Cc= 0.900 n= 0.024, Flow Area= 0.79 sf

Primary OutFlow Max=2.19 cfs @ 12.05 hrs HW=247.43' TW=245.71' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 2.19 cfs @ 2.97 fps)

Pond 1P: CULVERT



Summary for Pond 2P: STORM DRAIN

[62] Hint: Exceeded Reach 4R OUTLET depth by 0.26' @ 12.10 hrs

Inflow Area = 13.813 ac, 42.27% Impervious, Inflow Depth > 0.30" for 2-YR event
Inflow = 2.30 cfs @ 12.06 hrs, Volume= 0.348 af
Outflow = 2.02 cfs @ 12.10 hrs, Volume= 0.348 af, Atten= 12%, Lag= 2.5 min
Primary = 2.02 cfs @ 12.10 hrs, Volume= 0.348 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.76' @ 12.10 hrs Surf.Area= 1,278 sf Storage= 626 cf

Plug-Flow detention time= 12.1 min calculated for 0.348 af (100% of inflow)
Center-of-Mass det. time= 11.4 min (917.8 - 906.4)

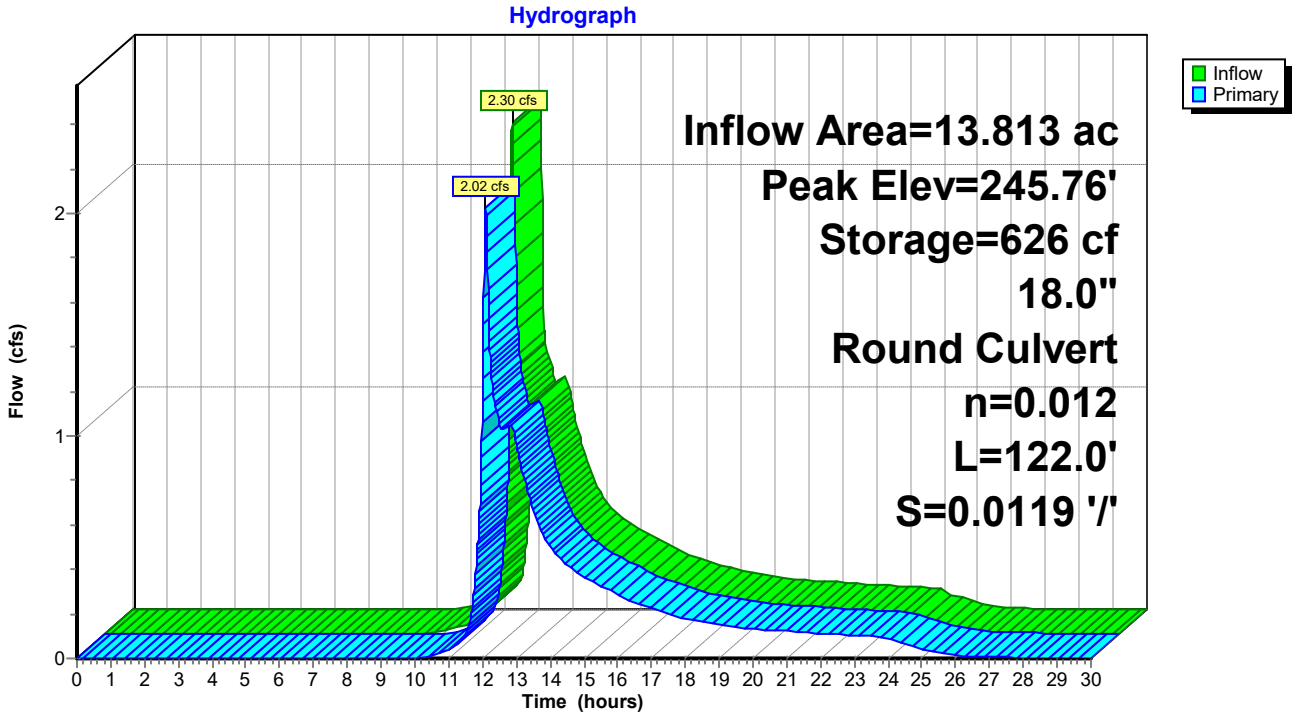
Volume	Invert	Avail.Storage	Storage Description
#1	245.02'	26,780 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
245.02	0	0	0
246.00	1,688	827	827
247.00	3,004	2,346	3,173
248.00	7,300	5,152	8,325
249.00	8,805	8,053	16,378
250.00	12,000	10,403	26,780

Device	Routing	Invert	Outlet Devices
#1	Primary	245.02'	**18.0" Round Culvert** L= 122.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 245.02' / 243.57' S= 0.0119 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=2.01 cfs @ 12.10 hrs HW=245.76' TW=244.02' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.01 cfs @ 2.31 fps)

Pond 2P: STORM DRAIN



Summary for Pond 3P: DRAINAGE MH

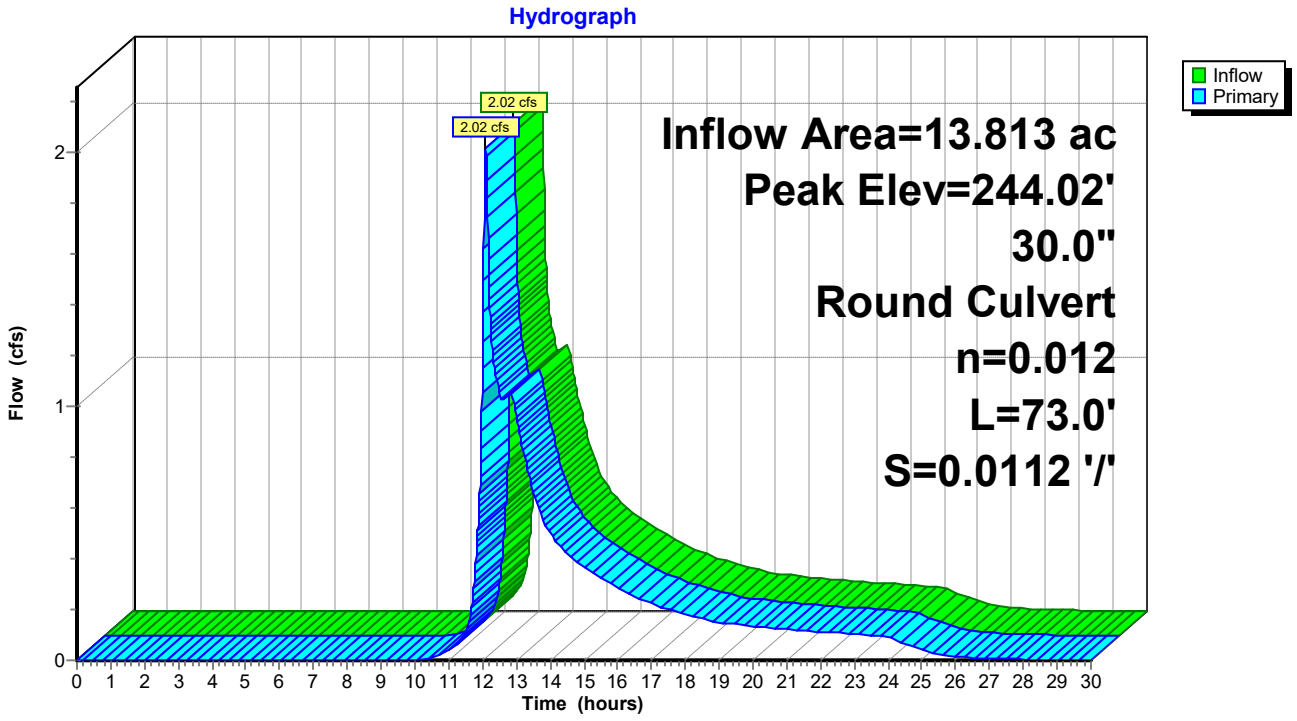
Inflow Area = 13.813 ac, 42.27% Impervious, Inflow Depth > 0.30" for 2-YR event
Inflow = 2.02 cfs @ 12.10 hrs, Volume= 0.348 af
Outflow = 2.02 cfs @ 12.10 hrs, Volume= 0.348 af, Atten= 0%, Lag= 0.0 min
Primary = 2.02 cfs @ 12.10 hrs, Volume= 0.348 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 244.02' @ 12.10 hrs
Flood Elev= 248.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	243.47'	**30.0" Round Culvert** L= 73.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 243.47' / 242.65' S= 0.0112 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf

Primary OutFlow Max=2.01 cfs @ 12.10 hrs HW=244.02' TW=243.21' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.01 cfs @ 2.52 fps)

Pond 3P: DRAINAGE MH



Summary for Pond 4P: DRAINAGE MH

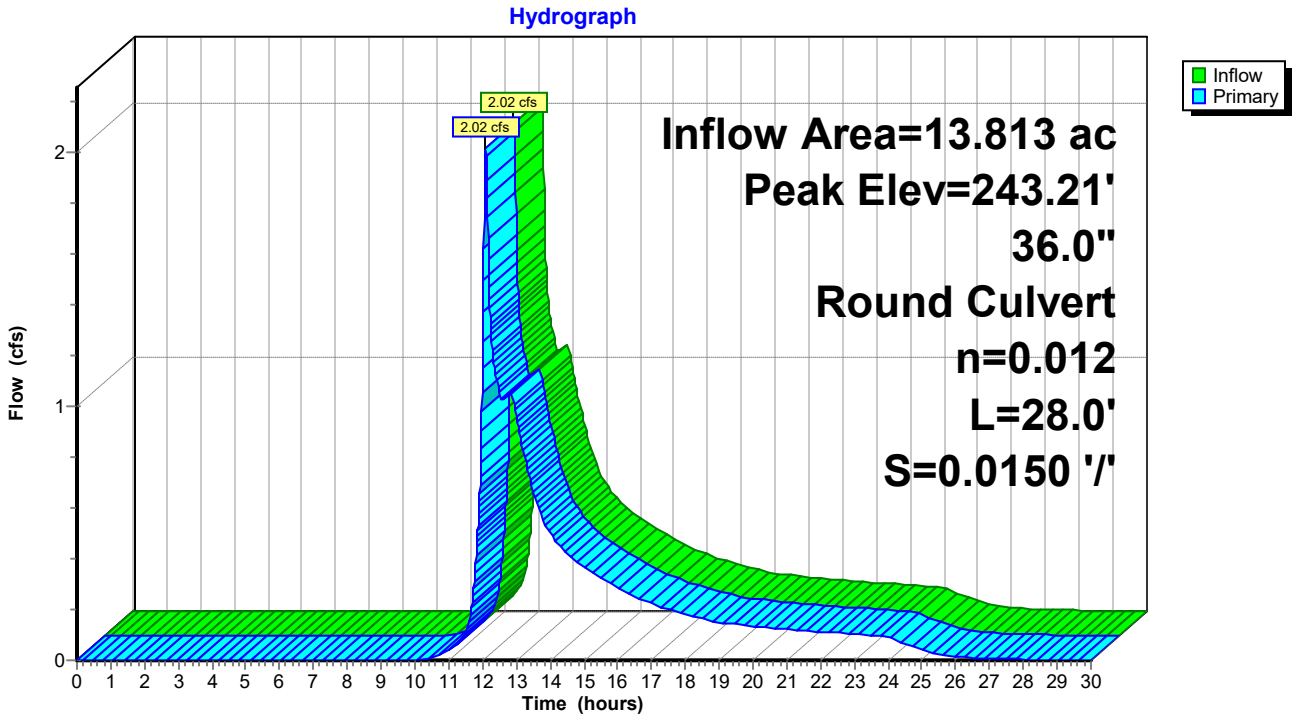
Inflow Area = 13.813 ac, 42.27% Impervious, Inflow Depth > 0.30" for 2-YR event
Inflow = 2.02 cfs @ 12.10 hrs, Volume= 0.348 af
Outflow = 2.02 cfs @ 12.10 hrs, Volume= 0.348 af, Atten= 0%, Lag= 0.0 min
Primary = 2.02 cfs @ 12.10 hrs, Volume= 0.348 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 243.21' @ 12.10 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.65'	**36.0" Round Culvert** L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.65' / 242.23' S= 0.0150 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=2.01 cfs @ 12.10 hrs HW=243.21' TW=242.81' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.01 cfs @ 3.39 fps)

Pond 4P: DRAINAGE MH



Summary for Pond 5P: DRAINAGE MH

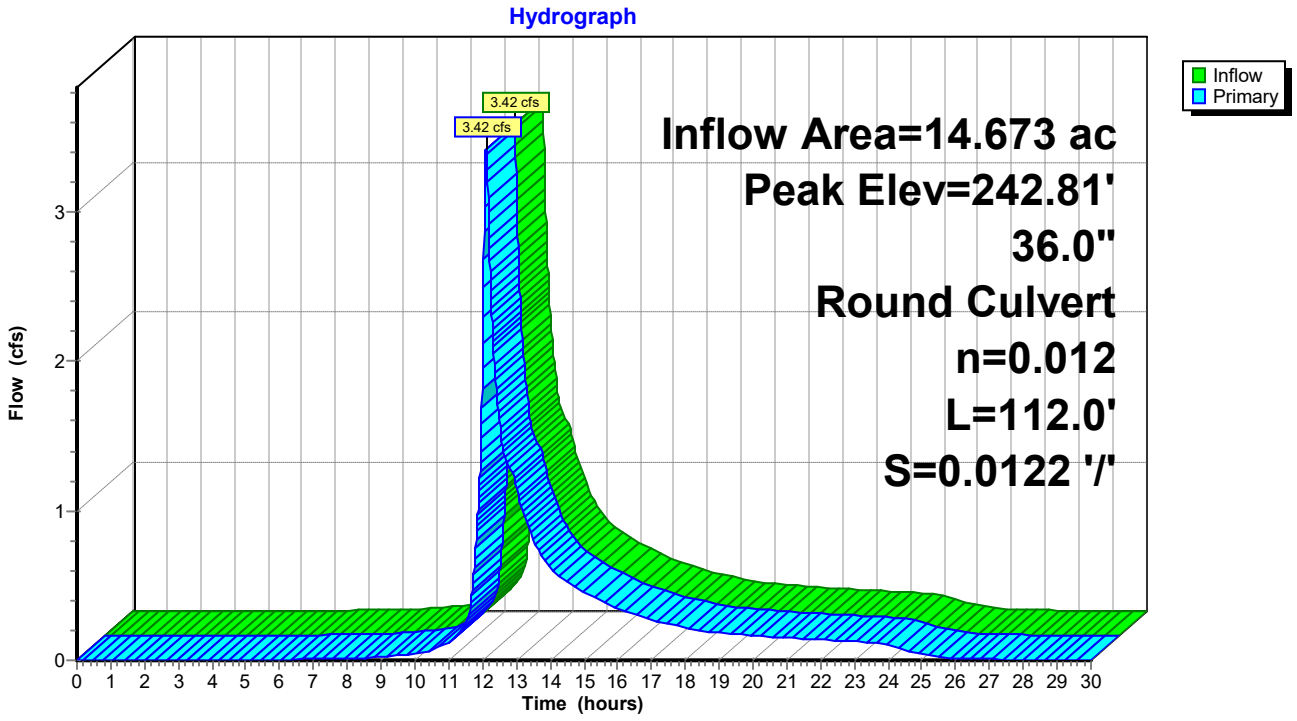
Inflow Area = 14.673 ac, 44.70% Impervious, Inflow Depth > 0.39" for 2-YR event
Inflow = 3.42 cfs @ 12.11 hrs, Volume= 0.480 af
Outflow = 3.42 cfs @ 12.11 hrs, Volume= 0.480 af, Atten= 0%, Lag= 0.0 min
Primary = 3.42 cfs @ 12.11 hrs, Volume= 0.480 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 242.81' @ 12.11 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.13'	**36.0" Round Culvert** L= 112.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.13' / 240.76' S= 0.0122 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=3.41 cfs @ 12.11 hrs HW=242.81' TW=241.67' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 3.41 cfs @ 2.82 fps)

Pond 5P: DRAINAGE MH



Summary for Pond 6P: DRAINAGE MH

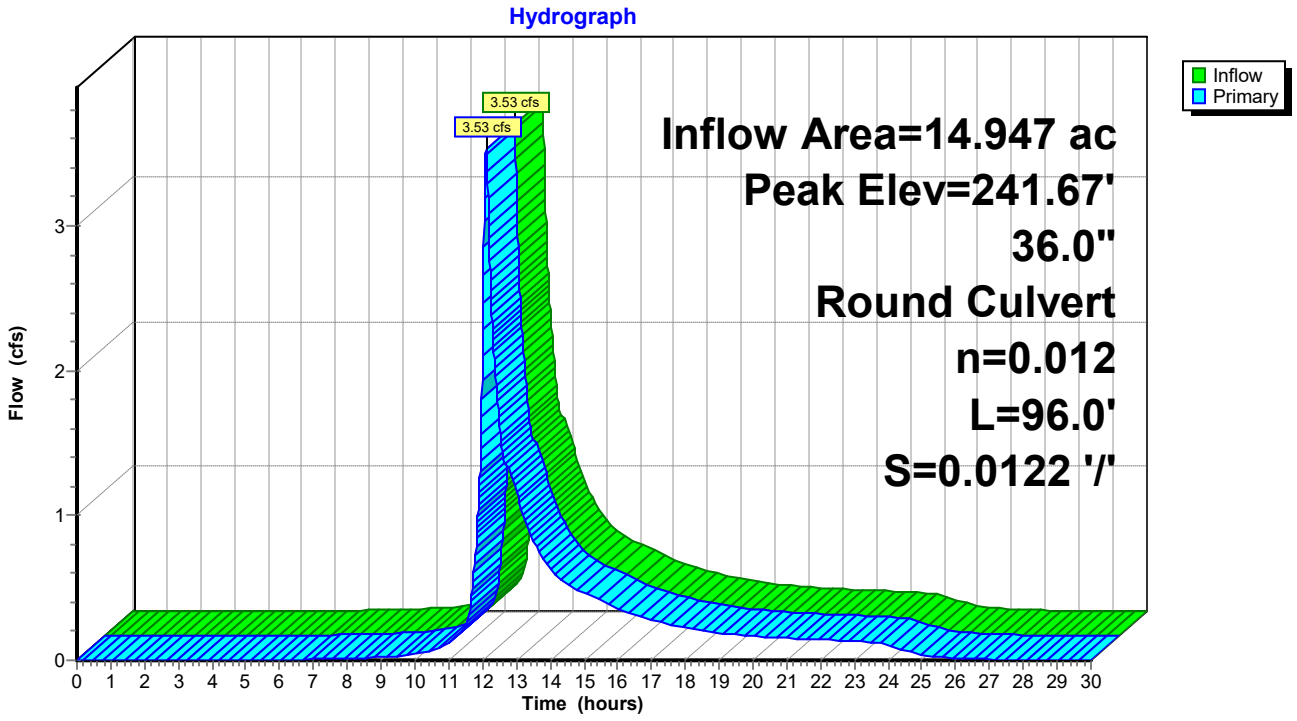
Inflow Area = 14.947 ac, 44.76% Impervious, Inflow Depth > 0.40" for 2-YR event
Inflow = 3.53 cfs @ 12.10 hrs, Volume= 0.493 af
Outflow = 3.53 cfs @ 12.10 hrs, Volume= 0.493 af, Atten= 0%, Lag= 0.0 min
Primary = 3.53 cfs @ 12.10 hrs, Volume= 0.493 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 241.67' @ 12.11 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.76'	**36.0" Round Culvert** L= 96.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.76' / 239.59' S= 0.0122 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=3.53 cfs @ 12.10 hrs HW=241.67' TW=241.30' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.53 cfs @ 2.90 fps)

Pond 6P: DRAINAGE MH



Summary for Pond 7P: DRAINAGE MH

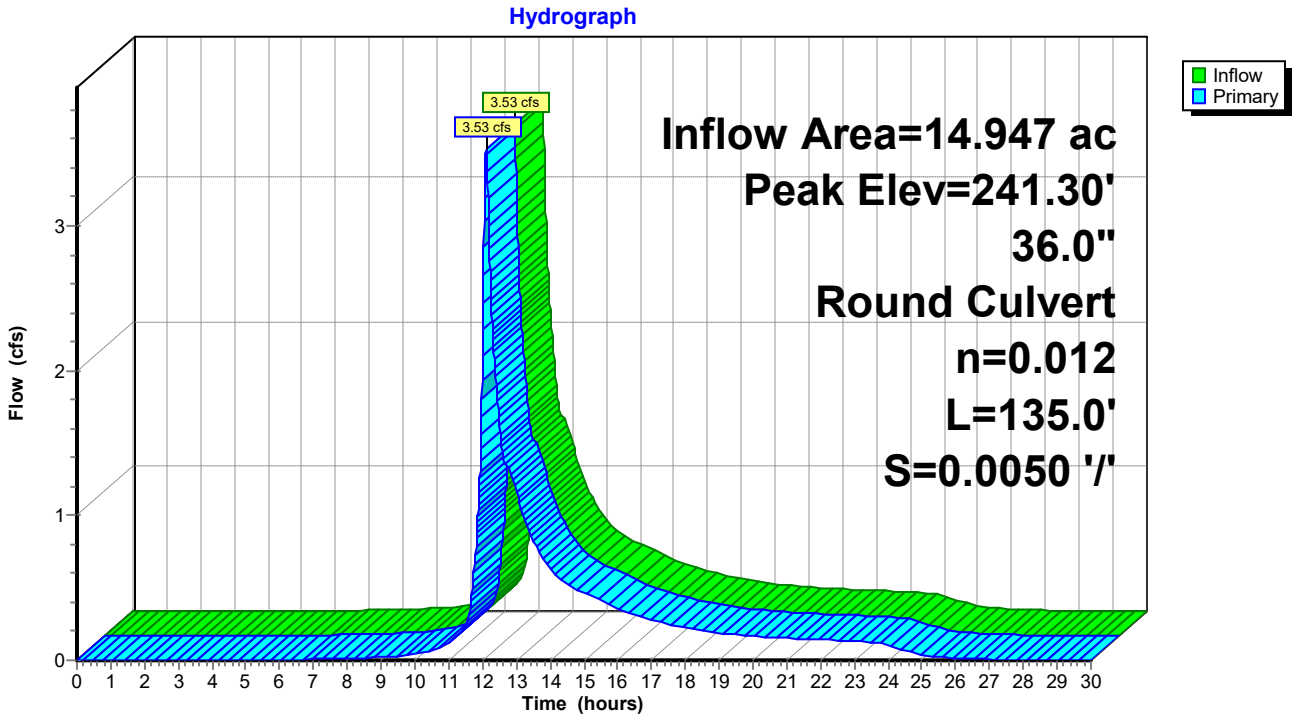
Inflow Area = 14.947 ac, 44.76% Impervious, Inflow Depth > 0.40" for 2-YR event
Inflow = 3.53 cfs @ 12.10 hrs, Volume= 0.493 af
Outflow = 3.53 cfs @ 12.10 hrs, Volume= 0.493 af, Atten= 0%, Lag= 0.0 min
Primary = 3.53 cfs @ 12.10 hrs, Volume= 0.493 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 241.30' @ 12.11 hrs
Flood Elev= 249.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.39'	**36.0" Round Culvert** L= 135.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.39' / 239.72' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=3.53 cfs @ 12.10 hrs HW=241.30' TW=240.86' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.53 cfs @ 2.90 fps)

Pond 7P: DRAINAGE MH



Summary for Pond 8P: STORM DRAIN

Inflow Area = 0.724 ac, 80.43% Impervious, Inflow Depth = 1.66" for 2-YR event
Inflow = 1.18 cfs @ 12.16 hrs, Volume= 0.100 af
Outflow = 1.18 cfs @ 12.16 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.1 min
Primary = 1.18 cfs @ 12.16 hrs, Volume= 0.100 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 244.73' @ 12.16 hrs Surf.Area= 25 sf Storage= 12 cf

Plug-Flow detention time= 0.5 min calculated for 0.100 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (831.0 - 830.5)

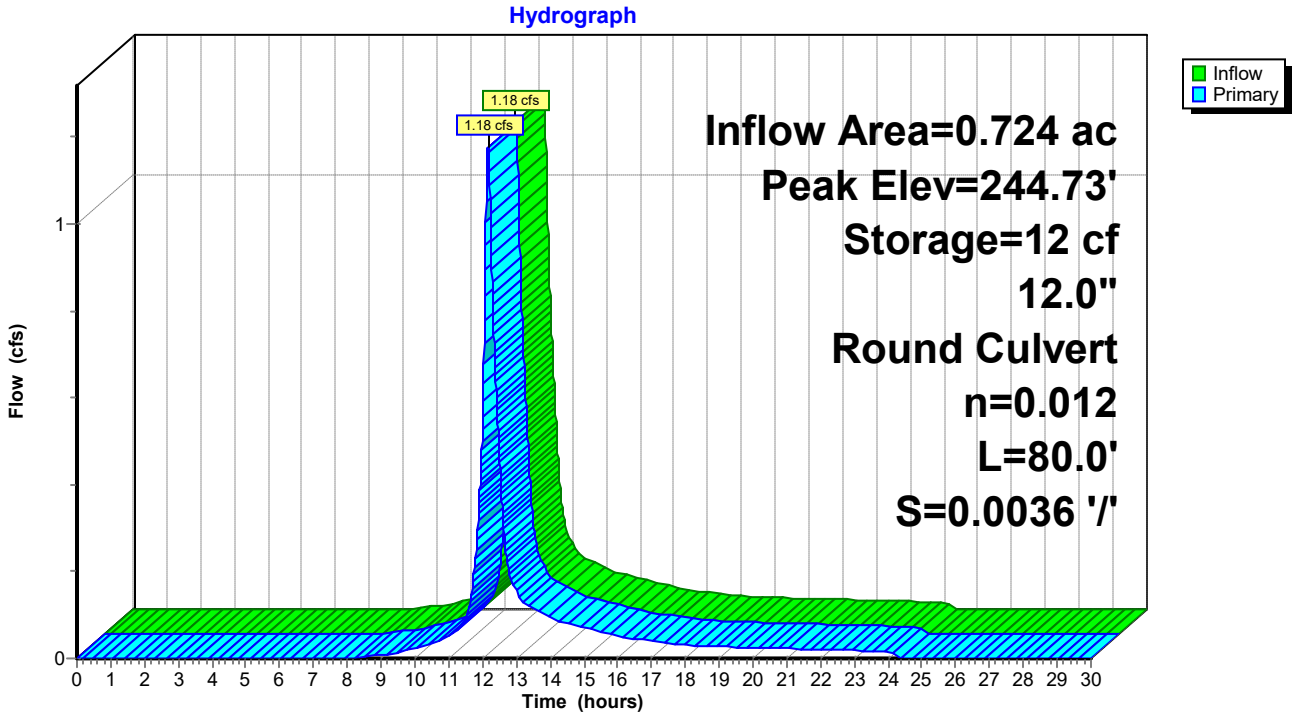
Volume	Invert	Avail.Storage	Storage Description
#1	244.02'	2,532 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
244.02	0	0	0
245.00	34	17	17
246.00	145	90	106
247.00	393	269	375
248.00	829	611	986
249.00	2,263	1,546	2,532

Device	Routing	Invert	Outlet Devices
#1	Primary	244.02'	**12.0" Round Culvert** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 244.02' / 243.73' S= 0.0036 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.18 cfs @ 12.16 hrs HW=244.73' TW=242.78' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 1.18 cfs @ 2.77 fps)

Pond 8P: STORM DRAIN



Summary for Pond 9P: CULVERT

Inflow Area = 0.701 ac, 31.01% Impervious, Inflow Depth = 0.27" for 2-YR event
Inflow = 0.07 cfs @ 12.53 hrs, Volume= 0.016 af
Outflow = 0.07 cfs @ 12.67 hrs, Volume= 0.016 af, Atten= 10%, Lag= 7.9 min
Primary = 0.07 cfs @ 12.67 hrs, Volume= 0.016 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 250.05' @ 12.67 hrs Surf.Area= 81 sf Storage= 22 cf

Plug-Flow detention time= 2.6 min calculated for 0.016 af (100% of inflow)
Center-of-Mass det. time= 2.6 min (961.4 - 958.7)

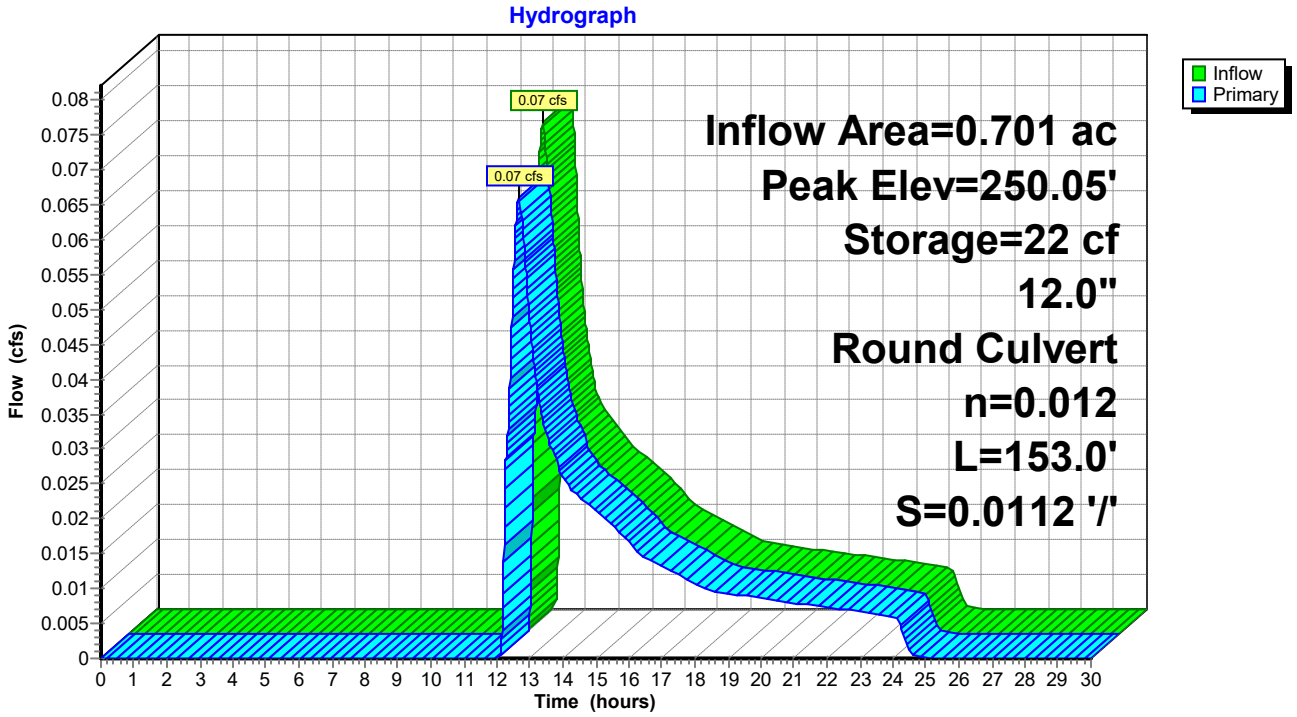
Volume	Invert	Avail.Storage	Storage Description
#1	249.91'	1,464 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
249.91	0	0	0
250.00	44	2	2
251.00	800	422	424
252.00	1,280	1,040	1,464

Device	Routing	Invert	Outlet Devices
#1	Primary	249.91'	**12.0" Round Culvert** L= 153.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 249.91' / 248.20' S= 0.0112 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.07 cfs @ 12.67 hrs HW=250.05' TW=247.60' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.07 cfs @ 1.00 fps)

Pond 9P: CULVERT



Summary for Pond 11P: UNDERDRAINED SOIL FILTER 11

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=289)

Inflow Area = 0.607 ac, 74.03% Impervious, Inflow Depth = 1.45" for 2-YR event
Inflow = 1.21 cfs @ 12.02 hrs, Volume= 0.073 af
Outflow = 0.12 cfs @ 12.84 hrs, Volume= 0.073 af, Atten= 90%, Lag= 48.9 min
Discarded = 0.12 cfs @ 12.84 hrs, Volume= 0.073 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 254.54' @ 12.84 hrs Surf.Area= 2,129 sf Storage= 1,130 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 82.4 min (914.2 - 831.8)

Volume	Invert	Avail.Storage	Storage Description
#1	254.00'	4,990 cf	**Custom Stage Data (Prismatic)** Listed below

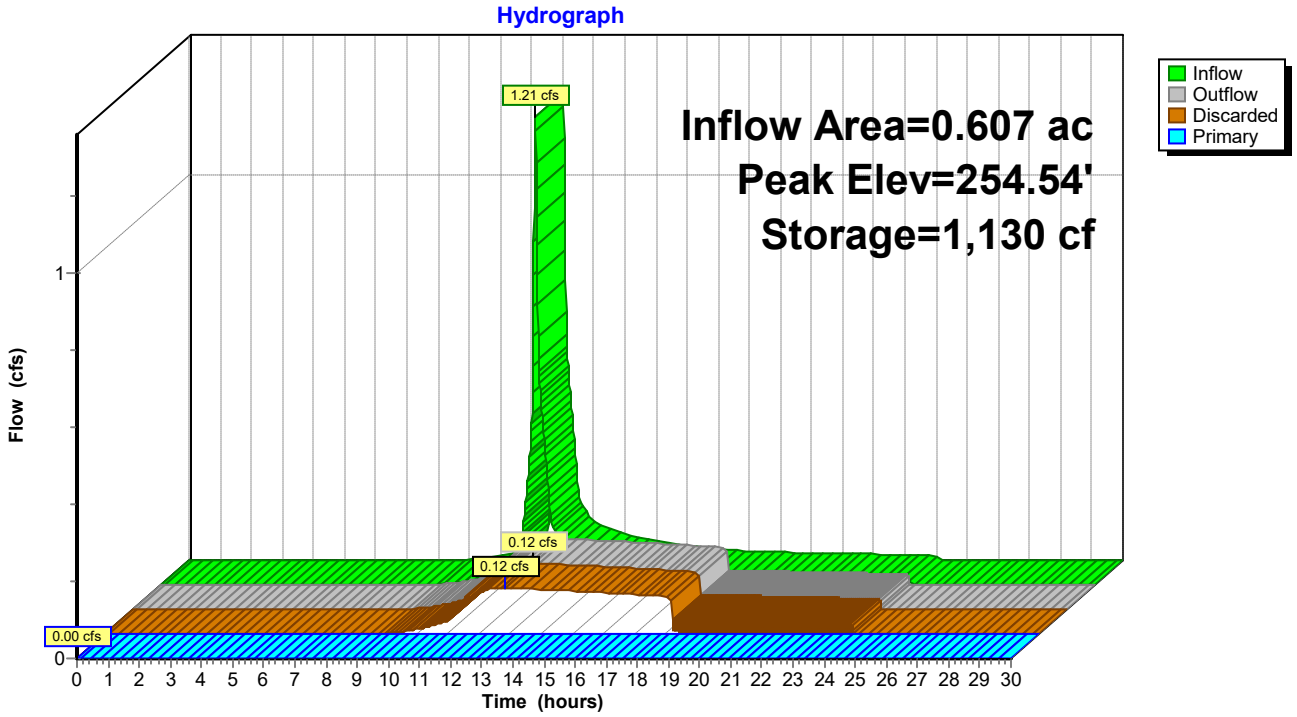
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
254.00	1,720	0	0
255.00	2,480	2,100	2,100
256.00	3,300	2,890	4,990

Device	Routing	Invert	Outlet Devices
#1	Discarded	254.00'	**2.398 in/hr Exfiltration over Surface area above 251.83'** Excluded Surface area = 0 sf
#2	Primary	255.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.12 cfs @ 12.84 hrs HW=254.54' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=254.00' TW=247.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 11P: UNDERDRAINED SOIL FILTER 11



Summary for Pond 12P: UNDERDRAINED SOIL FILTER 12

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=165)

Inflow Area = 2.938 ac, 83.72% Impervious, Inflow Depth = 1.98" for 2-YR event
Inflow = 6.95 cfs @ 12.08 hrs, Volume= 0.486 af
Outflow = 0.63 cfs @ 13.00 hrs, Volume= 0.486 af, Atten= 91%, Lag= 55.1 min
Discarded = 0.63 cfs @ 13.00 hrs, Volume= 0.486 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 254.89' @ 13.00 hrs Surf.Area= 11,299 sf Storage= 8,477 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 125.3 min (934.1 - 808.8)

Volume	Invert	Avail.Storage	Storage Description
#1	254.00'	25,725 cf	**Custom Stage Data (Prismatic)** Listed below

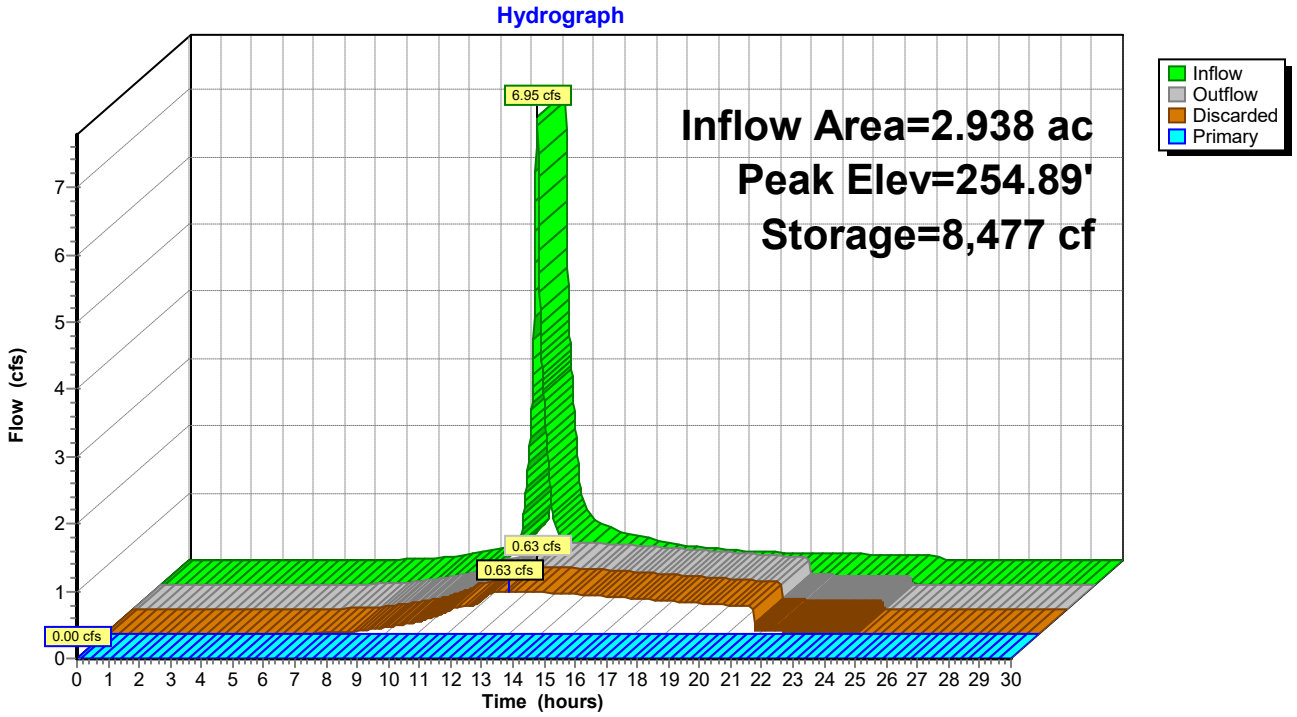
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
254.00	7,250	0	0
255.00	11,800	9,525	9,525
256.00	20,600	16,200	25,725

Device	Routing	Invert	Outlet Devices
#1	Discarded	254.00'	**2.400 in/hr Exfiltration over Surface area above 251.83'** Excluded Surface area = 0 sf
#2	Primary	255.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.63 cfs @ 13.00 hrs HW=254.89' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.63 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=254.00' TW=246.25' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 12P: UNDERDRAINED SOIL FILTER 12



Summary for Pond 14P: CULVERT

Inflow Area = 4.967 ac, 23.83% Impervious, Inflow Depth = 0.17" for 2-YR event
Inflow = 0.13 cfs @ 13.42 hrs, Volume= 0.069 af
Outflow = 0.13 cfs @ 13.59 hrs, Volume= 0.069 af, Atten= 1%, Lag= 10.3 min
Primary = 0.13 cfs @ 13.59 hrs, Volume= 0.069 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 247.68' @ 13.59 hrs Surf.Area= 501 sf Storage= 125 cf

Plug-Flow detention time= 22.8 min calculated for 0.069 af (100% of inflow)
Center-of-Mass det. time= 21.6 min (1,045.8 - 1,024.2)

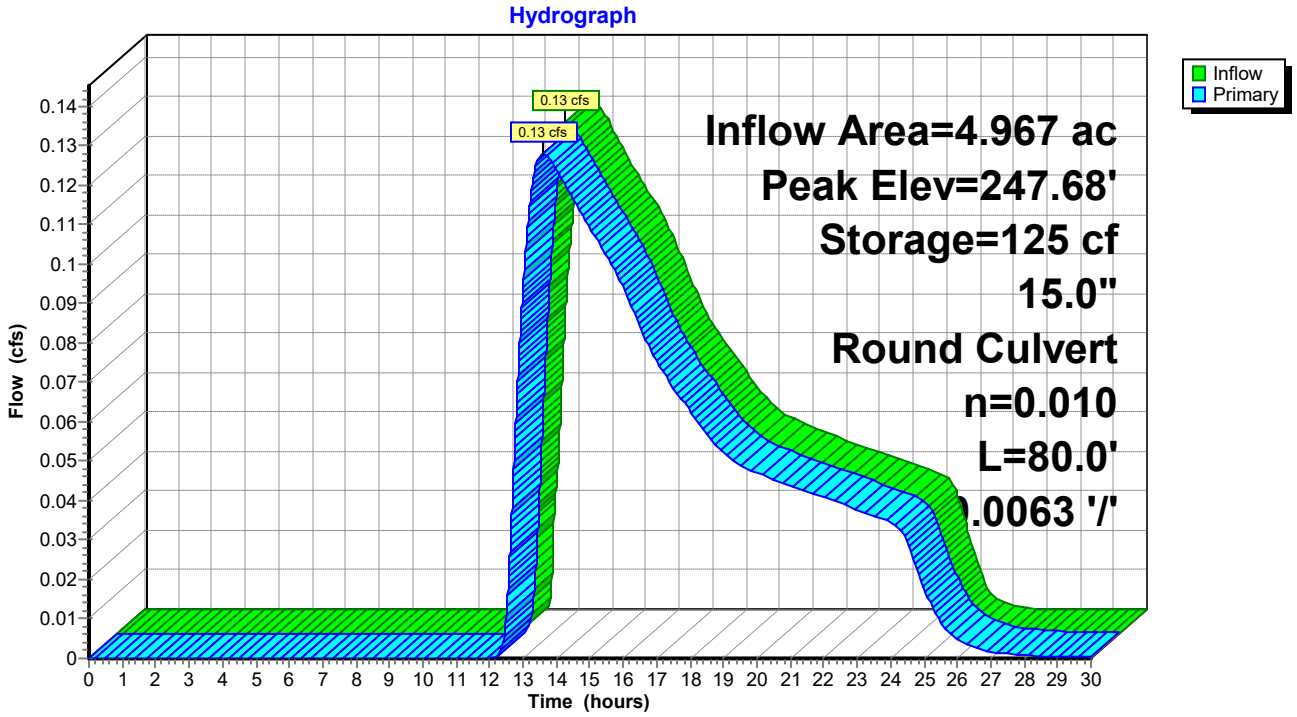
Volume	Invert	Avail.Storage	Storage Description
#1	247.50'	6,053 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
247.50	0	0	0
248.00	1,370	343	343
249.00	3,050	2,210	2,553
250.00	3,950	3,500	6,053

Device	Routing	Invert	Outlet Devices
#1	Primary	247.50'	**15.0" Round Culvert** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 247.50' / 247.00' S= 0.0063 '/' Cc= 0.900 n= 0.010, Flow Area= 1.23 sf

Primary OutFlow Max=0.13 cfs @ 13.59 hrs HW=247.68' TW=247.04' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.13 cfs @ 1.15 fps)

Pond 14P: CULVERT



Summary for Pond 16P: CATCH BASIN

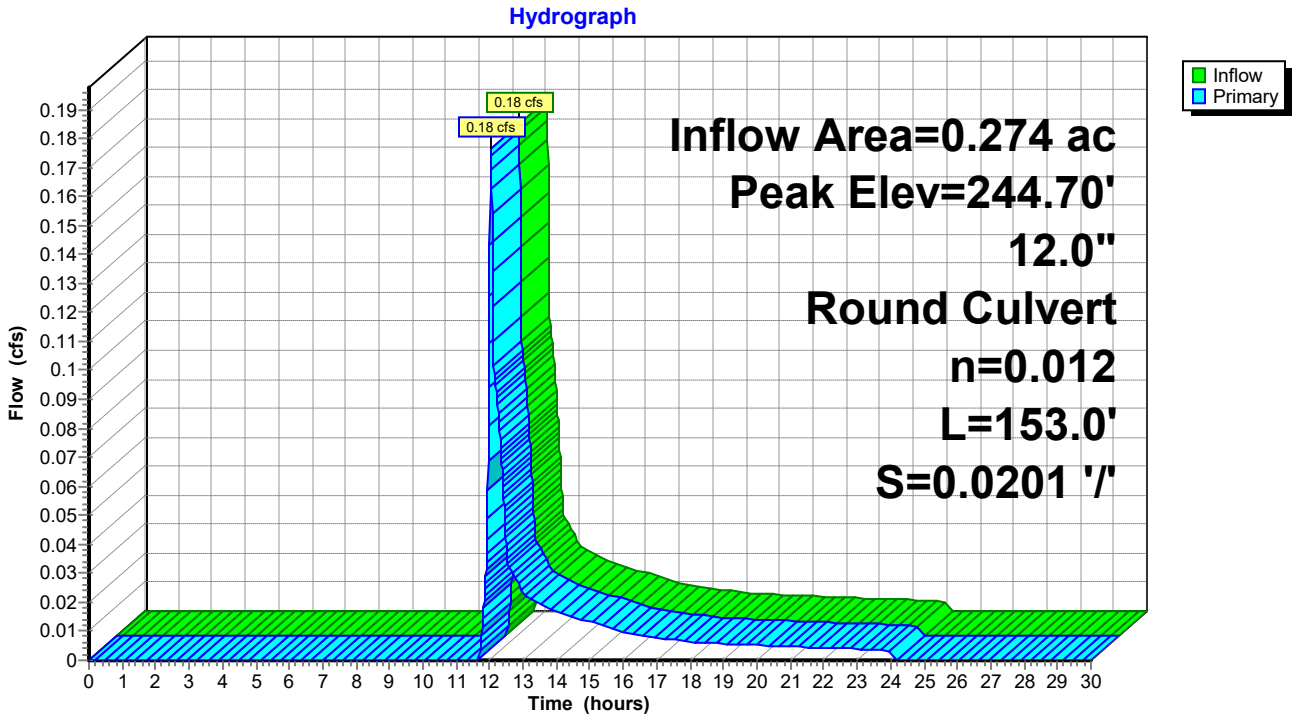
Inflow Area = 0.274 ac, 48.15% Impervious, Inflow Depth = 0.58" for 2-YR event
Inflow = 0.18 cfs @ 12.03 hrs, Volume= 0.013 af
Outflow = 0.18 cfs @ 12.03 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min
Primary = 0.18 cfs @ 12.03 hrs, Volume= 0.013 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 244.70' @ 12.03 hrs
Flood Elev= 249.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	244.50'	**12.0" Round Culvert** L= 153.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 244.50' / 241.43' S= 0.0201 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.18 cfs @ 12.03 hrs HW=244.70' TW=241.55' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.18 cfs @ 1.54 fps)

Pond 16P: CATCH BASIN



Summary for Pond 30P: UNDERDRAINED SOIL FILTER 30

Inflow Area = 4.148 ac, 85.98% Impervious, Inflow Depth = 2.18" for 2-YR event
Inflow = 9.81 cfs @ 12.07 hrs, Volume= 0.753 af
Outflow = 0.14 cfs @ 20.24 hrs, Volume= 0.203 af, Atten= 99%, Lag= 490.5 min
Discarded = 0.14 cfs @ 20.24 hrs, Volume= 0.203 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 243.23' @ 20.24 hrs Surf.Area= 14,491 sf Storage= 27,007 cf

Plug-Flow detention time= 663.9 min calculated for 0.203 af (27% of inflow)
Center-of-Mass det. time= 469.1 min (1,236.7 - 767.6)

Volume	Invert	Avail.Storage	Storage Description
#1	241.20'	46,448 cf	**Custom Stage Data (Prismatic)** Listed below

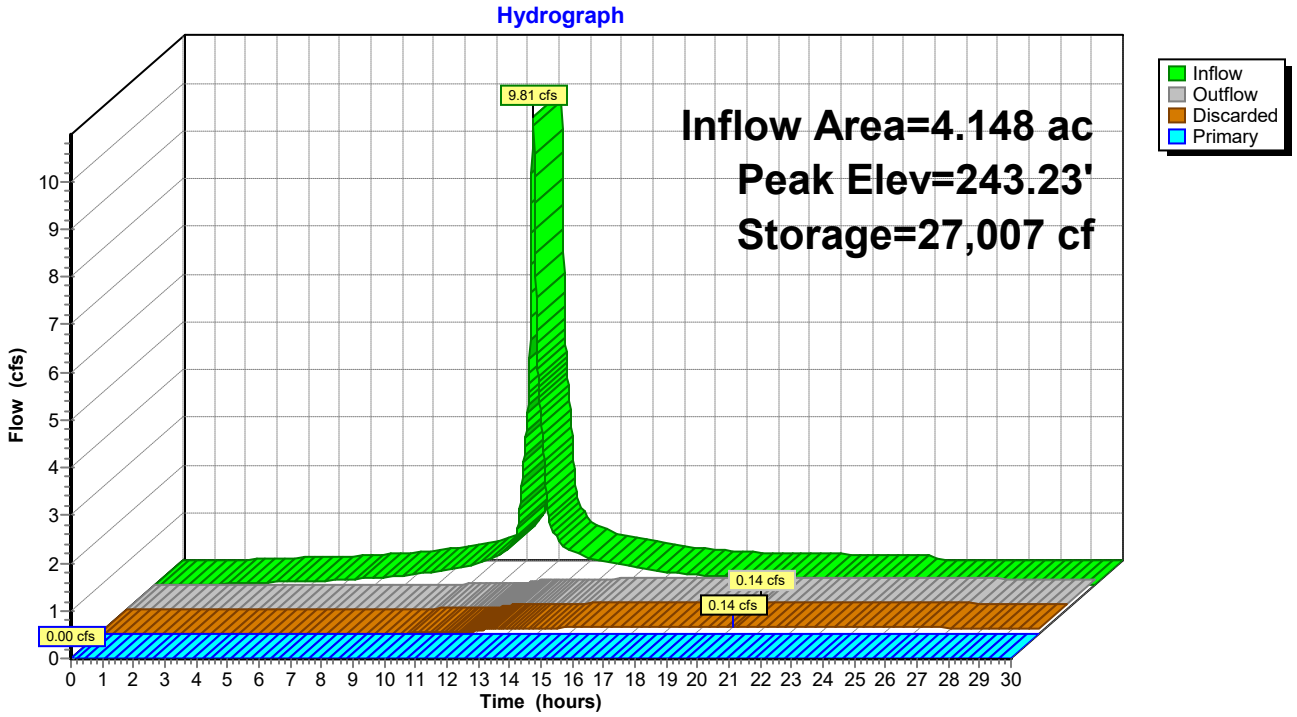
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
241.20	12,000	0	0
243.00	14,150	23,535	23,535
244.50	16,400	22,913	46,448

Device	Routing	Invert	Outlet Devices
#1	Discarded	241.20'	**2.400 in/hr Exfiltration over Surface area above 241.20'** Excluded Surface area = 12,000 sf
#2	Primary	243.50'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.14 cfs @ 20.24 hrs HW=243.23' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=241.20' TW=239.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 30P: UNDERDRAINED SOIL FILTER 30



Summary for Pond 50P: Underdrain Soil Filter 3

[92] Warning: Device #2 is above defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=356)

Inflow Area = 1.939 ac, 58.21% Impervious, Inflow Depth = 0.86" for 2-YR event
Inflow = 1.24 cfs @ 12.28 hrs, Volume= 0.139 af
Outflow = 0.26 cfs @ 13.13 hrs, Volume= 0.139 af, Atten= 79%, Lag= 51.1 min
Discarded = 0.26 cfs @ 13.13 hrs, Volume= 0.139 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.42' @ 13.13 hrs Surf.Area= 4,608 sf Storage= 1,773 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 58.2 min (939.5 - 881.3)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	11,150 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

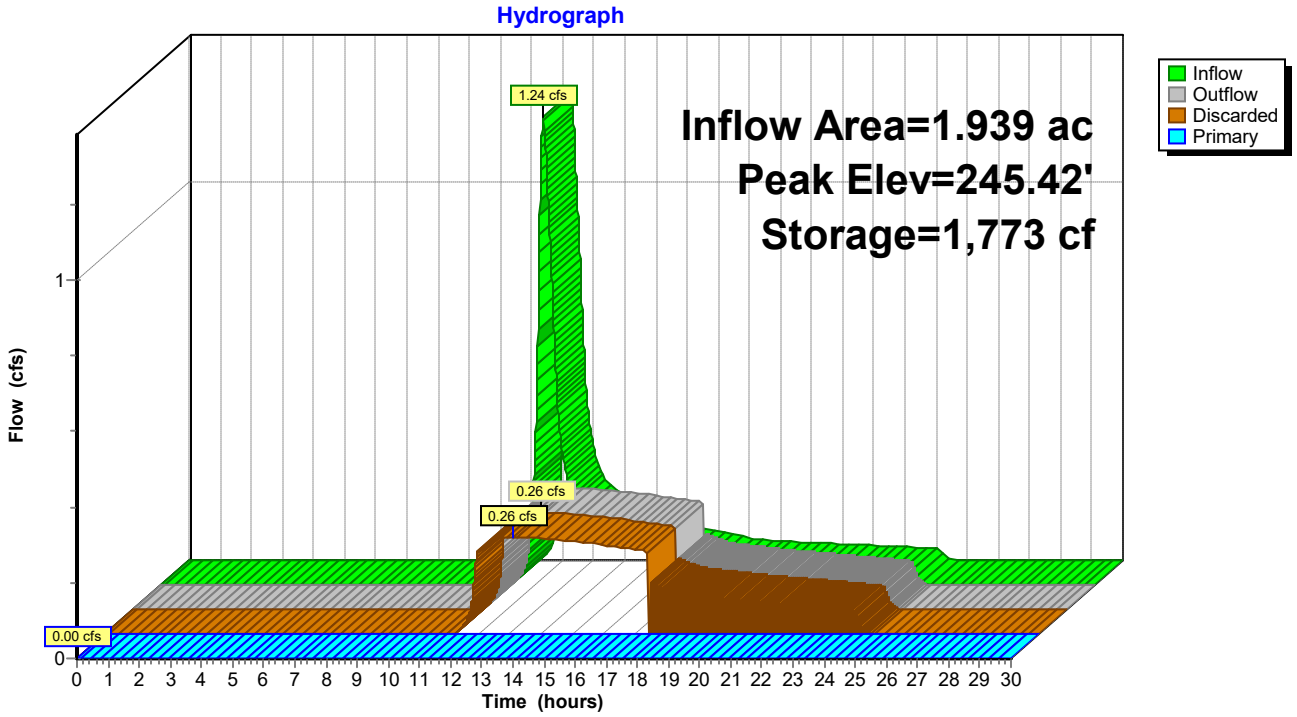
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
245.00	3,920	0	0
247.00	7,230	11,150	11,150

Device	Routing	Invert	Outlet Devices
#1	Primary	246.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	247.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	245.00'	**2.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.26 cfs @ 13.13 hrs HW=245.42' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=245.00' TW=236.75' (Dynamic Tailwater)
├**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 50P: Underdrain Soil Filter 3



Summary for Pond 51P: Underdrain Soil Filter 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=277)

Inflow Area = 3.761 ac, 83.34% Impervious, Inflow Depth = 2.11" for 2-YR event
Inflow = 9.03 cfs @ 12.05 hrs, Volume= 0.661 af
Outflow = 0.82 cfs @ 12.86 hrs, Volume= 0.661 af, Atten= 91%, Lag= 48.8 min
Discarded = 0.82 cfs @ 12.86 hrs, Volume= 0.661 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 241.67' @ 12.86 hrs Surf.Area= 14,671 sf Storage= 9,523 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 81.7 min (846.5 - 764.7)

Volume	Invert	Avail.Storage	Storage Description
#1	241.00'	47,280 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

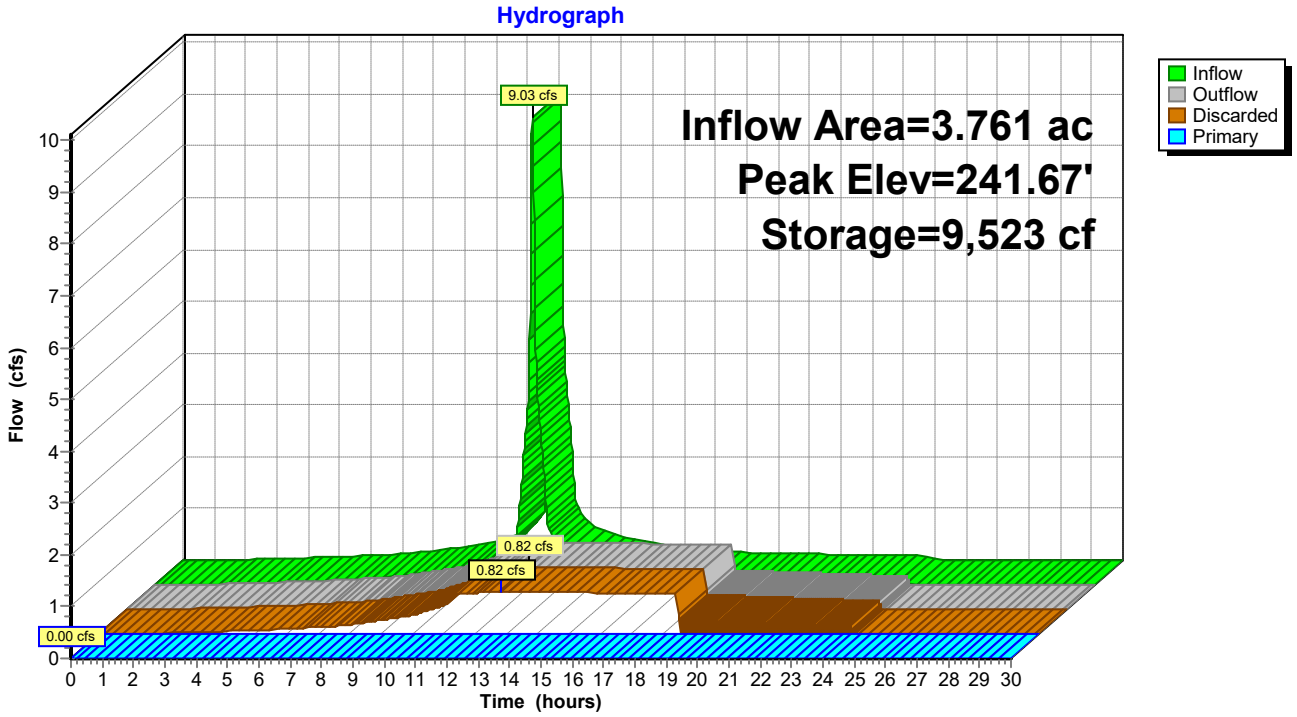
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
241.00	13,760	0	0
243.00	16,480	30,240	30,240
244.00	17,600	17,040	47,280

Device	Routing	Invert	Outlet Devices
#1	Primary	242.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Discarded	241.00'	**2.400 in/hr Exfiltration over Surface area**
#3	Primary	243.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.82 cfs @ 12.86 hrs HW=241.67' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.82 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=241.00' TW=238.60' (Dynamic Tailwater)
├**1=Orifice/Grate** (Controls 0.00 cfs)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 51P: Underdrain Soil Filter 1



Summary for Pond 52P: Underdrain Soil Filter 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=454)

Inflow Area = 3.486 ac, 50.59% Impervious, Inflow Depth = 0.74" for 2-YR event
Inflow = 2.60 cfs @ 12.05 hrs, Volume= 0.214 af
Outflow = 0.46 cfs @ 12.55 hrs, Volume= 0.214 af, Atten= 82%, Lag= 30.1 min
Discarded = 0.46 cfs @ 12.55 hrs, Volume= 0.214 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.22' @ 12.55 hrs Surf.Area= 8,324 sf Storage= 2,073 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 25.8 min (853.2 - 827.4)

Volume	Invert	Avail.Storage	Storage Description
#1	246.00'	18,960 cf	**Custom Stage Data (Prismatic)** Listed below

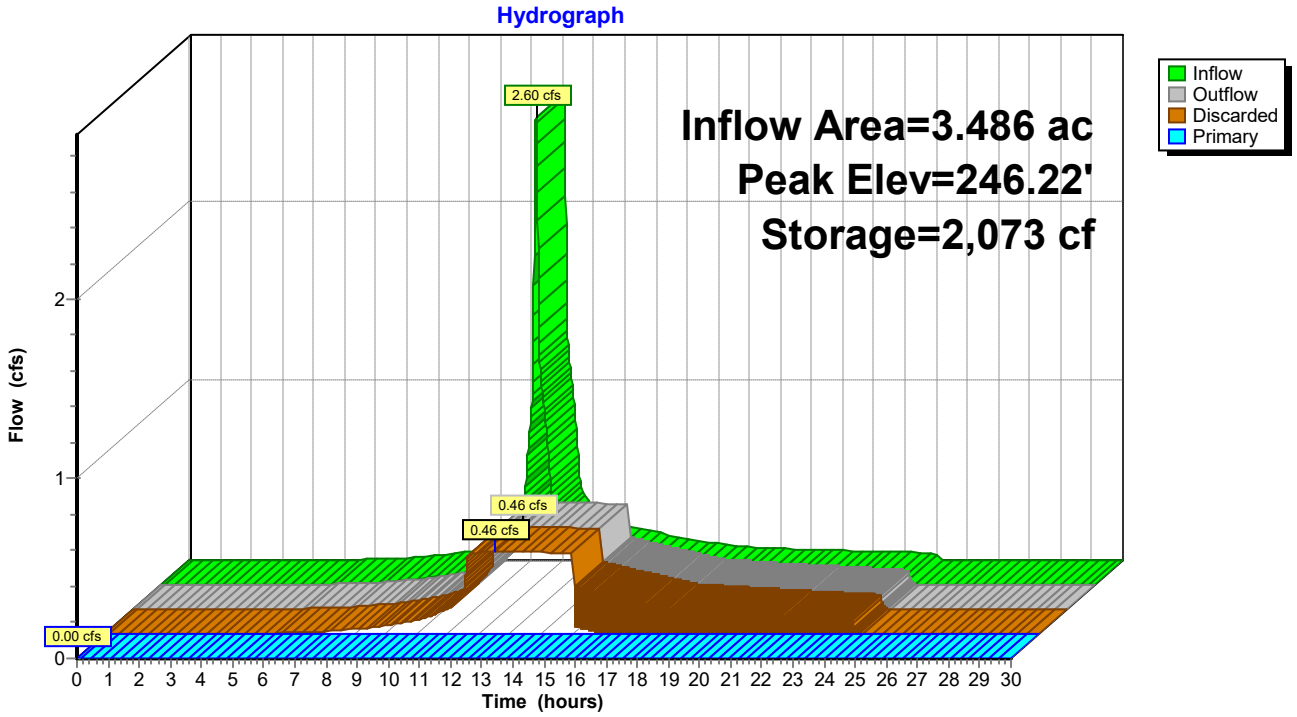
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.00	8,000	0	0
248.00	10,960	18,960	18,960

Device	Routing	Invert	Outlet Devices
#1	Discarded	246.00'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	247.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.46 cfs @ 12.55 hrs HW=246.22' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.46 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=246.00' TW=238.49' (Dynamic Tailwater)
↑**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 52P: Underdrain Soil Filter 2



Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 1.1S: Runoff Area=57,730 sf 59.83% Impervious Runoff Depth=2.38"
Flow Length=170' Tc=1.9 min CN=81 Runoff=4.29 cfs 0.262 af

Subcatchment 1.2S: TRUCK PARKING Runoff Area=127,973 sf 83.72% Impervious Runoff Depth=3.20"
Flow Length=350' Tc=5.3 min CN=90 Runoff=11.02 cfs 0.785 af

Subcatchment 1S: Runoff Area=104,035 sf 3.43% Impervious Runoff Depth=0.08"
Flow Length=970' Tc=59.4 min CN=39 Runoff=0.03 cfs 0.016 af

Subcatchment 2.2S: TRUCK PARKING Runoff Area=26,444 sf 74.03% Impervious Runoff Depth=2.55"
Flow Length=180' Tc=1.4 min CN=83 Runoff=2.14 cfs 0.129 af

Subcatchment 2.3S: Runoff Area=185,828 sf 22.66% Impervious Runoff Depth=0.56"
Flow Length=620' Tc=61.3 min CN=53 Runoff=0.72 cfs 0.199 af

Subcatchment 2S: Runoff Area=69,126 sf 54.91% Impervious Runoff Depth=1.97"
Flow Length=210' Tc=50.8 min CN=76 Runoff=1.58 cfs 0.261 af

Subcatchment 3S: Runoff Area=31,528 sf 80.43% Impervious Runoff Depth=2.82"
Flow Length=187' Tc=11.5 min CN=86 Runoff=1.98 cfs 0.170 af

Subcatchment 4.1S: ROOF Runoff Area=38,895 sf 100.00% Impervious Runoff Depth=4.06"
Tc=5.0 min CN=98 Runoff=3.88 cfs 0.302 af

Subcatchment 4.2S: Runoff Area=39,906 sf 92.26% Impervious Runoff Depth=3.51"
Flow Length=230' Tc=3.2 min CN=93 Runoff=3.96 cfs 0.268 af

Subcatchment 4.3S: Runoff Area=111,953 sf 35.74% Impervious Runoff Depth=0.65"
Flow Length=278' Tc=8.1 min CN=55 Runoff=1.23 cfs 0.140 af

Subcatchment 4.4S: Runoff Area=11,914 sf 48.15% Impervious Runoff Depth=1.33"
Flow Length=200' Tc=1.2 min CN=67 Runoff=0.48 cfs 0.030 af

Subcatchment 4.5S: ROOF Runoff Area=57,428 sf 100.00% Impervious Runoff Depth=4.06"
Tc=5.0 min CN=98 Runoff=5.73 cfs 0.447 af

Subcatchment 5.1S: Runoff Area=50,853 sf 50.19% Impervious Runoff Depth=1.47"
Flow Length=200' Tc=1.9 min CN=69 Runoff=2.23 cfs 0.143 af

Subcatchment 5.2S: ROOF Runoff Area=33,515 sf 100.00% Impervious Runoff Depth=4.06"
Tc=5.0 min CN=98 Runoff=3.35 cfs 0.261 af

Subcatchment 6S: ROOF Runoff Area=5,972 sf 100.00% Impervious Runoff Depth=4.06"
Tc=5.0 min CN=98 Runoff=0.60 cfs 0.046 af

Subcatchment 7S: Runoff Area=30,541 sf 31.01% Impervious Runoff Depth=0.81"
Flow Length=151' Tc=21.9 min CN=58 Runoff=0.34 cfs 0.047 af

Subcatchment 8S: Runoff Area=84,456 sf 1.03% Impervious Runoff Depth=0.00"
Flow Length=310' Slope=0.0100 '/' Tc=32.2 min CN=31 Runoff=0.00 cfs 0.000 af

Subcatchment 9.1S: Runoff Area=282,040 sf 17.20% Impervious Runoff Depth=0.18"
Flow Length=445' Tc=45.1 min CN=43 Runoff=0.17 cfs 0.098 af

Subcatchment 9S: Runoff Area=321,421 sf 4.10% Impervious Runoff Depth=0.00"
Flow Length=565' Tc=48.6 min CN=33 Runoff=0.01 cfs 0.002 af

Subcatchment 50S: Runoff Area=53,919 sf 13.70% Impervious Runoff Depth=0.10"
Flow Length=315' Tc=16.2 min CN=40 Runoff=0.02 cfs 0.011 af

Subcatchment 52S: Runoff Area=112,022 sf 1.87% Impervious Runoff Depth=0.01"
Flow Length=385' Tc=14.7 min CN=34 Runoff=0.00 cfs 0.002 af

Subcatchment 53S: Runoff Area=84,481 sf 58.21% Impervious Runoff Depth=1.75"
Flow Length=286' Tc=18.5 min CN=73 Runoff=2.70 cfs 0.282 af

Subcatchment 54S: Runoff Area=47,064 sf 42.00% Impervious Runoff Depth=1.15"
Flow Length=120' Tc=3.2 min CN=64 Runoff=1.45 cfs 0.103 af

Subcatchment 55S: Exist Building Runoff Area=116,751 sf 100.00% Impervious Runoff Depth=4.06"
Flow Length=730' Slope=0.0100 '/' Tc=3.2 min CN=98 Runoff=12.43 cfs 0.908 af

Reach 1R: WATERSHED ANALYSIS POINT A Inflow=5.92 cfs 1.044 af
Outflow=5.92 cfs 1.044 af

Reach 2.1R: WATERSHED ANALYSIS POINT C Inflow=0.17 cfs 0.098 af
Outflow=0.17 cfs 0.098 af

Reach 2R: WATERSHED ANALYSIS POINT B Inflow=0.61 cfs 0.256 af
Outflow=0.61 cfs 0.256 af

Reach 3R: NATURAL DRAINAGE Avg. Flow Depth=0.26' Max Vel=0.10 fps Inflow=1.15 cfs 0.260 af
n=0.800 L=590.0' S=0.0220 '/' Capacity=6.82 cfs Outflow=0.61 cfs 0.254 af

Reach 4R: NATRUAL DRAINAGE Avg. Flow Depth=0.12' Max Vel=0.47 fps Inflow=0.85 cfs 0.246 af
n=0.080 L=130.0' S=0.0115 '/' Capacity=33.14 cfs Outflow=0.85 cfs 0.246 af

Reach 50R: STREAM Avg. Flow Depth=0.74' Max Vel=2.94 fps Inflow=6.00 cfs 1.032 af
n=0.023 L=320.0' S=0.0053 '/' Capacity=10.29 cfs Outflow=5.95 cfs 1.032 af

Reach 51R: STREAM Avg. Flow Depth=0.58' Max Vel=4.00 fps Inflow=5.95 cfs 1.034 af
n=0.023 L=340.0' S=0.0126 '/' Capacity=15.87 cfs Outflow=5.92 cfs 1.034 af

Reach 52R: New Pipe Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
12.0" Round Pipe n=0.010 L=210.0' S=0.0124 '/' Capacity=5.15 cfs Outflow=0.00 cfs 0.000 af

Reach 53R: New Pipe Avg. Flow Depth=0.62' Max Vel=5.65 fps Inflow=6.01 cfs 1.032 af
36.0" Round Pipe n=0.010 L=140.0' S=0.0054 '/' Capacity=63.46 cfs Outflow=6.00 cfs 1.032 af

Reach 54R: New Pipe Avg. Flow Depth=0.62' Max Vel=5.71 fps Inflow=6.02 cfs 1.032 af
36.0" Round Pipe n=0.010 L=315.0' S=0.0055 '/' Capacity=64.44 cfs Outflow=6.01 cfs 1.032 af

Reach 55R: New Pipe Avg. Flow Depth=0.62' Max Vel=5.74 fps Inflow=6.03 cfs 1.032 af
36.0" Round Pipe n=0.010 L=340.0' S=0.0056 '/' Capacity=64.82 cfs Outflow=6.02 cfs 1.032 af

Pond 1P: CULVERT Peak Elev=251.64' Storage=345 cf Inflow=4.29 cfs 0.279 af
12.0" Round Culvert n=0.024 L=77.0' S=0.0110 '/' Outflow=4.53 cfs 0.279 af

Pond 2P: STORM DRAIN Peak Elev=246.03' Storage=900 cf Inflow=4.83 cfs 0.785 af
18.0" Round Culvert n=0.012 L=122.0' S=0.0119 '/' Outflow=3.43 cfs 0.785 af

Pond 3P: DRAINAGE MH Peak Elev=244.21' Inflow=3.43 cfs 0.785 af
30.0" Round Culvert n=0.012 L=73.0' S=0.0112 '/' Outflow=3.43 cfs 0.785 af

Pond 4P: DRAINAGE MH Peak Elev=243.43' Inflow=3.43 cfs 0.785 af
36.0" Round Culvert n=0.012 L=28.0' S=0.0150 '/' Outflow=3.43 cfs 0.785 af

Pond 5P: DRAINAGE MH Peak Elev=243.05' Inflow=5.80 cfs 1.002 af
36.0" Round Culvert n=0.012 L=112.0' S=0.0122 '/' Outflow=5.80 cfs 1.002 af

Pond 6P: DRAINAGE MH Peak Elev=241.98' Inflow=6.03 cfs 1.032 af
36.0" Round Culvert n=0.012 L=96.0' S=0.0122 '/' Outflow=6.03 cfs 1.032 af

Pond 7P: DRAINAGE MH Peak Elev=241.56' Inflow=6.03 cfs 1.032 af
36.0" Round Culvert n=0.012 L=135.0' S=0.0050 '/' Outflow=6.03 cfs 1.032 af

Pond 8P: STORM DRAIN Peak Elev=245.02' Storage=19 cf Inflow=1.98 cfs 0.170 af
12.0" Round Culvert n=0.012 L=80.0' S=0.0036 '/' Outflow=1.98 cfs 0.170 af

Pond 9P: CULVERT Peak Elev=250.23' Storage=97 cf Inflow=0.34 cfs 0.047 af
12.0" Round Culvert n=0.012 L=153.0' S=0.0112 '/' Outflow=0.32 cfs 0.047 af

Pond 11P: UNDERDRAINED SOIL FILTER 11 Peak Elev=255.10' Storage=2,393 cf Inflow=2.14 cfs 0.129 af
Discarded=0.14 cfs 0.129 af Primary=0.00 cfs 0.000 af Outflow=0.14 cfs 0.129 af

Pond 12P: UNDERDRAINED SOIL FILTER Peak Elev=255.36' Storage=15,290 cf Inflow=11.02 cfs 0.785 af
Discarded=0.83 cfs 0.785 af Primary=0.00 cfs 0.000 af Outflow=0.83 cfs 0.785 af

Pond 14P: CULVERT Peak Elev=247.99' Storage=338 cf Inflow=0.85 cfs 0.246 af
15.0" Round Culvert n=0.010 L=80.0' S=0.0063 '/' Outflow=0.85 cfs 0.246 af

Pond 16P: CATCH BASIN Peak Elev=244.84' Inflow=0.48 cfs 0.030 af
12.0" Round Culvert n=0.012 L=153.0' S=0.0201 '/' Outflow=0.48 cfs 0.030 af

Pond 30P: UNDERDRAINED SOIL FILTER Peak Elev=243.60' Storage=32,674 cf Inflow=14.94 cfs 1.152 af
Discarded=0.17 cfs 0.252 af Primary=1.15 cfs 0.260 af Outflow=1.32 cfs 0.511 af

Pond 50P: Underdrain Soil Filter 3 Peak Elev=246.07' Storage=5,129 cf Inflow=2.70 cfs 0.282 af
Discarded=0.32 cfs 0.282 af Primary=0.00 cfs 0.000 af Outflow=0.32 cfs 0.282 af

Pond 51P: Underdrain Soil Filter 1 Peak Elev=242.19' Storage=17,283 cf Inflow=13.86 cfs 1.011 af
Discarded=0.85 cfs 1.011 af Primary=0.00 cfs 0.000 af Outflow=0.85 cfs 1.011 af

Pond 52P: Underdrain Soil Filter 2 Peak Elev=246.61' Storage=5,752 cf Inflow=4.54 cfs 0.408 af
Discarded=0.49 cfs 0.408 af Primary=0.00 cfs 0.000 af Outflow=0.49 cfs 0.408 af

Total Runoff Area = 47.883 ac Runoff Volume = 4.912 af Average Runoff Depth = 1.23"
62.54% Pervious = 29.946 ac 37.46% Impervious = 17.938 ac

Summary for Subcatchment 1.1S:

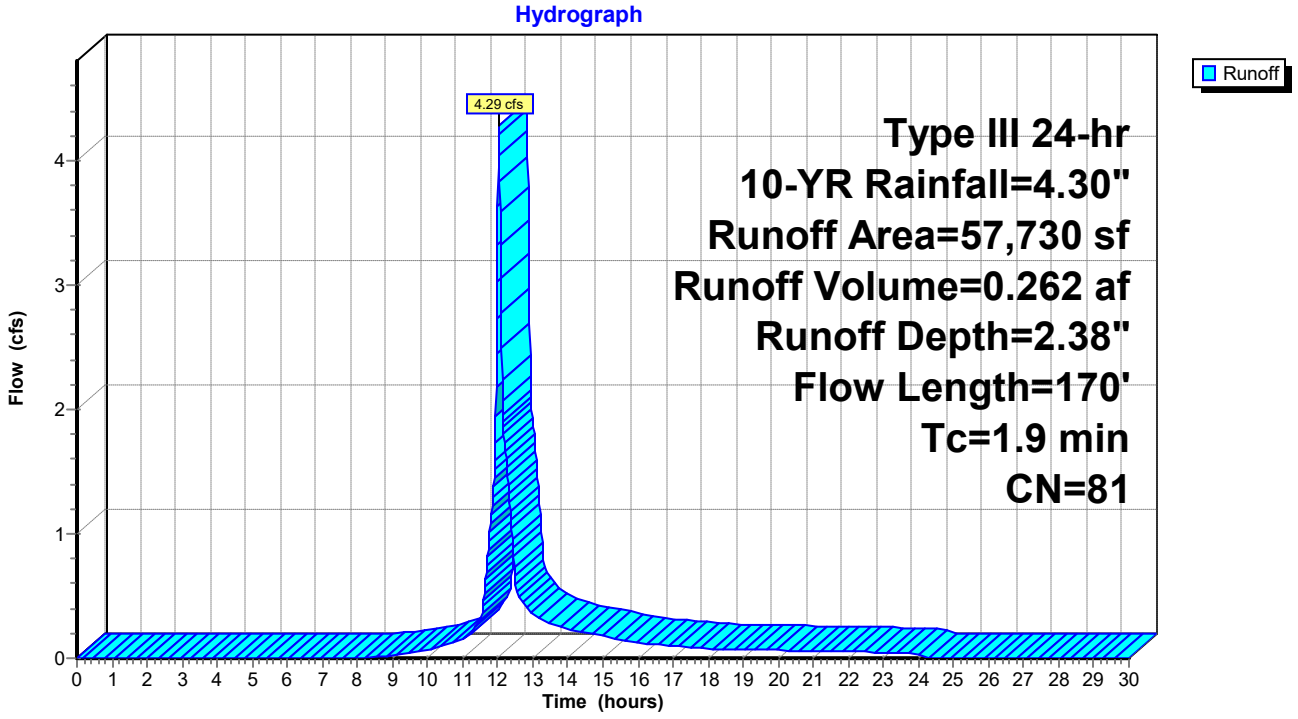
Runoff = 4.29 cfs @ 12.03 hrs, Volume= 0.262 af, Depth= 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
34,540	98	Paved parking & roofs
19,191	61	>75% Grass cover, Good, HSG B
3,090	39	>75% Grass cover, Good, HSG A
0	55	Woods, Good, HSG B
909	30	Woods, Good, HSG A
57,730	81	Weighted Average
23,190		40.17% Pervious Area
34,540		59.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0166	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	70	0.0180	2.01		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	170	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S: TRUCK PARKING AREA

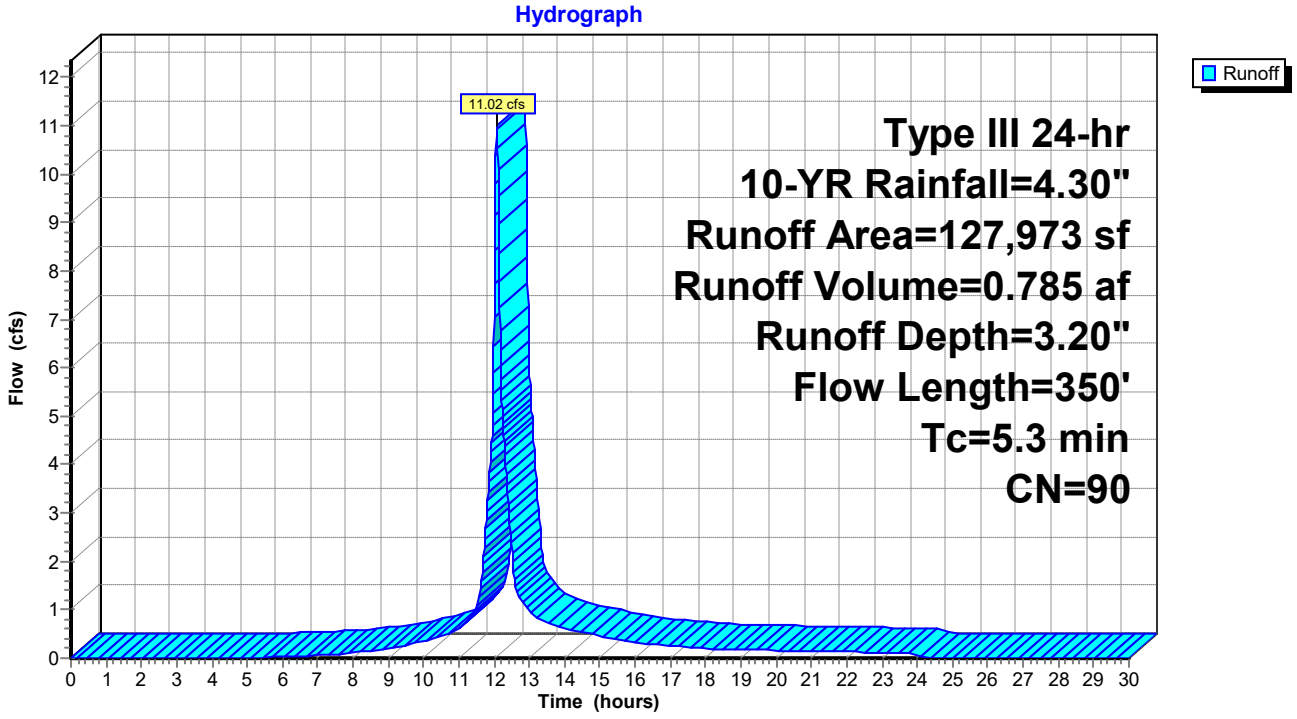
Runoff = 11.02 cfs @ 12.08 hrs, Volume= 0.785 af, Depth= 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
107,137	98	Paved parking & roofs
7,705	61	>75% Grass cover, Good, HSG B
13,131	39	>75% Grass cover, Good, HSG A
127,973	90	Weighted Average
20,836		16.28% Pervious Area
107,137		83.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	300	0.0230	1.75		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	20	0.0300	1.14		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.2	30	0.0830	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
5.3	350	Total			

Subcatchment 1.2S: TRUCK PARKING AREA



Summary for Subcatchment 1S:

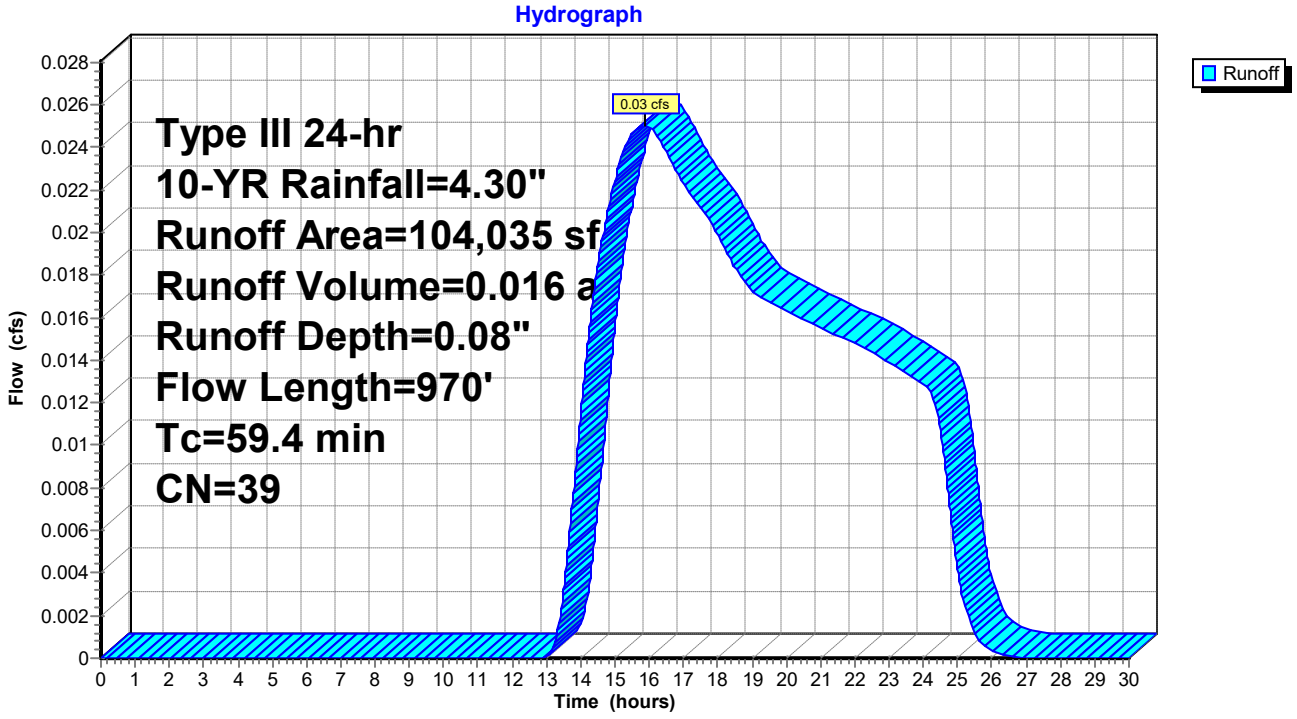
Runoff = 0.03 cfs @ 15.90 hrs, Volume= 0.016 af, Depth= 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
3,573	98	Paved parking & roofs
9,459	61	>75% Grass cover, Good, HSG B
32,870	39	>75% Grass cover, Good, HSG A
3,907	55	Woods, Good, HSG B
54,226	30	Woods, Good, HSG A
104,035	39	Weighted Average
100,462		96.57% Pervious Area
3,573		3.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
18.9	820	0.0210	0.72		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
59.4	970	Total			

Subcatchment 1S:



Summary for Subcatchment 2.2S: TRUCK PARKING AREA

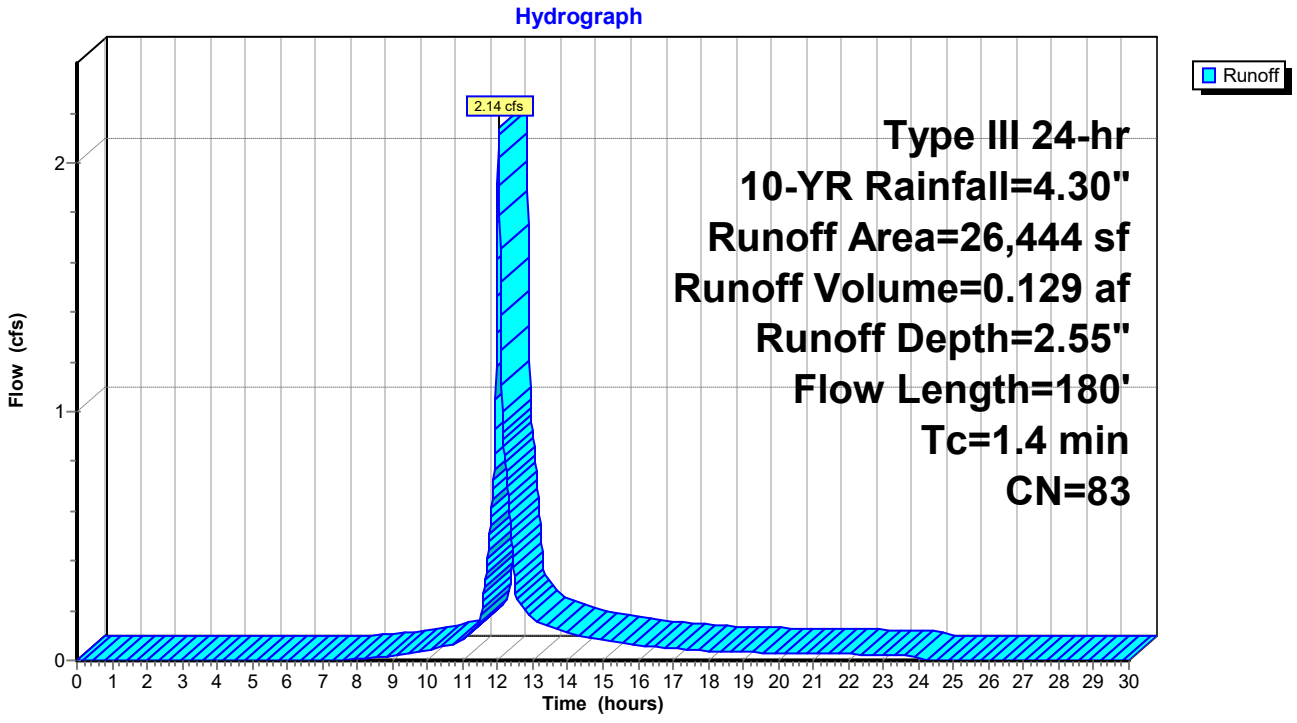
Runoff = 2.14 cfs @ 12.02 hrs, Volume= 0.129 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
19,576	98	Paved parking & roofs
129	61	>75% Grass cover, Good, HSG B
6,739	39	>75% Grass cover, Good, HSG A
26,444	83	Weighted Average
6,868		25.97% Pervious Area
19,576		74.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	140	0.0330	1.74		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.1	40	0.0800	4.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.4	180	Total			

Subcatchment 2.2S: TRUCK PARKING AREA



Summary for Subcatchment 2.3S:

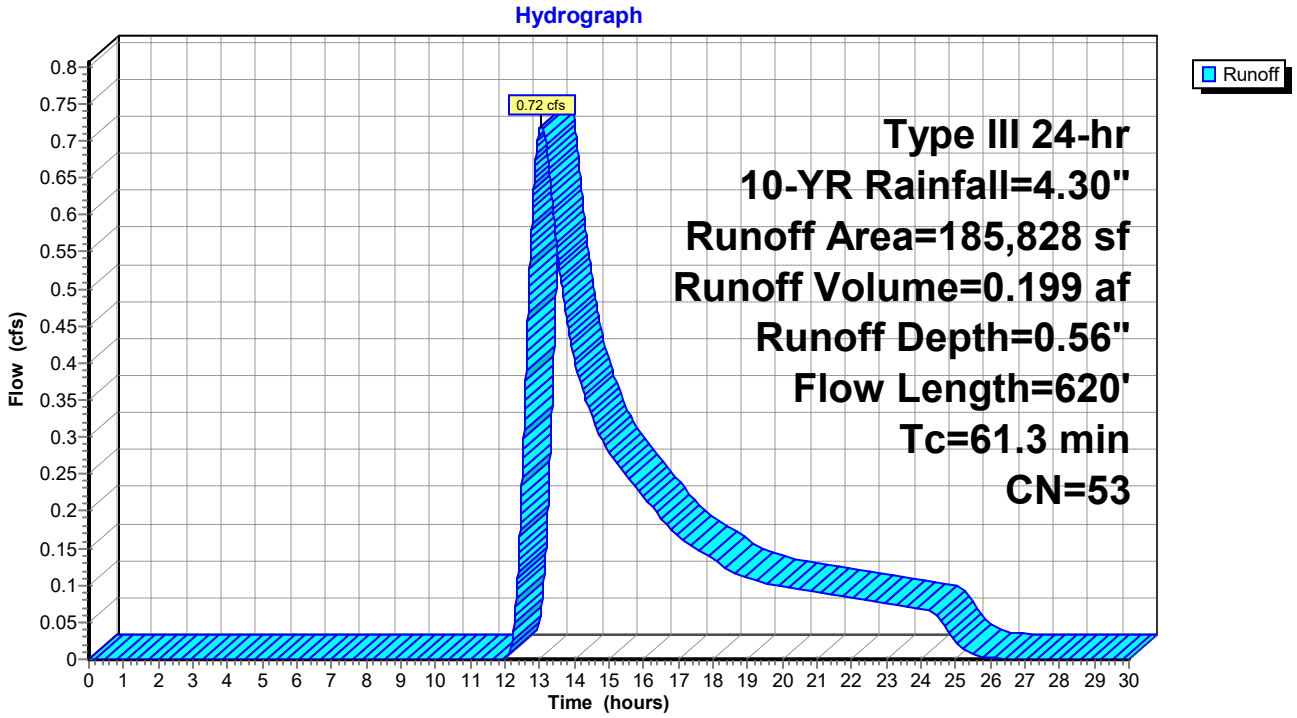
Runoff = 0.72 cfs @ 13.07 hrs, Volume= 0.199 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
42,100	98	Paved parking & roofs
7,939	61	>75% Grass cover, Good, HSG B
24,024	39	>75% Grass cover, Good, HSG A
34,947	55	Woods, Good, HSG B
76,818	30	Woods, Good, HSG A
185,828	53	Weighted Average
143,728		77.34% Pervious Area
42,100		22.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
50.5	150	0.0230	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
10.4	420	0.0180	0.67		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	50	0.1600	2.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
61.3	620	Total			

Subcatchment 2.3S:



Summary for Subcatchment 2S:

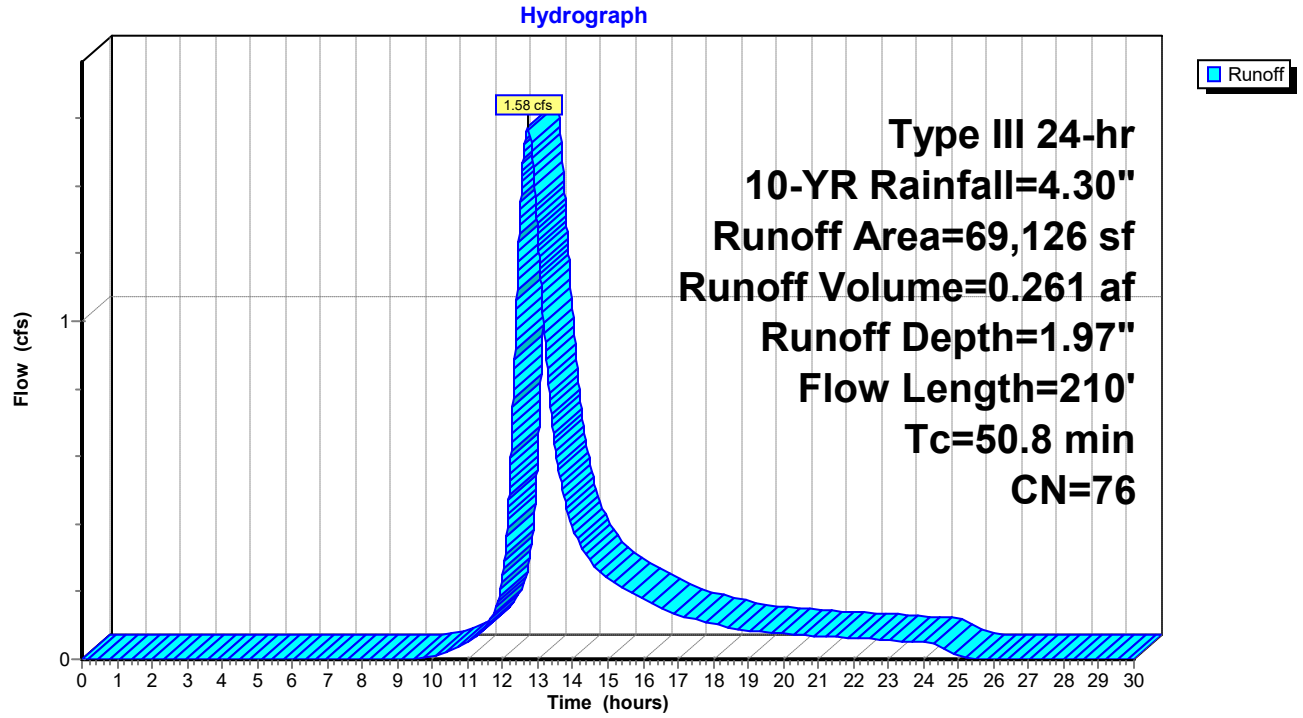
Runoff = 1.58 cfs @ 12.70 hrs, Volume= 0.261 af, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
37,958	98	Paved parking & roofs
6,600	61	>75% Grass cover, Good, HSG B
9,699	39	>75% Grass cover, Good, HSG A
11,579	55	Woods, Good, HSG B
3,290	30	Woods, Good, HSG A
69,126	76	Weighted Average
31,168		45.09% Pervious Area
37,958		54.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
46.8	90	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.0	30	0.2670	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	90	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
50.8	210	Total			

Subcatchment 2S:



Summary for Subcatchment 3S:

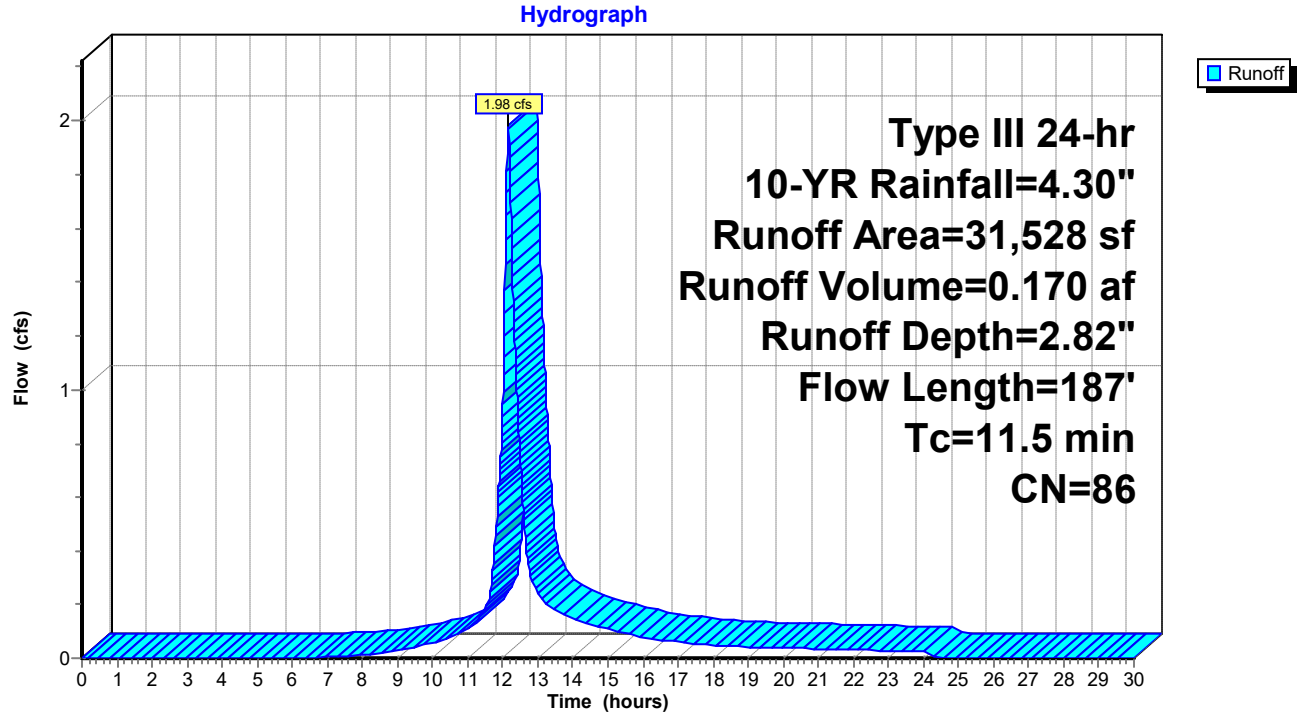
Runoff = 1.98 cfs @ 12.16 hrs, Volume= 0.170 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
25,357	98	Paved parking & roofs
5,453	39	>75% Grass cover, Good, HSG A
718	30	Woods, Good, HSG A
31,528	86	Weighted Average
6,171		19.57% Pervious Area
25,357		80.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	65	0.2200	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
6.5	35	0.0190	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
1.0	87	0.0455	1.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.5	187	Total			

Subcatchment 3S:



Summary for Subcatchment 4.1S: ROOF

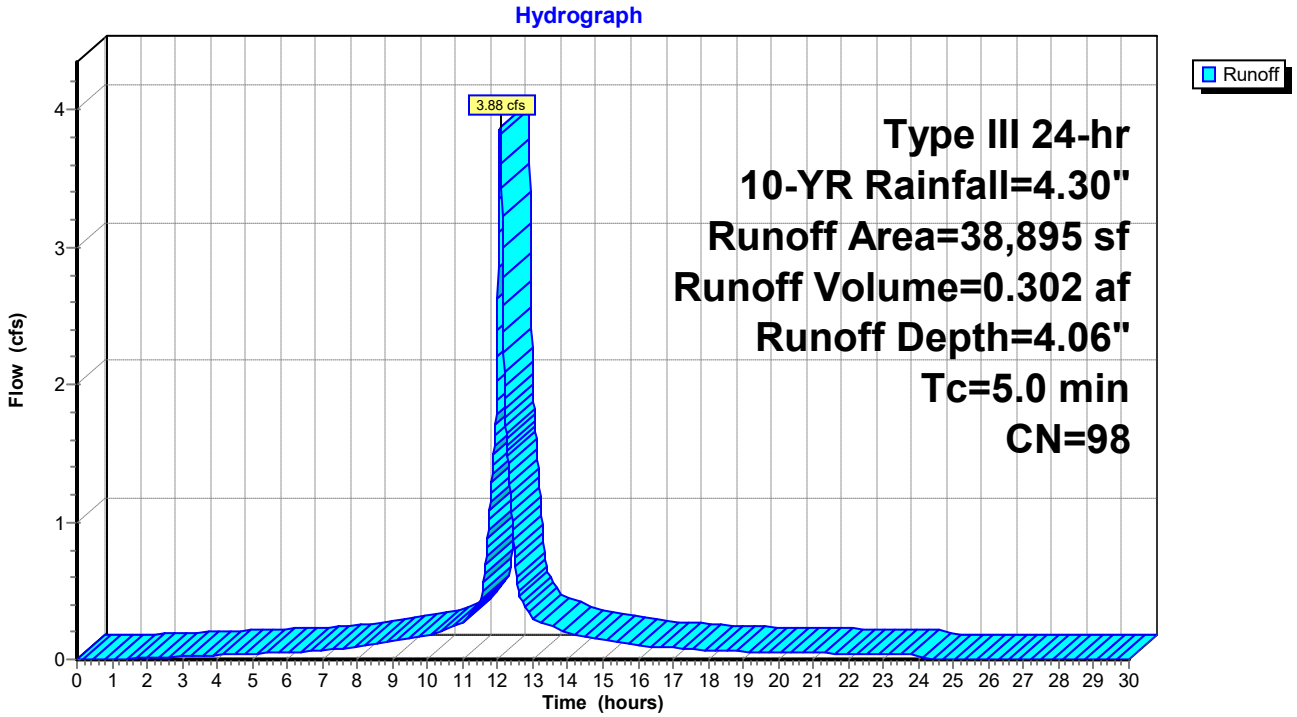
Runoff = 3.88 cfs @ 12.07 hrs, Volume= 0.302 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
38,895	98	Paved parking & roofs
38,895		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.1S: ROOF



Summary for Subcatchment 4.2S:

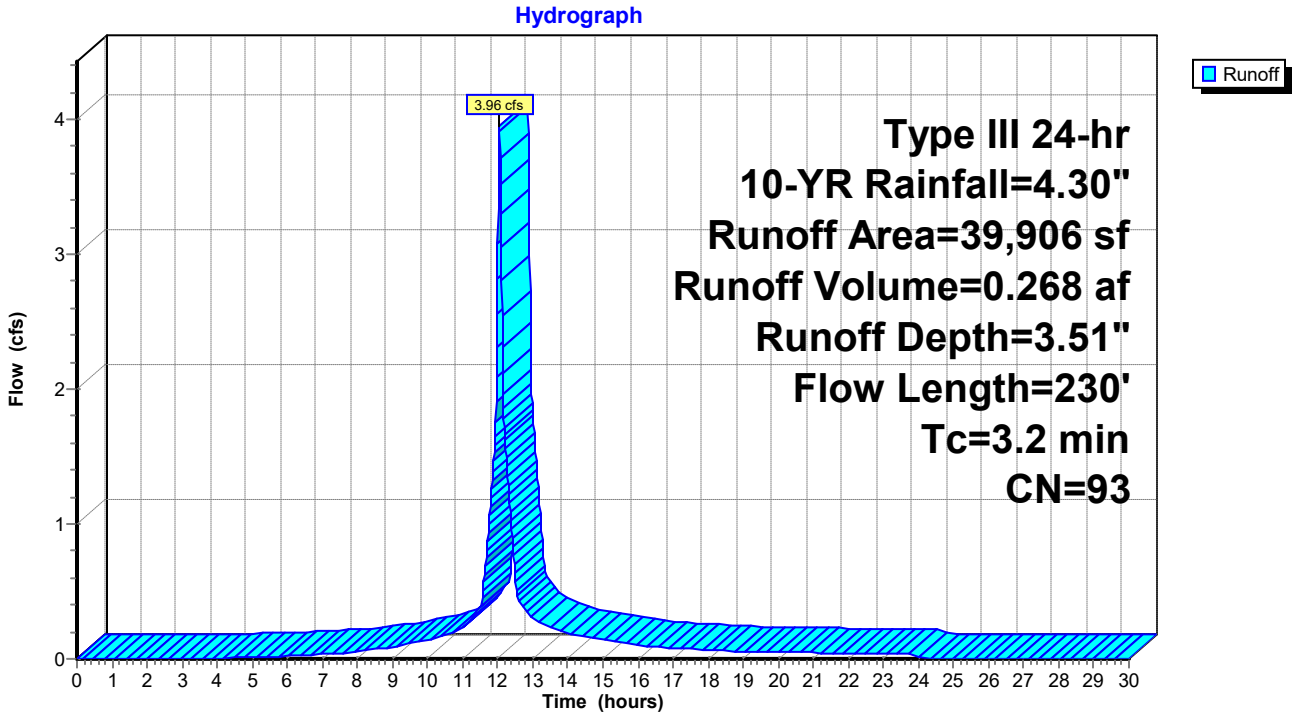
Runoff = 3.96 cfs @ 12.05 hrs, Volume= 0.268 af, Depth= 3.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
36,816	98	Paved parking & roofs
3,090	39	>75% Grass cover, Good, HSG A
39,906	93	Weighted Average
3,090		7.74% Pervious Area
36,816		92.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	140	0.0100	1.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.0	90	0.0055	1.51		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.2	230	Total			

Subcatchment 4.2S:



Summary for Subcatchment 4.3S:

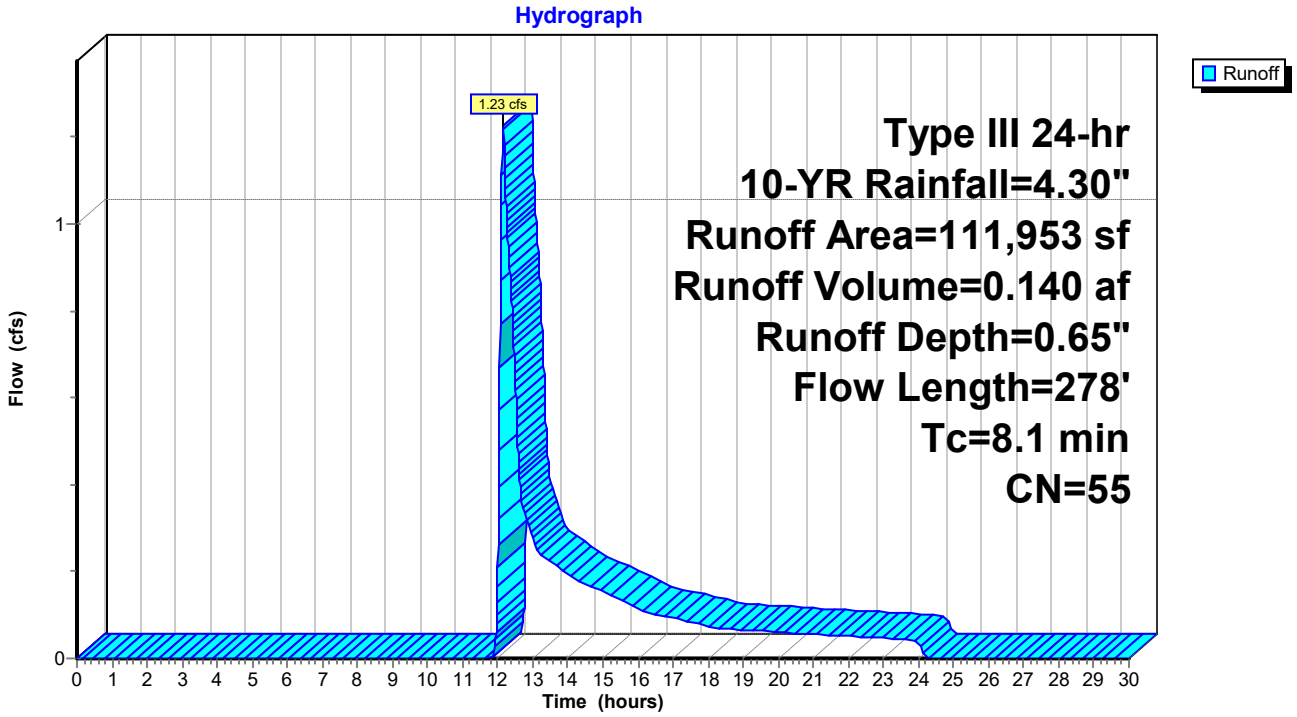
Runoff = 1.23 cfs @ 12.15 hrs, Volume= 0.140 af, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
40,012	98	Paved parking & roofs
13,040	39	>75% Grass cover, Good, HSG A
58,901	30	Woods, Good, HSG A
111,953	55	Weighted Average
71,941		64.26% Pervious Area
40,012		35.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.7	45	0.2000	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	30	0.1000	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.8	75	0.0300	1.48		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	105	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	23	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	278	Total			

Subcatchment 4.3S:



Summary for Subcatchment 4.4S:

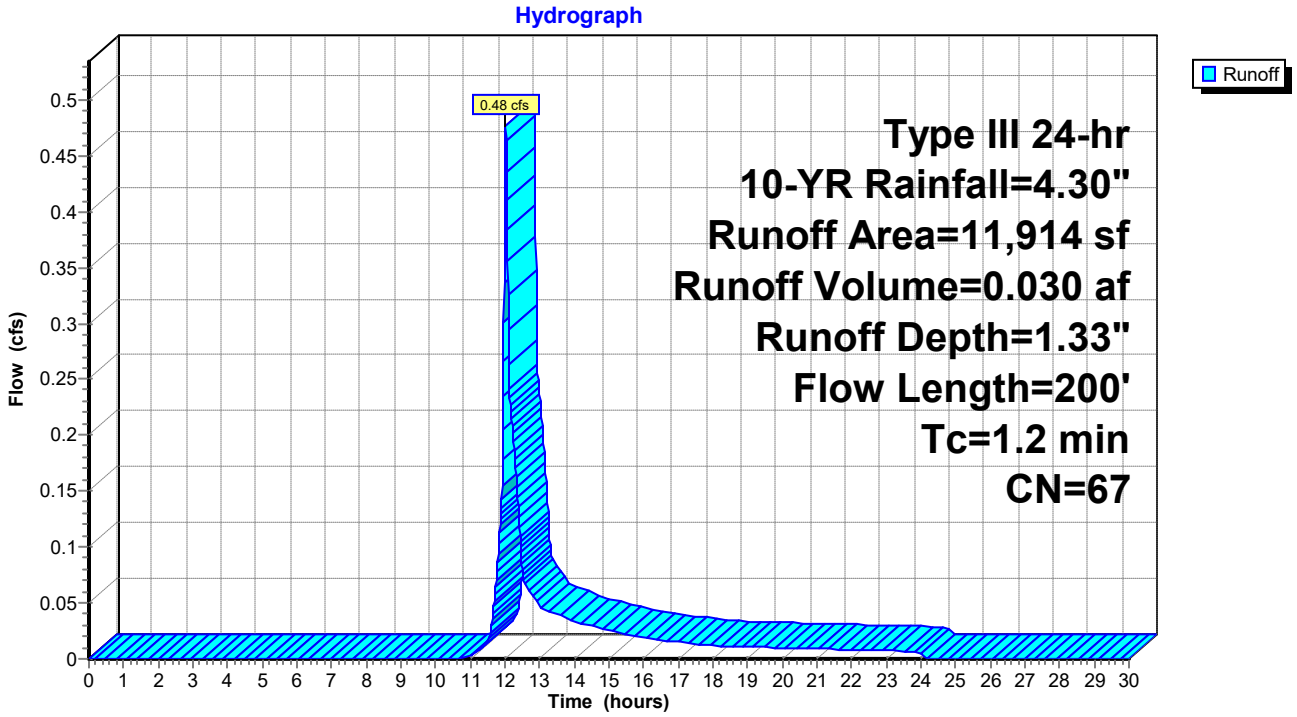
Runoff = 0.48 cfs @ 12.02 hrs, Volume= 0.030 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
5,736	98	Paved parking & roofs
6,178	39	>75% Grass cover, Good, HSG A
11,914	67	Weighted Average
6,178		51.85% Pervious Area
5,736		48.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0400	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	150	0.0530	3.45		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.2	200	Total			

Subcatchment 4.4S:



Summary for Subcatchment 4.5S: ROOF

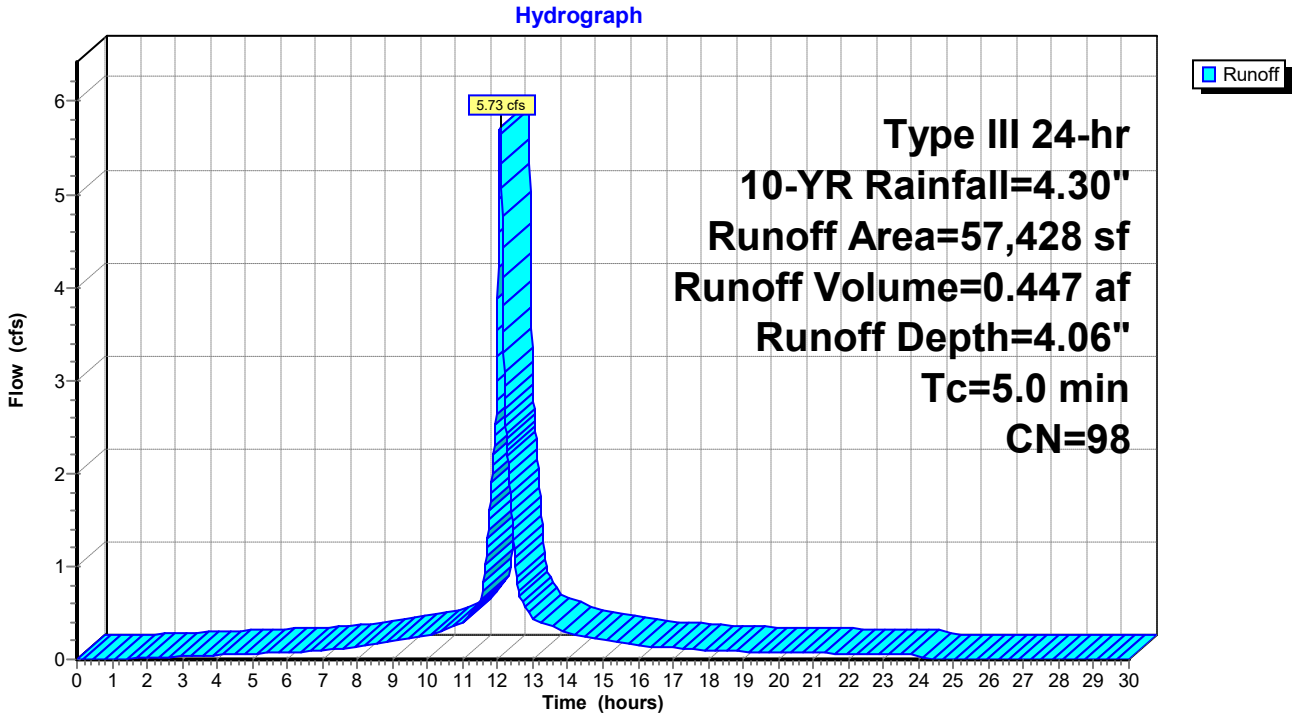
Runoff = 5.73 cfs @ 12.07 hrs, Volume= 0.447 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
57,428	98	Paved parking & roofs
57,428		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.5S: ROOF



Summary for Subcatchment 5.1S:

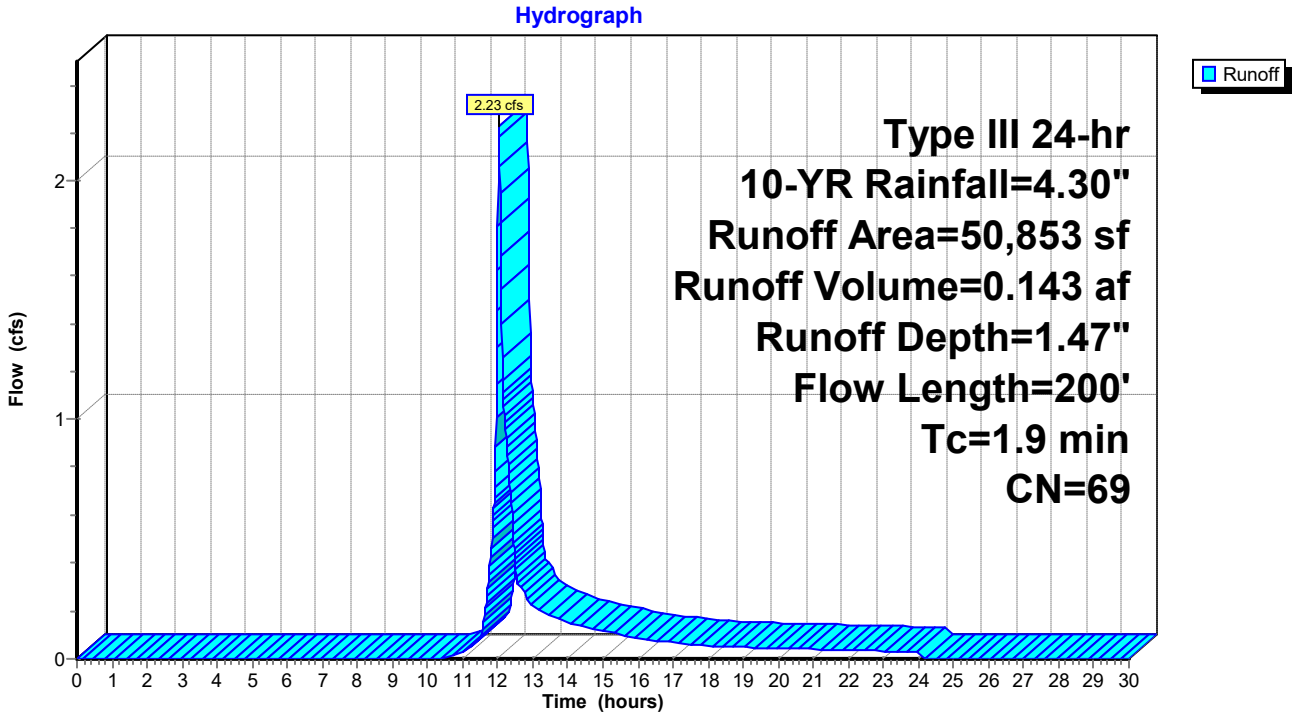
Runoff = 2.23 cfs @ 12.03 hrs, Volume= 0.143 af, Depth= 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
25,524	98	Paved parking & roofs
25,329	39	>75% Grass cover, Good, HSG A
50,853	69	Weighted Average
25,329		49.81% Pervious Area
25,524		50.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	130	0.0250	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	70	0.1100	2.32		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	200	Total			

Subcatchment 5.1S:



Summary for Subcatchment 5.2S: ROOF

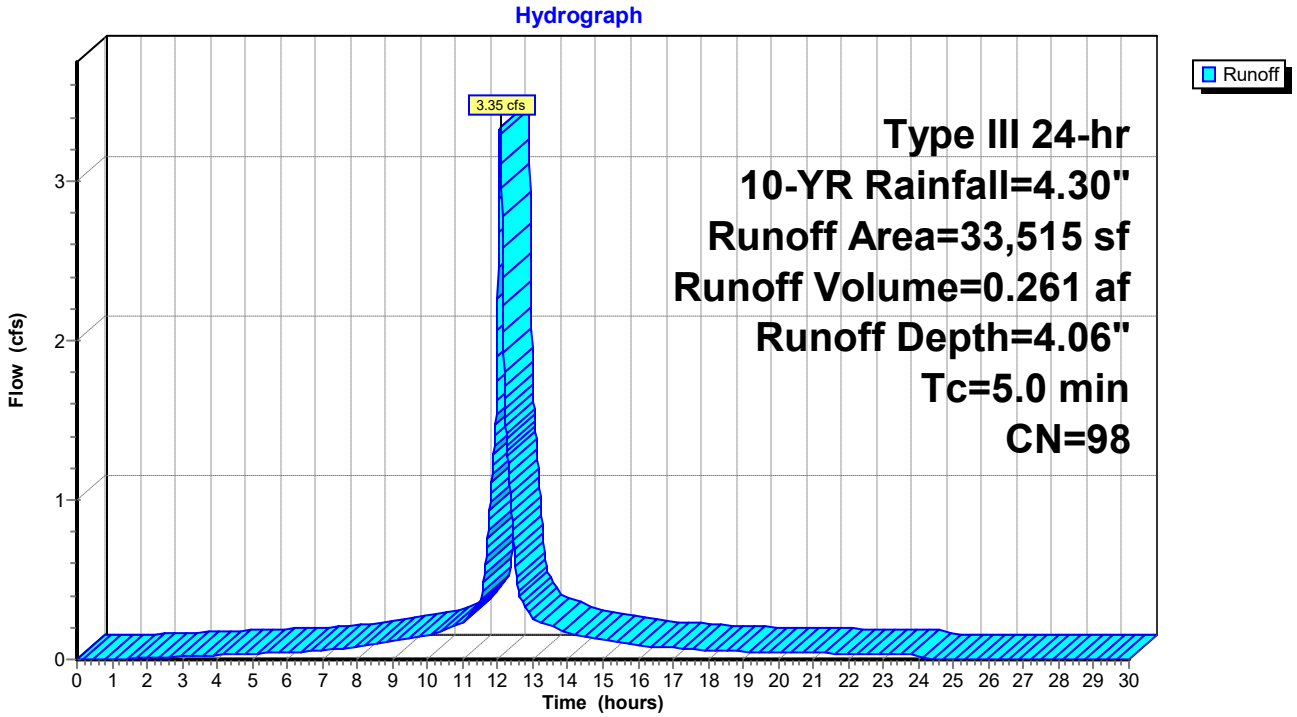
Runoff = 3.35 cfs @ 12.07 hrs, Volume= 0.261 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
33,515	98	Paved parking & roofs
33,515		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 5.2S: ROOF



Summary for Subcatchment 6S: ROOF

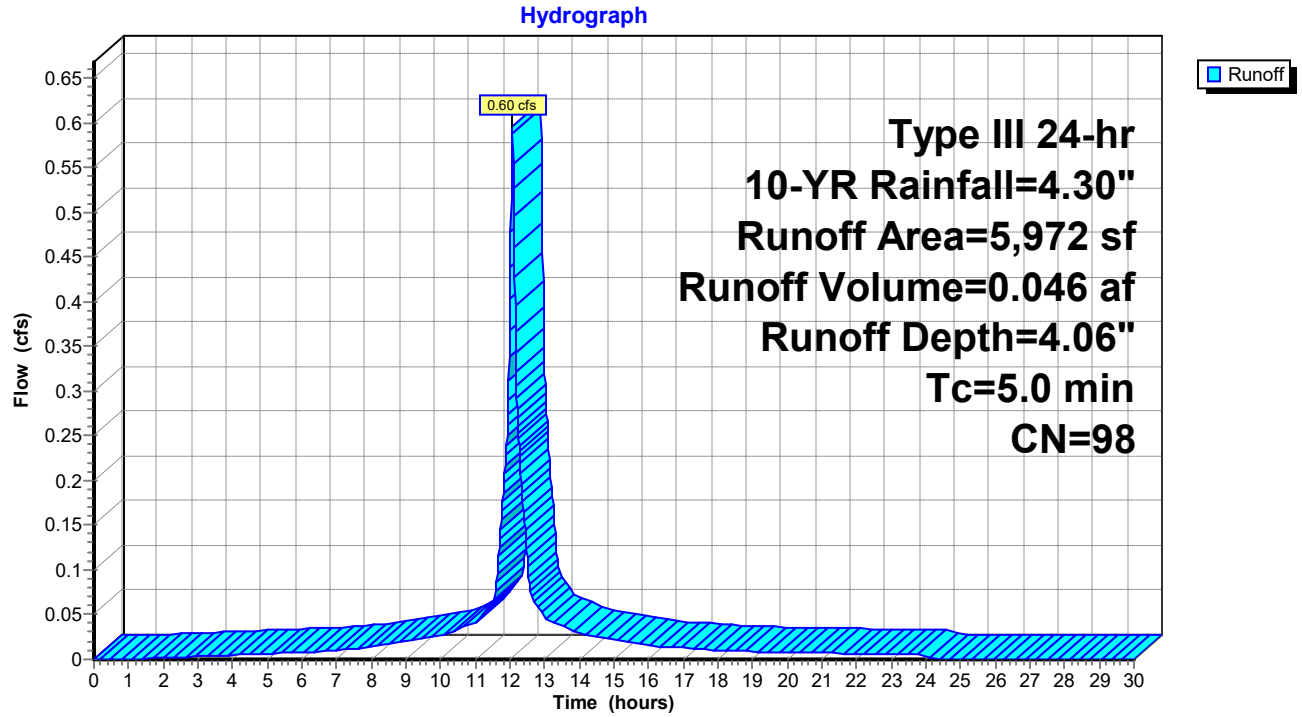
Runoff = 0.60 cfs @ 12.07 hrs, Volume= 0.046 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
5,972	98	Paved parking & roofs
5,972		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 6S: ROOF



Summary for Subcatchment 7S:

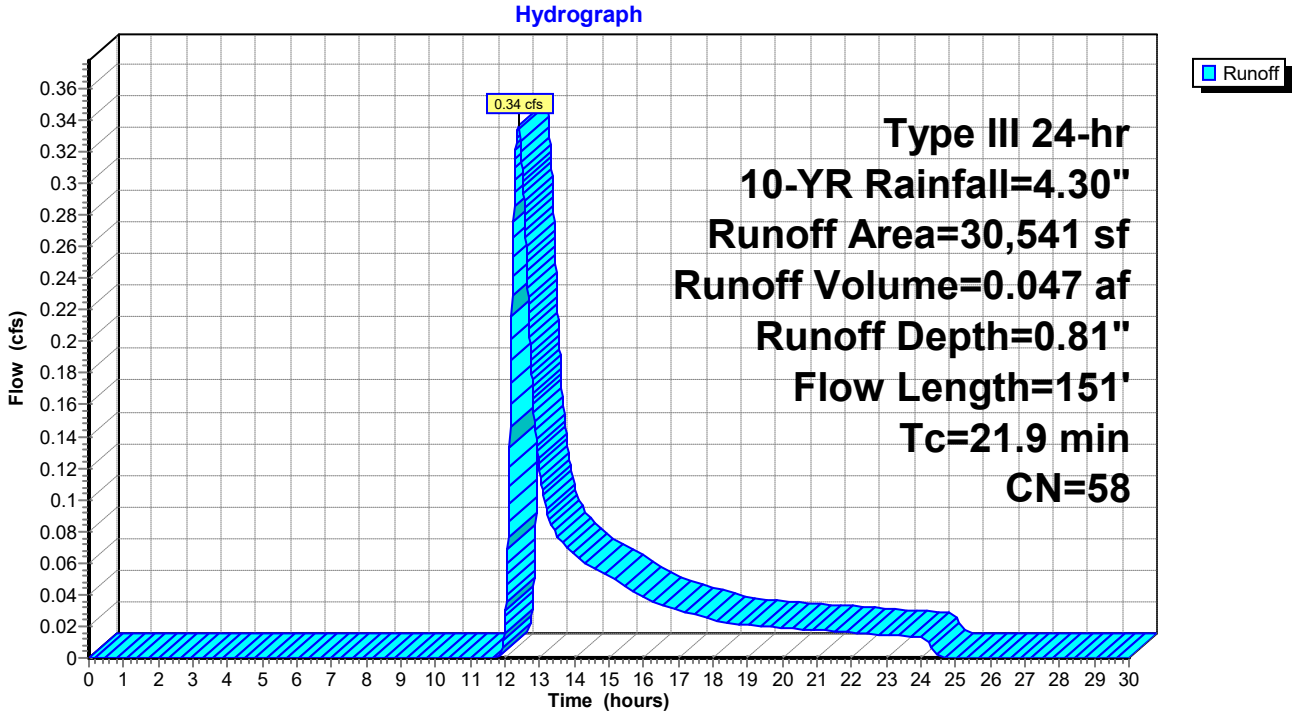
Runoff = 0.34 cfs @ 12.38 hrs, Volume= 0.047 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
9,471	98	Paved parking & roofs
990	39	>75% Grass cover, Good, HSG A
8,095	55	Woods, Good, HSG B
11,985	30	Woods, Good, HSG A
30,541	58	Weighted Average
21,070		68.99% Pervious Area
9,471		31.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	100	0.0920	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
0.9	51	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.9	151	Total			

Subcatchment 7S:



Summary for Subcatchment 8S:

[45] Hint: Runoff=Zero

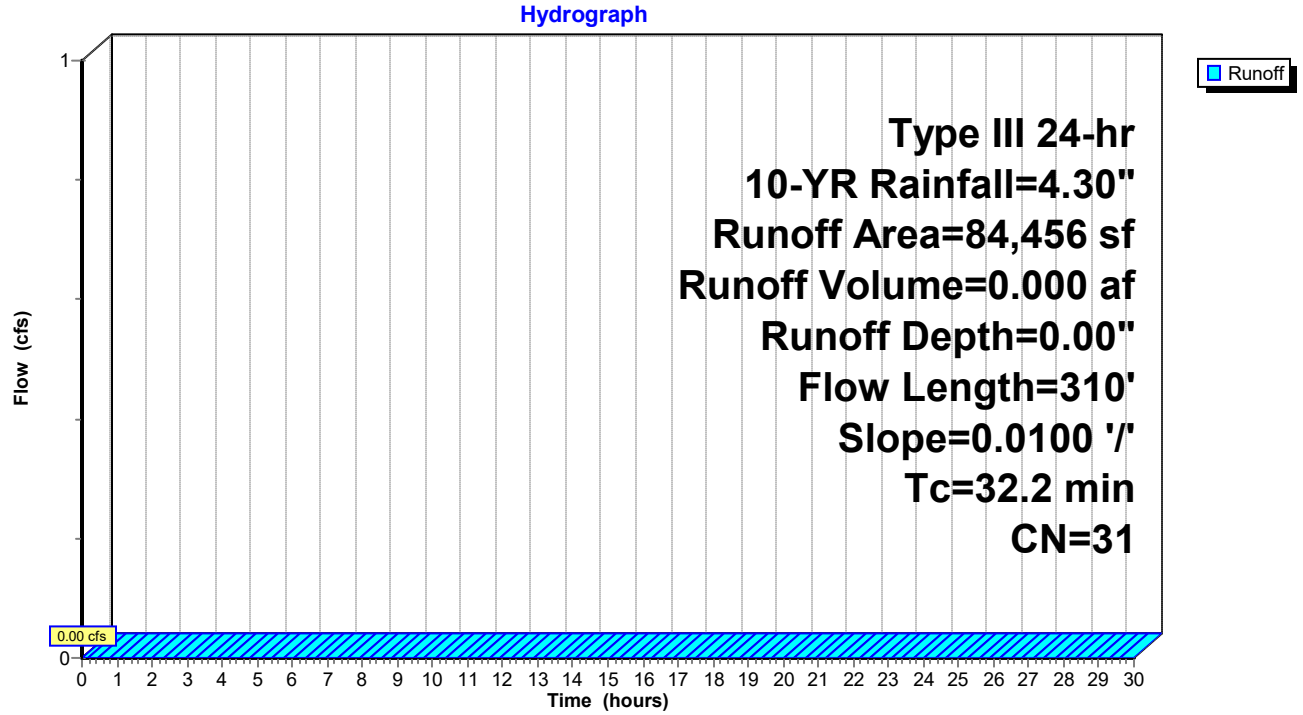
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	868	98	Paved
	83,588	30	Woods, Good, HSG A
	84,456	31	Weighted Average
	83,588		98.97% Pervious Area
	868		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	80	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
7.7	230	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.2	310	Total			

Subcatchment 8S:



Summary for Subcatchment 9.1S:

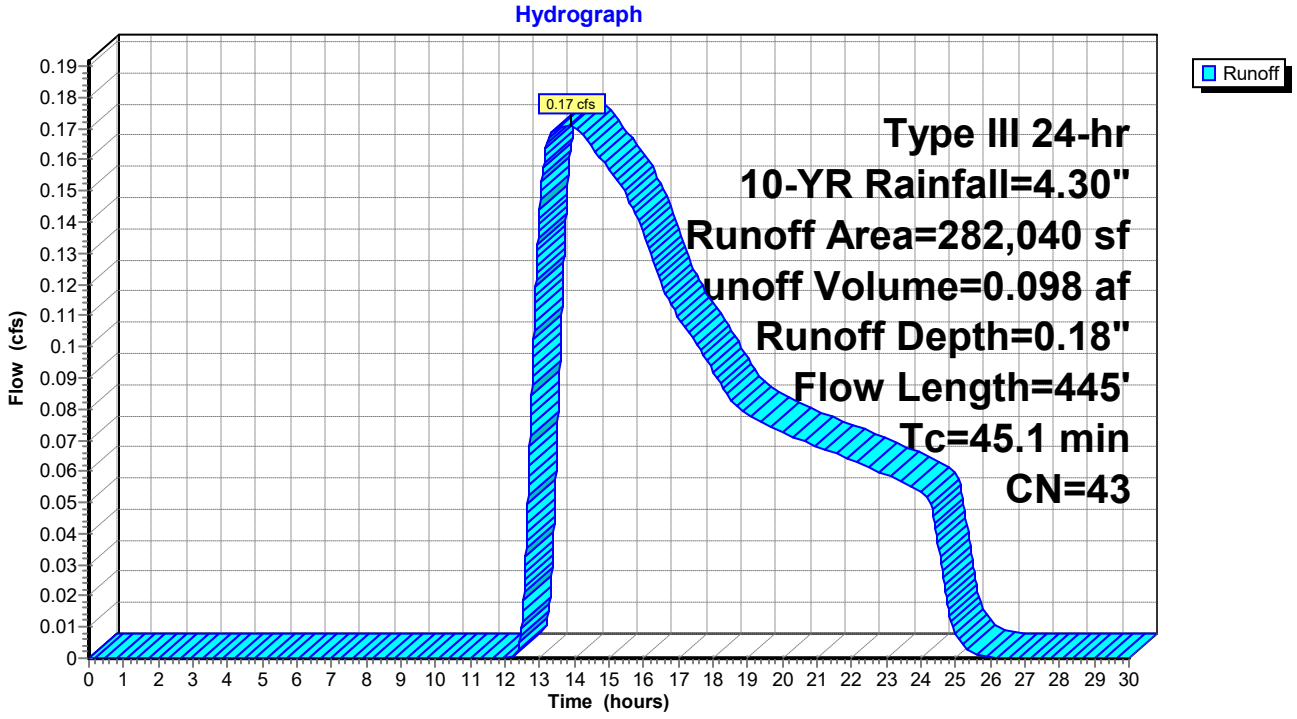
Runoff = 0.17 cfs @ 13.88 hrs, Volume= 0.098 af, Depth= 0.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	48,522	98	Paved
	33,490	39	>75% Grass cover, Good, HSG A
	200,028	30	Woods, Good, HSG A
	282,040	43	Weighted Average
	233,518		82.80% Pervious Area
	48,522		17.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0100	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	30	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.6	265	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
45.1	445	Total			

Subcatchment 9.1S:



Summary for Subcatchment 9S:

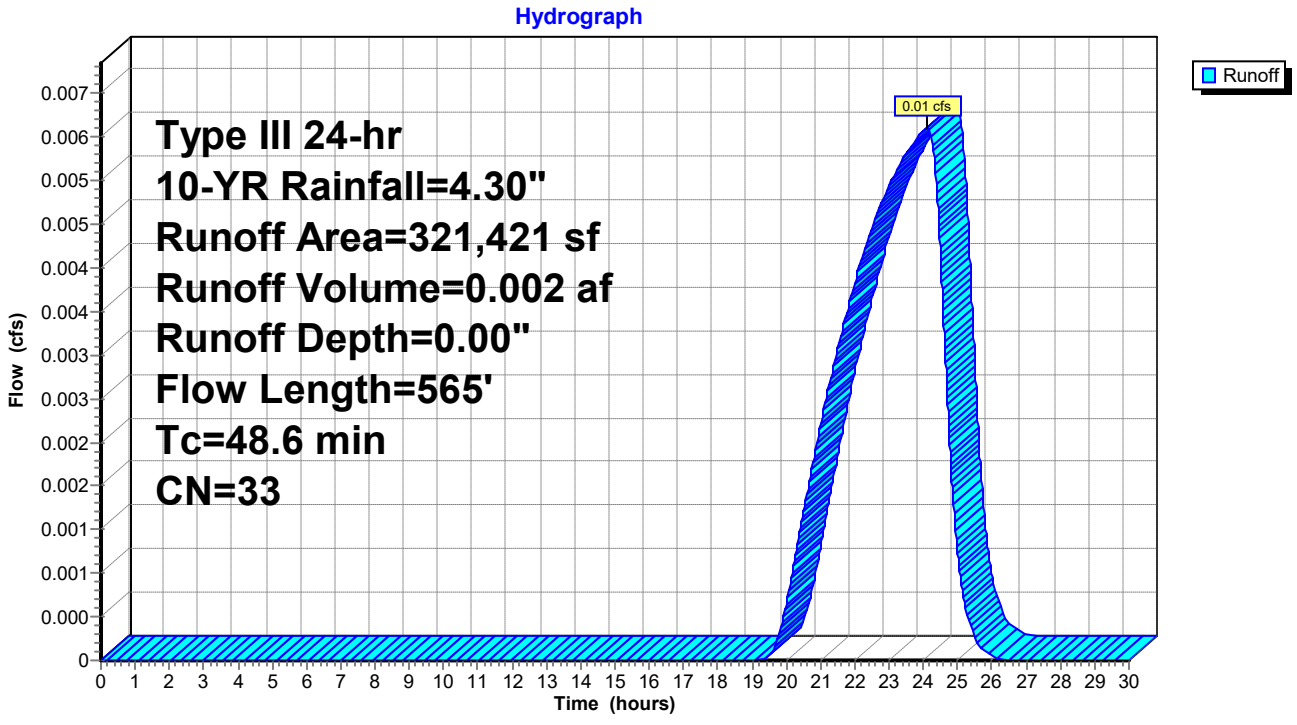
Runoff = 0.01 cfs @ 24.13 hrs, Volume= 0.002 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	13,186	98	Paved
	3,563	39	>75% Grass cover, Good, HSG A
	304,672	30	Woods, Good, HSG A
	321,421	33	Weighted Average
	308,235		95.90% Pervious Area
	13,186		4.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0100	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
8.1	415	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
48.6	565	Total			

Subcatchment 9S:



Summary for Subcatchment 50S:

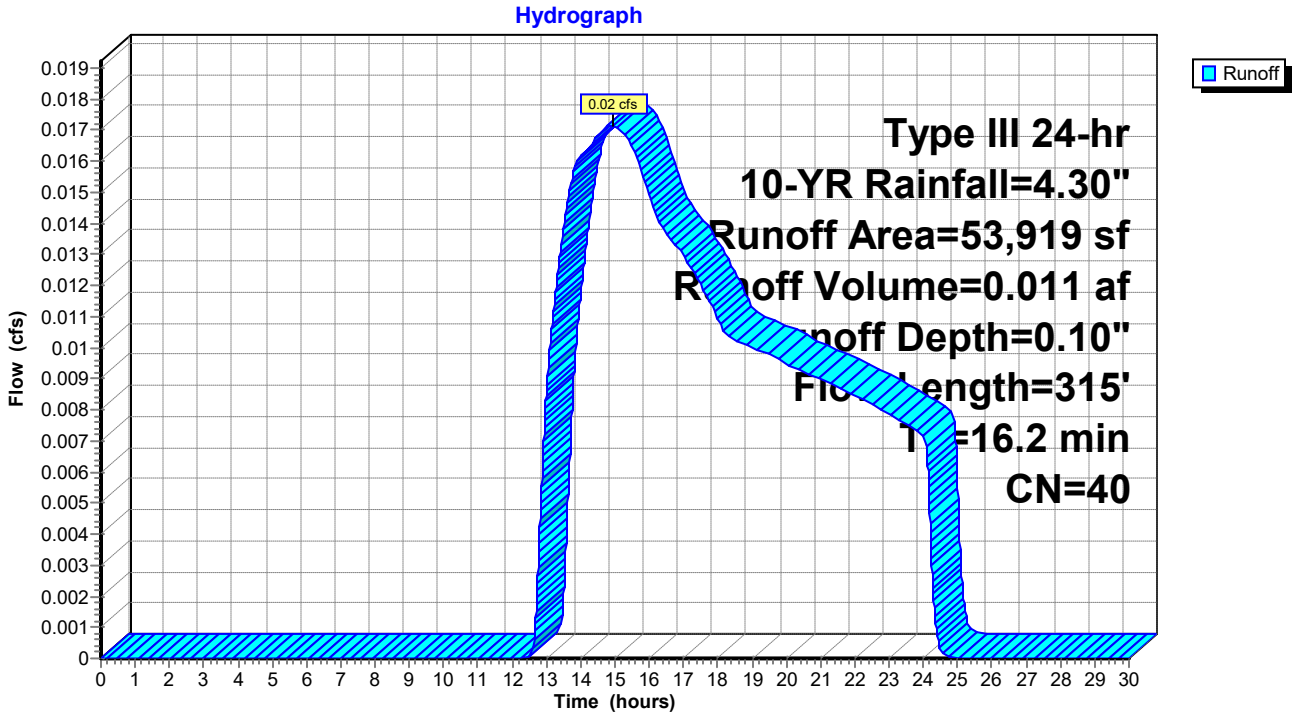
Runoff = 0.02 cfs @ 14.92 hrs, Volume= 0.011 af, Depth= 0.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	7,388	98	Impervious
	3,461	39	>75% Grass cover, Good, HSG A
	43,070	30	Woods, Good, HSG A
	53,919	40	Weighted Average
	46,531		86.30% Pervious Area
	7,388		13.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	120	0.0750	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	45	0.1560	1.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	100	0.0300	2.60		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0200	6.14	18.43	**Channel Flow,** Area= 3.0 sf Perim= 4.8' r= 0.63' n= 0.025 Earth, clean & winding
16.2	315	Total			

Subcatchment 50S:



Summary for Subcatchment 52S:

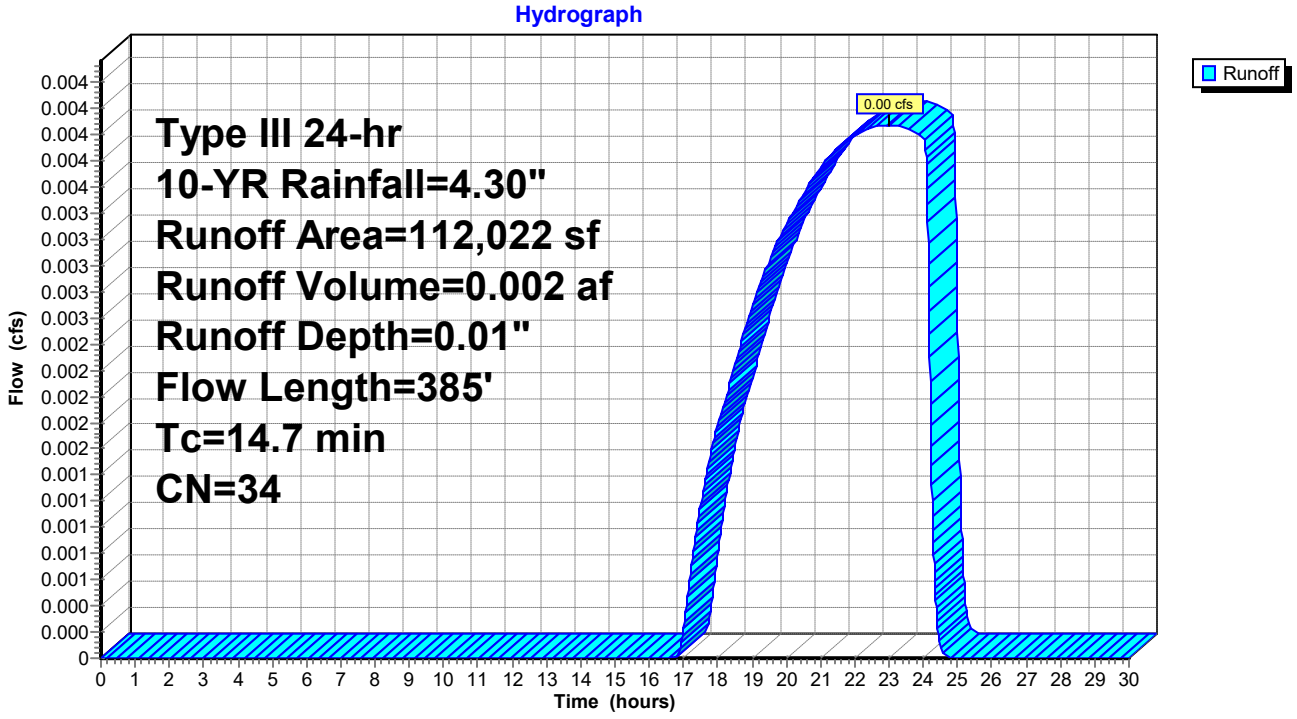
Runoff = 0.00 cfs @ 22.98 hrs, Volume= 0.002 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	2,091	98	Paved
	29,887	39	>75% Grass cover, Good, HSG A
	80,044	30	Woods, Good, HSG A
	112,022	34	Weighted Average
	109,931		98.13% Pervious Area
	2,091		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	70	0.0660	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
4.3	290	0.0517	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	25	0.0400	3.00		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
14.7	385	Total			

Subcatchment 52S:



Summary for Subcatchment 53S:

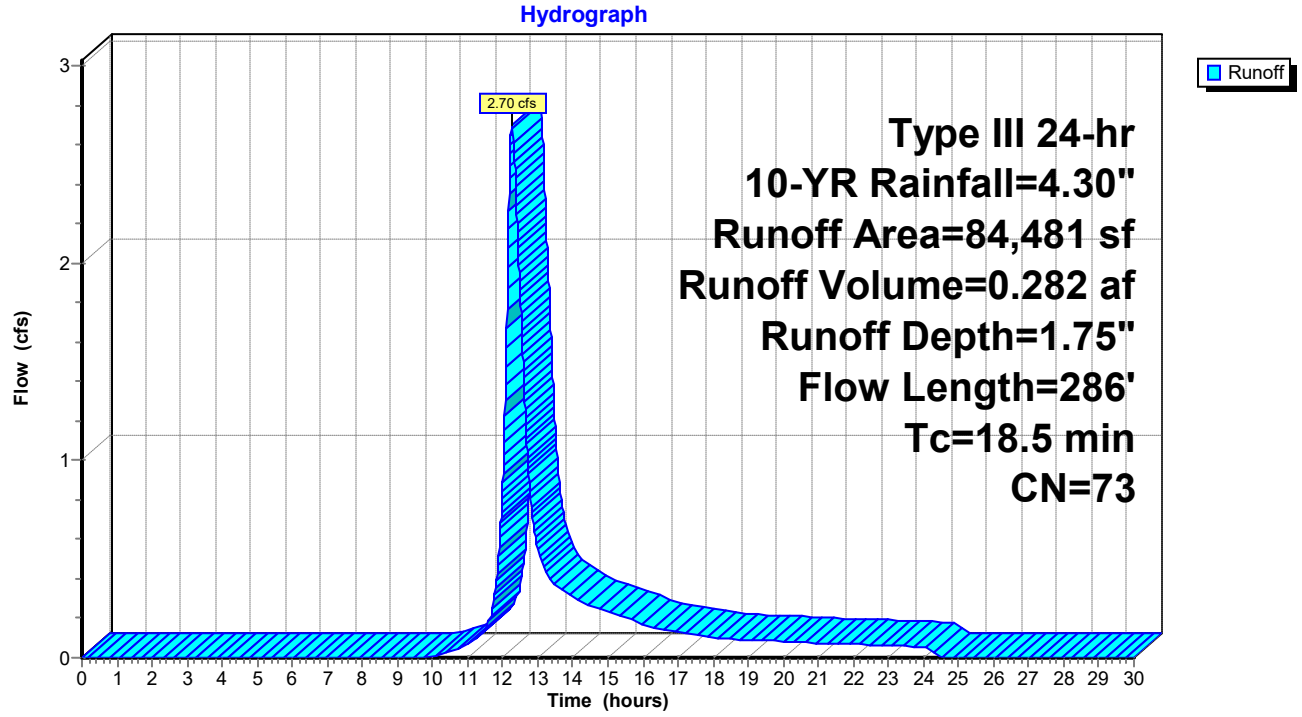
Runoff = 2.70 cfs @ 12.27 hrs, Volume= 0.282 af, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	49,176	98	Paved
	35,305	39	>75% Grass cover, Good, HSG A
	84,481	73	Weighted Average
	35,305		41.79% Pervious Area
	49,176		58.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	116	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	40	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	30	0.0860	2.05		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.5	286	Total			

Subcatchment 53S:



Summary for Subcatchment 54S:

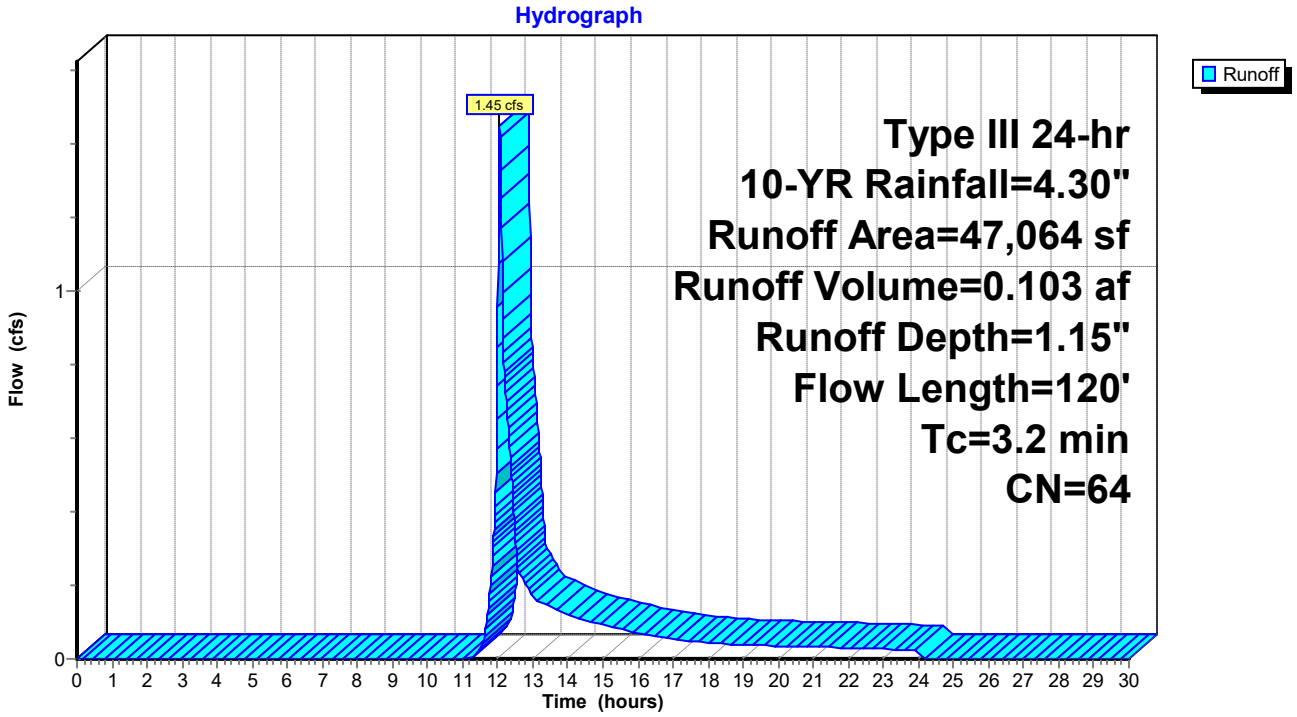
Runoff = 1.45 cfs @ 12.06 hrs, Volume= 0.103 af, Depth= 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	19,766	98	Paved
	27,298	39	>75% Grass cover, Good, HSG A
	47,064	64	Weighted Average
	27,298		58.00% Pervious Area
	19,766		42.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	70	0.0460	1.73		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.5	50	0.1600	0.33		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
3.2	120	Total			

Subcatchment 54S:



Summary for Subcatchment 55S: Exist Building

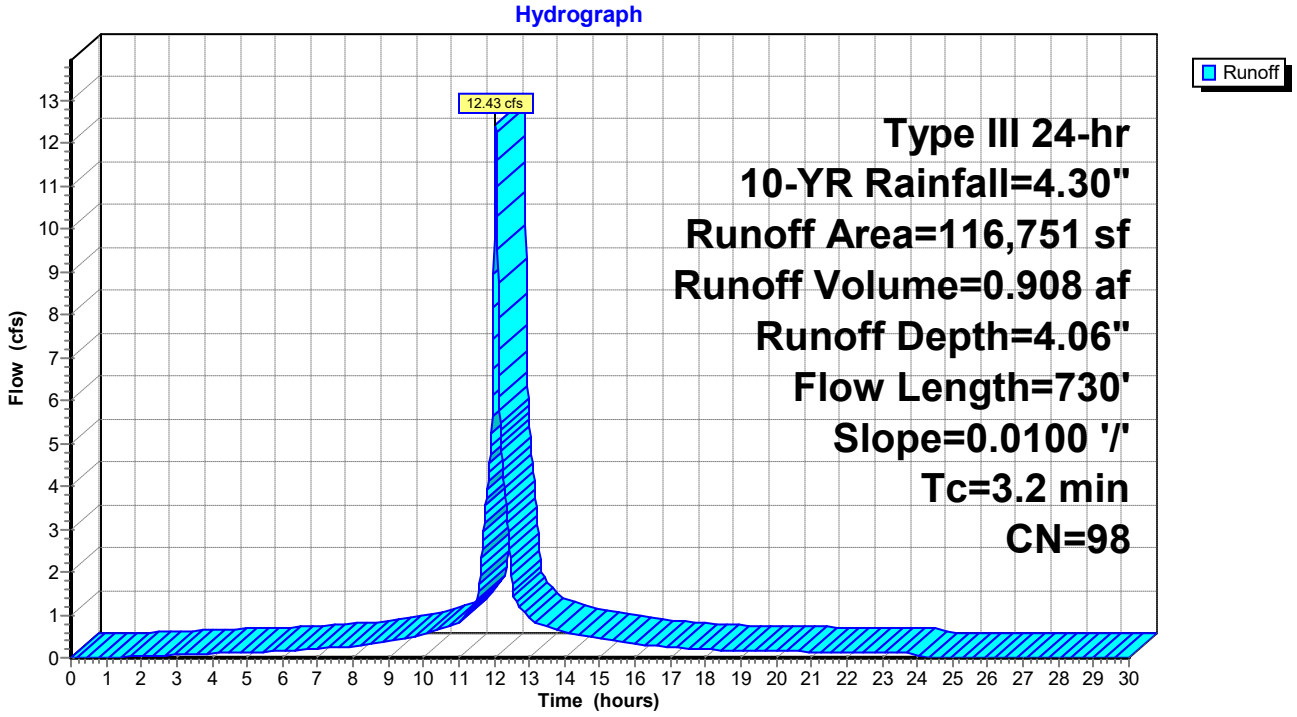
Runoff = 12.43 cfs @ 12.05 hrs, Volume= 0.908 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	116,751	98	Roof
	116,751		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0100	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	80	0.0100	4.50	1.57	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
0.8	300	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
0.4	250	0.0100	9.36	29.41	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
3.2	730	Total			

Subcatchment 55S: Exist Building



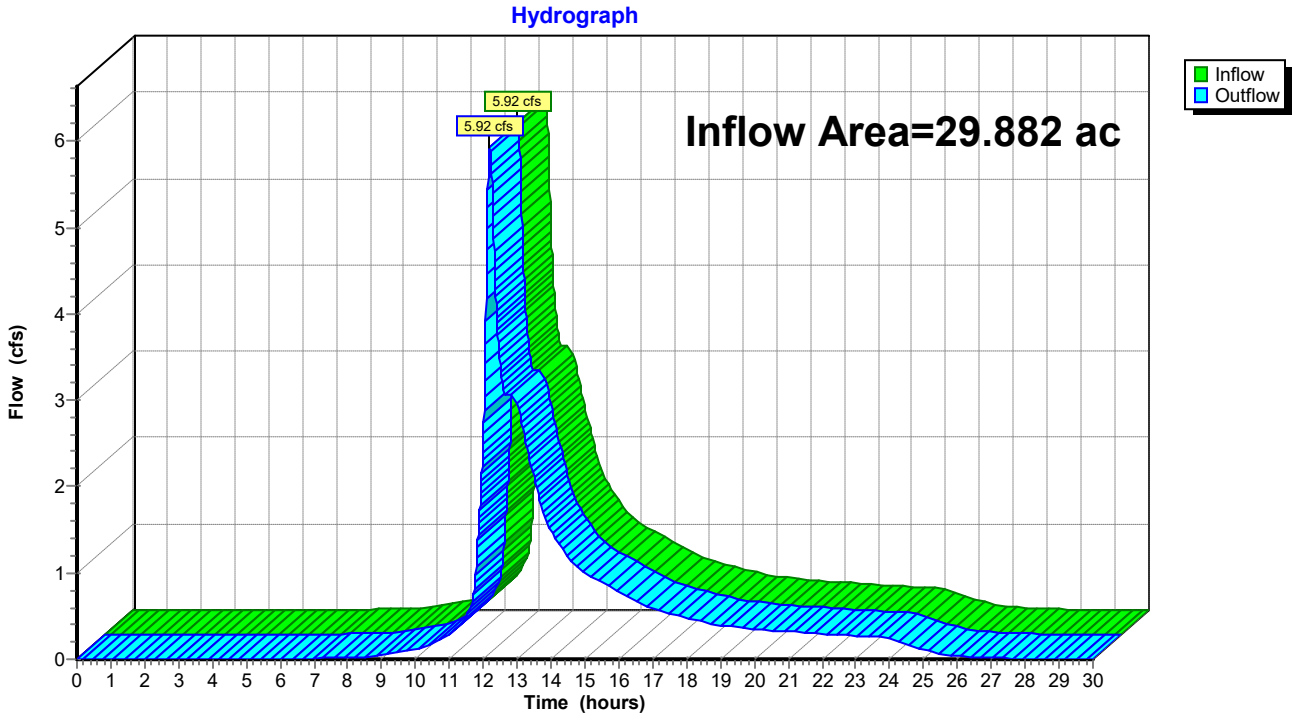
Summary for Reach 1R: WATERSHED ANALYSIS POINT A

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 29.882 ac, 43.35% Impervious, Inflow Depth > 0.42" for 10-YR event
Inflow = 5.92 cfs @ 12.19 hrs, Volume= 1.044 af
Outflow = 5.92 cfs @ 12.19 hrs, Volume= 1.044 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 1R: WATERSHED ANALYSIS POINT A



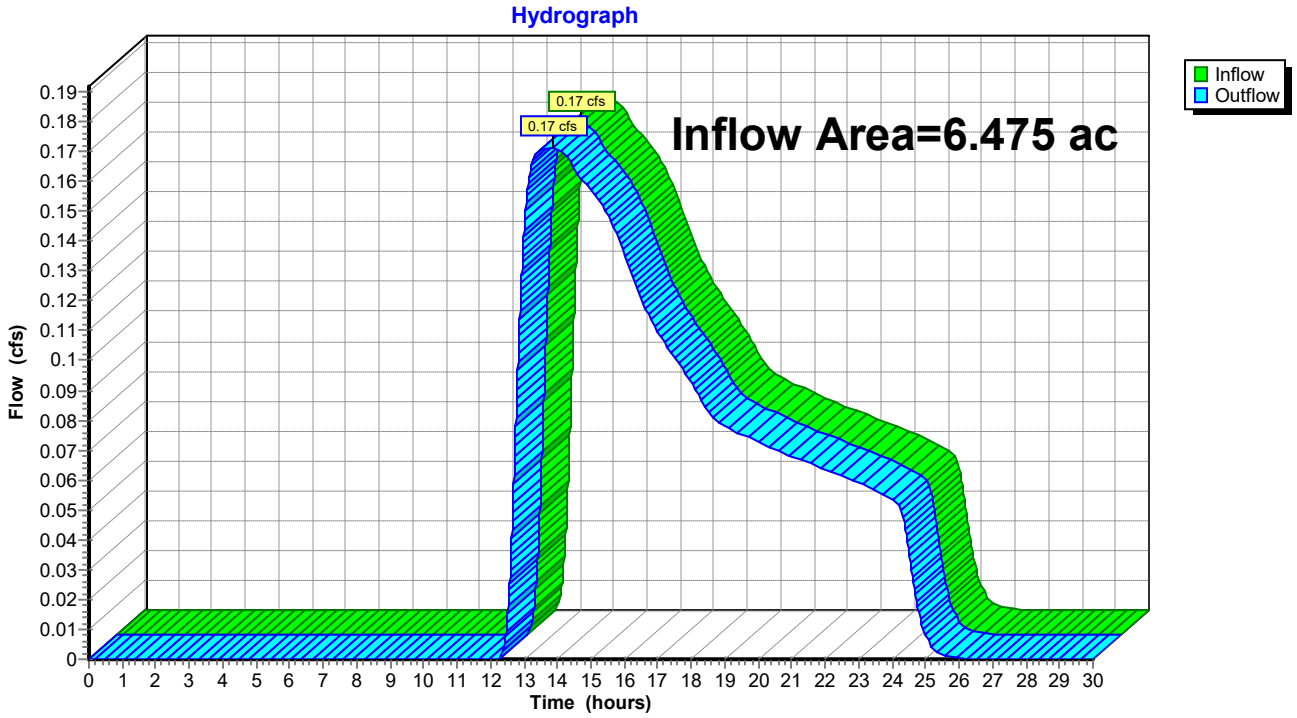
Summary for Reach 2.1R: WATERSHED ANALYSIS POINT C

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.475 ac, 17.20% Impervious, Inflow Depth = 0.18" for 10-YR event
Inflow = 0.17 cfs @ 13.88 hrs, Volume= 0.098 af
Outflow = 0.17 cfs @ 13.88 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 2.1R: WATERSHED ANALYSIS POINT C



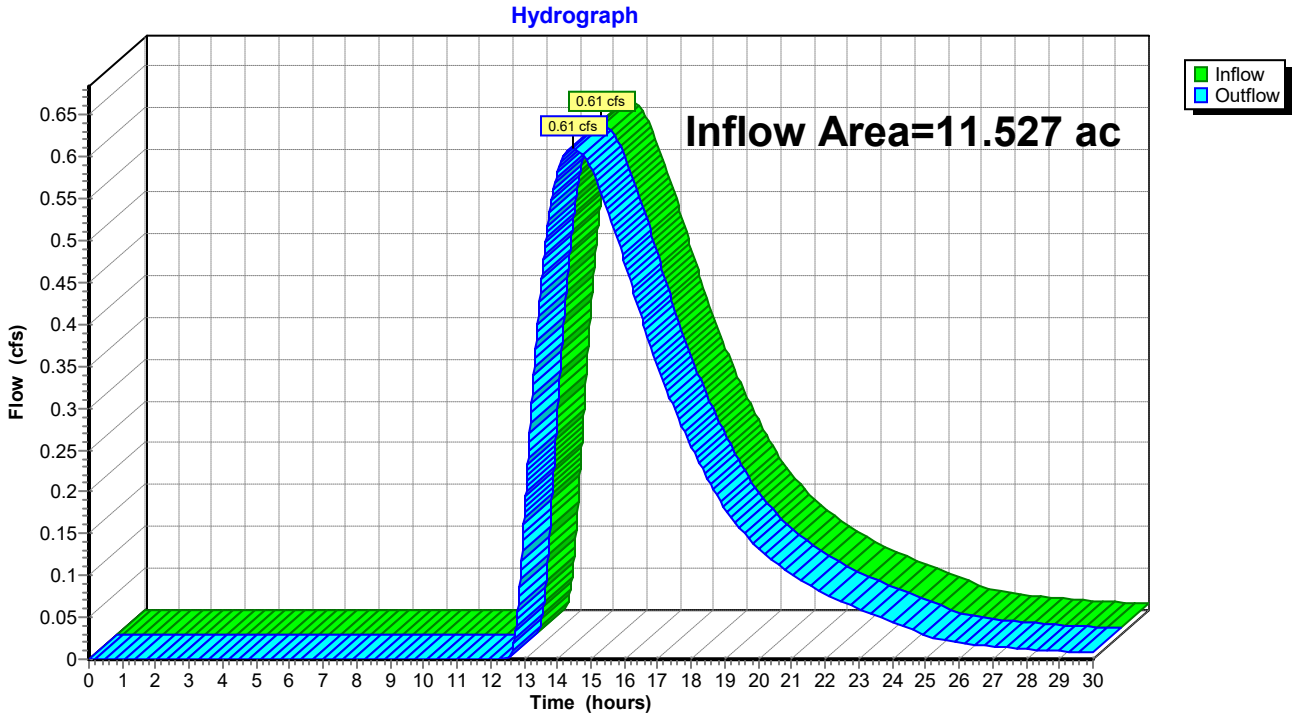
Summary for Reach 2R: WATERSHED ANALYSIS POINT B

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 11.527 ac, 33.57% Impervious, Inflow Depth > 0.27" for 10-YR event
Inflow = 0.61 cfs @ 14.45 hrs, Volume= 0.256 af
Outflow = 0.61 cfs @ 14.45 hrs, Volume= 0.256 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 2R: WATERSHED ANALYSIS POINT B



Summary for Reach 3R: NATURAL DRAINAGE

Inflow Area = 4.148 ac, 85.98% Impervious, Inflow Depth = 0.75" for 10-YR event
Inflow = 1.15 cfs @ 12.95 hrs, Volume= 0.260 af
Outflow = 0.61 cfs @ 14.45 hrs, Volume= 0.254 af, Atten= 47%, Lag= 90.0 min

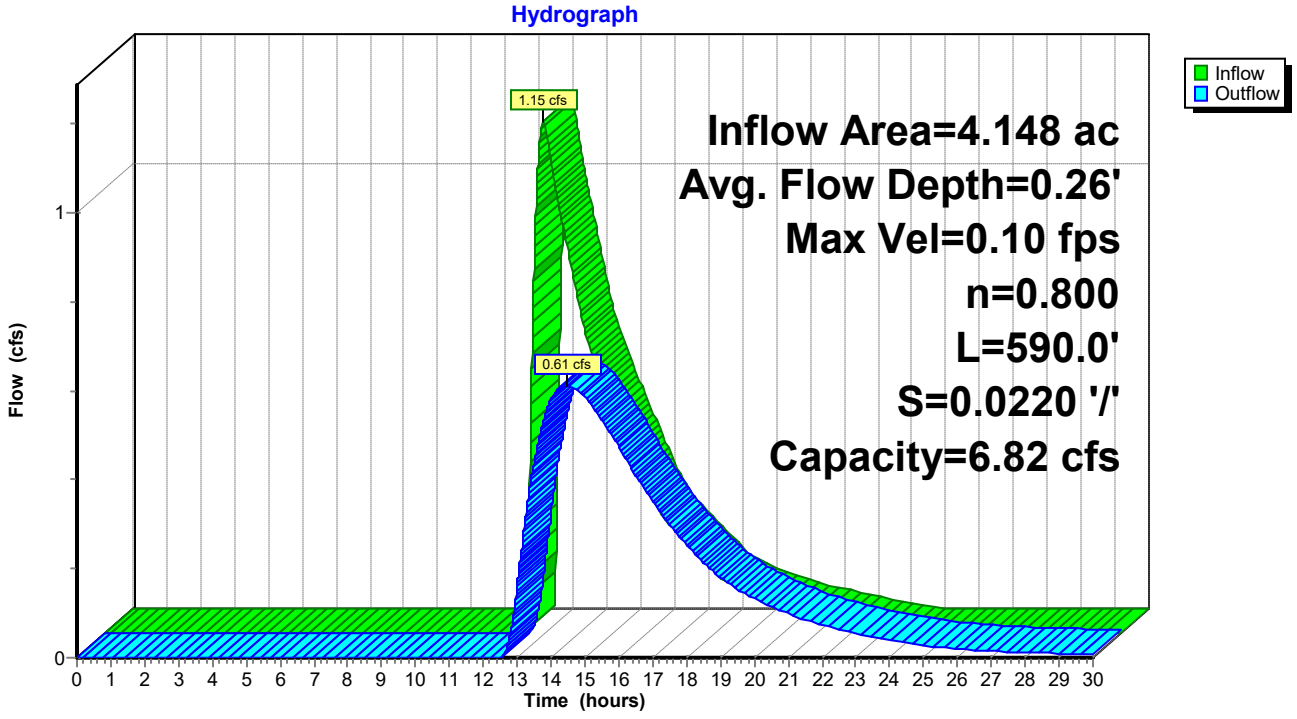
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.10 fps, Min. Travel Time= 94.3 min
Avg. Velocity = 0.06 fps, Avg. Travel Time= 177.7 min

Peak Storage= 3,457 cf @ 14.45 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.00' Flow Area= 30.0 sf, Capacity= 6.82 cfs

20.00' x 1.00' deep channel, n= 0.800 Sheet flow: Woods+dense brush
Side Slope Z-value= 10.0 '/' Top Width= 40.00'
Length= 590.0' Slope= 0.0220 '/'
Inlet Invert= 239.00', Outlet Invert= 226.00'

‡

Reach 3R: NATURAL DRAINAGE



Summary for Reach 4R: NATRUAL DRAINAGE

Inflow Area = 5.574 ac, 29.30% Impervious, Inflow Depth > 0.53" for 10-YR event
Inflow = 0.85 cfs @ 13.04 hrs, Volume= 0.246 af
Outflow = 0.85 cfs @ 13.09 hrs, Volume= 0.246 af, Atten= 0%, Lag= 3.1 min

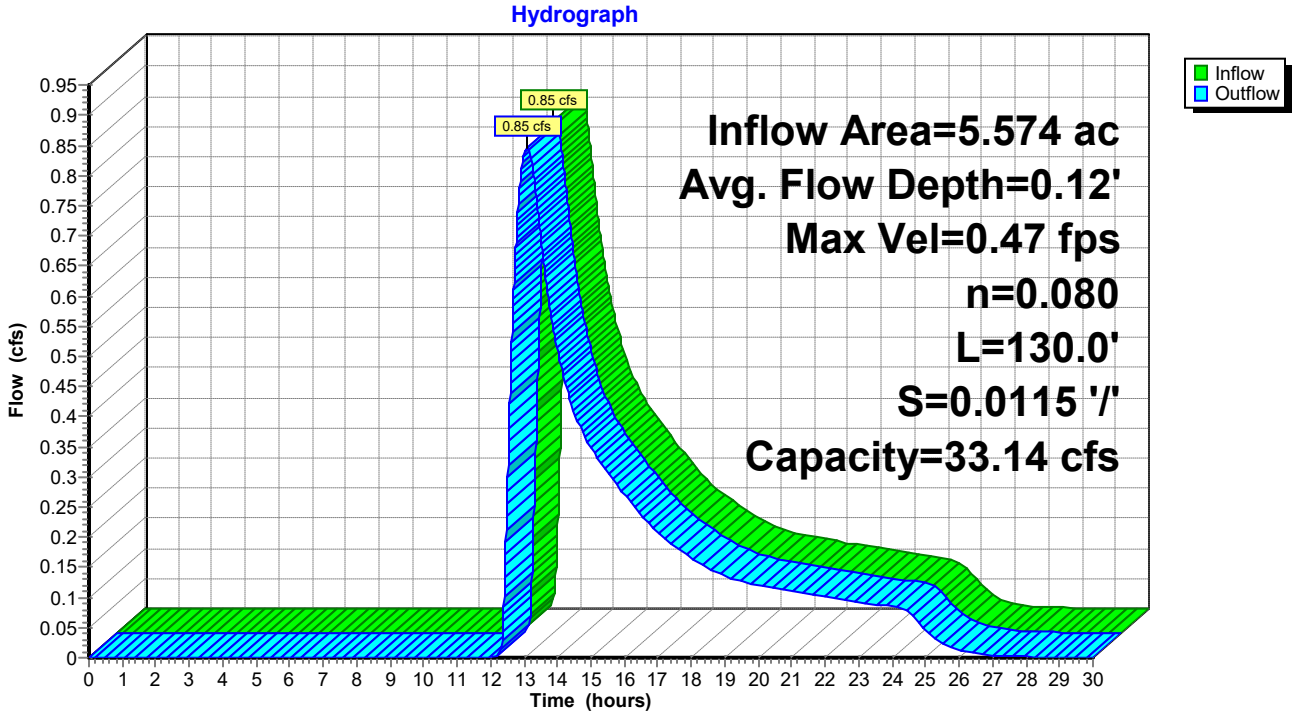
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.47 fps, Min. Travel Time= 4.6 min
Avg. Velocity = 0.22 fps, Avg. Travel Time= 10.1 min

Peak Storage= 235 cf @ 13.09 hrs
Average Depth at Peak Storage= 0.12'
Bank-Full Depth= 1.00' Flow Area= 19.0 sf, Capacity= 33.14 cfs

15.00' x 1.00' deep channel, n= 0.080
Side Slope Z-value= 4.0 '/' Top Width= 23.00'
Length= 130.0' Slope= 0.0115 '/'
Inlet Invert= 247.00', Outlet Invert= 245.50'

