Board of Appeals
Meeting Agenda

Administration Building: 314 Northwest Broad Street,
Fairburn, GA 30213
Thursday, August 21, 2025
7:00 p.m.

A. Call to Order
B. Determination of a Quorum
C. Pledge of Allegiance
D. Election of Officers
E. Approval of the Meeting Agenda
F. Approval of the Meeting Minutes
G. Public Comments
H. Old Business: None.
I. Public Hearings:

1. **Undisturbed Vegetative Buffer Variance (RaceTrac)**
   Applicant: RaceTrac, Inc
   Property Owner: Greenland Georgia, Inc.
   Location: 0 Fairburn Industrial Boulevard [Parcel ID: 09F090100480751]
   Request: To approve the variance.
2. **Impervious Surface Setback Variance (RaceTrac)**
   Applicant: RaceTrac, Inc
   Property Owner: Greenland Georgia, Inc.
   Location: 0 Fairburn Industrial Boulevard [Parcel ID: 09F090100480751]
   Request: To approve the variance.

J. New Business: None.
K. Other Business
L. Adjournment

Board of Appeals

Meeting Minutes

Fairburn Annex: 40 Washington Street,
Fairburn, GA 30213

Wednesday, August 23, 2023, 7:00 p.m.

Thomas Cochran, Chair
Homer Knight
Rosalee Williams
Brenda Cooper

Planning Director: Denise Brookins
Planner: Chancellor Felton
City Attorney: Valerie Ross

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1. **Call to Order:** The meeting was called to order at 7:00 pm by Chairman Cochran.

2. **Roll Call - Determination of a Quorum:** A quorum was determined, and the meeting proceeded.

3. **Election of Officers:** None. The Election of Officers will be addressed at the next meeting.

4. **Approval of the Meeting Agenda:**

    a. Boardman Knight made a motion to approve the agenda. Boardwoman Cooper seconded.
    THE MOTION CARRIED.

5. **Approval of the October 20, 2022 - Meeting Minutes:**
    a. Boardman Knight made a motion to table the October 20, 2022, minutes. Boardwoman Cooper seconded.
    THE MOTION CARRIED.

6. **Public Hearing:** Chairman Cochran opened the floor to general, public comments. No public comments were made. Chairman Cochran closed the floor to general, public comments.

7. **Stream Buffer Variance - George Murray -** Request to reduce the City Stream Buffer from 75 feet to 70 feet.

    a. Chairman Cochran introduced the case. Chancellor Felton presented the case on behalf of Staff. Staff made a recommendation for approval with conditions. Chairman Cochran opened the floor for the Board to ask Staff questions.
    b. Boardwoman Cooper asked which department will be charged with overseeing the zoning conditions. Mr. Felton answered the Community Development/Public Works/Engineering Department.
    c. Boardman Knight asked when the certificate of occupancy will be issued. Ms. Brookins answered when all conditions had been met and all inspections had been passed.
    d. Chairman Cochran asked why this variance could not be handled as a minor variance. Mr. Felton answered that all stream buffer variances are considered primary variances. Ms. Brookins further answered that Staff does not have the jurisdiction to make decisions regarding primary variances.
    e. Chairman Cochran closed the floor to ask Staff questions and opened the floor to ask the applicant questions and address the Board.
    f. The applicant, Mr. George Murray, presented and no questions were asked.
    g. Chairman Cochran closed the floor to ask the applicant questions.

    Boardman Knight made a motion to approve the stream buffer variance. Boardwoman Williams seconded.
    THE MOTION CARRIED.

8. **New Business:** None.

9. **Old Business:** None.

10. **Announcements:** None.

11. **Board Members Comments:**

    a. Boardwoman Cooper had no comments.
    b. Boardwoman Williams stated that things are in order, and everyone has followed accordingly.
    c. Boardman Knight stated that we had to meet tonight, and Staff has prepared the Board to do their respective duties.
    d. Chairman Cochran stated that things have been done properly and in order and the Board must review as such.

12. **Adjourn:**

    a. Boardman Knight motioned to adjourn the public meeting at 7:20 pm. Boardwoman Williams seconded.

THE MOTION CARRIED.

CITY OF FAIRBURN

BOARD OF APPEALS

AGENDA ITEM

To: Board of Appeals

From: Chancellor Felton, Planner

Date: August 21, 2025

Agenda Item: RaceTrac – 0 Fairburn Industrial Boulevard [Parcel ID: 09F090100480751] – Request to encroach into the Undisturbed Vegetative Buffer.

Agent/Applicant/Petitioner Information

Applicant: RaceTrac, Inc

Property Owner: Greenland Georgia, Inc.

Background

The site is located at 0 Fairburn Industrial Boulevard on the southeast corner of the intersection of Fairburn Industrial Boulevard and Howell Avenue. The site is currently zoned M-2 (Heavy Industrial) and is in the Highway 74 Overlay District. The site is approximately 16.97 acres.

Discussion

The applicant is proposing to construct a 6,008-square foot gas station and convenience store with seven gasoline fuel pumps and five diesel pumps.

The Stream Buffer Protection Code requires that "an undisturbed natural vegetative buffer shall be maintained for 50 feet, measured horizontally, on both banks (as applicable) of the stream as measured from the top of the stream bank."

The applicant is proposing to encroach into the Undisturbed Vegetative Buffer.

Authority

As authorized in Section 65-233, where a parcel was platted prior to the effective date of the ordinance from which this article was derived, and its shape, topography or other existing physical condition prevents land development consistent with this article, and the city administrator finds and determines that the requirements of this article prohibit the otherwise lawful use of the property by the owner, the city board of zoning appeals may grant a variance from the buffer and setback requirements hereunder, provided such variance require mitigation measures to offset the effects of any proposed land development on the parcel.

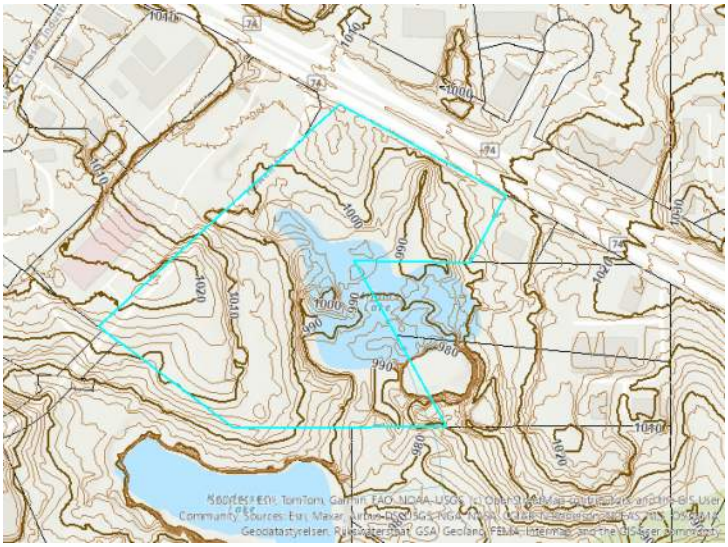
Except as provided in subsection (b)(1) of this section, the board of zoning appeals shall grant no variance from any provision of this article without first conducting a public hearing on the application for variance and authorizing the granting of the variance by an affirmative vote of the board of zoning appeals. The city

shall give public notice of each such public hearing in a newspaper of general circulation within the city. The city shall require that the applicant post a sign giving notice of the proposed variance and the public hearing. The sign shall be of a size and posted in such a location on the property as to be clearly visible from the primary adjacent road right-of-way. *Variances will be considered only in the following cases:*

a. When a property's shape, topography or other physical conditions existing at the time of the adoption of the ordinance from which this article is derived prevents land development unless a buffer variance is granted.
<u>This condition has been satisfied</u>. The property's shape, topography, and other physical conditions existed at the time of the adoption of the ordinance. The site is approximately 16.97 acres with road frontages on Fairburn Industrial Boulevard and Howell Avenue. Based on the shape, topography, and other physical conditions of the site, it would be impossible to build the proposed gas station with adequate traffic circulation unless relief is given.

b. Unusual circumstances when strict adherence to the minimal buffer requirements in the article would create an extreme hardship.
<u>This condition has been satisfied</u>. Staff does find that there is an unusual hardship in this case. The applicant would not be able to provide adequate traffic circulation for the gas station without any stream buffer variances.

<u>Variance Considerations</u>



a. The shape, size, topography, slope, soils, vegetation, and other physical characteristics of the property.
The shape of the site is unique. The size of the site is 16.97 acres. The topography of the site is highly variable and inconsistent. The site is currently undeveloped woodlands.

b. The locations of all streams on the property, including along property boundaries.
The streams take up a majority of the property.

c. The location and extent of the proposed buffer or setback intrusion.
The location of the proposed buffer intrusion is on the northeast side of the site.

d. Whether alternative designs are possible which require less intrusion or no intrusion.
Alternative designs are not possible.

e. The long-term and construction water quality impacts of the proposed variance.
The applicant would be required to adhere to Best Management Practices (BMP) during the construction of the gas station. The City would be monitoring to make sure the BMPs are being adhered to throughout the process. Long-term and water quality effects will be minimal as the 50-foot undisturbed vegetative buffer will not be disturbed long-term.

f. Whether issuance of the variance is at least as protective of natural resources and the environment.
The variance is not as protective of the natural resources and environment as the existing site condition. The site is currently undeveloped and has no impervious surface. Therefore, the development of the site would not be as protective of the natural resources and the environment as the existing conditions. However, the applicant will provide mitigations as required by local, State, and Federal law.

Staff Recommendations

Staff recommends **APPROVAL** of the variance with the conditions that:

1. All gutters/downspouts shall be tied into a water quality device, subject to the approval of Public Works.
2. Any disturbance to the undisturbed vegetative buffer shall be restored to natural buffer standards utilizing native and perennial landscaping and vegetation, subject to the approval of Public Works, prior to the issuance of a certificate of occupancy.
3. Parking spaces shall be constructed of pervious materials (i.e. pervious pavers or other pervious material), subject to the approval of Public Works.
4. All lot drainage shall be approved by Public Works prior to the issuance of a certificate of occupancy.
5. Total suspended solids meet at least 80% removal from all stormwater basins.
6. Any significant modifications as determined by Staff to the proposed plans in regard to the Undisturbed Vegetative Buffer encroachment would necessitate a further review by the Board of Appeals.

Attachments:

- Site Pictures
- Application
- Plans

- Hydrology Report

SITE PICTURES

South viewpoint



APPLICATION FOR VARIANCES

Date Received: _____

VARIANCE #: _____
(Office Use Only)

SECTION I – GENERAL INFORMATION

APPLICANT INFORMATION

Applicant Name: RaceTrac, Inc

Address: 200 Galleria Pkwy, Ste 900 Atlanta GA 30339

Phone: (512) 417-3225 Cell: _____ Fax: _____

Email Address: sjones@racetrac.com

OWNER INFORMATION (If different from Applicant)

Owner Name: Greenland Georgia, Inc. - CONTACT: Suresh Jatia

Address: _____

Phone: (770) 435-1100 Cell: _____ Fax: _____

Email Address: suresh@greenlandamerica.com

PROPERTY INFORMATION

Address: 0 FAIRBURN INDUSTRIAL BLVD

Parcel ID#: 09F090100480751 Land Lot: 48 District: 9-F Acreage: 5.3 ac

Request: We are seeking a variance to encroach into the 50' undisturbed stream buffer (Sec. 65-233-a-1).

CHECK ONE OF THE FOLLOWING REQUESTED VARIANCE TYPES IN SECTION II.

SECTION II **VARIANCES REQUIRING PUBLIC HEARING BY THE PLANNING AND ZONING COMMISSION OR CITY COUNCIL**

[X] 1) **PRIMARY VARIANCE:** Seeks relief from any provision in the Zoning Ordinance that is not being handled as a minor variance or administrative minor variance.

[ ] 2) **SECONDARY VARIANCE:** Seeks relief from variance decisions and interpretations made by the zoning administrator or relief from minor variance or administrative minor variance requests.

[ ] 2) **CONCURRENT VARIANCE:** Seeks relief from any provision in the Zoning Ordinance when filed simultaneously with a rezoning, use permit, or zoning modification request on the same property.

MINOR & ADMINISTRATIVE MINOR VARIANCES [NO PUBLIC HEARING REQUIRED]

[ ] 1) **MINOR VARIANCE:** Seeks relief from the minimum yard requirements, not to exceed 10% of required setback (example: 35-foot front yard = 3.5-foot variance)

[ ] 2) **ADMINISTRATIVE MINOR VARIANCE:** Relief requiring 1 foot or less from required building setback

VARIANCE CONSIDERATIONS:

1) Relief, if granted, would be in harmony with, or, could be made to be in harmony with, the general purpose and intent of this chapter; or

See attached narrative.

2) The application of the particular provision of this chapter to a particular piece of property, due to extraordinary and exceptional conditions pertaining to that property because of its size, shape, or topography, would create an unnecessary hardship for the owner while causing no detriment to the public; or

See attached narrative.

3) Conditions resulting from existing foliage or structures bring about a hardship whereby a sign meeting minimum letter size, square footage and height requirements cannot be read from an adjoining public road.

See attached narrative.

SECTION III LEGAL DESCRIPTION OF PROPERTY *(Legal description/survey must match submitted site plan.)*

SUBDIVISION _____ UNIT/PHASE: _____ LOT NO(S): _____

LAND LOT(S): 48 DISTRICT: 9-F TAX ID: 09F090100480751

PROPERTY ADDRESS 0 FAIRBURN INDUSTRIAL BLVD

SECTION IV AUTHORITY TO PURSUE VARIANCE

NOTICE: Part 1 and/or Part 2 below must be signed and notarized when the petition is submitted. Please complete Section IV as follows:

a) If you are the sole owner of the property and not the petitioner complete Part 1.
b) If you are the petitioner and not the sole owner of the property complete Part 2.
c) If you are the sole owner and petitioner complete Part 1.
d) If there are multiple owners each must complete a separate Part 1 and include it in the application.

Part 1. OWNER INFORMATION

Owner states under an oath that he or she is the owner of the property described in the attached legal description. ***[EACH OWNER'S SIGNATURE MUST BE NOTARIZED]***

Suresh Jatia
TYPE OR PRINT OWNER'S NAME

C03, 3rd fl Paragon Centre
ADDRESS Pandurang Budkar Marg,
Worli, Mumbai - 400013
CITY, STATE & ZIP CODE

OWNER'S SIGNATURE

(91) 22 - 24944805
AREA CODE/ PHONE NUMBER

Suresh@greenlandamerica.com
EMAIL ADDRESS

Sworn to and subscribed before me this 7th day of April 20 25

NOTARY PUBLIC

NANCY RENEE BLACK NOTARY PUBLIC EXPIRES GEORGIA AUGUST 29, 2026 COBB COUNTY

***Part 2.* APPLICANT INFORMATION**

Petitioner states under oath that: (1) he/she is the executor or Attorney-in-fact under a Power-of-Attorney for the owner (attach a copy of the Power-of-Attorney letter and type name above as "Owner"); (2) he/she has an option to purchase said property (attach a copy of the contract and type name of owner above as "Owner"); or (3) he/she has an estate for years which permits the petitioner to apply (attach a copy of lease and type name of owner above as "Owner").

RaceTrac, Inc
TYPE OR PRINT PETITIONER'S NAME

200 Galleria Pkwy, Suite 900
ADDRESS

Atlanta, GA 30339
CITY & STATE ZIP CODE

Sworn to and subscribed before me this the

10th Day of February 20 25

NOTARY PUBLIC

SAMANTHA JONES NOTARY PUBLIC COBB COUNTY, GEORGIA MY COMMISSION EXPIRES JULY 01, 2025

PETITIONER'S SIGNATURE

(512)417-3275
PHONE NUMBER

sjones@raletrac.com
EMAIL ADDRESS

***V.* ATTORNEY/AGENT INFORMATION**

CHECK ONE: [ ] ATTORNEY [ ] AGENT

Laura Benz
TYPE OR PRINT ATTORNEY/AGENT NAME

19 W. Broad Street
ADDRESS

Newnan, GA 30263
CITY, STATE & ZIP CODE

(404) 437-7789
AREA CODE/PHONE NUMBER

Laura@LWBenz.com
EMAIL ADDRESS

Laura W. Benz
SIGNATURE OF ATTORNEY/AGENT

Variance Narrative for § 65-233(a)(1) and Criteria Response

and other materials required by City of Fairburn, Georgia
for the Variance request of
RACETRAC
for +/- 4.21 Acres of Land
Located at 0 Fairburn Industrial Boulevard, Fairburn, Georgia 30213

Submitted for the Applicant by:
Laura W. Benz, Esq.
Benz Law LLC
19 W. Broad Street
Newnan, GA 30263
404.493.7789
Laura@LWBenz.com

I. BASIS OF VARIANCE REQUEST

The standard to obtain a variance for a stream buffer and associated setback is established in §65-233(b).

a. The property's shape, topography and other physical conditions prevents land development unless a buffer variance is granted.

The site is approximately four acres and irregularly shaped due to the construction of a stormwater pond that was developed in association with the construction of Howell Avenue. The site has approximately 17 feet of topographic relief requiring structural walls to avoid larger grading impacts for building pads. The natural features of the site include a perennial stream that flows to the south until transitioning into a wetland. The wetland is approximately 2.05 acres and spans the central portion of the site. An upland berm on the southern portion of the wetland inhibits flow resulting in standing water. There is also an intermittent stream in the northwest portion of the wetland that has three culverts associated with the stormwater management infrastructure along Howell Avenue. Outfall from the Howell Avenue stormwater retention pond flows into the wetland onsite. A map of the natural features is shown below to illustrate the implications to potential development of the site. In addition, the identified access points to the site were determined by GDOT and require



crossing the additional 25' non-impervious setback to access to the site.

As set forth in the ordinance, the Applicant is applying for a variance based on the unusual topography and the multiple streams crossing the resulting in no opportunity for any development under any design configuration unless a variance is granted and the unusual circumstances when strict adherence to the minimal buffer requirements in the law would create an unusual hardship. Regulations acknowledge that there are circumstances which require exemptions or consideration of strict compliance with regulatory requirements. The request for a variance from the non-impervious surface setback satisfies the criteria for granting such under the Fairburn ordinance.

The two ingress/egress points to the development are outside the control of the Applicant. The ingress/egress point on State Route 74 is established by Georgia Department of Transportation with the location being east of one of the streams onsite, thus requiring access through the buffer to the remainder of the site. The ingress/egress from Howell Avenue to the Property is restricted by the stormwater detention facility constructed during the prior roadway improvements which push the ingress/egress point south and to the other side of the second stream on the Property and requiring access through the non-impervious setback as shown below.

b. Unusual circumstances when strict adherence to the minimal buffer requirements in the article would create an extreme hardship. Variances will not be considered when, following adoption of the ordinance from which this article is derived, actions of any property owner of a given property have created conditions of a hardship on that property.

As discussed above, the site is approximately four acres and has two streams that transverse the site as well as wetlands. The existence of the streams and associated buffers significantly reduce the available area for development. The site also has significant topographic relief requiring the construction of structural walls to create a suitable building pad. Adherence to the 50' buffer requirement would make the site undevelopable. There have been no actions of the owner that have created the hardship conditions set forth herein.

II. RESPONSE TO VARIANCE STANDARDS

As required by the Ordinance, please find the following information required for consideration of the variance request.

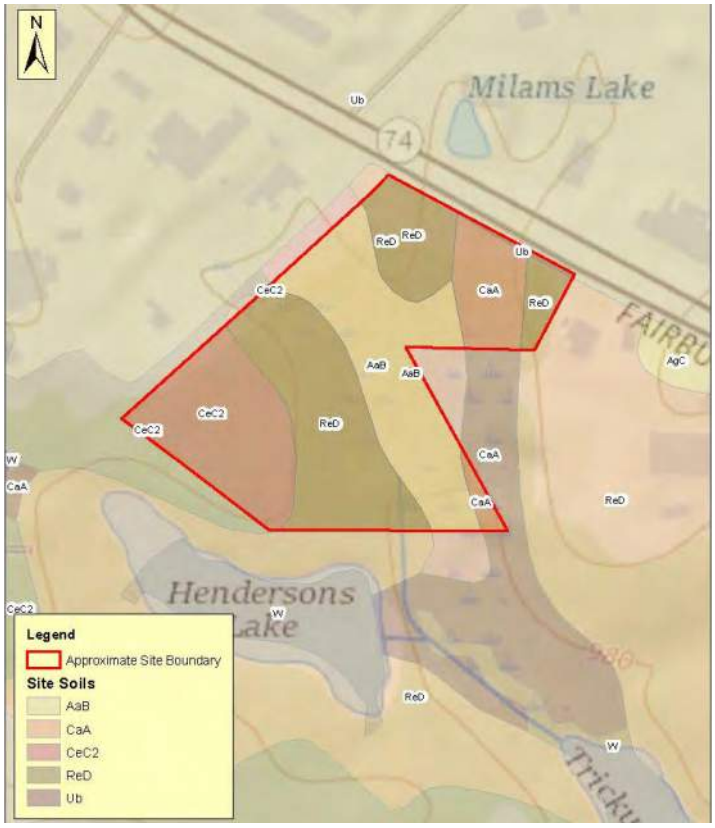
1. A site map that includes locations of all streams, wetlands, floodplain boundaries and other natural features, as determined by field survey.

Response: The map is attached as Exhibit A.

2. A description of the shape, size, topography, slope, soils, vegetation and other physical characteristics of the property;

Response: The site is approximately 4.12 acres and irregularly shaped due to the development of a stormwater detention pond associated with the construction of Howell Avenue. Approximately half the site is classified as a wetland (2.05 acre) that spans the central part of the

site and the site has topographic variation in excess of 20 feet of relief. Mapped soils are shown in the figure below and are further described as Altavista sandy loam (AaB), Cartecay-Toccoa complex (CaA), Cecil sandy loam (CeC2), Rion sandy loam (ReD), and Urban land(Ub). The site is primarily comprised of a mixed pine-hardwood forest dominated by sweet gum, loblolly pine, red maple, tulip poplar and Chinese privet.



3. A detailed site plan that shows the locations of all existing and proposed structures and other impervious cover, the limits of all existing and proposed land disturbance, both inside and outside the buffer and setback. The exact area of the buffer to be affected shall be accurately and clearly indicated.

Response: The required map is attached as Exhibit A.

4. Documentation of unusual hardship should the buffer be maintained.

Response: An explanation of the hardship is discussed above in Section I(b).

5. At least one alternative plan, which does not include a buffer or setback intrusion, or an explanation of why such a site plan is not possible;

Response: The Property is impacted by the smaller size of 4.21 acres that is further reduced when assessing developable land given the presence of two streams and a wetland that bifurcate the site. Failure to issue a variance to the stream buffer requirements would preclude

development from any kind on the Property. In addition, the site experiences in excess of 20' of topographic relief which requires grading activities for any developable building pad.

6. A calculation of the total area and length of the proposed intrusion;

Response: Per §65-232(2)(iii) intrusions necessary to provide access to a property as well as §65-232(2)(1) driveways are exempt from the regulation. As shown in the figure below, the majority of the encroachment into the 50' buffer shown in yellow corridors are due to the driveway along SR 74 (Figure 1) and Howell Avenue (Figure 2), both exempt and sited perpendicular to the streams and associated buffers to minimize impacts. The minor encroachment into the buffer requiring a variance is for minimal grading activities. The proposed area for the 50' setback is 0.87 acres. As stated within the purpose, the Applicant has minimized its development activities within the protected buffer and avoided impacts to the majority of the onsite stream buffers.

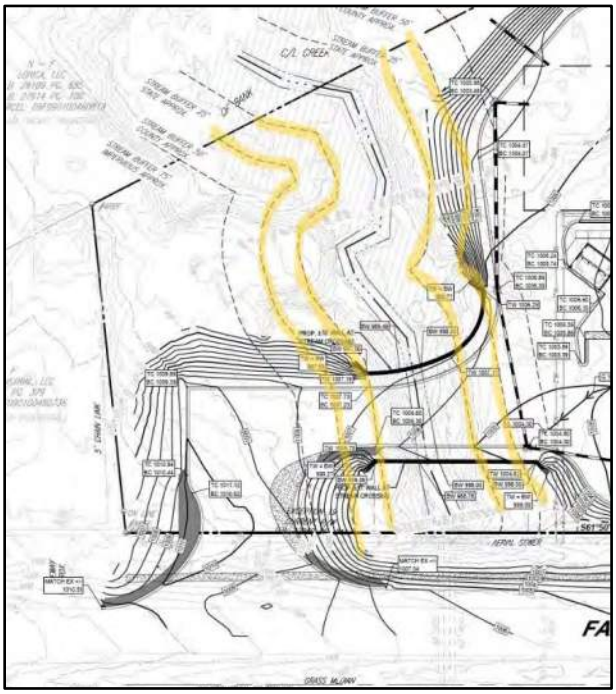


Figure 1: Driveway Buffer from SR 74

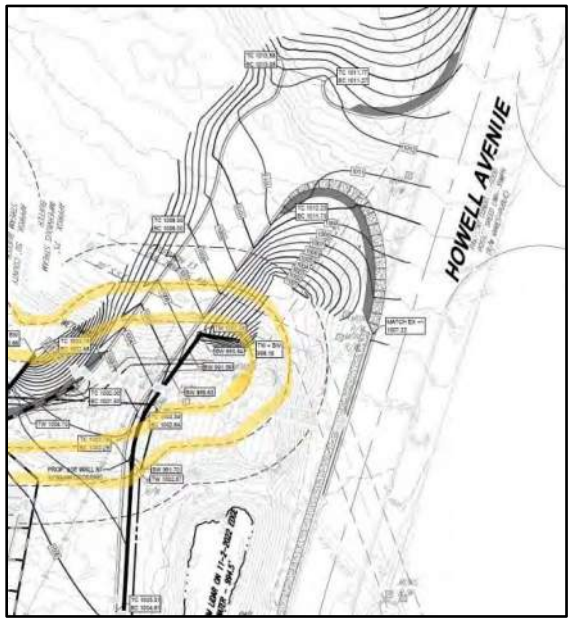


Figure 2: Driveway Buffer from Howell

7. A stormwater management site plan, if applicable; and

Response**:** To assure water quality and minimizing impacts to downstream property owners from erosion, the Applicant will prepare an erosion and sedimentation control plan in accordance with the Georgia Stormwater Management Manual and Fairburn City Ordinances. Currently the water quality and temperature are influenced by the surrounding upstream and downstream areas which are predominantly industrial with high impervious surfaces. Upon construction of the proposed development, the project will meet the requirements set forth by the Georgia Stormwater Management Manual addressing post-development total suspended solids and/or stormwater runoff reduction and water quality protection to assure the site is discharging at or below pre-development levels and water quality is being maintained. In addition, the Applicant proposes to implement underground detention with the StormTech MC-7200 Chamber as shown in Exhibit B.

8. Proposed mitigation, if any, for the intrusion. If no mitigation is proposed, the request must include an explanation of why none is being proposed.

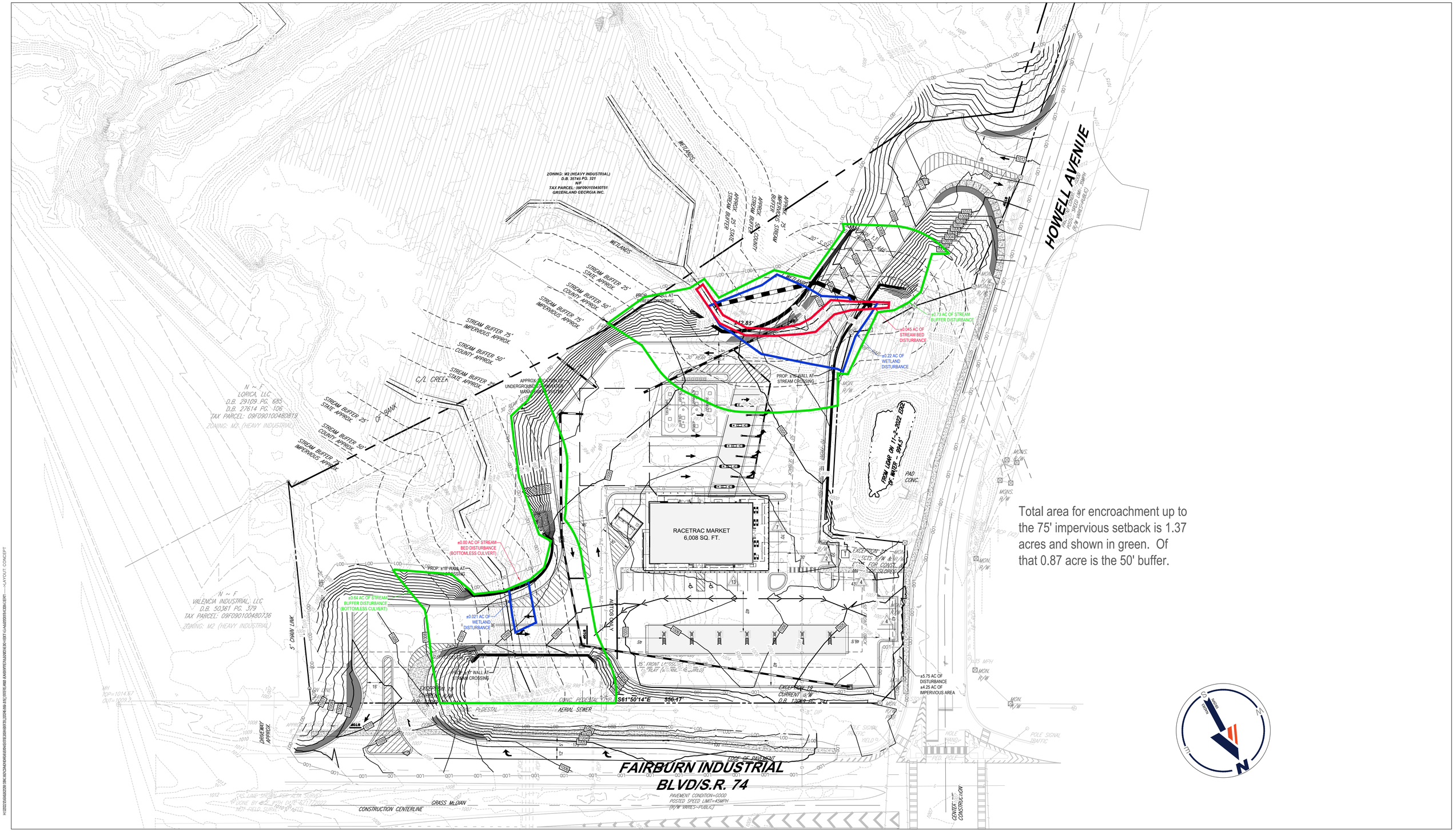
Response: The Applicant proposes to purchase compensatory mitigation credits from a US Army Corps of Engineers approved mitigation bank in accordance with GA EPD Stream Buffer mitigation guidance.

The Applicant commits to meeting the requirements of the GSMM which will meet water quality and water runoff reductions. Implementing these standards will result in a negligible impact long term and during construction resulting in an overall negligible impact to waters upon approval of the variance. The proposal has avoided and minimized impacts to the stream buffers to the extent practical. The commitment to meet the requirements set forth in the GSMM coupled with the purchase of compensatory mitigation credits in accordance with the GA EPD stream buffer mitigation guidance will result in the proposal being as protective of the natural resources and environment.

The regulations impose a hardship on the development of the property and the issuance of a variance is in harmony with the purpose of the Ordinance. This portion of the City of Fairburn ordinance acknowledges that there are circumstances when standard zoning requirements should be waived. The purpose of the stream buffer ordinance is to protect the public health, safety, environment and general welfare, minimize public and private losses due to erosion, siltation and water pollution and to maintain stream water quality.

The need for the specific proposed impacts includes pad grading and fill slope as well as required access. As shown in the site plan, impacts to waters and associated buffers have been avoided and minimized to the extent practical, however having two streams traversing the site coupled with 17' of topographical relief results in avoidance of the buffer being impossible. The project is not feasible and cannot be constructed if the buffer variance is not granted. The plan is substantially similar to that which came before the Planning Commission in April 2024 and was a part of the special use permit that was unanimously approved by the City Council on June 10, 2024. Similarly, the proposed configuration was submitted as part of the rezoning package and unanimous approval by the City Council. Within the rezoning approval, there was no requirement to maintain the stream buffers. Any impacts to streams and associated buffers will meet state and federal requirements to assure appropriate compensatory mitigation is provided, if required, and the project will reduce pollutants, improve stormwater management in accordance with the Georgia Stormwater Management Manual to meet the requirements of pollutant and volume runoff reductions.

The existence of the streams and wetlands restricts the ability to move development features within the parcel. To meet the additional setbacks and vegetative requirements would result in additional impacts to the buffers, wetlands and streams.



Total area for encroachment up to the 75' impervious setback is 1.37 acres and shown in green. Of that 0.87 acre is the 50' buffer.

BOHLER

211 PERIMETER CENTER PKWY NE,
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

RACETRAC FAIRBURN WETLANDS & STREAM IMPACTS EXHIBIT

HWY 74 & HOWELL AVE, FAIRBURN, GA 30213

05/05/2025 | NF | GAA220184.00 | Rev.0

40 20 10 0 40
1"= 40'

H:\2022\GAA220184.00\CIVIL\CAD\GRADING\SHEETS\GAA220184.00_GRADING_PLAN.DWG——LAYOUT: CONCEPT

StormTech® MC-7200 Chamber

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.



Nominal Chamber Specifications
(not to scale)

Size (L x W x H)
83” x 100” x 60”
2108 mm x 2540 mm x 1524 mm

Chamber Storage
175.9 ft³ (4.98 m³)

Min. Installed Storage*
267.3 ft³ (7.57 m³)

Weight
202 lbs (91.6 kg)

Shipping
7 chambers/pallet
5 end caps/pallet
6 pallets/truck

*Assumes a minimum of 12” (300 mm) of stone above, 9” (230 mm) of stone below chambers, 9” (230 mm) of stone between chambers/ end caps and 40% stone porosity.

Nominal End Cap Specifications
(not to scale)

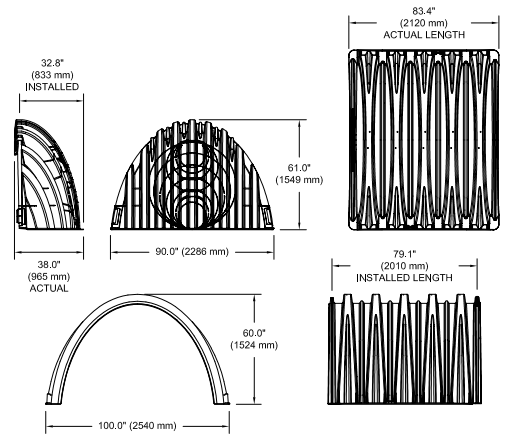
Size (L x W x H)
38” x 90” x 61”
965 mm x 2286 mm x 1549 mm

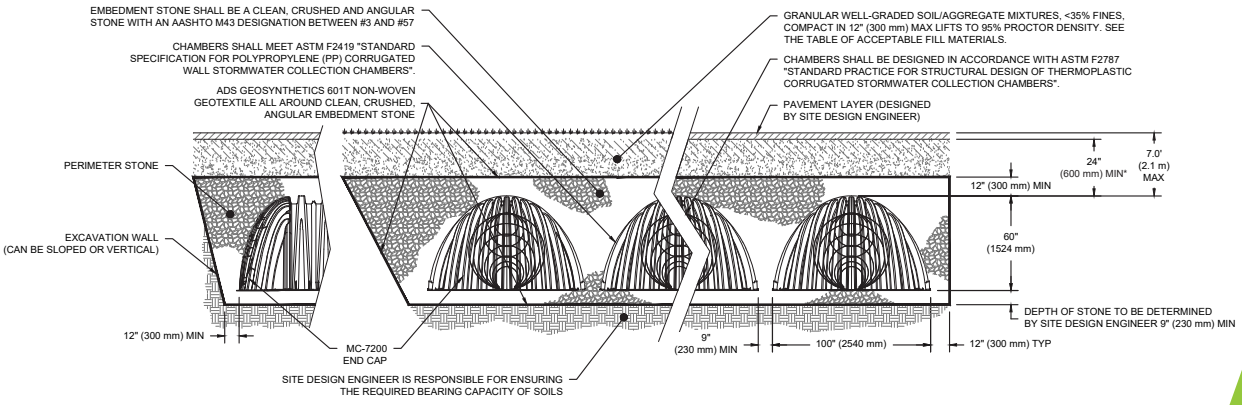
End Cap Storage
39.5 ft³ (1.12 m³)

Min. Installed Storage*
115.3 ft³ (3.26 m³)

Weight
Nominal 90.0 lbs (40.8 kg)

*Assumes a minimum of 12” (300 mm) of stone above, 9” (230 mm) of stone below, 12” (300 mm) of stone perimeter, 9” (230 mm) of stone between chambers/end caps and 40% stone porosity.





*MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR. INCREASE COVER TO 30" (750 mm).

ADS StormTech™

StormTech MC-7200 Specifications

Storage Volume Per Chamber

	Bare Chamber Storage ft³ (m³)	Chamber and Stone Foundation Depth in. (mm)			
		9 in (230 mm)	12 in (300 mm)	15 in (375 mm)	18 in (450 mm)
Chamber	175.9 (4.98)	267.3 (7.57)	273.3 (7.74)	279.3 (7.91)	285.3 (8.08)
End Cap	39.5 (1.12)	115.3 (3.26)	118.6 (3.36)	121.9 (3.45)	125.2 (3.54)

Note: Assumes 9" (230 mm) row spacing, 40% stone porosity, 12" (300 mm) stone above and includes the bare chamber/end cap volume. End cap volume assumes 12" (300 mm) stone perimeter in front of end cap.

Amount of Stone Per Chamber

English Tons (yds³)	Stone Foundation Depth			
	9 in	12 in	15 in	18 in
Chamber	12.1 (8.5)	12.9 (9.0)	13.6 (9.6)	14.3 (10.1)
End Cap	9.8 (7.0)	10.2 (7.3)	10.6 (7.6)	11.1 (7.9)
Metric Kilograms (m³)	**230 mm**	**300 mm**	**375 mm**	**450 mm**
Chamber	10977 (6.5)	11703 (6.9)	12338 (7.3)	12973 (7.7)
End Cap	8890 (5.3)	9253 (5.5)	9616 (5.8)	10069 (6.0)

Note: Assumes 12" (300 mm) of stone above and 9" (230 mm) row spacing and 12" (300 mm) of perimeter stone in front of end caps. 1 yd³ = 1.42 english tons.

Volume Excavation Per Chamber yd³ (m³)

	Stone Foundation Depth			
	9 in (230 mm)	12 in (300 mm)	15 in (375mm)	18 in (450 mm)
Chamber	17.2 (13.2)	17.7 (13.5)	18.3 (14.0)	18.8 (14.4)
End Cap	9.7 (7.4)	10.0 (7.6)	10.3 (7.9)	10.6 (8.1)

Note: Assumes 9" (230 mm) of separation between chamber rows, 12" (300 mm) of perimeter in front of the end caps, and 24" (600 mm) of cover. The volume of excavation will vary as depth of cover increases.

ADS StormTech products, manufactured in accordance with ASTM F2418 or ASTMF2922, comply with all requirements in the Build America, Buy America (BABA) Act.

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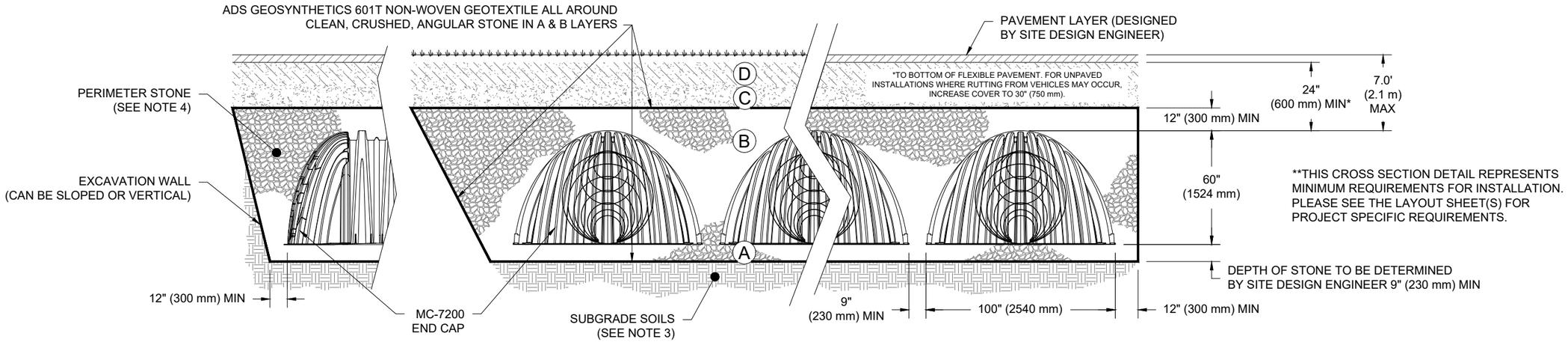
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ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

MC-7200

STANDARD CROSS SECTION

DATE: 12/21/23 | DRAWN: SLS | PROJECT #: | CHECKED: SLS

DATE	DRWN	CHKD	DESCRIPTION

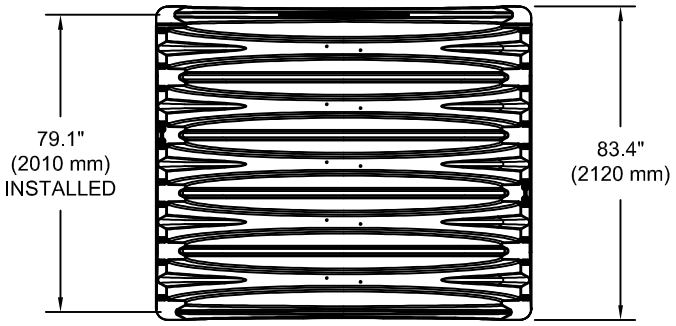
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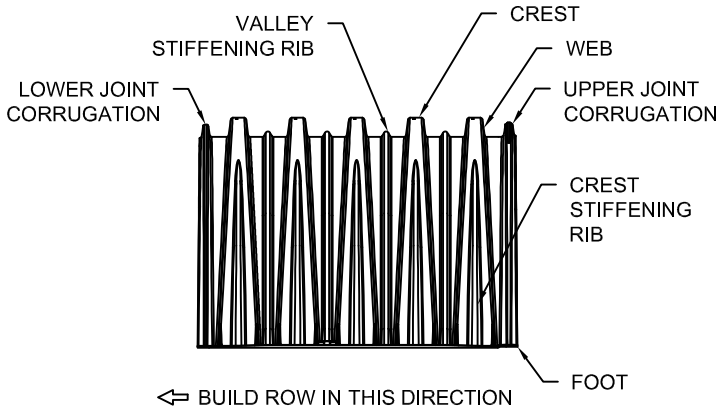
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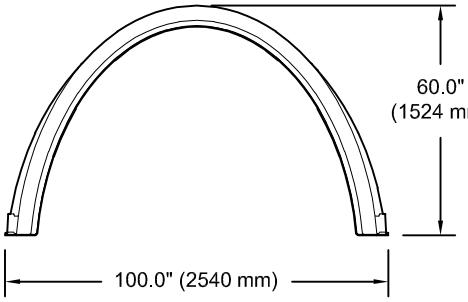
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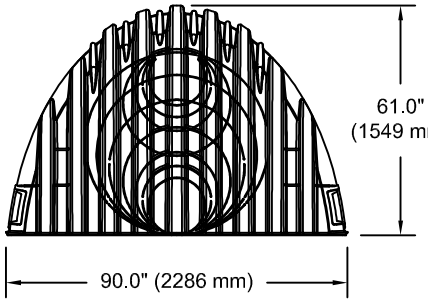
MC-7200 TECHNICAL SPECIFICATION

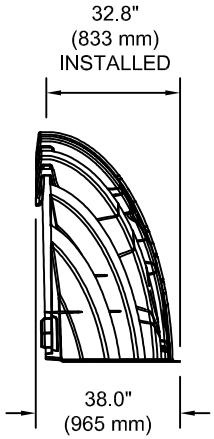
NTS











NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 79.1"	(2540 mm X 1524 mm X 2010 mm)
CHAMBER STORAGE	175.9 CUBIC FEET	(4.98 m³)
MINIMUM INSTALLED STORAGE*	267.3 CUBIC FEET	(7.56 m³)
WEIGHT (NOMINAL)	205 lbs.	(92.9 kg)

NOMINAL END CAP SPECIFICATIONS

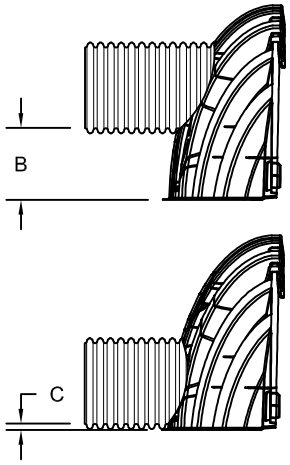
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

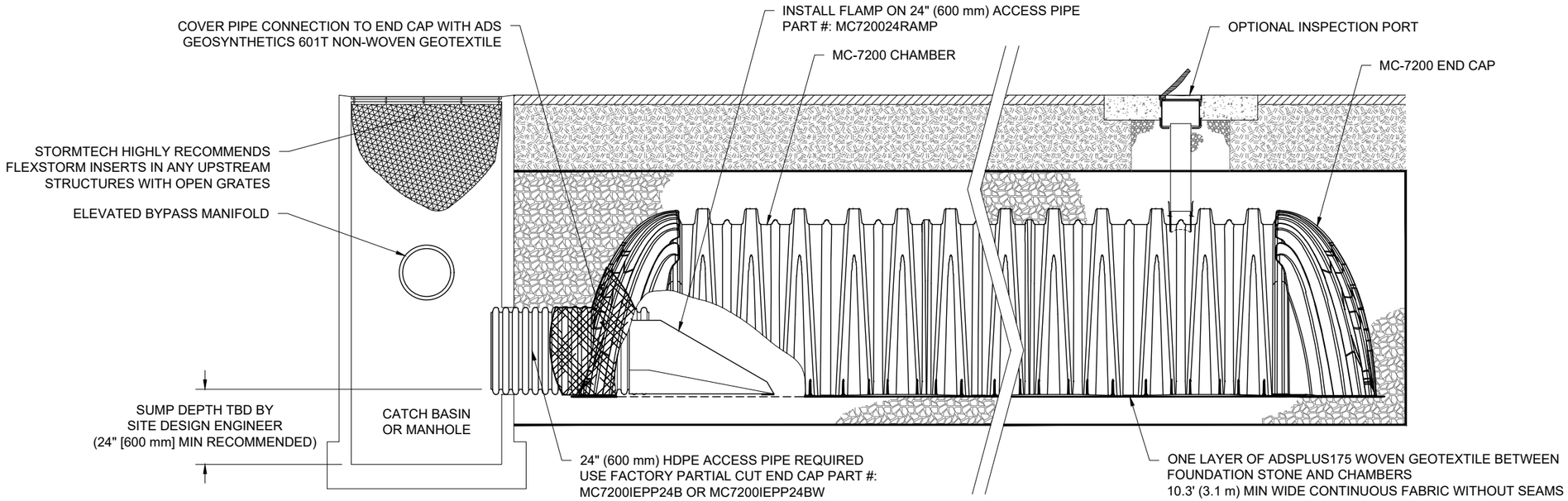
PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC7200IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC7200IEPP06B		---	0.86" (22 mm)
MC7200IEPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC7200IEPP08B		---	1.01" (26 mm)
MC7200IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC7200IEPP10B		---	1.33" (34 mm)
MC7200IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC7200IEPP12B		---	1.55" (39 mm)
MC7200IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC7200IEPP15B		---	1.70" (43 mm)
MC7200IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC7200IEPP18TW			
MC7200IEPP18B		---	1.97" (50 mm)
MC7200IEPP18BW			
MC7200IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC7200IEPP24TW			
MC7200IEPP24B		---	2.26" (57 mm)
MC7200IEPP24BW			
MC7200IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC7200IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC7200IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PREFABRICATED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-7200 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.



