



**TOWN OF NEWBURGH
PLANNING BOARD
TECHNICAL REVIEW COMMENTS**

PROJECT NAME: UNITY PLACE WAREHOUSE
PROJECT NO.: 21-29
PROJECT LOCATION: NORTHWEST CORNER OF OLD LITTLE BRITAIN RD. & UNITY WAY
SECTION 95, BLOCK 2, LOT 14.1 & 19.12
REVIEW DATE: 10 JUNE 2022
MEETING DATE: 16 JUNE 2022
PROJECT REPRESENTATIVE: BROOKER ENGINEERING

1. Status of the utility easement which crosses the project site including the location of building should be addressed.
2. Ken Wersted's review of the dual exit lanes, the right and left out should be received.
3. A City of Newburgh Flow Acceptance letter is required. Applicants should provide narrative for hydraulic loading from the site.
4. Orange County Planning referral is required.
5. The water line and fire service line must be installed per Town of Newburgh requirements, where if fire service line is terminated potable water to the building is terminated. Copy of a typical detail is attached.
6. Standard Town of Newburgh Water and Sewer Notes must be added to the plans. Copies attached.
7. The SWPPP is under review.
8. Infiltration and permeability testing in compliance with NYSDEC Design Guidelines for infiltration practices must be documented for design of the infiltration practices.
9. The applicant's representative is requested to identify a location where flared end section 15 discharges to a natural water course. Currently that discharge will be at a point along an adjoining property line.
10. Project site is identified as having potential habitat for protected Bat Species. Minimum tree clearing restrictions will be required.
11. The Sanitary Sewer Pump Station Design and Engineering Report should be submitted.
12. All structures within 200 feet of the property should be depicted on the plans.

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13. Highway Superintendent's comments on the access drive should be provided.
14. It is noted that based on previous comments the amount of parking on the site has been reduced from 160 passenger car parking lots to 92.
15. Parking Calculation Table should be updated for current warehouse size.
16. Applicant's representative are requested to confirm the height of the building. Zoning Bulk Table Chart identifies the building at 40 feet high.
17. Landscaping Plans should be forwarded to the Town's Landscape Architect Consultant for review.
18. Landscape walls are proposed along the frontage in several locations to mitigate parking in front of the building as a mitigation for compliance to design guidelines.

Respectfully submitted,

MHE Engineering, D.P.C.



Patrick J. Hines
Principal
PJH/em

Unity Place Warehouse
Town of Newburgh Planning Board Application for Site Plan Approval
Narrative Summary, Responses to Comments, and Correspondence
June 7, 2022
BE #21202

A. Narrative Summary

The attached site plans are dated May 27, 2022. Following are the key site plan revisions made since the Planning Board reviewed the Concept Plan dated 09-29-2021.

- 1) The warehouse is smaller as follows:

	09-29-2021 Concept Plan	May 27, 2022 Site Plans
Floor Area	162,800 sq. ft.	154,700 sq. ft.
Loading Docks	79	72
Trailer Parking Spaces	40	36
Passenger Car Parking Spaces	160	92

- 2) Vehicle Access & Circulation

The concept plan included 3 Unity Place driveways and 1 Old Little Britain Road driveway. The Revised plan now reduces the number of Unity Place driveways to 1 and it is one-way in. Striping in Unity Place has been added for a left turn in turning lane. Associated signage is indicated on the layout plan.

- 3) Appearance

Fieldstone parapet walls are now proposed at the corner of Old Little Britain Road and Unity Place and at the Unity Place driveway and a thorough and thoughtful planting plan have been provided to create visual interest and to soften the overall site appearance. The walls and planting will also serve to screen the two parking areas which have been significantly reduced in size. No parking is proposed within the required 50-foot front yard. We understand that Town Design Guidelines generally avoid situating parking areas between the building and the road; however, the decorative walls and planting at the intersection corner will mitigate the appearance of the southern parking area.

A retaining wall is proposed along the west property line. Significant planting is proposed in front of the wall to soften the visual appearance from the west. Attached are renderings of the proposed building as prepared by Anderson Design Group.

- 4) Drainage

An on-site soil investigation was performed to enable a site-specific drainage mitigation design. The proposed drainage mitigation system includes an infiltration practice located at the north end of the site and two detention practices plus a bioretention practice located at the south end of the site. The bioretention practice is located near the corner of Old Little Britain Road and Unity Place and includes significant planting which will complement the fieldstone walls and other plantings to beautify the site. The drainage mitigation design provides the requisite water quality and water quantity mitigation to earn coverage under the NYSDEC Stormwater General Permit for Construction Activity. The attached Drainage Analysis Report indicates how required water quality and water quantity mitigation is achieved. Once the

Drainage Analysis has gained the Planning Board Engineer's satisfaction, we will add the requisite text and forms to the Drainage Analysis Report to create the required Stormwater Pollution Prevention Plan.

5) Traffic

Attached please find an April 13, 2022 Traffic Impact Study prepared by Colliers Engineering. The Study indicates that with the completion of certain access related striping, signing, and sight distance recommended improvements, the Unity Place Warehouse development traffic is not expected to result in any significant impact in overall traffic operations.

6) Water and Sewer

Water and sewer service are available to this site and a 04-26-2022 letter from the Town Water and Sewer Department is attached. We further understand that water supply and sewage treatment capacity are both available. The Planning Board's Engineering Consultant will help coordinate willingness to serve water supply and sewage treatment commitments for this site at the appropriate stage of site plan review.

Water connections are proposed at two locations in Unity Place in case the warehouse has two users. Water pressure and flow shall be evaluated and interior plumbing designed as part of the building permit process. Sewer connections are likewise proposed at two locations in Unity Place. Both sewer connections direct flow to the southern end of the site to a proposed sanitary pump station which will pump sewage to a gravity section of sewer located in Unity Place at the northern end of the site. The sanitary pump station details will be designed after the Planning Board has made a SEQR determination. Town Planners anticipated that this site would require a pumped sanitary solution and Unity Place was built with a blank sanitary force main in place to accommodate this future eventuality.

B. Responses to Comments

Following are responses to the review letters received.

1) Comments from Kenneth Wersted, P.E., Creighton Manning Engineering, LLP, letter of 10/31/21:

Please refer to attached May 23, 2022 response letter from Colliers Engineering.

2) MHE Technical Review of 11/4/21:

1. *COMMENT: The project is proposing a 162,800 square foot warehouse facility located at the intersection of Old Little Britain Road and Unity Place. Project proposes 160 parking spaces for passenger vehicles, 79 loading docks and 25 trailer storage parking spaces. The Concept Plan noticeably lacks an area designated for stormwater management.*

Response: The attached site plans provide a detailed stormwater management plan which is supported by the attached Drainage Analysis.

2. *COMMENT: A proposed 40-foot-wide utility easement exists traversing the site through a portion of the building. This should be addressed in future submissions.*

Response: Ownership is in the process of extinguishing the subject easement. We will update the Planning Board and their Consultants when this has been accomplished.

3. *COMMENT: Parking is depicted within the front yard setbacks of each of the front yard areas. This does not comply with Town of Newburgh design guidelines. Applicants are requested to evaluate parking with regard to the design guidelines.*

Response: The car parking areas have been reduced in size and have been sited to enhance the visual appeal of the site. No parking is proposed within the required 50-foot front yard. We understand that Town Design Guidelines generally avoid situating parking areas between the building and the road. However, the southern parking is situated between the building and Old Little Britain Road. The proposed decorative walls and planting along Old Little Britain Road and at the intersection corner with Unity Place will further mitigate the appearance of the southern parking area.

4. *COMMENT: The rear of the proposed warehouse faces Unity Place. Visual renderings of the warehouse should be provided to the Planning Board early in the process as part of the architectural review.*

Response: The side of the building facing Unity Place could be considered the front. Attached please find renderings of the proposed building as prepared by Anderson Design Group.

4. *COMMENT: Future submissions should show all improvements within 200 feet of any of the lot lines.*

Response: Mapping of existing improvements in Old Little Britain Road and Unity Place extends beyond 200 feet. On the east side mapping extends to the Unity Place right-of-way. On the west side of the site mapping of improvements extends vary beyond the property line. Please consider if the mapping limits as submitted are satisfactory.

5. *COMMENT: The parking calculation for the site identifies between 73 and 82 parking spaces required. 160 parking spaces is proposed. The Applicants representative are requested to evaluate the need for that amount of parking.*

Response: We have evaluated parking needs and reduced the number of proposed parking spaces accordingly.

6. *COMMENT: Orange County Planning Department referral will be required in the future. Project is located within 500 feet of a municipal boundary.*

Response: Comment noted.

7. *COMMENT: The project is a Type I Action greater than 100,000 square feet. Planning Board should consider issuing a Notice of Intent for Lead Agency.*

Response: The Notice of Intent was sent out by the Planning Board on November 11, 2021.

8. *COMMENT: The EAF identifies potential habitat for Threatened or Endangered Species- Indiana Bat. Tree clearing restrictions at a minimum would be required to mitigate impacts to this species.*

Response: Comment noted.

9. *COMMENT: The IB Zone abuts the R-3 Zone at Old Little Britain Road. Buffer requirements in accordance with Section 185-21 should be addressed. The property across the street is owned by the City of Newburgh and most likely will not be developed for residential uses.*

Response: We understand that Zoning Code Section 185-21D(2)(a)[2][a] which provides that "No buffer shall be required for boundaries with properties in residence districts if; The abutting residentially zoned parcel is owned by a federal, state or municipal government and not utilized for housing" will apply.

COMMENT: Highway Superintendents comments on the width of the access points of Little Britain Road and Unity Place for the trucks should be received.

Response: Comment noted.

10. *COMMENT: City of Newburgh Flow Acceptance letter will be required.*

Response: Comment noted, we understand that Mr. Hines' office can assist with this matter when this Application has reached the appropriate stage.

11. *COMMENT: Plans should depict utilities within the roadways, including water lines.*

Response: The attached grading, drainage, and utility plan provides the utility locations.

12. *COMMENT: Further review will be provided upon submission of detailed plans.*

Response: Comment noted.

3) Comments from Jason Brenner, NYSDOT, letter of 10/29/21:

Please refer to attached May 3, 2022 response letter from Colliers Engineering that was sent to Mr. Brenner.

C. Correspondence

Copies of relevant Correspondence discussed above are attached.



TOWN OF NEWBURGH
WATER AND SEWER DEPARTMENT
308 GARDNERTOWN ROAD
NEWBURGH, NY 12550

JEFF GUIDO
MANAGER

PHONE: 845-564-7813
FAX: 845-566-8903

April 26, 2022

To Whom It May Concern:

Town of Newburgh water and sewer service is available for the following parcels located off Unity Place in the Town of Newburgh:

SBL: 97-2-14.1
97-2-19.12

If you need additional information, please contact our office at 845-564-7813.

Sincerely,

Mary Butler
Administrative Assistant

May 3, 2022

Mr. Jason Brenner
Traffic & Safety Group
New York State Department of Transportation
4 Burnett Boulevard
Poughkeepsie, NY 12603

SEQRA # 21-201 - Unity Place Warehouse
Town of Newburgh, New York
Colliers Engineering & Design Project No. 21005083A

Dear Mr. Brenner:

The following items are in response to comments contained in the New York State Department of Transportation (NYSDOT) letter dated November 29, 2021.

- Please note that the proposed project does not abut the state system. However, it is anticipated that the State Highway system will be impacted and the NYSDOT will remain involved in the SEQRA review process.

Response: Comment noted. NYSDOT will be copied on future submissions.

- A Traffic Impact Study shall be prepared and submitted to NYSDOT for further review and comments. The NYSDOT is concerned with the impacts at the signals of Route 17k/Unity Place and Route 300/Old Little Britain Road.

Response: A detailed Traffic Impact Study has been prepared for the project dated April 13, 2022. This study included an evaluation of both the NYS Route 17K/Unity Place and NYS Route 300/Old Little Britain Road/Orr Avenue intersections.

- Please have the applicant show the truck movements at the intersections of 17K and Route 300 to determine if any roadway modifications are needed. Include the intersection of Little/Old Britain Road if trucks will use this route.

Response: Trucks will use the NYS Route 17K/NYS Route 300 intersection and the traffic volume movements are shown in the traffic reports. Turning diagrams will be provided for the truck movements but are similar to what occurs today. Trucks are not expected to use the Little Britain Road intersection.

- Please submit subsequent plans and documents for this project as well as those for any future development proposals in DIGITAL (.pdf) FORMAT – CD, DVD, or Thumb drive. Documents can also be sent to my email at Jason.Brenner@dot.ny.gov.

Response: Copies of all documents will be emailed to Jason Brenner at NYSDOT as part of the overall review process.

Sincerely,

Colliers Engineering & Design CT, P.C.



Philip Grealy, Ph.D., P.E.
Geographic Discipline Leader

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Suite 180E
Valhalla New York 10595
Main: 877 627 3772
colliersengineering.com



May 23, 2022

Chairman John Ewasutyn
Town of Newburgh Planning Board
21 Hudson Valley Professional Plaza
Newburgh, NY 12550

Unity Place Warehouse
Town of Newburgh, New York
Colliers Engineering & Design Project No. 21005083A

Dear Chairman Ewasutyn and Members of the Planning Board:

The following items are in response to comments contained in the Creighton Manning letter dated October 31, 2021. The items are numbered according to their review comments.

1. The project will box in about 2.4 acres of residential uses – two single-family homes (zoned IB). Has the developer expressed any interest in purchasing these properties? Future development of the 2.4 acres for commercial uses will be challenging.

Response: Comment noted. The Applicant has informed us that the owners do not reside at the homes and were contacted and expressed no interest and were unresponsive to an inquiry for selling the properties.

2. The project proposed four site driveways, three to Unity Place, the fourth to Old Little Britain Road; two driveways are for trucks, two for employees. There are two proposed driveways offset from the north Jehovah's Witness driveway. Both of the project site driveways are on the inside curve with limited sight distance.

Response: The number of site driveways has been reduced on the revised plan. A single entry only driveway from Unity Place is provided at the northern end of the property. One full movement (entry and exit) driveway is now provided on Old Little Britain Road at the western portion of the site.

3. Sight distances should be measured for each proposed site driveway and mitigation or turn restrictions identified.

Response: The driveway on Unity Place is now entry only and "one-way" signs have been placed accordingly. The sight distances for the Old Little Britain Road driveway, which will be full movement, are now indicated.

4. Striping and lane arrangements on Unity Place should be shown on the site plan.

Response: The revised site plan now indicates the signing and striping for the Old Little Britain Road driveway.

5. ITE suggests 65 parking spaces for warehouses of this size, 155 spaces for manufacturing; 160 spaces are provided and could be deficient subject to the tenant that occupies the space.

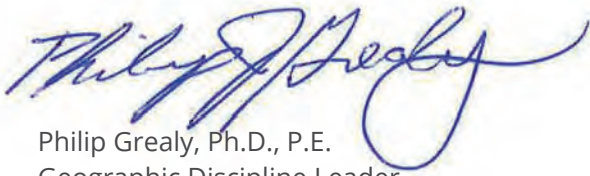
Response: Comment noted. We believe the number of parking spaces are adequate based on the ITE data and typical tenants' needs.

6. We estimate the project to generate about 45 to 50 trips during the peak hours as warehouse, 110 to 130 trips as manufacturing; therefore, traffic will be subject to the tenant operations. We suggest a traffic study be conducted to identify any potential impacts from a SEQR perspective.

Response: A traffic study was prepared for the site and is attached.

Sincerely,

Colliers Engineering & Design CT, P.C.



Philip Grealy, Ph.D., P.E.
Geographic Discipline Leader

PjG/jr
Enclosure

**Full Environmental Assessment Form
Part 1 - Project and Setting**

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either “Yes” or “No”. If the answer to the initial question is “Yes”, complete the sub-questions that follow. If the answer to the initial question is “No”, proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project:		
Project Location (describe, and attach a general location map):		
Brief Description of Proposed Action (include purpose or need):		
Name of Applicant/Sponsor:		Telephone:
		E-Mail:
Address:		
City/PO:	State:	Zip Code:
Project Contact (if not same as sponsor; give name and title/role):		Telephone:
		E-Mail:
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor):		Telephone:
		E-Mail:
Address:		
City/PO:	State:	Zip Code:

Rev.1

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. (“Funding” includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees <input type="checkbox"/> Yes <input type="checkbox"/> No		
b. City, Town or Village Planning Board or Commission <input type="checkbox"/> Yes <input type="checkbox"/> No		
c. City, Town or Village Zoning Board of Appeals <input type="checkbox"/> Yes <input type="checkbox"/> No		
d. Other local agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
e. County agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
f. Regional agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
g. State agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
h. Federal agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
<p>i. Coastal Resources.</p> <p><i>i.</i> Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><i>ii.</i> Is the project site located in a community with an approved Local Waterfront Revitalization Program? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><i>iii.</i> Is the project site within a Coastal Erosion Hazard Area? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>		

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? Yes No

- **If Yes**, complete sections C, F and G.
- **If No**, proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? Yes No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? Yes No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) Yes No

If Yes, identify the plan(s):

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? Yes No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. Yes No
If Yes, what is the zoning classification(s) including any applicable overlay district?

b. Is the use permitted or allowed by a special or conditional use permit? Yes No

c. Is a zoning change requested as part of the proposed action? Yes No

If Yes,

i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? _____

b. What police or other public protection forces serve the project site?

c. Which fire protection and emergency medical services serve the project site?

d. What parks serve the project site?

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)?

b. a. Total acreage of the site of the proposed action? _____ acres
b. Total acreage to be physically disturbed? _____ acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ acres

c. Is the proposed action an expansion of an existing project or use? Yes No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? Yes No
If Yes,

i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)

ii. Is a cluster/conservation layout proposed? Yes No

iii. Number of lots proposed? _____

iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? Yes No

i. If No, anticipated period of construction: _____ months

ii. If Yes:

- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year

• Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? Yes No
 If Yes, show numbers of units proposed.

	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)? Yes No
 If Yes,

i. Total number of structures _____

ii. Dimensions (in feet) of largest proposed structure: _____ height; _____ width; and _____ length

iii. Approximate extent of building space to be heated or cooled: _____ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? Yes No
 If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: Ground water Surface water streams Other specify: _____

iii. If other than water, identify the type of impounded/contained liquids and their source. _____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? Yes No
 (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)
 If Yes:

i. What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____

iv. Will there be onsite dewatering or processing of excavated materials? Yes No
 If yes, describe. _____

v. What is the total area to be dredged or excavated? _____ acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? Yes No

ix. Summarize site reclamation goals and plan: _____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? Yes No
 If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will the proposed action cause or result in disturbance to bottom sediments? Yes No

If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? Yes No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

c. Will the proposed action use, or create a new demand for water? Yes No

If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? Yes No

If Yes:

- Name of district or service area: _____
- Does the existing public water supply have capacity to serve the proposal? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No
- Do existing lines serve the project site? Yes No

iii. Will line extension within an existing district be necessary to supply the project? Yes No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____
- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? Yes No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? Yes No

If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

iii. Will the proposed action use any existing public wastewater treatment facilities? Yes No

If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No

- Do existing sewer lines serve the project site? Yes No
- Will a line extension within an existing district be necessary to serve the project? Yes No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? Yes No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? Yes No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. _____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

- If to surface waters, identify receiving water bodies or wetlands: _____

- Will stormwater runoff flow to adjacent properties? Yes No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? Yes No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? Yes No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? Yes No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) Yes No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____ Tons/year (short tons) of Carbon Dioxide (CO₂)
- _____ Tons/year (short tons) of Nitrous Oxide (N₂O)
- _____ Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____ Tons/year (short tons) of Sulfur Hexafluoride (SF₆)
- _____ Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflouorocarbons (HFCs)
- _____ Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? Yes No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? Yes No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? Yes No

If Yes:

i. When is the peak traffic expected (Check all that apply): Morning Evening Weekend

Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? Yes No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

vi. Are public/private transportation service(s) or facilities available within 1/2 mile of the proposed site? Yes No

vii. Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? Yes No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? Yes No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? Yes No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

iii. Will the proposed action require a new, or an upgrade, to an existing substation? Not anticipated Yes No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: _____
- Saturday: _____
- Sunday: _____
- Holidays: _____

ii. During Operations:

- Monday - Friday: _____
- Saturday: _____
- Sunday: _____
- Holidays: _____

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m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? During construction Yes No
 If yes:
 i. Provide details including sources, time of day and duration:

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? Yes No
 Describe: _____

n. Will the proposed action have outdoor lighting? Yes No
 If yes:
 i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? Yes No
 Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? Yes No
 If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? Yes No
 If Yes:
 i. Product(s) to be stored _____
 ii. Volume(s) _____ per unit time _____ (e.g., month, year)
 iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? Yes No
 If Yes:
 i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? Yes No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? Yes No
 If Yes:
 i. Describe any solid waste(s) to be generated during construction or operation of the facility:
 • Construction: _____ tons per _____ (unit of time)
 • Operation : _____ tons per _____ (unit of time)
 ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:
 • Construction: _____

 • Operation: _____

 iii. Proposed disposal methods/facilities for solid waste generated on-site:
 • Construction: _____

 • Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? Yes No
 If Yes:
 i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____
 ii. Anticipated rate of disposal/processing:
 • _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
 • _____ Tons/hour, if combustion or thermal treatment
 iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? Yes No
 If Yes:
 i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

 ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

 iii. Specify amount to be handled or generated _____ tons/month
 iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

 v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? Yes No
 If Yes: provide name and location of facility: _____

 If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.
 i. Check all uses that occur on, adjoining and near the project site.
 Urban Industrial Commercial Residential (suburban) Rural (non-farm)
 Forest Agriculture Aquatic Other (specify): _____
 ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertypes	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces			
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: _____ _____			

c. Is the project site presently used by members of the community for public recreation? Yes No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? Yes No
If Yes,
i. Identify Facilities:

e. Does the project site contain an existing dam? Yes No
If Yes:
i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection:

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? Yes No
If Yes:
i. Has the facility been formally closed? Yes No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? Yes No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? Yes No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: Yes No
 Yes – Spills Incidents database Provide DEC ID number(s): _____
 Yes – Environmental Site Remediation database Provide DEC ID number(s): _____
 Neither database
ii. If site has been subject of RCRA corrective activities, describe control measures: _____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? Yes No
If yes, provide DEC ID number(s): _____
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

v. Is the project site subject to an institutional control limiting property uses? Yes No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? Yes No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? _____ feet

b. Are there bedrock outcroppings on the project site? Yes No
 If Yes, what proportion of the site is comprised of bedrock outcroppings? _____%

c. Predominant soil type(s) present on project site: _____ %
 _____ %
 _____ %

d. What is the average depth to the water table on the project site? Average: _____ feet

e. Drainage status of project site soils: Well Drained: _____ % of site
 Moderately Well Drained: _____ % of site
 Poorly Drained _____ % of site

f. Approximate proportion of proposed action site with slopes: 0-10%: _____ % of site
 10-15%: _____ % of site
 15% or greater: _____ % of site

g. Are there any unique geologic features on the project site? Yes No
 If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? Yes No

ii. Do any wetlands or other waterbodies adjoin the project site? Yes No
 If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? Yes No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? Yes No
 If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? Yes No

j. Is the project site in the 100-year Floodplain? Yes No

k. Is the project site in the 500-year Floodplain? Yes No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? Yes No
 If Yes:
 i. Name of aquifer: _____

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<p>m. Identify the predominant wildlife species that occupy or use the project site: _____ _____ _____</p>	
<p>n. Does the project site contain a designated significant natural community? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes: <i>i.</i> Describe the habitat/community (composition, function, and basis for designation): _____ _____ <i>ii.</i> Source(s) of description or evaluation: _____ <i>iii.</i> Extent of community/habitat: • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres</p>	
<p>o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes: <i>i.</i> Species and listing (endangered or threatened): _____ _____ _____</p>	
<p>p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes: <i>i.</i> Species and listing: _____ _____</p>	
<p>q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, give a brief description of how the proposed action may affect that use: _____ _____</p>	
<p>E.3. Designated Public Resources On or Near Project Site</p>	
<p>a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, provide county plus district name/number: _____</p>	
<p>b. Are agricultural lands consisting of highly productive soils present? Not classified as "highly productive". see below. <input type="checkbox"/> Yes <input type="checkbox"/> No <i>i.</i> If Yes: acreage(s) on project site? _____ <i>ii.</i> Source(s) of soil rating(s): _____</p>	
<p>c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes: <i>i.</i> Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature <i>ii.</i> Provide brief description of landmark, including values behind designation and approximate size/extent: _____ _____ _____</p>	
<p>d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes: <i>i.</i> CEA name: _____ <i>ii.</i> Basis for designation: _____ <i>iii.</i> Designating agency and date: _____</p>	

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? If Yes: <i>i.</i> Nature of historic/archaeological resource: <input type="checkbox"/> Archaeological Site <input type="checkbox"/> Historic Building or District <i>ii.</i> Name: _____ <i>iii.</i> Brief description of attributes on which listing is based: _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
g. Have additional archaeological or historic site(s) or resources been identified on the project site? If Yes: <i>i.</i> Describe possible resource(s): _____ <i>ii.</i> Basis for identification: _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? If Yes: <i>i.</i> Identify resource: _____ <i>ii.</i> Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____ <i>iii.</i> Distance between project and resource: _____ miles.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? If Yes: <i>i.</i> Identify the name of the river and its designation: _____ <i>ii.</i> Is the activity consistent with development restrictions contained in 6NYCRR Part 666?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

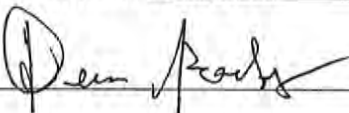
If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

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Applicant/Sponsor Name Dennis Rocks Date 09-23-2021 Revised 06-07-2022

Signature  Title Engineer for Applicant



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	V00312, 336031, C336031
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes

E.2.o. [Endangered or Threatened Species - Name]	Indiana Bat
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	No
E.3.i. [Designated River Corridor]	No

Attachment to Full Environmental Assessment Form
for
Unity Place Warehouse

Page 1, Item A: Owner

Property owners:

**1) Tax Lot 97-2-19.12: Lake View Holding LLC
Managing Member:**

Ronald K. Barton
c/o Barton Chevrolet, Inc.
800 Auto Park Place
Newburgh, NY 12550
Tel: (845) 561-8000
Email: ron@bartoncadillac.com

**2) Tax Lot 97-2-14.1: Unity Place Properties LLC
Managing Member:**

Ronald K. Barton
c/o Barton Chevrolet, Inc.
800 Auto Park Place
Newburgh, NY 12550
Tel: (845) 561-8000
Email: ron@bartoncadillac.com

Attachment to FEAF

Item D.2.r.ii Construction

- The following materials to be recycled or salvaged shall be non-hazardous only. Diversion of materials may include donations to charitable organizations or reused on-site.
 - Concrete
 - Concrete Masonry Units (CMU)
 - Metals: (banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze)
- On Site:
 - All construction waste material that will be recycled will be gathered in separate containers and then trucked to a remote location to be off-loaded for sorting and recycling. If requested, subcontractors will provide a letter from recycling facility on their letterhead declaring their recycling rate and listing the receiving facilities/companies that will be purchasing or accepting the recycled or salvaged materials.
 - Each subcontractor will stockpile all construction debris in a designated project area at the end of each workday. All onsite food waste will be disposed of in separate waste bins labeled plastics, papers and metals to be recycled. All salvage or reuse will be identified onsite and will be stored onsite.
 - An on-site pre-construction meeting with subcontractors will be held to reinforce to each subcontractor's key field employees the commitments made by their companies with regard to the project goals and requirements mentioned above.
 - Waste prevention and recycling activities will be discussed at the beginning of each weekly subcontractor coordination meeting to reinforce project goals and communicate progress to date.

The intent is for this project is to recycle, reuse or salvage at least 75%, by weight, of the waste generated as a result of land clearing and construction activities for this project.

Attachment to FEAF

Item D.2.r.ii Operation

Minimization, recycling or reuse of materials during building occupancy will be obtained by meeting the following criteria, such as:

- **Indoor Water Use Reduction**
 - Intent: Maximize water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems including process water use and process wastewater generation.
 - The proposed building will employ strategies that use 20% to 30% less water than the water use baseline calculated for the building. The domestic water baseline (not including irrigation) is determined by the Energy Policy Act of 1992 fixture performance requirements.
 - Proposed Technologies & Strategies: Use high-efficiency, low flow fixtures, as well as occupant sensors to reduce the potable water demand shall be implemented.
- **Energy Reduction:**
 - Electric Consumption: Proposed design to be a 20% improvement of the annual baseline energy consumption outlined in ASHRAE 90.1-2007
- **Enhanced Indoor Air Quality Strategies:**
 - Intent: Exceed the expected minimum indoor air quality (IAQ) performance to enhance indoor air quality in buildings, thus contributing to the comfort and well-being of the occupants, as well as the overall energy efficiency of the building.
 - The proposed building will exceed the minimum requirements of voluntary consensus standard ASHRAE 62.1-2004, Ventilation for Acceptable Indoor Air Quality. Mechanical ventilation systems shall be designed using the Ventilation Rate Procedure.
 - Proposed Technologies & Strategies: The building shall be designed and constructed to meet the requirements of Sections 4, 5, 6, and 7 of the referenced ASHRAE standard.



VICINITY MAP
N.T.S.

PETER D. TORGERSEN,
ENVIRONMENTAL SCIENCES

110 Town Line Road, Pearl River New York 10965, 845 642 8939 petertorger271@gmail.com

August 5, 2021

Eliot Spitzer

Re: Lot D1 & F1, Unity Place, Newburgh, New York

Dear Mr. Spitzer,

Last Week I walked the above site to determine either the presence or absence of any wetlands, steams or ponds that could inhibit any future development. Except for an existing manmade detention pond I found nothing that fit any description of wetlands. The USACOE does not have jurisdiction over manmade features such as detention ponds or water quality basins that are actively maintained and still functioning as originally designed. There had been a significant amount of rain the night before and except for a few depressions in the wooded portions of the site there were no signs of surface saturation. The site appears to have been significantly disturbed in the past and the recent installation of the municipal road named Unity Place has rerouted any surface water that might have impacted this site. The existing detention pond has a piped outlet and can never flood the site. Neither the national Wetlands Inventory nor the NYSDEC Wetlands Mapper indicate any existing wetlands at this location. The Soils Survey of Orange County shows the south half of this site to have Erie type soils. Erie soils are a type that is known to have a high frequency of having wetlands. In this case there are no dominant plant communities of wetland tolerant vegetation. There are no onsite streams or ditches that connect to the adjacent lake. There are no examples of saturated soil.

There are no wetlands located on these two adjacent properties.

Yours truly,

A handwritten signature in black ink that reads "Peter Torgersen". The signature is written in a cursive, flowing style.

Peter Torgersen



Engineering
& Design

Traffic Impact Study

Unity Warehouse
Town of Newburgh
Orange County, NY
Project No. 21005083A


October 7, 2021

Revised April 13, 2022

Prepared for:

Unity Place Newburgh LLC
95 Chestnut Ridge Road
Montvale, NJ 07645

Prepared by:


Philip J. Gready, Ph.D., P.E.
Geographic Discipline Leader
NY Professional Engineer
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Colliersengineering.com

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I. Introduction

A. Project Description and Location

(Figure No. 1)

This report has been prepared to evaluate the potential traffic impacts associated with the proposed approximately 154,700 square foot warehouse development, which is proposed to be developed on an approximately 12-acre parcel located on the west side of Unity Place south of NYS Route 17K and north of Old Little Britain Road in the Town of Newburgh, New York. (Note that this represents a reduction from the originally proposed size facility.) As shown on Figure No. 1, access to the development is proposed via access connections from Unity Place and Old Little Britain Road.

A Design Year of 2024 has been utilized in completing the traffic analysis in order to evaluate future traffic conditions associated with this proposed development.

B. Scope of Study

This study has been prepared to identify current and future traffic operating conditions on the surrounding roadway network and to assess the potential traffic impacts of the proposed warehouse development.

All available traffic count data for the study area intersections were obtained from previous reports prepared by our office. These data were supplemented with new traffic counts collected by representatives of Colliers Engineering & Design CT, P.C. These data were also compared to count data obtained from the New York State Department of Transportation (NYSDOT). Together these data were utilized to establish the Year 2021 Existing Traffic Volumes representing existing traffic conditions in the vicinity of the site.

The Year 2021 Existing Traffic Volumes were then projected to the 2024 Design Year to take into account background traffic growth. In addition, traffic for other specific potential or approved developments in the area were estimated and then added to the Projected Traffic Volumes to obtain the Year 2024 No-Build Traffic Volumes.

Estimates were then made of the potential traffic that the proposed development would generate during each of the peak hours (see Section III-C for further discussion). The resulting site generated traffic volumes were then added to the roadway system and combined with the Year 2024 No-Build Traffic Volumes resulting in the Year 2024 Build Traffic Volumes.

The Existing, No-Build and Build Traffic Volumes were then compared to roadway capacities based on the procedures from the Highway Capacity Manual to determine existing and future Levels of Service and operating conditions. Recommendations for improvements were made where necessary to serve the existing and/or future traffic volumes.

II. Existing Roadway and Traffic Descriptions

A. Description of Existing Roadways

As shown on Figure No. 1, the proposed warehouse development will be accessed from Old Little Britain Road and Unity Place via new driveway connections. The following is a brief description of the roadways located within the study area. In addition, Section III-F provides a further description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service and any recommended improvements for each of the study area intersections. Appendix "D" contains copies of the capacity analyses which indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

1. Unity Place

Unity Place is a two-lane Town roadway that serves both commercial and institutional land uses in this area and has a posted speed limit of 30 MPH. Unity Place originates at NYS Route 17K opposite the I-87 exit ramp and traverses south where it terminates at a stop-sign controlled "T" intersection with Old Little Britain Road. The roadway primarily consists of one lane in each direction except where separate left turn lanes are provided to enter several commercial developments along Unity Place and at its intersections with NYS Route 17K, as well as Old Little Britain Road.

2. NYS Route 17K

NYS Route 17K is a state highway classified as an urban minor arterial, which runs generally in an east/west direction through the area. The roadway originates in the City of Newburgh and continues in a westerly direction through intersections with other local roads, as well as with the exit ramp from the NYS Thruway/Unity Drive and NYS Route 300 at signalized intersections. The roadway consists of two through lanes in each direction in the immediate vicinity of the site with additional auxiliary turning lanes at the key area intersections. In the vicinity of the site, there is a posted speed of 40 MPH.

3. NYS Route 300

NYS Route 300, which generally runs in a north/south direction, north of Route 17K is classified an urban principal arterial under the jurisdiction of the New York State Department of Transportation (NYSDOT), while south of Route 17K it is classified as a urban minor arterial. The roadway generally consists of two lanes in each direction

with additional auxiliary turning lanes at area intersections. It has signalized intersections with NYS Route 207, the Walmart driveway, Old Little Britain Road/Orr Avenue, access to Adams Fair Acres Farms as well as with NYS Route 17K. NYS Route 300 has a posted speed limit of 45 mph.

4. Old Little Britain Road

Old Little Britain Road is a two-lane roadway which originates at a stop sign controlled “T” type intersection with NYS Route 207. The Road continues in a westerly direction intersecting with other roads including D’Alfonso Road and William Avenue and Unity Place. The intersection with Williams Avenue is an “All-Way” stop-sign controlled intersection. It terminates at a signalized intersection with NYS Route 300 opposite Orr Avenue. The roadway provides access to Home Depot and Kohl’s and has a posted speed limit of 30 MPH.

B. Year 2021 Existing Traffic Volumes

(Figures No. 2. and 3)

Manual traffic counts were collected by representatives of Colliers Engineering & Design CT, P.C. on Wednesday, September 22, 2021 for the AM and PM Peak Hours to determine the existing traffic volume conditions at the study area intersections. These traffic counts were then compared to traffic volume data from previous traffic studies (pre-Covid 19) conducted by our office and to traffic volume data available from the New York State Department of Transportation (NYSDOT) for the NYS Route 300 and NYS Route 17K corridors. Based on this information, the Year 2021 Existing Traffic Volumes were established for the Weekday Peak AM and Weekday Peak PM Hours at the following study area intersections.

- Unity Place and NYS Route 17K
- Unity Place and Old Little Britain Road
- NYS Route 300 and NYS Route 17K
- NYS Route 300 and Old Little Britain Road

Based upon a review of the traffic counts, the peak hours were generally identified as follows:

- | | |
|------------------------|-------------------|
| ▪ Weekday Peak AM Hour | 7:45 AM – 8:45 AM |
| ▪ Weekday Peak PM Hour | 4:30 PM – 5:30 PM |

The resulting Year 2021 Existing Traffic Volumes are shown on Figures No. 2 and 3 for the Weekday Peak AM Hour and Weekday Peak PM Hour, respectively.

III. Evaluation of Future Traffic Conditions

A. Year 2024 No-Build Traffic Volumes

(Figure No. 4 through 9)

The Year 2021 Existing Traffic Volumes were increased by a growth factor of 1% per year to account for general background growth resulting in the Year 2024 Projected Traffic Volumes which are shown on Figures No. 4 and 5 for each of the Peak Hours. In addition, traffic from other specific potential developments in the area including the Matrix Development, Resorts World, and the recently approved Bj's (now opened), were identified. The resulting traffic volumes associated with these other developments are shown on Figures No. 6 and 7 for each of the peak hours. These volumes were added to the 2024 Projected Traffic Volumes resulting in the Year 2024 No-Build Traffic Volumes which are shown on Figures No. 8 and 9 for the Weekday Peak AM and Weekday Peak PM Hours, respectively.

B. Site Generated Traffic Volumes

(Table No. 1)

Estimates of the amount of traffic to be generated by the proposed residential development during each of the peak hours were developed based on information published by the Institute of Transportation Engineers (ITE) as contained in the report entitled "Trip Generation", 11th Edition, 2021, based on Land Use Category – 150 Warehousing and 110 – Light Industrial. Table No. 1 summarizes the trip generation rates and corresponding site generated traffic volumes for the Weekday Peak AM and Weekday Peak PM Hours.

C. Arrival/Departure Distribution

(Figures No. 10 through 13)

It was necessary to establish arrival and departure distributions to assign the site generated traffic volumes to the surrounding roadway network. Based on a review of the Existing Traffic Volumes and the expected travel patterns on the surrounding roadway network, the distributions were identified. The anticipated arrival and departure distributions are shown on Figures No. 10 and 11 for the passenger cars and Figures No. 12 and 13 for trucks, respectively.

D. 2024 Build Conditions Traffic Volumes

(Figures No. 14 through 19)

The site generated traffic volumes were assigned to the roadway network based on the arrival and departure distributions referenced above. The resulting site generated traffic volumes for each of the study area intersections are shown on Figures No. 14, 15, 16, and 17 for each of the peak hours for cars and trucks, respectively. The site generated traffic volumes were then added to the Year 2024 No-Build Traffic Volumes to obtain the Year 2024 Build Traffic Volumes. The resulting Year 2024 Build Traffic Volumes are shown on Figures No. 18 and 19 for the Weekday Peak AM and Weekday Peak PM Hours, respectively.

E. Description of Analysis Procedures

It was necessary to perform capacity analyses in order to determine existing and future traffic operating conditions at the study area intersections. The following is a brief description of the analysis method utilized in this report:

- Signalized Intersection Capacity Analysis

The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the Highway Capacity Manual, 6th Edition, dated 2016, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service "A" represents the best condition and a Level of Service "F" represents the worst condition. A Level of Service "C" is generally used as a design standard while a Level of Service "D" is acceptable during peak periods. A Level of Service "E" represents an operation near capacity. In order to identify an intersection's Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

- Unsignalized Intersection Capacity Analysis

The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the Highway Capacity Manual, 6th Edition, dated 2016. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix "C" of this report.

F. Results of Analysis

(Table No. 2)

Capacity analyses which take into consideration appropriate truck percentages, pedestrian activity, roadway grades and other factors were performed at the study area intersections utilizing the procedures described above to determine the Levels of Service and average vehicle delays. Summarized below are a description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service as well as any recommended improvements.

Table No. 2 summarizes the results of the capacity analysis for the 2021 Existing, 2024 No-Build and 2024 Build Conditions. Appendix "D" contains copies of the capacity analysis which also indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

1. Unity Place and NYS Route 17K

This intersection is a full movement, signalized intersection with NYS Route 17K consisting of two travel lanes per direction and a separate left turn lane on the westbound approach. The Unity Place approach consists of separate left turn lane and separate right turn lane. The NYS Thruway off ramp approach consists of two lanes in the form of a separate right lane and a through/left lane.

Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "C" or better during the AM and PM Peak Hours.

The capacity analysis was recomputed using the 2024 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to experience overall Levels of Service "B" during the AM and PM Peak Hours under future conditions.

2. Unity Place and Old Little Britain Road

Old Little Britain Road and Unity Place is a "Stop" signed controlled "T" shaped intersection with a single lane in each direction on Old Little Britain Road and separate left and right turn lanes on the Unity Place approach to the intersection.

Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "C" during the AM and PM Peak Hours.

The capacity analysis was recomputed using the 2024 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to experience Levels of Service "C" or better during the AM Peak Hour but experience a Level of Service "E" for the southbound left turn movement during the PM Peak Hour under future conditions. This is not unusual for a side road during peak period; however, the intersection should be monitored for potential future signalization.

3. NYS Route 300 and NYS Route 17K

Under current conditions, NYS Route 17K intersects with NYS Route 300 at a signalized, full-movement intersection. The intersection has dual left-turn lanes on the northbound, eastbound and southbound approaches and two through lanes in each direction. The Route 17K eastbound and westbound approaches are also furnished with a separate right turn lane as is the Route 300 northbound approach.

Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "D" during the AM and PM Peak Hours.

The capacity analysis was recomputed using the 2024 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to experience Levels of Service "D" during the AM and PM Peak Hours with some movements operating at a Level of Service "F" during the PM Peak Hour under future No-Build and Build conditions.

4. NYS Route 300 and Old Little Britain Road/Orr Avenue

NYS Route 300 intersects with Old Little Britain Road at a signalized full movement intersection. The NYS Route 300 approaches consist of a separate left turn lane, one through lane, and one through/right turn lane. The Old Little Britain Road approach consists of two lanes and the Orr Avenue approach consists of one lane.

Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "C" during the AM and PM Peak Hours.

The capacity analysis was recomputed using the 2024 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to experience Levels of Service "C" during the AM Peak Hour and a Level of Service "D" during the PM Peak Hour under future conditions.

5. Unity Place and Proposed Site Access

The intersection of Unity Place and the proposed Site Access is to be developed as a stop-sign controlled intersection. Unity Place should be restriped to provide a separate turn lane.

Capacity analysis was conducted for this intersection utilizing the 2021 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "A" during the AM and PM Peak Hours.

The capacity analysis was recomputed using the 2024 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to experience Levels of Service "B" or better during the AM and PM Peak Hours under future conditions.

The intersection should be controlled by a stop-sign and painted stop bar on the driveway exit approach. Sight distance clearing of vegetation should also be completed looking north of the driveway and Unity Place should be restriped to provide a separate left turn lane

northbound. Based on the roadway alignment and sight distances, it is recommended that this driveway be an entry-only driveway with no exiting traffic at this location.

6. Old Little Britain Road and Proposed Site Access

The proposed access connection to Old Little Britain Road should be stop-sign controlled and any vegetation clearing be completed to provide proper sight lines.

The capacity analysis was computed using the 2024 Build Traffic volumes. The results indicate that the intersection is expected to experience Levels of Service "B" or better during the AM and PM Peak Hours under future conditions.

IV. Summary and Conclusion

Based on the above analysis with the completion of the improvements identified above, similar Levels of Service and delays will be experienced at the area intersections under the future No-Build and future Build Conditions. Certain access related striping, signing, and sight distance improvements are recommended as noted above. With the completion of these improvements, the Unity Place Warehouse development traffic is not expected to result in any significant impact in overall traffic operations.

Drainage Analysis

Prepared for:

Unity Place Warehouse

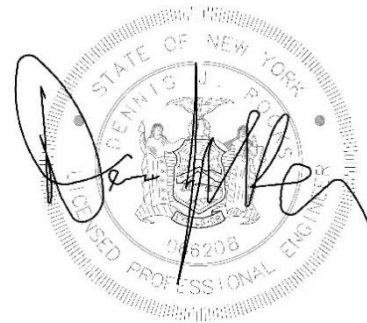
Town of Newburgh
Orange County, New York

May 17 2022

Prepared by:

BROOKER ENGINEERING
74 Lafayette Avenue
Suite 501
Suffern, New York 10901

(845) 357-4411



Dennis J. Rocks, P.E.
N.Y. Lic. No. 066208

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APPENDICES

Appendix A	USDA Soil Map and Report
Appendix B	Existing Conditions HydroCAD Output – Detailed Summary Report
Appendix C	Proposed Conditions HydroCAD Output – Detailed Summary Report
Appendix D	Soil Testing Program

METHODOLOGY

Brooker Engineering, PLLC has been retained to perform a hydraulic and hydrologic analysis for the Unity Place Warehouse project to provide zero-net increase in peak runoff rates as a result of the proposed development.

Unity Place Warehouse is a Site Plan Application for a 154,700 square foot warehouse with associated parking, loading, and driveway areas to be constructed on a 12.84-acre site. The property is comprised of Tax Lots 97-2-14.1 & 97-2-19.12 in the Town of Newburgh. The property is situated at the northwest corner of the Old Little Britain Road and Unity Place intersection. The existing site is unimproved but a significant portion has been cleared and has a grass ground cover with the remaining land covered with trees. An onsite detention system is also existing to accommodate runoff from Unity Place and portion of the adjacent Jehovah Witness property.

As can be seen on the existing drainage maps on page 5, the existing site has two points of interest to the North and the South. The northern end of the site drains along the northerly property line. The southerly subarea generally flows south and is eventually captured in the existing conveyance system along Unity Place & Old Great Britain Road. A large shallow depression near the center of the southerly subarea was observed as was modeled as a pond. No portion of the subject property's drainage area is within the Washington Lake watershed.

The southerly and northerly points of interest will be maintained between pre- and post-development conditions as seen on the drainage maps on pages 5 & 6. Therefore, a direct comparison between hydrologic models can take place at their respective points of interest. Portion of the surface area from the southerly subarea is being redirected to the north via the proposed warehouse roof area. This was considered due to the successful percolation rates observed in the field within the northerly subarea in order to reduce as much runoff as possible.

To offset the increased runoff associated with the new impervious surfaces, various stormwater facilities are proposed throughout the site. To the North, a large offline underground infiltration system is proposed, consisting of (300) MC-3500 ADS Stormtech Chambers. Infiltration was considered at this location due to the favorable infiltration rates observed during testing. An outlet structure has been designed as part of the infiltration system to optimize the provided storage and provide zero net increase in peak runoff rates for the proposed development. It is noted that the Town of Newburgh considers the proposed warehousing use as a stormwater 'hotspot.' A 'treatment train,' or series of pre-treatment facilities, will be provided as per guidance from the New York State Stormwater Management Design Manual (NYSSMDM) for consideration of infiltration facilities in a 'hotspot' area. The ADS Barracuda Max, a proprietary water quality manhole structure will be followed by the ADS Stormtech Isolator Row Plus to adequately remove the required 80% TSS and 40% TP.

To the South, soil testing confirmed that the soils present exhibited high groundwater and no percolation rate, making the location unsuitable for infiltration facilities. In order to provide a suitable treatment facility and provide sufficient retention volume, a combination of bioretention and a detention facility are proposed. The bioretention facility will have a minimum surface area of 17,341 square feet. The bioretention is sized to only treat the water quality volume of the subarea draining to the South. In order to accommodate the larger storms, a supplementary detention system made up of (55) MC-7200 ADS Stormtech Chambers is proposed to receive water being diverted from a flow splitter located upstream from the bioretention facility. An overflow structure is proposed for the bioretention facility and an outlet structure is provided for the detention facility. Similarly, to the infiltration practice, pretreatment for bioretention will be provided in the form of a proprietary water quality manhole treatment device.

Lastly, to the Southeast, a detention facility made up of (108) MC-3500 ADS chambers are proposed. This facility is required to offset the storage volume provided in existing conditions that receives water from Unity Place and the adjacent Jehovah Witness facility across the street. Contributory drainage area was estimated from existing topography of the road and the most recent amended grading plan of the Jehovah Site, entitled "Amended Site Development Plans JWCAH Educational Center," dated June 2, 2008. A small amount of on-site grass area will also be introduced to this facility, so additional storage was required. A revised outlet structure was designed. A proprietary treatment device train, similar to the

infiltration system, will be installed upstream of the detention system to provide equal or greater treatment functionality that was exhibited in the existing stormwater pond.

Note that there are minor discrepancies to the number and models of ADS Chambers between the Site Plan and the HydroCAD report. This is due to the varying ability of detail allowed when comparing HydroCAD and the ADS Design Tool. HydroCAD does not allow for a shape outside of a rectangle or the consideration of inlet/outlet manifold volumes or stone around the manifold. Let it also be noted that ADS recently updated the MC-4500 chamber to the MC-7200 chamber. The chamber size is identical, although the length of the individual chambers are longer for easier installation. This results in a fewer number of chambers indicated on the site plan, although the volume is sufficient. Actual proposed volumes shown on the Site Plan are equal or greater to the volumes modeled in HydroCAD.

Runoff from a very small portion of proposed impervious area will not be routed through the water quality treatment system and will discharge directly to Old Little Britain Road due to its downslope location that cannot be captured and treated at the proposed drainage system. This area is 3,100 square feet in size and consists of paved driveway along the southern property line providing access to Old Little Britain Road. The site has been graded to minimize the drainage area, particularly impervious area, that will bypass the proposed treatment facilities.

Site specific limitations include no soil infiltration rates and high groundwater on the south end of the site as detailed in our Soil Testing Results located in the Appendix. These limitations did not allow us to reduce the full Water Quality Volume of the southern drainage area, although we were still able to receive credit for reduction of about 2.5 times the minimum overall required runoff reduction volume.

The stormwater infiltration, detention, and bioretention systems have been designed to provide water quality and quantity controls utilizing standard practices in accordance with the requirements of the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction. The design incorporates sizing for Water Quality Volume Control (WQv), Runoff Reduction Volume (RRv), Channel Protection Storage Volume (CPv), Overbank Flood Control (Qp) and Extreme Storm Flood Control (Qf). These five components of the water quality sizing criteria are further described as follows:

- The Water Quality Volume (WQv) is designed to improve water quality by capturing and treating 90% of the average annual stormwater runoff volume. The WQv is directly related to the amount of impervious cover on a project site. On this project the water quality volume will be treated by the use of the underground infiltration facilities, bioretention, and proprietary treatment structures.
- The Runoff Reduction Volume (RRv) is designed to control post-development water quality volumes to replicate pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, and discharge volume as well as minimizing concentrated flow. Runoff Reduction is achieved by infiltration, groundwater recharge, reuse and recycling by incorporating green infrastructure techniques and standard stormwater management practices with runoff reducing capacity.
- The Channel Protection Storage Volume (Cpv) is designed to protect stream channels from erosion. The CPv is accomplished by providing 24 hour extended detention of the one-year, 24-hour storm event.
- The purpose of Overbank Flood Control (Qp) is to prevent an increase in the frequency and magnitude of out-of-bank flooding generated by urban development. Overbank Flood Control is accomplished by attenuating the post development 10-year, 24-hour peak discharge rate from the site to the pre-development rate.
- The purpose of Extreme Flood Control (Qf) is to prevent an increased risk of flood damage from large storm events, to maintain the boundaries of the pre-development 100-year floodplain, and to protect the physical integrity of stormwater management practices. Extreme Flood Control is accomplished by attenuating the post development 100-year, 24-hour peak discharge rate from the site to the pre-development rate.

The required Water Quality Volume and Channel Protection Storage Volume were calculated in accordance with the procedure outlined in the *New York State Stormwater Management Design Manual*. The Overbank Flood Control and Extreme Storm Flood Control are provided by controlling the peak discharge from the project site for the 10 year and 100-year storms to pre-development rates.

This analysis utilized the HydroCAD Stormwater Modeling program. HydroCAD is a stormwater modeling program that utilizes TR-20 and TR-55 along with hydraulic software to generate accurate hydrologic reports in both small and large watershed areas.

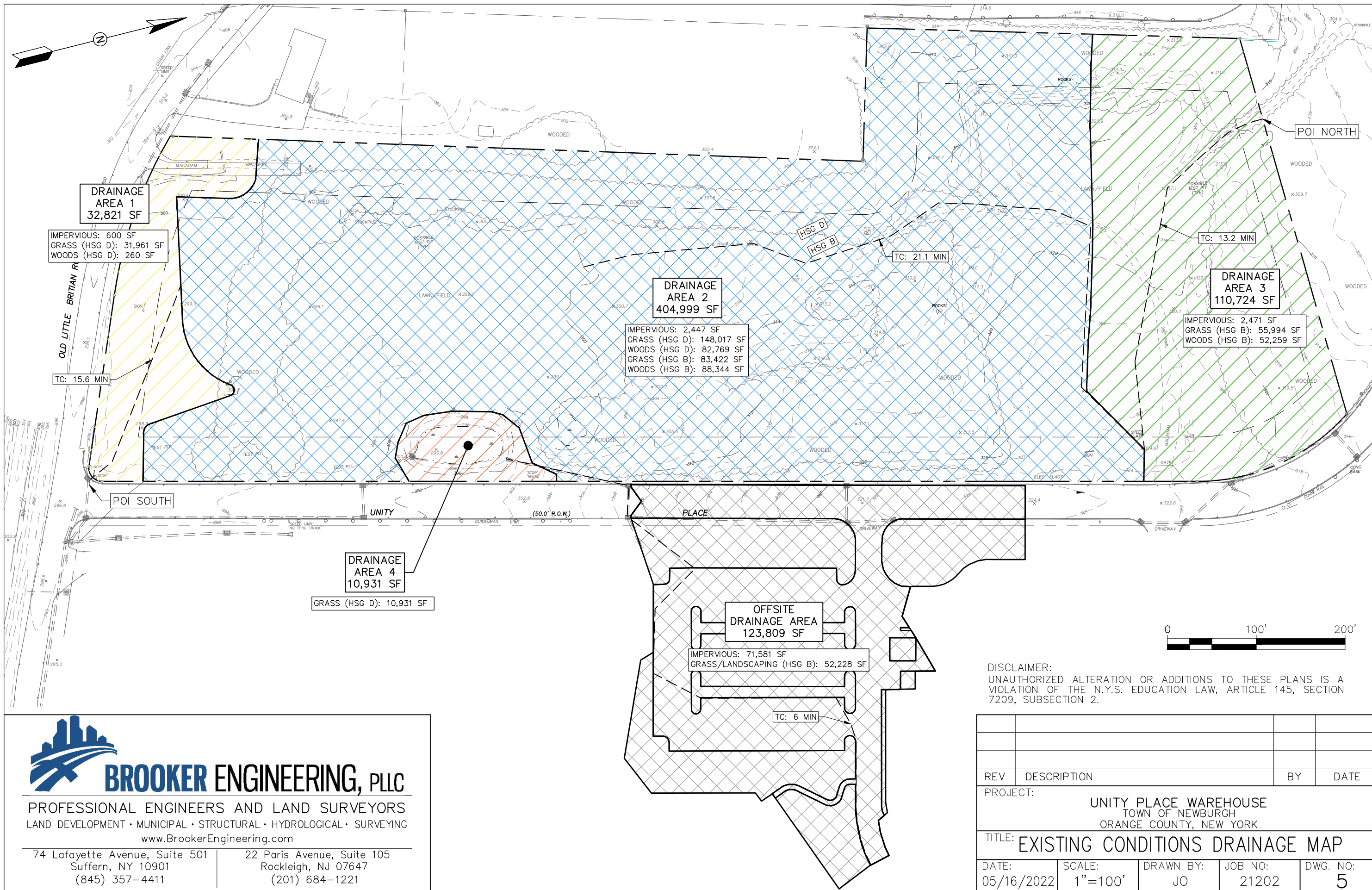
The Soil Conservation Service (SCS), U.S. Department of Agriculture, has developed a soil classification system that relates various drainage characteristics of soil, such as cover type, land use type, and antecedent moisture conditions, to a curve number. Technical Release 55 (TR-55) presents a simplified procedure to calculate storm runoff volume, peak rate of discharge, and hydrographs utilizing the SCS curve numbers. This procedure is applicable in small watersheds, and it is the recommended procedure in the New York State Stormwater Management Design Manual. The HydroCAD Stormwater Modeling computer program incorporates the SCS curve number method outlined in TR-55 as one of the options for calculating runoff hydrographs. Soil restoration and de-compaction shall be performed in accordance with NYSDEC regulations and requirements for all areas that are cut, filled or subject to heavy vehicle traffic.

In this analysis, runoff hydrographs were generated for the 1, 10, 25, and 100-year frequency storms. Times of concentration and composite curve numbers were calculated based upon the methodology contained in the aforementioned SCS publication TR-55, Urban Hydrology for Small Watersheds. A 6-minute minimum time of concentration was used. Since a significant portion of the proposed site and offsite runoff is impervious, most of the runoff will be directed almost immediately to the collection system. There is an extreme difference between the severity of a storm's intensity between a zero and 6-minute time of concentration. The intensity within this range is extreme, but the storm has not produced enough volume to fill the drainage system. The 6-minute minimum provides a reasonable and conservative time of concentration to use for the analysis. Runoff hydrographs were then generated utilizing the SCS curve number method within the HydroCAD computer program, and the SCS Type 3 rainfall distribution.

The attached tables summarize the results of the stormwater detention analysis. Also attached are backup calculations, input data, and HydroCAD computer output.

Vicinity Map





DISCLAIMER:
UNAUTHORIZED ALTERATION OR ADDITIONS TO THESE PLANS IS A VIOLATION OF THE N.Y.S. EDUCATION LAW, ARTICLE 145, SECTION 7209, SUBSECTION 2.

REV	DESCRIPTION	BY	DATE
PROJECT: UNITY PLACE WAREHOUSE TOWN OF NEWBURGH ORANGE COUNTY, NEW YORK			
TITLE: EXISTING CONDITIONS DRAINAGE MAP			
DATE: 05/16/2022	SCALE: 1"=100'	DRAWN BY: JO	JOB NO: 21202
		DWG. NO: 5	



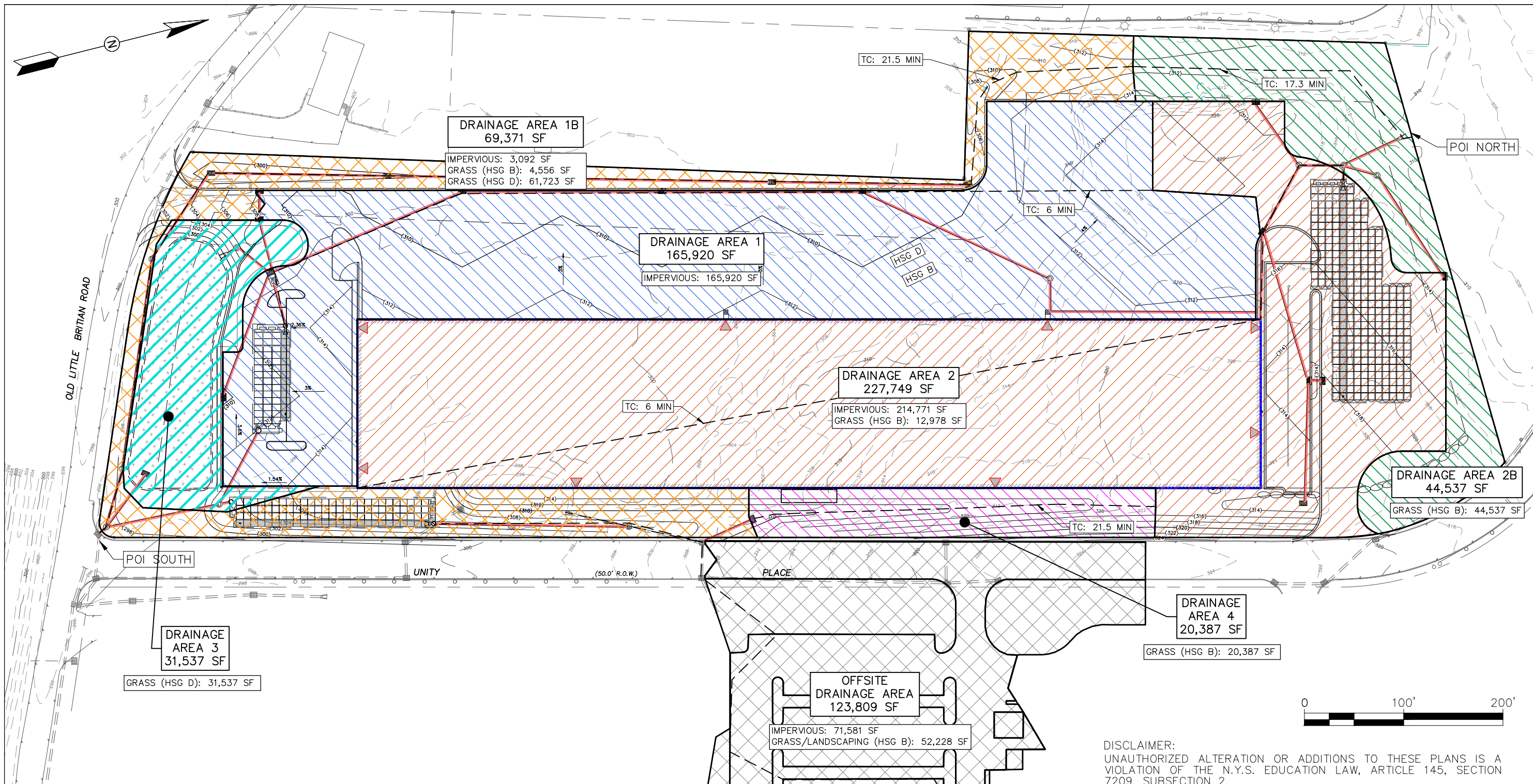
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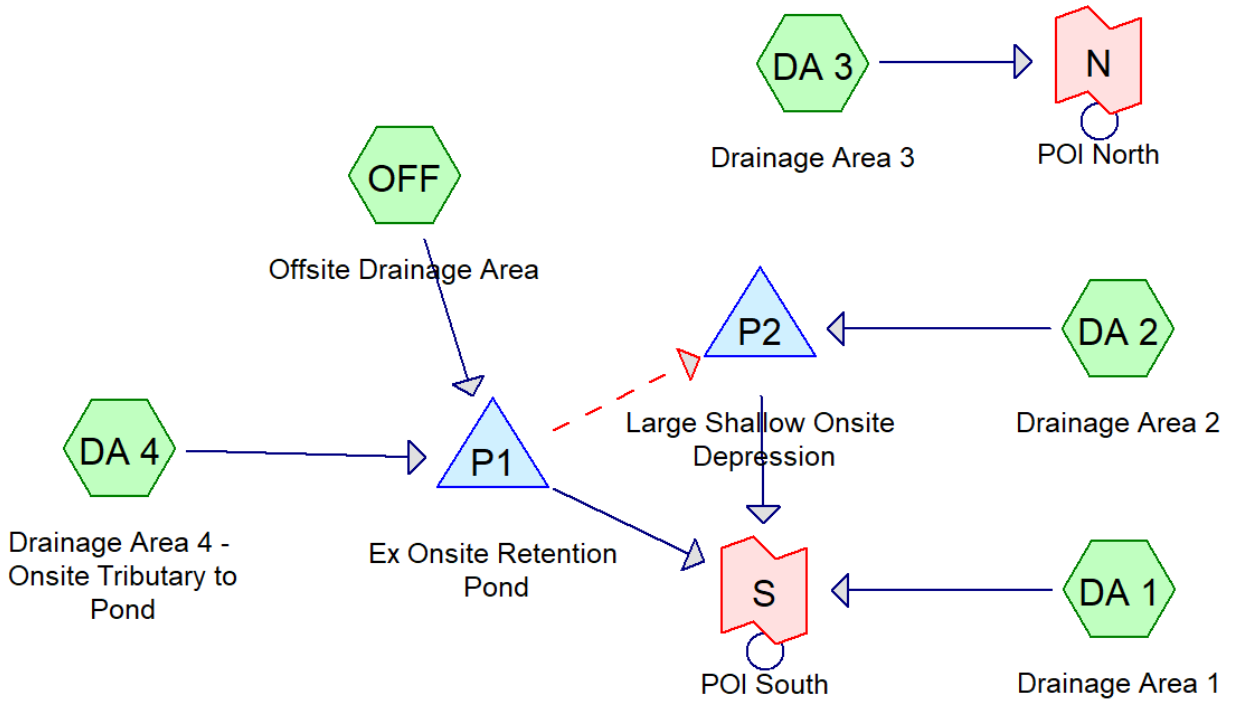
74 Lafayette Avenue, Suite 501
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(845) 357-4411

22 Paris Avenue, Suite 105
Rockleigh, NJ 07647
(201) 684-1221

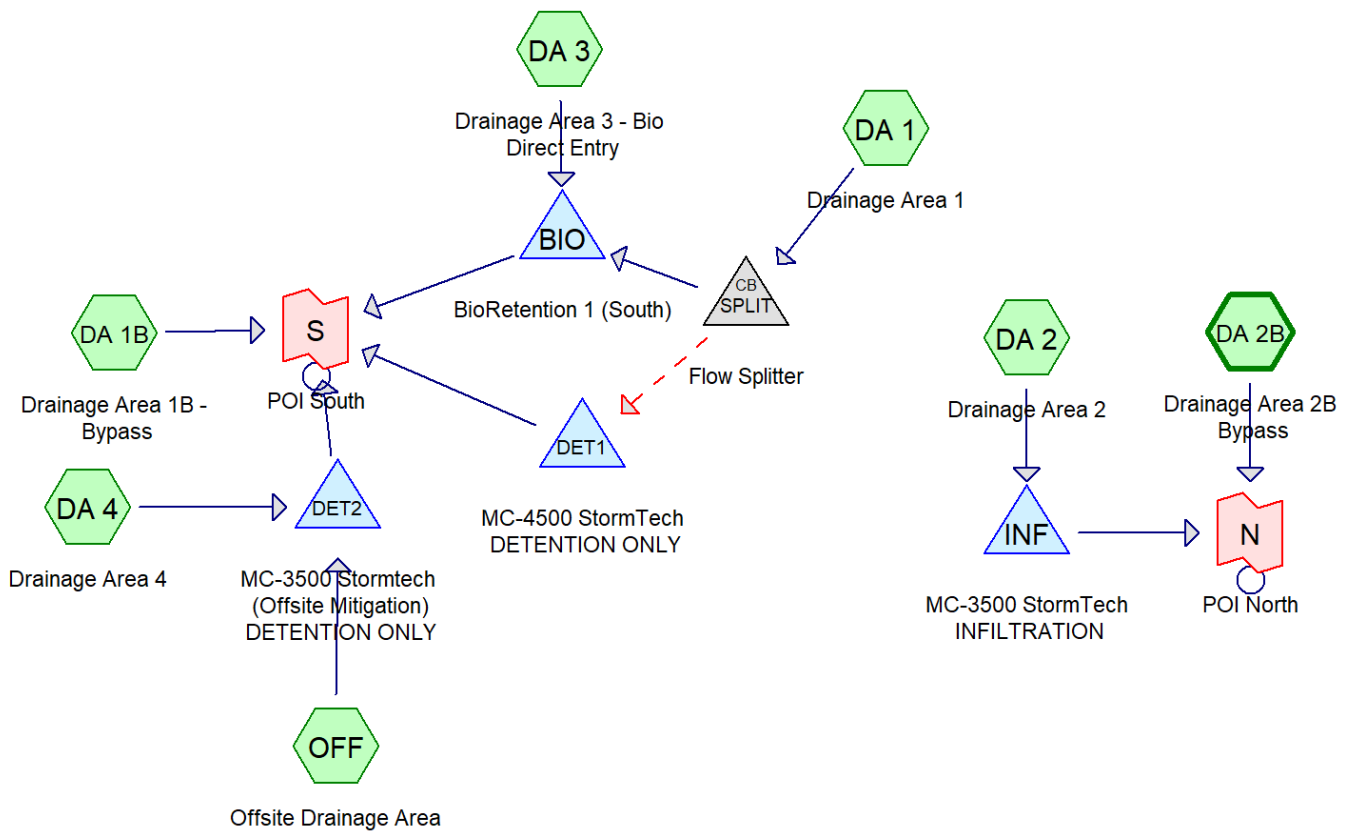
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TITLE: PROPOSED CONDITIONS DRAINAGE MAP			
DATE: 05/16/2022	SCALE: 1"=100'	DRAWN BY: JO	JOB NO: 21202
			DWG. NO: 6

Routing Diagrams

EXISTING



PROPOSED



PEAK DISCHARGE SUMMARY TABLES

<u>POI NORTH</u>			
<u>PEAK DISCHARGE (CFS)</u>			
<u>FREQUENCY</u>	<u>EXISTING</u>	<u>PROPOSED</u>	<u>DIFFERENCE</u>
	<u>CONDITIONS</u>	<u>CONDITIONS</u>	
1 YEAR	0.30	0.16	-0.14
10 YEAR	3.25	2.41	-0.84
25 YEAR	4.81	4.24	-0.57
100 YEAR	7.39	6.80	-0.59

<u>POI SOUTH</u>			
<u>PEAK DISCHARGE (CFS)</u>			
<u>FREQUENCY</u>	<u>EXISTING</u>	<u>PROPOSED</u>	<u>DIFFERENCE</u>
	<u>CONDITIONS</u>	<u>CONDITIONS</u>	
1 YEAR	3.45	3.22	-0.23
10 YEAR	23.45	23.28	-0.17
25 YEAR	31.98	30.04	-1.94
100 YEAR	44.80	41.17	-3.63

Summary of Unified Sizing Criteria:**WQv:**

Required WQv = 46,670 CF

Provided WQv = 46,670 CF

RRv:

Minimum RRv = 13,757 CF

Runoff Reduction Provided = 34,185 CF

The calculated (proposed) RRv is greater than the minimum required RRv and therefore the RRv requirement is met. Although the entire WQv was not reduced, the provided runoff reduction volume was exceeded by 2.5 times the minimum amount required. Site limitations, as previously discussed, limited our ability to reduce the full WQv.

CPv:

Total Required CPv = 15,950 CF

Total Provided CPv = 58,688 CF

Overbank Flood Control (Qp):

Existing Conditions 10-yr peak runoff rate = 26.7 cfs

Proposed Conditions 10-yr peak runoff rate = 25.69 cfs

Extreme Flood Control (Qf):

Existing Conditions 100-yr peak runoff rate = 52.19 cfs

Proposed Conditions 100-yr peak runoff rate = 47.97 cfs

Hydro-CAD Input Data

Drainage Basins – Pre-Development

DA 1 – Drainage Area 1

Cover Type: Impervious; Woods, Grass
Area = 0.754 acres
Hydrologic Soil Group: D
Composite SCS curve number (CN) =80
Time of Concentration = 15.6 Min

DA 2 – Drainage Area 2

Cover Type: Impervious; Woods, Grass
Area = 9.297 acres
Hydrologic Soil Group: B/D
Composite SCS curve number (CN) =70
Time of Concentration = 21.1 Min

DA 3 – Drainage Area 3

Cover Type: Impervious; Woods, Grass
Area = 2.542 acres
Hydrologic Soil Group: B
Composite SCS curve number (CN) =59
Time of Concentration = 13.2 Min

DA 4 – Drainage Area 4 Onsite Tributary to Pond

Cover Type: Grass
Area = 0.251 acres
Hydrologic Soil Group: D
Composite SCS curve number (CN) =80
Time of Concentration = 6.0 Min

OFF – Offsite Drainage Area

Cover Type: Impervious, Grass
Area = 2.842 acres
Hydrologic Soil Group: B
Composite SCS curve number (CN) =82
Time of Concentration = 6.0 Min

Total Area Onsite: 12.84 Acres

Total Area Overall: 16.9 Acres

Drainage Sub-basins – Post-Development**DA 1 – Drainage Area 1**

Cover Type: Impervious
Area = 3.809 acres
Hydrologic Soil Group: N/A
Composite SCS curve number (CN) =98
Time of Concentration = 6.0 Min

DA 1B – Drainage Area 1B - Bypass

Cover Type: Impervious; Grass
Area = 1.593 acres
Hydrologic Soil Group: B/D
Composite SCS curve number (CN) =80
Time of Concentration = 21.5 Min

DA 2 – Drainage Area 2

Cover Type: Impervious; Grass
Area = 5.228 acres
Hydrologic Soil Group: B
Composite SCS curve number (CN) =96
Time of Concentration = 6.0 Min

DA 2B – Drainage Area 2B - Bypass

Cover Type: Impervious; Grass Combination
Area = 1.022 acres
Hydrologic Soil Group: B
Composite SCS curve number (CN) =61
Time of Concentration = 17.3 Min

DA 3 – Drainage Area 3 – Bio Direct Entry

Cover Type: Grass
Area = 0.724 acres
Hydrologic Soil Group: D
Composite SCS curve number (CN) =80
Time of Concentration = 6.0 Min

DA 4 – Drainage Area 4

Cover Type: Grass
Area = 0.468 acres
Hydrologic Soil Group: B
Composite SCS curve number (CN) =61
Time of Concentration = 14.4 Min

OFF – Offsite Drainage Area

Cover Type: Impervious, Grass
Area = 2.842 acres
Hydrologic Soil Group: B
Composite SCS curve number (CN) =82
Time of Concentration = 6.0 Min

Total Area Onsite: 12.84 Acres

Total Area Overall: 16.9 Acres

24 Hour Rainfall Data

Town of Newburgh, NY
Standard events from local Town Stormwater Management Code

<u>Frequency</u>	<u>Rainfall (inches)</u>
1 Year	2.9
10 Year	5.5
25 Year	6.5
100 Year	8.0

Water Quality Calculations

Utilize the procedure outlined in Chapter 4 of NYSDEC publication *Stormwater Management Design Manual*.

Compute Impervious Cover On-site

Site area = **12.84 acres**

Post-Development Impervious Cover: = 8.81 acres

Impervious Cover (I) = (8.81) / 12.84 acres = **69%**

Compute Runoff Coefficient

$$\begin{aligned} R_v &= 0.05 + (I)(0.009) \\ &= 0.05 + (69)(0.009) = \mathbf{0.67} \end{aligned}$$

Compute Water Quality Volume (WQv)

Use 90% Capture Rule

From Figure 4.1 of Stormwater Management Design Manual, 90% Rainfall = 1.5"

$$WQv = [(P)(R_v)(A)] / 12 = [(1.5")(0.67)(12.84)] / 12 = 1.0714 \text{ acre-feet} = \mathbf{46,670 \text{ ft}^3}$$

The WQv = 46,670 cubic feet represents the required water quality volume for the subject site *before* runoff reduction volume is considered. The WQv can be recalculated and reduced in accordance with the implementation of the Runoff Reduction measures.

Minimum Runoff Reduction Volume

According to the NYSDEC Stormwater Management Design Manual, Runoff Reduction Volume (RRv) is a reduction of the total Water Quality Volume (WQv) by application of green infrastructure techniques and Standard Stormwater Management Practices (SMPs) to replicate pre-development hydrology. This concept is intended to improve the mitigation of the negative effects of stormwater runoff from development by incorporating the design and layout of stormwater management features into the site planning process. The three primary components that mitigate the negative effects of stormwater runoff are:

1. Avoiding Impacts – Avoid or minimize disturbance by preserving natural features and using conservation design techniques.
2. Reducing Impacts – Reducing the impacts of development by reducing impervious cover.
3. Managing Impacts – Manage the impacts by using natural features and runoff reduction practices to slow down the runoff, promote infiltration and minimize the need for structural “end-of-pipe” practices.

The RRv requirement can be accomplished by application of on-site green infrastructure techniques, standard stormwater management practices with runoff reduction capacity, and good operation and maintenance. The NYSDEC Stormwater Management Design Manual requires planners and designers to address this approach in an iterative site planning and design process. The iterative process is a five-step process that combines site planning with the use of various green infrastructure techniques and standard stormwater management practices until the RRv requirement is met. The iterative five-step process is as follows:

1. Site planning to preserve natural features and reduce impervious cover;
2. Calculation of the water quality volume for the site;
3. Incorporation of green infrastructure techniques and standard SMPs with RRv capacity;
4. Use of standard SMPs, where applicable; and
5. Design of volume and peak rate control practices where required.

If by using these techniques the calculated RRv is greater than the required WQv, the RRv requirement is met. If the RRv is less than the required WQv then the design must, at a minimum, reduce a percentage of the runoff from impervious areas to be constructed on the site. The percent reduction is based on the Hydrologic Soil Group of the site, and is determined by the Specific Reduction Factor (S). The Specific Reduction Factor (S) for this project is 0.30187, based on the weighted average of ‘B’ and ‘D’ soils present.

The runoff reduction techniques that have been selected have been determined to be suitable for the proposed project in consideration of factors including site topography, slopes, soil properties, project layout, and maintenance requirements. The selected techniques include the following:

- Infiltration (North)
- Bioretention (South)

Minimum Runoff Reduction Volume Calculation

Utilize the procedure outlined in Chapter 4, Section 4.3 of NYSDEC publication Stormwater Management Design Manual

Compute Minimum Runoff Reduction Volume (RRv)

$$RRv = (P) (Rv^*) (Ai) / 12$$

where: RRv = Runoff Reduction Volume (acre-feet)

P = 90% rainfall event = 1.5"

Rv* = 0.05 + (I) (0.009) where imperviousness (I) = 100%

Ai = impervious cover targeted for reduction = (S) x (Aic)

S = Specific Reduction Factor based on HSG

Aic = total area of new impervious cover = 8.81 acres

Step 1: Determine Specific Reduction Factor (S)

Soil Type: Alden silt loam (Ab)
Erie gravelly silt loam, 0 to 3 percent slopes (ErA)
Pittsfield gravelly loam, 3 to 15 percent slopes (PtB & M PtC)

Hydrologic Soil Group (HSG): "B" (6.54 acres) & "D" (6.30 acres)

Specific Reduction Factor (S) = 0.30187 for weighted average of HSG "B" and "D" soils

Step 2: Calculate Impervious Cover Targeted for Reduction (Ai)

$$Ai = (S) x (Aic) = (0.30187) x (8.81) = \mathbf{2.66}$$

Step 3: Calculate (Rv*)

$$Rv^* = 0.05 + (I) (0.009) = 0.05 + (100)(0.009) = \mathbf{0.95}$$

Step 4: Calculate (RRv)

$$\begin{aligned} RRv &= (P) (Rv^*) (Ai) / 12 \\ &= (1.5") (0.95) (2.66 \text{ ac}) (1 \text{ ft} / 12") = \mathbf{0.0316 \text{ acre-feet} = 13,757 \text{ cubic feet}} \end{aligned}$$

The calculated RRv of 13,757 cubic feet represents the *minimum* required reduction for the subject site. The methods that have been selected for use on this project are Infiltration on the North end of the site & Bioretention to the south end.

POI North Proposed Stormwater Management Systems

Due to the high permeability observed in the soils on the North end of the site, an underground infiltration system is proposed to provide 100% water quality treatment and runoff reduction of the Northern drainage area that includes the entire building roof and northern parking lot & driveway.

North Parking Lot:

An offline infiltration system comprised of 300 StormTech MC-3500 arched chambers by ADS. The system is designed to provide water quality treatment and peak runoff rate reduction. Stormwater will be routed through a diversion structure designed to divert low flows into the infiltration system and serve as a control structure for high flow storm events in order to reduce post development peak runoff rates to below pre-development levels.

Storage Volume vs. Elevation per HydroCAD Output

<u>Elevation</u>	<u>Storage Volume (cubic-feet)</u>
312.64 (Top of Stone)	56,049
312.14 (Overflow)	52,795
309.64 (Low Orifice)	28,793 (Volume Considered towards WQv)
307.14 (Bottom of Stone)	0

Outlets

- Exfiltration @ INV El. 307.14
- 24" W x 4" H Orifice @ INV El. 309.64
- Overflow Weir @ INV EL. 312.14

Freeboard

100-yr Peak WSEL = 311.93 (per attached HydroCAD analysis)
Freeboard = 312.14' – 311.93' = 0.21'

WQv / RRv

Portion of WQv subcatchment draining to POI North = 25,861 CF

Infiltration volume = 28,793 CF

RRv/WQv for infiltration practices is full WQv or 90% of infiltration volume, whichever is less.

$(28,793 * 0.90) = 25,913 \text{ CF} > 25,861 \text{ CF}$

→ 25,913 CF is credited for WQv & RRv for POI North

POI South Proposed Stormwater Management Systems

Due to the low permeability and high ground water observed on the south end of the site, a combination of bioretention and detention facilities are proposed. The remainder of the parking lot is conveyed south. Bioretention has runoff reduction capacity but does not have enough storage to retain the more extreme storms. A diversion structure was implemented to divert higher flows to a secondary storage facility.

Lastly, another detention facility is proposed to the East to replace the existing stormwater management basin onsite that receives water from Unity Place and nearby private property.

South Parking Lot Bioretention:

A bioretention system with a minimum bottom footprint of 17,341 ft² is designed to provide water quality treatment and receive credit towards runoff reduction. An underdrain system is proposed underneath the soil media, however, the restrictive flow is dictated by the soil media with a design permeability of 0.5 ft/day. An overflow grate structure has been designed bypass extreme storms that make it through the diversion structure.

Storage Volume vs. Elevation per HydroCAD Output

<u>Elevation</u>	<u>Storage Volume (cubic-feet)</u>
300.0 (Top of Bank)	18,277
299.5 (Overflow Grate)	8,904
299.0 (Bot Pond)	0

Outlet Structures

- Exfiltration @ INV El. 299.0 (Not Discarded)
- Horizontal Overflow Grate @ INV EL. 299.5

Freeboard

100-yr Peak WSEL = 299.72' (per attached HydroCAD analysis)

Top of Bank = 300.0

Freeboard = 300.0 – 299.72 = 0.28'

WQv / RRv

Portion of WQv subcatchment draining to POI South = 20,809 CF

Bioretention achieves 100% of WQv Requirements

Bioretention receives 40% credit of WQv towards RRv: (20,809 *0.40) = 8,324 CF

→ 20,809 CF is credit for WQv for POI South

→ 8,324 CF is credited to RRv for POI South

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

$$Af = WQv * (df) / [k * (hf + df)(tf)]$$

<i>Af</i>	Required Surface Area (ft ²)		The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: <i>Sand</i> - 3.5 ft/day (City of Austin 1988); <i>Peat</i> - 2.0 ft/day (Galli 1990); <i>Leaf Compost</i> - 8.7 ft/day (Claytor and Schueler, 1996); <i>Bioretention Soil</i> (0.5 ft/day (Claytor &
<i>WQv</i>	Water Quality Volume (ft ³)		
<i>df</i>	Depth of the Soil Medium (feet)	<i>k</i>	
<i>hf</i>	Average height of water above the planter bed		
<i>tf</i>	Volume Through the Filter Media (days)		

Design Point:							
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Precipitation (in)	Description
2	6.59	3.88	0.59	0.58	20808.88	1.50	Bioretention
Enter Impervious Area Reduced by Disconnection of Rooftops			59%	0.58	20,809	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						ft ³	
Soil Information							
Soil Group	D						
Soil Infiltration Rate	0.00	in/hour	Okay				
Using Underdrains?	Yes		Okay				
Calculate the Minimum Filter Area							
				Value	Units	Notes	
WQv				20,809	ft ³		
Enter Depth of Soil Media		<i>df</i>	2.5	ft	2.5-4 ft		
Enter Hydraulic Conductivity		<i>k</i>	0.5	ft/day			
Enter Average Height of Ponding		<i>hf</i>	0.5	ft	6 inches max.		
Enter Filter Time		<i>tf</i>	2	days			
Required Filter Area		<i>Af</i>	17341	ft ²			
Determine Actual Bio-Retention Area							
Filter Width	69.364	ft					
Filter Length	250	ft					
Filter Area	17341	ft ²					
Actual Volume Provided	20809	ft ³					
Determine Runoff Reduction							
Is the Bioretention contributing flow to another practice?			No	Select Practice	N/A		
RRv	8,324						
RRv applied	8,324	ft ³	This is 40% of the storage provided or WQv whichever is less.				
Volume Treated	12,485	ft ³	This is the portion of the WQv that is not reduced in the practice.				
Volume Directed	0	ft ³	This volume is directed another practice				
Sizing v	OK	Check to be sure Area provided ≥ Af					

South Parking Lot Detention:

A detention system comprised of 96 StormTech MC-4500 arched chambers by ADS. Let it be noted that ADS recently adjusted their MC-4500 model chambers to MC-7200 chambers that is not currently available on HydroCAD. The only difference is the length of the individual chambers for easier installation. An equivalent system for MC-7200 units is approximately 55 chambers which is what is indicated on the Site Plan. The system is designed to retain stormwater for peak runoff rate reduction. This system is necessary to retain larger storms that the bioretention system does not have capacity for. Larger storms will be received from the upstream diversion structure. An outlet control structure is proposed in order to reduce post development peak runoff rates to below pre-development levels.

Storage Volume vs. Elevation per HydroCAD Output

<u>Elevation</u>	<u>Storage Volume (cubic-feet)</u>
307.68 (Top of Stone)	16,830
300.93 (Bot Stone)	0

Outlet Structures

- 4" Dia Orifice @ INV EL. 300.93
- 36" W x 18" H Orifice @ INV EL. 305.0
- Overflow Weir @ INV EL. 307.18

Freeboard

100-yr Peak WSEL = 307.15' (per attached HydroCAD analysis)
Freeboard = 307.18 – 307.15 = 0.03'

Offsite Drainage Area Detention:

A detention system comprised of 108 StormTech MC-3500 arched chambers by ADS. The system is designed to retain stormwater for peak runoff rate reduction. This system is necessary to replace the existing onsite detention system that receives stormwater from Unity Place and the adjacent Jehovah Witness property. An outlet control structure is proposed in order to reduce post development peak runoff rates to below pre-development levels.

Storage Volume vs. Elevation per HydroCAD Output

<u>Elevation</u>	<u>Storage Volume (cubic-feet)</u>
307.68 (Top of Stone)	21,049
295.5 (Bot Stone)	0

Outlet Structures

- 6" Dia Orifice @ INV EL. 295.5
- 12" W x 12" H Orifice @ INV EL. 298.0
- Overflow Weir @ INV EL. 300.5

Freeboard

100-yr Peak WSEL = 300.44' (per attached HydroCAD analysis)
Freeboard = 300.5 – 300.44 = 0.06'

Soil Tests

The NRSC Custom Soil Resource Report for the site indicates that soils present on the site are primarily:

Alden silt loam (Ab)
Erie gravelly silt loam, 0 to 3 percent slopes (ErA)
Pittsfield gravelly loam, 3 to 15 percent slopes (PtB & M PtC)

In-situ soil testing, including infiltration tests and test pits, were conducted on March 3-4, 2022 in accordance with the approved Soil Testing Program located in Appendix D of this report.

To the North, we observed consistent stratum consisting of brown sandy loam with small stones. Percolation rates ranged from 7" to 8.5 inches per hour. A conservative rate of 5 inches per hour was used in our design. No groundwater or bedrock was encountered during excavation which was performed at least 3 feet below the proposed infiltration system.

To the South, we observed soil stratum with brownish grayish clay layers and an average groundwater depth of about 3 feet. Multiple tests on the south side were omitted due to the similar results discovered. Infiltration was not utilized in our design. Groundwater was observed deeper at about 6-7 feet closer to Old Little Britain Road.

A marked up Soil Testing Map and Test Results are also provided in Appendix D.

Infiltration Calculations

Northern Infiltration System:

$$5''/\text{hr infiltration rate} = (5 \text{ in/hr})(\text{ft}/12 \text{ in})(1 \text{ hr}/60 \text{ min})(1 \text{ min}/60\text{s}) = 0.000115741 \text{ ft/s}$$

$$\text{Area of infiltration} = 16,291 \text{ ft}^2 \text{ (horizontal area of the bottom of the infiltration basin)}$$

$$\text{Infiltration rate of basin} = (16,291 \text{ sf})(0.000115741 \text{ ft/s}) = 1.886 \text{ ft}^3/\text{s}$$

$$48\text{-hour Infiltration Volume} = (1.886 \text{ cfs})(86400 \text{ sec/day})(2 \text{ days}) = \mathbf{325,900 \text{ ft}^3}$$

$$\text{Infiltration Storage Capacity} = \mathbf{28,793 \text{ ft}^3} \text{ (Storage volume below low orifice)}$$

$$\text{Infiltration Storage Capacity} = 28,793 \text{ ft}^3 < 325,900 \text{ ft}^3$$

➔ **48-hour infiltration Volume is met.**

WQv / Runoff Reduction Summary

<u>Technique</u>	<u>Proposed % WQv Treated</u>	<u>Proposed % WQv Reduced</u>
Infiltration	55.4% (25,861 ft ³)	55.4% (25,861 ft ³)
Bioretention	44.6% (20,809 ft ³)	17.8% (8,324 ft ³)
Total	100.0% (46,670 ft ³)	73.2% (34,185 ft ³)

Water Quality Summary

46,670 ft³ provided Water Quality Volume → 100% WQv requirement achieved.

34,185 ft³ provided runoff reduction > minimum required RRV of 13,757 ft³

→ The calculated (proposed) RRV is greater than the minimum required RRV and therefore the RRV requirement is met. Although the entire WQv was not reduced, the provided runoff reduction volume was exceeded by 2.5 times the minimum amount required. Site limitations, as previously discussed, limited our ability to reduce the full WQv. We respectfully request relief from this requirement due to the hardships encountered on site.

Runoff Reduction Technique

Following is a summary of runoff reduction techniques that were considered for this project:

1. Conservation of Natural Areas: Majority of the site has already been cleared/filled.
2. Sheet flow to riparian buffer or filter strips: There are no streams running through the project site, so this practice is not applicable.
3. Vegetated Open Swale: Due to the layout of the proposed redevelopment this practice is not applicable.
4. Tree Planting / tree box: Trees are proposed to be planted as part of the landscaping plan, but the quantity does not qualify for a reduction credit.
5. Disconnection of Rooftop Runoff: All proposed rooftops are being discharged to infiltration facilities.
6. Stream Daylighting for Redevelopment Projects: There are no streams running through the project site, so this practice is not applicable.
7. Rain Garden: Low capacity of practice makes it unfeasible for larger projects.
8. Green Roof: All rooftop runoff is being treated by infiltration practices.
9. Stormwater Planter: Low capacity of practice makes it unfeasible for larger projects.
10. Rain tank/ Cistern: Rain tanks/cisterns do not have the capacity to treat the scope of the project.
11. Porous Pavement: Runoff generated from the driveways and parking lots is being directed to other reduction practices and treated. Typically not permitted for a land use 'hot spot'

Channel Protection Volume Calculations

Required Channel Protection Volumes are calculated as per guidance from Appendix B of the New York State Stormwater Management Design Manual. Support variables taken from HydroCAD output located in appendix.

$$CPv = ((V_s/V_r)(Q_d)(A) / 12)$$

$$V_s/V_r = 0.682 - 1.43 (q_o/q_i) + 1.64 (q_o/q_i)^2 - 0.804 (q_o/q_i)^3$$

North Infiltration

Entire 1-year storm event is infiltrated → Channel Protection is satisfied

Bioretention

$$q_o/q_i = 0.60 / 1.95 = 0.308$$

$$V_s/V_r = 0.682 - 1.43 (0.308) + 1.64 (0.308)^2 - 0.804 (0.308)^3 = 0.374$$

$$Q_d = 1.47 \text{ inches}$$

$$A = 4.532 \text{ acres}$$

$$CPv = (0.374 * 1.47 * 4.532) / 12 = 0.208 \text{ ac-ft} = 9,044 \text{ cubic feet}$$

Volume provided as per DEC Bioretention Sizing Calculations = 20,809 cubic feet

20,809 CF > 9,044 CF → **OK**

South Detention

$$q_o/q_i = 1.01 / 9.72 = 0.104$$

$$V_s/V_r = 0.55$$

$$Q_d = 2.67 \text{ inches}$$

$$A = 3.809 \text{ acres}$$

$$CPv = (0.104 * 2.67 * 3.809) / 12 = 0.088 \text{ ac-ft} = 3,840 \text{ cubic feet}$$

Volume provided as per HydroCAD Output = 16,830 cubic feet

16,830 CF > 3,840 CF → **OK**

Offsite Detention

$$q_o/q_i = 0.95 / 4.31 = 0.22$$

$$V_s/V_r = 0.44$$

$$Q_d = 1.16 \text{ inches}$$

$$A = 3.31 \text{ acres}$$

$$CP_v = (0.22 * 1.16 * 3.31) / 12 = 0.0704 \text{ ac-ft} = 3,066 \text{ cubic feet}$$

Volume provided as per HydroCAD Output = 21,049 cubic feet

21,049 CF > 3,066 CF → **OK**

Totals

$$\text{Total Required CPv} = 9,044 + 3,840 + 3,066 = 15,950 \text{ CF}$$

$$\text{Total Provided CPv} = 20,809 + 16,830 + 21,049 = 58,688 \text{ CF}$$

Appendix A

Unity Place Warehouse
USDA Soil Map and Report



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 Orange County, New York



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

Custom Soil Resource Report

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

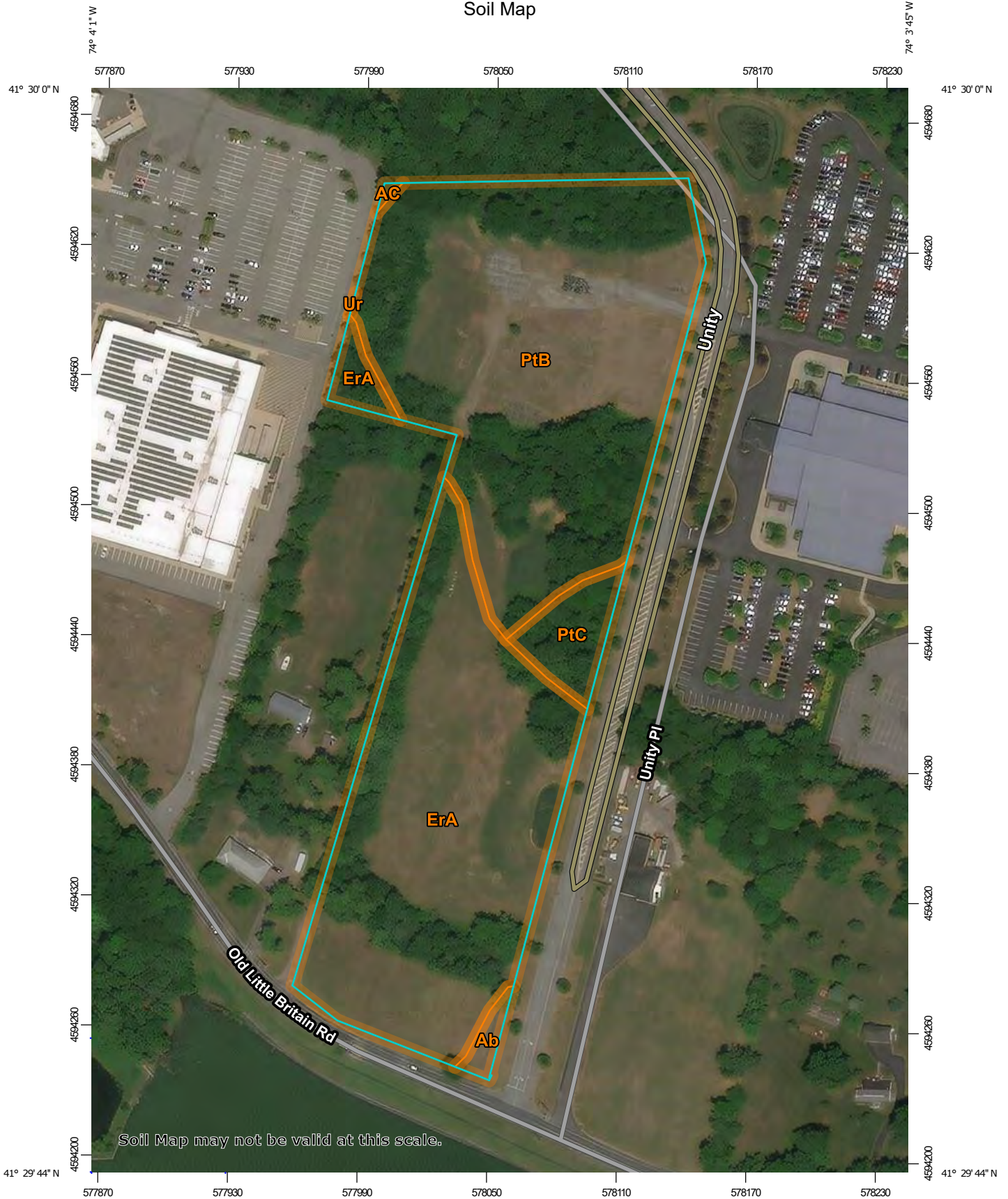
Custom Soil Resource Report

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

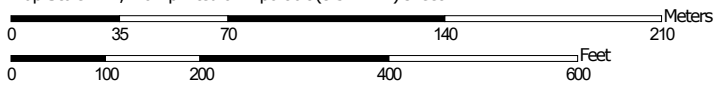
Soil Map

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: 1:2,440 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N 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: Orange County, New York
 Survey Area Data: Version 21, Jun 11, 2020

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

Date(s) aerial images were photographed: Oct 7, 2013—Feb 26, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ab	Alden silt loam	0.1	0.9%
AC	Alden extremely stony soils	0.0	0.1%
ErA	Erie gravelly silt loam, 0 to 3 percent slopes	4.9	43.9%
PtB	Pittsfield gravelly loam, 3 to 8 percent slopes	5.7	51.2%
PtC	Pittsfield gravelly loam, 8 to 15 percent slopes	0.4	3.8%
Ur	Urban land	0.0	0.0%
Totals for Area of Interest		11.2	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.

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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.

Orange County, New York

Ab—Alden silt loam

Map Unit Setting

National map unit symbol: 9vtc
Elevation: 300 to 1,500 feet
Mean annual precipitation: 42 to 52 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 135 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Alden and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Alden

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: A silty mantle of local deposition overlying loamy till

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 36 inches: silt loam
H3 - 36 to 60 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Ecological site: F144AY040NY - Semi-Rich Very Wet Till Depressions
Hydric soil rating: Yes

Minor Components

Carlisle

Percent of map unit: 5 percent
Landform: Swamps, marshes

Custom Soil Resource Report

Hydric soil rating: Yes

Erie

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: No

Wayland

Percent of map unit: 5 percent

Landform: Flood plains

Hydric soil rating: Yes

Canandaigua

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

AC—Alden extremely stony soils

Map Unit Setting

National map unit symbol: 9vtd

Elevation: 130 to 1,480 feet

Mean annual precipitation: 42 to 52 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 135 to 215 days

Farmland classification: Not prime farmland

Map Unit Composition

Alden, extremely stony, and similar soils: 75 percent

Minor components: 25 percent

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

Description of Alden, Extremely Stony

Setting

Landform: Depressions

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: A silty mantle of local deposition overlying loamy till

Typical profile

H1 - 0 to 9 inches: silt loam

H2 - 9 to 36 inches: silt loam

H3 - 36 to 60 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 3 percent

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

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Calcium carbonate, maximum content: 1 percent

Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: C/D

Ecological site: F144AY040NY - Semi-Rich Very Wet Till Depressions

Hydric soil rating: Yes

Minor Components

Lyons

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Palms

Percent of map unit: 5 percent

Landform: Swamps, marshes

Hydric soil rating: Yes

Canandaigua

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Erie

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: No

Wayland

Percent of map unit: 5 percent

Landform: Flood plains

Hydric soil rating: Yes

ErA—Erie gravelly silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9vv8

Elevation: 100 to 1,360 feet

Mean annual precipitation: 42 to 52 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 135 to 215 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Erie and similar soils: 75 percent

Minor components: 25 percent

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

Description of Erie

Setting

Landform: Drumlinoid ridges, hills, till plains

Landform position (two-dimensional): Footslope, summit

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Loamy till derived from siltstone, sandstone, shale, and limestone

Typical profile

H1 - 0 to 10 inches: gravelly silt loam

H2 - 10 to 18 inches: channery silt loam

H3 - 18 to 56 inches: channery silt loam

H4 - 56 to 70 inches: channery silt loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: 10 to 21 inches to fragipan

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D

Ecological site: F144AY037MA - Moist Dense Till Uplands

Hydric soil rating: No

Minor Components

Bath

Percent of map unit: 5 percent

Hydric soil rating: No

Wurtsboro

Percent of map unit: 5 percent

Hydric soil rating: No

Swartswood

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: No

Alden

Percent of map unit: 5 percent

Custom Soil Resource Report

Landform: Depressions
Hydric soil rating: Yes

Mardin

Percent of map unit: 5 percent
Hydric soil rating: No

PtB—Pittsfield gravelly loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9vw8
Elevation: 0 to 1,000 feet
Mean annual precipitation: 42 to 52 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 135 to 215 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Pittsfield and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pittsfield

Setting

Landform: Drumlinoid ridges, hills, till plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous loamy till

Typical profile

H1 - 0 to 10 inches: gravelly loam
H2 - 10 to 34 inches: gravelly loam
H3 - 34 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

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Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Ecological site: F144AY036NY - Semi-Rich Well Drained Till Uplands

Hydric soil rating: No

Minor Components

Hollis

Percent of map unit: 5 percent

Hydric soil rating: No

Bath

Percent of map unit: 5 percent

Hydric soil rating: No

Mardin

Percent of map unit: 5 percent

Hydric soil rating: No

Charlton

Percent of map unit: 5 percent

Hydric soil rating: No

Paxton

Percent of map unit: 5 percent

Hydric soil rating: No

PtC—Pittsfield gravelly loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9vw9

Elevation: 0 to 1,000 feet

Mean annual precipitation: 42 to 52 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 135 to 215 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Pittsfield and similar soils: 75 percent

Minor components: 25 percent

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

Description of Pittsfield

Setting

Landform: Till plains, drumlinoid ridges, hills

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Calcareous loamy till

Custom Soil Resource Report

Typical profile

H1 - 0 to 9 inches: gravelly loam

H2 - 9 to 31 inches: gravelly loam

H3 - 31 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

*Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 5.95 in/hr)*

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: F144AY036NY - Semi-Rich Well Drained Till Uplands

Hydric soil rating: No

Minor Components

Hollis

Percent of map unit: 5 percent

Hydric soil rating: No

Bath

Percent of map unit: 5 percent

Hydric soil rating: No

Mardin

Percent of map unit: 5 percent

Hydric soil rating: No

Charlton

Percent of map unit: 5 percent

Hydric soil rating: No

Paxton

Percent of map unit: 5 percent

Hydric soil rating: No

Ur—Urban land

Map Unit Setting

National map unit symbol: 9vxg

Mean annual precipitation: 42 to 52 inches

Mean annual air temperature: 46 to 52 degrees F

Custom Soil Resource Report

Frost-free period: 135 to 215 days

Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 75 percent

Minor components: 25 percent

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

Description of Urban Land

Typical profile

H1 - 0 to 6 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: Unranked

Minor Components

Canandaigua

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

Wurtsboro

Percent of map unit: 5 percent

Hydric soil rating: No

Scio

Percent of map unit: 5 percent

Hydric soil rating: No

Bath

Percent of map unit: 5 percent

Hydric soil rating: No

Udorthents

Percent of map unit: 5 percent

Hydric soil rating: No

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Custom Soil Resource Report

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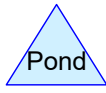
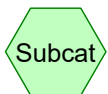
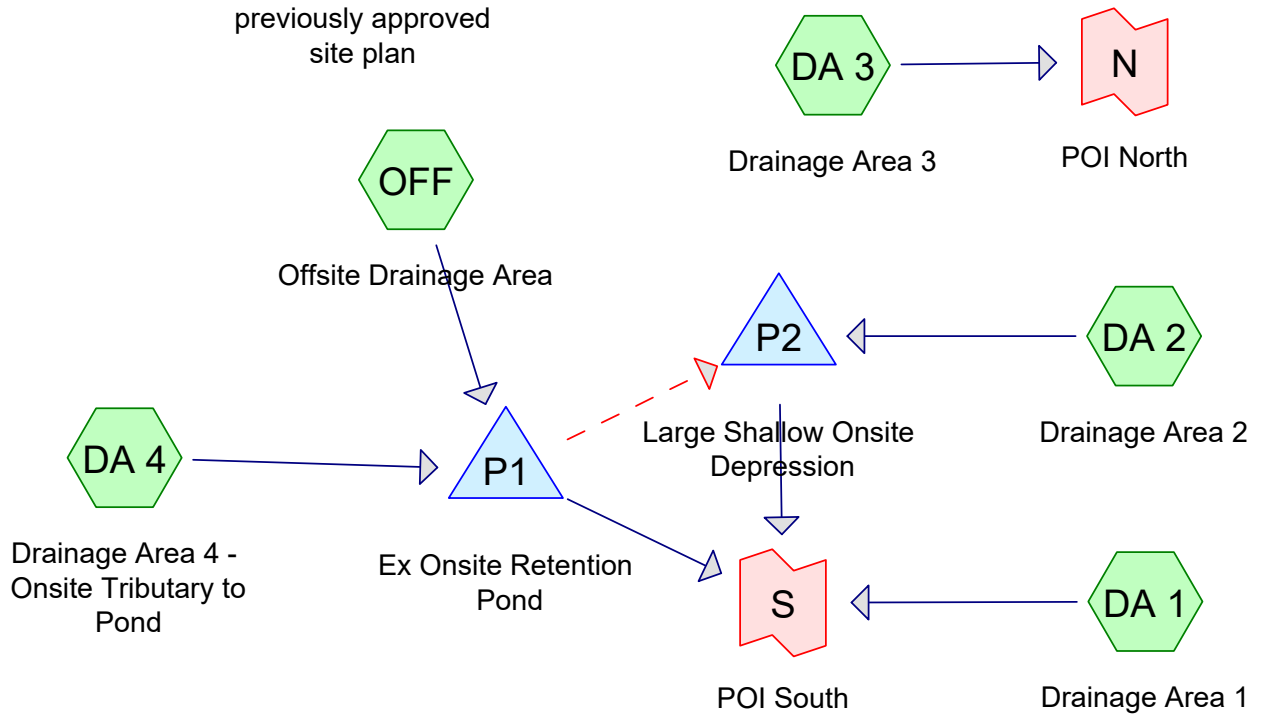
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Appendix B

Unity Place Warehouse
Existing Conditions Detailed HydroCAD Output Report

TOTAL AREA ONSITE
= 559,475

Jehova Site's Drainage
Area taken from
previously approved
site plan



Existing

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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	Type III 24-hr		Default	24.00	1	2.90	2
2	10-Year	Type III 24-hr		Default	24.00	1	5.50	2
3	25-Year	Type III 24-hr		Default	24.00	1	6.50	2
4	100-Year	Type III 24-hr		Default	24.00	1	8.00	2

Existing

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.400	61	>75% Grass cover, Good, HSG B (DA 2, DA 3, OFF)
4.383	80	>75% Grass cover, Good, HSG D (DA 1, DA 2, DA 4)
0.057	98	Impervious (DA 3)
1.643	98	Impervious Surfaces (OFF)
0.014	98	Macadam Drive (DA 1)
0.056	98	Misc. Macadam (DA 2)
3.228	55	Woods, Good, HSG B (DA 2, DA 3)
1.906	77	Woods, Good, HSG D (DA 1, DA 2)
15.686	71	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
7.627	HSG B	DA 2, DA 3, OFF
0.000	HSG C	
6.289	HSG D	DA 1, DA 2, DA 4
1.770	Other	DA 1, DA 2, DA 3, OFF
15.686		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	4.400	0.000	4.383	0.000	8.782	>75% Grass cover, Good	DA 1, DA 2, DA 3, DA 4, OFF
0.000	0.000	0.000	0.000	0.057	0.057	Impervious	DA 3
0.000	0.000	0.000	0.000	1.643	1.643	Impervious Surfaces	OFF
0.000	0.000	0.000	0.000	0.014	0.014	Macadam Drive	DA 1
0.000	0.000	0.000	0.000	0.056	0.056	Misc. Macadam	DA 2
0.000	3.228	0.000	1.906	0.000	5.134	Woods, Good	DA 1, DA 2, DA 3
0.000	7.627	0.000	6.289	1.770	15.686	TOTAL AREA	

Existing

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	P1	295.00	292.10	409.0	0.0071	0.013	0.0	24.0	0.0

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Type III 24-hr 1-Year Rainfall=2.90"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1: Drainage Area 1 Runoff Area=32,821 sf 1.83% Impervious Runoff Depth>1.17"
Flow Length=344' Tc=15.6 min CN=80 Runoff=0.75 cfs 0.074 af

Subcatchment DA 2: Drainage Area 2 Runoff Area=404,999 sf 0.60% Impervious Runoff Depth>0.66"
Flow Length=878' Tc=21.1 min CN=70 Runoff=4.02 cfs 0.508 af

Subcatchment DA 3: Drainage Area 3 Runoff Area=110,724 sf 2.23% Impervious Runoff Depth>0.27"
Flow Length=433' Tc=13.2 min CN=59 Runoff=0.30 cfs 0.057 af

Subcatchment DA 4: Drainage Area 4 - Runoff Area=10,931 sf 0.00% Impervious Runoff Depth>1.17"
Tc=6.0 min CN=80 Runoff=0.33 cfs 0.025 af

Subcatchment OFF: Offsite Drainage Area Runoff Area=123,797 sf 57.81% Impervious Runoff Depth>1.30"
Tc=6.0 min CN=82 Runoff=4.22 cfs 0.308 af

Pond P1: Ex Onsite Retention Pond Peak Elev=296.34' Storage=3,885 cf Inflow=4.55 cfs 0.332 af
Primary=1.74 cfs 0.322 af Secondary=0.00 cfs 0.000 af Outflow=1.74 cfs 0.322 af

Pond P2: Large Shallow Onsite Depression Peak Elev=298.04' Storage=7,189 cf Inflow=4.02 cfs 0.508 af
Outflow=1.83 cfs 0.360 af

Link N: POI North Inflow=0.30 cfs 0.057 af
Primary=0.30 cfs 0.057 af

Link S: POI South Inflow=3.45 cfs 0.755 af
Primary=3.45 cfs 0.755 af

Total Runoff Area = 15.686 ac Runoff Volume = 0.970 af Average Runoff Depth = 0.74"
88.72% Pervious = 13.916 ac 11.28% Impervious = 1.770 ac

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Type III 24-hr 1-Year Rainfall=2.90"

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Summary for Subcatchment DA 1: Drainage Area 1

Runoff = 0.75 cfs @ 12.22 hrs, Volume= 0.074 af, Depth> 1.17"
Routed to Link S : POI South

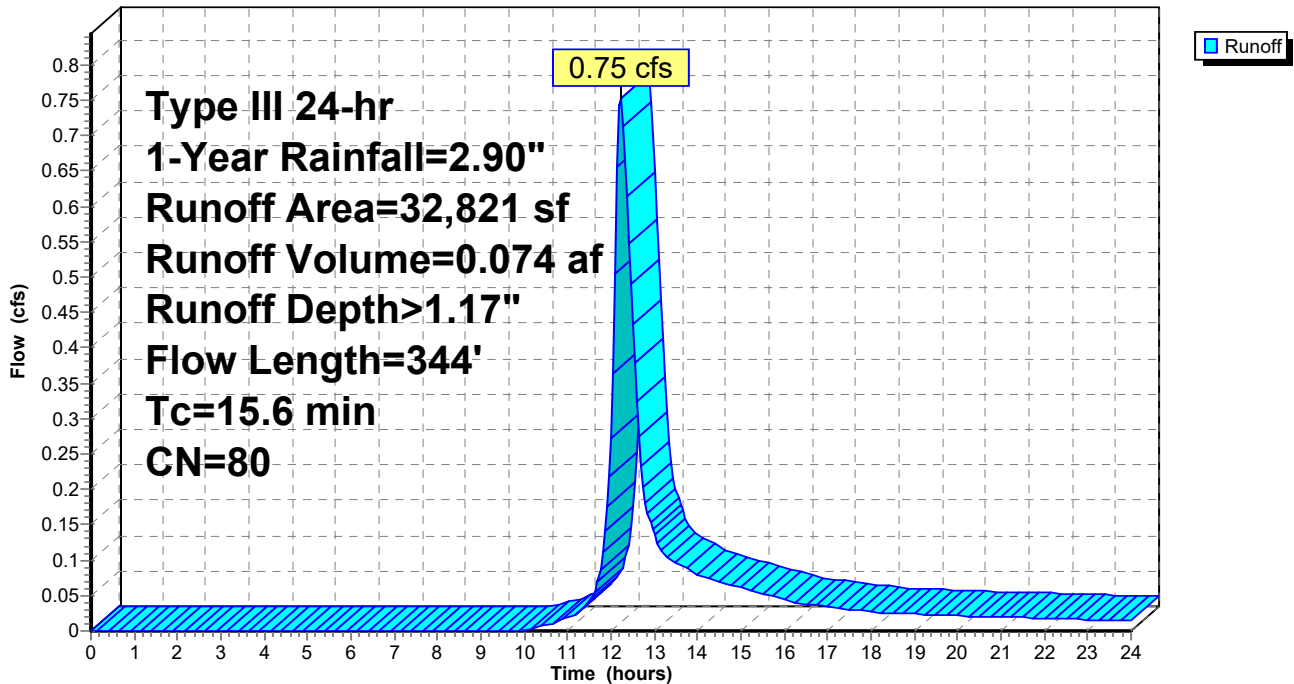
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
* 600	98	Macadam Drive
260	77	Woods, Good, HSG D
31,961	80	>75% Grass cover, Good, HSG D
32,821	80	Weighted Average
32,221		98.17% Pervious Area
600		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	100	0.0100	0.13		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
2.5	244	0.0120	1.64		Shallow Concentrated Flow, SCF (Road Swale) Grassed Waterway Kv= 15.0 fps
15.6	344	Total			

Subcatchment DA 1: Drainage Area 1

Hydrograph



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Hydrograph for Subcatchment DA 1: Drainage Area 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	2.23	0.70	0.11
0.25	0.01	0.00	0.00	13.50	2.27	0.74	0.10
0.50	0.01	0.00	0.00	13.75	2.31	0.76	0.09
0.75	0.02	0.00	0.00	14.00	2.35	0.79	0.08
1.00	0.03	0.00	0.00	14.25	2.39	0.81	0.07
1.25	0.04	0.00	0.00	14.50	2.42	0.83	0.07
1.50	0.04	0.00	0.00	14.75	2.45	0.85	0.06
1.75	0.05	0.00	0.00	15.00	2.48	0.87	0.06
2.00	0.06	0.00	0.00	15.25	2.50	0.89	0.06
2.25	0.07	0.00	0.00	15.50	2.53	0.91	0.05
2.50	0.07	0.00	0.00	15.75	2.55	0.92	0.05
2.75	0.08	0.00	0.00	16.00	2.57	0.94	0.04
3.00	0.09	0.00	0.00	16.25	2.59	0.95	0.04
3.25	0.10	0.00	0.00	16.50	2.61	0.96	0.04
3.50	0.11	0.00	0.00	16.75	2.62	0.97	0.04
3.75	0.12	0.00	0.00	17.00	2.64	0.99	0.03
4.00	0.12	0.00	0.00	17.25	2.65	1.00	0.03
4.25	0.13	0.00	0.00	17.50	2.67	1.01	0.03
4.50	0.14	0.00	0.00	17.75	2.68	1.01	0.03
4.75	0.15	0.00	0.00	18.00	2.69	1.02	0.03
5.00	0.16	0.00	0.00	18.25	2.70	1.03	0.03
5.25	0.18	0.00	0.00	18.50	2.71	1.04	0.02
5.50	0.19	0.00	0.00	18.75	2.72	1.05	0.02
5.75	0.20	0.00	0.00	19.00	2.74	1.06	0.02
6.00	0.21	0.00	0.00	19.25	2.75	1.06	0.02
6.25	0.22	0.00	0.00	19.50	2.76	1.07	0.02
6.50	0.23	0.00	0.00	19.75	2.77	1.08	0.02
6.75	0.25	0.00	0.00	20.00	2.78	1.08	0.02
7.00	0.26	0.00	0.00	20.25	2.78	1.09	0.02
7.25	0.28	0.00	0.00	20.50	2.79	1.10	0.02
7.50	0.29	0.00	0.00	20.75	2.80	1.10	0.02
7.75	0.31	0.00	0.00	21.00	2.81	1.11	0.02
8.00	0.33	0.00	0.00	21.25	2.82	1.12	0.02
8.25	0.35	0.00	0.00	21.50	2.83	1.12	0.02
8.50	0.37	0.00	0.00	21.75	2.84	1.13	0.02
8.75	0.40	0.00	0.00	22.00	2.84	1.13	0.02
9.00	0.42	0.00	0.00	22.25	2.85	1.14	0.02
9.25	0.45	0.00	0.00	22.50	2.86	1.15	0.02
9.50	0.48	0.00	0.00	22.75	2.87	1.15	0.02
9.75	0.51	0.00	0.00	23.00	2.87	1.16	0.02
10.00	0.55	0.00	0.00	23.25	2.88	1.16	0.02
10.25	0.59	0.00	0.00	23.50	2.89	1.17	0.02
10.50	0.63	0.01	0.01	23.75	2.89	1.17	0.01
10.75	0.67	0.01	0.01	24.00	2.90	1.18	0.01
11.00	0.73	0.02	0.02				
11.25	0.79	0.03	0.03				
11.50	0.86	0.05	0.04				
11.75	1.03	0.09	0.09				
12.00	1.45	0.26	0.27				
12.25	1.87	0.48	0.74				
12.50	2.04	0.58	0.43				
12.75	2.11	0.63	0.20				
13.00	2.18	0.67	0.14				

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Type III 24-hr 1-Year Rainfall=2.90"

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Summary for Subcatchment DA 2: Drainage Area 2

Runoff = 4.02 cfs @ 12.35 hrs, Volume= 0.508 af, Depth> 0.66"
 Routed to Pond P2 : Large Shallow Onsite Depression

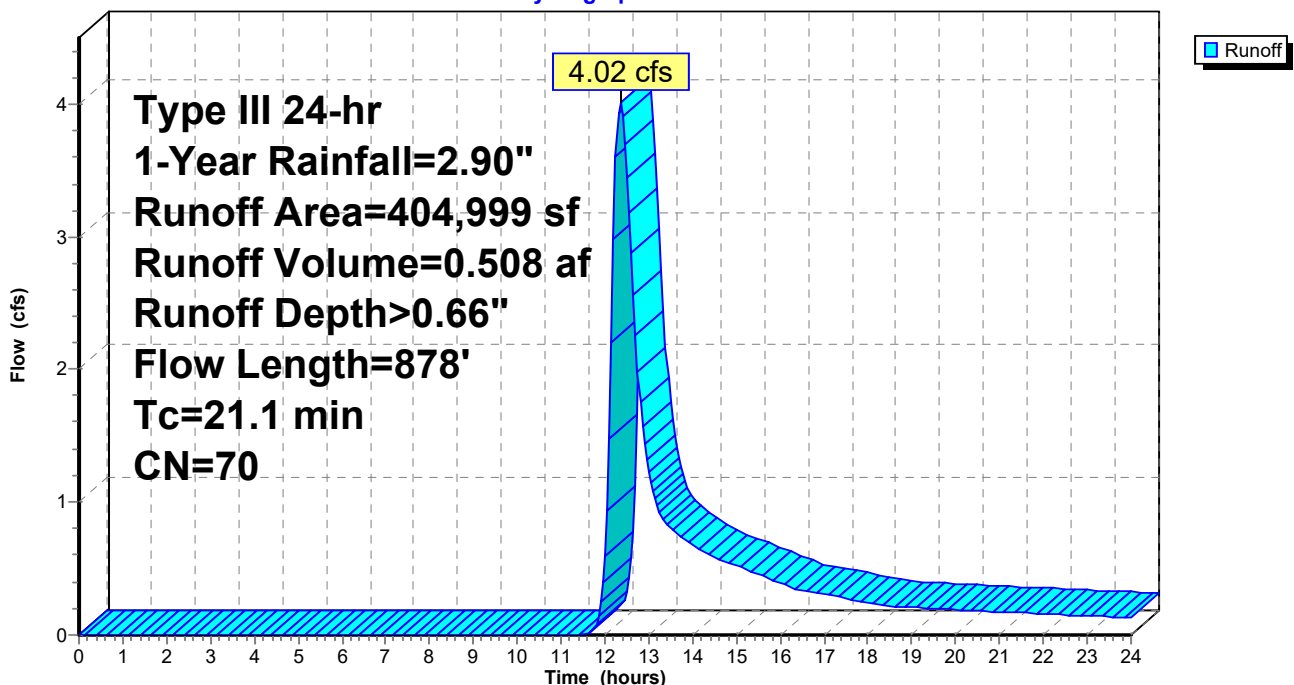
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
* 2,447	98	Misc. Macadam
82,769	77	Woods, Good, HSG D
148,017	80	>75% Grass cover, Good, HSG D
88,344	55	Woods, Good, HSG B
83,422	61	>75% Grass cover, Good, HSG B
404,999	70	Weighted Average
402,552		99.40% Pervious Area
2,447		0.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	100	0.0180	0.16		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
10.7	778	0.0300	1.21		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
21.1	878	Total			

Subcatchment DA 2: Drainage Area 2

Hydrograph



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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Subcatchment DA 2: Drainage Area 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	2.23	0.33	0.93
0.25	0.01	0.00	0.00	13.50	2.27	0.35	0.80
0.50	0.01	0.00	0.00	13.75	2.31	0.37	0.74
0.75	0.02	0.00	0.00	14.00	2.35	0.39	0.68
1.00	0.03	0.00	0.00	14.25	2.39	0.40	0.62
1.25	0.04	0.00	0.00	14.50	2.42	0.42	0.58
1.50	0.04	0.00	0.00	14.75	2.45	0.43	0.55
1.75	0.05	0.00	0.00	15.00	2.48	0.44	0.52
2.00	0.06	0.00	0.00	15.25	2.50	0.46	0.49
2.25	0.07	0.00	0.00	15.50	2.53	0.47	0.46
2.50	0.07	0.00	0.00	15.75	2.55	0.48	0.43
2.75	0.08	0.00	0.00	16.00	2.57	0.49	0.39
3.00	0.09	0.00	0.00	16.25	2.59	0.50	0.36
3.25	0.10	0.00	0.00	16.50	2.61	0.51	0.34
3.50	0.11	0.00	0.00	16.75	2.62	0.51	0.32
3.75	0.12	0.00	0.00	17.00	2.64	0.52	0.31
4.00	0.12	0.00	0.00	17.25	2.65	0.53	0.29
4.25	0.13	0.00	0.00	17.50	2.67	0.54	0.28
4.50	0.14	0.00	0.00	17.75	2.68	0.54	0.26
4.75	0.15	0.00	0.00	18.00	2.69	0.55	0.24
5.00	0.16	0.00	0.00	18.25	2.70	0.56	0.23
5.25	0.18	0.00	0.00	18.50	2.71	0.56	0.22
5.50	0.19	0.00	0.00	18.75	2.72	0.57	0.21
5.75	0.20	0.00	0.00	19.00	2.74	0.57	0.21
6.00	0.21	0.00	0.00	19.25	2.75	0.58	0.21
6.25	0.22	0.00	0.00	19.50	2.76	0.58	0.20
6.50	0.23	0.00	0.00	19.75	2.77	0.59	0.20
6.75	0.25	0.00	0.00	20.00	2.78	0.59	0.19
7.00	0.26	0.00	0.00	20.25	2.78	0.60	0.19
7.25	0.28	0.00	0.00	20.50	2.79	0.60	0.18
7.50	0.29	0.00	0.00	20.75	2.80	0.61	0.18
7.75	0.31	0.00	0.00	21.00	2.81	0.61	0.18
8.00	0.33	0.00	0.00	21.25	2.82	0.62	0.17
8.25	0.35	0.00	0.00	21.50	2.83	0.62	0.17
8.50	0.37	0.00	0.00	21.75	2.84	0.63	0.16
8.75	0.40	0.00	0.00	22.00	2.84	0.63	0.16
9.00	0.42	0.00	0.00	22.25	2.85	0.63	0.16
9.25	0.45	0.00	0.00	22.50	2.86	0.64	0.15
9.50	0.48	0.00	0.00	22.75	2.87	0.64	0.15
9.75	0.51	0.00	0.00	23.00	2.87	0.65	0.15
10.00	0.55	0.00	0.00	23.25	2.88	0.65	0.14
10.25	0.59	0.00	0.00	23.50	2.89	0.65	0.14
10.50	0.63	0.00	0.00	23.75	2.89	0.66	0.13
10.75	0.67	0.00	0.00	24.00	2.90	0.66	0.13
11.00	0.73	0.00	0.00				
11.25	0.79	0.00	0.00				
11.50	0.86	0.00	0.00				
11.75	1.03	0.01	0.04				
12.00	1.45	0.07	0.60				
12.25	1.87	0.19	3.60				
12.50	2.04	0.25	3.45				
12.75	2.11	0.28	1.98				
13.00	2.18	0.31	1.23				

Existing

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Type III 24-hr 1-Year Rainfall=2.90"

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Summary for Subcatchment DA 3: Drainage Area 3

Runoff = 0.30 cfs @ 12.41 hrs, Volume= 0.057 af, Depth> 0.27"
Routed to Link N : POI North

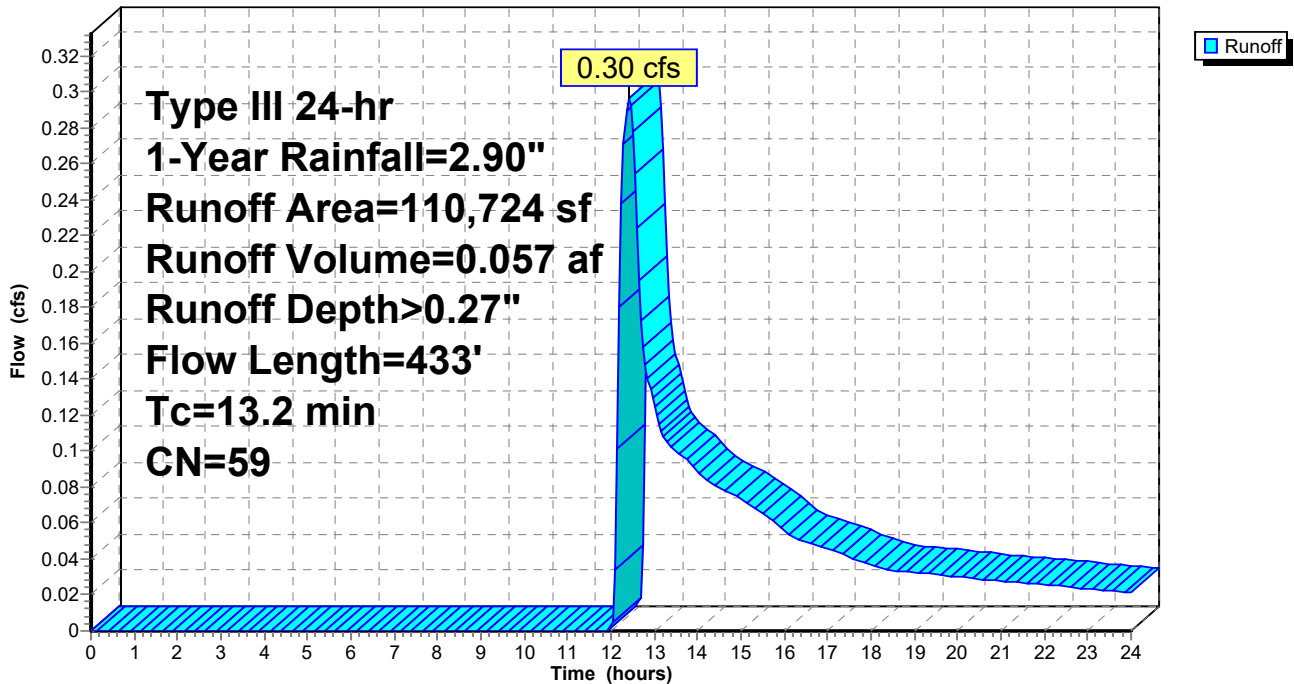
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
* 2,471	98	Impervious
55,994	61	>75% Grass cover, Good, HSG B
52,259	55	Woods, Good, HSG B
110,724	59	Weighted Average
108,253		97.77% Pervious Area
2,471		2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.0240	0.18		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
4.0	333	0.0390	1.38		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
13.2	433	Total			

Subcatchment DA 3: Drainage Area 3

Hydrograph



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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Subcatchment DA 3: Drainage Area 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	2.23	0.09	0.11
0.25	0.01	0.00	0.00	13.50	2.27	0.10	0.10
0.50	0.01	0.00	0.00	13.75	2.31	0.11	0.10
0.75	0.02	0.00	0.00	14.00	2.35	0.12	0.09
1.00	0.03	0.00	0.00	14.25	2.39	0.12	0.08
1.25	0.04	0.00	0.00	14.50	2.42	0.13	0.08
1.50	0.04	0.00	0.00	14.75	2.45	0.14	0.08
1.75	0.05	0.00	0.00	15.00	2.48	0.15	0.07
2.00	0.06	0.00	0.00	15.25	2.50	0.15	0.07
2.25	0.07	0.00	0.00	15.50	2.53	0.16	0.07
2.50	0.07	0.00	0.00	15.75	2.55	0.17	0.06
2.75	0.08	0.00	0.00	16.00	2.57	0.17	0.06
3.00	0.09	0.00	0.00	16.25	2.59	0.18	0.05
3.25	0.10	0.00	0.00	16.50	2.61	0.18	0.05
3.50	0.11	0.00	0.00	16.75	2.62	0.19	0.05
3.75	0.12	0.00	0.00	17.00	2.64	0.19	0.05
4.00	0.12	0.00	0.00	17.25	2.65	0.19	0.04
4.25	0.13	0.00	0.00	17.50	2.67	0.20	0.04
4.50	0.14	0.00	0.00	17.75	2.68	0.20	0.04
4.75	0.15	0.00	0.00	18.00	2.69	0.21	0.04
5.00	0.16	0.00	0.00	18.25	2.70	0.21	0.03
5.25	0.18	0.00	0.00	18.50	2.71	0.21	0.03
5.50	0.19	0.00	0.00	18.75	2.72	0.22	0.03
5.75	0.20	0.00	0.00	19.00	2.74	0.22	0.03
6.00	0.21	0.00	0.00	19.25	2.75	0.22	0.03
6.25	0.22	0.00	0.00	19.50	2.76	0.22	0.03
6.50	0.23	0.00	0.00	19.75	2.77	0.23	0.03
6.75	0.25	0.00	0.00	20.00	2.78	0.23	0.03
7.00	0.26	0.00	0.00	20.25	2.78	0.23	0.03
7.25	0.28	0.00	0.00	20.50	2.79	0.24	0.03
7.50	0.29	0.00	0.00	20.75	2.80	0.24	0.03
7.75	0.31	0.00	0.00	21.00	2.81	0.24	0.03
8.00	0.33	0.00	0.00	21.25	2.82	0.24	0.03
8.25	0.35	0.00	0.00	21.50	2.83	0.25	0.03
8.50	0.37	0.00	0.00	21.75	2.84	0.25	0.03
8.75	0.40	0.00	0.00	22.00	2.84	0.25	0.03
9.00	0.42	0.00	0.00	22.25	2.85	0.25	0.03
9.25	0.45	0.00	0.00	22.50	2.86	0.26	0.02
9.50	0.48	0.00	0.00	22.75	2.87	0.26	0.02
9.75	0.51	0.00	0.00	23.00	2.87	0.26	0.02
10.00	0.55	0.00	0.00	23.25	2.88	0.26	0.02
10.25	0.59	0.00	0.00	23.50	2.89	0.27	0.02
10.50	0.63	0.00	0.00	23.75	2.89	0.27	0.02
10.75	0.67	0.00	0.00	24.00	2.90	0.27	0.02
11.00	0.73	0.00	0.00				
11.25	0.79	0.00	0.00				
11.50	0.86	0.00	0.00				
11.75	1.03	0.00	0.00				
12.00	1.45	0.00	0.00				
12.25	1.87	0.03	0.24				
12.50	2.04	0.05	0.28				
12.75	2.11	0.07	0.16				
13.00	2.18	0.08	0.12				

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Type III 24-hr 1-Year Rainfall=2.90"

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Summary for Subcatchment DA 4: Drainage Area 4 - Onsite Tributary to Pond

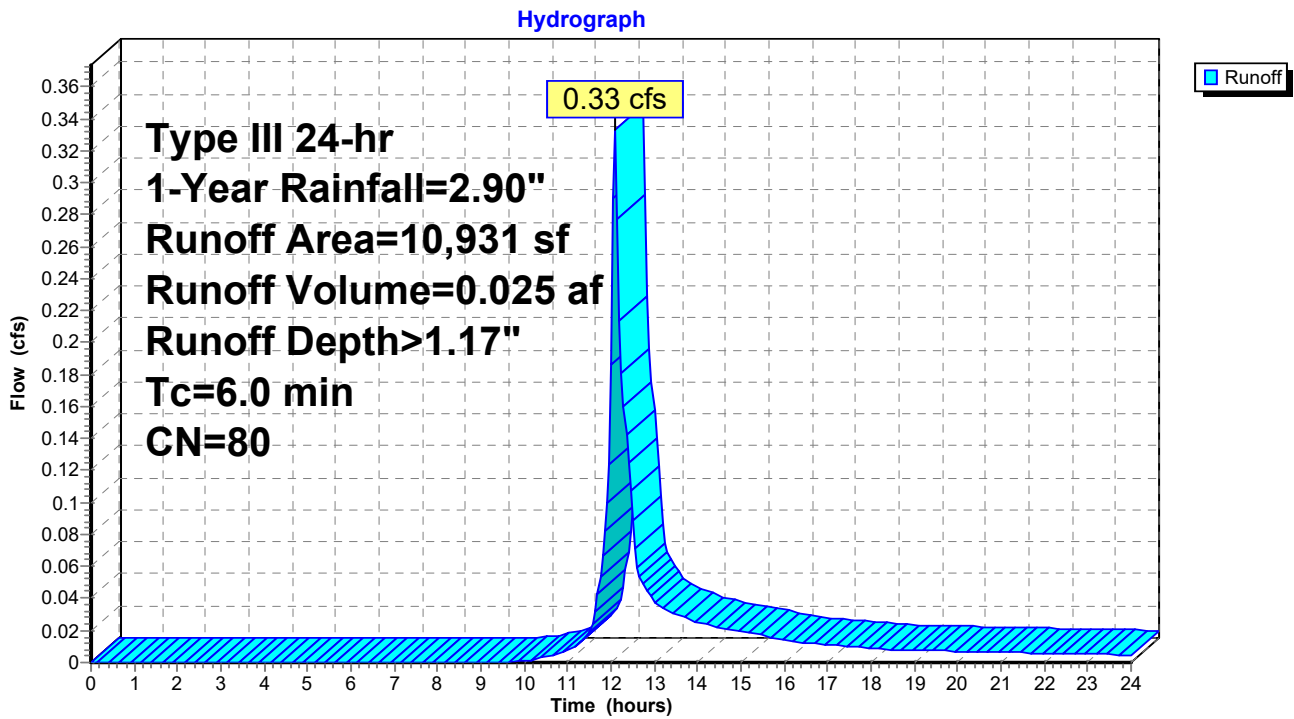
Runoff = 0.33 cfs @ 12.10 hrs, Volume= 0.025 af, Depth> 1.17"
Routed to Pond P1 : Ex Onsite Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
10,931	80	>75% Grass cover, Good, HSG D
10,931		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment DA 4: Drainage Area 4 - Onsite Tributary to Pond



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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Subcatchment DA 4: Drainage Area 4 - Onsite Tributary to Pond

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	2.23	0.70	0.03
0.25	0.01	0.00	0.00	13.50	2.27	0.74	0.03
0.50	0.01	0.00	0.00	13.75	2.31	0.76	0.03
0.75	0.02	0.00	0.00	14.00	2.35	0.79	0.03
1.00	0.03	0.00	0.00	14.25	2.39	0.81	0.02
1.25	0.04	0.00	0.00	14.50	2.42	0.83	0.02
1.50	0.04	0.00	0.00	14.75	2.45	0.85	0.02
1.75	0.05	0.00	0.00	15.00	2.48	0.87	0.02
2.00	0.06	0.00	0.00	15.25	2.50	0.89	0.02
2.25	0.07	0.00	0.00	15.50	2.53	0.91	0.02
2.50	0.07	0.00	0.00	15.75	2.55	0.92	0.02
2.75	0.08	0.00	0.00	16.00	2.57	0.94	0.01
3.00	0.09	0.00	0.00	16.25	2.59	0.95	0.01
3.25	0.10	0.00	0.00	16.50	2.61	0.96	0.01
3.50	0.11	0.00	0.00	16.75	2.62	0.97	0.01
3.75	0.12	0.00	0.00	17.00	2.64	0.99	0.01
4.00	0.12	0.00	0.00	17.25	2.65	1.00	0.01
4.25	0.13	0.00	0.00	17.50	2.67	1.01	0.01
4.50	0.14	0.00	0.00	17.75	2.68	1.01	0.01
4.75	0.15	0.00	0.00	18.00	2.69	1.02	0.01
5.00	0.16	0.00	0.00	18.25	2.70	1.03	0.01
5.25	0.18	0.00	0.00	18.50	2.71	1.04	0.01
5.50	0.19	0.00	0.00	18.75	2.72	1.05	0.01
5.75	0.20	0.00	0.00	19.00	2.74	1.06	0.01
6.00	0.21	0.00	0.00	19.25	2.75	1.06	0.01
6.25	0.22	0.00	0.00	19.50	2.76	1.07	0.01
6.50	0.23	0.00	0.00	19.75	2.77	1.08	0.01
6.75	0.25	0.00	0.00	20.00	2.78	1.08	0.01
7.00	0.26	0.00	0.00	20.25	2.78	1.09	0.01
7.25	0.28	0.00	0.00	20.50	2.79	1.10	0.01
7.50	0.29	0.00	0.00	20.75	2.80	1.10	0.01
7.75	0.31	0.00	0.00	21.00	2.81	1.11	0.01
8.00	0.33	0.00	0.00	21.25	2.82	1.12	0.01
8.25	0.35	0.00	0.00	21.50	2.83	1.12	0.01
8.50	0.37	0.00	0.00	21.75	2.84	1.13	0.01
8.75	0.40	0.00	0.00	22.00	2.84	1.13	0.01
9.00	0.42	0.00	0.00	22.25	2.85	1.14	0.01
9.25	0.45	0.00	0.00	22.50	2.86	1.15	0.01
9.50	0.48	0.00	0.00	22.75	2.87	1.15	0.01
9.75	0.51	0.00	0.00	23.00	2.87	1.16	0.01
10.00	0.55	0.00	0.00	23.25	2.88	1.16	0.01
10.25	0.59	0.00	0.00	23.50	2.89	1.17	0.00
10.50	0.63	0.01	0.00	23.75	2.89	1.17	0.00
10.75	0.67	0.01	0.01	24.00	2.90	1.18	0.00
11.00	0.73	0.02	0.01				
11.25	0.79	0.03	0.01				
11.50	0.86	0.05	0.02				
11.75	1.03	0.09	0.05				
12.00	1.45	0.26	0.19				
12.25	1.87	0.48	0.18				
12.50	2.04	0.58	0.09				
12.75	2.11	0.63	0.05				
13.00	2.18	0.67	0.04				

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Type III 24-hr 1-Year Rainfall=2.90"

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Summary for Subcatchment OFF: Offsite Drainage Area

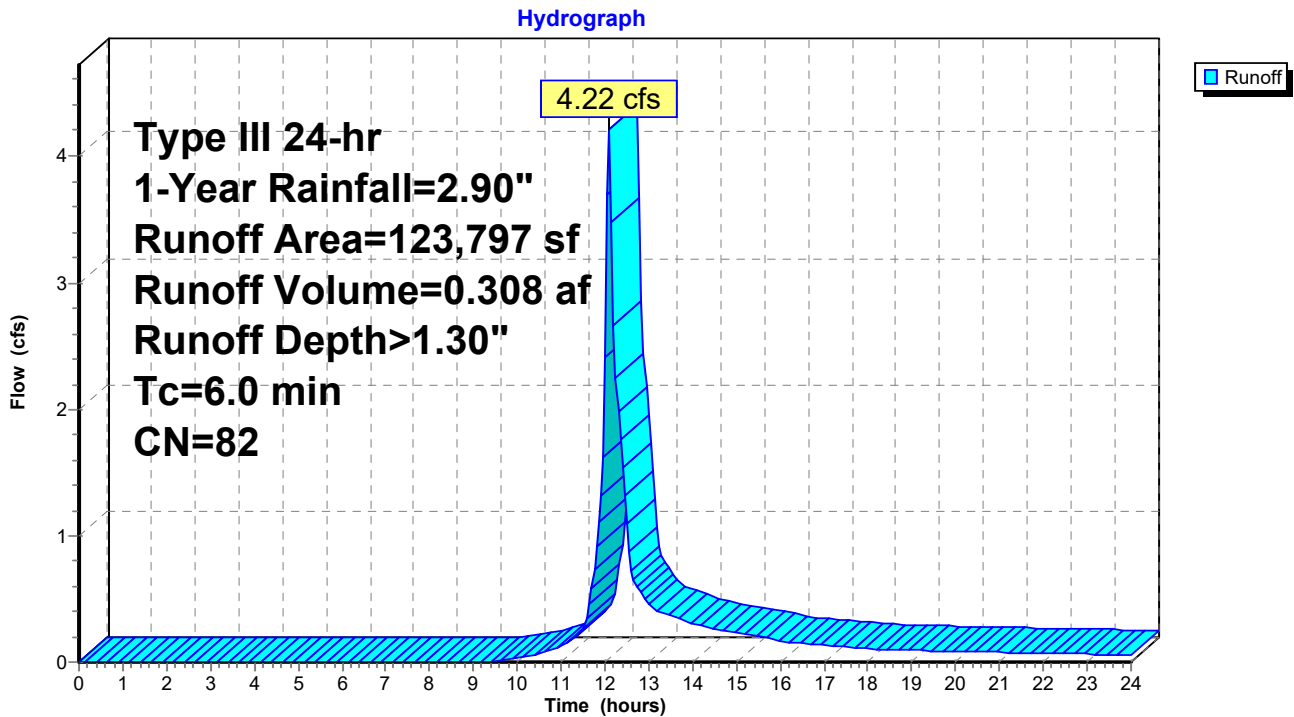
Runoff = 4.22 cfs @ 12.10 hrs, Volume= 0.308 af, Depth> 1.30"
Routed to Pond P1 : Ex Onsite Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
52,228	61	>75% Grass cover, Good, HSG B
* 71,569	98	Impervious Surfaces
123,797	82	Weighted Average
52,228		42.19% Pervious Area
71,569		57.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment OFF: Offsite Drainage Area



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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Subcatchment OFF: Offsite Drainage Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	2.23	0.80	0.40
0.25	0.01	0.00	0.00	13.50	2.27	0.83	0.37
0.50	0.01	0.00	0.00	13.75	2.31	0.86	0.34
0.75	0.02	0.00	0.00	14.00	2.35	0.89	0.30
1.00	0.03	0.00	0.00	14.25	2.39	0.92	0.28
1.25	0.04	0.00	0.00	14.50	2.42	0.94	0.27
1.50	0.04	0.00	0.00	14.75	2.45	0.96	0.25
1.75	0.05	0.00	0.00	15.00	2.48	0.98	0.23
2.00	0.06	0.00	0.00	15.25	2.50	1.00	0.22
2.25	0.07	0.00	0.00	15.50	2.53	1.02	0.20
2.50	0.07	0.00	0.00	15.75	2.55	1.03	0.18
2.75	0.08	0.00	0.00	16.00	2.57	1.05	0.17
3.00	0.09	0.00	0.00	16.25	2.59	1.06	0.16
3.25	0.10	0.00	0.00	16.50	2.61	1.08	0.15
3.50	0.11	0.00	0.00	16.75	2.62	1.09	0.14
3.75	0.12	0.00	0.00	17.00	2.64	1.10	0.13
4.00	0.12	0.00	0.00	17.25	2.65	1.11	0.13
4.25	0.13	0.00	0.00	17.50	2.67	1.12	0.12
4.50	0.14	0.00	0.00	17.75	2.68	1.13	0.11
4.75	0.15	0.00	0.00	18.00	2.69	1.14	0.10
5.00	0.16	0.00	0.00	18.25	2.70	1.15	0.10
5.25	0.18	0.00	0.00	18.50	2.71	1.16	0.10
5.50	0.19	0.00	0.00	18.75	2.72	1.17	0.09
5.75	0.20	0.00	0.00	19.00	2.74	1.17	0.09
6.00	0.21	0.00	0.00	19.25	2.75	1.18	0.09
6.25	0.22	0.00	0.00	19.50	2.76	1.19	0.09
6.50	0.23	0.00	0.00	19.75	2.77	1.20	0.09
6.75	0.25	0.00	0.00	20.00	2.78	1.20	0.08
7.00	0.26	0.00	0.00	20.25	2.78	1.21	0.08
7.25	0.28	0.00	0.00	20.50	2.79	1.22	0.08
7.50	0.29	0.00	0.00	20.75	2.80	1.23	0.08
7.75	0.31	0.00	0.00	21.00	2.81	1.23	0.08
8.00	0.33	0.00	0.00	21.25	2.82	1.24	0.07
8.25	0.35	0.00	0.00	21.50	2.83	1.25	0.07
8.50	0.37	0.00	0.00	21.75	2.84	1.25	0.07
8.75	0.40	0.00	0.00	22.00	2.84	1.26	0.07
9.00	0.42	0.00	0.00	22.25	2.85	1.26	0.07
9.25	0.45	0.00	0.00	22.50	2.86	1.27	0.07
9.50	0.48	0.00	0.01	22.75	2.87	1.27	0.06
9.75	0.51	0.00	0.02	23.00	2.87	1.28	0.06
10.00	0.55	0.01	0.03	23.25	2.88	1.29	0.06
10.25	0.59	0.01	0.05	23.50	2.89	1.29	0.06
10.50	0.63	0.01	0.07	23.75	2.89	1.30	0.06
10.75	0.67	0.02	0.09	24.00	2.90	1.30	0.06
11.00	0.73	0.03	0.12				
11.25	0.79	0.05	0.17				
11.50	0.86	0.07	0.26				
11.75	1.03	0.13	0.74				
12.00	1.45	0.32	2.41				
12.25	1.87	0.56	2.24				
12.50	2.04	0.67	1.09				
12.75	2.11	0.72	0.59				
13.00	2.18	0.77	0.46				

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Type III 24-hr 1-Year Rainfall=2.90"

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Summary for Pond P1: Ex Onsite Retention Pond

[92] Warning: Device #4 is above defined storage

[92] Warning: Device #5 is above defined storage

Inflow Area = 3.093 ac, 53.12% Impervious, Inflow Depth > 1.29" for 1-Year event
 Inflow = 4.55 cfs @ 12.10 hrs, Volume= 0.332 af
 Outflow = 1.74 cfs @ 12.38 hrs, Volume= 0.322 af, Atten= 62%, Lag= 17.3 min
 Primary = 1.74 cfs @ 12.38 hrs, Volume= 0.322 af
 Routed to Link S : POI South
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond P2 : Large Shallow Onsite Depression

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 296.34' @ 12.38 hrs Surf.Area= 4,084 sf Storage= 3,885 cf

Plug-Flow detention time= 52.4 min calculated for 0.322 af (97% of inflow)
 Center-of-Mass det. time= 34.5 min (875.5 - 841.0)

Volume	Invert	Avail.Storage	Storage Description
#1	295.30'	18,859 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
295.30	3,441	0	0
296.00	3,790	2,531	2,531
298.00	5,497	9,287	11,818
299.00	6,080	5,789	17,606
299.20	6,450	1,253	18,859

Device	Routing	Invert	Outlet Devices
#1	Primary	295.00'	24.0" Round Culvert L= 409.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 295.00' / 292.10' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	295.30'	9.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	297.40'	41.2 deg x 3.0' long x 1.33' rise Sharp-Crested Vee/Trap Weir Cv= 2.57 (C= 3.21)
#4	Device 1	299.40'	48.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	299.20'	40.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

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Primary OutFlow Max=1.74 cfs @ 12.38 hrs HW=296.34' (Free Discharge)

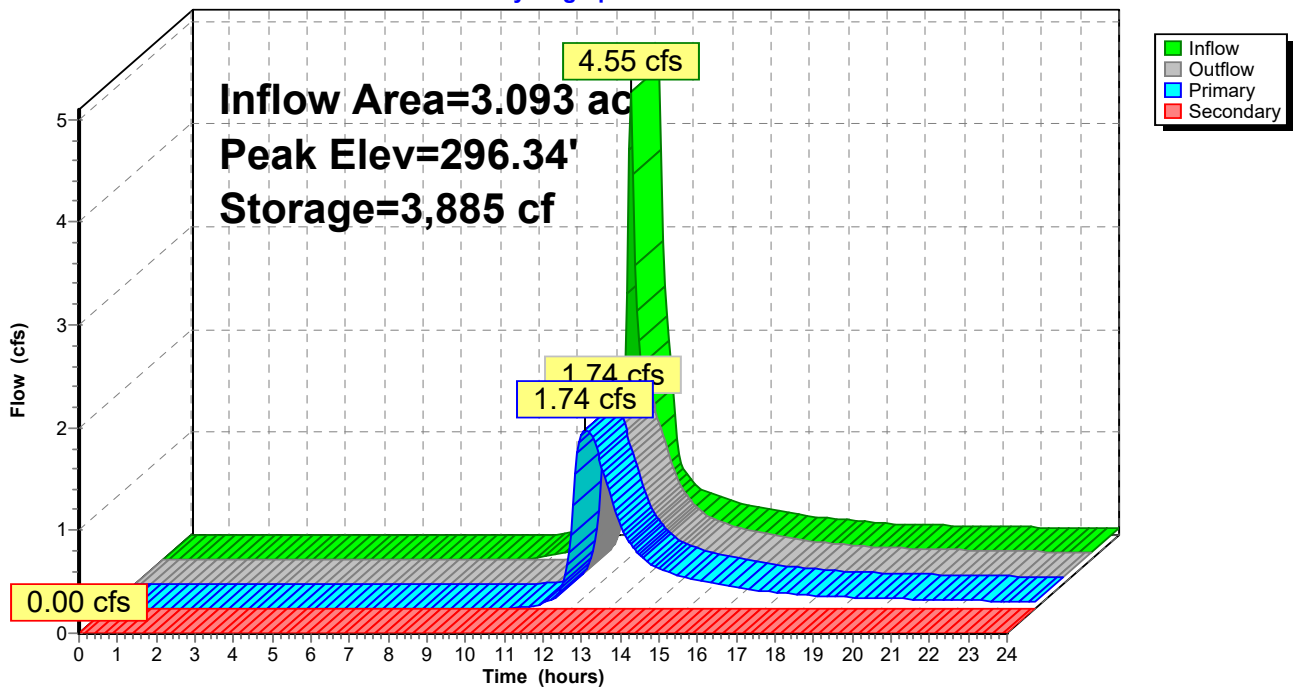
- 1=Culvert (Passes 1.74 cfs of 8.85 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 1.74 cfs @ 3.93 fps)
- 3=Sharp-Crested Vee/Trap Weir (Controls 0.00 cfs)
- 4=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=295.30' (Free Discharge)

- 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P1: Ex Onsite Retention Pond

Hydrograph



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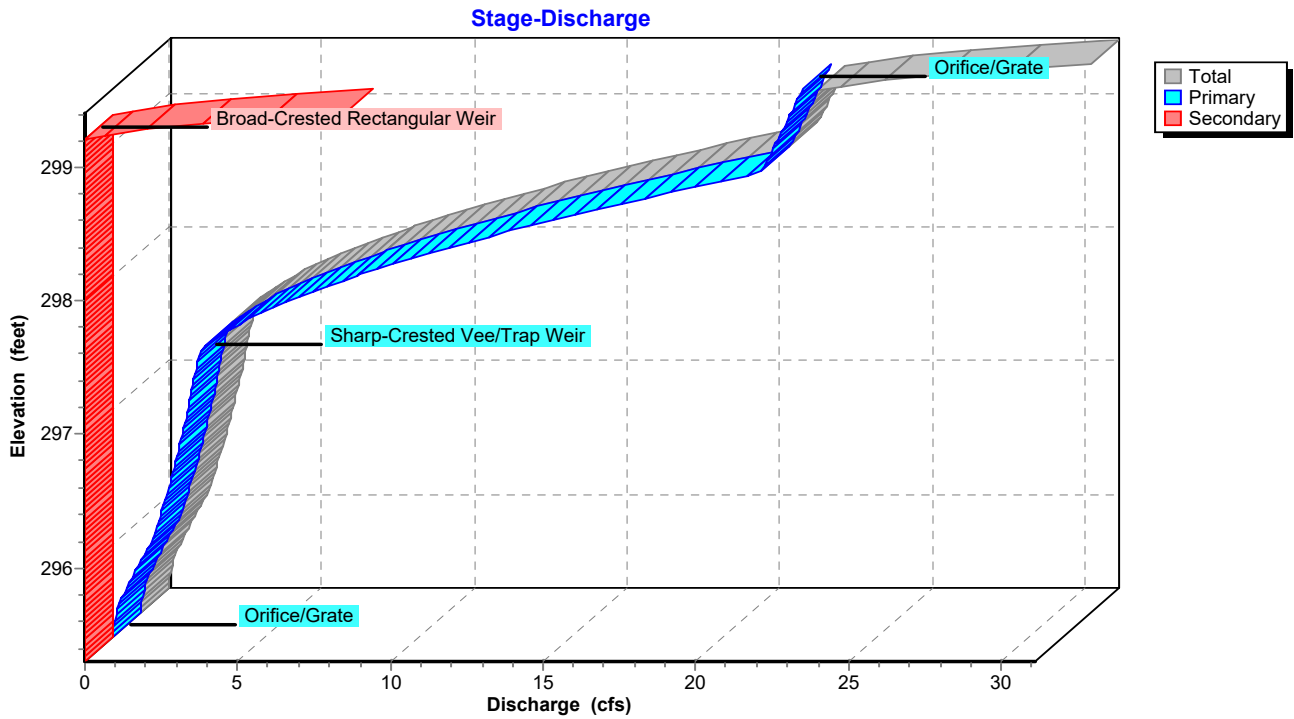
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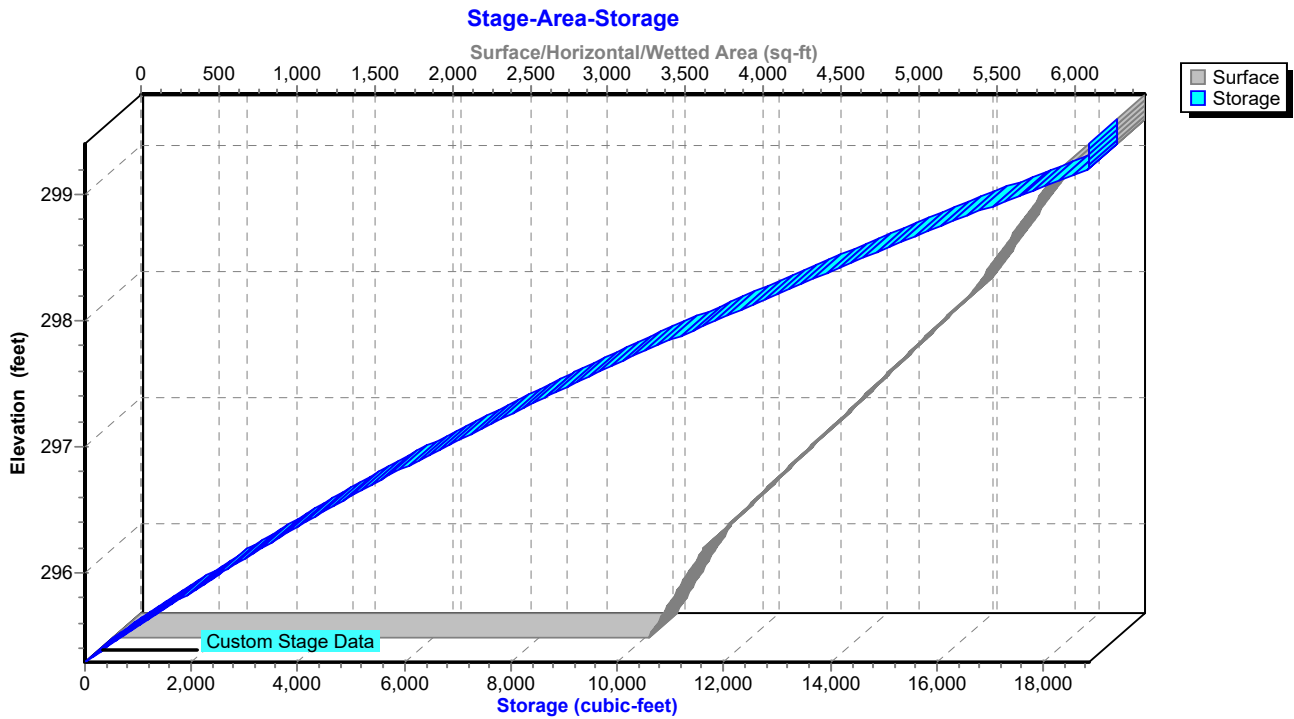
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Pond P1: Ex Onsite Retention Pond



Pond P1: Ex Onsite Retention Pond



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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Pond P1: Ex Onsite Retention Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	295.30	0.00	0.00	0.00
0.50	0.00	0	295.30	0.00	0.00	0.00
1.00	0.00	0	295.30	0.00	0.00	0.00
1.50	0.00	0	295.30	0.00	0.00	0.00
2.00	0.00	0	295.30	0.00	0.00	0.00
2.50	0.00	0	295.30	0.00	0.00	0.00
3.00	0.00	0	295.30	0.00	0.00	0.00
3.50	0.00	0	295.30	0.00	0.00	0.00
4.00	0.00	0	295.30	0.00	0.00	0.00
4.50	0.00	0	295.30	0.00	0.00	0.00
5.00	0.00	0	295.30	0.00	0.00	0.00
5.50	0.00	0	295.30	0.00	0.00	0.00
6.00	0.00	0	295.30	0.00	0.00	0.00
6.50	0.00	0	295.30	0.00	0.00	0.00
7.00	0.00	0	295.30	0.00	0.00	0.00
7.50	0.00	0	295.30	0.00	0.00	0.00
8.00	0.00	0	295.30	0.00	0.00	0.00
8.50	0.00	0	295.30	0.00	0.00	0.00
9.00	0.00	0	295.30	0.00	0.00	0.00
9.50	0.01	4	295.30	0.00	0.00	0.00
10.00	0.03	41	295.31	0.00	0.00	0.00
10.50	0.07	127	295.34	0.01	0.01	0.00
11.00	0.13	279	295.38	0.02	0.02	0.00
11.50	0.28	533	295.45	0.09	0.09	0.00
12.00	2.59	1,736	295.79	0.72	0.72	0.00
12.50	1.18	3,775	296.32	1.70	1.70	0.00
13.00	0.50	2,404	295.97	1.15	1.15	0.00
13.50	0.40	1,629	295.76	0.65	0.65	0.00
14.00	0.33	1,313	295.67	0.45	0.45	0.00
14.50	0.29	1,144	295.62	0.36	0.36	0.00
15.00	0.25	1,042	295.60	0.30	0.30	0.00
15.50	0.22	961	295.57	0.26	0.26	0.00
16.00	0.18	884	295.55	0.22	0.22	0.00
16.50	0.16	815	295.53	0.19	0.19	0.00
17.00	0.14	763	295.52	0.17	0.17	0.00
17.50	0.13	719	295.51	0.15	0.15	0.00
18.00	0.11	676	295.49	0.14	0.14	0.00
18.50	0.11	637	295.48	0.12	0.12	0.00
19.00	0.10	611	295.48	0.11	0.11	0.00
19.50	0.10	591	295.47	0.11	0.11	0.00
20.00	0.09	574	295.46	0.10	0.10	0.00
20.50	0.09	558	295.46	0.09	0.09	0.00
21.00	0.08	544	295.46	0.09	0.09	0.00
21.50	0.08	530	295.45	0.09	0.09	0.00
22.00	0.08	517	295.45	0.08	0.08	0.00
22.50	0.07	504	295.44	0.08	0.08	0.00
23.00	0.07	491	295.44	0.08	0.08	0.00
23.50	0.06	478	295.44	0.07	0.07	0.00
24.00	0.06	465	295.43	0.07	0.07	0.00

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Stage-Discharge for Pond P1: Ex Onsite Retention Pond

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
295.30	0.00	0.00	0.00	297.95	7.36	7.36	0.00
295.35	0.01	0.01	0.00	298.00	7.99	7.99	0.00
295.40	0.04	0.04	0.00	298.05	8.66	8.66	0.00
295.45	0.08	0.08	0.00	298.10	9.35	9.35	0.00
295.50	0.14	0.14	0.00	298.15	10.08	10.08	0.00
295.55	0.22	0.22	0.00	298.20	10.83	10.83	0.00
295.60	0.31	0.31	0.00	298.25	11.61	11.61	0.00
295.65	0.41	0.41	0.00	298.30	12.42	12.42	0.00
295.70	0.52	0.52	0.00	298.35	13.25	13.25	0.00
295.75	0.63	0.63	0.00	298.40	14.11	14.11	0.00
295.80	0.75	0.75	0.00	298.45	15.00	15.00	0.00
295.85	0.88	0.88	0.00	298.50	15.92	15.92	0.00
295.90	1.00	1.00	0.00	298.55	16.86	16.86	0.00
295.95	1.12	1.12	0.00	298.60	17.83	17.83	0.00
296.00	1.22	1.22	0.00	298.65	18.83	18.83	0.00
296.05	1.30	1.30	0.00	298.70	19.85	19.85	0.00
296.10	1.39	1.39	0.00	298.75	20.86	20.86	0.00
296.15	1.47	1.47	0.00	298.80	21.28	21.28	0.00
296.20	1.54	1.54	0.00	298.85	21.39	21.39	0.00
296.25	1.61	1.61	0.00	298.90	21.50	21.50	0.00
296.30	1.68	1.68	0.00	298.95	21.62	21.62	0.00
296.35	1.75	1.75	0.00	299.00	21.73	21.73	0.00
296.40	1.81	1.81	0.00	299.05	21.84	21.84	0.00
296.45	1.87	1.87	0.00	299.10	21.95	21.95	0.00
296.50	1.93	1.93	0.00	299.15	22.06	22.06	0.00
296.55	1.99	1.99	0.00	299.20	22.17	22.17	0.00
296.60	2.05	2.05	0.00	299.25	23.34	22.27	1.06
296.65	2.10	2.10	0.00	299.30	25.39	22.38	3.01
296.70	2.15	2.15	0.00	299.35	28.02	22.49	5.53
296.75	2.21	2.21	0.00	299.40	31.11	22.60	8.51
296.80	2.26	2.26	0.00				
296.85	2.31	2.31	0.00				
296.90	2.35	2.35	0.00				
296.95	2.40	2.40	0.00				
297.00	2.45	2.45	0.00				
297.05	2.49	2.49	0.00				
297.10	2.54	2.54	0.00				
297.15	2.58	2.58	0.00				
297.20	2.63	2.63	0.00				
297.25	2.67	2.67	0.00				
297.30	2.71	2.71	0.00				
297.35	2.75	2.75	0.00				
297.40	2.79	2.79	0.00				
297.45	2.94	2.94	0.00				
297.50	3.18	3.18	0.00				
297.55	3.48	3.48	0.00				
297.60	3.83	3.83	0.00				
297.65	4.22	4.22	0.00				
297.70	4.66	4.66	0.00				
297.75	5.13	5.13	0.00				
297.80	5.64	5.64	0.00				
297.85	6.18	6.18	0.00				
297.90	6.75	6.75	0.00				

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Stage-Area-Storage for Pond P1: Ex Onsite Retention Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
295.30	3,441	0	297.95	5,454	11,544
295.35	3,466	173	298.00	5,497	11,818
295.40	3,491	347	298.05	5,526	12,093
295.45	3,516	522	298.10	5,555	12,370
295.50	3,541	698	298.15	5,584	12,649
295.55	3,566	876	298.20	5,614	12,929
295.60	3,591	1,055	298.25	5,643	13,210
295.65	3,616	1,235	298.30	5,672	13,493
295.70	3,640	1,416	298.35	5,701	13,778
295.75	3,665	1,599	298.40	5,730	14,063
295.80	3,690	1,783	298.45	5,759	14,351
295.85	3,715	1,968	298.50	5,789	14,639
295.90	3,740	2,154	298.55	5,818	14,929
295.95	3,765	2,342	298.60	5,847	15,221
296.00	3,790	2,531	298.65	5,876	15,514
296.05	3,833	2,721	298.70	5,905	15,809
296.10	3,875	2,914	298.75	5,934	16,105
296.15	3,918	3,109	298.80	5,963	16,402
296.20	3,961	3,306	298.85	5,993	16,701
296.25	4,003	3,505	298.90	6,022	17,001
296.30	4,046	3,706	298.95	6,051	17,303
296.35	4,089	3,910	299.00	6,080	17,606
296.40	4,131	4,115	299.05	6,173	17,913
296.45	4,174	4,323	299.10	6,265	18,224
296.50	4,217	4,533	299.15	6,358	18,539
296.55	4,259	4,744	299.20	6,450	18,859
296.60	4,302	4,958	299.25	6,450	18,859
296.65	4,345	5,175	299.30	6,450	18,859
296.70	4,387	5,393	299.35	6,450	18,859
296.75	4,430	5,613	299.40	6,450	18,859
296.80	4,473	5,836			
296.85	4,515	6,061			
296.90	4,558	6,288			
296.95	4,601	6,516			
297.00	4,644	6,748			
297.05	4,686	6,981			
297.10	4,729	7,216			
297.15	4,772	7,454			
297.20	4,814	7,693			
297.25	4,857	7,935			
297.30	4,900	8,179			
297.35	4,942	8,425			
297.40	4,985	8,673			
297.45	5,028	8,924			
297.50	5,070	9,176			
297.55	5,113	9,431			
297.60	5,156	9,687			
297.65	5,198	9,946			
297.70	5,241	10,207			
297.75	5,284	10,470			
297.80	5,326	10,736			
297.85	5,369	11,003			
297.90	5,412	11,272			

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Summary for Pond P2: Large Shallow Onsite Depression

Inflow Area = 9.297 ac, 0.60% Impervious, Inflow Depth > 0.66" for 1-Year event
 Inflow = 4.02 cfs @ 12.35 hrs, Volume= 0.508 af
 Outflow = 1.83 cfs @ 12.79 hrs, Volume= 0.360 af, Atten= 55%, Lag= 26.7 min
 Primary = 1.83 cfs @ 12.79 hrs, Volume= 0.360 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 298.04' @ 12.79 hrs Surf.Area= 22,736 sf Storage= 7,189 cf

Plug-Flow detention time= 172.9 min calculated for 0.359 af (71% of inflow)
 Center-of-Mass det. time= 69.4 min (963.5 - 894.1)

Volume	Invert	Avail.Storage	Storage Description
#1	297.40'	130,870 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
297.40	0	0	0
298.00	21,165	6,350	6,350
300.00	103,355	124,520	130,870

Device	Routing	Invert	Outlet Devices
#1	Primary	298.00'	100.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=1.74 cfs @ 12.79 hrs HW=298.04' (Free Discharge)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 1.74 cfs @ 0.46 fps)

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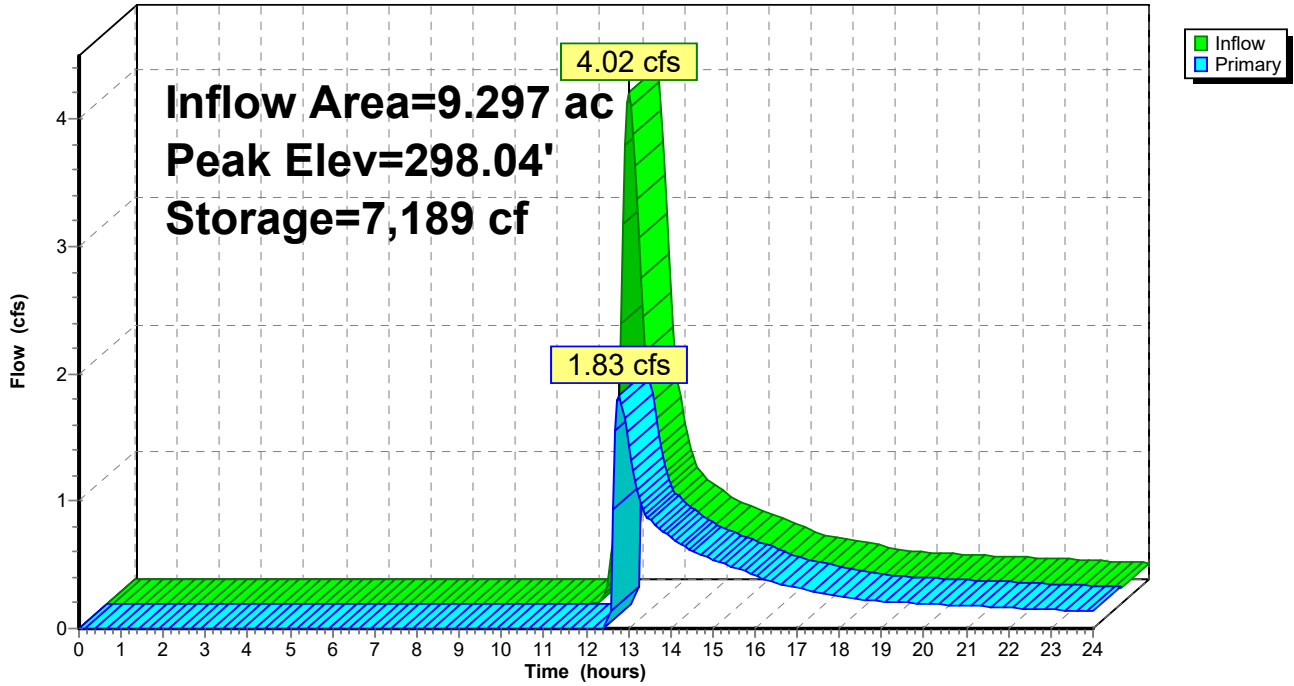
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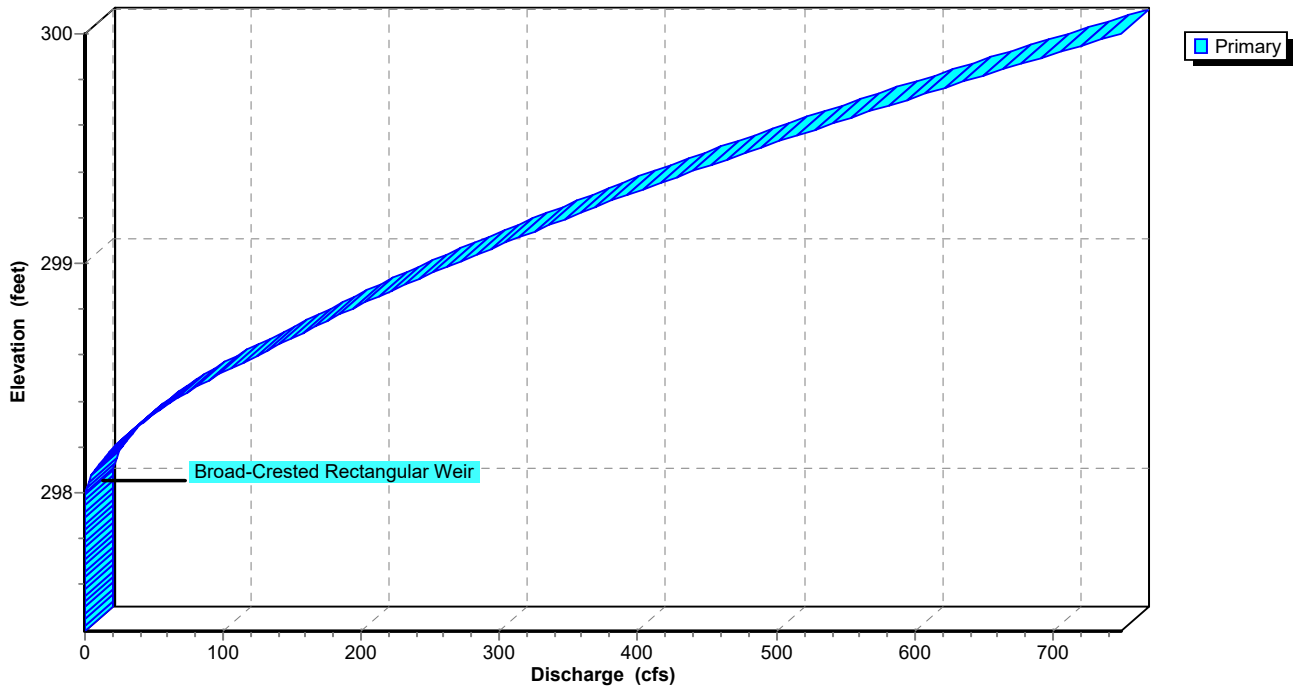
Pond P2: Large Shallow Onsite Depression

Hydrograph



Pond P2: Large Shallow Onsite Depression

Stage-Discharge



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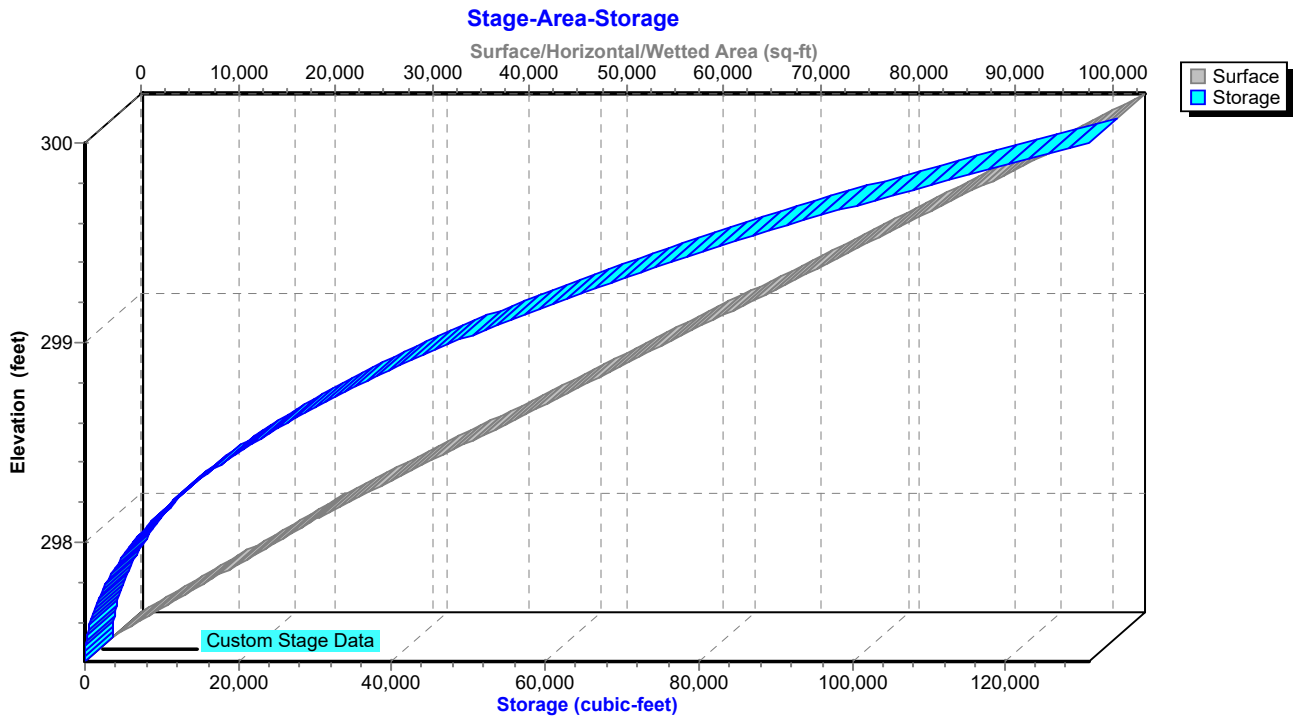
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Pond P2: Large Shallow Onsite Depression