‡

Reach 4R: NATRUAL DRAINAGE



Summary for Reach 50R: STREAM

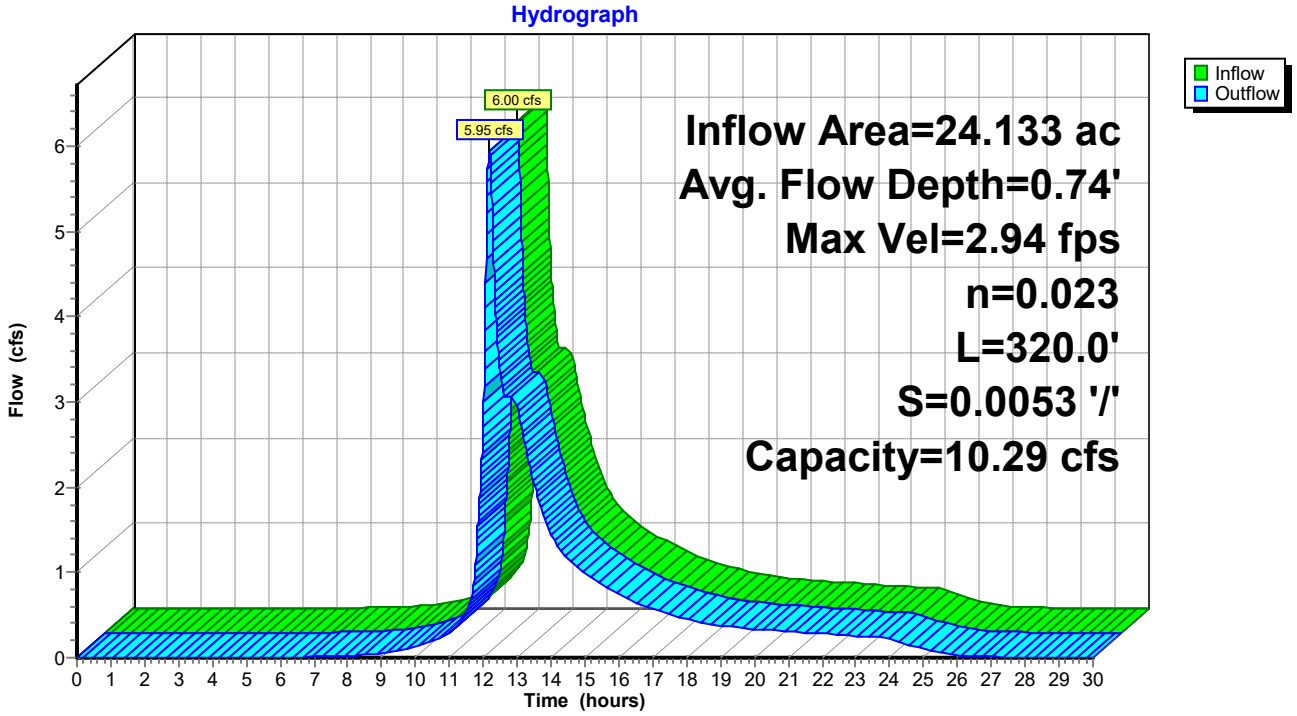
Inflow Area = 24.133 ac, 52.69% Impervious, Inflow Depth > 0.51" for 10-YR event
Inflow = 6.00 cfs @ 12.15 hrs, Volume= 1.032 af
Outflow = 5.95 cfs @ 12.18 hrs, Volume= 1.032 af, Atten= 1%, Lag= 1.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 2.94 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.89 fps, Avg. Travel Time= 6.0 min

Peak Storage= 647 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.74'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.29 cfs

2.00' x 1.00' deep channel, n= 0.023 Earth, clean & winding
Side Slope Z-value= 1.0 '/' Top Width= 4.00'
Length= 320.0' Slope= 0.0053 '/'
Inlet Invert= 235.00', Outlet Invert= 233.30'

Reach 50R: STREAM



Summary for Reach 51R: STREAM

[61] Hint: Exceeded Reach 50R outlet invert by 0.58' @ 12.19 hrs

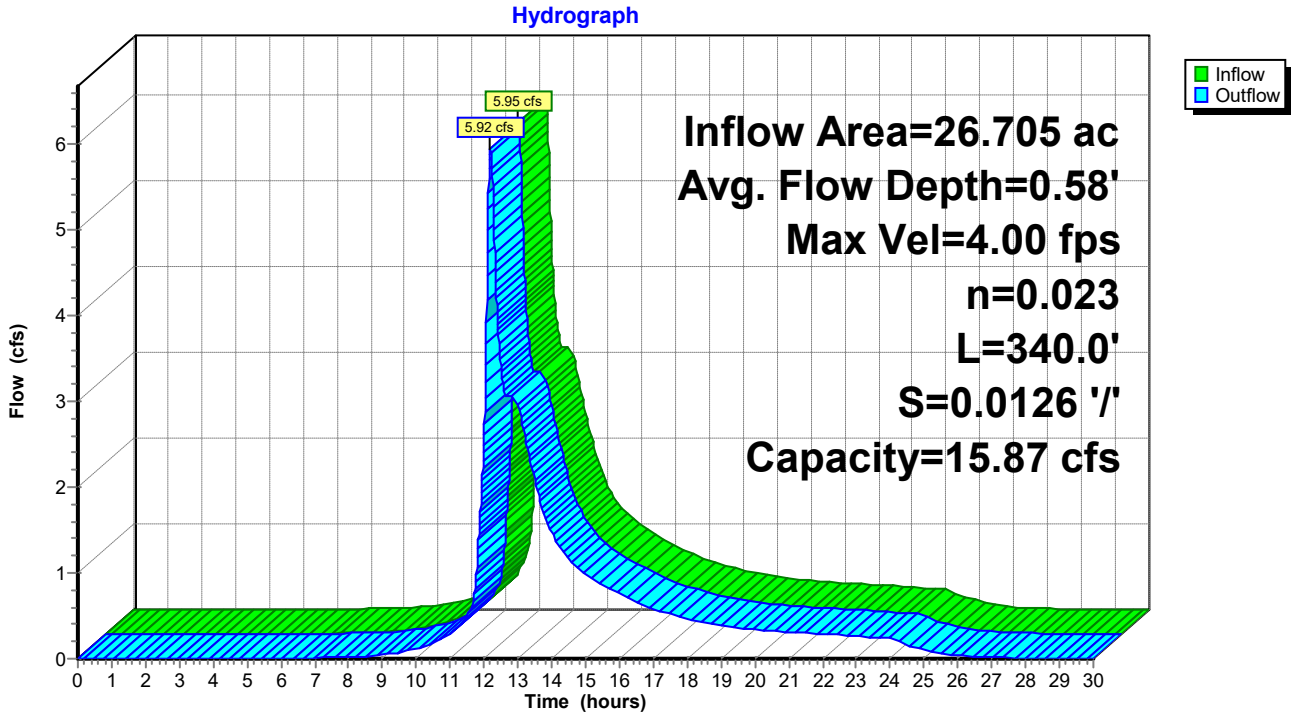
Inflow Area = 26.705 ac, 47.80% Impervious, Inflow Depth > 0.46" for 10-YR event
Inflow = 5.95 cfs @ 12.18 hrs, Volume= 1.034 af
Outflow = 5.92 cfs @ 12.19 hrs, Volume= 1.034 af, Atten= 0%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 4.00 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 4.7 min

Peak Storage= 504 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.58'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 15.87 cfs

2.00' x 1.00' deep channel, n= 0.023
Side Slope Z-value= 1.0 '/' Top Width= 4.00'
Length= 340.0' Slope= 0.0126 '/'
Inlet Invert= 233.30', Outlet Invert= 229.00'

Reach 51R: STREAM



Summary for Reach 52R: New Pipe

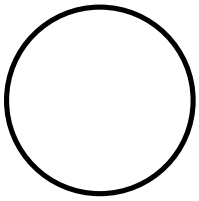
[52] Hint: Inlet/Outlet conditions not evaluated

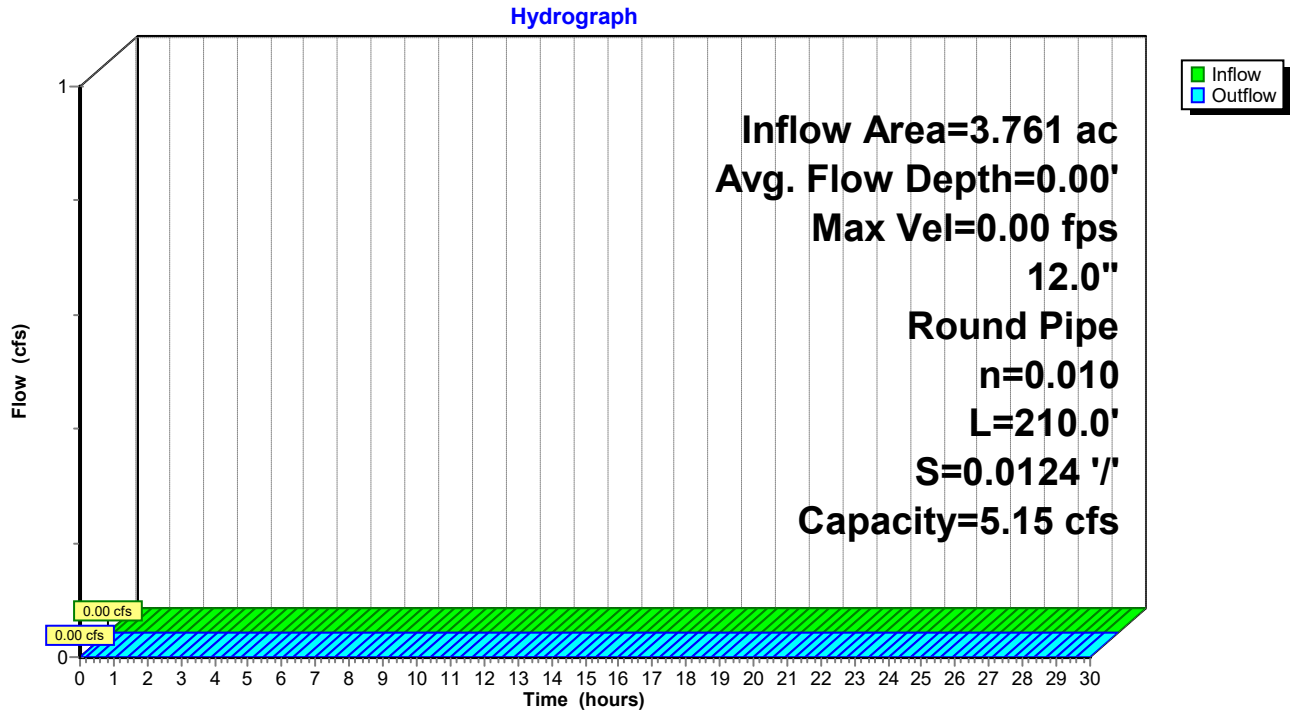
Inflow Area = 3.761 ac, 83.34% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.15 cfs

12.0" Round Pipe
n= 0.010
Length= 210.0' Slope= 0.0124 '/'
Inlet Invert= 238.60', Outlet Invert= 236.00'





Summary for Reach 53R: New Pipe

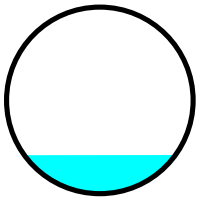
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach 54R OUTLET depth by 0.01' @ 12.26 hrs

Inflow Area = 20.373 ac, 47.04% Impervious, Inflow Depth > 0.61" for 10-YR event
Inflow = 6.01 cfs @ 12.14 hrs, Volume= 1.032 af
Outflow = 6.00 cfs @ 12.15 hrs, Volume= 1.032 af, Atten= 0%, Lag= 0.3 min

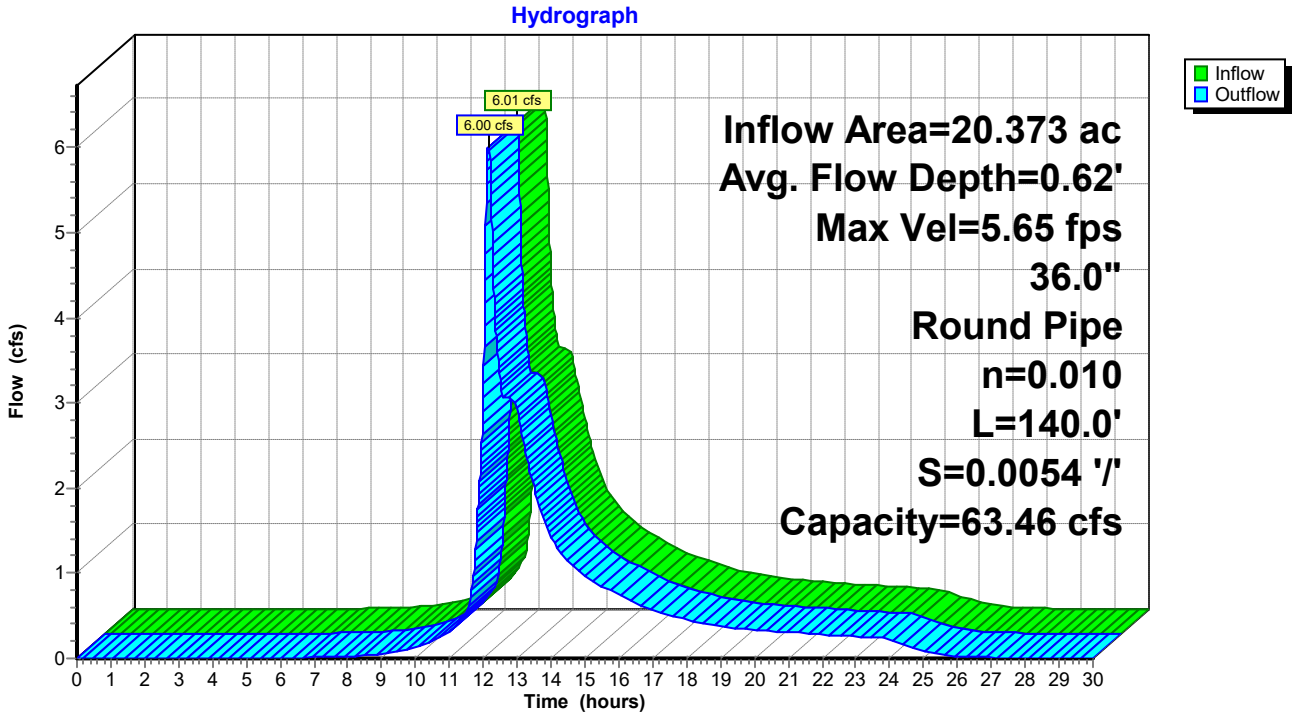
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 5.65 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.92 fps, Avg. Travel Time= 1.2 min

Peak Storage= 149 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.62'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 63.46 cfs

36.0" Round Pipe
n= 0.010
Length= 140.0' Slope= 0.0054 '/'
Inlet Invert= 236.75', Outlet Invert= 236.00'



Reach 53R: New Pipe



Summary for Reach 54R: New Pipe

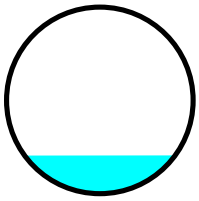
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach 55R OUTLET depth by 0.01' @ 12.26 hrs

Inflow Area = 18.433 ac, 45.86% Impervious, Inflow Depth > 0.67" for 10-YR event
Inflow = 6.02 cfs @ 12.13 hrs, Volume= 1.032 af
Outflow = 6.01 cfs @ 12.14 hrs, Volume= 1.032 af, Atten= 0%, Lag= 0.7 min

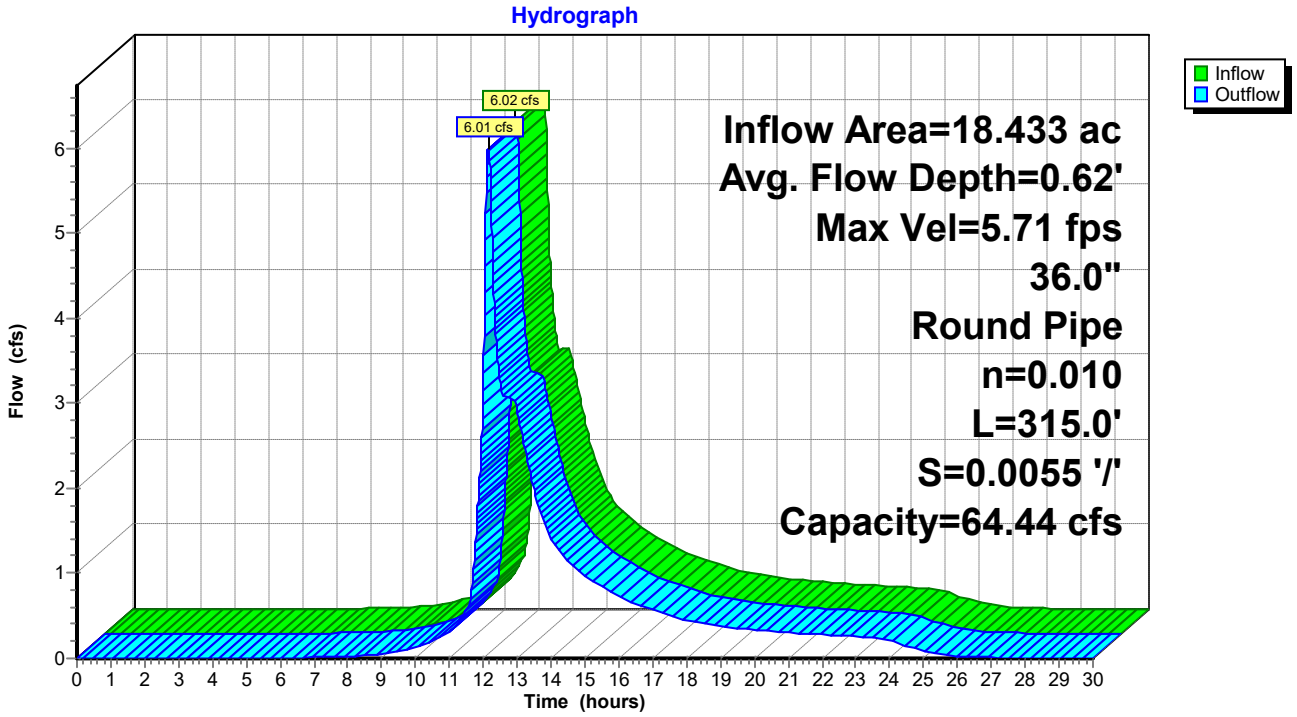
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 5.71 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 1.95 fps, Avg. Travel Time= 2.7 min

Peak Storage= 331 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.62'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 64.44 cfs

36.0" Round Pipe
n= 0.010
Length= 315.0' Slope= 0.0055 '/'
Inlet Invert= 238.49', Outlet Invert= 236.75'



Reach 54R: New Pipe



Summary for Reach 55R: New Pipe

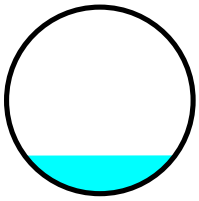
[52] Hint: Inlet/Outlet conditions not evaluated

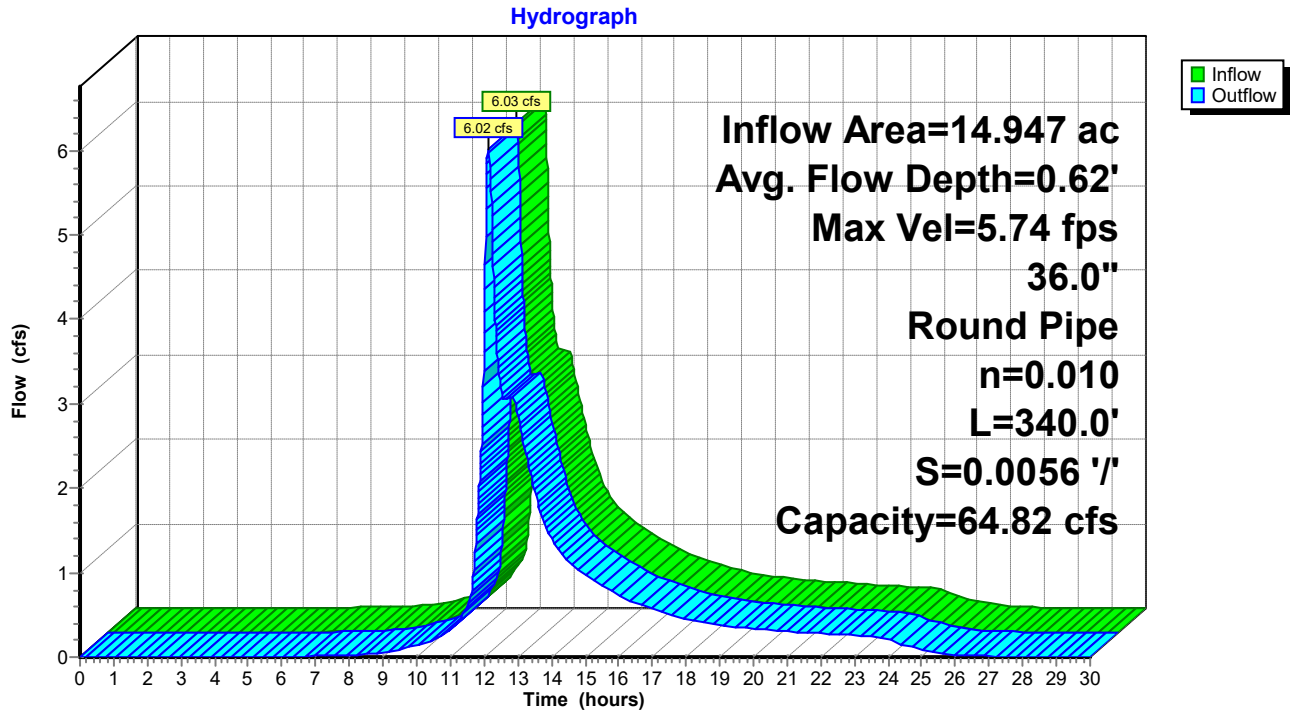
Inflow Area = 14.947 ac, 44.76% Impervious, Inflow Depth > 0.83" for 10-YR event
Inflow = 6.03 cfs @ 12.13 hrs, Volume= 1.032 af
Outflow = 6.02 cfs @ 12.13 hrs, Volume= 1.032 af, Atten= 0%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 5.74 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.95 fps, Avg. Travel Time= 2.9 min

Peak Storage= 357 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.62'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 64.82 cfs

36.0" Round Pipe
n= 0.010
Length= 340.0' Slope= 0.0056 '/'
Inlet Invert= 240.39', Outlet Invert= 238.49'





Summary for Pond 1P: CULVERT

[93] Warning: Storage range exceeded by 2.64'
[58] Hint: Peaked 250.64' above defined flood level
[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 = 6.651 ac, 50.13% Impervious, Inflow Depth = 0.50" for 10-YR event
Inflow = 4.29 cfs @ 12.03 hrs, Volume= 0.279 af
Outflow = 4.53 cfs @ 12.05 hrs, Volume= 0.279 af, Atten= 0%, Lag= 1.1 min
Primary = 4.53 cfs @ 12.05 hrs, Volume= 0.279 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 251.64' @ 12.05 hrs Surf.Area= 300 sf Storage= 345 cf
Flood Elev= 1.00' Surf.Area= 0 sf Storage= 0 cf

Plug-Flow detention time= 0.6 min calculated for 0.279 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (840.2 - 839.6)

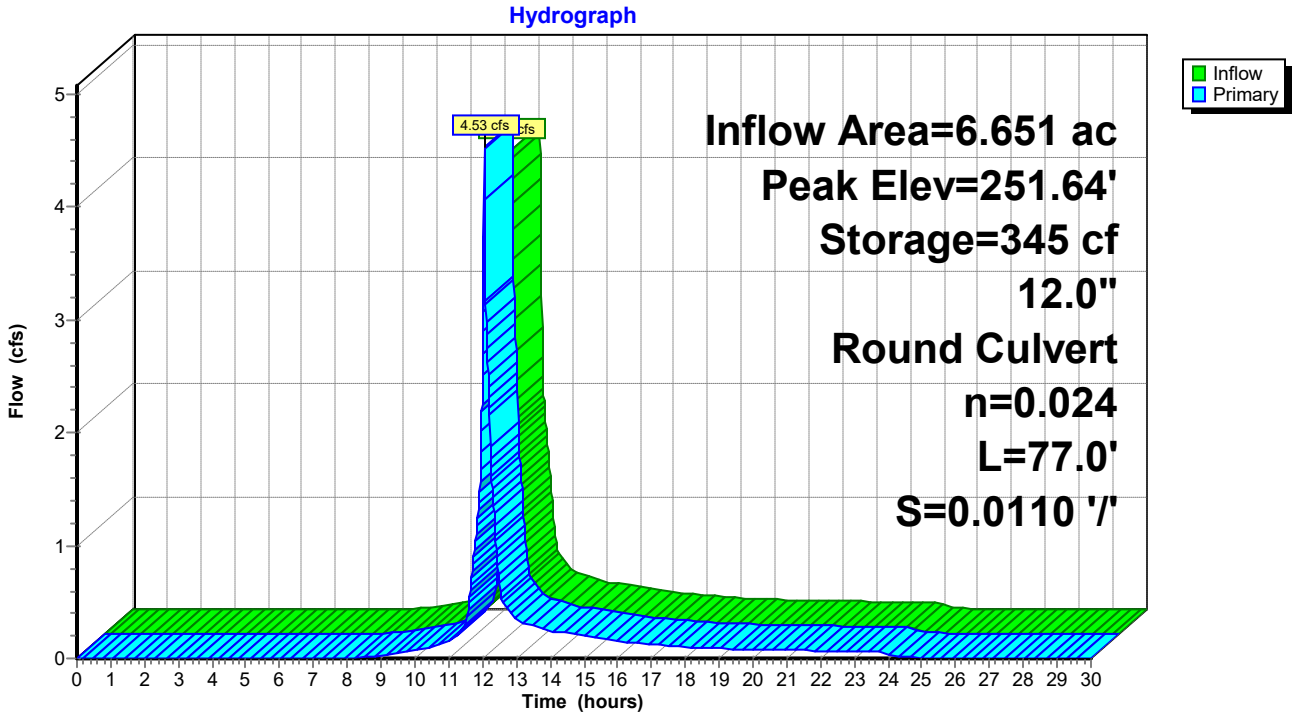
Volume	Invert	Avail.Storage	Storage Description
#1	246.25'	345 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.25	0	0	0
247.00	33	12	12
249.00	300	333	345

Device	Routing	Invert	Outlet Devices
#1	Primary	246.25'	**12.0" Round Culvert** L= 77.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.25' / 245.40' S= 0.0110 '/' Cc= 0.900 n= 0.024, Flow Area= 0.79 sf

Primary OutFlow Max=4.45 cfs @ 12.05 hrs HW=251.46' TW=245.98' (Dynamic Tailwater)
1=Culvert (Barrel Controls 4.45 cfs @ 5.67 fps)

Pond 1P: CULVERT



Summary for Pond 2P: STORM DRAIN

[62] Hint: Exceeded Reach 4R OUTLET depth by 0.53' @ 12.11 hrs

Inflow Area = 13.813 ac, 42.27% Impervious, Inflow Depth = 0.68" for 10-YR event
Inflow = 4.83 cfs @ 12.05 hrs, Volume= 0.785 af
Outflow = 3.43 cfs @ 12.11 hrs, Volume= 0.785 af, Atten= 29%, Lag= 3.8 min
Primary = 3.43 cfs @ 12.11 hrs, Volume= 0.785 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.03' @ 12.11 hrs Surf.Area= 1,729 sf Storage= 900 cf

Plug-Flow detention time= 8.3 min calculated for 0.785 af (100% of inflow)
Center-of-Mass det. time= 8.0 min (905.1 - 897.1)

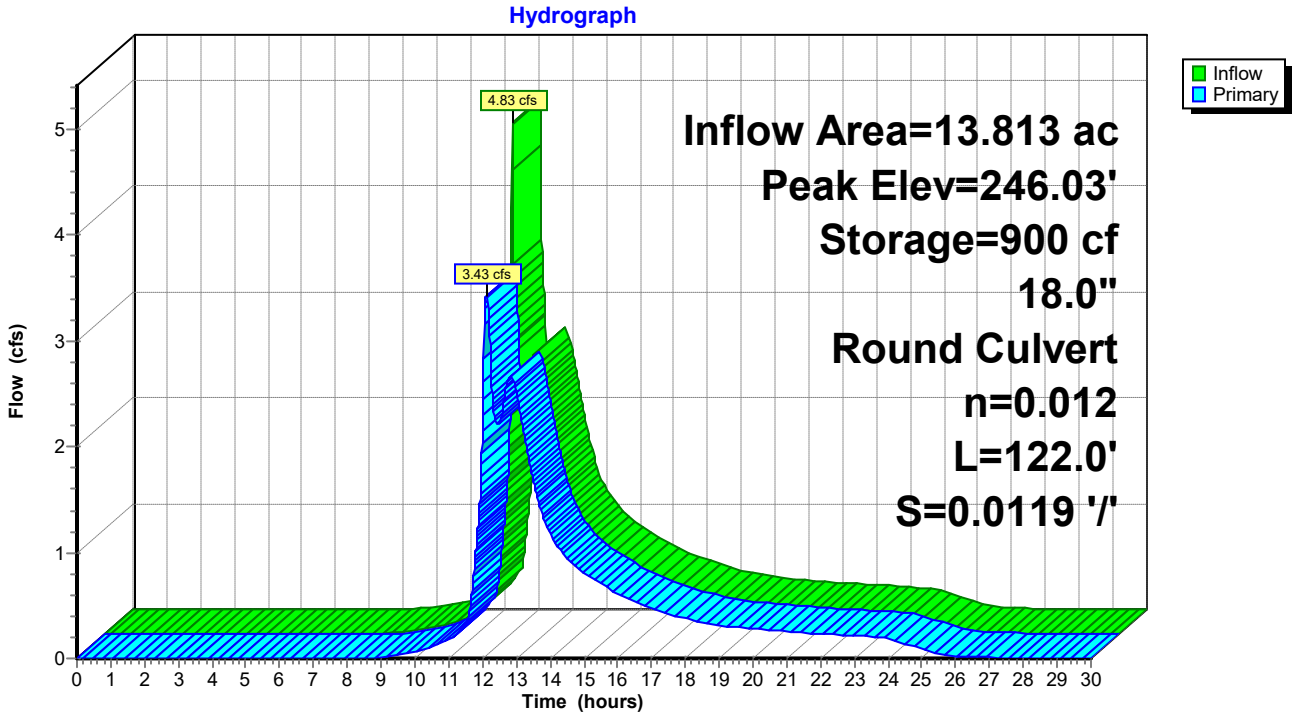
Volume	Invert	Avail.Storage	Storage Description
#1	245.02'	26,780 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
245.02	0	0	0
246.00	1,688	827	827
247.00	3,004	2,346	3,173
248.00	7,300	5,152	8,325
249.00	8,805	8,053	16,378
250.00	12,000	10,403	26,780

Device	Routing	Invert	Outlet Devices
#1	Primary	245.02'	**18.0" Round Culvert** L= 122.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 245.02' / 243.57' S= 0.0119 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=3.42 cfs @ 12.11 hrs HW=246.03' TW=244.21' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.42 cfs @ 2.70 fps)

Pond 2P: STORM DRAIN



Summary for Pond 3P: DRAINAGE MH

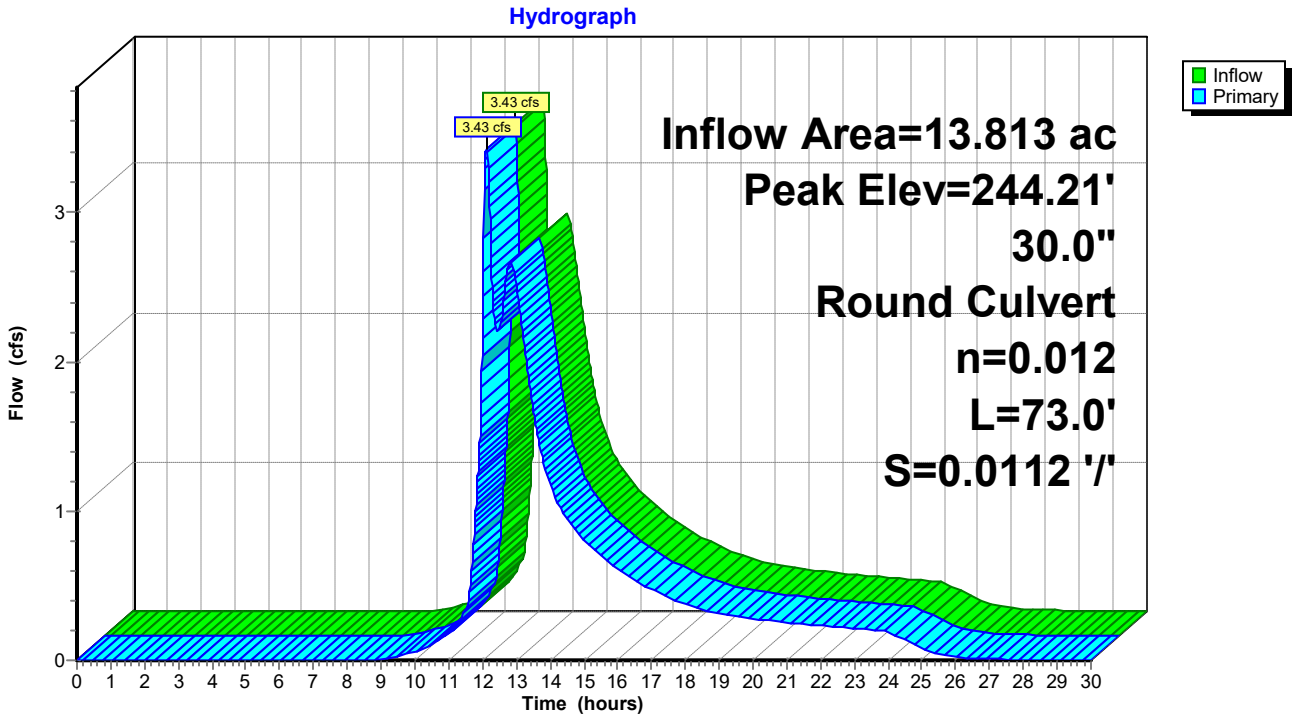
Inflow Area = 13.813 ac, 42.27% Impervious, Inflow Depth > 0.68" for 10-YR event
Inflow = 3.43 cfs @ 12.11 hrs, Volume= 0.785 af
Outflow = 3.43 cfs @ 12.11 hrs, Volume= 0.785 af, Atten= 0%, Lag= 0.0 min
Primary = 3.43 cfs @ 12.11 hrs, Volume= 0.785 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 244.21' @ 12.12 hrs
Flood Elev= 248.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	243.47'	**30.0" Round Culvert** L= 73.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 243.47' / 242.65' S= 0.0112 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf

Primary OutFlow Max=3.42 cfs @ 12.11 hrs HW=244.21' TW=243.43' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.42 cfs @ 4.21 fps)

Pond 3P: DRAINAGE MH



Summary for Pond 4P: DRAINAGE MH

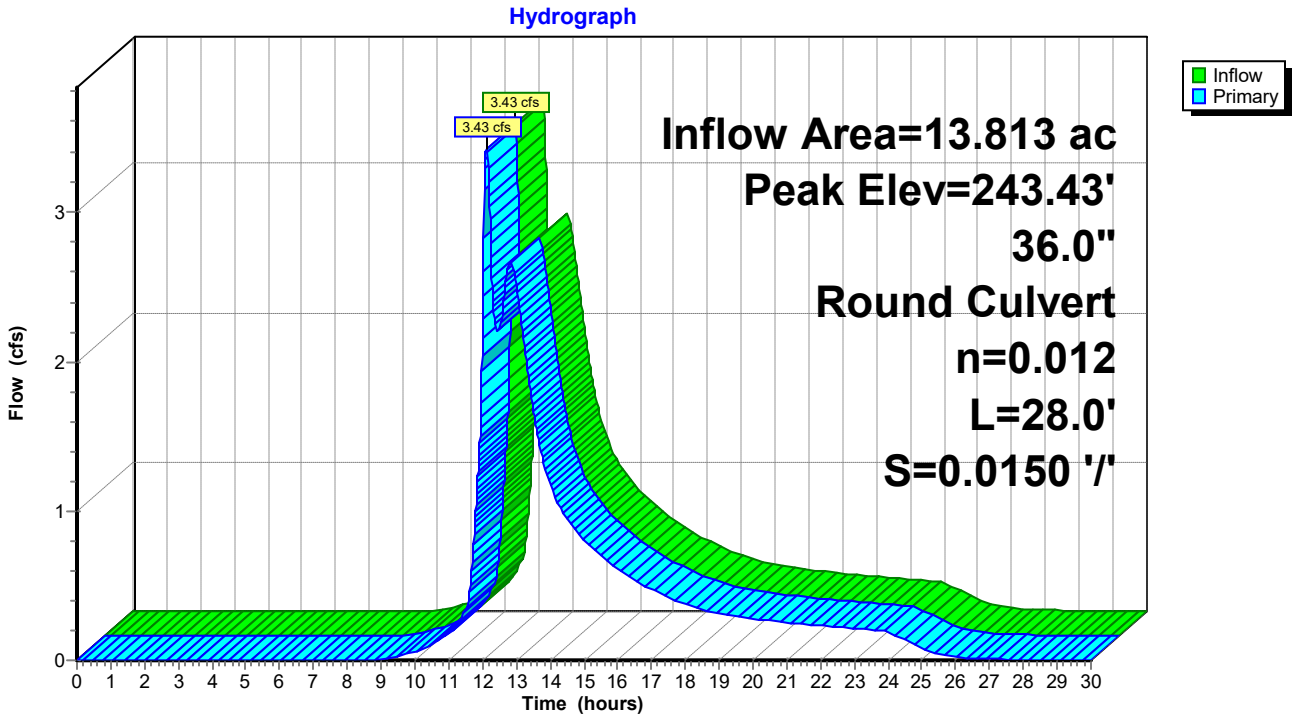
Inflow Area = 13.813 ac, 42.27% Impervious, Inflow Depth > 0.68" for 10-YR event
Inflow = 3.43 cfs @ 12.11 hrs, Volume= 0.785 af
Outflow = 3.43 cfs @ 12.11 hrs, Volume= 0.785 af, Atten= 0%, Lag= 0.0 min
Primary = 3.43 cfs @ 12.11 hrs, Volume= 0.785 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 243.43' @ 12.12 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.65'	**36.0" Round Culvert** L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.65' / 242.23' S= 0.0150 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=3.42 cfs @ 12.11 hrs HW=243.43' TW=243.04' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.42 cfs @ 3.54 fps)

Pond 4P: DRAINAGE MH



Summary for Pond 5P: DRAINAGE MH

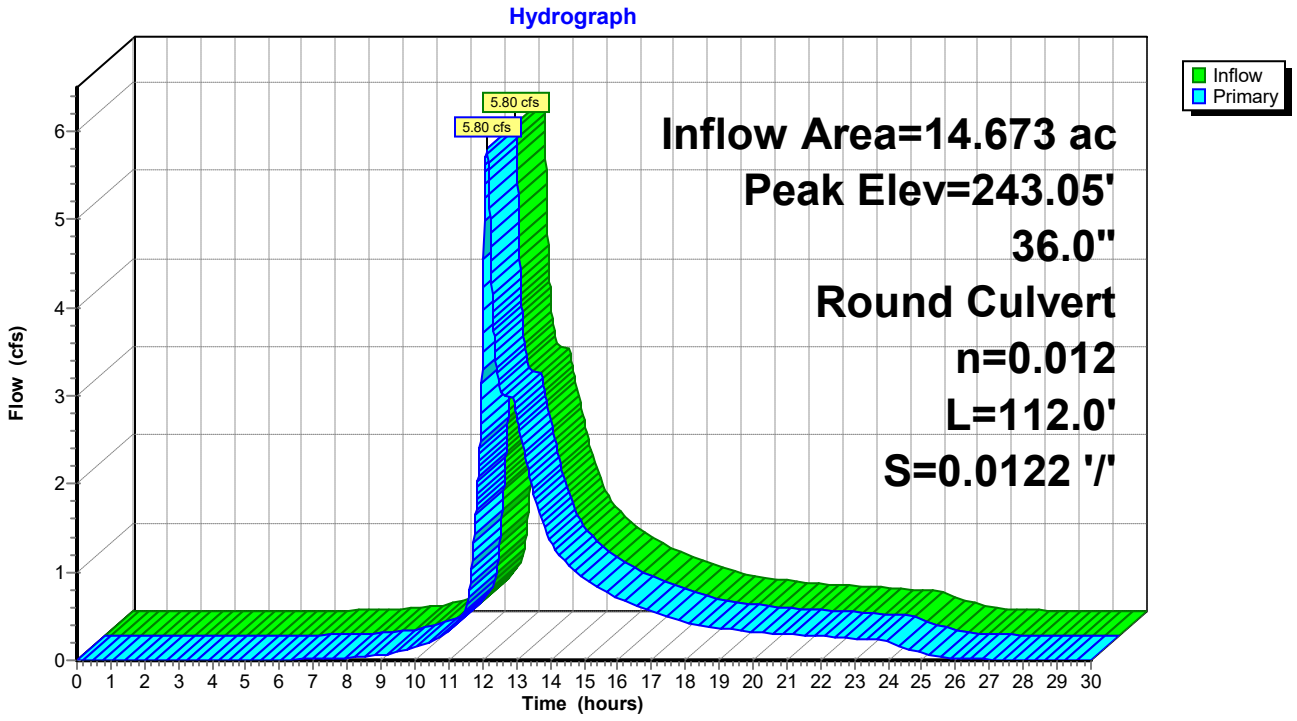
Inflow Area = 14.673 ac, 44.70% Impervious, Inflow Depth > 0.82" for 10-YR event
Inflow = 5.80 cfs @ 12.13 hrs, Volume= 1.002 af
Outflow = 5.80 cfs @ 12.13 hrs, Volume= 1.002 af, Atten= 0%, Lag= 0.0 min
Primary = 5.80 cfs @ 12.13 hrs, Volume= 1.002 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 243.05' @ 12.13 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.13'	**36.0" Round Culvert** L= 112.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.13' / 240.76' S= 0.0122 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=5.79 cfs @ 12.13 hrs HW=243.05' TW=241.98' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.79 cfs @ 4.74 fps)

Pond 5P: DRAINAGE MH



Summary for Pond 6P: DRAINAGE MH

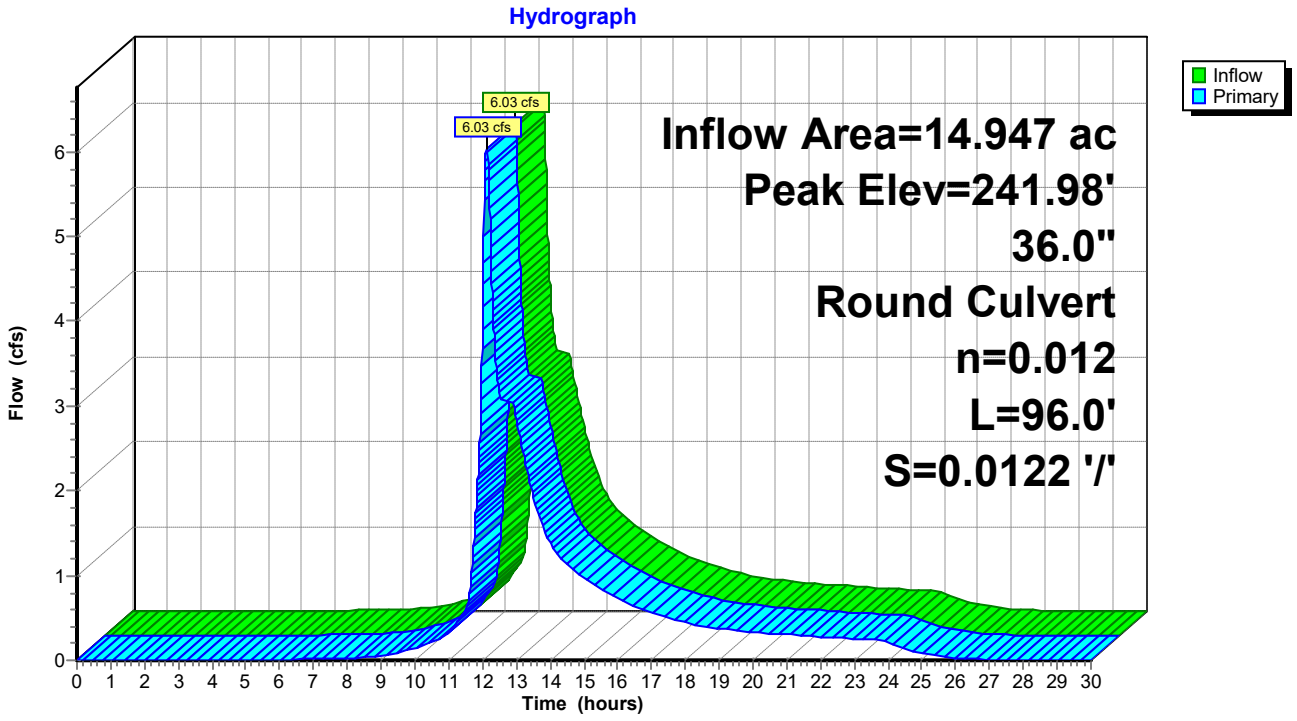
Inflow Area = 14.947 ac, 44.76% Impervious, Inflow Depth > 0.83" for 10-YR event
Inflow = 6.03 cfs @ 12.13 hrs, Volume= 1.032 af
Outflow = 6.03 cfs @ 12.13 hrs, Volume= 1.032 af, Atten= 0%, Lag= 0.0 min
Primary = 6.03 cfs @ 12.13 hrs, Volume= 1.032 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 241.98' @ 12.13 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.76'	**36.0" Round Culvert** L= 96.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.76' / 239.59' S= 0.0122 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=6.03 cfs @ 12.13 hrs HW=241.98' TW=241.56' (Dynamic Tailwater)
1=Culvert (Outlet Controls 6.03 cfs @ 3.30 fps)

Pond 6P: DRAINAGE MH



Summary for Pond 7P: DRAINAGE MH

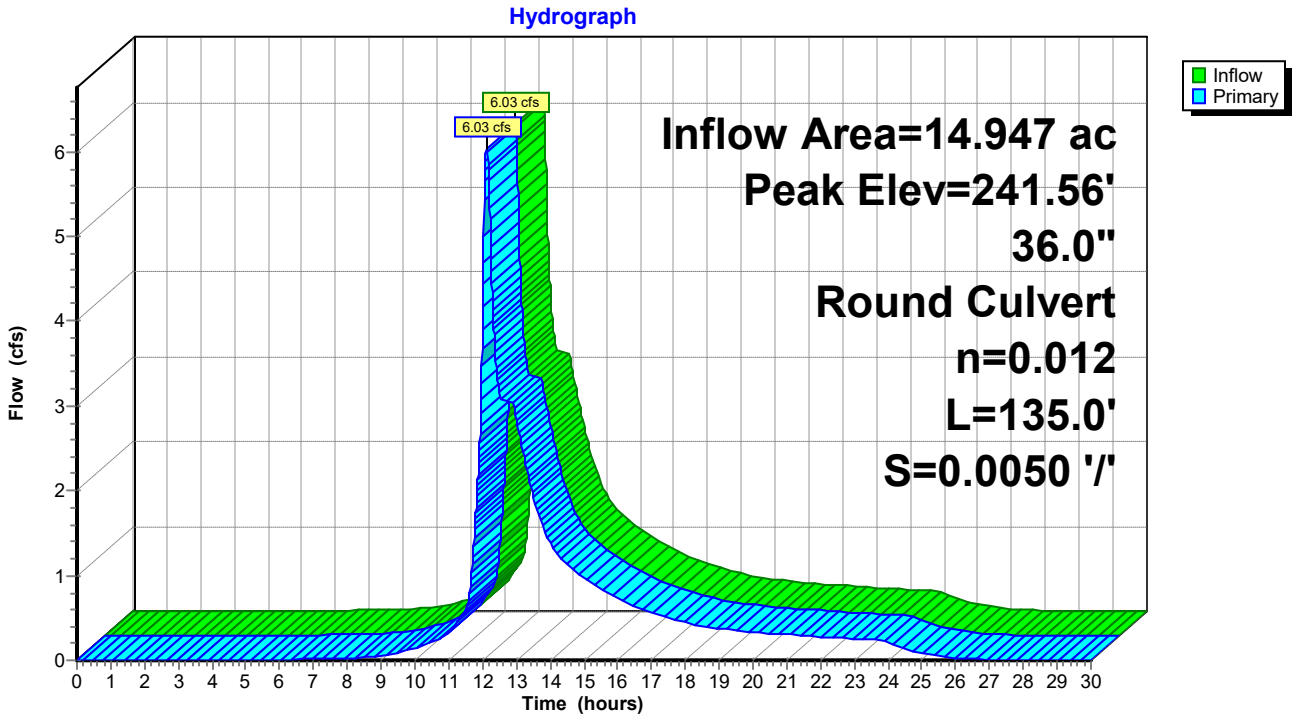
Inflow Area = 14.947 ac, 44.76% Impervious, Inflow Depth > 0.83" for 10-YR event
Inflow = 6.03 cfs @ 12.13 hrs, Volume= 1.032 af
Outflow = 6.03 cfs @ 12.13 hrs, Volume= 1.032 af, Atten= 0%, Lag= 0.0 min
Primary = 6.03 cfs @ 12.13 hrs, Volume= 1.032 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 241.56' @ 12.13 hrs
Flood Elev= 249.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.39'	**36.0" Round Culvert** L= 135.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.39' / 239.72' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=6.03 cfs @ 12.13 hrs HW=241.56' TW=241.01' (Dynamic Tailwater)
1=Culvert (Outlet Controls 6.03 cfs @ 3.49 fps)

Pond 7P: DRAINAGE MH



Summary for Pond 8P: STORM DRAIN

Inflow Area = 0.724 ac, 80.43% Impervious, Inflow Depth = 2.82" for 10-YR event
Inflow = 1.98 cfs @ 12.16 hrs, Volume= 0.170 af
Outflow = 1.98 cfs @ 12.17 hrs, Volume= 0.170 af, Atten= 0%, Lag= 0.6 min
Primary = 1.98 cfs @ 12.17 hrs, Volume= 0.170 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.02' @ 12.17 hrs Surf.Area= 36 sf Storage= 19 cf

Plug-Flow detention time= 0.5 min calculated for 0.170 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (815.8 - 815.4)

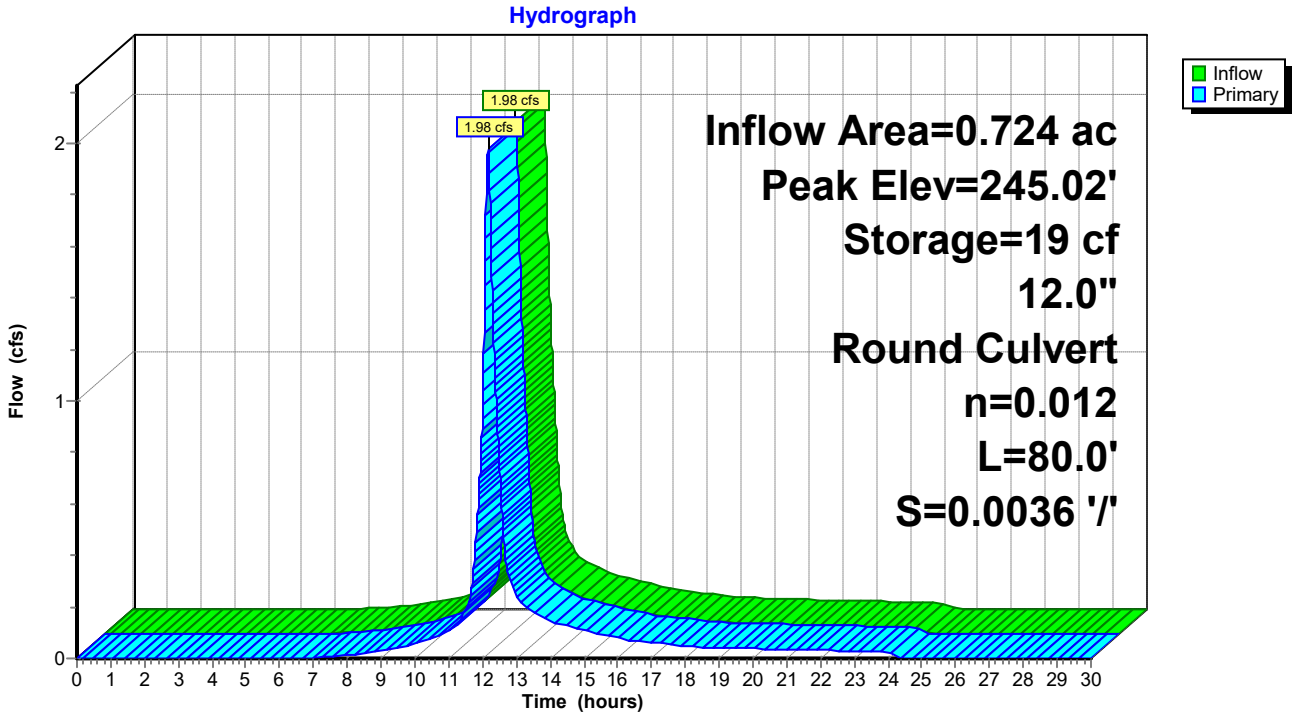
Volume	Invert	Avail.Storage	Storage Description
#1	244.02'	2,532 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
244.02	0	0	0
245.00	34	17	17
246.00	145	90	106
247.00	393	269	375
248.00	829	611	986
249.00	2,263	1,546	2,532

Device	Routing	Invert	Outlet Devices
#1	Primary	244.02'	**12.0" Round Culvert** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 244.02' / 243.73' S= 0.0036 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.98 cfs @ 12.17 hrs HW=245.02' TW=243.03' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 1.98 cfs @ 3.12 fps)

Pond 8P: STORM DRAIN



Summary for Pond 9P: CULVERT

Inflow Area = 0.701 ac, 31.01% Impervious, Inflow Depth = 0.81" for 10-YR event
Inflow = 0.34 cfs @ 12.38 hrs, Volume= 0.047 af
Outflow = 0.32 cfs @ 12.46 hrs, Volume= 0.047 af, Atten= 4%, Lag= 4.7 min
Primary = 0.32 cfs @ 12.46 hrs, Volume= 0.047 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 250.23' @ 12.46 hrs Surf.Area= 215 sf Storage= 97 cf

Plug-Flow detention time= 4.4 min calculated for 0.047 af (100% of inflow)
Center-of-Mass det. time= 4.3 min (914.5 - 910.2)

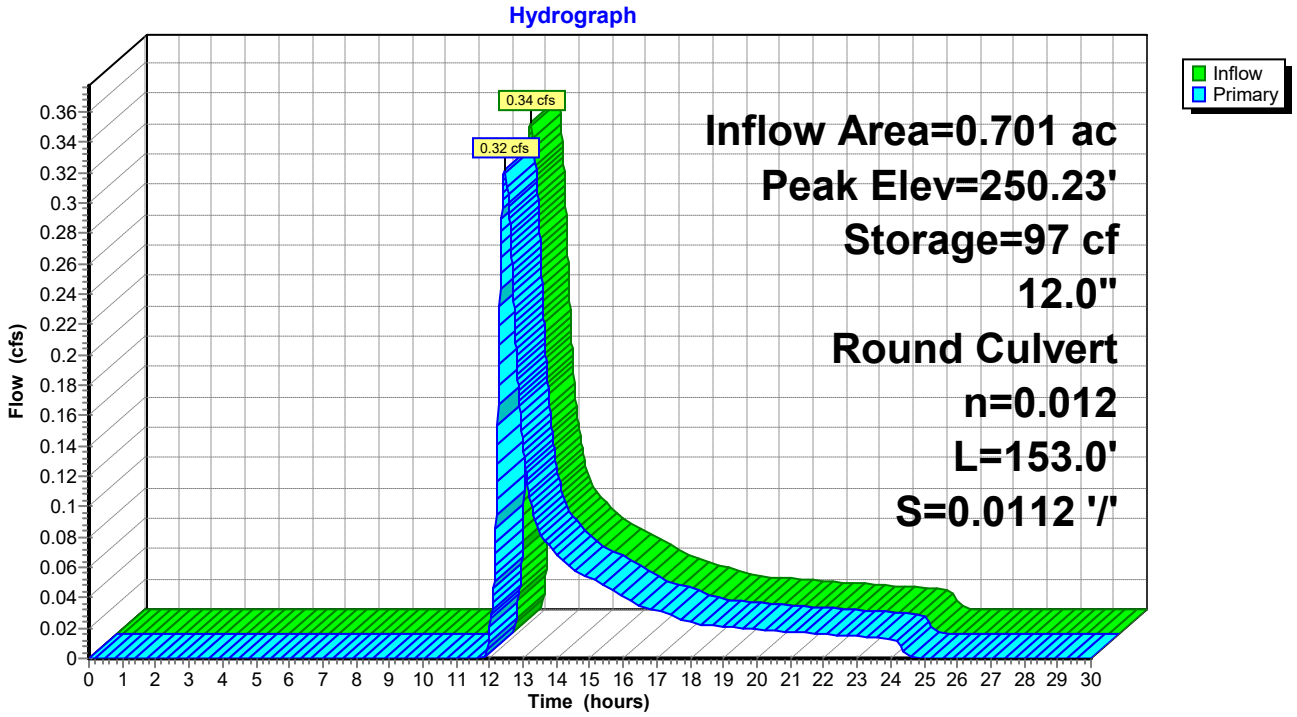
Volume	Invert	Avail.Storage	Storage Description
#1	249.91'	1,464 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
249.91	0	0	0
250.00	44	2	2
251.00	800	422	424
252.00	1,280	1,040	1,464

Device	Routing	Invert	Outlet Devices
#1	Primary	249.91'	**12.0" Round Culvert** L= 153.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 249.91' / 248.20' S= 0.0112 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.32 cfs @ 12.46 hrs HW=250.23' TW=247.81' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.32 cfs @ 1.51 fps)

Pond 9P: CULVERT



Summary for Pond 11P: UNDERDRAINED SOIL FILTER 11

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=60)

Inflow Area = 0.607 ac, 74.03% Impervious, Inflow Depth = 2.55" for 10-YR event
Inflow = 2.14 cfs @ 12.02 hrs, Volume= 0.129 af
Outflow = 0.14 cfs @ 13.35 hrs, Volume= 0.129 af, Atten= 93%, Lag= 79.5 min
Discarded = 0.14 cfs @ 13.35 hrs, Volume= 0.129 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.10' @ 13.35 hrs Surf.Area= 2,563 sf Storage= 2,393 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 166.2 min (981.7 - 815.4)

Volume	Invert	Avail.Storage	Storage Description
#1	254.00'	4,990 cf	**Custom Stage Data (Prismatic)** Listed below

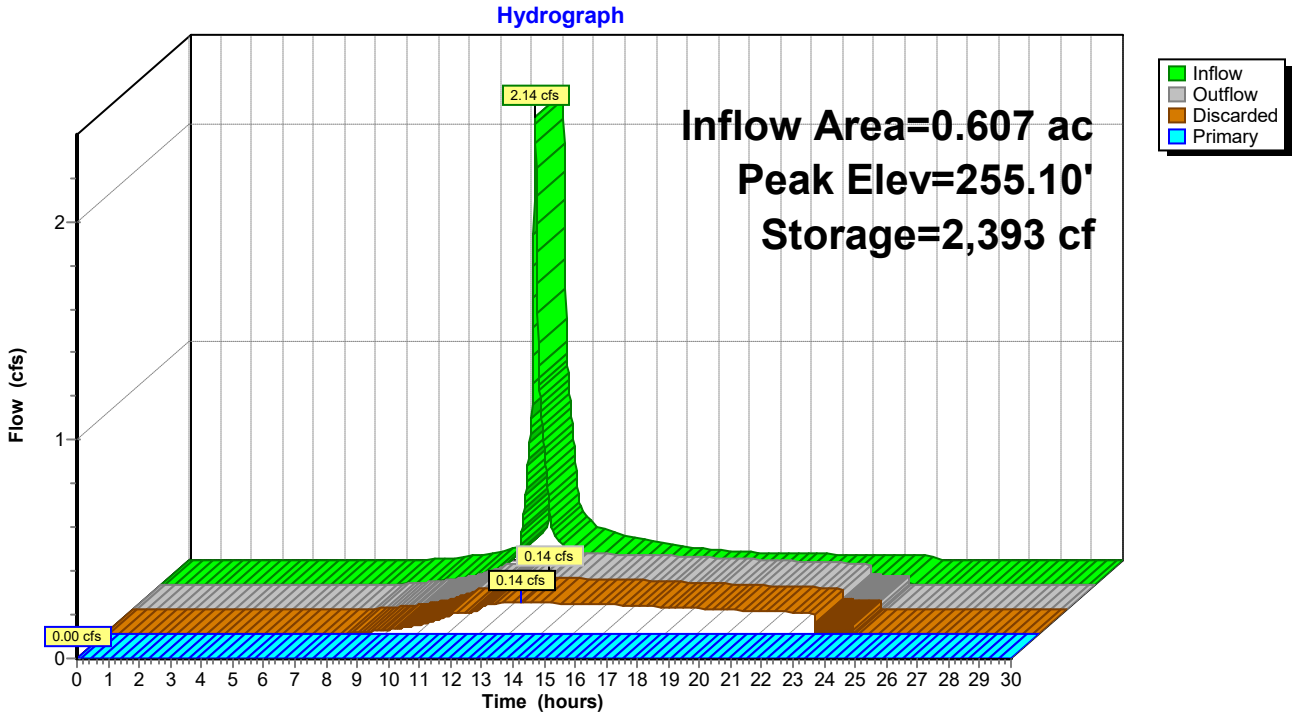
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
254.00	1,720	0	0
255.00	2,480	2,100	2,100
256.00	3,300	2,890	4,990

Device	Routing	Invert	Outlet Devices
#1	Discarded	254.00'	**2.398 in/hr Exfiltration over Surface area above 251.83'** Excluded Surface area = 0 sf
#2	Primary	255.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.14 cfs @ 13.35 hrs HW=255.10' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=254.00' TW=247.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 11P: UNDERDRAINED SOIL FILTER 11



Summary for Pond 12P: UNDERDRAINED SOIL FILTER 12

Inflow Area = 2.938 ac, 83.72% Impervious, Inflow Depth = 3.20" for 10-YR event
Inflow = 11.02 cfs @ 12.08 hrs, Volume= 0.785 af
Outflow = 0.83 cfs @ 13.20 hrs, Volume= 0.785 af, Atten= 92%, Lag= 67.6 min
Discarded = 0.83 cfs @ 13.20 hrs, Volume= 0.785 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.36' @ 13.20 hrs Surf.Area= 14,932 sf Storage= 15,290 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 193.3 min (988.6 - 795.3)

Volume	Invert	Avail.Storage	Storage Description
#1	254.00'	25,725 cf	**Custom Stage Data (Prismatic)** Listed below

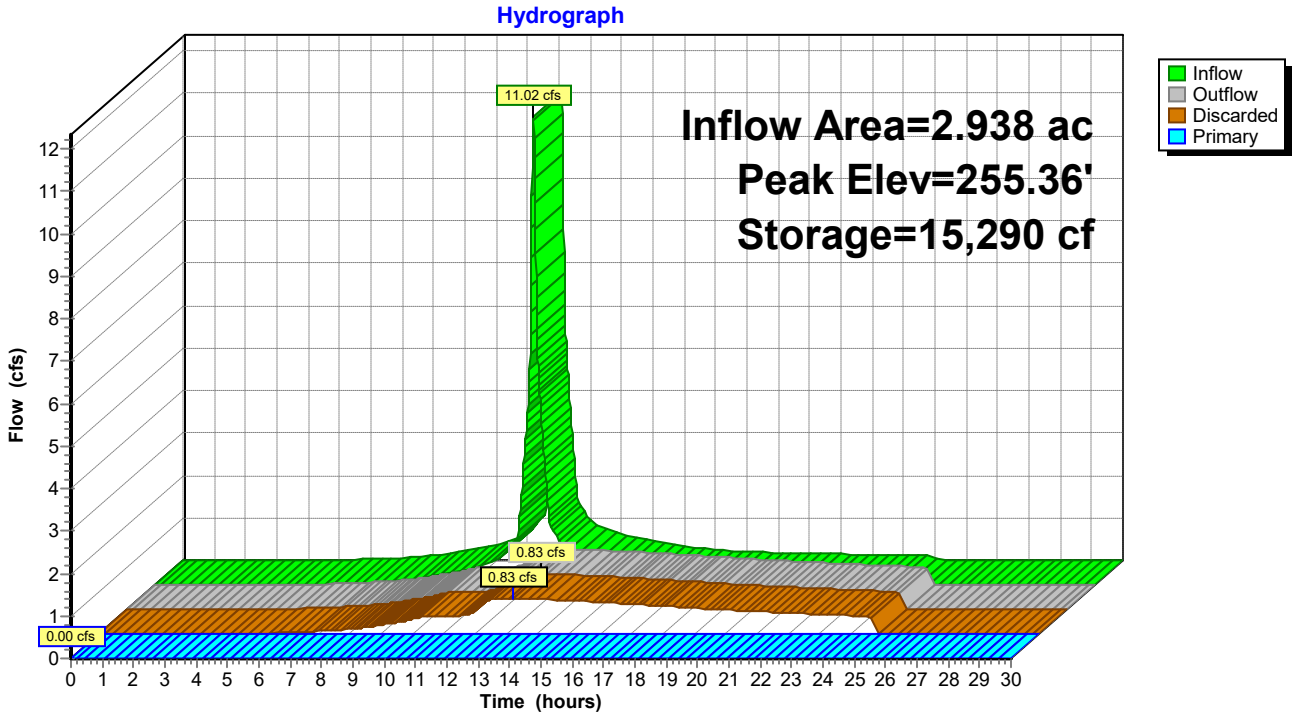
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
254.00	7,250	0	0
255.00	11,800	9,525	9,525
256.00	20,600	16,200	25,725

Device	Routing	Invert	Outlet Devices
#1	Discarded	254.00'	**2.400 in/hr Exfiltration over Surface area above 251.83'** Excluded Surface area = 0 sf
#2	Primary	255.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.83 cfs @ 13.20 hrs HW=255.36' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.83 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=254.00' TW=246.25' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 12P: UNDERDRAINED SOIL FILTER 12



Summary for Pond 14P: CULVERT

Inflow Area = 4.967 ac, 23.83% Impervious, Inflow Depth = 0.59" for 10-YR event
Inflow = 0.85 cfs @ 13.01 hrs, Volume= 0.246 af
Outflow = 0.85 cfs @ 13.04 hrs, Volume= 0.246 af, Atten= 1%, Lag= 2.1 min
Primary = 0.85 cfs @ 13.04 hrs, Volume= 0.246 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 247.99' @ 13.04 hrs Surf.Area= 1,351 sf Storage= 338 cf

Plug-Flow detention time= 11.7 min calculated for 0.246 af (100% of inflow)
Center-of-Mass det. time= 11.4 min (971.0 - 959.6)

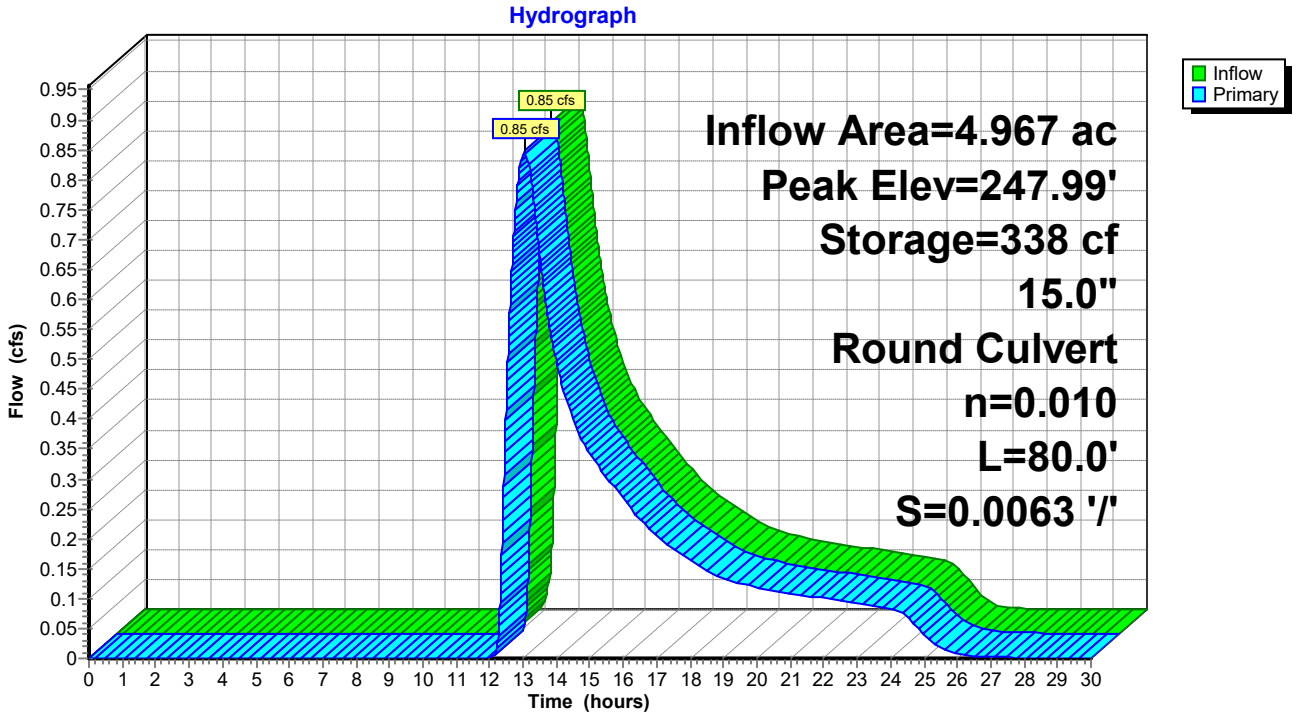
Volume	Invert	Avail.Storage	Storage Description
#1	247.50'	6,053 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
247.50	0	0	0
248.00	1,370	343	343
249.00	3,050	2,210	2,553
250.00	3,950	3,500	6,053

Device	Routing	Invert	Outlet Devices
#1	Primary	247.50'	**15.0" Round Culvert** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 247.50' / 247.00' S= 0.0063 '/' Cc= 0.900 n= 0.010, Flow Area= 1.23 sf

Primary OutFlow Max=0.85 cfs @ 13.04 hrs HW=247.99' TW=247.12' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.85 cfs @ 1.89 fps)

Pond 14P: CULVERT



Summary for Pond 16P: CATCH BASIN

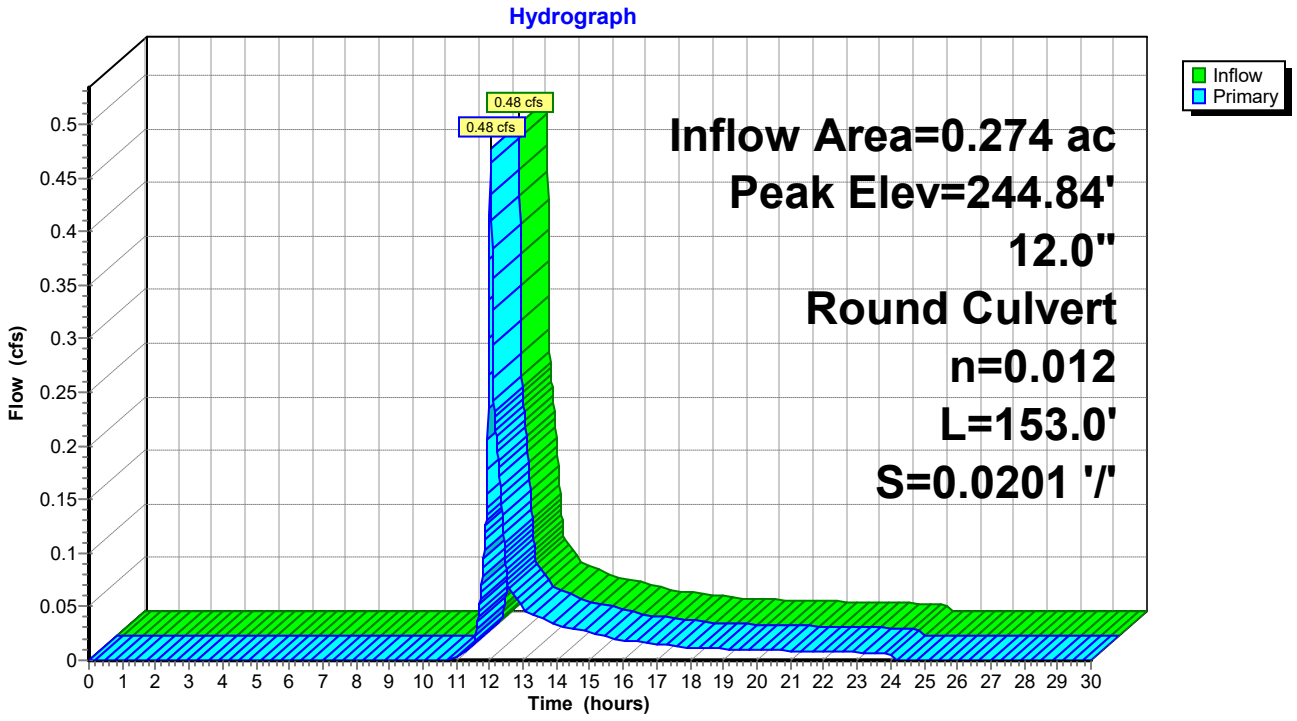
Inflow Area = 0.274 ac, 48.15% Impervious, Inflow Depth = 1.33" for 10-YR event
Inflow = 0.48 cfs @ 12.02 hrs, Volume= 0.030 af
Outflow = 0.48 cfs @ 12.02 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min
Primary = 0.48 cfs @ 12.02 hrs, Volume= 0.030 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 244.84' @ 12.02 hrs
Flood Elev= 249.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	244.50'	**12.0" Round Culvert** L= 153.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 244.50' / 241.43' S= 0.0201 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.47 cfs @ 12.02 hrs HW=244.84' TW=241.80' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.47 cfs @ 1.99 fps)

Pond 16P: CATCH BASIN



Summary for Pond 30P: UNDERDRAINED SOIL FILTER 30

Inflow Area = 4.148 ac, 85.98% Impervious, Inflow Depth = 3.33" for 10-YR event
Inflow = 14.94 cfs @ 12.07 hrs, Volume= 1.152 af
Outflow = 1.32 cfs @ 12.95 hrs, Volume= 0.511 af, Atten= 91%, Lag= 53.1 min
Discarded = 0.17 cfs @ 12.95 hrs, Volume= 0.252 af
Primary = 1.15 cfs @ 12.95 hrs, Volume= 0.260 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 243.60' @ 12.95 hrs Surf.Area= 15,047 sf Storage= 32,674 cf

Plug-Flow detention time= 429.0 min calculated for 0.511 af (44% of inflow)
Center-of-Mass det. time= 288.3 min (1,051.0 - 762.8)

Volume	Invert	Avail.Storage	Storage Description
#1	241.20'	46,448 cf	**Custom Stage Data (Prismatic)** Listed below

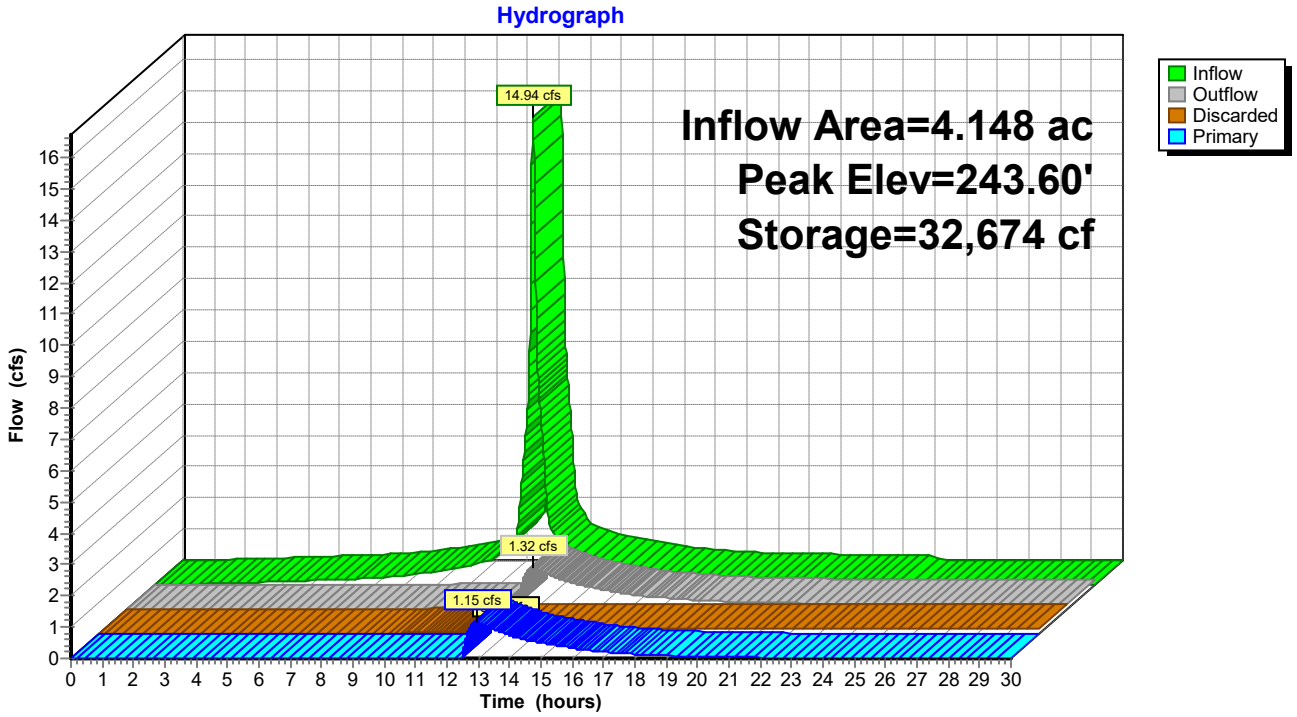
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
241.20	12,000	0	0
243.00	14,150	23,535	23,535
244.50	16,400	22,913	46,448

Device	Routing	Invert	Outlet Devices
#1	Discarded	241.20'	**2.400 in/hr Exfiltration over Surface area above 241.20'** Excluded Surface area = 12,000 sf
#2	Primary	243.50'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.17 cfs @ 12.95 hrs HW=243.60' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=1.15 cfs @ 12.95 hrs HW=243.60' TW=239.11' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 1.15 cfs @ 0.78 fps)

Pond 30P: UNDERDRAINED SOIL FILTER 30



Summary for Pond 50P: Underdrain Soil Filter 3

[92] Warning: Device #2 is above defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=63)

Inflow Area = 1.939 ac, 58.21% Impervious, Inflow Depth = 1.75" for 10-YR event
Inflow = 2.70 cfs @ 12.27 hrs, Volume= 0.282 af
Outflow = 0.32 cfs @ 13.97 hrs, Volume= 0.282 af, Atten= 88%, Lag= 101.9 min
Discarded = 0.32 cfs @ 13.97 hrs, Volume= 0.282 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.07' @ 13.97 hrs Surf.Area= 5,687 sf Storage= 5,129 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 170.8 min (1,030.3 - 859.4)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	11,150 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

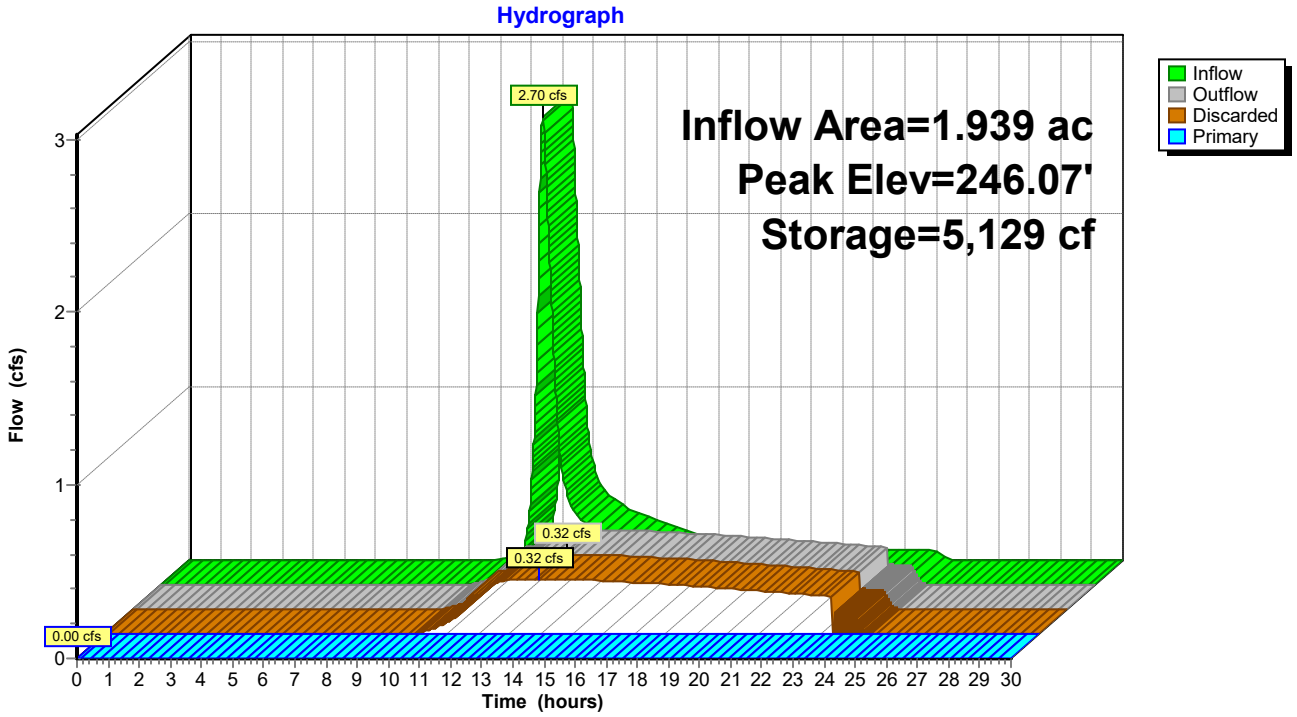
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
245.00	3,920	0	0
247.00	7,230	11,150	11,150

Device	Routing	Invert	Outlet Devices
#1	Primary	246.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	247.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	245.00'	**2.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.32 cfs @ 13.97 hrs HW=246.07' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.32 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=245.00' TW=236.75' (Dynamic Tailwater)
├**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 50P: Underdrain Soil Filter 3



Summary for Pond 51P: Underdrain Soil Filter 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=53)

Inflow Area = 3.761 ac, 83.34% Impervious, Inflow Depth = 3.23" for 10-YR event
Inflow = 13.86 cfs @ 12.05 hrs, Volume= 1.011 af
Outflow = 0.85 cfs @ 13.53 hrs, Volume= 1.011 af, Atten= 94%, Lag= 88.7 min
Discarded = 0.85 cfs @ 13.53 hrs, Volume= 1.011 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 242.19' @ 13.53 hrs Surf.Area= 15,374 sf Storage= 17,283 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 163.1 min (923.7 - 760.6)

Volume	Invert	Avail.Storage	Storage Description
#1	241.00'	47,280 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

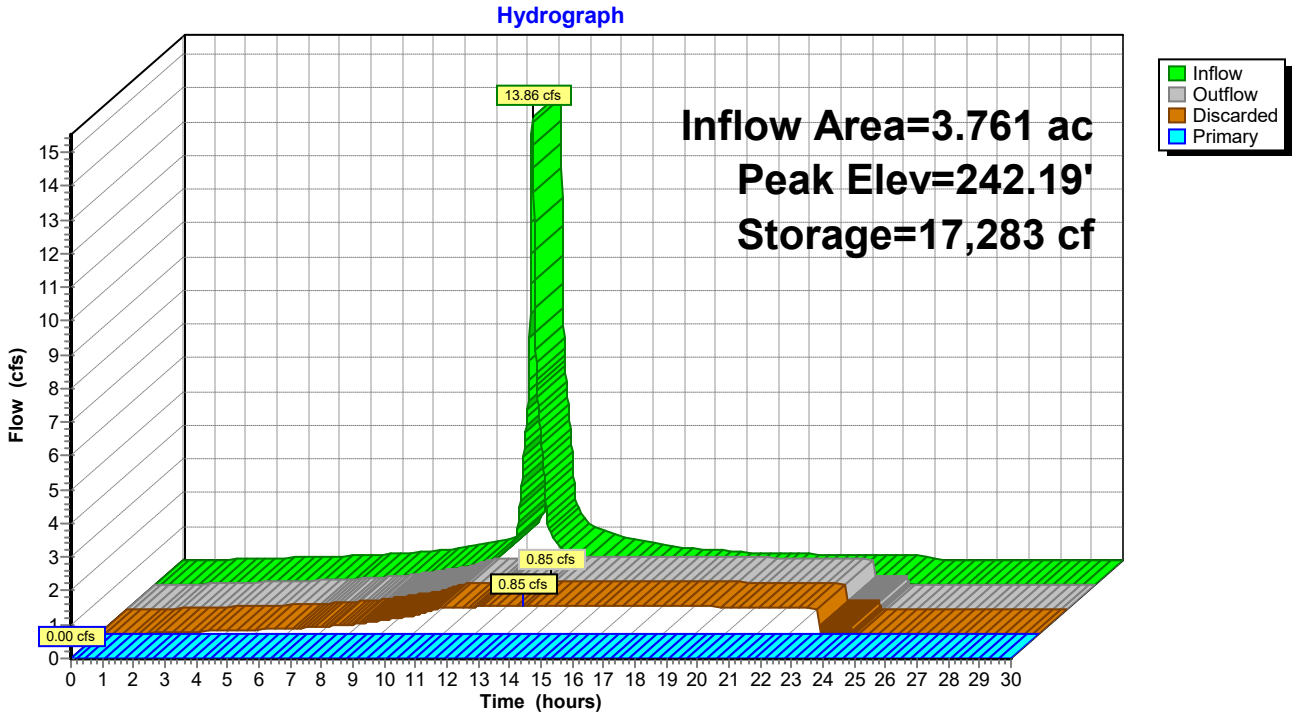
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
241.00	13,760	0	0
243.00	16,480	30,240	30,240
244.00	17,600	17,040	47,280

Device	Routing	Invert	Outlet Devices
#1	Primary	242.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Discarded	241.00'	**2.400 in/hr Exfiltration over Surface area**
#3	Primary	243.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.85 cfs @ 13.53 hrs HW=242.19' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.85 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=241.00' TW=238.60' (Dynamic Tailwater)
├**1=Orifice/Grate** (Controls 0.00 cfs)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 51P: Underdrain Soil Filter 1



Summary for Pond 52P: Underdrain Soil Filter 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=222)

Inflow Area = 3.486 ac, 50.59% Impervious, Inflow Depth = 1.41" for 10-YR event
Inflow = 4.54 cfs @ 12.06 hrs, Volume= 0.408 af
Outflow = 0.49 cfs @ 13.28 hrs, Volume= 0.408 af, Atten= 89%, Lag= 73.2 min
Discarded = 0.49 cfs @ 13.28 hrs, Volume= 0.408 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.61' @ 13.28 hrs Surf.Area= 8,898 sf Storage= 5,752 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 97.6 min (922.7 - 825.1)

Volume	Invert	Avail.Storage	Storage Description
#1	246.00'	18,960 cf	**Custom Stage Data (Prismatic)** Listed below

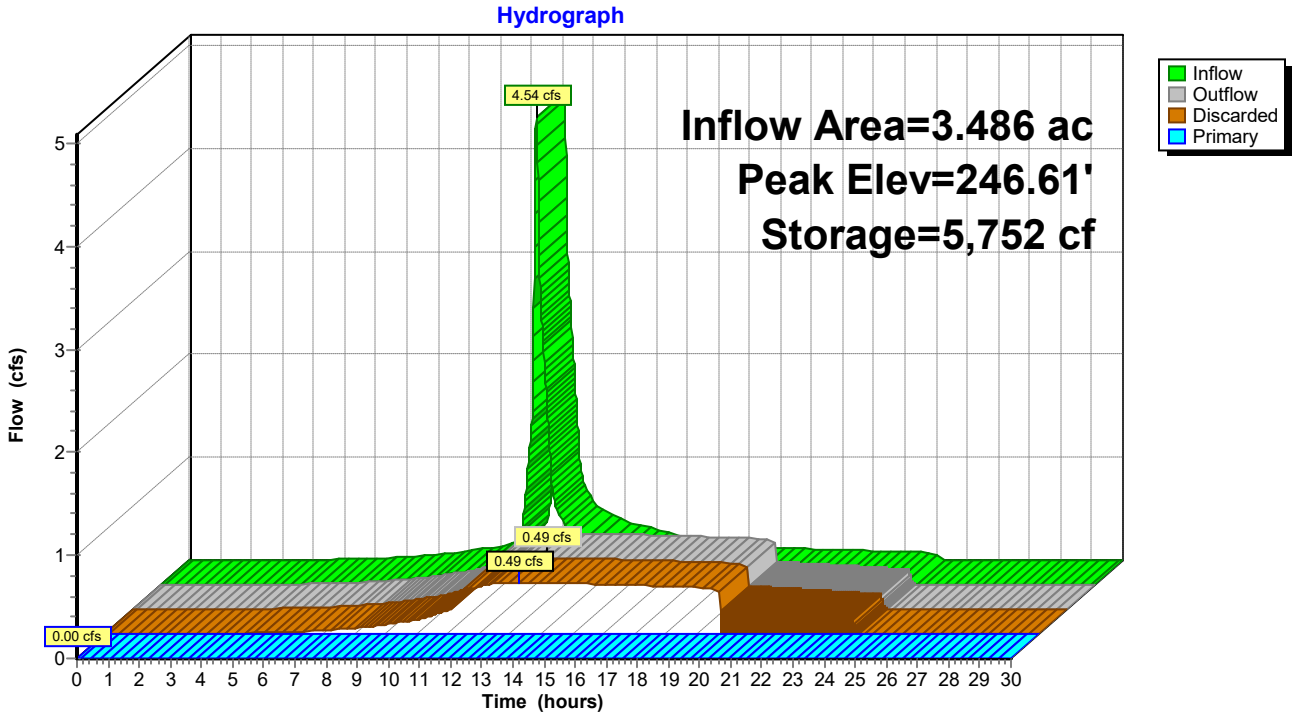
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.00	8,000	0	0
248.00	10,960	18,960	18,960

Device	Routing	Invert	Outlet Devices
#1	Discarded	246.00'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	247.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.49 cfs @ 13.28 hrs HW=246.61' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.49 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=246.00' TW=238.49' (Dynamic Tailwater)
↑**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 52P: Underdrain Soil Filter 2



Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 1.1S: Runoff Area=57,730 sf 59.83% Impervious Runoff Depth=3.34"
Flow Length=170' Tc=1.9 min CN=81 Runoff=6.01 cfs 0.369 af

Subcatchment 1.2S: TRUCK PARKING Runoff Area=127,973 sf 83.72% Impervious Runoff Depth=4.26"
Flow Length=350' Tc=5.3 min CN=90 Runoff=14.45 cfs 1.044 af

Subcatchment 1S: Runoff Area=104,035 sf 3.43% Impervious Runoff Depth=0.29"
Flow Length=970' Tc=59.4 min CN=39 Runoff=0.11 cfs 0.057 af

Subcatchment 2.2S: TRUCK PARKING Runoff Area=26,444 sf 74.03% Impervious Runoff Depth=3.54"
Flow Length=180' Tc=1.4 min CN=83 Runoff=2.95 cfs 0.179 af

Subcatchment 2.3S: Runoff Area=185,828 sf 22.66% Impervious Runoff Depth=1.05"
Flow Length=620' Tc=61.3 min CN=53 Runoff=1.64 cfs 0.374 af

Subcatchment 2S: Runoff Area=69,126 sf 54.91% Impervious Runoff Depth=2.87"
Flow Length=210' Tc=50.8 min CN=76 Runoff=2.32 cfs 0.379 af

Subcatchment 3S: Runoff Area=31,528 sf 80.43% Impervious Runoff Depth=3.84"
Flow Length=187' Tc=11.5 min CN=86 Runoff=2.68 cfs 0.232 af

Subcatchment 4.1S: ROOF Runoff Area=38,895 sf 100.00% Impervious Runoff Depth=5.16"
Tc=5.0 min CN=98 Runoff=4.89 cfs 0.384 af

Subcatchment 4.2S: Runoff Area=39,906 sf 92.26% Impervious Runoff Depth=4.59"
Flow Length=230' Tc=3.2 min CN=93 Runoff=5.10 cfs 0.351 af

Subcatchment 4.3S: Runoff Area=111,953 sf 35.74% Impervious Runoff Depth=1.19"
Flow Length=278' Tc=8.1 min CN=55 Runoff=2.78 cfs 0.254 af

Subcatchment 4.4S: Runoff Area=11,914 sf 48.15% Impervious Runoff Depth=2.09"
Flow Length=200' Tc=1.2 min CN=67 Runoff=0.78 cfs 0.048 af

Subcatchment 4.5S: ROOF Runoff Area=57,428 sf 100.00% Impervious Runoff Depth=5.16"
Tc=5.0 min CN=98 Runoff=7.22 cfs 0.567 af

Subcatchment 5.1S: Runoff Area=50,853 sf 50.19% Impervious Runoff Depth=2.25"
Flow Length=200' Tc=1.9 min CN=69 Runoff=3.53 cfs 0.219 af

Subcatchment 5.2S: ROOF Runoff Area=33,515 sf 100.00% Impervious Runoff Depth=5.16"
Tc=5.0 min CN=98 Runoff=4.21 cfs 0.331 af

Subcatchment 6S: ROOF Runoff Area=5,972 sf 100.00% Impervious Runoff Depth=5.16"
Tc=5.0 min CN=98 Runoff=0.75 cfs 0.059 af

Subcatchment 7S: Runoff Area=30,541 sf 31.01% Impervious Runoff Depth=1.40"
Flow Length=151' Tc=21.9 min CN=58 Runoff=0.66 cfs 0.082 af

Subcatchment 8S: Runoff Area=84,456 sf 1.03% Impervious Runoff Depth=0.04"
Flow Length=310' Slope=0.0100 '/' Tc=32.2 min CN=31 Runoff=0.01 cfs 0.006 af

Subcatchment 9.1S: Runoff Area=282,040 sf 17.20% Impervious Runoff Depth=0.47"
Flow Length=445' Tc=45.1 min CN=43 Runoff=0.84 cfs 0.255 af

Subcatchment 9S: Runoff Area=321,421 sf 4.10% Impervious Runoff Depth=0.08"
Flow Length=565' Tc=48.6 min CN=33 Runoff=0.08 cfs 0.051 af

Subcatchment 50S: Runoff Area=53,919 sf 13.70% Impervious Runoff Depth=0.33"
Flow Length=315' Tc=16.2 min CN=40 Runoff=0.12 cfs 0.034 af

Subcatchment 52S: Runoff Area=112,022 sf 1.87% Impervious Runoff Depth=0.11"
Flow Length=385' Tc=14.7 min CN=34 Runoff=0.04 cfs 0.024 af

Subcatchment 53S: Runoff Area=84,481 sf 58.21% Impervious Runoff Depth=2.60"
Flow Length=286' Tc=18.5 min CN=73 Runoff=4.09 cfs 0.420 af

Subcatchment 54S: Runoff Area=47,064 sf 42.00% Impervious Runoff Depth=1.85"
Flow Length=120' Tc=3.2 min CN=64 Runoff=2.48 cfs 0.166 af

Subcatchment 55S: Exist Building Runoff Area=116,751 sf 100.00% Impervious Runoff Depth=5.16"
Flow Length=730' Slope=0.0100 '/' Tc=3.2 min CN=98 Runoff=15.66 cfs 1.153 af

Reach 1R: WATERSHED ANALYSIS POINT A Inflow=7.84 cfs 1.827 af
Outflow=7.84 cfs 1.827 af

Reach 2.1R: WATERSHED ANALYSIS POINT C Inflow=0.84 cfs 0.255 af
Outflow=0.84 cfs 0.255 af

Reach 2R: WATERSHED ANALYSIS POINT B Inflow=2.04 cfs 0.643 af
Outflow=2.04 cfs 0.643 af

Reach 3R: NATURAL DRAINAGE Avg. Flow Depth=0.52' Max Vel=0.16 fps Inflow=5.84 cfs 0.598 af
n=0.800 L=590.0' S=0.0220 '/' Capacity=6.82 cfs Outflow=2.04 cfs 0.592 af

Reach 4R: NATRUAL DRAINAGE Avg. Flow Depth=0.19' Max Vel=0.63 fps Inflow=1.85 cfs 0.458 af
n=0.080 L=130.0' S=0.0115 '/' Capacity=33.14 cfs Outflow=1.85 cfs 0.458 af

Reach 50R: STREAM Avg. Flow Depth=0.86' Max Vel=3.19 fps Inflow=7.95 cfs 1.763 af
n=0.023 L=320.0' S=0.0053 '/' Capacity=10.29 cfs Outflow=7.88 cfs 1.763 af

Reach 51R: STREAM Avg. Flow Depth=0.68' Max Vel=4.34 fps Inflow=7.88 cfs 1.787 af
n=0.023 L=340.0' S=0.0126 '/' Capacity=15.87 cfs Outflow=7.84 cfs 1.787 af

Reach 52R: New Pipe Avg. Flow Depth=0.20' Max Vel=4.08 fps Inflow=0.47 cfs 0.057 af
12.0" Round Pipe n=0.010 L=210.0' S=0.0124 '/' Capacity=5.15 cfs Outflow=0.47 cfs 0.057 af

Reach 53R: New Pipe Avg. Flow Depth=0.72' Max Vel=6.13 fps Inflow=7.95 cfs 1.706 af
36.0" Round Pipe n=0.010 L=140.0' S=0.0054 '/' Capacity=63.46 cfs Outflow=7.95 cfs 1.706 af

Reach 54R: New Pipe Avg. Flow Depth=0.71' Max Vel=6.20 fps Inflow=7.97 cfs 1.685 af
36.0" Round Pipe n=0.010 L=315.0' S=0.0055 '/' Capacity=64.44 cfs Outflow=7.95 cfs 1.685 af

Reach 55R: New Pipe Avg. Flow Depth=0.71' Max Vel=6.23 fps Inflow=7.99 cfs 1.685 af
36.0" Round Pipe n=0.010 L=340.0' S=0.0056 '/' Capacity=64.82 cfs Outflow=7.97 cfs 1.685 af

Pond 1P: CULVERT Peak Elev=256.78' Storage=345 cf Inflow=6.01 cfs 0.510 af
12.0" Round Culvert n=0.024 L=77.0' S=0.0110 '/' Outflow=6.38 cfs 0.510 af

Pond 2P: STORM DRAIN Peak Elev=246.39' Storage=1,740 cf Inflow=6.84 cfs 1.347 af
18.0" Round Culvert n=0.012 L=122.0' S=0.0119 '/' Outflow=5.32 cfs 1.347 af

Pond 3P: DRAINAGE MH Peak Elev=244.42' Inflow=5.32 cfs 1.347 af
30.0" Round Culvert n=0.012 L=73.0' S=0.0112 '/' Outflow=5.32 cfs 1.347 af

Pond 4P: DRAINAGE MH Peak Elev=243.59' Inflow=5.32 cfs 1.347 af
36.0" Round Culvert n=0.012 L=28.0' S=0.0150 '/' Outflow=5.32 cfs 1.347 af

Pond 5P: DRAINAGE MH Peak Elev=243.21' Inflow=7.58 cfs 1.638 af
36.0" Round Culvert n=0.012 L=112.0' S=0.0122 '/' Outflow=7.58 cfs 1.638 af

Pond 6P: DRAINAGE MH Peak Elev=242.18' Inflow=7.99 cfs 1.685 af
36.0" Round Culvert n=0.012 L=96.0' S=0.0122 '/' Outflow=7.99 cfs 1.685 af

Pond 7P: DRAINAGE MH Peak Elev=241.73' Inflow=7.99 cfs 1.685 af
36.0" Round Culvert n=0.012 L=135.0' S=0.0050 '/' Outflow=7.99 cfs 1.685 af

Pond 8P: STORM DRAIN Peak Elev=245.44' Storage=56 cf Inflow=2.68 cfs 0.232 af
12.0" Round Culvert n=0.012 L=80.0' S=0.0036 '/' Outflow=2.64 cfs 0.232 af

Pond 9P: CULVERT Peak Elev=250.37' Storage=158 cf Inflow=0.66 cfs 0.082 af
12.0" Round Culvert n=0.012 L=153.0' S=0.0112 '/' Outflow=0.64 cfs 0.082 af

Pond 11P: UNDERDRAINED SOIL FILTER 11 Peak Elev=255.51' Storage=3,582 cf Inflow=2.95 cfs 0.179 af
Discarded=0.16 cfs 0.177 af Primary=0.04 cfs 0.002 af Outflow=0.20 cfs 0.179 af

Pond 12P: UNDERDRAINED SOIL FILTER Peak Elev=255.63' Storage=19,809 cf Inflow=14.45 cfs 1.044 af
Discarded=0.97 cfs 0.960 af Primary=1.23 cfs 0.084 af Outflow=2.20 cfs 1.044 af

Pond 14P: CULVERT Peak Elev=248.26' Storage=911 cf Inflow=1.89 cfs 0.456 af
15.0" Round Culvert n=0.010 L=80.0' S=0.0063 '/' Outflow=1.82 cfs 0.456 af

Pond 16P: CATCH BASIN Peak Elev=244.95' Inflow=0.78 cfs 0.048 af
12.0" Round Culvert n=0.012 L=153.0' S=0.0201 '/' Outflow=0.78 cfs 0.048 af

Pond 30P: UNDERDRAINED SOIL FILTER Peak Elev=243.79' Storage=35,571 cf Inflow=19.41 cfs 1.502 af
Discarded=0.19 cfs 0.260 af Primary=5.84 cfs 0.598 af Outflow=6.03 cfs 0.858 af

Pond 50P: Underdrain Soil Filter 3 Peak Elev=246.56' Storage=8,115 cf Inflow=4.09 cfs 0.420 af
Discarded=0.36 cfs 0.399 af Primary=0.20 cfs 0.021 af Outflow=0.56 cfs 0.420 af

Pond 51P: Underdrain Soil Filter 1 Peak Elev=242.60' Storage=23,775 cf Inflow=18.11 cfs 1.319 af
Discarded=0.89 cfs 1.262 af Primary=0.47 cfs 0.057 af Outflow=1.35 cfs 1.320 af

Pond 52P: Underdrain Soil Filter 2 Peak Elev=247.11' Storage=10,513 cf Inflow=6.92 cfs 0.604 af
Discarded=0.54 cfs 0.605 af Primary=0.00 cfs 0.000 af Outflow=0.54 cfs 0.605 af

Total Runoff Area = 47.883 ac Runoff Volume = 7.037 af Average Runoff Depth = 1.76"
62.54% Pervious = 29.946 ac 37.46% Impervious = 17.938 ac

Summary for Subcatchment 1.1S:

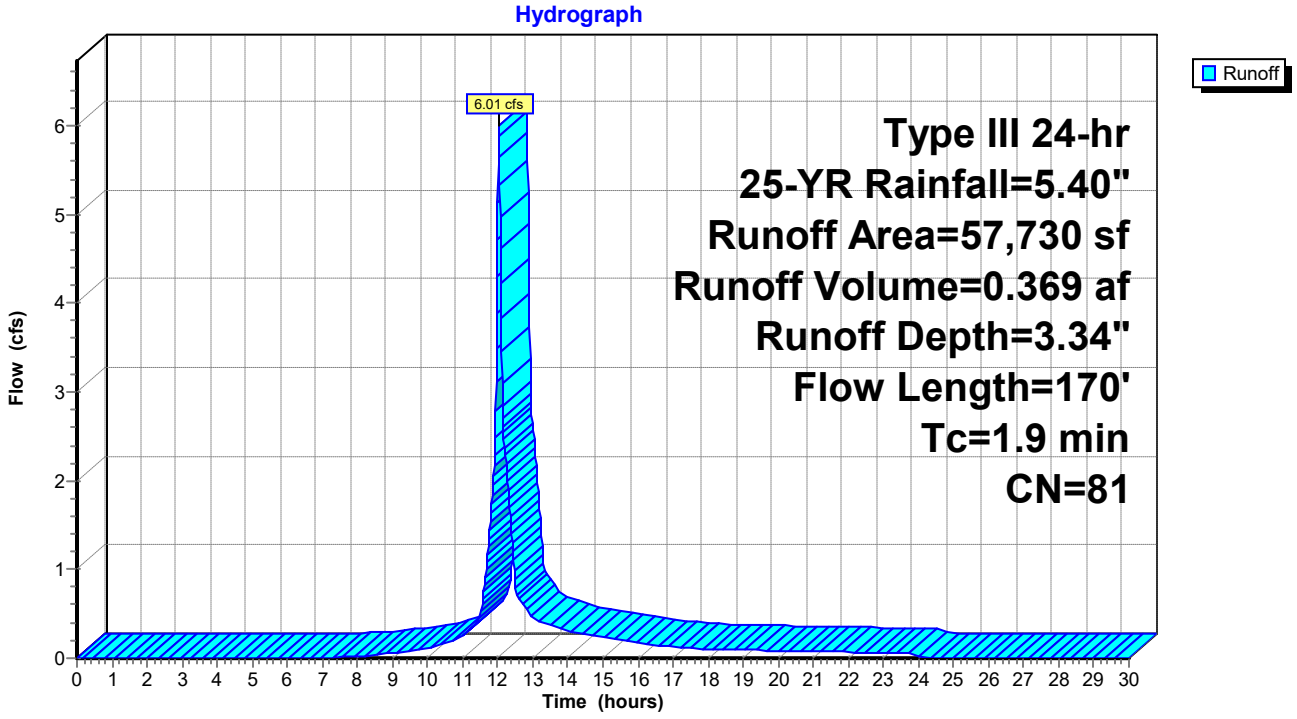
Runoff = 6.01 cfs @ 12.03 hrs, Volume= 0.369 af, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
34,540	98	Paved parking & roofs
19,191	61	>75% Grass cover, Good, HSG B
3,090	39	>75% Grass cover, Good, HSG A
0	55	Woods, Good, HSG B
909	30	Woods, Good, HSG A
57,730	81	Weighted Average
23,190		40.17% Pervious Area
34,540		59.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0166	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	70	0.0180	2.01		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	170	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S: TRUCK PARKING AREA

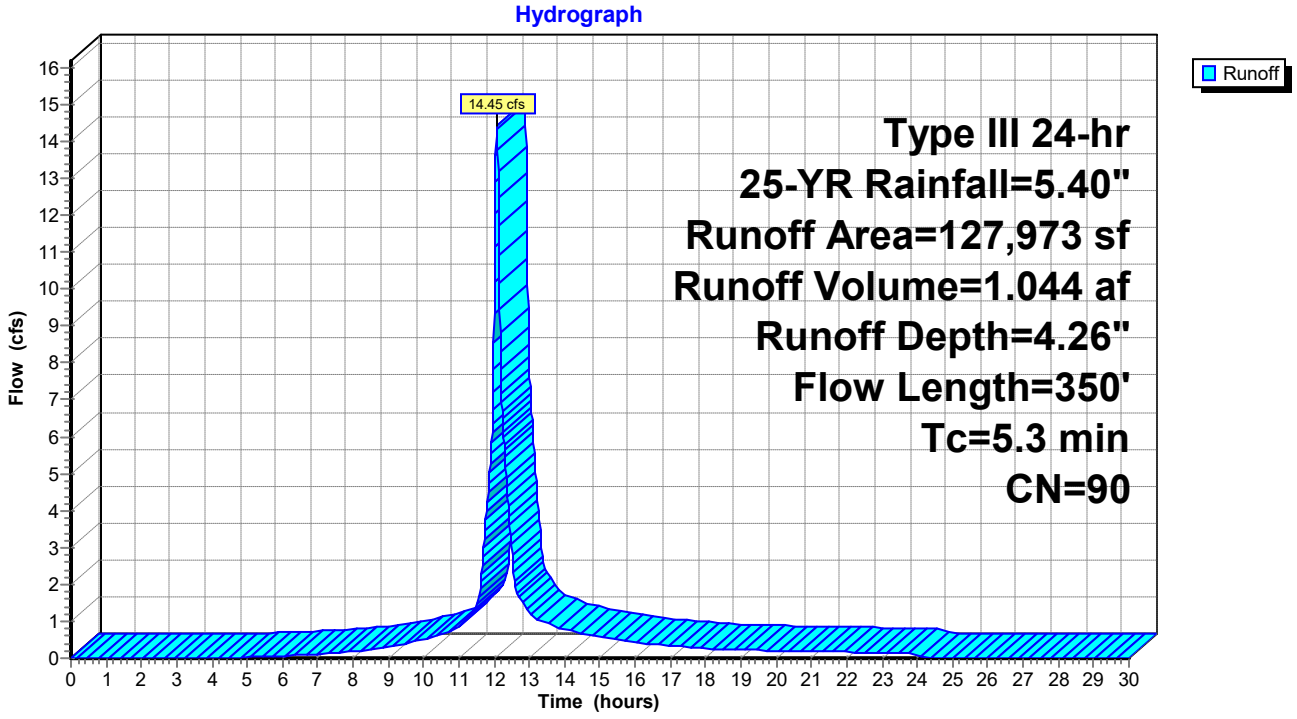
Runoff = 14.45 cfs @ 12.08 hrs, Volume= 1.044 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
107,137	98	Paved parking & roofs
7,705	61	>75% Grass cover, Good, HSG B
13,131	39	>75% Grass cover, Good, HSG A
127,973	90	Weighted Average
20,836		16.28% Pervious Area
107,137		83.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	300	0.0230	1.75		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	20	0.0300	1.14		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.2	30	0.0830	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
5.3	350	Total			

Subcatchment 1.2S: TRUCK PARKING AREA



Summary for Subcatchment 1S:

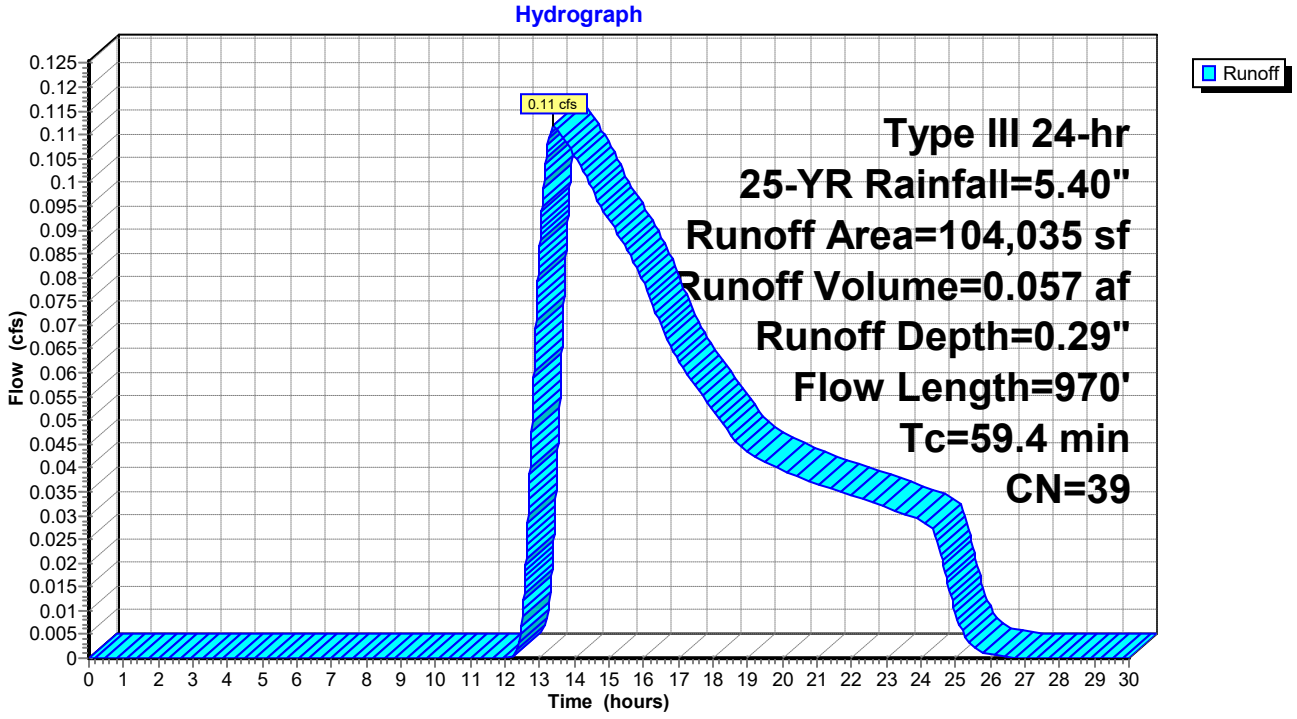
Runoff = 0.11 cfs @ 13.40 hrs, Volume= 0.057 af, Depth= 0.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
3,573	98	Paved parking & roofs
9,459	61	>75% Grass cover, Good, HSG B
32,870	39	>75% Grass cover, Good, HSG A
3,907	55	Woods, Good, HSG B
54,226	30	Woods, Good, HSG A
104,035	39	Weighted Average
100,462		96.57% Pervious Area
3,573		3.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
18.9	820	0.0210	0.72		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
59.4	970	Total			

Subcatchment 1S:



Summary for Subcatchment 2.2S: TRUCK PARKING AREA

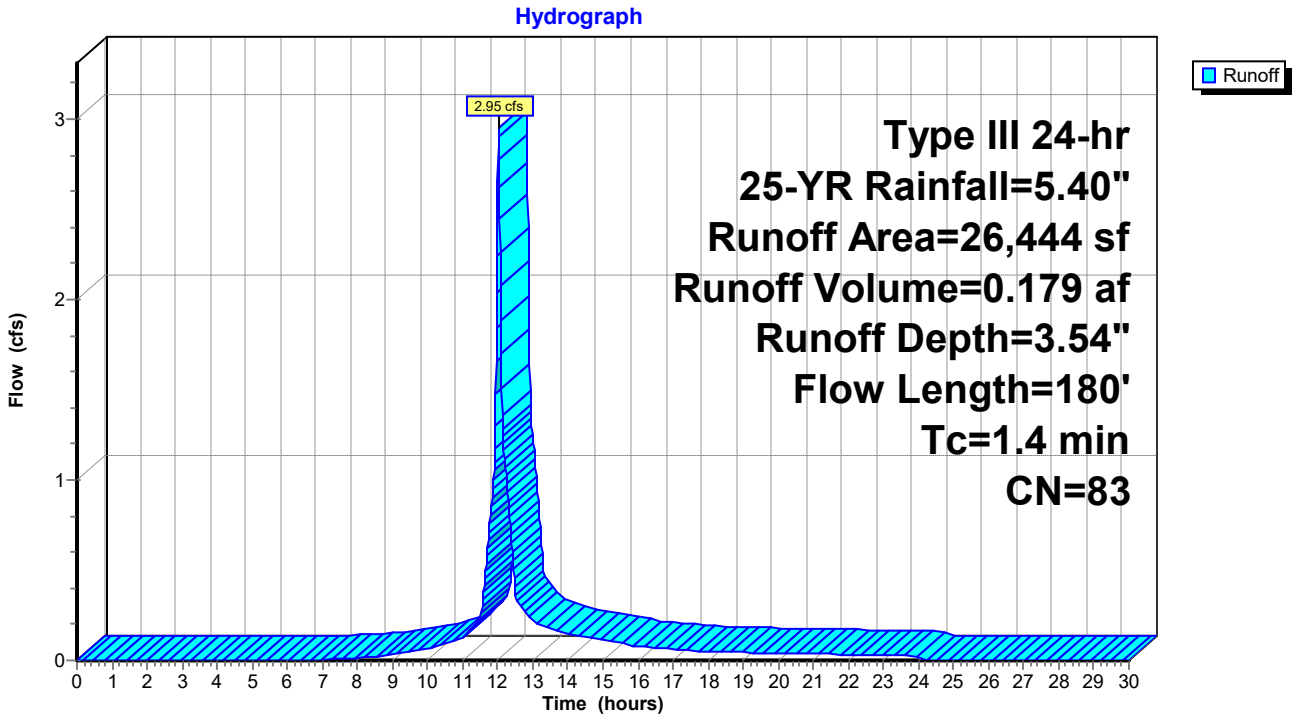
Runoff = 2.95 cfs @ 12.02 hrs, Volume= 0.179 af, Depth= 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
19,576	98	Paved parking & roofs
129	61	>75% Grass cover, Good, HSG B
6,739	39	>75% Grass cover, Good, HSG A
26,444	83	Weighted Average
6,868		25.97% Pervious Area
19,576		74.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	140	0.0330	1.74		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.1	40	0.0800	4.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.4	180	Total			

Subcatchment 2.2S: TRUCK PARKING AREA



Summary for Subcatchment 2.3S:

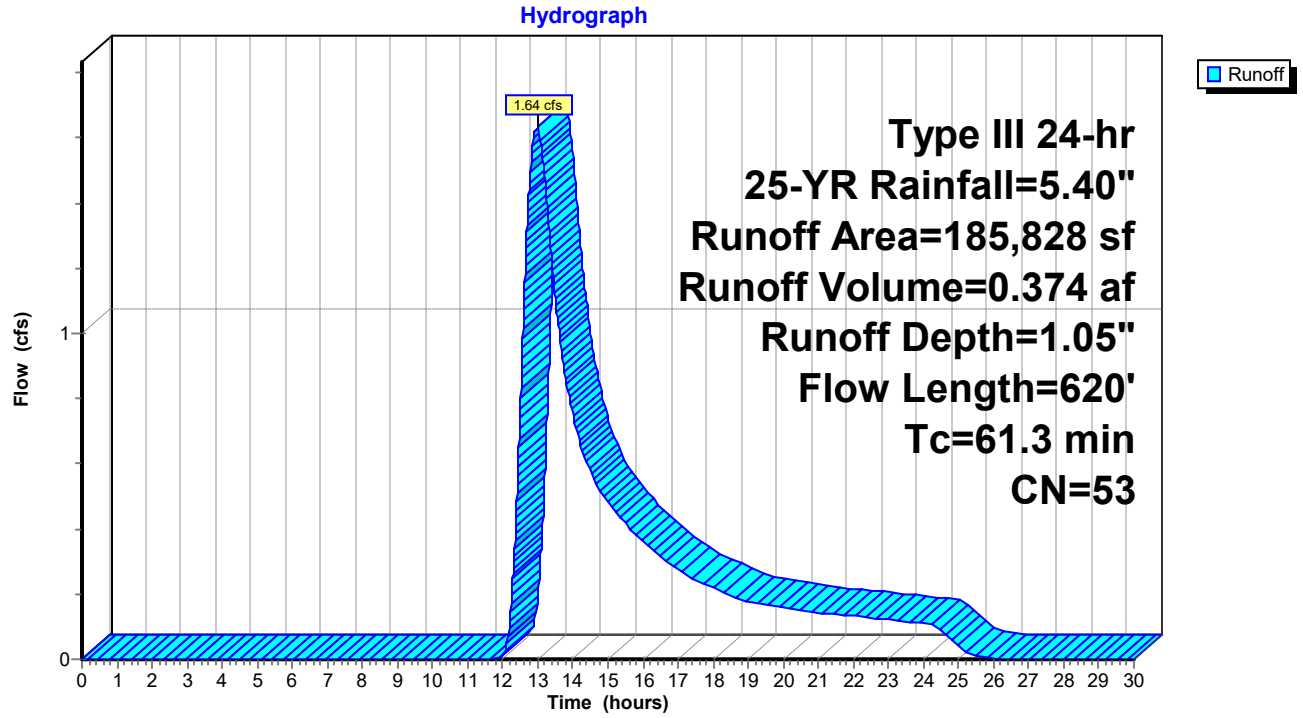
Runoff = 1.64 cfs @ 13.00 hrs, Volume= 0.374 af, Depth= 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
42,100	98	Paved parking & roofs
7,939	61	>75% Grass cover, Good, HSG B
24,024	39	>75% Grass cover, Good, HSG A
34,947	55	Woods, Good, HSG B
76,818	30	Woods, Good, HSG A
185,828	53	Weighted Average
143,728		77.34% Pervious Area
42,100		22.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
50.5	150	0.0230	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
10.4	420	0.0180	0.67		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.4	50	0.1600	2.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
61.3	620	Total			

Subcatchment 2.3S:



Summary for Subcatchment 2S:

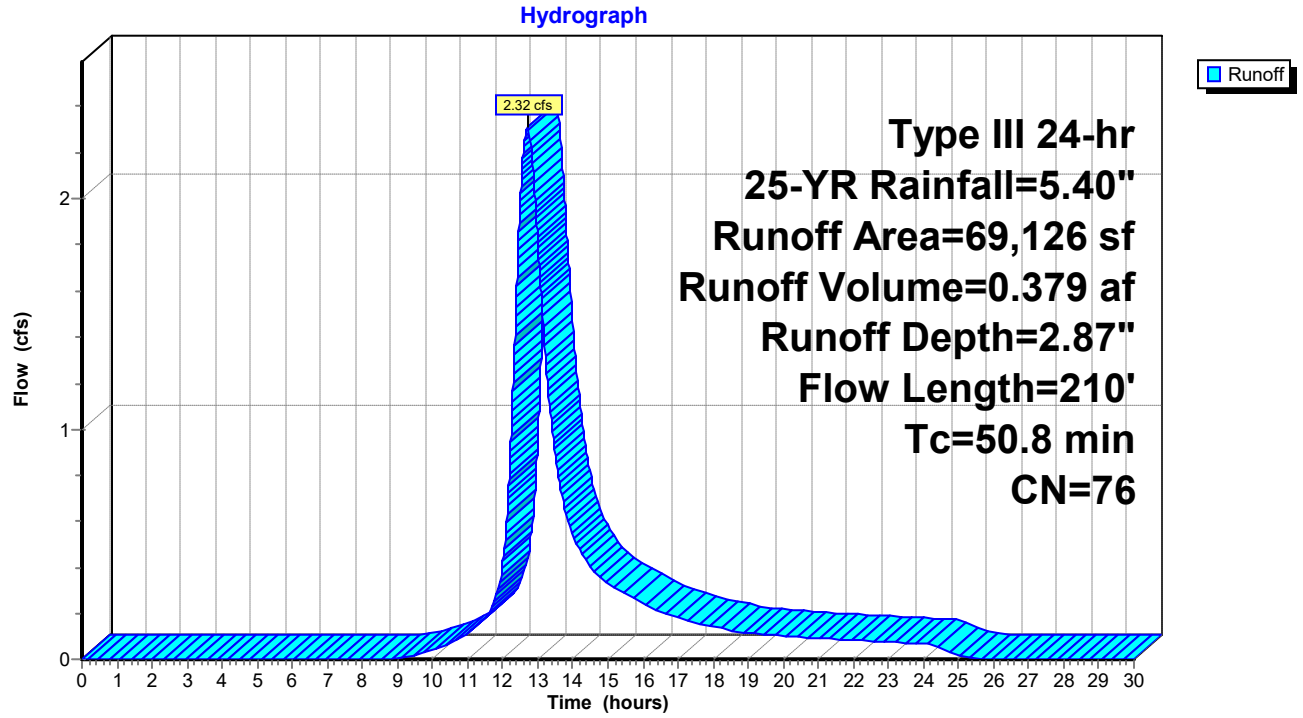
Runoff = 2.32 cfs @ 12.70 hrs, Volume= 0.379 af, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
37,958	98	Paved parking & roofs
6,600	61	>75% Grass cover, Good, HSG B
9,699	39	>75% Grass cover, Good, HSG A
11,579	55	Woods, Good, HSG B
3,290	30	Woods, Good, HSG A
69,126	76	Weighted Average
31,168		45.09% Pervious Area
37,958		54.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
46.8	90	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.0	30	0.2670	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	90	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
50.8	210	Total			

Subcatchment 2S:



Summary for Subcatchment 3S:

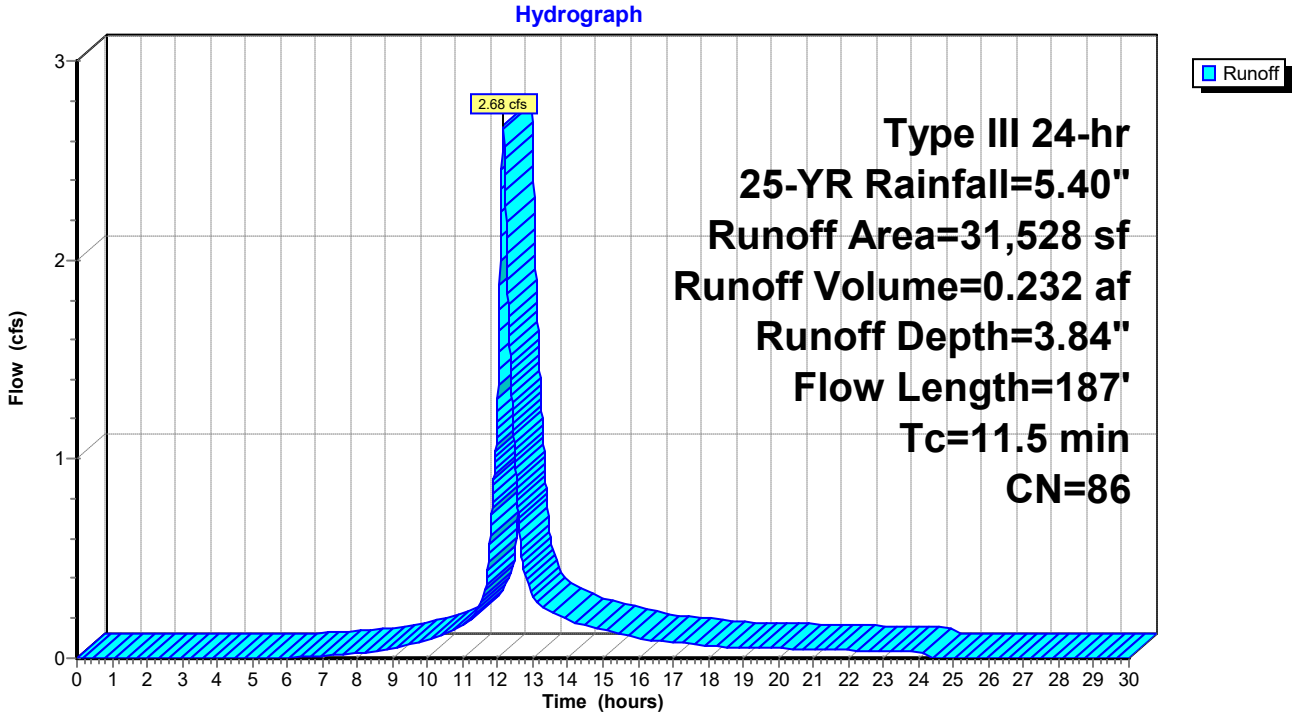
Runoff = 2.68 cfs @ 12.15 hrs, Volume= 0.232 af, Depth= 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
25,357	98	Paved parking & roofs
5,453	39	>75% Grass cover, Good, HSG A
718	30	Woods, Good, HSG A
31,528	86	Weighted Average
6,171		19.57% Pervious Area
25,357		80.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	65	0.2200	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
6.5	35	0.0190	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
1.0	87	0.0455	1.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.5	187	Total			

Subcatchment 3S:



Summary for Subcatchment 4.1S: ROOF

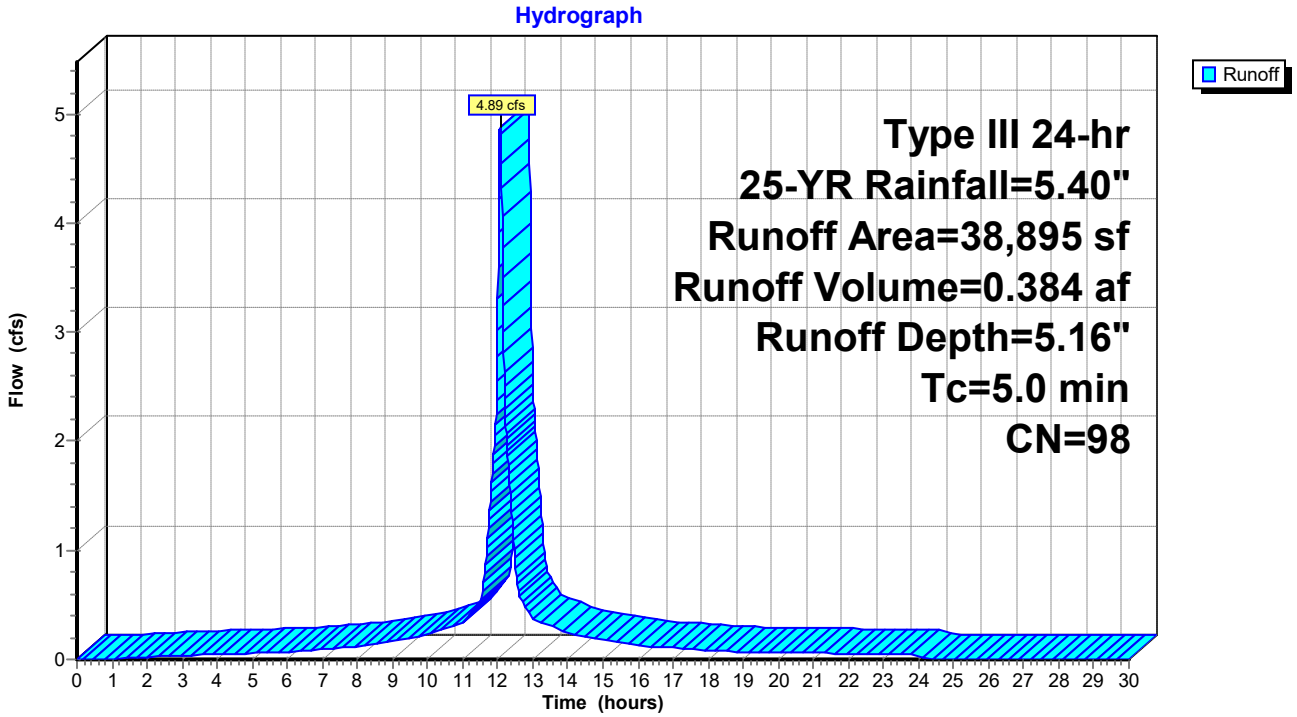
Runoff = 4.89 cfs @ 12.07 hrs, Volume= 0.384 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
38,895	98	Paved parking & roofs
38,895		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.1S: ROOF



Summary for Subcatchment 4.2S:

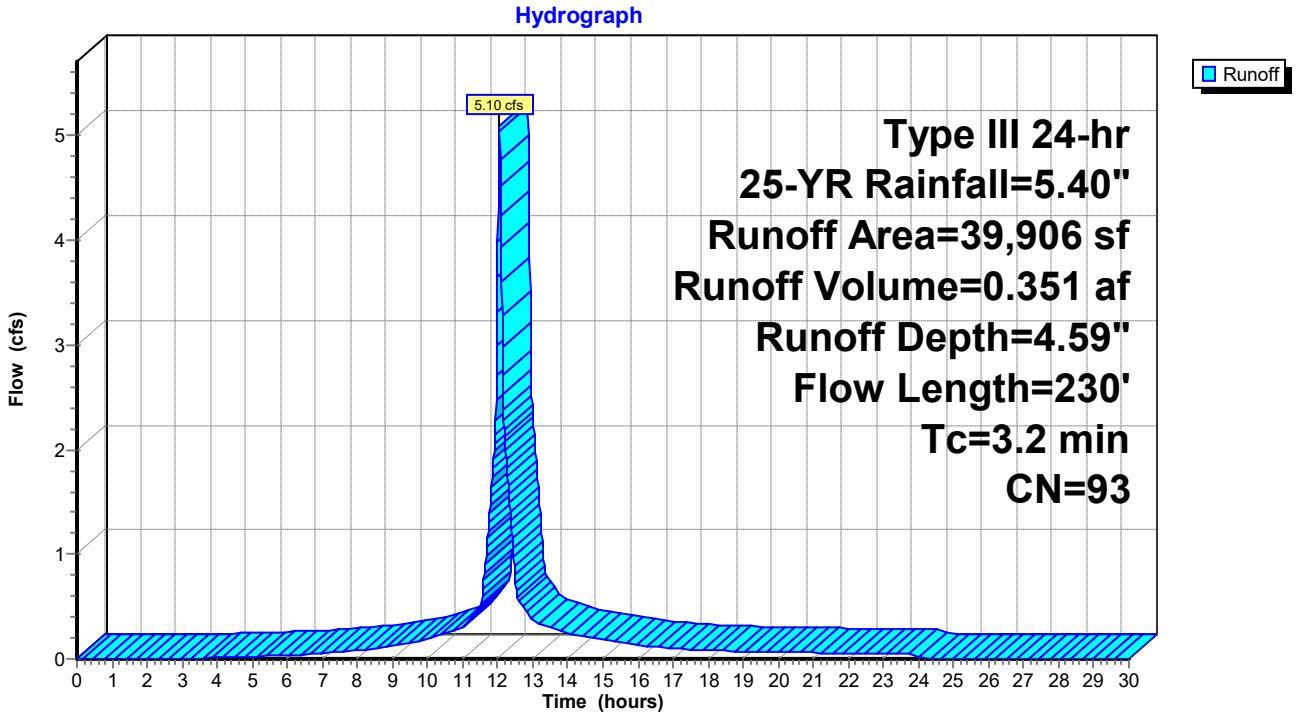
Runoff = 5.10 cfs @ 12.05 hrs, Volume= 0.351 af, Depth= 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
36,816	98	Paved parking & roofs
3,090	39	>75% Grass cover, Good, HSG A
39,906	93	Weighted Average
3,090		7.74% Pervious Area
36,816		92.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	140	0.0100	1.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.0	90	0.0055	1.51		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.2	230	Total			

Subcatchment 4.2S:



Summary for Subcatchment 4.3S:

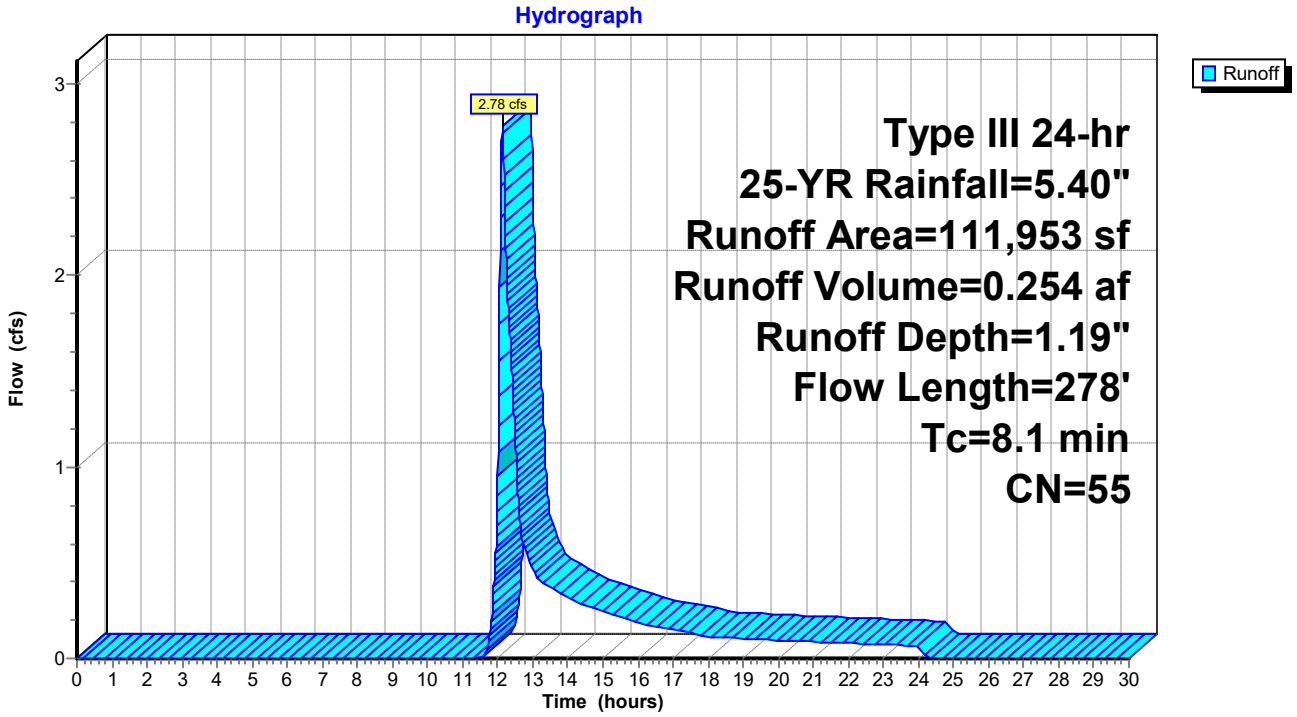
Runoff = 2.78 cfs @ 12.13 hrs, Volume= 0.254 af, Depth= 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
40,012	98	Paved parking & roofs
13,040	39	>75% Grass cover, Good, HSG A
58,901	30	Woods, Good, HSG A
111,953	55	Weighted Average
71,941		64.26% Pervious Area
40,012		35.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.7	45	0.2000	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	30	0.1000	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.8	75	0.0300	1.48		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	105	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	23	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	278	Total			

Subcatchment 4.3S:



Summary for Subcatchment 4.4S:

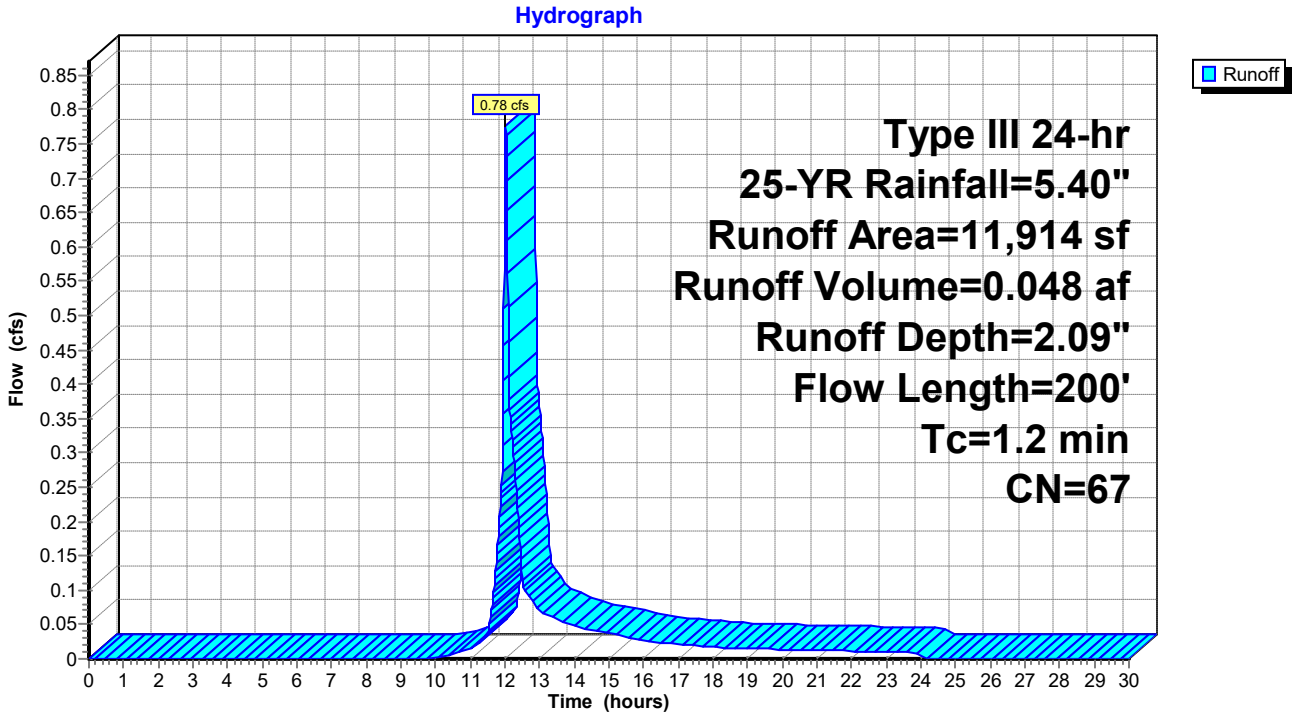
Runoff = 0.78 cfs @ 12.02 hrs, Volume= 0.048 af, Depth= 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
5,736	98	Paved parking & roofs
6,178	39	>75% Grass cover, Good, HSG A
11,914	67	Weighted Average
6,178		51.85% Pervious Area
5,736		48.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0400	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	150	0.0530	3.45		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.2	200	Total			

Subcatchment 4.4S:



Summary for Subcatchment 4.5S: ROOF

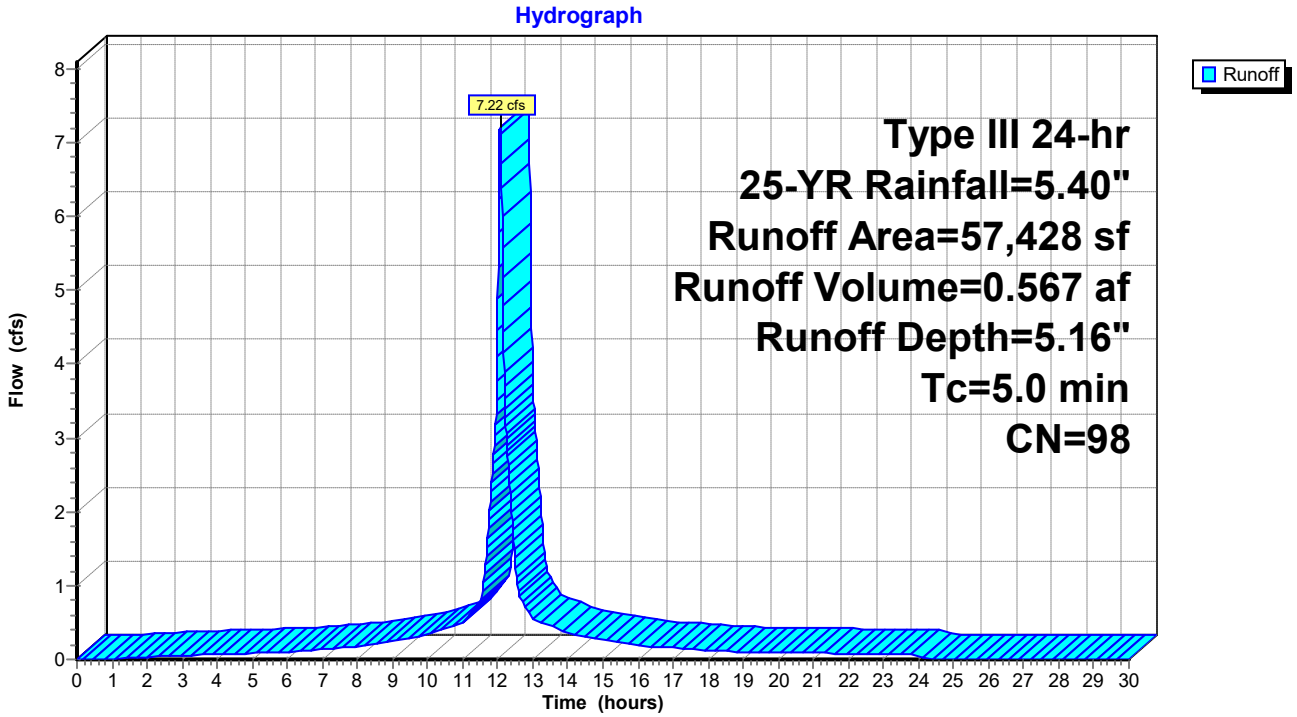
Runoff = 7.22 cfs @ 12.07 hrs, Volume= 0.567 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
57,428	98	Paved parking & roofs
57,428		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.5S: ROOF



Summary for Subcatchment 5.1S:

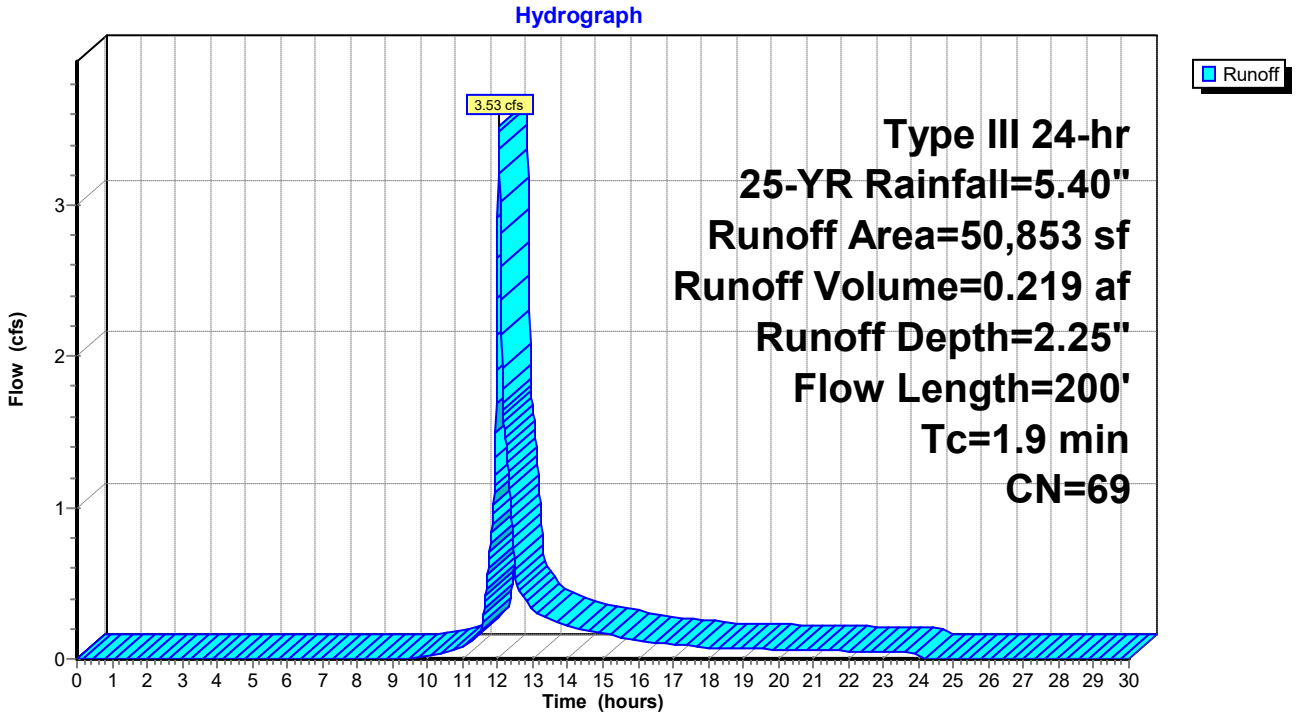
Runoff = 3.53 cfs @ 12.03 hrs, Volume= 0.219 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
25,524	98	Paved parking & roofs
25,329	39	>75% Grass cover, Good, HSG A
50,853	69	Weighted Average
25,329		49.81% Pervious Area
25,524		50.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	130	0.0250	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	70	0.1100	2.32		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	200	Total			

Subcatchment 5.1S:



Summary for Subcatchment 5.2S: ROOF

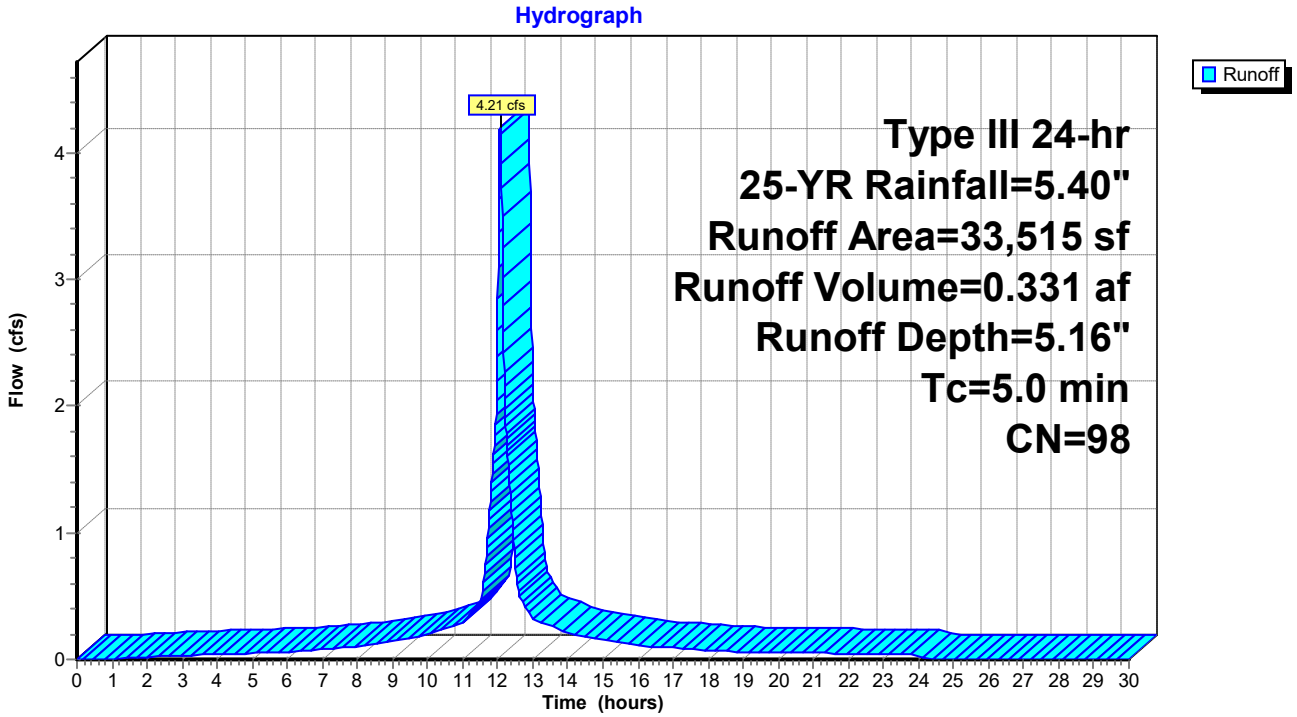
Runoff = 4.21 cfs @ 12.07 hrs, Volume= 0.331 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
33,515	98	Paved parking & roofs
33,515		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 5.2S: ROOF



Summary for Subcatchment 6S: ROOF

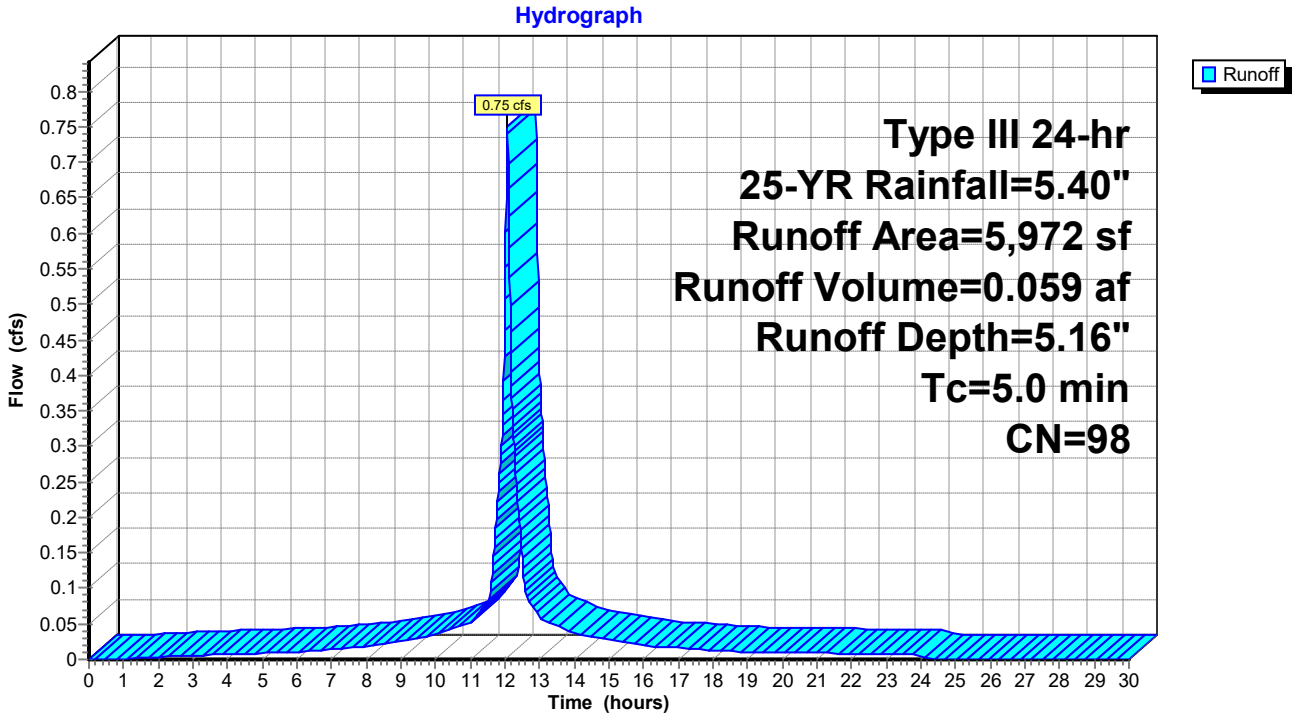
Runoff = 0.75 cfs @ 12.07 hrs, Volume= 0.059 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
5,972	98	Paved parking & roofs
5,972		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 6S: ROOF



Summary for Subcatchment 7S:

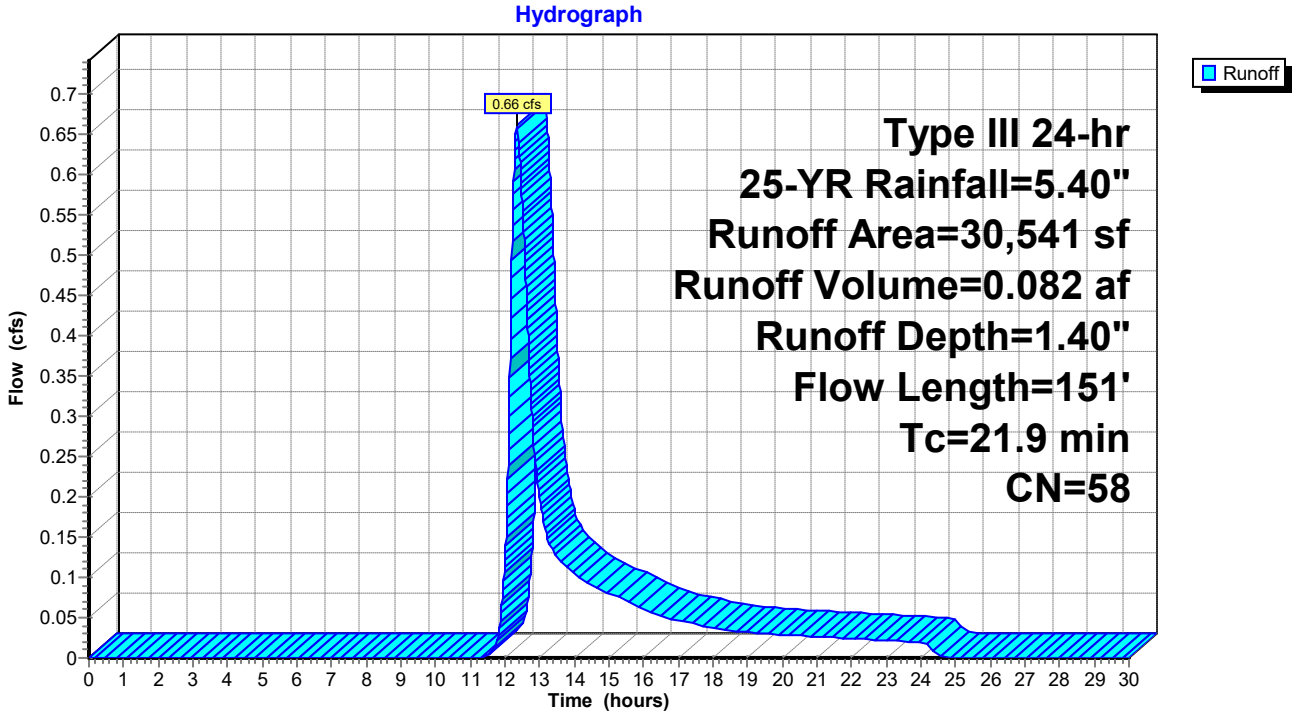
Runoff = 0.66 cfs @ 12.34 hrs, Volume= 0.082 af, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
9,471	98	Paved parking & roofs
990	39	>75% Grass cover, Good, HSG A
8,095	55	Woods, Good, HSG B
11,985	30	Woods, Good, HSG A
30,541	58	Weighted Average
21,070		68.99% Pervious Area
9,471		31.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	100	0.0920	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
0.9	51	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.9	151	Total			

Subcatchment 7S:



Summary for Subcatchment 8S:

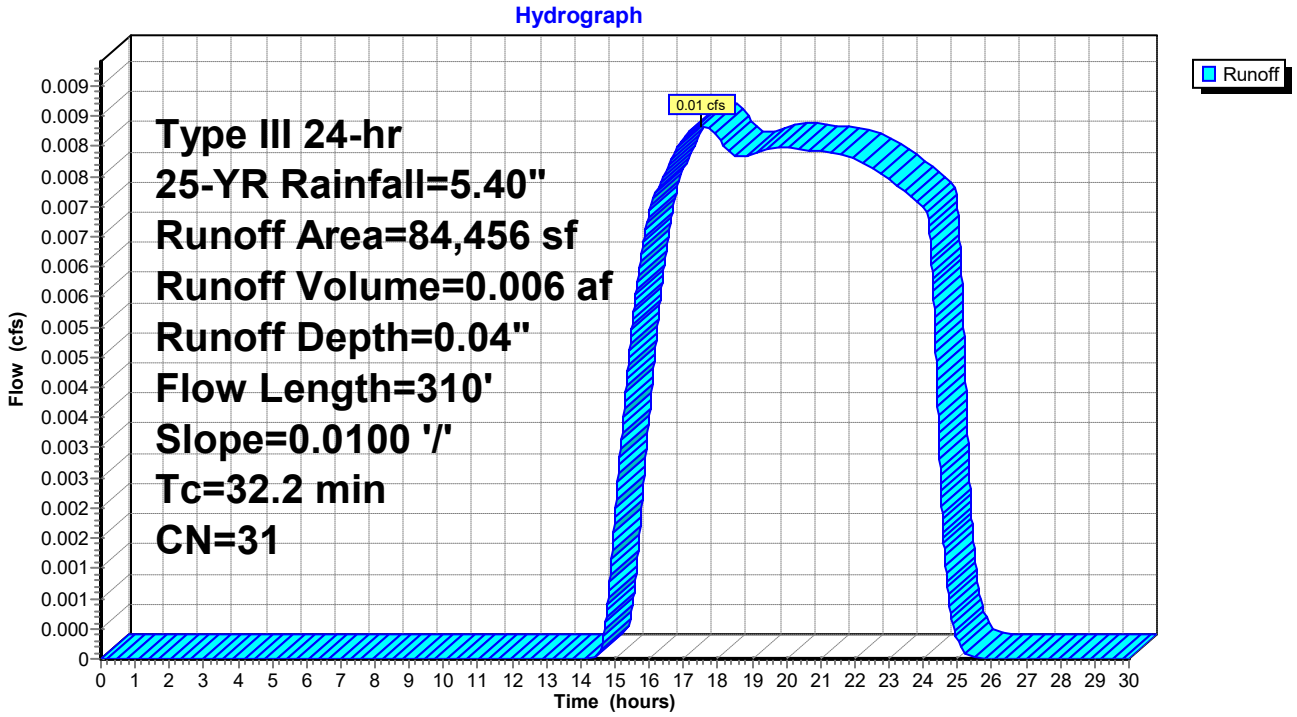
Runoff = 0.01 cfs @ 17.50 hrs, Volume= 0.006 af, Depth= 0.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	868	98	Paved
	83,588	30	Woods, Good, HSG A
	84,456	31	Weighted Average
	83,588		98.97% Pervious Area
	868		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	80	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
7.7	230	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.2	310	Total			

Subcatchment 8S:



Summary for Subcatchment 9.1S:

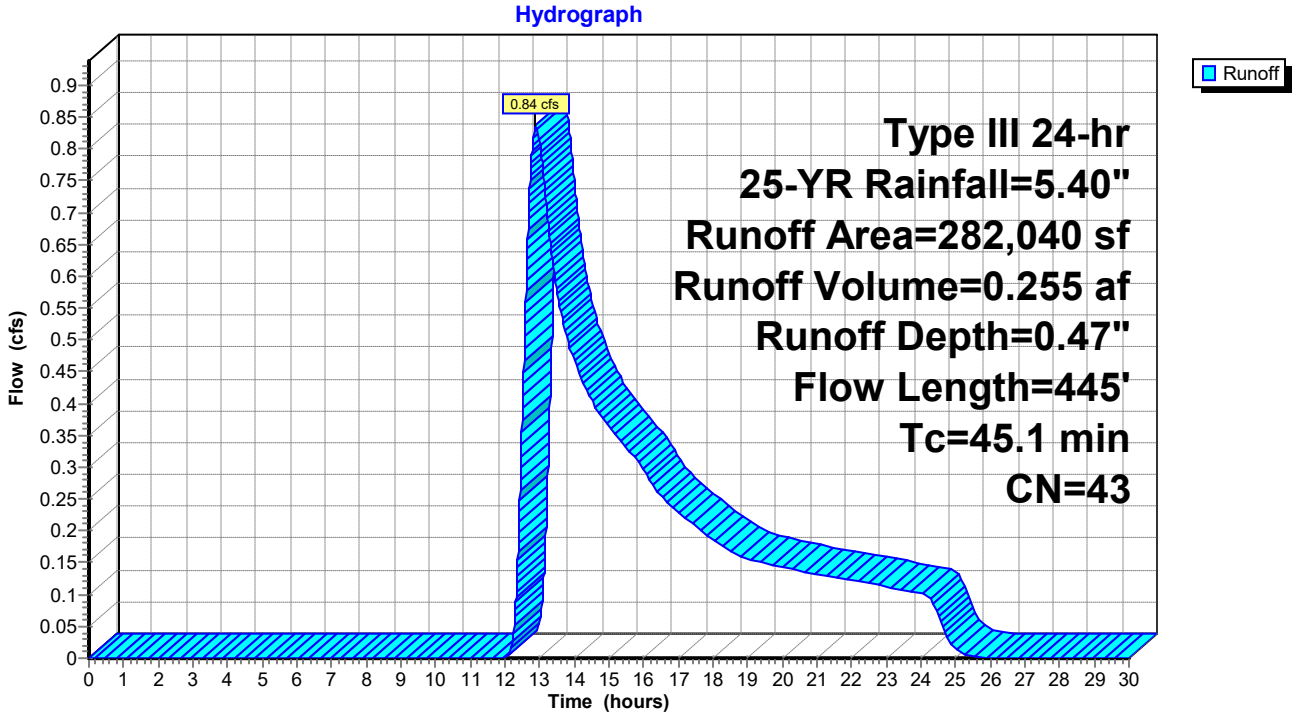
Runoff = 0.84 cfs @ 12.88 hrs, Volume= 0.255 af, Depth= 0.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	48,522	98	Paved
	33,490	39	>75% Grass cover, Good, HSG A
	200,028	30	Woods, Good, HSG A
	282,040	43	Weighted Average
	233,518		82.80% Pervious Area
	48,522		17.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0100	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	30	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.6	265	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
45.1	445	Total			

Subcatchment 9.1S:



Summary for Subcatchment 9S:

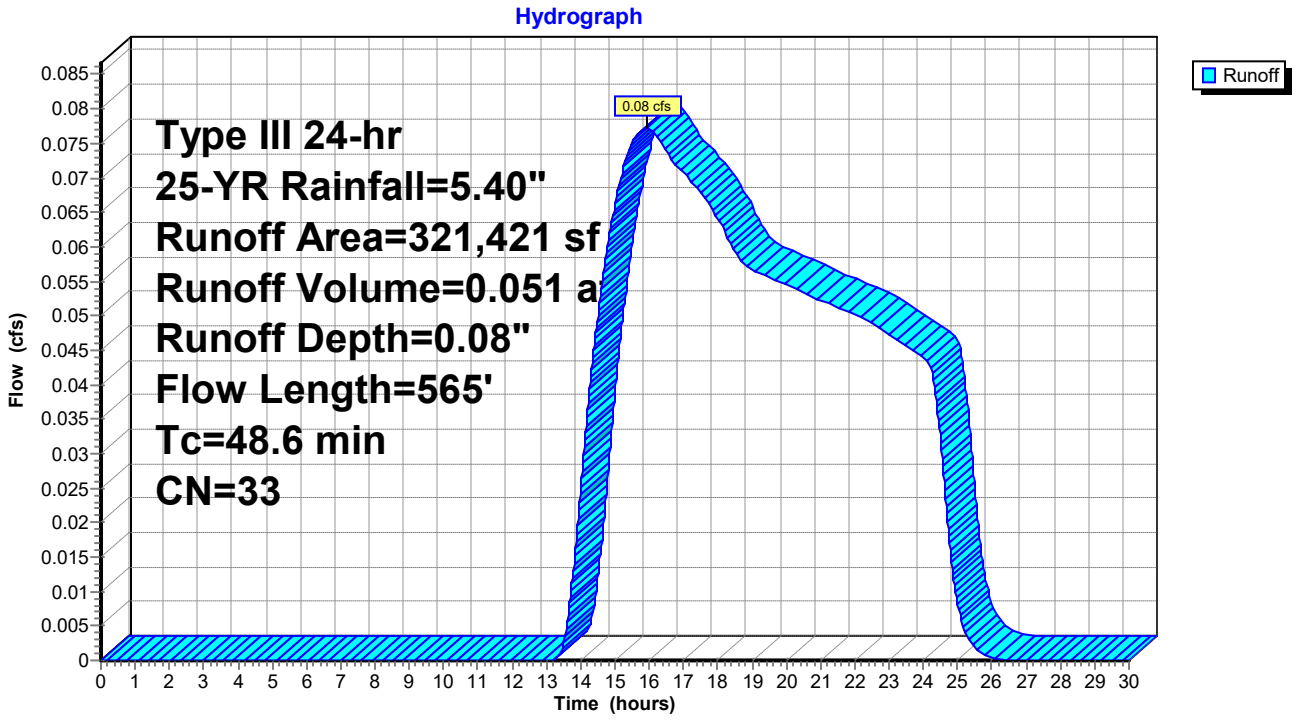
Runoff = 0.08 cfs @ 15.93 hrs, Volume= 0.051 af, Depth= 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	13,186	98	Paved
	3,563	39	>75% Grass cover, Good, HSG A
	304,672	30	Woods, Good, HSG A
	321,421	33	Weighted Average
	308,235		95.90% Pervious Area
	13,186		4.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0100	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
8.1	415	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
48.6	565	Total			

Subcatchment 9S:



Summary for Subcatchment 50S:

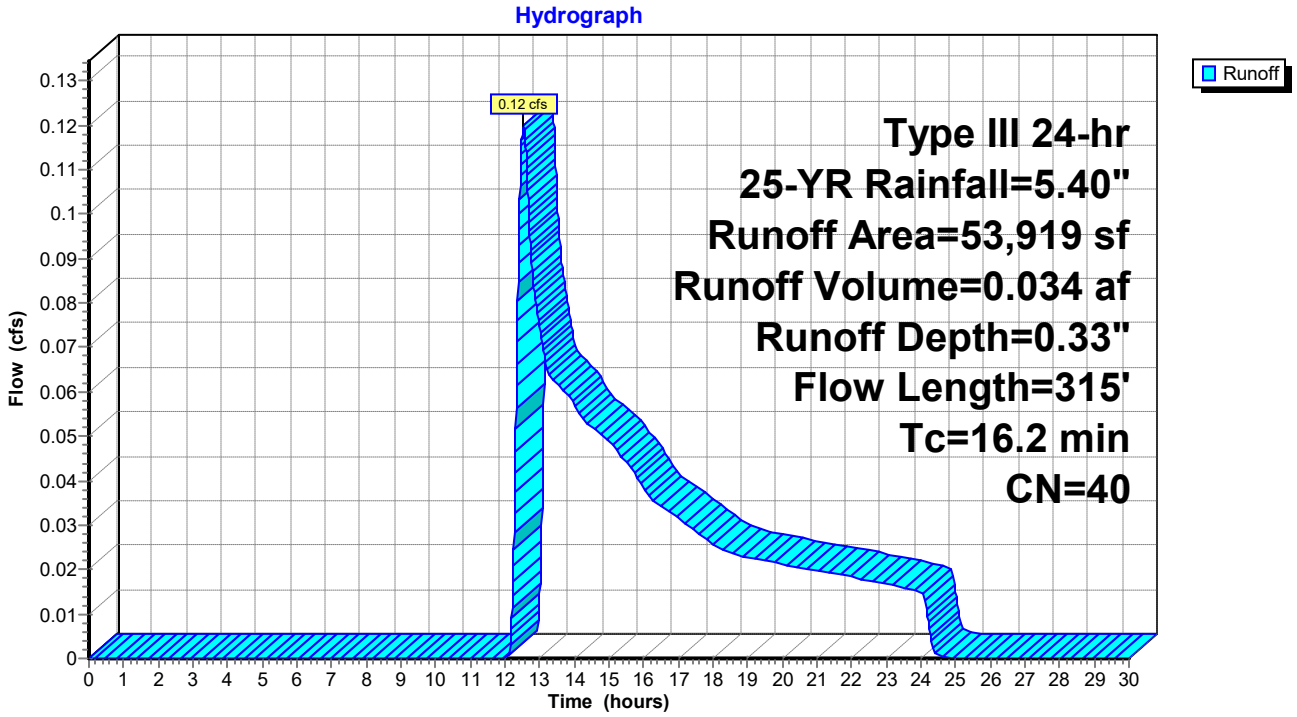
Runoff = 0.12 cfs @ 12.54 hrs, Volume= 0.034 af, Depth= 0.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	7,388	98	Impervious
	3,461	39	>75% Grass cover, Good, HSG A
	43,070	30	Woods, Good, HSG A
	53,919	40	Weighted Average
	46,531		86.30% Pervious Area
	7,388		13.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	120	0.0750	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	45	0.1560	1.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	100	0.0300	2.60		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0200	6.14	18.43	**Channel Flow,** Area= 3.0 sf Perim= 4.8' r= 0.63' n= 0.025 Earth, clean & winding
16.2	315	Total			

Subcatchment 50S:



Summary for Subcatchment 52S:

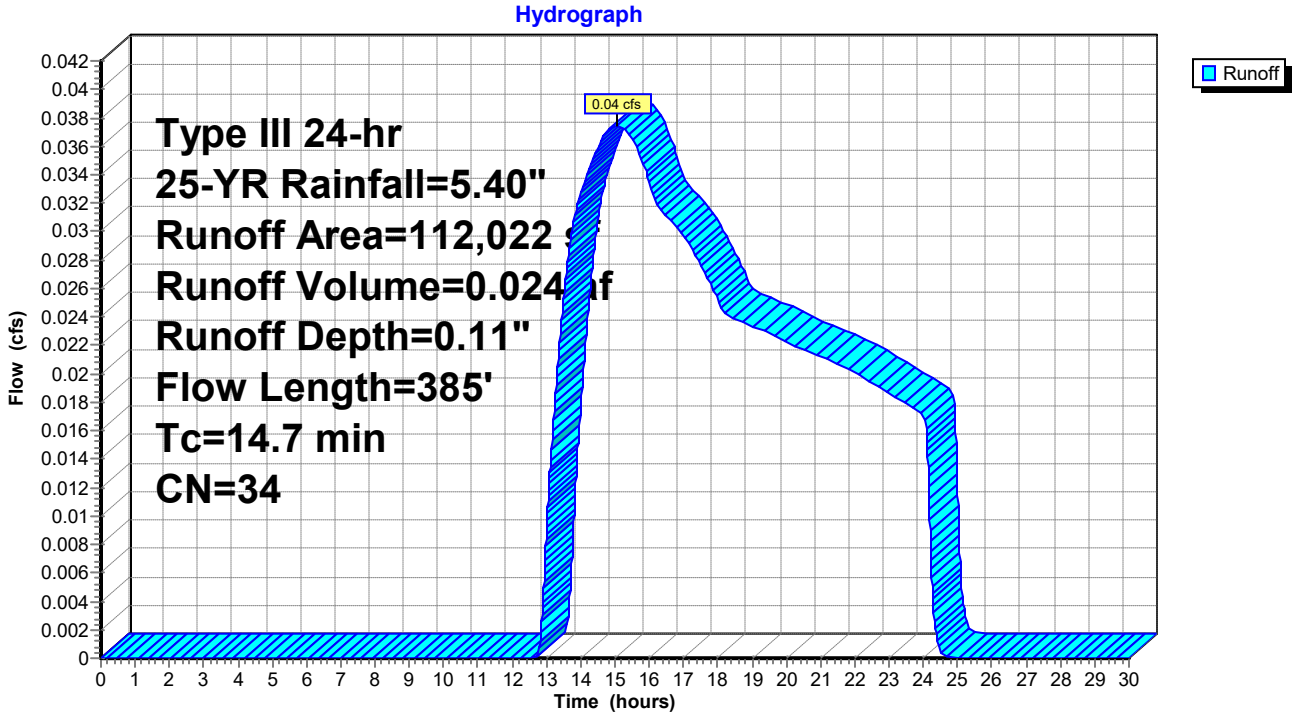
Runoff = 0.04 cfs @ 15.04 hrs, Volume= 0.024 af, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	2,091	98	Paved
	29,887	39	>75% Grass cover, Good, HSG A
	80,044	30	Woods, Good, HSG A
	112,022	34	Weighted Average
	109,931		98.13% Pervious Area
	2,091		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	70	0.0660	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
4.3	290	0.0517	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	25	0.0400	3.00		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
14.7	385	Total			

Subcatchment 52S:



Summary for Subcatchment 53S:

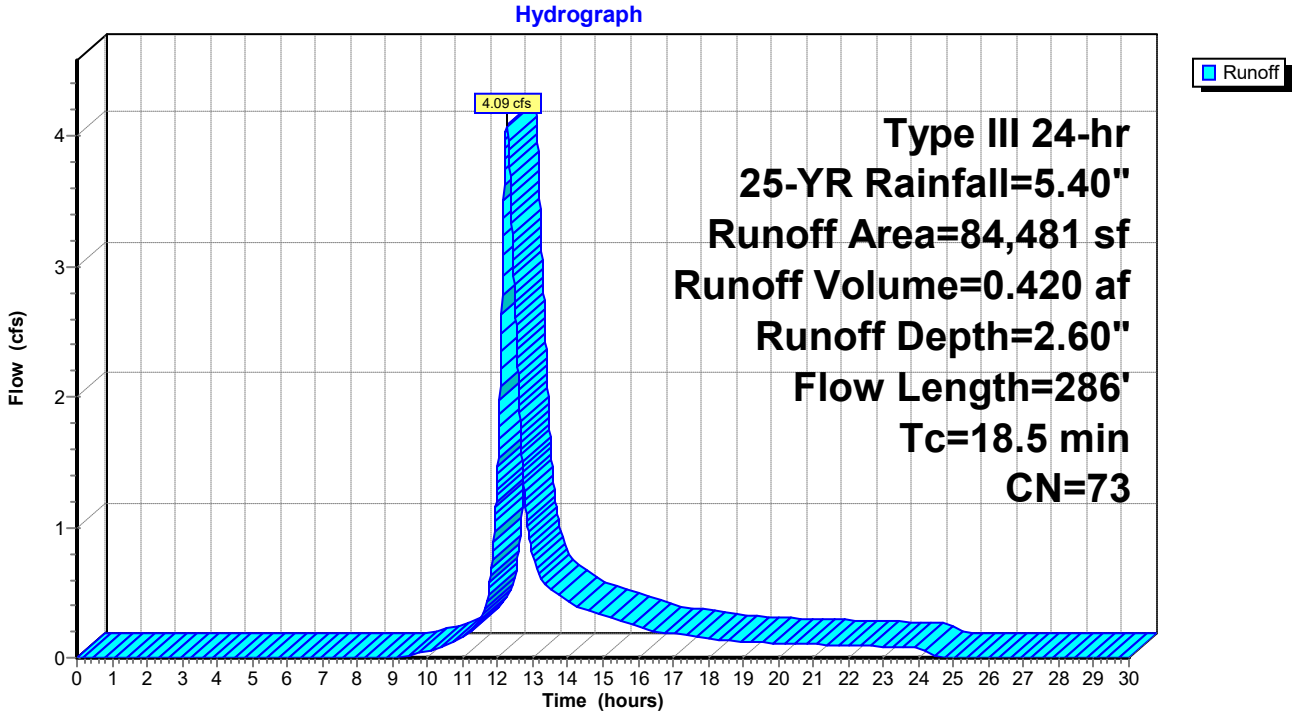
Runoff = 4.09 cfs @ 12.27 hrs, Volume= 0.420 af, Depth= 2.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	49,176	98	Paved
	35,305	39	>75% Grass cover, Good, HSG A
	84,481	73	Weighted Average
	35,305		41.79% Pervious Area
	49,176		58.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	116	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	40	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	30	0.0860	2.05		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.5	286	Total			