MC-7200 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

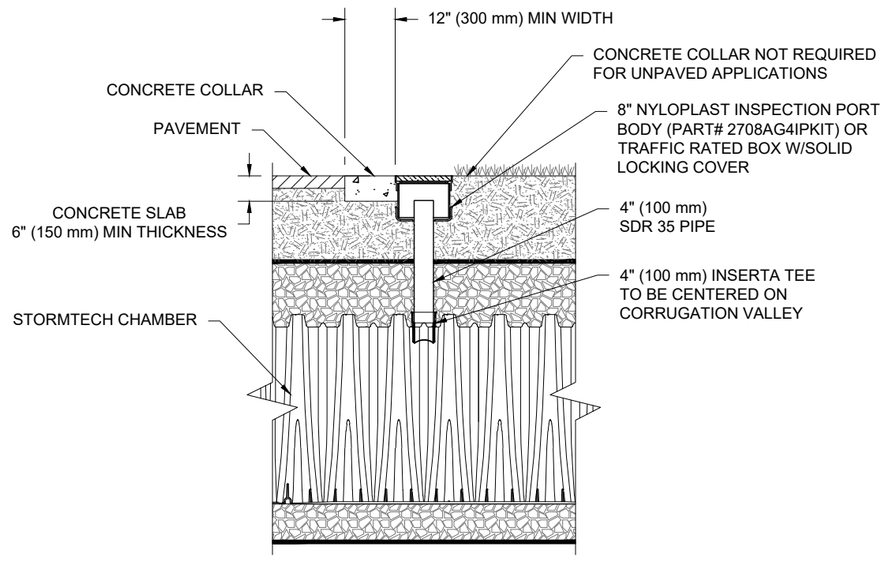
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

4" PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)
NTS

MC-7200
ISOLATOR ROW PLUS DETAILS
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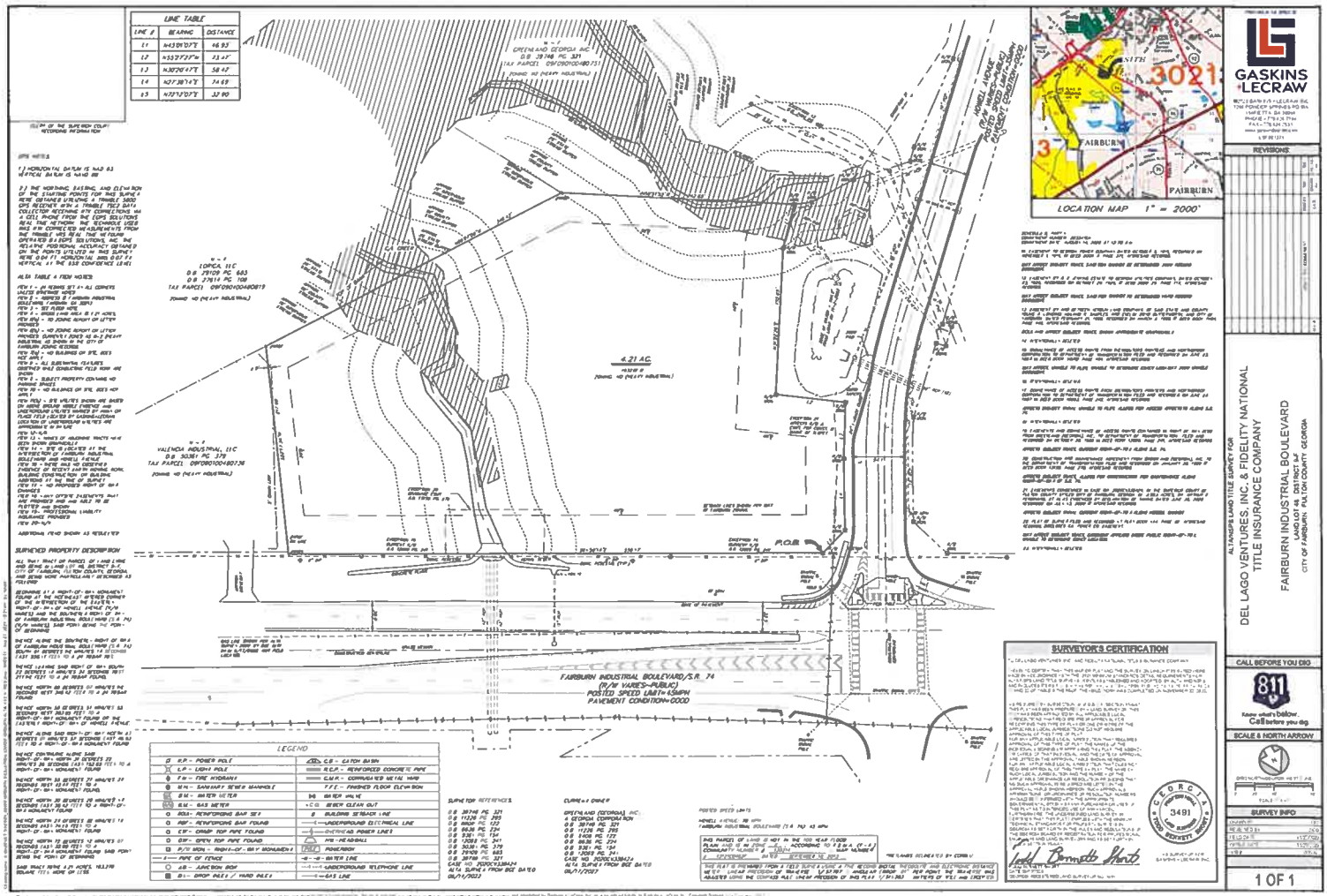
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ALTA Survey


LINE TABLE
LINE # | BEARING | DISTANCE
L1 | N43°01'07"E | 46.93
L2 | N55°27'27"W | 23.47
L3 | N38°26'47"E | 58.42
L4 | N27°38'14"E | 74.69
L5 | N73°13'07"E | 32.90
LOCATION MAP 1" = 2000'
FAIRBURN INDUSTRIAL BOULEVARD/S.R. 74
(R/W VARIES-PUBLIC)
POSTED SPEED LIMIT= 45MPH
PAVEMENT CONDITION=GOOD
4.21 AC.
P.O.B.
LEGEND
R.P. - POWER POLE
L.P. - LIGHT POLE
F.H. - FIRE HYDRANT
S.M. - SANITARY SEWER MANHOLE
W.M. - WATER METER
G.M. - GAS METER
C.O. - SEWER CLEAN OUT
B.S.L. - BUILDING SETBACK LINE
C.B. - CATCH BASIN
R.C.P. - REINFORCED CONCRETE PIPE
C.M.P. - CORRUGATED METAL PIPE
F.F.E. - FINISHED FLOOR ELEVATION
W.V. - WATER VALVE
R.B.F. - REINFORCING BAR FOUND
R.B.S. - REINFORCING BAR SET
C.T.V. - CRIMP TOP PIPE FOUND
C.T.S. - CRIMP TOP PIPE SET
P.O.B. - POINT OF BEGINNING
P.O.C. - POINT OF COMMENCEMENT
POB - POINT OF BEGINNING
POC - POINT OF COMMENCEMENT
P.T. - POINT OF TANGENCY
P.C. - POINT OF CURVATURE
P.R.C. - POINT OF REVERSE CURVATURE
P.C.C. - POINT OF COMPOUND CURVATURE
P.I. - POINT OF INTERSECTION
P.C.I. - POINT OF CURVATURE INTERSECTION
P.T.I. - POINT OF TANGENCY INTERSECTION
P.R.C.I. - POINT OF REVERSE CURVATURE INTERSECTION
P.C.C.I. - POINT OF COMPOUND CURVATURE INTERSECTION
P.O.B. - POINT OF BEGINNING
P.O.C. - POINT OF COMMENCEMENT
POWER POLE
LIGHT POLE
FIRE HYDRANT
SANITARY SEWER MANHOLE
WATER METER
GAS METER
SEWER CLEAN OUT
BUILDING SETBACK LINE
CATCH BASIN
REINFORCED CONCRETE PIPE
CORRUGATED METAL PIPE
FINISHED FLOOR ELEVATION
WATER VALVE
REINFORCING BAR SET
REINFORCING BAR FOUND
CRIMP TOP PIPE FOUND
CRIMP TOP PIPE SET
POINT OF BEGINNING
POINT OF COMMENCEMENT
POINT OF TANGENCY
POINT OF CURVATURE
POINT OF REVERSE CURVATURE
POINT OF COMPOUND CURVATURE
POINT OF INTERSECTION
POINT OF CURVATURE INTERSECTION
POINT OF TANGENCY INTERSECTION
POINT OF REVERSE CURVATURE INTERSECTION
POINT OF COMPOUND CURVATURE INTERSECTION
POINT OF BEGINNING
POINT OF COMMENCEMENT
OVERHEAD POWER LINES
UNDERGROUND ELECTRICAL LINE
UNDERGROUND POWER LINES
FENCE
WATER LINE
UNDERGROUND TELEPHONE LINE
GAS LINE
SURVEYOR'S CERTIFICATION
GASKINS LECRAW
REVISIONS
DEL LAGO VENTURES, INC. & FIDELITY NATIONAL TITLE INSURANCE COMPANY
FAIRBURN INDUSTRIAL BOULEVARD
LAND LOT 46, DISTRICT 1F
CITY OF FAIRBURN, FULTON COUNTY, GEORGIA
CALL BEFORE YOU DIG
811
Know what's below. Call before you dig.
SCALE & NORTH ARROW
SURVEY INFO
1 OF 1

Legal Description

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 48, DISTRICT 9-F, CITY OF FAIRBURN, FULTON COUNTY, GEORGIA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A RIGHT-OF-WAY MONUMENT FOUND AT THE NORTHEAST MITERED CORNER OF THE INTERSECTION OF THE EASTERLY RIGHT-OF-WAY OF HOWELL AVENUE (R/W VARIES) AND THE SOUTHERLY RIGHT OF WAY OF FAIRBURN INDUSTRIAL BOULEVARD (S.R. 74) (R/W VARIES), SAID POINT BEING THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY RIGHT OF WAY OF FAIRBURN INDUSTRIAL BOULEVARD (S.R. 74) SOUTH 61 DEGREES 50 MINUTES 14 SECONDS EAST 556.17 FEET TO A #4 REBAR SET;

THENCE LEAVING SAID RIGHT OF WAY SOUTH 23 DEGREES 02 MINUTES 19 SECONDS WEST 212.06 FEET TO A #4 REBAR SET;

THENCE NORTH 88 DEGREES 29 MINUTES 07 SECONDS WEST 351.90 FEET TO A #4 REBAR SET;

THENCE SOUTH 84 DEGREES 13 MINUTES 31 SECONDS WEST A DISTANCE OF 354.83 FEET TO A #4 REBAR SET;

THENCE NORTH 68 DEGREES 18 MINUTES 11 SECONDS WEST A DISTANCE OF 96.69 FEET TO A #4 REBAR SET;

THENCE SOUTH 45 DEGREES 23 MINUTES 34 SECONDS WEST A DISTANCE OF 211.56 FEET TO A #4 REBAR SET;

THENCE SOUTH 72 DEGREES 09 MINUTES 52 SECONDS WEST A DISTANCE OF 57.95 FEET TO #4 REBAR SET ON THE SOUTH EASTERLY RIGHT OF WAY OF HOWELL AVENUE;

THENCE ALONG SAID RIGHT OF WAY NORTH 45 DEGREES 23 MINUTES 23 SECONDS EAST A DISTANCE OF 251.84 FEET TO A #4 REBAR SET;

THENCE CONTINUING ALONG SAID RIGHT OF WAY NORTH 45 DEGREES 23 MINUTES 23 SECONDS EAST A DISTANCE OF 70.42 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 52 DEGREES 23 MINUTES 09 SECONDS EAST A DISTANCE OF 100.78 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 43 DEGREES 43 MINUTES 09 SECONDS EAST A DISTANCE OF 15.49 FEET TO A POINT;

THENCE SOUTH 80 DEGREES 00 MINUTES 54 SECONDS EAST A DISTANCE OF 61.26 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 89 DEGREES 52 MINUTES 08 SECONDS EAST A DISTANCE OF 48.94 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE SOUTH 68 DEGREES 33 MINUTES 17 SECONDS EAST A DISTANCE OF 18.70 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 43 DEGREES 01 MINUTES 07 SECONDS EAST 46.93 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 31 DEGREES 22 MINUTES 26 SECONDS EAST 152.65 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 55 DEGREES 27 MINUTES 27 SECONDS WEST 73.47 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 30 DEGREES 20 MINUTES 47 SECONDS EAST 58.42 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 27 DEGREES 38 MINUTES 14 SECONDS EAST 74.69 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 72 DEGREES 12 MINUTES 07 SECONDS EAST 32.90 FEET TO A RIGHT-OF-WAY MONUMENT FOUND, SAID POINT BEING THE POINT OF BEGINNING;

SAID TRACT BEING 5.30 ACRES, 230,999 SQUARE FEET, MORE OR LESS.

Warranty Deed

00131036

GEORGIA, Fulton County, Clerk's Office Superior Court
Filed & Recorded, DEC 11 1987 at 4:10 Barbara J. Price CLERK

GENERAL WARRANTY DEED

Fulton County, Georgia
Real Estate Transfer Tax
Paid $ 300.00
Date DEC 11 1987
Clerk, Superior Court
By Deputy Clerk

STATE OF GEORGIA

COUNTY OF FULTON

THIS INDENDURE, made as of this 10th day of December, 1987, between NORTHBROOK CORPORATION, a Georgia corporation, as party of the first part (hereinafter referred to as "Grantor"), and GREENLAND (GEORGIA), INC., a Georgia corporation, as party of the second part (hereinafter referred to as "Grantee").

W I T N E S S E T H:

That Grantor, for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00) and other good and valuable considerations, in hand paid at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey unto the Grantee, its successors, and assigns all that tract or parcel of land described in Exhibit "A" attached hereto and subject to those items described in Exhibit "B" attached hereto (the "Permitted Exceptions").

TO HAVE AND TO HOLD the said bargained premises, together with all and singular rights, members and appurtenances thereof, to the only proper use, benefit and behoof of Grantee forever IN FEE SIMPLE.

And Grantor will warrant and forever defend the right and title to the above described property unto Grantee against the lawful claims of all persons whomsoever, except for claims arising under the Permitted Exceptions.

IN WITNESS WHEREOF, Grantor has hereunto set its hand and affixed its seal the day and year first above written.

Signed, sealed and delivered in the presence of:

Charles O'Benedict
Unofficial Witness

Colleen S. Voulbrock
Notary Public

My commission expires:

[NOTARIAL SEAL]
Notary Public, Georgia, State at Large
My Commission Expires Feb. 20, 1989

N.P. SEAL

NORTHBROOK CORPORATION, a Georgia corporation

BY: Ralph L. Eskew
RALPH L. ESKEW, President

[AFFIX CORPORATE SEAL]

CORP. SEAL

10-T-164(A)

EXHIBIT "A"

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 48 of the 9-F District of Fulton County, Georgia and being more particularly described as follows:

BEGINNING at a point on the southwesterly right-of-way of Georgia State Highway No. 74 (a 100-ft. right-of-way), which point is located 582.9 feet northwesterly from the intersection of the southwesterly side of Georgia State Highway No. 74 and the line dividing Land Lots 47 and 48; running thence south 24 degrees 11 minutes 13 seconds west 293.48 feet to a point; running thence north 87 degrees 32 minutes 52 seconds west 351.9 feet to a point; running thence south 28 degrees 57 minutes 58 seconds east 623.1 feet to a point located on the line dividing Land Lots 31 and 48; running thence north 88 degrees 27 minutes 13 seconds west along said land lot line 669.2 feet to an iron pin found; running thence north 50 degrees 28 minutes west 536.2 feet to a point; running thence north 46 degrees 15 minutes 10 seconds east 1038.52 feet to a point located on the southwesterly right-of-way of said Georgia State Highway No. 74; running thence south 60 degrees 54 minutes 48 seconds east along said right-of-way 575.28 feet to a point and the POINT OF BEGINNING, said property consisting of 16.97 acres as depicted on Plat for Greenland (Georgia), Inc., dated October 22, 1987 by Steed & Boyd Land Surveyors.

RE

00131036

EXHIBIT "B"

PERMITTED EXCEPTIONS

1. Express Easement dated December 23, 1986, by Northbrook Corporation, to William D. Reeves and David W. Porter filed and recorded January 16, 1987, in Deed Book 10576, Page 090, aforesaid Records, for purposes of constructing a sewer line to connect onto County sanitary sewer system, said easement to be 30-feet in width through the period of construction, and upon completion, said easement will be 10-feet width.

2. Right-of-way dated December 30, 1975, from Verdun Land Company, Nominee to Fulton County, recorded on January 8, 1976, in Deed Book 6408, Pages 122 through 127, inclusive, aforesaid Records.

3. Matters disclosed on Plat of Survey for Greenland (Georgia), Inc., delineated by Steed & Boyd Land Surveyors, dated October 22, 1987, discloses the following:

   (a) a sewer line with manholes crossing the caption property;

   (b) a 20-foot sanitary sewer easement entering caption from the northwesterly boundary thereof connecting to aforesaid sewer line in (a) hereof;

   (c) Informational Note on said plat reveals that this plat was taken from a survey of December 6, 1985, revised December 5, 1986. According to Surveyor's Report, Joseph W. Steed, Jr., certifies that a careful inspection was again performed on December 5, 1986, and said Surveyor states that no encroachments are evident; and that a "Lake was on the site at one time, but has been drained"; and a sanitary sewer as shown on plat. Exception is taken to any other facts which should be certified by an up-to-date Surveyor's Report subsequent to December 5, 1986.

RLG

BOOK 11226 PAGE 297

Letter of Intent

211 Perimeter Center Parkway NE, Suite 425
Atlanta, GA 30346
678.695.6800

February 26, 2025

Chancellor Felton
City of Fairburn
Department of Planning and Zoning
314 NW Broad Street
Fairburn, GA 30213

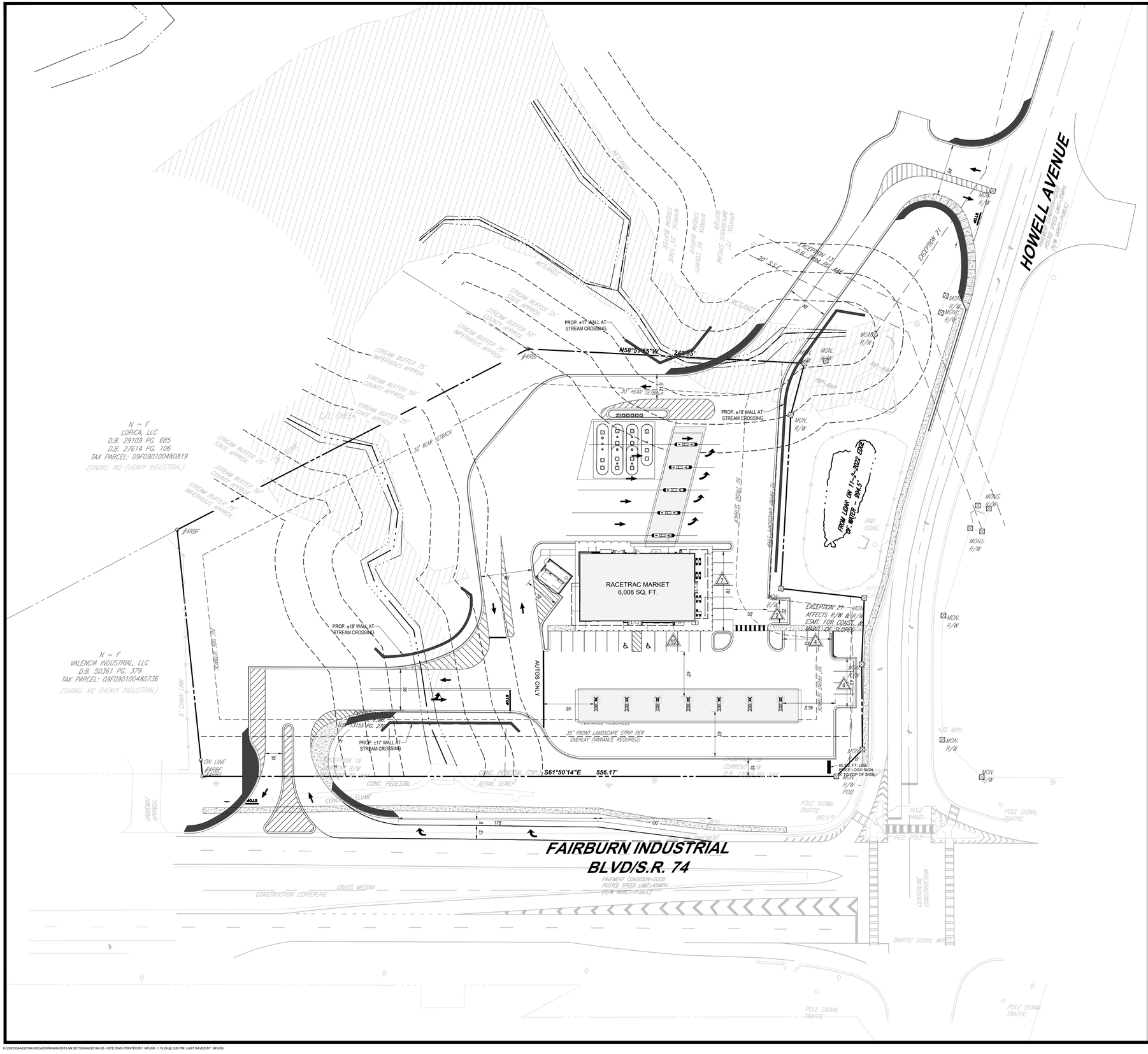
RE: Letter of Intent
RaceTrac, Inc.
Fairburn Industrial Blvd & Howell Ave
Fairburn, GA
BE #GAA220184.00

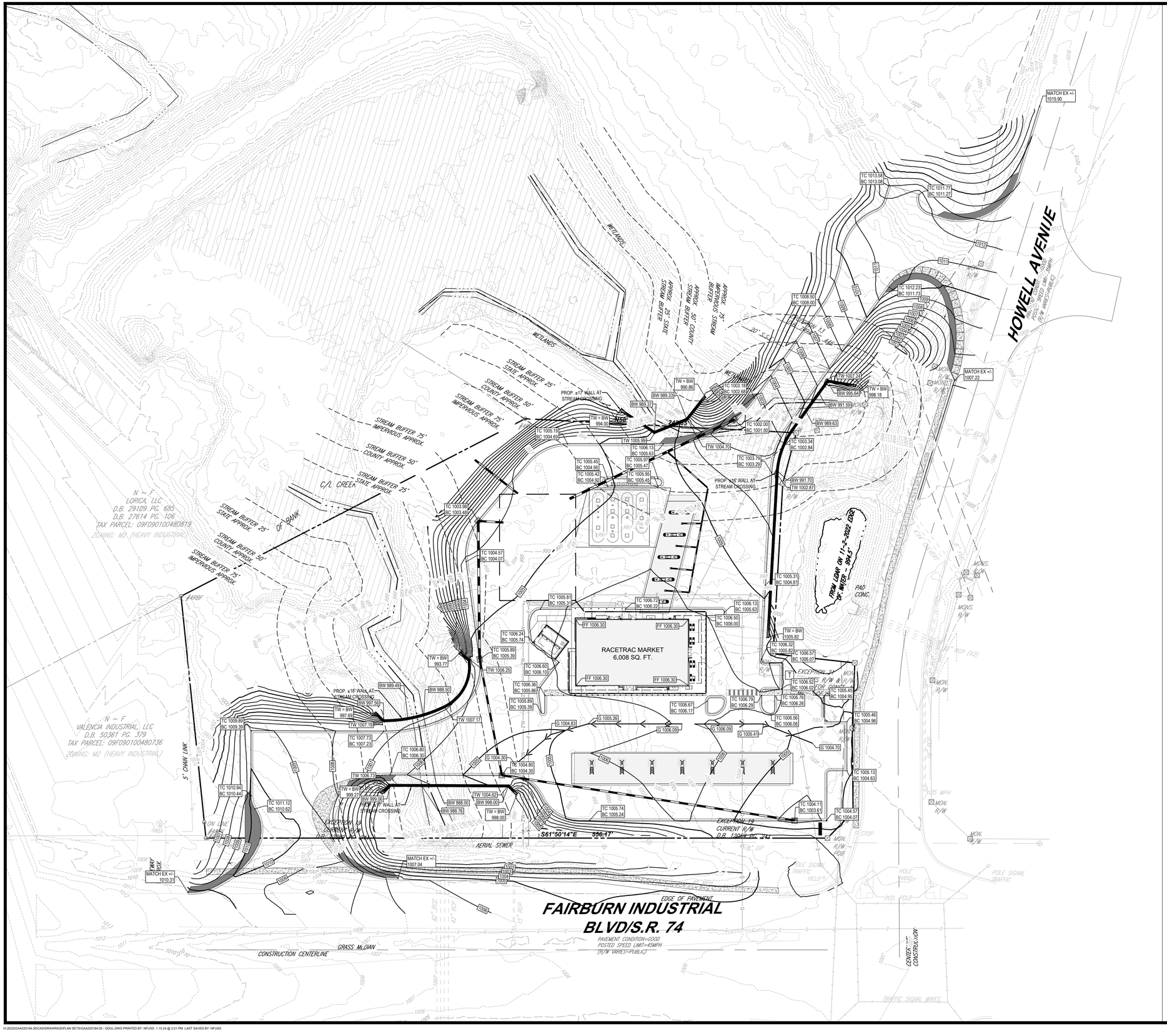
It is the intent of Bohler, LLC on behalf of RaceTrac, Inc., to develop a site encompassing ±13.91 acres located at the southeast parcel at the intersection of Fairburn Industrial Blvd and Howell Ave in Fairburn, GA. The project proposes the construction of one ±6,008 SF gas station convenient store with seven gasoline fuel pumps and five diesel pumps. Other site improvements include new pavement markings, parking, limited sidewalks, landscaping, utilities, and stormwater management.

Should you have any questions or require additional information, please do not hesitate to contact this office at (678) 695-6800.

Sincerely,
BOHLER ENGINEERING GA, LLC

Nathan Fuss, PE


HOWELL AVENUE
FAIRBURN INDUSTRIAL BLVD/S.R. 74
RACETRAC MARKET
6,008 SQ. FT.
PROP. ±17' WALL AT STREAM CROSSING
PROP. ±16' WALL AT STREAM CROSSING
PROP. ±18' WALL AT STREAM CROSSING
PROP. ±17' WALL AT STREAM CROSSING
N58°51'55"W 249.05'
S61°50'14"E 556.17'
30' REAR SETBACK
20' S.S.E.
EXCEPTION 1,3 D.B. 1804, PG. 446
EXCEPTION 21
EXCEPTION 19 D.B. 13155, PG. 270
EXCEPTION 21 AFFECTS R/W & ESMT. FOR CONST. & MAINT. OF SLOPES
FROM LDMP ON 11-2-2022 GDS
N ~ F
LORICA, LLC
D.B. 29109 PG. 685
D.B. 27614 PG. 106
TAX PARCEL: 09F090100480819
ZONING: M2 (HEAVY INDUSTRIAL)
N ~ F
VALENCIA INDUSTRIAL, LLC
D.B. 50361 PG. 379
TAX PARCEL: 09F090100480736
ZONING: M2 (HEAVY INDUSTRIAL)
WETLANDS
STREAM BUFFER 25' STATE APPROX.
STREAM BUFFER 50' COUNTY APPROX.
STREAM BUFFER 75' IMPERVIOUS APPROX.
CL CREEK
5' CHAIN LINK
ZABBIS 30"
AUTOS ONLY
ON LINE #4RBF
#4RBF
#4RBF
CONC. PEDESTAL (TYP.)
AERIAL SEWER
CONC. FLUME
DRIVEWAY APPROX.
POLE SIGNAL TRAFFIC
HOLE YARD
PED. POLE
PAD CONC.
MON. R/W
MONS. R/W
35 MPH
65 SQ. FT. LED PRICE LOGO SIGN ON TOP OF SIGN
MON. R/W POST
CONSTRUCTION CENTERLINE
GRASS MEDIAN
PAVEMENT CONDITION=GOOD
POSTED SPEED LIMIT=45MPH
(R/W VARIES-PUBLIC)
TRAFFIC SIGNAL WIRE
CENTERLINE CONSTRUCTION
PAVEMENT
100'
175'
5'
12'
15'
45'
57'
59'
65'
70'
80'
90'
40'
30'
35'
25'
10'
5.59'
5.59'
5.59



GRADING LEGEND

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
120 / 125	CONTOUR LINE	120 / 125
TC 516.00 BC 515.55 OR 384	SPOT ELEVATIONS	TC 516.00 BC 515.55
SAN #	SANITARY LABEL	SANI #
STM #	STORM LABEL	STM #
	STORM SEWER	
D	STORM MANHOLE	D
	TYPICAL END SECTION	
	HEADWALL OR ENDWALL	
	YARD INLET	
	CURB INLET	
	MONITORING WELL	
	BORING	
	BENCHMARK	
	TEST PIT	

GENERAL GRADING NOTES

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AS REFERENCED IN THIS PLAN SET. IF NO GEOTECHNICAL REPORT HAS BEEN REFERENCED, THE CONTRACTOR MUST HAVE A GEOTECHNICAL ENGINEER PROVIDE WRITTEN SPECIFICATIONS AND RECOMMENDATIONS PRIOR TO THE CONTRACTOR COMMENCING THE GRADING WORK. THE CONTRACTOR MUST FOLLOW THE REQUIREMENTS OF ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS, WHICH HAVE JURISDICTION OVER THIS PROJECT.
3. THE CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS AND APPROVALS FOR ALL OFF-SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. THE CONTRACTOR MUST SUPPLY A COPY OF APPROVALS TO THE ENGINEER OF RECORD AND THE OWNER PRIOR TO THE CONTRACTOR COMMENCING ANY WORK.
4. THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFYING EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION. SHOULD DISCREPANCIES BETWEEN THE PLANS AND INFORMATION OBTAINED THROUGH FIELD VERIFICATIONS BE IDENTIFIED OR EXIST, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING.
5. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ALL UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. THE CONTRACTOR MUST COMPACT ALL EXCAVATED OR FILLED AREAS IN STRICT ACCORDANCE WITH THE GEOTECHNICAL REPORT'S GUIDANCE. MOISTURE CONTENT AT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED. THIS REPORT MUST VERIFY THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS. RULES, STATUTES, LAWS, ORDINANCES AND CODES WHICH ARE IN EFFECT AND WHICH ARE APPLICABLE TO THE PROJECT. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/DEVELOPER, OR OWNER/DEVELOPER'S REPRESENTATIVE, SUBBASE MUST BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL, COMPACTED AS THE GEOTECHNICAL REPORT DIRECTS. EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILL, AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY AMENDMENTS OR REVISIONS THERETO.
6. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT TOPS MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED FINISHED GRADES WITH NO TRIPPING OR SAFETY HAZARD IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.
7. IN THE EVENT OF A DISCREPANCY(IES) AND/OR A CONFLICT(S) BETWEEN PLANS, OR RELATIVE TO OTHER PLANS, THE GRADING PLAN TAKES PRECEDENCE AND CONTROLS. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY DISCREPANCY(IES) AND/OR CONFLICT(S).
8. THE CONTRACTOR IS RESPONSIBLE TO IMPORT FILL OR EXPORT EXCESS MATERIAL AS NECESSARY TO CONFORM TO THE PROPOSED GRADING, AND TO BACKFILL EXCAVATIONS FOR THE INSTALLATION OF UNDERGROUND IMPROVEMENTS.

BOHLER
211 PERIMETER CENTER PKWY NE.
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

NO.	REVISION	BY	DATE

THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS. ANY USE OF SAME WITHOUT THE EXPRESSED WRITTEN PERMISSION OF RACETRAC PETROLEUM, INC. IS PROHIBITED.

RaceTrac

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

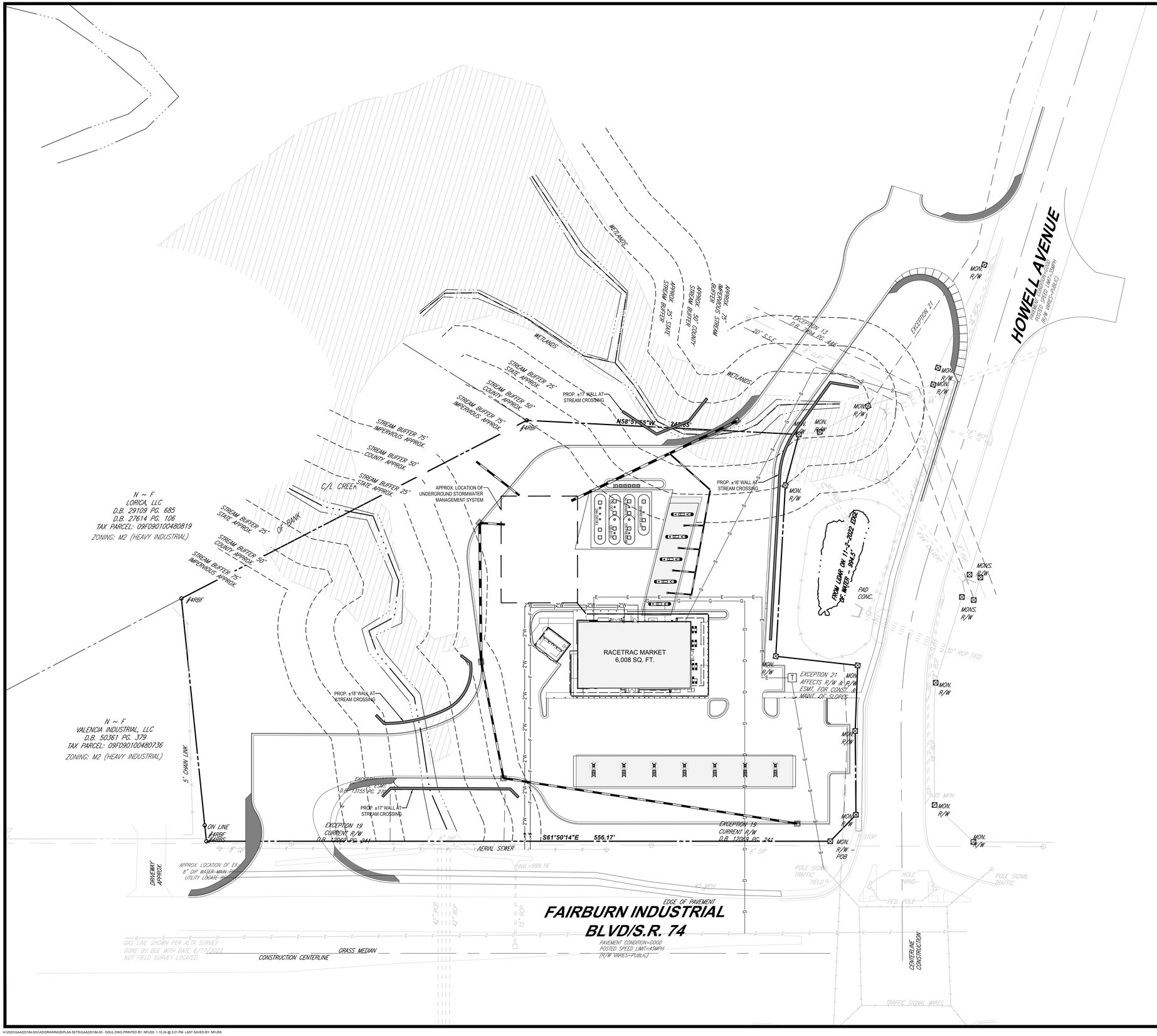
GRADING PLAN

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	01/10/2024
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C4	
SHEET NO.	REVISION

40 20 10 0 40
1"= 40'



UTILITY LEGEND

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
SAN #	SANITARY LABEL	SAN #
STM #	STORM LABEL	STM #
SL	SANITARY SEWER LATERAL	SL
W	UNDERGROUND WATER LINE	W
E	UNDERGROUND ELECTRIC LINE	E
G	UNDERGROUND GAS LINE	G
OH	OVERHEAD WIRE	OH
T	UNDERGROUND TELEPHONE LINE	T
C	UNDERGROUND CABLE LINE	C
	STORM SEWER	
S	SANITARY SEWER MAIN	S
	HYDRANT	
S	SANITARY MANHOLE	S
D	STORM MANHOLE	D
WM	WATER METER	
WV	WATER VALVE	
	GAS VALVE	
	GAS METER	
	TYPICAL END SECTION	
	HEADWALL OR ENDWALL	
	YARD INLET	
	CURB INLET	
	CLEAN OUT	
E	ELECTRIC MANHOLE	E
T	TELEPHONE MANHOLE	T
EB	ELECTRIC BOX	EB
EP	ELECTRIC PEDESTAL	EP
	MONITORING WELL	
	TEST PIT	

NO.	REVISION	BY	DATE

BOHLER
211 PERIMETER CENTER PKWY NE,
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

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RaceTrac

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

UTILITY PLAN

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	01/10/2024
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C8	
SHEET NO.	REVISION



CLERK OF THE SUPERIOR COURT
RECORDING INFORMATION

LEGEND

P.P.– POWER POLE	C.B.– CATCH BASIN
L.P.– LIGHT POLE	R.C.P.– REINFORCED CONCRETE PIPE
F.H.– FIRE HYDRANT	C.M.P.– CORRUGATED METAL PIPE
M.H.– SANITARY SEWER MANHOLE	F.F.E.– FINISHED FLOOR ELEVATION
W.M.– WATER METER	WATER VALVE
G.M.– GAS METER	C.O. SEWER CLEAN OUT
RBS– REINFORCING BAR SET	BUILDING SETBACK LINE
RBF– REINFORCING BAR FOUND	–––E––– UNDERGROUND ELECTRICAL LINE
CTF– CRIMP TOP PIPE FOUND	OVERHEAD POWER LINES
OTF– OPEN TOP PIPE FOUND	HW.–HEADWALL
R/W MON.– RIGHT–OF–WAY MONUMENT	PBX POWERBOX
TYPE OF FENCE	–W– –W– WATER LINE
J.B.– JUNCTION BOX	–––T––– UNDERGROUND TELEPHONE LINE
D.I.– DROP INLET / YARD INLET	–––G––– GAS LINE

GPS NOTES:

1.) HORIZONTAL DATUM IS NAD 83.
VERTICAL DATUM IS NAVD 88.

2.) THE NORTHING, EASTING, AND ELEVATION OF THE STARTING POINTS FOR THIS SURVEY WERE OBTAINED UTILIZING A TRIMBLE 5800 GPS RECEIVER WITH A TRIMBLE TSC2 DATA COLLECTOR RECEIVING RTK CORRECTIONS VIA A CELL PHONE FROM THE EGPS SOLUTIONS REAL TIME NETWORK. THE TECHNIQUE USED WAS RTK CORRECTED MEASUREMENTS FROM THE TRIMBLE VRS REAL TIME NETWORK OPERATED BY EGPS SOLUTIONS, INC. THE RELATIVE POSITIONAL ACCURACY OBTAINED ON THE POINTS UTILIZED IN THIS SURVEY WERE 0.04 FT. HORIZONTAL AND 0.07 FT. VERTICAL AT THE 95% CONFIDENCE LEVEL.

SURVEYOR REFERENCES:

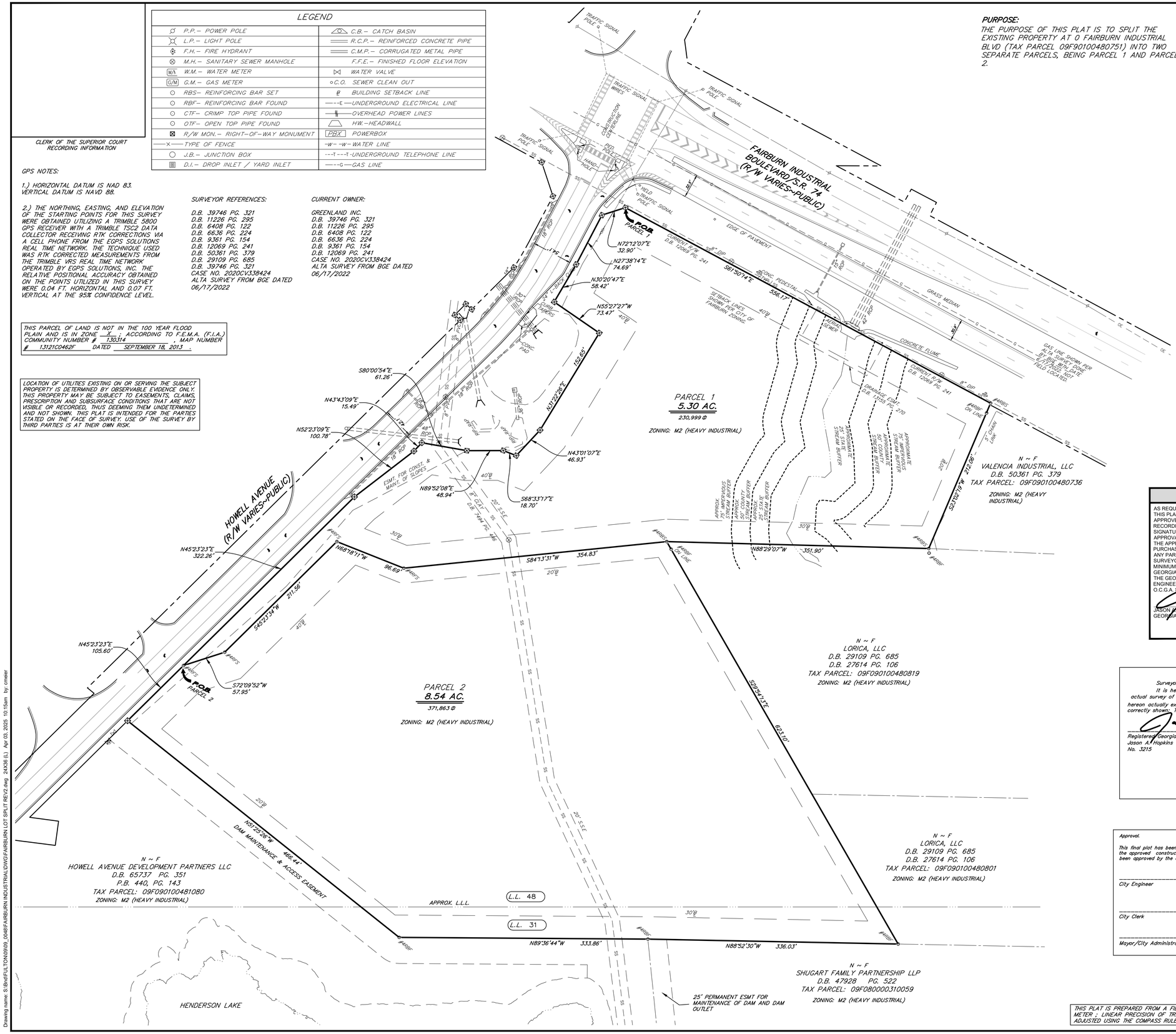
D.B. 39746 PG. 321
D.B. 11226 PG. 295
D.B. 6408 PG. 122
D.B. 6636 PG. 224
D.B. 9361 PG. 154
D.B. 12069 PG. 241
D.B. 50361 PG. 379
D.B. 29109 PG. 685
D.B. 39746 PG. 321
CASE NO. 2020CV338424
ALTA SURVEY FROM BGE DATED 06/17/2022

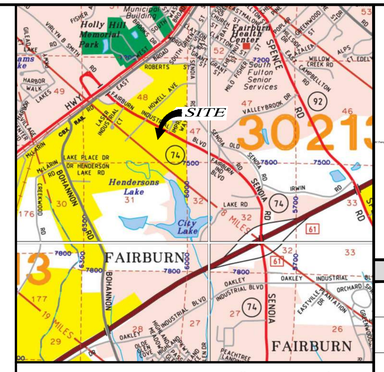
CURRENT OWNER:

GREENLAND INC.
D.B. 39746 PG. 321
D.B. 11226 PG. 295
D.B. 6408 PG. 122
D.B. 6636 PG. 224
D.B. 9361 PG. 154
D.B. 12069 PG. 241
CASE NO. 2020CV338424
ALTA SURVEY FROM BGE DATED 06/17/2022

THIS PARCEL OF LAND IS NOT IN THE 100 YEAR FLOOD PLAIN AND IS IN ZONE X , ACCORDING TO F.E.M.A. (F.I.A.) COMMUNITY NUMBER # 130314 , MAP NUMBER # 13121C0462F DATED SEPTEMBER 18, 2013 .

LOCATION OF UTILITIES EXISTING ON OR SERVING THE SUBJECT PROPERTY IS DETERMINED BY OBSERVABLE EVIDENCE ONLY. THIS PROPERTY MAY BE SUBJECT TO EASEMENTS, CLAIMS, PRESCRIPTION AND SUBSURFACE CONDITIONS THAT ARE NOT VISIBLE OR RECORDED, THUS DEEMING THEM UNDETERMINED AND NOT SHOWN. THIS PLAT IS INTENDED FOR THE PARTIES STATED ON THE FACE OF SURVEY. USE OF THE SURVEY BY THIRD PARTIES IS AT THEIR OWN RISK.





LOCATION MAP 1" = 2000'

PURPOSE:
THE PURPOSE OF THIS PLAT IS TO SPLIT THE EXISTING PROPERTY AT 0 FAIRBURN INDUSTRIAL BLVD (TAX PARCEL 09F90100480751) INTO TWO SEPARATE PARCELS, BEING PARCEL 1 AND PARCEL 2.

OWNER:
GREENLAND GEORGIA INC.
4020 CHIARRWOOD TRCE
MARIETTA, GA 30062

DEVELOPER:
RACETRAC
200 GALLERIA PKWY SE
SUITE 900
ATLANTA, GEORGIA 30339

SURVEYOR'S CERTIFICATION

AS REQUIRED BY SUBSECTION (d) OF O.G.C.A. SECTION 15-6-67, THIS PLAT HAS BEEN PREPARED BY A LAND SURVEYOR AND APPROVED BY ALL APPLICABLE LOCAL JURISDICTIONS FOR RECORDING AS EVIDENCED BY APPROVAL CERTIFICATES, SIGNATURES, STAMPS, OR STATEMENTS HEREON. SUCH APPROVALS OR AFFIRMATIONS SHOULD BE CONFIRMED WITH THE APPROPRIATE GOVERNMENTAL BODIES BY ANY PURCHASER OR USER OF THIS PLAT AS TO INTENDED USE OF ANY PARCEL. FURTHERMORE, THE UNDERSIGNED LAND SURVEYOR CERTIFIES THAT THIS PLAT COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN THE RULES AND REGULATIONS OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN O.C.G.A. SECTION 15-6-67.