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Hydrograph for Pond P2: Large Shallow Onsite Depression

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	297.40	0.00
0.50	0.00	0	297.40	0.00
1.00	0.00	0	297.40	0.00
1.50	0.00	0	297.40	0.00
2.00	0.00	0	297.40	0.00
2.50	0.00	0	297.40	0.00
3.00	0.00	0	297.40	0.00
3.50	0.00	0	297.40	0.00
4.00	0.00	0	297.40	0.00
4.50	0.00	0	297.40	0.00
5.00	0.00	0	297.40	0.00
5.50	0.00	0	297.40	0.00
6.00	0.00	0	297.40	0.00
6.50	0.00	0	297.40	0.00
7.00	0.00	0	297.40	0.00
7.50	0.00	0	297.40	0.00
8.00	0.00	0	297.40	0.00
8.50	0.00	0	297.40	0.00
9.00	0.00	0	297.40	0.00
9.50	0.00	0	297.40	0.00
10.00	0.00	0	297.40	0.00
10.50	0.00	0	297.40	0.00
11.00	0.00	0	297.40	0.00
11.50	0.00	0	297.40	0.00
12.00	0.60	218	297.51	0.00
12.50	3.45	5,398	297.95	0.00
13.00	1.23	7,057	298.03	1.43
13.50	0.80	6,860	298.02	0.85
14.00	0.68	6,780	298.02	0.72
14.50	0.58	6,714	298.02	0.61
15.00	0.52	6,674	298.01	0.54
15.50	0.46	6,637	298.01	0.48
16.00	0.39	6,597	298.01	0.41
16.50	0.34	6,560	298.01	0.35
17.00	0.31	6,539	298.01	0.32
17.50	0.28	6,520	298.01	0.29
18.00	0.24	6,501	298.01	0.25
18.50	0.22	6,484	298.01	0.23
19.00	0.21	6,477	298.01	0.21
19.50	0.20	6,471	298.01	0.20
20.00	0.19	6,465	298.01	0.19
20.50	0.18	6,460	298.01	0.19
21.00	0.18	6,456	298.00	0.18
21.50	0.17	6,451	298.00	0.17
22.00	0.16	6,447	298.00	0.16
22.50	0.15	6,443	298.00	0.16
23.00	0.15	6,438	298.00	0.15
23.50	0.14	6,433	298.00	0.14
24.00	0.13	6,429	298.00	0.13

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Stage-Discharge for Pond P2: Large Shallow Onsite Depression

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
297.40	0.00	298.46	79.87	299.52	496.61
297.42	0.00	298.48	85.80	299.54	506.44
297.44	0.00	298.50	91.92	299.56	516.34
297.46	0.00	298.52	98.24	299.58	526.30
297.48	0.00	298.54	104.76	299.60	536.32
297.50	0.00	298.56	111.47	299.62	546.41
297.52	0.00	298.58	118.38	299.64	556.56
297.54	0.00	298.60	125.48	299.66	566.77
297.56	0.00	298.62	131.71	299.68	577.05
297.58	0.00	298.64	138.04	299.70	587.38
297.60	0.00	298.66	144.45	299.72	597.78
297.62	0.00	298.68	150.95	299.74	608.23
297.64	0.00	298.70	157.54	299.76	618.75
297.66	0.00	298.72	164.22	299.78	629.33
297.68	0.00	298.74	170.98	299.80	639.96
297.70	0.00	298.76	177.83	299.82	650.66
297.72	0.00	298.78	184.76	299.84	661.41
297.74	0.00	298.80	191.77	299.86	672.23
297.76	0.00	298.82	199.00	299.88	683.10
297.78	0.00	298.84	206.33	299.90	694.03
297.80	0.00	298.86	213.74	299.92	705.01
297.82	0.00	298.88	221.24	299.94	716.06
297.84	0.00	298.90	228.82	299.96	727.16
297.86	0.00	298.92	236.49	299.98	738.32
297.88	0.00	298.94	244.25	300.00	749.53
297.90	0.00	298.96	252.08		
297.92	0.00	298.98	260.00		
297.94	0.00	299.00	268.00		
297.96	0.00	299.02	275.87		
297.98	0.00	299.04	283.82		
298.00	0.00	299.06	291.82		
298.02	0.66	299.08	299.90		
298.04	1.87	299.10	308.04		
298.06	3.44	299.12	316.24		
298.08	5.29	299.14	324.50		
298.10	7.40	299.16	332.83		
298.12	9.73	299.18	341.22		
298.14	12.26	299.20	349.67		
298.16	14.98	299.22	358.31		
298.18	17.87	299.24	367.02		
298.20	20.93	299.26	375.79		
298.22	24.31	299.28	384.63		
298.24	27.89	299.30	393.53		
298.26	31.66	299.32	402.50		
298.28	35.62	299.34	411.52		
298.30	39.76	299.36	420.61		
298.32	44.10	299.38	429.76		
298.34	48.61	299.40	438.97		
298.36	53.31	299.42	448.41		
298.38	58.19	299.44	457.92		
298.40	63.25	299.46	467.49		
298.42	68.59	299.48	477.13		
298.44	74.13	299.50	486.84		

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Stage-Area-Storage for Pond P2: Large Shallow Onsite Depression

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
297.40	0	0
297.45	1,764	44
297.50	3,528	176
297.55	5,291	397
297.60	7,055	705
297.65	8,819	1,102
297.70	10,583	1,587
297.75	12,346	2,161
297.80	14,110	2,822
297.85	15,874	3,572
297.90	17,637	4,409
297.95	19,401	5,335
298.00	21,165	6,350
298.05	23,220	7,459
298.10	25,274	8,671
298.15	27,329	9,987
298.20	29,384	11,404
298.25	31,439	12,925
298.30	33,493	14,548
298.35	35,548	16,274
298.40	37,603	18,103
298.45	39,658	20,035
298.50	41,713	22,069
298.55	43,767	24,206
298.60	45,822	26,446
298.65	47,877	28,788
298.70	49,931	31,233
298.75	51,986	33,781
298.80	54,041	36,432
298.85	56,096	39,185
298.90	58,150	42,041
298.95	60,205	45,000
299.00	62,260	48,062
299.05	64,315	51,226
299.10	66,369	54,493
299.15	68,424	57,863
299.20	70,479	61,336
299.25	72,534	64,911
299.30	74,588	68,589
299.35	76,643	72,370
299.40	78,698	76,254
299.45	80,753	80,240
299.50	82,808	84,329
299.55	84,862	88,521
299.60	86,917	92,815
299.65	88,972	97,212
299.70	91,026	101,712
299.75	93,081	106,315
299.80	95,136	111,020
299.85	97,191	115,829
299.90	99,245	120,739
299.95	101,300	125,753
300.00	103,355	130,870

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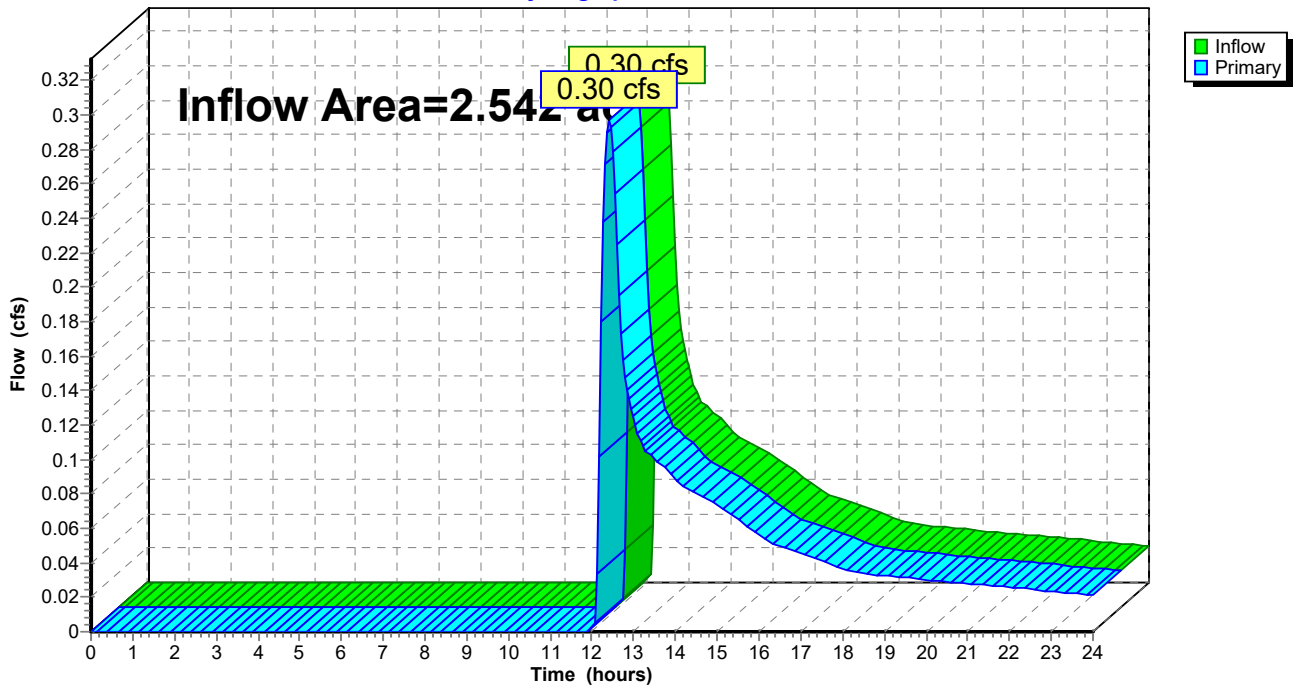
Summary for Link N: POI North

Inflow Area = 2.542 ac, 2.23% Impervious, Inflow Depth > 0.27" for 1-Year event
Inflow = 0.30 cfs @ 12.41 hrs, Volume= 0.057 af
Primary = 0.30 cfs @ 12.41 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link N: POI North

Hydrograph



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Hydrograph for Link N: POI North

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	13.25	0.11	0.00	0.11
0.25	0.00	0.00	0.00	13.50	0.10	0.00	0.10
0.50	0.00	0.00	0.00	13.75	0.10	0.00	0.10
0.75	0.00	0.00	0.00	14.00	0.09	0.00	0.09
1.00	0.00	0.00	0.00	14.25	0.08	0.00	0.08
1.25	0.00	0.00	0.00	14.50	0.08	0.00	0.08
1.50	0.00	0.00	0.00	14.75	0.08	0.00	0.08
1.75	0.00	0.00	0.00	15.00	0.07	0.00	0.07
2.00	0.00	0.00	0.00	15.25	0.07	0.00	0.07
2.25	0.00	0.00	0.00	15.50	0.07	0.00	0.07
2.50	0.00	0.00	0.00	15.75	0.06	0.00	0.06
2.75	0.00	0.00	0.00	16.00	0.06	0.00	0.06
3.00	0.00	0.00	0.00	16.25	0.05	0.00	0.05
3.25	0.00	0.00	0.00	16.50	0.05	0.00	0.05
3.50	0.00	0.00	0.00	16.75	0.05	0.00	0.05
3.75	0.00	0.00	0.00	17.00	0.05	0.00	0.05
4.00	0.00	0.00	0.00	17.25	0.04	0.00	0.04
4.25	0.00	0.00	0.00	17.50	0.04	0.00	0.04
4.50	0.00	0.00	0.00	17.75	0.04	0.00	0.04
4.75	0.00	0.00	0.00	18.00	0.04	0.00	0.04
5.00	0.00	0.00	0.00	18.25	0.03	0.00	0.03
5.25	0.00	0.00	0.00	18.50	0.03	0.00	0.03
5.50	0.00	0.00	0.00	18.75	0.03	0.00	0.03
5.75	0.00	0.00	0.00	19.00	0.03	0.00	0.03
6.00	0.00	0.00	0.00	19.25	0.03	0.00	0.03
6.25	0.00	0.00	0.00	19.50	0.03	0.00	0.03
6.50	0.00	0.00	0.00	19.75	0.03	0.00	0.03
6.75	0.00	0.00	0.00	20.00	0.03	0.00	0.03
7.00	0.00	0.00	0.00	20.25	0.03	0.00	0.03
7.25	0.00	0.00	0.00	20.50	0.03	0.00	0.03
7.50	0.00	0.00	0.00	20.75	0.03	0.00	0.03
7.75	0.00	0.00	0.00	21.00	0.03	0.00	0.03
8.00	0.00	0.00	0.00	21.25	0.03	0.00	0.03
8.25	0.00	0.00	0.00	21.50	0.03	0.00	0.03
8.50	0.00	0.00	0.00	21.75	0.03	0.00	0.03
8.75	0.00	0.00	0.00	22.00	0.03	0.00	0.03
9.00	0.00	0.00	0.00	22.25	0.03	0.00	0.03
9.25	0.00	0.00	0.00	22.50	0.02	0.00	0.02
9.50	0.00	0.00	0.00	22.75	0.02	0.00	0.02
9.75	0.00	0.00	0.00	23.00	0.02	0.00	0.02
10.00	0.00	0.00	0.00	23.25	0.02	0.00	0.02
10.25	0.00	0.00	0.00	23.50	0.02	0.00	0.02
10.50	0.00	0.00	0.00	23.75	0.02	0.00	0.02
10.75	0.00	0.00	0.00	24.00	0.02	0.00	0.02
11.00	0.00	0.00	0.00				
11.25	0.00	0.00	0.00				
11.50	0.00	0.00	0.00				
11.75	0.00	0.00	0.00				
12.00	0.00	0.00	0.00				
12.25	0.24	0.00	0.24				
12.50	0.28	0.00	0.28				
12.75	0.16	0.00	0.16				
13.00	0.12	0.00	0.12				

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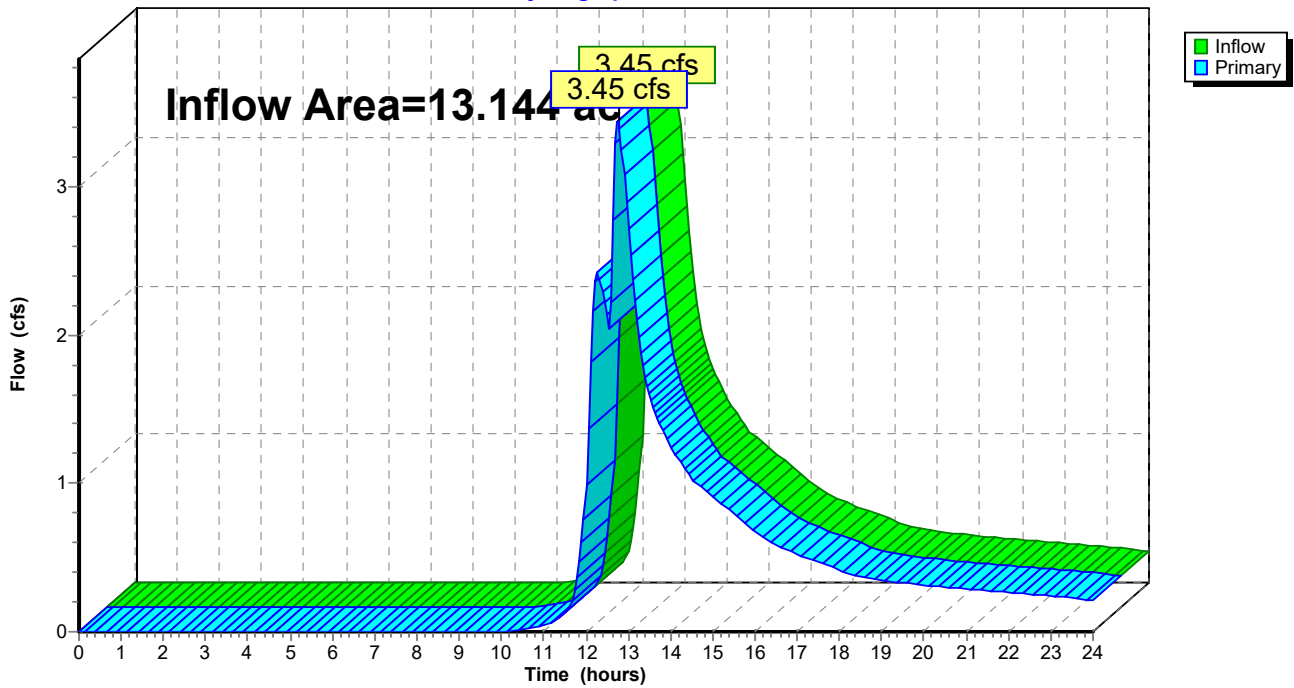
Summary for Link S: POI South

Inflow Area = 13.144 ac, 13.03% Impervious, Inflow Depth > 0.69" for 1-Year event
Inflow = 3.45 cfs @ 12.76 hrs, Volume= 0.755 af
Primary = 3.45 cfs @ 12.76 hrs, Volume= 0.755 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link S: POI South

Hydrograph



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Hydrograph for Link S: POI South

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	13.25	1.99	0.00	1.99
0.25	0.00	0.00	0.00	13.50	1.60	0.00	1.60
0.50	0.00	0.00	0.00	13.75	1.40	0.00	1.40
0.75	0.00	0.00	0.00	14.00	1.25	0.00	1.25
1.00	0.00	0.00	0.00	14.25	1.13	0.00	1.13
1.25	0.00	0.00	0.00	14.50	1.04	0.00	1.04
1.50	0.00	0.00	0.00	14.75	0.97	0.00	0.97
1.75	0.00	0.00	0.00	15.00	0.91	0.00	0.91
2.00	0.00	0.00	0.00	15.25	0.85	0.00	0.85
2.25	0.00	0.00	0.00	15.50	0.79	0.00	0.79
2.50	0.00	0.00	0.00	15.75	0.74	0.00	0.74
2.75	0.00	0.00	0.00	16.00	0.68	0.00	0.68
3.00	0.00	0.00	0.00	16.25	0.63	0.00	0.63
3.25	0.00	0.00	0.00	16.50	0.58	0.00	0.58
3.50	0.00	0.00	0.00	16.75	0.55	0.00	0.55
3.75	0.00	0.00	0.00	17.00	0.52	0.00	0.52
4.00	0.00	0.00	0.00	17.25	0.50	0.00	0.50
4.25	0.00	0.00	0.00	17.50	0.47	0.00	0.47
4.50	0.00	0.00	0.00	17.75	0.44	0.00	0.44
4.75	0.00	0.00	0.00	18.00	0.42	0.00	0.42
5.00	0.00	0.00	0.00	18.25	0.39	0.00	0.39
5.25	0.00	0.00	0.00	18.50	0.37	0.00	0.37
5.50	0.00	0.00	0.00	18.75	0.36	0.00	0.36
5.75	0.00	0.00	0.00	19.00	0.35	0.00	0.35
6.00	0.00	0.00	0.00	19.25	0.34	0.00	0.34
6.25	0.00	0.00	0.00	19.50	0.33	0.00	0.33
6.50	0.00	0.00	0.00	19.75	0.32	0.00	0.32
6.75	0.00	0.00	0.00	20.00	0.31	0.00	0.31
7.00	0.00	0.00	0.00	20.25	0.31	0.00	0.31
7.25	0.00	0.00	0.00	20.50	0.30	0.00	0.30
7.50	0.00	0.00	0.00	20.75	0.29	0.00	0.29
7.75	0.00	0.00	0.00	21.00	0.29	0.00	0.29
8.00	0.00	0.00	0.00	21.25	0.28	0.00	0.28
8.25	0.00	0.00	0.00	21.50	0.28	0.00	0.28
8.50	0.00	0.00	0.00	21.75	0.27	0.00	0.27
8.75	0.00	0.00	0.00	22.00	0.26	0.00	0.26
9.00	0.00	0.00	0.00	22.25	0.26	0.00	0.26
9.25	0.00	0.00	0.00	22.50	0.25	0.00	0.25
9.50	0.00	0.00	0.00	22.75	0.25	0.00	0.25
9.75	0.00	0.00	0.00	23.00	0.24	0.00	0.24
10.00	0.00	0.00	0.00	23.25	0.23	0.00	0.23
10.25	0.01	0.00	0.01	23.50	0.23	0.00	0.23
10.50	0.01	0.00	0.01	23.75	0.22	0.00	0.22
10.75	0.03	0.00	0.03	24.00	0.21	0.00	0.21
11.00	0.04	0.00	0.04				
11.25	0.07	0.00	0.07				
11.50	0.13	0.00	0.13				
11.75	0.29	0.00	0.29				
12.00	0.99	0.00	0.99				
12.25	2.43	0.00	2.43				
12.50	2.14	0.00	2.14				
12.75	3.45	0.00	3.45				
13.00	2.71	0.00	2.71				

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Type III 24-hr 10-Year Rainfall=5.50"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1: Drainage Area 1 Runoff Area=32,821 sf 1.83% Impervious Runoff Depth>3.32"
 Flow Length=344' Tc=15.6 min CN=80 Runoff=2.19 cfs 0.209 af

Subcatchment DA 2: Drainage Area 2 Runoff Area=404,999 sf 0.60% Impervious Runoff Depth>2.40"
 Flow Length=878' Tc=21.1 min CN=70 Runoff=17.07 cfs 1.862 af

Subcatchment DA 3: Drainage Area 3 Runoff Area=110,724 sf 2.23% Impervious Runoff Depth>1.52"
 Flow Length=433' Tc=13.2 min CN=59 Runoff=3.25 cfs 0.322 af

Subcatchment DA 4: Drainage Area 4 - Runoff Area=10,931 sf 0.00% Impervious Runoff Depth>3.33"
 Tc=6.0 min CN=80 Runoff=0.96 cfs 0.070 af

Subcatchment OFF: Offsite Drainage Area Runoff Area=123,797 sf 57.81% Impervious Runoff Depth>3.53"
 Tc=6.0 min CN=82 Runoff=11.45 cfs 0.835 af

Pond P1: Ex Onsite Retention Pond Peak Elev=297.78' Storage=10,636 cf Inflow=12.41 cfs 0.905 af
 Primary=5.45 cfs 0.889 af Secondary=0.00 cfs 0.000 af Outflow=5.45 cfs 0.889 af

Pond P2: Large Shallow Onsite Peak Elev=298.17' Storage=10,545 cf Inflow=17.07 cfs 1.862 af
 Outflow=16.46 cfs 1.711 af

Link N: POI North Inflow=3.25 cfs 0.322 af
 Primary=3.25 cfs 0.322 af

Link S: POI South Inflow=23.45 cfs 2.809 af
 Primary=23.45 cfs 2.809 af

Total Runoff Area = 15.686 ac Runoff Volume = 3.298 af Average Runoff Depth = 2.52"
88.72% Pervious = 13.916 ac 11.28% Impervious = 1.770 ac

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Subcatchment DA 1: Drainage Area 1

Runoff = 2.19 cfs @ 12.21 hrs, Volume= 0.209 af, Depth> 3.32"
Routed to Link S : POI South

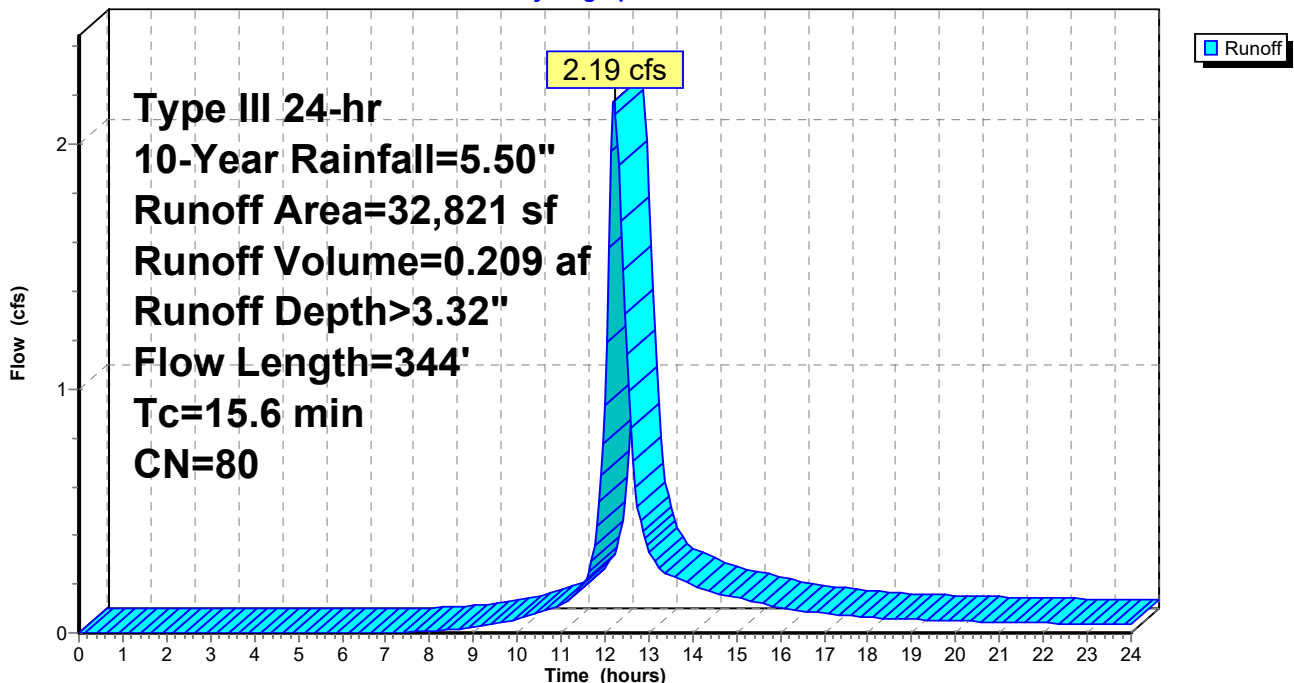
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
* 600	98	Macadam Drive
260	77	Woods, Good, HSG D
31,961	80	>75% Grass cover, Good, HSG D
32,821	80	Weighted Average
32,221		98.17% Pervious Area
600		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	100	0.0100	0.13		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
2.5	244	0.0120	1.64		Shallow Concentrated Flow, SCF (Road Swale) Grassed Waterway Kv= 15.0 fps
15.6	344	Total			

Subcatchment DA 1: Drainage Area 1

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment DA 1: Drainage Area 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.22	2.23	0.26
0.25	0.01	0.00	0.00	13.50	4.31	2.30	0.23
0.50	0.03	0.00	0.00	13.75	4.39	2.37	0.21
0.75	0.04	0.00	0.00	14.00	4.46	2.43	0.19
1.00	0.05	0.00	0.00	14.25	4.53	2.48	0.18
1.25	0.07	0.00	0.00	14.50	4.59	2.54	0.16
1.50	0.08	0.00	0.00	14.75	4.64	2.59	0.15
1.75	0.10	0.00	0.00	15.00	4.70	2.63	0.14
2.00	0.11	0.00	0.00	15.25	4.75	2.67	0.13
2.25	0.12	0.00	0.00	15.50	4.79	2.71	0.12
2.50	0.14	0.00	0.00	15.75	4.84	2.75	0.11
2.75	0.15	0.00	0.00	16.00	4.87	2.78	0.10
3.00	0.17	0.00	0.00	16.25	4.91	2.81	0.10
3.25	0.19	0.00	0.00	16.50	4.94	2.84	0.09
3.50	0.20	0.00	0.00	16.75	4.97	2.87	0.09
3.75	0.22	0.00	0.00	17.00	5.00	2.89	0.08
4.00	0.24	0.00	0.00	17.25	5.03	2.92	0.08
4.25	0.25	0.00	0.00	17.50	5.06	2.94	0.07
4.50	0.27	0.00	0.00	17.75	5.08	2.96	0.07
4.75	0.29	0.00	0.00	18.00	5.10	2.98	0.06
5.00	0.31	0.00	0.00	18.25	5.13	3.00	0.06
5.25	0.33	0.00	0.00	18.50	5.15	3.02	0.06
5.50	0.35	0.00	0.00	18.75	5.17	3.04	0.06
5.75	0.37	0.00	0.00	19.00	5.19	3.06	0.05
6.00	0.40	0.00	0.00	19.25	5.21	3.07	0.05
6.25	0.42	0.00	0.00	19.50	5.23	3.09	0.05
6.50	0.44	0.00	0.00	19.75	5.25	3.11	0.05
6.75	0.47	0.00	0.00	20.00	5.26	3.12	0.05
7.00	0.50	0.00	0.00	20.25	5.28	3.14	0.05
7.25	0.53	0.00	0.00	20.50	5.30	3.15	0.05
7.50	0.56	0.00	0.00	20.75	5.32	3.17	0.05
7.75	0.59	0.00	0.00	21.00	5.33	3.18	0.04
8.00	0.63	0.01	0.01	21.25	5.35	3.20	0.04
8.25	0.66	0.01	0.01	21.50	5.36	3.21	0.04
8.50	0.71	0.02	0.01	21.75	5.38	3.23	0.04
8.75	0.75	0.02	0.02	22.00	5.39	3.24	0.04
9.00	0.80	0.03	0.03	22.25	5.41	3.25	0.04
9.25	0.86	0.04	0.03	22.50	5.42	3.26	0.04
9.50	0.91	0.06	0.04	22.75	5.44	3.28	0.04
9.75	0.97	0.08	0.05	23.00	5.45	3.29	0.04
10.00	1.04	0.10	0.06	23.25	5.46	3.30	0.04
10.25	1.11	0.12	0.07	23.50	5.48	3.31	0.03
10.50	1.19	0.15	0.08	23.75	5.49	3.32	0.03
10.75	1.28	0.18	0.10	24.00	5.50	3.33	0.03
11.00	1.37	0.23	0.12				
11.25	1.49	0.28	0.15				
11.50	1.64	0.36	0.20				
11.75	1.95	0.53	0.36				
12.00	2.75	1.07	0.93				
12.25	3.55	1.67	2.12				
12.50	3.86	1.93	1.14				
12.75	4.01	2.05	0.52				
13.00	4.12	2.15	0.34				

Existing

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Subcatchment DA 2: Drainage Area 2

Runoff = 17.07 cfs @ 12.30 hrs, Volume= 1.862 af, Depth> 2.40"
 Routed to Pond P2 : Large Shallow Onsite Depression

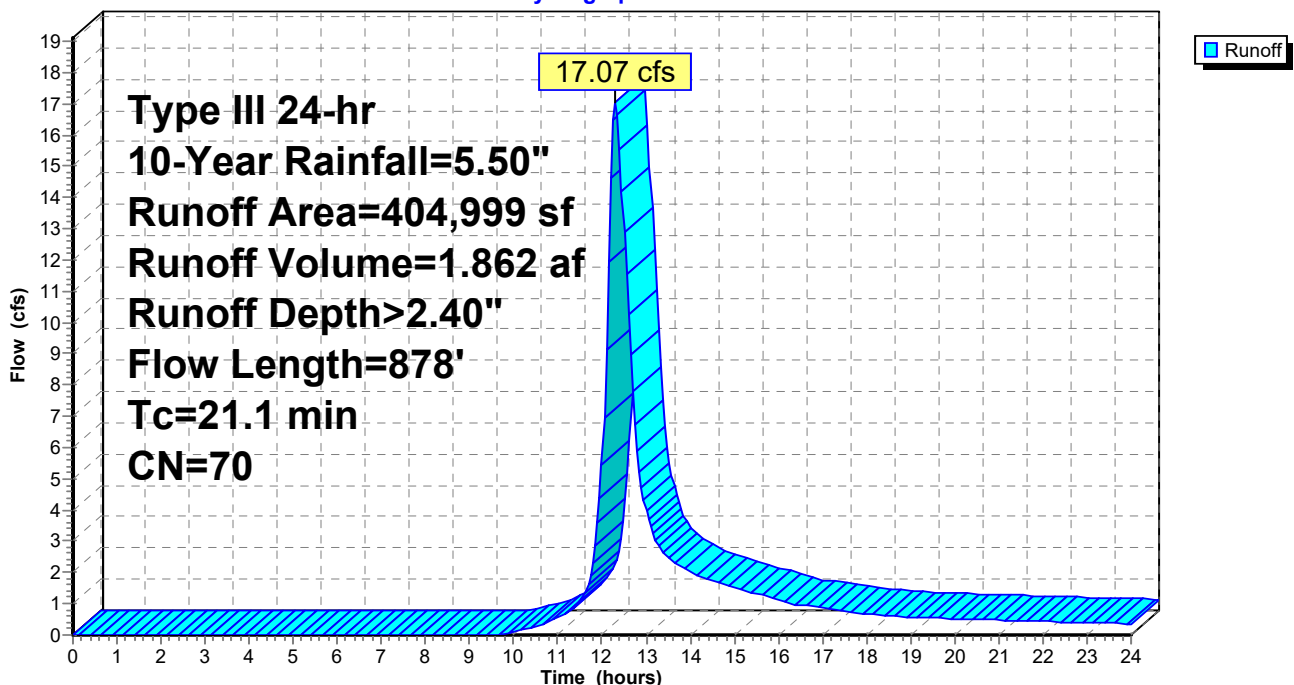
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
* 2,447	98	Misc. Macadam
82,769	77	Woods, Good, HSG D
148,017	80	>75% Grass cover, Good, HSG D
88,344	55	Woods, Good, HSG B
83,422	61	>75% Grass cover, Good, HSG B
404,999	70	Weighted Average
402,552		99.40% Pervious Area
2,447		0.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	100	0.0180	0.16		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
10.7	778	0.0300	1.21		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
21.1	878	Total			

Subcatchment DA 2: Drainage Area 2

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment DA 2: Drainage Area 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.22	1.48	2.90
0.25	0.01	0.00	0.00	13.50	4.31	1.54	2.47
0.50	0.03	0.00	0.00	13.75	4.39	1.60	2.24
0.75	0.04	0.00	0.00	14.00	4.46	1.65	2.04
1.00	0.05	0.00	0.00	14.25	4.53	1.69	1.85
1.25	0.07	0.00	0.00	14.50	4.59	1.74	1.72
1.50	0.08	0.00	0.00	14.75	4.64	1.78	1.62
1.75	0.10	0.00	0.00	15.00	4.70	1.82	1.52
2.00	0.11	0.00	0.00	15.25	4.75	1.85	1.43
2.25	0.12	0.00	0.00	15.50	4.79	1.88	1.33
2.50	0.14	0.00	0.00	15.75	4.84	1.92	1.22
2.75	0.15	0.00	0.00	16.00	4.87	1.94	1.12
3.00	0.17	0.00	0.00	16.25	4.91	1.97	1.02
3.25	0.19	0.00	0.00	16.50	4.94	1.99	0.96
3.50	0.20	0.00	0.00	16.75	4.97	2.02	0.91
3.75	0.22	0.00	0.00	17.00	5.00	2.04	0.86
4.00	0.24	0.00	0.00	17.25	5.03	2.06	0.82
4.25	0.25	0.00	0.00	17.50	5.06	2.08	0.77
4.50	0.27	0.00	0.00	17.75	5.08	2.10	0.72
4.75	0.29	0.00	0.00	18.00	5.10	2.11	0.68
5.00	0.31	0.00	0.00	18.25	5.13	2.13	0.63
5.25	0.33	0.00	0.00	18.50	5.15	2.15	0.61
5.50	0.35	0.00	0.00	18.75	5.17	2.16	0.59
5.75	0.37	0.00	0.00	19.00	5.19	2.18	0.58
6.00	0.40	0.00	0.00	19.25	5.21	2.19	0.57
6.25	0.42	0.00	0.00	19.50	5.23	2.21	0.55
6.50	0.44	0.00	0.00	19.75	5.25	2.22	0.54
6.75	0.47	0.00	0.00	20.00	5.26	2.23	0.53
7.00	0.50	0.00	0.00	20.25	5.28	2.25	0.51
7.25	0.53	0.00	0.00	20.50	5.30	2.26	0.50
7.50	0.56	0.00	0.00	20.75	5.32	2.27	0.49
7.75	0.59	0.00	0.00	21.00	5.33	2.29	0.48
8.00	0.63	0.00	0.00	21.25	5.35	2.30	0.47
8.25	0.66	0.00	0.00	21.50	5.36	2.31	0.46
8.50	0.71	0.00	0.00	21.75	5.38	2.32	0.45
8.75	0.75	0.00	0.00	22.00	5.39	2.33	0.44
9.00	0.80	0.00	0.00	22.25	5.41	2.34	0.43
9.25	0.86	0.00	0.00	22.50	5.42	2.36	0.42
9.50	0.91	0.00	0.00	22.75	5.44	2.37	0.41
9.75	0.97	0.00	0.04	23.00	5.45	2.38	0.39
10.00	1.04	0.01	0.11	23.25	5.46	2.39	0.38
10.25	1.11	0.01	0.18	23.50	5.48	2.40	0.37
10.50	1.19	0.02	0.28	23.75	5.49	2.41	0.36
10.75	1.28	0.04	0.40	24.00	5.50	2.41	0.35
11.00	1.37	0.06	0.55				
11.25	1.49	0.08	0.73				
11.50	1.64	0.12	1.08				
11.75	1.95	0.22	1.90				
12.00	2.75	0.58	5.44				
12.25	3.55	1.04	16.47				
12.50	3.86	1.24	12.87				
12.75	4.01	1.34	6.74				
13.00	4.12	1.41	3.97				

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Subcatchment DA 3: Drainage Area 3

Runoff = 3.25 cfs @ 12.21 hrs, Volume= 0.322 af, Depth> 1.52"
Routed to Link N : POI North

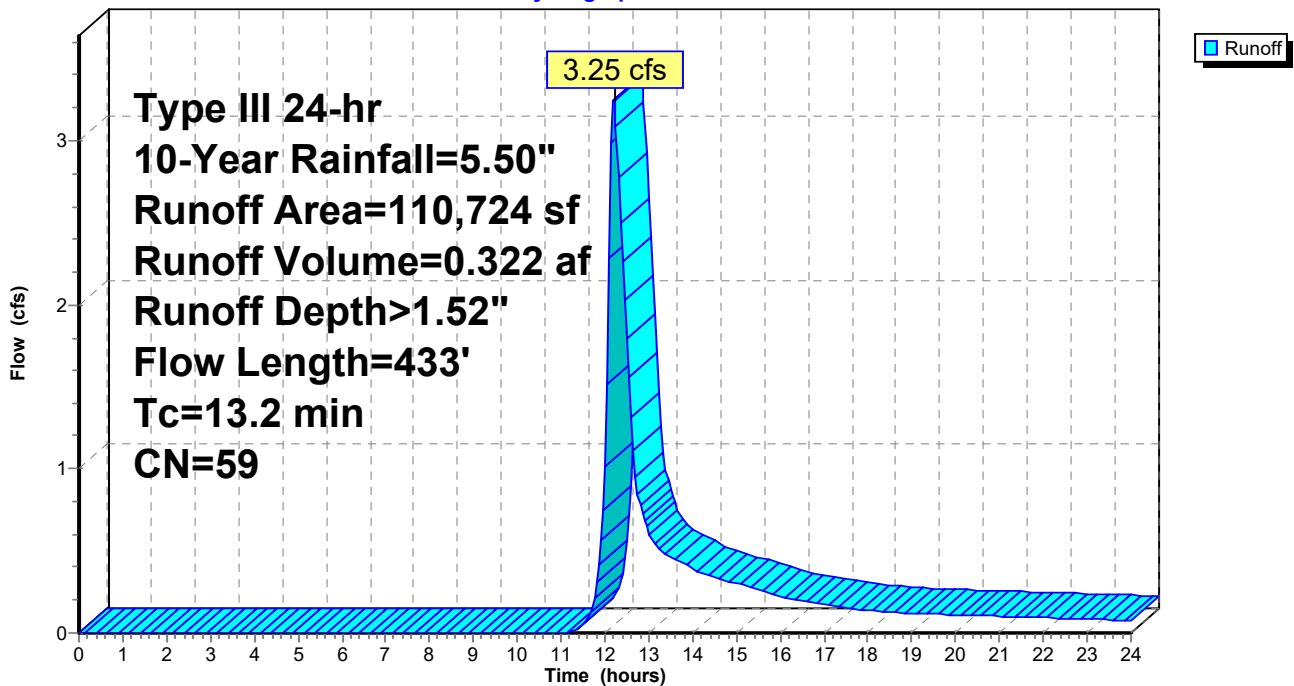
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	2,471	98	Impervious
	55,994	61	>75% Grass cover, Good, HSG B
	52,259	55	Woods, Good, HSG B
	110,724	59	Weighted Average
	108,253		97.77% Pervious Area
	2,471		2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.0240	0.18		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
4.0	333	0.0390	1.38		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
13.2	433	Total			

Subcatchment DA 3: Drainage Area 3

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment DA 3: Drainage Area 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.22	0.82	0.50
0.25	0.01	0.00	0.00	13.50	4.31	0.86	0.46
0.50	0.03	0.00	0.00	13.75	4.39	0.90	0.43
0.75	0.04	0.00	0.00	14.00	4.46	0.94	0.39
1.00	0.05	0.00	0.00	14.25	4.53	0.98	0.36
1.25	0.07	0.00	0.00	14.50	4.59	1.01	0.34
1.50	0.08	0.00	0.00	14.75	4.64	1.04	0.32
1.75	0.10	0.00	0.00	15.00	4.70	1.07	0.30
2.00	0.11	0.00	0.00	15.25	4.75	1.09	0.28
2.25	0.12	0.00	0.00	15.50	4.79	1.12	0.26
2.50	0.14	0.00	0.00	15.75	4.84	1.14	0.24
2.75	0.15	0.00	0.00	16.00	4.87	1.16	0.22
3.00	0.17	0.00	0.00	16.25	4.91	1.18	0.20
3.25	0.19	0.00	0.00	16.50	4.94	1.20	0.19
3.50	0.20	0.00	0.00	16.75	4.97	1.22	0.18
3.75	0.22	0.00	0.00	17.00	5.00	1.24	0.18
4.00	0.24	0.00	0.00	17.25	5.03	1.25	0.17
4.25	0.25	0.00	0.00	17.50	5.06	1.27	0.16
4.50	0.27	0.00	0.00	17.75	5.08	1.28	0.15
4.75	0.29	0.00	0.00	18.00	5.10	1.29	0.14
5.00	0.31	0.00	0.00	18.25	5.13	1.31	0.13
5.25	0.33	0.00	0.00	18.50	5.15	1.32	0.13
5.50	0.35	0.00	0.00	18.75	5.17	1.33	0.12
5.75	0.37	0.00	0.00	19.00	5.19	1.34	0.12
6.00	0.40	0.00	0.00	19.25	5.21	1.35	0.12
6.25	0.42	0.00	0.00	19.50	5.23	1.36	0.12
6.50	0.44	0.00	0.00	19.75	5.25	1.38	0.11
6.75	0.47	0.00	0.00	20.00	5.26	1.39	0.11
7.00	0.50	0.00	0.00	20.25	5.28	1.40	0.11
7.25	0.53	0.00	0.00	20.50	5.30	1.41	0.11
7.50	0.56	0.00	0.00	20.75	5.32	1.42	0.10
7.75	0.59	0.00	0.00	21.00	5.33	1.43	0.10
8.00	0.63	0.00	0.00	21.25	5.35	1.44	0.10
8.25	0.66	0.00	0.00	21.50	5.36	1.45	0.10
8.50	0.71	0.00	0.00	21.75	5.38	1.45	0.09
8.75	0.75	0.00	0.00	22.00	5.39	1.46	0.09
9.00	0.80	0.00	0.00	22.25	5.41	1.47	0.09
9.25	0.86	0.00	0.00	22.50	5.42	1.48	0.09
9.50	0.91	0.00	0.00	22.75	5.44	1.49	0.09
9.75	0.97	0.00	0.00	23.00	5.45	1.50	0.08
10.00	1.04	0.00	0.00	23.25	5.46	1.51	0.08
10.25	1.11	0.00	0.00	23.50	5.48	1.51	0.08
10.50	1.19	0.00	0.00	23.75	5.49	1.52	0.08
10.75	1.28	0.00	0.00	24.00	5.50	1.53	0.07
11.00	1.37	0.00	0.00				
11.25	1.49	0.00	0.01				
11.50	1.64	0.01	0.05				
11.75	1.95	0.04	0.22				
12.00	2.75	0.22	1.01				
12.25	3.55	0.51	3.09				
12.50	3.86	0.65	1.80				
12.75	4.01	0.72	0.85				
13.00	4.12	0.77	0.62				

Existing

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Subcatchment DA 4: Drainage Area 4 - Onsite Tributary to Pond

Runoff = 0.96 cfs @ 12.09 hrs, Volume= 0.070 af, Depth> 3.33"

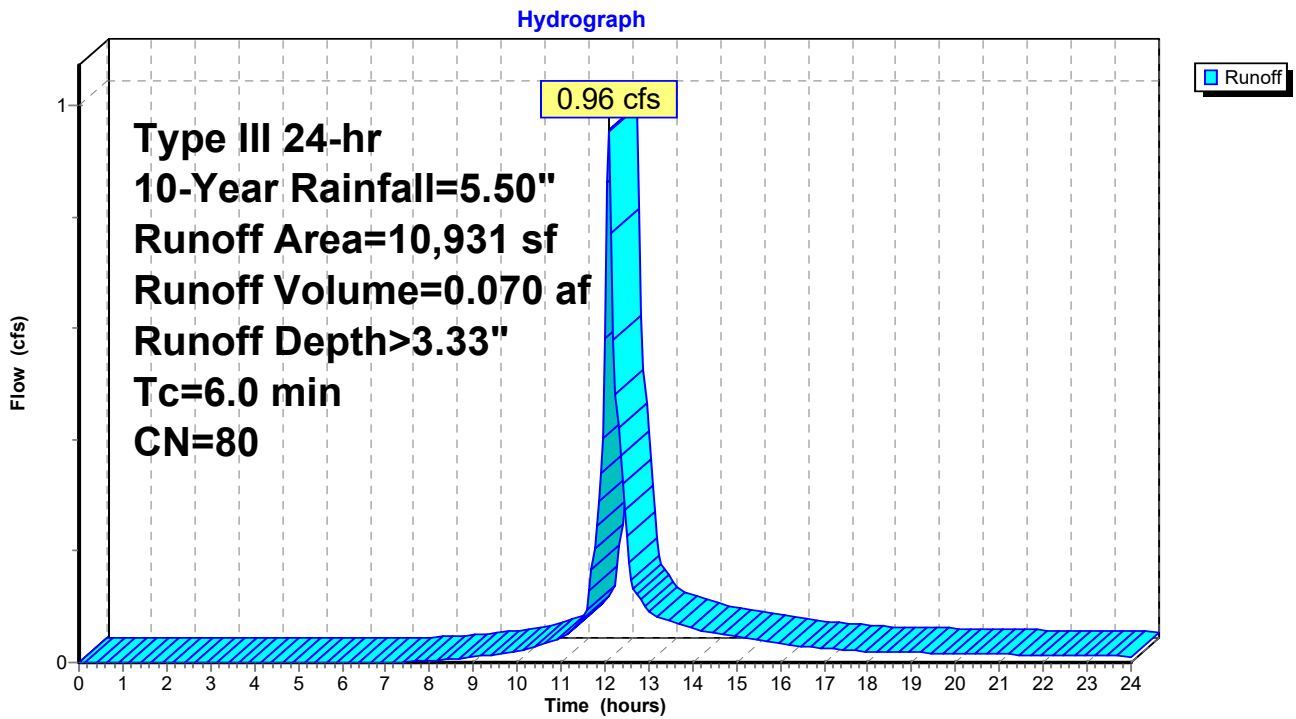
Routed to Pond P1 : Ex Onsite Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
10,931	80	>75% Grass cover, Good, HSG D
10,931		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment DA 4: Drainage Area 4 - Onsite Tributary to Pond



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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment DA 4: Drainage Area 4 - Onsite Tributary to Pond

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.22	2.23	0.08
0.25	0.01	0.00	0.00	13.50	4.31	2.30	0.07
0.50	0.03	0.00	0.00	13.75	4.39	2.37	0.07
0.75	0.04	0.00	0.00	14.00	4.46	2.43	0.06
1.00	0.05	0.00	0.00	14.25	4.53	2.48	0.06
1.25	0.07	0.00	0.00	14.50	4.59	2.54	0.05
1.50	0.08	0.00	0.00	14.75	4.64	2.59	0.05
1.75	0.10	0.00	0.00	15.00	4.70	2.63	0.05
2.00	0.11	0.00	0.00	15.25	4.75	2.67	0.04
2.25	0.12	0.00	0.00	15.50	4.79	2.71	0.04
2.50	0.14	0.00	0.00	15.75	4.84	2.75	0.04
2.75	0.15	0.00	0.00	16.00	4.87	2.78	0.03
3.00	0.17	0.00	0.00	16.25	4.91	2.81	0.03
3.25	0.19	0.00	0.00	16.50	4.94	2.84	0.03
3.50	0.20	0.00	0.00	16.75	4.97	2.87	0.03
3.75	0.22	0.00	0.00	17.00	5.00	2.89	0.03
4.00	0.24	0.00	0.00	17.25	5.03	2.92	0.02
4.25	0.25	0.00	0.00	17.50	5.06	2.94	0.02
4.50	0.27	0.00	0.00	17.75	5.08	2.96	0.02
4.75	0.29	0.00	0.00	18.00	5.10	2.98	0.02
5.00	0.31	0.00	0.00	18.25	5.13	3.00	0.02
5.25	0.33	0.00	0.00	18.50	5.15	3.02	0.02
5.50	0.35	0.00	0.00	18.75	5.17	3.04	0.02
5.75	0.37	0.00	0.00	19.00	5.19	3.06	0.02
6.00	0.40	0.00	0.00	19.25	5.21	3.07	0.02
6.25	0.42	0.00	0.00	19.50	5.23	3.09	0.02
6.50	0.44	0.00	0.00	19.75	5.25	3.11	0.02
6.75	0.47	0.00	0.00	20.00	5.26	3.12	0.02
7.00	0.50	0.00	0.00	20.25	5.28	3.14	0.02
7.25	0.53	0.00	0.00	20.50	5.30	3.15	0.02
7.50	0.56	0.00	0.00	20.75	5.32	3.17	0.02
7.75	0.59	0.00	0.00	21.00	5.33	3.18	0.01
8.00	0.63	0.01	0.00	21.25	5.35	3.20	0.01
8.25	0.66	0.01	0.00	21.50	5.36	3.21	0.01
8.50	0.71	0.02	0.01	21.75	5.38	3.23	0.01
8.75	0.75	0.02	0.01	22.00	5.39	3.24	0.01
9.00	0.80	0.03	0.01	22.25	5.41	3.25	0.01
9.25	0.86	0.04	0.01	22.50	5.42	3.26	0.01
9.50	0.91	0.06	0.01	22.75	5.44	3.28	0.01
9.75	0.97	0.08	0.02	23.00	5.45	3.29	0.01
10.00	1.04	0.10	0.02	23.25	5.46	3.30	0.01
10.25	1.11	0.12	0.03	23.50	5.48	3.31	0.01
10.50	1.19	0.15	0.03	23.75	5.49	3.32	0.01
10.75	1.28	0.18	0.04	24.00	5.50	3.33	0.01
11.00	1.37	0.23	0.04				
11.25	1.49	0.28	0.06				
11.50	1.64	0.36	0.08				
11.75	1.95	0.53	0.20				
12.00	2.75	1.07	0.58				
12.25	3.55	1.67	0.48				
12.50	3.86	1.93	0.23				
12.75	4.01	2.05	0.12				
13.00	4.12	2.15	0.09				

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Subcatchment OFF: Offsite Drainage Area

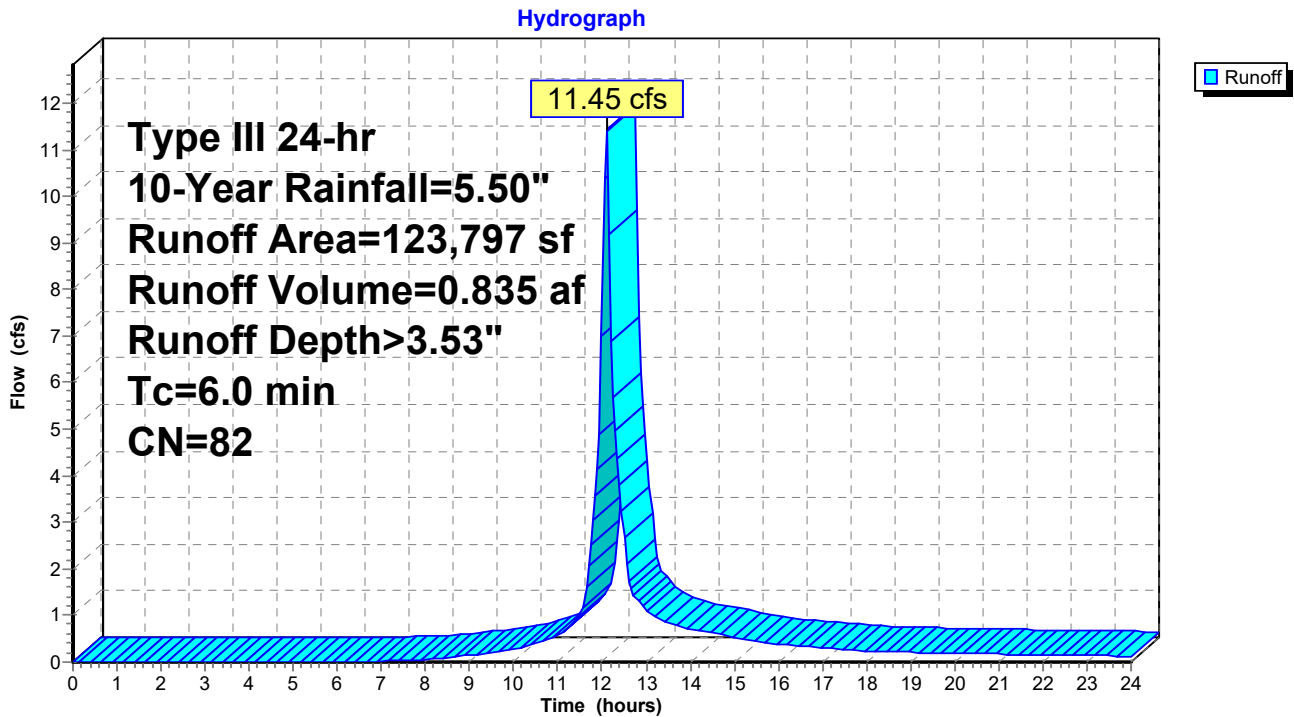
Runoff = 11.45 cfs @ 12.09 hrs, Volume= 0.835 af, Depth> 3.53"
Routed to Pond P1 : Ex Onsite Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
52,228	61	>75% Grass cover, Good, HSG B
* 71,569	98	Impervious Surfaces
123,797	82	Weighted Average
52,228		42.19% Pervious Area
71,569		57.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment OFF: Offsite Drainage Area



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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment OFF: Offsite Drainage Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.22	2.39	0.94
0.25	0.01	0.00	0.00	13.50	4.31	2.47	0.86
0.50	0.03	0.00	0.00	13.75	4.39	2.54	0.79
0.75	0.04	0.00	0.00	14.00	4.46	2.60	0.71
1.00	0.05	0.00	0.00	14.25	4.53	2.66	0.65
1.25	0.07	0.00	0.00	14.50	4.59	2.71	0.61
1.50	0.08	0.00	0.00	14.75	4.64	2.76	0.58
1.75	0.10	0.00	0.00	15.00	4.70	2.81	0.54
2.00	0.11	0.00	0.00	15.25	4.75	2.85	0.50
2.25	0.12	0.00	0.00	15.50	4.79	2.90	0.46
2.50	0.14	0.00	0.00	15.75	4.84	2.93	0.42
2.75	0.15	0.00	0.00	16.00	4.87	2.97	0.38
3.00	0.17	0.00	0.00	16.25	4.91	3.00	0.35
3.25	0.19	0.00	0.00	16.50	4.94	3.03	0.34
3.50	0.20	0.00	0.00	16.75	4.97	3.05	0.32
3.75	0.22	0.00	0.00	17.00	5.00	3.08	0.30
4.00	0.24	0.00	0.00	17.25	5.03	3.11	0.29
4.25	0.25	0.00	0.00	17.50	5.06	3.13	0.27
4.50	0.27	0.00	0.00	17.75	5.08	3.15	0.25
4.75	0.29	0.00	0.00	18.00	5.10	3.17	0.23
5.00	0.31	0.00	0.00	18.25	5.13	3.19	0.22
5.25	0.33	0.00	0.00	18.50	5.15	3.21	0.22
5.50	0.35	0.00	0.00	18.75	5.17	3.23	0.21
5.75	0.37	0.00	0.00	19.00	5.19	3.25	0.21
6.00	0.40	0.00	0.00	19.25	5.21	3.27	0.20
6.25	0.42	0.00	0.00	19.50	5.23	3.28	0.20
6.50	0.44	0.00	0.00	19.75	5.25	3.30	0.19
6.75	0.47	0.00	0.01	20.00	5.26	3.32	0.19
7.00	0.50	0.00	0.01	20.25	5.28	3.33	0.18
7.25	0.53	0.00	0.02	20.50	5.30	3.35	0.18
7.50	0.56	0.01	0.03	20.75	5.32	3.36	0.17
7.75	0.59	0.01	0.04	21.00	5.33	3.38	0.17
8.00	0.63	0.01	0.06	21.25	5.35	3.39	0.17
8.25	0.66	0.02	0.07	21.50	5.36	3.41	0.16
8.50	0.71	0.03	0.09	21.75	5.38	3.42	0.16
8.75	0.75	0.04	0.12	22.00	5.39	3.43	0.15
9.00	0.80	0.05	0.15	22.25	5.41	3.45	0.15
9.25	0.86	0.07	0.17	22.50	5.42	3.46	0.15
9.50	0.91	0.08	0.21	22.75	5.44	3.47	0.14
9.75	0.97	0.10	0.24	23.00	5.45	3.48	0.14
10.00	1.04	0.13	0.28	23.25	5.46	3.50	0.14
10.25	1.11	0.16	0.33	23.50	5.48	3.51	0.13
10.50	1.19	0.19	0.40	23.75	5.49	3.52	0.13
10.75	1.28	0.23	0.47	24.00	5.50	3.53	0.12
11.00	1.37	0.28	0.55				
11.25	1.49	0.34	0.73				
11.50	1.64	0.42	0.99				
11.75	1.95	0.62	2.53				
12.00	2.75	1.19	7.01				
12.25	3.55	1.82	5.68				
12.50	3.86	2.08	2.66				
12.75	4.01	2.21	1.41				
13.00	4.12	2.31	1.10				

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Pond P1: Ex Onsite Retention Pond

[92] Warning: Device #4 is above defined storage

[92] Warning: Device #5 is above defined storage

Inflow Area = 3.093 ac, 53.12% Impervious, Inflow Depth > 3.51" for 10-Year event
 Inflow = 12.41 cfs @ 12.09 hrs, Volume= 0.905 af
 Outflow = 5.45 cfs @ 12.30 hrs, Volume= 0.889 af, Atten= 56%, Lag= 12.7 min
 Primary = 5.45 cfs @ 12.30 hrs, Volume= 0.889 af
 Routed to Link S : POI South
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond P2 : Large Shallow Onsite Depression

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 297.78' @ 12.30 hrs Surf.Area= 5,310 sf Storage= 10,636 cf

Plug-Flow detention time= 45.1 min calculated for 0.887 af (98% of inflow)
 Center-of-Mass det. time= 34.6 min (846.9 - 812.3)

Volume	Invert	Avail.Storage	Storage Description
#1	295.30'	18,859 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
295.30	3,441	0	0
296.00	3,790	2,531	2,531
298.00	5,497	9,287	11,818
299.00	6,080	5,789	17,606
299.20	6,450	1,253	18,859

Device	Routing	Invert	Outlet Devices
#1	Primary	295.00'	24.0" Round Culvert L= 409.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 295.00' / 292.10' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	295.30'	9.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	297.40'	41.2 deg x 3.0' long x 1.33' rise Sharp-Crested Vee/Trap Weir Cv= 2.57 (C= 3.21)
#4	Device 1	299.40'	48.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	299.20'	40.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

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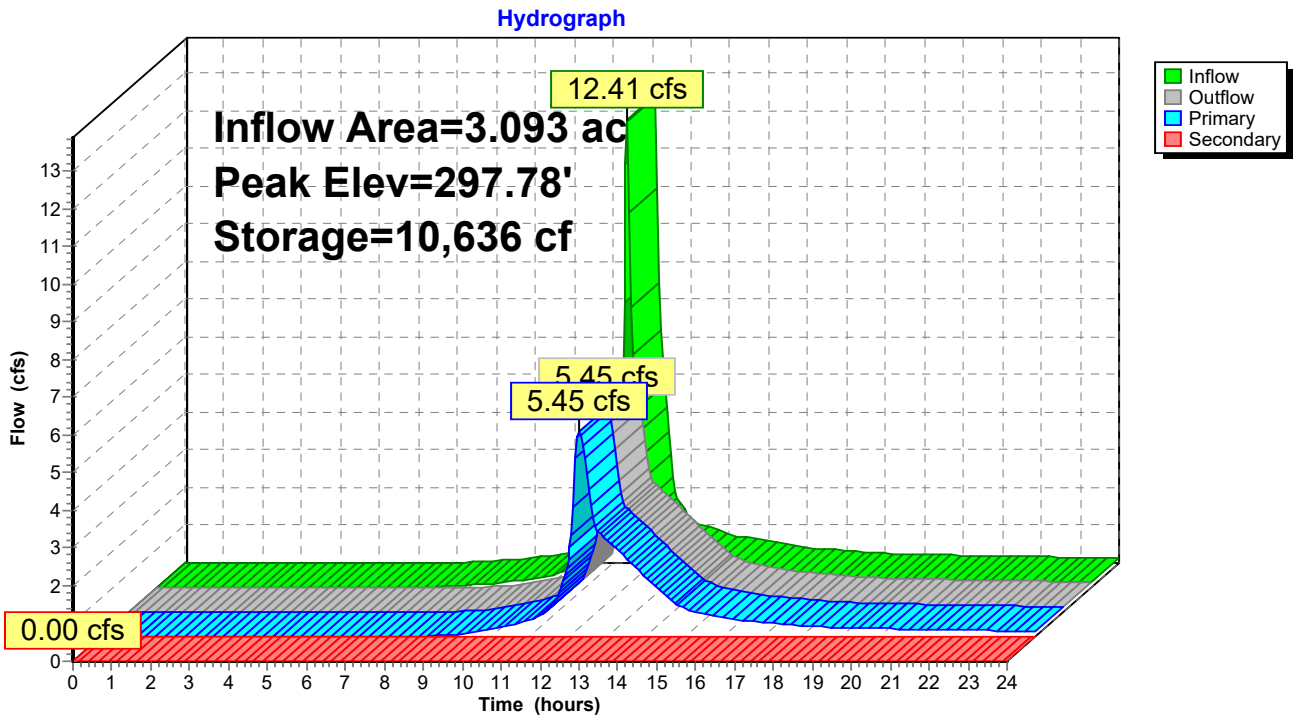
Primary OutFlow Max=5.44 cfs @ 12.30 hrs HW=297.78' (Free Discharge)

- 1=Culvert (Passes 5.44 cfs of 18.83 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 3.09 cfs @ 6.99 fps)
- 3=Sharp-Crested Vee/Trap Weir (Weir Controls 2.35 cfs @ 1.96 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=295.30' (Free Discharge)

- 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P1: Ex Onsite Retention Pond



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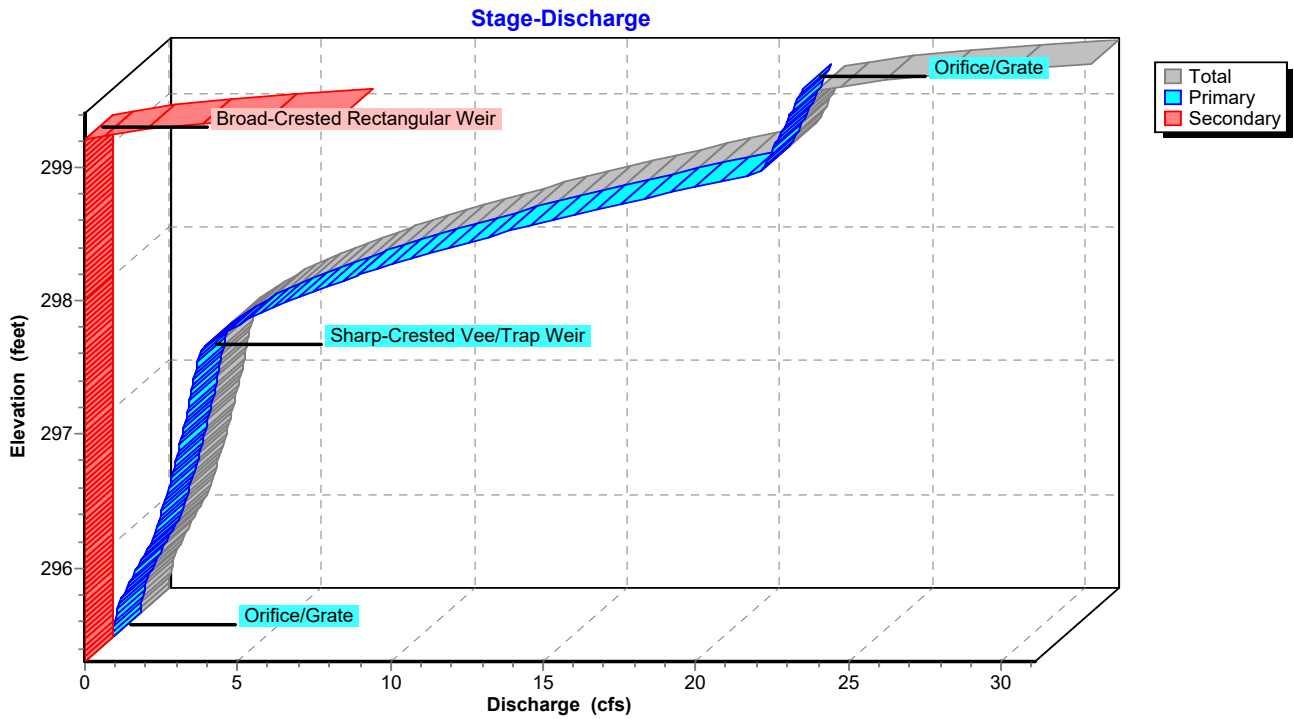
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Type III 24-hr 10-Year Rainfall=5.50"

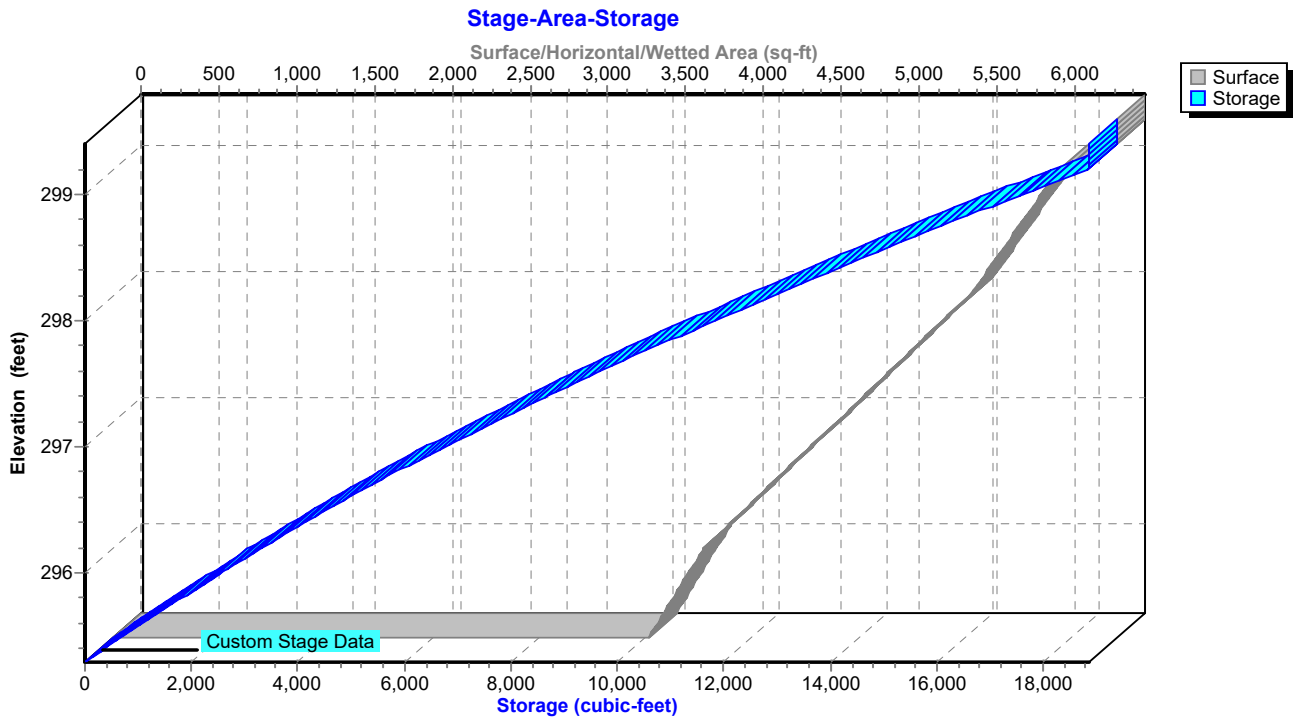
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Pond P1: Ex Onsite Retention Pond



Pond P1: Ex Onsite Retention Pond



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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Pond P1: Ex Onsite Retention Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	295.30	0.00	0.00	0.00
0.50	0.00	0	295.30	0.00	0.00	0.00
1.00	0.00	0	295.30	0.00	0.00	0.00
1.50	0.00	0	295.30	0.00	0.00	0.00
2.00	0.00	0	295.30	0.00	0.00	0.00
2.50	0.00	0	295.30	0.00	0.00	0.00
3.00	0.00	0	295.30	0.00	0.00	0.00
3.50	0.00	0	295.30	0.00	0.00	0.00
4.00	0.00	0	295.30	0.00	0.00	0.00
4.50	0.00	0	295.30	0.00	0.00	0.00
5.00	0.00	0	295.30	0.00	0.00	0.00
5.50	0.00	0	295.30	0.00	0.00	0.00
6.00	0.00	0	295.30	0.00	0.00	0.00
6.50	0.00	0	295.30	0.00	0.00	0.00
7.00	0.01	11	295.30	0.00	0.00	0.00
7.50	0.03	51	295.31	0.00	0.00	0.00
8.00	0.06	128	295.34	0.01	0.01	0.00
8.50	0.10	248	295.37	0.02	0.02	0.00
9.00	0.15	412	295.42	0.05	0.05	0.00
9.50	0.22	605	295.47	0.11	0.11	0.00
10.00	0.30	808	295.53	0.19	0.19	0.00
10.50	0.43	1,030	295.59	0.30	0.30	0.00
11.00	0.60	1,294	295.67	0.44	0.44	0.00
11.50	1.07	1,731	295.79	0.72	0.72	0.00
12.00	7.59	4,990	296.61	2.05	2.05	0.00
12.50	2.89	10,003	297.66	4.32	4.32	0.00
13.00	1.20	7,476	297.15	2.59	2.59	0.00
13.50	0.94	5,123	296.64	2.09	2.09	0.00
14.00	0.77	3,370	296.22	1.56	1.56	0.00
14.50	0.67	2,279	295.93	1.08	1.08	0.00
15.00	0.58	1,790	295.80	0.76	0.76	0.00
15.50	0.50	1,552	295.74	0.60	0.60	0.00
16.00	0.41	1,386	295.69	0.50	0.50	0.00
16.50	0.37	1,259	295.66	0.42	0.42	0.00
17.00	0.33	1,172	295.63	0.37	0.37	0.00
17.50	0.29	1,098	295.61	0.33	0.33	0.00
18.00	0.25	1,025	295.59	0.29	0.29	0.00
18.50	0.24	965	295.57	0.26	0.26	0.00
19.00	0.23	926	295.56	0.24	0.24	0.00
19.50	0.21	896	295.56	0.23	0.23	0.00
20.00	0.20	870	295.55	0.22	0.22	0.00
20.50	0.19	846	295.54	0.21	0.21	0.00
21.00	0.19	824	295.54	0.20	0.20	0.00
21.50	0.18	804	295.53	0.19	0.19	0.00
22.00	0.17	783	295.52	0.18	0.18	0.00
22.50	0.16	763	295.52	0.17	0.17	0.00
23.00	0.15	743	295.51	0.16	0.16	0.00
23.50	0.14	722	295.51	0.15	0.15	0.00
24.00	0.13	702	295.50	0.15	0.15	0.00

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Type III 24-hr 10-Year Rainfall=5.50"

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Stage-Discharge for Pond P1: Ex Onsite Retention Pond

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
295.30	0.00	0.00	0.00	297.95	7.36	7.36	0.00
295.35	0.01	0.01	0.00	298.00	7.99	7.99	0.00
295.40	0.04	0.04	0.00	298.05	8.66	8.66	0.00
295.45	0.08	0.08	0.00	298.10	9.35	9.35	0.00
295.50	0.14	0.14	0.00	298.15	10.08	10.08	0.00
295.55	0.22	0.22	0.00	298.20	10.83	10.83	0.00
295.60	0.31	0.31	0.00	298.25	11.61	11.61	0.00
295.65	0.41	0.41	0.00	298.30	12.42	12.42	0.00
295.70	0.52	0.52	0.00	298.35	13.25	13.25	0.00
295.75	0.63	0.63	0.00	298.40	14.11	14.11	0.00
295.80	0.75	0.75	0.00	298.45	15.00	15.00	0.00
295.85	0.88	0.88	0.00	298.50	15.92	15.92	0.00
295.90	1.00	1.00	0.00	298.55	16.86	16.86	0.00
295.95	1.12	1.12	0.00	298.60	17.83	17.83	0.00
296.00	1.22	1.22	0.00	298.65	18.83	18.83	0.00
296.05	1.30	1.30	0.00	298.70	19.85	19.85	0.00
296.10	1.39	1.39	0.00	298.75	20.86	20.86	0.00
296.15	1.47	1.47	0.00	298.80	21.28	21.28	0.00
296.20	1.54	1.54	0.00	298.85	21.39	21.39	0.00
296.25	1.61	1.61	0.00	298.90	21.50	21.50	0.00
296.30	1.68	1.68	0.00	298.95	21.62	21.62	0.00
296.35	1.75	1.75	0.00	299.00	21.73	21.73	0.00
296.40	1.81	1.81	0.00	299.05	21.84	21.84	0.00
296.45	1.87	1.87	0.00	299.10	21.95	21.95	0.00
296.50	1.93	1.93	0.00	299.15	22.06	22.06	0.00
296.55	1.99	1.99	0.00	299.20	22.17	22.17	0.00
296.60	2.05	2.05	0.00	299.25	23.34	22.27	1.06
296.65	2.10	2.10	0.00	299.30	25.39	22.38	3.01
296.70	2.15	2.15	0.00	299.35	28.02	22.49	5.53
296.75	2.21	2.21	0.00	299.40	31.11	22.60	8.51
296.80	2.26	2.26	0.00				
296.85	2.31	2.31	0.00				
296.90	2.35	2.35	0.00				
296.95	2.40	2.40	0.00				
297.00	2.45	2.45	0.00				
297.05	2.49	2.49	0.00				
297.10	2.54	2.54	0.00				
297.15	2.58	2.58	0.00				
297.20	2.63	2.63	0.00				
297.25	2.67	2.67	0.00				
297.30	2.71	2.71	0.00				
297.35	2.75	2.75	0.00				
297.40	2.79	2.79	0.00				
297.45	2.94	2.94	0.00				
297.50	3.18	3.18	0.00				
297.55	3.48	3.48	0.00				
297.60	3.83	3.83	0.00				
297.65	4.22	4.22	0.00				
297.70	4.66	4.66	0.00				
297.75	5.13	5.13	0.00				
297.80	5.64	5.64	0.00				
297.85	6.18	6.18	0.00				
297.90	6.75	6.75	0.00				

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Type III 24-hr 10-Year Rainfall=5.50"

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Stage-Area-Storage for Pond P1: Ex Onsite Retention Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
295.30	3,441	0	297.95	5,454	11,544
295.35	3,466	173	298.00	5,497	11,818
295.40	3,491	347	298.05	5,526	12,093
295.45	3,516	522	298.10	5,555	12,370
295.50	3,541	698	298.15	5,584	12,649
295.55	3,566	876	298.20	5,614	12,929
295.60	3,591	1,055	298.25	5,643	13,210
295.65	3,616	1,235	298.30	5,672	13,493
295.70	3,640	1,416	298.35	5,701	13,778
295.75	3,665	1,599	298.40	5,730	14,063
295.80	3,690	1,783	298.45	5,759	14,351
295.85	3,715	1,968	298.50	5,789	14,639
295.90	3,740	2,154	298.55	5,818	14,929
295.95	3,765	2,342	298.60	5,847	15,221
296.00	3,790	2,531	298.65	5,876	15,514
296.05	3,833	2,721	298.70	5,905	15,809
296.10	3,875	2,914	298.75	5,934	16,105
296.15	3,918	3,109	298.80	5,963	16,402
296.20	3,961	3,306	298.85	5,993	16,701
296.25	4,003	3,505	298.90	6,022	17,001
296.30	4,046	3,706	298.95	6,051	17,303
296.35	4,089	3,910	299.00	6,080	17,606
296.40	4,131	4,115	299.05	6,173	17,913
296.45	4,174	4,323	299.10	6,265	18,224
296.50	4,217	4,533	299.15	6,358	18,539
296.55	4,259	4,744	299.20	6,450	18,859
296.60	4,302	4,958	299.25	6,450	18,859
296.65	4,345	5,175	299.30	6,450	18,859
296.70	4,387	5,393	299.35	6,450	18,859
296.75	4,430	5,613	299.40	6,450	18,859
296.80	4,473	5,836			
296.85	4,515	6,061			
296.90	4,558	6,288			
296.95	4,601	6,516			
297.00	4,644	6,748			
297.05	4,686	6,981			
297.10	4,729	7,216			
297.15	4,772	7,454			
297.20	4,814	7,693			
297.25	4,857	7,935			
297.30	4,900	8,179			
297.35	4,942	8,425			
297.40	4,985	8,673			
297.45	5,028	8,924			
297.50	5,070	9,176			
297.55	5,113	9,431			
297.60	5,156	9,687			
297.65	5,198	9,946			
297.70	5,241	10,207			
297.75	5,284	10,470			
297.80	5,326	10,736			
297.85	5,369	11,003			
297.90	5,412	11,272			

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Pond P2: Large Shallow Onsite Depression

Inflow Area = 9.297 ac, 0.60% Impervious, Inflow Depth > 2.40" for 10-Year event
 Inflow = 17.07 cfs @ 12.30 hrs, Volume= 1.862 af
 Outflow = 16.46 cfs @ 12.36 hrs, Volume= 1.711 af, Atten= 4%, Lag= 3.6 min
 Primary = 16.46 cfs @ 12.36 hrs, Volume= 1.711 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 298.17' @ 12.36 hrs Surf.Area= 28,157 sf Storage= 10,545 cf

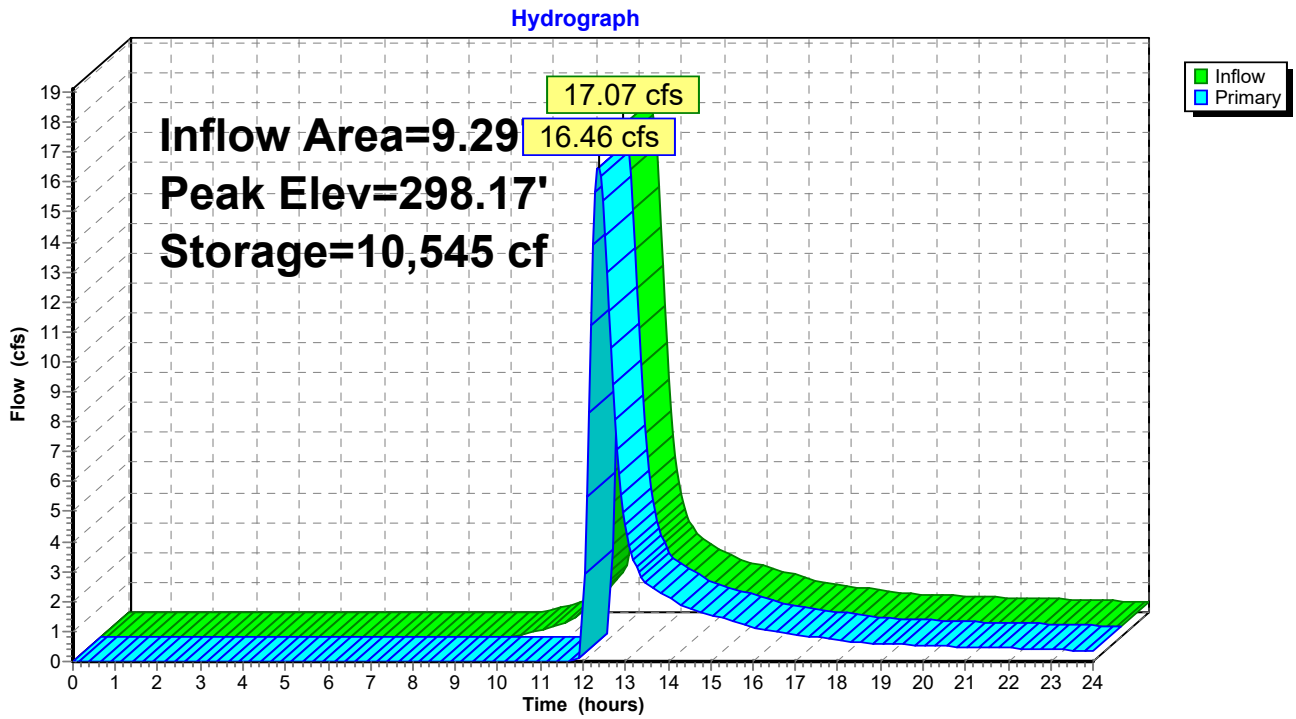
Plug-Flow detention time= 59.1 min calculated for 1.711 af (92% of inflow)
 Center-of-Mass det. time= 19.2 min (873.0 - 853.9)

Volume	Invert	Avail.Storage	Storage Description
#1	297.40'	130,870 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
297.40	0	0	0
298.00	21,165	6,350	6,350
300.00	103,355	124,520	130,870

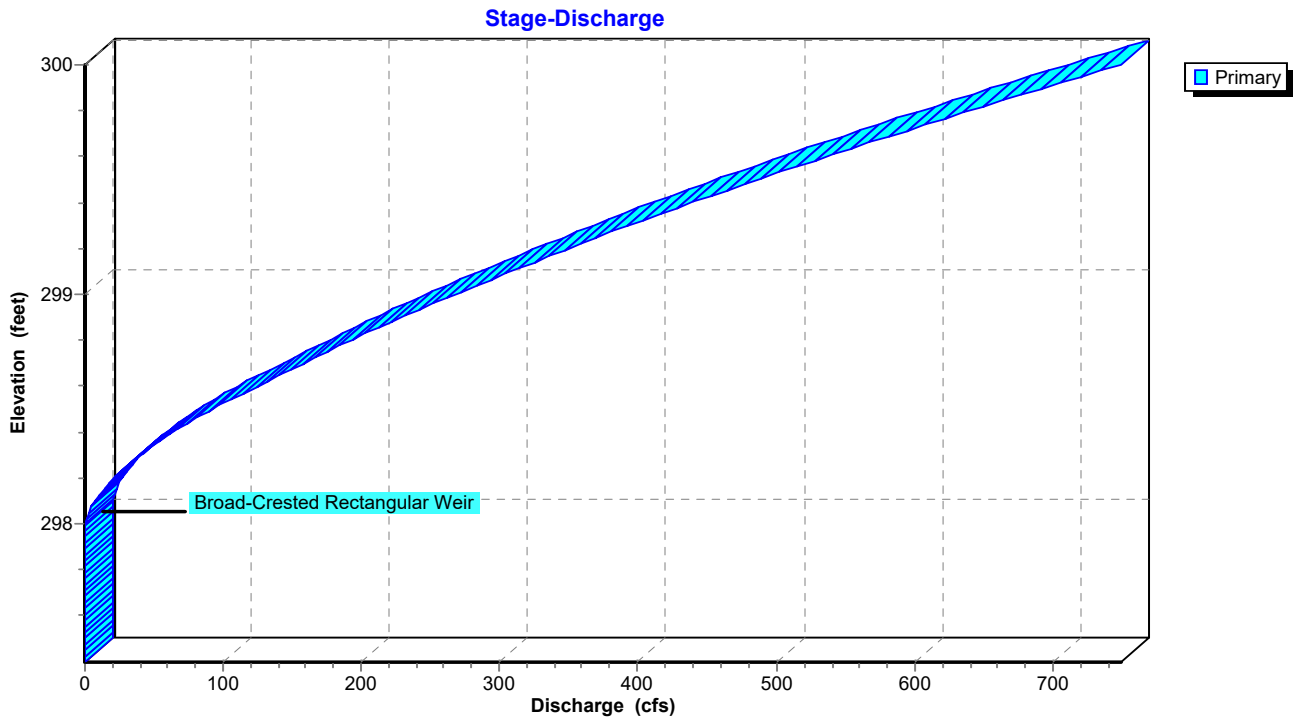
Device	Routing	Invert	Outlet Devices
#1	Primary	298.00'	100.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=16.33 cfs @ 12.36 hrs HW=298.17' (Free Discharge)
 ↑1=Broad-Crested Rectangular Weir (Weir Controls 16.33 cfs @ 0.96 fps)

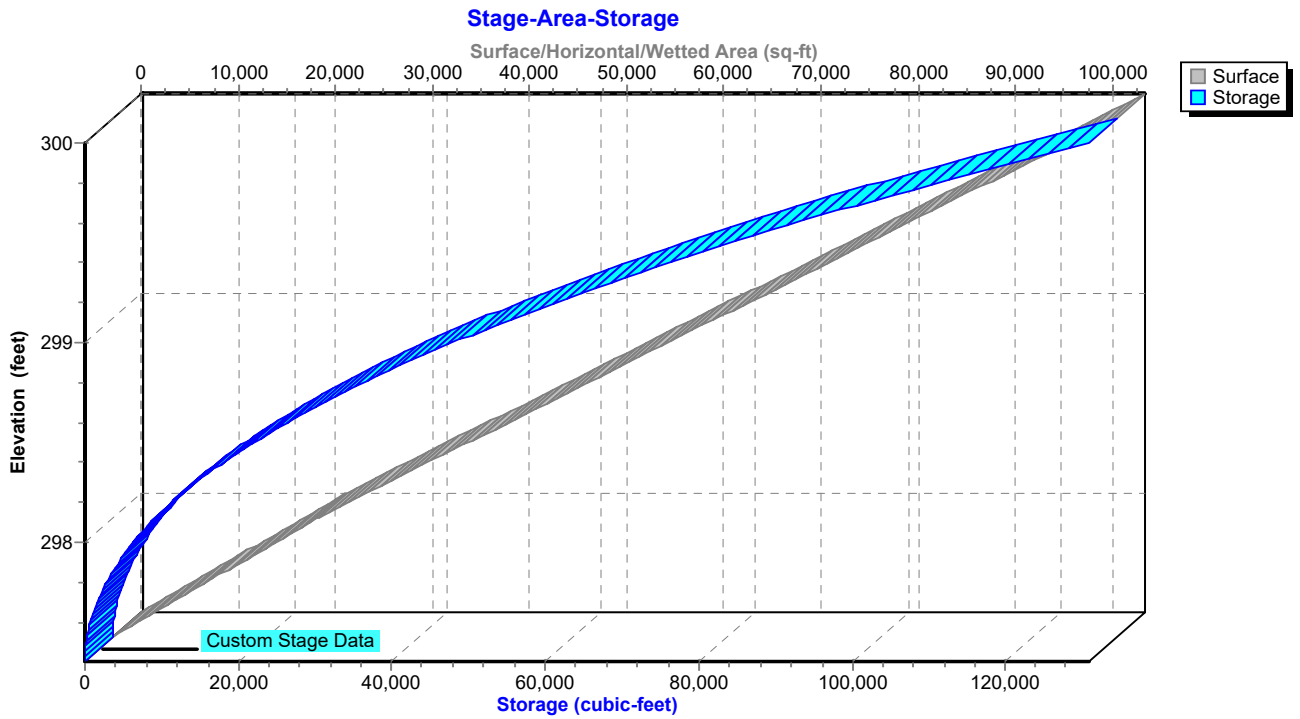
Pond P2: Large Shallow Onsite Depression



Pond P2: Large Shallow Onsite Depression



Pond P2: Large Shallow Onsite Depression



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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Pond P2: Large Shallow Onsite Depression

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	297.40	0.00
0.50	0.00	0	297.40	0.00
1.00	0.00	0	297.40	0.00
1.50	0.00	0	297.40	0.00
2.00	0.00	0	297.40	0.00
2.50	0.00	0	297.40	0.00
3.00	0.00	0	297.40	0.00
3.50	0.00	0	297.40	0.00
4.00	0.00	0	297.40	0.00
4.50	0.00	0	297.40	0.00
5.00	0.00	0	297.40	0.00
5.50	0.00	0	297.40	0.00
6.00	0.00	0	297.40	0.00
6.50	0.00	0	297.40	0.00
7.00	0.00	0	297.40	0.00
7.50	0.00	0	297.40	0.00
8.00	0.00	0	297.40	0.00
8.50	0.00	0	297.40	0.00
9.00	0.00	0	297.40	0.00
9.50	0.00	1	297.40	0.00
10.00	0.11	86	297.47	0.00
10.50	0.28	418	297.55	0.00
11.00	0.55	1,147	297.65	0.00
11.50	1.08	2,522	297.78	0.00
12.00	5.44	6,742	298.02	0.66
12.50	12.87	10,109	298.15	14.21
13.00	3.97	7,981	298.07	4.55
13.50	2.47	7,448	298.05	2.58
14.00	2.04	7,291	298.04	2.12
14.50	1.72	7,173	298.04	1.77
15.00	1.52	7,103	298.03	1.56
15.50	1.33	7,036	298.03	1.36
16.00	1.12	6,967	298.03	1.16
16.50	0.96	6,906	298.03	0.98
17.00	0.86	6,873	298.02	0.88
17.50	0.77	6,828	298.02	0.80
18.00	0.68	6,773	298.02	0.71
18.50	0.61	6,725	298.02	0.63
19.00	0.58	6,702	298.02	0.59
19.50	0.55	6,685	298.02	0.56
20.00	0.53	6,669	298.01	0.53
20.50	0.50	6,653	298.01	0.51
21.00	0.48	6,640	298.01	0.49
21.50	0.46	6,628	298.01	0.47
22.00	0.44	6,615	298.01	0.44
22.50	0.42	6,602	298.01	0.42
23.00	0.39	6,590	298.01	0.40
23.50	0.37	6,577	298.01	0.38
24.00	0.35	6,564	298.01	0.36

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Type III 24-hr 10-Year Rainfall=5.50"

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Stage-Discharge for Pond P2: Large Shallow Onsite Depression

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
297.40	0.00	298.46	79.87	299.52	496.61
297.42	0.00	298.48	85.80	299.54	506.44
297.44	0.00	298.50	91.92	299.56	516.34
297.46	0.00	298.52	98.24	299.58	526.30
297.48	0.00	298.54	104.76	299.60	536.32
297.50	0.00	298.56	111.47	299.62	546.41
297.52	0.00	298.58	118.38	299.64	556.56
297.54	0.00	298.60	125.48	299.66	566.77
297.56	0.00	298.62	131.71	299.68	577.05
297.58	0.00	298.64	138.04	299.70	587.38
297.60	0.00	298.66	144.45	299.72	597.78
297.62	0.00	298.68	150.95	299.74	608.23
297.64	0.00	298.70	157.54	299.76	618.75
297.66	0.00	298.72	164.22	299.78	629.33
297.68	0.00	298.74	170.98	299.80	639.96
297.70	0.00	298.76	177.83	299.82	650.66
297.72	0.00	298.78	184.76	299.84	661.41
297.74	0.00	298.80	191.77	299.86	672.23
297.76	0.00	298.82	199.00	299.88	683.10
297.78	0.00	298.84	206.33	299.90	694.03
297.80	0.00	298.86	213.74	299.92	705.01
297.82	0.00	298.88	221.24	299.94	716.06
297.84	0.00	298.90	228.82	299.96	727.16
297.86	0.00	298.92	236.49	299.98	738.32
297.88	0.00	298.94	244.25	300.00	749.53
297.90	0.00	298.96	252.08		
297.92	0.00	298.98	260.00		
297.94	0.00	299.00	268.00		
297.96	0.00	299.02	275.87		
297.98	0.00	299.04	283.82		
298.00	0.00	299.06	291.82		
298.02	0.66	299.08	299.90		
298.04	1.87	299.10	308.04		
298.06	3.44	299.12	316.24		
298.08	5.29	299.14	324.50		
298.10	7.40	299.16	332.83		
298.12	9.73	299.18	341.22		
298.14	12.26	299.20	349.67		
298.16	14.98	299.22	358.31		
298.18	17.87	299.24	367.02		
298.20	20.93	299.26	375.79		
298.22	24.31	299.28	384.63		
298.24	27.89	299.30	393.53		
298.26	31.66	299.32	402.50		
298.28	35.62	299.34	411.52		
298.30	39.76	299.36	420.61		
298.32	44.10	299.38	429.76		
298.34	48.61	299.40	438.97		
298.36	53.31	299.42	448.41		
298.38	58.19	299.44	457.92		
298.40	63.25	299.46	467.49		
298.42	68.59	299.48	477.13		
298.44	74.13	299.50	486.84		

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Stage-Area-Storage for Pond P2: Large Shallow Onsite Depression

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
297.40	0	0
297.45	1,764	44
297.50	3,528	176
297.55	5,291	397
297.60	7,055	705
297.65	8,819	1,102
297.70	10,583	1,587
297.75	12,346	2,161
297.80	14,110	2,822
297.85	15,874	3,572
297.90	17,637	4,409
297.95	19,401	5,335
298.00	21,165	6,350
298.05	23,220	7,459
298.10	25,274	8,671
298.15	27,329	9,987
298.20	29,384	11,404
298.25	31,439	12,925
298.30	33,493	14,548
298.35	35,548	16,274
298.40	37,603	18,103
298.45	39,658	20,035
298.50	41,713	22,069
298.55	43,767	24,206
298.60	45,822	26,446
298.65	47,877	28,788
298.70	49,931	31,233
298.75	51,986	33,781
298.80	54,041	36,432
298.85	56,096	39,185
298.90	58,150	42,041
298.95	60,205	45,000
299.00	62,260	48,062
299.05	64,315	51,226
299.10	66,369	54,493
299.15	68,424	57,863
299.20	70,479	61,336
299.25	72,534	64,911
299.30	74,588	68,589
299.35	76,643	72,370
299.40	78,698	76,254
299.45	80,753	80,240
299.50	82,808	84,329
299.55	84,862	88,521
299.60	86,917	92,815
299.65	88,972	97,212
299.70	91,026	101,712
299.75	93,081	106,315
299.80	95,136	111,020
299.85	97,191	115,829
299.90	99,245	120,739
299.95	101,300	125,753
300.00	103,355	130,870

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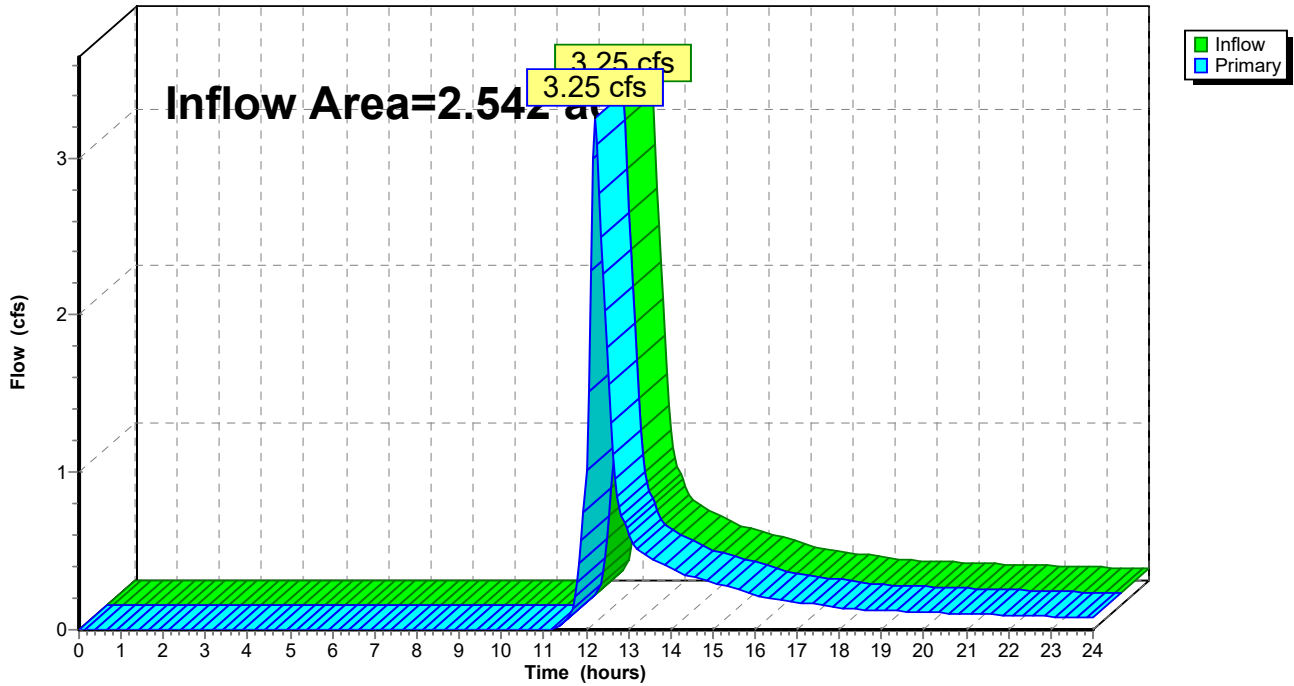
Summary for Link N: POI North

Inflow Area = 2.542 ac, 2.23% Impervious, Inflow Depth > 1.52" for 10-Year event
Inflow = 3.25 cfs @ 12.21 hrs, Volume= 0.322 af
Primary = 3.25 cfs @ 12.21 hrs, Volume= 0.322 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link N: POI North

Hydrograph



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Hydrograph for Link N: POI North

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	13.25	0.50	0.00	0.50
0.25	0.00	0.00	0.00	13.50	0.46	0.00	0.46
0.50	0.00	0.00	0.00	13.75	0.43	0.00	0.43
0.75	0.00	0.00	0.00	14.00	0.39	0.00	0.39
1.00	0.00	0.00	0.00	14.25	0.36	0.00	0.36
1.25	0.00	0.00	0.00	14.50	0.34	0.00	0.34
1.50	0.00	0.00	0.00	14.75	0.32	0.00	0.32
1.75	0.00	0.00	0.00	15.00	0.30	0.00	0.30
2.00	0.00	0.00	0.00	15.25	0.28	0.00	0.28
2.25	0.00	0.00	0.00	15.50	0.26	0.00	0.26
2.50	0.00	0.00	0.00	15.75	0.24	0.00	0.24
2.75	0.00	0.00	0.00	16.00	0.22	0.00	0.22
3.00	0.00	0.00	0.00	16.25	0.20	0.00	0.20
3.25	0.00	0.00	0.00	16.50	0.19	0.00	0.19
3.50	0.00	0.00	0.00	16.75	0.18	0.00	0.18
3.75	0.00	0.00	0.00	17.00	0.18	0.00	0.18
4.00	0.00	0.00	0.00	17.25	0.17	0.00	0.17
4.25	0.00	0.00	0.00	17.50	0.16	0.00	0.16
4.50	0.00	0.00	0.00	17.75	0.15	0.00	0.15
4.75	0.00	0.00	0.00	18.00	0.14	0.00	0.14
5.00	0.00	0.00	0.00	18.25	0.13	0.00	0.13
5.25	0.00	0.00	0.00	18.50	0.13	0.00	0.13
5.50	0.00	0.00	0.00	18.75	0.12	0.00	0.12
5.75	0.00	0.00	0.00	19.00	0.12	0.00	0.12
6.00	0.00	0.00	0.00	19.25	0.12	0.00	0.12
6.25	0.00	0.00	0.00	19.50	0.12	0.00	0.12
6.50	0.00	0.00	0.00	19.75	0.11	0.00	0.11
6.75	0.00	0.00	0.00	20.00	0.11	0.00	0.11
7.00	0.00	0.00	0.00	20.25	0.11	0.00	0.11
7.25	0.00	0.00	0.00	20.50	0.11	0.00	0.11
7.50	0.00	0.00	0.00	20.75	0.10	0.00	0.10
7.75	0.00	0.00	0.00	21.00	0.10	0.00	0.10
8.00	0.00	0.00	0.00	21.25	0.10	0.00	0.10
8.25	0.00	0.00	0.00	21.50	0.10	0.00	0.10
8.50	0.00	0.00	0.00	21.75	0.09	0.00	0.09
8.75	0.00	0.00	0.00	22.00	0.09	0.00	0.09
9.00	0.00	0.00	0.00	22.25	0.09	0.00	0.09
9.25	0.00	0.00	0.00	22.50	0.09	0.00	0.09
9.50	0.00	0.00	0.00	22.75	0.09	0.00	0.09
9.75	0.00	0.00	0.00	23.00	0.08	0.00	0.08
10.00	0.00	0.00	0.00	23.25	0.08	0.00	0.08
10.25	0.00	0.00	0.00	23.50	0.08	0.00	0.08
10.50	0.00	0.00	0.00	23.75	0.08	0.00	0.08
10.75	0.00	0.00	0.00	24.00	0.07	0.00	0.07
11.00	0.00	0.00	0.00				
11.25	0.01	0.00	0.01				
11.50	0.05	0.00	0.05				
11.75	0.22	0.00	0.22				
12.00	1.01	0.00	1.01				
12.25	3.09	0.00	3.09				
12.50	1.80	0.00	1.80				
12.75	0.85	0.00	0.85				
13.00	0.62	0.00	0.62				

Existing

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Type III 24-hr 10-Year Rainfall=5.50"

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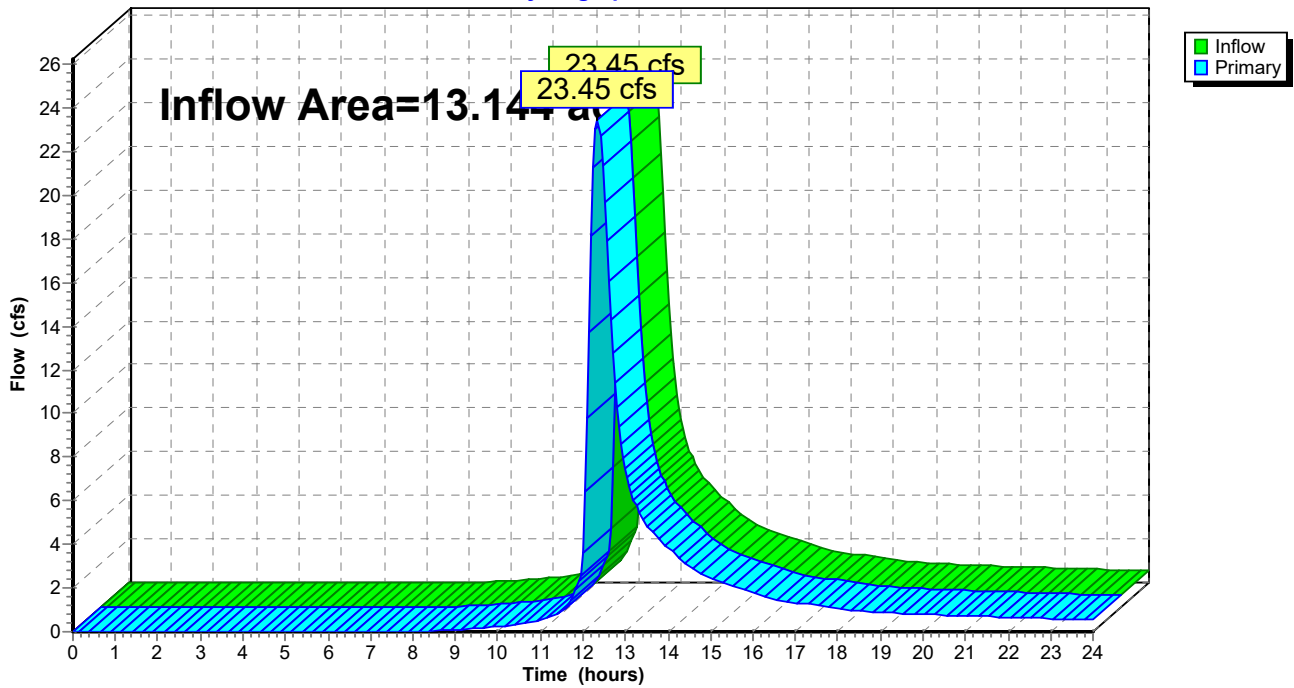
Summary for Link S: POI South

Inflow Area = 13.144 ac, 13.03% Impervious, Inflow Depth > 2.56" for 10-Year event
Inflow = 23.45 cfs @ 12.34 hrs, Volume= 2.809 af
Primary = 23.45 cfs @ 12.34 hrs, Volume= 2.809 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link S: POI South

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Link S: POI South

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	13.25	5.78	0.00	5.78
0.25	0.00	0.00	0.00	13.50	4.91	0.00	4.91
0.50	0.00	0.00	0.00	13.75	4.37	0.00	4.37
0.75	0.00	0.00	0.00	14.00	3.88	0.00	3.88
1.00	0.00	0.00	0.00	14.25	3.41	0.00	3.41
1.25	0.00	0.00	0.00	14.50	3.01	0.00	3.01
1.50	0.00	0.00	0.00	14.75	2.70	0.00	2.70
1.75	0.00	0.00	0.00	15.00	2.46	0.00	2.46
2.00	0.00	0.00	0.00	15.25	2.27	0.00	2.27
2.25	0.00	0.00	0.00	15.50	2.09	0.00	2.09
2.50	0.00	0.00	0.00	15.75	1.92	0.00	1.92
2.75	0.00	0.00	0.00	16.00	1.76	0.00	1.76
3.00	0.00	0.00	0.00	16.25	1.61	0.00	1.61
3.25	0.00	0.00	0.00	16.50	1.49	0.00	1.49
3.50	0.00	0.00	0.00	16.75	1.41	0.00	1.41
3.75	0.00	0.00	0.00	17.00	1.33	0.00	1.33
4.00	0.00	0.00	0.00	17.25	1.27	0.00	1.27
4.25	0.00	0.00	0.00	17.50	1.20	0.00	1.20
4.50	0.00	0.00	0.00	17.75	1.13	0.00	1.13
4.75	0.00	0.00	0.00	18.00	1.06	0.00	1.06
5.00	0.00	0.00	0.00	18.25	1.00	0.00	1.00
5.25	0.00	0.00	0.00	18.50	0.95	0.00	0.95
5.50	0.00	0.00	0.00	18.75	0.91	0.00	0.91
5.75	0.00	0.00	0.00	19.00	0.89	0.00	0.89
6.00	0.00	0.00	0.00	19.25	0.87	0.00	0.87
6.25	0.00	0.00	0.00	19.50	0.84	0.00	0.84
6.50	0.00	0.00	0.00	19.75	0.82	0.00	0.82
6.75	0.00	0.00	0.00	20.00	0.80	0.00	0.80
7.00	0.00	0.00	0.00	20.25	0.78	0.00	0.78
7.25	0.00	0.00	0.00	20.50	0.76	0.00	0.76
7.50	0.00	0.00	0.00	20.75	0.74	0.00	0.74
7.75	0.01	0.00	0.01	21.00	0.73	0.00	0.73
8.00	0.01	0.00	0.01	21.25	0.71	0.00	0.71
8.25	0.02	0.00	0.02	21.50	0.70	0.00	0.70
8.50	0.04	0.00	0.04	21.75	0.68	0.00	0.68
8.75	0.05	0.00	0.05	22.00	0.66	0.00	0.66
9.00	0.08	0.00	0.08	22.25	0.65	0.00	0.65
9.25	0.11	0.00	0.11	22.50	0.63	0.00	0.63
9.50	0.15	0.00	0.15	22.75	0.62	0.00	0.62
9.75	0.20	0.00	0.20	23.00	0.60	0.00	0.60
10.00	0.25	0.00	0.25	23.25	0.58	0.00	0.58
10.25	0.30	0.00	0.30	23.50	0.57	0.00	0.57
10.50	0.38	0.00	0.38	23.75	0.55	0.00	0.55
10.75	0.46	0.00	0.46	24.00	0.54	0.00	0.54
11.00	0.56	0.00	0.56				
11.25	0.69	0.00	0.69				
11.50	0.92	0.00	0.92				
11.75	1.53	0.00	1.53				
12.00	3.64	0.00	3.64				
12.25	21.32	0.00	21.32				
12.50	19.67	0.00	19.67				
12.75	11.39	0.00	11.39				
13.00	7.47	0.00	7.47				

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Type III 24-hr 25-Year Rainfall=6.50"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1: Drainage Area 1 Runoff Area=32,821 sf 1.83% Impervious Runoff Depth>4.22"
Flow Length=344' Tc=15.6 min CN=80 Runoff=2.77 cfs 0.265 af

Subcatchment DA 2: Drainage Area 2 Runoff Area=404,999 sf 0.60% Impervious Runoff Depth>3.19"
Flow Length=878' Tc=21.1 min CN=70 Runoff=22.88 cfs 2.474 af

Subcatchment DA 3: Drainage Area 3 Runoff Area=110,724 sf 2.23% Impervious Runoff Depth>2.16"
Flow Length=433' Tc=13.2 min CN=59 Runoff=4.81 cfs 0.457 af

Subcatchment DA 4: Drainage Area 4 - Runoff Area=10,931 sf 0.00% Impervious Runoff Depth>4.23"
Tc=6.0 min CN=80 Runoff=1.21 cfs 0.088 af

Subcatchment OFF: Offsite Drainage Area Runoff Area=123,797 sf 57.81% Impervious Runoff Depth>4.45"
Tc=6.0 min CN=82 Runoff=14.33 cfs 1.053 af

Pond P1: Ex Onsite Retention Pond Peak Elev=298.06' Storage=12,128 cf Inflow=15.54 cfs 1.141 af
Primary=8.74 cfs 1.124 af Secondary=0.00 cfs 0.000 af Outflow=8.74 cfs 1.124 af

Pond P2: Large Shallow Onsite Peak Elev=298.21' Storage=11,621 cf Inflow=22.88 cfs 2.474 af
Outflow=22.15 cfs 2.322 af

Link N: POI North Inflow=4.81 cfs 0.457 af
Primary=4.81 cfs 0.457 af

Link S: POI South Inflow=31.98 cfs 3.711 af
Primary=31.98 cfs 3.711 af

Total Runoff Area = 15.686 ac Runoff Volume = 4.338 af Average Runoff Depth = 3.32"
88.72% Pervious = 13.916 ac 11.28% Impervious = 1.770 ac

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Subcatchment DA 1: Drainage Area 1

Runoff = 2.77 cfs @ 12.21 hrs, Volume= 0.265 af, Depth> 4.22"
 Routed to Link S : POI South

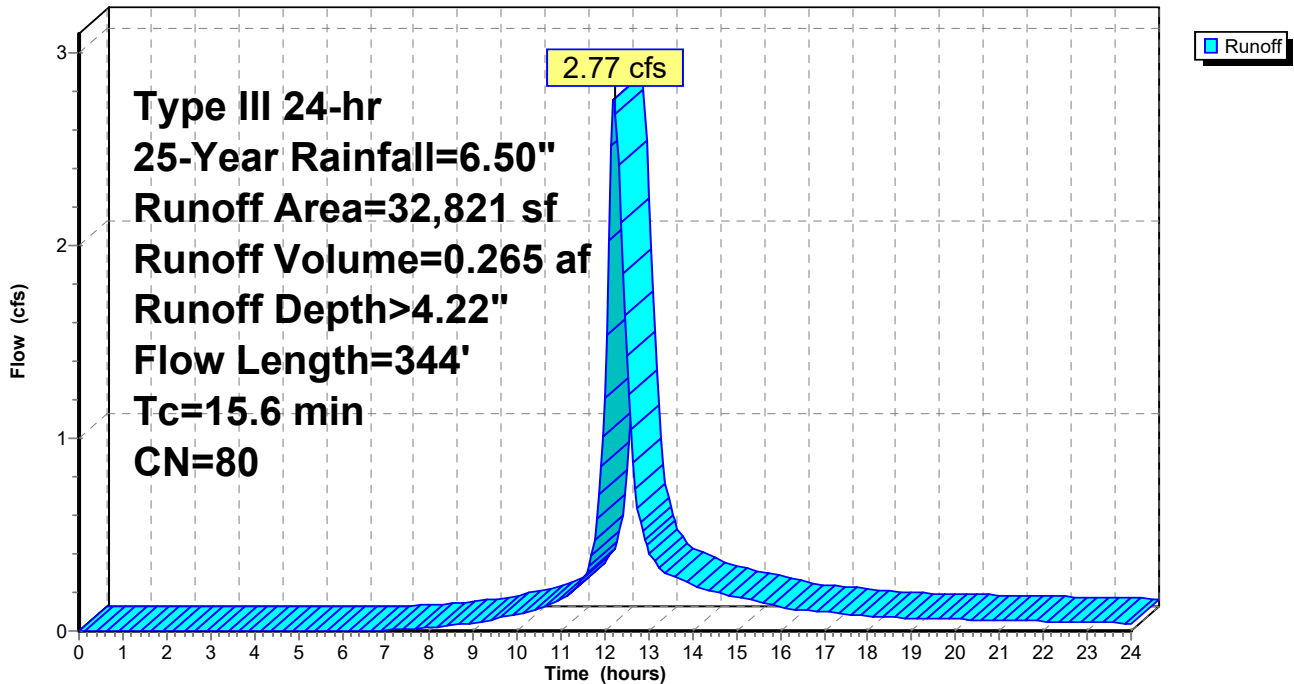
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
* 600	98	Macadam Drive
260	77	Woods, Good, HSG D
31,961	80	>75% Grass cover, Good, HSG D
32,821	80	Weighted Average
32,221		98.17% Pervious Area
600		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	100	0.0100	0.13		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
2.5	244	0.0120	1.64		Shallow Concentrated Flow, SCF (Road Swale) Grassed Waterway Kv= 15.0 fps
15.6	344	Total			

Subcatchment DA 1: Drainage Area 1

Hydrograph



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment DA 1: Drainage Area 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.99	2.88	0.32
0.25	0.02	0.00	0.00	13.50	5.09	2.97	0.29
0.50	0.03	0.00	0.00	13.75	5.19	3.06	0.26
0.75	0.05	0.00	0.00	14.00	5.27	3.13	0.24
1.00	0.07	0.00	0.00	14.25	5.35	3.20	0.22
1.25	0.08	0.00	0.00	14.50	5.42	3.26	0.20
1.50	0.10	0.00	0.00	14.75	5.49	3.32	0.19
1.75	0.11	0.00	0.00	15.00	5.55	3.38	0.18
2.00	0.13	0.00	0.00	15.25	5.61	3.43	0.16
2.25	0.15	0.00	0.00	15.50	5.67	3.48	0.15
2.50	0.16	0.00	0.00	15.75	5.71	3.52	0.14
2.75	0.18	0.00	0.00	16.00	5.76	3.56	0.13
3.00	0.20	0.00	0.00	16.25	5.80	3.60	0.12
3.25	0.22	0.00	0.00	16.50	5.84	3.64	0.11
3.50	0.24	0.00	0.00	16.75	5.88	3.67	0.10
3.75	0.26	0.00	0.00	17.00	5.91	3.70	0.10
4.00	0.28	0.00	0.00	17.25	5.94	3.73	0.09
4.25	0.30	0.00	0.00	17.50	5.98	3.76	0.09
4.50	0.32	0.00	0.00	17.75	6.00	3.79	0.08
4.75	0.35	0.00	0.00	18.00	6.03	3.81	0.08
5.00	0.37	0.00	0.00	18.25	6.06	3.83	0.07
5.25	0.39	0.00	0.00	18.50	6.08	3.86	0.07
5.50	0.42	0.00	0.00	18.75	6.11	3.88	0.07
5.75	0.44	0.00	0.00	19.00	6.13	3.90	0.07
6.00	0.47	0.00	0.00	19.25	6.15	3.92	0.06
6.25	0.50	0.00	0.00	19.50	6.18	3.94	0.06
6.50	0.52	0.00	0.00	19.75	6.20	3.96	0.06
6.75	0.56	0.00	0.00	20.00	6.22	3.98	0.06
7.00	0.59	0.00	0.00	20.25	6.24	4.00	0.06
7.25	0.62	0.01	0.01	20.50	6.26	4.02	0.06
7.50	0.66	0.01	0.01	20.75	6.28	4.04	0.06
7.75	0.70	0.01	0.01	21.00	6.30	4.05	0.05
8.00	0.74	0.02	0.02	21.25	6.32	4.07	0.05
8.25	0.79	0.03	0.02	21.50	6.34	4.09	0.05
8.50	0.83	0.04	0.03	21.75	6.36	4.11	0.05
8.75	0.89	0.05	0.04	22.00	6.37	4.12	0.05
9.00	0.95	0.07	0.04	22.25	6.39	4.14	0.05
9.25	1.01	0.09	0.05	22.50	6.41	4.15	0.05
9.50	1.08	0.11	0.06	22.75	6.43	4.17	0.05
9.75	1.15	0.13	0.07	23.00	6.44	4.18	0.04
10.00	1.23	0.16	0.08	23.25	6.46	4.20	0.04
10.25	1.31	0.20	0.10	23.50	6.47	4.21	0.04
10.50	1.41	0.24	0.12	23.75	6.49	4.22	0.04
10.75	1.51	0.29	0.14	24.00	6.50	4.24	0.04
11.00	1.63	0.35	0.16				
11.25	1.76	0.42	0.20				
11.50	1.94	0.52	0.27				
11.75	2.31	0.76	0.48				
12.00	3.25	1.44	1.21				
12.25	4.19	2.20	2.68				
12.50	4.56	2.52	1.42				
12.75	4.74	2.67	0.64				
13.00	4.87	2.78	0.42				

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Subcatchment DA 2: Drainage Area 2

Runoff = 22.88 cfs @ 12.30 hrs, Volume= 2.474 af, Depth> 3.19"

Routed to Pond P2 : Large Shallow Onsite Depression

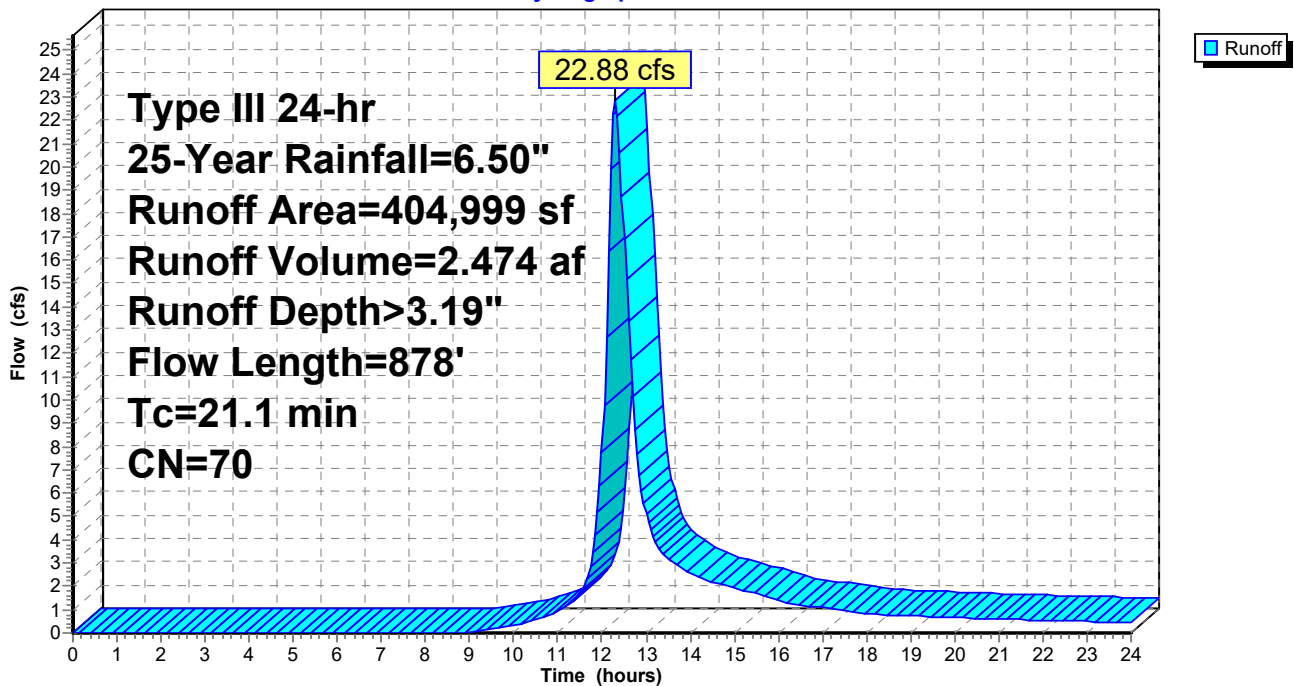
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
* 2,447	98	Misc. Macadam
82,769	77	Woods, Good, HSG D
148,017	80	>75% Grass cover, Good, HSG D
88,344	55	Woods, Good, HSG B
83,422	61	>75% Grass cover, Good, HSG B
404,999	70	Weighted Average
402,552		99.40% Pervious Area
2,447		0.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	100	0.0180	0.16		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
10.7	778	0.0300	1.21		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
21.1	878	Total			

Subcatchment DA 2: Drainage Area 2

Hydrograph



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment DA 2: Drainage Area 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.99	2.03	3.71
0.25	0.02	0.00	0.00	13.50	5.09	2.11	3.15
0.50	0.03	0.00	0.00	13.75	5.19	2.18	2.86
0.75	0.05	0.00	0.00	14.00	5.27	2.24	2.60
1.00	0.07	0.00	0.00	14.25	5.35	2.30	2.35
1.25	0.08	0.00	0.00	14.50	5.42	2.35	2.19
1.50	0.10	0.00	0.00	14.75	5.49	2.41	2.06
1.75	0.11	0.00	0.00	15.00	5.55	2.45	1.93
2.00	0.13	0.00	0.00	15.25	5.61	2.50	1.80
2.25	0.15	0.00	0.00	15.50	5.67	2.54	1.67
2.50	0.16	0.00	0.00	15.75	5.71	2.58	1.54
2.75	0.18	0.00	0.00	16.00	5.76	2.62	1.41
3.00	0.20	0.00	0.00	16.25	5.80	2.65	1.29
3.25	0.22	0.00	0.00	16.50	5.84	2.68	1.21
3.50	0.24	0.00	0.00	16.75	5.88	2.71	1.14
3.75	0.26	0.00	0.00	17.00	5.91	2.74	1.09
4.00	0.28	0.00	0.00	17.25	5.94	2.76	1.03
4.25	0.30	0.00	0.00	17.50	5.98	2.79	0.97
4.50	0.32	0.00	0.00	17.75	6.00	2.81	0.91
4.75	0.35	0.00	0.00	18.00	6.03	2.83	0.85
5.00	0.37	0.00	0.00	18.25	6.06	2.85	0.80
5.25	0.39	0.00	0.00	18.50	6.08	2.87	0.77
5.50	0.42	0.00	0.00	18.75	6.11	2.89	0.75
5.75	0.44	0.00	0.00	19.00	6.13	2.91	0.73
6.00	0.47	0.00	0.00	19.25	6.15	2.93	0.71
6.25	0.50	0.00	0.00	19.50	6.18	2.95	0.69
6.50	0.52	0.00	0.00	19.75	6.20	2.96	0.68
6.75	0.56	0.00	0.00	20.00	6.22	2.98	0.66
7.00	0.59	0.00	0.00	20.25	6.24	3.00	0.64
7.25	0.62	0.00	0.00	20.50	6.26	3.01	0.63
7.50	0.66	0.00	0.00	20.75	6.28	3.03	0.61
7.75	0.70	0.00	0.00	21.00	6.30	3.05	0.60
8.00	0.74	0.00	0.00	21.25	6.32	3.06	0.59
8.25	0.79	0.00	0.00	21.50	6.34	3.08	0.57
8.50	0.83	0.00	0.00	21.75	6.36	3.09	0.56
8.75	0.89	0.00	0.00	22.00	6.37	3.11	0.55
9.00	0.95	0.00	0.02	22.25	6.39	3.12	0.53
9.25	1.01	0.01	0.08	22.50	6.41	3.13	0.52
9.50	1.08	0.01	0.15	22.75	6.43	3.15	0.51
9.75	1.15	0.02	0.23	23.00	6.44	3.16	0.49
10.00	1.23	0.03	0.32	23.25	6.46	3.17	0.48
10.25	1.31	0.04	0.43	23.50	6.47	3.18	0.47
10.50	1.41	0.06	0.57	23.75	6.49	3.20	0.45
10.75	1.51	0.09	0.74	24.00	6.50	3.21	0.44
11.00	1.63	0.12	0.95				
11.25	1.76	0.16	1.21				
11.50	1.94	0.22	1.70				
11.75	2.31	0.37	2.86				
12.00	3.25	0.86	7.76				
12.25	4.19	1.46	22.22				
12.50	4.56	1.72	16.92				
12.75	4.74	1.84	8.75				
13.00	4.87	1.94	5.11				

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Subcatchment DA 3: Drainage Area 3

Runoff = 4.81 cfs @ 12.20 hrs, Volume= 0.457 af, Depth> 2.16"
Routed to Link N : POI North

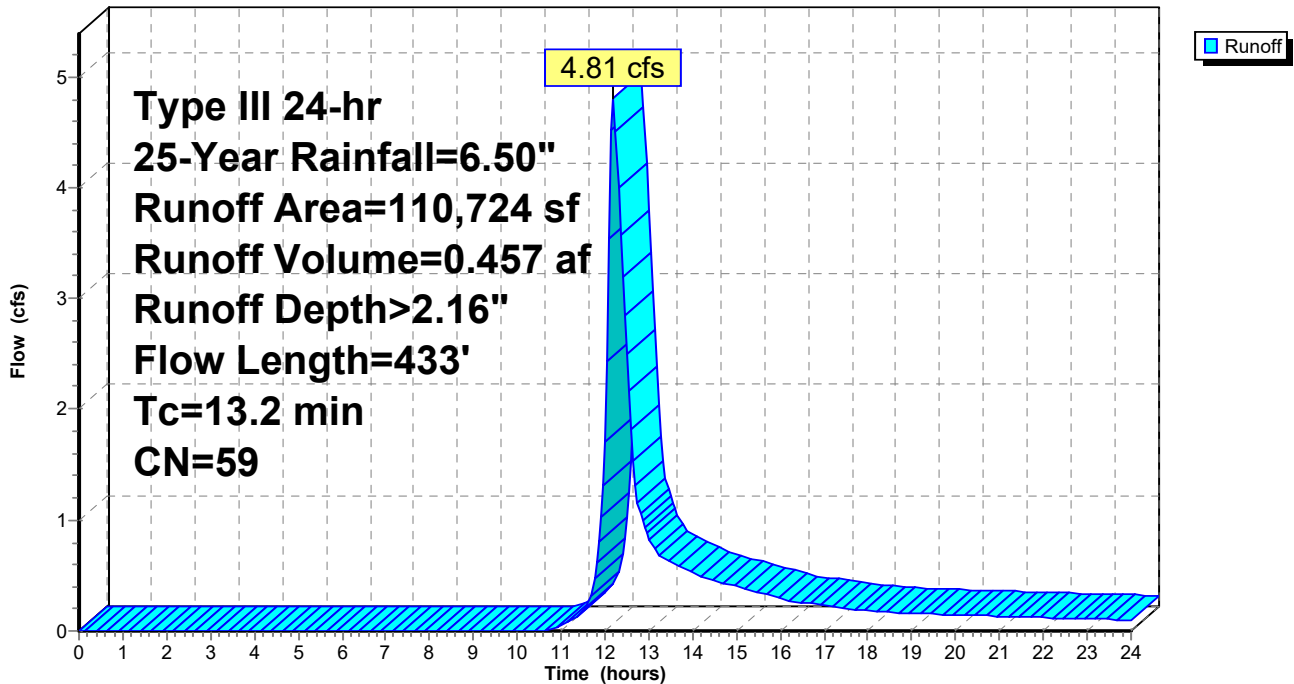
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=6.50"

	Area (sf)	CN	Description
*	2,471	98	Impervious
	55,994	61	>75% Grass cover, Good, HSG B
	52,259	55	Woods, Good, HSG B
	110,724	59	Weighted Average
	108,253		97.77% Pervious Area
	2,471		2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.0240	0.18		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
4.0	333	0.0390	1.38		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
13.2	433	Total			

Subcatchment DA 3: Drainage Area 3

Hydrograph



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment DA 3: Drainage Area 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.99	1.23	0.68
0.25	0.02	0.00	0.00	13.50	5.09	1.29	0.62
0.50	0.03	0.00	0.00	13.75	5.19	1.34	0.57
0.75	0.05	0.00	0.00	14.00	5.27	1.39	0.52
1.00	0.07	0.00	0.00	14.25	5.35	1.44	0.48
1.25	0.08	0.00	0.00	14.50	5.42	1.48	0.45
1.50	0.10	0.00	0.00	14.75	5.49	1.52	0.43
1.75	0.11	0.00	0.00	15.00	5.55	1.56	0.40
2.00	0.13	0.00	0.00	15.25	5.61	1.60	0.38
2.25	0.15	0.00	0.00	15.50	5.67	1.63	0.35
2.50	0.16	0.00	0.00	15.75	5.71	1.66	0.32
2.75	0.18	0.00	0.00	16.00	5.76	1.69	0.29
3.00	0.20	0.00	0.00	16.25	5.80	1.71	0.27
3.25	0.22	0.00	0.00	16.50	5.84	1.74	0.26
3.50	0.24	0.00	0.00	16.75	5.88	1.76	0.24
3.75	0.26	0.00	0.00	17.00	5.91	1.78	0.23
4.00	0.28	0.00	0.00	17.25	5.94	1.80	0.22
4.25	0.30	0.00	0.00	17.50	5.98	1.82	0.21
4.50	0.32	0.00	0.00	17.75	6.00	1.84	0.19
4.75	0.35	0.00	0.00	18.00	6.03	1.86	0.18
5.00	0.37	0.00	0.00	18.25	6.06	1.88	0.17
5.25	0.39	0.00	0.00	18.50	6.08	1.89	0.17
5.50	0.42	0.00	0.00	18.75	6.11	1.91	0.16
5.75	0.44	0.00	0.00	19.00	6.13	1.92	0.16
6.00	0.47	0.00	0.00	19.25	6.15	1.94	0.16
6.25	0.50	0.00	0.00	19.50	6.18	1.95	0.15
6.50	0.52	0.00	0.00	19.75	6.20	1.97	0.15
6.75	0.56	0.00	0.00	20.00	6.22	1.98	0.14
7.00	0.59	0.00	0.00	20.25	6.24	1.99	0.14
7.25	0.62	0.00	0.00	20.50	6.26	2.01	0.14
7.50	0.66	0.00	0.00	20.75	6.28	2.02	0.14
7.75	0.70	0.00	0.00	21.00	6.30	2.03	0.13
8.00	0.74	0.00	0.00	21.25	6.32	2.05	0.13
8.25	0.79	0.00	0.00	21.50	6.34	2.06	0.13
8.50	0.83	0.00	0.00	21.75	6.36	2.07	0.12
8.75	0.89	0.00	0.00	22.00	6.37	2.08	0.12
9.00	0.95	0.00	0.00	22.25	6.39	2.09	0.12
9.25	1.01	0.00	0.00	22.50	6.41	2.10	0.11
9.50	1.08	0.00	0.00	22.75	6.43	2.12	0.11
9.75	1.15	0.00	0.00	23.00	6.44	2.13	0.11
10.00	1.23	0.00	0.00	23.25	6.46	2.14	0.11
10.25	1.31	0.00	0.00	23.50	6.47	2.15	0.10
10.50	1.41	0.00	0.00	23.75	6.49	2.16	0.10
10.75	1.51	0.00	0.01	24.00	6.50	2.17	0.10
11.00	1.63	0.01	0.05				
11.25	1.76	0.02	0.09				
11.50	1.94	0.04	0.18				
11.75	2.31	0.11	0.47				
12.00	3.25	0.39	1.70				
12.25	4.19	0.80	4.50				
12.50	4.56	0.99	2.51				
12.75	4.74	1.09	1.16				
13.00	4.87	1.16	0.84				

Existing

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Subcatchment DA 4: Drainage Area 4 - Onsite Tributary to Pond

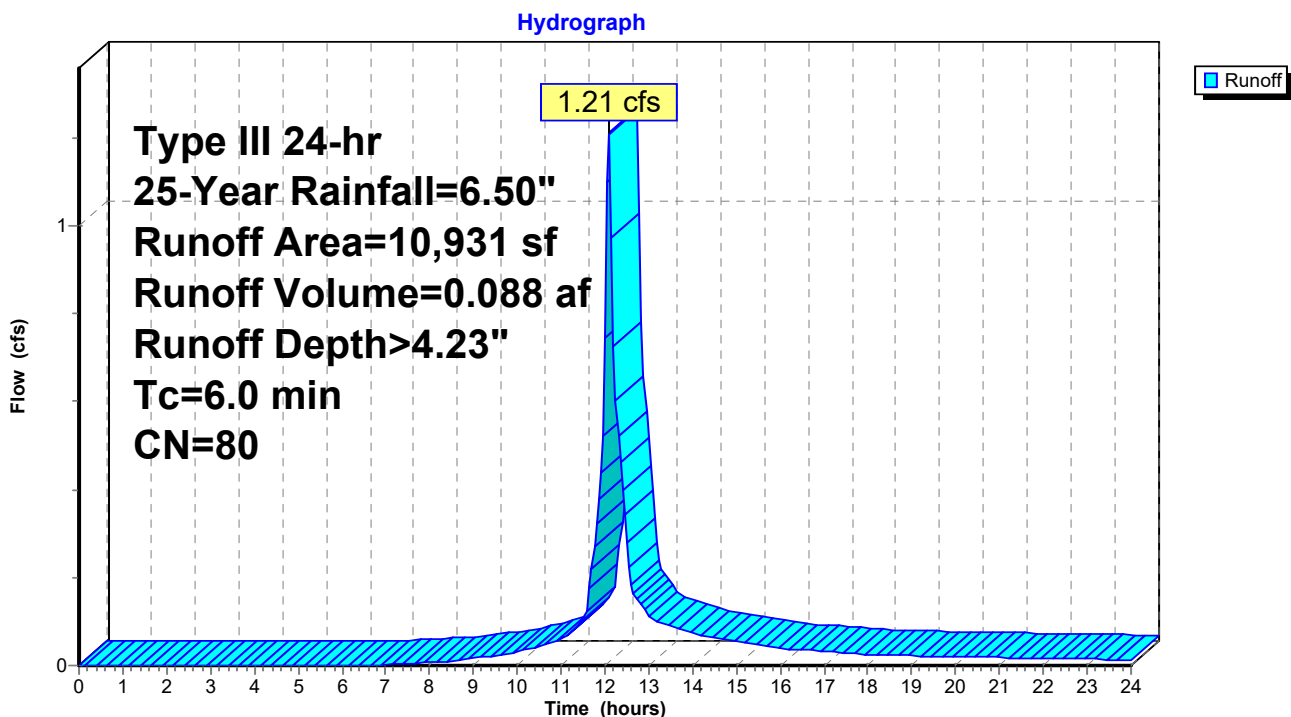
Runoff = 1.21 cfs @ 12.09 hrs, Volume= 0.088 af, Depth> 4.23"
Routed to Pond P1 : Ex Onsite Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
10,931	80	>75% Grass cover, Good, HSG D
10,931		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment DA 4: Drainage Area 4 - Onsite Tributary to Pond



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment DA 4: Drainage Area 4 - Onsite Tributary to Pond

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.99	2.88	0.10
0.25	0.02	0.00	0.00	13.50	5.09	2.97	0.09
0.50	0.03	0.00	0.00	13.75	5.19	3.06	0.08
0.75	0.05	0.00	0.00	14.00	5.27	3.13	0.07
1.00	0.07	0.00	0.00	14.25	5.35	3.20	0.07
1.25	0.08	0.00	0.00	14.50	5.42	3.26	0.06
1.50	0.10	0.00	0.00	14.75	5.49	3.32	0.06
1.75	0.11	0.00	0.00	15.00	5.55	3.38	0.06
2.00	0.13	0.00	0.00	15.25	5.61	3.43	0.05
2.25	0.15	0.00	0.00	15.50	5.67	3.48	0.05
2.50	0.16	0.00	0.00	15.75	5.71	3.52	0.04
2.75	0.18	0.00	0.00	16.00	5.76	3.56	0.04
3.00	0.20	0.00	0.00	16.25	5.80	3.60	0.04
3.25	0.22	0.00	0.00	16.50	5.84	3.64	0.04
3.50	0.24	0.00	0.00	16.75	5.88	3.67	0.03
3.75	0.26	0.00	0.00	17.00	5.91	3.70	0.03
4.00	0.28	0.00	0.00	17.25	5.94	3.73	0.03
4.25	0.30	0.00	0.00	17.50	5.98	3.76	0.03
4.50	0.32	0.00	0.00	17.75	6.00	3.79	0.03
4.75	0.35	0.00	0.00	18.00	6.03	3.81	0.02
5.00	0.37	0.00	0.00	18.25	6.06	3.83	0.02
5.25	0.39	0.00	0.00	18.50	6.08	3.86	0.02
5.50	0.42	0.00	0.00	18.75	6.11	3.88	0.02
5.75	0.44	0.00	0.00	19.00	6.13	3.90	0.02
6.00	0.47	0.00	0.00	19.25	6.15	3.92	0.02
6.25	0.50	0.00	0.00	19.50	6.18	3.94	0.02
6.50	0.52	0.00	0.00	19.75	6.20	3.96	0.02
6.75	0.56	0.00	0.00	20.00	6.22	3.98	0.02
7.00	0.59	0.00	0.00	20.25	6.24	4.00	0.02
7.25	0.62	0.01	0.00	20.50	6.26	4.02	0.02
7.50	0.66	0.01	0.00	20.75	6.28	4.04	0.02
7.75	0.70	0.01	0.01	21.00	6.30	4.05	0.02
8.00	0.74	0.02	0.01	21.25	6.32	4.07	0.02
8.25	0.79	0.03	0.01	21.50	6.34	4.09	0.02
8.50	0.83	0.04	0.01	21.75	6.36	4.11	0.02
8.75	0.89	0.05	0.01	22.00	6.37	4.12	0.02
9.00	0.95	0.07	0.02	22.25	6.39	4.14	0.02
9.25	1.01	0.09	0.02	22.50	6.41	4.15	0.02
9.50	1.08	0.11	0.02	22.75	6.43	4.17	0.02
9.75	1.15	0.13	0.03	23.00	6.44	4.18	0.01
10.00	1.23	0.16	0.03	23.25	6.46	4.20	0.01
10.25	1.31	0.20	0.04	23.50	6.47	4.21	0.01
10.50	1.41	0.24	0.04	23.75	6.49	4.22	0.01
10.75	1.51	0.29	0.05	24.00	6.50	4.24	0.01
11.00	1.63	0.35	0.06				
11.25	1.76	0.42	0.08				
11.50	1.94	0.52	0.11				
11.75	2.31	0.76	0.27				
12.00	3.25	1.44	0.74				
12.25	4.19	2.20	0.60				
12.50	4.56	2.52	0.28				
12.75	4.74	2.67	0.15				
13.00	4.87	2.78	0.12				

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Subcatchment OFF: Offsite Drainage Area

Runoff = 14.33 cfs @ 12.09 hrs, Volume= 1.053 af, Depth> 4.45"
Routed to Pond P1 : Ex Onsite Retention Pond

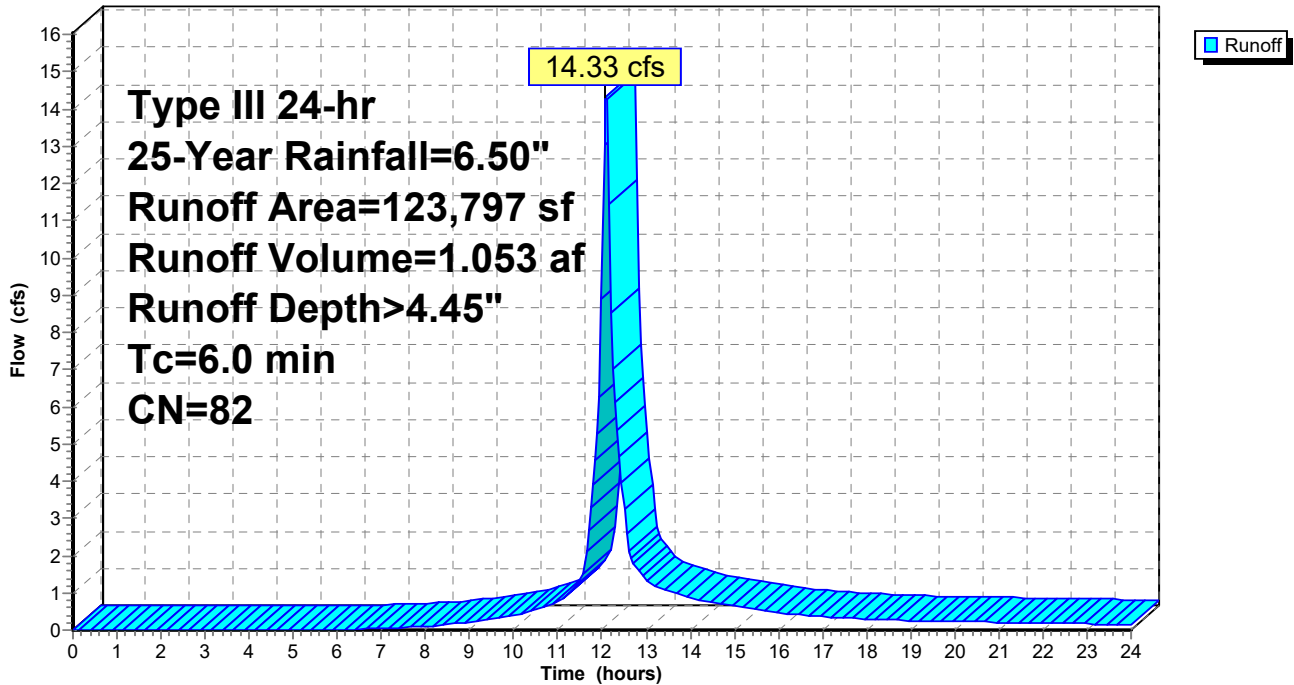
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
52,228	61	>75% Grass cover, Good, HSG B
* 71,569	98	Impervious Surfaces
123,797	82	Weighted Average
52,228		42.19% Pervious Area
71,569		57.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment OFF: Offsite Drainage Area

Hydrograph



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment OFF: Offsite Drainage Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	4.99	3.07	1.15
0.25	0.02	0.00	0.00	13.50	5.09	3.16	1.06
0.50	0.03	0.00	0.00	13.75	5.19	3.25	0.96
0.75	0.05	0.00	0.00	14.00	5.27	3.32	0.86
1.00	0.07	0.00	0.00	14.25	5.35	3.39	0.79
1.25	0.08	0.00	0.00	14.50	5.42	3.46	0.75
1.50	0.10	0.00	0.00	14.75	5.49	3.52	0.70
1.75	0.11	0.00	0.00	15.00	5.55	3.58	0.65
2.00	0.13	0.00	0.00	15.25	5.61	3.63	0.61
2.25	0.15	0.00	0.00	15.50	5.67	3.68	0.56
2.50	0.16	0.00	0.00	15.75	5.71	3.73	0.51
2.75	0.18	0.00	0.00	16.00	5.76	3.77	0.46
3.00	0.20	0.00	0.00	16.25	5.80	3.80	0.43
3.25	0.22	0.00	0.00	16.50	5.84	3.84	0.41
3.50	0.24	0.00	0.00	16.75	5.88	3.87	0.39
3.75	0.26	0.00	0.00	17.00	5.91	3.91	0.37
4.00	0.28	0.00	0.00	17.25	5.94	3.94	0.35
4.25	0.30	0.00	0.00	17.50	5.98	3.96	0.32
4.50	0.32	0.00	0.00	17.75	6.00	3.99	0.30
4.75	0.35	0.00	0.00	18.00	6.03	4.02	0.28
5.00	0.37	0.00	0.00	18.25	6.06	4.04	0.27
5.25	0.39	0.00	0.00	18.50	6.08	4.06	0.26
5.50	0.42	0.00	0.00	18.75	6.11	4.09	0.26
5.75	0.44	0.00	0.00	19.00	6.13	4.11	0.25
6.00	0.47	0.00	0.01	19.25	6.15	4.13	0.25
6.25	0.50	0.00	0.01	19.50	6.18	4.15	0.24
6.50	0.52	0.00	0.02	19.75	6.20	4.17	0.23
6.75	0.56	0.01	0.03	20.00	6.22	4.19	0.23
7.00	0.59	0.01	0.04	20.25	6.24	4.21	0.22
7.25	0.62	0.01	0.06	20.50	6.26	4.23	0.22
7.50	0.66	0.02	0.07	20.75	6.28	4.25	0.21
7.75	0.70	0.03	0.09	21.00	6.30	4.27	0.21
8.00	0.74	0.04	0.10	21.25	6.32	4.28	0.20
8.25	0.79	0.05	0.13	21.50	6.34	4.30	0.20
8.50	0.83	0.06	0.16	21.75	6.36	4.32	0.19
8.75	0.89	0.08	0.19	22.00	6.37	4.33	0.19
9.00	0.95	0.10	0.22	22.25	6.39	4.35	0.18
9.25	1.01	0.12	0.26	22.50	6.41	4.36	0.18
9.50	1.08	0.14	0.31	22.75	6.43	4.38	0.17
9.75	1.15	0.17	0.35	23.00	6.44	4.39	0.17
10.00	1.23	0.21	0.40	23.25	6.46	4.41	0.16
10.25	1.31	0.25	0.47	23.50	6.47	4.42	0.16
10.50	1.41	0.30	0.56	23.75	6.49	4.44	0.15
10.75	1.51	0.35	0.65	24.00	6.50	4.45	0.15
11.00	1.63	0.42	0.75				
11.25	1.76	0.50	0.98				
11.50	1.94	0.61	1.30				
11.75	2.31	0.86	3.28				
12.00	3.25	1.58	8.88				
12.25	4.19	2.37	7.03				
12.50	4.56	2.69	3.27				
12.75	4.74	2.85	1.72				
13.00	4.87	2.97	1.35				

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Pond P1: Ex Onsite Retention Pond

[92] Warning: Device #4 is above defined storage

[92] Warning: Device #5 is above defined storage

Inflow Area = 3.093 ac, 53.12% Impervious, Inflow Depth > 4.43" for 25-Year event
 Inflow = 15.54 cfs @ 12.09 hrs, Volume= 1.141 af
 Outflow = 8.74 cfs @ 12.22 hrs, Volume= 1.124 af, Atten= 44%, Lag= 7.9 min
 Primary = 8.74 cfs @ 12.22 hrs, Volume= 1.124 af
 Routed to Link S : POI South
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond P2 : Large Shallow Onsite Depression

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 298.06' @ 12.22 hrs Surf.Area= 5,530 sf Storage= 12,128 cf

Plug-Flow detention time= 41.3 min calculated for 1.121 af (98% of inflow)
 Center-of-Mass det. time= 32.1 min (837.8 - 805.7)

Volume	Invert	Avail.Storage	Storage Description
#1	295.30'	18,859 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
295.30	3,441	0	0
296.00	3,790	2,531	2,531
298.00	5,497	9,287	11,818
299.00	6,080	5,789	17,606
299.20	6,450	1,253	18,859

Device	Routing	Invert	Outlet Devices
#1	Primary	295.00'	24.0" Round Culvert L= 409.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 295.00' / 292.10' S= 0.0071 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	295.30'	9.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	297.40'	41.2 deg x 3.0' long x 1.33' rise Sharp-Crested Vee/Trap Weir Cv= 2.57 (C= 3.21)
#4	Device 1	299.40'	48.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	299.20'	40.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

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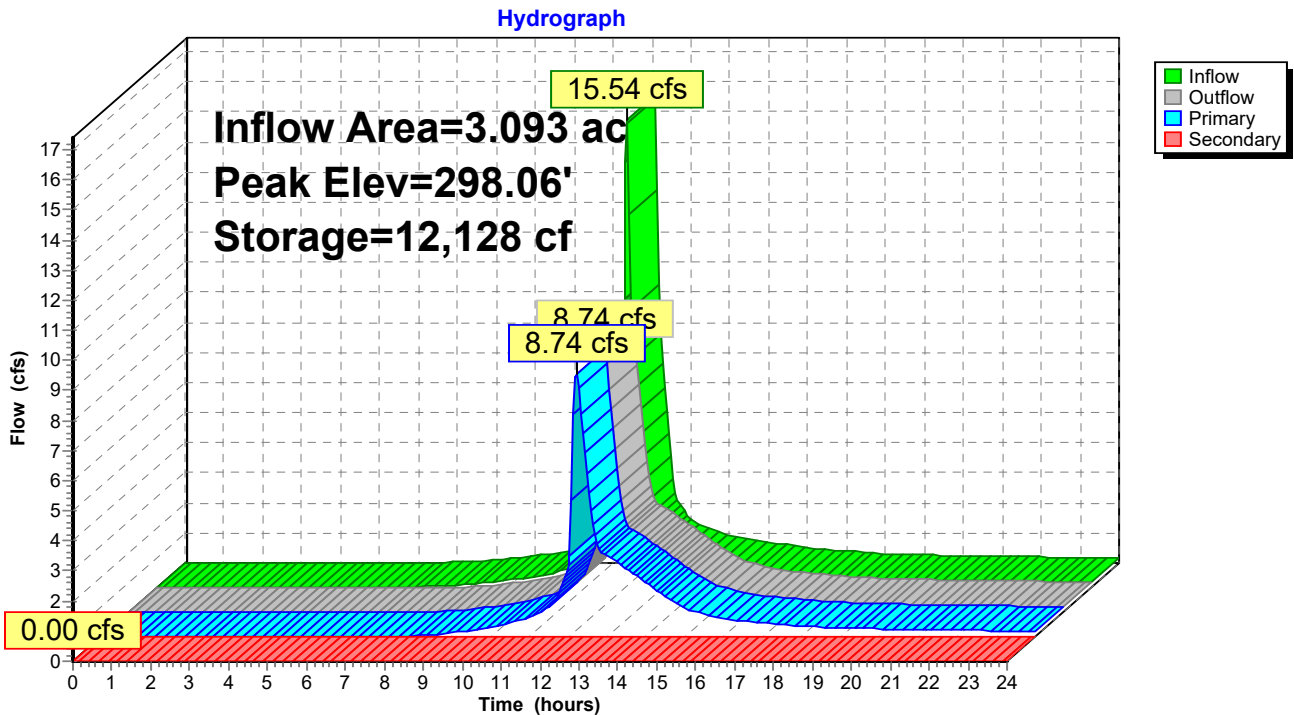
Primary OutFlow Max=8.58 cfs @ 12.22 hrs HW=298.04' (Free Discharge)

- 1=Culvert (Passes 8.58 cfs of 19.49 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 3.27 cfs @ 7.41 fps)
- 3=Sharp-Crested Vee/Trap Weir (Weir Controls 5.31 cfs @ 2.54 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=295.30' (Free Discharge)

- 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P1: Ex Onsite Retention Pond



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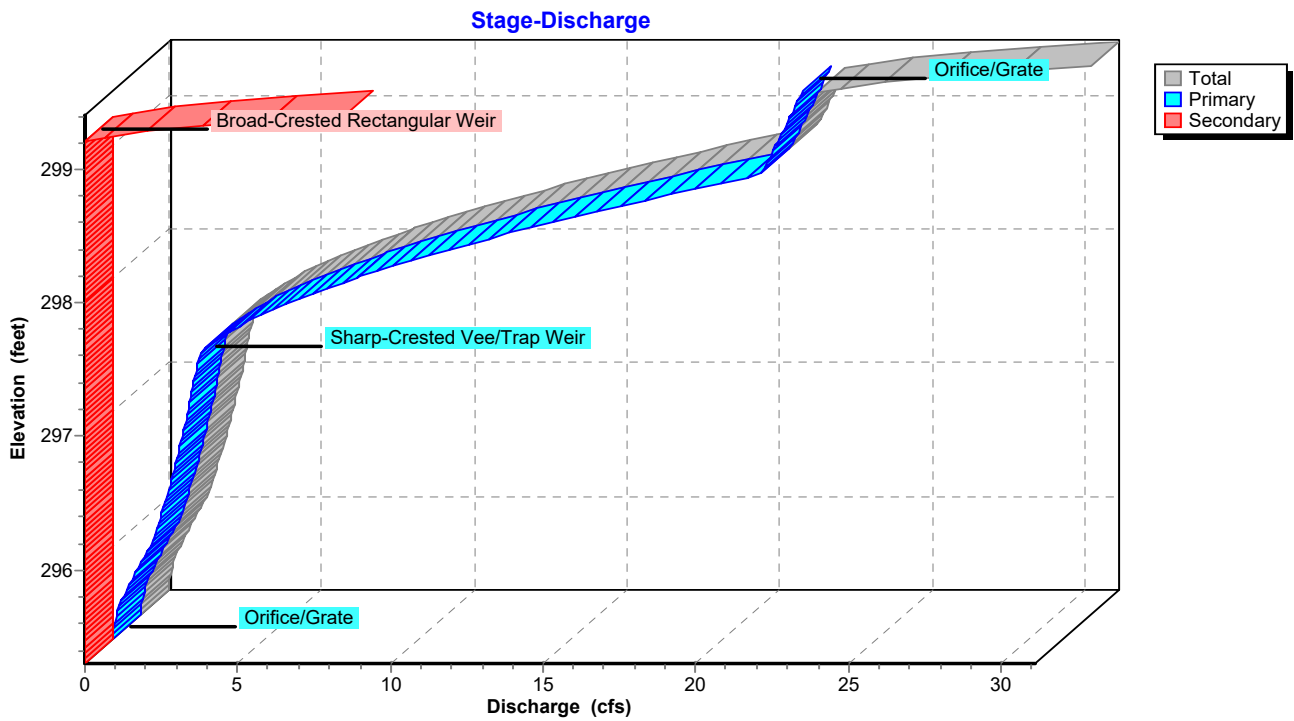
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Type III 24-hr 25-Year Rainfall=6.50"

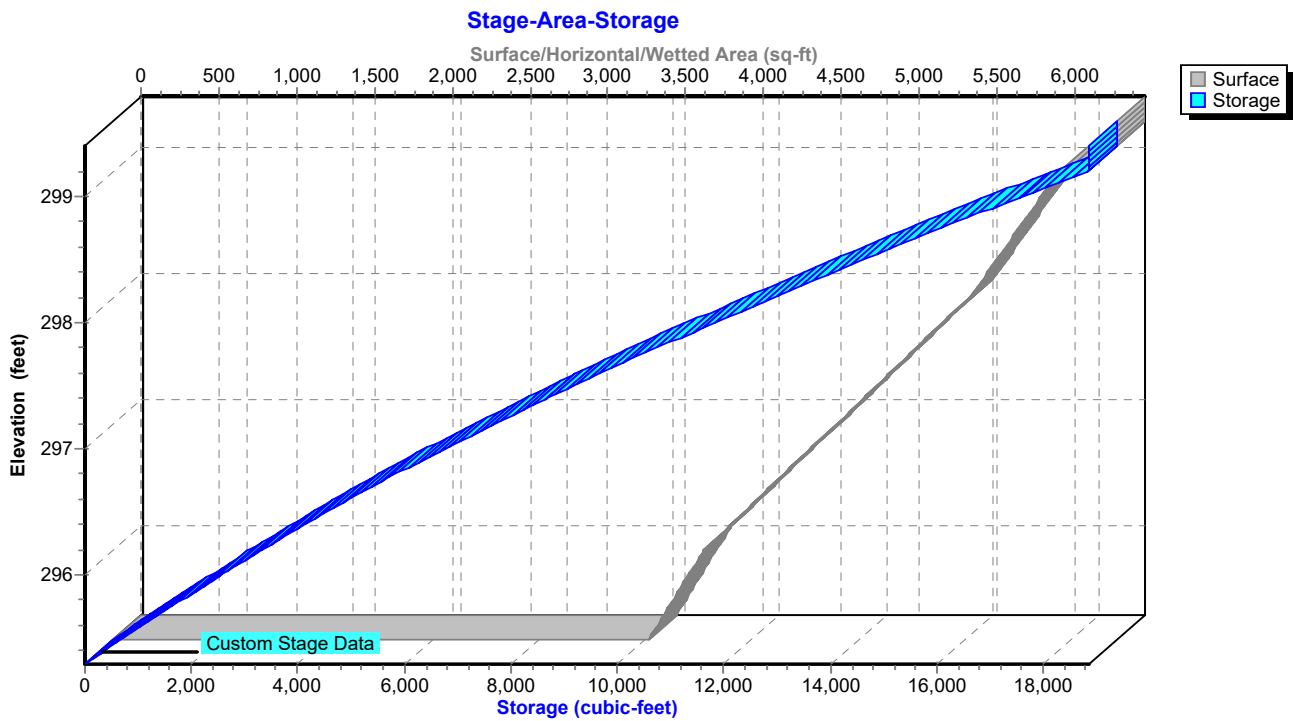
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Pond P1: Ex Onsite Retention Pond



Pond P1: Ex Onsite Retention Pond



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Pond P1: Ex Onsite Retention Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	295.30	0.00	0.00	0.00
0.50	0.00	0	295.30	0.00	0.00	0.00
1.00	0.00	0	295.30	0.00	0.00	0.00
1.50	0.00	0	295.30	0.00	0.00	0.00
2.00	0.00	0	295.30	0.00	0.00	0.00
2.50	0.00	0	295.30	0.00	0.00	0.00
3.00	0.00	0	295.30	0.00	0.00	0.00
3.50	0.00	0	295.30	0.00	0.00	0.00
4.00	0.00	0	295.30	0.00	0.00	0.00
4.50	0.00	0	295.30	0.00	0.00	0.00
5.00	0.00	0	295.30	0.00	0.00	0.00
5.50	0.00	0	295.30	0.00	0.00	0.00
6.00	0.01	2	295.30	0.00	0.00	0.00
6.50	0.02	24	295.31	0.00	0.00	0.00
7.00	0.05	80	295.32	0.00	0.00	0.00
7.50	0.08	176	295.35	0.01	0.01	0.00
8.00	0.11	307	295.39	0.03	0.03	0.00
8.50	0.17	466	295.43	0.07	0.07	0.00
9.00	0.24	656	295.49	0.13	0.13	0.00
9.50	0.33	861	295.55	0.21	0.21	0.00
10.00	0.43	1,069	295.60	0.32	0.32	0.00
10.50	0.60	1,305	295.67	0.45	0.45	0.00
11.00	0.81	1,600	295.75	0.63	0.63	0.00
11.50	1.41	2,124	295.89	0.98	0.98	0.00
12.00	9.62	6,447	296.93	2.39	2.39	0.00
12.50	3.55	10,632	297.78	5.44	5.44	0.00
13.00	1.47	8,063	297.28	2.69	2.69	0.00
13.50	1.15	5,870	296.81	2.26	2.26	0.00
14.00	0.93	4,081	296.39	1.80	1.80	0.00
14.50	0.81	2,817	296.07	1.35	1.35	0.00
15.00	0.71	2,111	295.89	0.97	0.97	0.00
15.50	0.61	1,771	295.80	0.75	0.75	0.00
16.00	0.50	1,558	295.74	0.61	0.61	0.00
16.50	0.44	1,405	295.70	0.51	0.51	0.00
17.00	0.40	1,305	295.67	0.45	0.45	0.00
17.50	0.35	1,219	295.65	0.40	0.40	0.00
18.00	0.31	1,137	295.62	0.35	0.35	0.00
18.50	0.29	1,069	295.60	0.32	0.32	0.00
19.00	0.27	1,026	295.59	0.29	0.29	0.00
19.50	0.26	994	295.58	0.28	0.28	0.00
20.00	0.25	964	295.57	0.26	0.26	0.00
20.50	0.23	936	295.57	0.25	0.25	0.00
21.00	0.22	912	295.56	0.24	0.24	0.00
21.50	0.21	889	295.55	0.23	0.23	0.00
22.00	0.20	868	295.55	0.22	0.22	0.00
22.50	0.19	845	295.54	0.21	0.21	0.00
23.00	0.18	822	295.53	0.20	0.20	0.00
23.50	0.17	798	295.53	0.19	0.19	0.00
24.00	0.16	773	295.52	0.18	0.18	0.00

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Stage-Discharge for Pond P1: Ex Onsite Retention Pond

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
295.30	0.00	0.00	0.00	297.95	7.36	7.36	0.00
295.35	0.01	0.01	0.00	298.00	7.99	7.99	0.00
295.40	0.04	0.04	0.00	298.05	8.66	8.66	0.00
295.45	0.08	0.08	0.00	298.10	9.35	9.35	0.00
295.50	0.14	0.14	0.00	298.15	10.08	10.08	0.00
295.55	0.22	0.22	0.00	298.20	10.83	10.83	0.00
295.60	0.31	0.31	0.00	298.25	11.61	11.61	0.00
295.65	0.41	0.41	0.00	298.30	12.42	12.42	0.00
295.70	0.52	0.52	0.00	298.35	13.25	13.25	0.00
295.75	0.63	0.63	0.00	298.40	14.11	14.11	0.00
295.80	0.75	0.75	0.00	298.45	15.00	15.00	0.00
295.85	0.88	0.88	0.00	298.50	15.92	15.92	0.00
295.90	1.00	1.00	0.00	298.55	16.86	16.86	0.00
295.95	1.12	1.12	0.00	298.60	17.83	17.83	0.00
296.00	1.22	1.22	0.00	298.65	18.83	18.83	0.00
296.05	1.30	1.30	0.00	298.70	19.85	19.85	0.00
296.10	1.39	1.39	0.00	298.75	20.86	20.86	0.00
296.15	1.47	1.47	0.00	298.80	21.28	21.28	0.00
296.20	1.54	1.54	0.00	298.85	21.39	21.39	0.00
296.25	1.61	1.61	0.00	298.90	21.50	21.50	0.00
296.30	1.68	1.68	0.00	298.95	21.62	21.62	0.00
296.35	1.75	1.75	0.00	299.00	21.73	21.73	0.00
296.40	1.81	1.81	0.00	299.05	21.84	21.84	0.00
296.45	1.87	1.87	0.00	299.10	21.95	21.95	0.00
296.50	1.93	1.93	0.00	299.15	22.06	22.06	0.00
296.55	1.99	1.99	0.00	299.20	22.17	22.17	0.00
296.60	2.05	2.05	0.00	299.25	23.34	22.27	1.06
296.65	2.10	2.10	0.00	299.30	25.39	22.38	3.01
296.70	2.15	2.15	0.00	299.35	28.02	22.49	5.53
296.75	2.21	2.21	0.00	299.40	31.11	22.60	8.51
296.80	2.26	2.26	0.00				
296.85	2.31	2.31	0.00				
296.90	2.35	2.35	0.00				
296.95	2.40	2.40	0.00				
297.00	2.45	2.45	0.00				
297.05	2.49	2.49	0.00				
297.10	2.54	2.54	0.00				
297.15	2.58	2.58	0.00				
297.20	2.63	2.63	0.00				
297.25	2.67	2.67	0.00				
297.30	2.71	2.71	0.00				
297.35	2.75	2.75	0.00				
297.40	2.79	2.79	0.00				
297.45	2.94	2.94	0.00				
297.50	3.18	3.18	0.00				
297.55	3.48	3.48	0.00				
297.60	3.83	3.83	0.00				
297.65	4.22	4.22	0.00				
297.70	4.66	4.66	0.00				
297.75	5.13	5.13	0.00				
297.80	5.64	5.64	0.00				
297.85	6.18	6.18	0.00				
297.90	6.75	6.75	0.00				

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Stage-Area-Storage for Pond P1: Ex Onsite Retention Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
295.30	3,441	0	297.95	5,454	11,544
295.35	3,466	173	298.00	5,497	11,818
295.40	3,491	347	298.05	5,526	12,093
295.45	3,516	522	298.10	5,555	12,370
295.50	3,541	698	298.15	5,584	12,649
295.55	3,566	876	298.20	5,614	12,929
295.60	3,591	1,055	298.25	5,643	13,210
295.65	3,616	1,235	298.30	5,672	13,493
295.70	3,640	1,416	298.35	5,701	13,778
295.75	3,665	1,599	298.40	5,730	14,063
295.80	3,690	1,783	298.45	5,759	14,351
295.85	3,715	1,968	298.50	5,789	14,639
295.90	3,740	2,154	298.55	5,818	14,929
295.95	3,765	2,342	298.60	5,847	15,221
296.00	3,790	2,531	298.65	5,876	15,514
296.05	3,833	2,721	298.70	5,905	15,809
296.10	3,875	2,914	298.75	5,934	16,105
296.15	3,918	3,109	298.80	5,963	16,402
296.20	3,961	3,306	298.85	5,993	16,701
296.25	4,003	3,505	298.90	6,022	17,001
296.30	4,046	3,706	298.95	6,051	17,303
296.35	4,089	3,910	299.00	6,080	17,606
296.40	4,131	4,115	299.05	6,173	17,913
296.45	4,174	4,323	299.10	6,265	18,224
296.50	4,217	4,533	299.15	6,358	18,539
296.55	4,259	4,744	299.20	6,450	18,859
296.60	4,302	4,958	299.25	6,450	18,859
296.65	4,345	5,175	299.30	6,450	18,859
296.70	4,387	5,393	299.35	6,450	18,859
296.75	4,430	5,613	299.40	6,450	18,859
296.80	4,473	5,836			
296.85	4,515	6,061			
296.90	4,558	6,288			
296.95	4,601	6,516			
297.00	4,644	6,748			
297.05	4,686	6,981			
297.10	4,729	7,216			
297.15	4,772	7,454			
297.20	4,814	7,693			
297.25	4,857	7,935			
297.30	4,900	8,179			
297.35	4,942	8,425			
297.40	4,985	8,673			
297.45	5,028	8,924			
297.50	5,070	9,176			
297.55	5,113	9,431			
297.60	5,156	9,687			
297.65	5,198	9,946			
297.70	5,241	10,207			
297.75	5,284	10,470			
297.80	5,326	10,736			
297.85	5,369	11,003			
297.90	5,412	11,272			

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Pond P2: Large Shallow Onsite Depression

Inflow Area = 9.297 ac, 0.60% Impervious, Inflow Depth > 3.19" for 25-Year event
 Inflow = 22.88 cfs @ 12.30 hrs, Volume= 2.474 af
 Outflow = 22.15 cfs @ 12.35 hrs, Volume= 2.322 af, Atten= 3%, Lag= 3.3 min
 Primary = 22.15 cfs @ 12.35 hrs, Volume= 2.322 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 298.21' @ 12.36 hrs Surf.Area= 29,685 sf Storage= 11,621 cf

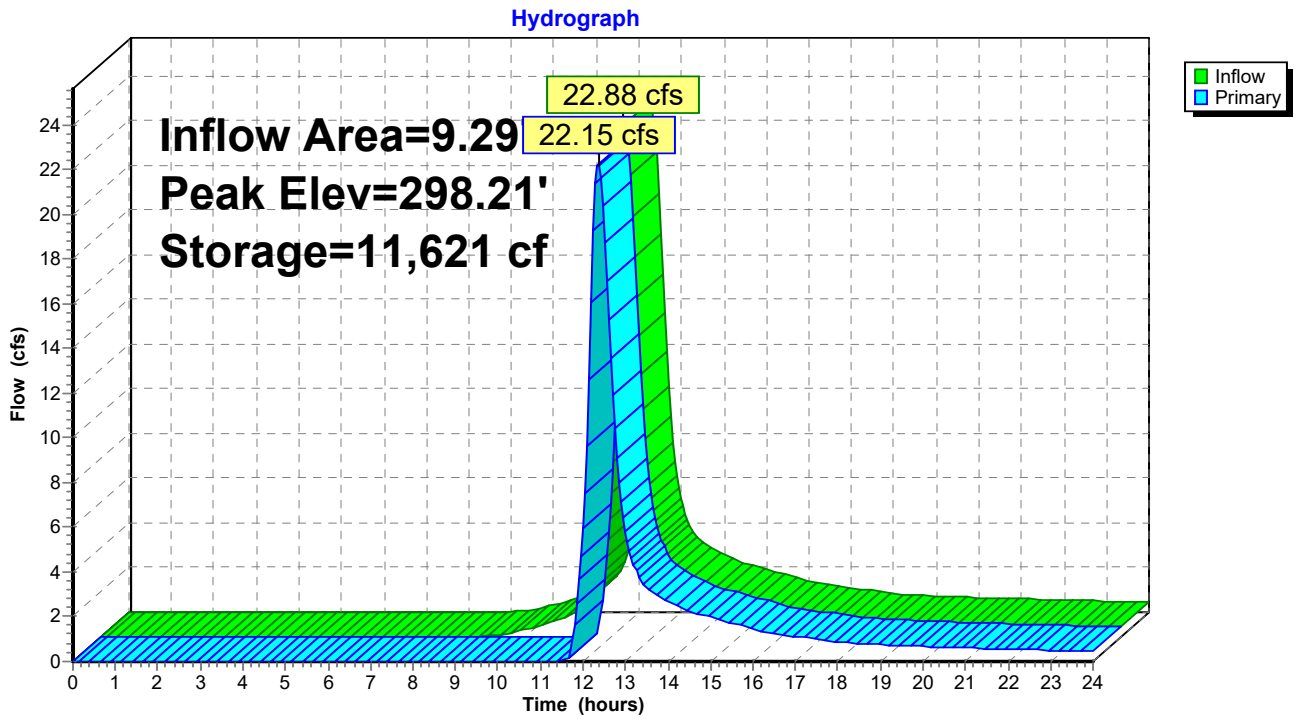
Plug-Flow detention time= 47.7 min calculated for 2.317 af (94% of inflow)
 Center-of-Mass det. time= 16.4 min (862.2 - 845.7)

Volume	Invert	Avail.Storage	Storage Description
#1	297.40'	130,870 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
297.40	0	0	0
298.00	21,165	6,350	6,350
300.00	103,355	124,520	130,870

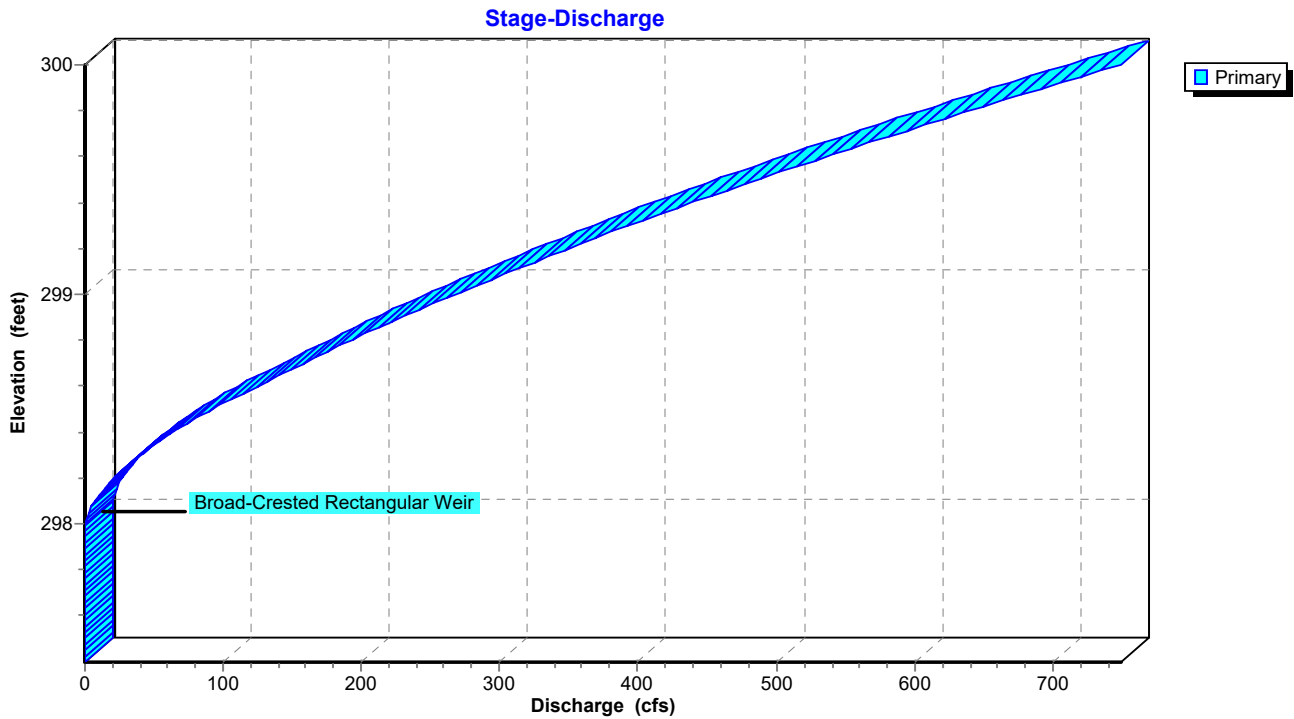
Device	Routing	Invert	Outlet Devices
#1	Primary	298.00'	100.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=22.09 cfs @ 12.35 hrs HW=298.21' (Free Discharge)
 ↑1=Broad-Crested Rectangular Weir (Weir Controls 22.09 cfs @ 1.07 fps)

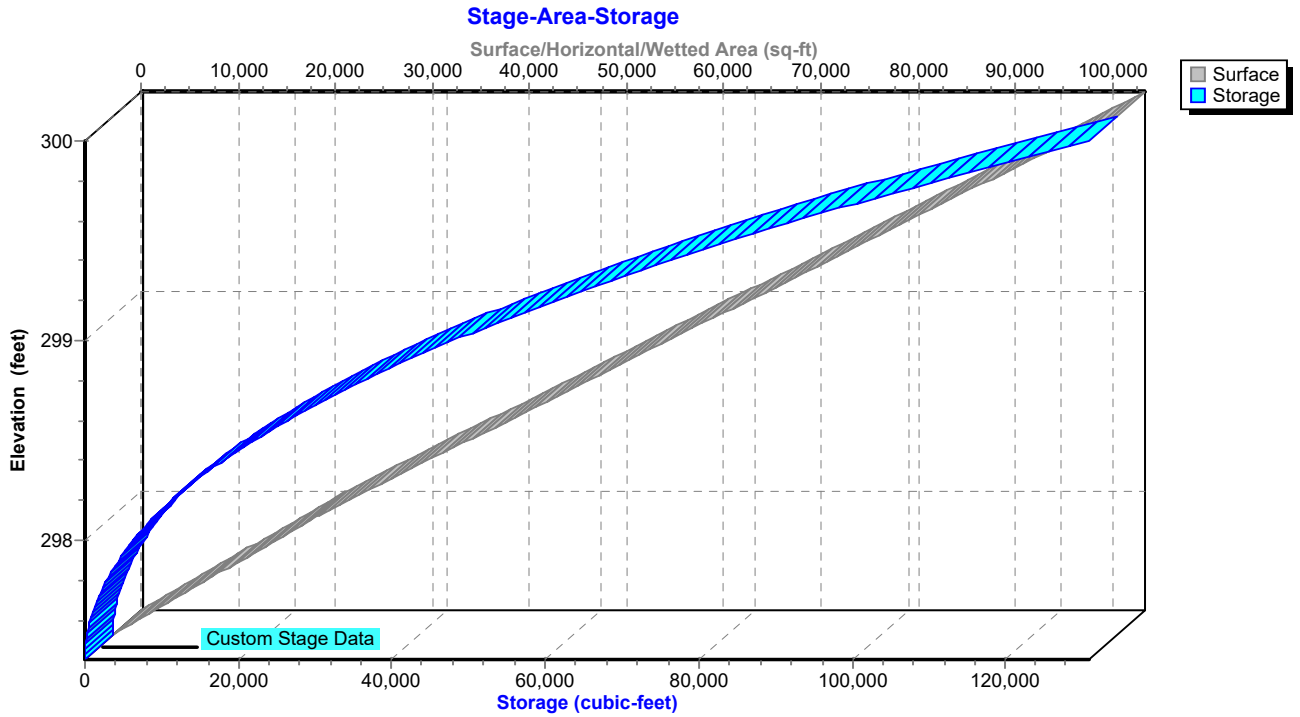
Pond P2: Large Shallow Onsite Depression