Subcatchment 53S:



Summary for Subcatchment 54S:

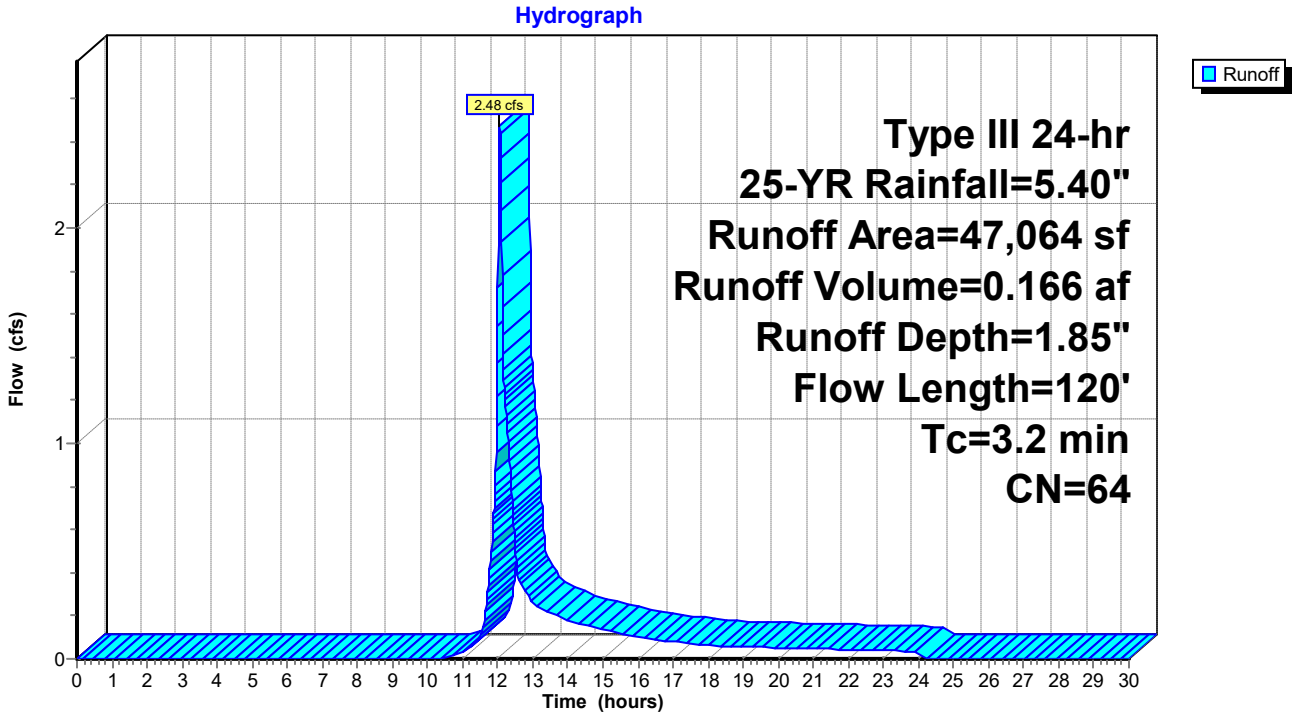
Runoff = 2.48 cfs @ 12.05 hrs, Volume= 0.166 af, Depth= 1.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	19,766	98	Paved
	27,298	39	>75% Grass cover, Good, HSG A
	47,064	64	Weighted Average
	27,298		58.00% Pervious Area
	19,766		42.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	70	0.0460	1.73		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.5	50	0.1600	0.33		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
3.2	120	Total			

Subcatchment 54S:



Summary for Subcatchment 55S: Exist Building

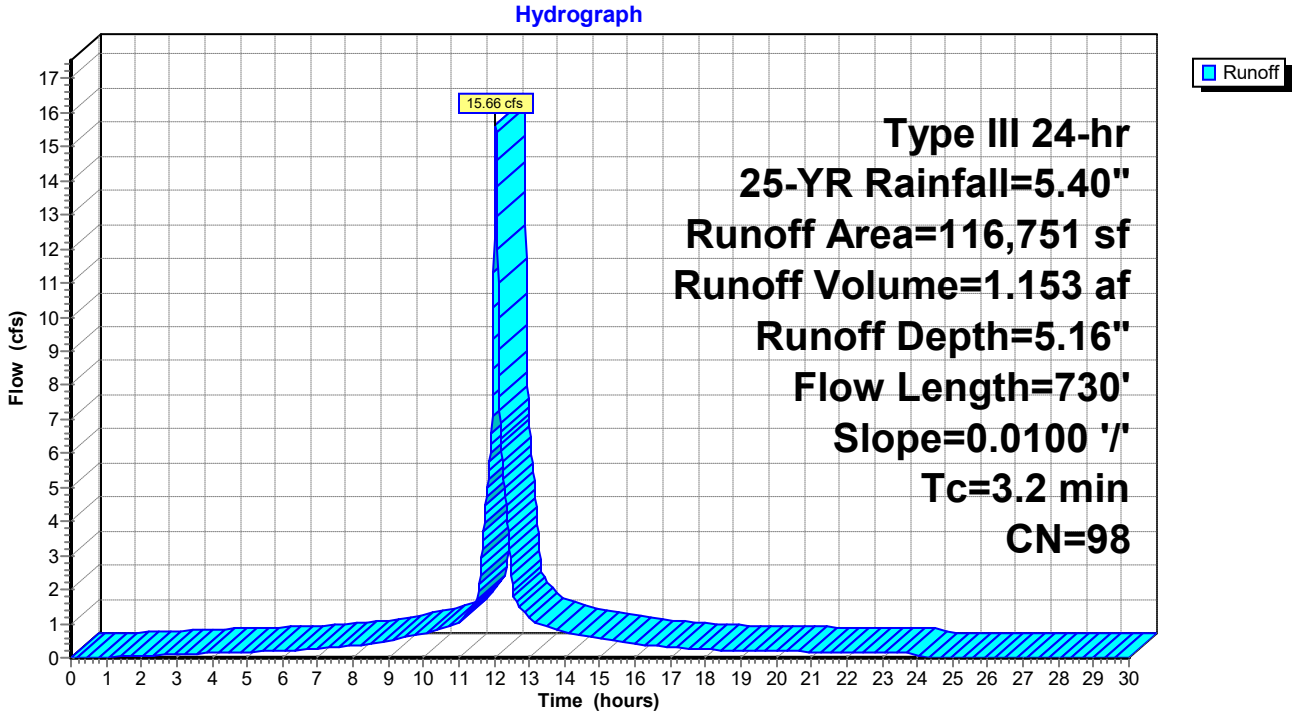
Runoff = 15.66 cfs @ 12.05 hrs, Volume= 1.153 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	116,751	98	Roof
	116,751		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0100	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	80	0.0100	4.50	1.57	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
0.8	300	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
0.4	250	0.0100	9.36	29.41	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
3.2	730	Total			

Subcatchment 55S: Exist Building



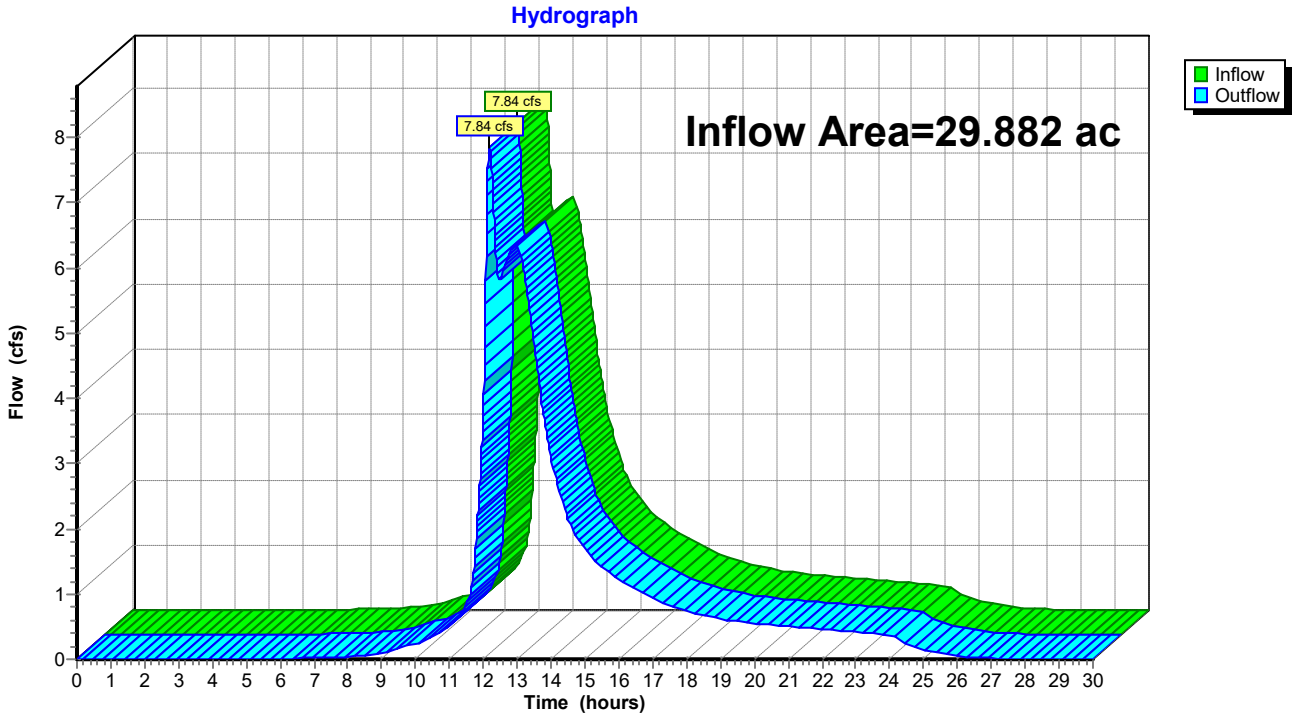
Summary for Reach 1R: WATERSHED ANALYSIS POINT A

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 29.882 ac, 43.35% Impervious, Inflow Depth > 0.73" for 25-YR event
Inflow = 7.84 cfs @ 12.18 hrs, Volume= 1.827 af
Outflow = 7.84 cfs @ 12.18 hrs, Volume= 1.827 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 1R: WATERSHED ANALYSIS POINT A



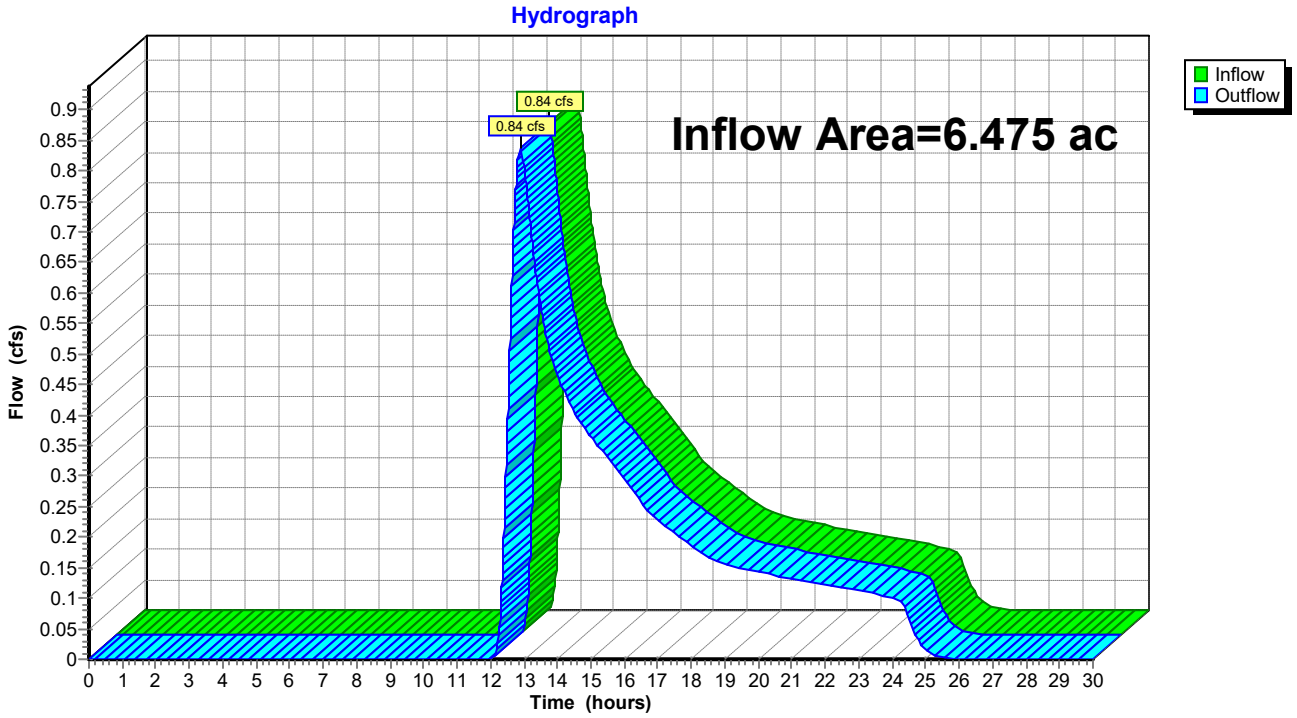
Summary for Reach 2.1R: WATERSHED ANALYSIS POINT C

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.475 ac, 17.20% Impervious, Inflow Depth = 0.47" for 25-YR event
Inflow = 0.84 cfs @ 12.88 hrs, Volume= 0.255 af
Outflow = 0.84 cfs @ 12.88 hrs, Volume= 0.255 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 2.1R: WATERSHED ANALYSIS POINT C



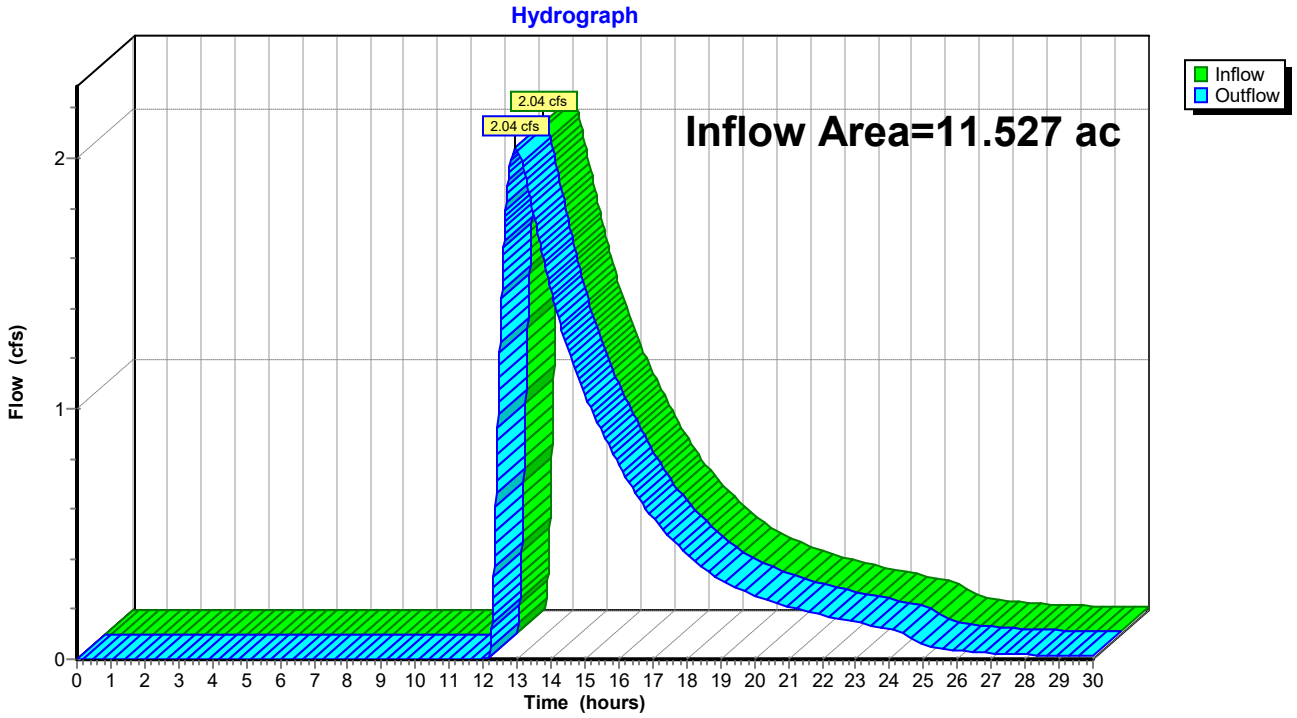
Summary for Reach 2R: WATERSHED ANALYSIS POINT B

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 11.527 ac, 33.57% Impervious, Inflow Depth > 0.67" for 25-YR event
Inflow = 2.04 cfs @ 12.96 hrs, Volume= 0.643 af
Outflow = 2.04 cfs @ 12.96 hrs, Volume= 0.643 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 2R: WATERSHED ANALYSIS POINT B



Summary for Reach 3R: NATURAL DRAINAGE

Inflow Area = 4.148 ac, 85.98% Impervious, Inflow Depth = 1.73" for 25-YR event
Inflow = 5.84 cfs @ 12.36 hrs, Volume= 0.598 af
Outflow = 2.04 cfs @ 12.96 hrs, Volume= 0.592 af, Atten= 65%, Lag= 35.8 min

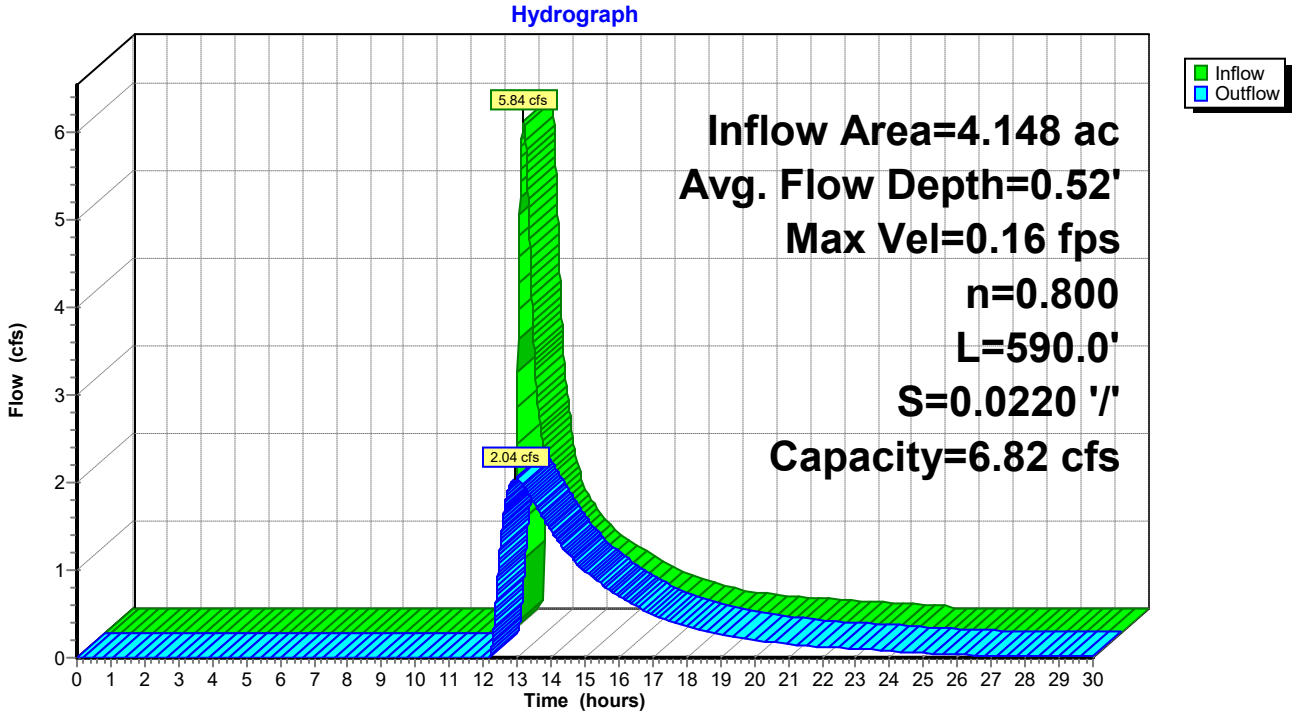
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.16 fps, Min. Travel Time= 62.7 min
Avg. Velocity = 0.07 fps, Avg. Travel Time= 137.0 min

Peak Storage= 7,693 cf @ 12.96 hrs
Average Depth at Peak Storage= 0.52'
Bank-Full Depth= 1.00' Flow Area= 30.0 sf, Capacity= 6.82 cfs

20.00' x 1.00' deep channel, n= 0.800 Sheet flow: Woods+dense brush
Side Slope Z-value= 10.0 '/' Top Width= 40.00'
Length= 590.0' Slope= 0.0220 '/'
Inlet Invert= 239.00', Outlet Invert= 226.00'

‡

Reach 3R: NATURAL DRAINAGE



Summary for Reach 4R: NATRUAL DRAINAGE

Inflow Area = 5.574 ac, 29.30% Impervious, Inflow Depth > 0.99" for 25-YR event
Inflow = 1.85 cfs @ 13.07 hrs, Volume= 0.458 af
Outflow = 1.85 cfs @ 13.10 hrs, Volume= 0.458 af, Atten= 0%, Lag= 2.2 min

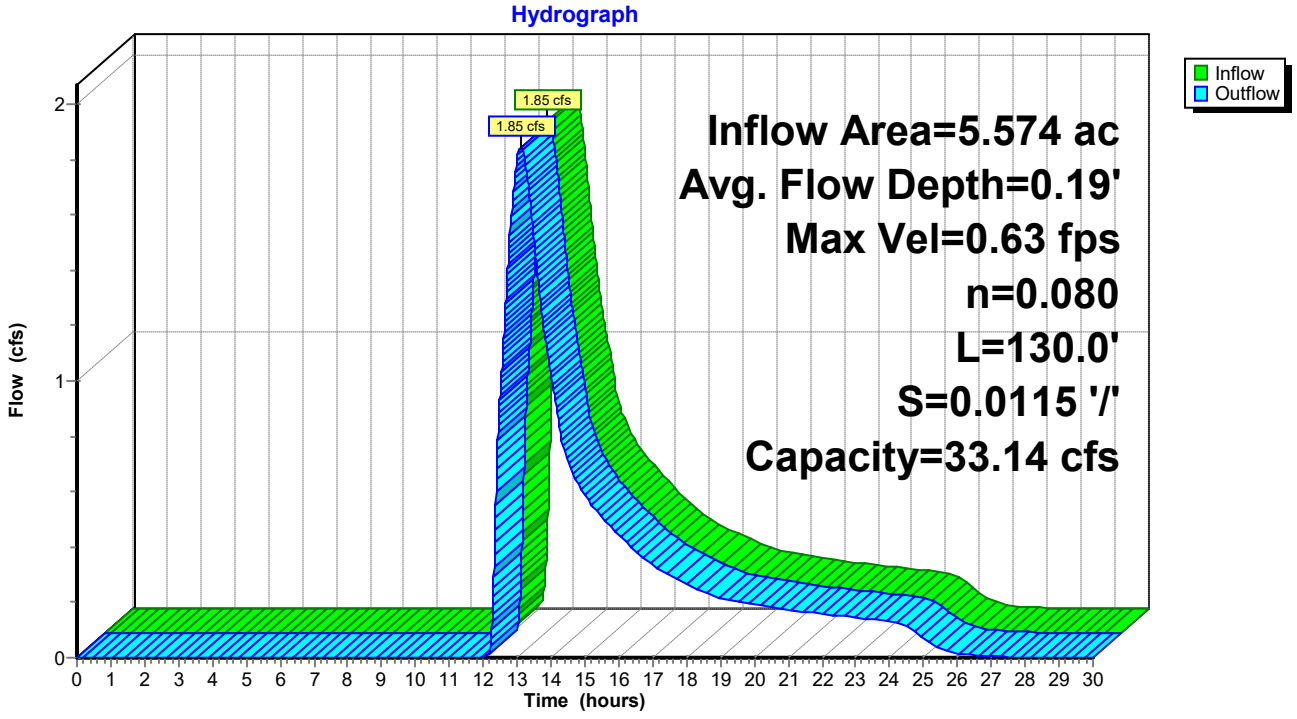
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.63 fps, Min. Travel Time= 3.4 min
Avg. Velocity = 0.26 fps, Avg. Travel Time= 8.3 min

Peak Storage= 381 cf @ 13.10 hrs
Average Depth at Peak Storage= 0.19'
Bank-Full Depth= 1.00' Flow Area= 19.0 sf, Capacity= 33.14 cfs

15.00' x 1.00' deep channel, n= 0.080
Side Slope Z-value= 4.0 '/' Top Width= 23.00'
Length= 130.0' Slope= 0.0115 '/'
Inlet Invert= 247.00', Outlet Invert= 245.50'

‡

Reach 4R: NATRUAL DRAINAGE



Summary for Reach 50R: STREAM

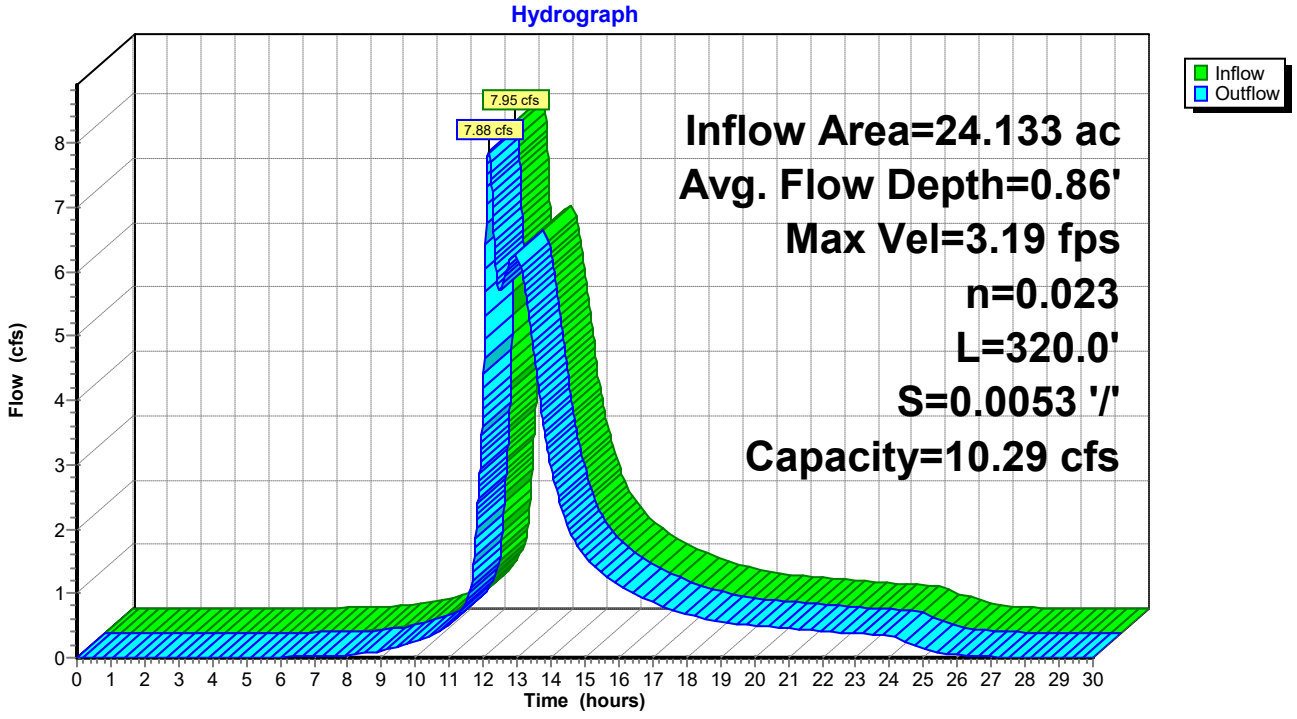
Inflow Area = 24.133 ac, 52.69% Impervious, Inflow Depth > 0.88" for 25-YR event
Inflow = 7.95 cfs @ 12.13 hrs, Volume= 1.763 af
Outflow = 7.88 cfs @ 12.16 hrs, Volume= 1.763 af, Atten= 1%, Lag= 1.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 3.19 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 1.04 fps, Avg. Travel Time= 5.1 min

Peak Storage= 791 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.86'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.29 cfs

2.00' x 1.00' deep channel, n= 0.023 Earth, clean & winding
Side Slope Z-value= 1.0 '/' Top Width= 4.00'
Length= 320.0' Slope= 0.0053 '/'
Inlet Invert= 235.00', Outlet Invert= 233.30'

Reach 50R: STREAM



Summary for Reach 51R: STREAM

[61] Hint: Exceeded Reach 50R outlet invert by 0.67' @ 12.17 hrs

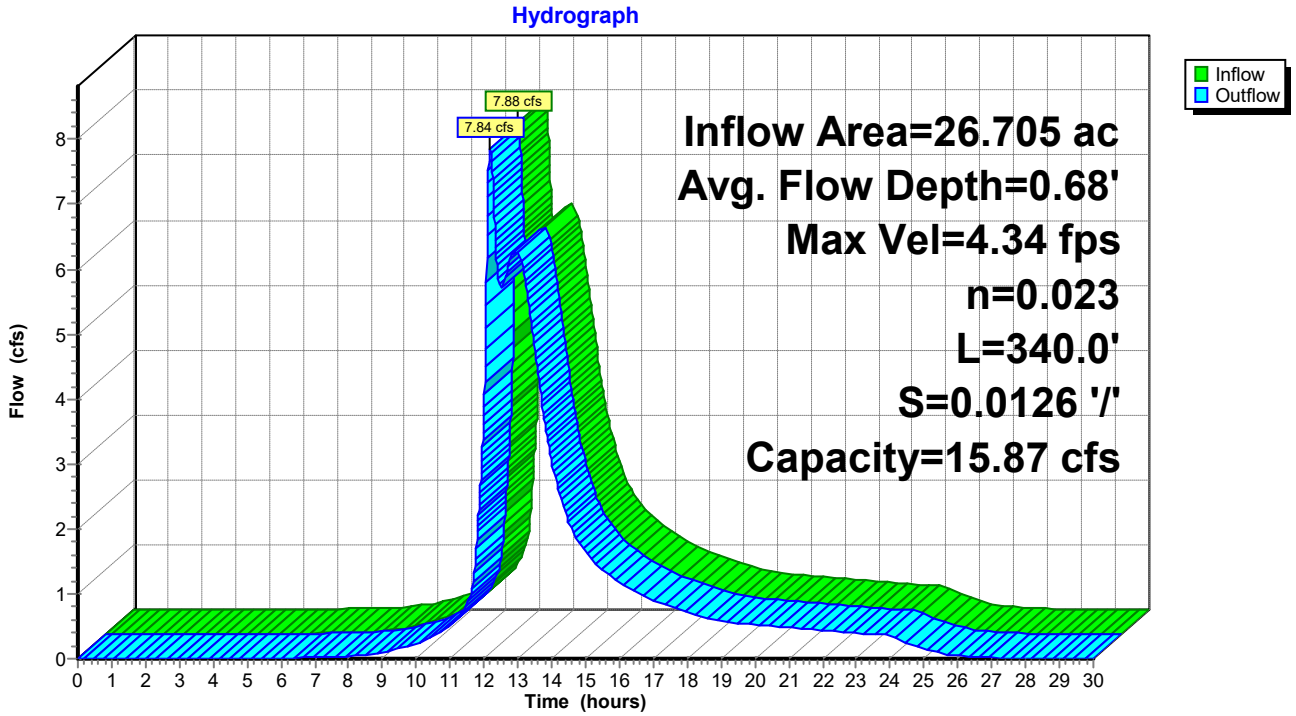
Inflow Area = 26.705 ac, 47.80% Impervious, Inflow Depth > 0.80" for 25-YR event
Inflow = 7.88 cfs @ 12.16 hrs, Volume= 1.787 af
Outflow = 7.84 cfs @ 12.17 hrs, Volume= 1.787 af, Atten= 0%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 4.34 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 1.41 fps, Avg. Travel Time= 4.0 min

Peak Storage= 614 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.68'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 15.87 cfs

2.00' x 1.00' deep channel, n= 0.023
Side Slope Z-value= 1.0 '/' Top Width= 4.00'
Length= 340.0' Slope= 0.0126 '/'
Inlet Invert= 233.30', Outlet Invert= 229.00'

Reach 51R: STREAM



Summary for Reach 52R: New Pipe

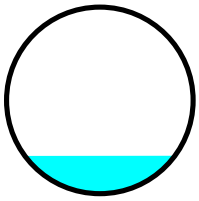
[52] Hint: Inlet/Outlet conditions not evaluated

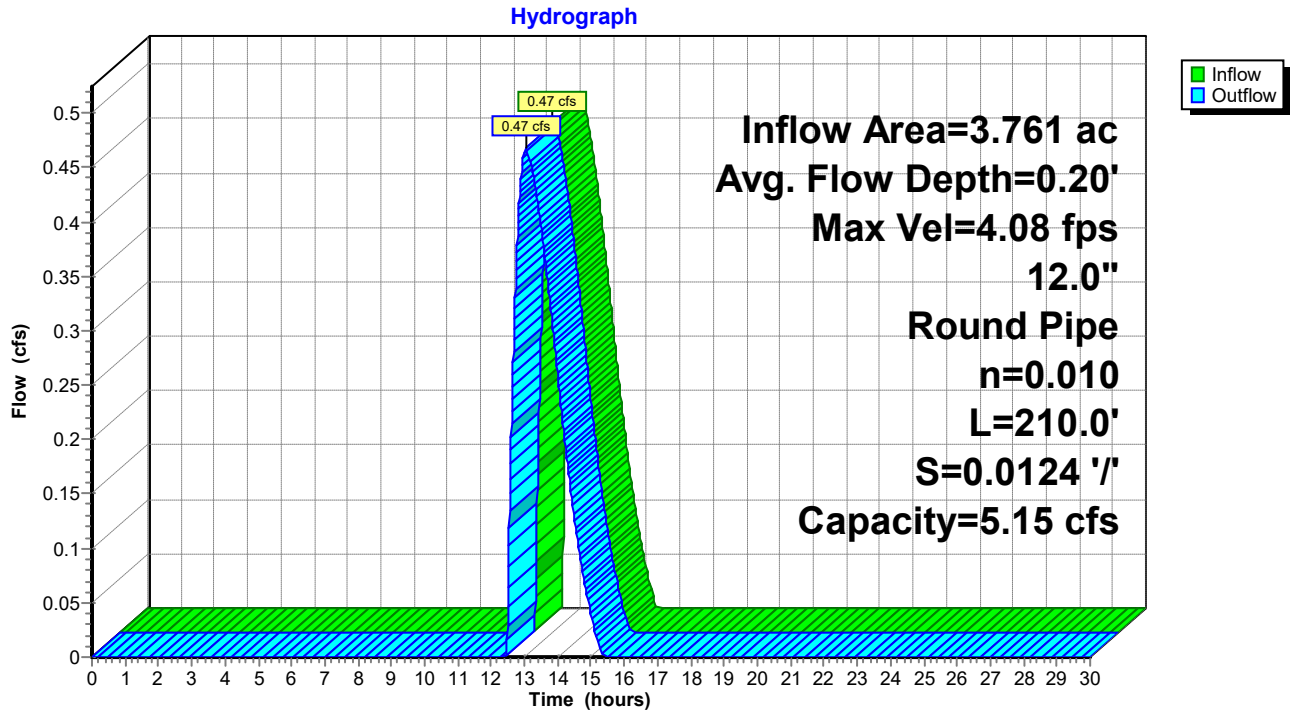
Inflow Area = 3.761 ac, 83.34% Impervious, Inflow Depth = 0.18" for 25-YR event
Inflow = 0.47 cfs @ 13.02 hrs, Volume= 0.057 af
Outflow = 0.47 cfs @ 13.03 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 4.08 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 2.85 fps, Avg. Travel Time= 1.2 min

Peak Storage= 24 cf @ 13.03 hrs
Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 5.15 cfs

12.0" Round Pipe
n= 0.010
Length= 210.0' Slope= 0.0124 '/'
Inlet Invert= 238.60', Outlet Invert= 236.00'





Summary for Reach 53R: New Pipe

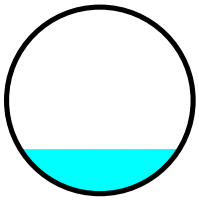
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach 54R OUTLET depth by 0.02' @ 13.66 hrs

Inflow Area = 20.373 ac, 47.04% Impervious, Inflow Depth > 1.00" for 25-YR event
Inflow = 7.95 cfs @ 12.13 hrs, Volume= 1.706 af
Outflow = 7.95 cfs @ 12.13 hrs, Volume= 1.706 af, Atten= 0%, Lag= 0.3 min

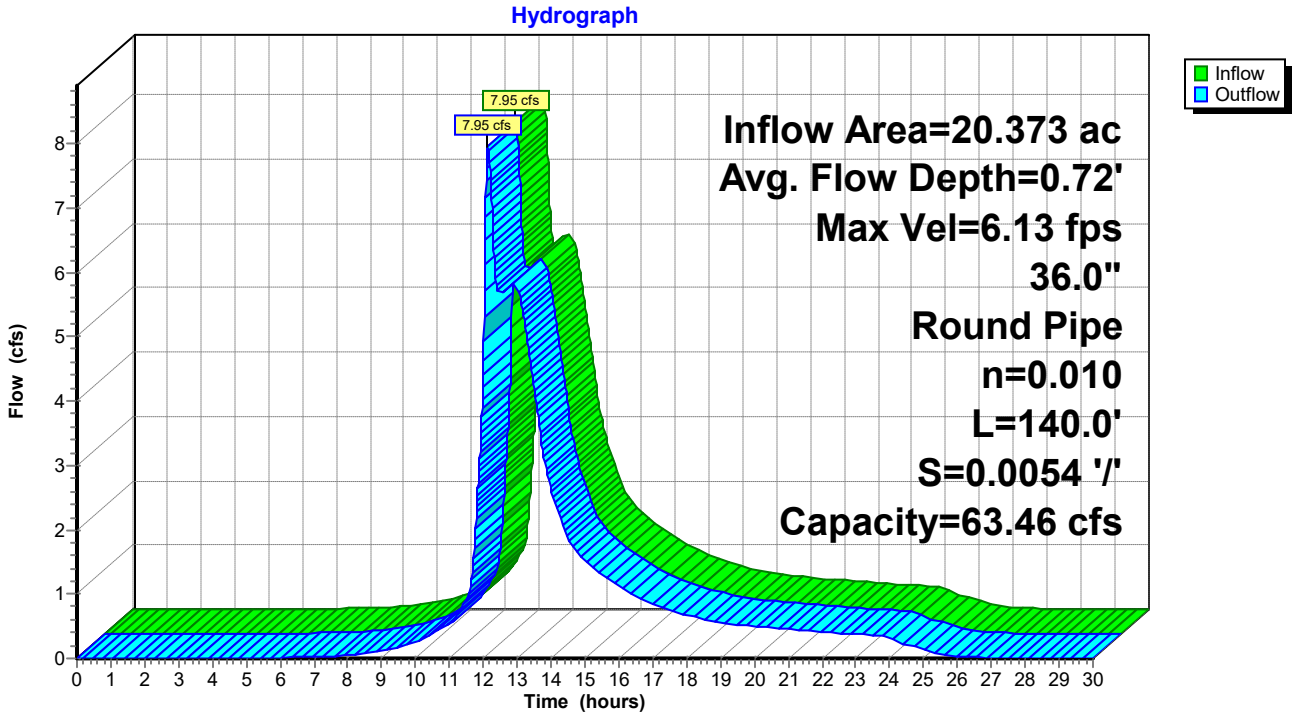
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 6.13 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 2.18 fps, Avg. Travel Time= 1.1 min

Peak Storage= 182 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.72'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 63.46 cfs

36.0" Round Pipe
n= 0.010
Length= 140.0' Slope= 0.0054 '/'
Inlet Invert= 236.75', Outlet Invert= 236.00'



Reach 53R: New Pipe



Summary for Reach 54R: New Pipe

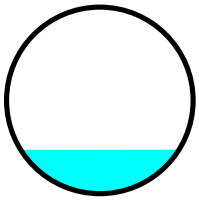
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach 55R OUTLET depth by 0.01' @ 12.27 hrs

Inflow Area = 18.433 ac, 45.86% Impervious, Inflow Depth > 1.10" for 25-YR event
Inflow = 7.97 cfs @ 12.12 hrs, Volume= 1.685 af
Outflow = 7.95 cfs @ 12.13 hrs, Volume= 1.685 af, Atten= 0%, Lag= 0.7 min

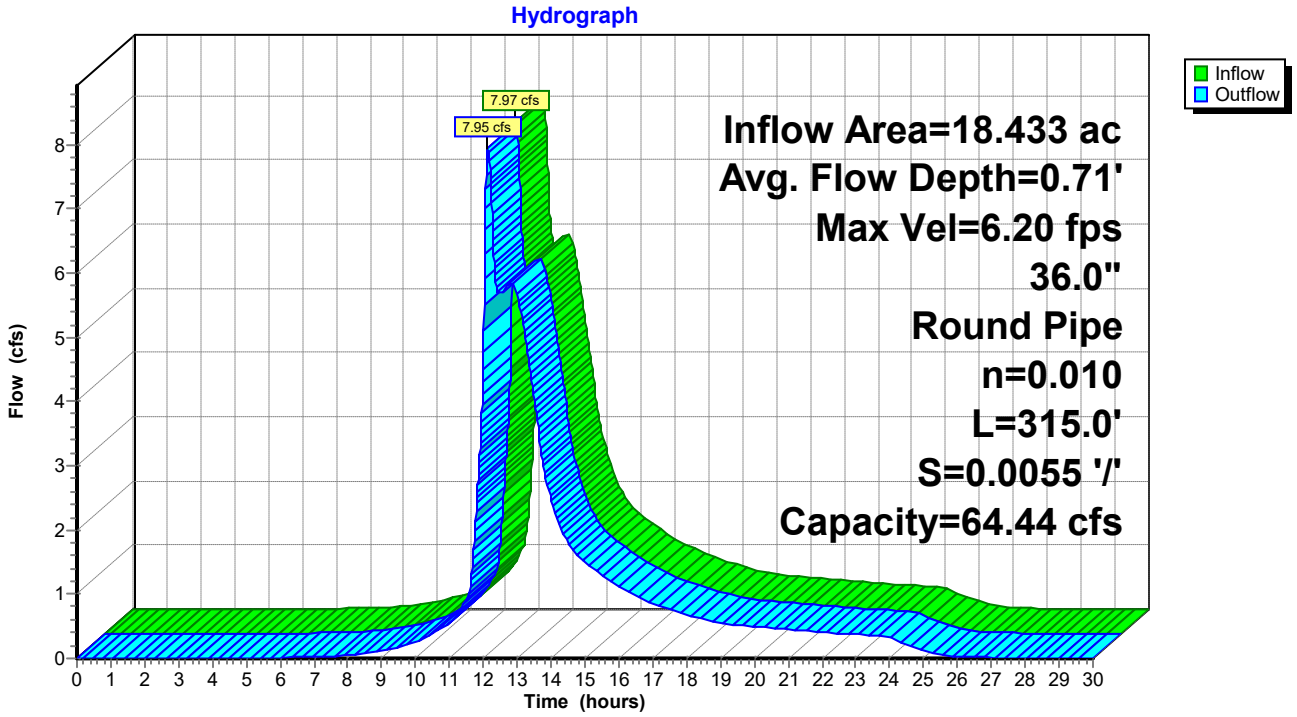
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 6.20 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 2.20 fps, Avg. Travel Time= 2.4 min

Peak Storage= 404 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.71'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 64.44 cfs

36.0" Round Pipe
n= 0.010
Length= 315.0' Slope= 0.0055 '/'
Inlet Invert= 238.49', Outlet Invert= 236.75'



Reach 54R: New Pipe



Summary for Reach 55R: New Pipe

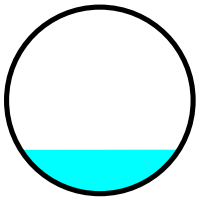
[52] Hint: Inlet/Outlet conditions not evaluated

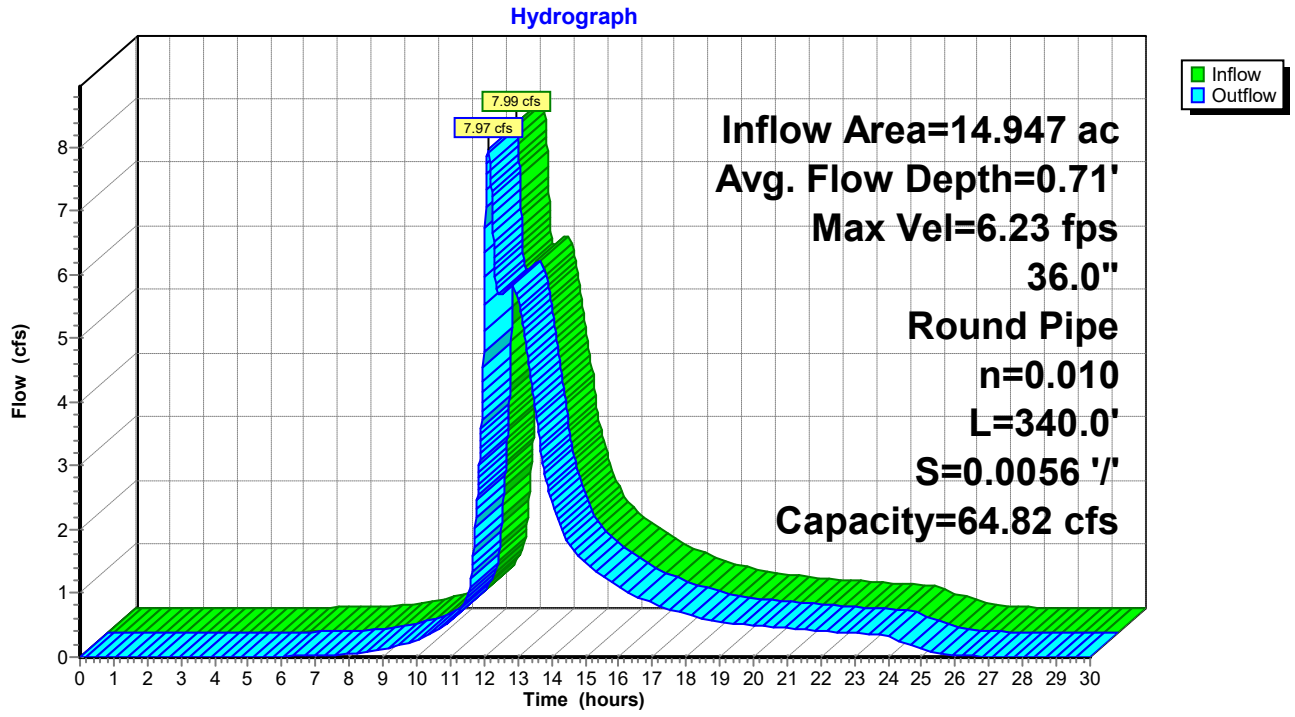
Inflow Area = 14.947 ac, 44.76% Impervious, Inflow Depth > 1.35" for 25-YR event
Inflow = 7.99 cfs @ 12.10 hrs, Volume= 1.685 af
Outflow = 7.97 cfs @ 12.12 hrs, Volume= 1.685 af, Atten= 0%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 6.23 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 2.20 fps, Avg. Travel Time= 2.6 min

Peak Storage= 435 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.71'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 64.82 cfs

36.0" Round Pipe
n= 0.010
Length= 340.0' Slope= 0.0056 '/'
Inlet Invert= 240.39', Outlet Invert= 238.49'





Summary for Pond 1P: CULVERT

[93] Warning: Storage range exceeded by 7.78'
[58] Hint: Peaked 255.78' above defined flood level
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=4)
[80] Warning: Exceeded Pond 12P by 1.82' @ 12.03 hrs (39.04 cfs 0.033 af)

Inflow Area = 6.651 ac, 50.13% Impervious, Inflow Depth = 0.92" for 25-YR event
Inflow = 6.01 cfs @ 12.03 hrs, Volume= 0.510 af
Outflow = 6.38 cfs @ 12.03 hrs, Volume= 0.510 af, Atten= 0%, Lag= 0.0 min
Primary = 6.38 cfs @ 12.03 hrs, Volume= 0.510 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.78' @ 12.03 hrs Surf.Area= 300 sf Storage= 345 cf
Flood Elev= 1.00' Surf.Area= 0 sf Storage= 0 cf

Plug-Flow detention time= 0.6 min calculated for 0.510 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (831.8 - 831.2)

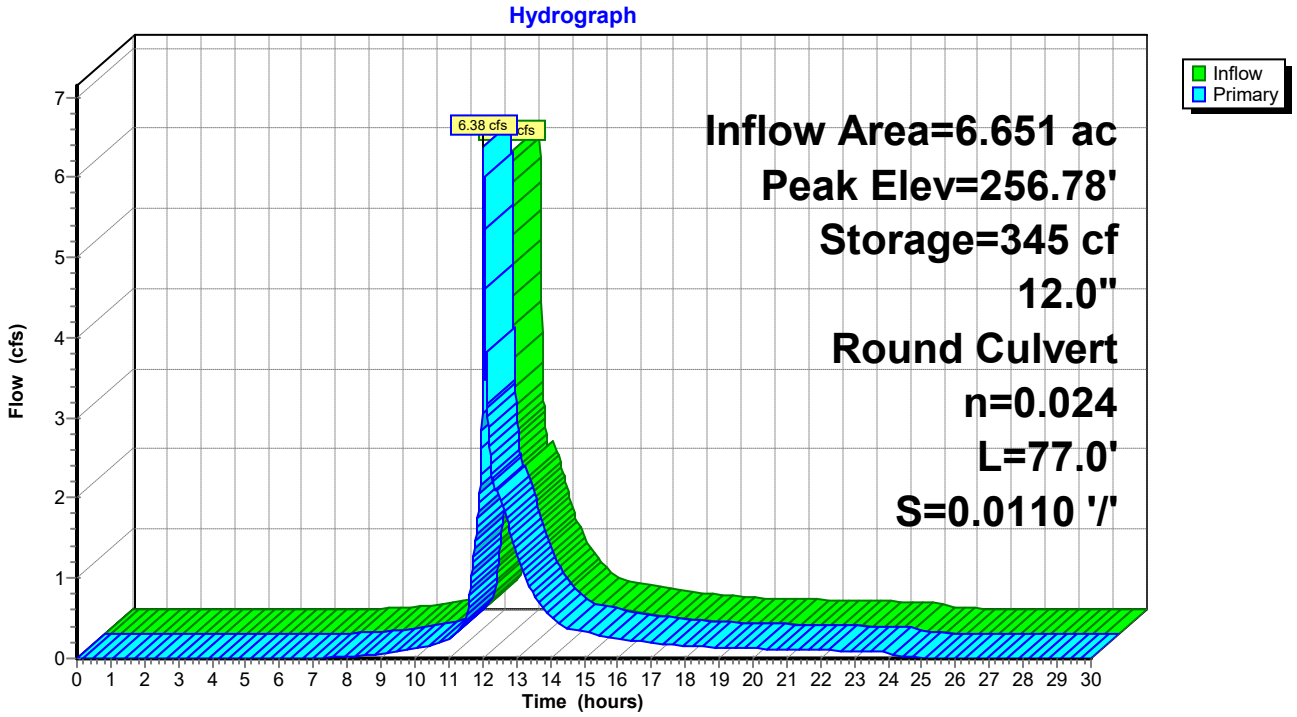
Volume	Invert	Avail.Storage	Storage Description
#1	246.25'	345 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.25	0	0	0
247.00	33	12	12
249.00	300	333	345

Device	Routing	Invert	Outlet Devices
#1	Primary	246.25'	**12.0" Round Culvert** L= 77.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.25' / 245.40' S= 0.0110 '/' Cc= 0.900 n= 0.024, Flow Area= 0.79 sf

Primary OutFlow Max=6.38 cfs @ 12.03 hrs HW=256.77' TW=246.11' (Dynamic Tailwater)
1=Culvert (Barrel Controls 6.38 cfs @ 8.12 fps)

Pond 1P: CULVERT



Summary for Pond 2P: STORM DRAIN

[62] Hint: Exceeded Reach 4R OUTLET depth by 0.74' @ 12.09 hrs

Inflow Area = 13.813 ac, 42.27% Impervious, Inflow Depth = 1.17" for 25-YR event
Inflow = 6.84 cfs @ 12.03 hrs, Volume= 1.347 af
Outflow = 5.32 cfs @ 12.86 hrs, Volume= 1.347 af, Atten= 22%, Lag= 49.7 min
Primary = 5.32 cfs @ 12.86 hrs, Volume= 1.347 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.39' @ 12.86 hrs Surf.Area= 2,200 sf Storage= 1,740 cf

Plug-Flow detention time= 7.1 min calculated for 1.347 af (100% of inflow)
Center-of-Mass det. time= 6.8 min (889.6 - 882.8)

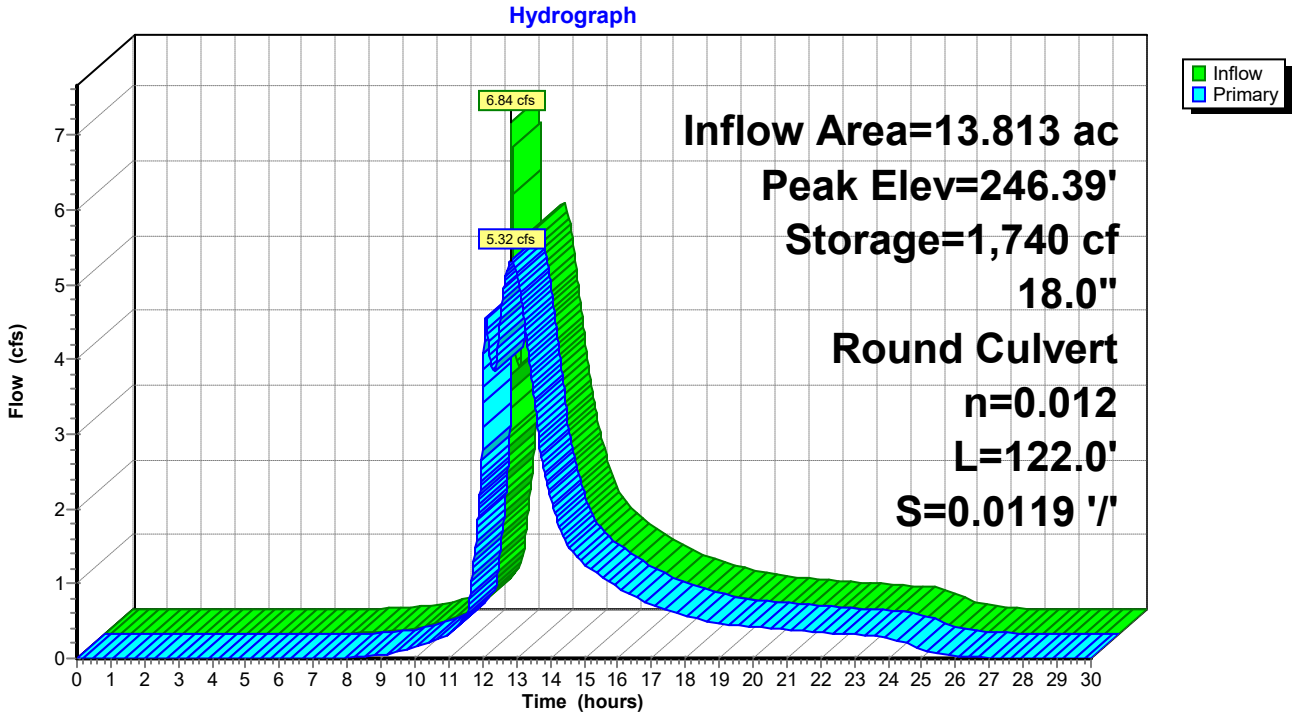
Volume	Invert	Avail.Storage	Storage Description
#1	245.02'	26,780 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
245.02	0	0	0
246.00	1,688	827	827
247.00	3,004	2,346	3,173
248.00	7,300	5,152	8,325
249.00	8,805	8,053	16,378
250.00	12,000	10,403	26,780

Device	Routing	Invert	Outlet Devices
#1	Primary	245.02'	**18.0" Round Culvert** L= 122.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 245.02' / 243.57' S= 0.0119 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=5.32 cfs @ 12.86 hrs HW=246.39' TW=244.42' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 5.32 cfs @ 3.15 fps)

Pond 2P: STORM DRAIN



Summary for Pond 3P: DRAINAGE MH

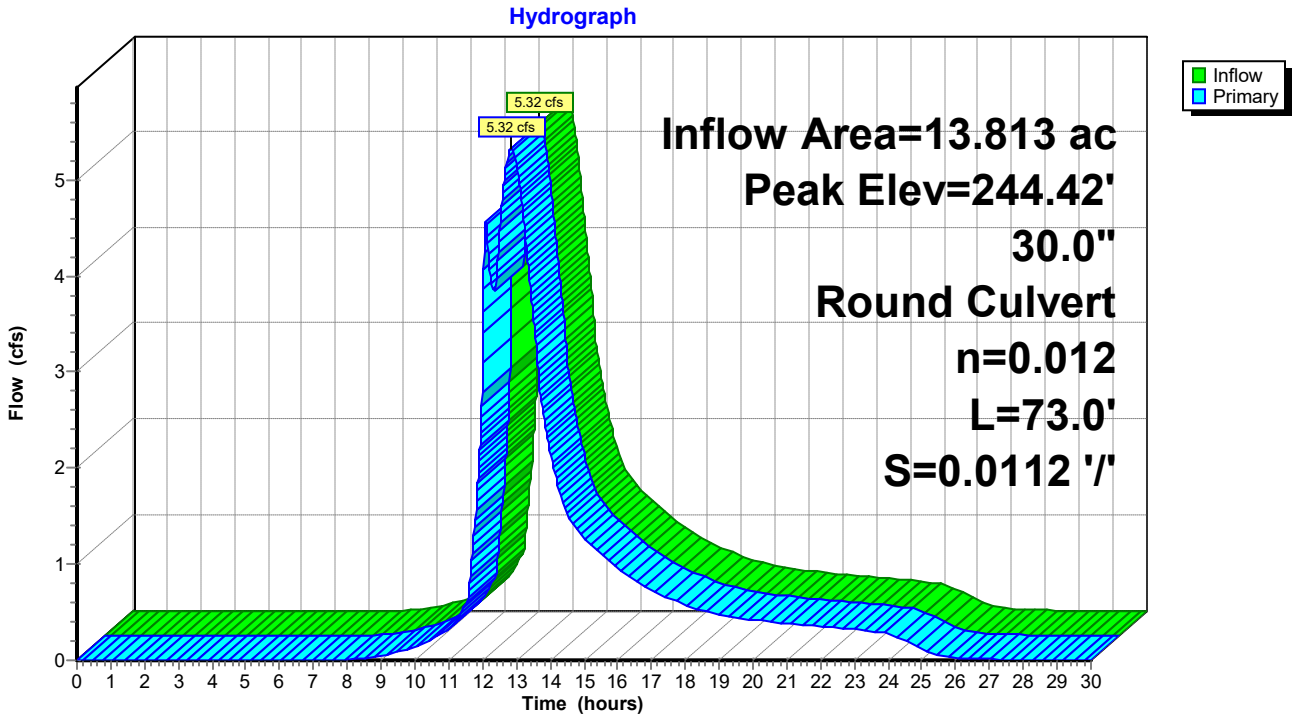
Inflow Area = 13.813 ac, 42.27% Impervious, Inflow Depth > 1.17" for 25-YR event
Inflow = 5.32 cfs @ 12.86 hrs, Volume= 1.347 af
Outflow = 5.32 cfs @ 12.86 hrs, Volume= 1.347 af, Atten= 0%, Lag= 0.0 min
Primary = 5.32 cfs @ 12.86 hrs, Volume= 1.347 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 244.42' @ 12.86 hrs
Flood Elev= 248.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	243.47'	**30.0" Round Culvert** L= 73.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 243.47' / 242.65' S= 0.0112 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf

Primary OutFlow Max=5.32 cfs @ 12.86 hrs HW=244.42' TW=243.58' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.32 cfs @ 4.64 fps)

Pond 3P: DRAINAGE MH



Summary for Pond 4P: DRAINAGE MH

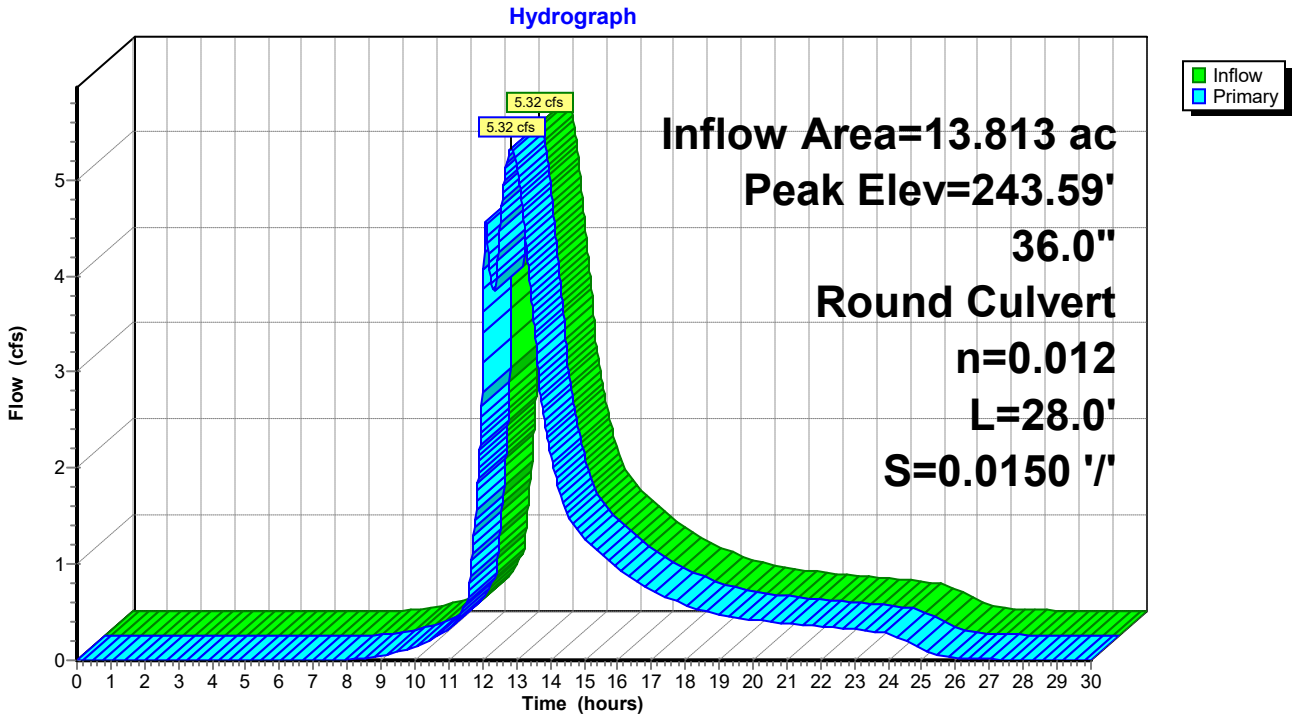
Inflow Area = 13.813 ac, 42.27% Impervious, Inflow Depth > 1.17" for 25-YR event
Inflow = 5.32 cfs @ 12.86 hrs, Volume= 1.347 af
Outflow = 5.32 cfs @ 12.86 hrs, Volume= 1.347 af, Atten= 0%, Lag= 0.0 min
Primary = 5.32 cfs @ 12.86 hrs, Volume= 1.347 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 243.59' @ 12.10 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.65'	**36.0" Round Culvert** L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.65' / 242.23' S= 0.0150 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=5.32 cfs @ 12.86 hrs HW=243.58' TW=243.04' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.32 cfs @ 4.28 fps)

Pond 4P: DRAINAGE MH



Summary for Pond 5P: DRAINAGE MH

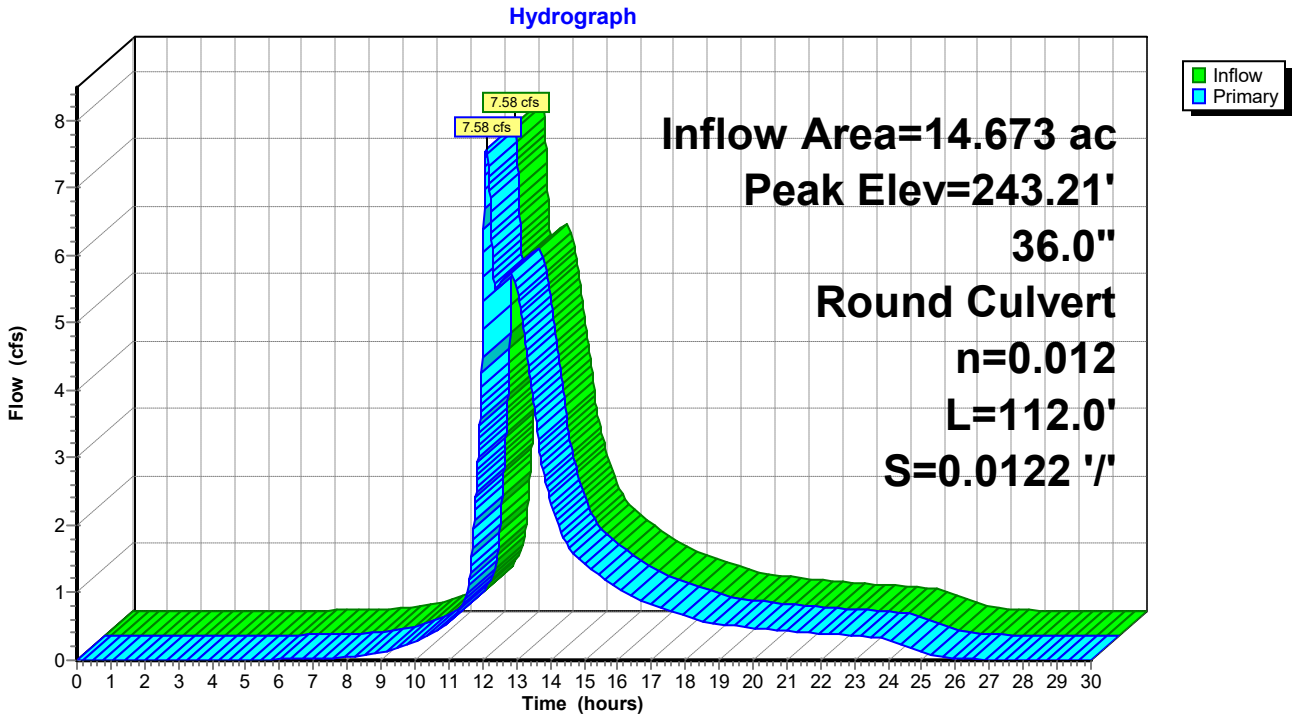
Inflow Area = 14.673 ac, 44.70% Impervious, Inflow Depth > 1.34" for 25-YR event
Inflow = 7.58 cfs @ 12.12 hrs, Volume= 1.638 af
Outflow = 7.58 cfs @ 12.12 hrs, Volume= 1.638 af, Atten= 0%, Lag= 0.0 min
Primary = 7.58 cfs @ 12.12 hrs, Volume= 1.638 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 243.21' @ 12.12 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.13'	**36.0" Round Culvert** L= 112.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.13' / 240.76' S= 0.0122 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=7.57 cfs @ 12.12 hrs HW=243.21' TW=242.18' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.57 cfs @ 4.89 fps)

Pond 5P: DRAINAGE MH



Summary for Pond 6P: DRAINAGE MH

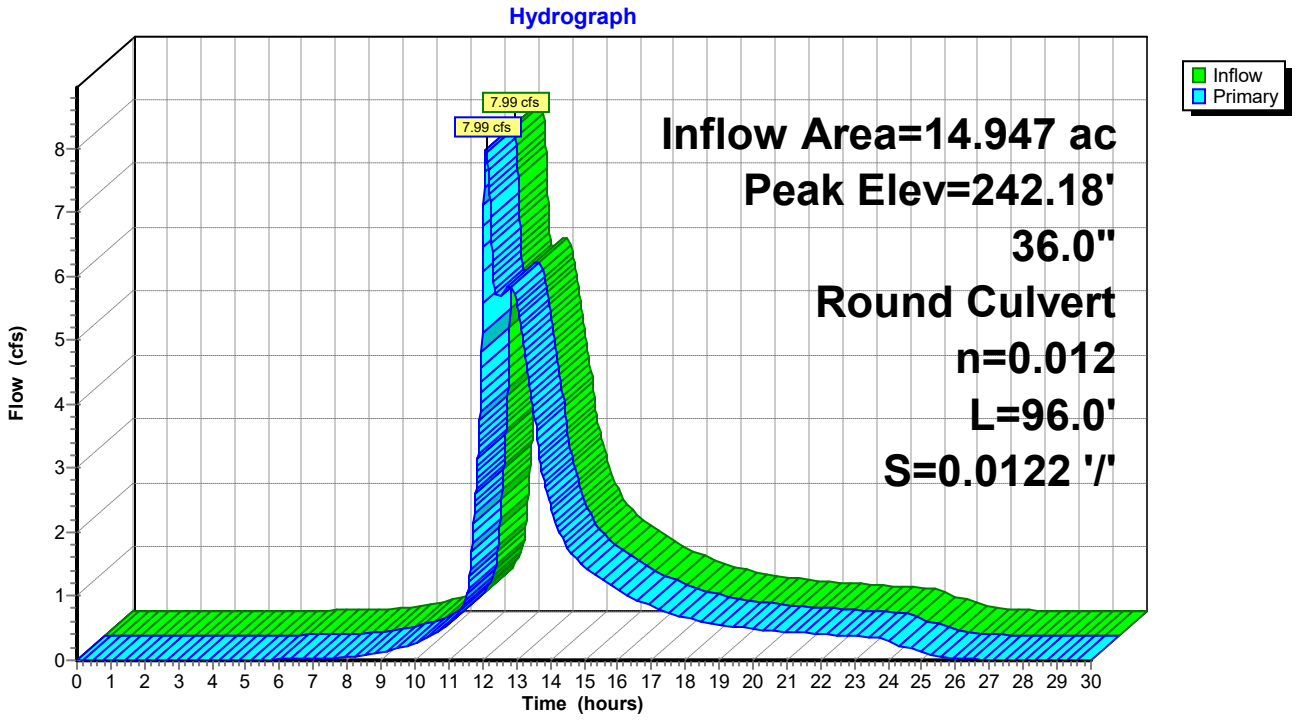
Inflow Area = 14.947 ac, 44.76% Impervious, Inflow Depth > 1.35" for 25-YR event
Inflow = 7.99 cfs @ 12.10 hrs, Volume= 1.685 af
Outflow = 7.99 cfs @ 12.10 hrs, Volume= 1.685 af, Atten= 0%, Lag= 0.0 min
Primary = 7.99 cfs @ 12.10 hrs, Volume= 1.685 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 242.18' @ 12.10 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.76'	**36.0" Round Culvert** L= 96.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.76' / 239.59' S= 0.0122 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=7.98 cfs @ 12.10 hrs HW=242.18' TW=241.73' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.98 cfs @ 3.55 fps)

Pond 6P: DRAINAGE MH



Summary for Pond 7P: DRAINAGE MH

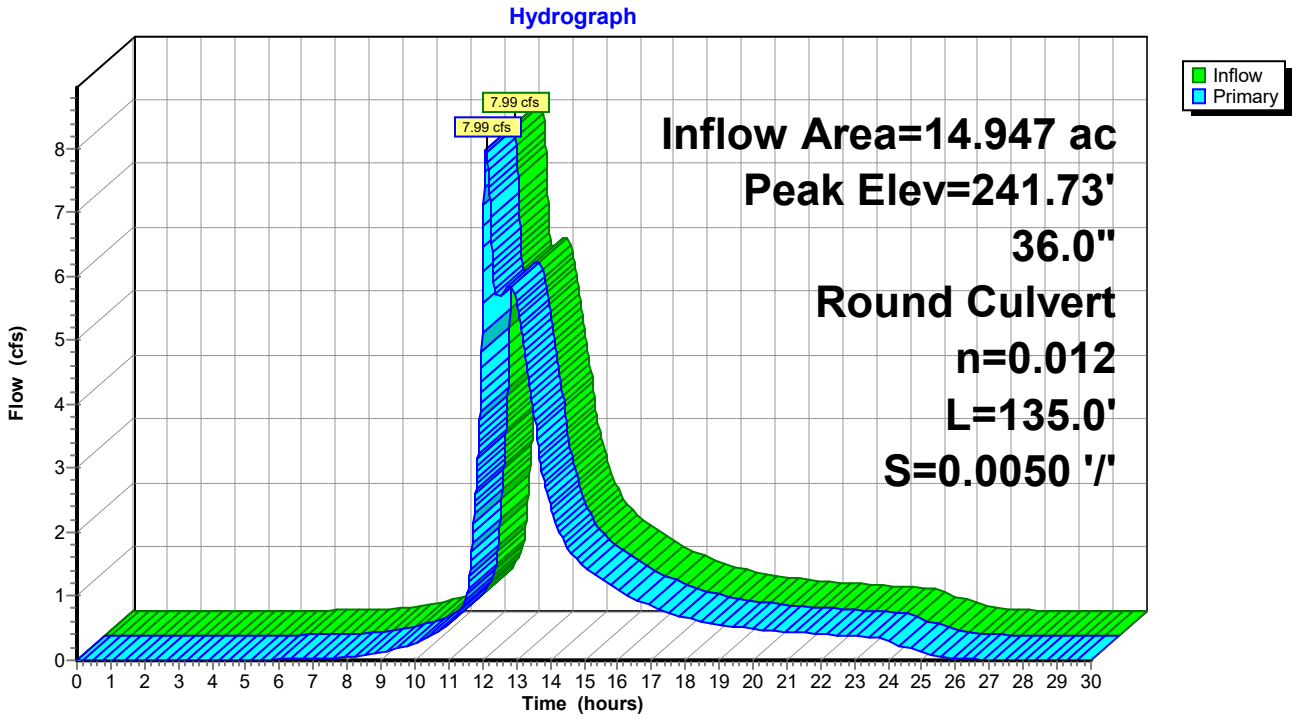
Inflow Area = 14.947 ac, 44.76% Impervious, Inflow Depth > 1.35" for 25-YR event
Inflow = 7.99 cfs @ 12.10 hrs, Volume= 1.685 af
Outflow = 7.99 cfs @ 12.10 hrs, Volume= 1.685 af, Atten= 0%, Lag= 0.0 min
Primary = 7.99 cfs @ 12.10 hrs, Volume= 1.685 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 241.73' @ 12.10 hrs
Flood Elev= 249.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.39'	**36.0" Round Culvert** L= 135.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.39' / 239.72' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=7.98 cfs @ 12.10 hrs HW=241.73' TW=241.10' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.98 cfs @ 3.85 fps)

Pond 7P: DRAINAGE MH



Summary for Pond 8P: STORM DRAIN

Inflow Area = 0.724 ac, 80.43% Impervious, Inflow Depth = 3.84" for 25-YR event
Inflow = 2.68 cfs @ 12.15 hrs, Volume= 0.232 af
Outflow = 2.64 cfs @ 12.17 hrs, Volume= 0.232 af, Atten= 1%, Lag= 1.2 min
Primary = 2.64 cfs @ 12.17 hrs, Volume= 0.232 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.44' @ 12.17 hrs Surf.Area= 83 sf Storage= 56 cf

Plug-Flow detention time= 0.4 min calculated for 0.232 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (807.0 - 806.6)

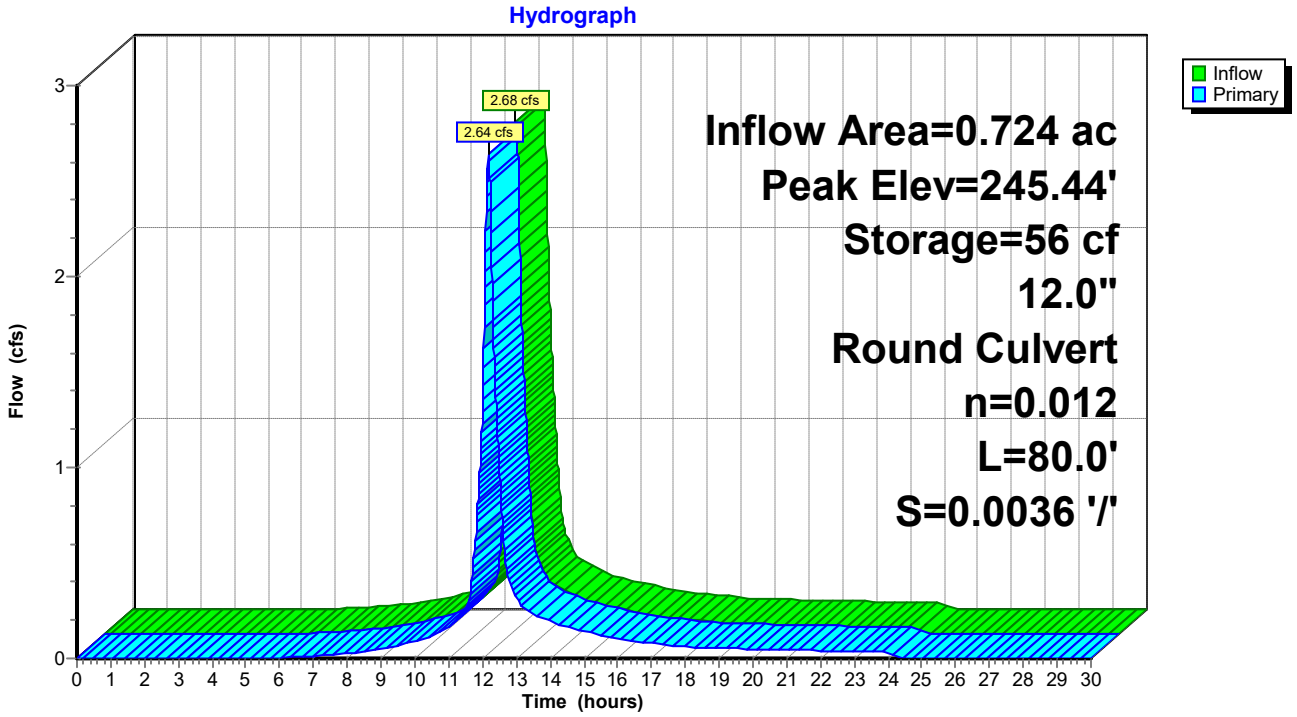
Volume	Invert	Avail.Storage	Storage Description
#1	244.02'	2,532 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
244.02	0	0	0
245.00	34	17	17
246.00	145	90	106
247.00	393	269	375
248.00	829	611	986
249.00	2,263	1,546	2,532

Device	Routing	Invert	Outlet Devices
#1	Primary	244.02'	**12.0" Round Culvert** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 244.02' / 243.73' S= 0.0036 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.64 cfs @ 12.17 hrs HW=245.44' TW=243.19' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 2.64 cfs @ 3.36 fps)

Pond 8P: STORM DRAIN



Summary for Pond 9P: CULVERT

Inflow Area = 0.701 ac, 31.01% Impervious, Inflow Depth = 1.40" for 25-YR event
Inflow = 0.66 cfs @ 12.34 hrs, Volume= 0.082 af
Outflow = 0.64 cfs @ 12.40 hrs, Volume= 0.082 af, Atten= 3%, Lag= 3.5 min
Primary = 0.64 cfs @ 12.40 hrs, Volume= 0.082 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 250.37' @ 12.40 hrs Surf.Area= 324 sf Storage= 158 cf

Plug-Flow detention time= 4.6 min calculated for 0.082 af (100% of inflow)
Center-of-Mass det. time= 4.5 min (895.1 - 890.6)

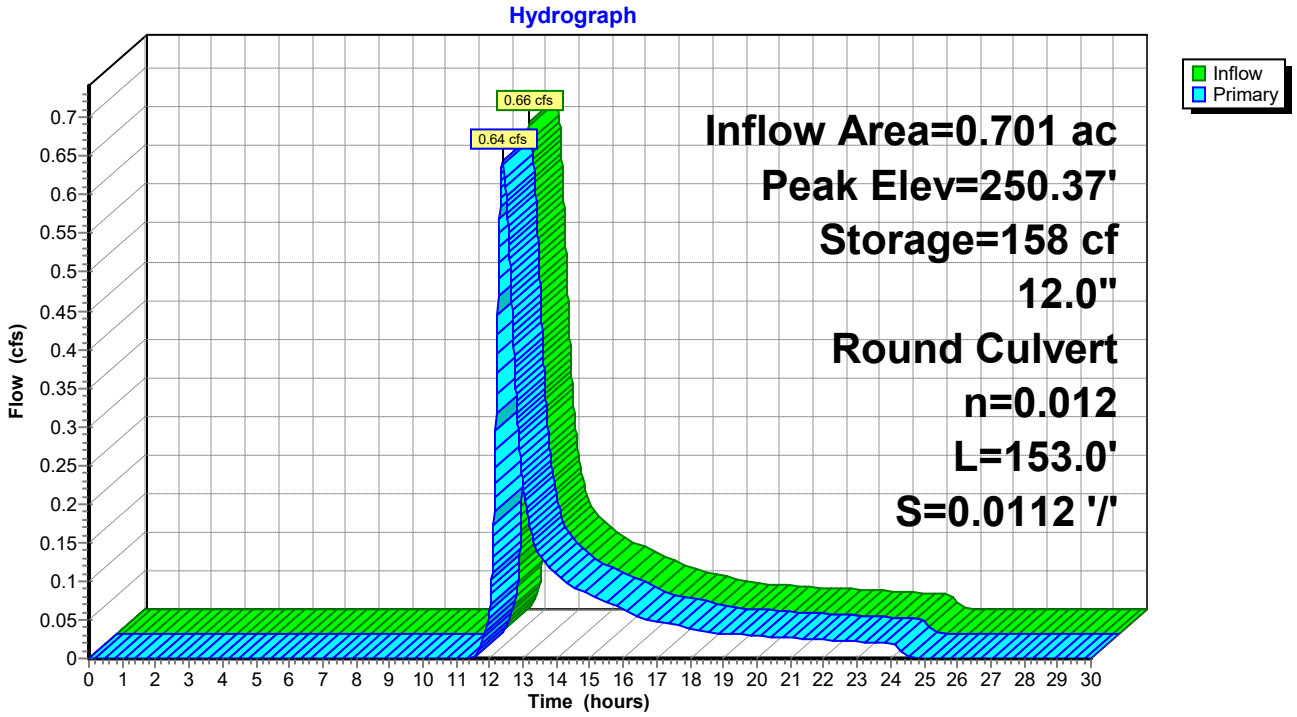
Volume	Invert	Avail.Storage	Storage Description
#1	249.91'	1,464 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
249.91	0	0	0
250.00	44	2	2
251.00	800	422	424
252.00	1,280	1,040	1,464

Device	Routing	Invert	Outlet Devices
#1	Primary	249.91'	**12.0" Round Culvert** L= 153.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 249.91' / 248.20' S= 0.0112 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.64 cfs @ 12.40 hrs HW=250.37' TW=248.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.64 cfs @ 1.82 fps)

Pond 9P: CULVERT



Summary for Pond 11P: UNDERDRAINED SOIL FILTER 11

Inflow Area = 0.607 ac, 74.03% Impervious, Inflow Depth = 3.54" for 25-YR event
Inflow = 2.95 cfs @ 12.02 hrs, Volume= 0.179 af
Outflow = 0.20 cfs @ 13.21 hrs, Volume= 0.179 af, Atten= 93%, Lag= 71.6 min
Discarded = 0.16 cfs @ 13.21 hrs, Volume= 0.177 af
Primary = 0.04 cfs @ 13.21 hrs, Volume= 0.002 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.51' @ 13.21 hrs Surf.Area= 2,901 sf Storage= 3,582 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 228.1 min (1,034.2 - 806.1)

Volume	Invert	Avail.Storage	Storage Description
#1	254.00'	4,990 cf	**Custom Stage Data (Prismatic)** Listed below

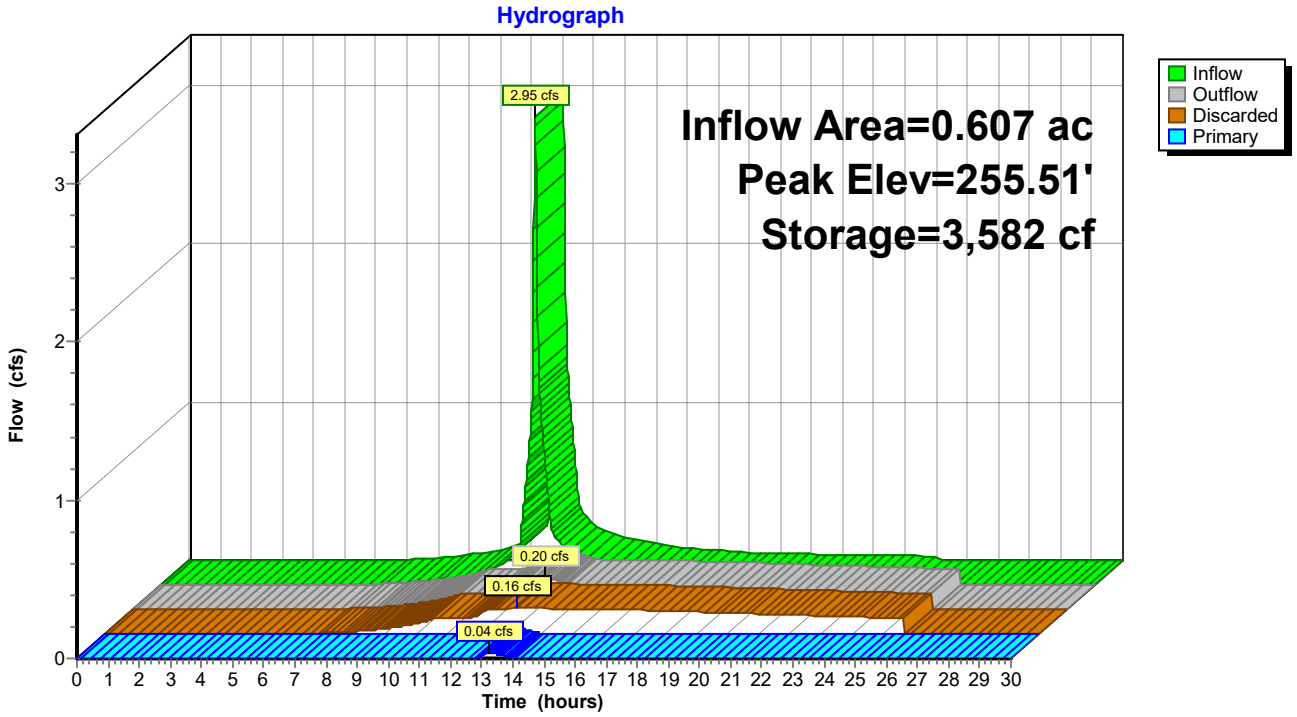
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
254.00	1,720	0	0
255.00	2,480	2,100	2,100
256.00	3,300	2,890	4,990

Device	Routing	Invert	Outlet Devices
#1	Discarded	254.00'	**2.398 in/hr Exfiltration over Surface area above 251.83'** Excluded Surface area = 0 sf
#2	Primary	255.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.16 cfs @ 13.21 hrs HW=255.51' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=0.04 cfs @ 13.21 hrs HW=255.51' TW=247.18' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.04 cfs @ 0.28 fps)

Pond 11P: UNDERDRAINED SOIL FILTER 11



Summary for Pond 12P: UNDERDRAINED SOIL FILTER 12

Inflow Area = 2.938 ac, 83.72% Impervious, Inflow Depth = 4.26" for 25-YR event
Inflow = 14.45 cfs @ 12.08 hrs, Volume= 1.044 af
Outflow = 2.20 cfs @ 12.55 hrs, Volume= 1.044 af, Atten= 85%, Lag= 28.8 min
Discarded = 0.97 cfs @ 12.55 hrs, Volume= 0.960 af
Primary = 1.23 cfs @ 12.55 hrs, Volume= 0.084 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.63' @ 12.55 hrs Surf.Area= 17,386 sf Storage= 19,809 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 200.5 min (988.0 - 787.5)

Volume	Invert	Avail.Storage	Storage Description
#1	254.00'	25,725 cf	**Custom Stage Data (Prismatic)** Listed below

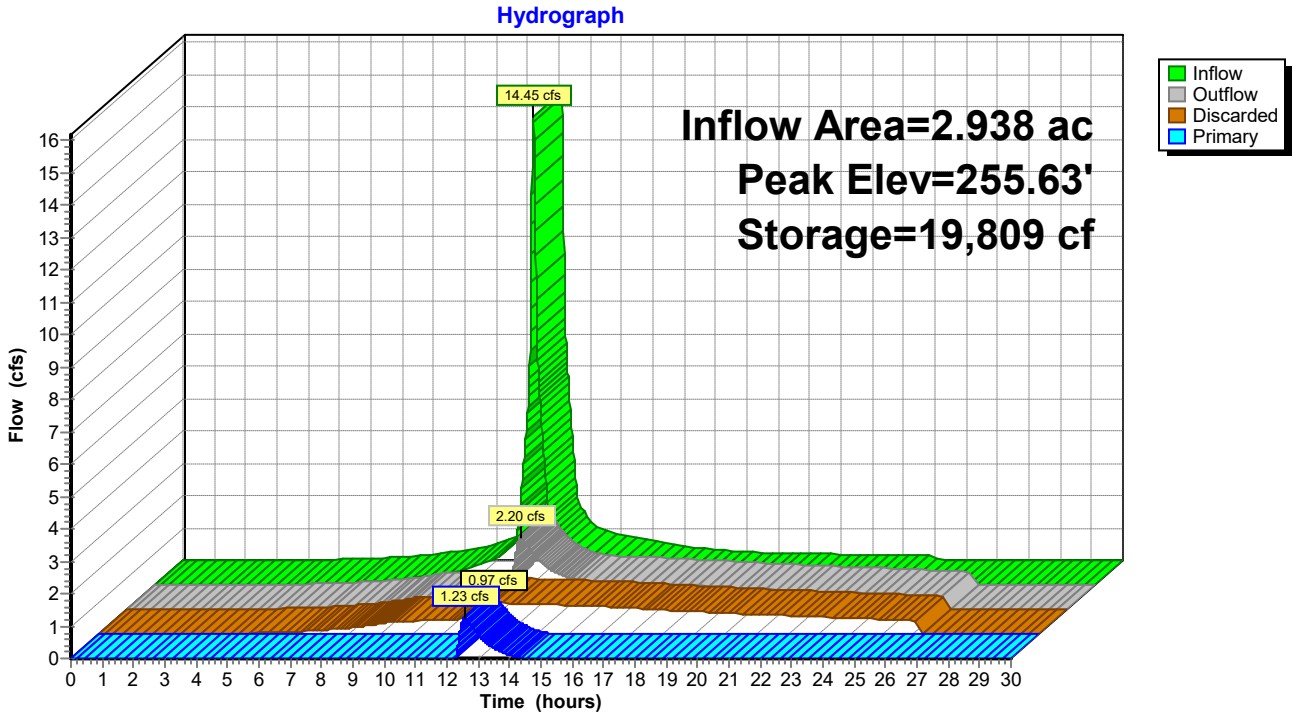
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
254.00	7,250	0	0
255.00	11,800	9,525	9,525
256.00	20,600	16,200	25,725

Device	Routing	Invert	Outlet Devices
#1	Discarded	254.00'	**2.400 in/hr Exfiltration over Surface area above 251.83'** Excluded Surface area = 0 sf
#2	Primary	255.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.97 cfs @ 12.55 hrs HW=255.63' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.97 cfs)

Primary OutFlow Max=1.23 cfs @ 12.55 hrs HW=255.63' TW=247.33' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 1.23 cfs @ 0.91 fps)

Pond 12P: UNDERDRAINED SOIL FILTER 12



Summary for Pond 14P: CULVERT

Inflow Area = 4.967 ac, 23.83% Impervious, Inflow Depth = 1.10" for 25-YR event
Inflow = 1.89 cfs @ 12.88 hrs, Volume= 0.456 af
Outflow = 1.82 cfs @ 13.05 hrs, Volume= 0.456 af, Atten= 4%, Lag= 10.6 min
Primary = 1.82 cfs @ 13.05 hrs, Volume= 0.456 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 248.26' @ 13.05 hrs Surf.Area= 1,802 sf Storage= 911 cf

Plug-Flow detention time= 9.8 min calculated for 0.456 af (100% of inflow)
Center-of-Mass det. time= 9.5 min (945.1 - 935.5)

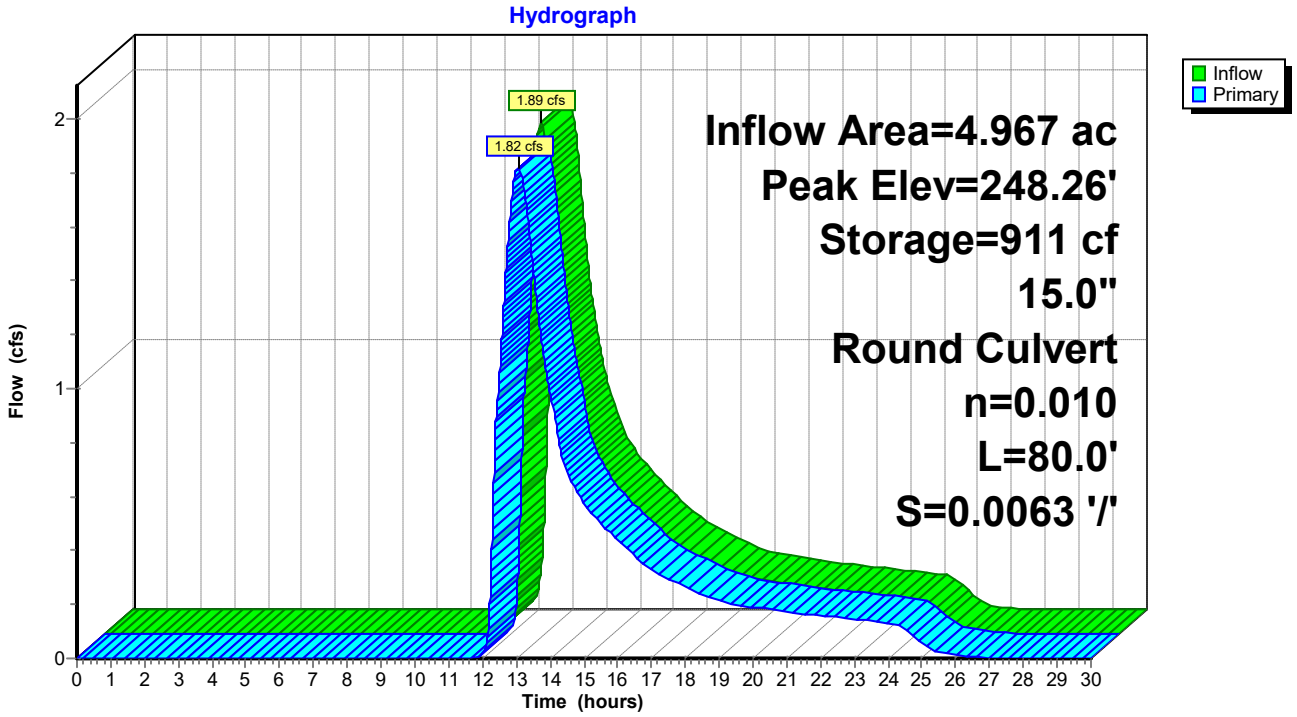
Volume	Invert	Avail.Storage	Storage Description
#1	247.50'	6,053 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
247.50	0	0	0
248.00	1,370	343	343
249.00	3,050	2,210	2,553
250.00	3,950	3,500	6,053

Device	Routing	Invert	Outlet Devices
#1	Primary	247.50'	**15.0" Round Culvert** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 247.50' / 247.00' S= 0.0063 '/' Cc= 0.900 n= 0.010, Flow Area= 1.23 sf

Primary OutFlow Max=1.82 cfs @ 13.05 hrs HW=248.26' TW=247.19' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.82 cfs @ 2.34 fps)

Pond 14P: CULVERT



Summary for Pond 16P: CATCH BASIN

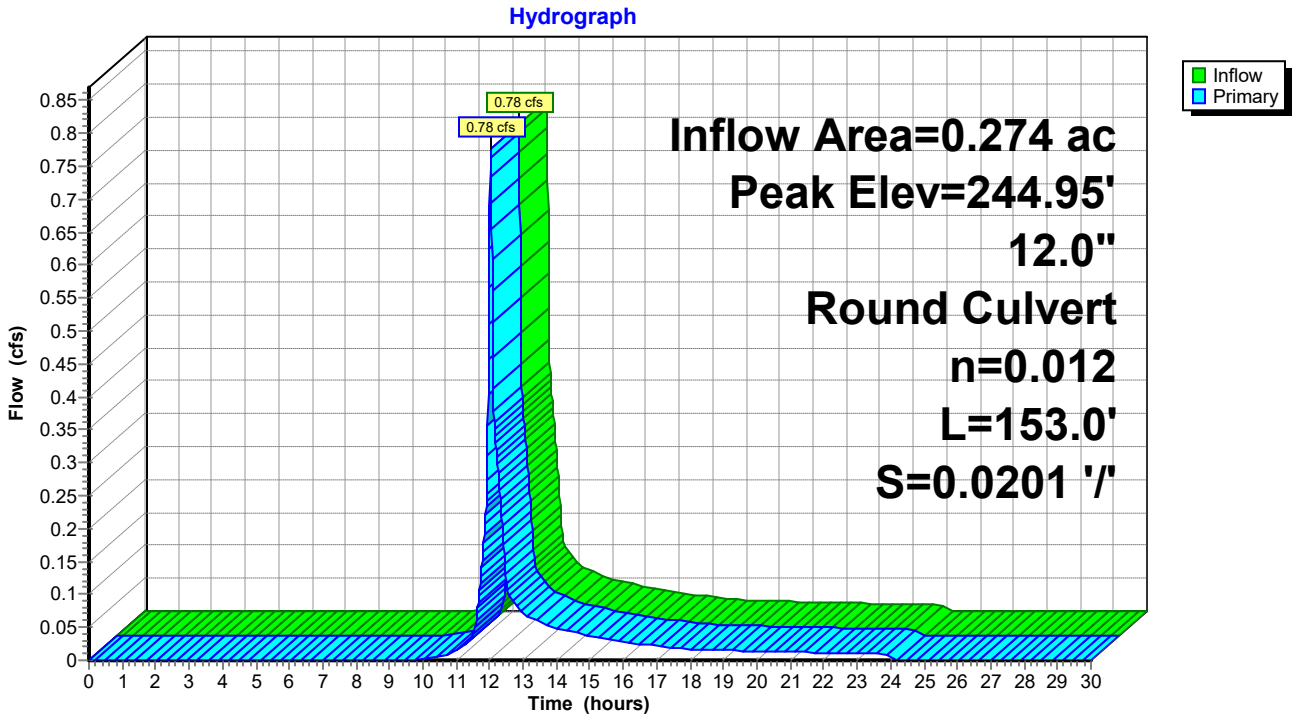
Inflow Area = 0.274 ac, 48.15% Impervious, Inflow Depth = 2.09" for 25-YR event
Inflow = 0.78 cfs @ 12.02 hrs, Volume= 0.048 af
Outflow = 0.78 cfs @ 12.02 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 0.78 cfs @ 12.02 hrs, Volume= 0.048 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 244.95' @ 12.02 hrs
Flood Elev= 249.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	244.50'	**12.0" Round Culvert** L= 153.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 244.50' / 241.43' S= 0.0201 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.77 cfs @ 12.02 hrs HW=244.95' TW=242.03' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.77 cfs @ 2.28 fps)

Pond 16P: CATCH BASIN



Summary for Pond 30P: UNDERDRAINED SOIL FILTER 30

Inflow Area = 4.148 ac, 85.98% Impervious, Inflow Depth = 4.34" for 25-YR event
Inflow = 19.41 cfs @ 12.06 hrs, Volume= 1.502 af
Outflow = 6.03 cfs @ 12.36 hrs, Volume= 0.858 af, Atten= 69%, Lag= 17.9 min
Discarded = 0.19 cfs @ 12.36 hrs, Volume= 0.260 af
Primary = 5.84 cfs @ 12.36 hrs, Volume= 0.598 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 243.79' @ 12.36 hrs Surf.Area= 15,332 sf Storage= 35,571 cf

Plug-Flow detention time= 314.1 min calculated for 0.858 af (57% of inflow)
Center-of-Mass det. time= 196.8 min (956.8 - 759.9)

Volume	Invert	Avail.Storage	Storage Description
#1	241.20'	46,448 cf	**Custom Stage Data (Prismatic)** Listed below

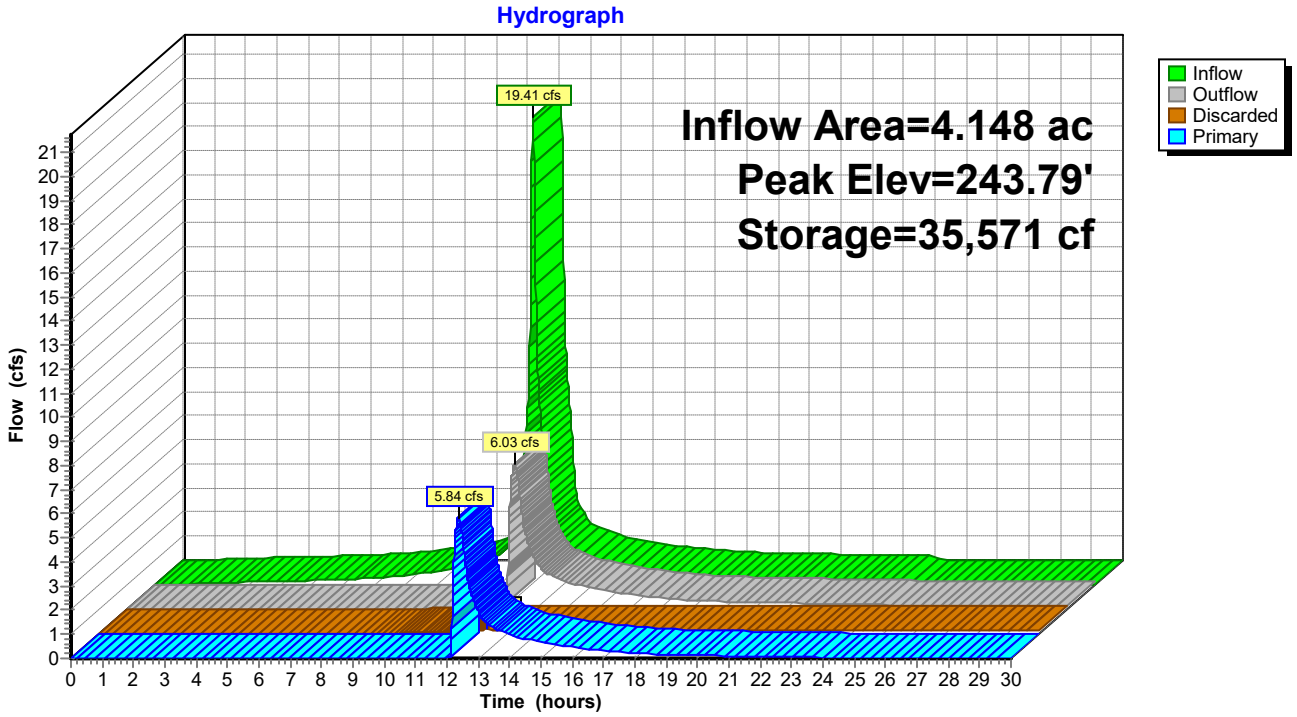
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
241.20	12,000	0	0
243.00	14,150	23,535	23,535
244.50	16,400	22,913	46,448

Device	Routing	Invert	Outlet Devices
#1	Discarded	241.20'	**2.400 in/hr Exfiltration over Surface area above 241.20'** Excluded Surface area = 12,000 sf
#2	Primary	243.50'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.19 cfs @ 12.36 hrs HW=243.79' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.19 cfs)

Primary OutFlow Max=5.84 cfs @ 12.36 hrs HW=243.79' TW=239.25' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 5.84 cfs @ 1.35 fps)

Pond 30P: UNDERDRAINED SOIL FILTER 30



Summary for Pond 50P: Underdrain Soil Filter 3

[92] Warning: Device #2 is above defined storage

Inflow Area = 1.939 ac, 58.21% Impervious, Inflow Depth = 2.60" for 25-YR event
Inflow = 4.09 cfs @ 12.27 hrs, Volume= 0.420 af
Outflow = 0.56 cfs @ 13.35 hrs, Volume= 0.420 af, Atten= 86%, Lag= 64.9 min
Discarded = 0.36 cfs @ 13.35 hrs, Volume= 0.399 af
Primary = 0.20 cfs @ 13.35 hrs, Volume= 0.021 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.56' @ 13.35 hrs Surf.Area= 6,498 sf Storage= 8,115 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 234.1 min (1,081.9 - 847.8)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	11,150 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

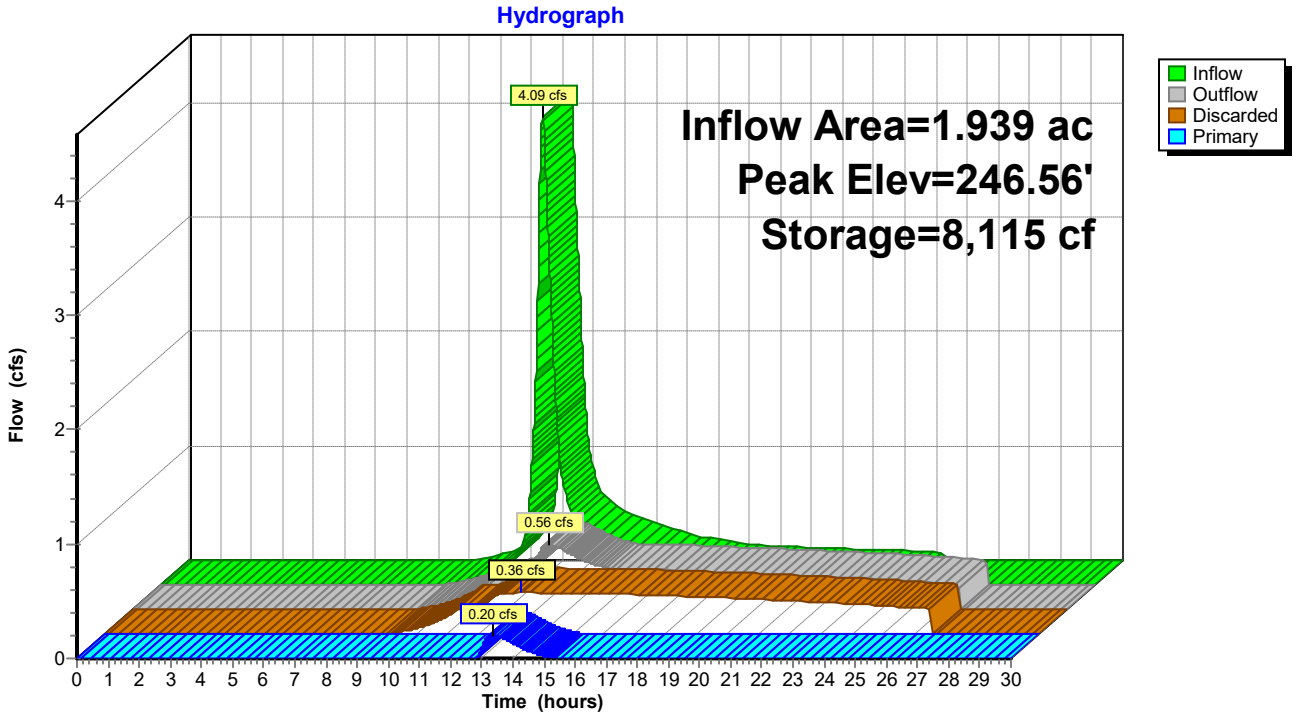
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
245.00	3,920	0	0
247.00	7,230	11,150	11,150

Device	Routing	Invert	Outlet Devices
#1	Primary	246.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	247.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	245.00'	**2.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.36 cfs @ 13.35 hrs HW=246.56' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.36 cfs)

Primary OutFlow Max=0.20 cfs @ 13.35 hrs HW=246.56' TW=237.31' (Dynamic Tailwater)
├**1=Orifice/Grate** (Weir Controls 0.20 cfs @ 0.79 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 50P: Underdrain Soil Filter 3



Summary for Pond 51P: Underdrain Soil Filter 1

Inflow Area = 3.761 ac, 83.34% Impervious, Inflow Depth = 4.21" for 25-YR event
Inflow = 18.11 cfs @ 12.05 hrs, Volume= 1.319 af
Outflow = 1.35 cfs @ 13.02 hrs, Volume= 1.320 af, Atten= 93%, Lag= 58.5 min
Discarded = 0.89 cfs @ 13.02 hrs, Volume= 1.262 af
Primary = 0.47 cfs @ 13.02 hrs, Volume= 0.057 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 242.60' @ 13.02 hrs Surf.Area= 15,938 sf Storage= 23,775 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 214.4 min (972.7 - 758.3)

Volume	Invert	Avail.Storage	Storage Description
#1	241.00'	47,280 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

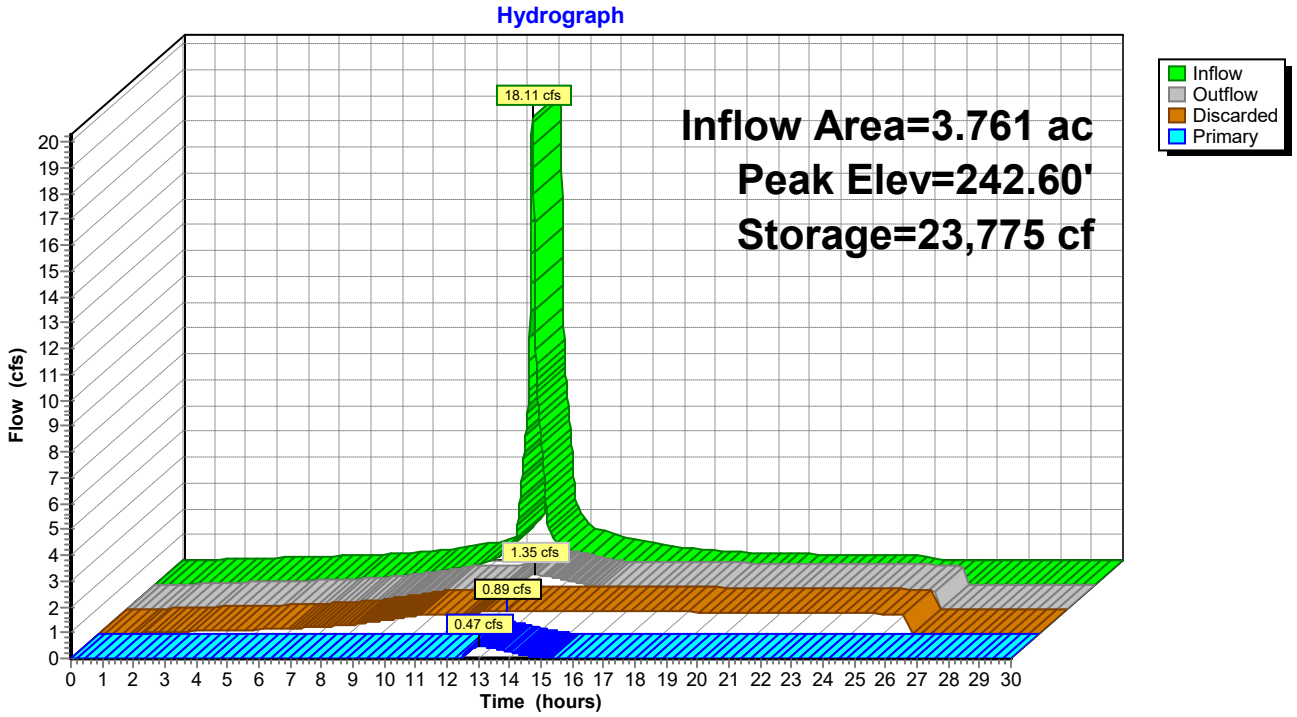
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
241.00	13,760	0	0
243.00	16,480	30,240	30,240
244.00	17,600	17,040	47,280

Device	Routing	Invert	Outlet Devices
#1	Primary	242.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Discarded	241.00'	**2.400 in/hr Exfiltration over Surface area**
#3	Primary	243.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.89 cfs @ 13.02 hrs HW=242.60' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.89 cfs)

Primary OutFlow Max=0.47 cfs @ 13.02 hrs HW=242.60' TW=238.80' (Dynamic Tailwater)
├**1=Orifice/Grate** (Weir Controls 0.47 cfs @ 1.04 fps)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 51P: Underdrain Soil Filter 1



Summary for Pond 52P: Underdrain Soil Filter 2

Inflow Area = 3.486 ac, 50.59% Impervious, Inflow Depth = 2.08" for 25-YR event
Inflow = 6.92 cfs @ 12.06 hrs, Volume= 0.604 af
Outflow = 0.54 cfs @ 14.14 hrs, Volume= 0.605 af, Atten= 92%, Lag= 124.5 min
Discarded = 0.54 cfs @ 14.14 hrs, Volume= 0.605 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 247.11' @ 14.14 hrs Surf.Area= 9,641 sf Storage= 10,513 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 188.5 min (1,009.9 - 821.4)

Volume	Invert	Avail.Storage	Storage Description
#1	246.00'	18,960 cf	**Custom Stage Data (Prismatic)** Listed below

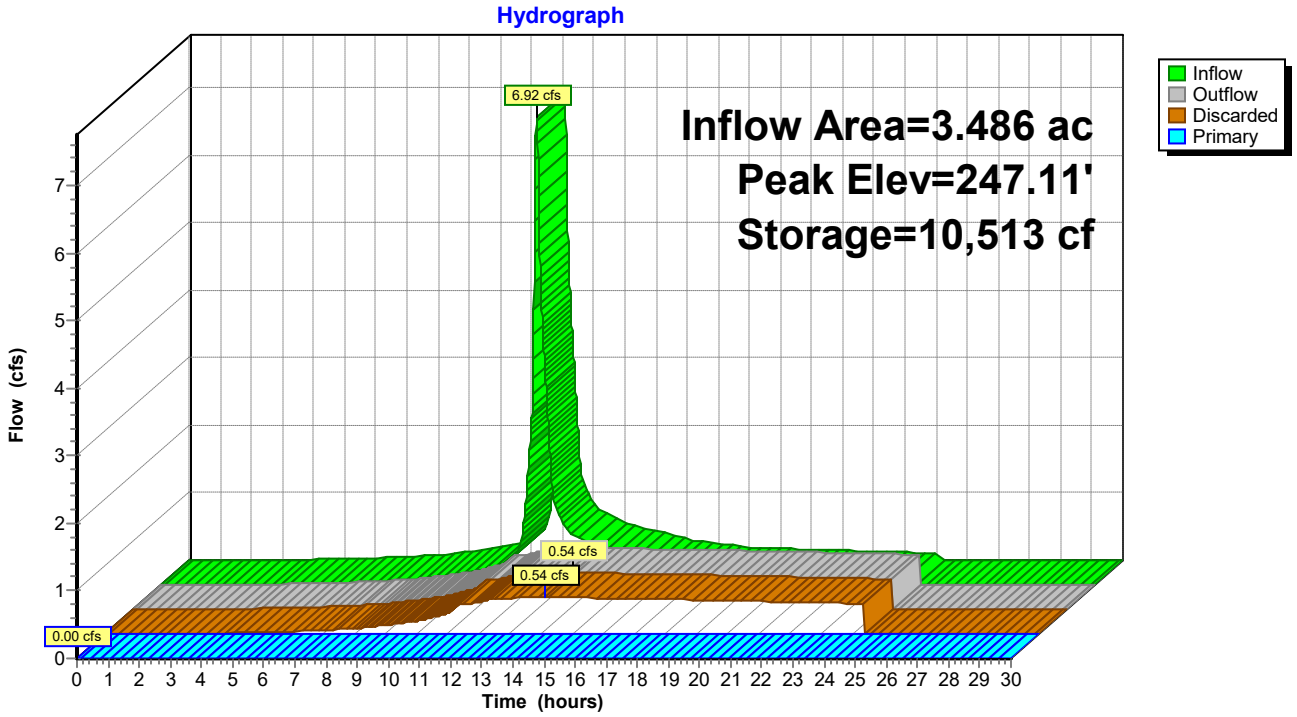
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.00	8,000	0	0
248.00	10,960	18,960	18,960

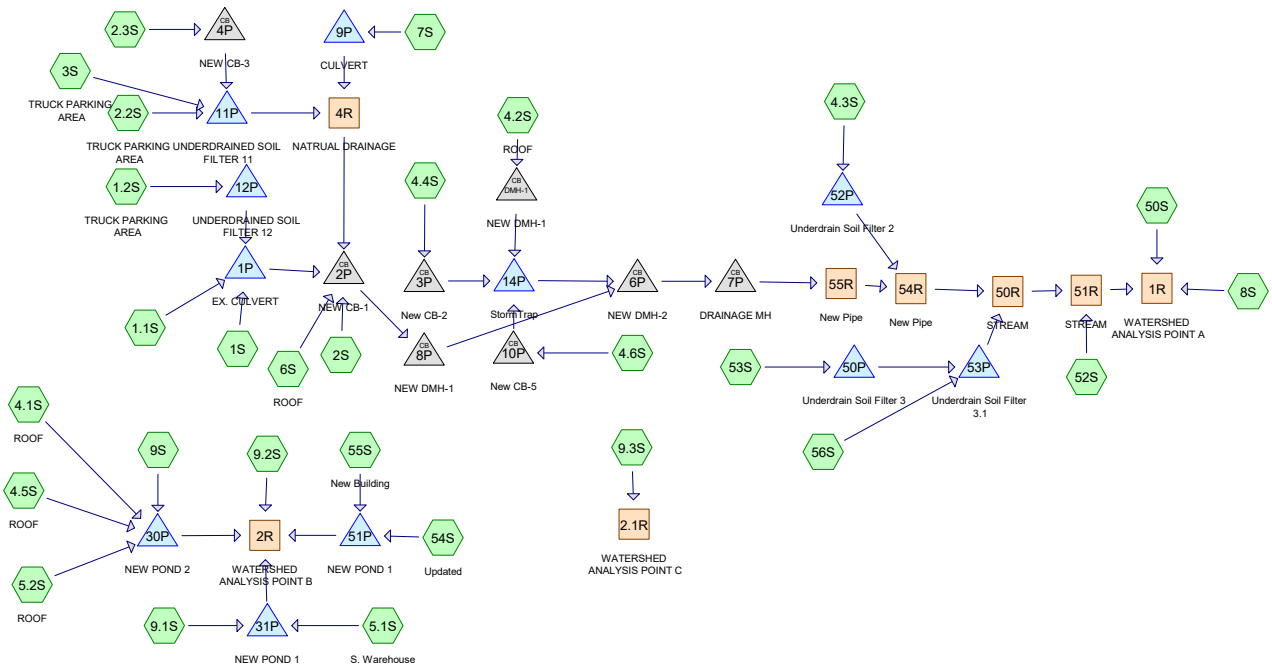
Device	Routing	Invert	Outlet Devices
#1	Discarded	246.00'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	247.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.54 cfs @ 14.14 hrs HW=247.11' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.54 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=246.00' TW=238.49' (Dynamic Tailwater)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 52P: Underdrain Soil Filter 2





Subcat Reach Pond Link

Routing Diagram for P&G-OPTIMUS PRIME POST-DEVELOPMENT
Prepared by {enter your company name here}, Printed 4/6/2026
HydroCAD® 10.00-24 s/n 00770 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
7.544	39	>75% Grass cover, Good, HSG A (1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.3S, 4.4S, 4.6S, 7S, 8S, 9.1S, 9.2S, 9.3S, 9S, 50S, 53S, 54S, 56S)
1.501	61	>75% Grass cover, Good, HSG B (1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.4S, 7S)
2.728	98	Impervious (5.1S, 9.1S, 50S)
6.709	98	Paved (8S, 9.3S, 9S, 52S, 53S, 54S, 56S)
12.371	98	Paved parking & roofs (1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.1S, 4.2S, 4.3S, 4.4S, 4.5S, 4.6S, 5.2S, 6S, 7S)
2.680	98	Roof (55S)
13.560	30	Woods, Good, HSG A (1S, 2.2S, 2.3S, 2S, 4.3S, 4.4S, 7S, 8S, 9.2S, 9.3S, 50S, 52S)
0.789	55	Woods, Good, HSG B (1.1S, 1S, 2.2S, 2.3S, 2S, 4.4S, 7S)
47.883	**68**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
21.104	HSG A	1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.3S, 4.4S, 4.6S, 7S, 8S, 9.1S, 9.2S, 9.3S, 9S, 50S, 52S, 53S, 54S, 56S
2.290	HSG B	1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.4S, 7S
0.000	HSG C	
0.000	HSG D	
24.488	Other	1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.1S, 4.2S, 4.3S, 4.4S, 4.5S, 4.6S, 5.1S, 5.2S, 6S, 7S, 8S, 9.1S, 9.3S, 9S, 50S, 52S, 53S, 54S, 55S, 56S
47.883		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
7.544	1.501	0.000	0.000	0.000	9.045	>75% Grass cover, Good	1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.3S, 4.4S, 4.6S, 7S, 8S, 9.1S, 9.2S, 9.3S, 9S, 50S, 53S, 54S, 56S
0.000	0.000	0.000	0.000	2.728	2.728	Impervious	5.1S, 9.1S, 50S
0.000	0.000	0.000	0.000	6.709	6.709	Paved	8S, 9.3S, 9S, 52S, 53S, 54S, 56S
0.000	0.000	0.000	0.000	12.371	12.371	Paved parking & roofs	1.1S, 1.2S, 1S, 2.2S, 2.3S, 2S, 3S, 4.1S, 4.2S, 4.3S, 4.4S, 4.5S, 4.6S, 5.2S, 6S, 7S

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	2.680	2.680	Roof	55S
13.560	0.789	0.000	0.000	0.000	14.349	Woods, Good	1.1S, 1S, 2.2S, 2.3S, 2S, 4.3S, 4.4S, 7S, 8S, 9.2S, 9.3S, 50S, 52S
21.104	**2.290**	**0.000**	**0.000**	**24.488**	**47.883**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	55S	0.00	0.00	80.0	0.0100	0.010	8.0	0.0	0.0
2	55S	0.00	0.00	300.0	0.0100	0.010	12.0	0.0	0.0
3	55S	0.00	0.00	250.0	0.0100	0.010	24.0	0.0	0.0
4	54R	238.49	236.75	315.0	0.0055	0.010	36.0	0.0	0.0
5	55R	240.39	238.49	340.0	0.0056	0.010	36.0	0.0	0.0
6	1P	246.25	245.40	77.0	0.0110	0.024	12.0	0.0	0.0
7	2P	243.50	242.10	248.0	0.0056	0.012	36.0	0.0	0.0
8	3P	244.90	242.00	88.0	0.0330	0.012	12.0	0.0	0.0
9	4P	252.60	252.10	100.0	0.0050	0.012	18.0	0.0	0.0
10	6P	244.80	242.70	206.0	0.0102	0.012	36.0	0.0	0.0
11	7P	242.60	238.60	396.0	0.0101	0.012	36.0	0.0	0.0
12	8P	242.00	241.20	152.0	0.0053	0.012	36.0	0.0	0.0
13	9P	249.91	248.20	153.0	0.0112	0.012	12.0	0.0	0.0
14	10P	247.90	245.90	100.0	0.0200	0.012	12.0	0.0	0.0
15	14P	250.50	244.90	40.0	0.1400	0.010	12.0	0.0	0.0
16	DMH-1	241.90	241.00	90.0	0.0100	0.012	36.0	0.0	0.0

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 1.1S: Runoff Area=62,002 sf 64.52% Impervious Runoff Depth=1.45"
Flow Length=170' Tc=1.9 min CN=83 Runoff=2.79 cfs 0.172 af

Subcatchment 1.2S: TRUCK PARKING Runoff Area=104,868 sf 84.49% Impervious Runoff Depth=1.98"
Flow Length=350' Tc=5.3 min CN=90 Runoff=5.70 cfs 0.398 af

Subcatchment 1S: Runoff Area=103,993 sf 3.44% Impervious Runoff Depth=0.00"
Flow Length=970' Tc=59.4 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment 2.2S: TRUCK PARKING Runoff Area=137,497 sf 32.81% Impervious Runoff Depth=0.27"
Flow Length=540' Tc=37.8 min CN=58 Runoff=0.27 cfs 0.072 af

Subcatchment 2.3S: Runoff Area=36,675 sf 32.11% Impervious Runoff Depth=0.40"
Flow Length=210' Tc=51.9 min CN=62 Runoff=0.11 cfs 0.028 af

Subcatchment 2S: Runoff Area=80,878 sf 71.87% Impervious Runoff Depth=1.59"
Flow Length=210' Tc=50.8 min CN=85 Runoff=1.50 cfs 0.246 af

Subcatchment 3S: TRUCK PARKING AREA Runoff Area=18,826 sf 98.48% Impervious Runoff Depth=2.66"
Flow Length=330' Slope=0.0230 '/' Tc=2.6 min CN=97 Runoff=1.40 cfs 0.096 af

Subcatchment 4.1S: ROOF Runoff Area=38,893 sf 100.00% Impervious Runoff Depth=2.77"
Tc=5.0 min CN=98 Runoff=2.69 cfs 0.206 af

Subcatchment 4.2S: ROOF Runoff Area=74,856 sf 100.00% Impervious Runoff Depth=2.77"
Tc=5.0 min CN=98 Runoff=5.18 cfs 0.396 af

Subcatchment 4.3S: Runoff Area=91,316 sf 45.04% Impervious Runoff Depth=0.51"
Flow Length=278' Tc=8.1 min CN=65 Runoff=0.84 cfs 0.088 af

Subcatchment 4.4S: Runoff Area=45,617 sf 29.59% Impervious Runoff Depth=0.25"
Flow Length=396' Tc=31.8 min CN=57 Runoff=0.08 cfs 0.021 af

Subcatchment 4.5S: ROOF Runoff Area=57,415 sf 100.00% Impervious Runoff Depth=2.77"
Tc=5.0 min CN=98 Runoff=3.97 cfs 0.304 af

Subcatchment 4.6S: Runoff Area=13,626 sf 10.99% Impervious Runoff Depth=0.02"
Flow Length=396' Tc=31.8 min CN=45 Runoff=0.00 cfs 0.001 af

Subcatchment 5.1S: S. Warehouse Runoff Area=45,472 sf 100.00% Impervious Runoff Depth=2.77"
Tc=5.0 min CN=98 Runoff=3.14 cfs 0.241 af

Subcatchment 5.2S: ROOF Runoff Area=33,459 sf 100.00% Impervious Runoff Depth=2.77"
Tc=5.0 min CN=98 Runoff=2.31 cfs 0.177 af

Subcatchment 6S: ROOF Runoff Area=5,968 sf 100.00% Impervious Runoff Depth=2.77"
Tc=5.0 min CN=98 Runoff=0.41 cfs 0.032 af

Subcatchment 7S: Runoff Area=26,812 sf 23.98% Impervious Runoff Depth=0.17"
Flow Length=151' Tc=21.9 min CN=54 Runoff=0.03 cfs 0.009 af

Subcatchment 8S: Runoff Area=92,277 sf 2.42% Impervious Runoff Depth=0.00"
Flow Length=270' Slope=0.0100 '/' Tc=21.8 min CN=34 Runoff=0.00 cfs 0.000 af

Subcatchment 9.1S: Runoff Area=82,551 sf 78.24% Impervious Runoff Depth=1.59"
Flow Length=495' Slope=0.0200 '/' Tc=3.6 min CN=85 Runoff=3.85 cfs 0.251 af

Subcatchment 9.2S: Runoff Area=116,237 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=230' Tc=26.3 min CN=31 Runoff=0.00 cfs 0.000 af

Subcatchment 9.3S: Runoff Area=193,048 sf 16.00% Impervious Runoff Depth=0.00"
Flow Length=365' Tc=34.4 min CN=42 Runoff=0.00 cfs 0.001 af

Subcatchment 9S: Runoff Area=123,498 sf 77.70% Impervious Runoff Depth=1.59"
Flow Length=510' Slope=0.0200 '/' Tc=3.7 min CN=85 Runoff=5.74 cfs 0.375 af

Subcatchment 50S: Runoff Area=55,965 sf 15.71% Impervious Runoff Depth=0.00"
Flow Length=315' Tc=16.2 min CN=41 Runoff=0.00 cfs 0.000 af

Subcatchment 52S: Runoff Area=87,002 sf 0.23% Impervious Runoff Depth=0.00"
Flow Length=285' Tc=19.2 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 53S: Runoff Area=86,374 sf 54.57% Impervious Runoff Depth=0.76"
Flow Length=286' Tc=18.5 min CN=71 Runoff=1.08 cfs 0.126 af

Subcatchment 54S: Updated Runoff Area=130,453 sf 79.21% Impervious Runoff Depth=1.66"
Flow Length=755' Slope=0.0200 '/' Tc=5.1 min CN=86 Runoff=6.03 cfs 0.415 af

Subcatchment 55S: New Building Runoff Area=116,761 sf 100.00% Impervious Runoff Depth=2.77"
Flow Length=730' Slope=0.0100 '/' Tc=3.2 min CN=98 Runoff=8.61 cfs 0.618 af

Subcatchment 56S: Runoff Area=23,425 sf 53.35% Impervious Runoff Depth=0.71"
Flow Length=200' Slope=0.0350 '/' Tc=2.4 min CN=70 Runoff=0.45 cfs 0.032 af

Reach 1R: WATERSHED ANALYSIS POINT A Inflow=2.96 cfs 0.458 af
Outflow=2.96 cfs 0.458 af

Reach 2.1R: WATERSHED ANALYSIS POINT C Inflow=0.00 cfs 0.001 af
Outflow=0.00 cfs 0.001 af

Reach 2R: WATERSHED ANALYSIS POINT B Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Reach 4R: NATRUAL DRAINAGE Avg. Flow Depth=0.01' Max Vel=0.11 fps Inflow=0.03 cfs 0.009 af
n=0.080 L=130.0' S=0.0115 '/' Capacity=33.14 cfs Outflow=0.02 cfs 0.009 af

Reach 50R: STREAM Avg. Flow Depth=0.50' Max Vel=2.41 fps Inflow=3.09 cfs 0.458 af
n=0.023 L=320.0' S=0.0053 '/' Capacity=10.29 cfs Outflow=3.01 cfs 0.458 af

Reach 51R: STREAM Avg. Flow Depth=0.38' Max Vel=3.23 fps Inflow=3.01 cfs 0.458 af
n=0.023 L=340.0' S=0.0126 '/' Capacity=15.87 cfs Outflow=2.96 cfs 0.458 af

Reach 54R: New Pipe Avg. Flow Depth=0.45' Max Vel=4.69 fps Inflow=3.11 cfs 0.458 af
36.0" Round Pipe n=0.010 L=315.0' S=0.0055 '/' Capacity=64.44 cfs Outflow=3.09 cfs 0.458 af

Reach 55R: New Pipe Avg. Flow Depth=0.45' Max Vel=4.72 fps Inflow=3.15 cfs 0.458 af
36.0" Round Pipe n=0.010 L=340.0' S=0.0056 '/' Capacity=64.82 cfs Outflow=3.11 cfs 0.458 af

Pond 1P: EX. CULVERT Peak Elev=247.87' Storage=157 cf Inflow=2.79 cfs 0.172 af
12.0" Round Culvert n=0.024 L=77.0' S=0.0110 '/' Outflow=2.40 cfs 0.172 af

Pond 2P: NEW CB-1 Peak Elev=245.51' Inflow=3.15 cfs 0.458 af
36.0" Round Culvert n=0.012 L=248.0' S=0.0056 '/' Outflow=3.15 cfs 0.458 af

Pond 3P: New CB-2 Peak Elev=245.03' Inflow=0.08 cfs 0.021 af
12.0" Round Culvert n=0.012 L=88.0' S=0.0330 '/' Outflow=0.08 cfs 0.021 af

Pond 4P: NEW CB-3 Peak Elev=252.77' Inflow=0.11 cfs 0.028 af
18.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/' Outflow=0.11 cfs 0.028 af

Pond 6P: NEW DMH-2 Peak Elev=245.46' Inflow=3.15 cfs 0.458 af
36.0" Round Culvert n=0.012 L=206.0' S=0.0102 '/' Outflow=3.15 cfs 0.458 af

Pond 7P: DRAINAGE MH Peak Elev=243.27' Inflow=3.15 cfs 0.458 af
36.0" Round Culvert n=0.012 L=396.0' S=0.0101 '/' Outflow=3.15 cfs 0.458 af

Pond 8P: NEW DMH-1 Peak Elev=245.46' Inflow=3.15 cfs 0.458 af
36.0" Round Culvert n=0.012 L=152.0' S=0.0053 '/' Outflow=3.15 cfs 0.458 af

Pond 9P: CULVERT Peak Elev=250.00' Storage=2 cf Inflow=0.03 cfs 0.009 af
12.0" Round Culvert n=0.012 L=153.0' S=0.0112 '/' Outflow=0.03 cfs 0.009 af

Pond 10P: New CB-5 Peak Elev=247.91' Inflow=0.00 cfs 0.001 af
12.0" Round Culvert n=0.012 L=100.0' S=0.0200 '/' Outflow=0.00 cfs 0.001 af

Pond 11P: UNDERDRAINED SOIL FILTER 11 Peak Elev=252.31' Storage=1,587 cf Inflow=1.40 cfs 0.196 af
Discarded=0.27 cfs 0.196 af Primary=0.00 cfs 0.000 af Outflow=0.27 cfs 0.196 af

Pond 12P: UNDERDRAINED SOIL FILTER 12 Peak Elev=253.91' Storage=6,968 cf Inflow=5.70 cfs 0.398 af
Discarded=0.45 cfs 0.398 af Primary=0.00 cfs 0.000 af Outflow=0.45 cfs 0.398 af

Pond 14P: StormTrap Peak Elev=244.21' Storage=8,994 cf Inflow=5.18 cfs 0.419 af
Discarded=0.20 cfs 0.390 af Primary=0.00 cfs 0.000 af Outflow=0.20 cfs 0.390 af

Pond 30P: NEW POND 2 Peak Elev=237.39' Storage=46,281 cf Inflow=14.65 cfs 1.062 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 31P: NEW POND 1 Peak Elev=235.70' Storage=7,655 cf Inflow=6.96 cfs 0.492 af
Discarded=0.63 cfs 0.492 af Primary=0.00 cfs 0.000 af Outflow=0.63 cfs 0.492 af

Pond 50P: Underdrain Soil Filter 3 Peak Elev=245.17' Storage=849 cf Inflow=1.08 cfs 0.126 af
Discarded=0.28 cfs 0.109 af Primary=0.31 cfs 0.017 af Outflow=0.58 cfs 0.126 af

Pond 51P: NEW POND 1 Peak Elev=235.97' Storage=17,520 cf Inflow=14.30 cfs 1.033 af
Discarded=1.05 cfs 1.033 af Primary=0.00 cfs 0.000 af Outflow=1.05 cfs 1.033 af

Pond 52P: Underdrain Soil Filter 2 Peak Elev=246.03' Storage=293 cf Inflow=0.84 cfs 0.088 af
Discarded=0.45 cfs 0.088 af Primary=0.00 cfs 0.000 af Outflow=0.45 cfs 0.088 af

Pond 53P: Underdrain Soil Filter 3.1 Peak Elev=245.17' Storage=494 cf Inflow=0.49 cfs 0.049 af
Discarded=0.17 cfs 0.049 af Primary=0.00 cfs 0.000 af Outflow=0.17 cfs 0.049 af

Pond DMH-1: NEW DMH-1 Peak Elev=244.21' Inflow=5.18 cfs 0.396 af
36.0" Round Culvert n=0.012 L=90.0' S=0.0100 '/' Outflow=5.18 cfs 0.396 af

Total Runoff Area = 47.883 ac Runoff Volume = 4.305 af Average Runoff Depth = 1.08"
48.86% Pervious = 23.394 ac 51.14% Impervious = 24.488 ac

Summary for Subcatchment 1.1S:

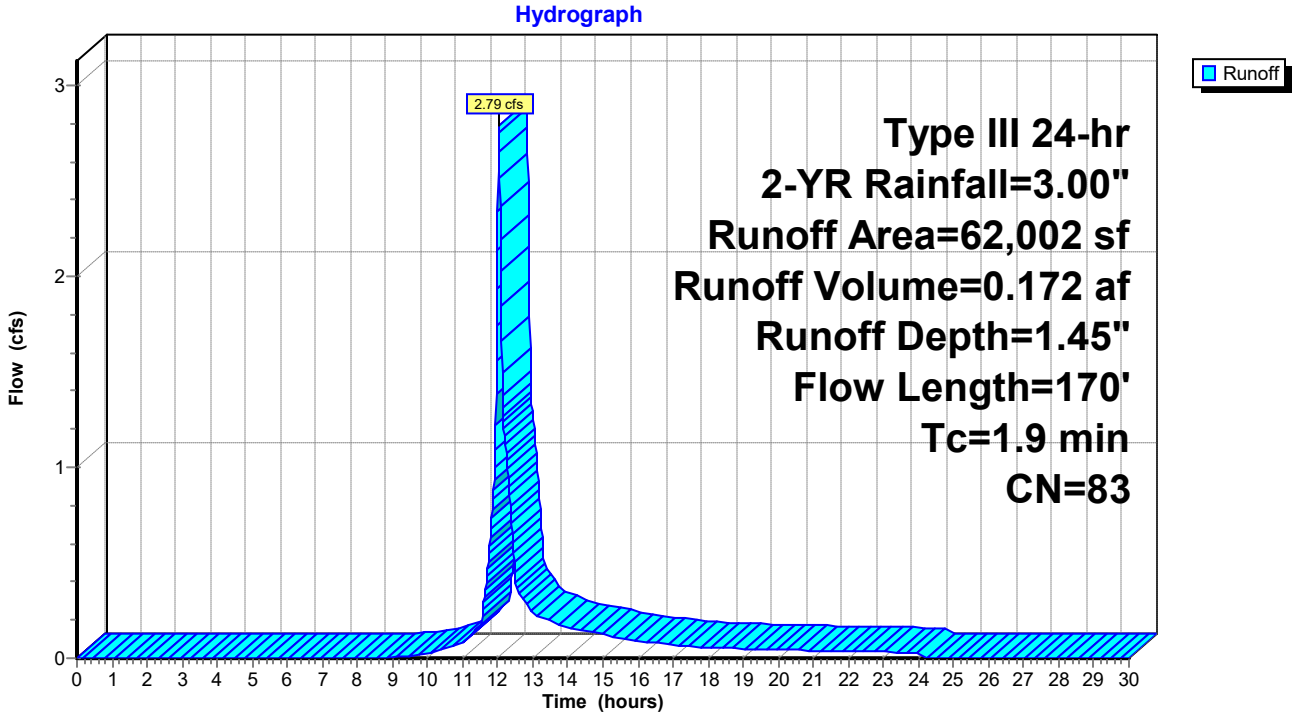
Runoff = 2.79 cfs @ 12.03 hrs, Volume= 0.172 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
40,003	98	Paved parking & roofs
16,893	61	>75% Grass cover, Good, HSG B
4,233	39	>75% Grass cover, Good, HSG A
873	55	Woods, Good, HSG B
0	30	Woods, Good, HSG A
62,002	83	Weighted Average
21,999		35.48% Pervious Area
40,003		64.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0166	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	70	0.0180	2.01		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	170	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S: TRUCK PARKING AREA

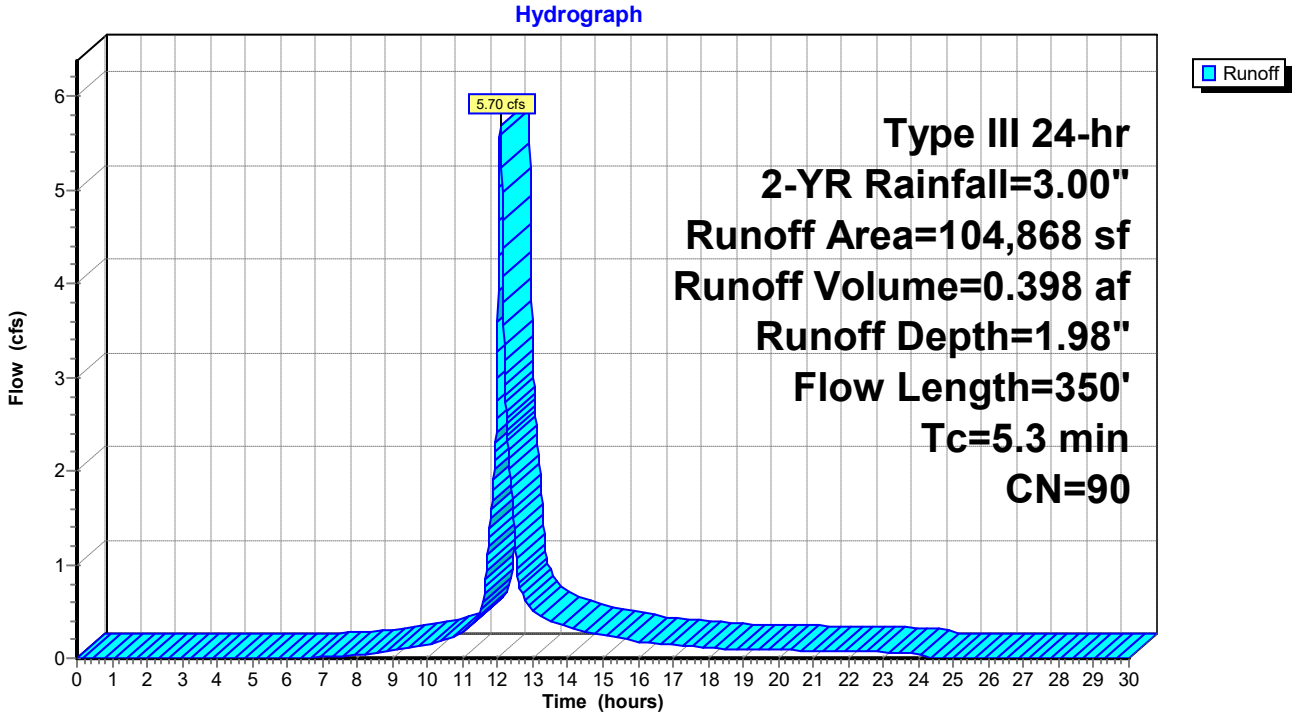
Runoff = 5.70 cfs @ 12.08 hrs, Volume= 0.398 af, Depth= 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
88,598	98	Paved parking & roofs
3,477	61	>75% Grass cover, Good, HSG B
12,793	39	>75% Grass cover, Good, HSG A
104,868	90	Weighted Average
16,270		15.51% Pervious Area
88,598		84.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	300	0.0230	1.75		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	20	0.0300	1.14		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.2	30	0.0830	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
5.3	350	Total			

Subcatchment 1.2S: TRUCK PARKING AREA



Summary for Subcatchment 1S:

[45] Hint: Runoff=Zero

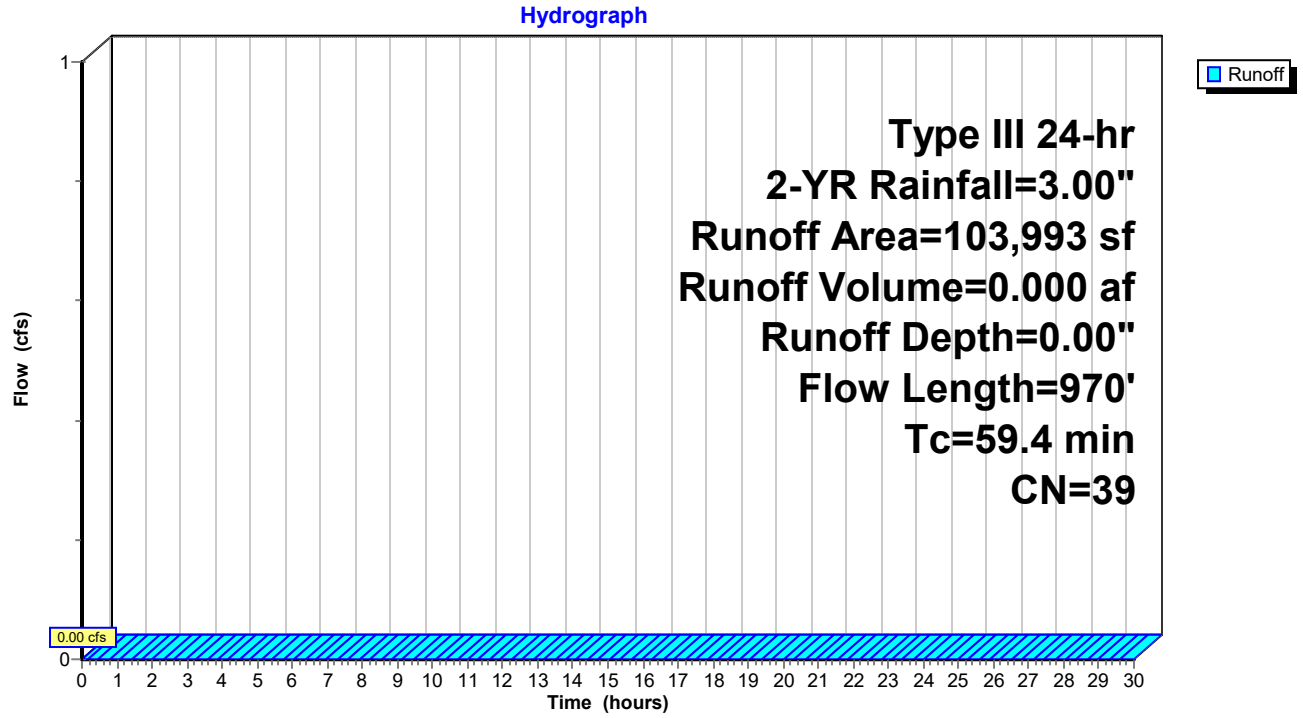
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
3,573	98	Paved parking & roofs
9,457	61	>75% Grass cover, Good, HSG B
32,835	39	>75% Grass cover, Good, HSG A
3,907	55	Woods, Good, HSG B
54,221	30	Woods, Good, HSG A
103,993	39	Weighted Average
100,420		96.56% Pervious Area
3,573		3.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
18.9	820	0.0210	0.72		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
59.4	970	Total			

Subcatchment 1S:



Summary for Subcatchment 2.2S: TRUCK PARKING AREA

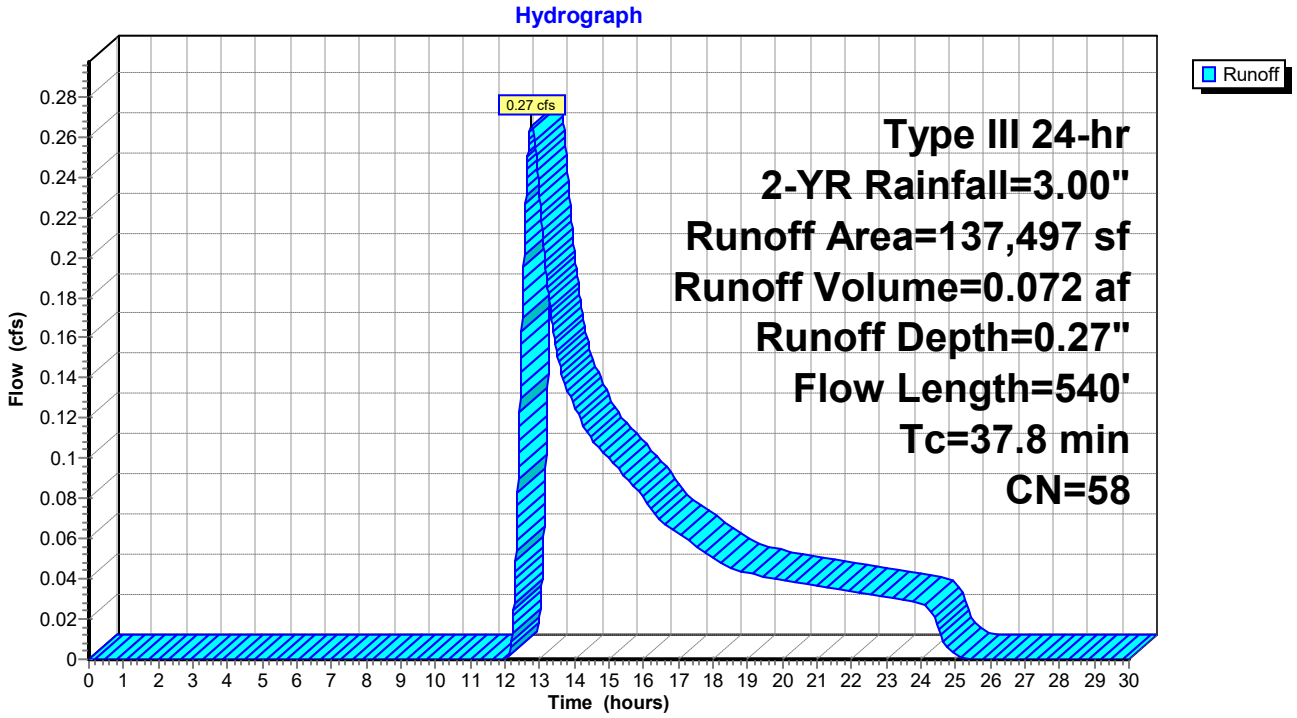
Runoff = 0.27 cfs @ 12.77 hrs, Volume= 0.072 af, Depth= 0.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
45,111	98	Paved parking & roofs
7,939	61	>75% Grass cover, Good, HSG B
18,943	39	>75% Grass cover, Good, HSG A
15,133	55	Woods, Good, HSG B
50,371	30	Woods, Good, HSG A
137,497	58	Weighted Average
92,386		67.19% Pervious Area
45,111		32.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	150	0.0230	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
8.6	360	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	30	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
37.8	540	Total			

Subcatchment 2.2S: TRUCK PARKING AREA



Summary for Subcatchment 2.3S:

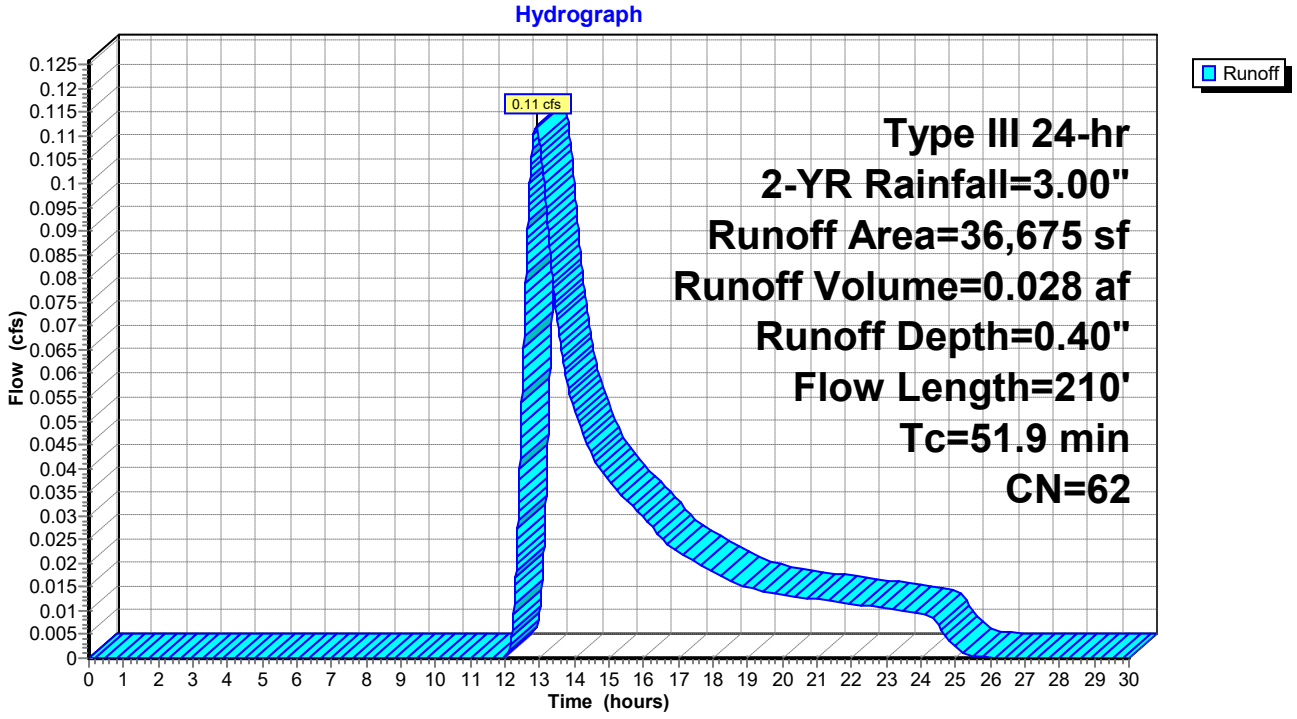
Runoff = 0.11 cfs @ 12.91 hrs, Volume= 0.028 af, Depth= 0.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
11,777	98	Paved parking & roofs
6,949	61	>75% Grass cover, Good, HSG B
5,697	39	>75% Grass cover, Good, HSG A
3,778	55	Woods, Good, HSG B
8,474	30	Woods, Good, HSG A
36,675	62	Weighted Average
24,898		67.89% Pervious Area
11,777		32.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
50.5	150	0.0230	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
1.4	60	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
51.9	210	Total			

Subcatchment 2.3S:



Summary for Subcatchment 2S:

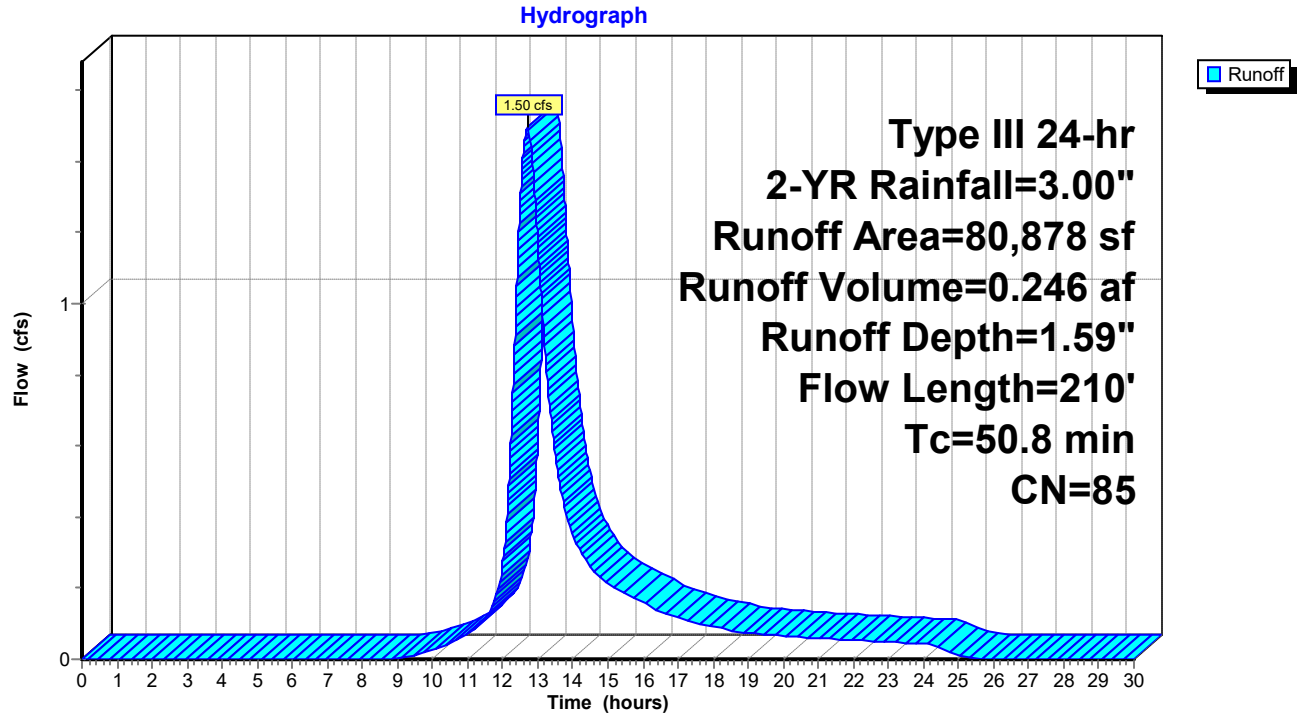
Runoff = 1.50 cfs @ 12.70 hrs, Volume= 0.246 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
58,124	98	Paved parking & roofs
12,714	61	>75% Grass cover, Good, HSG B
2,991	39	>75% Grass cover, Good, HSG A
3,884	55	Woods, Good, HSG B
3,165	30	Woods, Good, HSG A
80,878	85	Weighted Average
22,754		28.13% Pervious Area
58,124		71.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
46.8	90	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.0	30	0.2670	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	90	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
50.8	210	Total			

Subcatchment 2S:



Summary for Subcatchment 3S: TRUCK PARKING AREA

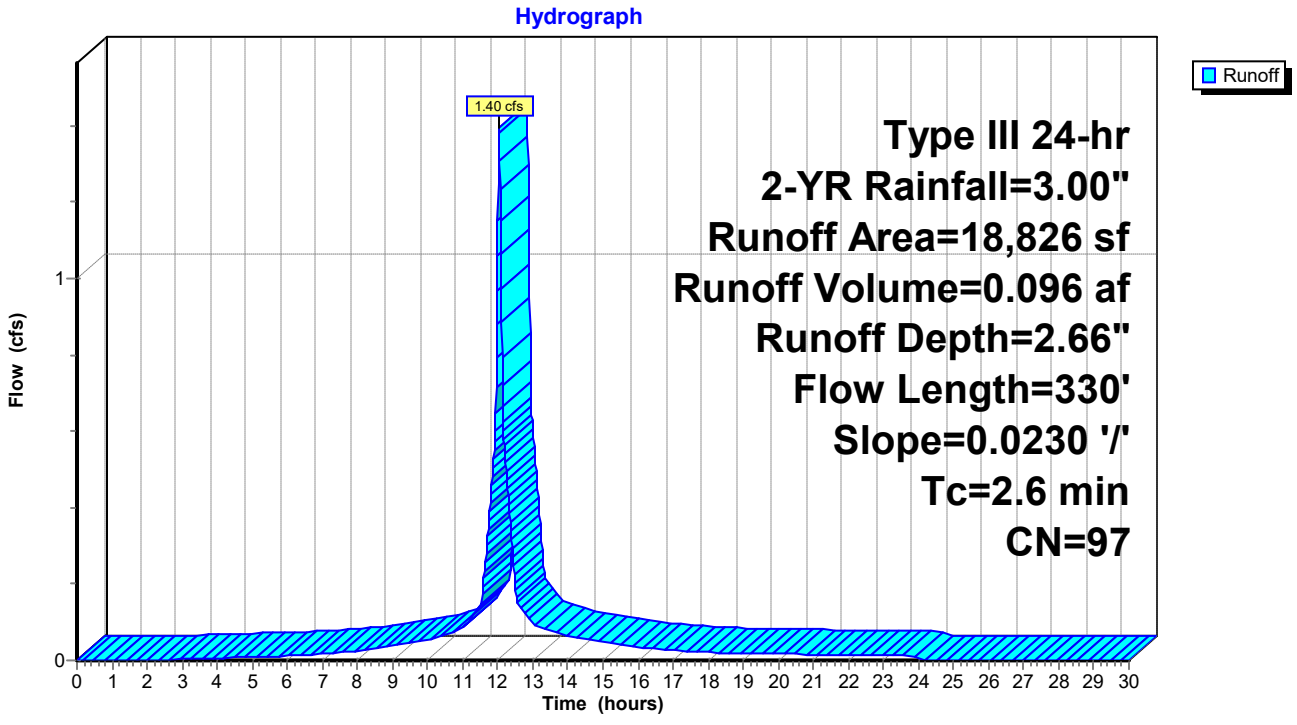
Runoff = 1.40 cfs @ 12.04 hrs, Volume= 0.096 af, Depth= 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
18,539	98	Paved parking & roofs
224	61	>75% Grass cover, Good, HSG B
63	39	>75% Grass cover, Good, HSG A
18,826	97	Weighted Average
287		1.52% Pervious Area
18,539		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	150	0.0230	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.0	180	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.6	330	Total			

Subcatchment 3S: TRUCK PARKING AREA



Summary for Subcatchment 4.1S: ROOF

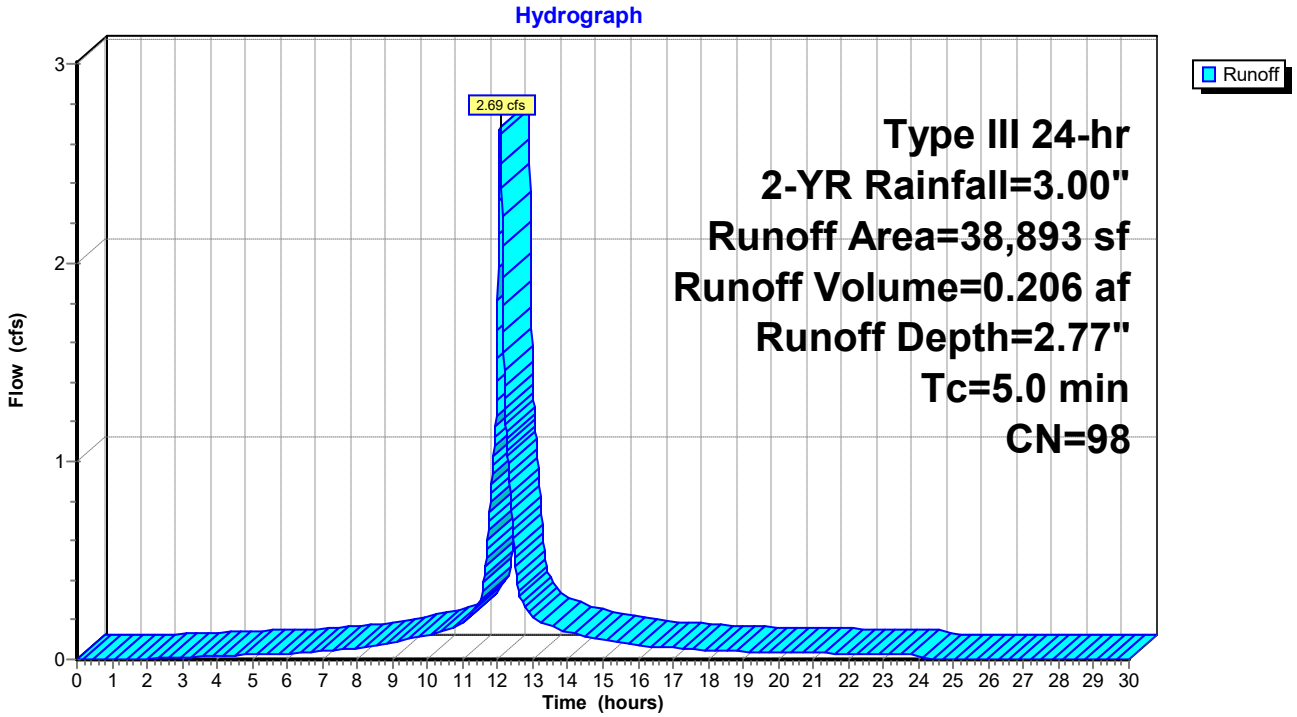
Runoff = 2.69 cfs @ 12.07 hrs, Volume= 0.206 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
38,893	98	Paved parking & roofs
38,893		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.1S: ROOF



Summary for Subcatchment 4.2S: ROOF

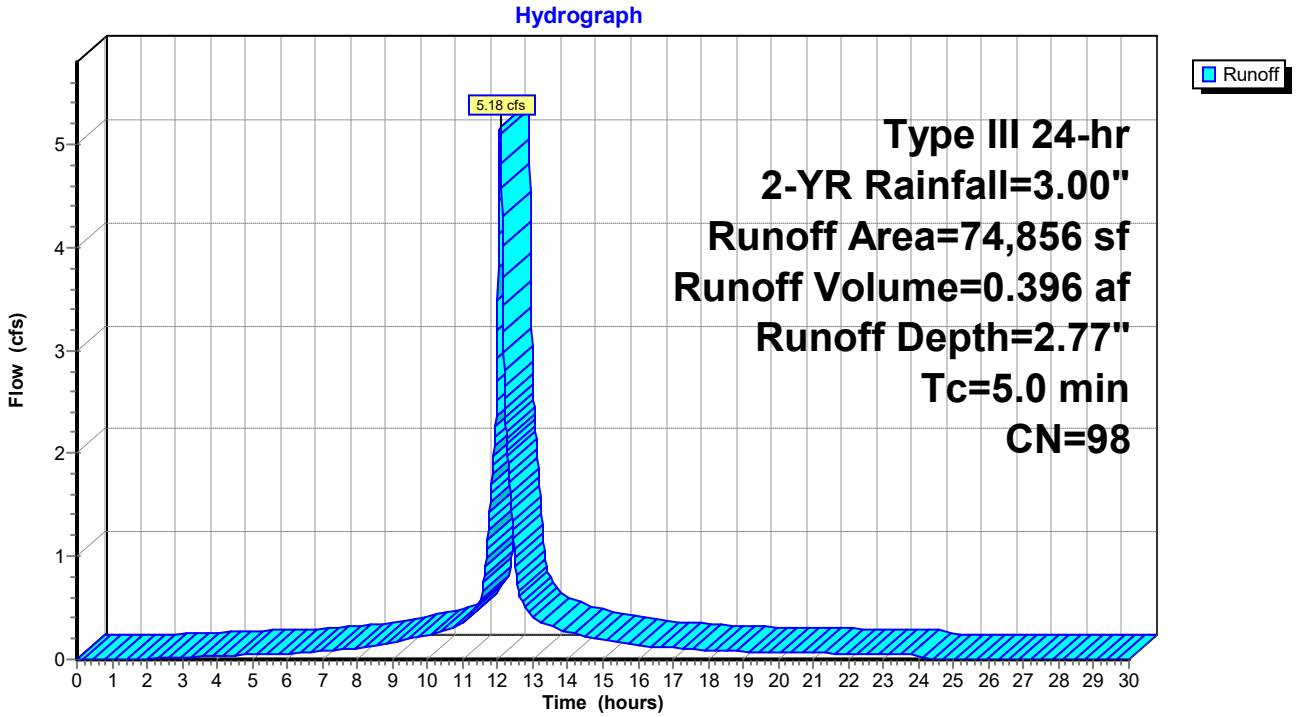
Runoff = 5.18 cfs @ 12.07 hrs, Volume= 0.396 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
74,856	98	Paved parking & roofs
74,856		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.2S: ROOF



Summary for Subcatchment 4.3S:

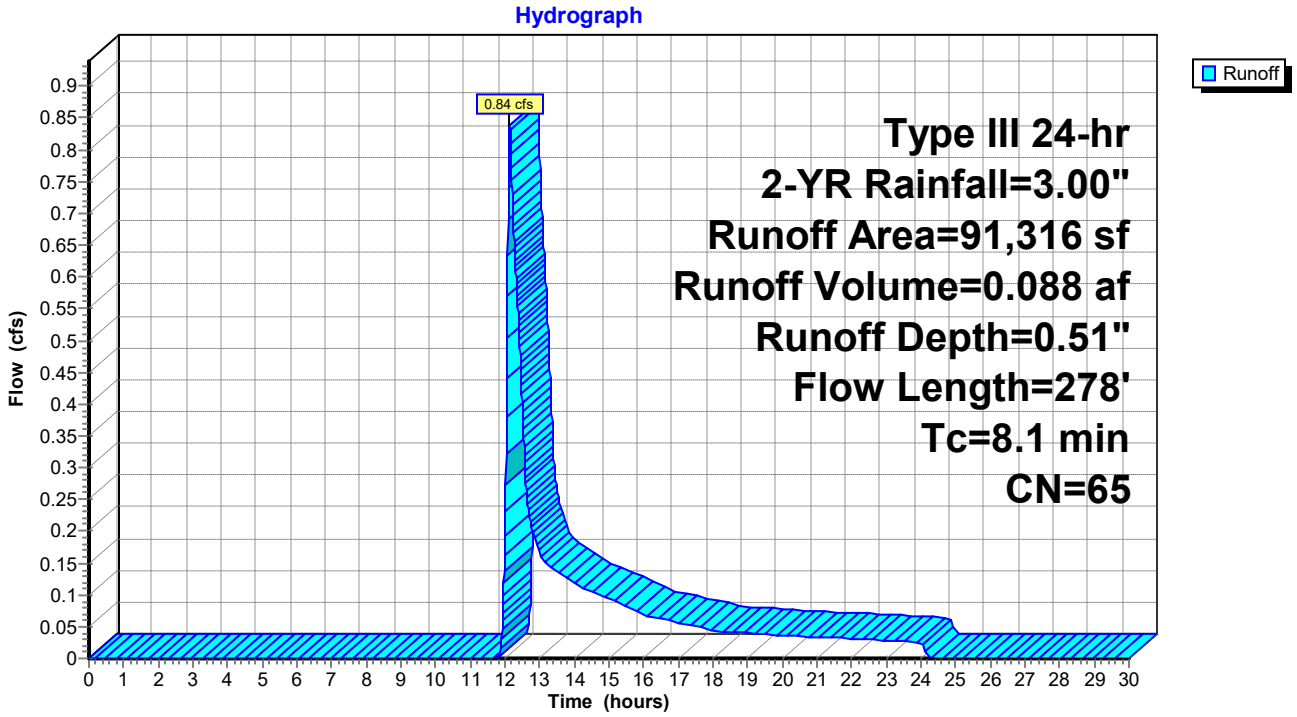
Runoff = 0.84 cfs @ 12.14 hrs, Volume= 0.088 af, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
41,125	98	Paved parking & roofs
44,204	39	>75% Grass cover, Good, HSG A
5,987	30	Woods, Good, HSG A
91,316	65	Weighted Average
50,191		54.96% Pervious Area
41,125		45.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.7	45	0.2000	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	30	0.1000	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.8	75	0.0300	1.48		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	105	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	23	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	278	Total			

Subcatchment 4.3S:



Summary for Subcatchment 4.4S:

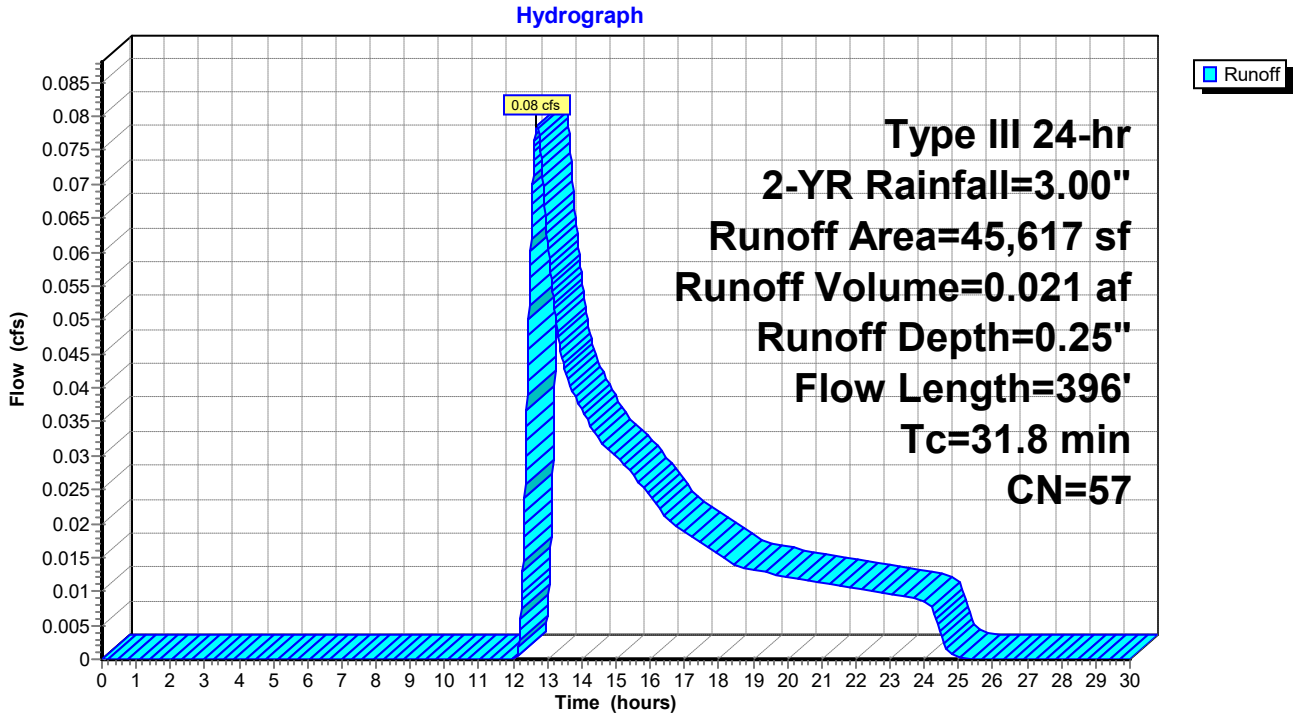
Runoff = 0.08 cfs @ 12.69 hrs, Volume= 0.021 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
13,496	98	Paved parking & roofs
6,791	61	>75% Grass cover, Good, HSG B
7,039	39	>75% Grass cover, Good, HSG A
712	55	Woods, Good, HSG B
17,579	30	Woods, Good, HSG A
45,617	57	Weighted Average
32,121		70.41% Pervious Area
13,496		29.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	150	0.0230	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	61	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	185	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.8	396	Total			

Subcatchment 4.4S:



Summary for Subcatchment 4.5S: ROOF

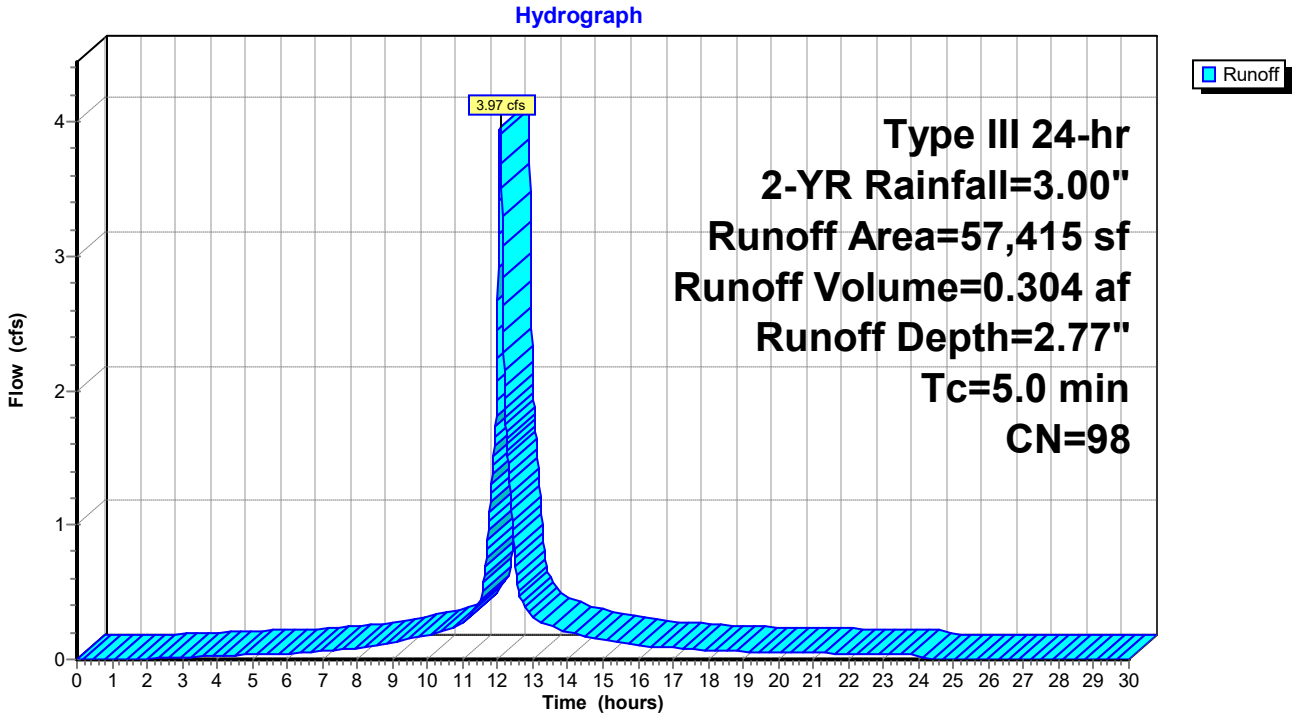
Runoff = 3.97 cfs @ 12.07 hrs, Volume= 0.304 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
57,415	98	Paved parking & roofs
57,415		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.5S: ROOF



Summary for Subcatchment 4.6S:

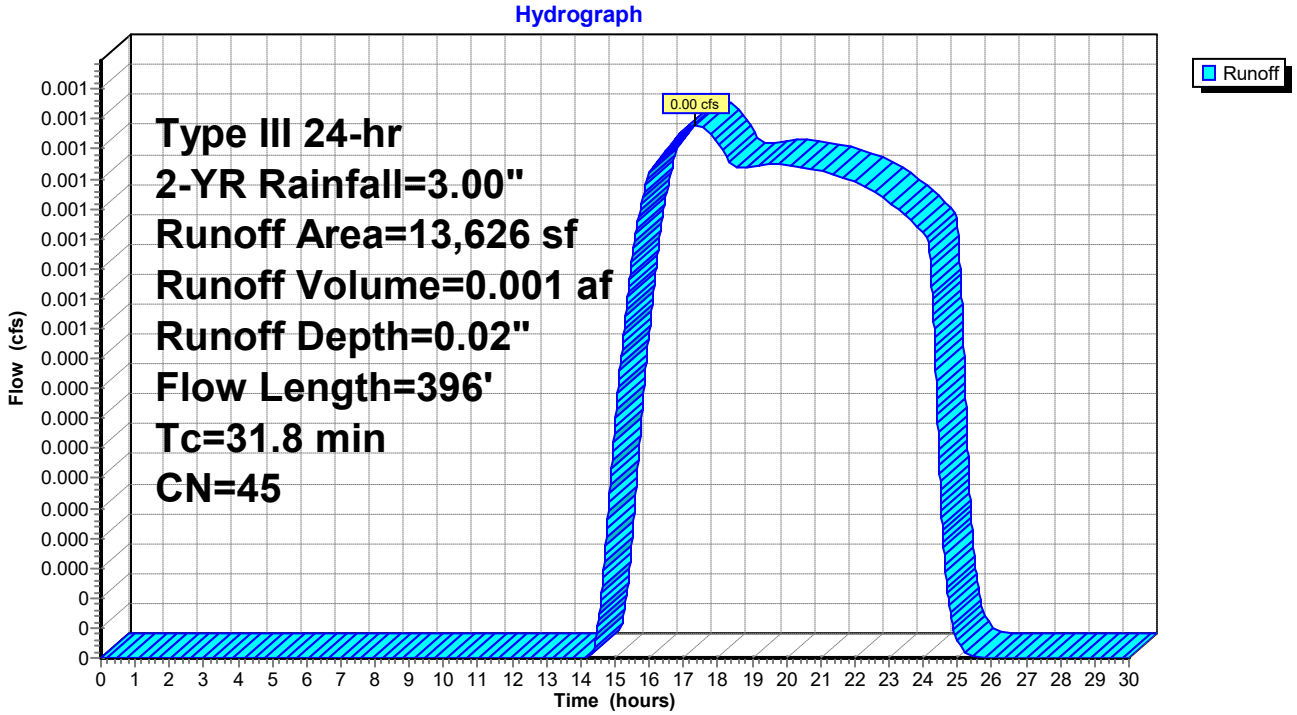
Runoff = 0.00 cfs @ 17.35 hrs, Volume= 0.001 af, Depth= 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
1,498	98	Paved parking & roofs
12,128	39	>75% Grass cover, Good, HSG A
13,626	45	Weighted Average
12,128		89.01% Pervious Area
1,498		10.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	150	0.0230	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	61	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	185	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.8	396	Total			

Subcatchment 4.6S:



Summary for Subcatchment 5.1S: S. Warehouse

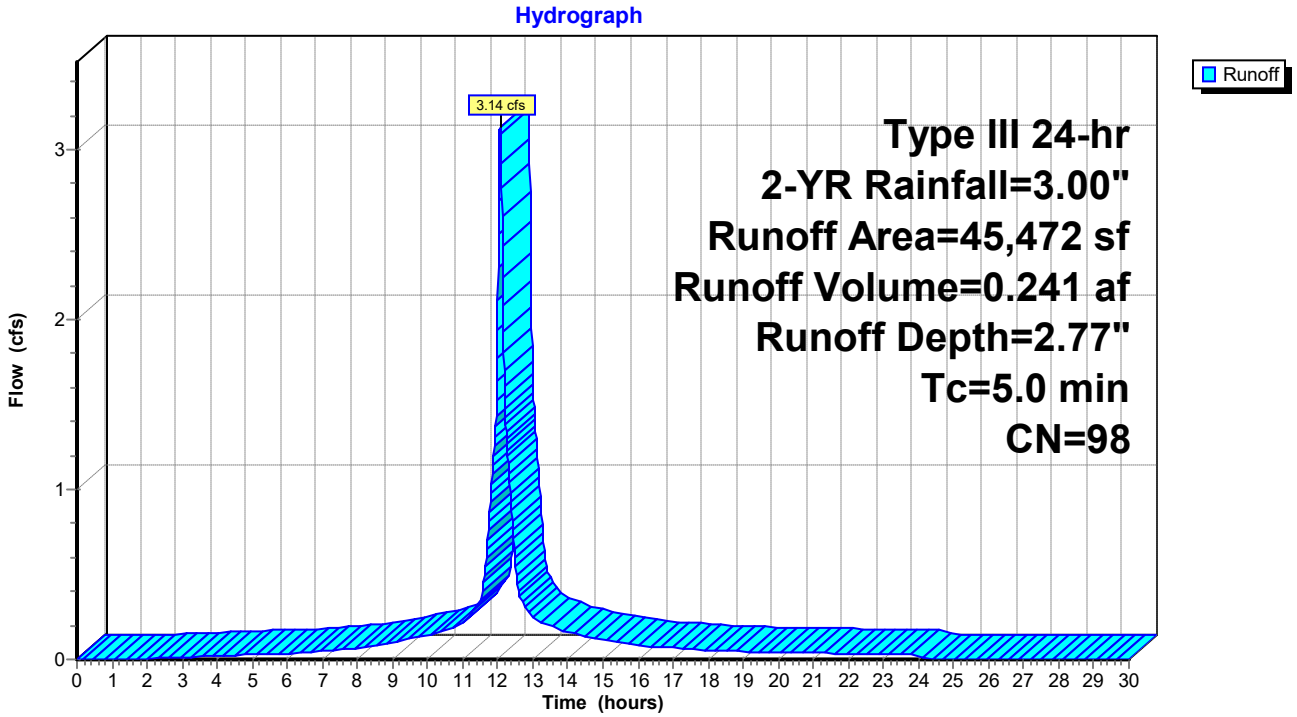
Runoff = 3.14 cfs @ 12.07 hrs, Volume= 0.241 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	45,472	98	Impervious
	45,472		100.00% Impervious Area

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

Subcatchment 5.1S: S. Warehouse



Summary for Subcatchment 5.2S: ROOF

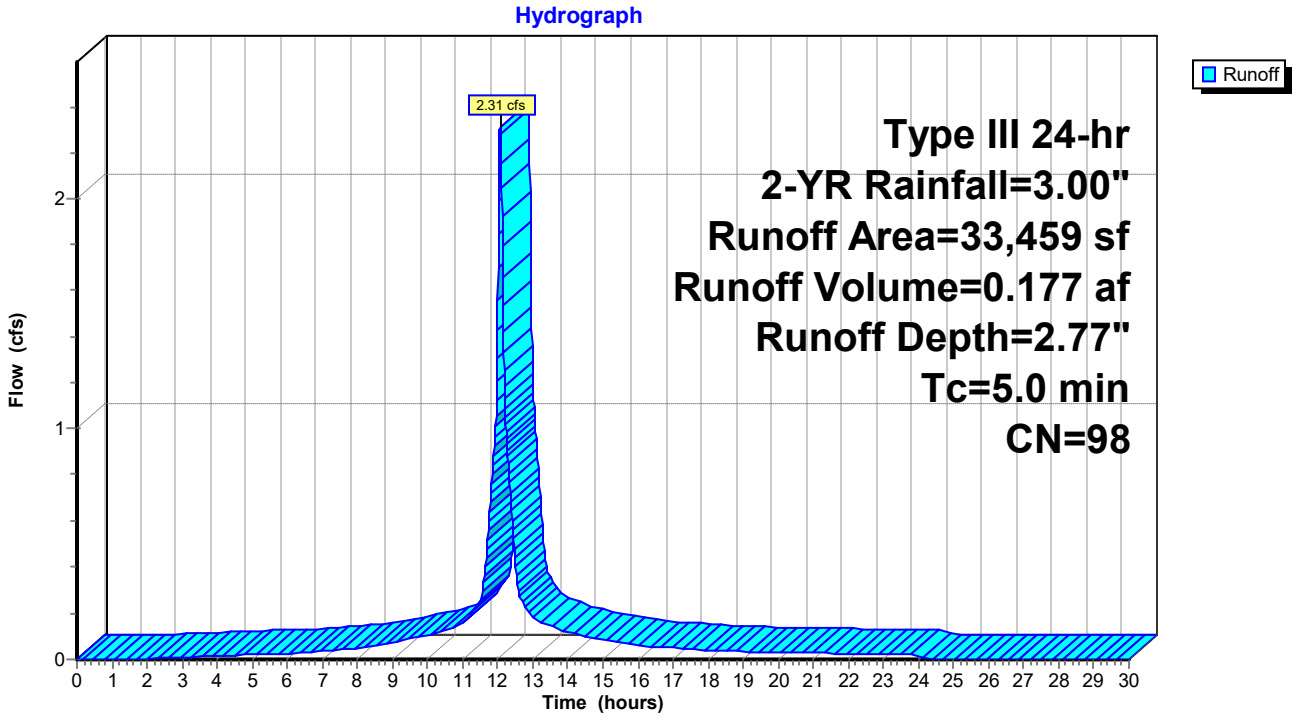
Runoff = 2.31 cfs @ 12.07 hrs, Volume= 0.177 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
33,459	98	Paved parking & roofs
33,459		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 5.2S: ROOF



Summary for Subcatchment 6S: ROOF

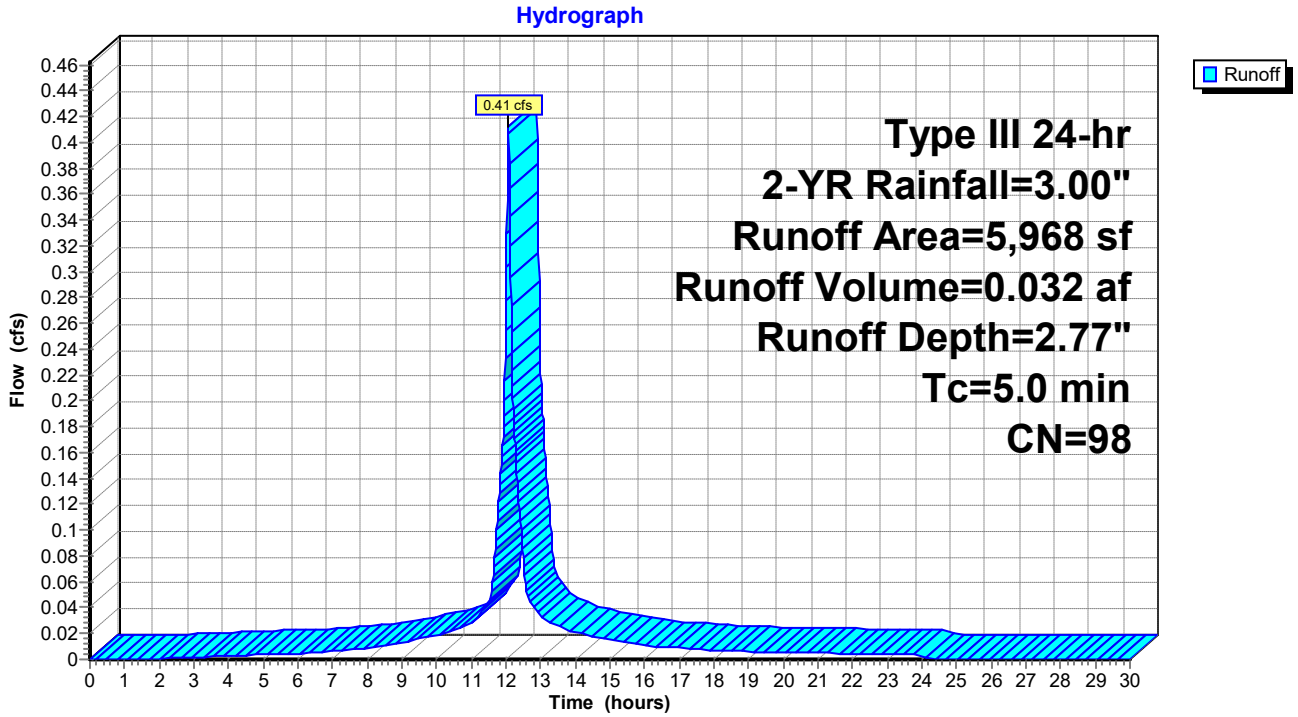
Runoff = 0.41 cfs @ 12.07 hrs, Volume= 0.032 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
5,968	98	Paved parking & roofs
5,968		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 6S: ROOF



Summary for Subcatchment 7S:

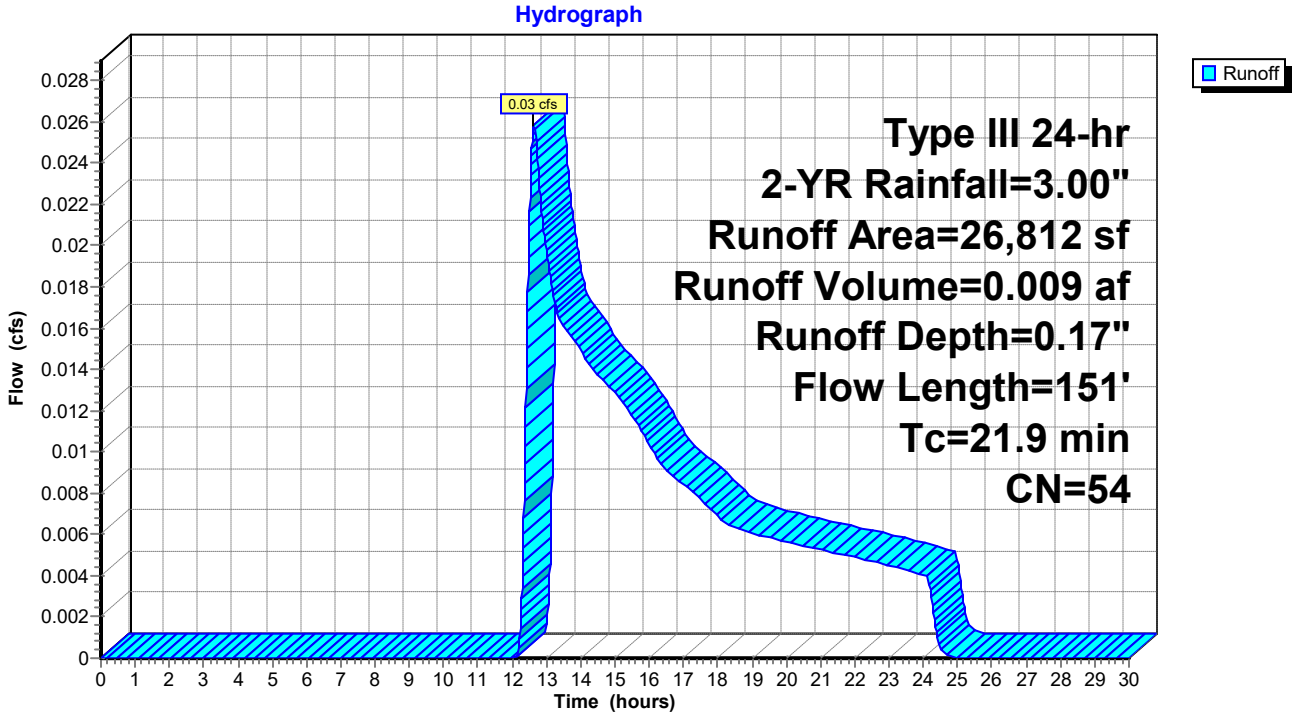
Runoff = 0.03 cfs @ 12.63 hrs, Volume= 0.009 af, Depth= 0.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
6,429	98	Paved parking & roofs
2,581	39	>75% Grass cover, Good, HSG A
929	61	>75% Grass cover, Good, HSG B
10,782	30	Woods, Good, HSG A
6,091	55	Woods, Good, HSG B
26,812	54	Weighted Average
20,383		76.02% Pervious Area
6,429		23.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	100	0.0920	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
0.9	51	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.9	151	Total			

Subcatchment 7S:



Summary for Subcatchment 8S:

[45] Hint: Runoff=Zero

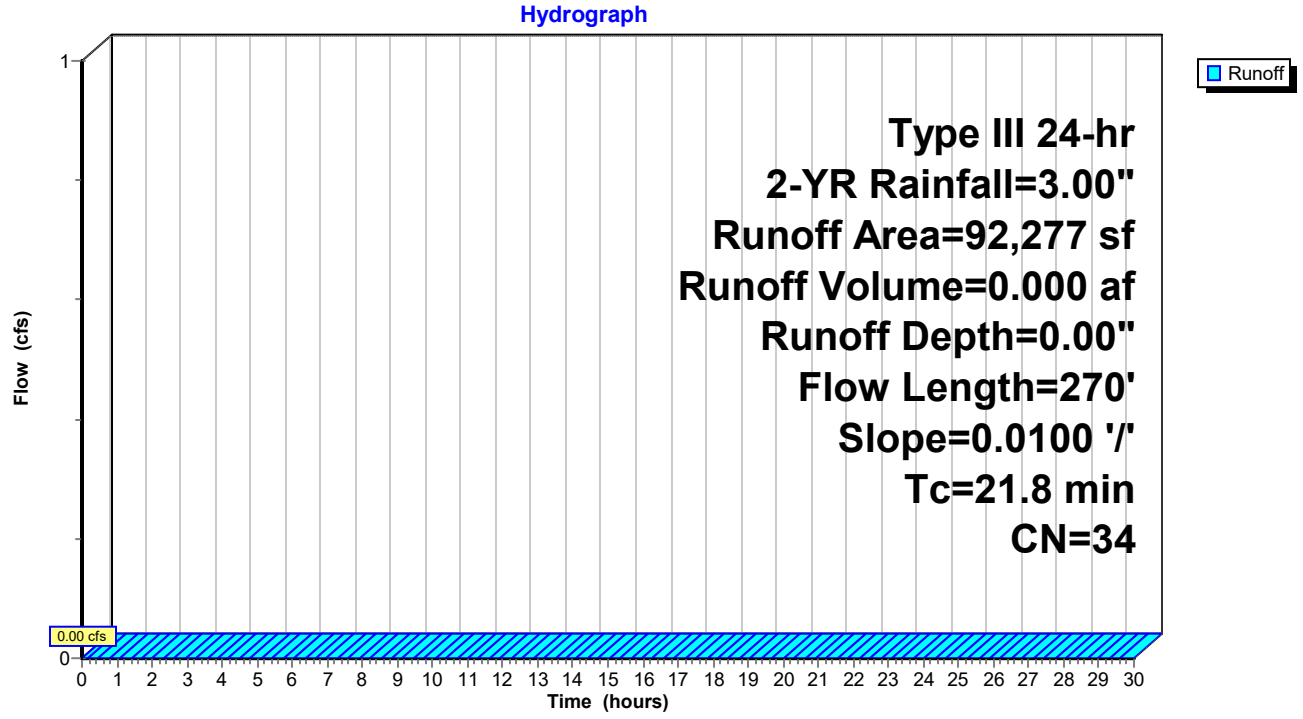
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	2,234	98	Paved
	22,040	39	>75% Grass cover, Good, HSG A
	68,003	30	Woods, Good, HSG A
	92,277	34	Weighted Average
	90,043		97.58% Pervious Area
	2,234		2.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	40	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
7.7	230	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
21.8	270	Total			

Subcatchment 8S:



Summary for Subcatchment 9.1S:

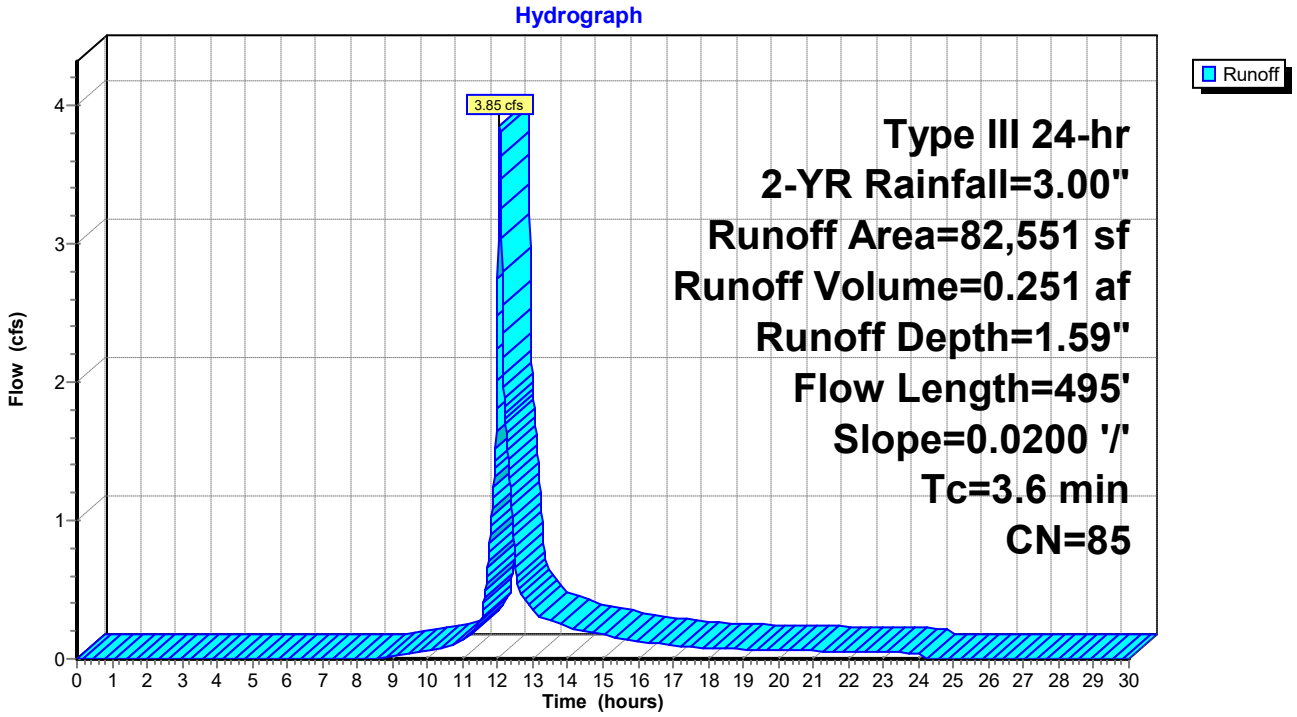
Runoff = 3.85 cfs @ 12.06 hrs, Volume= 0.251 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	64,588	98	Impervious
	17,963	39	>75% Grass cover, Good, HSG A
	82,551	85	Weighted Average
	17,963		21.76% Pervious Area
	64,588		78.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.3	395	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.6	495	Total			

Subcatchment 9.1S:



Summary for Subcatchment 9.2S:

[45] Hint: Runoff=Zero

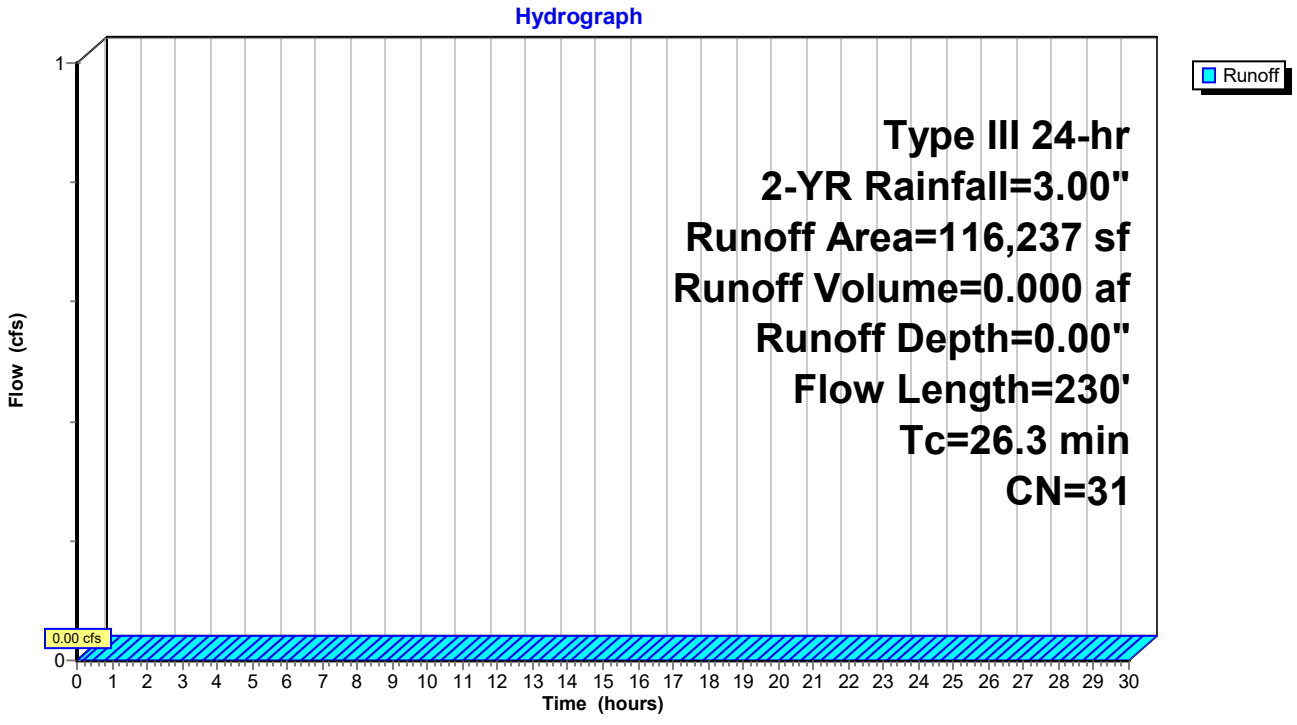
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
15,000	39	>75% Grass cover, Good, HSG A
101,237	30	Woods, Good, HSG A
116,237	31	Weighted Average
116,237		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0150	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.4	130	0.0900	1.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.3	230	Total			

Subcatchment 9.2S:



Summary for Subcatchment 9.3S:

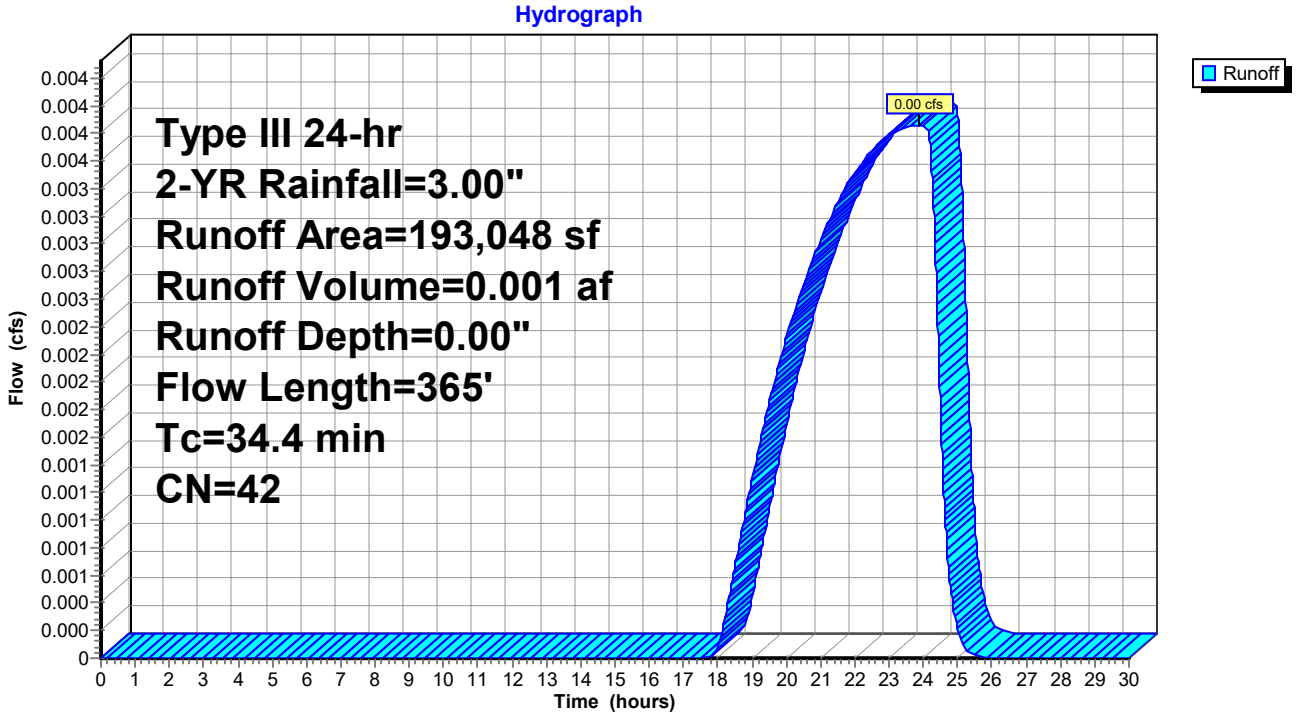
Runoff = 0.00 cfs @ 23.89 hrs, Volume= 0.001 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	30,893	98	Paved
	21,194	39	>75% Grass cover, Good, HSG A
	140,961	30	Woods, Good, HSG A
	193,048	42	Weighted Average
	162,155		84.00% Pervious Area
	30,893		16.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.7	150	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.9	150	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	65	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
34.4	365	Total			

Subcatchment 9.3S:



Summary for Subcatchment 9S:

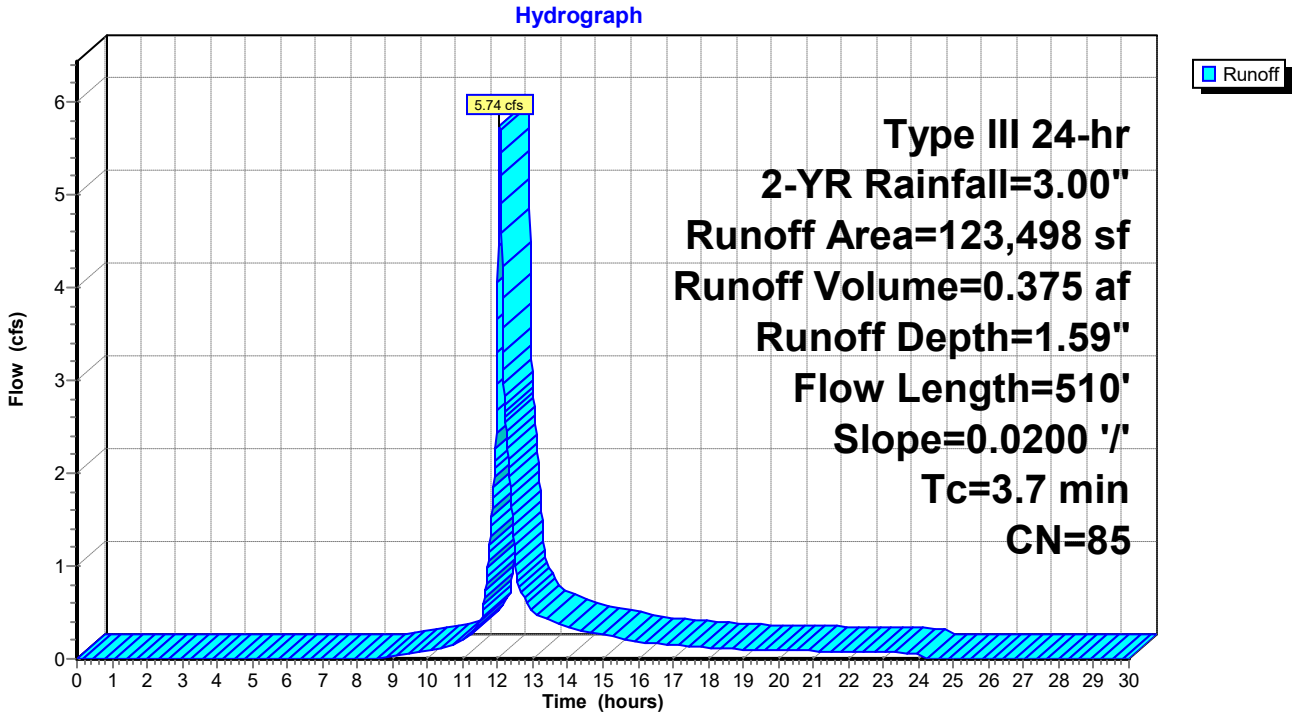
Runoff = 5.74 cfs @ 12.06 hrs, Volume= 0.375 af, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	95,953	98	Paved
	27,545	39	>75% Grass cover, Good, HSG A
	123,498	85	Weighted Average
	27,545		22.30% Pervious Area
	95,953		77.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.4	410	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.7	510	Total			

Subcatchment 9S:



Summary for Subcatchment 50S:

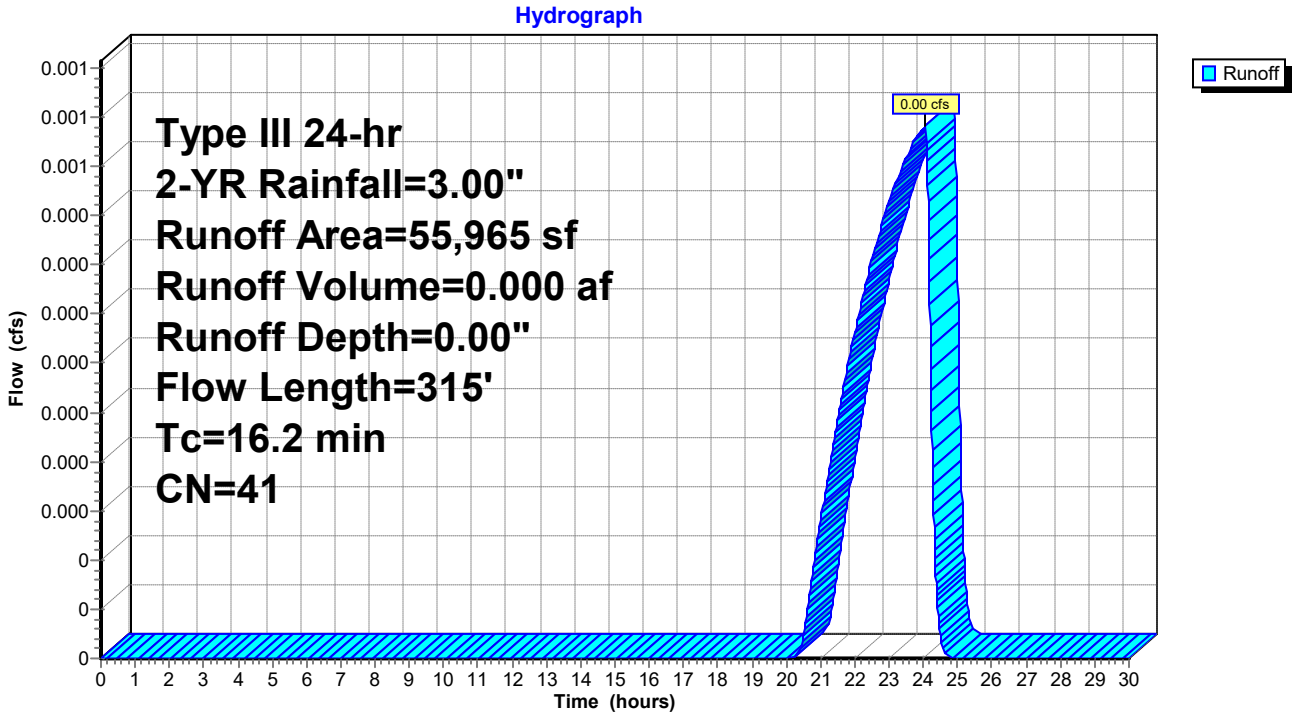
Runoff = 0.00 cfs @ 24.03 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	8,790	98	Impervious
	4,094	39	>75% Grass cover, Good, HSG A
	43,081	30	Woods, Good, HSG A
	55,965	41	Weighted Average
	47,175		84.29% Pervious Area
	8,790		15.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	120	0.0750	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	45	0.1560	1.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	100	0.0300	2.60		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0200	6.14	18.43	**Channel Flow,** Area= 3.0 sf Perim= 4.8' r= 0.63' n= 0.025 Earth, clean & winding
16.2	315	Total			

Subcatchment 50S:



Summary for Subcatchment 52S:

[45] Hint: Runoff=Zero

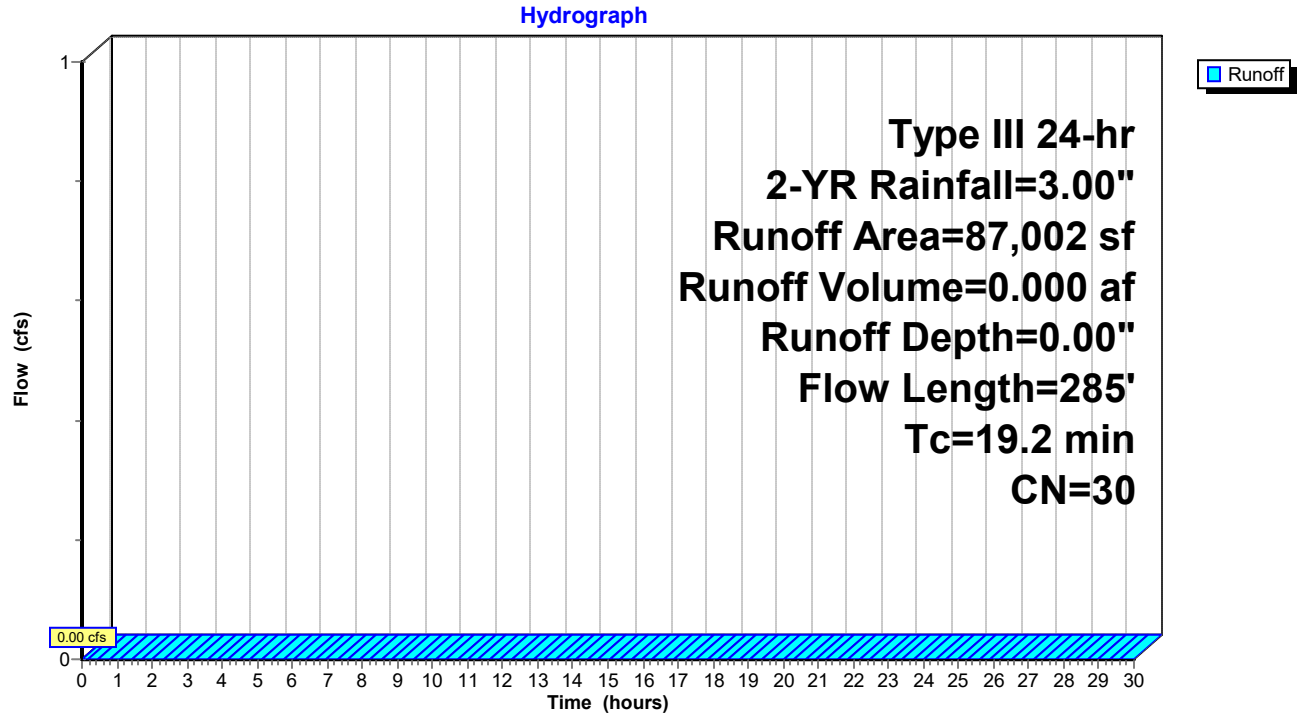
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	198	98	Paved
	0	49	50-75% Grass cover, Fair, HSG A
	86,804	30	Woods, Good, HSG A
	87,002	30	Weighted Average
	86,804		99.77% Pervious Area
	198		0.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.3	160	0.0517	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	25	0.0400	3.00		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
19.2	285	Total			

Subcatchment 52S:



Summary for Subcatchment 53S:

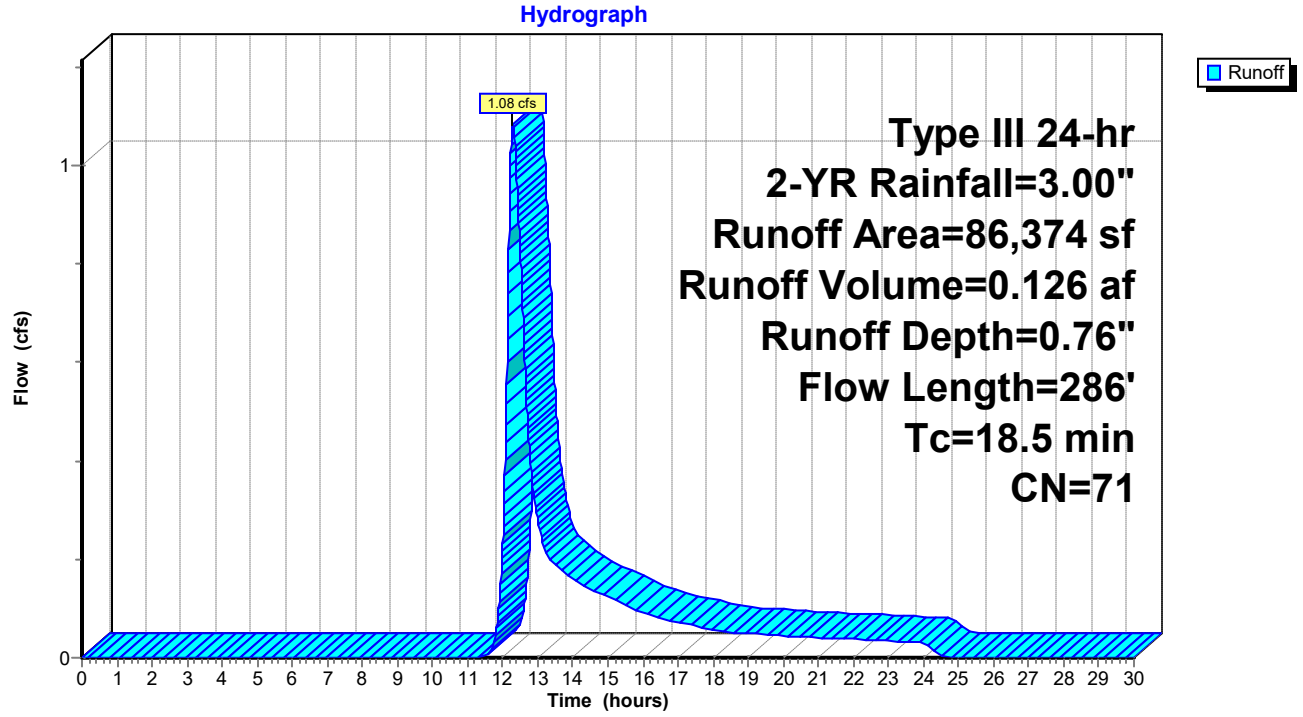
Runoff = 1.08 cfs @ 12.29 hrs, Volume= 0.126 af, Depth= 0.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	47,137	98	Paved
	39,237	39	>75% Grass cover, Good, HSG A
	86,374	71	Weighted Average
	39,237		45.43% Pervious Area
	47,137		54.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	116	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	40	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	30	0.0860	2.05		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.5	286	Total			

Subcatchment 53S:



Summary for Subcatchment 54S: Updated

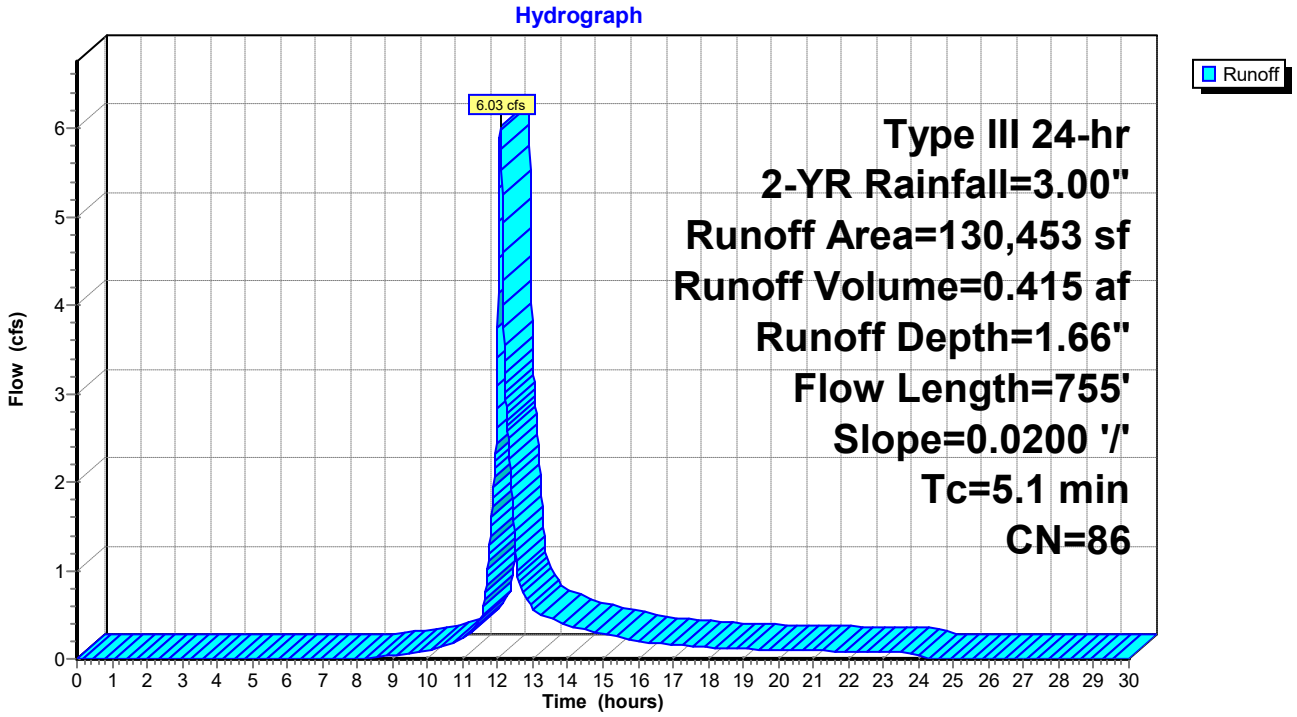
Runoff = 6.03 cfs @ 12.08 hrs, Volume= 0.415 af, Depth= 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	103,327	98	Paved
	27,126	39	>75% Grass cover, Good, HSG A
	130,453	86	Weighted Average
	27,126		20.79% Pervious Area
	103,327		79.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
3.8	655	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.1	755	Total			

Subcatchment 54S: Updated



Summary for Subcatchment 55S: New Building

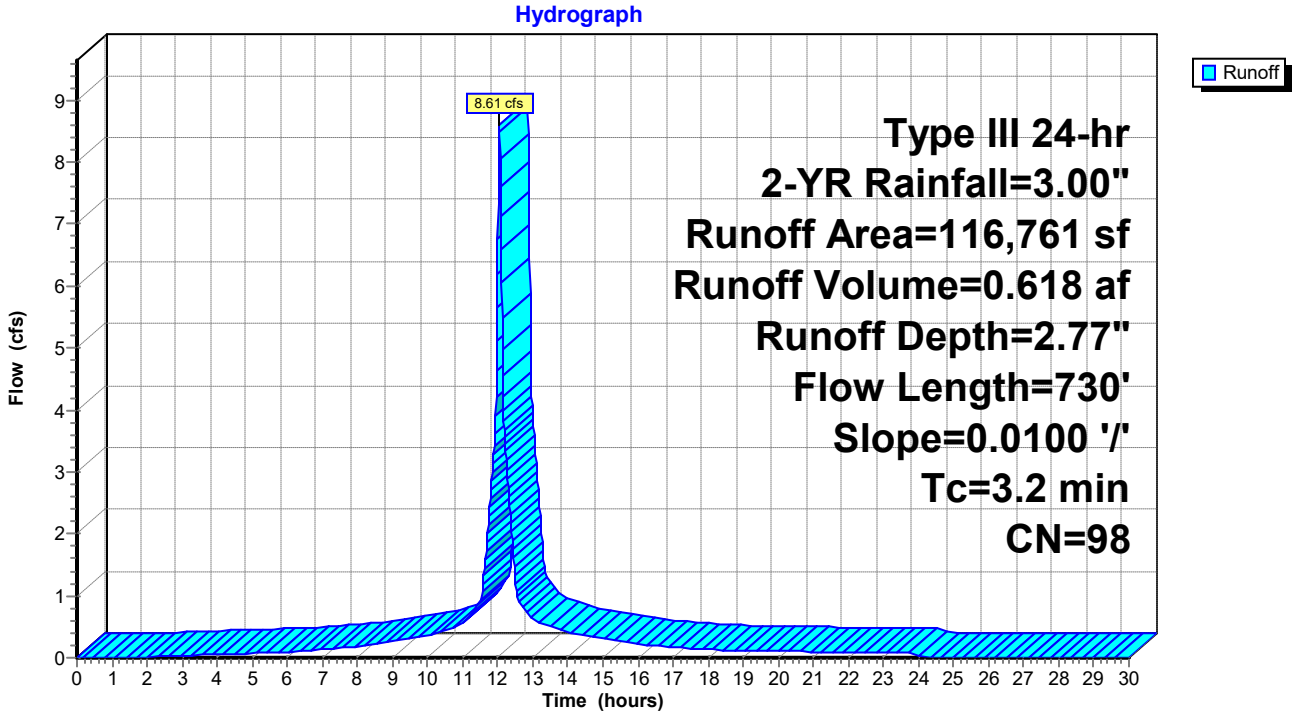
Runoff = 8.61 cfs @ 12.05 hrs, Volume= 0.618 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	116,761	98	Roof
	116,761		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0100	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	80	0.0100	4.50	1.57	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
0.8	300	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
0.4	250	0.0100	9.36	29.41	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
3.2	730	Total			

Subcatchment 55S: New Building



Summary for Subcatchment 56S:

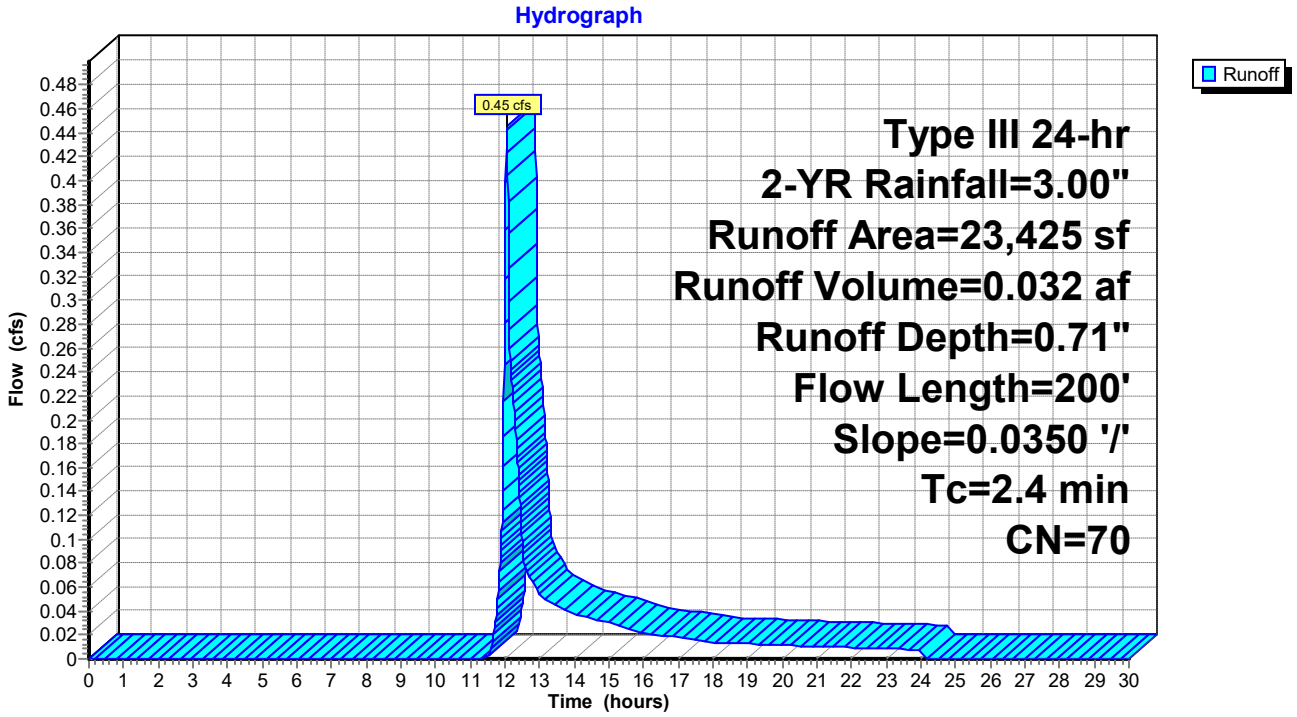
Runoff = 0.45 cfs @ 12.05 hrs, Volume= 0.032 af, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	12,497	98	Paved
	10,928	39	>75% Grass cover, Good, HSG A
	23,425	70	Weighted Average
	10,928		46.65% Pervious Area
	12,497		53.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	85	0.0350	1.61		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.5	115	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	200	Total			

Subcatchment 56S:



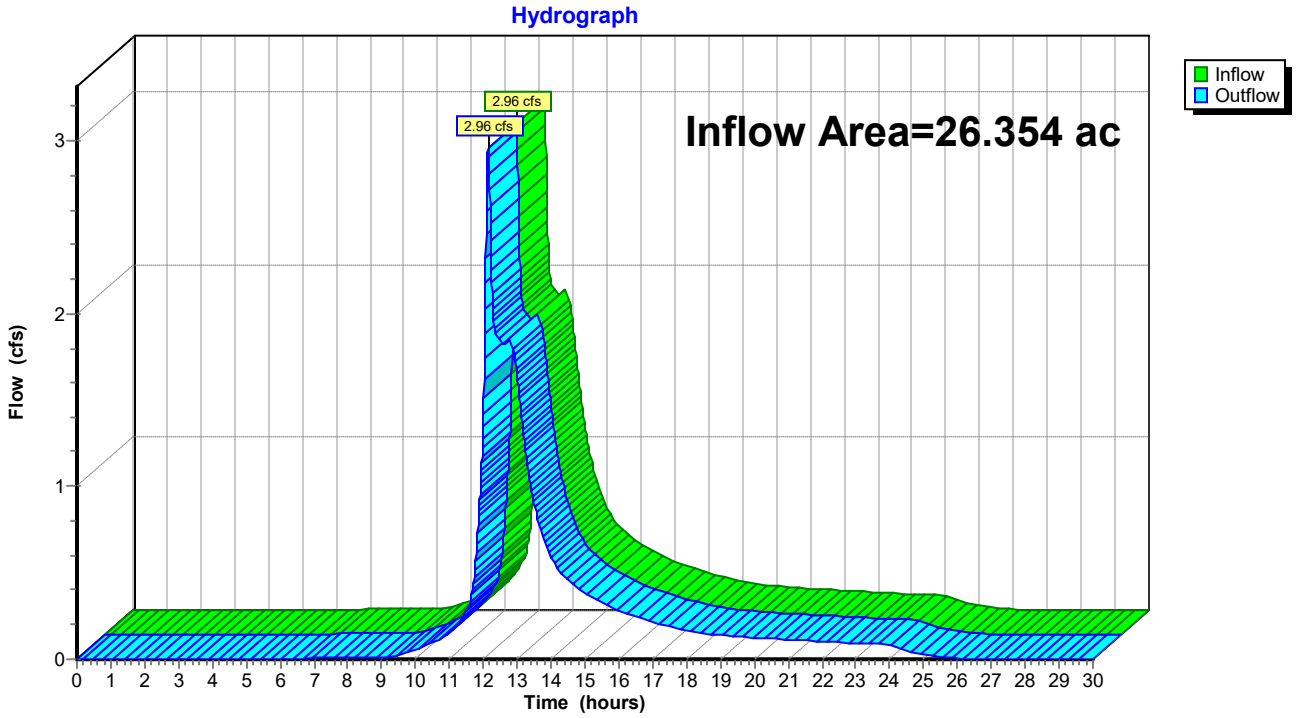
Summary for Reach 1R: WATERSHED ANALYSIS POINT A

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 26.354 ac, 41.81% Impervious, Inflow Depth = 0.21" for 2-YR event
Inflow = 2.96 cfs @ 12.15 hrs, Volume= 0.458 af
Outflow = 2.96 cfs @ 12.15 hrs, Volume= 0.458 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 1R: WATERSHED ANALYSIS POINT A



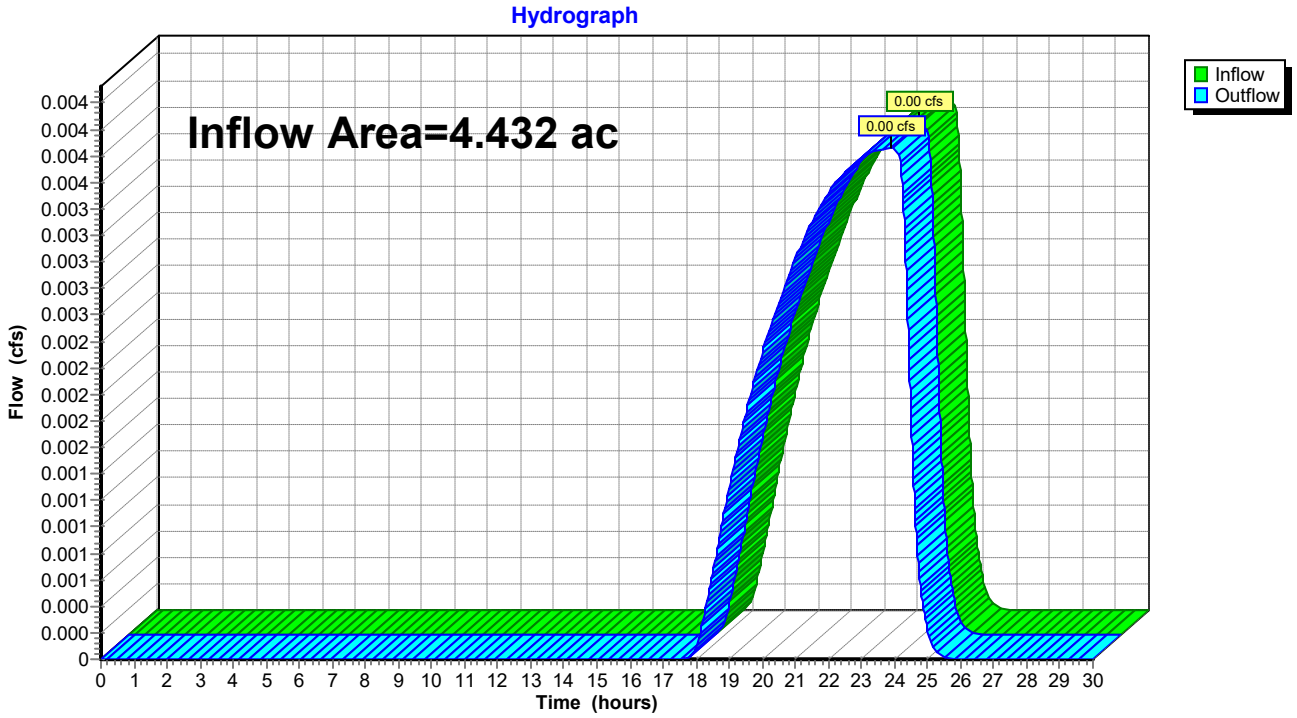
Summary for Reach 2.1R: WATERSHED ANALYSIS POINT C

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.432 ac, 16.00% Impervious, Inflow Depth = 0.00" for 2-YR event
Inflow = 0.00 cfs @ 23.89 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 23.89 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 2.1R: WATERSHED ANALYSIS POINT C



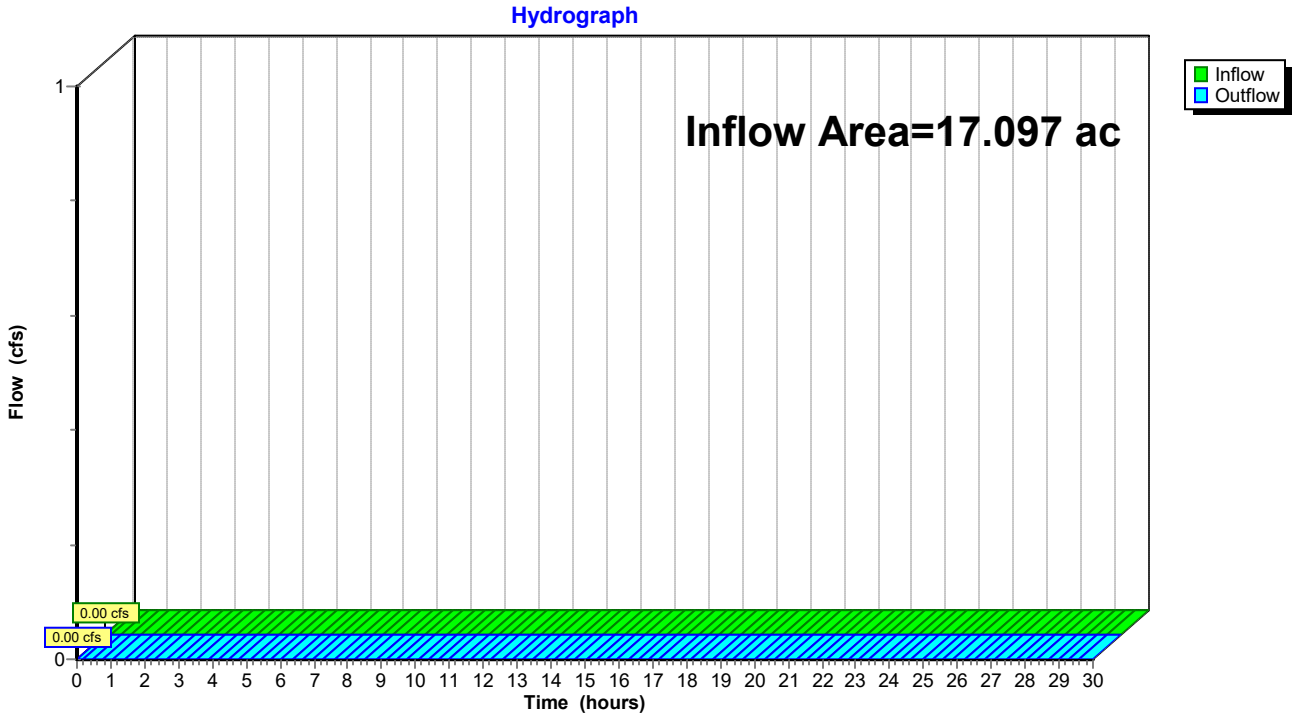
Summary for Reach 2R: WATERSHED ANALYSIS POINT B

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 17.097 ac, 74.64% Impervious, Inflow Depth = 0.00" for 2-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 2R: WATERSHED ANALYSIS POINT B



Summary for Reach 4R: NATRUAL DRAINAGE

Inflow Area = 5.046 ac, 37.24% Impervious, Inflow Depth = 0.02" for 2-YR event
Inflow = 0.03 cfs @ 12.64 hrs, Volume= 0.009 af
Outflow = 0.02 cfs @ 13.03 hrs, Volume= 0.009 af, Atten= 24%, Lag= 23.0 min

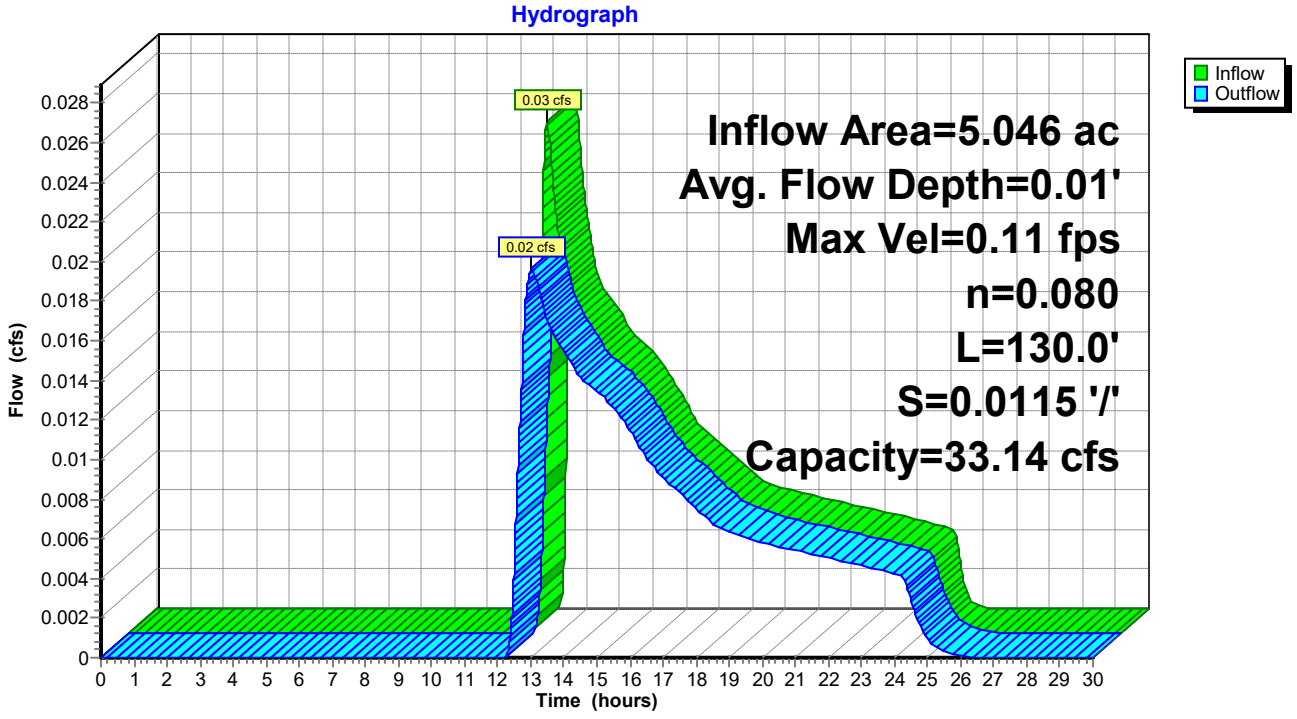
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.11 fps, Min. Travel Time= 19.8 min
Avg. Velocity = 0.09 fps, Avg. Travel Time= 23.2 min

Peak Storage= 23 cf @ 13.03 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 1.00' Flow Area= 19.0 sf, Capacity= 33.14 cfs

15.00' x 1.00' deep channel, n= 0.080
Side Slope Z-value= 4.0 '/' Top Width= 23.00'
Length= 130.0' Slope= 0.0115 '/'
Inlet Invert= 247.00', Outlet Invert= 245.50'

‡

Reach 4R: NATRUAL DRAINAGE



Summary for Reach 50R: STREAM

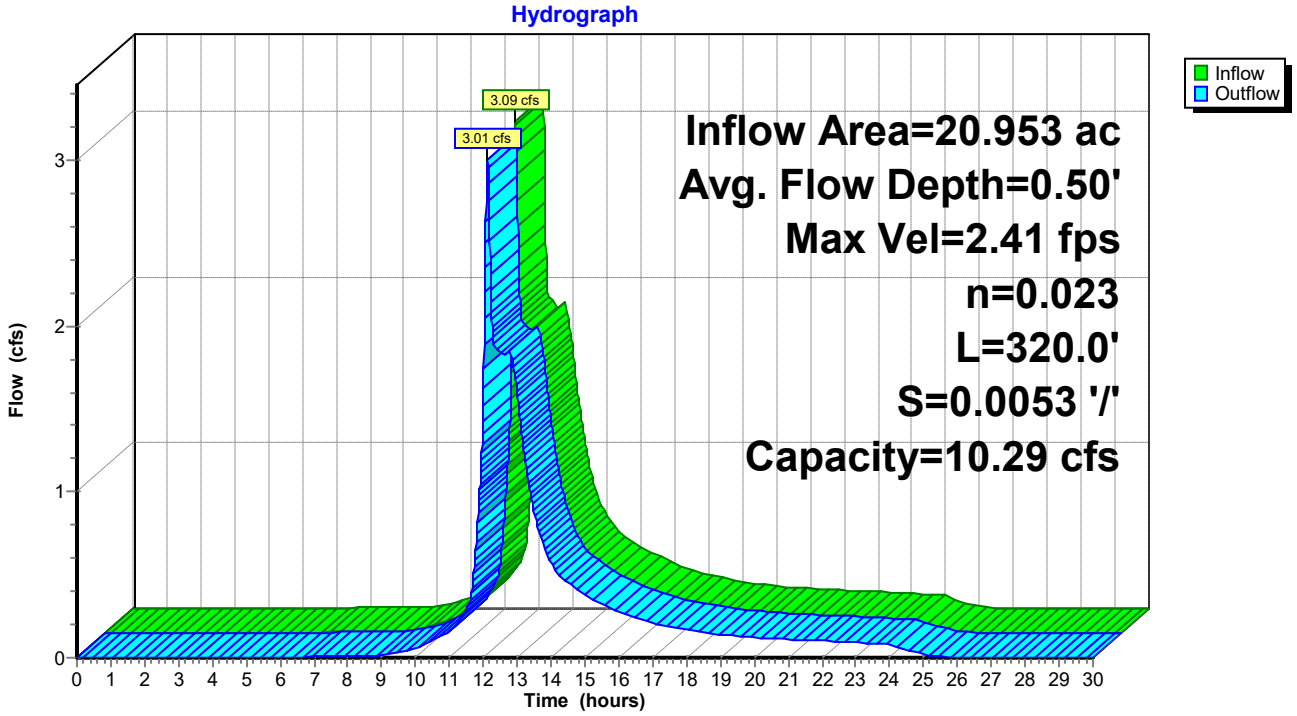
Inflow Area = 20.953 ac, 51.35% Impervious, Inflow Depth = 0.26" for 2-YR event
Inflow = 3.09 cfs @ 12.10 hrs, Volume= 0.458 af
Outflow = 3.01 cfs @ 12.13 hrs, Volume= 0.458 af, Atten= 3%, Lag= 1.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 2.41 fps, Min. Travel Time= 2.2 min
Avg. Velocity = 0.69 fps, Avg. Travel Time= 7.8 min

Peak Storage= 399 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.29 cfs

2.00' x 1.00' deep channel, n= 0.023 Earth, clean & winding
Side Slope Z-value= 1.0 '/' Top Width= 4.00'
Length= 320.0' Slope= 0.0053 '/'
Inlet Invert= 235.00', Outlet Invert= 233.30'

Reach 50R: STREAM



Summary for Reach 51R: STREAM

[61] Hint: Exceeded Reach 50R outlet invert by 0.38' @ 12.15 hrs

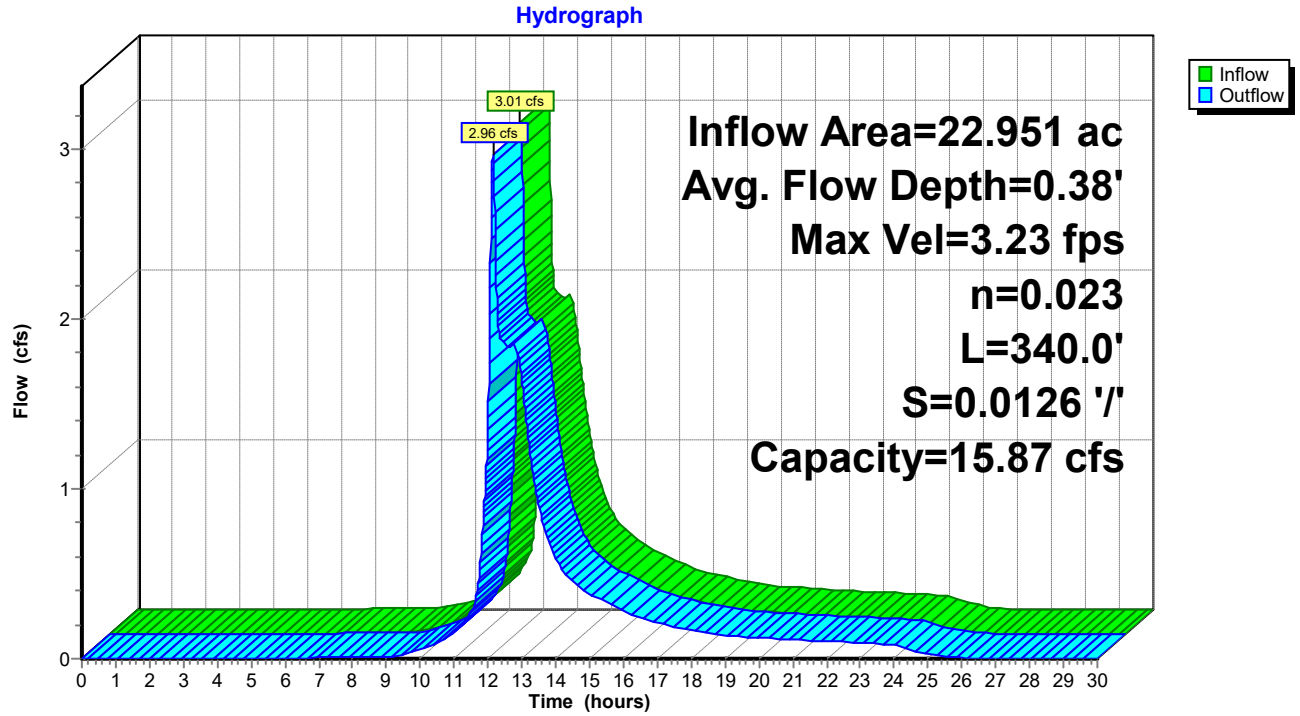
Inflow Area = 22.951 ac, 46.91% Impervious, Inflow Depth = 0.24" for 2-YR event
Inflow = 3.01 cfs @ 12.13 hrs, Volume= 0.458 af
Outflow = 2.96 cfs @ 12.15 hrs, Volume= 0.458 af, Atten= 2%, Lag= 1.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 3.23 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.92 fps, Avg. Travel Time= 6.2 min

Peak Storage= 311 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.38'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 15.87 cfs

2.00' x 1.00' deep channel, n= 0.023
Side Slope Z-value= 1.0 '/' Top Width= 4.00'
Length= 340.0' Slope= 0.0126 '/'
Inlet Invert= 233.30', Outlet Invert= 229.00'

Reach 51R: STREAM



Summary for Reach 54R: New Pipe

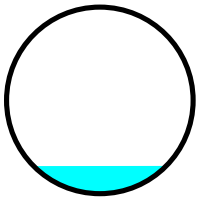
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach 55R OUTLET depth by 0.02' @ 12.16 hrs

Inflow Area = 18.433 ac, 50.95% Impervious, Inflow Depth = 0.30" for 2-YR event
Inflow = 3.11 cfs @ 12.09 hrs, Volume= 0.458 af
Outflow = 3.09 cfs @ 12.10 hrs, Volume= 0.458 af, Atten= 1%, Lag= 0.8 min

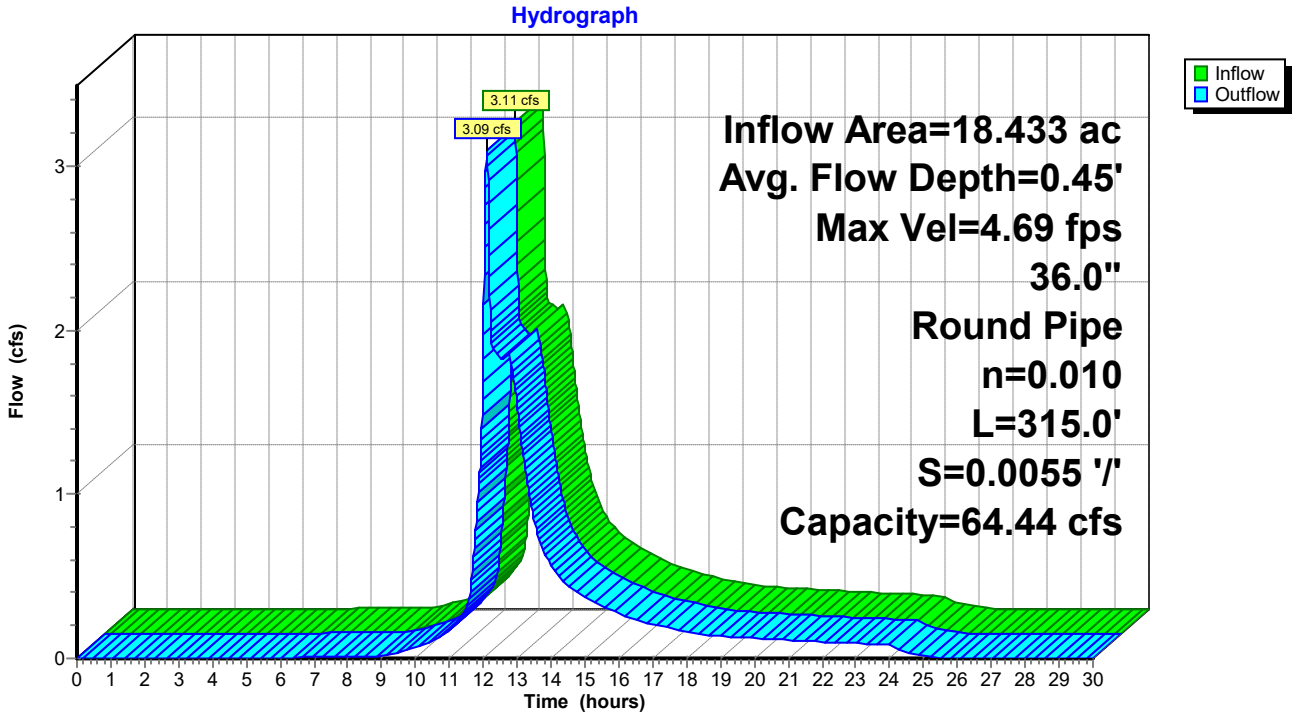
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 4.69 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.64 fps, Avg. Travel Time= 3.2 min

Peak Storage= 207 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 64.44 cfs

36.0" Round Pipe
n= 0.010
Length= 315.0' Slope= 0.0055 '/'
Inlet Invert= 238.49', Outlet Invert= 236.75'



Reach 54R: New Pipe



Summary for Reach 55R: New Pipe

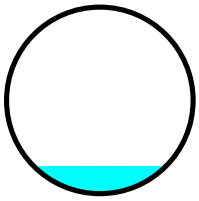
[52] Hint: Inlet/Outlet conditions not evaluated

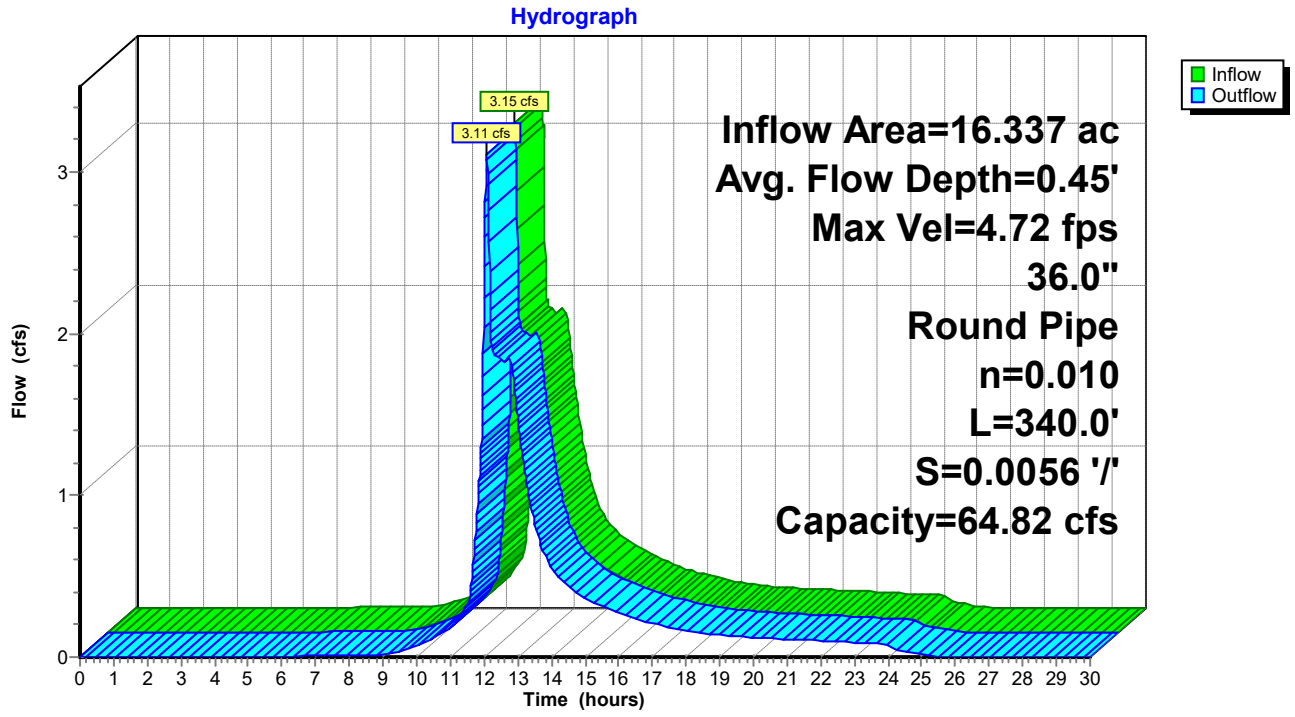
Inflow Area = 16.337 ac, 51.71% Impervious, Inflow Depth = 0.34" for 2-YR event
Inflow = 3.15 cfs @ 12.08 hrs, Volume= 0.458 af
Outflow = 3.11 cfs @ 12.09 hrs, Volume= 0.458 af, Atten= 1%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 4.72 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.65 fps, Avg. Travel Time= 3.4 min

Peak Storage= 224 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 64.82 cfs

36.0" Round Pipe
n= 0.010
Length= 340.0' Slope= 0.0056 '/'
Inlet Invert= 240.39', Outlet Invert= 238.49'





Summary for Pond 1P: EX. CULVERT

[58] Hint: Peaked 246.87' above defined flood level

Inflow Area = 6.218 ac, 48.80% Impervious, Inflow Depth = 0.33" for 2-YR event
Inflow = 2.79 cfs @ 12.03 hrs, Volume= 0.172 af
Outflow = 2.40 cfs @ 12.07 hrs, Volume= 0.172 af, Atten= 14%, Lag= 2.2 min
Primary = 2.40 cfs @ 12.07 hrs, Volume= 0.172 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 247.87' @ 12.07 hrs Surf.Area= 149 sf Storage= 157 cf
Flood Elev= 1.00' Surf.Area= 0 sf Storage= 0 cf

Plug-Flow detention time= 0.5 min calculated for 0.172 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (832.7 - 832.2)

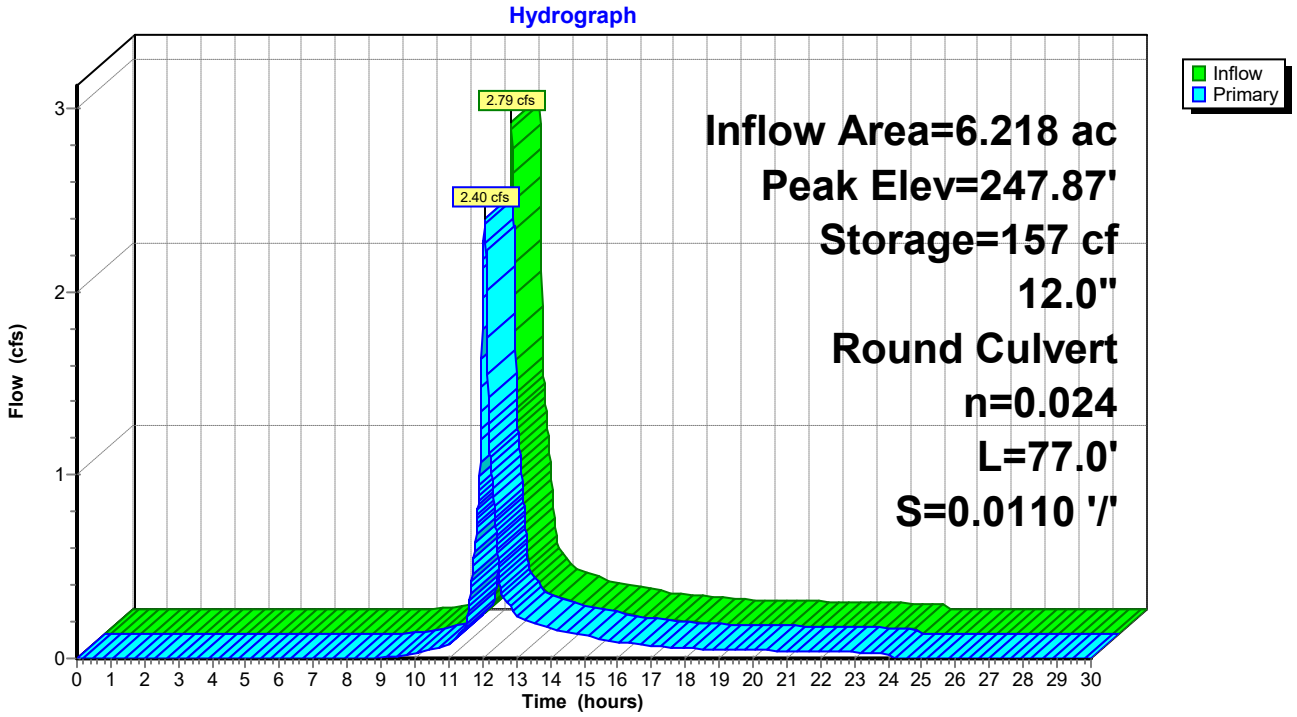
Volume	Invert	Avail.Storage	Storage Description
#1	246.25'	345 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.25	0	0	0
247.00	33	12	12
249.00	300	333	345

Device	Routing	Invert	Outlet Devices
#1	Primary	246.25'	**12.0" Round Culvert** L= 77.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.25' / 245.40' S= 0.0110 '/' Cc= 0.900 n= 0.024, Flow Area= 0.79 sf

Primary OutFlow Max=2.40 cfs @ 12.07 hrs HW=247.86' TW=245.50' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 2.40 cfs @ 3.05 fps)

Pond 1P: EX. CULVERT



Summary for Pond 2P: NEW CB-1

[57] Hint: Peaked at 245.51' (Flood elevation advised)
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=14)
[62] Hint: Exceeded Reach 4R OUTLET depth by 0.01' @ 12.08 hrs

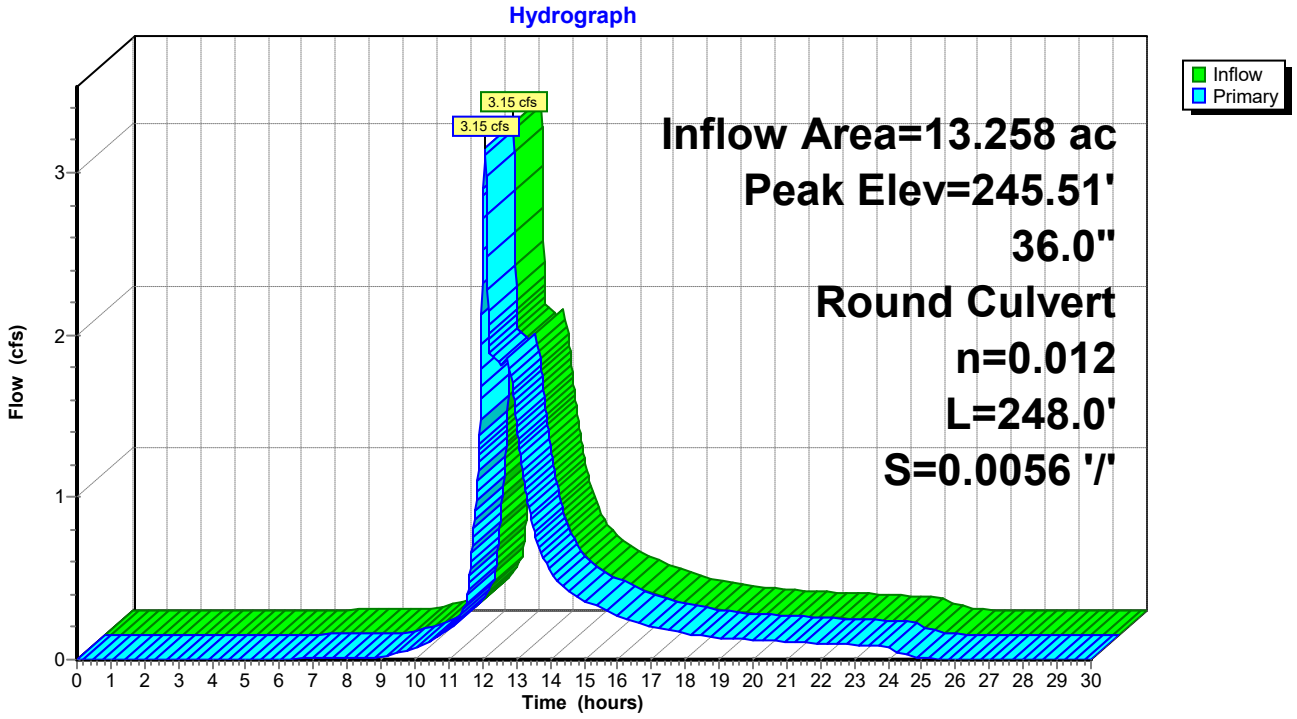
Inflow Area = 13.258 ac, 48.16% Impervious, Inflow Depth = 0.41" for 2-YR event
Inflow = 3.15 cfs @ 12.07 hrs, Volume= 0.458 af
Outflow = 3.15 cfs @ 12.07 hrs, Volume= 0.458 af, Atten= 0%, Lag= 0.0 min
Primary = 3.15 cfs @ 12.07 hrs, Volume= 0.458 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.51' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	243.50'	**36.0" Round Culvert** L= 248.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 243.50' / 242.10' S= 0.0056 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=3.15 cfs @ 12.07 hrs HW=245.50' TW=245.46' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 3.15 cfs @ 0.89 fps)

Pond 2P: NEW CB-1



Summary for Pond 3P: New CB-2

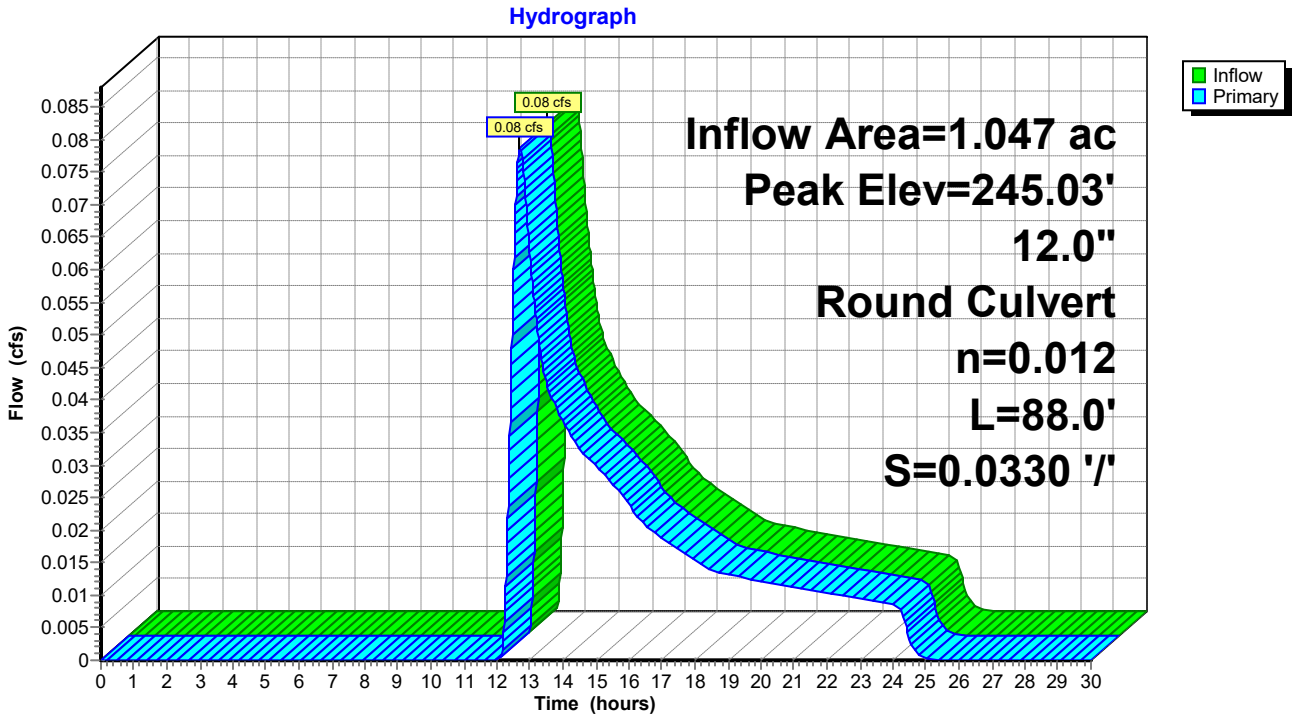
Inflow Area = 1.047 ac, 29.59% Impervious, Inflow Depth = 0.25" for 2-YR event
Inflow = 0.08 cfs @ 12.69 hrs, Volume= 0.021 af
Outflow = 0.08 cfs @ 12.69 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min
Primary = 0.08 cfs @ 12.69 hrs, Volume= 0.021 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.03' @ 12.69 hrs
Flood Elev= 249.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	244.90'	**12.0" Round Culvert** L= 88.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 244.90' / 242.00' S= 0.0330 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.08 cfs @ 12.69 hrs HW=245.03' TW=243.84' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.08 cfs @ 1.25 fps)

Pond 3P: New CB-2



Summary for Pond 4P: NEW CB-3

[58] Hint: Peaked 3.60' above defined flood level

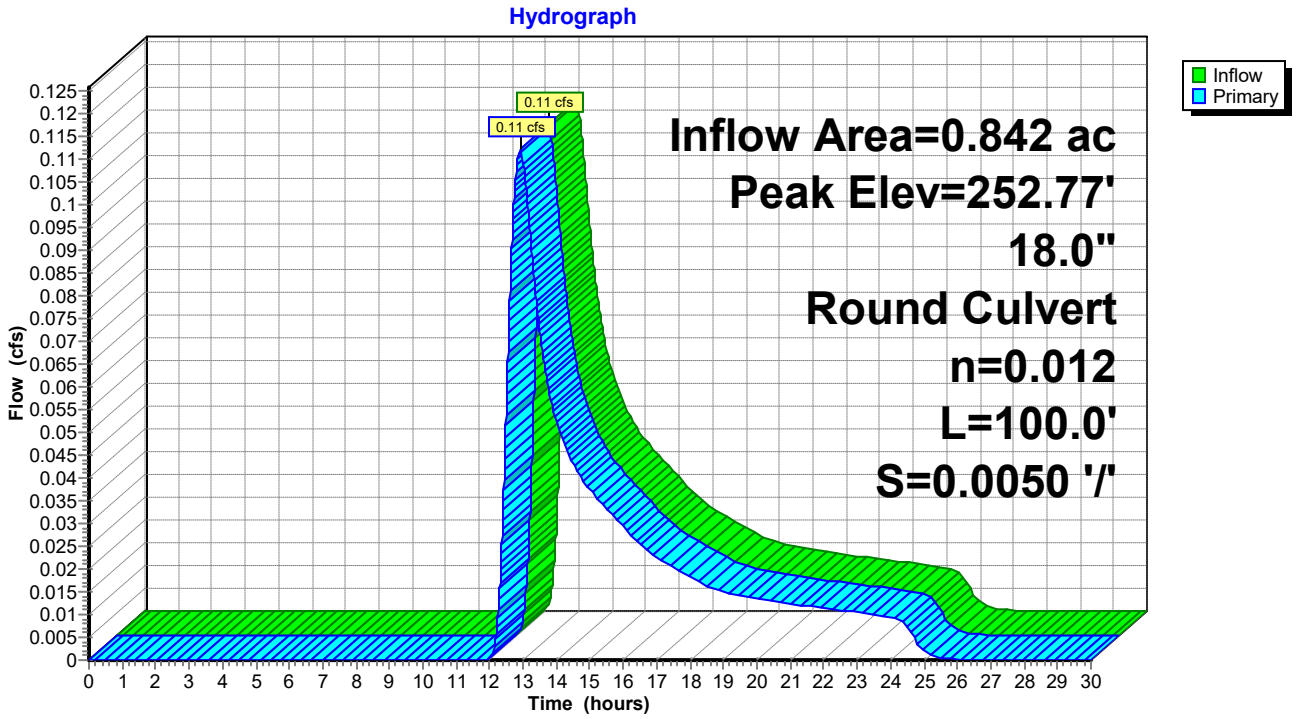
Inflow Area = 0.842 ac, 32.11% Impervious, Inflow Depth = 0.40" for 2-YR event
Inflow = 0.11 cfs @ 12.91 hrs, Volume= 0.028 af
Outflow = 0.11 cfs @ 12.91 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min
Primary = 0.11 cfs @ 12.91 hrs, Volume= 0.028 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 252.77' @ 12.92 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	252.60'	**18.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 252.60' / 252.10' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=0.11 cfs @ 12.91 hrs HW=252.77' TW=252.27' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.11 cfs @ 1.55 fps)

Pond 4P: NEW CB-3



Summary for Pond 6P: NEW DMH-2

[80] Warning: Exceeded Pond 8P by 2.80' @ 26.05 hrs (34.63 cfs 12.891 af)

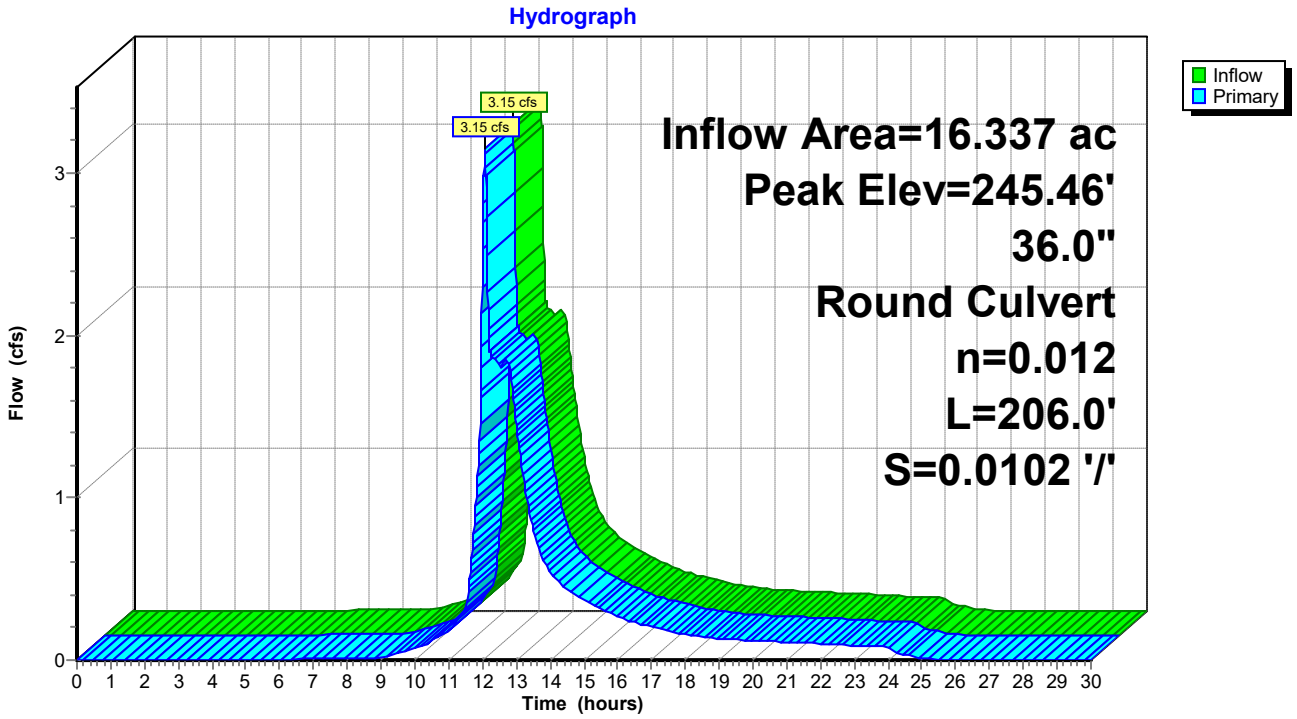
Inflow Area = 16.337 ac, 51.71% Impervious, Inflow Depth = 0.34" for 2-YR event
Inflow = 3.15 cfs @ 12.08 hrs, Volume= 0.458 af
Outflow = 3.15 cfs @ 12.08 hrs, Volume= 0.458 af, Atten= 0%, Lag= 0.0 min
Primary = 3.15 cfs @ 12.08 hrs, Volume= 0.458 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.46' @ 12.08 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	244.80'	**36.0" Round Culvert** L= 206.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 244.80' / 242.70' S= 0.0102 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=3.14 cfs @ 12.08 hrs HW=245.46' TW=243.27' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 3.14 cfs @ 2.76 fps)

Pond 6P: NEW DMH-2



Summary for Pond 7P: DRAINAGE MH

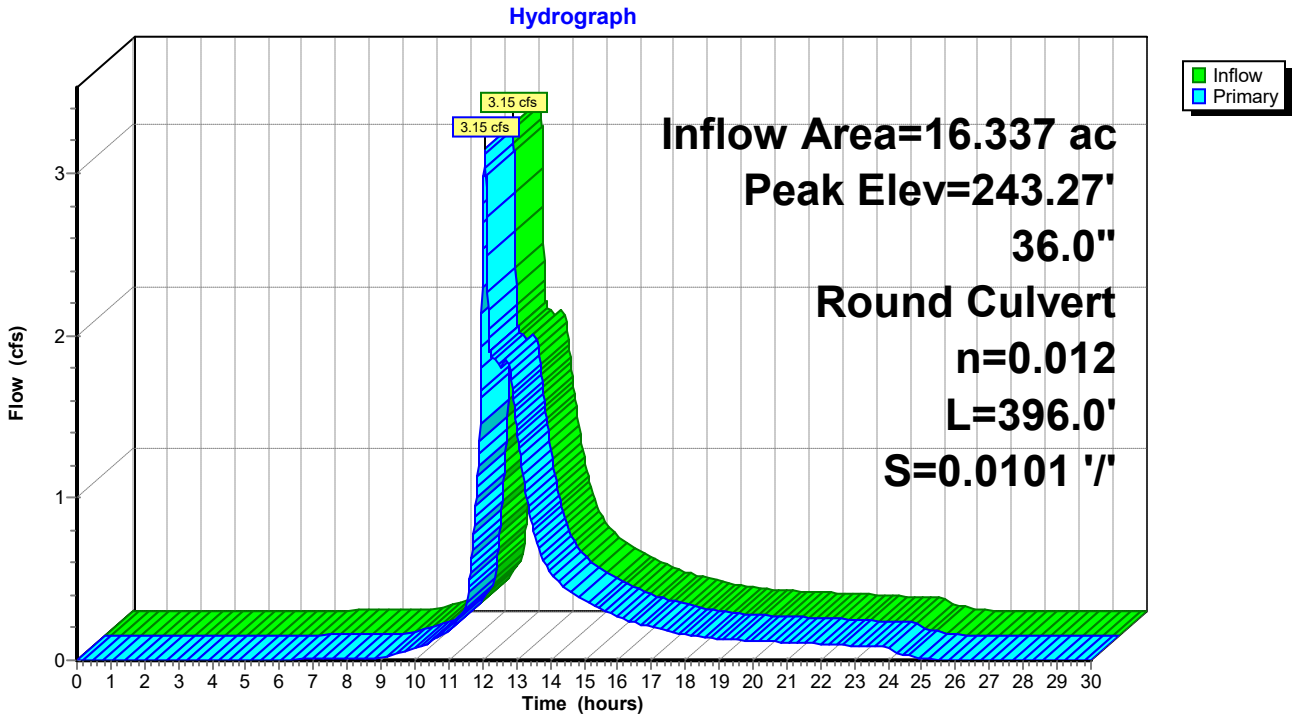
Inflow Area = 16.337 ac, 51.71% Impervious, Inflow Depth = 0.34" for 2-YR event
Inflow = 3.15 cfs @ 12.08 hrs, Volume= 0.458 af
Outflow = 3.15 cfs @ 12.08 hrs, Volume= 0.458 af, Atten= 0%, Lag= 0.0 min
Primary = 3.15 cfs @ 12.08 hrs, Volume= 0.458 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 243.27' @ 12.08 hrs
Flood Elev= 249.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.60'	**36.0" Round Culvert** L= 396.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.60' / 238.60' S= 0.0101 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=3.14 cfs @ 12.08 hrs HW=243.27' TW=240.84' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.14 cfs @ 4.05 fps)

Pond 7P: DRAINAGE MH



Summary for Pond 8P: NEW DMH-1

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=682)
[80] Warning: Exceeded Pond 2P by 1.30' @ 24.92 hrs (8.92 cfs 2.360 af)

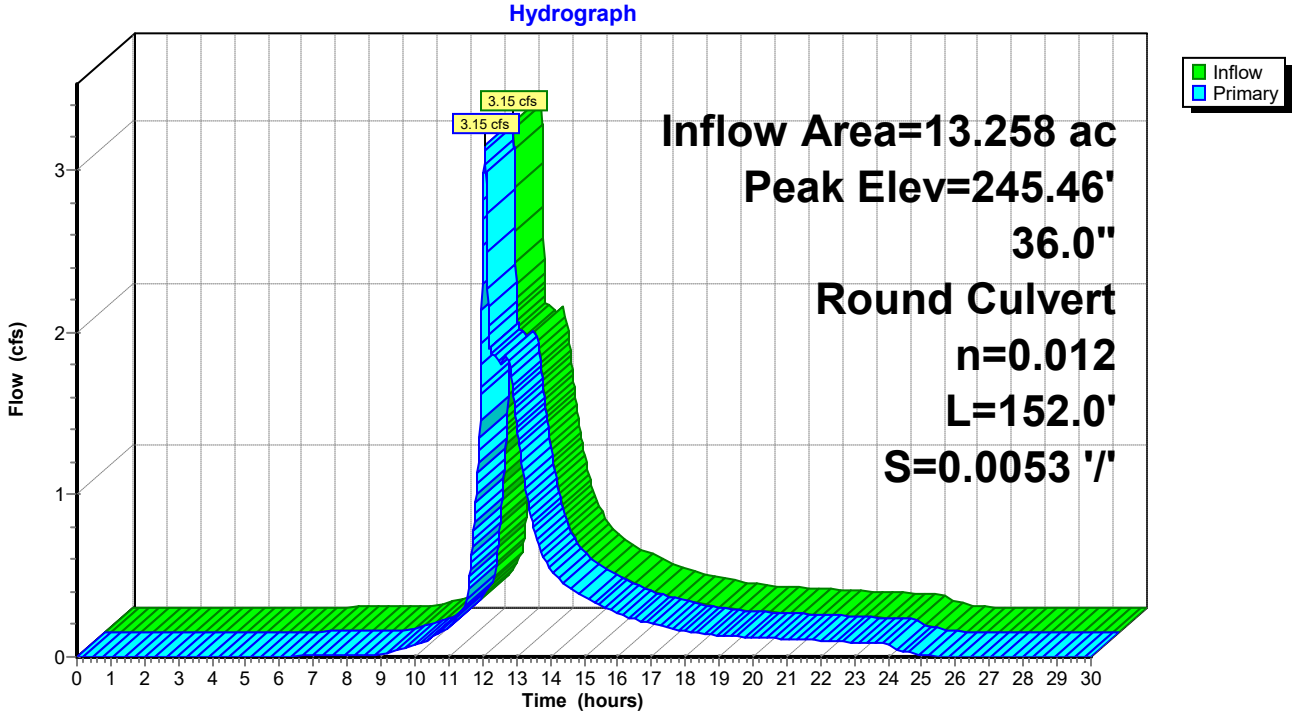
Inflow Area = 13.258 ac, 48.16% Impervious, Inflow Depth = 0.41" for 2-YR event
Inflow = 3.15 cfs @ 12.07 hrs, Volume= 0.458 af
Outflow = 3.15 cfs @ 12.08 hrs, Volume= 0.458 af, Atten= 0%, Lag= 0.3 min
Primary = 3.15 cfs @ 12.08 hrs, Volume= 0.458 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.46' @ 12.08 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.00'	**36.0" Round Culvert** L= 152.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.00' / 241.20' S= 0.0053 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=3.14 cfs @ 12.08 hrs HW=245.46' TW=245.46' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 3.14 cfs @ 0.44 fps)

Pond 8P: NEW DMH-1



Summary for Pond 9P: CULVERT

Inflow Area = 0.616 ac, 23.98% Impervious, Inflow Depth = 0.17" for 2-YR event
Inflow = 0.03 cfs @ 12.63 hrs, Volume= 0.009 af
Outflow = 0.03 cfs @ 12.64 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.7 min
Primary = 0.03 cfs @ 12.64 hrs, Volume= 0.009 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 250.00' @ 12.64 hrs Surf.Area= 42 sf Storage= 2 cf

Plug-Flow detention time= 2.1 min calculated for 0.009 af (100% of inflow)
Center-of-Mass det. time= 2.0 min (997.2 - 995.2)

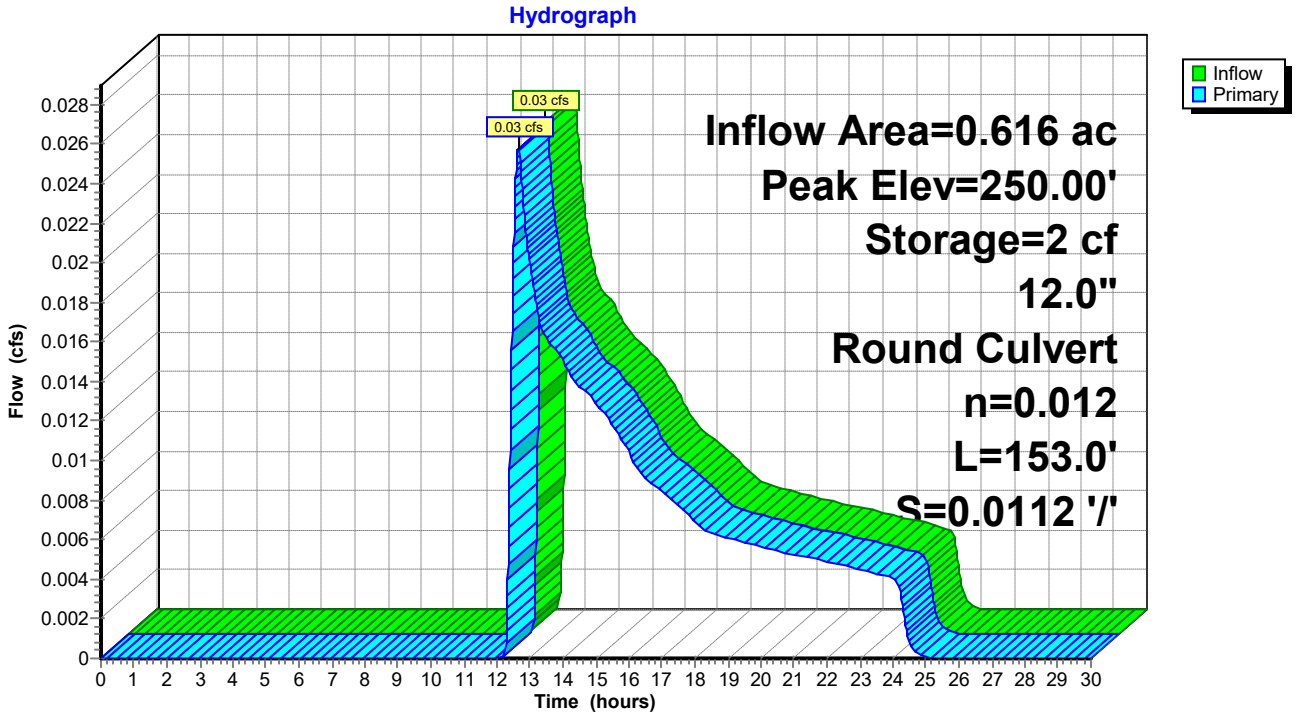
Volume	Invert	Avail.Storage	Storage Description
#1	249.91'	1,464 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
249.91	0	0	0
250.00	44	2	2
251.00	800	422	424
252.00	1,280	1,040	1,464

Device	Routing	Invert	Outlet Devices
#1	Primary	249.91'	**12.0" Round Culvert** L= 153.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 249.91' / 248.20' S= 0.0112 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.03 cfs @ 12.64 hrs HW=250.00' TW=247.01' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.03 cfs @ 0.79 fps)

Pond 9P: CULVERT



Summary for Pond 10P: New CB-5

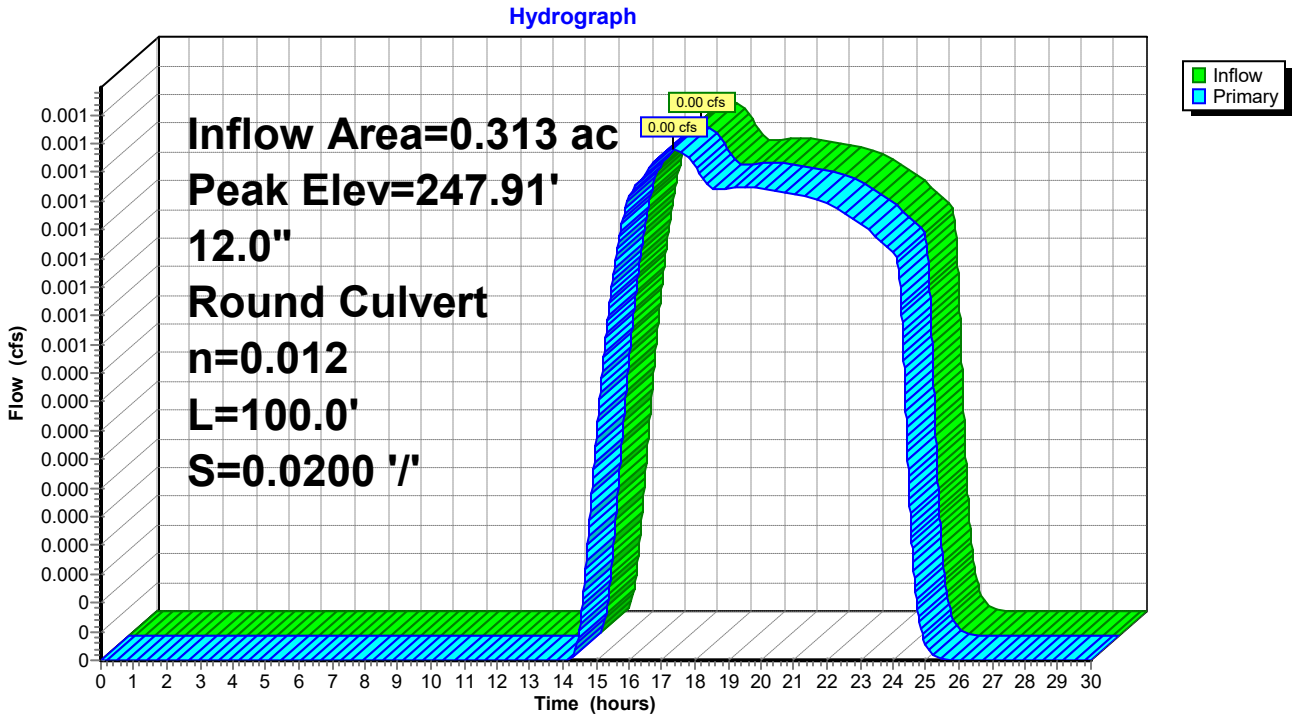
Inflow Area = 0.313 ac, 10.99% Impervious, Inflow Depth = 0.02" for 2-YR event
Inflow = 0.00 cfs @ 17.35 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 17.35 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 17.35 hrs, Volume= 0.001 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 247.91' @ 17.35 hrs
Flood Elev= 249.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	247.90'	**12.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 247.90' / 245.90' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 17.35 hrs HW=247.91' TW=244.10' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.00 cfs @ 0.40 fps)

Pond 10P: New CB-5



Summary for Pond 11P: UNDERDRAINED SOIL FILTER 11

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=379)

Inflow Area = 4.431 ac, 39.08% Impervious, Inflow Depth = 0.53" for 2-YR event
Inflow = 1.40 cfs @ 12.04 hrs, Volume= 0.196 af
Outflow = 0.27 cfs @ 13.73 hrs, Volume= 0.196 af, Atten= 81%, Lag= 101.5 min
Discarded = 0.27 cfs @ 13.73 hrs, Volume= 0.196 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 252.31' @ 13.73 hrs Surf.Area= 4,883 sf Storage= 1,587 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 44.1 min (913.5 - 869.4)

Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	26,202 cf	**Custom Stage Data (Prismatic)** Listed below

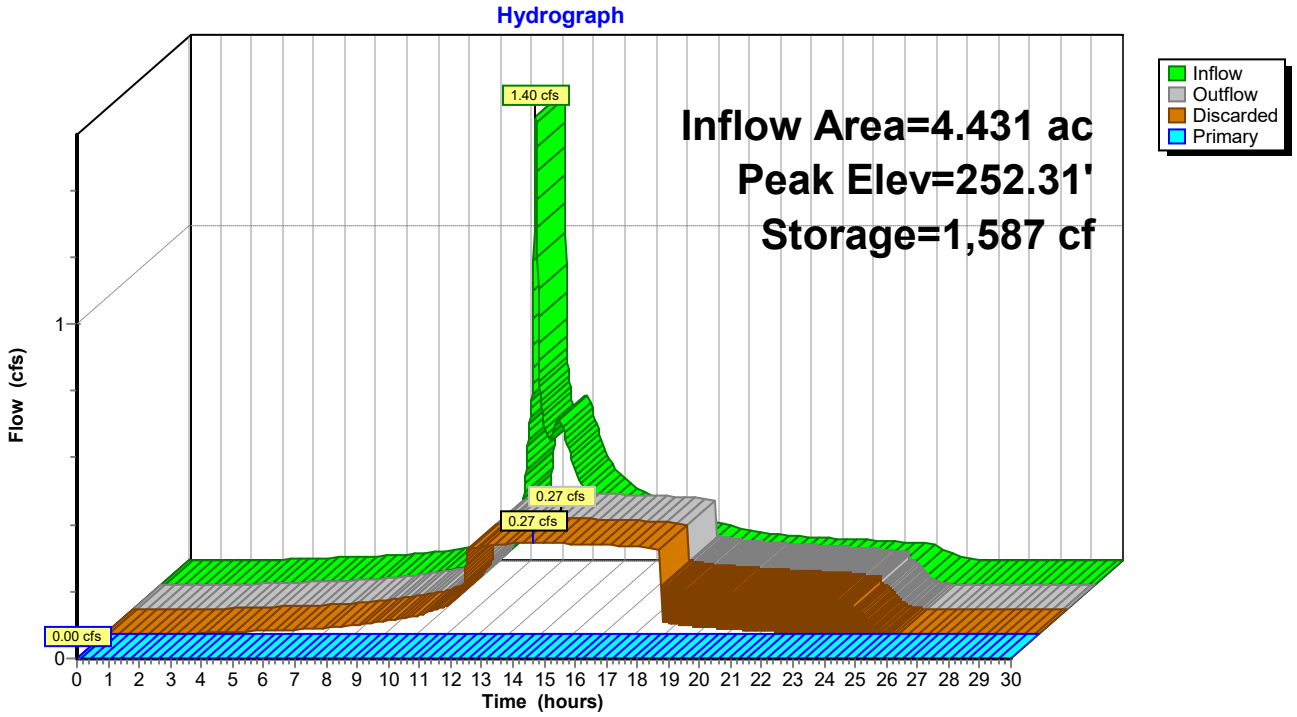
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
252.00	4,598	0	0
253.00	5,504	5,051	5,051
254.00	6,497	6,001	11,052
255.00	7,561	7,029	18,081
256.00	8,681	8,121	26,202

Device	Routing	Invert	Outlet Devices
#1	Discarded	252.00'	**2.398 in/hr Exfiltration over Surface area above 251.83'** Excluded Surface area = 0 sf
#2	Primary	255.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.27 cfs @ 13.73 hrs HW=252.31' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.27 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=252.00' TW=247.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 11P: UNDERDRAINED SOIL FILTER 11



Summary for Pond 12P: UNDERDRAINED SOIL FILTER 12

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=162)

Inflow Area = 2.407 ac, 84.49% Impervious, Inflow Depth = 1.98" for 2-YR event
Inflow = 5.70 cfs @ 12.08 hrs, Volume= 0.398 af
Outflow = 0.45 cfs @ 13.16 hrs, Volume= 0.398 af, Atten= 92%, Lag= 64.8 min
Discarded = 0.45 cfs @ 13.16 hrs, Volume= 0.398 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 253.91' @ 13.16 hrs Surf.Area= 8,187 sf Storage= 6,968 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 134.3 min (943.0 - 808.8)

Volume	Invert	Avail.Storage	Storage Description
#1	253.00'	28,486 cf	**Custom Stage Data (Prismatic)** Listed below

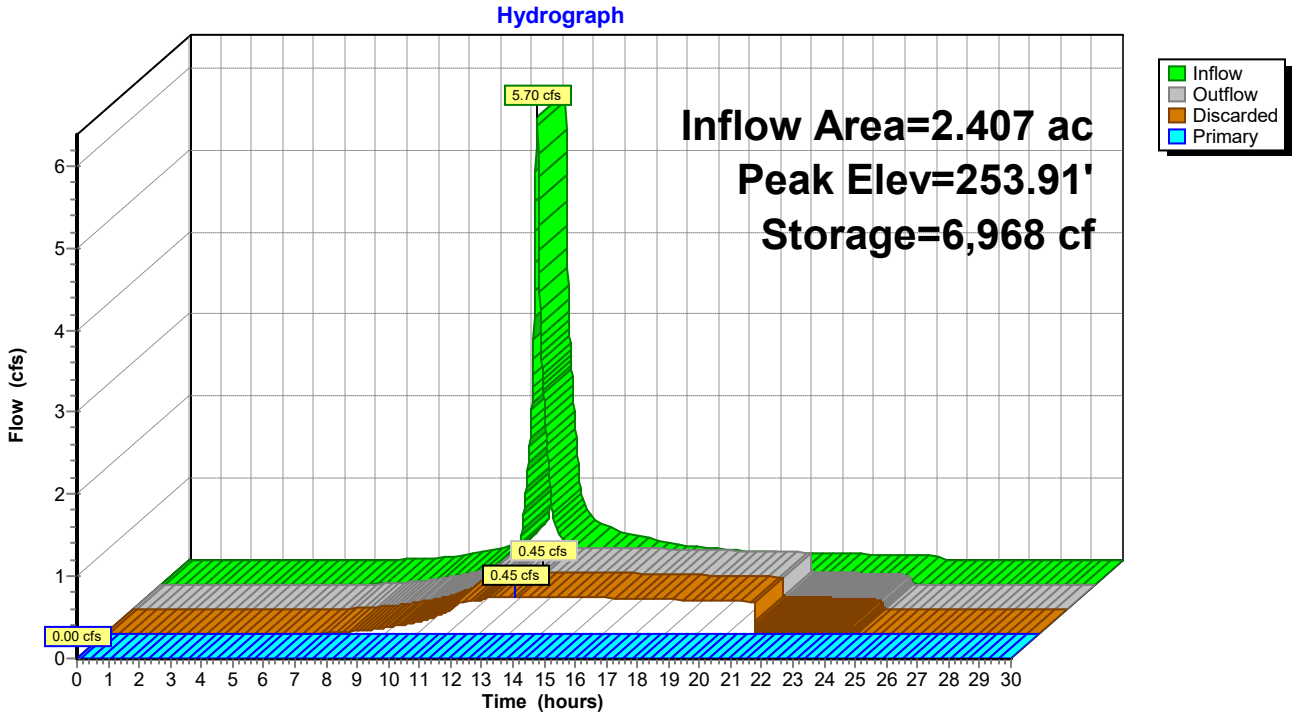
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
253.00	7,054	0	0
254.00	8,302	7,678	7,678
255.00	10,605	9,454	17,132
256.00	12,103	11,354	28,486

Device	Routing	Invert	Outlet Devices
#1	Discarded	253.00'	**2.400 in/hr Exfiltration over Surface area above 251.83'** Excluded Surface area = 0 sf
#2	Primary	255.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.45 cfs @ 13.16 hrs HW=253.91' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.45 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=253.00' TW=246.25' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 12P: UNDERDRAINED SOIL FILTER 12



Summary for Pond 14P: StormTrap

[80] Warning: Exceeded Pond DMH-1 by 1.78' @ 20.78 hrs (15.67 cfs 2.143 af)

Inflow Area = 3.078 ac, 67.00% Impervious, Inflow Depth = 1.63" for 2-YR event
Inflow = 5.18 cfs @ 12.07 hrs, Volume= 0.419 af
Outflow = 0.20 cfs @ 9.60 hrs, Volume= 0.390 af, Atten= 96%, Lag= 0.0 min
Discarded = 0.20 cfs @ 9.60 hrs, Volume= 0.390 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 244.21' @ 15.38 hrs Surf.Area= 3,665 sf Storage= 8,994 cf

Plug-Flow detention time= 369.0 min calculated for 0.390 af (93% of inflow)
Center-of-Mass det. time= 331.5 min (1,100.2 - 768.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	241.00'	0 cf	**30.27'W x 121.08'L x 11.00'H Field A** 40,318 cf Overall - 40,318 cf Embedded = 0 cf x 40.0% Voids
#2A	241.00'	33,183 cf	**StormTrap ST2 DoubleTrap 10-0** x 14 Inside #1 Inside= 101.7"W x 120.0"H => 78.88 sf x 15.40'L = 1,214.5 cf Outside= 101.7"W x 132.0"H => 93.27 sf x 15.40'L = 1,436.0 cf 14 Chambers in 2 Rows 16.96' x 107.77' Core + 6.66' Border = 30.27' x 121.08' System
		33,183 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	241.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	250.50'	**12.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 250.50' / 244.90' S= 0.1400 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.20 cfs @ 9.60 hrs HW=241.50' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.20 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=241.00' TW=244.80' (Dynamic Tailwater)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 14P: StormTrap - Chamber Wizard Field A

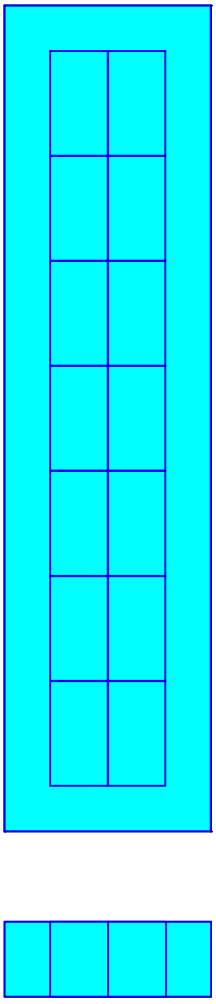
Chamber Model = StormTrap ST2 DoubleTrap 10-0 (StormTrap ST2 DoubleTrap® Type I+III)
Inside= 101.7"W x 120.0"H => 78.88 sf x 15.40'L = 1,214.5 cf
Outside= 101.7"W x 132.0"H => 93.27 sf x 15.40'L = 1,436.0 cf

7 Chambers/Row x 15.40' Long = 107.77' Row Length +79.9" Border x 2 = 121.08' Base Length
2 Rows x 101.7" Wide + 79.9" Side Border x 2 = 30.27' Base Width
132.0" Chamber Height = 11.00' Field Height

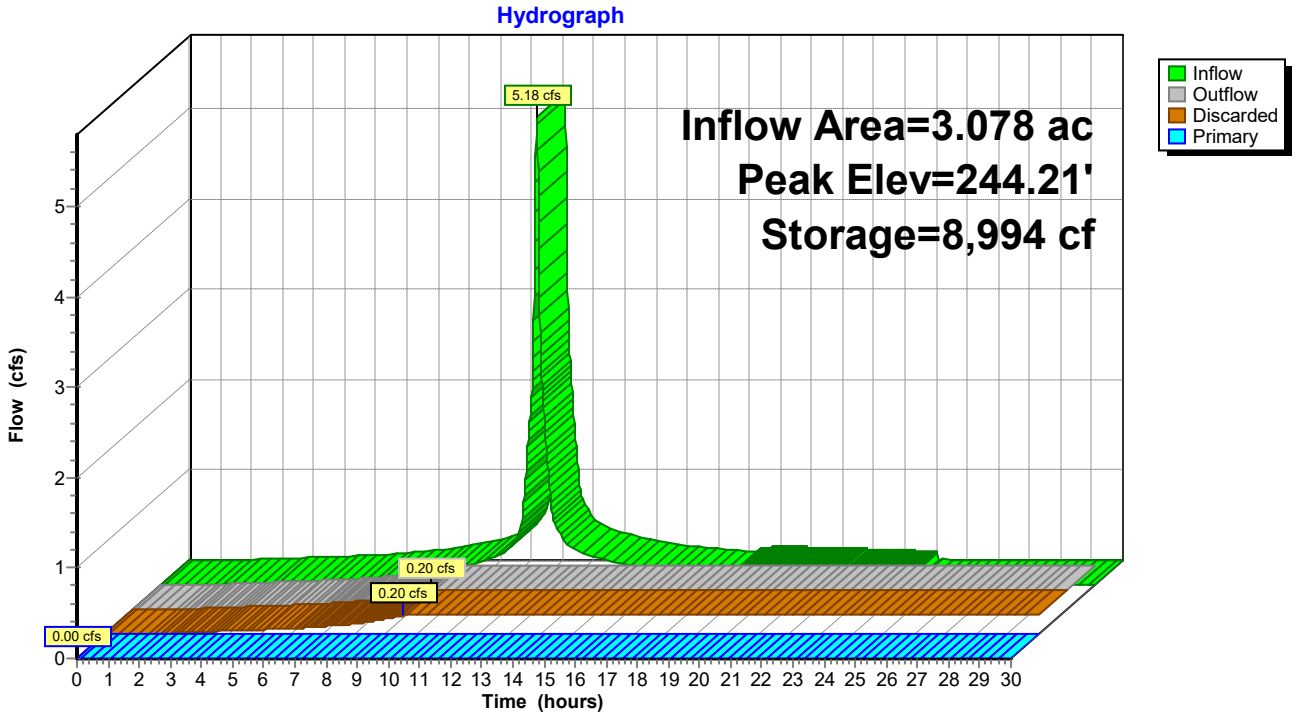
14 Chambers x 1,214.5 cf + 16,180.8 cf Border = 33,183.5 cf Chamber Storage
14 Chambers x 1,436.0 cf + 20,214.5 cf Border = 40,318.2 cf Displacement

Chamber Storage = 33,183.5 cf = 0.762 af
Overall Storage Efficiency = 82.3%
Overall System Size = 121.08' x 30.27' x 11.00'

14 Chambers (plus border)
1,493.3 cy Field



Pond 14P: StormTrap



Summary for Pond 30P: NEW POND 2

[92] Warning: Device #1 is above defined storage

Inflow Area = 5.814 ac, 89.12% Impervious, Inflow Depth = 2.19" for 2-YR event
Inflow = 14.65 cfs @ 12.06 hrs, Volume= 1.062 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 237.39' @ 24.29 hrs Surf.Area= 21,324 sf Storage= 46,281 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	82,761 cf	**Custom Stage Data (Prismatic)** Listed below

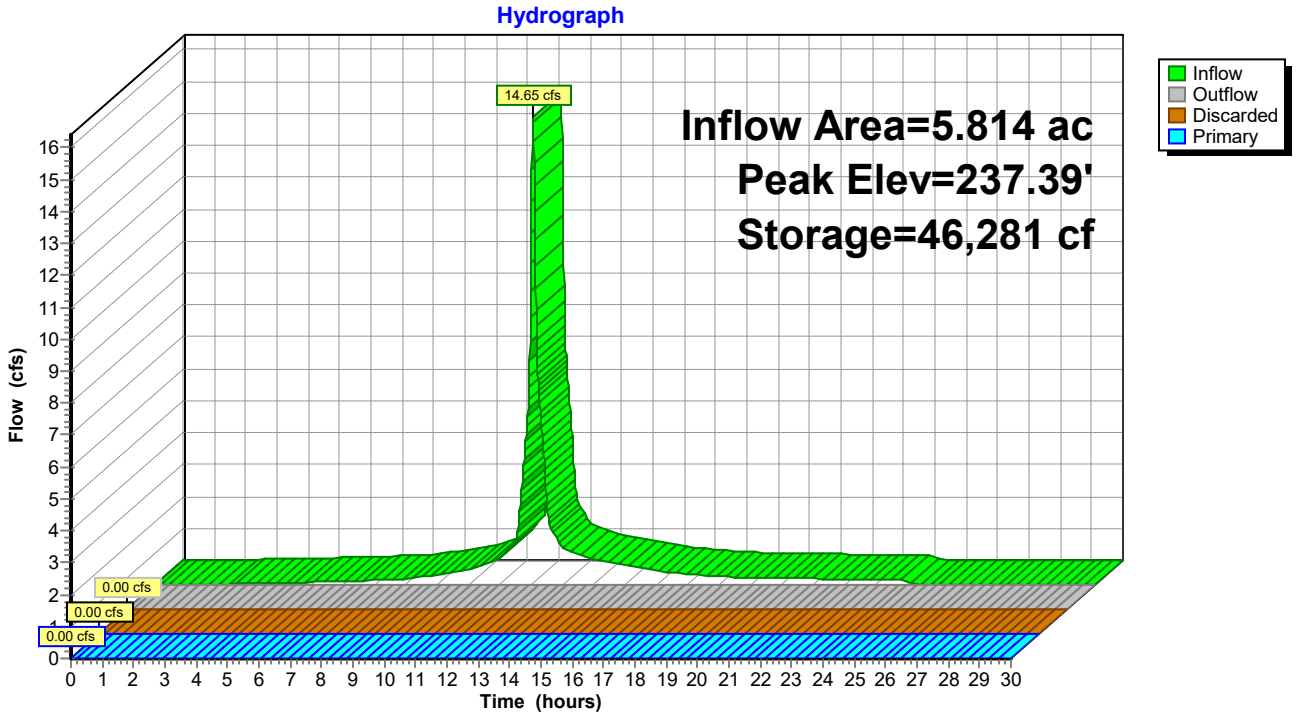
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.00	17,325	0	0
236.00	18,958	18,142	18,142
237.00	20,648	19,803	37,945
238.00	22,394	21,521	59,466
239.00	24,197	23,296	82,761

Device	Routing	Invert	Outlet Devices
#1	Discarded	241.20'	**2.400 in/hr Exfiltration over Surface area above 241.20'** Excluded Surface area = 24,197 sf
#2	Primary	238.75'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 30P: NEW POND 2



Summary for Pond 31P: NEW POND 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=258)

Inflow Area = 2.939 ac, 85.97% Impervious, Inflow Depth = 2.01" for 2-YR event
Inflow = 6.96 cfs @ 12.06 hrs, Volume= 0.492 af
Outflow = 0.63 cfs @ 12.94 hrs, Volume= 0.492 af, Atten= 91%, Lag= 52.8 min
Discarded = 0.63 cfs @ 12.94 hrs, Volume= 0.492 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 235.70' @ 12.94 hrs Surf.Area= 11,398 sf Storage= 7,655 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 94.0 min (886.5 - 792.5)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	53,261 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

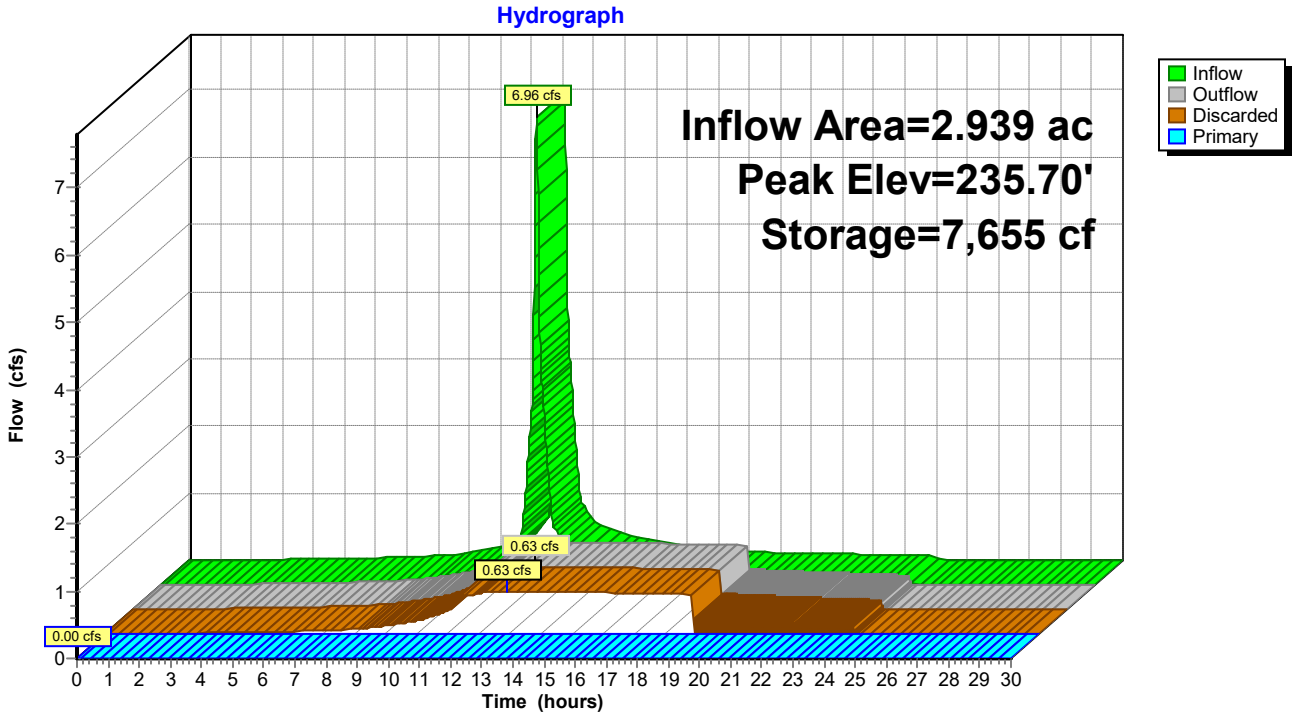
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.00	10,474	0	0
236.00	11,794	11,134	11,134
237.00	13,198	12,496	23,630
238.00	14,769	13,984	37,614
239.00	16,526	15,648	53,261

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	238.75'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.63 cfs @ 12.94 hrs HW=235.70' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.63 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 31P: NEW POND 1



Summary for Pond 50P: Underdrain Soil Filter 3

[92] Warning: Device #2 is above defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=552)

Inflow Area = 1.983 ac, 54.57% Impervious, Inflow Depth = 0.76" for 2-YR event
Inflow = 1.08 cfs @ 12.29 hrs, Volume= 0.126 af
Outflow = 0.58 cfs @ 12.33 hrs, Volume= 0.126 af, Atten= 46%, Lag= 2.9 min
Discarded = 0.28 cfs @ 12.78 hrs, Volume= 0.109 af
Primary = 0.31 cfs @ 12.33 hrs, Volume= 0.017 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.17' @ 12.78 hrs Surf.Area= 5,071 sf Storage= 849 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 14.3 min (902.8 - 888.6)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	11,871 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

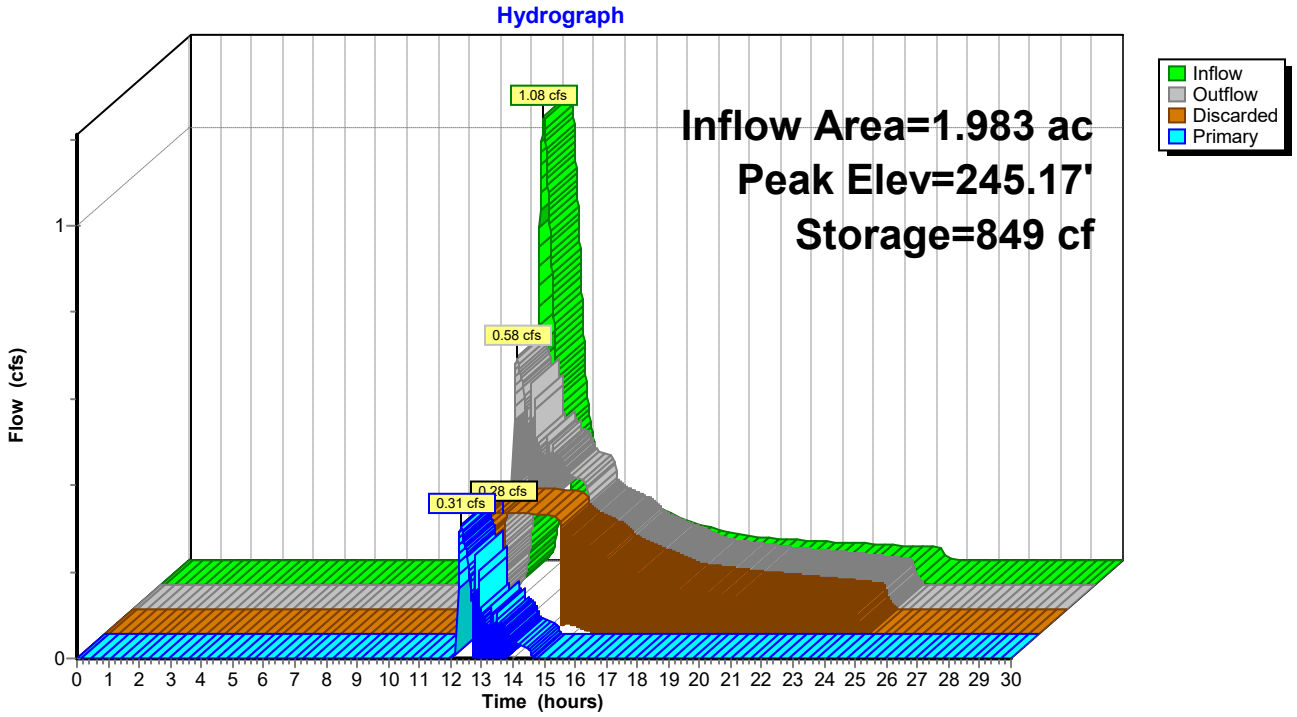
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
245.00	4,892	0	0
246.00	5,943	5,418	5,418
247.00	6,964	6,454	11,871

Device	Routing	Invert	Outlet Devices
#1	Primary	245.00'	**36.0" x 12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	247.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	245.00'	**2.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.28 cfs @ 12.78 hrs HW=245.17' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.28 cfs)

Primary OutFlow Max=0.31 cfs @ 12.33 hrs HW=245.10' TW=245.09' (Dynamic Tailwater)
├**1=Orifice/Grate** (Weir Controls 0.31 cfs @ 0.40 fps)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 50P: Underdrain Soil Filter 3



Summary for Pond 51P: NEW POND 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=143)

Inflow Area = 5.675 ac, 89.03% Impervious, Inflow Depth = 2.18" for 2-YR event
Inflow = 14.30 cfs @ 12.06 hrs, Volume= 1.033 af
Outflow = 1.05 cfs @ 13.24 hrs, Volume= 1.033 af, Atten= 93%, Lag= 71.1 min
Discarded = 1.05 cfs @ 13.24 hrs, Volume= 1.033 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 235.97' @ 13.24 hrs Surf.Area= 18,857 sf Storage= 17,520 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 136.9 min (919.9 - 783.0)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	82,555 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

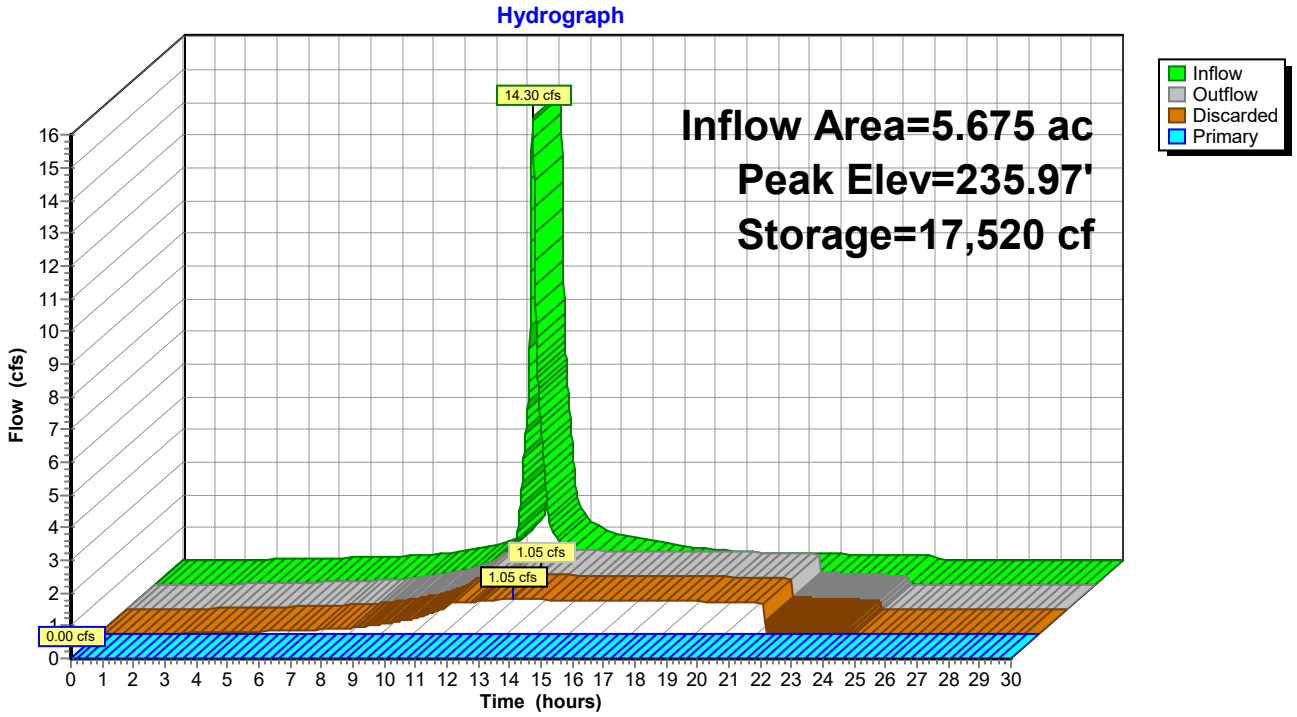
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.00	17,273	0	0
236.00	18,906	18,090	18,090
237.00	20,596	19,751	37,841
238.00	22,343	21,470	59,310
239.00	24,146	23,245	82,555

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	238.75'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=1.05 cfs @ 13.24 hrs HW=235.97' (Free Discharge)
1=Exfiltration (Exfiltration Controls 1.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 51P: NEW POND 1



Summary for Pond 52P: Underdrain Soil Filter 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=565)

Inflow Area = 2.096 ac, 45.04% Impervious, Inflow Depth = 0.51" for 2-YR event
Inflow = 0.84 cfs @ 12.14 hrs, Volume= 0.088 af
Outflow = 0.45 cfs @ 12.47 hrs, Volume= 0.088 af, Atten= 47%, Lag= 19.4 min
Discarded = 0.45 cfs @ 12.47 hrs, Volume= 0.088 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.03' @ 12.47 hrs Surf.Area= 8,046 sf Storage= 293 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 2.5 min (906.5 - 904.0)

Volume	Invert	Avail.Storage	Storage Description
#1	246.00'	18,960 cf	**Custom Stage Data (Prismatic)** Listed below

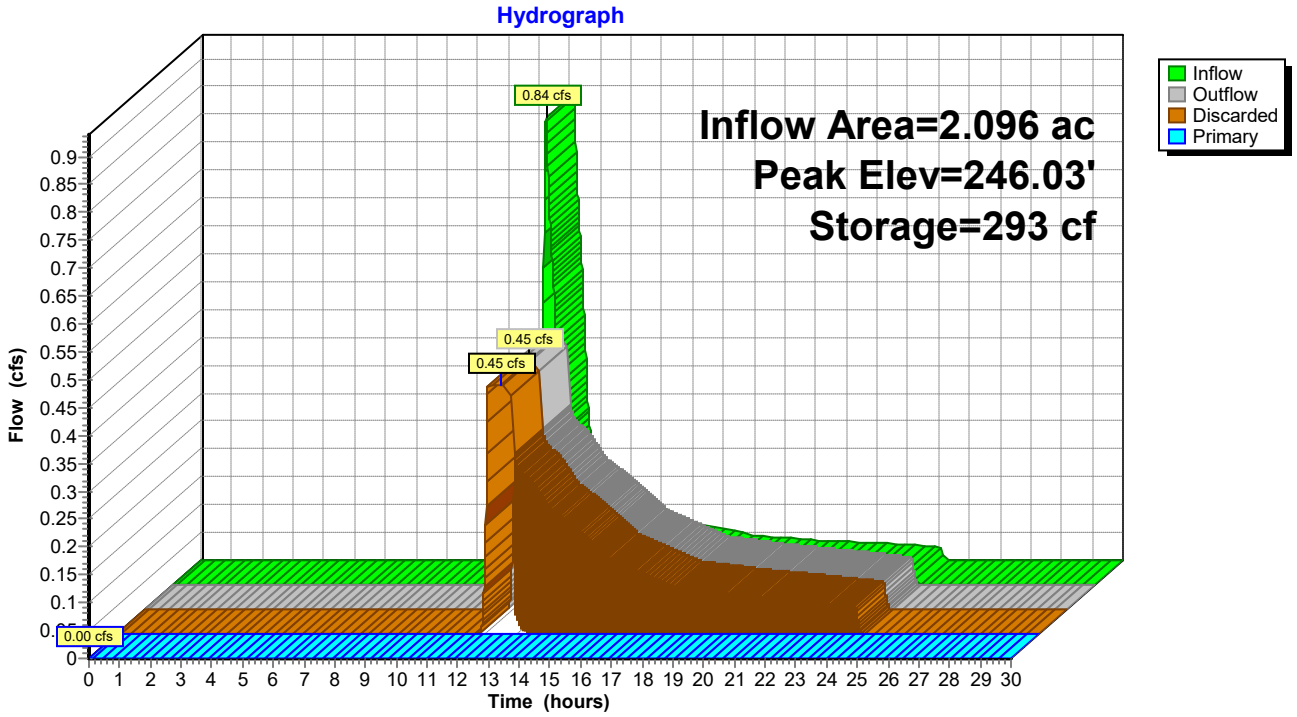
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.00	8,000	0	0
248.00	10,960	18,960	18,960

Device	Routing	Invert	Outlet Devices
#1	Discarded	246.00'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	247.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.45 cfs @ 12.47 hrs HW=246.03' (Free Discharge)
↑└**1=Exfiltration** (Exfiltration Controls 0.45 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=246.00' TW=238.49' (Dynamic Tailwater)
↑└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 52P: Underdrain Soil Filter 2



Summary for Pond 53P: Underdrain Soil Filter 3.1

[92] Warning: Device #2 is above defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=411)
[80] Warning: Exceeded Pond 50P by 0.03' @ 12.11 hrs (0.19 cfs 0.008 af)

Inflow Area = 2.521 ac, 54.31% Impervious, Inflow Depth = 0.23" for 2-YR event
Inflow = 0.49 cfs @ 12.32 hrs, Volume= 0.049 af
Outflow = 0.17 cfs @ 12.77 hrs, Volume= 0.049 af, Atten= 66%, Lag= 27.1 min
Discarded = 0.17 cfs @ 12.77 hrs, Volume= 0.049 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.17' @ 12.77 hrs Surf.Area= 2,978 sf Storage= 494 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 21.6 min (863.2 - 841.6)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	7,449 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

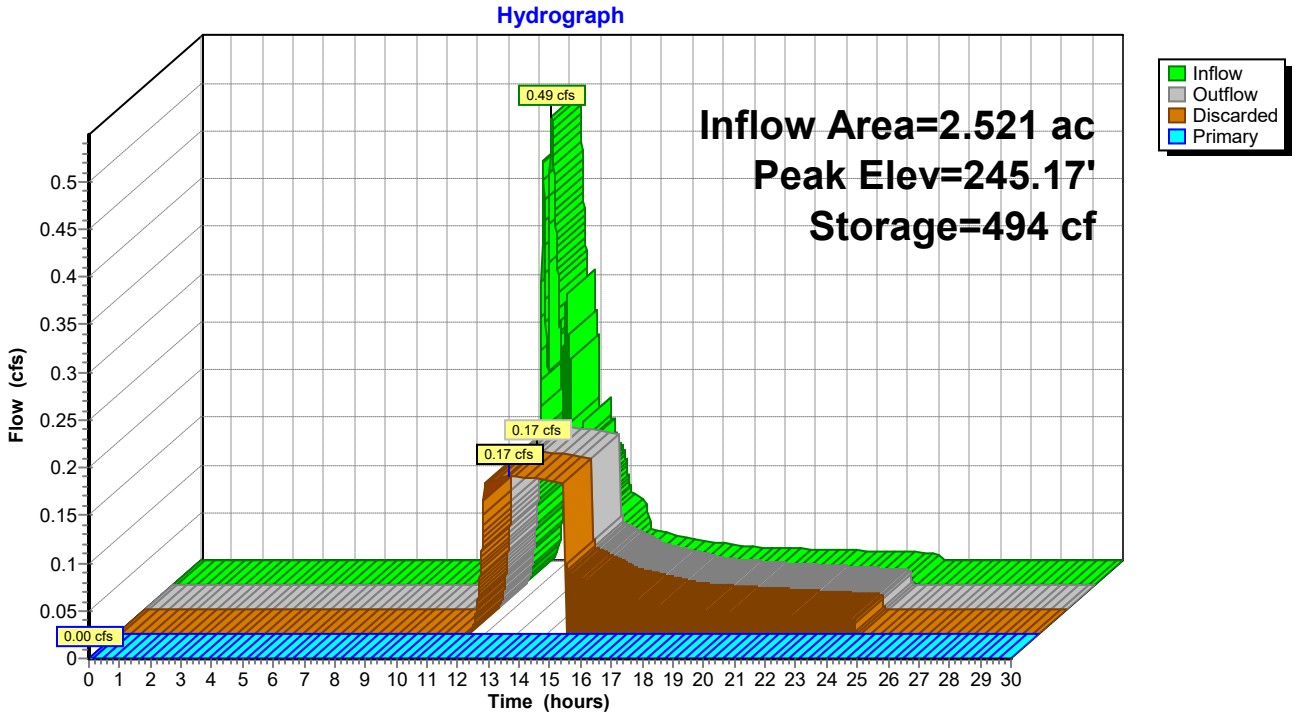
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
245.00	2,828	0	0
246.00	3,711	3,270	3,270
247.00	4,647	4,179	7,449

Device	Routing	Invert	Outlet Devices
#1	Primary	246.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	247.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	245.00'	**2.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.17 cfs @ 12.77 hrs HW=245.17' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=245.00' TW=235.00' (Dynamic Tailwater)
├**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 53P: Underdrain Soil Filter 3.1



Summary for Pond DMH-1: NEW DMH-1

[57] Hint: Peaked at 244.21' (Flood elevation advised)
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=296)

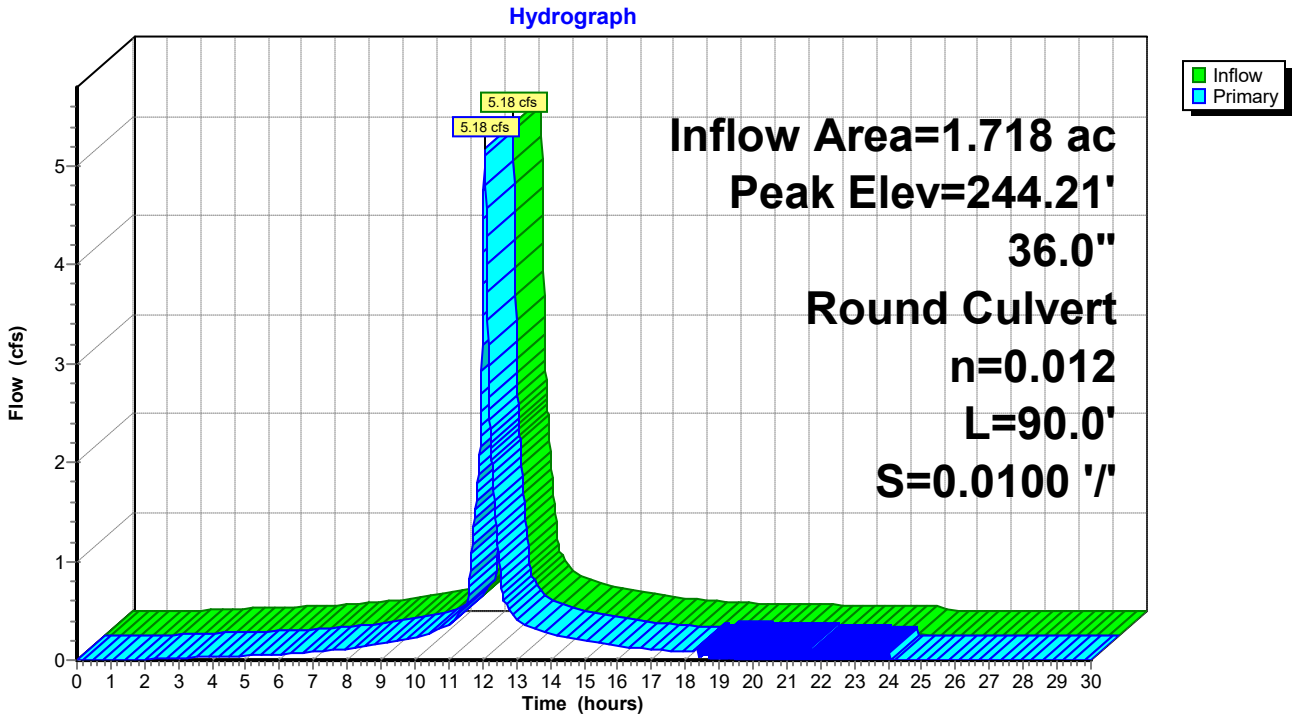
Inflow Area = 1.718 ac,100.00% Impervious, Inflow Depth = 2.77" for 2-YR event
Inflow = 5.18 cfs @ 12.07 hrs, Volume= 0.396 af
Outflow = 5.18 cfs @ 12.07 hrs, Volume= 0.396 af, Atten= 0%, Lag= 0.0 min
Primary = 5.18 cfs @ 12.07 hrs, Volume= 0.396 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 244.21' @ 15.38 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	241.90'	**36.0" Round Culvert** L= 90.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 241.90' / 241.00' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=5.18 cfs @ 12.07 hrs HW=243.10' TW=242.73' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 5.18 cfs @ 2.91 fps)

Pond DMH-1: NEW DMH-1



Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 1.1S: Runoff Area=62,002 sf 64.52% Impervious Runoff Depth=2.55"
Flow Length=170' Tc=1.9 min CN=83 Runoff=4.93 cfs 0.302 af

Subcatchment 1.2S: TRUCK PARKING Runoff Area=104,868 sf 84.49% Impervious Runoff Depth=3.20"
Flow Length=350' Tc=5.3 min CN=90 Runoff=9.03 cfs 0.643 af

Subcatchment 1S: Runoff Area=103,993 sf 3.44% Impervious Runoff Depth=0.08"
Flow Length=970' Tc=59.4 min CN=39 Runoff=0.03 cfs 0.016 af

Subcatchment 2.2S: TRUCK PARKING Runoff Area=137,497 sf 32.81% Impervious Runoff Depth=0.81"
Flow Length=540' Tc=37.8 min CN=58 Runoff=1.21 cfs 0.212 af

Subcatchment 2.3S: Runoff Area=36,675 sf 32.11% Impervious Runoff Depth=1.03"
Flow Length=210' Tc=51.9 min CN=62 Runoff=0.38 cfs 0.072 af

Subcatchment 2S: Runoff Area=80,878 sf 71.87% Impervious Runoff Depth=2.73"
Flow Length=210' Tc=50.8 min CN=85 Runoff=2.58 cfs 0.422 af

Subcatchment 3S: TRUCK PARKING AREA Runoff Area=18,826 sf 98.48% Impervious Runoff Depth=3.95"
Flow Length=330' Slope=0.0230 '/' Tc=2.6 min CN=97 Runoff=2.03 cfs 0.142 af

Subcatchment 4.1S: ROOF Runoff Area=38,893 sf 100.00% Impervious Runoff Depth=4.06"
Tc=5.0 min CN=98 Runoff=3.88 cfs 0.302 af

Subcatchment 4.2S: ROOF Runoff Area=74,856 sf 100.00% Impervious Runoff Depth=4.06"
Tc=5.0 min CN=98 Runoff=7.47 cfs 0.582 af

Subcatchment 4.3S: Runoff Area=91,316 sf 45.04% Impervious Runoff Depth=1.21"
Flow Length=278' Tc=8.1 min CN=65 Runoff=2.52 cfs 0.211 af

Subcatchment 4.4S: Runoff Area=45,617 sf 29.59% Impervious Runoff Depth=0.75"
Flow Length=396' Tc=31.8 min CN=57 Runoff=0.39 cfs 0.066 af

Subcatchment 4.5S: ROOF Runoff Area=57,415 sf 100.00% Impervious Runoff Depth=4.06"
Tc=5.0 min CN=98 Runoff=5.73 cfs 0.446 af

Subcatchment 4.6S: Runoff Area=13,626 sf 10.99% Impervious Runoff Depth=0.24"
Flow Length=396' Tc=31.8 min CN=45 Runoff=0.02 cfs 0.006 af

Subcatchment 5.1S: S. Warehouse Runoff Area=45,472 sf 100.00% Impervious Runoff Depth=4.06"
Tc=5.0 min CN=98 Runoff=4.54 cfs 0.354 af

Subcatchment 5.2S: ROOF Runoff Area=33,459 sf 100.00% Impervious Runoff Depth=4.06"
Tc=5.0 min CN=98 Runoff=3.34 cfs 0.260 af

Subcatchment 6S: ROOF Runoff Area=5,968 sf 100.00% Impervious Runoff Depth=4.06"
Tc=5.0 min CN=98 Runoff=0.60 cfs 0.046 af

Subcatchment 7S: Runoff Area=26,812 sf 23.98% Impervious Runoff Depth=0.61"
Flow Length=151' Tc=21.9 min CN=54 Runoff=0.19 cfs 0.031 af

Subcatchment 8S: Runoff Area=92,277 sf 2.42% Impervious Runoff Depth=0.01"
Flow Length=270' Slope=0.0100 '/' Tc=21.8 min CN=34 Runoff=0.00 cfs 0.002 af

Subcatchment 9.1S: Runoff Area=82,551 sf 78.24% Impervious Runoff Depth=2.73"
Flow Length=495' Slope=0.0200 '/' Tc=3.6 min CN=85 Runoff=6.58 cfs 0.431 af

Subcatchment 9.2S: Runoff Area=116,237 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=230' Tc=26.3 min CN=31 Runoff=0.00 cfs 0.000 af

Subcatchment 9.3S: Runoff Area=193,048 sf 16.00% Impervious Runoff Depth=0.15"
Flow Length=365' Tc=34.4 min CN=42 Runoff=0.10 cfs 0.057 af

Subcatchment 9S: Runoff Area=123,498 sf 77.70% Impervious Runoff Depth=2.73"
Flow Length=510' Slope=0.0200 '/' Tc=3.7 min CN=85 Runoff=9.81 cfs 0.644 af

Subcatchment 50S: Runoff Area=55,965 sf 15.71% Impervious Runoff Depth=0.13"
Flow Length=315' Tc=16.2 min CN=41 Runoff=0.02 cfs 0.014 af

Subcatchment 52S: Runoff Area=87,002 sf 0.23% Impervious Runoff Depth=0.00"
Flow Length=285' Tc=19.2 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 53S: Runoff Area=86,374 sf 54.57% Impervious Runoff Depth=1.60"
Flow Length=286' Tc=18.5 min CN=71 Runoff=2.51 cfs 0.265 af

Subcatchment 54S: Updated Runoff Area=130,453 sf 79.21% Impervious Runoff Depth=2.82"
Flow Length=755' Slope=0.0200 '/' Tc=5.1 min CN=86 Runoff=10.15 cfs 0.704 af

Subcatchment 55S: New Building Runoff Area=116,761 sf 100.00% Impervious Runoff Depth=4.06"
Flow Length=730' Slope=0.0100 '/' Tc=3.2 min CN=98 Runoff=12.43 cfs 0.908 af

Subcatchment 56S: Runoff Area=23,425 sf 53.35% Impervious Runoff Depth=1.53"
Flow Length=200' Slope=0.0350 '/' Tc=2.4 min CN=70 Runoff=1.06 cfs 0.069 af

Reach 1R: WATERSHED ANALYSIS POINT A Inflow=5.20 cfs 0.833 af
Outflow=5.20 cfs 0.833 af

Reach 2.1R: WATERSHED ANALYSIS POINT C Inflow=0.10 cfs 0.057 af
Outflow=0.10 cfs 0.057 af

Reach 2R: WATERSHED ANALYSIS POINT B Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Reach 4R: NATRUAL DRAINAGE Avg. Flow Depth=0.04' Max Vel=0.25 fps Inflow=0.18 cfs 0.031 af
n=0.080 L=130.0' S=0.0115 '/' Capacity=33.14 cfs Outflow=0.17 cfs 0.031 af

Reach 50R: STREAM Avg. Flow Depth=0.70' Max Vel=2.86 fps Inflow=5.67 cfs 0.818 af
n=0.023 L=320.0' S=0.0053 '/' Capacity=10.29 cfs Outflow=5.35 cfs 0.818 af

Reach 51R: STREAM Avg. Flow Depth=0.53' Max Vel=3.85 fps Inflow=5.35 cfs 0.818 af
n=0.023 L=340.0' S=0.0126 '/' Capacity=15.87 cfs Outflow=5.20 cfs 0.818 af

Reach 54R: New Pipe Avg. Flow Depth=0.60' Max Vel=5.61 fps Inflow=5.82 cfs 0.818 af
36.0" Round Pipe n=0.010 L=315.0' S=0.0055 '/' Capacity=64.44 cfs Outflow=5.67 cfs 0.818 af

Reach 55R: New Pipe Avg. Flow Depth=0.61' Max Vel=5.68 fps Inflow=6.96 cfs 0.818 af
36.0" Round Pipe n=0.010 L=340.0' S=0.0056 '/' Capacity=64.82 cfs Outflow=5.82 cfs 0.818 af

Pond 1P: EX. CULVERT Peak Elev=255.11' Storage=345 cf Inflow=4.93 cfs 0.319 af
12.0" Round Culvert n=0.024 L=77.0' S=0.0110 '/' Outflow=5.84 cfs 0.319 af

Pond 2P: NEW CB-1 Peak Elev=245.95' Inflow=6.94 cfs 0.818 af
36.0" Round Culvert n=0.012 L=248.0' S=0.0056 '/' Outflow=6.96 cfs 0.818 af

Pond 3P: New CB-2 Peak Elev=246.54' Inflow=0.39 cfs 0.066 af
12.0" Round Culvert n=0.012 L=88.0' S=0.0330 '/' Outflow=0.39 cfs 0.066 af

Pond 4P: NEW CB-3 Peak Elev=253.40' Inflow=0.38 cfs 0.072 af
18.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/' Outflow=0.38 cfs 0.072 af

Pond 6P: NEW DMH-2 Peak Elev=245.80' Inflow=6.96 cfs 0.818 af
36.0" Round Culvert n=0.012 L=206.0' S=0.0102 '/' Outflow=6.96 cfs 0.818 af

Pond 7P: DRAINAGE MH Peak Elev=243.60' Inflow=6.96 cfs 0.818 af
36.0" Round Culvert n=0.012 L=396.0' S=0.0101 '/' Outflow=6.96 cfs 0.818 af

Pond 8P: NEW DMH-1 Peak Elev=245.84' Inflow=6.96 cfs 0.818 af
36.0" Round Culvert n=0.012 L=152.0' S=0.0053 '/' Outflow=6.96 cfs 0.818 af

Pond 9P: CULVERT Peak Elev=250.14' Storage=62 cf Inflow=0.19 cfs 0.031 af
12.0" Round Culvert n=0.012 L=153.0' S=0.0112 '/' Outflow=0.18 cfs 0.031 af

Pond 10P: New CB-5 Peak Elev=247.96' Inflow=0.02 cfs 0.006 af
12.0" Round Culvert n=0.012 L=100.0' S=0.0200 '/' Outflow=0.02 cfs 0.006 af

Pond 11P: UNDERDRAINED SOIL FILTER 11 Peak Elev=253.40' Storage=7,441 cf Inflow=2.08 cfs 0.426 af
Discarded=0.33 cfs 0.426 af Primary=0.00 cfs 0.000 af Outflow=0.33 cfs 0.426 af

Pond 12P: UNDERDRAINED SOIL FILTER Peak Elev=254.56' Storage=12,986 cf Inflow=9.03 cfs 0.643 af
Discarded=0.53 cfs 0.643 af Primary=0.00 cfs 0.000 af Outflow=0.53 cfs 0.643 af

Pond 14P: StormTrap Peak Elev=246.54' Storage=16,709 cf Inflow=7.50 cfs 0.654 af
Discarded=0.20 cfs 0.414 af Primary=0.00 cfs 0.000 af Outflow=0.20 cfs 0.414 af

Pond 30P: NEW POND 2 Peak Elev=238.54' Storage=72,023 cf Inflow=22.65 cfs 1.653 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 31P: NEW POND 1 Peak Elev=236.28' Storage=14,539 cf Inflow=11.05 cfs 0.784 af
Discarded=0.68 cfs 0.784 af Primary=0.00 cfs 0.000 af Outflow=0.68 cfs 0.784 af

Pond 50P: Underdrain Soil Filter 3 Peak Elev=245.62' Storage=3,238 cf Inflow=2.51 cfs 0.265 af
Discarded=0.31 cfs 0.218 af Primary=1.06 cfs 0.050 af Outflow=1.02 cfs 0.265 af

Pond 51P: NEW POND 1 Peak Elev=236.73' Storage=32,317 cf Inflow=22.09 cfs 1.612 af
Discarded=1.12 cfs 1.612 af Primary=0.00 cfs 0.000 af Outflow=1.12 cfs 1.612 af

Pond 52P: Underdrain Soil Filter 2 Peak Elev=246.25' Storage=2,409 cf Inflow=2.52 cfs 0.211 af
Discarded=0.47 cfs 0.211 af Primary=0.00 cfs 0.000 af Outflow=0.47 cfs 0.211 af

Pond 53P: Underdrain Soil Filter 3.1 Peak Elev=245.62' Storage=1,927 cf Inflow=1.37 cfs 0.119 af
Discarded=0.19 cfs 0.119 af Primary=0.00 cfs 0.000 af Outflow=0.19 cfs 0.119 af

Pond DMH-1: NEW DMH-1 Peak Elev=246.54' Inflow=7.47 cfs 0.582 af
36.0" Round Culvert n=0.012 L=90.0' S=0.0100 '/' Outflow=7.47 cfs 0.582 af

Total Runoff Area = 47.883 ac Runoff Volume = 7.207 af Average Runoff Depth = 1.81"
48.86% Pervious = 23.394 ac 51.14% Impervious = 24.488 ac

Summary for Subcatchment 1.1S:

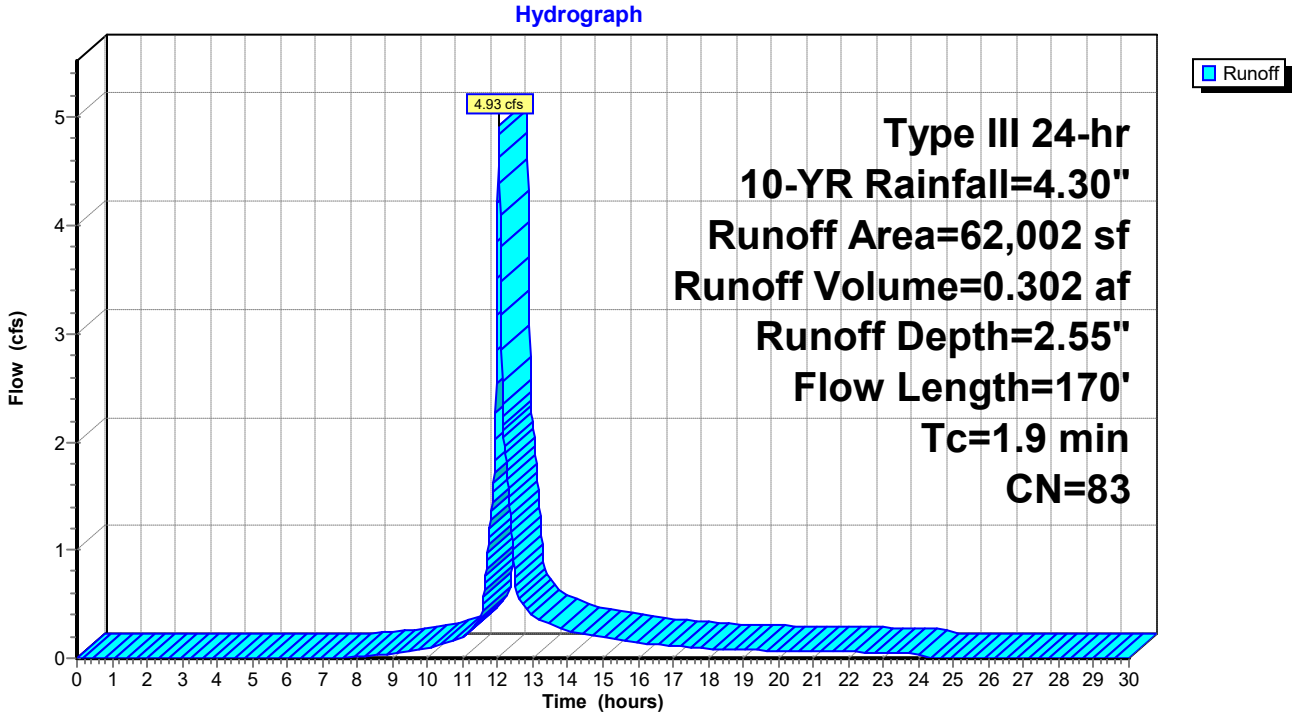
Runoff = 4.93 cfs @ 12.03 hrs, Volume= 0.302 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
40,003	98	Paved parking & roofs
16,893	61	>75% Grass cover, Good, HSG B
4,233	39	>75% Grass cover, Good, HSG A
873	55	Woods, Good, HSG B
0	30	Woods, Good, HSG A
62,002	83	Weighted Average
21,999		35.48% Pervious Area
40,003		64.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0166	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	70	0.0180	2.01		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	170	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S: TRUCK PARKING AREA

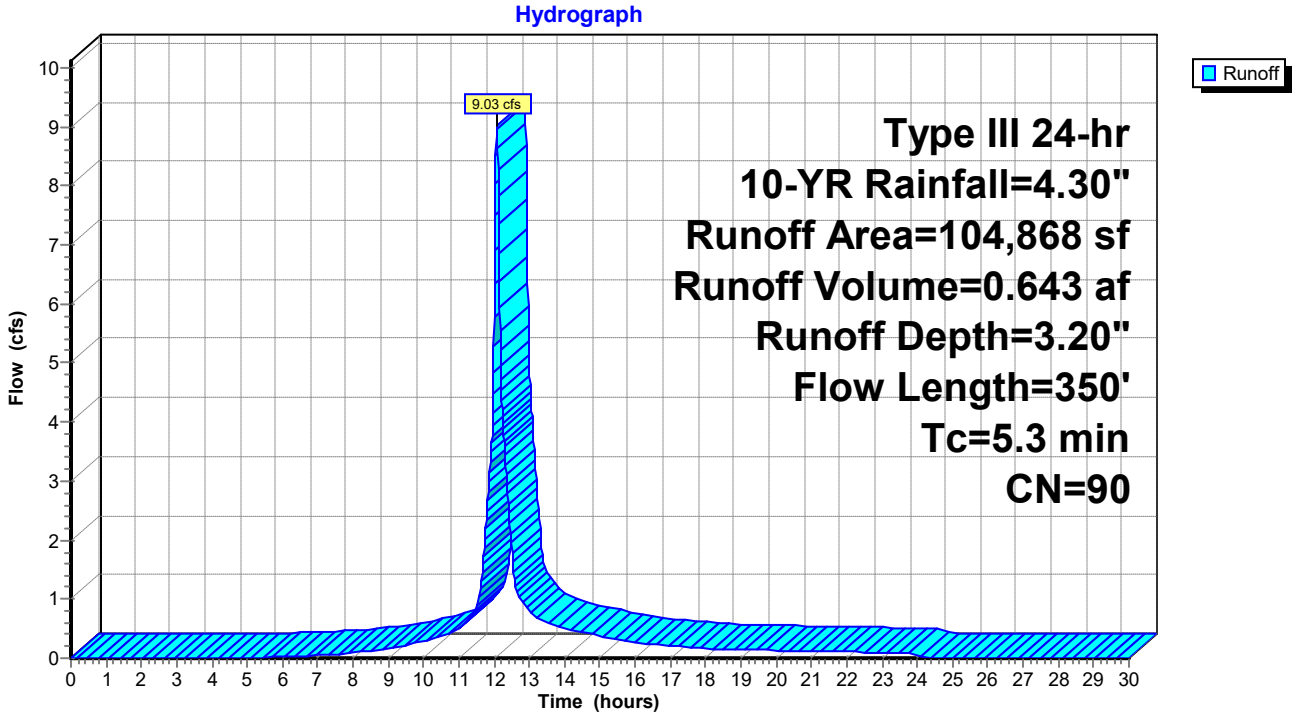
Runoff = 9.03 cfs @ 12.08 hrs, Volume= 0.643 af, Depth= 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
88,598	98	Paved parking & roofs
3,477	61	>75% Grass cover, Good, HSG B
12,793	39	>75% Grass cover, Good, HSG A
104,868	90	Weighted Average
16,270		15.51% Pervious Area
88,598		84.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	300	0.0230	1.75		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	20	0.0300	1.14		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.2	30	0.0830	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
5.3	350	Total			

Subcatchment 1.2S: TRUCK PARKING AREA



Summary for Subcatchment 1S:

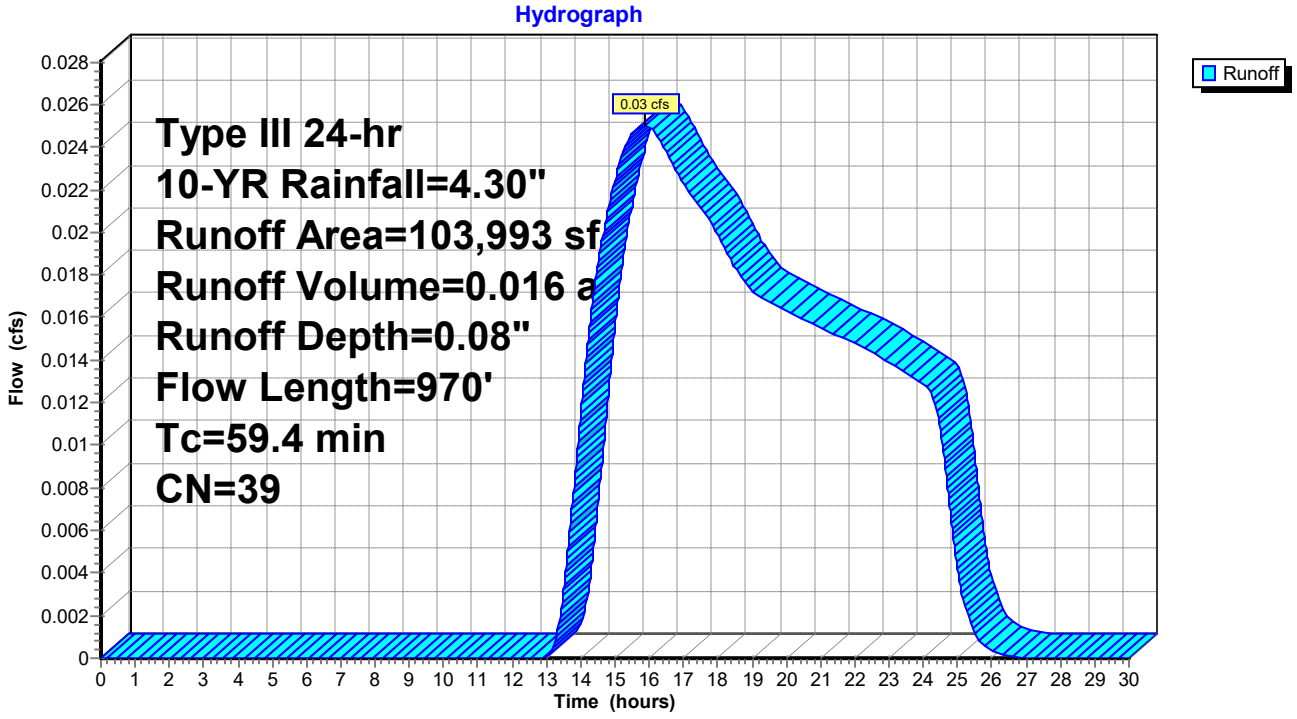
Runoff = 0.03 cfs @ 15.90 hrs, Volume= 0.016 af, Depth= 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
3,573	98	Paved parking & roofs
9,457	61	>75% Grass cover, Good, HSG B
32,835	39	>75% Grass cover, Good, HSG A
3,907	55	Woods, Good, HSG B
54,221	30	Woods, Good, HSG A
103,993	39	Weighted Average
100,420		96.56% Pervious Area
3,573		3.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
18.9	820	0.0210	0.72		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
59.4	970	Total			

Subcatchment 1S:



Summary for Subcatchment 2.2S: TRUCK PARKING AREA

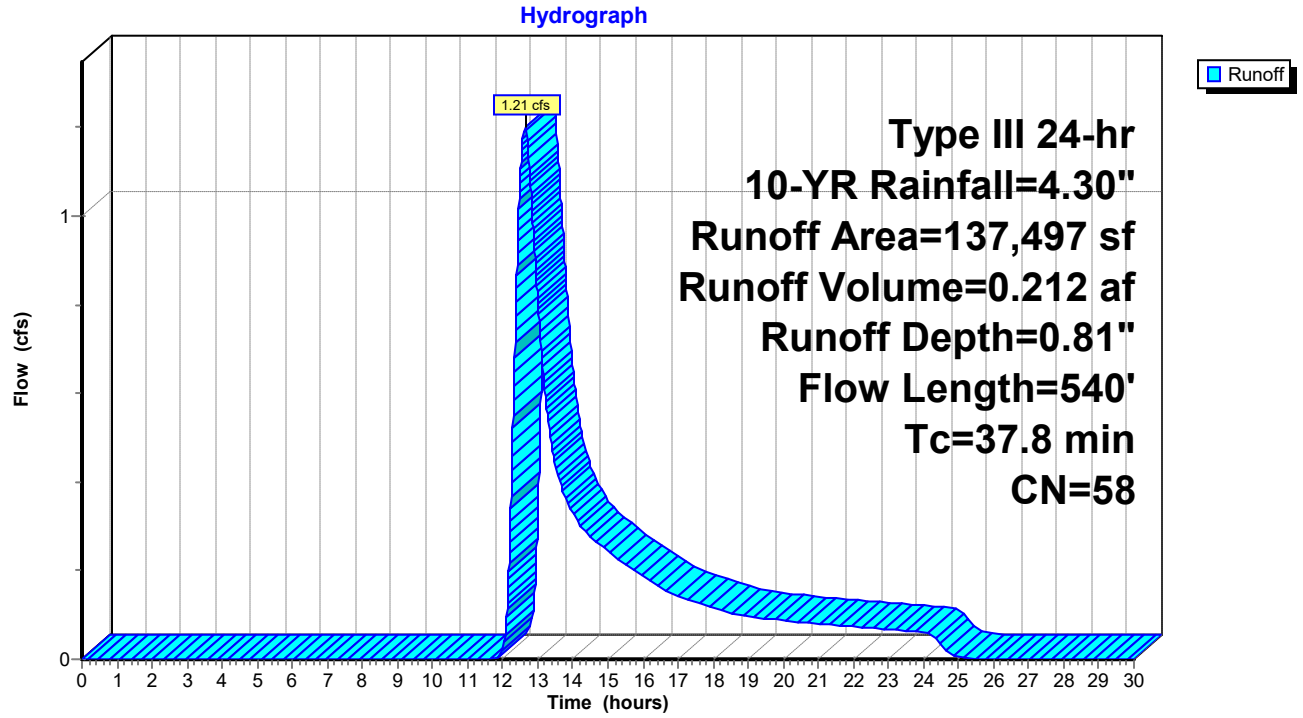
Runoff = 1.21 cfs @ 12.64 hrs, Volume= 0.212 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
45,111	98	Paved parking & roofs
7,939	61	>75% Grass cover, Good, HSG B
18,943	39	>75% Grass cover, Good, HSG A
15,133	55	Woods, Good, HSG B
50,371	30	Woods, Good, HSG A
137,497	58	Weighted Average
92,386		67.19% Pervious Area
45,111		32.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	150	0.0230	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
8.6	360	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	30	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
37.8	540	Total			

Subcatchment 2.2S: TRUCK PARKING AREA



Summary for Subcatchment 2.3S:

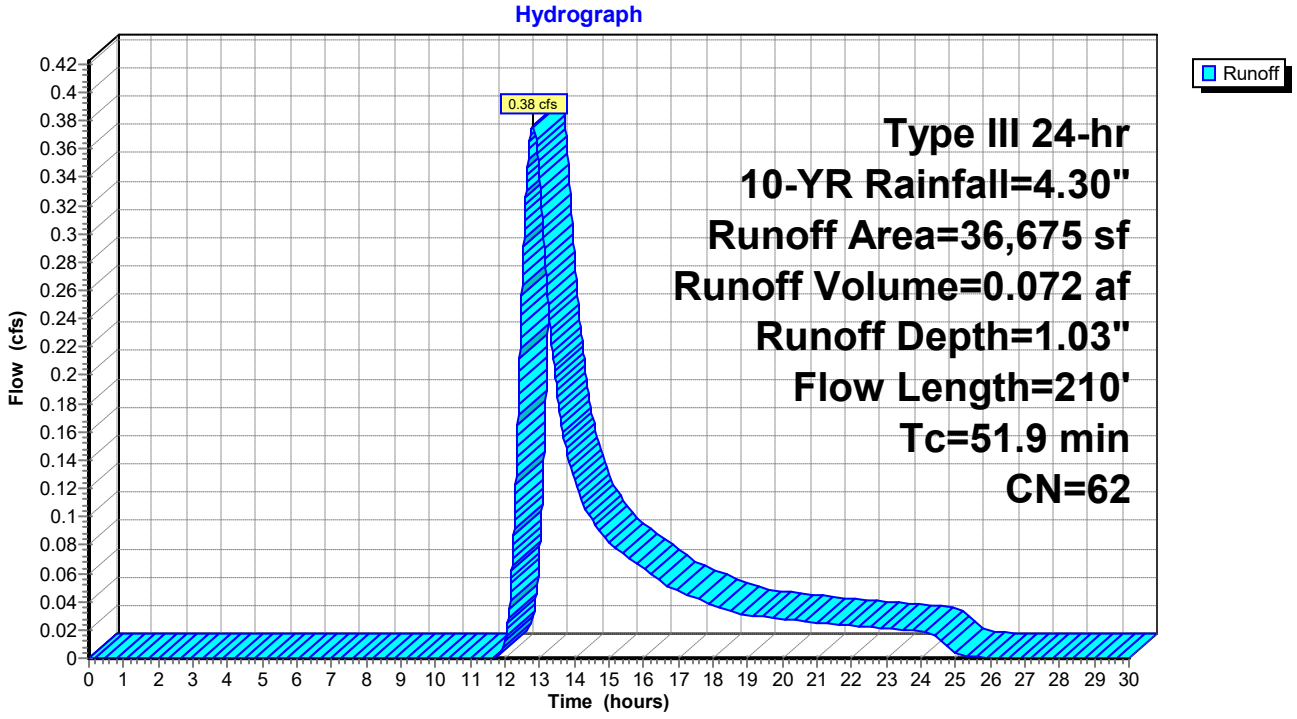
Runoff = 0.38 cfs @ 12.80 hrs, Volume= 0.072 af, Depth= 1.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
11,777	98	Paved parking & roofs
6,949	61	>75% Grass cover, Good, HSG B
5,697	39	>75% Grass cover, Good, HSG A
3,778	55	Woods, Good, HSG B
8,474	30	Woods, Good, HSG A
36,675	62	Weighted Average
24,898		67.89% Pervious Area
11,777		32.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
50.5	150	0.0230	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
1.4	60	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
51.9	210	Total			

Subcatchment 2.3S:



Summary for Subcatchment 2S:

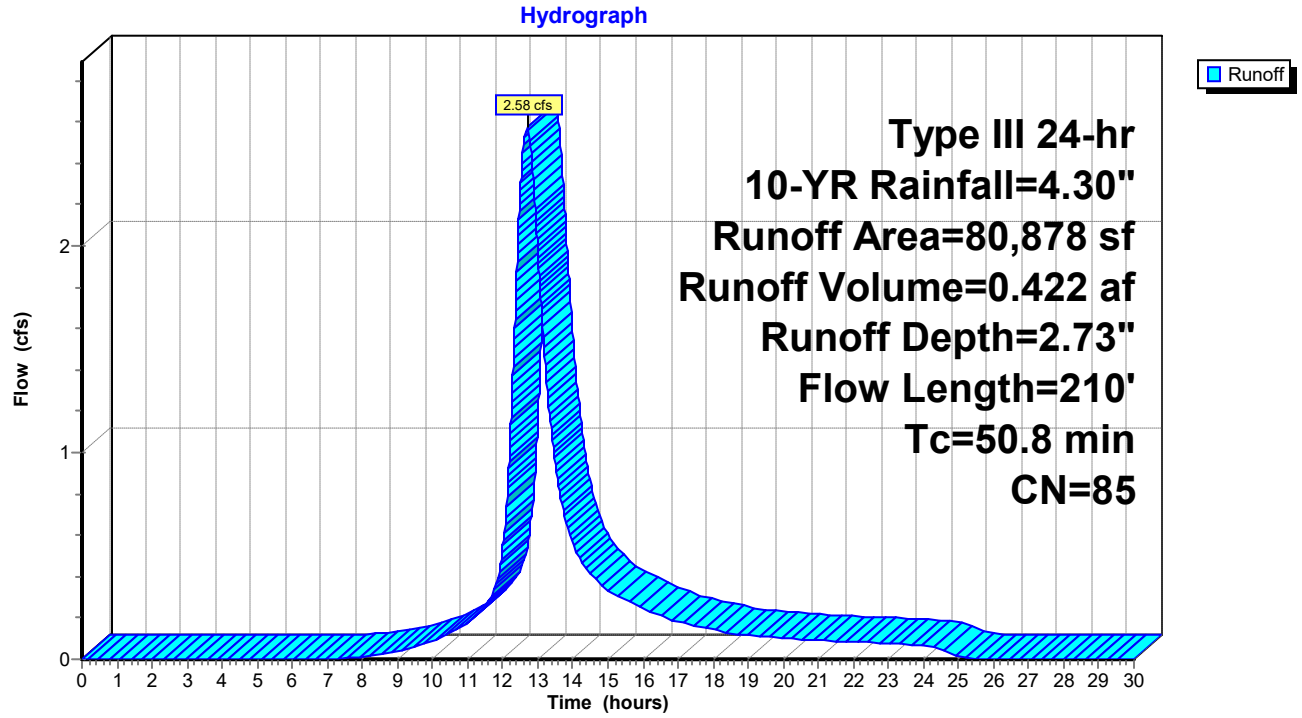
Runoff = 2.58 cfs @ 12.70 hrs, Volume= 0.422 af, Depth= 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
58,124	98	Paved parking & roofs
12,714	61	>75% Grass cover, Good, HSG B
2,991	39	>75% Grass cover, Good, HSG A
3,884	55	Woods, Good, HSG B
3,165	30	Woods, Good, HSG A
80,878	85	Weighted Average
22,754		28.13% Pervious Area
58,124		71.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
46.8	90	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.0	30	0.2670	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	90	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
50.8	210	Total			

Subcatchment 2S:



Summary for Subcatchment 3S: TRUCK PARKING AREA

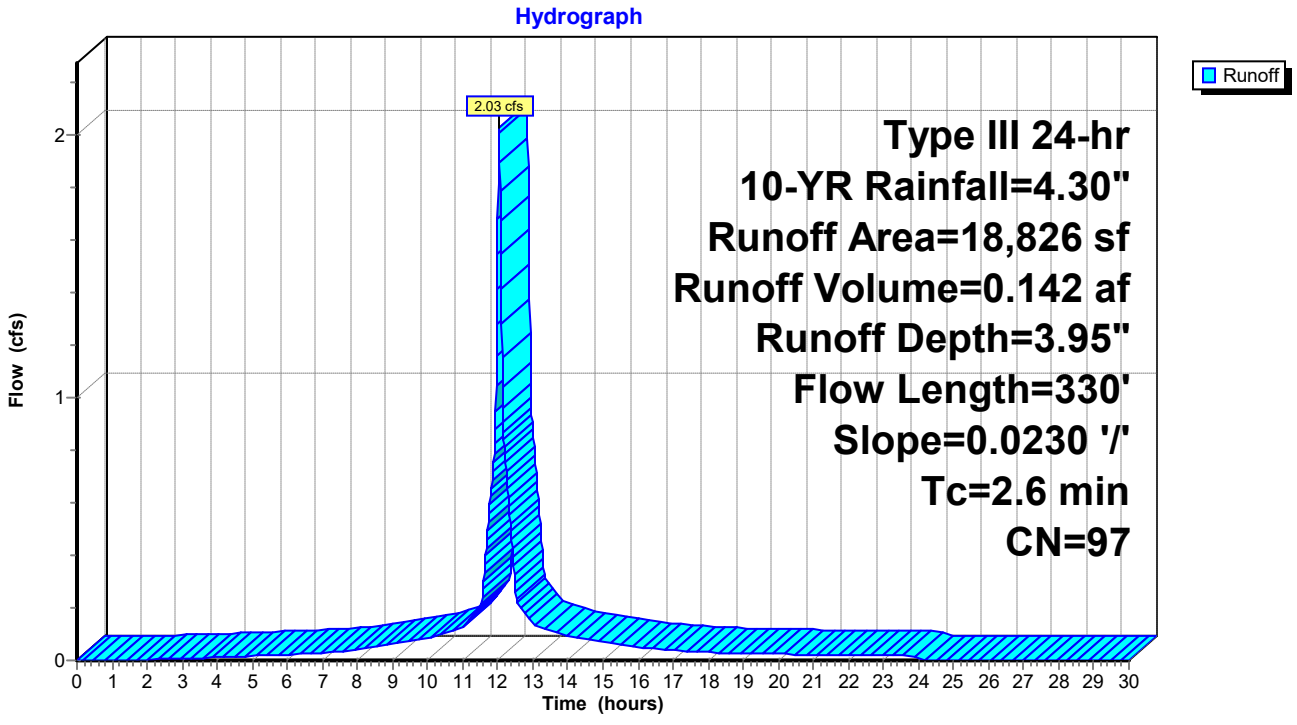
Runoff = 2.03 cfs @ 12.04 hrs, Volume= 0.142 af, Depth= 3.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
18,539	98	Paved parking & roofs
224	61	>75% Grass cover, Good, HSG B
63	39	>75% Grass cover, Good, HSG A
18,826	97	Weighted Average
287		1.52% Pervious Area
18,539		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	150	0.0230	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.0	180	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.6	330	Total			

Subcatchment 3S: TRUCK PARKING AREA



Summary for Subcatchment 4.1S: ROOF

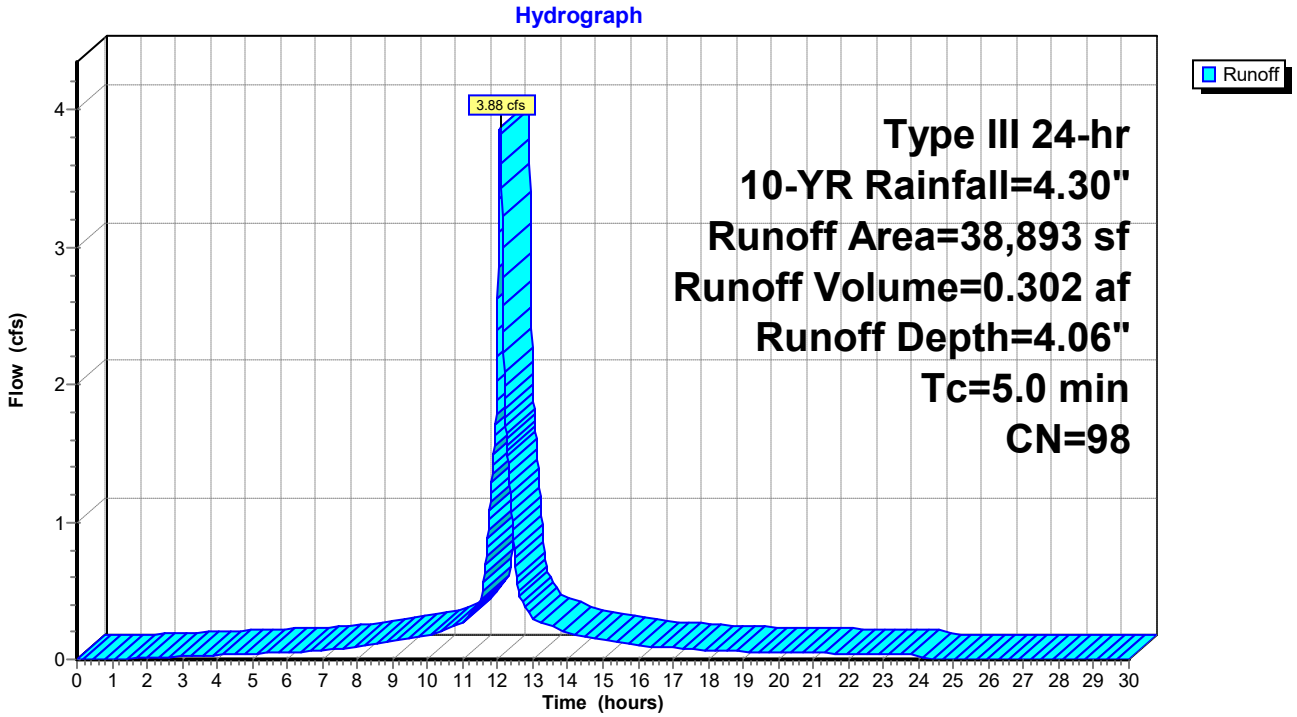
Runoff = 3.88 cfs @ 12.07 hrs, Volume= 0.302 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
38,893	98	Paved parking & roofs
38,893		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.1S: ROOF



Summary for Subcatchment 4.2S: ROOF

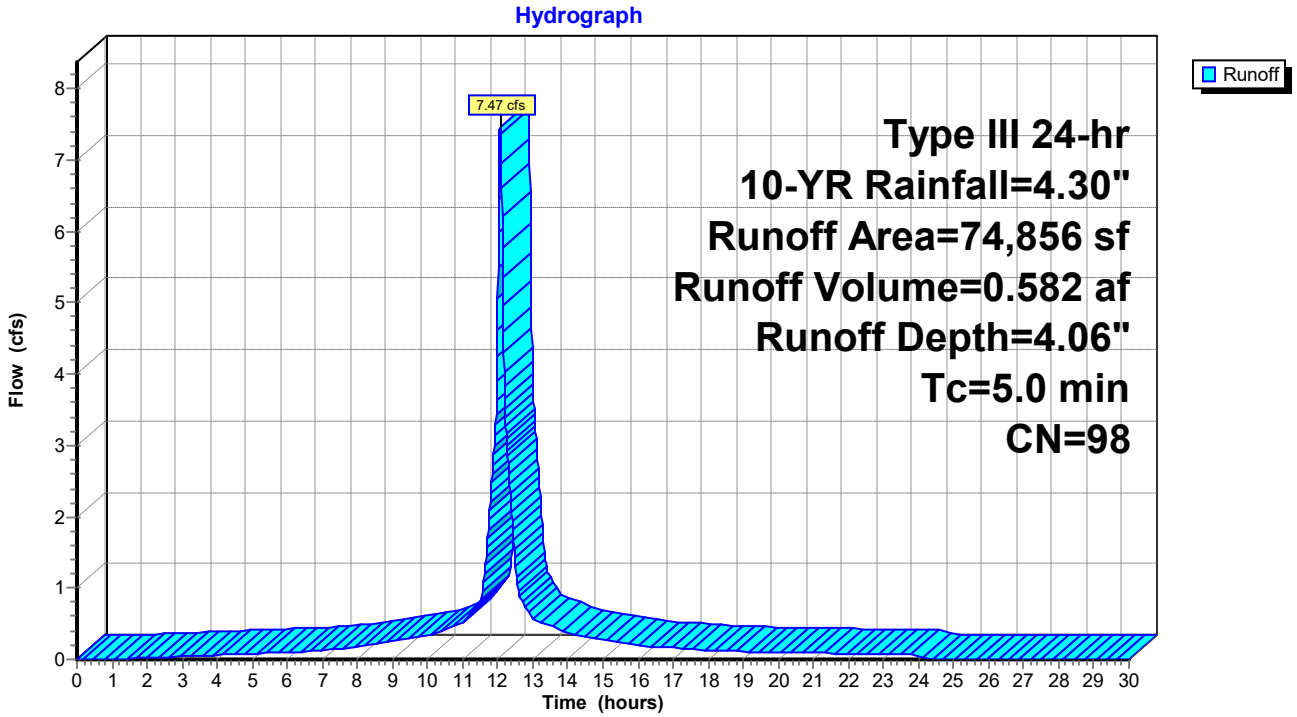
Runoff = 7.47 cfs @ 12.07 hrs, Volume= 0.582 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
74,856	98	Paved parking & roofs
74,856		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.2S: ROOF



Summary for Subcatchment 4.3S:

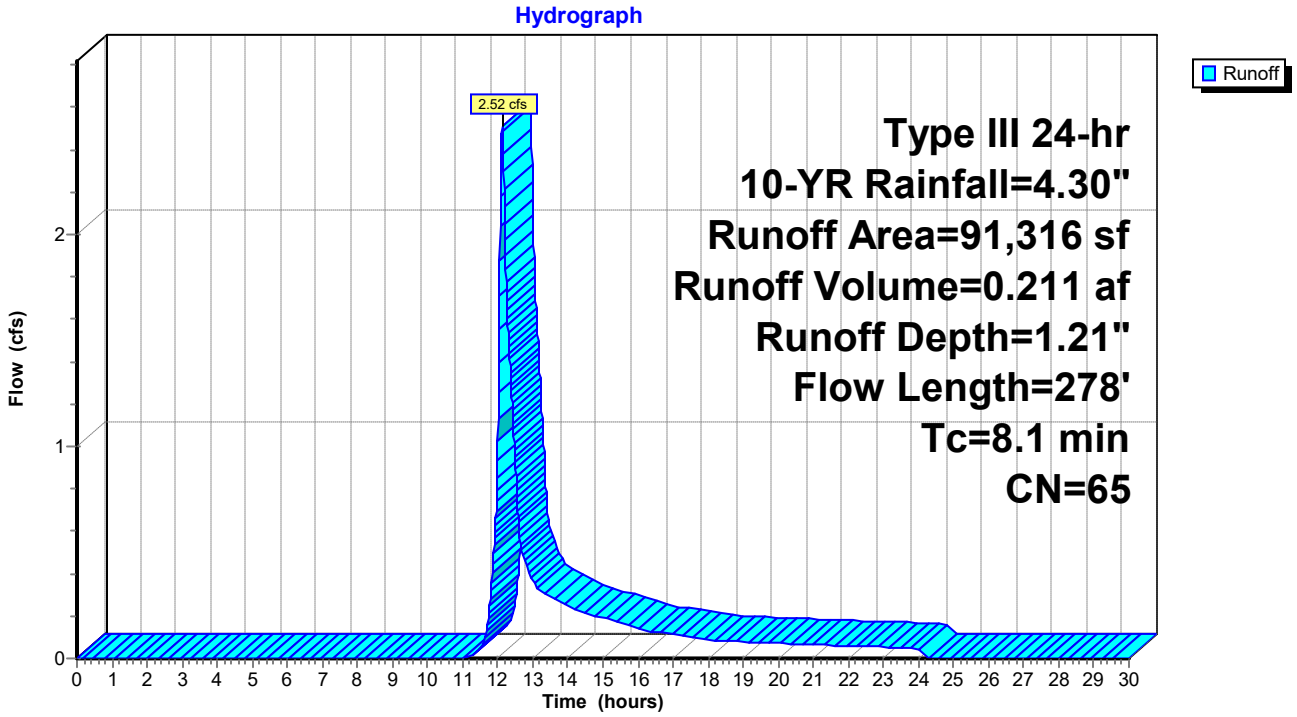
Runoff = 2.52 cfs @ 12.13 hrs, Volume= 0.211 af, Depth= 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
41,125	98	Paved parking & roofs
44,204	39	>75% Grass cover, Good, HSG A
5,987	30	Woods, Good, HSG A
91,316	65	Weighted Average
50,191		54.96% Pervious Area
41,125		45.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.7	45	0.2000	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	30	0.1000	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.8	75	0.0300	1.48		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	105	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	23	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	278	Total			

Subcatchment 4.3S:



Summary for Subcatchment 4.4S:

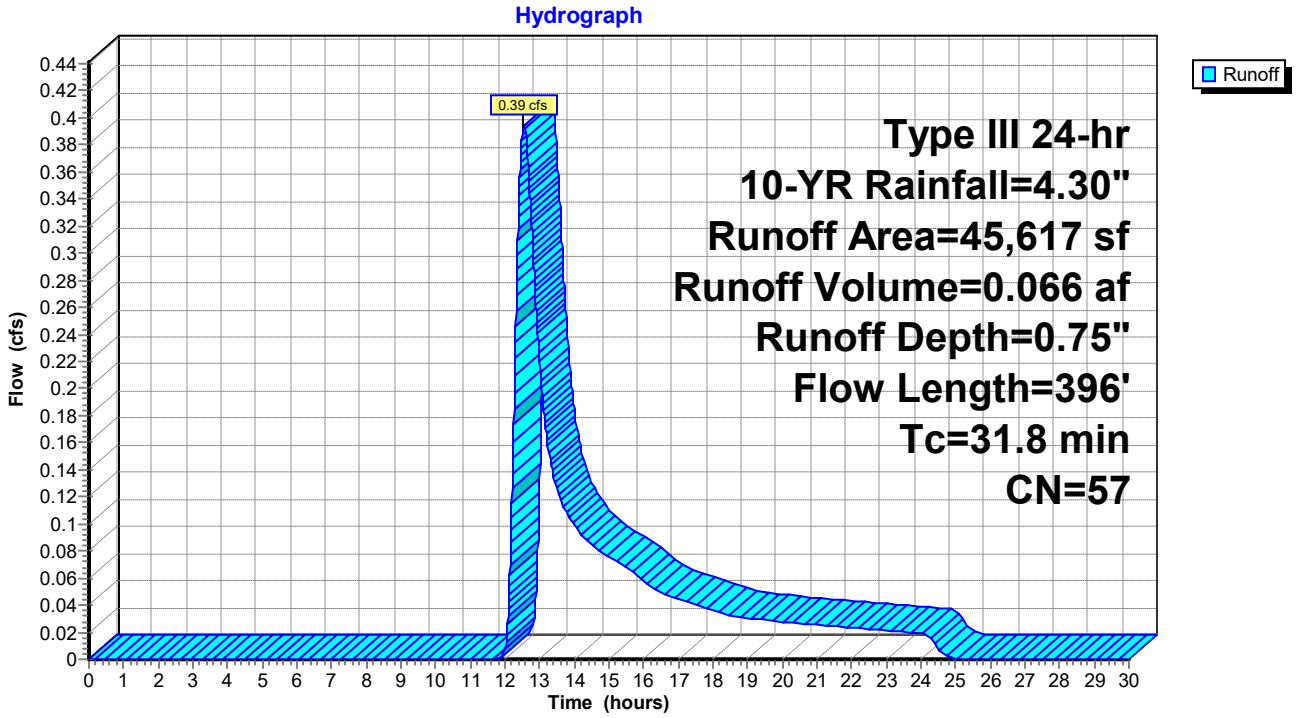
Runoff = 0.39 cfs @ 12.54 hrs, Volume= 0.066 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
13,496	98	Paved parking & roofs
6,791	61	>75% Grass cover, Good, HSG B
7,039	39	>75% Grass cover, Good, HSG A
712	55	Woods, Good, HSG B
17,579	30	Woods, Good, HSG A
45,617	57	Weighted Average
32,121		70.41% Pervious Area
13,496		29.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	150	0.0230	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	61	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	185	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.8	396	Total			

Subcatchment 4.4S:



Summary for Subcatchment 4.5S: ROOF

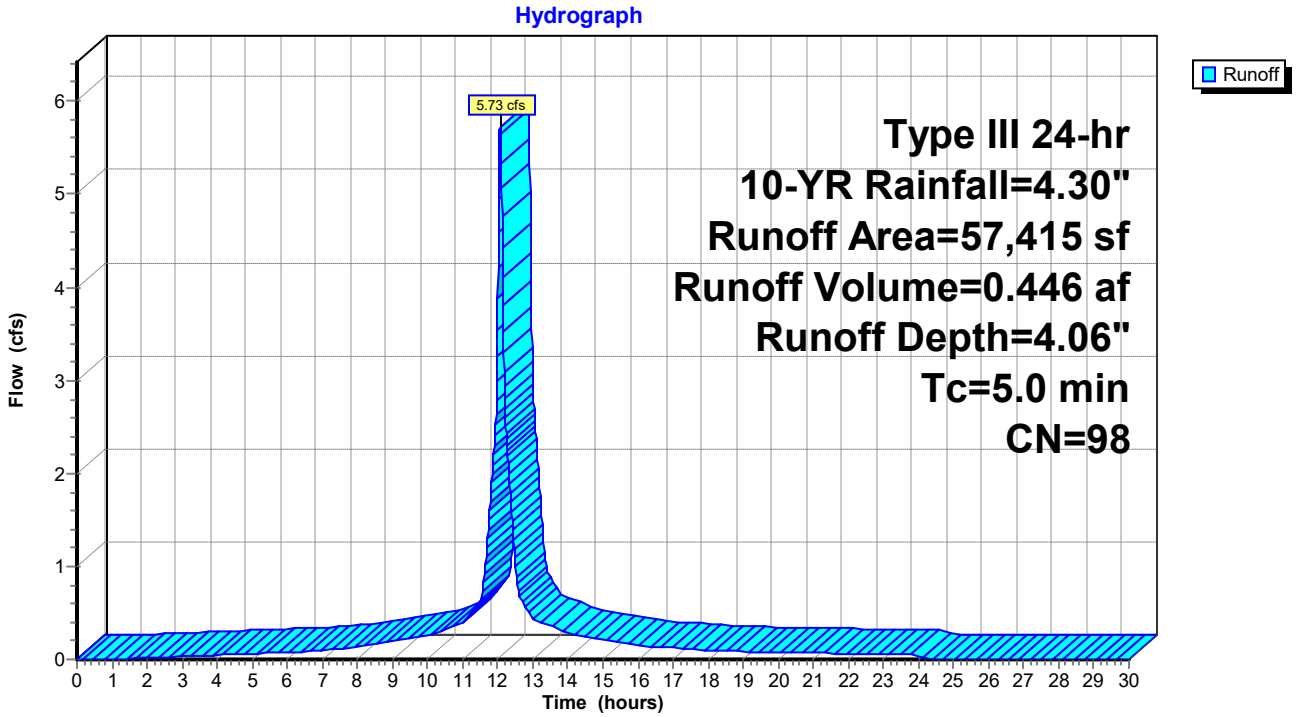
Runoff = 5.73 cfs @ 12.07 hrs, Volume= 0.446 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
57,415	98	Paved parking & roofs
57,415		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.5S: ROOF



Summary for Subcatchment 4.6S:

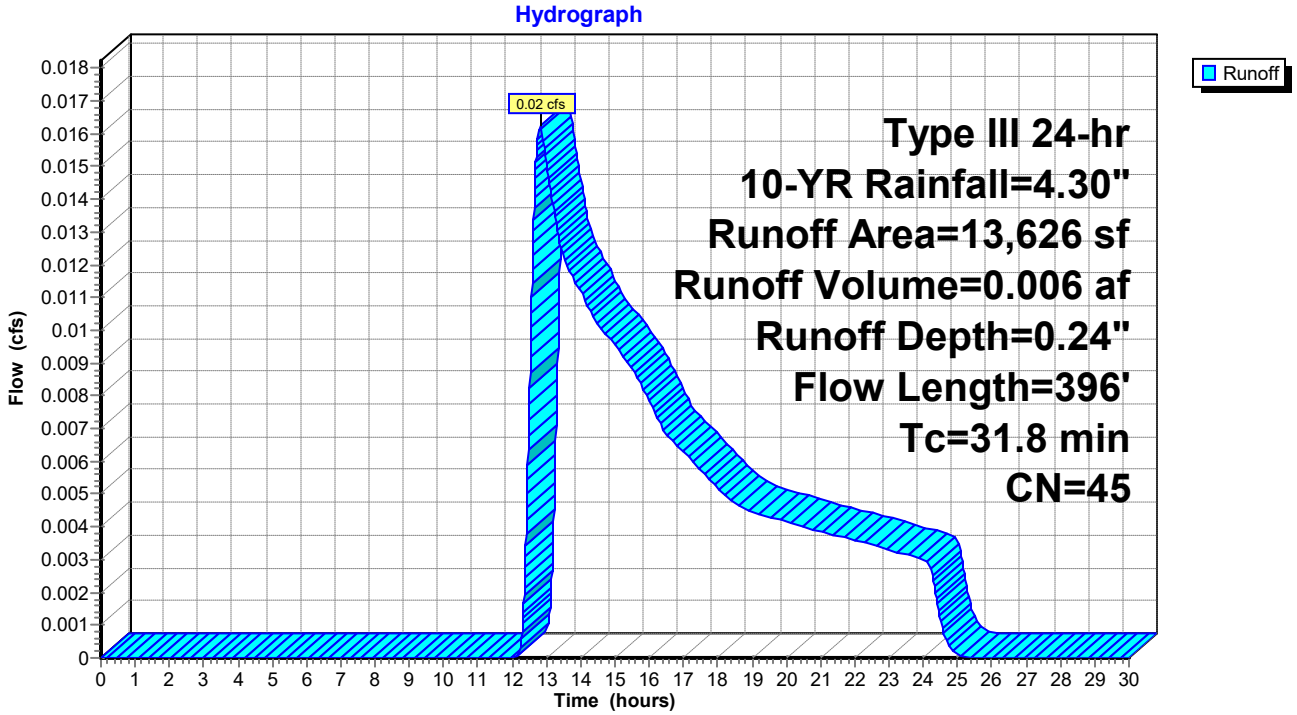
Runoff = 0.02 cfs @ 12.82 hrs, Volume= 0.006 af, Depth= 0.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
1,498	98	Paved parking & roofs
12,128	39	>75% Grass cover, Good, HSG A
13,626	45	Weighted Average
12,128		89.01% Pervious Area
1,498		10.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	150	0.0230	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	61	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	185	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.8	396	Total			

Subcatchment 4.6S:



Summary for Subcatchment 5.1S: S. Warehouse

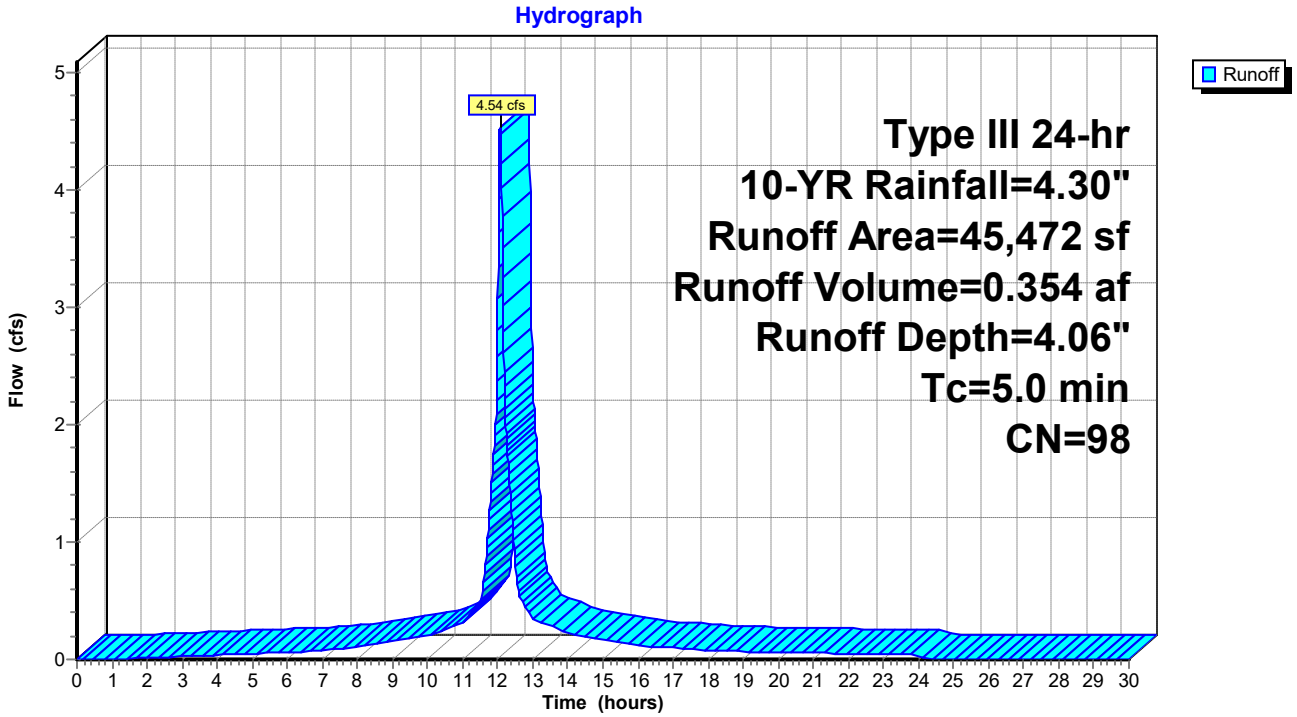
Runoff = 4.54 cfs @ 12.07 hrs, Volume= 0.354 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	45,472	98	Impervious
	45,472		100.00% Impervious Area

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

Subcatchment 5.1S: S. Warehouse



Summary for Subcatchment 5.2S: ROOF

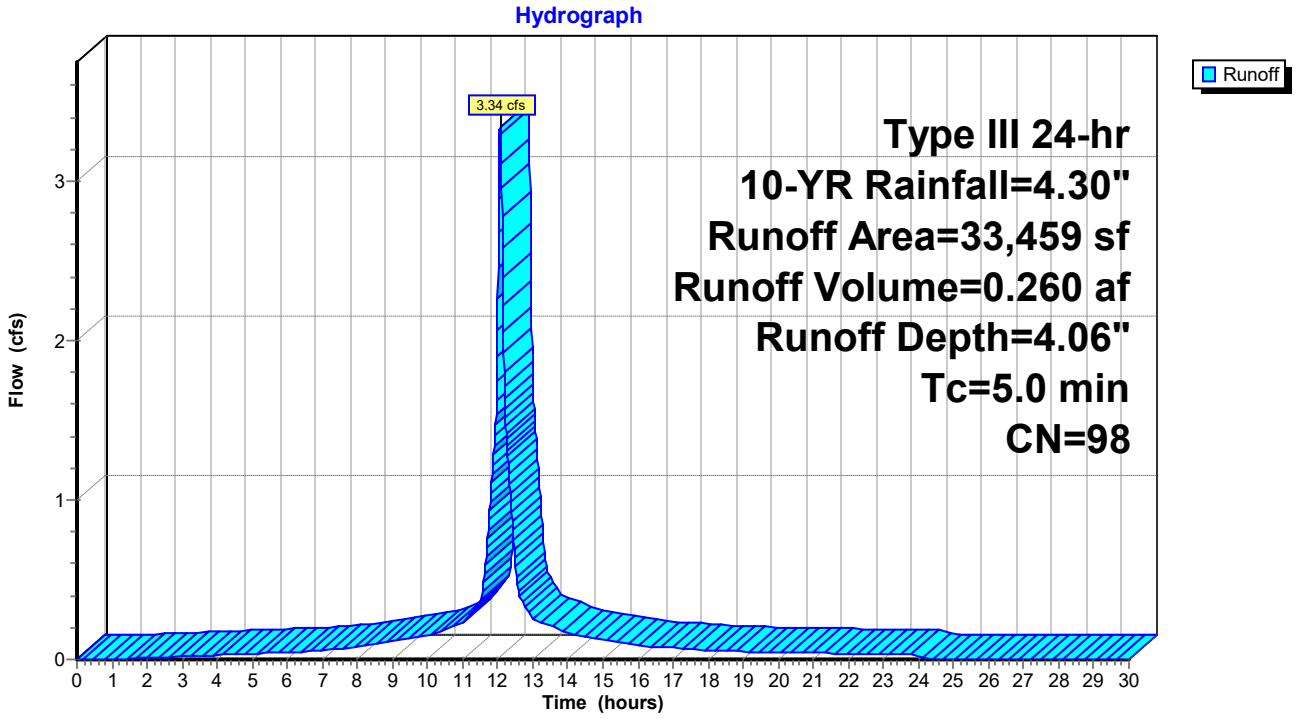
Runoff = 3.34 cfs @ 12.07 hrs, Volume= 0.260 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
33,459	98	Paved parking & roofs
33,459		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 5.2S: ROOF



Summary for Subcatchment 6S: ROOF

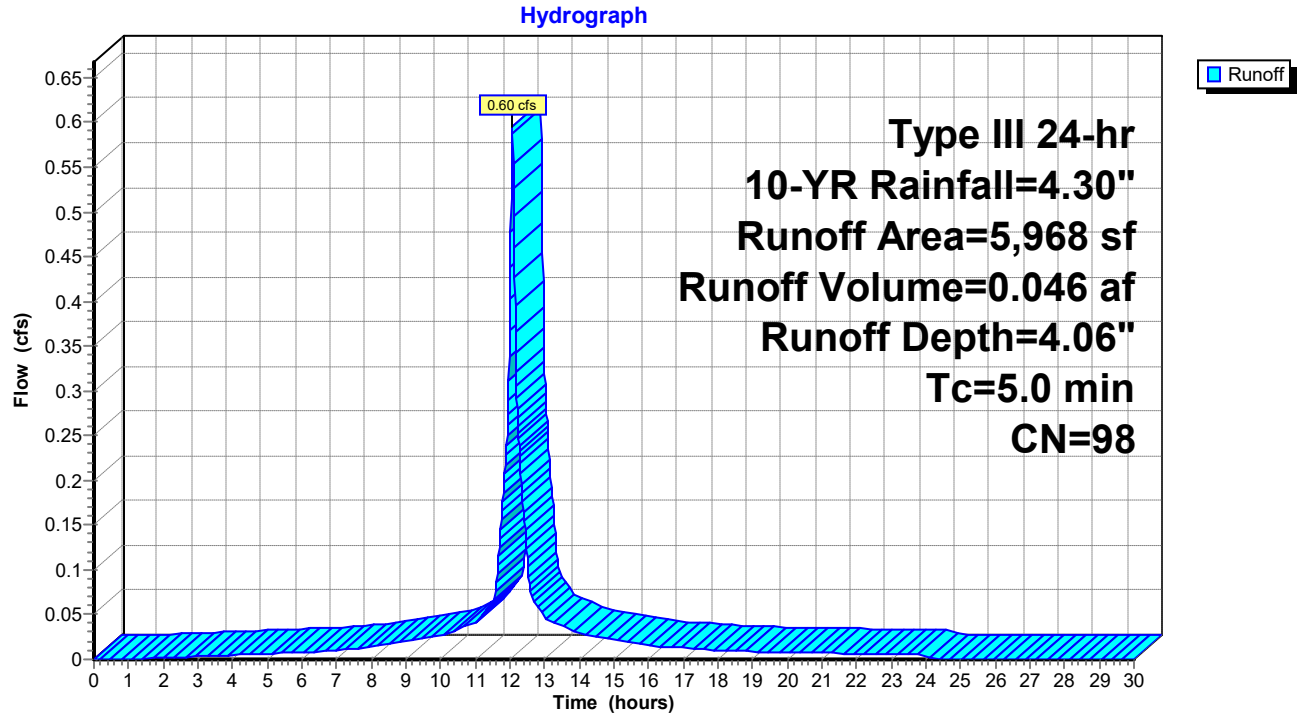
Runoff = 0.60 cfs @ 12.07 hrs, Volume= 0.046 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
5,968	98	Paved parking & roofs
5,968		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 6S: ROOF



Summary for Subcatchment 7S:

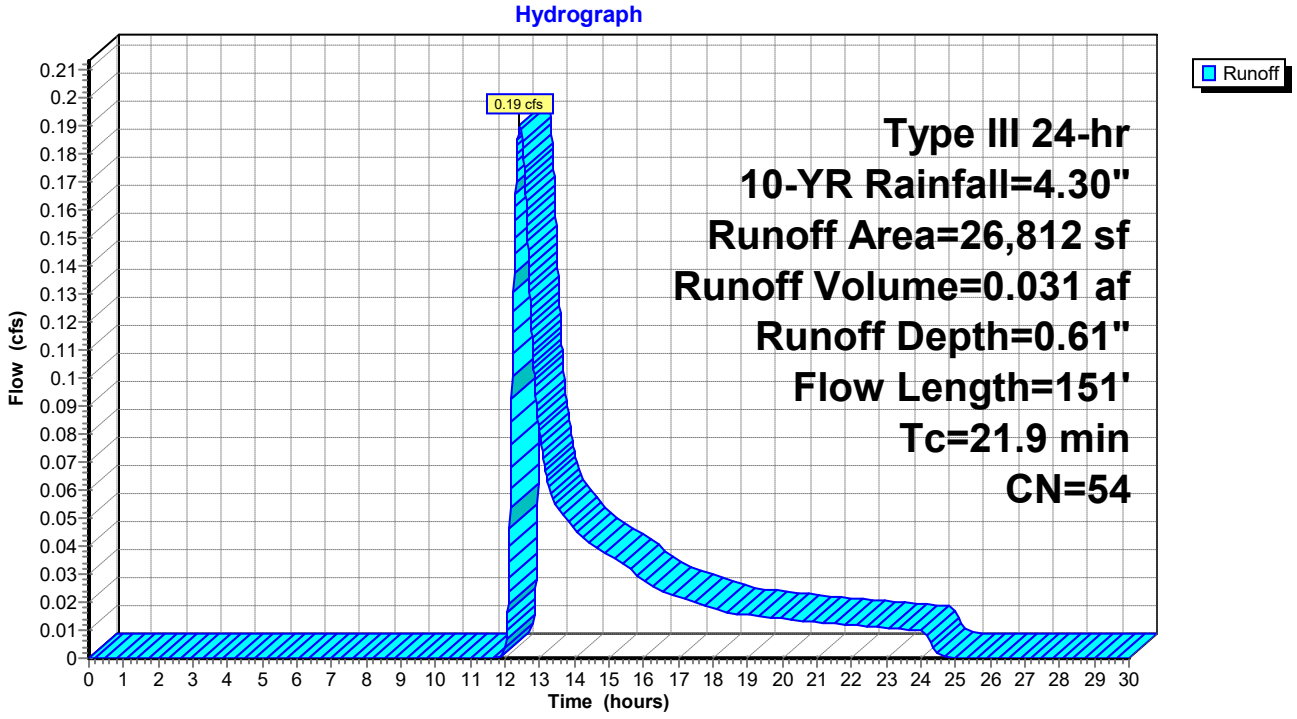
Runoff = 0.19 cfs @ 12.43 hrs, Volume= 0.031 af, Depth= 0.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
6,429	98	Paved parking & roofs
2,581	39	>75% Grass cover, Good, HSG A
929	61	>75% Grass cover, Good, HSG B
10,782	30	Woods, Good, HSG A
6,091	55	Woods, Good, HSG B
26,812	54	Weighted Average
20,383		76.02% Pervious Area
6,429		23.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	100	0.0920	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
0.9	51	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.9	151	Total			

Subcatchment 7S:



Summary for Subcatchment 8S:

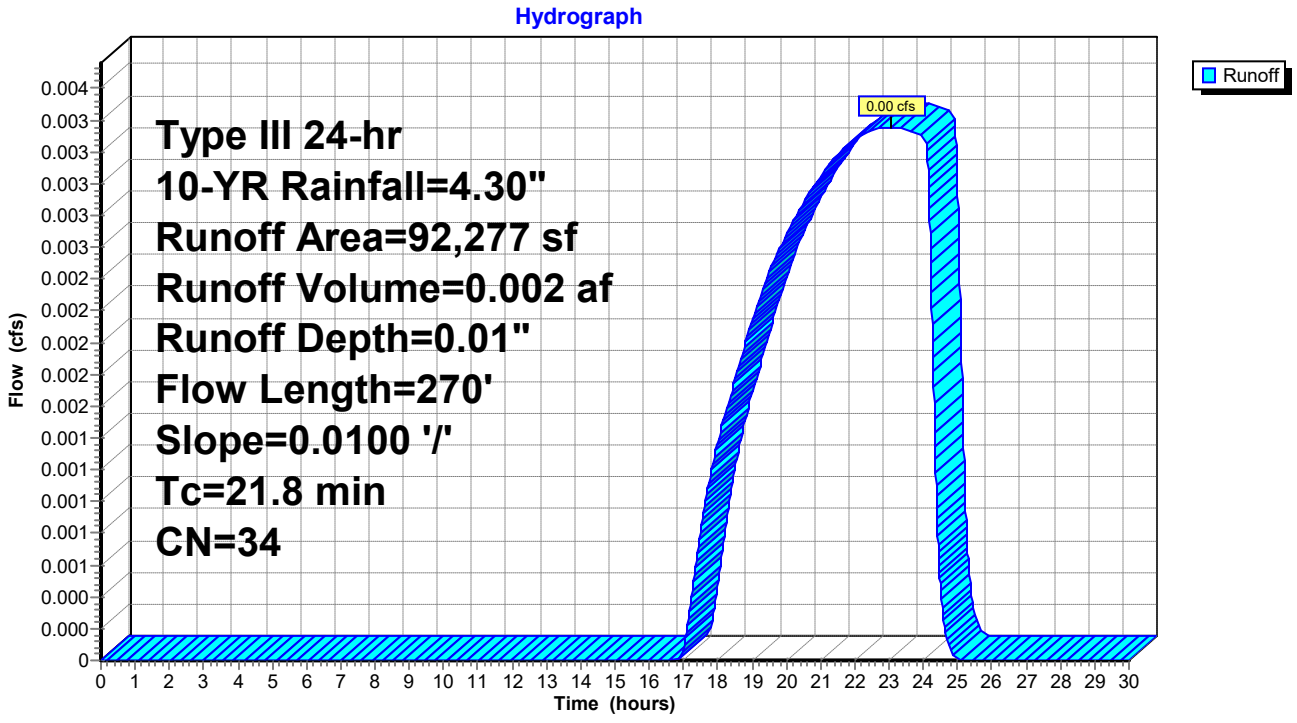
Runoff = 0.00 cfs @ 23.08 hrs, Volume= 0.002 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	2,234	98	Paved
	22,040	39	>75% Grass cover, Good, HSG A
	68,003	30	Woods, Good, HSG A
	92,277	34	Weighted Average
	90,043		97.58% Pervious Area
	2,234		2.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	40	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
7.7	230	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
21.8	270	Total			

Subcatchment 8S:



Summary for Subcatchment 9.1S:

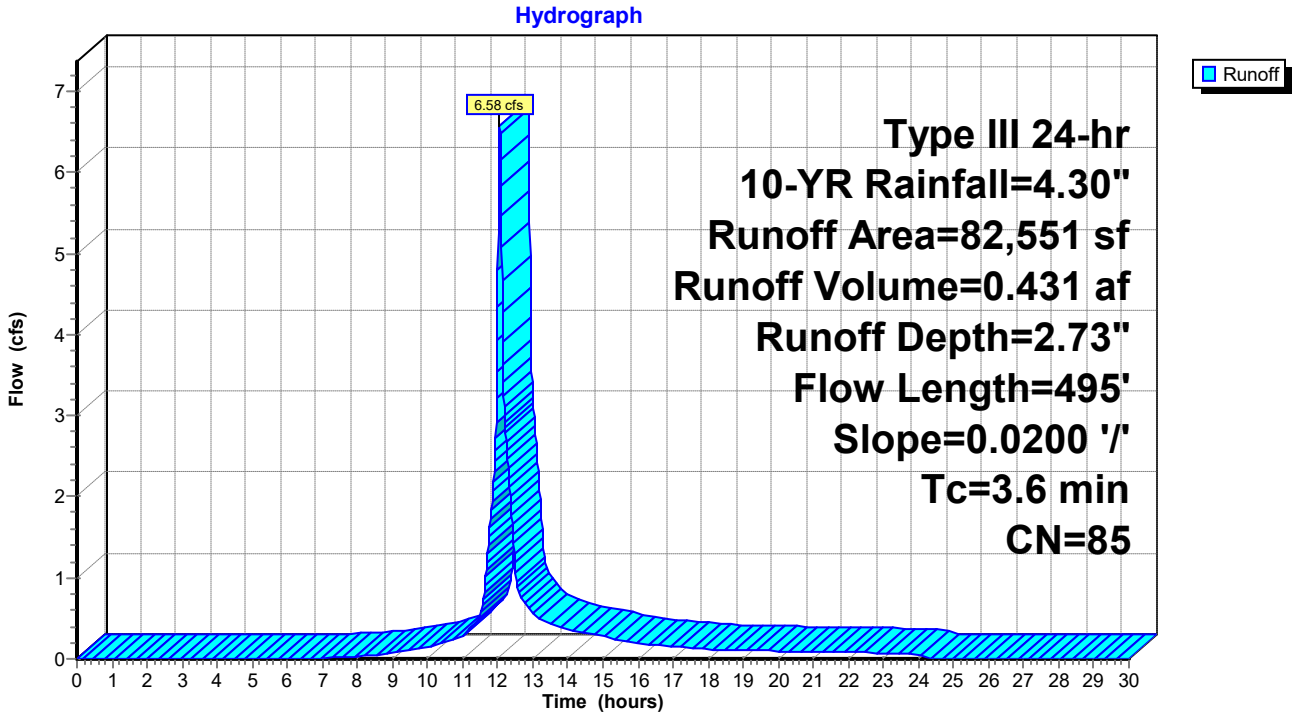
Runoff = 6.58 cfs @ 12.05 hrs, Volume= 0.431 af, Depth= 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	64,588	98	Impervious
	17,963	39	>75% Grass cover, Good, HSG A
	82,551	85	Weighted Average
	17,963		21.76% Pervious Area
	64,588		78.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.3	395	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.6	495	Total			

Subcatchment 9.1S:



Summary for Subcatchment 9.2S:

[45] Hint: Runoff=Zero

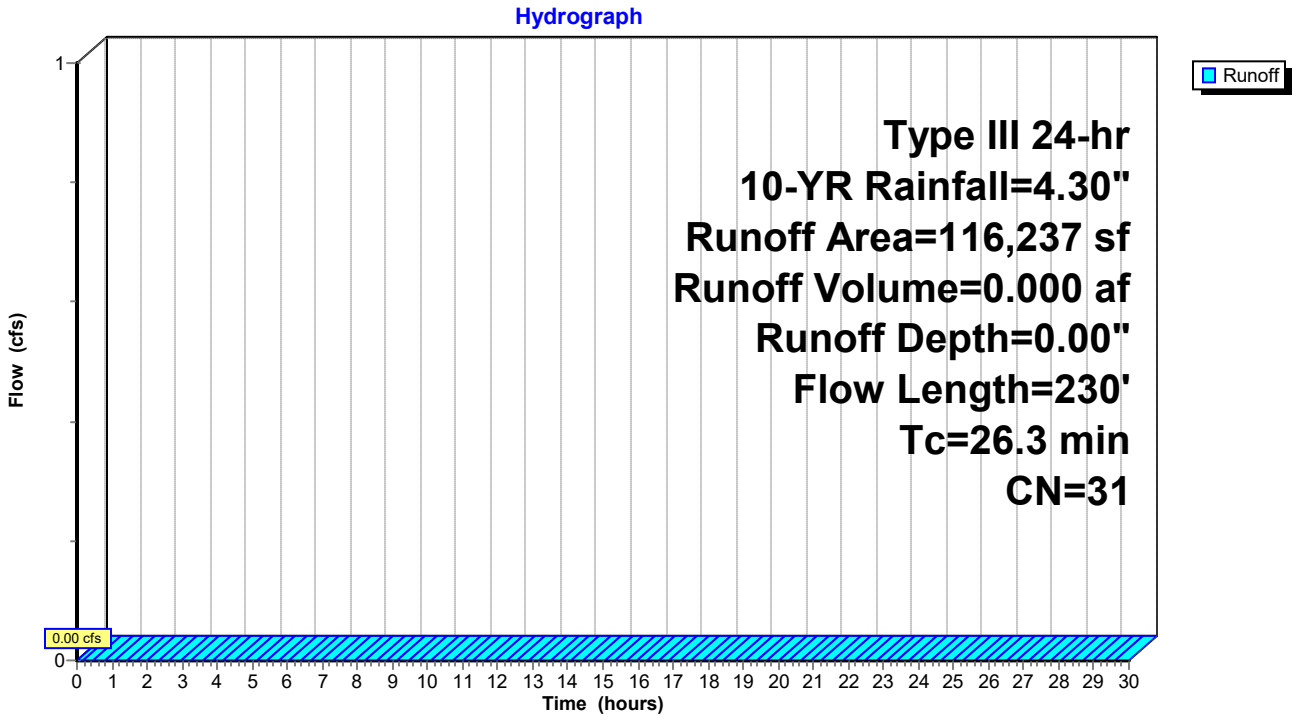
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
15,000	39	>75% Grass cover, Good, HSG A
101,237	30	Woods, Good, HSG A
116,237	31	Weighted Average
116,237		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0150	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.4	130	0.0900	1.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.3	230	Total			

Subcatchment 9.2S:



Summary for Subcatchment 9.3S:

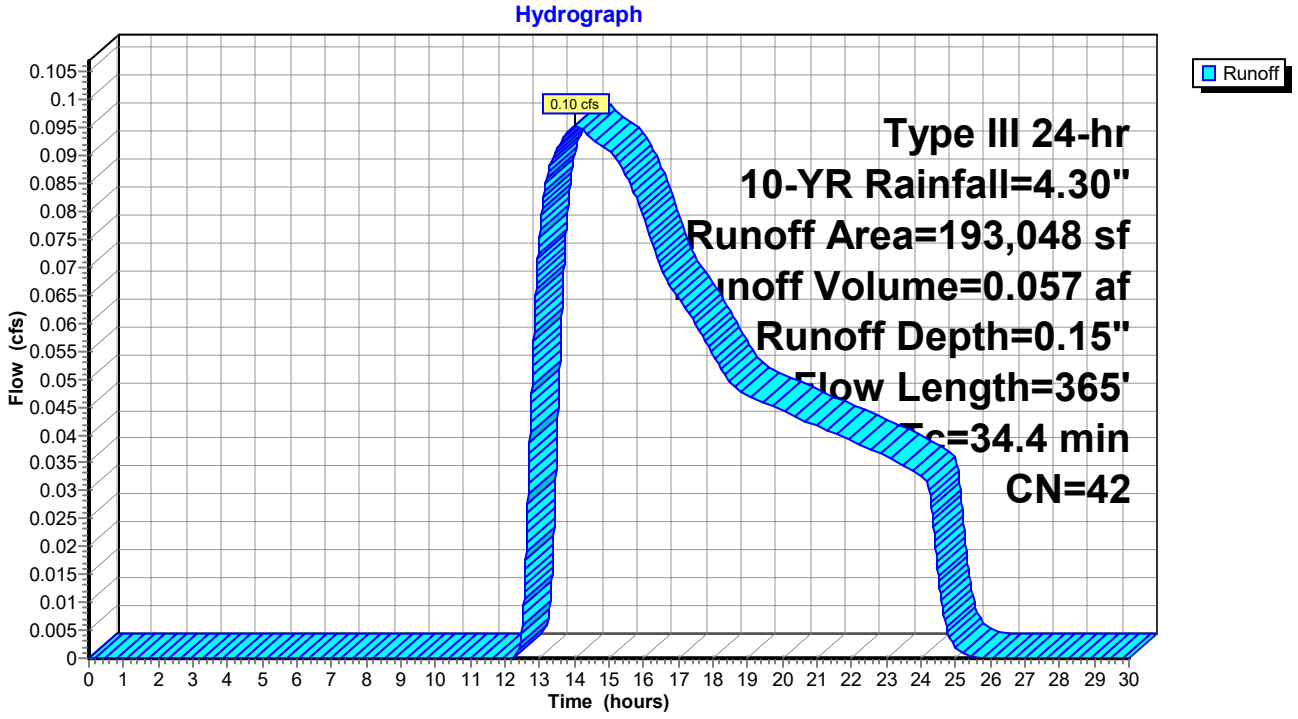
Runoff = 0.10 cfs @ 14.03 hrs, Volume= 0.057 af, Depth= 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	30,893	98	Paved
	21,194	39	>75% Grass cover, Good, HSG A
	140,961	30	Woods, Good, HSG A
	193,048	42	Weighted Average
	162,155		84.00% Pervious Area
	30,893		16.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.7	150	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.9	150	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	65	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
34.4	365	Total			

Subcatchment 9.3S:



Summary for Subcatchment 9S:

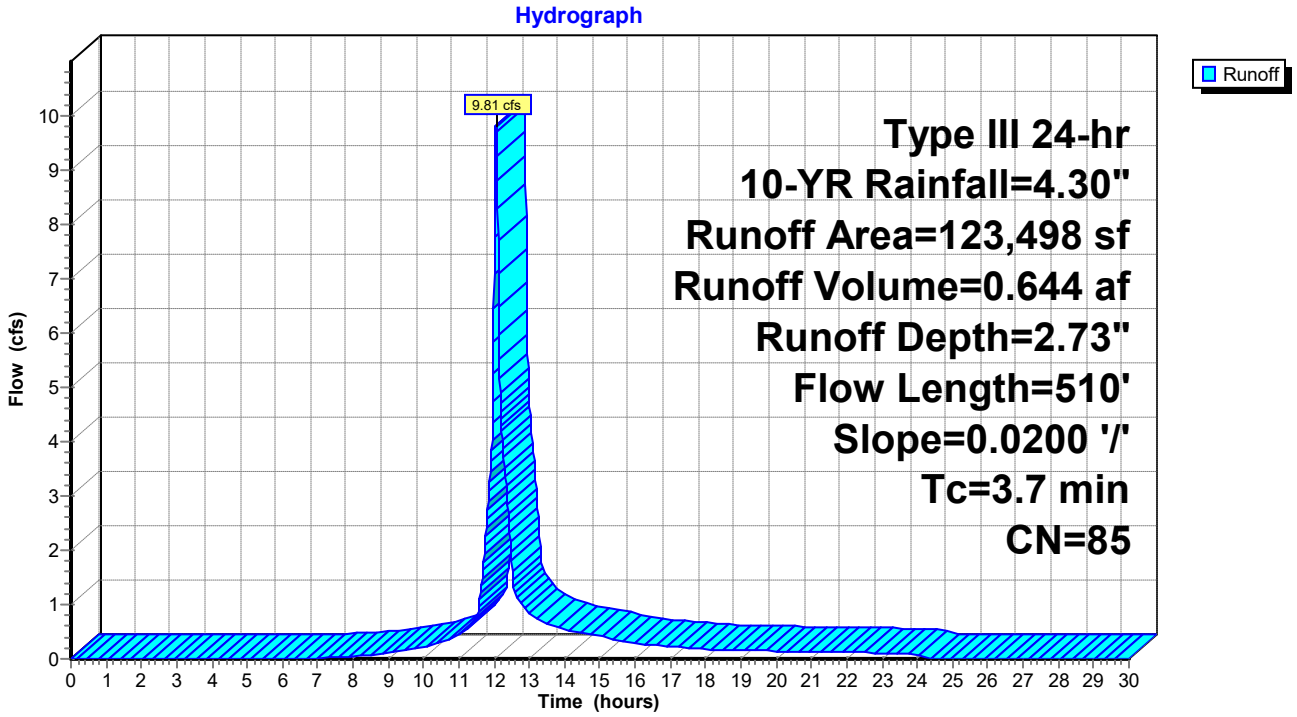
Runoff = 9.81 cfs @ 12.06 hrs, Volume= 0.644 af, Depth= 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	95,953	98	Paved
	27,545	39	>75% Grass cover, Good, HSG A
	123,498	85	Weighted Average
	27,545		22.30% Pervious Area
	95,953		77.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.4	410	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.7	510	Total			

Subcatchment 9S:



Summary for Subcatchment 50S:

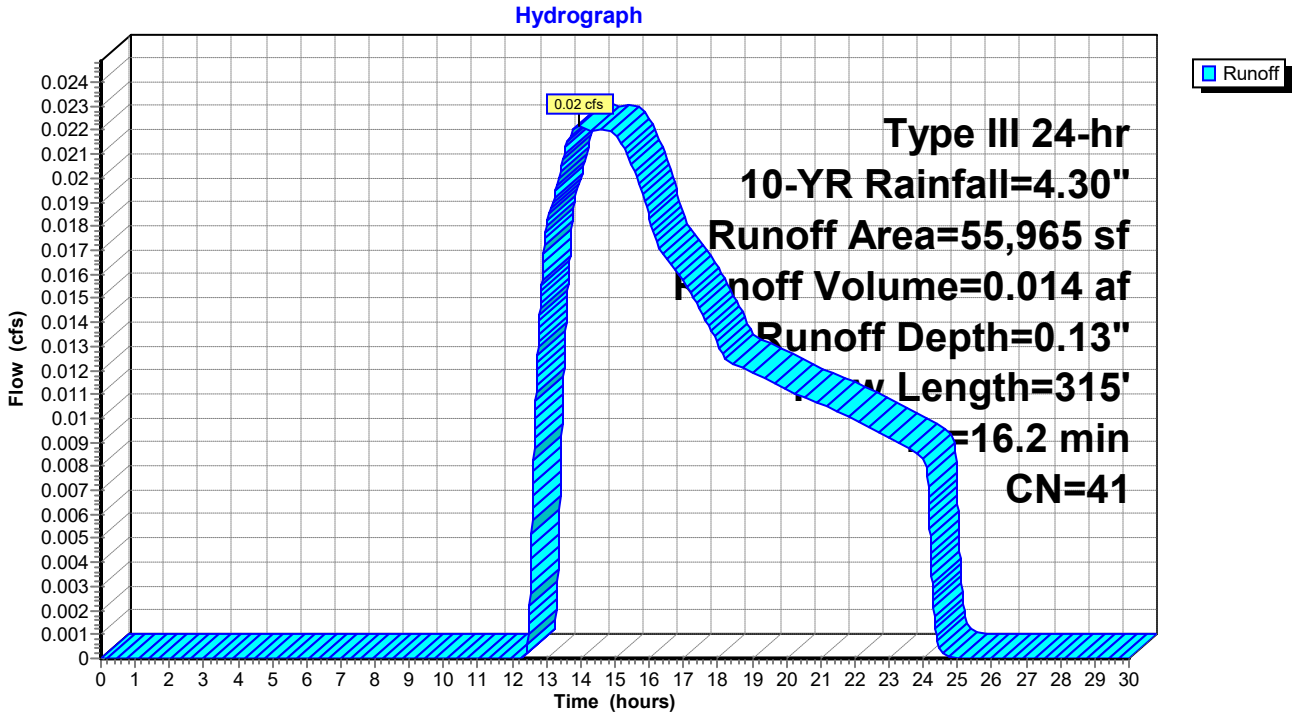
Runoff = 0.02 cfs @ 13.95 hrs, Volume= 0.014 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	8,790	98	Impervious
	4,094	39	>75% Grass cover, Good, HSG A
	43,081	30	Woods, Good, HSG A
	55,965	41	Weighted Average
	47,175		84.29% Pervious Area
	8,790		15.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	120	0.0750	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	45	0.1560	1.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	100	0.0300	2.60		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0200	6.14	18.43	**Channel Flow,** Area= 3.0 sf Perim= 4.8' r= 0.63' n= 0.025 Earth, clean & winding
16.2	315	Total			

Subcatchment 50S:



Summary for Subcatchment 52S:

[45] Hint: Runoff=Zero

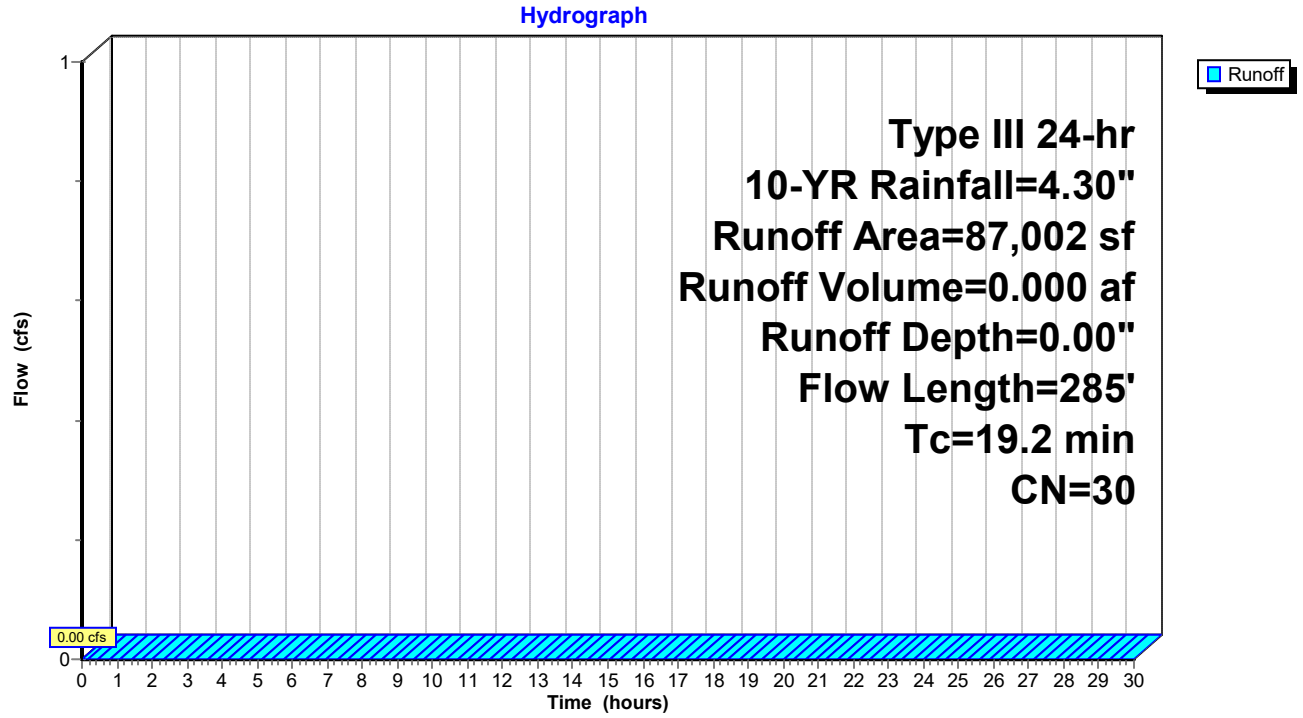
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	198	98	Paved
	0	49	50-75% Grass cover, Fair, HSG A
	86,804	30	Woods, Good, HSG A
	87,002	30	Weighted Average
	86,804		99.77% Pervious Area
	198		0.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.3	160	0.0517	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	25	0.0400	3.00		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
19.2	285	Total			

Subcatchment 52S:



Summary for Subcatchment 53S:

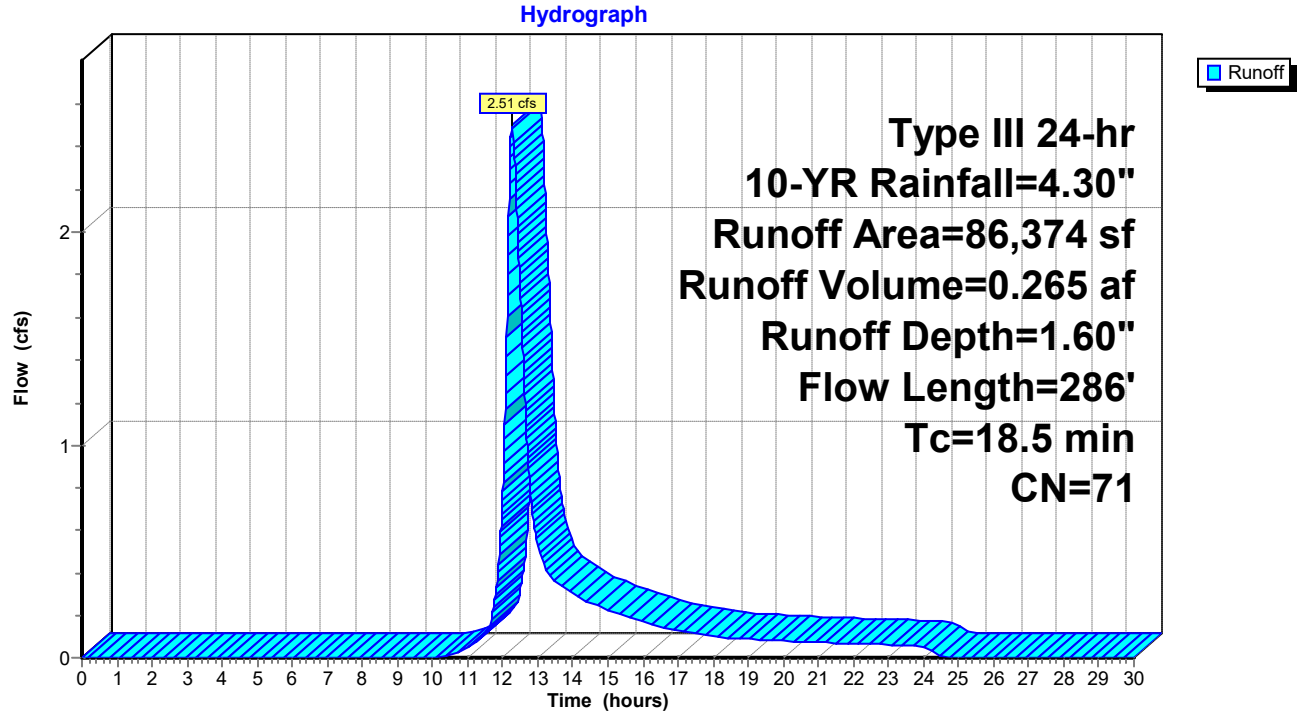
Runoff = 2.51 cfs @ 12.27 hrs, Volume= 0.265 af, Depth= 1.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	47,137	98	Paved
	39,237	39	>75% Grass cover, Good, HSG A
	86,374	71	Weighted Average
	39,237		45.43% Pervious Area
	47,137		54.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	116	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	40	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	30	0.0860	2.05		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.5	286	Total			

Subcatchment 53S:



Summary for Subcatchment 54S: Updated

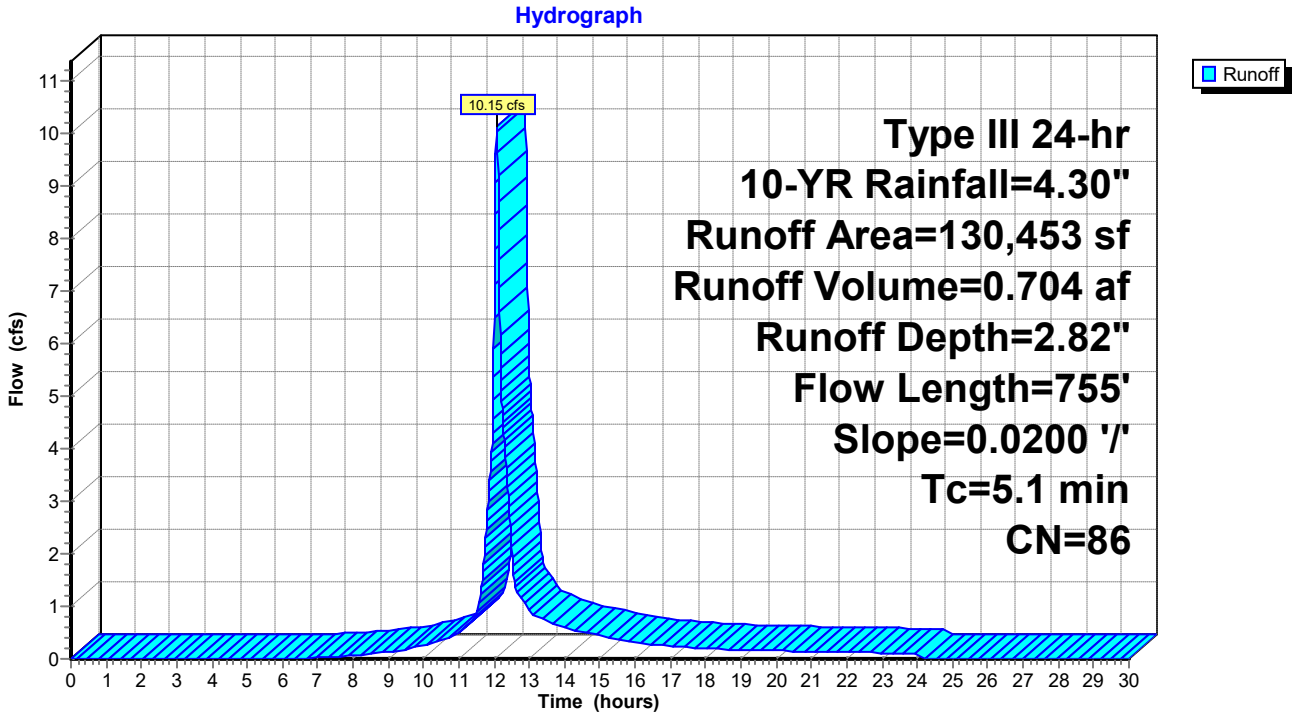
Runoff = 10.15 cfs @ 12.07 hrs, Volume= 0.704 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	103,327	98	Paved
	27,126	39	>75% Grass cover, Good, HSG A
	130,453	86	Weighted Average
	27,126		20.79% Pervious Area
	103,327		79.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
3.8	655	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.1	755	Total			

Subcatchment 54S: Updated



Summary for Subcatchment 55S: New Building

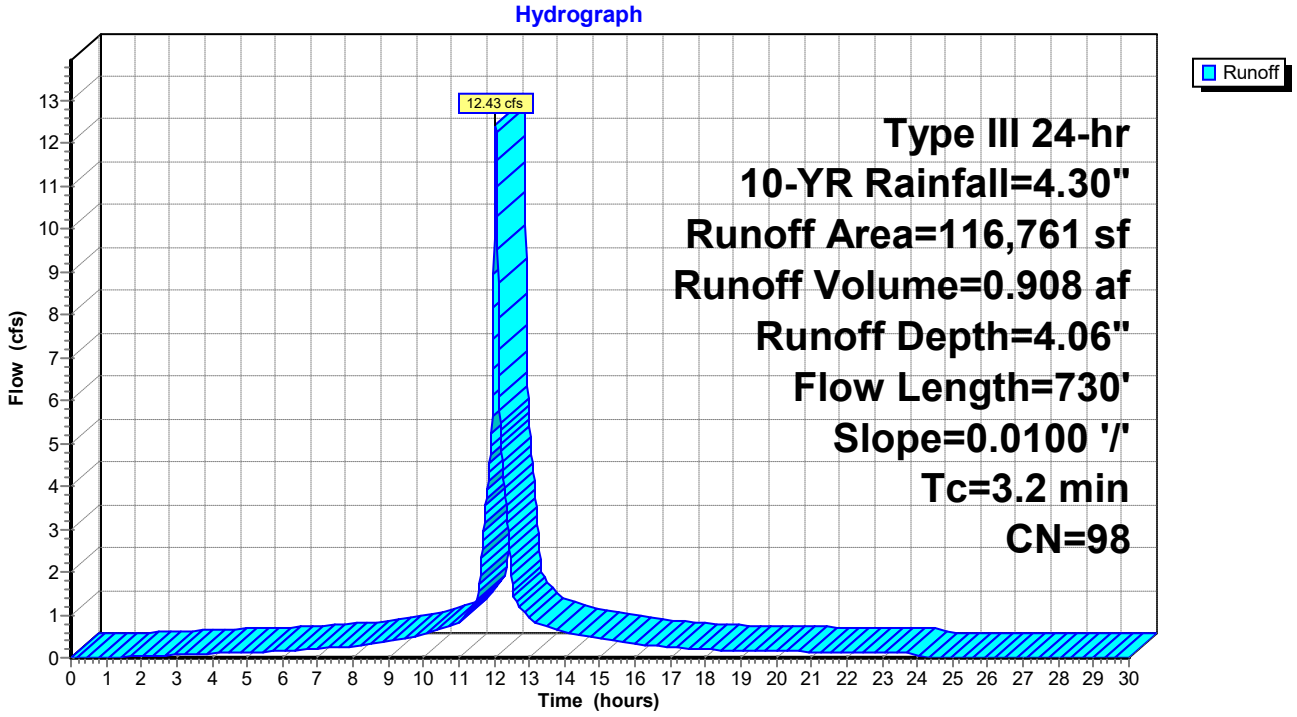
Runoff = 12.43 cfs @ 12.05 hrs, Volume= 0.908 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	116,761	98	Roof
	116,761		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0100	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	80	0.0100	4.50	1.57	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
0.8	300	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
0.4	250	0.0100	9.36	29.41	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
3.2	730	Total			

Subcatchment 55S: New Building



Summary for Subcatchment 56S:

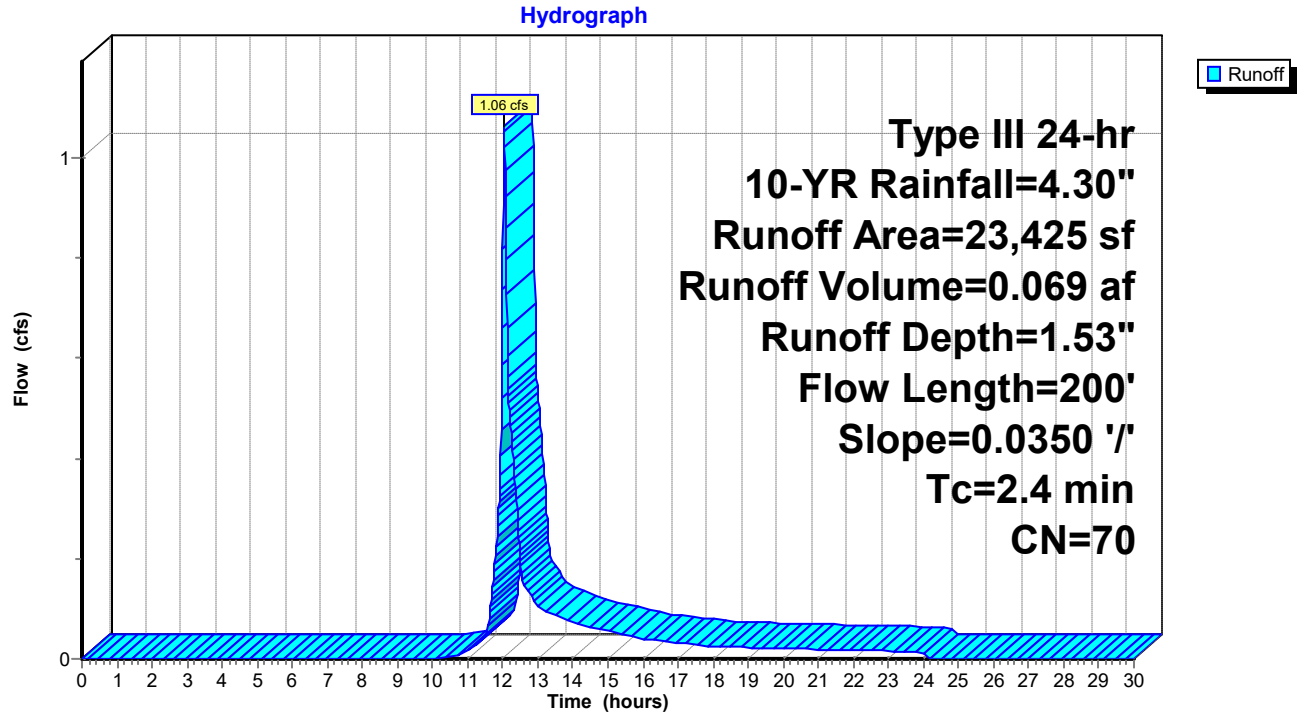
Runoff = 1.06 cfs @ 12.04 hrs, Volume= 0.069 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.30"

	Area (sf)	CN	Description
*	12,497	98	Paved
	10,928	39	>75% Grass cover, Good, HSG A
	23,425	70	Weighted Average
	10,928		46.65% Pervious Area
	12,497		53.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	85	0.0350	1.61		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.5	115	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	200	Total			

Subcatchment 56S:



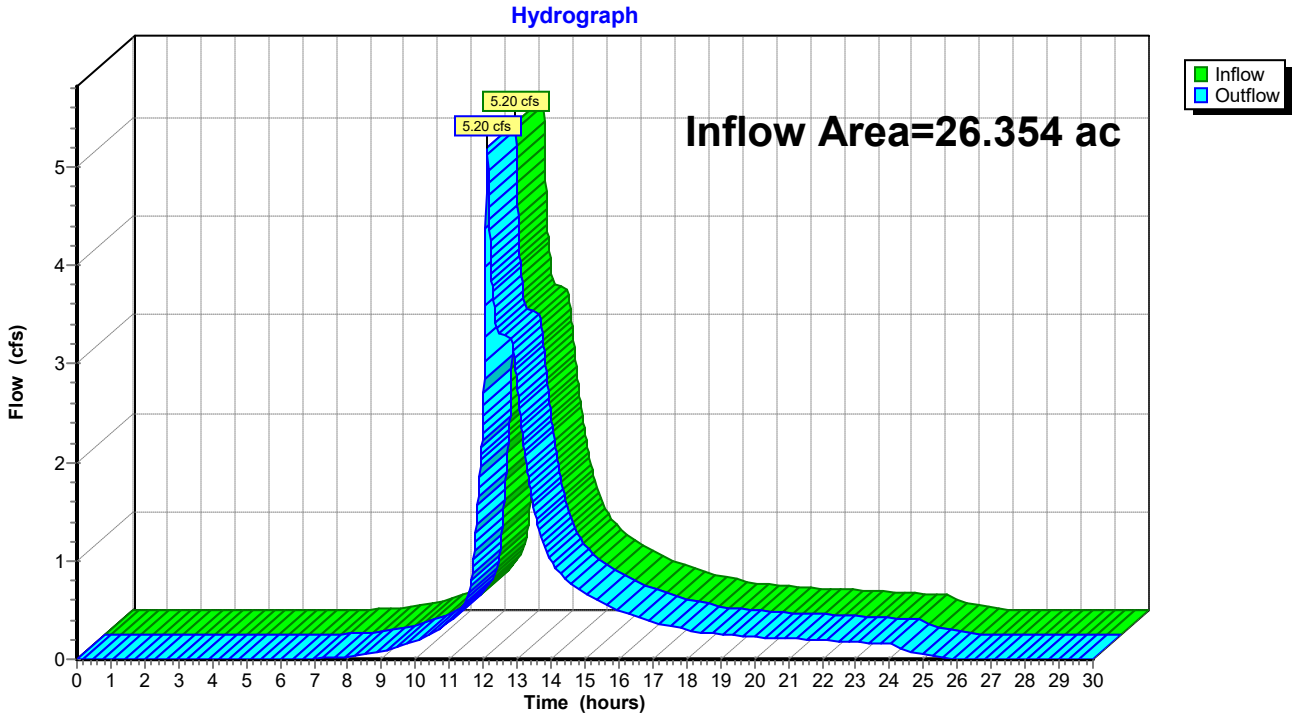
Summary for Reach 1R: WATERSHED ANALYSIS POINT A

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 26.354 ac, 41.81% Impervious, Inflow Depth = 0.38" for 10-YR event
Inflow = 5.20 cfs @ 12.11 hrs, Volume= 0.833 af
Outflow = 5.20 cfs @ 12.11 hrs, Volume= 0.833 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 1R: WATERSHED ANALYSIS POINT A



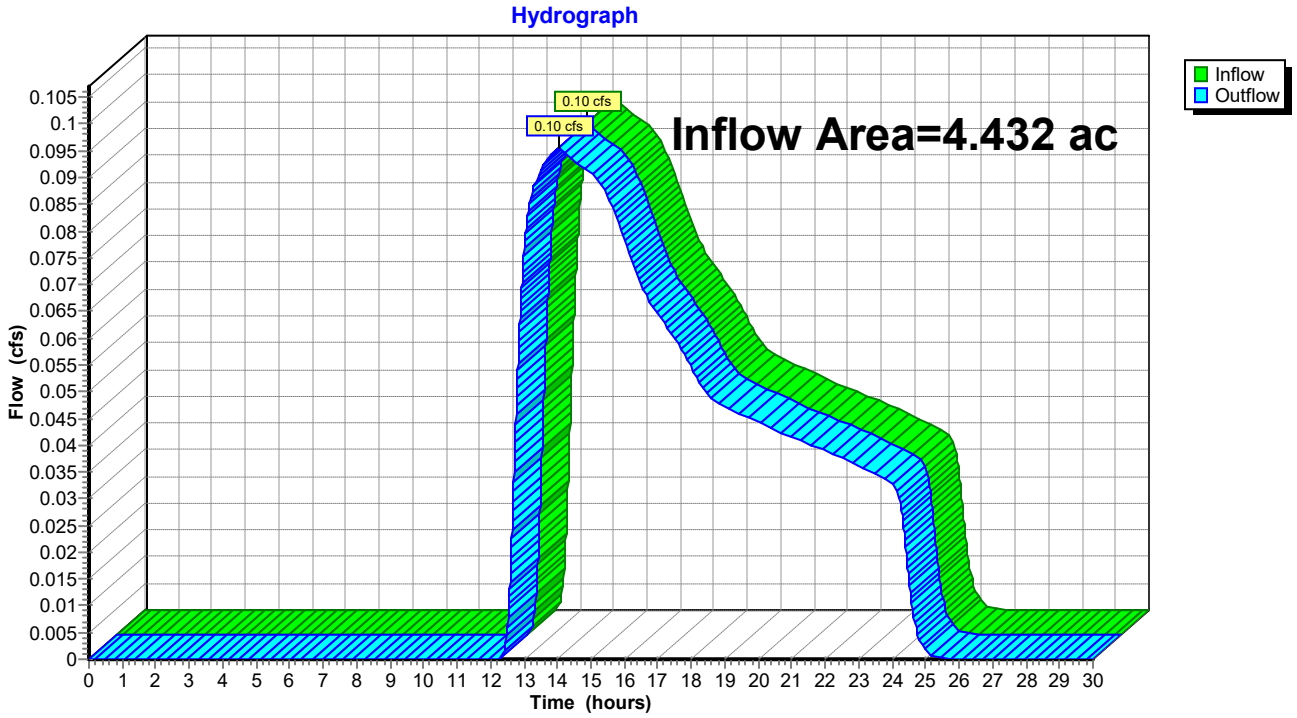
Summary for Reach 2.1R: WATERSHED ANALYSIS POINT C

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.432 ac, 16.00% Impervious, Inflow Depth = 0.15" for 10-YR event
Inflow = 0.10 cfs @ 14.03 hrs, Volume= 0.057 af
Outflow = 0.10 cfs @ 14.03 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 2.1R: WATERSHED ANALYSIS POINT C



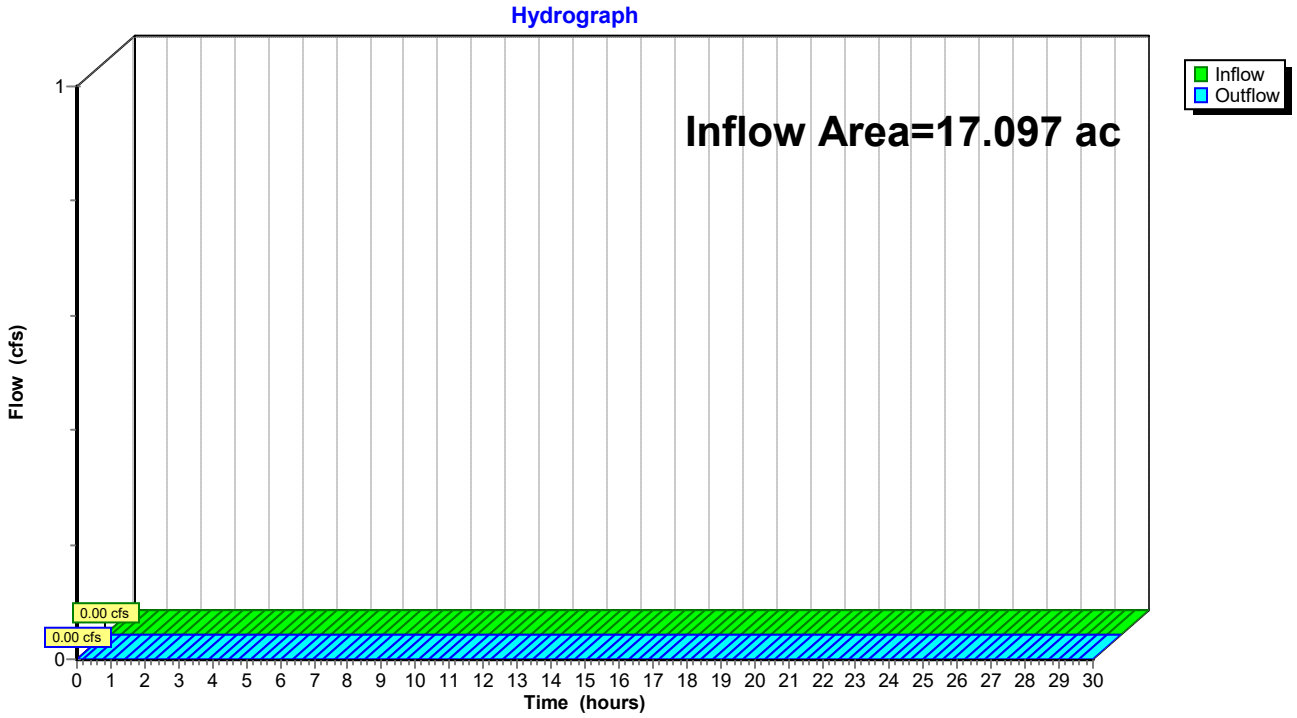
Summary for Reach 2R: WATERSHED ANALYSIS POINT B

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 17.097 ac, 74.64% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 2R: WATERSHED ANALYSIS POINT B



Summary for Reach 4R: NATRUAL DRAINAGE

Inflow Area = 5.046 ac, 37.24% Impervious, Inflow Depth = 0.07" for 10-YR event
Inflow = 0.18 cfs @ 12.54 hrs, Volume= 0.031 af
Outflow = 0.17 cfs @ 12.65 hrs, Volume= 0.031 af, Atten= 7%, Lag= 6.8 min

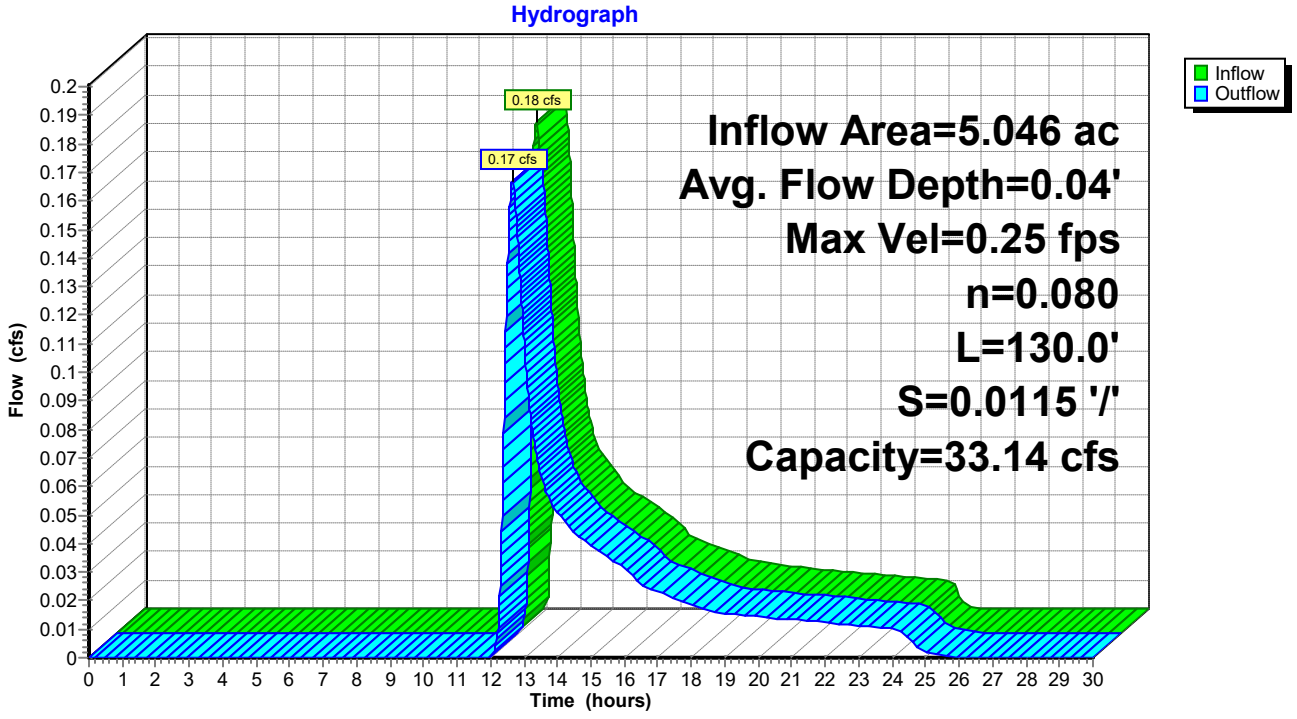
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.25 fps, Min. Travel Time= 8.7 min
Avg. Velocity = 0.11 fps, Avg. Travel Time= 18.9 min

Peak Storage= 87 cf @ 12.65 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 1.00' Flow Area= 19.0 sf, Capacity= 33.14 cfs

15.00' x 1.00' deep channel, n= 0.080
Side Slope Z-value= 4.0 '/' Top Width= 23.00'
Length= 130.0' Slope= 0.0115 '/'
Inlet Invert= 247.00', Outlet Invert= 245.50'

‡

Reach 4R: NATRUAL DRAINAGE



Summary for Reach 50R: STREAM

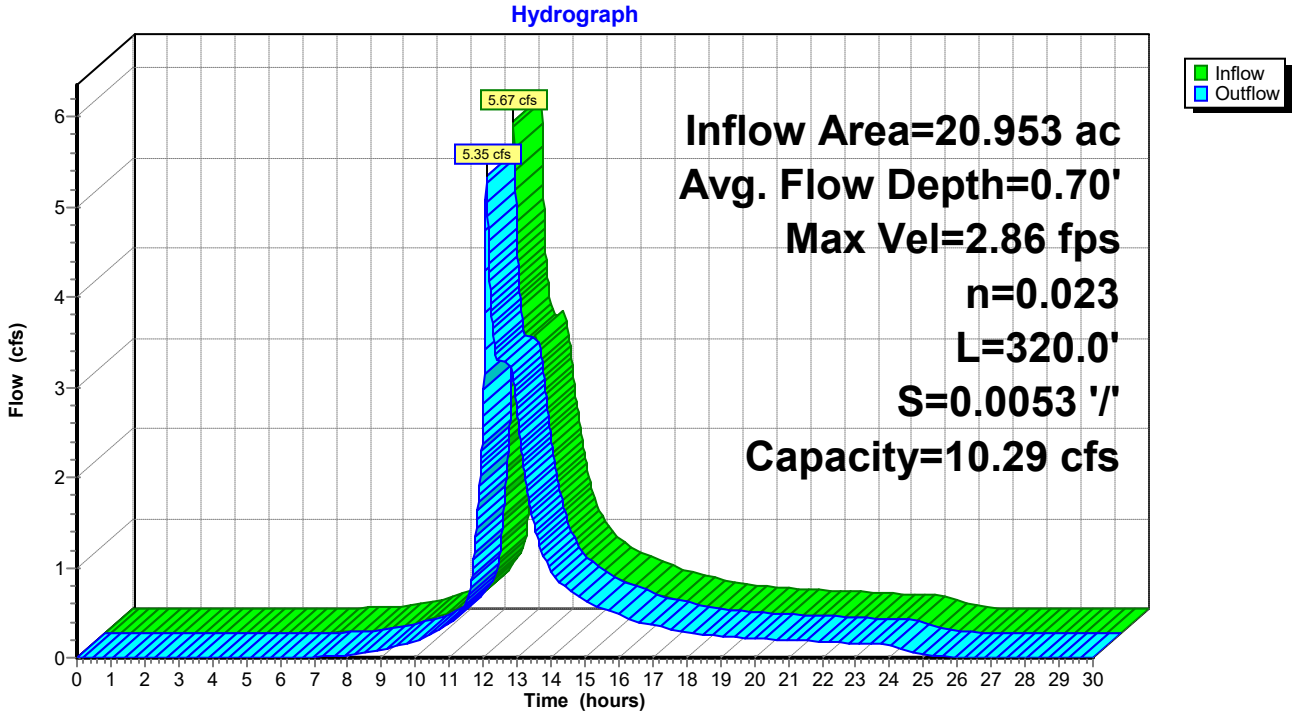
Inflow Area = 20.953 ac, 51.35% Impervious, Inflow Depth = 0.47" for 10-YR event
Inflow = 5.67 cfs @ 12.07 hrs, Volume= 0.818 af
Outflow = 5.35 cfs @ 12.09 hrs, Volume= 0.818 af, Atten= 6%, Lag= 1.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 2.86 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 0.83 fps, Avg. Travel Time= 6.4 min

Peak Storage= 599 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.70'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.29 cfs

2.00' x 1.00' deep channel, n= 0.023 Earth, clean & winding
Side Slope Z-value= 1.0 '/' Top Width= 4.00'
Length= 320.0' Slope= 0.0053 '/'
Inlet Invert= 235.00', Outlet Invert= 233.30'

Reach 50R: STREAM



Summary for Reach 51R: STREAM

[61] Hint: Exceeded Reach 50R outlet invert by 0.53' @ 12.11 hrs

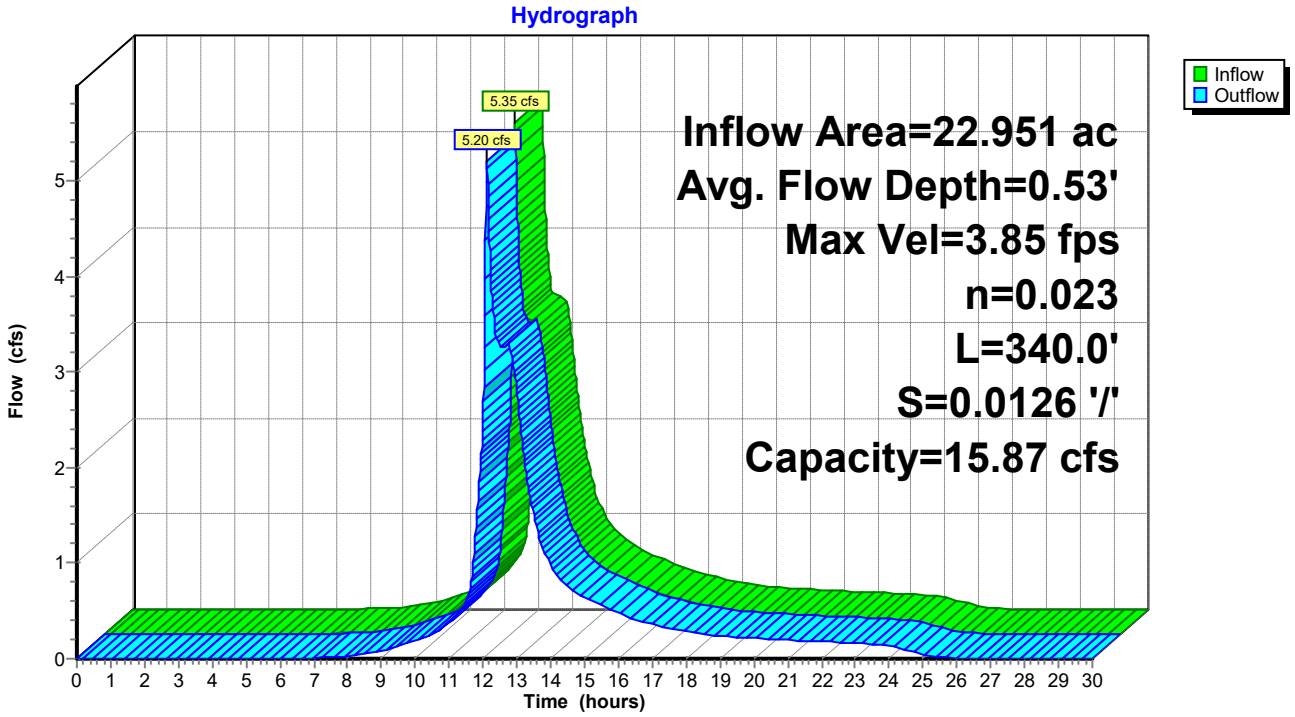
Inflow Area = 22.951 ac, 46.91% Impervious, Inflow Depth = 0.43" for 10-YR event
Inflow = 5.35 cfs @ 12.09 hrs, Volume= 0.818 af
Outflow = 5.20 cfs @ 12.11 hrs, Volume= 0.818 af, Atten= 3%, Lag= 1.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 3.85 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.11 fps, Avg. Travel Time= 5.1 min

Peak Storage= 459 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.53'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 15.87 cfs

2.00' x 1.00' deep channel, n= 0.023
Side Slope Z-value= 1.0 '/' Top Width= 4.00'
Length= 340.0' Slope= 0.0126 '/'
Inlet Invert= 233.30', Outlet Invert= 229.00'

Reach 51R: STREAM



Summary for Reach 54R: New Pipe

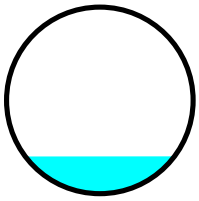
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach 55R OUTLET depth by 0.02' @ 12.09 hrs

Inflow Area = 18.433 ac, 50.95% Impervious, Inflow Depth = 0.53" for 10-YR event
Inflow = 5.82 cfs @ 12.05 hrs, Volume= 0.818 af
Outflow = 5.67 cfs @ 12.07 hrs, Volume= 0.818 af, Atten= 2%, Lag= 0.9 min

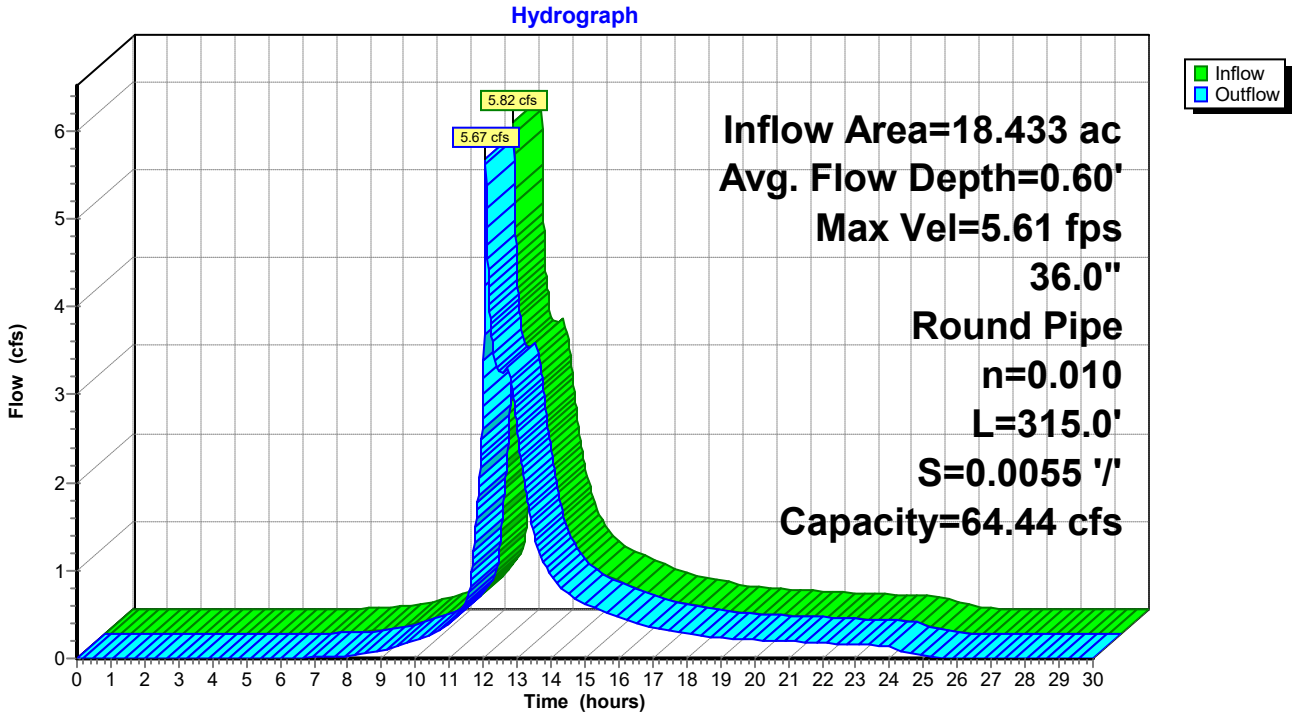
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 5.61 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 1.91 fps, Avg. Travel Time= 2.8 min

Peak Storage= 318 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.60'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 64.44 cfs

36.0" Round Pipe
n= 0.010
Length= 315.0' Slope= 0.0055 '/'
Inlet Invert= 238.49', Outlet Invert= 236.75'



Reach 54R: New Pipe



Summary for Reach 55R: New Pipe

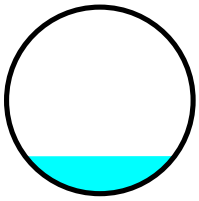
[52] Hint: Inlet/Outlet conditions not evaluated

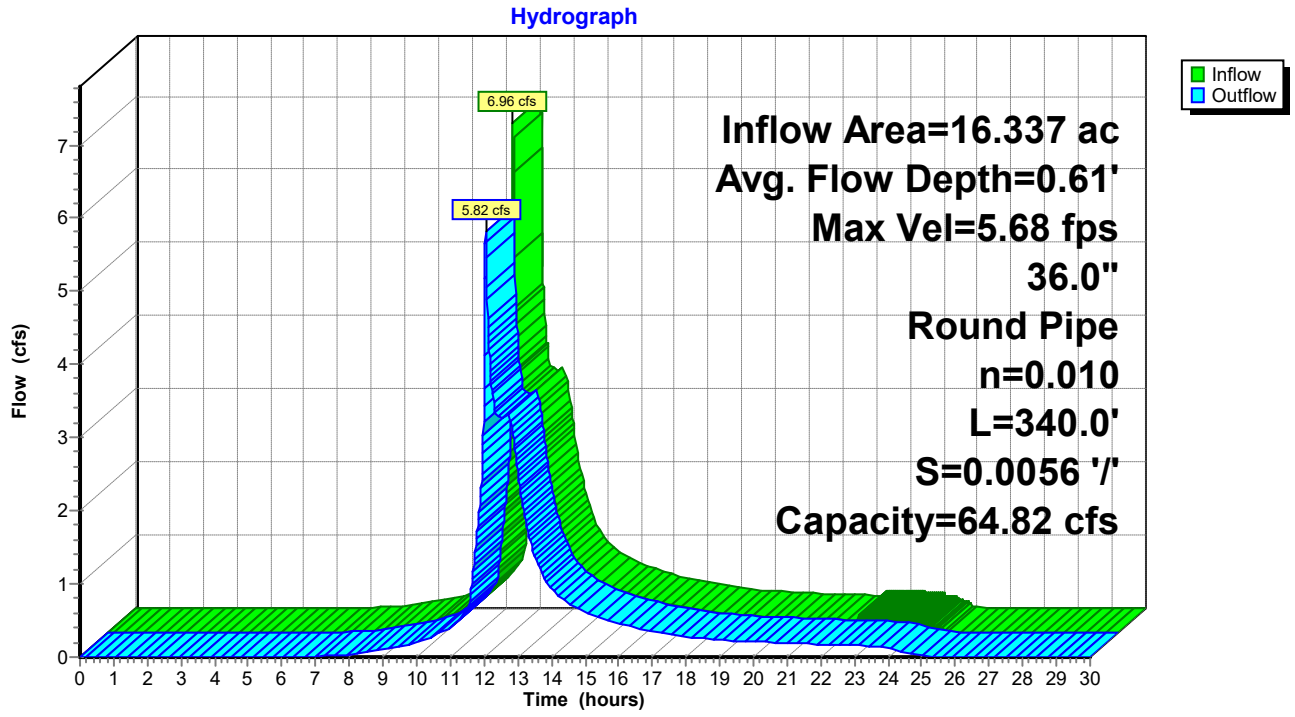
Inflow Area = 16.337 ac, 51.71% Impervious, Inflow Depth = 0.60" for 10-YR event
Inflow = 6.96 cfs @ 12.03 hrs, Volume= 0.818 af
Outflow = 5.82 cfs @ 12.05 hrs, Volume= 0.818 af, Atten= 16%, Lag= 1.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 5.68 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.92 fps, Avg. Travel Time= 3.0 min

Peak Storage= 348 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.61'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 64.82 cfs

36.0" Round Pipe
n= 0.010
Length= 340.0' Slope= 0.0056 '/'
Inlet Invert= 240.39', Outlet Invert= 238.49'





Summary for Pond 1P: EX. CULVERT

[93] Warning: Storage range exceeded by 6.11'
[58] Hint: Peaked 254.11' above defined flood level
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=2)

Inflow Area = 6.218 ac, 48.80% Impervious, Inflow Depth = 0.61" for 10-YR event
Inflow = 4.93 cfs @ 12.03 hrs, Volume= 0.319 af
Outflow = 5.84 cfs @ 12.03 hrs, Volume= 0.319 af, Atten= 0%, Lag= 0.0 min
Primary = 5.84 cfs @ 12.03 hrs, Volume= 0.319 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.11' @ 12.03 hrs Surf.Area= 300 sf Storage= 345 cf
Flood Elev= 1.00' Surf.Area= 0 sf Storage= 0 cf

Plug-Flow detention time= 0.7 min calculated for 0.319 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (832.4 - 831.8)

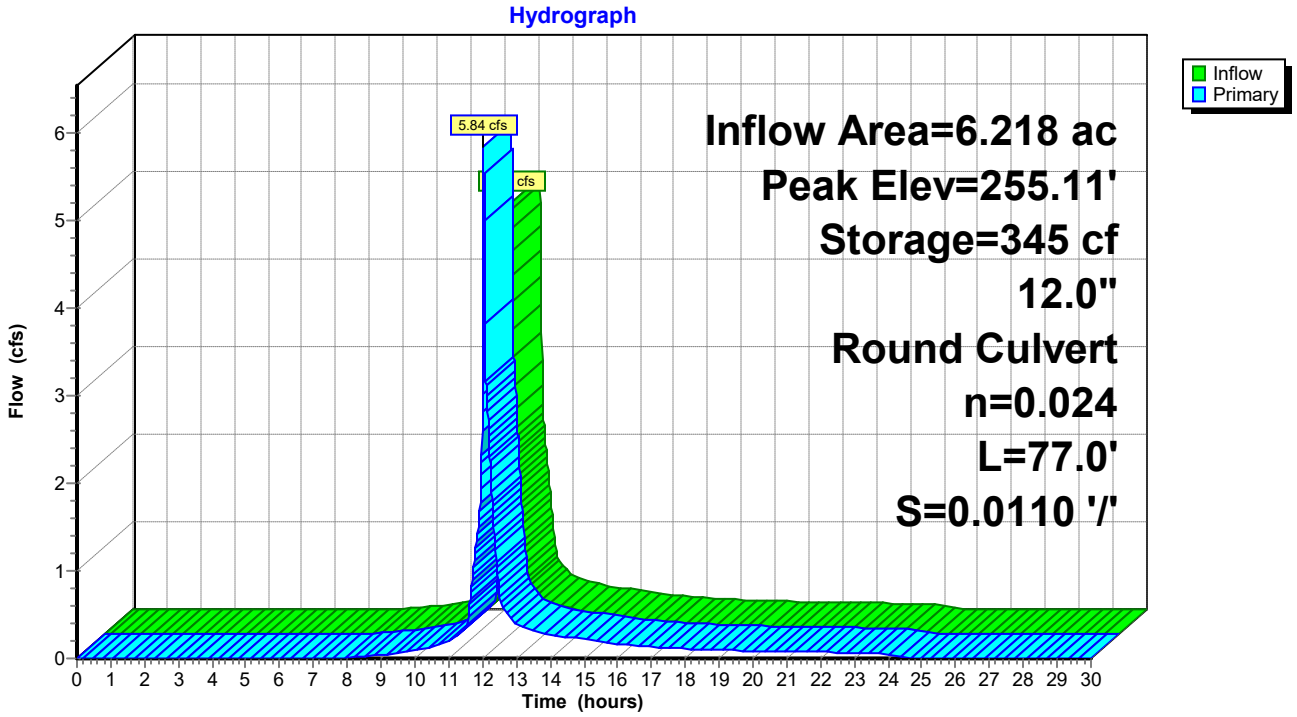
Volume	Invert	Avail.Storage	Storage Description
#1	246.25'	345 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.25	0	0	0
247.00	33	12	12
249.00	300	333	345

Device	Routing	Invert	Outlet Devices
#1	Primary	246.25'	**12.0" Round Culvert** L= 77.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.25' / 245.40' S= 0.0110 '/' Cc= 0.900 n= 0.024, Flow Area= 0.79 sf

Primary OutFlow Max=5.84 cfs @ 12.03 hrs HW=255.11' TW=245.95' (Dynamic Tailwater)
1=Culvert (Barrel Controls 5.84 cfs @ 7.44 fps)

Pond 1P: EX. CULVERT



Summary for Pond 2P: NEW CB-1

[57] Hint: Peaked at 245.95' (Flood elevation advised)
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=3)
[62] Hint: Exceeded Reach 4R OUTLET depth by 0.45' @ 12.03 hrs

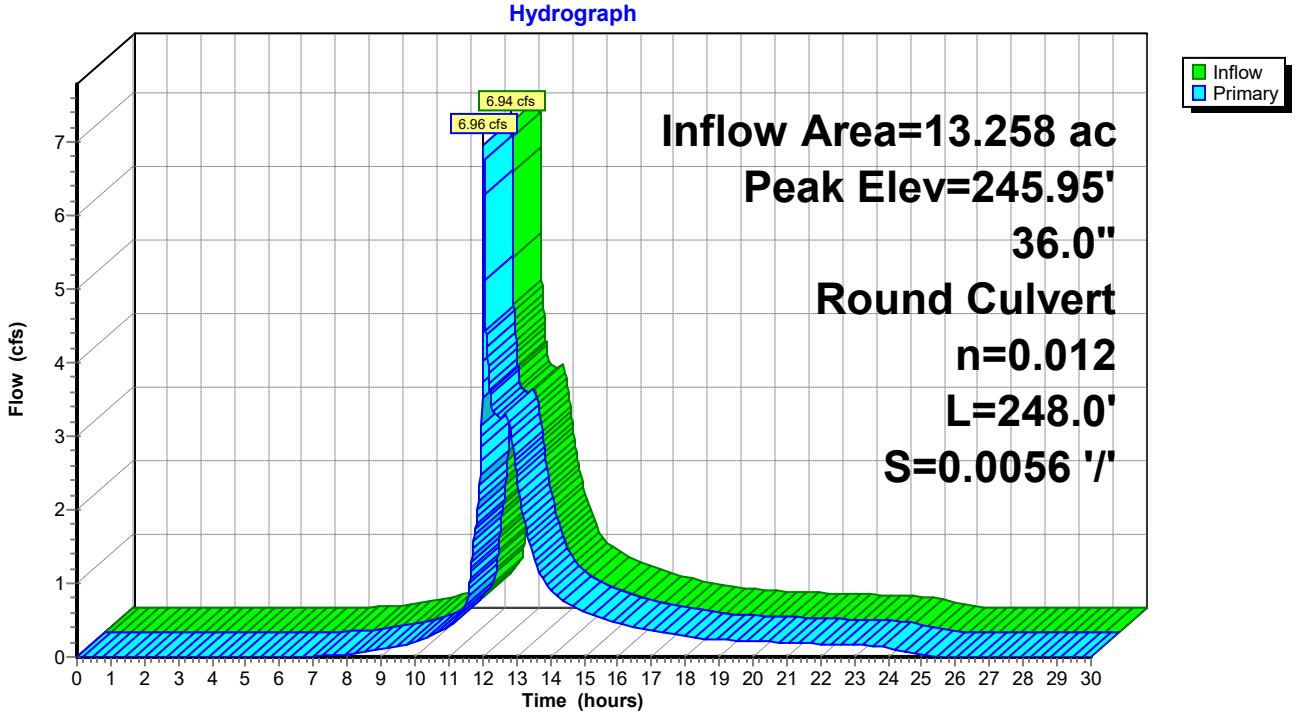
Inflow Area = 13.258 ac, 48.16% Impervious, Inflow Depth = 0.74" for 10-YR event
Inflow = 6.94 cfs @ 12.03 hrs, Volume= 0.818 af
Outflow = 6.96 cfs @ 12.03 hrs, Volume= 0.818 af, Atten= 0%, Lag= 0.0 min
Primary = 6.96 cfs @ 12.03 hrs, Volume= 0.818 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.95' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	243.50'	**36.0" Round Culvert** L= 248.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 243.50' / 242.10' S= 0.0056 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=6.93 cfs @ 12.03 hrs HW=245.95' TW=245.84' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 6.93 cfs @ 1.53 fps)

Pond 2P: NEW CB-1



Summary for Pond 3P: New CB-2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=18)

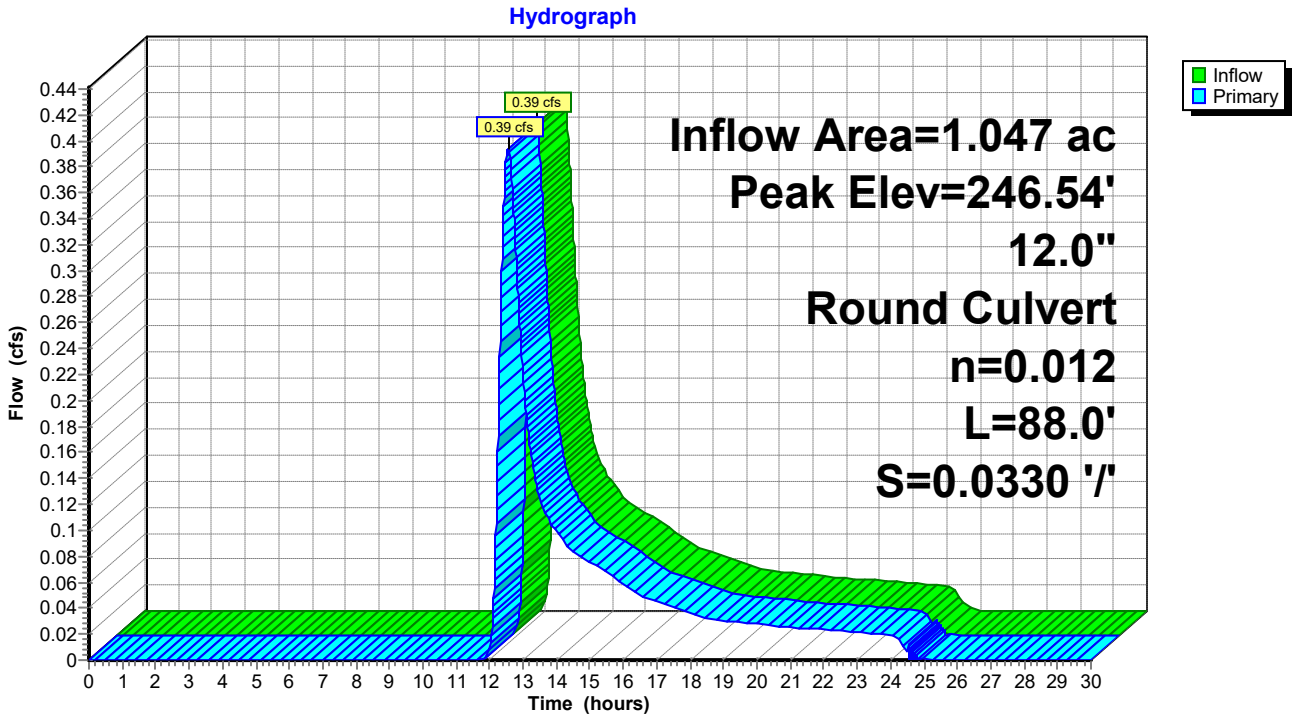
Inflow Area = 1.047 ac, 29.59% Impervious, Inflow Depth = 0.75" for 10-YR event
Inflow = 0.39 cfs @ 12.54 hrs, Volume= 0.066 af
Outflow = 0.39 cfs @ 12.54 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min
Primary = 0.39 cfs @ 12.54 hrs, Volume= 0.066 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.54' @ 17.12 hrs
Flood Elev= 249.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	244.90'	**12.0" Round Culvert** L= 88.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 244.90' / 242.00' S= 0.0330 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.39 cfs @ 12.54 hrs HW=245.40' TW=245.25' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 0.39 cfs @ 1.45 fps)

Pond 3P: New CB-2



Summary for Pond 4P: NEW CB-3

[58] Hint: Peaked 4.23' above defined flood level

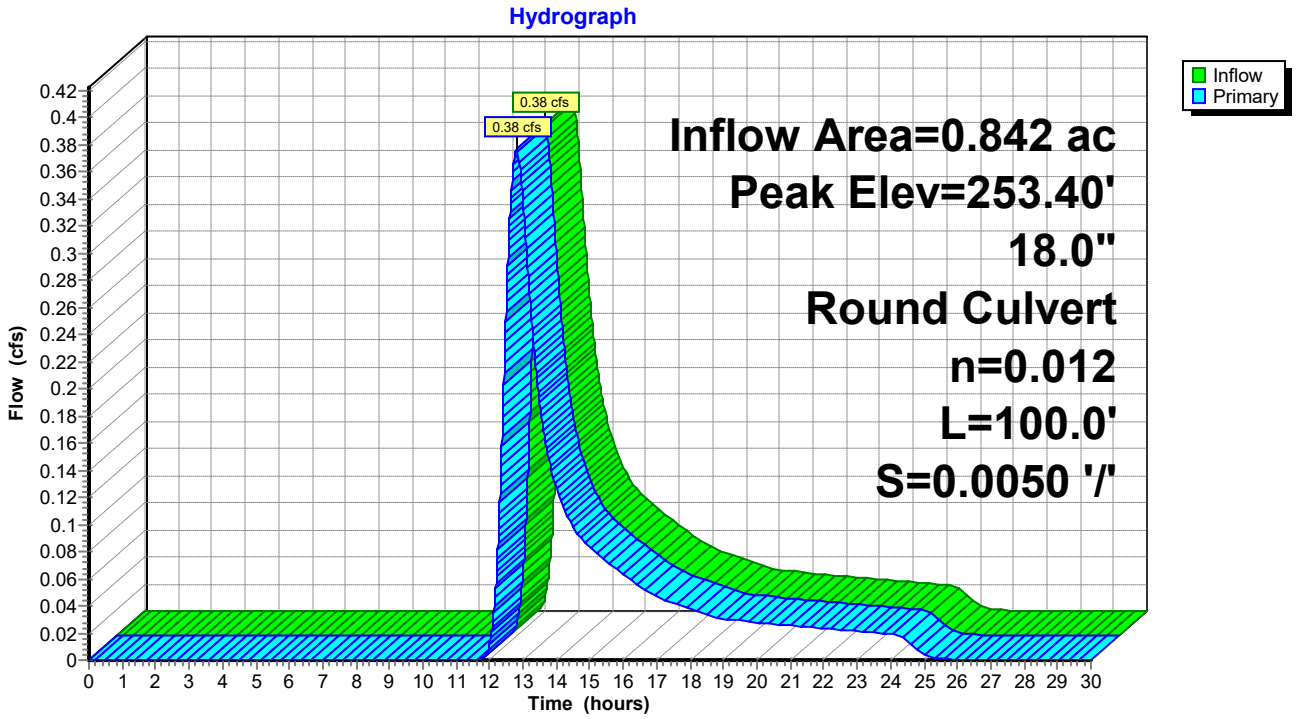
Inflow Area = 0.842 ac, 32.11% Impervious, Inflow Depth = 1.03" for 10-YR event
Inflow = 0.38 cfs @ 12.80 hrs, Volume= 0.072 af
Outflow = 0.38 cfs @ 12.80 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min
Primary = 0.38 cfs @ 12.80 hrs, Volume= 0.072 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 253.40' @ 15.73 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	252.60'	**18.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 252.60' / 252.10' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=0.38 cfs @ 12.80 hrs HW=253.02' TW=252.85' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.38 cfs @ 1.41 fps)

Pond 4P: NEW CB-3



Summary for Pond 6P: NEW DMH-2

[80] Warning: Exceeded Pond 8P by 2.83' @ 24.82 hrs (35.18 cfs 5.558 af)

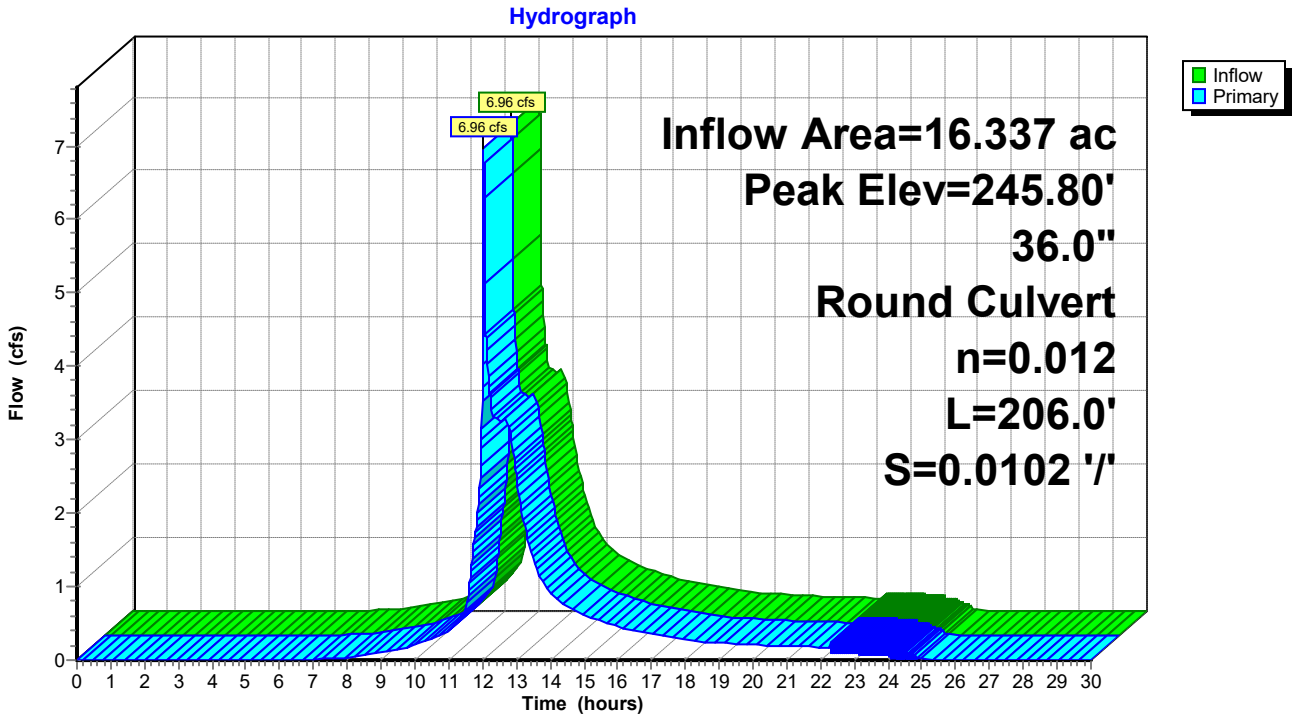
Inflow Area = 16.337 ac, 51.71% Impervious, Inflow Depth = 0.60" for 10-YR event
Inflow = 6.96 cfs @ 12.03 hrs, Volume= 0.818 af
Outflow = 6.96 cfs @ 12.03 hrs, Volume= 0.818 af, Atten= 0%, Lag= 0.0 min
Primary = 6.96 cfs @ 12.03 hrs, Volume= 0.818 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.80' @ 12.03 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	244.80'	**36.0" Round Culvert** L= 206.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 244.80' / 242.70' S= 0.0102 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=6.94 cfs @ 12.03 hrs HW=245.79' TW=243.59' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 6.94 cfs @ 3.39 fps)

Pond 6P: NEW DMH-2



Summary for Pond 7P: DRAINAGE MH

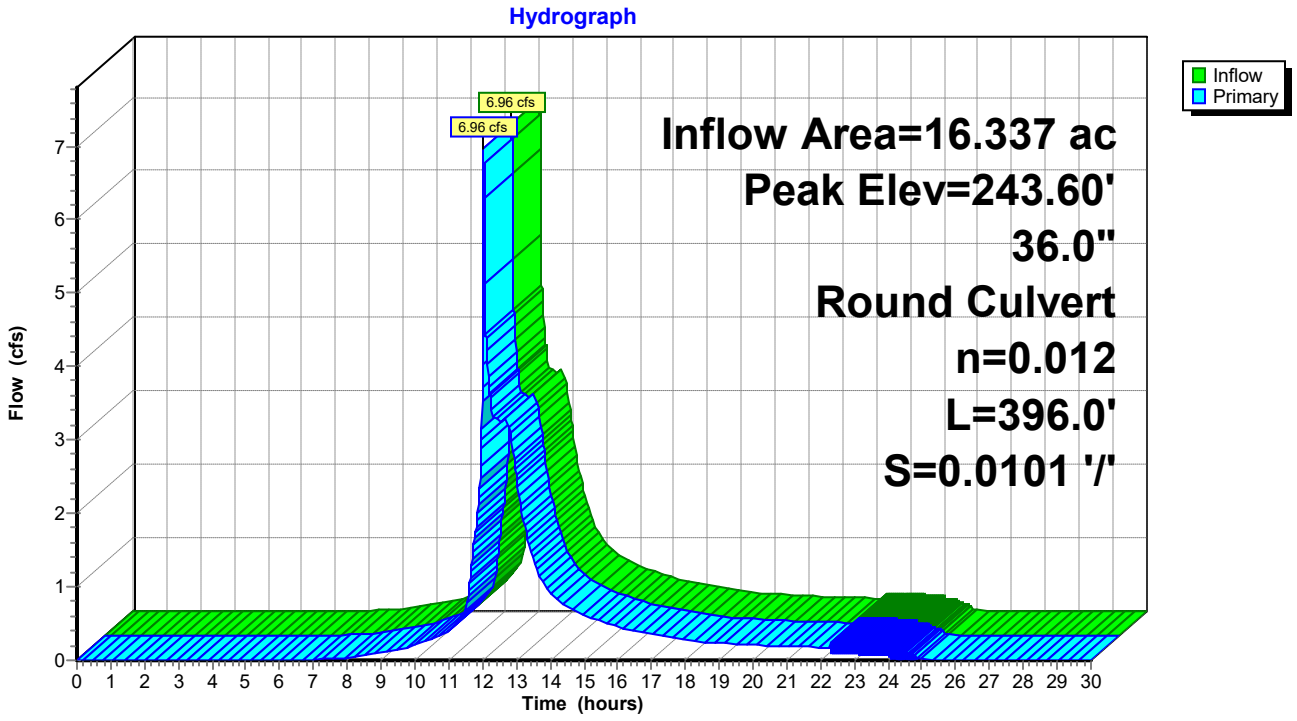
Inflow Area = 16.337 ac, 51.71% Impervious, Inflow Depth = 0.60" for 10-YR event
Inflow = 6.96 cfs @ 12.03 hrs, Volume= 0.818 af
Outflow = 6.96 cfs @ 12.03 hrs, Volume= 0.818 af, Atten= 0%, Lag= 0.0 min
Primary = 6.96 cfs @ 12.03 hrs, Volume= 0.818 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 243.60' @ 12.03 hrs
Flood Elev= 249.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.60'	**36.0" Round Culvert** L= 396.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.60' / 238.60' S= 0.0101 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=6.94 cfs @ 12.03 hrs HW=243.59' TW=240.96' (Dynamic Tailwater)
1=Culvert (Inlet Controls 6.94 cfs @ 3.39 fps)

Pond 7P: DRAINAGE MH



Summary for Pond 8P: NEW DMH-1

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=673)
[80] Warning: Exceeded Pond 2P by 1.30' @ 25.06 hrs (8.80 cfs 2.262 af)

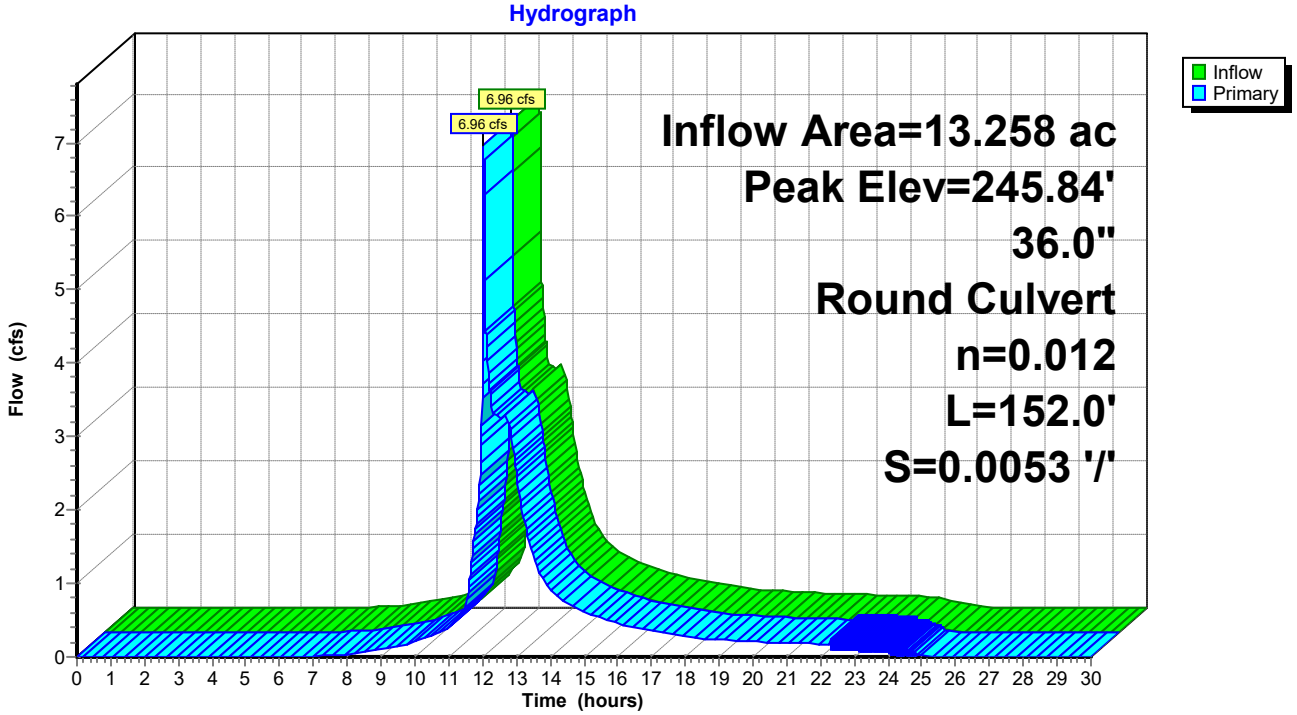
Inflow Area = 13.258 ac, 48.16% Impervious, Inflow Depth = 0.74" for 10-YR event
Inflow = 6.96 cfs @ 12.03 hrs, Volume= 0.818 af
Outflow = 6.96 cfs @ 12.03 hrs, Volume= 0.818 af, Atten= 0%, Lag= 0.0 min
Primary = 6.96 cfs @ 12.03 hrs, Volume= 0.818 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.84' @ 12.03 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.00'	**36.0" Round Culvert** L= 152.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.00' / 241.20' S= 0.0053 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=6.94 cfs @ 12.03 hrs HW=245.84' TW=245.79' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 6.94 cfs @ 0.98 fps)

Pond 8P: NEW DMH-1



Summary for Pond 9P: CULVERT

Inflow Area = 0.616 ac, 23.98% Impervious, Inflow Depth = 0.61" for 10-YR event
Inflow = 0.19 cfs @ 12.43 hrs, Volume= 0.031 af
Outflow = 0.18 cfs @ 12.54 hrs, Volume= 0.031 af, Atten= 6%, Lag= 6.5 min
Primary = 0.18 cfs @ 12.54 hrs, Volume= 0.031 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 250.14' @ 12.54 hrs Surf.Area= 152 sf Storage= 62 cf

Plug-Flow detention time= 3.9 min calculated for 0.031 af (100% of inflow)
Center-of-Mass det. time= 3.9 min (932.3 - 928.4)

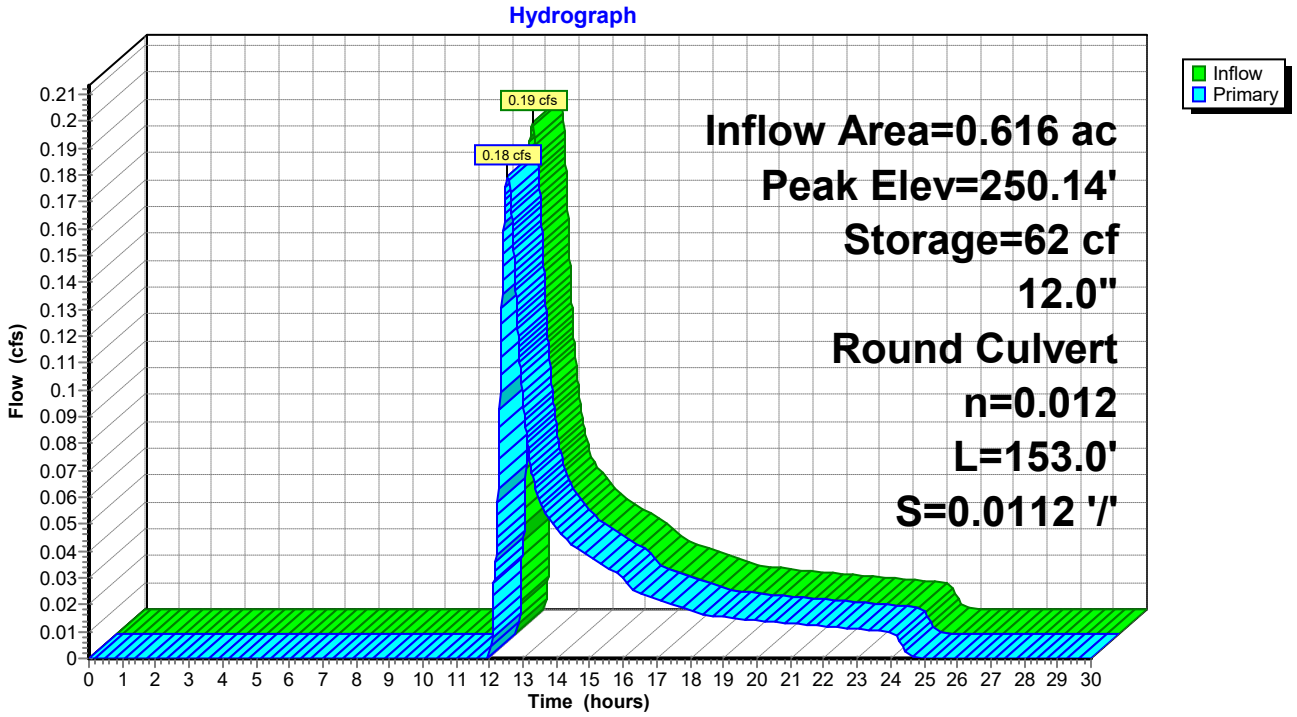
Volume	Invert	Avail.Storage	Storage Description
#1	249.91'	1,464 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
249.91	0	0	0
250.00	44	2	2
251.00	800	422	424
252.00	1,280	1,040	1,464

Device	Routing	Invert	Outlet Devices
#1	Primary	249.91'	**12.0" Round Culvert** L= 153.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 249.91' / 248.20' S= 0.0112 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.18 cfs @ 12.54 hrs HW=250.14' TW=247.04' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.18 cfs @ 1.30 fps)

Pond 9P: CULVERT



Summary for Pond 10P: New CB-5

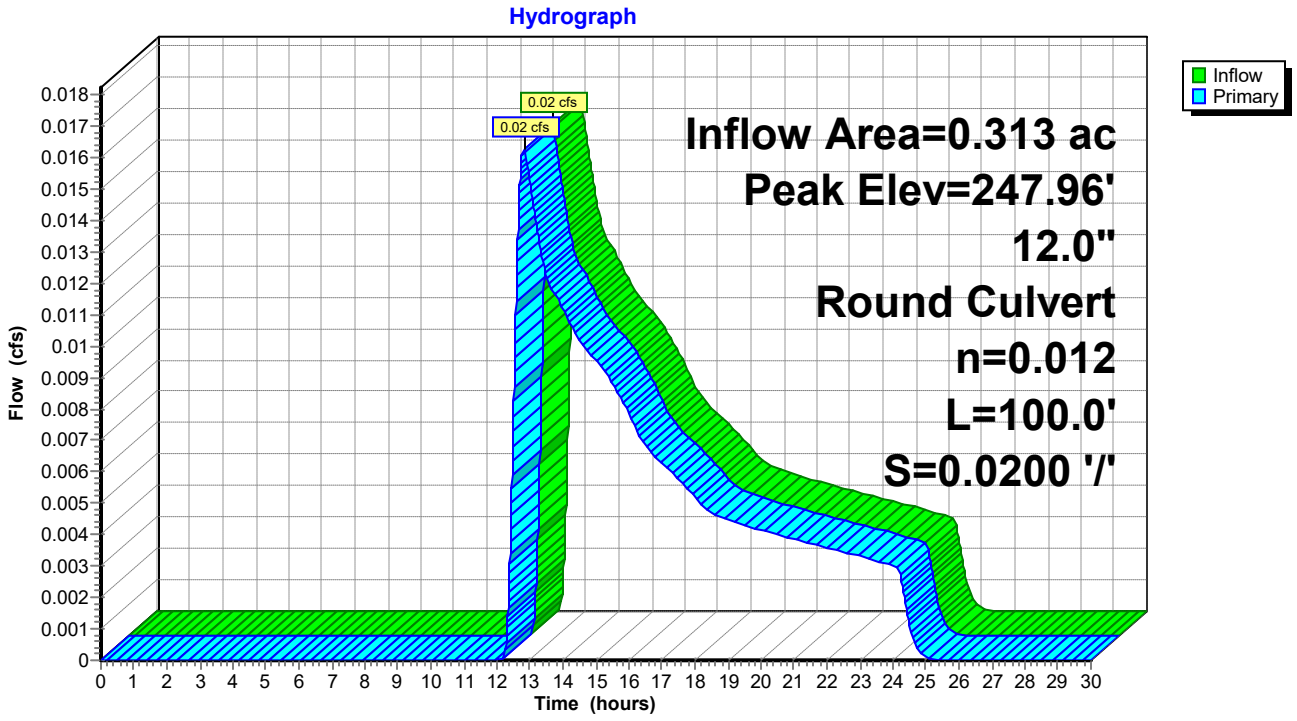
Inflow Area = 0.313 ac, 10.99% Impervious, Inflow Depth = 0.24" for 10-YR event
Inflow = 0.02 cfs @ 12.82 hrs, Volume= 0.006 af
Outflow = 0.02 cfs @ 12.82 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min
Primary = 0.02 cfs @ 12.82 hrs, Volume= 0.006 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 247.96' @ 12.82 hrs
Flood Elev= 249.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	247.90'	**12.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 247.90' / 245.90' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.02 cfs @ 12.82 hrs HW=247.96' TW=245.55' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.02 cfs @ 0.84 fps)

Pond 10P: New CB-5



Summary for Pond 11P: UNDERDRAINED SOIL FILTER 11

Inflow Area = 4.431 ac, 39.08% Impervious, Inflow Depth = 1.15" for 10-YR event
Inflow = 2.08 cfs @ 12.04 hrs, Volume= 0.426 af
Outflow = 0.33 cfs @ 15.73 hrs, Volume= 0.426 af, Atten= 84%, Lag= 221.7 min
Discarded = 0.33 cfs @ 15.73 hrs, Volume= 0.426 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 253.40' @ 15.73 hrs Surf.Area= 5,900 sf Storage= 7,441 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 235.8 min (1,104.0 - 868.2)

Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	26,202 cf	**Custom Stage Data (Prismatic)** Listed below

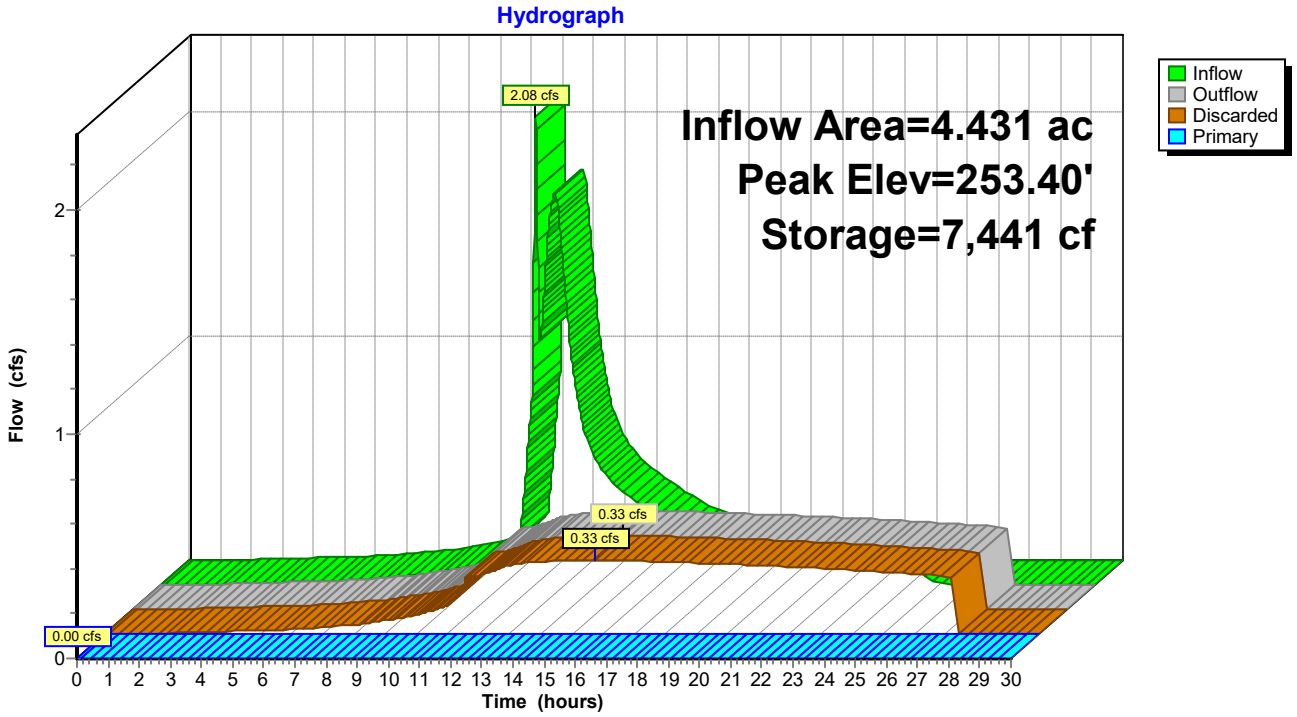
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
252.00	4,598	0	0
253.00	5,504	5,051	5,051
254.00	6,497	6,001	11,052
255.00	7,561	7,029	18,081
256.00	8,681	8,121	26,202

Device	Routing	Invert	Outlet Devices
#1	Discarded	252.00'	**2.398 in/hr Exfiltration over Surface area above 251.83'** Excluded Surface area = 0 sf
#2	Primary	255.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.33 cfs @ 15.73 hrs HW=253.40' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.33 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=252.00' TW=247.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 11P: UNDERDRAINED SOIL FILTER 11



Summary for Pond 12P: UNDERDRAINED SOIL FILTER 12

Inflow Area = 2.407 ac, 84.49% Impervious, Inflow Depth = 3.20" for 10-YR event
Inflow = 9.03 cfs @ 12.08 hrs, Volume= 0.643 af
Outflow = 0.53 cfs @ 13.84 hrs, Volume= 0.643 af, Atten= 94%, Lag= 106.1 min
Discarded = 0.53 cfs @ 13.84 hrs, Volume= 0.643 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 254.56' @ 13.84 hrs Surf.Area= 9,595 sf Storage= 12,986 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 238.4 min (1,033.7 - 795.3)

Volume	Invert	Avail.Storage	Storage Description
#1	253.00'	28,486 cf	**Custom Stage Data (Prismatic)** Listed below

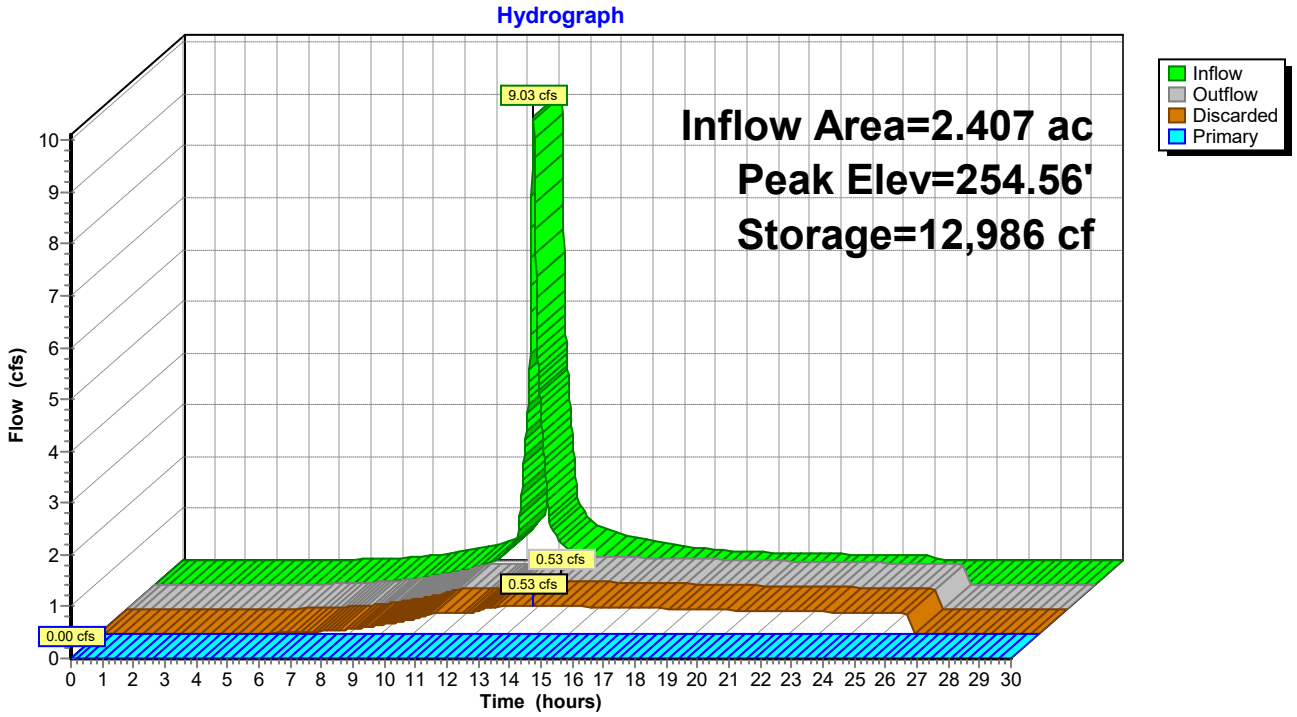
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
253.00	7,054	0	0
254.00	8,302	7,678	7,678
255.00	10,605	9,454	17,132
256.00	12,103	11,354	28,486

Device	Routing	Invert	Outlet Devices
#1	Discarded	253.00'	**2.400 in/hr Exfiltration over Surface area above 251.83'** Excluded Surface area = 0 sf
#2	Primary	255.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.53 cfs @ 13.84 hrs HW=254.56' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.53 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=253.00' TW=246.25' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 12P: UNDERDRAINED SOIL FILTER 12



Summary for Pond 14P: StormTrap

[80] Warning: Exceeded Pond 3P by 0.95' @ 24.56 hrs (2.57 cfs 0.139 af)
[80] Warning: Exceeded Pond DMH-1 by 4.48' @ 20.00 hrs (46.41 cfs 10.598 af)

Inflow Area =	3.078 ac, 67.00% Impervious,	Inflow Depth =	2.55"	for 10-YR event
Inflow =	7.50 cfs @ 12.07 hrs,	Volume=	0.654 af	
Outflow =	0.20 cfs @ 8.43 hrs,	Volume=	0.414 af,	Atten= 97%, Lag= 0.0 min
Discarded =	0.20 cfs @ 8.43 hrs,	Volume=	0.414 af	
Primary =	0.00 cfs @ 0.00 hrs,	Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.54' @ 17.12 hrs Surf.Area= 3,665 sf Storage= 16,709 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 288.3 min (1,058.0 - 769.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	241.00'	0 cf	**30.27'W x 121.08'L x 11.00'H Field A** 40,318 cf Overall - 40,318 cf Embedded = 0 cf x 40.0% Voids
#2A	241.00'	33,183 cf	**StormTrap ST2 DoubleTrap 10-0** x 14 Inside #1 Inside= 101.7"W x 120.0"H => 78.88 sf x 15.40'L = 1,214.5 cf Outside= 101.7"W x 132.0"H => 93.27 sf x 15.40'L = 1,436.0 cf 14 Chambers in 2 Rows 16.96' x 107.77' Core + 6.66' Border = 30.27' x 121.08' System
		33,183 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	241.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	250.50'	**12.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 250.50' / 244.90' S= 0.1400 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.20 cfs @ 8.43 hrs HW=241.50' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.20 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=241.00' TW=244.80' (Dynamic Tailwater)
2=Culvert (Controls 0.00 cfs)

Pond 14P: StormTrap - Chamber Wizard Field A

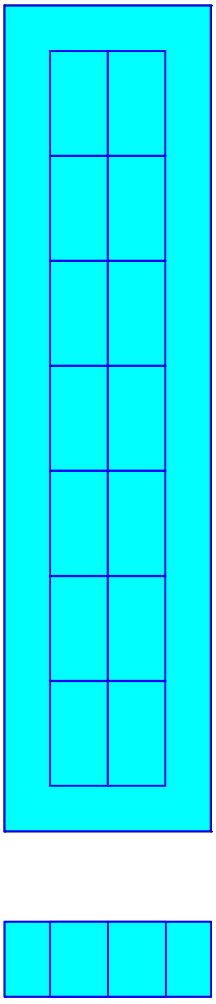
Chamber Model = StormTrap ST2 DoubleTrap 10-0 (StormTrap ST2 DoubleTrap® Type I+III)
Inside= 101.7"W x 120.0"H => 78.88 sf x 15.40'L = 1,214.5 cf
Outside= 101.7"W x 132.0"H => 93.27 sf x 15.40'L = 1,436.0 cf

7 Chambers/Row x 15.40' Long = 107.77' Row Length +79.9" Border x 2 = 121.08' Base Length
2 Rows x 101.7" Wide + 79.9" Side Border x 2 = 30.27' Base Width
132.0" Chamber Height = 11.00' Field Height

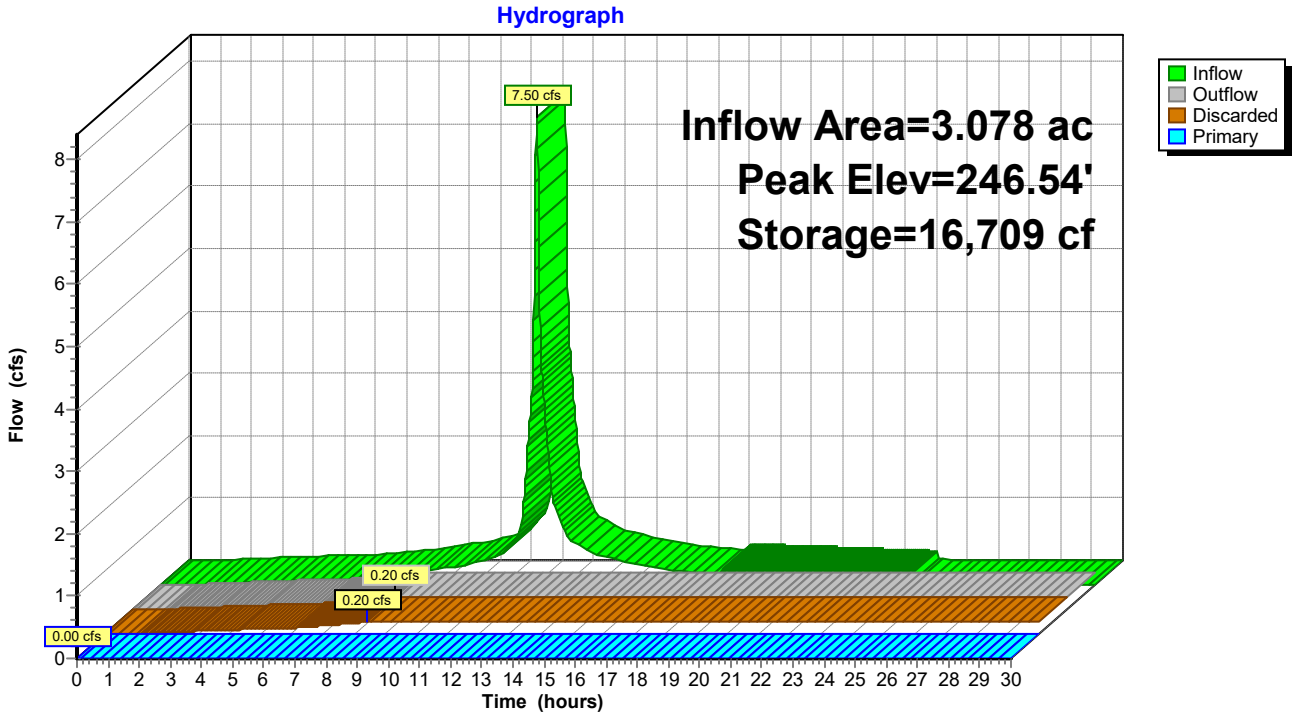
14 Chambers x 1,214.5 cf + 16,180.8 cf Border = 33,183.5 cf Chamber Storage
14 Chambers x 1,436.0 cf + 20,214.5 cf Border = 40,318.2 cf Displacement

Chamber Storage = 33,183.5 cf = 0.762 af
Overall Storage Efficiency = 82.3%
Overall System Size = 121.08' x 30.27' x 11.00'

14 Chambers (plus border)
1,493.3 cy Field



Pond 14P: StormTrap



Summary for Pond 30P: NEW POND 2

[92] Warning: Device #1 is above defined storage

Inflow Area = 5.814 ac, 89.12% Impervious, Inflow Depth = 3.41" for 10-YR event
Inflow = 22.65 cfs @ 12.06 hrs, Volume= 1.653 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 238.54' @ 24.29 hrs Surf.Area= 23,366 sf Storage= 72,023 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	82,761 cf	**Custom Stage Data (Prismatic)** Listed below

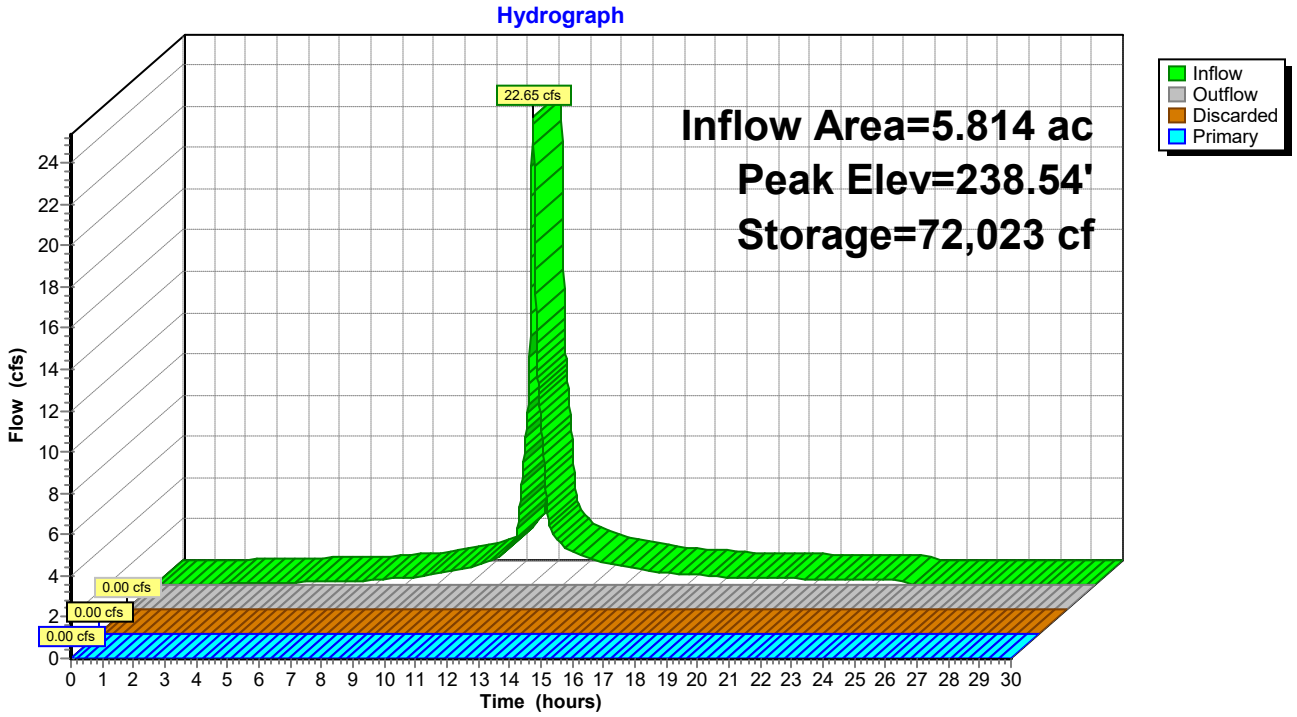
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.00	17,325	0	0
236.00	18,958	18,142	18,142
237.00	20,648	19,803	37,945
238.00	22,394	21,521	59,466
239.00	24,197	23,296	82,761

Device	Routing	Invert	Outlet Devices
#1	Discarded	241.20'	**2.400 in/hr Exfiltration over Surface area above 241.20'** Excluded Surface area = 24,197 sf
#2	Primary	238.75'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 30P: NEW POND 2



Summary for Pond 31P: NEW POND 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=12)

Inflow Area = 2.939 ac, 85.97% Impervious, Inflow Depth = 3.20" for 10-YR event
Inflow = 11.05 cfs @ 12.06 hrs, Volume= 0.784 af
Outflow = 0.68 cfs @ 13.68 hrs, Volume= 0.784 af, Atten= 94%, Lag= 97.1 min
Discarded = 0.68 cfs @ 13.68 hrs, Volume= 0.784 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 236.28' @ 13.68 hrs Surf.Area= 12,193 sf Storage= 14,539 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 189.0 min (972.5 - 783.5)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	53,261 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