GEORGIA REGISTERED 3215 LAND SURVEYOR JASON A. HOPKINS

JASON A. HOPKINS — DATE: 4–2–25
GEORGIA REGISTERED LAND SURVEYOR NO. 3215

AS SURVEYOR FOR GASKINS + LECRAW, INC.

Surveyor.
It is hereby certified that this plat is true and correct and was prepared from an actual survey of the property made by me or under my supervision; that all monuments shown hereon actually exist or are marked as "future" and their location, size, type, and material are correctly shown. This plat conforms to all requirements of the Georgia Plat Act. By:

Registered Georgia Land Surveyor Jason A. Hopkins No. 3215 — *Date* 4–2–25

GEORGIA PROFESSIONAL 3215 LAND SURVEYOR JASON A. HOPKINS

Approval.
This final plat has been prepared in accordance with the approved concept plat, the approved preliminary plat, the approved construction plans, and the other development codes and ordinances of the city, and has been approved by the city for recording in the Office of the Clerk of the Superior Court of Fulton County.

City Engineer — Date

City Clerk — Date

Mayor/City Administrator — Date

THIS PLAT IS PREPARED FROM A FIELD SURVEY USING A FIVE SECOND DIGITAL THEODOLITE AND ELECTRONIC DISTANCE METER ; LINEAR PRECISION OF TRAVERSE : 1/ 57,867 ; ANGULAR ERROR: 01" PER POINT. THE TRAVERSE WAS ADJUSTED USING THE COMPASS RULE. LINEAR PRECISION OF THIS PLAT: 1/ 511,203 . MATTERS OF TITLE ARE EXCEPTED.

PREPARED IN THE OFFICE OF:
GASKINS + LECRAW

© 2025 GASKINS + LECRAW, INC.

1266 POWDER SPRINGS RD SW
MARIETTA, GA 30064
PHONE - 770.424.7168
FAX - 770.424.7593
www.gaskinslecraw.com
LSF001371

REVISIONS:

REV #	DATE	DRAWN BY:	CHECKED BY:
2	4/2/2025	CAM	JAH
1	3/12/2025	CAM	JAH

1 REVISED LOT SPLIT LINES
2 MODIFIED BEARING AND DISTANCE LABELS TO INCREASE LEGIBILITY

LOT SPLIT SURVEY FOR:
RACETRAC

FAIRBURN INDUSTRIAL BOULEVARD

LAND LOTS 31 & 48, DISTRICT 9-F,
CITY OF FAIRBURN, FULTON COUNTY, GEORGIA

CALL BEFORE YOU DIG
811
Know what's below. Call before you dig.

SCALE & NORTH ARROW:
N
GRID NORTH - GA WEST ZONE
0' 30' 60' 120'
SCALE: 1" = 60'

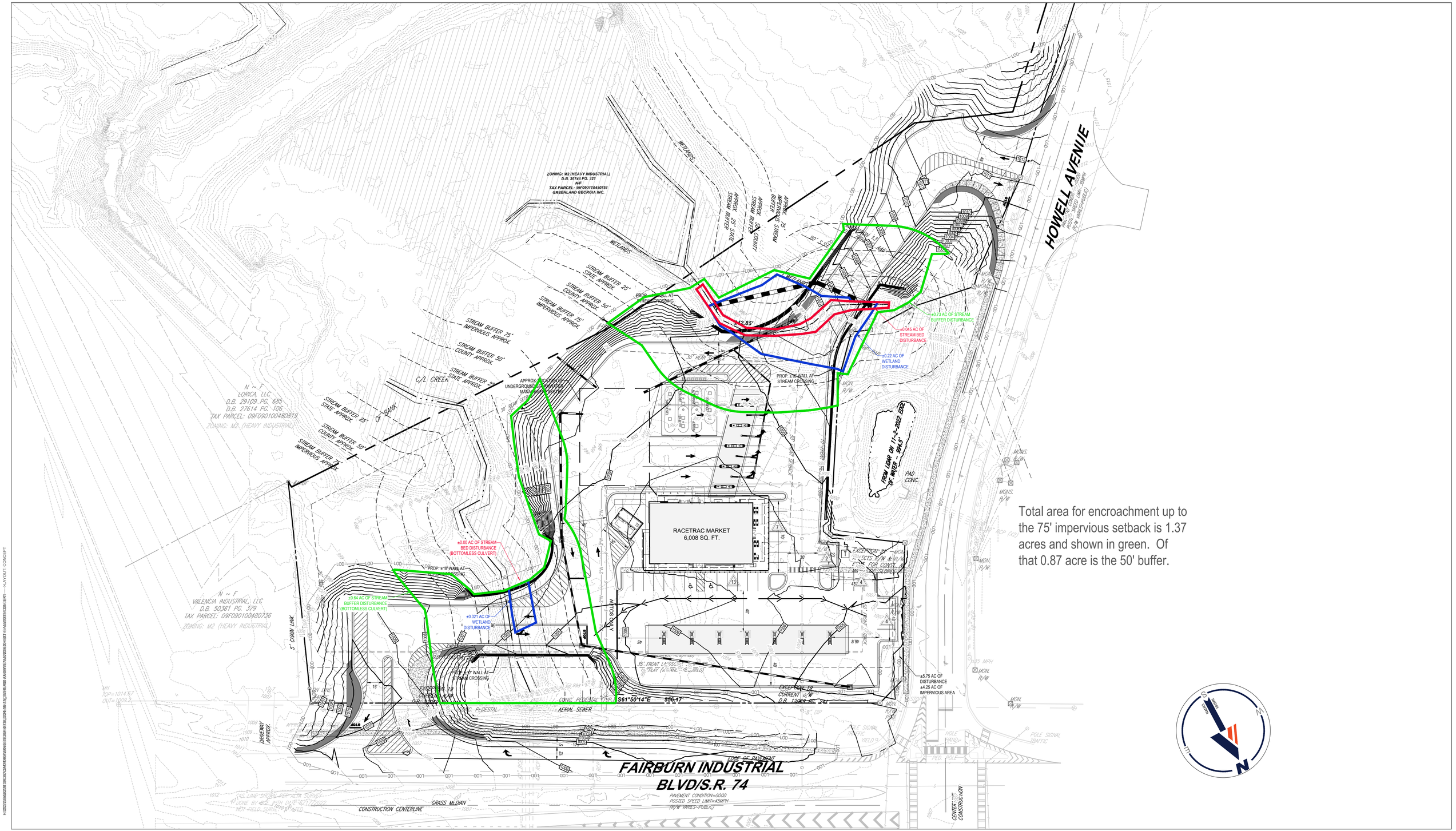
SURVEY INFO:

DRAWN BY:	TBS/JAH
REVIEWED BY:	DCO/JAH
FIELD DATE:	6-6-23
OFFICE DATE:	6-13-23
JOB #:	005060

1 OF 1

Drawing name: S:\Bnd\FULTON\09\09_004\6\FAIRBURN INDUSTRIAL\DWG\FAIRBURN LOT SPLIT REV2.dwg 24X36 (L) Apr 03, 2025 10:15am by: cmeier

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Total area for encroachment up to the 75' impervious setback is 1.37 acres and shown in green. Of that 0.87 acre is the 50' buffer.

BOHLER

211 PERIMETER CENTER PKWY NE,
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

RACETRAC FAIRBURN WETLANDS & STREAM IMPACTS EXHIBIT

HWY 74 & HOWELL AVE, FAIRBURN, GA 30213

05/05/2025 | NF | GAA220184.00 | Rev.0

40 20 10 0 40
1"= 40'

PLANT SCHEDULE

Symbol	Qty	Botanical Name	Common Name	Scheduled Size	Remarks
		Trees			
	6	Acer rubrum 'October Glory'	October Glory Red Maple	4" Cal; 12' Hgt	Single straight leader
	12	Lagerstroemia indica x faueri 'Sioux'	Sioux Crepe Myrtle	8' Hgt	Multi-trunked, 3 canes min, 3/4" per cane
	16	Quercus shumardii	Shumard Oak	4" Cal; 12' Hgt	Single straight leader
	27	Taxodium distichum	Bald Cypress	5" Cal; 14' Hgt	Single straight leader
	17	Ulmus americana 'Princeton'	Princeton Elm	5" Cal; 14' Hgt	
		Shrubs			
	37	Ilex cornuta 'Needlepoint'	Needlepoint Holly	3 Gal	
		Groundcovers			
	67	Liriope muscari 'Big Blue'	Big Blue Liriope	1 Gal	Plant 18" OC
		Other			

LANDSCAPE REQUIREMENTS

A. SITE DENSITY

REQUIRED

Canopy trees: 2.5" Cal
Understory trees: 1.5" Cal

1. 20 tree density units (TDUs) per acre; or one unit per 2,000 SF of impervious area
   - 5.30 acres x 20 TDUs = 106.0 TDUs required
   - or 121,793 SF / 2,000 SF x 1 tree = 60.9 TDUs required
   - 50% of replacement trees shall be canopy trees = 39 canopy trees required

PROVIDED

	QTY	TREE	SIZE	UNITS		TOTAL	CANOPY TREES	PARKING LOT
1.	6	RED MAPLE	4"	0.7	=	4.2	6	6
	12	CREPE MYRTLE	8' HGT	0.5	=	6.0		
	16	SHUMARD OAK	4"	0.7	=	11.2	16	16
	27	BALD CYPRESS	5"	0.9	=	24.3	27	5
	17	PRINCETON ELM	5"	0.9	=	15.3	17	17
	78	TOTAL UNITS			=	61.0	TDUs provided	
					=	66.0	canopy trees provided	

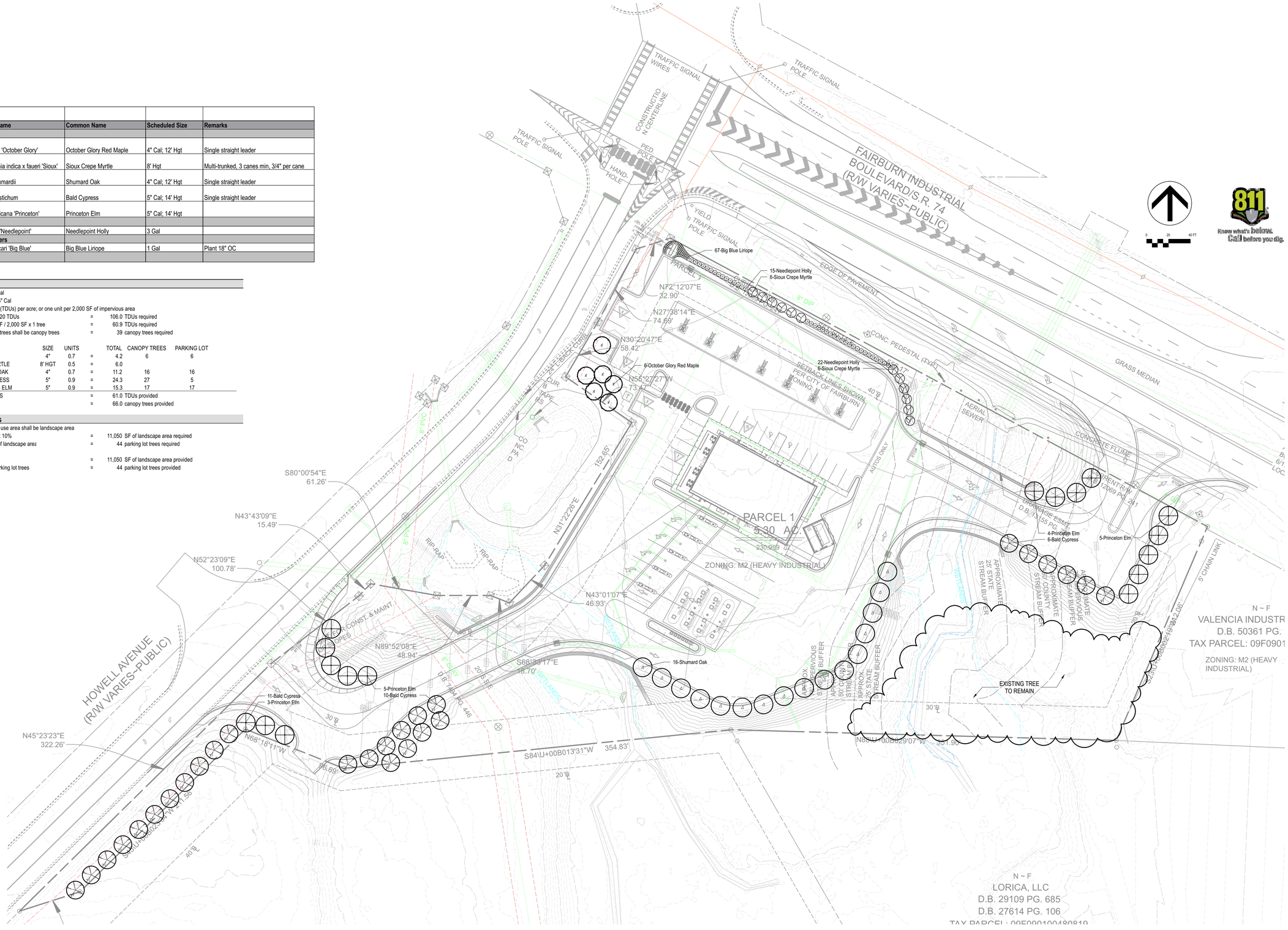
B. VEHICULAR USE AREA LANDSCAPING

REQUIRED

1. 10% of the vehicular use area shall be landscape area
   - 110,500 SF x 10% = 11,050 SF of landscape area required
2. (1) tree per 250 SF of landscape area = 44 parking lot trees required

PROVIDED

1. Landscape area = 11,050 SF of landscape area provided
2. See Section A for parking lot trees = 44 parking lot trees provided



MLD STUDIO
Landscape Architecture
51 old canton street
alpharetta, ga 30009
770.442.8171

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BLVD.
ATLANTA, GEORGIA 30339
(770) 431-7600

LAND LOTS 31 & 48, DISTRICT 9-F
CITY OF FAIRBURN, FULTON COUNTY, GA

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

MLD PROJECT #	2023181
DRAWN BY	KCN
CHECKED BY	ADN
DATE	6/24/25

Landscape Plan

L-1.1

PERMIT

PLANT SCHEDULE

Symbol	Qty	Botanical Name	Common Name	Scheduled Size	Remarks
		Trees			
	6	Acer rubrum 'October Glory'	October Glory Red Maple	4" Cal; 12' Hgt	Single straight leader
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		Other			

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PROVIDED

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1.	6	RED MAPLE	4"	0.7	=	4.2	6	6
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	16	SHUMARD OAK	4"	0.7	=	11.2	16	16
	27	BALD CYPRESS	5"	0.9	=	24.3	27	5
	17	PRINCETON ELM	5"	0.9	=	15.3	17	17
	78	TOTAL UNITS			=	61.0	TDUs provided	
					=	66	canopy trees provided	

B. VEHICULAR USE AREA LANDSCAPING

REQUIRED
1. 10% of the vehicular use area shall be landscape area
   - 110,500 SF x 10% = 11,050 SF of landscape area required
2. (1) tree per 250 SF of landscape area = 44 parking lot trees required

PROVIDED
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2. See Section A for parking lot trees = 44 parking lot trees provided



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(770) 431-7600

LAND LOTS 31 & 48, DISTRICT 9-F
CITY OF FAIRBURN, FULTON COUNTY, GA

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

MLD PROJECT #	2023181
DRAWN BY	KCN
CHECKED BY	ADN
DATE	6/24/25

Rendering

PERMIT

L-1.0

SCHEMATIC DESIGN PLANS

FOR

RaceTrac

LOCATION OF SITE:

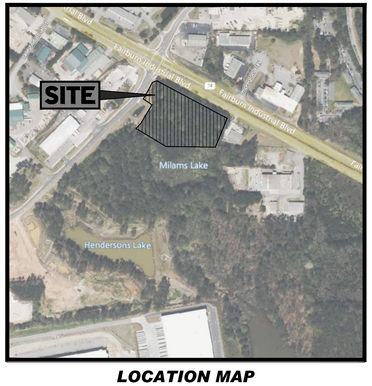
RACETRACK FAIRBURN TRAVEL CENTER

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

PARCEL ID: 09F090100480751

ZONING: M-2 (HEAVY INDUSTRIAL)



LOCATION MAP

SCALE: 1" = 500'

PLAN REFERENCE: BING MAPS

OWNER

GREENLAND GEORGIA INC
4020 CHARWOOD TRCE
MARIETTA, GA 30062-6046

DEVELOPER

RACETRAC, INC.
200 GALLERIA PARKWAY SE
SUITE 900
ATLANTA, GA 30339
CONTACT: JUSTEN GIAMALVO
(770) 431-600
JGIAMBALVO@RACETRAC.COM

PREPARED BY

BOHLER

CONTACT: NATHAN FUSS, P.E.

REFERENCES AND CONTACTS

REFERENCES

♦BOUNDARY & TOPOGRAPHIC SURVEY:
GASKINS + LECRAW, INC.
1266 POWDER SPRINGS RD SW
MARIETTA, GA 30064
DATED: 09/07/23 (REV. 1)
JOB # /SURVEY JOB #: 005060

♦GEOTECHNICAL INVESTIGATION REPORT:
TERRACON CONSULTANTS, INC.
2105 NEWPOINT PLACE, SUITE 600
LAWRENCEVILLE, GA 30043
DATED: 05/09/2022

♦ARCHITECTURAL PLAN:
HFR & ASSOCIATES
3680 PLEASANT HILL ROAD, SUITE 200
DULUTH, GA 30096
DATED: TBD

♦UTILITES
JOHN MARTIN - UTILITIES DIRECTOR
56 MALONE STREET SW
FAIRBURN, GA 30213
PHONE: (770) 964-2244 x 351

♦CITY OF FAIRBURN COMMUNITY DEVELOPMENT
LESTER THOMPSON
56 MALONE STREET SW
FAIRBURN, GA 30213
PHONE: (770) 964-2244 x 306

* THE ABOVE REFERENCED DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THESE PLANS, HOWEVER, BOHLER ENGINEERING DOES NOT CERTIFY THE ACCURACY OF THE WORK REFERENCED OR DERIVED FROM THESE DOCUMENTS, BY OTHERS.

GENERAL NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, AND SCHEDULE INSPECTION ACCORDING TO AGENCY INSTRUCTION.
2. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK, INCLUDING LANDSCAPING.
3. CONTRACTOR SHALL SUBMIT FOR REVIEW TO THE OWNER'S CONSTRUCTION MANAGER SHOP DRAWINGS ON ALL PRECAST AND MANUFACTURED ITEMS TO USE ON THIS SITE. FAILURE TO OBTAIN APPROVAL BEFORE INSTALLATION MAY RESULT IN REMOVAL AND REPLACEMENT AT CONTRACTOR'S EXPENSE. CONSTRUCTION MANAGER'S APPROVAL OF A SHOP DRAWING DOES NOT RELIEVE CONTRACTOR'S RESPONSIBILITY FOR PERFORMANCE OF THE ITEM.
4. WORK PERFORMED UNDER THIS CONTRACT SHALL INTERFACE SMOOTHLY WITH OTHER WORK BEING PERFORMED ON SITE BY OTHER CONTRACTORS AND UTILITY COMPANIES. IT IS NECESSARY FOR THE CONTRACTOR TO COORDINATE AND SCHEDULE HIS ACTIVITIES, WHERE NECESSARY WITH OTHER CONTRACTOR'S AND UTILITY COMPANIES.
5. MATERIALS AND CONSTRUCTION METHODS FOR STREETS AND STORM DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY.
6. CONTRACTOR SHALL REVIEW SOIL REPORTS AND BORINGS PRIOR TO BIDDING THE PROJECT AND COMMENCING CONSTRUCTION.
7. AT LEAST 72 HOURS PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE AGENCIES AND SUPPLY THEM WITH ALL REQUIRED SHOP DRAWINGS, THE CONTRACTOR'S NAME, STARTING DATE, PROJECTED SCHEDULE, AND OTHER INFORMATION AS REQUIRED. ANY WORK PERFORMED PRIOR TO NOTIFYING THE ENGINEER OR WITHOUT AGENCY INSPECTOR PRESENT MAY BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
8. THE CONTRACTOR SHALL USE EACH PLAN IN CONJUNCTION WITH THE ENTIRE SET OF DRAWINGS AND JOB SPECIFICATIONS. DO NOT REMOVE OR DEMOLISH ANYTHING WITHOUT VERIFYING AND COORDINATING WITH ALL ELECTRICAL, PLUMBING, MECHANICAL, GENERAL TRADES, AND UTILITY COMPANIES AS THEY AFFECT THE OVERALL PROJECT.
9. ALL WORK SHOWN SHALL BE DONE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

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C2.2	EROSION & SEDIMENT CONTROL - PHASE 2
C2.3	EROSION & SEDIMENT CONTROL - PHASE 3
C2.4	EROSION & SEDIMENT CONTROL DETAILS
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NO.	REVISION	BY	DATE

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PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE, SUITE 425
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GA@BohlerEng.com

GEORGIA REGISTERED Nathan Fuss No. PE046694 PROFESSIONAL 08/01/2025 ENGINEER NATHAN R. FUSS

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SUITE 100 ATLANTA, GA 30339
(770) 431-7600

COVER SHEET

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
COV	
SHEET NO.	REVISION

STANDARD DRAWING LEGEND

FOR ENTIRE PLAN SET

	LIMIT OF WORK	LOW LOW
	LIMIT OF DISTURBANCE	LOD LOD
EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
	ONSITE PROPERTY LINE / R.O.W. LINE	
	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	
	EASEMENT LINE	
	SETBACK LINE	
	CONCRETE CURB & GUTTER	CURB AND GUTTER; SPILL; TRANSITION; DEPRESSED CURB AND GUTTER
	UTILITY POLE WITH LIGHT	
	POLE LIGHT	
	TRAFFIC LIGHT	
	UTILITY POLE	
	TYPICAL LIGHT	
	ACORN LIGHT	
	TYPICAL SIGN	
X	PARKING COUNTS	X
170 / 169	CONTOUR LINE	190 / 187
TC 516.4 GR 516.4	SPOT ELEVATIONS	TC 516.00; TC 516.00 BC 515.55; MATCH EX 518.02 ±
SAN #	SANITARY LABEL	SAN #
X #	STORM LABEL	X #
SL	SANITARY SEWER LATERAL	SL
W	UNDERGROUND WATER LINE	W
E	UNDERGROUND ELECTRIC LINE	E
G	UNDERGROUND GAS LINE	G
OH	OVERHEAD WIRE	OH
T	UNDERGROUND TELEPHONE LINE	T
C	UNDERGROUND CABLE LINE	C
	STORM SEWER	
S	SANITARY SEWER MAIN	S
	HYDRANT	
S	SANITARY MANHOLE	
D	STORM MANHOLE	
WM	WATER METER	
WV	WATER VALVE	
	GAS VALVE	
	GAS METER	
	TYPICAL END SECTION	
	HEADWALL OR ENDWALL	
	GRATE INLET	
	CURB INLET	
	CLEAN OUT	
E	ELECTRIC MANHOLE	E
T	TELEPHONE MANHOLE	T
EB	ELECTRIC BOX	EB
EP	ELECTRIC PEDESTAL	EP
	MONITORING WELL	
	TEST PIT	
	BENCHMARK	
	BORING	

STANDARD ABBREVIATIONS

FOR ENTIRE PLAN SET

AC	ACRES
ADA	AMERICANS WITH DISABILITY ACT
ARCH	ARCHITECTURAL
BC	BOTTOM OF CURB
BF	BASEMENT FLOOR
BK	BLOCK
BL	BASELINE
BLDG	BUILDING
BM	BUILDING BENCHMARK
BRL	BUILDING RESTRICTION LINE
CF	CUBIC FEET
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CONN	CONNECTION
CONC	CONCRETE
CPP	CORRUGATED PLASTIC PIPE
CY	CUBIC YARDS
DEC	DECORATIVE
DEP	DEPRESSED
DIP	DUCTILE IRON PIPE
DOM	DOMESTIC
ELEC	ELECTRIC
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
EW	END WALL
EX	EXISTING
FES	FLARED END SECTION
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FG	FINISHED GRADE
G	GRADE
GF	GARAGE FLOOR (AT DOOR)
GH	GRADE HIGHER SIDE OF WALL
GL	GRADE LOWER SIDE OF WALL
GRT	GRATE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
HOR	HORIZONTAL
HW	HEADWALL
INT	INTERSECTION
INV	INVERT
LF	LINEAR FOOT
LOC	LIMITS OF CLEARING
LOD	LIMITS OF DISTURBANCE
LOS	LINE OF SIGHT
LP	LOW POINT
L/S	LANDSCAPE
MAX	MAXIMUM
MIN	MINIMUM
MH	MANHOLE
MJ	MECHANICAL JOINT
OC	ON CENTER
PA	POINT OF ANALYSIS
PC	POINT OF CURVATURE
PCCR	POINT OF COMPOUND CURVATURE, CURB RETURN
PI	POINT OF INTERSECTION
POG	POINT OF GRADE
PROP	PROPOSED
PT	POINT OF TANGENCY
PTCR	POINT OF TANGENCY, CURB RETURN
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RET WALL	RETAINING WALL
R/W	RIGHT OF WAY
S	SLOPE
SAN	SANITARY SEWER
SF	SQUARE FEET
STA	STATION
STM	STORM
S/W	SIDEWALK
TBA	TO BE ABANDONED
TBR	TO BE REMOVED
TBRL	TO BE RELOCATED
TBV	TO BE VACATED
TC	TOP OF CURB
TELE	TELEPHONE
TPF	TREE PROTECTION FENCE
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
UP	UTILITY POLE
W	WIDE
W/L	WATER LINE
W/M	WATER METER
±	PLUS OR MINUS
°	DEGREE
Ø	DIAMETER
#	NUMBER

NO.	REVISION	BY	DATE

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GEORGIA
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Nathan Fuss
No. PE046694
PROFESSIONAL
08/01/2025
ENGINEER
NATHAN R. FUSS

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(770) 431-7600

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
SHEET NO.	REVISION

GENERAL NOTES

(Rev. 2/2021)

1. THESE PLANS ARE SOLELY BASED ON INFORMATION THE OWNER AND OTHERS PROVIDED TO BOHLER ENGINEERING. BOHLER LLC (HEREIN "BOHLER") PRIOR TO THE DATE ON WHICH THE ENGINEER OF RECORD AND BOHLER PREPARED THESE PLANS. THE CONTRACTOR MUST FIELD VERIFY ALL EXISTING CONDITIONS AND IMMEDIATELY NOTIFY BOHLER , IN WRITING, IF ANY ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THESE PLANS, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.
2. THE CONTRACTOR MUST STRICTLY COMPLY WITH THESE NOTES AND ALL SPECIFICATIONS/REPORTS CONTAINED HEREIN. THE CONTRACTOR MUST ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS, THESE NOTES, AND THE REQUIREMENTS ARTICULATED IN THE NOTES CONTAINED IN ALL THE OTHER DRAWINGS THAT COMPRISE THE PLAN SET OF DRAWINGS. ADDITIONAL NOTES AND SPECIFIC PLAN NOTES MAY BE FOUND ON THE INDIVIDUAL PLANS. THESE GENERAL NOTES APPLY TO THIS ENTIRE DOCUMENT PACKAGE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE, PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION.
3. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST CONFIRM WITH THE ENGINEER OF RECORD AND BOHLER THAT THE LATEST EDITION OF THE DOCUMENTS AND/OR REPORTS REFERENCED WITHIN THE PLAN REFERENCES ARE BEING USED FOR CONSTRUCTION. THIS IS THE CONTRACTOR'S SOLE AND COMPLETE RESPONSIBILITY.
4. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION IS TO BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE CONDITIONS OF APPROVAL TO ALL PLANS AND PERMITS. THE CONTRACTOR MUST ENSURE THAT ALL PERMITS HAVE BEEN OBTAINED AND HAS ALSO CONFIRMED THAT ALL NECESSARY AND REQUIRED PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.
5. THE CONTRACTOR MUST ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS/REPORTS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT, AND ALL PROVISIONS AND CONDITIONS OF THE CONSTRUCTION CONTRACT WITH THE OWNER/DEVELOPER INCLUDING ALL EXHIBITS, ATTACHMENTS AND ADDENDA TO SAME.
6. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFULLY REVIEWING THE MOST CURRENT ARCHITECTURAL, CIVIL AND STRUCTURAL CONSTRUCTION DOCUMENTS (INCLUDING, BUT NOT LIMITED TO, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLANS, WHERE APPLICABLE). THE CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND ENGINEER OF RECORD AND BOHLER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST BETWEEN THESE PLANS AND ANY OTHER PLANS THAT COMPRISE THE CONSTRUCTION DOCUMENTS.
7. CONTRACTOR MUST REFER TO AND ENSURE COMPLIANCE WITH THE APPROVED ARCHITECTURAL/BUILDING PLANS OF RECORD FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY POINTS, ELEVATIONS, BUILDING DIMENSIONS, AND EXACT SIZE OF UTILITY CONNECTIONS.
8. THE CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND MEASUREMENTS SHOWN ON THESE PLANS, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR MUST IMMEDIATELY NOTIFY ENGINEER OF RECORD AND BOHLER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH HAS TO BE RE-DONE OR REPAIRED DUE TO DIMENSIONS, MEASUREMENTS OR GRADES SHOWN INCORRECTLY ON THESE PLANS PRIOR TO BOTH (A) THE CONTRACTOR GIVING THE ENGINEER OF RECORD AND BOHLER WRITTEN NOTICE OF SAME, AND (B) ENGINEER OF RECORD AND BOHLER, THEREAFTER, PROVIDING THE CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.
9. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND MEASUREMENTS INCLUDED ON DESIGN DOCUMENTS HEREIN AND MUST NOT SCALE OFF THE DRAWINGS DUE TO POTENTIAL PRINTING INACCURACIES. ALL DIMENSIONS AND MEASUREMENTS ARE TO BE CHECKED AND CONFIRMED BY THE GENERAL CONTRACTOR PRIOR TO PREPARATION OF SHOP DRAWINGS, FABRICATION OF ANY MATERIALS AND ACTUAL CONSTRUCTION. PLACEMENT OF SITE WORK. SITE PLAN DRAWINGS ARE NOT INTENDED AS SURVEY DOCUMENTS. DIMENSIONS SUPERSEDE GRAPHICAL REPRESENTATIONS. THE CONTRACTOR MUST MAKE CONTRACTOR'S OWN MEASUREMENTS FOR LAYOUT OF IMPROVEMENTS.
10. THE OWNER AND CONTRACTOR MUST BE FAMILIAR WITH AND OBTAIN PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
11. WHEN INCLUDED AS ONE OF THE REFERENCED DOCUMENTS, THE GEOTECHNICAL REPORT, SPECIFICATIONS AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY, THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN: (A) THE PLANS; AND (B) THE GEOTECHNICAL REPORT AND RECOMMENDATIONS, MUST TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER OF RECORD AND BOHLER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORT AND PLANS AND SPECIFICATIONS, PRIOR TO PROCEEDING WITH ANY FURTHER WORK. IF A GEOTECHNICAL REPORT WAS NOT CREATED, THEN THE CONTRACTOR MUST FOLLOW AND COMPLY WITH ALL OF THE REQUIREMENTS OF ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE SPECIFICATIONS WHICH HAVE JURISDICTION OVER THIS PROJECT.
12. ENGINEER OF RECORD AND BOHLER ARE NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND FURTHER, HAS NO LIABILITY FOR ANY HAZARDOUS MATERIALS, HAZARDOUS SUBSTANCES, OR POLLUTANTS ON, ABOUT OR UNDER THE PROPERTY.
13. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WELL LOCATIONS AND PROTECTING AND SHORING ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES AND PROPERTIES. ALL OF THIS WORK IS TO BE PERFORMED AT CONTRACTOR'S SOLE COST AND EXPENSE.
14. THE CONTRACTOR MUST EXERCISE EXTREME CAUTION WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, UTILITIES, BUILDINGS, AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT.
15. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION AND CONSTRUCTION WASTES, UNSUITABLE EXCAVATED MATERIAL, EXCESS SOIL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER THE CONTRACTOR.
16. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN RECORDS TO DEMONSTRATE PROPER AND FULLY COMPLIANT DISPOSAL ACTIVITIES, TO BE PROMPTLY PROVIDED TO THE OWNER UPON REQUEST.
17. THE CONTRACTOR MUST REPAIR, AT CONTRACTOR'S SOLE COST, ALL DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, SIDEWALKS, PAVEMENT, STRIPING, CURBS, ETC. AND SHALL NOT BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RE-PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNAL INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DURING CONSTRUCTION AND ANY DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION IN NON-COMPLIANCE WITH LOCAL CODES, LAWS, RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE CONTRACTOR MUST, PROMPTLY, DOCUMENT ALL EXISTING DAMAGE AND NOTIFY, IN WRITING, THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
18. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR AND HAVE NO CONTRACTUAL, LEGAL OR OTHER RESPONSIBILITIES FOR JOB SITE SAFETY, JOB SITE SUPERVISION, OR ANYTHING RELATED TO THE SAME. THE ENGINEER OF RECORD AND BOHLER HAVE NOT BEEN RETAINED TO PERFORM OR TO BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF ENGINEER OF RECORD'S AND BOHLER SERVICES AS RELATED TO THE PROJECT. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES OR VIOLATIONS OTHER THAN THEIR OWN.
19. THE CONTRACTOR MUST IMMEDIATELY IDENTIFY IN WRITING, TO THE ENGINEER OF RECORD AND BOHLER , ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF THE CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER WRITTEN NOTIFICATION AS DESCRIBED ABOVE, IT WILL BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, THE CONTRACTOR MUST INDEMNIFY, DEFEND AND HOLD HARMLESS THE ENGINEER OF RECORD AND BOHLER FOR ANY AND ALL DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH RESULT FROM OR ARE IN ANY WAY RELATED TO SAME INCLUDING, BUT NOT LIMITED TO, ANY THIRD PARTY AND FIRST PARTY CLAIMS.
20. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM THE CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS, ANY CURRENT CODES, RULES, STATUTES AND THE LIKE. IF THE CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, RULES, STATUTES, CODES AND THE LIKE, THE CONTRACTOR AND/OR OWNER AGREE TO AND MUST JOINTLY, INDEPENDENTLY, SEPARATELY, AND SEVERALLY INDEMNIFY AND HOLD THE ENGINEER OF RECORD AND BOHLER HARMLESS FOR AND FROM ALL INJURIES, CLAIMS AND DAMAGES THAT ENGINEER AND BOHLER SUFFER AND ANY AND ALL COSTS THAT ENGINEER AND BOHLER INCUR AS RELATED TO SAME.
21. ALL CONTRACTORS MUST CARRY AT LEAST THE MINIMUM AMOUNT OF THE MOST COMMERCIALLY REASONABLE STATUTORY WORKER'S COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND COMMERCIAL GENERAL LIABILITY INSURANCE (CGL) INCLUDING ALSO ALL UMBRELLA COVERAGES. ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER , AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONSULTANTS, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSUREDS AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE (DEFEND, IF APPLICABLE) AND HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED AND AGREED TO BY THE CONTRACTOR HEREIN. ALL CONTRACTORS MUST FURNISH BOHLER WITH CERTIFICATIONS OF INSURANCE OR CERTIFICATES OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE COVERAGES PRIOR TO COMMENCING ANY WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND TWO YEARS AFTER THE CONSTRUCTION IS COMPLETED AND AFTER ALL PERMITS ARE ISSUED, WHICHEVER DATE IS LATER. IN ADDITION, ALL CONTRACTORS AGREE THAT THEY WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONSULTANTS, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, INJURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PROCEEDINGS, TORT DAMAGES, STATUTORY CLAIMS, STATUTORY DAMAGES, LOSS AND/OR ACTION, LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTOR(S), ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. THE CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION, SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.
22. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES FOR COMPLETION OF THE WORK DEPICTED BOTH ON THESE PLANS, AND FOR ANY CONFLICTS IN SCOPE AND REVISIONS THAT RESULT FROM SAME. THE CONTRACTOR IS FULLY AND SOLELY RESPONSIBLE FOR DETERMINING THE MEANS AND METHODS FOR COMPLETION OF THE WORK, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
23. NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER, NOR THE PRESENCE OF BOHLER AND/OR ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, SHAREHOLDERS, MEMBERS, PRINCIPALS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONSULTANTS, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE (HEREIN "BOHLER PARTIES"), RELIEVES OR WILL RELIEVE THE CONTRACTOR OF AND FROM CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE WITH ALL HEALTH AND SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. THE PARTIES HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONTRACTOR (OR ANY RESPONSIBILITY FOR) ANY CONSTRUCTION, THE CONTRACTOR OR ITS EMPLOYEES RELATING TO THEIR WORK AND ANY AND ALL HEALTH AND SAFETY PROGRAMS OR PROCEDURES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR MUST INDEMNIFY, DEFEND, PROTECT AND HOLD HARMLESS BOHLER PARTIES FOR AND FROM ANY AND ALL LIABILITY TO BOHLER PARTIES RESULTING FROM THE CONTRACTOR'S WORK, SERVICES AND/OR VIOLATIONS OF THIS NOTE, THESE NOTES OR ANY NOTES IN THE PLAN SET AND, FURTHER, THE CONTRACTOR MUST NAME BOHLER AS AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE.
24. WHEN IT IS CLEARLY AND SPECIFICALLY WITHIN BOHLER'S SCOPE OF SERVICES CONTRACT WITH THE OWNER/DEVELOPER, BOHLER WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF EVALUATING CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION DOCUMENTS. CONSTRUCTION MEANS AND METHODS AND/OR TECHNIQUES OR PROCEDURES. COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND BOHLER HAS NO RESPONSIBILITY OR LIABILITY FOR SAME. BOHLER WILL PERFORM ITS SHOP DRAWING REVIEW WITH REASONABLE PROMPTNESS, AS CONDITIONS PERMIT. ANY DOCUMENT , DOCUMENTING BOHLER'S REVIEW OF A SPECIFIC ITEM OR LIMITED SCOPE, MUST NOT INDICATE THAT BOHLER HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS THE CONTRACTOR MUST, IN WRITING, PROMPTLY AND IMMEDIATELY BRING ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS TO BOHLER'S ATTENTION. BOHLER IS NOT REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
25. IF THE CONTRACTOR DEVIATES FROM THESE PLANS AND/OR SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER OF RECORD AND BOHLER FOR ALL DEVIATIONS WITHIN ENGINEER'S SCOPE, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK PERFORMED WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT TO SUCH DEVIATIONS, AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, MUST DEFEND, INDEMNIFY, PROTECT, AND HOLD HARMLESS THE ENGINEER OF RECORD AND BOHLER PARTIES TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, FOR AND FROM ALL FINES, ATTORNEY'S FEES, DAMAGES, COSTS, CLAIMS, INJURIES, PENALTIES AND THE LIKE RELATED TO SAME.
26. THE CONTRACTOR IS RESPONSIBLE FOR A MAINTAINING AND PROTECTING THE TRAFFIC CONTROL PLAN AND ELEMENTS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS, FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE RIGHT OF WAY OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE AND IS THE CONTRACTOR'S SOLE RESPONSIBILITY
27. OWNER MUST MAINTAIN AND RESERVE ALL PHYSICAL SITE FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS IN STRICT ACCORDANCE WITH THE APPROVED PLAN(S) AND DESIGN, AND, FURTHER, THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD THE ENGINEER OF RECORD AND BOHLER PARTIES, HARMLESS FOR ALL INJURIES, DAMAGES AND COSTS THAT ENGINEER OF RECORD AND BOHLER INCUR AS A RESULT OF SAID FAILURE OR FAILURE TO PRESERVE.
28. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION ACTIVITIES AND MATERIALS COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL RULES AND REGULATIONS, LAWS, ORDINANCES, AND CODES, AND ALL APPLICABLE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 ET SEQ.) AS AMENDED, AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.
29. THE CONTRACTOR MUST STRICTLY COMPLY WITH THE LATEST AND CURRENT OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCY WITH JURISDICTION OVER EXCAVATION AND TRENCHING PROCEDURES. ENGINEER OF RECORD AND BOHLER HAS NO RESPONSIBILITY FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES AND WORK.
30. THE CONTRACTOR AND THE OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF THE CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY , INDEPENDENTLY, SEPARATELY, COLLECTIVELY, AND SEVERALLY DEFEND, PROTECT AND HOLD ENGINEER OF RECORD AND BOHLER PARTIES HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.
31. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN AN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIREMENTS OR LOCAL GOVERNING AGENCY FOR SITES WHERE ONE (1) ACRE OR MORE IS DISTURBED BY CONSTRUCTION ACTIVITIES (UNLESS THE LOCAL JURISDICTION REQUIRES A DIFFERENT THRESHOLD). THE CONTRACTOR MUST ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF ALL SUBCONTRACTORS, ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES, AS APPROPRIATE AND FURTHER, THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR FAILING TO DO SO.
32. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED DOCUMENTS PREPARED BY THE ENGINEER OF RECORD AND BOHLER, THE USE OF THE WORDS 'CERTIFY' OR 'CERTIFICATION' CONSTITUTES AN EXPRESSION ONLY OF PROFESSIONAL OPINION REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE ENGINEER OF RECORD'S AND BOHLER KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON AND ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE OF ANY NATURE OR TYPE, EITHER EXPRESSED OR IMPLIED, UNDER ANY CIRCUMSTANCES.

DEMOLITION NOTES

(Rev. 2/2021)

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. THE CONTRACTOR MUST CONDUCT DEMOLITION/REMOVALS ACTIVITIES IN SUCH A MANNER AS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND ALL OTHER ADJACENT FACILITIES. THE CONTRACTOR MUST OBTAIN ALL APPROPRIATE PERMITS FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY(IES) PRIOR TO THE COMMENCEMENT OF ANY ROAD OPENING OR DEMOLITION ACTIVITIES IN OR ADJACENT TO THE RIGHT-OF-WAY.
3. WHEN DEMOLITION-RELATED ACTIVITIES IMPACT ROADWAYS AND/OR ROADWAY RIGHT-OF-WAY, THE CONTRACTOR MUST PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH THE CURRENT FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AND THE FEDERAL, STATE, AND LOCAL REGULATIONS.
4. THE DEMOLITION (AND/OR REMOVALS) PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION AND TO IDENTIFY ONLY CONDITIONS REGARDING ITEMS TO BE DEMOLISHED, REMOVED, AND/OR TO REMAIN.
   A. THE CONTRACTOR MUST ALSO DEVELOP ALL CONSTRUCTION DOCUMENTS AND INCLUDE WITHIN THE DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS.
   B. THIS PLAN IS NOT INTENDED TO APPROVE DIRECTIVE OR PRESCRIPTIVE METHODS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE EMPLOYED TO ACCOMPLISH THE WORK. ALL MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE USED MUST BE IN STRICT ACCORDANCE AND CONFORMANCE WITH ALL STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR MUST COMPLY WITH ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE FOR THE CONTRACTOR AND THE PUBLIC.
5. THE CONTRACTOR MUST NOTIFY ENGINEER OF RECORD AND BOHLER, IN WRITING, IF ANY METHODS OR MEANS OF DEMOLITION, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE CONTRACTOR, AT THE CONTRACTOR'S SOLE COST, MUST REPAIR ALL DAMAGE TO ALL ITEMS AND FEATURES THAT ARE TO REMAIN, CONSTRUCTED AS PART OF THE GENERAL SITE IMPROVEMENTS. ALL DEMOLITION PLANS MUST INCLUDE THE RESTORATION OF ALL ITEMS AND FEATURES REPAIRED TO THEIR PRE-DEMOLITION CONDITION, OR BETTER. CONTRACTOR MUST PERFORM ALL REPAIRS AT THE CONTRACTOR'S SOLE EXPENSE.
6. ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. THE CONTRACTOR MUST PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, COMPLYING WITH ALL OSHA REQUIREMENTS, TO ENSURE THE PUBLIC SAFETY AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONSTRUCTION SCHEDULE FOR THE SAME.
7. THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY, WHICH MUST INCLUDE, BUT IS NOT LIMITED TO, THE INSTALLATION AND MAINTENANCE OF BARRIERS, FENCING, OTHER APPROPRIATE AND NECESSARY SAFETY DEVICES AND ITEMS NECESSARY TO PROTECT THE PUBLIC FROM THE PROCESS OF CONSTRUCTION AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR MUST SAFEGUARD THE SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE ENTRY OF UNAUTHORIZED PERSONS DURING NON-WORK HOURS.
8. PRIOR TO THE COMMENCEMENT OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY, THE CONTRACTOR MUST, IN WRITING, RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS AND/OR SPECIFICATIONS, ALL CONCERNS OR QUESTIONS REGARDING THE SAFETY STANDARDS, AND/OR THE SAFETY OF THE CONTRACTOR AND/OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT. ANY SUCH CONCERNS MUST BE CONVEYED TO THE ENGINEER OF RECORD AND BOHLER, IN WRITING, IN THE FORM OF A REQUEST FOR INFORMATION (RFI) ADDRESSED TO THE ENGINEER OF RECORD AND BY BOHLER, IN WRITING. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS

LINE TABLE		
LINE #	BEARING	DISTANCE
L1	N43°01'07"E	46.93'
L2	N55°27'27"W	73.47'
L3	N30°20'47"E	58.42'
L4	N27°38'14"E	74.69'
L5	N72°12'07"E	32.90'

CLERK OF THE SUPERIOR COURT
RECORDING INFORMATION

GPS NOTES:

1.) HORIZONTAL DATUM IS NAD 83.
VERTICAL DATUM IS NAVD 88.

2.) THE NORTHING, EASTING, AND ELEVATION OF THE STARTING POINTS FOR THIS SURVEY WERE OBTAINED UTILIZING A TRIMBLE 5800 GPS RECEIVER WITH A TRIMBLE TSC2 DATA COLLECTOR RECEIVING RTK CORRECTIONS VIA A CELL PHONE FROM THE EGPS SOLUTIONS REAL TIME NETWORK. THE TECHNIQUE USED WAS RTK CORRECTED MEASUREMENTS FROM THE TRIMBLE VRS REAL TIME NETWORK OPERATED BY EGPS SOLUTIONS, INC. THE RELATIVE POSITIONAL ACCURACY OBTAINED ON THE POINTS UTILIZED IN THIS SURVEY WERE 0.04 FT. HORIZONTAL AND 0.07 FT. VERTICAL AT THE 95% CONFIDENCE LEVEL.