Pond P2: Large Shallow Onsite Depression



Pond P2: Large Shallow Onsite Depression



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Hydrograph for Pond P2: Large Shallow Onsite Depression

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	297.40	0.00
0.50	0.00	0	297.40	0.00
1.00	0.00	0	297.40	0.00
1.50	0.00	0	297.40	0.00
2.00	0.00	0	297.40	0.00
2.50	0.00	0	297.40	0.00
3.00	0.00	0	297.40	0.00
3.50	0.00	0	297.40	0.00
4.00	0.00	0	297.40	0.00
4.50	0.00	0	297.40	0.00
5.00	0.00	0	297.40	0.00
5.50	0.00	0	297.40	0.00
6.00	0.00	0	297.40	0.00
6.50	0.00	0	297.40	0.00
7.00	0.00	0	297.40	0.00
7.50	0.00	0	297.40	0.00
8.00	0.00	0	297.40	0.00
8.50	0.00	0	297.40	0.00
9.00	0.02	8	297.42	0.00
9.50	0.15	150	297.49	0.00
10.00	0.32	563	297.58	0.00
10.50	0.57	1,345	297.68	0.00
11.00	0.95	2,694	297.79	0.00
11.50	1.70	4,946	297.93	0.00
12.00	7.76	8,332	298.09	5.98
12.50	16.92	10,983	298.19	18.72
13.00	5.11	8,291	298.08	5.81
13.50	3.15	7,642	298.06	3.29
14.00	2.60	7,476	298.05	2.68
14.50	2.19	7,334	298.04	2.25
15.00	1.93	7,243	298.04	1.98
15.50	1.67	7,157	298.04	1.72
16.00	1.41	7,069	298.03	1.46
16.50	1.21	6,992	298.03	1.23
17.00	1.09	6,950	298.03	1.11
17.50	0.97	6,910	298.03	0.99
18.00	0.85	6,871	298.02	0.87
18.50	0.77	6,820	298.02	0.79
19.00	0.73	6,792	298.02	0.74
19.50	0.69	6,771	298.02	0.71
20.00	0.66	6,750	298.02	0.67
20.50	0.63	6,730	298.02	0.64
21.00	0.60	6,714	298.02	0.61
21.50	0.57	6,698	298.02	0.58
22.00	0.55	6,682	298.02	0.56
22.50	0.52	6,666	298.01	0.53
23.00	0.49	6,650	298.01	0.50
23.50	0.47	6,634	298.01	0.48
24.00	0.44	6,617	298.01	0.45

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Stage-Discharge for Pond P2: Large Shallow Onsite Depression

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
297.40	0.00	298.46	79.87	299.52	496.61
297.42	0.00	298.48	85.80	299.54	506.44
297.44	0.00	298.50	91.92	299.56	516.34
297.46	0.00	298.52	98.24	299.58	526.30
297.48	0.00	298.54	104.76	299.60	536.32
297.50	0.00	298.56	111.47	299.62	546.41
297.52	0.00	298.58	118.38	299.64	556.56
297.54	0.00	298.60	125.48	299.66	566.77
297.56	0.00	298.62	131.71	299.68	577.05
297.58	0.00	298.64	138.04	299.70	587.38
297.60	0.00	298.66	144.45	299.72	597.78
297.62	0.00	298.68	150.95	299.74	608.23
297.64	0.00	298.70	157.54	299.76	618.75
297.66	0.00	298.72	164.22	299.78	629.33
297.68	0.00	298.74	170.98	299.80	639.96
297.70	0.00	298.76	177.83	299.82	650.66
297.72	0.00	298.78	184.76	299.84	661.41
297.74	0.00	298.80	191.77	299.86	672.23
297.76	0.00	298.82	199.00	299.88	683.10
297.78	0.00	298.84	206.33	299.90	694.03
297.80	0.00	298.86	213.74	299.92	705.01
297.82	0.00	298.88	221.24	299.94	716.06
297.84	0.00	298.90	228.82	299.96	727.16
297.86	0.00	298.92	236.49	299.98	738.32
297.88	0.00	298.94	244.25	300.00	749.53
297.90	0.00	298.96	252.08		
297.92	0.00	298.98	260.00		
297.94	0.00	299.00	268.00		
297.96	0.00	299.02	275.87		
297.98	0.00	299.04	283.82		
298.00	0.00	299.06	291.82		
298.02	0.66	299.08	299.90		
298.04	1.87	299.10	308.04		
298.06	3.44	299.12	316.24		
298.08	5.29	299.14	324.50		
298.10	7.40	299.16	332.83		
298.12	9.73	299.18	341.22		
298.14	12.26	299.20	349.67		
298.16	14.98	299.22	358.31		
298.18	17.87	299.24	367.02		
298.20	20.93	299.26	375.79		
298.22	24.31	299.28	384.63		
298.24	27.89	299.30	393.53		
298.26	31.66	299.32	402.50		
298.28	35.62	299.34	411.52		
298.30	39.76	299.36	420.61		
298.32	44.10	299.38	429.76		
298.34	48.61	299.40	438.97		
298.36	53.31	299.42	448.41		
298.38	58.19	299.44	457.92		
298.40	63.25	299.46	467.49		
298.42	68.59	299.48	477.13		
298.44	74.13	299.50	486.84		

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Stage-Area-Storage for Pond P2: Large Shallow Onsite Depression

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
297.40	0	0
297.45	1,764	44
297.50	3,528	176
297.55	5,291	397
297.60	7,055	705
297.65	8,819	1,102
297.70	10,583	1,587
297.75	12,346	2,161
297.80	14,110	2,822
297.85	15,874	3,572
297.90	17,637	4,409
297.95	19,401	5,335
298.00	21,165	6,350
298.05	23,220	7,459
298.10	25,274	8,671
298.15	27,329	9,987
298.20	29,384	11,404
298.25	31,439	12,925
298.30	33,493	14,548
298.35	35,548	16,274
298.40	37,603	18,103
298.45	39,658	20,035
298.50	41,713	22,069
298.55	43,767	24,206
298.60	45,822	26,446
298.65	47,877	28,788
298.70	49,931	31,233
298.75	51,986	33,781
298.80	54,041	36,432
298.85	56,096	39,185
298.90	58,150	42,041
298.95	60,205	45,000
299.00	62,260	48,062
299.05	64,315	51,226
299.10	66,369	54,493
299.15	68,424	57,863
299.20	70,479	61,336
299.25	72,534	64,911
299.30	74,588	68,589
299.35	76,643	72,370
299.40	78,698	76,254
299.45	80,753	80,240
299.50	82,808	84,329
299.55	84,862	88,521
299.60	86,917	92,815
299.65	88,972	97,212
299.70	91,026	101,712
299.75	93,081	106,315
299.80	95,136	111,020
299.85	97,191	115,829
299.90	99,245	120,739
299.95	101,300	125,753
300.00	103,355	130,870

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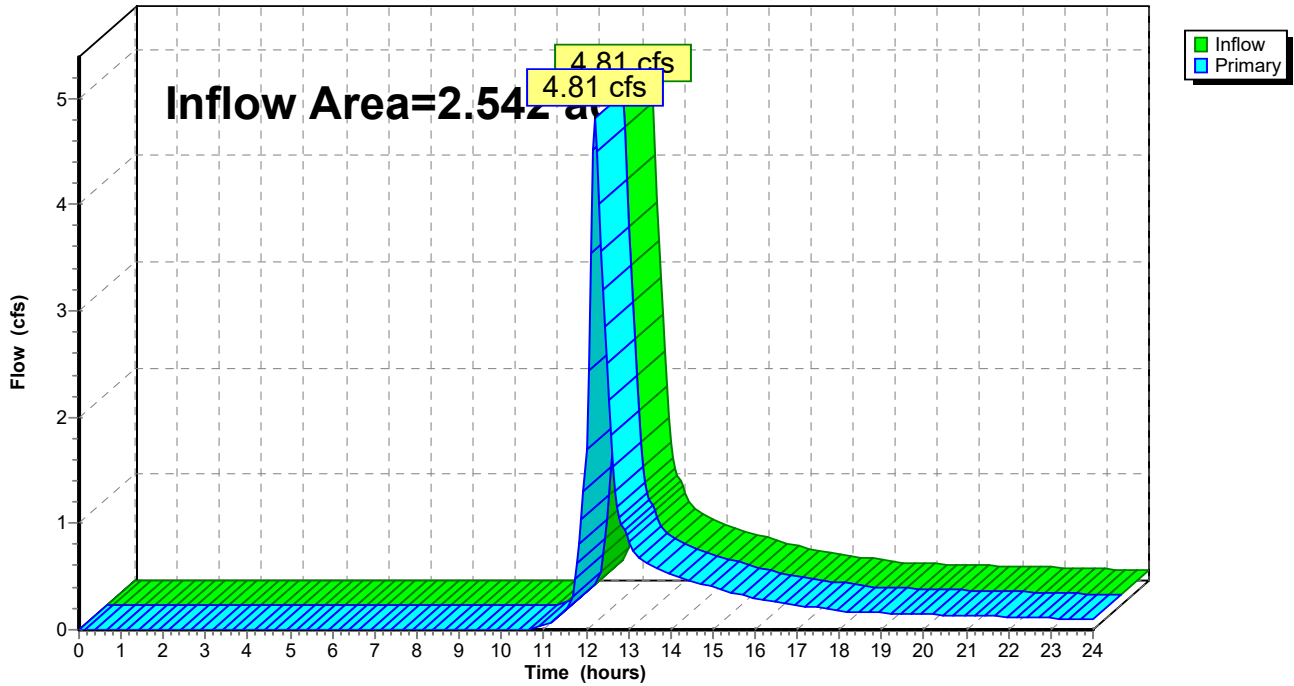
Summary for Link N: POI North

Inflow Area = 2.542 ac, 2.23% Impervious, Inflow Depth > 2.16" for 25-Year event
Inflow = 4.81 cfs @ 12.20 hrs, Volume= 0.457 af
Primary = 4.81 cfs @ 12.20 hrs, Volume= 0.457 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link N: POI North

Hydrograph



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Hydrograph for Link N: POI North

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	13.25	0.68	0.00	0.68
0.25	0.00	0.00	0.00	13.50	0.62	0.00	0.62
0.50	0.00	0.00	0.00	13.75	0.57	0.00	0.57
0.75	0.00	0.00	0.00	14.00	0.52	0.00	0.52
1.00	0.00	0.00	0.00	14.25	0.48	0.00	0.48
1.25	0.00	0.00	0.00	14.50	0.45	0.00	0.45
1.50	0.00	0.00	0.00	14.75	0.43	0.00	0.43
1.75	0.00	0.00	0.00	15.00	0.40	0.00	0.40
2.00	0.00	0.00	0.00	15.25	0.38	0.00	0.38
2.25	0.00	0.00	0.00	15.50	0.35	0.00	0.35
2.50	0.00	0.00	0.00	15.75	0.32	0.00	0.32
2.75	0.00	0.00	0.00	16.00	0.29	0.00	0.29
3.00	0.00	0.00	0.00	16.25	0.27	0.00	0.27
3.25	0.00	0.00	0.00	16.50	0.26	0.00	0.26
3.50	0.00	0.00	0.00	16.75	0.24	0.00	0.24
3.75	0.00	0.00	0.00	17.00	0.23	0.00	0.23
4.00	0.00	0.00	0.00	17.25	0.22	0.00	0.22
4.25	0.00	0.00	0.00	17.50	0.21	0.00	0.21
4.50	0.00	0.00	0.00	17.75	0.19	0.00	0.19
4.75	0.00	0.00	0.00	18.00	0.18	0.00	0.18
5.00	0.00	0.00	0.00	18.25	0.17	0.00	0.17
5.25	0.00	0.00	0.00	18.50	0.17	0.00	0.17
5.50	0.00	0.00	0.00	18.75	0.16	0.00	0.16
5.75	0.00	0.00	0.00	19.00	0.16	0.00	0.16
6.00	0.00	0.00	0.00	19.25	0.16	0.00	0.16
6.25	0.00	0.00	0.00	19.50	0.15	0.00	0.15
6.50	0.00	0.00	0.00	19.75	0.15	0.00	0.15
6.75	0.00	0.00	0.00	20.00	0.14	0.00	0.14
7.00	0.00	0.00	0.00	20.25	0.14	0.00	0.14
7.25	0.00	0.00	0.00	20.50	0.14	0.00	0.14
7.50	0.00	0.00	0.00	20.75	0.14	0.00	0.14
7.75	0.00	0.00	0.00	21.00	0.13	0.00	0.13
8.00	0.00	0.00	0.00	21.25	0.13	0.00	0.13
8.25	0.00	0.00	0.00	21.50	0.13	0.00	0.13
8.50	0.00	0.00	0.00	21.75	0.12	0.00	0.12
8.75	0.00	0.00	0.00	22.00	0.12	0.00	0.12
9.00	0.00	0.00	0.00	22.25	0.12	0.00	0.12
9.25	0.00	0.00	0.00	22.50	0.11	0.00	0.11
9.50	0.00	0.00	0.00	22.75	0.11	0.00	0.11
9.75	0.00	0.00	0.00	23.00	0.11	0.00	0.11
10.00	0.00	0.00	0.00	23.25	0.11	0.00	0.11
10.25	0.00	0.00	0.00	23.50	0.10	0.00	0.10
10.50	0.00	0.00	0.00	23.75	0.10	0.00	0.10
10.75	0.01	0.00	0.01	24.00	0.10	0.00	0.10
11.00	0.05	0.00	0.05				
11.25	0.09	0.00	0.09				
11.50	0.18	0.00	0.18				
11.75	0.47	0.00	0.47				
12.00	1.70	0.00	1.70				
12.25	4.50	0.00	4.50				
12.50	2.51	0.00	2.51				
12.75	1.16	0.00	1.16				
13.00	0.84	0.00	0.84				

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Type III 24-hr 25-Year Rainfall=6.50"

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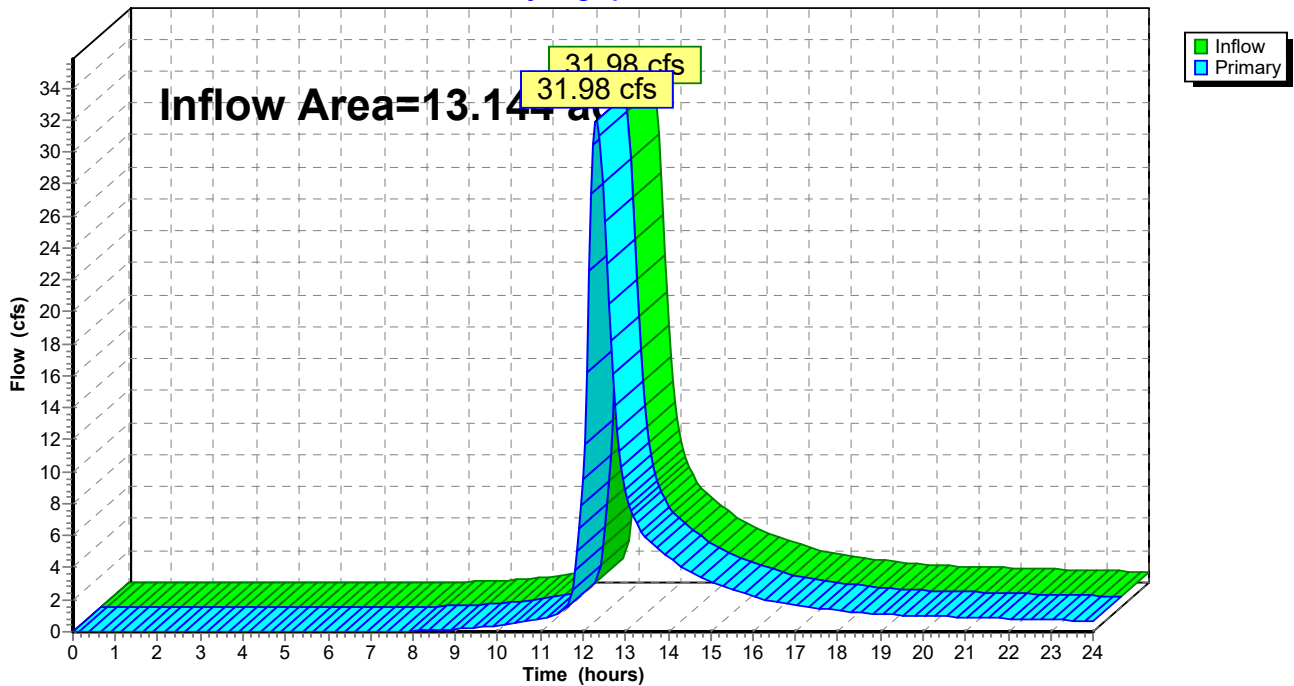
Summary for Link S: POI South

Inflow Area = 13.144 ac, 13.03% Impervious, Inflow Depth > 3.39" for 25-Year event
Inflow = 31.98 cfs @ 12.32 hrs, Volume= 3.711 af
Primary = 31.98 cfs @ 12.32 hrs, Volume= 3.711 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link S: POI South

Hydrograph



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Link S: POI South

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	13.25	6.87	0.00	6.87
0.25	0.00	0.00	0.00	13.50	5.85	0.00	5.85
0.50	0.00	0.00	0.00	13.75	5.24	0.00	5.24
0.75	0.00	0.00	0.00	14.00	4.72	0.00	4.72
1.00	0.00	0.00	0.00	14.25	4.22	0.00	4.22
1.25	0.00	0.00	0.00	14.50	3.79	0.00	3.79
1.50	0.00	0.00	0.00	14.75	3.44	0.00	3.44
1.75	0.00	0.00	0.00	15.00	3.13	0.00	3.13
2.00	0.00	0.00	0.00	15.25	2.86	0.00	2.86
2.25	0.00	0.00	0.00	15.50	2.62	0.00	2.62
2.50	0.00	0.00	0.00	15.75	2.40	0.00	2.40
2.75	0.00	0.00	0.00	16.00	2.20	0.00	2.20
3.00	0.00	0.00	0.00	16.25	2.00	0.00	2.00
3.25	0.00	0.00	0.00	16.50	1.85	0.00	1.85
3.50	0.00	0.00	0.00	16.75	1.75	0.00	1.75
3.75	0.00	0.00	0.00	17.00	1.65	0.00	1.65
4.00	0.00	0.00	0.00	17.25	1.57	0.00	1.57
4.25	0.00	0.00	0.00	17.50	1.48	0.00	1.48
4.50	0.00	0.00	0.00	17.75	1.39	0.00	1.39
4.75	0.00	0.00	0.00	18.00	1.30	0.00	1.30
5.00	0.00	0.00	0.00	18.25	1.23	0.00	1.23
5.25	0.00	0.00	0.00	18.50	1.17	0.00	1.17
5.50	0.00	0.00	0.00	18.75	1.13	0.00	1.13
5.75	0.00	0.00	0.00	19.00	1.10	0.00	1.10
6.00	0.00	0.00	0.00	19.25	1.07	0.00	1.07
6.25	0.00	0.00	0.00	19.50	1.05	0.00	1.05
6.50	0.00	0.00	0.00	19.75	1.02	0.00	1.02
6.75	0.00	0.00	0.00	20.00	0.99	0.00	0.99
7.00	0.01	0.00	0.01	20.25	0.97	0.00	0.97
7.25	0.01	0.00	0.01	20.50	0.94	0.00	0.94
7.50	0.02	0.00	0.02	20.75	0.92	0.00	0.92
7.75	0.03	0.00	0.03	21.00	0.90	0.00	0.90
8.00	0.05	0.00	0.05	21.25	0.88	0.00	0.88
8.25	0.07	0.00	0.07	21.50	0.86	0.00	0.86
8.50	0.10	0.00	0.10	21.75	0.84	0.00	0.84
8.75	0.13	0.00	0.13	22.00	0.82	0.00	0.82
9.00	0.17	0.00	0.17	22.25	0.80	0.00	0.80
9.25	0.22	0.00	0.22	22.50	0.78	0.00	0.78
9.50	0.27	0.00	0.27	22.75	0.76	0.00	0.76
9.75	0.34	0.00	0.34	23.00	0.74	0.00	0.74
10.00	0.40	0.00	0.40	23.25	0.72	0.00	0.72
10.25	0.47	0.00	0.47	23.50	0.70	0.00	0.70
10.50	0.57	0.00	0.57	23.75	0.68	0.00	0.68
10.75	0.68	0.00	0.68	24.00	0.66	0.00	0.66
11.00	0.80	0.00	0.80				
11.25	0.96	0.00	0.96				
11.50	1.25	0.00	1.25				
11.75	2.66	0.00	2.66				
12.00	9.58	0.00	9.58				
12.25	30.49	0.00	30.49				
12.50	25.58	0.00	25.58				
12.75	14.17	0.00	14.17				
13.00	8.91	0.00	8.91				

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Type III 24-hr 100-Year Rainfall=8.00"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1: Drainage Area 1 Runoff Area=32,821 sf 1.83% Impervious Runoff Depth>5.61"
Flow Length=344' Tc=15.6 min CN=80 Runoff=3.65 cfs 0.352 af

Subcatchment DA 2: Drainage Area 2 Runoff Area=404,999 sf 0.60% Impervious Runoff Depth>4.45"
Flow Length=878' Tc=21.1 min CN=70 Runoff=31.99 cfs 3.445 af

Subcatchment DA 3: Drainage Area 3 Runoff Area=110,724 sf 2.23% Impervious Runoff Depth>3.21"
Flow Length=433' Tc=13.2 min CN=59 Runoff=7.39 cfs 0.681 af

Subcatchment DA 4: Drainage Area 4 - Runoff Area=10,931 sf 0.00% Impervious Runoff Depth>5.62"
Tc=6.0 min CN=80 Runoff=1.59 cfs 0.118 af

Subcatchment OFF: Offsite Drainage Area Runoff Area=123,797 sf 57.81% Impervious Runoff Depth>5.86"
Tc=6.0 min CN=82 Runoff=18.66 cfs 1.387 af

Pond P1: Ex Onsite Retention Pond Peak Elev=298.39' Storage=13,998 cf Inflow=20.25 cfs 1.504 af
Primary=13.91 cfs 1.484 af Secondary=0.00 cfs 0.000 af Outflow=13.91 cfs 1.484 af

Pond P2: Large Shallow Onsite Peak Elev=298.26' Storage=13,152 cf Inflow=31.99 cfs 3.445 af
Outflow=31.12 cfs 3.291 af

Link N: POI North Inflow=7.39 cfs 0.681 af
Primary=7.39 cfs 0.681 af

Link S: POI South Inflow=44.80 cfs 5.128 af
Primary=44.80 cfs 5.128 af

Total Runoff Area = 15.686 ac Runoff Volume = 5.982 af Average Runoff Depth = 4.58"
88.72% Pervious = 13.916 ac 11.28% Impervious = 1.770 ac

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Type III 24-hr 100-Year Rainfall=8.00"

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Summary for Subcatchment DA 1: Drainage Area 1

Runoff = 3.65 cfs @ 12.21 hrs, Volume= 0.352 af, Depth> 5.61"
Routed to Link S : POI South

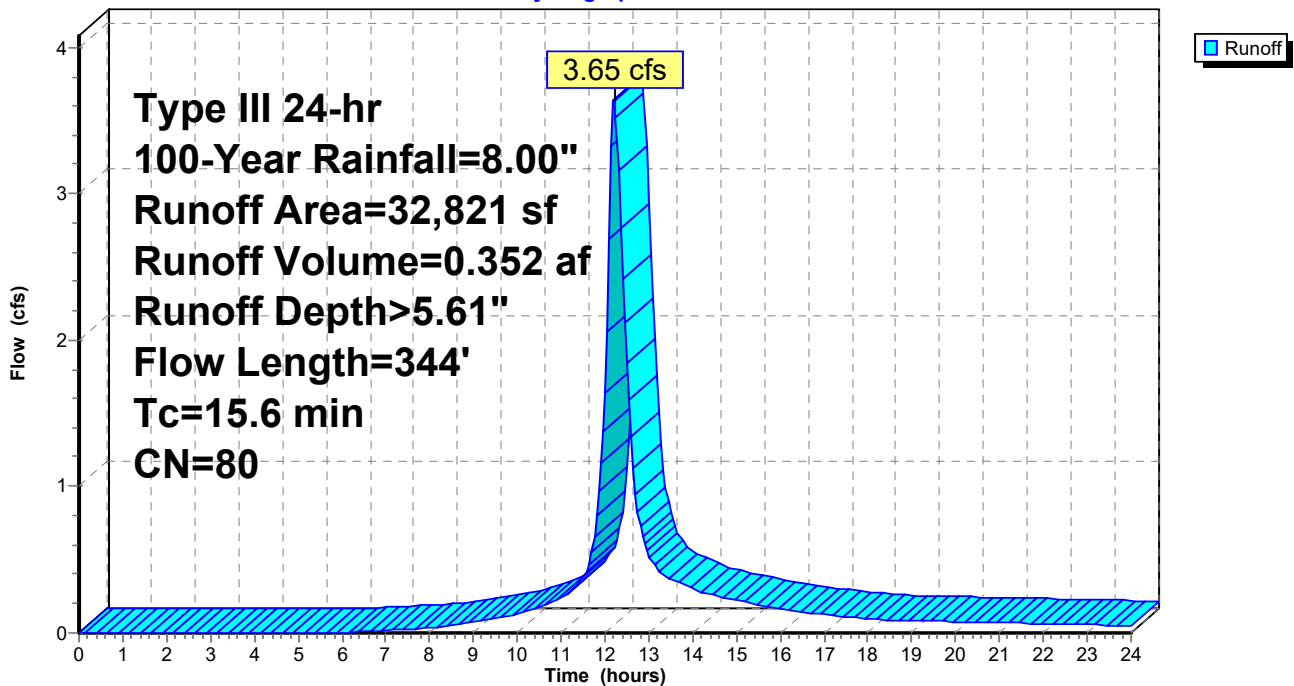
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
* 600	98	Macadam Drive
260	77	Woods, Good, HSG D
31,961	80	>75% Grass cover, Good, HSG D
32,821	80	Weighted Average
32,221		98.17% Pervious Area
600		1.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	100	0.0100	0.13		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
2.5	244	0.0120	1.64		Shallow Concentrated Flow, SCF (Road Swale) Grassed Waterway Kv= 15.0 fps
15.6	344	Total			

Subcatchment DA 1: Drainage Area 1

Hydrograph



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Hydrograph for Subcatchment DA 1: Drainage Area 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.14	3.91	0.41
0.25	0.02	0.00	0.00	13.50	6.27	4.02	0.37
0.50	0.04	0.00	0.00	13.75	6.38	4.13	0.34
0.75	0.06	0.00	0.00	14.00	6.49	4.22	0.30
1.00	0.08	0.00	0.00	14.25	6.58	4.31	0.27
1.25	0.10	0.00	0.00	14.50	6.67	4.39	0.26
1.50	0.12	0.00	0.00	14.75	6.76	4.47	0.24
1.75	0.14	0.00	0.00	15.00	6.83	4.54	0.22
2.00	0.16	0.00	0.00	15.25	6.91	4.61	0.21
2.25	0.18	0.00	0.00	15.50	6.97	4.67	0.19
2.50	0.20	0.00	0.00	15.75	7.03	4.73	0.18
2.75	0.22	0.00	0.00	16.00	7.09	4.78	0.16
3.00	0.25	0.00	0.00	16.25	7.14	4.82	0.15
3.25	0.27	0.00	0.00	16.50	7.19	4.87	0.14
3.50	0.29	0.00	0.00	16.75	7.23	4.91	0.13
3.75	0.32	0.00	0.00	17.00	7.28	4.95	0.13
4.00	0.34	0.00	0.00	17.25	7.32	4.99	0.12
4.25	0.37	0.00	0.00	17.50	7.36	5.02	0.11
4.50	0.40	0.00	0.00	17.75	7.39	5.06	0.10
4.75	0.43	0.00	0.00	18.00	7.42	5.09	0.10
5.00	0.45	0.00	0.00	18.25	7.46	5.12	0.09
5.25	0.48	0.00	0.00	18.50	7.49	5.15	0.09
5.50	0.51	0.00	0.00	18.75	7.52	5.17	0.09
5.75	0.54	0.00	0.00	19.00	7.55	5.20	0.08
6.00	0.58	0.00	0.00	19.25	7.57	5.23	0.08
6.25	0.61	0.00	0.01	19.50	7.60	5.25	0.08
6.50	0.65	0.01	0.01	19.75	7.63	5.28	0.08
6.75	0.68	0.01	0.01	20.00	7.66	5.30	0.08
7.00	0.72	0.02	0.02	20.25	7.68	5.33	0.07
7.25	0.77	0.03	0.02	20.50	7.71	5.35	0.07
7.50	0.81	0.03	0.03	20.75	7.73	5.37	0.07
7.75	0.86	0.05	0.03	21.00	7.76	5.40	0.07
8.00	0.91	0.06	0.04	21.25	7.78	5.42	0.07
8.25	0.97	0.07	0.04	21.50	7.80	5.44	0.07
8.50	1.03	0.09	0.05	21.75	7.82	5.46	0.06
8.75	1.09	0.11	0.06	22.00	7.85	5.48	0.06
9.00	1.17	0.14	0.07	22.25	7.87	5.50	0.06
9.25	1.24	0.17	0.09	22.50	7.89	5.52	0.06
9.50	1.33	0.21	0.10	22.75	7.91	5.54	0.06
9.75	1.42	0.25	0.12	23.00	7.93	5.56	0.06
10.00	1.51	0.29	0.13	23.25	7.95	5.57	0.05
10.25	1.62	0.34	0.15	23.50	7.96	5.59	0.05
10.50	1.73	0.41	0.18	23.75	7.98	5.61	0.05
10.75	1.86	0.48	0.21	24.00	8.00	5.63	0.05
11.00	2.00	0.56	0.24				
11.25	2.17	0.67	0.28				
11.50	2.38	0.81	0.38				
11.75	2.84	1.13	0.66				
12.00	4.00	2.04	1.64				
12.25	5.16	3.03	3.52				
12.50	5.62	3.44	1.84				
12.75	5.83	3.63	0.82				
13.00	6.00	3.78	0.53				

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Type III 24-hr 100-Year Rainfall=8.00"

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Summary for Subcatchment DA 2: Drainage Area 2

Runoff = 31.99 cfs @ 12.29 hrs, Volume= 3.445 af, Depth> 4.45"

Routed to Pond P2 : Large Shallow Onsite Depression

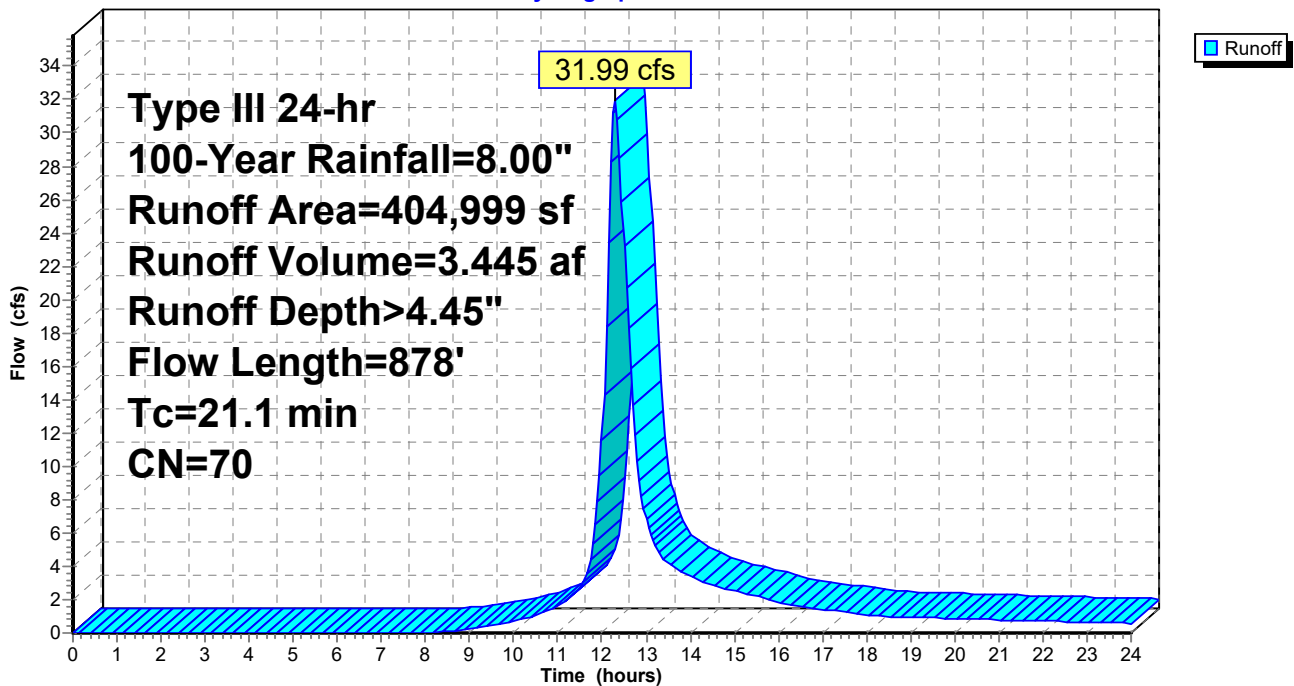
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
* 2,447	98	Misc. Macadam
82,769	77	Woods, Good, HSG D
148,017	80	>75% Grass cover, Good, HSG D
88,344	55	Woods, Good, HSG B
83,422	61	>75% Grass cover, Good, HSG B
404,999	70	Weighted Average
402,552		99.40% Pervious Area
2,447		0.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	100	0.0180	0.16		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
10.7	778	0.0300	1.21		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
21.1	878	Total			

Subcatchment DA 2: Drainage Area 2

Hydrograph



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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment DA 2: Drainage Area 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.14	2.92	4.95
0.25	0.02	0.00	0.00	13.50	6.27	3.02	4.19
0.50	0.04	0.00	0.00	13.75	6.38	3.11	3.79
0.75	0.06	0.00	0.00	14.00	6.49	3.20	3.44
1.00	0.08	0.00	0.00	14.25	6.58	3.27	3.11
1.25	0.10	0.00	0.00	14.50	6.67	3.35	2.89
1.50	0.12	0.00	0.00	14.75	6.76	3.42	2.71
1.75	0.14	0.00	0.00	15.00	6.83	3.48	2.54
2.00	0.16	0.00	0.00	15.25	6.91	3.54	2.37
2.25	0.18	0.00	0.00	15.50	6.97	3.60	2.20
2.50	0.20	0.00	0.00	15.75	7.03	3.65	2.03
2.75	0.22	0.00	0.00	16.00	7.09	3.69	1.86
3.00	0.25	0.00	0.00	16.25	7.14	3.73	1.69
3.25	0.27	0.00	0.00	16.50	7.19	3.77	1.58
3.50	0.29	0.00	0.00	16.75	7.23	3.81	1.50
3.75	0.32	0.00	0.00	17.00	7.28	3.85	1.42
4.00	0.34	0.00	0.00	17.25	7.32	3.88	1.35
4.25	0.37	0.00	0.00	17.50	7.36	3.92	1.27
4.50	0.40	0.00	0.00	17.75	7.39	3.95	1.19
4.75	0.43	0.00	0.00	18.00	7.42	3.97	1.11
5.00	0.45	0.00	0.00	18.25	7.46	4.00	1.04
5.25	0.48	0.00	0.00	18.50	7.49	4.03	1.00
5.50	0.51	0.00	0.00	18.75	7.52	4.05	0.97
5.75	0.54	0.00	0.00	19.00	7.55	4.08	0.95
6.00	0.58	0.00	0.00	19.25	7.57	4.10	0.93
6.25	0.61	0.00	0.00	19.50	7.60	4.12	0.91
6.50	0.65	0.00	0.00	19.75	7.63	4.15	0.88
6.75	0.68	0.00	0.00	20.00	7.66	4.17	0.86
7.00	0.72	0.00	0.00	20.25	7.68	4.19	0.84
7.25	0.77	0.00	0.00	20.50	7.71	4.21	0.82
7.50	0.81	0.00	0.00	20.75	7.73	4.23	0.80
7.75	0.86	0.00	0.00	21.00	7.76	4.25	0.78
8.00	0.91	0.00	0.01	21.25	7.78	4.27	0.77
8.25	0.97	0.00	0.04	21.50	7.80	4.29	0.75
8.50	1.03	0.01	0.09	21.75	7.82	4.31	0.73
8.75	1.09	0.01	0.16	22.00	7.85	4.33	0.71
9.00	1.17	0.02	0.24	22.25	7.87	4.35	0.70
9.25	1.24	0.03	0.34	22.50	7.89	4.37	0.68
9.50	1.33	0.05	0.45	22.75	7.91	4.39	0.66
9.75	1.42	0.06	0.57	23.00	7.93	4.40	0.64
10.00	1.51	0.09	0.71	23.25	7.95	4.42	0.62
10.25	1.62	0.11	0.87	23.50	7.96	4.43	0.61
10.50	1.73	0.15	1.08	23.75	7.98	4.45	0.59
10.75	1.86	0.19	1.34	24.00	8.00	4.46	0.57
11.00	2.00	0.24	1.64				
11.25	2.17	0.31	2.01				
11.50	2.38	0.40	2.74				
11.75	2.84	0.63	4.45				
12.00	4.00	1.33	11.52				
12.25	5.16	2.15	31.26				
12.50	5.62	2.50	23.19				
12.75	5.83	2.67	11.83				
13.00	6.00	2.81	6.85				

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Type III 24-hr 100-Year Rainfall=8.00"

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Summary for Subcatchment DA 3: Drainage Area 3

Runoff = 7.39 cfs @ 12.19 hrs, Volume= 0.681 af, Depth> 3.21"
Routed to Link N : POI North

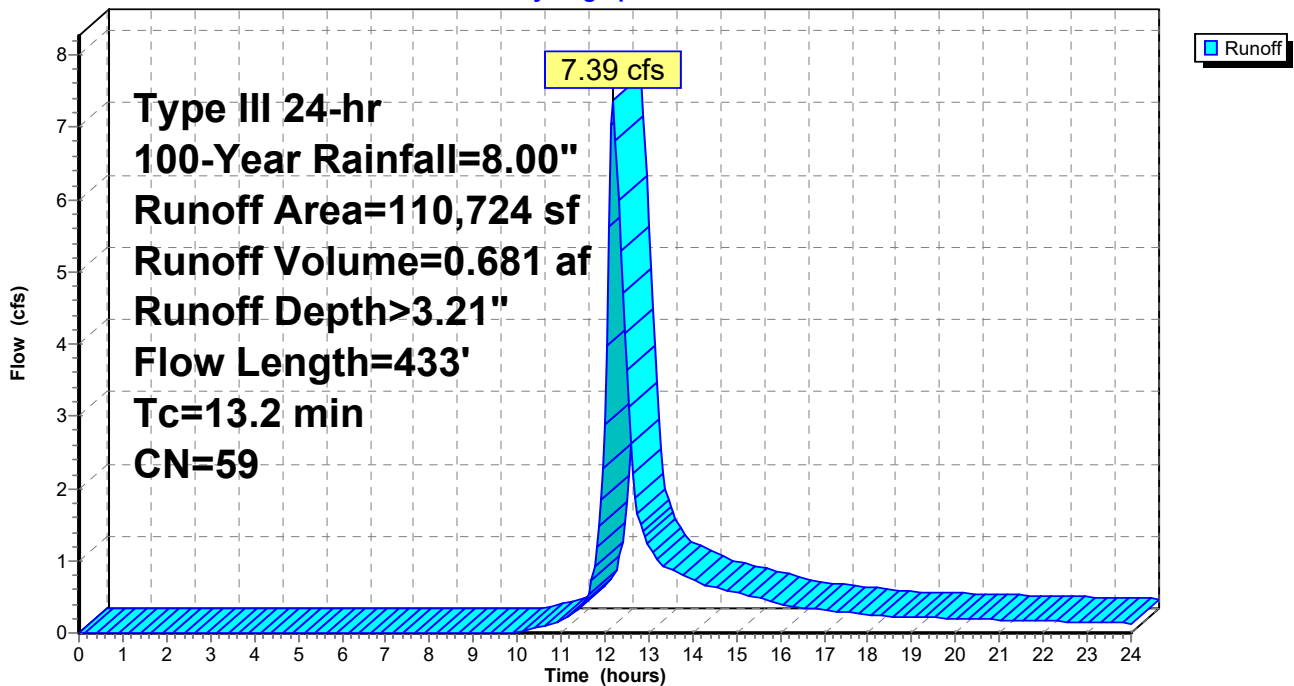
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
* 2,471	98	Impervious
55,994	61	>75% Grass cover, Good, HSG B
52,259	55	Woods, Good, HSG B
110,724	59	Weighted Average
108,253		97.77% Pervious Area
2,471		2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.0240	0.18		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
4.0	333	0.0390	1.38		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
13.2	433	Total			

Subcatchment DA 3: Drainage Area 3

Hydrograph



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Hydrograph for Subcatchment DA 3: Drainage Area 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.14	1.93	0.96
0.25	0.02	0.00	0.00	13.50	6.27	2.01	0.88
0.50	0.04	0.00	0.00	13.75	6.38	2.09	0.81
0.75	0.06	0.00	0.00	14.00	6.49	2.16	0.73
1.00	0.08	0.00	0.00	14.25	6.58	2.22	0.67
1.25	0.10	0.00	0.00	14.50	6.67	2.28	0.63
1.50	0.12	0.00	0.00	14.75	6.76	2.34	0.59
1.75	0.14	0.00	0.00	15.00	6.83	2.39	0.56
2.00	0.16	0.00	0.00	15.25	6.91	2.44	0.52
2.25	0.18	0.00	0.00	15.50	6.97	2.49	0.48
2.50	0.20	0.00	0.00	15.75	7.03	2.53	0.44
2.75	0.22	0.00	0.00	16.00	7.09	2.57	0.40
3.00	0.25	0.00	0.00	16.25	7.14	2.60	0.37
3.25	0.27	0.00	0.00	16.50	7.19	2.64	0.35
3.50	0.29	0.00	0.00	16.75	7.23	2.67	0.34
3.75	0.32	0.00	0.00	17.00	7.28	2.70	0.32
4.00	0.34	0.00	0.00	17.25	7.32	2.73	0.30
4.25	0.37	0.00	0.00	17.50	7.36	2.76	0.28
4.50	0.40	0.00	0.00	17.75	7.39	2.78	0.27
4.75	0.43	0.00	0.00	18.00	7.42	2.80	0.25
5.00	0.45	0.00	0.00	18.25	7.46	2.83	0.23
5.25	0.48	0.00	0.00	18.50	7.49	2.85	0.23
5.50	0.51	0.00	0.00	18.75	7.52	2.87	0.22
5.75	0.54	0.00	0.00	19.00	7.55	2.89	0.22
6.00	0.58	0.00	0.00	19.25	7.57	2.91	0.21
6.25	0.61	0.00	0.00	19.50	7.60	2.93	0.21
6.50	0.65	0.00	0.00	19.75	7.63	2.95	0.20
6.75	0.68	0.00	0.00	20.00	7.66	2.97	0.20
7.00	0.72	0.00	0.00	20.25	7.68	2.99	0.19
7.25	0.77	0.00	0.00	20.50	7.71	3.01	0.19
7.50	0.81	0.00	0.00	20.75	7.73	3.03	0.18
7.75	0.86	0.00	0.00	21.00	7.76	3.04	0.18
8.00	0.91	0.00	0.00	21.25	7.78	3.06	0.18
8.25	0.97	0.00	0.00	21.50	7.80	3.08	0.17
8.50	1.03	0.00	0.00	21.75	7.82	3.09	0.17
8.75	1.09	0.00	0.00	22.00	7.85	3.11	0.16
9.00	1.17	0.00	0.00	22.25	7.87	3.12	0.16
9.25	1.24	0.00	0.00	22.50	7.89	3.14	0.16
9.50	1.33	0.00	0.00	22.75	7.91	3.15	0.15
9.75	1.42	0.00	0.00	23.00	7.93	3.17	0.15
10.00	1.51	0.00	0.01	23.25	7.95	3.18	0.14
10.25	1.62	0.01	0.04	23.50	7.96	3.20	0.14
10.50	1.73	0.02	0.08	23.75	7.98	3.21	0.14
10.75	1.86	0.03	0.12	24.00	8.00	3.22	0.13
11.00	2.00	0.05	0.18				
11.25	2.17	0.08	0.26				
11.50	2.38	0.12	0.41				
11.75	2.84	0.25	0.92				
12.00	4.00	0.71	2.88				
12.25	5.16	1.32	6.82				
12.50	5.62	1.60	3.64				
12.75	5.83	1.73	1.66				
13.00	6.00	1.84	1.19				

Existing

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Type III 24-hr 100-Year Rainfall=8.00"

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Summary for Subcatchment DA 4: Drainage Area 4 - Onsite Tributary to Pond

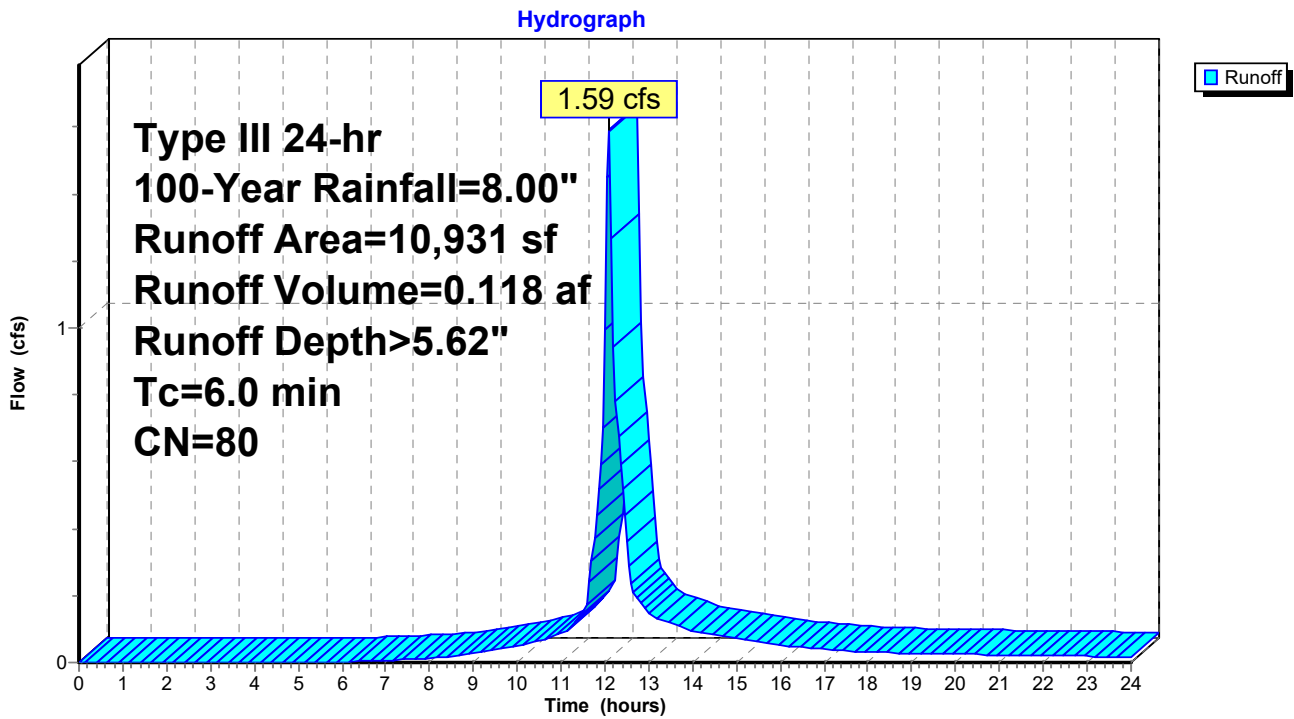
Runoff = 1.59 cfs @ 12.09 hrs, Volume= 0.118 af, Depth> 5.62"
Routed to Pond P1 : Ex Onsite Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
10,931	80	>75% Grass cover, Good, HSG D
10,931		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment DA 4: Drainage Area 4 - Onsite Tributary to Pond



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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment DA 4: Drainage Area 4 - Onsite Tributary to Pond

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.14	3.91	0.13
0.25	0.02	0.00	0.00	13.50	6.27	4.02	0.12
0.50	0.04	0.00	0.00	13.75	6.38	4.13	0.11
0.75	0.06	0.00	0.00	14.00	6.49	4.22	0.09
1.00	0.08	0.00	0.00	14.25	6.58	4.31	0.09
1.25	0.10	0.00	0.00	14.50	6.67	4.39	0.08
1.50	0.12	0.00	0.00	14.75	6.76	4.47	0.08
1.75	0.14	0.00	0.00	15.00	6.83	4.54	0.07
2.00	0.16	0.00	0.00	15.25	6.91	4.61	0.07
2.25	0.18	0.00	0.00	15.50	6.97	4.67	0.06
2.50	0.20	0.00	0.00	15.75	7.03	4.73	0.06
2.75	0.22	0.00	0.00	16.00	7.09	4.78	0.05
3.00	0.25	0.00	0.00	16.25	7.14	4.82	0.05
3.25	0.27	0.00	0.00	16.50	7.19	4.87	0.04
3.50	0.29	0.00	0.00	16.75	7.23	4.91	0.04
3.75	0.32	0.00	0.00	17.00	7.28	4.95	0.04
4.00	0.34	0.00	0.00	17.25	7.32	4.99	0.04
4.25	0.37	0.00	0.00	17.50	7.36	5.02	0.04
4.50	0.40	0.00	0.00	17.75	7.39	5.06	0.03
4.75	0.43	0.00	0.00	18.00	7.42	5.09	0.03
5.00	0.45	0.00	0.00	18.25	7.46	5.12	0.03
5.25	0.48	0.00	0.00	18.50	7.49	5.15	0.03
5.50	0.51	0.00	0.00	18.75	7.52	5.17	0.03
5.75	0.54	0.00	0.00	19.00	7.55	5.20	0.03
6.00	0.58	0.00	0.00	19.25	7.57	5.23	0.03
6.25	0.61	0.00	0.00	19.50	7.60	5.25	0.03
6.50	0.65	0.01	0.00	19.75	7.63	5.28	0.03
6.75	0.68	0.01	0.00	20.00	7.66	5.30	0.02
7.00	0.72	0.02	0.01	20.25	7.68	5.33	0.02
7.25	0.77	0.03	0.01	20.50	7.71	5.35	0.02
7.50	0.81	0.03	0.01	20.75	7.73	5.37	0.02
7.75	0.86	0.05	0.01	21.00	7.76	5.40	0.02
8.00	0.91	0.06	0.01	21.25	7.78	5.42	0.02
8.25	0.97	0.07	0.02	21.50	7.80	5.44	0.02
8.50	1.03	0.09	0.02	21.75	7.82	5.46	0.02
8.75	1.09	0.11	0.02	22.00	7.85	5.48	0.02
9.00	1.17	0.14	0.03	22.25	7.87	5.50	0.02
9.25	1.24	0.17	0.03	22.50	7.89	5.52	0.02
9.50	1.33	0.21	0.04	22.75	7.91	5.54	0.02
9.75	1.42	0.25	0.04	23.00	7.93	5.56	0.02
10.00	1.51	0.29	0.05	23.25	7.95	5.57	0.02
10.25	1.62	0.34	0.05	23.50	7.96	5.59	0.02
10.50	1.73	0.41	0.06	23.75	7.98	5.61	0.02
10.75	1.86	0.48	0.07	24.00	8.00	5.63	0.02
11.00	2.00	0.56	0.09				
11.25	2.17	0.67	0.11				
11.50	2.38	0.81	0.15				
11.75	2.84	1.13	0.37				
12.00	4.00	2.04	0.99				
12.25	5.16	3.03	0.78				
12.50	5.62	3.44	0.36				
12.75	5.83	3.63	0.19				
13.00	6.00	3.78	0.15				

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Type III 24-hr 100-Year Rainfall=8.00"

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Summary for Subcatchment OFF: Offsite Drainage Area

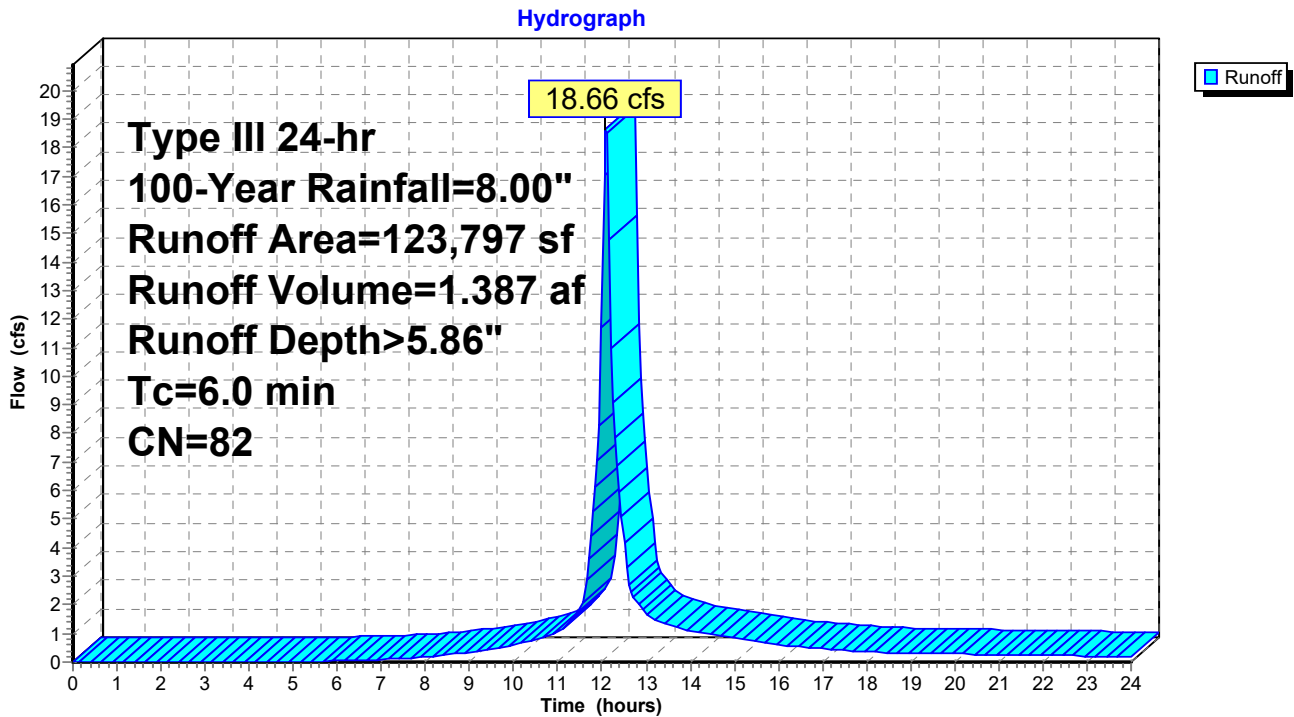
Runoff = 18.66 cfs @ 12.09 hrs, Volume= 1.387 af, Depth> 5.86"
Routed to Pond P1 : Ex Onsite Retention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
52,228	61	>75% Grass cover, Good, HSG B
* 71,569	98	Impervious Surfaces
123,797	82	Weighted Average
52,228		42.19% Pervious Area
71,569		57.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment OFF: Offsite Drainage Area



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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment OFF: Offsite Drainage Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	13.25	6.14	4.12	1.46
0.25	0.02	0.00	0.00	13.50	6.27	4.23	1.34
0.50	0.04	0.00	0.00	13.75	6.38	4.34	1.22
0.75	0.06	0.00	0.00	14.00	6.49	4.44	1.09
1.00	0.08	0.00	0.00	14.25	6.58	4.53	1.01
1.25	0.10	0.00	0.00	14.50	6.67	4.61	0.95
1.50	0.12	0.00	0.00	14.75	6.76	4.69	0.89
1.75	0.14	0.00	0.00	15.00	6.83	4.76	0.83
2.00	0.16	0.00	0.00	15.25	6.91	4.83	0.77
2.25	0.18	0.00	0.00	15.50	6.97	4.89	0.70
2.50	0.20	0.00	0.00	15.75	7.03	4.95	0.64
2.75	0.22	0.00	0.00	16.00	7.09	5.00	0.58
3.00	0.25	0.00	0.00	16.25	7.14	5.05	0.54
3.25	0.27	0.00	0.00	16.50	7.19	5.09	0.52
3.50	0.29	0.00	0.00	16.75	7.23	5.13	0.49
3.75	0.32	0.00	0.00	17.00	7.28	5.18	0.46
4.00	0.34	0.00	0.00	17.25	7.32	5.21	0.44
4.25	0.37	0.00	0.00	17.50	7.36	5.25	0.41
4.50	0.40	0.00	0.00	17.75	7.39	5.28	0.38
4.75	0.43	0.00	0.00	18.00	7.42	5.31	0.36
5.00	0.45	0.00	0.00	18.25	7.46	5.34	0.34
5.25	0.48	0.00	0.01	18.50	7.49	5.37	0.33
5.50	0.51	0.00	0.02	18.75	7.52	5.40	0.32
5.75	0.54	0.00	0.03	19.00	7.55	5.43	0.32
6.00	0.58	0.01	0.04	19.25	7.57	5.46	0.31
6.25	0.61	0.01	0.05	19.50	7.60	5.48	0.30
6.50	0.65	0.02	0.06	19.75	7.63	5.51	0.29
6.75	0.68	0.02	0.08	20.00	7.66	5.53	0.28
7.00	0.72	0.03	0.10	20.25	7.68	5.56	0.28
7.25	0.77	0.04	0.12	20.50	7.71	5.58	0.27
7.50	0.81	0.05	0.14	20.75	7.73	5.61	0.27
7.75	0.86	0.07	0.16	21.00	7.76	5.63	0.26
8.00	0.91	0.08	0.18	21.25	7.78	5.65	0.25
8.25	0.97	0.10	0.22	21.50	7.80	5.67	0.25
8.50	1.03	0.12	0.26	21.75	7.82	5.69	0.24
8.75	1.09	0.15	0.30	22.00	7.85	5.71	0.24
9.00	1.17	0.18	0.36	22.25	7.87	5.73	0.23
9.25	1.24	0.22	0.41	22.50	7.89	5.75	0.22
9.50	1.33	0.26	0.47	22.75	7.91	5.77	0.22
9.75	1.42	0.30	0.53	23.00	7.93	5.79	0.21
10.00	1.51	0.35	0.59	23.25	7.95	5.81	0.21
10.25	1.62	0.41	0.68	23.50	7.96	5.83	0.20
10.50	1.73	0.48	0.80	23.75	7.98	5.84	0.19
10.75	1.86	0.56	0.92	24.00	8.00	5.86	0.19
11.00	2.00	0.65	1.05				
11.25	2.17	0.76	1.36				
11.50	2.38	0.91	1.79				
11.75	2.84	1.26	4.43				
12.00	4.00	2.20	11.70				
12.25	5.16	3.22	9.05				
12.50	5.62	3.64	4.17				
12.75	5.83	3.83	2.20				
13.00	6.00	3.99	1.72				

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Type III 24-hr 100-Year Rainfall=8.00"

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Summary for Pond P1: Ex Onsite Retention Pond

[92] Warning: Device #4 is above defined storage

[92] Warning: Device #5 is above defined storage

Inflow Area = 3.093 ac, 53.12% Impervious, Inflow Depth > 5.84" for 100-Year event
 Inflow = 20.25 cfs @ 12.09 hrs, Volume= 1.504 af
 Outflow = 13.91 cfs @ 12.18 hrs, Volume= 1.484 af, Atten= 31%, Lag= 5.5 min
 Primary = 13.91 cfs @ 12.18 hrs, Volume= 1.484 af
 Routed to Link S : POI South
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Pond P2 : Large Shallow Onsite Depression

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 298.39' @ 12.18 hrs Surf.Area= 5,724 sf Storage= 13,998 cf

Plug-Flow detention time= 37.4 min calculated for 1.481 af (98% of inflow)
 Center-of-Mass det. time= 29.3 min (827.3 - 798.0)

Volume	Invert	Avail.Storage	Storage Description
#1	295.30'	18,859 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
295.30	3,441	0	0
296.00	3,790	2,531	2,531
298.00	5,497	9,287	11,818
299.00	6,080	5,789	17,606
299.20	6,450	1,253	18,859

Device	Routing	Invert	Outlet Devices
#1	Primary	295.00'	24.0" Round Culvert L= 409.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 295.00' / 292.10' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	295.30'	9.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	297.40'	41.2 deg x 3.0' long x 1.33' rise Sharp-Crested Vee/Trap Weir Cv= 2.57 (C= 3.21)
#4	Device 1	299.40'	48.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	299.20'	40.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

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Type III 24-hr 100-Year Rainfall=8.00"

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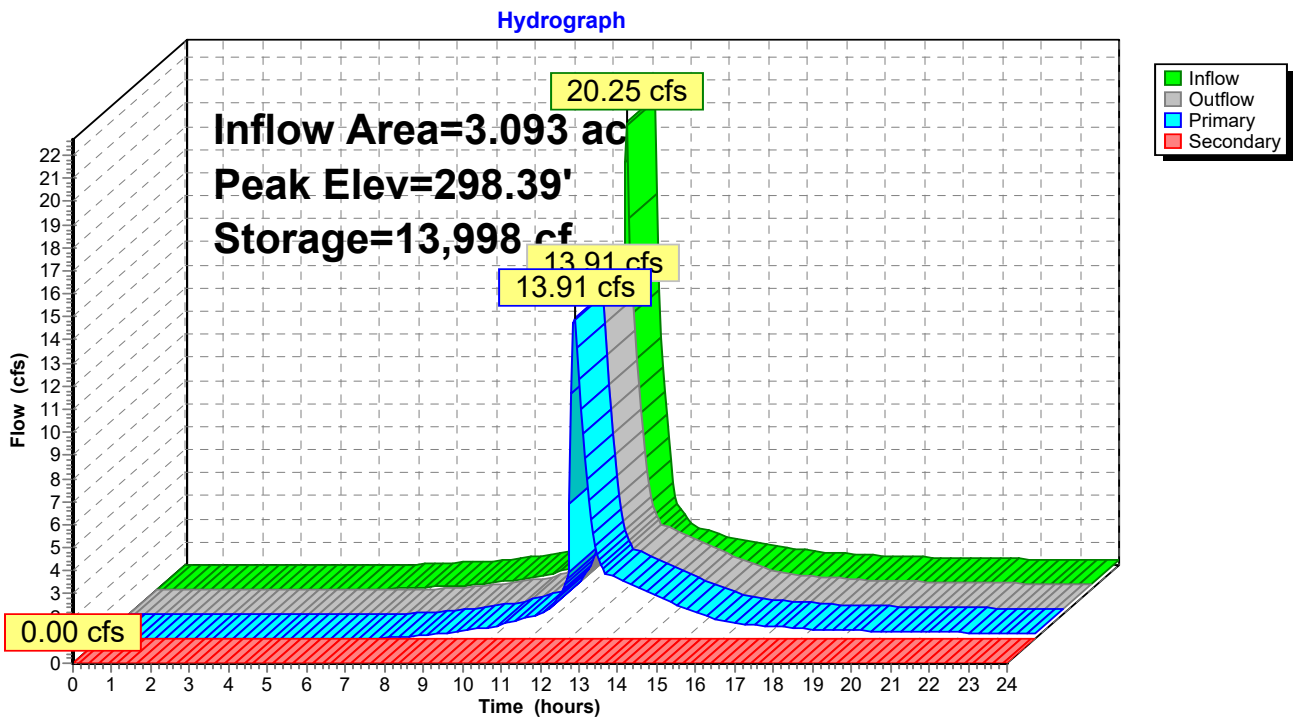
Primary OutFlow Max=13.75 cfs @ 12.18 hrs HW=298.38' (Free Discharge)

- 1=Culvert (Passes 13.75 cfs of 20.30 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 3.50 cfs @ 7.92 fps)
- 3=Sharp-Crested Vee/Trap Weir (Weir Controls 10.25 cfs @ 3.11 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=295.30' (Free Discharge)

- 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P1: Ex Onsite Retention Pond



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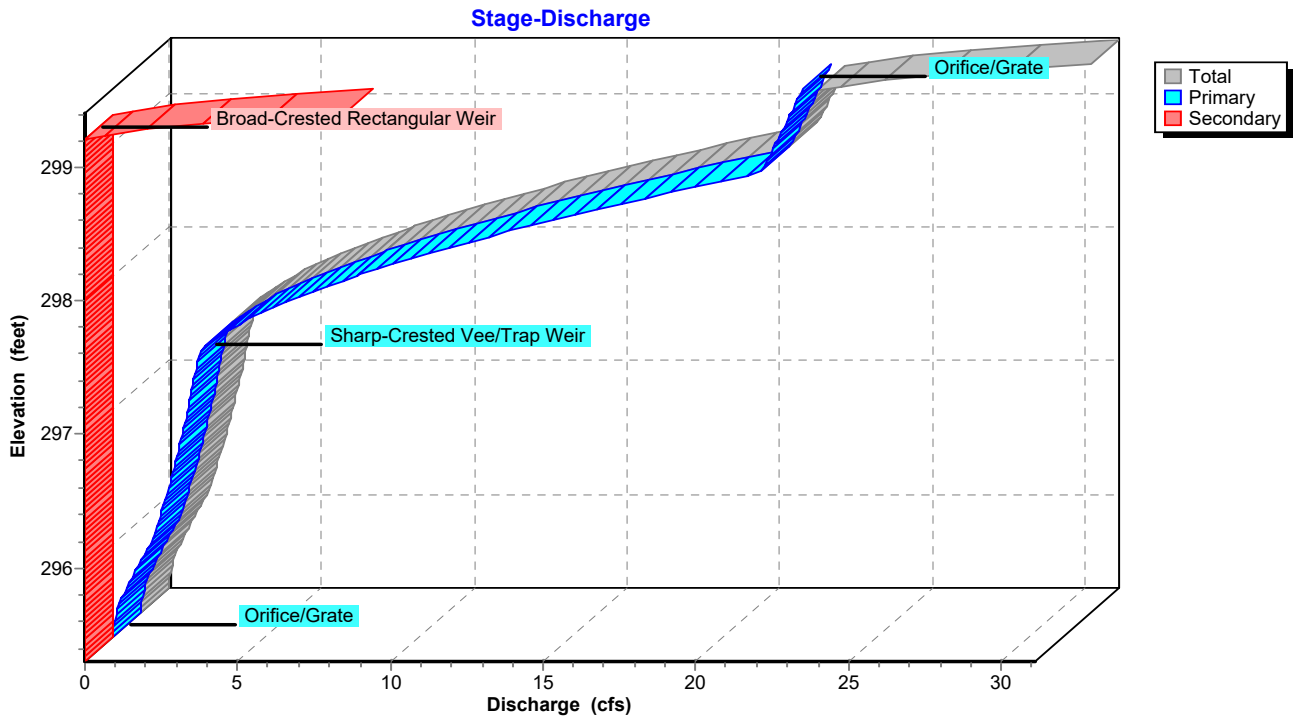
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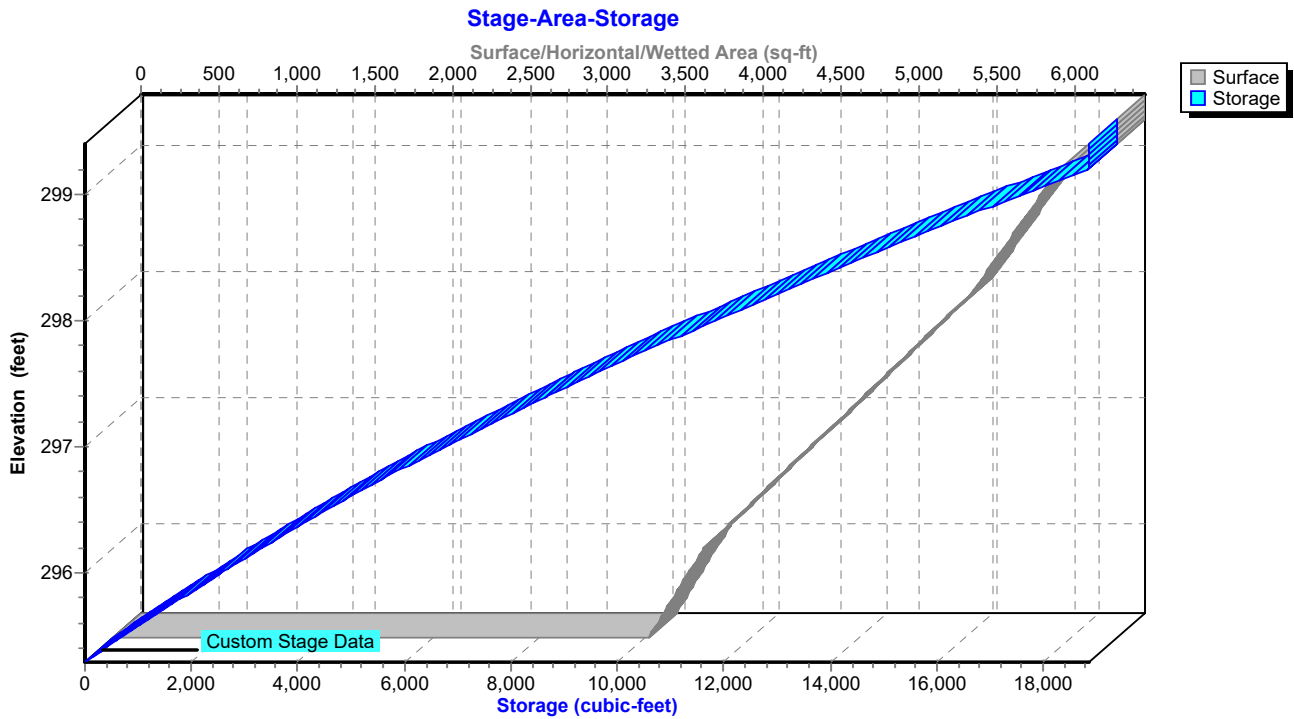
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Pond P1: Ex Onsite Retention Pond



Pond P1: Ex Onsite Retention Pond



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Hydrograph for Pond P1: Ex Onsite Retention Pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	0	295.30	0.00	0.00	0.00
0.50	0.00	0	295.30	0.00	0.00	0.00
1.00	0.00	0	295.30	0.00	0.00	0.00
1.50	0.00	0	295.30	0.00	0.00	0.00
2.00	0.00	0	295.30	0.00	0.00	0.00
2.50	0.00	0	295.30	0.00	0.00	0.00
3.00	0.00	0	295.30	0.00	0.00	0.00
3.50	0.00	0	295.30	0.00	0.00	0.00
4.00	0.00	0	295.30	0.00	0.00	0.00
4.50	0.00	0	295.30	0.00	0.00	0.00
5.00	0.00	0	295.30	0.00	0.00	0.00
5.50	0.02	18	295.31	0.00	0.00	0.00
6.00	0.04	67	295.32	0.00	0.00	0.00
6.50	0.07	153	295.34	0.01	0.01	0.00
7.00	0.10	278	295.38	0.02	0.02	0.00
7.50	0.15	429	295.42	0.06	0.06	0.00
8.00	0.20	592	295.47	0.11	0.11	0.00
8.50	0.28	766	295.52	0.17	0.17	0.00
9.00	0.38	968	295.58	0.26	0.26	0.00
9.50	0.50	1,186	295.64	0.38	0.38	0.00
10.00	0.64	1,411	295.70	0.51	0.51	0.00
10.50	0.86	1,681	295.77	0.69	0.69	0.00
11.00	1.14	2,038	295.87	0.92	0.92	0.00
11.50	1.94	2,740	296.05	1.31	1.31	0.00
12.00	12.69	8,821	297.43	2.87	2.87	0.00
12.50	4.54	11,328	297.91	6.87	6.87	0.00
13.00	1.87	8,660	297.40	2.79	2.79	0.00
13.50	1.46	6,814	297.01	2.46	2.46	0.00
14.00	1.19	5,096	296.63	2.08	2.08	0.00
14.50	1.03	3,692	296.30	1.68	1.68	0.00
15.00	0.90	2,743	296.06	1.32	1.32	0.00
15.50	0.77	2,159	295.90	1.00	1.00	0.00
16.00	0.63	1,826	295.81	0.78	0.78	0.00
16.50	0.56	1,619	295.76	0.65	0.65	0.00
17.00	0.50	1,492	295.72	0.56	0.56	0.00
17.50	0.45	1,390	295.69	0.50	0.50	0.00
18.00	0.39	1,292	295.67	0.44	0.44	0.00
18.50	0.36	1,212	295.64	0.39	0.39	0.00
19.00	0.34	1,164	295.63	0.37	0.37	0.00
19.50	0.33	1,126	295.62	0.35	0.35	0.00
20.00	0.31	1,092	295.61	0.33	0.33	0.00
20.50	0.30	1,061	295.60	0.31	0.31	0.00
21.00	0.28	1,033	295.59	0.30	0.30	0.00
21.50	0.27	1,008	295.59	0.28	0.28	0.00
22.00	0.26	982	295.58	0.27	0.27	0.00
22.50	0.24	955	295.57	0.26	0.26	0.00
23.00	0.23	928	295.56	0.25	0.25	0.00
23.50	0.22	901	295.56	0.23	0.23	0.00
24.00	0.20	874	295.55	0.22	0.22	0.00

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Stage-Discharge for Pond P1: Ex Onsite Retention Pond

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
295.30	0.00	0.00	0.00	297.95	7.36	7.36	0.00
295.35	0.01	0.01	0.00	298.00	7.99	7.99	0.00
295.40	0.04	0.04	0.00	298.05	8.66	8.66	0.00
295.45	0.08	0.08	0.00	298.10	9.35	9.35	0.00
295.50	0.14	0.14	0.00	298.15	10.08	10.08	0.00
295.55	0.22	0.22	0.00	298.20	10.83	10.83	0.00
295.60	0.31	0.31	0.00	298.25	11.61	11.61	0.00
295.65	0.41	0.41	0.00	298.30	12.42	12.42	0.00
295.70	0.52	0.52	0.00	298.35	13.25	13.25	0.00
295.75	0.63	0.63	0.00	298.40	14.11	14.11	0.00
295.80	0.75	0.75	0.00	298.45	15.00	15.00	0.00
295.85	0.88	0.88	0.00	298.50	15.92	15.92	0.00
295.90	1.00	1.00	0.00	298.55	16.86	16.86	0.00
295.95	1.12	1.12	0.00	298.60	17.83	17.83	0.00
296.00	1.22	1.22	0.00	298.65	18.83	18.83	0.00
296.05	1.30	1.30	0.00	298.70	19.85	19.85	0.00
296.10	1.39	1.39	0.00	298.75	20.86	20.86	0.00
296.15	1.47	1.47	0.00	298.80	21.28	21.28	0.00
296.20	1.54	1.54	0.00	298.85	21.39	21.39	0.00
296.25	1.61	1.61	0.00	298.90	21.50	21.50	0.00
296.30	1.68	1.68	0.00	298.95	21.62	21.62	0.00
296.35	1.75	1.75	0.00	299.00	21.73	21.73	0.00
296.40	1.81	1.81	0.00	299.05	21.84	21.84	0.00
296.45	1.87	1.87	0.00	299.10	21.95	21.95	0.00
296.50	1.93	1.93	0.00	299.15	22.06	22.06	0.00
296.55	1.99	1.99	0.00	299.20	22.17	22.17	0.00
296.60	2.05	2.05	0.00	299.25	23.34	22.27	1.06
296.65	2.10	2.10	0.00	299.30	25.39	22.38	3.01
296.70	2.15	2.15	0.00	299.35	28.02	22.49	5.53
296.75	2.21	2.21	0.00	299.40	31.11	22.60	8.51
296.80	2.26	2.26	0.00				
296.85	2.31	2.31	0.00				
296.90	2.35	2.35	0.00				
296.95	2.40	2.40	0.00				
297.00	2.45	2.45	0.00				
297.05	2.49	2.49	0.00				
297.10	2.54	2.54	0.00				
297.15	2.58	2.58	0.00				
297.20	2.63	2.63	0.00				
297.25	2.67	2.67	0.00				
297.30	2.71	2.71	0.00				
297.35	2.75	2.75	0.00				
297.40	2.79	2.79	0.00				
297.45	2.94	2.94	0.00				
297.50	3.18	3.18	0.00				
297.55	3.48	3.48	0.00				
297.60	3.83	3.83	0.00				
297.65	4.22	4.22	0.00				
297.70	4.66	4.66	0.00				
297.75	5.13	5.13	0.00				
297.80	5.64	5.64	0.00				
297.85	6.18	6.18	0.00				
297.90	6.75	6.75	0.00				

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Stage-Area-Storage for Pond P1: Ex Onsite Retention Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
295.30	3,441	0	297.95	5,454	11,544
295.35	3,466	173	298.00	5,497	11,818
295.40	3,491	347	298.05	5,526	12,093
295.45	3,516	522	298.10	5,555	12,370
295.50	3,541	698	298.15	5,584	12,649
295.55	3,566	876	298.20	5,614	12,929
295.60	3,591	1,055	298.25	5,643	13,210
295.65	3,616	1,235	298.30	5,672	13,493
295.70	3,640	1,416	298.35	5,701	13,778
295.75	3,665	1,599	298.40	5,730	14,063
295.80	3,690	1,783	298.45	5,759	14,351
295.85	3,715	1,968	298.50	5,789	14,639
295.90	3,740	2,154	298.55	5,818	14,929
295.95	3,765	2,342	298.60	5,847	15,221
296.00	3,790	2,531	298.65	5,876	15,514
296.05	3,833	2,721	298.70	5,905	15,809
296.10	3,875	2,914	298.75	5,934	16,105
296.15	3,918	3,109	298.80	5,963	16,402
296.20	3,961	3,306	298.85	5,993	16,701
296.25	4,003	3,505	298.90	6,022	17,001
296.30	4,046	3,706	298.95	6,051	17,303
296.35	4,089	3,910	299.00	6,080	17,606
296.40	4,131	4,115	299.05	6,173	17,913
296.45	4,174	4,323	299.10	6,265	18,224
296.50	4,217	4,533	299.15	6,358	18,539
296.55	4,259	4,744	299.20	6,450	18,859
296.60	4,302	4,958	299.25	6,450	18,859
296.65	4,345	5,175	299.30	6,450	18,859
296.70	4,387	5,393	299.35	6,450	18,859
296.75	4,430	5,613	299.40	6,450	18,859
296.80	4,473	5,836			
296.85	4,515	6,061			
296.90	4,558	6,288			
296.95	4,601	6,516			
297.00	4,644	6,748			
297.05	4,686	6,981			
297.10	4,729	7,216			
297.15	4,772	7,454			
297.20	4,814	7,693			
297.25	4,857	7,935			
297.30	4,900	8,179			
297.35	4,942	8,425			
297.40	4,985	8,673			
297.45	5,028	8,924			
297.50	5,070	9,176			
297.55	5,113	9,431			
297.60	5,156	9,687			
297.65	5,198	9,946			
297.70	5,241	10,207			
297.75	5,284	10,470			
297.80	5,326	10,736			
297.85	5,369	11,003			
297.90	5,412	11,272			

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Summary for Pond P2: Large Shallow Onsite Depression

Inflow Area = 9.297 ac, 0.60% Impervious, Inflow Depth > 4.45" for 100-Year event
 Inflow = 31.99 cfs @ 12.29 hrs, Volume= 3.445 af
 Outflow = 31.12 cfs @ 12.34 hrs, Volume= 3.291 af, Atten= 3%, Lag= 3.0 min
 Primary = 31.12 cfs @ 12.34 hrs, Volume= 3.291 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 298.26' @ 12.34 hrs Surf.Area= 31,734 sf Storage= 13,152 cf

Plug-Flow detention time= 37.9 min calculated for 3.284 af (95% of inflow)
 Center-of-Mass det. time= 14.2 min (850.5 - 836.3)

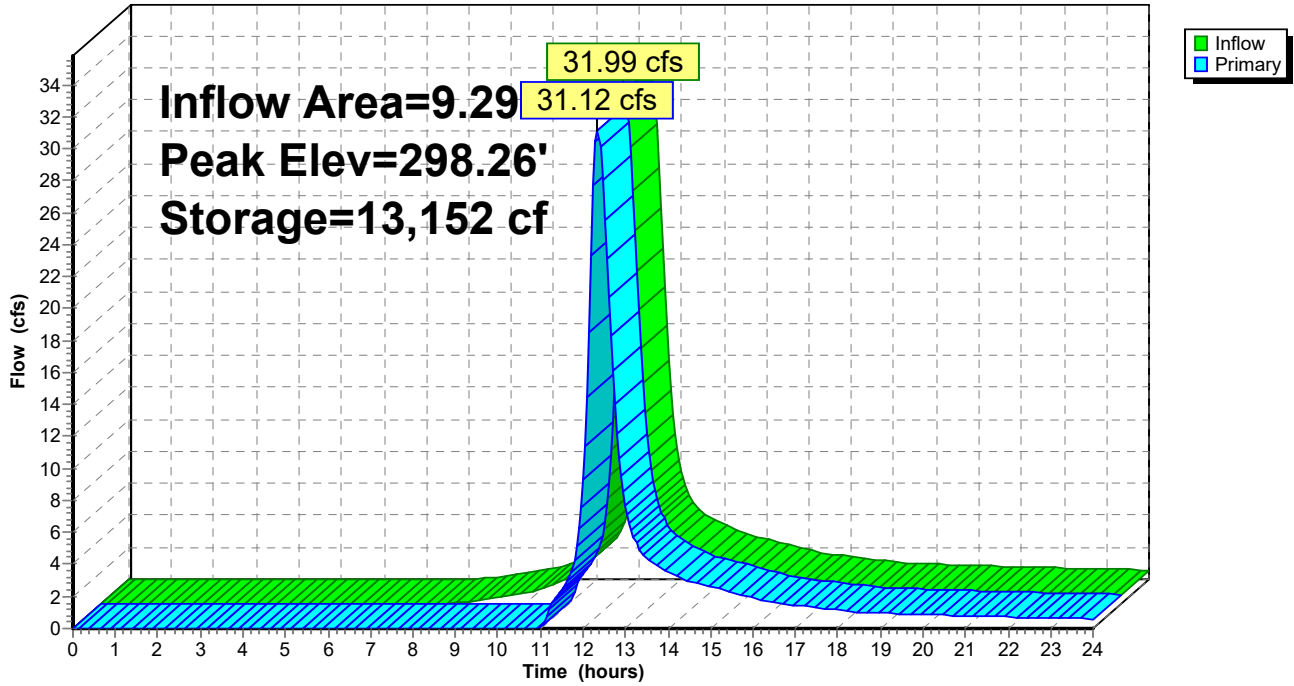
Volume	Invert	Avail.Storage	Storage Description
#1	297.40'	130,870 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
297.40	0	0	0
298.00	21,165	6,350	6,350
300.00	103,355	124,520	130,870

Device	Routing	Invert	Outlet Devices
#1	Primary	298.00'	100.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=31.04 cfs @ 12.34 hrs HW=298.26' (Free Discharge)
 ↑1=Broad-Crested Rectangular Weir (Weir Controls 31.04 cfs @ 1.21 fps)

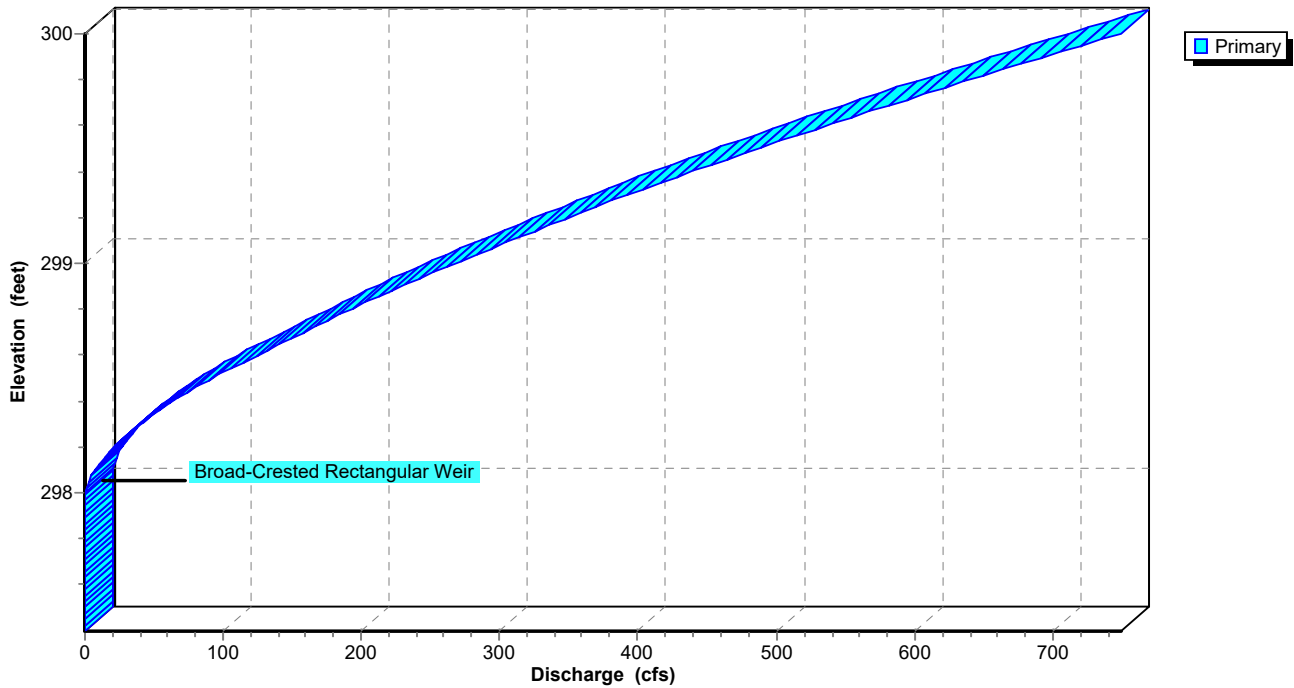
Pond P2: Large Shallow Onsite Depression

Hydrograph

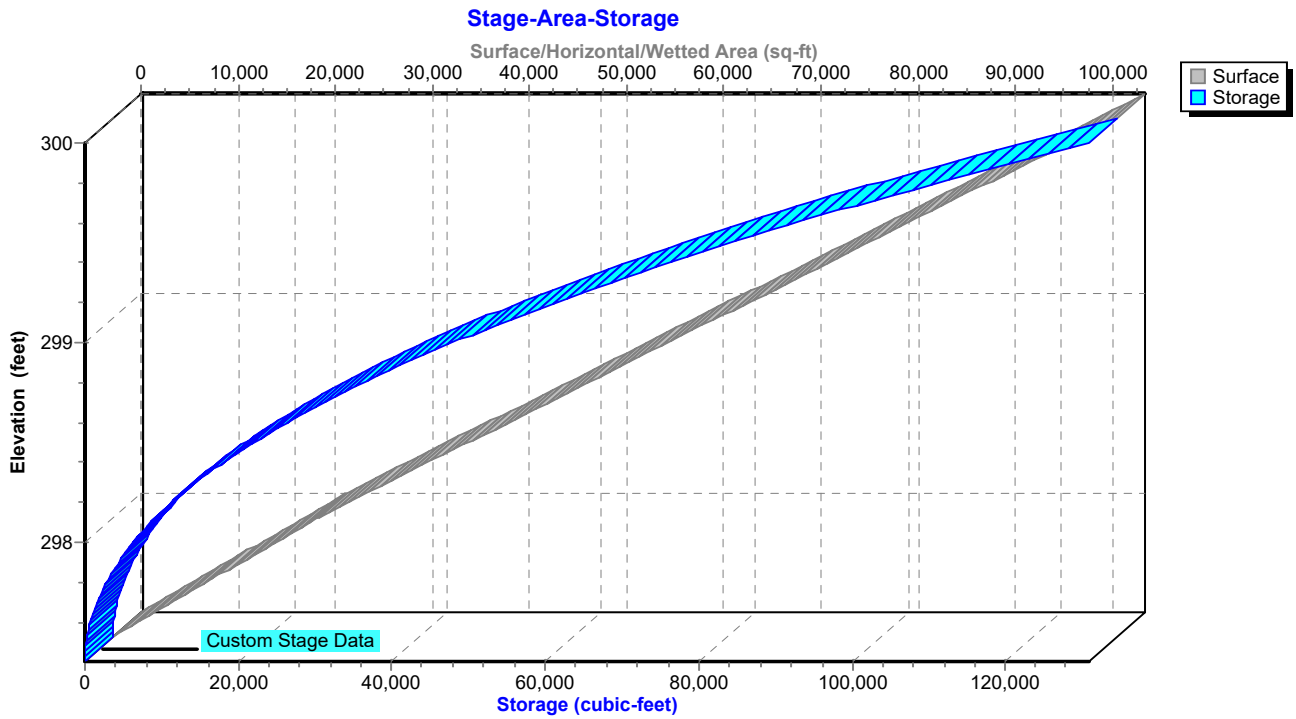


Pond P2: Large Shallow Onsite Depression

Stage-Discharge



Pond P2: Large Shallow Onsite Depression



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Hydrograph for Pond P2: Large Shallow Onsite Depression

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	297.40	0.00
0.50	0.00	0	297.40	0.00
1.00	0.00	0	297.40	0.00
1.50	0.00	0	297.40	0.00
2.00	0.00	0	297.40	0.00
2.50	0.00	0	297.40	0.00
3.00	0.00	0	297.40	0.00
3.50	0.00	0	297.40	0.00
4.00	0.00	0	297.40	0.00
4.50	0.00	0	297.40	0.00
5.00	0.00	0	297.40	0.00
5.50	0.00	0	297.40	0.00
6.00	0.00	0	297.40	0.00
6.50	0.00	0	297.40	0.00
7.00	0.00	0	297.40	0.00
7.50	0.00	0	297.40	0.00
8.00	0.01	1	297.40	0.00
8.50	0.09	76	297.46	0.00
9.00	0.24	365	297.54	0.00
9.50	0.45	974	297.63	0.00
10.00	0.71	2,008	297.74	0.00
10.50	1.08	3,590	297.85	0.00
11.00	1.64	6,013	297.98	0.00
11.50	2.74	7,396	298.05	2.43
12.00	11.52	9,087	298.12	9.30
12.50	23.19	12,218	298.23	25.58
13.00	6.85	8,740	298.10	7.70
13.50	4.19	7,934	298.07	4.38
14.00	3.44	7,711	298.06	3.55
14.50	2.89	7,549	298.05	2.95
15.00	2.54	7,453	298.05	2.60
15.50	2.20	7,341	298.04	2.27
16.00	1.86	7,224	298.04	1.92
16.50	1.58	7,122	298.04	1.62
17.00	1.42	7,066	298.03	1.45
17.50	1.27	7,014	298.03	1.30
18.00	1.11	6,962	298.03	1.14
18.50	1.00	6,918	298.03	1.01
19.00	0.95	6,900	298.03	0.96
19.50	0.91	6,884	298.02	0.91
20.00	0.86	6,869	298.02	0.87
20.50	0.82	6,846	298.02	0.83
21.00	0.78	6,824	298.02	0.79
21.50	0.75	6,803	298.02	0.76
22.00	0.71	6,782	298.02	0.72
22.50	0.68	6,761	298.02	0.69
23.00	0.64	6,740	298.02	0.65
23.50	0.61	6,719	298.02	0.62
24.00	0.57	6,698	298.02	0.58

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Stage-Discharge for Pond P2: Large Shallow Onsite Depression

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
297.40	0.00	298.46	79.87	299.52	496.61
297.42	0.00	298.48	85.80	299.54	506.44
297.44	0.00	298.50	91.92	299.56	516.34
297.46	0.00	298.52	98.24	299.58	526.30
297.48	0.00	298.54	104.76	299.60	536.32
297.50	0.00	298.56	111.47	299.62	546.41
297.52	0.00	298.58	118.38	299.64	556.56
297.54	0.00	298.60	125.48	299.66	566.77
297.56	0.00	298.62	131.71	299.68	577.05
297.58	0.00	298.64	138.04	299.70	587.38
297.60	0.00	298.66	144.45	299.72	597.78
297.62	0.00	298.68	150.95	299.74	608.23
297.64	0.00	298.70	157.54	299.76	618.75
297.66	0.00	298.72	164.22	299.78	629.33
297.68	0.00	298.74	170.98	299.80	639.96
297.70	0.00	298.76	177.83	299.82	650.66
297.72	0.00	298.78	184.76	299.84	661.41
297.74	0.00	298.80	191.77	299.86	672.23
297.76	0.00	298.82	199.00	299.88	683.10
297.78	0.00	298.84	206.33	299.90	694.03
297.80	0.00	298.86	213.74	299.92	705.01
297.82	0.00	298.88	221.24	299.94	716.06
297.84	0.00	298.90	228.82	299.96	727.16
297.86	0.00	298.92	236.49	299.98	738.32
297.88	0.00	298.94	244.25	300.00	749.53
297.90	0.00	298.96	252.08		
297.92	0.00	298.98	260.00		
297.94	0.00	299.00	268.00		
297.96	0.00	299.02	275.87		
297.98	0.00	299.04	283.82		
298.00	0.00	299.06	291.82		
298.02	0.66	299.08	299.90		
298.04	1.87	299.10	308.04		
298.06	3.44	299.12	316.24		
298.08	5.29	299.14	324.50		
298.10	7.40	299.16	332.83		
298.12	9.73	299.18	341.22		
298.14	12.26	299.20	349.67		
298.16	14.98	299.22	358.31		
298.18	17.87	299.24	367.02		
298.20	20.93	299.26	375.79		
298.22	24.31	299.28	384.63		
298.24	27.89	299.30	393.53		
298.26	31.66	299.32	402.50		
298.28	35.62	299.34	411.52		
298.30	39.76	299.36	420.61		
298.32	44.10	299.38	429.76		
298.34	48.61	299.40	438.97		
298.36	53.31	299.42	448.41		
298.38	58.19	299.44	457.92		
298.40	63.25	299.46	467.49		
298.42	68.59	299.48	477.13		
298.44	74.13	299.50	486.84		

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Type III 24-hr 100-Year Rainfall=8.00"

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Stage-Area-Storage for Pond P2: Large Shallow Onsite Depression

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
297.40	0	0
297.45	1,764	44
297.50	3,528	176
297.55	5,291	397
297.60	7,055	705
297.65	8,819	1,102
297.70	10,583	1,587
297.75	12,346	2,161
297.80	14,110	2,822
297.85	15,874	3,572
297.90	17,637	4,409
297.95	19,401	5,335
298.00	21,165	6,350
298.05	23,220	7,459
298.10	25,274	8,671
298.15	27,329	9,987
298.20	29,384	11,404
298.25	31,439	12,925
298.30	33,493	14,548
298.35	35,548	16,274
298.40	37,603	18,103
298.45	39,658	20,035
298.50	41,713	22,069
298.55	43,767	24,206
298.60	45,822	26,446
298.65	47,877	28,788
298.70	49,931	31,233
298.75	51,986	33,781
298.80	54,041	36,432
298.85	56,096	39,185
298.90	58,150	42,041
298.95	60,205	45,000
299.00	62,260	48,062
299.05	64,315	51,226
299.10	66,369	54,493
299.15	68,424	57,863
299.20	70,479	61,336
299.25	72,534	64,911
299.30	74,588	68,589
299.35	76,643	72,370
299.40	78,698	76,254
299.45	80,753	80,240
299.50	82,808	84,329
299.55	84,862	88,521
299.60	86,917	92,815
299.65	88,972	97,212
299.70	91,026	101,712
299.75	93,081	106,315
299.80	95,136	111,020
299.85	97,191	115,829
299.90	99,245	120,739
299.95	101,300	125,753
300.00	103,355	130,870

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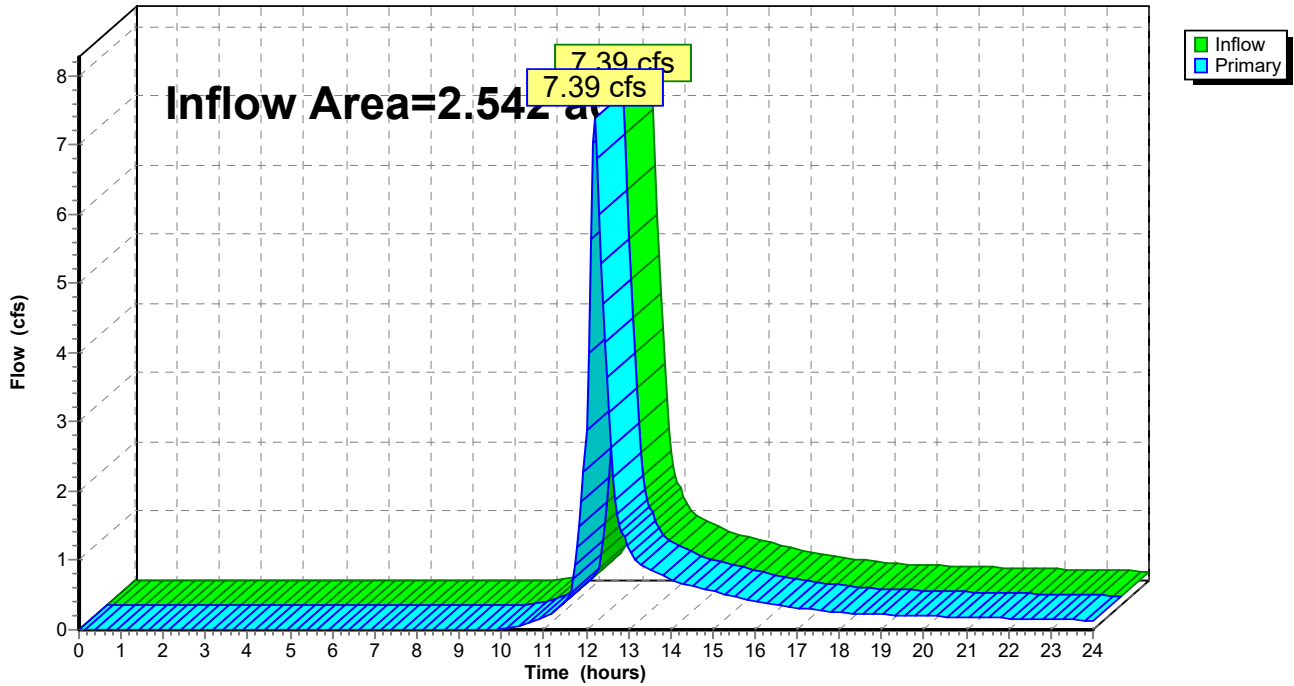
Summary for Link N: POI North

Inflow Area = 2.542 ac, 2.23% Impervious, Inflow Depth > 3.21" for 100-Year event
Inflow = 7.39 cfs @ 12.19 hrs, Volume= 0.681 af
Primary = 7.39 cfs @ 12.19 hrs, Volume= 0.681 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link N: POI North

Hydrograph



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Hydrograph for Link N: POI North

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	13.25	0.96	0.00	0.96
0.25	0.00	0.00	0.00	13.50	0.88	0.00	0.88
0.50	0.00	0.00	0.00	13.75	0.81	0.00	0.81
0.75	0.00	0.00	0.00	14.00	0.73	0.00	0.73
1.00	0.00	0.00	0.00	14.25	0.67	0.00	0.67
1.25	0.00	0.00	0.00	14.50	0.63	0.00	0.63
1.50	0.00	0.00	0.00	14.75	0.59	0.00	0.59
1.75	0.00	0.00	0.00	15.00	0.56	0.00	0.56
2.00	0.00	0.00	0.00	15.25	0.52	0.00	0.52
2.25	0.00	0.00	0.00	15.50	0.48	0.00	0.48
2.50	0.00	0.00	0.00	15.75	0.44	0.00	0.44
2.75	0.00	0.00	0.00	16.00	0.40	0.00	0.40
3.00	0.00	0.00	0.00	16.25	0.37	0.00	0.37
3.25	0.00	0.00	0.00	16.50	0.35	0.00	0.35
3.50	0.00	0.00	0.00	16.75	0.34	0.00	0.34
3.75	0.00	0.00	0.00	17.00	0.32	0.00	0.32
4.00	0.00	0.00	0.00	17.25	0.30	0.00	0.30
4.25	0.00	0.00	0.00	17.50	0.28	0.00	0.28
4.50	0.00	0.00	0.00	17.75	0.27	0.00	0.27
4.75	0.00	0.00	0.00	18.00	0.25	0.00	0.25
5.00	0.00	0.00	0.00	18.25	0.23	0.00	0.23
5.25	0.00	0.00	0.00	18.50	0.23	0.00	0.23
5.50	0.00	0.00	0.00	18.75	0.22	0.00	0.22
5.75	0.00	0.00	0.00	19.00	0.22	0.00	0.22
6.00	0.00	0.00	0.00	19.25	0.21	0.00	0.21
6.25	0.00	0.00	0.00	19.50	0.21	0.00	0.21
6.50	0.00	0.00	0.00	19.75	0.20	0.00	0.20
6.75	0.00	0.00	0.00	20.00	0.20	0.00	0.20
7.00	0.00	0.00	0.00	20.25	0.19	0.00	0.19
7.25	0.00	0.00	0.00	20.50	0.19	0.00	0.19
7.50	0.00	0.00	0.00	20.75	0.18	0.00	0.18
7.75	0.00	0.00	0.00	21.00	0.18	0.00	0.18
8.00	0.00	0.00	0.00	21.25	0.18	0.00	0.18
8.25	0.00	0.00	0.00	21.50	0.17	0.00	0.17
8.50	0.00	0.00	0.00	21.75	0.17	0.00	0.17
8.75	0.00	0.00	0.00	22.00	0.16	0.00	0.16
9.00	0.00	0.00	0.00	22.25	0.16	0.00	0.16
9.25	0.00	0.00	0.00	22.50	0.16	0.00	0.16
9.50	0.00	0.00	0.00	22.75	0.15	0.00	0.15
9.75	0.00	0.00	0.00	23.00	0.15	0.00	0.15
10.00	0.01	0.00	0.01	23.25	0.14	0.00	0.14
10.25	0.04	0.00	0.04	23.50	0.14	0.00	0.14
10.50	0.08	0.00	0.08	23.75	0.14	0.00	0.14
10.75	0.12	0.00	0.12	24.00	0.13	0.00	0.13
11.00	0.18	0.00	0.18				
11.25	0.26	0.00	0.26				
11.50	0.41	0.00	0.41				
11.75	0.92	0.00	0.92				
12.00	2.88	0.00	2.88				
12.25	6.82	0.00	6.82				
12.50	3.64	0.00	3.64				
12.75	1.66	0.00	1.66				
13.00	1.19	0.00	1.19				

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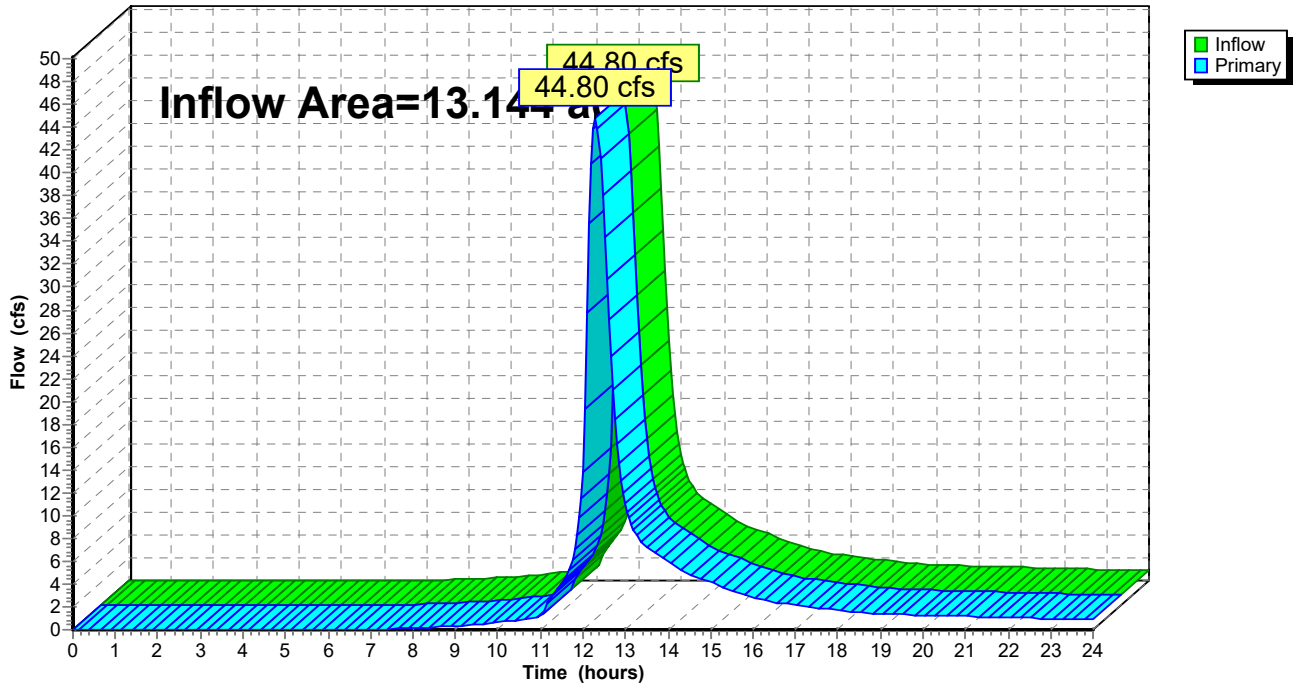
Summary for Link S: POI South

Inflow Area = 13.144 ac, 13.03% Impervious, Inflow Depth > 4.68" for 100-Year event
Inflow = 44.80 cfs @ 12.30 hrs, Volume= 5.128 af
Primary = 44.80 cfs @ 12.30 hrs, Volume= 5.128 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link S: POI South

Hydrograph



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Type III 24-hr 100-Year Rainfall=8.00"

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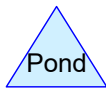
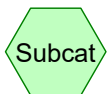
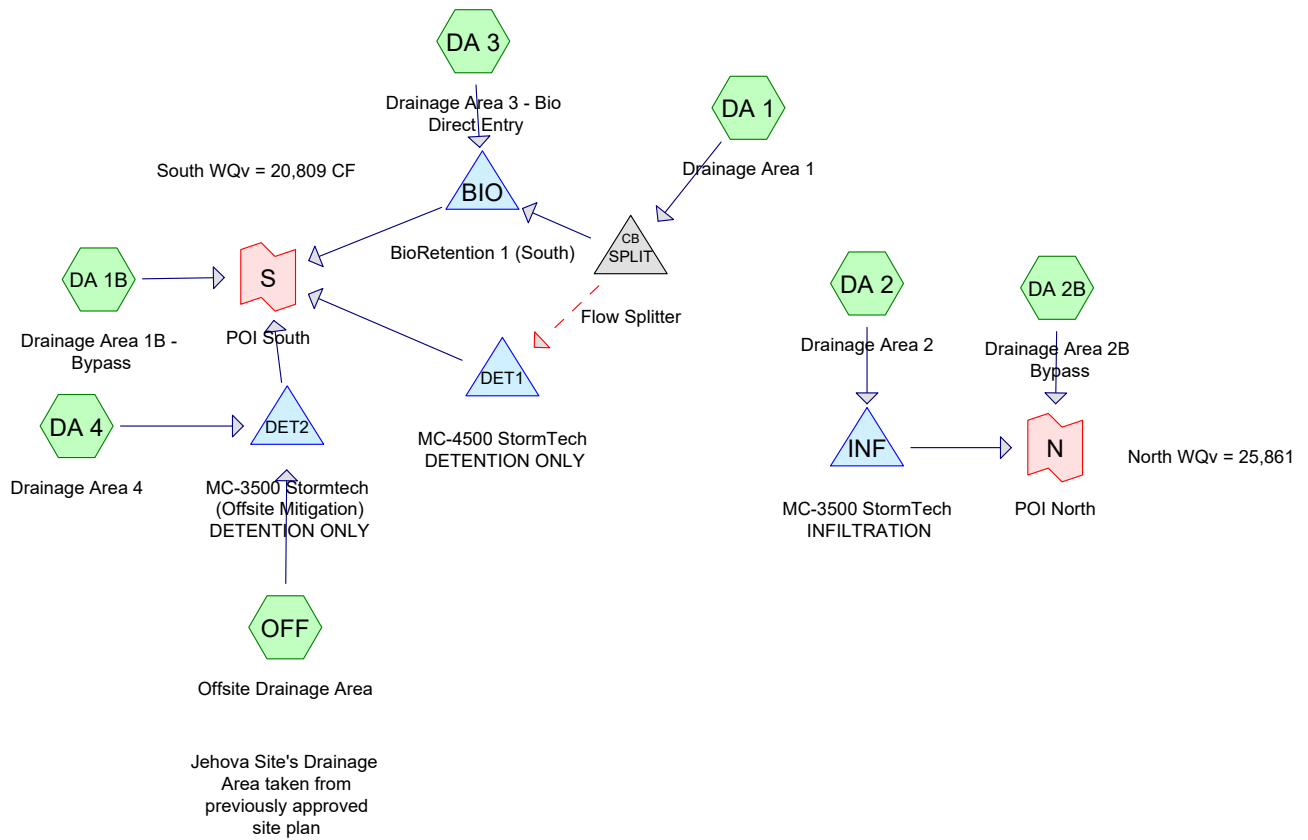
Hydrograph for Link S: POI South

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	13.25	8.41	0.00	8.41
0.25	0.00	0.00	0.00	13.50	7.21	0.00	7.21
0.50	0.00	0.00	0.00	13.75	6.52	0.00	6.52
0.75	0.00	0.00	0.00	14.00	5.93	0.00	5.93
1.00	0.00	0.00	0.00	14.25	5.36	0.00	5.36
1.25	0.00	0.00	0.00	14.50	4.88	0.00	4.88
1.50	0.00	0.00	0.00	14.75	4.49	0.00	4.49
1.75	0.00	0.00	0.00	15.00	4.14	0.00	4.14
2.00	0.00	0.00	0.00	15.25	3.80	0.00	3.80
2.25	0.00	0.00	0.00	15.50	3.46	0.00	3.46
2.50	0.00	0.00	0.00	15.75	3.15	0.00	3.15
2.75	0.00	0.00	0.00	16.00	2.86	0.00	2.86
3.00	0.00	0.00	0.00	16.25	2.60	0.00	2.60
3.25	0.00	0.00	0.00	16.50	2.40	0.00	2.40
3.50	0.00	0.00	0.00	16.75	2.26	0.00	2.26
3.75	0.00	0.00	0.00	17.00	2.14	0.00	2.14
4.00	0.00	0.00	0.00	17.25	2.02	0.00	2.02
4.25	0.00	0.00	0.00	17.50	1.91	0.00	1.91
4.50	0.00	0.00	0.00	17.75	1.80	0.00	1.80
4.75	0.00	0.00	0.00	18.00	1.68	0.00	1.68
5.00	0.00	0.00	0.00	18.25	1.57	0.00	1.57
5.25	0.00	0.00	0.00	18.50	1.50	0.00	1.50
5.50	0.00	0.00	0.00	18.75	1.45	0.00	1.45
5.75	0.00	0.00	0.00	19.00	1.41	0.00	1.41
6.00	0.01	0.00	0.01	19.25	1.38	0.00	1.38
6.25	0.01	0.00	0.01	19.50	1.34	0.00	1.34
6.50	0.02	0.00	0.02	19.75	1.31	0.00	1.31
6.75	0.03	0.00	0.03	20.00	1.27	0.00	1.27
7.00	0.04	0.00	0.04	20.25	1.24	0.00	1.24
7.25	0.06	0.00	0.06	20.50	1.21	0.00	1.21
7.50	0.08	0.00	0.08	20.75	1.19	0.00	1.19
7.75	0.11	0.00	0.11	21.00	1.16	0.00	1.16
8.00	0.14	0.00	0.14	21.25	1.13	0.00	1.13
8.25	0.18	0.00	0.18	21.50	1.11	0.00	1.11
8.50	0.22	0.00	0.22	21.75	1.08	0.00	1.08
8.75	0.28	0.00	0.28	22.00	1.06	0.00	1.06
9.00	0.34	0.00	0.34	22.25	1.03	0.00	1.03
9.25	0.41	0.00	0.41	22.50	1.01	0.00	1.01
9.50	0.48	0.00	0.48	22.75	0.98	0.00	0.98
9.75	0.56	0.00	0.56	23.00	0.96	0.00	0.96
10.00	0.64	0.00	0.64	23.25	0.93	0.00	0.93
10.25	0.74	0.00	0.74	23.50	0.90	0.00	0.90
10.50	0.86	0.00	0.86	23.75	0.88	0.00	0.88
10.75	1.00	0.00	1.00	24.00	0.85	0.00	0.85
11.00	1.16	0.00	1.16				
11.25	2.87	0.00	2.87				
11.50	4.12	0.00	4.12				
11.75	6.19	0.00	6.19				
12.00	13.80	0.00	13.80				
12.25	43.84	0.00	43.84				
12.50	34.30	0.00	34.30				
12.75	18.48	0.00	18.48				
13.00	11.03	0.00	11.03				

Appendix C

Unity Place Warehouse
Proposed Conditions Detailed HydroCAD Output Report

TOTAL AREA ONSITE
= 559,475



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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	Type III 24-hr		Default	24.00	1	2.90	2
2	10-Year	Type III 24-hr		Default	24.00	1	5.50	2
3	25-Year	Type III 24-hr		Default	24.00	1	6.50	2
4	100-Year	Type III 24-hr		Default	24.00	1	8.00	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.092	61	>75% Grass cover, Good, HSG B (DA 1B, DA 2, DA 2B, DA 4, OFF)
2.140	80	>75% Grass cover, Good, HSG D (DA 1B, DA 3)
3.809	98	Drive/Parking (DA 1)
0.071	98	Driveway Entrance (DA 1B)
1.643	98	Impervious Surfaces (OFF)
4.930	98	Roof, Parking/Drive (DA 2)
15.686	88	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
3.092	HSG B	DA 1B, DA 2, DA 2B, DA 4, OFF
0.000	HSG C	
2.140	HSG D	DA 1B, DA 3
10.454	Other	DA 1, DA 1B, DA 2, OFF
15.686		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	3.092	0.000	2.140	0.000	5.232	>75% Grass cover, Good	DA 1B, DA 2, DA 2B, DA 3, DA 4, OFF
0.000	0.000	0.000	0.000	3.809	3.809	Drive/Parking	DA 1
0.000	0.000	0.000	0.000	0.071	0.071	Driveway Entrance	DA 1B
0.000	0.000	0.000	0.000	1.643	1.643	Impervious Surfaces	OFF
0.000	0.000	0.000	0.000	4.930	4.930	Roof, Parking/Drive	DA 2
0.000	3.092	0.000	2.140	10.454	15.686	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	DA 1B	0.00	0.00	1,156.0	0.0080	0.012	0.0	15.0	0.0
2	DA 4	0.00	0.00	324.0	0.0250	0.012	0.0	15.0	0.0

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Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1: Drainage Area 1 Runoff Area=165,914 sf 100.00% Impervious Runoff Depth>2.67"
Tc=6.0 min CN=98 Runoff=10.68 cfs 0.846 af

Subcatchment DA 1B: Drainage Area 1B - Runoff Area=69,371 sf 4.46% Impervious Runoff Depth>1.17"
Flow Length=1,406' Tc=21.5 min CN=80 Runoff=1.40 cfs 0.155 af

Subcatchment DA 2: Drainage Area 2 Runoff Area=227,749 sf 94.30% Impervious Runoff Depth>2.45"
Tc=6.0 min CN=96 Runoff=14.07 cfs 1.068 af

Subcatchment DA 2B: Drainage Area 2B Runoff Area=44,537 sf 0.00% Impervious Runoff Depth>0.33"
Flow Length=314' Slope=0.0075 '/' Tc=17.3 min CN=61 Runoff=0.16 cfs 0.028 af

Subcatchment DA 3: Drainage Area 3 - Bio Runoff Area=31,517 sf 0.00% Impervious Runoff Depth>1.17"
Tc=6.0 min CN=80 Runoff=0.98 cfs 0.071 af

Subcatchment DA 4: Drainage Area 4 Runoff Area=20,387 sf 0.00% Impervious Runoff Depth>0.33"
Flow Length=728' Tc=14.4 min CN=61 Runoff=0.07 cfs 0.013 af

Subcatchment OFF: Offsite Drainage Area Runoff Area=123,809 sf 57.82% Impervious Runoff Depth>1.30"
Tc=6.0 min CN=82 Runoff=4.29 cfs 0.308 af

Pond BIO: BioRetention 1 (South) Peak Elev=299.55' Storage=9,876 cf Inflow=1.95 cfs 0.554 af
Outflow=0.59 cfs 0.347 af

Pond DET1: MC-4500 StormTech Peak Elev=305.07' Storage=0.269 af Inflow=9.70 cfs 0.363 af
Outflow=1.01 cfs 0.363 af

Pond DET2: MC-3500 Stormtech (Offsite) Peak Elev=296.77' Storage=4,577 cf Inflow=4.30 cfs 0.320 af
Outflow=0.95 cfs 0.312 af

Pond INF: MC-3500 StormTech Peak Elev=308.53' Storage=0.321 af Inflow=14.07 cfs 1.068 af
Discarded=2.09 cfs 1.068 af Primary=0.00 cfs 0.000 af Outflow=2.09 cfs 1.068 af

Pond SPLIT: Flow Splitter Peak Elev=303.54' Inflow=10.68 cfs 0.846 af
Primary=0.98 cfs 0.483 af Secondary=9.70 cfs 0.363 af Outflow=10.68 cfs 0.846 af

Link N: POI North Inflow=0.16 cfs 0.028 af
Primary=0.16 cfs 0.028 af

Link S: POI South Inflow=3.22 cfs 1.177 af
Primary=3.22 cfs 1.177 af

Total Runoff Area = 15.686 ac Runoff Volume = 2.489 af Average Runoff Depth = 1.90"
33.36% Pervious = 5.232 ac 66.64% Impervious = 10.454 ac

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Summary for Subcatchment DA 1: Drainage Area 1

Runoff = 10.68 cfs @ 12.08 hrs, Volume= 0.846 af, Depth> 2.67"

Routed to Pond SPLIT : Flow Splitter

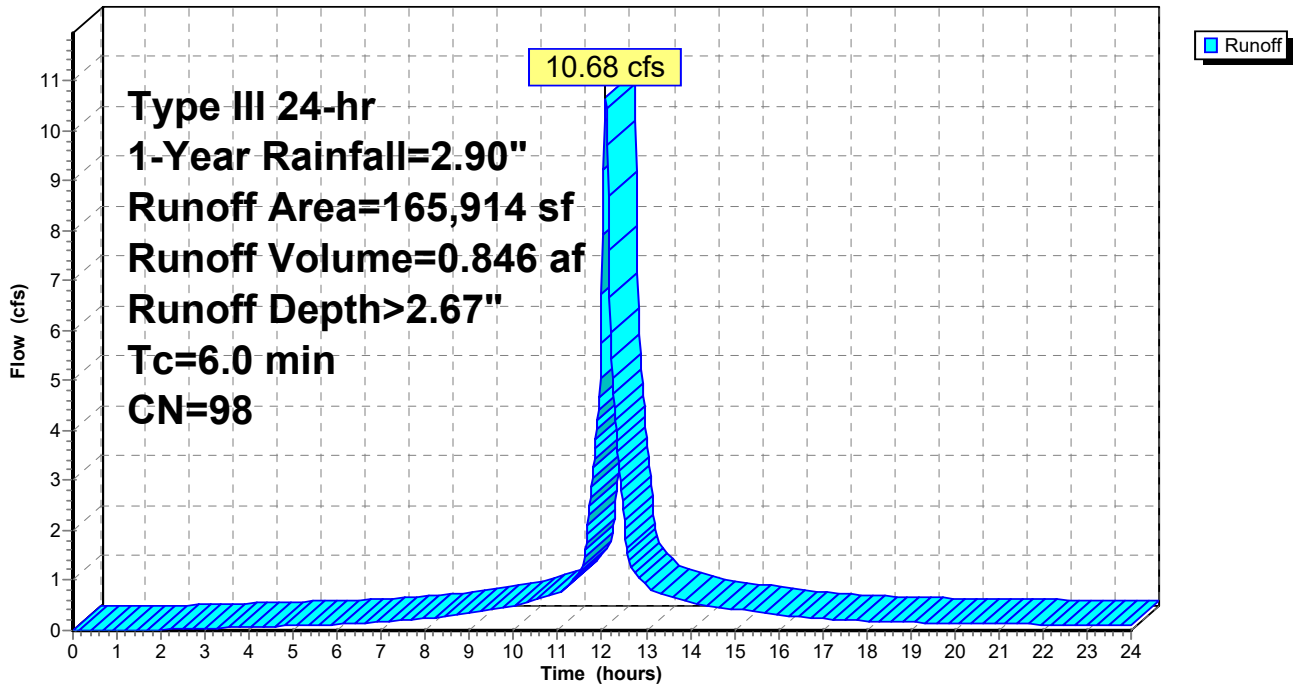
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
* 165,914	98	Drive/Parking
165,914		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc (Minimum)

Subcatchment DA 1: Drainage Area 1

Hydrograph



Hydrograph for Subcatchment DA 1: Drainage Area 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	0.65	0.45	0.64
0.20	0.01	0.00	0.00	10.80	0.68	0.49	0.69
0.40	0.01	0.00	0.00	11.00	0.73	0.53	0.74
0.60	0.02	0.00	0.00	11.20	0.77	0.57	0.88
0.80	0.02	0.00	0.00	11.40	0.83	0.63	1.08
1.00	0.03	0.00	0.00	11.60	0.91	0.71	1.46
1.20	0.03	0.00	0.00	11.80	1.08	0.87	3.25
1.40	0.04	0.00	0.00	12.00	1.45	1.23	6.72
1.60	0.05	0.00	0.00	12.20	1.82	1.59	5.95
1.80	0.05	0.00	0.01	12.40	1.99	1.76	3.19
2.00	0.06	0.00	0.01	12.60	2.07	1.84	1.43
2.20	0.06	0.00	0.02	12.80	2.13	1.90	1.10
2.40	0.07	0.00	0.03	13.00	2.18	1.95	0.90
2.60	0.08	0.01	0.03	13.20	2.22	1.99	0.78
2.80	0.08	0.01	0.04	13.40	2.25	2.03	0.73
3.00	0.09	0.01	0.04	13.60	2.29	2.06	0.67
3.20	0.10	0.01	0.05	13.80	2.32	2.09	0.62
3.40	0.10	0.01	0.05	14.00	2.35	2.12	0.57
3.60	0.11	0.02	0.06	14.20	2.38	2.15	0.53
3.80	0.12	0.02	0.06	14.40	2.41	2.18	0.50
4.00	0.12	0.02	0.07	14.60	2.43	2.20	0.48
4.20	0.13	0.03	0.08	14.80	2.45	2.23	0.45
4.40	0.14	0.03	0.08	15.00	2.48	2.25	0.43
4.60	0.15	0.04	0.09	15.20	2.50	2.27	0.40
4.80	0.16	0.04	0.09	15.40	2.52	2.29	0.38
5.00	0.16	0.05	0.10	15.60	2.54	2.31	0.35
5.20	0.17	0.05	0.10	15.80	2.55	2.32	0.33
5.40	0.18	0.06	0.11	16.00	2.57	2.34	0.30
5.60	0.19	0.06	0.11	16.20	2.58	2.35	0.28
5.80	0.20	0.07	0.12	16.40	2.60	2.37	0.27
6.00	0.21	0.08	0.12	16.60	2.61	2.38	0.26
6.20	0.22	0.08	0.13	16.80	2.63	2.40	0.25
6.40	0.23	0.09	0.14	17.00	2.64	2.41	0.24
6.60	0.24	0.10	0.15	17.20	2.65	2.42	0.23
6.80	0.25	0.11	0.16	17.40	2.66	2.43	0.22
7.00	0.26	0.12	0.17	17.60	2.67	2.44	0.20
7.20	0.27	0.13	0.19	17.80	2.68	2.45	0.19
7.40	0.29	0.14	0.20	18.00	2.69	2.46	0.18
7.60	0.30	0.15	0.21	18.20	2.70	2.47	0.18
7.80	0.32	0.16	0.22	18.40	2.71	2.48	0.17
8.00	0.33	0.17	0.23	18.60	2.72	2.49	0.17
8.20	0.35	0.18	0.25	18.80	2.73	2.50	0.17
8.40	0.36	0.20	0.28	19.00	2.74	2.50	0.16
8.60	0.38	0.21	0.30	19.20	2.74	2.51	0.16
8.80	0.40	0.23	0.33	19.40	2.75	2.52	0.16
9.00	0.42	0.25	0.35	19.60	2.76	2.53	0.15
9.20	0.45	0.27	0.38	19.80	2.77	2.54	0.15
9.40	0.47	0.29	0.41	20.00	2.78	2.54	0.15
9.60	0.49	0.31	0.43	20.20	2.78	2.55	0.14
9.80	0.52	0.34	0.46	20.40	2.79	2.56	0.14
10.00	0.55	0.36	0.49	20.60	2.80	2.57	0.14
10.20	0.58	0.39	0.53	20.80	2.80	2.57	0.14
10.40	0.61	0.42	0.58	21.00	2.81	2.58	0.13

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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Subcatchment DA 1: Drainage Area 1 (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	2.82	2.59	0.13
21.40	2.82	2.59	0.13
21.60	2.83	2.60	0.13
21.80	2.84	2.61	0.12
22.00	2.84	2.61	0.12
22.20	2.85	2.62	0.12
22.40	2.86	2.63	0.12
22.60	2.86	2.63	0.11
22.80	2.87	2.64	0.11
23.00	2.87	2.64	0.11
23.20	2.88	2.65	0.11
23.40	2.88	2.65	0.10
23.60	2.89	2.66	0.10
23.80	2.90	2.66	0.10
24.00	2.90	2.67	0.10

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Type III 24-hr 1-Year Rainfall=2.90"

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Summary for Subcatchment DA 1B: Drainage Area 1B - Bypass

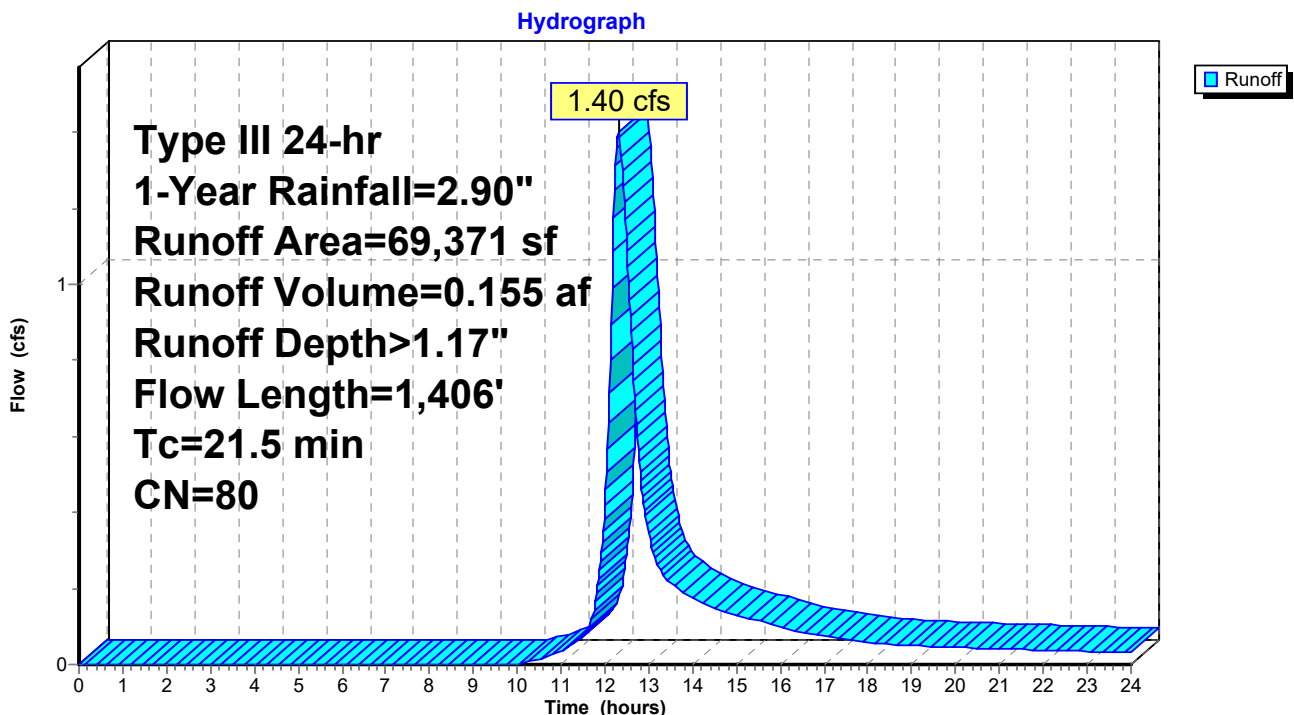
Runoff = 1.40 cfs @ 12.31 hrs, Volume= 0.155 af, Depth> 1.17"
 Routed to Link S : POI South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
61,723	80	>75% Grass cover, Good, HSG D
4,556	61	>75% Grass cover, Good, HSG B
* 3,092	98	Driveway Entrance
69,371	80	Weighted Average
66,279		95.54% Pervious Area
3,092		4.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	100	0.0160	0.11		Sheet Flow, SF Grass: Dense n= 0.240 P2= 3.11"
1.9	150	0.0340	1.29		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
3.8	1,156	0.0080	5.10	6.26	Pipe Channel, Pipe 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
21.5	1,406	Total			

Subcatchment DA 1B: Drainage Area 1B - Bypass



Hydrograph for Subcatchment DA 1B: Drainage Area 1B - Bypass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	0.65	0.01	0.02
0.20	0.01	0.00	0.00	10.80	0.68	0.01	0.03
0.40	0.01	0.00	0.00	11.00	0.73	0.02	0.04
0.60	0.02	0.00	0.00	11.20	0.77	0.03	0.05
0.80	0.02	0.00	0.00	11.40	0.83	0.04	0.07
1.00	0.03	0.00	0.00	11.60	0.91	0.06	0.09
1.20	0.03	0.00	0.00	11.80	1.08	0.11	0.17
1.40	0.04	0.00	0.00	12.00	1.45	0.26	0.42
1.60	0.05	0.00	0.00	12.20	1.82	0.45	1.17
1.80	0.05	0.00	0.00	12.40	1.99	0.56	1.30
2.00	0.06	0.00	0.00	12.60	2.07	0.60	0.87
2.20	0.06	0.00	0.00	12.80	2.13	0.64	0.51
2.40	0.07	0.00	0.00	13.00	2.18	0.67	0.34
2.60	0.08	0.00	0.00	13.20	2.22	0.70	0.26
2.80	0.08	0.00	0.00	13.40	2.25	0.72	0.22
3.00	0.09	0.00	0.00	13.60	2.29	0.75	0.20
3.20	0.10	0.00	0.00	13.80	2.32	0.77	0.19
3.40	0.10	0.00	0.00	14.00	2.35	0.79	0.18
3.60	0.11	0.00	0.00	14.20	2.38	0.81	0.16
3.80	0.12	0.00	0.00	14.40	2.41	0.82	0.15
4.00	0.12	0.00	0.00	14.60	2.43	0.84	0.14
4.20	0.13	0.00	0.00	14.80	2.45	0.86	0.14
4.40	0.14	0.00	0.00	15.00	2.48	0.87	0.13
4.60	0.15	0.00	0.00	15.20	2.50	0.89	0.12
4.80	0.16	0.00	0.00	15.40	2.52	0.90	0.12
5.00	0.16	0.00	0.00	15.60	2.54	0.91	0.11
5.20	0.17	0.00	0.00	15.80	2.55	0.93	0.10
5.40	0.18	0.00	0.00	16.00	2.57	0.94	0.10
5.60	0.19	0.00	0.00	16.20	2.58	0.95	0.09
5.80	0.20	0.00	0.00	16.40	2.60	0.96	0.08
6.00	0.21	0.00	0.00	16.60	2.61	0.97	0.08
6.20	0.22	0.00	0.00	16.80	2.63	0.98	0.08
6.40	0.23	0.00	0.00	17.00	2.64	0.99	0.07
6.60	0.24	0.00	0.00	17.20	2.65	0.99	0.07
6.80	0.25	0.00	0.00	17.40	2.66	1.00	0.07
7.00	0.26	0.00	0.00	17.60	2.67	1.01	0.07
7.20	0.27	0.00	0.00	17.80	2.68	1.02	0.06
7.40	0.29	0.00	0.00	18.00	2.69	1.02	0.06
7.60	0.30	0.00	0.00	18.20	2.70	1.03	0.06
7.80	0.32	0.00	0.00	18.40	2.71	1.04	0.05
8.00	0.33	0.00	0.00	18.60	2.72	1.04	0.05
8.20	0.35	0.00	0.00	18.80	2.73	1.05	0.05
8.40	0.36	0.00	0.00	19.00	2.74	1.06	0.05
8.60	0.38	0.00	0.00	19.20	2.74	1.06	0.05
8.80	0.40	0.00	0.00	19.40	2.75	1.07	0.05
9.00	0.42	0.00	0.00	19.60	2.76	1.07	0.05
9.20	0.45	0.00	0.00	19.80	2.77	1.08	0.05
9.40	0.47	0.00	0.00	20.00	2.78	1.08	0.05
9.60	0.49	0.00	0.00	20.20	2.78	1.09	0.04
9.80	0.52	0.00	0.00	20.40	2.79	1.09	0.04
10.00	0.55	0.00	0.00	20.60	2.80	1.10	0.04
10.20	0.58	0.00	0.01	20.80	2.80	1.11	0.04
10.40	0.61	0.00	0.01	21.00	2.81	1.11	0.04

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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Subcatchment DA 1B: Drainage Area 1B - Bypass (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	2.82	1.12	0.04
21.40	2.82	1.12	0.04
21.60	2.83	1.13	0.04
21.80	2.84	1.13	0.04
22.00	2.84	1.13	0.04
22.20	2.85	1.14	0.04
22.40	2.86	1.14	0.04
22.60	2.86	1.15	0.04
22.80	2.87	1.15	0.03
23.00	2.87	1.16	0.03
23.20	2.88	1.16	0.03
23.40	2.88	1.16	0.03
23.60	2.89	1.17	0.03
23.80	2.90	1.17	0.03
24.00	2.90	1.18	0.03

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Type III 24-hr 1-Year Rainfall=2.90"

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Summary for Subcatchment DA 2: Drainage Area 2

Runoff = 14.07 cfs @ 12.08 hrs, Volume= 1.068 af, Depth> 2.45"

Routed to Pond INF : MC-3500 StormTech INFILTRATION

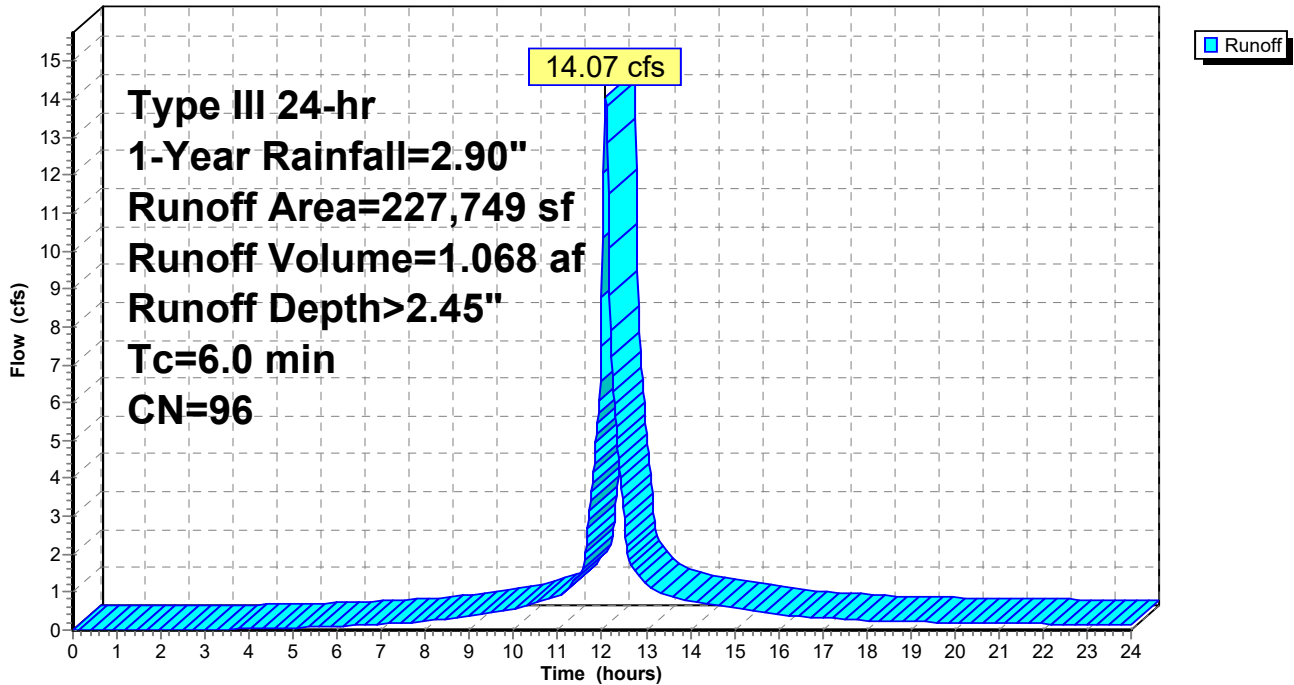
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 1-Year Rainfall=2.90"

	Area (sf)	CN	Description
*	214,771	98	Roof, Parking/Drive
	12,978	61	>75% Grass cover, Good, HSG B
	227,749	96	Weighted Average
	12,978		5.70% Pervious Area
	214,771		94.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc (Minimum)

Subcatchment DA 2: Drainage Area 2

Hydrograph



Hydrograph for Subcatchment DA 2: Drainage Area 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	0.65	0.32	0.76
0.20	0.01	0.00	0.00	10.80	0.68	0.35	0.83
0.40	0.01	0.00	0.00	11.00	0.73	0.39	0.91
0.60	0.02	0.00	0.00	11.20	0.77	0.43	1.08
0.80	0.02	0.00	0.00	11.40	0.83	0.48	1.34
1.00	0.03	0.00	0.00	11.60	0.91	0.55	1.84
1.20	0.03	0.00	0.00	11.80	1.08	0.71	4.16
1.40	0.04	0.00	0.00	12.00	1.45	1.05	8.77
1.60	0.05	0.00	0.00	12.20	1.82	1.40	7.91
1.80	0.05	0.00	0.00	12.40	1.99	1.56	4.26
2.00	0.06	0.00	0.00	12.60	2.07	1.64	1.92
2.20	0.06	0.00	0.00	12.80	2.13	1.70	1.48
2.40	0.07	0.00	0.00	13.00	2.18	1.74	1.21
2.60	0.08	0.00	0.00	13.20	2.22	1.78	1.05
2.80	0.08	0.00	0.00	13.40	2.25	1.82	0.98
3.00	0.09	0.00	0.00	13.60	2.29	1.86	0.91
3.20	0.10	0.00	0.01	13.80	2.32	1.89	0.84
3.40	0.10	0.00	0.01	14.00	2.35	1.92	0.76
3.60	0.11	0.00	0.02	14.20	2.38	1.94	0.71
3.80	0.12	0.00	0.03	14.40	2.41	1.97	0.68
4.00	0.12	0.00	0.03	14.60	2.43	1.99	0.64
4.20	0.13	0.01	0.04	14.80	2.45	2.02	0.61
4.40	0.14	0.01	0.04	15.00	2.48	2.04	0.58
4.60	0.15	0.01	0.05	15.20	2.50	2.06	0.54
4.80	0.16	0.01	0.06	15.40	2.52	2.08	0.51
5.00	0.16	0.01	0.06	15.60	2.54	2.10	0.47
5.20	0.17	0.02	0.07	15.80	2.55	2.11	0.44
5.40	0.18	0.02	0.08	16.00	2.57	2.13	0.41
5.60	0.19	0.02	0.08	16.20	2.58	2.14	0.38
5.80	0.20	0.03	0.09	16.40	2.60	2.16	0.37
6.00	0.21	0.03	0.10	16.60	2.61	2.17	0.35
6.20	0.22	0.03	0.11	16.80	2.63	2.18	0.34
6.40	0.23	0.04	0.12	17.00	2.64	2.20	0.32
6.60	0.24	0.04	0.13	17.20	2.65	2.21	0.31
6.80	0.25	0.05	0.14	17.40	2.66	2.22	0.29
7.00	0.26	0.05	0.16	17.60	2.67	2.23	0.28
7.20	0.27	0.06	0.17	17.80	2.68	2.24	0.26
7.40	0.29	0.07	0.19	18.00	2.69	2.25	0.25
7.60	0.30	0.08	0.20	18.20	2.70	2.26	0.24
7.80	0.32	0.08	0.22	18.40	2.71	2.27	0.23
8.00	0.33	0.09	0.23	18.60	2.72	2.28	0.23
8.20	0.35	0.10	0.26	18.80	2.73	2.28	0.22
8.40	0.36	0.11	0.29	19.00	2.74	2.29	0.22
8.60	0.38	0.12	0.32	19.20	2.74	2.30	0.22
8.80	0.40	0.14	0.35	19.40	2.75	2.31	0.21
9.00	0.42	0.15	0.38	19.60	2.76	2.32	0.21
9.20	0.45	0.17	0.42	19.80	2.77	2.32	0.20
9.40	0.47	0.19	0.45	20.00	2.78	2.33	0.20
9.60	0.49	0.20	0.49	20.20	2.78	2.34	0.19
9.80	0.52	0.22	0.53	20.40	2.79	2.35	0.19
10.00	0.55	0.25	0.56	20.60	2.80	2.35	0.19
10.20	0.58	0.27	0.62	20.80	2.80	2.36	0.18
10.40	0.61	0.29	0.69	21.00	2.81	2.37	0.18

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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Subcatchment DA 2: Drainage Area 2 (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	2.82	2.37	0.18
21.40	2.82	2.38	0.17
21.60	2.83	2.39	0.17
21.80	2.84	2.39	0.17
22.00	2.84	2.40	0.16
22.20	2.85	2.40	0.16
22.40	2.86	2.41	0.16
22.60	2.86	2.42	0.15
22.80	2.87	2.42	0.15
23.00	2.87	2.43	0.15
23.20	2.88	2.43	0.14
23.40	2.88	2.44	0.14
23.60	2.89	2.44	0.14
23.80	2.90	2.45	0.13
24.00	2.90	2.45	0.13

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Type III 24-hr 1-Year Rainfall=2.90"

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Summary for Subcatchment DA 2B: Drainage Area 2B Bypass

Runoff = 0.16 cfs @ 12.42 hrs, Volume= 0.028 af, Depth> 0.33"
Routed to Link N : POI North

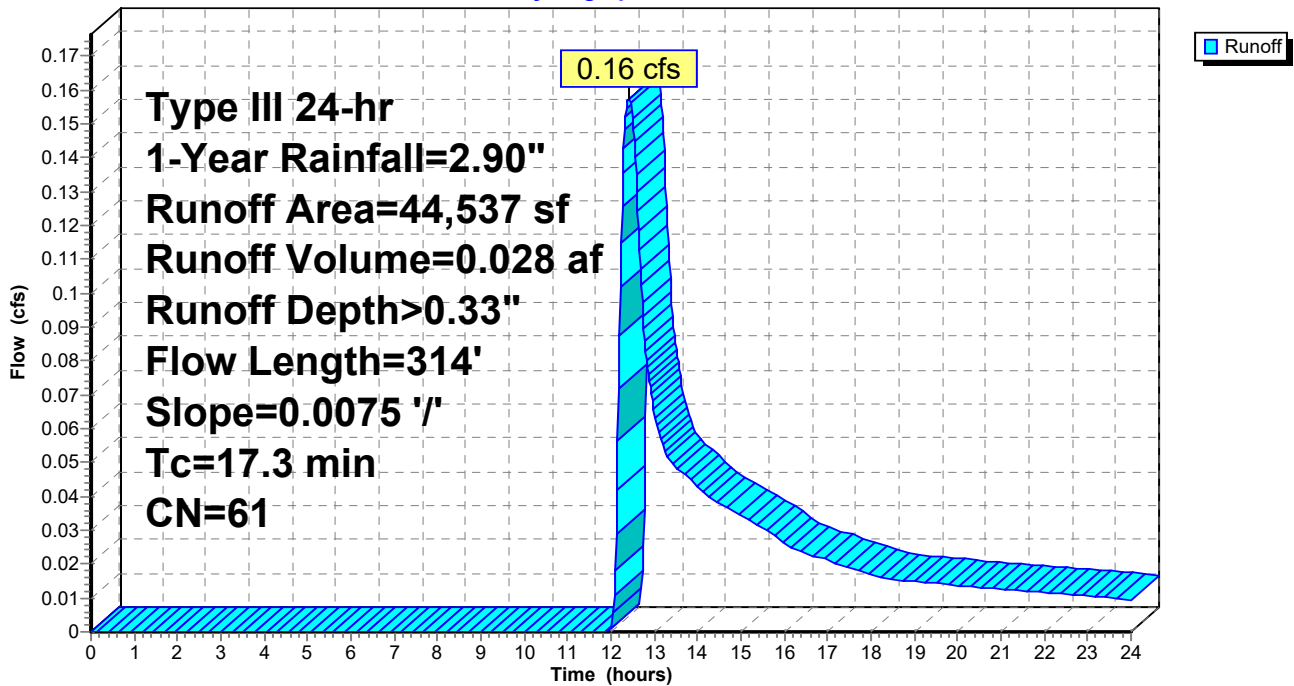
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
44,537	61	>75% Grass cover, Good, HSG B
44,537		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0075	0.11		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
2.6	214	0.0075	1.39		Shallow Concentrated Flow, SCF Unpaved Kv= 16.1 fps
17.3	314	Total			

Subcatchment DA 2B: Drainage Area 2B Bypass

Hydrograph



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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Subcatchment DA 2B: Drainage Area 2B Bypass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	0.65	0.00	0.00
0.20	0.01	0.00	0.00	10.80	0.68	0.00	0.00
0.40	0.01	0.00	0.00	11.00	0.73	0.00	0.00
0.60	0.02	0.00	0.00	11.20	0.77	0.00	0.00
0.80	0.02	0.00	0.00	11.40	0.83	0.00	0.00
1.00	0.03	0.00	0.00	11.60	0.91	0.00	0.00
1.20	0.03	0.00	0.00	11.80	1.08	0.00	0.00
1.40	0.04	0.00	0.00	12.00	1.45	0.00	0.00
1.60	0.05	0.00	0.00	12.20	1.82	0.04	0.09
1.80	0.05	0.00	0.00	12.40	1.99	0.07	0.16
2.00	0.06	0.00	0.00	12.60	2.07	0.09	0.13
2.20	0.06	0.00	0.00	12.80	2.13	0.10	0.08
2.40	0.07	0.00	0.00	13.00	2.18	0.11	0.07
2.60	0.08	0.00	0.00	13.20	2.22	0.12	0.05
2.80	0.08	0.00	0.00	13.40	2.25	0.13	0.05
3.00	0.09	0.00	0.00	13.60	2.29	0.14	0.05
3.20	0.10	0.00	0.00	13.80	2.32	0.15	0.05
3.40	0.10	0.00	0.00	14.00	2.35	0.15	0.04
3.60	0.11	0.00	0.00	14.20	2.38	0.16	0.04
3.80	0.12	0.00	0.00	14.40	2.41	0.17	0.04
4.00	0.12	0.00	0.00	14.60	2.43	0.18	0.04
4.20	0.13	0.00	0.00	14.80	2.45	0.18	0.04
4.40	0.14	0.00	0.00	15.00	2.48	0.19	0.03
4.60	0.15	0.00	0.00	15.20	2.50	0.20	0.03
4.80	0.16	0.00	0.00	15.40	2.52	0.20	0.03
5.00	0.16	0.00	0.00	15.60	2.54	0.21	0.03
5.20	0.17	0.00	0.00	15.80	2.55	0.21	0.03
5.40	0.18	0.00	0.00	16.00	2.57	0.22	0.03
5.60	0.19	0.00	0.00	16.20	2.58	0.22	0.02
5.80	0.20	0.00	0.00	16.40	2.60	0.23	0.02
6.00	0.21	0.00	0.00	16.60	2.61	0.23	0.02
6.20	0.22	0.00	0.00	16.80	2.63	0.23	0.02
6.40	0.23	0.00	0.00	17.00	2.64	0.24	0.02
6.60	0.24	0.00	0.00	17.20	2.65	0.24	0.02
6.80	0.25	0.00	0.00	17.40	2.66	0.25	0.02
7.00	0.26	0.00	0.00	17.60	2.67	0.25	0.02
7.20	0.27	0.00	0.00	17.80	2.68	0.25	0.02
7.40	0.29	0.00	0.00	18.00	2.69	0.26	0.02
7.60	0.30	0.00	0.00	18.20	2.70	0.26	0.02
7.80	0.32	0.00	0.00	18.40	2.71	0.26	0.02
8.00	0.33	0.00	0.00	18.60	2.72	0.26	0.02
8.20	0.35	0.00	0.00	18.80	2.73	0.27	0.02
8.40	0.36	0.00	0.00	19.00	2.74	0.27	0.01
8.60	0.38	0.00	0.00	19.20	2.74	0.27	0.01
8.80	0.40	0.00	0.00	19.40	2.75	0.28	0.01
9.00	0.42	0.00	0.00	19.60	2.76	0.28	0.01
9.20	0.45	0.00	0.00	19.80	2.77	0.28	0.01
9.40	0.47	0.00	0.00	20.00	2.78	0.28	0.01
9.60	0.49	0.00	0.00	20.20	2.78	0.29	0.01
9.80	0.52	0.00	0.00	20.40	2.79	0.29	0.01
10.00	0.55	0.00	0.00	20.60	2.80	0.29	0.01
10.20	0.58	0.00	0.00	20.80	2.80	0.29	0.01
10.40	0.61	0.00	0.00	21.00	2.81	0.30	0.01

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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Subcatchment DA 2B: Drainage Area 2B Bypass (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	2.82	0.30	0.01
21.40	2.82	0.30	0.01
21.60	2.83	0.30	0.01
21.80	2.84	0.31	0.01
22.00	2.84	0.31	0.01
22.20	2.85	0.31	0.01
22.40	2.86	0.31	0.01
22.60	2.86	0.31	0.01
22.80	2.87	0.32	0.01
23.00	2.87	0.32	0.01
23.20	2.88	0.32	0.01
23.40	2.88	0.32	0.01
23.60	2.89	0.32	0.01
23.80	2.90	0.33	0.01
24.00	2.90	0.33	0.01

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Type III 24-hr 1-Year Rainfall=2.90"

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Summary for Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry

Runoff = 0.98 cfs @ 12.09 hrs, Volume= 0.071 af, Depth> 1.17"

Routed to Pond BIO : BioRetention 1 (South)

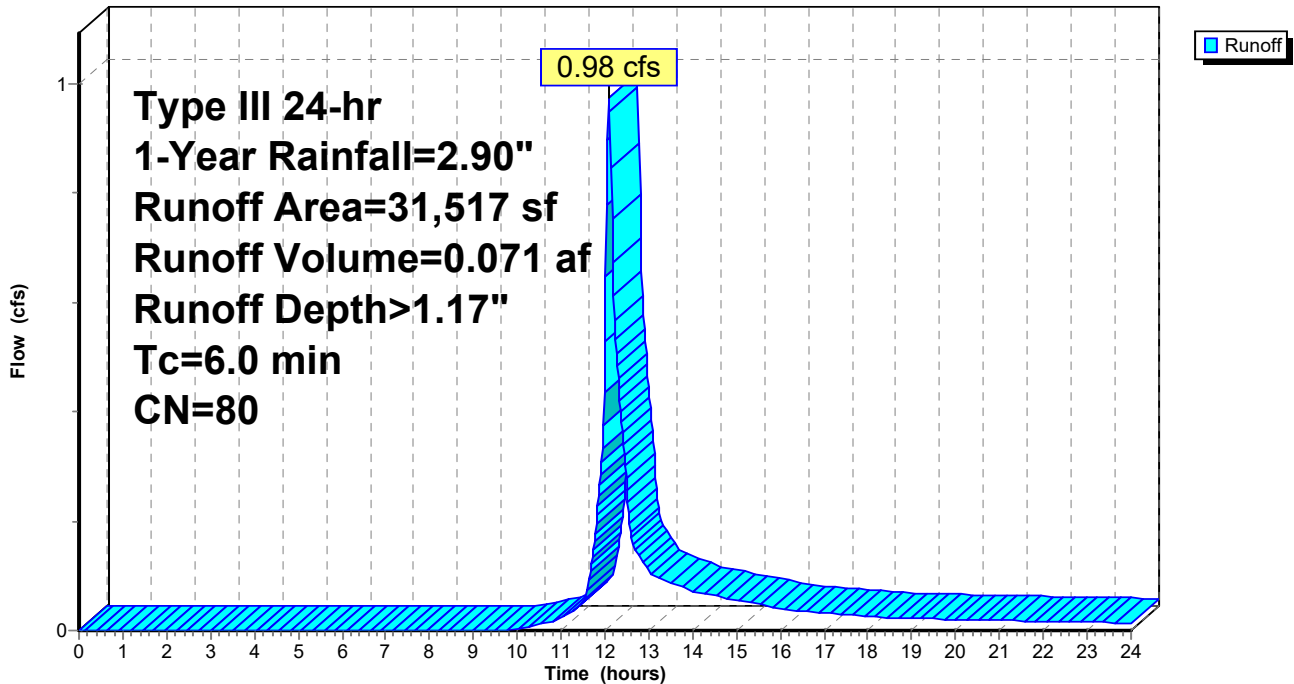
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
31,517	80	>75% Grass cover, Good, HSG D
31,517		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry

Hydrograph



Hydrograph for Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	0.65	0.01	0.01
0.20	0.01	0.00	0.00	10.80	0.68	0.01	0.02
0.40	0.01	0.00	0.00	11.00	0.73	0.02	0.02
0.60	0.02	0.00	0.00	11.20	0.77	0.03	0.03
0.80	0.02	0.00	0.00	11.40	0.83	0.04	0.04
1.00	0.03	0.00	0.00	11.60	0.91	0.06	0.07
1.20	0.03	0.00	0.00	11.80	1.08	0.11	0.19
1.40	0.04	0.00	0.00	12.00	1.45	0.26	0.53
1.60	0.05	0.00	0.00	12.20	1.82	0.45	0.61
1.80	0.05	0.00	0.00	12.40	1.99	0.56	0.36
2.00	0.06	0.00	0.00	12.60	2.07	0.60	0.17
2.20	0.06	0.00	0.00	12.80	2.13	0.64	0.13
2.40	0.07	0.00	0.00	13.00	2.18	0.67	0.11
2.60	0.08	0.00	0.00	13.20	2.22	0.70	0.10
2.80	0.08	0.00	0.00	13.40	2.25	0.72	0.09
3.00	0.09	0.00	0.00	13.60	2.29	0.75	0.08
3.20	0.10	0.00	0.00	13.80	2.32	0.77	0.08
3.40	0.10	0.00	0.00	14.00	2.35	0.79	0.07
3.60	0.11	0.00	0.00	14.20	2.38	0.81	0.07
3.80	0.12	0.00	0.00	14.40	2.41	0.82	0.07
4.00	0.12	0.00	0.00	14.60	2.43	0.84	0.06
4.20	0.13	0.00	0.00	14.80	2.45	0.86	0.06
4.40	0.14	0.00	0.00	15.00	2.48	0.87	0.06
4.60	0.15	0.00	0.00	15.20	2.50	0.89	0.05
4.80	0.16	0.00	0.00	15.40	2.52	0.90	0.05
5.00	0.16	0.00	0.00	15.60	2.54	0.91	0.05
5.20	0.17	0.00	0.00	15.80	2.55	0.93	0.04
5.40	0.18	0.00	0.00	16.00	2.57	0.94	0.04
5.60	0.19	0.00	0.00	16.20	2.58	0.95	0.04
5.80	0.20	0.00	0.00	16.40	2.60	0.96	0.04
6.00	0.21	0.00	0.00	16.60	2.61	0.97	0.04
6.20	0.22	0.00	0.00	16.80	2.63	0.98	0.03
6.40	0.23	0.00	0.00	17.00	2.64	0.99	0.03
6.60	0.24	0.00	0.00	17.20	2.65	0.99	0.03
6.80	0.25	0.00	0.00	17.40	2.66	1.00	0.03
7.00	0.26	0.00	0.00	17.60	2.67	1.01	0.03
7.20	0.27	0.00	0.00	17.80	2.68	1.02	0.03
7.40	0.29	0.00	0.00	18.00	2.69	1.02	0.02
7.60	0.30	0.00	0.00	18.20	2.70	1.03	0.02
7.80	0.32	0.00	0.00	18.40	2.71	1.04	0.02
8.00	0.33	0.00	0.00	18.60	2.72	1.04	0.02
8.20	0.35	0.00	0.00	18.80	2.73	1.05	0.02
8.40	0.36	0.00	0.00	19.00	2.74	1.06	0.02
8.60	0.38	0.00	0.00	19.20	2.74	1.06	0.02
8.80	0.40	0.00	0.00	19.40	2.75	1.07	0.02
9.00	0.42	0.00	0.00	19.60	2.76	1.07	0.02
9.20	0.45	0.00	0.00	19.80	2.77	1.08	0.02
9.40	0.47	0.00	0.00	20.00	2.78	1.08	0.02
9.60	0.49	0.00	0.00	20.20	2.78	1.09	0.02
9.80	0.52	0.00	0.00	20.40	2.79	1.09	0.02
10.00	0.55	0.00	0.00	20.60	2.80	1.10	0.02
10.20	0.58	0.00	0.01	20.80	2.80	1.11	0.02
10.40	0.61	0.00	0.01	21.00	2.81	1.11	0.02

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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	2.82	1.12	0.02
21.40	2.82	1.12	0.02
21.60	2.83	1.13	0.02
21.80	2.84	1.13	0.02
22.00	2.84	1.13	0.02
22.20	2.85	1.14	0.02
22.40	2.86	1.14	0.02
22.60	2.86	1.15	0.02
22.80	2.87	1.15	0.02
23.00	2.87	1.16	0.02
23.20	2.88	1.16	0.01
23.40	2.88	1.16	0.01
23.60	2.89	1.17	0.01
23.80	2.90	1.17	0.01
24.00	2.90	1.18	0.01

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Type III 24-hr 1-Year Rainfall=2.90"

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Summary for Subcatchment DA 4: Drainage Area 4

Runoff = 0.07 cfs @ 12.37 hrs, Volume= 0.013 af, Depth> 0.33"
Routed to Pond DET2 : MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

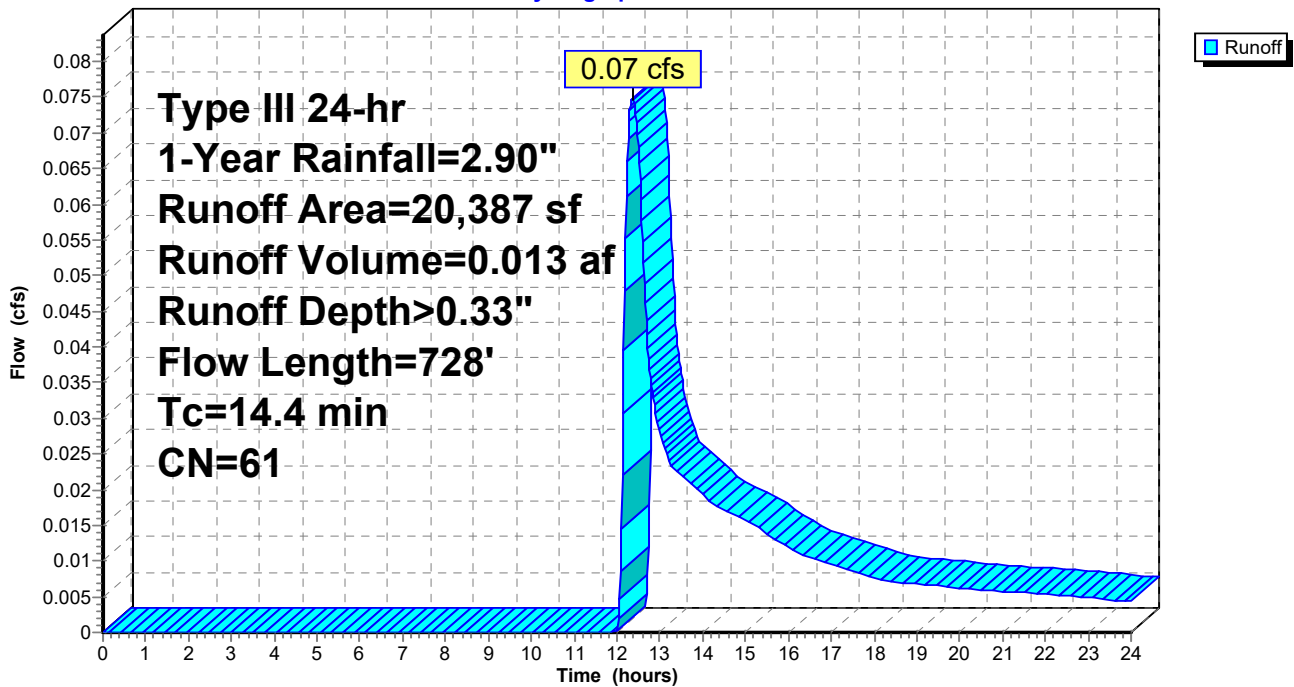
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
20,387	61	>75% Grass cover, Good, HSG B
20,387		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	100	0.0150	0.15		Sheet Flow, SF Grass: Short n= 0.150 P2= 3.11"
2.6	304	0.0150	1.97		Shallow Concentrated Flow, Grass SCF Unpaved Kv= 16.1 fps
0.6	324	0.0250	9.02	11.06	Pipe Channel, Pipe Flow 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
14.4	728	Total			

Subcatchment DA 4: Drainage Area 4

Hydrograph



Hydrograph for Subcatchment DA 4: Drainage Area 4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	0.65	0.00	0.00
0.20	0.01	0.00	0.00	10.80	0.68	0.00	0.00
0.40	0.01	0.00	0.00	11.00	0.73	0.00	0.00
0.60	0.02	0.00	0.00	11.20	0.77	0.00	0.00
0.80	0.02	0.00	0.00	11.40	0.83	0.00	0.00
1.00	0.03	0.00	0.00	11.60	0.91	0.00	0.00
1.20	0.03	0.00	0.00	11.80	1.08	0.00	0.00
1.40	0.04	0.00	0.00	12.00	1.45	0.00	0.00
1.60	0.05	0.00	0.00	12.20	1.82	0.04	0.06
1.80	0.05	0.00	0.00	12.40	1.99	0.07	0.07
2.00	0.06	0.00	0.00	12.60	2.07	0.09	0.05
2.20	0.06	0.00	0.00	12.80	2.13	0.10	0.03
2.40	0.07	0.00	0.00	13.00	2.18	0.11	0.03
2.60	0.08	0.00	0.00	13.20	2.22	0.12	0.02
2.80	0.08	0.00	0.00	13.40	2.25	0.13	0.02
3.00	0.09	0.00	0.00	13.60	2.29	0.14	0.02
3.20	0.10	0.00	0.00	13.80	2.32	0.15	0.02
3.40	0.10	0.00	0.00	14.00	2.35	0.15	0.02
3.60	0.11	0.00	0.00	14.20	2.38	0.16	0.02
3.80	0.12	0.00	0.00	14.40	2.41	0.17	0.02
4.00	0.12	0.00	0.00	14.60	2.43	0.18	0.02
4.20	0.13	0.00	0.00	14.80	2.45	0.18	0.02
4.40	0.14	0.00	0.00	15.00	2.48	0.19	0.02
4.60	0.15	0.00	0.00	15.20	2.50	0.20	0.01
4.80	0.16	0.00	0.00	15.40	2.52	0.20	0.01
5.00	0.16	0.00	0.00	15.60	2.54	0.21	0.01
5.20	0.17	0.00	0.00	15.80	2.55	0.21	0.01
5.40	0.18	0.00	0.00	16.00	2.57	0.22	0.01
5.60	0.19	0.00	0.00	16.20	2.58	0.22	0.01
5.80	0.20	0.00	0.00	16.40	2.60	0.23	0.01
6.00	0.21	0.00	0.00	16.60	2.61	0.23	0.01
6.20	0.22	0.00	0.00	16.80	2.63	0.23	0.01
6.40	0.23	0.00	0.00	17.00	2.64	0.24	0.01
6.60	0.24	0.00	0.00	17.20	2.65	0.24	0.01
6.80	0.25	0.00	0.00	17.40	2.66	0.25	0.01
7.00	0.26	0.00	0.00	17.60	2.67	0.25	0.01
7.20	0.27	0.00	0.00	17.80	2.68	0.25	0.01
7.40	0.29	0.00	0.00	18.00	2.69	0.26	0.01
7.60	0.30	0.00	0.00	18.20	2.70	0.26	0.01
7.80	0.32	0.00	0.00	18.40	2.71	0.26	0.01
8.00	0.33	0.00	0.00	18.60	2.72	0.26	0.01
8.20	0.35	0.00	0.00	18.80	2.73	0.27	0.01
8.40	0.36	0.00	0.00	19.00	2.74	0.27	0.01
8.60	0.38	0.00	0.00	19.20	2.74	0.27	0.01
8.80	0.40	0.00	0.00	19.40	2.75	0.28	0.01
9.00	0.42	0.00	0.00	19.60	2.76	0.28	0.01
9.20	0.45	0.00	0.00	19.80	2.77	0.28	0.01
9.40	0.47	0.00	0.00	20.00	2.78	0.28	0.01
9.60	0.49	0.00	0.00	20.20	2.78	0.29	0.01
9.80	0.52	0.00	0.00	20.40	2.79	0.29	0.01
10.00	0.55	0.00	0.00	20.60	2.80	0.29	0.01
10.20	0.58	0.00	0.00	20.80	2.80	0.29	0.01
10.40	0.61	0.00	0.00	21.00	2.81	0.30	0.01

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Hydrograph for Subcatchment DA 4: Drainage Area 4 (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	2.82	0.30	0.01
21.40	2.82	0.30	0.01
21.60	2.83	0.30	0.01
21.80	2.84	0.31	0.01
22.00	2.84	0.31	0.01
22.20	2.85	0.31	0.01
22.40	2.86	0.31	0.01
22.60	2.86	0.31	0.01
22.80	2.87	0.32	0.00
23.00	2.87	0.32	0.00
23.20	2.88	0.32	0.00
23.40	2.88	0.32	0.00
23.60	2.89	0.32	0.00
23.80	2.90	0.33	0.00
24.00	2.90	0.33	0.00

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Type III 24-hr 1-Year Rainfall=2.90"

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Summary for Subcatchment OFF: Offsite Drainage Area

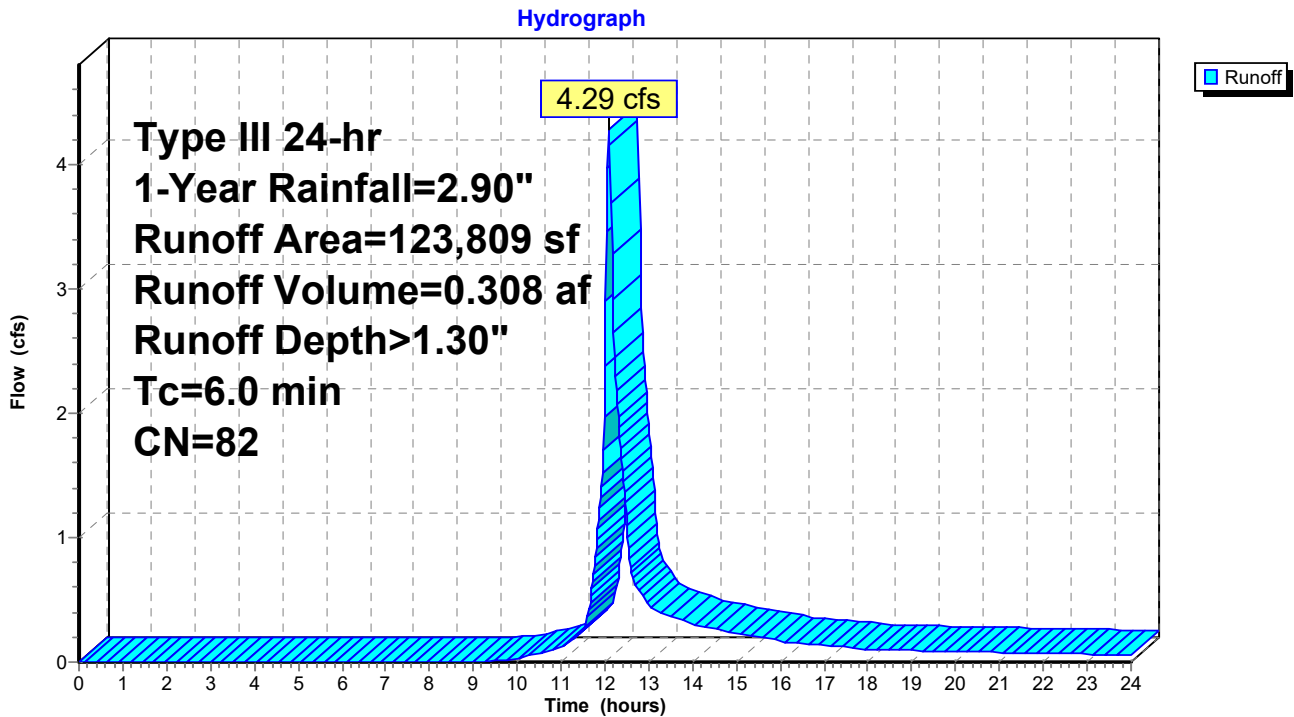
Runoff = 4.29 cfs @ 12.09 hrs, Volume= 0.308 af, Depth> 1.30"
Routed to Pond DET2 : MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 1-Year Rainfall=2.90"

Area (sf)	CN	Description
52,228	61	>75% Grass cover, Good, HSG B
* 71,581	98	Impervious Surfaces
123,809	82	Weighted Average
52,228		42.18% Pervious Area
71,581		57.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment OFF: Offsite Drainage Area



Hydrograph for Subcatchment OFF: Offsite Drainage Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	0.65	0.02	0.08
0.20	0.01	0.00	0.00	10.80	0.68	0.02	0.10
0.40	0.01	0.00	0.00	11.00	0.73	0.03	0.12
0.60	0.02	0.00	0.00	11.20	0.77	0.04	0.16
0.80	0.02	0.00	0.00	11.40	0.83	0.06	0.22
1.00	0.03	0.00	0.00	11.60	0.91	0.08	0.34
1.20	0.03	0.00	0.00	11.80	1.08	0.15	0.91
1.40	0.04	0.00	0.00	12.00	1.45	0.32	2.38
1.60	0.05	0.00	0.00	12.20	1.82	0.53	2.64
1.80	0.05	0.00	0.00	12.40	1.99	0.64	1.54
2.00	0.06	0.00	0.00	12.60	2.07	0.69	0.71
2.20	0.06	0.00	0.00	12.80	2.13	0.73	0.56
2.40	0.07	0.00	0.00	13.00	2.18	0.77	0.46
2.60	0.08	0.00	0.00	13.20	2.22	0.79	0.41
2.80	0.08	0.00	0.00	13.40	2.25	0.82	0.38
3.00	0.09	0.00	0.00	13.60	2.29	0.85	0.36
3.20	0.10	0.00	0.00	13.80	2.32	0.87	0.33
3.40	0.10	0.00	0.00	14.00	2.35	0.89	0.30
3.60	0.11	0.00	0.00	14.20	2.38	0.91	0.28
3.80	0.12	0.00	0.00	14.40	2.41	0.93	0.27
4.00	0.12	0.00	0.00	14.60	2.43	0.95	0.26
4.20	0.13	0.00	0.00	14.80	2.45	0.97	0.25
4.40	0.14	0.00	0.00	15.00	2.48	0.98	0.23
4.60	0.15	0.00	0.00	15.20	2.50	1.00	0.22
4.80	0.16	0.00	0.00	15.40	2.52	1.01	0.21
5.00	0.16	0.00	0.00	15.60	2.54	1.02	0.19
5.20	0.17	0.00	0.00	15.80	2.55	1.04	0.18
5.40	0.18	0.00	0.00	16.00	2.57	1.05	0.17
5.60	0.19	0.00	0.00	16.20	2.58	1.06	0.16
5.80	0.20	0.00	0.00	16.40	2.60	1.07	0.15
6.00	0.21	0.00	0.00	16.60	2.61	1.08	0.15
6.20	0.22	0.00	0.00	16.80	2.63	1.09	0.14
6.40	0.23	0.00	0.00	17.00	2.64	1.10	0.13
6.60	0.24	0.00	0.00	17.20	2.65	1.11	0.13
6.80	0.25	0.00	0.00	17.40	2.66	1.12	0.12
7.00	0.26	0.00	0.00	17.60	2.67	1.13	0.12
7.20	0.27	0.00	0.00	17.80	2.68	1.13	0.11
7.40	0.29	0.00	0.00	18.00	2.69	1.14	0.10
7.60	0.30	0.00	0.00	18.20	2.70	1.15	0.10
7.80	0.32	0.00	0.00	18.40	2.71	1.15	0.10
8.00	0.33	0.00	0.00	18.60	2.72	1.16	0.10
8.20	0.35	0.00	0.00	18.80	2.73	1.17	0.09
8.40	0.36	0.00	0.00	19.00	2.74	1.17	0.09
8.60	0.38	0.00	0.00	19.20	2.74	1.18	0.09
8.80	0.40	0.00	0.00	19.40	2.75	1.19	0.09
9.00	0.42	0.00	0.00	19.60	2.76	1.19	0.09
9.20	0.45	0.00	0.00	19.80	2.77	1.20	0.09
9.40	0.47	0.00	0.01	20.00	2.78	1.20	0.08
9.60	0.49	0.00	0.01	20.20	2.78	1.21	0.08
9.80	0.52	0.00	0.02	20.40	2.79	1.22	0.08
10.00	0.55	0.01	0.03	20.60	2.80	1.22	0.08
10.20	0.58	0.01	0.04	20.80	2.80	1.23	0.08
10.40	0.61	0.01	0.06	21.00	2.81	1.23	0.08