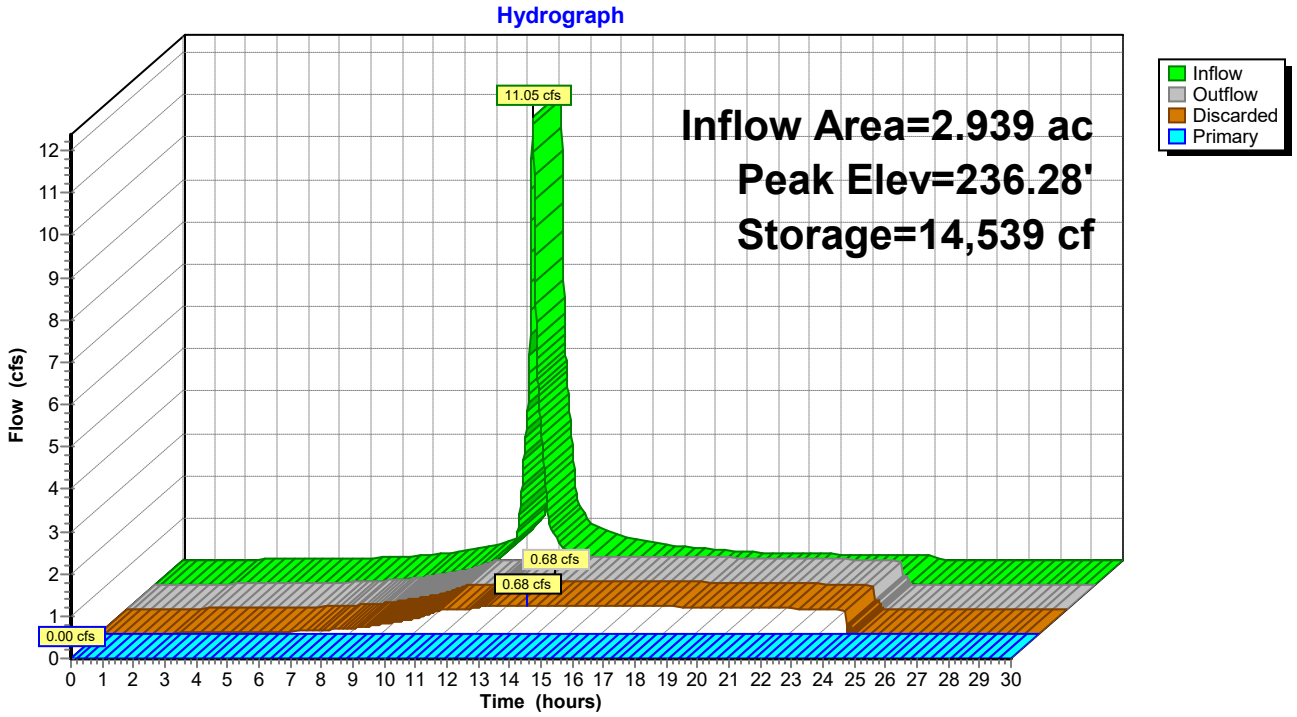
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.00	10,474	0	0
236.00	11,794	11,134	11,134
237.00	13,198	12,496	23,630
238.00	14,769	13,984	37,614
239.00	16,526	15,648	53,261

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	238.75'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.68 cfs @ 13.68 hrs HW=236.28' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.68 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 31P: NEW POND 1



Summary for Pond 50P: Underdrain Soil Filter 3

[92] Warning: Device #2 is above defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=482)

Inflow Area = 1.983 ac, 54.57% Impervious, Inflow Depth = 1.60" for 10-YR event
Inflow = 2.51 cfs @ 12.27 hrs, Volume= 0.265 af
Outflow = 1.02 cfs @ 12.51 hrs, Volume= 0.265 af, Atten= 59%, Lag= 14.4 min
Discarded = 0.31 cfs @ 13.25 hrs, Volume= 0.218 af
Primary = 1.06 cfs @ 12.39 hrs, Volume= 0.050 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.62' @ 13.25 hrs Surf.Area= 5,544 sf Storage= 3,238 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 75.7 min (940.7 - 865.0)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	11,871 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

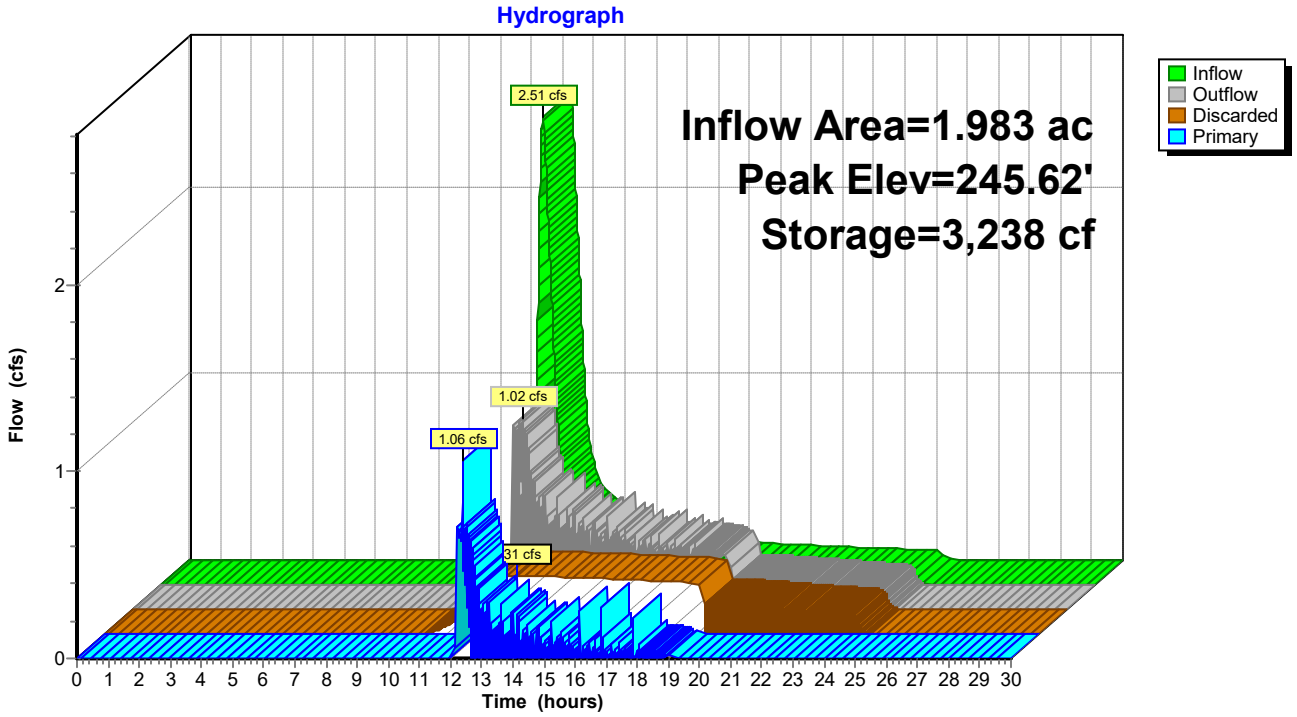
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
245.00	4,892	0	0
246.00	5,943	5,418	5,418
247.00	6,964	6,454	11,871

Device	Routing	Invert	Outlet Devices
#1	Primary	245.00'	**36.0" x 12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	247.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	245.00'	**2.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.31 cfs @ 13.25 hrs HW=245.62' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.31 cfs)

Primary OutFlow Max=0.00 cfs @ 12.39 hrs HW=245.40' TW=245.40' (Dynamic Tailwater)
├**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 50P: Underdrain Soil Filter 3



Summary for Pond 51P: NEW POND 1

Inflow Area = 5.675 ac, 89.03% Impervious, Inflow Depth = 3.41" for 10-YR event
Inflow = 22.09 cfs @ 12.06 hrs, Volume= 1.612 af
Outflow = 1.12 cfs @ 14.11 hrs, Volume= 1.612 af, Atten= 95%, Lag= 123.3 min
Discarded = 1.12 cfs @ 14.11 hrs, Volume= 1.612 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 236.73' @ 14.11 hrs Surf.Area= 20,138 sf Storage= 32,317 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 260.1 min (1,035.0 - 774.8)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	82,555 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

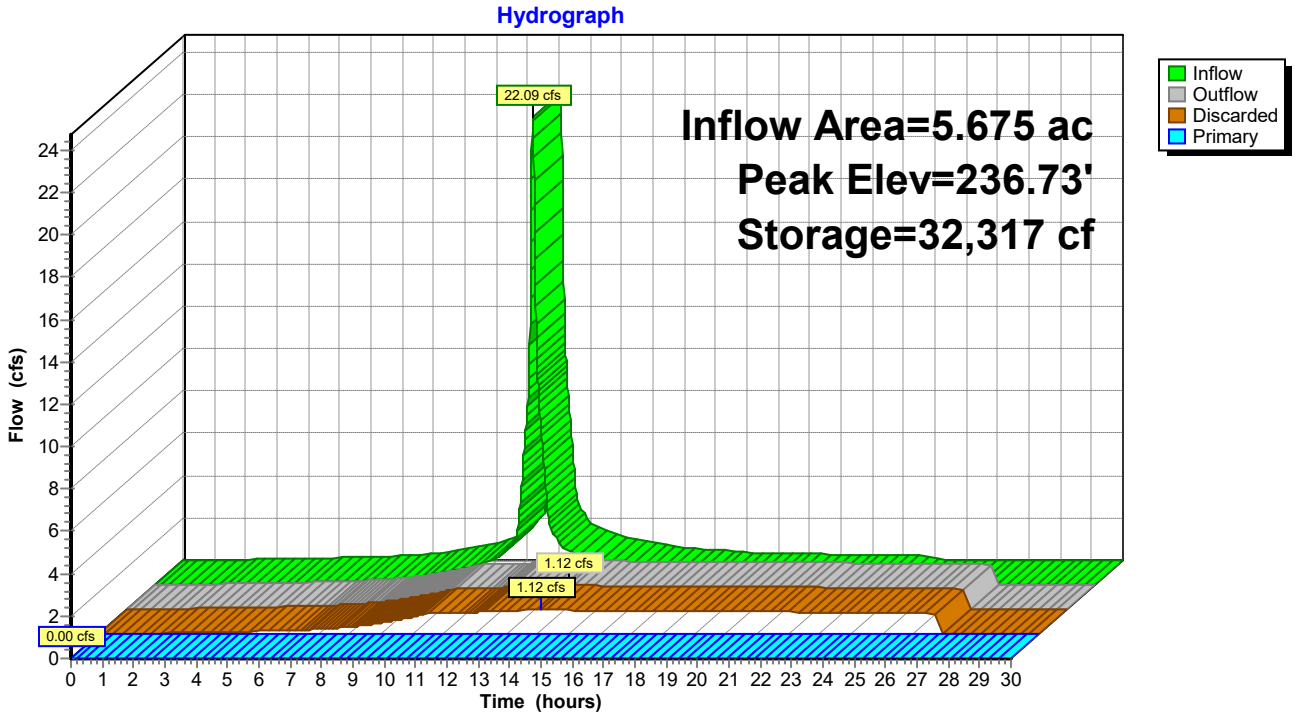
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.00	17,273	0	0
236.00	18,906	18,090	18,090
237.00	20,596	19,751	37,841
238.00	22,343	21,470	59,310
239.00	24,146	23,245	82,555

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	238.75'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=1.12 cfs @ 14.11 hrs HW=236.73' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 1.12 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 51P: NEW POND 1



Summary for Pond 52P: Underdrain Soil Filter 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=417)

Inflow Area = 2.096 ac, 45.04% Impervious, Inflow Depth = 1.21" for 10-YR event
Inflow = 2.52 cfs @ 12.13 hrs, Volume= 0.211 af
Outflow = 0.47 cfs @ 12.75 hrs, Volume= 0.211 af, Atten= 82%, Lag= 37.3 min
Discarded = 0.47 cfs @ 12.75 hrs, Volume= 0.211 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.25' @ 12.75 hrs Surf.Area= 8,376 sf Storage= 2,409 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 37.5 min (910.2 - 872.8)

Volume	Invert	Avail.Storage	Storage Description
#1	246.00'	18,960 cf	**Custom Stage Data (Prismatic)** Listed below

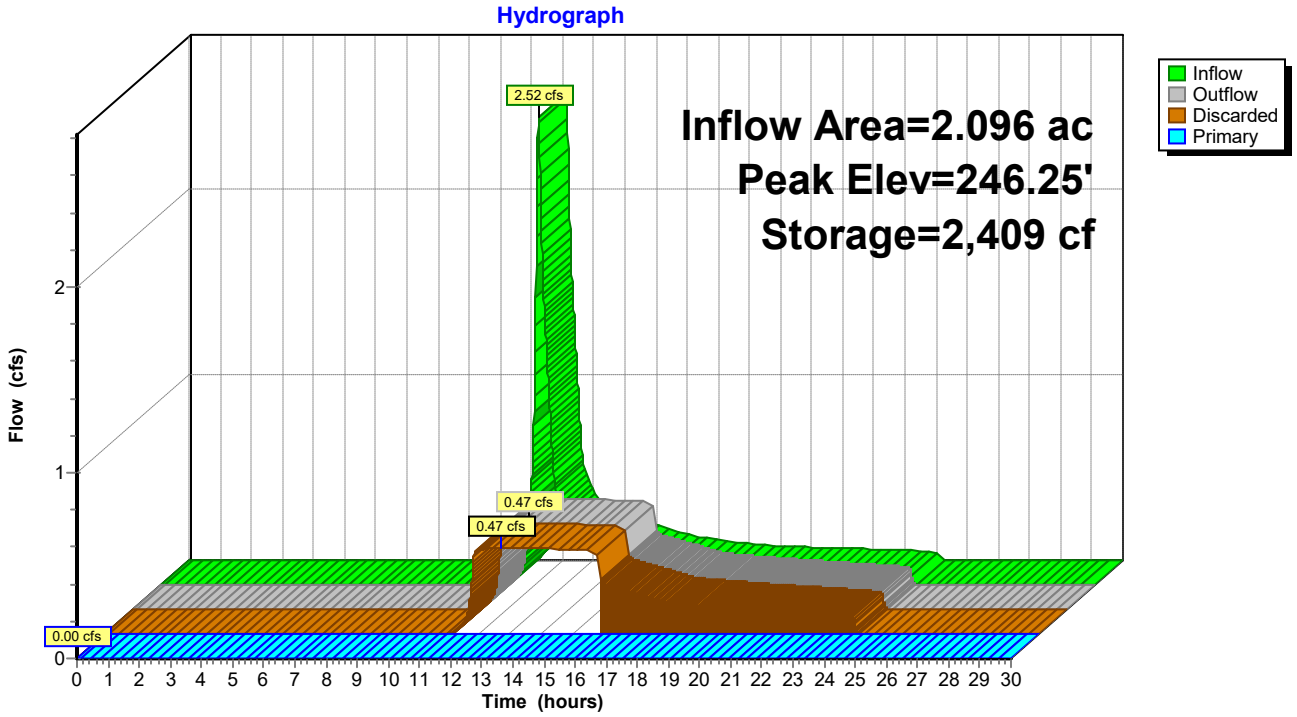
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.00	8,000	0	0
248.00	10,960	18,960	18,960

Device	Routing	Invert	Outlet Devices
#1	Discarded	246.00'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	247.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.47 cfs @ 12.75 hrs HW=246.25' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.47 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=246.00' TW=238.49' (Dynamic Tailwater)
↑**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 52P: Underdrain Soil Filter 2



Summary for Pond 53P: Underdrain Soil Filter 3.1

[92] Warning: Device #2 is above defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=18)
[80] Warning: Exceeded Pond 50P by 0.06' @ 12.10 hrs (1.29 cfs 0.066 af)

Inflow Area = 2.521 ac, 54.31% Impervious, Inflow Depth = 0.57" for 10-YR event
Inflow = 1.37 cfs @ 12.39 hrs, Volume= 0.119 af
Outflow = 0.19 cfs @ 13.27 hrs, Volume= 0.119 af, Atten= 86%, Lag= 52.8 min
Discarded = 0.19 cfs @ 13.27 hrs, Volume= 0.119 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.62' @ 13.27 hrs Surf.Area= 3,376 sf Storage= 1,927 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 99.8 min (939.7 - 839.8)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	7,449 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

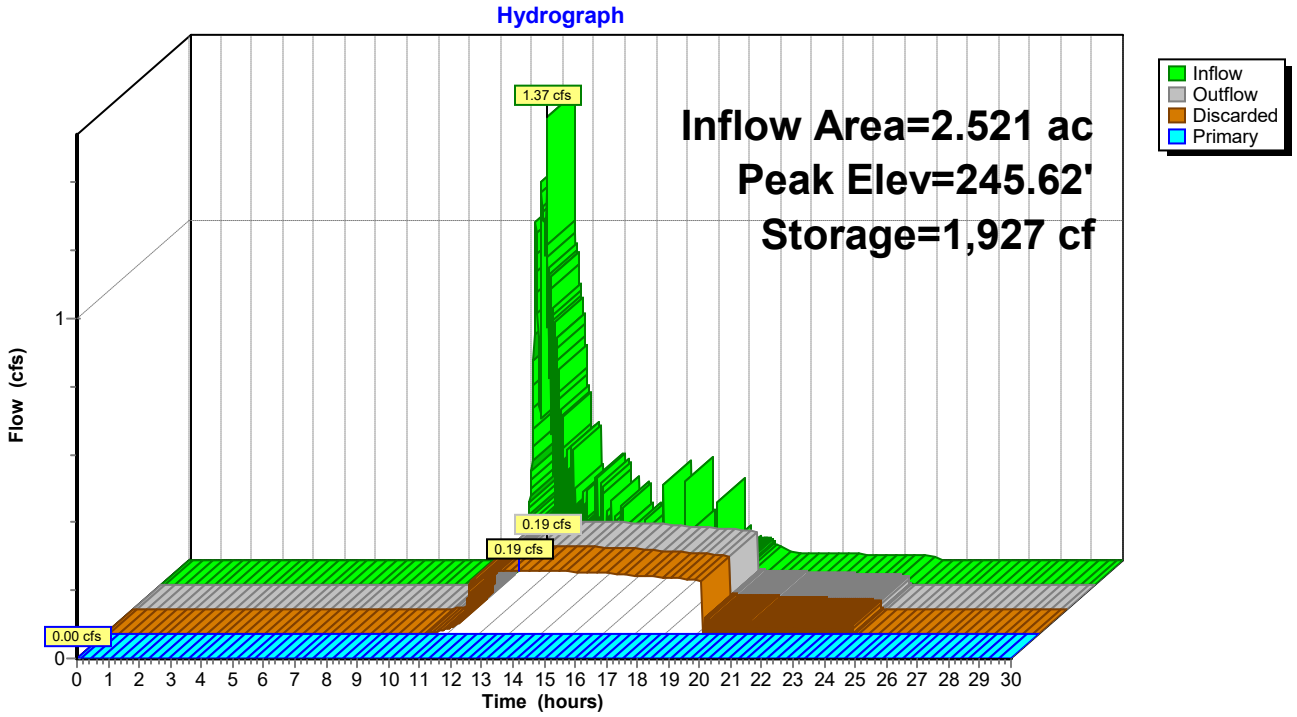
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
245.00	2,828	0	0
246.00	3,711	3,270	3,270
247.00	4,647	4,179	7,449

Device	Routing	Invert	Outlet Devices
#1	Primary	246.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	247.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	245.00'	**2.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.19 cfs @ 13.27 hrs HW=245.62' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.19 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=245.00' TW=235.00' (Dynamic Tailwater)
├**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 53P: Underdrain Soil Filter 3.1



Summary for Pond DMH-1: NEW DMH-1

[57] Hint: Peaked at 246.54' (Flood elevation advised)
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=301)

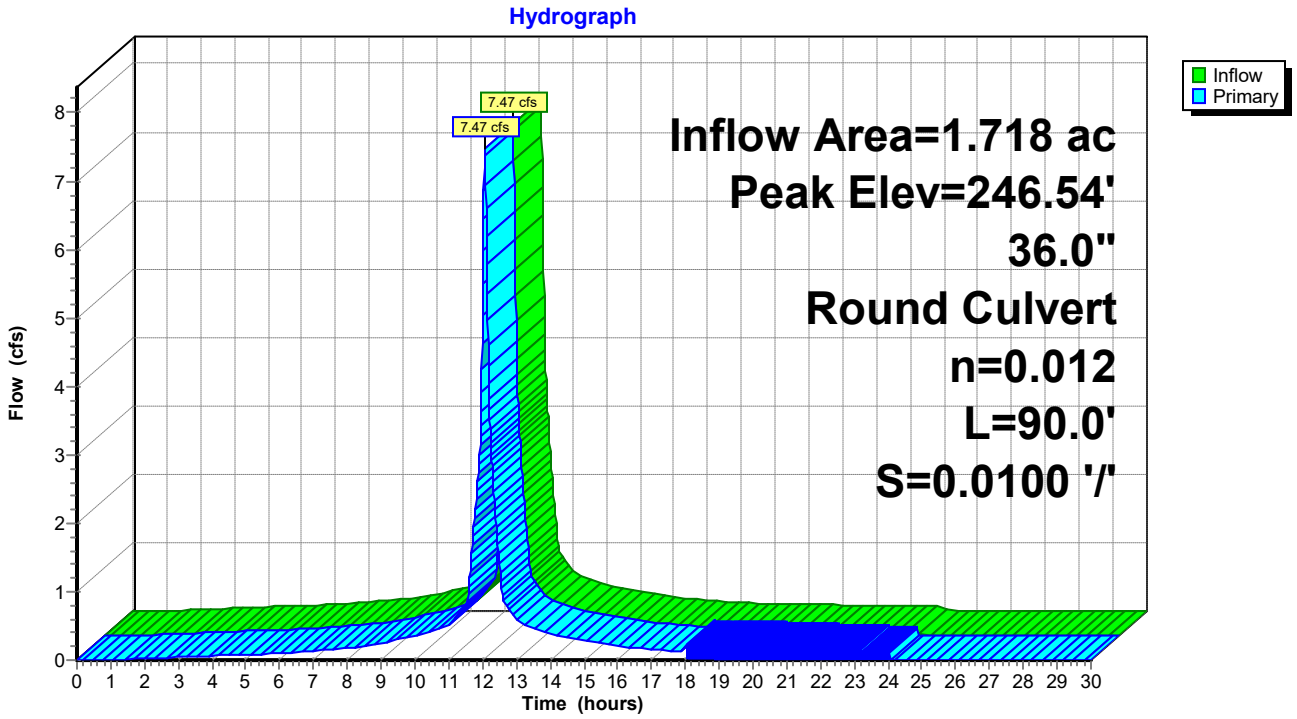
Inflow Area = 1.718 ac,100.00% Impervious, Inflow Depth = 4.06" for 10-YR event
Inflow = 7.47 cfs @ 12.07 hrs, Volume= 0.582 af
Outflow = 7.47 cfs @ 12.07 hrs, Volume= 0.582 af, Atten= 0%, Lag= 0.0 min
Primary = 7.47 cfs @ 12.07 hrs, Volume= 0.582 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.54' @ 17.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	241.90'	**36.0" Round Culvert** L= 90.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 241.90' / 241.00' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=7.47 cfs @ 12.07 hrs HW=243.80' TW=243.61' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 7.47 cfs @ 2.25 fps)

Pond DMH-1: NEW DMH-1



Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
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 1.1S: Runoff Area=62,002 sf 64.52% Impervious Runoff Depth=3.54"
Flow Length=170' Tc=1.9 min CN=83 Runoff=6.80 cfs 0.420 af

Subcatchment 1.2S: TRUCK PARKING Runoff Area=104,868 sf 84.49% Impervious Runoff Depth=4.26"
Flow Length=350' Tc=5.3 min CN=90 Runoff=11.84 cfs 0.855 af

Subcatchment 1S: Runoff Area=103,993 sf 3.44% Impervious Runoff Depth=0.29"
Flow Length=970' Tc=59.4 min CN=39 Runoff=0.11 cfs 0.057 af

Subcatchment 2.2S: TRUCK PARKING Runoff Area=137,497 sf 32.81% Impervious Runoff Depth=1.40"
Flow Length=540' Tc=37.8 min CN=58 Runoff=2.34 cfs 0.367 af

Subcatchment 2.3S: Runoff Area=36,675 sf 32.11% Impervious Runoff Depth=1.69"
Flow Length=210' Tc=51.9 min CN=62 Runoff=0.67 cfs 0.119 af

Subcatchment 2S: Runoff Area=80,878 sf 71.87% Impervious Runoff Depth=3.74"
Flow Length=210' Tc=50.8 min CN=85 Runoff=3.51 cfs 0.579 af

Subcatchment 3S: TRUCK PARKING AREA Runoff Area=18,826 sf 98.48% Impervious Runoff Depth=5.05"
Flow Length=330' Slope=0.0230 '/' Tc=2.6 min CN=97 Runoff=2.56 cfs 0.182 af

Subcatchment 4.1S: ROOF Runoff Area=38,893 sf 100.00% Impervious Runoff Depth=5.16"
Tc=5.0 min CN=98 Runoff=4.89 cfs 0.384 af

Subcatchment 4.2S: ROOF Runoff Area=74,856 sf 100.00% Impervious Runoff Depth=5.16"
Tc=5.0 min CN=98 Runoff=9.41 cfs 0.739 af

Subcatchment 4.3S: Runoff Area=91,316 sf 45.04% Impervious Runoff Depth=1.93"
Flow Length=278' Tc=8.1 min CN=65 Runoff=4.23 cfs 0.336 af

Subcatchment 4.4S: Runoff Area=45,617 sf 29.59% Impervious Runoff Depth=1.32"
Flow Length=396' Tc=31.8 min CN=57 Runoff=0.79 cfs 0.116 af

Subcatchment 4.5S: ROOF Runoff Area=57,415 sf 100.00% Impervious Runoff Depth=5.16"
Tc=5.0 min CN=98 Runoff=7.22 cfs 0.567 af

Subcatchment 4.6S: Runoff Area=13,626 sf 10.99% Impervious Runoff Depth=0.58"
Flow Length=396' Tc=31.8 min CN=45 Runoff=0.07 cfs 0.015 af

Subcatchment 5.1S: S. Warehouse Runoff Area=45,472 sf 100.00% Impervious Runoff Depth=5.16"
Tc=5.0 min CN=98 Runoff=5.72 cfs 0.449 af

Subcatchment 5.2S: ROOF Runoff Area=33,459 sf 100.00% Impervious Runoff Depth=5.16"
Tc=5.0 min CN=98 Runoff=4.21 cfs 0.330 af

Subcatchment 6S: ROOF Runoff Area=5,968 sf 100.00% Impervious Runoff Depth=5.16"
Tc=5.0 min CN=98 Runoff=0.75 cfs 0.059 af

Subcatchment 7S: Runoff Area=26,812 sf 23.98% Impervious Runoff Depth=1.12"
Flow Length=151' Tc=21.9 min CN=54 Runoff=0.43 cfs 0.057 af

Subcatchment 8S: Runoff Area=92,277 sf 2.42% Impervious Runoff Depth=0.11"
Flow Length=270' Slope=0.0100 '/' Tc=21.8 min CN=34 Runoff=0.03 cfs 0.019 af

Subcatchment 9.1S: Runoff Area=82,551 sf 78.24% Impervious Runoff Depth=3.74"
Flow Length=495' Slope=0.0200 '/' Tc=3.6 min CN=85 Runoff=8.94 cfs 0.591 af

Subcatchment 9.2S: Runoff Area=116,237 sf 0.00% Impervious Runoff Depth=0.04"
Flow Length=230' Tc=26.3 min CN=31 Runoff=0.01 cfs 0.009 af

Subcatchment 9.3S: Runoff Area=193,048 sf 16.00% Impervious Runoff Depth=0.42"
Flow Length=365' Tc=34.4 min CN=42 Runoff=0.53 cfs 0.156 af

Subcatchment 9S: Runoff Area=123,498 sf 77.70% Impervious Runoff Depth=3.74"
Flow Length=510' Slope=0.0200 '/' Tc=3.7 min CN=85 Runoff=13.32 cfs 0.884 af

Subcatchment 50S: Runoff Area=55,965 sf 15.71% Impervious Runoff Depth=0.38"
Flow Length=315' Tc=16.2 min CN=41 Runoff=0.16 cfs 0.040 af

Subcatchment 52S: Runoff Area=87,002 sf 0.23% Impervious Runoff Depth=0.02"
Flow Length=285' Tc=19.2 min CN=30 Runoff=0.01 cfs 0.004 af

Subcatchment 53S: Runoff Area=86,374 sf 54.57% Impervious Runoff Depth=2.42"
Flow Length=286' Tc=18.5 min CN=71 Runoff=3.88 cfs 0.400 af

Subcatchment 54S: Updated Runoff Area=130,453 sf 79.21% Impervious Runoff Depth=3.84"
Flow Length=755' Slope=0.0200 '/' Tc=5.1 min CN=86 Runoff=13.68 cfs 0.959 af

Subcatchment 55S: New Building Runoff Area=116,761 sf 100.00% Impervious Runoff Depth=5.16"
Flow Length=730' Slope=0.0100 '/' Tc=3.2 min CN=98 Runoff=15.66 cfs 1.153 af

Subcatchment 56S: Runoff Area=23,425 sf 53.35% Impervious Runoff Depth=2.34"
Flow Length=200' Slope=0.0350 '/' Tc=2.4 min CN=70 Runoff=1.66 cfs 0.105 af

Reach 1R: WATERSHED ANALYSIS POINT A Inflow=7.52 cfs 1.235 af
Outflow=7.52 cfs 1.235 af

Reach 2.1R: WATERSHED ANALYSIS POINT C Inflow=0.53 cfs 0.156 af
Outflow=0.53 cfs 0.156 af

Reach 2R: WATERSHED ANALYSIS POINT B Inflow=0.88 cfs 0.406 af
Outflow=0.88 cfs 0.406 af

Reach 4R: NATRUAL DRAINAGE Avg. Flow Depth=0.07' Max Vel=0.35 fps Inflow=0.41 cfs 0.057 af
n=0.080 L=130.0' S=0.0115 '/' Capacity=33.14 cfs Outflow=0.39 cfs 0.057 af

Reach 50R: STREAM Avg. Flow Depth=0.85' Max Vel=3.17 fps Inflow=8.06 cfs 1.172 af
n=0.023 L=320.0' S=0.0053 '/' Capacity=10.29 cfs Outflow=7.70 cfs 1.172 af

Reach 51R: STREAM Avg. Flow Depth=0.66' Max Vel=4.29 fps Inflow=7.70 cfs 1.176 af
n=0.023 L=340.0' S=0.0126 '/' Capacity=15.87 cfs Outflow=7.52 cfs 1.176 af

Reach 54R: New Pipe Avg. Flow Depth=0.72' Max Vel=6.22 fps Inflow=8.17 cfs 1.172 af
36.0" Round Pipe n=0.010 L=315.0' S=0.0055 '/' Capacity=64.44 cfs Outflow=8.06 cfs 1.172 af

Reach 55R: New Pipe Avg. Flow Depth=0.72' Max Vel=6.27 fps Inflow=9.71 cfs 1.172 af
36.0" Round Pipe n=0.010 L=340.0' S=0.0056 '/' Capacity=64.82 cfs Outflow=8.17 cfs 1.172 af

Pond 1P: EX. CULVERT Peak Elev=263.59' Storage=345 cf Inflow=6.80 cfs 0.477 af
12.0" Round Culvert n=0.024 L=77.0' S=0.0110 '/' Outflow=8.21 cfs 0.477 af

Pond 2P: NEW CB-1 Peak Elev=246.24' Inflow=9.71 cfs 1.172 af
36.0" Round Culvert n=0.012 L=248.0' S=0.0056 '/' Outflow=9.70 cfs 1.172 af

Pond 3P: New CB-2 Peak Elev=248.86' Inflow=0.79 cfs 0.116 af
12.0" Round Culvert n=0.012 L=88.0' S=0.0330 '/' Outflow=0.79 cfs 0.116 af

Pond 4P: NEW CB-3 Peak Elev=254.50' Inflow=0.67 cfs 0.119 af
18.0" Round Culvert n=0.012 L=100.0' S=0.0050 '/' Outflow=0.67 cfs 0.119 af

Pond 6P: NEW DMH-2 Peak Elev=245.99' Inflow=9.71 cfs 1.172 af
36.0" Round Culvert n=0.012 L=206.0' S=0.0102 '/' Outflow=9.71 cfs 1.172 af

Pond 7P: DRAINAGE MH Peak Elev=243.79' Inflow=9.71 cfs 1.172 af
36.0" Round Culvert n=0.012 L=396.0' S=0.0101 '/' Outflow=9.71 cfs 1.172 af

Pond 8P: NEW DMH-1 Peak Elev=246.07' Inflow=9.70 cfs 1.172 af
36.0" Round Culvert n=0.012 L=152.0' S=0.0053 '/' Outflow=9.71 cfs 1.172 af

Pond 9P: CULVERT Peak Elev=250.27' Storage=117 cf Inflow=0.43 cfs 0.057 af
12.0" Round Culvert n=0.012 L=153.0' S=0.0112 '/' Outflow=0.41 cfs 0.057 af

Pond 10P: New CB-5 Peak Elev=248.86' Inflow=0.07 cfs 0.015 af
12.0" Round Culvert n=0.012 L=100.0' S=0.0200 '/' Outflow=0.07 cfs 0.015 af

Pond 11P: UNDERDRAINED SOIL FILTER Peak Elev=254.50' Storage=14,585 cf Inflow=3.21 cfs 0.667 af
Discarded=0.39 cfs 0.585 af Primary=0.00 cfs 0.000 af Outflow=0.39 cfs 0.585 af

Pond 12P: UNDERDRAINED SOIL FILTER Peak Elev=255.13' Storage=18,635 cf Inflow=11.84 cfs 0.855 af
Discarded=0.60 cfs 0.855 af Primary=0.00 cfs 0.000 af Outflow=0.60 cfs 0.855 af

Pond 14P: StormTrap Peak Elev=248.86' Storage=24,430 cf Inflow=9.54 cfs 0.870 af
Discarded=0.20 cfs 0.431 af Primary=0.00 cfs 0.000 af Outflow=0.20 cfs 0.431 af

Pond 30P: NEW POND 2 Peak Elev=238.83' Storage=78,840 cf Inflow=29.46 cfs 2.165 af
Discarded=0.00 cfs 0.000 af Primary=0.87 cfs 0.398 af Outflow=0.87 cfs 0.398 af

Pond 31P: NEW POND 1 Peak Elev=236.82' Storage=21,310 cf Inflow=14.55 cfs 1.040 af
Discarded=0.72 cfs 1.040 af Primary=0.00 cfs 0.000 af Outflow=0.72 cfs 1.040 af

Pond 50P: Underdrain Soil Filter 3 Peak Elev=246.07' Storage=5,855 cf Inflow=3.88 cfs 0.400 af
Discarded=0.33 cfs 0.320 af Primary=1.64 cfs 0.083 af Outflow=1.41 cfs 0.400 af

Pond 51P: NEW POND 1 Peak Elev=237.42' Storage=46,642 cf Inflow=28.73 cfs 2.112 af
Discarded=1.18 cfs 2.039 af Primary=0.00 cfs 0.000 af Outflow=1.18 cfs 2.039 af

Pond 52P: Underdrain Soil Filter 2 Peak Elev=246.54' Storage=5,159 cf Inflow=4.23 cfs 0.336 af
Discarded=0.49 cfs 0.336 af Primary=0.00 cfs 0.000 af Outflow=0.49 cfs 0.336 af

Pond 53P: Underdrain Soil Filter 3.1 Peak Elev=246.07' Storage=3,544 cf Inflow=2.37 cfs 0.188 af
Discarded=0.21 cfs 0.188 af Primary=0.00 cfs 0.000 af Outflow=0.21 cfs 0.188 af

Pond DMH-1: NEW DMH-1 Peak Elev=248.86' Inflow=9.41 cfs 0.739 af
36.0" Round Culvert n=0.012 L=90.0' S=0.0100 '/' Outflow=9.41 cfs 0.739 af

Total Runoff Area = 47.883 ac Runoff Volume = 9.951 af Average Runoff Depth = 2.49"
48.86% Pervious = 23.394 ac 51.14% Impervious = 24.488 ac

Summary for Subcatchment 1.1S:

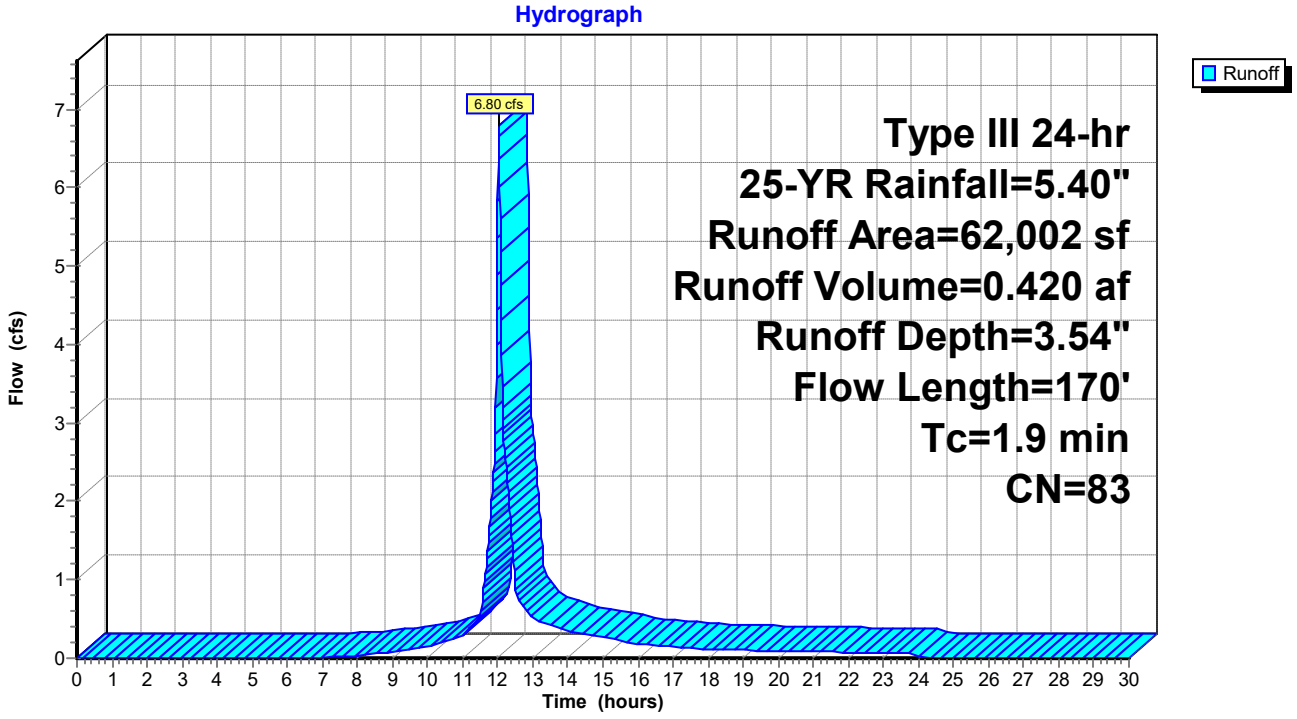
Runoff = 6.80 cfs @ 12.03 hrs, Volume= 0.420 af, Depth= 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
40,003	98	Paved parking & roofs
16,893	61	>75% Grass cover, Good, HSG B
4,233	39	>75% Grass cover, Good, HSG A
873	55	Woods, Good, HSG B
0	30	Woods, Good, HSG A
62,002	83	Weighted Average
21,999		35.48% Pervious Area
40,003		64.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0166	1.24		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	70	0.0180	2.01		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	170	Total			

Subcatchment 1.1S:



Summary for Subcatchment 1.2S: TRUCK PARKING AREA

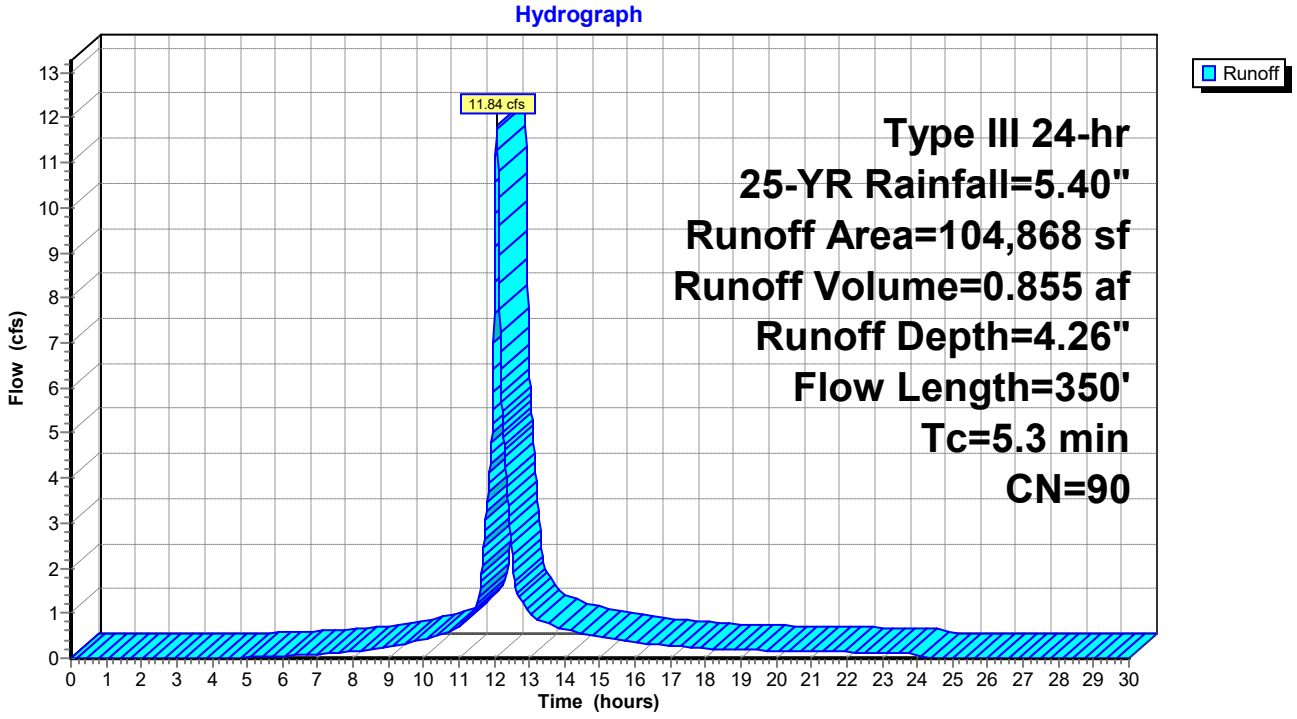
Runoff = 11.84 cfs @ 12.08 hrs, Volume= 0.855 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
88,598	98	Paved parking & roofs
3,477	61	>75% Grass cover, Good, HSG B
12,793	39	>75% Grass cover, Good, HSG A
104,868	90	Weighted Average
16,270		15.51% Pervious Area
88,598		84.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	300	0.0230	1.75		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	20	0.0300	1.14		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.2	30	0.0830	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
5.3	350	Total			

Subcatchment 1.2S: TRUCK PARKING AREA



Summary for Subcatchment 1S:

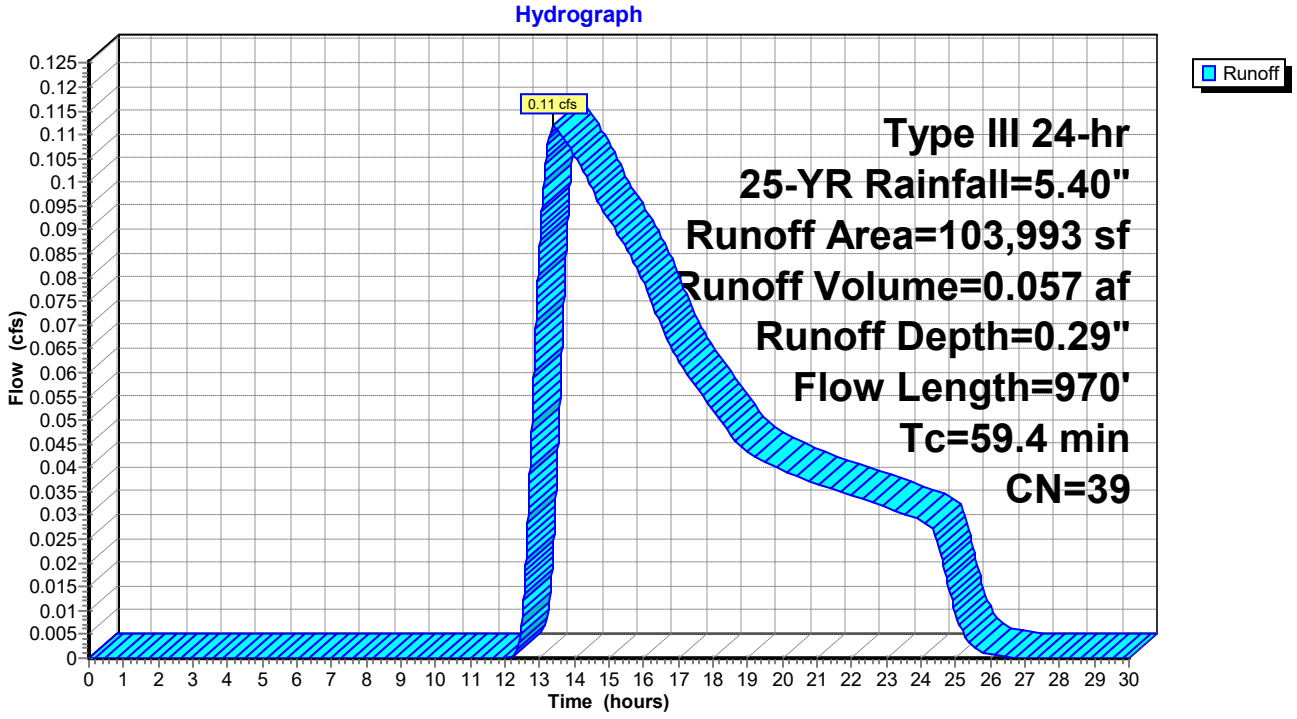
Runoff = 0.11 cfs @ 13.40 hrs, Volume= 0.057 af, Depth= 0.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
3,573	98	Paved parking & roofs
9,457	61	>75% Grass cover, Good, HSG B
32,835	39	>75% Grass cover, Good, HSG A
3,907	55	Woods, Good, HSG B
54,221	30	Woods, Good, HSG A
103,993	39	Weighted Average
100,420		96.56% Pervious Area
3,573		3.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.5	150	0.0400	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
18.9	820	0.0210	0.72		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
59.4	970	Total			

Subcatchment 1S:



Summary for Subcatchment 2.2S: TRUCK PARKING AREA

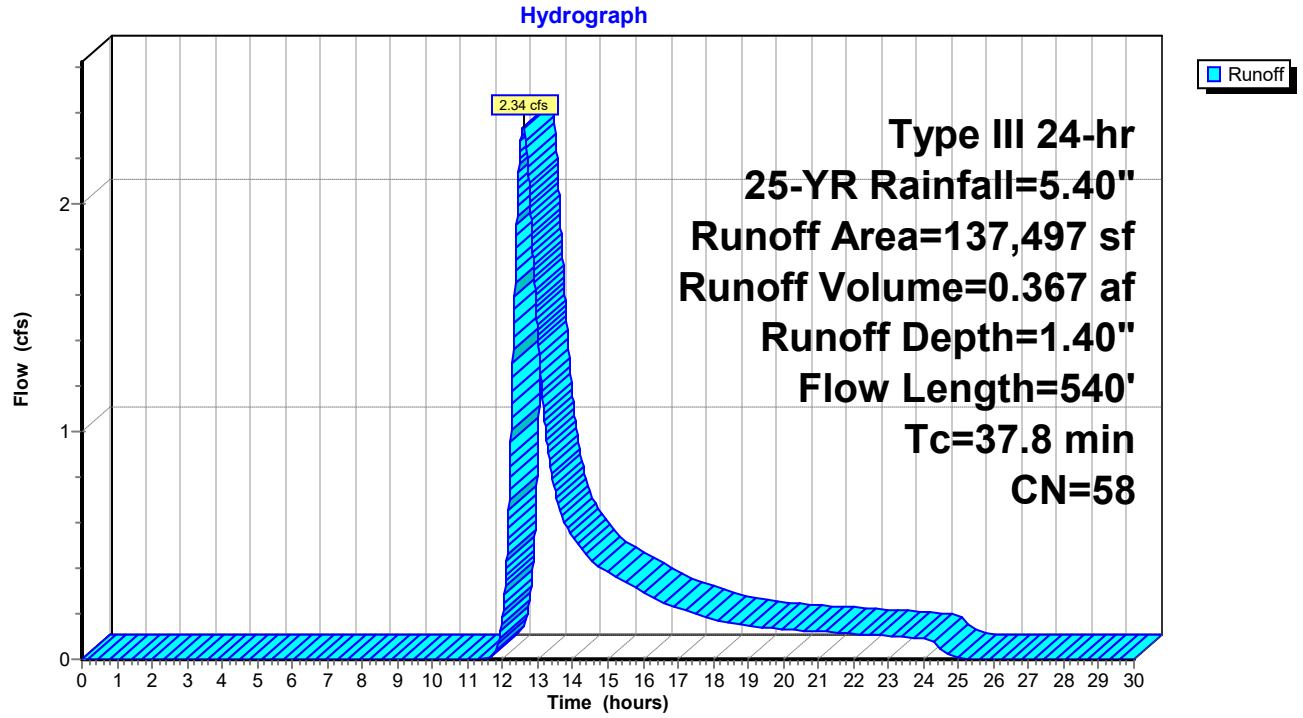
Runoff = 2.34 cfs @ 12.60 hrs, Volume= 0.367 af, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
45,111	98	Paved parking & roofs
7,939	61	>75% Grass cover, Good, HSG B
18,943	39	>75% Grass cover, Good, HSG A
15,133	55	Woods, Good, HSG B
50,371	30	Woods, Good, HSG A
137,497	58	Weighted Average
92,386		67.19% Pervious Area
45,111		32.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	150	0.0230	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
8.6	360	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	30	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
37.8	540	Total			

Subcatchment 2.2S: TRUCK PARKING AREA



Summary for Subcatchment 2.3S:

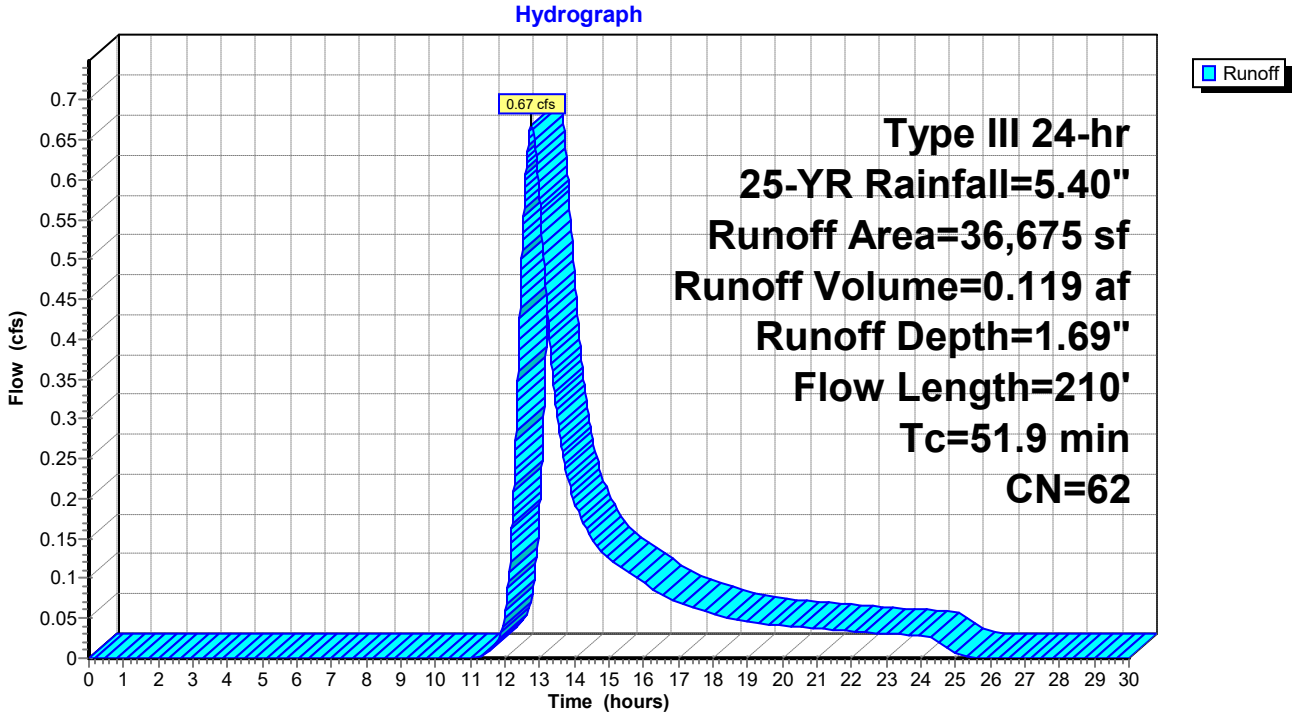
Runoff = 0.67 cfs @ 12.75 hrs, Volume= 0.119 af, Depth= 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
11,777	98	Paved parking & roofs
6,949	61	>75% Grass cover, Good, HSG B
5,697	39	>75% Grass cover, Good, HSG A
3,778	55	Woods, Good, HSG B
8,474	30	Woods, Good, HSG A
36,675	62	Weighted Average
24,898		67.89% Pervious Area
11,777		32.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
50.5	150	0.0230	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
1.4	60	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
51.9	210	Total			

Subcatchment 2.3S:



Summary for Subcatchment 2S:

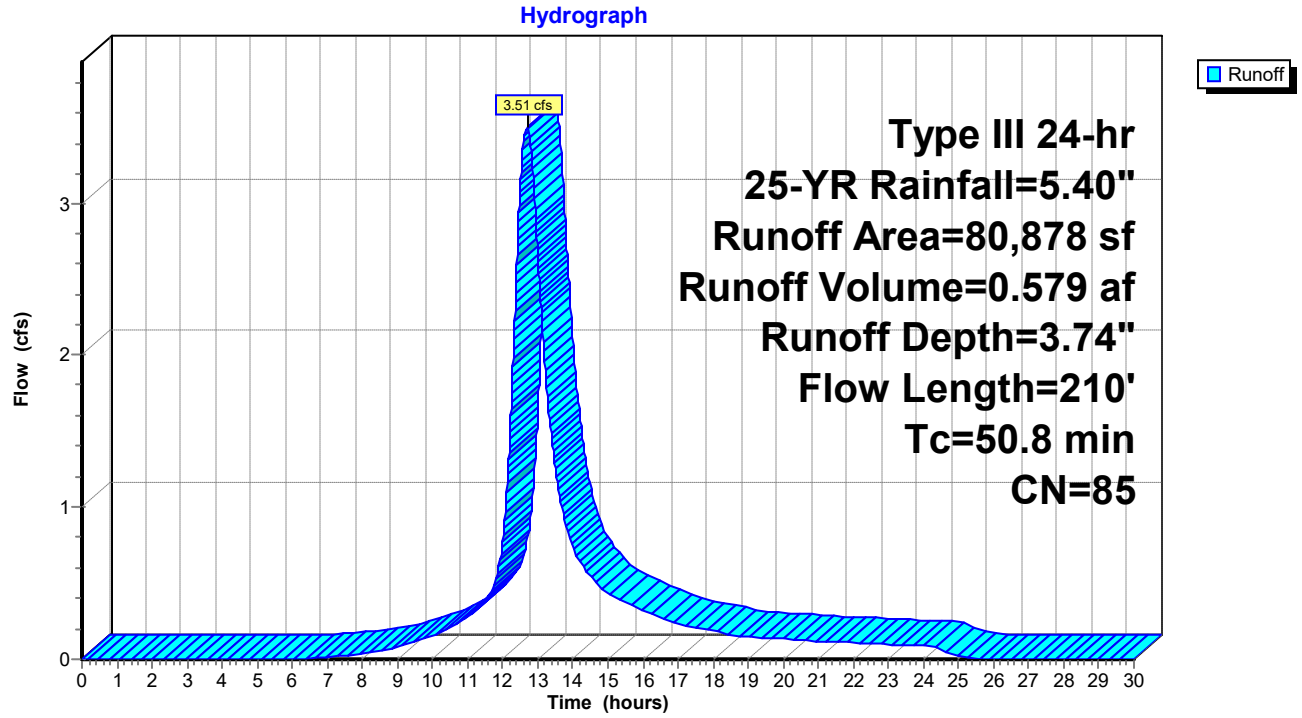
Runoff = 3.51 cfs @ 12.70 hrs, Volume= 0.579 af, Depth= 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
58,124	98	Paved parking & roofs
12,714	61	>75% Grass cover, Good, HSG B
2,991	39	>75% Grass cover, Good, HSG A
3,884	55	Woods, Good, HSG B
3,165	30	Woods, Good, HSG A
80,878	85	Weighted Average
22,754		28.13% Pervious Area
58,124		71.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
46.8	90	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
3.0	30	0.2670	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.0	90	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
50.8	210	Total			

Subcatchment 2S:



Summary for Subcatchment 3S: TRUCK PARKING AREA

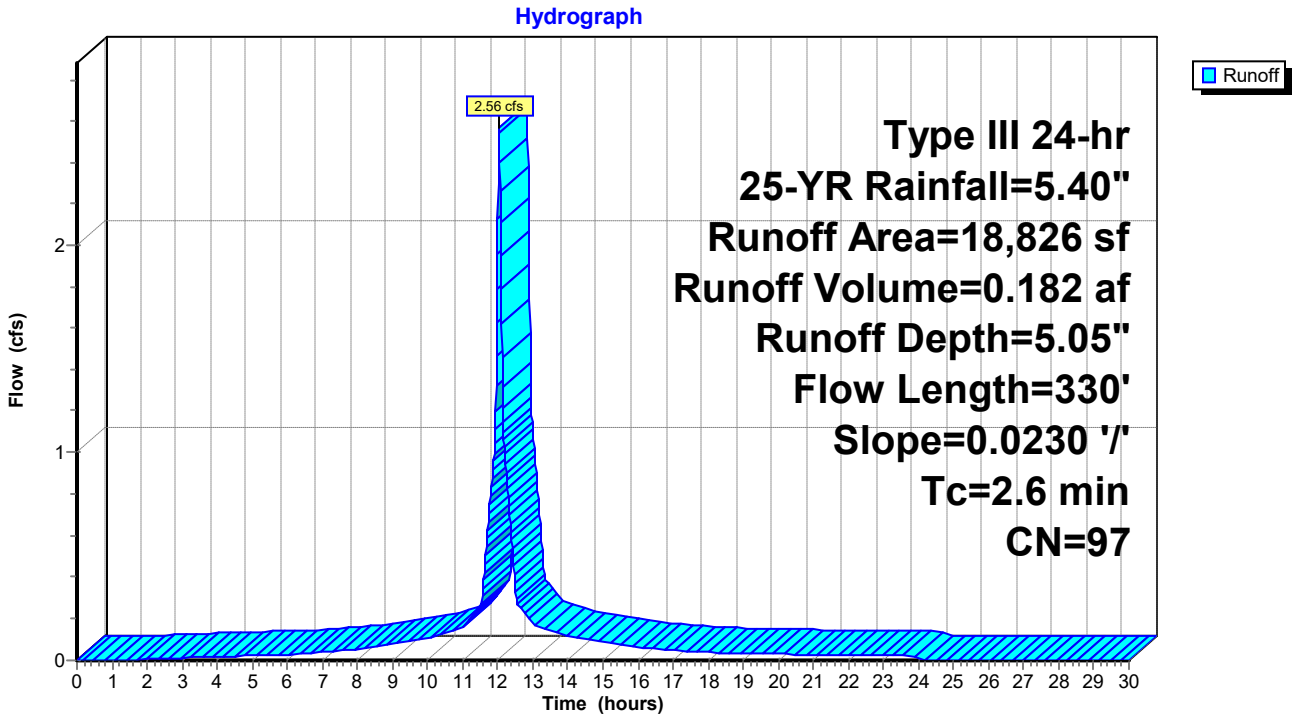
Runoff = 2.56 cfs @ 12.04 hrs, Volume= 0.182 af, Depth= 5.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
18,539	98	Paved parking & roofs
224	61	>75% Grass cover, Good, HSG B
63	39	>75% Grass cover, Good, HSG A
18,826	97	Weighted Average
287		1.52% Pervious Area
18,539		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	150	0.0230	1.53		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.0	180	0.0230	3.08		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.6	330	Total			

Subcatchment 3S: TRUCK PARKING AREA



Summary for Subcatchment 4.1S: ROOF

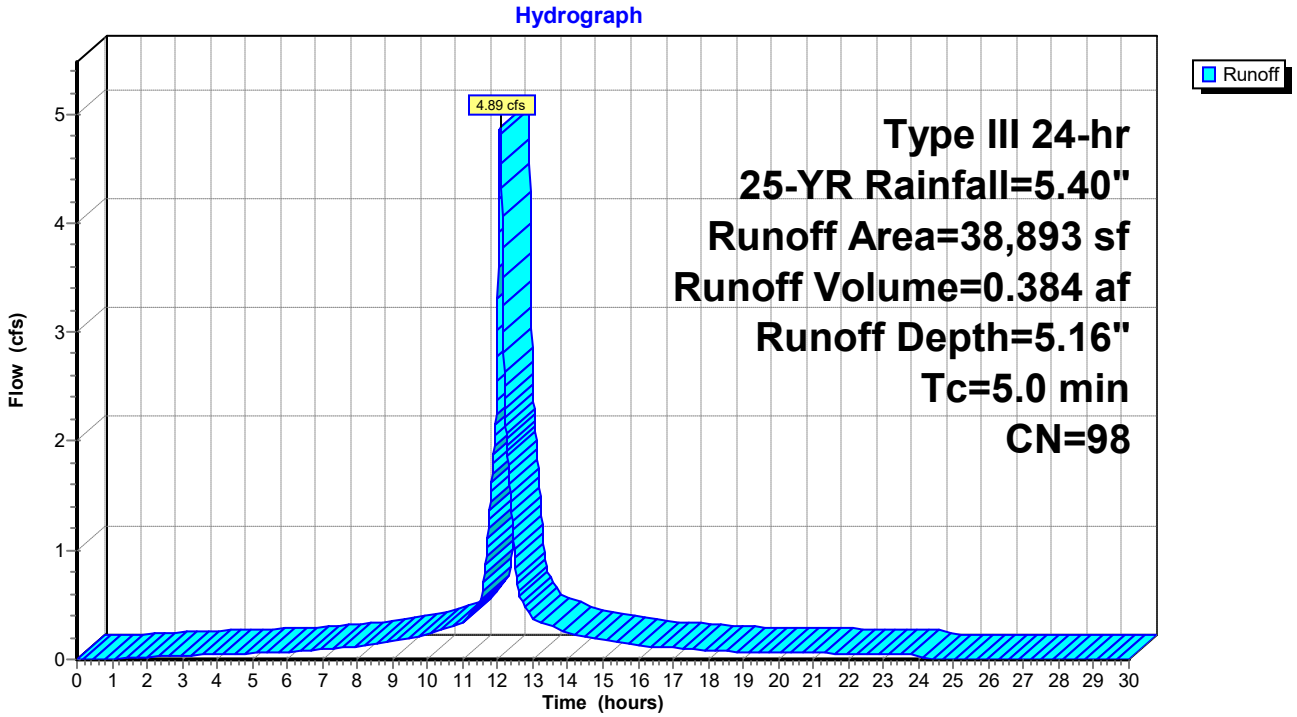
Runoff = 4.89 cfs @ 12.07 hrs, Volume= 0.384 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
38,893	98	Paved parking & roofs
38,893		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.1S: ROOF



Summary for Subcatchment 4.2S: ROOF

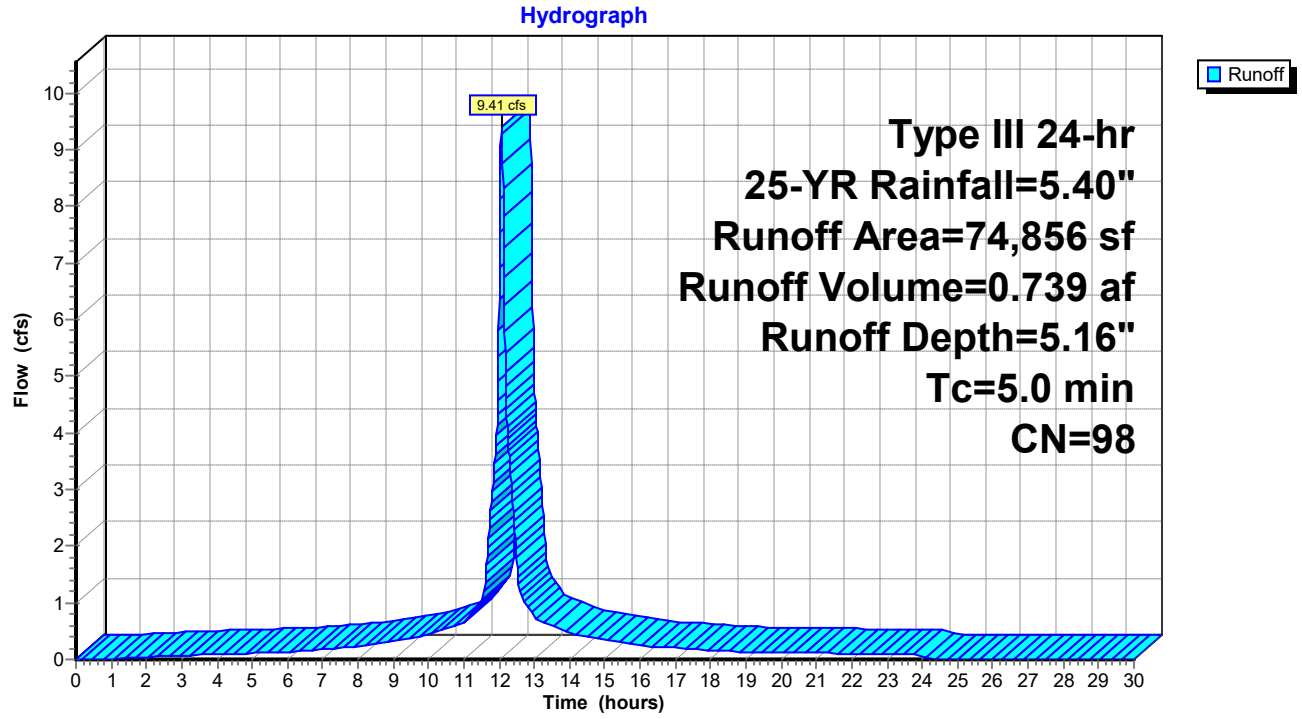
Runoff = 9.41 cfs @ 12.07 hrs, Volume= 0.739 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
74,856	98	Paved parking & roofs
74,856		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.2S: ROOF



Summary for Subcatchment 4.3S:

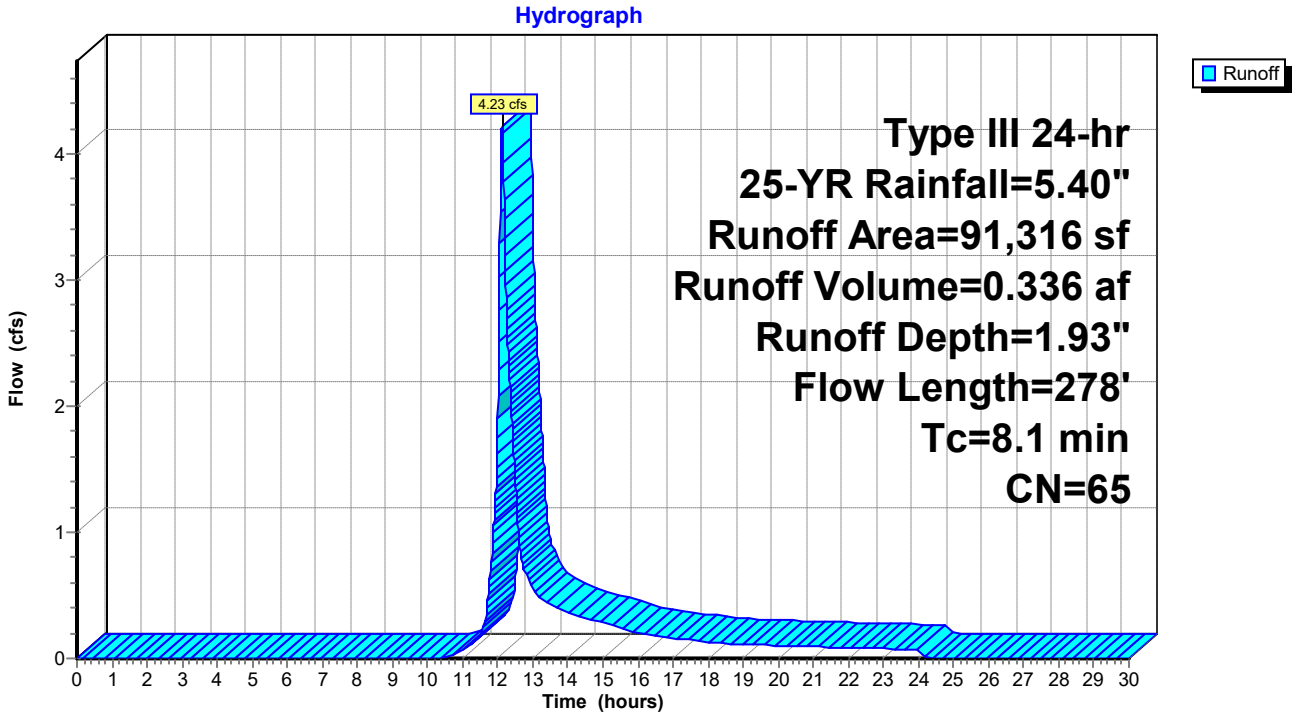
Runoff = 4.23 cfs @ 12.12 hrs, Volume= 0.336 af, Depth= 1.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
41,125	98	Paved parking & roofs
44,204	39	>75% Grass cover, Good, HSG A
5,987	30	Woods, Good, HSG A
91,316	65	Weighted Average
50,191		54.96% Pervious Area
41,125		45.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.7	45	0.2000	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.0	30	0.1000	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.8	75	0.0300	1.48		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.5	105	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	23	0.3300	4.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	278	Total			

Subcatchment 4.3S:



Summary for Subcatchment 4.4S:

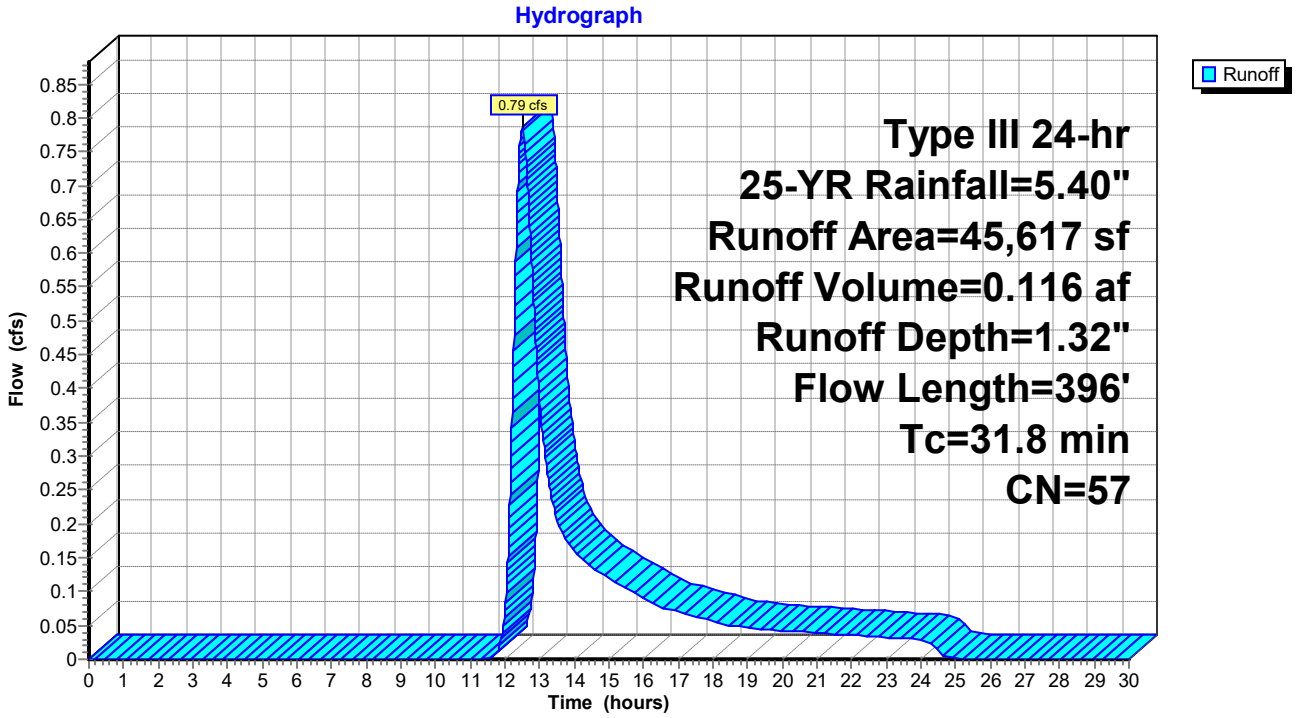
Runoff = 0.79 cfs @ 12.51 hrs, Volume= 0.116 af, Depth= 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
13,496	98	Paved parking & roofs
6,791	61	>75% Grass cover, Good, HSG B
7,039	39	>75% Grass cover, Good, HSG A
712	55	Woods, Good, HSG B
17,579	30	Woods, Good, HSG A
45,617	57	Weighted Average
32,121		70.41% Pervious Area
13,496		29.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	150	0.0230	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	61	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	185	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.8	396	Total			

Subcatchment 4.4S:



Summary for Subcatchment 4.5S: ROOF

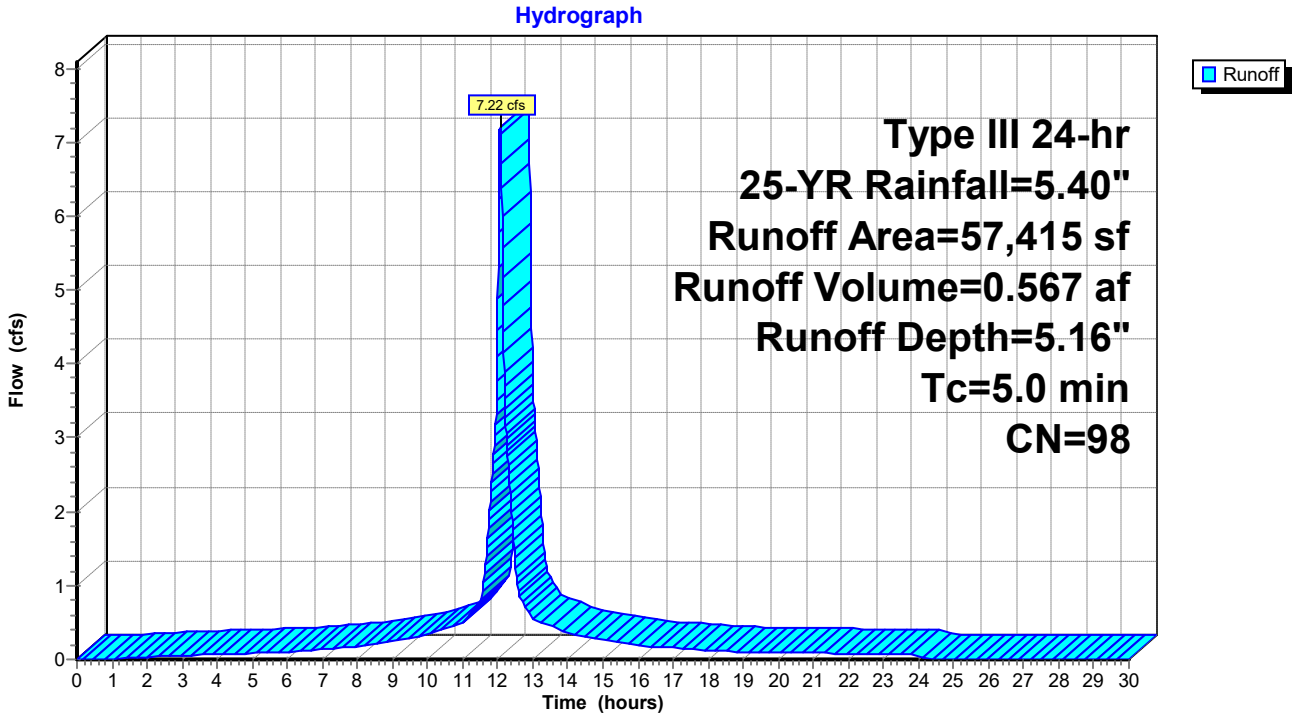
Runoff = 7.22 cfs @ 12.07 hrs, Volume= 0.567 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
57,415	98	Paved parking & roofs
57,415		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 4.5S: ROOF



Summary for Subcatchment 4.6S:

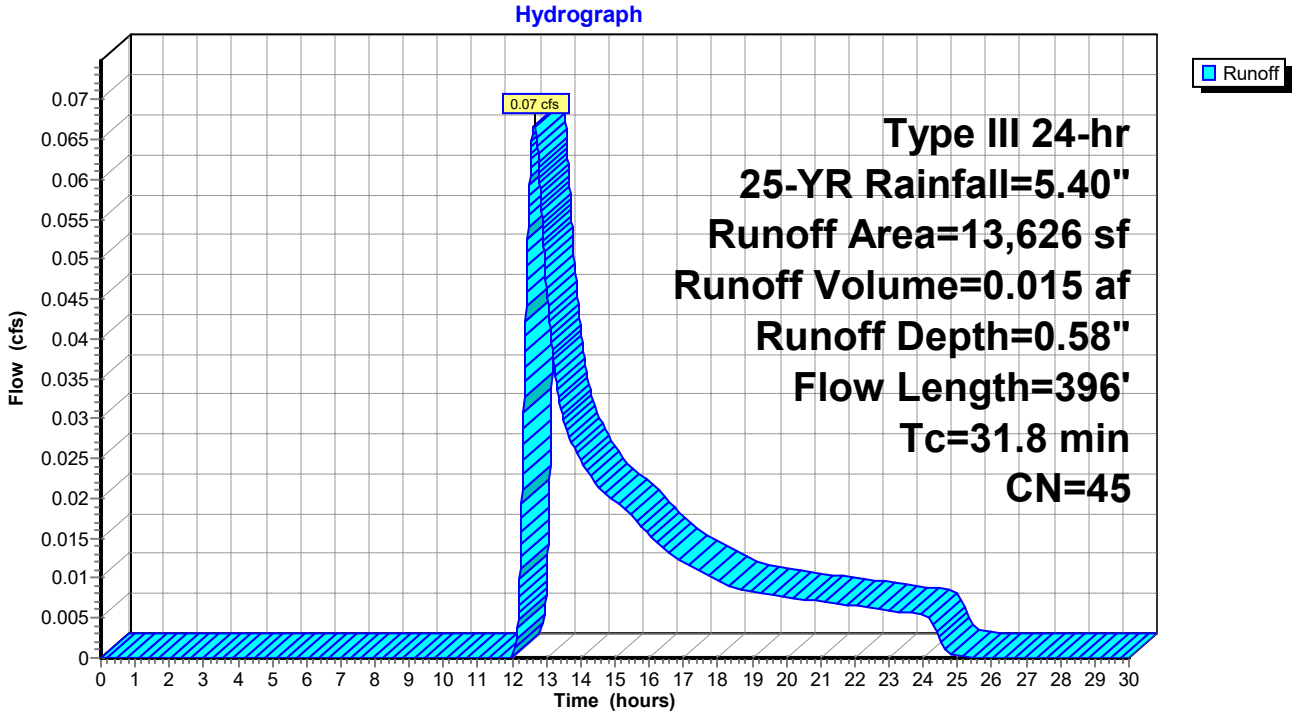
Runoff = 0.07 cfs @ 12.64 hrs, Volume= 0.015 af, Depth= 0.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
1,498	98	Paved parking & roofs
12,128	39	>75% Grass cover, Good, HSG A
13,626	45	Weighted Average
12,128		89.01% Pervious Area
1,498		10.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	150	0.0230	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	61	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	185	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.8	396	Total			

Subcatchment 4.6S:



Summary for Subcatchment 5.1S: S. Warehouse

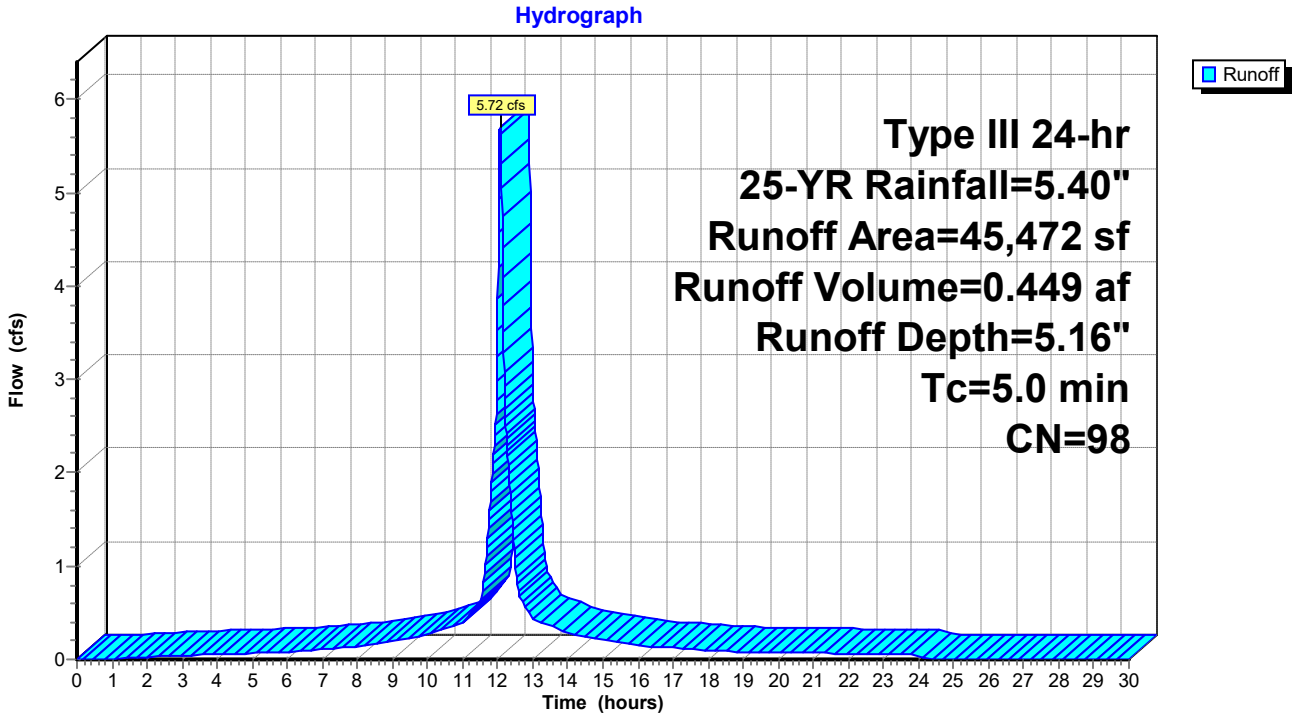
Runoff = 5.72 cfs @ 12.07 hrs, Volume= 0.449 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	45,472	98	Impervious
	45,472		100.00% Impervious Area

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

Subcatchment 5.1S: S. Warehouse



Summary for Subcatchment 5.2S: ROOF

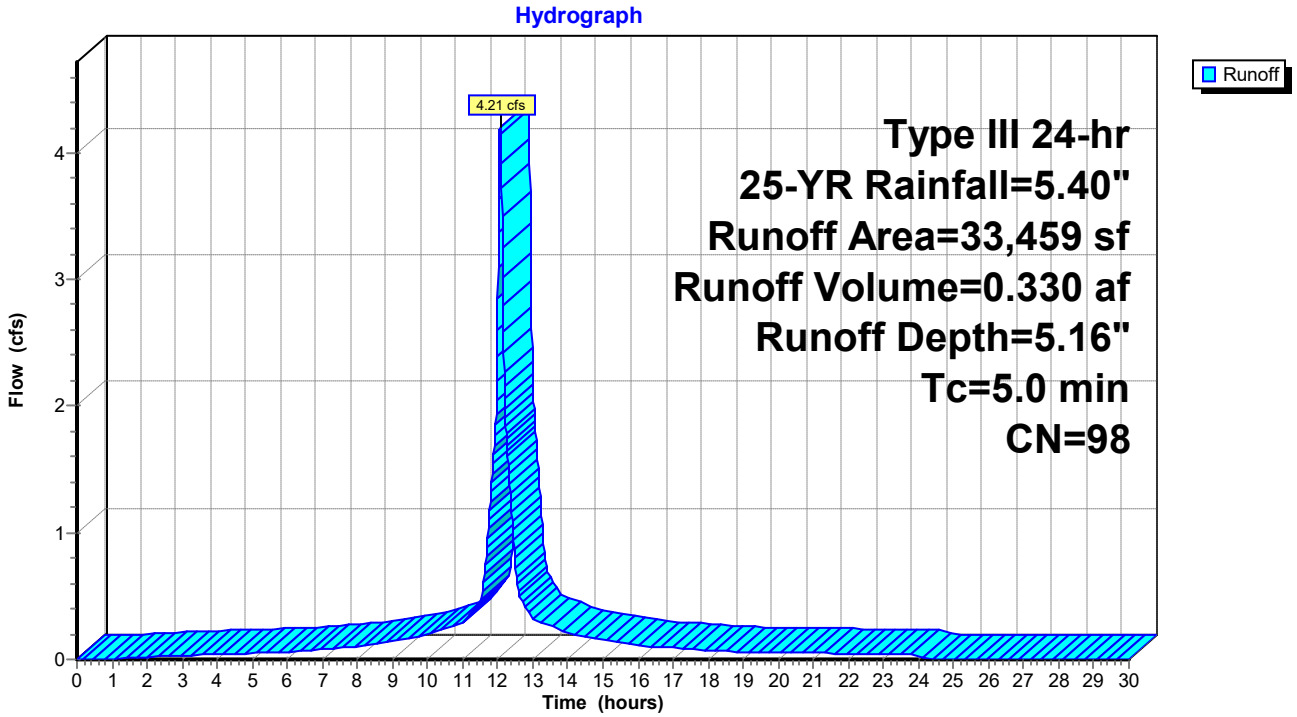
Runoff = 4.21 cfs @ 12.07 hrs, Volume= 0.330 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
33,459	98	Paved parking & roofs
33,459		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 5.2S: ROOF



Summary for Subcatchment 6S: ROOF

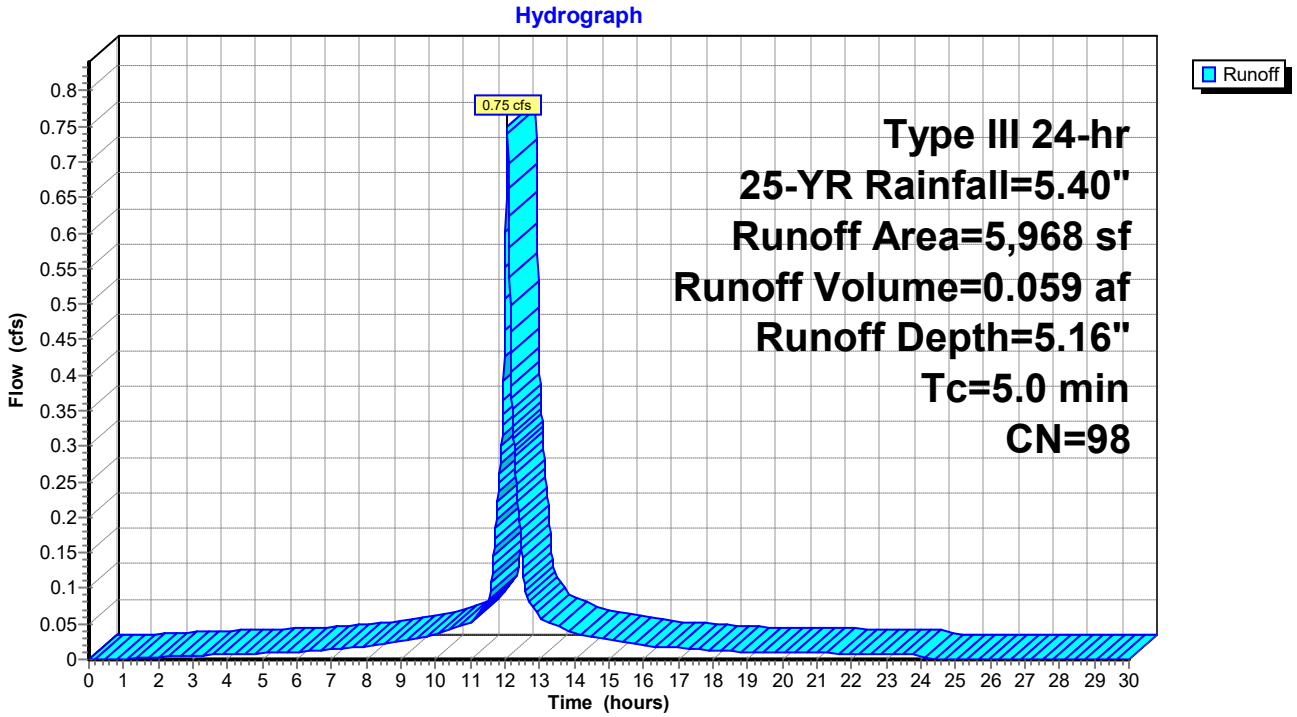
Runoff = 0.75 cfs @ 12.07 hrs, Volume= 0.059 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
5,968	98	Paved parking & roofs
5,968		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE GREATER THAN OR EQUAL TO 5 MIN.**

Subcatchment 6S: ROOF



Summary for Subcatchment 7S:

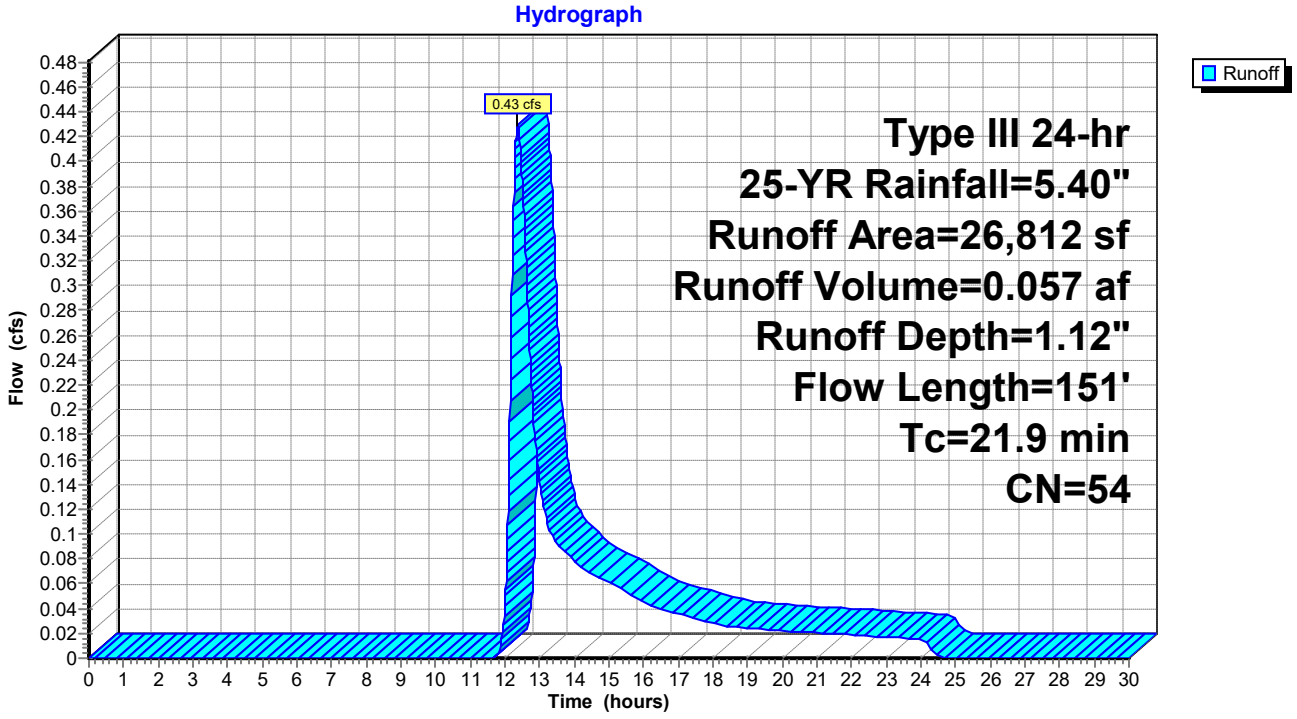
Runoff = 0.43 cfs @ 12.36 hrs, Volume= 0.057 af, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
6,429	98	Paved parking & roofs
2,581	39	>75% Grass cover, Good, HSG A
929	61	>75% Grass cover, Good, HSG B
10,782	30	Woods, Good, HSG A
6,091	55	Woods, Good, HSG B
26,812	54	Weighted Average
20,383		76.02% Pervious Area
6,429		23.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.0	100	0.0920	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
0.9	51	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
21.9	151	Total			

Subcatchment 7S:



Summary for Subcatchment 8S:

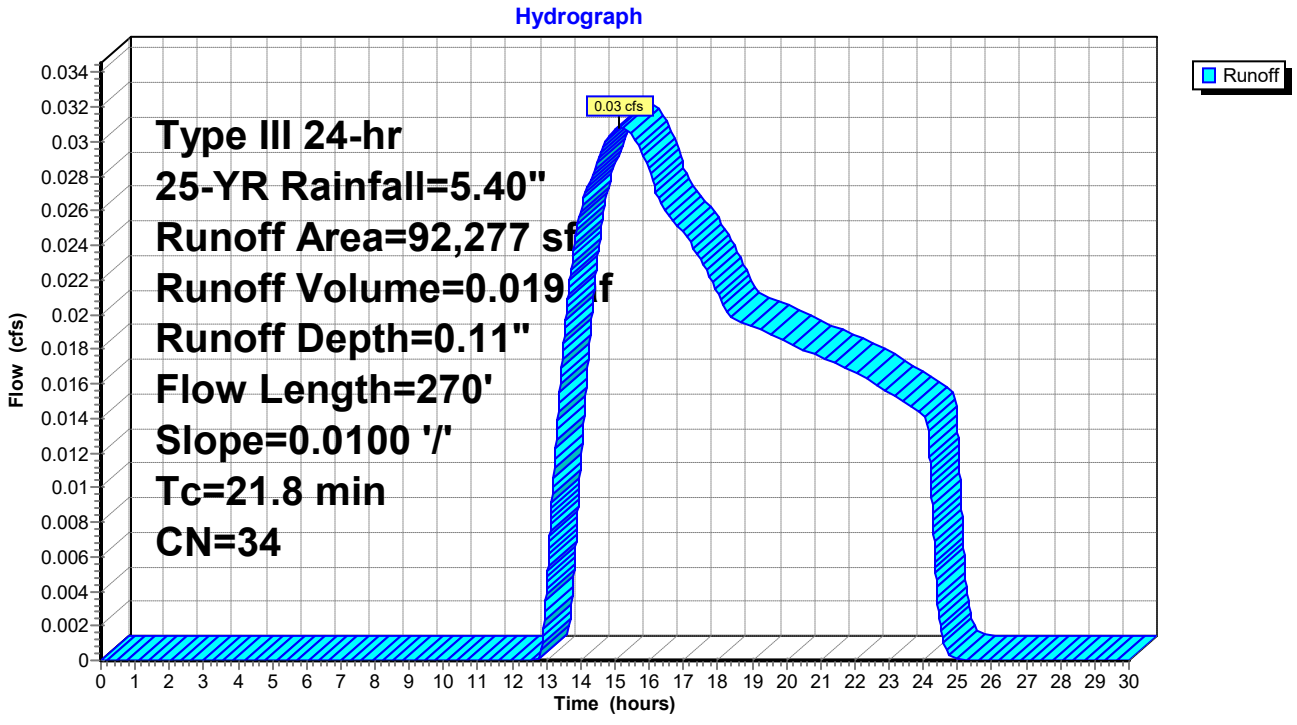
Runoff = 0.03 cfs @ 15.14 hrs, Volume= 0.019 af, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	2,234	98	Paved
	22,040	39	>75% Grass cover, Good, HSG A
	68,003	30	Woods, Good, HSG A
	92,277	34	Weighted Average
	90,043		97.58% Pervious Area
	2,234		2.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	40	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
7.7	230	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
21.8	270	Total			

Subcatchment 8S:



Summary for Subcatchment 9.1S:

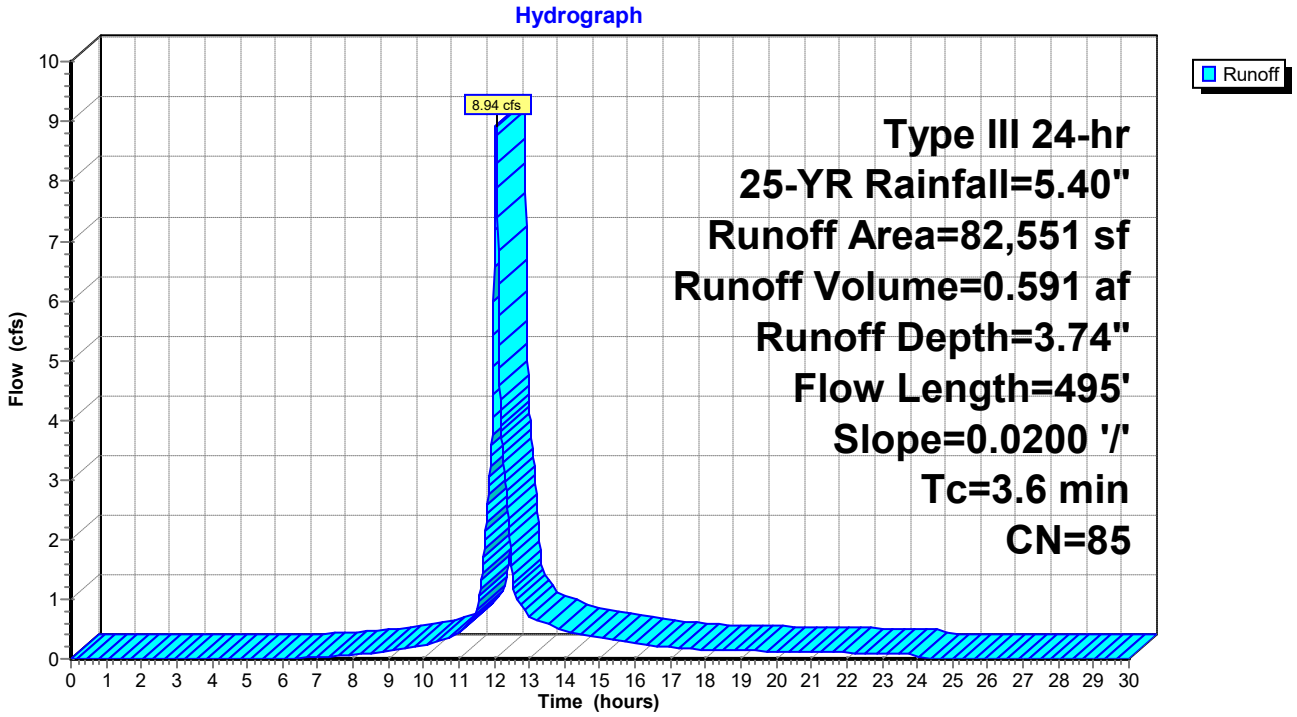
Runoff = 8.94 cfs @ 12.05 hrs, Volume= 0.591 af, Depth= 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	64,588	98	Impervious
	17,963	39	>75% Grass cover, Good, HSG A
	82,551	85	Weighted Average
	17,963		21.76% Pervious Area
	64,588		78.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.3	395	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.6	495	Total			

Subcatchment 9.1S:



Summary for Subcatchment 9.2S:

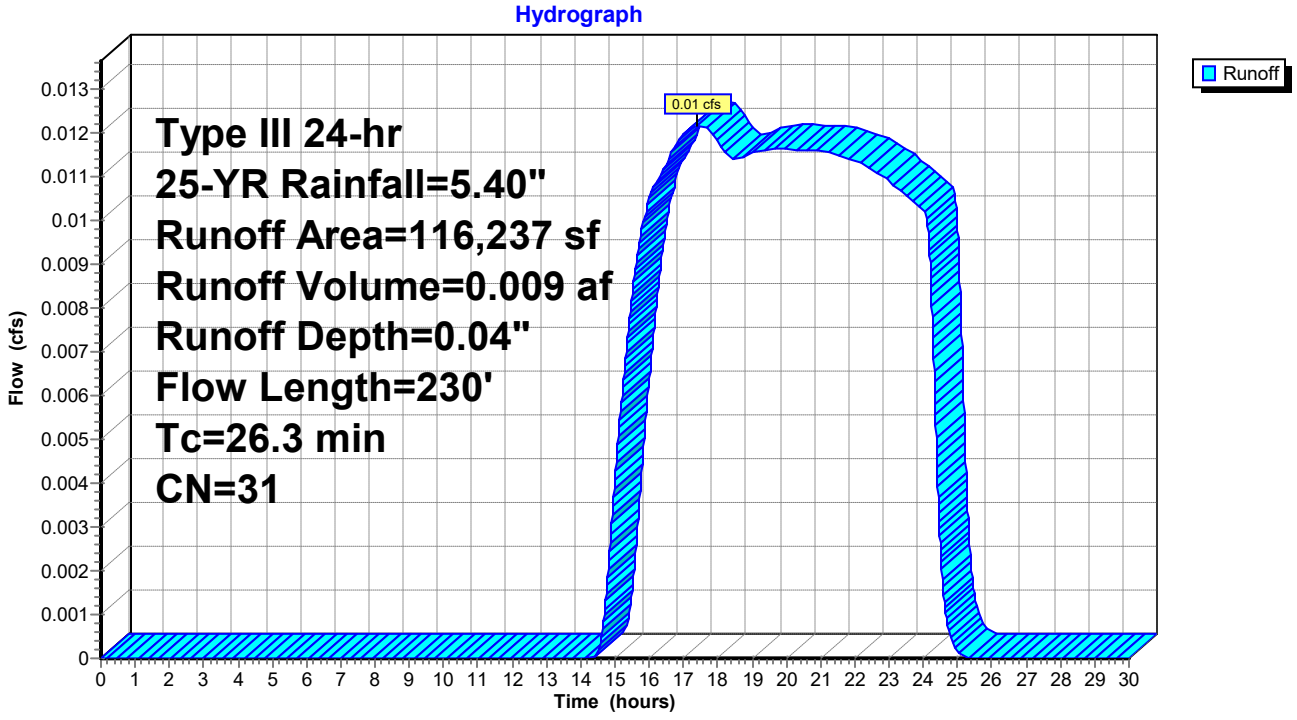
Runoff = 0.01 cfs @ 17.39 hrs, Volume= 0.009 af, Depth= 0.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
15,000	39	>75% Grass cover, Good, HSG A
101,237	30	Woods, Good, HSG A
116,237	31	Weighted Average
116,237		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.9	100	0.0150	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.4	130	0.0900	1.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.3	230	Total			

Subcatchment 9.2S:



Summary for Subcatchment 9.3S:

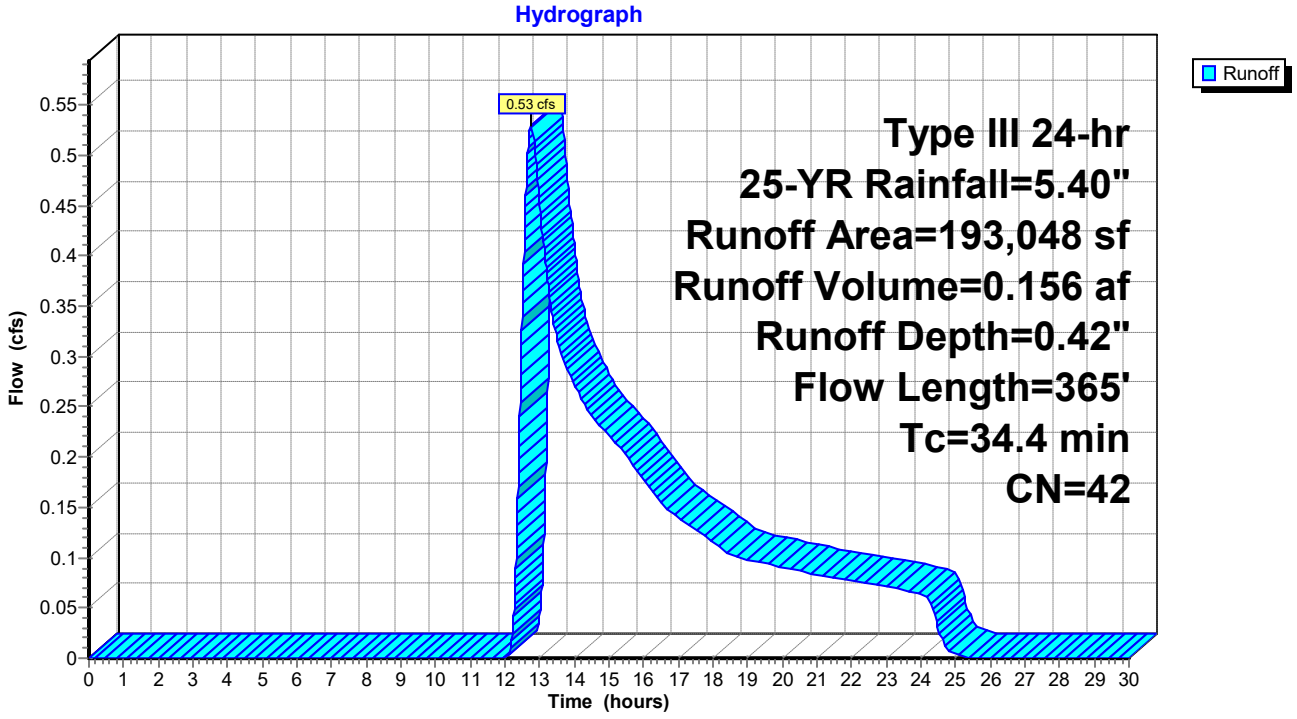
Runoff = 0.53 cfs @ 12.74 hrs, Volume= 0.156 af, Depth= 0.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	30,893	98	Paved
	21,194	39	>75% Grass cover, Good, HSG A
	140,961	30	Woods, Good, HSG A
	193,048	42	Weighted Average
	162,155		84.00% Pervious Area
	30,893		16.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.7	150	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.9	150	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	65	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
34.4	365	Total			

Subcatchment 9.3S:



Summary for Subcatchment 9S:

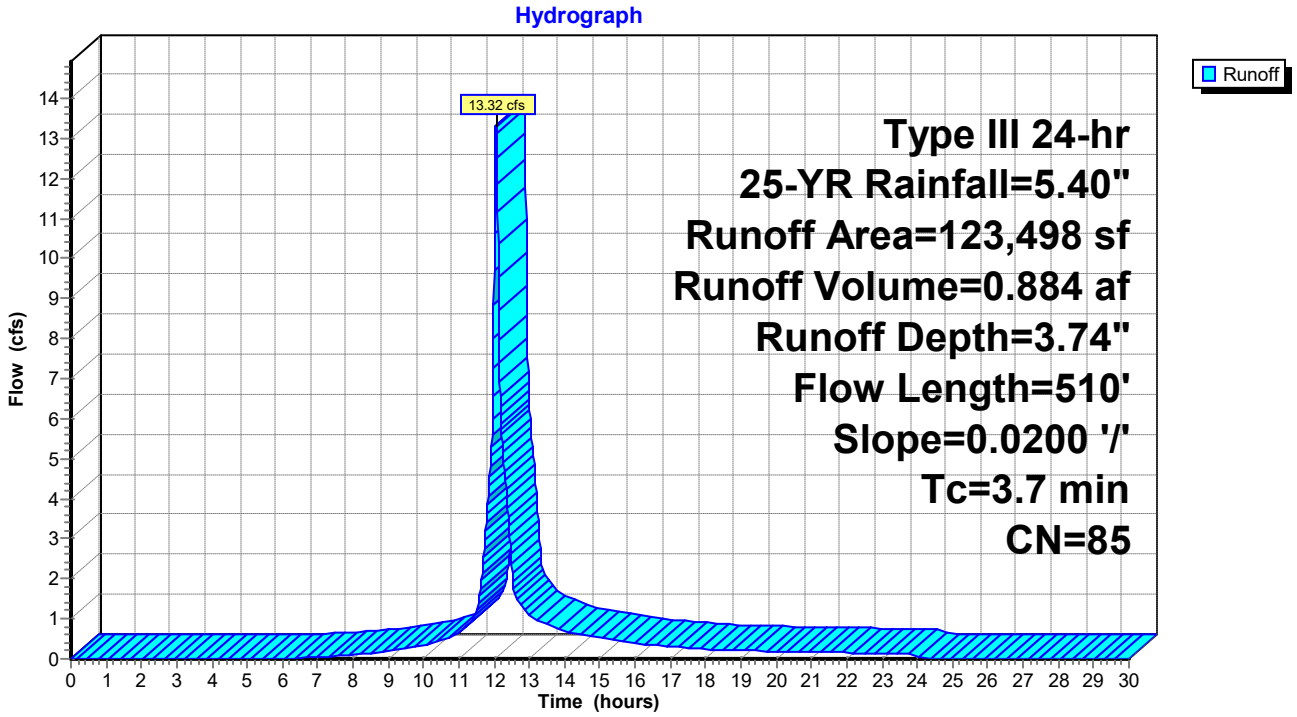
Runoff = 13.32 cfs @ 12.05 hrs, Volume= 0.884 af, Depth= 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	95,953	98	Paved
	27,545	39	>75% Grass cover, Good, HSG A
	123,498	85	Weighted Average
	27,545		22.30% Pervious Area
	95,953		77.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.4	410	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.7	510	Total			

Subcatchment 9S:



Summary for Subcatchment 50S:

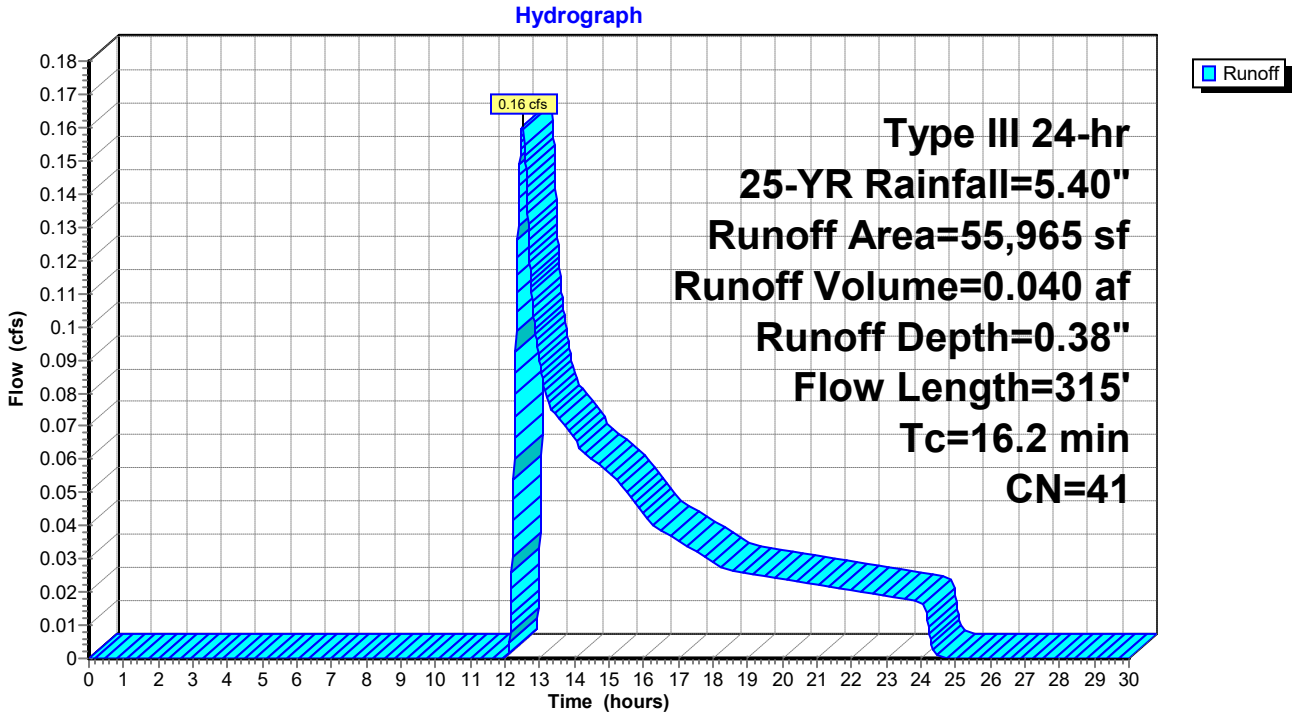
Runoff = 0.16 cfs @ 12.51 hrs, Volume= 0.040 af, Depth= 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	8,790	98	Impervious
	4,094	39	>75% Grass cover, Good, HSG A
	43,081	30	Woods, Good, HSG A
	55,965	41	Weighted Average
	47,175		84.29% Pervious Area
	8,790		15.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	120	0.0750	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	45	0.1560	1.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	100	0.0300	2.60		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.1	50	0.0200	6.14	18.43	**Channel Flow,** Area= 3.0 sf Perim= 4.8' r= 0.63' n= 0.025 Earth, clean & winding
16.2	315	Total			

Subcatchment 50S:



Summary for Subcatchment 52S:

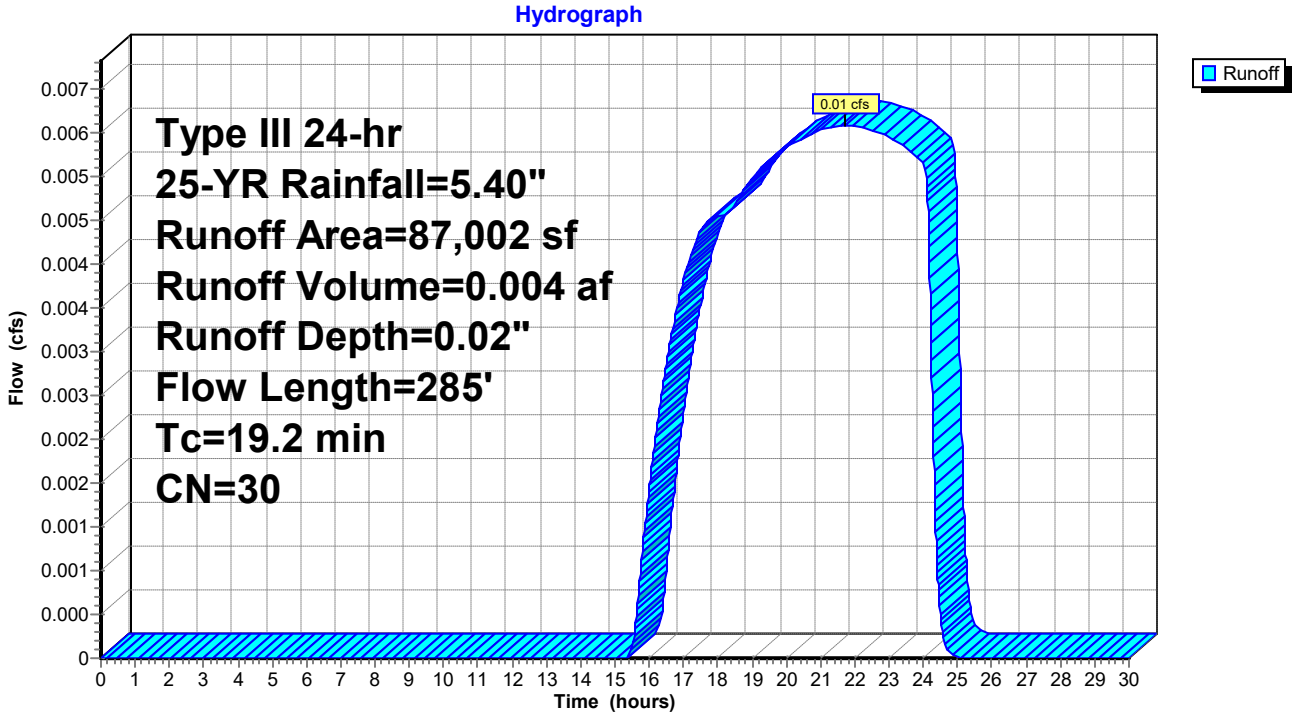
Runoff = 0.01 cfs @ 21.74 hrs, Volume= 0.004 af, Depth= 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	198	98	Paved
	0	49	50-75% Grass cover, Fair, HSG A
	86,804	30	Woods, Good, HSG A
	87,002	30	Weighted Average
	86,804		99.77% Pervious Area
	198		0.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
2.3	160	0.0517	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	25	0.0400	3.00		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
19.2	285	Total			

Subcatchment 52S:



Summary for Subcatchment 53S:

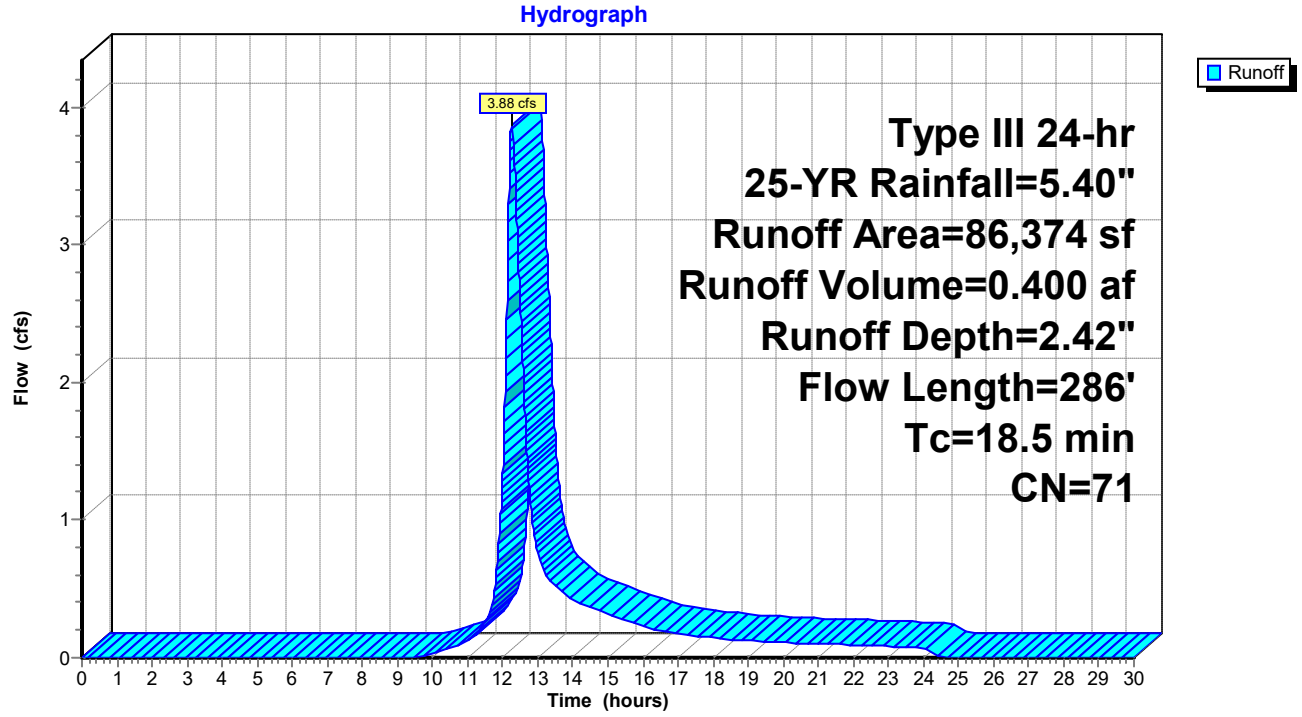
Runoff = 3.88 cfs @ 12.27 hrs, Volume= 0.400 af, Depth= 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	47,137	98	Paved
	39,237	39	>75% Grass cover, Good, HSG A
	86,374	71	Weighted Average
	39,237		45.43% Pervious Area
	47,137		54.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
1.3	116	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	40	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	30	0.0860	2.05		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.5	286	Total			

Subcatchment 53S:



Summary for Subcatchment 54S: Updated

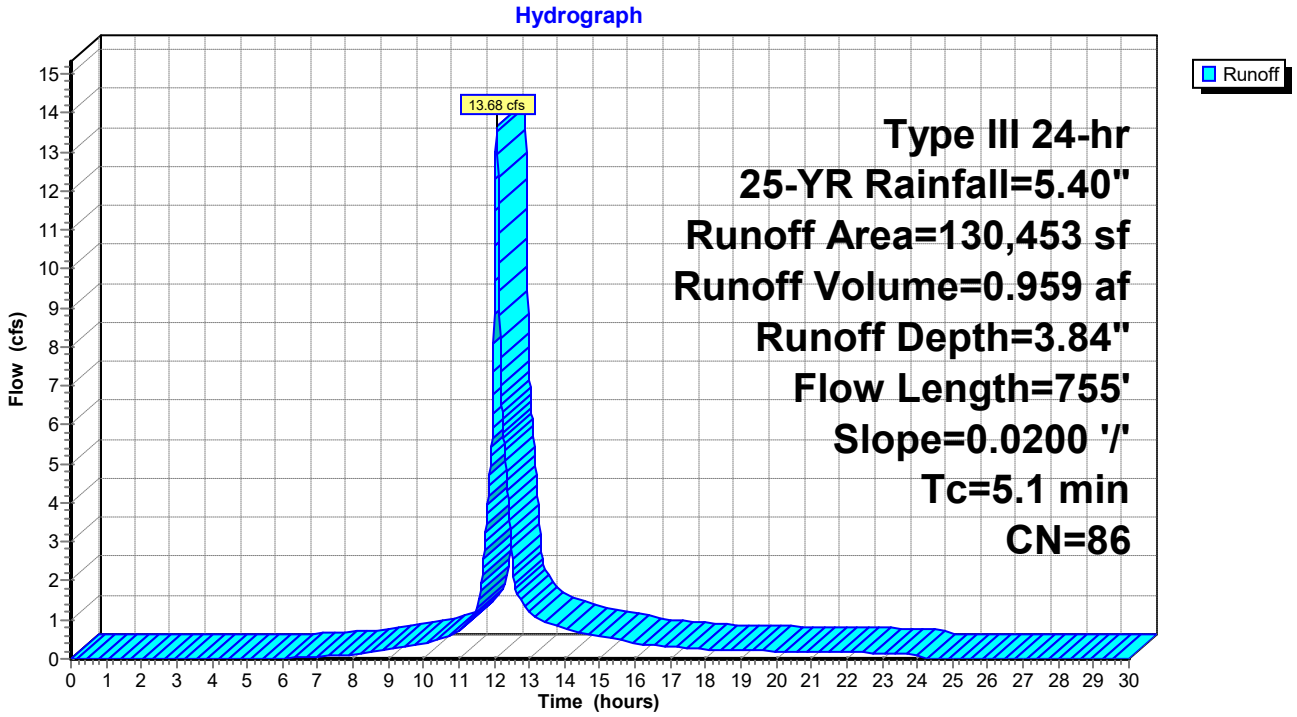
Runoff = 13.68 cfs @ 12.07 hrs, Volume= 0.959 af, Depth= 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	103,327	98	Paved
	27,126	39	>75% Grass cover, Good, HSG A
	130,453	86	Weighted Average
	27,126		20.79% Pervious Area
	103,327		79.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
3.8	655	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.1	755	Total			

Subcatchment 54S: Updated



Summary for Subcatchment 55S: New Building

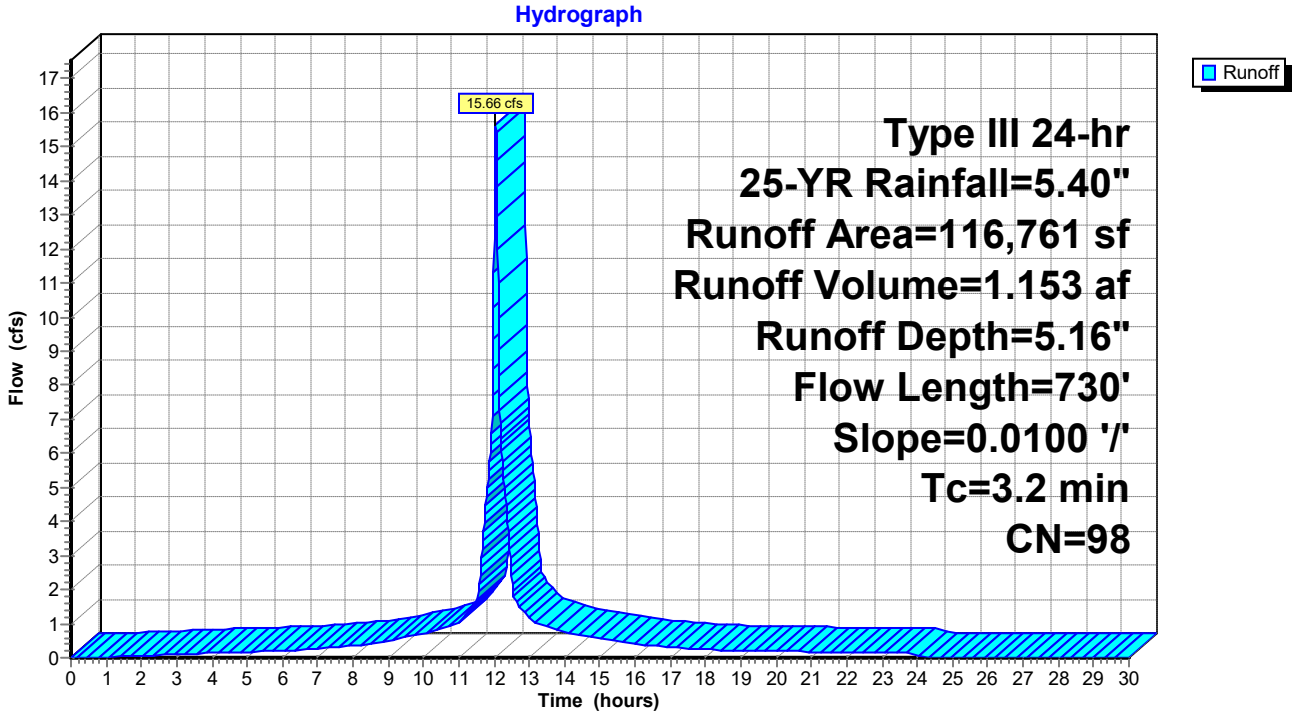
Runoff = 15.66 cfs @ 12.05 hrs, Volume= 1.153 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	116,761	98	Roof
	116,761		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	100	0.0100	1.01		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.3	80	0.0100	4.50	1.57	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010
0.8	300	0.0100	5.90	4.63	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010
0.4	250	0.0100	9.36	29.41	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.010
3.2	730	Total			

Subcatchment 55S: New Building



Summary for Subcatchment 56S:

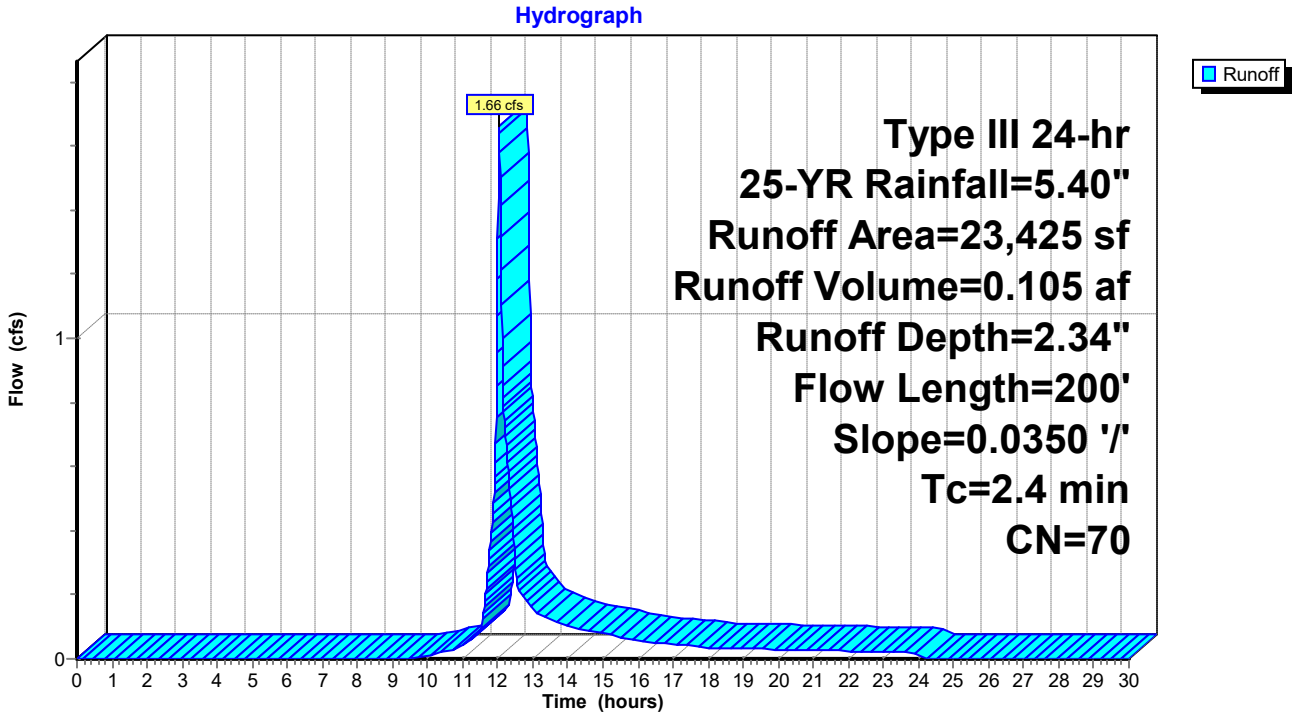
Runoff = 1.66 cfs @ 12.04 hrs, Volume= 0.105 af, Depth= 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=5.40"

	Area (sf)	CN	Description
*	12,497	98	Paved
	10,928	39	>75% Grass cover, Good, HSG A
	23,425	70	Weighted Average
	10,928		46.65% Pervious Area
	12,497		53.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	85	0.0350	1.61		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.5	115	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	200	Total			

Subcatchment 56S:



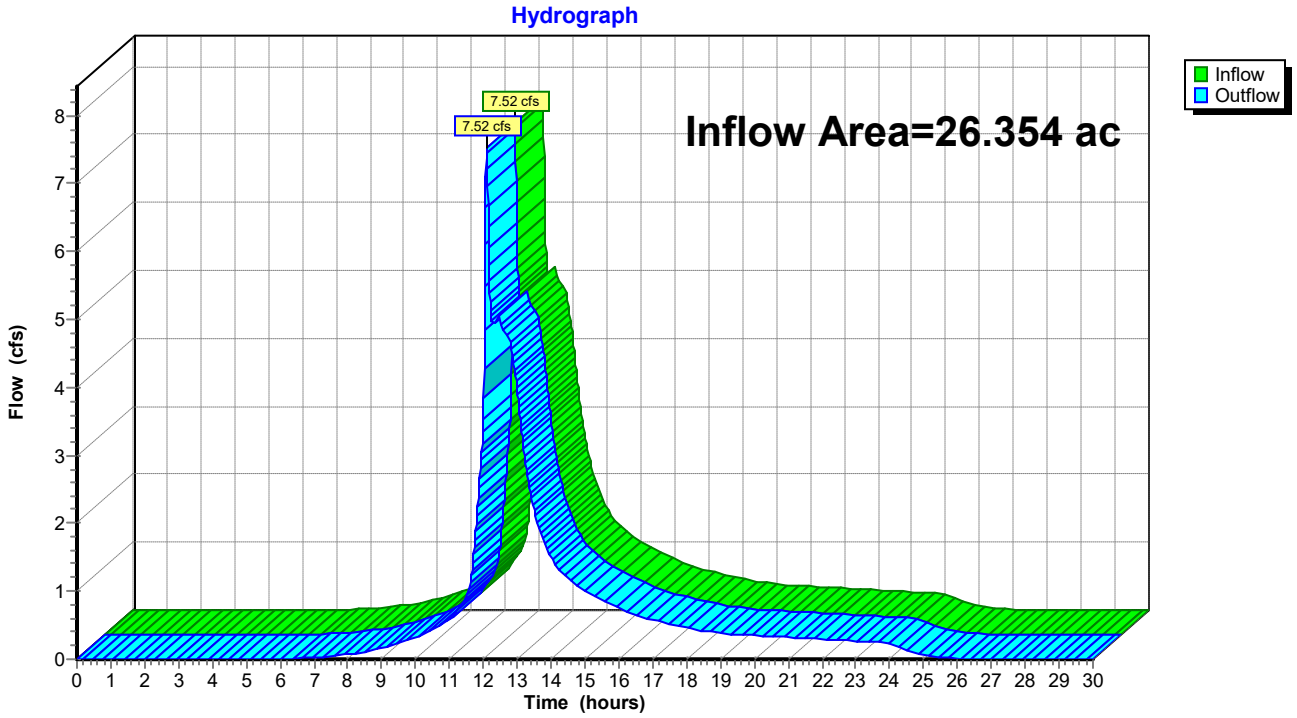
Summary for Reach 1R: WATERSHED ANALYSIS POINT A

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 26.354 ac, 41.81% Impervious, Inflow Depth = 0.56" for 25-YR event
Inflow = 7.52 cfs @ 12.10 hrs, Volume= 1.235 af
Outflow = 7.52 cfs @ 12.10 hrs, Volume= 1.235 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 1R: WATERSHED ANALYSIS POINT A



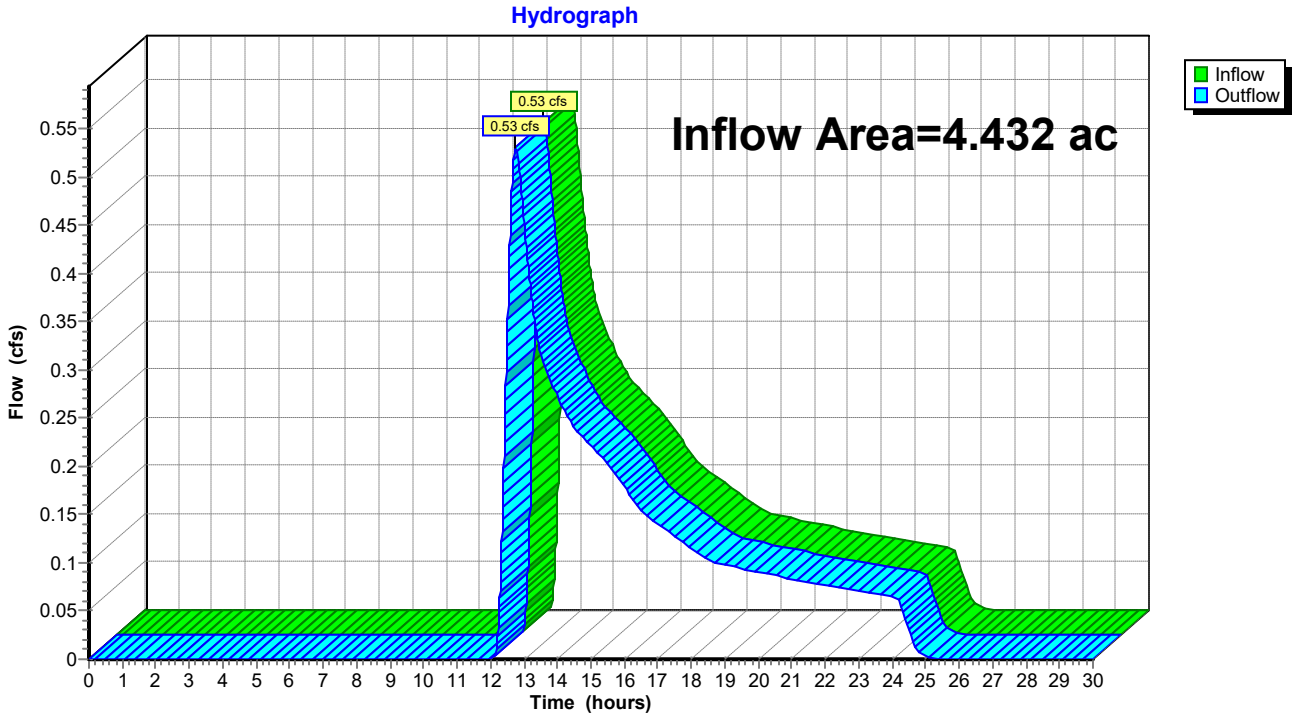
Summary for Reach 2.1R: WATERSHED ANALYSIS POINT C

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.432 ac, 16.00% Impervious, Inflow Depth = 0.42" for 25-YR event
Inflow = 0.53 cfs @ 12.74 hrs, Volume= 0.156 af
Outflow = 0.53 cfs @ 12.74 hrs, Volume= 0.156 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 2.1R: WATERSHED ANALYSIS POINT C



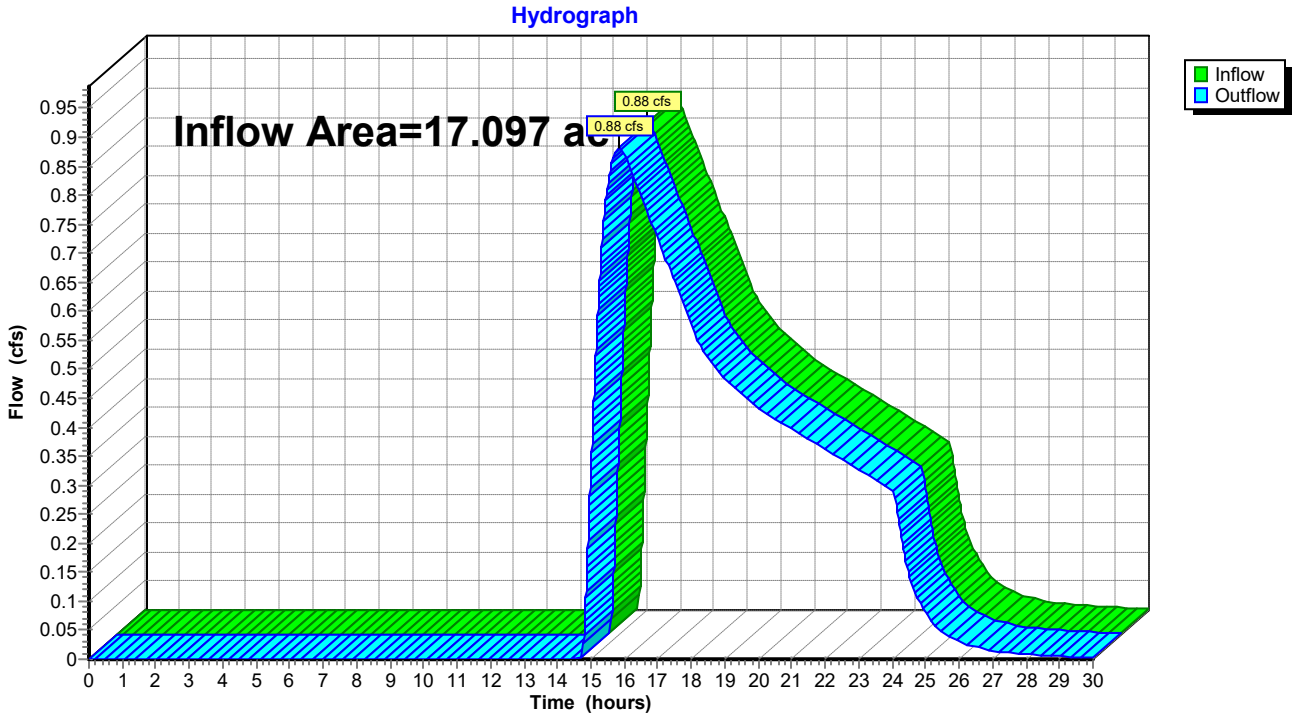
Summary for Reach 2R: WATERSHED ANALYSIS POINT B

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 17.097 ac, 74.64% Impervious, Inflow Depth > 0.29" for 25-YR event
Inflow = 0.88 cfs @ 15.84 hrs, Volume= 0.406 af
Outflow = 0.88 cfs @ 15.84 hrs, Volume= 0.406 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Reach 2R: WATERSHED ANALYSIS POINT B



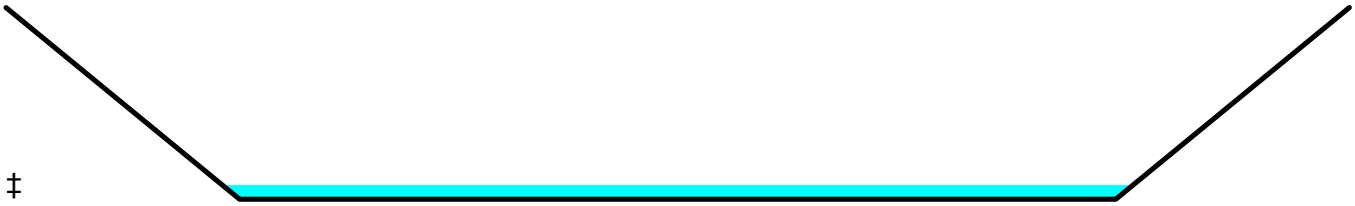
Summary for Reach 4R: NATRUAL DRAINAGE

Inflow Area = 5.046 ac, 37.24% Impervious, Inflow Depth = 0.14" for 25-YR event
Inflow = 0.41 cfs @ 12.44 hrs, Volume= 0.057 af
Outflow = 0.39 cfs @ 12.52 hrs, Volume= 0.057 af, Atten= 5%, Lag= 5.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.35 fps, Min. Travel Time= 6.2 min
Avg. Velocity = 0.14 fps, Avg. Travel Time= 16.0 min

Peak Storage= 147 cf @ 12.52 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 1.00' Flow Area= 19.0 sf, Capacity= 33.14 cfs

15.00' x 1.00' deep channel, n= 0.080
Side Slope Z-value= 4.0 '/' Top Width= 23.00'
Length= 130.0' Slope= 0.0115 '/'
Inlet Invert= 247.00', Outlet Invert= 245.50'



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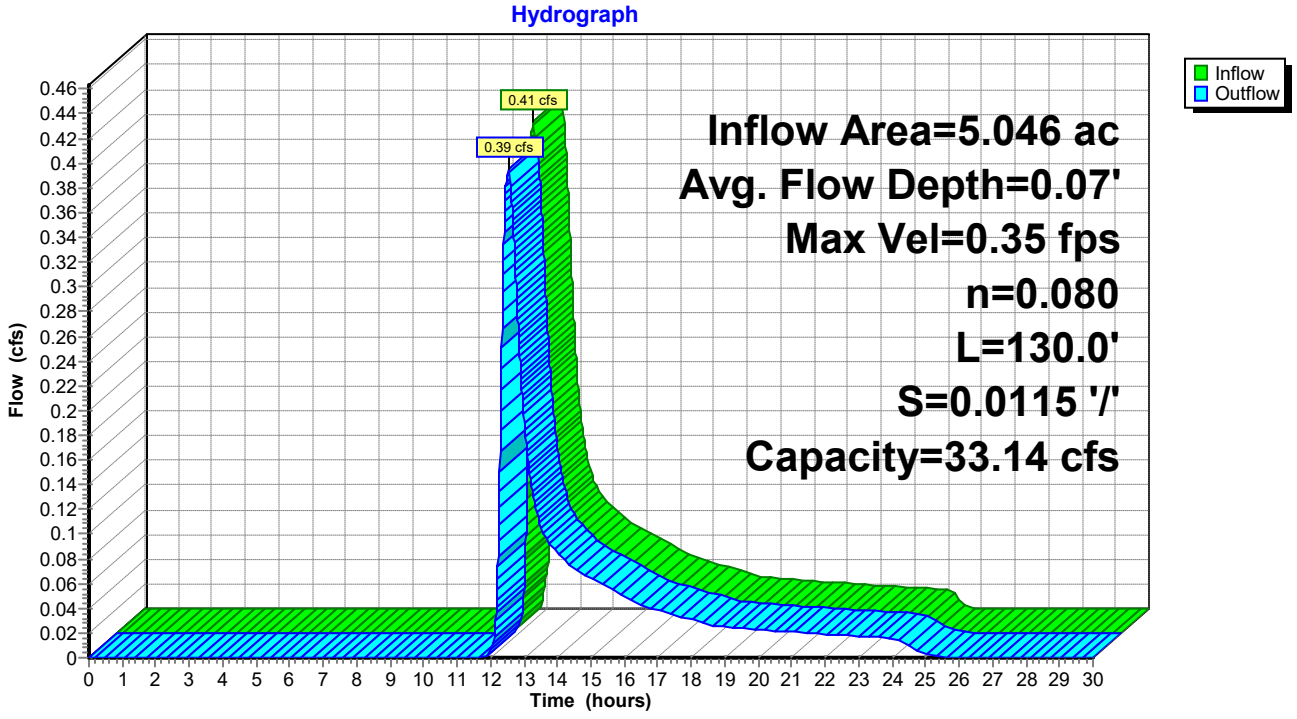
Reach 4R: NATRUAL DRAINAGE



Summary for Reach 50R: STREAM

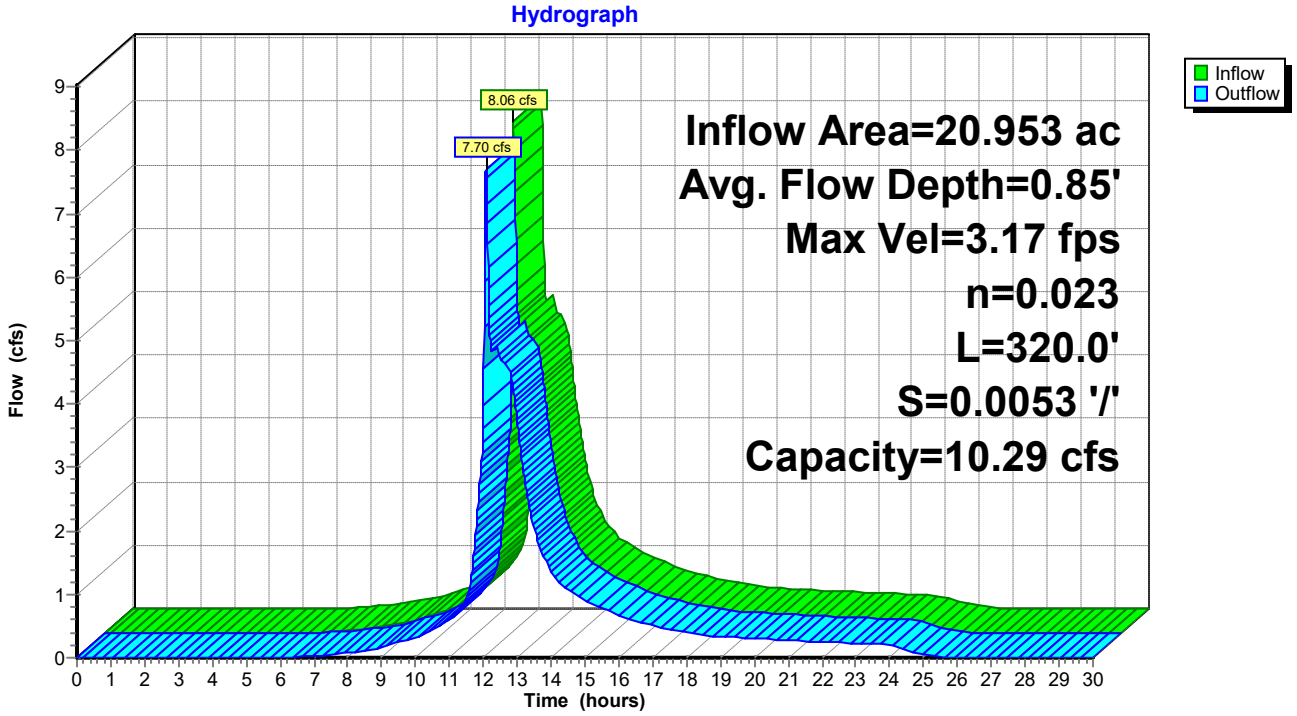
Inflow Area = 20.953 ac, 51.35% Impervious, Inflow Depth = 0.67" for 25-YR event
Inflow = 8.06 cfs @ 12.05 hrs, Volume= 1.172 af
Outflow = 7.70 cfs @ 12.08 hrs, Volume= 1.172 af, Atten= 4%, Lag= 1.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 3.17 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.94 fps, Avg. Travel Time= 5.7 min

Peak Storage= 778 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.85'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 10.29 cfs

2.00' x 1.00' deep channel, n= 0.023 Earth, clean & winding
Side Slope Z-value= 1.0 '/' Top Width= 4.00'
Length= 320.0' Slope= 0.0053 '/'
Inlet Invert= 235.00', Outlet Invert= 233.30'

Reach 50R: STREAM



Summary for Reach 51R: STREAM

[61] Hint: Exceeded Reach 50R outlet invert by 0.66' @ 12.10 hrs

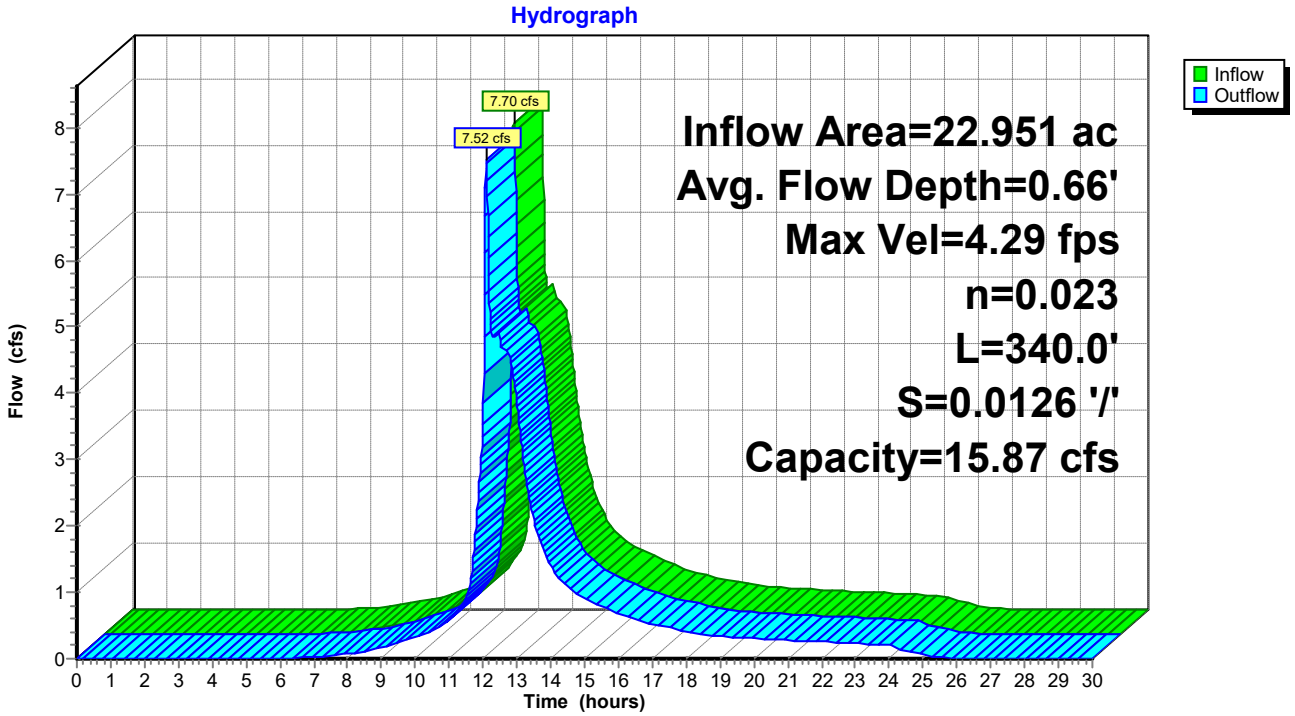
Inflow Area = 22.951 ac, 46.91% Impervious, Inflow Depth = 0.61" for 25-YR event
Inflow = 7.70 cfs @ 12.08 hrs, Volume= 1.176 af
Outflow = 7.52 cfs @ 12.10 hrs, Volume= 1.176 af, Atten= 2%, Lag= 1.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 4.29 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 1.26 fps, Avg. Travel Time= 4.5 min

Peak Storage= 596 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.66'
Bank-Full Depth= 1.00' Flow Area= 3.0 sf, Capacity= 15.87 cfs

2.00' x 1.00' deep channel, n= 0.023
Side Slope Z-value= 1.0 '/' Top Width= 4.00'
Length= 340.0' Slope= 0.0126 '/'
Inlet Invert= 233.30', Outlet Invert= 229.00'

Reach 51R: STREAM



Summary for Reach 54R: New Pipe

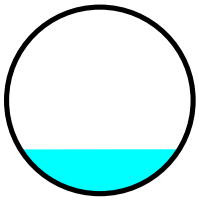
[52] Hint: Inlet/Outlet conditions not evaluated
[62] Hint: Exceeded Reach 55R OUTLET depth by 0.03' @ 12.13 hrs

Inflow Area = 18.433 ac, 50.95% Impervious, Inflow Depth = 0.76" for 25-YR event
Inflow = 8.17 cfs @ 12.04 hrs, Volume= 1.172 af
Outflow = 8.06 cfs @ 12.05 hrs, Volume= 1.172 af, Atten= 1%, Lag= 0.7 min

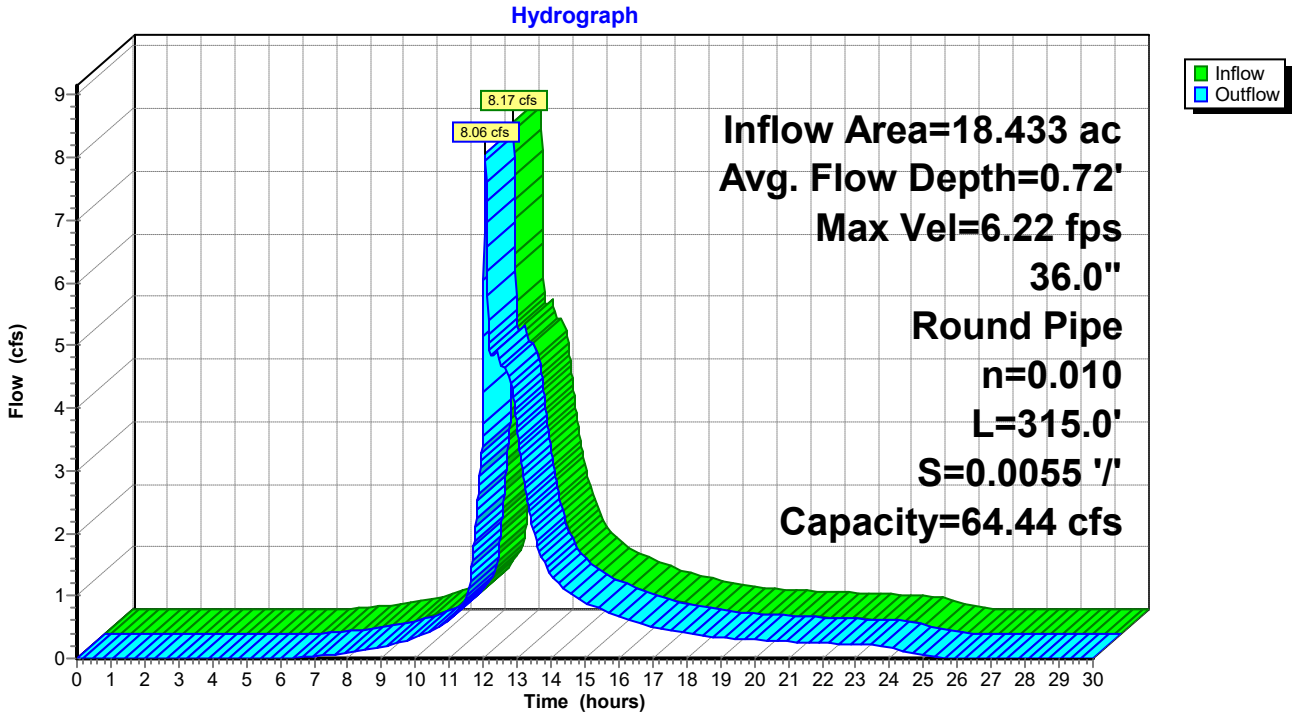
Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 6.22 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 2.11 fps, Avg. Travel Time= 2.5 min

Peak Storage= 408 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.72'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 64.44 cfs

36.0" Round Pipe
n= 0.010
Length= 315.0' Slope= 0.0055 '/'
Inlet Invert= 238.49', Outlet Invert= 236.75'



Reach 54R: New Pipe



Summary for Reach 55R: New Pipe

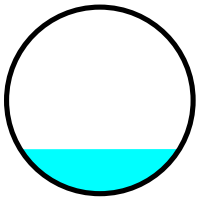
[52] Hint: Inlet/Outlet conditions not evaluated

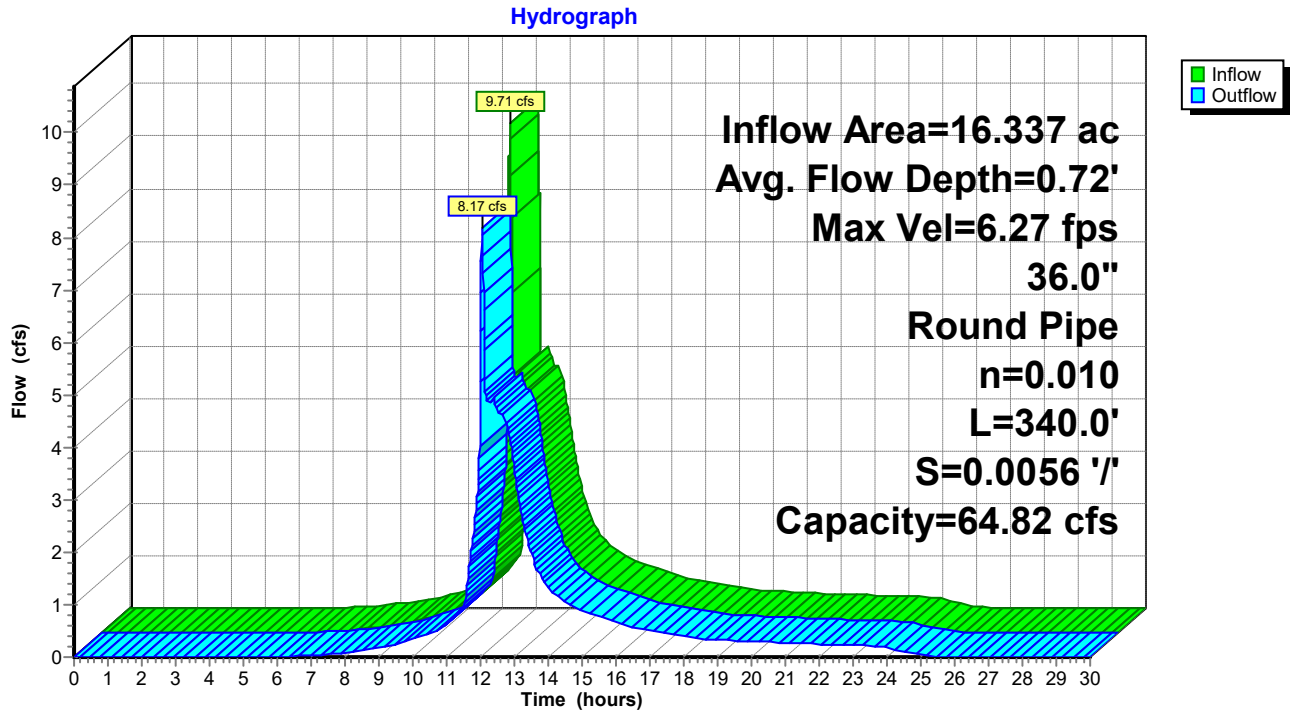
Inflow Area = 16.337 ac, 51.71% Impervious, Inflow Depth = 0.86" for 25-YR event
Inflow = 9.71 cfs @ 12.03 hrs, Volume= 1.172 af
Outflow = 8.17 cfs @ 12.04 hrs, Volume= 1.172 af, Atten= 16%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 6.27 fps, Min. Travel Time= 0.9 min
Avg. Velocity = 2.12 fps, Avg. Travel Time= 2.7 min

Peak Storage= 443 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.72'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 64.82 cfs

36.0" Round Pipe
n= 0.010
Length= 340.0' Slope= 0.0056 '/'
Inlet Invert= 240.39', Outlet Invert= 238.49'





Summary for Pond 1P: EX. CULVERT

[93] Warning: Storage range exceeded by 14.59'
[58] Hint: Peaked 262.59' above defined flood level
[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=6)
[80] Warning: Exceeded Pond 12P by 9.65' @ 12.03 hrs (607.30 cfs 1.421 af)

Inflow Area = 6.218 ac, 48.80% Impervious, Inflow Depth = 0.92" for 25-YR event
Inflow = 6.80 cfs @ 12.03 hrs, Volume= 0.477 af
Outflow = 8.21 cfs @ 12.03 hrs, Volume= 0.477 af, Atten= 0%, Lag= 0.0 min
Primary = 8.21 cfs @ 12.03 hrs, Volume= 0.477 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 263.59' @ 12.03 hrs Surf.Area= 300 sf Storage= 345 cf
Flood Elev= 1.00' Surf.Area= 0 sf Storage= 0 cf

Plug-Flow detention time= 0.6 min calculated for 0.477 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (834.7 - 834.1)

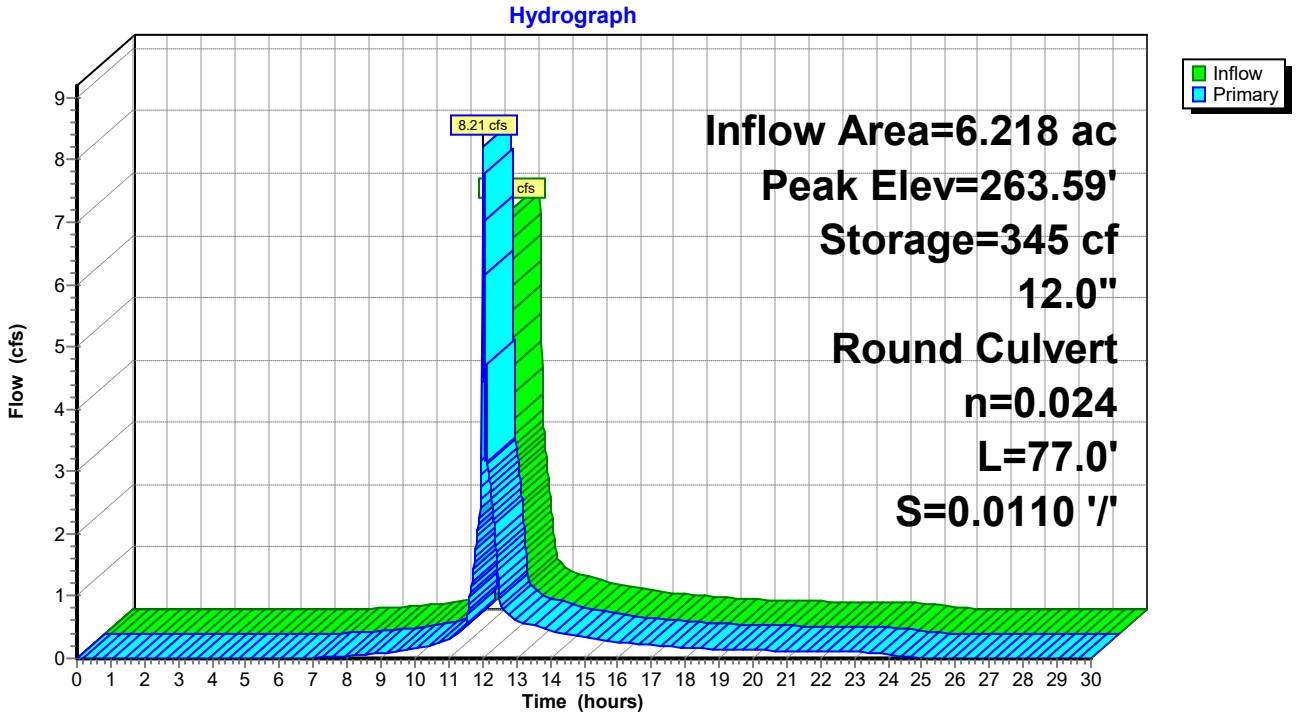
Volume	Invert	Avail.Storage	Storage Description
#1	246.25'	345 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.25	0	0	0
247.00	33	12	12
249.00	300	333	345

Device	Routing	Invert	Outlet Devices
#1	Primary	246.25'	**12.0" Round Culvert** L= 77.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.25' / 245.40' S= 0.0110 '/' Cc= 0.900 n= 0.024, Flow Area= 0.79 sf

Primary OutFlow Max=8.20 cfs @ 12.03 hrs HW=263.56' TW=246.24' (Dynamic Tailwater)
1=Culvert (Barrel Controls 8.20 cfs @ 10.44 fps)

Pond 1P: EX. CULVERT



Summary for Pond 2P: NEW CB-1

[57] Hint: Peaked at 246.24' (Flood elevation advised)
[62] Hint: Exceeded Reach 4R OUTLET depth by 0.74' @ 12.03 hrs

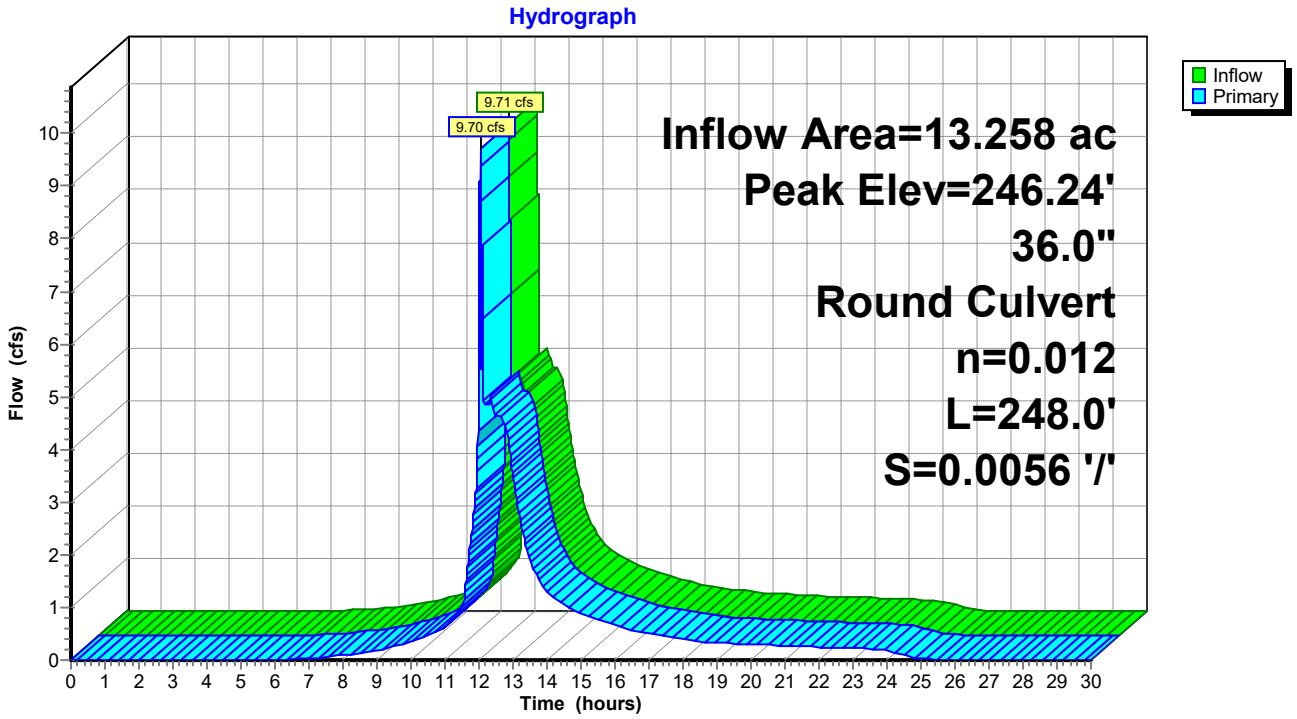
Inflow Area = 13.258 ac, 48.16% Impervious, Inflow Depth = 1.06" for 25-YR event
Inflow = 9.71 cfs @ 12.03 hrs, Volume= 1.172 af
Outflow = 9.70 cfs @ 12.03 hrs, Volume= 1.172 af, Atten= 0%, Lag= 0.0 min
Primary = 9.70 cfs @ 12.03 hrs, Volume= 1.172 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.24' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	243.50'	**36.0" Round Culvert** L= 248.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 243.50' / 242.10' S= 0.0056 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=9.67 cfs @ 12.03 hrs HW=246.24' TW=246.07' (Dynamic Tailwater)
1=Culvert (Outlet Controls 9.67 cfs @ 1.87 fps)

Pond 2P: NEW CB-1



Summary for Pond 3P: New CB-2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=21)

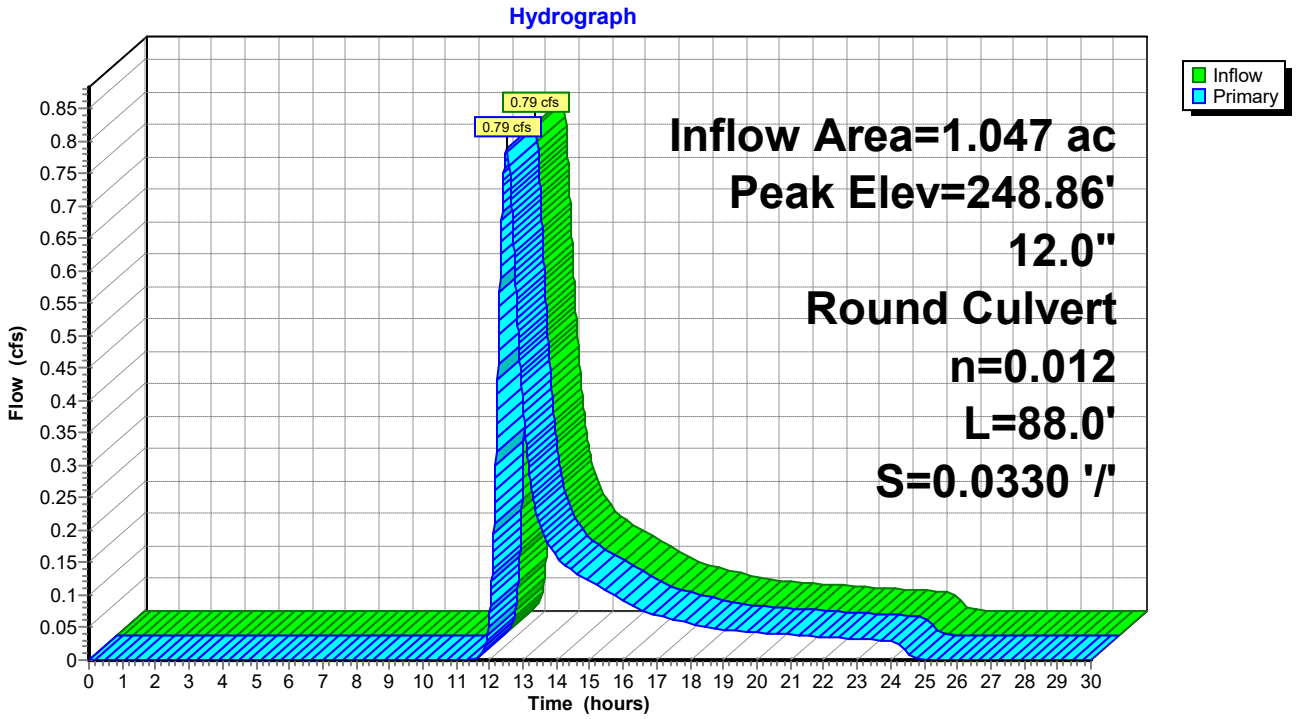
Inflow Area = 1.047 ac, 29.59% Impervious, Inflow Depth = 1.32" for 25-YR event
Inflow = 0.79 cfs @ 12.51 hrs, Volume= 0.116 af
Outflow = 0.79 cfs @ 12.51 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.0 min
Primary = 0.79 cfs @ 12.51 hrs, Volume= 0.116 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 248.86' @ 18.39 hrs
Flood Elev= 249.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	244.90'	**12.0" Round Culvert** L= 88.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 244.90' / 242.00' S= 0.0330 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.79 cfs @ 12.51 hrs HW=246.63' TW=246.57' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.79 cfs @ 1.00 fps)

Pond 3P: New CB-2



Summary for Pond 4P: NEW CB-3

[58] Hint: Peaked 5.33' above defined flood level
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=36)

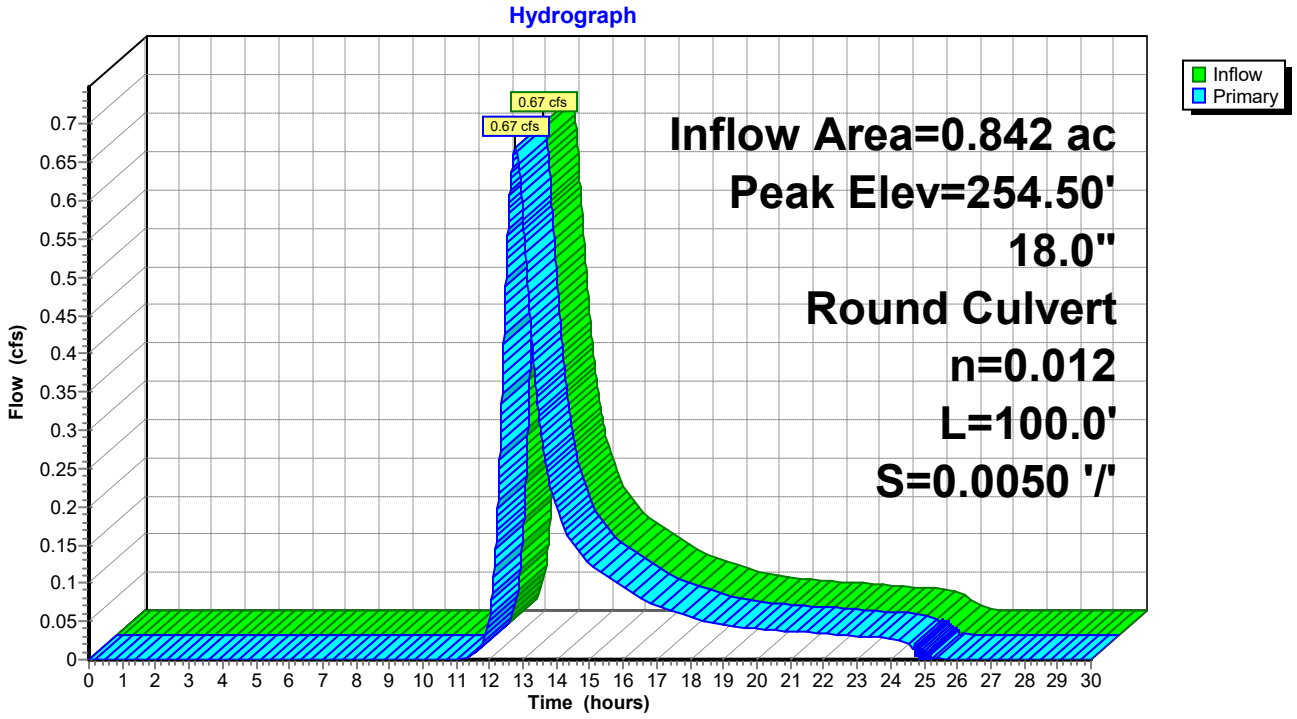
Inflow Area = 0.842 ac, 32.11% Impervious, Inflow Depth = 1.69" for 25-YR event
Inflow = 0.67 cfs @ 12.75 hrs, Volume= 0.119 af
Outflow = 0.67 cfs @ 12.75 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.75 hrs, Volume= 0.119 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 254.50' @ 16.46 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	252.60'	**18.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 252.60' / 252.10' S= 0.0050 '/' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=0.67 cfs @ 12.75 hrs HW=253.46' TW=253.42' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 0.67 cfs @ 0.92 fps)