ALTA TABLE A ITEM NOTES:

ITEM 1 – #4 REBARS SET AT ALL CORNERS UNLESS OTHERWISE NOTED.
ITEM 2 – ADDRESS IS FAIRBURN INDUSTRIAL BOULEVARD, FAIRBURN, GA 30213
ITEM 3 – SEE FLOOD NOTE.
ITEM 4 – GROSS LAND AREA IS 4.21 ACRES.
ITEM 6(a) – NO ZONING REPORT OR LETTER PROVIDED.
ITEM 6(b) – NO ZONING REPORT OR LETTER PROVIDED. CURRENTLY ZONED AS M-2 (HEAVY INDUSTRIAL AS SHOWN IN THE CITY OF FAIRBURN ZONING RECORDS.
ITEM 7(a) – NO BUILDINGS ON SITE, DOES NOT APPLY.
ITEM 8 – ALL SUBSTANTIAL FEATURES OBSERVED WHILE CONDUCTING FIELD WORK ARE SHOWN.
ITEM 9 – SUBJECT PROPERTY CONTAINS NO PARKING SPACES.
ITEM 10 – NO BUILDINGS ON SITE, DOES NOT APPLY.
ITEM 11(b) – SITE UTILITIES SHOWN ARE BASED ON ABOVE GROUND VISIBLE EVIDENCE AND UNDERGROUND UTILITIES MARKED BY PAINT OR FLAGS FIELD LOCATED BY GASKINS+LECRAW. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE IN NATURE.
ITEM 12–N/A
ITEM 13 – NAMES OF ADJOINING TRACTS HAVE BEEN SHOWN GRAPHICALLY.
ITEM 14 – SITE IS LOCATED AT THE INTERSECTION OF FAIRBURN INDUSTRIAL BOULEVARD AND HOWELL AVENUE.
ITEM 16 – THERE WAS NO OBSERVED EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS AT THE TIME OF SURVEY.
ITEM 17 – NO PROPOSED RIGHT OF WAY CHANGES.
ITEM 18 – ANY OFFSITE EASEMENTS THAT ARE PROVIDED AND ARE ABLE TO BE PLOTTED ARE SHOWN
ITEM 19– PROFESSIONAL LIABILITY INSURANCE PROVIDED.
ITEM 20–N/A

ADDITIONAL ITEMS SHOWN AS REQUESTED.

SURVEYED PROPERTY DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 48, DISTRICT 9–F, CITY OF FAIRBURN, FULTON COUNTY, GEORGIA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A RIGHT–OF–WAY MONUMENT FOUND AT THE NORTHEAST MITERED CORNER OF THE INTERSECTION OF THE EASTERLY RIGHT–OF–WAY OF HOWELL AVENUE (R/W VARIES) AND THE SOUTHERLY RIGHT OF WAY OF FAIRBURN INDUSTRIAL BOULEVARD (S.R. 74) (R/W VARIES), SAID POINT BEING THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY RIGHT OF WAY OF FAIRBURN INDUSTRIAL BOULEVARD (S.R. 74) SOUTH 61 DEGREES 50 MINUTES 14 SECONDS EAST 556.17 FEET TO A #4 REBAR SET;

THENCE LEAVING SAID RIGHT OF WAY SOUTH 22 DEGREES 17 MINUTES 34 SECONDS WEST 217.60 FEET TO A #4 REBAR FOUND;

THENCE NORTH 89 DEGREES 07 MINUTES 09 SECONDS WEST 346.42 FEET TO A #4 REBAR FOUND;

THENCE NORTH 58 DEGREES 51 MINUTES 55 SECONDS WEST 242.85 FEET TO A RIGHT–OF–WAY MONUMENT FOUND ON THE EASTERLY RIGHT–OF–WAY OF HOWELL AVENUE;

THENCE ALONG SAID RIGHT–OF–WAY NORTH 43 DEGREES 01 MINUTES 07 SECONDS EAST 46.93 FEET TO A RIGHT–OF–WAY MONUMENT FOUND;

THENCE CONTINUING ALONG SAID RIGHT–OF–WAY NORTH 31 DEGREES 22 MINUTES 26 SECONDS EAST 152.65 FEET TO A RIGHT–OF–WAY MONUMENT FOUND;

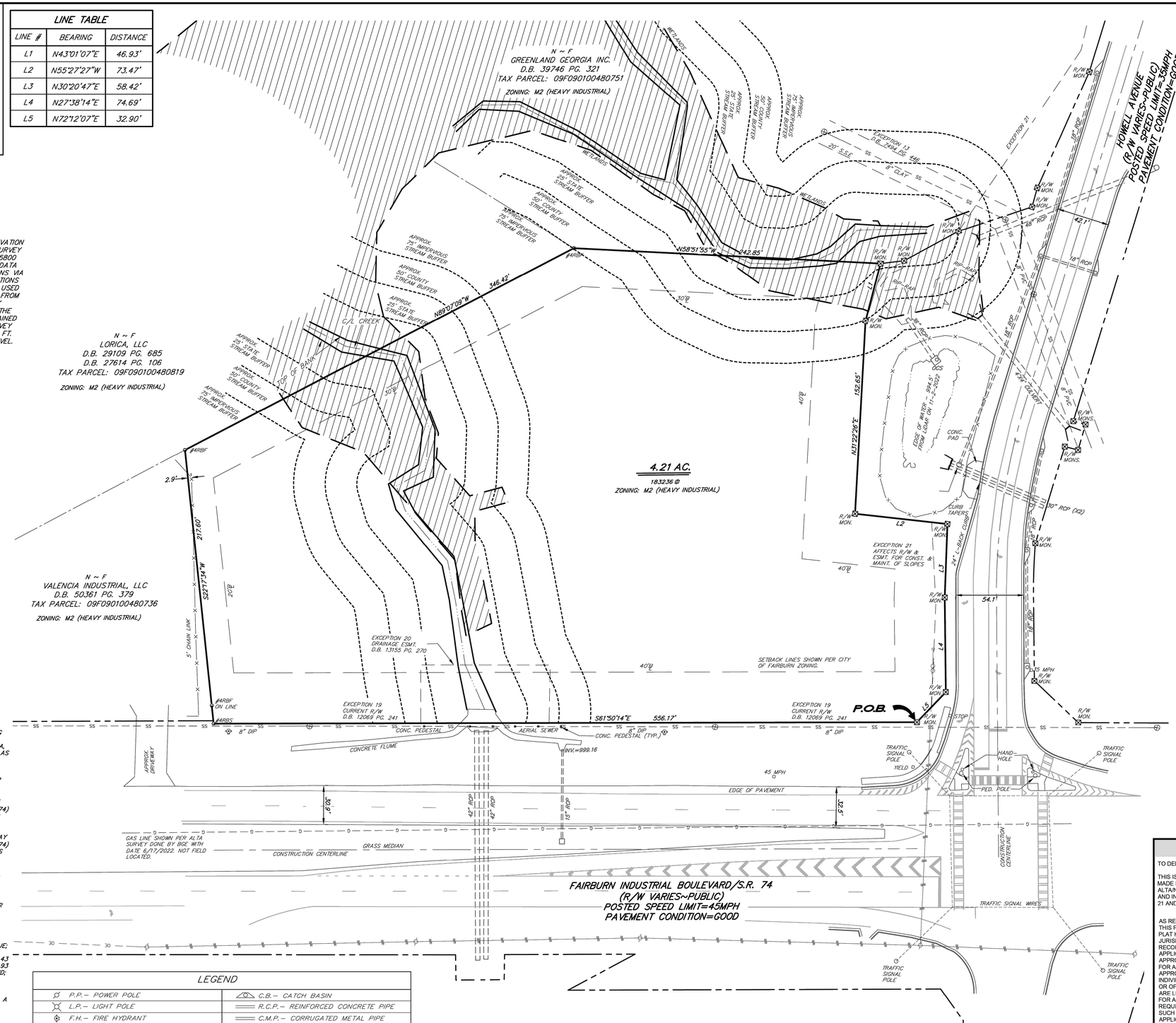
THENCE NORTH 55 DEGREES 27 MINUTES 27 SECONDS WEST 73.47 FEET TO A RIGHT–OF–WAY MONUMENT FOUND;

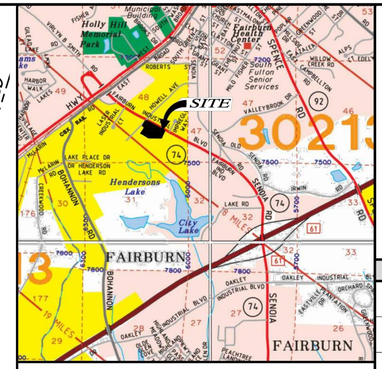
THENCE NORTH 30 DEGREES 20 MINUTES 47 SECONDS EAST 58.42 FEET TO A RIGHT–OF–WAY MONUMENT FOUND;

THENCE NORTH 27 DEGREES 38 MINUTES 14 SECONDS EAST 74.69 FEET TO A RIGHT–OF–WAY MONUMENT FOUND;

THENCE NORTH 72 DEGREES 12 MINUTES 07 SECONDS EAST 32.90 FEET TO A RIGHT–OF–WAY MONUMENT FOUND, SAID POINT BEING THE POINT OF BEGINNING;

SAID TRACT BEING 4.21 ACRES, 183,236 SQUARE FEET, MORE OR LESS.





LOCATION MAP 1" = 2000'

SCHEDULE B, PART II
COMMITMENT NUMBER: 22.3341A
COMMITMENT DATE: AUGUST 14, 2023 AT 12:00 A.M.

11. EASEMENT TO GEORGIA POWER COMPANY DATED OCTOBER 5, 1911, RECORDED ON NOVEMBER 1, 1911, IN DEED BOOK R. PAGE 371, AFORESAID RECORDS.

MAY AFFECT SUBJECT TRACT, LOCATION CANNOT BE DETERMINED FROM RECORD DOCUMENT.

12. EASEMENT BY G. E JENKINS ESTATE TO GEORGIA UTILITIES COMPANY, DATED OCTOBER 23, 1923, RECORDED ON OCTOBER 29, 1923, IN DEED BOOK 29. PAGE 117, AFORESAID RECORDS.

MAY AFFECT SUBJECT TRACT, LOCATION CANNOT BE DETERMINED FROM RECORD DOCUMENT.

13. EASEMENT BY AND BETWEEN VERDUN LAND COMPANY, OF SAID STATE AND COUNTY, YOUNG H. LONGINO, HULAND R. SAMPLES, AND EVELYN BOYD BUTTERWORTH, AND CITY OF FAIRBURN, DATED FEBRUARY 21, 1980, RECORDED ON MARCH 3, 1980 IN DEED BOOK 7494, PAGE 446, AFORESAID RECORDS.

DOES NOT AFFECT SUBJECT TRACT, SHOWN APPROXIMATE GRAPHICALLY.

14. INTENTIONALLY DELETED.

15. CONVEYANCE OF ACCESS RIGHTS FROM DISTRIBUTORS PRINTERS AND NORTHBROOK CORPORATION TO DEPARTMENT OF TRANSPORTATION FILED AND RECORDED ON JUNE 23, 1987 IN DEED BOOK 10892. PAGE 404, AFORESAID RECORDS.

MAY AFFECT, UNABLE TO PLOT, UNABLE TO DETERMINE EXACT LOCATION FROM RECORD DOCUMENT.

16. INTENTIONALLY DELETED.

17. CONVEYANCE OF ACCESS RIGHTS FROM DISTRIBUTORS PRINTERS AND NORTHBROOK CORPORATION TO DEPARTMENT OF TRANSPORTATION FILED AND RECORDED ON JUNE 23, 1987 IN DEED BOOK 10893, PAGE 242, AFORESAID RECORDS.

AFFECTS SUBJECT TRACT, UNABLE TO PLOT, ALLOWS FOR ACCESS DRIVEWAYS ALONG S.R. 74.

18. INTENTIONALLY DELETED.

19. EASEMENTS AND CONVEYANCE OF ACCESS RIGHTS CONTAINED IN RIGHT OF WAY DEED FROM GREENLAND (GEORGIA), INC., TO DEPARTMENT OF TRANSPORTATION FILED AND RECORDED ON OCTOBER 28, 1988 IN DEED BOOK 12069, PAGE 241, AFORESAID RECORDS.

AFFECTS SUBJECT TRACT, CURRENT RIGHT–OF–WAY ALONG S.R. 74.

20. CONSTRUCTION AND MAINTENANCE AGREEMENT FROM GREENLAND (GEORGIA), INC. TO THE DEPARTMENT OF TRANSPORTATION FILED AND RECORDED ON JANUARY 26, 1990 IN DEED BOOK 13155. PAGE 270, AFORESAID RECORDS.

AFFECTS SUBJECT TRACT, ALLOWS FOR CONSTRUCTION AND MAINTENANCE ALONG RIGHT–OF–WAY OF S.R. 74.

21. EASEMENTS CONDEMNED IN CASE NO. 2020CV338424, IN THE SUPERIOR COURT OF FULTON COUNTY, STYLED CITY OF FAIRBURN, GEORGIA VS. 2.003 ACRES, DR. ARTHUR E. FERDINAND, ET AL AS EVIDENCED BY DECLARATION OF TAKING DATED JUNE 26, 2020 RECORDED ON JULY 17, 2020 IN AFORESAID RECORDS

AFFECTS SUBJECT TRACT, CURRENT RIGHT–OF–WAY ALONG HOWELL AVENUE.

22. PLAT OF SURVEY FILED AND RECORDED AT PLAT BOOK 144, PAGE 96, AFORESAID RECORDS DISCLOSES GA. POWER CO. EASEMENT.

MAY AFFECT SUBJECT TRACT, EASEMENT APPEARS INSIDE PUBLIC RIGHT–OF–WAY, UNABLE TO DETERMINE EXACT LOCATION.

23. INTENTIONALLY DELETED.

SURVEYOR'S CERTIFICATION

TO DEL LAGO VENTURES, INC. AND FIDELITY NATIONAL TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARDS DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(A), 6(B), 7(A), 8, 9, 10(A), 10(B), 11(B), 12, 13, 14, 16, 17, 18, 19, 20, 21 AND 22 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON NOVEMBER 22, 2022.

AS REQUIRED BY SUBSECTION (d) of O.G.C.A. SECTION 15-6-67, THIS PLAT HAS BEEN PREPARED BY A LAND SURVEYOR. THIS PLAT HAS BEEN APPROVED BY ALL APPLICABLE LOCAL JURISDICTIONS THAT REQUIRE PRIOR APPROVAL FOR RECORDING THIS TYPE OF PLAT OR ONE OR MORE OF THE APPLICABLE LOCAL JURISDICTIONS DO NOT REQUIRE APPROVAL OF THIS TYPE OF PLAT.
FOR ANY APPLICABLE LOCAL JURISDICTION THAT REQUIRES APPROVAL OF THIS TYPE OF PLAT, THE NAMES OF THE INDIVIDUALS SIGNING OR APPROVING THIS PLAT, THE AGENCY OR OFFICE OF THAT INDIVIDUAL, AND THE DATE OF APPROVAL ARE LISTED IN THE APPROVAL TABLE SHOWN HEREON.
FOR ANY APPLICABLE LOCAL JURISDICTION THAT DOES NOT REQUIRE APPROVAL OF THIS TYPE OF PLAT, THE NAME OF SUCH LOCAL JURISDICTION AND THE NUMBER OF THE APPLICABLE ORDINANCE OR RESOLUTION PROVIDING THAT NO SUCH APPROVAL IS REQUIRED ARE LISTED IN THE APPROVAL TABLE SHOWN HEREON. SUCH APPROVALS, AFFIRMATIONS, OR ORDINANCE OR RESOLUTION NUMBERS SHOULD BE CONFIRMED WITH THE APPROPRIATE GOVERNMENTAL BODIES BY ANY PURCHASER OR USER OF THIS PLAT AS TO INTENDED USE OF ANY PARCEL.
FURTHERMORE, THE UNDERSIGNED LAND SURVEYOR CERTIFIES THAT THIS PLAT COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN THE RULES AND REGULATIONS OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN O.C.G.A.SECTION 15-6-67.

GEORGIA PROFESSIONAL 3491 LAND SURVEYOR TODD BENNETT SHORT

Todd Bennett Short

TODD BENNETT SHORT
DATE:09/07/2023
GEORGIA REGISTERED LAND SURVEYOR NO. 3491

AS SURVEYOR FOR GASKINS + LECRAW, INC.

LEGEND	
P.P.– POWER POLE	C.B.– CATCH BASIN
L.P.– LIGHT POLE	R.C.P.– REINFORCED CONCRETE PIPE
F.H.– FIRE HYDRANT	C.M.P.– CORRUGATED METAL PIPE
M.H.– SANITARY SEWER MANHOLE	F.F.E.– FINISHED FLOOR ELEVATION
W.M.– WATER METER	W.V.– WATER VALVE
G.M.– GAS METER	C.O.– SEWER CLEAN OUT
RBS– REINFORCING BAR SET	B.S.– BUILDING SETBACK LINE
RBF– REINFORCING BAR FOUND	E —UNDERGROUND ELECTRICAL LINE
CTF– CRIMP TOP PIPE FOUND	OVERHEAD POWER LINES
OTF– OPEN TOP PIPE FOUND	HW.–HEADWALL
R/W MON.– RIGHT–OF–WAY MONUMENT	PBX POWERBOX
TYPE OF FENCE	W –W–WATER LINE
J.B.– JUNCTION BOX	T —UNDERGROUND TELEPHONE LINE
D.I.– DROP INLET / YARD INLET	G —GAS LINE

SURVEYOR REFERENCES:

D.B. 39746 PG. 321
D.B. 11226 PG. 295
D.B. 6408 PG. 122
D.B. 6636 PG. 224
D.B. 9361 PG. 154
D.B. 12069 PG. 241
D.B. 50361 PG. 379
D.B. 29109 PG. 685
D.B. 39746 PG. 321
CASE NO. 2020CV338424
ALTA SURVEY FROM BGE DATED 06/17/2022

CURRENT OWNER:

GREENLAND (GEORGIA), INC.,
A GEORGIA CORPORATION
D.B. 39746 PG. 321
D.B. 11226 PG. 295
D.B. 6408 PG. 122
D.B. 6636 PG. 224
D.B. 9361 PG. 154
D.B. 12069 PG. 241
CASE NO. 2020CV338424
ALTA SURVEY FROM BGE DATED 06/17/2022

POSTED SPEED LIMITS:

HOWELL AVENUE: 35 MPH
FAIRBURN INDUSTRIAL BOULEVARD (S.R. 74): 45 MPH

THIS PARCEL OF LAND IS NOT IN THE 100 YEAR FLOOD PLAIN AND IS IN ZONE X , ACCORDING TO F.E.M.A. (F.I.A.) COMMUNITY NUMBER # 130314 , MAP NUMBER # 13121C0462F DATED SEPTEMBER 18, 2013 .

*WETLANDS DELINEATED BY CORBLU

THIS PLAT IS PREPARED FROM A FIELD SURVEY USING A FIVE SECOND DIGITAL THEODOLITE AND ELECTRONIC DISTANCE METER ; LINEAR PRECISION OF TRAVERSE : 1/ 57,867 ; ANGULAR ERROR: 01" PER POINT. THE TRAVERSE WAS ADJUSTED USING THE COMPASS RULE. LINEAR PRECISION OF THIS PLAT: 1/ 511,203 . MATTERS OF TITLE ARE EXCEPTED.

PREPARED IN THE OFFICE OF:

GASKINS +LECRAW

© 2023 GASKINS + LECRAW, INC.
1266 POWDER SPRINGS RD SW
MARIETTA, GA 30064
PHONE - 770.424.7168
FAX - 770.424.7583
www.gaskinslecraw.com
LSF001371

REVISIONS:

REV.#	DATE	DRAWN BY:	CHECKED BY:
1	09/07/23	TBS	TBS
	UPDATE TITLE COMMITMENT		

ALTA/NSPS LAND TITLE SURVEY FOR:
DEL LAGO VENTURES, INC. & FIDELITY NATIONAL TITLE INSURANCE COMPANY

FAIRBURN INDUSTRIAL BOULEVARD
LAND LOT 48, DISTRICT 9–F,
CITY OF FAIRBURN, FULTON COUNTY, GEORGIA

CALL BEFORE YOU DIG

811 Know what's below. Call before you dig.

SCALE & NORTH ARROW:

GRID NORTH-GEORGIA WEST ZONE
0' 20' 40' 80'
SCALE: 1" = 40'

SURVEY INFO:

DRAWN BY:	TBS
REVIEWED BY:	DCO
FIELD DATE:	11/22/2022
OFFICE DATE:	11/29/2022
JOB #:	005060

1 OF 1

Drawing name: S:\Brett\FULTON\005060_004BF\FAIRBURN INDUSTRIAL\DWG\FAIRBURN ALTA 4.21 ACRES.dwg SHEET1 Sep 07, 2023 10:25am by tshort

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DEMOLITION / REMOVAL LEGEND

DEMOLITION/REMOVAL NOTE	TYPICAL NOTE TEXT
	EASEMENT LINE
	CONCRETE CURB & GUTTER
	UTILITY POLE WITH LIGHT
	POLE LIGHT
	TRAFFIC LIGHT
	UTILITY POLE
	TYPICAL LIGHT
	ACORN LIGHT
	TYPICAL SIGN
	PARKING COUNTS
TC:594.4 OR: 594	SPOT ELEVATIONS
SAN	SANITARY LABEL
STM	STORM LABEL
SL	SANITARY SEWER LATERAL
W	UNDERGROUND WATER LINE
E	UNDERGROUND ELECTRIC LINE
G	UNDERGROUND GAS LINE
OH	OVERHEAD WIRE
T	UNDERGROUND TELEPHONE LINE
C	UNDERGROUND CABLE LINE
	STORM SEWER
S	SANITARY SEWER MAIN
	HYDRANT
S	SANITARY MANHOLE
D	STORM MANHOLE
WM	WATER METER
WV	WATER VALVE
	GAS VALVE
	GAS METER

ANNOTATION LEGEND:

TBR:	TO BE REMOVED
TR:	TO REMAIN
TBRL:	TO BE RELOCATED
TBA:	TO BE ABANDONED
TBRP:	TO BE REPLACED

OWNER/DEVELOPER

RACETRAC PETROLEUM, INC.
200 GALLERIA PARKWAY S.E.,
SUITE 900
ATLANTA, GA 30339
CONTACT: JUSTEN GIAMBALVO
PHONE: (770) 431-7600
EMAIL: JGIAMBALVO@RACETRAC.COM

DISTURBED AREA SUMMARY

DESCRIPTION	AREA (ACRES)
TOTAL PARCEL AREA	± 5.3 AC
ON-SITE DISTURBED AREA	± 4.27 AC
OFF-SITE DISTURBED AREA	± 1.12 AC
TOTAL DISTURBED AREA	± 5.39 AC

40 20 10 0 40
1"= 40'

NO.	REVISION	BY	DATE

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GEORGIA
YOU MUST CALL 811 BEFORE ANY EXCAVATION WHETHER ITS ON PRIVATE OR PUBLIC LAND.
811
www.georgia811.com
RACETRAC 24-HOUR CONTACT
PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE.
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA
REGISTERED
Nathan Fuss
No. PE/RA/6934
PROFESSIONAL
08/01/2025
ENGINEER
NATHAN R. FUSS

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RaceTrac

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

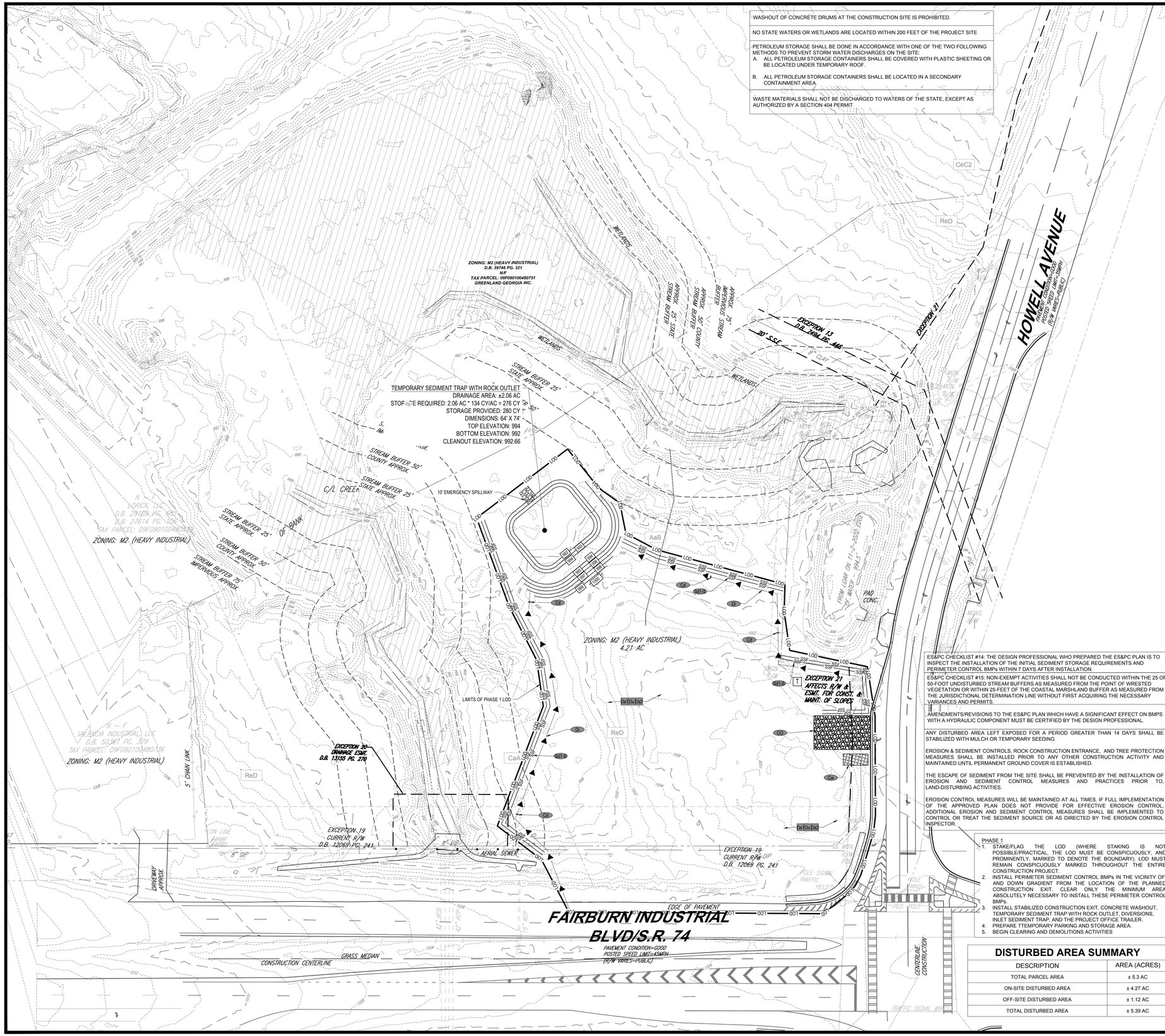
DEMOLITION PLAN

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
SHEET NO.	REVISION

WASHOUT OF CONCRETE DRUMS AT THE CONSTRUCTION SITE IS PROHIBITED.
NO STATE WATERS OR WETLANDS ARE LOCATED WITHIN 200 FEET OF THE PROJECT SITE
PETROLEUM STORAGE SHALL BE DONE IN ACCORDANCE WITH ONE OF THE TWO FOLLOWING METHODS TO PREVENT STORM WATER DISCHARGES ON THE SITE: A. ALL PETROLEUM STORAGE CONTAINERS SHALL BE COVERED WITH PLASTIC SHEETING OR BE LOCATED UNDER TEMPORARY ROOF. B. ALL PETROLEUM STORAGE CONTAINERS SHALL BE LOCATED IN A SECONDARY CONTAINMENT AREA.
WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT



GENERAL NOTES:

1. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE
2. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO PUBLIC RIGHT OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMANDS, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIAL SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE ONTO PUBLIC - ROADWAY OR INTO STORM DRAIN MUST BE REMOVED.
3. PROVIDE GPS COORDINATES AT CONSTRUCTION EXIT AS REQUIRED ON THE NOTICE INTENT UNDER THE NPDES APPLICATION.
4. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEAN. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL OCCUR WITHIN THE APPROVED LIMITS.
5. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
6. OWNER AGREES TO PROVIDE AND MAINTAIN OFF-STREET PARKING ON THE SUBJECT PROPERTY DURING THE ENTIRE CONSTRUCTION PERIOD.
7. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE ROADWAY FRONTAGE IMPROVEMENTS ARE BEING MADE.
8. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UP STREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAY HAVE BEEN PAVED.
9. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
10. ALL SEWER EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION.
11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH CITY OF FAIRBURN STANDARDS AND SPECIFICATIONS

DESIGN PROFESSIONAL'S CERTIFICATION:

(1) I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT " MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH LAND DISTURBING ACTIVITY WAS PERMITTED. THE PLAN PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALL. THE DESIGNATED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENT CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR100001.

(2) "I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION."

(3) "I CERTIFY UNDER THE PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED UPON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

Nathan Fuss
GSWCC LEVEL II DESIGN PROFESSIONAL

0000087123
(VALID THROUGH 03-08-28)
CERTIFICATION #

EROSION & SEDIMENT CONTROL LEGEND

LOD—LOD		LIMITS OF DISTURBANCE
		SOILS BOUNDARY
	CW	CONCRETE WASHOUT
	CO	STABILIZED CONSTRUCTION EXIT
	Du	DUST CONTROL (USING: PHASING OF THE PROJECT, MULCH, SPRINKLING WATER, SPRAY-ON-ADHESIVE, CALCIUM CHLORIDE, BARRIERS, ETC.)
	Ds1	DISTURBED AREA STABILIZATION - MULCHING
	Ds2	DISTURBED AREA STABILIZATION - TEMPORARY SEEDING
SF	Sd1-S	TYPE S DOUBLE ROW SEDIMENT BARRIER (SENSITIVE AREAS) (H=30")
	Di	DIVERSION
		TEMPORARY SEDIMENT BASIN TRAP WITH ROCK OUTLET
	Cd-Hb	CHECK DAM - STRAW BALES

ES&PC CHECKLIST
ES&PC CHECKLIST #14: THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPs WITHIN 7 DAYS AFTER INSTALLATION.
ES&PC CHECKLIST #15: NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50 FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING EROSION & SEDIMENT CONTROLS, ROCK CONSTRUCTION ENTRANCE, AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, LAND-DISTURBING ACTIVITIES. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE OR AS DIRECTED BY THE EROSION CONTROL INSPECTOR.

PHASE 1
1. STAKE/FLAG THE LOD (WHERE STAKING IS NOT POSSIBLE/PRACTICAL, THE LOD MUST BE CONSPICUOUSLY, AND PROMINENTLY, MARKED TO DENOTE THE BOUNDARY). LOD MUST REMAIN CONSPICUOUSLY MARKED THROUGHOUT THE ENTIRE CONSTRUCTION PROJECT.
2. INSTALL PERIMETER SEDIMENT CONTROL BMPs IN THE VICINITY OF, AND DOWN GRADIENT FROM THE LOCATION OF THE PLANNED CONSTRUCTION EXIT. CLEAR ONLY THE MINIMUM AREA ABSOLUTELY NECESSARY TO INSTALL THESE PERIMETER CONTROL BMPs.
3. INSTALL STABILIZED CONSTRUCTION EXIT, CONCRETE WASHOUT, TEMPORARY SEDIMENT TRAP WITH ROCK OUTLET, DIVERSIONS, INLET SEDIMENT TRAP, AND THE PROJECT OFFICE TRAILER.
4. PREPARE TTEMPORARY PARKING AND STORAGE AREA.
5. BEGIN CLEARING AND DEMOLITIONS ACTIVITIES

MAPPED SOIL TYPES

SOIL TYPE	DESCRIPTION	HYDROLOGIC SOIL GROUP
ReD	RION SANDY LOAM, 10 TO 15 PERCENT SLOPES	B
CaA	CARTECAY-TOCCOA COMPLEX, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	A/D
AaB	ALTAVISTA SANDY LOAM, 2 TO 6 PERCENT SLOPES	C
CeC2	CECIL SANDY LOAM, 6 TO 10 PERCENT SLOPES, MODEATELY ERODED	B
TAKEN FROM: USDA, NRCS WEB SOIL SURVEY FOR FULTON COUNTY, GEORGIA		

DISTURBED AREA SUMMARY

DESCRIPTION	AREA (ACRES)
TOTAL PARCEL AREA	± 5.3 AC
ON-SITE DISTURBED AREA	± 4.27 AC
OFF-SITE DISTURBED AREA	± 1.12 AC
TOTAL DISTURBED AREA	± 5.39 AC

THIS PLAN TO BE UTILIZED FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

24-HOUR ES&PC EMERGENCY CONTACT
TATE GODWIN (770) 530-7401
tgodwin@racetrac.com

DEVELOPER
RACETRAC, INC.
200 GALLERIA PARKWAY SE
SUITE 900
ATLANTA, GA 30339

NO.	REVISION	BY	DATE

GEORGIA811 www.Georgia811.com Contact 811 before you dig.
IT'S THE LAW!!!
YOU MUST CALL 811 BEFORE ANY EXCAVATION WHETHER IT'S ON PRIVATE OR PUBLIC LAND
1-800-282-7411
or dial 811 or 8-1-1
811 or 8-1-1

RACETRAC 24-HOUR CONTACT
PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE, SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA REGISTERED Nathan Fuss No. PE046694 PROFESSIONAL 08/01/2025 ENGINEER NATHAN R. FUSS

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RaceTrac

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BLVD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

ES&PC 1

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C2.1	
SHEET NO.	REVISION

WASHOUT OF CONCRETE DRUMS AT THE CONSTRUCTION SITE IS PROHIBITED.
NO STATE WATERS OR WETLANDS ARE LOCATED WITHIN 200 FEET OF THE PROJECT SITE
PETROLEUM STORAGE SHALL BE DONE IN ACCORDANCE WITH ONE OF THE TWO FOLLOWING METHODS TO PREVENT STORM WATER DISCHARGES ON THE SITE: A. ALL PETROLEUM STORAGE CONTAINERS SHALL BE COVERED WITH PLASTIC SHEETING OR BE LOCATED UNDER TEMPORARY ROOF. B. ALL PETROLEUM STORAGE CONTAINERS SHALL BE LOCATED IN A SECONDARY CONTAINMENT AREA.
WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT

EXCAVATED INLET SEDIMENT TRAP #3		
1	DRAINAGE AREA (DA)	0.76 ACRES
2	REQUIRED SEDIMENT STORAGE (ST)	(134 CY/AC) * DA = 102 CY = 2,750 ft³
3	EXCAVATION DEPTH (ED)	3.0 Ft
4	SLOPE OF SIDES	2:1
5	REQUIRED SURFACE AREA (SAmin) SAmin= ST/ED	SAmin= 917 ft²
6	SHAPE:	
	LENGTH	31 ft
	WIDTH	31 ft

EXCAVATED INLET SEDIMENT TRAP #1		
1	DRAINAGE AREA (DA)	0.80 ACRES
2	REQUIRED SEDIMENT STORAGE (ST)	(134 CY/AC) * DA = 107 CY = 2,884 ft³
3	EXCAVATION DEPTH (ED)	3.0 Ft.
4	SLOPE OF SIDES	2:1
5	REQUIRED SURFACE AREA (SAmin) SAmin= ST/ED	SAmin= 965 ft²
6	SHAPE:	
	LENGTH	32 ft
	WIDTH	32 ft

EXCAVATED INLET SEDIMENT TRAP #2		
1	DRAINAGE AREA (DA)	0.36 AC
2	REQUIRED SEDIMENT STORAGE (ST)	(134 CY/AC) * DA = 48 CY = 1,302 ft³
3	EXCAVATION DEPTH (ED)	3.0 Ft.
4	SLOPE OF SIDES	2:1
5	REQUIRED SURFACE AREA (SAmin) SAmin= ST/ED	SAmin= 434 ft²
6	SHAPE:	
	LENGTH	21 ft
	WIDTH	21 ft

GENERAL NOTES:

1. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE
2. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO PUBLIC RIGHT OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMANDS, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIAL SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE ONTO PUBLIC - ROADWAY OR INTO STORM DRAIN MUST BE REMOVED.
3. PROVIDE GPS COORDINATES AT CONSTRUCTION EXIT AS REQUIRED ON THE NOTICE INTENT UNDER THE NPDES APPLICATION.
4. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEAN. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL OCCUR WITHIN THE APPROVED LIMITS.
5. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
6. OWNER AGREES TO PROVIDE AND MAINTAIN OFF-STREET PARKING ON THE SUBJECT PROPERTY DURING THE ENTIRE CONSTRUCTION PERIOD.
7. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE ROADWAY FRONTAGE IMPROVEMENTS ARE BEING MADE.
8. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UP STREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAY HAVE BEEN PAVED.
9. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
10. ALL SEWER EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION.
11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH CITY OF FAIRBURN STANDARDS AND SPECIFICATIONS

DESIGN PROFESSIONAL'S CERTIFICATION:

(1) I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT " MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH LAND DISTURBING ACTIVITY WAS PERMITTED. THE PLAN PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALL. THE DESIGNATED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENT CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR100001.

(2) "I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION."

(3) "I CERTIFY UNDER THE PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED UPON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

Nathan Fuss — GSWCC LEVEL II DESIGN PROFESSIONAL

0000087123 (VALID THROUGH 03-08-28) — CERTIFICATION #

EROSION & SEDIMENT CONTROL LEGEND

- LOD LOD — LIMITS OF DISTURBANCE
- SOILS BOUNDARY
- CW — CONCRETE WASHOUT
- CO — STABILIZED CONSTRUCTION EXIT
- Du — DUST CONTROL (USING: PHASING OF THE PROJECT, MULCH, SPRINKLING WATER, SPRAY-ON-ADHESIVE, CALCIUM CHLORIDE, BARRIERS, ETC.)
- Ds4 — DISTURBED AREA STABILIZATION - WITH SODDING (SEE LANDSCAPE PLAN FOR PLANTING TYPES AND QUANTITIES)
- St — OUTLET PROTECTION
- Ss — SLOPE STABILIZATION
- SF Sd1-S — TYPE S DOUBLE ROW SEDIMENT BARRIER (SENSITIVE AREAS) (H=30")
- Di — DIVERSION
- SD2-P — INLET SEDIMENT TRAP - CURB INLET PROTECTION
- EXCAVATED INLET SEDIMENT TRAP

ES&PC CHECKLIST #14: THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPs WITHIN 7 DAYS AFTER INSTALLATION.

ES&PC CHECKLIST #15: NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING

EROSION & SEDIMENT CONTROLS, ROCK CONSTRUCTION ENTRANCE, AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, LAND-DISTURBING ACTIVITIES.

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE OR AS DIRECTED BY THE EROSION CONTROL INSPECTOR.

PHASE 2

1. INSTALL UNDERGROUND UTILITIES, STORM SEWER PIPES, AND STORM STRUCTURES
2. BEGIN INSTALLATIONS OF UNDERGROUND DETENTION SYSTEM
3. INSTALL EXCAVATED INLET SEDIMENT TRAPS AS SHOWN. FILL IN TEMPORARY SEDIMENT PONDS, AND BRING FINAL GRADE AS CONSTRUCTION PROGRESSES
4. MUCK TEMPORARY SEDIMENT POND, AND BRING FINAL GRADE AS CONSTRUCTION PROGRESSES
5. TEMPORARY STABILIZE, THROUGHOUT CONSTRUCTION IMMEDIATELY FOLLOWING THE COMPLETION OF THE MOST RECENT LAND DISTURBING/GRADING ACTIVITY, ANY DISTURBED AREAS, INCLUDING MATERIAL STOCKPILES THAT ARE SCHEDULED OR LIKELY TO REMAIN INACTIVE FOR 14 DAYS OR MORE
6. IMMEDIATELY PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE
7. PREPARE SITE FOR PAVING.
8. BEGIN INSTALLATION OF CURB/GUTTER, AND BUILDING FOUNDATION.

DISTURBED AREA SUMMARY

DESCRIPTION	AREA (ACRES)
TOTAL PARCEL AREA	± 5.3 AC
ON-SITE DISTURBED AREA	± 4.27 AC
OFF-SITE DISTURBED AREA	± 1.12 AC
TOTAL DISTURBED AREA	± 5.39 AC

MAPPED SOIL TYPES

SOIL TYPE	DESCRIPTION	HYDROLOGIC SOIL GROUP
ReD	RION SANDY LOAM, 10 TO 15 PERCENT SLOPES	B
CaA	CARTECAY-TOCCOA COMPLEX, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	A/D
AaB	ALTAVISTA SANDY LOAM, 2 TO 6 PERCENT SLOPES	C
CeC2	CECIL SANDY LOAM, 6 TO 10 PERCENT SLOPES, MODEATELY ERODED	B
TAKEN FROM: USDA, NRCS WEB SOIL SURVEY FOR FULTON COUNTY, GEORGIA		

THIS PLAN TO BE UTILIZED FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

24-HOUR ES&PC EMERGENCY CONTACT
TATE GODWIN (770) 530-7401
tgodwin@racetrac.com

DEVELOPER
RACETRAC, INC.
200 GALLERIA PARKWAY SE
SUITE 900
ATLANTA, GA 30339

ZONING: M2 (HEAVY INDUSTRIAL)
D.B. 39746 PG. 321
N/F
TAX PARCEL: 09F090100480751
GREENLAND GEORGIA INC.

ZONING: M2 (HEAVY INDUSTRIAL)
LORICA, LLC
D.B. 29109, PG. 622
D.B. 27614 PG. 126
TAX PARCEL: 09F090100480736

ZONING: M2 (HEAVY INDUSTRIAL)
VALENCIA INDUSTRIAL, LLC
D.B. 50361 PG. 379
TAX PARCEL: 09F090100480736

HOWELL AVENUE
PAVEMENT CONDITION=GOOD
POSTED SPEED LIMIT=35MPH
(R/W VARIES-PUBLIC)

FAIRBURN INDUSTRIAL BLVD/S.R. 74
PAVEMENT CONDITION=GOOD
POSTED SPEED LIMIT=45MPH
(R/W VARIES-PUBLIC)

APPROX. LOCATION OF UNDERGROUND STORMWATER MANAGEMENT SYSTEM (ADS MC-7200) (APPROX. 20,000 CF OF STORAGE)

APPROX. LOCATION OF UNDERGROUND STORMWATER MANAGEMENT SYSTEM (ADS MC-3500) (APPROX. 43,000 CF OF STORAGE)

WETLANDS
STREAM BUFFER 25' STATE APPROX.
STREAM BUFFER 50' COUNTY APPROX.
STREAM BUFFER 75' IMPERVIOUS APPROX.
APPROX. 25' STATE STREAM BUFFER
APPROX. 50' COUNTY STREAM BUFFER
APPROX. 75' IMPERVIOUS STREAM BUFFER
FROM LIMIT OF WETLANDS
8" DIP
TRAFFIC SIGNAL WIRE
HOLD HAND-PED. POLE

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NO.	REVISION	BY	DATE

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RACETRAC 24-HOUR CONTACT
PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE,
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA REGISTERED Nathan Fuss No. PE046694 PROFESSIONAL 08/07/2025 ENGINEER NATHAN R. FUSS

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RaceTrac

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

ES&PC 2

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C2.2	
SHEET NO.	REVISION

WASHOUT OF CONCRETE DRUMS AT THE CONSTRUCTION SITE IS PROHIBITED.

NO STATE WATERS OR WETLANDS ARE LOCATED WITHIN 200 FEET OF THE PROJECT SITE

PETROLEUM STORAGE SHALL BE DONE IN ACCORDANCE WITH ONE OF THE TWO FOLLOWING METHODS TO PREVENT STORM WATER DISCHARGES ON THE SITE:

A. ALL PETROLEUM STORAGE CONTAINERS SHALL BE COVERED WITH PLASTIC SHEETING OR BE LOCATED UNDER TEMPORARY ROOF.

B. ALL PETROLEUM STORAGE CONTAINERS SHALL BE LOCATED IN A SECONDARY CONTAINMENT AREA.

WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT

GENERAL NOTES:

1. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE
2. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO PUBLIC RIGHT OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMANDS, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIAL SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE ONTO PUBLIC - ROADWAY OR INTO STORM DRAIN MUST BE REMOVED.
3. PROVIDE GPS COORDINATES AT CONSTRUCTION EXIT AS REQUIRED ON THE NOTICE INTENT UNDER THE NPDES APPLICATION.
4. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEAN. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL OCCUR WITHIN THE APPROVED LIMITS.
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6. OWNER AGREES TO PROVIDE AND MAINTAIN OFF-STREET PARKING ON THE SUBJECT PROPERTY DURING THE ENTIRE CONSTRUCTION PERIOD.
7. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE ROADWAY FRONTAGE IMPROVEMENTS ARE BEING MADE.
8. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UP STREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAY HAVE BEEN PAVED.
9. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
10. ALL SEWER EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION.
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DESIGN PROFESSIONAL'S CERTIFICATION:

(1) I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT " MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH LAND DISTURBING ACTIVITY WAS PERMITTED. THE PLAN PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALL. THE DESIGNATED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENT CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR100001.

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Nathan Fuss

GSWCC LEVEL II DESIGN PROFESSIONAL

0000087123
(VALID THROUGH 03-08-28)
CERTIFICATION #

EROSION & SEDIMENT CONTROL LEGEND

LOD—LOD		LIMITS OF DISTURBANCE
		SOILS BOUNDARY
	CW	CONCRETE WASHOUT
	CO	STABILIZED CONSTRUCTION EXIT
	St	OUTLET PROTECTION
	Ss	SLOPE STABILIZATION
	Ds/4	DISTURBED AREA STABILIZATION - WITH SODDING (SEE LANDSCAPE PLAN FOR PLANTING TYPES AND QUANTITIES)
SF	Sd1-S	TYPE S DOUBLE ROW SEDIMENT BARRIER (SENSITIVE AREAS) (H=30")
	Di	DIVERSION
	SD2-P	INLET SEDIMENT TRAP - CURB INLET PROTECTION
	SD2-F	INLET SEDIMENT TRAP - FILTER FABRIC WITH SUPPORTING FRAME
	Du	DUST CONTROL (USING: PHASING OF THE PROJECT, MULCH, SPRINKLING WATER, SPRAY-ON-ADHESIVE, CALCIUM CHLORIDE, BARRIERS, ETC.)

MAPPED SOIL TYPES

SOIL TYPE	DESCRIPTION	HYDROLOGIC SOIL GROUP
ReD	RION SANDY LOAM, 10 TO 15 PERCENT SLOPES	B
CaA	CARTECAY-TOCCOA COMPLEX, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	A/D
AaB	ALTAVISTA SANDY LOAM, 2 TO 6 PERCENT SLOPES	C
CeC2	CECIL SANDY LOAM, 6 TO 10 PERCENT SLOPES, MODEATELY ERODED	B
TAKEN FROM: USDA, NRCS WEB SOIL SURVEY FOR FULTON COUNTY, GEORGIA		

ES&PC CHECKLIST #14: THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPs WITHIN 7 DAYS AFTER INSTALLATION.

ES&PC CHECKLIST #15: NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING

EROSION & SEDIMENT CONTROLS, ROCK CONSTRUCTION ENTRANCE, AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, LAND-DISTURBING ACTIVITIES.

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE OR AS DIRECTED BY THE EROSION CONTROL INSPECTOR.

PHASE 3

1. PROVIDE PERMANENT PIPE CONNECTIONS. ENSURE ALL PERMANENT PIPES ARE FULLY OPERATIONAL.
2. FINISH CURB/GUTTER AND PAVING OF SITE.
3. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL AREAS.
4. COMPLETE CONSTRUCTION OF BUILDING.
5. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS)
6. STABILIZE ANY AREAS DISTURBED BY THE REMOVAL OF TEMPORARY BMPS
7. CONTINUE DAILY INSPECTIONS AND REPORTS UNTIL THE SITE IS FULLY STABILIZED AND THE GENERAL CONSTRUCTION PERMIT GAR100001 IS TERMINATED.