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Hydrograph for Subcatchment OFF: Offsite Drainage Area (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	2.82	1.24	0.08
21.40	2.82	1.24	0.07
21.60	2.83	1.25	0.07
21.80	2.84	1.25	0.07
22.00	2.84	1.26	0.07
22.20	2.85	1.26	0.07
22.40	2.86	1.27	0.07
22.60	2.86	1.27	0.07
22.80	2.87	1.28	0.06
23.00	2.87	1.28	0.06
23.20	2.88	1.28	0.06
23.40	2.88	1.29	0.06
23.60	2.89	1.29	0.06
23.80	2.90	1.30	0.06
24.00	2.90	1.30	0.06

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Summary for Pond BIO: BioRetention 1 (South)

Inflow Area = 4.532 ac, 84.04% Impervious, Inflow Depth > 1.47" for 1-Year event
 Inflow = 1.95 cfs @ 12.09 hrs, Volume= 0.554 af
 Outflow = 0.59 cfs @ 13.85 hrs, Volume= 0.347 af, Atten= 70%, Lag= 105.6 min
 Primary = 0.59 cfs @ 13.85 hrs, Volume= 0.347 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs / 2
 Peak Elev= 299.55' @ 13.85 hrs Surf.Area= 18,376 sf Storage= 9,876 cf

Plug-Flow detention time= 257.8 min calculated for 0.347 af (63% of inflow)
 Center-of-Mass det. time= 105.6 min (895.4 - 789.8)

Volume	Invert	Avail.Storage	Storage Description
#1	299.00'	18,277 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
299.00	17,341	0	0
300.00	19,212	18,277	18,277

Device	Routing	Invert	Outlet Devices
#1	Primary	299.50'	24.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	299.00'	0.250 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 102.00'

Primary OutFlow Max=0.59 cfs @ 13.85 hrs HW=299.55' (Free Discharge)

- 1=Orifice/Grate (Weir Controls 0.48 cfs @ 0.75 fps)
- 2=Exfiltration (Controls 0.11 cfs)

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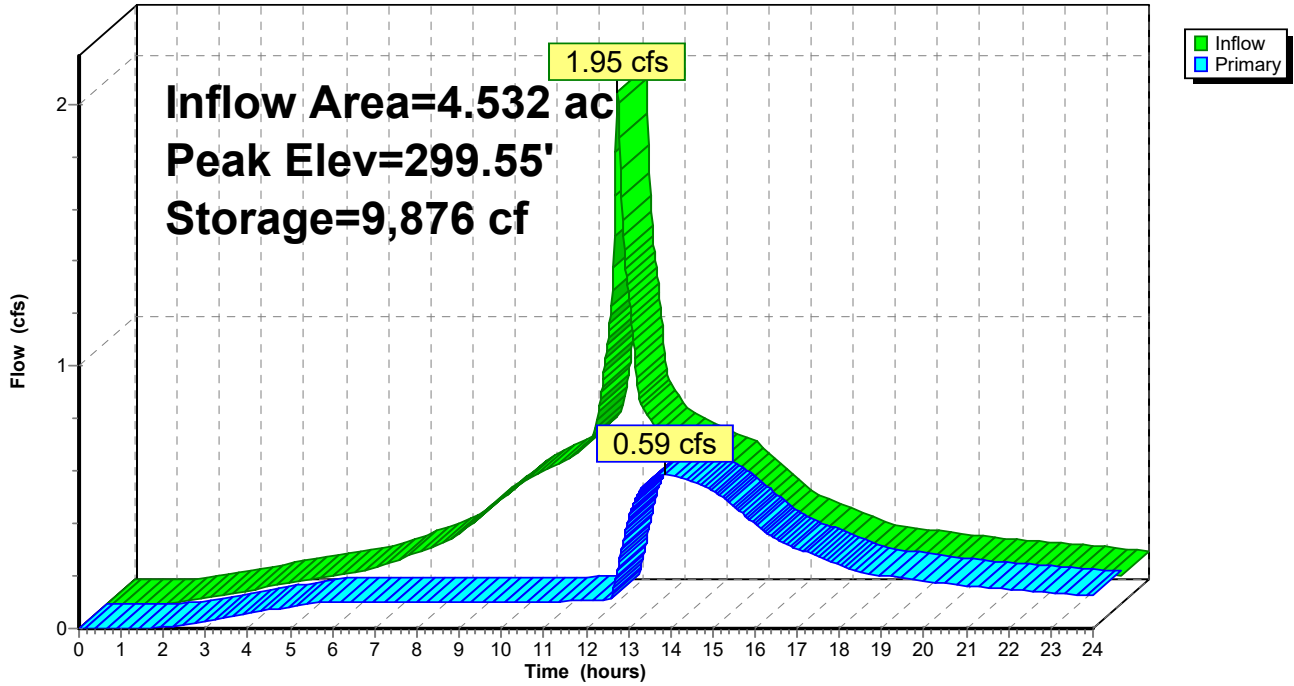
Type III 24-hr 1-Year Rainfall=2.90"

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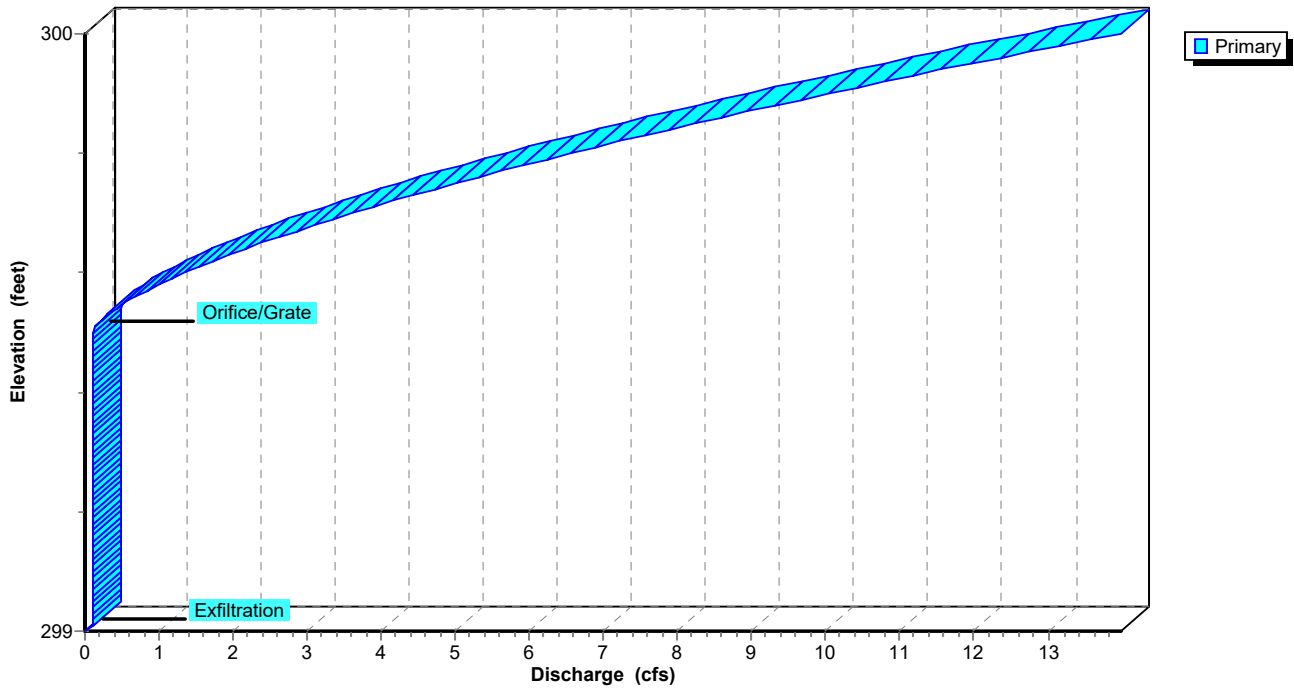
Pond BIO: BioRetention 1 (South)

Hydrograph

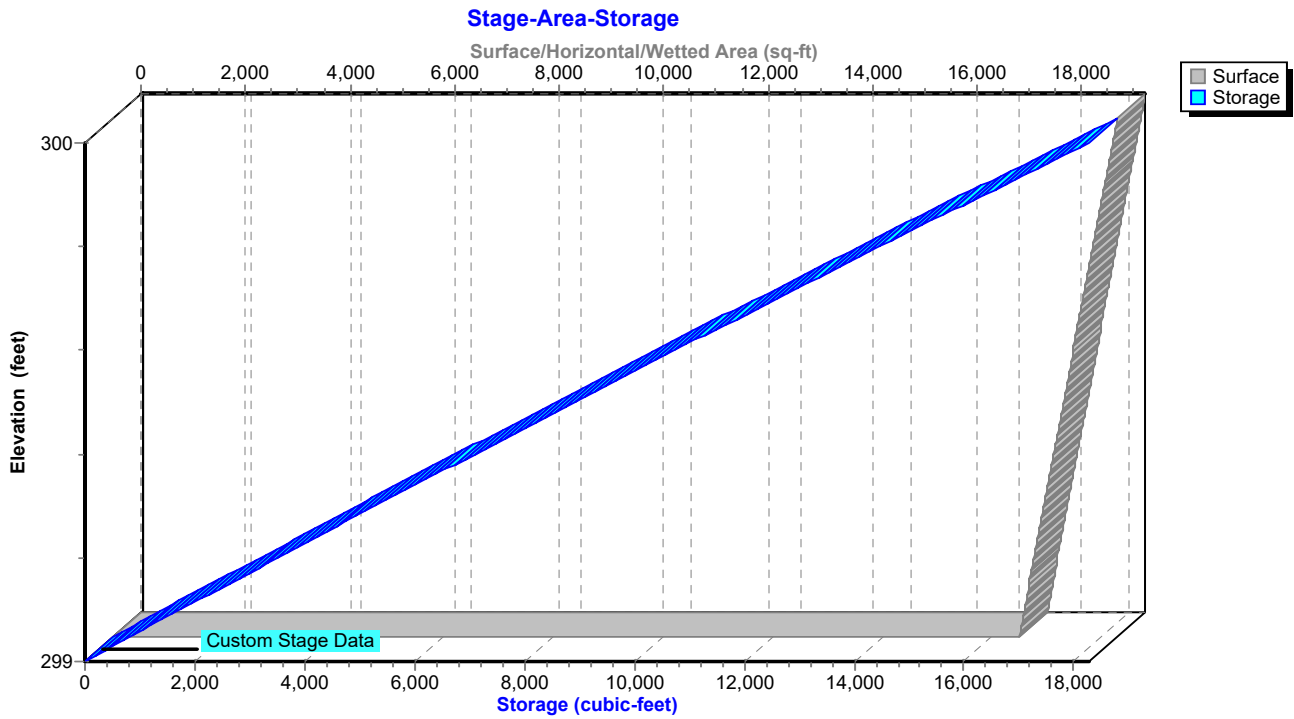


Pond BIO: BioRetention 1 (South)

Stage-Discharge



Pond BIO: BioRetention 1 (South)



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Hydrograph for Pond BIO: BioRetention 1 (South)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	299.00	0.00
0.20	0.00	0	299.00	0.00
0.40	0.00	0	299.00	0.00
0.60	0.00	0	299.00	0.00
0.80	0.00	0	299.00	0.00
1.00	0.00	0	299.00	0.00
1.20	0.00	0	299.00	0.00
1.40	0.00	0	299.00	0.00
1.60	0.00	1	299.00	0.00
1.80	0.01	4	299.00	0.00
2.00	0.01	10	299.00	0.01
2.20	0.02	16	299.00	0.01
2.40	0.03	24	299.00	0.01
2.60	0.03	32	299.00	0.02
2.80	0.04	41	299.00	0.02
3.00	0.04	50	299.00	0.03
3.20	0.05	59	299.00	0.03
3.40	0.05	69	299.00	0.04
3.60	0.06	78	299.00	0.05
3.80	0.06	88	299.01	0.05
4.00	0.07	97	299.01	0.06
4.20	0.08	107	299.01	0.06
4.40	0.08	116	299.01	0.07
4.60	0.09	126	299.01	0.07
4.80	0.09	135	299.01	0.08
5.00	0.10	144	299.01	0.08
5.20	0.10	154	299.01	0.09
5.40	0.11	163	299.01	0.09
5.60	0.11	172	299.01	0.10
5.80	0.12	182	299.01	0.10
6.00	0.12	196	299.01	0.10
6.20	0.13	214	299.01	0.10
6.40	0.14	239	299.01	0.10
6.60	0.15	273	299.02	0.10
6.80	0.16	314	299.02	0.10
7.00	0.17	363	299.02	0.10
7.20	0.19	420	299.02	0.10
7.40	0.20	487	299.03	0.10
7.60	0.21	561	299.03	0.10
7.80	0.22	644	299.04	0.10
8.00	0.23	736	299.04	0.10
8.20	0.25	838	299.05	0.10
8.40	0.28	957	299.06	0.10
8.60	0.30	1,093	299.06	0.10
8.80	0.33	1,248	299.07	0.10
9.00	0.35	1,421	299.08	0.10
9.20	0.38	1,613	299.09	0.10
9.40	0.41	1,824	299.10	0.10
9.60	0.43	2,054	299.12	0.10
9.80	0.46	2,303	299.13	0.10
10.00	0.48	2,571	299.15	0.10
10.20	0.50	2,849	299.16	0.10
10.40	0.51	3,139	299.18	0.10

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Hydrograph for Pond BIO: BioRetention 1 (South) (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
10.60	0.53	3,441	299.20	0.10
10.80	0.54	3,753	299.21	0.10
11.00	0.56	4,074	299.23	0.10
11.20	0.58	4,409	299.25	0.10
11.40	0.62	4,770	299.27	0.10
11.60	0.69	5,160	299.29	0.10
11.80	0.93	5,666	299.32	0.10
12.00	1.41	6,380	299.36	0.10
12.20	1.46	7,551	299.43	0.11
12.40	1.10	8,379	299.47	0.11
12.60	0.78	8,975	299.50	0.12
12.80	0.72	9,373	299.53	0.27
13.00	0.67	9,623	299.54	0.41
13.20	0.64	9,757	299.55	0.50
13.40	0.62	9,829	299.55	0.55
13.60	0.61	9,864	299.55	0.58
13.80	0.59	9,876	299.55	0.59
14.00	0.57	9,873	299.55	0.58
14.20	0.56	9,862	299.55	0.58
14.40	0.55	9,849	299.55	0.57
14.60	0.54	9,835	299.55	0.56
14.80	0.51	9,817	299.55	0.54
15.00	0.48	9,791	299.55	0.52
15.20	0.45	9,758	299.55	0.50
15.40	0.43	9,722	299.54	0.48
15.60	0.40	9,683	299.54	0.45
15.80	0.37	9,643	299.54	0.42
16.00	0.34	9,602	299.54	0.40
16.20	0.32	9,560	299.54	0.37
16.40	0.31	9,524	299.53	0.35
16.60	0.29	9,494	299.53	0.33
16.80	0.28	9,467	299.53	0.32
17.00	0.27	9,442	299.53	0.30
17.20	0.26	9,417	299.53	0.29
17.40	0.24	9,392	299.53	0.28
17.60	0.23	9,368	299.53	0.27
17.80	0.22	9,343	299.52	0.25
18.00	0.21	9,318	299.52	0.24
18.20	0.20	9,295	299.52	0.23
18.40	0.20	9,275	299.52	0.22
18.60	0.19	9,259	299.52	0.21
18.80	0.19	9,245	299.52	0.21
19.00	0.18	9,232	299.52	0.20
19.20	0.18	9,220	299.52	0.20
19.40	0.18	9,208	299.52	0.19
19.60	0.17	9,197	299.52	0.19
19.80	0.17	9,186	299.52	0.18
20.00	0.17	9,176	299.51	0.18
20.20	0.16	9,166	299.51	0.18
20.40	0.16	9,156	299.51	0.17
20.60	0.16	9,147	299.51	0.17
20.80	0.15	9,139	299.51	0.17
21.00	0.15	9,131	299.51	0.16

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Hydrograph for Pond BIO: BioRetention 1 (South) (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
21.20	0.15	9,123	299.51	0.16
21.40	0.15	9,115	299.51	0.16
21.60	0.14	9,107	299.51	0.15
21.80	0.14	9,100	299.51	0.15
22.00	0.14	9,092	299.51	0.15
22.20	0.13	9,085	299.51	0.14
22.40	0.13	9,077	299.51	0.14
22.60	0.13	9,068	299.51	0.14
22.80	0.13	9,059	299.51	0.14
23.00	0.12	9,049	299.51	0.14
23.20	0.12	9,039	299.51	0.13
23.40	0.12	9,028	299.51	0.13
23.60	0.11	9,017	299.51	0.13
23.80	0.11	9,005	299.51	0.13
24.00	0.11	8,994	299.50	0.13

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Stage-Discharge for Pond BIO: BioRetention 1 (South)

Elevation (feet)	Primary (cfs)
299.00	0.00
299.10	0.10
299.20	0.10
299.30	0.10
299.40	0.10
299.50	0.11
299.60	1.35
299.70	3.62
299.80	6.56
299.90	10.04
300.00	13.99

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Stage-Area-Storage for Pond BIO: BioRetention 1 (South)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
299.00	17,341	0
299.10	17,528	1,743
299.20	17,715	3,506
299.30	17,902	5,286
299.40	18,089	7,086
299.50	18,277	8,904
299.60	18,464	10,741
299.70	18,651	12,597
299.80	18,838	14,472
299.90	19,025	16,365
300.00	19,212	18,277

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Summary for Pond DET1: MC-4500 StormTech DETENTION ONLY

[81] Warning: Exceeded Pond SPLIT by 2.16' @ 12.64 hrs

Inflow = 9.70 cfs @ 12.08 hrs, Volume= 0.363 af
 Outflow = 1.01 cfs @ 12.56 hrs, Volume= 0.363 af, Atten= 90%, Lag= 28.8 min
 Primary = 1.01 cfs @ 12.56 hrs, Volume= 0.363 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Peak Elev= 305.07' @ 12.56 hrs Surf.Area= 0.089 ac Storage= 0.269 af

Plug-Flow detention time= 160.7 min calculated for 0.363 af (100% of inflow)
 Center-of-Mass det. time= 160.4 min (887.2 - 726.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	300.93'	0.145 af	37.58'W x 103.72'L x 6.75'H Field A 0.604 af Overall - 0.241 af Embedded = 0.363 af x 40.0% Voids
#2A	301.68'	0.241 af	ADS_StormTech MC-4500 +Cap x 96 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 96 Chambers in 4 Rows Cap Storage= 35.7 cf x 2 x 4 rows = 285.6 cf
		0.386 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	300.93'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#2	Primary	305.00'	36.0" W x 18.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	307.18'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.00 cfs @ 12.56 hrs HW=305.07' (Free Discharge)

- 1=Underdrain (Orifice Controls 0.84 cfs @ 9.59 fps)
- 2=Orifice/Grate (Orifice Controls 0.17 cfs @ 0.83 fps)
- 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Pond DET1: MC-4500 StormTech DETENTION ONLY - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-4500 +Cap (ADS StormTech®MC-4500 with cap, use MC-4500 b for new designs)

Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf

Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap

Cap Storage= 35.7 cf x 2 x 4 rows = 285.6 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

24 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 101.72' Row Length +12.0" End Stone x 2 = 103.72' Base Length

4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width

9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

96 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 4 Rows = 10,508.7 cf Chamber Storage

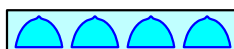
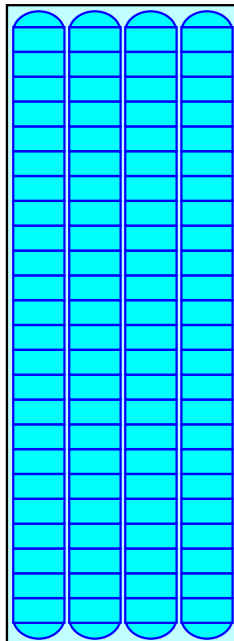
26,311.6 cf Field - 10,508.7 cf Chambers = 15,802.9 cf Stone x 40.0% Voids = 6,321.2 cf Stone Storage

Chamber Storage + Stone Storage = 16,829.9 cf = 0.386 af

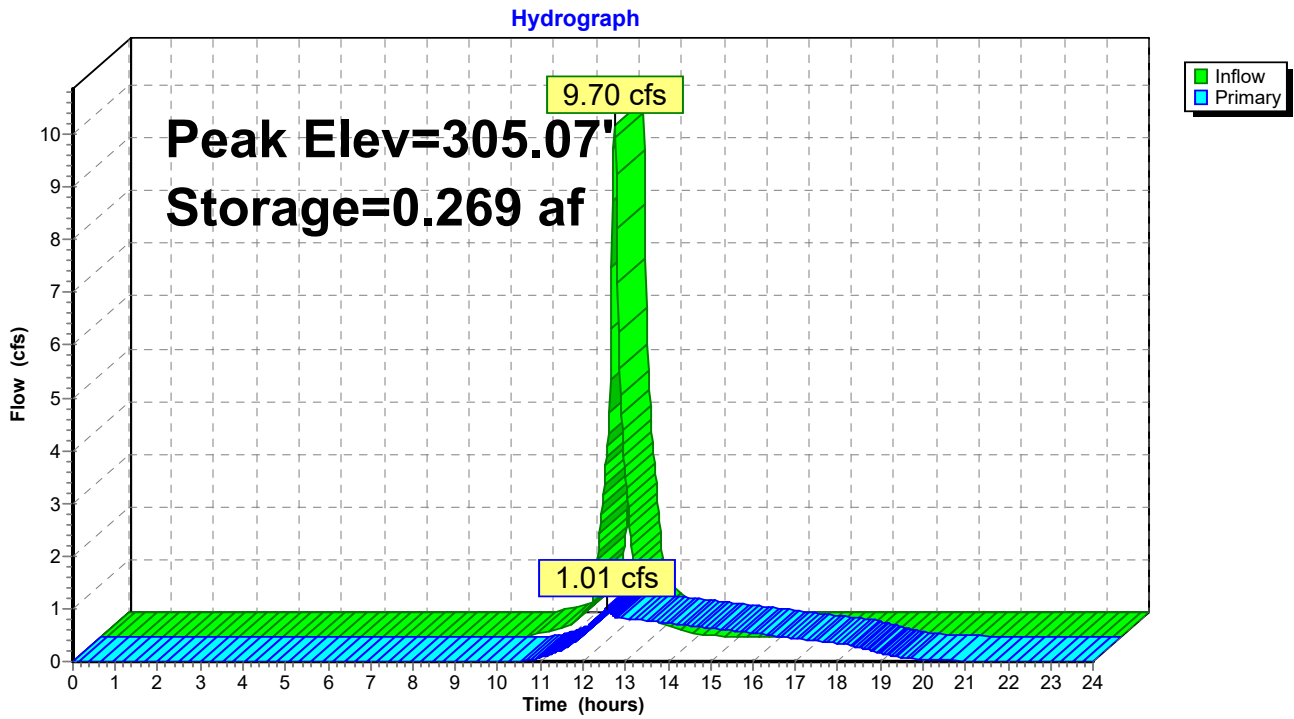
Overall Storage Efficiency = 64.0%

Overall System Size = 103.72' x 37.58' x 6.75'

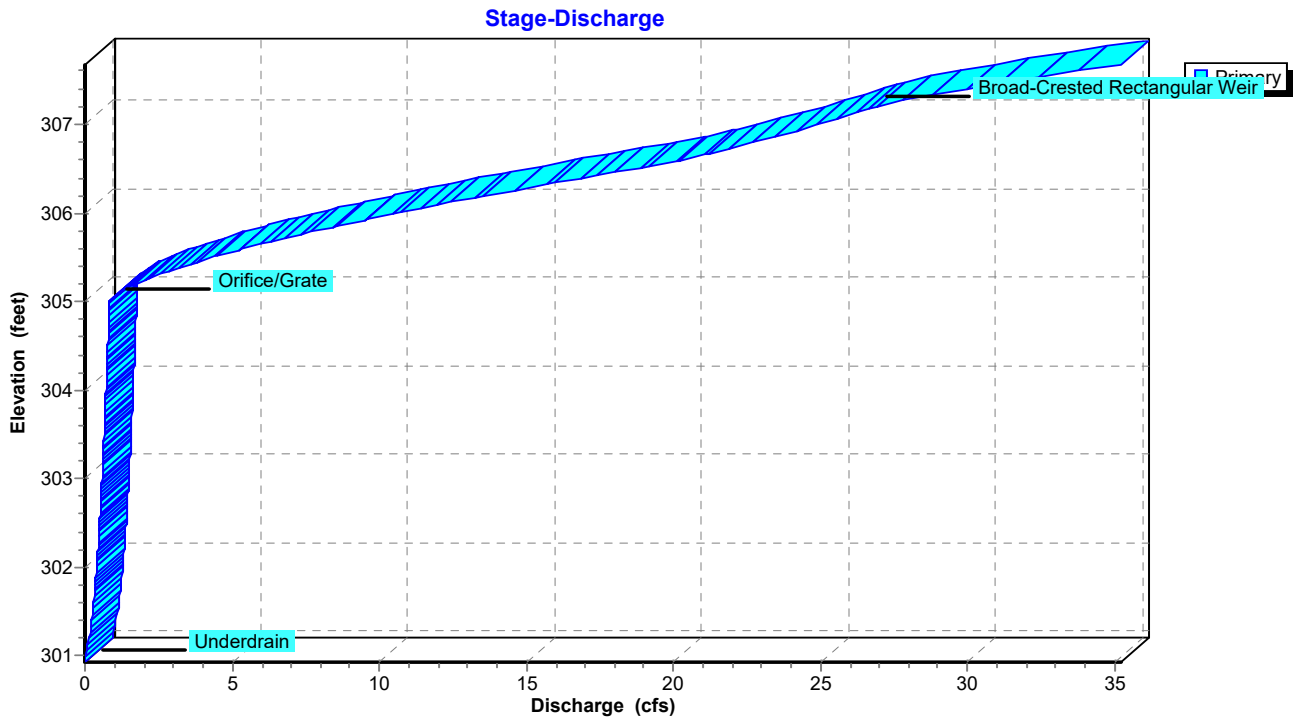
96 Chambers
974.5 cy Field
585.3 cy Stone



Pond DET1: MC-4500 StormTech DETENTION ONLY



Pond DET1: MC-4500 StormTech DETENTION ONLY



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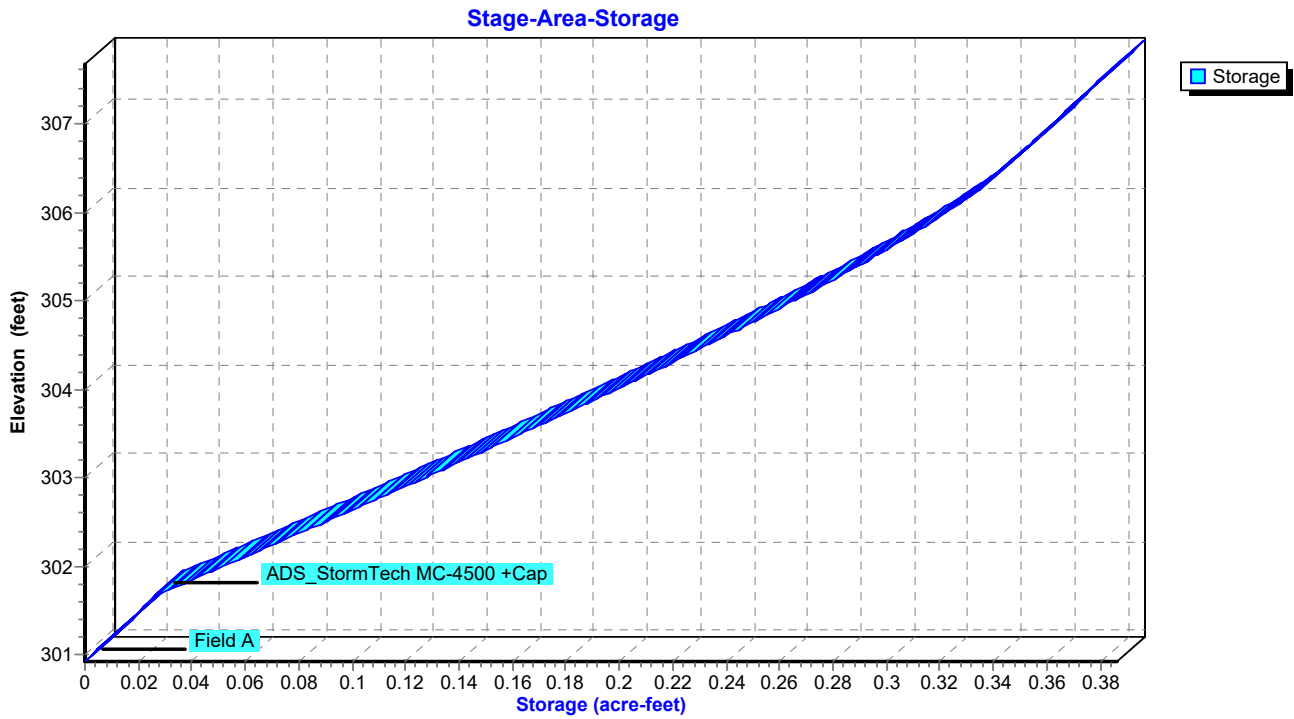
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Pond DET1: MC-4500 StormTech DETENTION ONLY



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Hydrograph for Pond DET1: MC-4500 StormTech DETENTION ONLY

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	300.93	0.00
0.20	0.00	0.000	300.93	0.00
0.40	0.00	0.000	300.93	0.00
0.60	0.00	0.000	300.93	0.00
0.80	0.00	0.000	300.93	0.00
1.00	0.00	0.000	300.93	0.00
1.20	0.00	0.000	300.93	0.00
1.40	0.00	0.000	300.93	0.00
1.60	0.00	0.000	300.93	0.00
1.80	0.00	0.000	300.93	0.00
2.00	0.00	0.000	300.93	0.00
2.20	0.00	0.000	300.93	0.00
2.40	0.00	0.000	300.93	0.00
2.60	0.00	0.000	300.93	0.00
2.80	0.00	0.000	300.93	0.00
3.00	0.00	0.000	300.93	0.00
3.20	0.00	0.000	300.93	0.00
3.40	0.00	0.000	300.93	0.00
3.60	0.00	0.000	300.93	0.00
3.80	0.00	0.000	300.93	0.00
4.00	0.00	0.000	300.93	0.00
4.20	0.00	0.000	300.93	0.00
4.40	0.00	0.000	300.93	0.00
4.60	0.00	0.000	300.93	0.00
4.80	0.00	0.000	300.93	0.00
5.00	0.00	0.000	300.93	0.00
5.20	0.00	0.000	300.93	0.00
5.40	0.00	0.000	300.93	0.00
5.60	0.00	0.000	300.93	0.00
5.80	0.00	0.000	300.93	0.00
6.00	0.00	0.000	300.93	0.00
6.20	0.00	0.000	300.93	0.00
6.40	0.00	0.000	300.93	0.00
6.60	0.00	0.000	300.93	0.00
6.80	0.00	0.000	300.93	0.00
7.00	0.00	0.000	300.93	0.00
7.20	0.00	0.000	300.93	0.00
7.40	0.00	0.000	300.93	0.00
7.60	0.00	0.000	300.93	0.00
7.80	0.00	0.000	300.93	0.00
8.00	0.00	0.000	300.93	0.00
8.20	0.00	0.000	300.93	0.00
8.40	0.00	0.000	300.93	0.00
8.60	0.00	0.000	300.93	0.00
8.80	0.00	0.000	300.93	0.00
9.00	0.00	0.000	300.93	0.00
9.20	0.00	0.000	300.93	0.00
9.40	0.00	0.000	300.93	0.00
9.60	0.00	0.000	300.93	0.00
9.80	0.00	0.000	300.93	0.00
10.00	0.01	0.000	300.93	0.00
10.20	0.04	0.000	300.94	0.00
10.40	0.08	0.001	300.97	0.01

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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Pond DET1: MC-4500 StormTech DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
10.60	0.12	0.003	301.01	0.02
10.80	0.16	0.005	301.06	0.04
11.00	0.21	0.007	301.12	0.08
11.20	0.32	0.009	301.19	0.13
11.40	0.50	0.013	301.31	0.19
11.60	0.84	0.020	301.48	0.26
11.80	2.51	0.042	301.87	0.37
12.00	5.85	0.094	302.56	0.51
12.20	5.10	0.213	304.21	0.74
12.40	2.45	0.258	304.89	0.82
12.60	0.81	0.269	305.06	0.99
12.80	0.52	0.265	304.99	0.83
13.00	0.34	0.258	304.89	0.82
13.20	0.24	0.249	304.75	0.80
13.40	0.19	0.240	304.61	0.79
13.60	0.15	0.230	304.46	0.77
13.80	0.11	0.219	304.30	0.75
14.00	0.07	0.208	304.14	0.73
14.20	0.04	0.197	303.98	0.71
14.40	0.02	0.186	303.82	0.69
14.60	0.00	0.175	303.66	0.67
14.80	0.00	0.164	303.51	0.65
15.00	0.00	0.153	303.36	0.63
15.20	0.00	0.143	303.22	0.61
15.40	0.00	0.133	303.09	0.59
15.60	0.00	0.124	302.96	0.57
15.80	0.00	0.114	302.83	0.55
16.00	0.00	0.105	302.71	0.53
16.20	0.00	0.097	302.60	0.51
16.40	0.00	0.088	302.48	0.50
16.60	0.00	0.080	302.38	0.48
16.80	0.00	0.073	302.28	0.46
17.00	0.00	0.065	302.18	0.44
17.20	0.00	0.058	302.09	0.42
17.40	0.00	0.051	302.00	0.40
17.60	0.00	0.045	301.91	0.38
17.80	0.00	0.039	301.83	0.36
18.00	0.00	0.033	301.76	0.34
18.20	0.00	0.027	301.69	0.32
18.40	0.00	0.022	301.56	0.28
18.60	0.00	0.018	301.43	0.24
18.80	0.00	0.014	301.33	0.20
19.00	0.00	0.011	301.25	0.16
19.20	0.00	0.009	301.18	0.12
19.40	0.00	0.007	301.13	0.09
19.60	0.00	0.006	301.10	0.06
19.80	0.00	0.005	301.07	0.05
20.00	0.00	0.004	301.06	0.04
20.20	0.00	0.004	301.04	0.03
20.40	0.00	0.003	301.03	0.02
20.60	0.00	0.003	301.02	0.02
20.80	0.00	0.003	301.01	0.02
21.00	0.00	0.003	301.00	0.01

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Hydrograph for Pond DET1: MC-4500 StormTech DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
21.20	0.00	0.002	301.00	0.01
21.40	0.00	0.002	300.99	0.01
21.60	0.00	0.002	300.99	0.01
21.80	0.00	0.002	300.98	0.01
22.00	0.00	0.002	300.98	0.01
22.20	0.00	0.002	300.98	0.01
22.40	0.00	0.002	300.97	0.01
22.60	0.00	0.001	300.97	0.01
22.80	0.00	0.001	300.97	0.01
23.00	0.00	0.001	300.96	0.01
23.20	0.00	0.001	300.96	0.01
23.40	0.00	0.001	300.96	0.00
23.60	0.00	0.001	300.96	0.00
23.80	0.00	0.001	300.95	0.00
24.00	0.00	0.001	300.95	0.00

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Stage-Discharge for Pond DET1: MC-4500 StormTech DETENTION ONLY

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
300.93	0.00	306.23	14.09
301.03	0.02	306.33	15.73
301.13	0.08	306.43	17.44
301.23	0.15	306.53	19.15
301.33	0.20	306.63	20.58
301.43	0.24	306.73	21.85
301.53	0.28	306.83	23.02
301.63	0.31	306.93	24.12
301.73	0.33	307.03	25.16
301.83	0.36	307.13	26.15
301.93	0.38	307.23	27.23
302.03	0.41	307.33	28.67
302.13	0.43	307.43	30.31
302.23	0.45	307.53	32.15
302.33	0.47	307.63	34.15
302.43	0.49		
302.53	0.50		
302.63	0.52		
302.73	0.54		
302.83	0.55		
302.93	0.57		
303.03	0.58		
303.13	0.60		
303.23	0.61		
303.33	0.63		
303.43	0.64		
303.53	0.66		
303.63	0.67		
303.73	0.68		
303.83	0.69		
303.93	0.71		
304.03	0.72		
304.13	0.73		
304.23	0.74		
304.33	0.76		
304.43	0.77		
304.53	0.78		
304.63	0.79		
304.73	0.80		
304.83	0.81		
304.93	0.82		
305.03	0.88		
305.13	1.30		
305.23	1.92		
305.33	2.69		
305.43	3.59		
305.53	4.60		
305.63	5.71		
305.73	6.91		
305.83	8.20		
305.93	9.56		
306.03	11.00		
306.13	12.51		

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Stage-Area-Storage for Pond DET1: MC-4500 StormTech DETENTION ONLY

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
300.93	0.000	306.23	0.333
301.03	0.004	306.33	0.337
301.13	0.007	306.43	0.341
301.23	0.011	306.53	0.345
301.33	0.014	306.63	0.349
301.43	0.018	306.73	0.352
301.53	0.021	306.83	0.356
301.63	0.025	306.93	0.360
301.73	0.031	307.03	0.363
301.83	0.038	307.13	0.367
301.93	0.046	307.23	0.370
302.03	0.054	307.33	0.374
302.13	0.061	307.43	0.377
302.23	0.069	307.53	0.381
302.33	0.077	307.63	0.385
302.43	0.084		
302.53	0.092		
302.63	0.099		
302.73	0.107		
302.83	0.114		
302.93	0.122		
303.03	0.129		
303.13	0.136		
303.23	0.144		
303.33	0.151		
303.43	0.158		
303.53	0.165		
303.63	0.173		
303.73	0.180		
303.83	0.187		
303.93	0.194		
304.03	0.201		
304.13	0.208		
304.23	0.215		
304.33	0.221		
304.43	0.228		
304.53	0.235		
304.63	0.241		
304.73	0.248		
304.83	0.254		
304.93	0.261		
305.03	0.267		
305.13	0.273		
305.23	0.279		
305.33	0.285		
305.43	0.291		
305.53	0.297		
305.63	0.303		
305.73	0.308		
305.83	0.314		
305.93	0.319		
306.03	0.324		
306.13	0.329		

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Summary for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Inflow Area = 3.310 ac, 49.64% Impervious, Inflow Depth > 1.16" for 1-Year event
 Inflow = 4.30 cfs @ 12.09 hrs, Volume= 0.320 af
 Outflow = 0.95 cfs @ 12.54 hrs, Volume= 0.312 af, Atten= 78%, Lag= 27.2 min
 Primary = 0.95 cfs @ 12.54 hrs, Volume= 0.312 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Peak Elev= 296.77' @ 12.54 hrs Surf.Area= 6,177 sf Storage= 4,577 cf

Plug-Flow detention time= 63.4 min calculated for 0.312 af (97% of inflow)
 Center-of-Mass det. time= 48.5 min (892.6 - 844.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	295.50'	8,615 cf	29.92'W x 206.46'L x 5.50'H Field A 33,971 cf Overall - 12,434 cf Embedded = 21,537 cf x 40.0% Voids
#2A	296.25'	12,434 cf	ADS_StormTech MC-3500 d +Cap x 112 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 112 Chambers in 4 Rows Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf
		21,049 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	295.50'	6.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#2	Primary	298.00'	12.0" W x 12.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	300.50'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.95 cfs @ 12.54 hrs HW=296.77' (Free Discharge)

- 1=Underdrain (Orifice Controls 0.95 cfs @ 4.85 fps)
- 2=Orifice/Grate (Controls 0.00 cfs)
- 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)

Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf

Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap

Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

28 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 204.46' Row Length +12.0" End Stone x 2 = 206.46' Base Length

4 Rows x 77.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 29.92' Base Width

9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

112 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 4 Rows = 12,433.8 cf Chamber Storage

33,971.3 cf Field - 12,433.8 cf Chambers = 21,537.5 cf Stone x 40.0% Voids = 8,615.0 cf Stone Storage

Chamber Storage + Stone Storage = 21,048.8 cf = 0.483 af

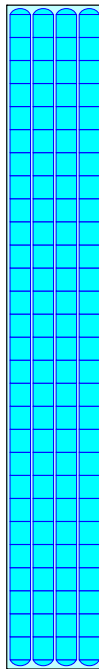
Overall Storage Efficiency = 62.0%

Overall System Size = 206.46' x 29.92' x 5.50'

112 Chambers

1,258.2 cy Field

797.7 cy Stone



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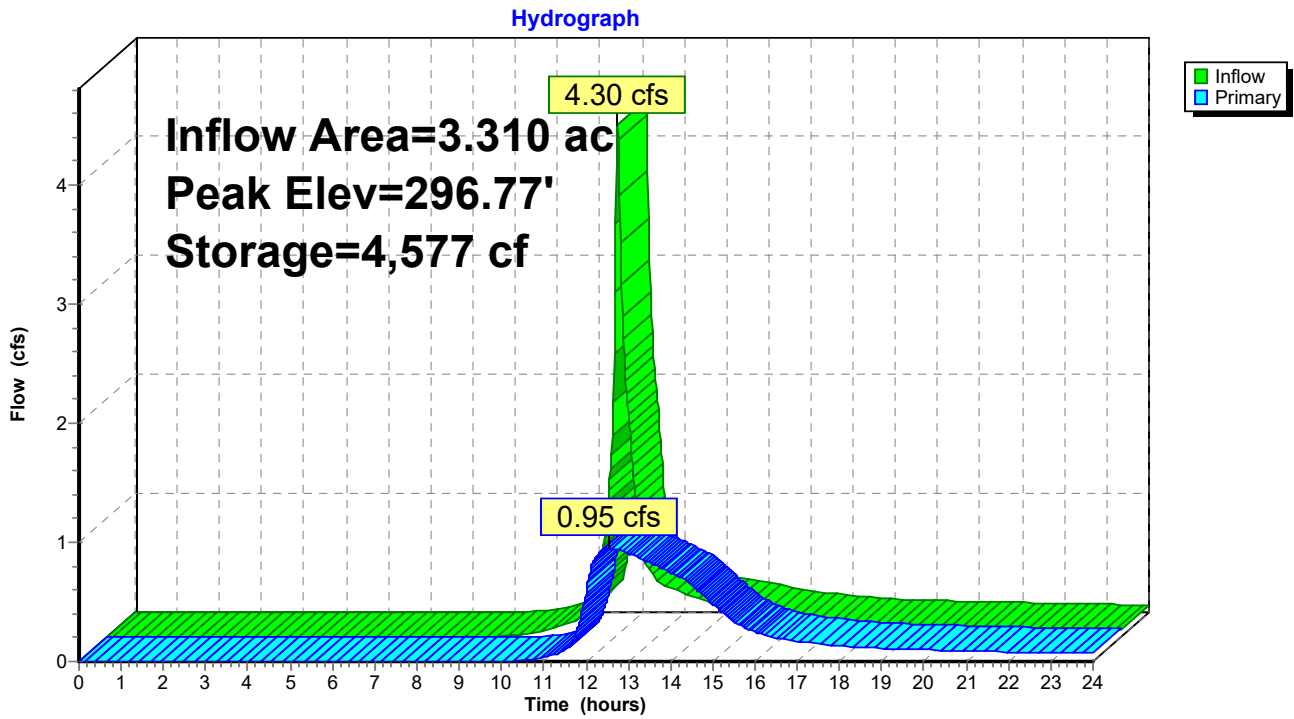
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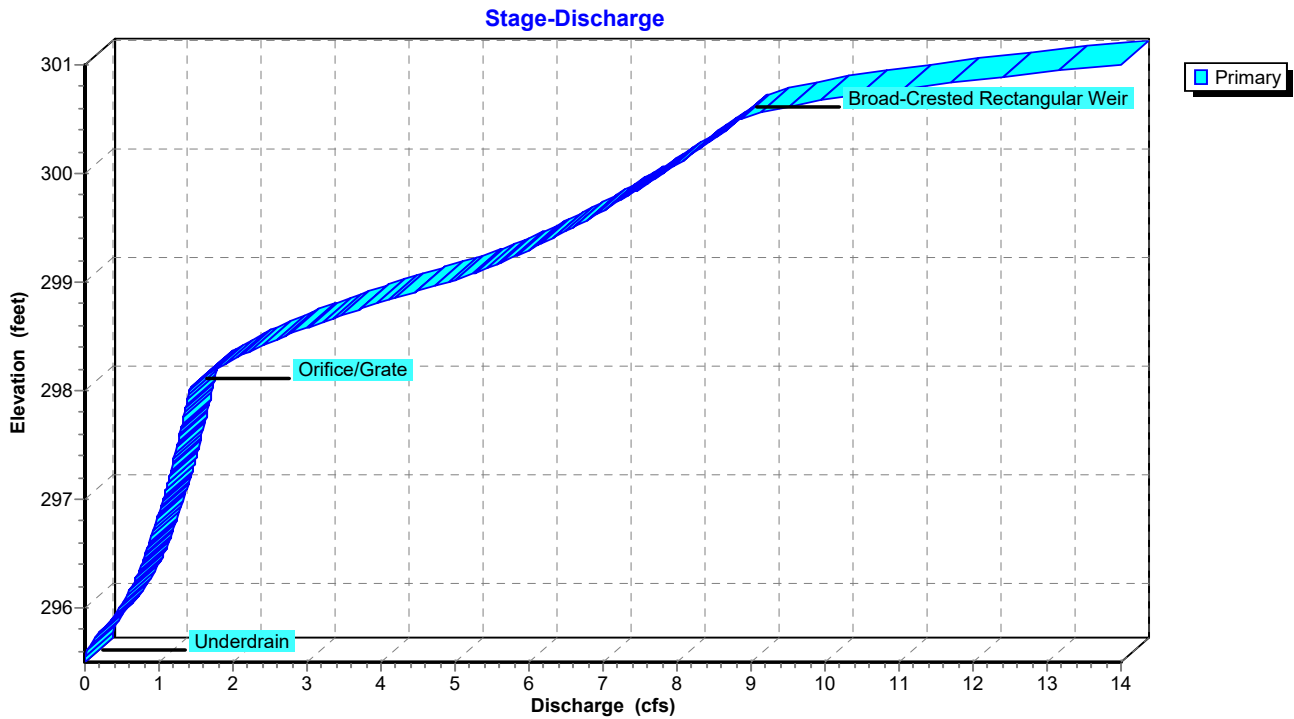
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Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY



Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY



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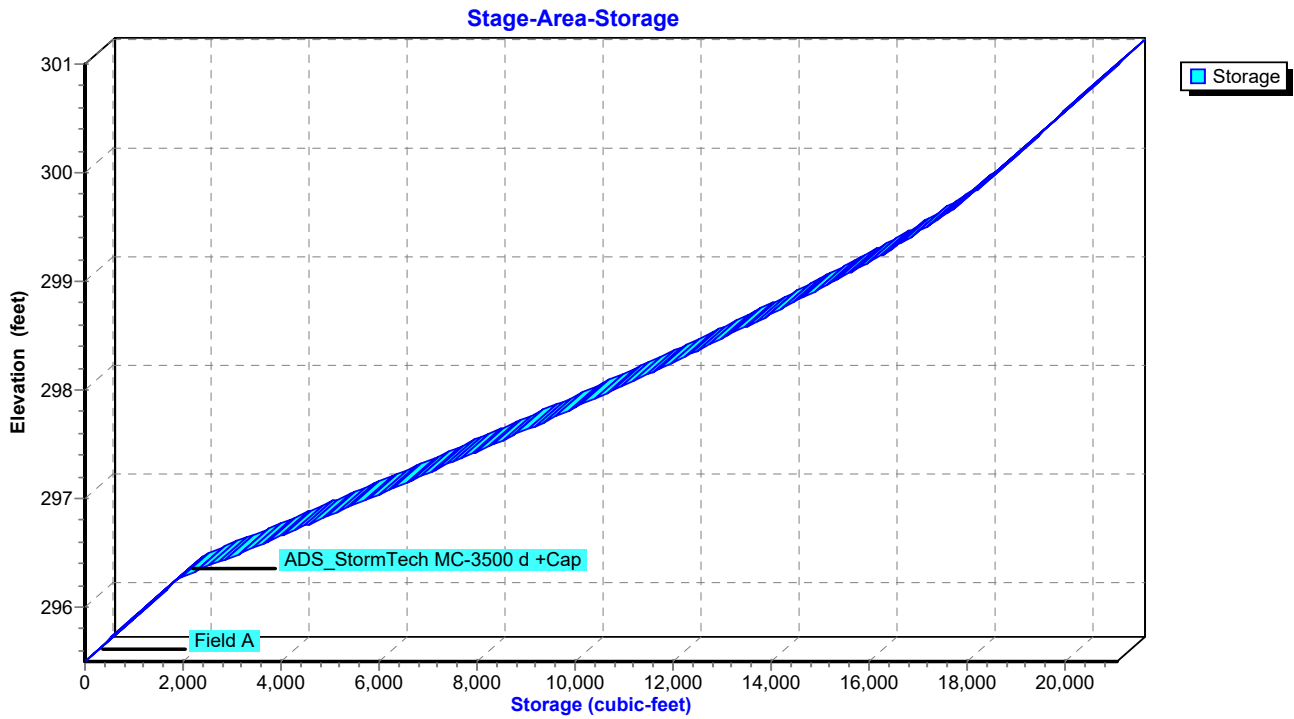
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Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY



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Hydrograph for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	295.50	0.00
0.20	0.00	0	295.50	0.00
0.40	0.00	0	295.50	0.00
0.60	0.00	0	295.50	0.00
0.80	0.00	0	295.50	0.00
1.00	0.00	0	295.50	0.00
1.20	0.00	0	295.50	0.00
1.40	0.00	0	295.50	0.00
1.60	0.00	0	295.50	0.00
1.80	0.00	0	295.50	0.00
2.00	0.00	0	295.50	0.00
2.20	0.00	0	295.50	0.00
2.40	0.00	0	295.50	0.00
2.60	0.00	0	295.50	0.00
2.80	0.00	0	295.50	0.00
3.00	0.00	0	295.50	0.00
3.20	0.00	0	295.50	0.00
3.40	0.00	0	295.50	0.00
3.60	0.00	0	295.50	0.00
3.80	0.00	0	295.50	0.00
4.00	0.00	0	295.50	0.00
4.20	0.00	0	295.50	0.00
4.40	0.00	0	295.50	0.00
4.60	0.00	0	295.50	0.00
4.80	0.00	0	295.50	0.00
5.00	0.00	0	295.50	0.00
5.20	0.00	0	295.50	0.00
5.40	0.00	0	295.50	0.00
5.60	0.00	0	295.50	0.00
5.80	0.00	0	295.50	0.00
6.00	0.00	0	295.50	0.00
6.20	0.00	0	295.50	0.00
6.40	0.00	0	295.50	0.00
6.60	0.00	0	295.50	0.00
6.80	0.00	0	295.50	0.00
7.00	0.00	0	295.50	0.00
7.20	0.00	0	295.50	0.00
7.40	0.00	0	295.50	0.00
7.60	0.00	0	295.50	0.00
7.80	0.00	0	295.50	0.00
8.00	0.00	0	295.50	0.00
8.20	0.00	0	295.50	0.00
8.40	0.00	0	295.50	0.00
8.60	0.00	0	295.50	0.00
8.80	0.00	0	295.50	0.00
9.00	0.00	0	295.50	0.00
9.20	0.00	0	295.50	0.00
9.40	0.01	2	295.50	0.00
9.60	0.01	8	295.50	0.00
9.80	0.02	21	295.51	0.00
10.00	0.03	39	295.52	0.00
10.20	0.04	64	295.53	0.00
10.40	0.06	98	295.54	0.01

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Hydrograph for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
10.60	0.08	142	295.56	0.01
10.80	0.10	194	295.58	0.02
11.00	0.12	253	295.60	0.03
11.20	0.16	323	295.63	0.05
11.40	0.22	413	295.67	0.08
11.60	0.34	529	295.71	0.13
11.80	0.91	826	295.83	0.27
12.00	2.38	1,534	296.12	0.58
12.20	2.70	3,554	296.57	0.86
12.40	1.62	4,401	296.73	0.94
12.60	0.77	4,557	296.76	0.95
12.80	0.60	4,356	296.72	0.93
13.00	0.49	4,084	296.67	0.91
13.20	0.43	3,768	296.61	0.88
13.40	0.40	3,447	296.55	0.85
13.60	0.38	3,130	296.49	0.81
13.80	0.35	2,818	296.43	0.78
14.00	0.32	2,510	296.37	0.75
14.20	0.30	2,209	296.32	0.71
14.40	0.29	1,923	296.26	0.68
14.60	0.28	1,659	296.17	0.61
14.80	0.26	1,437	296.08	0.54
15.00	0.25	1,253	296.01	0.48
15.20	0.24	1,104	295.95	0.42
15.40	0.22	988	295.90	0.36
15.60	0.21	899	295.86	0.31
15.80	0.19	831	295.84	0.28
16.00	0.18	776	295.81	0.25
16.20	0.17	731	295.80	0.22
16.40	0.16	695	295.78	0.21
16.60	0.16	667	295.77	0.19
16.80	0.15	643	295.76	0.18
17.00	0.14	622	295.75	0.17
17.20	0.14	604	295.74	0.16
17.40	0.13	587	295.74	0.15
17.60	0.12	571	295.73	0.15
17.80	0.12	555	295.72	0.14
18.00	0.11	541	295.72	0.13
18.20	0.11	526	295.71	0.13
18.40	0.11	514	295.71	0.12
18.60	0.10	503	295.70	0.12
18.80	0.10	494	295.70	0.11
19.00	0.10	486	295.70	0.11
19.20	0.10	479	295.69	0.11
19.40	0.10	472	295.69	0.10
19.60	0.09	466	295.69	0.10
19.80	0.09	461	295.69	0.10
20.00	0.09	455	295.68	0.10
20.20	0.09	450	295.68	0.10
20.40	0.09	445	295.68	0.09
20.60	0.09	440	295.68	0.09
20.80	0.08	436	295.68	0.09
21.00	0.08	432	295.67	0.09

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Hydrograph for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
21.20	0.08	428	295.67	0.09
21.40	0.08	424	295.67	0.08
21.60	0.08	420	295.67	0.08
21.80	0.08	416	295.67	0.08
22.00	0.07	413	295.67	0.08
22.20	0.07	409	295.67	0.08
22.40	0.07	405	295.66	0.08
22.60	0.07	401	295.66	0.08
22.80	0.07	397	295.66	0.07
23.00	0.07	393	295.66	0.07
23.20	0.07	388	295.66	0.07
23.40	0.06	384	295.66	0.07
23.60	0.06	379	295.65	0.07
23.80	0.06	375	295.65	0.07
24.00	0.06	370	295.65	0.07

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Stage-Discharge for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
295.50	0.00	300.80	11.29
295.60	0.03	300.90	12.55
295.70	0.11	301.00	14.01
295.80	0.23		
295.90	0.36		
296.00	0.47		
296.10	0.56		
296.20	0.63		
296.30	0.70		
296.40	0.76		
296.50	0.82		
296.60	0.87		
296.70	0.92		
296.80	0.97		
296.90	1.01		
297.00	1.06		
297.10	1.10		
297.20	1.14		
297.30	1.18		
297.40	1.21		
297.50	1.25		
297.60	1.29		
297.70	1.32		
297.80	1.35		
297.90	1.39		
298.00	1.42		
298.10	1.55		
298.20	1.77		
298.30	2.04		
298.40	2.35		
298.50	2.70		
298.60	3.09		
298.70	3.50		
298.80	3.95		
298.90	4.42		
299.00	4.91		
299.10	5.33		
299.20	5.69		
299.30	6.01		
299.40	6.31		
299.50	6.59		
299.60	6.86		
299.70	7.11		
299.80	7.36		
299.90	7.59		
300.00	7.82		
300.10	8.04		
300.20	8.25		
300.30	8.46		
300.40	8.66		
300.50	8.85		
300.60	9.40		
300.70	10.23		

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Stage-Area-Storage for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
295.50	0	300.80	20,555
295.60	247	300.90	20,802
295.70	494	301.00	21,049
295.80	741		
295.90	988		
296.00	1,235		
296.10	1,482		
296.20	1,729		
296.30	2,119		
296.40	2,650		
296.50	3,179		
296.60	3,706		
296.70	4,230		
296.80	4,752		
296.90	5,272		
297.00	5,790		
297.10	6,305		
297.20	6,817		
297.30	7,326		
297.40	7,831		
297.50	8,334		
297.60	8,833		
297.70	9,327		
297.80	9,818		
297.90	10,304		
298.00	10,786		
298.10	11,262		
298.20	11,734		
298.30	12,200		
298.40	12,660		
298.50	13,113		
298.60	13,560		
298.70	13,999		
298.80	14,431		
298.90	14,854		
299.00	15,268		
299.10	15,672		
299.20	16,065		
299.30	16,445		
299.40	16,811		
299.50	17,161		
299.60	17,486		
299.70	17,784		
299.80	18,060		
299.90	18,325		
300.00	18,578		
300.10	18,825		
300.20	19,072		
300.30	19,319		
300.40	19,566		
300.50	19,813		
300.60	20,061		
300.70	20,308		

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Summary for Pond INF: MC-3500 StormTech INFILTRATION

Inflow Area = 5.228 ac, 94.30% Impervious, Inflow Depth > 2.45" for 1-Year event
 Inflow = 14.07 cfs @ 12.08 hrs, Volume= 1.068 af
 Outflow = 2.09 cfs @ 12.58 hrs, Volume= 1.068 af, Atten= 85%, Lag= 29.6 min
 Discarded = 2.09 cfs @ 12.58 hrs, Volume= 1.068 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Link N : POI North

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Peak Elev= 308.53' @ 12.58 hrs Surf.Area= 0.374 ac Storage= 0.321 af

Plug-Flow detention time= 42.9 min calculated for 1.068 af (100% of inflow)
 Center-of-Mass det. time= 42.5 min (818.9 - 776.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	307.14'	0.514 af	58.58'W x 278.16'L x 5.50'H Field A 2.058 af Overall - 0.773 af Embedded = 1.285 af x 40.0% Voids
#2A	307.89'	0.773 af	ADS_StormTech MC-3500 d +Cap x 304 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 304 Chambers in 8 Rows Cap Storage= 14.9 cf x 2 x 8 rows = 238.4 cf
		1.287 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	307.14'	5.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 294.00'
#2	Primary	309.64'	24.0" W x 4.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	312.14'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=2.09 cfs @ 12.58 hrs HW=308.53' (Free Discharge)
 ↑ **1=Exfiltration** (Controls 2.09 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=307.14' (Free Discharge)
 ↑ **2=Orifice/Grate** (Controls 0.00 cfs)
 ↑ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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Pond INF: MC-3500 StormTech INFILTRATION - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)

Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf

Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap

Cap Storage= 14.9 cf x 2 x 8 rows = 238.4 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

38 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 276.16' Row Length +12.0" End Stone x 2 = 278.16' Base Length

8 Rows x 77.0" Wide + 9.0" Spacing x 7 + 12.0" Side Stone x 2 = 58.58' Base Width

9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

304 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 8 Rows = 33,663.8 cf Chamber Storage

89,625.5 cf Field - 33,663.8 cf Chambers = 55,961.7 cf Stone x 40.0% Voids = 22,384.7 cf Stone Storage

Chamber Storage + Stone Storage = 56,048.5 cf = 1.287 af

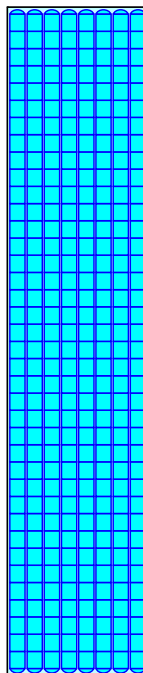
Overall Storage Efficiency = 62.5%

Overall System Size = 278.16' x 58.58' x 5.50'

304 Chambers

3,319.5 cy Field

2,072.7 cy Stone



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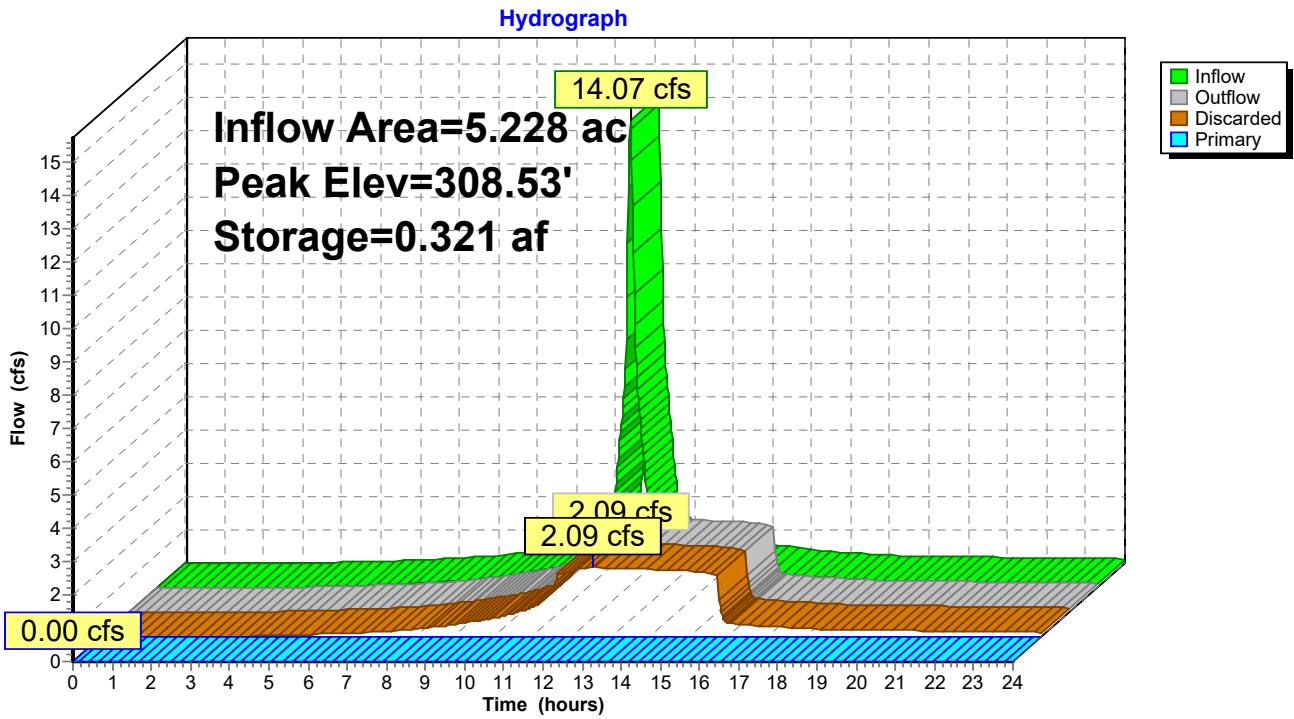
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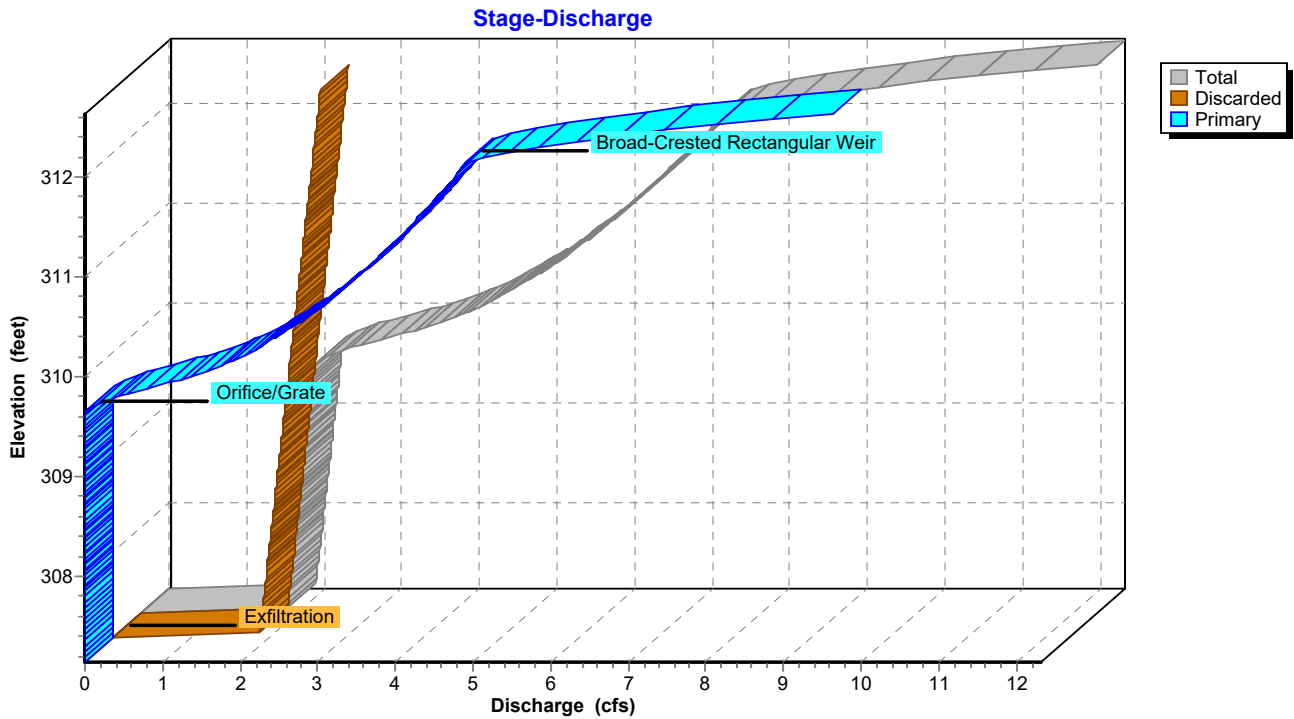
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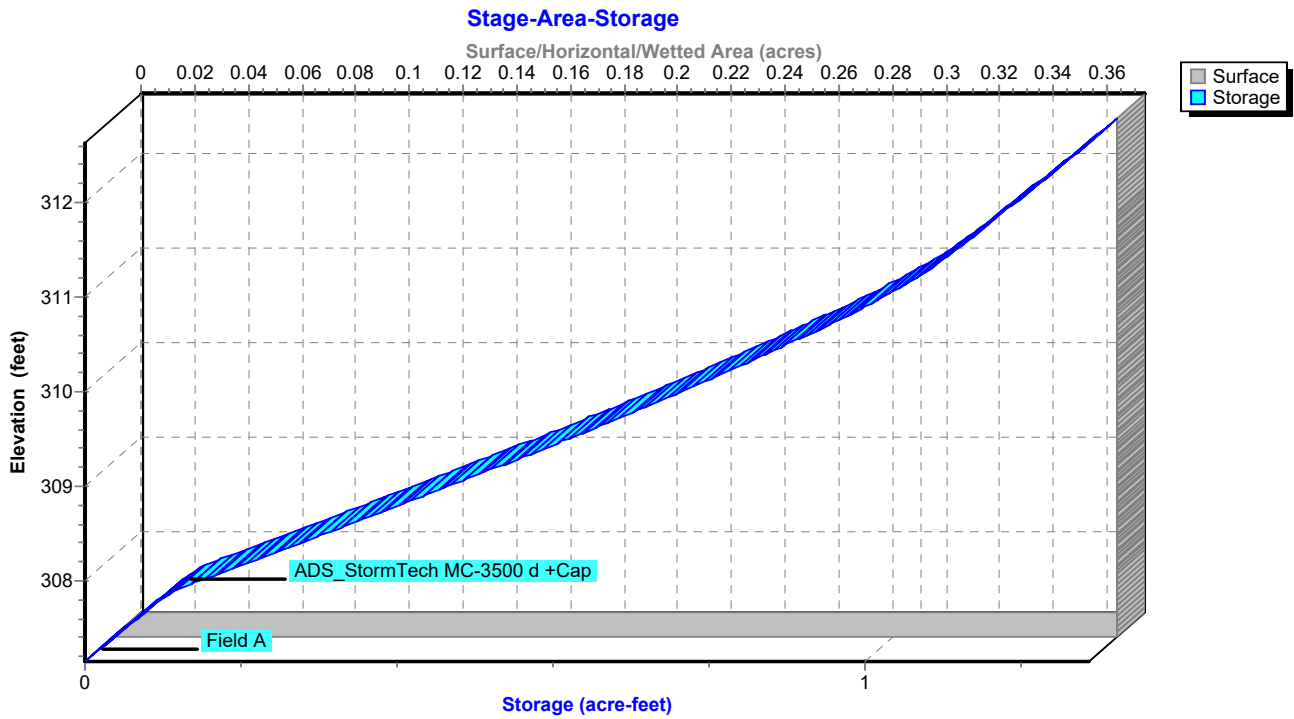
Pond INF: MC-3500 StormTech INFILTRATION



Pond INF: MC-3500 StormTech INFILTRATION



Pond INF: MC-3500 StormTech INFILTRATION



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Hydrograph for Pond INF: MC-3500 StormTech INFILTRATION

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0.000	307.14	0.00	0.00	0.00
0.20	0.00	0.000	307.14	0.00	0.00	0.00
0.40	0.00	0.000	307.14	0.00	0.00	0.00
0.60	0.00	0.000	307.14	0.00	0.00	0.00
0.80	0.00	0.000	307.14	0.00	0.00	0.00
1.00	0.00	0.000	307.14	0.00	0.00	0.00
1.20	0.00	0.000	307.14	0.00	0.00	0.00
1.40	0.00	0.000	307.14	0.00	0.00	0.00
1.60	0.00	0.000	307.14	0.00	0.00	0.00
1.80	0.00	0.000	307.14	0.00	0.00	0.00
2.00	0.00	0.000	307.14	0.00	0.00	0.00
2.20	0.00	0.000	307.14	0.00	0.00	0.00
2.40	0.00	0.000	307.14	0.00	0.00	0.00
2.60	0.00	0.000	307.14	0.00	0.00	0.00
2.80	0.00	0.000	307.14	0.00	0.00	0.00
3.00	0.00	0.000	307.14	0.00	0.00	0.00
3.20	0.01	0.000	307.14	0.01	0.01	0.00
3.40	0.01	0.000	307.14	0.01	0.01	0.00
3.60	0.02	0.000	307.14	0.02	0.02	0.00
3.80	0.03	0.000	307.14	0.02	0.02	0.00
4.00	0.03	0.000	307.14	0.03	0.03	0.00
4.20	0.04	0.000	307.14	0.04	0.04	0.00
4.40	0.04	0.000	307.14	0.04	0.04	0.00
4.60	0.05	0.000	307.14	0.05	0.05	0.00
4.80	0.06	0.000	307.14	0.06	0.06	0.00
5.00	0.06	0.000	307.14	0.06	0.06	0.00
5.20	0.07	0.000	307.14	0.07	0.07	0.00
5.40	0.08	0.000	307.14	0.07	0.07	0.00
5.60	0.08	0.000	307.14	0.08	0.08	0.00
5.80	0.09	0.000	307.14	0.09	0.09	0.00
6.00	0.10	0.000	307.14	0.10	0.10	0.00
6.20	0.11	0.000	307.14	0.10	0.10	0.00
6.40	0.12	0.000	307.14	0.11	0.11	0.00
6.60	0.13	0.001	307.14	0.13	0.13	0.00
6.80	0.14	0.001	307.14	0.14	0.14	0.00
7.00	0.16	0.001	307.14	0.15	0.15	0.00
7.20	0.17	0.001	307.14	0.17	0.17	0.00
7.40	0.19	0.001	307.15	0.18	0.18	0.00
7.60	0.20	0.001	307.15	0.20	0.20	0.00
7.80	0.22	0.001	307.15	0.21	0.21	0.00
8.00	0.23	0.001	307.15	0.23	0.23	0.00
8.20	0.26	0.001	307.15	0.25	0.25	0.00
8.40	0.29	0.001	307.15	0.28	0.28	0.00
8.60	0.32	0.001	307.15	0.31	0.31	0.00
8.80	0.35	0.001	307.15	0.34	0.34	0.00
9.00	0.38	0.002	307.15	0.37	0.37	0.00
9.20	0.42	0.002	307.15	0.41	0.41	0.00
9.40	0.45	0.002	307.15	0.44	0.44	0.00
9.60	0.49	0.002	307.15	0.48	0.48	0.00
9.80	0.53	0.002	307.16	0.52	0.52	0.00
10.00	0.56	0.002	307.16	0.55	0.55	0.00
10.20	0.62	0.003	307.16	0.60	0.60	0.00
10.40	0.69	0.003	307.16	0.67	0.67	0.00

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Hydrograph for Pond INF: MC-3500 StormTech INFILTRATION (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
10.60	0.76	0.003	307.16	0.74	0.74	0.00
10.80	0.83	0.004	307.16	0.81	0.81	0.00
11.00	0.91	0.004	307.17	0.89	0.89	0.00
11.20	1.08	0.004	307.17	1.02	1.02	0.00
11.40	1.34	0.006	307.18	1.27	1.27	0.00
11.60	1.84	0.007	307.19	1.61	1.61	0.00
11.80	4.16	0.025	307.31	1.91	1.91	0.00
12.00	8.77	0.087	307.72	1.97	1.97	0.00
12.20	7.91	0.244	308.30	2.05	2.05	0.00
12.40	4.26	0.305	308.49	2.08	2.08	0.00
12.60	1.92	0.320	308.53	2.09	2.09	0.00
12.80	1.48	0.313	308.51	2.08	2.08	0.00
13.00	1.21	0.301	308.47	2.08	2.08	0.00
13.20	1.05	0.285	308.42	2.07	2.07	0.00
13.40	0.98	0.268	308.37	2.06	2.06	0.00
13.60	0.91	0.249	308.31	2.05	2.05	0.00
13.80	0.84	0.230	308.25	2.05	2.05	0.00
14.00	0.76	0.209	308.19	2.04	2.04	0.00
14.20	0.71	0.188	308.12	2.03	2.03	0.00
14.40	0.68	0.166	308.05	2.02	2.02	0.00
14.60	0.64	0.144	307.99	2.01	2.01	0.00
14.80	0.61	0.121	307.92	2.00	2.00	0.00
15.00	0.58	0.098	307.79	1.98	1.98	0.00
15.20	0.54	0.074	307.64	1.96	1.96	0.00
15.40	0.51	0.051	307.48	1.93	1.93	0.00
15.60	0.47	0.027	307.32	1.91	1.91	0.00
15.80	0.44	0.005	307.17	1.12	1.12	0.00
16.00	0.41	0.002	307.15	0.43	0.43	0.00
16.20	0.38	0.002	307.15	0.39	0.39	0.00
16.40	0.37	0.002	307.15	0.37	0.37	0.00
16.60	0.35	0.002	307.15	0.36	0.36	0.00
16.80	0.34	0.001	307.15	0.34	0.34	0.00
17.00	0.32	0.001	307.15	0.33	0.33	0.00
17.20	0.31	0.001	307.15	0.31	0.31	0.00
17.40	0.29	0.001	307.15	0.30	0.30	0.00
17.60	0.28	0.001	307.15	0.28	0.28	0.00
17.80	0.26	0.001	307.15	0.27	0.27	0.00
18.00	0.25	0.001	307.15	0.25	0.25	0.00
18.20	0.24	0.001	307.15	0.24	0.24	0.00
18.40	0.23	0.001	307.15	0.23	0.23	0.00
18.60	0.23	0.001	307.15	0.23	0.23	0.00
18.80	0.22	0.001	307.15	0.23	0.23	0.00
19.00	0.22	0.001	307.15	0.22	0.22	0.00
19.20	0.22	0.001	307.15	0.22	0.22	0.00
19.40	0.21	0.001	307.15	0.21	0.21	0.00
19.60	0.21	0.001	307.15	0.21	0.21	0.00
19.80	0.20	0.001	307.15	0.20	0.20	0.00
20.00	0.20	0.001	307.15	0.20	0.20	0.00
20.20	0.19	0.001	307.15	0.19	0.19	0.00
20.40	0.19	0.001	307.15	0.19	0.19	0.00
20.60	0.19	0.001	307.15	0.19	0.19	0.00
20.80	0.18	0.001	307.15	0.18	0.18	0.00
21.00	0.18	0.001	307.15	0.18	0.18	0.00

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Hydrograph for Pond INF: MC-3500 StormTech INFILTRATION (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
21.20	0.18	0.001	307.15	0.18	0.18	0.00
21.40	0.17	0.001	307.15	0.17	0.17	0.00
21.60	0.17	0.001	307.14	0.17	0.17	0.00
21.80	0.17	0.001	307.14	0.17	0.17	0.00
22.00	0.16	0.001	307.14	0.16	0.16	0.00
22.20	0.16	0.001	307.14	0.16	0.16	0.00
22.40	0.16	0.001	307.14	0.16	0.16	0.00
22.60	0.15	0.001	307.14	0.15	0.15	0.00
22.80	0.15	0.001	307.14	0.15	0.15	0.00
23.00	0.15	0.001	307.14	0.15	0.15	0.00
23.20	0.14	0.001	307.14	0.14	0.14	0.00
23.40	0.14	0.001	307.14	0.14	0.14	0.00
23.60	0.14	0.001	307.14	0.14	0.14	0.00
23.80	0.13	0.001	307.14	0.13	0.13	0.00
24.00	0.13	0.001	307.14	0.13	0.13	0.00

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Stage-Discharge for Pond INF: MC-3500 StormTech INFILTRATION

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
307.14	0.00	0.00	0.00	312.44	9.73	2.65	7.09
307.24	1.90	1.90	0.00	312.54	10.92	2.66	8.26
307.34	1.91	1.91	0.00	312.64	12.32	2.68	9.65
307.44	1.93	1.93	0.00				
307.54	1.94	1.94	0.00				
307.64	1.96	1.96	0.00				
307.74	1.97	1.97	0.00				
307.84	1.99	1.99	0.00				
307.94	2.00	2.00	0.00				
308.04	2.02	2.02	0.00				
308.14	2.03	2.03	0.00				
308.24	2.04	2.04	0.00				
308.34	2.06	2.06	0.00				
308.44	2.07	2.07	0.00				
308.54	2.09	2.09	0.00				
308.64	2.10	2.10	0.00				
308.74	2.12	2.12	0.00				
308.84	2.13	2.13	0.00				
308.94	2.14	2.14	0.00				
309.04	2.16	2.16	0.00				
309.14	2.17	2.17	0.00				
309.24	2.19	2.19	0.00				
309.34	2.20	2.20	0.00				
309.44	2.22	2.22	0.00				
309.54	2.23	2.23	0.00				
309.64	2.24	2.24	0.00				
309.74	2.46	2.26	0.20				
309.84	2.85	2.27	0.57				
309.94	3.34	2.29	1.05				
310.04	3.82	2.30	1.51				
310.14	4.15	2.32	1.83				
310.24	4.43	2.33	2.10				
310.34	4.68	2.35	2.33				
310.44	4.91	2.36	2.55				
310.54	5.12	2.37	2.74				
310.64	5.31	2.39	2.93				
310.74	5.50	2.40	3.10				
310.84	5.68	2.42	3.26				
310.94	5.85	2.43	3.41				
311.04	6.01	2.45	3.56				
311.14	6.16	2.46	3.70				
311.24	6.32	2.47	3.84				
311.34	6.46	2.49	3.97				
311.44	6.60	2.50	4.10				
311.54	6.74	2.52	4.22				
311.64	6.88	2.53	4.34				
311.74	7.01	2.55	4.46				
311.84	7.14	2.56	4.58				
311.94	7.26	2.58	4.69				
312.04	7.39	2.59	4.80				
312.14	7.51	2.60	4.90				
312.24	7.98	2.62	5.36				
312.34	8.74	2.63	6.11				

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Stage-Area-Storage for Pond INF: MC-3500 StormTech INFILTRATION

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
307.14	0.374	0.000	312.44	0.374	1.257
307.24	0.374	0.015	312.54	0.374	1.272
307.34	0.374	0.030	312.64	0.374	1.287
307.44	0.374	0.045			
307.54	0.374	0.060			
307.64	0.374	0.075			
307.74	0.374	0.090			
307.84	0.374	0.105			
307.94	0.374	0.129			
308.04	0.374	0.161			
308.14	0.374	0.194			
308.24	0.374	0.226			
308.34	0.374	0.258			
308.44	0.374	0.290			
308.54	0.374	0.322			
308.64	0.374	0.354			
308.74	0.374	0.386			
308.84	0.374	0.417			
308.94	0.374	0.448			
309.04	0.374	0.479			
309.14	0.374	0.510			
309.24	0.374	0.541			
309.34	0.374	0.571			
309.44	0.374	0.601			
309.54	0.374	0.631			
309.64	0.374	0.661			
309.74	0.374	0.690			
309.84	0.374	0.719			
309.94	0.374	0.747			
310.04	0.374	0.775			
310.14	0.374	0.803			
310.24	0.374	0.831			
310.34	0.374	0.858			
310.44	0.374	0.884			
310.54	0.374	0.910			
310.64	0.374	0.935			
310.74	0.374	0.960			
310.84	0.374	0.984			
310.94	0.374	1.007			
311.04	0.374	1.030			
311.14	0.374	1.051			
311.24	0.374	1.071			
311.34	0.374	1.089			
311.44	0.374	1.106			
311.54	0.374	1.122			
311.64	0.374	1.137			
311.74	0.374	1.152			
311.84	0.374	1.167			
311.94	0.374	1.182			
312.04	0.374	1.197			
312.14	0.374	1.212			
312.24	0.374	1.227			
312.34	0.374	1.242			

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Summary for Pond SPLIT: Flow Splitter

[57] Hint: Peaked at 303.54' (Flood elevation advised)

Inflow Area = 3.809 ac, 100.00% Impervious, Inflow Depth > 2.67" for 1-Year event
 Inflow = 10.68 cfs @ 12.08 hrs, Volume= 0.846 af
 Outflow = 10.68 cfs @ 12.08 hrs, Volume= 0.846 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.98 cfs @ 12.08 hrs, Volume= 0.483 af
 Routed to Pond BIO : BioRetention 1 (South)
 Secondary = 9.70 cfs @ 12.08 hrs, Volume= 0.363 af
 Routed to Pond DET1 : MC-4500 StormTech DETENTION ONLY

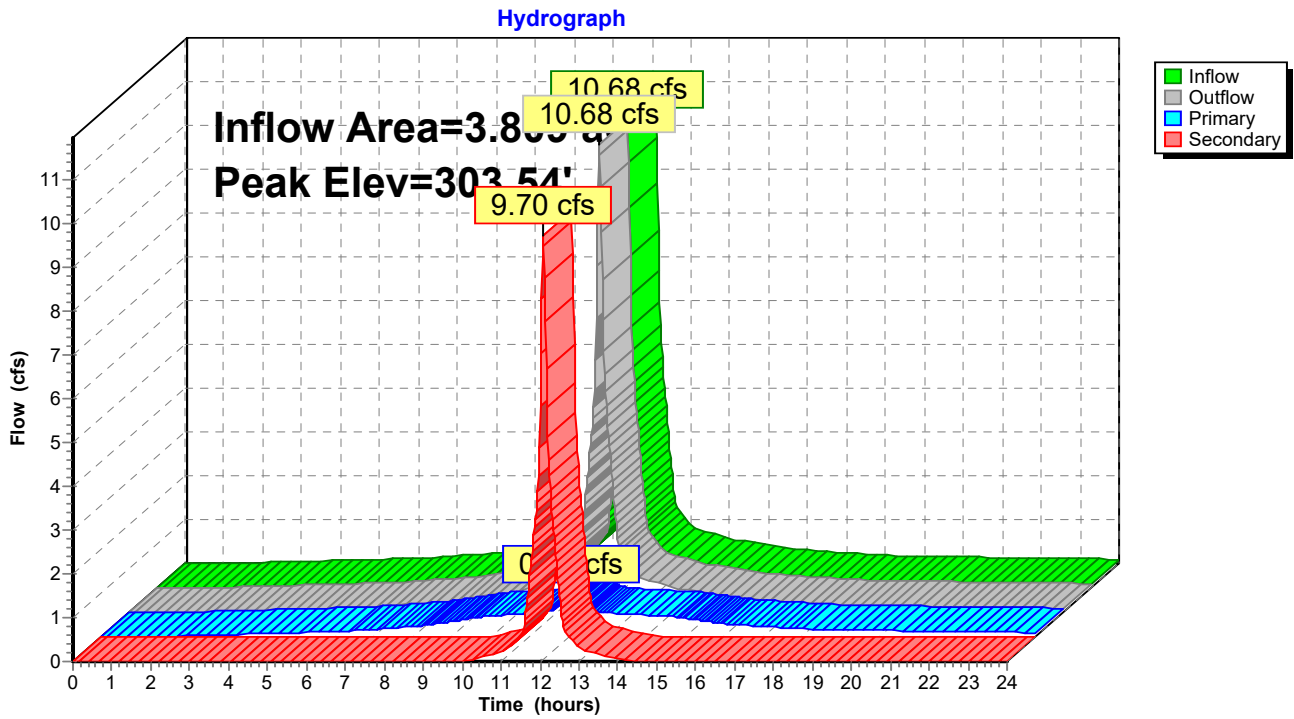
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs / 2
Peak Elev= 303.54' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	302.23'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Device 3	302.73'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	302.23'	30.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

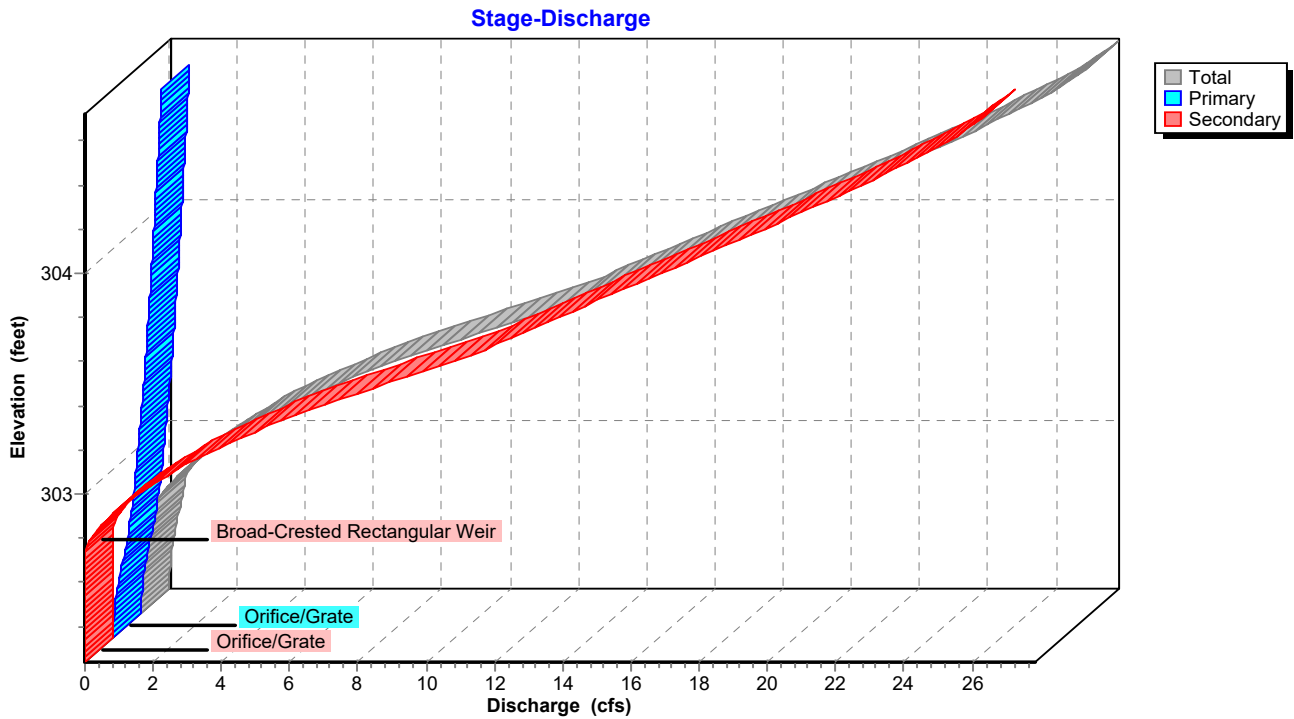
Primary OutFlow Max=0.97 cfs @ 12.08 hrs HW=303.54' (Free Discharge)
 ↳1=**Orifice/Grate** (Orifice Controls 0.97 cfs @ 4.96 fps)

Secondary OutFlow Max=9.65 cfs @ 12.08 hrs HW=303.54' (Free Discharge)
 ↳3=**Orifice/Grate** (Passes 9.65 cfs of 10.17 cfs potential flow)
 ↳2=**Broad-Crested Rectangular Weir** (Weir Controls 9.65 cfs @ 2.97 fps)

Pond SPLIT: Flow Splitter



Pond SPLIT: Flow Splitter



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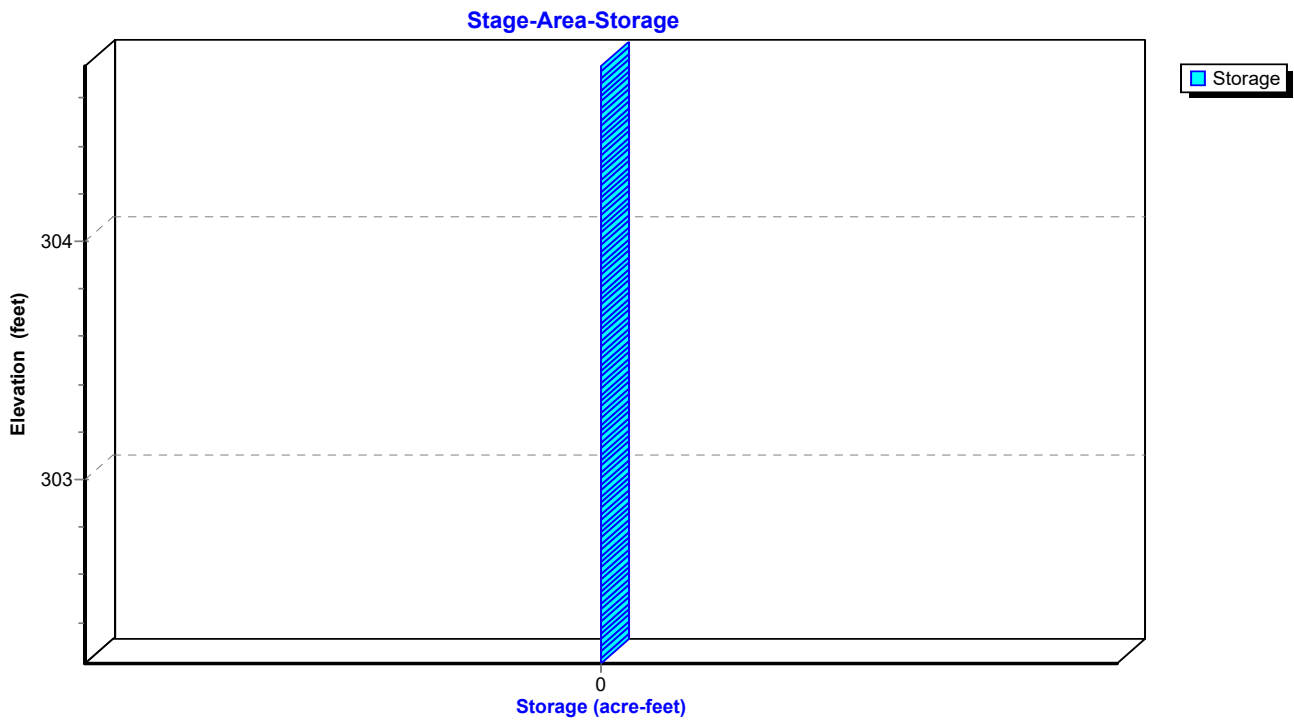
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Pond SPLIT: Flow Splitter



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Hydrograph for Pond SPLIT: Flow Splitter

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	302.23	0.00	0.00	0.00
0.20	0.00	302.23	0.00	0.00	0.00
0.40	0.00	302.23	0.00	0.00	0.00
0.60	0.00	302.23	0.00	0.00	0.00
0.80	0.00	302.23	0.00	0.00	0.00
1.00	0.00	302.23	0.00	0.00	0.00
1.20	0.00	302.23	0.00	0.00	0.00
1.40	0.00	302.23	0.00	0.00	0.00
1.60	0.00	302.26	0.00	0.00	0.00
1.80	0.01	302.28	0.01	0.01	0.00
2.00	0.01	302.30	0.01	0.01	0.00
2.20	0.02	302.31	0.02	0.02	0.00
2.40	0.03	302.32	0.03	0.03	0.00
2.60	0.03	302.33	0.03	0.03	0.00
2.80	0.04	302.34	0.04	0.04	0.00
3.00	0.04	302.35	0.04	0.04	0.00
3.20	0.05	302.36	0.05	0.05	0.00
3.40	0.05	302.36	0.05	0.05	0.00
3.60	0.06	302.37	0.06	0.06	0.00
3.80	0.06	302.38	0.06	0.06	0.00
4.00	0.07	302.38	0.07	0.07	0.00
4.20	0.08	302.39	0.08	0.08	0.00
4.40	0.08	302.40	0.08	0.08	0.00
4.60	0.09	302.40	0.09	0.09	0.00
4.80	0.09	302.41	0.09	0.09	0.00
5.00	0.10	302.41	0.10	0.10	0.00
5.20	0.10	302.42	0.10	0.10	0.00
5.40	0.11	302.43	0.11	0.11	0.00
5.60	0.11	302.43	0.11	0.11	0.00
5.80	0.12	302.44	0.12	0.12	0.00
6.00	0.12	302.44	0.12	0.12	0.00
6.20	0.13	302.45	0.13	0.13	0.00
6.40	0.14	302.46	0.14	0.14	0.00
6.60	0.15	302.47	0.15	0.15	0.00
6.80	0.16	302.48	0.16	0.16	0.00
7.00	0.17	302.49	0.17	0.17	0.00
7.20	0.19	302.50	0.19	0.19	0.00
7.40	0.20	302.51	0.20	0.20	0.00
7.60	0.21	302.51	0.21	0.21	0.00
7.80	0.22	302.52	0.22	0.22	0.00
8.00	0.23	302.53	0.23	0.23	0.00
8.20	0.25	302.55	0.25	0.25	0.00
8.40	0.28	302.57	0.28	0.28	0.00
8.60	0.30	302.59	0.30	0.30	0.00
8.80	0.33	302.60	0.33	0.33	0.00
9.00	0.35	302.62	0.35	0.35	0.00
9.20	0.38	302.64	0.38	0.38	0.00
9.40	0.41	302.67	0.41	0.41	0.00
9.60	0.43	302.69	0.43	0.43	0.00
9.80	0.46	302.72	0.46	0.46	0.00
10.00	0.49	302.74	0.49	0.48	0.01
10.20	0.53	302.75	0.53	0.49	0.04
10.40	0.58	302.77	0.58	0.50	0.08

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Hydrograph for Pond SPLIT: Flow Splitter (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
10.60	0.64	302.78	0.64	0.52	0.12
10.80	0.69	302.79	0.69	0.53	0.16
11.00	0.74	302.80	0.74	0.53	0.21
11.20	0.88	302.82	0.88	0.55	0.32
11.40	1.08	302.86	1.08	0.58	0.50
11.60	1.46	302.91	1.46	0.62	0.84
11.80	3.25	303.09	3.25	0.74	2.51
12.00	6.72	303.34	6.72	0.88	5.85
12.20	5.95	303.29	5.95	0.85	5.10
12.40	3.19	303.09	3.19	0.74	2.45
12.60	1.43	302.90	1.43	0.62	0.81
12.80	1.10	302.86	1.10	0.58	0.52
13.00	0.90	302.83	0.90	0.56	0.34
13.20	0.78	302.81	0.78	0.54	0.24
13.40	0.73	302.80	0.73	0.53	0.19
13.60	0.67	302.79	0.67	0.52	0.15
13.80	0.62	302.77	0.62	0.51	0.11
14.00	0.57	302.76	0.57	0.50	0.07
14.20	0.53	302.75	0.53	0.49	0.04
14.40	0.50	302.74	0.50	0.48	0.02
14.60	0.48	302.73	0.48	0.47	0.00
14.80	0.45	302.71	0.45	0.45	0.00
15.00	0.43	302.68	0.43	0.43	0.00
15.20	0.40	302.66	0.40	0.40	0.00
15.40	0.38	302.64	0.38	0.38	0.00
15.60	0.35	302.62	0.35	0.35	0.00
15.80	0.33	302.60	0.33	0.33	0.00
16.00	0.30	302.58	0.30	0.30	0.00
16.20	0.28	302.57	0.28	0.28	0.00
16.40	0.27	302.56	0.27	0.27	0.00
16.60	0.26	302.55	0.26	0.26	0.00
16.80	0.25	302.54	0.25	0.25	0.00
17.00	0.24	302.54	0.24	0.24	0.00
17.20	0.23	302.53	0.23	0.23	0.00
17.40	0.22	302.52	0.22	0.22	0.00
17.60	0.20	302.51	0.20	0.20	0.00
17.80	0.19	302.50	0.19	0.19	0.00
18.00	0.18	302.49	0.18	0.18	0.00
18.20	0.18	302.49	0.18	0.18	0.00
18.40	0.17	302.48	0.17	0.17	0.00
18.60	0.17	302.48	0.17	0.17	0.00
18.80	0.17	302.48	0.17	0.17	0.00
19.00	0.16	302.48	0.16	0.16	0.00
19.20	0.16	302.47	0.16	0.16	0.00
19.40	0.16	302.47	0.16	0.16	0.00
19.60	0.15	302.47	0.15	0.15	0.00
19.80	0.15	302.46	0.15	0.15	0.00
20.00	0.15	302.46	0.15	0.15	0.00
20.20	0.14	302.46	0.14	0.14	0.00
20.40	0.14	302.46	0.14	0.14	0.00
20.60	0.14	302.45	0.14	0.14	0.00
20.80	0.14	302.45	0.14	0.14	0.00
21.00	0.13	302.45	0.13	0.13	0.00

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Hydrograph for Pond SPLIT: Flow Splitter (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
21.20	0.13	302.45	0.13	0.13	0.00
21.40	0.13	302.45	0.13	0.13	0.00
21.60	0.13	302.44	0.13	0.13	0.00
21.80	0.12	302.44	0.12	0.12	0.00
22.00	0.12	302.44	0.12	0.12	0.00
22.20	0.12	302.44	0.12	0.12	0.00
22.40	0.12	302.43	0.12	0.12	0.00
22.60	0.11	302.43	0.11	0.11	0.00
22.80	0.11	302.43	0.11	0.11	0.00
23.00	0.11	302.43	0.11	0.11	0.00
23.20	0.11	302.42	0.11	0.11	0.00
23.40	0.10	302.42	0.10	0.10	0.00
23.60	0.10	302.42	0.10	0.10	0.00
23.80	0.10	302.42	0.10	0.10	0.00
24.00	0.10	302.41	0.10	0.10	0.00

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Stage-Discharge for Pond SPLIT: Flow Splitter

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
302.23	0.00	0.00	0.00
302.33	0.03	0.03	0.00
302.43	0.11	0.11	0.00
302.53	0.23	0.23	0.00
302.63	0.36	0.36	0.00
302.73	0.47	0.47	0.00
302.83	0.91	0.56	0.35
302.93	1.64	0.63	1.00
303.03	2.58	0.70	1.88
303.13	3.72	0.76	2.95
303.23	5.06	0.82	4.24
303.33	6.60	0.87	5.73
303.43	8.39	0.92	7.47
303.53	10.41	0.97	9.45
303.63	12.32	1.01	11.30
303.73	13.88	1.06	12.82
303.83	15.39	1.10	14.29
303.93	16.92	1.14	15.78
304.03	18.46	1.18	17.28
304.13	20.00	1.21	18.79
304.23	21.52	1.25	20.27
304.33	23.00	1.29	21.72
304.43	24.42	1.32	23.10
304.53	25.75	1.35	24.40
304.63	26.93	1.39	25.54
304.73	27.84	1.42	26.43

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Stage-Area-Storage for Pond SPLIT: Flow Splitter

Elevation (feet)	Storage (acre-feet)
302.23	0.000
302.33	0.000
302.43	0.000
302.53	0.000
302.63	0.000
302.73	0.000
302.83	0.000
302.93	0.000
303.03	0.000
303.13	0.000
303.23	0.000
303.33	0.000
303.43	0.000
303.53	0.000
303.63	0.000
303.73	0.000
303.83	0.000
303.93	0.000
304.03	0.000
304.13	0.000
304.23	0.000
304.33	0.000
304.43	0.000
304.53	0.000
304.63	0.000
304.73	0.000

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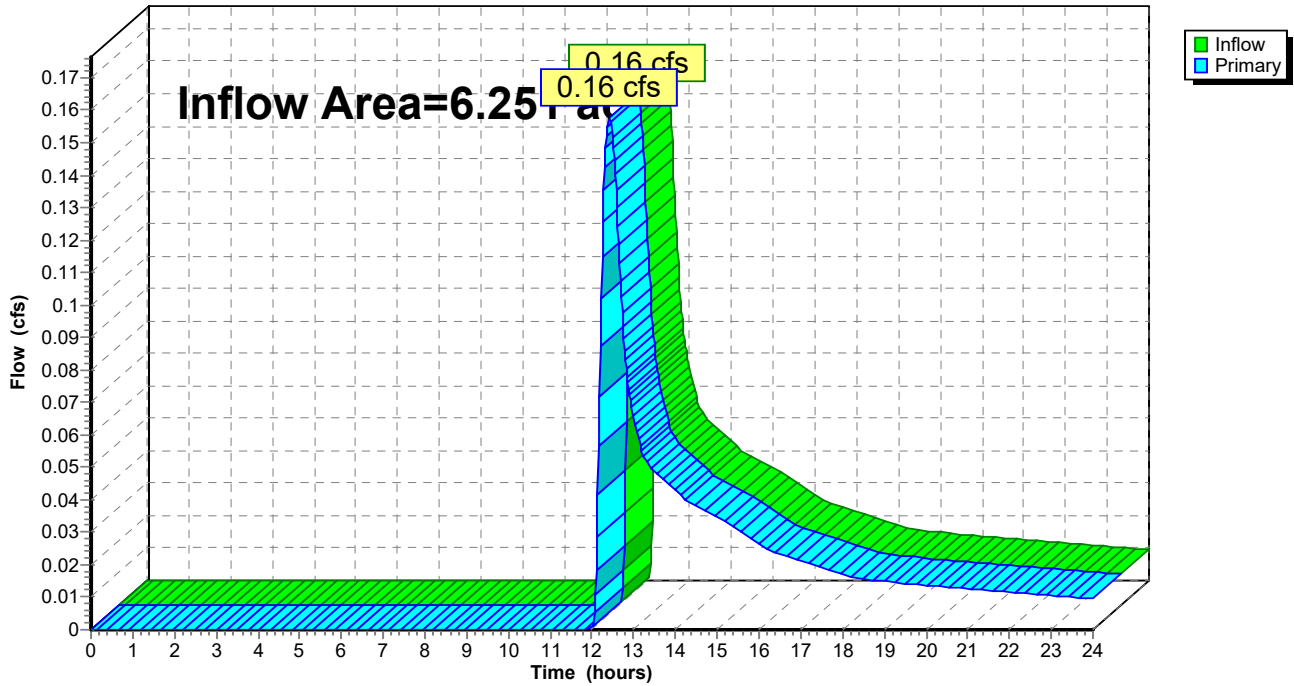
Summary for Link N: POI North

Inflow Area = 6.251 ac, 78.88% Impervious, Inflow Depth > 0.05" for 1-Year event
Inflow = 0.16 cfs @ 12.42 hrs, Volume= 0.028 af
Primary = 0.16 cfs @ 12.42 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Link N: POI North

Hydrograph



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Hydrograph for Link N: POI North

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	10.60	0.00	0.00	0.00
0.20	0.00	0.00	0.00	10.80	0.00	0.00	0.00
0.40	0.00	0.00	0.00	11.00	0.00	0.00	0.00
0.60	0.00	0.00	0.00	11.20	0.00	0.00	0.00
0.80	0.00	0.00	0.00	11.40	0.00	0.00	0.00
1.00	0.00	0.00	0.00	11.60	0.00	0.00	0.00
1.20	0.00	0.00	0.00	11.80	0.00	0.00	0.00
1.40	0.00	0.00	0.00	12.00	0.00	0.00	0.00
1.60	0.00	0.00	0.00	12.20	0.09	0.00	0.09
1.80	0.00	0.00	0.00	12.40	0.16	0.00	0.16
2.00	0.00	0.00	0.00	12.60	0.13	0.00	0.13
2.20	0.00	0.00	0.00	12.80	0.08	0.00	0.08
2.40	0.00	0.00	0.00	13.00	0.07	0.00	0.07
2.60	0.00	0.00	0.00	13.20	0.05	0.00	0.05
2.80	0.00	0.00	0.00	13.40	0.05	0.00	0.05
3.00	0.00	0.00	0.00	13.60	0.05	0.00	0.05
3.20	0.00	0.00	0.00	13.80	0.05	0.00	0.05
3.40	0.00	0.00	0.00	14.00	0.04	0.00	0.04
3.60	0.00	0.00	0.00	14.20	0.04	0.00	0.04
3.80	0.00	0.00	0.00	14.40	0.04	0.00	0.04
4.00	0.00	0.00	0.00	14.60	0.04	0.00	0.04
4.20	0.00	0.00	0.00	14.80	0.04	0.00	0.04
4.40	0.00	0.00	0.00	15.00	0.03	0.00	0.03
4.60	0.00	0.00	0.00	15.20	0.03	0.00	0.03
4.80	0.00	0.00	0.00	15.40	0.03	0.00	0.03
5.00	0.00	0.00	0.00	15.60	0.03	0.00	0.03
5.20	0.00	0.00	0.00	15.80	0.03	0.00	0.03
5.40	0.00	0.00	0.00	16.00	0.03	0.00	0.03
5.60	0.00	0.00	0.00	16.20	0.02	0.00	0.02
5.80	0.00	0.00	0.00	16.40	0.02	0.00	0.02
6.00	0.00	0.00	0.00	16.60	0.02	0.00	0.02
6.20	0.00	0.00	0.00	16.80	0.02	0.00	0.02
6.40	0.00	0.00	0.00	17.00	0.02	0.00	0.02
6.60	0.00	0.00	0.00	17.20	0.02	0.00	0.02
6.80	0.00	0.00	0.00	17.40	0.02	0.00	0.02
7.00	0.00	0.00	0.00	17.60	0.02	0.00	0.02
7.20	0.00	0.00	0.00	17.80	0.02	0.00	0.02
7.40	0.00	0.00	0.00	18.00	0.02	0.00	0.02
7.60	0.00	0.00	0.00	18.20	0.02	0.00	0.02
7.80	0.00	0.00	0.00	18.40	0.02	0.00	0.02
8.00	0.00	0.00	0.00	18.60	0.02	0.00	0.02
8.20	0.00	0.00	0.00	18.80	0.02	0.00	0.02
8.40	0.00	0.00	0.00	19.00	0.01	0.00	0.01
8.60	0.00	0.00	0.00	19.20	0.01	0.00	0.01
8.80	0.00	0.00	0.00	19.40	0.01	0.00	0.01
9.00	0.00	0.00	0.00	19.60	0.01	0.00	0.01
9.20	0.00	0.00	0.00	19.80	0.01	0.00	0.01
9.40	0.00	0.00	0.00	20.00	0.01	0.00	0.01
9.60	0.00	0.00	0.00	20.20	0.01	0.00	0.01
9.80	0.00	0.00	0.00	20.40	0.01	0.00	0.01
10.00	0.00	0.00	0.00	20.60	0.01	0.00	0.01
10.20	0.00	0.00	0.00	20.80	0.01	0.00	0.01
10.40	0.00	0.00	0.00	21.00	0.01	0.00	0.01

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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Link N: POI North (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
21.20	0.01	0.00	0.01
21.40	0.01	0.00	0.01
21.60	0.01	0.00	0.01
21.80	0.01	0.00	0.01
22.00	0.01	0.00	0.01
22.20	0.01	0.00	0.01
22.40	0.01	0.00	0.01
22.60	0.01	0.00	0.01
22.80	0.01	0.00	0.01
23.00	0.01	0.00	0.01
23.20	0.01	0.00	0.01
23.40	0.01	0.00	0.01
23.60	0.01	0.00	0.01
23.80	0.01	0.00	0.01
24.00	0.01	0.00	0.01

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Type III 24-hr 1-Year Rainfall=2.90"

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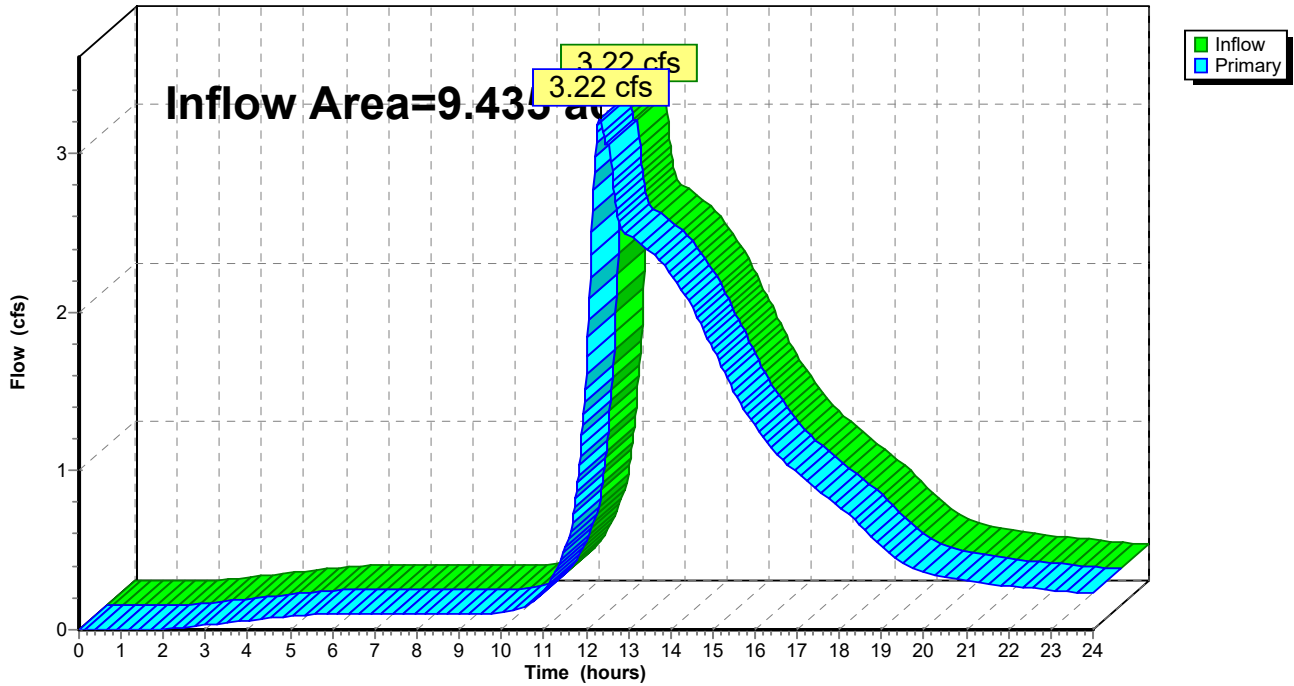
Summary for Link S: POI South

Inflow Area = 9.435 ac, 58.54% Impervious, Inflow Depth > 1.50" for 1-Year event
Inflow = 3.22 cfs @ 12.33 hrs, Volume= 1.177 af
Primary = 3.22 cfs @ 12.33 hrs, Volume= 1.177 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Link S: POI South

Hydrograph



Hydrograph for Link S: POI South

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	10.60	0.15	0.00	0.15
0.20	0.00	0.00	0.00	10.80	0.19	0.00	0.19
0.40	0.00	0.00	0.00	11.00	0.25	0.00	0.25
0.60	0.00	0.00	0.00	11.20	0.33	0.00	0.33
0.80	0.00	0.00	0.00	11.40	0.44	0.00	0.44
1.00	0.00	0.00	0.00	11.60	0.58	0.00	0.58
1.20	0.00	0.00	0.00	11.80	0.92	0.00	0.92
1.40	0.00	0.00	0.00	12.00	1.61	0.00	1.61
1.60	0.00	0.00	0.00	12.20	2.88	0.00	2.88
1.80	0.00	0.00	0.00	12.40	3.16	0.00	3.16
2.00	0.01	0.00	0.01	12.60	2.94	0.00	2.94
2.20	0.01	0.00	0.01	12.80	2.54	0.00	2.54
2.40	0.01	0.00	0.01	13.00	2.48	0.00	2.48
2.60	0.02	0.00	0.02	13.20	2.45	0.00	2.45
2.80	0.02	0.00	0.02	13.40	2.41	0.00	2.41
3.00	0.03	0.00	0.03	13.60	2.37	0.00	2.37
3.20	0.03	0.00	0.03	13.80	2.31	0.00	2.31
3.40	0.04	0.00	0.04	14.00	2.24	0.00	2.24
3.60	0.05	0.00	0.05	14.20	2.16	0.00	2.16
3.80	0.05	0.00	0.05	14.40	2.09	0.00	2.09
4.00	0.06	0.00	0.06	14.60	1.99	0.00	1.99
4.20	0.06	0.00	0.06	14.80	1.88	0.00	1.88
4.40	0.07	0.00	0.07	15.00	1.77	0.00	1.77
4.60	0.07	0.00	0.07	15.20	1.66	0.00	1.66
4.80	0.08	0.00	0.08	15.40	1.55	0.00	1.55
5.00	0.08	0.00	0.08	15.60	1.45	0.00	1.45
5.20	0.09	0.00	0.09	15.80	1.36	0.00	1.36
5.40	0.09	0.00	0.09	16.00	1.28	0.00	1.28
5.60	0.10	0.00	0.10	16.20	1.20	0.00	1.20
5.80	0.10	0.00	0.10	16.40	1.14	0.00	1.14
6.00	0.10	0.00	0.10	16.60	1.08	0.00	1.08
6.20	0.10	0.00	0.10	16.80	1.03	0.00	1.03
6.40	0.10	0.00	0.10	17.00	0.99	0.00	0.99
6.60	0.10	0.00	0.10	17.20	0.94	0.00	0.94
6.80	0.10	0.00	0.10	17.40	0.90	0.00	0.90
7.00	0.10	0.00	0.10	17.60	0.86	0.00	0.86
7.20	0.10	0.00	0.10	17.80	0.82	0.00	0.82
7.40	0.10	0.00	0.10	18.00	0.77	0.00	0.77
7.60	0.10	0.00	0.10	18.20	0.73	0.00	0.73
7.80	0.10	0.00	0.10	18.40	0.68	0.00	0.68
8.00	0.10	0.00	0.10	18.60	0.63	0.00	0.63
8.20	0.10	0.00	0.10	18.80	0.57	0.00	0.57
8.40	0.10	0.00	0.10	19.00	0.52	0.00	0.52
8.60	0.10	0.00	0.10	19.20	0.47	0.00	0.47
8.80	0.10	0.00	0.10	19.40	0.43	0.00	0.43
9.00	0.10	0.00	0.10	19.60	0.40	0.00	0.40
9.20	0.10	0.00	0.10	19.80	0.38	0.00	0.38
9.40	0.10	0.00	0.10	20.00	0.36	0.00	0.36
9.60	0.10	0.00	0.10	20.20	0.35	0.00	0.35
9.80	0.10	0.00	0.10	20.40	0.33	0.00	0.33
10.00	0.11	0.00	0.11	20.60	0.32	0.00	0.32
10.20	0.11	0.00	0.11	20.80	0.31	0.00	0.31
10.40	0.13	0.00	0.13	21.00	0.31	0.00	0.31

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Type III 24-hr 1-Year Rainfall=2.90"

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Hydrograph for Link S: POI South (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
21.20	0.30	0.00	0.30
21.40	0.29	0.00	0.29
21.60	0.29	0.00	0.29
21.80	0.28	0.00	0.28
22.00	0.27	0.00	0.27
22.20	0.27	0.00	0.27
22.40	0.26	0.00	0.26
22.60	0.26	0.00	0.26
22.80	0.26	0.00	0.26
23.00	0.25	0.00	0.25
23.20	0.25	0.00	0.25
23.40	0.24	0.00	0.24
23.60	0.24	0.00	0.24
23.80	0.23	0.00	0.23
24.00	0.23	0.00	0.23

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Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1: Drainage Area 1 Runoff Area=165,914 sf 100.00% Impervious Runoff Depth>5.26"
Tc=6.0 min CN=98 Runoff=20.49 cfs 1.669 af

Subcatchment DA 1B: Drainage Area 1B - Runoff Area=69,371 sf 4.46% Impervious Runoff Depth>3.32"
Flow Length=1,406' Tc=21.5 min CN=80 Runoff=4.07 cfs 0.441 af

Subcatchment DA 2: Drainage Area 2 Runoff Area=227,749 sf 94.30% Impervious Runoff Depth>5.03"
Tc=6.0 min CN=96 Runoff=27.73 cfs 2.190 af

Subcatchment DA 2B: Drainage Area 2B Runoff Area=44,537 sf 0.00% Impervious Runoff Depth>1.67"
Flow Length=314' Slope=0.0075 '/' Tc=17.3 min CN=61 Runoff=1.33 cfs 0.142 af

Subcatchment DA 3: Drainage Area 3 - Bio Runoff Area=31,517 sf 0.00% Impervious Runoff Depth>3.33"
Tc=6.0 min CN=80 Runoff=2.82 cfs 0.201 af

Subcatchment DA 4: Drainage Area 4 Runoff Area=20,387 sf 0.00% Impervious Runoff Depth>1.67"
Flow Length=728' Tc=14.4 min CN=61 Runoff=0.66 cfs 0.065 af

Subcatchment OFF: Offsite Drainage Area Runoff Area=123,809 sf 57.82% Impervious Runoff Depth>3.53"
Tc=6.0 min CN=82 Runoff=11.68 cfs 0.835 af

Pond BIO: BioRetention 1 (South) Peak Elev=299.66' Storage=11,823 cf Inflow=4.04 cfs 0.941 af
Outflow=2.58 cfs 0.728 af

Pond DET1: MC-4500 StormTech Peak Elev=306.40' Storage=0.340 af Inflow=19.26 cfs 0.929 af
Outflow=16.88 cfs 0.927 af

Pond DET2: MC-3500 Stormtech (Offsite Peak Elev=298.68' Storage=13,908 cf Inflow=12.08 cfs 0.900 af
Outflow=3.41 cfs 0.887 af

Pond INF: MC-3500 StormTech Peak Elev=310.06' Storage=0.781 af Inflow=27.73 cfs 2.190 af
Discarded=2.31 cfs 2.070 af Primary=1.58 cfs 0.119 af Outflow=3.89 cfs 2.189 af

Pond SPLIT: Flow Splitter Peak Elev=304.16' Inflow=20.49 cfs 1.669 af
Primary=1.23 cfs 0.740 af Secondary=19.26 cfs 0.929 af Outflow=20.49 cfs 1.669 af

Link N: POI North Inflow=2.41 cfs 0.262 af
Primary=2.41 cfs 0.262 af

Link S: POI South Inflow=23.28 cfs 2.983 af
Primary=23.28 cfs 2.983 af

Total Runoff Area = 15.686 ac Runoff Volume = 5.543 af Average Runoff Depth = 4.24"
33.36% Pervious = 5.232 ac 66.64% Impervious = 10.454 ac

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Summary for Subcatchment DA 1: Drainage Area 1

Runoff = 20.49 cfs @ 12.08 hrs, Volume= 1.669 af, Depth> 5.26"

Routed to Pond SPLIT : Flow Splitter

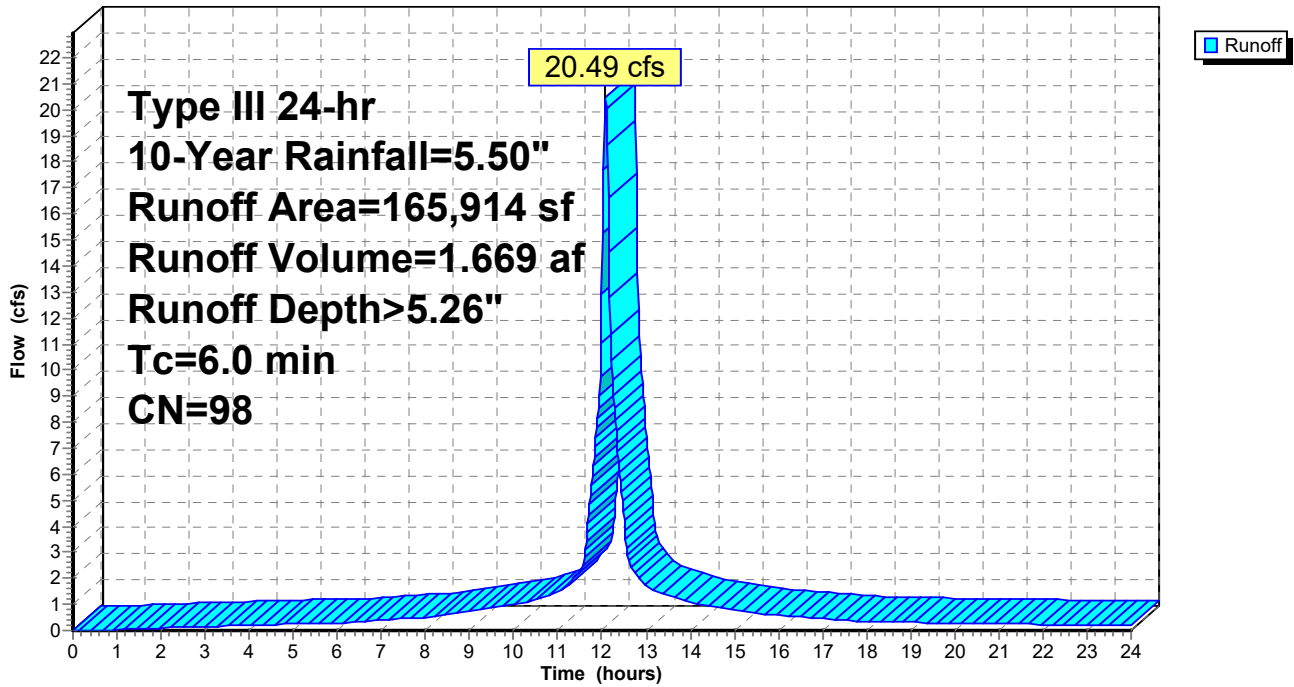
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
* 165,914	98	Drive/Parking
165,914		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc (Minimum)

Subcatchment DA 1: Drainage Area 1

Hydrograph



Hydrograph for Subcatchment DA 1: Drainage Area 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.22	1.01	1.26
0.20	0.01	0.00	0.00	10.80	1.30	1.08	1.37
0.40	0.02	0.00	0.00	11.00	1.37	1.16	1.47
0.60	0.03	0.00	0.00	11.20	1.47	1.25	1.72
0.80	0.04	0.00	0.00	11.40	1.58	1.36	2.11
1.00	0.05	0.00	0.02	11.60	1.73	1.51	2.85
1.20	0.07	0.00	0.04	11.80	2.05	1.83	6.30
1.40	0.08	0.01	0.05	12.00	2.75	2.52	12.93
1.60	0.09	0.01	0.07	12.20	3.45	3.21	11.39
1.80	0.10	0.01	0.08	12.40	3.77	3.54	6.08
2.00	0.11	0.02	0.09	12.60	3.92	3.69	2.73
2.20	0.12	0.02	0.10	12.80	4.03	3.80	2.11
2.40	0.13	0.03	0.11	13.00	4.12	3.89	1.72
2.60	0.14	0.03	0.12	13.20	4.20	3.97	1.49
2.80	0.16	0.04	0.14	13.40	4.28	4.04	1.38
3.00	0.17	0.05	0.15	13.60	4.34	4.11	1.28
3.20	0.18	0.06	0.16	13.80	4.40	4.17	1.18
3.40	0.20	0.07	0.17	14.00	4.46	4.22	1.08
3.60	0.21	0.08	0.18	14.20	4.51	4.28	1.01
3.80	0.22	0.09	0.19	14.40	4.56	4.33	0.96
4.00	0.24	0.10	0.20	14.60	4.61	4.37	0.91
4.20	0.25	0.11	0.21	14.80	4.66	4.42	0.86
4.40	0.27	0.12	0.22	15.00	4.70	4.46	0.81
4.60	0.28	0.13	0.23	15.20	4.74	4.50	0.76
4.80	0.30	0.14	0.24	15.40	4.78	4.54	0.72
5.00	0.31	0.15	0.25	15.60	4.81	4.57	0.67
5.20	0.33	0.17	0.25	15.80	4.84	4.61	0.62
5.40	0.34	0.18	0.26	16.00	4.87	4.64	0.57
5.60	0.36	0.20	0.27	16.20	4.90	4.66	0.54
5.80	0.38	0.21	0.28	16.40	4.93	4.69	0.52
6.00	0.40	0.23	0.29	16.60	4.95	4.72	0.49
6.20	0.41	0.24	0.30	16.80	4.98	4.74	0.47
6.40	0.43	0.26	0.33	17.00	5.00	4.77	0.45
6.60	0.45	0.28	0.35	17.20	5.02	4.79	0.43
6.80	0.48	0.30	0.37	17.40	5.05	4.81	0.41
7.00	0.50	0.32	0.39	17.60	5.07	4.83	0.39
7.20	0.52	0.34	0.41	17.80	5.09	4.85	0.37
7.40	0.55	0.36	0.44	18.00	5.10	4.87	0.35
7.60	0.57	0.38	0.46	18.20	5.12	4.88	0.33
7.80	0.60	0.41	0.48	18.40	5.14	4.90	0.33
8.00	0.63	0.43	0.50	18.60	5.16	4.92	0.32
8.20	0.66	0.46	0.54	18.80	5.17	4.93	0.32
8.40	0.69	0.49	0.59	19.00	5.19	4.95	0.31
8.60	0.72	0.53	0.64	19.20	5.20	4.97	0.30
8.80	0.76	0.56	0.68	19.40	5.22	4.98	0.30
9.00	0.80	0.60	0.73	19.60	5.23	5.00	0.29
9.20	0.84	0.64	0.78	19.80	5.25	5.01	0.28
9.40	0.89	0.68	0.83	20.00	5.26	5.03	0.28
9.60	0.94	0.73	0.88	20.20	5.28	5.04	0.27
9.80	0.99	0.78	0.93	20.40	5.29	5.05	0.27
10.00	1.04	0.83	0.98	20.60	5.31	5.07	0.26
10.20	1.10	0.88	1.06	20.80	5.32	5.08	0.26
10.40	1.16	0.94	1.16	21.00	5.33	5.09	0.25

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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment DA 1: Drainage Area 1 (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	5.34	5.11	0.25
21.40	5.36	5.12	0.24
21.60	5.37	5.13	0.24
21.80	5.38	5.14	0.23
22.00	5.39	5.16	0.23
22.20	5.41	5.17	0.22
22.40	5.42	5.18	0.22
22.60	5.43	5.19	0.21
22.80	5.44	5.20	0.21
23.00	5.45	5.21	0.21
23.20	5.46	5.22	0.20
23.40	5.47	5.23	0.20
23.60	5.48	5.24	0.19
23.80	5.49	5.25	0.19
24.00	5.50	5.26	0.18

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Subcatchment DA 1B: Drainage Area 1B - Bypass

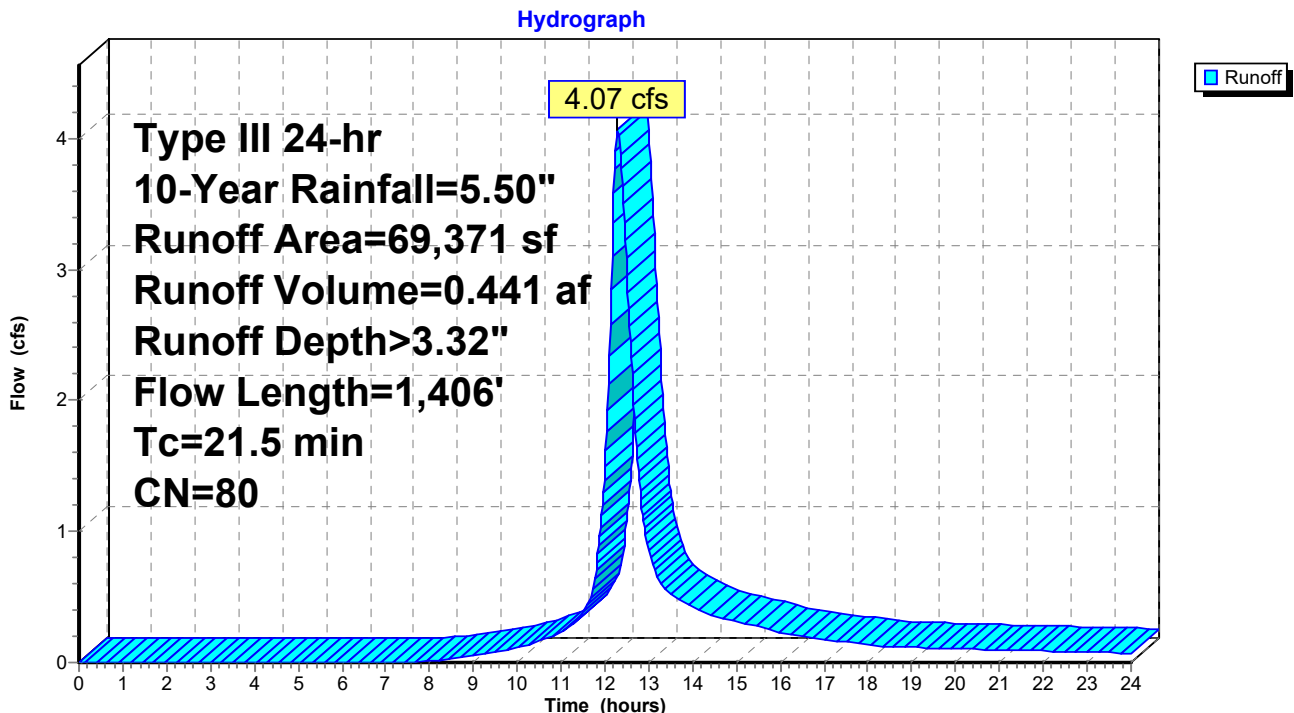
Runoff = 4.07 cfs @ 12.30 hrs, Volume= 0.441 af, Depth> 3.32"
 Routed to Link S : POI South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
61,723	80	>75% Grass cover, Good, HSG D
4,556	61	>75% Grass cover, Good, HSG B
* 3,092	98	Driveway Entrance
69,371	80	Weighted Average
66,279		95.54% Pervious Area
3,092		4.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	100	0.0160	0.11		Sheet Flow, SF Grass: Dense n= 0.240 P2= 3.11"
1.9	150	0.0340	1.29		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
3.8	1,156	0.0080	5.10	6.26	Pipe Channel, Pipe 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
21.5	1,406	Total			

Subcatchment DA 1B: Drainage Area 1B - Bypass



Hydrograph for Subcatchment DA 1B: Drainage Area 1B - Bypass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.22	0.16	0.18
0.20	0.01	0.00	0.00	10.80	1.30	0.19	0.20
0.40	0.02	0.00	0.00	11.00	1.37	0.23	0.23
0.60	0.03	0.00	0.00	11.20	1.47	0.27	0.27
0.80	0.04	0.00	0.00	11.40	1.58	0.32	0.33
1.00	0.05	0.00	0.00	11.60	1.73	0.40	0.43
1.20	0.07	0.00	0.00	11.80	2.05	0.60	0.71
1.40	0.08	0.00	0.00	12.00	2.75	1.07	1.50
1.60	0.09	0.00	0.00	12.20	3.45	1.59	3.58
1.80	0.10	0.00	0.00	12.40	3.77	1.85	3.64
2.00	0.11	0.00	0.00	12.60	3.92	1.98	2.33
2.20	0.12	0.00	0.00	12.80	4.03	2.07	1.31
2.40	0.13	0.00	0.00	13.00	4.12	2.15	0.86
2.60	0.14	0.00	0.00	13.20	4.20	2.21	0.65
2.80	0.16	0.00	0.00	13.40	4.28	2.27	0.55
3.00	0.17	0.00	0.00	13.60	4.34	2.33	0.50
3.20	0.18	0.00	0.00	13.80	4.40	2.38	0.46
3.40	0.20	0.00	0.00	14.00	4.46	2.43	0.43
3.60	0.21	0.00	0.00	14.20	4.51	2.47	0.39
3.80	0.22	0.00	0.00	14.40	4.56	2.52	0.37
4.00	0.24	0.00	0.00	14.60	4.61	2.56	0.35
4.20	0.25	0.00	0.00	14.80	4.66	2.59	0.33
4.40	0.27	0.00	0.00	15.00	4.70	2.63	0.31
4.60	0.28	0.00	0.00	15.20	4.74	2.67	0.30
4.80	0.30	0.00	0.00	15.40	4.78	2.70	0.28
5.00	0.31	0.00	0.00	15.60	4.81	2.73	0.26
5.20	0.33	0.00	0.00	15.80	4.84	2.76	0.25
5.40	0.34	0.00	0.00	16.00	4.87	2.78	0.23
5.60	0.36	0.00	0.00	16.20	4.90	2.81	0.21
5.80	0.38	0.00	0.00	16.40	4.93	2.83	0.20
6.00	0.40	0.00	0.00	16.60	4.95	2.85	0.19
6.20	0.41	0.00	0.00	16.80	4.98	2.87	0.18
6.40	0.43	0.00	0.00	17.00	5.00	2.89	0.17
6.60	0.45	0.00	0.00	17.20	5.02	2.91	0.17
6.80	0.48	0.00	0.00	17.40	5.05	2.93	0.16
7.00	0.50	0.00	0.00	17.60	5.07	2.95	0.15
7.20	0.52	0.00	0.00	17.80	5.09	2.97	0.14
7.40	0.55	0.00	0.00	18.00	5.10	2.98	0.14
7.60	0.57	0.00	0.00	18.20	5.12	3.00	0.13
7.80	0.60	0.00	0.01	18.40	5.14	3.01	0.12
8.00	0.63	0.01	0.01	18.60	5.16	3.03	0.12
8.20	0.66	0.01	0.02	18.80	5.17	3.04	0.12
8.40	0.69	0.01	0.02	19.00	5.19	3.06	0.12
8.60	0.72	0.02	0.03	19.20	5.20	3.07	0.11
8.80	0.76	0.02	0.04	19.40	5.22	3.08	0.11
9.00	0.80	0.03	0.05	19.60	5.23	3.10	0.11
9.20	0.84	0.04	0.06	19.80	5.25	3.11	0.11
9.40	0.89	0.05	0.07	20.00	5.26	3.12	0.11
9.60	0.94	0.06	0.08	20.20	5.28	3.14	0.10
9.80	0.99	0.08	0.10	20.40	5.29	3.15	0.10
10.00	1.04	0.10	0.11	20.60	5.31	3.16	0.10
10.20	1.10	0.11	0.13	20.80	5.32	3.17	0.10
10.40	1.16	0.14	0.15	21.00	5.33	3.18	0.10

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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment DA 1B: Drainage Area 1B - Bypass (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	5.34	3.20	0.09
21.40	5.36	3.21	0.09
21.60	5.37	3.22	0.09
21.80	5.38	3.23	0.09
22.00	5.39	3.24	0.09
22.20	5.41	3.25	0.09
22.40	5.42	3.26	0.08
22.60	5.43	3.27	0.08
22.80	5.44	3.28	0.08
23.00	5.45	3.29	0.08
23.20	5.46	3.30	0.08
23.40	5.47	3.31	0.07
23.60	5.48	3.32	0.07
23.80	5.49	3.32	0.07
24.00	5.50	3.33	0.07

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Subcatchment DA 2: Drainage Area 2

Runoff = 27.73 cfs @ 12.08 hrs, Volume= 2.190 af, Depth> 5.03"

Routed to Pond INF : MC-3500 StormTech INFILTRATION

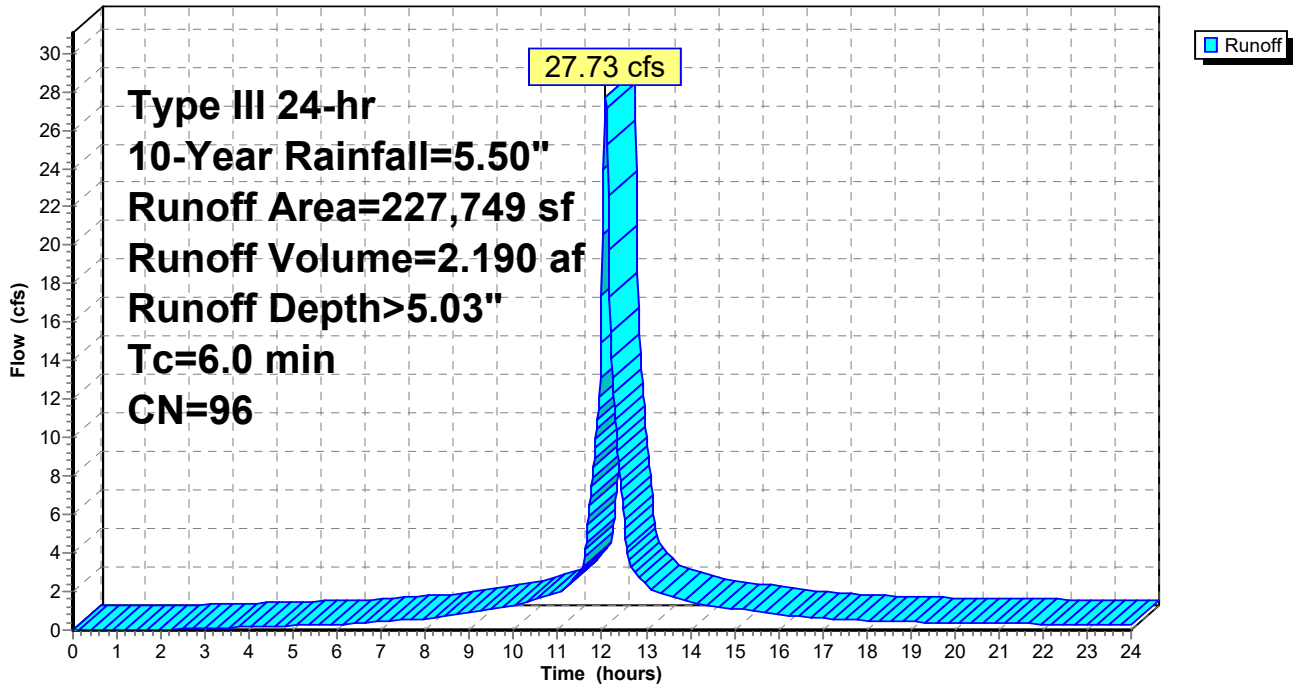
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	214,771	98	Roof, Parking/Drive
	12,978	61	>75% Grass cover, Good, HSG B
	227,749	96	Weighted Average
	12,978		5.70% Pervious Area
	214,771		94.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc (Minimum)

Subcatchment DA 2: Drainage Area 2

Hydrograph



Hydrograph for Subcatchment DA 2: Drainage Area 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.22	0.84	1.64
0.20	0.01	0.00	0.00	10.80	1.30	0.90	1.78
0.40	0.02	0.00	0.00	11.00	1.37	0.98	1.92
0.60	0.03	0.00	0.00	11.20	1.47	1.06	2.27
0.80	0.04	0.00	0.00	11.40	1.58	1.17	2.79
1.00	0.05	0.00	0.00	11.60	1.73	1.31	3.78
1.20	0.07	0.00	0.00	11.80	2.05	1.63	8.43
1.40	0.08	0.00	0.00	12.00	2.75	2.31	17.44
1.60	0.09	0.00	0.00	12.20	3.45	2.99	15.47
1.80	0.10	0.00	0.01	12.40	3.77	3.31	8.28
2.00	0.11	0.00	0.03	12.60	3.92	3.46	3.72
2.20	0.12	0.00	0.04	12.80	4.03	3.57	2.87
2.40	0.13	0.01	0.06	13.00	4.12	3.66	2.34
2.60	0.14	0.01	0.07	13.20	4.20	3.74	2.03
2.80	0.16	0.01	0.08	13.40	4.28	3.81	1.89
3.00	0.17	0.01	0.10	13.60	4.34	3.88	1.75
3.20	0.18	0.02	0.11	13.80	4.40	3.94	1.61
3.40	0.20	0.02	0.13	14.00	4.46	4.00	1.47
3.60	0.21	0.03	0.14	14.20	4.51	4.05	1.38
3.80	0.22	0.03	0.15	14.40	4.56	4.10	1.31
4.00	0.24	0.04	0.17	14.60	4.61	4.15	1.24
4.20	0.25	0.05	0.18	14.80	4.66	4.19	1.18
4.40	0.27	0.06	0.20	15.00	4.70	4.23	1.11
4.60	0.28	0.06	0.21	15.20	4.74	4.27	1.04
4.80	0.30	0.07	0.23	15.40	4.78	4.31	0.98
5.00	0.31	0.08	0.24	15.60	4.81	4.34	0.91
5.20	0.33	0.09	0.25	15.80	4.84	4.38	0.85
5.40	0.34	0.10	0.27	16.00	4.87	4.41	0.78
5.60	0.36	0.11	0.28	16.20	4.90	4.43	0.73
5.80	0.38	0.12	0.29	16.40	4.93	4.46	0.70
6.00	0.40	0.13	0.31	16.60	4.95	4.49	0.68
6.20	0.41	0.15	0.33	16.80	4.98	4.51	0.65
6.40	0.43	0.16	0.35	17.00	5.00	4.53	0.62
6.60	0.45	0.17	0.38	17.20	5.02	4.56	0.59
6.80	0.48	0.19	0.41	17.40	5.05	4.58	0.56
7.00	0.50	0.21	0.44	17.60	5.07	4.60	0.53
7.20	0.52	0.22	0.47	17.80	5.09	4.62	0.50
7.40	0.55	0.24	0.50	18.00	5.10	4.64	0.47
7.60	0.57	0.26	0.53	18.20	5.12	4.65	0.46
7.80	0.60	0.29	0.57	18.40	5.14	4.67	0.45
8.00	0.63	0.31	0.60	18.60	5.16	4.69	0.44
8.20	0.66	0.33	0.65	18.80	5.17	4.70	0.43
8.40	0.69	0.36	0.71	19.00	5.19	4.72	0.42
8.60	0.72	0.39	0.78	19.20	5.20	4.74	0.41
8.80	0.76	0.42	0.84	19.40	5.22	4.75	0.40
9.00	0.80	0.45	0.91	19.60	5.23	4.77	0.40
9.20	0.84	0.49	0.98	19.80	5.25	4.78	0.39
9.40	0.89	0.53	1.05	20.00	5.26	4.79	0.38
9.60	0.94	0.57	1.12	20.20	5.28	4.81	0.37
9.80	0.99	0.62	1.19	20.40	5.29	4.82	0.36
10.00	1.04	0.67	1.26	20.60	5.31	4.84	0.36
10.20	1.10	0.72	1.36	20.80	5.32	4.85	0.35
10.40	1.16	0.77	1.50	21.00	5.33	4.86	0.35

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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment DA 2: Drainage Area 2 (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	5.34	4.88	0.34
21.40	5.36	4.89	0.33
21.60	5.37	4.90	0.33
21.80	5.38	4.91	0.32
22.00	5.39	4.92	0.31
22.20	5.41	4.94	0.31
22.40	5.42	4.95	0.30
22.60	5.43	4.96	0.29
22.80	5.44	4.97	0.29
23.00	5.45	4.98	0.28
23.20	5.46	4.99	0.27
23.40	5.47	5.00	0.27
23.60	5.48	5.01	0.26
23.80	5.49	5.02	0.25
24.00	5.50	5.03	0.25

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Subcatchment DA 2B: Drainage Area 2B Bypass

Runoff = 1.33 cfs @ 12.26 hrs, Volume= 0.142 af, Depth> 1.67"
Routed to Link N : POI North

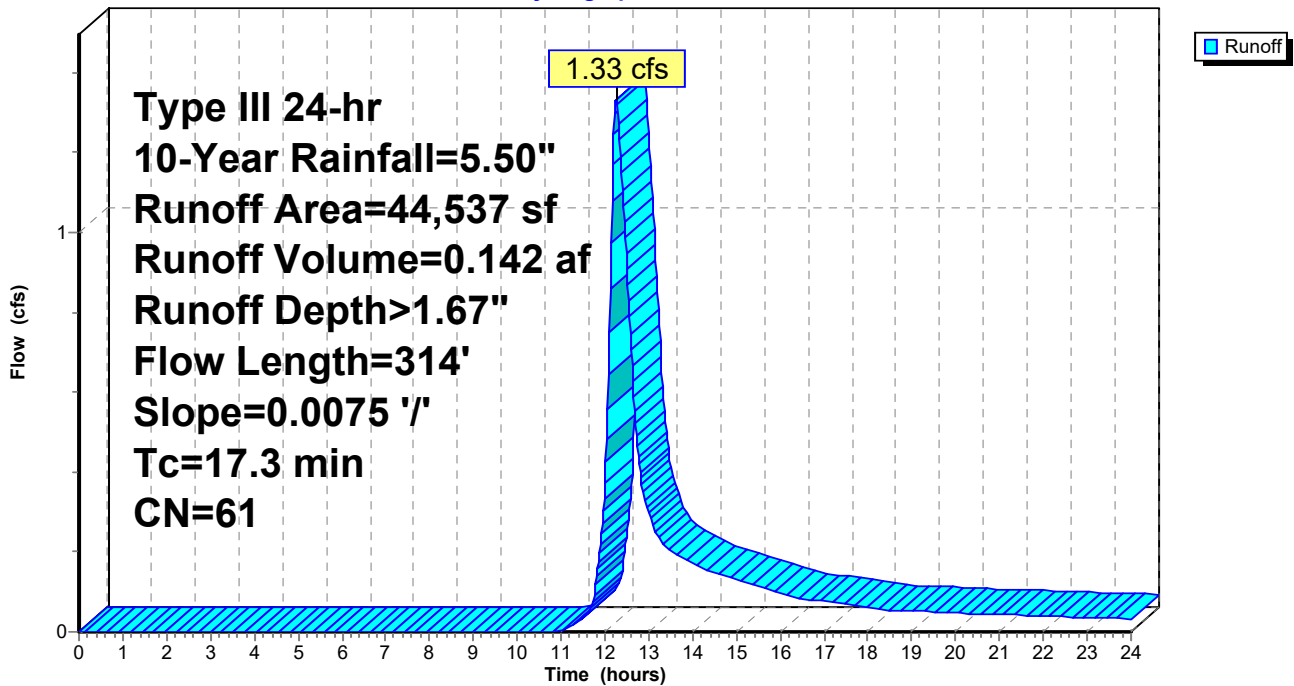
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
44,537	61	>75% Grass cover, Good, HSG B
44,537		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0075	0.11		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
2.6	214	0.0075	1.39		Shallow Concentrated Flow, SCF Unpaved Kv= 16.1 fps
17.3	314	Total			

Subcatchment DA 2B: Drainage Area 2B Bypass

Hydrograph



Hydrograph for Subcatchment DA 2B: Drainage Area 2B Bypass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.22	0.00	0.00
0.20	0.01	0.00	0.00	10.80	1.30	0.00	0.00
0.40	0.02	0.00	0.00	11.00	1.37	0.00	0.00
0.60	0.03	0.00	0.00	11.20	1.47	0.01	0.01
0.80	0.04	0.00	0.00	11.40	1.58	0.01	0.02
1.00	0.05	0.00	0.00	11.60	1.73	0.03	0.05
1.20	0.07	0.00	0.00	11.80	2.05	0.08	0.12
1.40	0.08	0.00	0.00	12.00	2.75	0.28	0.37
1.60	0.09	0.00	0.00	12.20	3.45	0.55	1.25
1.80	0.10	0.00	0.00	12.40	3.77	0.70	1.10
2.00	0.11	0.00	0.00	12.60	3.92	0.77	0.70
2.20	0.12	0.00	0.00	12.80	4.03	0.83	0.40
2.40	0.13	0.00	0.00	13.00	4.12	0.88	0.29
2.60	0.14	0.00	0.00	13.20	4.20	0.92	0.24
2.80	0.16	0.00	0.00	13.40	4.28	0.96	0.21
3.00	0.17	0.00	0.00	13.60	4.34	0.99	0.20
3.20	0.18	0.00	0.00	13.80	4.40	1.03	0.18
3.40	0.20	0.00	0.00	14.00	4.46	1.06	0.17
3.60	0.21	0.00	0.00	14.20	4.51	1.09	0.16
3.80	0.22	0.00	0.00	14.40	4.56	1.11	0.15
4.00	0.24	0.00	0.00	14.60	4.61	1.14	0.14
4.20	0.25	0.00	0.00	14.80	4.66	1.17	0.14
4.40	0.27	0.00	0.00	15.00	4.70	1.19	0.13
4.60	0.28	0.00	0.00	15.20	4.74	1.21	0.12
4.80	0.30	0.00	0.00	15.40	4.78	1.24	0.12
5.00	0.31	0.00	0.00	15.60	4.81	1.26	0.11
5.20	0.33	0.00	0.00	15.80	4.84	1.28	0.10
5.40	0.34	0.00	0.00	16.00	4.87	1.29	0.10
5.60	0.36	0.00	0.00	16.20	4.90	1.31	0.09
5.80	0.38	0.00	0.00	16.40	4.93	1.33	0.09
6.00	0.40	0.00	0.00	16.60	4.95	1.34	0.08
6.20	0.41	0.00	0.00	16.80	4.98	1.36	0.08
6.40	0.43	0.00	0.00	17.00	5.00	1.37	0.08
6.60	0.45	0.00	0.00	17.20	5.02	1.38	0.07
6.80	0.48	0.00	0.00	17.40	5.05	1.40	0.07
7.00	0.50	0.00	0.00	17.60	5.07	1.41	0.07
7.20	0.52	0.00	0.00	17.80	5.09	1.42	0.06
7.40	0.55	0.00	0.00	18.00	5.10	1.43	0.06
7.60	0.57	0.00	0.00	18.20	5.12	1.44	0.06
7.80	0.60	0.00	0.00	18.40	5.14	1.45	0.05
8.00	0.63	0.00	0.00	18.60	5.16	1.46	0.05
8.20	0.66	0.00	0.00	18.80	5.17	1.47	0.05
8.40	0.69	0.00	0.00	19.00	5.19	1.48	0.05
8.60	0.72	0.00	0.00	19.20	5.20	1.49	0.05
8.80	0.76	0.00	0.00	19.40	5.22	1.50	0.05
9.00	0.80	0.00	0.00	19.60	5.23	1.51	0.05
9.20	0.84	0.00	0.00	19.80	5.25	1.52	0.05
9.40	0.89	0.00	0.00	20.00	5.26	1.53	0.05
9.60	0.94	0.00	0.00	20.20	5.28	1.54	0.05
9.80	0.99	0.00	0.00	20.40	5.29	1.55	0.05
10.00	1.04	0.00	0.00	20.60	5.31	1.56	0.04
10.20	1.10	0.00	0.00	20.80	5.32	1.56	0.04
10.40	1.16	0.00	0.00	21.00	5.33	1.57	0.04

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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment DA 2B: Drainage Area 2B Bypass (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	5.34	1.58	0.04
21.40	5.36	1.59	0.04
21.60	5.37	1.60	0.04
21.80	5.38	1.60	0.04
22.00	5.39	1.61	0.04
22.20	5.41	1.62	0.04
22.40	5.42	1.63	0.04
22.60	5.43	1.63	0.04
22.80	5.44	1.64	0.04
23.00	5.45	1.65	0.04
23.20	5.46	1.65	0.03
23.40	5.47	1.66	0.03
23.60	5.48	1.67	0.03
23.80	5.49	1.67	0.03
24.00	5.50	1.68	0.03

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry

Runoff = 2.82 cfs @ 12.09 hrs, Volume= 0.201 af, Depth> 3.33"

Routed to Pond BIO : BioRetention 1 (South)

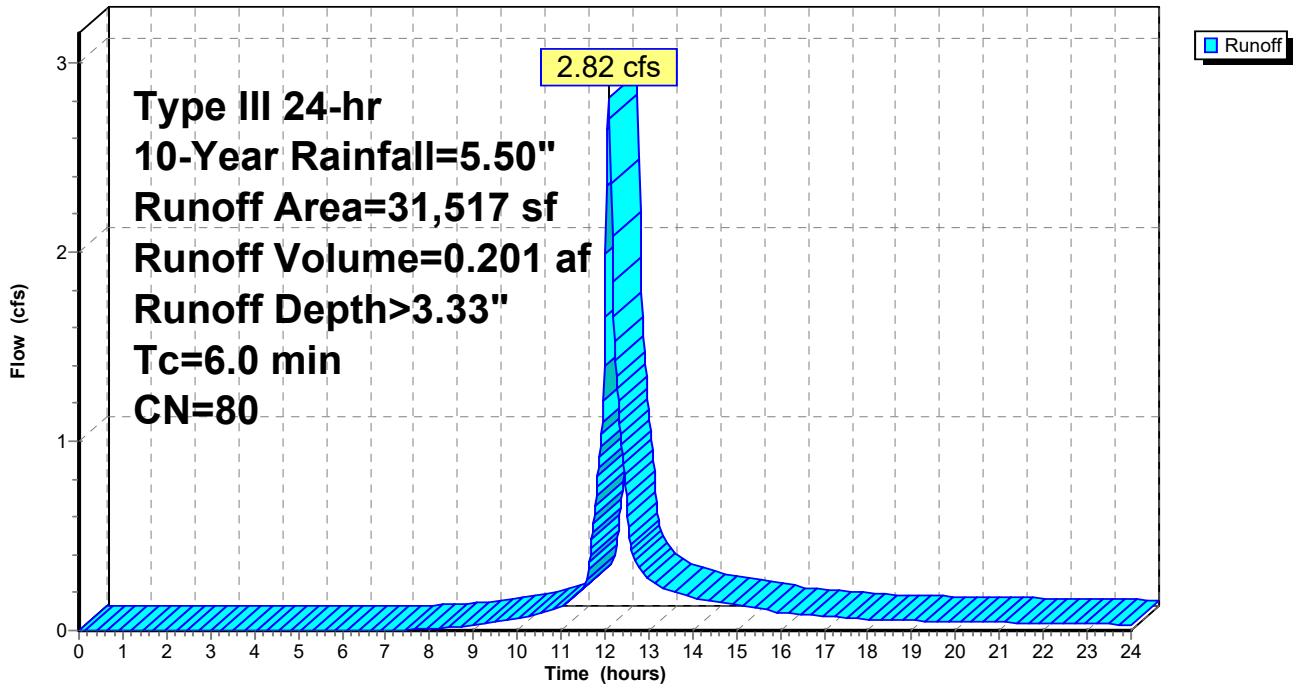
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
31,517	80	>75% Grass cover, Good, HSG D
31,517		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.22	0.16	0.10
0.20	0.01	0.00	0.00	10.80	1.30	0.19	0.11
0.40	0.02	0.00	0.00	11.00	1.37	0.23	0.12
0.60	0.03	0.00	0.00	11.20	1.47	0.27	0.16
0.80	0.04	0.00	0.00	11.40	1.58	0.32	0.20
1.00	0.05	0.00	0.00	11.60	1.73	0.40	0.29
1.20	0.07	0.00	0.00	11.80	2.05	0.60	0.71
1.40	0.08	0.00	0.00	12.00	2.75	1.07	1.66
1.60	0.09	0.00	0.00	12.20	3.45	1.59	1.66
1.80	0.10	0.00	0.00	12.40	3.77	1.85	0.93
2.00	0.11	0.00	0.00	12.60	3.92	1.98	0.42
2.20	0.12	0.00	0.00	12.80	4.03	2.07	0.33
2.40	0.13	0.00	0.00	13.00	4.12	2.15	0.27
2.60	0.14	0.00	0.00	13.20	4.20	2.21	0.24
2.80	0.16	0.00	0.00	13.40	4.28	2.27	0.22
3.00	0.17	0.00	0.00	13.60	4.34	2.33	0.21
3.20	0.18	0.00	0.00	13.80	4.40	2.38	0.19
3.40	0.20	0.00	0.00	14.00	4.46	2.43	0.17
3.60	0.21	0.00	0.00	14.20	4.51	2.47	0.16
3.80	0.22	0.00	0.00	14.40	4.56	2.52	0.16
4.00	0.24	0.00	0.00	14.60	4.61	2.56	0.15
4.20	0.25	0.00	0.00	14.80	4.66	2.59	0.14
4.40	0.27	0.00	0.00	15.00	4.70	2.63	0.13
4.60	0.28	0.00	0.00	15.20	4.74	2.67	0.13
4.80	0.30	0.00	0.00	15.40	4.78	2.70	0.12
5.00	0.31	0.00	0.00	15.60	4.81	2.73	0.11
5.20	0.33	0.00	0.00	15.80	4.84	2.76	0.10
5.40	0.34	0.00	0.00	16.00	4.87	2.78	0.09
5.60	0.36	0.00	0.00	16.20	4.90	2.81	0.09
5.80	0.38	0.00	0.00	16.40	4.93	2.83	0.09
6.00	0.40	0.00	0.00	16.60	4.95	2.85	0.08
6.20	0.41	0.00	0.00	16.80	4.98	2.87	0.08
6.40	0.43	0.00	0.00	17.00	5.00	2.89	0.08
6.60	0.45	0.00	0.00	17.20	5.02	2.91	0.07
6.80	0.48	0.00	0.00	17.40	5.05	2.93	0.07
7.00	0.50	0.00	0.00	17.60	5.07	2.95	0.06
7.20	0.52	0.00	0.00	17.80	5.09	2.97	0.06
7.40	0.55	0.00	0.00	18.00	5.10	2.98	0.06
7.60	0.57	0.00	0.00	18.20	5.12	3.00	0.06
7.80	0.60	0.00	0.01	18.40	5.14	3.01	0.05
8.00	0.63	0.01	0.01	18.60	5.16	3.03	0.05
8.20	0.66	0.01	0.01	18.80	5.17	3.04	0.05
8.40	0.69	0.01	0.01	19.00	5.19	3.06	0.05
8.60	0.72	0.02	0.02	19.20	5.20	3.07	0.05
8.80	0.76	0.02	0.02	19.40	5.22	3.08	0.05
9.00	0.80	0.03	0.03	19.60	5.23	3.10	0.05
9.20	0.84	0.04	0.03	19.80	5.25	3.11	0.05
9.40	0.89	0.05	0.04	20.00	5.26	3.12	0.05
9.60	0.94	0.06	0.05	20.20	5.28	3.14	0.05
9.80	0.99	0.08	0.05	20.40	5.29	3.15	0.04
10.00	1.04	0.10	0.06	20.60	5.31	3.16	0.04
10.20	1.10	0.11	0.07	20.80	5.32	3.17	0.04
10.40	1.16	0.14	0.08	21.00	5.33	3.18	0.04

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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	5.34	3.20	0.04
21.40	5.36	3.21	0.04
21.60	5.37	3.22	0.04
21.80	5.38	3.23	0.04
22.00	5.39	3.24	0.04
22.20	5.41	3.25	0.04
22.40	5.42	3.26	0.04
22.60	5.43	3.27	0.04
22.80	5.44	3.28	0.04
23.00	5.45	3.29	0.03
23.20	5.46	3.30	0.03
23.40	5.47	3.31	0.03
23.60	5.48	3.32	0.03
23.80	5.49	3.32	0.03
24.00	5.50	3.33	0.03

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Subcatchment DA 4: Drainage Area 4

Runoff = 0.66 cfs @ 12.21 hrs, Volume= 0.065 af, Depth> 1.67"
 Routed to Pond DET2 : MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

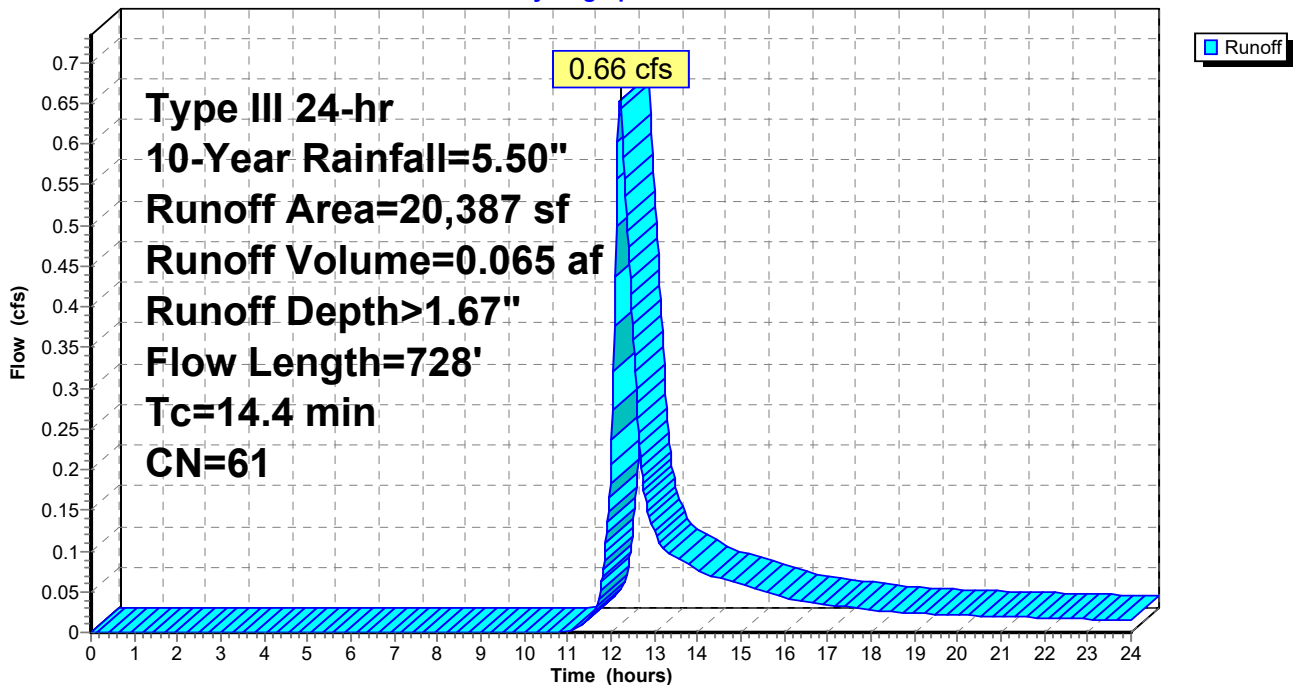
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
20,387	61	>75% Grass cover, Good, HSG B
20,387		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	100	0.0150	0.15		Sheet Flow, SF Grass: Short n= 0.150 P2= 3.11"
2.6	304	0.0150	1.97		Shallow Concentrated Flow, Grass SCF Unpaved Kv= 16.1 fps
0.6	324	0.0250	9.02	11.06	Pipe Channel, Pipe Flow 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
14.4	728	Total			

Subcatchment DA 4: Drainage Area 4

Hydrograph



Hydrograph for Subcatchment DA 4: Drainage Area 4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.22	0.00	0.00
0.20	0.01	0.00	0.00	10.80	1.30	0.00	0.00
0.40	0.02	0.00	0.00	11.00	1.37	0.00	0.00
0.60	0.03	0.00	0.00	11.20	1.47	0.01	0.01
0.80	0.04	0.00	0.00	11.40	1.58	0.01	0.01
1.00	0.05	0.00	0.00	11.60	1.73	0.03	0.02
1.20	0.07	0.00	0.00	11.80	2.05	0.08	0.07
1.40	0.08	0.00	0.00	12.00	2.75	0.28	0.21
1.60	0.09	0.00	0.00	12.20	3.45	0.55	0.65
1.80	0.10	0.00	0.00	12.40	3.77	0.70	0.47
2.00	0.11	0.00	0.00	12.60	3.92	0.77	0.28
2.20	0.12	0.00	0.00	12.80	4.03	0.83	0.16
2.40	0.13	0.00	0.00	13.00	4.12	0.88	0.13
2.60	0.14	0.00	0.00	13.20	4.20	0.92	0.10
2.80	0.16	0.00	0.00	13.40	4.28	0.96	0.09
3.00	0.17	0.00	0.00	13.60	4.34	0.99	0.09
3.20	0.18	0.00	0.00	13.80	4.40	1.03	0.08
3.40	0.20	0.00	0.00	14.00	4.46	1.06	0.08
3.60	0.21	0.00	0.00	14.20	4.51	1.09	0.07
3.80	0.22	0.00	0.00	14.40	4.56	1.11	0.07
4.00	0.24	0.00	0.00	14.60	4.61	1.14	0.07
4.20	0.25	0.00	0.00	14.80	4.66	1.17	0.06
4.40	0.27	0.00	0.00	15.00	4.70	1.19	0.06
4.60	0.28	0.00	0.00	15.20	4.74	1.21	0.06
4.80	0.30	0.00	0.00	15.40	4.78	1.24	0.05
5.00	0.31	0.00	0.00	15.60	4.81	1.26	0.05
5.20	0.33	0.00	0.00	15.80	4.84	1.28	0.05
5.40	0.34	0.00	0.00	16.00	4.87	1.29	0.04
5.60	0.36	0.00	0.00	16.20	4.90	1.31	0.04
5.80	0.38	0.00	0.00	16.40	4.93	1.33	0.04
6.00	0.40	0.00	0.00	16.60	4.95	1.34	0.04
6.20	0.41	0.00	0.00	16.80	4.98	1.36	0.04
6.40	0.43	0.00	0.00	17.00	5.00	1.37	0.03
6.60	0.45	0.00	0.00	17.20	5.02	1.38	0.03
6.80	0.48	0.00	0.00	17.40	5.05	1.40	0.03
7.00	0.50	0.00	0.00	17.60	5.07	1.41	0.03
7.20	0.52	0.00	0.00	17.80	5.09	1.42	0.03
7.40	0.55	0.00	0.00	18.00	5.10	1.43	0.03
7.60	0.57	0.00	0.00	18.20	5.12	1.44	0.03
7.80	0.60	0.00	0.00	18.40	5.14	1.45	0.02
8.00	0.63	0.00	0.00	18.60	5.16	1.46	0.02
8.20	0.66	0.00	0.00	18.80	5.17	1.47	0.02
8.40	0.69	0.00	0.00	19.00	5.19	1.48	0.02
8.60	0.72	0.00	0.00	19.20	5.20	1.49	0.02
8.80	0.76	0.00	0.00	19.40	5.22	1.50	0.02
9.00	0.80	0.00	0.00	19.60	5.23	1.51	0.02
9.20	0.84	0.00	0.00	19.80	5.25	1.52	0.02
9.40	0.89	0.00	0.00	20.00	5.26	1.53	0.02
9.60	0.94	0.00	0.00	20.20	5.28	1.54	0.02
9.80	0.99	0.00	0.00	20.40	5.29	1.55	0.02
10.00	1.04	0.00	0.00	20.60	5.31	1.56	0.02
10.20	1.10	0.00	0.00	20.80	5.32	1.56	0.02
10.40	1.16	0.00	0.00	21.00	5.33	1.57	0.02

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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment DA 4: Drainage Area 4 (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	5.34	1.58	0.02
21.40	5.36	1.59	0.02
21.60	5.37	1.60	0.02
21.80	5.38	1.60	0.02
22.00	5.39	1.61	0.02
22.20	5.41	1.62	0.02
22.40	5.42	1.63	0.02
22.60	5.43	1.63	0.02
22.80	5.44	1.64	0.02
23.00	5.45	1.65	0.02
23.20	5.46	1.65	0.02
23.40	5.47	1.66	0.02
23.60	5.48	1.67	0.02
23.80	5.49	1.67	0.01
24.00	5.50	1.68	0.01

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Subcatchment OFF: Offsite Drainage Area

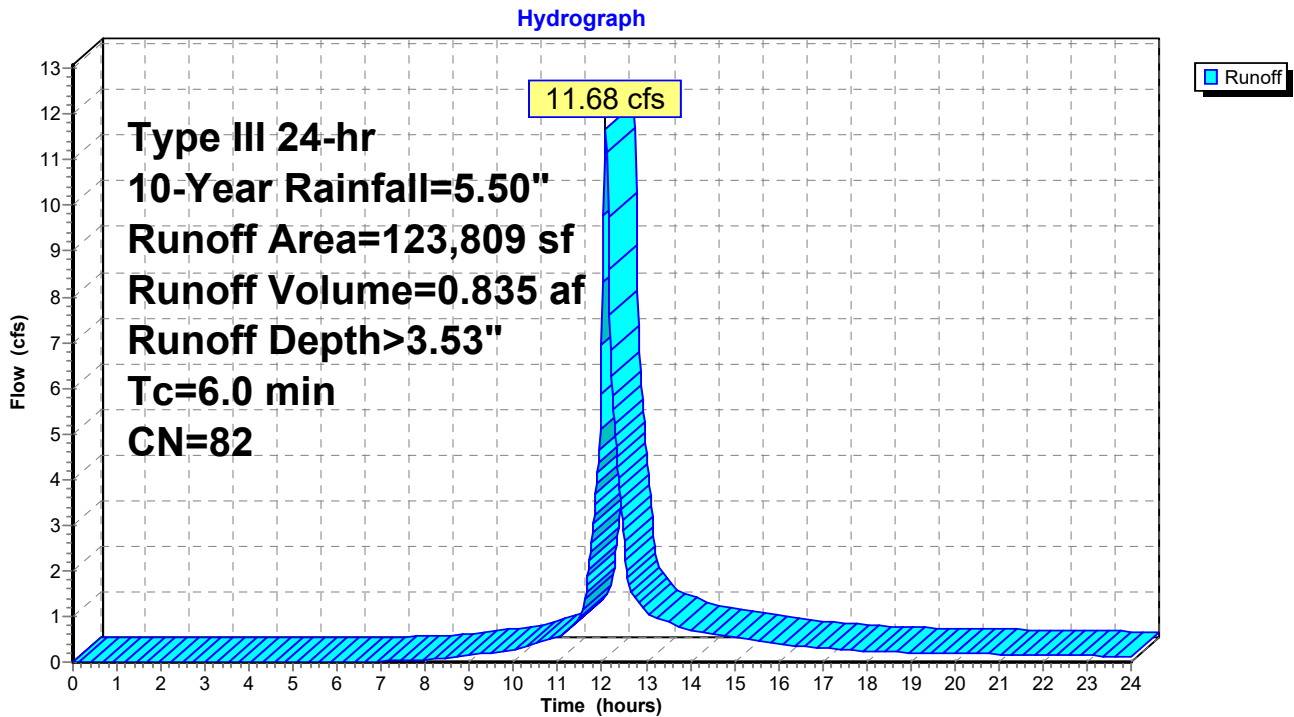
Runoff = 11.68 cfs @ 12.09 hrs, Volume= 0.835 af, Depth> 3.53"
Routed to Pond DET2 : MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 10-Year Rainfall=5.50"

Area (sf)	CN	Description
52,228	61	>75% Grass cover, Good, HSG B
* 71,581	98	Impervious Surfaces
123,809	82	Weighted Average
52,228		42.18% Pervious Area
71,581		57.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment OFF: Offsite Drainage Area



Hydrograph for Subcatchment OFF: Offsite Drainage Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.22	0.21	0.43
0.20	0.01	0.00	0.00	10.80	1.30	0.24	0.49
0.40	0.02	0.00	0.00	11.00	1.37	0.28	0.55
0.60	0.03	0.00	0.00	11.20	1.47	0.33	0.68
0.80	0.04	0.00	0.00	11.40	1.58	0.39	0.88
1.00	0.05	0.00	0.00	11.60	1.73	0.48	1.26
1.20	0.07	0.00	0.00	11.80	2.05	0.68	3.03
1.40	0.08	0.00	0.00	12.00	2.75	1.19	6.95
1.60	0.09	0.00	0.00	12.20	3.45	1.74	6.82
1.80	0.10	0.00	0.00	12.40	3.77	2.01	3.80
2.00	0.11	0.00	0.00	12.60	3.92	2.14	1.73
2.20	0.12	0.00	0.00	12.80	4.03	2.23	1.35
2.40	0.13	0.00	0.00	13.00	4.12	2.31	1.10
2.60	0.14	0.00	0.00	13.20	4.20	2.38	0.96
2.80	0.16	0.00	0.00	13.40	4.28	2.44	0.90
3.00	0.17	0.00	0.00	13.60	4.34	2.50	0.83
3.20	0.18	0.00	0.00	13.80	4.40	2.55	0.77
3.40	0.20	0.00	0.00	14.00	4.46	2.60	0.71
3.60	0.21	0.00	0.00	14.20	4.51	2.65	0.66
3.80	0.22	0.00	0.00	14.40	4.56	2.69	0.63
4.00	0.24	0.00	0.00	14.60	4.61	2.73	0.60
4.20	0.25	0.00	0.00	14.80	4.66	2.77	0.57
4.40	0.27	0.00	0.00	15.00	4.70	2.81	0.54
4.60	0.28	0.00	0.00	15.20	4.74	2.85	0.51
4.80	0.30	0.00	0.00	15.40	4.78	2.88	0.47
5.00	0.31	0.00	0.00	15.60	4.81	2.91	0.44
5.20	0.33	0.00	0.00	15.80	4.84	2.94	0.41
5.40	0.34	0.00	0.00	16.00	4.87	2.97	0.38
5.60	0.36	0.00	0.00	16.20	4.90	2.99	0.36
5.80	0.38	0.00	0.00	16.40	4.93	3.01	0.34
6.00	0.40	0.00	0.00	16.60	4.95	3.04	0.33
6.20	0.41	0.00	0.00	16.80	4.98	3.06	0.32
6.40	0.43	0.00	0.00	17.00	5.00	3.08	0.30
6.60	0.45	0.00	0.00	17.20	5.02	3.10	0.29
6.80	0.48	0.00	0.01	17.40	5.05	3.12	0.27
7.00	0.50	0.00	0.01	17.60	5.07	3.14	0.26
7.20	0.52	0.00	0.02	17.80	5.09	3.16	0.25
7.40	0.55	0.00	0.03	18.00	5.10	3.17	0.23
7.60	0.57	0.01	0.04	18.20	5.12	3.19	0.22
7.80	0.60	0.01	0.05	18.40	5.14	3.20	0.22
8.00	0.63	0.01	0.06	18.60	5.16	3.22	0.22
8.20	0.66	0.02	0.07	18.80	5.17	3.23	0.21
8.40	0.69	0.03	0.09	19.00	5.19	3.25	0.21
8.60	0.72	0.03	0.10	19.20	5.20	3.26	0.20
8.80	0.76	0.04	0.12	19.40	5.22	3.28	0.20
9.00	0.80	0.05	0.15	19.60	5.23	3.29	0.20
9.20	0.84	0.06	0.17	19.80	5.25	3.30	0.19
9.40	0.89	0.08	0.19	20.00	5.26	3.32	0.19
9.60	0.94	0.09	0.22	20.20	5.28	3.33	0.18
9.80	0.99	0.11	0.25	20.40	5.29	3.34	0.18
10.00	1.04	0.13	0.28	20.60	5.31	3.35	0.18
10.20	1.10	0.15	0.32	20.80	5.32	3.37	0.17
10.40	1.16	0.18	0.37	21.00	5.33	3.38	0.17

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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Subcatchment OFF: Offsite Drainage Area (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	5.34	3.39	0.17
21.40	5.36	3.40	0.16
21.60	5.37	3.41	0.16
21.80	5.38	3.42	0.16
22.00	5.39	3.43	0.15
22.20	5.41	3.44	0.15
22.40	5.42	3.45	0.15
22.60	5.43	3.47	0.15
22.80	5.44	3.47	0.14
23.00	5.45	3.48	0.14
23.20	5.46	3.49	0.14
23.40	5.47	3.50	0.13
23.60	5.48	3.51	0.13
23.80	5.49	3.52	0.13
24.00	5.50	3.53	0.12

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Pond BIO: BioRetention 1 (South)