Pond 4P: NEW CB-3



Summary for Pond 6P: NEW DMH-2

[80] Warning: Exceeded Pond 8P by 2.80' @ 26.50 hrs (34.63 cfs 10.636 af)

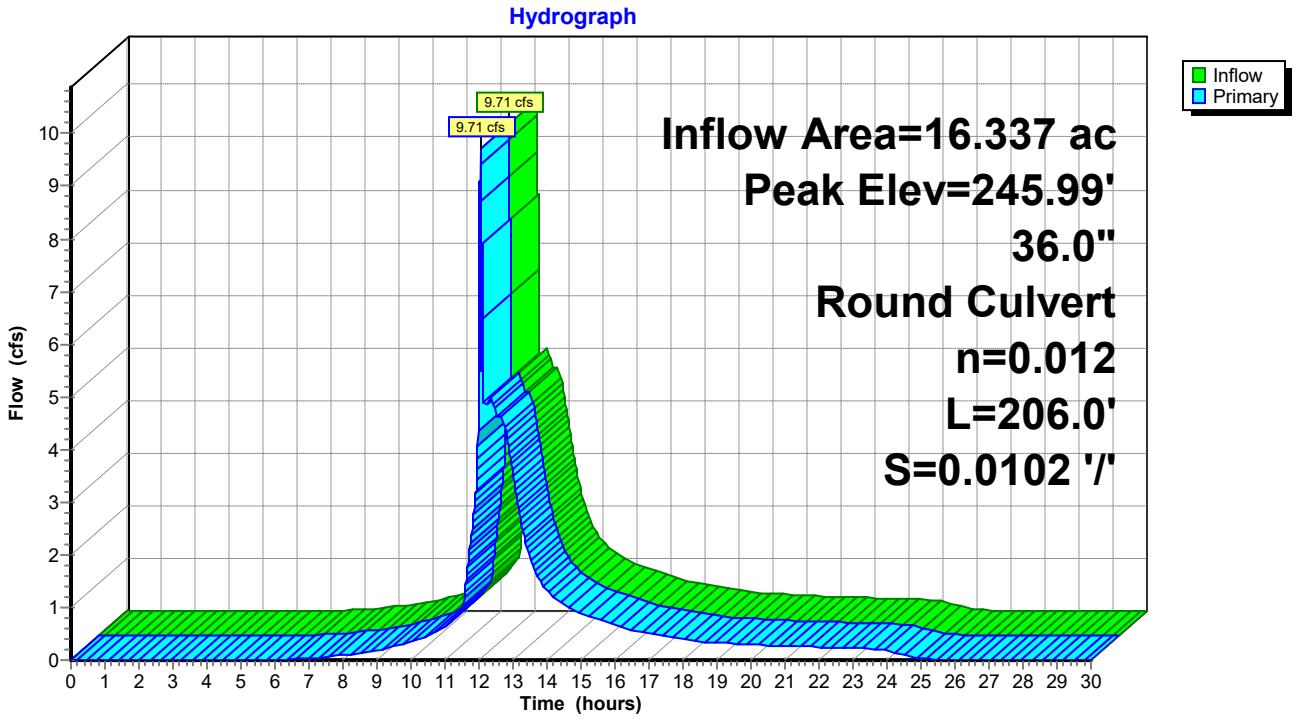
Inflow Area = 16.337 ac, 51.71% Impervious, Inflow Depth = 0.86" for 25-YR event
Inflow = 9.71 cfs @ 12.03 hrs, Volume= 1.172 af
Outflow = 9.71 cfs @ 12.03 hrs, Volume= 1.172 af, Atten= 0%, Lag= 0.0 min
Primary = 9.71 cfs @ 12.03 hrs, Volume= 1.172 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 245.99' @ 12.03 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	244.80'	**36.0" Round Culvert** L= 206.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 244.80' / 242.70' S= 0.0102 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=9.69 cfs @ 12.03 hrs HW=245.99' TW=243.79' (Dynamic Tailwater)
↳**1=Culvert** (Inlet Controls 9.69 cfs @ 3.71 fps)

Pond 6P: NEW DMH-2



Summary for Pond 7P: DRAINAGE MH

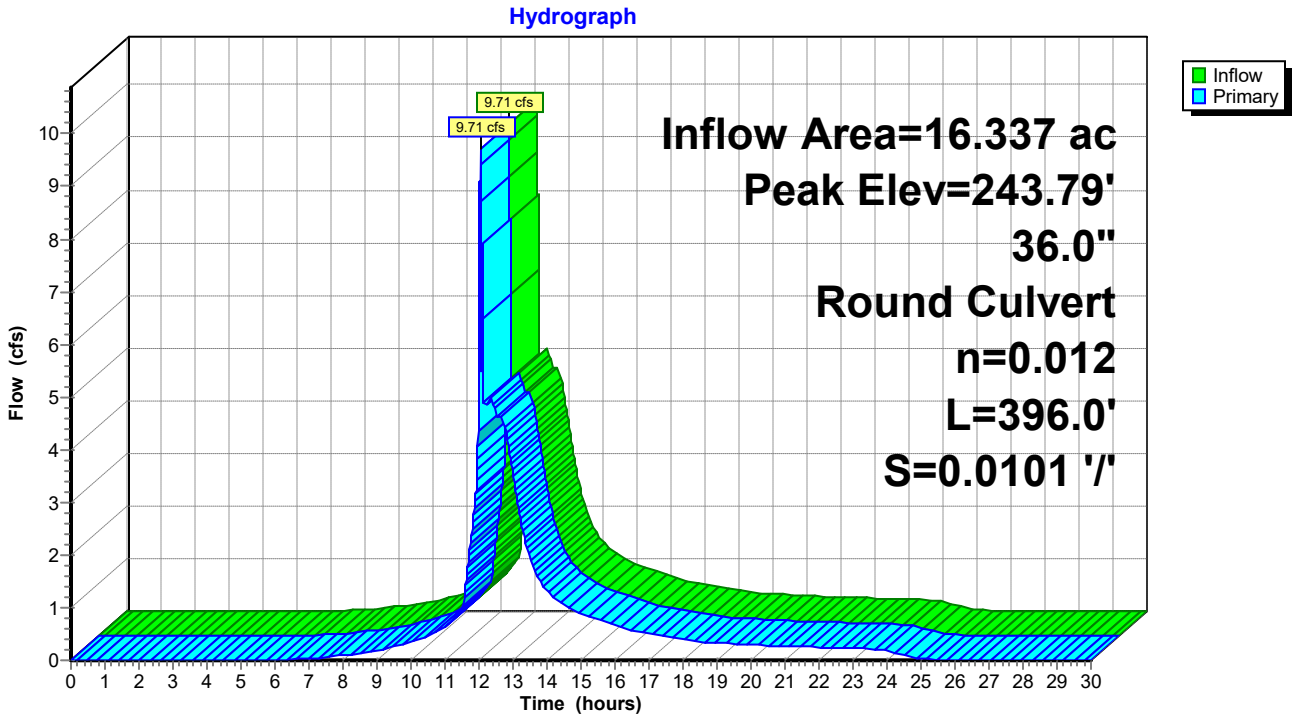
Inflow Area = 16.337 ac, 51.71% Impervious, Inflow Depth = 0.86" for 25-YR event
Inflow = 9.71 cfs @ 12.03 hrs, Volume= 1.172 af
Outflow = 9.71 cfs @ 12.03 hrs, Volume= 1.172 af, Atten= 0%, Lag= 0.0 min
Primary = 9.71 cfs @ 12.03 hrs, Volume= 1.172 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 243.79' @ 12.03 hrs
Flood Elev= 249.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.60'	**36.0" Round Culvert** L= 396.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.60' / 238.60' S= 0.0101 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=9.69 cfs @ 12.03 hrs HW=243.79' TW=241.10' (Dynamic Tailwater)
1=Culvert (Inlet Controls 9.69 cfs @ 3.71 fps)

Pond 7P: DRAINAGE MH



Summary for Pond 8P: NEW DMH-1

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[80] Warning: Exceeded Pond 2P by 1.30' @ 25.29 hrs (8.92 cfs 2.061 af)

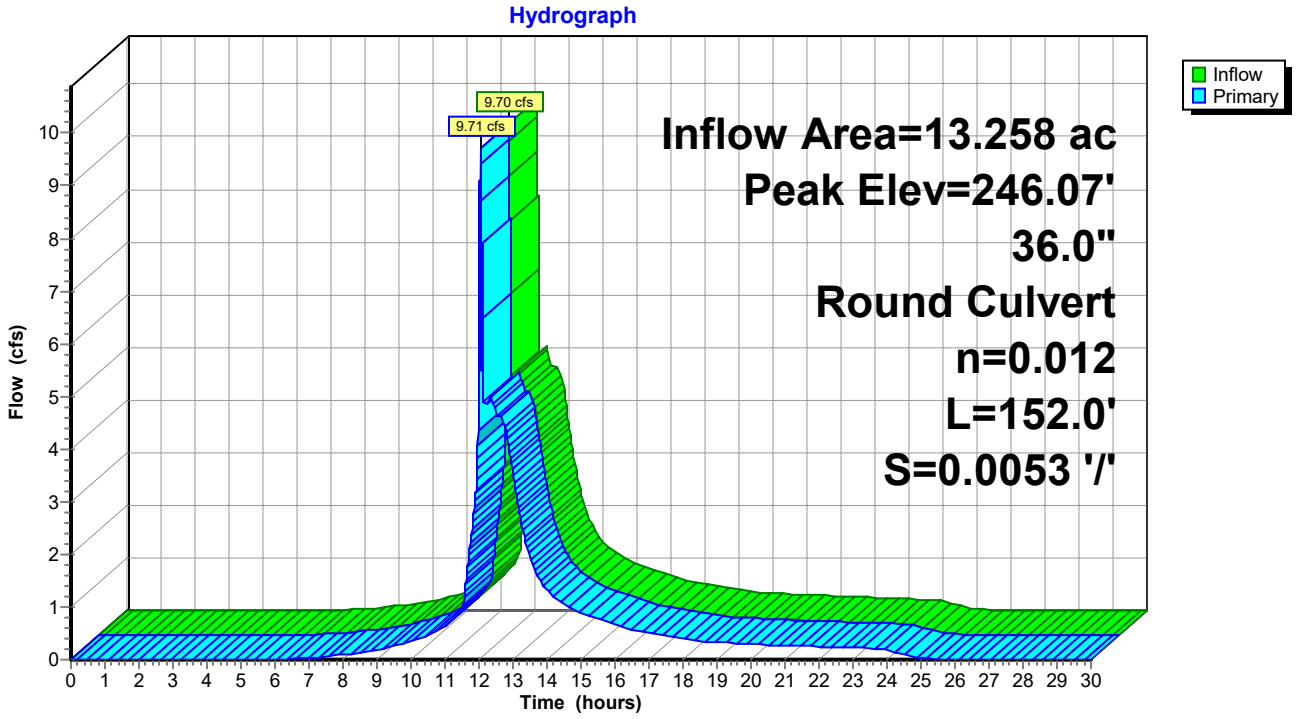
Inflow Area = 13.258 ac, 48.16% Impervious, Inflow Depth = 1.06" for 25-YR event
Inflow = 9.70 cfs @ 12.03 hrs, Volume= 1.172 af
Outflow = 9.71 cfs @ 12.03 hrs, Volume= 1.172 af, Atten= 0%, Lag= 0.0 min
Primary = 9.71 cfs @ 12.03 hrs, Volume= 1.172 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.07' @ 12.03 hrs
Flood Elev= 249.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.00'	**36.0" Round Culvert** L= 152.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.00' / 241.20' S= 0.0053 '/' Cc= 0.900 n= 0.012, Flow Area= 7.07 sf

Primary OutFlow Max=9.69 cfs @ 12.03 hrs HW=246.07' TW=245.99' (Dynamic Tailwater)
1=Culvert (Inlet Controls 9.69 cfs @ 1.37 fps)

Pond 8P: NEW DMH-1



Summary for Pond 9P: CULVERT

Inflow Area = 0.616 ac, 23.98% Impervious, Inflow Depth = 1.12" for 25-YR event
Inflow = 0.43 cfs @ 12.36 hrs, Volume= 0.057 af
Outflow = 0.41 cfs @ 12.44 hrs, Volume= 0.057 af, Atten= 4%, Lag= 4.3 min
Primary = 0.41 cfs @ 12.44 hrs, Volume= 0.057 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 250.27' @ 12.44 hrs Surf.Area= 249 sf Storage= 117 cf

Plug-Flow detention time= 4.4 min calculated for 0.057 af (100% of inflow)
Center-of-Mass det. time= 4.4 min (908.4 - 904.0)

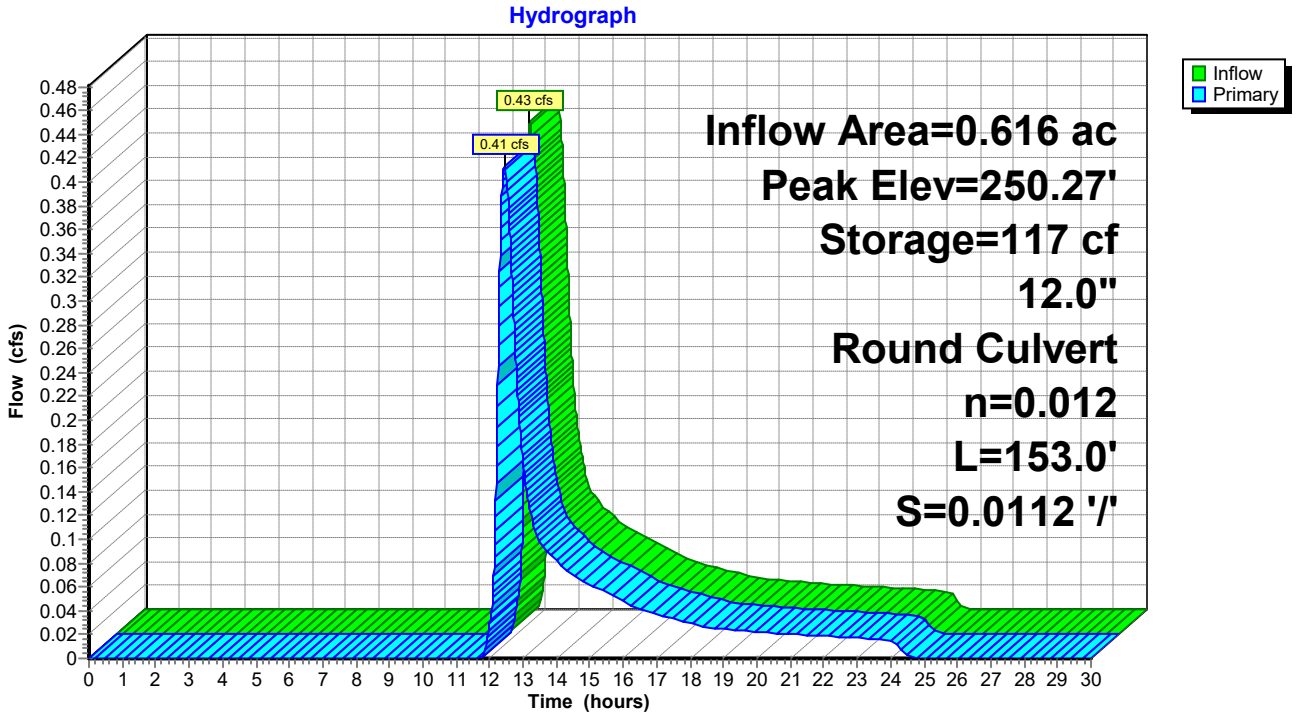
Volume	Invert	Avail.Storage	Storage Description
#1	249.91'	1,464 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
249.91	0	0	0
250.00	44	2	2
251.00	800	422	424
252.00	1,280	1,040	1,464

Device	Routing	Invert	Outlet Devices
#1	Primary	249.91'	**12.0" Round Culvert** L= 153.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 249.91' / 248.20' S= 0.0112 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.41 cfs @ 12.44 hrs HW=250.27' TW=247.07' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.41 cfs @ 1.62 fps)

Pond 9P: CULVERT



Summary for Pond 10P: New CB-5

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=177)

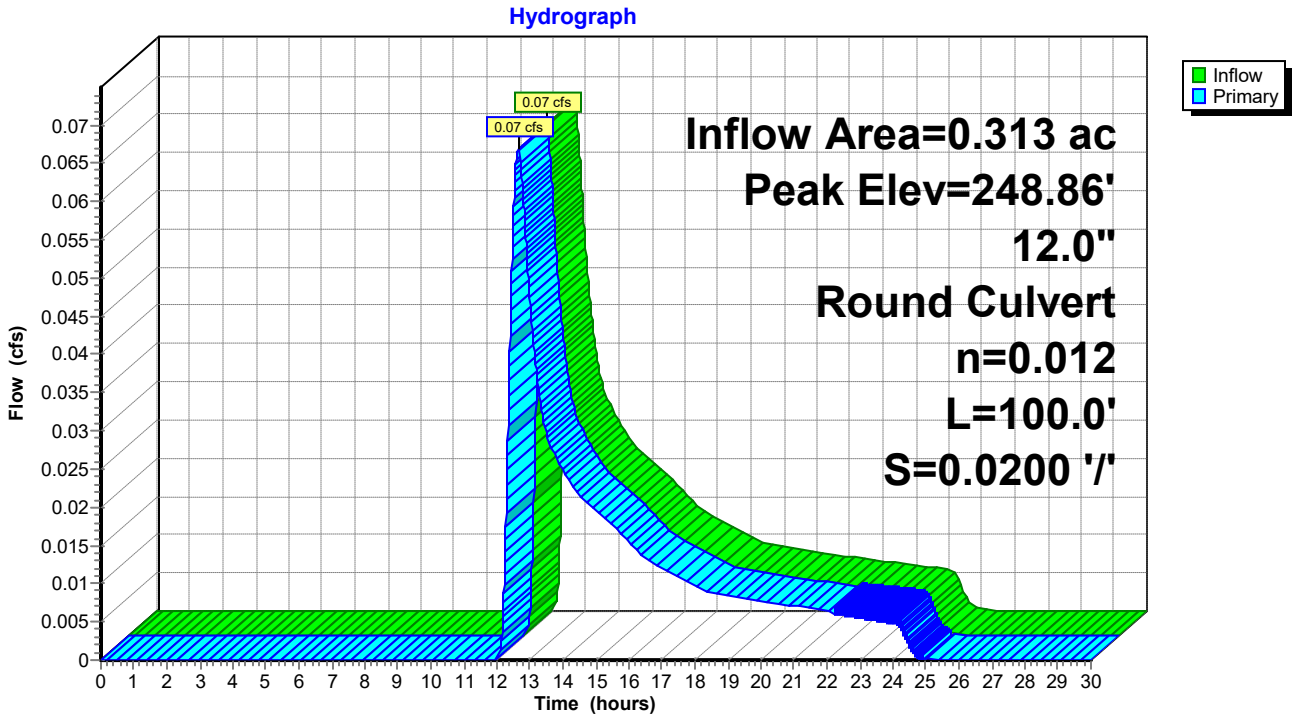
Inflow Area = 0.313 ac, 10.99% Impervious, Inflow Depth = 0.58" for 25-YR event
Inflow = 0.07 cfs @ 12.64 hrs, Volume= 0.015 af
Outflow = 0.07 cfs @ 12.64 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min
Primary = 0.07 cfs @ 12.64 hrs, Volume= 0.015 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 248.86' @ 18.40 hrs
Flood Elev= 249.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	247.90'	**12.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 247.90' / 245.90' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.07 cfs @ 12.64 hrs HW=248.02' TW=246.84' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.07 cfs @ 1.20 fps)

Pond 10P: New CB-5



Summary for Pond 11P: UNDERDRAINED SOIL FILTER 11

[80] Warning: Exceeded Pond 4P by 1.14' @ 24.86 hrs (4.33 cfs 0.329 af)

Inflow Area =	4.431 ac,	39.08% Impervious,	Inflow Depth =	1.81"	for 25-YR event
Inflow =	3.21 cfs @	12.61 hrs,	Volume=	0.667 af	
Outflow =	0.39 cfs @	16.46 hrs,	Volume=	0.585 af,	Atten= 88%, Lag= 230.8 min
Discarded =	0.39 cfs @	16.46 hrs,	Volume=	0.585 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 254.50' @ 16.46 hrs Surf.Area= 7,032 sf Storage= 14,585 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 315.4 min (1,179.0 - 863.6)

Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	26,202 cf	**Custom Stage Data (Prismatic)** Listed below

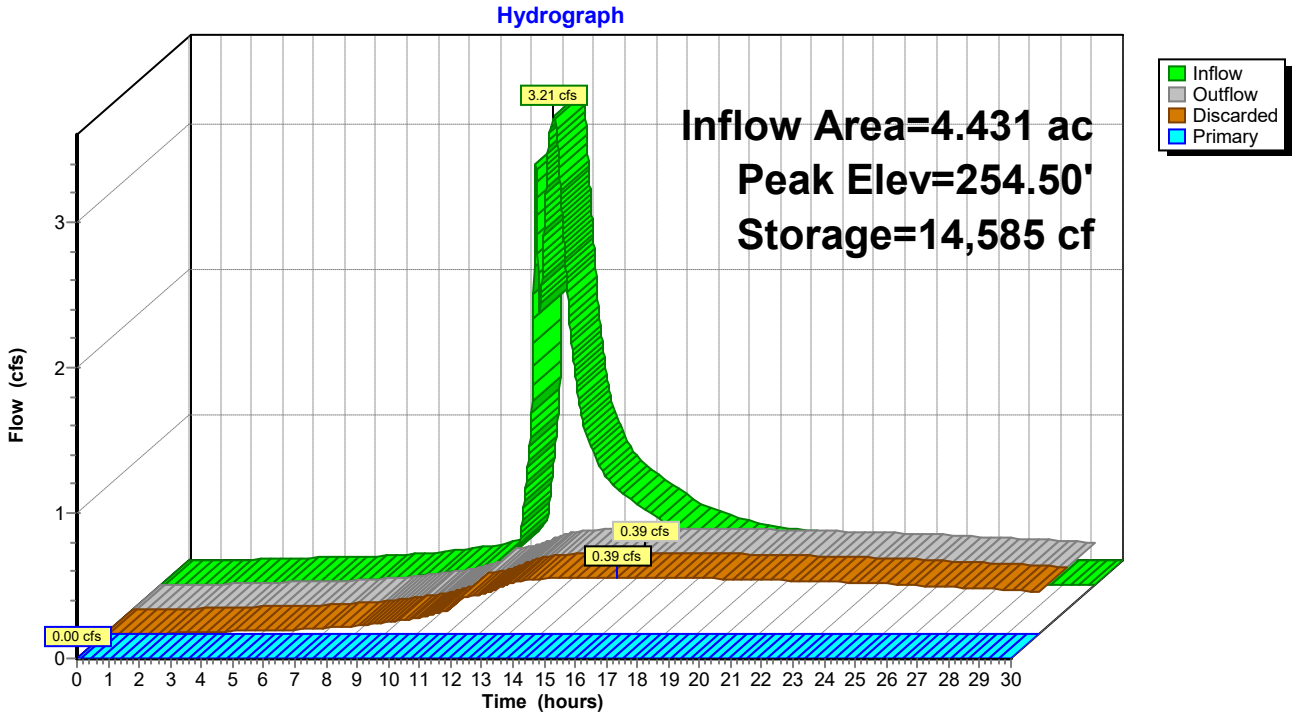
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
252.00	4,598	0	0
253.00	5,504	5,051	5,051
254.00	6,497	6,001	11,052
255.00	7,561	7,029	18,081
256.00	8,681	8,121	26,202

Device	Routing	Invert	Outlet Devices
#1	Discarded	252.00'	**2.398 in/hr Exfiltration over Surface area above 251.83'** Excluded Surface area = 0 sf
#2	Primary	255.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.39 cfs @ 16.46 hrs HW=254.50' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.39 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=252.00' TW=247.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 11P: UNDERDRAINED SOIL FILTER 11



Summary for Pond 12P: UNDERDRAINED SOIL FILTER 12

Inflow Area = 2.407 ac, 84.49% Impervious, Inflow Depth = 4.26" for 25-YR event
Inflow = 11.84 cfs @ 12.08 hrs, Volume= 0.855 af
Outflow = 0.60 cfs @ 14.18 hrs, Volume= 0.855 af, Atten= 95%, Lag= 126.2 min
Discarded = 0.60 cfs @ 14.18 hrs, Volume= 0.855 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.13' @ 14.18 hrs Surf.Area= 10,803 sf Storage= 18,635 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 313.9 min (1,101.4 - 787.5)

Volume	Invert	Avail.Storage	Storage Description
#1	253.00'	28,486 cf	**Custom Stage Data (Prismatic)** Listed below

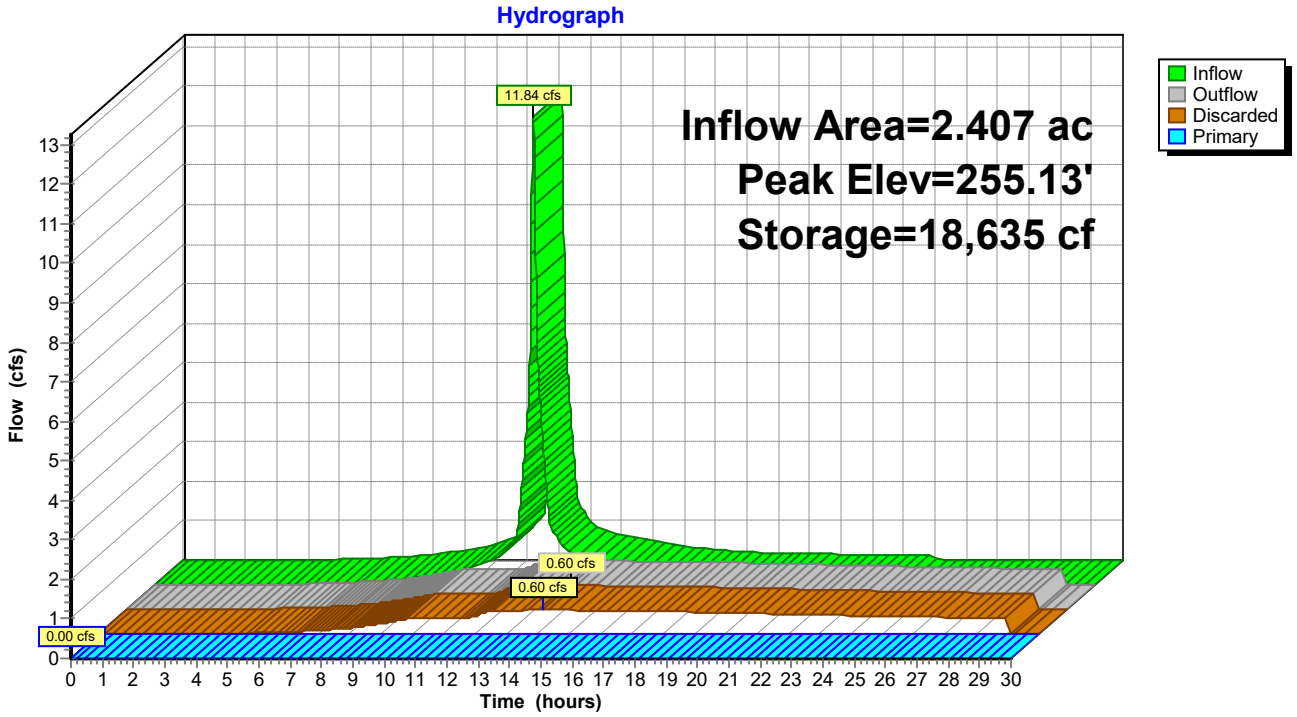
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
253.00	7,054	0	0
254.00	8,302	7,678	7,678
255.00	10,605	9,454	17,132
256.00	12,103	11,354	28,486

Device	Routing	Invert	Outlet Devices
#1	Discarded	253.00'	**2.400 in/hr Exfiltration over Surface area above 251.83'** Excluded Surface area = 0 sf
#2	Primary	255.50'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.60 cfs @ 14.18 hrs HW=255.13' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.60 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=253.00' TW=246.25' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 12P: UNDERDRAINED SOIL FILTER 12



Summary for Pond 14P: StormTrap

[80] Warning: Exceeded Pond 3P by 3.51' @ 24.81 hrs (6.02 cfs 0.494 af)
[80] Warning: Exceeded Pond 10P by 0.51' @ 24.84 hrs (0.70 cfs 0.021 af)
[80] Warning: Exceeded Pond DMH-1 by 6.96' @ 18.64 hrs (62.79 cfs 16.700 af)

Inflow Area = 3.078 ac, 67.00% Impervious, Inflow Depth = 3.39" for 25-YR event
Inflow = 9.54 cfs @ 12.07 hrs, Volume= 0.870 af
Outflow = 0.20 cfs @ 7.64 hrs, Volume= 0.431 af, Atten= 98%, Lag= 0.0 min
Discarded = 0.20 cfs @ 7.64 hrs, Volume= 0.431 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 248.86' @ 18.40 hrs Surf.Area= 3,665 sf Storage= 24,430 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 259.4 min (1,029.7 - 770.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	241.00'	0 cf	**30.27'W x 121.08'L x 11.00'H Field A** 40,318 cf Overall - 40,318 cf Embedded = 0 cf x 40.0% Voids
#2A	241.00'	33,183 cf	**StormTrap ST2 DoubleTrap 10-0** x 14 Inside #1 Inside= 101.7"W x 120.0"H => 78.88 sf x 15.40'L = 1,214.5 cf Outside= 101.7"W x 132.0"H => 93.27 sf x 15.40'L = 1,436.0 cf 14 Chambers in 2 Rows 16.96' x 107.77' Core + 6.66' Border = 30.27' x 121.08' System
		33,183 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	241.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Primary	250.50'	**12.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 250.50' / 244.90' S= 0.1400 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.20 cfs @ 7.64 hrs HW=241.50' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.20 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=241.00' TW=244.80' (Dynamic Tailwater)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 14P: StormTrap - Chamber Wizard Field A

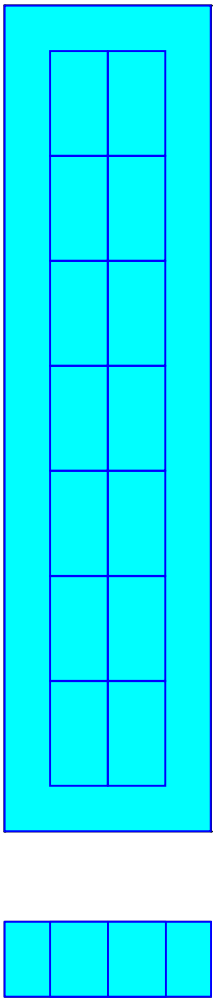
Chamber Model = StormTrap ST2 DoubleTrap 10-0 (StormTrap ST2 DoubleTrap® Type I+III)
Inside= 101.7"W x 120.0"H => 78.88 sf x 15.40'L = 1,214.5 cf
Outside= 101.7"W x 132.0"H => 93.27 sf x 15.40'L = 1,436.0 cf

7 Chambers/Row x 15.40' Long = 107.77' Row Length +79.9" Border x 2 = 121.08' Base Length
2 Rows x 101.7" Wide + 79.9" Side Border x 2 = 30.27' Base Width
132.0" Chamber Height = 11.00' Field Height

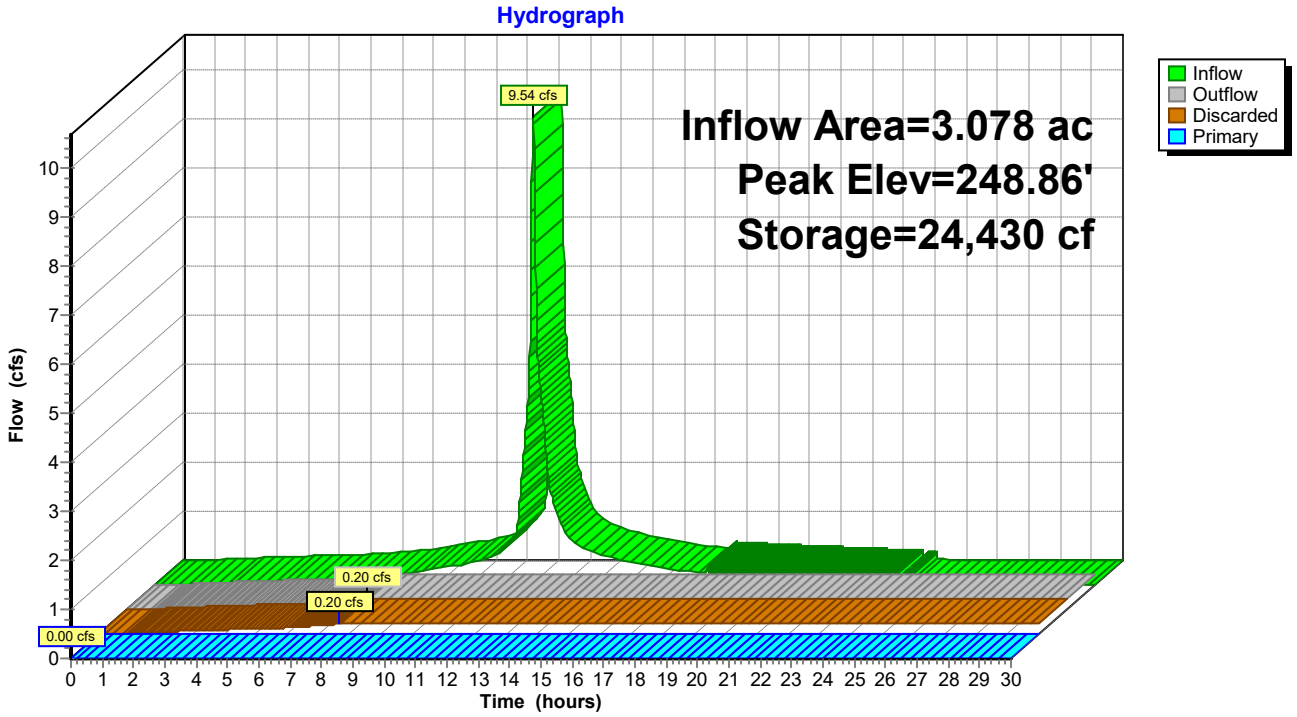
14 Chambers x 1,214.5 cf + 16,180.8 cf Border = 33,183.5 cf Chamber Storage
14 Chambers x 1,436.0 cf + 20,214.5 cf Border = 40,318.2 cf Displacement

Chamber Storage = 33,183.5 cf = 0.762 af
Overall Storage Efficiency = 82.3%
Overall System Size = 121.08' x 30.27' x 11.00'

14 Chambers (plus border)
1,493.3 cy Field



Pond 14P: StormTrap



Summary for Pond 30P: NEW POND 2

[92] Warning: Device #1 is above defined storage

Inflow Area = 5.814 ac, 89.12% Impervious, Inflow Depth = 4.47" for 25-YR event
Inflow = 29.46 cfs @ 12.06 hrs, Volume= 2.165 af
Outflow = 0.87 cfs @ 15.83 hrs, Volume= 0.398 af, Atten= 97%, Lag= 226.2 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.87 cfs @ 15.83 hrs, Volume= 0.398 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 238.83' @ 15.83 hrs Surf.Area= 23,894 sf Storage= 78,840 cf

Plug-Flow detention time= 610.0 min calculated for 0.398 af (18% of inflow)
Center-of-Mass det. time= 369.7 min (1,138.6 - 768.9)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	82,761 cf	**Custom Stage Data (Prismatic)** Listed below

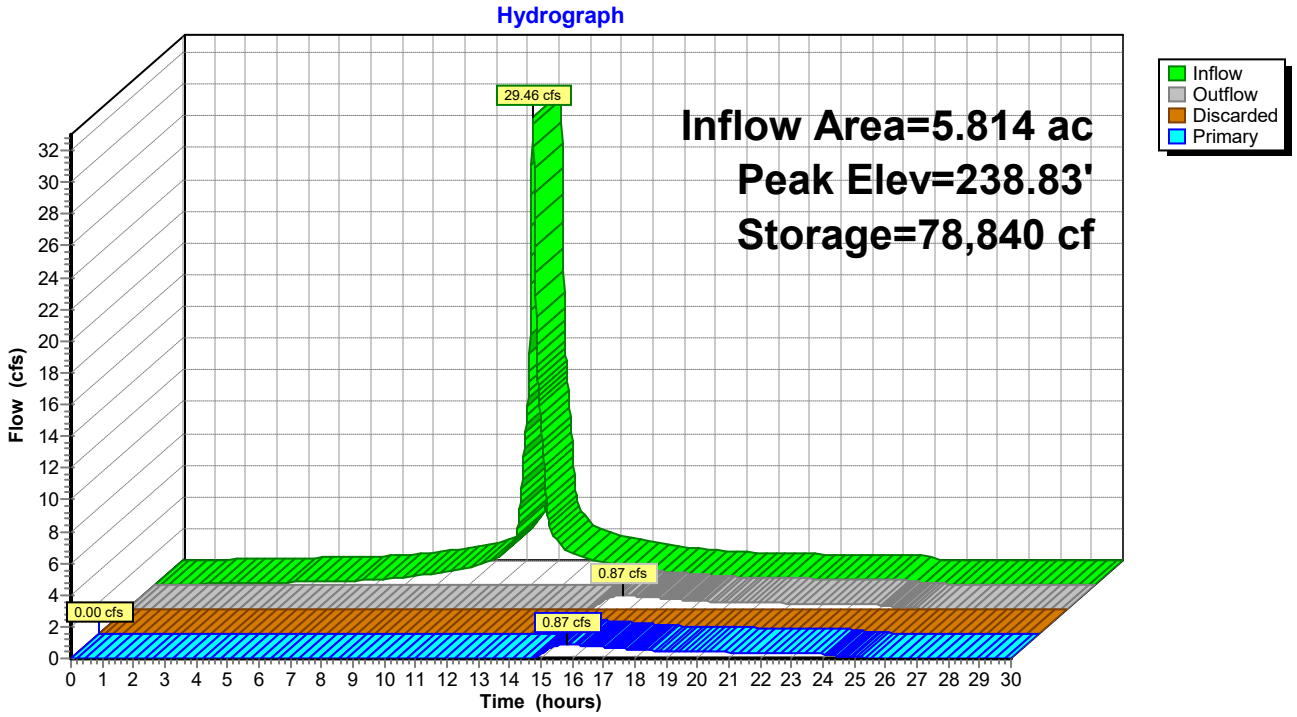
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.00	17,325	0	0
236.00	18,958	18,142	18,142
237.00	20,648	19,803	37,945
238.00	22,394	21,521	59,466
239.00	24,197	23,296	82,761

Device	Routing	Invert	Outlet Devices
#1	Discarded	241.20'	**2.400 in/hr Exfiltration over Surface area above 241.20'** Excluded Surface area = 24,197 sf
#2	Primary	238.75'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.87 cfs @ 15.83 hrs HW=238.83' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.87 cfs @ 0.71 fps)

Pond 30P: NEW POND 2



Summary for Pond 31P: NEW POND 1

Inflow Area = 2.939 ac, 85.97% Impervious, Inflow Depth = 4.24" for 25-YR event
Inflow = 14.55 cfs @ 12.06 hrs, Volume= 1.040 af
Outflow = 0.72 cfs @ 14.17 hrs, Volume= 1.040 af, Atten= 95%, Lag= 126.5 min
Discarded = 0.72 cfs @ 14.17 hrs, Volume= 1.040 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 236.82' @ 14.17 hrs Surf.Area= 12,949 sf Storage= 21,310 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 274.1 min (1,052.0 - 777.9)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	53,261 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

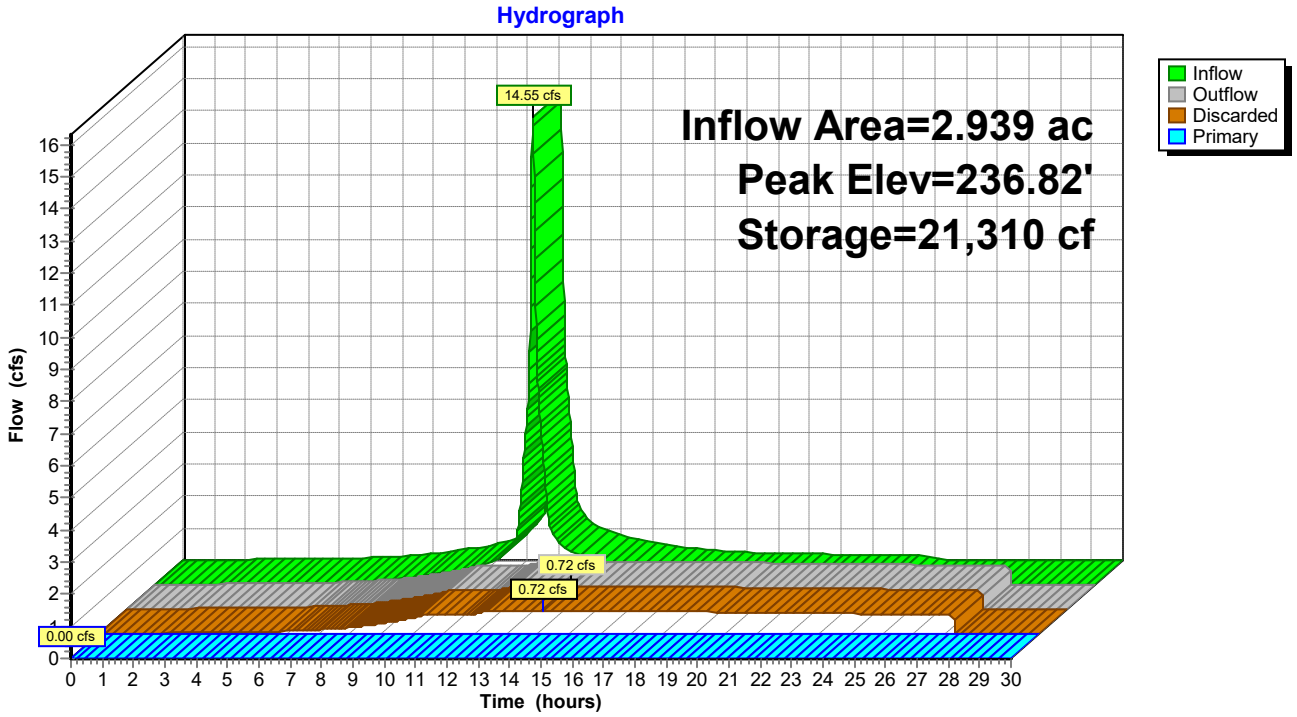
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.00	10,474	0	0
236.00	11,794	11,134	11,134
237.00	13,198	12,496	23,630
238.00	14,769	13,984	37,614
239.00	16,526	15,648	53,261

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	238.75'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=0.72 cfs @ 14.17 hrs HW=236.82' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.72 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 31P: NEW POND 1



Summary for Pond 50P: Underdrain Soil Filter 3

[92] Warning: Device #2 is above defined storage
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=399)

Inflow Area = 1.983 ac, 54.57% Impervious, Inflow Depth = 2.42" for 25-YR event
Inflow = 3.88 cfs @ 12.27 hrs, Volume= 0.400 af
Outflow = 1.41 cfs @ 12.22 hrs, Volume= 0.400 af, Atten= 64%, Lag= 0.0 min
Discarded = 0.33 cfs @ 13.95 hrs, Volume= 0.320 af
Primary = 1.64 cfs @ 12.20 hrs, Volume= 0.083 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.07' @ 13.95 hrs Surf.Area= 6,018 sf Storage= 5,855 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 138.7 min (991.4 - 852.7)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	11,871 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

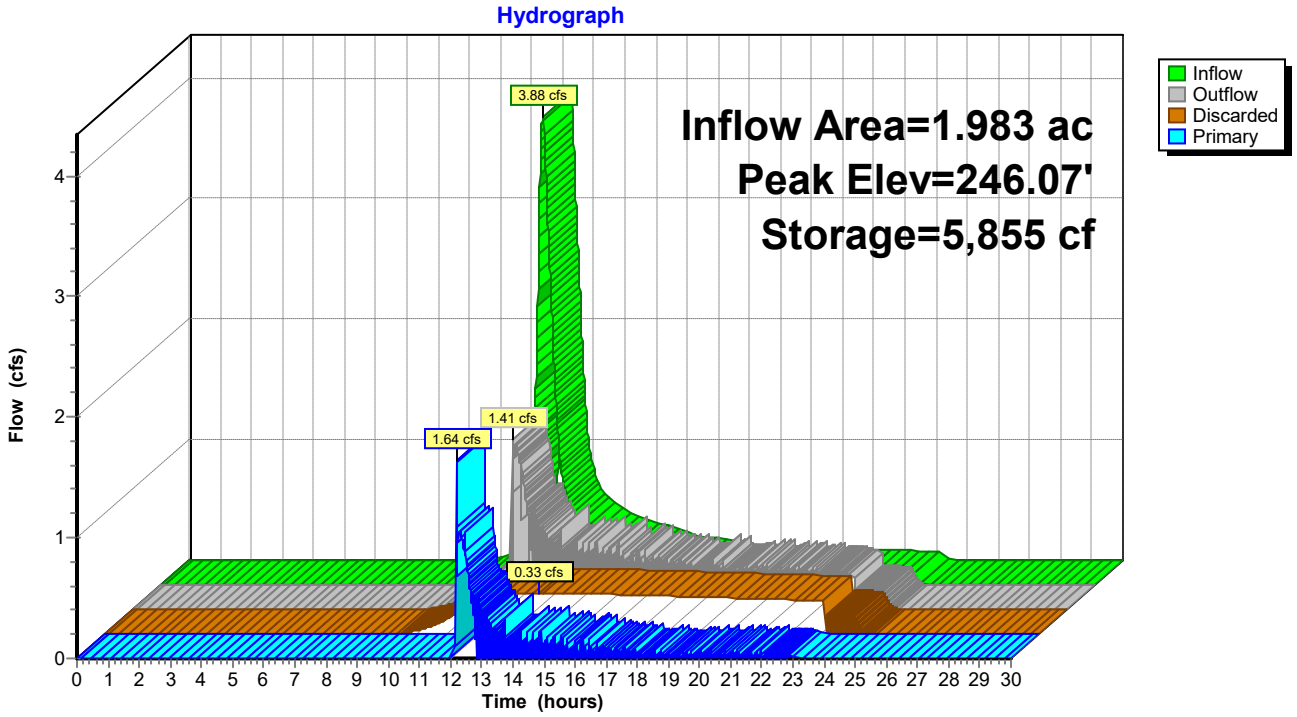
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
245.00	4,892	0	0
246.00	5,943	5,418	5,418
247.00	6,964	6,454	11,871

Device	Routing	Invert	Outlet Devices
#1	Primary	245.00'	**36.0" x 12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	247.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	245.00'	**2.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.33 cfs @ 13.95 hrs HW=246.07' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.33 cfs)

Primary OutFlow Max=0.00 cfs @ 12.20 hrs HW=245.40' TW=245.40' (Dynamic Tailwater)
├**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 50P: Underdrain Soil Filter 3



Summary for Pond 51P: NEW POND 1

Inflow Area = 5.675 ac, 89.03% Impervious, Inflow Depth = 4.47" for 25-YR event
Inflow = 28.73 cfs @ 12.06 hrs, Volume= 2.112 af
Outflow = 1.18 cfs @ 14.85 hrs, Volume= 2.039 af, Atten= 96%, Lag= 167.4 min
Discarded = 1.18 cfs @ 14.85 hrs, Volume= 2.039 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 237.42' @ 14.85 hrs Surf.Area= 21,330 sf Storage= 46,642 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 340.0 min (1,109.8 - 769.8)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	82,555 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

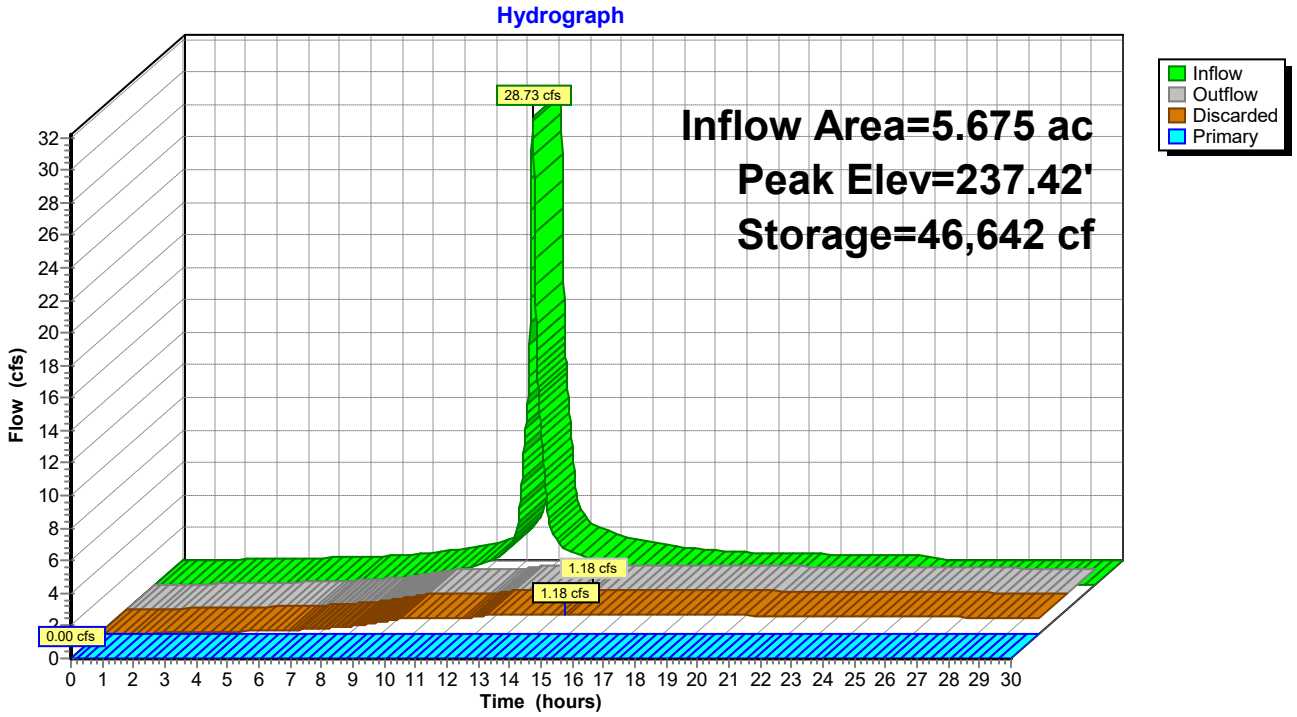
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
235.00	17,273	0	0
236.00	18,906	18,090	18,090
237.00	20,596	19,751	37,841
238.00	22,343	21,470	59,310
239.00	24,146	23,245	82,555

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	238.75'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Discarded OutFlow Max=1.18 cfs @ 14.85 hrs HW=237.42' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 1.18 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 51P: NEW POND 1



Summary for Pond 52P: Underdrain Soil Filter 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=257)

Inflow Area = 2.096 ac, 45.04% Impervious, Inflow Depth = 1.93" for 25-YR event
Inflow = 4.23 cfs @ 12.12 hrs, Volume= 0.336 af
Outflow = 0.49 cfs @ 13.16 hrs, Volume= 0.336 af, Atten= 88%, Lag= 62.0 min
Discarded = 0.49 cfs @ 13.16 hrs, Volume= 0.336 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.54' @ 13.16 hrs Surf.Area= 8,805 sf Storage= 5,159 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 95.9 min (954.1 - 858.1)

Volume	Invert	Avail.Storage	Storage Description
#1	246.00'	18,960 cf	**Custom Stage Data (Prismatic)** Listed below

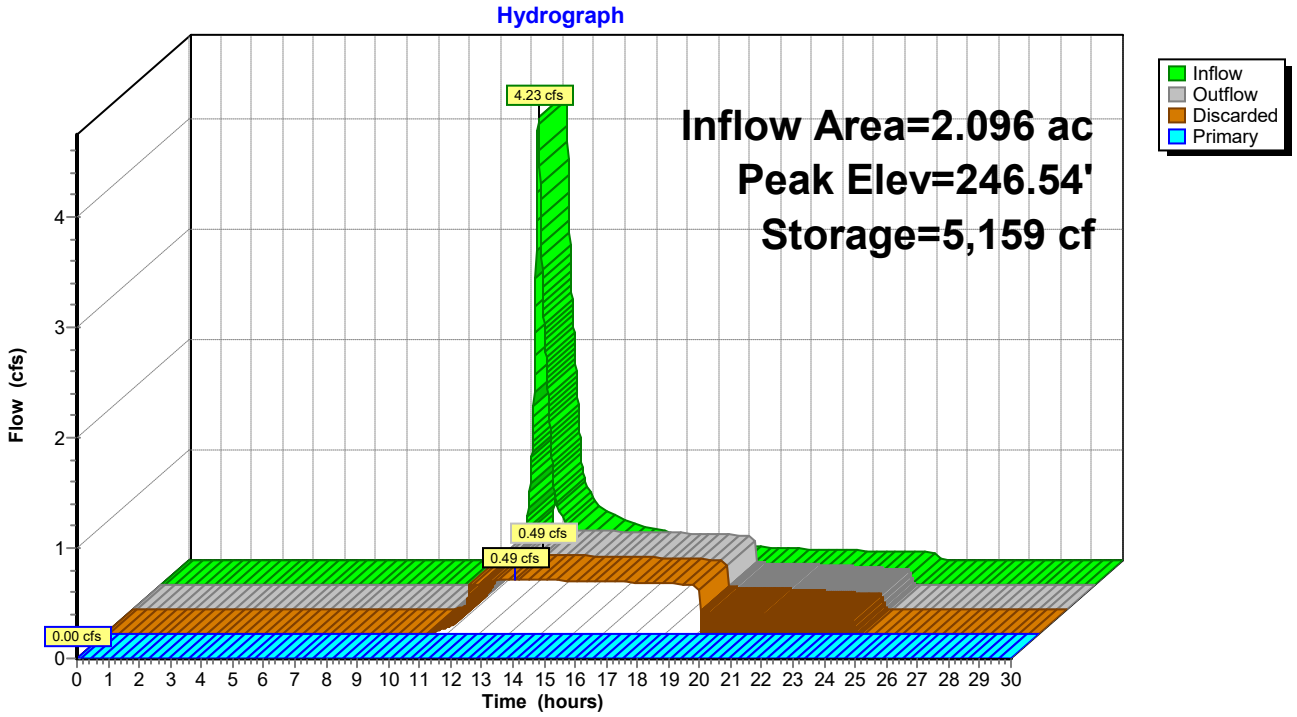
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
246.00	8,000	0	0
248.00	10,960	18,960	18,960

Device	Routing	Invert	Outlet Devices
#1	Discarded	246.00'	**2.400 in/hr Exfiltration over Surface area**
#2	Primary	247.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.49 cfs @ 13.16 hrs HW=246.54' (Free Discharge)
↑└**1=Exfiltration** (Exfiltration Controls 0.49 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=246.00' TW=238.49' (Dynamic Tailwater)
↑└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 52P: Underdrain Soil Filter 2



Summary for Pond 53P: Underdrain Soil Filter 3.1

[92] Warning: Device #2 is above defined storage
[80] Warning: Exceeded Pond 50P by 0.08' @ 12.09 hrs (2.84 cfs 0.092 af)

Inflow Area = 2.521 ac, 54.31% Impervious, Inflow Depth = 0.90" for 25-YR event
Inflow = 2.37 cfs @ 12.20 hrs, Volume= 0.188 af
Outflow = 0.21 cfs @ 13.91 hrs, Volume= 0.188 af, Atten= 91%, Lag= 102.6 min
Discarded = 0.21 cfs @ 13.91 hrs, Volume= 0.188 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 246.07' @ 13.91 hrs Surf.Area= 3,780 sf Storage= 3,544 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 177.0 min (1,023.5 - 846.5)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	7,449 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

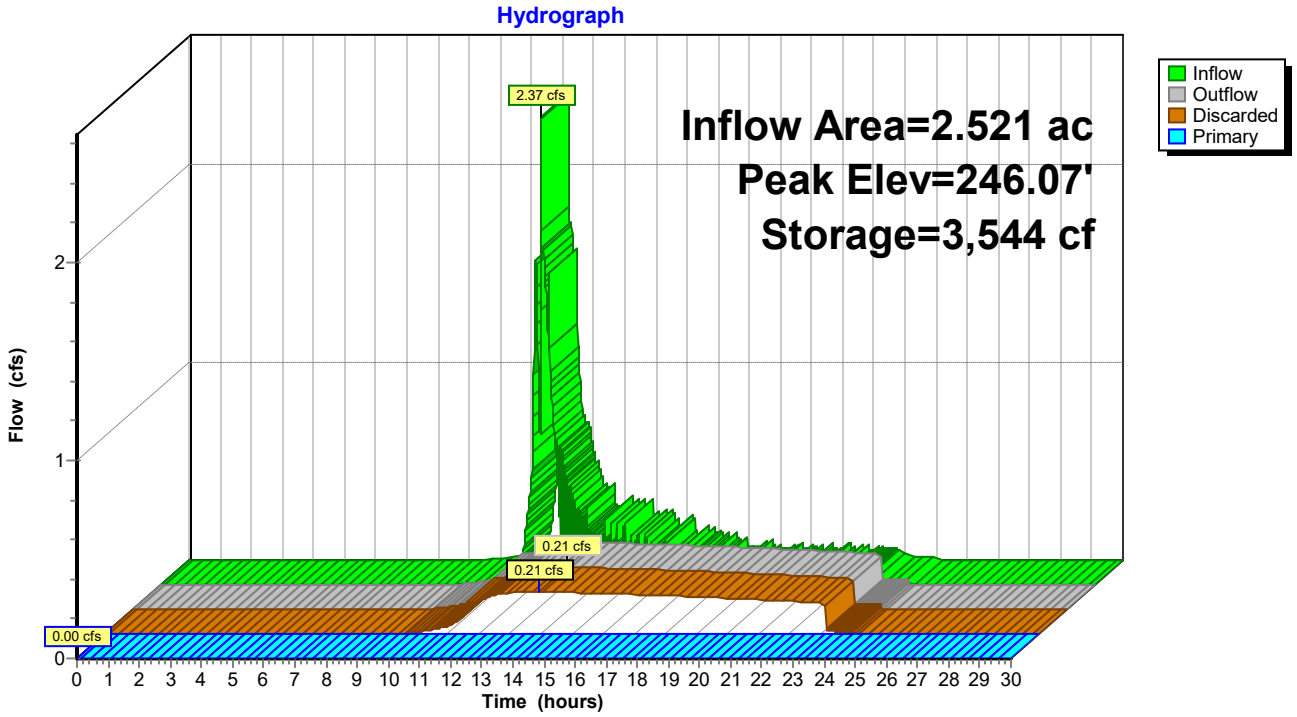
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
245.00	2,828	0	0
246.00	3,711	3,270	3,270
247.00	4,647	4,179	7,449

Device	Routing	Invert	Outlet Devices
#1	Primary	246.50'	**17.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	247.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Discarded	245.00'	**2.400 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.21 cfs @ 13.91 hrs HW=246.07' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.21 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=245.00' TW=235.00' (Dynamic Tailwater)
├**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 53P: Underdrain Soil Filter 3.1



Summary for Pond DMH-1: NEW DMH-1

[57] Hint: Peaked at 248.86' (Flood elevation advised)
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=315)

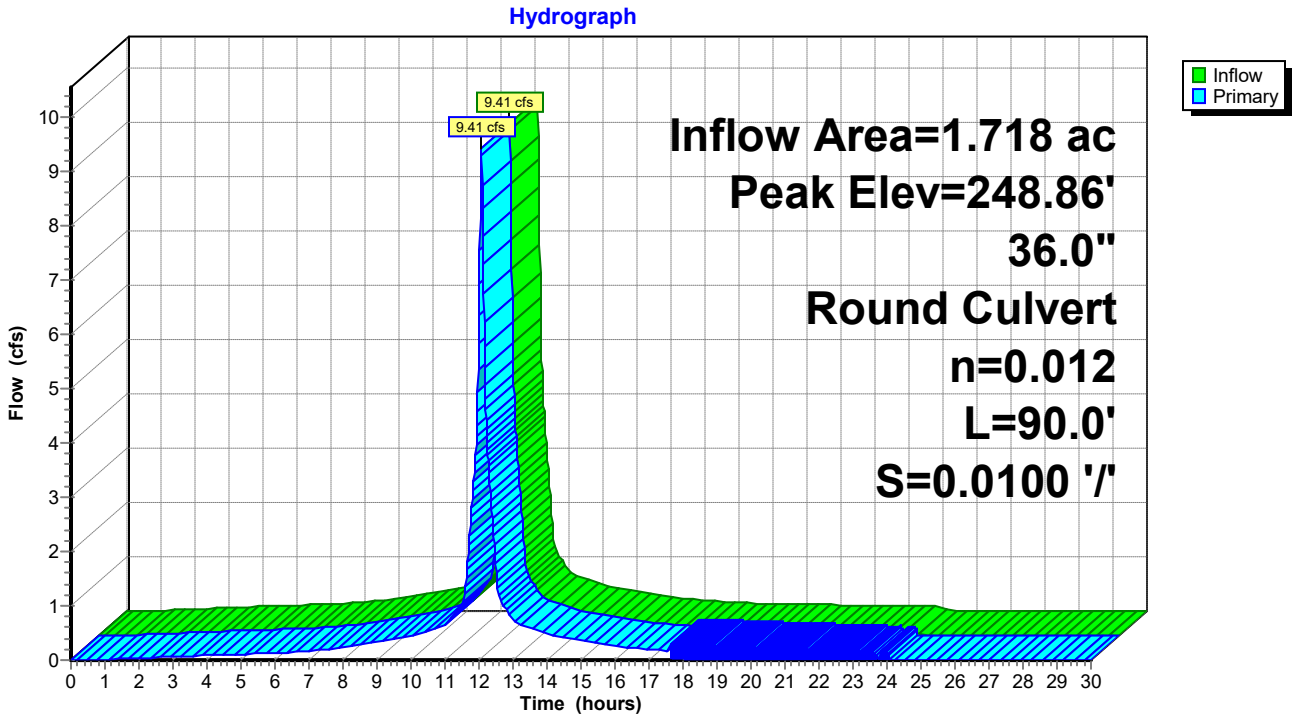
Inflow Area = 1.718 ac,100.00% Impervious, Inflow Depth = 5.16" for 25-YR event
Inflow = 9.41 cfs @ 12.07 hrs, Volume= 0.739 af
Outflow = 9.41 cfs @ 12.07 hrs, Volume= 0.739 af, Atten= 0%, Lag= 0.0 min
Primary = 9.41 cfs @ 12.07 hrs, Volume= 0.739 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 248.86' @ 18.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	241.90'	**36.0" Round Culvert** L= 90.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 241.90' / 241.00' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=9.41 cfs @ 12.07 hrs HW=244.56' TW=244.42' (Dynamic Tailwater)
1=Culvert (Inlet Controls 9.41 cfs @ 1.42 fps)

Pond DMH-1: NEW DMH-1



Harriman

POST-CONSTRUCTION STORMWATER AND SITE MAINTENANCE PLAN

FOR

TAMBRANDS, INC.
PROCTER & GAMBLE

BUILDING ADDITIONS AND PAVEMENTS

AUBURN, MAINE

April 2026

Site Description

The site as referenced in this document refers to the Tambrands manufacturing facility on Hotel Road in Auburn, Maine; including the new building additions, paved drives, lawn areas, and vegetated underdrain soil filter basins. Refer to the site plans prepared by Harriman Architects and Engineers dated April 2026, for referenced site locations. The stormwater treatment system as referenced within this document refers to the system of catch basins, pipes, swales, vegetated underdrain basin, subsurface sand filters, and detention basins designed to collect, convey, and treat stormwater runoff from the site.

Facility Contacts

Facility:	Tambrands-Procter & Gamble 2879 Hotel Road Auburn, Maine 04210
Owner:	Same Telephone: 513-713-6871 Danielle Brown, Project Manager
Maintenance Responsibility:	Lori Daniels, Environmental Leader Telephone: 207-753-4099
Consultant/Designer:	Harriman Architects and Engineers 46 Harriman Drive Auburn, Maine 04210 Telephone: 207-784-5100 David Latham, P.E. dlatham@harriman.com

Site Maintenance Plan Overview and Objectives

The Site Maintenance Plan (SMP) is an important component of the overall stormwater management system for the site. The SMP addresses various maintenance activities that should occur after construction and site stabilization. Proper implementation of the SMP can minimize pollutant generation and transport and maintain the stormwater treatment system to ensure proper operation. This SMP includes three primary components:

1. Site Management Practices
2. Inspections
3. Routine Maintenance and Corrective Actions

1. Site Management Practices

Site management practices are aimed at reducing pollutants by minimizing use of certain materials, using alternative materials, or removing pollutants prior to discharge to the stormwater treatment system. These practices shall include:

a. Use slow release sulfur or plastic coated ureaform fertilizers (e.g., Nutralene).
b. Do not fertilize vegetated swales or detention areas once vegetation is established.
c. Minimize use of pesticides by using a sound integrated pest management(IPM) approach to monitor and control the actual pests present.
d. Collect and remove autumn leaves to minimize transport to the stormwater treatment system.
e. Minimize use of de-icing materials and sand.
f. Routine sweeping of parking areas and driveways.
g. Fertilizers, pesticides and other hazardous materials should be stored in enclosed areas to avoid exposure to precipitation. Material handling should be conducted to minimize risk of spillage and release to the storm water treatment system.

2. Inspections

A series of routine inspections shall be completed to allow for the early identification of potential problems, and to guide routine maintenance activities. Inspections shall be carried out in accordance with the Site Inspection Schedule (Table 1). Dates and observations shall be recorded for each inspection on the attached 'Inspection Log'.

3. Routine Maintenance and Corrective Actions

Routine maintenance activities are designed to ensure proper function of the stormwater management system and minimize pollutant transport from the site. Routine maintenance activities must be completed according to the schedule (Table 2) provided in this plan. This schedule is the <u>minimum</u> amount of maintenance required, and more frequent maintenance may be needed when indicated by the inspections. Corrective actions (supplemental maintenance activities or repairs) should be completed within 7 days of the inspection identifying the problem. Each maintenance activity will be recorded on the attached 'Maintenance and Repair Log'.

During construction, the Sitework Contractor, (not yet selected by Bid process) shall be responsible for cleaning and maintaining stormwater components on the schedule outlined in Table 2.

Following completion of construction, Procter & Gamble will be responsible for cleaning and maintaining stormwater components on the schedule outlined in Table 2.

Place removed sediments in an area of low erosion potential, either on-site or off-site, and seed with

erosion control seed mix.

The following describes specific stormwater facilities maintenance requirements and minimum schedule of inspection and maintenance.

1. Open swales and ditches need to be inspected in the spring and fall, or after a major rainfall event, to assure that debris or sediments do not reduce the effectiveness of the system. Debris needs to be removed at that time. Sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation for the stability of the structure and proper functioning. Swales that show newly formed channels or gullies will be immediately repaired by reseeding/sodding of bare spots, removal of trash, leaves and/or accumulated sediments, and the control of woody or other undesirable vegetation.

2. Vegetated ditches should be mowed at least once 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 repaired and revegetated.

3. If sediment in culverts or piped drainage systems exceeds 20% of the diameter of the pipe, it should be removed. This may be accomplished by hydraulic flushing or other mechanical means; however, care should be taken to not flush the sediments into the filter basin, infiltration basin or retention/detention pond as it will reduce the pond's capacity and hasten the time when it must be cleaned. Storm pipes should be inspected on an annual basis.

4. Catch basin sumps and outlet control structures shall be cleaned of debris and sediment at least annually to minimize clogging and transportation of sediment during rainfall events.

5. Under-drained Soil Filter Basins shall be inspected after every major storm (2 inches of rainfall in a 24-hour period) during the first 6 months following construction to ensure proper operation. Thereafter, the facilities shall be inspected at least once every six months following significant rainfall to ensure that the facility is draining between 24 and 48 hours. Facilities that do not drain shall be rototilled to a depth of 8 inches. If rototilling does not result in improved drainage, the top several inches of filter bed material shall be removed and properly disposed of. New filter bed material shall be placed in the bed and revegetated.

6. Underdrained Subsurface Sand Filters shall be inspected semi-annually and following major storm events. Each system should be inspected after every major storm in the first few months to ensure proper function. Thereafter the filters should be inspected at least once every six months to ensure that it is draining within 24 hours to 36 hours. Cleaning of the pre-treatment devise shall be done as needed. When the average depth of sediment throughout the length of the Isolator Row exceeds 3 inches, clean-out must be performed.

7. Some erosion may occur at the inflow point of the soil filter bed. This needs to be corrected, as necessary. The surface of the soil filter may clog with fine sediments over time. Maintenance of good grass cover will minimize this. Grass should be mowed not more than two times per season. Any bare areas should be seeded or sodded, as necessary. Inspect the basin's drainage area semi-annually for eroding soil and other sediment sources. Repair eroding areas using appropriate

erosion control BMP's immediately. Control sediment sources, such as stockpiles of winter sand, by removing them from the basin's drainage area or surrounding them with sediment control BMP's. Prohibit vehicle access to all infiltration areas. Heavy equipment used to maintain or rehabilitate the basins should work from the basin's perimeter.

8. Paved surfaces shall be swept or vacuumed at least annually in the spring to remove winter sand and periodically during the year on an as-needed basis to minimize the transportation of sediment during rainfall events.

4. DEP 5-Year Re-certification.

Submit a certification of the following to the department within three months of the expiration of each five-year interval from the date of issuance of the permit.

(a) Identification and repair of erosion problems. All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

(b) Inspection and repair of stormwater control system. All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system.

(c) Maintenance. The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department, and the maintenance log is being maintained.

5. Documentation.

Keep a log(report) summarizing inspections, maintenance, and any corrective actions taken. The log must include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris were disposed after removal. The log must be made accessible to the Department of Environmental Protection (DEP) staff and a copy provided to DEP upon request. The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization.

TAMBRANDS – BUILDING ADDITIONS AND PAVEMENTS Long-Term Inspection & Maintenance Plan				
	Spring	Fall or Yearly	After a Major	Every 2-5 Years
Vegetated Areas				
Inspect all slopes and embankments	X		X	
Replant bare areas or areas with sparse growth	X		X	
Armor areas with rill erosion with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows.	X		X	
Stormwater Channels				
Inspect ditches, swales and other open stormwater channels	X	X	X	
Remove any obstructions and accumulated sediments or debris	X	X		
Control vegetated growth and woody vegetation		X		
Repair any erosion of the ditch lining		X		
Mow vegetated ditches		X		
Remove woody vegetation growing through riprap		X		
Repair any slumping side slopes		X		
Replace riprap where underlying filter fabric or underdrain gravel is showing or where stones have dislodged		X		
Culverts				
Remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit	X	X	X	
Repair any erosion damage at the culvert's inlet and outlet	X	X	X	
Catch Basin Systems				
Remove and legally dispose of accumulated sediments and debris from the bottom of the basin, inlet grates, inflow channels to the basin, and pipes between basins	X	X		
Remove floating debris and floating oils (using oil absorptive pads) from any trap designed for such, and dispose in a legal manner	X	X		
Roadways and Parking Surfaces				
Clear accumulated winter sand in parking lots and along roadways	X			
Sweep pavement to remove sediment	X			
Grade road shoulders and remove excess sand either manually or by front-end loader	X			
Ensure that stormwater is not impeded by accumulations of material or false ditches in the shoulder	X			

TAMBRANDS – BUILDING ADDITIONS AND PAVEMENTS Long-Term Inspection & Maintenance Plan				
	Spring	Fall or Yearly	After a Major	Every 2-5 Years
Stormwater Detention and Retention Facilities				
Inspect the embankments for settlement, slope erosion, internal piping, and downstream swamping. A professional engineer must review these immediately.		X	X	
Mow the embankment and cut woody vegetation		X		
Inspect the outlet control structure for broken seals, obstructed orifices, and plugged trash racks		X	X	
Remove and dispose of sediments and debris within the control structure		X		
Repair any damage to the trash racks or debris guards		X		
Mow vegetated spillways to control woody vegetation and replace any dislodged stones in riprap spillways		X		
Remove and dispose of accumulated sediments within the impoundment and sediment forebay				X
Vegetated Under-drained Filter Basins				
Inspect soil filter to see that collected water drains within 24 hours.	X	X	X	
Rototill top 6” soil, or remove and replace the top 3” to 4” of filter soil with clean soil to the proper specification, when the bed fails to drain dry within 24 to 48 hours.				X
Remove accumulated sediment, dead portions of plants, excessive growth, and weeds.		X		
Mow grass-covered filter bed no shorter than 6”, at a frequency of no more than 2 times per growing season to maintain a high-grass meadow. Do not fertilize unless absolutely needed.	X	X		
Subsurface Sand Filter – Isolator Rows				
SEE ATTACHED FORM				

The maintenance needs for most vegetative and stabilization measures may be found in the Maine Erosion and Sediment Control BMPs manual as published in 2003.

TAMBRANDS – BUILDING ADDITIONS AND PAVEMENTS

Subsurface Sand Filter Inspection Log

Subsurface Sand Filter – Isolator Rows		
	Spring	Fall or Yearly
A. Inspect isolator rows at each manhole and inspection port to see if collected sediment is 3" or deeper.	X	X
B. Clean sediment out of sediment chamber with Jet-Vacuum equipment. If sediment is not at least 3" deep, the cleanout can be postponed until sediment build-up is at this level.		X
C. Remove accumulated floating oils and trash. Use absorbent pads to remove oils, if sediment removal by vacuum truck is not concurrent.		X
D. Inspect drainage rate to verify the system drains between 24 to 36 hours.	X	X

Date	Device/Area Inspected	Inspected By	Observations, Deficiencies & Recommended Corrective Actions
	A. Isolator row.		
	B. Clean sediment.		
	C. Remove oil/trash.		
	D. Drainage rate.		
	A. Isolator row.		
	B. Clean sediment.		
	C. Remove oil/trash.		
	D. Drainage rate.		
	A. Isolator row.		
	B. Clean sediment.		
	C. Remove oil/trash.		
	D. Drainage rate.		

TAMBRANDS – BUILDING ADDITIONS AND PAVEMENTS

INSPECTION LOG

Date	Device/Area Inspected	Inspected By	Observations, Deficiencies & Recommended Corrective Actions

TAMBRANDS – BUILDING ADDITIONS AND PAVEMENTS

MAINTENANCE AND REPAIR LOG

Date	Device or Area Maintained/ Repaired	Maintenance / Repair Completed By	Maintenance Completed/Corrective Actions Taken

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EXHIBIT 6

EROSION CONTROL

EROSION CONTROL

Provide erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff into adjacent protected resources, such as streams and wetlands; or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction. The Contractor shall conduct his operations in conformity with all Federal and State permit requirements concerning water, air, or noise pollution, or the disposal of contaminated or hazardous materials. Erosion control measures shown on the Plans are minimum only and are not intended to be complete. The Contractor shall satisfy the current requirements of the regulatory agencies. Comply with materials and procedures listed on the 'SITE EROSION CONTROL NOTES' plan C00-2, for erosion and sedimentation control.

Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

The following attached drawings describe and located erosion control measures:

- C00-2 Site Erosion Control Notes
- C30-1 Site Grading and Erosion Control Plan
- C50-1 Site Details

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EXHIBIT 7

DEP MCGP AND NRPA

DEP MCGP and NRPA

Harriman Associates and the Proctor and Gamble design team are in the process of securing the Maine Construction General Permit (MCGP) and the NRPA Wetlands permit. If the NRPA Wetlands permit is not secured by the time of the Planning Board meeting, Harriman will request conditional approval for the project.

EXHIBIT 8

GROUNDWATER

GROUNDWATER

Tambrands, Inc.(Procter & Gamble) does not discharge water or chemicals to the ground surface or groundwater. The proposed building additions will also not discharge any substances to the groundwater.

The attached Maine Geological Survey, Significant Sand and Gravel Aquifer Map #11 shows that the Tambrands site is not situated over a significant sand and gravel aquifer.

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Maine Geological Survey
DEPARTMENT OF CONSERVATION

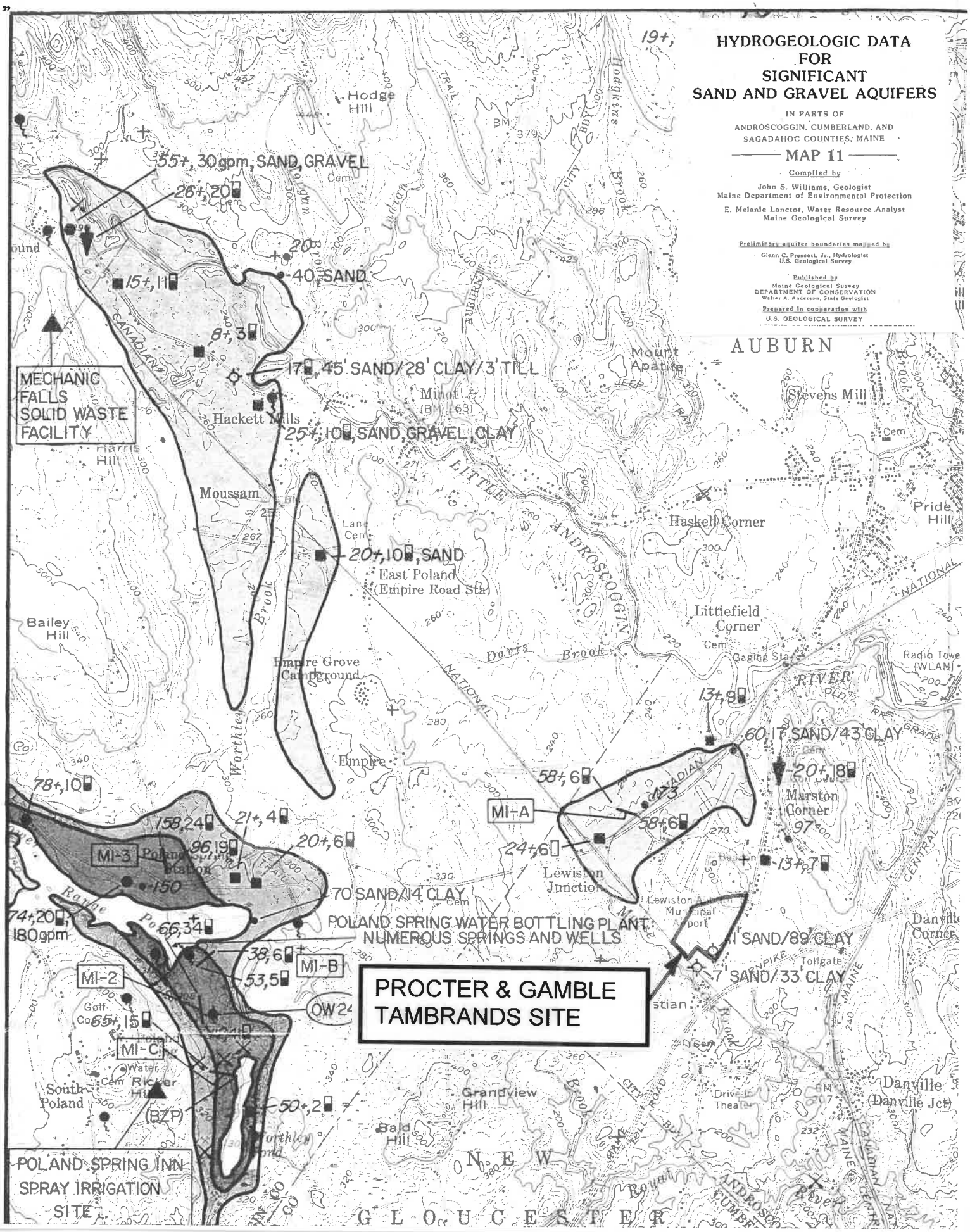

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EXHIBIT 9

WATER SUPPLY

Harriman

April 8, 2026

Mike Broadbent mbroadbent@awsd.org
Auburn Water & Sewerage District
268 Court Street
Auburn, ME 04210

Re: Tambrands, Inc.(Procter & Gamble)
Proposed Additions
Auburn, Maine
Project No. 25229
PROPOSED BUILDINGS WATER & SEWER USEAGE

Dear Mike,

We are working with Tambrands on building expansions of their manufacturing and warehouse building, to the north and south sides of their existing building. The new expansions are being designed for additional warehousing needed for the foreseeable future. The proposed warehouse building additions will provide state-of-the-art automation and enhanced site safety. Due to the automation equipment being installed for the warehouse additions, no additional employees will be on-site. There are no new water-using facilities included in this plan, and the employees will continue to use the existing toilet and lavatory rooms in the existing building.

Please send us a letter stating the adequacy of the water supply system and sewerage disposal system to continue to serve the Tambrands property with the proposed new building additions. This letter is required by the City of Auburn for inclusion in the Development Review Application.

Thank you.

Sincerely,
Harriman

Frank L. Crabtree P.E., LEED AP BD+C
Associate
fcrabtree@harriman.com

Auburn Water and Sewerage Districts
268 Court Street · Auburn, ME 04210
PO Box 414 · Auburn, ME 04212-0414
Tel: (207) 784-6469 · https://www.awsd.org

June 26, 2026

Tambrands, Inc. (Procter & Gamble)
Proposed Additions
Auburn, Maine
Project No. 25229

Subject: PROPOSED BUILDINGS WATER & SEWER USEAGE

RE: Capacity to Serve

Good afternoon,

The District has reviewed a capacity to serve request submitted on April 8, 2026 by Harriman Associates for the Procter & Gamble Facility located in Auburn Maine. The letter indicates no additional impacts to the domestic usage of water and sewerage. The District has sufficient capacity to serve the existing facility, so the status of our abilities will not be impacted by this expansion.

Sincerely;

Michael Broadbent
Superintendent
Auburn Water & Sewerage Districts
Cell: 207-607-9115
e-mail mbroadbent@awsd.org

EXHIBIT 10

WASTEWATER DISPOSAL

WASTEWATER DISPOSAL

The proposed warehouse building additions will provide state-of-the-art automation and enhanced site safety. Due to the automation equipment being installed for the warehouse additions, no additional employees will be on-site. There are no new water-using facilities included in this plan, and the employees will continue to use the existing toilet and lavatory rooms in the existing building. Therefore, there is no anticipated increase in wastewater volume leaving the Tambrands site.

A letter has been sent to the Auburn Water & Sewer District with this information and approval has been received (copy attached in Exhibit 9).

EXHIBIT 11

SOLID WASTE

SOLID WASTE

A: Commercial Solid Waste Facility:

The proposed Tambrands, Inc. warehouse building additions are intended to provide additional space for production and storage. No additional employees will be added due to this building project. Therefore, there will be no increase or change in weekly solid waste disposal.

Currently, the solid waste is picked up and hauled to the EcoMaine facility in Portland, Maine for disposal by a contracted waste hauler, such as Casella Waste Systems.

B. Off-site Disposal of Construction and/or Demolition Debris:

Approximately 1500 cubic yards of paper, cardboard, plastic, insulation, metal, and wood will be wasted during the construction process. Procter & Gamble or the construction contractor will hire a waste management company to pick up, recycle, and haul away the construction wastes. Tambrands, Inc. uses a contracted waste hauler, such as Casella Waste Systems. During construction, both recyclable and non-recyclable wastes would be placed in dumpsters and hauled to a sorting facility by Casella. The recyclables would be transferred to a variety of vendors, while the non-recyclables would be transferred to the EcoMaine facility in Portland, Maine for disposal.

C. On-site Disposal of Wood-waste or Land Clearing Debris:

Stumps and roots will be chipped on-site and utilized throughout the site for erosion control and landscape mulching. Maine Solid Waste Regulations, 06-096 CMR 401 classify on-site chipping and utilization of wood wastes as exempt from the requirements.

D. Special or Hazardous Waste:

This facility is not a producer of special or hazardous wastes. During construction, if the contractor discovers any type of special or hazardous waste, they are instructed to immediately contact the Maine Department of Environmental Protection and not disturb the suspected material until they are instructed by them.

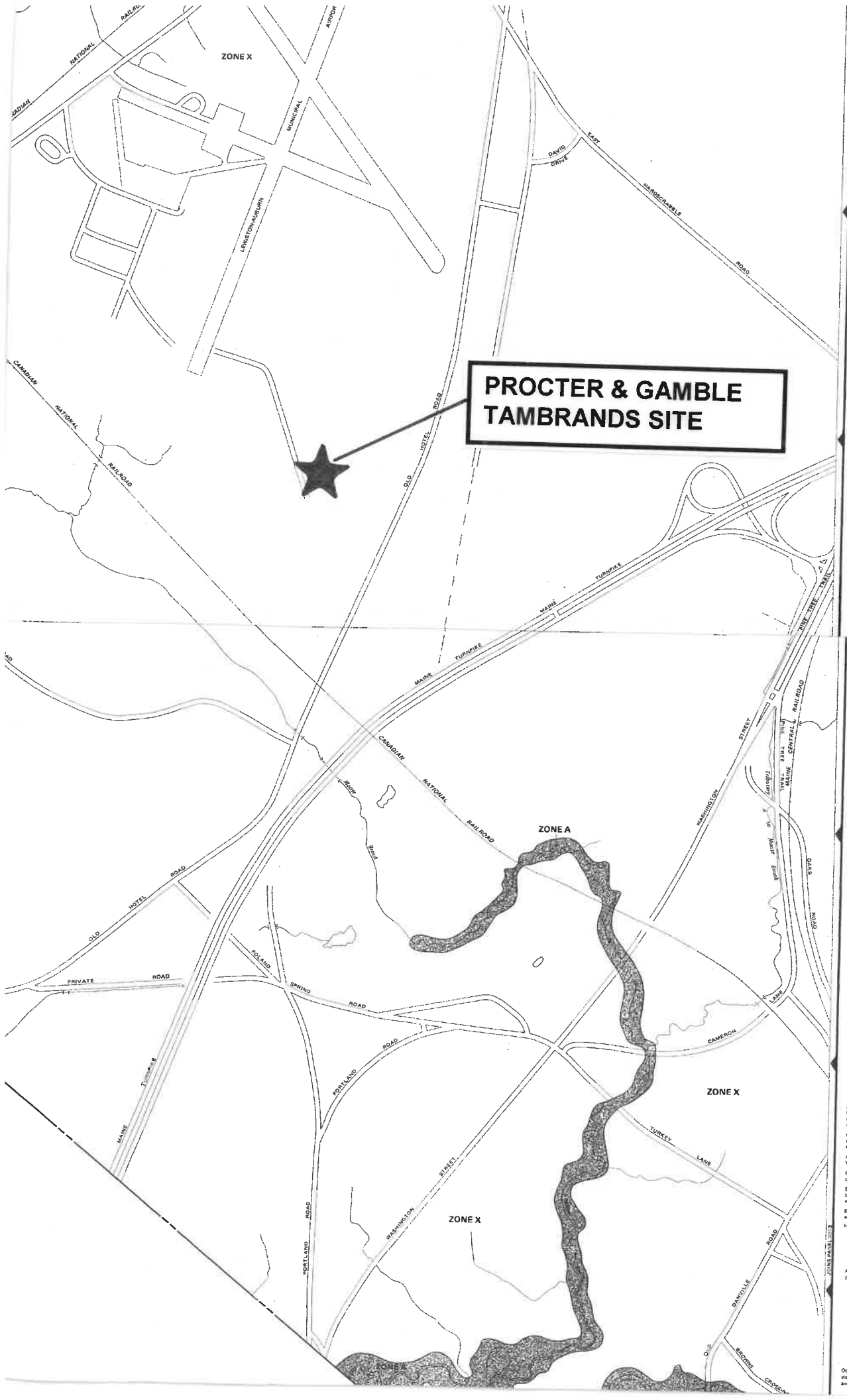
EXHIBIT 12

FLOODING

FLOODING

Through the use of vegetated stormwater treatment filter basins and underground stormwater chambers, the post-developed peak runoff rates from the proposed building and site additions will be decreased relative to the pre-development levels at the property line (see Stormwater Management Section). It is therefore highly unlikely that this project will increase flooding off-site.

A portion of the Federal Emergency Management Agency (FEMA) map for the City of Auburn is attached. The nearest flood hazard appears to be Zone A in Moose Brook, which appears to flood to approximately elevation 190. The proposed building additions, approximately 4000 ft. away, are at approximate elevation 250 and not at risk of flooding.



FLOOD INSURANCE RATE MAP EFFECTIVE:
FEBRUARY 4, 1981

FLOOD INSURANCE RATE MAP REVISIONS:
October 18, 1995 - to change base flood elevations, to add base flood elevations, to change special flood hazard areas, to change zone designations, and to update map format

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE
500 0 500 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
AUBURN,
MAINE
ANDROSCOGGIN COUNTY

PANEL 9 OF 16
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230001 0009 C

MAP REVISED:
OCTOBER 18, 1995

Federal Emergency Management Agency

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

- ZONE A — No base flood elevations determined
- ZONE AE — Base flood elevations determined.
- ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE A99 — To be protected from 100-year flood by federal flood protection system under construction; no base flood elevations determined.
- ZONE V — Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- ZONE VE — Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

- ZONE X — Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

- ZONE X — Areas determined to be outside 500-year floodplain.
- ZONE D — Areas in which flood hazards are undetermined.

UNDEVELOPED COASTAL BARRIERS†

- Identified 1983
- Identified 1990 or later
- Otherwise Protected Areas

†Coastal barrier areas are normally located within or adjacent to special flood hazard areas.

- Floodplain Boundary
- Floodway Boundary
- Zone D Boundary
- Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.
- 513 — Base Flood Elevation Line; Elevation in Feet*
- D — D — Cross Section Line
- (EL 987) — Base Flood Elevation in Feet Where Uniform Within Zone*
- RM 7x — Elevation Reference Mark
- •M1.5 — River Mile

*Referenced to the National Geodetic Vertical Datum of 1929

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas. The community map repository should be consulted for possible updated flood hazard information prior to use of this map for property purchase or construction purposes.

Coastal base flood elevations apply only landward of 0.0 NGVD, and include the effects of wave action; those elevations may also differ significantly from those developed by the National Weather Service for hurricane evacuation planning.

Areas of special flood hazard (100-year flood) include Zones A, AE, AH, AO, A99, V, and VE.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

For adjoining map panels see separately printed Map Index.

MAP REPOSITORY
Acting City Manager's Office, 45 Spring Street, Auburn Maine 04210
(Maps available for reference only, not for distribution).

INITIAL IDENTIFICATION:
MAY 21 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:
JULY 2, 1976

FLOOD INSURANCE RATE MAP EFFECTIVE:
FEBRUARY 4, 1981

FLOOD INSURANCE RATE MAP REVISIONS:
October 18, 1995 - to change base flood elevations, to add base flood elevations, to change special flood hazard areas, to change zone designations, and to update map format

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EXHIBIT 13

LIGHTING

Harriman

LIGHTING

A lighting plan depicting fixtures and light locations has been included with the planset.

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EXHIBIT 14

TRAFFIC

TRAFFIC

Kris Bennett, City Engineer for the City of Auburn, indicated in an email that the Engineering Department has approved the traffic waiver request. A copy of that correspondence and the original wavier request have been included for reference in Exhibit 14.

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David Latham

From: Samantha Peikes <speikes@auburnmaine.gov>
Sent: Thursday, June 25, 2026 3:01 PM
To: David Latham; Frank Crabtree; brown.d.27@pg.com
Subject: Fw: [External] Procter & Gamble warehouse building expansions

Sam Peikes (Piekiss), Planning Coordinator
City of Auburn
60 Court Street, Auburn, ME 04210
207.333.6601 X1155

From: Kristopher Bennett <kbennett@auburnmaine.gov>
Sent: Thursday, June 25, 2026 1:24 PM
To: Samantha Peikes <speikes@auburnmaine.gov>
Subject: RE: Procter & Gamble warehouse building expansions

Sam,

The engineering department is willing to sign off on the traffic waiver request. The stormwater plan is acceptable as shown, however I would like to see in a narrative or notes regarding the phasing of the relocation of the stormwater BMP. The applicant should address how stormwater will be treated during construction. The assumption is build the new ones before elimination of the existing one, but it will be important for the contractor to understand. I may have missed this in the review and if so, please just make the reference.

Thank you,

Kris Bennett, PE
City Engineer, City of Auburn
60 Court Street | Auburn, Maine 04210 | 207.333.6601 X1134

The City of Auburn is subject to statutes relating to public records.
E-mail sent or received by City employees are subject to these laws.
Senders and receivers of City e-mail should presume that messages are subject to release.

From: Samantha Peikes <speikes@auburnmaine.gov>
Sent: Tuesday, May 26, 2026 2:11 PM
To: Adam Stevens <astevens@auburnmaine.gov>; Anthony Harrington <AHarrington@auburnmaine.gov>; Ben Quinnell <bquinnell@auburnmaine.gov>; Christopher Small <csmall@auburnmaine.gov>; Dan Goyette <dgoyette@auburnmaine.gov>; DeCarlo A. Brown <dabrown@auburnmaine.gov>; Eric Cousens <ECousens@auburnmaine.gov>; Glen Holmes <gholmes@auburnmaine.gov>; Jason Moen <jmoen@auburnmaine.gov>; Jay Brenchick <jbrenchick@auburnmaine.gov>; Jenna-Rae Brown <jrbrown@auburnmaine.gov>; Jennifer Boenig <jboenig@auburnmaine.gov>; Jeremy Gatcomb <jgatcomb@auburnmaine.gov>; Jonathan P LaBonte <j.labonte@auburnmaine.gov>; Joseph St. Peter <jstpeter@auburnmaine.gov>; Karen Scammon <kscammon@auburnmaine.gov>; Kris Beaudoin <kbeaudoin@auburnmaine.gov>; Kristopher Bennett <kbennett@auburnmaine.gov>; Lauren Caffe <lcaffe@auburnmaine.gov>; Marc Gosselin NSBA <marc.gosselin@auburnmaine.gov>; Phil Crowell <pcrowell@auburnmaine.gov>; Robert Chase <rchase@auburnmaine.gov>; Scott Holland <sholland@auburnmaine.gov>; Tammy Thatcher <tthatcher@auburnmaine.gov>; Tim Cougle <tcougle@auburnmaine.gov>; Zachary Maher <zmaher@auburnmaine.gov>; Danielle Olsen <dolsen@awsd.org>; Eddie Williams <ewilliams@awsd.org>; Michael Abbott <mabbott@awsd.org>; Mike Broadbent <mbroadbent@awsd.org>
Subject: Procter & Gamble warehouse building expansions

Hello everyone,

I am attaching materials for proposed warehouse building expansions at Procter & Gamble. Please email me over any comments you have.

Thanks,
Sam

Sam Peikes (Piekiss), Planning Coordinator
City of Auburn
60 Court Street, Auburn, ME 04210
207.333.6601 X1155

Harriman

April 8, 2026

Mr. Dan Goyette, City Engineer Dgoyette@auburnmaine.gov
City Hall
60 Court Street
Auburn, ME 04210

Re: Tambrands, Inc.
Building Additions
Auburn, ME
Project No. 25229
Traffic Study Waiver Request

Dear Mr. Goyette,

Tambrands, Inc. (Procter & Gamble) is planning to continue expansion of their manufacturing and warehouse facility at their site at 2879 Hotel Road. The existing building is approximately 600,135 sq.ft. of ground floor area. The current plan for two building additions is approximately 109,000 sq.ft. of warehouse space. The additions will expand the existing warehouse operations to the north and south sides.

Tambrands, Inc. is requesting a waiver of the traffic study requirement of the site development review for this current building project. Currently, there are approximately 222 employees on-site during the maximum day shift. Parking is provided by 375 existing spaces. The proposed warehouse building additions will provide state-of-the-art automation and enhanced site safety. Due to the automation equipment being installed for the warehouse additions, no additional employees will be on-site. Therefore, there will be no increase in employees or traffic, due to the proposed building additions. There is also no anticipated increase in truck traffic due to these additions since the added warehouse space will allow more efficient shipping and receiving.

If you have any comments or questions, please call me at 207-784-5100, ext. 1346, or send an email to the address listed below.

Sincerely,
Harriman

Frank L. Crabtree, P.E., LEED AP BD+C
Associate
fcrabtree@harriman.com

EXHIBIT 15

LANDSCAPING

LANDSCAPING

Tambrands, Inc. (Procter & Gamble) manufacturing facility typically uses landscaping plants around the front(public) area of the building, facing Hotel Road and the employee parking lot. Here the Hotel Road residents and traveling public may view the building amenities. The proposed building additions to the north and south sides of the building are surrounded by mature wooded backdrop to the north and south and will not be seen from private residences. The building screens the easterly views to Hotel Road and mature woodland screens views to the south. To the north and west is the Auburn Airport property. Therefore, there is no enclosed landscaping plan.

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EXHIBIT 16

STORMWATER PHASING PLAN

SHAW BROTHERS CONSTRUCTION, INC.
P.O. Box 69 • 341 Mosher Rd • Gorham, Me 04038
Tel: (207) 839-2552 • Fax: (207)839-6239
Website: www.shawbrothers.com

P&G ME OPTIMUS PRIME EXECUTION
2879 HOTEL RD
IN THE CITY OF
AUBURN

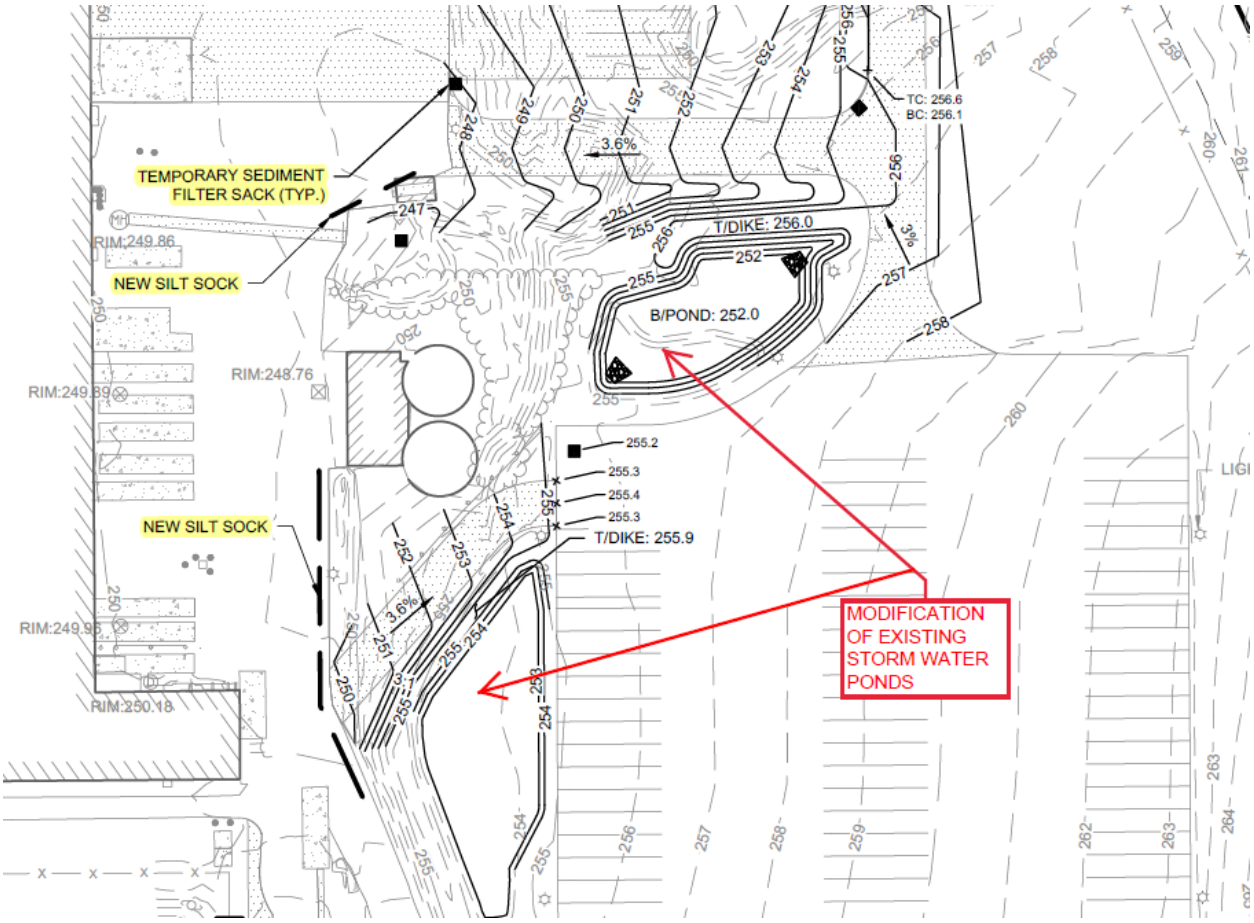
NORTH STORM WATER DETENTION RELOCATION PHASING

June 26, 2026

Modification of existing stormwater ponds 12P & 11P located on the north side of the existing facility will be phased as follows:

1. Installation of silt fence / erosion control mix to contain / protect existing storm water pond.
2. Modification / expasion of existing storm water ponds 12P & 11P per site grading plan C30-1
3. Seed / Mulch Restoration of new storm water ponds for permanent stabilization
4. Remove Temp EC measures

State of Maine Best Management Practices will be adhered to during all construction activities including this storm water relocation.



SHAW BROTHERS CONSTRUCTION, INC.
P.O. Box 69 • 341 Mosher Rd • Gorham, Me 04038
Tel: (207) 839-2552 • Fax: (207)839-6239
Website: www.shawbrothers.com

P&G ME OPTIMUS PRIME EXECUTION
2879 HOTEL RD
IN THE CITY OF
AUBURN

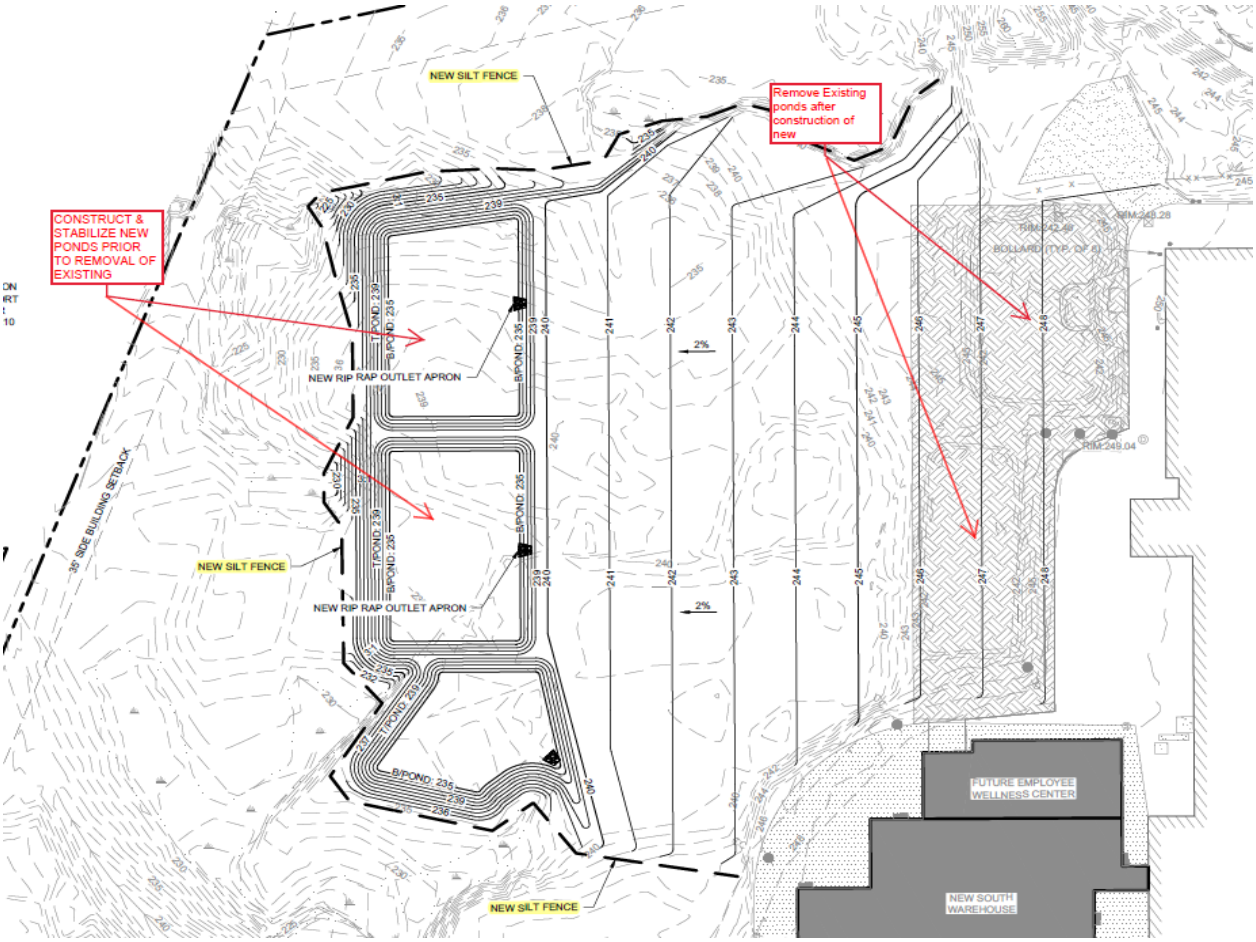
SOUTH STORM WATER DETENTION RELOCATION PHASING

June 26, 2026

Relocation of the existing stormwater ponds 51P & 30P located on the south side of the existing facility with be phased as follows:

1. Installation of silt fence / erosion control mix and protection of existing storm water features.
2. Existing Stormwater will be diverted around new construction with stabilized berms & ditches.
3. Excavation & Construction of new storm water pond 51P & 30P per site grading plan C30-1
4. Seed / Mulch Restoration of new storm water ponds for permanent stabilization
5. Installation of new storm drain lines from new ponds back to existing storm water ponds.
6. Dewater / Backfill of Existing Storm Water Ponds to be removed per specifications.

State of Maine Best Management Practices will be adhered to during all construction activities including this storm water relocation.



Harriman

LIGHTING

A lighting plan depicting fixtures and light locations has been included with the planset. Fixtures are mounted horizontally with light in a downward direction in “Type 4 wide” distribution pattern. The fixtures will be controlled with integrated photocell per fixture, set for automatic on/off, “dusk” to “dawn” operation.

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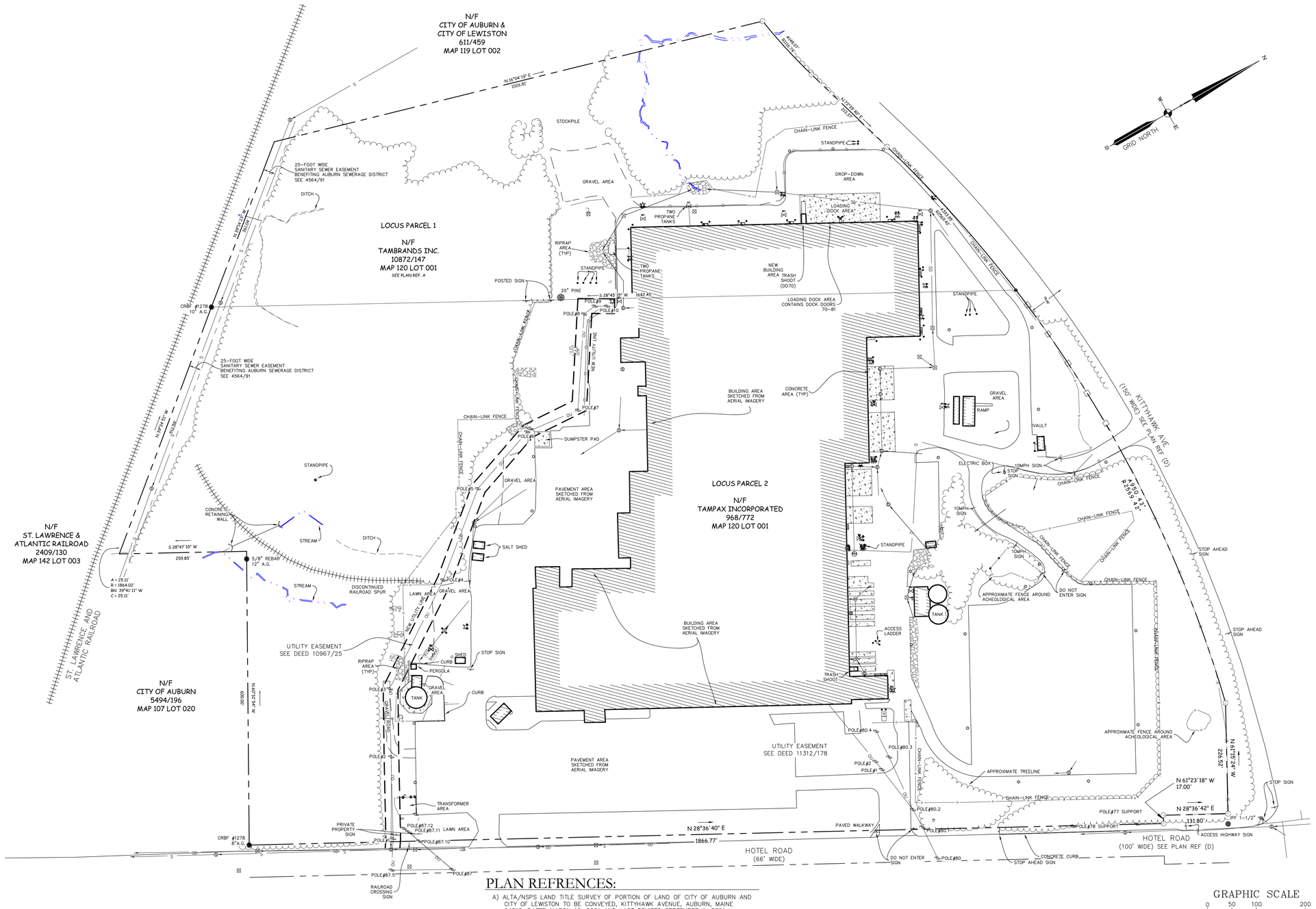

NOTES:

1. RECORD OWNER: TAMBRANDS, INC.
2. PARCEL DEED REFERENCE: LOCUS PARCEL 2 – SEE DEED FROM THE CITY OF AUBURN AND THE CITY OF LEWISTON TO TAMPAX INC. DATED FEBRUARY 13, 1967, RECORDED AT THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 968, PAGE 772. LOCUS PARCEL 1 – SEE DEED FROM THE CITY OF AUBURN AND CITY OF LEWISTON TO TAMBRANDS, INC. DATED SEPTEMBER 8, 2021, RECORED IN SAID REGISTRY OF DEEDS IN BOOK 10872, PAGE 147.
3. ALL BOOK AND PAGE REFERENCES REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.
4. TOTAL AREA OF SURVEYED PARCELS: 62.79 ACRES.
5. ALL BEARINGS ARE REFERENCED TO NAD83 MAINE STATE PLANE WEST ZONE GRID NORTH.
6. THE LOCATION, SIZE, AND DEPTH OF UNDERGROUND UTILITY LINES, TANKS, AND OR STRUCTURES NOT NECESSARILY DETERMINED BY THIS SURVEY. UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE, SKETCHED FROM FOUND EVIDENCE AND EXISTING PLANS. DIGSAFE MUST BE CALLED BEFORE ANY CONSTRUCTION ACTIVITIES COMMENCE.
7. THE PURPOSE OF THIS PLAN IS SHOW THE COMPILATION OF PLAN REF (A) AND PLAN REF (B) WITH THE METES AND BOUNDS OF THE ROAD RIGHT OF WAY ON HOTEL ROAD AND KITTYHAWK AVENUE AS SURVEYED HEREON.

LEGEND

- APPROXIMATE BOUNDARY LINE
- BOUNDARY LINE
- RIGHT OF WAY OR EASEMENT LINE
- STREAM
- WETLAND
- TREELINE
- IPF/IRF/RBF — IRON PIPE/ROD/REBAR FOUND
- CRBS — 5/8" REBAR W/ CAP SET/TO SET
- UTILITY POLE
- SEWER MANHOLE
- DRAIN MANHOLE
- MANHOLE
- CATCH BASINS
- WATER VALVE
- GAS VALVE
- HYDRANT
- BOLLARD
- SIGN
- LIGHTPOLE
- DECIDUOUS/CONIFEROUS TREE
- FENCE – CHAIN LINK
- FENCE – BOARD
- FENCE – BARBED WIRE
- OVERHEAD UTILITIES
- UNDERGROUND GAS
- UNDERGROUND ELECTRIC
- GUARDRAIL
- RAILROAD TRACKS
- STONEWALL
- DITCH

PLAN REFRENCES:

A) ALTA/NSPS LAND TITLE SURVEY OF PORTION OF LAND OF CITY OF AUBURN AND CITY OF LEWISTON TO BE CONVEYED, KITTYHAWK AVENUE, AUBURN, MAINE 04210. DATED MARCH 16, 2021 AND LAST REVISED SEPTEMBER 1, 2021. UNRECORDED

B) PARTIAL BOUNDARY PLAN OF TAMBRANDS EXPANSION. DATED JANUARY 13, 2025. UNRECORDED

C) PROPERTY SURVEY FOR TAMPAX INC, AUBURN, MAINE. PREPARED BY WRIGHT, PIERCE, BARNES & WYMAN. DATED JANUARY 30, 1967. ON FILE AT THE CITY OF AUBURN.

D) STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, INUDSTRIAL SPUR, AUBURN. STATE PROJECT 1985.00. DATED JULY, 1985. D.O.T. FILE NO. 1-173. RECORDED AT THE ANDROSCOGGIN REGISTRY OF DEEDS IN PLAN BOOK 33, PAGE 138. ALSO SEE BOOK 33, PAGES 136-137.

GRAPHIC SCALE

0 50 100 200

1 inch = 100 ft.

CERTIFICATION:

I HEREBY CERTIFY THAT THIS BOUNDARY SURVEY CONFORMS TO THE STATE OF MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS, STANDARDS OF PRACTICE (CHAPTER 90, SECTIONS 1 & 2).

AARON L. KINNEY, P.L.S. #2685
FOR JONES ASSOCIATES INC.

STATE OF MAINE
AARON L KINNEY
NO. 2685
PROFESSIONAL LAND SURVEYOR

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK
1				
2				

COMPILATION BOUNDARY SURVEY

TAMBRANDS EXPANSION

TAMBRANDS INC, PROCTOR & GAMBLE CO.
2879 HOTEL RD., AUBURN, ME 04210

PREPARED FOR:

TAMBRANDS INC, PROCTOR & GAMBLE CO.
2879 HOTEL RD., AUBURN, ME 04210

PREPARED BY:

JONES ASSOCIATES INC.
Foresters, Surveyors And Environmental Consultants
280 POLAND SPRING ROAD, AUBURN, MAINE 04210
(207) 241-0235

PLAN DATE: JUNE 18, 2026
SCALE: 1"=100'
PROJ. #: 20-084AU

PG- - RA

LIGHT FIXTURE SCHEDULE									
Label	Manufacturer	Catalog	Description	Number Lamps	Lamp Output	LLF	Input Power	Distribution	Notes
P1	American Electric Lighting	ATB2 P603 R4 4K	Autobahn Large P603 Package Roadway Type IV 4000K/5000K CCT	1	31108	0.9	233	TYPE IV, MEDIUM, BUG RATING: B3 - U0 - G5	Mounted on 30' Pole with concrete base.
W1	American Electric Lighting	ATB2 P603 R4 4K	Autobahn Large P603 Package Roadway Type IV 4000K/5000K CCT	1	31108	0.9	233	TYPE IV, MEDIUM, BUG RATING: B3 - U0 - G5	Wall mounted at height shown on plans.

GENERAL NOTES:

A. REFERENCE CIVIL DRAWINGS C10-1 AND C20-1 FOR UTILITY LOCATIONS AND ADDITIONAL SITE INFORMATION.

B. ALL WORK SHOWN ON THIS PLAN IS SHOWN FOR REFERENCE ONLY AND BEING COMPLETED UNDER FUTURE CONSTRUCTION PHASE.

DRAWING NOTES: (#)

1. PROVIDE NEW AREA LIGHT FIXTURE, "W1", AMERICAN ELECTRIC LIGHTING #ATB2-P6C3-R4-4K OR APPROVED EQUAL. FIXTURE SHALL BE SINGLE HEAD AND WALL MOUNTED AT 30' WITH MODIFIED FIELD BRACKET.
2. PROVIDE NEW AREA LIGHT FIXTURE, "W1", AMERICAN ELECTRIC LIGHTING #ATB2-P6C3-R4-4K OR APPROVED EQUAL. FIXTURE SHALL BE SINGLE HEAD AND WALL MOUNTED AT 25' WITH MODIFIED FIELD BRACKET.
3. PROVIDE NEW AREA LIGHT FIXTURE, "P1", AMERICAN ELECTRIC LIGHTING #ATB2-P6C3-R4-4K OR APPROVED EQUAL. FIXTURE SHALL BE SINGLE HEAD AND MOUNTED ON NEW 30' SQUARE STEEL POLE WITH CONCRETE BASE.

N/F
CITY OF AUBURN
60 COURT STREET
AUBURN, ME 04210

50' REAR BUILDING SETBACK

NEW CHAIN LINK FENCE

NEW TEMPORARY TRUCK ACCESS POINT

KITTYHAWK AVE

35' SIDE BUILDING SETBACK

DOUBLE DROP TRAILER PATH

BOLLARD (TYP. OF 6)

FILL IN AREA FOR GRAVEL CONSTRUCTION STAGING

EXISTING BUILDING

9'X9' CONCRETE TRANSFORMER PAD WITH BLAST WALLS

10' WIDE PAVED RAMP w/ 10'x20' LANDING

6' WIDE CONCRETE SIDEWALK

NEW LOW BAY

NEW NORTH WAREHOUSE FFE: 252.6

ASPHALT CURB

NEW EMPLOYEE WELLNESS CENTER

NEW SOUTH WAREHOUSE

6" PVC INV. IN 240.79

NEW CONCRETE PADS, MATCH EXISTING DIMENSIONS

NEW CONSTRUCTION LAYDOWN AND PAVED TRUCK PARKING AND MANEUVERING AREA

EXTENT OF EXISTING PAVEMENT REPLACEMENT (TYP.)

NEW TREELINE

NEW CHAIN LINK FENCE

BARBED WIRE FENCE

STOP AHEAD SIGN

EXTENT OF EXISTING PAVEMENT REPLACEMENT

N/F
TAMBRANDS, INC
PO BOX 599
CINCINNATI, OH 45201

EXISTING BUILDING

LIGHTPOLE (TYP.)

NEW STEEL GUARDRAIL

UTILITY EASEMENT

AE

NE\

N

ELECTRICAL EXTERIOR SITE LIGHTING PLAN
SCALE: 1"=60'-0"

KEY PLAN

REFERENCE DWGS

SUPPLIER INFORMATION/NOTES

BSI ENGINEERING
(513) 201-3100
(513) 201-3190
PHONE
FAX
302 E. BUSINESS WAY, SUITE 320
CINCINNATI, OH 45241

BSI Project No.
260255
BSI Sheet No.
E1002

THIS DRAWING NOT COMPLETE UNLESS NUMBER IN REV. BLOCKS MATCHES DRAWING ISSUE NUMBER
AND BOTH SAFETY, ENVIRONMENTAL, QA/MICRO CHECK BLOCKS ARE SIGNED BY THE RESPONSIBLE P&G APPROVERS.

PROCESS SAFETY STUDY	DWG. REV.#	ENVIRONMENTAL	AIR, DUST AND NOISE	LIQUID & SOLID WASTE	DWG. REV.#	QA/MICRO	DWG. REV.#
( )COMPLETE		( )COMPLETE				( )COMPLETE	
( )NOT REQ'D		( )NOT REQ'D				( )NOT REQ'D	
( )NOT YET DONE		( )NOT YET DONE				( )NOT YET DONE	
APPROVER/DATE		APPROVER/DATE				APPROVER/DATE	

PRELIMINARY DRAWING

NOT FOR CONSTRUCTION

STAMP:
STATE OF MAINE
JAMES R MORRIS
No. 20152
LICENSED PROFESSIONAL ENGINEER
07/09/2026

Revision History			
No	Description	Name	Date
0	ISSUED FOR CIVIL PERMIT	BSI	07/09/26

Drawn By:	BSI
Date Drawn:	07/09/2026
Checked By:	BSI
Date Checked:	07/09/2026

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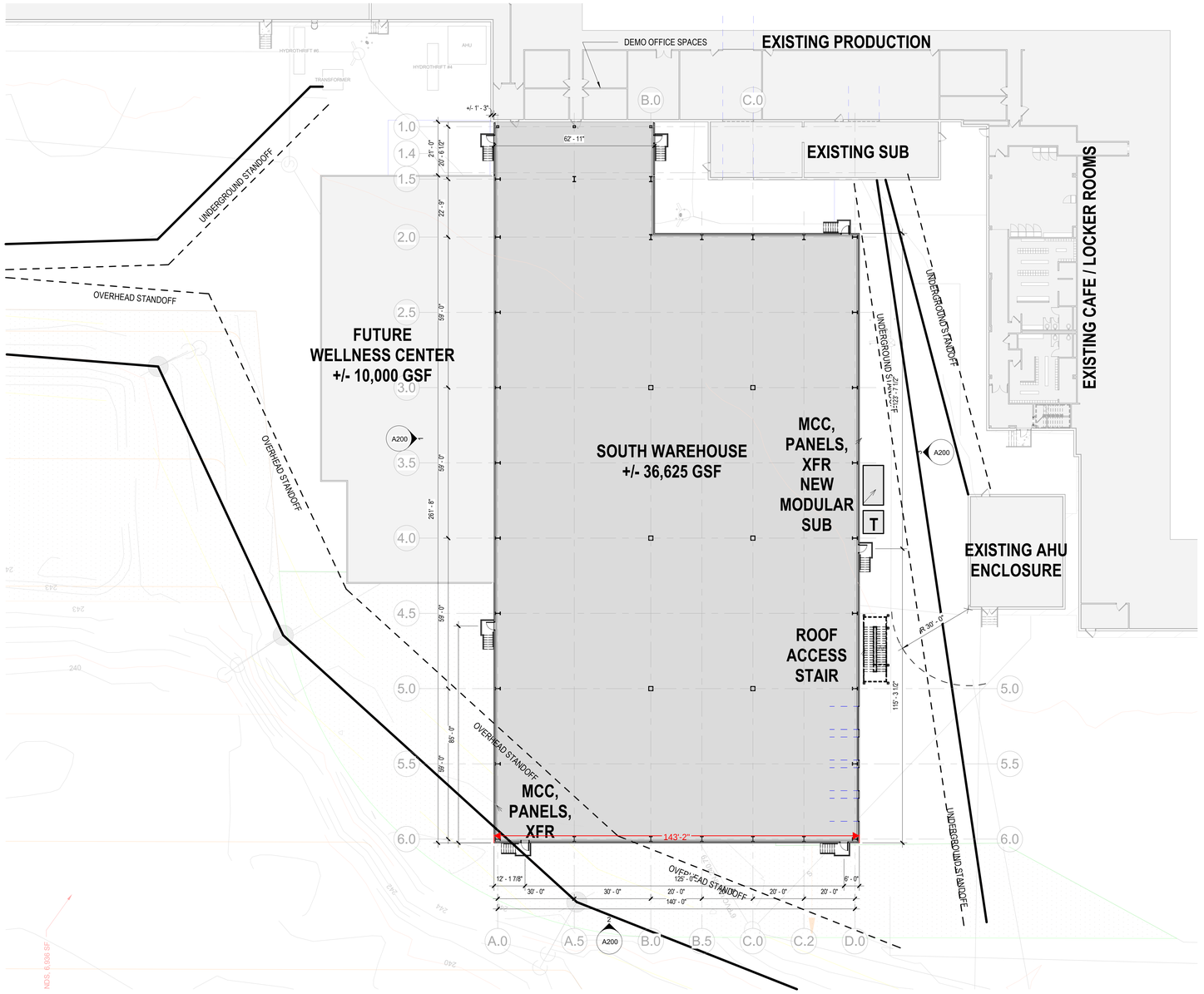
OPTIMUS PRIME
-
ELECTRICAL
EXTERIOR SITE LIGHTING PLAN

SCALE: 1" = 60'-0"
Supercedes:
Sheet of

Drawing Number
PG- - RA



H2 FIRST FLOOR PLAN - NEW
1" = 20'-0"

Plan North

SHEET NOTES	KEYNOTES	LEGEND	KEY PLAN	REFERENCE DWGS	SUPPLIER INFORMATION/NOTES

Oculus Inc.
1 S. Memorial Dr., Suite 1500 St. Louis, MO 63102
314.367.6100 www.oculusinc.com

Oculus Project No.
-
Oculus Sheet No.
A101

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PROCESS SAFETY STUDY		DWG. REV.#	ENVIRONMENTAL	AIR, DUST AND NOISE	LIQUID & SOLID WASTE		DWG. REV.#	QA/MICRO		DWG. REV.#
( )COMPLETE			( )COMPLETE					( )COMPLETE		
( )NOT REQ'D			( )NOT REQ'D					( )NOT REQ'D		
( )NOT YET DONE			( )NOT YET DONE					( )NOT YET DONE		
APPROVER/DATE			APPROVER/DATE					APPROVER/DATE		

STAMP:

Revision History

No	Description	Name/Date

Drawn By: XXX
Date Drawn: 03/06/2026
Checked By: XX
Date Checked: 03/06/2026

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OPTIMUS PRIME
BXX / BXX
FIRST FLOOR PLAN

SCALE: 1" = 20'-0"
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Drawing Number

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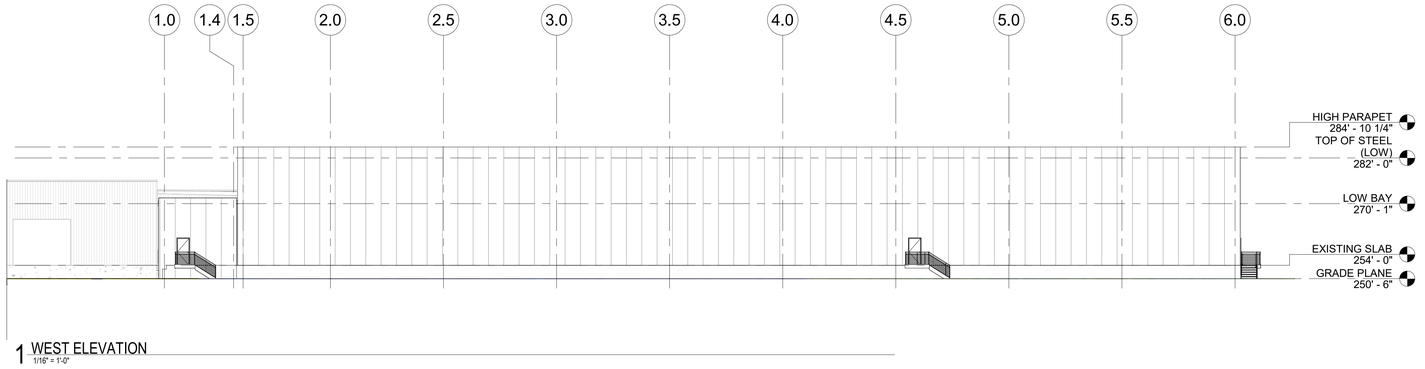
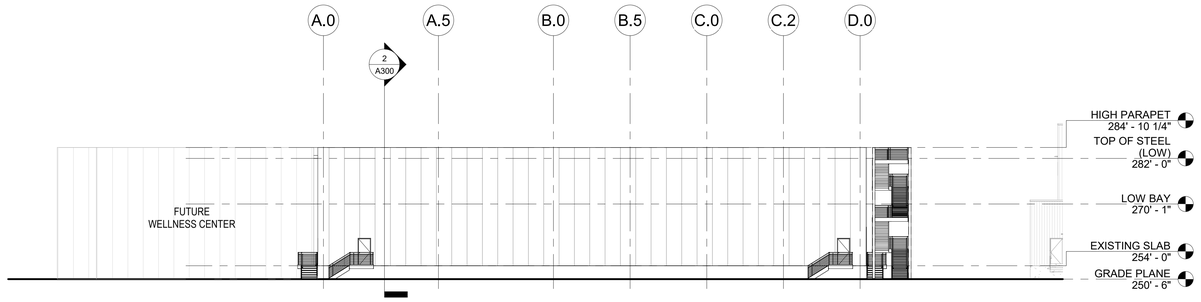
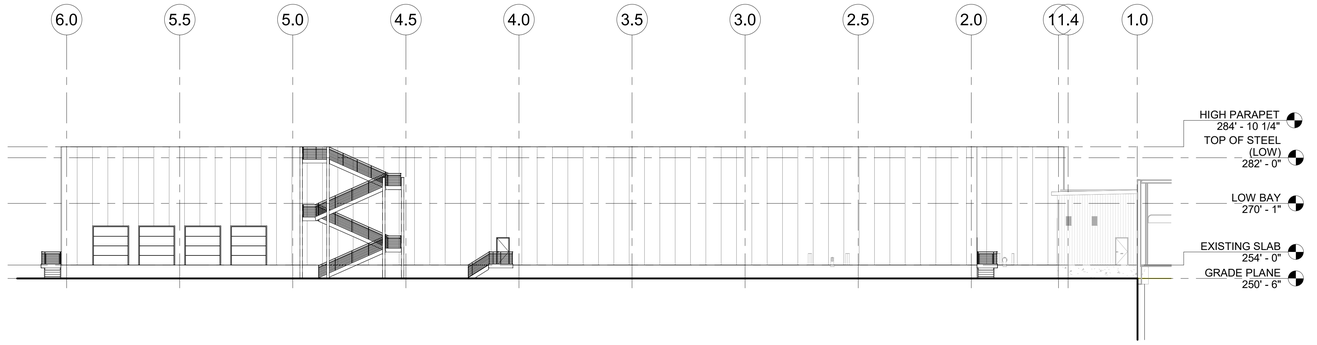


1 WEST ELEVATION
1/16" = 1'-0"



2 SOUTH ELEVATION
1/16" = 1'-0"



3 EAST ELEVATION
1/16" = 1'-0"

SHEET NOTES	KEYNOTES	LEGEND	KEY PLAN	REFERENCE DWGS
			STAMP:	

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PROCESS SAFETY STUDY	DWG. REV. #	ENVIRONMENTAL	AIR, DUST AND NOISE	LIQUID & SOLID WASTE	DWG. REV. #	QA/MICRO	DWG. REV. #
( )COMPLETE		( )COMPLETE				( )COMPLETE	
( )NOT REQ'D		( )NOT REQ'D				( )NOT REQ'D	
( )NOT YET DONE		( )NOT YET DONE				( )NOT YET DONE	
APPROVER/DATE		APPROVER/DATE				APPROVER/DATE	

Revision History

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Date Drawn:	03/06/2026
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OPTIMUS PRIME
BXX / BXX
EXTERIOR ELEVATIONS

SCALE: 1/16" = 1'-0"
Supercedes:
Sheet of

Drawing Number

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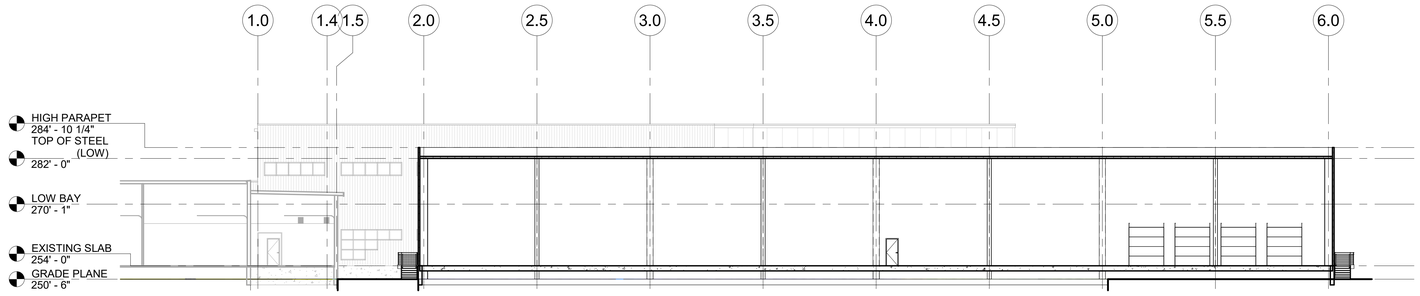
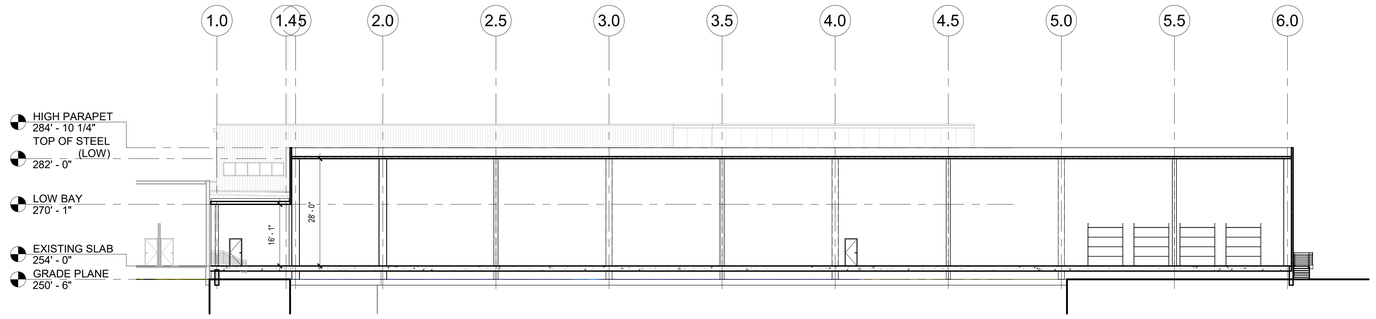
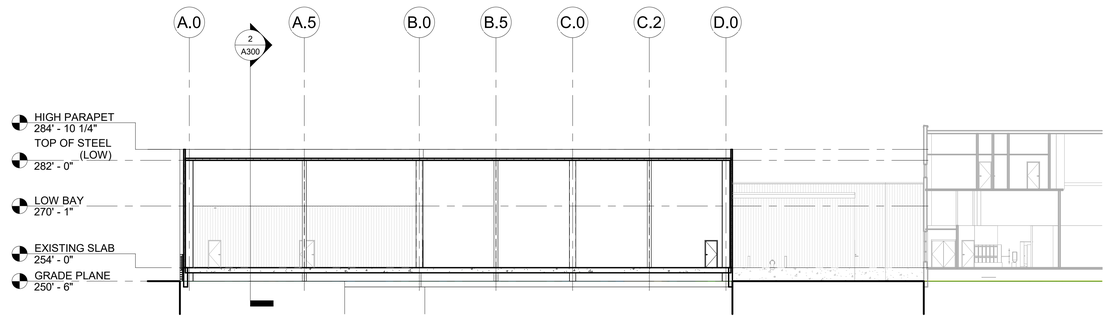


1 LONGITUDINAL SECTION @ SUB
1/16" = 1'-0"



2 LONGITUDINAL SECTION
1/16" = 1'-0"



3 TRANSVERSE SECTION
1/16" = 1'-0"

SHEET NOTES

KEYNOTES

LEGEND

KEY PLAN

STAMP:

REFERENCE DWGS

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( )COMPLETE		( )COMPLETE				( )COMPLETE	
( )NOT REQ'D		( )NOT REQ'D				( )NOT REQ'D	
( )NOT YET DONE		( )NOT YET DONE				( )NOT YET DONE	
APPROVER/DATE		APPROVER/DATE				APPROVER/DATE	

Revision History

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OPTIMUS PRIME
BXX / BXX
BUILDING SECTIONS

SCALE: 1/16" = 1'-0"
Supercedes:
Sheet of

Drawing Number

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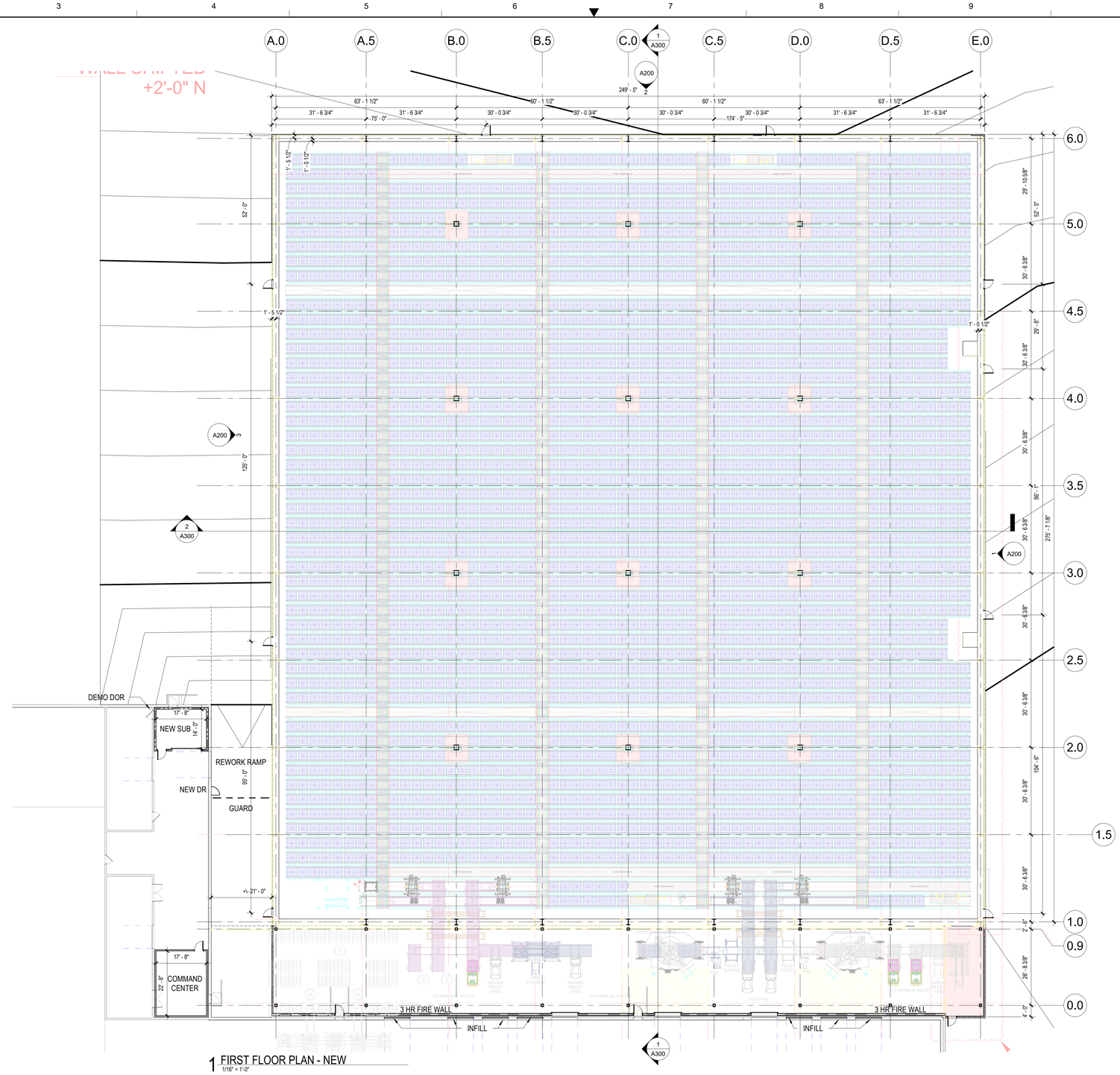

1 FIRST FLOOR PLAN - NEW
1/16" = 1'-0"

SHEET NOTES	KEYNOTES	LEGEND	KEY PLAN	REFERENCE DWGS

STAMP:

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[ ]NOT REQ'D		[ ]NOT REQ'D				[ ]NOT REQ'D	
[ ]NOT YET DONE		[ ]NOT YET DONE				[ ]NOT YET DONE	
APPROVER/DATE		APPROVER/DATE				APPROVER/DATE	

Drawn By:	XXX
Date Drawn:	02/25/2026
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Date Checked:	02/25/2026

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OPTIMUS PRIME
BXX / BXX
NW - OVERALL FLOOR PLAN

SCALE: 1/16" = 1'-0"
Supercedes:
Sheet of

Drawing Number

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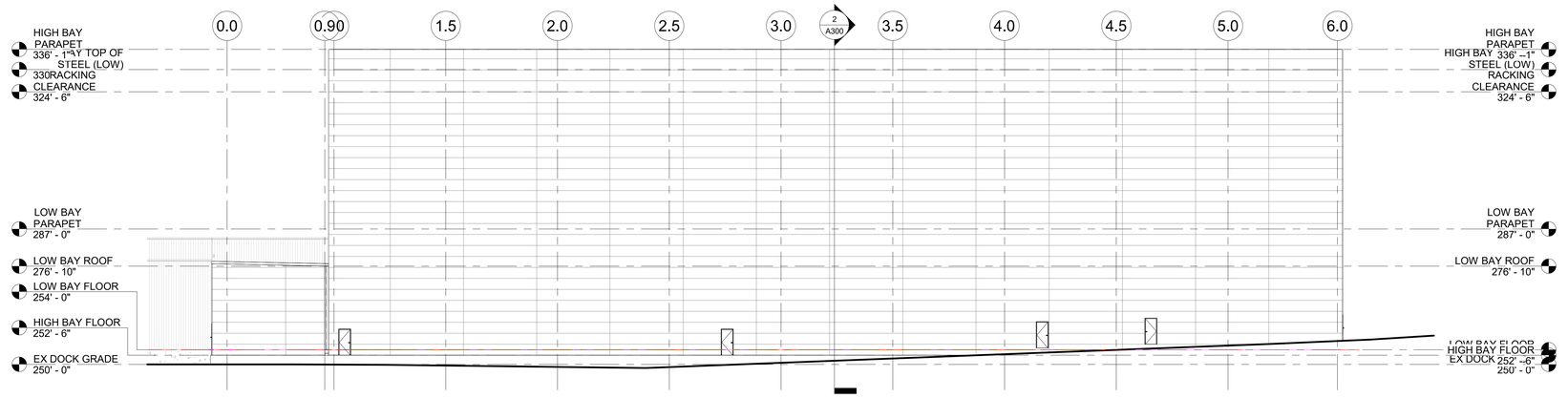
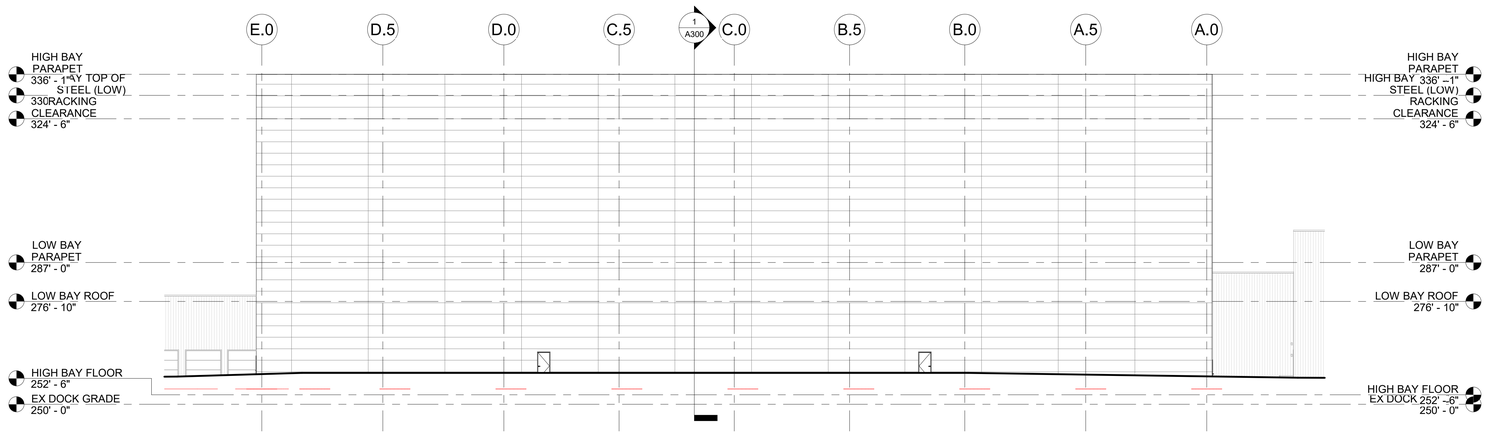
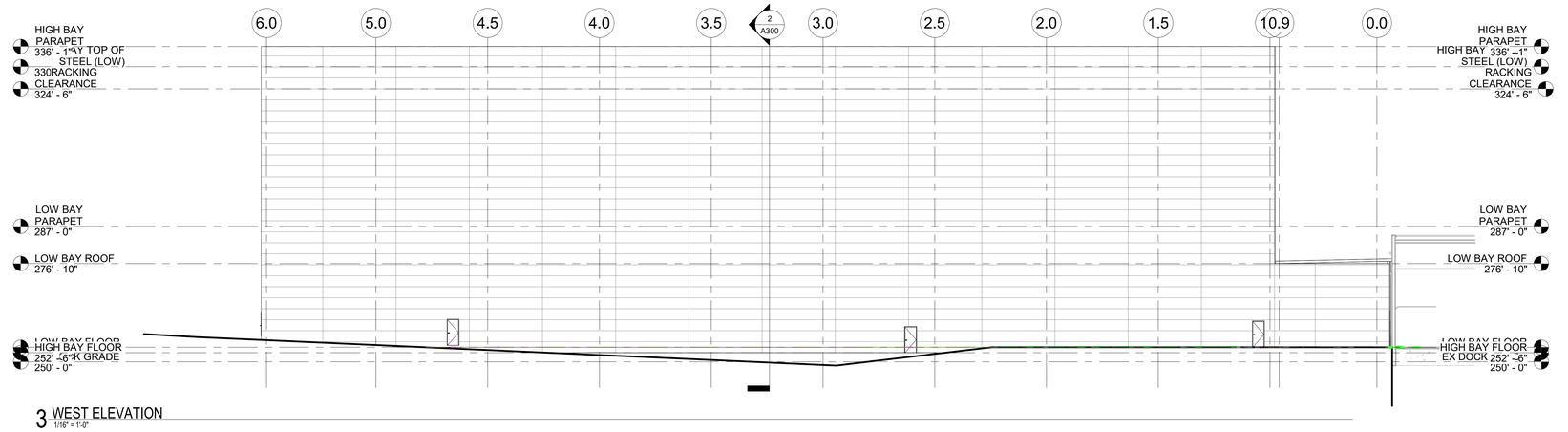


1 EAST ELEVATION
1/16" = 1'-0"



2 NORTH ELEVATION
1/16" = 1'-0"



3 WEST ELEVATION
1/16" = 1'-0"

SHEET NOTES

KEYNOTES

LEGEND

KEY PLAN

REFERENCE DWGS

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( )COMPLETE		( )COMPLETE				( )COMPLETE	
( )NOT REQ'D		( )NOT REQ'D				( )NOT REQ'D	
( )NOT YET DONE		( )NOT YET DONE				( )NOT YET DONE	
APPROVER/DATE		APPROVER/DATE				APPROVER/DATE	

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OPTIMUS PRIME
BXX / BXX
EXTERIOR ELEVATIONS

SCALE: 1/16" = 1'-0"
Supercedes:
Sheet of

Drawing Number

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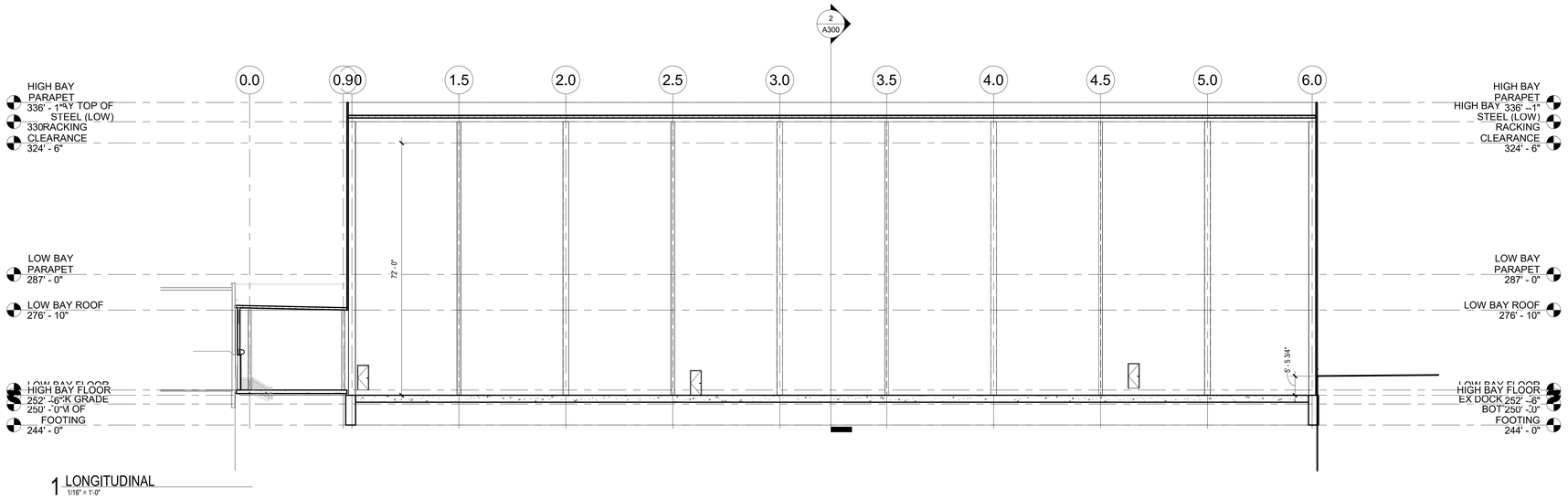

1 LONGITUDINAL
1/16" = 1'-0"

2 TRANSVERSE
1/16" = 1'-0"

SHEET NOTES	KEYNOTES	LEGEND	KEY PLAN	REFERENCE DWGS

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( )COMPLETE		( )COMPLETE				( )COMPLETE	
( )NOT REQ'D		( )NOT REQ'D				( )NOT REQ'D	
( )NOT YET DONE		( )NOT YET DONE				( )NOT YET DONE	
APPROVER/DATE		APPROVER/DATE				APPROVER/DATE	

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OPTIMUS PRIME
BXX / BXX
BUILDING SECTIONS

SCALE: 1/16" = 1'-0"
Supercedes:
Sheet of

Drawing Number

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P&G OPTIMUS

2879 HOTEL ROAD
AUBURN, ME 04210

PLANNING BOARD SET
JULY 9, 2026

LIST OF DRAWINGS

G00-1 COVER SHEET

CIVIL DRAWINGS:
C00-1 SITE NOTES
C00-2 SITE EROSION CONTROL NOTES
C10-1 EXISTING SITE CONDITIONS AND DEMOLITION PLAN
C11-1 PRE-DEVELOPMENT DRAINAGE PLAN
C12-1 POST-DEVELOPMENT DRAINAGE PLAN
C20-1 SITE LAYOUT PLAN
C30-1 SITE GRADING AND EROSION CONTROL PLAN
C40-1 SITE UTILITY PLAN
C40-2 STORMWATER UTILITY PLAN
C50-1 SITE DETAILS

Harriman
80 EXCHANGE STREET, 3RD FLOOR
PORTLAND, ME 04101

46 HARRIMAN DRIVE
AUBURN, ME 04210

P&G OPTIMUS

SITE LOCATION: 2879 HOTEL ROAD
AUBURN, ME 04210

OWNER
TAMBRANDS INCORPORATED
PO BOX 599
CINCINNATI, OH 45201

Harriman Project No. 25229

Graphic Scale 0" 60" (line measures 1" when plotted at full size)
Plan North
True North

STATE OF MAINE
DAVID P LATHAM
No. 17064
LICENSED
PROFESSIONAL ENGINEER

PLANNING BOARD SET
JULY 9, 2026

Revision Date	Revision Description

Drawn by: DPL

COVER SHEET

G00-1

1. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION IS NOT GUARANTEED. VERIFY SITE CONDITIONS INCLUDING TEST PITS FOR LOCATIONS AND INVERTS OF UTILITIES AND REPORT ANY DISCREPANCIES TO ARCHITECT PRIOR TO PROCEEDING WITH THAT PORTION OF THE WORK.
2. CATCH BASIN GRATES SHALL BE SET SQUARE TO PAVEMENT EDGES.
3. PLACE 2" THICK TRENCH POLYSTYRENE INSULATION OVER SEWER LINES WHERE DEPTH OF COVER OVER TOP OF PIPE IS 4'-0". PLACE INSULATION ALSO BETWEEN SEWER LINE AND STORM DRAIN OR BETWEEN WATER LINE AND STORM DRAIN WHERE SEPARATION IS LESS THAN 5'-0".
4. WATER LINES SHALL BE INSTALLED BELOW 4'-0". COORDINATE WITH LOCAL WATER DISTRICT FOR REQUIREMENTS REGARDING REQUIRED COVER AND SEWER LINE CROSSINGS.
5. UNDERDRAINS, FOUNDATION DRAINS, AND SOIL GAS VENTS UNDER THE BUILDING FLOOR SLAB ARE PART OF DIVISION 33 WORK. PLACE TOP OF EXTERIOR UNDERDRAIN CLEANOUTS IN LAWN OR PLANT BEDS 2" BELOW GRADE.
6. CONCRETE THRUST BLOCKING SHALL BE INSTALLED FOR WATER LINES ACCORDING TO "AWWA 600"
7. SEDIMENT SHALL BE REMOVED FROM NEW STORM DRAINS AND CATCH BASINS, AND ALSO FROM EXISTING STORM DRAINS AND CATCH BASINS THAT DIRECTLY RECEIVE RUNOFF FROM THE WORK AREA.
8. COORDINATE WORK ON UTILITY LINES OR WITHIN ROAD RIGHT-OF-WAY WITH THE UTILITY COMPANIES, LOCAL ROAD DEPARTMENT, AND STATE DOT.
9. SLOPE CONDUITS AWAY FROM BUILDING TO HANDHOLE OR UTILITY POLE TO AVOID GROUND WATER SEEPAGE INTO BUILDING.
10. RESET RIMS OF EXISTING UTILITY STRUCTURES, MANHOLES & CATCH BASINS TO NEW GRADE.
11. PRIOR TO REMOVAL OF UTILITIES, VERIFY UTILITY FUNCTION, MATERIAL, USE, AND CURRENT ACTIVITY. REPORT DISCREPANCIES TO THE ARCHITECT FOR DIRECTION PRIOR TO COMMENCING THE WORK ON THAT UTILITY.
12. LOCATION OF UTILITY POLE GUY WIRE SHALL BE COORDINATED WITH POWER COMPANY.

C1 UTILITY NOTES
SCALE: N.T.S

1. SEC. 60-1305: APPROVAL MAY BE MADE SUBJECT TO CONDITIONS, MODIFICATIONS, AND RESTRICTIONS AS THE PLANNING BOARD MAY DEEM NECESSARY; AND ANY CONSTRUCTION, RECONSTRUCTION, ALTERATION, OR ADDITION SHALL BE CARRIED ON ONLY IN CONFORMITY TO SUCH CONDITIONS, MODIFICATIONS, OR RESTRICTIONS AND IN CONFORMITY WITH THE APPLICATION AND SITE PLAN
2. SECT. 60-1308: APPROVAL OF A SITE PLAN SHALL EXPIRE ONE YEAR AFTER THE DATE OF APPROVAL, UNLESS ALL BUILDING PERMITS HAVE BEEN OBTAINED TO BEGIN CONSTRUCTION IN ACCORDANCE WITH THE APPROVED SITE PLAN. IF A DEVELOPMENT IS CONTESTED WITH LITIGATION, THE APPROVAL PERIOD OF THIS SEC TION SHALL NOT COMMENCE UNTIL A FINAL, NONAPPEALABLE COURT JUDGEMENT IS ISSUED OR UNTIL THE LITIGATION HAS BEEN DISMISSED WITH PREJUDICE. THIS PROVISION SHALL APPLY RETROACTIVELY TO ALL PROJECTS APPROVED AFTER JANUARY 1, 2007. ANY SITE PLAN THAT CONTAINS A PHASE CONCEPT APPROVED BY THE PLANNING BOARD SHALL NOT BE REQUIRED TO OBTAIN ALL BUILDING PERMITS WITHIN THE TIME SEQUENCE ESTABLISHED FOR COMPLETION OF EACH PHASE. NO BUILDING PERMITS OR OTHER PERMITS SHALL BE ISSUED UNTIL ALL IMPROVEMENTS ARE SUBSTANTIALLY COMPLETED FOR THE PRECEDING PHASE. A SINGLE ONE-YEAR EXTENSION MAY BE GIVEN UPON A SHOWING OF GOOD CAUSE IN WRITING BY THE APPLICATION TO THE PLANNING BOARD NOT LESS THAN 30 DAYS BEFORE THE EXPIRATION OF APPROVAL OF THE APPLICANT'S EXISTING PLAN. THE PLANNING BOARD SHALL APPROVE OR DISAPPROVE THE REQUESTED EXTENSION AT ITS NEXT REGULAR MEETING.
3. SEC. 60-1309: NO PERMIT SHALL BE ISSUED FOR THE CONSTRUCTION OF ANY BUILDING IN AN AREA INCLUDED IN THE SITE PLAN OR IN ANY DEVELOPMENT FOR WHICH A SITE PLAN IS REQUIRED UNTIL SUCH SITE PLAN HAS BEEN APPROVED BY THE PLANNING BOARD AND UNLESS THE CONSTRUCTION PLANS AND SPECIFICATIONS PRESENTED TO THE BUILDING INSPECTOR WITH THE APPLICATION FOR THE PERMIT ARE CONSISTENT WITH THE APPROVED SITE PLAN.
4. SEC. 60-1310: NO CERTIFICATE OF OCCUPANCY SHALL BE ISSUED WITH RESPECT TO ANY BUILDING UNTIL ALL CONSTRUCTION CALLED FOR BY THE SITE PLAN IS COMPLETED, EXCEPT BY SPECIAL PERMISSION OF THE PLANNING BOARD GRANTED UPON A SHOWING OF SPECIAL CIRCUMSTANCES WARRANTED THE ISSUANCE OF THE CERTIFICATE AND THAT THE REMAINING CONSTRUCTION WILL BE COMPLETED WITHIN A REASONABLE TIME.

C2 CITY OF AUBURN SITE PLAN NOTES
SCALE: N.T.S

EXISTING		NEW
	BUILDING	
	DOOR	
BIT. POWR	BIT. PAVEMENT	
POWR	CONCRETE	
	CURB	
	CHAIN-LINK FENCE	
	HAND RAIL / OTHER FENCE	
	GUIDE RAIL / STOCKADE FENCE	
	STEEL GUARDRAIL	
	SIGN	
	PIPE BOLLARD	
	WETLAND LIMIT	
	STREAM CENTERLINE	
	TREES	
	TREE LINE	
-98-	CONTOUR	98
x 99.8	SPOT ELEVATION	688.2
	GRADE TO DRAIN	GTD
	SOIL BORING, TEST PIT	
	SILT FENCE	
	RIP-RAP	
	CATCH BASIN / DRAIN INLET	
	STEAM MANHOLE	
	STORM DRAIN MANHOLE	
	SEWER MANHOLE	
	TELEPHONE MANHOLE	
	ELECTRIC MANHOLE / PULLBOX	
	WATER VALVE	
	CURB STOP VALVE	
	HYDRANT	
	UTILITY POLE	
	GUY WIRE	
	LIGHT POLE BASE	
T	TRANSFORMER PAD	
	GEOTHERMAL WELL	
SD	STORM DRAIN LINE	NSD
UD	UNDER DRAIN LINE	NUD
S S	SANITARY SEWER LINE	NS
W W	WATER LINE	NW
UG	GAS / PROPANE LINE	NUG
GT	GEOTHERMAL WATER LINE	NGT
UC	UNDERGROUND COMMUNICATION LINE	NUC
UE	UNDERGROUND ELECTRICAL LINE	NUE
	UNDERGROUND LIGHTING LINE	NUL
AE	AERIAL ELECTRICAL, TELEPHONE, AND CABLE LINE	NAE
	PROPERTY LINE	
	SETBACK LINE	
	EASEMENT LINE	

A1 STANDARD SITE LEGEND
SCALE: N.T.S

1. RELOCATE EXISTING TBM INFORMATION ONTO NEW TBM OF CONTRACTORS CHOICE, FOR CONSTRUCTION USE, PRIOR TO REMOVAL OF EXISTING TBM.
2. IF EXISTING ASBESTOS CEMENT PIPE IS ENCOUNTERED, HANDLE AND DISPOSE OF ASBESTOS MATERIALS WITH CARE AND IN ACCORDANCE WITH APPLICABLE CODES AND SAFETY STANDARDS.
3. EXCAVATE AND STOCKPILE ON-SITE TOPSOIL.TOPSOIL IS TO REMAIN THE PROPERTY OF THE OWNER DURING CONSTRUCTION. AFTER FINAL LOAM AND SEED EXCESS TOPSOIL SHALL BE REMOVED FROM SITE BY CONTRACTOR UNLESS INDICATED OTHERWISE.
4. DIMENSIONS ARE TO FACE OF CURB AND TO FACE OF FOUNDATION UNLESS OTHERWISE INDICATED.
5. PAVEMENT EDGES SHALL BE TRUE TO LINE. SAWCUT EXISTING PAVEMENT IN SMOOTH STRAIGHT LINE WHERE NEW PAVEMENT JOINS. PROVIDE TACK COAT LAYER AS SPECIFIED.
6. CONTRACTOR SHALL VERIFY SITE CONDITIONS, INCLUDING TEST PITS TO CONFIRM THE LOCATIONS AND INVERTS OF UTILITIES. REPORT DISCREPANCIES TO ARCHITECT PRIOR TO PROCEEDING WITH THAT PORTION OF THE WORK.
7. PROVIDE TRAFFIC CONTROL SIGNAGE AND STRIPING AS SHOWN, IN ACCORDANCE WITH THE CURRENT REVISION OF THE F.H.W.A MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
8. SUBSURFACE INFORMATION PROVIDED BY S.W. COLE TITLED "EXPLORATIONS AND GEOTECHNICAL ENGINEERING SERVICES: PROPOSED WAREHOUSE BUILDING EXPANSIONS" AND DATED MARCH 4, 2026

B2 GENERAL SITE NOTES
SCALE: N.T.S

1. PROVIDE 4" LOAM, SEED AND MULCH TO DISTURBED AREAS UNLESS OTHERWISE NOTED. PROVIDE EROSION CONTROL MESH ON ALL SLOPES 6:1 OR STEEPER, AND ALONG DITCH CHANNELS.
2. GRADE SURFACES TO DRAIN AWAY FROM BUILDING. PUDDLING OF WATER IN PAVED OR UNPAVED AREAS WILL NOT BE ACCEPTABLE EXCEPT FOR AREAS DESIGNATED AS PONDS.
3. MAINTAIN TEMPORARY EROSION CONTROL MEASURES FOR THE FULL DURATION OF CONSTRUCTION. INSPECT WEEKLY AND AFTER EACH STORM AND REPAIR AS NEEDED. REMOVE SEDIMENTS FROM THE SITE, PLACE IN AREA OF LOW EROSION POTENTIAL, AND STABILIZE WITH SEED AND MULCH.
4. PLACE TEMPORARY SOIL STABILIZATION WITHIN 30 DAYS OF INITIAL DISTURBANCE. PLACE PERMANENT SOIL STABILIZATION WITHIN 7 DAYS OF FINAL GRADING.

B3 GRADING NOTES
SCALE: N.T.S

PRIOR TO EXCAVATION, VERIFY THE UNDERGROUND UTILITIES, PIPES, STRUCTURES, AND FACILITIES. PROVIDE THE FOLLOWING MINIMUM MEASURES:

1. PRE-MARK THE BOUNDARIES OF YOUR PLANNED EXCAVATION WITH WHITE PAINT, FLAGS OR STAKES, SO UTILITY CREWS KNOW WHERE TO MARK THEIR LINES.
2. CALL DIG SAFE, AT EITHER 811 OR 1-888-DIGSAFE, AT LEAST 72 BUSINESS HOURS - BUT NO MORE THAN 30 CALENDAR DAYS - BEFORE STARTING WORK. DON'T ASSUME SOMEONE ELSE WILL MAKE THE CALL.
3. THE CONTRACTOR SHALL NOTIFY ALL NON-MEMBER MUNICIPALITIES AND UTILITIES THROUGH WWW.OKTODIG.COM OR AS OTHERWISE REQUIRED BY THE MAINE PUBLIC UTILITIES COMMISSION.
4. THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNER(S) DIRECTLY TO LOCATE ANY UNDERGROUND UTILITIES LOCATED OUTSIDE OF THE PUBLIC RIGHT OF WAY ON PRIVATE PROPERTY.
5. IF BLASTING, NOTIFY DIG SAFE AT LEAST 24 BUSINESS HOURS IN ADVANCE.
6. WAIT 72 HOURS FOR LINES TO BE LOCATED AND MARKED WITH COLOR-CODED PAINT, FLAGS OR STAKES. NOTE THE COLOR OF THE MARKS AND THE TYPE OF UTILITIES THEY INDICATE. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
7. CONTACT THE LANDOWNER AND OTHER "NON-MEMBER" UTILITIES (WATER, SEWER, GAS, ETC.), FOR THEM TO MARK THE LOCATIONS OF THEIR UNDERGROUND FACILITIES. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
8. RE-NOTIFY DIG SAFE AND THE NON-MEMBER UTILITIES IF THE DIGGING, DRILLING OR BLASTING DOES NOT OCCUR WITHIN 30 CALENDAR DAYS, OR IF THE MARKS ARE LOST DUE TO WEATHER CONDITIONS, SITE WORK ACTIVITY OR ANY OTHER REASON.
9. HAND DIG WITHIN 18 INCHES IN ANY DIRECTION OF ANY UNDERGROUND LINE UNTIL THE LINE IS EXPOSED. MECHANICAL METHODS MAY BE USED FOR INITIAL SITE PENETRATION, SUCH AS REMOVAL OF PAVEMENT OR ROCK.
10. DIG SAFE REQUIREMENTS ARE IN ADDITION TO TOWN, CITY AND/OR STATE DOT STREET OPENING PERMIT REQUIREMENTS.
11. FOR COMPLETE DIG SAFE REQUIREMENTS, VISIT THEIR WEBSITE.
12. IF YOU DAMAGE, DISLOCATE OR DISTURB ANY UNDERGROUND UTILITY LINE, IMMEDIATELY NOTIFY THE AFFECTED UTILITY. IF DAMAGE CREATES SAFETY CONCERNS, CALL THE FIRE DEPARTMENT AND TAKE IMMEDIATE STEPS TO SAFEGUARD HEALTH AND PROPERTY.
13. ANY TIME AN UNDERGROUND LINE IS DAMAGED OR DISTURBED, OR IF LINES ARE IMPROPERLY MARKED, YOU MUST CALL DIGSAFE.

B4 UNDERGROUND UTILITY EXPLORATION NOTES
SCALE: N.T.S

CURB ABBREVIATIONS

VGC	NEW VERTICAL GRANITE CURB
SGC	NEW SLOPED GRANITE CURB
FGC	NEW GRANITE CURB FLUSH WITH PAVEMENT
TCE	NEW TAPERED CURB ENDS (TIP DOWNS)
TRC	NEW TRANSITIONAL CURB
BC	NEW BITUMINOUS CURB
CCBC	NEW CAPE COD BITUMINOUS CURB
PCC	NEW PRE-CAST CONCRETE CURB
CCC	NEW CAST-IN-PLACE CONCRETE CURB

PAINT STRIPING ABBREVIATIONS

SWSL	SINGLE WHITE SOLID LINE
SWDL	SINGLE WHITE DASHED LINE
SYSL	SINGLE YELLOW SOLID LINE
SYDL	SINGLE YELLOW DASHED LINE
DYSL	DOUBLED YELLOW SOLID LINE

GENERAL ABBREVIATIONS

NS	NEW SEWER	MAX.	MAXIMUM
BIT.	BITUMINOUS	NWF	NEW WALL FIXTURE
NSD	NEW STORM DRAIN	MIN.	MINIMUM
C.O.	CLEAN-OUT	P.C.	PRECAST
NSFM	NEW SEWER FORCE MAIN	N.I.C.	NOT IN CONTRACT
CONC.	CONCRETE	R	RADIUS
NSL	NEW SPOT LIGHT	NCB	NEW CATCH BASIN
DI	DRAIN INLET	S	STRUCTURAL PAD
NUD	NEW UNDERDRAIN	NFO	NEW FIBER OPTIC
ELEV.	ELEVATION	SQ	SQUARE
NUE	NEW UNDERGROUND ELECTRICAL	NGT	NEW GEOTHERMAL WATER
EXG.	EXISTING	SF	SQUARE FEET
NUG	NEW UNDERGROUND GAS	NLP	NEW LIGHT POLE
F.F.E.	FINISHED FLOOR ELEVATION	AC	ACRE
NUF	NEW UNDERGROUND FUEL	T	TRANSFORMER PAD
FT	FEET	TBM	TEMPORARY BENCH MARK
IN.	INCHES	TYP	TYPICAL
INV.	INVERT	W/	WITH
NW	NEW WATER	UNO	UNLESS NOTED OTHERWISE

A2 STANDARD SITE ABBREVIATIONS
SCALE: N.T.S

1. "STOP" (R1-1)
2. "YIELD TO PEDESTRIANS WITHIN CROSSWALK" (R1-6)
3. "VISITOR PARKING" (PD-140)
4. PEDESTRIAN SYMBOL (W11-2)
5. "KEEP RIGHT" SYMBOL (R4-7)
6. "DO NOT ENTER" (R5-1)
7. "DEAD END" (W14-1)
8. "RESERVED PARKING" (R7-8)
9. R7-8V WITH "VAN ACCESSIBLE" OR R7-8 WITH R7-8A MOUNTED BELOW.
10. "ONE WAY" (R6-1)
11. "NO PARKING TOW-AWAY ZONE" (R8-3 WITH R7-201)
12. "AUTHORIZED VEHICLES ONLY" (PD-190)
13. "DELIVERY"
14. "FIRE LANE/NO PARKING" (PD-370)
15. "RIGHT TURN ONLY" (R3-5R)
16. "LEFT TURN ONLY" (R3-5L)

A4 SIGN LEGEND
SCALE: N.T.S

Harriman
80 EXCHANGE STREET, 3RD FLOOR
PORTLAND, ME 04101

46 HARRIMAN DRIVE
AUBURN, ME 04210

P&G OPTIMUS

SITE LOCATION: 2879 HOTEL ROAD
AUBURN, ME 04210

OWNER
TAMBRANDS INCORPORATED
PO BOX 599
CINCINNATI, OH 45201

Harriman Project No.	25229

Graphic Scale 0" 60" (line measures 1" when plotted at full size) | Plan North | True North

STATE OF MAINE
DAVID P LATHAM
No. 17064
LICENSED PROFESSIONAL ENGINEER

PLANNING BOARD SET

JULY 9, 2026

Revision Date	Revision Description

Drawn by: DPL

SITE NOTES

C00-1

1. GENERAL

A. PLAN THE SEQUENCE OF CONSTRUCTION SO THAT THE SMALLEST PRACTICAL AREA OF LAND IS EXPOSED AT ANY ONE TIME DURING CONSTRUCTION. SCHEDULE THE WORK SUCH THAT SEDIMENTATION BARRIERS AND DETENTION PONDS ARE INSTALLED EARLY IN THE CONSTRUCTION SEQUENCE, TO PREVENT SEDIMENTS FROM UPHILL AREAS REACHING STREAMS, WETLANDS OR PROPERTY LINES. THE AREA DISTURBED BY STRIPPING OF VEGETATION, SOIL REMOVAL, AND REGARDING SHALL BE THE MINIMUM NECESSARY AT ANY ONE TIME. THE DURATION OF EXPOSURE OF THE DISTURBED AREA SHALL BE KEPT TO A PRACTICAL MINIMUM. UNTIL A DISTURBED AREA IS STABILIZED, SEDIMENT IN RUN-OFF SHALL BE TRAPPED BY THE USE OF DEBRIS BASIN, SEDIMENT BASINS, SILT TRAPS OR OTHER ACCEPTABLE METHODS.

B. AFTER SUBSURFACE CHAMBER FILTER BEDS ARE CONSTRUCTED, INSTALL TEMPORARY PLUGS IN INLET PIPES TO PREVENT SILTY STORMWATER FROM ENTERING THE CHAMBERS DURING CONSTRUCTION. AFTER UPSTREAM AREAS ARE FULLY STABILIZED REMOVE THE PLUGS.

C. TAKE NECESSARY STEPS TO PREVENT SOIL EROSION. REFER TO PUBLICATION OF MAINE DEP PARTICULARLY CHAPTER 500, AND THE MAINE SOIL AND WATER CONSERVATION COMMISSION FOR ADDITIONAL PREVENTION MEASURES TO STOP SOIL EROSION AND FOLLOW DEP AND MAINE EROSION AND SEDIMENT CONTROL BMP'S. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN CONFORMITY WITH ALL FEDERAL AND STATE PERMIT REQUIREMENTS CONCERNING WATER, AIR OR NOISE POLLUTION, OR THE DISPOSAL OF CONTAMINATED OR HAZARDOUS MATERIALS. EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE MINIMUM ONLY. SATISFY THE CURRENT REQUIREMENTS OF THE REGULATORY AGENCIES. REPAIR ALL AREAS OF INSTABILITY AND EROSION IMMEDIATELY AND MAINTAIN UNTIL THE SITE IS FULLY STABILIZED.

D. IF UNDERDRAIN FILTER BASINS, BIO-RETENTION CELLS, OR WETPONDS ARE USED AS TEMPORARY SEDIMENT PONDS, DO NOT INSTALL UNDERDRAIN, GRAVEL FILTER, SOIL FILTER, OR GEOTEXTILE FABRIC UNTIL AFTER THE SURROUNDING AREAS ARE STABILIZED AND/OR THE AREAS ARE NO LONGER RECEIVING SEDIMENT LOADING. SEDIMENT BASINS MUST PROVIDE STORAGE FOR EITHER THE RUNOFF FROM A TWO (2) YEAR, 24 HOUR STORM OR PROVIDE FOR 3, 600 CUBIC FEET OF CAPACITY PER ACRE DRAINING TO THE SCHEDULE BASINPOND CONSTRUCTION DURING THE BASIN. MONTHS OF JUNE THROUGH SEPTEMBER, WITH PONDS STABILIZED BY OCTOBER 1ST. CLEAN ALL STORM WATER BASINS, PIPES, AND TREATMENT TANKS PRIOR TO SUBSTANTIAL COMPLETION.

E. WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.

F. EROSION CONTROL MESH: INTENDED AS A TEMPORARY EROSION CONTROL MEASURE THAT WILL DECOMPOSE AFTER STABILIZATION. OPEN WEAVE, SINGLE JUTE YARN OF LOOSELY TWISTED CONSTRUCTION, NOT VARYING IN THICKNESS BY MORE THAN ½ ITS NORMAL DIAMETER. THE WOVEN MATERIALS SHALL WEIGH 0.9 POUNDS PER SQUARE YARD. SYNTHETIC MESH MATERIAL MAY BE USED AS APPROVED. STAPLES: NO. 11 (OR HEAVIER) PLAIN IRON WIRE, MADE 6 INCHES IN LENGTH.

G. EROSION CONTROL BLANKET: INTENDED AS A PERMANENT EROSION CONTROL MEASURE THAT WILL REINFORCE THE TOPSOIL AND VEGETATION AGAINST EROSION AFTER CONSTRUCTION. SYNTHETIC FIBER MATRIX SANDWICHED BETWEEN HEAVY DUTY UV STABILIZED NETTING. BLANKET SHALL WEIGH NOT LESS THAN 0.9 POUNDS PER SQUARE YARD. NORTH AMERICAN GREEN P300 OR APPROVED EQUAL. STAPLES: NO. 11 (OR HEAVIER) PLAIN IRON WIRE, MADE 6 INCHES IN LENGTH.

H. SILT FENCE:

POST: 1"X1" HARDWOOD POST, 4.5 FEET IN LENGTH.

FABRIC: PERVIOUS 36" WIDE SHEET OF SYNTHETIC POLYMER OF 12 MIL THICKNESS, SUCH AS MIRAFI 100X; TERRA TEX-SC OR APPROVED EQUAL. THE BOTTOM OF THE FABRIC SHALL BE TRENCHED INTO THE EXISTING GROUND A MINIMUM OF 6 INCHES. IN ADDITION, HAY BALES OR DITCH CHECKS SHALL BE INSTALLED ALONG THE SILT FENCE TO CREATE SEDIMENTATION POOLS IN LOW AREAS WHERE RUN-OFF CONCENTRATES.

I. EROSION CONTROL SOIL/BARK MIX: SHALL CONSIST OF A MIX OF RECYCLED COMPOSTED BARK, FLUME GRIT, AND FRAGMENTED WOOD GENERATED FROM WATER-FLUME LOG HANDLING SYSTEMS. CONFORMING TO THE FOLLOWING:

1. PH - 5.0 TO 6.0.
2. SCREEN SIZE - 6 INCHES MINUS.
3. NO LESS THAN 25 PERCENT ORGANIC MATERIAL.
4. NO STONES LARGER THAN 2 INCHES IN DIAMETER.
5. APPROVE BY MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION FOR USE IN WETLANDS AND NEAR WATERWAYS.

J. HAY BALES: BALES SHALL BE AT LEAST 14" X 18" X 30" IN SIZE, STAKED TWICE PER BALE. STAKES SHALL BE 1" X 1" X 36" WOODEN. PLACE BALES WITH TWINE ON SIDES OF BALE, NOT TOP OR BOTTOM.

K. CATCH BASIN SEDIMENT FILTER SACK: A FILTER FABRIC BAG WHICH HANGS UNDER THE GRATE TO CATCH SEDIMENTS. PROVIDE "STREAMGUARD MODEL 3003," "BASIN BAG" BY EMCO DISTRIBUTION, "SILT SACKS HIGH FLOW" BY ACF ENVIRONMENTAL, OR APPROVED EQUAL. INSTALL THE BAG DEVICE PER MANUFACTURER'S RECOMMENDATION.

L. BEFORE EARTHWORK IS STARTED, A SILT FENCE, FILTER BERM, OR STONE SEDIMENT DAM SHALL BE INSTALLED ALONG THE DOWN-SLOPE SIDE OF THE CONSTRUCTION SITE, AS NECESSARY, TO PREVENT SOIL SEDIMENT MIGRATION AWAY FROM THE SITE. INSTALL SILT FENCE OR FILTER BERM ALONG THE DOWN-SLOPE SIDE OF ALL TOP-SOIL AND SUBSOIL STOCKPILES.

M. EROSION CONTROLS BARRIERS SHALL BE REMOVED AFTER CONSTRUCTION IS COMPLETE, BUT NOT UNTIL FINISH GRADING, FINAL SEEDING, AND MULCHING HAS BEEN COMPLETED AND THE ESTABLISHED GRASS HAS STABILIZED THE SOIL. MAINTAIN BARRIERS IN GOOD CONDITION UNTIL REMOVED.

N. INSPECT EROSION AND SEDIMENTATION CONTROL WEEKLY AND AFTER STORM AND MAINTAIN IN GOOD WORKING CONDITION FOR PROJECT DURATION. REMOVE SILT DEPOSITS FROM THE SITE, PLACE IN AN AREA OF LOW EROSION POTENTIAL SO IT WILL NOT WASH INTO A WETLAND OR WATER BODY, SEED WITH EROSION CONTROL MIX, AND MULCH.

O. FILTER BERM: PLACE UNCOMPACTED EROSION CONTROL MIX IN A WINDROW AT LOCATIONS SHOWN ON THE PLAN OR AS DIRECTED BY THE ARCHITECT. AT A MINIMUM THE BERM SHALL BE 3 FEET WIDE AT THE BASE AND 2 FEET HIGH AT THE CENTER OF ALL POINTS ALONG ITS LENGTH. BERM MATERIAL, WHERE THE BERM IS STILL REQUIRED, WHICH HAS DECOMPOSED, CLOGGED WITH SEDIMENT, ERODED, OR BECOMES INEFFECTIVE, SHALL BE REPLACED. THE BERM SHALL BE REMOVED FROM THE SITE OR RAKED INTO NEARBY WOODS TO A DEPTH NO GREATER THAN 1", WHEN NO LONGER REQUIRED, AS APPROVED BY THE ARCHITECT.

P. TEMPORARY STABILIZATION: WITHIN 7 DAYS OF THE CESSATION OF CONSTRUCTION ACTIVITIES IN AN AREA THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS, STABILIZE EXPOSED SOIL WITH MULCH, OR OTHER NON-ERODIBLE COVER. STABILIZE AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO A STORM EVENT, WHICHEVER COMES FIRST. REMOVE TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE. MAINTAIN TEMPORARY EROSION CONTROL MEASURES FOR THE FULL DURATION OF CONSTRUCTION. INSPECT WEEKLY AND AFTER EACH STORM AND REPAIR AS NEEDED. REMOVE SEDIMENTS FROM THE SITE, PLACE IN AREA OF LOW EROSION POTENTIAL, AND STABILIZE WITH SEED AND MULCH.

Q. PERMANENT STABILIZATION: IF THE AREA WILL NOT BE WORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, THEN PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH, OR RIPRAP. OR ROAD SUB-BASE. "IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS; AMEND AREAS OF DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS: PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS; AND SCHEDULE SODDING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS." NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL VEGETATION IS WELL-ESTABLISHED WITH 90% COVER BY HEALTHY VEGETATION. IF NECESSARY, AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT. PERMANENT STABILIZATION IS DEFINED AS FOLLOWS:

1. SEEDED AREAS: PERMANENT STABILIZATION MEANS A 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.
2. SODDED AREAS: PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.
3. PERMANENT MULCH: PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.
4. RIPRAP: PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIPRAP. STONE MUST BE SIZED APPROPRIATELY. IT IS RECOMMENDED THAT ANGULAR STONE BE USED.
5. PAVED AREAS: PERMANENT STABILIZATION MEANS PLACEMENT OF THE COMPACTED SUBBASE GRAVEL IS COMPLETED, PROVIDED IT IS FREE OF FINE MATERIALS THAT MAY RUNOFF WITH A RAIN EVENT.
6. DITCHES: CHANNELS, AND SWALES: PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH A COVER OF HEALTHY VEGETATION, WITH A WELL-GRADED RIPRAP LINING, TURF REINFORCEMENT MAT, OR WITH ANOTHER NON-EMISIVE LINING SUCH AS CONCRETE OR ASPHALT PAVEMENT. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE CHANNEL LINING, UNDERCUTTING OF THE CHANNEL BANKS OR DOWN-CUTTING OF THE CHANNEL.

2. TEMPORARY SEEDING AND MULCHING

A. TOPSOIL STRIPPED AND STOCKPILED ON SITE SHALL BE IMMEDIATELY SEEDED WITH EROSION CONTROL SEED MIX AND MULCHED WITH HAY. MULCH SHALL BE CURED STRAW FREE FROM NOXIOUS WEED SEEDS AND ROUGH OR WOODY MATERIALS.

B. EROSION CONTROL SEED:

Seed Type	% Weight	% Purity	% Germination
Domestic Rye	70	85	80
Perennial Rye	30	85	80

C. EXPOSED EARTHWORK AREAS WHICH WILL NOT BE WORKED ON FOR ONE WEEK SHALL BE MULCHED WITH STRAW.

D. UNFINISHED AREAS WHICH ARE NOT TO BE WORKED ON FOR ONE MONTH OR WILL BE WINTERED SHALL BE SEEDED WITH EROSION CONTROL MIX AT A RATE OF 3 POUNDS OF SEED PER 1,000 SQ. FT. AND MULCHED WITH STRAW. APPLY STRAW MULCH AT THE RATE OF 75 POUNDS PER 1,000 SQ. FT. ANCHOR MULCH TO PREVENT WIND BLOWN MOVEMENT.

E. IN SENSITIVE AREAS (WITHIN 25 FT. OF STREAM OR WETLAND EDGE) TEMPORARY MULCH MUST BE APPLIED AT THE END OF EACH WORK DAY AND PRIOR TO ANY STORM EVENT. NO FILL SHALL BE PLACED ON HAY MULCH.

3. PERMANENT SEEDING AND MULCHING

A. GRASS SEED SHALL BE FREE FROM NOXIOUS WEED SEEDS AND RECLEANED, GRADE A RECENT CROP SEED, TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING, DELIVERED TO THE SITE IN SEALED CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS AND EACH VARIETY OF SEED SHALL HAVE PERCENTAGES OF GERMINATION OF NOT LESS THAN 85% AND A PERCENTAGE OF PURITY OF NOT LESS THAN 85%. SOW SEEDS AT A RATE OF 5lbs PER 1,000s.f.

B. WEED SEED CONTENT SHALL NOT EXCEED 0.25%. WET, MOLDY OR OTHERWISE DAMAGED SEED WILL BE REJECTED.

C. SEED MIX PROPORTIONS BY WEIGHT:

Seed Type	% Weight	% Purity	% Germination
Chewing Fesue	35	85	80
Creeping Red Fescue	35	85	80
Perennial Rye	30	85	80

4. WINTER CONSTRUCTION

A. WINTER CONSTRUCTION" IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 15. IF DISTURBED AREAS ARE NOT STABILIZED WITH PERMANENT MEASURES BY NOVEMBER 1 OR NEW SOIL DISTURBANCE OCCURS AFTER NOVEMBER 1, BUT BEFORE APRIL 15, THEN THESE AREAS MUST BE PROTECTED AND RUNOFF FROM THEM MUST BE CONTROLLED BY ADDITIONAL MEASURES AND RESTRICTIONS.

B. SITE STABILIZATION: FOR WINTER STABILIZATION, HAY MULCH IS APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.

C. SEDIMENT BARRIERS: ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.

D. DITCH: ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1 OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.

E. SLOPES: MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE SLOPES.

5. DRAINAGE DITCHES AND EMBANKMENTS

A. DRAINAGE DITCHES SHALL BE PROVIDED WITH TEMPORARY STONE CHECK DAMS SPACED NO GREATER THAN 100 FEET APART. TEMPORARY DITCH CHECK DAMS SHALL BE CONSTRUCTED WHERE INDICATED. ADDITIONAL TEMPORARY DITCH DAMS SHALL BE INSTALLED DURING THE CONSTRUCTION, WHERE NECESSARY TO PREVENT SOIL FROM LEAVING THE WORK AREA.

B. GRASSED DRAINAGE DITCHES AND SWALES SHALL BE LINED WITH A CONTINUOUS MAT OF EROSION CONTROL MESH FOR FULL BOTTOM WIDTH AND SIDE SLOPES TO 12" ABOVE BOTTOM, WITHIN 48 HOURS OF FINAL GRADING AND PRIOR TO A STORM EVENT, IN ORDER TO STABILIZE THE LOAM, SEED AND MULCH.

C. WHERE EROSIVE VELOCITIES IN DITCHES OR EMBANKMENTS ARE ANTICPATED OR EXPERIENCED AND SOIL CANNOT BE STABILIZED WITH MULCH AND MESH, SUBSTITUTE EROSION CONTROL SOIL/BARK MIX IN PLACE OF LOAM. SCREEN THE EROSION CONTROL SOIL/BARK MIX TO REMOVE WOOD, BARK AND STONES ONE INCH IN SIZE AND GREATER. IF EROSIVE VELOCITIES ARE EXCESSIVE, PROVIDE A 12" THICK STONE RIP-RAP LINING ALONG DITCH BOTTOM AND UP SIDE SLOPES TO ONE FOOT ABOVE THE BOTTOM ELEVATION. PLACE NON-WOVEN GEOTEXTILE BENEATH RIP-RAP.

D. STABILIZE POND EMBANKMENT (INTERIOR AND EXTERIOR), SLOPES STEEPER THAN THREE HORIZONTAL TO ONE VERTICAL AND DRAINAGE DITCHES BY SEPTEMBER 15, CONSISTING OF PERMANENT SEEDING AND MULCH. IF THIS DATE CANNOT BE MET, PROVIDE ALTERNATIVE PERMANENT OR TEMPORARY STABILIZATION DESCRIBED AS FALL AND WINTER STABILIZATION.

E. INSTALL EROSION CONTROL MESH OVER MULCH ON SLOPES STEEPER THAN SIX HORIZONTAL TO ONE VERTICAL (16%) AND IN CONFORMANCE TO DOT STANDARD SPECIFICATION, LATEST EDITION, SECTION 9.48, PARAGRAPHS 613.03 THROUGH 613.06. ANCHOR MESH AS RECOMMENDED BY MANUFACTURER.

F. PERMANENTLY RIP-RAP INLETS AND OUTLETS OF CULVERTS AND PIPE OUTFALLS WITHIN 48 HOURS OF INSTALLATION, AS SPECIFIED IN SECTION 312000 - EARTH MOVING AND AS SHOWN ON THE DRAWINGS.

G. INSTALL PERMANENT EROSION CONTROL BLANKET AROUND CULVERT INLETS AND OUTLETS AS SHOWN ON THE DRAWINGS AND ACCORDING TO MANUFACTURERS' RECOMMENDATIONS.

4. PREPARE SOIL WITH LOAM, FERTILIZER AND SEED AS SPECIFIED IN SECTION 329200 PRIOR TO INSTALLING THE EROSION CONTROL BLANKET.
5. INSTALL PERMANENT EROSION CONTROL BLANKET FIVE FEET MINIMUM IN ALL DIRECTIONS AROUND CULVERT INLETS.
6. INSTALL PERMANENT EROSION CONTROL BLANKET FIVE FEET MINIMUM IN ALL DIRECTIONS AROUND CULVERT OUTLETS AND A SIX FOOT WIDTH CENTERED ALONG THE OUTLET CHANNEL FOR TEN FEET.
7. INSTALL STAPLES AS SHOWN ON THE EROSION CONTROL BLANKET DETAIL ON THE DRAWINGS AND THROUGHOUT THE BLANKET IN AN 18 BY 18 INCH GRID.

6. PARKING AND DRIVES

A. PLACE A TEMPORARY STABILIZED CONSTRUCTION EXITS WHERE VEHICLES LEAVE THE SITE AND ENTER EXISTING PAVED ROADS; CONSISTING OF A 6" LAYER OF 1 1/2" TO 3" CRUSHED STONE. TRACKING A SPILLING OF EARTH AND/OR DEBRIS ON PUBLIC STREETS SHALL BE AVOIDED TO THE MAXIMUM EXTENT POSSIBLE. CLEAN UP AND REMOVE SUCH SPILLAGE.

B. AS THE CRUSHED STONE STABILIZED CONSTRUCTION EXITS CONTINUE TO SCRUB THE SOIL FROM THE TRUCKS, THE STONE LAYER WILL TEND TO FILL WITH SEDIMENTS. WHEN THIS OCCURS, REMOVE THE STONE AND SEDIMENT AND REPLACE IT WITH A CLEAN LAYER OF STONE.

C. AS SOON AS POSSIBLE AFTER ROADS AND PARKING AREAS ARE CLEARED, GRUBBED AND GRADED TO THE REQUIRED SUBGRADE, THE BASE GRAVEL SHALL BE PLACED.

7. REMOVAL AND DISPOSAL

WHEN PERMANENT SOIL STABILIZATION HAS BEEN ACHIEVED, TEMPORARY MATERIALS AND DEVICES THAT ARE NOT READILY DEGRADABLE SHALL BE REMOVED AND DISPOSED OF OFF SITE. SILT FENCES, FILTER BERMS AND CATCH BASIN SEDIMENT FILTERS MUST BE FULLY REMOVED. REUSABLE MATERIALS ARE AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

8. STONES FOR RIP-RAP

A. SIZE THE STONE MIXTURE SUCH THAT 50% OF THE STONES, BY WEIGHT, ARE LARGER THAN THE SPECIFIED D50 SIZE. STONES SHALL NOT BE SCHISTOSIC.

B. PLAIN RIP-RAP: 4" TO 12" DIAMETER, HARD, SOUND ANGULAR STONES, D50 = 6".

C. SPECIAL RIP-RAP: 8" TO 18" WIDE SOUND STONES WITH FLAT TOP SURFACE, D50 = 11".

D. THE STONES SHALL BE PLACED WITH THEIR BENDS AT RIGHT ANGLES TO THE SLOPE, THE LARGER STONES BEING USED IN BOTTOM COURSES.

E. THE FINISHED WORK SHALL PRESENT AN EVEN, TIGHT AND REASONABLY SMOOTH SURFACE CONFORMING TO THE REQUIRED CONTOUR AND HAVE A NEAT ORDERLY APPEARANCE WITHOUT SCATTERED STONES.

F. SPECIAL" RIP-RAP SHALL BE HAND-PLACED IN CLOSE CONTACT TO FORM AN EVEN, TIGHT AND REASONABLY SMOOTH SURFACE WITH RELATIVELY FLAT TOP SURFACES. USE NO SMALL STONES OR SPALL.

9. PLANTING TIME

A. SEEDING: SEEDING SHALL BE DONE BETWEEN AUGUST 15TH TO SEPTEMBER 15TH AND/OR APRIL 15TH TO JUNE 15TH.

B. SODDING: SODDING MAY BE DONE BETWEEN APRIL 15TH AND NOVEMBER 15TH.

C. VARIANCE: IF SPECIAL CONDITIONS EXIST WHICH MAY WARRANT A VARIANCE IN THE ABOVE PLANTING DATES, A WRITTEN REQUEST SHALL BE SUBMITTED TO THE ARCHITECT STATING THE SPECIAL CONDITIONS FOR THE PROPOSED VARIANCE. PERMISSION FOR THE VARIANCE MUST BE GIVEN IF WARRANTED IN THE OPINION OF THE ARCHITECT. REGARDLESS OF THE TIME OF SEEDING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR A FULL GROWTH OF GRASS.

D. PLACE PERMANENT SOIL STABILIZATION WITHIN 15 DAYS OF FINAL GRADING.

10. SPILL PREVENTION AND GROUNDWATER PROTECTION

A. AREAS INSIDE AND OUTSIDE THE CONTRACT WORK LIMITS SHALL BE PROTECTED FROM LUBRICANTS, FUEL, SEDIMENT, LITTER, CONSTRUCTION DEBRIS, CHEMICALS AND OTHER POLLUTANTS.

B. TAKE PRECAUTIONS AND CONFORM TO ALL FEDERAL, STATE AND LOCAL REGULATIONS TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. IMPLEMENT SPILL PREVENTION, CONTAINMENT AND RESPONSE.

C. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH 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 BE DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. IMPERVIOUS LINERS OR MATERIALS MUST BE USED TO STORE OR CONTAIN THE HAZARDOUS MATERIALS AND PREVENT THEM FROM ENTERING THE GROUNDWATER.

11. FUGITIVE SEDIMENT AND DUST

A. USE TRAFFIC CONTROL TO RESTRICT TRAFFIC TO PREDETERMINED ROUTES. MAINTAIN AS MUCH NATURAL VEGETATION AS IS PRACTICABLE. USE PHASING OF CONSTRUCTION TO REDUCE THE AREA OF LAND DISTURBED AT ANY ONE TIME. THE USE OF TEMPORARY MULCHING, PERMANENT MULCHING, TEMPORARY VEGETATIVE COVER, PERMANENT VEGETATIVE COVER, OR SODDING WILL REDUCE THE NEED FOR DUST CONTROL. USE MECHANICAL SWEEPERS ON PAVED SURFACES WHERE NECESSARY TO PREVENT DUST BUILDUP. STATIONARY SOURCES OF DUST, I.E. ROCK CRUSHERS, SHOULD UTILIZE FINE WATER SPRAYS TO CONTROL DUST.

B. THE EXPOSED SOIL SURFACE SHOULD BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.

C. CALCIUM CHLORIDE SHALL BE EITHER LOOSE DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH A SPREADER AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. LIQUID CALCIUM CHLORIDE CAN ALSO BE USED. TO REDUCE POTENTIAL FOR ENVIRONMENTAL DEGRADATION, USE ONLY WHEN OTHER METHODS ARE NOT PRACTICAL.

D. COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. IN AREAS ADJACENT TO WATERWAYS, USE CHEMICALLY STABLE AGGREGATE.

E. WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHALL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

12. DEBRIS AND OTHER MATERIALS

MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF.

13. EXCAVATION DE-WATERING

A. WATER FROM CONSTRUCTION DEWATERING OPERATIONS SHALL BE CLEANED OF SEDIMENT BEFORE REACHING WETLANDS, WATER BODIES, STREAMS, OR SITE BOUNDARIES. UTILIZE TEMPORARY SEDIMENT BASINS, EROSION CONTROL SOIL FILTER BERMS BACKED BY STAKED HAY BALES, A DIRT BAG 55" SEDIMENT FILTER BAG BY ACF ENVIRONMENTAL, INC. OR OTHER APPROVED BEST MANAGEMENT PRACTICES (BMP's).

B. IN SENSITIVE AREAS, NEAR STREAMS OR PONDS, DISCHARGE THE WATER FROM THE DE-WATERING OPERATION INTO A TEMPORARY SEDIMENT BASIN CREATED BY A SURROUNDING FILTER BERM OF UNCOMPACTED EROSION CONTROL MIX IMMEDIATELY BACKED BY STAKED HAY BALES (SEE THE SITE DETAILS). LOCATE THE TEMPORARY SEDIMENT BASIN AT LEAST 100 FEET FROM THE NEAREST WATER BODY, SUCH THAT THE FILTERED WATER WILL FLOW THROUGH UNDISTURBED VEGETATED SOIL AREAS PRIOR TO REACHING THE WATER BODY OR PROPERTY LINE.

C. PREPARE A DE-WATERING PLAN TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. THE COLLECTED WATER NEEDS TREATMENT AND A DISCHARGE POINT THAT WILL NOT CAUSE DOWNGRADIENT EROSION AND OFFSITE SEDIMENTATION OR WITHIN A RESOURCE. FOLLOW THE DETAIL OF THE PLAN THROUGHOUT CONSTRUCTION DURATION.

D. THE OWNER OR REGULATORY AGENCIES DO NOT AUTHORIZE A WATER DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, INCLUDING THE FOLLOWING: WASTEWATER FROM 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.

14. UNAUTHORIZED NON-STORMWATER DISCHARGES

THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:

- WASTEWATER FROM THE WASHOUT OR CLEAN OUT 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.
- TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

15. AUTHORIZED NON-STORMWATER DISCHARGES

IMPLEMENT APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE FOLLOWING DISCHARGES:

- FIREFIGHTING ACTIVITY.
- FIRE HYDRANT FLUSHINGS.
- VEHICLE WASH-WATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED.
- DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND DEP CHAPTER 500 APPENDIX (C)(3)
- ROUTINE EXTERNAL BUILDING WASH-DOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS.
- PAVEMENT WASH-WATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOTE USED
- UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE.
- UNCONTAMINATED GROUNDWATER OR SPRING WATER.
- FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED.
- UNCONTAMINATED EXCAVATION DE-WATERING (SEE REQUIREMENTS IN DEP CHAPTER 500 APPENDIX C(5)).
- POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS.
- LANDSCAPING IRRIGATION.

16. CONSTRUCTION INSPECTION AND MAINTENANCE

A. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL BEST MANAGEMENT PRACTICES (BMP'S), MATERIALS STORAGE AREAS THAT ARE EXPOSED TO PRECIPITATION AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE A WEEK AS WELL AS BEFORE AND WITHIN 24 HOURS AFTER A RAIN EVENT AND PRIOR TO COMPLETING PERMANENT STABILIZATION. A PERSON WITH KNOWLEDGE OF EROSION A

DISTURBED/DEMOLITION DATA

PROPOSED DISTURBED AREA:	931,825 SF
PROPOSED TREE CLEARING AREA:	353,448 SF

STANDARD SITE LEGEND

EXISTING		NEW
	BUILDING	
	DOOR	
BIT. PAVEMENT	BIT. PAVEMENT	
CONCRETE	CONCRETE	
CURB	CURB	CURB
CHAIN-LINK FENCE	CHAIN-LINK FENCE	
HAND RAIL / OTHER FENCE	HAND RAIL / OTHER FENCE	
GUIDE RAIL / STOCKADE FENCE	GUIDE RAIL / STOCKADE FENCE	
STEEL GUARDRAIL	STEEL GUARDRAIL	
SIGN	SIGN	
PIPE BOLLARD	PIPE BOLLARD	
WETLAND LIMIT	WETLAND LIMIT	
STREAM CENTERLINE	STREAM CENTERLINE	
TREES	TREES	
TREE LINE	TREE LINE	
-98- CONTOUR	CONTOUR	98
× 99.8 SPOT ELEVATION	SPOT ELEVATION	688.2
GRADE TO DRAIN	GRADE TO DRAIN	GTD
SOIL BORING, TEST PIT	SOIL BORING, TEST PIT	
SILT FENCE	SILT FENCE	
RIP-RAP	RIP-RAP	
CATCH BASIN / DRAIN INLET	CATCH BASIN / DRAIN INLET	
STEAM MANHOLE	STEAM MANHOLE	
STORM DRAIN MANHOLE	STORM DRAIN MANHOLE	
SEWER MANHOLE	SEWER MANHOLE	
TELEPHONE MANHOLE	TELEPHONE MANHOLE	
ELECTRIC MANHOLE / PULLBOX	ELECTRIC MANHOLE / PULLBOX	
WATER VALVE	WATER VALVE	
CURB STOP VALVE	CURB STOP VALVE	
HYDRANT	HYDRANT	
UTILITY POLE	UTILITY POLE	
GUY WIRE	GUY WIRE	
LIGHT POLE BASE	LIGHT POLE BASE	
TRANSFORMER PAD	TRANSFORMER PAD	
GEOTHERMAL WELL	GEOTHERMAL WELL	
SD STORM DRAIN LINE	STORM DRAIN LINE	NSD
UD UNDER DRAIN LINE	UNDER DRAIN LINE	NUD
S SANITARY SEWER LINE	SANITARY SEWER LINE	NS
W WATER LINE	WATER LINE	NW
UG GAS / PROPANE LINE	GAS / PROPANE LINE	NUG
GT GEOTHERMAL WATER LINE	GEOTHERMAL WATER LINE	NGT
UC UNDERGROUND COMMUNICATION LINE	UNDERGROUND COMMUNICATION LINE	NUC
UE UNDERGROUND ELECTRICAL LINE	UNDERGROUND ELECTRICAL LINE	NUE
UL UNDERGROUND LIGHTING LINE	UNDERGROUND LIGHTING LINE	NUL
AE AERIAL ELECTRICAL, TELEPHONE, AND CABLE LINE	AERIAL ELECTRICAL, TELEPHONE, AND CABLE LINE	NAE
PROPERTY LINE	PROPERTY LINE	
SETBACK LINE	SETBACK LINE	
EASEMENT LINE	EASEMENT LINE	

N/F CITY OF AUBURN 60 COURT STREET AUBURN, ME 04210

LIMIT OF DISTURBANCE (TYP.)

W KITTYHAWK AVE

50' REAR BUILDING SETBACK

35' SIDE BUILDING SETBACK

REMOVE PORTION OF CHAIN LINK FENCE

DROP-DOWN AREA

FILL WETLANDS, 581 SF

24" HDPE CULVERT INV: 216.34

24" HDPE CULVERT INV: 216.88

FILL EXISTING UNDERDRAIN SOIL FILTER

BOLLARD (TYP. OF 8)

RIPRAP (TYP.)

TX CONCRETE PAD DOOR SILL:254.09

REMOVE GUARDRAIL

TX 5 STAIRS DOOR SILL:254.11

TX 4STAIRS1FOOT LANDING DOOR SILL:253.

EXISTING BUILDING

DOOR SILL:254.07

TX 6STAIRS1FOOT LANDING DOOR SILL:254.09

REMOVE PORTION OF EXISTING WATER LINE, CAP AT NEW NORTH WAREHOUSE

DOOR SILL:254.68, DOOR SILL:254.03

REMOVE WATER LINE

DEMO AND REMOVE BOLLARD (TYP.)

TX 5STAIRS1FOOT LANDING DOOR SILL:254.19

CONCRETE PAD

REMOVE BUILDINGS, CONTRACTOR PARKING AREA

TBM:251.66

CONTRACTOR PARKING AREA

REMOVE GUARDHOUSE

TX VAULT

REMOVE CONCRETE PAD

REMOVE HYDRANT

EXTENTS OF PAVEMENT REMOVAL

REMOVE PORTION OF CHAIN LINK FENCE

REMOVE CHAIN LINK FENCE, INTERNAL SOILS PER TERMS OF ARCHEOLOGY PERMIT

FILL WETLANDS, 581 SF

FILL WETLANDS, 6,936 SF

FILL EXISTING UNDERDRAIN SOIL FILTER

REMOVE DUMPSTER PAD

REMOVE ABANDONED POWER PANEL, ELECTRIC LINE. VERIFY IN FIELD PRIOR TO DEMOLITION

REMOVE AND RELOCATE ELECTRICAL POLE, PORTION OF OVERHEAD ELECTRIC LINES

REMOVE SEWER LINE

EXTENTS OF PAVEMENT REMOVAL

42" RCP CULVERT INV: 233.57

PAVEMENT AREA SKETCHED FROM AERIAL IMAGERY

REMOVE HYDRANT

REMOVE PORTION OF WATER LINE

HYDRANT TO REMAIN

DISCONTINUED RAILROAD SPUR

CAP AND REMOVE PORTION OF GAS LINE

REMOVE CONCRETE PAD

REMOVE STORM DRAIN LINE (TYP.)

REMOVE DRAINAGE MANHOLE (TYP.)

TX 5 STAIRS 1FOOT LANDING

TX STORAGE SHED ON SLAB

HDPECULVERT

CMPCULVERT

FILL WETLANDS, 2,630 SF

REMOVE GUARDRAILS, ROAD SIGNAGE

CHAIN LINK FENCE

STOP AHEAD SIGN

DO NOT ENTER SIGNS

FILL WETLANDS, 2,115 SF

REMOVE LIGHT

REMOVE CHAIN LINK FENCE, INTERNAL SOILS PER TERMS OF ARCHEOLOGY PERMIT

REMOVE (4) TRAILER PARKING SPACES

LIGHTPOLE (TYP.)

EXISTING TREELINE, TYP.

EXISTING BUILDING

TX ACCESS LADDER

TX 1STAIR1FOOT LANDING DOOR SILL:250.14

TX 5STAIR1FOOT LANDING

REMOVE PORTION OF CHAIN LINK FENCE

TX MONO SLOPE TX TRANSFORMER

TBM:253.67

CHAIN LINK FENCE

DARBED WIRE FENCE

N/F CITY OF AUBURN 60 COURT STREET AUBURN, ME 04210

UTILITY EASEMENT

35' FRONT BUILDING SETBACK

DO NOT ENTER SIGN

STOP AHEAD SIGN

APPROX. ABUTTER PROPERTY LINE, TYP.

STOP SIGN

TX PAVEDWAY

HOTEL ROAD

APPROX. EXTENTS OF THE ID ZONE

APPROX. EXTENTS OF THE RR ZONE

APPROX. EXTENTS OF THE GB ZONE

NOTE: ALL UTILITIES SHOWN IN THE PUBLIC RIGHT OF WAY ARE APPROXIMATE

APPROX. EXISTING BUILDING LOCATION

N/F AUBURN-LEWISTON MUNICIPAL AIRPORT 80 AIRPORT DR AUBURN, ME 04210

N/F TORRES, JOHN T 3011 HOTEL RD AUBURN, ME 04210

N/F THE COTE CORPORATION PO BOX 1418 AUBURN, ME 04210

N/F COTE LLC PO BOX 1418 AUBURN, ME 04210

N/F TAMBRANDS, INC PO BOX 599 CINCINNATI, OH 45201

N/F BERNARD, MARYMAY MUNROE PO BOX 1145 AUBURN, ME 04211-1145

N/F OUELLETTE, MAURICE 2824 HOTEL RD AUBURN, ME 04210

N/F HALL, AYESHA 2814 HOTEL RD AUBURN, ME 04210

N/F WHITING, BRIGITTE 2800 HOTEL RD AUBURN, ME 04210

Harriman
80 EXCHANGE STREET, 3RD FLOOR
PORTLAND, ME 04101

46 HARRIMAN DRIVE
AUBURN, ME 04210

P&G OPTIMUS

SITE LOCATION: 2879 HOTEL ROAD
AUBURN, ME 04210

OWNER
TAMBRANDS INCORPORATED
PO BOX 599
CINCINNATI, OH 45201

Harriman Project No.	25229

Graphic Scale 0" 60" (line measures 1" when plotted at full size)

Plan North | True North

STATE OF MAINE DAVID P LATHAM No. 17084 LICENSED PROFESSIONAL ENGINEER

PLANNING BOARD SET

JULY 9, 2026

Revision Date	Revision Description

Drawn by: DPL

EXISTING SITE CONDITIONS AND DEMOLITION PLAN

C10-1

WATERSHED ANALYSIS POINT A

WATERSHED ANALYSIS POINT B

WATERSHED ANALYSIS POINT C

N/F CITY OF AUBURN RT STREET N, ME 04210

N/F AUBURN-LEWISTON MUNICIPAL AIRPORT

N/F TORRES, JOHN T 3011 HOTEL RD AUBURN, ME 04210

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N/F OUELLETTE, MAURICE 2824 HOTEL RD AUBURN, ME 04210

N/F HALL, AYESHA 2814 HOTEL RD AUBURN, ME 04210

HOTEL ROAD

APPROX. EXTENTS OF THE ID ZONE

APPROX. EXTENTS OF THE GB ZONE

APPROX. EXISTING BUILDING LOCATION

EXISTING BUILDING

UTILITY EASEMENT

50' REAR BUILDING SETBACK

35' SIDE BUILDING SETBACK

35' FRONT BUILDING SETBACK

SUBCATCH 1S, 1.1S, 1.2S, 2S, 2.2S, 2.3S, 3S, 4.1S, 4.2S, 4.3S, 4.4S, 4.5S, 5.1S, 5.2S, 6S, 7S, 8S, 9S, 9.1S, 50S, 52S, 54S, 55S

1P, 2P, 3P, 4P, 5P, 6P, 7P, 8P, 9P, 11P, 12P, 14P, 16P, 30P, 50P, 51P

1R, 2R, 3R, 50R, 51R, 52R, 53R, 54R, 55R

HSG: A, HSG: B

STANDARD SITE LEGEND

EXISTING		NEW
	BUILDING	
	DOOR	
BIT. PVMT	BIT. PAVEMENT	
CONC	CONCRETE	
	CURB	CURB FLUSH CURB
	CHAIN-LINK FENCE	
	HAND RAIL / OTHER FENCE	
	GUIDE RAIL / STOCKADE FENCE	
	STEEL GUARDRAIL	
	SIGN	
	PIPE BOLLARD	
	WETLAND LIMIT	
	STREAM CENTERLINE	
	TREES	
	TREE LINE	
-98-	CONTOUR	98
x 99.8	SPOT ELEVATION	688.2
	GRADE TO DRAIN	GTD
	SOIL BORING, TEST PIT	
	SILT FENCE	
	RIP-RAP	
	CATCH BASIN / DRAIN INLET	
	STEAM MANHOLE	
	STORM DRAIN MANHOLE	
	SEWER MANHOLE	
	TELEPHONE MANHOLE	
	ELECTRIC MANHOLE / PULLBOX	
	WATER VALVE	
	CURB STOP VALVE	
	HYDRANT	
	UTILITY POLE	
	GUY WIRE	
	LIGHT POLE BASE	
	TRANSFORMER PAD	
	GEOTHERMAL WELL	
SD	STORM DRAIN LINE	NSD
UD	UNDER DRAIN LINE	NUD
S	SANITARY SEWER LINE	NS
W	WATER LINE	NW
UG	GAS / PROPANE LINE	NUG
GT	GEOTHERMAL WATER LINE	NGT
UC	UNDERGROUND COMMUNICATION LINE	NUC
UE	UNDERGROUND ELECTRICAL LINE	NUE
UL	UNDERGROUND LIGHTING LINE	NUL
AE	AERIAL ELECTRICAL, TELEPHONE, AND CABLE LINE	NAE
	PROPERTY LINE	
	SETBACK LINE	
	EASEMENT LINE	

DRAINAGE LEGEND

- SUBCATCHMENT
- POND
- REACH
- W.A.P. WATERSHED ANALYSIS POINT
- Tc FLOWLINE
- BOUNDARY
- WETLAND

Harriman

80 EXCHANGE STREET, 3RD FLOOR
PORTLAND, ME 04101

46 HARRIMAN DRIVE
AUBURN, ME 04210

P&G OPTIMUS

SITE LOCATION: 2879 HOTEL ROAD
AUBURN, ME 04210

OWNER
TAMBRANDS INCORPORATED
PO BOX 599
CINCINNATI, OH 45201

Harriman Project No.	25229

Graphic Scale 0" 60" (For measure 7" when plotted at full size)

Plan North True North

STATE OF MAINE — DAVID P LATHAM — No. 17064 — LICENSED PROFESSIONAL ENGINEER

PLANNING BOARD SET

JULY 9, 2026

Revision Date	Revision Description

Drawn by: DPL

PRE-DEVELOPMENT DRAINAGE PLAN

C11-1

WATERSHED ANALYSIS POINT A

WATERSHED ANALYSIS POINT B

WATERSHED ANALYSIS POINT C

N/F CITY OF AUBURN RT STREET N, ME 04210

N/F AUBURN-LEWISTON MUNICIPAL AIRPORT

N/F TORRES, JOHN T 3011 HOTEL RD AUBURN, ME 04210

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N/F HALL, AYESHA 2814 HOTEL RD AUBURN, ME 04210

N/F VERVINS, BRIGITTE 2806 HOTEL RD AUBURN, ME 04210

HOTEL ROAD

KITTYHAWK AVE

APPROX. EXTENTS OF THE ID ZONE

APPROX. EXTENTS OF THE RR ZONE

APPROX. EXTENTS OF THE GB ZONE

APPROX. EXISTING BUILDING LOCATION

EXISTING BUILDING

NEW NORTH WAREHOUSE FFE: 252.6

NEW EMPLOYEE WELLNESS CENTER

NEW SOUTH WAREHOUSE

UTILITY EASEMENT

35' FRONT BUILDING SETBACK

50' REAR BUILDING SETBACK

35' SIDE BUILDING SETBACK

SUBCATCH 1S, 1.1S, 1.2S, 2S, 2.2S, 3S, 4.1S, 4.2S, 4.3S, 4.4S, 4.5S, 5.1S, 5.2S, 6S, 7S, 8S, 9S, 9.1S, 9.2S, 9.3S, 50S, 52S, 53S, 54S, 55S

1P, 2P, 4P, 6P, 7P, 8P, 9P, 10P, 11P, 12P, 14P, 30P, 31P, 50P, 51P, 52P, 53P, 54P, 55R, 56S, 1R, 2R, 50R, 51R, 52R, 53R, 54R

2.3S, 4.6S

AaB HSG: A

AaC HSG: A

NgB HSG: B

EXISTING / NEW

	EXISTING	NEW
BUILDING		
DOOR		
BIT. PVMNT		
CONCRETE		
CURB		
CHAIN-LINK FENCE		
HAND RAIL / OTHER FENCE		
GUIDE RAIL / STOCKADE FENCE		
STEEL GUARDRAIL		
SIGN		
PIPE BOLLARD		
WETLAND LIMIT		
STREAM CENTERLINE		
TREES		
TREE LINE		
CONTOUR	-98-	98
SPOT ELEVATION	x 99.8	688.2
GRADE TO DRAIN		GTD
SOIL BORING, TEST PIT		
SILT FENCE		
RIP-RAP		
CATCH BASIN / DRAIN INLET		
STEAM MANHOLE		
STORM DRAIN MANHOLE		
SEWER MANHOLE		
TELEPHONE MANHOLE		
ELECTRIC MANHOLE / PULLBOX		
WATER VALVE		
CURB STOP VALVE		
HYDRANT		
UTILITY POLE		
GUY WIRE		
LIGHT POLE BASE		
TRANSFORMER PAD		
GEOTHERMAL WELL		
STORM DRAIN LINE	SD	NSD
UNDER DRAIN LINE	UD	NUD
SANITARY SEWER LINE	S	NS
WATER LINE	W	NW
GAS / PROPANE LINE	UG	NUG
GEOTHERMAL WATER LINE	GT	NGT
UNDERGROUND COMMUNICATION LINE	UC	NUC
UNDERGROUND ELECTRICAL LINE	UE	NUE
UNDERGROUND LIGHTING LINE	UL	NUL
AERIAL ELECTRICAL, TELEPHONE, AND CABLE LINE	AE	NAE
PROPERTY LINE		
SETBACK LINE		
EASEMENT LINE		

STANDARD SITE LEGEND

DRAINAGE LEGEND

- SUBCATCHMENT
- POND
- REACH
- W.A.P. WATERSHED ANALYSIS POINT
- Tc FLOWLINE
- BOUNDARY
- WETLAND

Harriman
80 EXCHANGE STREET, 3RD FLOOR
PORTLAND, ME 04101

46 HARRIMAN DRIVE
AUBURN, ME 04210

P&G OPTIMUS

SITE LOCATION: 2879 HOTEL ROAD
AUBURN, ME 04210

OWNER
TAMBRANDS INCORPORATED
PO BOX 599
CINCINNATI, OH 45201

Harriman Project No.	25229

Graphic Scale 0" 60" (For measure 1" when plotted at full size)

Plan North

True North

STATE OF MAINE
DAVID P LATHAM
No. 17064
LICENSED PROFESSIONAL ENGINEER

PLANNING BOARD SET

JULY 9, 2026

Revision Date	Revision Description

Drawn by: DPL

POST-DEVELOPMENT DRAINAGE PLAN

C12-1

NOTES:

1. SOUTH POND RELOCATION PHASING AND NORTH POND EXPANSION PHASING DOCUMENTATION HAS BEEN PREPARED BY SHAW BROTHERS AND APPROVED BY THE CITY OF AUBURN ENGINEERING DEPARTMENT. PHASING DOCUMENTATION IS AVAILABLE UPON REQUEST.
2. HYDROLOGIC SOIL GROUPS HAVE BEEN PROVIDED BY THE UNITED STATES NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WSS). SITE BORINGS WERE PERFORMED AND A GEOTECHNICAL REPORT PREPARED BY S.W. COLE IS AVAILABLE UPON REQUEST.
3. THIS PROJECT WILL NOT LEAD TO AN INCREASE IN EMPLOYEES OR EMPLOYEES EXPECTED PER SHIFT
4. TOTAL FLOOR AREA OF THE BUILDING (PROPOSED): 729,843 SF

APPROVED BY THE CITY OF AUBURN PLANNING BOARD

_____

_____

_____

_____

_____

_____

SITE DATA

OWNER: TAMBRANDS INCORPORATED
PO BOX 599
CINCINNATI, OH 45201

LOT LOCATION: TAMBRANDS INCORPORATED
2879 HOTEL ROAD
AUBURN, MAINE 04210

USE: INDUSTRIAL
PARCEL ID: 120-001
ZONING: ID - INSTITUTIONAL
LOT SIZE: 2,729,430 SF/ 62.66 ACRES

CIVIL ENGINEER

HARRIMAN ASSOCIATES
80 EXCHANGE ST
PORTLAND, ME 04101

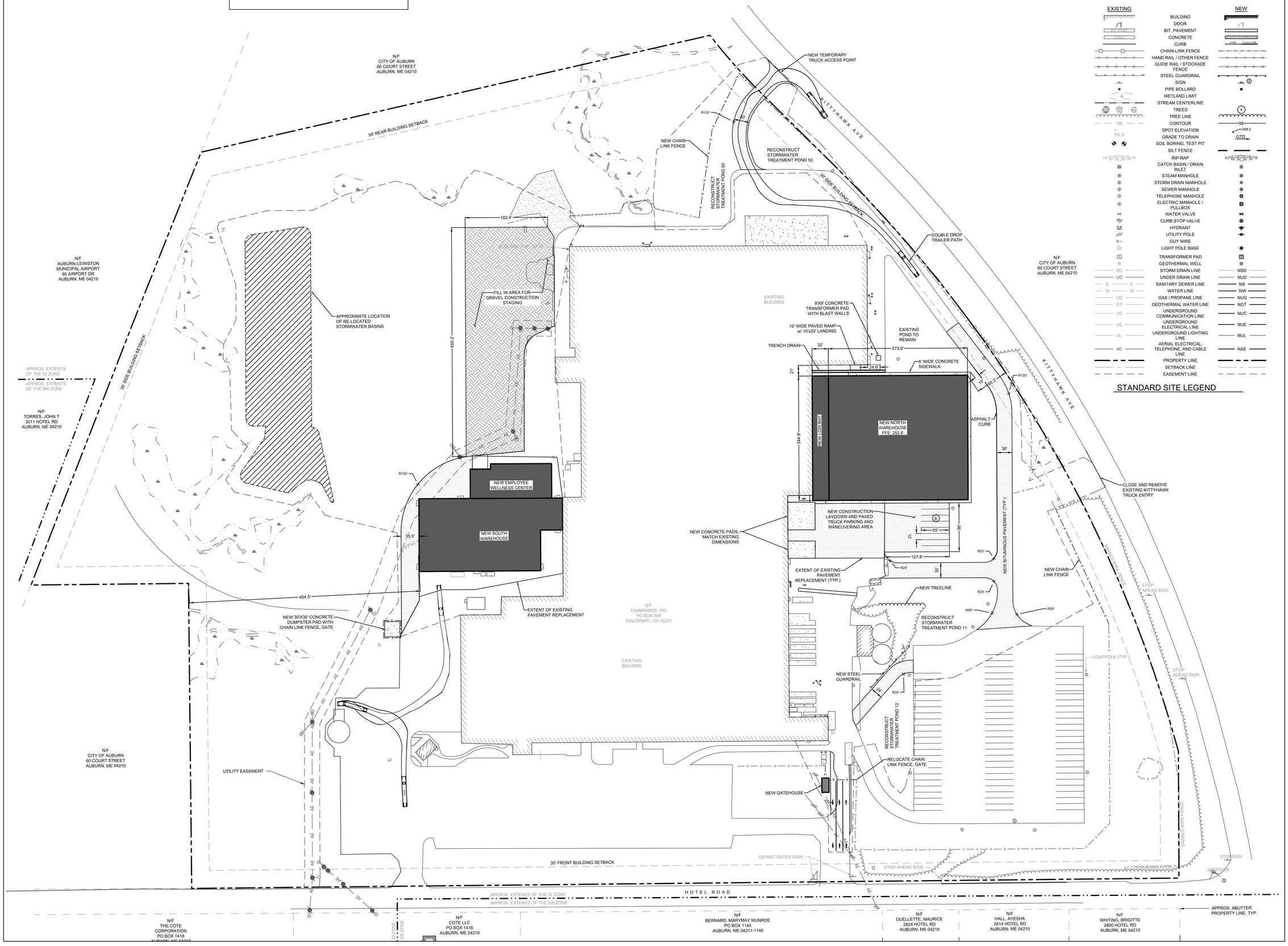
SURVEYOR

JONES ASSOCIATES
280 POLAND SPRING RD
AUBURN, ME 04210

PARKING INFORMATION

EXISTING SPOTS: 375
ADA-COMPLIANT SPACES: 8
PROPOSED SPOTS: 375

	EXISTING	PROPOSED
BUILDING COVERAGE	22.0%	23.8%
IMPERVIOUS COVERAGE	1,198,525 S.F.	1,336,476 S.F.
	43.9%	50.5%
ALLOWABLE SETBACKS	FRONT/SIDE/REAR	FRONT/SIDE/REAR
	35'/35'/50'	35'/35'/50'
ACTUAL SETBACKS		256.16'/65.3'/343.0'



EXISTING		NEW
	BUILDING	
	DOOR	
BIT. PVMT	BIT. PAVEMENT	
CONC.	CONCRETE	
	CURB	CURB CURB
	CHAIN-LINK FENCE	
	HAND RAIL / OTHER FENCE	
	GUIDE RAIL / STOCKADE FENCE	
	STEEL GUARDRAIL	
	SIGN	
	PIPE BOLLARD	
	WETLAND LIMIT	
	STREAM CENTERLINE	
	TREES	
	TREE LINE	
-98-	CONTOUR	98
x 99.8	SPOT ELEVATION	688.2
	GRADE TO DRAIN	GTD
	SOIL BORING, TEST PIT	
	SILT FENCE	
	RIP-RAP	
	CATCH BASIN / DRAIN INLET	
	STEAM MANHOLE	
SD	STORM DRAIN MANHOLE	
	SEWER MANHOLE	
	TELEPHONE MANHOLE	
	ELECTRIC MANHOLE / PULLBOX	
	WATER VALVE	
	CURB STOP VALVE	
	HYDRANT	
	UTILITY POLE	
	GUY WIRE	
	LIGHT POLE BASE	
T	TRANSFORMER PAD	
	GEOTHERMAL WELL	
SD	STORM DRAIN LINE	NSD
UD	UNDER DRAIN LINE	NUD
S	SANITARY SEWER LINE	NS
W	WATER LINE	NW
UG	GAS / PROPANE LINE	NUG
GT	GEOTHERMAL WATER LINE	NGT
UC	UNDERGROUND COMMUNICATION LINE	NUC
UE	UNDERGROUND ELECTRICAL LINE	NUE
UL	UNDERGROUND LIGHTING LINE	NUL
AE	AERIAL ELECTRICAL, TELEPHONE, AND CABLE LINE	NAE
	PROPERTY LINE	
	SETBACK LINE	
	EASEMENT LINE	

STANDARD SITE LEGEND

Harriman

80 EXCHANGE STREET, 3RD FLOOR
PORTLAND, ME 04101

46 HARRIMAN DRIVE
AUBURN, ME 04210

P&G OPTIMUS

SITE LOCATION: 2879 HOTEL ROAD
AUBURN, ME 04210

OWNER
TAMBRANDS INCORPORATED
PO BOX 599
CINCINNATI, OH 45201

Harriman Project No.	25229

Graphic Scale 0" 60" (One measures 1" when plotted at full size)

Plan North True North

STATE OF MAINE
DAVID P LATHAM
No. 17084
LICENSED
PROFESSIONAL ENGINEER

PLANNING BOARD SET

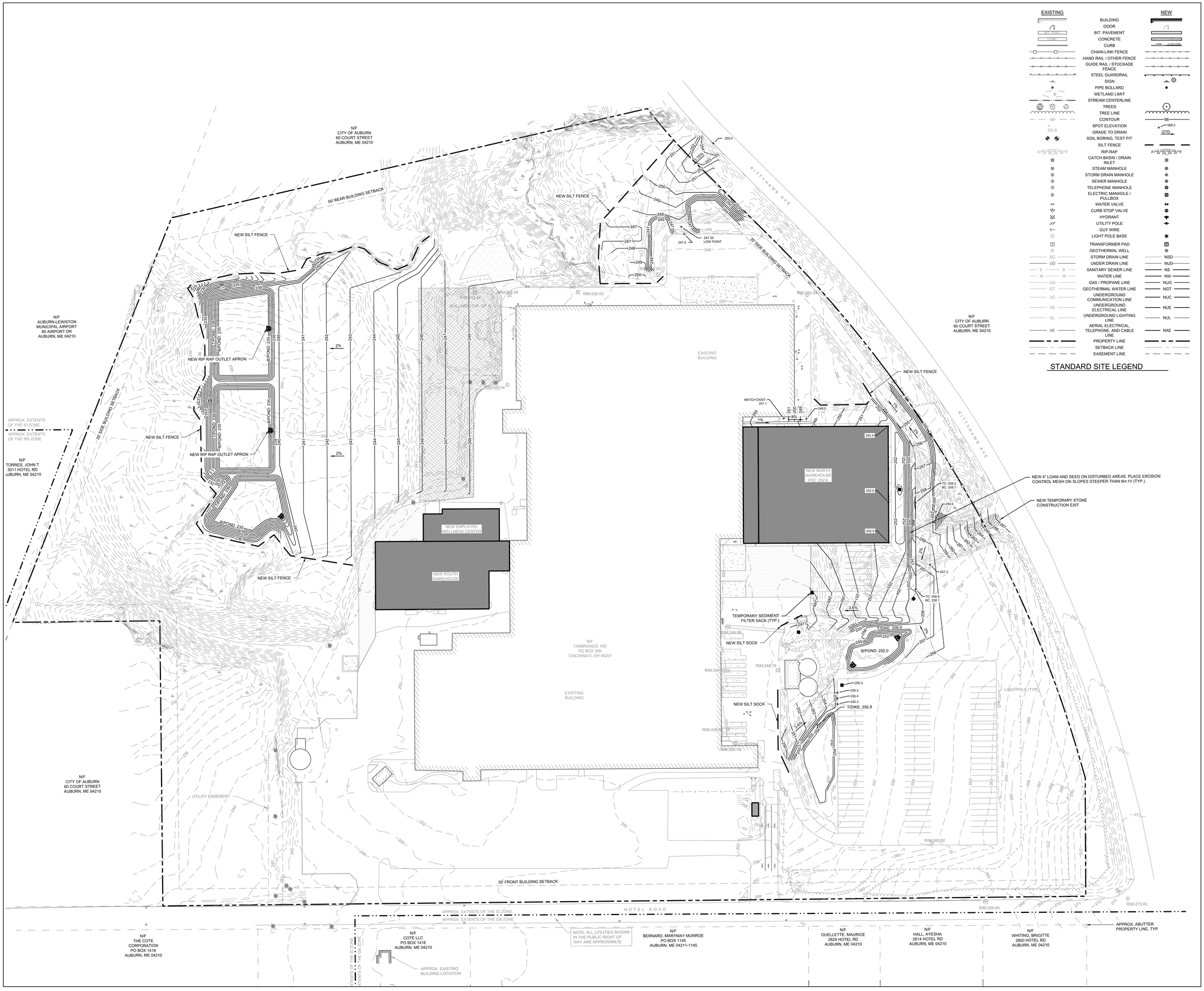
JULY 9, 2026

Revision Date	Revision Description

Drawn by: DPL

SITE LAYOUT PLAN

C20-1



EXISTING		NEW
	BUILDING	
	DOOR	
BIT. PAVEMENT	BIT. PAVEMENT	
CONCRETE	CONCRETE	
	CURB	CURB FLUSH CURB
	CHAIN-LINK FENCE	
	HAND RAIL / OTHER FENCE	
	GUIDE RAIL / STOCKADE FENCE	
	STEEL GUARDRAIL	
	SIGN	
	PIPE BOLLARD	
	WETLAND LIMIT	
	STREAM CENTERLINE	
	TREES	
	TREE LINE	
98	CONTOUR	98
x 99.8	SPOT ELEVATION	688.2
	GRADE TO DRAIN	GTD
	SOIL BORING, TEST PIT	
	SILT FENCE	
	RIP-RAP	
	CATCH BASIN / DRAIN INLET	
	STEAM MANHOLE	
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	SEWER MANHOLE	
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	WATER VALVE	
	CURB STOP VALVE	
	HYDRANT	
	UTILITY POLE	
	GUY WIRE	
	LIGHT POLE BASE	
	TRANSFORMER PAD	
	GEOTHERMAL WELL	
SD	STORM DRAIN LINE	NSD
UD	UNDER DRAIN LINE	NUD
S	SANITARY SEWER LINE	NS
W	WATER LINE	NW
UG	GAS / PROPANE LINE	NUG
GT	GEOTHERMAL WATER LINE	NGT
UC	UNDERGROUND COMMUNICATION LINE	NUC
UE	UNDERGROUND ELECTRICAL LINE	NUE
UL	UNDERGROUND LIGHTING LINE	NUL
AE	AERIAL ELECTRICAL, TELEPHONE, AND CABLE LINE	NAE
	PROPERTY LINE	
	SETBACK LINE	
	EASEMENT LINE	

STANDARD SITE LEGEND

Harriman
80 EXCHANGE STREET, 3RD FLOOR
PORTLAND, ME 04101

46 HARRIMAN DRIVE
AUBURN, ME 04210

P&G OPTIMUS

SITE LOCATION: 2879 HOTEL ROAD
AUBURN, ME 04210

OWNER
TAMBRANDS INCORPORATED
PO BOX 599
CINCINNATI, OH 45201

Harriman Project No.	25229

Graphic Scale: 0" 60" (one measures 1" when plotted at full size)
Plan North | True North

STATE OF MAINE
DAVID P LATHAM
No. 17084
LICENSED
PROFESSIONAL ENGINEER

PLANNING BOARD SET

JULY 9, 2026

Revision Date	Revision Description

Drawn by: DPL

SITE GRADING AND EROSION CONTROL PLAN

C30-1

N/F
CITY OF AUBURN
60 COURT STREET
AUBURN, ME 04210

50' REAR BUILDING SETBACK

30' SIDE BUILDING SETBACK

N/F
AUBURN-LEWISTON
MUNICIPAL AIRPORT
80 AIRPORT DR
AUBURN, ME 04210

APPROX. EXTENTS
OF THE ID ZONE

APPROX. EXTENTS
OF THE RR ZONE

N/F
TORRES, JOHN T
3011 HOTEL RD
AUBURN, ME 04210

NEW SEWER MANHOLE AND NEW
(RELOCATED) SEWER LINE CONNECTION
- VERIFY EXISTING INVERTS PRIOR TO
CONSTRUCTION TO DETERMINE NEW INVERTS

NEW EMPLOYEE
WELLNESS CENTER

NEW SOUTH
WAREHOUSE

NEW ELECTRICAL POLE,
OVERHEAD WIRES
CONNECT TO EXISTING AND
MATCH EXISTING SIZE

EXISTING ELECTRIC
POWER POLE

NEW WATER LINE,
CONNECT TO EXISTING
AND MATCH EXISTING SIZE

NEW UTILITY
TRANSFORMER,
SUBSTATION

UNDERGROUND
ELECTRICAL
SERVICE (SIZE TBD)

NEW UTILITY
TRANSFORMER,
SUBSTATION

EXISTING
BUILDING

N/F
TAMBRANDS, INC
PO BOX 599
CINCINNATI, OH 45201

EXISTING
BUILDING

UTILITY EASEMENT

N/F
CITY OF AUBURN
60 COURT STREET
AUBURN, ME 04210

35' FRONT BUILDING SETBACK

30' SIDE BUILDING SETBACK

N/F
CITY OF AUBURN
60 COURT STREET
AUBURN, ME 04210

NEW UTILITY
TRANSFORMER

NEW WATER LINE,
CONNECT TO EXISTING AND
MATCH EXISTING SIZE

UNDERGROUND
ELECTRICAL
SERVICE (SIZE TBD)

NEW ELECTRIC
POWER POLE

NEW NORTH
WAREHOUSE
FFE: 252.6

RELOCATE NEW GAS LINE TO
AVOID NORTH WAREHOUSE,
MATCH EXISTING SIZES

NEW WATER LINE,
CONNECT TO EXISTING
AND MATCH EXISTING SIZE

LIGHTPOLE (TYP.)

1½" WATER LINE FROM
GUARD HOUSE TO
EXISTING CHILLER ROOM

1½" GRINDER PUMP SANITARY
LINE FROM GUARD HOUSE TO
EXISTING CHILLER ROOM

H O T E L R O A D

APPROX. EXTENTS OF THE ID ZONE

APPROX. EXTENTS OF THE GB ZONE

NOTE: ALL UTILITIES SHOWN
IN THE PUBLIC RIGHT OF
WAY ARE APPROXIMATE

APPROX. ABUTTER
PROPERTY LINE, TYP.

N/F
THE COTE
CORPORATION
PO BOX 1418
AUBURN, ME 04210

N/F
COTE LLC
PO BOX 1418
AUBURN, ME 04210

N/F
BERNARD, MARYMAY MUNROE
PO BOX 1145
AUBURN, ME 04211-1145

N/F
OUELLETTE, MAURICE
2824 HOTEL RD
AUBURN, ME 04210

N/F
HALL, AYESHA
2814 HOTEL RD
AUBURN, ME 04210

N/F
WHITING, BRIGITTE
2800 HOTEL RD
AUBURN, ME 04210

EXISTING		NEW
	BUILDING	
	DOOR	
BIT. PVMT.	BIT. PAVEMENT	
CONC.	CONCRETE	
	CURB	CURB FLUSH CURB
	CHAIN-LINK FENCE	
	HAND RAIL / OTHER FENCE	
	GUIDE RAIL / STOCKADE FENCE	
	STEEL GUARDRAIL	
	SIGN	
	PIPE BOLLARD	
	WETLAND LIMIT	
	STREAM CENTERLINE	
	TREES	
	TREE LINE	
-98-	CONTOUR	98
x 99.8	SPOT ELEVATION	688.2
	GRADE TO DRAIN	GTD
	SOIL BORING, TEST PIT	
	SILT FENCE	
	RIP-RAP	
	CATCH BASIN / DRAIN INLET	
	STEAM MANHOLE	
	STORM DRAIN MANHOLE	
	SEWER MANHOLE	
	TELEPHONE MANHOLE	
	ELECTRIC MANHOLE / PULLBOX	
	WATER VALVE	
	CURB STOP VALVE	
	HYDRANT	
	UTILITY POLE	
	GUY WIRE	
	LIGHT POLE BASE	
T	TRANSFORMER PAD	
	GEOTHERMAL WELL	
SD	STORM DRAIN LINE	NSD
UD	UNDER DRAIN LINE	NUD
S	SANITARY SEWER LINE	NS
W	WATER LINE	NW
UG	GAS / PROPANE LINE	NUG
GT	GEOTHERMAL WATER LINE	NGT
UC	UNDERGROUND COMMUNICATION LINE	NUC
UE	UNDERGROUND ELECTRICAL LINE	NUE
UL	UNDERGROUND LIGHTING LINE	NUL
AE	AERIAL ELECTRICAL, TELEPHONE, AND CABLE LINE	NAE
	PROPERTY LINE	
	SETBACK LINE	
	EASEMENT LINE	

STANDARD SITE LEGEND

Harriman
80 EXCHANGE STREET, 3RD FLOOR
PORTLAND, ME 04101

46 HARRIMAN DRIVE
AUBURN, ME 04210

P&G OPTIMUS

SITE LOCATION: 2879 HOTEL ROAD
AUBURN, ME 04210

OWNER
TAMBRANDS INCORPORATED
PO BOX 599
CINCINNATI, OH 45201

Harriman Project No.	25229

Graphic Scale 0' 40' (line measures 1" when plotted at full size) | Plan North | True North

STATE OF MAINE · DAVID P. LATHAM · No. 17064 · LICENSED PROFESSIONAL ENGINEER

PLANNING BOARD SET

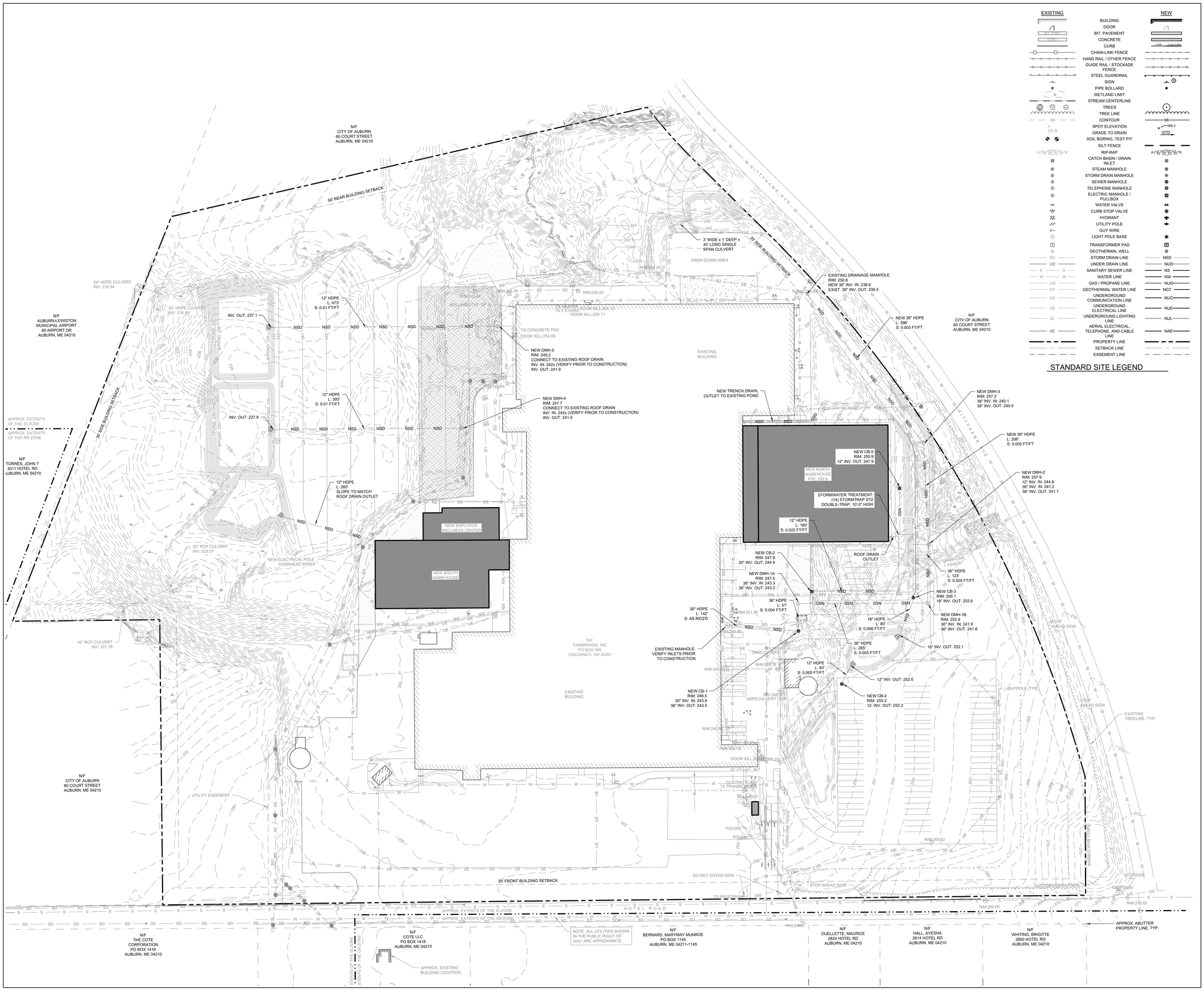
JULY 9, 2026

Revision Date	Revision Description

Drawn by: DPL

SITE UTILITY PLAN

C40-1



STANDARD SITE LEGEND

EXISTING		NEW
	BUILDING	
	DOOR	
BIT. PAVEMENT	BIT. PAVEMENT	
CONCRETE	CONCRETE	
	CURB	CURB / FLUSH CURB
	CHAIN-LINK FENCE	
	HAND RAIL / OTHER FENCE	
	GUIDE RAIL / STOCKADE FENCE	
	STEEL GUARDRAIL	
	SIGN	
	PIPE BOLLARD	
	WETLAND LIMIT	
	STREAM CENTERLINE	
	TREES	
	TREE LINE	
98	CONTOUR	98
x 99.8	SPOT ELEVATION	688.2
	GRADE TO DRAIN	GTD
	SOIL BORING, TEST PIT	
	SILT FENCE	
	RIP-RAP	
	CATCH BASIN / DRAIN INLET	
	STEAM MANHOLE	
	STORM DRAIN MANHOLE	
	SEWER MANHOLE	
	TELEPHONE MANHOLE	
	ELECTRIC MANHOLE / PULLBOX	
	WATER VALVE	
	CURB STOP VALVE	
	HYDRANT	
	UTILITY POLE	
	GUY WIRE	
	LIGHT POLE BASE	
	TRANSFORMER PAD	
	GEOTHERMAL WELL	
SD	STORM DRAIN LINE	NSD
UD	UNDER DRAIN LINE	NUD
S	SANITARY SEWER LINE	NS
W	WATER LINE	NW
UG	GAS / PROPANE LINE	NUG
GT	GEOTHERMAL WATER LINE	NGT
UC	UNDERGROUND COMMUNICATION LINE	NUC
UE	UNDERGROUND ELECTRICAL LINE	NUE
UL	UNDERGROUND LIGHTING LINE	NUL
AE	AERIAL ELECTRICAL, TELEPHONE, AND CABLE LINE	NAE
	PROPERTY LINE	
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	EASEMENT LINE	

Harriman

80 EXCHANGE STREET, 3RD FLOOR
PORTLAND, ME 04101

46 HARRIMAN DRIVE
AUBURN, ME 04210

P&G OPTIMUS

SITE LOCATION: 2879 HOTEL ROAD
AUBURN, ME 04210

OWNER
TAMBRANDS INCORPORATED
PO BOX 599
CINCINNATI, OH 45201

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Graphic Scale 0" 60" (One measures 1" when plotted at full size)

Plan North | True North

STATE OF MAINE
DAVID P LATHAM
No. 17064
LICENSED
PROFESSIONAL ENGINEER

PLANNING BOARD SET

JULY 9, 2026

Revision Date	Revision Description

Drawn by: DPL

STORMWATER
UTILITY PLAN

C40-2

CONSTRUCTION NOTES:

1) BASIN EXCAVATION: THE AREA OF THE BASIN MAY BE EXCAVATED IN PREPARATION OF THE INSTALLATION OF THE UNDERDRAIN AND CAN BE USED FOR A SEDIMENT TRAP FROM THE SITE DURING CONSTRUCTION. AFTER EXCAVATION OF THE BASIN, THE OUTLET STRUCTURE AND PIPING SYSTEM MUST BE INSTALLED AT THE APPROPRIATE ELEVATION AND PROTECTED WITH A SEDIMENT BARRIER. IF THE BASIN IS TO BE USED AS A SEDIMENT TRAP, THE SIDES OF THE EMBANKMENTS MUST BE MULCHED AND MAINTAINED TO PREVENT EROSION.

2) 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.

3) OUTLET DISCHARGE: OUTFLOW OF THE FILTER BASIN UNDERDRAIN CAN BE CONTROLLED BY A CONSTRICTIVE ORIFICE OR A VALVE (2" PLASTIC BALL VALVE, TYPE 346, WITH A BALL VALVE HANDLE EXTENSION, TYPE 615, WITH A THREE-PIECE VALVE BOX INSTALLED OVER THE VALVE). UPON COMPLETION OF THE INSTALLATION OF THE SOIL FILTER MEDIA, THE CONTRACTOR SHALL FLOOD THE BASIN TO THE DESIGN ELEVATION WITH CLEAN WATER AND ADJUST THE OUTFLOW TO OBTAIN A 24 HOUR TO 32 HOUR RELEASE TIME.

4) CONSTRUCTION SEQUENCE: EROSION AND SEDIMENTATION FROM UNSTABLE SUBCATCHMENTS IS THE MOST COMMON REASON FOR FILTER FAILURE. NOT HEEDING THE CONSTRUCTION SEQUENCING CRITERIA IS LIKELY TO RESULT IN THE NEED TO REPLACE THE SOIL FILTER. THE SOIL FILTER MEDIA MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION. OTHERWISE, THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA MUST BE DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED UNLESS THE DEPARTMENT HAS DETERMINED THAT SUFFICIENT MEASURES ARE BEING TAKEN TO PREVENT EROSION OF MATERIAL FROM THE UNSTABLE CATCHMENT AREA AND DEPOSITION ON THE FILTER.

5) 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. THE RESULTING SOIL FILTER MEDIA MIXTURE MUST HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.

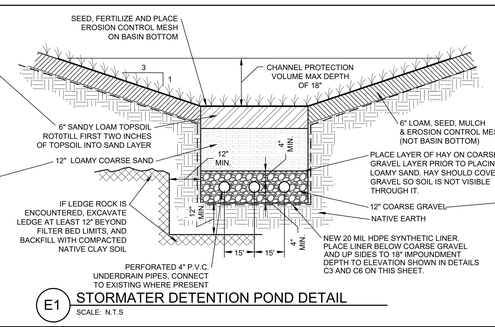
PERFORM A PERMEABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90- 92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698."

THE SANDY LOAM TOPSOIL SHALL BE TESTED AT A SOIL TESTING LAB AND:
- MATCH THE USDA SANDY LOAM TOPSOIL CLASSIFICATION
- HAVE 5-8% HUMIFIED ORGANIC MATTER
- HAVE NO LESS THAN 8% PASSING THE #200 SIEVE
- HAVE A CLAY CONTENT OF LESS THAN 2%.
- BE FREE OF STONES, STUMPS, ROOTS OR OTHER OBJECTS GREATER THAN 2".

IF THE TOPSOIL DOES NOT CONTAIN SUFFICIENT NUTRIENT CONTENT TO SUPPORT GRASS GROWTH, SUPPLEMENT WITH SUPERHUMUS ORGANIC MATTER AND RETEST ORGANIC MATTER AND CLAY CONTENT.

SOIL FOR 12" LOAMY COARSE SAND LAYER (MEDOT #703.01)

SIEVE SIZE	% BY WEIGHT
¾"	100
#10	85
#20	70-100
#60	15-40
#200	8-15
#200 CLAY	< 2%



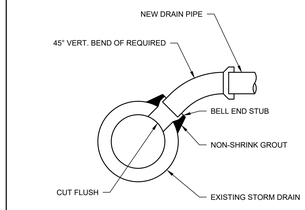
E1 STORMATER DETENTION POND DETAIL
SCALE: N.T.S

FILTER BASIN SEED MIX	
Name	LBS/ACRE
Creeping Red Fescue	20
Tall Fescue	20
Birdsfoot trefoil	8
Total	48

COARSE GRAVEL
MEDOT SPECIFICATIONS FOR UNDERDRAINS (MEDOT #703.22)

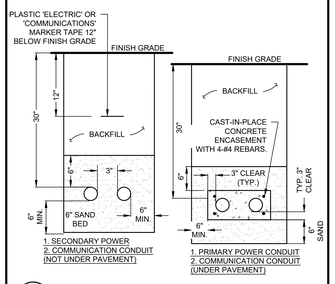
SIEVE SIZE	% PASSING BY WEIGHT
UNDERDRAIN TYPE B	
1"	90-100
¾"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

CONSTRUCTION OVERSIGHT:
FIELD OBSERVATION OF THE FILTER BASIN SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER WITH REQUIRED REPORTING TO THE DEP AT A MINIMUM, CONTRACTOR SHALL NOTIFY ARCHITECT ONE WEEK PRIOR TO THE FOLLOWING:
- AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED;
- AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA;
- AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED;
- AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS; AND
- ALL MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN WILL BE APPROVED BY THE DESIGN ENGINEER AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS SHOWN ON THIS SHEET.

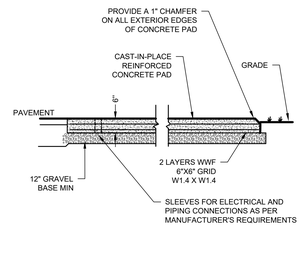


D1 PIPE SADDLE
SCALE: N.T.S

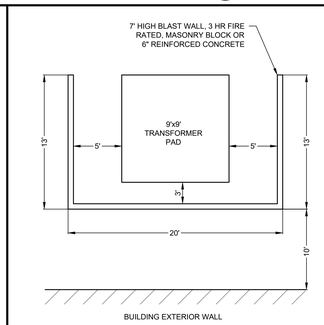
NOTES:
1. CONDUITS AND WIRING SUPPLIED AND INSTALLED BY DIV. 26.
2. DESIGNATION, NUMBER AND SIZE OF CONDUITS SHOWN ON ELECTRICAL PLANS.
3. COMPACT SAND BEDDING AND EXCAVATED SOIL BACKFILL TO 95% MAXIMUM DRY DENSITY.
4. PRIMARY CONDUIT SHALL BE CONCRETE ENCASED IN ALL LOCATIONS.



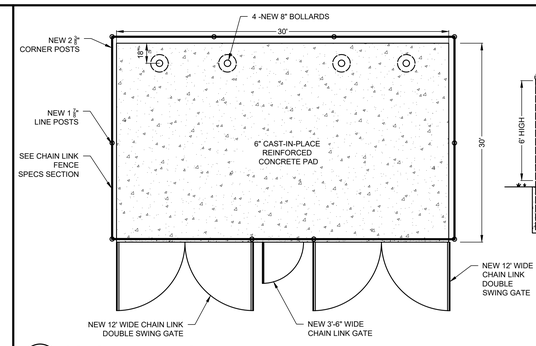
D2 (TYP) DUCT BANK SECTION
SCALE: N.T.S

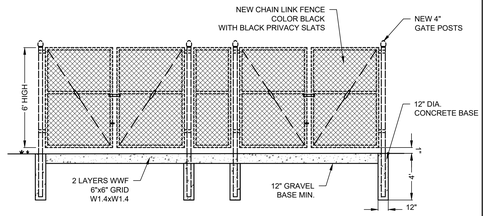


D3 GENERATOR PAD
SCALE: N.T.S

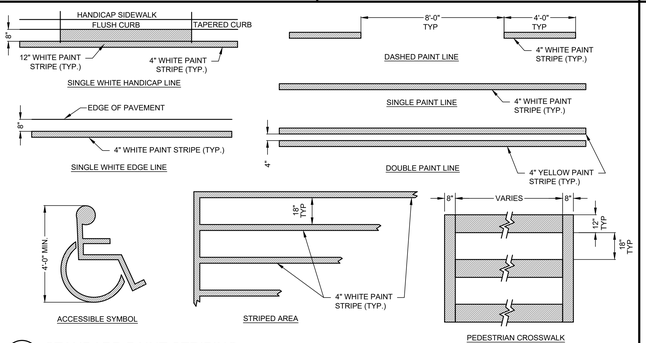


D4 TRANSFORMER BLAST WALL LAYOUT
SCALE: N.T.S

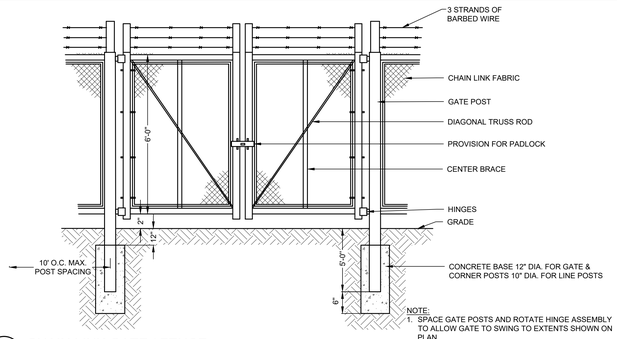




D5 CONCRETE DUMPSTER PAD DETAIL
SCALE: N.T.S

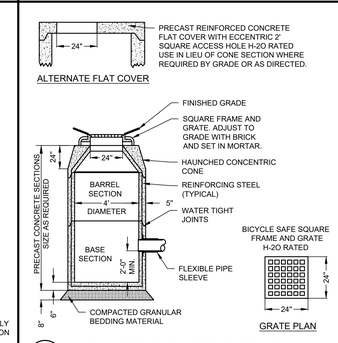


C1 STANDARD PAINT STRIPING
SCALE: N.T.S



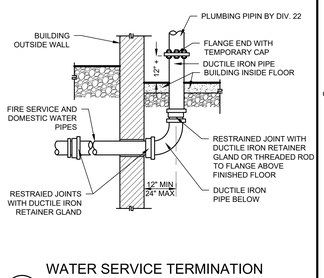
NOTE:
1. SPACE GATE POSTS AND ROTATE HINGE ASSEMBLY TO ALLOW GATE TO SWING TO EXTENTS SHOWN ON PLAN.
2. PROVIDE 4"Ø BY 4' TALL GALV. STEEL TIE-BACK POST W/ AUTOMATIC CATCH FOR EACH LEAF. PLACE IN 12" CONC. BASE AS SHOWN FOR FENCE POSTS.

C2 CHAIN LINK GATE / FENCE
SCALE: N.T.S



C3 PRECAST CONCRETE CATCH BASIN
SCALE: N.T.S

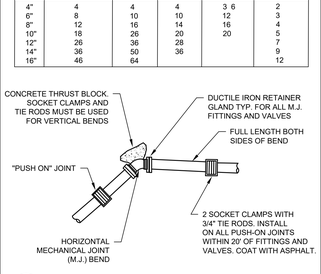
NOTE:
OPTION - PROVIDE STEEL THREADED ROD RESTRAINTS OUTSIDE WALL AND ON THE RISER THROUGH THE FLOOR.



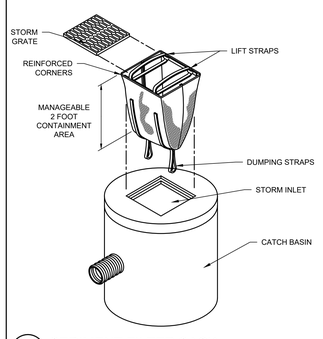
C4 WATER SERVICE TERMINATION AT BUILDING
SCALE: N.T.S

GENERAL DATA FOR BLOCKING STANDARD FITTINGS
MINIMUM SURFACE AREA OF CONCRETE BLOCK AGAINST UNDISTURBED EARTH (SQ.FT.)

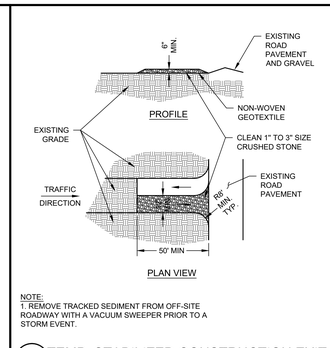
PIPE SIZE	HYDRANT, PLUG, CAP, TEE	90° BEND	45° BEND	22.5° BEND	11.25° BEND
4"	4	4	4	3	2
6"	8	10	10	12	3
8"	12	16	14	16	4
10"	18	26	20	20	5
12"	26	36	28		7
14"	36	50	36		9
16"	46	64			12



C5 RESTRAINT AT WATER LINE FITTINGS
SCALE: N.T.S

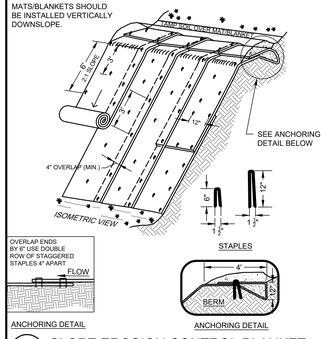


B1 SEDIMENT FILTER SACK
SCALE: N.T.S



NOTE:
1. REMOVE TRACKED SEDIMENT FROM OFF-SITE ROADWAY WITH A VACUUM SWEEPER PRIOR TO A STORM EVENT.

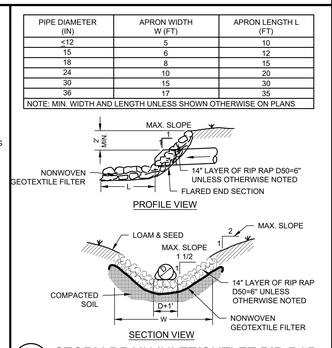
B2 TEMP. STABILIZED CONSTRUCTION EXIT
SCALE: N.T.S



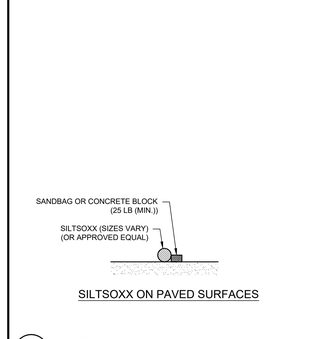
B3 SLOPE EROSION CONTROL BLANKET
SCALE: N.T.S

PIPE DIAMETER (IN)	APRON WIDTH W (FT)	APRON LENGTH L (FT)
<12	5	10
15	6	12
18	8	15
24	10	20
30	15	30
36	17	35

NOTE: MIN. WIDTH AND LENGTH UNLESS SHOWN OTHERWISE ON PLANS

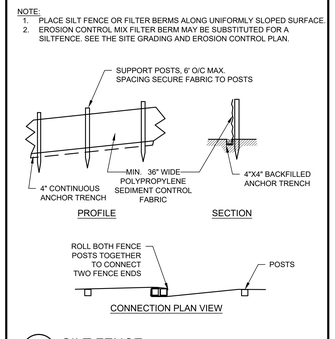


B4 STORM DRAIN INLET/OUTLET RIP-RAP
SCALE: N.T.S

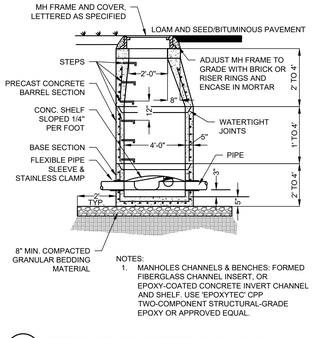


B5 SILTSOXX
SCALE: N.T.S

NOTE:
1. PLACE SILT FENCE OR FILTER BERMS ALONG UNIFORMLY SLOPED SURFACE.
2. EROSION CONTROL MIX FILTER BERM MAY BE SUBSTITUTED FOR A SILTFENCE. SEE THE SITE GRADING AND EROSION CONTROL PLAN.

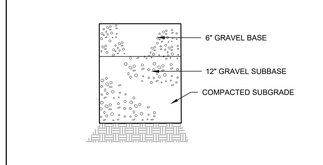


B6 SILT FENCE
SCALE: N.T.S

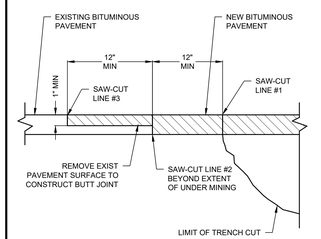


NOTES:
1. MANHOLES CHANNELS & BENCHES: FORMED FIBERGLASS CHANNEL INSERT, OR EPOXY-COATED CONCRETE INVERT CHANNEL AND SHELF. USE 'EPOXYTEC' CPP TWO-COMPONENT STRUCTURAL-GRADE EPOXY OR APPROVED EQUAL.

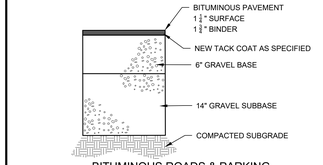
B7 PRECAST CONCRETE MANHOLE
SCALE: N.T.S



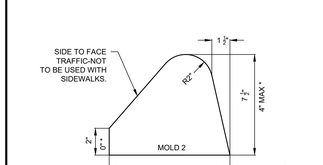
A1 GRAVEL DRIVE DETAILS
SCALE: N.T.S



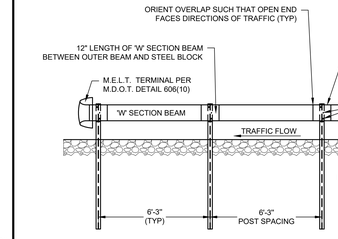
A2 PAVEMENT SAW-CUT JOINT
SCALE: N.T.S



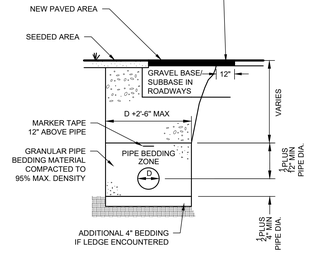
A3 BITUMINOUS PAVEMENT DETAILS
SCALE: N.T.S



A4 ASPHALT CURB (MDOT TYPE 3)
SCALE: N.T.S



A5 STEEL GUARD RAIL
SCALE: N.T.S



A6 PIPE TRENCH DETAIL
SCALE: N.T.S

Harriman
80 EXCHANGE STREET, 3RD FLOOR
PORTLAND, ME 04101

46 HARRIMAN DRIVE
AUBURN, ME 04210

P&G OPTIMUS

SITE LOCATION: 2879 HOTEL ROAD
AUBURN, ME 04210

OWNER
TAMBRANDS INCORPORATED
PO BOX 599
CINCINNATI, OH 45201

Harriman Project No.	25229

Graphic Scale 0" 60" (one measures 1" when plotted at full size) | Plan North | True North

STATE OF MAINE
DAVID P. LATHAM
No. 17064
LICENSED
PROFESSIONAL ENGINEER

PLANNING BOARD SET

JULY 9, 2026

Revision Date	Revision Description

Drawn by: DPL

SITE DETAILS

C50-1

City of Auburn, Maine
Office of Planning & Permitting
www.auburnmaine.gov | 60 Court Street
Auburn, Maine 04210 207.333.6601

To: Auburn Planning Board
From: DeCarlo Brown, Planning Director
Re: Sec 60-145 Use Regulations - Sawmills

Date: July 23, 2026

OVERVIEW

The Agriculture and Resource Protection zoning district allows commercial uses to operate that are compatible with traditional agriculture and use of nature resources. This draft ordinance proposes edits that increase the number of employees allowed to operate sawmills in the Agriculture and Resource Protection District in order to strengthen the economic viability of a natural resource processing use.

The current ordinance restricts the number of employees operating a sawmill to 4 people. This includes operators, administrators, mechanics, and drivers. These restrictions would prohibit the establishment of any modern commercial sawmill in the district. The draft ordinance proposes to remove the employee restriction for the operation of sawmills. No additional changes are proposed.

RELEVANT SECTIONS

Chapter 60 Section 145 (b) lists Sawmills as a Special Exception Use which requires a review and approval of any land seeking to establish a sawmill. It lists a number of conditions for the use including the following:

b.Wood processing operation shall be located no closer than 75 feet from any river or perennial stream, 250 feet from any zoning district boundary or residential dwelling and shall be limited to four persons employed.

While the provision includes location and proximity standards of the use, it also includes a user-based restriction. The employee provision is unrelated to the former location and proximity restrictions of land use. The proposed amendment seeks to eliminate the restriction on the number of people employed in sawmills as it has no direct relationship to the use of the land.

There is an expectation that this use is appropriate for the Zone. The current locational restrictions are sufficient to not affect the public health, safety, convenience, or welfare of the City of Auburn

STAFF RECOMMENDATIONS
Staff recommend the Planning Board to review the proposed language and if in agreement with its contents, schedule a public hearing on the amendment to Sawmill use within the Agriculture and Resource Protection District.

Suggested Motion:

I motion to schedule a public hearing for the amendment of Chapter 60 Section 145, Agriculture and Resource Protection Use Regulations on August 25, 2026.

Sec. 60-145. Use regulations.

(a) *Permitted uses.* The following uses are permitted:

(1) One-family detached dwellings, including manufactured housing subject to all the design standards, except the siting requirements of section 60-1010, as set forth in division 6 of article XII of this chapter, on parcels containing no less than ten acres, provided that the dwelling is accessory to farming or agricultural operations, recreational uses or natural resource uses and subject to all of the following restrictions:

a. The footprint of residential development associated with the one-family detached dwelling shall comprise no more than 20 percent of the land coverage or two acres, whichever is less, of the lot upon which the dwelling is to be constructed. For purposes of this subsection, "residential development" shall include the following:

1. Residential structures;

2. Impervious and non-vegetated areas accessory to the residential use, such as driveways, parking areas, walkways and patios (areas created using waffle pavers and other semi-impervious surfaces shall be considered non-vegetated surfaces, even if the surface is covered by grass or other similar vegetation;

3. Areas on, over or beneath the surface of the earth devoted to the transmission of water, electricity, telephone or gas to the residential use of pipes, poles, wires, lines, conduits, cables or other devices;

4. Areas on, over or beneath the surface of the earth devoted to the disposal of waste or wastewater generated by the residential use, including, but not limited to, septic tanks, disposal fields, holding tanks, pretreatment filters, and piping;

5. Structures accessory to the residential use; and

6. Uses of the land accessory to the residential use, but not accessory to other allowed uses within the zone.

b. New one-family detached dwellings shall:

1. Not be built within the Lake Auburn Watershed Overlay District;

2. Provide a farm, [agricultural], recreational or natural resource use business or land use plan that has been approved by the planning and permitted director or their designee. The planning and permitting director or their designee must make the following written findings prior to approval of the business plan or land use plan and prior to the issuance of a building permit:

(i) The business or proposed land use is feasible, and, if implemented will constitute a bona fide farming, agricultural, recreational or natural resource use allowed under either subsection (a), permitted uses, or subsection (b), special exception uses, of this section.

(ii) The parcel can reasonably accommodate an enterprise of the size and scope proposed. Parcel size or other lot limitations often restrict potential uses, and the plan must provide for utilization of the parcel's available potential for a farm, agricultural, recreational or natural resource use.

(iii) The parcel lawfully existed as of October 1, 2017, or meets the dimensional standards of section 60-146, and otherwise meets the requirements of this chapter.

3. Avoid being sited on soils of state significance or prime farmland as defined by the United States Department of Agriculture (USDA) unless it can be demonstrated to the code enforcement officer that non-prime farmland is not available within the building envelope, as determined pursuant to section 60-146 of this chapter, on the subject property;

4. Avoid being sited on land determined to be essential habitat, as defined by the state department of inland fisheries and wildlife unless it can be demonstrated to the code enforcement officer that non-essential habitat is not available within the building envelope, as determined pursuant to section 60-146 of this chapter, on the subject property;

5. Avoid being sited on wetlands;

6. Avoid being sited on slopes greater than 25 percent; and

7. Not be sited on any portion of a parcel that is classified as being:

(i) Currently enrolled in the State of Maine Farmland Tax Program;

(ii) Currently enrolled in the State of Maine Tree Growth Tax Law Program; or

(iii) Currently enrolled in the State of Maine Open Space Tax Program.

c. No certificate of occupancy shall be issued for any such residence until satisfactory evidence that the requirement of subsections (a)(1)a. and (a)(1)b.2. above has been met is presented to the municipal official charged with authority to issue the certificate of occupancy.

d. In no case shall any residence constructed under the provisions of this section after the effective date of the amended ordinance from which this section is derived continue to be occupied as a residence if the lot upon which the residence is constructed fails to meet the requirements set forth in subsections (a)(1)a. and (a)(1)b.2. above.

(2) Buildings, equipment and machinery accessory to the principal use including, but not limited to: barns silos, storage buildings and farm automobile garages.

(3) Forest products raised for harvest, including, but not limited to, maple sugaring, firewood processing, Christmas tree cultivation, or mushroom cultivation.

(4) Field crop farms.

(5) Row crop farms.

(6) Orchard farms.

(7) Truck gardens.

(8) Plant and tree nurseries.

(9) Greenhouses.

(10) Handling, storage or processing and sale of forestry products or agricultural products.

(11) Livestock operations including poultry farms, cattle farms, dairy farms, stud farms, hog farms, sheep ranches, other animal farms, including farms for raising fur-bearing animals.

(12) Wayside stands.

(13) Two-family dwellings which are created from the conversion of a one-family dwelling structure which was constructed prior to 1900.

(14) Adult use and medical marijuana cultivation, but not retail sales of any kind.

(15) Marijuana manufacturing accessory to a licensed cultivation site.

(16) Ground-mounted and dual-use solar energy generating systems less than one acre in total land area as defined in section 60-1501.

(17) Natural resource uses.

(18) Small-scale recreational uses of land designed or intended for public use.

(b) *Special exception uses.* The following uses are permitted by special exception after approval by the planning board in accordance with the provisions of division 3 of article XVII of this chapter:

(1) Sawmills and their customary accessory land uses and buildings incidental to the harvesting of forest products, subject to the following conditions:

a. Sawmill and accessory activity shall not be detrimental to the neighborhood or the city by reason of special danger of fire or explosion, pollution of rivers or perennial streams or accumulation of refuse.

b. Wood processing operation shall be located no closer than 75 feet from any river or perennial stream~~,~~ or 250 feet from any zoning district boundary or residential dwelling ~~and shall be limited to four persons employed~~.

c. Where natural vegetation is removed, it shall be replaced within six months with other vegetation which will be equally effective in retarding erosion and will preserve natural beauty.

(2) Veterinary hospitals, where operated by licensed veterinarians, including offices and facilities for temporarily boarding animals.

(3) Handling, storage and sale of agricultural services, equipment, and supplies accessory to the farming use.

(4) Bona fide residences required for farm labor. Any residence constructed for farm labor shall not be converted to nonfarm residential use except by permission of the planning board based upon a finding that the abandonment or reduction in such use resulted from causes beyond the control of the applicant and not from any intention to circumvent the requirements of this division. The findings and the conditions upon which such altered use may be continued shall be made a part of the permanent records.

(5) Non-small scale recreational uses of land intended or designed for public use subject to the following conditions:

a. No such recreational use shall be expanded or extended so as to occupy additional land area greater than 20 percent of the original area or one acre, whichever is less; or by the construction of a structure or an addition to an existing structure by more than 900 square feet of additional floor space unless the owner or occupant first obtains approval of the planning board in the manner and upon the same terms as approvals of initial recreational uses.

b. Any proposed new or expanded recreational use shall be completed on or before the estimated completion date except that the planning board may grant reasonable extension of time where good cause for the failure to complete is shown.

(6) Any legally nonconforming summer camp or cottage may be rebuilt if destroyed by fire or other casualty, subject to the following conditions:

a. Such reconstruction shall comply with all ordinances applicable to new construction. Such reconstruction need not, however, comply with zoning provisions which would otherwise be applicable except for the provisions of article XII of this chapter.

b. In cases where no minimum setback is established by division 5 of article XII of this chapter an open yard space of at least ten feet between the building as reconstructed and each of the property lines shall be maintained.

(7) Rifle, pistol, skeet or trap shooting ranges, public or private.

(8) Cemeteries, subject to the following conditions:

a. At least 20 acres in area.

b. Not located in any environmental overlay district or over any known aquifer.

c. At least ten acres if designated a conservation cemetery.

(9) Municipal sanitary landfills, subject to the following conditions:

a. Not located in any environmental overlay district or over any known aquifer.

b. Provisions shall be made to avoid surface water and groundwater pollution.

c. Provisions shall be made for frequent covering of deposited wastes with earth to counteract vermin, insects, odors, and windblown debris.

(10) Radio, radar, television and radio telephone transmitting or broadcasting towers, but not studios or offices for such transmitting or broadcasting, provided that:

a. Every such tower shall be installed in a location and manner that ensures its safe operation and the safety of the surrounding residents, building occupants, land uses and properties.

b. In no case shall such tower be located less than one and one-half times its height from the nearest property line.

(11) Wholesale nurseries, subject to the following conditions:

a. At least one-half of the area of the lot (up to a maximum of three acres) is in active nursery production in a husband type manner.

b. The plants and trees propagated, grown and nurtured in the nursery are used as the primary products by the owner/operator of the landscape service.

(12) Processing and storage of compost and bulking agents from the municipal wastewater sewerage sludge facilities provided that:

a. All compost and amendments are to be stored undercover or screened from the public way and abutting property as determined by the planning board.

b. All federal, state and local ordinances and laws relating to the processing and storage of waste are complied with.

c. An end-use plan must be filed as part of the planning board process.

(13) Licensed hospice care facility provided that it shall be licensed by the state as a Medicare certificate hospice.

(14) Slaughterhouse, stockyard, abattoir, dressing plant in compliance with state and federal regulations subject to the following conditions:

a. The facility shall not be located within the Lake Auburn Watershed Overlay District, the watershed of Taylor Pond, the shoreland overlay district or the floodplain overlay district.

b. The proposed use shall not occupy more than 10,000 square feet of building area.

c. The number of employees shall be limited to not more than 15.

d. Accessory retail sales shall be limited to 10 percent of building area or 1,000 square feet, whichever is smaller.

e. Hours of operation shall limited to between 6:00 a.m. and 8:00 p.m.

(15) Compost operations, excluding municipal and industrial waste, to process products such as manure, bedding, animal mortalities, waste feed, produce, forestry by-products, leaves and yard trimmings in compliance with state and federal regulations, subject to the following conditions:

a. All compost sites shall be evaluated for suitability by a properly qualified professional, including benchmark water testing prior to approval.

b. Provisions shall be made to avoid surface and groundwater pollution.

c. Provisions shall be made to counteract vermin, insects and odors.

d. Must comply with all applicable state department of environmental protection and state department of agriculture rules and regulations and best management practices.

e. Shall not be located within the Lake Auburn Watershed Overlay District.

(16) Adaptive reuse of structures of community significance.

(17) Assembly, sale, research and development, distribution, instruction, training, demonstration or maintenance of recreational or agricultural equipment, including buildings as accessory structures used in the assembly, sale, distribution, instruction, training, demonstration, or maintenance of recreational or agricultural equipment, subject to the following conditions:

a. The proposed use is accessory, complementary, or otherwise related to a recreational or agricultural use;

b. The recreational or agricultural use has been in existence for at least five years prior to the date of the application for the special exception; and

c. The recreational or agricultural use is located on the parcel for which the special exception is requested or is adjacent to the property for which the special exception is requested.

(18) Reserved.

(19) Ground-mounted and dual-use solar energy generating systems greater than one acre in total land area as defined in section 60-1501, subject to the following conditions:

a. Must comply with the provisions of article XVIII under this chapter;

b. Setbacks, including appurtenant structures and parking areas, shall be subject to the following yard requirements:

1. *Rear.* There shall be behind every structure associated with a solar energy generating system a rear yard having a minimum depth of 25 feet.

2. *Side.* There shall be a minimum distance of 15 feet between any structure associated with a solar energy generating system and the side property line.

3. *Front.* There shall be in front of every structure associated with a solar energy generating system a front yard having a minimum depth of 25 feet or 25 percent of the average depth of the lot whichever is less.

c. Lot coverage shall not exceed 30 percent, as defined under subsection 60-1506(a)(2).

d. *Total land area.* Once one percent of the agriculture and resource protection district has been developed into solar energy generating systems, the planning board must find that any additional proposed solar energy generating systems will not materially alter the stability of the overall land use pattern of the agriculture and resource protection district. In making this determination, the planning board shall consider the overall effect of existing and potential solar energy generating systems and if it will be more difficult for existing farms in the area to continue operation due to diminished opportunities to expand, purchase or lease farmland, acquire water rights, or diminish the number of tracts or acreage in farm use in a manner that will destabilize the overall character of the surrounding area. The planning board shall request an assessment of the proposed project based on subsection 60-145(b)(19)d. by the agriculture committee and, if located in the resource protection district, the conservation commission and carefully consider their recommendations.

e. All applications shall consider the location of existing grid infrastructure and plan to limit the need to extend the amenities for optimal efficiency.

f. If a solar energy generating system is proposed on forestland in the agriculture and resource protection district, on a parcel adjacent to prime farmland or land currently used for farming, clearing of forestland or the use of prime farmland may be permitted under the following conditions:

1. The presence of the solar energy generating system will not result in unnecessary soil erosion or loss that could limit agricultural productivity on the subject property or abutting properties.

2. At the time of decommissioning of any solar energy generating system approved by the planning board, the current sitting planning board shall review the site and proposed decommissioning plan for the conversion of the parcel into prime farmland or forestland, as applicable under the current ordinance standards.

3. A survey of critical wildlife habitat is provided at the time of application, if a project is located in an area determined to be essential habitat, as defined by the state department of inland fisheries and wildlife, an IF&W recommendation shall be secured before a planning board ruling.

4. A vegetative cover plan is provided that demonstrates, where feasible, the replanting of forested areas disturbed during construction and preservation of prime soils throughout the life of the project.

g. *Prime soils.* All solar energy generating systems proposed in the agriculture and resource protection district shall include a soil analysis. Such analysis shall demonstrate if the site proposed for development contains prime farmland as defined by the United States Department of Agriculture (USDA). Least productive agricultural soils shall be considered first for development unless it can be demonstrated to the planning board that:

1. Non-prime farmland is not reasonably available on the subject property.

h. All applications for solar energy generating systems in the agriculture and resource protection district shall be subject to the following provisions:

1. Siting of the overall facility and individual panels shall keep with the existing contours of the land;

2. Only pile driven, or ballast block footing shall be used so as to minimize the disturbance of soils during installation;

3. To the extent possible, infrastructure shall not be located on steep slopes; and

4. A plan for topsoil maintenance shall be provided at the time of application to the planning board.

i. All operations and maintenance plans shall also include:

1. A plan prioritizing the ability to co-mingle agricultural and energy generation land uses including but not limited to: apiaries, grazing or handpicked crops.

2. A plan that provides habitat for native plants and animals and native pollinators.

(20) Municipal or public utilities and communication facilities.

(21) Municipal uses.

(Ord. of 9-21-2009, § 3.31B; Ord. No. 32-02072011-07, 2-7-2011; Ord. No. 06-08012011-07, 8-1-2011; Ord. No. 05-04032017, § 2, 4-24-2017; Ord. No. 06-06052017, 6-19-2017; Ord. No. 04-05202019, 6-3-2019; Ord. No. 17-11182019, 12-9-2019; Ord. No. 05-05182020, 6-1-2020; Ord. No. 11-03012021, §§ 5, 6, 3-15-2021; Ord. No. 02-02132023, 2-17-2023; Ord. No. 03-04182023, 5-1-2023; Ord. No. 10-06202023, 7-10-2023; Ord. No. 17-09052023, 9-18-2023)

City of Auburn, Maine
Office of Planning & Permitting
www.auburnmaine.gov | 60 Court Street
Auburn, Maine 04210 207.333.6601

To: City of Auburn Planning Board
From: DeCarlo Brown, Planning Director
Re: Sec **60-952 Lake Auburn Watershed Annual Dwelling Construction Report**

Date: July 2026

OVERVIEW

In accordance with Section 60-952 of the City of Auburn Zoning Ordinance, the Planning and Permitting Department is required to annually report on new dwellings constructed within the Lake Auburn Watershed Overlay. Please find below Section 60-952(h) which informs the report followed by the required summary and supporting data.

Sec. 60-952(h) provides:

> *Commencing on July 1, 2024, a maximum of three new dwelling units per calendar year are permitted in that part of the Lake Auburn Watershed Overlay District in which new dwelling units are permitted.*
>
> *The city planning, permitting, and code department shall, on an annual basis, provide a report to the planning board as to the extent and effect of the construction of new dwelling units in the Lake Auburn Watershed Overlay District. The report shall include, at a minimum, the number of new dwelling units constructed in the past year, the cumulative number of new dwelling units constructed since July 1, 2024, and the effect of such construction on the Lake Auburn water quality.*
>
> *Should the planning board conclude, based on the city planning, permitting and code department report that the construction of new dwelling units has had an adverse effect on the Lake Auburn water quality, the planning board shall consider what action is to be taken to prevent further degradation of Lake Auburn water quality from the construction of new dwelling units.*

RELEVANT SECTIONS

January 1, 2025, began the record keeping of dwelling permits within the watershed. The cumulative number of dwellings constructed within the Lake Auburn Watershed overlay is two dwellings. Of the two (2) dwelling permits issued within the Lake Auburn Watershed Overlay, one (1) permit was issued and constructed during 2025. The other dwelling permit was issued within the current year, 2026, but has not completed construction. Given the nature and number of dwelling permits in this period, the Planning Department considers the permitted dwellings to have had minimal impact on Lake Auburn water quality.

SUPPORTING DATA

The following provides additional information to any building permits issued for dwellings on parcels within the Lake Auburn Watershed.

In the calendar year from 1/1/2025 to 1/1/2026 one dwelling has been constructed within the watershed. The parcel is located within the LDCR Zoning District

SFD-21080-2024	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	389-027	9 DILLINGHAM HILL RD	New House build - Lake Auburn Watershed	1/14/2025	THERRIAULT KRISTINA M	Nate Ramsdell	$500,000	1,200 sf

A parcel which is partially within the Lake Auburn Watershed also was issued a dwelling permit. However, the dwelling is not located within the watershed. The parcel is located at 178 Youngs Corner Road and is zoned Rural Residential.

SFD-00048-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	295-012	178 YOUNGS CORNER RD	New Home - Replaces Expired Permit SFD 20393-2023	04/16/2025	FLETCHER BENJAMIN	Keith Lemieux	**$375,000**	1,536 sq ft

In the fiscal year from 7/1/2025 to 6/30/2026 one dwelling has been issued a building permit within the watershed. The building permit for a Single-Family home was issued on May 27, 2026. The dwelling is to be located at 677 West Auburn Road within the LDCR Zoning District.

SFD-00052-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	341-049	677 WEST AUBURN RD	Single Family Home	05/27/2026	GURE ABDIRIZAK	$529,760	2648 sq ft

A parcel which is partially within the Lake Auburn Watershed also was issued a dwelling permit during this time period. However, the dwelling is not located within the watershed. The parcel located at 190 Hotel Road is zoned predominantly Rural residential with a small portion located within the LCDR. The same portion located within the LCDR is also the only portion of the lot located within the Lake Auburn Watershed.

SFD-00054-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	277-044	190 HOTEL RD	190 Hotel Road Duplex - Building a duplex for investment purpose and adding a 2nd duplex at a later date	06/02/2026	GAGNE RONALD R	$500,000	3504 sq ft

STAFF RECOMMENDATIONS

Staff recommend no action on additional restrictions related to dwelling units within the Lake Auburn Watershed at this time. The current restrictions appear to sufficiently limit the creation of new dwellings from becoming a significant contributor of pollutants to the Lake Auburn Watershed.

All NEW RESIDENCES FROM JANUARY 1, 2025 TO JUNE 30, 2026

Permit Number	Work Class	PID	Address	Description	Issue Date	Owner Name	Contractor Name	Fee Total	Estimated Cost of Construction	Sq Ft	ADU	# Units
SFD-21064-2024	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	221-140	105 RIVERSIDE DR	New Duplex	1/10/2025	COOPER JASON		$25	$400,000	2,040		
SFD-21066-2024	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	221-140	105 RIVERSIDE DR	New Duplex	1/10/2025	COOPER JASON		$25	$400,000	2,040		
SFD-21067-2024	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	221-140	105 RIVERSIDE DR	New Duplex	1/10/2025	COOPER JASON		$25	$400,000	2,040		
SFD-21080-2024	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	389-027	9 DILLINGHAM HILL RD	New House build - Lake Auburn Watershed	1/14/2025	THERRIAULT KRISTINA M	Nate Ramsdell	$25	$500,000	1,200		
SFD-21076-2024	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	171-004	BROAD ST	Duplex for Unit 3 & 4 in Broad Street Farms	1/23/2025	SKELTON JANE		$25	$380,000	2,020		
SFD-21077-2024	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	171-004	BROAD ST	Duplex for Unit 1 & 2 in Broad Street Farms	1/23/2025	SKELTON JANE		$25	$380,000	2,020		
SFD-00013-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	220-018	18 HAZEL ST	new single family modular ranch-style home	3/24/2025	APACHE PROPERTIES, LLC	Maine Source Homes Inc.	**$25**	**$288,000**	1,280		
SFD-00025-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	209-115	102 POLAND RD	New Construction - 3 Bed, 2 Bath on Engineered Slab on Taft Rd	04/02/2025	CARVER SHELLY A		**$25**	**$180,000**	1,176		
SFD-00009-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	229-093	7 RUSSELL AVE	New Construction Duplex Housing	04/02/2025	NANCE MARCIA J	New Age Builders, LLC	**$25**	**$400,000**	2,262		
SFD-00037-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	235-002-004	596 GARFIELD RD	To build a single family home	04/04/2025	LITTLE KATHERINE	Kennebec Property Services	**$25**	**$470,000**	1,848		
SFD-00010-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	096-005	208 Woodbury Rd	New Home Construction with Driveway, Septic and Well	04/14/2025	POULIN RICHARD N		**$25**	**$579,000**	1,700		
SFD-00035-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	110-013	88 WOODBURY RD	New single family residence	04/15/2025	POTTER JASON		**$25**	**$250,000**	6,000		
SFD-00043-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	218-056-001	61 TOWLE AVE	New Home	04/16/2025	MORIN JACK A	John E Morin	**$25**	**$170,000**	1,152		
SFD-00048-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	295-012	178 YOUNGS CORNER RD	New Home - Replaces Expired Permit SFD 20393-2023	04/16/2025	FLETCHER BENJAMIN	Keith Lemieux	**$25**	**$375,000**	1,536		
FO-00002-2025	FOUNDATION ONLY - RESIDENTIAL	235-002-004	596 GARFIELD RD	Single family home with attached garage	04/02/2025	LITTLE KATHERINE	Andre Morin	**$150**	**$25,000**	1,800		
SFD-00059-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	281-085-001	5 BRAMAN ST	New 27 X 54 Mobile Home on Concrete Pad With 12 X 12 Deck	05/15/2025	TURNER APARTMENTS LLC	Maine Source Homes Inc.	$25	$245,000	1458		
SFD-00054-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	021-012-001	POWNAL RD	3084 SF 3 Bed 2.5 bath single family home	06/16/2025	GLADU ROBERT T	Bouffard & McFarland	$25	$800,000	3084		
SFD-00067-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	281-088	52 EAST BATES ST	Duplex with single car garages on either side	06/25/2025	CHARNESKI NICKOLAUS J	LLC, Neski	$25	$250,000	2688		
SFD-00031-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	250-336	41 WEBSTER ST	New Mobile Home for sale	07/02/2025	SULLIVAN DEBRA		$25	$140,000	1256		
SFD-00096-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	313-069	23 Streamside Dr	Single Family Home with Attached 2-Car garage	07/24/2025	ANDROSCOGGIN HOMES LLC	Maine Source Homes Inc.	$25	$245,000	1979		
SFD-00102-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	157-010-001	368 BEECH HILL RD	New 54 X 62 House	07/28/2025	DENIS MICHAEL D	Northern Closure Construction	$25	$650,000	1920		
SFD-00083-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	240-230	31 DRUMMOND ST	New 2-Story Single Family Home	08/07/2025	VERITAS CARE OF MAINE, INC		$25	240000	1680		
SFD-00109-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	135-057	45 Kyle Ln	27 x 60 Replacement Home on Existing Slab	08/08/2025	SWAN SYLVIA S	Maine Source Homes Inc.	$25	150000	1440		
SFD-00030-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	216-029	63 WINDEMERE WAY	We are adding a 2 car garage with a bedroom and office above attached to the existing structure.	08/13/2025	BOUCHARD CHRISTOPHER T	Miklovich, Benjamin	$25	280000	784		
SFD-00119-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	313-070	17 Streamside Dr	New Single-Family Modular Home with Attached 2-Car Garage	08/21/2025	ANDROSCOGGIN HOMES LLC		$25	240000	1880		
SFD-00141-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	188-016	506 Poland Rd	New 26 X 52 Home	09/18/2025	GUERRERO HUGO	Frank Perry	$234	$280,000	1394		
SFD-00142-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	188-016	498 Poland Rd	New 26 X 60 Home	09/18/2025	GUERRERO HUGO	Frank Perry	$266	$280,000	1608		
SFD-00147-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	268-004	Park Ave	Place a mobile home on the property.	09/30/2025	LEGACY UNKNOWN	Twin Town Homes	$265	$180,000	1600		
SFD-00154-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	135-083	104 Old Danville Rd	Build a 24x40 two-story single-family colonial house	09/30/2025	DUTEAU KEVIN C	POLLEY JEFF D	$457	$280,000	2880		
SFD-00172-2025	1 OR 2 FAMILY RESIDENTIAL ALTERATION/RENOVATION	158-006	271 Fairway Dr	In-Law Apartment in Garage (after the fact)	10/24/2025	THEBERGE AMANDA		$1,035	$20,000	1065		
SFD-00157-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	260-233	109 Coburn St	Constructing new home	10/09/2025	NORTHERN CLOSURE CONSTRUCTION LLC	Northern Closure Construction	$165	$285,948	936		
SFD-00167-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	113-008	319 Harmons Corner Rd	New Modular Home	10/15/2025	S & S HOMES LLC		$497	$250,000	3145		
SFD-00173-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	218-008-000-003	3 STEVENS MILL PARK RD	14 X 70 Mobile Home	10/28/2025	TWIN PARKS LLC		$344	$6,000	980		
SFD-00174-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	218-008-000-033	33 STEVENS MILL PARK RD	14 X 70 Mobile Home	10/28/2025	TWIN PARKS LLC		$344	$6,000	980		
SFD-00178-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	219-185	39 Houghton St	Modular Home With Attached 2 Car Garage and Deck	11/05/2025	MERCIER JON R	MAINE SOURCE HOMES LLC	$554	$500,000	3528		
SFD-00090-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	201-110	254 S Main St	Construct new two family unit	11/12/2025	RUBY BEGONIA ENTERPRISES LLC		$25	$360,000	2400		

SFD-00189-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	208-023	BELGRADE AVE	Single-family, prefabricated house in Taylor Brook Village	12/02/2025	GODSPEED LLC		$121	$90,000	640		
SFD-00201-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	135-041	117 JOATMON DR	Remove old Mobile home and replace with new one	01/05/2026	MITCHELL CHRISTIAN A		$169	$85,000	960		
SFD-00004-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	163-001-002	1179 Riverside Dr	New Construction of second duplex	01/30/2026	VALLIERES REAL ESTATE INVESTMENTS LLC	Michael S. Copp	$443	$375,000	2,784		
SFD-00008-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	226-062	211 Valview Dr	Moving house from 185 to 211 Valview	02/13/2026	TASSINARI DAVID B		$460	250000	2900		
SFD-00012-2026	1 OR 2 FAMILY RESIDENTIAL ALTERATION/RENOVATION	209-094	27 BAXTER AVE	House rebuild and raise the roof to have a 8 ft ceiling	03/10/2026	MARQUIS MICHAEL P		$505	$120,000	1600		
SFD-00020-2026	1 OR 2 FAMILY RESIDENTIAL ALTERATION/RENOVATION	250-257	93 WINTER ST	Covert this single family house to two units	03/19/2026	LABELLE JUSTIN S		$1,550	$45,000	2500		
SFD-00014-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	191-056	87 Paul St	New Double -Wide Mobile Home with 3 Bedrooms & 2 Baths	03/02/2026	BARNIES TRACY A	SCHIAVI HOMES, LLC	$250	$264,411	1498		
SFD-00019-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	178-002	276 FLETCHER RD	New Raised Ranch	03/19/2026	CYR JUDY H		$176	$1	1008		
SFD-00015-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	240-316	358 Court St	NEW CONSTRUCTION 2 FAMILY DWELLING	03/20/2026	PEER PROPERTY MANAGEMENT LLC		$255	$160,000	1536		
SFD-00022-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	266-037	127 WILLARD RD	To replace the structure that was deemed unsafe with a new structure.	03/24/2026	RANDALL WARREN B		$82	$60,000	380		
SFD-00029-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	230-026	86 WESTERN AVE	2-Story Modular Duplex	04/06/2026	CITY OF AUBURN	MAINE SOURCE HOMES LLC	$322	$375,000	1,980		2
SFD-00024-2025	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	237-023	70 SANDY BEACH RD	2 Story Home/Camp W 10' Attached Porch	04/09/2026	CHASE DALE A	CHASE DALE & MIRANDA	$25	$240,000	1,600		1
SFD-00037-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	201-110	252 S Main St	Construct a 2 family duplex	04/14/2026	RUBY BEGONIA ENTERPRISES LLC	Berube, Todd	$390	$370,000	2,432		2
SFD-00036-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	226-063	185 Valview Dr	New Construction for single family home.	04/22/2026	PETKUS JOANNE F		$715	$1,500,000	4,600		1
SFD-00052-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	341-049	677 WEST AUBURN RD	Single Family Home	05/27/2026	GURE ABDIRIZAK		$423	$529,760	2648		1
SFD-00054-2026	1 OR 2 FAMILY RESIDENTIAL NEW CONSTRUCTION	277-044	190 HOTEL RD	190 Hotel Road Duplex - Building a duplex for investment purpose and adding a 2nd duplex at a later date	06/02/2026	GAGNE RONALD R		$551	$500,000	3504		

ArcGIS Web Map

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Current Parcels _ Public

Auburn Zoning

AG - AGRICULTURE AND RESOURCE PROTECTION

LDCR - Low Density Country Residential

RR - Rural Residential

Lake Auburn Watershed - DWP

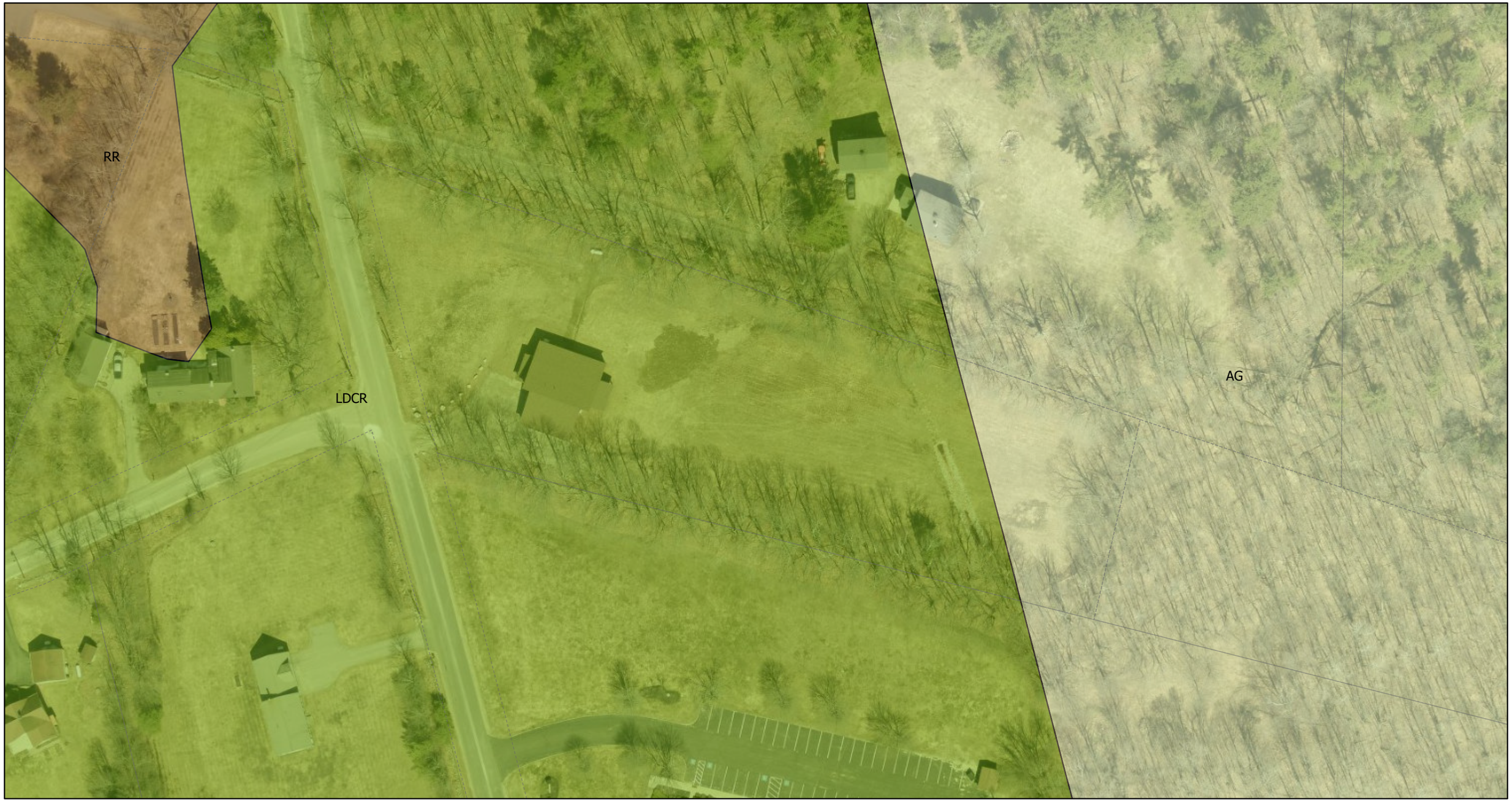
0 0.01 0.03 0.06 mi

0 0.03 0.05 0.1 km

COA

, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

ArcGIS Web Map



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Current Parcels _ Public

Auburn Zoning

AG - AGRICULTURE AND RESOURCE PROTECTION

LDCR - Low Density Country Residential

RR - Rural Residential

0 0.01 0.02 0.04 mi

0 0.02 0.04 0.07 km

COA

, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

ArcGIS Web Map

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0 0.01 0.02 0.04 mi

0 0.02 0.04 0.07 km

Current Parcels _ Public

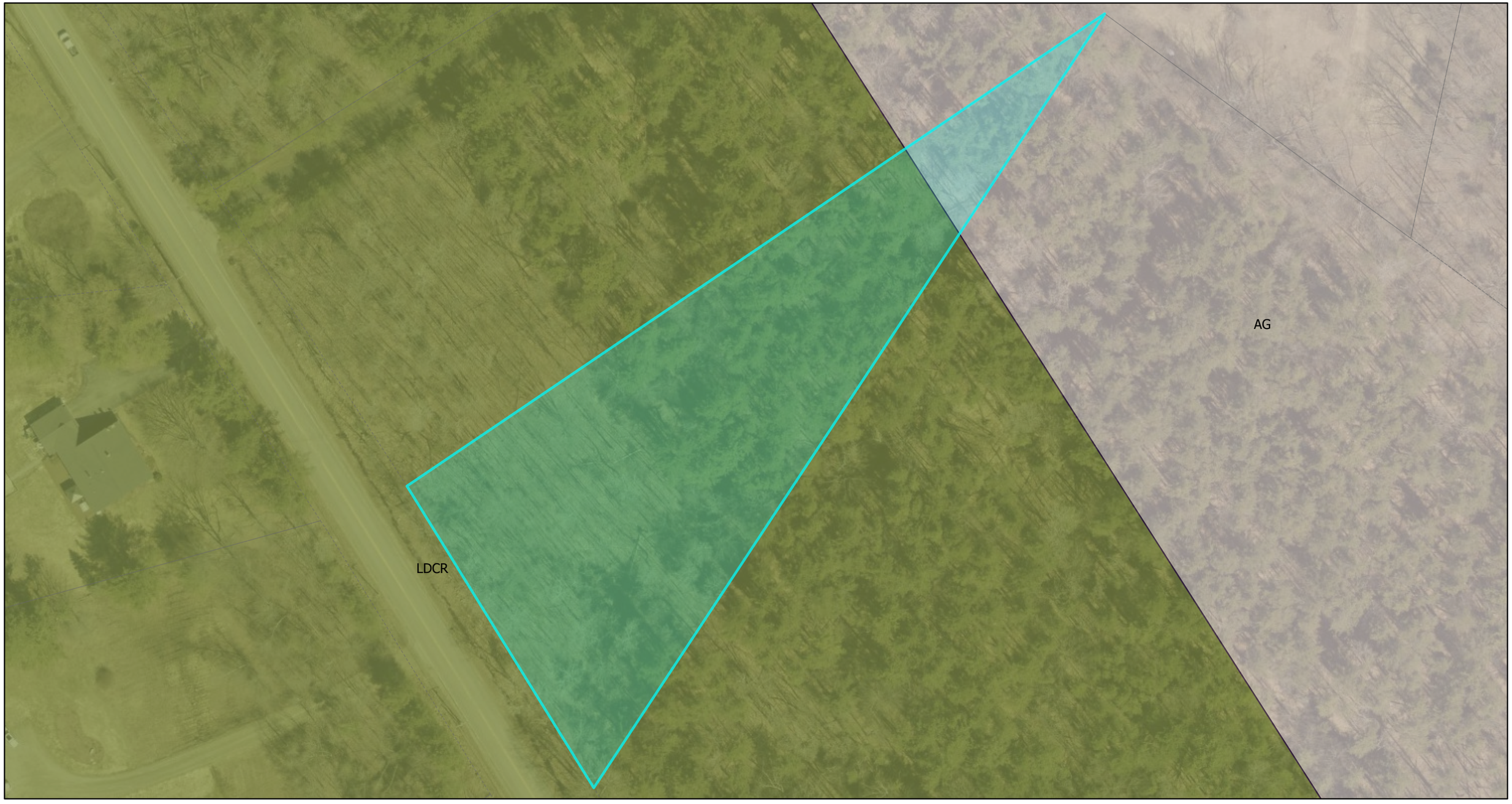
Auburn Zoning

- AG - AGRICULTURE AND RESOURCE PROTECTION
- LDCR - Low Density Country Residential
- RR - Rural Residential
- Lake Auburn Watershed - DWP

COA

, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

ArcGIS Web Map



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Current Parcels _ Public

Auburn Zoning

AG - AGRICULTURE AND RESOURCE PROTECTION

LDCR - Low Density Country Residential

Lake Auburn Watershed - DWP

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0 0.01 0.02 0.04 mi

0 0.01 0.03 0.06 km

COA

, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

TRADE-OFFS IN LAND USE

THE RISK

THE RISK

THE RISK

THE RISK

THE RISK?

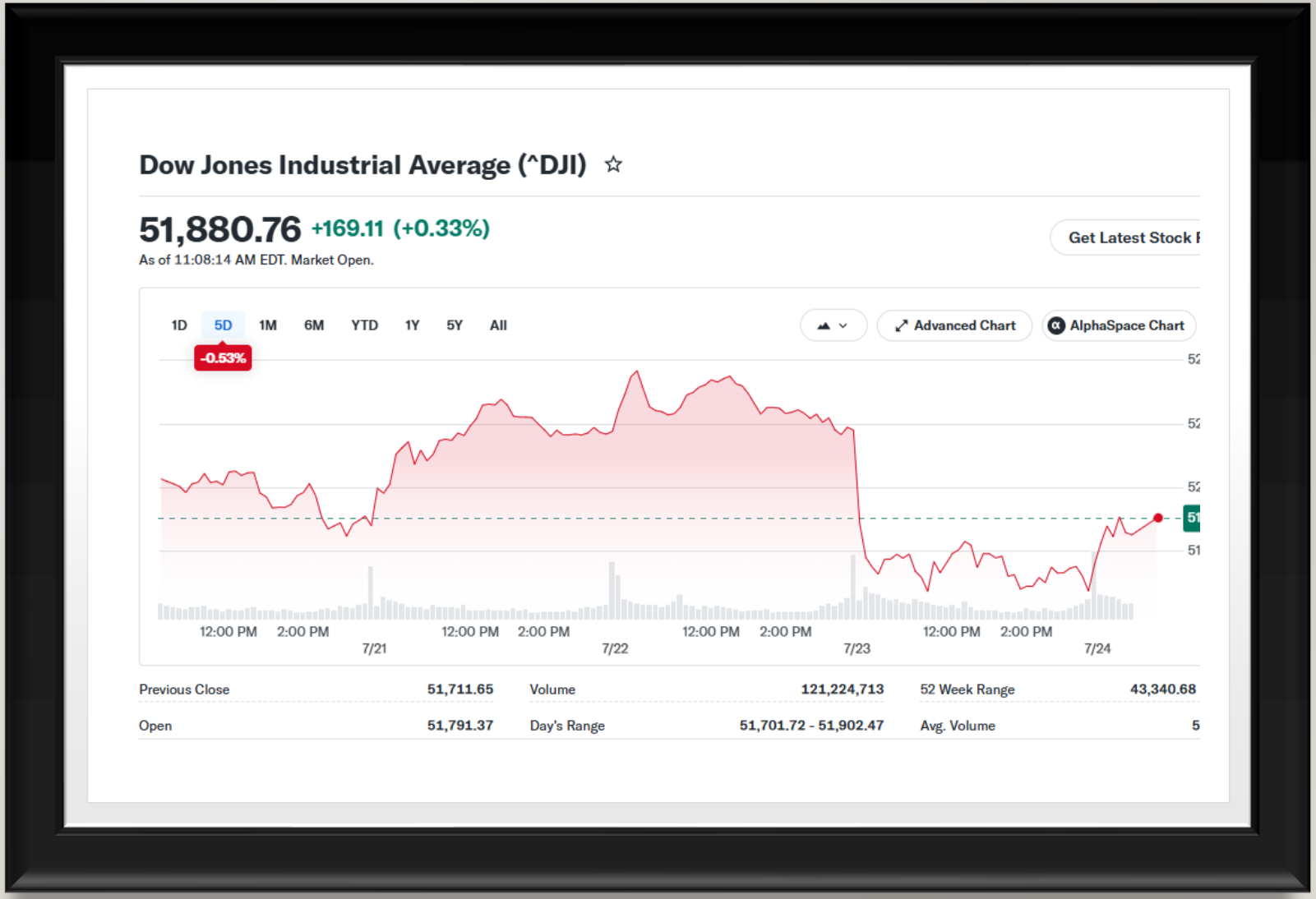
INTERRELATED HUMAN NEEDS

Environmental

Physical

Social

WHEN SOCIAL FAILS

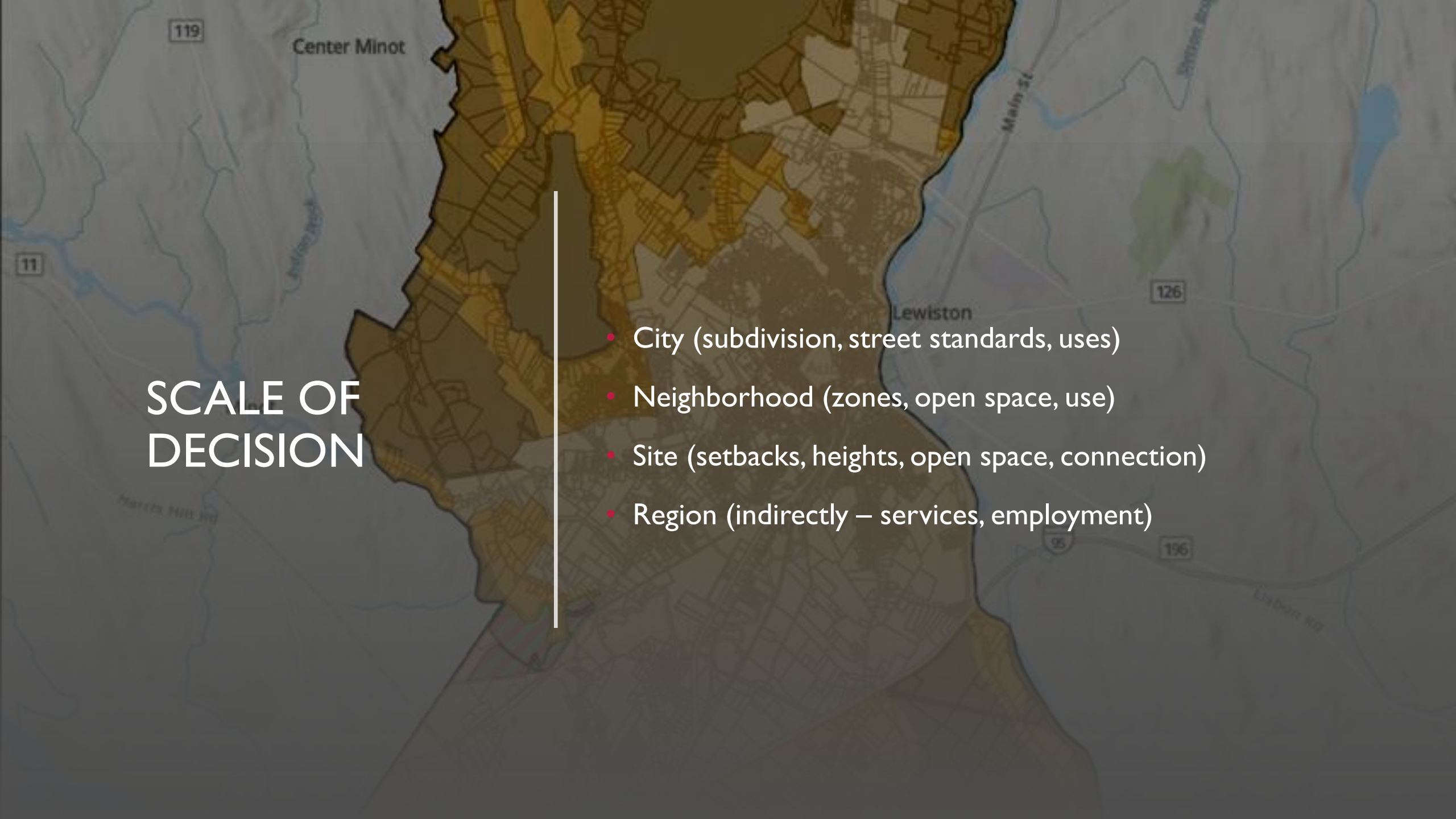


LAND USE AS PHYSICAL RULES

- Impacts environmental systems
- Impacts social systems
- Directly addresses some physical needs
- Sets the foundation of social

RISK TOLERANCE AND VALUES

- Essential Environmental Systems (protection increase costs)
- People need services to live (Food, Travel, Production, Work)
- Physical and Social needs
- Social infrastructure makes everything work (law, family, production of goods)



SCALE OF DECISION

- City (subdivision, street standards, uses)
- Neighborhood (zones, open space, use)
- Site (setbacks, heights, open space, connection)
- Region (indirectly – services, employment)

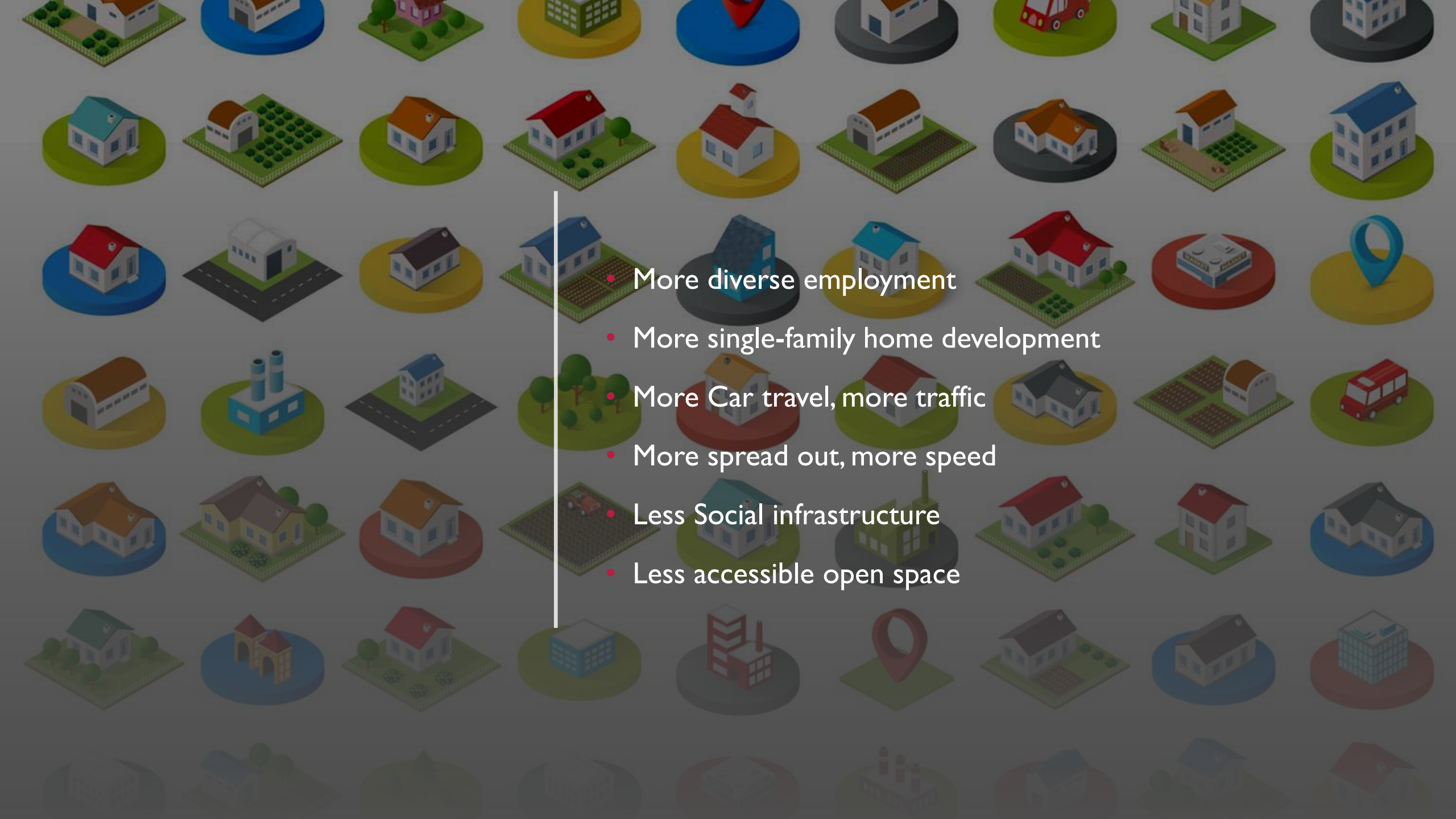
EXAMPLE

Population of Auburn
1960 – 24,500

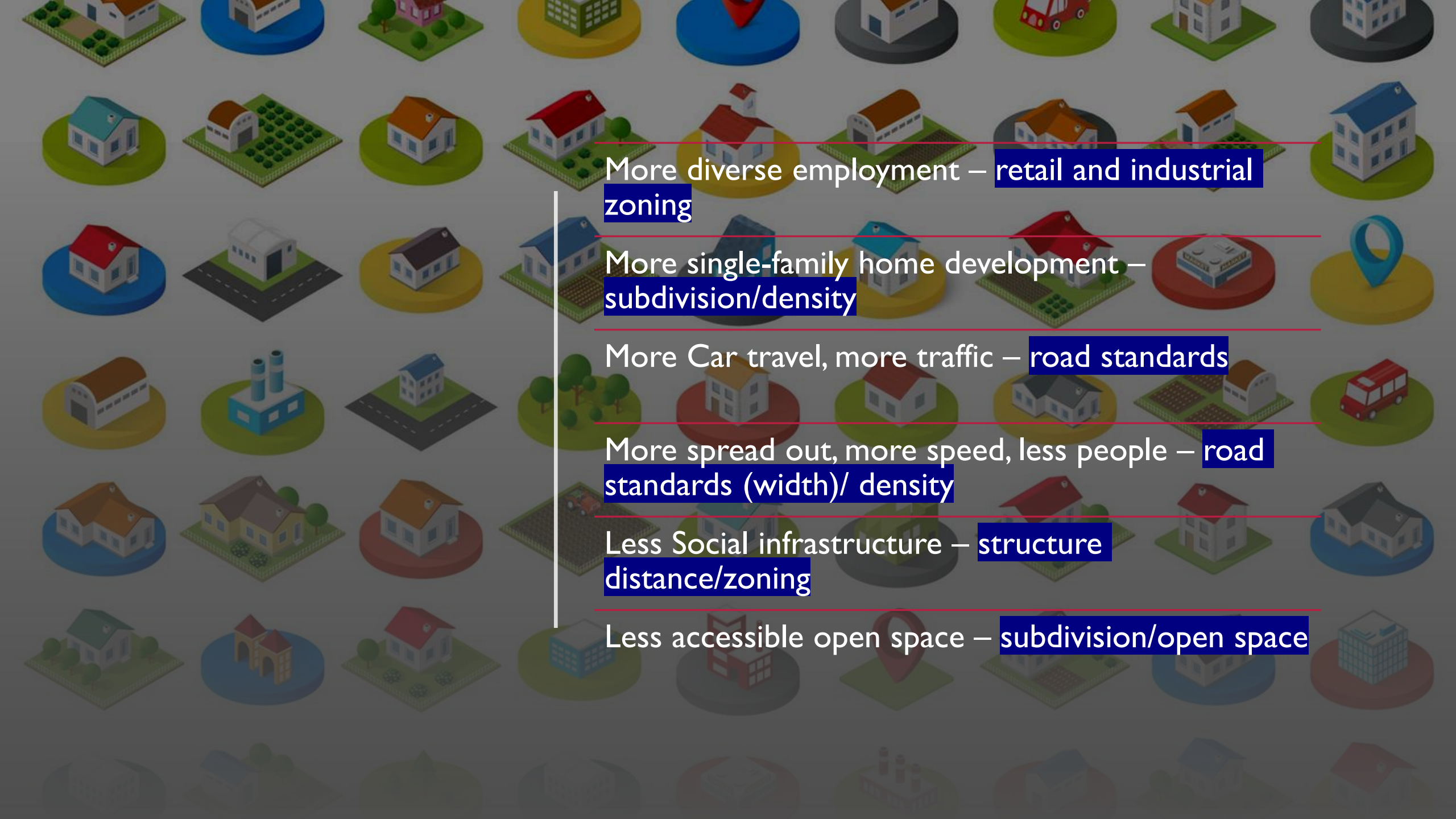
1960

2020–2024

Population of Auburn
2020 – 24,061 (25,441 estimated today)



- More diverse employment
- More single-family home development
- More Car travel, more traffic
- More spread out, more speed
- Less Social infrastructure
- Less accessible open space



More diverse employment – retail and industrial zoning

More single-family home development – subdivision/density

More Car travel, more traffic – road standards

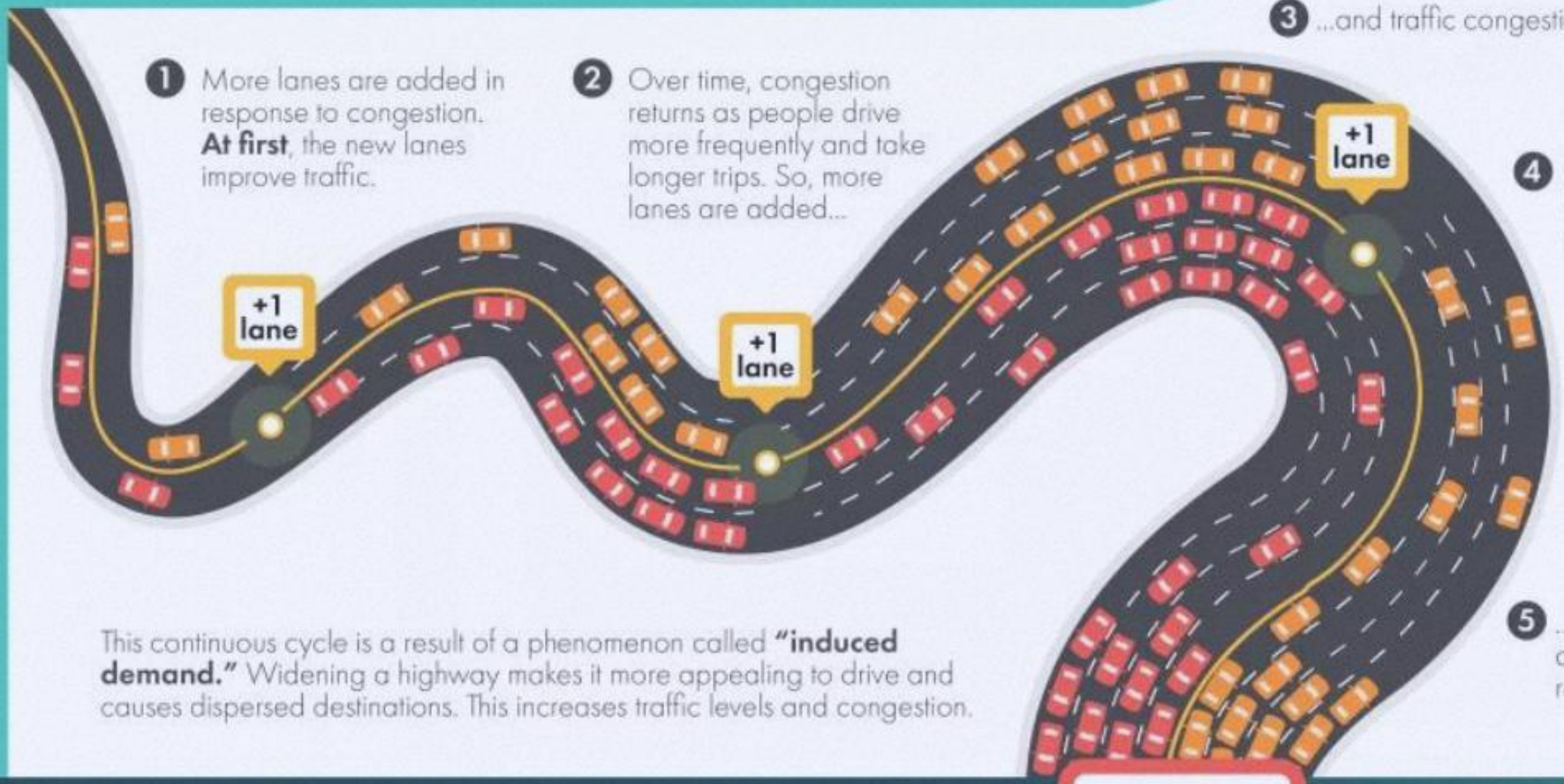
More spread out, more speed, less people – road standards (width)/ density

Less Social infrastructure – structure distance/zoning

Less accessible open space – subdivision/open space

MORE LANES = MORE TRAFFIC

our streets MPLS



This continuous cycle is a result of a phenomenon called **"induced demand."** Widening a highway makes it more appealing to drive and causes dispersed destinations. This increases traffic levels and congestion.

THE TRUE COST OF A HIGHWAY

Air & noise pollution cause severe health problems

Expansion destroys homes & businesses

Emissions contribute to climate change & environmental injustice

There are better solutions.

Instead of continuously rebuilding and expanding highways, we can reduce traffic and improve mobility by replacing urban highways with people-centered boulevards.

WHAT TO DO?

- Think at multiple scales (region, city, neighborhood, site) and how they relate
- Think in systems and impacts to systems
- Think in immediate and eventual costs as a city
- Think about your values and if they are reflected in the built environment

WHAT I WILL DO?

- Evaluate the city scales (region, city, neighborhood, site) and how they relate
- Rebalance impacts to systems (social is lacking)
- Regulate immediate costs and minimize eventual costs as a city
- Transparent about my values and reflected your values in the built environment

MY GOAL

- Strengthen social infrastructure through changes in the built environment in order to make the city more resilient to economic and environmental shocks out of our control.
- Use this as a base to better the lives of people who live in the city – Is this change expected to better the lives of the people in the City of Auburn?

PB meeting notes July 14, 2026

Presentation

The purpose of this presentation is to provide a brief training overview of how to review a packet when you get it and how to locate information in the ordinance that we reference in the staff memo.

This is taking what you learned in the MMA training video and grounding it in our own code/ordinance. This is helpful in understanding the structure of our staff memos and the references to the relevant information.

Overview:

1. Get familiar with ordinance requirements and where you can find certain sections and where information on PB decisions can be found
2. Findings of fact and conclusion – info needed for PB to make a decision
3. Finally all this information is used to help better navigate the application package when you get it

Slide 1 - There are 3 types of projects that would trigger an applicant to go to PB review: site plan, special exception and subdivision

Site plan applies to all uses permitted by special exception and any other uses by other provision in the ordinance

Subdivision is required for creation of 3 lots within 5 years or creation of 5 dwelling units on a lot within 5 years unless exception in state subdivision law where it would not go to PB (condemned lot, gifted lot, if owner has lived at property for a period 5 years or more)

Slide 2 - Bulk of PB review and decision making is found in these articles and sections. These contain submission requirements for site plan and criteria for voting or conclusions of law which are will/will not statements (example will/will not cause traffic congestion)

Slide 3 - Other standards to look for include district regulations which may have other criteria and contain allowed uses and dimensional requirements

Slide 4 - Some standards found outside Chapter 60 like traffic and stormwater which are found in Chapter 46. If other standards like signs, noise, access management, traffic are required for approval we make a note of those and reference in our memo of where to find those sections in the ordinance because they are not all in one place

Slide 5 – this is showing the levels of decision making from application to final PB vote. Once we have a complete application that is when the review process to PB starts where

we are required to do public hearing and send notices, this triggers the substantial review where staff goes through with recommended findings, then hands off to PB for review and final decision

Slide 6 – information received in the packet addresses submission requirements and other relevant standards that staff is making recommended findings on for the PB to take action. Staff work with the applicant and they are getting information directly from our ordinance so everything is grounded in our ordinance

Slide 7 – Using this as an example. The standard the applicant has to demonstrate they meet is vehicular access. The applicant submits their evidence based on requirements of our ordinance. Staff review it and make recommended findings and we say based on evidence and information from applicant, staff believes this standard of vehicular access has been met. PB then makes a finding based on the evidence and if it meets the standard of our ordinance the decision would be yes. In certain cases the PB may request peer reviews if they feel substantial project large traffic impact, etc. However with a peer review its best to request early in the phase of an application not when it's final stage, like preliminary review would be appropriate if it's a major subdivision. Finally conclusion is special exception will neither create nor aggravate a traffic hazard, a fire hazard, or any other safety hazard. The PB does not go through each conclusion of law. Instead the entire vote if you approve a project encompasses all of these

Slide 8 – moving to application package and steps to review materials. Step 1 is we recommend always start with staff memos. These are like the cliff notes version of a book. We include here project summary, project history, dimensional standards, draft findings and review standards, and make our best to reference and cite any information provided from the applicant where you can find it and tied to the relevant section of our ordinance

Slide 9 – step 2 is look at visuals and plan sets. These plan sets are ultimately what PB is voting on for approval and what gets signature (for subdivision is what gets recorded in registry). If you are a visual learner it may be helpful to color or draw stuff on the plan that staff has noted in the memo. For site plans with large number of plan sets (utilities, grading, stormwater, etc.), I recommend looking at just the existing conditions and proposed site plan to compare existing with proposed. We do reference the other plans like utilities, stormwater, grading, etc. if something is missing or inadequate then we suggest going there.

Slide 10 – step 3 is written information describes how plan meets requirements of the ordinance. Again take staff memo read through what is relevant to PB decision for this project

Slide 11 – any questions/comments. Are there resources we can provide to you as staff to make this easier? Are there tools and resources other people have found helpful?

Planning Board Training: How to Review Applications

June 16, 2026

Agenda

1. **Familiarity and overview of current ordinance requirements**
   - How to locate local codes
2. **Findings of Fact & Conclusions of Law**
   - Information needed for PB decisions
3. **Application package**
   - How to navigate application materials

Chapter 60 Zoning – Determining the Type of Review

- Article XVI Division 2 – Site Plan Review, Division 3 – Special Exception
  - Sec. 60-1278 – Applicability
  - (1) all uses permitted by special exception
  - (2) any other uses for which site plan review is required by any other provision contained in this or other ordinances
- Article XVI Division 4 – Subdivision Review
    - Sec. 60-2 – Definitions
    - *"Subdivision means a division of land as defined in 30-A M.R.S.A. § 4401"*
      - 3 lots within 5 yrs
      - 5 or more dwelling units within 5 yrs

Chapter 60 Zoning – Site Plan & Subdivision

- Article XVI Division 2 – Site Plan Review
  - Sec. 60-1277 Objectives for PB
  - Sec. 60-1301 Submission Requirements *Note additional submissions outside Chapter 60 for traffic impact analysis (Sec. 46-233) and stormwater (Sec. 46-209)
- Article XVI Division 3 – Special Exception
  - *Note all uses that are listed as special exception in their respective zoning district require site plan approval (see Sec. 60-1278)
  - Sec. 60-1336 Conditions for PB Approval
- Article XVI Division 4 – Subdivision Review
  - Sec. 60-1359 Criteria for PB Approval
  - Sec. 60-1360-1362 outlines procedures and process for preliminary and final subdivision

**Note Objectives/Conditions/Criteria for PB approval are all "Conclusions of Law"*

Chapter 60 Zoning – District Regulations

- Article IV – District Regulations
- Every development located in a zoning district (i.e. Ag, LDCR, RR, SR, GB, GB II, T-4.1, etc.)
- Different districts have different allowed uses, standards of review, dimensional regulations

Other Standards for Approval

- Depending on proposed use/proposed development other review standards may be applicable
- Chapter 46 Stormwater and Traffic standards
- Chapter 60, including, but not limited to Article V – Off-Street Parking and Loading, Article X – Access Management Standards, Article XIII Environmental Performance Standards

Steps to PB decision

- Complete application → public hearing → substantial review → decision
- **Based on our current ordinance as written**

Steps to PB decision

- Information that you receive in your packet addresses **submission requirements** pursuant to Sec. 60-1301 and where applicable Sec. 46-209, and Sec. 46-233 and other **relevant standards** found in Chapter 60

Findings of Fact & Conclusions of Law - Example

- Example: vehicular access
  - Potential evidence submitted: Applicant has provided a traffic study in compliance with Sec. 46-235 Traffic Impact Analysis and provides letter from Fire Chief
  - Staff Recommendation: Based on information provided from the applicant, staff believes this standard has been met.
  - Planning Board Decision: make a finding based on the evidence, yes, meets standard *Note in certain instances PB may request peer reviews
  - Conclusion: *That the special exception sought will neither **create** nor **aggravate** a **traffic hazard**, a **fire hazard** or any other **safety hazard** (Sec. 60-1336 (2))*

Application Package – Provided for PB to Review

Step 1: Staff memos

- Project **overview**/summary
- **Zoning district** requirements
- Project **history** (i.e. preliminary approval conditions, site plan amendment, etc.)
- Includes what staff believe to be **relevant** findings and review standards PB will be voting on with references to the **applicable section(s)**
- **Citations and page references** of where materials submitted by the applicant can be found

Application Package – Cont.

Step 2: Visuals – Site/Subdivision Plans

- Can include existing conditions, site plan, grading plan, utility plan, stormwater plan, details page, etc.
- Taking the written summary of information from staff and seeing is **visually**

Application Package – Cont.

Step 3: Written Materials

- Describes how plan set meets requirements of the ordinance
- Can include financial capacity letter, traffic study, stormwater report, property deed, waiver requests, etc.
- Taking the written summary of information from staff and reading through what is **relevant** to the PB **decision**

Questions/Comments

- Are there specific resources or tools people have found helpful when reviewing applications?
- Are there resources that we can offer or provide as staff?
- Other feedback/comments

MAINE SUPREME JUDICIAL COURT Reporter of Decisions
Decision: 2026 ME 58
Docket: Yor-25-416
Argued: March 4, 2026
Decided: July 9, 2026

Panel: STANFILL, C.J., and MEAD, CONNORS, LAWRENCE, DOUGLAS, and LIPEZ, JJ.

JUDITH ANDREWS

v.

TOWN OF KITTERY et al.

DOUGLAS, J.

[¶1] Judith Andrews appeals from a judgment of the Superior Court (York County, *Mulhern, J.*) affirming the Town of Kittery Planning Board's approval of a conservation subdivision application submitted by Chip and Anne Andrews (the applicants).[1] She argues that the Planning Board usurped the exclusive authority of the Town of Kittery Board of Appeals to grant zoning variances when it waived street standards in the Town's Land Use and Development Code in approving the applicants' proposed conservation subdivision. We conclude that the Planning Board acted within its authority and affirm the Superior Court's judgment.

[1] The appellant and the applicants have the same surname. To avoid confusion, we refer to Judith Andrews as "Andrews" and Chip and Anne Andrews jointly as "the applicants."

I. BACKGROUND

[¶2] The relevant facts are procedural, and we draw them from the record before the Planning Board. *See Upstream Watch v. City of Belfast*, 2023 ME 43, ¶ 2, 299 A.3d 25. In February 2022, the applicants applied to the Town Planner of Kittery for sketch plan review of a proposed subdivision. *See* Kittery, Me., Land Use and Development Code ("Code") § 16.8.9(B)(1) (Jan. 24, 2022). The Planning Board approved the sketch plan concept at a March 23, 2023, meeting. *See id.* § 16.8.9(B)(2). The applicants subsequently, on September 7, 2023, submitted a preliminary application for approval of a major conservation subdivision. *See id.* § 16.8.9(C).

[¶3] To be approved by the Planning Board, "[a] conservation subdivision must meet all requirements for a subdivision . . . except as modified by Chapter 16.10 and/or action of the Planning Board, where authorized." *Id.* § 16.10.5(B) (emphasis omitted). Chapter 16.8, "Subdivision Review," is the chapter of Title 16, titled "Land Use and Development Code," that sets out the general standards and process for review and approval of a proposed subdivision. Relevant here are the standards governing street design and construction, which are found in a table that is incorporated by reference into chapter 16.8 and entitled "General Performance Standards, 16.8 Attachment 1,

Town of Kittery, Table 1." *See* Code ch. 16.8 attach. 1. Table 1, "Design and Construction Standards for Streets and Pedestrianways," prescribes design standards applicable town-wide for all public and private streets in subdivisions. *Id.* Among its standards are those governing the street width (e.g., width of the right-of-way, travel pavement, and paved shoulder) and street gradient (e.g., longitudinal, side slope, and road crown) as well as the design of intersections and the required materials. *Id.* Table 1 designates three classes of private streets—Class I, Class II, and Class III—depending upon the anticipated volume of vehicular traffic. *Id.*

[¶4] In addition to specifying the criteria for evaluating proposed subdivisions, chapter 16 empowers the Planning Board to "waive or modify certain required improvements." *Id.* § 16.8.7(A). Section 16.8.7 provides,

> A. Waiver authorization. Upon written request, the Planning Board *may waive or modify certain required improvements, due to special circumstances of a particular plan, if the applicant demonstrates that the interest of public health, safety, the natural environment, and general welfare are not harmed,* or if those improvements are inappropriate because of inadequacy or lack of connecting facilities adjacent or in proximity to the proposed development, subject to appropriate conditions as determined by the Planning Board, and provided the waivers do not have the effect of nullifying the intent and purpose of the Comprehensive Plan and Title 16.

> B. Objectives secured. In granting modifications or waivers, the Planning Board must require such conditions as will, in its judgment, secure substantially the objectives of the requirements so waived or modified. The Planning Board is not obligated to consider the costs of required improvements when reviewing waiver or modification requests. The Planning Board shall consider the provisions in § **16.2.12F**, Basis for decisions, when reviewing such waiver or modification requests.
>
> (1) Any waivers granted must improve the ability of the project to take the property's predevelopment natural features into consideration. Natural features include but are not limited to topography, location of water bodies, location of unique or valuable natural resources, and relation to abutting properties or land uses.

Id. § 16.8.7 (emphasis added).

[¶5] The September 7 preliminary application included a request for a waiver of applicable street standards in section 16.8, Table 1. Specifically, the application requested that the proposed subdivision include two private streets that would satisfy all Class II requirements except that they would exceed the maximum allowed length for a Class II street. Hence, the applicants requested that the Planning Board "allow the proposed Class II streets to be constructed at their proposed lengths should the design receive signoff from the Police Chief and Fire Chief."

[¶6] On October 16, 2023, the applicants submitted revised plan sheets reflecting changes to address, among other things, comments from town staff suggesting that the streets "be built to the standards of a Class III private street." The October 16 submission proposed "switching from Class II to Class III private streets" and requested associated waivers pertaining to the width and gradient of the street as well as the width of a "sidewalk/pedestrianway." *See* Code ch. 16.8 attach. 1.

[¶7] On October 26, 2023, the Planning Board held a public hearing on the application. Andrews, an owner of land on the same road as the proposed subdivision, expressed opposition to the application. The applicants thereafter made revisions unrelated to the waivers at issue here and submitted a final application for approval in June 2024. *See* Code § 16.8.9(D).

[¶8] On August 5, 2024, Andrews filed a letter with the Planning Board opposing the proposed subdivision. Among other things, she argued that the requested waiver of the street standards was unlawful because "the Code does not provide the [Planning] Board with the authority to grant the waivers [the applicants] rely on for the Subdivision to be approved." In a letter submitted on August 19, 2024, Andrews further contested the applicants' waiver request.

[¶9] In early October 2024, the applicants made final revisions to the plans, and the Planning Board voted on the application at its October 24, 2024, meeting. The Planning Board determined by a vote of 5-2 that "[t]he proposed development conforms to a duly adopted Comprehensive Plan as per adopted provisions in the Town Code, zoning ordinance, subdivision regulation or ordinance, development plan or land use plan, if any" and that "the requested waivers met the special circumstances and objectives set in the Subdivision Review Ordinance in . . . § 16.8.7." Because "the applicant ha[d] satisfied each of the review standards for approval," the Planning Board "grant[ed] final approval for the Development . . . including any waivers granted or conditions as noted."[2]

[2] Specifically, the board found that with the following modifications "the proposed subdivision and wetland alteration application conform[ed] to Title 16 and the dimensional standards in the applicable zone and overlay zones" and thus "posed no adverse impact to public health, safety, natural environment, or general welfare":

1. Modification to the Class III ROW [right-of-way] minimum width from 60 feet to 40 feet, with a travel pavement minimum of 23 feet and 1 foot gravel shoulders.
2. Modification to the Class III ROW maximum length from 1,200 feet to 1,450 feet for the proposed Acorn Lane.
3. Modification to the Class III ROW maximum grade from 8 to 9%.
4. Waiver of the Class III ROW requirement of 5 feet [sic] sidewalks, in lieu of a 3-foot paved pedestrian travel way along one side of the road.

[¶10] On December 9, 2024, Andrews filed a petition in the Superior Court seeking judicial review of the Planning Board's decision.[3] The parties submitted briefs, and the court entered a judgment on August 7, 2025, affirming the decision of the Planning Board. The court concluded that the street standards were waivable subdivision standards, not zoning requirements for which a variance from the Board of Appeals would be required. Andrews timely appealed from the Superior Court's judgment. *See* 14 M.R.S. § 1851 (2026); M.R. App. P. 2B(c)(1).

II. DISCUSSION

[¶11] When, as here, the trial court acts in an appellate capacity, we review directly the Planning Board's decision. *Cannon v. Town of Mount Desert*, 2025 ME 86, ¶ 6, 345 A.3d 115. Andrews, as the party seeking to vacate the

[3] Section 16.2.12(B)(1) of the Code provides that an aggrieved party may seek judicial review of a final decision of the Planning Board "within 45 days from the date the decision by the Planning Board was rendered." The Planning Board's final decision advised that "[a]n aggrieved party with legal standing may appeal a final decision of the Planning Board . . . within forty-five (45) days from the date the decision by the Planning Board was rendered." The forty-fifth day after the October 24 Planning Board decision was Sunday, December 8, which means that the applicants' Monday, December 9, filing of their petition for judicial review would satisfy the forty-five-day deadline in Code § 16.2.12(B)(1) and referenced in the final decision. *See* M.R. Civ. P. 6(a). We invited supplemental briefing on the timeliness of the Superior Court petition, however, because the statutes and rules governing land use appeals require that a petition for judicial review be filed within thirty days after the date of the decision challenged. *See* 30-A M.R.S. §§ 4482, 4482-A (2026); M.R. Civ. P. 80B(b). Because the Town plainly did not provide accurate notice of the manner of seeking judicial review and the matter proceeded in the Superior Court without any challenge to timeliness, we assume without deciding that the appeal period itself did not begin to run or was tolled and address the merits of the appeal. *See Town of Freeport v. Greenlaw*, 602 A.2d 1156, 1161 (Me. 1992); *Seider v. Bd. of Exam'rs of Psychs.*, 1998 ME 78, ¶ 5, 710 A.2d 890.

Planning Board's decision, "bear[s] the burden of persuasion on appeal." *Id.* ¶ 7. Absent ambiguity in statutes or ordinances, we construe their language de novo based on the plain meaning they convey, read in harmony with the entire statutory or regulatory scheme. *See Wister v. Town of Mount Desert*, 2009 ME 66, ¶ 17, 974 A.2d 903; *Beckford v. Town of Clifton*, 2014 ME 156, ¶ 9, 107 A.3d 1124; *Town of China v. Althenn*, 2013 ME 107, ¶ 6, 82 A.3d 835; *Cumberland Farms, Inc. v. Town of Scarborough*, 1997 ME 11, ¶ 6, 688 A.2d 914.

[¶12] Andrews contends that the Planning Board "simply lacked the authority to waive" the street design standards in Section 16.8 and therefore its decision approving the proposed conservation subdivision must be vacated. Essentially, her argument is that the waivers of the street standards were impermissible variances that may be granted only by the Town's Board of Appeals consistent with 30-A M.R.S. § 4353 (2026).

[¶13] Andrews's invocation of section 4353 is misplaced. Section 4353 provides that a "municipality which adopts a zoning ordinance shall establish a board of appeals," *id.*; empowers a board of appeals to "hear appeals from any action or failure to act of the official or board responsible for enforcing the zoning ordinance," *id.* § 4353(1); and authorizes a board of appeals to grant variances from a zoning ordinance's requirements "when strict application of

the ordinance to the petitioner and the petitioner's property would cause undue hardship," *id.* § 4353(4), as well as in other specified circumstances, *see id.* § 4353(4-A) (disability variance), (4-B) (setback variance for dwellings that are primary year-round residences), (4-C) (variance from dimensional standards "relating to lot area, lot coverage, frontage and setback requirements"). The waivers at issue here do not involve variances from particular, zone-specific standards in a zoning ordinance.

[¶14] Strictly speaking, a "zoning ordinance" is a particular type of land use ordinance, namely one "that divides a municipality into districts and that prescribes and reasonably applies different regulations in each district." 30-A M.R.S. § 4301(15-A) (2026). By contrast a "land use ordinance" is "an ordinance or regulation of general application adopted by the municipal legislative body which controls, directs or delineates allowable uses of land and the standards for those uses." *Id.* § 4301(8).

[¶15] When an ordinance "regulates in a general and uniform city- or town-wide manner," the ordinance "does not constitute zoning, which is the particularistic division of the city into zones for the purpose of applying different proscriptions and reasonable application of different regulations in the different zones." *LaBay v. Town of Paris*, 659 A.2d 263, 265 (Me. 1995)

(quotation marks omitted). More to the point here, "[r]egulation of a subdivision is not zoning." *Shadan v. Town of Skowhegan*, 1997 ME 187, ¶ 15, 700 A.2d 245. "Rather, such regulation protects the public health, safety, and welfare through the imposition of reasonable site-specific restrictions that ensure municipal control by flexible and practical means." *Id.* (quotation marks omitted). Such nonzoning requirements may be waived or modified by a planning board. *See id.* ¶¶ 14-15.

[¶16] Andrews's resort to several of our past decisions to support her argument that the street standards at issue here are zoning standards requiring a variance and fall beyond the Planning Board's waiver authority in section 16.8.7 is also unavailing. *See, e.g., Perkins v. Town of Ogunquit*, 1998 ME 42, 709 A.2d 106; *Sawyer v. Town of Cape Elizabeth*, 2004 ME 71, 852 A.2d 58; *York v. Town of Ogunquit*, 2001 ME 53, 769 A.2d 172. In *Perkins v. Town of Ogunquit*, for example, a municipal board of appeals denied an applicant's request for a variance from a street-frontage requirement because the applicant could not establish hardship. 1998 ME 42, ¶ 4, 709 A.2d 106. The planning board thereafter waived the requirement, which the municipal ordinance authorized in the case of certain older buildings. *Id.* We affirmed the trial court's conclusion that the ordinance violated section 4353 by conferring the power to

grant a variance on a planning board, when the Legislature had reserved that power for a board of appeals. *Id.* ¶ 9. We acknowledged that some ordinances establish general, municipality-wide standards and are not zoning ordinances focused on dividing land into districts with unique requirements,[4] *id.* ¶ 11, but concluded that the waiver provision in that case had the effect of authorizing a circumvention of a zoning requirement because it failed "to take into account the purposes of the frontage requirements *of the zone*," *id.* ¶¶ 12-15 (emphasis added).

[¶17] Similarly, in *Sawyer v. Town of Cape Elizabeth,* we concluded that there had been a violation of section 4353 when a planning board's "modification" of a setback requirement conflicted with a mandatory open-space zoning standard. 2004 ME 71, ¶¶ 1-5, 852 A.2d 58. There, the zoning ordinance imposed open-space standards but authorized the planning board to modify the standards. *Id.* ¶ 4. We held that the ordinance authorizing the planning board's modification of zoning violated section 4353 by allowing a planning board to essentially replace zoning standards. *Id.* ¶¶ 7, 11-19.

[4] Andrews misapprehends the case law in arguing that standards of general applicability—as opposed to subdivision-specific standards—inherently constitute nonwaivable zoning regulations.

[¶18] In *York v. Town of Ogunquit,* a planning board had approved a subdivision upon waiving compliance with (1) a zoning ordinance road-width requirement for "collector streets" and (2) several subdivision standards regarding road grade, cul-de-sac street design, connections to a public street, and sidewalk width. 2001 ME 53, ¶¶ 2, 4 & n.4, 10-11, 769 A.2d 172. We held that the planning board did not err in waiving compliance with the subdivision standards that established general street standards but did lack the authority to waive compliance with the specific provision required by the zoning ordinance for the particular zone in which the proposed subdivision was situated. *Id.* ¶¶ 10-13.

[¶19] The waivers involved here—specifically, general standards pertaining to the width of the right-of-way, the street gradient, the maximum street length, and the composition and width of the sidewalk/pedestrianway—are found in Table 1, attached to the Code. Code ch. 16.8 attach. 1. These standards are referenced generically in the zoning regulations creating the R-RL Zone, Code § 16.4.10(D)(1), but are outlined in the chapters establishing general performance standards (chapter 16.5) and subdivision review (chapter 16.8). *See id.* § 16.5.27(D). Unlike the zoning regulation in *York*, which established a specific street width *for the zone*, 2001 ME 53, ¶ 11, 769 A.2d 172,

the Code provision establishing the R-RL Zone here merely references and directs compliance with the generally applicable street standards, *see* Code § 16.4.10(D)(1), ch. 16.8 attach. 1. The street standards in chapter 16.8 apply generally to promote public health and safety, *see Shadan*, 1997 ME 187, ¶ 15, 700 A.2d 245, and are not regulations establishing the division of the Town into zones that have different characteristics and development densities, *see LaBay*, 659 A.2d at 265.

[¶20] The structure of the Code comports with section 4353's limitations by distinguishing between general design and performance standards on one hand and core zoning requirements, such as dimensional standards applicable in a specific zone, on the other hand. In the R-RL zone, a subdivision applicant must comply with the subdivision standards as provided in chapter 16.8, but chapter 16.8, which applies to more than just the R-RL zone, includes the waiver provision. *See* Code §§ 16.4.10(D)(1), 16.8.7. The generally applicable, waivable street standards are not zoning standards that an applicant may be excused from satisfying only by variance.

[¶21] Finally, although the Land Use and Development Code incudes a broad purpose statement indicating that Title 16 as a whole is "designed for all the purposes of zoning embraced in the Maine Revised Statutes," including a

purpose to promote traffic safety, *id.* § 16.1.2(A), (B)(2), the Code allows the Planning Board to waive improvements only when appropriate conditions are imposed to vindicate the interests that those improvements safeguard. *Id.* § 16.8.7(A). As the interests at issue here are traffic safety concerns that apply across zones, the street standards are a proper subject for Planning Board waiver, and there has been no violation of section 4353. *See Shadan*, 1997 ME 187, ¶ 15, 700 A.2d 245.

[¶22] We conclude that the Planning Board did not intrude on the exclusive authority of the Board of Appeals to grant a variance and therefore affirm the Superior Court's judgment affirming the Planning Board's decision.

The entry is:

Judgment affirmed.

Sean R. Turley, Esq. (orally), Murray Plumb & Murray, Portland, for appellant Judith Andrews

Thomas Federle, Esq. (orally), Archipelago Law, Portland, for appellees Chip Andrews and Anne Andrews

Cameron Ferrante, Esq. (orally), Preti Flaherty Beliveau & Pachios, LLP, Portland, for appellee Town of Kittery