NOTE:
THE GENERAL CONTRACTOR MAY COMPLETE CONSTRUCTION-RELATED ACTIVITIES CONCURRENTLY, ONLY IF ALL PRECEDING BMPS AND STABILIZATION ACTIVITIES HAVE BEEN COMPLETELY INSTALLED. BMP-RELATED STEPS IN THE ABOVE SEQUENCE ARE BOLDED FOR CLARITY. THE CEC MUST APPROVE, IN WRITING, ANY CHANGES IN THE ABOVE SWPPP IMPLEMENTATION SEQUENCE, BEFORE THEIR IMPLEMENTATION BEGINS.

THE ESTIMATED DATES OF IMPLEMENTATION OF POLLUTION CONTROL MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR ON THE SOIL EROSION/SEDIMENATION CONTROL OPERATION TIME SCHEDULE ON SHEET C - 8.6.

DISTURBED AREA SUMMARY

DESCRIPTION	AREA (ACRES)
TOTAL PARCEL AREA	± 5.3 AC
ON-SITE DISTURBED AREA	± 4.27 AC
OFF-SITE DISTURBED AREA	± 1.12 AC
TOTAL DISTURBED AREA	± 5.39 AC

THIS PLAN TO BE UTILIZED FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

24-HOUR ES&PC EMERGENCY CONTACT
TATE GODWIN (770) 530-7401
tgodwin@racetrac.com

DEVELOPER
RACETRAC, INC.
200 GALLERIA PARKWAY SE
SUITE 900
ATLANTA, GA 30339

ZONING: M2 (HEAVY INDUSTRIAL)
D.B. 39746 PG. 321
N/F
TAX PARCEL: 09F090100480751
GREENLAND GEORGIA INC.

ZONING: M2 (HEAVY INDUSTRIAL)
D.B. 29109, PG. 627
D.B. 27614 PG. 126
TAX PARCEL: 09F090100480728

ZONING: M2 (HEAVY INDUSTRIAL)
VALENCIA INDUSTRIAL, LLC
D.B. 50361 PG. 379
TAX PARCEL: 09F090100480736

WETLANDS
STREAM BUFFER 25' STATE APPROX.
STREAM BUFFER 50' COUNTY APPROX.
STREAM BUFFER 75' IMPERVIOUS APPROX.
APPROX. LOCATION OF UNDERGROUND STORMWATER MANAGEMENT SYSTEM (ADS MC-3500) (APPROX. 43,000 CF OF STORAGE)
C/L CREEK
TOP OF BANK
5' CHAIN LINK
EXCEPTION 30 DRAINAGE ESMT. D.B. 13155 PG. 270
EXCEPTION 19 CURRENT R/W D.B. 12069 PG. 241
5" GAS LINE
AERIAL SEWER
DRIVEWAY APPROX.
RACETRAC MARKET 6,008 SQ. FT.
APPROX. LOCATION OF UNDERGROUND STORMWATER MANAGEMENT SYSTEM (ADS MC-7200) (APPROX. 20,000 CF OF STORAGE)
PAD CONC.
EXCEPTION 21 AFFECTS R/W & EASMT. FOR CONST. & MAINT. OF SLOPES
EXCEPTION 13 D.B. 5145, PG. 446
20' S.S.E.
EXCEPTION 22
R.O.W. VARIES
HOWELL AVENUE
PAVEMENT CONDITION=GOOD POSTED SPEED LIMIT=35MPH (R/W VARIES-PUBLIC)
FAIRBURN INDUSTRIAL BLVD/S.R. 74
PAVEMENT CONDITION=GOOD POSTED SPEED LIMIT=45MPH (R/W VARIES-PUBLIC)
EDGE OF PAVEMENT
GRASS MEDIAN
CONSTRUCTION CENTERLINE
CENTERLINE CONSTRUCTION
TRAFFIC SIGNAL WIRE
HOLE HAND-PED. POLE
CeC2
ReD
CaA
AaB
Ds4
Du
St
Ss
CW
CO
SF
Di
SD2-F

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GEORGIA REGISTERED PROFESSIONAL Nathan Fuss No. PE046694 08/01/2025 ENGINEER NATHAN R. FUSS

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DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C2.3	
SHEET NO.	REVISION

DISTURBED AREA STABILIZATION (WITH SODDING)

Ds4



DEFINITION:
A PERMANENT VEGETATIVE COVER USING SODS ON HIGHLY ERODIBLE OR CRITICALLY ERODED LANDS.

PURPOSE:
ESTABLISH IMMEDIATE GROUND COVER.
REDUCE RUNOFF AND EROSION.
IMPROVE AESTHETICS AND LAND VALUE.
REDUCE DUST AND SEDIMENTS.
STABILIZE WATERWAYS, CRITICAL AREAS.
FILTER SEDIMENTS, NUTRIENTS AND BUGS.
REDUCE DOWNSTREAM COMPLAINTS.
REDUCE LIKELIHOOD OF LEGAL ACTION.
REDUCE LIKELIHOOD OF WORK STOPPAGE DUE TO LEGAL ACTION.
INCREASE "GOOD NEIGHBOR" BENEFITS.

CONDITIONS:
THIS APPLICATION IS APPROPRIATE FOR AREAS THAT REQUIRE IMMEDIATE VEGETATIVE COVERS, DROP INLETS, GRASS SWALES, AND WATERWAYS WITH INTERMITTENT FLOW.

PLANNING CONSIDERATIONS:
SODDING CAN INITIALLY BE MORE COSTLY THAN SEEDING, BUT THE ADVANTAGES JUSTIFY THE INCREASED INITIAL COSTS:

1. IMMEDIATE EROSION CONTROL, GREEN SURFACE, AND QUICK USE.
2. REDUCED FAILURE AS COMPARED TO SEED AS WELL AS THE LACK OF WEEDS.
3. CAN BE ESTABLISHED NEARLY YEAR-ROUND.

SODDING IS PREFERABLE TO SEED IN WATERWAYS AND SWALES BECAUSE OF THE IMMEDIATE PROTECTION OF THE CHANNEL AFTER APPLICATION. SODDING MUST BE STAKED IN CONCENTRATED FLOW AREAS (SEE FIGURE 6-6.1).

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CONSIDER USING SOD FRAMED AROUND DROP INLETS TO REDUCE SEDIMENTS AND MAINTAINING THE GRADE

CONSTRUCTION SPECIFICATIONS
SOIL PREPARATION:
BRING SOIL SURFACE TO FINAL GRADE. CLEAR SURFACE OF TRASH, WOODY DEBRIS, STONES AND CLODS LARGER THAN 1". APPLY SOD TO SOIL SURFACES ONLY AND NOT FROZEN SURFACES, OR GRAVEL TYPE SOILS.

TOPSOIL PROPERLY APPLIED WILL HELP GUARANTEE A stand.DON'T USE TOPSOIL RECENTLY TREATED WITH HERBICIDES OR SOIL STERILANTS.

MIX FERTILIZER INTO SOIL SURFACE. FERTILIZE BASED ON SOIL TESTS OR TABLE 6-6.1.

TABLE 6-6.1 FERTILIZER REQUIREMENTS FOR SOIL SURFACE APPLICATION

FERTILIZER TYPE	FERTILIZER RATE (LBS/ACRE)	FERTILIZER RATE (LBS/SQ FT)	SEASON
10-10-10	1000	.025	FALL

AGRICULTURAL LIME SHOULD BE APPLIED BASED ON SOIL TESTS OR AT A RATE OF 1 TO 2 TONS PER ACRE.

INSTALLATION:
LAY SOD WITH TIGHT JOINTS AND IN STRAIGHT LINES. DON'T OVERLAP JOINTS. STAGGER JOINTS AND DO NOT STRETCH SOD (SEE FIGURE 6-6.2)

ON SLOPES STEEPER THAN 3:1, SOD SHOULD BE ANCHORED WITH PINS OR OTHER APPROVED METHODS. INSTALLED SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE GOOD CONTACT BETWEEN SOD AND SOIL.

IRRIGATE SOD AND SOIL TO A DEPTH OF 4" IMMEDIATELY AFTER INSTALLATION.

SOD SHOULD NOT BE CUT OR SPREAD IN EXTREMELY WET OR DRY WEATHER. IRRIGATION SHOULD BE USED TO SUPPLEMENT RAINFALL FOR A MINIMUM OF 2-3 WEEKS.

MATERIALS:

SOD SELECTED SHOULD BE CERTIFIED. SOD GROWN IN THE GENERAL AREA OF THE PROJECT IS DESIRABLE.

1. SOD SHOULD BE MACHINE CUT AND CONTAIN 3/4" (+ OR -1/4") OF SOIL, NOT INCLUDING SHOOTS OR THATCH.
2. SOD SHOULD BE CUT TO THE DESIRED SIZE WITHIN (+ OR -5%. TORN OR UNEVEN PADS SHOULD BE REJECTED.
3. SOD SHOULD BE CUT AND INSTALLED WITHIN 36 HOURS OF DIGGING.
4. AVOID PLANTING WHEN SUBJECT TO FROST HEAVE OR HOT WEATHER, IF IRRIGATION IS NOT AVAILABLE.
5. THE SOD TYPE SHOULD BE SHOWN ON THE PLANS OR INSTALLED ACCORDING TO TABLE 6-6.2. SEE FIGURE 6-6.1 FOR YOUR RESOURCE AREA.

MAINTENANCE:

RE-SOD AREAS WHERE AN ADEQUATE STAND OF SOD IS NOT OBTAINED. NEW SOD SHOULD BE MOWED SPARINGLY. GRASS HEIGHT SHOULD NOT BE CUT LESS THAN 2"-3" OR AS SPECIFIED (SEE FIGURE 6-6.2).

APPLY ONE TON OF AGRICULTURAL LIME AS INDICATED BY SOIL TEST OR EVERY 4-6 YEARS. FERTILIZE GRASSES IN ACCORDANCE WITH SOIL TESTS OR TABLE 6-6.3.

TABLE 6-6.2 SOD PLANTING REQUIREMENTS

GRASS	VARIETIES	RESOURCE AREA	GROWING SEASON
BERMUDAGRASS	COMMON TIFWAY TIFGREEN TIFLAWN	M-L,P,C P,C P,C P,C	WARM WEATHER
BAHIAGRASS	PENSACOLA	P,C	WARM WEATHER
BERMUDAGRASS	—	P,C	WARM WEATHER
BERMUDAGRASS	COMMON BITTERBLUE RALEIGH	C	WARM WEATHER
BERMUDAGRASS	EMERALD MYER	P,C	WARM WEATHER
BERMUDAGRASS	KENTUCKY	M-L,P	COOL WEATHER

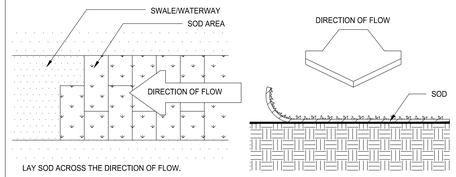
TABLE 6-6.3 FERTILIZER REQUIREMENTS FOR SOD

TYPES OF SPECIES	PLANTING YEAR	FERTILIZER (N-P-K)	RATE (LBS/ACRE)	NITROGEN TOP DRESSING RATE (LBS/ACRE)
COOL SEASON GRASSES	FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500 1000 400	50-100 - 30
WARM SEASON GRASSES	FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500 800 400	50-100 50-100 30

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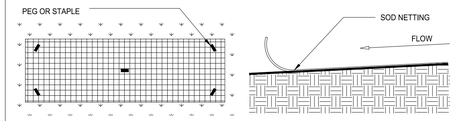
SODDED WATERWAYS

SOD DIRECTIONS



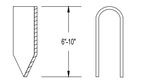
LAY SOD ACROSS THE DIRECTION OF FLOW.

NETTING DIRECTIONS



LAY NET WITH THE DIRECTION OF FLOW.

PEG DETAIL

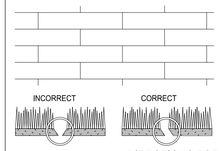


IN CRITICAL AREAS, SECURE SOD WITH NETTING USING STAPLES.

USE PEGS OR STAPLES TO FASTEN SOD FIRMLY – AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3-4 FEET IF THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND.

SOD MAINTENANCE AND INSTALLATION

SOD LAYOUT AND PREPARATION



LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER, DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

BUTTING: ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

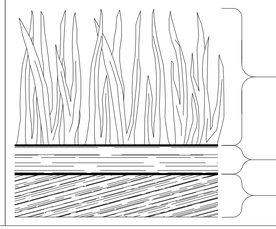
DIRECTIONS FOR INITIAL MAINTENANCE

Step 1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL

Step 2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

Step 3. MOW WHEN THE SOD IS ESTABLISHED – IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").

APPEARANCE OF GOOD SOD



SHOOTS OR GRASS BLADES : GRASS SHOULD BE GREEN AND HEALTHY, MOWED AT A 2"-3" CUTTING HEIGHT.

THATCH: GRASS CLIPPINGS AND DEAD LEAVES (UP TO 1/2" THICK).

ROOT ZONE : SOIL AND ROOTS. SHOULD BE 1/2"-3/4" THICK WITH DENSE ROOT MAT FOR STRENGTH.

DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

Ds2



DEFINITION

THE ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS FOR SEASONAL PROTECTION ON DISTURBED OR DENUDED AREAS.

PURPOSE

- TO REDUCE RUNOFF AND SEDIMENT DAMAGE OF DOWN STREAM RESOURCES
- TO PROTECT THE SOIL SURFACE FROM EROSION
- TO IMPROVE WILDLIFE HABITAT
- TO IMPROVE AESTHETICS
- TO IMPROVE TILTH, INFILTRATION AND AERATION AS WELL AS ORGANIC MATTER FOR PERMANENT PLANTINGS

REQUIREMENT FOR REGULATORY COMPLIANCE

MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. TEMPORARY GRASSING, INSTEAD OF MULCH, CAN BE APPLIED TO ROUGH GRADED AREAS THAT WILL BE EXPOSED FOR LESS THAN SIX MONTHS. IF AN AREA IS EXPECTED TO BE UNDISTURBED FOR LONGER THAN SIX MONTHS, PERMANENT PERENNIAL VEGETATION SHALL BE USED. IF OPTIMUM PLANTING CONDITIONS FOR TEMPORARY GRASSING IS LACKING, MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE. REFER TO SPECIFICATION **DS1-DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).**

CONDITIONS

TEMPORARY VEGETATIVE MEASURES SHOULD BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL AND EFFECTIVE STABILIZATION. MOST TYPES OF TEMPORARY VEGETATION ARE IDEAL TO USE AS COMPANION CROPS UNTIL THE PERMANENT VEGETATION IS ESTABLISHED. NOTE: SOME SPECIES OF TEMPORARY VEGETATION ARE NOT APPROPRIATE FOR COMPANION CROP PLANTINGS BECAUSE OF THEIR POTENTIAL TO OUT-COMPETE THE DESIRED SPECIES (E.G. ANNUAL RYEGRASS). CONTACT NRCS OR THE LOCAL SWCD FOR MORE INFORMATION.

SPECIFICATIONS
GRADING AND SHAPING

EXCESSIVE WATER RUN-OFF SHALL BE REDUCED BY PROPERLY DESIGNED AND INSTALLED EROSION CONTROL PRACTICES SUCH AS CLOSED DRAINS, DITCHES, DIKES, DIVERSIONS, SEDIMENT BARRIERS AND OTHERS. NO SHAPING OR GRADING IS REQUIRED IF SLOPES CAN BE STABILIZED BY HAND-SEEDED VEGETATION OR IF HYDRAULIC SEEDING EQUIPMENT IS TO BE USED.

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SEEDBED PREPARATION

WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT REQUIRED. WHEN USING CONVENTIONAL OR HAND-SEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL IS LOOSE AND NOT SEALED BY RAINFALL.

WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.

LIME AND FERTILIZER

AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE DETERMINED BY SOIL TEST FOR PH. QUICK ACTING LIME SHOULD BE INCORPORATED TO MODIFY PH DURING THE GERMINATION PERIOD. BIO STIMULANTS SHOULD ALSO BE CONSIDERED WHEN THERE IS LESS THAN 3% ORGANIC MATTER IN THE SOIL. GRADED AREAS REQUIRE LIME APPLICATION. SOILS MUST BE TESTED TO DETERMINE REQUIRED AMOUNTS OF FERTILIZER AND AMENDMENTS. FERTILIZER SHOULD BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER, OR CHISEL ON SLOPES TOO STEEP FOR, OR INACCESSIBLE TO EQUIPMENT, FERTILIZER SHALL BE HYDRAULICALLY APPLIED, PREFERABLY IN THE FIRST PASS WITH SEED AND SOME HYDRAULIC MULCH, THEN TOPPED WITH THE REMAINING REQUIRED APPLICATION RATE.

SEEDING

SELECT A GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE YEAR. SEED SHALL BE APPLIED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTI-PACKER-SEEDER, OR HYDRAULIC SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIPACKER SEEDERS SHOULD NORMALLY PLACE SEED ONE-QUARTER TO ONE-HALF INCH DEEP. APPROPRIATE DEPTH OF PLANTING IS TEN TIMES THE SEED DIAMETER. SOIL SHOULD BE "RAKED" LIGHTLY TO COVER SEED WITH SOIL IF SEEDED BY HAND. SEE TABLE 6-4.1

MULCHING

TEMPORARY VEGETATION CAN, IN MOST CASES, BE ESTABLISHED WITHOUT THE USE OF MULCH, PROVIDED THERE IS LITTLE TO NO EROSION POTENTIAL. HOWEVER, THE USE OF MULCH CAN OFTEN ACCELERATE AND ENHANCE GERMINATION AND VEGETATION ESTABLISHMENT. MULCH WITHOUT SEEDING SHOULD BE CONSIDERED FOR SHORT TERM PROTECTION. REFER TO **DS1 - DISTURBED AREA STABILIZATION (WITH MULCHING ONLY).**

IRRIGATION

DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED TO A DEPTH THAT WILL INSURE GERMINATION OF THE SEED. SUBSEQUENT APPLICATIONS SHOULD BE MADE WHEN NEEDED.

PLANT, PLANTING RATES, AND PLANTING DATES FOR TEMPORARY COVER OR COMPANION CROPS 1/

Species	Broadcast Rates 2/- Per Acre	Broadcast PLS 3/ Per 1000 sq.ft.	Resource Area 4/	Planting Dates by Resource Areas (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.) J F M A M J J A S O N D	Remarks
BARLEY (Hordeum vulgare)			P		
alone	3 bu. (144 lbs.)	3.3 lb.			14,000 seed per pound. Moderately Use on productive soils.
In mixture	1/2 bu. (24 lbs.)	0.6 lb.			
LESPEDEZA, ANNUAL (Lespedeza striata)			P		
alone	40 lbs.	0.9 lb.			200,000 seed per pound. May volunteer for several years. Use inoculant EL
in mixtures	10 lbs.	0.2 lb.			
LOVEGRASS, WEEPING (Eragrostis curvula)			P		
alone	4 lbs.	0.1 lb.			1,800,000 seed per pound May last for several years. Mix with Sericea lespedeza
in mixtures	2lbs.	0.05 lb.			
MILLET, BROWNTOP (Panicum fasciculatum)		C	P		137,000 seed per pound. Quick dense cover. Will provide too much competition in mixtures if seeded at high rates.
alone	40 lbs.	0.9 lb.			
in mixtures	10 lbs.	0.2 lb.			

PLANT, PLANTING RATES, AND PLANTING DATES FOR TEMPORARY COVER OR COMPANION CROPS 1/

Species	Broadcast Rates 2/ - Per Acre	Broadcast PLS 3/ Per 1000 sq.ft.	Resource Area 4/	Planting Dates by Resource Areas (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.) J F M A M J J A S O N D	Remarks
MILLET, PEARL (Pennisetum glaucum)			P		89,000 seed per pound. Quick dense cover. May reach 5 feet in height. Not recommended for mixtures
alone	50 lbs	1.1 lb.			
OATS (Avena sativa)			P		13,000 seed per pound. Use on productive soils. Not as winterhardyas rye or barley.
alone	4 bu. (128 lbs.)	2.9 lb.			
In mixtures	1 bu. (32 lbs.)	0.7lb			
RYE (Secale cereale)			P		18,000 seed per pound. Quick cover. Drought tolerant and winterhardy.
alone	3 bu. (168 lbs.)	3.9 lb.			
In mixture	1/2 bu. (28 lbs.)	0.6 lb.			
RYEGRASS, ANNUAL (Lolium temulentum)			P		227,000 seed per pound. Dense cover. Very competitive and is not to be used in
alone	40 lbs.	0.9 lb.			
SUDANGRASS (Sorghum Sudanese)			P		59,000 seed per pound. Good on droughty sites. Not recommended for mixtures.
alone	60 lbs	1.4lb			

P_PLANT, PLANTING RATES, AND PLANTING DATES FOR TEMPORARY COVER OR COMPANION CROPS

Species	Broadcast Rates 2/- Per Acre	Broadcast PLS 3/ Per 1000 sq.ft.	Resource Area 4/	Planting Dates by Resource Areas (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.) J F M A M J J A S O N D	Remarks
WHEAT (Triticum Aestivum)			P		15,200 seed per pound.
alone	3 bu. (180 lbs.)	4.1 lb.			
In mixtures	1/2 bu. (30 lbs.)	0.7 lb.			

1/ Temporary cover crops are very competitive and will crown out perennials if's seeded too heavily.
2/ Reduce seeding rates by 50% when drilled.
3/ PLS is an abbreviation for Pure Live Seed.
4/ P represents the Southern Piedmont MLRA.

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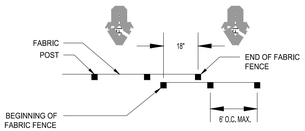
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FASTENERS FOR SILT FENCES

OVERLAP AT FABRIC ENDS



TOP VEIW - NOT TO SCALE

FRONT VIEWS - NOT TO SCALE

NOTES:
1. THE FABRIC AND WIRE SHOULD BE SECURELY FASTENED TO POSTS AND FABRIC ENDS MUST BE OVERLAPPED A MINIMUM OF 18" OR WRAPPED TOGETHER AROUND A POST TO PROVIDE A CONTINUOUS FABRIC BARRIER AROUND THE INLET.

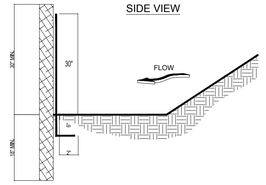
Table 6-27.2 Post Size			
Type	"Min Length"	"Type of Post"	Size of Post
NS	4'	Soft wood Oak Steel	"3"dia or 2x4 1.5" x1.5" 1.15lb./ft. min"
S	4'	"Steel Oak"	"1.15-1.25 lb./ ft. min 2"x2""

Table 6-27.3 Fasteners for Wood Posts				
	Gauge	Crown	Legs	"Staples / Post"
"Wire Staples"	17 min.	"3/4" wide"	"1/2" long"	5 min.
	Gauge	Length	"Button Heads"	Nail/ Post
Nails	14 min.	1"	3/4"	4 min.
Note: Filter Fabric may also be attached to the post by wire, cords, and pockets.				

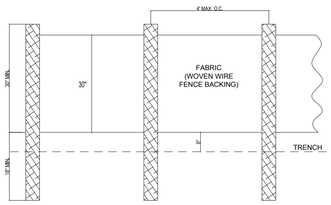
SILT FENCE - TYPE SENSITIVE

Sd1-S

SIDE VIEW



FRONT VIEW



NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (") IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

DISTURBED AREA STABILIZATION (WITH SODDING)

Ds4



DEFINITION

A permanent vegetative cover using sods on highly erodible or critically eroded lands.

PURPOSE

- Establish immediate ground cover.
- Reduce runoff and erosion.
- Improve aesthetics and land value.
- Reduce dust and sediments.
- Stabilize waterways, critical areas.
- Filter sediments, nutrients and bugs.
- Reduce downstream complaints.
- Reduce likelihood of legal action.
- Reduce likelihood of work stoppage due to legal action.
- Increase "good neighbor" benefits.

CONDITIONS

This application is appropriate for areas which require immediate vegetative covers, drop inlets, grass swales, and waterways with intermittent flow.

PLANNING CONSIDERATIONS

Sodding can initially be more costly than seeding, but the advantages justify the increased initial costs.

1. Immediate erosion control, green surface, and quick use.
2. Reduced failure as compared to seed as well as the lack of weeds.
3. Can be established nearly year-round.

Sodding is preferable to seed in waterways and swales because of the immediate protection of the channel after application. Sodding must be staked in concentrated flow areas (See Figure 6-6.1).

Consider using sod framed around drop inlets to reduce sediments and maintaining the grade.

CONSTRUCTION SPECIFICATIONS INSTALLATION

Soil Preparation

Bring soil surface to final grade. Clear surface of trash, woody debris, stones and clods larger than 1". Apply sod to soil surfaces only and not frozen surfaces, or gravel type soils.

Topsoil properly applied will help guarantee a stand. Don't use topsoil recently treated with herbicides or soil sterilants.

Mix fertilizer into soil surface. Fertilize based on soil tests or Table 6-6.1.

Table 6-6.1. Fertilizer Requirements for Soil Surface Application

Fertilizer Type	Fertilizer Rate (lbs /acre)	Fertilizer Rate (lbs /sq ft)	Season
10-10-10	1000	.025	Fall

Agricultural lime should be applied based on soil tests or at a rate of 1 to 2 tons per acre.

Installation

Lay sod with tight joints and in straight lines. Don't overlap joints. Stagger joints and do not stretch sod (See Figure 6-6.2)

On slopes steeper than 3:1, sod should be anchored with pins or other approved methods. Installed sod should be rolled or tamped to provide good contact between sod and soil.

Irrigate sod and soil to a depth of 4" immediately after installation.

Sod should not be cut or spread in extremely wet or dry weather. Irrigation should be used to supplement rainfall for a minimum of 2-3 weeks.

MATERIALS

Sod selected should be certified. Sod grown in the general area of the project is desirable.

1. Sod should be machine cut and contain 3/4" (+ or -1/4") of soil, not including shoots or thatch.
2. Sod should be cut to the desired size within + or -5%. Torn or uneven pads should be rejected.
3. Sod should be cut and installed within 36 hours of digging.
4. Avoid planting when subject to frost heave or hot weather if irrigation is not available.
5. The sod type should be shown on the plans or installed according to Table 6-6.2. See Figure 6-6.4 for your Resource Area.

Table 6-6.2. Sod Planting Requirements

Grass	Varieties	Resource Area	Growing Season
Bermudagrass	Common Tifway Tifgreen Tifdwarf	M-L,P,C P,C P,C P,C	Warm Weather
Bahiagrass	Pensacola	P,C	Warm Weather
Centipede	-	P,C	Warm Weather
St. Augustine	Common Bitterblue Raleigh	C	Warm Weather
Zoysia	Emerald Myer	P,C	Warm Weather
Tall Fescue	Kentucky	M-L,P	Cool Weather

MAINTENANCE

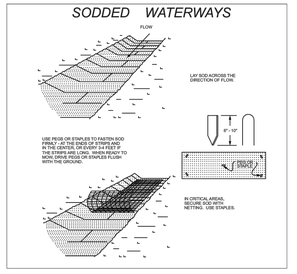
Re-sod areas where an adequate stand of sod is not obtained. New sod should be mowed sparingly. Grass height should not be cut less than 2"-3" or as specified (See Figure 6-6.2).

Apply one ton of agricultural lime as indicated by soil test or every 4-6 years. Fertilize grasses in accordance with soil tests or Table 6-6.3.

Table 6-6.3. Fertilizer Requirements for Sod

Types of Species	Planting Year	Fertilizer (N-P-K)	Rate (lbs /acre)	Nitrogen Top Dressing Rate (lbs /acre)
Cool season grasses	First	6-12-12	1500	50-100
	Second Maintenance	6-12-12 10-10-10	1000 400	30
Warm season grasses	First	6-12-12	1500	50-100
	Second Maintenance	6-12-12 10-10-10	800 400	50-100 30

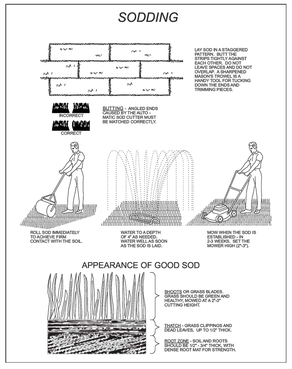
SODDED WATERWAYS



Source: Va. DSWC

Figure 6-6.1

SODDING

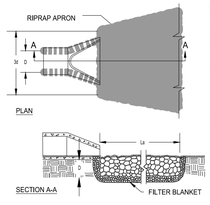


Source: Va. DSWC

Figure 6-6.2

RIPRAP OUTLET PROTECTION

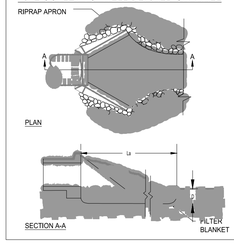
PIPE OUTLET TO FLAT AREA -- NO WELL DEFINED CHANNEL



NOTES:
1. La IS THE LENGTH OF THE RIPRAP APRON.
2. D = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL-DEFINED CHANNEL, EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK (WHICHEVER IS LESS).
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND THE SOIL FOUNDATION.

St

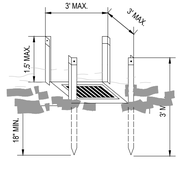
PIPE OUTLET TO WELL DEFINED CHANNEL



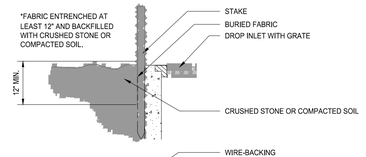
FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION

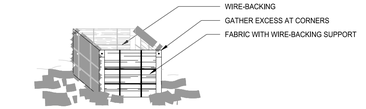
Sd2-F

STEEL FRAME AND SILT FENCE INSTALLATION



NOTES:
1. DESIGN IS FOR SLOPES NO GREATER THAN 5% (NOT DESIGNED FOR CONCENTRATED FLOWS).
2. THE STEEL POSTS SUPPORTING THE SILT FENCE MATERIAL SHOULD BE SPACED EVENLY AROUND THE PERIMETER OF THE INLET (MAXIMUM OF 3' APART).
3. THE STEEL POSTS SHOULD BE SECURELY DRIVEN AT LEAST 18" DEEP.
4. THE FABRIC SHOULD BE ENTRENCHED AT LEAST 12" AND THEN BACKFILLED WITH CRUSHED STONE OR COMPACTED SOIL.

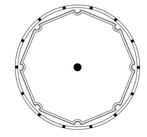


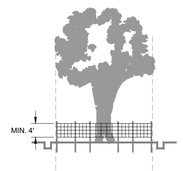


TR

TREE PROTECTION

"SNOW" FENCE

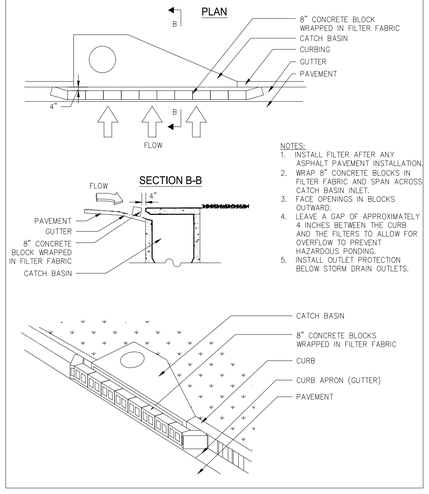




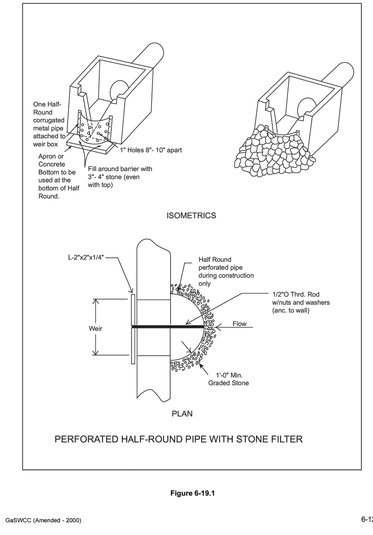
NOTES:
1. USE TRENCHER (I.E. DITCH WHICH) TO CUT A 4"-5" W X 18" D TRENCH ALONG DRIP LINE (LIMIT OF CLEARING) AND BACKFILL WITH SAND AND LIGHTLY COMPACT.
2. SPACE STAKES AT INTERVALS SUFFICIENT TO MAINTAIN ALL FENCING OUT OF DRIP LINE OR AS SHOWN BY ENGINEER (SET STAKES NO GREATER THAN 6 FEET ON CENTER-REBAR IS NOT TO BE USED FOR STAKES).
3. MAINTAIN FENCE BY REPAIRING AND/OR REPLACING DAMAGED FENCE. DO NOT REMOVE FENCING PRIOR TO LANDSCAPING OPERATIONS.
4. DO NOT STORE OR STACK MATERIALS, EQUIPMENT, OR VEHICLES WITHIN FENCED AREA.
5. FENCE SHALL BE ORANGE VINYL "SNOW FENCE" 4' HIGH MINIMUM.

Sd2-P

CURB INLET FILTER "PIGS IN BLANKET"



NOTES:
1. INSTALL FILTER AFTER ANY ASPHALT PAVEMENT INSTALLATION.
2. WRAP 8" CONCRETE BLOCKS IN FILTER FABRIC AND SPAN ACROSS CATCH BASIN INLET.
3. FACE OPENINGS IN BLOCKS OUTWARD.
4. LEAVE A GAP OF APPROXIMATELY 4 INCHES BETWEEN THE CURB AND THE FILTERS TO ALLOW FOR OVERFLOW TO PREVENT HAZARDOUS PONDING.
5. INSTALL OUTLET PROTECTION BELOW STORM DRAIN OUTLETS.



PERFORATED HALF-ROUND PIPE WITH STONE FILTER

Figure 6-19.1

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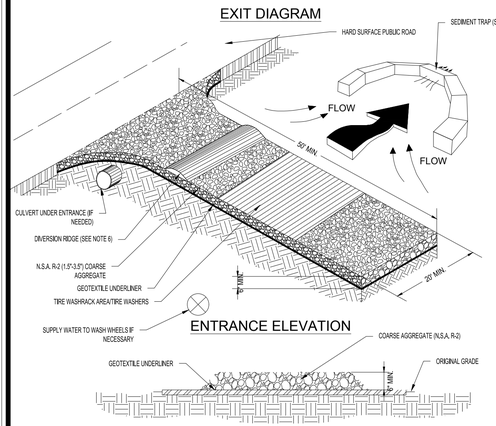
FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C2.5	
SHEET NO.	REVISION

CRUSHED STONE CONSTRUCTION EXIT

EXIT DIAGRAM



ENTRANCE ELEVATION

NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%..
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

CO

SLOPE STABILIZATION

Ss



DEFINITION

A PROTECTIVE COVERING USED TO PREVENT EROSION AND ESTABLISH TEMPORARY OR PERMANENT VEGETATION ON STEEP SLOPES, SHORE LINES, OR CHANNELS.

PURPOSE

TO PROVIDE A COVER LAYER THAT STABILIZES THE SOIL AND ACTS AS A RAIN DROP IMPACT DISSIPATER WHILE PROVIDING A MICROCLIMATE THAT PROTECTS YOUNG VEGETATION AND PROMOTES ITS ESTABLISHMENT. IF USING SLOPE STABILIZATION TO REINFORCE CHANNELS, PLEASE REFER TO SPECIFICATION, **CH- CHANNEL STABILIZATION**.

CONDITIONS

SLOPE STABILIZATION CAN BE APPLIED TO FLAT AREAS OR SLOPES WHERE THE EROSION HAZARD IS HIGH AND SLOPE PROTECTION IS NEEDED DURING THE ESTABLISHMENT OF VEGETATION.

PLANNING CONSIDERATIONS

CARE MUST BE TAKEN TO CHOOSE THE TYPE OF SLOPE STABILIZATION PRODUCT THAT IS MOST APPROPRIATE FOR THE SPECIFIC NEEDS OF A PROJECT. TWO GENERAL TYPES OF SLOPE STABILIZATION PRODUCTS ARE DISCUSSED WITHIN THIS SPECIFICATION.

ROLLED EROSION CONTROL PRODUCTS (RECP)

A NATURAL FIBER BLANKET WITH SINGLE OR DOUBLE PHOTODEGRADABLE OR BIODEGRADABLE NETS.

HYDRAULIC EROSION CONTROL PRODUCTS (HECP)

HECP SHALL UTILIZE STRAW, COTTON, WOOD OR OTHER NATURAL BASED FIBERS HELD TOGETHER BY A SOIL BINDING AGENT THAT WORKS TO STABILIZE SOIL PARTICLES. PAPER MULCH SHOULD NOT BE USED FOR EROSION CONTROL.

CRITERIA

ROLLED EROSION CONTROL PRODUCTS (RECPS) AND HYDRAULIC EROSION CONTROL PRODUCTS (HECPS).

•INSTALLATION AND STAPLING OF RECPS AND APPLICATION RATES FOR THE HECPS SHALL CONFORM TO MANUFACTURER'S GUIDELINES FOR APPLICATION

•SHORT-TERM RECPS AS A MINIMUM SHALL BE USED TO STABILIZE CONCENTRATED FLOW AREAS WITH A VELOCITY LESS THAN 5FT/SEC ON SLOPES 3:1 OR GREATER WITH A HEIGHT OF 10 FEET OR GREATER.

MATERIALS – HECP

HYDRAULIC EROSION CONTROL PRODUCTS SHALL BE PREPACKAGED FROM THE MANUFACTURER. FIELD MIXING OF PERFORMANCE ENHANCING ADDITIVES WILL NOT BE ALLOWED. FIBEROUS COMPONENTS SHOULD BE ALL NATURAL OR BIODEGRADABLE. PRODUCTS SHALL BE DETERMINED TO BE NON-TOXIC IN ACCORDANCE WITH EPA-821-R-02-012.

MATERIALS – RECP

BLANKETS SHALL BE NONTOXIC TO VEGETATION, SEED, OR WILDLIFE. PRODUCTS SHALL BE DETERMINED TO BE NON-TOXIC IN ACCORDANCE WITH EPA-821-R-02-012. AT MINIMUM, THE PLASTIC OR BIODEGRADABLE NETTING SHALL BE STITCHED TO THE FIBROUS MATRIX TO MAXIMIZE STRENGTH AND PROVIDE FOR EASE OF HANDLING.

RECPS ARE CATEGORIZED AS FOLLOWS:

a. SHORT-TERM
(FUNCTIONAL LONGEVITY 12 MO.)
i. PHOTODEGRADABLE
STRAW BLANKETS WITH A TOP AND BOTTOM SIDE PHOTO DEGRADABLE NET. THE MAXIMUM SIZE OF THE MESH SHOULD BE OPENINGS OF ½" X ½". THE BLANKET SHOULD BE SEWN TOGETHER ON 1.5" CENTERS WITH DEGRADABLE THREAD. MINIMUM THICKNESS SHOULD BE 0.35" AND MINIMUM DENSITY SHOULD BE 0.5 LBS PER SQUARE YARD.

ii. BIODEGRADABLE
STRAW BLANKET WITH A TOP AND BOTTOM SIDE BIODEGRADABLE JUTE NET. THE TOP SIDE NET SHOULD CONSIST OF MACHINE DIRECTION STRANDS THAT ARE TWISTED TOGETHER AND THEN INTERWOVEN WITH CROSS DIRECTION STRANDS (LENO WEAVE). THE BOTTOM NET MAY BE LENO WEAVE OR OTHERWISE TO MEET REQUIREMENTS. THE APPROXIMATE SIZE OF THE MESH SHOULD BE OPENINGS OF 0.5" X 1.0". THE BLANKET SHOULD BE SEWN TOGETHER ON 1.5" CENTERS WITH DEGRADABLE THREAD. MINIMUM THICKNESS SHOULD BE 0.25" AND MINIMUM DENSITY SHOULD BE 0.5 LBS PER SQUARE YARD.

b. EXTENDED-TERM
(FUNCTIONAL LONGEVITY 24 MO.)
i.PHOTODEGRADABLE
BLANKETS THAT CONSIST OF 70% STRAW AND 30% COCONUT WITH A TOP AND BOTTOM SIDE PHOTODEGRADABLE THE TOP NET SHOULD HAVE ULTRAVIOLET ADDITIVES TO DELAY BREAKDOWN. THE MAXIMUM SIZE OF THE MESH SHOULD BE OPENINGS OF 0.65" X 0.65". THE BLANKET SHOULD BE SEWN TOGETHER ON 1.5" CENTERS WITH DEGRADABLE THREAD. MINIMUM THICKNESS SHOULD BE 0.35" AND MINIMUM DENSITY SHOULD BE 0.6 LBS PER SQUARE YARD.

ii.BIODEGRADABLE
BLANKETS THAT CONSIST OF 70% STRAW AND 30% COCONUT WITH A TOP AND BOTTOM SIDE BIODEGRADABLE JUTE NET. THE TOP SIDE NET SHOULD CONSIST OF MACHINE DIRECTION STRANDS THAT ARE TWISTED TOGETHER.
AND THEN INTERWOVEN WITH CROSS DIRECTION STRANDS (LENO WEAVE). THE BOTTOM NET MAY BE LENO WEAVE OR OTHERWISE TO MEET REQUIREMENTS. THE APPROXIMATE SIZE OF THE MESH SHOULD BE
OPENINGS OF 0.5" X 1.0". THE BLANKET SHOULD BE SEWN TOGETHER ON 1.5" CENTERS WITH DEGRADABLE MINIMUM THICKNESS SHOULD BE 0.25" AND MINIMUM DENSITY SHOULD BE 0.65 LBS PER SQUARE YARD.

c. LONG-TERM
(FUNCTIONAL LONGEVITY 36 MO.)
i. PHOTODEGRADABLE
BLANKETS THAT CONSIST OF 100% COCONUT WITH A TOP AND BOTTOM SIDE PHOTODEGRADABLE NET. EACH NET SHOULD HAVE ULTRAVIOLET ADDITIVES TO DELAY BREAKDOWN. THE MAXIMUM SIZE OF THE MESH SHOULD BE OPENINGS OF 0.65" X 0.65". THE BLANKET SHOULD BE SEWN TOGETHER ON 1.5" CENTERS WITH DEGRADABLE THREAD. MINIMUM THICKNESS SHOULD BE 0.3" AND MINIMUM DENSITY SHOULD BE 0.5 LBS PER SQUARE YARD.

ii. BIODEGRADABLE
BLANKETS THAT CONSIST OF 100% COCONUT WITH A TOP AND BOTTOM SIDE BIODEGRADABLE JUTE NET. THE TOP SIDE NET SHOULD CONSIST OF MACHINE DIRECTION STRANDS THAT ARE TWISTED TOGETHER AND THEN INTERWOVEN WITH CROSS DIRECTION STRANDS (LENO WEAVE). THE BOTTOM NET MAY BE LENO WEAVE OR OTHERWISE TO MEET REQUIREMENTS. THE APPROXIMATE SIZE OF THE MESH SHOULD BE OPENINGS OF 0.5" X 1.0". THE BLANKET SHOULD BE SEWN TOGETHER ON 1.5" CENTERS WITH DEGRADABLE THREAD. MINIMUM THICKNESS SHOULD BE 0.25" AND MINIMUM DENSITY SHOULD BE0.5 LBS PER SQUARE YARD.

NOTES
IT IS THE INTENTION OF THIS SECTION TO ALLOW INTERCHANGEABLE USE OF RECPS AND HECPS FOR EROSION PROTECTION ON SLOPES. THE PROJECT ENGINEER SHOULD SELECT THE TYPE OF EROSION CONTROL PRODUCT THAT BEST FITS THE NEED OF THE PARTICULAR SITE.

SITE PREPARATION
AFTER THE SITE HAS BEEN SHAPED AND GRADED TO THE APPROVED DESIGN, PREPARE A FRIABLE SEEDBED RELATIVELY FREE FROM CLODS AND ROCKS MORE THAN ONE INCH IN DIAMETER, AND ANY FOREIGN MATERIAL THAT WILL PREVENT CONTACT OF THE SOIL STABILIZATION
MAT WITH THE SOIL SURFACE. SURFACE MUST BE SMOOTH TO ENSURE PROPER CONTACT OF BLANKETS OR MATTING TO THE SOIL SURFACE. IF NECESSARY, REDIRECT ANY RUNOFF FROM THE DITCH OR SLOPE DURING INSTALLATION.

MAINTENANCE
ALL EROSION CONTROL BLANKETS AND MATTING SHOULD BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION, PARTICULARLY AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY DISLOCATION OR FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUTS OR BREAKAGE OCCURS, REINSTALL THE MATERIAL AFTER.
REPAIRING DAMAGE TO THE SLOPE OR DITCH. CONTINUE TO MONITOR THESE AREAS UNTIL THEY BECOME PERMANENTLY STABILIZED.

TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)

BLANKET AND MATTING CROSS-SECTIONS

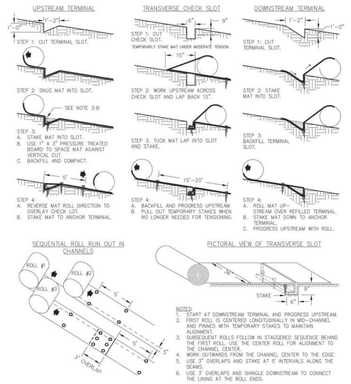
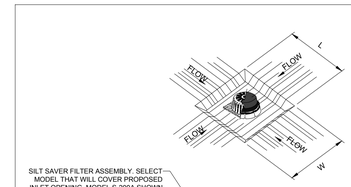
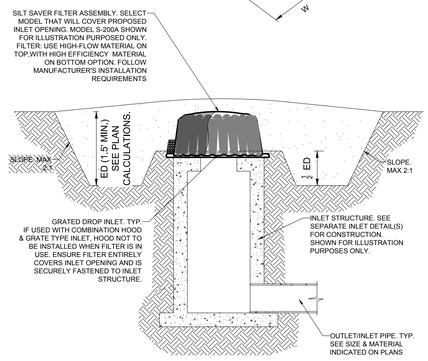


Figure 6-10.1 - Typical Installation Guidelines for Matting and Blankets



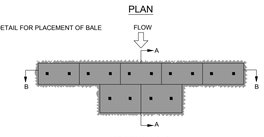


EXCAVATED INLET SEDIMENT TRAP

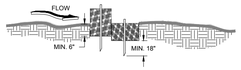
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TYPICAL STRAW BALE CHECK DAM

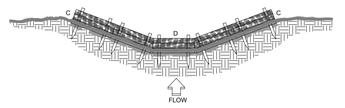
PLAN



SECTION A-A



SECTION B-B



NOTES:
1. BALES SHOULD BE BOUND WITH WIRE OR NYLON STRING AND SHOULD BE PLACED IN ROWS WITH BALE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. REMOVE #4 REBAR AFTER STRAW BALES ARE NO LONGER IN PLACE.
3. POINT C OF SECTION B-B SHOULD ALWAYS BE HIGHER THAN POINT D.

DUST CONTROL ON DISTURBED AREAS

Du



DEFINITION

CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITES, ROADS, AND DEMOLITION SITES.

PURPOSE
- TO PREVENT SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES.
- TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES THAT MAY BE HARMFUL OR INJURIOUS TO HUMAN HEALTH, WELFARE, OR SAFETY, OR TO ANIMALS OR PLANT LIFE.