Inflow Area = 4.532 ac, 84.04% Impervious, Inflow Depth > 2.49" for 10-Year event
 Inflow = 4.04 cfs @ 12.09 hrs, Volume= 0.941 af
 Outflow = 2.58 cfs @ 12.21 hrs, Volume= 0.728 af, Atten= 36%, Lag= 7.3 min
 Primary = 2.58 cfs @ 12.21 hrs, Volume= 0.728 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs / 2
 Peak Elev= 299.66' @ 12.21 hrs Surf.Area= 18,573 sf Storage= 11,823 cf

Plug-Flow detention time= 213.3 min calculated for 0.728 af (77% of inflow)
 Center-of-Mass det. time= 96.8 min (876.6 - 779.8)

Volume	Invert	Avail.Storage	Storage Description
#1	299.00'	18,277 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
299.00	17,341	0	0
300.00	19,212	18,277	18,277

Device	Routing	Invert	Outlet Devices
#1	Primary	299.50'	24.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	299.00'	0.250 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 102.00'

Primary OutFlow Max=2.58 cfs @ 12.21 hrs HW=299.66' (Free Discharge)

- 1=Orifice/Grate (Weir Controls 2.47 cfs @ 1.30 fps)
- 2=Exfiltration (Controls 0.11 cfs)

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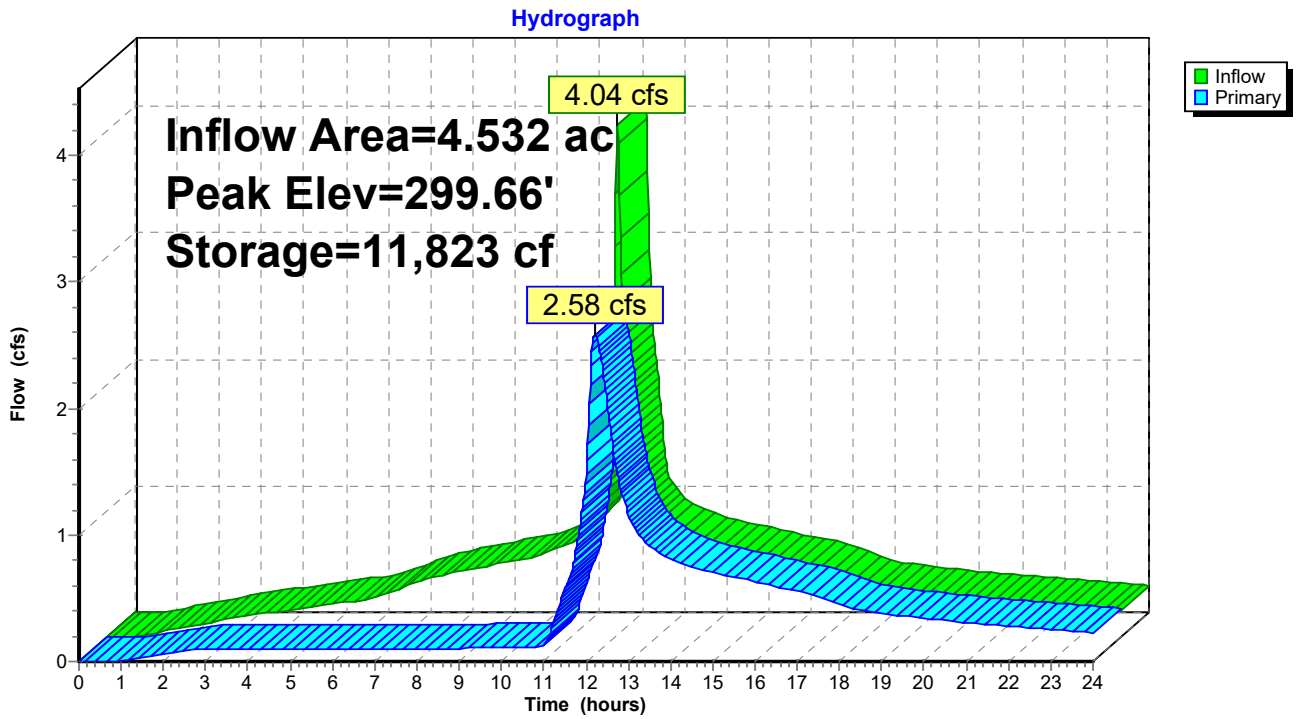
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Type III 24-hr 10-Year Rainfall=5.50"

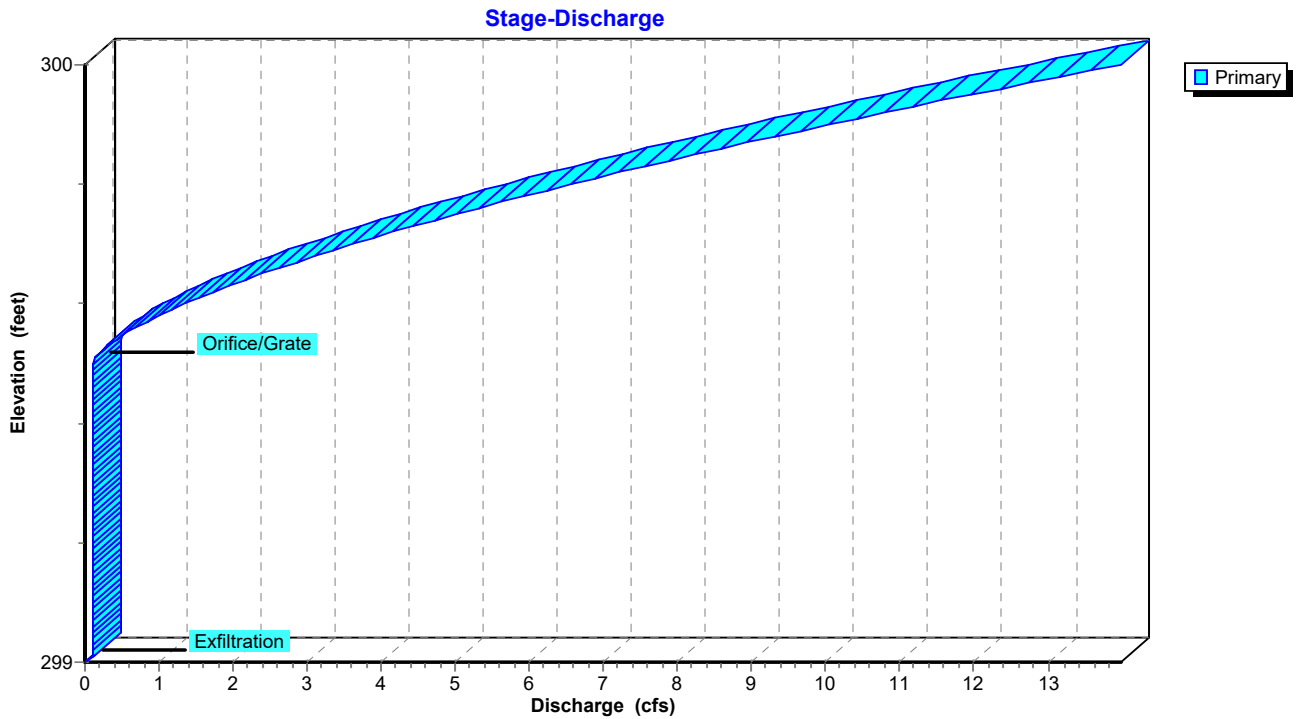
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Pond BIO: BioRetention 1 (South)



Pond BIO: BioRetention 1 (South)



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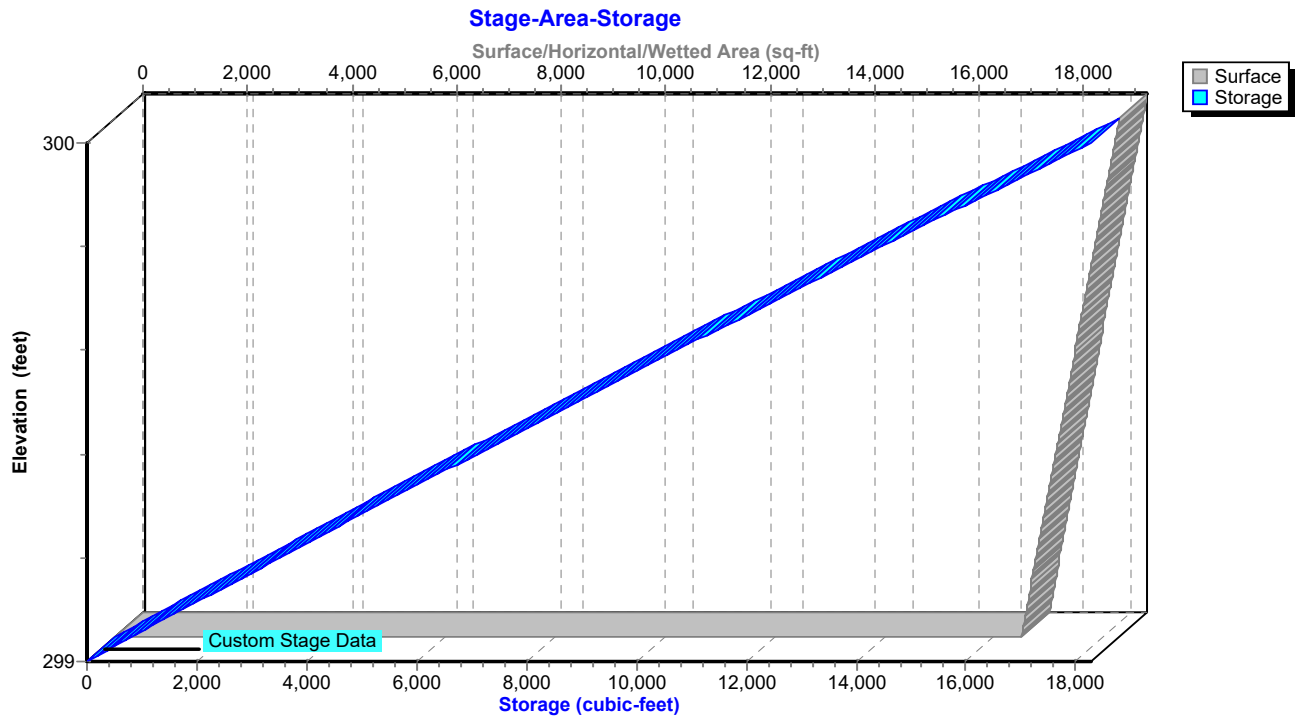
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Type III 24-hr 10-Year Rainfall=5.50"

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Pond BIO: BioRetention 1 (South)



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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Pond BIO: BioRetention 1 (South)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	299.00	0.00
0.20	0.00	0	299.00	0.00
0.40	0.00	0	299.00	0.00
0.60	0.00	0	299.00	0.00
0.80	0.00	0	299.00	0.00
1.00	0.02	5	299.00	0.00
1.20	0.04	20	299.00	0.01
1.40	0.05	39	299.00	0.02
1.60	0.07	61	299.00	0.04
1.80	0.08	83	299.00	0.05
2.00	0.09	104	299.01	0.06
2.20	0.10	124	299.01	0.07
2.40	0.11	145	299.01	0.08
2.60	0.12	165	299.01	0.10
2.80	0.14	186	299.01	0.10
3.00	0.15	215	299.01	0.10
3.20	0.16	252	299.01	0.10
3.40	0.17	297	299.02	0.10
3.60	0.18	349	299.02	0.10
3.80	0.19	409	299.02	0.10
4.00	0.20	476	299.03	0.10
4.20	0.21	550	299.03	0.10
4.40	0.22	630	299.04	0.10
4.60	0.23	718	299.04	0.10
4.80	0.24	813	299.05	0.10
5.00	0.25	913	299.05	0.10
5.20	0.25	1,021	299.06	0.10
5.40	0.26	1,135	299.07	0.10
5.60	0.27	1,255	299.07	0.10
5.80	0.28	1,381	299.08	0.10
6.00	0.29	1,513	299.09	0.10
6.20	0.30	1,653	299.09	0.10
6.40	0.33	1,806	299.10	0.10
6.60	0.35	1,976	299.11	0.10
6.80	0.37	2,160	299.12	0.10
7.00	0.39	2,361	299.14	0.10
7.20	0.41	2,577	299.15	0.10
7.40	0.44	2,810	299.16	0.10
7.60	0.46	3,060	299.17	0.10
7.80	0.48	3,327	299.19	0.10
8.00	0.49	3,604	299.21	0.10
8.20	0.51	3,888	299.22	0.10
8.40	0.52	4,184	299.24	0.10
8.60	0.54	4,490	299.26	0.10
8.80	0.55	4,806	299.27	0.10
9.00	0.56	5,130	299.29	0.10
9.20	0.57	5,465	299.31	0.10
9.40	0.59	5,808	299.33	0.10
9.60	0.60	6,161	299.35	0.10
9.80	0.61	6,523	299.37	0.10
10.00	0.63	6,895	299.39	0.10
10.20	0.65	7,278	299.41	0.11
10.40	0.67	7,676	299.43	0.11

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Hydrograph for Pond BIO: BioRetention 1 (South) (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
10.60	0.69	8,092	299.46	0.11
10.80	0.72	8,524	299.48	0.11
11.00	0.74	8,974	299.50	0.12
11.20	0.80	9,388	299.53	0.28
11.40	0.87	9,718	299.54	0.48
11.60	1.01	9,970	299.56	0.66
11.80	1.57	10,323	299.58	0.95
12.00	2.69	10,872	299.61	1.48
12.20	2.65	11,822	299.66	2.58
12.40	1.78	11,589	299.65	2.29
12.60	1.13	11,153	299.62	1.79
12.80	1.00	10,782	299.60	1.39
13.00	0.91	10,557	299.59	1.17
13.20	0.86	10,404	299.58	1.02
13.40	0.83	10,308	299.58	0.94
13.60	0.81	10,244	299.57	0.88
13.80	0.78	10,196	299.57	0.84
14.00	0.75	10,156	299.57	0.81
14.20	0.73	10,120	299.57	0.78
14.40	0.72	10,092	299.56	0.76
14.60	0.71	10,069	299.56	0.74
14.80	0.69	10,049	299.56	0.72
15.00	0.68	10,030	299.56	0.70
15.20	0.66	10,011	299.56	0.69
15.40	0.65	9,993	299.56	0.67
15.60	0.63	9,973	299.56	0.66
15.80	0.61	9,952	299.56	0.64
16.00	0.60	9,930	299.56	0.63
16.20	0.58	9,909	299.55	0.61
16.40	0.57	9,890	299.55	0.60
16.60	0.56	9,873	299.55	0.58
16.80	0.55	9,857	299.55	0.57
17.00	0.53	9,838	299.55	0.56
17.20	0.50	9,814	299.55	0.54
17.40	0.48	9,785	299.55	0.52
17.60	0.45	9,753	299.55	0.50
17.80	0.43	9,720	299.54	0.48
18.00	0.41	9,685	299.54	0.45
18.20	0.39	9,652	299.54	0.43
18.40	0.38	9,627	299.54	0.41
18.60	0.38	9,606	299.54	0.40
18.80	0.37	9,588	299.54	0.39
19.00	0.36	9,572	299.54	0.38
19.20	0.35	9,557	299.54	0.37
19.40	0.35	9,544	299.53	0.36
19.60	0.34	9,530	299.53	0.36
19.80	0.33	9,518	299.53	0.35
20.00	0.32	9,505	299.53	0.34
20.20	0.32	9,493	299.53	0.33
20.40	0.31	9,481	299.53	0.33
20.60	0.31	9,471	299.53	0.32
20.80	0.30	9,460	299.53	0.31
21.00	0.30	9,451	299.53	0.31

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Hydrograph for Pond BIO: BioRetention 1 (South) (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
21.20	0.29	9,441	299.53	0.30
21.40	0.28	9,430	299.53	0.30
21.60	0.28	9,420	299.53	0.29
21.80	0.27	9,409	299.53	0.29
22.00	0.27	9,399	299.53	0.28
22.20	0.26	9,388	299.53	0.28
22.40	0.26	9,377	299.53	0.27
22.60	0.25	9,366	299.53	0.27
22.80	0.25	9,355	299.52	0.26
23.00	0.24	9,345	299.52	0.25
23.20	0.23	9,334	299.52	0.25
23.40	0.23	9,323	299.52	0.24
23.60	0.22	9,312	299.52	0.24
23.80	0.22	9,301	299.52	0.23
24.00	0.21	9,290	299.52	0.23

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Stage-Discharge for Pond BIO: BioRetention 1 (South)

Elevation (feet)	Primary (cfs)
299.00	0.00
299.10	0.10
299.20	0.10
299.30	0.10
299.40	0.10
299.50	0.11
299.60	1.35
299.70	3.62
299.80	6.56
299.90	10.04
300.00	13.99

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Stage-Area-Storage for Pond BIO: BioRetention 1 (South)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
299.00	17,341	0
299.10	17,528	1,743
299.20	17,715	3,506
299.30	17,902	5,286
299.40	18,089	7,086
299.50	18,277	8,904
299.60	18,464	10,741
299.70	18,651	12,597
299.80	18,838	14,472
299.90	19,025	16,365
300.00	19,212	18,277

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Summary for Pond DET1: MC-4500 StormTech DETENTION ONLY

[81] Warning: Exceeded Pond SPLIT by 2.58' @ 12.18 hrs

Inflow = 19.26 cfs @ 12.08 hrs, Volume= 0.929 af
 Outflow = 16.88 cfs @ 12.13 hrs, Volume= 0.927 af, Atten= 12%, Lag= 2.7 min
 Primary = 16.88 cfs @ 12.13 hrs, Volume= 0.927 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Peak Elev= 306.40' @ 12.13 hrs Surf.Area= 0.089 ac Storage= 0.340 af

Plug-Flow detention time= 97.3 min calculated for 0.927 af (100% of inflow)
 Center-of-Mass det. time= 97.2 min (824.2 - 727.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	300.93'	0.145 af	37.58'W x 103.72'L x 6.75'H Field A 0.604 af Overall - 0.241 af Embedded = 0.363 af x 40.0% Voids
#2A	301.68'	0.241 af	ADS_StormTech MC-4500 +Cap x 96 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 96 Chambers in 4 Rows Cap Storage= 35.7 cf x 2 x 4 rows = 285.6 cf
		0.386 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	300.93'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#2	Primary	305.00'	36.0" W x 18.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	307.18'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=16.68 cfs @ 12.13 hrs HW=306.39' (Free Discharge)

- 1=Underdrain (Orifice Controls 0.97 cfs @ 11.07 fps)
- 2=Orifice/Grate (Orifice Controls 15.71 cfs @ 3.78 fps)
- 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Pond DET1: MC-4500 StormTech DETENTION ONLY - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-4500 +Cap (ADS StormTech®MC-4500 with cap, use MC-4500 b for new designs)

Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf

Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap

Cap Storage= 35.7 cf x 2 x 4 rows = 285.6 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

24 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 101.72' Row Length +12.0" End Stone x 2 = 103.72' Base Length

4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width

9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

96 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 4 Rows = 10,508.7 cf Chamber Storage

26,311.6 cf Field - 10,508.7 cf Chambers = 15,802.9 cf Stone x 40.0% Voids = 6,321.2 cf Stone Storage

Chamber Storage + Stone Storage = 16,829.9 cf = 0.386 af

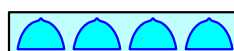
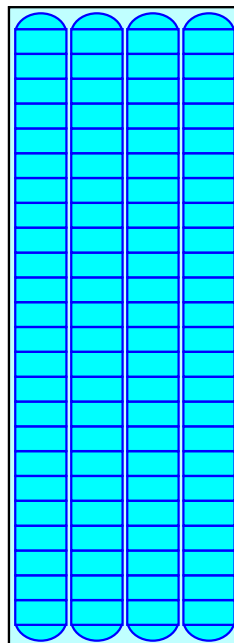
Overall Storage Efficiency = 64.0%

Overall System Size = 103.72' x 37.58' x 6.75'

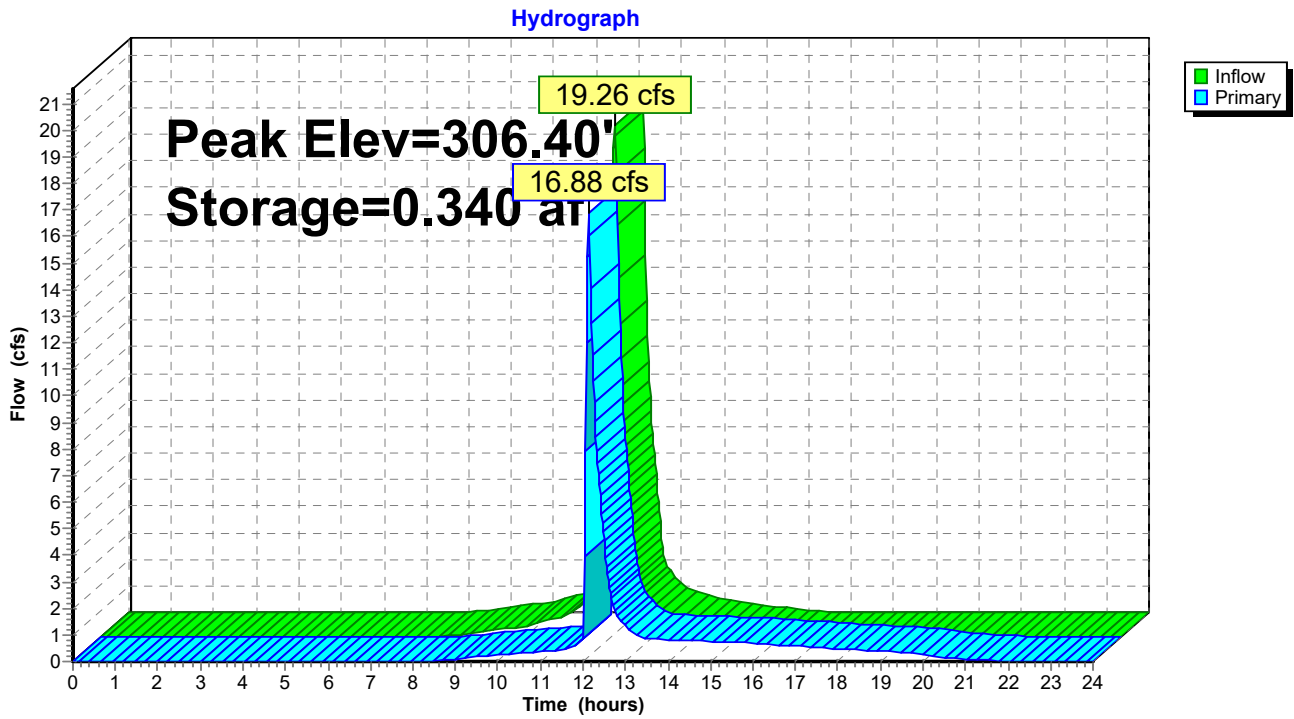
96 Chambers

974.5 cy Field

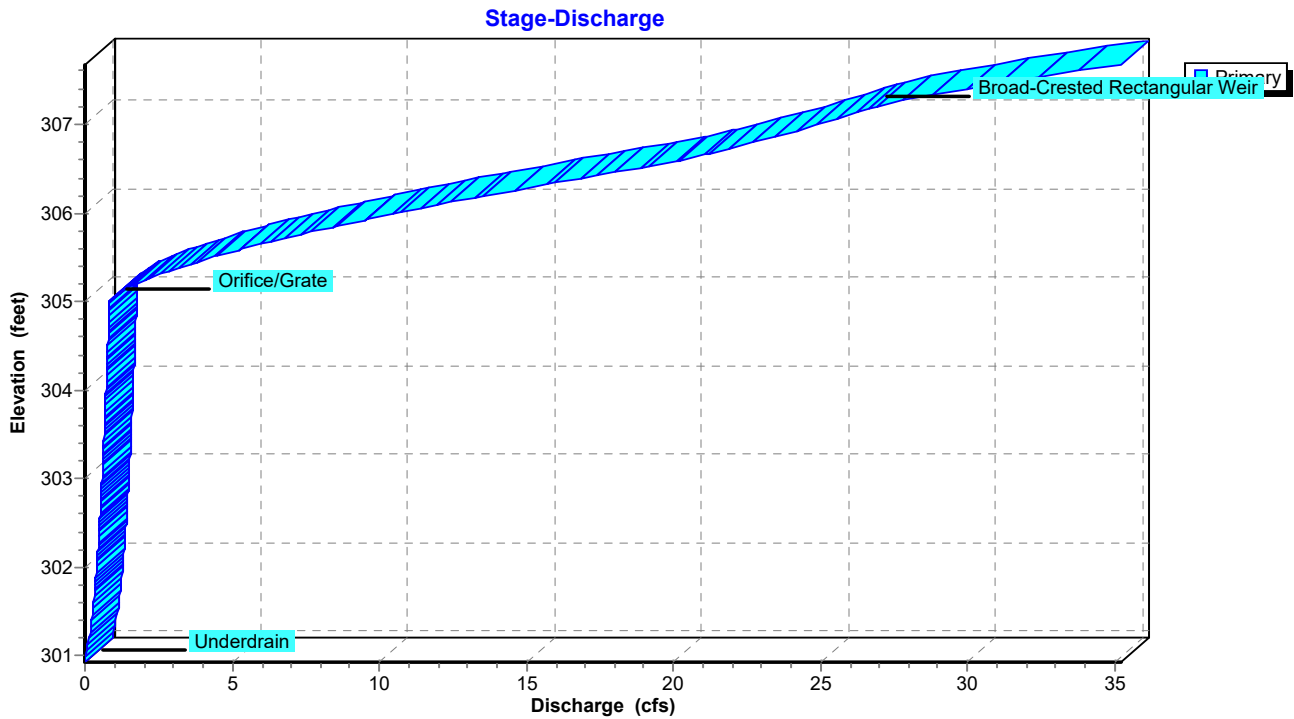
585.3 cy Stone



Pond DET1: MC-4500 StormTech DETENTION ONLY



Pond DET1: MC-4500 StormTech DETENTION ONLY



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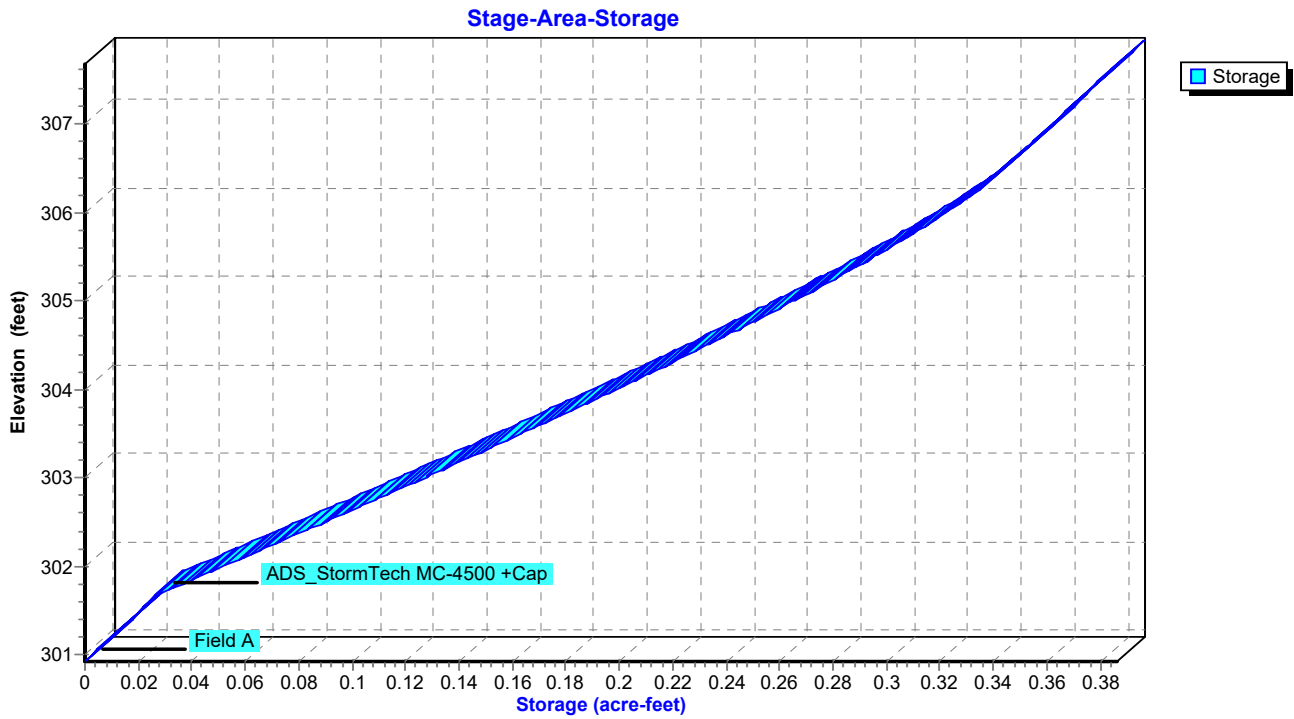
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Pond DET1: MC-4500 StormTech DETENTION ONLY



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Hydrograph for Pond DET1: MC-4500 StormTech DETENTION ONLY

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	300.93	0.00
0.20	0.00	0.000	300.93	0.00
0.40	0.00	0.000	300.93	0.00
0.60	0.00	0.000	300.93	0.00
0.80	0.00	0.000	300.93	0.00
1.00	0.00	0.000	300.93	0.00
1.20	0.00	0.000	300.93	0.00
1.40	0.00	0.000	300.93	0.00
1.60	0.00	0.000	300.93	0.00
1.80	0.00	0.000	300.93	0.00
2.00	0.00	0.000	300.93	0.00
2.20	0.00	0.000	300.93	0.00
2.40	0.00	0.000	300.93	0.00
2.60	0.00	0.000	300.93	0.00
2.80	0.00	0.000	300.93	0.00
3.00	0.00	0.000	300.93	0.00
3.20	0.00	0.000	300.93	0.00
3.40	0.00	0.000	300.93	0.00
3.60	0.00	0.000	300.93	0.00
3.80	0.00	0.000	300.93	0.00
4.00	0.00	0.000	300.93	0.00
4.20	0.00	0.000	300.93	0.00
4.40	0.00	0.000	300.93	0.00
4.60	0.00	0.000	300.93	0.00
4.80	0.00	0.000	300.93	0.00
5.00	0.00	0.000	300.93	0.00
5.20	0.00	0.000	300.93	0.00
5.40	0.00	0.000	300.93	0.00
5.60	0.00	0.000	300.93	0.00
5.80	0.00	0.000	300.93	0.00
6.00	0.00	0.000	300.93	0.00
6.20	0.00	0.000	300.93	0.00
6.40	0.00	0.000	300.93	0.00
6.60	0.00	0.000	300.93	0.00
6.80	0.00	0.000	300.93	0.00
7.00	0.00	0.000	300.93	0.00
7.20	0.00	0.000	300.93	0.00
7.40	0.00	0.000	300.93	0.00
7.60	0.00	0.000	300.93	0.00
7.80	0.00	0.000	300.93	0.00
8.00	0.02	0.000	300.94	0.00
8.20	0.04	0.001	300.95	0.00
8.40	0.08	0.002	300.97	0.01
8.60	0.12	0.003	301.02	0.02
8.80	0.16	0.005	301.07	0.04
9.00	0.20	0.007	301.12	0.08
9.20	0.24	0.009	301.18	0.12
9.40	0.28	0.011	301.24	0.16
9.60	0.33	0.013	301.30	0.19
9.80	0.37	0.016	301.37	0.22
10.00	0.41	0.018	301.44	0.25
10.20	0.48	0.021	301.52	0.27
10.40	0.57	0.025	301.63	0.31

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Hydrograph for Pond DET1: MC-4500 StormTech DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
10.60	0.66	0.030	301.72	0.33
10.80	0.76	0.036	301.80	0.35
11.00	0.85	0.043	301.90	0.38
11.20	1.08	0.052	302.01	0.40
11.40	1.44	0.066	302.20	0.44
11.60	2.13	0.086	302.46	0.49
11.80	5.44	0.138	303.16	0.60
12.00	11.91	0.252	304.80	0.81
12.20	10.40	0.329	306.14	12.71
12.40	5.23	0.305	305.68	6.26
12.60	2.02	0.287	305.37	3.01
12.80	1.44	0.278	305.21	1.77
13.00	1.08	0.273	305.13	1.33
13.20	0.87	0.270	305.07	1.04
13.40	0.77	0.267	305.04	0.90
13.60	0.68	0.265	305.00	0.83
13.80	0.59	0.262	304.95	0.82
14.00	0.50	0.257	304.88	0.82
14.20	0.44	0.252	304.79	0.81
14.40	0.39	0.245	304.69	0.80
14.60	0.35	0.238	304.58	0.78
14.80	0.31	0.231	304.47	0.77
15.00	0.27	0.223	304.36	0.76
15.20	0.23	0.215	304.23	0.74
15.40	0.19	0.206	304.10	0.73
15.60	0.15	0.197	303.97	0.71
15.80	0.11	0.187	303.84	0.70
16.00	0.07	0.177	303.70	0.68
16.20	0.04	0.167	303.55	0.66
16.40	0.03	0.157	303.41	0.64
16.60	0.01	0.147	303.27	0.62
16.80	0.00	0.137	303.14	0.60
17.00	0.00	0.127	303.01	0.58
17.20	0.00	0.118	302.88	0.56
17.40	0.00	0.109	302.76	0.54
17.60	0.00	0.100	302.64	0.52
17.80	0.00	0.091	302.53	0.50
18.00	0.00	0.083	302.42	0.48
18.20	0.00	0.075	302.32	0.46
18.40	0.00	0.068	302.22	0.44
18.60	0.00	0.061	302.12	0.43
18.80	0.00	0.054	302.03	0.41
19.00	0.00	0.047	301.95	0.39
19.20	0.00	0.041	301.86	0.37
19.40	0.00	0.035	301.79	0.35
19.60	0.00	0.030	301.71	0.33
19.80	0.00	0.024	301.61	0.30
20.00	0.00	0.020	301.48	0.26
20.20	0.00	0.016	301.37	0.22
20.40	0.00	0.012	301.28	0.18
20.60	0.00	0.010	301.20	0.14
20.80	0.00	0.008	301.15	0.10
21.00	0.00	0.007	301.11	0.07

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Hydrograph for Pond DET1: MC-4500 StormTech DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
21.20	0.00	0.005	301.08	0.05
21.40	0.00	0.005	301.06	0.04
21.60	0.00	0.004	301.05	0.03
21.80	0.00	0.004	301.03	0.03
22.00	0.00	0.003	301.02	0.02
22.20	0.00	0.003	301.01	0.02
22.40	0.00	0.003	301.00	0.01
22.60	0.00	0.002	301.00	0.01
22.80	0.00	0.002	300.99	0.01
23.00	0.00	0.002	300.99	0.01
23.20	0.00	0.002	300.98	0.01
23.40	0.00	0.002	300.98	0.01
23.60	0.00	0.002	300.98	0.01
23.80	0.00	0.002	300.97	0.01
24.00	0.00	0.001	300.97	0.01

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Stage-Discharge for Pond DET1: MC-4500 StormTech DETENTION ONLY

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
300.93	0.00	306.23	14.09
301.03	0.02	306.33	15.73
301.13	0.08	306.43	17.44
301.23	0.15	306.53	19.15
301.33	0.20	306.63	20.58
301.43	0.24	306.73	21.85
301.53	0.28	306.83	23.02
301.63	0.31	306.93	24.12
301.73	0.33	307.03	25.16
301.83	0.36	307.13	26.15
301.93	0.38	307.23	27.23
302.03	0.41	307.33	28.67
302.13	0.43	307.43	30.31
302.23	0.45	307.53	32.15
302.33	0.47	307.63	34.15
302.43	0.49		
302.53	0.50		
302.63	0.52		
302.73	0.54		
302.83	0.55		
302.93	0.57		
303.03	0.58		
303.13	0.60		
303.23	0.61		
303.33	0.63		
303.43	0.64		
303.53	0.66		
303.63	0.67		
303.73	0.68		
303.83	0.69		
303.93	0.71		
304.03	0.72		
304.13	0.73		
304.23	0.74		
304.33	0.76		
304.43	0.77		
304.53	0.78		
304.63	0.79		
304.73	0.80		
304.83	0.81		
304.93	0.82		
305.03	0.88		
305.13	1.30		
305.23	1.92		
305.33	2.69		
305.43	3.59		
305.53	4.60		
305.63	5.71		
305.73	6.91		
305.83	8.20		
305.93	9.56		
306.03	11.00		
306.13	12.51		

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Stage-Area-Storage for Pond DET1: MC-4500 StormTech DETENTION ONLY

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
300.93	0.000	306.23	0.333
301.03	0.004	306.33	0.337
301.13	0.007	306.43	0.341
301.23	0.011	306.53	0.345
301.33	0.014	306.63	0.349
301.43	0.018	306.73	0.352
301.53	0.021	306.83	0.356
301.63	0.025	306.93	0.360
301.73	0.031	307.03	0.363
301.83	0.038	307.13	0.367
301.93	0.046	307.23	0.370
302.03	0.054	307.33	0.374
302.13	0.061	307.43	0.377
302.23	0.069	307.53	0.381
302.33	0.077	307.63	0.385
302.43	0.084		
302.53	0.092		
302.63	0.099		
302.73	0.107		
302.83	0.114		
302.93	0.122		
303.03	0.129		
303.13	0.136		
303.23	0.144		
303.33	0.151		
303.43	0.158		
303.53	0.165		
303.63	0.173		
303.73	0.180		
303.83	0.187		
303.93	0.194		
304.03	0.201		
304.13	0.208		
304.23	0.215		
304.33	0.221		
304.43	0.228		
304.53	0.235		
304.63	0.241		
304.73	0.248		
304.83	0.254		
304.93	0.261		
305.03	0.267		
305.13	0.273		
305.23	0.279		
305.33	0.285		
305.43	0.291		
305.53	0.297		
305.63	0.303		
305.73	0.308		
305.83	0.314		
305.93	0.319		
306.03	0.324		
306.13	0.329		

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Inflow Area = 3.310 ac, 49.64% Impervious, Inflow Depth > 3.26" for 10-Year event
 Inflow = 12.08 cfs @ 12.09 hrs, Volume= 0.900 af
 Outflow = 3.41 cfs @ 12.47 hrs, Volume= 0.887 af, Atten= 72%, Lag= 22.9 min
 Primary = 3.41 cfs @ 12.47 hrs, Volume= 0.887 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Peak Elev= 298.68' @ 12.47 hrs Surf.Area= 6,177 sf Storage= 13,908 cf

Plug-Flow detention time= 84.4 min calculated for 0.887 af (98% of inflow)
 Center-of-Mass det. time= 75.6 min (891.6 - 816.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	295.50'	8,615 cf	29.92'W x 206.46'L x 5.50'H Field A 33,971 cf Overall - 12,434 cf Embedded = 21,537 cf x 40.0% Voids
#2A	296.25'	12,434 cf	ADS_StormTech MC-3500 d +Cap x 112 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 112 Chambers in 4 Rows Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf
		21,049 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	295.50'	6.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#2	Primary	298.00'	12.0" W x 12.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	300.50'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=3.41 cfs @ 12.47 hrs HW=298.68' (Free Discharge)

- 1=Underdrain (Orifice Controls 1.62 cfs @ 8.24 fps)
- 2=Orifice/Grate (Orifice Controls 1.79 cfs @ 2.64 fps)
- 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)

Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf

Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap

Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

28 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 204.46' Row Length +12.0" End Stone x 2 = 206.46' Base Length

4 Rows x 77.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 29.92' Base Width

9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

112 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 4 Rows = 12,433.8 cf Chamber Storage

33,971.3 cf Field - 12,433.8 cf Chambers = 21,537.5 cf Stone x 40.0% Voids = 8,615.0 cf Stone Storage

Chamber Storage + Stone Storage = 21,048.8 cf = 0.483 af

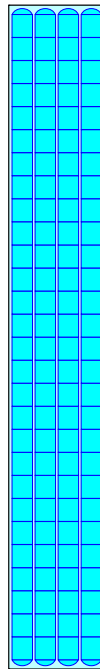
Overall Storage Efficiency = 62.0%

Overall System Size = 206.46' x 29.92' x 5.50'

112 Chambers

1,258.2 cy Field

797.7 cy Stone



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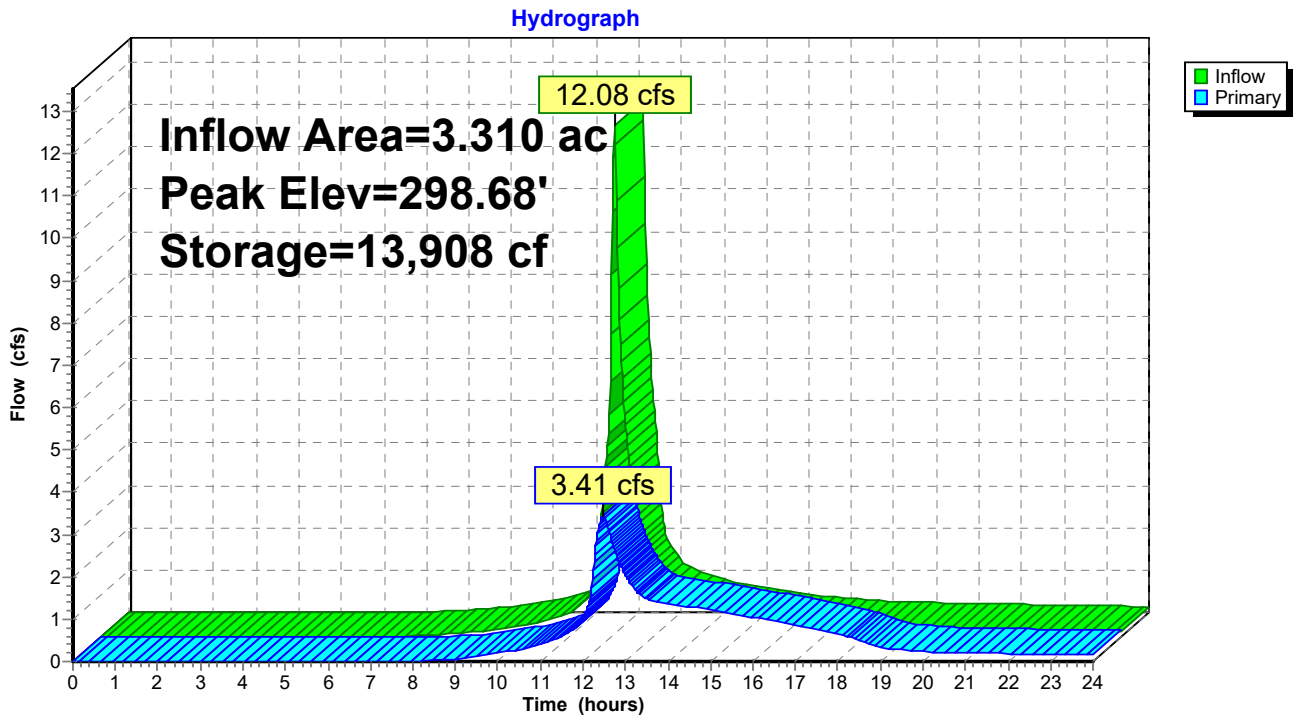
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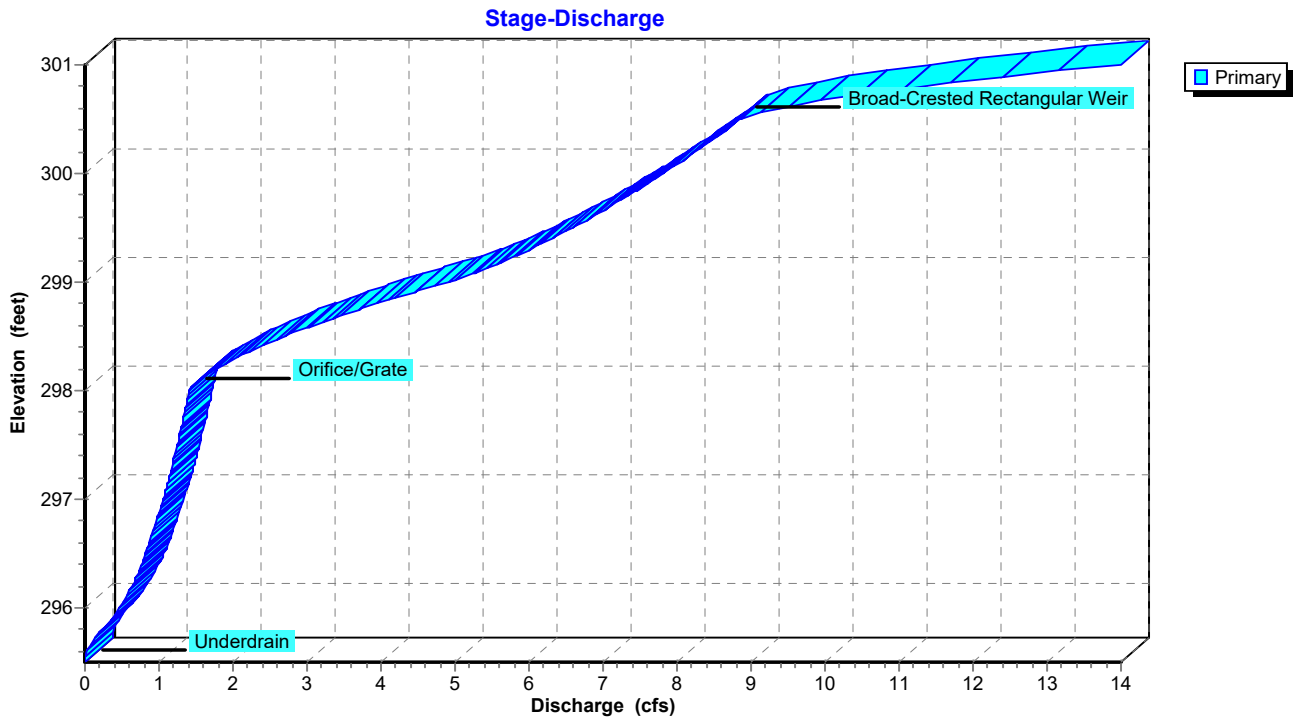
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Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY



Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY



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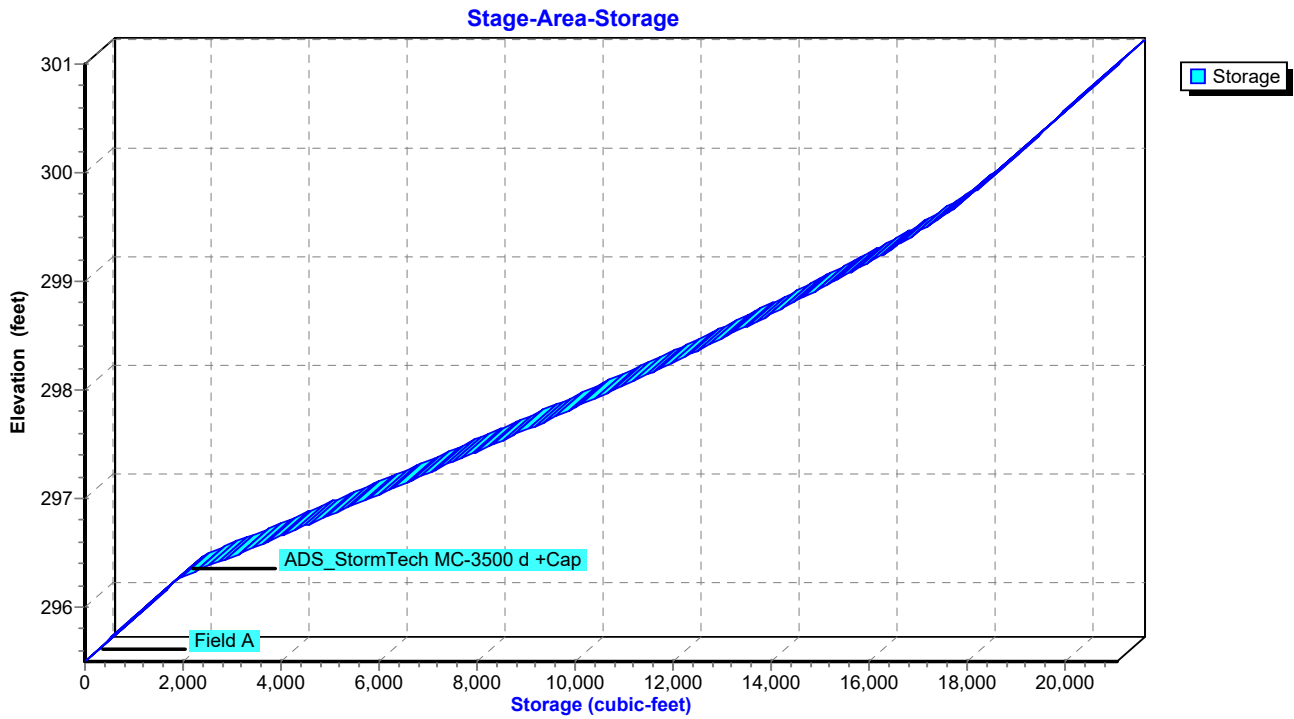
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Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY



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Hydrograph for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	295.50	0.00
0.20	0.00	0	295.50	0.00
0.40	0.00	0	295.50	0.00
0.60	0.00	0	295.50	0.00
0.80	0.00	0	295.50	0.00
1.00	0.00	0	295.50	0.00
1.20	0.00	0	295.50	0.00
1.40	0.00	0	295.50	0.00
1.60	0.00	0	295.50	0.00
1.80	0.00	0	295.50	0.00
2.00	0.00	0	295.50	0.00
2.20	0.00	0	295.50	0.00
2.40	0.00	0	295.50	0.00
2.60	0.00	0	295.50	0.00
2.80	0.00	0	295.50	0.00
3.00	0.00	0	295.50	0.00
3.20	0.00	0	295.50	0.00
3.40	0.00	0	295.50	0.00
3.60	0.00	0	295.50	0.00
3.80	0.00	0	295.50	0.00
4.00	0.00	0	295.50	0.00
4.20	0.00	0	295.50	0.00
4.40	0.00	0	295.50	0.00
4.60	0.00	0	295.50	0.00
4.80	0.00	0	295.50	0.00
5.00	0.00	0	295.50	0.00
5.20	0.00	0	295.50	0.00
5.40	0.00	0	295.50	0.00
5.60	0.00	0	295.50	0.00
5.80	0.00	0	295.50	0.00
6.00	0.00	0	295.50	0.00
6.20	0.00	0	295.50	0.00
6.40	0.00	0	295.50	0.00
6.60	0.00	0	295.50	0.00
6.80	0.01	3	295.50	0.00
7.00	0.01	10	295.50	0.00
7.20	0.02	22	295.51	0.00
7.40	0.03	39	295.52	0.00
7.60	0.04	60	295.52	0.00
7.80	0.05	87	295.54	0.01
8.00	0.06	119	295.55	0.01
8.20	0.07	157	295.56	0.01
8.40	0.09	201	295.58	0.02
8.60	0.10	249	295.60	0.03
8.80	0.12	303	295.62	0.05
9.00	0.15	360	295.65	0.06
9.20	0.17	421	295.67	0.08
9.40	0.19	482	295.70	0.11
9.60	0.22	545	295.72	0.13
9.80	0.25	608	295.75	0.16
10.00	0.28	671	295.77	0.19
10.20	0.32	736	295.80	0.23
10.40	0.37	809	295.83	0.27

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Hydrograph for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
10.60	0.43	891	295.86	0.31
10.80	0.49	982	295.90	0.36
11.00	0.56	1,081	295.94	0.41
11.20	0.69	1,207	295.99	0.46
11.40	0.89	1,417	296.07	0.54
11.60	1.28	1,735	296.20	0.64
11.80	3.10	2,759	296.42	0.77
12.00	7.16	5,336	296.91	1.02
12.20	7.47	11,636	298.18	1.72
12.40	4.27	13,791	298.65	3.30
12.60	2.01	13,596	298.61	3.12
12.80	1.51	12,821	298.44	2.47
13.00	1.23	12,192	298.30	2.03
13.20	1.06	11,656	298.18	1.73
13.40	0.99	11,225	298.09	1.54
13.60	0.92	10,849	298.01	1.43
13.80	0.85	10,473	297.93	1.40
14.00	0.78	10,065	297.85	1.37
14.20	0.73	9,632	297.76	1.34
14.40	0.70	9,192	297.67	1.31
14.60	0.66	8,749	297.58	1.28
14.80	0.63	8,305	297.49	1.25
15.00	0.60	7,859	297.41	1.22
15.20	0.56	7,413	297.32	1.18
15.40	0.53	6,965	297.23	1.15
15.60	0.49	6,517	297.14	1.12
15.80	0.46	6,070	297.05	1.08
16.00	0.42	5,623	296.97	1.04
16.20	0.40	5,179	296.88	1.01
16.40	0.38	4,749	296.80	0.97
16.60	0.37	4,336	296.72	0.93
16.80	0.35	3,938	296.64	0.89
17.00	0.34	3,555	296.57	0.86
17.20	0.32	3,189	296.50	0.82
17.40	0.31	2,838	296.44	0.78
17.60	0.29	2,503	296.37	0.75
17.80	0.28	2,183	296.31	0.71
18.00	0.26	1,879	296.25	0.67
18.20	0.25	1,604	296.15	0.60
18.40	0.25	1,378	296.06	0.52
18.60	0.24	1,199	295.99	0.46
18.80	0.24	1,061	295.93	0.40
19.00	0.23	961	295.89	0.35
19.20	0.23	890	295.86	0.31
19.40	0.22	839	295.84	0.28
19.60	0.22	802	295.82	0.26
19.80	0.21	774	295.81	0.25
20.00	0.21	752	295.80	0.24
20.20	0.20	734	295.80	0.23
20.40	0.20	720	295.79	0.22
20.60	0.20	708	295.79	0.21
20.80	0.19	698	295.78	0.21
21.00	0.19	689	295.78	0.20

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Hydrograph for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
21.20	0.19	680	295.78	0.20
21.40	0.18	672	295.77	0.19
21.60	0.18	665	295.77	0.19
21.80	0.18	657	295.77	0.19
22.00	0.17	649	295.76	0.18
22.20	0.17	642	295.76	0.18
22.40	0.17	635	295.76	0.18
22.60	0.16	627	295.75	0.17
22.80	0.16	620	295.75	0.17
23.00	0.16	612	295.75	0.17
23.20	0.15	605	295.74	0.16
23.40	0.15	598	295.74	0.16
23.60	0.14	590	295.74	0.16
23.80	0.14	583	295.74	0.15
24.00	0.14	575	295.73	0.15

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Stage-Discharge for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
295.50	0.00	300.80	11.29
295.60	0.03	300.90	12.55
295.70	0.11	301.00	14.01
295.80	0.23		
295.90	0.36		
296.00	0.47		
296.10	0.56		
296.20	0.63		
296.30	0.70		
296.40	0.76		
296.50	0.82		
296.60	0.87		
296.70	0.92		
296.80	0.97		
296.90	1.01		
297.00	1.06		
297.10	1.10		
297.20	1.14		
297.30	1.18		
297.40	1.21		
297.50	1.25		
297.60	1.29		
297.70	1.32		
297.80	1.35		
297.90	1.39		
298.00	1.42		
298.10	1.55		
298.20	1.77		
298.30	2.04		
298.40	2.35		
298.50	2.70		
298.60	3.09		
298.70	3.50		
298.80	3.95		
298.90	4.42		
299.00	4.91		
299.10	5.33		
299.20	5.69		
299.30	6.01		
299.40	6.31		
299.50	6.59		
299.60	6.86		
299.70	7.11		
299.80	7.36		
299.90	7.59		
300.00	7.82		
300.10	8.04		
300.20	8.25		
300.30	8.46		
300.40	8.66		
300.50	8.85		
300.60	9.40		
300.70	10.23		

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Stage-Area-Storage for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
295.50	0	300.80	20,555
295.60	247	300.90	20,802
295.70	494	301.00	21,049
295.80	741		
295.90	988		
296.00	1,235		
296.10	1,482		
296.20	1,729		
296.30	2,119		
296.40	2,650		
296.50	3,179		
296.60	3,706		
296.70	4,230		
296.80	4,752		
296.90	5,272		
297.00	5,790		
297.10	6,305		
297.20	6,817		
297.30	7,326		
297.40	7,831		
297.50	8,334		
297.60	8,833		
297.70	9,327		
297.80	9,818		
297.90	10,304		
298.00	10,786		
298.10	11,262		
298.20	11,734		
298.30	12,200		
298.40	12,660		
298.50	13,113		
298.60	13,560		
298.70	13,999		
298.80	14,431		
298.90	14,854		
299.00	15,268		
299.10	15,672		
299.20	16,065		
299.30	16,445		
299.40	16,811		
299.50	17,161		
299.60	17,486		
299.70	17,784		
299.80	18,060		
299.90	18,325		
300.00	18,578		
300.10	18,825		
300.20	19,072		
300.30	19,319		
300.40	19,566		
300.50	19,813		
300.60	20,061		
300.70	20,308		

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Pond INF: MC-3500 StormTech INFILTRATION

Inflow Area = 5.228 ac, 94.30% Impervious, Inflow Depth > 5.03" for 10-Year event
 Inflow = 27.73 cfs @ 12.08 hrs, Volume= 2.190 af
 Outflow = 3.89 cfs @ 12.59 hrs, Volume= 2.189 af, Atten= 86%, Lag= 30.2 min
 Discarded = 2.31 cfs @ 12.59 hrs, Volume= 2.070 af
 Primary = 1.58 cfs @ 12.59 hrs, Volume= 0.119 af
 Routed to Link N : POI North

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Peak Elev= 310.06' @ 12.59 hrs Surf.Area= 0.374 ac Storage= 0.781 af

Plug-Flow detention time= 100.0 min calculated for 2.187 af (100% of inflow)
 Center-of-Mass det. time= 99.6 min (859.2 - 759.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	307.14'	0.514 af	58.58'W x 278.16'L x 5.50'H Field A 2.058 af Overall - 0.773 af Embedded = 1.285 af x 40.0% Voids
#2A	307.89'	0.773 af	ADS_StormTech MC-3500 d +Cap x 304 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 304 Chambers in 8 Rows Cap Storage= 14.9 cf x 2 x 8 rows = 238.4 cf
		1.287 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	307.14'	5.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 294.00'
#2	Primary	309.64'	24.0" W x 4.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	312.14'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=2.31 cfs @ 12.59 hrs HW=310.06' (Free Discharge)
 ↑1=Exfiltration (Controls 2.31 cfs)

Primary OutFlow Max=1.58 cfs @ 12.59 hrs HW=310.06' (Free Discharge)
 ↑2=Orifice/Grate (Orifice Controls 1.58 cfs @ 2.37 fps)
 ↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Type III 24-hr 10-Year Rainfall=5.50"

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Pond INF: MC-3500 StormTech INFILTRATION - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)

Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf

Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap

Cap Storage= 14.9 cf x 2 x 8 rows = 238.4 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

38 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 276.16' Row Length +12.0" End Stone x 2 = 278.16' Base Length

8 Rows x 77.0" Wide + 9.0" Spacing x 7 + 12.0" Side Stone x 2 = 58.58' Base Width

9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

304 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 8 Rows = 33,663.8 cf Chamber Storage

89,625.5 cf Field - 33,663.8 cf Chambers = 55,961.7 cf Stone x 40.0% Voids = 22,384.7 cf Stone Storage

Chamber Storage + Stone Storage = 56,048.5 cf = 1.287 af

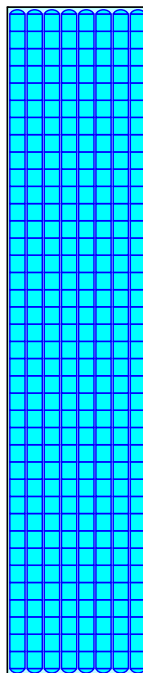
Overall Storage Efficiency = 62.5%

Overall System Size = 278.16' x 58.58' x 5.50'

304 Chambers

3,319.5 cy Field

2,072.7 cy Stone



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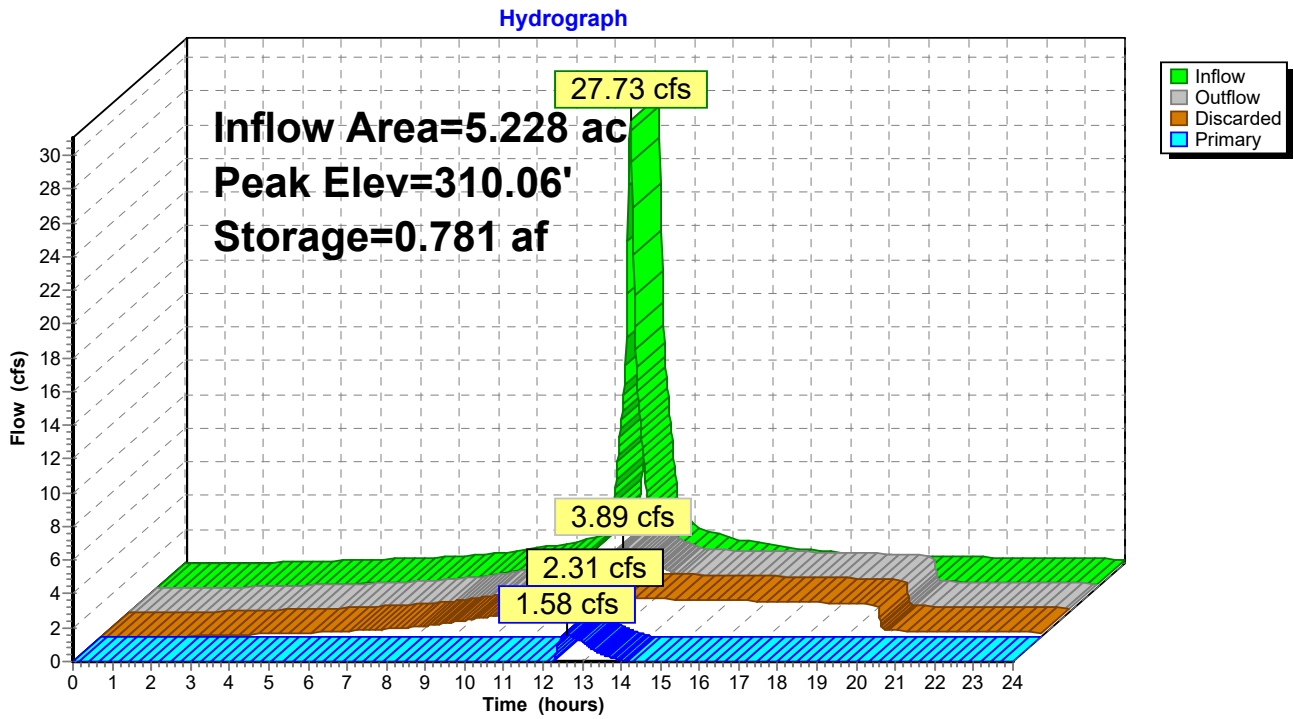
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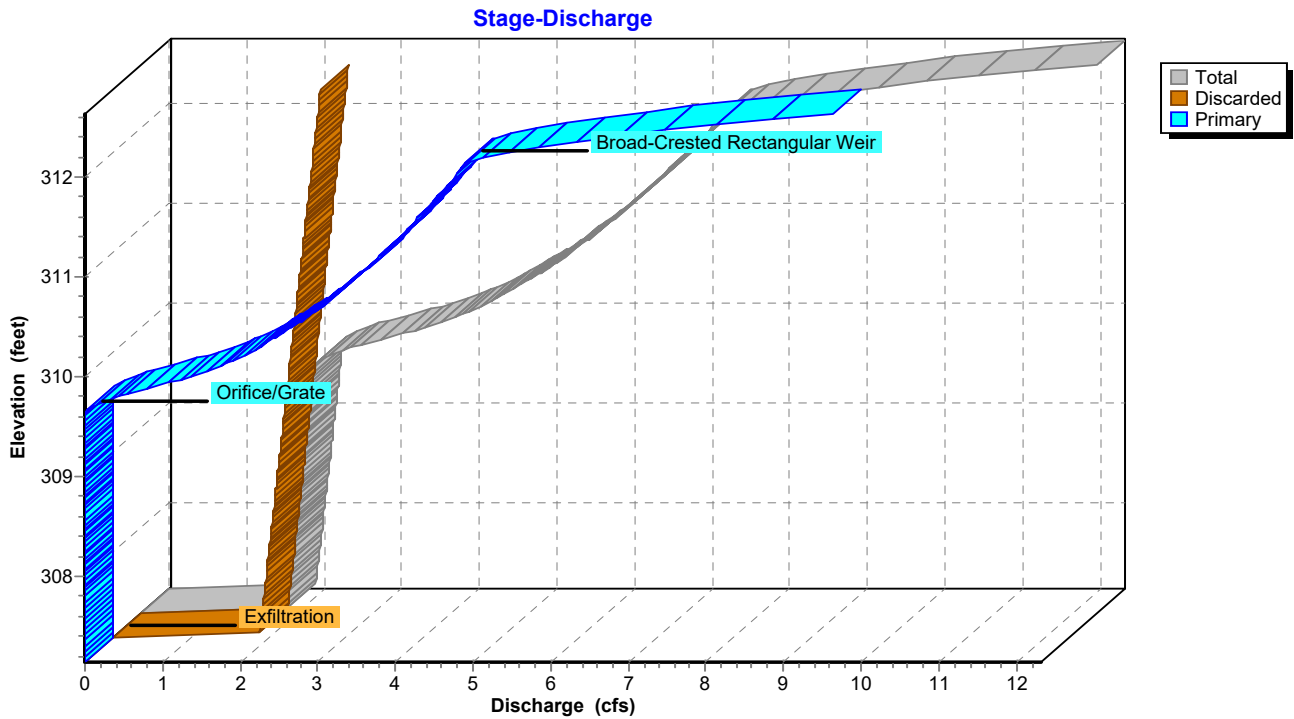
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Pond INF: MC-3500 StormTech INFILTRATION



Pond INF: MC-3500 StormTech INFILTRATION



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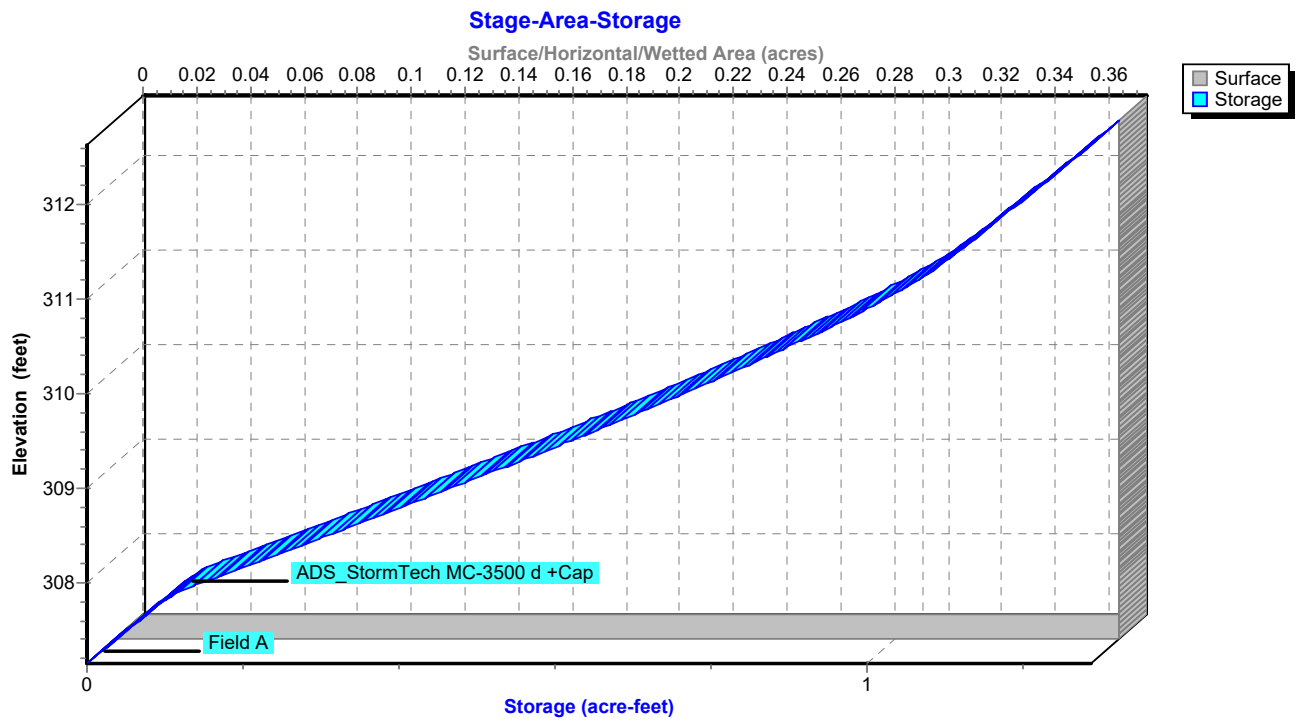
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Type III 24-hr 10-Year Rainfall=5.50"

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Pond INF: MC-3500 StormTech INFILTRATION



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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Pond INF: MC-3500 StormTech INFILTRATION

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0.000	307.14	0.00	0.00	0.00
0.20	0.00	0.000	307.14	0.00	0.00	0.00
0.40	0.00	0.000	307.14	0.00	0.00	0.00
0.60	0.00	0.000	307.14	0.00	0.00	0.00
0.80	0.00	0.000	307.14	0.00	0.00	0.00
1.00	0.00	0.000	307.14	0.00	0.00	0.00
1.20	0.00	0.000	307.14	0.00	0.00	0.00
1.40	0.00	0.000	307.14	0.00	0.00	0.00
1.60	0.00	0.000	307.14	0.00	0.00	0.00
1.80	0.01	0.000	307.14	0.01	0.01	0.00
2.00	0.03	0.000	307.14	0.02	0.02	0.00
2.20	0.04	0.000	307.14	0.04	0.04	0.00
2.40	0.06	0.000	307.14	0.05	0.05	0.00
2.60	0.07	0.000	307.14	0.07	0.07	0.00
2.80	0.08	0.000	307.14	0.08	0.08	0.00
3.00	0.10	0.000	307.14	0.09	0.09	0.00
3.20	0.11	0.000	307.14	0.11	0.11	0.00
3.40	0.13	0.001	307.14	0.12	0.12	0.00
3.60	0.14	0.001	307.14	0.14	0.14	0.00
3.80	0.15	0.001	307.14	0.15	0.15	0.00
4.00	0.17	0.001	307.14	0.17	0.17	0.00
4.20	0.18	0.001	307.15	0.18	0.18	0.00
4.40	0.20	0.001	307.15	0.19	0.19	0.00
4.60	0.21	0.001	307.15	0.21	0.21	0.00
4.80	0.23	0.001	307.15	0.22	0.22	0.00
5.00	0.24	0.001	307.15	0.24	0.24	0.00
5.20	0.25	0.001	307.15	0.25	0.25	0.00
5.40	0.27	0.001	307.15	0.26	0.26	0.00
5.60	0.28	0.001	307.15	0.28	0.28	0.00
5.80	0.29	0.001	307.15	0.29	0.29	0.00
6.00	0.31	0.001	307.15	0.30	0.30	0.00
6.20	0.33	0.001	307.15	0.32	0.32	0.00
6.40	0.35	0.002	307.15	0.35	0.35	0.00
6.60	0.38	0.002	307.15	0.38	0.38	0.00
6.80	0.41	0.002	307.15	0.40	0.40	0.00
7.00	0.44	0.002	307.15	0.43	0.43	0.00
7.20	0.47	0.002	307.15	0.46	0.46	0.00
7.40	0.50	0.002	307.15	0.49	0.49	0.00
7.60	0.53	0.002	307.16	0.53	0.53	0.00
7.80	0.57	0.002	307.16	0.56	0.56	0.00
8.00	0.60	0.003	307.16	0.59	0.59	0.00
8.20	0.65	0.003	307.16	0.63	0.63	0.00
8.40	0.71	0.003	307.16	0.69	0.69	0.00
8.60	0.78	0.003	307.16	0.76	0.76	0.00
8.80	0.84	0.004	307.16	0.82	0.82	0.00
9.00	0.91	0.004	307.17	0.89	0.89	0.00
9.20	0.98	0.004	307.17	0.96	0.96	0.00
9.40	1.05	0.004	307.17	1.03	1.03	0.00
9.60	1.12	0.005	307.17	1.10	1.10	0.00
9.80	1.19	0.005	307.17	1.17	1.17	0.00
10.00	1.26	0.005	307.18	1.24	1.24	0.00
10.20	1.36	0.006	307.18	1.33	1.33	0.00
10.40	1.50	0.006	307.18	1.47	1.47	0.00

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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Pond INF: MC-3500 StormTech INFILTRATION (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
10.60	1.64	0.007	307.19	1.60	1.60	0.00
10.80	1.78	0.008	307.19	1.75	1.75	0.00
11.00	1.92	0.008	307.19	1.89	1.89	0.00
11.20	2.27	0.011	307.21	1.90	1.90	0.00
11.40	2.79	0.021	307.28	1.91	1.91	0.00
11.60	3.78	0.041	307.41	1.93	1.93	0.00
11.80	8.43	0.108	307.86	1.99	1.99	0.00
12.00	17.44	0.263	308.36	2.06	2.06	0.00
12.20	15.47	0.604	309.45	2.22	2.22	0.00
12.40	8.28	0.746	309.94	3.33	2.29	1.04
12.60	3.72	0.781	310.06	3.88	2.31	1.58
12.80	2.87	0.770	310.02	3.74	2.30	1.44
13.00	2.34	0.754	309.96	3.47	2.29	1.18
13.20	2.03	0.735	309.90	3.11	2.28	0.83
13.40	1.89	0.718	309.84	2.84	2.27	0.56
13.60	1.75	0.703	309.79	2.62	2.27	0.36
13.80	1.61	0.689	309.74	2.46	2.26	0.20
14.00	1.47	0.675	309.69	2.33	2.25	0.08
14.20	1.38	0.661	309.64	2.25	2.24	0.00
14.40	1.31	0.646	309.59	2.24	2.24	0.00
14.60	1.24	0.630	309.54	2.23	2.23	0.00
14.80	1.18	0.613	309.48	2.22	2.22	0.00
15.00	1.11	0.595	309.42	2.21	2.21	0.00
15.20	1.04	0.577	309.36	2.20	2.20	0.00
15.40	0.98	0.557	309.29	2.20	2.20	0.00
15.60	0.91	0.536	309.23	2.19	2.19	0.00
15.80	0.85	0.515	309.16	2.18	2.18	0.00
16.00	0.78	0.492	309.08	2.16	2.16	0.00
16.20	0.73	0.469	309.01	2.15	2.15	0.00
16.40	0.70	0.446	308.93	2.14	2.14	0.00
16.60	0.68	0.422	308.85	2.13	2.13	0.00
16.80	0.65	0.397	308.78	2.12	2.12	0.00
17.00	0.62	0.373	308.70	2.11	2.11	0.00
17.20	0.59	0.348	308.62	2.10	2.10	0.00
17.40	0.56	0.323	308.54	2.09	2.09	0.00
17.60	0.53	0.298	308.46	2.08	2.08	0.00
17.80	0.50	0.272	308.38	2.06	2.06	0.00
18.00	0.47	0.246	308.30	2.05	2.05	0.00
18.20	0.46	0.220	308.22	2.04	2.04	0.00
18.40	0.45	0.194	308.14	2.03	2.03	0.00
18.60	0.44	0.168	308.06	2.02	2.02	0.00
18.80	0.43	0.142	307.98	2.01	2.01	0.00
19.00	0.42	0.116	307.90	2.00	2.00	0.00
19.20	0.41	0.090	307.74	1.97	1.97	0.00
19.40	0.40	0.064	307.57	1.95	1.95	0.00
19.60	0.40	0.039	307.40	1.92	1.92	0.00
19.80	0.39	0.014	307.23	1.90	1.90	0.00
20.00	0.38	0.002	307.15	0.45	0.45	0.00
20.20	0.37	0.002	307.15	0.37	0.37	0.00
20.40	0.36	0.002	307.15	0.37	0.37	0.00
20.60	0.36	0.002	307.15	0.36	0.36	0.00
20.80	0.35	0.002	307.15	0.35	0.35	0.00
21.00	0.35	0.002	307.15	0.35	0.35	0.00

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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Pond INF: MC-3500 StormTech INFILTRATION (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
21.20	0.34	0.001	307.15	0.34	0.34	0.00
21.40	0.33	0.001	307.15	0.33	0.33	0.00
21.60	0.33	0.001	307.15	0.33	0.33	0.00
21.80	0.32	0.001	307.15	0.32	0.32	0.00
22.00	0.31	0.001	307.15	0.31	0.31	0.00
22.20	0.31	0.001	307.15	0.31	0.31	0.00
22.40	0.30	0.001	307.15	0.30	0.30	0.00
22.60	0.29	0.001	307.15	0.30	0.30	0.00
22.80	0.29	0.001	307.15	0.29	0.29	0.00
23.00	0.28	0.001	307.15	0.28	0.28	0.00
23.20	0.27	0.001	307.15	0.28	0.28	0.00
23.40	0.27	0.001	307.15	0.27	0.27	0.00
23.60	0.26	0.001	307.15	0.26	0.26	0.00
23.80	0.25	0.001	307.15	0.26	0.26	0.00
24.00	0.25	0.001	307.15	0.25	0.25	0.00

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Stage-Discharge for Pond INF: MC-3500 StormTech INFILTRATION

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
307.14	0.00	0.00	0.00	312.44	9.73	2.65	7.09
307.24	1.90	1.90	0.00	312.54	10.92	2.66	8.26
307.34	1.91	1.91	0.00	312.64	12.32	2.68	9.65
307.44	1.93	1.93	0.00				
307.54	1.94	1.94	0.00				
307.64	1.96	1.96	0.00				
307.74	1.97	1.97	0.00				
307.84	1.99	1.99	0.00				
307.94	2.00	2.00	0.00				
308.04	2.02	2.02	0.00				
308.14	2.03	2.03	0.00				
308.24	2.04	2.04	0.00				
308.34	2.06	2.06	0.00				
308.44	2.07	2.07	0.00				
308.54	2.09	2.09	0.00				
308.64	2.10	2.10	0.00				
308.74	2.12	2.12	0.00				
308.84	2.13	2.13	0.00				
308.94	2.14	2.14	0.00				
309.04	2.16	2.16	0.00				
309.14	2.17	2.17	0.00				
309.24	2.19	2.19	0.00				
309.34	2.20	2.20	0.00				
309.44	2.22	2.22	0.00				
309.54	2.23	2.23	0.00				
309.64	2.24	2.24	0.00				
309.74	2.46	2.26	0.20				
309.84	2.85	2.27	0.57				
309.94	3.34	2.29	1.05				
310.04	3.82	2.30	1.51				
310.14	4.15	2.32	1.83				
310.24	4.43	2.33	2.10				
310.34	4.68	2.35	2.33				
310.44	4.91	2.36	2.55				
310.54	5.12	2.37	2.74				
310.64	5.31	2.39	2.93				
310.74	5.50	2.40	3.10				
310.84	5.68	2.42	3.26				
310.94	5.85	2.43	3.41				
311.04	6.01	2.45	3.56				
311.14	6.16	2.46	3.70				
311.24	6.32	2.47	3.84				
311.34	6.46	2.49	3.97				
311.44	6.60	2.50	4.10				
311.54	6.74	2.52	4.22				
311.64	6.88	2.53	4.34				
311.74	7.01	2.55	4.46				
311.84	7.14	2.56	4.58				
311.94	7.26	2.58	4.69				
312.04	7.39	2.59	4.80				
312.14	7.51	2.60	4.90				
312.24	7.98	2.62	5.36				
312.34	8.74	2.63	6.11				

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Stage-Area-Storage for Pond INF: MC-3500 StormTech INFILTRATION

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
307.14	0.374	0.000	312.44	0.374	1.257
307.24	0.374	0.015	312.54	0.374	1.272
307.34	0.374	0.030	312.64	0.374	1.287
307.44	0.374	0.045			
307.54	0.374	0.060			
307.64	0.374	0.075			
307.74	0.374	0.090			
307.84	0.374	0.105			
307.94	0.374	0.129			
308.04	0.374	0.161			
308.14	0.374	0.194			
308.24	0.374	0.226			
308.34	0.374	0.258			
308.44	0.374	0.290			
308.54	0.374	0.322			
308.64	0.374	0.354			
308.74	0.374	0.386			
308.84	0.374	0.417			
308.94	0.374	0.448			
309.04	0.374	0.479			
309.14	0.374	0.510			
309.24	0.374	0.541			
309.34	0.374	0.571			
309.44	0.374	0.601			
309.54	0.374	0.631			
309.64	0.374	0.661			
309.74	0.374	0.690			
309.84	0.374	0.719			
309.94	0.374	0.747			
310.04	0.374	0.775			
310.14	0.374	0.803			
310.24	0.374	0.831			
310.34	0.374	0.858			
310.44	0.374	0.884			
310.54	0.374	0.910			
310.64	0.374	0.935			
310.74	0.374	0.960			
310.84	0.374	0.984			
310.94	0.374	1.007			
311.04	0.374	1.030			
311.14	0.374	1.051			
311.24	0.374	1.071			
311.34	0.374	1.089			
311.44	0.374	1.106			
311.54	0.374	1.122			
311.64	0.374	1.137			
311.74	0.374	1.152			
311.84	0.374	1.167			
311.94	0.374	1.182			
312.04	0.374	1.197			
312.14	0.374	1.212			
312.24	0.374	1.227			
312.34	0.374	1.242			

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Type III 24-hr 10-Year Rainfall=5.50"

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Summary for Pond SPLIT: Flow Splitter

[57] Hint: Peaked at 304.16' (Flood elevation advised)

Inflow Area = 3.809 ac, 100.00% Impervious, Inflow Depth > 5.26" for 10-Year event
 Inflow = 20.49 cfs @ 12.08 hrs, Volume= 1.669 af
 Outflow = 20.49 cfs @ 12.08 hrs, Volume= 1.669 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.23 cfs @ 12.08 hrs, Volume= 0.740 af
 Routed to Pond BIO : BioRetention 1 (South)
 Secondary = 19.26 cfs @ 12.08 hrs, Volume= 0.929 af
 Routed to Pond DET1 : MC-4500 StormTech DETENTION ONLY

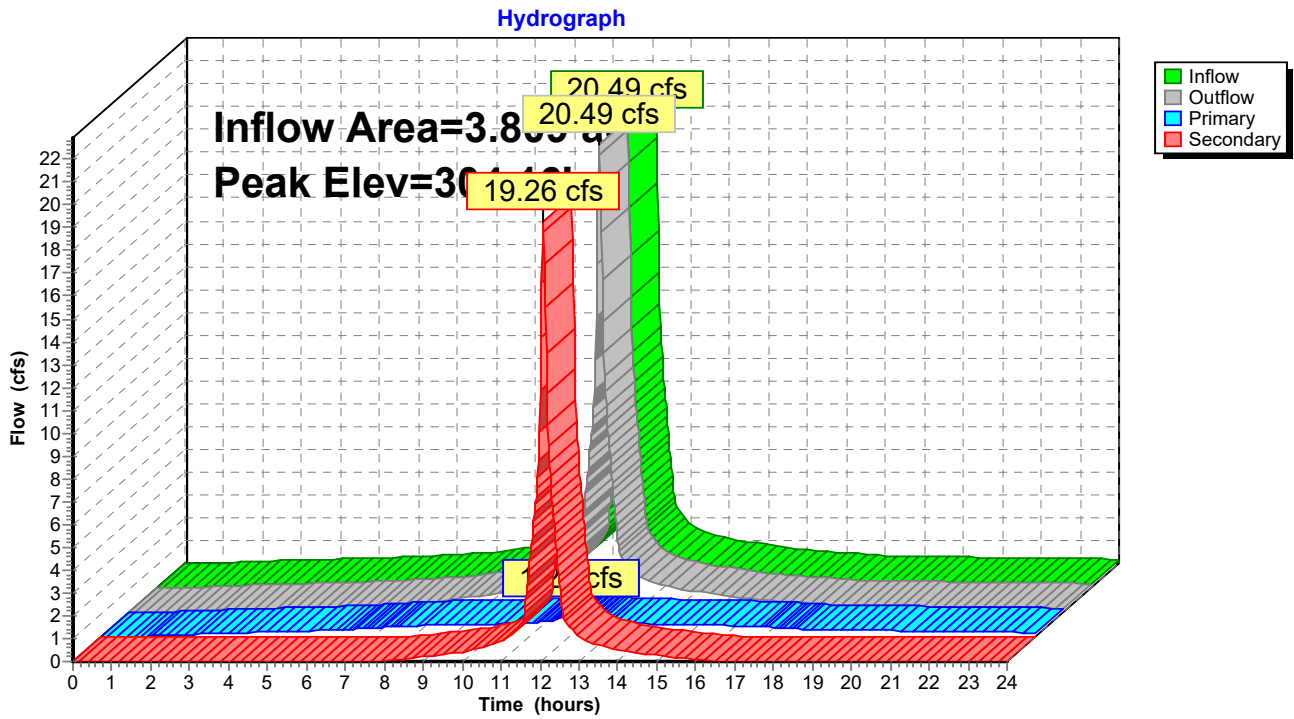
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs / 2
 Peak Elev= 304.16' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	302.23'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Device 3	302.73'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	302.23'	30.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

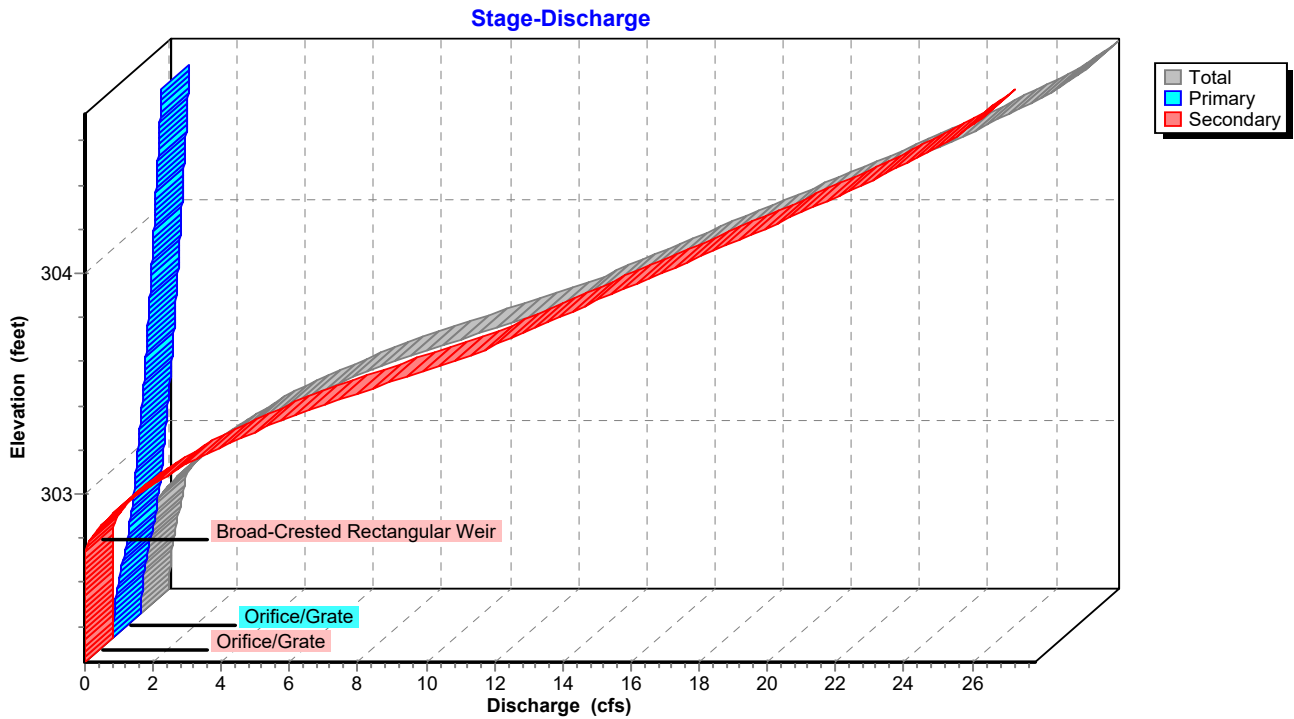
Primary OutFlow Max=1.22 cfs @ 12.08 hrs HW=304.16' (Free Discharge)
 ↑1=Orifice/Grate (Orifice Controls 1.22 cfs @ 6.23 fps)

Secondary OutFlow Max=19.17 cfs @ 12.08 hrs HW=304.16' (Free Discharge)
 ↑3=Orifice/Grate (Orifice Controls 19.17 cfs @ 4.73 fps)
 ↑2=Broad-Crested Rectangular Weir (Passes 19.17 cfs of 22.61 cfs potential flow)

Pond SPLIT: Flow Splitter



Pond SPLIT: Flow Splitter



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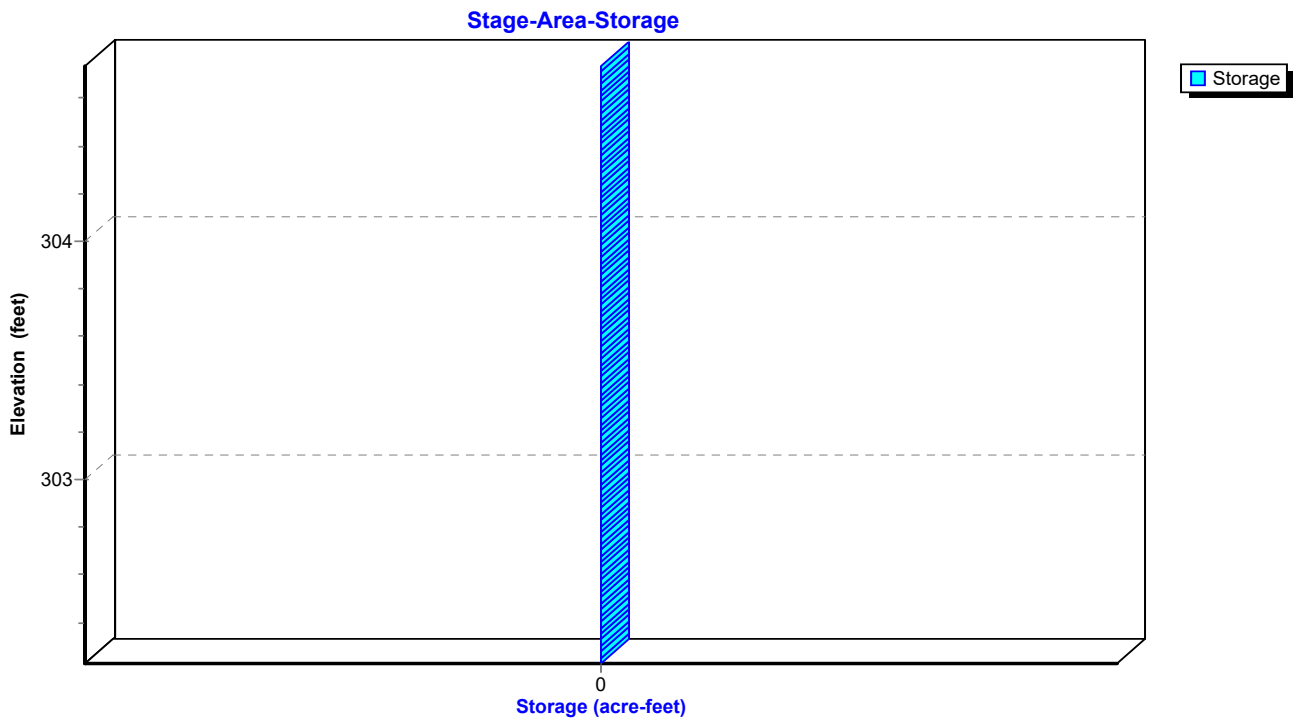
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Pond SPLIT: Flow Splitter



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Hydrograph for Pond SPLIT: Flow Splitter

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	302.23	0.00	0.00	0.00
0.20	0.00	302.23	0.00	0.00	0.00
0.40	0.00	302.23	0.00	0.00	0.00
0.60	0.00	302.23	0.00	0.00	0.00
0.80	0.00	302.23	0.00	0.00	0.00
1.00	0.02	302.31	0.02	0.02	0.00
1.20	0.04	302.34	0.04	0.04	0.00
1.40	0.05	302.36	0.05	0.05	0.00
1.60	0.07	302.38	0.07	0.07	0.00
1.80	0.08	302.39	0.08	0.08	0.00
2.00	0.09	302.41	0.09	0.09	0.00
2.20	0.10	302.42	0.10	0.10	0.00
2.40	0.11	302.43	0.11	0.11	0.00
2.60	0.12	302.44	0.12	0.12	0.00
2.80	0.14	302.45	0.14	0.14	0.00
3.00	0.15	302.46	0.15	0.15	0.00
3.20	0.16	302.47	0.16	0.16	0.00
3.40	0.17	302.48	0.17	0.17	0.00
3.60	0.18	302.49	0.18	0.18	0.00
3.80	0.19	302.50	0.19	0.19	0.00
4.00	0.20	302.51	0.20	0.20	0.00
4.20	0.21	302.51	0.21	0.21	0.00
4.40	0.22	302.52	0.22	0.22	0.00
4.60	0.23	302.53	0.23	0.23	0.00
4.80	0.24	302.54	0.24	0.24	0.00
5.00	0.25	302.54	0.25	0.25	0.00
5.20	0.25	302.55	0.25	0.25	0.00
5.40	0.26	302.56	0.26	0.26	0.00
5.60	0.27	302.56	0.27	0.27	0.00
5.80	0.28	302.57	0.28	0.28	0.00
6.00	0.29	302.58	0.29	0.29	0.00
6.20	0.30	302.59	0.30	0.30	0.00
6.40	0.33	302.60	0.33	0.33	0.00
6.60	0.35	302.62	0.35	0.35	0.00
6.80	0.37	302.64	0.37	0.37	0.00
7.00	0.39	302.65	0.39	0.39	0.00
7.20	0.41	302.67	0.41	0.41	0.00
7.40	0.44	302.69	0.44	0.44	0.00
7.60	0.46	302.71	0.46	0.46	0.00
7.80	0.48	302.73	0.48	0.48	0.00
8.00	0.50	302.74	0.50	0.48	0.02
8.20	0.54	302.75	0.54	0.50	0.04
8.40	0.59	302.77	0.59	0.51	0.08
8.60	0.64	302.78	0.64	0.52	0.12
8.80	0.68	302.79	0.68	0.52	0.16
9.00	0.73	302.80	0.73	0.53	0.20
9.20	0.78	302.81	0.78	0.54	0.24
9.40	0.83	302.82	0.83	0.55	0.28
9.60	0.88	302.82	0.88	0.55	0.33
9.80	0.93	302.83	0.93	0.56	0.37
10.00	0.98	302.84	0.98	0.57	0.41
10.20	1.06	302.85	1.06	0.58	0.48
10.40	1.16	302.87	1.16	0.59	0.57

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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Pond SPLIT: Flow Splitter (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
10.60	1.26	302.88	1.26	0.60	0.66
10.80	1.37	302.90	1.37	0.61	0.76
11.00	1.47	302.91	1.47	0.62	0.85
11.20	1.72	302.94	1.72	0.64	1.08
11.40	2.11	302.98	2.11	0.67	1.44
11.60	2.85	303.05	2.85	0.72	2.13
11.80	6.30	303.31	6.30	0.86	5.44
12.00	12.93	303.67	12.93	1.03	11.91
12.20	11.39	303.58	11.39	0.99	10.40
12.40	6.08	303.30	6.08	0.85	5.23
12.60	2.73	303.04	2.73	0.71	2.02
12.80	2.11	302.98	2.11	0.67	1.44
13.00	1.72	302.94	1.72	0.64	1.08
13.20	1.49	302.91	1.49	0.62	0.87
13.40	1.38	302.90	1.38	0.61	0.77
13.60	1.28	302.88	1.28	0.60	0.68
13.80	1.18	302.87	1.18	0.59	0.59
14.00	1.08	302.86	1.08	0.58	0.50
14.20	1.01	302.84	1.01	0.57	0.44
14.40	0.96	302.84	0.96	0.56	0.39
14.60	0.91	302.83	0.91	0.56	0.35
14.80	0.86	302.82	0.86	0.55	0.31
15.00	0.81	302.81	0.81	0.55	0.27
15.20	0.76	302.80	0.76	0.54	0.23
15.40	0.72	302.79	0.72	0.53	0.19
15.60	0.67	302.78	0.67	0.52	0.15
15.80	0.62	302.77	0.62	0.51	0.11
16.00	0.57	302.76	0.57	0.50	0.07
16.20	0.54	302.75	0.54	0.49	0.04
16.40	0.52	302.75	0.52	0.49	0.03
16.60	0.49	302.74	0.49	0.48	0.01
16.80	0.47	302.73	0.47	0.47	0.00
17.00	0.45	302.71	0.45	0.45	0.00
17.20	0.43	302.69	0.43	0.43	0.00
17.40	0.41	302.67	0.41	0.41	0.00
17.60	0.39	302.65	0.39	0.39	0.00
17.80	0.37	302.63	0.37	0.37	0.00
18.00	0.35	302.62	0.35	0.35	0.00
18.20	0.33	302.61	0.33	0.33	0.00
18.40	0.33	302.60	0.33	0.33	0.00
18.60	0.32	302.60	0.32	0.32	0.00
18.80	0.32	302.59	0.32	0.32	0.00
19.00	0.31	302.59	0.31	0.31	0.00
19.20	0.30	302.59	0.30	0.30	0.00
19.40	0.30	302.58	0.30	0.30	0.00
19.60	0.29	302.58	0.29	0.29	0.00
19.80	0.28	302.57	0.28	0.28	0.00
20.00	0.28	302.57	0.28	0.28	0.00
20.20	0.27	302.56	0.27	0.27	0.00
20.40	0.27	302.56	0.27	0.27	0.00
20.60	0.26	302.55	0.26	0.26	0.00
20.80	0.26	302.55	0.26	0.26	0.00
21.00	0.25	302.55	0.25	0.25	0.00

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Hydrograph for Pond SPLIT: Flow Splitter (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
21.20	0.25	302.54	0.25	0.25	0.00
21.40	0.24	302.54	0.24	0.24	0.00
21.60	0.24	302.54	0.24	0.24	0.00
21.80	0.23	302.53	0.23	0.23	0.00
22.00	0.23	302.53	0.23	0.23	0.00
22.20	0.22	302.53	0.22	0.22	0.00
22.40	0.22	302.52	0.22	0.22	0.00
22.60	0.21	302.52	0.21	0.21	0.00
22.80	0.21	302.51	0.21	0.21	0.00
23.00	0.21	302.51	0.21	0.21	0.00
23.20	0.20	302.51	0.20	0.20	0.00
23.40	0.20	302.50	0.20	0.20	0.00
23.60	0.19	302.50	0.19	0.19	0.00
23.80	0.19	302.50	0.19	0.19	0.00
24.00	0.18	302.49	0.18	0.18	0.00

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Stage-Discharge for Pond SPLIT: Flow Splitter

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
302.23	0.00	0.00	0.00
302.33	0.03	0.03	0.00
302.43	0.11	0.11	0.00
302.53	0.23	0.23	0.00
302.63	0.36	0.36	0.00
302.73	0.47	0.47	0.00
302.83	0.91	0.56	0.35
302.93	1.64	0.63	1.00
303.03	2.58	0.70	1.88
303.13	3.72	0.76	2.95
303.23	5.06	0.82	4.24
303.33	6.60	0.87	5.73
303.43	8.39	0.92	7.47
303.53	10.41	0.97	9.45
303.63	12.32	1.01	11.30
303.73	13.88	1.06	12.82
303.83	15.39	1.10	14.29
303.93	16.92	1.14	15.78
304.03	18.46	1.18	17.28
304.13	20.00	1.21	18.79
304.23	21.52	1.25	20.27
304.33	23.00	1.29	21.72
304.43	24.42	1.32	23.10
304.53	25.75	1.35	24.40
304.63	26.93	1.39	25.54
304.73	27.84	1.42	26.43

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Stage-Area-Storage for Pond SPLIT: Flow Splitter

Elevation (feet)	Storage (acre-feet)
302.23	0.000
302.33	0.000
302.43	0.000
302.53	0.000
302.63	0.000
302.73	0.000
302.83	0.000
302.93	0.000
303.03	0.000
303.13	0.000
303.23	0.000
303.33	0.000
303.43	0.000
303.53	0.000
303.63	0.000
303.73	0.000
303.83	0.000
303.93	0.000
304.03	0.000
304.13	0.000
304.23	0.000
304.33	0.000
304.43	0.000
304.53	0.000
304.63	0.000
304.73	0.000

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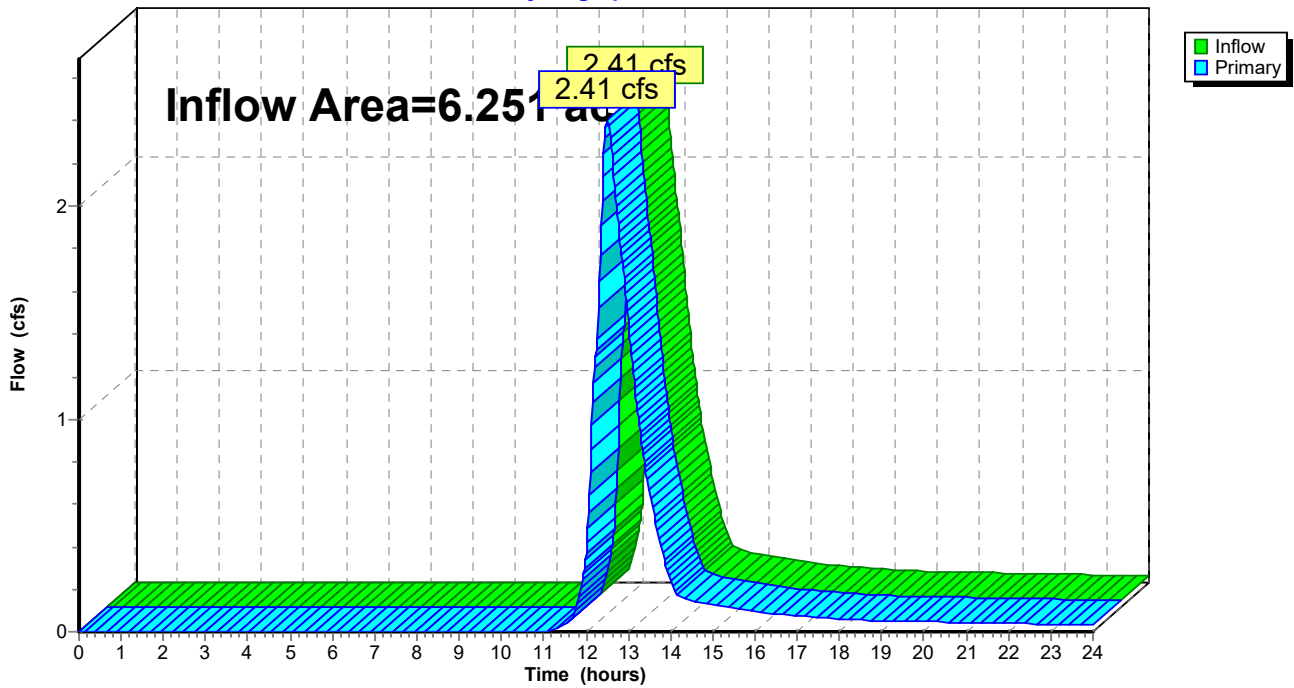
Summary for Link N: POI North

Inflow Area = 6.251 ac, 78.88% Impervious, Inflow Depth > 0.50" for 10-Year event
Inflow = 2.41 cfs @ 12.51 hrs, Volume= 0.262 af
Primary = 2.41 cfs @ 12.51 hrs, Volume= 0.262 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Link N: POI North

Hydrograph



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Hydrograph for Link N: POI North

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	10.60	0.00	0.00	0.00
0.20	0.00	0.00	0.00	10.80	0.00	0.00	0.00
0.40	0.00	0.00	0.00	11.00	0.00	0.00	0.00
0.60	0.00	0.00	0.00	11.20	0.01	0.00	0.01
0.80	0.00	0.00	0.00	11.40	0.02	0.00	0.02
1.00	0.00	0.00	0.00	11.60	0.05	0.00	0.05
1.20	0.00	0.00	0.00	11.80	0.12	0.00	0.12
1.40	0.00	0.00	0.00	12.00	0.37	0.00	0.37
1.60	0.00	0.00	0.00	12.20	1.25	0.00	1.25
1.80	0.00	0.00	0.00	12.40	2.15	0.00	2.15
2.00	0.00	0.00	0.00	12.60	2.28	0.00	2.28
2.20	0.00	0.00	0.00	12.80	1.84	0.00	1.84
2.40	0.00	0.00	0.00	13.00	1.47	0.00	1.47
2.60	0.00	0.00	0.00	13.20	1.07	0.00	1.07
2.80	0.00	0.00	0.00	13.40	0.78	0.00	0.78
3.00	0.00	0.00	0.00	13.60	0.55	0.00	0.55
3.20	0.00	0.00	0.00	13.80	0.38	0.00	0.38
3.40	0.00	0.00	0.00	14.00	0.25	0.00	0.25
3.60	0.00	0.00	0.00	14.20	0.16	0.00	0.16
3.80	0.00	0.00	0.00	14.40	0.15	0.00	0.15
4.00	0.00	0.00	0.00	14.60	0.14	0.00	0.14
4.20	0.00	0.00	0.00	14.80	0.14	0.00	0.14
4.40	0.00	0.00	0.00	15.00	0.13	0.00	0.13
4.60	0.00	0.00	0.00	15.20	0.12	0.00	0.12
4.80	0.00	0.00	0.00	15.40	0.12	0.00	0.12
5.00	0.00	0.00	0.00	15.60	0.11	0.00	0.11
5.20	0.00	0.00	0.00	15.80	0.10	0.00	0.10
5.40	0.00	0.00	0.00	16.00	0.10	0.00	0.10
5.60	0.00	0.00	0.00	16.20	0.09	0.00	0.09
5.80	0.00	0.00	0.00	16.40	0.09	0.00	0.09
6.00	0.00	0.00	0.00	16.60	0.08	0.00	0.08
6.20	0.00	0.00	0.00	16.80	0.08	0.00	0.08
6.40	0.00	0.00	0.00	17.00	0.08	0.00	0.08
6.60	0.00	0.00	0.00	17.20	0.07	0.00	0.07
6.80	0.00	0.00	0.00	17.40	0.07	0.00	0.07
7.00	0.00	0.00	0.00	17.60	0.07	0.00	0.07
7.20	0.00	0.00	0.00	17.80	0.06	0.00	0.06
7.40	0.00	0.00	0.00	18.00	0.06	0.00	0.06
7.60	0.00	0.00	0.00	18.20	0.06	0.00	0.06
7.80	0.00	0.00	0.00	18.40	0.05	0.00	0.05
8.00	0.00	0.00	0.00	18.60	0.05	0.00	0.05
8.20	0.00	0.00	0.00	18.80	0.05	0.00	0.05
8.40	0.00	0.00	0.00	19.00	0.05	0.00	0.05
8.60	0.00	0.00	0.00	19.20	0.05	0.00	0.05
8.80	0.00	0.00	0.00	19.40	0.05	0.00	0.05
9.00	0.00	0.00	0.00	19.60	0.05	0.00	0.05
9.20	0.00	0.00	0.00	19.80	0.05	0.00	0.05
9.40	0.00	0.00	0.00	20.00	0.05	0.00	0.05
9.60	0.00	0.00	0.00	20.20	0.05	0.00	0.05
9.80	0.00	0.00	0.00	20.40	0.05	0.00	0.05
10.00	0.00	0.00	0.00	20.60	0.04	0.00	0.04
10.20	0.00	0.00	0.00	20.80	0.04	0.00	0.04
10.40	0.00	0.00	0.00	21.00	0.04	0.00	0.04

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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Link N: POI North (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
21.20	0.04	0.00	0.04
21.40	0.04	0.00	0.04
21.60	0.04	0.00	0.04
21.80	0.04	0.00	0.04
22.00	0.04	0.00	0.04
22.20	0.04	0.00	0.04
22.40	0.04	0.00	0.04
22.60	0.04	0.00	0.04
22.80	0.04	0.00	0.04
23.00	0.04	0.00	0.04
23.20	0.03	0.00	0.03
23.40	0.03	0.00	0.03
23.60	0.03	0.00	0.03
23.80	0.03	0.00	0.03
24.00	0.03	0.00	0.03

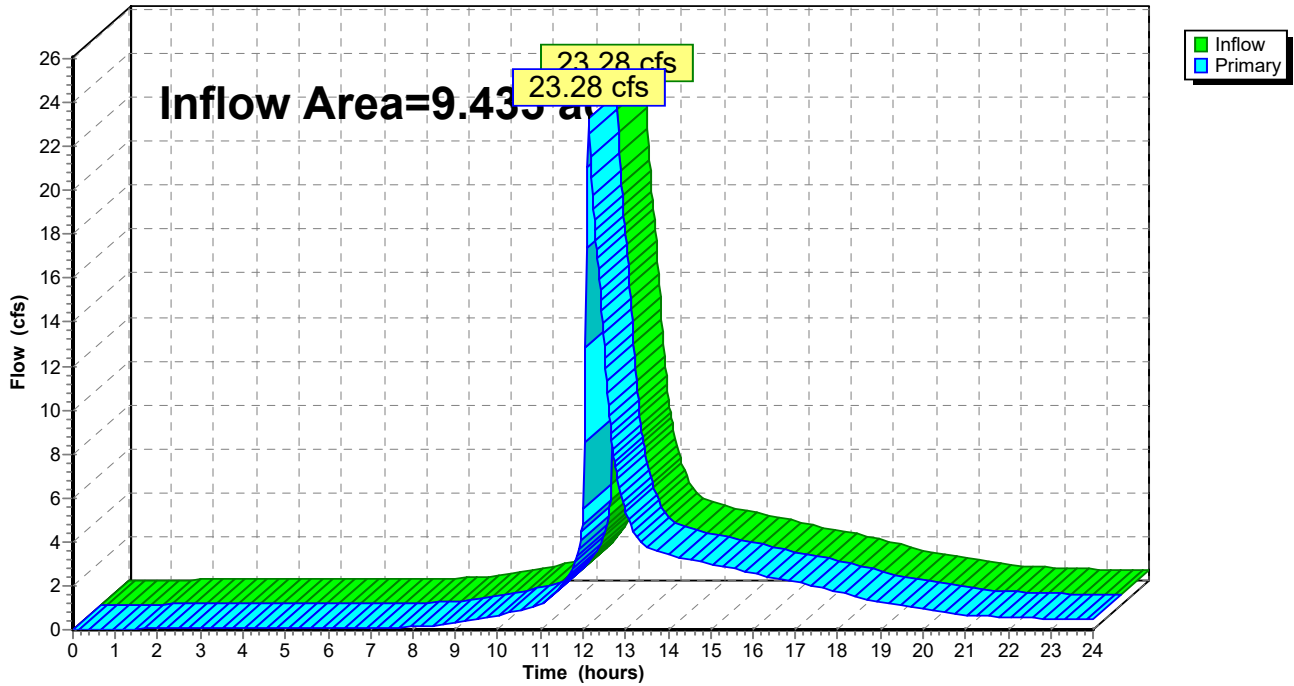
Summary for Link S: POI South

Inflow Area = 9.435 ac, 58.54% Impervious, Inflow Depth > 3.79" for 10-Year event
Inflow = 23.28 cfs @ 12.14 hrs, Volume= 2.983 af
Primary = 23.28 cfs @ 12.14 hrs, Volume= 2.983 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Link S: POI South

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.50"

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Hydrograph for Link S: POI South

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	10.60	0.92	0.00	0.92
0.20	0.00	0.00	0.00	10.80	1.02	0.00	1.02
0.40	0.00	0.00	0.00	11.00	1.14	0.00	1.14
0.60	0.00	0.00	0.00	11.20	1.41	0.00	1.41
0.80	0.00	0.00	0.00	11.40	1.79	0.00	1.79
1.00	0.00	0.00	0.00	11.60	2.21	0.00	2.21
1.20	0.01	0.00	0.01	11.80	3.04	0.00	3.04
1.40	0.02	0.00	0.02	12.00	4.81	0.00	4.81
1.60	0.04	0.00	0.04	12.20	20.58	0.00	20.58
1.80	0.05	0.00	0.05	12.40	15.50	0.00	15.50
2.00	0.06	0.00	0.06	12.60	10.25	0.00	10.25
2.20	0.07	0.00	0.07	12.80	6.94	0.00	6.94
2.40	0.08	0.00	0.08	13.00	5.39	0.00	5.39
2.60	0.10	0.00	0.10	13.20	4.45	0.00	4.45
2.80	0.10	0.00	0.10	13.40	3.93	0.00	3.93
3.00	0.10	0.00	0.10	13.60	3.64	0.00	3.64
3.20	0.10	0.00	0.10	13.80	3.52	0.00	3.52
3.40	0.10	0.00	0.10	14.00	3.42	0.00	3.42
3.60	0.10	0.00	0.10	14.20	3.32	0.00	3.32
3.80	0.10	0.00	0.10	14.40	3.23	0.00	3.23
4.00	0.10	0.00	0.10	14.60	3.15	0.00	3.15
4.20	0.10	0.00	0.10	14.80	3.07	0.00	3.07
4.40	0.10	0.00	0.10	15.00	2.99	0.00	2.99
4.60	0.10	0.00	0.10	15.20	2.91	0.00	2.91
4.80	0.10	0.00	0.10	15.40	2.83	0.00	2.83
5.00	0.10	0.00	0.10	15.60	2.75	0.00	2.75
5.20	0.10	0.00	0.10	15.80	2.66	0.00	2.66
5.40	0.10	0.00	0.10	16.00	2.58	0.00	2.58
5.60	0.10	0.00	0.10	16.20	2.49	0.00	2.49
5.80	0.10	0.00	0.10	16.40	2.40	0.00	2.40
6.00	0.10	0.00	0.10	16.60	2.33	0.00	2.33
6.20	0.10	0.00	0.10	16.80	2.25	0.00	2.25
6.40	0.10	0.00	0.10	17.00	2.17	0.00	2.17
6.60	0.10	0.00	0.10	17.20	2.09	0.00	2.09
6.80	0.10	0.00	0.10	17.40	2.00	0.00	2.00
7.00	0.10	0.00	0.10	17.60	1.92	0.00	1.92
7.20	0.10	0.00	0.10	17.80	1.83	0.00	1.83
7.40	0.11	0.00	0.11	18.00	1.74	0.00	1.74
7.60	0.11	0.00	0.11	18.20	1.62	0.00	1.62
7.80	0.12	0.00	0.12	18.40	1.51	0.00	1.51
8.00	0.13	0.00	0.13	18.60	1.41	0.00	1.41
8.20	0.14	0.00	0.14	18.80	1.32	0.00	1.32
8.40	0.16	0.00	0.16	19.00	1.23	0.00	1.23
8.60	0.19	0.00	0.19	19.20	1.16	0.00	1.16
8.80	0.23	0.00	0.23	19.40	1.11	0.00	1.11
9.00	0.29	0.00	0.29	19.60	1.06	0.00	1.06
9.20	0.37	0.00	0.37	19.80	1.00	0.00	1.00
9.40	0.44	0.00	0.44	20.00	0.94	0.00	0.94
9.60	0.51	0.00	0.51	20.20	0.88	0.00	0.88
9.80	0.58	0.00	0.58	20.40	0.82	0.00	0.82
10.00	0.66	0.00	0.66	20.60	0.77	0.00	0.77
10.20	0.74	0.00	0.74	20.80	0.72	0.00	0.72
10.40	0.83	0.00	0.83	21.00	0.68	0.00	0.68

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Hydrograph for Link S: POI South (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
21.20	0.65	0.00	0.65
21.40	0.62	0.00	0.62
21.60	0.61	0.00	0.61
21.80	0.59	0.00	0.59
22.00	0.57	0.00	0.57
22.20	0.56	0.00	0.56
22.40	0.55	0.00	0.55
22.60	0.53	0.00	0.53
22.80	0.52	0.00	0.52
23.00	0.51	0.00	0.51
23.20	0.50	0.00	0.50
23.40	0.49	0.00	0.49
23.60	0.47	0.00	0.47
23.80	0.46	0.00	0.46
24.00	0.45	0.00	0.45

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Type III 24-hr 25-Year Rainfall=6.50"

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Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1: Drainage Area 1 Runoff Area=165,914 sf 100.00% Impervious Runoff Depth>6.26"
Tc=6.0 min CN=98 Runoff=24.24 cfs 1.986 af

Subcatchment DA 1B: Drainage Area 1B - Runoff Area=69,371 sf 4.46% Impervious Runoff Depth>4.22"
Flow Length=1,406' Tc=21.5 min CN=80 Runoff=5.15 cfs 0.560 af

Subcatchment DA 2: Drainage Area 2 Runoff Area=227,749 sf 94.30% Impervious Runoff Depth>6.02"
Tc=6.0 min CN=96 Runoff=32.94 cfs 2.623 af

Subcatchment DA 2B: Drainage Area 2B Runoff Area=44,537 sf 0.00% Impervious Runoff Depth>2.34"
Flow Length=314' Slope=0.0075 '/' Tc=17.3 min CN=61 Runoff=1.93 cfs 0.199 af

Subcatchment DA 3: Drainage Area 3 - Bio Runoff Area=31,517 sf 0.00% Impervious Runoff Depth>4.23"
Tc=6.0 min CN=80 Runoff=3.56 cfs 0.255 af

Subcatchment DA 4: Drainage Area 4 Runoff Area=20,387 sf 0.00% Impervious Runoff Depth>2.34"
Flow Length=728' Tc=14.4 min CN=61 Runoff=0.95 cfs 0.091 af

Subcatchment OFF: Offsite Drainage Area Runoff Area=123,809 sf 57.82% Impervious Runoff Depth>4.45"
Tc=6.0 min CN=82 Runoff=14.63 cfs 1.053 af

Pond BIO: BioRetention 1 (South) Peak Elev=299.68' Storage=12,270 cf Inflow=4.88 cfs 1.072 af
Outflow=3.17 cfs 0.857 af

Pond DET1: MC-4500 StormTech Peak Elev=306.70' Storage=0.351 af Inflow=22.93 cfs 1.169 af
Outflow=21.42 cfs 1.167 af

Pond DET2: MC-3500 Stormtech (Offsite Peak Elev=299.20' Storage=16,050 cf Inflow=15.23 cfs 1.144 af
Outflow=5.67 cfs 1.129 af

Pond INF: MC-3500 StormTech Peak Elev=310.63' Storage=0.932 af Inflow=32.94 cfs 2.623 af
Discarded=2.39 cfs 2.292 af Primary=2.90 cfs 0.330 af Outflow=5.29 cfs 2.622 af

Pond SPLIT: Flow Splitter Peak Elev=304.42' Inflow=24.24 cfs 1.986 af
Primary=1.32 cfs 0.817 af Secondary=22.93 cfs 1.169 af Outflow=24.24 cfs 1.986 af

Link N: POI North Inflow=4.24 cfs 0.529 af
Primary=4.24 cfs 0.529 af

Link S: POI South Inflow=30.04 cfs 3.713 af
Primary=30.04 cfs 3.713 af

Total Runoff Area = 15.686 ac Runoff Volume = 6.767 af Average Runoff Depth = 5.18"
33.36% Pervious = 5.232 ac 66.64% Impervious = 10.454 ac

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Subcatchment DA 1: Drainage Area 1

Runoff = 24.24 cfs @ 12.08 hrs, Volume= 1.986 af, Depth> 6.26"

Routed to Pond SPLIT : Flow Splitter

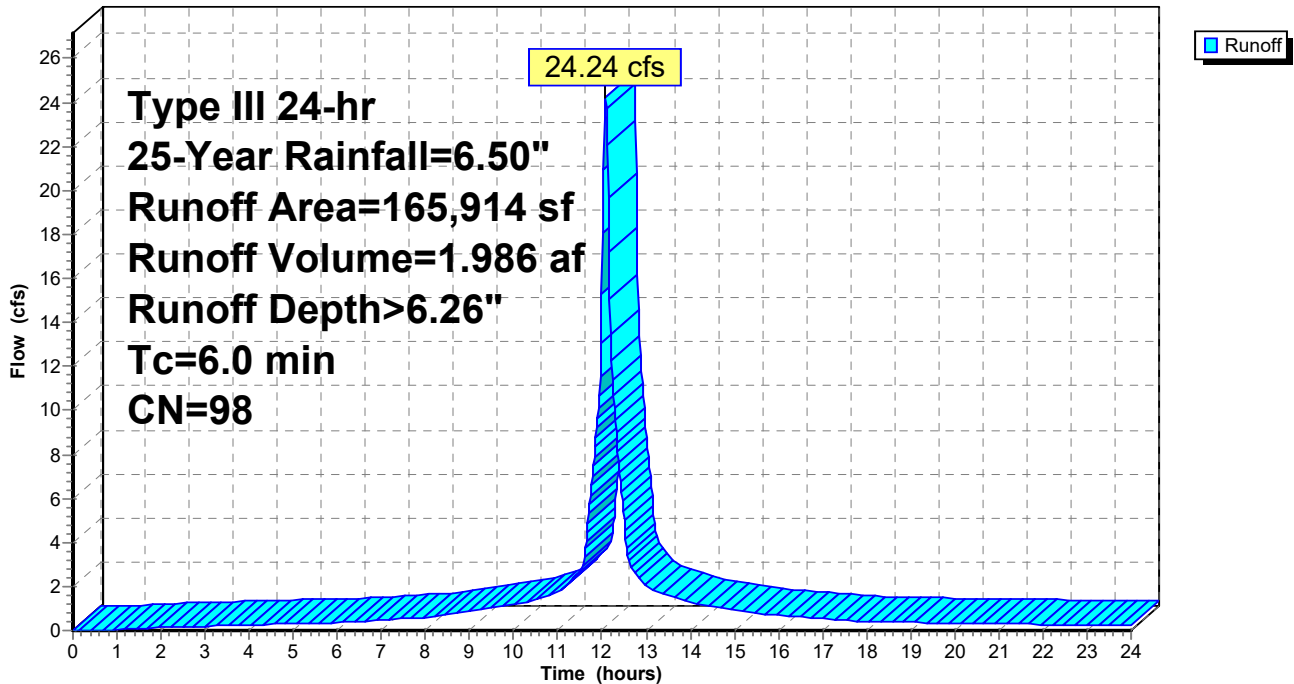
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
* 165,914	98	Drive/Parking
165,914		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc (Minimum)

Subcatchment DA 1: Drainage Area 1

Hydrograph



Hydrograph for Subcatchment DA 1: Drainage Area 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.45	1.23	1.50
0.20	0.01	0.00	0.00	10.80	1.53	1.31	1.62
0.40	0.03	0.00	0.00	11.00	1.63	1.40	1.74
0.60	0.04	0.00	0.00	11.20	1.73	1.51	2.05
0.80	0.05	0.00	0.01	11.40	1.86	1.64	2.50
1.00	0.07	0.00	0.04	11.60	2.04	1.82	3.38
1.20	0.08	0.01	0.06	11.80	2.43	2.20	7.47
1.40	0.09	0.01	0.08	12.00	3.25	3.02	15.31
1.60	0.10	0.01	0.10	12.20	4.07	3.84	13.47
1.80	0.12	0.02	0.11	12.40	4.46	4.22	7.19
2.00	0.13	0.03	0.12	12.60	4.64	4.40	3.23
2.20	0.14	0.03	0.14	12.80	4.77	4.53	2.49
2.40	0.16	0.04	0.15	13.00	4.87	4.64	2.03
2.60	0.17	0.05	0.16	13.20	4.97	4.73	1.76
2.80	0.19	0.06	0.18	13.40	5.05	4.82	1.64
3.00	0.20	0.07	0.19	13.60	5.13	4.89	1.52
3.20	0.22	0.08	0.20	13.80	5.20	4.97	1.40
3.40	0.23	0.09	0.22	14.00	5.27	5.03	1.28
3.60	0.25	0.10	0.23	14.20	5.33	5.10	1.19
3.80	0.26	0.12	0.24	14.40	5.39	5.16	1.13
4.00	0.28	0.13	0.25	14.60	5.45	5.21	1.08
4.20	0.30	0.14	0.26	14.80	5.50	5.26	1.02
4.40	0.31	0.16	0.27	15.00	5.55	5.32	0.96
4.60	0.33	0.17	0.28	15.20	5.60	5.36	0.90
4.80	0.35	0.19	0.29	15.40	5.64	5.41	0.85
5.00	0.37	0.20	0.30	15.60	5.69	5.45	0.79
5.20	0.39	0.22	0.31	15.80	5.72	5.49	0.73
5.40	0.41	0.24	0.32	16.00	5.76	5.52	0.67
5.60	0.43	0.25	0.33	16.20	5.79	5.55	0.64
5.80	0.45	0.27	0.34	16.40	5.82	5.59	0.61
6.00	0.47	0.29	0.35	16.60	5.85	5.62	0.59
6.20	0.49	0.31	0.37	16.80	5.88	5.65	0.56
6.40	0.51	0.33	0.40	17.00	5.91	5.67	0.54
6.60	0.54	0.35	0.42	17.20	5.94	5.70	0.51
6.80	0.56	0.37	0.45	17.40	5.96	5.73	0.49
7.00	0.59	0.40	0.47	17.60	5.99	5.75	0.46
7.20	0.62	0.42	0.50	17.80	6.01	5.77	0.44
7.40	0.65	0.45	0.53	18.00	6.03	5.79	0.41
7.60	0.68	0.48	0.55	18.20	6.05	5.81	0.40
7.80	0.71	0.51	0.58	18.40	6.07	5.83	0.39
8.00	0.74	0.54	0.60	18.60	6.09	5.85	0.38
8.20	0.78	0.58	0.65	18.80	6.11	5.87	0.37
8.40	0.81	0.61	0.70	19.00	6.13	5.89	0.37
8.60	0.86	0.65	0.76	19.20	6.15	5.91	0.36
8.80	0.90	0.69	0.82	19.40	6.17	5.93	0.35
9.00	0.95	0.74	0.88	19.60	6.19	5.95	0.34
9.20	1.00	0.79	0.94	19.80	6.20	5.97	0.34
9.40	1.05	0.84	0.99	20.00	6.22	5.98	0.33
9.60	1.11	0.89	1.05	20.20	6.24	6.00	0.32
9.80	1.17	0.95	1.11	20.40	6.25	6.02	0.32
10.00	1.23	1.01	1.17	20.60	6.27	6.03	0.31
10.20	1.30	1.08	1.26	20.80	6.29	6.05	0.30
10.40	1.37	1.15	1.38	21.00	6.30	6.06	0.30

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment DA 1: Drainage Area 1 (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	6.32	6.08	0.29
21.40	6.33	6.09	0.29
21.60	6.35	6.11	0.28
21.80	6.36	6.12	0.28
22.00	6.37	6.14	0.27
22.20	6.39	6.15	0.27
22.40	6.40	6.16	0.26
22.60	6.42	6.18	0.25
22.80	6.43	6.19	0.25
23.00	6.44	6.20	0.24
23.20	6.45	6.21	0.24
23.40	6.47	6.23	0.23
23.60	6.48	6.24	0.23
23.80	6.49	6.25	0.22
24.00	6.50	6.26	0.21

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Subcatchment DA 1B: Drainage Area 1B - Bypass

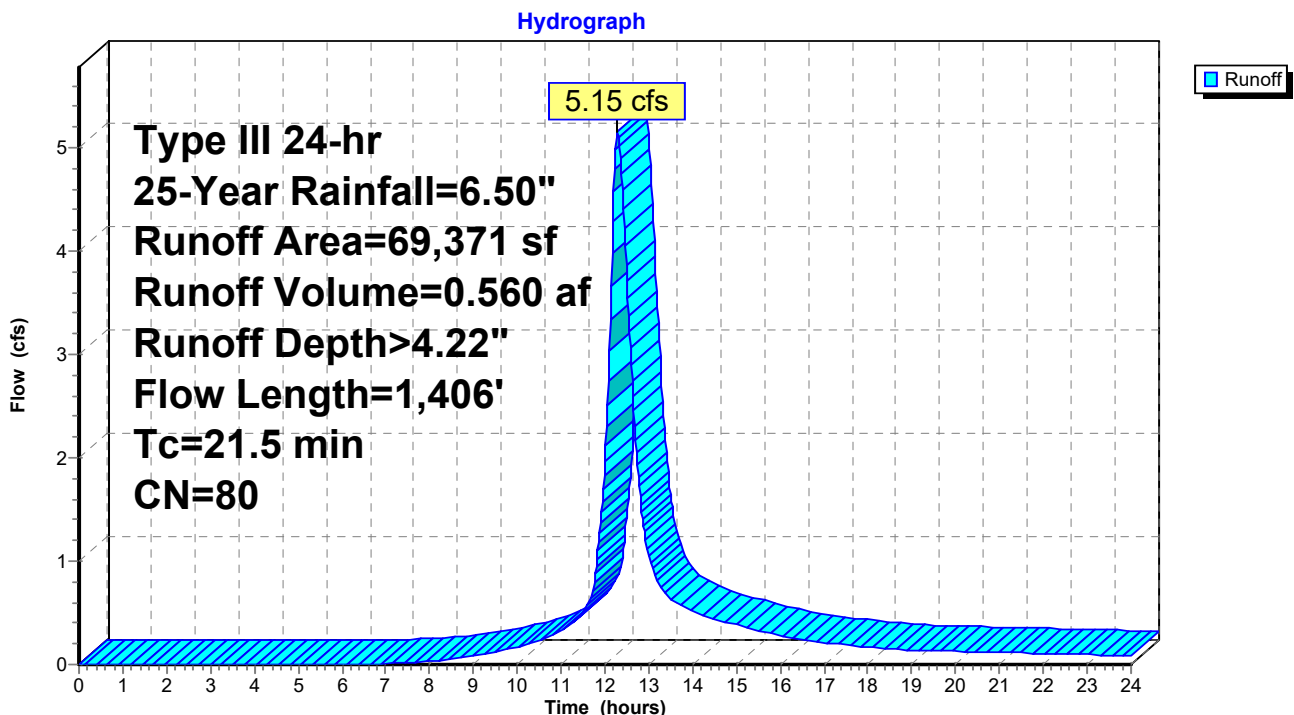
Runoff = 5.15 cfs @ 12.29 hrs, Volume= 0.560 af, Depth> 4.22"
 Routed to Link S : POI South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
61,723	80	>75% Grass cover, Good, HSG D
4,556	61	>75% Grass cover, Good, HSG B
* 3,092	98	Driveway Entrance
69,371	80	Weighted Average
66,279		95.54% Pervious Area
3,092		4.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	100	0.0160	0.11		Sheet Flow, SF Grass: Dense n= 0.240 P2= 3.11"
1.9	150	0.0340	1.29		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
3.8	1,156	0.0080	5.10	6.26	Pipe Channel, Pipe 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
21.5	1,406	Total			

Subcatchment DA 1B: Drainage Area 1B - Bypass



Hydrograph for Subcatchment DA 1B: Drainage Area 1B - Bypass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.45	0.26	0.25
0.20	0.01	0.00	0.00	10.80	1.53	0.30	0.29
0.40	0.03	0.00	0.00	11.00	1.63	0.35	0.33
0.60	0.04	0.00	0.00	11.20	1.73	0.41	0.37
0.80	0.05	0.00	0.00	11.40	1.86	0.48	0.46
1.00	0.07	0.00	0.00	11.60	2.04	0.59	0.58
1.20	0.08	0.00	0.00	11.80	2.43	0.84	0.94
1.40	0.09	0.00	0.00	12.00	3.25	1.44	1.96
1.60	0.10	0.00	0.00	12.20	4.07	2.10	4.56
1.80	0.12	0.00	0.00	12.40	4.46	2.42	4.58
2.00	0.13	0.00	0.00	12.60	4.64	2.58	2.90
2.20	0.14	0.00	0.00	12.80	4.77	2.69	1.62
2.40	0.16	0.00	0.00	13.00	4.87	2.78	1.07
2.60	0.17	0.00	0.00	13.20	4.97	2.86	0.80
2.80	0.19	0.00	0.00	13.40	5.05	2.94	0.68
3.00	0.20	0.00	0.00	13.60	5.13	3.01	0.61
3.20	0.22	0.00	0.00	13.80	5.20	3.07	0.57
3.40	0.23	0.00	0.00	14.00	5.27	3.13	0.52
3.60	0.25	0.00	0.00	14.20	5.33	3.19	0.48
3.80	0.26	0.00	0.00	14.40	5.39	3.24	0.45
4.00	0.28	0.00	0.00	14.60	5.45	3.29	0.43
4.20	0.30	0.00	0.00	14.80	5.50	3.34	0.40
4.40	0.31	0.00	0.00	15.00	5.55	3.38	0.38
4.60	0.33	0.00	0.00	15.20	5.60	3.42	0.36
4.80	0.35	0.00	0.00	15.40	5.64	3.46	0.34
5.00	0.37	0.00	0.00	15.60	5.69	3.50	0.32
5.20	0.39	0.00	0.00	15.80	5.72	3.53	0.30
5.40	0.41	0.00	0.00	16.00	5.76	3.56	0.28
5.60	0.43	0.00	0.00	16.20	5.79	3.59	0.26
5.80	0.45	0.00	0.00	16.40	5.82	3.62	0.24
6.00	0.47	0.00	0.00	16.60	5.85	3.65	0.23
6.20	0.49	0.00	0.00	16.80	5.88	3.68	0.22
6.40	0.51	0.00	0.00	17.00	5.91	3.70	0.21
6.60	0.54	0.00	0.00	17.20	5.94	3.73	0.20
6.80	0.56	0.00	0.00	17.40	5.96	3.75	0.19
7.00	0.59	0.00	0.01	17.60	5.99	3.77	0.18
7.20	0.62	0.01	0.01	17.80	6.01	3.79	0.18
7.40	0.65	0.01	0.02	18.00	6.03	3.81	0.17
7.60	0.68	0.01	0.02	18.20	6.05	3.83	0.16
7.80	0.71	0.02	0.03	18.40	6.07	3.85	0.15
8.00	0.74	0.02	0.03	18.60	6.09	3.86	0.15
8.20	0.78	0.03	0.04	18.80	6.11	3.88	0.14
8.40	0.81	0.04	0.05	19.00	6.13	3.90	0.14
8.60	0.86	0.04	0.06	19.20	6.15	3.92	0.14
8.80	0.90	0.06	0.07	19.40	6.17	3.93	0.14
9.00	0.95	0.07	0.09	19.60	6.19	3.95	0.13
9.20	1.00	0.08	0.10	19.80	6.20	3.97	0.13
9.40	1.05	0.10	0.12	20.00	6.22	3.98	0.13
9.60	1.11	0.12	0.13	20.20	6.24	4.00	0.13
9.80	1.17	0.14	0.15	20.40	6.25	4.01	0.12
10.00	1.23	0.16	0.17	20.60	6.27	4.03	0.12
10.20	1.30	0.19	0.19	20.80	6.29	4.04	0.12
10.40	1.37	0.22	0.22	21.00	6.30	4.05	0.12

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment DA 1B: Drainage Area 1B - Bypass (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	6.32	4.07	0.11
21.40	6.33	4.08	0.11
21.60	6.35	4.10	0.11
21.80	6.36	4.11	0.11
22.00	6.37	4.12	0.11
22.20	6.39	4.13	0.10
22.40	6.40	4.15	0.10
22.60	6.42	4.16	0.10
22.80	6.43	4.17	0.10
23.00	6.44	4.18	0.10
23.20	6.45	4.19	0.09
23.40	6.47	4.20	0.09
23.60	6.48	4.21	0.09
23.80	6.49	4.23	0.09
24.00	6.50	4.24	0.08

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Subcatchment DA 2: Drainage Area 2

Runoff = 32.94 cfs @ 12.08 hrs, Volume= 2.623 af, Depth> 6.02"

Routed to Pond INF : MC-3500 StormTech INFILTRATION

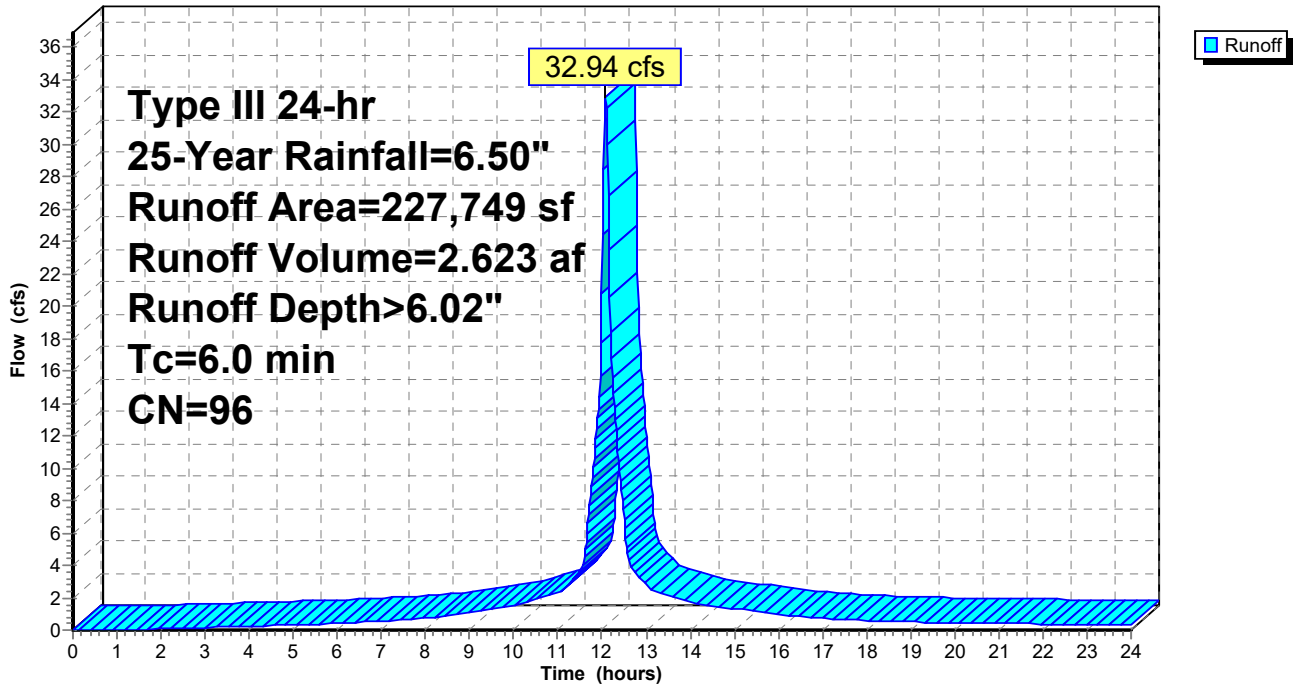
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=6.50"

	Area (sf)	CN	Description
*	214,771	98	Roof, Parking/Drive
	12,978	61	>75% Grass cover, Good, HSG B
	227,749	96	Weighted Average
	12,978		5.70% Pervious Area
	214,771		94.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc (Minimum)

Subcatchment DA 2: Drainage Area 2

Hydrograph



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment DA 2: Drainage Area 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.45	1.05	1.98
0.20	0.01	0.00	0.00	10.80	1.53	1.13	2.14
0.40	0.03	0.00	0.00	11.00	1.63	1.21	2.31
0.60	0.04	0.00	0.00	11.20	1.73	1.32	2.72
0.80	0.05	0.00	0.00	11.40	1.86	1.44	3.34
1.00	0.07	0.00	0.00	11.60	2.04	1.62	4.52
1.20	0.08	0.00	0.00	11.80	2.43	1.99	10.06
1.40	0.09	0.00	0.00	12.00	3.25	2.80	20.75
1.60	0.10	0.00	0.02	12.20	4.07	3.61	18.35
1.80	0.12	0.00	0.04	12.40	4.46	3.99	9.82
2.00	0.13	0.00	0.06	12.60	4.64	4.17	4.40
2.20	0.14	0.01	0.07	12.80	4.77	4.30	3.40
2.40	0.16	0.01	0.09	13.00	4.87	4.41	2.78
2.60	0.17	0.02	0.11	13.20	4.97	4.50	2.40
2.80	0.19	0.02	0.13	13.40	5.05	4.58	2.24
3.00	0.20	0.03	0.15	13.60	5.13	4.66	2.07
3.20	0.22	0.03	0.16	13.80	5.20	4.74	1.91
3.40	0.23	0.04	0.18	14.00	5.27	4.80	1.75
3.60	0.25	0.05	0.20	14.20	5.33	4.86	1.63
3.80	0.26	0.05	0.21	14.40	5.39	4.92	1.55
4.00	0.28	0.06	0.23	14.60	5.45	4.98	1.47
4.20	0.30	0.07	0.25	14.80	5.50	5.03	1.39
4.40	0.31	0.08	0.27	15.00	5.55	5.08	1.32
4.60	0.33	0.09	0.28	15.20	5.60	5.13	1.24
4.80	0.35	0.10	0.30	15.40	5.64	5.17	1.16
5.00	0.37	0.12	0.31	15.60	5.69	5.21	1.08
5.20	0.39	0.13	0.33	15.80	5.72	5.25	1.00
5.40	0.41	0.14	0.35	16.00	5.76	5.29	0.92
5.60	0.43	0.16	0.36	16.20	5.79	5.32	0.87
5.80	0.45	0.17	0.38	16.40	5.82	5.35	0.83
6.00	0.47	0.18	0.39	16.60	5.85	5.38	0.80
6.20	0.49	0.20	0.42	16.80	5.88	5.41	0.77
6.40	0.51	0.22	0.45	17.00	5.91	5.44	0.73
6.60	0.54	0.24	0.49	17.20	5.94	5.47	0.70
6.80	0.56	0.26	0.52	17.40	5.96	5.49	0.66
7.00	0.59	0.28	0.56	17.60	5.99	5.52	0.63
7.20	0.62	0.30	0.59	17.80	6.01	5.54	0.60
7.40	0.65	0.32	0.63	18.00	6.03	5.56	0.56
7.60	0.68	0.35	0.67	18.20	6.05	5.58	0.54
7.80	0.71	0.37	0.70	18.40	6.07	5.60	0.53
8.00	0.74	0.40	0.74	18.60	6.09	5.62	0.52
8.20	0.78	0.43	0.80	18.80	6.11	5.64	0.51
8.40	0.81	0.47	0.87	19.00	6.13	5.66	0.50
8.60	0.86	0.50	0.95	19.20	6.15	5.68	0.49
8.80	0.90	0.54	1.03	19.40	6.17	5.69	0.48
9.00	0.95	0.58	1.11	19.60	6.19	5.71	0.47
9.20	1.00	0.63	1.19	19.80	6.20	5.73	0.46
9.40	1.05	0.68	1.27	20.00	6.22	5.75	0.45
9.60	1.11	0.73	1.36	20.20	6.24	5.76	0.44
9.80	1.17	0.78	1.44	20.40	6.25	5.78	0.43
10.00	1.23	0.84	1.52	20.60	6.27	5.80	0.42
10.20	1.30	0.90	1.65	20.80	6.29	5.81	0.42
10.40	1.37	0.97	1.81	21.00	6.30	5.83	0.41

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment DA 2: Drainage Area 2 (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	6.32	5.84	0.40
21.40	6.33	5.86	0.39
21.60	6.35	5.87	0.39
21.80	6.36	5.89	0.38
22.00	6.37	5.90	0.37
22.20	6.39	5.91	0.36
22.40	6.40	5.93	0.36
22.60	6.42	5.94	0.35
22.80	6.43	5.95	0.34
23.00	6.44	5.97	0.33
23.20	6.45	5.98	0.32
23.40	6.47	5.99	0.32
23.60	6.48	6.00	0.31
23.80	6.49	6.01	0.30
24.00	6.50	6.03	0.29

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Subcatchment DA 2B: Drainage Area 2B Bypass

Runoff = 1.93 cfs @ 12.25 hrs, Volume= 0.199 af, Depth> 2.34"
Routed to Link N : POI North

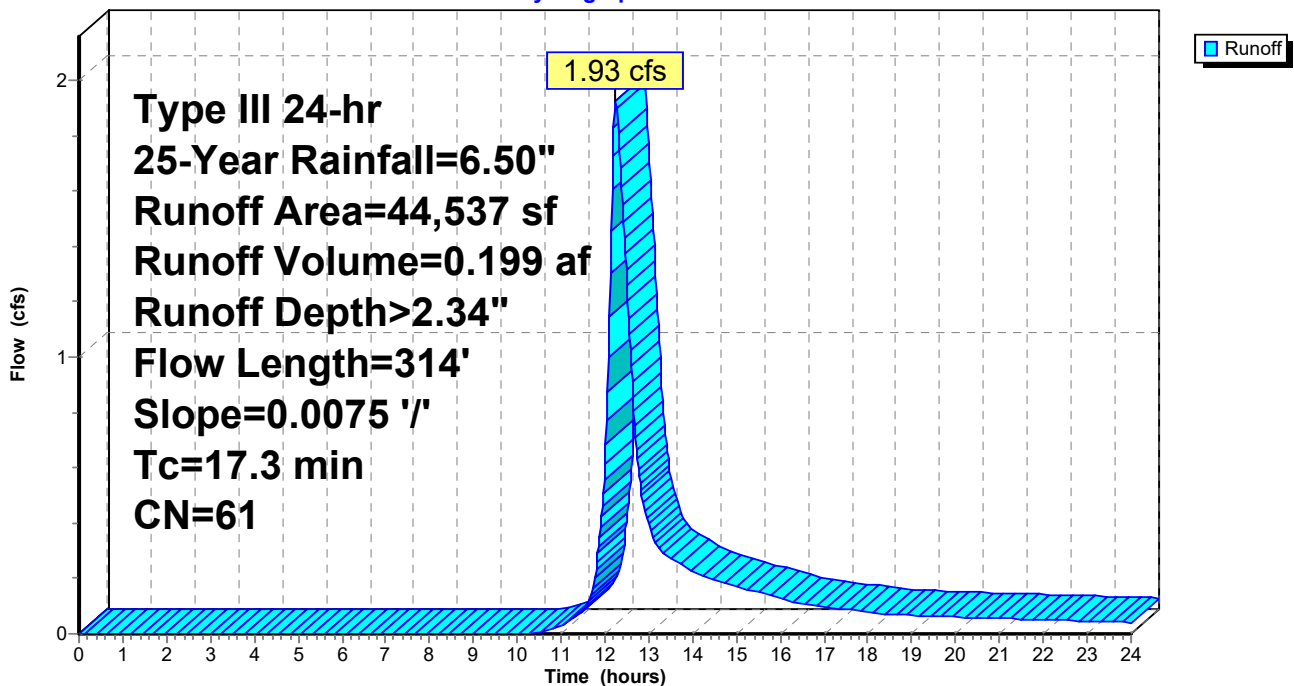
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
44,537	61	>75% Grass cover, Good, HSG B
44,537		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0075	0.11		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
2.6	214	0.0075	1.39		Shallow Concentrated Flow, SCF Unpaved Kv= 16.1 fps
17.3	314	Total			

Subcatchment DA 2B: Drainage Area 2B Bypass

Hydrograph



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment DA 2B: Drainage Area 2B Bypass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.45	0.00	0.01
0.20	0.01	0.00	0.00	10.80	1.53	0.01	0.02
0.40	0.03	0.00	0.00	11.00	1.63	0.02	0.03
0.60	0.04	0.00	0.00	11.20	1.73	0.03	0.05
0.80	0.05	0.00	0.00	11.40	1.86	0.05	0.07
1.00	0.07	0.00	0.00	11.60	2.04	0.08	0.11
1.20	0.08	0.00	0.00	11.80	2.43	0.17	0.24
1.40	0.09	0.00	0.00	12.00	3.25	0.46	0.61
1.60	0.10	0.00	0.00	12.20	4.07	0.85	1.83
1.80	0.12	0.00	0.00	12.40	4.46	1.06	1.55
2.00	0.13	0.00	0.00	12.60	4.64	1.16	0.97
2.20	0.14	0.00	0.00	12.80	4.77	1.23	0.54
2.40	0.16	0.00	0.00	13.00	4.87	1.29	0.39
2.60	0.17	0.00	0.00	13.20	4.97	1.35	0.32
2.80	0.19	0.00	0.00	13.40	5.05	1.40	0.28
3.00	0.20	0.00	0.00	13.60	5.13	1.45	0.26
3.20	0.22	0.00	0.00	13.80	5.20	1.49	0.25
3.40	0.23	0.00	0.00	14.00	5.27	1.53	0.23
3.60	0.25	0.00	0.00	14.20	5.33	1.57	0.21
3.80	0.26	0.00	0.00	14.40	5.39	1.61	0.20
4.00	0.28	0.00	0.00	14.60	5.45	1.65	0.19
4.20	0.30	0.00	0.00	14.80	5.50	1.68	0.18
4.40	0.31	0.00	0.00	15.00	5.55	1.71	0.17
4.60	0.33	0.00	0.00	15.20	5.60	1.74	0.16
4.80	0.35	0.00	0.00	15.40	5.64	1.77	0.16
5.00	0.37	0.00	0.00	15.60	5.69	1.80	0.15
5.20	0.39	0.00	0.00	15.80	5.72	1.82	0.14
5.40	0.41	0.00	0.00	16.00	5.76	1.85	0.13
5.60	0.43	0.00	0.00	16.20	5.79	1.87	0.12
5.80	0.45	0.00	0.00	16.40	5.82	1.89	0.11
6.00	0.47	0.00	0.00	16.60	5.85	1.91	0.11
6.20	0.49	0.00	0.00	16.80	5.88	1.93	0.10
6.40	0.51	0.00	0.00	17.00	5.91	1.95	0.10
6.60	0.54	0.00	0.00	17.20	5.94	1.96	0.09
6.80	0.56	0.00	0.00	17.40	5.96	1.98	0.09
7.00	0.59	0.00	0.00	17.60	5.99	2.00	0.09
7.20	0.62	0.00	0.00	17.80	6.01	2.01	0.08
7.40	0.65	0.00	0.00	18.00	6.03	2.03	0.08
7.60	0.68	0.00	0.00	18.20	6.05	2.04	0.07
7.80	0.71	0.00	0.00	18.40	6.07	2.05	0.07
8.00	0.74	0.00	0.00	18.60	6.09	2.07	0.07
8.20	0.78	0.00	0.00	18.80	6.11	2.08	0.07
8.40	0.81	0.00	0.00	19.00	6.13	2.09	0.07
8.60	0.86	0.00	0.00	19.20	6.15	2.11	0.07
8.80	0.90	0.00	0.00	19.40	6.17	2.12	0.06
9.00	0.95	0.00	0.00	19.60	6.19	2.13	0.06
9.20	1.00	0.00	0.00	19.80	6.20	2.14	0.06
9.40	1.05	0.00	0.00	20.00	6.22	2.15	0.06
9.60	1.11	0.00	0.00	20.20	6.24	2.17	0.06
9.80	1.17	0.00	0.00	20.40	6.25	2.18	0.06
10.00	1.23	0.00	0.00	20.60	6.27	2.19	0.06
10.20	1.30	0.00	0.00	20.80	6.29	2.20	0.06
10.40	1.37	0.00	0.00	21.00	6.30	2.21	0.06

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment DA 2B: Drainage Area 2B Bypass (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	6.32	2.22	0.05
21.40	6.33	2.23	0.05
21.60	6.35	2.24	0.05
21.80	6.36	2.25	0.05
22.00	6.37	2.26	0.05
22.20	6.39	2.27	0.05
22.40	6.40	2.28	0.05
22.60	6.42	2.29	0.05
22.80	6.43	2.30	0.05
23.00	6.44	2.31	0.05
23.20	6.45	2.31	0.05
23.40	6.47	2.32	0.04
23.60	6.48	2.33	0.04
23.80	6.49	2.34	0.04
24.00	6.50	2.35	0.04

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry

Runoff = 3.56 cfs @ 12.09 hrs, Volume= 0.255 af, Depth> 4.23"

Routed to Pond BIO : BioRetention 1 (South)

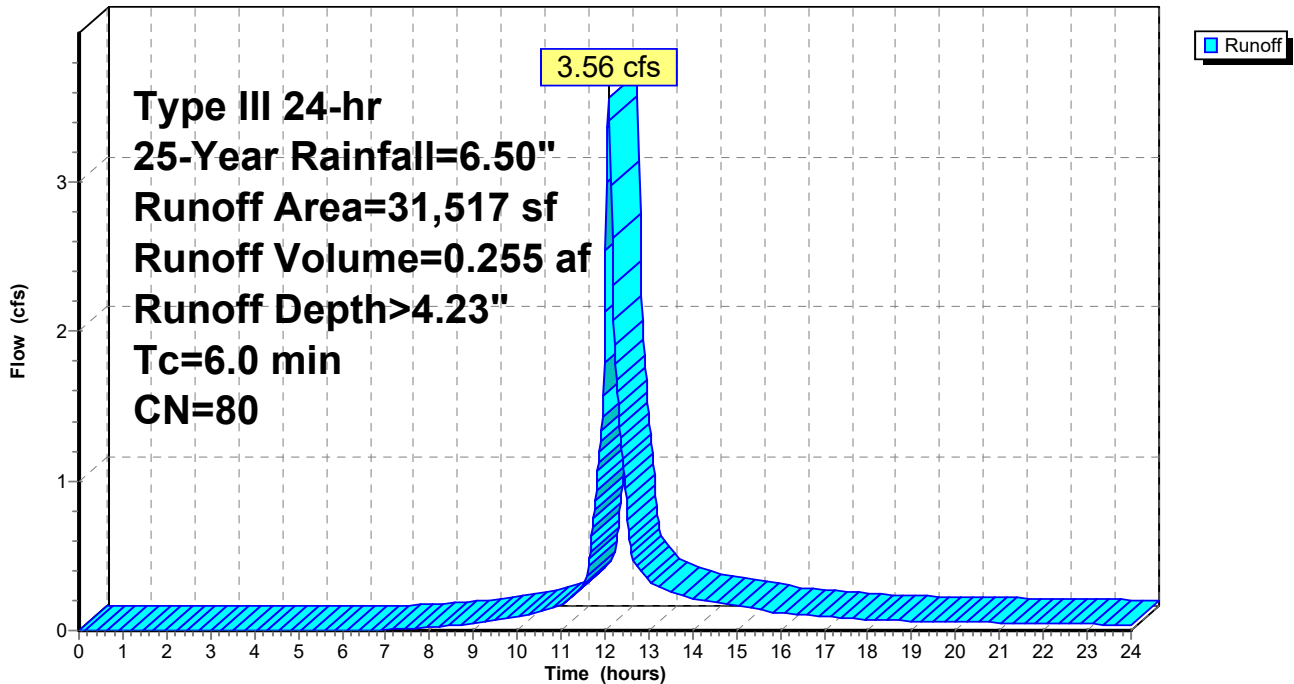
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
31,517	80	>75% Grass cover, Good, HSG D
31,517		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry

Hydrograph



Hydrograph for Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.45	0.26	0.13
0.20	0.01	0.00	0.00	10.80	1.53	0.30	0.15
0.40	0.03	0.00	0.00	11.00	1.63	0.35	0.17
0.60	0.04	0.00	0.00	11.20	1.73	0.41	0.21
0.80	0.05	0.00	0.00	11.40	1.86	0.48	0.27
1.00	0.07	0.00	0.00	11.60	2.04	0.59	0.39
1.20	0.08	0.00	0.00	11.80	2.43	0.84	0.93
1.40	0.09	0.00	0.00	12.00	3.25	1.44	2.13
1.60	0.10	0.00	0.00	12.20	4.07	2.10	2.08
1.80	0.12	0.00	0.00	12.40	4.46	2.42	1.15
2.00	0.13	0.00	0.00	12.60	4.64	2.58	0.52
2.20	0.14	0.00	0.00	12.80	4.77	2.69	0.41
2.40	0.16	0.00	0.00	13.00	4.87	2.78	0.33
2.60	0.17	0.00	0.00	13.20	4.97	2.86	0.29
2.80	0.19	0.00	0.00	13.40	5.05	2.94	0.27
3.00	0.20	0.00	0.00	13.60	5.13	3.01	0.25
3.20	0.22	0.00	0.00	13.80	5.20	3.07	0.23
3.40	0.23	0.00	0.00	14.00	5.27	3.13	0.21
3.60	0.25	0.00	0.00	14.20	5.33	3.19	0.20
3.80	0.26	0.00	0.00	14.40	5.39	3.24	0.19
4.00	0.28	0.00	0.00	14.60	5.45	3.29	0.18
4.20	0.30	0.00	0.00	14.80	5.50	3.34	0.17
4.40	0.31	0.00	0.00	15.00	5.55	3.38	0.16
4.60	0.33	0.00	0.00	15.20	5.60	3.42	0.15
4.80	0.35	0.00	0.00	15.40	5.64	3.46	0.14
5.00	0.37	0.00	0.00	15.60	5.69	3.50	0.13
5.20	0.39	0.00	0.00	15.80	5.72	3.53	0.12
5.40	0.41	0.00	0.00	16.00	5.76	3.56	0.11
5.60	0.43	0.00	0.00	16.20	5.79	3.59	0.11
5.80	0.45	0.00	0.00	16.40	5.82	3.62	0.10
6.00	0.47	0.00	0.00	16.60	5.85	3.65	0.10
6.20	0.49	0.00	0.00	16.80	5.88	3.68	0.10
6.40	0.51	0.00	0.00	17.00	5.91	3.70	0.09
6.60	0.54	0.00	0.00	17.20	5.94	3.73	0.09
6.80	0.56	0.00	0.00	17.40	5.96	3.75	0.08
7.00	0.59	0.00	0.01	17.60	5.99	3.77	0.08
7.20	0.62	0.01	0.01	17.80	6.01	3.79	0.07
7.40	0.65	0.01	0.01	18.00	6.03	3.81	0.07
7.60	0.68	0.01	0.01	18.20	6.05	3.83	0.07
7.80	0.71	0.02	0.02	18.40	6.07	3.85	0.07
8.00	0.74	0.02	0.02	18.60	6.09	3.86	0.07
8.20	0.78	0.03	0.02	18.80	6.11	3.88	0.06
8.40	0.81	0.04	0.03	19.00	6.13	3.90	0.06
8.60	0.86	0.04	0.03	19.20	6.15	3.92	0.06
8.80	0.90	0.06	0.04	19.40	6.17	3.93	0.06
9.00	0.95	0.07	0.05	19.60	6.19	3.95	0.06
9.20	1.00	0.08	0.05	19.80	6.20	3.97	0.06
9.40	1.05	0.10	0.06	20.00	6.22	3.98	0.06
9.60	1.11	0.12	0.07	20.20	6.24	4.00	0.06
9.80	1.17	0.14	0.08	20.40	6.25	4.01	0.05
10.00	1.23	0.16	0.09	20.60	6.27	4.03	0.05
10.20	1.30	0.19	0.10	20.80	6.29	4.04	0.05
10.40	1.37	0.22	0.12	21.00	6.30	4.05	0.05

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	6.32	4.07	0.05
21.40	6.33	4.08	0.05
21.60	6.35	4.10	0.05
21.80	6.36	4.11	0.05
22.00	6.37	4.12	0.05
22.20	6.39	4.13	0.05
22.40	6.40	4.15	0.04
22.60	6.42	4.16	0.04
22.80	6.43	4.17	0.04
23.00	6.44	4.18	0.04
23.20	6.45	4.19	0.04
23.40	6.47	4.20	0.04
23.60	6.48	4.21	0.04
23.80	6.49	4.23	0.04
24.00	6.50	4.24	0.04

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Subcatchment DA 4: Drainage Area 4

Runoff = 0.95 cfs @ 12.21 hrs, Volume= 0.091 af, Depth> 2.34"
Routed to Pond DET2 : MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

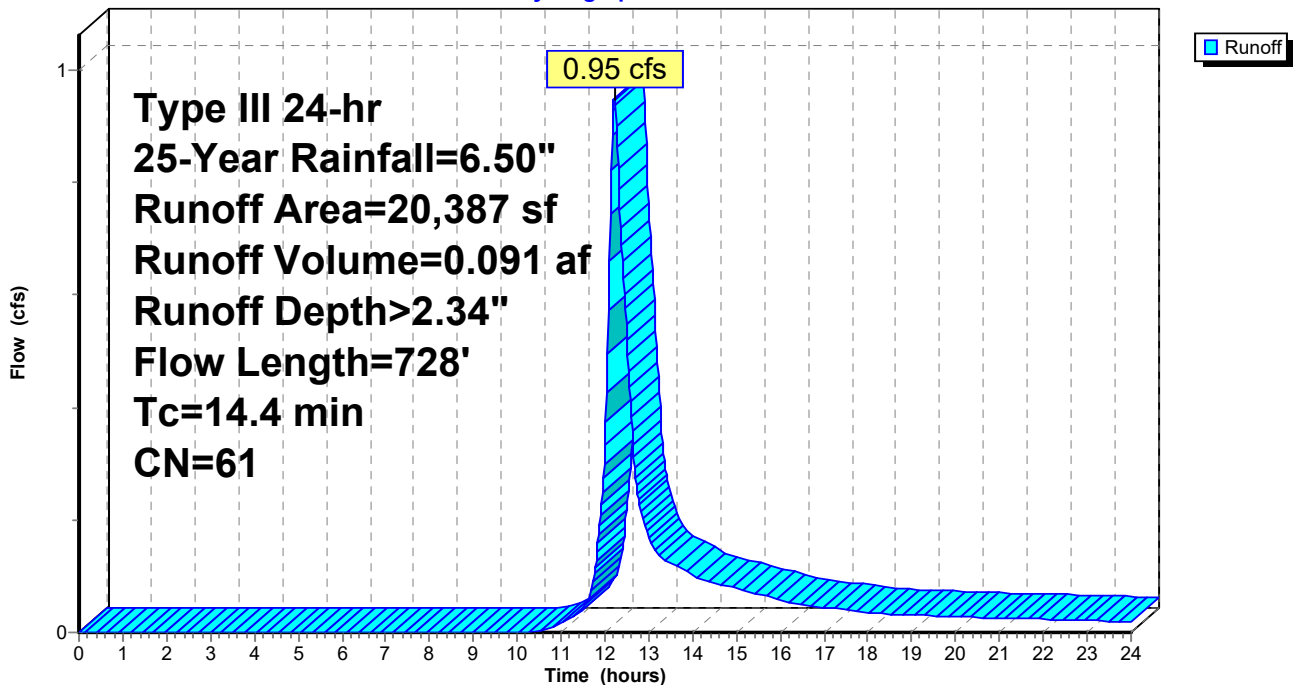
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
20,387	61	>75% Grass cover, Good, HSG B
20,387		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	100	0.0150	0.15		Sheet Flow, SF Grass: Short n= 0.150 P2= 3.11"
2.6	304	0.0150	1.97		Shallow Concentrated Flow, Grass SCF Unpaved Kv= 16.1 fps
0.6	324	0.0250	9.02	11.06	Pipe Channel, Pipe Flow 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
14.4	728	Total			

Subcatchment DA 4: Drainage Area 4

Hydrograph



Hydrograph for Subcatchment DA 4: Drainage Area 4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.45	0.00	0.00
0.20	0.01	0.00	0.00	10.80	1.53	0.01	0.01
0.40	0.03	0.00	0.00	11.00	1.63	0.02	0.02
0.60	0.04	0.00	0.00	11.20	1.73	0.03	0.02
0.80	0.05	0.00	0.00	11.40	1.86	0.05	0.03
1.00	0.07	0.00	0.00	11.60	2.04	0.08	0.05
1.20	0.08	0.00	0.00	11.80	2.43	0.17	0.13
1.40	0.09	0.00	0.00	12.00	3.25	0.46	0.33
1.60	0.10	0.00	0.00	12.20	4.07	0.85	0.95
1.80	0.12	0.00	0.00	12.40	4.46	1.06	0.66
2.00	0.13	0.00	0.00	12.60	4.64	1.16	0.38
2.20	0.14	0.00	0.00	12.80	4.77	1.23	0.22
2.40	0.16	0.00	0.00	13.00	4.87	1.29	0.17
2.60	0.17	0.00	0.00	13.20	4.97	1.35	0.14
2.80	0.19	0.00	0.00	13.40	5.05	1.40	0.13
3.00	0.20	0.00	0.00	13.60	5.13	1.45	0.12
3.20	0.22	0.00	0.00	13.80	5.20	1.49	0.11
3.40	0.23	0.00	0.00	14.00	5.27	1.53	0.10
3.60	0.25	0.00	0.00	14.20	5.33	1.57	0.09
3.80	0.26	0.00	0.00	14.40	5.39	1.61	0.09
4.00	0.28	0.00	0.00	14.60	5.45	1.65	0.09
4.20	0.30	0.00	0.00	14.80	5.50	1.68	0.08
4.40	0.31	0.00	0.00	15.00	5.55	1.71	0.08
4.60	0.33	0.00	0.00	15.20	5.60	1.74	0.07
4.80	0.35	0.00	0.00	15.40	5.64	1.77	0.07
5.00	0.37	0.00	0.00	15.60	5.69	1.80	0.07
5.20	0.39	0.00	0.00	15.80	5.72	1.82	0.06
5.40	0.41	0.00	0.00	16.00	5.76	1.85	0.06
5.60	0.43	0.00	0.00	16.20	5.79	1.87	0.05
5.80	0.45	0.00	0.00	16.40	5.82	1.89	0.05
6.00	0.47	0.00	0.00	16.60	5.85	1.91	0.05
6.20	0.49	0.00	0.00	16.80	5.88	1.93	0.05
6.40	0.51	0.00	0.00	17.00	5.91	1.95	0.04
6.60	0.54	0.00	0.00	17.20	5.94	1.96	0.04
6.80	0.56	0.00	0.00	17.40	5.96	1.98	0.04
7.00	0.59	0.00	0.00	17.60	5.99	2.00	0.04
7.20	0.62	0.00	0.00	17.80	6.01	2.01	0.04
7.40	0.65	0.00	0.00	18.00	6.03	2.03	0.04
7.60	0.68	0.00	0.00	18.20	6.05	2.04	0.03
7.80	0.71	0.00	0.00	18.40	6.07	2.05	0.03
8.00	0.74	0.00	0.00	18.60	6.09	2.07	0.03
8.20	0.78	0.00	0.00	18.80	6.11	2.08	0.03
8.40	0.81	0.00	0.00	19.00	6.13	2.09	0.03
8.60	0.86	0.00	0.00	19.20	6.15	2.11	0.03
8.80	0.90	0.00	0.00	19.40	6.17	2.12	0.03
9.00	0.95	0.00	0.00	19.60	6.19	2.13	0.03
9.20	1.00	0.00	0.00	19.80	6.20	2.14	0.03
9.40	1.05	0.00	0.00	20.00	6.22	2.15	0.03
9.60	1.11	0.00	0.00	20.20	6.24	2.17	0.03
9.80	1.17	0.00	0.00	20.40	6.25	2.18	0.03
10.00	1.23	0.00	0.00	20.60	6.27	2.19	0.03
10.20	1.30	0.00	0.00	20.80	6.29	2.20	0.03
10.40	1.37	0.00	0.00	21.00	6.30	2.21	0.03

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment DA 4: Drainage Area 4 (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	6.32	2.22	0.03
21.40	6.33	2.23	0.02
21.60	6.35	2.24	0.02
21.80	6.36	2.25	0.02
22.00	6.37	2.26	0.02
22.20	6.39	2.27	0.02
22.40	6.40	2.28	0.02
22.60	6.42	2.29	0.02
22.80	6.43	2.30	0.02
23.00	6.44	2.31	0.02
23.20	6.45	2.31	0.02
23.40	6.47	2.32	0.02
23.60	6.48	2.33	0.02
23.80	6.49	2.34	0.02
24.00	6.50	2.35	0.02

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Subcatchment OFF: Offsite Drainage Area

Runoff = 14.63 cfs @ 12.09 hrs, Volume= 1.053 af, Depth> 4.45"
Routed to Pond DET2 : MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

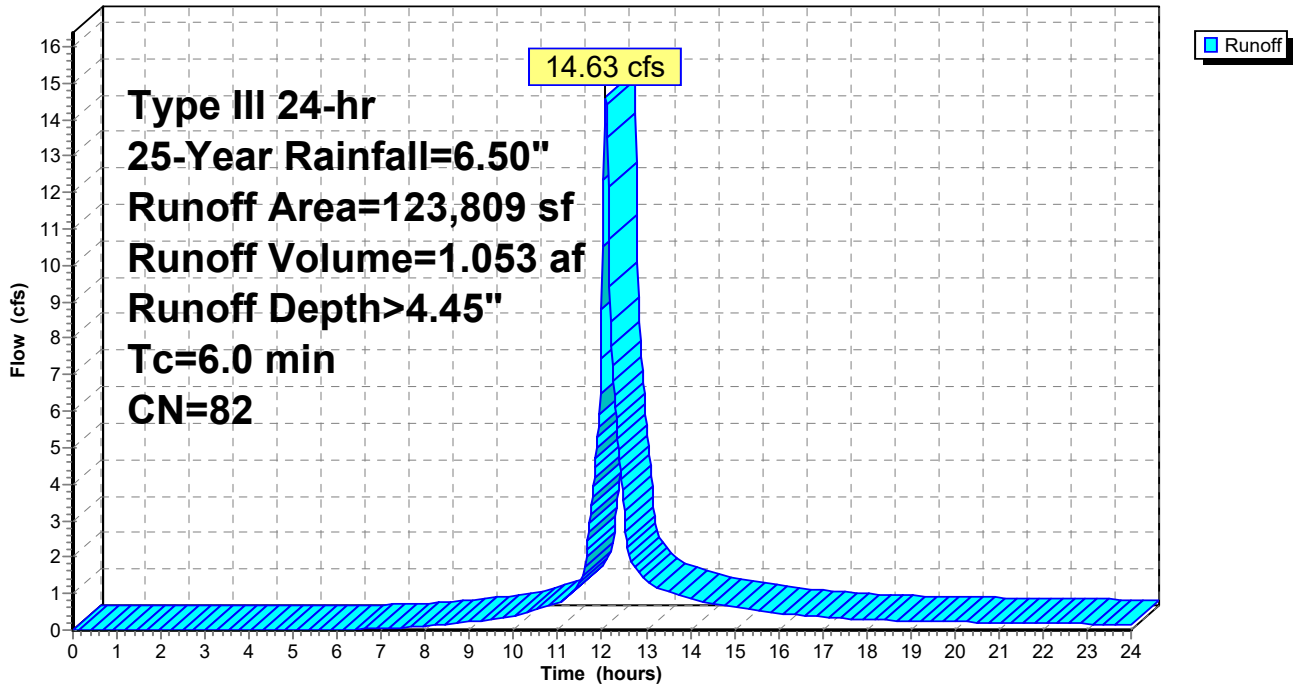
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
52,228	61	>75% Grass cover, Good, HSG B
* 71,581	98	Impervious Surfaces
123,809	82	Weighted Average
52,228		42.18% Pervious Area
71,581		57.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment OFF: Offsite Drainage Area

Hydrograph



Hydrograph for Subcatchment OFF: Offsite Drainage Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.45	0.32	0.59
0.20	0.01	0.00	0.00	10.80	1.53	0.36	0.67
0.40	0.03	0.00	0.00	11.00	1.63	0.42	0.75
0.60	0.04	0.00	0.00	11.20	1.73	0.48	0.91
0.80	0.05	0.00	0.00	11.40	1.86	0.56	1.17
1.00	0.07	0.00	0.00	11.60	2.04	0.68	1.65
1.20	0.08	0.00	0.00	11.80	2.43	0.94	3.92
1.40	0.09	0.00	0.00	12.00	3.25	1.58	8.80
1.60	0.10	0.00	0.00	12.20	4.07	2.27	8.46
1.80	0.12	0.00	0.00	12.40	4.46	2.60	4.67
2.00	0.13	0.00	0.00	12.60	4.64	2.76	2.12
2.20	0.14	0.00	0.00	12.80	4.77	2.87	1.65
2.40	0.16	0.00	0.00	13.00	4.87	2.97	1.35
2.60	0.17	0.00	0.00	13.20	4.97	3.05	1.17
2.80	0.19	0.00	0.00	13.40	5.05	3.13	1.09
3.00	0.20	0.00	0.00	13.60	5.13	3.20	1.02
3.20	0.22	0.00	0.00	13.80	5.20	3.26	0.94
3.40	0.23	0.00	0.00	14.00	5.27	3.32	0.86
3.60	0.25	0.00	0.00	14.20	5.33	3.38	0.80
3.80	0.26	0.00	0.00	14.40	5.39	3.43	0.77
4.00	0.28	0.00	0.00	14.60	5.45	3.48	0.73
4.20	0.30	0.00	0.00	14.80	5.50	3.53	0.69
4.40	0.31	0.00	0.00	15.00	5.55	3.58	0.65
4.60	0.33	0.00	0.00	15.20	5.60	3.62	0.62
4.80	0.35	0.00	0.00	15.40	5.64	3.66	0.58
5.00	0.37	0.00	0.00	15.60	5.69	3.70	0.54
5.20	0.39	0.00	0.00	15.80	5.72	3.73	0.50
5.40	0.41	0.00	0.00	16.00	5.76	3.77	0.46
5.60	0.43	0.00	0.00	16.20	5.79	3.80	0.43
5.80	0.45	0.00	0.00	16.40	5.82	3.83	0.42
6.00	0.47	0.00	0.01	16.60	5.85	3.85	0.40
6.20	0.49	0.00	0.01	16.80	5.88	3.88	0.38
6.40	0.51	0.00	0.02	17.00	5.91	3.91	0.37
6.60	0.54	0.00	0.03	17.20	5.94	3.93	0.35
6.80	0.56	0.01	0.03	17.40	5.96	3.95	0.33
7.00	0.59	0.01	0.04	17.60	5.99	3.98	0.32
7.20	0.62	0.01	0.05	17.80	6.01	4.00	0.30
7.40	0.65	0.02	0.07	18.00	6.03	4.02	0.28
7.60	0.68	0.02	0.08	18.20	6.05	4.04	0.27
7.80	0.71	0.03	0.09	18.40	6.07	4.05	0.27
8.00	0.74	0.04	0.10	18.60	6.09	4.07	0.26
8.20	0.78	0.04	0.12	18.80	6.11	4.09	0.26
8.40	0.81	0.05	0.14	19.00	6.13	4.11	0.25
8.60	0.86	0.07	0.17	19.20	6.15	4.13	0.25
8.80	0.90	0.08	0.19	19.40	6.17	4.14	0.24
9.00	0.95	0.10	0.22	19.60	6.19	4.16	0.24
9.20	1.00	0.11	0.26	19.80	6.20	4.17	0.23
9.40	1.05	0.13	0.29	20.00	6.22	4.19	0.23
9.60	1.11	0.16	0.32	20.20	6.24	4.21	0.22
9.80	1.17	0.18	0.36	20.40	6.25	4.22	0.22
10.00	1.23	0.21	0.40	20.60	6.27	4.24	0.21
10.20	1.30	0.24	0.45	20.80	6.29	4.25	0.21
10.40	1.37	0.28	0.52	21.00	6.30	4.27	0.21

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Subcatchment OFF: Offsite Drainage Area (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	6.32	4.28	0.20
21.40	6.33	4.29	0.20
21.60	6.35	4.31	0.20
21.80	6.36	4.32	0.19
22.00	6.37	4.33	0.19
22.20	6.39	4.35	0.18
22.40	6.40	4.36	0.18
22.60	6.42	4.37	0.18
22.80	6.43	4.38	0.17
23.00	6.44	4.39	0.17
23.20	6.45	4.41	0.16
23.40	6.47	4.42	0.16
23.60	6.48	4.43	0.16
23.80	6.49	4.44	0.15
24.00	6.50	4.45	0.15

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Pond BIO: BioRetention 1 (South)

Inflow Area = 4.532 ac, 84.04% Impervious, Inflow Depth > 2.84" for 25-Year event
 Inflow = 4.88 cfs @ 12.09 hrs, Volume= 1.072 af
 Outflow = 3.17 cfs @ 12.20 hrs, Volume= 0.857 af, Atten= 35%, Lag= 6.7 min
 Primary = 3.17 cfs @ 12.20 hrs, Volume= 0.857 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs / 2
 Peak Elev= 299.68' @ 12.20 hrs Surf.Area= 18,618 sf Storage= 12,270 cf