CONDITIONS
THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST WHERE ON AND OFF-SITE DAMAGE MAY OCCUR WITHOUT TREATMENT.

METHOD AND MATERIALS

A. TEMPORARY METHODS

MULCHES, SEE STANDARD DS1 - DISTURBED AREA STABILIZATION (WITH MULCHING ONLY). SYNTHETIC RESINS MAY BE USED INSTEAD OF ASPHALT TO BIND MULCH MATERIAL. REFER TO SPECIFICATION TAC - TACKIFIERS. RESINS SHOULD BE USED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

VEGETATIVE COVER. SEE SPECIFICATION DS2 - DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).

SPRAY-ON ADHESIVES. THESE ARE USED ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS. REFER TO SPECIFICATION TAC - TACKIFIERS.

TILLAGE. THIS PRACTICE IS DESIGNED TO ROUGHEN AND BRING CLODS TO THE SURFACE. IT IS AN EMERGENCY MEASURE THAT SHOULD BE USED BEFORE WIND EROSION STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT THAT MAY PRODUCE THE DESIRED EFFECT.

IRRIGATION. THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED.

BARRIERS. SOLID BOARD FENCES, SNOWFENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 15 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.

CALCIUM CHLORIDE. APPLY AT RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

B. PERMANENT METHODS

PERMANENT VEGETATION. SEE SPECIFICATION **DS3 -DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)**. EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.

TOPSOILING. THIS ENTAILS COVERING THE SURFACE WITH LESS EROSIVE SOIL MATERIAL. SEE SPECIFICATION **TP - TOPSOILING**.

STONE. COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. SEE SPECIFICATION **CR-CONSTRUCTION ROAD STABILIZATION**.

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DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)

Ds1



DEFINITION

APPLYING PLANT RESIDUES OR OTHER SUITABLE MATERIALS, PRODUCED ON THE SITE IF POSSIBLE, TO THE SOIL SURFACE.

PURPOSE
- TO REDUCE RUNOFF AND EROSION
- TO CONSERVE MOISTURE
- TO PREVENT SURFACE COMPACTION OR CRUSTING
- TO CONTROL UNDESIRABLE VEGETATION
- TO MODIFY SOIL TEMPERATURE
- TO INCREASE BIOLOGICAL ACTIVITY IN THE SOIL

REQUIREMENT FOR REGULATORY COMPLIANCE
MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS, BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, DEPENDING ON THE MATERIAL USED, ANCHORED AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE.
MAINTENANCE SHALL BE REQUIRED TO MAINTAIN APPROPRIATE DEPTH AND 90% COVER. TEMPORARY VEGETATION MAY BE EMPLOYED INSTEAD OF MULCH IF THE AREA WILL REMAIN UNDISTURBED FOR LESS THAN SIX MONTHS.
IF ANY AREA WILL REMAIN UNDISTURBED FOR GREATER THAN SIX MONTHS, PERMANENT VEGETATIVE TECHNIQUES SHALL BE EMPLOYED. REFER TO **DS2 -DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING), DS3 - DISTURBED AREA STABILIZATION (WITH PERMANENT SEEDING), AND DS4 - DISTURBED AREA STABILIZATION (WITH SODDING)**.

SPECIFICATIONS
MULCHING WITHOUT SEEDING
THIS STANDARD APPLIES TO GRADED OR CLEARED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER, BUT CAN BE STABILIZED WITH A MULCH COVER.

SITE PREPARATION
1. GRADE TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.
2. INSTALL NEEDED EROSION CONTROL MEASURES AS REQUIRED SUCH AS DIKES, DIVERSIONS, BERMS, TERRACES AND SEDIMENT BARRIERS.
3. LOOSEN COMPACT SOIL TO A MINIMUM DEPTH OF 3 INCHES.

MULCHING MATERIALS
SELECT ONE OF THE FOLLOWING MATERIALS AND APPLY AT THE DEPTH INDICATED:
1. DRY STRAW OR HAY SHALL BE APPLIED AT A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVERAGE. ONE ADVANTAGE OF THIS MATERIAL IS EASY APPLICATION.
2. WOOD WASTE (CHIPS, SAWDUST OR BARK) SHALL BE APPLIED AT A DEPTH OF 2 TO 3 INCHES. ORGANIC MATERIAL FROM THE CLEARING STAGE OF DEVELOPMENT SHOULD REMAIN ON SITE, BE CHIPPED, AND APPLIED AS MULCH. THIS METHOD OF MULCHING CAN GREATLY REDUCE EROSION CONTROL COSTS.
3. POLYETHYLENE FILM SHALL BE SECURED OVER BANKS OR STOCKPILED SOIL MATERIAL FOR TEMPORARY PROTECTION. THIS MATERIAL CAN BE SALVAGED AND RE-USED.

APPLYING MULCH

WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.

1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICAL EQUIPMENT.
2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, 20-30 POUNDS OF NITROGEN PER ACRE IN ADDITION TO THE NORMAL AMOUNT SHALL BE APPLIED TO OFFSET THE UPTAKE OF NITROGEN CAUSED BY THE DECOMPOSITION OF THE ORGANIC MULCHES.
3. APPLY POLYETHYLENE FILM ON EXPOSED AREAS.

ANCHORING MULCH
1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK." DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION.

   STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED. TACKIFIERS, BINDERS AND HYDRAULIC MULCH WITH TACKIFIER SPECIFICALLY DESIGNED FOR TACKING STRAW CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. PLEASE REFER TO SPECIFICATION **TAC – TACKIFIERS**. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.
3. POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

GSWCC 2016 EDITION

CW

TEMPORARY CONCRETE WASHOUT FACILITIES



DEFINITION

AFTER CONCRETE IS POURED AT A CONSTRUCTION SITE, THE CHUTES OF READY MIXED CONCRETE TRUCKS AND HOPPERS OF CONCRETE PUMP TRUCKS MUST BE WASHED OUT TO REMOVE THE REMAINING CONCRETE BEFORE IT HARDENS. EQUIPMENT SUCH AS WHEELBARROWS AND HAND TOOLS ALSO NEED TO BE WASHED DOWN. AT THE END OF EACH WORK DAY, THE DRUMS OF CONCRETE TRUCKS MUST BE WASHED OUT. THIS IS CUSTOMARILY DONE AT THE READY MIXED BATCH PLANTS, WHICH ARE USUALLY OFF-SITE FACILITIES, HOWEVER LARGE OR RURAL CONSTRUCTION PROJECTS MAY HAVE ON-SITE BATCH PLANTS. CEMENTITIOUS (HAVING THE PROPERTIES OF CEMENT) WASHWATER AND SOLIDS ALSO COME FROM USING SUCH CONSTRUCTION MATERIALS AS MORTAR, PLASTER, STUCCO, AND GROUT.

PURPOSE

- TO COLLECT AND RETAIN ALL THE CONCRETE WASHOUT WATER AND SOLIDS IN LEAK PROOF CONTAINERS, SO THAT THIS CAUSTIC MATERIAL DOES NOT REACH THE SOIL SURFACE AND THEN MIGRATE TO SURFACE WATERS OR INTO THE GROUND WATER

- TO RECYCLE 100 PERCENT OF THE COLLECTED CONCRETE WASHOUT WATER AND SOLIDS.

- ANOTHER OBJECTIVE IS TO SUPPORT THE DIVERSION OF RECYCLABLE MATERIALS FROM LANDFILLS.

IMPLEMENTATION

- A SIGN SHOULD BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

- STORE DRY AND WET MATERIALS UNDER COVER, AWAY FROM DRAINAGE AREAS.

- AVOID MIXING EXCESS AMOUNTS OF CONCRETE.

- PERFORM WASHOUT OF CONCRETE TRUCKS IN DESIGNATED AREAS ONLY, WHERE WASHOUT WILL NOT REACH STORMWATER.

- DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, STREAMS OR ONTO THE GROUND. TRUCKS SHOULD ALWAYS BE WASHED OUT INTO DESIGNATED FACILITIES.

- DO NOT ALLOW EXCESS CONCRETE TO BE DUMPED ONSITE, EXCEPT IN DESIGNATED AREAS.

- FOR ONSITE WASHOUT:

  - ON LARGER SITES, IT IS RECOMMENDED TO LOCATE WASHOUT AREAS AT LEAST 50 FEET FROM STORM DRAINS, OPEN DITCHES, OR WATER BODIES. DO NOT ALLOW RUNOFF FROM THIS AREA BY CONSTRUCTING A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE.

  - WASHOUT WASTES INTO THE TEMPORARY WASHOUT WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED PROPERLY.

- DO NOT WASH SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE INTO THE STREET OR STORM DRAIN. COLLECT AND RETURN SWEEPINGS TO AGGREGATE BASE STOCKPILE OR DISPOSE IN THE TRASH.

- TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM FREEBOARD OF 6" FOR ABOVE GRADE FACILITIES AND 12" FOR BELOW GRADE FACILITIES (IF ACCEPTED BY THE JURISDICTION).

WASHOUT CONTAINER REQUIREMENTS:

DIFFERENT TYPES OF WASHOUT CONTAINERS ARE AVAILABLE FOR COLLECTING, RETAINING, AND RECYCLING THE WASHWATER AND SOLIDS FROM WASHING DOWN FIXED TRUCK CHUTES AND PUMP TRUCK HOPPERS AT CONSTRUCTION SITES. PER GA GENERAL CONSTRUCTION GENERAL PERMITS GAR100001, GAR100002, AND GAR100003 **THE CONTAINERS MUST BE LEAK PROOF, WATER PROOF, AND BE COMMERCIALLY SERVICED CONTAINMENT SYSTEMS THAT ARE 100% RECYCLED**. EXAMPLES OF APPROVED CONTAINERS ARE THE "ECO-PAN" PRODUCT, AND "CONCRETE WASHOUT SYSTEMS" BY LEWIS CONCRETE INC. GC MUST VERIFY THAT THE TYPE OF CONTAINER IS ACCEPTABLE BY THE JURISDICTION AND MEETS ALL REQUIREMENTS OF THE EPA CONCRETE WASHOUT GUIDANCE DOCUMENT.

OPERATION AND MAINTENANCE:

CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY AND AFTER HEAVY RAINS TO CHECK FOR LEAKS. IDENTIFY ANY PLASTIC LININGS AND SIDEWALLS HAVE BEEN DAMAGED BY CONSTRUCTION ACTIVITIES, AND DETERMINE WHETHER THEY HAVE BEEN FILLED TO OVER 75 PERCENT CAPACITY. WHEN THE WASHOUT CONTAINER IS FILLED TO OVER 75 PERCENT OF ITS CAPACITY, THE WASHWATER SHOULD BE VACUUMED OFF OR ALLOWED TO EVAPORATE TO AVOID OVERFLOWS. THEN WHEN THE REMAINING CEMENTITIOUS SOLIDS HAVE HARDENED, THEY SHOULD BE REMOVED AND RECYCLED. DAMAGES TO THE CONTAINER SHOULD BE REPAIRED PROMPTLY. BEFORE HEAVY RAINS, THE WASHOUT CONTAINER'S LIQUID LEVEL SHOULD BE LOWERED OR THE CONTAINER SHOULD BE COVERED TO AVOID AN OVERFLOW DURING THE RAIN STORM.

REMOVAL OF TEMPORARY CONCRETE WASHOUT FACILITIES:

- WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND PROPERLY DISPOSED OR RECYCLED IN ACCORDANCE WITH FEDERAL, STATE OR LOCAL REGULATIONS. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND PROPERLY DISPOSED OR RECYCLED IN ACCORDANCE WITH FEDERAL, STATE OR LOCAL REGULATIONS.
- HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

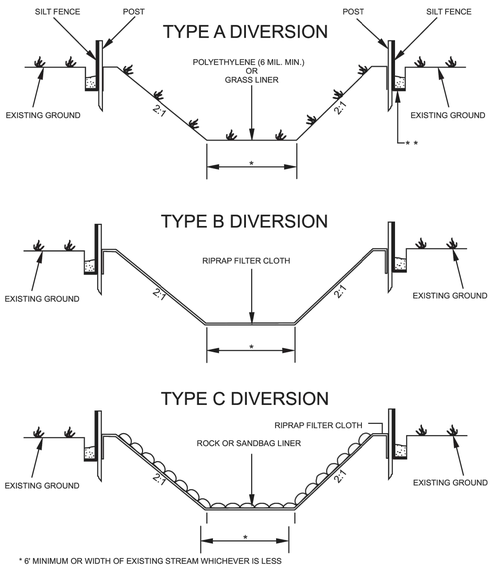
EDUCATING CONCRETE SUBCONTRCATORS:

- THE CONSTRUCTION SITE SUPERINTENDENT SHOULD MAKE READY MIXED TRUCK DRIVERS AWARE OF WASHOUT FACILITY LOCATIONS AND BE WATCHFUL FOR IMPROPER DUMPING OF CEMENTITIOUS MATERIAL.

- EDUCATE EMPLOYEES, SUBCONTRACTORS, AND SUPPLIERS ON THE CONCRETE WASTE MANAGEMENT TECHNIQUES DESCRIBED HEREIN.

- ARRANGE FOR CONTRACTOR'S SUPERINTENDENT OR REPRESENTATIVE TO OVERSEE AND ENFORCE CONCRETE WASTE MANAGEMENT PROCEDURES.

- IN ADDITION, CONCRETE WASHOUT REQUIREMENTS SHOULD BE INCLUDED IN CONTRACTS WITH CONCRETE DELIVERY COMPANIES


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GENERAL CONSERVATION NOTES AND SPECIFICATIONS

(SOURCE: GEORGIA SOIL AND WATER CONSERVATION COMMISSION

I. GENERAL INFORMATION

A. THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE AVAILABLE AT THE SITE
B. NO SEDIMENT OR SEDIMENT LADEN WATER MUST BE ALLOWED TO LEAVE THE SITE WITHOUT FIRST BEING PROPERLY FILTERED.
C. ANY SEDIMENT THAT IS TRACKED ONTO THE ROAD MUST BE CLEANED OFF BEFORE THE END OF THE DAY.
D. DISTURBED AREAS ON WHICH EARTHMOVING ACTIVITIES HAVE CEASED AND WHICH WILL REMAIN EXPOSED SHALL BE STABILIZED IMMEDIATELY, EITHER TEMPORARILY OR PERMANENTLY, INCLUDING THE RESTORATION OF DRIVEWAYS, STOCKPILES, OFF-SITE UNDERGROUND UTILITY LINES AND GRADED PERIMETER AREAS. DURING NON-GERMINATION PERIODS, MULCH MUST BE APPLIED AT RECOMMENDED RATES. CRUSHED STONE ON PAVEMENT SUBGRADE IS CONSIDERED ADEQUATE PROTECTION.
E. AREAS THAT FAIL TO GERMINATE MUST BE RE-SEEDED OR MULCHED.
F. WHERE DISTURBED AREAS ARE DIFFICULT TO STABILIZE, NETTING SHOULD BE USED TO HOLD SEED AND MULCH IN PLACE; THIS IS ESPECIALLY IMPORTANT AROUND WATERCOURSES, IN SWALES AND AREAS OF CONCENTRATED FLOWS, STEEP SLOPES.
G. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING, AND RE-NETTING, MUST BE PERFORMED IMMEDIATELY.
H. IF AT ANY TIME PRIOR TO SITE STABILIZATION ANY ESC PROBLEMS OCCUR WHICH REQUIRE ADDITIONAL CONTROLS, IMMEDIATE ACTION MUST BE TAKEN TO CORRECT THE PROBLEMS.
I. THE CONTRACTOR MUST DEVELOP AND COORDINATE WITH OWNER AND HAVE APPROVED BY THE GSWCC, A SEPARATE EROSION AND SEDIMENT POLLUTION CONTROL PLAN FOR EACH SPOIL, BORROW OR OTHER WORK AREA NOT DETAILED ON THE PERMITTED PLANS, WHETHER LOCATED WITHIN OR OUTSIDE OF THE LIMITS OF CONSTRUCTION.
J. CONTRACTOR SHALL NOTIFY THE GSWCC OF DISPOSAL METHOD AND LOCATION OF MATERIALS (IF ANY) TO BE REMOVED FROM SITE.
K. STANDARD FOR DISPOSAL OF MATERIALS:
L. ALL MATERIALS TO BE RECYCLED OR DISPOSED OF MUST DO SO IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS. STOCKPILES TO BE HAULED OFF SITE MUST HAVE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN AT THE DESTINATION LOCATION.

II. STANDARD FOR LAND GRADING

A. DEFINITION: RESHAPING THE GROUND SURFACE BY GRADING TO PLAN GRADES, WHICH ARE DETERMINED BY TOPOGRAPHIC SURVEY AND LAYOUT.
1. PROVISIONS SHALL BE MADE TO SAFELY CONDUCT SURFACE WATER TO STORM DRAINS OR SUITABLE WATER COURSES AND TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FULL SLOPES.
2. ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS.

B. INSTALLATION REQUIREMENTS
1. TIMBER, LOGS, BRUSH, RUBBISH, ROCKS, STUMPS AND VEGETABLE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OR FILL AREAS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH STANDARD FOR DISPOSAL OF MATERIALS.
2. FILL MATERIAL IS TO BE FREE OF BRUSH, RUBBISH, TIMBER, LOGS, VEGETATIVE MATTER AND STUMPS IN AMOUNTS THAT WILL BE DETRIMENTAL TO CONSTRUCTING STABLE FILLS.
3. ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESS SATURATION.
4. ALL DISTURBED AREAS SHALL BE LEFT WITH A NEAT AND FINISHED APPEARANCE AND SHALL BE PROTECTED FROM EROSION.
5. (SEE I. D.)

III. STANDARD FOR UTILITY TRENCH EXCAVATION

A. LIMIT ADVANCE CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
B. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY. DAILY BACKFILLING OF THE TRENCH MAY BE DELAYED FOR A MAX. OF SIX DAYS FOR CERTAIN CASES REQUIRING TESTING OF THE INSTALLED PIPE.
C. WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING TO A FACILITY FOR REMOVAL OF SEDIMENT (SEDIMENT FILTER BAG, SEE DETAIL) BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS.
D. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES / FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE IMMEDIATELY.
E. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
F. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.

IV. STANDARD FOR TEMPORARY STABILIZATION

A. STANDARD FOR TEMPORARY STABILIZATION WITH MULCH
1. MULCHING IS MOST APPLICABLE TO THOSE AREAS SUBJECT TO PERIODIC DISTURBANCE AND REWORKING. IN ADDITION, STABILIZATION WITH MULCH SHALL BE USED DURING NON-GERMINATION PERIODS.
2. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE.
3. GRADE AS NEED AND FEASIBLE. SEE STANDARD FOR LAND GRADING.
4. PROTECTIVE MATERIALS TO BE USED:
   a. UNROTTED SMALL-GRAIN STRAW OR HAY AT 3.0 TONS PER ACRE SPREAD UNIFORMLY AT 135 POUNDS PER 1000 SQUARE FEET AND ANCHORED WITH LIQUID MULCH BINDER OR; WOOD-FIBER OR PAPER-FIBER MULCH AT A RATE OF 1500 POUNDS PER ACRE MAY BE APPLIED BY A
   b. HYDROSEEDER OR HYDROMULCHER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL. LIQUID MULCH BINDERS: APPLY IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. IF EMULSIFIED ASPHALT - (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1 AND CRS-2), APPLY 0.04 GAL./SQ. YD. OR 194 GAL./ACRE ON FLAT SLOPES LESS THAN 8' HIGH. ON SLOPES 8' OR MORE HIGH USE 0.075 GAL./SQ. YD. OR 363 GAL./ACRE.

B. STANDARD FOR TEMPORARY STABILIZATION WITH SEED
1. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MUST BE SEEDED AND MULCHED IMMEDIATELY WITH A TEMPORARY COVER.
2. SEEDBED PREPARATION
   a. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
   b. APPLY GROUND LIMESTONE AT A RATE OF 1 TON/AC.
   c. APPLY 10-10-10 FERTILIZER A RATE OF 150 LB/AC.
   d. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF FOUR (4) INCHES.

C. SEEDING
LATE WINTER/EARLY SPRING (PIEDMONT JAN.1 - MAY 1; COASTAL PLAIN DEC. 1 - APRIL 15)
1. SEED MIXTURE TEMPORARY:
   - RYE(GRAIN) SHALL BE APPLIED AT A RATE OF 120 LB/ACRE
   - ANNUAL LESPEDEZA (KOBE) SHALL BE APPLIED AT A RATE OF 50 LB/ACRE
2. APPLY SEED UNIFORMLY. NORMAL SEEDING DEPTH IS FROM 1/4" TO 1/2". HYDROSEEDINGS (INCLUDING FERTILIZER AND SEED IN A SLURRY FORM), MAY BE LEFT ON THE SOIL SURFACE. SOIL CONSERVATION DISTRICT CAN REQUIRE SPECIFIC TECHNIQUES FOR HYDROSEEDING AND/OR HYDROMULCHING IN AREAS WITH DROUGHTY CONDITIONS. FOR MULCHING REQUIREMENTS, SEE STANDARD FOR STABILIZATION WITH MULCH.
3. FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

SUMMER (PIEDMONT MAY 1 - AUG. 15; COASTAL PLAIN APRIL 15 - AUG. 15)
1. SEED MIXTURE TEMPORARY: GERMAN MILLET SHALL BE APPLIED AT A RATE OF 40 LB/ACRE
2. APPLY SEED UNIFORMLY. NORMAL SEEDING DEPTH IS FROM 1/4" TO 1/2". HYDROSEEDINGS (INCLUDING FERTILIZER AND SEED IN A SLURRY FORM), MAY BE LEFT ON THE SOIL SURFACE. SOIL CONSERVATION DISTRICT CAN REQUIRE SPECIFIC TECHNIQUES FOR HYDROSEEDING AND/OR HYDROMULCHING IN AREAS WITH DROUGHTY CONDITIONS. FOR MULCHING REQUIREMENTS, SEE STANDARD FOR STABILIZATION WITH MULCH.
3. FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER

FALL (PIEDMONT MAY 1 - AUG. 15; COASTAL PLAIN APRIL 15 - AUG. 15)
1. SEED MIXTURE TEMPORARY: RYE (GRAIN) SHALL BE APPLIED AT A RATE OF 120 LB/ACRE
2. APPLY SEED UNIFORMLY. NORMAL SEEDING DEPTH IS FROM 1/4" TO 1/2". HYDROSEEDINGS (INCLUDING FERTILIZER AND SEED IN A SLURRY FORM), MAY BE LEFT ON THE SOIL SURFACE. SOIL CONSERVATION DISTRICT CAN REQUIRE SPECIFIC TECHNIQUES FOR HYDROSEEDING AND/OR HYDROMULCHING IN AREAS WITH DROUGHTY CONDITIONS. FOR MULCHING REQUIREMENTS, SEE STANDARD FOR STABILIZATION WITH MULCH.
3. FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER

V. STANDARD FOR PERMANENT STABILIZATION

A. SPECIFICATION FOR SEEDING AND SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER
1. SITE PREPARATION
   a. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE.
   b. SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT AND LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL PH TO 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.
   c. IMMEDIATELY PRIOR TO TOPSOIL DISTRIBUTION, THE SURFACE SHOULD BE SCARIFIED TO PROVIDE A GOOD BOND WITH THE TOPSOIL.
2. APPLYING TOPSOIL
   a. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE.
   b. ALL DISTURBED TOPSOIL ON-SITE IS TO BE REDISTRIBUTED ON-SITE IN AREAS NOT COVERED BY IMPERVIOUS SURFACES. NO REMOVAL OF TOPSOIL IS ALLOWED UNLESS APPROVED BY THE TOWNSHIP. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS RECOMMENDED. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE.
3. SEEDBED PREPARATION
   a. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
   b. APPLY 10-20-10 OR EQUIVALENT RATED FERTILIZER AT A RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1000 SQUARE FEET.
   c. APPLY 300 POUNDS 34-0-0 PER ACRE OR EQUIVALENT OF SLOW RELEASE NITROGEN.
   d. APPLY PULVERIZED DOLOMITIC LIMESTONE AT A RATE OF 1/3 TONS PER ACRES OR 15 POUNDS PER 1000 SQUARE FEET.
   e. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM FINE SEEDBED IS PREPARED.
   f. REMOVE FROM THE SURFACE ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION, REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.
   g. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RE-TILLED AND FIRMED AS ABOVE.
4. SEEDING
   a. SEED MIXTURE PERMANENT: SAHARA BERMUDA GRASS AT A RATE OF 275 LB/ACRE IN ADDITION TO TEMPORARY SEEDING (SEE ABOVE), SEEDING DATES 3/1 TO 5/15 8/15 TO 10/1.
   b. SEED MIX SHALL HAVE A PURE LIVE SEED (PLS) RATING OF 60% OR GREATER
   c. APPLY SEED UNIFORMLY. NORMAL SEEDING DEPTH IS FROM 1/4" TO 1/2". HYDROSEEDINGS (INCLUDING FERTILIZER AND SEED IN A SLURRY FORM), WHICH ARE MULCHED, MAY BE LEFT ON THE SOIL SURFACE.

GSWCC EROSION AND SEDIMENT CONTROL NOTES (9)

1. THE PRIMARY PERMITTEE OF THIS PROJECT IS RACETRAC, INC., 200 GALLERIA ST, SUITE 900, ATLANTA, GA 30339,
   CONTACT: TATE GODWIN, tgodwin@racetrac.com , TEL: (770) 530-7401 (5)
2. THE TOTAL ACREAGE OF THE PROPERTY IS ± 5.3 ACRES AND THE TOTAL DISTURBED AREA IS ± 5.39 ACRES
3. THE PROPERTY IS LOCATED AT GPS LOCATION LAT: 33.554375, LONG: -84.587450, FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE., FAIRBURN, GA 30213.
4. THE RECEIVING WATERS OF THIS PROJECT IS TRICKUM CREEK. THE SITE DOES DISCHARGE WITHIN 1 LINEAR MILE UPSTREAM OF AN IMPAIRED STREAM SEGMENT (11)
5. THE IMPROVEMENTS FOR THIS PROJECT INCLUDE CONSTRUCTION OF A ±6,008 SF BUILDING, ASSOCIATED PARKING FACILITIES, FUEL CANOPIES, AN UNDERGROUND STORM WATER DETENTION SYSTEM, SANITARY SEWER UTILITIES, AND UNDERGROUND STORM WATER PIPES. FURTHER IMPROVEMENTS ARE TO COME IN THE LAND DEVELOPMENT PERMIT SET.
6. WASHOUT OF THE DRUM OF A CONCRETE TRUCK AT THE CONSTRUCTION SITE IS PROHIBITED. CONCRETE WASHDOWN OF TOOLS, CONCRETE MIXER CHUTES, HOPPERS AND THE REAR OF VEHICLES WILL ONLY BE ALLOWED IN A DESIGNATED AREA PROVIDED FOR THIS PURPOSE, AS SHOWN ON THE DRAWINGS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE FOLLOWED:
   a. CONTAIN ALL WASH WATER ON SOIL IN A BOWL SHAPED AREA CREATED IN DESIGNATED WASH AREA TO PREVENT THE WASH WATER FROM FLOWING FROM THE WASHOUT AREA;
   b. USE THE MINIMUM AMOUNT OF WATER TO WASH DOWN THE TOOLS, CONCRETE MIXER CHUTES, HOPPERS AND THE REAR OF VEHICLES;
   c. REMOVE ANY CONCRETE SEDIMENT FROM THE AREA SURROUNDING THE WASHOUT AREA BEFORE IT HARDENS; AND
   d. REMOVE ALL CONCRETE RESIDUE FROM THE DESIGNATED AREA ONCE IT HAS HARDENED. (24)
7. ON-SITE BURIAL PITS ARE NOT ALLOWED AT ANY LOCATION.
8. ANY GRADING BEYOND THE LIMITS OF CONSTRUCTION SHOWN ON THIS PLAN IS SUBJECT TO A FINE.
9. GRADING 1 ACRE OR MORE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION AND SUBJECT TO A FINE.
10. GROUND STABILIZATION MUST OCCUR WITHIN 7 DAYS ON PERIMETER AREAS AND SLOPES GREATER THAN 3:1, AND GROUND STABILIZATION MUST OCCUR WITHIN 14 DAYS ON OTHER AREAS.
11. BASIN OUTLET STRUCTURES WITH DRAINAGE AREAS EQUAL OR GREATER THAN ONE ACRES MUST WITHDRAW WATER FROM THE SURFACE.
12. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY THE GSWCC EROSION CONTROL INSPECTOR.
13. ALL ELEVATIONS ARE IN REFERENCE TO THE SURVEYORS BENCHMARK WHICH MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
14. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEORGIA MANUAL FOR EROSION AND SEDIMENT CONTROL DESIGN MANUAL, U.S. DEPT. OF AGRICULTURE, AND ANY APPLICABLE LOCAL LAWS AND CODES.
15. PERMANENT CUT AND FILL SLOPES PLACED ON A SUITABLE FOUNDATION SHOULD BE CONSTRUCTED AT 2:1(HORIZONTAL TO VERTICAL) OR FLATTER. PERMANENT SLOPES OF 3:1 SHOULD BE CONSTRUCTED WHERE MOWING IS DESIRABLE AND AS INDICATED. IF FILL MATERIAL IS BROUGHT ONTO THE PROPERTY OR IF WASTE MATERIAL IS HAULED FROM THE PROPERTY THEN THE CONTRACTOR SHALL DISCLOSE THE LOCATION OF ANY ON-SITES AND/OR OFF-SITE BARROW LOCATION AND/OR WASTE BURIAL LOCATION TO THE EROSION CONTROL INSPECTOR.
16. ANY REPORT SUBMITTED TO GSWCC MUST ALSO BE SENT TO FULTON COUNTY ENGINEERING DEPARTMENT ATTENTION DIRECTOR INCLUDING ANY SELF INSPECTION REPORTS.
17. LIMITS OF CLEARING SHOWN ARE BASED ON CUT AND FILL SLOPES OR OTHER GRADING REQUIREMENTS.
18. CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES AS INDICATED PRIOR TO GRADING OPERATIONS. NO DEVICE MAY BE REMOVED WITHOUT APPROVAL OF EROSION CONTROL COORDINATOR.
19. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY WITH EXISTING CONTOURS.
20. ALL DISTANCES ARE HORIZONTAL GROUND.
21. ANCHOR SILT FENCE WITH COMPACTED BACKFILL ON TREE PROTECTION ZONES. DO NOT BURY.
22. ALL EROSION CONTROL DEVICES SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM EVENT. IF ANY FAILURES ARE FOUND, THEY SHOULD BE REPAIRED AS SOON AS POSSIBLE.
23. ANY ASSOCIATED DEMOLITION PERMITS AND METHODS OF DEMOLITION ARE TO BE OBTAINED AND ARRANGED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
24. SEDIMENT TRAPS AND BASINS NEED TO BE STABILIZED IMMEDIATELY AFTER INSTALLATION.
25. STONE OUTLETS SHOULD BE INSTALLED AT LOW POINTS OF THE SILT FENCING, BASED ON FIELD CONDITIONS.
26. SPILL CLEANUP AND CONTROL PRACTICES:
    LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES WILL BE MADE AVAILABLE TO SITE PERSONNEL. MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREAS. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, CAT UTTER, SAND, SAWDUST AND PROPERLY LABELED PLASTIC AND METAL WASTE CONTAINERS. SPILL PREVENTION PRACTICES AND PROCEDURES WILL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. ALL SPILLS WILL BE REPORTED AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS. FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER), THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-424-8802. FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-424-8802. FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD WILL BE CONTACTED WITHIN 24 HOURS. FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL WILL BE CLEANED UP AND LOCAL AGENCIES WILL BE CONTACTED AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE LICENSED PROFESSIONAL WHO PREPARED THIS PLAN IF MORE THAN 1,320 GALLONS OF PETROLEUM IS STORED ONSITE (THIS INCLUDES CAPACITIES OF EQUIPMENT) OR IF ANY ONE PIECE OF EQUIPMENT HAS A CAPACITY GREATER THAN 660 GALLONS. THE CONTRACTOR WILL NEED A SPILL PREVENTION CONTAINMENT AND COUNTERMEASURES PLAN PREPARED BY THAT LICENSED PROFESSIONAL.
27. WHERE APPLICABLE, NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
28. THE PRIMARY PERMITTEE AND TERTIARY PERMITTEE(S) MUST RETAIN THE DESIGN PROFESSIONAL WHO PREPARED THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, EXCEPT WHEN THE PERMITTEE HAS REQUESTED IN WRITING AND EPD HAS AGREED TO AN ALTERNATE DESIGN PROFESSIONAL, TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMP'S WHICH THE DESIGN PROFESSIONAL DESIGNED WITHIN SEVEN (7) DAYS AFTER INSTALLATION. THE DESIGN PROFESSIONAL SHALL DETERMINE IF THESE BMP'S HAVE BEEN INSTALLED AND ARE BEING MAINTAINED AS DESIGNED. THE DESIGN PROFESSIONAL SHALL REPORT THE RESULTS OF THE INSPECTION TO THE PERMITTEE WITHIN SEVEN (7) DAYS AND THE PERMITTEE MUST CORRECT ALL DEFICIENCIES WITHIN TWO (2) BUSINESS DAYS OF RECEIPT OF THE INSPECTION REPORT FROM THE DESIGN PROFESSIONAL UNLESS WEATHER RELATED SITE CONDITIONS ARE SUCH THAT ADDITIONAL TIME IS REQUIRED.
29. THE PRIMARY, SECONDARY OR TERTIARY PERMITTEES, AS APPLICABLE, SHALL AMEND THEIR PLANS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, WHICH HAS A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT. AMENDMENTS TO THE PLANS MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL. ALL REVISIONS OR AMENDMENTS SHALL BE SUBMITTED TO THE LOCAL ISSUING AUTHORITY FOR REVIEW.
30. NO WASTE MATERIAL INCLUDING BUT NOT LIMITED TO WASTE BUILDING MATERIALS, CONSTRUCTION AND DEMOLITION DEBRIS, CONCRETE WASHOUT OR EXCAVATED SEDIMENT, SHALL BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

INSPECTIONS:
A. PRIMARY PERMITTEE.
(1). EACH DAY WHEN ANY TYPE OF CONSTRUCTION ACTIVITY HAS TAKEN PLACE AT A PRIMARY PERMITTEE'S SITE, CERTIFIED PERSONNEL PROVIDED BY THE PRIMARY PERMITTEE SHALL INSPECT: (A) ALL AREAS AT THE PRIMARY PERMITTEE'S SITE WHERE PETROLEUM PRODUCTS ARE STORED USED OR HANDLED FOR AND LEAKS FROM VEHICLES AND EQUIPMENT AND (B) ALL LOCATIONS AT THE PRIMARY PERMITTEE'S SITE WHERE VEHICLES ENTER OR EXIT HE SITE FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
(2). MEASURE AND RECORD RAINFALL WITHIN DISTURBED AREAS OF THE SITE THAT HAVE NOT MET FINAL STABILIZATION ONCE EVERY 24 HOURS EXCEPT ANY NON-WORKING SATURDAY,NON-WORKING SUNDAY AND NON-WORKING FEDERAL HOLIDAY. THE DATA COLLECTED FOR THE PURPOSE OF COMPLIANCE WITH THIS PERMIT SHALL BE REPRESENTATIVE OF THE MONITORED ACTIVITY. MEASUREMENT OF RAINFALL MAY BE SUSPENDED IF ALL AREAS OF THE SITE HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION.
(3). CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT THE FOLLOWING AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES RAINFALL OR GREATER (UNLESS SUCH STORM ENDS AFTER 5.00 PM ON ANY FRIDAY OR ON ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY OR ANY NON-WORKING FEDERAL HOLIDAY IN WHICH CASE THE INSPECTION SHALL BE COMPLETED BY THE END OF THE NEXT BUSINESS DAY AND/OR WORKING DAY, WHICHEVER OCCURS FIRST): (A) DISTURBED AREAS OF THE PRIMARY PERMITTEE'S CONSTRUCTION SITE; (B) AREAS USED BY THE PRIMARY PERMITTEE FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION; AND
(C) STRUCTURAL CONTROL MEASURES. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN APPLICABLE TO THE PRIMARY PERMITTEE'S SITE SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S). FOR AREAS OF A SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION, THE PERMITTEE MUST COMPLY WITH PART IV.D.4.A.(4). THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
(4). CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT AT LEAST ONCE PER MONTH DURING THE TERM OF THIS PERMIT (I.E., UNTIL A NOTICE OF TERMINATION IS RECEIVED BY EPD) THE AREAS OF THE SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION. THESE AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM AND THE RECEIVING WATER(S). EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S).
(5). BASED ON THE RESULTS OF EACH INSPECTION, THE SITE DESCRIPTION AND THE POLLUTION PREVENTION AND CONTROL MEASURES IDENTIFIED IN THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, THE PLAN SHALL BE REVISED AS APPROPRIATE NOT LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION. IMPLEMENTATION OF SUCH CHANGES SHALL BE MADE AS SOON AS PRACTICAL BUT IN NO CASE LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION. THE PRIMARY PERMITTEE MUST AMEND THE PLAN IN ACCORDANCE WITH PART IV.D.4.B.(5). WHEN A SECONDARY PERMITTEE NOTIFIES THE PRIMARY PERMITTEE OF ANY PLAN DEFICIENCIES.
(6). A REPORT OF EACH INSPECTION THAT INCLUDES THE NAME(S) OF CERTIFIED PERSONNEL MAKING EACH INSPECTION, THE DATE(S) OF EACH INSPECTION, CONSTRUCTION PHASE (I.E.,INITIAL, INTERMEDIATE OR FINAL), MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PART IV.D.4.A.(5). OF THIS PERMIT SHALL BE MAINTAINED AT THE CONSTRUCTION SITE OR BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION UNTIL THE ENTIRE SITE OR THAT PORTION OF A CONSTRUCTION SITE THAT HAS BEEN PHASED HAS UNDERGONE FINAL STABILIZATION AND A NOTICE OF TERMINATION IS SUBMITTED TO EPD. SUCH REPORTS SHALL BE READILY AVAILABLE BY END OF THE SECOND BUSINESS DAY AND/OR WORKING DAY AND SHALL IDENTIFY ALL INCIDENTS OF BEST MANAGEMENT PRACTICES THAT HAVE NOT BEEN PROPERLY INSTALLED AND/OR MAINTAINED AS DESCRIBED IN THE PLAN. WHERE THE REPORT DOES NOT IDENTIFY INCIDENTS, THE INSPECTION REPORT SHALL CONTAIN A CERTIFICATION THAT THE BEST MANAGEMENT PRACTICES ARE IN COMPLIANCE WITH THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART V.G.2. OF THIS PERMIT.
31. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, LAND DISTURBING ACTIVITIES (19)
32. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO C

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST

STAND ALONE CONSTRUCTION PROJECTS (PRIMARY AND TERTIARY PERMITTEES) GAR100001

SWCD: COASTAL - REGION 1

Project Name: RACETRAC FAIRBURN	**Address: FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE., FAIRBURN, GA 30213**
City/County: CITY OF FAIRBURN	**Date on Plans: AS SHOWN ON PLANS**

Name & email of person filling out checklist: NATE FUSS, NFUSS@BOHLERENG.COM

PLAN PAGE #	Included Y/N		TO BE SHOWN ON ES&PC PLAN	LOCATION MARKER
C2.9	Y	1	"The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land-disturbing activity was permitted. (The completed Checklist must be submitted with the ES&PC Plan or the Plan will not be reviewed. Permit IV.D.1. pg 2/27	
C2.1 TO C2.8	Y	2	Level II certification number issued by the Commission, signature and seal of the certified design professional.(Signature, seal and level II number must be on each sheet pertaining to ES&PC plan or the Plan will not be reviewed. The level II certification must be issued to the Design Professional, after completion of a GSWCC approved course, and whose signature and seal are on the plan.)	
N/A	N/A	3	Limits of disturbance shall be less than 50 acres at any one time without prior written authorization from the GAEPD District Office. If GAEPD approves the request to disturb 50 acres or more at any one time, the Plan must include at least 4 of the BMP's listed in Appendix 1 of this checklist and the GAEPD approval letter. "(A copy of the written approval by GAEPD must be attached to the plan for the Plan to be reviewed.)	
C2.1 TO C2.3	Y	4	The name and phone number of the 24-hour contact responsible for erosion, sedimentation and pollution controls.	
C2.7	Y	5	Provide the name, address, email address, and phone number of primary permittee.	
C2.1 TO C2.3	Y	6	Note total and disturbed acreages of the project or phase under construction.	
C2.1 TO C2.2	Y	7	Provide the GPS location of the construction exit for the site. Give the Latitude and Longitude in decimal degrees.	
TITLE-BLOCK	Y	8	Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.	
C2.7	Y	9	Description of the nature of construction activity and existing site conditions.	
COV	Y	10	Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.	
C2.7	Y	11	Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, marshlands, etc. which may be affected.	
C2.1 TO C2.8	Y	12	Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on Part IV page 19 of the permit.	
C2.1 TO C2.8	Y	13	Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate and comprehensive system of BMP's and sampling to meet permit requirements as stated on Part IV page 19 of the permit. *	
C2.7	Y	14	Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect and certify the installation of the initial sediment storage requirements and perimeter control BMP's within 7 days after installation.	
C2.1 TO C2.3	Y	15	Clearly note the statement that "Non-exempt activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of wrested vegetation or within 25-feet of the coastal marshland buffer as measured from the Jurisdictional Determination Line without first acquiring the necessary variances and permits."	
N/A	N/A	16	Provide a description of any buffer encroachments and indicate whether a buffer variance is required.	
C2.1 TO C2.3	Y	17	Clearly note the statement that "Amendments/revisions to the ES&PC Plan which have a significant effect on BMP's with a hydraulic component must be certified by the design professional." *	
C-2.1 TO C-2.3	Y	18	Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a Section 404 permit." *	
C-2.1 TO C-2.3	Y	19	Clearly note statement that "The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities."	
C-2.1 TO C-2.3	Y	20	Clearly note statement that "Erosion control measures will be maintained at all times. If full implementation of the approved Plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source."	
C-2.1 TO C-2.3	Y	21	Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."	
N/A	N/A	22	Any construction activity which discharges storm water into an Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as, any portion of a Biota Impaired Stream Segment must comply with Part III. C. of the permit. Include the completed Appendix 1 listing all the BMP's that will be used for those areas of the site which discharge to the Impaired Stream Segment. *	
N/A	N/A	23	If a TMDL Implementation Plan for sediment has been finalized for the Impaired Stream Segment (identified in Item 22 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan. *	
C2.7	Y	24	BMP's for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited. *	
C2.7	Y	25	Provide BMP's for the remediation of all petroleum spills and leaks.	
C2.1 TO C2.3	Y	26	Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed. *	
C2.7	Y	27	Description of practices to provide cover for building materials and building products on site. *	
C2.1 TO C2.3	Y	28	Description of the practices that will be used to reduce the pollutants in storm water discharges. *	
C2.8	Y	29	Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sediment storage BMP's, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).	
C2.7	Y	30	Provide complete requirements of Inspections and record keeping by the primary permittee. *	
C2.7	Y	31	Provide complete requirements of Sampling Frequency and Reporting of sampling results. *	
C2.7	Y	32	Provide complete details for Retention of Records as per Part IV.F. of the permit. *	
C2.7	Y	33	Description of analytical methods to be used to collect and analyze the samples from each location. *	
C-2.8	Y	34	Appendix B rationale for NTU values at all outfall sampling points where applicable. *	
C2.1 TO C2.3	Y	35	Delineate all sampling locations on all phases of the Plan, and perennial and intermittent streams and other water bodies into which storm water is discharged. *	
C2.1 TO C2.3	Y	36	A description of appropriate controls and measures that will be implemented at the construction site including (1) initial sediment storage requirements and perimeter control BMP's, (2) intermediate grading and drainage BMP's, and (3) final BMP's. For construction sites where there will be no mass grading and the initial perimeter control BMP's, intermediate grading and drainage BMP's, and final BMP's are the same, the Plan may combine all of the BMP's into a single phase. *	
C2.1 TO C2.3	Y	37	Graphic scale and North arrow.	
C2.1 TO C2.3	Y	38	Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following:	

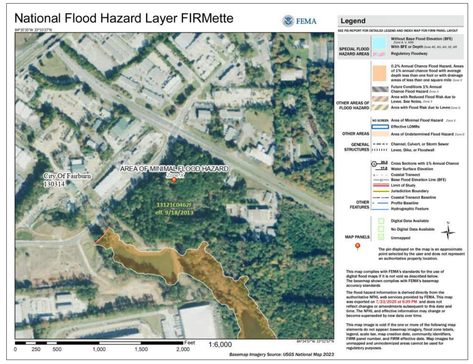
Map Scale	Ground Slope	Contour Intervals, ft.
1 inch = 100ft or larger scale	Flat 0 - 2%	0.5 or 1
	Rolling 2 - 8%	1 or 2
	Steep 8% +	2.5 or 10

N/A	N/A	39	Use of alternative BMP's whose performance has been documented to be equivalent to or superior to conventional BMP's as certified by a Design Professional (unless disapproved by GAEPD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.gaswcc.georgia.gov.	
N/A	N/A	40	Use of alternative BMP for application to the Equivalent BMP List. Please refer to Appendix A-2 of the Manual for Erosion & Sediment Control in Georgia 2016 Edition. *	
N/A	N/A	41	Delineation of the applicable 25-foot or 50-foot undisturbed buffers adjacent to state waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact.	
N/A	N/A	42	Delineation of on-site wetlands and all state waters located on and within 200 feet of the project site.	
HYDRO REPORT	Y	43	Delineation and acreage of contributing drainage basins on the project site.	
HYDRO REPORT	Y	44	Provide hydrology study and maps of drainage basins for both the pre- and post-developed conditions. *	
HYDRO REPORT	Y	45	Estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.	
C2.1 TO C2.3	Y	46	Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate all storm water discharge points.	
C2.1	Y	47	Soil series for the project site and their delineation.	
C2.1 TO C2.3	Y	48	The limits of disturbance for each phase of construction.	
C2.1 TO C2.3	Y	49	Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retrofitted detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the Plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual included for structural BMP's and all calculations used by the storage design professional to obtain the required sediment when using equivalent controls. When discharging from sediment basins and impoundments, permittee's are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasible,a written justification explaining this decision must be included in the Plan.	
C2.1 TO C2.3	Y	50	Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend.	
C2.4 TO C2.6	Y	51	Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.	
C2.1 TO C2.3	Y	52	Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time of the year that seeding will take place and for the appropriate geographic region of Georgia.	

* If using this checklist for a project that is less than 1 acre and not part of a common development but within 200 ft of a perennial stream, the * checklist items would be N/A.

Effective January 1, 2025

FEMA FIRM MAPS 13211C0462F N.T.S.



FLOOD CERTIFICATION

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENTS AGENCY'S FLOOD INSURANCE RATE MAPS (FIRM) 13225C0150C, WITH EFFECTIVE DATE OF SEPTEMBER 26, 2008, THE PROJECT SITE LIES WITHIN ZONE X, WHICH IS OUTSIDE ANY ESTABLISHED FLOOD HAZARD AREA.