Plug-Flow detention time= 202.9 min calculated for 0.857 af (80% of inflow)
 Center-of-Mass det. time= 94.8 min (872.1 - 777.3)

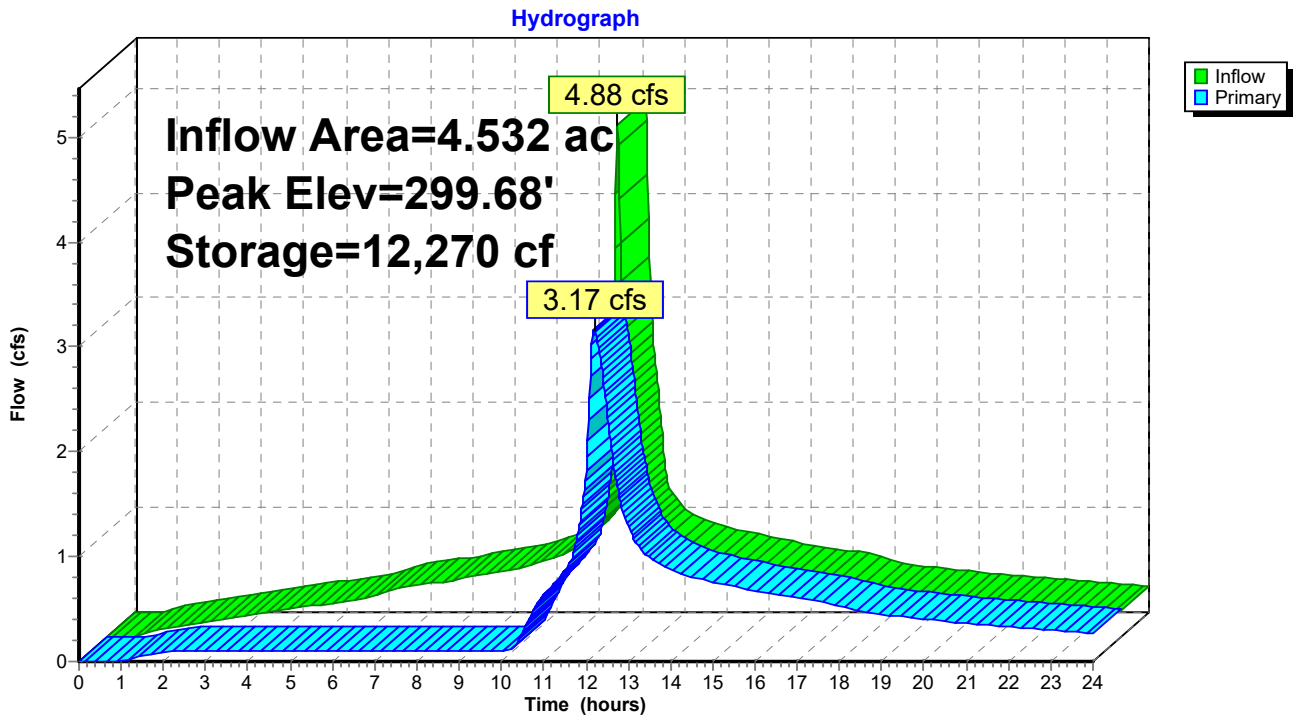
Volume	Invert	Avail.Storage	Storage Description
#1	299.00'	18,277 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
299.00	17,341	0	0
300.00	19,212	18,277	18,277

Device	Routing	Invert	Outlet Devices
#1	Primary	299.50'	24.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	299.00'	0.250 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 102.00'

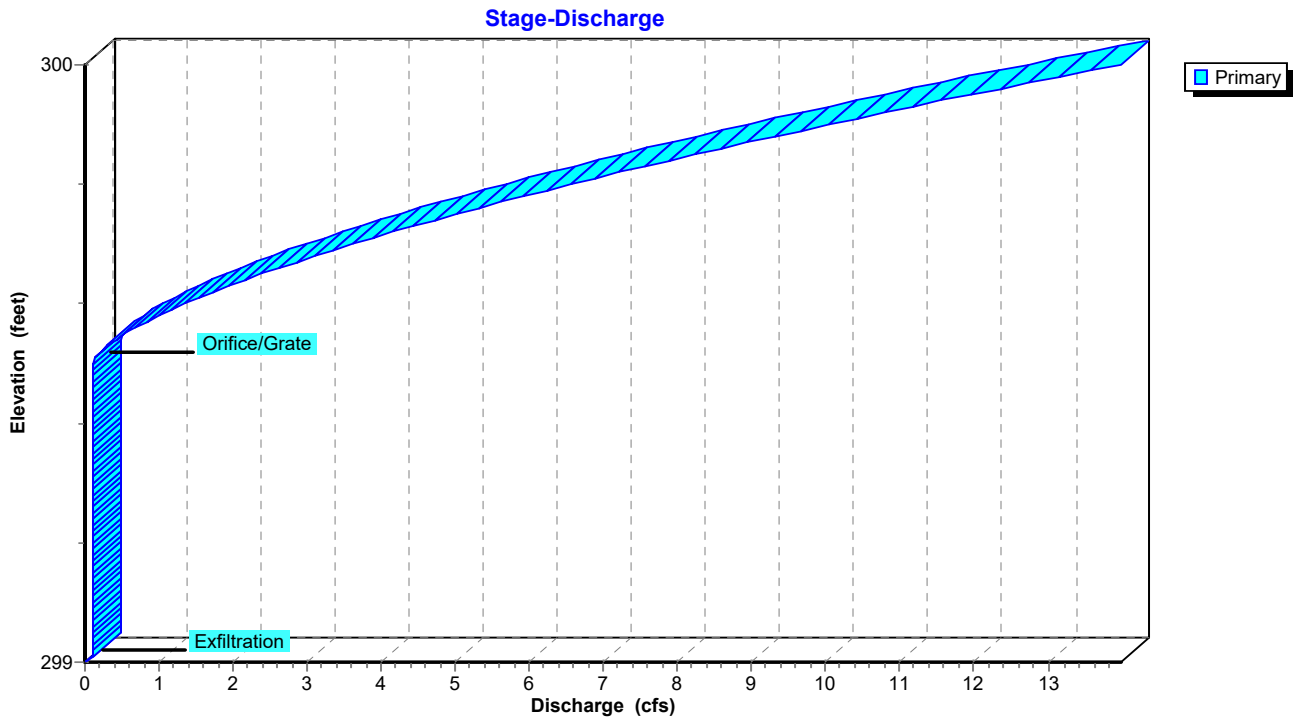
Primary OutFlow Max=3.16 cfs @ 12.20 hrs HW=299.68' (Free Discharge)

- 1=Orifice/Grate (Weir Controls 3.06 cfs @ 1.40 fps)
- 2=Exfiltration (Controls 0.11 cfs)

Pond BIO: BioRetention 1 (South)



Pond BIO: BioRetention 1 (South)



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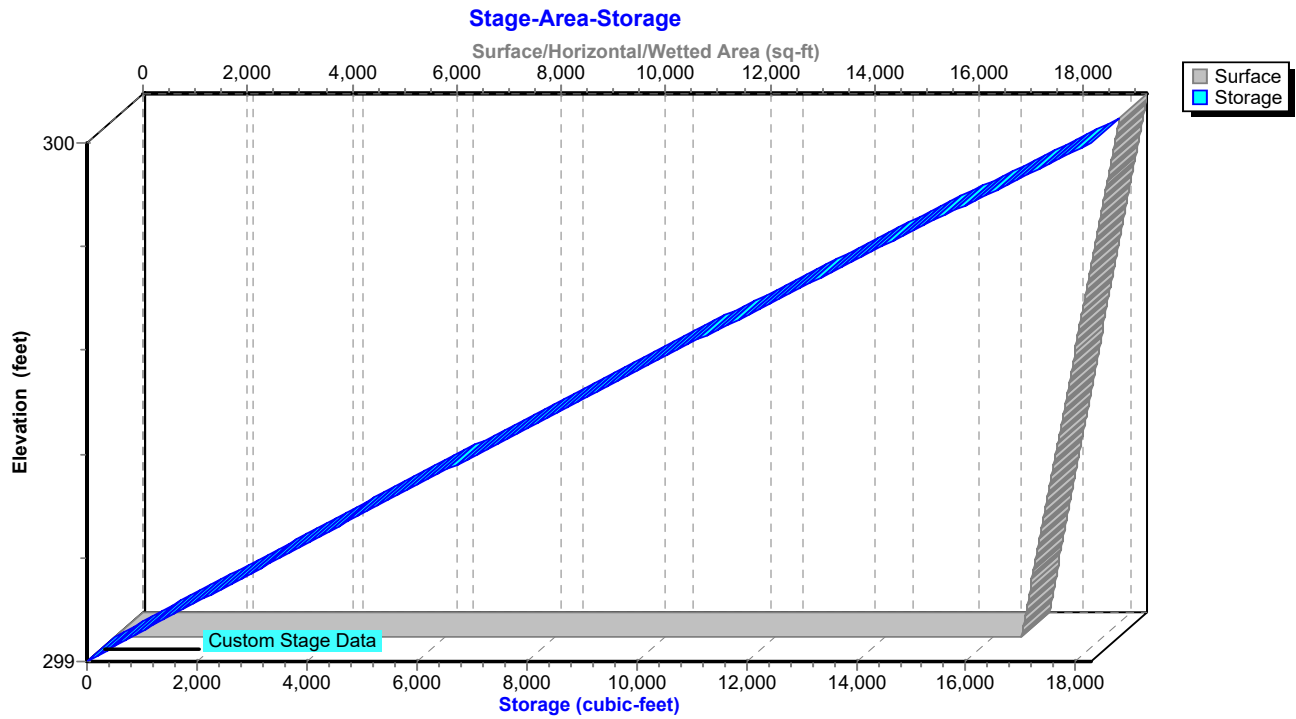
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Type III 24-hr 25-Year Rainfall=6.50"

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Pond BIO: BioRetention 1 (South)



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Pond BIO: BioRetention 1 (South)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	299.00	0.00
0.20	0.00	0	299.00	0.00
0.40	0.00	0	299.00	0.00
0.60	0.00	0	299.00	0.00
0.80	0.01	2	299.00	0.00
1.00	0.04	17	299.00	0.01
1.20	0.06	42	299.00	0.02
1.40	0.08	70	299.00	0.04
1.60	0.10	99	299.01	0.06
1.80	0.11	127	299.01	0.07
2.00	0.12	153	299.01	0.09
2.20	0.14	178	299.01	0.10
2.40	0.15	209	299.01	0.10
2.60	0.16	250	299.01	0.10
2.80	0.18	301	299.02	0.10
3.00	0.19	361	299.02	0.10
3.20	0.20	430	299.02	0.10
3.40	0.22	508	299.03	0.10
3.60	0.23	595	299.03	0.10
3.80	0.24	690	299.04	0.10
4.00	0.25	794	299.05	0.10
4.20	0.26	906	299.05	0.10
4.40	0.27	1,025	299.06	0.10
4.60	0.28	1,152	299.07	0.10
4.80	0.29	1,287	299.07	0.10
5.00	0.30	1,430	299.08	0.10
5.20	0.31	1,579	299.09	0.10
5.40	0.32	1,736	299.10	0.10
5.60	0.33	1,900	299.11	0.10
5.80	0.34	2,071	299.12	0.10
6.00	0.35	2,248	299.13	0.10
6.20	0.37	2,435	299.14	0.10
6.40	0.40	2,637	299.15	0.10
6.60	0.42	2,859	299.16	0.10
6.80	0.45	3,101	299.18	0.10
7.00	0.48	3,362	299.19	0.10
7.20	0.49	3,637	299.21	0.10
7.40	0.50	3,919	299.22	0.10
7.60	0.51	4,210	299.24	0.10
7.80	0.52	4,507	299.26	0.10
8.00	0.53	4,810	299.27	0.10
8.20	0.54	5,120	299.29	0.10
8.40	0.56	5,441	299.31	0.10
8.60	0.57	5,772	299.33	0.10
8.80	0.59	6,113	299.35	0.10
9.00	0.60	6,466	299.37	0.10
9.20	0.62	6,828	299.39	0.10
9.40	0.63	7,202	299.41	0.10
9.60	0.65	7,586	299.43	0.11
9.80	0.66	7,981	299.45	0.11
10.00	0.68	8,387	299.47	0.11
10.20	0.70	8,807	299.49	0.11
10.40	0.73	9,222	299.52	0.20

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Hydrograph for Pond BIO: BioRetention 1 (South) (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
10.60	0.76	9,553	299.54	0.37
10.80	0.79	9,785	299.55	0.52
11.00	0.81	9,942	299.56	0.64
11.20	0.88	10,056	299.56	0.73
11.40	0.97	10,166	299.57	0.82
11.60	1.13	10,282	299.58	0.92
11.80	1.83	10,593	299.59	1.20
12.00	3.22	11,185	299.62	1.82
12.20	3.12	12,269	299.68	3.17
12.40	2.04	11,921	299.66	2.71
12.60	1.26	11,380	299.63	2.04
12.80	1.10	10,942	299.61	1.56
13.00	1.00	10,683	299.60	1.29
13.20	0.93	10,510	299.59	1.12
13.40	0.91	10,403	299.58	1.02
13.60	0.88	10,332	299.58	0.96
13.80	0.85	10,279	299.57	0.91
14.00	0.81	10,234	299.57	0.87
14.20	0.79	10,195	299.57	0.84
14.40	0.78	10,164	299.57	0.81
14.60	0.76	10,139	299.57	0.79
14.80	0.74	10,116	299.57	0.77
15.00	0.73	10,095	299.56	0.76
15.20	0.71	10,074	299.56	0.74
15.40	0.69	10,053	299.56	0.72
15.60	0.68	10,032	299.56	0.71
15.80	0.66	10,010	299.56	0.69
16.00	0.64	9,987	299.56	0.67
16.20	0.62	9,965	299.56	0.65
16.40	0.61	9,945	299.56	0.64
16.60	0.61	9,929	299.56	0.63
16.80	0.60	9,914	299.56	0.62
17.00	0.59	9,900	299.55	0.61
17.20	0.57	9,886	299.55	0.59
17.40	0.56	9,870	299.55	0.58
17.60	0.54	9,852	299.55	0.57
17.80	0.51	9,827	299.55	0.55
18.00	0.48	9,795	299.55	0.53
18.20	0.46	9,762	299.55	0.51
18.40	0.45	9,735	299.55	0.49
18.60	0.45	9,713	299.54	0.47
18.80	0.44	9,695	299.54	0.46
19.00	0.43	9,679	299.54	0.45
19.20	0.42	9,664	299.54	0.44
19.40	0.41	9,650	299.54	0.43
19.60	0.40	9,637	299.54	0.42
19.80	0.39	9,623	299.54	0.41
20.00	0.38	9,609	299.54	0.40
20.20	0.38	9,595	299.54	0.40
20.40	0.37	9,582	299.54	0.39
20.60	0.36	9,570	299.54	0.38
20.80	0.36	9,558	299.54	0.37
21.00	0.35	9,547	299.54	0.37

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Pond BIO: BioRetention 1 (South) (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
21.20	0.34	9,535	299.53	0.36
21.40	0.34	9,524	299.53	0.35
21.60	0.33	9,513	299.53	0.35
21.80	0.32	9,502	299.53	0.34
22.00	0.32	9,491	299.53	0.33
22.20	0.31	9,480	299.53	0.33
22.40	0.30	9,469	299.53	0.32
22.60	0.30	9,458	299.53	0.31
22.80	0.29	9,447	299.53	0.31
23.00	0.28	9,436	299.53	0.30
23.20	0.28	9,424	299.53	0.30
23.40	0.27	9,411	299.53	0.29
23.60	0.27	9,399	299.53	0.28
23.80	0.26	9,386	299.53	0.28
24.00	0.25	9,373	299.53	0.27

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Stage-Discharge for Pond BIO: BioRetention 1 (South)

Elevation (feet)	Primary (cfs)
299.00	0.00
299.10	0.10
299.20	0.10
299.30	0.10
299.40	0.10
299.50	0.11
299.60	1.35
299.70	3.62
299.80	6.56
299.90	10.04
300.00	13.99

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Stage-Area-Storage for Pond BIO: BioRetention 1 (South)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
299.00	17,341	0
299.10	17,528	1,743
299.20	17,715	3,506
299.30	17,902	5,286
299.40	18,089	7,086
299.50	18,277	8,904
299.60	18,464	10,741
299.70	18,651	12,597
299.80	18,838	14,472
299.90	19,025	16,365
300.00	19,212	18,277

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Pond DET1: MC-4500 StormTech DETENTION ONLY

[81] Warning: Exceeded Pond SPLIT by 2.59' @ 12.18 hrs

Inflow = 22.93 cfs @ 12.08 hrs, Volume= 1.169 af
 Outflow = 21.42 cfs @ 12.11 hrs, Volume= 1.167 af, Atten= 7%, Lag= 1.8 min
 Primary = 21.42 cfs @ 12.11 hrs, Volume= 1.167 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Peak Elev= 306.70' @ 12.11 hrs Surf.Area= 0.089 ac Storage= 0.351 af

Plug-Flow detention time= 88.3 min calculated for 1.167 af (100% of inflow)
 Center-of-Mass det. time= 87.8 min (814.9 - 727.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	300.93'	0.145 af	37.58'W x 103.72'L x 6.75'H Field A 0.604 af Overall - 0.241 af Embedded = 0.363 af x 40.0% Voids
#2A	301.68'	0.241 af	ADS_StormTech MC-4500 +Cap x 96 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 96 Chambers in 4 Rows Cap Storage= 35.7 cf x 2 x 4 rows = 285.6 cf
		0.386 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	300.93'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#2	Primary	305.00'	36.0" W x 18.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	307.18'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=21.32 cfs @ 12.11 hrs HW=306.69' (Free Discharge)

- 1=Underdrain (Orifice Controls 0.99 cfs @ 11.38 fps)
- 2=Orifice/Grate (Orifice Controls 20.32 cfs @ 4.52 fps)
- 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Type III 24-hr 25-Year Rainfall=6.50"

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Pond DET1: MC-4500 StormTech DETENTION ONLY - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-4500 +Cap (ADS StormTech®MC-4500 with cap, use MC-4500 b for new designs)

Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf

Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap

Cap Storage= 35.7 cf x 2 x 4 rows = 285.6 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

24 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 101.72' Row Length +12.0" End Stone x 2 = 103.72' Base Length

4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width

9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

96 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 4 Rows = 10,508.7 cf Chamber Storage

26,311.6 cf Field - 10,508.7 cf Chambers = 15,802.9 cf Stone x 40.0% Voids = 6,321.2 cf Stone Storage

Chamber Storage + Stone Storage = 16,829.9 cf = 0.386 af

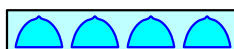
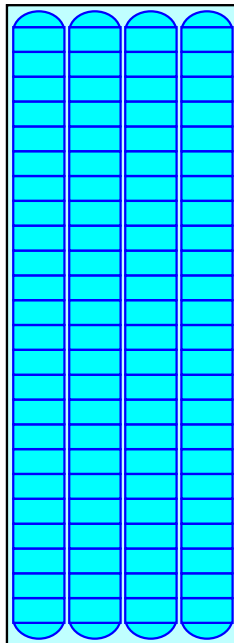
Overall Storage Efficiency = 64.0%

Overall System Size = 103.72' x 37.58' x 6.75'

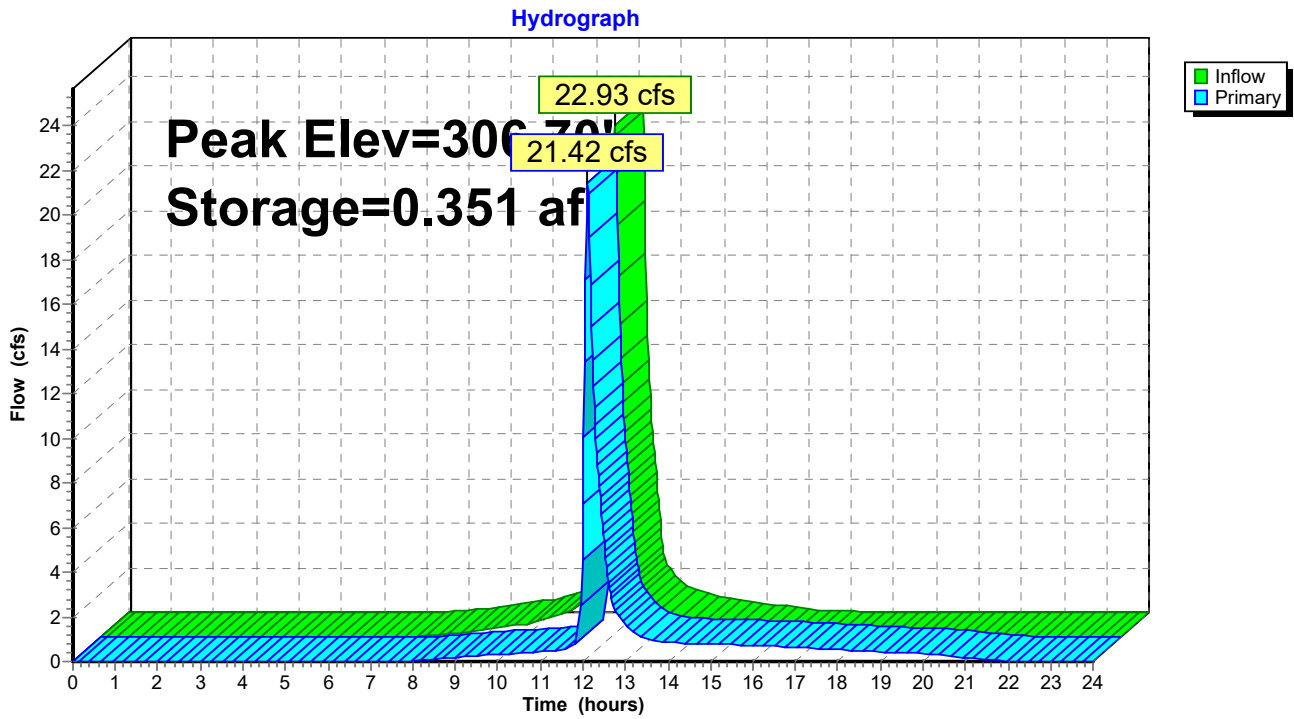
96 Chambers

974.5 cy Field

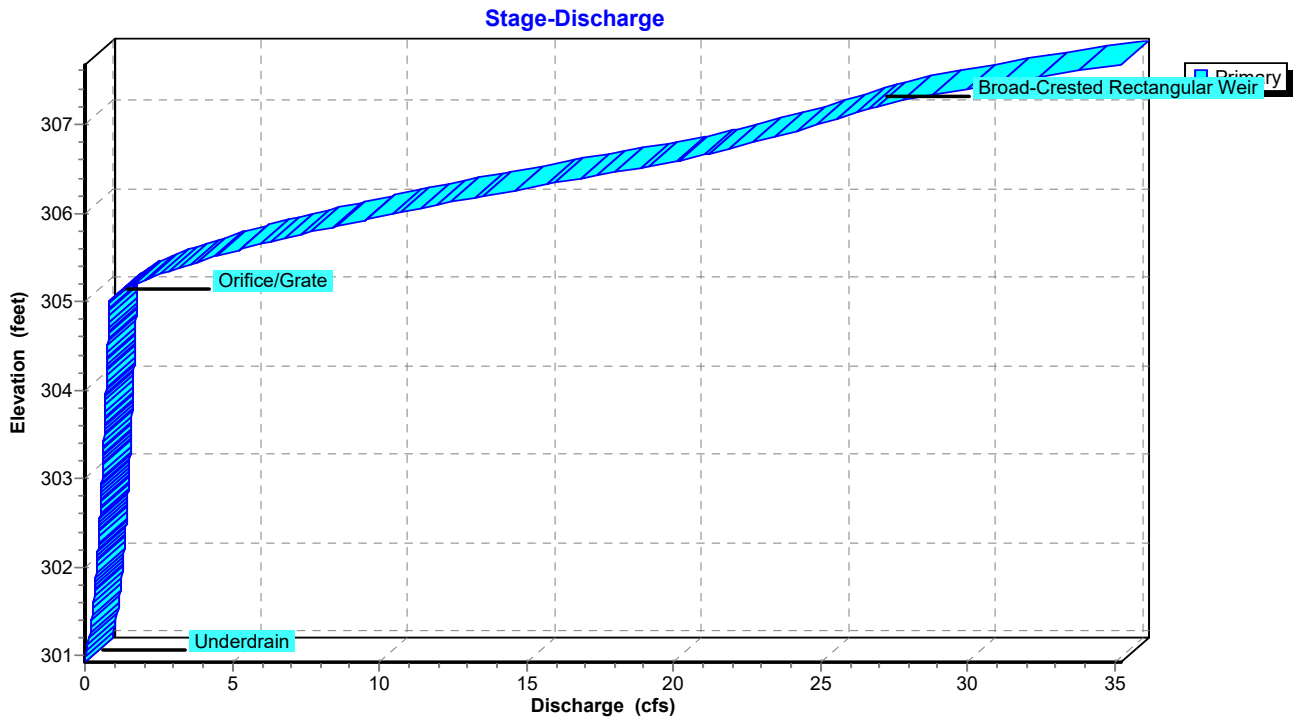
585.3 cy Stone



Pond DET1: MC-4500 StormTech DETENTION ONLY



Pond DET1: MC-4500 StormTech DETENTION ONLY



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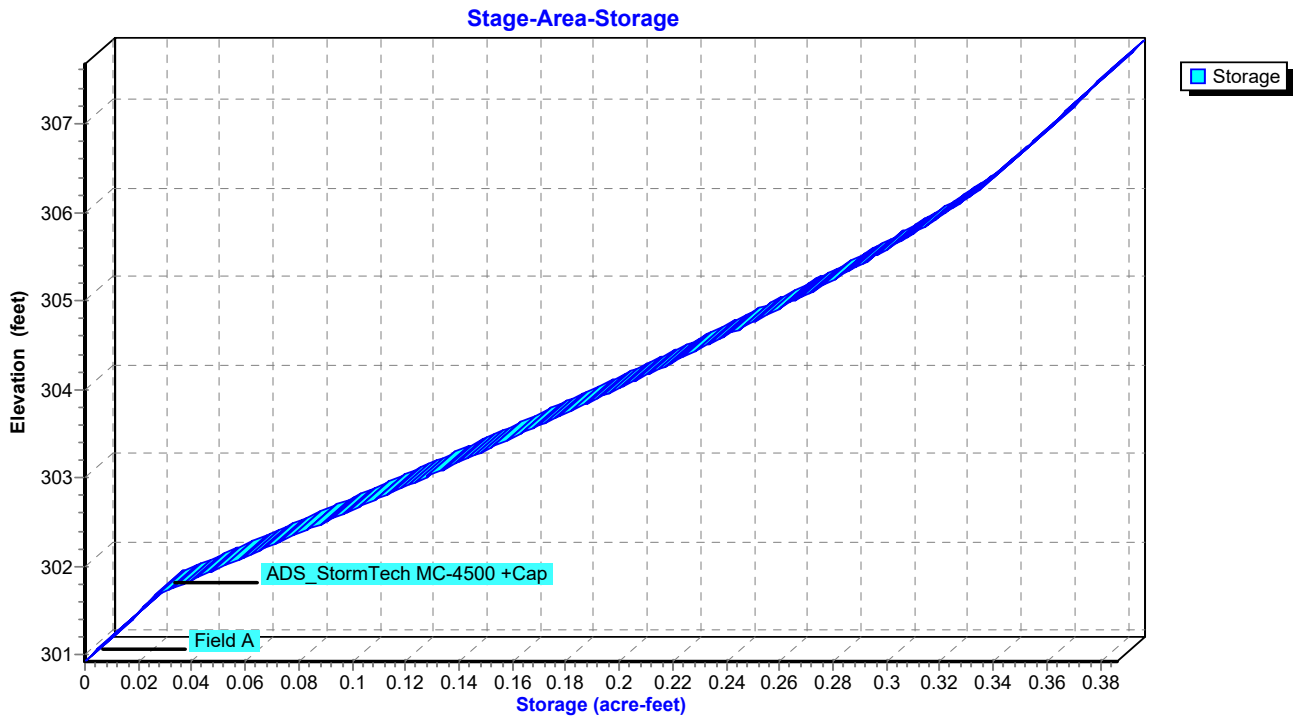
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Type III 24-hr 25-Year Rainfall=6.50"

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Pond DET1: MC-4500 StormTech DETENTION ONLY



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Pond DET1: MC-4500 StormTech DETENTION ONLY

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	300.93	0.00
0.20	0.00	0.000	300.93	0.00
0.40	0.00	0.000	300.93	0.00
0.60	0.00	0.000	300.93	0.00
0.80	0.00	0.000	300.93	0.00
1.00	0.00	0.000	300.93	0.00
1.20	0.00	0.000	300.93	0.00
1.40	0.00	0.000	300.93	0.00
1.60	0.00	0.000	300.93	0.00
1.80	0.00	0.000	300.93	0.00
2.00	0.00	0.000	300.93	0.00
2.20	0.00	0.000	300.93	0.00
2.40	0.00	0.000	300.93	0.00
2.60	0.00	0.000	300.93	0.00
2.80	0.00	0.000	300.93	0.00
3.00	0.00	0.000	300.93	0.00
3.20	0.00	0.000	300.93	0.00
3.40	0.00	0.000	300.93	0.00
3.60	0.00	0.000	300.93	0.00
3.80	0.00	0.000	300.93	0.00
4.00	0.00	0.000	300.93	0.00
4.20	0.00	0.000	300.93	0.00
4.40	0.00	0.000	300.93	0.00
4.60	0.00	0.000	300.93	0.00
4.80	0.00	0.000	300.93	0.00
5.00	0.00	0.000	300.93	0.00
5.20	0.00	0.000	300.93	0.00
5.40	0.00	0.000	300.93	0.00
5.60	0.00	0.000	300.93	0.00
5.80	0.00	0.000	300.93	0.00
6.00	0.00	0.000	300.93	0.00
6.20	0.00	0.000	300.93	0.00
6.40	0.00	0.000	300.93	0.00
6.60	0.00	0.000	300.93	0.00
6.80	0.00	0.000	300.93	0.00
7.00	0.00	0.000	300.93	0.00
7.20	0.02	0.000	300.93	0.00
7.40	0.03	0.001	300.95	0.00
7.60	0.05	0.001	300.96	0.01
7.80	0.07	0.002	300.99	0.01
8.00	0.09	0.003	301.02	0.02
8.20	0.13	0.005	301.06	0.04
8.40	0.18	0.006	301.10	0.07
8.60	0.22	0.008	301.16	0.10
8.80	0.27	0.010	301.22	0.14
9.00	0.32	0.012	301.28	0.18
9.20	0.37	0.015	301.35	0.21
9.40	0.43	0.018	301.43	0.24
9.60	0.48	0.021	301.52	0.27
9.80	0.53	0.025	301.62	0.30
10.00	0.58	0.029	301.70	0.33
10.20	0.66	0.033	301.76	0.34
10.40	0.77	0.039	301.84	0.36

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Pond DET1: MC-4500 StormTech DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
10.60	0.88	0.047	301.94	0.39
10.80	0.99	0.056	302.05	0.41
11.00	1.10	0.066	302.19	0.44
11.20	1.38	0.078	302.35	0.47
11.40	1.80	0.096	302.59	0.51
11.60	2.63	0.122	302.93	0.57
11.80	6.57	0.186	303.82	0.69
12.00	14.22	0.309	305.74	7.10
12.20	12.43	0.335	306.28	14.98
12.40	6.30	0.310	305.77	7.41
12.60	2.49	0.291	305.43	3.56
12.80	1.80	0.281	305.26	2.12
13.00	1.37	0.276	305.18	1.61
13.20	1.11	0.273	305.12	1.27
13.40	1.00	0.271	305.09	1.11
13.60	0.89	0.269	305.06	1.00
13.80	0.78	0.267	305.03	0.90
14.00	0.68	0.265	305.00	0.83
14.20	0.60	0.262	304.95	0.82
14.40	0.55	0.258	304.88	0.82
14.60	0.50	0.253	304.81	0.81
14.80	0.45	0.247	304.72	0.80
15.00	0.40	0.241	304.63	0.79
15.20	0.35	0.234	304.53	0.78
15.40	0.30	0.227	304.41	0.77
15.60	0.25	0.219	304.30	0.75
15.80	0.20	0.210	304.17	0.74
16.00	0.15	0.201	304.04	0.72
16.20	0.12	0.192	303.90	0.70
16.40	0.10	0.182	303.76	0.69
16.60	0.08	0.172	303.63	0.67
16.80	0.06	0.163	303.49	0.65
17.00	0.04	0.153	303.35	0.63
17.20	0.02	0.143	303.22	0.61
17.40	0.01	0.133	303.09	0.59
17.60	0.00	0.124	302.96	0.57
17.80	0.00	0.114	302.83	0.55
18.00	0.00	0.105	302.71	0.53
18.20	0.00	0.097	302.60	0.51
18.40	0.00	0.088	302.49	0.50
18.60	0.00	0.080	302.38	0.48
18.80	0.00	0.073	302.28	0.46
19.00	0.00	0.065	302.18	0.44
19.20	0.00	0.058	302.09	0.42
19.40	0.00	0.051	302.00	0.40
19.60	0.00	0.045	301.92	0.38
19.80	0.00	0.039	301.84	0.36
20.00	0.00	0.033	301.76	0.34
20.20	0.00	0.028	301.69	0.32
20.40	0.00	0.022	301.56	0.29
20.60	0.00	0.018	301.44	0.24
20.80	0.00	0.014	301.33	0.20
21.00	0.00	0.011	301.25	0.16

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Pond DET1: MC-4500 StormTech DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
21.20	0.00	0.009	301.18	0.12
21.40	0.00	0.007	301.13	0.09
21.60	0.00	0.006	301.10	0.06
21.80	0.00	0.005	301.07	0.05
22.00	0.00	0.004	301.06	0.04
22.20	0.00	0.004	301.04	0.03
22.40	0.00	0.003	301.03	0.02
22.60	0.00	0.003	301.02	0.02
22.80	0.00	0.003	301.01	0.02
23.00	0.00	0.003	301.00	0.01
23.20	0.00	0.002	301.00	0.01
23.40	0.00	0.002	300.99	0.01
23.60	0.00	0.002	300.99	0.01
23.80	0.00	0.002	300.98	0.01
24.00	0.00	0.002	300.98	0.01

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Type III 24-hr 25-Year Rainfall=6.50"

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Stage-Discharge for Pond DET1: MC-4500 StormTech DETENTION ONLY

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
300.93	0.00	306.23	14.09
301.03	0.02	306.33	15.73
301.13	0.08	306.43	17.44
301.23	0.15	306.53	19.15
301.33	0.20	306.63	20.58
301.43	0.24	306.73	21.85
301.53	0.28	306.83	23.02
301.63	0.31	306.93	24.12
301.73	0.33	307.03	25.16
301.83	0.36	307.13	26.15
301.93	0.38	307.23	27.23
302.03	0.41	307.33	28.67
302.13	0.43	307.43	30.31
302.23	0.45	307.53	32.15
302.33	0.47	307.63	34.15
302.43	0.49		
302.53	0.50		
302.63	0.52		
302.73	0.54		
302.83	0.55		
302.93	0.57		
303.03	0.58		
303.13	0.60		
303.23	0.61		
303.33	0.63		
303.43	0.64		
303.53	0.66		
303.63	0.67		
303.73	0.68		
303.83	0.69		
303.93	0.71		
304.03	0.72		
304.13	0.73		
304.23	0.74		
304.33	0.76		
304.43	0.77		
304.53	0.78		
304.63	0.79		
304.73	0.80		
304.83	0.81		
304.93	0.82		
305.03	0.88		
305.13	1.30		
305.23	1.92		
305.33	2.69		
305.43	3.59		
305.53	4.60		
305.63	5.71		
305.73	6.91		
305.83	8.20		
305.93	9.56		
306.03	11.00		
306.13	12.51		

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Type III 24-hr 25-Year Rainfall=6.50"

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Stage-Area-Storage for Pond DET1: MC-4500 StormTech DETENTION ONLY

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
300.93	0.000	306.23	0.333
301.03	0.004	306.33	0.337
301.13	0.007	306.43	0.341
301.23	0.011	306.53	0.345
301.33	0.014	306.63	0.349
301.43	0.018	306.73	0.352
301.53	0.021	306.83	0.356
301.63	0.025	306.93	0.360
301.73	0.031	307.03	0.363
301.83	0.038	307.13	0.367
301.93	0.046	307.23	0.370
302.03	0.054	307.33	0.374
302.13	0.061	307.43	0.377
302.23	0.069	307.53	0.381
302.33	0.077	307.63	0.385
302.43	0.084		
302.53	0.092		
302.63	0.099		
302.73	0.107		
302.83	0.114		
302.93	0.122		
303.03	0.129		
303.13	0.136		
303.23	0.144		
303.33	0.151		
303.43	0.158		
303.53	0.165		
303.63	0.173		
303.73	0.180		
303.83	0.187		
303.93	0.194		
304.03	0.201		
304.13	0.208		
304.23	0.215		
304.33	0.221		
304.43	0.228		
304.53	0.235		
304.63	0.241		
304.73	0.248		
304.83	0.254		
304.93	0.261		
305.03	0.267		
305.13	0.273		
305.23	0.279		
305.33	0.285		
305.43	0.291		
305.53	0.297		
305.63	0.303		
305.73	0.308		
305.83	0.314		
305.93	0.319		
306.03	0.324		
306.13	0.329		

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Type III 24-hr 25-Year Rainfall=6.50"

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Summary for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Inflow Area = 3.310 ac, 49.64% Impervious, Inflow Depth > 4.15" for 25-Year event
 Inflow = 15.23 cfs @ 12.09 hrs, Volume= 1.144 af
 Outflow = 5.67 cfs @ 12.38 hrs, Volume= 1.129 af, Atten= 63%, Lag= 17.4 min
 Primary = 5.67 cfs @ 12.38 hrs, Volume= 1.129 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Peak Elev= 299.20' @ 12.38 hrs Surf.Area= 6,177 sf Storage= 16,050 cf

Plug-Flow detention time= 77.8 min calculated for 1.129 af (99% of inflow)
 Center-of-Mass det. time= 70.0 min (879.7 - 809.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	295.50'	8,615 cf	29.92'W x 206.46'L x 5.50'H Field A 33,971 cf Overall - 12,434 cf Embedded = 21,537 cf x 40.0% Voids
#2A	296.25'	12,434 cf	ADS_StormTech MC-3500 d +Cap x 112 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 112 Chambers in 4 Rows Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf
		21,049 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	295.50'	6.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#2	Primary	298.00'	12.0" W x 12.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	300.50'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=5.67 cfs @ 12.38 hrs HW=299.20' (Free Discharge)

- 1=Underdrain (Orifice Controls 1.75 cfs @ 8.94 fps)
- 2=Orifice/Grate (Orifice Controls 3.92 cfs @ 3.92 fps)
- 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Type III 24-hr 25-Year Rainfall=6.50"

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Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)

Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf

Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap

Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

28 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 204.46' Row Length +12.0" End Stone x 2 = 206.46' Base Length

4 Rows x 77.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 29.92' Base Width

9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

112 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 4 Rows = 12,433.8 cf Chamber Storage

33,971.3 cf Field - 12,433.8 cf Chambers = 21,537.5 cf Stone x 40.0% Voids = 8,615.0 cf Stone Storage

Chamber Storage + Stone Storage = 21,048.8 cf = 0.483 af

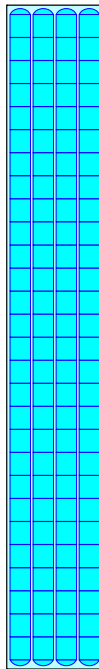
Overall Storage Efficiency = 62.0%

Overall System Size = 206.46' x 29.92' x 5.50'

112 Chambers

1,258.2 cy Field

797.7 cy Stone



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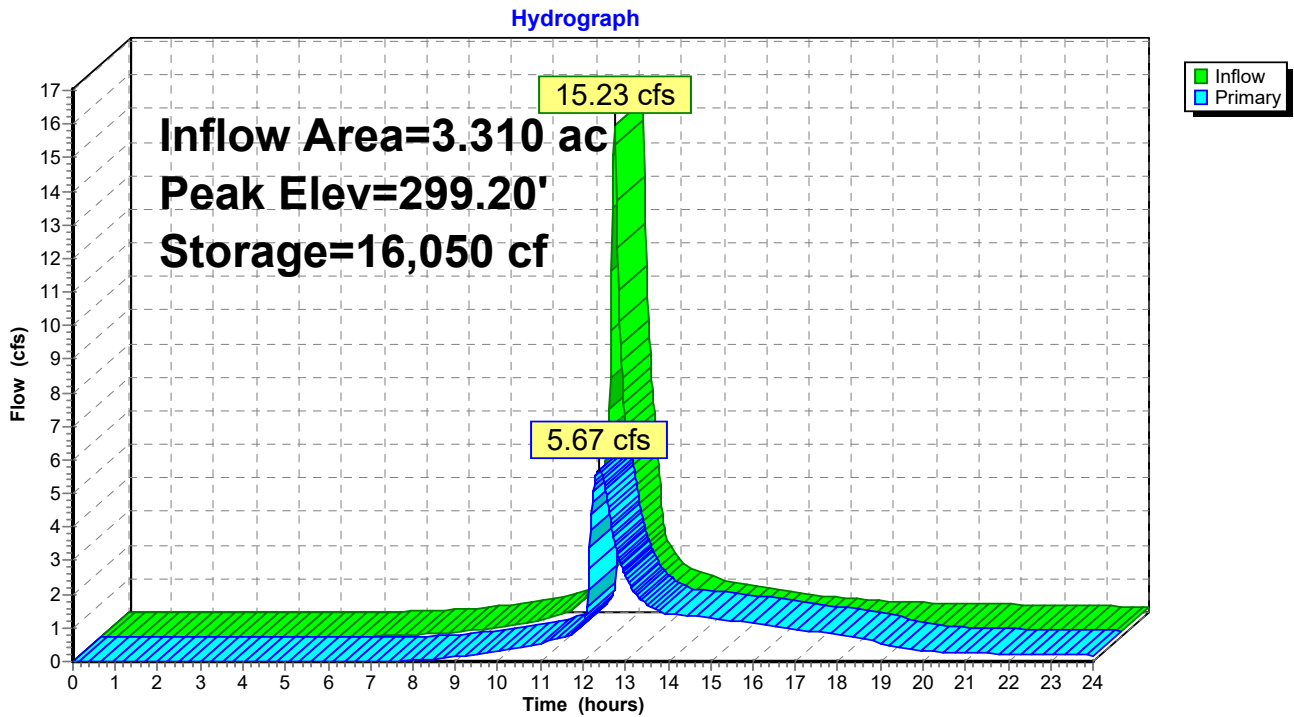
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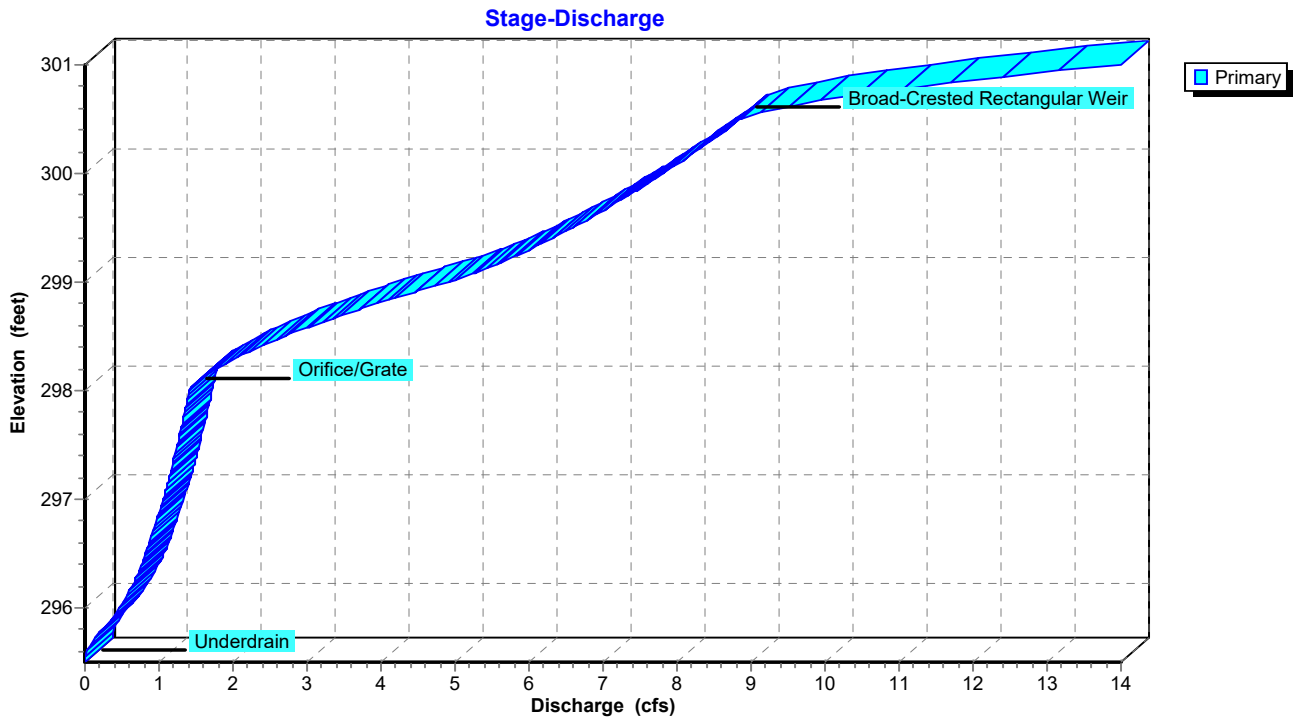
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Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY



Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY



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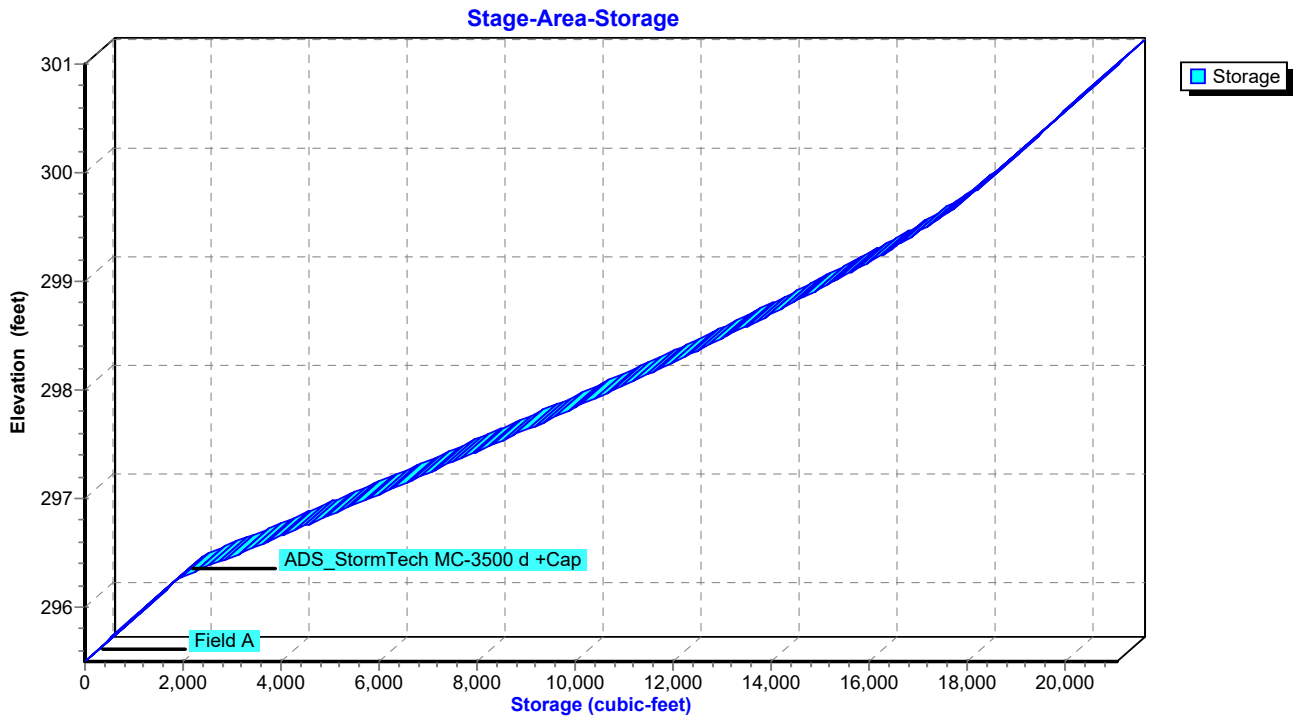
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Type III 24-hr 25-Year Rainfall=6.50"

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Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	295.50	0.00
0.20	0.00	0	295.50	0.00
0.40	0.00	0	295.50	0.00
0.60	0.00	0	295.50	0.00
0.80	0.00	0	295.50	0.00
1.00	0.00	0	295.50	0.00
1.20	0.00	0	295.50	0.00
1.40	0.00	0	295.50	0.00
1.60	0.00	0	295.50	0.00
1.80	0.00	0	295.50	0.00
2.00	0.00	0	295.50	0.00
2.20	0.00	0	295.50	0.00
2.40	0.00	0	295.50	0.00
2.60	0.00	0	295.50	0.00
2.80	0.00	0	295.50	0.00
3.00	0.00	0	295.50	0.00
3.20	0.00	0	295.50	0.00
3.40	0.00	0	295.50	0.00
3.60	0.00	0	295.50	0.00
3.80	0.00	0	295.50	0.00
4.00	0.00	0	295.50	0.00
4.20	0.00	0	295.50	0.00
4.40	0.00	0	295.50	0.00
4.60	0.00	0	295.50	0.00
4.80	0.00	0	295.50	0.00
5.00	0.00	0	295.50	0.00
5.20	0.00	0	295.50	0.00
5.40	0.00	0	295.50	0.00
5.60	0.00	0	295.50	0.00
5.80	0.00	0	295.50	0.00
6.00	0.01	2	295.50	0.00
6.20	0.01	7	295.50	0.00
6.40	0.02	17	295.51	0.00
6.60	0.03	32	295.51	0.00
6.80	0.03	51	295.52	0.00
7.00	0.04	76	295.53	0.01
7.20	0.05	106	295.54	0.01
7.40	0.07	143	295.56	0.01
7.60	0.08	183	295.57	0.02
7.80	0.09	227	295.59	0.03
8.00	0.10	273	295.61	0.04
8.20	0.12	322	295.63	0.05
8.40	0.14	374	295.65	0.07
8.60	0.17	431	295.67	0.09
8.80	0.19	490	295.70	0.11
9.00	0.22	551	295.72	0.14
9.20	0.26	614	295.75	0.17
9.40	0.29	679	295.77	0.20
9.60	0.32	745	295.80	0.23
9.80	0.36	812	295.83	0.27
10.00	0.40	880	295.86	0.30
10.20	0.45	953	295.89	0.34
10.40	0.52	1,040	295.92	0.39

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
10.60	0.60	1,144	295.96	0.44
10.80	0.68	1,270	296.01	0.49
11.00	0.76	1,420	296.07	0.54
11.20	0.94	1,612	296.15	0.60
11.40	1.20	1,920	296.26	0.68
11.60	1.70	2,401	296.35	0.73
11.80	4.05	3,837	296.62	0.88
12.00	9.14	7,254	297.29	1.17
12.20	9.41	14,800	298.89	4.36
12.40	5.33	16,036	299.19	5.66
12.60	2.50	14,993	298.93	4.58
12.80	1.87	13,743	298.64	3.26
13.00	1.52	12,897	298.45	2.53
13.20	1.31	12,254	298.31	2.07
13.40	1.22	11,781	298.21	1.79
13.60	1.14	11,408	298.13	1.61
13.80	1.05	11,081	298.06	1.49
14.00	0.96	10,763	298.00	1.42
14.20	0.90	10,418	297.92	1.39
14.40	0.86	10,055	297.85	1.37
14.60	0.82	9,680	297.77	1.34
14.80	0.77	9,293	297.69	1.32
15.00	0.73	8,896	297.61	1.29
15.20	0.69	8,489	297.53	1.26
15.40	0.65	8,072	297.45	1.23
15.60	0.60	7,647	297.36	1.20
15.80	0.56	7,213	297.28	1.17
16.00	0.52	6,772	297.19	1.13
16.20	0.49	6,328	297.10	1.10
16.40	0.47	5,892	297.02	1.07
16.60	0.45	5,468	296.94	1.03
16.80	0.43	5,055	296.86	1.00
17.00	0.41	4,655	296.78	0.96
17.20	0.39	4,266	296.71	0.92
17.40	0.37	3,889	296.63	0.89
17.60	0.36	3,524	296.57	0.85
17.80	0.34	3,171	296.50	0.82
18.00	0.32	2,831	296.43	0.78
18.20	0.31	2,504	296.37	0.75
18.40	0.30	2,197	296.31	0.71
18.60	0.29	1,912	296.26	0.68
18.80	0.29	1,655	296.17	0.61
19.00	0.28	1,444	296.08	0.55
19.20	0.28	1,273	296.02	0.49
19.40	0.27	1,139	295.96	0.43
19.60	0.27	1,036	295.92	0.39
19.80	0.26	961	295.89	0.35
20.00	0.25	907	295.87	0.32
20.20	0.25	867	295.85	0.30
20.40	0.24	837	295.84	0.28
20.60	0.24	814	295.83	0.27
20.80	0.24	796	295.82	0.26
21.00	0.23	781	295.82	0.25

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Hydrograph for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
21.20	0.23	769	295.81	0.24
21.40	0.22	757	295.81	0.24
21.60	0.22	747	295.80	0.23
21.80	0.22	737	295.80	0.23
22.00	0.21	728	295.79	0.22
22.20	0.21	719	295.79	0.22
22.40	0.20	711	295.79	0.21
22.60	0.20	702	295.78	0.21
22.80	0.19	694	295.78	0.21
23.00	0.19	686	295.78	0.20
23.20	0.18	677	295.77	0.20
23.40	0.18	669	295.77	0.19
23.60	0.18	660	295.77	0.19
23.80	0.17	651	295.76	0.18
24.00	0.17	642	295.76	0.18

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Stage-Discharge for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
295.50	0.00	300.80	11.29
295.60	0.03	300.90	12.55
295.70	0.11	301.00	14.01
295.80	0.23		
295.90	0.36		
296.00	0.47		
296.10	0.56		
296.20	0.63		
296.30	0.70		
296.40	0.76		
296.50	0.82		
296.60	0.87		
296.70	0.92		
296.80	0.97		
296.90	1.01		
297.00	1.06		
297.10	1.10		
297.20	1.14		
297.30	1.18		
297.40	1.21		
297.50	1.25		
297.60	1.29		
297.70	1.32		
297.80	1.35		
297.90	1.39		
298.00	1.42		
298.10	1.55		
298.20	1.77		
298.30	2.04		
298.40	2.35		
298.50	2.70		
298.60	3.09		
298.70	3.50		
298.80	3.95		
298.90	4.42		
299.00	4.91		
299.10	5.33		
299.20	5.69		
299.30	6.01		
299.40	6.31		
299.50	6.59		
299.60	6.86		
299.70	7.11		
299.80	7.36		
299.90	7.59		
300.00	7.82		
300.10	8.04		
300.20	8.25		
300.30	8.46		
300.40	8.66		
300.50	8.85		
300.60	9.40		
300.70	10.23		

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Stage-Area-Storage for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
295.50	0	300.80	20,555
295.60	247	300.90	20,802
295.70	494	301.00	21,049
295.80	741		
295.90	988		
296.00	1,235		
296.10	1,482		
296.20	1,729		
296.30	2,119		
296.40	2,650		
296.50	3,179		
296.60	3,706		
296.70	4,230		
296.80	4,752		
296.90	5,272		
297.00	5,790		
297.10	6,305		
297.20	6,817		
297.30	7,326		
297.40	7,831		
297.50	8,334		
297.60	8,833		
297.70	9,327		
297.80	9,818		
297.90	10,304		
298.00	10,786		
298.10	11,262		
298.20	11,734		
298.30	12,200		
298.40	12,660		
298.50	13,113		
298.60	13,560		
298.70	13,999		
298.80	14,431		
298.90	14,854		
299.00	15,268		
299.10	15,672		
299.20	16,065		
299.30	16,445		
299.40	16,811		
299.50	17,161		
299.60	17,486		
299.70	17,784		
299.80	18,060		
299.90	18,325		
300.00	18,578		
300.10	18,825		
300.20	19,072		
300.30	19,319		
300.40	19,566		
300.50	19,813		
300.60	20,061		
300.70	20,308		

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Summary for Pond INF: MC-3500 StormTech INFILTRATION

Inflow Area = 5.228 ac, 94.30% Impervious, Inflow Depth > 6.02" for 25-Year event
 Inflow = 32.94 cfs @ 12.08 hrs, Volume= 2.623 af
 Outflow = 5.29 cfs @ 12.55 hrs, Volume= 2.622 af, Atten= 84%, Lag= 28.2 min
 Discarded = 2.39 cfs @ 12.55 hrs, Volume= 2.292 af
 Primary = 2.90 cfs @ 12.55 hrs, Volume= 0.330 af
 Routed to Link N : POI North

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Peak Elev= 310.63' @ 12.55 hrs Surf.Area= 0.374 ac Storage= 0.932 af

Plug-Flow detention time= 99.4 min calculated for 2.620 af (100% of inflow)
 Center-of-Mass det. time= 99.0 min (855.0 - 756.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	307.14'	0.514 af	58.58'W x 278.16'L x 5.50'H Field A 2.058 af Overall - 0.773 af Embedded = 1.285 af x 40.0% Voids
#2A	307.89'	0.773 af	ADS_StormTech MC-3500 d +Cap x 304 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 304 Chambers in 8 Rows Cap Storage= 14.9 cf x 2 x 8 rows = 238.4 cf
		1.287 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	307.14'	5.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 294.00'
#2	Primary	309.64'	24.0" W x 4.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	312.14'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=2.39 cfs @ 12.55 hrs HW=310.63' (Free Discharge)
 ↑1=Exfiltration (Controls 2.39 cfs)

Primary OutFlow Max=2.90 cfs @ 12.55 hrs HW=310.63' (Free Discharge)
 ↑2=Orifice/Grate (Orifice Controls 2.90 cfs @ 4.35 fps)
 ↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Type III 24-hr 25-Year Rainfall=6.50"

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Pond INF: MC-3500 StormTech INFILTRATION - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)

Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf

Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap

Cap Storage= 14.9 cf x 2 x 8 rows = 238.4 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

38 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 276.16' Row Length +12.0" End Stone x 2 = 278.16' Base Length

8 Rows x 77.0" Wide + 9.0" Spacing x 7 + 12.0" Side Stone x 2 = 58.58' Base Width

9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

304 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 8 Rows = 33,663.8 cf Chamber Storage

89,625.5 cf Field - 33,663.8 cf Chambers = 55,961.7 cf Stone x 40.0% Voids = 22,384.7 cf Stone Storage

Chamber Storage + Stone Storage = 56,048.5 cf = 1.287 af

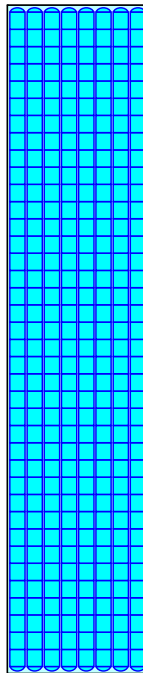
Overall Storage Efficiency = 62.5%

Overall System Size = 278.16' x 58.58' x 5.50'

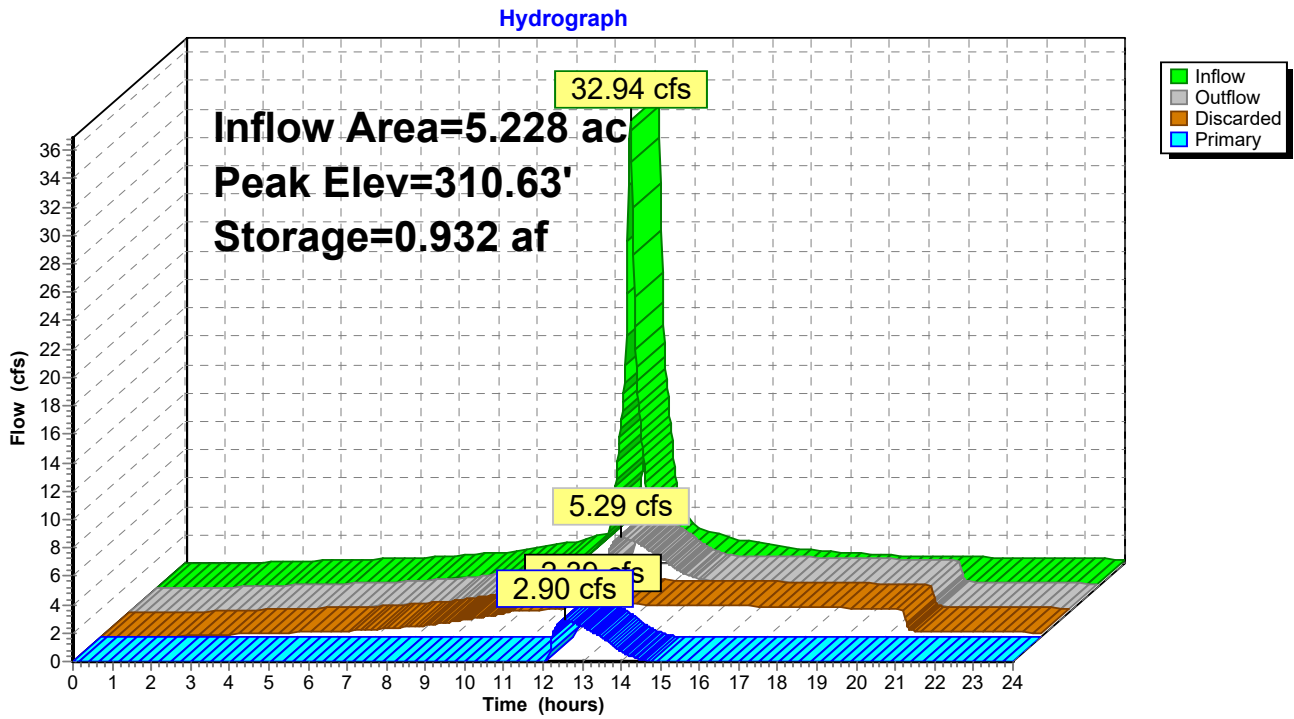
304 Chambers

3,319.5 cy Field

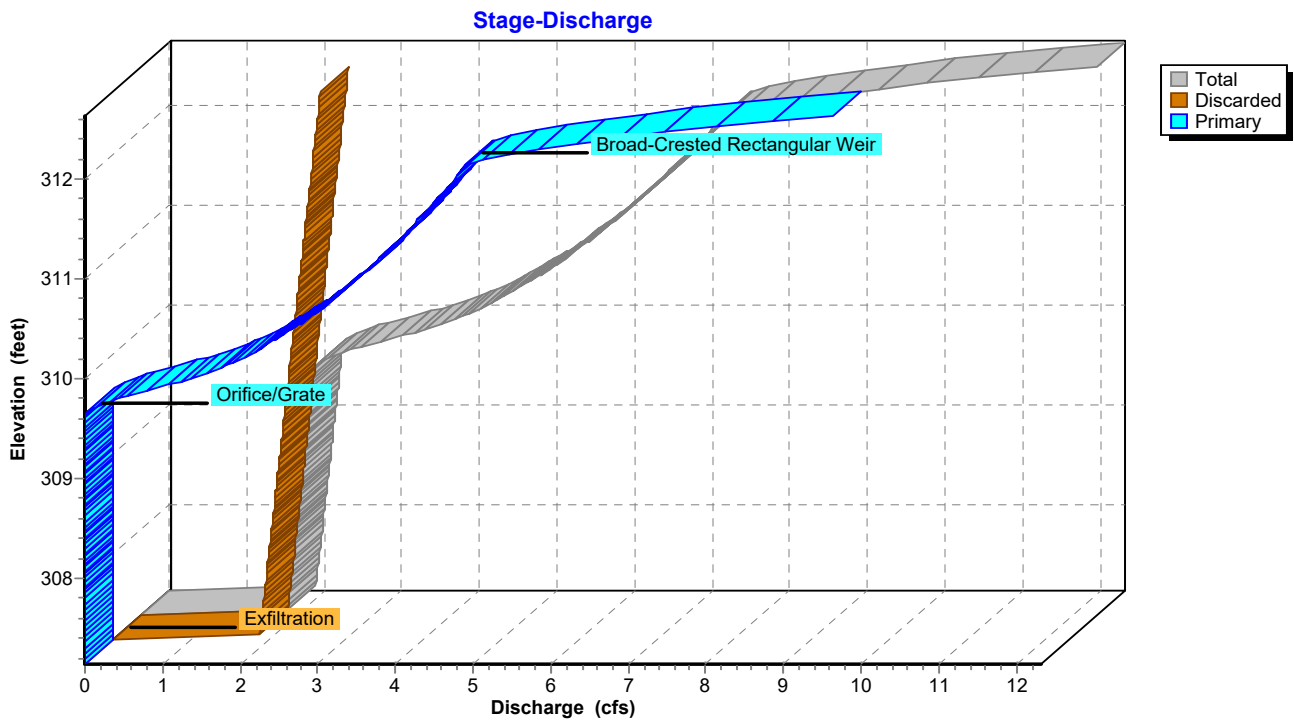
2,072.7 cy Stone



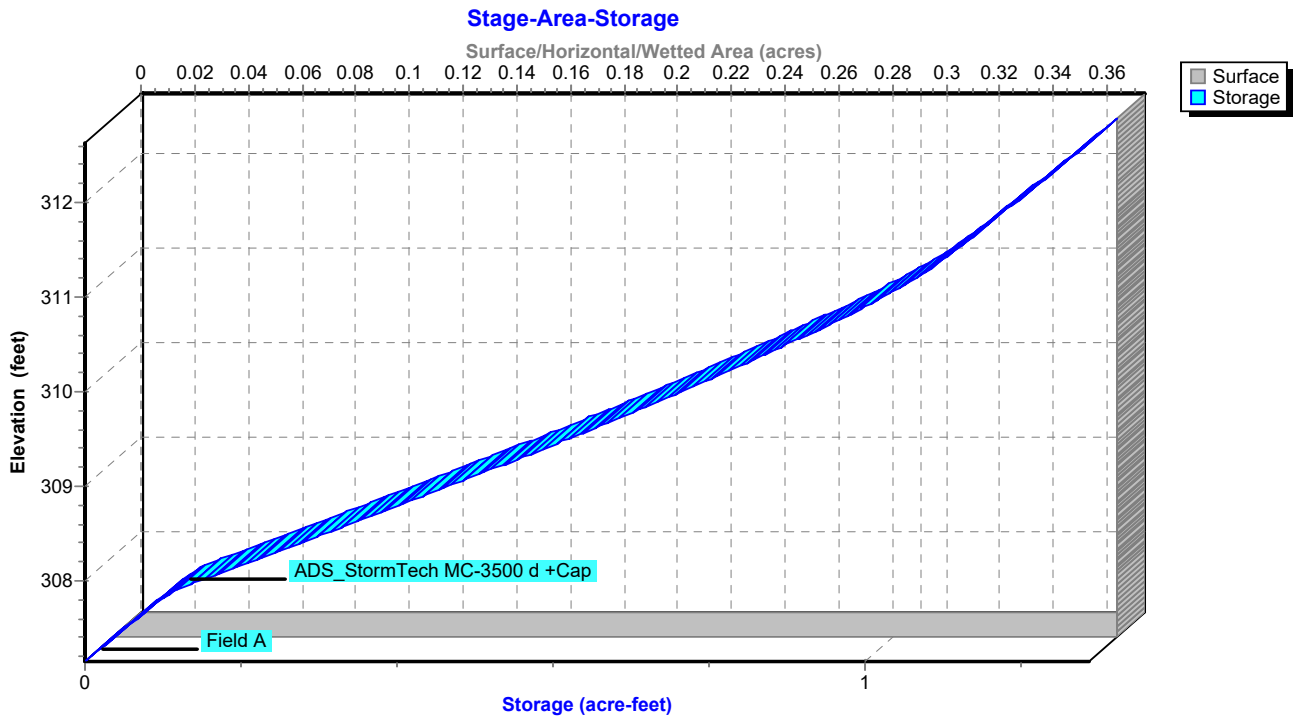
Pond INF: MC-3500 StormTech INFILTRATION



Pond INF: MC-3500 StormTech INFILTRATION



Pond INF: MC-3500 StormTech INFILTRATION



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Hydrograph for Pond INF: MC-3500 StormTech INFILTRATION

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0.000	307.14	0.00	0.00	0.00
0.20	0.00	0.000	307.14	0.00	0.00	0.00
0.40	0.00	0.000	307.14	0.00	0.00	0.00
0.60	0.00	0.000	307.14	0.00	0.00	0.00
0.80	0.00	0.000	307.14	0.00	0.00	0.00
1.00	0.00	0.000	307.14	0.00	0.00	0.00
1.20	0.00	0.000	307.14	0.00	0.00	0.00
1.40	0.00	0.000	307.14	0.00	0.00	0.00
1.60	0.02	0.000	307.14	0.02	0.02	0.00
1.80	0.04	0.000	307.14	0.04	0.04	0.00
2.00	0.06	0.000	307.14	0.05	0.05	0.00
2.20	0.07	0.000	307.14	0.07	0.07	0.00
2.40	0.09	0.000	307.14	0.09	0.09	0.00
2.60	0.11	0.000	307.14	0.11	0.11	0.00
2.80	0.13	0.001	307.14	0.12	0.12	0.00
3.00	0.15	0.001	307.14	0.14	0.14	0.00
3.20	0.16	0.001	307.14	0.16	0.16	0.00
3.40	0.18	0.001	307.15	0.18	0.18	0.00
3.60	0.20	0.001	307.15	0.19	0.19	0.00
3.80	0.21	0.001	307.15	0.21	0.21	0.00
4.00	0.23	0.001	307.15	0.23	0.23	0.00
4.20	0.25	0.001	307.15	0.24	0.24	0.00
4.40	0.27	0.001	307.15	0.26	0.26	0.00
4.60	0.28	0.001	307.15	0.28	0.28	0.00
4.80	0.30	0.001	307.15	0.29	0.29	0.00
5.00	0.31	0.001	307.15	0.31	0.31	0.00
5.20	0.33	0.001	307.15	0.33	0.33	0.00
5.40	0.35	0.001	307.15	0.34	0.34	0.00
5.60	0.36	0.002	307.15	0.36	0.36	0.00
5.80	0.38	0.002	307.15	0.37	0.37	0.00
6.00	0.39	0.002	307.15	0.39	0.39	0.00
6.20	0.42	0.002	307.15	0.41	0.41	0.00
6.40	0.45	0.002	307.15	0.44	0.44	0.00
6.60	0.49	0.002	307.15	0.48	0.48	0.00
6.80	0.52	0.002	307.15	0.51	0.51	0.00
7.00	0.56	0.002	307.16	0.55	0.55	0.00
7.20	0.59	0.003	307.16	0.58	0.58	0.00
7.40	0.63	0.003	307.16	0.62	0.62	0.00
7.60	0.67	0.003	307.16	0.66	0.66	0.00
7.80	0.70	0.003	307.16	0.69	0.69	0.00
8.00	0.74	0.003	307.16	0.73	0.73	0.00
8.20	0.80	0.003	307.16	0.78	0.78	0.00
8.40	0.87	0.004	307.16	0.85	0.85	0.00
8.60	0.95	0.004	307.17	0.93	0.93	0.00
8.80	1.03	0.004	307.17	1.01	1.01	0.00
9.00	1.11	0.005	307.17	1.09	1.09	0.00
9.20	1.19	0.005	307.17	1.17	1.17	0.00
9.40	1.27	0.005	307.18	1.25	1.25	0.00
9.60	1.36	0.006	307.18	1.33	1.33	0.00
9.80	1.44	0.006	307.18	1.42	1.42	0.00
10.00	1.52	0.007	307.18	1.50	1.50	0.00
10.20	1.65	0.007	307.19	1.61	1.61	0.00
10.40	1.81	0.008	307.19	1.77	1.77	0.00

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Hydrograph for Pond INF: MC-3500 StormTech INFILTRATION (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
10.60	1.98	0.008	307.20	1.89	1.89	0.00
10.80	2.14	0.011	307.21	1.90	1.90	0.00
11.00	2.31	0.017	307.25	1.90	1.90	0.00
11.20	2.72	0.026	307.31	1.91	1.91	0.00
11.40	3.34	0.044	307.44	1.93	1.93	0.00
11.60	4.52	0.074	307.63	1.96	1.96	0.00
11.80	10.06	0.159	308.03	2.01	2.01	0.00
12.00	20.75	0.350	308.63	2.10	2.10	0.00
12.20	18.35	0.757	309.98	3.54	2.29	1.24
12.40	9.82	0.903	310.51	5.06	2.37	2.69
12.60	4.40	0.930	310.62	5.27	2.39	2.89
12.80	3.40	0.907	310.53	5.09	2.37	2.72
13.00	2.78	0.876	310.41	4.84	2.36	2.48
13.20	2.40	0.840	310.28	4.52	2.34	2.19
13.40	2.24	0.807	310.15	4.19	2.32	1.87
13.60	2.07	0.776	310.04	3.82	2.30	1.52
13.80	1.91	0.749	309.95	3.38	2.29	1.09
14.00	1.75	0.727	309.87	2.99	2.28	0.71
14.20	1.63	0.708	309.80	2.69	2.27	0.42
14.40	1.55	0.692	309.75	2.49	2.26	0.23
14.60	1.47	0.677	309.70	2.34	2.25	0.09
14.80	1.39	0.663	309.65	2.25	2.25	0.01
15.00	1.32	0.648	309.60	2.24	2.24	0.00
15.20	1.24	0.632	309.54	2.23	2.23	0.00
15.40	1.16	0.615	309.49	2.22	2.22	0.00
15.60	1.08	0.597	309.43	2.21	2.21	0.00
15.80	1.00	0.577	309.36	2.20	2.20	0.00
16.00	0.92	0.557	309.29	2.20	2.20	0.00
16.20	0.87	0.536	309.22	2.19	2.19	0.00
16.40	0.83	0.514	309.15	2.17	2.17	0.00
16.60	0.80	0.491	309.08	2.16	2.16	0.00
16.80	0.77	0.469	309.01	2.15	2.15	0.00
17.00	0.73	0.445	308.93	2.14	2.14	0.00
17.20	0.70	0.422	308.86	2.13	2.13	0.00
17.40	0.66	0.398	308.78	2.12	2.12	0.00
17.60	0.63	0.374	308.70	2.11	2.11	0.00
17.80	0.60	0.349	308.62	2.10	2.10	0.00
18.00	0.56	0.324	308.55	2.09	2.09	0.00
18.20	0.54	0.299	308.47	2.08	2.08	0.00
18.40	0.53	0.273	308.39	2.07	2.07	0.00
18.60	0.52	0.248	308.31	2.05	2.05	0.00
18.80	0.51	0.223	308.23	2.04	2.04	0.00
19.00	0.50	0.197	308.15	2.03	2.03	0.00
19.20	0.49	0.172	308.07	2.02	2.02	0.00
19.40	0.48	0.147	308.00	2.01	2.01	0.00
19.60	0.47	0.121	307.92	2.00	2.00	0.00
19.80	0.46	0.096	307.78	1.98	1.98	0.00
20.00	0.45	0.071	307.62	1.95	1.95	0.00
20.20	0.44	0.046	307.45	1.93	1.93	0.00
20.40	0.43	0.022	307.29	1.91	1.91	0.00
20.60	0.42	0.003	307.16	0.70	0.70	0.00
20.80	0.42	0.002	307.15	0.42	0.42	0.00
21.00	0.41	0.002	307.15	0.41	0.41	0.00

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Hydrograph for Pond INF: MC-3500 StormTech INFILTRATION (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
21.20	0.40	0.002	307.15	0.40	0.40	0.00
21.40	0.39	0.002	307.15	0.40	0.40	0.00
21.60	0.39	0.002	307.15	0.39	0.39	0.00
21.80	0.38	0.002	307.15	0.38	0.38	0.00
22.00	0.37	0.002	307.15	0.37	0.37	0.00
22.20	0.36	0.002	307.15	0.36	0.36	0.00
22.40	0.36	0.002	307.15	0.36	0.36	0.00
22.60	0.35	0.002	307.15	0.35	0.35	0.00
22.80	0.34	0.001	307.15	0.34	0.34	0.00
23.00	0.33	0.001	307.15	0.33	0.33	0.00
23.20	0.32	0.001	307.15	0.33	0.33	0.00
23.40	0.32	0.001	307.15	0.32	0.32	0.00
23.60	0.31	0.001	307.15	0.31	0.31	0.00
23.80	0.30	0.001	307.15	0.30	0.30	0.00
24.00	0.29	0.001	307.15	0.30	0.30	0.00

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Stage-Discharge for Pond INF: MC-3500 StormTech INFILTRATION

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
307.14	0.00	0.00	0.00	312.44	9.73	2.65	7.09
307.24	1.90	1.90	0.00	312.54	10.92	2.66	8.26
307.34	1.91	1.91	0.00	312.64	12.32	2.68	9.65
307.44	1.93	1.93	0.00				
307.54	1.94	1.94	0.00				
307.64	1.96	1.96	0.00				
307.74	1.97	1.97	0.00				
307.84	1.99	1.99	0.00				
307.94	2.00	2.00	0.00				
308.04	2.02	2.02	0.00				
308.14	2.03	2.03	0.00				
308.24	2.04	2.04	0.00				
308.34	2.06	2.06	0.00				
308.44	2.07	2.07	0.00				
308.54	2.09	2.09	0.00				
308.64	2.10	2.10	0.00				
308.74	2.12	2.12	0.00				
308.84	2.13	2.13	0.00				
308.94	2.14	2.14	0.00				
309.04	2.16	2.16	0.00				
309.14	2.17	2.17	0.00				
309.24	2.19	2.19	0.00				
309.34	2.20	2.20	0.00				
309.44	2.22	2.22	0.00				
309.54	2.23	2.23	0.00				
309.64	2.24	2.24	0.00				
309.74	2.46	2.26	0.20				
309.84	2.85	2.27	0.57				
309.94	3.34	2.29	1.05				
310.04	3.82	2.30	1.51				
310.14	4.15	2.32	1.83				
310.24	4.43	2.33	2.10				
310.34	4.68	2.35	2.33				
310.44	4.91	2.36	2.55				
310.54	5.12	2.37	2.74				
310.64	5.31	2.39	2.93				
310.74	5.50	2.40	3.10				
310.84	5.68	2.42	3.26				
310.94	5.85	2.43	3.41				
311.04	6.01	2.45	3.56				
311.14	6.16	2.46	3.70				
311.24	6.32	2.47	3.84				
311.34	6.46	2.49	3.97				
311.44	6.60	2.50	4.10				
311.54	6.74	2.52	4.22				
311.64	6.88	2.53	4.34				
311.74	7.01	2.55	4.46				
311.84	7.14	2.56	4.58				
311.94	7.26	2.58	4.69				
312.04	7.39	2.59	4.80				
312.14	7.51	2.60	4.90				
312.24	7.98	2.62	5.36				
312.34	8.74	2.63	6.11				

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Stage-Area-Storage for Pond INF: MC-3500 StormTech INFILTRATION

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
307.14	0.374	0.000	312.44	0.374	1.257
307.24	0.374	0.015	312.54	0.374	1.272
307.34	0.374	0.030	312.64	0.374	1.287
307.44	0.374	0.045			
307.54	0.374	0.060			
307.64	0.374	0.075			
307.74	0.374	0.090			
307.84	0.374	0.105			
307.94	0.374	0.129			
308.04	0.374	0.161			
308.14	0.374	0.194			
308.24	0.374	0.226			
308.34	0.374	0.258			
308.44	0.374	0.290			
308.54	0.374	0.322			
308.64	0.374	0.354			
308.74	0.374	0.386			
308.84	0.374	0.417			
308.94	0.374	0.448			
309.04	0.374	0.479			
309.14	0.374	0.510			
309.24	0.374	0.541			
309.34	0.374	0.571			
309.44	0.374	0.601			
309.54	0.374	0.631			
309.64	0.374	0.661			
309.74	0.374	0.690			
309.84	0.374	0.719			
309.94	0.374	0.747			
310.04	0.374	0.775			
310.14	0.374	0.803			
310.24	0.374	0.831			
310.34	0.374	0.858			
310.44	0.374	0.884			
310.54	0.374	0.910			
310.64	0.374	0.935			
310.74	0.374	0.960			
310.84	0.374	0.984			
310.94	0.374	1.007			
311.04	0.374	1.030			
311.14	0.374	1.051			
311.24	0.374	1.071			
311.34	0.374	1.089			
311.44	0.374	1.106			
311.54	0.374	1.122			
311.64	0.374	1.137			
311.74	0.374	1.152			
311.84	0.374	1.167			
311.94	0.374	1.182			
312.04	0.374	1.197			
312.14	0.374	1.212			
312.24	0.374	1.227			
312.34	0.374	1.242			

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Summary for Pond SPLIT: Flow Splitter

[57] Hint: Peaked at 304.42' (Flood elevation advised)

Inflow Area = 3.809 ac, 100.00% Impervious, Inflow Depth > 6.26" for 25-Year event
 Inflow = 24.24 cfs @ 12.08 hrs, Volume= 1.986 af
 Outflow = 24.24 cfs @ 12.08 hrs, Volume= 1.986 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.32 cfs @ 12.08 hrs, Volume= 0.817 af
 Routed to Pond BIO : BioRetention 1 (South)
 Secondary = 22.93 cfs @ 12.08 hrs, Volume= 1.169 af
 Routed to Pond DET1 : MC-4500 StormTech DETENTION ONLY

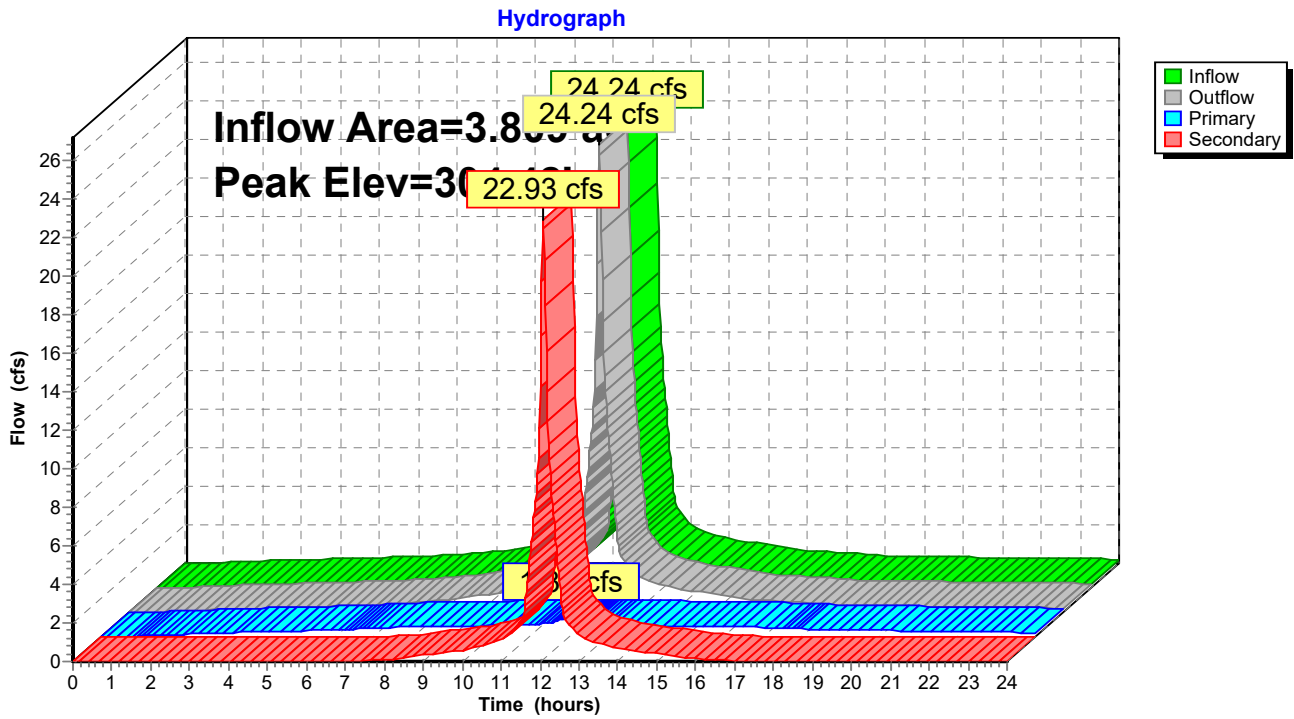
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs / 2
 Peak Elev= 304.42' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	302.23'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Device 3	302.73'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	302.23'	30.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

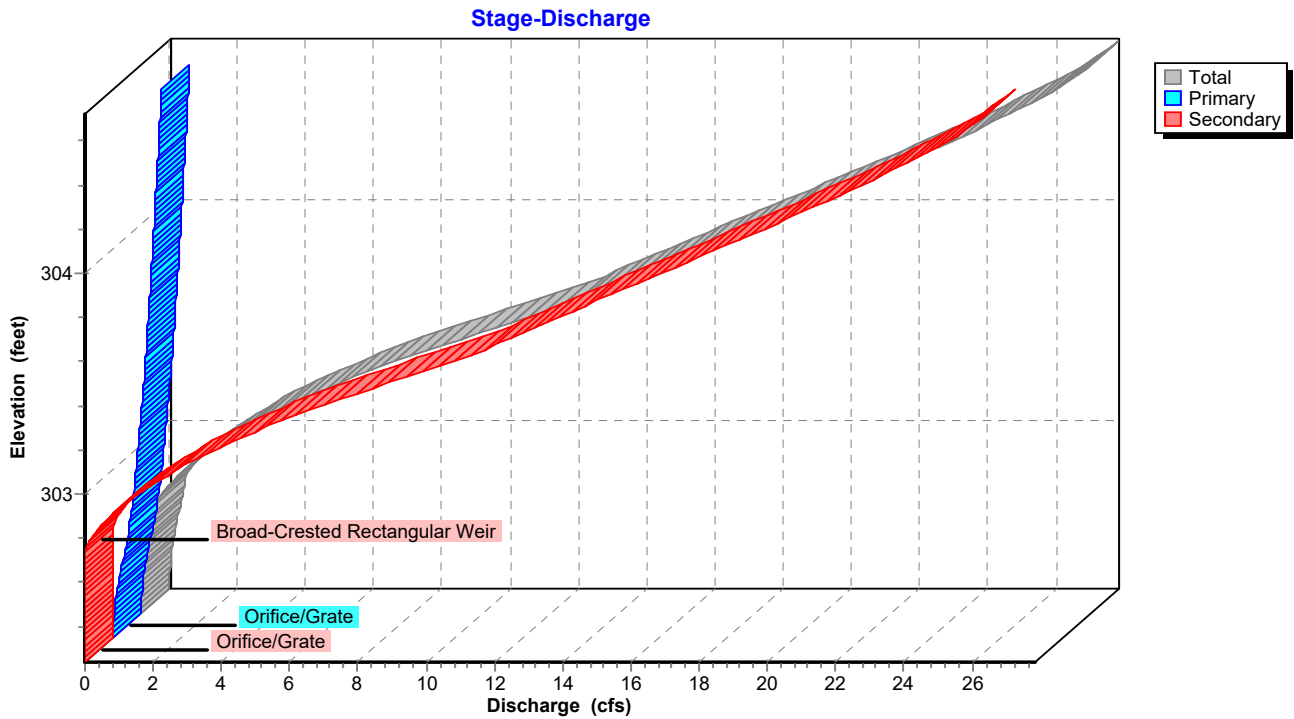
Primary OutFlow Max=1.31 cfs @ 12.08 hrs HW=304.41' (Free Discharge)
 ↑1=**Orifice/Grate** (Orifice Controls 1.31 cfs @ 6.69 fps)

Secondary OutFlow Max=22.83 cfs @ 12.08 hrs HW=304.41' (Free Discharge)
 ↑3=**Orifice/Grate** (Orifice Controls 22.83 cfs @ 5.03 fps)
 ↑2=**Broad-Crested Rectangular Weir** (Passes 22.83 cfs of 28.91 cfs potential flow)

Pond SPLIT: Flow Splitter



Pond SPLIT: Flow Splitter



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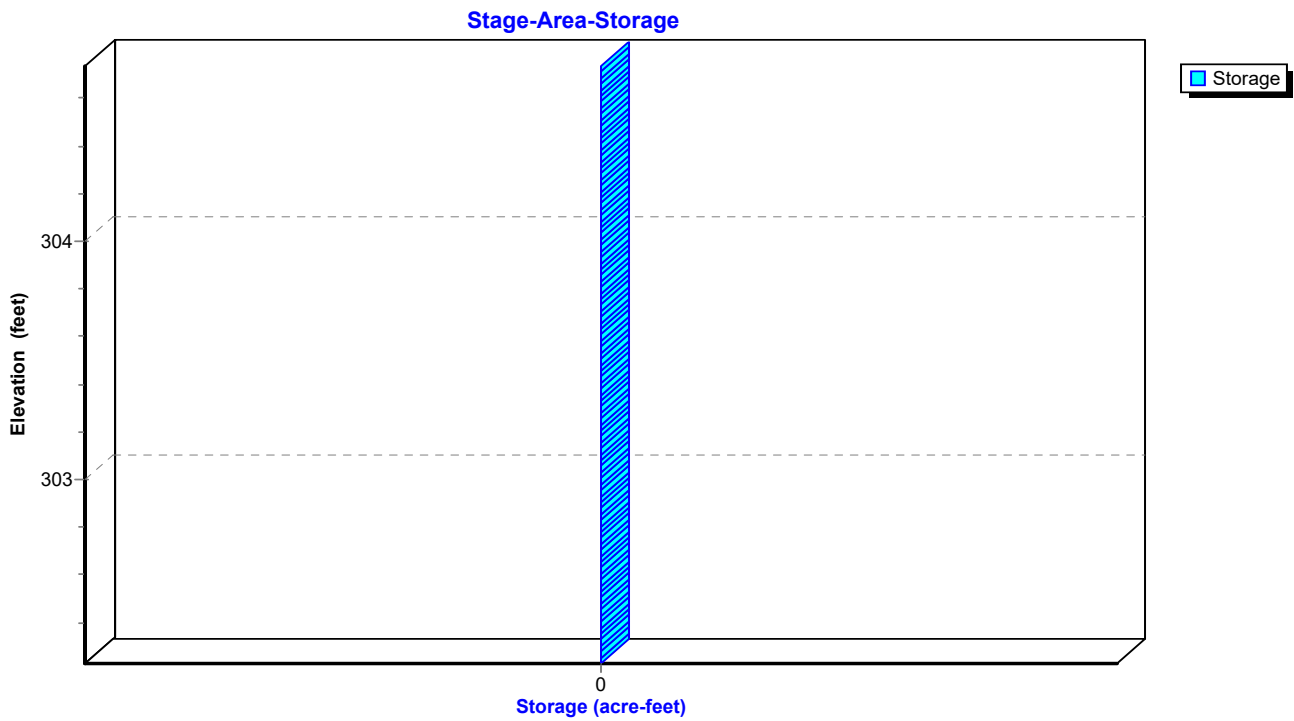
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Pond SPLIT: Flow Splitter



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Hydrograph for Pond SPLIT: Flow Splitter

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	302.23	0.00	0.00	0.00
0.20	0.00	302.23	0.00	0.00	0.00
0.40	0.00	302.23	0.00	0.00	0.00
0.60	0.00	302.23	0.00	0.00	0.00
0.80	0.01	302.29	0.01	0.01	0.00
1.00	0.04	302.34	0.04	0.04	0.00
1.20	0.06	302.38	0.06	0.06	0.00
1.40	0.08	302.40	0.08	0.08	0.00
1.60	0.10	302.42	0.10	0.10	0.00
1.80	0.11	302.43	0.11	0.11	0.00
2.00	0.12	302.44	0.12	0.12	0.00
2.20	0.14	302.45	0.14	0.14	0.00
2.40	0.15	302.47	0.15	0.15	0.00
2.60	0.16	302.48	0.16	0.16	0.00
2.80	0.18	302.49	0.18	0.18	0.00
3.00	0.19	302.50	0.19	0.19	0.00
3.20	0.20	302.51	0.20	0.20	0.00
3.40	0.22	302.52	0.22	0.22	0.00
3.60	0.23	302.53	0.23	0.23	0.00
3.80	0.24	302.54	0.24	0.24	0.00
4.00	0.25	302.55	0.25	0.25	0.00
4.20	0.26	302.55	0.26	0.26	0.00
4.40	0.27	302.56	0.27	0.27	0.00
4.60	0.28	302.57	0.28	0.28	0.00
4.80	0.29	302.58	0.29	0.29	0.00
5.00	0.30	302.59	0.30	0.30	0.00
5.20	0.31	302.59	0.31	0.31	0.00
5.40	0.32	302.60	0.32	0.32	0.00
5.60	0.33	302.61	0.33	0.33	0.00
5.80	0.34	302.62	0.34	0.34	0.00
6.00	0.35	302.62	0.35	0.35	0.00
6.20	0.37	302.64	0.37	0.37	0.00
6.40	0.40	302.66	0.40	0.40	0.00
6.60	0.42	302.68	0.42	0.42	0.00
6.80	0.45	302.70	0.45	0.45	0.00
7.00	0.47	302.73	0.47	0.47	0.00
7.20	0.50	302.74	0.50	0.48	0.02
7.40	0.53	302.75	0.53	0.49	0.03
7.60	0.55	302.76	0.55	0.50	0.05
7.80	0.58	302.76	0.58	0.50	0.07
8.00	0.60	302.77	0.60	0.51	0.09
8.20	0.65	302.78	0.65	0.52	0.13
8.40	0.70	302.79	0.70	0.53	0.18
8.60	0.76	302.80	0.76	0.54	0.22
8.80	0.82	302.81	0.82	0.55	0.27
9.00	0.88	302.82	0.88	0.55	0.32
9.20	0.94	302.83	0.94	0.56	0.37
9.40	0.99	302.84	0.99	0.57	0.43
9.60	1.05	302.85	1.05	0.58	0.48
9.80	1.11	302.86	1.11	0.58	0.53
10.00	1.17	302.87	1.17	0.59	0.58
10.20	1.26	302.88	1.26	0.60	0.66
10.40	1.38	302.90	1.38	0.61	0.77

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Hydrograph for Pond SPLIT: Flow Splitter (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
10.60	1.50	302.91	1.50	0.62	0.88
10.80	1.62	302.93	1.62	0.63	0.99
11.00	1.74	302.94	1.74	0.64	1.10
11.20	2.05	302.98	2.05	0.67	1.38
11.40	2.50	303.02	2.50	0.70	1.80
11.60	3.38	303.10	3.38	0.75	2.63
11.80	7.47	303.38	7.47	0.90	6.57
12.00	15.31	303.83	15.31	1.10	14.22
12.20	13.47	303.70	13.47	1.05	12.43
12.40	7.19	303.36	7.19	0.89	6.30
12.60	3.23	303.09	3.23	0.74	2.49
12.80	2.49	303.02	2.49	0.70	1.80
13.00	2.03	302.97	2.03	0.66	1.37
13.20	1.76	302.94	1.76	0.64	1.11
13.40	1.64	302.93	1.64	0.63	1.00
13.60	1.52	302.92	1.52	0.62	0.89
13.80	1.40	302.90	1.40	0.61	0.78
14.00	1.28	302.88	1.28	0.60	0.68
14.20	1.19	302.87	1.19	0.59	0.60
14.40	1.13	302.86	1.13	0.59	0.55
14.60	1.08	302.86	1.08	0.58	0.50
14.80	1.02	302.85	1.02	0.57	0.45
15.00	0.96	302.84	0.96	0.57	0.40
15.20	0.90	302.83	0.90	0.56	0.35
15.40	0.85	302.82	0.85	0.55	0.30
15.60	0.79	302.81	0.79	0.54	0.25
15.80	0.73	302.80	0.73	0.53	0.20
16.00	0.67	302.79	0.67	0.52	0.15
16.20	0.64	302.78	0.64	0.52	0.12
16.40	0.61	302.77	0.61	0.51	0.10
16.60	0.59	302.77	0.59	0.51	0.08
16.80	0.56	302.76	0.56	0.50	0.06
17.00	0.54	302.75	0.54	0.49	0.04
17.20	0.51	302.74	0.51	0.49	0.02
17.40	0.49	302.73	0.49	0.48	0.01
17.60	0.46	302.72	0.46	0.46	0.00
17.80	0.44	302.69	0.44	0.44	0.00
18.00	0.41	302.67	0.41	0.41	0.00
18.20	0.40	302.66	0.40	0.40	0.00
18.40	0.39	302.65	0.39	0.39	0.00
18.60	0.38	302.64	0.38	0.38	0.00
18.80	0.37	302.64	0.37	0.37	0.00
19.00	0.37	302.63	0.37	0.37	0.00
19.20	0.36	302.63	0.36	0.36	0.00
19.40	0.35	302.62	0.35	0.35	0.00
19.60	0.34	302.62	0.34	0.34	0.00
19.80	0.34	302.61	0.34	0.34	0.00
20.00	0.33	302.60	0.33	0.33	0.00
20.20	0.32	302.60	0.32	0.32	0.00
20.40	0.32	302.59	0.32	0.32	0.00
20.60	0.31	302.59	0.31	0.31	0.00
20.80	0.30	302.59	0.30	0.30	0.00
21.00	0.30	302.58	0.30	0.30	0.00

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Hydrograph for Pond SPLIT: Flow Splitter (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
21.20	0.29	302.58	0.29	0.29	0.00
21.40	0.29	302.57	0.29	0.29	0.00
21.60	0.28	302.57	0.28	0.28	0.00
21.80	0.28	302.57	0.28	0.28	0.00
22.00	0.27	302.56	0.27	0.27	0.00
22.20	0.27	302.56	0.27	0.27	0.00
22.40	0.26	302.55	0.26	0.26	0.00
22.60	0.25	302.55	0.25	0.25	0.00
22.80	0.25	302.54	0.25	0.25	0.00
23.00	0.24	302.54	0.24	0.24	0.00
23.20	0.24	302.54	0.24	0.24	0.00
23.40	0.23	302.53	0.23	0.23	0.00
23.60	0.23	302.53	0.23	0.23	0.00
23.80	0.22	302.52	0.22	0.22	0.00
24.00	0.21	302.52	0.21	0.21	0.00

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Stage-Discharge for Pond SPLIT: Flow Splitter

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
302.23	0.00	0.00	0.00
302.33	0.03	0.03	0.00
302.43	0.11	0.11	0.00
302.53	0.23	0.23	0.00
302.63	0.36	0.36	0.00
302.73	0.47	0.47	0.00
302.83	0.91	0.56	0.35
302.93	1.64	0.63	1.00
303.03	2.58	0.70	1.88
303.13	3.72	0.76	2.95
303.23	5.06	0.82	4.24
303.33	6.60	0.87	5.73
303.43	8.39	0.92	7.47
303.53	10.41	0.97	9.45
303.63	12.32	1.01	11.30
303.73	13.88	1.06	12.82
303.83	15.39	1.10	14.29
303.93	16.92	1.14	15.78
304.03	18.46	1.18	17.28
304.13	20.00	1.21	18.79
304.23	21.52	1.25	20.27
304.33	23.00	1.29	21.72
304.43	24.42	1.32	23.10
304.53	25.75	1.35	24.40
304.63	26.93	1.39	25.54
304.73	27.84	1.42	26.43

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Stage-Area-Storage for Pond SPLIT: Flow Splitter

Elevation (feet)	Storage (acre-feet)
302.23	0.000
302.33	0.000
302.43	0.000
302.53	0.000
302.63	0.000
302.73	0.000
302.83	0.000
302.93	0.000
303.03	0.000
303.13	0.000
303.23	0.000
303.33	0.000
303.43	0.000
303.53	0.000
303.63	0.000
303.73	0.000
303.83	0.000
303.93	0.000
304.03	0.000
304.13	0.000
304.23	0.000
304.33	0.000
304.43	0.000
304.53	0.000
304.63	0.000
304.73	0.000

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Type III 24-hr 25-Year Rainfall=6.50"

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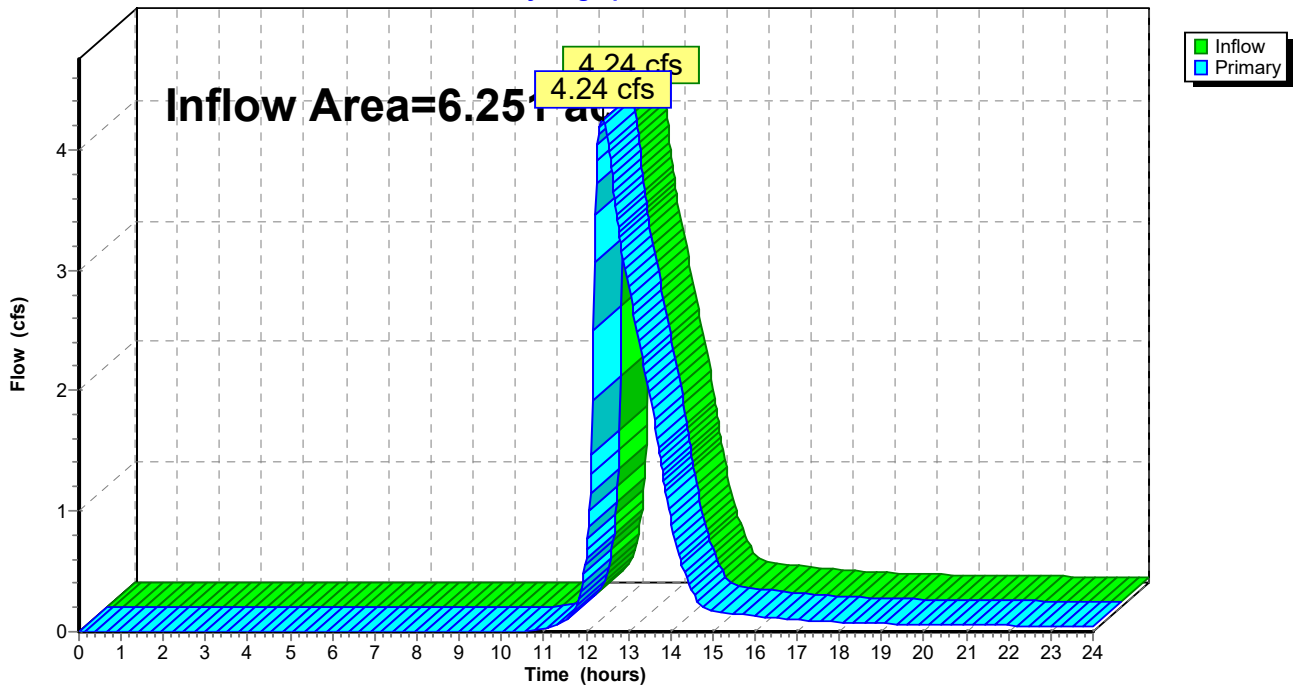
Summary for Link N: POI North

Inflow Area = 6.251 ac, 78.88% Impervious, Inflow Depth > 1.02" for 25-Year event
Inflow = 4.24 cfs @ 12.39 hrs, Volume= 0.529 af
Primary = 4.24 cfs @ 12.39 hrs, Volume= 0.529 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Link N: POI North

Hydrograph



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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Link N: POI North

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	10.60	0.01	0.00	0.01
0.20	0.00	0.00	0.00	10.80	0.02	0.00	0.02
0.40	0.00	0.00	0.00	11.00	0.03	0.00	0.03
0.60	0.00	0.00	0.00	11.20	0.05	0.00	0.05
0.80	0.00	0.00	0.00	11.40	0.07	0.00	0.07
1.00	0.00	0.00	0.00	11.60	0.11	0.00	0.11
1.20	0.00	0.00	0.00	11.80	0.24	0.00	0.24
1.40	0.00	0.00	0.00	12.00	0.61	0.00	0.61
1.60	0.00	0.00	0.00	12.20	3.07	0.00	3.07
1.80	0.00	0.00	0.00	12.40	4.24	0.00	4.24
2.00	0.00	0.00	0.00	12.60	3.86	0.00	3.86
2.20	0.00	0.00	0.00	12.80	3.26	0.00	3.26
2.40	0.00	0.00	0.00	13.00	2.88	0.00	2.88
2.60	0.00	0.00	0.00	13.20	2.51	0.00	2.51
2.80	0.00	0.00	0.00	13.40	2.15	0.00	2.15
3.00	0.00	0.00	0.00	13.60	1.78	0.00	1.78
3.20	0.00	0.00	0.00	13.80	1.34	0.00	1.34
3.40	0.00	0.00	0.00	14.00	0.94	0.00	0.94
3.60	0.00	0.00	0.00	14.20	0.63	0.00	0.63
3.80	0.00	0.00	0.00	14.40	0.43	0.00	0.43
4.00	0.00	0.00	0.00	14.60	0.28	0.00	0.28
4.20	0.00	0.00	0.00	14.80	0.19	0.00	0.19
4.40	0.00	0.00	0.00	15.00	0.17	0.00	0.17
4.60	0.00	0.00	0.00	15.20	0.16	0.00	0.16
4.80	0.00	0.00	0.00	15.40	0.16	0.00	0.16
5.00	0.00	0.00	0.00	15.60	0.15	0.00	0.15
5.20	0.00	0.00	0.00	15.80	0.14	0.00	0.14
5.40	0.00	0.00	0.00	16.00	0.13	0.00	0.13
5.60	0.00	0.00	0.00	16.20	0.12	0.00	0.12
5.80	0.00	0.00	0.00	16.40	0.11	0.00	0.11
6.00	0.00	0.00	0.00	16.60	0.11	0.00	0.11
6.20	0.00	0.00	0.00	16.80	0.10	0.00	0.10
6.40	0.00	0.00	0.00	17.00	0.10	0.00	0.10
6.60	0.00	0.00	0.00	17.20	0.09	0.00	0.09
6.80	0.00	0.00	0.00	17.40	0.09	0.00	0.09
7.00	0.00	0.00	0.00	17.60	0.09	0.00	0.09
7.20	0.00	0.00	0.00	17.80	0.08	0.00	0.08
7.40	0.00	0.00	0.00	18.00	0.08	0.00	0.08
7.60	0.00	0.00	0.00	18.20	0.07	0.00	0.07
7.80	0.00	0.00	0.00	18.40	0.07	0.00	0.07
8.00	0.00	0.00	0.00	18.60	0.07	0.00	0.07
8.20	0.00	0.00	0.00	18.80	0.07	0.00	0.07
8.40	0.00	0.00	0.00	19.00	0.07	0.00	0.07
8.60	0.00	0.00	0.00	19.20	0.07	0.00	0.07
8.80	0.00	0.00	0.00	19.40	0.06	0.00	0.06
9.00	0.00	0.00	0.00	19.60	0.06	0.00	0.06
9.20	0.00	0.00	0.00	19.80	0.06	0.00	0.06
9.40	0.00	0.00	0.00	20.00	0.06	0.00	0.06
9.60	0.00	0.00	0.00	20.20	0.06	0.00	0.06
9.80	0.00	0.00	0.00	20.40	0.06	0.00	0.06
10.00	0.00	0.00	0.00	20.60	0.06	0.00	0.06
10.20	0.00	0.00	0.00	20.80	0.06	0.00	0.06
10.40	0.00	0.00	0.00	21.00	0.06	0.00	0.06

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Link N: POI North (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
21.20	0.05	0.00	0.05
21.40	0.05	0.00	0.05
21.60	0.05	0.00	0.05
21.80	0.05	0.00	0.05
22.00	0.05	0.00	0.05
22.20	0.05	0.00	0.05
22.40	0.05	0.00	0.05
22.60	0.05	0.00	0.05
22.80	0.05	0.00	0.05
23.00	0.05	0.00	0.05
23.20	0.05	0.00	0.05
23.40	0.04	0.00	0.04
23.60	0.04	0.00	0.04
23.80	0.04	0.00	0.04
24.00	0.04	0.00	0.04

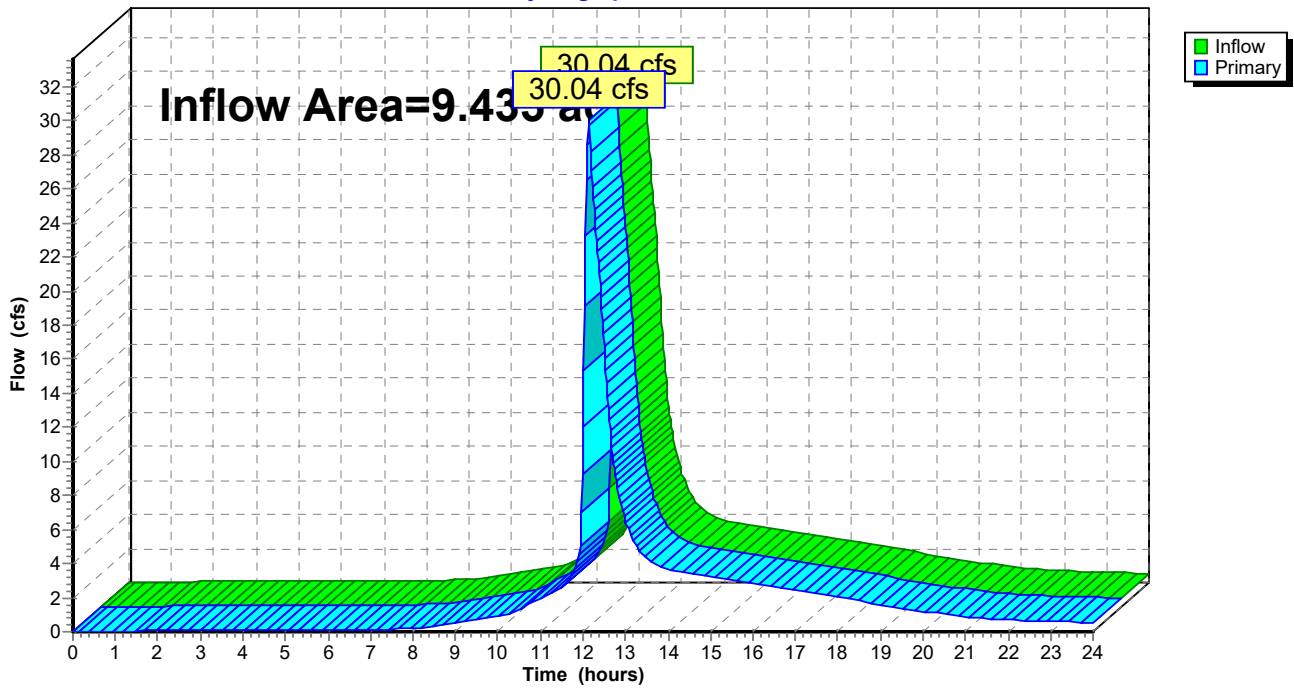
Summary for Link S: POI South

Inflow Area = 9.435 ac, 58.54% Impervious, Inflow Depth > 4.72" for 25-Year event
Inflow = 30.04 cfs @ 12.14 hrs, Volume= 3.713 af
Primary = 30.04 cfs @ 12.14 hrs, Volume= 3.713 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Link S: POI South

Hydrograph



Hydrograph for Link S: POI South

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	10.60	1.44	0.00	1.44
0.20	0.00	0.00	0.00	10.80	1.71	0.00	1.71
0.40	0.00	0.00	0.00	11.00	1.94	0.00	1.94
0.60	0.00	0.00	0.00	11.20	2.17	0.00	2.17
0.80	0.00	0.00	0.00	11.40	2.46	0.00	2.46
1.00	0.01	0.00	0.01	11.60	2.80	0.00	2.80
1.20	0.02	0.00	0.02	11.80	3.72	0.00	3.72
1.40	0.04	0.00	0.04	12.00	12.05	0.00	12.05
1.60	0.06	0.00	0.06	12.20	27.07	0.00	27.07
1.80	0.07	0.00	0.07	12.40	20.36	0.00	20.36
2.00	0.09	0.00	0.09	12.60	13.09	0.00	13.09
2.20	0.10	0.00	0.10	12.80	8.56	0.00	8.56
2.40	0.10	0.00	0.10	13.00	6.50	0.00	6.50
2.60	0.10	0.00	0.10	13.20	5.27	0.00	5.27
2.80	0.10	0.00	0.10	13.40	4.60	0.00	4.60
3.00	0.10	0.00	0.10	13.60	4.18	0.00	4.18
3.20	0.10	0.00	0.10	13.80	3.87	0.00	3.87
3.40	0.10	0.00	0.10	14.00	3.64	0.00	3.64
3.60	0.10	0.00	0.10	14.20	3.54	0.00	3.54
3.80	0.10	0.00	0.10	14.40	3.45	0.00	3.45
4.00	0.10	0.00	0.10	14.60	3.37	0.00	3.37
4.20	0.10	0.00	0.10	14.80	3.30	0.00	3.30
4.40	0.10	0.00	0.10	15.00	3.22	0.00	3.22
4.60	0.10	0.00	0.10	15.20	3.14	0.00	3.14
4.80	0.10	0.00	0.10	15.40	3.06	0.00	3.06
5.00	0.10	0.00	0.10	15.60	2.98	0.00	2.98
5.20	0.10	0.00	0.10	15.80	2.89	0.00	2.89
5.40	0.10	0.00	0.10	16.00	2.80	0.00	2.80
5.60	0.10	0.00	0.10	16.20	2.71	0.00	2.71
5.80	0.10	0.00	0.10	16.40	2.63	0.00	2.63
6.00	0.10	0.00	0.10	16.60	2.56	0.00	2.56
6.20	0.10	0.00	0.10	16.80	2.48	0.00	2.48
6.40	0.10	0.00	0.10	17.00	2.41	0.00	2.41
6.60	0.11	0.00	0.11	17.20	2.33	0.00	2.33
6.80	0.11	0.00	0.11	17.40	2.26	0.00	2.26
7.00	0.12	0.00	0.12	17.60	2.18	0.00	2.18
7.20	0.12	0.00	0.12	17.80	2.10	0.00	2.10
7.40	0.13	0.00	0.13	18.00	2.01	0.00	2.01
7.60	0.15	0.00	0.15	18.20	1.92	0.00	1.92
7.80	0.17	0.00	0.17	18.40	1.84	0.00	1.84
8.00	0.20	0.00	0.20	18.60	1.77	0.00	1.77
8.20	0.23	0.00	0.23	18.80	1.67	0.00	1.67
8.40	0.29	0.00	0.29	19.00	1.57	0.00	1.57
8.60	0.35	0.00	0.35	19.20	1.48	0.00	1.48
8.80	0.43	0.00	0.43	19.40	1.40	0.00	1.40
9.00	0.51	0.00	0.51	19.60	1.32	0.00	1.32
9.20	0.58	0.00	0.58	19.80	1.25	0.00	1.25
9.40	0.66	0.00	0.66	20.00	1.19	0.00	1.19
9.60	0.74	0.00	0.74	20.20	1.14	0.00	1.14
9.80	0.83	0.00	0.83	20.40	1.08	0.00	1.08
10.00	0.91	0.00	0.91	20.60	1.01	0.00	1.01
10.20	0.98	0.00	0.98	20.80	0.95	0.00	0.95
10.40	1.17	0.00	1.17	21.00	0.90	0.00	0.90

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Type III 24-hr 25-Year Rainfall=6.50"

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Hydrograph for Link S: POI South (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
21.20	0.84	0.00	0.84
21.40	0.79	0.00	0.79
21.60	0.75	0.00	0.75
21.80	0.72	0.00	0.72
22.00	0.70	0.00	0.70
22.20	0.68	0.00	0.68
22.40	0.66	0.00	0.66
22.60	0.64	0.00	0.64
22.80	0.63	0.00	0.63
23.00	0.61	0.00	0.61
23.20	0.60	0.00	0.60
23.40	0.58	0.00	0.58
23.60	0.57	0.00	0.57
23.80	0.56	0.00	0.56
24.00	0.54	0.00	0.54

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Type III 24-hr 100-Year Rainfall=8.00"

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Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA 1: Drainage Area 1 Runoff Area=165,914 sf 100.00% Impervious Runoff Depth>7.75"
Tc=6.0 min CN=98 Runoff=29.87 cfs 2.461 af

Subcatchment DA 1B: Drainage Area 1B - Runoff Area=69,371 sf 4.46% Impervious Runoff Depth>5.60"
Flow Length=1,406' Tc=21.5 min CN=80 Runoff=6.79 cfs 0.744 af

Subcatchment DA 2: Drainage Area 2 Runoff Area=227,749 sf 94.30% Impervious Runoff Depth>7.52"
Tc=6.0 min CN=96 Runoff=40.72 cfs 3.274 af

Subcatchment DA 2B: Drainage Area 2B Runoff Area=44,537 sf 0.00% Impervious Runoff Depth>3.43"
Flow Length=314' Slope=0.0075 '/' Tc=17.3 min CN=61 Runoff=2.91 cfs 0.292 af

Subcatchment DA 3: Drainage Area 3 - Bio Runoff Area=31,517 sf 0.00% Impervious Runoff Depth>5.62"
Tc=6.0 min CN=80 Runoff=4.69 cfs 0.339 af

Subcatchment DA 4: Drainage Area 4 Runoff Area=20,387 sf 0.00% Impervious Runoff Depth>3.43"
Flow Length=728' Tc=14.4 min CN=61 Runoff=1.43 cfs 0.134 af

Subcatchment OFF: Offsite Drainage Area Runoff Area=123,809 sf 57.82% Impervious Runoff Depth>5.85"
Tc=6.0 min CN=82 Runoff=19.05 cfs 1.387 af

Pond BIO: BioRetention 1 (South) Peak Elev=299.72' Storage=12,889 cf Inflow=6.17 cfs 1.256 af
Outflow=4.04 cfs 1.039 af

Pond DET1: MC-4500 StormTech Peak Elev=307.14' Storage=0.367 af Inflow=28.40 cfs 1.544 af
Outflow=26.28 cfs 1.542 af

Pond DET2: MC-3500 Stormtech (Offsite Peak Elev=300.44' Storage=19,676 cf Inflow=20.00 cfs 1.521 af
Outflow=8.74 cfs 1.504 af

Pond INF: MC-3500 StormTech Peak Elev=311.93' Storage=1.180 af Inflow=40.72 cfs 3.274 af
Discarded=2.57 cfs 2.590 af Primary=4.67 cfs 0.683 af Outflow=7.24 cfs 3.273 af

Pond SPLIT: Flow Splitter Peak Elev=304.92' Inflow=29.87 cfs 2.461 af
Primary=1.48 cfs 0.917 af Secondary=28.40 cfs 1.544 af Outflow=29.87 cfs 2.461 af

Link N: POI North Inflow=6.80 cfs 0.975 af
Primary=6.80 cfs 0.975 af

Link S: POI South Inflow=41.17 cfs 4.827 af
Primary=41.17 cfs 4.827 af

Total Runoff Area = 15.686 ac Runoff Volume = 8.631 af Average Runoff Depth = 6.60"
33.36% Pervious = 5.232 ac 66.64% Impervious = 10.454 ac

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Summary for Subcatchment DA 1: Drainage Area 1

Runoff = 29.87 cfs @ 12.08 hrs, Volume= 2.461 af, Depth> 7.75"

Routed to Pond SPLIT : Flow Splitter

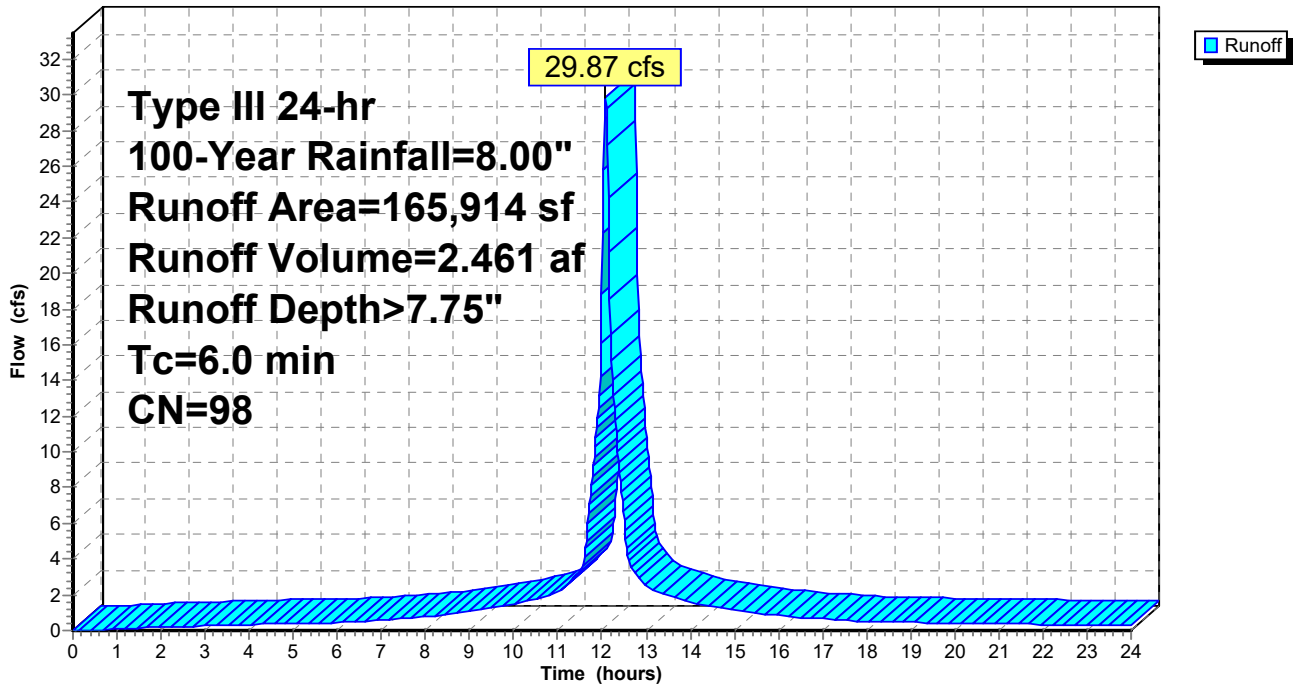
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
* 165,914	98	Drive/Parking
165,914		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc (Minimum)

Subcatchment DA 1: Drainage Area 1

Hydrograph



Hydrograph for Subcatchment DA 1: Drainage Area 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.78	1.56	1.86
0.20	0.02	0.00	0.00	10.80	1.89	1.66	2.01
0.40	0.03	0.00	0.00	11.00	2.00	1.77	2.15
0.60	0.05	0.00	0.00	11.20	2.13	1.90	2.53
0.80	0.06	0.00	0.04	11.40	2.29	2.06	3.09
1.00	0.08	0.01	0.08	11.60	2.51	2.29	4.17
1.20	0.10	0.01	0.11	11.80	2.99	2.75	9.22
1.40	0.11	0.02	0.13	12.00	4.00	3.77	18.88
1.60	0.13	0.03	0.15	12.20	5.01	4.78	16.60
1.80	0.14	0.03	0.16	12.40	5.49	5.25	8.86
2.00	0.16	0.04	0.18	12.60	5.71	5.47	3.97
2.20	0.18	0.05	0.19	12.80	5.87	5.63	3.07
2.40	0.19	0.06	0.21	13.00	6.00	5.76	2.50
2.60	0.21	0.08	0.23	13.20	6.11	5.87	2.16
2.80	0.23	0.09	0.24	13.40	6.22	5.98	2.01
3.00	0.25	0.10	0.26	13.60	6.32	6.08	1.87
3.20	0.26	0.12	0.27	13.80	6.41	6.17	1.72
3.40	0.28	0.13	0.29	14.00	6.49	6.25	1.57
3.60	0.30	0.15	0.30	14.20	6.56	6.33	1.47
3.80	0.32	0.16	0.32	14.40	6.64	6.40	1.40
4.00	0.34	0.18	0.33	14.60	6.71	6.47	1.33
4.20	0.37	0.20	0.34	14.80	6.77	6.53	1.25
4.40	0.39	0.22	0.35	15.00	6.83	6.60	1.18
4.60	0.41	0.24	0.37	15.20	6.89	6.65	1.11
4.80	0.43	0.26	0.38	15.40	6.95	6.71	1.04
5.00	0.45	0.28	0.39	15.60	7.00	6.76	0.97
5.20	0.48	0.30	0.40	15.80	7.04	6.81	0.90
5.40	0.50	0.32	0.41	16.00	7.09	6.85	0.83
5.60	0.53	0.34	0.43	16.20	7.13	6.89	0.78
5.80	0.55	0.36	0.44	16.40	7.17	6.93	0.75
6.00	0.58	0.39	0.45	16.60	7.21	6.97	0.72
6.20	0.60	0.41	0.47	16.80	7.24	7.00	0.69
6.40	0.63	0.44	0.50	17.00	7.28	7.04	0.66
6.60	0.66	0.47	0.53	17.20	7.31	7.07	0.63
6.80	0.69	0.50	0.56	17.40	7.34	7.10	0.60
7.00	0.72	0.53	0.60	17.60	7.37	7.13	0.57
7.20	0.76	0.56	0.63	17.80	7.40	7.16	0.54
7.40	0.79	0.59	0.66	18.00	7.42	7.18	0.51
7.60	0.83	0.63	0.69	18.20	7.45	7.21	0.49
7.80	0.87	0.67	0.72	18.40	7.47	7.23	0.48
8.00	0.91	0.71	0.76	18.60	7.50	7.26	0.47
8.20	0.96	0.75	0.81	18.80	7.52	7.28	0.46
8.40	1.00	0.79	0.88	19.00	7.55	7.31	0.45
8.60	1.05	0.84	0.95	19.20	7.57	7.33	0.44
8.80	1.11	0.90	1.02	19.40	7.59	7.35	0.43
9.00	1.17	0.95	1.09	19.60	7.61	7.37	0.42
9.20	1.23	1.01	1.16	19.80	7.63	7.40	0.41
9.40	1.29	1.08	1.24	20.00	7.66	7.42	0.40
9.60	1.36	1.14	1.31	20.20	7.68	7.44	0.40
9.80	1.44	1.22	1.38	20.40	7.70	7.46	0.39
10.00	1.51	1.29	1.45	20.60	7.72	7.48	0.38
10.20	1.59	1.37	1.56	20.80	7.74	7.50	0.37
10.40	1.68	1.46	1.71	21.00	7.76	7.52	0.37

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Hydrograph for Subcatchment DA 1: Drainage Area 1 (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	7.77	7.53	0.36
21.40	7.79	7.55	0.35
21.60	7.81	7.57	0.35
21.80	7.83	7.59	0.34
22.00	7.85	7.61	0.33
22.20	7.86	7.62	0.33
22.40	7.88	7.64	0.32
22.60	7.90	7.66	0.31
22.80	7.91	7.67	0.31
23.00	7.93	7.69	0.30
23.20	7.94	7.70	0.29
23.40	7.96	7.72	0.28
23.60	7.97	7.73	0.28
23.80	7.99	7.75	0.27
24.00	8.00	7.76	0.26

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Type III 24-hr 100-Year Rainfall=8.00"

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Summary for Subcatchment DA 1B: Drainage Area 1B - Bypass

[47] Hint: Peak is 109% of capacity of segment #3

Runoff = 6.79 cfs @ 12.29 hrs, Volume= 0.744 af, Depth> 5.60"
Routed to Link S : POI South

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
61,723	80	>75% Grass cover, Good, HSG D
4,556	61	>75% Grass cover, Good, HSG B
* 3,092	98	Driveway Entrance
69,371	80	Weighted Average
66,279		95.54% Pervious Area
3,092		4.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.8	100	0.0160	0.11		Sheet Flow, SF Grass: Dense n= 0.240 P2= 3.11"
1.9	150	0.0340	1.29		Shallow Concentrated Flow, SCF Short Grass Pasture Kv= 7.0 fps
3.8	1,156	0.0080	5.10	6.26	Pipe Channel, Pipe 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
21.5	1,406	Total			

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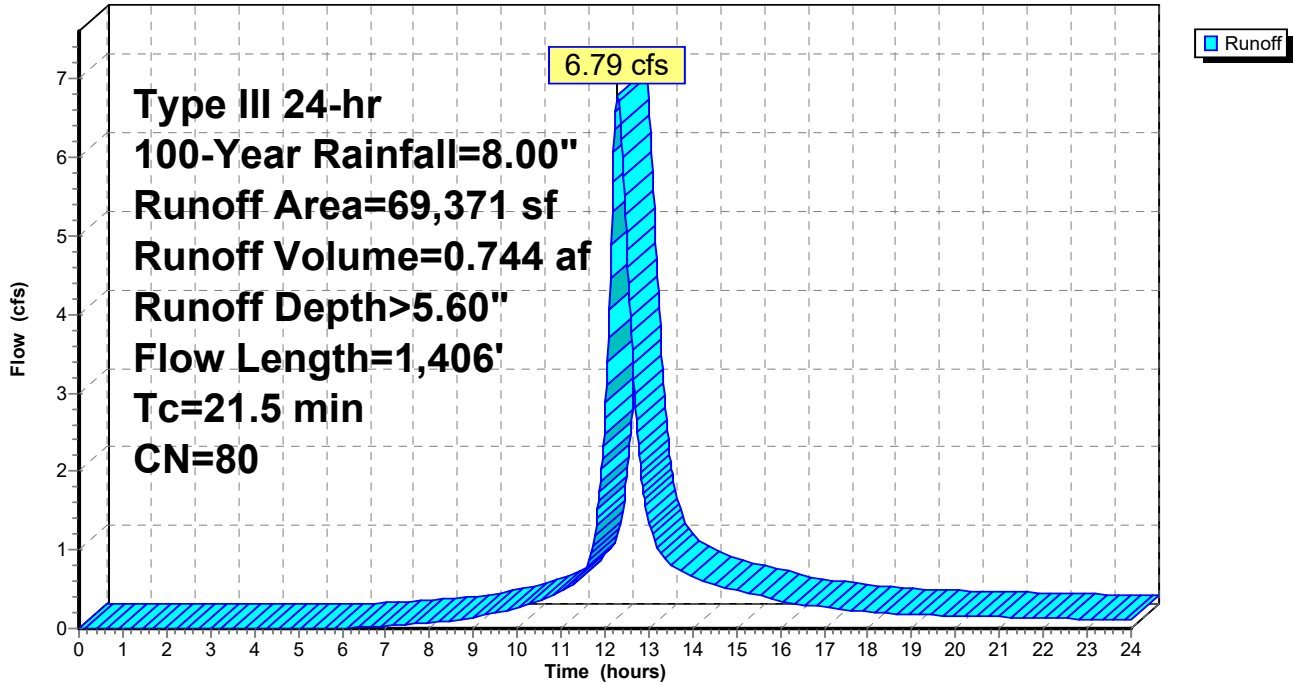
Type III 24-hr 100-Year Rainfall=8.00"

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Subcatchment DA 1B: Drainage Area 1B - Bypass

Hydrograph



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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment DA 1B: Drainage Area 1B - Bypass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.78	0.43	0.37
0.20	0.02	0.00	0.00	10.80	1.89	0.49	0.42
0.40	0.03	0.00	0.00	11.00	2.00	0.56	0.48
0.60	0.05	0.00	0.00	11.20	2.13	0.64	0.54
0.80	0.06	0.00	0.00	11.40	2.29	0.75	0.65
1.00	0.08	0.00	0.00	11.60	2.51	0.90	0.82
1.20	0.10	0.00	0.00	11.80	2.99	1.24	1.31
1.40	0.11	0.00	0.00	12.00	4.00	2.04	2.67
1.60	0.13	0.00	0.00	12.20	5.01	2.90	6.06
1.80	0.14	0.00	0.00	12.40	5.49	3.32	5.99
2.00	0.16	0.00	0.00	12.60	5.71	3.52	3.76
2.20	0.18	0.00	0.00	12.80	5.87	3.66	2.10
2.40	0.19	0.00	0.00	13.00	6.00	3.78	1.37
2.60	0.21	0.00	0.00	13.20	6.11	3.88	1.03
2.80	0.23	0.00	0.00	13.40	6.22	3.98	0.86
3.00	0.25	0.00	0.00	13.60	6.32	4.07	0.78
3.20	0.26	0.00	0.00	13.80	6.41	4.15	0.72
3.40	0.28	0.00	0.00	14.00	6.49	4.22	0.67
3.60	0.30	0.00	0.00	14.20	6.56	4.29	0.61
3.80	0.32	0.00	0.00	14.40	6.64	4.36	0.57
4.00	0.34	0.00	0.00	14.60	6.71	4.42	0.54
4.20	0.37	0.00	0.00	14.80	6.77	4.48	0.51
4.40	0.39	0.00	0.00	15.00	6.83	4.54	0.49
4.60	0.41	0.00	0.00	15.20	6.89	4.60	0.46
4.80	0.43	0.00	0.00	15.40	6.95	4.65	0.43
5.00	0.45	0.00	0.00	15.60	7.00	4.69	0.41
5.20	0.48	0.00	0.00	15.80	7.04	4.74	0.38
5.40	0.50	0.00	0.00	16.00	7.09	4.78	0.35
5.60	0.53	0.00	0.00	16.20	7.13	4.81	0.33
5.80	0.55	0.00	0.00	16.40	7.17	4.85	0.31
6.00	0.58	0.00	0.01	16.60	7.21	4.88	0.29
6.20	0.60	0.00	0.01	16.80	7.24	4.92	0.28
6.40	0.63	0.01	0.01	17.00	7.28	4.95	0.27
6.60	0.66	0.01	0.02	17.20	7.31	4.98	0.26
6.80	0.69	0.01	0.02	17.40	7.34	5.01	0.25
7.00	0.72	0.02	0.03	17.60	7.37	5.04	0.23
7.20	0.76	0.02	0.04	17.80	7.40	5.06	0.22
7.40	0.79	0.03	0.05	18.00	7.42	5.09	0.21
7.60	0.83	0.04	0.05	18.20	7.45	5.11	0.20
7.80	0.87	0.05	0.06	18.40	7.47	5.13	0.19
8.00	0.91	0.06	0.07	18.60	7.50	5.16	0.19
8.20	0.96	0.07	0.08	18.80	7.52	5.18	0.18
8.40	1.00	0.08	0.09	19.00	7.55	5.20	0.18
8.60	1.05	0.10	0.11	19.20	7.57	5.22	0.18
8.80	1.11	0.12	0.13	19.40	7.59	5.24	0.17
9.00	1.17	0.14	0.15	19.60	7.61	5.26	0.17
9.20	1.23	0.16	0.17	19.80	7.63	5.28	0.17
9.40	1.29	0.19	0.19	20.00	7.66	5.30	0.16
9.60	1.36	0.22	0.21	20.20	7.68	5.32	0.16
9.80	1.44	0.25	0.24	20.40	7.70	5.34	0.16
10.00	1.51	0.29	0.26	20.60	7.72	5.36	0.15
10.20	1.59	0.33	0.29	20.80	7.74	5.38	0.15
10.40	1.68	0.38	0.33	21.00	7.76	5.40	0.15

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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment DA 1B: Drainage Area 1B - Bypass (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	7.77	5.41	0.14
21.40	7.79	5.43	0.14
21.60	7.81	5.45	0.14
21.80	7.83	5.46	0.14
22.00	7.85	5.48	0.13
22.20	7.86	5.50	0.13
22.40	7.88	5.51	0.13
22.60	7.90	5.53	0.13
22.80	7.91	5.54	0.12
23.00	7.93	5.56	0.12
23.20	7.94	5.57	0.12
23.40	7.96	5.59	0.11
23.60	7.97	5.60	0.11
23.80	7.99	5.61	0.11
24.00	8.00	5.63	0.11

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Summary for Subcatchment DA 2: Drainage Area 2

Runoff = 40.72 cfs @ 12.08 hrs, Volume= 3.274 af, Depth> 7.52"

Routed to Pond INF : MC-3500 StormTech INFILTRATION

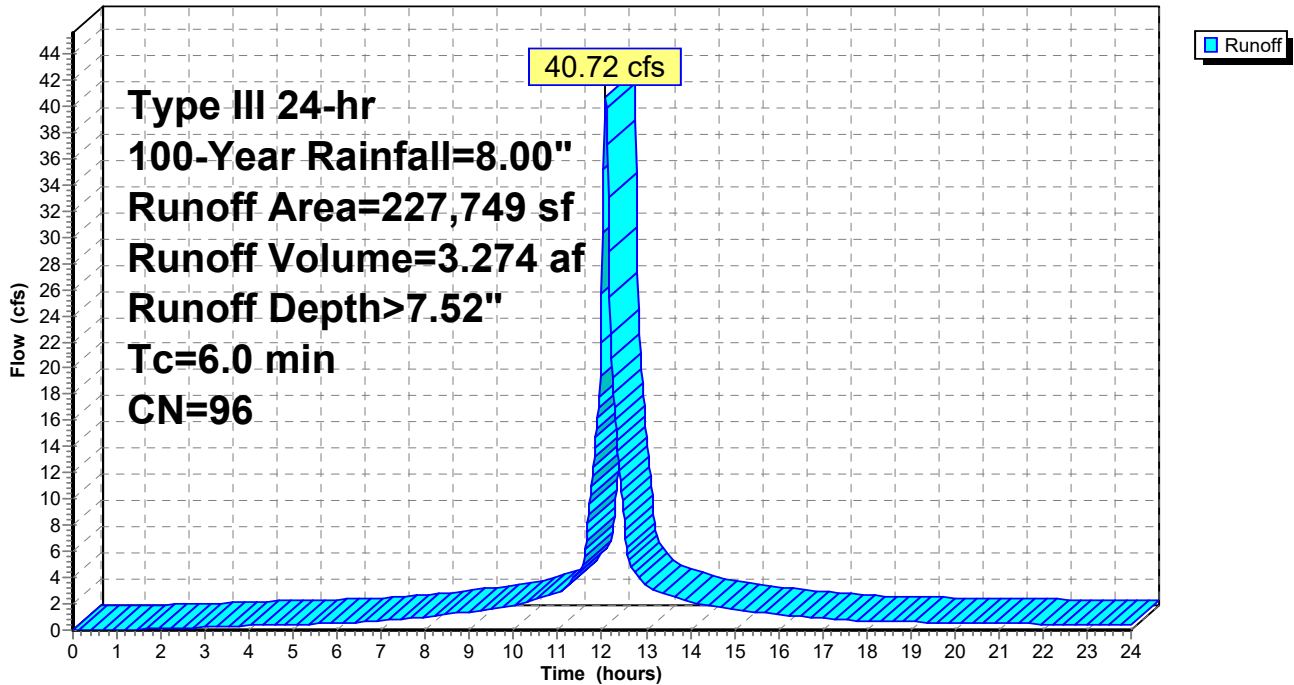
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.00"

	Area (sf)	CN	Description
*	214,771	98	Roof, Parking/Drive
	12,978	61	>75% Grass cover, Good, HSG B
	227,749	96	Weighted Average
	12,978		5.70% Pervious Area
	214,771		94.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Tc (Minimum)

Subcatchment DA 2: Drainage Area 2

Hydrograph



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Hydrograph for Subcatchment DA 2: Drainage Area 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.78	1.36	2.48
0.20	0.02	0.00	0.00	10.80	1.89	1.47	2.68
0.40	0.03	0.00	0.00	11.00	2.00	1.57	2.89
0.60	0.05	0.00	0.00	11.20	2.13	1.70	3.39
0.80	0.06	0.00	0.00	11.40	2.29	1.86	4.16
1.00	0.08	0.00	0.00	11.60	2.51	2.08	5.62
1.20	0.10	0.00	0.01	11.80	2.99	2.54	12.48
1.40	0.11	0.00	0.04	12.00	4.00	3.54	25.68
1.60	0.13	0.00	0.07	12.20	5.01	4.55	22.66
1.80	0.14	0.01	0.09	12.40	5.49	5.02	12.11
2.00	0.16	0.01	0.11	12.60	5.71	5.24	5.43
2.20	0.18	0.02	0.13	12.80	5.87	5.40	4.20
2.40	0.19	0.02	0.16	13.00	6.00	5.53	3.42
2.60	0.21	0.03	0.18	13.20	6.11	5.64	2.96
2.80	0.23	0.04	0.20	13.40	6.22	5.74	2.76
3.00	0.25	0.05	0.22	13.60	6.32	5.84	2.56
3.20	0.26	0.05	0.25	13.80	6.41	5.93	2.35
3.40	0.28	0.07	0.27	14.00	6.49	6.01	2.15
3.60	0.30	0.08	0.29	14.20	6.56	6.09	2.01
3.80	0.32	0.09	0.31	14.40	6.64	6.16	1.91
4.00	0.34	0.10	0.33	14.60	6.71	6.23	1.81
4.20	0.37	0.11	0.35	14.80	6.77	6.30	1.72
4.40	0.39	0.13	0.37	15.00	6.83	6.36	1.62
4.60	0.41	0.14	0.39	15.20	6.89	6.42	1.52
4.80	0.43	0.16	0.41	15.40	6.95	6.47	1.43
5.00	0.45	0.17	0.43	15.60	7.00	6.52	1.33
5.20	0.48	0.19	0.45	15.80	7.04	6.57	1.23
5.40	0.50	0.21	0.47	16.00	7.09	6.61	1.14
5.60	0.53	0.23	0.49	16.20	7.13	6.65	1.07
5.80	0.55	0.25	0.51	16.40	7.17	6.69	1.03
6.00	0.58	0.27	0.52	16.60	7.21	6.73	0.99
6.20	0.60	0.29	0.56	16.80	7.24	6.76	0.94
6.40	0.63	0.31	0.60	17.00	7.28	6.80	0.90
6.60	0.66	0.33	0.64	17.20	7.31	6.83	0.86
6.80	0.69	0.36	0.68	17.40	7.34	6.86	0.82
7.00	0.72	0.39	0.73	17.60	7.37	6.89	0.78
7.20	0.76	0.42	0.77	17.80	7.40	6.92	0.73
7.40	0.79	0.45	0.82	18.00	7.42	6.95	0.69
7.60	0.83	0.48	0.86	18.20	7.45	6.97	0.67
7.80	0.87	0.52	0.91	18.40	7.47	7.00	0.65
8.00	0.91	0.55	0.95	18.60	7.50	7.02	0.64
8.20	0.96	0.59	1.03	18.80	7.52	7.04	0.63
8.40	1.00	0.63	1.12	19.00	7.55	7.07	0.62
8.60	1.05	0.68	1.22	19.20	7.57	7.09	0.60
8.80	1.11	0.73	1.32	19.40	7.59	7.11	0.59
9.00	1.17	0.78	1.41	19.60	7.61	7.14	0.58
9.20	1.23	0.84	1.51	19.80	7.63	7.16	0.57
9.40	1.29	0.90	1.61	20.00	7.66	7.18	0.55
9.60	1.36	0.96	1.71	20.20	7.68	7.20	0.54
9.80	1.44	1.03	1.81	20.40	7.70	7.22	0.53
10.00	1.51	1.11	1.91	20.60	7.72	7.24	0.52
10.20	1.59	1.18	2.07	20.80	7.74	7.26	0.51
10.40	1.68	1.27	2.27	21.00	7.76	7.28	0.50

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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment DA 2: Drainage Area 2 (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	7.77	7.30	0.49
21.40	7.79	7.31	0.49
21.60	7.81	7.33	0.48
21.80	7.83	7.35	0.47
22.00	7.85	7.37	0.46
22.20	7.86	7.38	0.45
22.40	7.88	7.40	0.44
22.60	7.90	7.42	0.43
22.80	7.91	7.43	0.42
23.00	7.93	7.45	0.41
23.20	7.94	7.46	0.40
23.40	7.96	7.48	0.39
23.60	7.97	7.49	0.38
23.80	7.99	7.51	0.37
24.00	8.00	7.52	0.36

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Type III 24-hr 100-Year Rainfall=8.00"

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Summary for Subcatchment DA 2B: Drainage Area 2B Bypass

Runoff = 2.91 cfs @ 12.25 hrs, Volume= 0.292 af, Depth> 3.43"
Routed to Link N : POI North

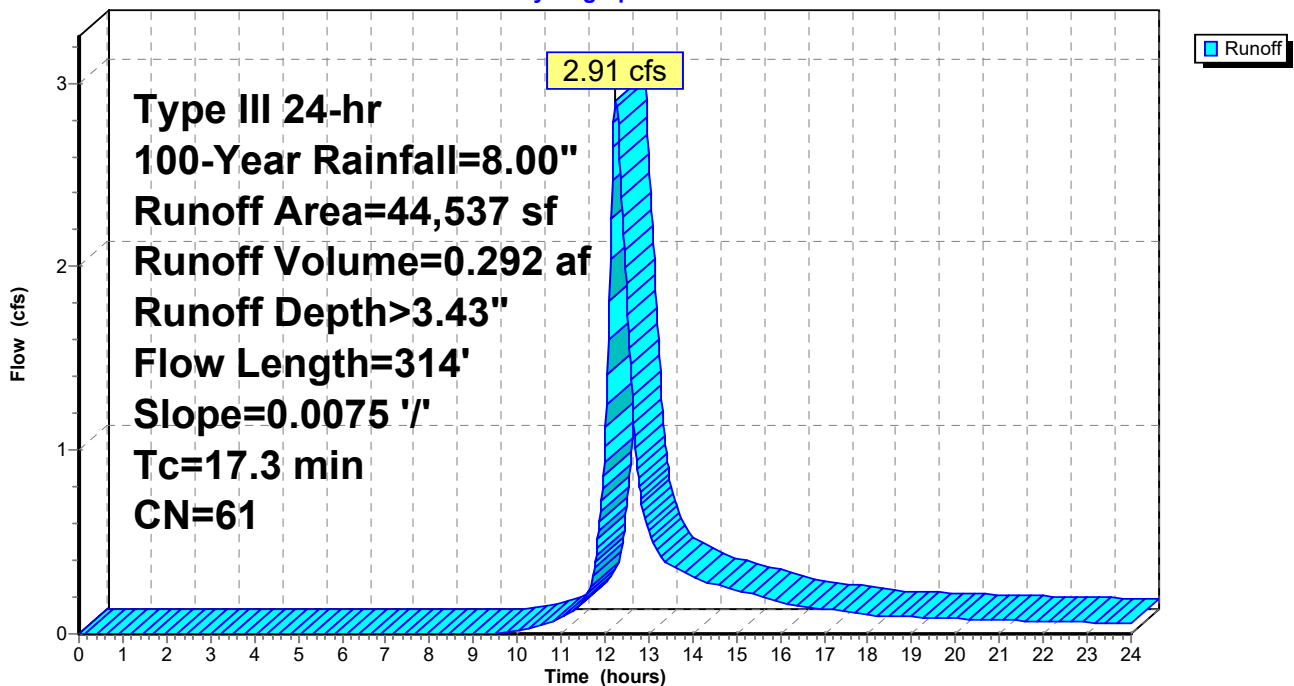
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
44,537	61	>75% Grass cover, Good, HSG B
44,537		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0075	0.11		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.11"
2.6	214	0.0075	1.39		Shallow Concentrated Flow, SCF Unpaved Kv= 16.1 fps
17.3	314	Total			

Subcatchment DA 2B: Drainage Area 2B Bypass

Hydrograph



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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment DA 2B: Drainage Area 2B Bypass

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.78	0.04	0.05
0.20	0.02	0.00	0.00	10.80	1.89	0.05	0.07
0.40	0.03	0.00	0.00	11.00	2.00	0.07	0.09
0.60	0.05	0.00	0.00	11.20	2.13	0.10	0.11
0.80	0.06	0.00	0.00	11.40	2.29	0.14	0.15
1.00	0.08	0.00	0.00	11.60	2.51	0.20	0.21
1.20	0.10	0.00	0.00	11.80	2.99	0.36	0.43
1.40	0.11	0.00	0.00	12.00	4.00	0.81	1.02
1.60	0.13	0.00	0.00	12.20	5.01	1.38	2.79
1.80	0.14	0.00	0.00	12.40	5.49	1.67	2.27
2.00	0.16	0.00	0.00	12.60	5.71	1.81	1.39
2.20	0.18	0.00	0.00	12.80	5.87	1.92	0.77
2.40	0.19	0.00	0.00	13.00	6.00	2.01	0.55
2.60	0.21	0.00	0.00	13.20	6.11	2.08	0.44
2.80	0.23	0.00	0.00	13.40	6.22	2.15	0.39
3.00	0.25	0.00	0.00	13.60	6.32	2.22	0.37
3.20	0.26	0.00	0.00	13.80	6.41	2.28	0.34
3.40	0.28	0.00	0.00	14.00	6.49	2.34	0.32
3.60	0.30	0.00	0.00	14.20	6.56	2.39	0.29
3.80	0.32	0.00	0.00	14.40	6.64	2.44	0.27
4.00	0.34	0.00	0.00	14.60	6.71	2.49	0.26
4.20	0.37	0.00	0.00	14.80	6.77	2.54	0.25
4.40	0.39	0.00	0.00	15.00	6.83	2.58	0.24
4.60	0.41	0.00	0.00	15.20	6.89	2.62	0.23
4.80	0.43	0.00	0.00	15.40	6.95	2.66	0.21
5.00	0.45	0.00	0.00	15.60	7.00	2.70	0.20
5.20	0.48	0.00	0.00	15.80	7.04	2.73	0.19
5.40	0.50	0.00	0.00	16.00	7.09	2.77	0.17
5.60	0.53	0.00	0.00	16.20	7.13	2.80	0.16
5.80	0.55	0.00	0.00	16.40	7.17	2.82	0.15
6.00	0.58	0.00	0.00	16.60	7.21	2.85	0.15
6.20	0.60	0.00	0.00	16.80	7.24	2.88	0.14
6.40	0.63	0.00	0.00	17.00	7.28	2.90	0.13
6.60	0.66	0.00	0.00	17.20	7.31	2.93	0.13
6.80	0.69	0.00	0.00	17.40	7.34	2.95	0.12
7.00	0.72	0.00	0.00	17.60	7.37	2.97	0.12
7.20	0.76	0.00	0.00	17.80	7.40	2.99	0.11
7.40	0.79	0.00	0.00	18.00	7.42	3.01	0.11
7.60	0.83	0.00	0.00	18.20	7.45	3.03	0.10
7.80	0.87	0.00	0.00	18.40	7.47	3.05	0.10
8.00	0.91	0.00	0.00	18.60	7.50	3.07	0.09
8.20	0.96	0.00	0.00	18.80	7.52	3.08	0.09
8.40	1.00	0.00	0.00	19.00	7.55	3.10	0.09
8.60	1.05	0.00	0.00	19.20	7.57	3.12	0.09
8.80	1.11	0.00	0.00	19.40	7.59	3.14	0.09
9.00	1.17	0.00	0.00	19.60	7.61	3.15	0.09
9.20	1.23	0.00	0.00	19.80	7.63	3.17	0.08
9.40	1.29	0.00	0.00	20.00	7.66	3.18	0.08
9.60	1.36	0.00	0.00	20.20	7.68	3.20	0.08
9.80	1.44	0.00	0.01	20.40	7.70	3.22	0.08
10.00	1.51	0.01	0.02	20.60	7.72	3.23	0.08
10.20	1.59	0.01	0.02	20.80	7.74	3.24	0.08
10.40	1.68	0.02	0.04	21.00	7.76	3.26	0.08

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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment DA 2B: Drainage Area 2B Bypass (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	7.77	3.27	0.07
21.40	7.79	3.29	0.07
21.60	7.81	3.30	0.07
21.80	7.83	3.31	0.07
22.00	7.85	3.33	0.07
22.20	7.86	3.34	0.07
22.40	7.88	3.35	0.07
22.60	7.90	3.37	0.06
22.80	7.91	3.38	0.06
23.00	7.93	3.39	0.06
23.20	7.94	3.40	0.06
23.40	7.96	3.41	0.06
23.60	7.97	3.42	0.06
23.80	7.99	3.43	0.06
24.00	8.00	3.44	0.06

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Type III 24-hr 100-Year Rainfall=8.00"

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Summary for Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry

Runoff = 4.69 cfs @ 12.09 hrs, Volume= 0.339 af, Depth> 5.62"
Routed to Pond BIO : BioRetention 1 (South)

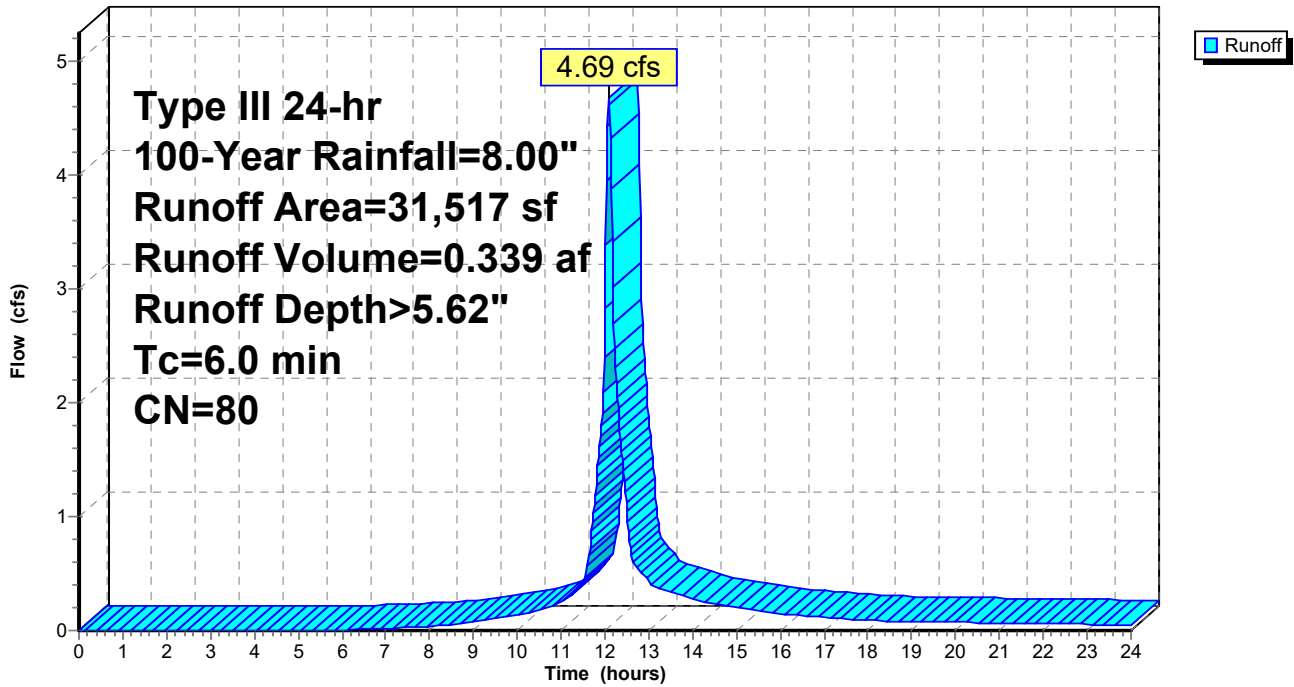
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
31,517	80	>75% Grass cover, Good, HSG D
31,517		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry

Hydrograph



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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.78	0.43	0.20
0.20	0.02	0.00	0.00	10.80	1.89	0.49	0.22
0.40	0.03	0.00	0.00	11.00	2.00	0.56	0.25
0.60	0.05	0.00	0.00	11.20	2.13	0.64	0.30
0.80	0.06	0.00	0.00	11.40	2.29	0.75	0.38
1.00	0.08	0.00	0.00	11.60	2.51	0.90	0.54
1.20	0.10	0.00	0.00	11.80	2.99	1.24	1.27
1.40	0.11	0.00	0.00	12.00	4.00	2.04	2.84
1.60	0.13	0.00	0.00	12.20	5.01	2.90	2.70
1.80	0.14	0.00	0.00	12.40	5.49	3.32	1.49
2.00	0.16	0.00	0.00	12.60	5.71	3.52	0.67
2.20	0.18	0.00	0.00	12.80	5.87	3.66	0.52
2.40	0.19	0.00	0.00	13.00	6.00	3.78	0.43
2.60	0.21	0.00	0.00	13.20	6.11	3.88	0.37
2.80	0.23	0.00	0.00	13.40	6.22	3.98	0.35
3.00	0.25	0.00	0.00	13.60	6.32	4.07	0.32
3.20	0.26	0.00	0.00	13.80	6.41	4.15	0.30
3.40	0.28	0.00	0.00	14.00	6.49	4.22	0.27
3.60	0.30	0.00	0.00	14.20	6.56	4.29	0.25
3.80	0.32	0.00	0.00	14.40	6.64	4.36	0.24
4.00	0.34	0.00	0.00	14.60	6.71	4.42	0.23
4.20	0.37	0.00	0.00	14.80	6.77	4.48	0.22
4.40	0.39	0.00	0.00	15.00	6.83	4.54	0.21
4.60	0.41	0.00	0.00	15.20	6.89	4.60	0.19
4.80	0.43	0.00	0.00	15.40	6.95	4.65	0.18
5.00	0.45	0.00	0.00	15.60	7.00	4.69	0.17
5.20	0.48	0.00	0.00	15.80	7.04	4.74	0.16
5.40	0.50	0.00	0.00	16.00	7.09	4.78	0.15
5.60	0.53	0.00	0.00	16.20	7.13	4.81	0.14
5.80	0.55	0.00	0.00	16.40	7.17	4.85	0.13
6.00	0.58	0.00	0.00	16.60	7.21	4.88	0.13
6.20	0.60	0.00	0.01	16.80	7.24	4.92	0.12
6.40	0.63	0.01	0.01	17.00	7.28	4.95	0.12
6.60	0.66	0.01	0.01	17.20	7.31	4.98	0.11
6.80	0.69	0.01	0.01	17.40	7.34	5.01	0.11
7.00	0.72	0.02	0.02	17.60	7.37	5.04	0.10
7.20	0.76	0.02	0.02	17.80	7.40	5.06	0.09
7.40	0.79	0.03	0.02	18.00	7.42	5.09	0.09
7.60	0.83	0.04	0.03	18.20	7.45	5.11	0.09
7.80	0.87	0.05	0.03	18.40	7.47	5.13	0.08
8.00	0.91	0.06	0.04	18.60	7.50	5.16	0.08
8.20	0.96	0.07	0.04	18.80	7.52	5.18	0.08
8.40	1.00	0.08	0.05	19.00	7.55	5.20	0.08
8.60	1.05	0.10	0.06	19.20	7.57	5.22	0.08
8.80	1.11	0.12	0.07	19.40	7.59	5.24	0.08
9.00	1.17	0.14	0.08	19.60	7.61	5.26	0.07
9.20	1.23	0.16	0.09	19.80	7.63	5.28	0.07
9.40	1.29	0.19	0.10	20.00	7.66	5.30	0.07
9.60	1.36	0.22	0.11	20.20	7.68	5.32	0.07
9.80	1.44	0.25	0.12	20.40	7.70	5.34	0.07
10.00	1.51	0.29	0.14	20.60	7.72	5.36	0.07
10.20	1.59	0.33	0.15	20.80	7.74	5.38	0.07
10.40	1.68	0.38	0.17	21.00	7.76	5.40	0.07

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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment DA 3: Drainage Area 3 - Bio Direct Entry (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	7.77	5.41	0.06
21.40	7.79	5.43	0.06
21.60	7.81	5.45	0.06
21.80	7.83	5.46	0.06
22.00	7.85	5.48	0.06
22.20	7.86	5.50	0.06
22.40	7.88	5.51	0.06
22.60	7.90	5.53	0.06
22.80	7.91	5.54	0.05
23.00	7.93	5.56	0.05
23.20	7.94	5.57	0.05
23.40	7.96	5.59	0.05
23.60	7.97	5.60	0.05
23.80	7.99	5.61	0.05
24.00	8.00	5.63	0.05

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Type III 24-hr 100-Year Rainfall=8.00"

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Summary for Subcatchment DA 4: Drainage Area 4

Runoff = 1.43 cfs @ 12.20 hrs, Volume= 0.134 af, Depth> 3.43"
Routed to Pond DET2 : MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

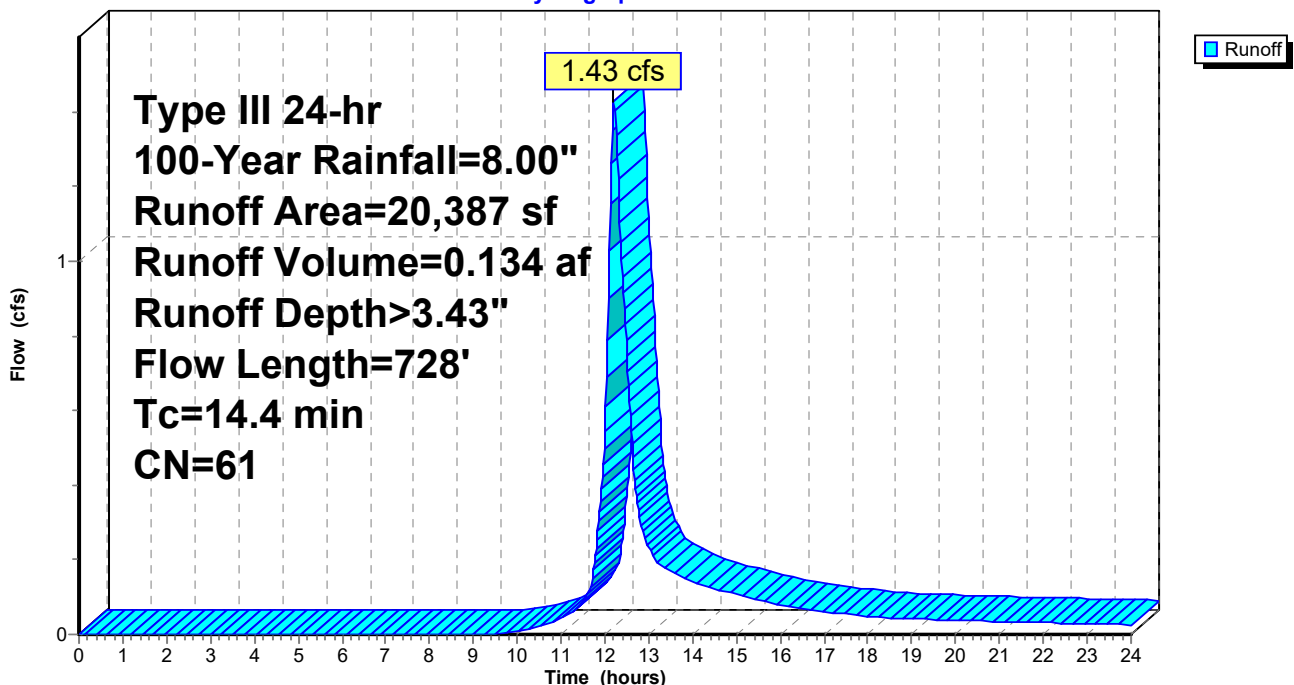
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
20,387	61	>75% Grass cover, Good, HSG B
20,387		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	100	0.0150	0.15		Sheet Flow, SF Grass: Short n= 0.150 P2= 3.11"
2.6	304	0.0150	1.97		Shallow Concentrated Flow, Grass SCF Unpaved Kv= 16.1 fps
0.6	324	0.0250	9.02	11.06	Pipe Channel, Pipe Flow 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
14.4	728	Total			

Subcatchment DA 4: Drainage Area 4

Hydrograph



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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment DA 4: Drainage Area 4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.78	0.04	0.02
0.20	0.02	0.00	0.00	10.80	1.89	0.05	0.03
0.40	0.03	0.00	0.00	11.00	2.00	0.07	0.04
0.60	0.05	0.00	0.00	11.20	2.13	0.10	0.05
0.80	0.06	0.00	0.00	11.40	2.29	0.14	0.07
1.00	0.08	0.00	0.00	11.60	2.51	0.20	0.10
1.20	0.10	0.00	0.00	11.80	2.99	0.36	0.23
1.40	0.11	0.00	0.00	12.00	4.00	0.81	0.55
1.60	0.13	0.00	0.00	12.20	5.01	1.38	1.43
1.80	0.14	0.00	0.00	12.40	5.49	1.67	0.96
2.00	0.16	0.00	0.00	12.60	5.71	1.81	0.55
2.20	0.18	0.00	0.00	12.80	5.87	1.92	0.31
2.40	0.19	0.00	0.00	13.00	6.00	2.01	0.24
2.60	0.21	0.00	0.00	13.20	6.11	2.08	0.19
2.80	0.23	0.00	0.00	13.40	6.22	2.15	0.18
3.00	0.25	0.00	0.00	13.60	6.32	2.22	0.16
3.20	0.26	0.00	0.00	13.80	6.41	2.28	0.15
3.40	0.28	0.00	0.00	14.00	6.49	2.34	0.14
3.60	0.30	0.00	0.00	14.20	6.56	2.39	0.13
3.80	0.32	0.00	0.00	14.40	6.64	2.44	0.12
4.00	0.34	0.00	0.00	14.60	6.71	2.49	0.12
4.20	0.37	0.00	0.00	14.80	6.77	2.54	0.11
4.40	0.39	0.00	0.00	15.00	6.83	2.58	0.11
4.60	0.41	0.00	0.00	15.20	6.89	2.62	0.10
4.80	0.43	0.00	0.00	15.40	6.95	2.66	0.10
5.00	0.45	0.00	0.00	15.60	7.00	2.70	0.09
5.20	0.48	0.00	0.00	15.80	7.04	2.73	0.08
5.40	0.50	0.00	0.00	16.00	7.09	2.77	0.08
5.60	0.53	0.00	0.00	16.20	7.13	2.80	0.07
5.80	0.55	0.00	0.00	16.40	7.17	2.82	0.07
6.00	0.58	0.00	0.00	16.60	7.21	2.85	0.07
6.20	0.60	0.00	0.00	16.80	7.24	2.88	0.06
6.40	0.63	0.00	0.00	17.00	7.28	2.90	0.06
6.60	0.66	0.00	0.00	17.20	7.31	2.93	0.06
6.80	0.69	0.00	0.00	17.40	7.34	2.95	0.06
7.00	0.72	0.00	0.00	17.60	7.37	2.97	0.05
7.20	0.76	0.00	0.00	17.80	7.40	2.99	0.05
7.40	0.79	0.00	0.00	18.00	7.42	3.01	0.05
7.60	0.83	0.00	0.00	18.20	7.45	3.03	0.05
7.80	0.87	0.00	0.00	18.40	7.47	3.05	0.04
8.00	0.91	0.00	0.00	18.60	7.50	3.07	0.04
8.20	0.96	0.00	0.00	18.80	7.52	3.08	0.04
8.40	1.00	0.00	0.00	19.00	7.55	3.10	0.04
8.60	1.05	0.00	0.00	19.20	7.57	3.12	0.04
8.80	1.11	0.00	0.00	19.40	7.59	3.14	0.04
9.00	1.17	0.00	0.00	19.60	7.61	3.15	0.04
9.20	1.23	0.00	0.00	19.80	7.63	3.17	0.04
9.40	1.29	0.00	0.00	20.00	7.66	3.18	0.04
9.60	1.36	0.00	0.00	20.20	7.68	3.20	0.04
9.80	1.44	0.00	0.00	20.40	7.70	3.22	0.04
10.00	1.51	0.01	0.01	20.60	7.72	3.23	0.04
10.20	1.59	0.01	0.01	20.80	7.74	3.24	0.04
10.40	1.68	0.02	0.02	21.00	7.76	3.26	0.03

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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment DA 4: Drainage Area 4 (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	7.77	3.27	0.03
21.40	7.79	3.29	0.03
21.60	7.81	3.30	0.03
21.80	7.83	3.31	0.03
22.00	7.85	3.33	0.03
22.20	7.86	3.34	0.03
22.40	7.88	3.35	0.03
22.60	7.90	3.37	0.03
22.80	7.91	3.38	0.03
23.00	7.93	3.39	0.03
23.20	7.94	3.40	0.03
23.40	7.96	3.41	0.03
23.60	7.97	3.42	0.03
23.80	7.99	3.43	0.03
24.00	8.00	3.44	0.03

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Summary for Subcatchment OFF: Offsite Drainage Area

Runoff = 19.05 cfs @ 12.09 hrs, Volume= 1.387 af, Depth> 5.85"

Routed to Pond DET2 : MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

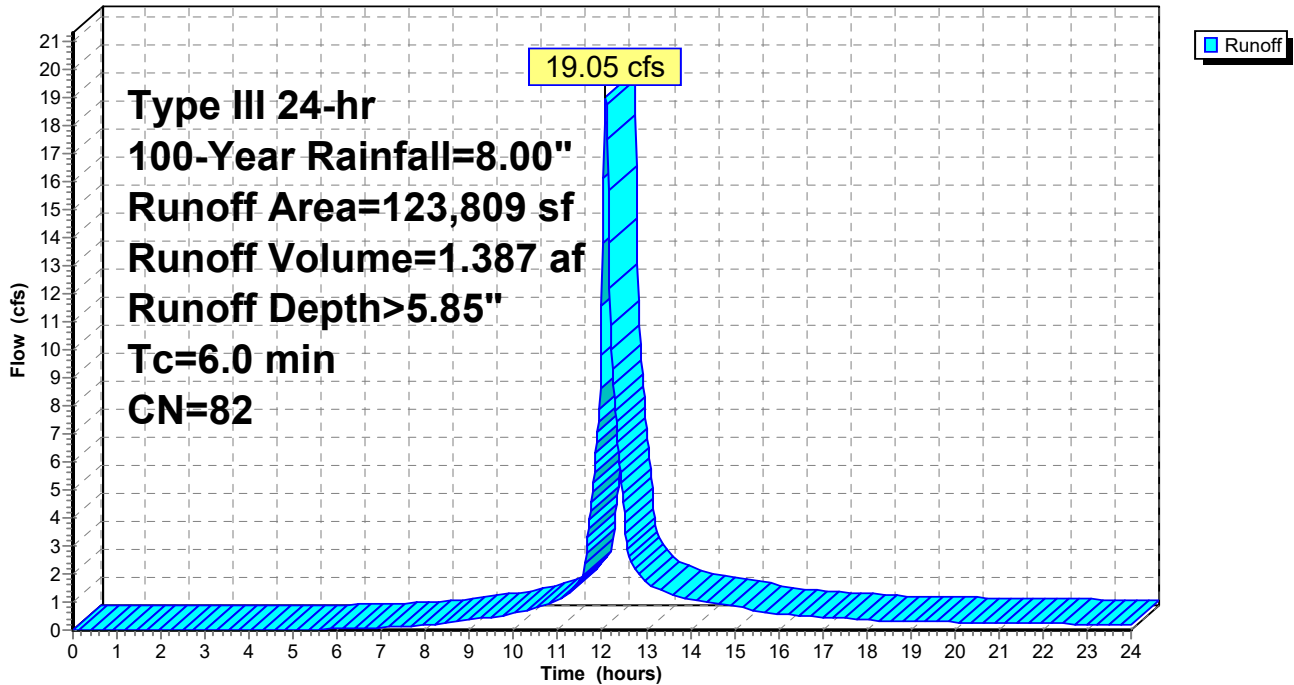
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 100-Year Rainfall=8.00"

Area (sf)	CN	Description
52,228	61	>75% Grass cover, Good, HSG B
* 71,581	98	Impervious Surfaces
123,809	82	Weighted Average
52,228		42.18% Pervious Area
71,581		57.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Min. Tc

Subcatchment OFF: Offsite Drainage Area

Hydrograph



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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment OFF: Offsite Drainage Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	10.60	1.78	0.51	0.85
0.20	0.02	0.00	0.00	10.80	1.89	0.58	0.95
0.40	0.03	0.00	0.00	11.00	2.00	0.65	1.05
0.60	0.05	0.00	0.00	11.20	2.13	0.74	1.28
0.80	0.06	0.00	0.00	11.40	2.29	0.85	1.61
1.00	0.08	0.00	0.00	11.60	2.51	1.01	2.26
1.20	0.10	0.00	0.00	11.80	2.99	1.37	5.27
1.40	0.11	0.00	0.00	12.00	4.00	2.20	11.60
1.60	0.13	0.00	0.00	12.20	5.01	3.09	10.92
1.80	0.14	0.00	0.00	12.40	5.49	3.52	5.98
2.00	0.16	0.00	0.00	12.60	5.71	3.72	2.70
2.20	0.18	0.00	0.00	12.80	5.87	3.87	2.10
2.40	0.19	0.00	0.00	13.00	6.00	3.99	1.72
2.60	0.21	0.00	0.00	13.20	6.11	4.09	1.49
2.80	0.23	0.00	0.00	13.40	6.22	4.19	1.39
3.00	0.25	0.00	0.00	13.60	6.32	4.28	1.29
3.20	0.26	0.00	0.00	13.80	6.41	4.36	1.19
3.40	0.28	0.00	0.00	14.00	6.49	4.44	1.09
3.60	0.30	0.00	0.00	14.20	6.56	4.51	1.02
3.80	0.32	0.00	0.00	14.40	6.64	4.58	0.97
4.00	0.34	0.00	0.00	14.60	6.71	4.64	0.92
4.20	0.37	0.00	0.00	14.80	6.77	4.70	0.87
4.40	0.39	0.00	0.00	15.00	6.83	4.76	0.83
4.60	0.41	0.00	0.00	15.20	6.89	4.82	0.78
4.80	0.43	0.00	0.00	15.40	6.95	4.87	0.73
5.00	0.45	0.00	0.00	15.60	7.00	4.91	0.68
5.20	0.48	0.00	0.01	15.80	7.04	4.96	0.63
5.40	0.50	0.00	0.02	16.00	7.09	5.00	0.58
5.60	0.53	0.00	0.02	16.20	7.13	5.04	0.55
5.80	0.55	0.01	0.03	16.40	7.17	5.07	0.53
6.00	0.58	0.01	0.04	16.60	7.21	5.11	0.51
6.20	0.60	0.01	0.05	16.80	7.24	5.14	0.48
6.40	0.63	0.02	0.06	17.00	7.28	5.18	0.46
6.60	0.66	0.02	0.07	17.20	7.31	5.21	0.44
6.80	0.69	0.03	0.08	17.40	7.34	5.24	0.42
7.00	0.72	0.03	0.10	17.60	7.37	5.26	0.40
7.20	0.76	0.04	0.11	17.80	7.40	5.29	0.38
7.40	0.79	0.05	0.13	18.00	7.42	5.31	0.36
7.60	0.83	0.06	0.15	18.20	7.45	5.34	0.34
7.80	0.87	0.07	0.16	18.40	7.47	5.36	0.34
8.00	0.91	0.08	0.18	18.60	7.50	5.39	0.33
8.20	0.96	0.10	0.21	18.80	7.52	5.41	0.32
8.40	1.00	0.12	0.24	19.00	7.55	5.43	0.32
8.60	1.05	0.13	0.28	19.20	7.57	5.45	0.31
8.80	1.11	0.16	0.31	19.40	7.59	5.47	0.30
9.00	1.17	0.18	0.36	19.60	7.61	5.49	0.30
9.20	1.23	0.21	0.40	19.80	7.63	5.51	0.29
9.40	1.29	0.24	0.44	20.00	7.66	5.53	0.28
9.60	1.36	0.27	0.49	20.20	7.68	5.55	0.28
9.80	1.44	0.31	0.54	20.40	7.70	5.57	0.27
10.00	1.51	0.35	0.59	20.60	7.72	5.59	0.27
10.20	1.59	0.40	0.66	20.80	7.74	5.61	0.26
10.40	1.68	0.45	0.75	21.00	7.76	5.63	0.26