CONSTRUCTION SCHEDULE

CONSTRUCTION SCHEDULE

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8
PHASE I								
STAKE/FLAG THE LOD (WHERE STAKING IS NOT POSSIBLE/PRACTICAL, THE LOD MUST BE CONSPICUOUSLY, AND PROMINENTLY, MARKED TO DENOTE THE BOUNDARY). LOD MUST REMAIN CONSPICUOUSLY MARKED THROUGHOUT THE ENTIRE CONSTRUCTION PROJECT.								
INSTALL PERIMETER SEDIMENT CONTROL BMPS IN THE VICINITY OF, AND DOWN GRADIENT FROM, THE LOCATION OF THE PLANNED CONSTRUCTION EXIT, CONSTRUCTION OFFICE TRAILER, AND TEMPORARY PARKING AND STORAGE AREAS . CLEAR ONLY THE MINIMUM AREA ABSOLUTELY NECESSARY TO INSTALL THESE PERIMETER CONTROL BMPS.								
INSTALL STABILIZED CONSTRUCTION EXIT, ROCK SEDIMENT TRAP, TEMPORARY SEDIMENT POND, AND SET THE PROJECT OFFICE TRAILER.								
INSTALL REMAINING PERIMETER SEDIMENT CONTROL BMPS, AS SHOWN ON THE SITE MAPS. CLEAR ONLY THE MINIMUM AREA NECESSARY TO INSTALL PERIMETER CONTROL BMPS								
PREPARE TEMPORARY PARKING AND STORAGE AREA								
BEGIN CLEARING AND DEMOLITION ACTIVITIES								
MAINTENANCE OF ES&PC MEASURES THROUGHOUT ENTIRE DURATION OF PROJECT.								
PHASE II								
BEGIN GRADING THE SITE								
INSTALL UNDERGROUND UTILITIES AS SHOWN INCLUDING STORM SEWER PIPES, SANITARY PIPES, WATER METERS AND BACKFLOWS, ETC.								
TEMPORARILY STABILIZE, THROUGHOUT CONSTRUCTION IMMEDIATELY FOLLOWING THE COMPLETION OF THE MOST RECENT LAND DISTURBING/GRADING ACTIVITY, ANY DISTURBED AREAS, INCLUDING MATERIAL STOCKPILES THAT ARE SCHEDULED OR LIKELY TO REMAIN INACTIVE FOR 14 DAYS OR MORE.								
BEGIN CONSTRUCTION AND GRADING OF THE RETROFIT POND.								
FILL THE 9/442 UPON COMPLETION OF THE SEDIMENT BASIN.								
IMMEDIATELY PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.								
PREPARE SITE FOR PAVING								
BEGIN INSTALLATION OF CURB/GUTTER, AND BUILDING FOUNDATION								
PHASE III								
PROVIDE PERMANENT PIPE CONNECTIONS. ENSURE ALL PERMANENT PIPES ARE FULLY OPERATIONAL.								
FINISH CURB/GUTTER AND PAVING OF SITE.								
COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL AREAS.								
COMPLETE CONSTRUCTION OF BUILDING.								
REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS).								
STABILIZE ANY ARE AS DISTURBED BY THE REMOVAL OF TEMPORARY BMPS								
CONTINUE DAILY INSPECTIONS AND REPORTS UNTIL THE SITE IS FULLY STABILIZED AND THE GENERAL CONSTRUCTION PERMIT GAR100001 IS TERMINATED								

***START OF CONSTRUCTION DATE IS SUBJECT TO CHANGE**

DESIGN PROFESSIONAL'S CERTIFICATION:

(1) I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT " MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH LAND DISTURBING ACTIVITY WAS PERMITTED, THE PLAN PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALL. THE DESIGNATED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENT CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR100001.

(2) "I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION,"

(3) "I CERTIFY UNDER THE PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED UPON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

Nathan Fuss

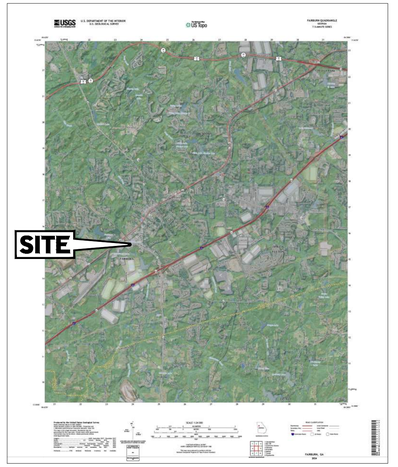
GSWCC LEVEL II DESIGN PROFESSIONAL

0000087123 (VALID THROUGH 03-08-28)

CERTIFICATION #

U.S.G.S TOPOGRAPHIC MAP

N.T.S.



APPENDIX B
NEPHELOMETRIC TURBIDITY UNIT (NTU) TABLE

WATERS SUPPORTING WARM WATER FISHERIES

Surface Water Drainage Area (Square Miles)

Site Size (Acres)	0-4.99	5-9.99	10-24.99	25-49.99	50-99.99
1.00-10	75	150	200	400	750
10.01-25	50	100	100	200	300
25.01-50	50	50	100	100	200
50.01-100	50	50	50	100	100
100.01+	50	50	50	50	50

NOTES:

1. ALL OUTFALL SAMPLING POINTS SHALL CONFORM TO AN NTU VALUE OF 75 PER THE ABOVE TABLE, AS FOUND AT A SITE BETWEEN 1.00 AND 10 ACRES IN SIZE WITH A DRAINAGE AREA OF LESS THAN 5 SQUARE MILES.
2. SOURCE: STATE OF GEORGIA DEPARTMENT OF NATURAL RESOURCES ENVIRONMENTAL PROTECTION DIVISION, GENERAL PERMIT NO. GAR10001

DESIGN PROFESSIONAL 7-DAY VISIT CERTIFICATION

DATE OF INSPECTION: _____

I CERTIFY THE SITE WAS IN COMPLIANCE WITH THE ES&PC PLAN ON THE DATE OF INSPECTION

_____ _____

GSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #

INSPECTION REVEALED THE FOLLOWING DISCREPANCIES FROM THE ES&PC PLAN:

_____

_____

_____

THESE DEFICIENCIES MUST BE ADDRESSED IMMEDIATELY AND A RE-INSPECTION SCHEDULED. WORK SHALL NOT PROCEED ON THE SITE UNTIL DESIGN PROFESSIONAL CERTIFICATION IS OBTAINED

1. THE PRIMARY PERMITTEE SHALL RETAIN THE FOLLOWING RECORDS AT THE CONSTRUCTION SITE OR THE RECORDS SHALL BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI:
   a. A COPY OF ALL NOTICES OF INTENT SUBMITTED TO EPD;
   b. A COPY OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN REQUIRED BY THIS PERMIT;
   c. THE DESIGN PROFESSIONAL'S REPORT OF THE RESULTS OF THE INSPECTION CONDUCTED IN ACCORDANCE WITH PART IV.A.5. OF THE GENERAL PERMIT;
   d. A COPY OF ALL SAMPLING INFORMATION, RESULTS, AND REPORTS REQUIRED BY THE GENERAL PERMIT;
   e. A COPY OF ALL INSPECTION REPORTS GENERATED IN ACCORDANCE WITH PART IV.D.4.A. OF THE GENERAL PERMIT;
   f. A COPY OF ALL VIOLATION SUMMARIES AND VIOLATION SUMMARY REPORTS GENERATED IN ACCORDANCE WITH PART OF THE GENERAL PERMIT; AND
   g. DAILY RAINFALL INFORMATION COLLECTED IN ACCORDANCE WITH PART IV.D.4.A.(2). OF THE GENERAL PERMIT.
2. COPIES OF ALL NOTICES OF INTENT, NOTICES OF TERMINATION, INSPECTION REPORTS, SAMPLING REPORTS (INCLUDING ALL CALIBRATION AND MAINTENANCE RECORDS AND ALL ORIGINAL STRIP CHART RECORDINGS FOR CONTINUOUS MONITORING INSTRUMENTATION) OR OTHER REPORTS REQUESTED BY THE EPD, EROSION, SEDIMENTATION AND POLLUTION CONTROL PLANS, RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT AND ALL OTHER RECORDS REQUIRED BY THIS PERMIT SHALL BE RETAINED BY THE PERMITTEE WHO EITHER PRODUCED OR USED IT FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE THAT THE NOT IS SUBMITTED IN ACCORDANCE WITH PART VI. OF THIS PERMIT. THESE RECORDS MUST BE MAINTAINED AT THE PERMITTEE'S PRIMARY PLACE OF BUSINESS OR AT A DESIGNATED ALTERNATIVE LOCATION ONCE THE CONSTRUCTION ACTIVITY HAS CEASED AT THE PERMITTED SITE. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE EPD AT ANY TIME UPON WRITTEN NOTIFICATION TO THE PERMITTEE.

THIS PERMIT REQUIRES THE MONITORING OF NEPHELOMETRIC TURBIDITY IN RECEIVING WATER(S) OR OUTFALLS IN ACCORDANCE WITH THIS PERMIT. THIS PARAGRAPH SHALL NOT APPLY TO ANY LAND DISTURBANCE ASSOCIATED WITH THE CONSTRUCTION OF SINGLE-FAMILY RESIDENCES WHICH ARE NOT APART OF A COMMON DEVELOPMENT OR SUBDIVISION OR UNLESS FIVE (5) ACRES OR MORE WILL BE DISTURBED. THE FOLLOWING PROCEDURES CONSTITUTE EPD'S GUIDELINES FOR SAMPLING TURBIDITY.

A. SAMPLING REQUIREMENTS SHALL INCLUDE:

1. A USGS TOPOGRAPHIC MAP, A TOPOGRAPHIC MAP OR A DRAWING (REFERRED TO AS A TOPOGRAPHIC MAP) THAT IS A SCALE EQUAL TO OR MORE DETAILED THAN A 1:24,000 MAP SHOWING THE LOCATION OF THE SITE OR THE STAND ALONE CONSTRUCTION; (1) THE LOCATION OF ALL PERENNIAL LAND INTERMITTENT STREAMS AND OTHER WATER BODIES AS SHOWN ON A USGS TOPOGRAPHIC MAP, AND ALL OTHER PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES LOCATED DURING MANDATORY FIELD VERIFICATION, INTO WHICH THE STORM AFTER IS DISCHARGED AND (2) THE RECEIVING WATER AND.OR OUTFALL SAMPLING LOCATIONS. WHEN THE PERMITTEE HAS CHOSEN TO USE A USGS TOPOGRAPHIC MAP AND THE RECEIVING WATER(S) IS NOT SHOWN ON THE USGS TOPOGRAPHIC MAP, THE LOCATION OF THE RECEIVING WATER(S) MUST BE HAND-DRAWN ON THE USGS TOPOGRAPHIC MAP FROM WHERE THE STORM WATER(S) ENTERS THE RECEIVING WATER(S) TO THE POINT WHERE THE RECEIVING WATER(S) COMBINES WITH THE FIRST BLUE LINE STREAM SHOWN ON THE USGS TOPOGRAPHIC MAP.
2. A WRITTEN NARRATIVE OF SITE SPECIFIC ANALYTICAL METHODS USED TO COLLECT, HANDLE AND ANALYZE THE SAMPLES INCLUDING THE QUALITY CONTROL/QUALITY ASSURANCE PROCEDURES. THIS NARRATIVE MUST INCLUDE PRECISE SAMPLING METHODOLOGY FOR EACH SAMPLING LOCATION.
3. WHEN THE PERMITTEE HAS DETERMINED THAT SOME OR ALL OUTFALLS WILL BE SAMPLED, A RATIONALE MUST BE INCLUDED ON THE PLAN FOR THE NTU LIMIT(Ss0 SELECTED FROM APPENDIX B. THIS RATIONALE MUST INCLUDE THE SIZE OF THE CONSTRUCTION SITE, THE CALCULATION OF THE SIZE OF THE SURFACE WATER DRAINAGE AREA AND THE TYPE OF RECEIVING WATERS.
4. ANY ADDITIONAL INFORMATION EPD DETERMINES NECESSARY TO BE PART OF THE PLAN, EPD WILL PROVIDE WRITTEN NOTICE TO THE PERMITTEE OF THE INFORMATION NECESSARY AND THE TIME LINE FOR SUBMITTAL.

B. SAMPLING TYPE

ALL SAMPLING SHALL BE COLLECTED BY GRAB SAMPLES AND THE ANALYSIS OF THESE SAMPLES MUST BE CONDUCTED IN ACCORDANCE WITH METHODOLOGY AND TEST PROCEDURES ESTABLISHED BY 40 CFR PARK 136; THE GUIDANCE DOCUMENT TITLED "NPDES STORM WATER SAMPLING GUIDANCE DOCUMENT, EPA 833-B-92-001" AND GUIDANCE DOCUMENTS THAT MAY BE PREPARED BY THE EPD.

1. SAMPLE CONTAINERS SHOULD BE LABELED PRIOR TO COLLECTING THE SAMPLES.
2. SAMPLES SHOULD BE WELL MIXED BEFORE TRANSFERRING TO A SECONDARY CONTAINER.
3. LARGE MOUTH, WELL CLEANED AND RINSED GLASS OR PLASTIC JARS SHOULD BE USED FOR COLLECTION SAMPLES. THE JARS SHOULD BE CLEANED THOROUGHLY TO AVOID CONTAMINATION.
4. MANUAL, AUTOMATIC OR RISING STAGE SAMPLING MAY BE UTILIZED. SAMPLES REQUIRED BY THIS PERMIT SHOULD BE ANALYZED IMMEDIATELY, BUT IN NO CASE LATER THAN 48 HOURS AFTER COLLECTION. HOWEVER, SAMPLES FROM AUTOMATIC SAMPLES MUST BE COLLECTED NO LATER THAN THE NEXT BUSINESS DAY AFTER THEIR ACCUMULATION. UNLESS FLOW THROUGH AUTOMATED ANALYSIS IS UTILIZED. IF AUTOMATIC SAMPLING IS UTILIZED AND THE AUTOMATIC SAMPLER IS NOT ACTIVE DURING THE QUALIFYING EVENT, THE PERMITTEE MUST UTILIZED MANUAL SAMPLING OR RISING STAGE SAMPLING DURING THE NEXT QUALIFYING EVENT. DILUTION OF SAMPLES IN NOT REQUIRED. SAMPLES MAY BE ANALYZED DIRECTLY WITH A PROPERLY CALIBRATED TURBIDIMETER. SAMPLES ARE NOT REQUIRED TO BE COOLED.
5. SAMPLING AND ANALYSIS OF THE RECEIVING WATERS OR OUTFALLS BEYOND THE MINIMUM FREQUENCY STATED IN THE PERMIT MUST BE REPORTED TO EPD AS SPECIFIED IN PART IV.E.

C. SAMPLING POINTS

1. FOR CONSTRUCTION ACTIVITIES THE PRIMARY PERMITTEE MUST SAMPLE ALL RECEIVING WATERS OR ALL OUTFALLS OR A COMBINATION OF RECEIVING WATERS AND OUTFALLS. SAMPLES TAKEN FOR THE PURPOSE OF COMPLIANCE WITH THIS PERMIT SHALL BE REPRESENTATIVE OF THE MONITORED ACTIVITY AND REPRESENTATIVE OF THE WATER QUALITY OF THE RECEIVING WATERS AND/OR THE STORM WATER OUTFALLS USING THE FOLLOWING MINIMUM GUIDELINES.
   a. THE UPSTREAM SAMPLE FOR EACH RECEIVING WATERS MUST BE TAKEN IMMEDIATELY UPSTREAM OF THE CONFLUENCE OF THE FIRST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY BUT DOWNSTREAM OF ANY OTHER STORM WATER DISCHARGES NOT ASSOCIATED WITH THE PERMITTED ACTIVITY. WHERE APPROPRIATE, SEVERAL UPSTREAM SAMPLES FROM ACROSS THE RECEIVING WATERS MAY NEED TO BE TAKEN AND THE ARITHMETIC AVERAGE FOR THE TURBIDITY OF THESE SAMPLES USED FOR THE UPSTREAM TURBIDITY VALUE.
   b. THE DOWNSTREAM SAMPLE FOR EACH RECEIVING WATERS MUST BE TAKEN DOWNSTREAM OF THE CONFLUENCE OF THE LAST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY BUT UPSTREAM OF ANY OTHER STORM WATER DISCHARGE NOT ASSOCIATED WITH THE PERMITTED ACTIVITY. WHERE APPROPRIATE, SEVERAL DOWNSTREAM SAMPLES FROM ACROSS THE RECEIVING WATERS MAY NEED TO BE TAKEN AND THE ARITHMETIC AVERAGE OF THE TURBIDITY OF THESE SAMPLES USED FOR THE DOWNSTREAM TURBIDITY VALUE.
   c. IDEALLY THE SAMPLES SHOULD BE TAKEN FROM THE HORIZONTAL AND VERTICAL CENTER OF THE RECEIVING WATERS OR THE STORM WATER OUTFALL CHANNELS.
   d. CARE SHOULD BE TAKEN TO AVOID STIRRING THE BOTTOM SEDIMENTS IN THE RECEIVING WATERS OR THE OUTFALL STORM WATER CHANNEL.
   e. THE SAMPLES SHOULD BE KEPT FROM FLOATING DEBRIS.

D. SAMPLING FREQUENCY

1. THE PRIMARY PERMITTEE MUST SAMPLE IN ACCORDANCE WITH THE PLAN AT LEAST ONCE FOR EACH RAINFALL EVENT DESCRIBED BELOW. FOR A QUALIFYING EVENT, THE PERMITTEE SHALL SAMPLE AT THE BEGINNING OF ANY STORMWATER DISCHARGE TO A MONITORED RECEIVING WATER AND/OR FROM A MONITORED OUTFALL LOCATION WITHIN IN FORTY-FIVE (45) MINUTES OR AS SOON AS POSSIBLE.

2. HOWEVER, WHERE MANUAL AND AUTOMATIC SAMPLING ARE IMPOSSIBLE (AS DEFINED IN THIS PERMIT), OR ARE BEYOND THE PERMITTEE'S CONTROL, THE PERMITTEE SHALL TAKE SAMPLES AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN TWELVE (12) HOURS AFTER THE BEGINNING OF THE STORMWATER DISCHARGE.

(3). SAMPLING BY THE PERMITTEE SHALL OCCUR FOR THE FOLLOWING QUALIFYING EVENTS:

(A). FOR EACH AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL, THE FIRST RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH WITH A STORMWATER DISCHARGE THAT OCCURS DURING NORMAL BUSINESS HOURS AS DEFINED IN THIS PERMIT EITHER 90 DAYS AFTER THE FIRST SAMPLING EVENT OR AFTER ALL MASS GRADING OPERATIONS HAVE BEEN COMPLETED, BUT PRIOR TO SUBMITTAL OF A NOT; IN THE DRAINAGE AREA OF THE LOCATION SELECTED AS THE SAMPLING LOCATION, WHICHEVER COMES FIRST;

(C). AT THE TIME OF SAMPLING PERFORMED PURSUANT TO (A) AND (B) ABOVE, IF BMPS IN ANY AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL ARE NOT PROPERLY DESIGNED, INSTALLED AND MAINTAINED, CORRECTIVE ACTION SHALL BE DEFINED AND IMPLEMENTED WITHIN TWO (2) BUSINESS DAYS, AND TURBIDITY SAMPLES SHALL BE TAKEN FROM DISCHARGES FROM THAT AREA OF THE SITE FOR EACH SUBSEQUENT RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH DURING NORMAL BUSINESS HOURS* UNTIL THE SELECTED TURBIDITY STANDARD IS ATTAINED, OR UNTIL POST-STORM EVENT INSPECTIONS DETERMINE THAT BMPS ARE PROPERLY DESIGNED, INSTALLED AND MAINTAINED;

(D). WHERE SAMPLING PURSUANT TO (A), (B) OR (C) ABOVE IS REQUIRED BUT NOT POSSIBLE (OR NOT REQUIRED BECAUSE THERE WAS NO DISCHARGE), THE PERMITTEE, IN ACCORDANCE WITH PART IV.D.4.A.(6), MUST INCLUDE A WRITTEN JUSTIFICATION IN TH

APPENDIX 1

THE ES&PC PLAN MUST INCLUDE AT LEAST FOUR (4) OF THE FOLLOWING BMPS FOR THOSE AREAS OF THE SITE WHICH DISCHARGE TO AN IMPAIRED STREAM SEGMENT OR FOR SITES WHICH EPD HAS APPROVED IN WRITING A REQUEST TO DISTURB 50 ACRES OR MORE AT ANY ONE TIME.

The four items chosen must be appropriate for the site conditions.

Plan Page #	Included Y/N		
--	N	a.	During construction activities, double the width of the 25-foot undisturbed vegetated buffer along all State Waters requiring a buffer and the 50-foot undisturbed vegetated buffer along all State Waters classified as "trout streams" requiring a buffer. During construction activities, EPD will not grant variances to any such buffers that are increased in width.
C2.1-C2.2	Y	b.	Increase all temporary sediment basins and retrofitted storm water management basins to provide sediment storage of at least 3600 cubic feet (134 cubic yards) per acre drained.
--	N	c.	Use baffles in all temporary sediment basins and retrofitted storm water management basins to at least double the conventional flow path length to the outlet structure.
C2.1-C2.3	Y	d.	A large sign (minimum 4 feet x 8 feet) must be posted on site by the actual start date of construction. The sign must be visible from a public roadway. The sign must identify the following: (1) construction site, (2) the permittee(s), (3) the contact person(s) and telephone number(s), and (4) the permittee-hosted website where the Plan can be viewed and must be provided on the submitted NOI. The sign must remain on site and the Plan must be available on the provided website until a NOT has been submitted.
--	N	e.	Use **tackifiers** and/or mulch to stabilize areas left disturbed for more than seven (7) calendar days in accordance with **Part III. D.1.** of the current NPDES Permits.
--	N	f.	Conduct turbidity sampling after every rain event of 0.5 inch or greater within any 24-hour period, recognizing the exceptions specified in **Part IV.D.6.d.** of the current NPDES Permits.
--	N	g.	Comply with the applicable end-of-pipe turbidity effluent limit, without the "BMP defense" as provided for in O.C.G.A. 12-7-6 (a)(1).
--	N	h.	Reduce the total planned site disturbance to less than 50% impervious surfaces (excluding any State-mandated buffer areas from such calculations). All calculations must be included on the Plan.
--	N	i.	Limit the amount of disturbed area at any one time to no greater than 25 acres or 50% of the total planned site, whichever is less. All calculations must be included on the Plan.
--	N	j.	Use "Dirt II" techniques available on the EPD website to model and manage construction storm water runoff (including sheet flow). All calculations must be included on the Plan.
C2.2-C2.3	Y	k.	**Conduct soil tests representative of conditions at the time of planting to identify and to implement site-specific fertilizer needs and/or** add appropriate organic soil amendments (e.g., compost) and conduct pre- and post-construction soil sampling to a depth of six (6) inches to document improved levels of soil carbon after final stabilization of the construction site.
--	N	l.	Use mulch filter berms, in addition to a silt fence, on the site perimeter wherever construction storm water (including sheet flow) may be discharged. Mulch filter berms cannot be placed in waterways or areas of concentrated flow.
--	N	m.	Use appropriate erosion control slope stabilization instead of concrete in all construction storm water ditches and storm drainages designed for a 25-year, 24-hour rainfall event.
--	N	n.	Use flocculants or coagulants under a passive dosing method (e.g., flocculant blocks) within all construction storm water ditches and storm drainages that feed into temporary sediment basins and retrofitted management basins.
--	N	o.	Install sod for a minimum 20-foot width (in lieu of seeding) after final grade has been achieved, along the site perimeter wherever storm water (including sheet flow) may be discharged.
--	N	p.	Certified personnel shall conduct inspections at least twice every seven (7) calendar days and within 24 hours of the end of the storm that is 0.5 inches rainfall or greater in accordance with **Part IV.D.4.a.(3)(a)-(c)** of this permit. *
--	N	q.	Apply the appropriate compost blankets (minimum depth 1.5 inches) to protect soil surfaces until vegetation is established during the final stabilization phase of the construction activity.
--	N	r.	Use Alternative BMPs whose performance has been documented to be superior to conventional BMPs as certified by a design professional (unless disapproved by EPD or the Georgia Soil and Water Conservation Commission). (If using this item please refer to the Alternative BMP guidance document found at *www.gaswcc.georgia.gov*)
--	N	s.	Limit the total planned site disturbance to less than 15% impervious surfaces (excluding any State mandated buffer areas from such calculations). All calculations must be included in the Plan.
--	N	t.	Conduct inspections during the intermediate grading and drainage BMP phase and during the final BMP phase of the project by the design professional who prepared the Plan in accordance with **Part IV.A.5** of the permit.
			The Plan must include a statement that the primary permittee must retain the design professional who prepared the Plan to conduct inspections during the intermediate grading and drainage BMP phase and during the final BMP phase.
C2.2-C2.3	Y	u.	Install Post Construction BMPs (e.g., runoff reduction BMPs) which remove 80% TSS as outlined in the Georgia Stormwater Management Manual, known as the Blue Book, or an equivalent or more stringent design manual.

* This requirement is different for infrastructure projects:

Certified personnel for primary permittees shall conduct inspections at least once every seven (7) calendar days and within 24 hours of the end of the storm that is 0.5 inches rainfall or greater in accordance with Part IV.D.4.a.(3)(a) – (c) of the permit.

Effective January 1, 2025

NO.	REVISION	BY	DATE

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GEORGIA LAW
YOU MUST CALL 811 BEFORE ANY EXCAVATION WHETHER IT'S ON PRIVATE OR PUBLIC LAND
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ga811.georgia811.com

RACETRAC 24-HOUR CONTACT
PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE,
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA REGISTERED
Nathan Fuss
No. PE046694
PROFESSIONAL
08/01/2025
ENGINEER
NATHAN R. FUSS

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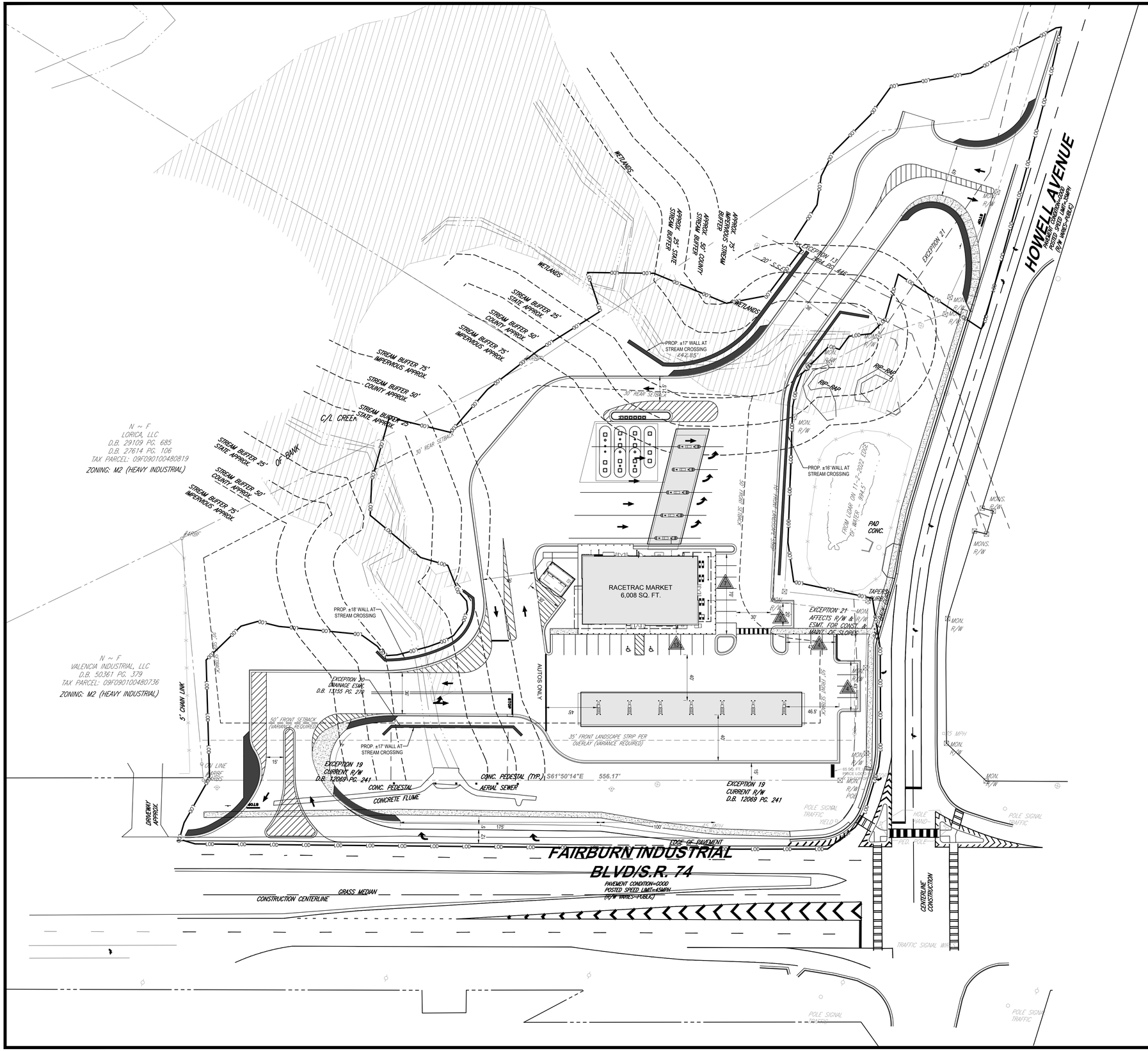
RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BLVD, SUITED
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

EROSION & SEDIMENT CONTROL - APPENDIX 1

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C2.9	
SHEET NO.	REVISION



		ALLOWED/REQUIRED	PROVIDED
MIN. LOT AREA			
	TOTAL SITE ACREAGE	5.0 AC	±5.20 AC
MIN. BUILDING SETBACK			
	FRONT(FAIRBURN INDUSTRIAL & HOWELL AVE.)	50'	±35'*
	SIDE	20'	349.5'
	REAR	30'	177.2'
MIN. LANDSCAPE STRIPS/BUFFERS			
	FRONT(STRIP)	10' ALONG HOWELL AVE	0'*
	FRONT(BUFFER YARD)	35' ALONG ROUTE 74 R.O.W.	10'*
PARKING REQUIREMENTS			
	MIN. PARKING	1 PER 200 SF OF GFA + 3 PARKING SPACES FOR FUEL STATION = ±34	30
	MAX. PARKING	N/A	30
MIN. PARKING SPACE DIMENSIONS		10'x18'	10'x18'
MAX. IMPERVIOUS AREA		N/A	±3.75 AC
MIN. DRIVE AISLE		N/A	30'

* VARIANCE REQUIRED

GENERAL SITE NOTES

1. OWNERS:
   GREENLAND GEORGIA INC
   4020 CHARWOOD TRCE
   MARIETTA, GA 30062-6046
2. EQUITABLE DEVELOPER/APPLICANT:
   RACETRAC PETROLEUM, INC.
   200 GALLERIA PARKWAY S.E.,
   SUITE 900
   ATLANTA, GA 30339
   CONTACT: JUSTEN GIAMBALVO
   PHONE: (770) 431-7600
3. ALL SIDEWALKS, STRIPING AND SIGNAGE TO BE ADA AND CODE COMPLIANT.
4. ZONING DATA:
   PARCEL NUMBERS: 09F090100480751
   GROSS LOT AREA: 4.21 AC
   EXISTING ZONING: M-2 HEAVY INDUSTRIAL
   OVERALY: GEORGIA HIGHWAY 74 OVERLAY
   ZONING DISTRICT
   EXISTING USE: VACANT LAND
   PROPOSED USE: FUELING CENTER (PERMITTED)
5. THIS PLAN IS BASED ON THE FOLLOWING:
   ALTA SURVEY BY GASKINS + LECRAW INC.
   1226 POWDER SPRINGS RD SW
   MARIETTA, GA 30064
   PROJECT NO.: 005060
   DATED: 09/07/2023
6. THE IMPROVEMENTS FOR THIS PROJECT INCLUDE THE CONSTRUCTION OF A RACETRAC TRAVEL CENTER STRUCTURE, PARKING FACILITIES, UNDERGROUND UTILITIES, LANDSCAPING, STORMWATER QUALITY, AND DETENTION REQUIREMENTS.
7. PARKING LOTS SHALL BE MAINTAINED IN GOOD CONDITION FREE OF POTHOLES, WEEDS, DUST, TRASH, AND DEBRIS.
8. IF ANY STRUCTURE THAT LIES WITHIN A 100-YEAR FLOODPLAIN OR WITH A DETENTION POND WILL BE ELEVATED SUCH THAT THE LOWEST FINISHED FLOOR ELEVATION SHALL BE NO LESS THAN 2' ABOVE THE 100-YEAR WATER SURFACE ELEVATION.
9. ALL TRAFFIC CONTROL SIGNS THAT ARE REMOVED OR DAMAGED MUST BE REINSTALLED OR REPLACED. ALL SIGNS MUST BE REINSTALLED TO THE STANDARDS IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

OWNER/DEVELOPER

RACETRAC PETROLEUM, INC.
200 GALLERIA PARKWAY S.E.,
SUITE 900
ATLANTA, GA 30339
CONTACT: JUSTEN GIAMBALVO
PHONE: (770) 431-7600
EMAIL: JGIAMBALVO@RACETRAC.COM

RT CURB LEGEND

	CATCH CURB (DETAIL 1, SHEET SD1)
	SHED CURB (DETAIL 2, SHEET SD1)
EP	EDGE OF PAVEMENT (GUTTER LINE)
TC	TOP OF CURB

40 20 10 0 40
1"= 40'

NO.	REVISION	BY	DATE

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RACETRAC 24-HOUR CONTACT
PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE.
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA REGISTERED Nathan First No. PE046894 PROFESSIONAL 08/01/2025 ENGINEER NATHAN R. FUSS

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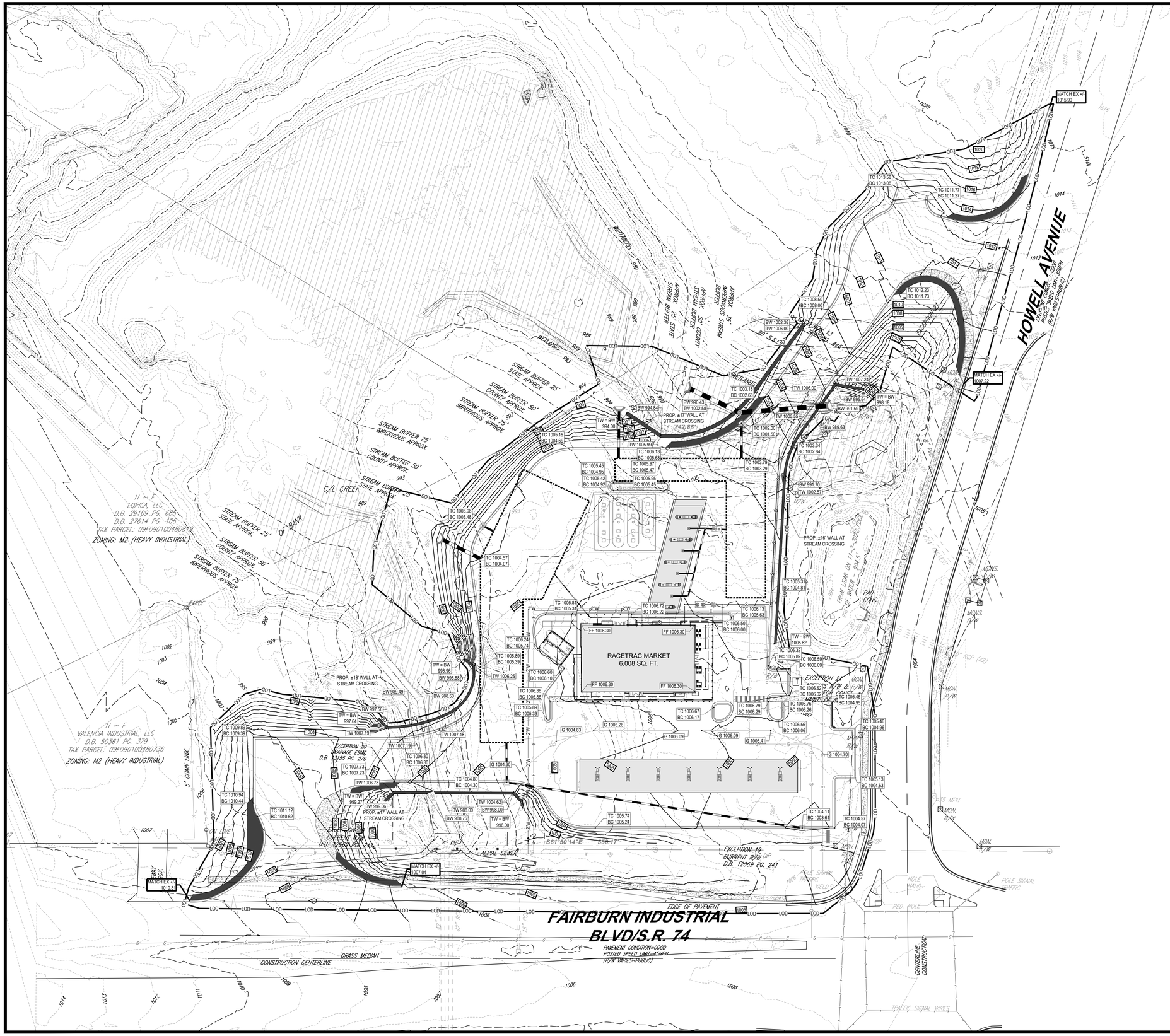
RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

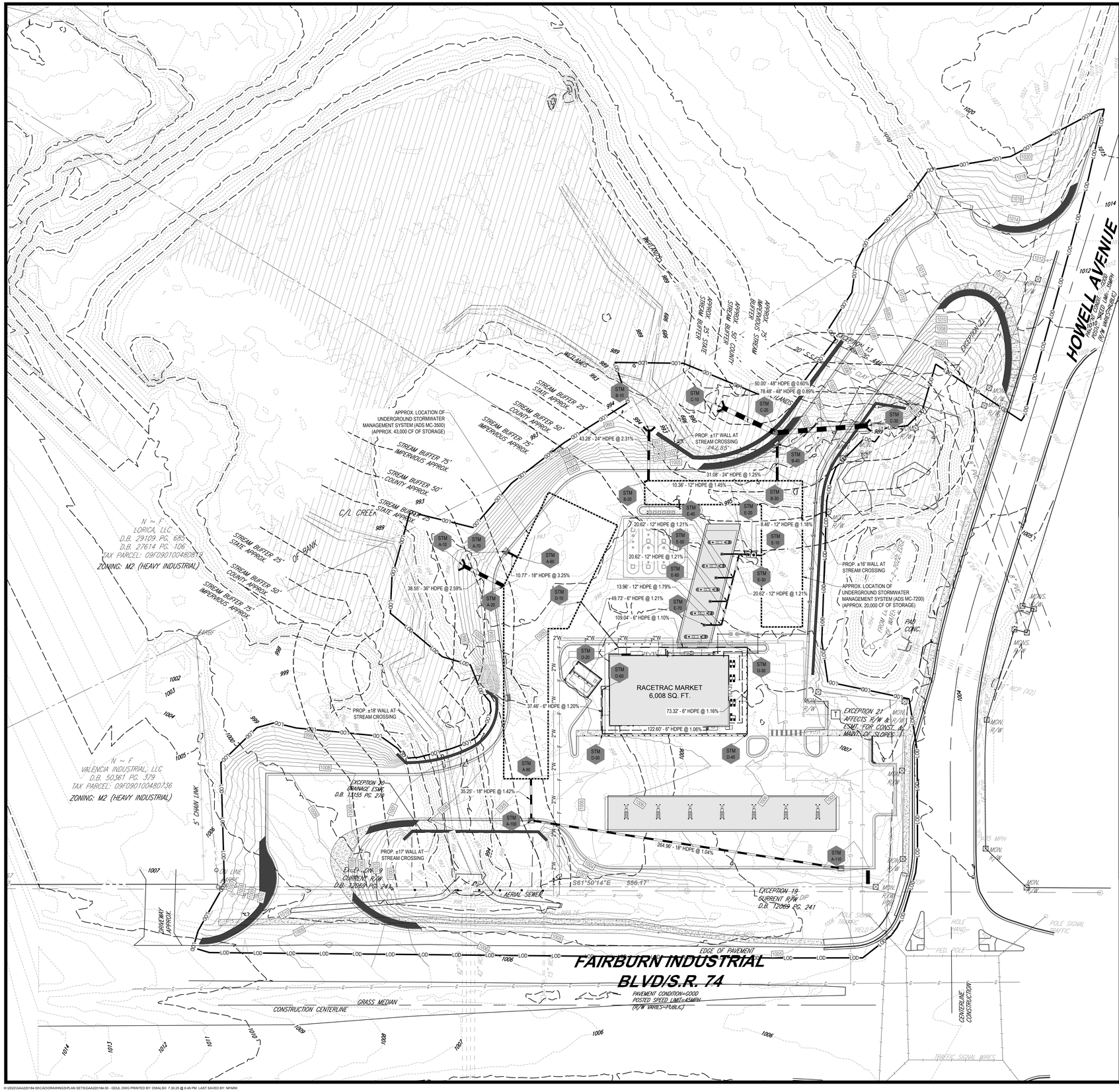
SITE PLAN

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C3	
SHEET NO.	REVISION


RACETRAC MARKET
6,008 SQ. FT.
FF 1006.30
FAIRBURN INDUSTRIAL BLVD/S.R. 74
HOWELL AVENUE
PAVEMENT CONDITION=GOOD
POSTED SPEED LIMIT=45MPH
(R/W VARIES-PUBLIC)
CONSTRUCTION CENTERLINE
GRASS MEDIAN
EDGE OF PAVEMENT
AERIAL SEWER
C/L CREEK
STREAM BUFFER 25' STATE APPROX.
STREAM BUFFER 50' COUNTY APPROX.
STREAM BUFFER 75' IMPERVIOUS APPROX.
WETLANDS
PROP. ±17' WALL AT STREAM CROSSING
PROP. ±16' WALL AT STREAM CROSSING
PROP. 30" RCP (TYP.)
PROP. 36" RCP
PROP. 24" RCP
PROP. 18" RCP
PROP. 15" RCP
PROP. 12" RCP
PROP. 8" SAN. SEWER
PROP. 6" SAN. SEWER
PROP. 4" SAN. SEWER
PROP. 2" SAN. SEWER
PROP. 1.5" SAN. SEWER
PROP. 1" SAN. SEWER
PROP. 3/4" SAN. SEWER
PROP. 1/2" SAN. SEWER
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PROP. 1/165263992197562149737978827008192759957101170741070304821162198818601447809077836456297302609928821211897803006255839576064" SAN. SEWER
PROP. 1/330527984395124299475957654016385519914202341482140



STORM STRUCTURE SCHEDULE

NAME	TYPE	RIM ELEV. (FT.)	INVERTS
A-10	NULL STRUCTURE	996.73'	INV IN = 996.00' (36")
A-20	PROP OUTLET CONTROL STRUCTURE	1004.00'	INV OUT = 997.00' (36")
A-60	PROP OUTFALL TO UNDG DETENTION POND	1003.76'	INV IN = 997.00' (18")
A-70	PROP 18" NYLOPLAST DRAIN BASIN W/ COMBO INLET	1003.48'	INV OUT = 997.35' (18")
A-80	PROP NYLOPLAST DRAIN BASIN W/ COMBO INLET TO DISCHARGE DIRECTLY INTO UNDG DRAINAGE SYSTEM	1005.39'	
A-90	PROP OUTFALL TO UNDG DETENTION POND	1005.01'	INV IN = 996.50' (18")
A-100	PROP 24" NYLOPLAST DRAIN BASIN W/ COMBO INLET	1004.30'	INV IN = 997.00' (18") INV OUT = 997.00' (18")
A-110	PROP 18" NYLOPLAST DRAIN BASIN W/ COMBO INLET	1003.61'	INV OUT = 999.75' (18")
B-10	PROP CONCRETE WINGED HEADWALL	994.00'	INV OUT = 995.00' (24")
B-20	OUTLET CONTROL STRUCTURE	1005.09'	INV IN = 994.00' (24")
B-30	OUTFALL TO UNDG DETENTION POND	1003.25'	INV IN = 996.51' (24")
B-40	PROP 18" NYLOPLAST DRAIN BASIN W/ COMBO INLET	1001.50'	INV OUT = 996.90' (24")
C-10	PROP CONCRETE WINGED HEADWALL	992.25'	INV IN = 988.00' (48")
C-20	COMBO INLETS	1002.06'	INV IN = 988.30' (48") INV OUT = 988.30' (48")
C-30	PROP CONCRETE WINGED HEADWALL	993.48'	INV OUT = 989.00' (48")
D-10	CLEANOUTS	1005.24'	INV IN = 997.00' (6")
D-20	CLEANOUTS	1006.19'	INV IN = 997.60' (6") INV OUT = 997.60' (6")
D-30	CLEANOUTS	1005.86'	INV IN = 998.80' (6") INV OUT = 998.80' (6")
D-40	CLEANOUTS	1006.19'	INV IN = 999.65' (6") INV OUT = 999.65' (6")
D-50	CLEANOUTS	1006.06'	INV IN = 1000.95' (6") INV OUT = 1000.95' (6")
D-60	NULL STRUCTURE	1001.97'	INV OUT = 1001.40' (6")
E-10	OUTFALL TO UNDG DETENTION POND	1004.88'	INV IN = 994.50' (12")
E-20	PROP 1,500 GAL OIL/WATER SEPERATOR	1005.03'	INV IN = 994.60' (12") INV OUT = 994.60' (12")
E-30	PROP CLEANOUT	1005.22'	INV IN = 994.75' (12") INV OUT = 994.75' (12")
E-40	PROP CLEANOUT	1005.46'	INV IN = 995.00' (12") INV OUT = 995.00' (12")
E-50	PROP CLEANOUT	1005.71'	INV IN = 995.25' (12") INV OUT = 995.25' (12")
E-60	PROP CLEANOUT	1005.94'	INV IN = 995.50' (12") INV OUT = 995.50' (12")
E-70	PROP 12" DRAIN BASIN (TYP.)	1006.06'	INV OUT = 995.75' (12")

STORM SEWER PIPE SCHEDULE

FROM	FROM INV	TO	TO INV	PIPE LENGTH	SLOPE (%)	DIAMETER (IN.)	MATERIAL
A-10	996.00'	A-20	997.00'	38.55'	2.59%	36"	HDPE
A-60	997.00'	A-70	997.35'	10.77'	3.25%	18"	HDPE
A-90	996.50'	A-100	997.00'	35.25'	1.42%	18"	HDPE
A-100	997.00'	A-110	999.75'	264.96'	1.04%	18"	HDPE
B-20	994.00'	B-10	995.00'	43.28'	2.31%	24"	HDPE
B-30	996.51'	B-40	996.90'	31.08'	1.25%	24"	HDPE
C-10	988.00'	C-20	988.30'	50.00'	0.60%	48"	HDPE
C-20	988.30'	C-30	989.00'	78.48'	0.89%	48"	HDPE
D-10	997.00'	D-20	997.60'	49.73'	1.21%	6"	HDPE
D-20	997.60'	D-30	998.80'	109.04'	1.10%	6"	HDPE
D-30	998.80'	D-40	999.65'	73.32'	1.16%	6"	HDPE
D-40	999.65'	D-50	1000.95'	122.60'	1.06%	6"	HDPE
D-50	1000.95'	D-60	1001.40'	37.46'	1.20%	6"	HDPE
E-20	994.60'	E-10	994.50'	8.46'	1.18%	12"	HDPE
E-30	994.75'	E-20	994.60'	10.36'	1.45%	12"	HDPE
E-40	995.00'	E-30	994.75'	20.62'	1.21%	12"	HDPE
E-50	995.25'	E-40	995.00'	20.62'	1.21%	12"	HDPE
E-60	995.50'	E-50	995.25'	20.62'	1.21%	12"	HDPE
E-70	995.75'	E-60	995.50'	13.96'	1.79%	12"	HDPE

NO.	REVISION	BY	DATE

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211 PERIMETER CENTER PKWY NE, SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
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GEORGIA REGISTERED Nathan Fuss No. PE046694 PROFESSIONAL 08/01/2025 ENGINEER NATHAN R. FUSS

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DRAINAGE PLAN

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C7	
SHEET NO.	REVISION

Underground Detention



Underground detention is detention storage located in underground tanks or vaults designed to provide water quantity control through temporary storage of stormwater runoff. In addition they can improve water quality by removing heavy amounts of sediment.