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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Subcatchment OFF: Offsite Drainage Area (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
21.20	7.77	5.65	0.26
21.40	7.79	5.66	0.25
21.60	7.81	5.68	0.25
21.80	7.83	5.70	0.24
22.00	7.85	5.71	0.24
22.20	7.86	5.73	0.23
22.40	7.88	5.75	0.23
22.60	7.90	5.76	0.22
22.80	7.91	5.78	0.22
23.00	7.93	5.79	0.21
23.20	7.94	5.81	0.21
23.40	7.96	5.82	0.20
23.60	7.97	5.83	0.20
23.80	7.99	5.85	0.19
24.00	8.00	5.86	0.19

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Summary for Pond BIO: BioRetention 1 (South)

Inflow Area = 4.532 ac, 84.04% Impervious, Inflow Depth > 3.33" for 100-Year event
 Inflow = 6.17 cfs @ 12.09 hrs, Volume= 1.256 af
 Outflow = 4.04 cfs @ 12.19 hrs, Volume= 1.039 af, Atten= 35%, Lag= 6.2 min
 Primary = 4.04 cfs @ 12.19 hrs, Volume= 1.039 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs / 2
 Peak Elev= 299.72' @ 12.19 hrs Surf.Area= 18,680 sf Storage= 12,889 cf

Plug-Flow detention time= 189.4 min calculated for 1.039 af (83% of inflow)
 Center-of-Mass det. time= 91.4 min (865.5 - 774.2)

Volume	Invert	Avail.Storage	Storage Description
#1	299.00'	18,277 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
299.00	17,341	0	0
300.00	19,212	18,277	18,277

Device	Routing	Invert	Outlet Devices
#1	Primary	299.50'	24.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	299.00'	0.250 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 102.00'

Primary OutFlow Max=4.03 cfs @ 12.19 hrs HW=299.72' (Free Discharge)

- 1=Orifice/Grate (Weir Controls 3.92 cfs @ 1.52 fps)
- 2=Exfiltration (Controls 0.11 cfs)

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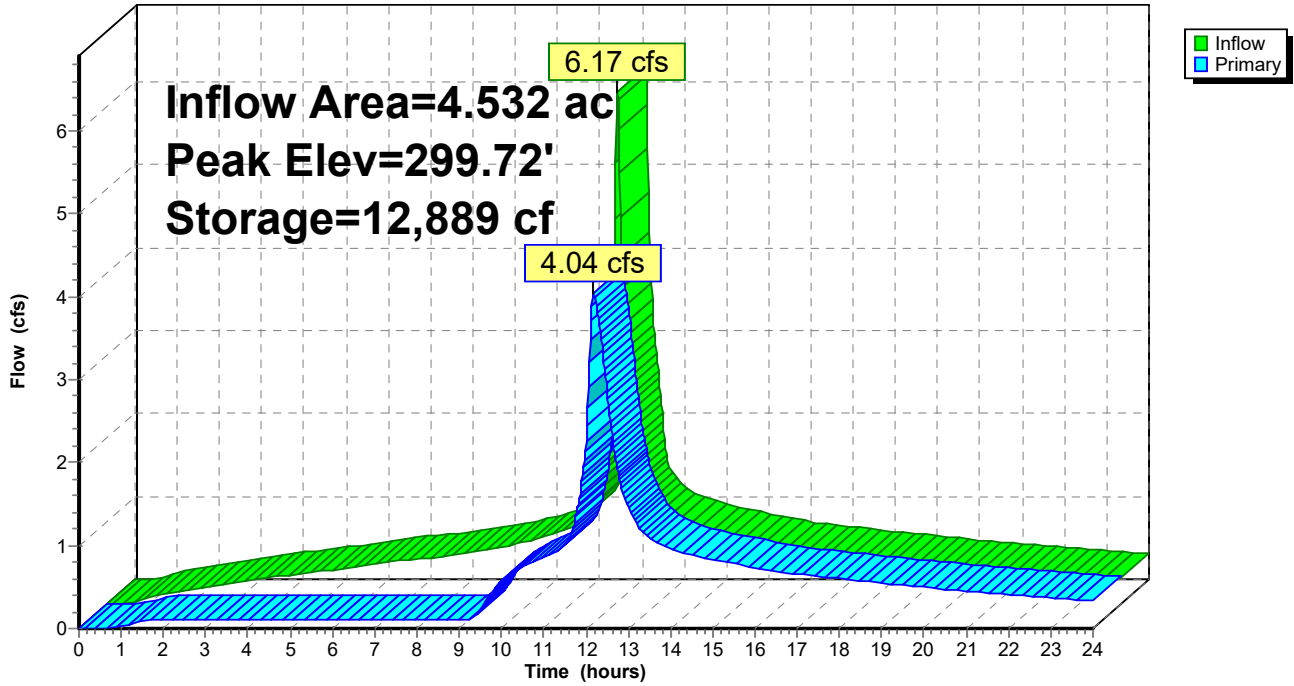
Type III 24-hr 100-Year Rainfall=8.00"

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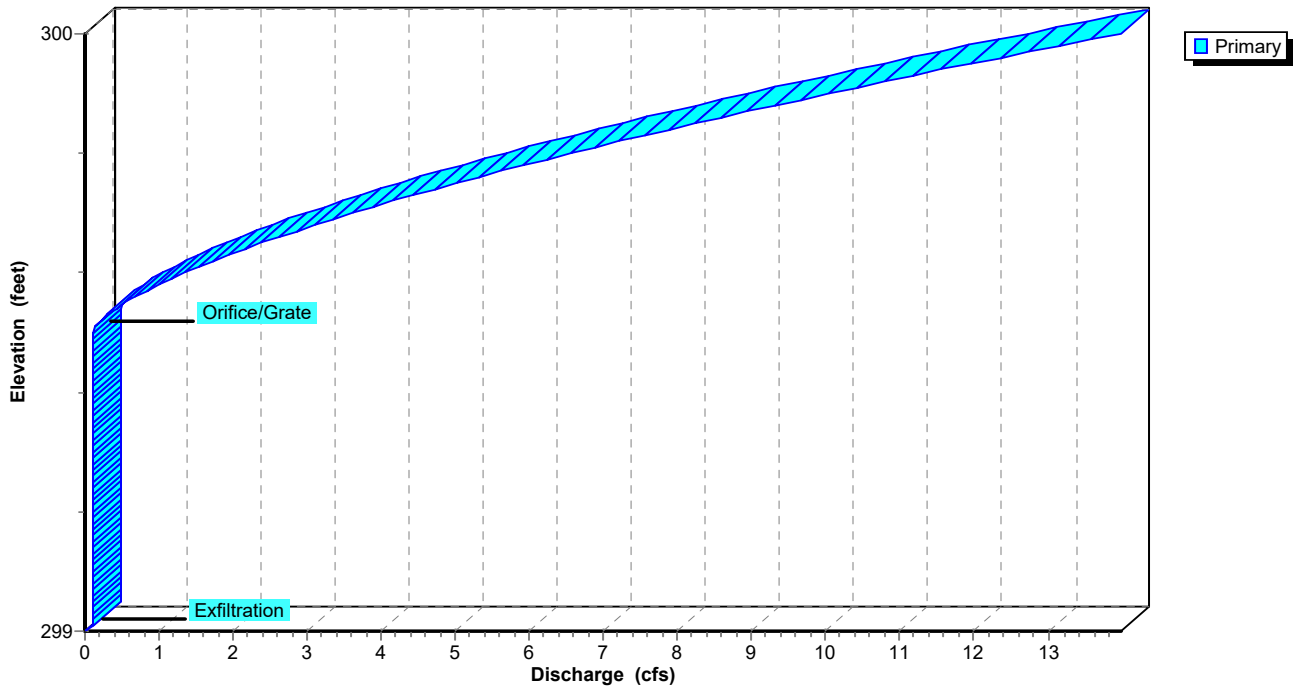
Pond BIO: BioRetention 1 (South)

Hydrograph



Pond BIO: BioRetention 1 (South)

Stage-Discharge



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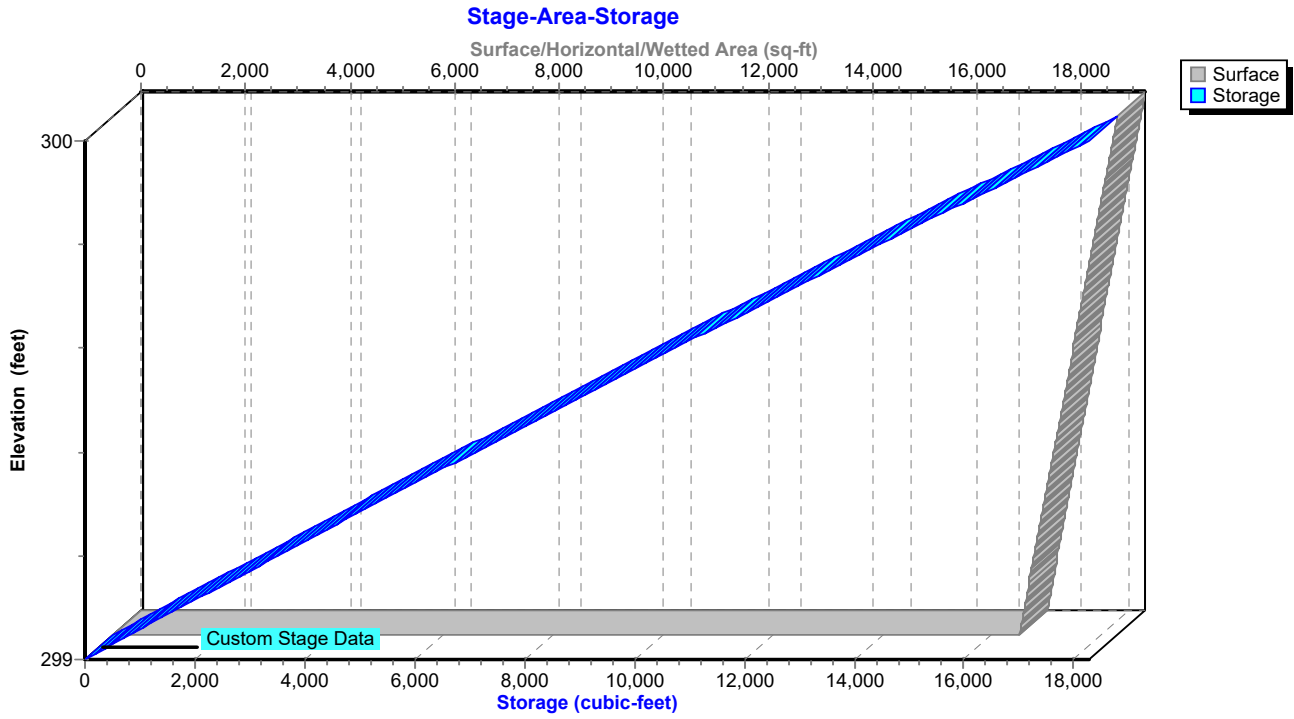
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Pond BIO: BioRetention 1 (South)



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Hydrograph for Pond BIO: BioRetention 1 (South)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	299.00	0.00
0.20	0.00	0	299.00	0.00
0.40	0.00	0	299.00	0.00
0.60	0.00	0	299.00	0.00
0.80	0.04	14	299.00	0.01
1.00	0.08	46	299.00	0.03
1.20	0.11	85	299.00	0.05
1.40	0.13	125	299.01	0.07
1.60	0.15	165	299.01	0.10
1.80	0.16	206	299.01	0.10
2.00	0.18	257	299.01	0.10
2.20	0.19	319	299.02	0.10
2.40	0.21	392	299.02	0.10
2.60	0.23	478	299.03	0.10
2.80	0.24	575	299.03	0.10
3.00	0.26	683	299.04	0.10
3.20	0.27	802	299.05	0.10
3.40	0.29	931	299.05	0.10
3.60	0.30	1,071	299.06	0.10
3.80	0.32	1,220	299.07	0.10
4.00	0.33	1,379	299.08	0.10
4.20	0.34	1,548	299.09	0.10
4.40	0.35	1,725	299.10	0.10
4.60	0.37	1,912	299.11	0.10
4.80	0.38	2,107	299.12	0.10
5.00	0.39	2,311	299.13	0.10
5.20	0.40	2,524	299.14	0.10
5.40	0.41	2,745	299.16	0.10
5.60	0.43	2,974	299.17	0.10
5.80	0.44	3,213	299.18	0.10
6.00	0.45	3,461	299.20	0.10
6.20	0.48	3,721	299.21	0.10
6.40	0.49	3,996	299.23	0.10
6.60	0.51	4,281	299.24	0.10
6.80	0.52	4,574	299.26	0.10
7.00	0.53	4,875	299.28	0.10
7.20	0.54	5,182	299.29	0.10
7.40	0.55	5,497	299.31	0.10
7.60	0.55	5,818	299.33	0.10
7.80	0.56	6,146	299.35	0.10
8.00	0.57	6,481	299.37	0.10
8.20	0.59	6,824	299.39	0.10
8.40	0.61	7,178	299.41	0.10
8.60	0.62	7,545	299.43	0.11
8.80	0.64	7,924	299.45	0.11
9.00	0.66	8,315	299.47	0.11
9.20	0.68	8,720	299.49	0.11
9.40	0.70	9,127	299.51	0.16
9.60	0.71	9,464	299.53	0.32
9.80	0.73	9,702	299.54	0.46
10.00	0.75	9,860	299.55	0.58
10.20	0.78	9,966	299.56	0.65
10.40	0.81	10,046	299.56	0.72

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Hydrograph for Pond BIO: BioRetention 1 (South) (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
10.60	0.85	10,109	299.57	0.77
10.80	0.88	10,163	299.57	0.81
11.00	0.92	10,213	299.57	0.85
11.20	1.00	10,267	299.57	0.90
11.40	1.11	10,352	299.58	0.98
11.60	1.32	10,466	299.59	1.08
11.80	2.21	10,839	299.61	1.45
12.00	4.02	11,568	299.64	2.27
12.20	3.83	12,884	299.72	4.03
12.40	2.42	12,372	299.69	3.31
12.60	1.45	11,684	299.65	2.41
12.80	1.25	11,155	299.62	1.79
13.00	1.12	10,852	299.61	1.46
13.20	1.05	10,652	299.60	1.26
13.40	1.01	10,531	299.59	1.14
13.60	0.98	10,452	299.58	1.07
13.80	0.94	10,392	299.58	1.01
14.00	0.90	10,342	299.58	0.97
14.20	0.87	10,297	299.58	0.93
14.40	0.86	10,262	299.57	0.90
14.60	0.84	10,234	299.57	0.87
14.80	0.82	10,208	299.57	0.85
15.00	0.80	10,185	299.57	0.83
15.20	0.78	10,161	299.57	0.81
15.40	0.76	10,137	299.57	0.79
15.60	0.74	10,112	299.57	0.77
15.80	0.72	10,087	299.56	0.75
16.00	0.69	10,061	299.56	0.73
16.20	0.68	10,036	299.56	0.71
16.40	0.67	10,016	299.56	0.69
16.60	0.66	9,999	299.56	0.68
16.80	0.65	9,984	299.56	0.67
17.00	0.64	9,969	299.56	0.66
17.20	0.63	9,955	299.56	0.65
17.40	0.61	9,939	299.56	0.63
17.60	0.60	9,924	299.56	0.62
17.80	0.59	9,908	299.55	0.61
18.00	0.57	9,891	299.55	0.60
18.20	0.56	9,874	299.55	0.59
18.40	0.56	9,860	299.55	0.57
18.60	0.55	9,849	299.55	0.57
18.80	0.54	9,837	299.55	0.56
19.00	0.53	9,824	299.55	0.55
19.20	0.52	9,810	299.55	0.54
19.40	0.51	9,795	299.55	0.53
19.60	0.50	9,780	299.55	0.52
19.80	0.49	9,765	299.55	0.51
20.00	0.48	9,749	299.55	0.50
20.20	0.47	9,734	299.55	0.49
20.40	0.46	9,719	299.54	0.48
20.60	0.45	9,706	299.54	0.47
20.80	0.44	9,693	299.54	0.46
21.00	0.43	9,681	299.54	0.45

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Hydrograph for Pond BIO: BioRetention 1 (South) (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
21.20	0.43	9,669	299.54	0.44
21.40	0.42	9,656	299.54	0.43
21.60	0.41	9,644	299.54	0.43
21.80	0.40	9,632	299.54	0.42
22.00	0.39	9,620	299.54	0.41
22.20	0.38	9,607	299.54	0.40
22.40	0.38	9,594	299.54	0.39
22.60	0.37	9,581	299.54	0.39
22.80	0.36	9,567	299.54	0.38
23.00	0.35	9,554	299.54	0.37
23.20	0.34	9,541	299.53	0.36
23.40	0.34	9,527	299.53	0.35
23.60	0.33	9,514	299.53	0.35
23.80	0.32	9,500	299.53	0.34
24.00	0.31	9,486	299.53	0.33

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Stage-Discharge for Pond BIO: BioRetention 1 (South)

Elevation (feet)	Primary (cfs)
299.00	0.00
299.10	0.10
299.20	0.10
299.30	0.10
299.40	0.10
299.50	0.11
299.60	1.35
299.70	3.62
299.80	6.56
299.90	10.04
300.00	13.99

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Stage-Area-Storage for Pond BIO: BioRetention 1 (South)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
299.00	17,341	0
299.10	17,528	1,743
299.20	17,715	3,506
299.30	17,902	5,286
299.40	18,089	7,086
299.50	18,277	8,904
299.60	18,464	10,741
299.70	18,651	12,597
299.80	18,838	14,472
299.90	19,025	16,365
300.00	19,212	18,277

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Summary for Pond DET1: MC-4500 StormTech DETENTION ONLY

[81] Warning: Exceeded Pond SPLIT by 2.71' @ 12.16 hrs

Inflow = 28.40 cfs @ 12.08 hrs, Volume= 1.544 af
 Outflow = 26.28 cfs @ 12.12 hrs, Volume= 1.542 af, Atten= 7%, Lag= 2.0 min
 Primary = 26.28 cfs @ 12.12 hrs, Volume= 1.542 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Peak Elev= 307.14' @ 12.12 hrs Surf.Area= 0.089 ac Storage= 0.367 af

Plug-Flow detention time= 78.8 min calculated for 1.542 af (100% of inflow)
 Center-of-Mass det. time= 78.3 min (805.3 - 727.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	300.93'	0.145 af	37.58'W x 103.72'L x 6.75'H Field A 0.604 af Overall - 0.241 af Embedded = 0.363 af x 40.0% Voids
#2A	301.68'	0.241 af	ADS_StormTech MC-4500 +Cap x 96 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 96 Chambers in 4 Rows Cap Storage= 35.7 cf x 2 x 4 rows = 285.6 cf
		0.386 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	300.93'	4.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#2	Primary	305.00'	36.0" W x 18.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	307.18'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=26.20 cfs @ 12.12 hrs HW=307.13' (Free Discharge)

- 1=Underdrain (Orifice Controls 1.03 cfs @ 11.83 fps)
- 2=Orifice/Grate (Orifice Controls 25.16 cfs @ 5.59 fps)
- 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Pond DET1: MC-4500 StormTech DETENTION ONLY - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-4500 +Cap (ADS StormTech®MC-4500 with cap, use MC-4500 b for new designs)

Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf

Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap

Cap Storage= 35.7 cf x 2 x 4 rows = 285.6 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

24 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 101.72' Row Length +12.0" End Stone x 2 = 103.72' Base Length

4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width

9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

96 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 4 Rows = 10,508.7 cf Chamber Storage

26,311.6 cf Field - 10,508.7 cf Chambers = 15,802.9 cf Stone x 40.0% Voids = 6,321.2 cf Stone Storage

Chamber Storage + Stone Storage = 16,829.9 cf = 0.386 af

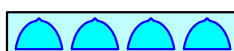
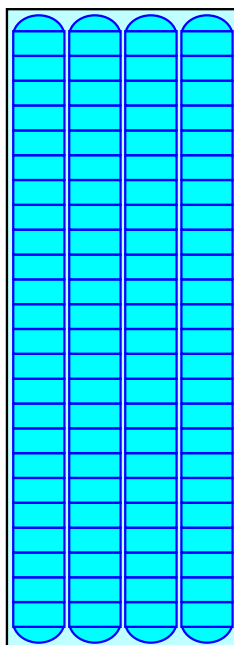
Overall Storage Efficiency = 64.0%

Overall System Size = 103.72' x 37.58' x 6.75'

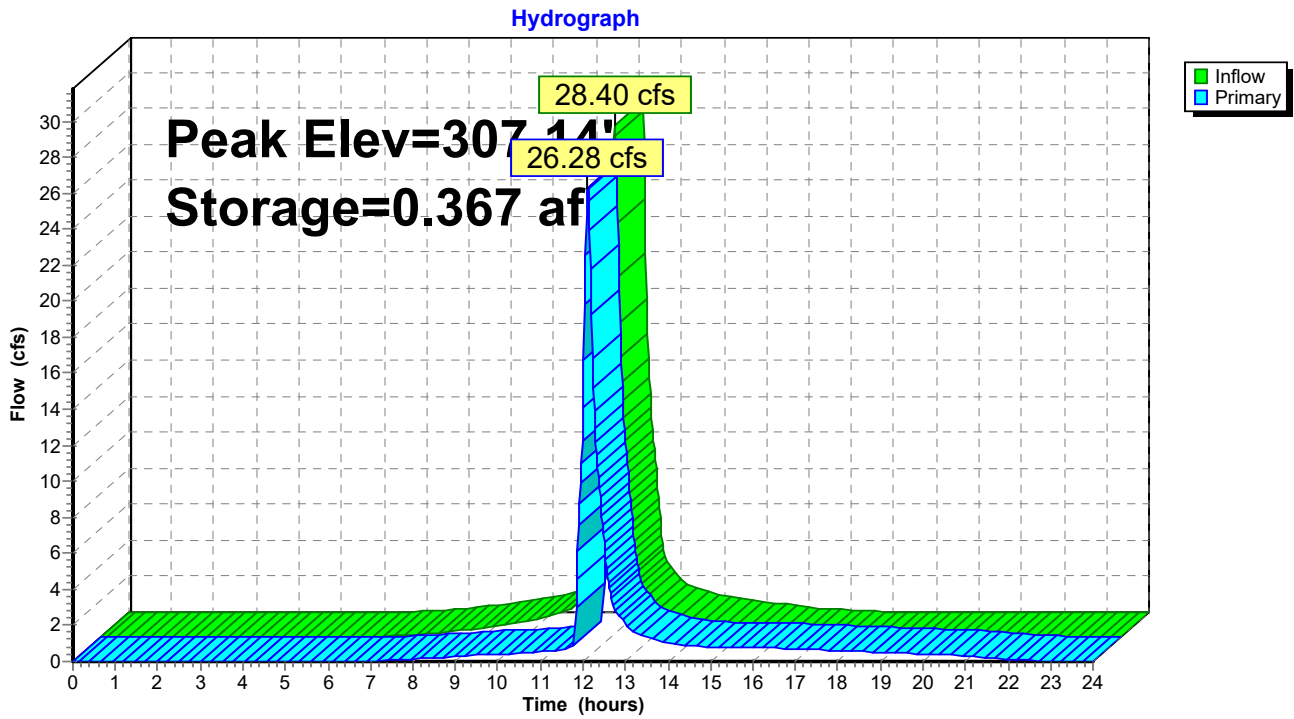
96 Chambers

974.5 cy Field

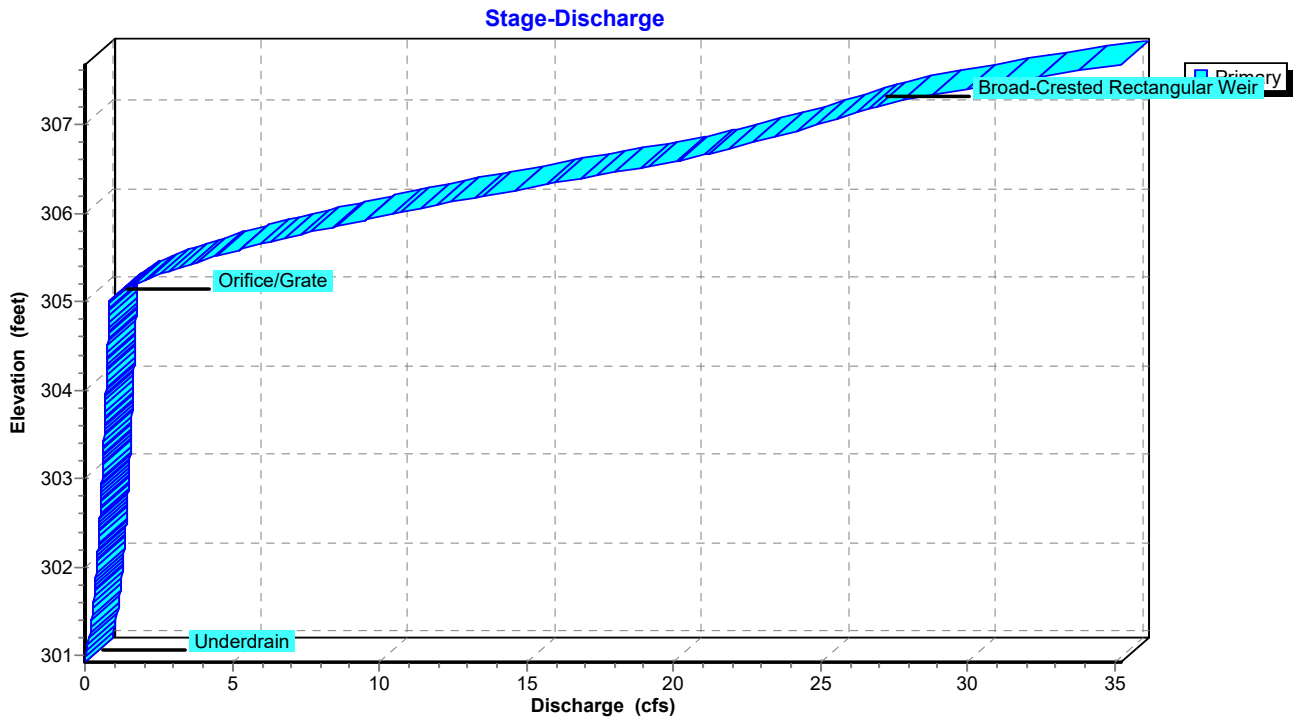
585.3 cy Stone



Pond DET1: MC-4500 StormTech DETENTION ONLY



Pond DET1: MC-4500 StormTech DETENTION ONLY



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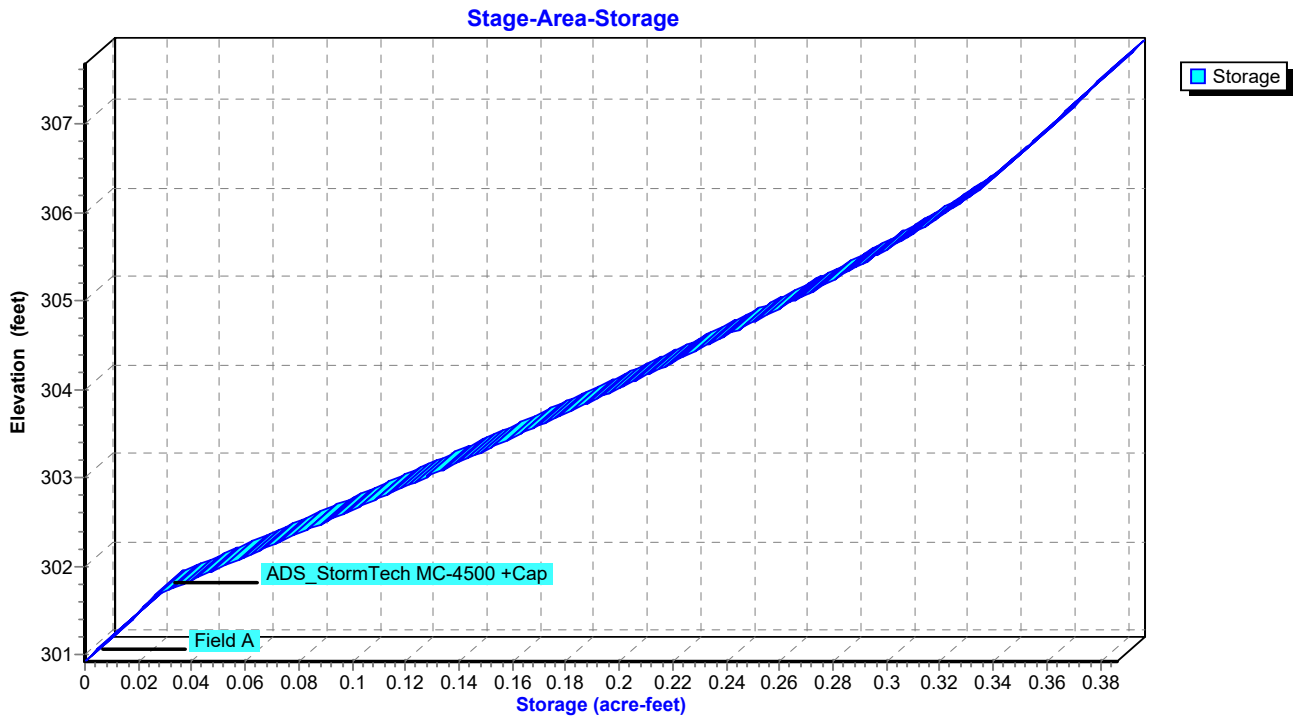
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Pond DET1: MC-4500 StormTech DETENTION ONLY



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Hydrograph for Pond DET1: MC-4500 StormTech DETENTION ONLY

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	300.93	0.00
0.20	0.00	0.000	300.93	0.00
0.40	0.00	0.000	300.93	0.00
0.60	0.00	0.000	300.93	0.00
0.80	0.00	0.000	300.93	0.00
1.00	0.00	0.000	300.93	0.00
1.20	0.00	0.000	300.93	0.00
1.40	0.00	0.000	300.93	0.00
1.60	0.00	0.000	300.93	0.00
1.80	0.00	0.000	300.93	0.00
2.00	0.00	0.000	300.93	0.00
2.20	0.00	0.000	300.93	0.00
2.40	0.00	0.000	300.93	0.00
2.60	0.00	0.000	300.93	0.00
2.80	0.00	0.000	300.93	0.00
3.00	0.00	0.000	300.93	0.00
3.20	0.00	0.000	300.93	0.00
3.40	0.00	0.000	300.93	0.00
3.60	0.00	0.000	300.93	0.00
3.80	0.00	0.000	300.93	0.00
4.00	0.00	0.000	300.93	0.00
4.20	0.00	0.000	300.93	0.00
4.40	0.00	0.000	300.93	0.00
4.60	0.00	0.000	300.93	0.00
4.80	0.00	0.000	300.93	0.00
5.00	0.00	0.000	300.93	0.00
5.20	0.00	0.000	300.93	0.00
5.40	0.00	0.000	300.93	0.00
5.60	0.00	0.000	300.93	0.00
5.80	0.00	0.000	300.93	0.00
6.00	0.00	0.000	300.93	0.00
6.20	0.00	0.000	300.93	0.00
6.40	0.02	0.000	300.93	0.00
6.60	0.04	0.001	300.95	0.00
6.80	0.06	0.001	300.97	0.01
7.00	0.09	0.002	301.00	0.01
7.20	0.11	0.004	301.04	0.03
7.40	0.14	0.005	301.08	0.05
7.60	0.17	0.007	301.12	0.08
7.80	0.19	0.008	301.16	0.10
8.00	0.22	0.010	301.20	0.13
8.20	0.26	0.011	301.24	0.16
8.40	0.32	0.013	301.30	0.19
8.60	0.39	0.016	301.37	0.22
8.80	0.45	0.019	301.45	0.25
9.00	0.51	0.022	301.55	0.28
9.20	0.57	0.026	301.66	0.32
9.40	0.64	0.031	301.73	0.33
9.60	0.70	0.036	301.80	0.35
9.80	0.77	0.042	301.88	0.37
10.00	0.83	0.049	301.97	0.39
10.20	0.94	0.057	302.07	0.42
10.40	1.07	0.067	302.20	0.44

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Hydrograph for Pond DET1: MC-4500 StormTech DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
10.60	1.21	0.078	302.35	0.47
10.80	1.34	0.091	302.52	0.50
11.00	1.48	0.106	302.72	0.53
11.20	1.83	0.123	302.95	0.57
11.40	2.36	0.148	303.29	0.62
11.60	3.39	0.182	303.76	0.69
11.80	8.27	0.264	304.98	0.83
12.00	17.69	0.333	306.23	14.08
12.20	15.47	0.345	306.54	19.28
12.40	7.93	0.317	305.90	9.13
12.60	3.20	0.296	305.51	4.39
12.80	2.34	0.285	305.33	2.67
13.00	1.81	0.281	305.25	2.07
13.20	1.49	0.277	305.19	1.64
13.40	1.35	0.275	305.16	1.45
13.60	1.21	0.273	305.13	1.31
13.80	1.08	0.272	305.11	1.17
14.00	0.94	0.270	305.08	1.06
14.20	0.85	0.268	305.05	0.94
14.40	0.78	0.267	305.02	0.88
14.60	0.72	0.265	305.00	0.83
14.80	0.66	0.263	304.96	0.83
15.00	0.59	0.259	304.91	0.82
15.20	0.53	0.255	304.84	0.81
15.40	0.47	0.250	304.76	0.80
15.60	0.41	0.244	304.67	0.79
15.80	0.34	0.237	304.57	0.78
16.00	0.28	0.230	304.45	0.77
16.20	0.24	0.221	304.33	0.76
16.40	0.22	0.213	304.20	0.74
16.60	0.19	0.204	304.08	0.73
16.80	0.16	0.195	303.95	0.71
17.00	0.14	0.186	303.82	0.69
17.20	0.11	0.177	303.69	0.68
17.40	0.09	0.167	303.56	0.66
17.60	0.07	0.158	303.42	0.64
17.80	0.04	0.148	303.29	0.62
18.00	0.02	0.139	303.16	0.60
18.20	0.01	0.129	303.03	0.58
18.40	0.00	0.120	302.90	0.56
18.60	0.00	0.110	302.78	0.55
18.80	0.00	0.102	302.66	0.53
19.00	0.00	0.093	302.55	0.51
19.20	0.00	0.085	302.44	0.49
19.40	0.00	0.077	302.34	0.47
19.60	0.00	0.069	302.24	0.45
19.80	0.00	0.062	302.14	0.43
20.00	0.00	0.055	302.05	0.41
20.20	0.00	0.049	301.96	0.39
20.40	0.00	0.042	301.88	0.37
20.60	0.00	0.036	301.80	0.35
20.80	0.00	0.031	301.73	0.33
21.00	0.00	0.025	301.64	0.31

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Hydrograph for Pond DET1: MC-4500 StormTech DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
21.20	0.00	0.021	301.50	0.27
21.40	0.00	0.016	301.39	0.23
21.60	0.00	0.013	301.29	0.19
21.80	0.00	0.010	301.22	0.14
22.00	0.00	0.008	301.16	0.10
22.20	0.00	0.007	301.12	0.08
22.40	0.00	0.006	301.09	0.06
22.60	0.00	0.005	301.07	0.04
22.80	0.00	0.004	301.05	0.03
23.00	0.00	0.004	301.03	0.03
23.20	0.00	0.003	301.02	0.02
23.40	0.00	0.003	301.01	0.02
23.60	0.00	0.003	301.01	0.01
23.80	0.00	0.002	301.00	0.01
24.00	0.00	0.002	300.99	0.01

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Stage-Discharge for Pond DET1: MC-4500 StormTech DETENTION ONLY

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
300.93	0.00	306.23	14.09
301.03	0.02	306.33	15.73
301.13	0.08	306.43	17.44
301.23	0.15	306.53	19.15
301.33	0.20	306.63	20.58
301.43	0.24	306.73	21.85
301.53	0.28	306.83	23.02
301.63	0.31	306.93	24.12
301.73	0.33	307.03	25.16
301.83	0.36	307.13	26.15
301.93	0.38	307.23	27.23
302.03	0.41	307.33	28.67
302.13	0.43	307.43	30.31
302.23	0.45	307.53	32.15
302.33	0.47	307.63	34.15
302.43	0.49		
302.53	0.50		
302.63	0.52		
302.73	0.54		
302.83	0.55		
302.93	0.57		
303.03	0.58		
303.13	0.60		
303.23	0.61		
303.33	0.63		
303.43	0.64		
303.53	0.66		
303.63	0.67		
303.73	0.68		
303.83	0.69		
303.93	0.71		
304.03	0.72		
304.13	0.73		
304.23	0.74		
304.33	0.76		
304.43	0.77		
304.53	0.78		
304.63	0.79		
304.73	0.80		
304.83	0.81		
304.93	0.82		
305.03	0.88		
305.13	1.30		
305.23	1.92		
305.33	2.69		
305.43	3.59		
305.53	4.60		
305.63	5.71		
305.73	6.91		
305.83	8.20		
305.93	9.56		
306.03	11.00		
306.13	12.51		

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Stage-Area-Storage for Pond DET1: MC-4500 StormTech DETENTION ONLY

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
300.93	0.000	306.23	0.333
301.03	0.004	306.33	0.337
301.13	0.007	306.43	0.341
301.23	0.011	306.53	0.345
301.33	0.014	306.63	0.349
301.43	0.018	306.73	0.352
301.53	0.021	306.83	0.356
301.63	0.025	306.93	0.360
301.73	0.031	307.03	0.363
301.83	0.038	307.13	0.367
301.93	0.046	307.23	0.370
302.03	0.054	307.33	0.374
302.13	0.061	307.43	0.377
302.23	0.069	307.53	0.381
302.33	0.077	307.63	0.385
302.43	0.084		
302.53	0.092		
302.63	0.099		
302.73	0.107		
302.83	0.114		
302.93	0.122		
303.03	0.129		
303.13	0.136		
303.23	0.144		
303.33	0.151		
303.43	0.158		
303.53	0.165		
303.63	0.173		
303.73	0.180		
303.83	0.187		
303.93	0.194		
304.03	0.201		
304.13	0.208		
304.23	0.215		
304.33	0.221		
304.43	0.228		
304.53	0.235		
304.63	0.241		
304.73	0.248		
304.83	0.254		
304.93	0.261		
305.03	0.267		
305.13	0.273		
305.23	0.279		
305.33	0.285		
305.43	0.291		
305.53	0.297		
305.63	0.303		
305.73	0.308		
305.83	0.314		
305.93	0.319		
306.03	0.324		
306.13	0.329		

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Summary for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Inflow Area = 3.310 ac, 49.64% Impervious, Inflow Depth > 5.51" for 100-Year event
 Inflow = 20.00 cfs @ 12.09 hrs, Volume= 1.521 af
 Outflow = 8.74 cfs @ 12.31 hrs, Volume= 1.504 af, Atten= 56%, Lag= 13.6 min
 Primary = 8.74 cfs @ 12.31 hrs, Volume= 1.504 af
 Routed to Link S : POI South

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Peak Elev= 300.44' @ 12.31 hrs Surf.Area= 6,177 sf Storage= 19,676 cf

Plug-Flow detention time= 71.4 min calculated for 1.502 af (99% of inflow)
 Center-of-Mass det. time= 64.5 min (866.6 - 802.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	295.50'	8,615 cf	29.92'W x 206.46'L x 5.50'H Field A 33,971 cf Overall - 12,434 cf Embedded = 21,537 cf x 40.0% Voids
#2A	296.25'	12,434 cf	ADS_StormTech MC-3500 d +Cap x 112 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 112 Chambers in 4 Rows Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf
		21,049 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	295.50'	6.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#2	Primary	298.00'	12.0" W x 12.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	300.50'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=8.74 cfs @ 12.31 hrs HW=300.44' (Free Discharge)

- 1=Underdrain (Orifice Controls 2.05 cfs @ 10.43 fps)
- 2=Orifice/Grate (Orifice Controls 6.69 cfs @ 6.69 fps)
- 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)

Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf

Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap

Cap Storage= 14.9 cf x 2 x 4 rows = 119.2 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

28 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 204.46' Row Length +12.0" End Stone x 2 = 206.46' Base Length

4 Rows x 77.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 29.92' Base Width

9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

112 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 4 Rows = 12,433.8 cf Chamber Storage

33,971.3 cf Field - 12,433.8 cf Chambers = 21,537.5 cf Stone x 40.0% Voids = 8,615.0 cf Stone Storage

Chamber Storage + Stone Storage = 21,048.8 cf = 0.483 af

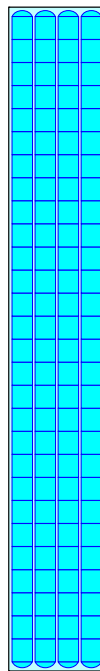
Overall Storage Efficiency = 62.0%

Overall System Size = 206.46' x 29.92' x 5.50'

112 Chambers

1,258.2 cy Field

797.7 cy Stone



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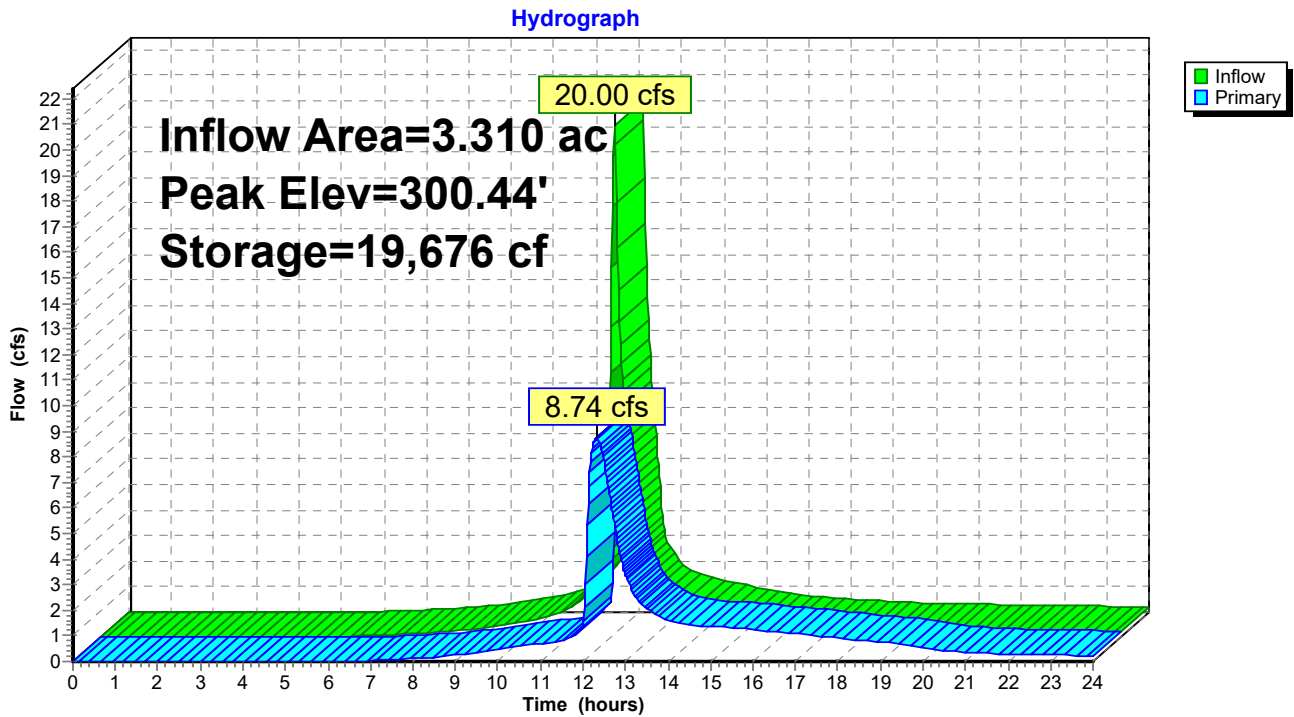
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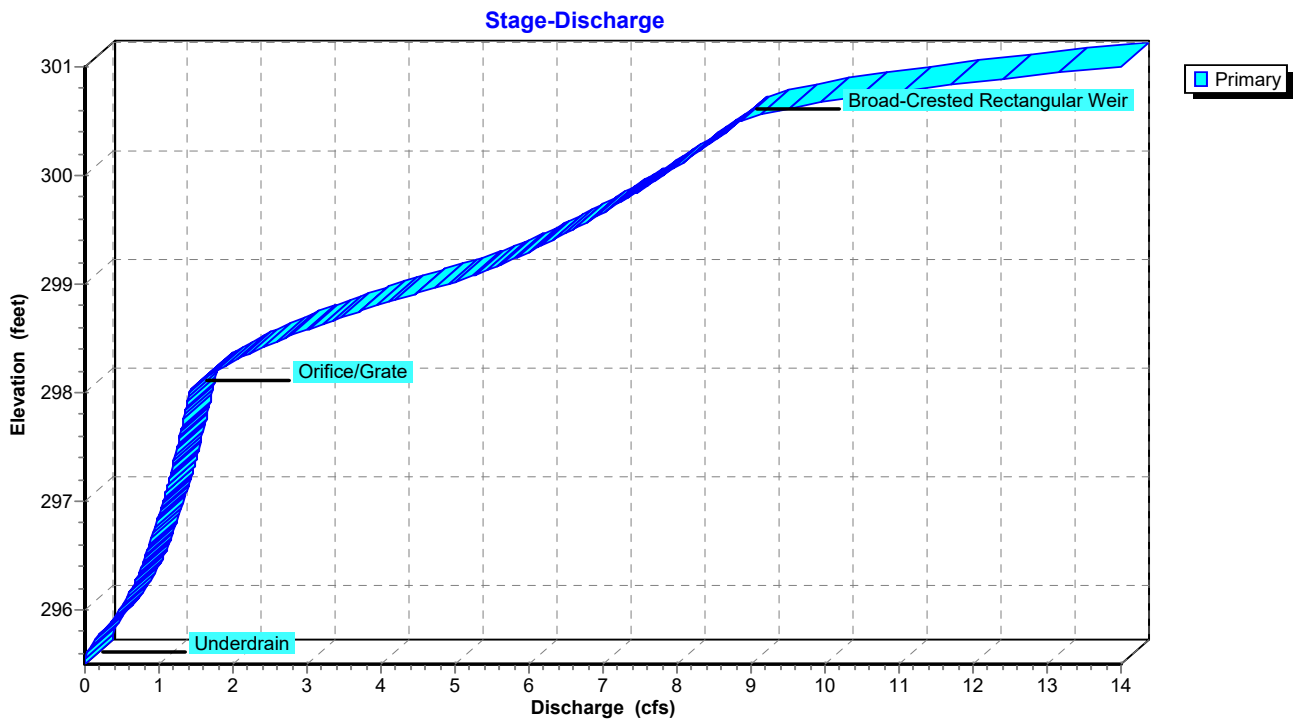
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Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY



Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY



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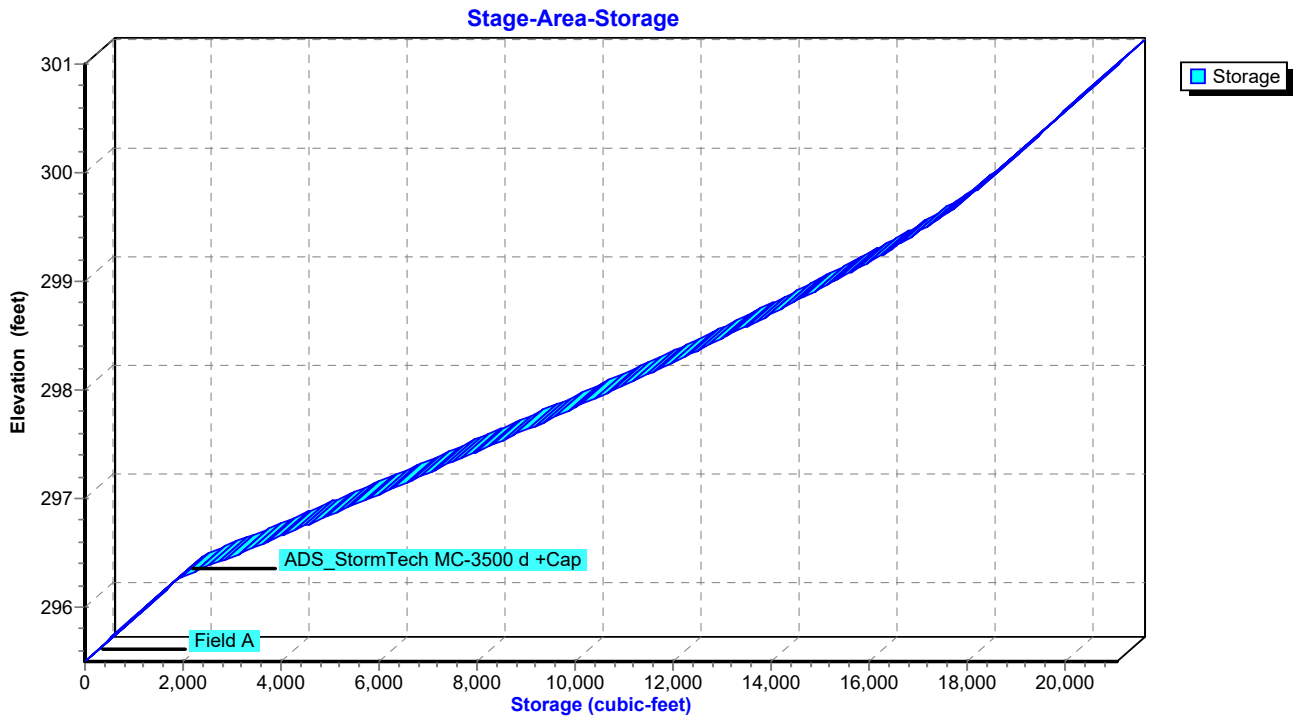
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Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY



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Hydrograph for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	295.50	0.00
0.20	0.00	0	295.50	0.00
0.40	0.00	0	295.50	0.00
0.60	0.00	0	295.50	0.00
0.80	0.00	0	295.50	0.00
1.00	0.00	0	295.50	0.00
1.20	0.00	0	295.50	0.00
1.40	0.00	0	295.50	0.00
1.60	0.00	0	295.50	0.00
1.80	0.00	0	295.50	0.00
2.00	0.00	0	295.50	0.00
2.20	0.00	0	295.50	0.00
2.40	0.00	0	295.50	0.00
2.60	0.00	0	295.50	0.00
2.80	0.00	0	295.50	0.00
3.00	0.00	0	295.50	0.00
3.20	0.00	0	295.50	0.00
3.40	0.00	0	295.50	0.00
3.60	0.00	0	295.50	0.00
3.80	0.00	0	295.50	0.00
4.00	0.00	0	295.50	0.00
4.20	0.00	0	295.50	0.00
4.40	0.00	0	295.50	0.00
4.60	0.00	0	295.50	0.00
4.80	0.00	0	295.50	0.00
5.00	0.00	0	295.50	0.00
5.20	0.01	4	295.50	0.00
5.40	0.02	12	295.50	0.00
5.60	0.02	25	295.51	0.00
5.80	0.03	42	295.52	0.00
6.00	0.04	64	295.53	0.00
6.20	0.05	91	295.54	0.01
6.40	0.06	124	295.55	0.01
6.60	0.07	162	295.57	0.01
6.80	0.08	204	295.58	0.02
7.00	0.10	249	295.60	0.03
7.20	0.11	298	295.62	0.04
7.40	0.13	347	295.64	0.06
7.60	0.15	398	295.66	0.08
7.80	0.16	449	295.68	0.09
8.00	0.18	498	295.70	0.11
8.20	0.21	549	295.72	0.14
8.40	0.24	604	295.74	0.16
8.60	0.28	664	295.77	0.19
8.80	0.31	728	295.79	0.22
9.00	0.36	796	295.82	0.26
9.20	0.40	867	295.85	0.30
9.40	0.44	941	295.88	0.34
9.60	0.49	1,020	295.91	0.38
9.80	0.54	1,105	295.95	0.42
10.00	0.60	1,200	295.99	0.46
10.20	0.68	1,311	296.03	0.50
10.40	0.77	1,454	296.09	0.55

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Hydrograph for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
10.60	0.87	1,630	296.16	0.61
10.80	0.98	1,840	296.24	0.67
11.00	1.09	2,096	296.30	0.70
11.20	1.33	2,436	296.36	0.74
11.40	1.69	2,968	296.46	0.80
11.60	2.36	3,746	296.61	0.88
11.80	5.50	5,813	297.00	1.06
12.00	12.15	10,518	297.94	1.40
12.20	12.35	18,961	300.15	8.15
12.40	6.93	19,414	300.34	8.53
12.60	3.25	17,393	299.57	6.78
12.80	2.41	15,188	298.98	4.82
13.00	1.95	13,870	298.67	3.38
13.20	1.68	13,021	298.48	2.63
13.40	1.57	12,460	298.36	2.21
13.60	1.45	12,056	298.27	1.95
13.80	1.34	11,729	298.20	1.77
14.00	1.23	11,439	298.14	1.62
14.20	1.15	11,163	298.08	1.52
14.40	1.09	10,908	298.03	1.44
14.60	1.04	10,654	297.97	1.41
14.80	0.99	10,376	297.91	1.39
15.00	0.93	10,073	297.85	1.37
15.20	0.88	9,746	297.79	1.35
15.40	0.82	9,397	297.71	1.32
15.60	0.77	9,026	297.64	1.30
15.80	0.72	8,635	297.56	1.27
16.00	0.66	8,225	297.48	1.24
16.20	0.62	7,800	297.39	1.21
16.40	0.60	7,376	297.31	1.18
16.60	0.57	6,958	297.23	1.15
16.80	0.55	6,545	297.15	1.12
17.00	0.52	6,138	297.07	1.09
17.20	0.50	5,737	296.99	1.05
17.40	0.48	5,343	296.91	1.02
17.60	0.45	4,954	296.84	0.99
17.80	0.43	4,573	296.77	0.95
18.00	0.40	4,198	296.69	0.92
18.20	0.39	3,833	296.62	0.88
18.40	0.38	3,486	296.56	0.85
18.60	0.37	3,157	296.50	0.82
18.80	0.37	2,847	296.44	0.78
19.00	0.36	2,555	296.38	0.75
19.20	0.35	2,281	296.33	0.72
19.40	0.34	2,024	296.28	0.69
19.60	0.34	1,784	296.22	0.65
19.80	0.33	1,579	296.14	0.59
20.00	0.32	1,409	296.07	0.53
20.20	0.32	1,272	296.01	0.49
20.40	0.31	1,162	295.97	0.44
20.60	0.31	1,077	295.94	0.41
20.80	0.30	1,014	295.91	0.38
21.00	0.29	967	295.89	0.35

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Hydrograph for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
21.20	0.29	931	295.88	0.33
21.40	0.28	904	295.87	0.32
21.60	0.28	882	295.86	0.31
21.80	0.27	864	295.85	0.30
22.00	0.27	849	295.84	0.29
22.20	0.26	835	295.84	0.28
22.40	0.26	823	295.83	0.27
22.60	0.25	811	295.83	0.27
22.80	0.25	800	295.82	0.26
23.00	0.24	789	295.82	0.26
23.20	0.23	778	295.81	0.25
23.40	0.23	767	295.81	0.24
23.60	0.22	757	295.81	0.24
23.80	0.22	746	295.80	0.23
24.00	0.21	736	295.80	0.23

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Stage-Discharge for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
295.50	0.00	300.80	11.29
295.60	0.03	300.90	12.55
295.70	0.11	301.00	14.01
295.80	0.23		
295.90	0.36		
296.00	0.47		
296.10	0.56		
296.20	0.63		
296.30	0.70		
296.40	0.76		
296.50	0.82		
296.60	0.87		
296.70	0.92		
296.80	0.97		
296.90	1.01		
297.00	1.06		
297.10	1.10		
297.20	1.14		
297.30	1.18		
297.40	1.21		
297.50	1.25		
297.60	1.29		
297.70	1.32		
297.80	1.35		
297.90	1.39		
298.00	1.42		
298.10	1.55		
298.20	1.77		
298.30	2.04		
298.40	2.35		
298.50	2.70		
298.60	3.09		
298.70	3.50		
298.80	3.95		
298.90	4.42		
299.00	4.91		
299.10	5.33		
299.20	5.69		
299.30	6.01		
299.40	6.31		
299.50	6.59		
299.60	6.86		
299.70	7.11		
299.80	7.36		
299.90	7.59		
300.00	7.82		
300.10	8.04		
300.20	8.25		
300.30	8.46		
300.40	8.66		
300.50	8.85		
300.60	9.40		
300.70	10.23		

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Stage-Area-Storage for Pond DET2: MC-3500 Stormtech (Offsite Mitigation) DETENTION ONLY

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
295.50	0	300.80	20,555
295.60	247	300.90	20,802
295.70	494	301.00	21,049
295.80	741		
295.90	988		
296.00	1,235		
296.10	1,482		
296.20	1,729		
296.30	2,119		
296.40	2,650		
296.50	3,179		
296.60	3,706		
296.70	4,230		
296.80	4,752		
296.90	5,272		
297.00	5,790		
297.10	6,305		
297.20	6,817		
297.30	7,326		
297.40	7,831		
297.50	8,334		
297.60	8,833		
297.70	9,327		
297.80	9,818		
297.90	10,304		
298.00	10,786		
298.10	11,262		
298.20	11,734		
298.30	12,200		
298.40	12,660		
298.50	13,113		
298.60	13,560		
298.70	13,999		
298.80	14,431		
298.90	14,854		
299.00	15,268		
299.10	15,672		
299.20	16,065		
299.30	16,445		
299.40	16,811		
299.50	17,161		
299.60	17,486		
299.70	17,784		
299.80	18,060		
299.90	18,325		
300.00	18,578		
300.10	18,825		
300.20	19,072		
300.30	19,319		
300.40	19,566		
300.50	19,813		
300.60	20,061		
300.70	20,308		

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Summary for Pond INF: MC-3500 StormTech INFILTRATION

Inflow Area = 5.228 ac, 94.30% Impervious, Inflow Depth > 7.52" for 100-Year event
 Inflow = 40.72 cfs @ 12.08 hrs, Volume= 3.274 af
 Outflow = 7.24 cfs @ 12.53 hrs, Volume= 3.273 af, Atten= 82%, Lag= 26.9 min
 Discarded = 2.57 cfs @ 12.53 hrs, Volume= 2.590 af
 Primary = 4.67 cfs @ 12.53 hrs, Volume= 0.683 af
 Routed to Link N : POI North

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
 Peak Elev= 311.93' @ 12.53 hrs Surf.Area= 0.374 ac Storage= 1.180 af

Plug-Flow detention time= 99.7 min calculated for 3.273 af (100% of inflow)
 Center-of-Mass det. time= 99.4 min (851.2 - 751.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	307.14'	0.514 af	58.58'W x 278.16'L x 5.50'H Field A 2.058 af Overall - 0.773 af Embedded = 1.285 af x 40.0% Voids
#2A	307.89'	0.773 af	ADS_StormTech MC-3500 d +Cap x 304 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 304 Chambers in 8 Rows Cap Storage= 14.9 cf x 2 x 8 rows = 238.4 cf
		1.287 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	307.14'	5.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 294.00'
#2	Primary	309.64'	24.0" W x 4.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	312.14'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=2.57 cfs @ 12.53 hrs HW=311.92' (Free Discharge)
 ↑1=Exfiltration (Controls 2.57 cfs)

Primary OutFlow Max=4.67 cfs @ 12.53 hrs HW=311.92' (Free Discharge)
 ↑2=Orifice/Grate (Orifice Controls 4.67 cfs @ 7.01 fps)
 ↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Pond INF: MC-3500 StormTech INFILTRATION - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)

Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf

Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap

Cap Storage= 14.9 cf x 2 x 8 rows = 238.4 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

38 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 276.16' Row Length +12.0" End Stone x 2 = 278.16' Base Length

8 Rows x 77.0" Wide + 9.0" Spacing x 7 + 12.0" Side Stone x 2 = 58.58' Base Width

9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

304 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 8 Rows = 33,663.8 cf Chamber Storage

89,625.5 cf Field - 33,663.8 cf Chambers = 55,961.7 cf Stone x 40.0% Voids = 22,384.7 cf Stone Storage

Chamber Storage + Stone Storage = 56,048.5 cf = 1.287 af

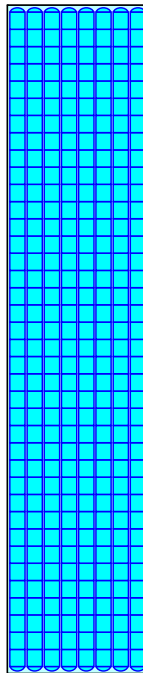
Overall Storage Efficiency = 62.5%

Overall System Size = 278.16' x 58.58' x 5.50'

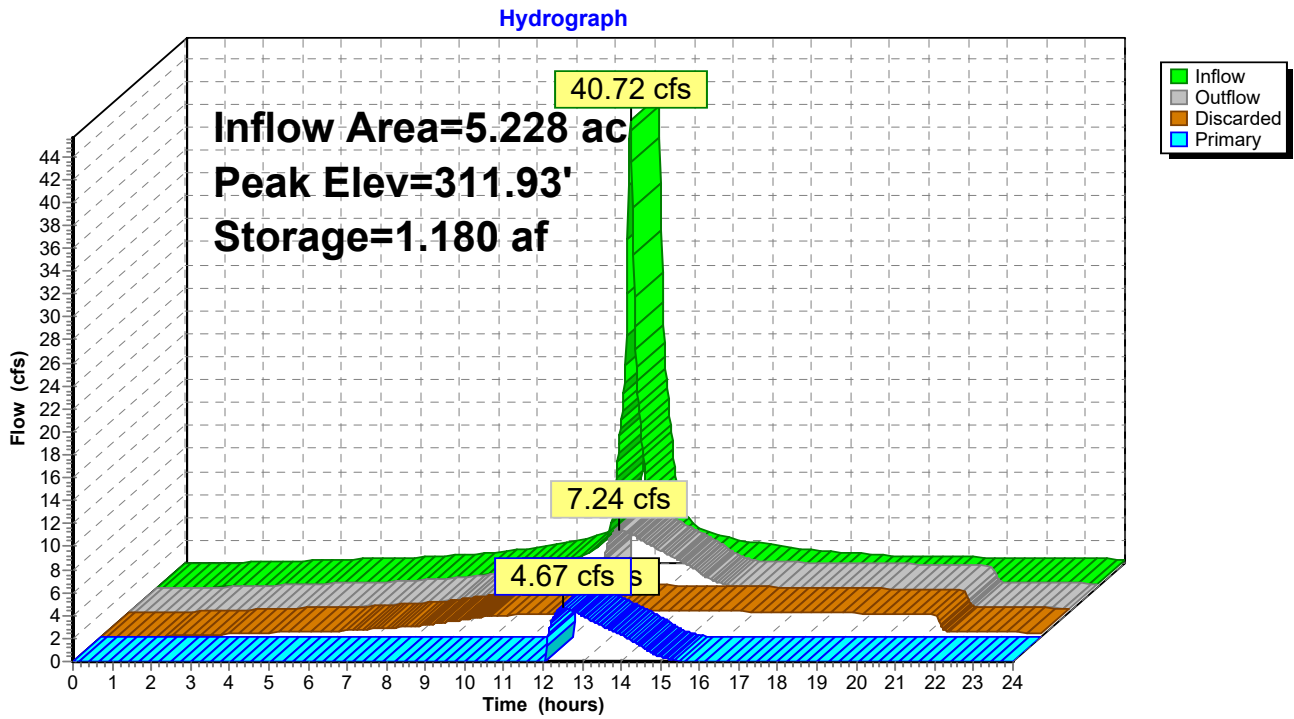
304 Chambers

3,319.5 cy Field

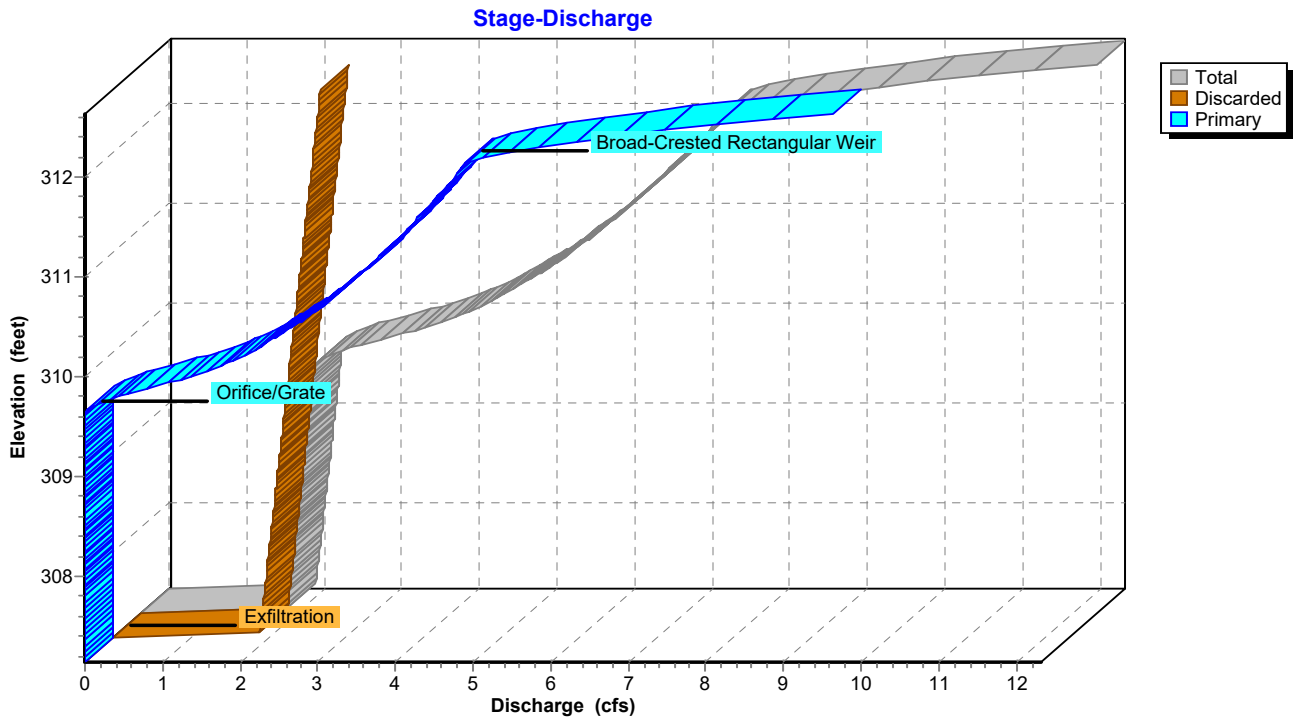
2,072.7 cy Stone



Pond INF: MC-3500 StormTech INFILTRATION



Pond INF: MC-3500 StormTech INFILTRATION



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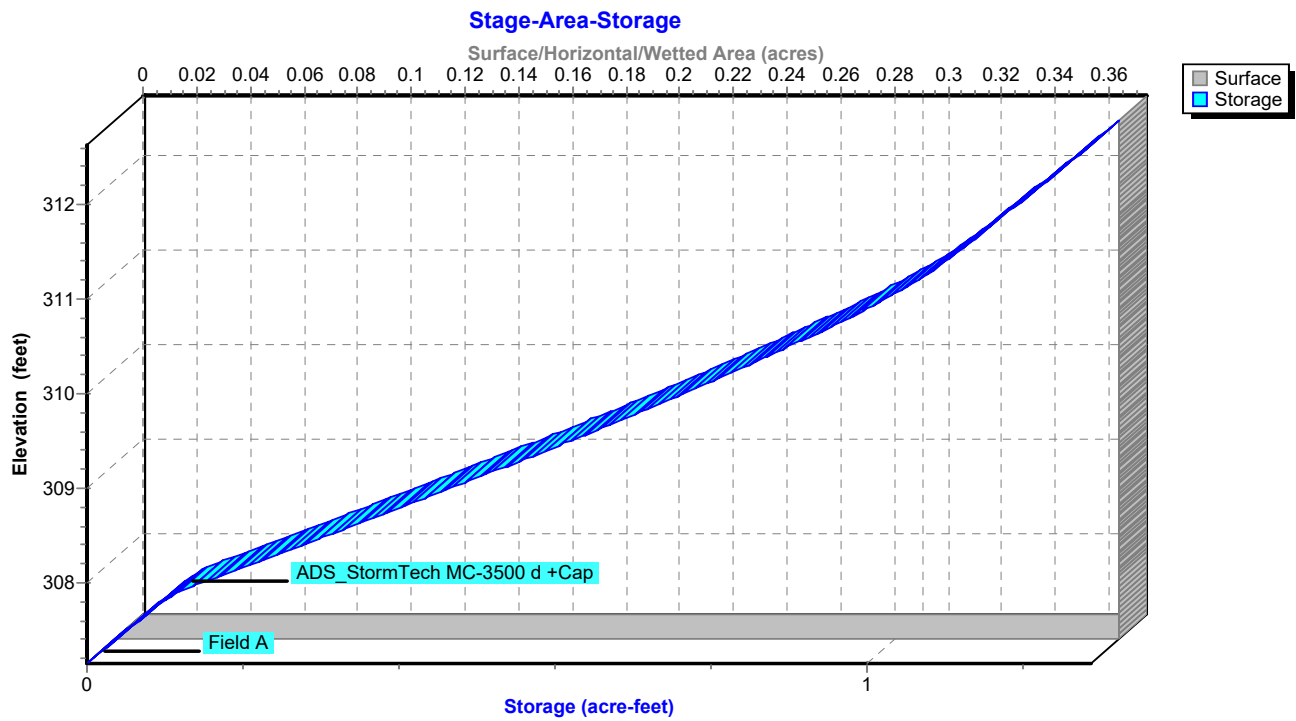
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Pond INF: MC-3500 StormTech INFILTRATION



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Hydrograph for Pond INF: MC-3500 StormTech INFILTRATION

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0.000	307.14	0.00	0.00	0.00
0.20	0.00	0.000	307.14	0.00	0.00	0.00
0.40	0.00	0.000	307.14	0.00	0.00	0.00
0.60	0.00	0.000	307.14	0.00	0.00	0.00
0.80	0.00	0.000	307.14	0.00	0.00	0.00
1.00	0.00	0.000	307.14	0.00	0.00	0.00
1.20	0.01	0.000	307.14	0.01	0.01	0.00
1.40	0.04	0.000	307.14	0.03	0.03	0.00
1.60	0.07	0.000	307.14	0.06	0.06	0.00
1.80	0.09	0.000	307.14	0.08	0.08	0.00
2.00	0.11	0.000	307.14	0.11	0.11	0.00
2.20	0.13	0.001	307.14	0.13	0.13	0.00
2.40	0.16	0.001	307.14	0.15	0.15	0.00
2.60	0.18	0.001	307.15	0.17	0.17	0.00
2.80	0.20	0.001	307.15	0.20	0.20	0.00
3.00	0.22	0.001	307.15	0.22	0.22	0.00
3.20	0.25	0.001	307.15	0.24	0.24	0.00
3.40	0.27	0.001	307.15	0.26	0.26	0.00
3.60	0.29	0.001	307.15	0.28	0.28	0.00
3.80	0.31	0.001	307.15	0.30	0.30	0.00
4.00	0.33	0.001	307.15	0.33	0.33	0.00
4.20	0.35	0.002	307.15	0.35	0.35	0.00
4.40	0.37	0.002	307.15	0.37	0.37	0.00
4.60	0.39	0.002	307.15	0.39	0.39	0.00
4.80	0.41	0.002	307.15	0.41	0.41	0.00
5.00	0.43	0.002	307.15	0.43	0.43	0.00
5.20	0.45	0.002	307.15	0.45	0.45	0.00
5.40	0.47	0.002	307.15	0.46	0.46	0.00
5.60	0.49	0.002	307.15	0.48	0.48	0.00
5.80	0.51	0.002	307.15	0.50	0.50	0.00
6.00	0.52	0.002	307.16	0.52	0.52	0.00
6.20	0.56	0.002	307.16	0.55	0.55	0.00
6.40	0.60	0.003	307.16	0.59	0.59	0.00
6.60	0.64	0.003	307.16	0.63	0.63	0.00
6.80	0.68	0.003	307.16	0.67	0.67	0.00
7.00	0.73	0.003	307.16	0.72	0.72	0.00
7.20	0.77	0.003	307.16	0.76	0.76	0.00
7.40	0.82	0.003	307.16	0.80	0.80	0.00
7.60	0.86	0.004	307.16	0.85	0.85	0.00
7.80	0.91	0.004	307.17	0.90	0.90	0.00
8.00	0.95	0.004	307.17	0.94	0.94	0.00
8.20	1.03	0.004	307.17	1.00	1.00	0.00
8.40	1.12	0.005	307.17	1.10	1.10	0.00
8.60	1.22	0.005	307.17	1.19	1.19	0.00
8.80	1.32	0.006	307.18	1.29	1.29	0.00
9.00	1.41	0.006	307.18	1.39	1.39	0.00
9.20	1.51	0.006	307.18	1.49	1.49	0.00
9.40	1.61	0.007	307.19	1.59	1.59	0.00
9.60	1.71	0.007	307.19	1.69	1.69	0.00
9.80	1.81	0.008	307.19	1.79	1.79	0.00
10.00	1.91	0.008	307.19	1.89	1.89	0.00
10.20	2.07	0.010	307.20	1.90	1.90	0.00
10.40	2.27	0.014	307.23	1.90	1.90	0.00

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Hydrograph for Pond INF: MC-3500 StormTech INFILTRATION (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
10.60	2.48	0.022	307.29	1.91	1.91	0.00
10.80	2.68	0.033	307.36	1.92	1.92	0.00
11.00	2.89	0.047	307.46	1.93	1.93	0.00
11.20	3.39	0.066	307.58	1.95	1.95	0.00
11.40	4.16	0.096	307.78	1.98	1.98	0.00
11.60	5.62	0.139	307.97	2.01	2.01	0.00
11.80	12.48	0.253	308.32	2.06	2.06	0.00
12.00	25.68	0.497	309.10	2.17	2.17	0.00
12.20	22.66	0.987	310.85	5.70	2.42	3.28
12.40	12.11	1.152	311.74	7.01	2.55	4.47
12.60	5.43	1.174	311.89	7.20	2.57	4.63
12.80	4.20	1.135	311.63	6.86	2.53	4.33
13.00	3.42	1.088	311.34	6.45	2.49	3.97
13.20	2.96	1.036	311.07	6.06	2.45	3.61
13.40	2.76	0.987	310.85	5.70	2.42	3.28
13.60	2.56	0.939	310.66	5.34	2.39	2.95
13.80	2.35	0.894	310.48	4.99	2.37	2.63
14.00	2.15	0.852	310.32	4.63	2.34	2.29
14.20	2.01	0.813	310.17	4.25	2.32	1.93
14.40	1.91	0.778	310.05	3.85	2.30	1.55
14.60	1.81	0.749	309.95	3.38	2.29	1.09
14.80	1.72	0.726	309.87	2.97	2.28	0.69
15.00	1.62	0.707	309.80	2.68	2.27	0.41
15.20	1.52	0.691	309.74	2.48	2.26	0.22
15.40	1.43	0.675	309.69	2.33	2.25	0.08
15.60	1.33	0.660	309.64	2.24	2.24	0.00
15.80	1.23	0.645	309.59	2.24	2.24	0.00
16.00	1.14	0.627	309.53	2.23	2.23	0.00
16.20	1.07	0.609	309.47	2.22	2.22	0.00
16.40	1.03	0.589	309.40	2.21	2.21	0.00
16.60	0.99	0.570	309.34	2.20	2.20	0.00
16.80	0.94	0.549	309.27	2.19	2.19	0.00
17.00	0.90	0.528	309.20	2.18	2.18	0.00
17.20	0.86	0.507	309.13	2.17	2.17	0.00
17.40	0.82	0.485	309.06	2.16	2.16	0.00
17.60	0.78	0.463	308.99	2.15	2.15	0.00
17.80	0.73	0.440	308.91	2.14	2.14	0.00
18.00	0.69	0.416	308.84	2.13	2.13	0.00
18.20	0.67	0.392	308.76	2.12	2.12	0.00
18.40	0.65	0.368	308.68	2.11	2.11	0.00
18.60	0.64	0.344	308.61	2.10	2.10	0.00
18.80	0.63	0.320	308.53	2.09	2.09	0.00
19.00	0.62	0.296	308.46	2.08	2.08	0.00
19.20	0.60	0.272	308.38	2.06	2.06	0.00
19.40	0.59	0.248	308.31	2.05	2.05	0.00
19.60	0.58	0.223	308.23	2.04	2.04	0.00
19.80	0.57	0.199	308.16	2.03	2.03	0.00
20.00	0.55	0.175	308.08	2.02	2.02	0.00
20.20	0.54	0.151	308.01	2.01	2.01	0.00
20.40	0.53	0.126	307.93	2.00	2.00	0.00
20.60	0.52	0.102	307.82	1.98	1.98	0.00
20.80	0.51	0.078	307.66	1.96	1.96	0.00
21.00	0.50	0.054	307.50	1.94	1.94	0.00

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Hydrograph for Pond INF: MC-3500 StormTech INFILTRATION (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
21.20	0.49	0.031	307.35	1.92	1.92	0.00
21.40	0.49	0.007	307.19	1.72	1.72	0.00
21.60	0.48	0.002	307.15	0.50	0.50	0.00
21.80	0.47	0.002	307.15	0.47	0.47	0.00
22.00	0.46	0.002	307.15	0.46	0.46	0.00
22.20	0.45	0.002	307.15	0.45	0.45	0.00
22.40	0.44	0.002	307.15	0.44	0.44	0.00
22.60	0.43	0.002	307.15	0.43	0.43	0.00
22.80	0.42	0.002	307.15	0.42	0.42	0.00
23.00	0.41	0.002	307.15	0.41	0.41	0.00
23.20	0.40	0.002	307.15	0.40	0.40	0.00
23.40	0.39	0.002	307.15	0.39	0.39	0.00
23.60	0.38	0.002	307.15	0.38	0.38	0.00
23.80	0.37	0.002	307.15	0.37	0.37	0.00
24.00	0.36	0.002	307.15	0.36	0.36	0.00

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Stage-Discharge for Pond INF: MC-3500 StormTech INFILTRATION

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
307.14	0.00	0.00	0.00	312.44	9.73	2.65	7.09
307.24	1.90	1.90	0.00	312.54	10.92	2.66	8.26
307.34	1.91	1.91	0.00	312.64	12.32	2.68	9.65
307.44	1.93	1.93	0.00				
307.54	1.94	1.94	0.00				
307.64	1.96	1.96	0.00				
307.74	1.97	1.97	0.00				
307.84	1.99	1.99	0.00				
307.94	2.00	2.00	0.00				
308.04	2.02	2.02	0.00				
308.14	2.03	2.03	0.00				
308.24	2.04	2.04	0.00				
308.34	2.06	2.06	0.00				
308.44	2.07	2.07	0.00				
308.54	2.09	2.09	0.00				
308.64	2.10	2.10	0.00				
308.74	2.12	2.12	0.00				
308.84	2.13	2.13	0.00				
308.94	2.14	2.14	0.00				
309.04	2.16	2.16	0.00				
309.14	2.17	2.17	0.00				
309.24	2.19	2.19	0.00				
309.34	2.20	2.20	0.00				
309.44	2.22	2.22	0.00				
309.54	2.23	2.23	0.00				
309.64	2.24	2.24	0.00				
309.74	2.46	2.26	0.20				
309.84	2.85	2.27	0.57				
309.94	3.34	2.29	1.05				
310.04	3.82	2.30	1.51				
310.14	4.15	2.32	1.83				
310.24	4.43	2.33	2.10				
310.34	4.68	2.35	2.33				
310.44	4.91	2.36	2.55				
310.54	5.12	2.37	2.74				
310.64	5.31	2.39	2.93				
310.74	5.50	2.40	3.10				
310.84	5.68	2.42	3.26				
310.94	5.85	2.43	3.41				
311.04	6.01	2.45	3.56				
311.14	6.16	2.46	3.70				
311.24	6.32	2.47	3.84				
311.34	6.46	2.49	3.97				
311.44	6.60	2.50	4.10				
311.54	6.74	2.52	4.22				
311.64	6.88	2.53	4.34				
311.74	7.01	2.55	4.46				
311.84	7.14	2.56	4.58				
311.94	7.26	2.58	4.69				
312.04	7.39	2.59	4.80				
312.14	7.51	2.60	4.90				
312.24	7.98	2.62	5.36				
312.34	8.74	2.63	6.11				

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Stage-Area-Storage for Pond INF: MC-3500 StormTech INFILTRATION

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
307.14	0.374	0.000	312.44	0.374	1.257
307.24	0.374	0.015	312.54	0.374	1.272
307.34	0.374	0.030	312.64	0.374	1.287
307.44	0.374	0.045			
307.54	0.374	0.060			
307.64	0.374	0.075			
307.74	0.374	0.090			
307.84	0.374	0.105			
307.94	0.374	0.129			
308.04	0.374	0.161			
308.14	0.374	0.194			
308.24	0.374	0.226			
308.34	0.374	0.258			
308.44	0.374	0.290			
308.54	0.374	0.322			
308.64	0.374	0.354			
308.74	0.374	0.386			
308.84	0.374	0.417			
308.94	0.374	0.448			
309.04	0.374	0.479			
309.14	0.374	0.510			
309.24	0.374	0.541			
309.34	0.374	0.571			
309.44	0.374	0.601			
309.54	0.374	0.631			
309.64	0.374	0.661			
309.74	0.374	0.690			
309.84	0.374	0.719			
309.94	0.374	0.747			
310.04	0.374	0.775			
310.14	0.374	0.803			
310.24	0.374	0.831			
310.34	0.374	0.858			
310.44	0.374	0.884			
310.54	0.374	0.910			
310.64	0.374	0.935			
310.74	0.374	0.960			
310.84	0.374	0.984			
310.94	0.374	1.007			
311.04	0.374	1.030			
311.14	0.374	1.051			
311.24	0.374	1.071			
311.34	0.374	1.089			
311.44	0.374	1.106			
311.54	0.374	1.122			
311.64	0.374	1.137			
311.74	0.374	1.152			
311.84	0.374	1.167			
311.94	0.374	1.182			
312.04	0.374	1.197			
312.14	0.374	1.212			
312.24	0.374	1.227			
312.34	0.374	1.242			

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Type III 24-hr 100-Year Rainfall=8.00"

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Summary for Pond SPLIT: Flow Splitter

[57] Hint: Peaked at 304.92' (Flood elevation advised)

Inflow Area = 3.809 ac, 100.00% Impervious, Inflow Depth > 7.75" for 100-Year event
 Inflow = 29.87 cfs @ 12.08 hrs, Volume= 2.461 af
 Outflow = 29.87 cfs @ 12.08 hrs, Volume= 2.461 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.48 cfs @ 12.08 hrs, Volume= 0.917 af
 Routed to Pond BIO : BioRetention 1 (South)
 Secondary = 28.40 cfs @ 12.08 hrs, Volume= 1.544 af
 Routed to Pond DET1 : MC-4500 StormTech DETENTION ONLY

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs / 2
Peak Elev= 304.92' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	302.23'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Device 3	302.73'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	302.23'	30.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.47 cfs @ 12.08 hrs HW=304.91' (Free Discharge)
 ↳1=Orifice/Grate (Orifice Controls 1.47 cfs @ 7.51 fps)

Secondary OutFlow Max=28.27 cfs @ 12.08 hrs HW=304.91' (Free Discharge)
 ↳3=Orifice/Grate (Orifice Controls 28.27 cfs @ 5.76 fps)
 ↳2=Broad-Crested Rectangular Weir (Passes 28.27 cfs of 42.77 cfs potential flow)

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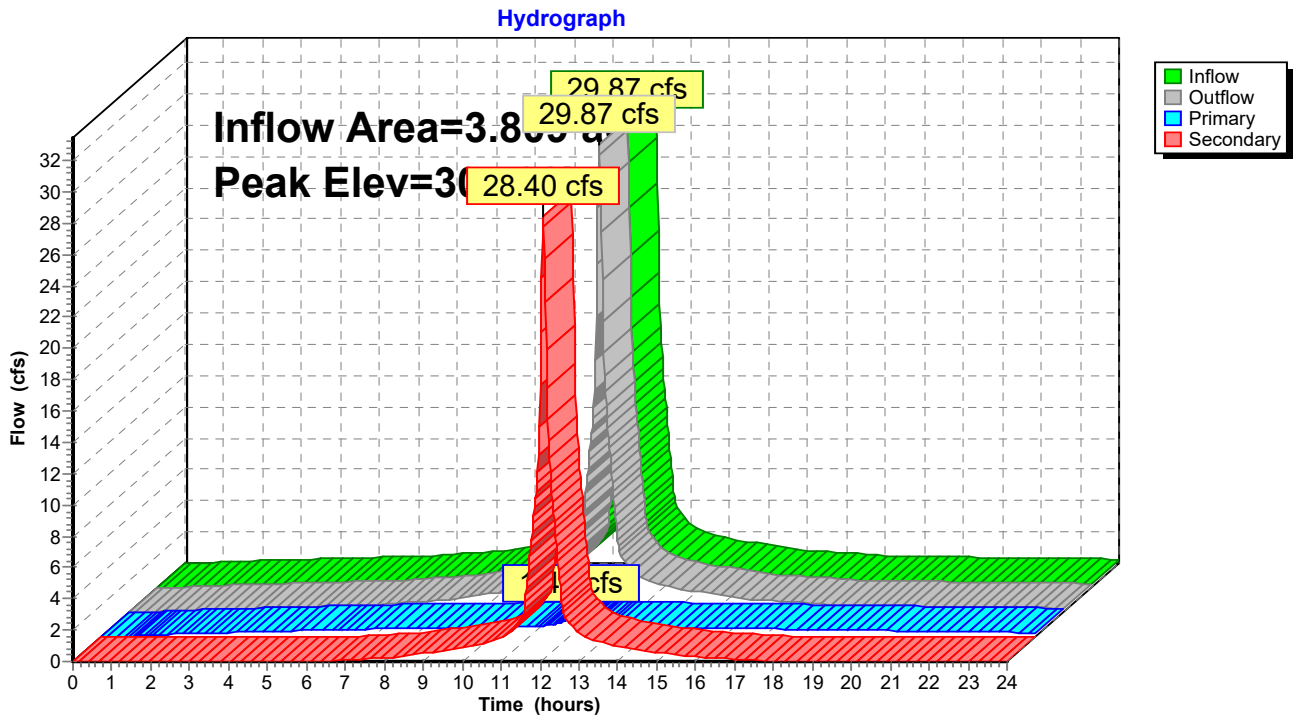
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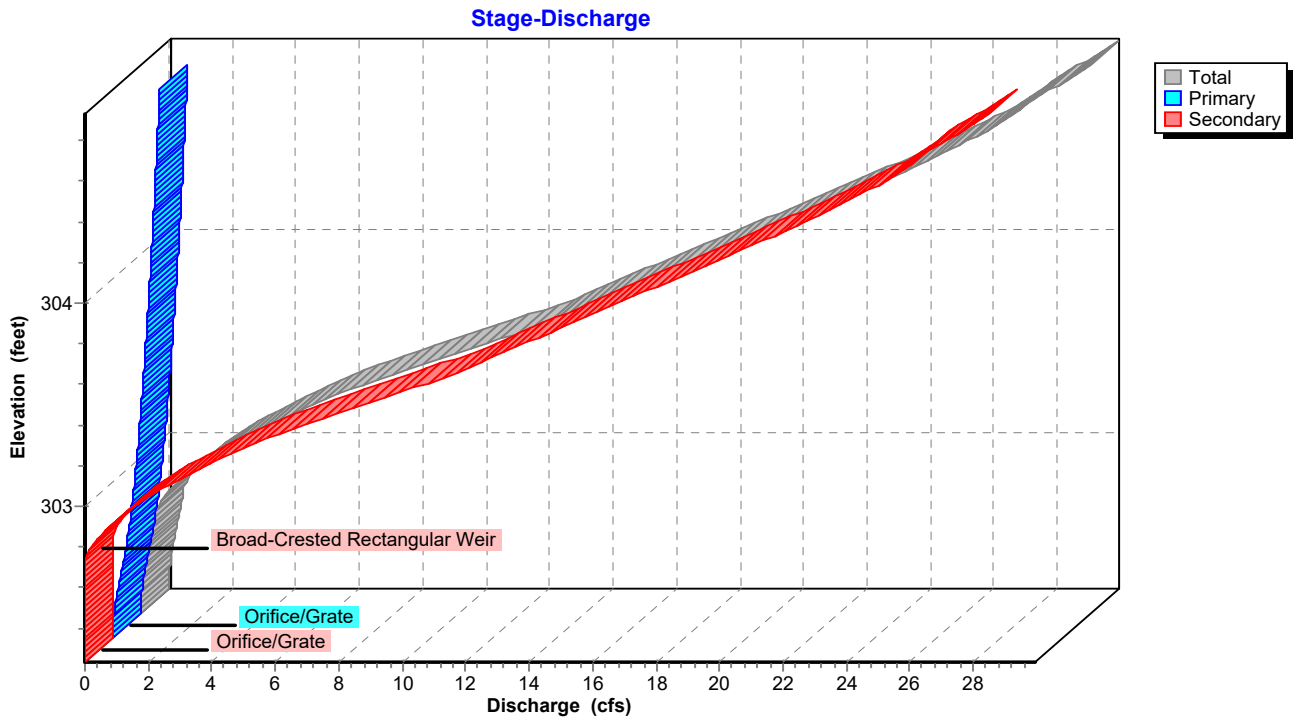
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Pond SPLIT: Flow Splitter



Pond SPLIT: Flow Splitter



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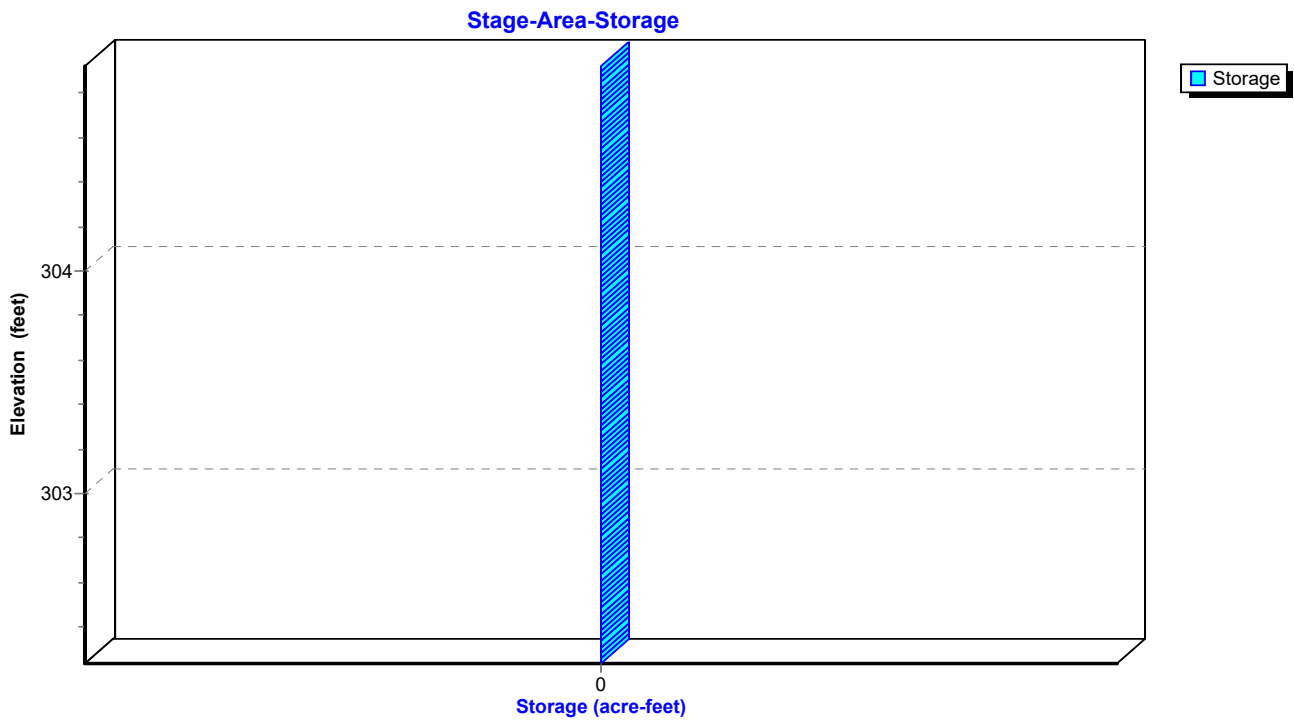
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Pond SPLIT: Flow Splitter



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Hydrograph for Pond SPLIT: Flow Splitter

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
0.00	0.00	302.23	0.00	0.00	0.00
0.20	0.00	302.23	0.00	0.00	0.00
0.40	0.00	302.23	0.00	0.00	0.00
0.60	0.00	302.26	0.00	0.00	0.00
0.80	0.04	302.35	0.04	0.04	0.00
1.00	0.08	302.39	0.08	0.08	0.00
1.20	0.11	302.42	0.11	0.11	0.00
1.40	0.13	302.45	0.13	0.13	0.00
1.60	0.15	302.46	0.15	0.15	0.00
1.80	0.16	302.48	0.16	0.16	0.00
2.00	0.18	302.49	0.18	0.18	0.00
2.20	0.19	302.50	0.19	0.19	0.00
2.40	0.21	302.52	0.21	0.21	0.00
2.60	0.23	302.53	0.23	0.23	0.00
2.80	0.24	302.54	0.24	0.24	0.00
3.00	0.26	302.55	0.26	0.26	0.00
3.20	0.27	302.56	0.27	0.27	0.00
3.40	0.29	302.57	0.29	0.29	0.00
3.60	0.30	302.58	0.30	0.30	0.00
3.80	0.32	302.59	0.32	0.32	0.00
4.00	0.33	302.60	0.33	0.33	0.00
4.20	0.34	302.61	0.34	0.34	0.00
4.40	0.35	302.62	0.35	0.35	0.00
4.60	0.37	302.63	0.37	0.37	0.00
4.80	0.38	302.64	0.38	0.38	0.00
5.00	0.39	302.65	0.39	0.39	0.00
5.20	0.40	302.66	0.40	0.40	0.00
5.40	0.41	302.67	0.41	0.41	0.00
5.60	0.43	302.68	0.43	0.43	0.00
5.80	0.44	302.69	0.44	0.44	0.00
6.00	0.45	302.70	0.45	0.45	0.00
6.20	0.47	302.73	0.47	0.47	0.00
6.40	0.50	302.74	0.50	0.48	0.02
6.60	0.53	302.75	0.53	0.49	0.04
6.80	0.56	302.76	0.56	0.50	0.06
7.00	0.60	302.77	0.60	0.51	0.09
7.20	0.63	302.78	0.63	0.51	0.11
7.40	0.66	302.78	0.66	0.52	0.14
7.60	0.69	302.79	0.69	0.53	0.17
7.80	0.72	302.80	0.72	0.53	0.19
8.00	0.76	302.80	0.76	0.54	0.22
8.20	0.81	302.81	0.81	0.54	0.26
8.40	0.88	302.82	0.88	0.55	0.32
8.60	0.95	302.84	0.95	0.56	0.39
8.80	1.02	302.85	1.02	0.57	0.45
9.00	1.09	302.86	1.09	0.58	0.51
9.20	1.16	302.87	1.16	0.59	0.57
9.40	1.24	302.88	1.24	0.60	0.64
9.60	1.31	302.89	1.31	0.60	0.70
9.80	1.38	302.90	1.38	0.61	0.77
10.00	1.45	302.91	1.45	0.62	0.83
10.20	1.56	302.92	1.56	0.63	0.94
10.40	1.71	302.94	1.71	0.64	1.07

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Hydrograph for Pond SPLIT: Flow Splitter (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
10.60	1.86	302.96	1.86	0.65	1.21
10.80	2.01	302.97	2.01	0.66	1.34
11.00	2.15	302.99	2.15	0.67	1.48
11.20	2.53	303.02	2.53	0.70	1.83
11.40	3.09	303.08	3.09	0.73	2.36
11.60	4.17	303.17	4.17	0.78	3.39
11.80	9.22	303.47	9.22	0.94	8.27
12.00	18.88	304.06	18.88	1.19	17.69
12.20	16.60	303.91	16.60	1.13	15.47
12.40	8.86	303.45	8.86	0.93	7.93
12.60	3.97	303.15	3.97	0.77	3.20
12.80	3.07	303.07	3.07	0.73	2.34
13.00	2.50	303.02	2.50	0.70	1.81
13.20	2.16	302.99	2.16	0.67	1.49
13.40	2.01	302.97	2.01	0.66	1.35
13.60	1.87	302.96	1.87	0.65	1.21
13.80	1.72	302.94	1.72	0.64	1.08
14.00	1.57	302.92	1.57	0.63	0.94
14.20	1.47	302.91	1.47	0.62	0.85
14.40	1.40	302.90	1.40	0.61	0.78
14.60	1.33	302.89	1.33	0.61	0.72
14.80	1.25	302.88	1.25	0.60	0.66
15.00	1.18	302.87	1.18	0.59	0.59
15.20	1.11	302.86	1.11	0.58	0.53
15.40	1.04	302.85	1.04	0.58	0.47
15.60	0.97	302.84	0.97	0.57	0.41
15.80	0.90	302.83	0.90	0.56	0.34
16.00	0.83	302.82	0.83	0.55	0.28
16.20	0.78	302.81	0.78	0.54	0.24
16.40	0.75	302.80	0.75	0.54	0.22
16.60	0.72	302.80	0.72	0.53	0.19
16.80	0.69	302.79	0.69	0.53	0.16
17.00	0.66	302.78	0.66	0.52	0.14
17.20	0.63	302.78	0.63	0.51	0.11
17.40	0.60	302.77	0.60	0.51	0.09
17.60	0.57	302.76	0.57	0.50	0.07
17.80	0.54	302.75	0.54	0.49	0.04
18.00	0.51	302.74	0.51	0.48	0.02
18.20	0.49	302.74	0.49	0.48	0.01
18.40	0.48	302.73	0.48	0.47	0.00
18.60	0.47	302.72	0.47	0.47	0.00
18.80	0.46	302.71	0.46	0.46	0.00
19.00	0.45	302.70	0.45	0.45	0.00
19.20	0.44	302.69	0.44	0.44	0.00
19.40	0.43	302.69	0.43	0.43	0.00
19.60	0.42	302.68	0.42	0.42	0.00
19.80	0.41	302.67	0.41	0.41	0.00
20.00	0.40	302.66	0.40	0.40	0.00
20.20	0.40	302.66	0.40	0.40	0.00
20.40	0.39	302.65	0.39	0.39	0.00
20.60	0.38	302.64	0.38	0.38	0.00
20.80	0.37	302.64	0.37	0.37	0.00
21.00	0.37	302.63	0.37	0.37	0.00

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Hydrograph for Pond SPLIT: Flow Splitter (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)
21.20	0.36	302.63	0.36	0.36	0.00
21.40	0.35	302.62	0.35	0.35	0.00
21.60	0.35	302.62	0.35	0.35	0.00
21.80	0.34	302.61	0.34	0.34	0.00
22.00	0.33	302.61	0.33	0.33	0.00
22.20	0.33	302.60	0.33	0.33	0.00
22.40	0.32	302.60	0.32	0.32	0.00
22.60	0.31	302.59	0.31	0.31	0.00
22.80	0.31	302.59	0.31	0.31	0.00
23.00	0.30	302.58	0.30	0.30	0.00
23.20	0.29	302.58	0.29	0.29	0.00
23.40	0.28	302.57	0.28	0.28	0.00
23.60	0.28	302.57	0.28	0.28	0.00
23.80	0.27	302.56	0.27	0.27	0.00
24.00	0.26	302.56	0.26	0.26	0.00

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Stage-Discharge for Pond SPLIT: Flow Splitter

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
302.23	0.00	0.00	0.00
302.33	0.03	0.03	0.00
302.43	0.11	0.11	0.00
302.53	0.23	0.23	0.00
302.63	0.36	0.36	0.00
302.73	0.47	0.47	0.00
302.83	0.91	0.56	0.35
302.93	1.64	0.63	1.00
303.03	2.58	0.70	1.88
303.13	3.72	0.76	2.95
303.23	5.06	0.82	4.24
303.33	6.60	0.87	5.73
303.43	8.39	0.92	7.47
303.53	10.41	0.97	9.45
303.63	12.32	1.01	11.30
303.73	13.88	1.06	12.82
303.83	15.39	1.10	14.29
303.93	16.92	1.14	15.78
304.03	18.46	1.18	17.28
304.13	20.00	1.21	18.79
304.23	21.52	1.25	20.27
304.33	23.00	1.29	21.72
304.43	24.42	1.32	23.10
304.53	25.75	1.35	24.40
304.63	26.93	1.39	25.54
304.73	27.84	1.42	26.43
304.83	28.91	1.45	27.46
304.93	29.94	1.48	28.46

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Stage-Area-Storage for Pond SPLIT: Flow Splitter

Elevation (feet)	Storage (acre-feet)
302.23	0.000
302.33	0.000
302.43	0.000
302.53	0.000
302.63	0.000
302.73	0.000
302.83	0.000
302.93	0.000
303.03	0.000
303.13	0.000
303.23	0.000
303.33	0.000
303.43	0.000
303.53	0.000
303.63	0.000
303.73	0.000
303.83	0.000
303.93	0.000
304.03	0.000
304.13	0.000
304.23	0.000
304.33	0.000
304.43	0.000
304.53	0.000
304.63	0.000
304.73	0.000
304.83	0.000
304.93	0.000

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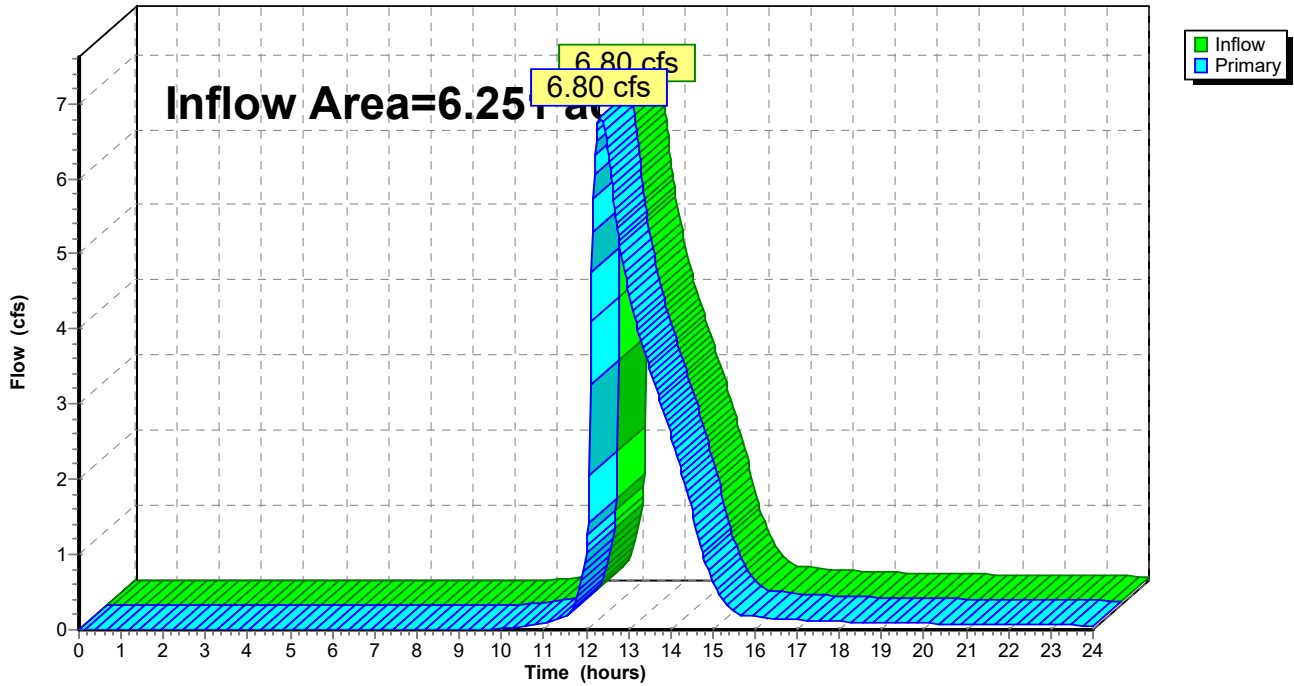
Summary for Link N: POI North

Inflow Area = 6.251 ac, 78.88% Impervious, Inflow Depth > 1.87" for 100-Year event
Inflow = 6.80 cfs @ 12.33 hrs, Volume= 0.975 af
Primary = 6.80 cfs @ 12.33 hrs, Volume= 0.975 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Link N: POI North

Hydrograph



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Hydrograph for Link N: POI North

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	10.60	0.05	0.00	0.05
0.20	0.00	0.00	0.00	10.80	0.07	0.00	0.07
0.40	0.00	0.00	0.00	11.00	0.09	0.00	0.09
0.60	0.00	0.00	0.00	11.20	0.11	0.00	0.11
0.80	0.00	0.00	0.00	11.40	0.15	0.00	0.15
1.00	0.00	0.00	0.00	11.60	0.21	0.00	0.21
1.20	0.00	0.00	0.00	11.80	0.43	0.00	0.43
1.40	0.00	0.00	0.00	12.00	1.02	0.00	1.02
1.60	0.00	0.00	0.00	12.20	6.07	0.00	6.07
1.80	0.00	0.00	0.00	12.40	6.74	0.00	6.74
2.00	0.00	0.00	0.00	12.60	6.02	0.00	6.02
2.20	0.00	0.00	0.00	12.80	5.10	0.00	5.10
2.40	0.00	0.00	0.00	13.00	4.52	0.00	4.52
2.60	0.00	0.00	0.00	13.20	4.05	0.00	4.05
2.80	0.00	0.00	0.00	13.40	3.67	0.00	3.67
3.00	0.00	0.00	0.00	13.60	3.32	0.00	3.32
3.20	0.00	0.00	0.00	13.80	2.97	0.00	2.97
3.40	0.00	0.00	0.00	14.00	2.60	0.00	2.60
3.60	0.00	0.00	0.00	14.20	2.22	0.00	2.22
3.80	0.00	0.00	0.00	14.40	1.82	0.00	1.82
4.00	0.00	0.00	0.00	14.60	1.35	0.00	1.35
4.20	0.00	0.00	0.00	14.80	0.94	0.00	0.94
4.40	0.00	0.00	0.00	15.00	0.65	0.00	0.65
4.60	0.00	0.00	0.00	15.20	0.44	0.00	0.44
4.80	0.00	0.00	0.00	15.40	0.29	0.00	0.29
5.00	0.00	0.00	0.00	15.60	0.20	0.00	0.20
5.20	0.00	0.00	0.00	15.80	0.19	0.00	0.19
5.40	0.00	0.00	0.00	16.00	0.17	0.00	0.17
5.60	0.00	0.00	0.00	16.20	0.16	0.00	0.16
5.80	0.00	0.00	0.00	16.40	0.15	0.00	0.15
6.00	0.00	0.00	0.00	16.60	0.15	0.00	0.15
6.20	0.00	0.00	0.00	16.80	0.14	0.00	0.14
6.40	0.00	0.00	0.00	17.00	0.13	0.00	0.13
6.60	0.00	0.00	0.00	17.20	0.13	0.00	0.13
6.80	0.00	0.00	0.00	17.40	0.12	0.00	0.12
7.00	0.00	0.00	0.00	17.60	0.12	0.00	0.12
7.20	0.00	0.00	0.00	17.80	0.11	0.00	0.11
7.40	0.00	0.00	0.00	18.00	0.11	0.00	0.11
7.60	0.00	0.00	0.00	18.20	0.10	0.00	0.10
7.80	0.00	0.00	0.00	18.40	0.10	0.00	0.10
8.00	0.00	0.00	0.00	18.60	0.09	0.00	0.09
8.20	0.00	0.00	0.00	18.80	0.09	0.00	0.09
8.40	0.00	0.00	0.00	19.00	0.09	0.00	0.09
8.60	0.00	0.00	0.00	19.20	0.09	0.00	0.09
8.80	0.00	0.00	0.00	19.40	0.09	0.00	0.09
9.00	0.00	0.00	0.00	19.60	0.09	0.00	0.09
9.20	0.00	0.00	0.00	19.80	0.08	0.00	0.08
9.40	0.00	0.00	0.00	20.00	0.08	0.00	0.08
9.60	0.00	0.00	0.00	20.20	0.08	0.00	0.08
9.80	0.01	0.00	0.01	20.40	0.08	0.00	0.08
10.00	0.02	0.00	0.02	20.60	0.08	0.00	0.08
10.20	0.02	0.00	0.02	20.80	0.08	0.00	0.08
10.40	0.04	0.00	0.04	21.00	0.08	0.00	0.08

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Hydrograph for Link N: POI North (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
21.20	0.07	0.00	0.07
21.40	0.07	0.00	0.07
21.60	0.07	0.00	0.07
21.80	0.07	0.00	0.07
22.00	0.07	0.00	0.07
22.20	0.07	0.00	0.07
22.40	0.07	0.00	0.07
22.60	0.06	0.00	0.06
22.80	0.06	0.00	0.06
23.00	0.06	0.00	0.06
23.20	0.06	0.00	0.06
23.40	0.06	0.00	0.06
23.60	0.06	0.00	0.06
23.80	0.06	0.00	0.06
24.00	0.06	0.00	0.06

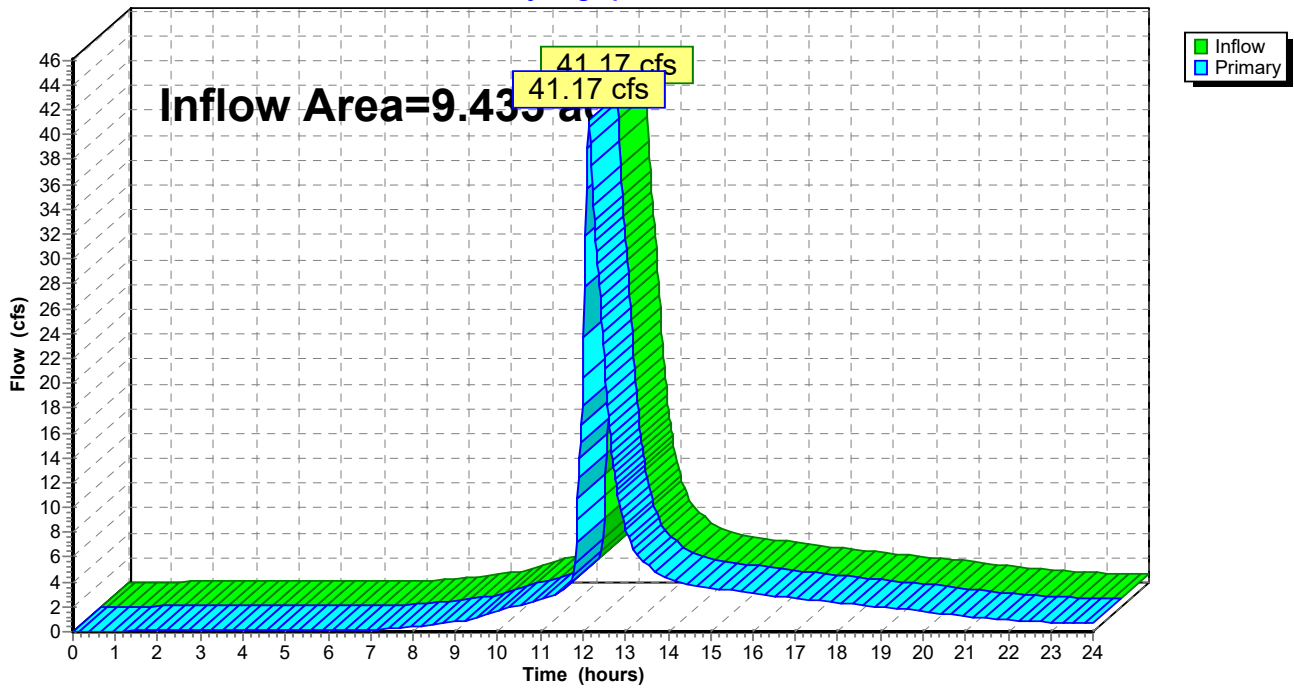
Summary for Link S: POI South

Inflow Area = 9.435 ac, 58.54% Impervious, Inflow Depth > 6.14" for 100-Year event
Inflow = 41.17 cfs @ 12.14 hrs, Volume= 4.827 af
Primary = 41.17 cfs @ 12.14 hrs, Volume= 4.827 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Link S: POI South

Hydrograph



Proposed

Prepared by HP

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Type III 24-hr 100-Year Rainfall=8.00"

Printed 5/19/2022

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Hydrograph for Link S: POI South

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.00	0.00	10.60	2.22	0.00	2.22
0.20	0.00	0.00	0.00	10.80	2.40	0.00	2.40
0.40	0.00	0.00	0.00	11.00	2.57	0.00	2.57
0.60	0.00	0.00	0.00	11.20	2.75	0.00	2.75
0.80	0.01	0.00	0.01	11.40	3.05	0.00	3.05
1.00	0.03	0.00	0.03	11.60	3.46	0.00	3.46
1.20	0.05	0.00	0.05	11.80	4.65	0.00	4.65
1.40	0.07	0.00	0.07	12.00	20.42	0.00	20.42
1.60	0.10	0.00	0.10	12.20	37.53	0.00	37.53
1.80	0.10	0.00	0.10	12.40	26.96	0.00	26.96
2.00	0.10	0.00	0.10	12.60	17.34	0.00	17.34
2.20	0.10	0.00	0.10	12.80	11.38	0.00	11.38
2.40	0.10	0.00	0.10	13.00	8.27	0.00	8.27
2.60	0.10	0.00	0.10	13.20	6.56	0.00	6.56
2.80	0.10	0.00	0.10	13.40	5.67	0.00	5.67
3.00	0.10	0.00	0.10	13.60	5.11	0.00	5.11
3.20	0.10	0.00	0.10	13.80	4.67	0.00	4.67
3.40	0.10	0.00	0.10	14.00	4.32	0.00	4.32
3.60	0.10	0.00	0.10	14.20	4.00	0.00	4.00
3.80	0.10	0.00	0.10	14.40	3.79	0.00	3.79
4.00	0.10	0.00	0.10	14.60	3.65	0.00	3.65
4.20	0.10	0.00	0.10	14.80	3.58	0.00	3.58
4.40	0.10	0.00	0.10	15.00	3.51	0.00	3.51
4.60	0.10	0.00	0.10	15.20	3.43	0.00	3.43
4.80	0.10	0.00	0.10	15.40	3.36	0.00	3.36
5.00	0.10	0.00	0.10	15.60	3.27	0.00	3.27
5.20	0.10	0.00	0.10	15.80	3.19	0.00	3.19
5.40	0.10	0.00	0.10	16.00	3.10	0.00	3.10
5.60	0.10	0.00	0.10	16.20	3.00	0.00	3.00
5.80	0.11	0.00	0.11	16.40	2.92	0.00	2.92
6.00	0.11	0.00	0.11	16.60	2.85	0.00	2.85
6.20	0.12	0.00	0.12	16.80	2.78	0.00	2.78
6.40	0.13	0.00	0.13	17.00	2.70	0.00	2.70
6.60	0.14	0.00	0.14	17.20	2.63	0.00	2.63
6.80	0.16	0.00	0.16	17.40	2.56	0.00	2.56
7.00	0.18	0.00	0.18	17.60	2.49	0.00	2.49
7.20	0.21	0.00	0.21	17.80	2.41	0.00	2.41
7.40	0.26	0.00	0.26	18.00	2.33	0.00	2.33
7.60	0.31	0.00	0.31	18.20	2.25	0.00	2.25
7.80	0.37	0.00	0.37	18.40	2.18	0.00	2.18
8.00	0.42	0.00	0.42	18.60	2.12	0.00	2.12
8.20	0.48	0.00	0.48	18.80	2.05	0.00	2.05
8.40	0.55	0.00	0.55	19.00	1.99	0.00	1.99
8.60	0.62	0.00	0.62	19.20	1.92	0.00	1.92
8.80	0.71	0.00	0.71	19.40	1.86	0.00	1.86
9.00	0.79	0.00	0.79	19.60	1.78	0.00	1.78
9.20	0.89	0.00	0.89	19.80	1.69	0.00	1.69
9.40	1.02	0.00	1.02	20.00	1.60	0.00	1.60
9.60	1.26	0.00	1.26	20.20	1.52	0.00	1.52
9.80	1.50	0.00	1.50	20.40	1.45	0.00	1.45
10.00	1.69	0.00	1.69	20.60	1.38	0.00	1.38
10.20	1.86	0.00	1.86	20.80	1.32	0.00	1.32
10.40	2.04	0.00	2.04	21.00	1.26	0.00	1.26

Proposed

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Type III 24-hr 100-Year Rainfall=8.00"

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Hydrograph for Link S: POI South (continued)

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
21.20	1.19	0.00	1.19
21.40	1.12	0.00	1.12
21.60	1.06	0.00	1.06
21.80	0.99	0.00	0.99
22.00	0.94	0.00	0.94
22.20	0.89	0.00	0.89
22.40	0.85	0.00	0.85
22.60	0.82	0.00	0.82
22.80	0.80	0.00	0.80
23.00	0.77	0.00	0.77
23.20	0.75	0.00	0.75
23.40	0.73	0.00	0.73
23.60	0.71	0.00	0.71
23.80	0.69	0.00	0.69
24.00	0.67	0.00	0.67

Appendix D

Unity Place Warehouse
Proposed Soil Testing Program
& Test Results



SOIL TESTING PROGRAM

Prepared for:

UNITY PLACE WAREHOUSE, NEWBURGH NY STORMWATER MANAGEMENT

December 29, 2021

Brooker Engineering, PLLC has been retained to perform the hydraulic and hydrologic analysis and design for the Unity Place Warehouse project to meet the five unified sizing criteria from the New York State Stormwater Design Manual as a result of the proposed development.

To offset the increased runoff associated with the new impervious surfaces, (2) off-line underground infiltration systems have been designed, as well as third in-line underground infiltration system intended to offset the capacity of the existing detention facility located on the site currently receiving runoff from the existing conveyance system located in Unity Place.

Per the New York State Storm Water Management Design Manual, one infiltration test and one test pit are required per 200 square feet of infiltration basin area. Due to the large sizes of the proposed infiltration and other factors such as wooded areas and deep excavations, our office is proposing a reduced number of tests per facility:

Infiltration Facility # 1

The bottom of the proposed southwesterly infiltration facility is 17,928 square feet and would require 90 infiltration tests and test pits as per NYSDEC guidance. Majority of the proposed infiltration system is located where isolated dense woods/brush currently exists. Conducting 90 tests would require clearing/stripping majority of these isolated woods. Additionally, the existing grade are generally uniform, therefore, we anticipate the soil profiles to be consistent. Therefore, we propose to perform 13 infiltration tests and test pits around the perimeter of the proposed system and existing woods. (see attached maps).

It should also be noted that this proposed infiltration facility # 1 will be located in fill. The insitu soil will be tested and the system designed in accordance with NYS DEC guidance for infiltration systems in fill soils:

- *Insitu/natural soil layer below infiltration system has an infiltration rate greater than or equal to the 0.5 in/hr*
- *Ground water and bedrock levels in insitu/natural soil should be two to three feet below grade*
- *Fill material is an engineered fill that is tested after placement (by geotechnical firm) and demonstrated to be equivalent to a soil material acceptable for the installation of an infiltration system (i.e. infiltration rate greater than or equal to 0.5 inches /hr, etc.). Infiltration rate of fill material should be similar infiltration rate as insitu/existing soil.*

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Brian Brooker, P.E. Eve Mancuso, P.E., C.M.E. Ken DeGennaro, P.E., C.F.M. Stuart Strow, P.E., C.F.M.
Anthony Riggi, P.E. Dennis Rocks, P.E., C.F.M. John Bezuyen, P.L.S.
Hillary Chadwick, P.E. Vincent Kane, P.E. Nestor Celiz, P.E. Benjamin Levitz, P.E.

- *If there is a difference in the infiltration rates between the fill and insitu/native soil, the designer should use the more conservative (i.e. slower infiltration rate) when determining whether the infiltration system will dewater (exfiltrate) within the required 48 hours (see Section 6.3.2 “Conveyance” of the Design Manual).*
- *Required vertical separation distances to groundwater/bedrock are maintained*
- *Required horizontal separation distances to surface waters, wells, etc. are maintained*
- *There is adequate fill along the edges of the infiltration system to prevent seeps/breakouts*

Infiltration Facility # 2

The bottom of the proposed southeasterly infiltration facility is 6,195 square feet and requires 31 infiltration tests and test pits. However, due to the depth of the proposed system (6 feet deep plus an additional 4 feet below bottom of system for groundwater and bedrock separation check) and location of existing isolated woods, it is proposed to perform 6 infiltration tests and test pits located around the perimeter of the proposed system and existing woods. (see attached maps).

Infiltration Facility # 3

The bottom of the proposed northerly infiltration facility is 4,955 square feet and requires 25 infiltration tests and test pits. However, due to the depth of the proposed system (ranging from 5 to 11 feet deep plus an additional 4 feet below bottom of system for groundwater and bedrock separation check) and location of existing isolated woods, it is proposed to perform 5 infiltration tests and test pits located around the perimeter of the proposed system and existing woods. (see attached maps).

Upon completion of all infiltration tests and test pits the results will be analyzed in the field and compared for consistency. In the event that there are significant variations in infiltration rates between the preliminary testing locations, further testing will be performed between those locations. Additionally, if bedrock or groundwater depths are found to be inconsistent among the preliminary testing locations, further test pits will be excavated between those locations.

Due to the depth of the proposed basins we are proposing a modified infiltration test procedure as follows:

- Pre-soak to be a one inch drop before starting test, to avoid leaving test pits unattended overnight.
- The test pits for groundwater and bedrock separation check will be stepped next to the infiltration test pit at least 4' below the proposed system.

Attached map and forms to be used for test pits and infiltration tests.



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SHEET: _____

SITE: _____

JOB #: _____

DATE: _____

NAME: _____

Test Hole

DEPTH		TEST HOLE 1	TEST HOLE 2	TEST HOLE 3	TEST HOLE 4	TEST HOLE 5	TEST HOLE 6
FEET	INCHES						
1	3						
	6						
	9						
	12						
2	15						
	18						
	21						
	24						
3	27						
	30						
	33						
	36						
4	39						
	42						
	45						
	48						
5	51						
	54						
	57						
	60						
6	63						
	66						
	69						
	72						
7	75						
	78						
	81						
	84						
PERC. RATE							
DEPTH TO G. W.							



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Percolation Test Data

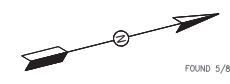
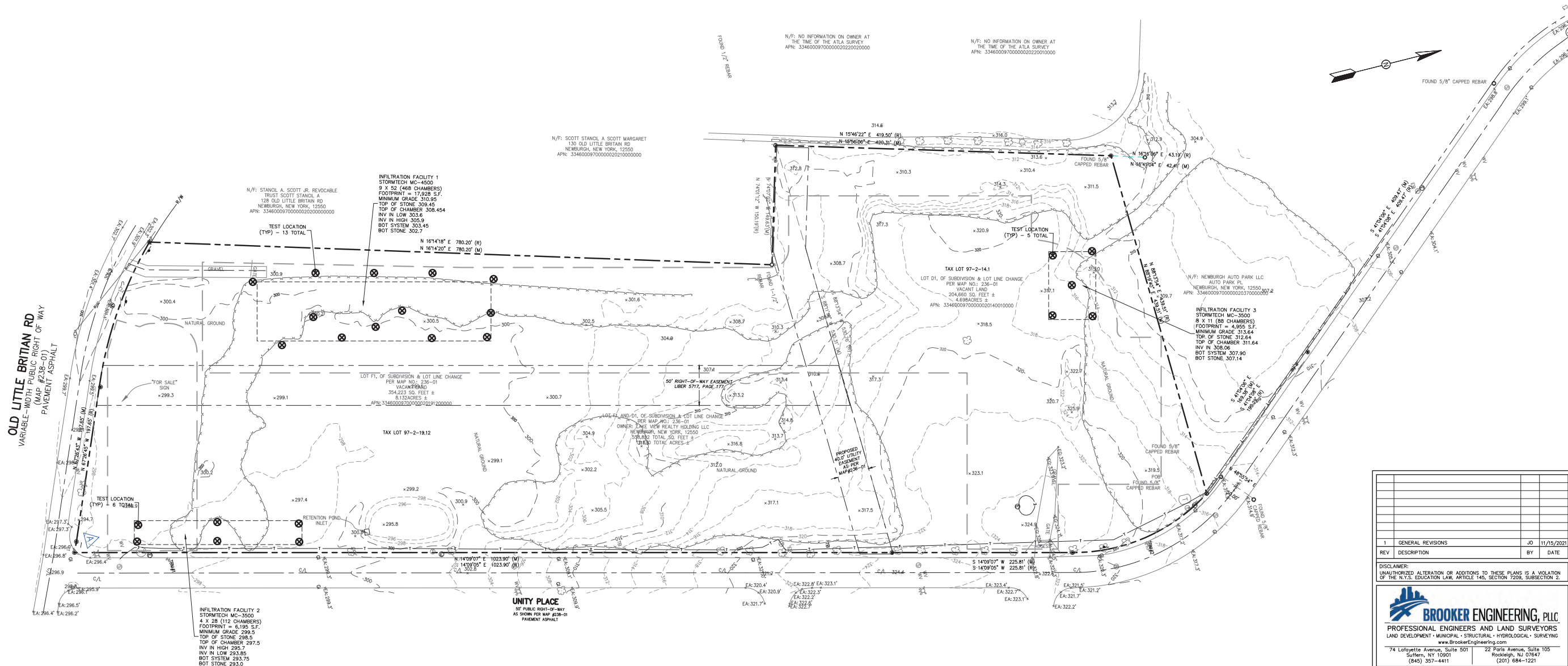
Development/Site: _____ (T/V/C) _____ County: _____

Date :

Test Conducted By:

Test Hole No.	Test Hole Depth (ft-in.)	Lot No.	Soil Profile	Presoak date & time	Time	Percolation Test Runs					
						1	2	3	4	5	6
1					END						
					BEGIN						
					RESULT						
2					END						
					BEGIN						
					RESULT						
3					END						
					BEGIN						
					RESULT						
4					END						
					BEGIN						
					RESULT						
5					END						
					BEGIN						
					RESULT						
6					END						
					BEGIN						
					RESULT						

1. Test to be run for 1 hour and result recorded as inches of water elevation drop.



NOT TO SCALE

REV	DESCRIPTION	BY	DATE
1	GENERAL REVISIONS	JO	11/15/2021

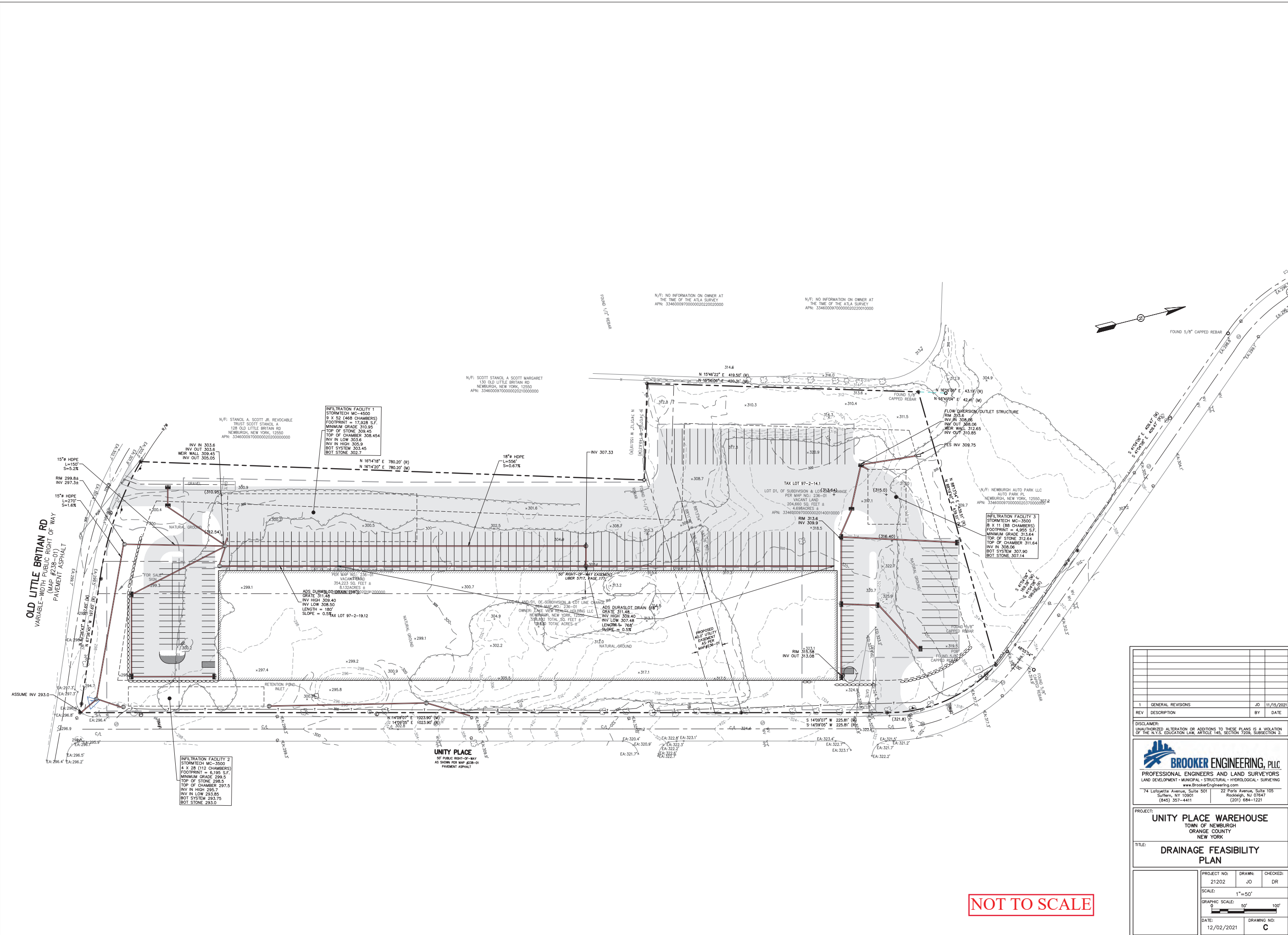
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PROJECT:
UNITY PLACE WAREHOUSE
 TOWN OF NEWBURGH
 ORANGE COUNTY
 NEW YORK

TITLE:
SOIL TESTING PROCEDURE

PROJECT NO:	DRAWN:	CHECKED:
21202	MT	DR
SCALE:	1"=50'	
GRAPHIC SCALE:	0 50' 100'	
DATE:	DRAWING NO:	
12/02/2021	STP	



REV	DESCRIPTION	BY	DATE
1	GENERAL REVISIONS	JO	11/15/2021

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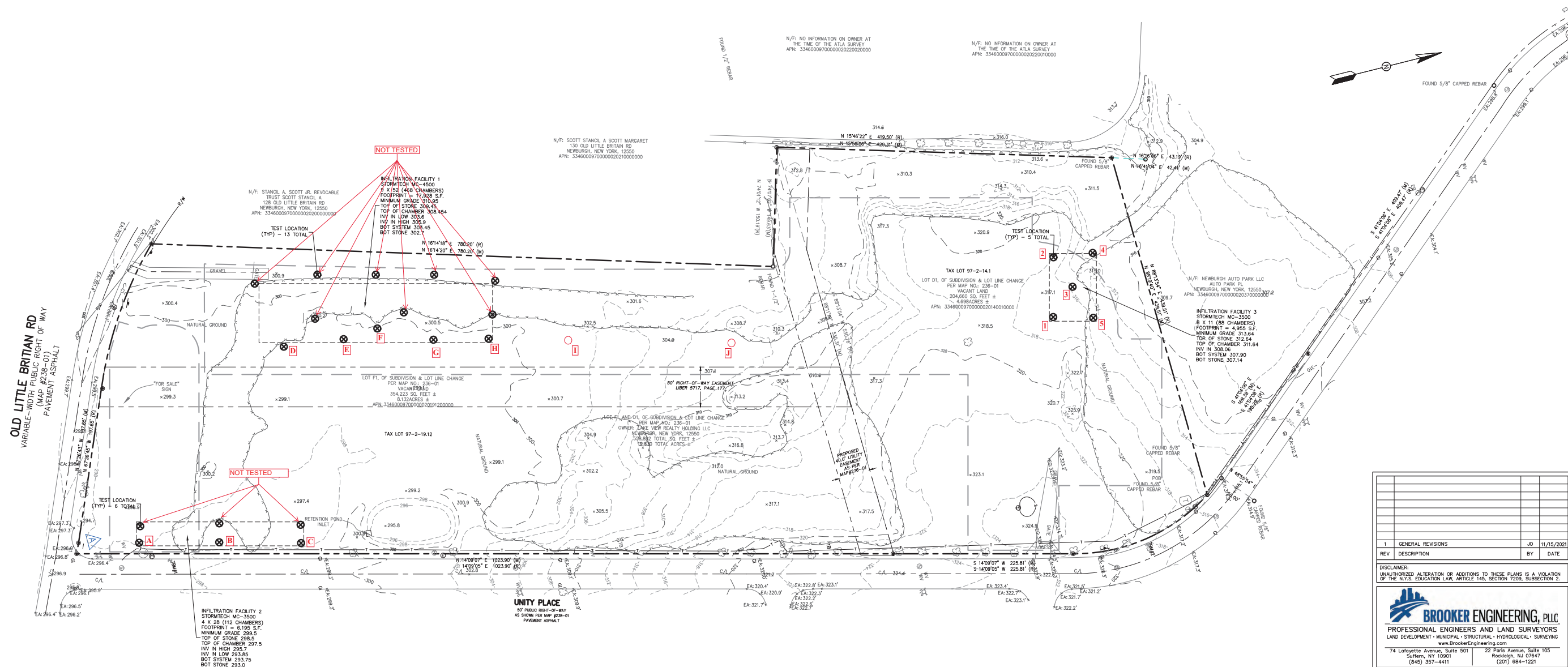
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PROJECT:
UNITY PLACE WAREHOUSE
 TOWN OF NEWBURGH
 ORANGE COUNTY
 NEW YORK

TITLE:
DRAINAGE FEASIBILITY PLAN

PROJECT NO:	DRAWN:	CHECKED:
21202	JO	DR
SCALE:	1"=50'	
GRAPHIC SCALE:		
DATE:	DRAWING NO:	
12/02/2021	C	

NOT TO SCALE



**TEST HOLE MAP
 RESULTS MARKUP
 03/03/2022**

NOT TO SCALE

<p>1 GENERAL REVISIONS JO 11/15/2021</p> <p>REV DESCRIPTION BY DATE</p>	
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<p>PROJECT: UNITY PLACE WAREHOUSE TOWN OF NEWBURGH ORANGE COUNTY NEW YORK</p>	
<p>TITLE: SOIL TESTING PROCEDURE</p>	
<p>PROJECT NO: 21202 SCALE: 1"=50' GRAPHIC SCALE: 50' 100' DATE: 12/02/2021</p>	<p>DRAWN: MT CHECKED: DR DRAWING NO: STP</p>



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SOIL TEST PIT DATA

PROJECT 21202 Unity Place Warehouse **DATE** 3/3/22
LOT # 97-2-14.1 (North System)

HOLE # 1

HOLE # 5

DEPTH		DEPTH	
0"-6"	Topsoil / item material	0"-6"	Topsoil
6"-30"	Silty light brown mixed with dark brown, wet	6"-24"	Brown silty loam, roots
30"	Thick filter fabric material separating stratum - possibly for previous access road construction	24"-40"	Light brown loam
30"-48"	Light Brown loam	40"-132"	Brown Sandy loam medium-small rocks
48"-156"	Brown sandy loam, medium/small rocks		

GROUNDWATER @ N/E (Not encountered) FEET

GROUNDWATER @ N/E FEET

ROCK @ N/E FEET

ROCK @ N/E FEET

PERCOLATION TESTS

PERCOLATION TESTS

DEPTH @ 120 INCHES

DEPTH @ 96 INCHES

TIME	RUN#	START	STOP	MINUTES	TIME	RUN#	START	STOP	MINUTES
9:40a	1	6"	20.5"	60	10:27a	1	4"	13.25"	60
10:40a	2	11.25"	20.0"	60	11:40a	2	4"	13.5"	60
11:43a	3	11.25"	19.5"	60	12:40p	3	7"	13.0"	60
12:45p	4	11.5"	18.5"	60	1:40p	4	7"	14.0"	60
	5					5			
SOIL RATE OBSERVED: 8.5 MINUTES / 1" DROP					SOIL RATE OBSERVED: 8.5 MINUTES / 1" DROP				

DESIGN DATA

DESIGN SOIL RATE USED = 12 MINUTES / 1" DROP

NOTES: See Test Hole Location Map & Soil Testing Program for additional information on procedure and deviations



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SOIL TEST PIT DATA

PROJECT 21202 Unity Place Warehouse **DATE** 3/3/22

LOT # 97-2-14.1 (North System)

HOLE # 3

HOLE # 4

DEPTH		DEPTH	
0"-3"	Topsoil	0"-16"	Topsoil
3"-48"	Brown sandy fill	16"-30"	Light brown sandy
48"-60"	Light brown sand layer	30"-96"	Brown sandy rocky
60"	Thick filter fabric at bottom of statum		
60"-144"	Brown sandy loam, rocky		

GROUNDWATER @ N/E FEET

ROCK @ N/E FEET

GROUNDWATER @ N/E FEET

ROCK @ N/E FEET

PERCOLATION TESTS

DEPTH @ 108 INCHES

TIME	RUN#	START	STOP	MINUTES	TIME	RUN#	START	STOP	MINUTES
11:20a	1	6"	16"	60	11:52a	1	6"	18"	60
12:20p	2	5.5"	14.5"	60	12:52p	2	10"	18.75"	60
1:20p	3	6"	14.25"	60	1:52p	3	9.5"	18"	60
2:20p	4	6"	13.25"	60	2:52p	4	10"	18.5"	60
	5					5			
SOIL RATE OBSERVED: 8.3 MINUTES / 1" DROP					SOIL RATE OBSERVED: 7 MINUTES / 1" DROP				

PERCOLATION TESTS

DEPTH @ 60 INCHES

DESIGN DATA

DESIGN SOIL RATE USED = 12 MINUTES / 1" DROP

NOTES: See Test Hole Location Map & Soil Testing Program for additional information on procedure and deviations



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SOIL TEST PIT DATA

PROJECT 21202 Unity Place Warehouse **DATE** 3/3/22

LOT # 97-2-14.1 (North System)

HOLE # 2

HOLE

DEPTH		DEPTH	
0"-6"	Topsoil/Vegetation		
6"-84"	Mixed brown, grey soil (Fill?)		
84"	Gravel, wet, possible old access road layer		
84"-96"	Light Brown Sand		
96"-168"	Brown sandy. rocky		

GROUNDWATER @ N/E FEET

ROCK @ N/E FEET

GROUNDWATER @ ____ FEET

ROCK @ ____ FEET

PERCOLATION TESTS

DEPTH @ 132 INCHES

TIME	RUN#	START	STOP	MINUTES	TIME	RUN#	START	STOP	MINUTES
1:00p	1	6"	14"	60		1			
2:00p	2	7"	15"	60		2			
3:00p	3	6"	13.75"	60		3			
4:00p	4	6.5	14"	60		4			
	5					5			
SOIL RATE OBSERVED: 8 MINUTES / 1" DROP					SOIL RATE OBSERVED: _ MINUTES / 1" DROP				

PERCOLATION TESTS

DEPTH @ ____ INCHES

DESIGN DATA

DESIGN SOIL RATE USED = 12 MINUTES / 1" DROP

NOTES: See Test Hole Location Map & Soil Testing Program for additional information on procedure and deviations



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SOIL TEST PIT DATA

PROJECT 21202 Unity Place Warehouse **DATE** 3/4/22

LOT # 97-2-19.12 (South System)

HOLE # A

HOLE # B

DEPTH		DEPTH	
0-6"	Topsoil	0-6"	Topsoil
6"-24"	Brownish gray silt	6"-24"	Brownish Gray Silt
24"-36"	Light brown silt, wet	24"	Groundwater
36"-52"	Brownish grey silt		
52"-72"	Gray clay		
72"-84"	Brown Silty Clay, Groundwater		

GROUNDWATER @ 6-7 FEET

ROCK @ N/E FEET

GROUNDWATER @ 2-3 FEET

ROCK @ N/E FEET

PERCOLATION TESTS

DEPTH @ 4 FT

TIME	RUN#	START	STOP	MINUTES
N/A	1			
	2			
	3			
	4			
	5			

SOIL RATE OBSERVED: 0 MINUTES / 1" DROP

PERCOLATION TESTS

DEPTH @ NOT PERFORMEED

TIME	RUN#	START	STOP	MINUTES
N/A	1			
	2			
	3			
	4			
	5			

SOIL RATE OBSERVED: 0 MINUTES / 1" DROP

DESIGN DATA

DESIGN SOIL RATE USED = 0 MINUTES / 1" DROP

NOTES: NO PERC



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SOIL TEST PIT DATA

PROJECT 21202 Unity Place Warehouse

DATE 3/4/22

LOT # 97-2-19.12 (South System)

HOLE # C

HOLE # D

DEPTH		DEPTH	
		0"-6"	Topsoil
		12"	Brown silt, wet
		12"-48"	Lighter brown, silty, clayish
	Similar Stratum to Holes A & B	48"	Groundwater seeping from basin of test hole @ about 4'

GROUNDWATER @ 2 FEET

GROUNDWATER @ 4 FEET

ROCK @ N/E FEET

ROCK @ N/E FEET

PERCOLATION TESTS

PERCOLATION TESTS

DEPTH @ NOT PERFORMED

DEPTH @ 18 INCHES

TIME	RUN#	START	STOP	MINUTES	TIME	RUN#	START	STOP	MINUTES
N/A	1				9:37a	1	9"	10.25"	60
	2				10:39a	2	10.25"	9.5"	40
	3					3			
	4					4			
	5					5			
SOIL RATE OBSERVED: <u>0</u> MINUTES / 1" DROP					SOIL RATE OBSERVED: <u>0</u> MINUTES / 1" DROP				

DESIGN DATA

DESIGN SOIL RATE USED = 0 MINUTES / 1" DROP

NOTES: NO PERC



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Rockleigh, NJ 07647

SOIL TEST PIT DATA

PROJECT 21202 Unity Place Warehouse **DATE** 3/4/22

LOT # 97-2-19.12 (South System)

HOLE # E		HOLE # F	
DEPTH		DEPTH	
	Similar to Hole D		Similar to Hole D

GROUNDWATER @ 4 FEET
ROCK @ N/E FEET

GROUNDWATER @ 3 FEET
ROCK @ N/E FEET

PERCOLATION TESTS

DEPTH @ 12 INCHES

TIME	RUN#	START	STOP	MINUTES
9:56a	1	7.75"	8.0"	60 FAIL
10:56a	2	8.0"	8.0"	30 FAIL
	3			
	4			
	5			

PERCOLATION TESTS

DEPTH @ NOT PERFORMEED

TIME	RUN#	START	STOP	MINUTES
	1			
	2			
	3			
	4			
	5			

SOIL RATE OBSERVED: 0 MINUTES / 1" DROP

SOIL RATE OBSERVED: 0 MINUTES / 1" DROP

DESIGN DATA

DESIGN SOIL RATE USED = 0 MINUTES / 1" DROP

NOTES: NO PERC



NY OFFICE
74 Lafayette Avenue, Suite 501 845.357.4411 Tel
Suffern, NY 10901 845.357.1896 Fax

NJ OFFICE
22 Paris Avenue, Suite 105 201.750.3527 Tel
Rockleigh, NJ 07647

SOIL TEST PIT DATA

PROJECT 21202 Unity Place Warehouse **DATE** 3/4/22

LOT # 97-2-19.12 (South System)

HOLE # G

HOLE # H

DEPTH		DEPTH	
	Similar to Hole D		Similar to Hole D

GROUNDWATER @ 2.5 FEET

GROUNDWATER @ 3 FEET

ROCK @ N/E FEET

ROCK @ N/E FEET

PERCOLATION TESTS

PERCOLATION TESTS

DEPTH @ NOT PERFORMEED

DEPTH @ NOT PERFORMEED

TIME	RUN#	START	STOP	MINUTES	TIME	RUN#	START	STOP	MINUTES
	1					1			
	2					2			
	3					3			
	4					4			
	5					5			
SOIL RATE OBSERVED: <u>0</u> MINUTES / 1" DROP					SOIL RATE OBSERVED: <u>0</u> MINUTES / 1" DROP				

DESIGN DATA

DESIGN SOIL RATE USED = 0 MINUTES / 1" DROP

NOTES: NO PERC



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SOIL TEST PIT DATA

PROJECT 21202 Unity Place Warehouse **DATE** 3/4/22

LOT # 97-2-19.12 (South System)

HOLE # I		HOLE # J	
DEPTH		DEPTH	
		0"-12"	Topsoil
	Similar to D	12"-28"	Light brown silty loam
		28"-90"	Brown silty loam
			Water seeping into test hole

GROUNDWATER @ 2 FEET
ROCK @ N/E FEET

GROUNDWATER @ 6.5 FEET
ROCK @ N/E FEET

PERCOLATION TESTS

DEPTH @ 12 INCHES

TIME	RUN#	START	STOP	MINUTES	TIME	RUN#	START	STOP	MINUTES
N/A	1			NO PERC		1			NO PERC
	2					2			
	3					3			
	4					4			
	5					5			
SOIL RATE OBSERVED: 0 MINUTES / 1" DROP					SOIL RATE OBSERVED: 0 MINUTES / 1" DROP				

PERCOLATION TESTS

DEPTH @ 54 INCHES

DESIGN DATA

DESIGN SOIL RATE USED = 0 MINUTES / 1" DROP

NOTES: NO PERC

SITE PLANS PREPARED FOR UNITY PLACE WAREHOUSE

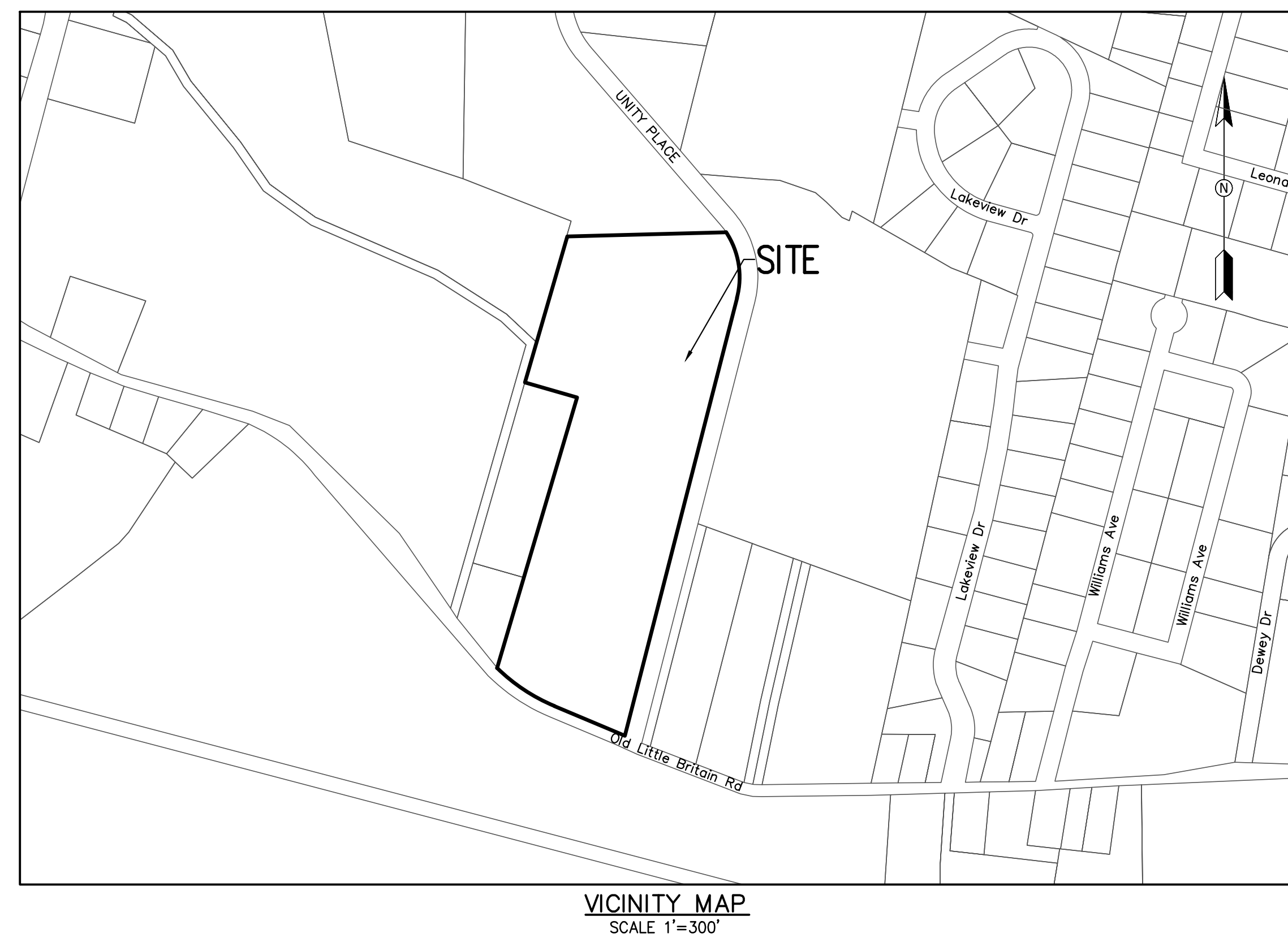
TOWN OF NEWBURGH
ORANGE COUNTY, NEW YORK

OWNER/APPLICANT
UNITY PLACE NEWBURGH LLC
95 CHESTNUT RIDGE ROAD,
MONTVALE, N.J. 07645
(212) 796 5449

ENGINEER
BROOKER ENGINEERING, PLLC
74 LAFAYETTE AVENUE, SUITE 501
SUFFERN, NY 10901
(845) 547 2509

SURVEYOR
JAY A. GREENWELL, PLS, LLC
34 WAYNE AVE, 2ND FLOOR
SUFFERN, NY 10901
(845) 357 0830

ARCHITECT
ANDERSON DESIGN GROUP
25 WALKKILL AVENUE
MONTGOMERY, NY 12549
(845) 294 2724



- SITE PLAN NOTES:**
- TAX LOTS 97-2-141 & 97-2-1912
 - AREA OF TRACT: 550,475 SF ± (12.843 AC ±)
 - ZONE: IB
 - USE: WAREHOUSE, STORAGE AND TRANSPORTATION FACILITIES INCLUDING TRUCK AND BUS TERMINALS
 - PLANNING BOARD SITE PLAN REVIEW USE GROUP: B
 - TAX LOT 97-2-1912
TAX LOT 97-2-1913
LAKE VIEW REALTY HOLDING LLC
RONALD K. BARTON
C/O BARTON CHEWOLET, INC.
800 AUTO PART PLACE
NEWBURGH, NEW YORK, 12550
 - TAX LOT 97-2-141
UNITY PLACE PROPERTIES LLC
RONALD K. BARTON
C/O BARTON CHEWOLET, INC.
800 AUTO PART PLACE
NEWBURGH, NEW YORK, 12550
 - APPLICANT: UNITY PLACE NEWBURGH LLC
95 CHESTNUT RIDGE ROAD,
MONTVALE, NJ 07645
(212) 796 5449

DRAWING LIST:

	ORIGINAL DATE	REVISED DATE
1. TITLE SHEET	05/27/2022	--
2. LAYOUT PLAN	05/27/2022	--
3. GRADING, DRAINAGE & UTILITY PLAN	05/27/2022	--
4. EROSION AND SEDIMENT CONTROL PLAN	05/27/2022	--
5. LIGHTING & PLANTING PLAN	05/27/2022	--
6. CONSTRUCTION DETAILS (1 OF 2)	05/27/2022	--
7. CONSTRUCTION DETAILS (2 OF 2)	05/27/2022	--
TM. TRUCK MANEUVER PLAN - INFORMATION DRAWING	05/27/2022	--
8. SURVEY BY JAY A. GREENWELL, PLS, LLC		

REV	DESCRIPTION	BY	DATE

DISCLAIMER:
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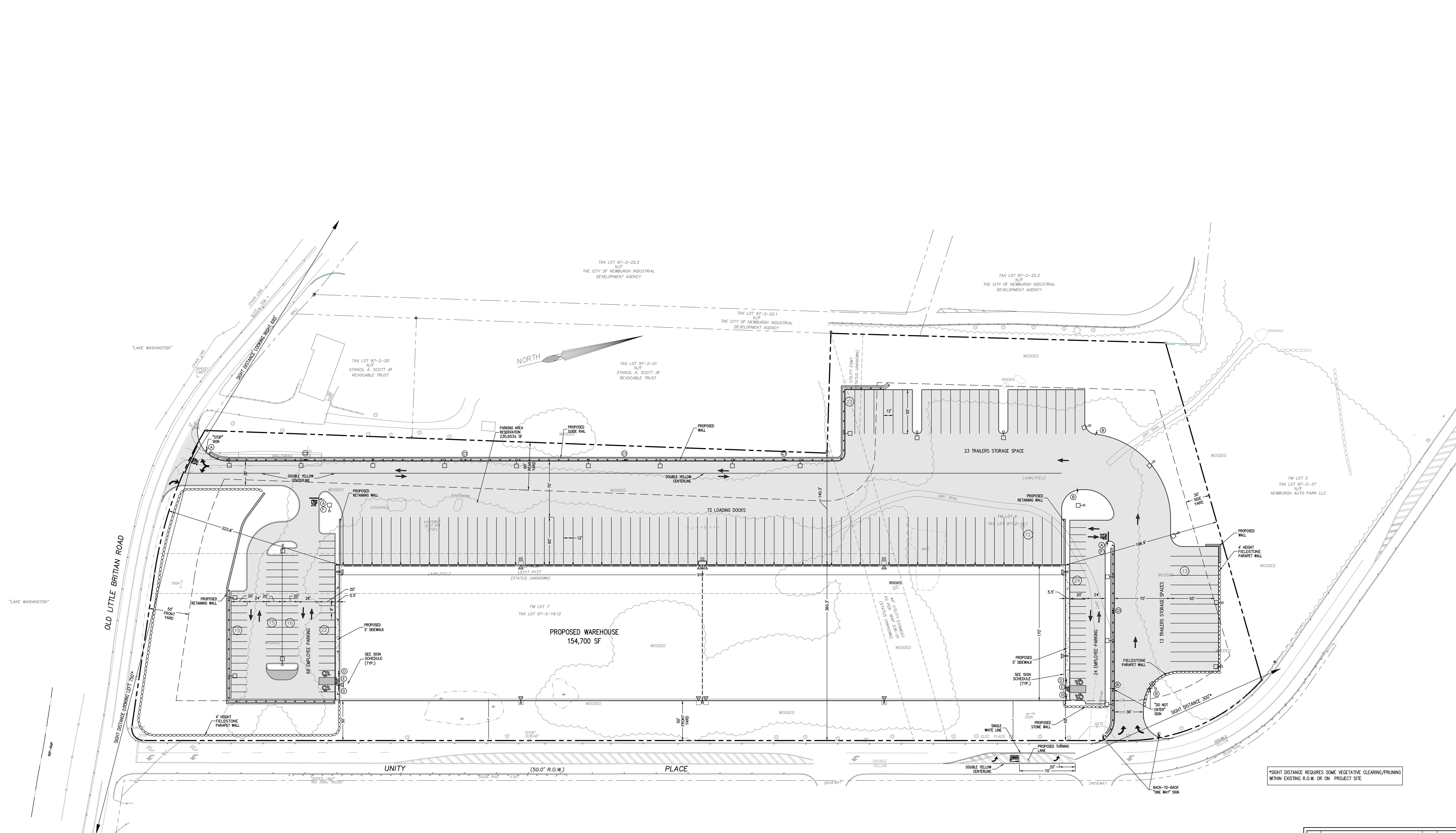
74 Lafayette Avenue, Suite 501
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(845) 357-4411

22 Paris Avenue, Suite 105
ROCKY HILL, NJ 07947
(201) 684-1221

PROJECT:
UNITY PLACE WAREHOUSE
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

TITLE:
TITLE SHEET

PROJECT NO:	21202	DRAWN:	JO	CHECKED:	DR
SCALE:	1" = 40'				
GRAPHIC SCALE:	0 40' 80'				
DATE:	05/27/2022	DRAWING NO.:	1		



PARKING CALCULATION
 A) AS PER ZONING CODE § 185-13:
 1 EMPLOYEE/1,500 SF
 162,800 SF / 1,500 SF = 109 EMPLOYEES
 REQUIRED 2 SPACES/EMPLOYEE = 109 EMPLOYEES = 73 SPACES
 B) AS PER ZONING CODE ATTACHMENT 2, CHART 1
 1 PARKING GENERATION RATES:
 REQUIRED: 0.50 SPACES/1,000 SF GROSS BUILDING AREA (162,800 SF) = 82 SPACES
 PROVIDED: 92 SPACES (73 & 382-04)
 REQUIRED ADA PARKING: 4
 PROVIDED ADA PARKING: 4

DEVELOPMENT SUMMARY
 BUILDING AREA = 162,800 SF
 PARKING AREA RESERVATION REQUIRED: 162,800 S.F.
 PARKING AREA RESERVATION PROVIDED: 230,653 S.F.
 TOTAL LOADING DOCKS: 72 DOCKS
 TOTAL TRAILER STORAGE SPACES: 36 SPACES

SITE PLAN NOTES
 1. TAX LOTS 97-2-141 & 97-2-1912
 2. AREA OF TRACT: 558,475 SF ± (22.843 AC ±)
 3. ZONE: IB
 4. USE: WAREHOUSE, STORAGE AND TRANSPORTATION FACILITIES INCLUDING TRUCK AND BUS TERMINALS
 5. PLANNING BOARD SITE PLAN REVIEW USE GROUP: 9
 6. RECORD OWNERS: LAKE NEW REALTY HOLDING LLC, RONALD K. BARTON, C/O BARTON CHEVROLET, INC., 800 AUTO PART PLACE, NEWBURGH, NEW YORK, 12550

TAX LOT 97-2-141
 UNITY PLACE PROPERTIES LLC
 RONALD K. BARTON
 C/O BARTON CHEVROLET, INC.
 800 AUTO PART PLACE
 NEWBURGH, NEW YORK, 12550

TAX LOT 97-2-1912
 UNITY PLACE WAREHOUSE LLC
 95 CHESTNUT RIDGE ROAD,
 MONTVILLE, NJ, 07845
 (212) 796-5446

BULK TABLE
 ZONE: IB DISTRICT
 USE SUBJECT TO SITE PLAN REVIEW BY THE PLANNING BOARD: WAREHOUSE, STORAGE AND TRANSPORTATION FACILITIES INCLUDING TRUCK AND BUS TERMINALS.
 USE GROUP: #9

	MIN LOT AREA (SF)	MIN LOT WIDTH (FEET)	MIN LOT DEPTH (FEET)	MIN FRONT YARD (FEET)	MIN REAR YARD (FEET)	MIN 1 SIDE YARD (FEET)	MIN BOTH SIDE YARD (FEET)	MAX PERMITTED LOT BUILDING COVERAGE (%)	MAX PERMITTED LOT BUILDING HEIGHT (FEET)	MAX PERMITTED LOT SURFACE COVERAGE (%)
REQUIRED	40,000	150	150	50	60	30	80	40	40	80
PROPOSED	558,475	1,725	360.3	50	140.29	196.9	N/A	27.7	40	68

SIGN SCHEDULE

SYMBOL	SIGN PANEL	QUANTITY
(A)	STOP SIGN MUTED R1-1 (30"x30")	3
(B)	DO NOT ENTER RS-1 (30"x30")	4
(C)	INSTALL BACK-TO-BACK ONE WAY SIGN ONE WAY SIGN RS-1 (36"x12")	2
(D)	ONE WAY SIGN RS-1 (36"x12")	5
(E)	ADA PARKING MUTED R7-6	4
(F)	NO PARKING ANYTIME MUTED R7-1	2
(G)	NO RIGHT TURN MUTED RS-1	2

NOTE: REFER TO SIGN DETAILS SHEET #8

NOTES:
 ALL PAVEMENT STRIPING REMOVAL AND NEW PAVEMENT MARKINGS SHALL CONFORM WITH THE NYSDOT STANDARD SPECIFICATIONS AS FOLLOWS:
PAVEMENT STRIPING REMOVAL SCHEDULE:
 ITEM 635.0103 - CLEANING AND PREPARATION OF PAVEMENT SURFACE - LINES
 ITEM 635.0203 - CLEANING AND PREPARATION OF PAVEMENT SURFACE - LETTERS
 ITEM 635.0303 - CLEANING AND PREPARATION OF PAVEMENT SURFACE - SYMBOLS
NEW PAVEMENT MARKING SCHEDULE:
 ITEM 685.11 - WHITE EPOXY REFLECTORIZED PAVEMENT STRIPING - 20 MILS
 ITEM 685.12 - YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPING - 20 MILS
 ITEM 685.13 - WHITE EPOXY REFLECTORIZED PAVEMENT STRIPING - LETTERS
 ITEM 685.14 - WHITE EPOXY REFLECTORIZED PAVEMENT STRIPING - SYMBOLS

LEGEND (PROPOSED)

- PROPERTY LINE
- YARD LINE
- CLIP
- BUILDING
- PAVEMENT
- SIDEWALK
- ADA DROP CURB
- PARKING ASSE NUMBER OF SPOT
- LUMINAIRE
- MAN DOOR
- LOADING DOCK
- RETAINING WALL

LOT BUILDING COVERAGE
 BUILDING AREA = 154,700 SF
 LOT AREA = 558,475 SF
 = (154,700/558,475) = 0.27 X 100 = 27.7%

MAX. PERMITTED LOT SURFACE COVERAGE
 PAVEMENT AREA = 222,397 SF
 BUILDING AREA = 154,700 SF
 SIDEWALK AREA = 1,590 SF
 TOTAL IMPERVIOUS AREA = 378,687 SF
 SURFACE COVERAGE = (378,687/558,475) = 0.68 X 100 = 68%

REV DESCRIPTION BY DATE

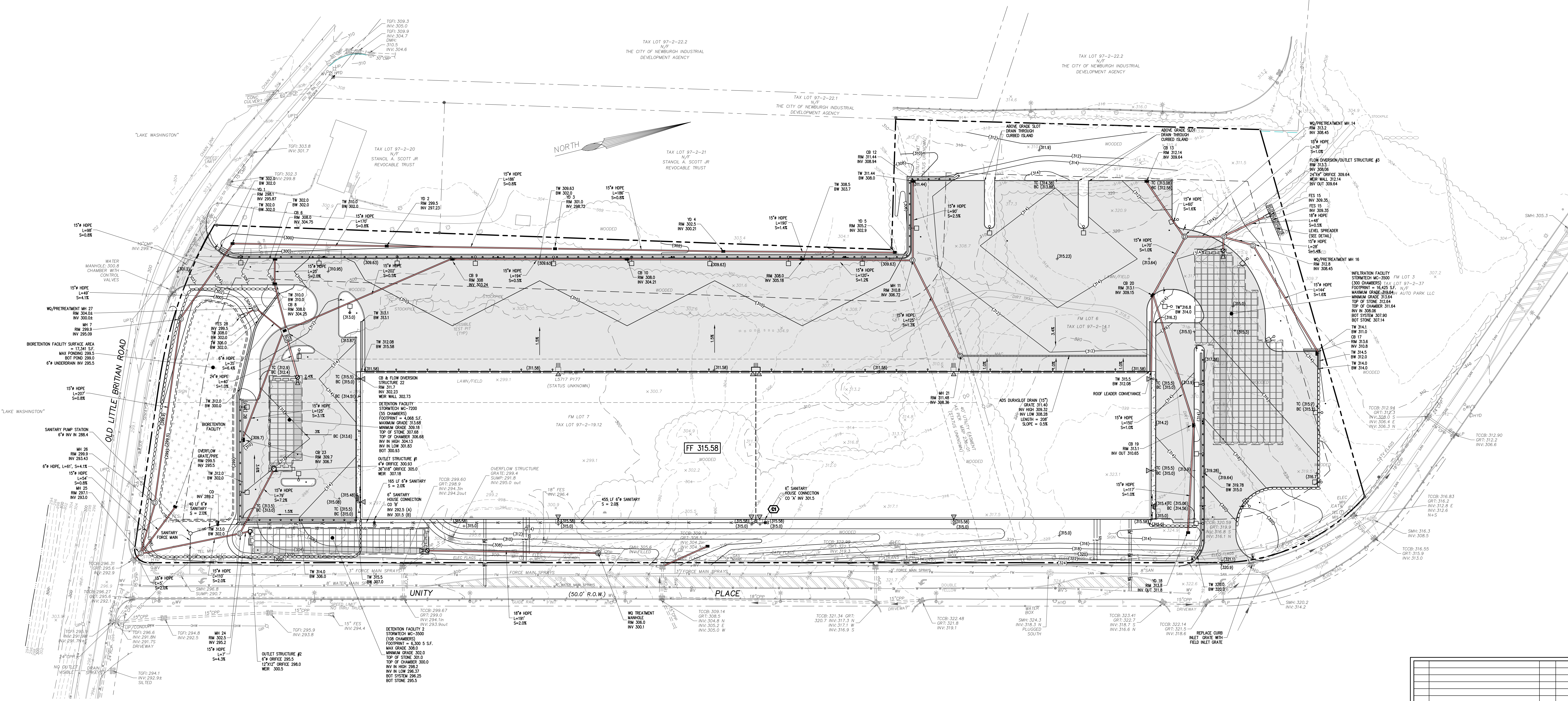
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 22 Paris Avenue, Suite 105 Rockledge, NJ 07847 (201) 684-1221

PROJECT: **UNITY PLACE WAREHOUSE**
 TOWN OF NEWBURGH
 ORANGE COUNTY
 NEW YORK

TITLE: **LAYOUT PLAN**

PROJECT NO: 21202 DRAWN: JO CHECKED: DR
 SCALE: 1" = 40'
 GRAPHIC SCALE: 40' 60'
 DATE: 05/27/2022 DRAWING NO: 2



CONSTRUCTION NOTES:

- CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES AND VERIFY ALL LOCATIONS, ELEVATIONS, INVERTS, ETC. PRIOR TO ANY CONSTRUCTION AND NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES ON THIS PLAN.
- CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND HAVE ALL UTILITIES FIELD LOCATED BY RESPECTIVE UTILITY COMPANY AND SHALL ASSUME FULL RESPONSIBILITY AND SHALL BE SOLELY RESPONSIBLE FOR MAINTAINING CONTINUOUS UTILITY SERVICE AND REPAIRS TO ANY DAMAGE.
- PROJECT SAFETY AND TRAFFIC MAINTENANCE ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR TO COORDINATE WITH ALL COMPANIES TO ASSURE ADEQUATE SUPPLY AND SCHEDULING OF NEW SERVICES. WHERE REQUIRED, TO FIT THE CONSTRUCTION SEQUENCING AND SCHEDULE TO ASSURE NO DAMAGE OR DISTURBANCE TO EXISTING SERVICES. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, THE DAMAGED MATERIALS SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE OWNER AND DESIGNER OF ANY UNANTICIPATED UTILITIES ENCOUNTERED AND MAINTAIN THE UTILITIES IN WORKING ORDER UNTIL THEIR DISPOSITION IS RESOLVED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION, PROTECTION AND/OR TEMPORARY SUPPORT OF ANY UTILITIES ENCOUNTERED WITHIN THE WORK AREA.
- THE CONTRACTOR SHALL COORDINATE DIRECTLY WITH EACH AFFECTED UTILITY COMPANY, SHALL APPLY FOR AND OBTAIN THE NECESSARY PERMITS AND APPROVALS, AND SHALL INQUIRE AND COORDINATE ALL INSPECTIONS NECESSARY FOR FINAL APPROVAL AND ACCEPTANCE BY THE SUBJECT UTILITY COMPANY.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING CONTINUOUS SERVICE OF ALL EXISTING UTILITIES WITHIN THE WORK AREA AT ALL TIMES. CONTRACTOR SHALL COORDINATE ANY REPAIR, RELOCATION OR REMOVAL OF EXISTING UTILITIES WITH EACH RESPECTIVE UTILITY COMPANY AND PROVIDE TEMPORARY SERVICE OF ANY UNANTICIPATED UTILITY SERVICE AFFECTED BY THE CONSTRUCTION IN THE EVENT OF ANY DISRUPTION TO THE RESPECTIVE UTILITY. SHUT-DOWNS SHALL BE AT THE DISCRETION OF THE RESPECTIVE UTILITY COMPANIES AND COORDINATED WITH THE MUNICIPALITY AND THE ENGINEER FOR PUBLIC NOTICE IF NECESSARY. TEMPORARY SERVICE SHALL BE PROVIDED AND MAINTAINED AT NO ADDITIONAL COST.

- ALL STORM DRAINAGE PIPE TO BE HIGH DENSITY POLYETHYLENE PIPE (HDPE)
- ALL ROOF LEADERS ARE TO BE CONNECTED TO THE ON-SITE STORMWATER SYSTEM. ROOF DOWNSPUTS AND RECEIVING LEADER SIZES SHALL BE SPECIFIED BY THE BUILDING MECHANICAL ENGINEER. FINAL LOCATIONS OF ROOF LEADERS ARE TO BE FINALIZED BY CONTRACTOR. ROOF LEADER PIPES SHALL BE SDR-35 PVC.
- WATER SERVICE LINE AND SEWER CONNECTION SHALL BE PLACED IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL DISTANCE OF TEN FEET BETWEEN THEM.
- SANITARY SEWER PIPE SHALL BE SDR-35 PVC.
- WATER MAIN PIPE, VALVES, FITTINGS, THURST RESTRAINT, TAPPING SLEEVES, HORIZONTALS, ETC. SHALL CONFORM WITH TOWN OF NEWBURGH STANDARDS.
- ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- ALL DIMENSIONS ARE MEASURED TO THE INVERT UNLESS OTHERWISE NOTED. ELEVATIONS AND DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS IN THE FIELD PRIOR TO THE USE OF SUCH INFORMATION IN BIDDING OR CONSTRUCTION. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THIS ACCURACY. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DIMENSIONAL DISCREPANCIES.
- THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, THE DAMAGED MATERIALS SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.
- THE SITE SHALL BE KEPT CLEAN AT ALL TIMES. UPON COMPLETION OF WORK, ALL EXCESS MATERIAL, DEBRIS, ETC. SHALL BE REMOVED AND PROPERLY DISPOSED OF AND THE WORK AREA SHALL BE LEFT CLEAN TO THE OWNER'S SATISFACTION.
- WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DEPOSED OF THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

LEGEND (EXISTING)

- DRAINAGE INLET W/PIPES
- DRAIN MANHOLE/ WITH PIPES
- TOP CURB @ CATCH BASIN
- TOP OF GRADE FIELD INLET
- REINFORCED CONCRETE PIPE
- CORRUGATED PLASTIC PIPE
- UTILITY POLE WITH LIGHT
- WATER VALVE
- HYDRANT
- GAS VALVE
- SOIL WITH ITEM
- OVERHEAD WIRES
- GAS LINE
- GAS, ELEC, TEL
- WATER LINE
- ELECTRIC LINE
- TELEPHONE LINE
- FORCE MAIN
- SANITARY LINE
- CONTOUR LINE

LEGEND (PROPOSED)

- CLEAN OUT
- SANITARY SEWER MANHOLE
- CATCH BASIN
- OUTLET STRUCTURE
- DRAINAGE MANHOLE
- FLARE END SECTION
- HEAD WALL
- SPOT ELEVATION
- BUILDING DOOR LOCATION
- LOADING DOCK LOCATION
- DRAINAGE PIPE
- GAS SERVICE
- HOUSE CONNECTION
- WATER SERVICE (FIRE)
- WATER SERVICE (DOMESTIC)
- SEWERLINE
- PROPERTY LINE
- SEWER LINE
- CURB
- BUILDING
- GUIDE RAIL
- RETAINING WALL
- FIELDSTONE PARAPET WALL
- PAVEMENT
- SEWERMAN

REV	DESCRIPTION	BY	DATE

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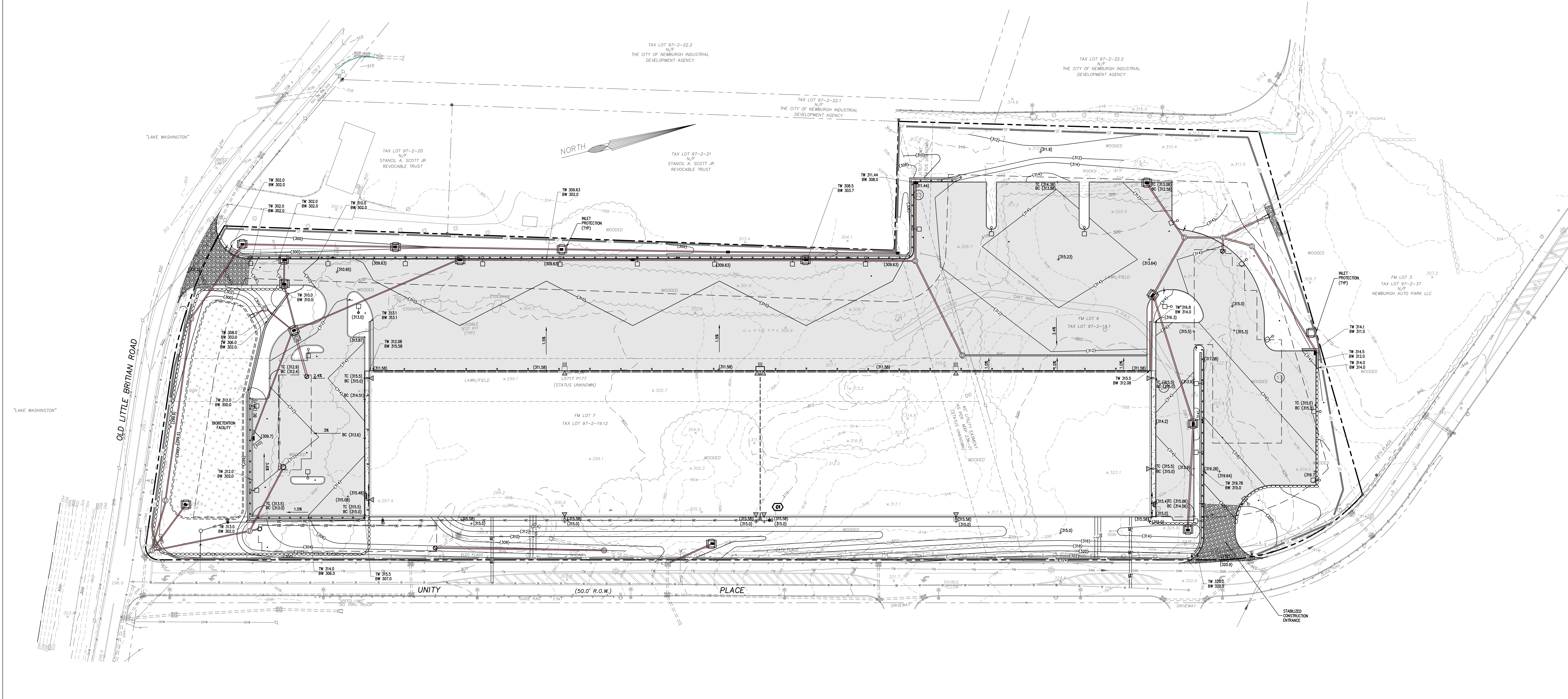
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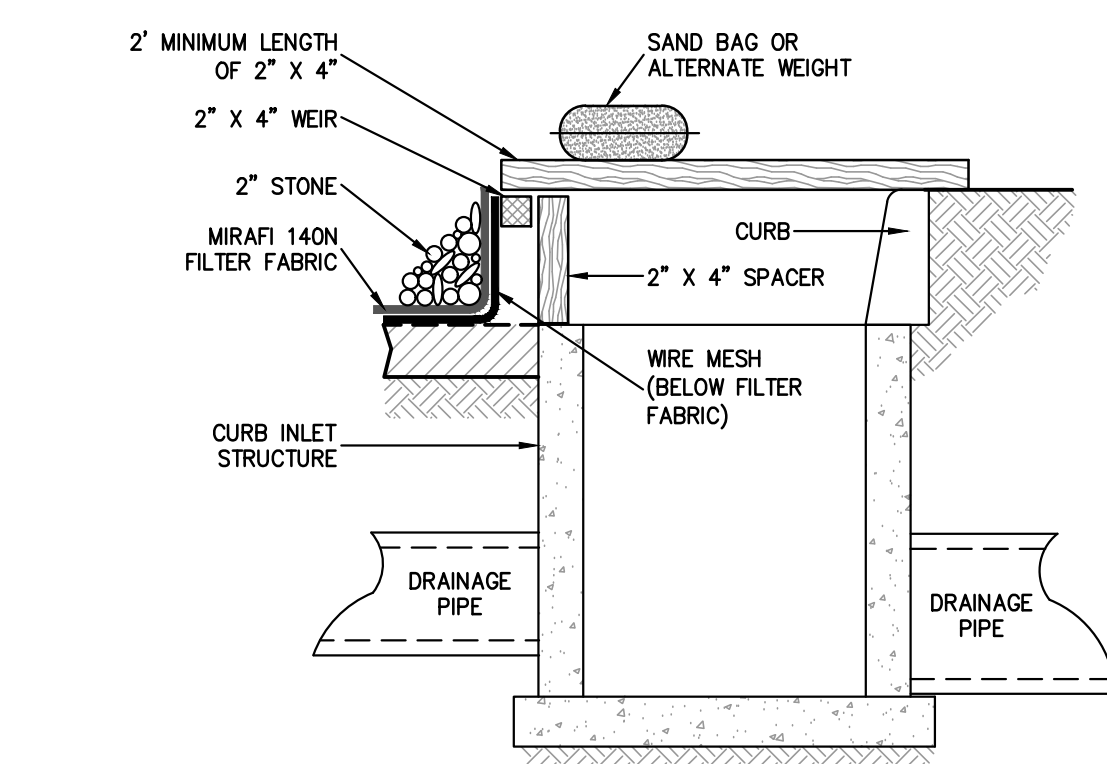
PROJECT:
UNITY PLACE WAREHOUSE
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

TITLE:
**GRADING, DRAINAGE
& UTILITY PLAN**

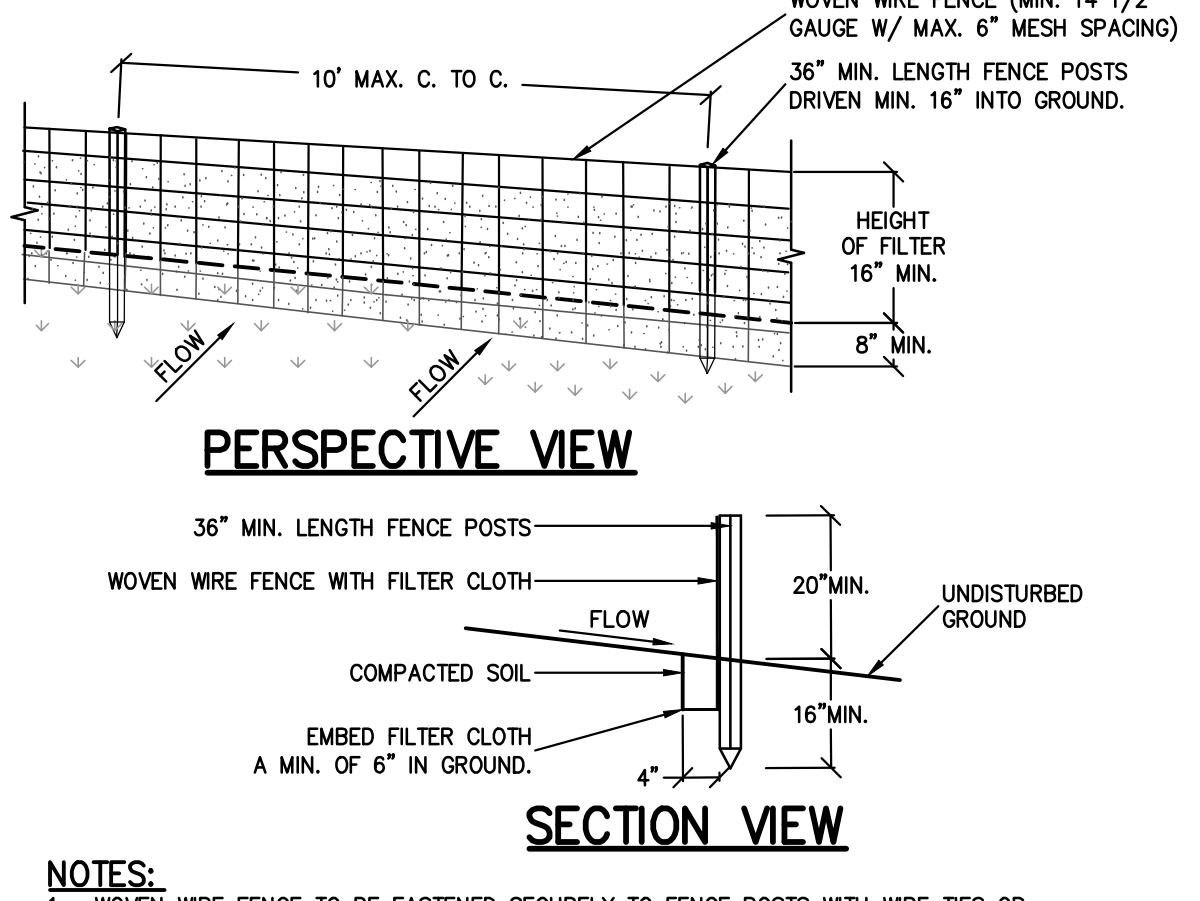
PROJECT NO:	21202	DRAWN:	JO	CHECKED:	DR
SCALE:	1" = 40'				
GRAPHIC SCALE:	0' 20' 40' 60'				
DATE:	05/27/2022	DRAWING NO.:	3		



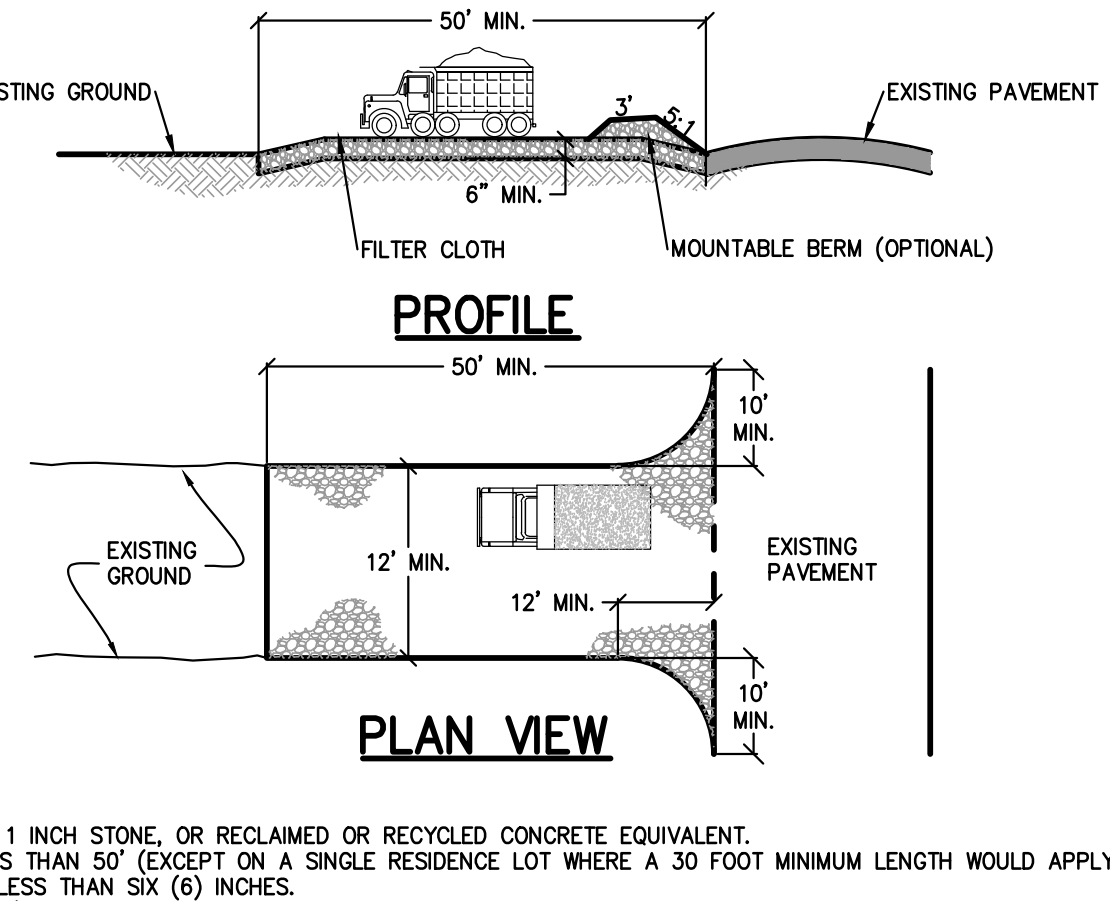
- STANDARD EROSION CONTROL NOTES:**
1. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, AND SHALL BE INSTALLED IN PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT STABILIZATION IS ESTABLISHED.
 2. THE SITE AT ALL TIMES SHALL BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
 3. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND INSPECTING ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES ON A REGULAR BASIS, INCLUDING AFTER EVERY STORM EVENT.
 4. STOCKPILES ARE NOT TO BE LOCATED ON A SLOPE, ROADWAY OR DRAINAGE FACILITY. THE BASE OF ALL STOCKPILES SHALL BE CONTAINED BY A HAY BALE SEDIMENT BARRIER OR SILT FENCE.
 5. A CRUSHED STONE, WOVEN WIRE MESH OR CLEANING BLANKET SHALL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS ROAD INTERSECTS ANY PAVED ROADWAY IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL. ALL SOIL, WASHES, DROPPED, SPILLED, OR TRAPPED OUTSIDE THE WORK AREA OR ONTO PUBLIC RIGHT-OF-WAY, SHALL BE REMOVED IMMEDIATELY. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
 6. DUST SHALL BE CONTROLLED AT ALL TIMES IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
 7. TEMPORARY SEDIMENTATION ENTRAPMENT AREAS SHALL BE PROVIDED AT KEY LOCATIONS TO INTERCEPT AND CLARIFY SILT LAIDEN RUNOFF FROM THE SITE. THESE MAY BE EXCAVATED OR MAY BE CREATED UTILIZING EARTHEN BERMS, RIP-RAP OR CRUSHED STONE DAMS, HAY BALES, OR OTHER CHANNELIZATION SHALL BE CONSTRUCTED TO INSURE THAT ALL SILT LAIDEN WATERS ARE DIRECTED INTO THE ENTRAPMENT AREAS, WHICH SHALL NOT BE PERMITTED TO FILL IN, BUT SHALL BE CLEANED PERIODICALLY DURING THE COURSE OF CONSTRUCTION. THE COLLECTION SILT SHALL BE DEPOSITED IN AREAS SAFE FROM FURTHER EROSION.
 8. ALL DISTURBED AREAS, EXCEPT ROADWAYS, WHICH WILL REMAIN OPEN OR UNFINISHED FOR MORE THAN 10 DAYS SHALL BE TEMPORARILY SEED WITH 1/2 LB. OF RYE GRASS OR MAINTAINED WITH 100 LBS. OF STRAW OR HAY PER 1,000 SQUARE FEET. ROADWAYS SHALL BE STABILIZED AS RAPIDLY AS PRACTICABLE BY THE INSTALLATION OF THE BASE COURSE. A TEMPORARY SEEDING AND/OR MULCHING SHOULD BE APPLIED TO DISTURBED AREAS THAT ARE LEFT FOR 15 DAYS UNLESS CONSTRUCTION WILL BEGIN WITHIN 30 DAYS.
 9. IF SILT LEAVES THE SITE, IT SHALL BE COLLECTED AND REMOVED AS DIRECTED BY APPROPRIATE MUNICIPAL AUTHORITIES.
 10. AT THE COMPLETION OF THE PROJECT, ALL TEMPORARY SILTATION DEVICES SHALL BE REMOVED AND THE AFFECTED AREAS RE-CORDED, PLANTED, OR TREATED IN ACCORDANCE WITH THE APPROVED PLANS.
 11. ALL AREAS DISTURBED BY ON-SITE GRADING, THAT WILL NOT BE CONSTRUCTED UPON, SHALL BE STABILIZED WITH PERMANENT VEGETATIVE COVER, USING THE FOLLOWING SEEDING SCHEDULE, OR EQUIVALENT:
- | | | | |
|-----------------------|------|------|------|
| KENTUCKY BLUE GRASS - | 1.00 | 1.00 | 1.00 |
| CREeping RED FESCUE - | 2.00 | 0.45 | |
| PERENNIAL RYE GRASS - | 2.00 | 0.10 | |
13. ALL SEEDING AREAS TO HAVE AN APPLICATION OF THE FOLLOWING:
 a. FERTILIZER - AMOUNT NEEDED TO OBTAIN 4% OF 5.0 FERTILIZER - 10 LBS. PER 1,000 SF OF 10-20-10 FERTILIZER OR APPROVED EQUIV.
 b. IF NOT LANDSCAPED OTHERWISE, ALL NEW CONSTRUCTED STEEP PERMANENT SLOPES LESS THEN 1:2.5 (HORIZONTAL) TO BE SEED WITH THE FOLLOWING:
- | | | |
|------------------------------------|----|------|
| CREeping RED FESCUE - | 10 | 0.45 |
| CROWN VETCH - | 15 | 0.35 |
| BROMEGRASS - | 8 | 0.10 |
| TALL FESCUE OR SMOOTH BROMEGRASS - | 15 | 0.35 |
| PERENNIAL RYE GRASS - | 5 | 0.10 |
14. SOG CAN BE USED INSTEAD OF SEED.
 c. CONSTRUCTION STABILIZATION CONSTRUCTION ENTRANCE.
 d. INSTALL SEDIMENT BARRIERS AS PER NOTE 1 ABOVE.
 e. CONSTRUCT DIVERSIONS, SWALES AND DRAINAGE SYSTEMS WITH MINIMUM NECESSARY CLEARING.
 f. CLEAR DISTURBED AREAS AND VEGETATION FROM AREAS TO BE EXCAVATED OR FILLED, STRIP AND STOCKPILE TOPSOIL FROM ALL AREAS TO BE DISTURBED.
 g. PERFORM NECESSARY EXCAVATION OR FILL OPERATIONS TO BRING SITE TO DESIRED SUBGRADE. INSTALL STORM DRAINAGE SYSTEM.
 h. INSTALL SEDIMENT CONTROL BARRIERS AROUND ALL STORM DRAIN RIGLETS.
 i. SEED ALL DISTURBED AREAS WHICH WILL REMAIN UNDISTURBED FOR A PERIOD OF 30 DAYS AS PER NOTE 2 ABOVE.
 j. AFTER COMPLETION OF THE SITE CONSTRUCTION FINE GRADE AND SPREAD TOPSOIL ON ALL LAWN AREAS AND SEED AS PER NOTES 5 AND 8 ABOVE.
 k. REMOVE SEDIMENT BARRIERS AS PER NOTE 4 ABOVE.
 l. MAINTAIN ALL SEEDED AND PLANTED AREAS TO INSURE A MAJOR STABILIZED VEGETATIVE SPECIES.
 15. ALL CONSTRUCTION TO MEET CURRENT MUNICIPALITY SPEC.
 16. 4" OF TOP SOIL TO BE SPREAD PRIOR TO SEEDING IN ALL DISTURBED AREAS.



- NOTES:**
1. FILTER FABRIC SHALL HAVE AN EDGE OF 40-85.
 2. WOODEN FRAME SHALL BE CONSTRUCTED OF 2" X 4" CONSTRUCTION GRADE LAMBER.
 3. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS 30 INCH MINIMUM WIDTH WITH A LENGTH 4 FEET LONGER THAN THE THROAT. IT SHALL BE SHARPED AND SECURELY NAILED TO A 2" X 4" WIRE.
 4. THE WIRE SHALL BE SECURELY NAILED TO 2" X 4" SPACERS 9 INCHES LONG SPACED NO MORE THAN 6 FEET APART.
 5. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2" X 4" ANCHORS 2 FEET LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SAND BAGS OR ALTERNATE WEIGHTS.



- NOTES:**
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER 1" OR 1 1/2" TIMES OR HARDWOOD.
 2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE 12 1/2 GAUGE, 4" MAXIMUM MESH OPENING.
 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MRAP100X, STABILINKA 1100X, OR APPROVED EQUIVALENT.
 4. PREFABRICATED UNITS SHALL BE GEOTAF, ENVIRONMENT, OR APPROVED EQUIVALENT.
 5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "TRIGGERS" DEVELOP IN THE SILT FENCE.



- NOTES:**
1. STONE SIZE - USE 1 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
 2. LENGTH - NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
 3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
 4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCURS. TWENTY (20) FEET MINIMUM IF SINGLE ENTRANCE SITE.
 5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
 6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DROPPED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
 7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT SPILLED, DROPPED, WASHED OR TRAPPED ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRAPPED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
 8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
 9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

LEGEND (PROPOSED)

CLEAN OUT	Symbol
SEWAGE MANHOLE	Symbol
CATCH BASIN	Symbol
OUTLET STRUCTURE	Symbol
DRAINAGE MANHOLE	Symbol
FLARE END SECTION	Symbol
HEAD WALL	Symbol
SIDE SPOUT ELEVATION	Symbol
RAILING DOOR LOCATION	Symbol
LOADING DOOR LOCATION	Symbol
DRAINAGE PIPE	Symbol
GAS SERVICE	Symbol
HOSE CONNECTION	Symbol
WATER SERVICE (FIRE)	Symbol
WATER SERVICE (DOMESTIC)	Symbol
TELEPHONE	Symbol
PROPERTY LINE	Symbol
1/4" LINE	Symbol
CURB	Symbol
RAILING	Symbol
GRADE RAIL	Symbol
RETAINING WALL	Symbol
RESISTIVE PAPER/WALL	Symbol
PAVEMENT	Symbol
SOIL MIX	Symbol
CONSTRUCTION ENTRANCE	Symbol
SILT FENCE	Symbol
INLET PROTECTION	Symbol

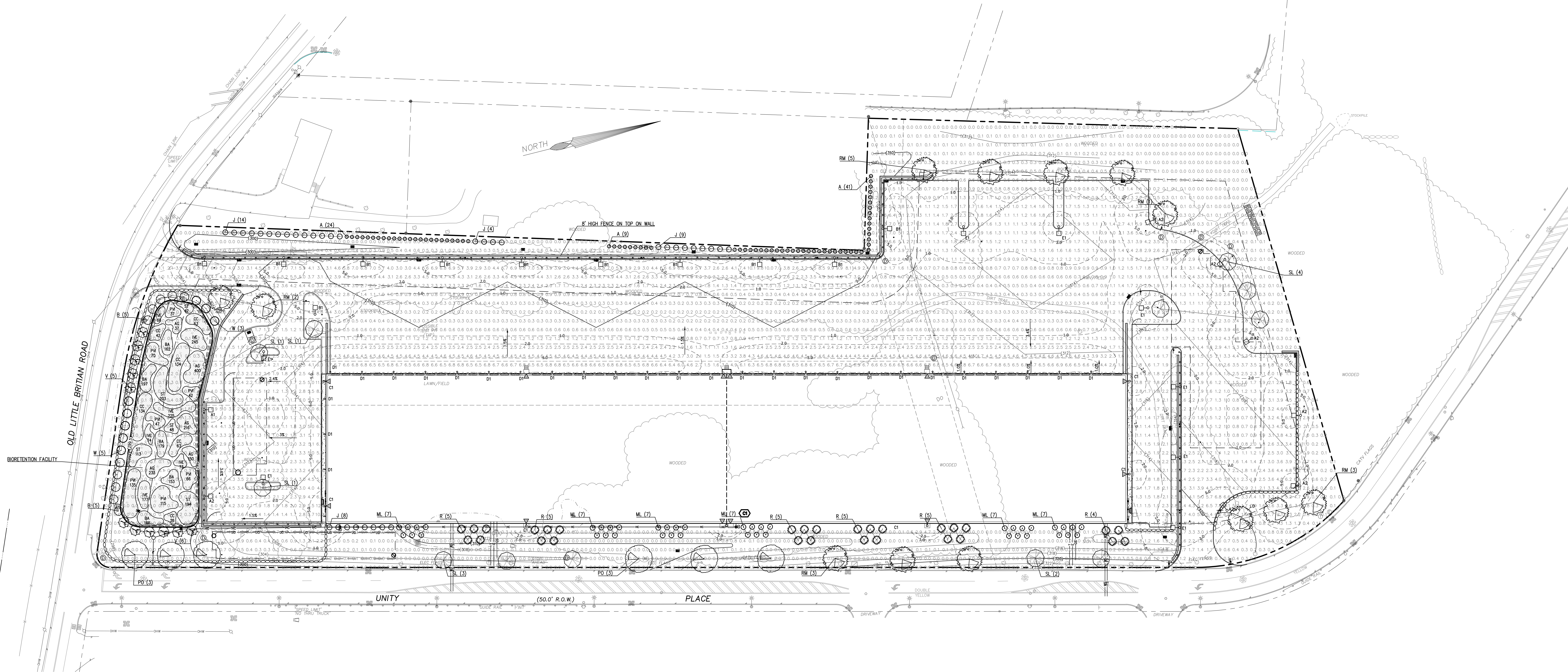
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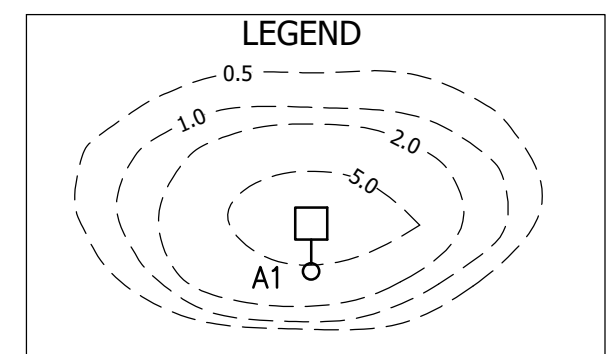
PROJECT: UNITY PLACE WAREHOUSE
 TOWN OF NEWBURGH
 ORANGE COUNTY
 NEW YORK

TITLE: EROSION AND SEDIMENT CONTROL PLAN

PROJECT NO: 21202 | **DRAWN:** JO | **CHECKED:** DR
SCALE: 1" = 40'
GRAPHIC SCALE: 0' 40' 80'
DATE: 05/27/2022 | **DRAWING NO:** 4



LUMINAIRE SCHEDULE							
SYMBOL	TAG	QUANTITY	LABEL	DESCRIPTION	ARRANGEMENT	MANUFACTURER	COLOR TEMP. MOUNTED HEIGHT (FEET)
○	A1	1	DSQ2 LED Area Luminaire	DSQ2 LED P2 30K TSW MWGLT	SINGLE	LITHONIA LIGHTING	3000K 20
○	A2	7	DSQ2 LED Area Luminaire	DSQ2 LED P2 30K TSW MWGLT HS	SINGLE	LITHONIA LIGHTING	3000K 20
○	B1	9	DSQ2 LED Area Luminaire	DSQ2 LED P1 30K BLC MWGLT	SINGLE	LITHONIA LIGHTING	3000K 20
○	B2	2	DSQ2 LED Area Luminaire	DSQ2 LED P1 30K BLC MWGLT	SINGLE	LITHONIA LIGHTING	3000K 16
□	C1	6	WPX1 LED WALLPACK	WPX1 LED P2 30K MWGLT	WALL MOUNTED	LITHONIA LIGHTING	3000K 9
○	D1	30	WPX3 LED WALLPACK	WPX3 LED 30K MWGLT	WALL MOUNTED	LITHONIA LIGHTING	3000K 20
○	E1	8	DSQ2 LED Area Luminaire	DSQ2 LED P1 30K TSW MWGLT	SINGLE	LITHONIA LIGHTING	3000K 20



ILLUMINATION IN FOOTCANDLES

NOTES:

- CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF POLE MOUNTING BASE FOR APPROVAL OF OWNER. MOUNTING HEIGHT IS FROM FINISHED GRADE AND NOT FROM TOP OF BASE PEDESTAL.
- ALL LIGHTING SHOWN IN THIS PLAN SHALL BE DIRECTED AWAY OR SHIELDED SO AS TO PRECLUDE OBSTRUCTIVE GLARE OBSERVABLE FROM ADJOINING STREETS AND PROPERTIES.
- POWER SUPPLY TO BE DESIGNED BY BUILDING ELECTRICAL ENGINEER.
- LIGHTING CONTROLS TO BE SELECTED BY OWNER.

PLANTING TABLE

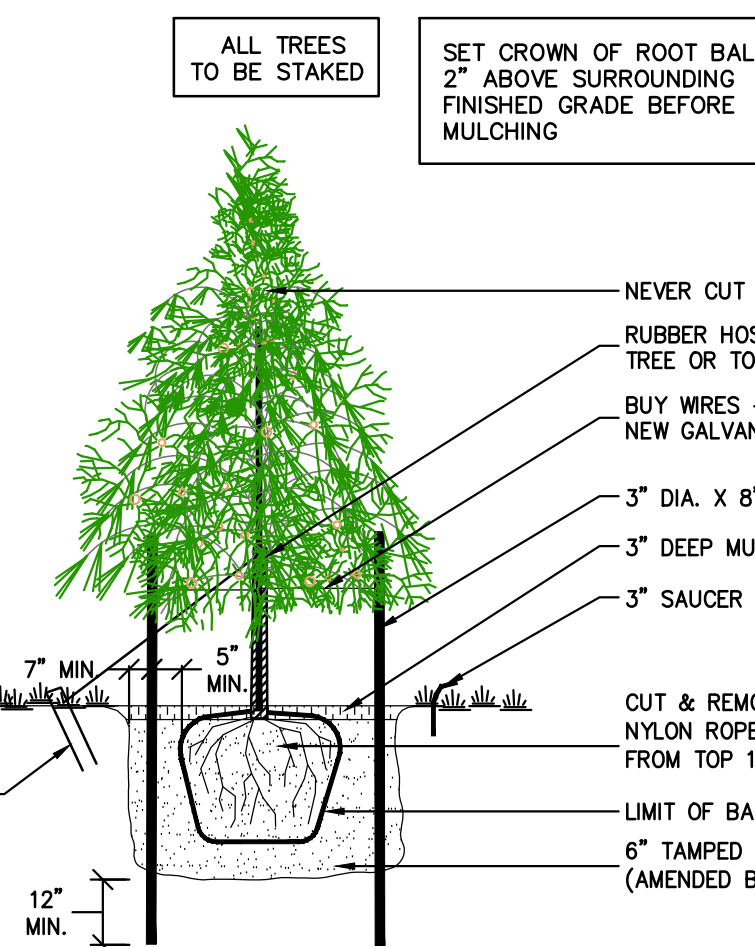
SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	QUANTITY
PO	QUERCUS PALustris	PIN OAK	3"-36" CAL.	6
B	MYRICA PENsylvANICA	NORTHERN BARBERRY	2 GAL.	10
W	ILEX VERTICILLATA	COMMON WINTERBERRY	2 GAL.	8 TOTAL, 1 MALE
V	VIbURNUM DENTATUM	ARROWWOOD	3 GAL.	11
J	JENIPERUS SCOPULORUM "GRAY GLEAM"	ROCKY MOUNTAIN JUNIPER	6"-7" FEET HIGH	35
ML	KALMA LATIFOLIA "SARAH"	MOUNTAIN LAUREL SARAH	30"-36" B&B	42
R	RHOdODENDRON MAXIMUM "ROSEM"	PINK ROSEBAY RHOdODENDRON	30"-36" B&B	29
SL	TILIA TOMENTOSA	SILVER LINDEN	26"-3" CAL.	12
RM	ACER RUBRUM	RED MAPLE	3"-36" CAL.	13
A	THUJA OCCIDENTALIS "EMERALD"	EMERALD ARBORVITAE	6"-7" FEET HIGH	74
BIORETENTION PLANTS				
IVE	IRIS VERSICOLOR	BLUE FLAG IRIS	DP-50	862
BA	SAGITARIA LATIFOLIA	BROADLEAF ARROWHEAD	TUBERS	879
AG	ANDROPOGON GERARDI	BIG BLUE STEM	PL/72	1036
CC	CALAMAGROSTIS CANADENSIS	BLUEJOINT GRASS	PL/72	462
PVI	PANICUM VIRGATUM	SMITHGRASS	DP-50	512
ST	SCHENOPLECTIS TABERNAMONTANI (SORBUS VALDIVIS)	SOFTSTEM BURBUSH	DP-50	600

PLANTING NOTES

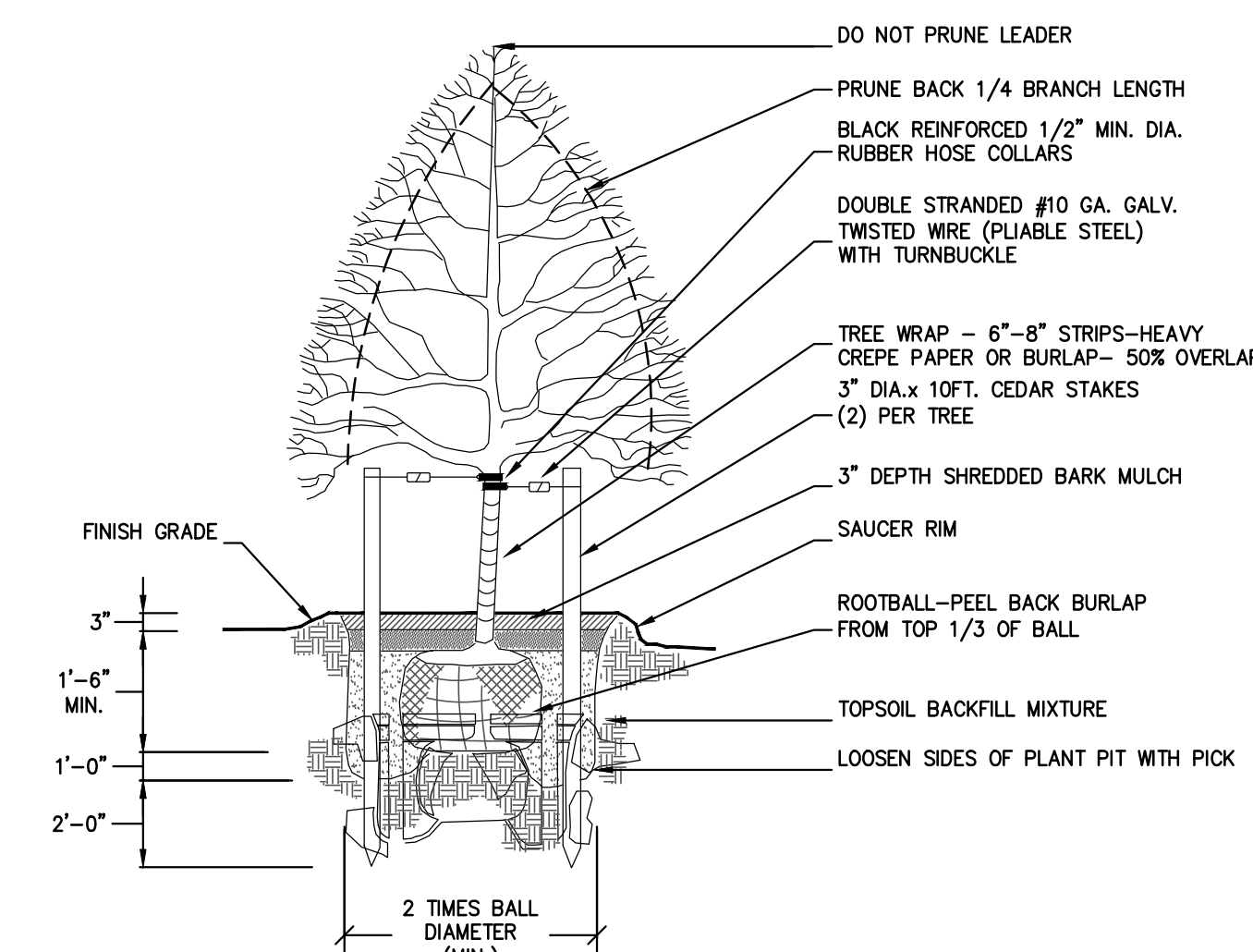
- *ALL VEGETATION SHOWN ON THIS PLAN SHALL BE MAINTAINED IN A HEALTHY AND VIGOROUS GROWING CONDITION THROUGHOUT THE DURATION OF THE PROPOSED USE OF THE SITE. ALL VEGETATION NOT SO MAINTAINED SHALL BE REPLACED WITH NEW COMPARABLE VEGETATION AT THE BEGINNING OF THE NEXT GROWING SEASON.
- MULCH ALL PLANT BEDS AND TREES WITH A 4" DEPTH OF SUGAR CANE OR LICORICE ROOT MULCH.
- STAKE ALL TREES WITH 2 CEDAR STAKES, RUBBER HOSE AROUND TREE (6"-47" ABOVE GRADE) AND TWISTED #10 GAUGE GALVANIZED WIRE.
- SHADEWEEVE ALL PLANTS AND WORKMANSHIP FOR TWO PLANTING SEASONS.
- ALL PLANTING SHALL BE PLACED UNDER DIRECTION OF AN APPROPRIATE LICENSED DESIGN PROFESSIONAL, NOTIFY 48 HOURS PRIOR TO PLANTING.
- ALL PLANT MATERIAL SHALL BE NURSERY GROWN AND SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERY MEN'S STANDARDS.
- PLACE 4" OF TOPSOIL ON ALL DISTURBED LAWN AREAS AND ALL AREA NOT PAVED OR BUILT UPON.
- PLANT PITS SHALL BE 36" WIDER FOR TREES (MINIMUM OF TWO TIMES ROOT BALL DIAMETER) AND 24" WIDER FOR SHRUBS AND 6" DEEPER THAN THE ROOT BALL. SET PLANTS AT SAME LEVEL AS ORIGINALLY GROWN ON BASE OF UNDISTURBED SOIL. THE TRUNK FLARE AND ROOT COLLAR SHALL BE VISIBLE AT THE TOP OF THE PLANT BED AT THE TIME OF FINAL INSPECTION. REMOVE ALL EXISTING SOIL FROM PLANT PIT AND BACKFILL WITH A MIXTURE OF ONE PART PEAT HANGUS, ONE PART GENEVATED COM MANURE, AND FOUR PART TOPSOIL. FERTILIZE ALL PLANTS WITH 2 TO 3 OZ. PER FOOT OF STEM HEIGHT AND 2 TO 3 LB. PER INCH OF FERTILIZER. AREAS BEFORE SEEDING OR SOODING WITH 15 LBS. PER 1000 SQUARE FEET OF 10-20-10 FERTILIZER OR APPROVED EQUIVALENT. REPEAT AFTER 8 WEEKS.
- MULCH ALL PLANTS AND PLANTED AREAS WITH A 4" DEPTH OF SHREDDED PINE, OAK BARK OR OTHER SHREDDED BARK. DO NOT PLACE MULCH AGAINST TREE OR SHRUB TRUNK. THE TRUNK FLARE AND ROOT COLLAR SHALL BE VISIBLE AT THE TOP OF THE PLANT BED WITH NO MULCH AGAINST TRUNK. DO NOT CREATE MOUND OF MULCH AROUND TREE. FRESH GRADE TO BE SAME AS ORIGINALLY GROWN.
- FERTILIZE AREAS BEFORE SEEDING OR SOODING WITH 15 LBS. PER 1000 SQUARE FEET OF 10-20-10 FERTILIZER OR APPROVED EQUIVALENT. REPEAT AFTER 8 WEEKS. LAWN AREAS SHALL BE SEEDED AT 5 LBS. PER 1000 SF. WITH THE FOLLOWING SEED MIX: 40% JAMES TOWN CHEWING FESCUE, 40% BAHON CENTURY BLUEGRASS, AND 20% YORKTOWN PERENNIAL RYE OR APPROVED EQUIVALENT. MULCH NEWLY SEEDDED LAWN AT 90 LBS.
- THE CONTRACTOR IS RESPONSIBLE TO PLANT THE TOTAL QUANTITIES OF ALL PLANTS SHOWN ON THE PLANTING PLAN. CHANGES TO THE SITE PLAN FROM THAT SHOWN ON THE PLANTING PLAN THAT CAUSE DIFFERENT SITE AREAS AVAILABLE FOR PLANTING SHALL HAVE PLANTING ADJUSTED ON SITE BY THE DESIGN PROFESSIONAL.

BIORETENTION PLANTING SOIL BED CHARACTERISTICS:

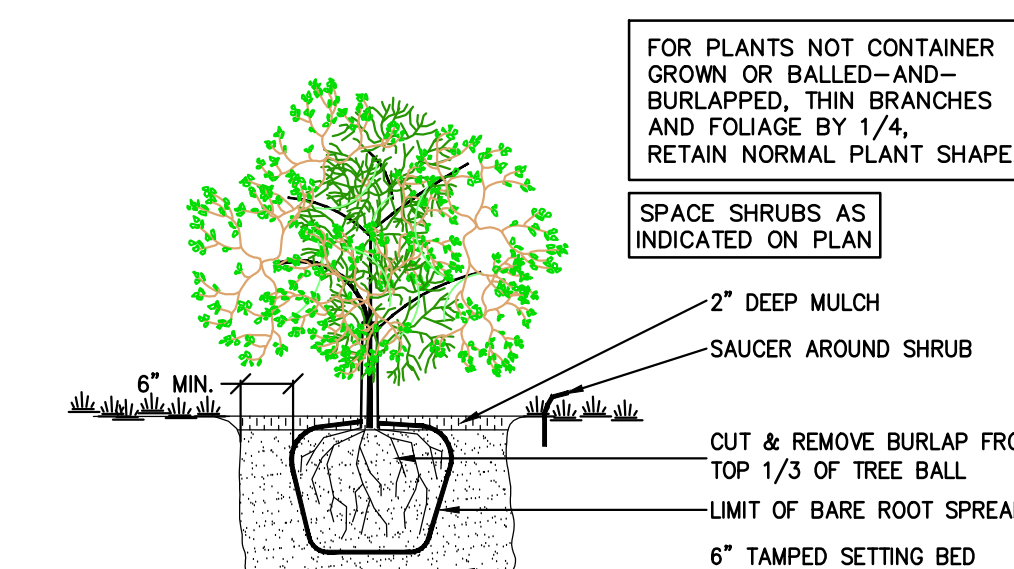
- THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER, BRUSH OF SEEDS FROM NOXIOUS WEEDS. PLACEMENT OF THE PLANTING SOIL IN LIFTS OF 12 TO 18", LOOSELY COMPACTED (TAMPED LIGHTLY WITH A DOZER OR BACKHOE BUCKET).
- PLANTING SOIL MIX (2.5 FEET DEEP) AS PER MOST RECENT NYSDEC RECOMMENDATIONS, THE PLANTING SOIL MIX SHALL BE AS FOLLOWS:
 BSE - 80% COARSE / MEDIUM SAND
 BK - 12% SOIL FINES
 3% OR ORGANIC MATTER
- BIORETENTION AREA SHALL BE CAPPED WITH 3" MULCH



EVERGREEN TREE PLANTING N.T.S.



DECIDUOUS TREE PLANTING N.T.S.



SHRUB PLANTING N.T.S.

REV	DESCRIPTION	BY	DATE

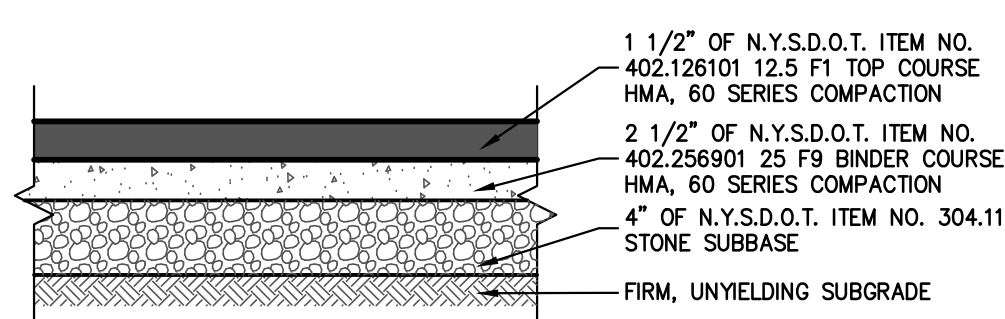
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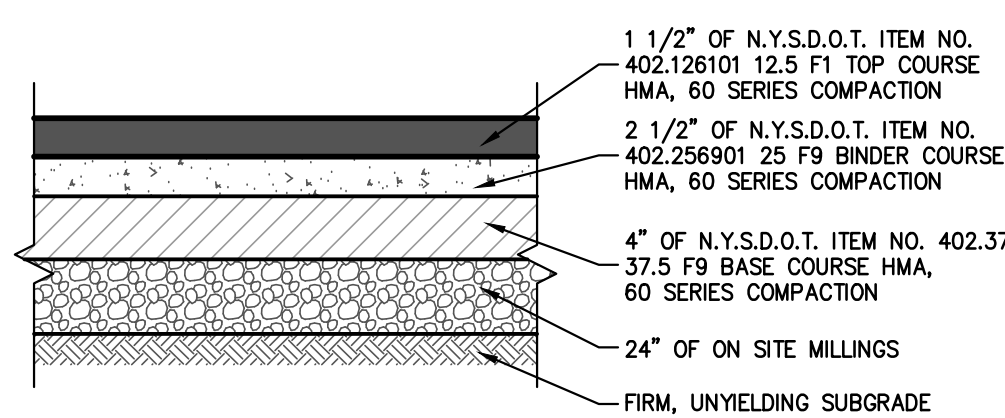
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UNITY PLACE WAREHOUSE
 TOWN OF NEWBURGH
 ORANGE COUNTY
 NEW YORK

TITLE:
LIGHTING AND PLANTING PLAN

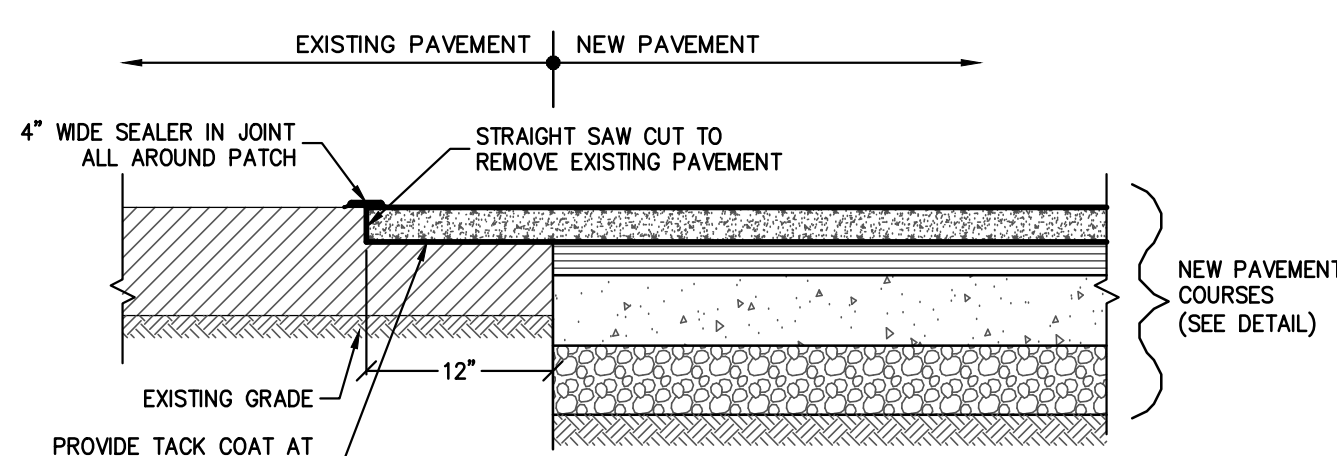
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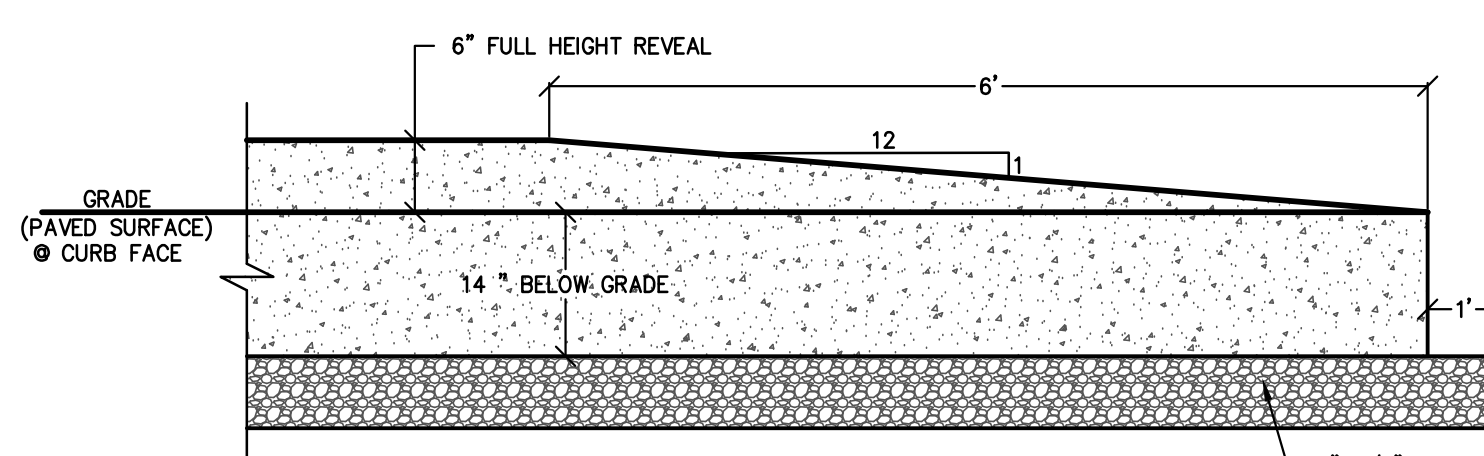
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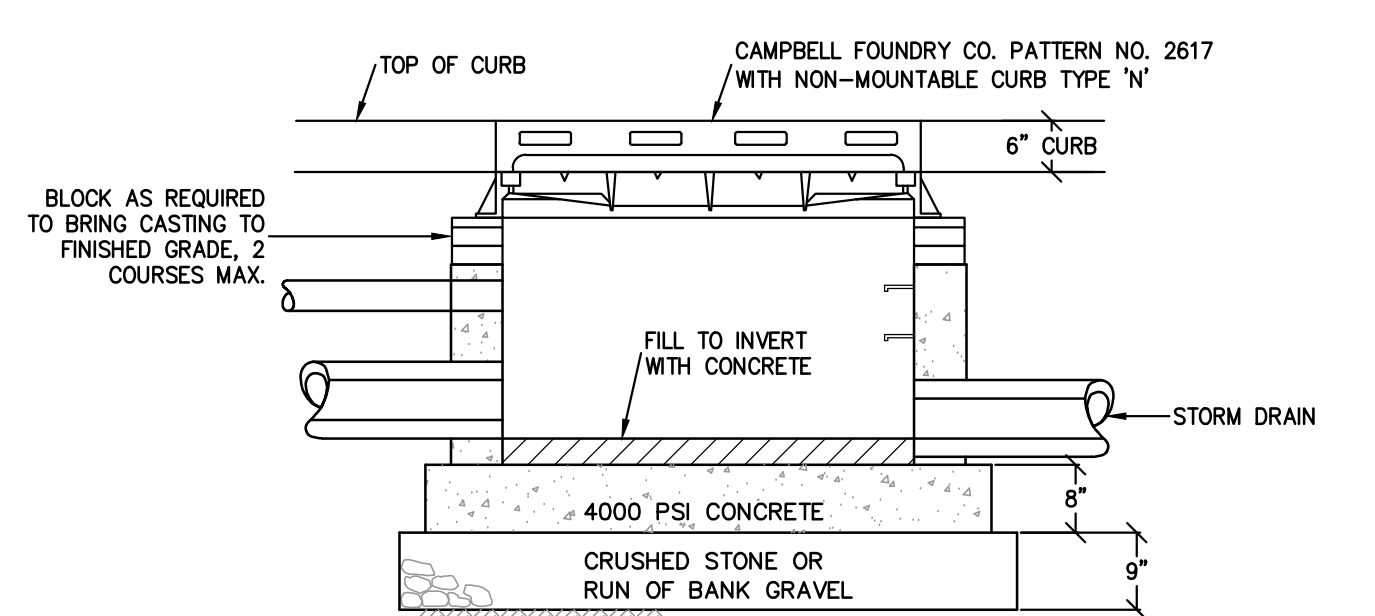
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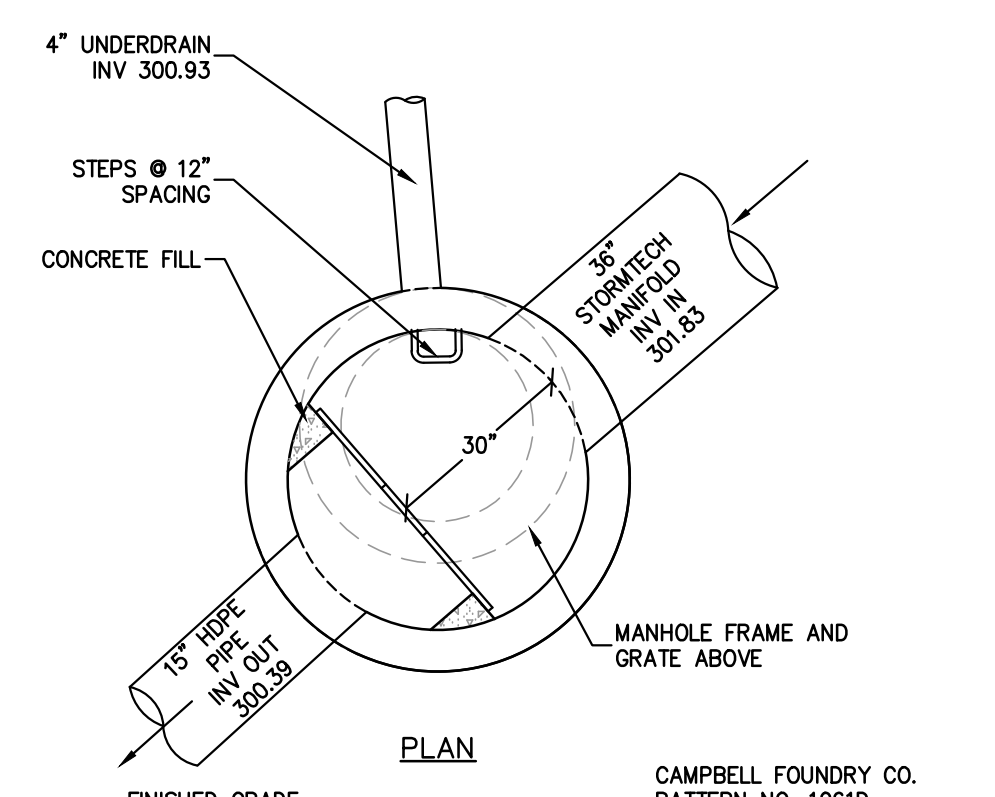
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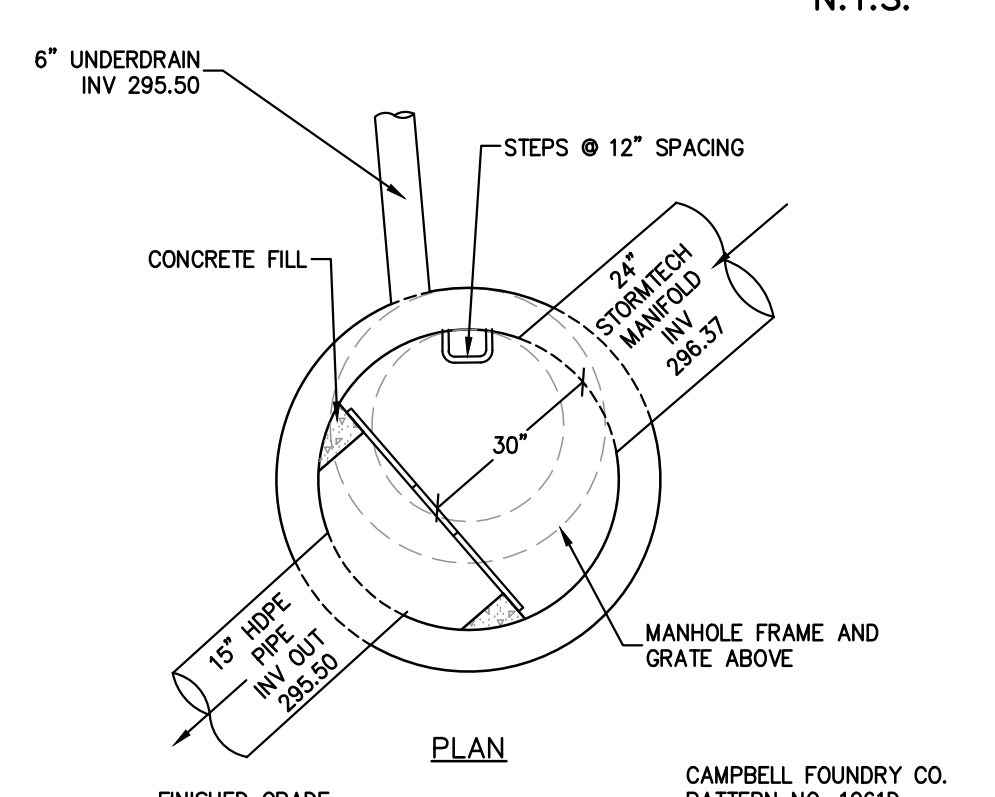
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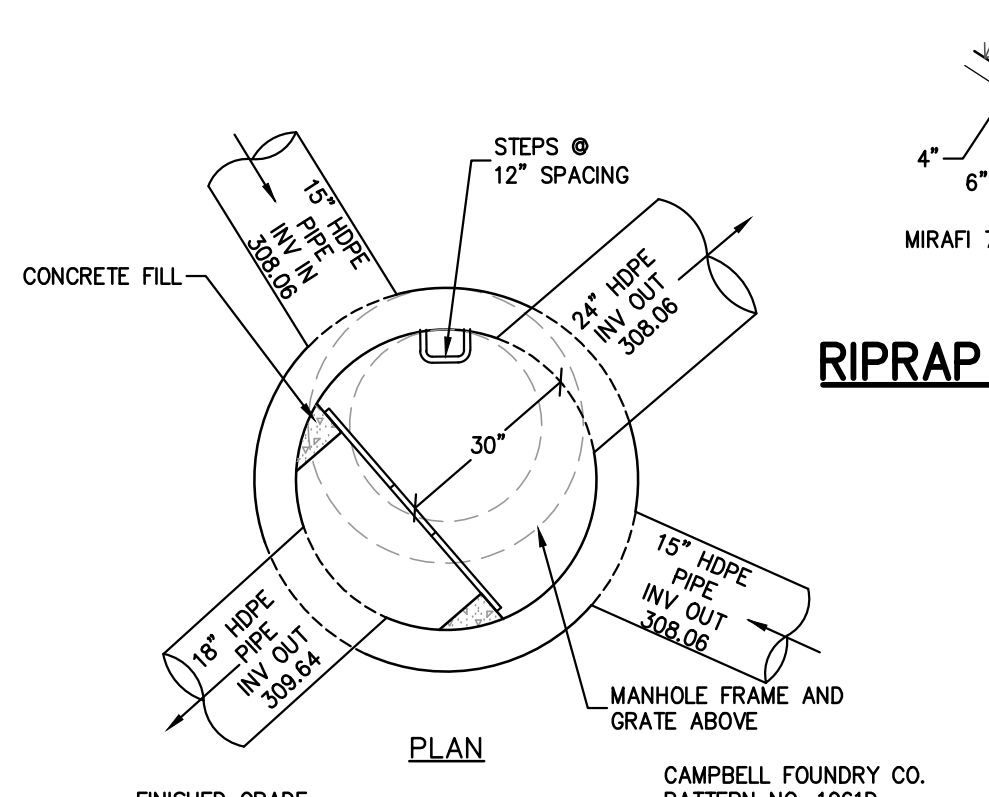
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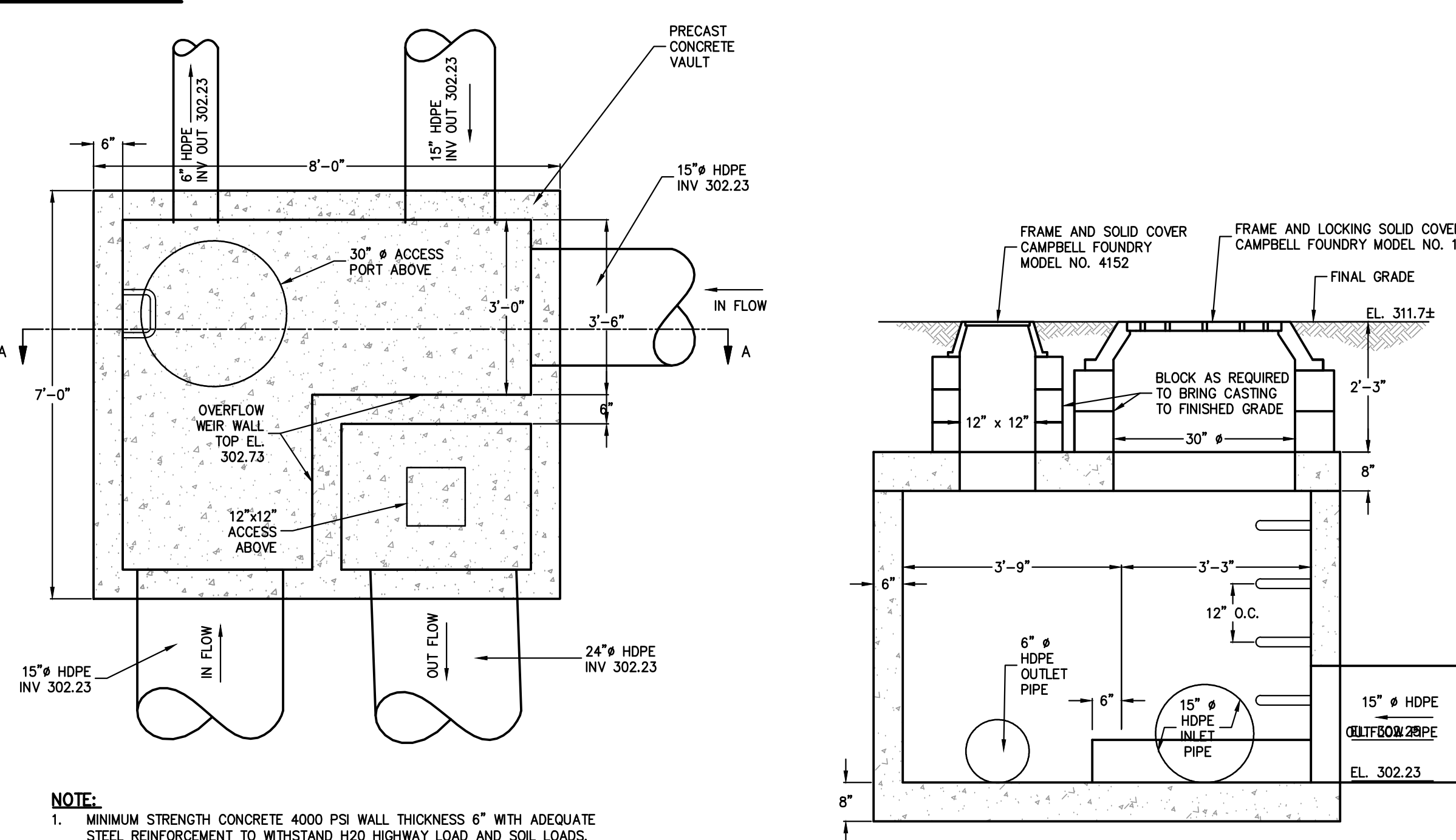
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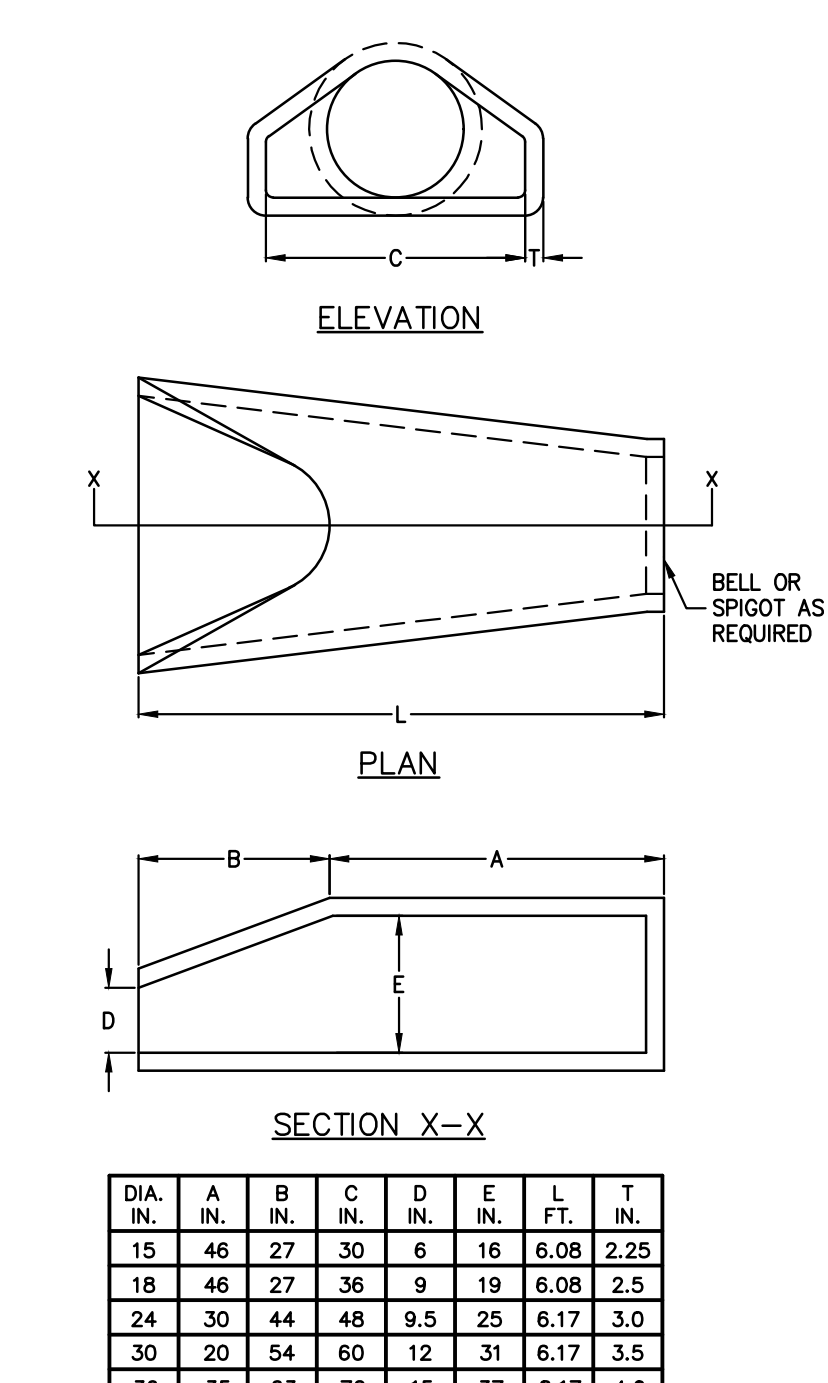
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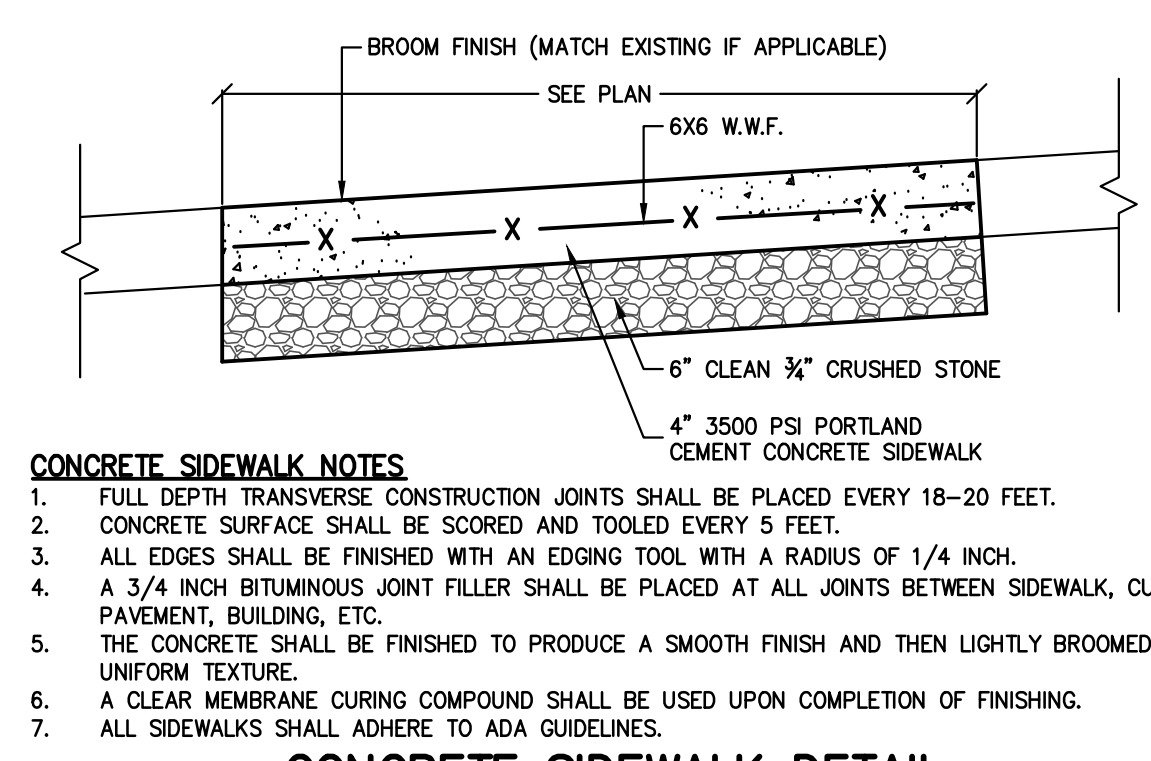
FLOW DIVERSION / OUTLET STRUCTURE #3 DETAIL
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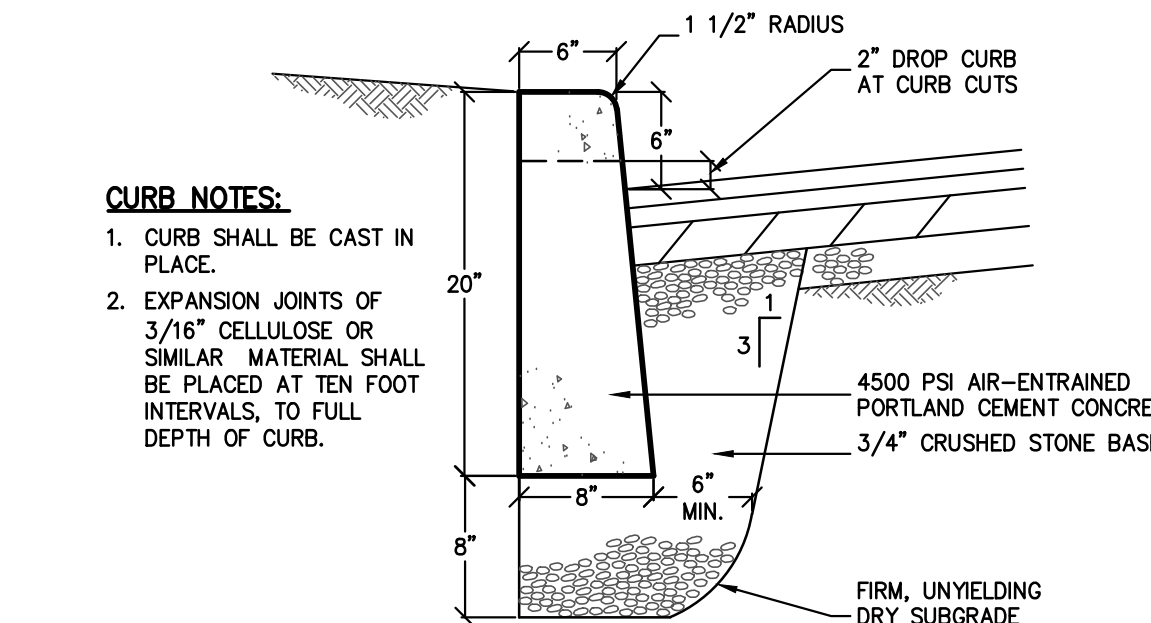
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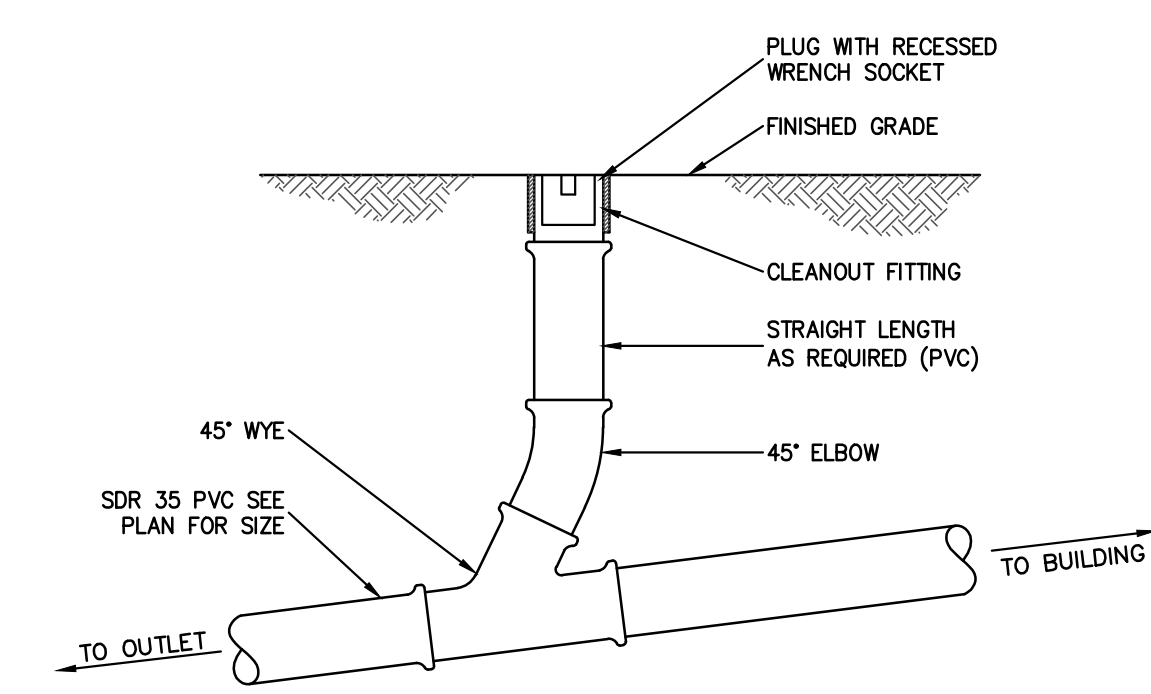
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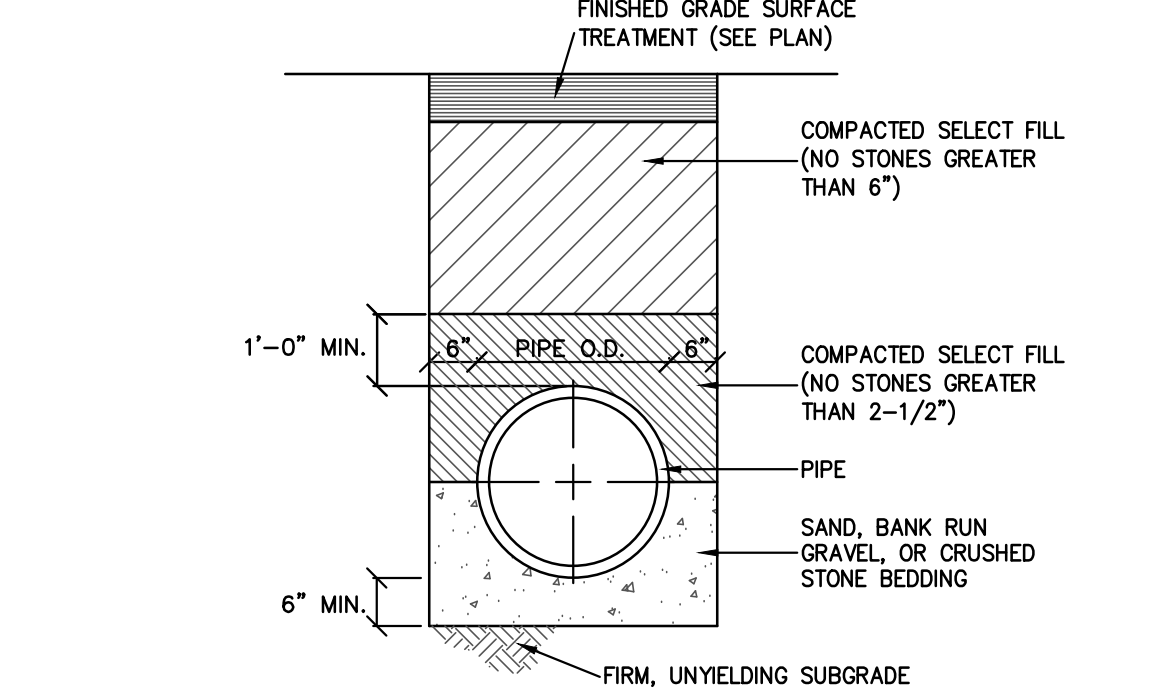
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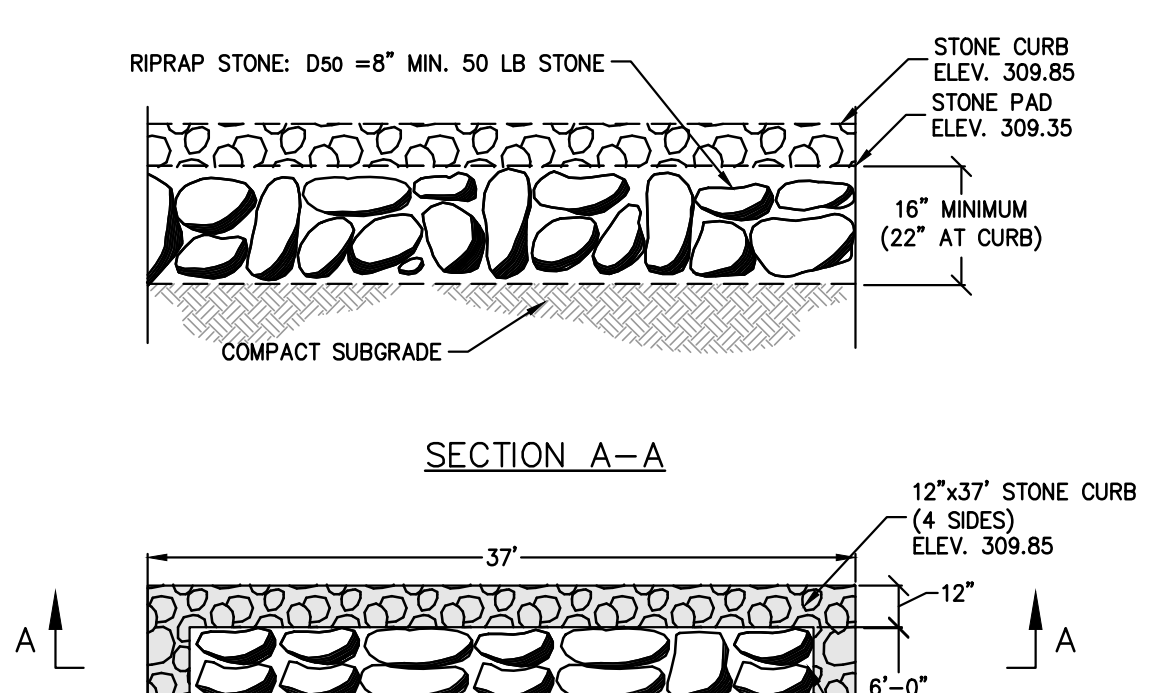
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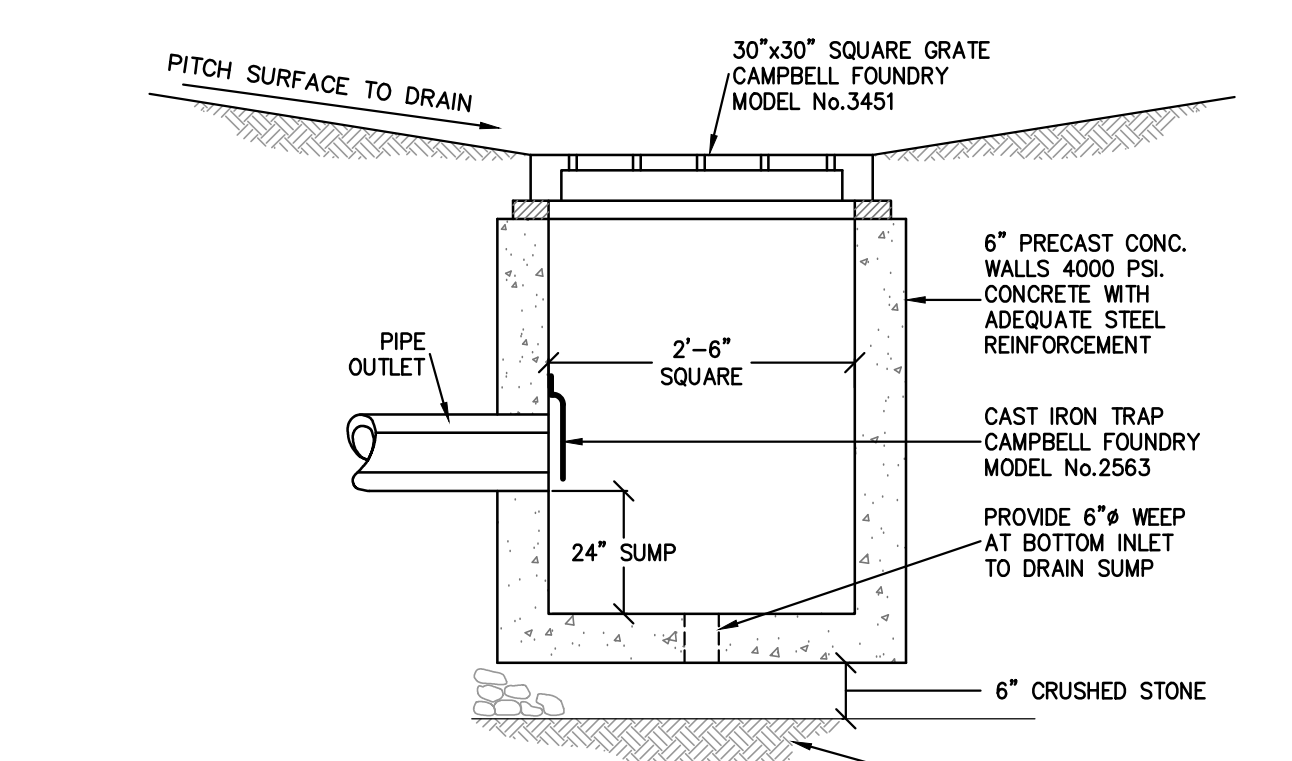
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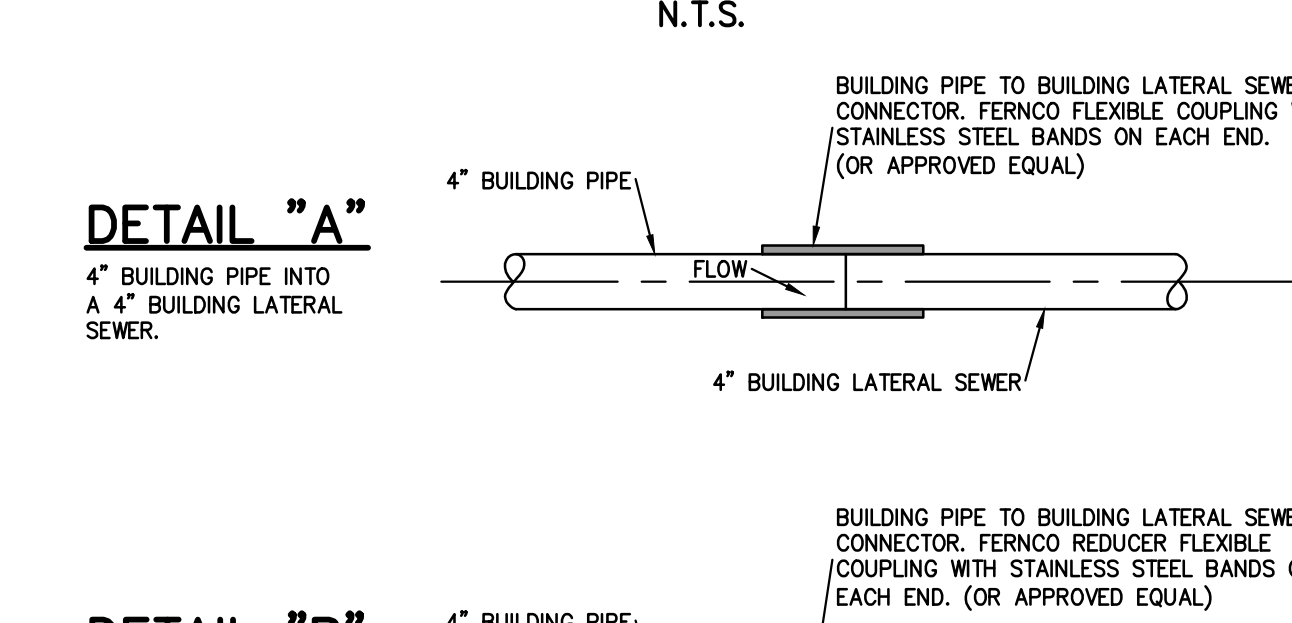
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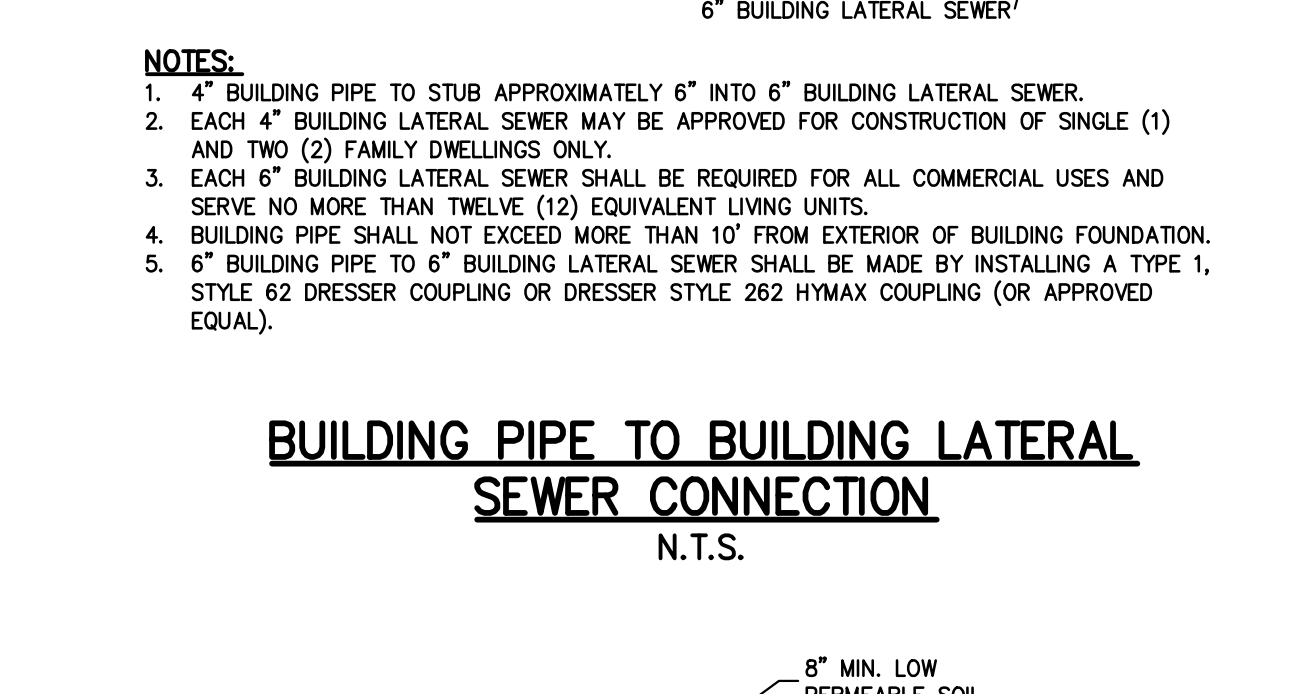
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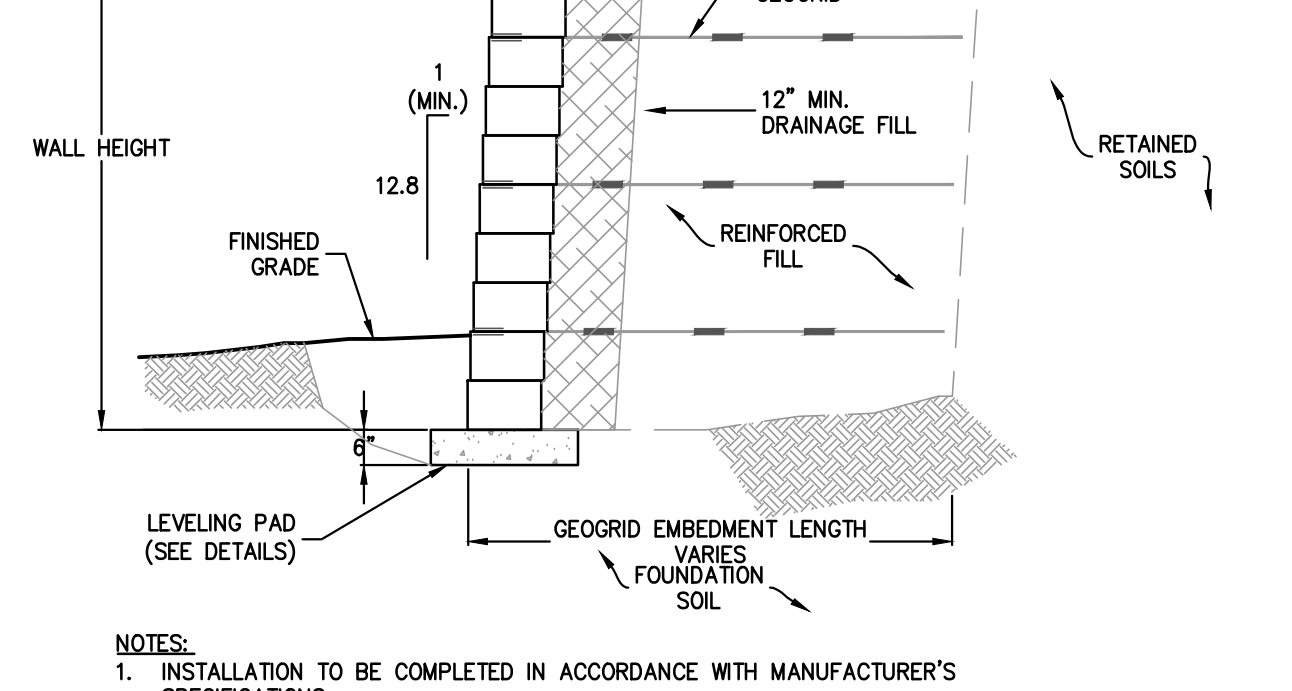
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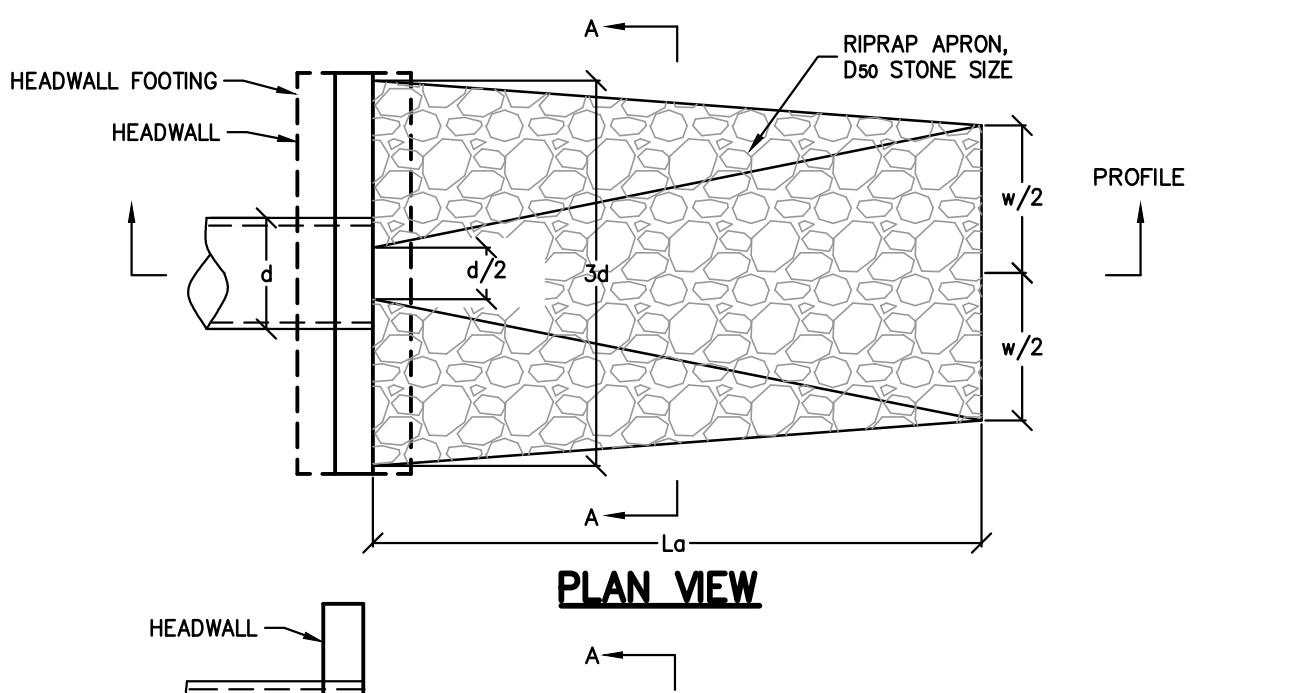
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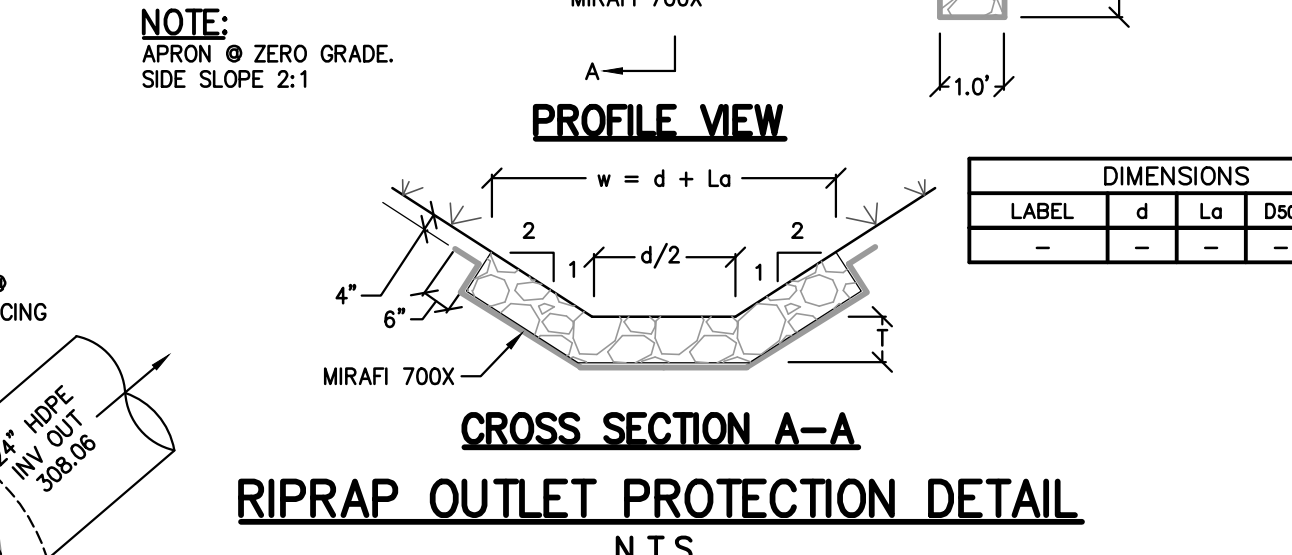
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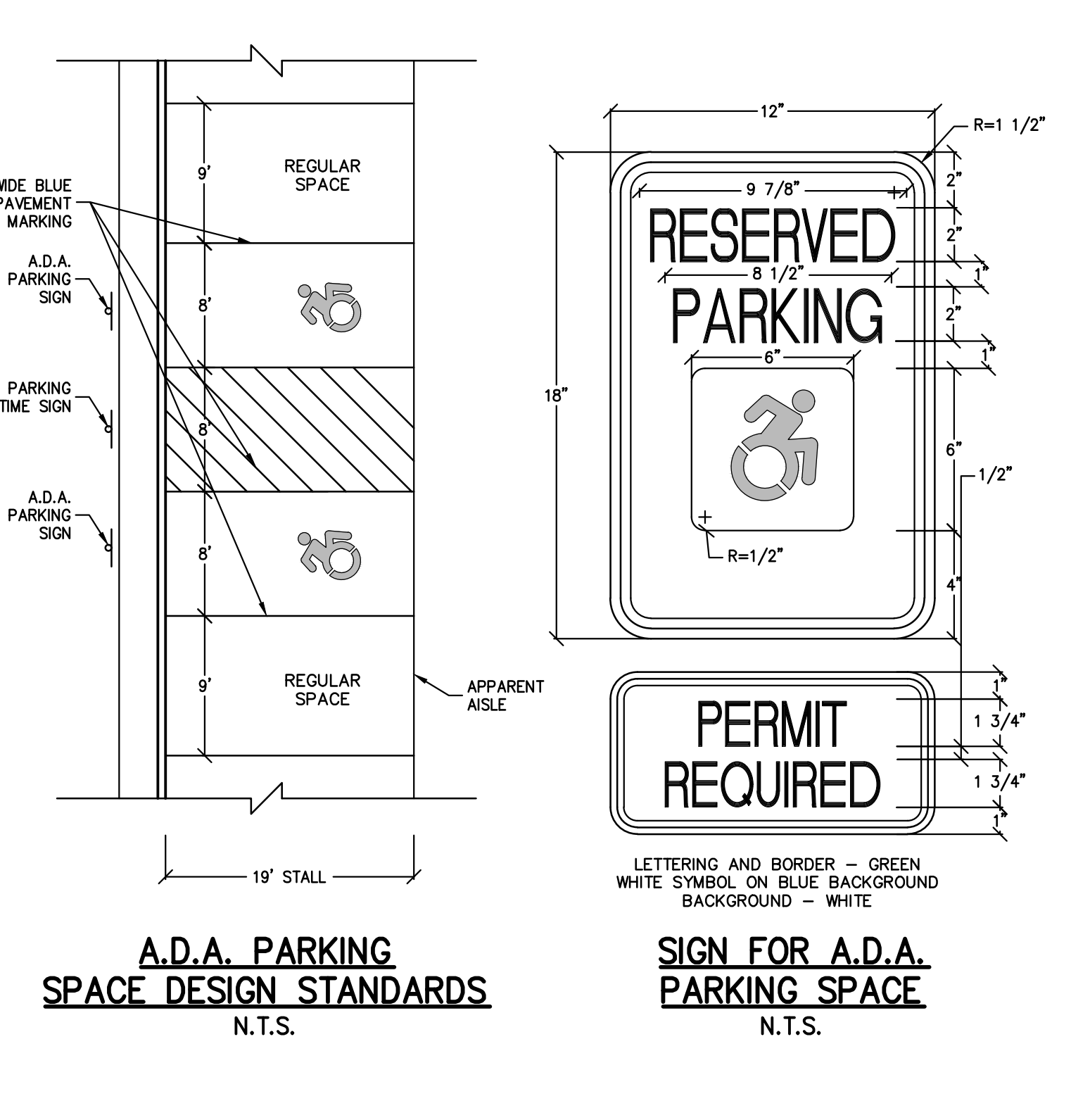
BUILDING PIPE TO BUILDING LATERAL SEWER CONNECTION
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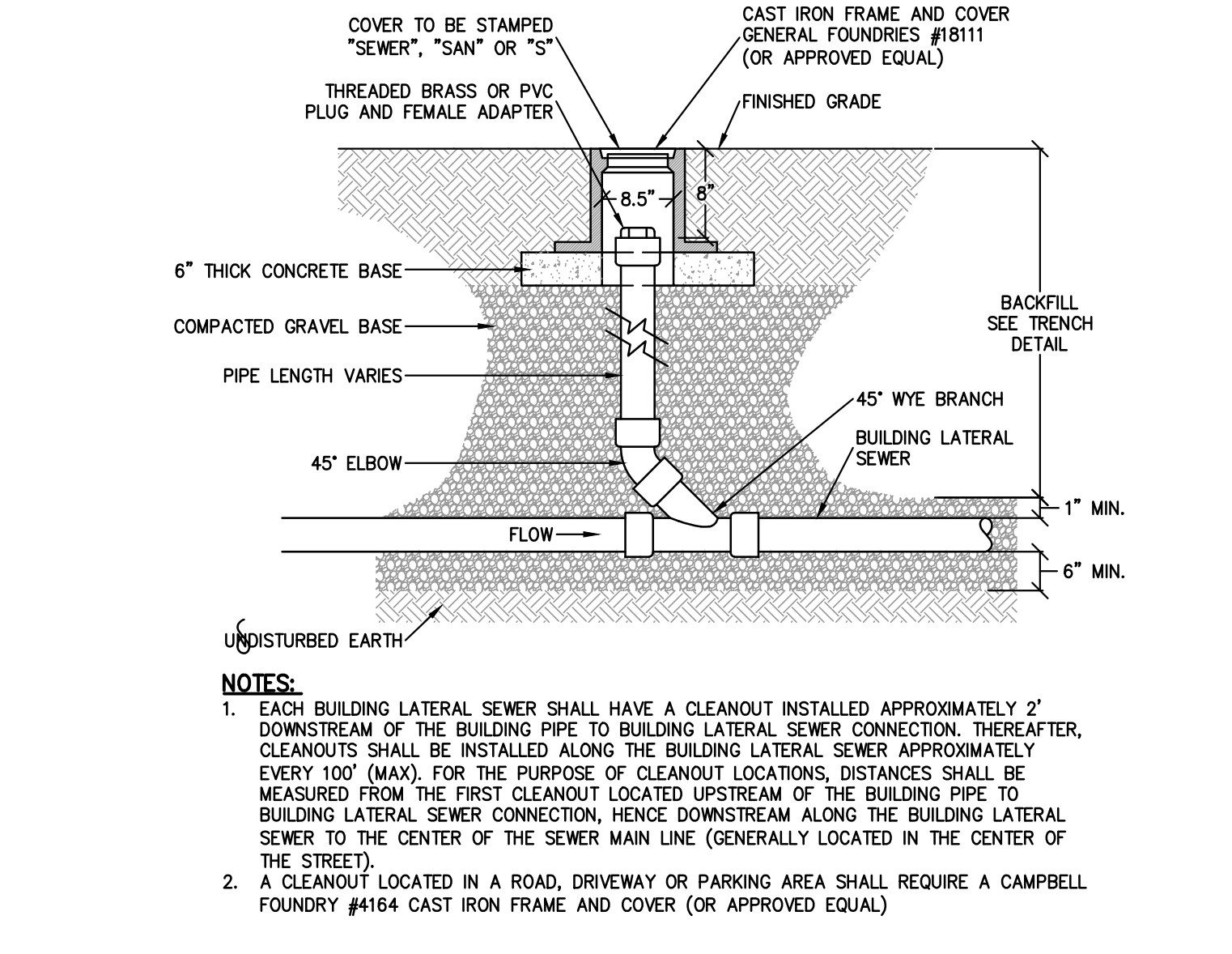
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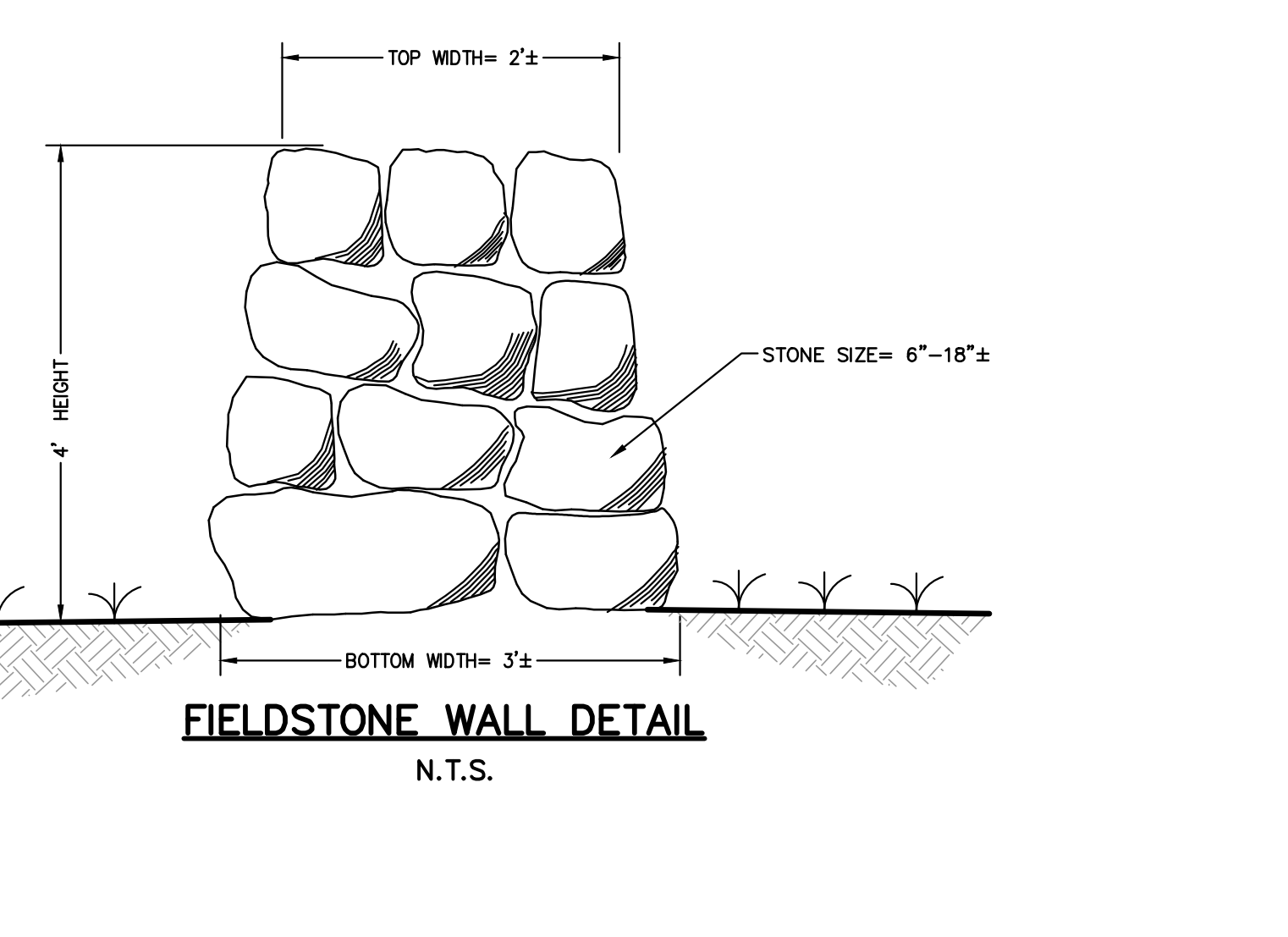
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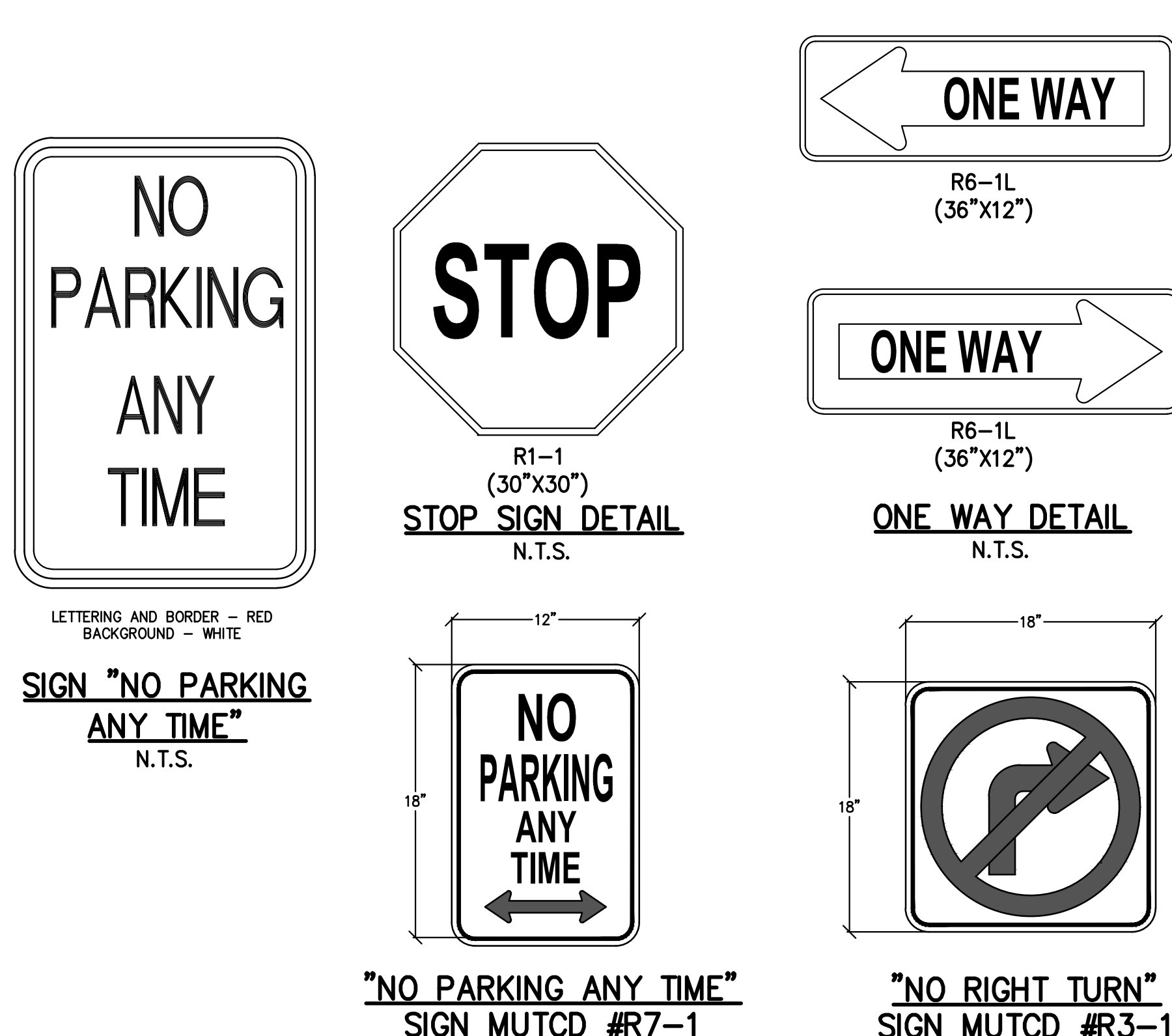
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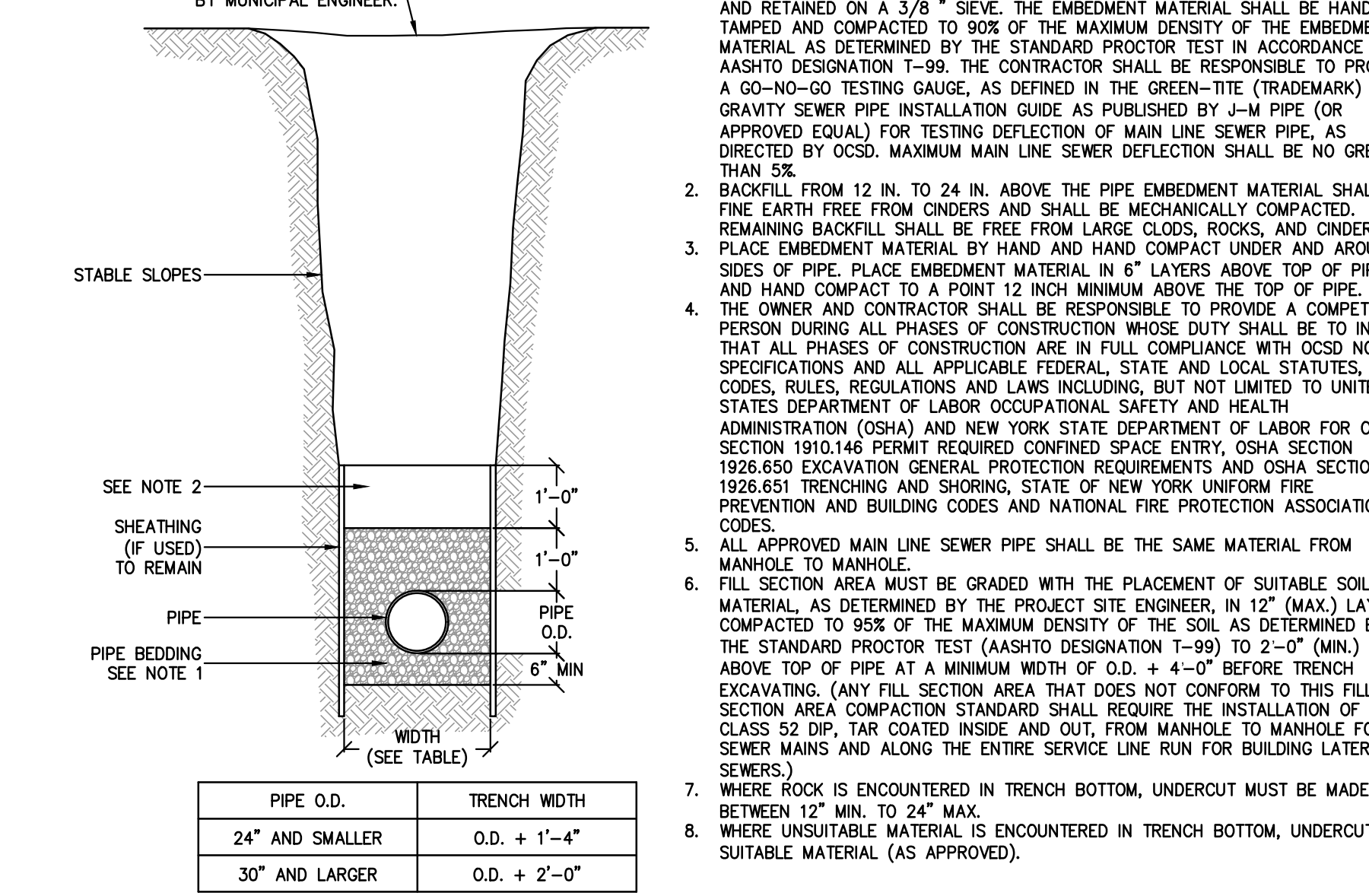
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FIELDSTONE WALL DETAIL
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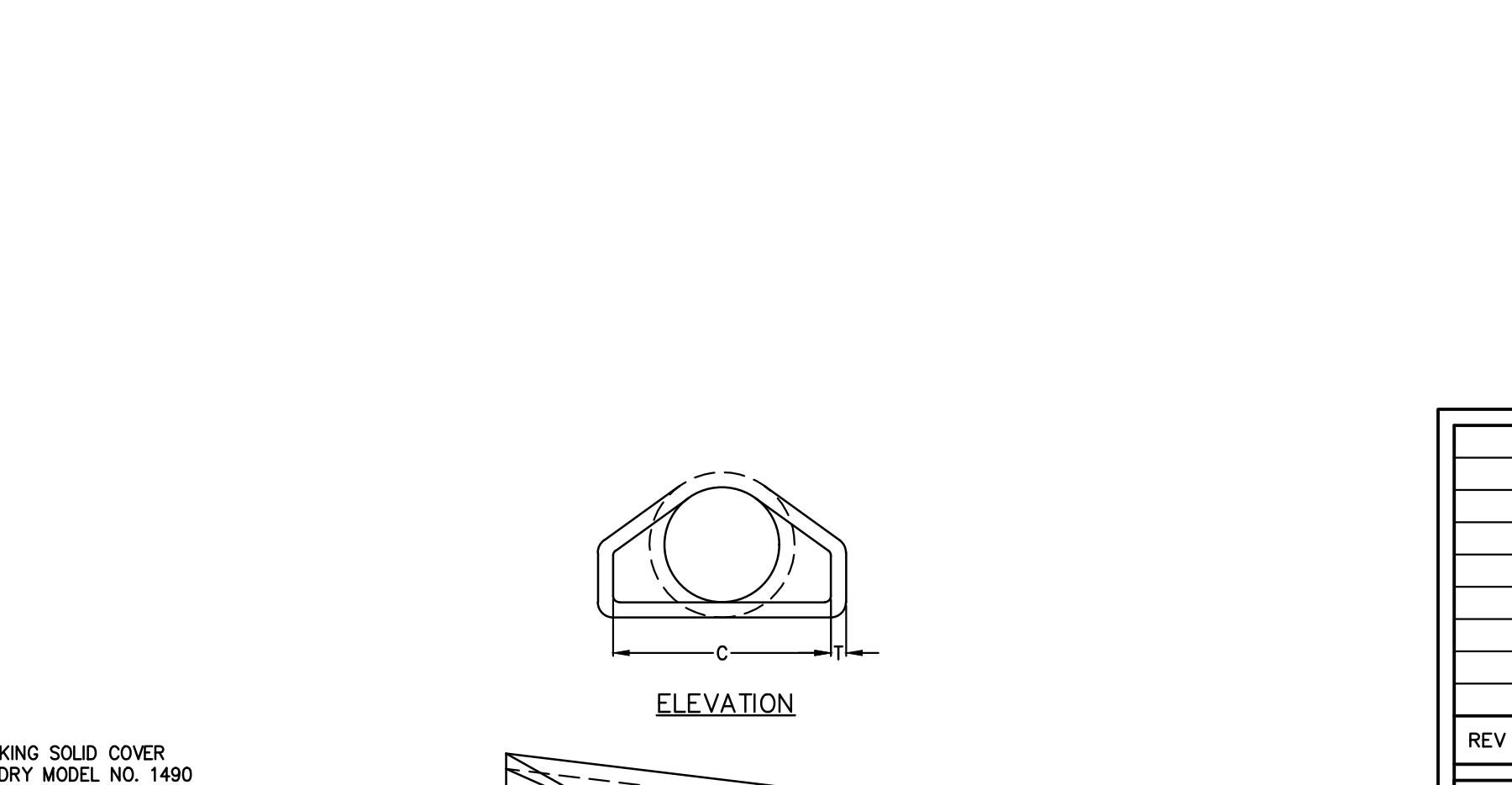
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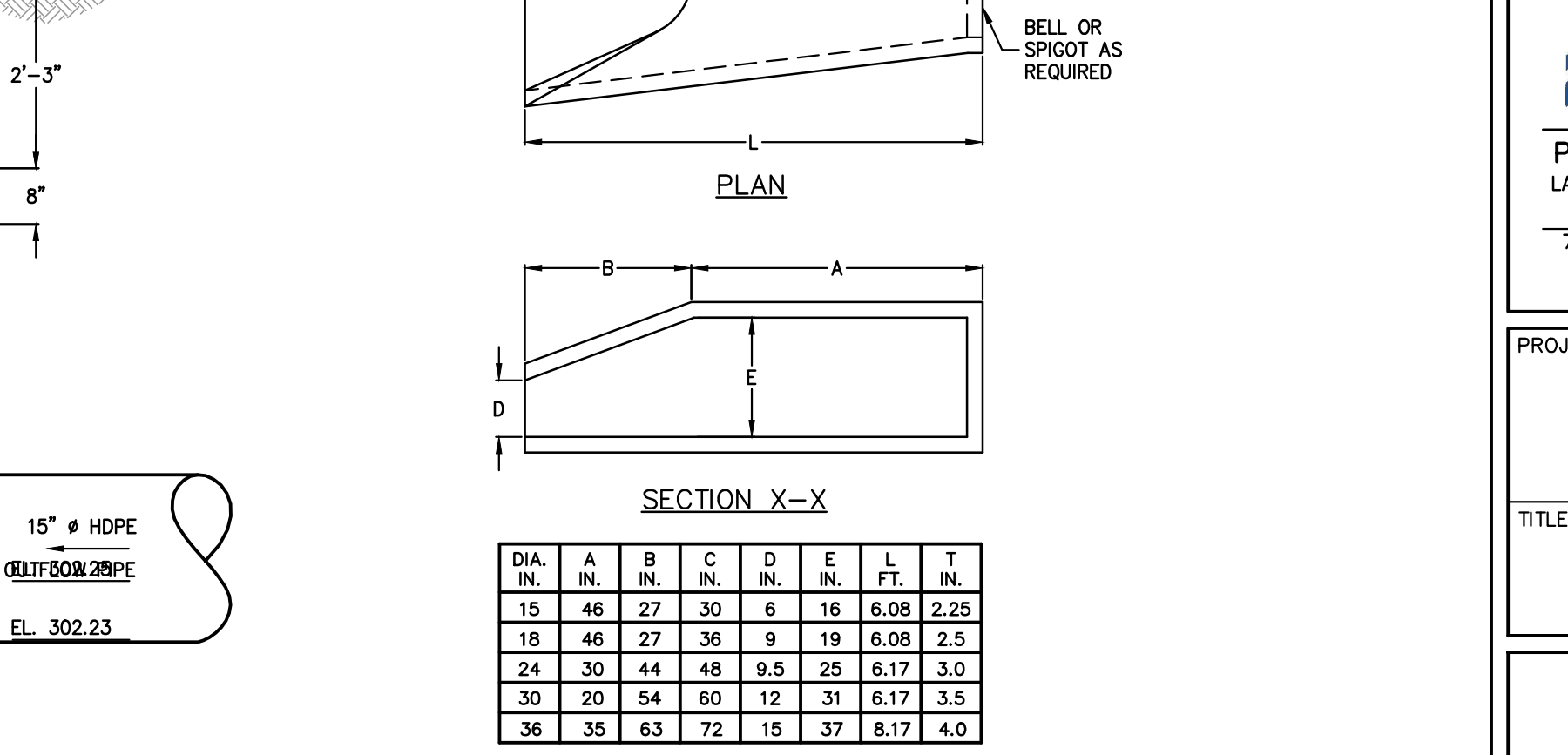
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N.T.S.



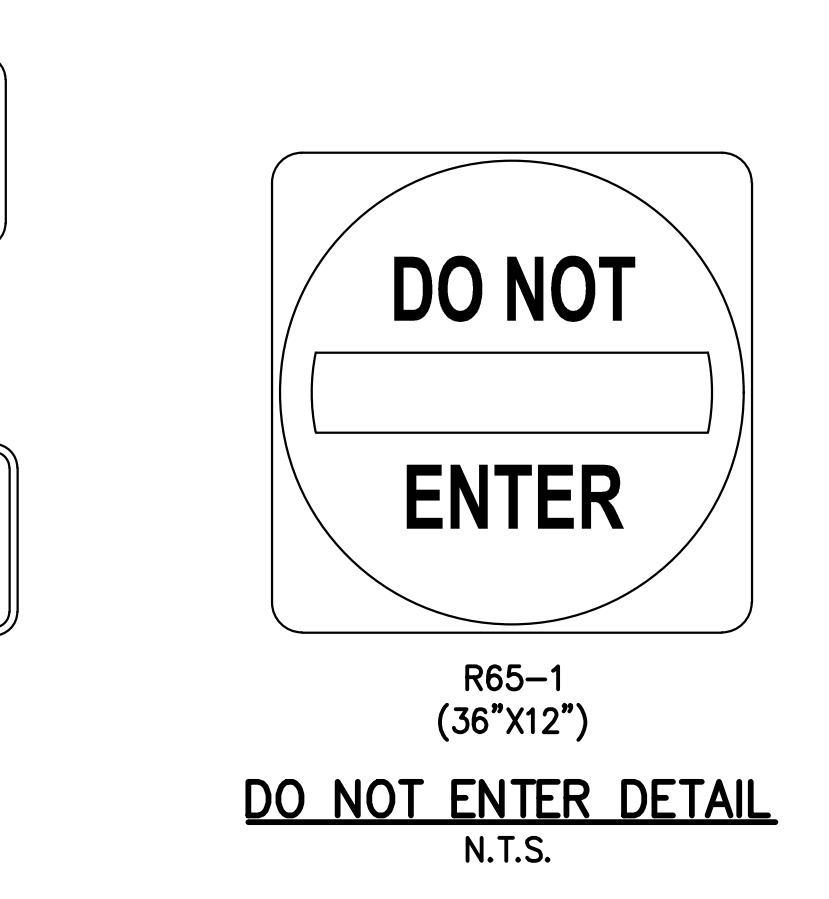
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SIGN \"RESERVED PARKING\"
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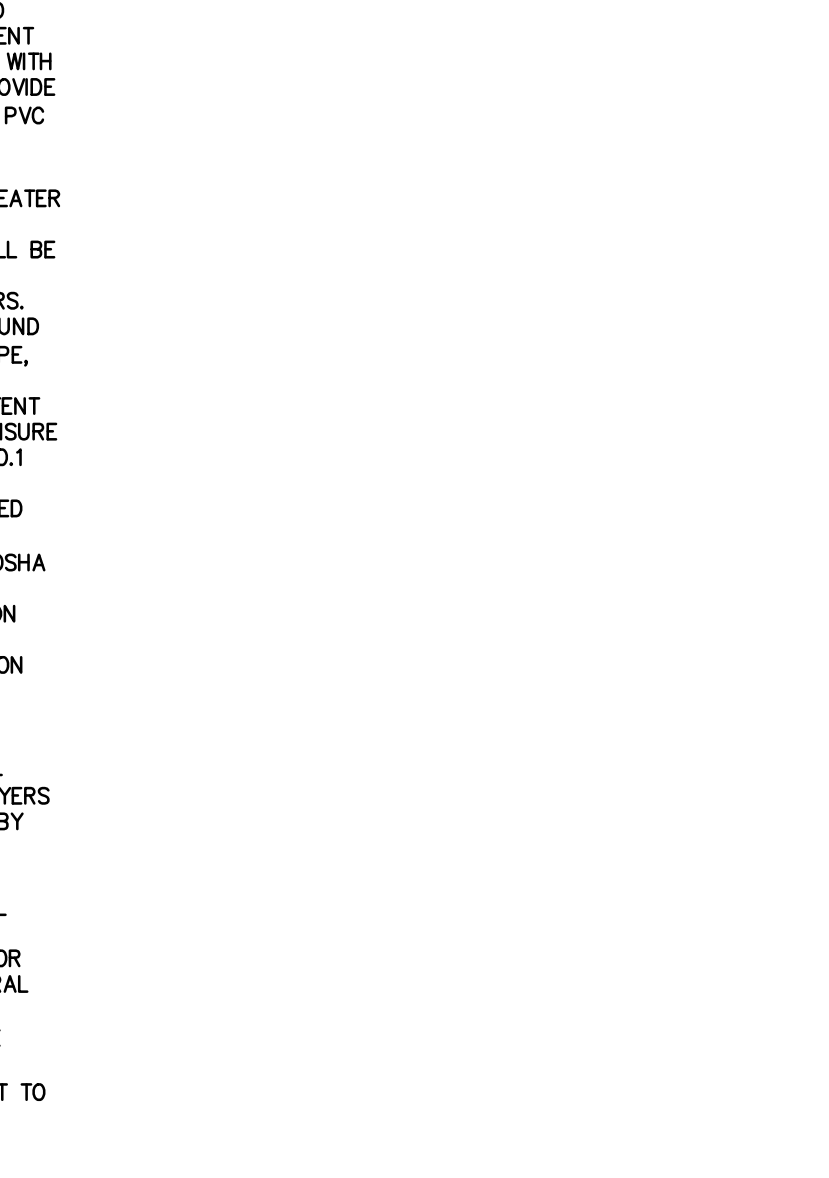
SIGN \"PERMIT REQUIRED\"
N.T.S.



SIGN \"ONE WAY\"
N.T.S.



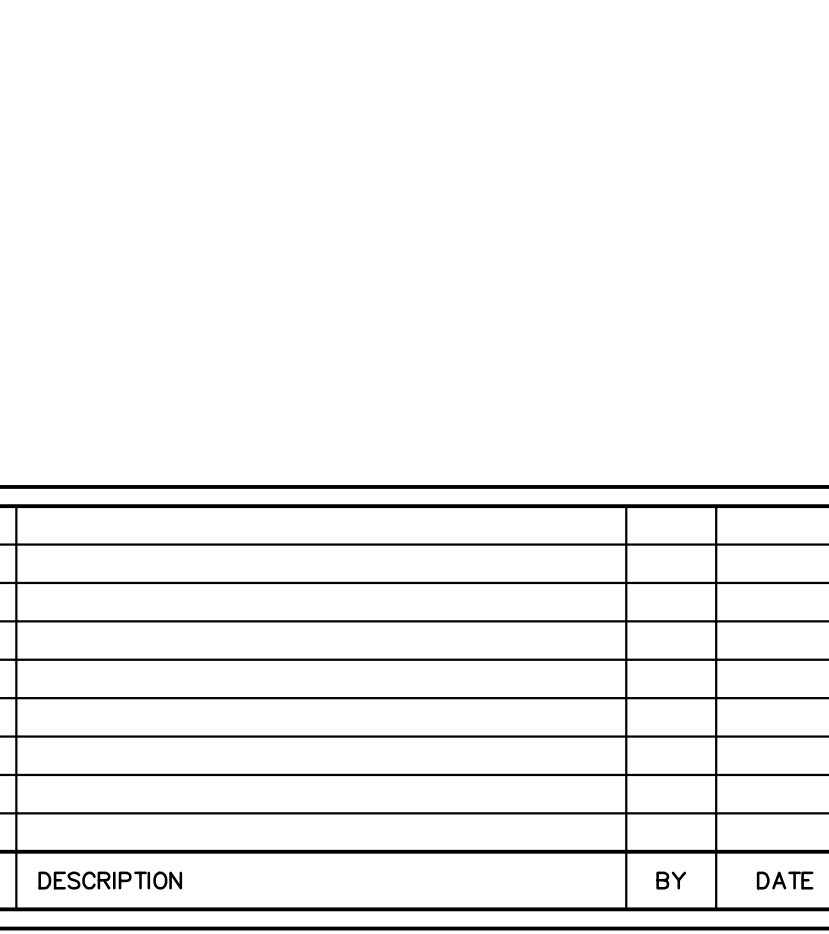
SIGN \"DO NOT ENTER\"
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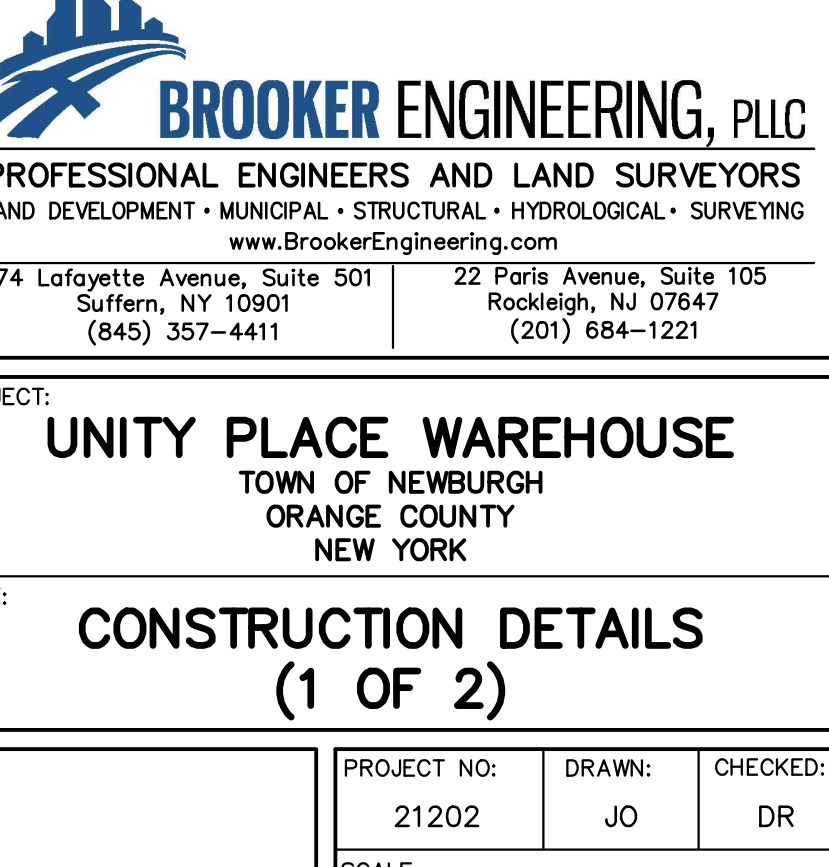
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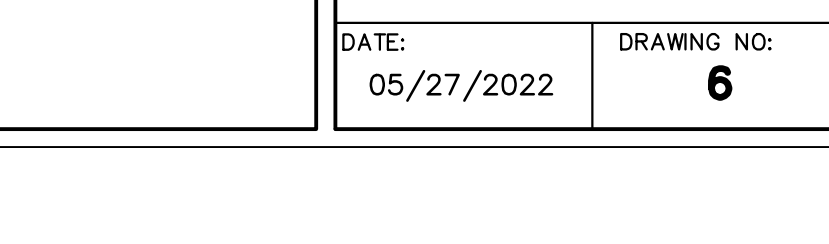
SIGN \"NO RIGHT TURN\" SIGN MUTCD #R3-1
N.T.S.



SIGN \"RESERVED PARKING\"
N.T.S.



SIGN \"PERMIT REQUIRED\"
N.T.S.



SIGN \"ONE WAY\"
N.T.S.

NOTES:

- PIPE BEDDING SHALL BE A CLASS 1 ASTM D2321 EMBEDMENT MATERIAL THAT SHALL BE EITHER CRUSHED STONE OR WASHED GRAVEL PASSING A 3/4" sieve AND RETAINED ON A 1/8" sieve. THE MAXIMUM DENSITY OF THE EMBEDMENT MATERIAL AS DETERMINED BY THE STANDARD PROCTOR TEST IN ACCORDANCE WITH ASTM D1557 SHALL BE USED. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A 50-60% TESTING GAUGE AS DEFINED IN THE GREEN-TIE (TRADEMARK) PVC GRAVITY SEWER PIPE INSTALLATION GUIDE AS PUBLISHED BY J-M PIPE (OR APPROVED EQUAL) FOR TESTING DEFLECTION OF MAIN LINE SEWER PIPE, AS DIRECTED BY ICCR. MAXIMUM MAIN LINE SEWER DEFLECTION SHALL BE NO GREATER THAN 1%.
- BACKFILL FROM 12 IN. TO 24 IN. ABOVE THE PIPE EMBEDMENT MATERIAL SHALL BE FREE FROM LARGE CLUMPS, ROCKS, AND CHIPS.
- PLACE EMBEDMENT MATERIAL BY HAND AND HAND COMPACT UNDER AND AROUND SIDES OF PIPE. PLACE EMBEDMENT MATERIAL IN 6" LAYERS ABOVE TOP OF PIPE, AND HAND COMPACT TO A MIN. 12 INCH MINIMUM ABOVE THE TOP OF PIPE. THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A COMPETENT PERSON DURING ALL PHASES OF CONSTRUCTION WHOSE DUTY SHALL BE TO INSURE THAT ALL PHASES OF CONSTRUCTION ARE IN FULL COMPLIANCE WITH LOCAL, STATE, FEDERAL AND ALL APPLICABLE FEDERAL, STATE AND LOCAL STATUTES, REGULATIONS AND LAWS INCLUDING, BUT NOT LIMITED TO UNITED STATES DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND NEW YORK STATE DEPARTMENT OF LABOR FOR OSHA SECTION 1910.146 PERMIT REQUIRED CONFINED SPACE ENTRY, OSHA SECTION 1926.650 EXCAVATION GENERAL PROTECTION REQUIREMENTS AND OSHA SECTION 1926.651 TRENCHING AND SHIELDING, STATE OF NEW YORK UNIFORM FIRE PREVENTION AND BUILDING CODES AND NATIONAL FIRE PROTECTION ASSOCIATION CODES.
- ALL APPROVED MAIN LINE SEWER PIPE SHALL BE THE SAME MATERIAL FROM MANHOLE TO MANHOLE.
- FULL SECTION AREA MUST BE GRADED WITH THE PLACEMENT OF SUITABLE SOIL MATERIAL AS DETERMINED BY THE PROJECT SITE ENGINEER. IN 12" (MAX.) LAYERS COMPACTED TO SOLE OF THE MAXIMUM DENSITY OF THE SOIL AS DETERMINED BY THE STANDARD PROCTOR TEST (ASTM D1557) TO 2'-0" (MIN.) ABOVE TOP OF PIPE AT A MINIMUM WIDTH OF O.D. + 4'-0" BEFORE TRENCH EXCAVATING (ANY FILL SECTION AREA THAT DOES NOT CONFORM TO THIS FULL SECTION AREA COMPACTED STANDARD SHALL REQUIRE THE INSTALLATION OF CLASS 50 DR. TAR COATED INSIDE AND OUT FROM MANHOLE TO MANHOLE FOR SEWER MAINS AND ALONG THE ENTIRE SERVICE LINE RUN FOR BUILDING LATERAL SEWERS).
- WHERE ROCK IS ENCOUNTERED IN TRENCH BOTTOM, UNDERCUT MUST BE MADE BETWEEN 12" MIN. TO 24" MAX. WHERE UNSUITABLE MATERIAL IS ENCOUNTERED IN TRENCH BOTTOM, UNDERCUT TO SUITABLE MATERIAL (AS APPROVED).

PIPE O.D.	TRENCH WIDTH
24" AND SMALLER	O.D. + 1'-4"
30" AND LARGER	O.D. + 2'-0"

REV	DESCRIPTION	BY	DATE

DISCLAIMER:
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74 Lafayette Avenue, Suite 501 Suffern, NY 10901 (845) 357-4411
22 Paris Avenue, Suite 105 Rockledge, NJ 07941 (201) 684-1221

PROJECT: **UNITY PLACE WAREHOUSE**
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

TITLE: **CONSTRUCTION DETAILS**
(1 OF 2)

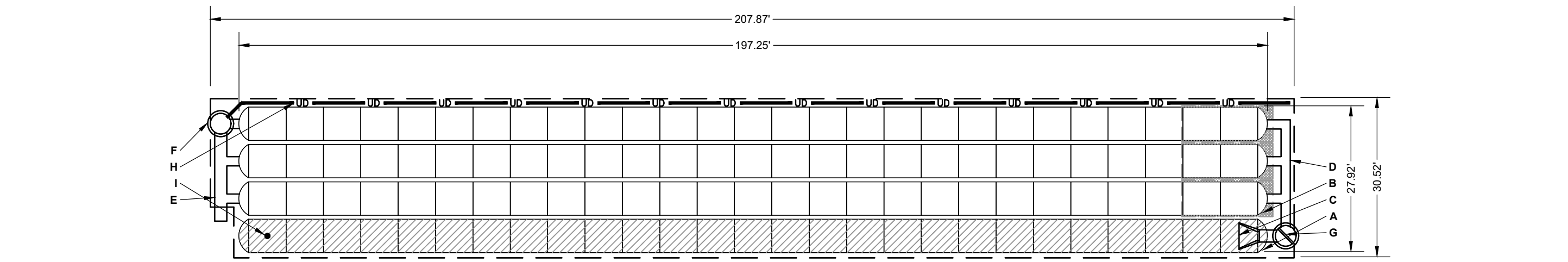
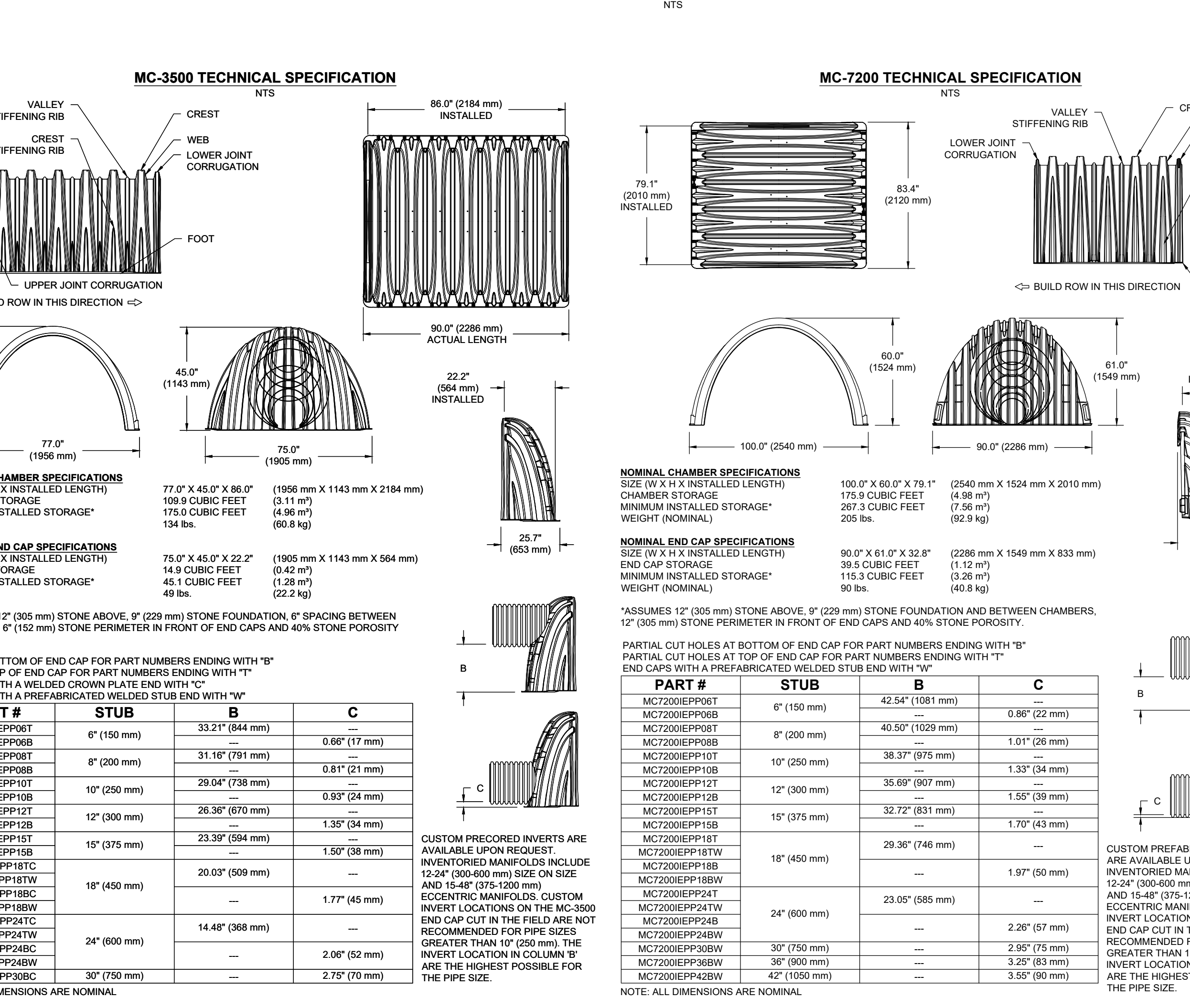
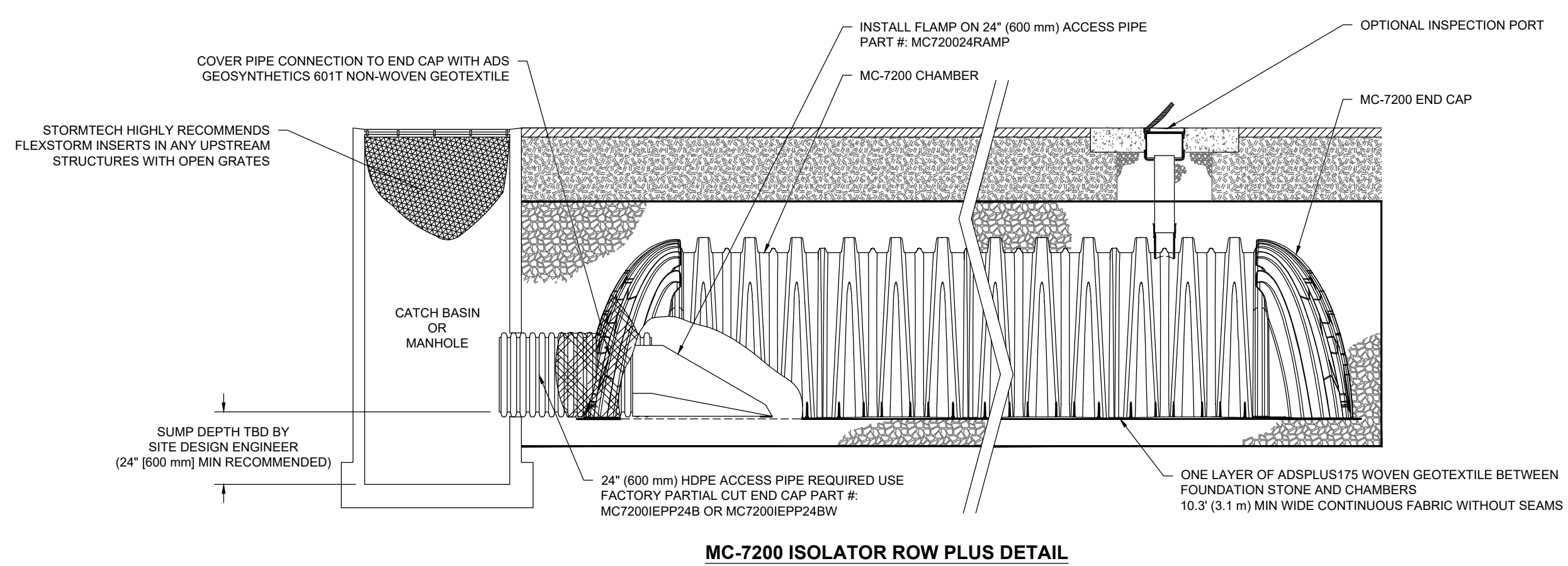
DATE	DRAWN	CHECKED
05/27/2022	JO	DR

SCALE: AS SHOWN
GRAPHIC SCALE:
DRAWING NO: 6

NOTE: END SECTIONS MUST BE REINFORCED TO CONFORM WITH CLASS IV PIPE WALL S.

Table with columns: PROPOSED LAYOUT: OFFSITE, PROPOSED ELEVATIONS: OFFSITE EAST DETENTION, PART TYPE, ITEM ON LAYOUT, DESCRIPTION, INVERT, MAX FLOW.

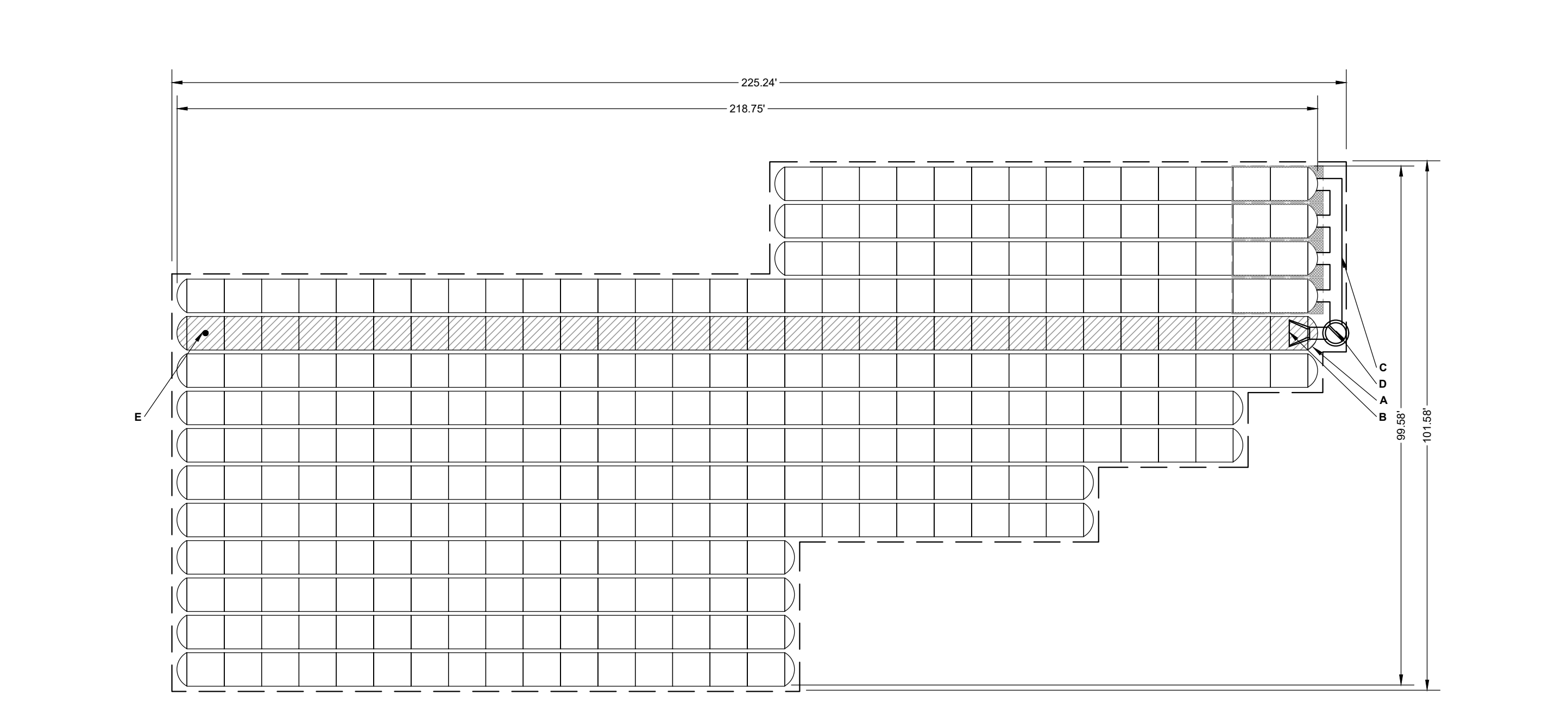
Table with columns: PROPOSED LAYOUT: SOUTH DETENTION, PROPOSED ELEVATIONS: SOUTH DETENTION, PART TYPE, ITEM ON LAYOUT, DESCRIPTION, INVERT, MAX FLOW.



DETENTION FACILITY 2 STORMTECH MC-3500 DETAIL N.T.S.



Table with columns: PROPOSED LAYOUT: NORTH INFILTRATION, PROPOSED ELEVATIONS: NORTH INFILTRATION, PART TYPE, ITEM ON LAYOUT, DESCRIPTION, INVERT, MAX FLOW.



INFILTRATION FACILITY STORMTECH MC-3500 DETAIL N.T.S.

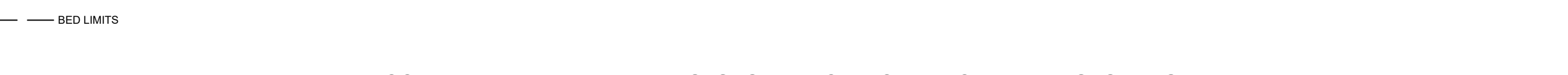


Table titled 'ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS' with columns: MATERIAL LOCATION, DESCRIPTION, AASHTO MATERIAL CLASSIFICATIONS, COMPACTION / DENSITY REQUIREMENT.

PLEASE NOTE: 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY... 2. STORMTECH CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2707...

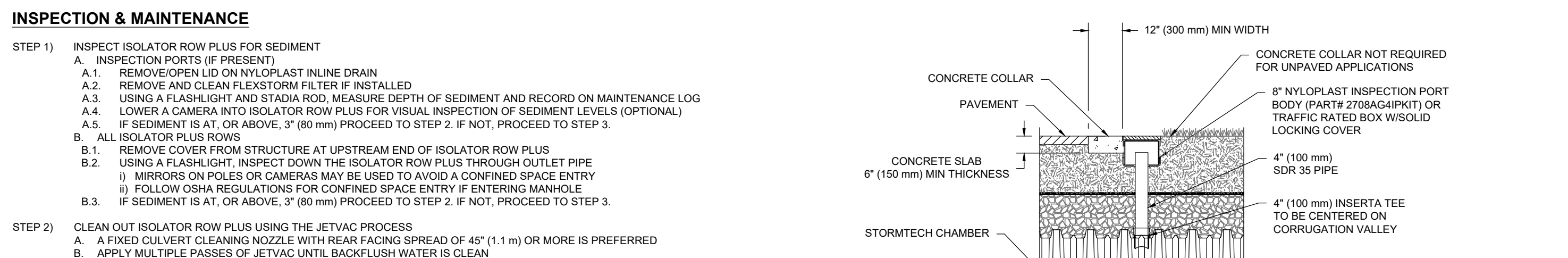
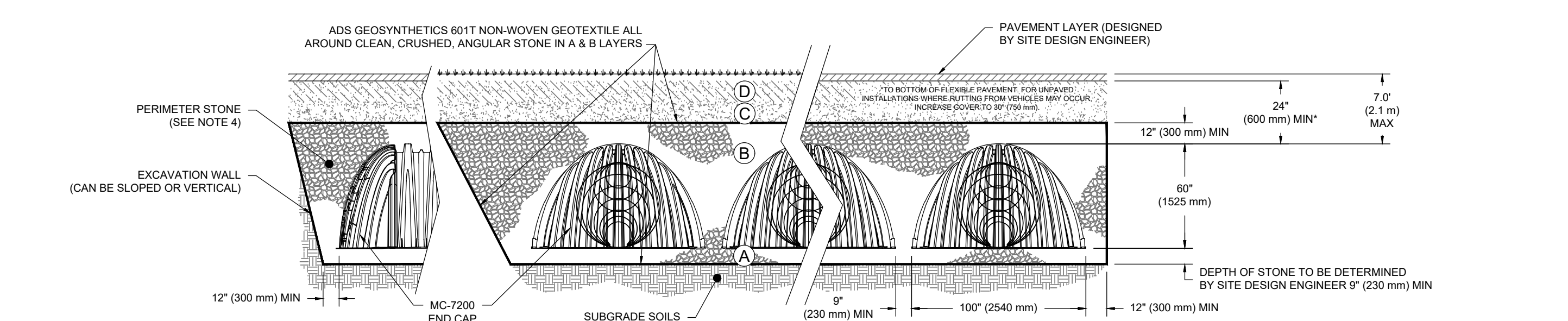


Table titled 'INSPECTION & MAINTENANCE' with steps for inspecting isolator row plus, cleaning, and inspecting manholes.

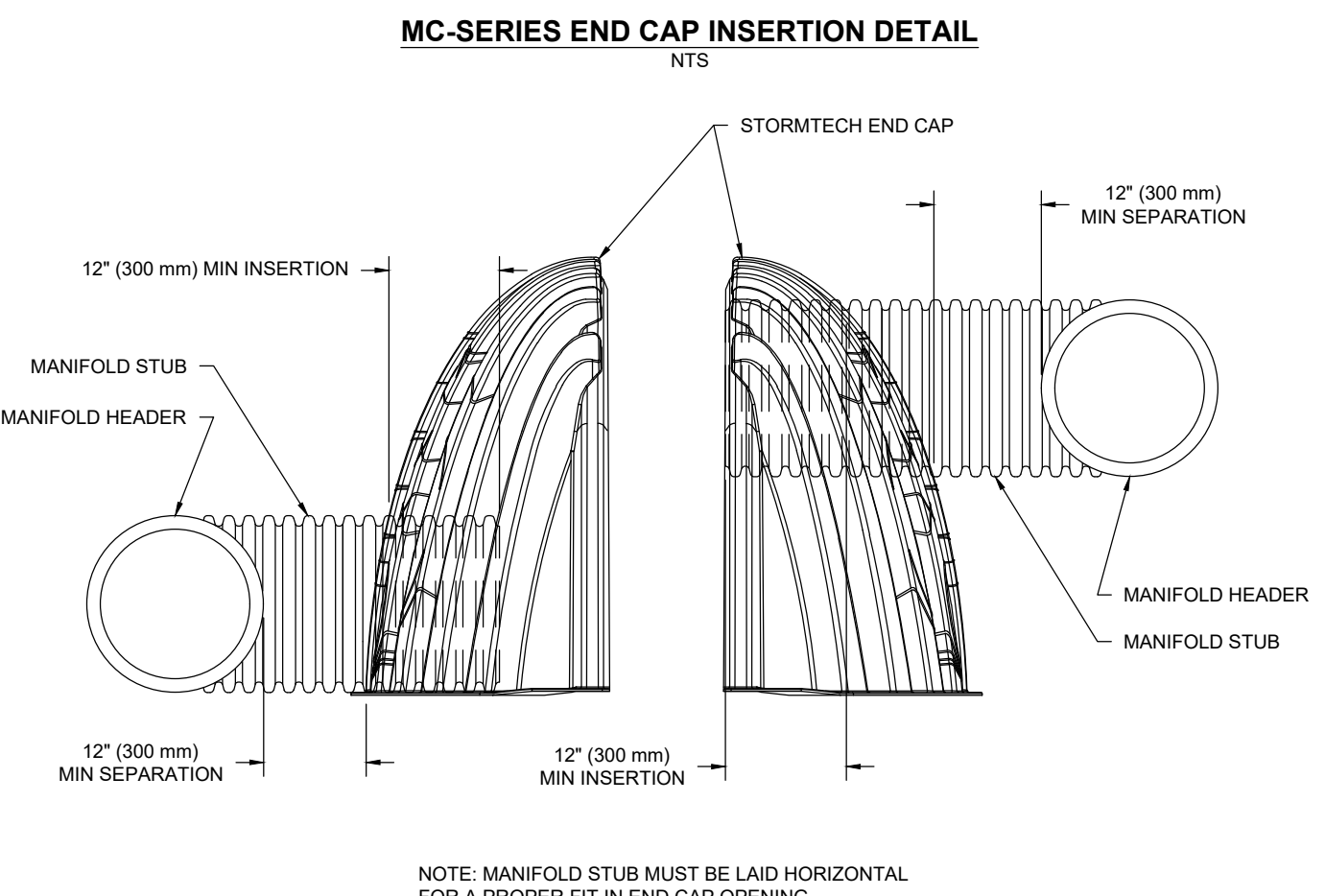
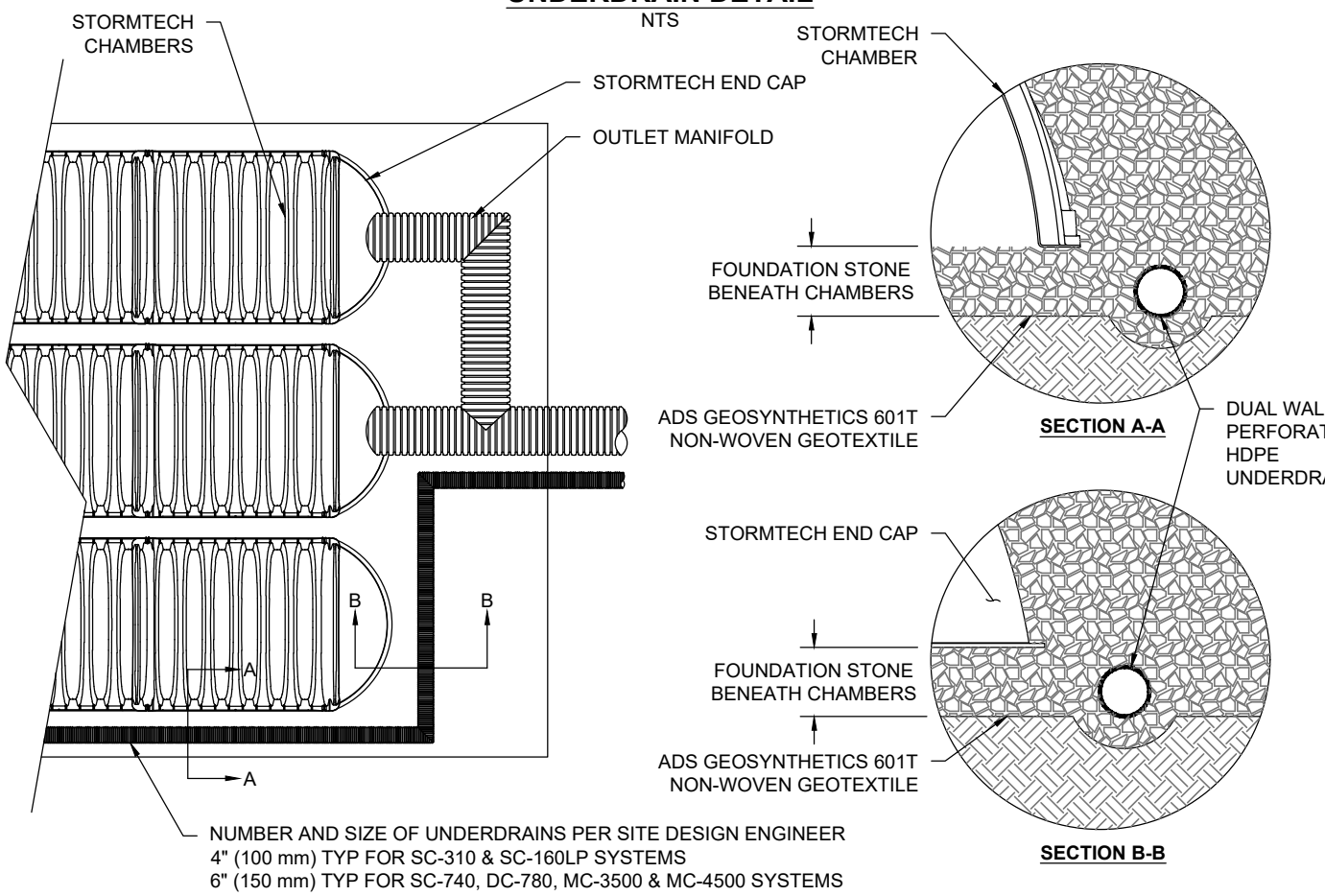


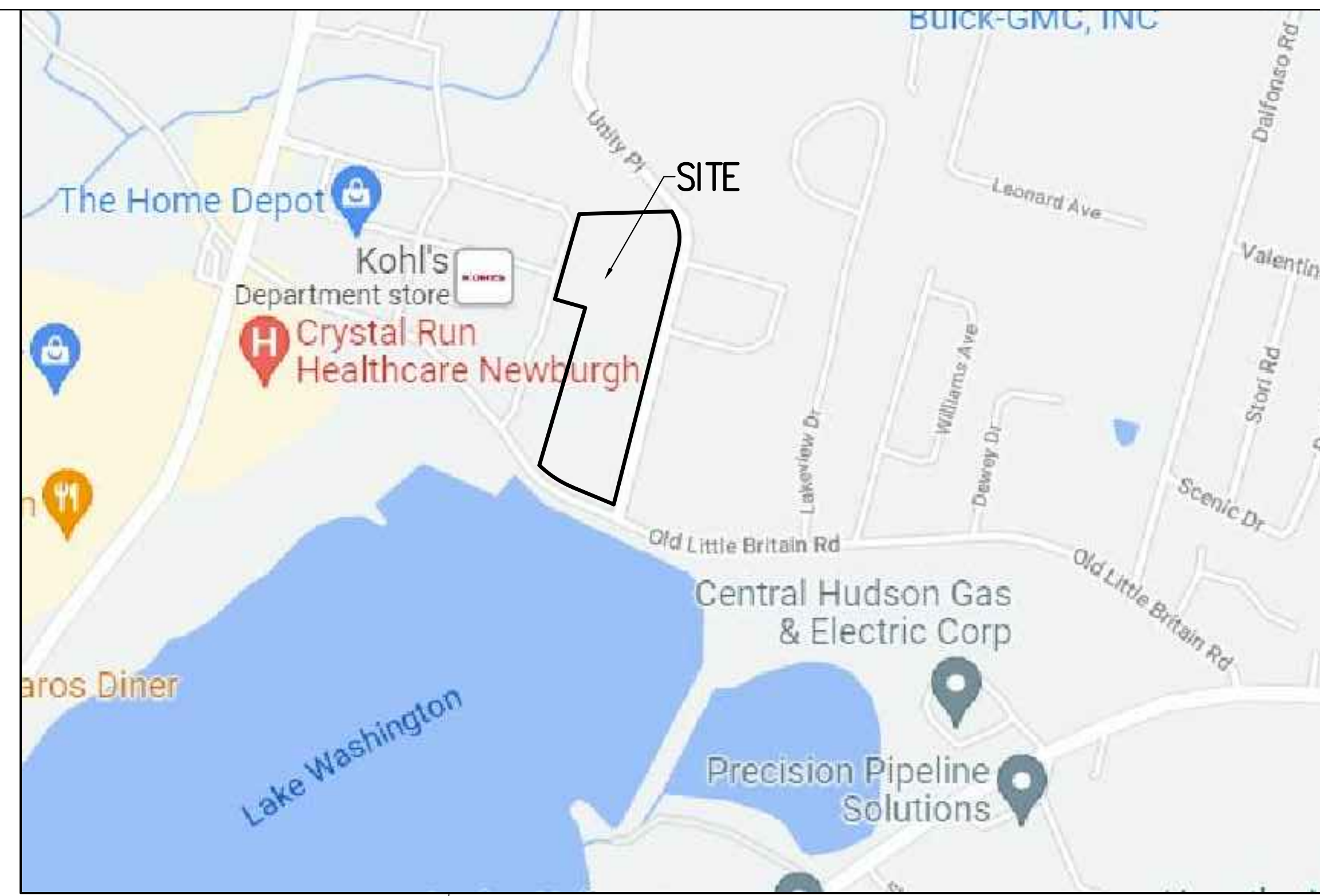
Table with columns: REV, DESCRIPTION, BY, DATE.

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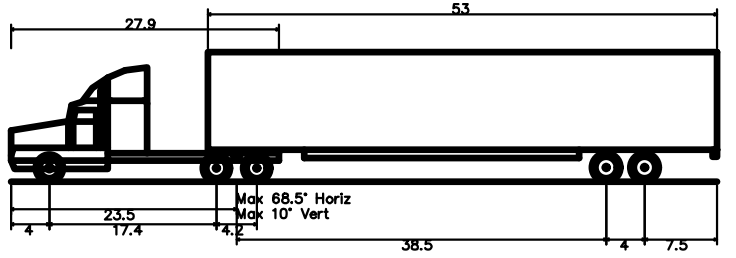
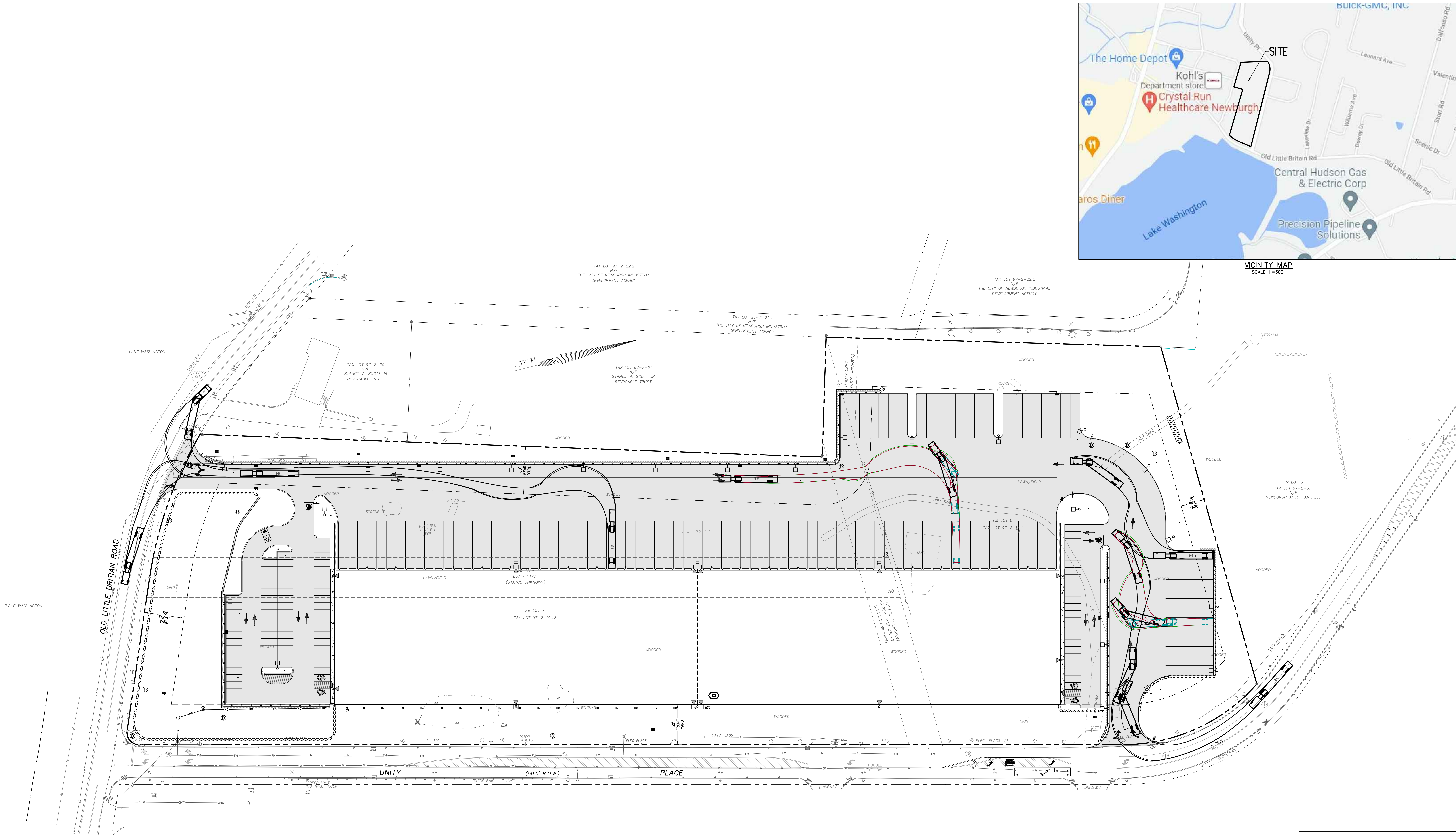
BROOKER ENGINEERING, PLLC logo and contact information: 74 Lafayette Avenue, Suite 501, Roseland, NJ 07068.

PROJECT: UNITY PLACE WAREHOUSE, TITLE: CONSTRUCTION DETAILS (2 OF 2).

Table with columns: PROJECT NO., DRAWN, CHECKED, SCALE, GRAPHIC SCALE, DATE, DRAWING NO.



VICINITY MAP
SCALE 1"=300'



WB-67
Overall Length 73.50ft
Overall Width 8.50ft
Overall Body Height 13.50ft
Min. Overhead Clearance 16.50ft
Max. Truck Weight 80,000lb
Lock-to-lock Time 26.40s
Max Steering Angle (Virtual) 28.40°

REV	DESCRIPTION	BY	DATE

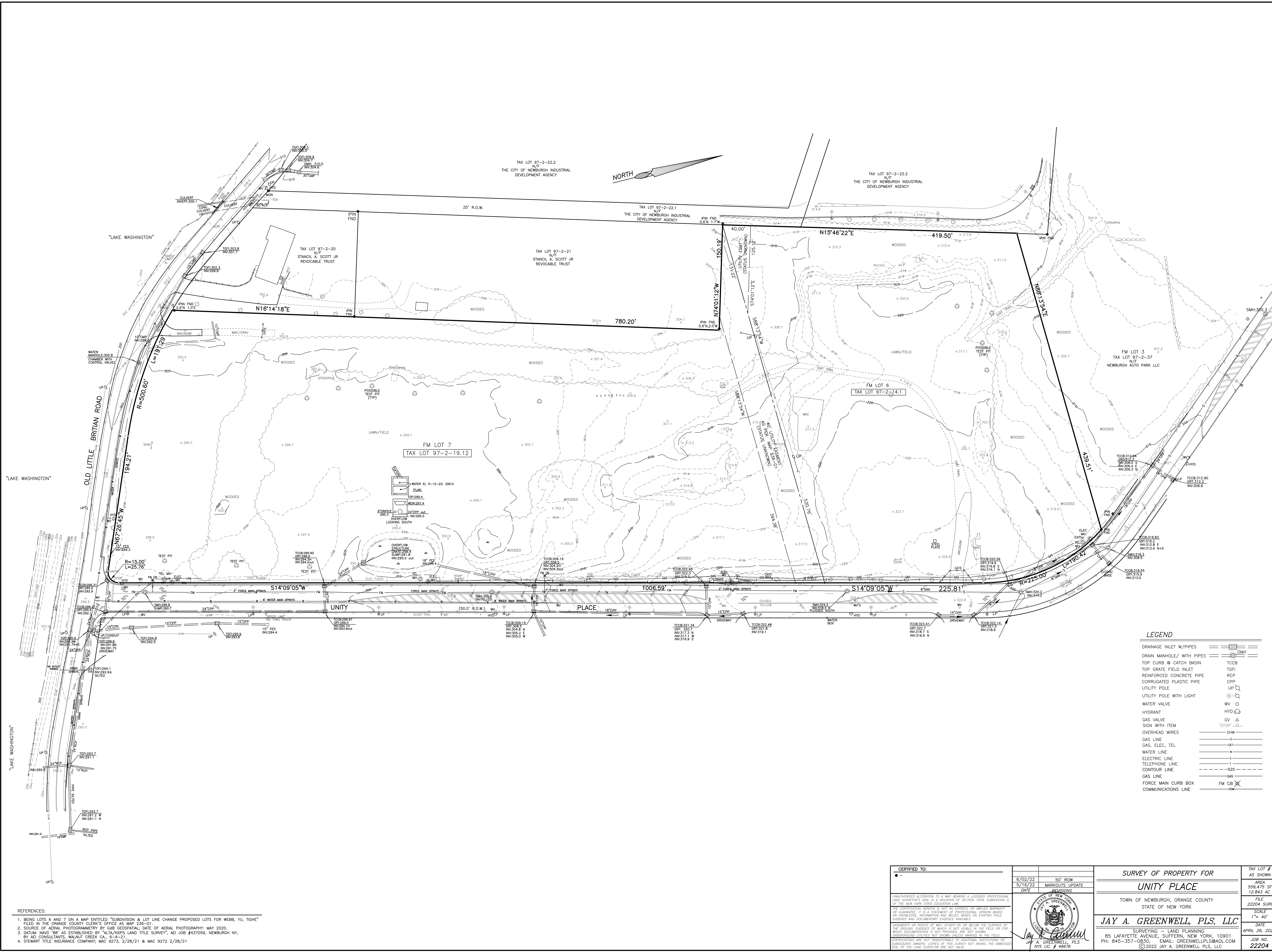
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22 Paris Avenue, Suite 105 Rockledge, NJ 07841 (201) 684-1221

PROJECT:
UNITY PLACE WAREHOUSE
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

TITLE:
**TRUCK MANEUVER PLAN
INFORMATION DRAWING**

PROJECT NO: 21202 DRAWN: JO CHECKED: DR
SCALE: 1" = 40'
GRAPHIC SCALE: 0' 40' 80'
DATE: 05/27/2022 DRAWING NO: TM



LEGEND

DRAINAGE INLET W/PIPES	
DRAIN MANHOLE/ WITH PIPES	
TOP CURB @ CATCH BASIN	
TOP GRATE FIELD INLET	
REINFORCED CONCRETE PIPE	
CORRUGATED PLASTIC PIPE	
UTILITY POLE	
UTILITY POLE WITH LIGHT	
WATER VALVE	
HYDRANT	
GAS VALVE	
SIGN WITH ITEM	
OVERHEAD WIRES	
GAS LINE	
GAS, ELEC, TEL	
WATER LINE	
ELECTRIC LINE	
TELEPHONE LINE	
CONTOUR LINE	
GAS LINE	
FORCE MAIN CURB BOX	
COMMUNICATIONS LINE	

REFERENCES:

1. BEING LOTS 6 AND 7 ON A MAP ENTITLED "SUBDIVISION & LOT LINE CHANGE PROPOSED LOTS FOR WEBB, YU, TIGHE" FILED IN THE ORANGE COUNTY CLERK'S OFFICE AS MAP 236-01.
2. SOURCE OF AERIAL PHOTOGRAMMETRY BY G&B GEOSPATIAL; DATE OF AERIAL PHOTOGRAPHY: MAY 2020.
3. DATUM: NAVD 83 AS ESTABLISHED BY "ACTA/NRPS LAND TITLE SURVEY", AED JOB #437059, NEWBURGH, NY, BY AEI CONSULTANTS, WALNUT CREEK, CA, 6-4-21.
4. STEWART TITLE INSURANCE COMPANY; MAC 9273, 2/28/21 & MAC 9272, 2/28/21

CERTIFIED TO: •	6/02/22	50' ROW	SURVEY OF PROPERTY FOR UNITY PLACE TOWN OF NEWBURGH, ORANGE COUNTY STATE OF NEW YORK	TAX LOT # AS SHOWN
	5/16/22	MARKOUTS UPDATE		AREA 559,475 SF 12.843 AC
UNAUTHORIZED ALTERATION TO A MAP BEARING A LICENSED PROFESSIONAL LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 2209, SUBSECTION 2, OF THE NEW YORK STATE EDUCATION LAW. THE CERTIFICATION HEREON IS NOT AN EXPRESS OR IMPLIED WARRANTY OR GUARANTEE. IT IS A STATEMENT OF PROFESSIONAL OPINION BASED ON PROBABLE INFORMATION AND BELIEF, BASED ON EXISTING FIELD EVIDENCE AND DOCUMENTARY EVIDENCE AVAILABLE. PRESENCE OF POINTS OF ANY KIND ABOVE OR BELOW THE SURFACE OF THE GROUND, EVIDENCE OF WHICH IS NOT VISIBLE IN THE FIELD OR FOR WHICH DOCUMENTATION IS NOT PROVIDED, ARE NOT SHOWN. UNDERGROUND UTILITIES NOT SHOWN UNLESS MARKED IN THE FIELD. CERTIFICATES ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS. COPIES OF THIS SURVEY NOT HAVING THE EMBOSSED SEAL OF THE LAND SURVEYOR ARE NOT VALID.			 JAY A. GREENWELL, PLS, L.L.C. SURVEYING - LAND PLANNING 85 LAFAYETTE AVENUE, SUFFERN, NEW YORK, 10901 PH: 845-357-0830, EMAIL: GREENWELLPLS@AOL.COM © 2022 JAY A. GREENWELL, PLS, L.L.C.	FILE 22204 SURV SCALE 1" = 40' DATE APRIL 26, 2022 JOB NO. 22204