There are some common problems to be aware of when maintaining an underground detention area. They include, but are not limited to, the following:

- Sediment build-up
- Clogging in the inlet and outlet structure
- Requirement to have Occupational Safety and Health Administration (OSHA) confined space entry training

Routine maintenance should be performed on the underground detention areas to ensure that the structure is properly functioning. Routine maintenance includes the removal of debris from inlet and outlet structures and cleaning sediment built up inside the structure. Because this is an underground system, inspection and maintenance may be difficult to conduct. Generally these underground systems can be inspected by looking in an access opening. Sometimes, however, maintenance requires an individual who is certified in OSHA confined space entry. Should there be a situation where a safety concern arises, the inspection should stop and the safety concern addressed. Once the concern is addressed, the inspection can continue.

Inspect the underground detention area after a large rainstorm. If the underground detention area is not draining properly, check the inlet and outlet structures to make sure they are not clogged.

Sediment should be removed from the practice by either a vacuum or boom. If the system is accepting water that flowed from a hazardous facility, the sediment may need to be disposed of by other means. Check with the local government to identify any additional constraints on the disposal of sediments excavated from underground detention.

The table on the following page shows a schedule for when different maintenance activities should be performed on a submerged gravel wetland.

Underground Detention Typical Routine Maintenance Activities and Schedule

Activity	Schedule
• Remove any trash/debris and sediment buildup in the underground trash racks, vaults or tanks. • Check drainage areas for trash, erosion, and debris. • Clean underground detention if hazardous or foreign substances are spilled in the contributing drainage area. • Perform structural repairs to inlet and outlets.	As needed
• Follow manufacturer's guidelines and develop/adjust plan for the underground detention. • Clean out underground detentions with vacuum or boom trucks. • Clean sediment or oil chambers	Annually

Underground Detention

Maintenance Item	Condition: Good	Marginal	Poor	N/A*	Comment
General Inspection					
Access to the site is adequately maintained for inspection and maintenance.					
Area is clean (trash, debris, grass clippings, etc. removed).					
Inlet Structure and Pretreatment					
Drainage ways (overland flow or pipes) to the practice are free of trash, debris, large branches, etc.					
Inlet structure is in good condition. No signs of cracks or leaks.					
Diversion structure (high flow bypass structure or other) is free of trash, debris, or sediment. Comment on overall condition of diversion structure and list type.					
Inlet pipe fits tightly to the underground detention.					
Inlet has protection to prevent clogging with leaves or other debris and has fine mesh for mosquito control.					
Main Treatment					
Main treatment area is free of trash, debris, and sediment.					
Structure seems to be working properly. No signs of settling, leaking, or cracking. Comment on overall condition of structure.					
Emergency Overflow and Outlet Structure					
Area is free of trash, debris, and sediment.					
Overflow valve appears to be in good condition and show no signs of leaking.					
Results					
Overall condition of Underground Detention:					
Additional Comments					

Notes: *If a specific maintenance item was not checked, please explain why in the appropriate comment box.

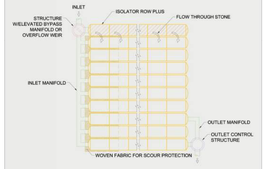
Isolator® Row Plus

The StormTech Isolator Row Plus is an enhancement to our proven water quality treatment system. This updated system is an NJCAT verified water quality treatment device that can be incorporated into any system layout.

Features

- Isolator Row Plus is now NJCAT verified. As a Manufactured Treatment Device it achieves over 80% TSS removal by filtration NJDEP Laboratory Protocol Assessment NJCAT Technology Verification.
- A patented Flamp™ (Flared End Ramp) provides a smooth transition from pipe invert to fabric bottom. The Flamp is attached to the inlet pipe inside the chamber end cap and improves chamber function over time by distributing sediment and debris that would otherwise collect at the inlet. It also serves to improve the fluid and solid flow back into the inlet pipe during maintenance and cleaning.
- Proprietary ADS Plus fabric maintains durability and sediment removal while allowing for higher water quality flow rates. A single layer of ADS Plus fabric is placed between the angular base stone and the Isolator Row Plus chambers.

Schematic of the StormTech Isolator Row Plus System



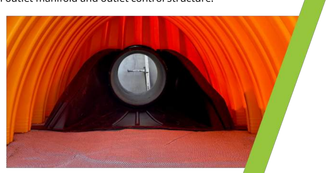
Technology Descriptions

The Isolator Row Plus is designed to capture the "first flush" runoff and offers the versatility to be sized on a volume or a flow basis. An upstream manhole not only provides access to the Isolator Row Plus but includes a high/low concept such that stormwater flow rates or volumes that exceed the capacity of the Isolator Row Plus bypass through a manifold to the other chambers. This is achieved with either an elevated bypass manifold or a high-flow weir. This creates a differential between the Isolator Row Plus row of chambers and the manifold to the rest of the system, thus allowing for settlement time in the Isolator Row Plus. After Stormwater flows through the Isolator Row Plus and into the rest of the StormTech chamber system it is either infiltrated into the soils below or passed at a controlled rate through an outlet manifold and outlet control structure.

Summary of Verified Claims[1]

Treatment Rate (gpm/ft²)	4.1
Underlying Geotextile Layers	1
NJDEP Test Sediment	D50=75um
Mean Particle Concentration (mg/L)	200
TSS Removal Efficiency	>80%

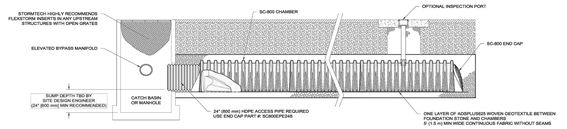
[1] Verification testing of the StormTech SC-740 Isolator Row PLUS in accordance with NJDEP Laboratory protocol to access total suspended solids removal by filtration manufactured treatment device, 2013



ADS StormTech™

adspipe.com
800-821-6710

StormTech Isolator Row Plus (not to scale)



Maintenance

The Isolator Row Plus was designed to reduce the cost of periodic maintenance. By "isolating" sediment to just one row of the StormTech system, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout.

Maintenance is accomplished with the JetVac® process. The JetVac process utilizes a high-pressure water nozzle to propel itself down the Isolator Row Plus while scouring and suspending sediment. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency.

StormTech Isolator Row Plus

Chamber Model	Chamber Storage	Chamber Footprint	Treatment Rate
SC-160LP	15.0 cf (0.42 m³)	11.45 sf (1.06 m²)	0.11 cfs (3.11 L/s)
SC-310	31.0 cf (0.88 m³)	17.7 sf (1.64 m²)	0.16 cfs (4.53 L/s)
DC-780	78.4 cf (2.22 m³)	27.8 sf (2.58 m²)	0.26 cfs (7.36 L/s)
SC-800	81.0 cf (2.29 m³)	27.3 sf (2.54 m²)	0.25 cfs (7.1 L/s)
MC-3500	175.0 cf (4.96 m³)	42.9 sf (3.99 m²)	0.40 cfs (11.32 L/s)
MC-4500	162.6 cf (4.60 m³)	30.1 sf (2.80 m²)	0.28 cfs (7.93 L/s)
MC-7200	267.3 cf (7.57 m³)	50.0 sf (4.65 m²)	0.45 cfs (12.74 L/s)

Installation

Installation of the stormwater treatment unit(s) shall be preformed per manufacture's installation instructions. Such instructions can be obtained by calling Advanced Drainage Systems Inc. at (800) 821-6710 or by logging on to adspipe.com.

ADS StormTech™

adspipe.com
800-821-6710

ADS "Terms and Conditions of Sale" are available on the ADS website, www.adspipe.com
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GEORGIA REGISTERED Nathan Fuss No. PE046894 PROFESSIONAL ENGINEER 08/01/2025 NATHAN R. FUSS

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DRAINAGE DETAILS

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

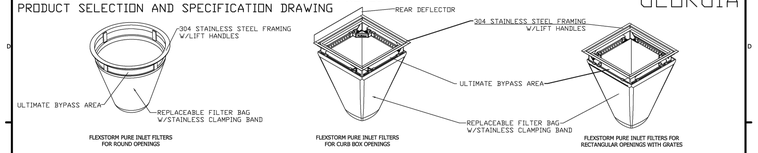
CITY OF FAIRBURN, GA

DRAWN BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C7.1	
SHEET NO.	REVISION

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FLEXSTORM PURE FILTERS FOR PERMANENT INLET PROTECTION
PRODUCT SELECTION AND SPECIFICATION DRAWING

GEORGIA



FLEXSTORM PURE INLET FILTERS FOR ROUND OPENINGS

FLEXSTORM PURE INLET FILTERS FOR CURB BOX OPENINGS

FLEXSTORM PURE INLET FILTERS FOR RECTANGULAR OPENINGS WITH GRATES

Product selection for FLEXSTORM PURE Filters (Permanent Inlet Protection)

Standard	USF Casting	Inlet Type	Grate Size	Opening Size	Bag Cap. (ft^2)	Flow Ratings (CFS)			Part #			
						FXP/FXP+	PC/PC+	Bypass	FX	FXP+	PC	PC+
2' x 2' Frame and Grate	4190-6259	Square/Rect (SQ)	23.5 x 23.5	22 x 22	2.4	1.9	1.6	4.5	62MHD22FX	62MHD22FXP	62MHD22PC	62MHD22PCP
2' x 3' Std.	4180	Square/Rect (SQ)	36 x 24	34 x 22	4.5	2.5	2.1	6.0	62LHD2436FX	62LHD2436FXP	62LHD2436PC	62LHD2436PCP
1019 A Type A/B/C/D	4607	Square/Rect (SQ)	28.75 X 21	26.5 X 18.25	3.0	1.9	1.6	4.7	62HD1019AFX	62HD1019AFXP	62HD1019APC	62HD1019APCP
1019 A Type E	5151	Curb Box (CB)	28.75 X 21	26.5 X 18.25	3.0	1.9	1.6	4.7	62MHDCBFX	62MHDCBFXP	62MHDCBPC	62MHDCBPCP
City of Macon Georgia Std.	5167	Wall Mount (WM)	40.5	39.5	2.7	2.1	1.8	N/A	62HDWM1FX	62HDWM1FXP	62HDWM1PC	62HDWM1PCP
1010 Catch Basin	4612	Square/Rect (SQ)	33.75 x 21.75	31.375 x 19.375	4.0	2.2	1.9	7.2	62LHDFX	62LHDFXP	62LHDPC	62LHDPCP
1013 Catch Basin	5135	Curb Box (CB)	33.75 x 21.75	31.375 x 19.375	4.0	2.2	1.9	7.2	62MHDCBFX	62MHDCBFXP	62MHDCBPC	62MHDCBPCP
1019 B (Type V-1)	5149/5150	Curb Box (CB)	33.75 x 21.75	31.375 x 19.375	4.4	2.3	2.0	5.8	62LHDCBFX	62LHDCBFXP	62LHDCBPC	62LHDCBPCP
1019 B (Type V-2)	4612	Square/Rect (SQ)	33.75 x 21.75	31.375 x 19.375	4.4	2.3	2.0	5.8	62LHDFX	62LHDFXP	62LHDPC	62LHDPCP

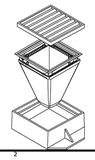
*FLOW RATINGS SHOWN ARE 50% MAXIMUM

NOTES:

1. ALL FRAMING IS CONSTRUCTED OF 304 STAINLESS STEEL FOR 25 YEAR SERVICE LIFE RATING
2. TOTAL BYPASS CAPACITY WILL VARY WITH EACH SIZED DRAINAGE STRUCTURE. FLEXSTORM DESIGNS FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE.
3. UPON ORDERING ADS P/N CONFIRMATION OF THE IOT CALLOUT, FLEXSTORM ITEM CODE, CASTING MAKE AND MODEL, OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED.
4. FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT WWW.INLETFILTERS.COM

INSTALLATION

1. REMOVE GRATE
2. DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
3. REPLACE GRATE



FLEXSTORM PURE

ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC A DIVISION OF ADS, INC. WWW.INLETFILTERS.COM (866) 287-8655 PH (630) 355-3477 FX INFO@INLETFILTERS.COM

SIZE	DWG NO	REV
C	P-GA-SUBMIT	A
SCALE	SHEET 1 OF 1	

FLEXSTORM OPERATION AND MAINTENANCE PLAN

FLEXSTORM INLET FILTERS

OPERATION & MAINTENANCE PLAN

Installation Instructions:

1. Remove grate from the drainage structure
2. Clean stone and dirt from ledge (lip) of drainage structure
3. Drop the FLEXSTORM inlet filter through the clear opening such that the hangers rest firmly on the lip of the structure.
4. Replace the grate and confirm it is not elevated more than 1/8", the thickness of the steel hangers.

Frequency of Inspections:

1. Inspection should occur following any rain event >½".
2. Post construction inspections should occur 4 times per year. In snowfall affected regions additional inspections should take place before and after snowfall season.
3. Industrial application site inspections (loading ramps, wash racks, maintenance facilities) should occur on a regularly scheduled basis no less than 3 times/year.

Maintenance Guidelines:

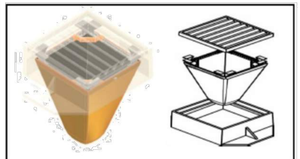
1. Empty the sediment bag if more than half filled with sediment and debris, or as directed.
2. Remove the grate, engage the lifting bars with the FLEXSTORM Removal Tool, and lift from drainage structure.
3. Dispose of sediment or debris as directed by the Engineer or Maintenance contract.
4. An industrial vacuum can be used to collect sediment.
5. Remove caked on silt from sediment bag and flush with Medium spray with optimal filtration.
6. Replace bag if torn or punctured to >½" diameter on lower half of bag.

Post Construction PC Bag Maintenance:

1. At 50% saturation the average 2'x2' Adsorb-it lined PC filter will retain approximately 75 oz (4.2 lbs) of oil and should be serviced. To recover the oils the filter can be centrifuged or passed through a wringer.
2. Oil skimmer pouches start to turn black when saturated, indicating time for replacement. Each ClearTec Rubberizer pouch will absorb ~62oz (4 lbs) of oil before needing replacement.
3. Dispose of all oil contaminated products in accordance with EPA guidelines. ClearTec Rubberizer, since a solidifier, will not leach under pressure and can be disposed of in most landfills, recycled for industrial applications, or burned as fuel.

Sediment Bag Replacement:

1. Remove the bag by loosening or cutting off clamping bag.
2. Take new sediment bag and secure worm drive clamping band to the frame channel.
3. Ensure Bag is secure and there is no slack around perimeter.



STRUCTURE ID#/LOCATION:

DATE	TASK PERFORMED	INSPECTOR

FLEXSTORM P/Ns FOR NYLOPLAST ROUND FRAME AND GRATE

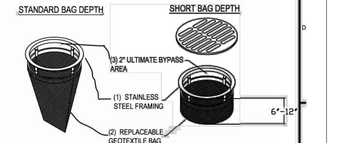
INLET TYPE NYLO: ROUND IN NYLOPLAST BASIN

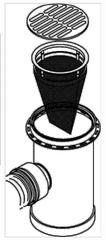
Casting Size	FX Bag		Flexstorm Ratings (Flow at 50% of max)			FX+ Bag
	ADS P/N	Bag Depth	Bag Capacity (ft^2)	FX/FX+ Flow Rate (CFS)	Total Bypass (CFS)	ADS P/N
8" Drop in	6208NYFX	22"	0.2	0.9	1.3	6208NYFXP
8" Inline	6208NYFX	22"	0.2	0.9	1.3	6208NYFXP
10" Drop in	6210NYFX	22"	0.3	1.2	1.75	6210NYFXP
10" Inline	6210NYFX	22"	0.3	1.2	1.75	6210NYFXP
12" Round	6212NYFX	22"	0.3	1.4	2.0	6212NYFXP
15" Round	6215NYFX	22"	0.6	1.7	2.5	6215NYFXP
18" Round	6218NYFX	22"	0.9	2.1	3.1	6218NYFXP
24" Round	6224NYFX	22"	1.6	2.8	4.3	6224NYFXP
30" Round	6230NYFX	22"	2.8	3.6	5.7	6230NYFXP

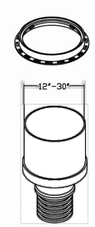
Casting Size	PC Bag		Flexstorm Ratings (Flow at 50% of Max)			PC+ Bag
	ADS P/N	Bag Depth	Bag Capacity (ft^2)	PC/PC+ Flow Rate (CFS)	Total Bypass (CFS)	ADS P/N
8" Inline	6208NYPC	22"	0.2	0.4	1.3	6208NYPCP
8" Drop In	6208NYPC	22"	0.2	0.4	1.3	6208NYPCP
10" Drop In	6210NYPC	22"	0.3	0.6	1.75	6210NYPCP
12" Round	6212NYPC	22"	0.3	0.9	2.0	6212NYPCP
15" Round	6215NYPC	22"	0.6	1.2	2.5	6215NYPCP
18" Round	6218NYPC	22"	0.9	1.4	3.1	6218NYPCP
24" Round	6224NYPC	22"	1.6	1.9	4.3	6224NYPCP
30" Round	6230NYPC	22"	2.8	2.5	5.7	6230NYPCP

STANDARD BAG DEPTH

SHORT BAG DEPTH









8" and 10" Designs



12" and Plus Designs

FLEXSTORM PURE

ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC A DIVISION OF ADS, INC. WWW.INLETFILTERS.COM (866) 287-8655 PH (630) 355-3477 FX INFO@INLETFILTERS.COM

SIZE	FRAME TYPE	DWG NO	REV
C	NY	NYLOPLAST	A
SCALE	SHEET 1 OF 1		

FlexStorm Pure™ Inlet Filter

FlexStorm Pure inlet filters are the preferred choice for permanent inlet protection and stormwater runoff control. Constructed of stainless steel, FlexStorm Pure inlet filters will fit any drainage structure and are available with site-specific filter bags providing various levels of filtration.

Applications

- Car washes
- Commercial
- Loading ramps
- Industrial
- Gas stations
- Parking lots
- Dock drains
- Maintenance

Features

- Custom stainless steel frames are configured to fit into any drainage structure
- Flow and bypass rates meet specific inlet requirements
- Works below grade with bypass to drain area if bag is full
- Installed and maintained by one worker, without additional equipment

Benefits

- Stainless steel frame provides extended service life
- Easily replaceable filter bags
- Meets stringent removal requirements:
  - All bags rated >84% removal efficiency
  - Bag styles available to remove hydrocarbon oils when required





ADS

FlexStorm Pure Inlet Filters Specification

Material and Performance

The filter is comprised of a stainless steel frame and a replaceable geotextile filter bag attached to the frame with a stainless steel locking band. The filter bag hangs suspended below the grate that shall allow full bypass flow into the drainage structure if the bag is completely filled with sediment. The standard "FX" filter bags are rated for 200 gpm/sqft (21.44 liters/minute/cubic meter) with a removal efficiency of 85%. The post construction "PCP" filter bags are rated for 137 gpm/sqft (14.69 liters/minute/cubic meter) and have a removal efficiency of 97%.

Installation

1. Remove the grate from the inlet.
2. Clean debris from the ledges of the inlet.
3. Place the inlet filter onto the load bearing ledges of the structure.
4. Replace the grate and confirm it is not elevated more than ⅛" (3 mm).

Frequency of Inspections

1. Inspection should occur following rain events greater than ½" (13 mm).
2. Filter inspections should occur a minimum of three times per year, and in snowfall affected regions, inspections prior to and after snowfall season.
3. Industrial application site inspections (loading ramps, wash racks & maintenance facilities) to be scheduled on a recurring basis no less than four times per year or as needed.

Maintenance Guidelines

1. Empty the filter bag manually or by industrial vacuum taking care not to damage the geotextile bag when more than half filled or during scheduled inspection period.
2. Remove compacted silt from sediment bag and flush with medium spray.
3. "PCP" style bags should be pressed or wrung to recover retained oils.
4. Oil skimmer pouches solidify and darken when saturated, indicating time for replacement.
5. Dispose of all oil-contaminated products and recovered oils in accordance with EPA guidelines. Oil skimmer pouches, since a solidifier, will not leach and can be disposed of directly.
6. Inspect and replace bag if torn or punctured.

Filter Bag Replacement

1. Remove the bag by loosening or cutting off clamping band.
2. Take the new correctly sized sediment bag and secure hose clamping band to the frame channel as previously removed.
3. Ensure bag is secure and there is no slack around perimeter.

Build America, Buy America (BABA)

For any questions related to Build America, Buy America (BABA) Act compliance contact an ADS representative.

ADS

adspipe.com
800-821-6710

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NO.	REVISION	BY	DATE

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ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
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GEORGIA REGISTERED Nathan Fuss No. PE046694 PROFESSIONAL 08/01/2025 ENGINEER NATHAN R. FUSS

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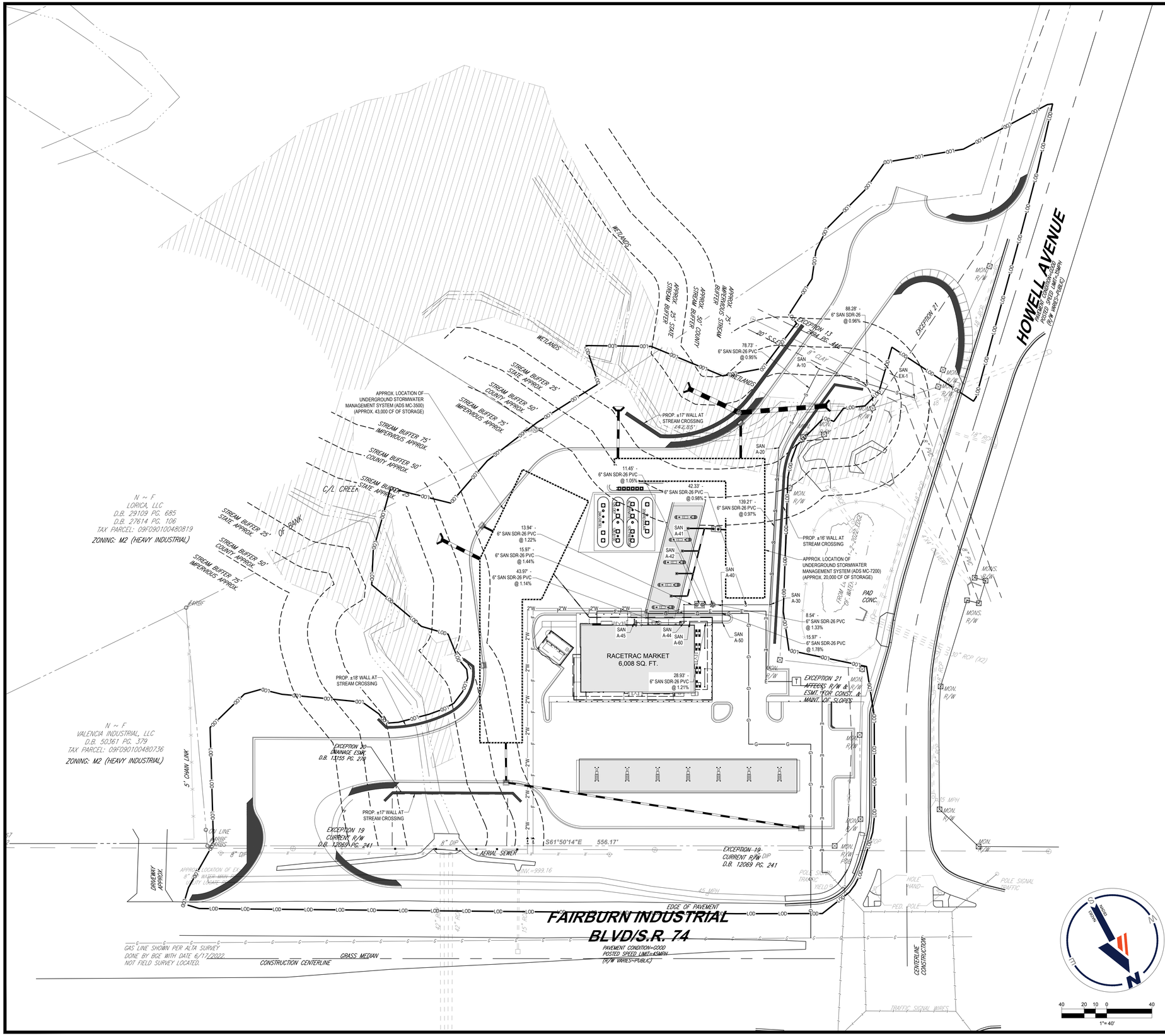
RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

DRAINAGE DETAILS

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C7.2	
SHEET NO.	REVISION



UTILITY LEGEND

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
SAN /	SANITARY LABEL	SAN #
STM /	STORM LABEL	STM #
SL	SANITARY SEWER LATERAL	SL
W	UNDERGROUND WATER LINE	W
E	UNDERGROUND ELECTRIC LINE	E
G	UNDERGROUND GAS LINE	G
OH	OVERHEAD WIRE	OH
T	UNDERGROUND TELEPHONE LINE	T
C	UNDERGROUND CABLE LINE	C
	STORM SEWER	
S	SANITARY SEWER MAIN	S
	HYDRANT	
S	SANITARY MANHOLE	S
D	STORM MANHOLE	D
WM	WATER METER	
WV	WATER VALVE	
	GAS VALVE	
	GAS METER	
	TYPICAL END SECTION	
	HEADWALL OR ENDWALL	
	YARD INLET	
	CURB INLET	
	CLEAN OUT	
E	ELECTRIC MANHOLE	E
T	TELEPHONE MANHOLE	T
EB	ELECTRIC BOX	EB
EP	ELECTRIC PEDESTAL	EP
	MONITORING WELL	
	TEST PIT	

SANITARY STRUCTURE SCHEDULE

NAME	TYPE	RIM ELEV. (FT.)	INVERTS
A-10	CLEANOUT	1006.22'	INV IN = 996.85' (6") INV OUT = 996.85' (6")
A-20	CLEANOUT	1002.77'	INV IN = 997.60' (6") INV OUT = 997.60' (6")
A-30	CLEANOUT	1005.02'	INV IN = 998.95' (6") INV OUT = 998.95' (6")
A-40	CLEANOUT	1005.58'	INV IN = 999.37' (6") INV IN = 999.37' (6") INV OUT = 999.37' (6")
A-41	SAMPLING MANHOLE	1005.70'	INV IN = 999.98' (6") INV OUT = 999.48' (6")
A-42	1,500 GAL GREASE TRAP	1005.85'	INV IN = 1000.10' (6") INV OUT = 1000.10' (6")
A-43	CLEANOUT	1006.04'	INV IN = 1000.27' (6") INV OUT = 1000.27' (6")
A-44	CLEANOUT	1006.25'	INV IN = 1000.50' (6") INV OUT = 1000.50' (6")
A-45	BLDG CONN	1006.28'	INV OUT = 1001.00' (6")
A-50	CLEANOUT	1005.92'	INV IN = 999.65' (6") INV OUT = 999.65' (6")
A-60	BLDG CONN	1000.57'	INV OUT = 1000.00' (6")
EX-1	EXST SAN MH	1000.32'	INV IN = 996.00' (6")

SANITARY PIPE SCHEDULE

FROM	FROM INV	TO	TO INV	PIPE LENGTH	SLOPE (%)	DIAMETER (IN.)	MATERIAL
A-10	996.85'	A-20	997.60'	78.73'	0.95%	6"	SDR-26
A-20	997.60'	A-30	998.95'	139.21'	0.97%	6"	SDR-26
A-30	998.95'	A-40	999.37'	42.33'	0.98%	6"	SDR-26
A-40	999.37'	A-41	999.48'	8.54'	1.33%	6"	SDR-26
A-40	999.37'	A-50	999.65'	15.97'	1.78%	6"	SDR-26
A-41	999.98'	A-42	1000.10'	11.45'	1.05%	6"	SDR-26
A-42	1000.10'	A-43	1000.27'	13.94'	1.22%	6"	SDR-26
A-43	1000.27'	A-44	1000.50'	15.97'	1.44%	6"	SDR-26
A-44	1000.50'	A-45	1001.00'	43.97'	1.14%	6"	SDR-26
A-50	999.65'	A-60	1000.00'	28.93'	1.21%	6"	SDR-26
EX-1	996.00'	A-10	996.85'	88.28'	0.96%	6"	SDR-26

NO.	REVISION	BY	DATE

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GEORGIA REGISTERED PROFESSIONAL ENGINEER
Nathan Fuss
No. PE034694
PROFESSIONAL
08/01/2025
NATHAN R. FUSS

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UTILITY PLAN

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C8	
SHEET NO.	REVISION

2025

STORMWATER REPORT: RACETRAC FAIRBURN, GA

Prepared for

RACETRAC, INC

200 Galleria Parkway SE, Suite 900
Atlanta, GA 30339

Bohler Project #: GAA220184.00
Submittal: August 1st, 2025



08-01-2025

Nate Fuss, P.E.

BOHLER

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APPENDIX 2 | SITE DATA

APPENDIX 3 | PRE-DEVELOPMENT HYDROLOGY

APPENDIX 4 | POST-DEVELOPMENT HYDROLOGY

APPENDIX 5 | SITE DEVELOPMENT REVIEW TOOL

APPENDIX 6 | STORMWATER DETAILS

1. DESCRIPTION

1.1 Project Location and Characteristics

The project site is located north of Fairburn Industrial Blvd and west of Howell Avenue in the City of Fairburn, GA, within the jurisdiction of the City of Fairburn. The site covers an area of 5.20 disturbed aces and is densely wooded. The site has two streams that connect south of the site and discharges into Hendersons Lake. The existing streams on site also take runoff from properties north of Fairburn Industrial Blvd and East of Howell Avenue. See Appendix 1 – Site Location Map.

1.2 Project Description

The proposed improvements will include the construction of one 6,008 SF Racetrac convenient store that includes associated parking and loading spaces to serve the store, necessary utilities as well as a total of two fuel canopies containing a total of twelve fuel dispenser islands (seven auto and five for trucks). See attached civil engineering drawings for full details of proposed improvements.

1.3 Methodology

This report was prepared in accordance with the GA Stormwater Management Manual 2016 Edition. Per the Blue Book, the post developed peak flow rates for the 1, 2, 10, 25, 50 and 100-yr storm events must be reduced to the pre-developed levels. This analysis uses the SCS Unit hydrograph method using a type II-24 hr. storm type distribution. Rainfall totals were obtained from NOAA as provided in Appendix - 2. Soil type information was obtained from a USDA NRCS Web Soil Survey and is also included in Appendix - 2. Routing calculations were performed using the computer program HydroCAD (version 10.20) by HydroCAD Software Solutions LLC.

1.4 Pre-Developed Conditions

The project site is currently undeveloped and has roadway frontage along Fairburn Industrial Blvd and Howell Avenue. The site is all pervious area with natural cover around the entire site. Existing conditions can be seen in Appendix 3 – Pre-Developed Hydrology, which shows the existing drainage patterns. Three study points have been identified and analysized. Study point 1 has a heavy amount discharge coming in from the culvert discharging from across fairburn

industrial boulevard along with the site area. Study point 2 also has a heavy amount of runoff discharging from the culvert from across Howell Avenue along with the on-site area. Study point 3 has also been identified as sheet flow that looks to connect in the two streams from both study point 1 and 2. The predeveloped area is only analyzing the disturbed area as the undisturbed area should not have an increase flow from the predeveloped to post developed conditions. Table 1 illustrates the CN number and time of concentration used for each drainage basin on-site and table 2 presents the predeveloped flows for each study point discussed.

Table 1 - Pre-Developed Drainage Basin Summary

Subarea Designation	Total Area (Ac)	Wooded HSG B Soils Area CN 55 (Ac)	Pasture/Grass HSG B CN 69 (Ac)	Composite CN	Total T_c (Min)
A-1	1.81	1.81	--	55	35.7
A-2	1.95	1.95	--	55	26.1
A-3	0.65	0.65	--	55	14.8

Table 2 - Pre-Developed Runoff Peak Flows (cfs)

Subarea Designation	Pre-Developed Peak Flows					
	1 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Study Point 1	0.18	0.74	1.21	2.06	2.89	3.86
Study Point 2	0.24	1.00	1.53	2.77	3.87	5.15
Study Point 3	0.11	0.49	0.79	1.31	1.81	2.39

The map and calculations of the pre-developed hydrographs can be seen in Appendix 3 - Pre-Developed Hydrology. Post-developed conditions will be compared to the pre-developed conditions of Study Point 1, 2, and 3.

1.5 Post-Developed Conditions and Proposed Drainage Strategy

The proposed improvements include the construction of one 6,008 SF Racetrac convenient store that includes associated parking and loading spaces to serve the store, necessary utilities as well as a total of two fuel canopies containing a total of twelve fuel dispenser islands (seven auto and five for trucks). The proposed improvements can be seen in Appendix - 4 - Post-Development Hydrology. To mitigate the impact of the impervious areas of the site and to comply with the 2016 GA Stormwater Management Manual and Peach County Stormwater

Management Ordinance, the site will make use of a ADS Inlet Filters and ADS Isolator Row through our proposed underground detention stormwater pond. Details on the proposed water quality devices are included in Appendix 6 – Stormwater Details. Per the Site Development Review Tool, the ADS Inlet Filters and Isolator Row will provide the required 80% TSS removal. See Appendix 5 for the Post-Developed Drainage Map and Stormwater Calculations.

1.6 Water Quality Strategy

Per the GSMM section 1.2.2.3, Water Quality Volume (WQV) is equal to the runoff generated on a site from 1.2 inches of rainfall. This volume must be treated to at least 80% TSS removal before it may be discharged, and this may be achieved through the use of site design/practices and/or structural stormwater controls. Detailed calculations of the WQV required for the site are as follows:

Water Quality Volume:

$$WQV = \frac{1.2" x\ Rv\ x\ A}{12}$$

Where:
WQV = Water Quality Volume (ft^3)
A = Drainage area (ft^2) → A= 5.20 acres = 226,512 ft^2
Rv = Volumetric Runoff coefficient = 0.05 + 0.009I = 0.05 + 0.009(59) = 0.581
I = Impervious area in % = 59%

$$\therefore Required\ WQV = \frac{1.2" * (0.581)\ (5.20 * 43{,}560)\ ft^2}{12}$$ = 13,160 ft^3 → 13,090 ft^3 per SDRT

Per the Site Development Review Tool provided in Appendix 5, the site receives this water quality treatment through structural stormwater controls. The calculated WQV is captured by the stormwater conveyance network, where it is then treated by ADS Inlet Filters at each Inlet and Isolator Row provided within the underground detention pond. These proposed BMP's will provide 82% TSS removal credit, which meets GSMM water quality requirements.

1.7 Routing Calculations

Routing calculations were performed on the underground stormwater detention pond to verify that the total post-developed peak flows from the site do not exceed the Pre-developed flows for the 1, 2, 10, 25, 50 and 100 year events. Table 3 summarizes the characteristics of each post-developed drainage basin. Table 4 below summarizes the pre-developed flows compared to the

Post-developed runoff for the site. Table 5 presents the difference in flow between the pre-developed and post-developed conditions.

Table 3 – Post Developed Drainage Basin Summary

Subarea Designation	Total Area (Ac)	PAVEMENT CN 98	Grass HSG B CN 61 (Ac)	Woods/ grass HSG B Soils Area CN 55 (Ac)	Composite CN	Total T_c (Min)
B-1	1.98	1.95	0.03	0	97	5
B-1A	0.69	--	0.59	.1	60	5
B-2	1.01	0.91	0.1	0	94	5
B-2A	0.44	--	0.44	--	61	5
B-3	0.14	--	0.14	--	61	5

Table 4 - Post-Developed Runoff Peak Flows (cfs)

Subarea Designation	Post-Developed Peak Flows					
	1 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Study Point 1	0.19	0.49	0.72	1.10	1.45	3.60
Study Point 2	0.30	0.71	1.00	1.49	2.14	4.82
Study Point 3	0.21	0.26	0.37	0.55	0.72	0.91

Table 5 – Pre- Vs. Post Peak Flow Comparison Summary (cfs)

Pre Dev Flow - Post Dev Flow (cfs) SUBBASINS	1 Yr	2 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Study Point 1	0.01	0.25	0.49	0.96	1.44	0.26
Study Point 2	-.06	0.29	0.53	1.28	1.73	0.33
Study Point 3	0	0.23	0.42	0.76	1.09	1.48

Table 6 – Underground Pond 1 Elevation Summary

Underground Storage	1 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Top of Stone Elevation	1002.5	1002.5	1002.5	1002.5	1002.5	1002.5
Water Surface Elevation	999.26	1000.1	1000.66	1001.1	1001.22	1001.43

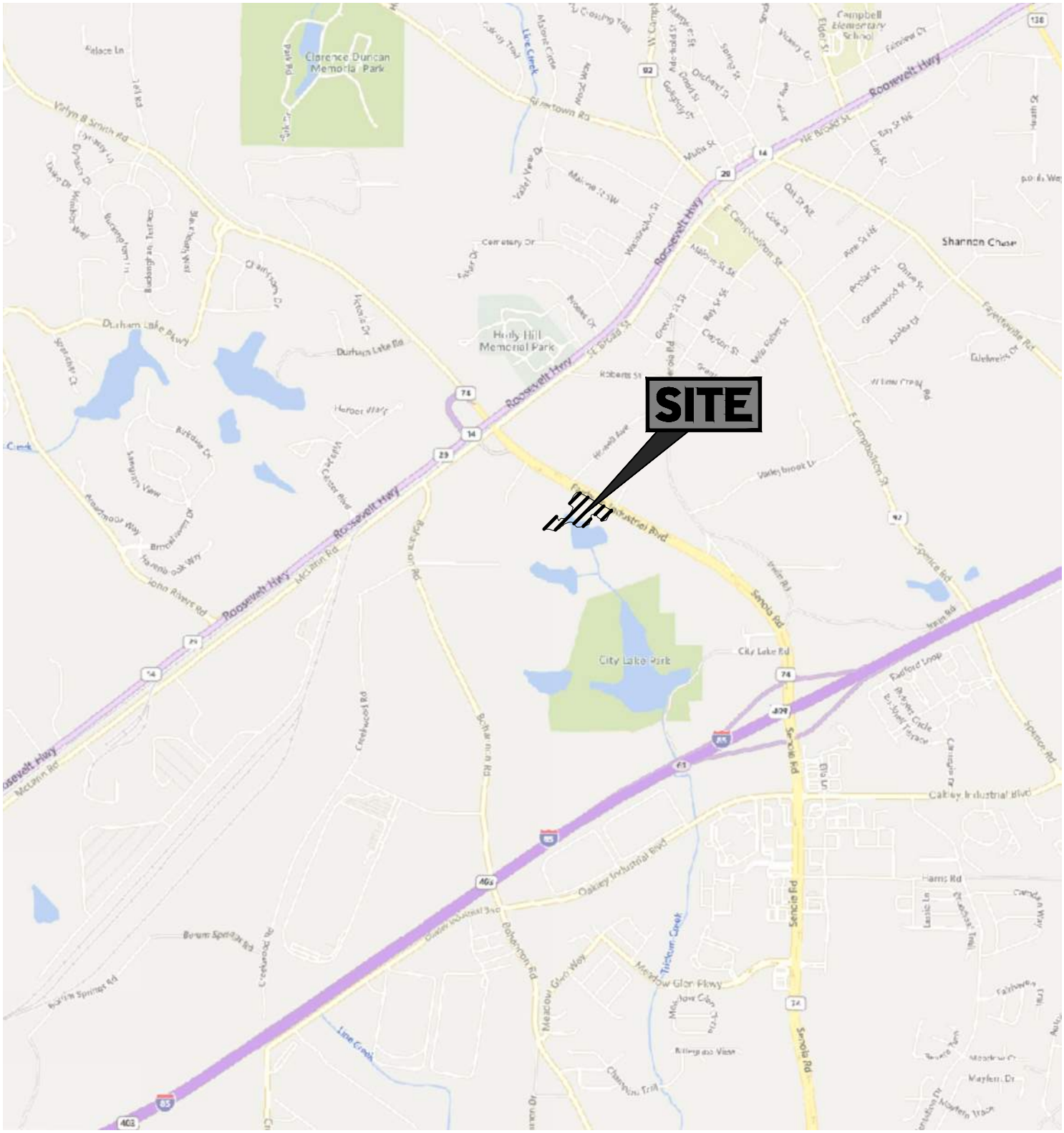
Table 7 – Underground Pond 2 Elevation Summary

Underground Storage	1 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Top of Stone Elevation	1001.75	1001.75	1001.75	1001.75	1001.75	1001.75
Water Surface Elevation	997.47	998.52	999.05	999.23	999.45	999.9

1.10 Conclusions

The requirements and criteria from GA Stormwater Management Manual are met or exceeded. The flows in the proposed conditions do not exceed the flows from existing conditions causing no effects downstream of the site. The Site Development Review Tool (Appendix 5) further depicts how this project is meeting the 1.2" Water Quality Volume requirement.

APPENDIX 1 | SITE LOCATION MAP


SITE
Clarence Duncan Memorial Park
Roosevelt Hwy
Holly Hill Memorial Park
Shannon Chase
City Lake Park
Oakley Industrial Blvd
Sencia Rd
Durham Lake Pkwy
Durham Lake Rd
Creekwood Rd
Bohannon Rd
Meadow Glen Pkwy
Harris Rd
Spence Rd
Fairburn Rd
Howell Ave
Valley Brook Ln
Fayetteville Rd
Campbell Elementary School
Virlyn B Smith Rd
Palace Ln
Cemetery Dr
Line Creek
Trickum Creek
Bohannon Rd
Brown Spring Rd
Austin Springs Rd
Champion Trail
Billingsley View
Mayfield Dr
Fairways
Harris Rd
Lesli Ln
Cascade Trail
Cascade Ct
Spence Rd
Fairfield Creek
Bluebird Circle
Bluebird Terrace
Oakley Industrial Blvd
Sencia Rd
Old Lake Rd
Irwin Rd
Spence Rd
Yeats Rd
Roosevelt Hwy
McLarin Rd
John Rivers Rd
Brookhaven Way
Sawgrass View
Buttonbush Dr
Cascade Falls Center Blvd
Heroes Way
Durham Lake Rd
Victoria Dr
Cherry Tree Dr
Dogwood Trail
Dogwood Ln
Dogwood Terrace
Buckingham Terrace
Dogwood Way
Duke Dr
Woodchuck Way
Cherry Ln
Cherry Tree Way
Cherry Tree Ct
Cemetery Dr
Fisher Dr
Roberts Dr
Roberts St
Grove St SE
Bay St SE
Clayton St
Main St SW
Walnut St SW
Yadkin View Dr
Mulia St
Orchard St
Spring St
Gaskins St
Gaskins Ct
Mason Circle
Lake Creek
Gilmtown Rd
Mt Olivet Rd
Mt Olivet Church Rd
Bay St NE
Cole St
Ave A NE
Ave B NE
Ave C NE
Ave D NE
Ave E NE
Ave F NE
Ave G NE
Ave H NE
Ave I NE
Ave J NE
Ave K NE
Ave L NE
Ave M NE
Ave N NE
Ave O NE
Ave P NE
Ave Q NE
Ave R NE
Ave S NE
Ave T NE
Ave U NE
Ave V NE
Ave W NE
Ave X NE
Ave Y NE
Ave Z NE
Ave AA NE
Ave BB NE
Ave CC NE
Ave DD NE
Ave EE NE
Ave FF NE
Ave GG NE
Ave HH NE
Ave II NE
Ave JJ NE
Ave KK NE
Ave LL NE
Ave MM NE
Ave NN NE
Ave OO NE
Ave PP NE
Ave QQ NE
Ave RR NE
Ave SS NE
Ave TT NE
Ave UU NE
Ave VV NE
Ave WW NE
Ave XX NE
Ave YY NE
Ave ZZ NE
Ave AAA NE
Ave BBB NE
Ave CCC NE
Ave DDD NE
Ave EEE NE
Ave FFF NE
Ave GGG NE
Ave HHH NE
Ave III NE
Ave JJJ NE
Ave KKK NE
Ave LLL NE
Ave MMM NE
Ave NNN NE
Ave OOO NE
Ave PPP NE
Ave QQQ NE
Ave RRR NE
Ave SSS NE
Ave TTT NE
Ave UUU NE
Ave VVV NE
Ave WWW NE
Ave XXX NE
Ave YYY NE
Ave ZZZ NE
Ave AAAA NE
Ave BBBB NE
Ave CCCC NE
Ave DDDD NE
Ave EEEE NE
Ave FFFF NE
Ave GGGG NE
Ave HHHH NE
Ave IIII NE
Ave JJJJ NE
Ave KKKK NE
Ave LLLL NE
Ave MMMM NE
Ave NNNN NE
Ave OOOO NE
Ave PPPP NE
Ave QQQQ NE
Ave RRRR NE
Ave SSSS NE
Ave TTTT NE
Ave UUUU NE
Ave VVVV NE
Ave WWWW NE
Ave XXXX NE
Ave YYYY NE
Ave ZZZZ NE
Ave AAAAA NE
Ave BBBBB NE
Ave CCCCC NE
Ave DDDDD NE
Ave EEEEE NE
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APPENDIX 2 | SITE DATA

BOHLER

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 Fulton County, Georgia



July 25, 2025

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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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: 1:2,140 if printed on B landscape (17" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N 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 1:12,000.

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

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

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

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

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

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

Soil Survey Area: Fulton County, Georgia
Survey Area Data: Version 19, Aug 31, 2024

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

Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

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
AaB	Altavista sandy loam, 2 to 6 percent slopes	5.7	16.5%
CaA	Cartecay-Toccoa complex, 0 to 2 percent slopes, occasionally flooded	3.7	10.7%
CeC2	Cecil sandy loam, 6 to 10 percent slopes, moderately eroded	4.5	13.0%
ReD	Rion sandy loam, 10 to 15 percent slopes	12.0	34.7%
Ub	Urban land	7.8	22.4%
W	Water	1.0	2.7%
Totals for Area of Interest		**34.7**	**100.0%**

Map Unit Descriptions

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Fulton County, Georgia

AaB—Altavista sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 31l93
Elevation: 70 to 560 feet
Mean annual precipitation: 39 to 47 inches
Mean annual air temperature: 55 to 63 degrees F
Frost-free period: 200 to 250 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Altavista and similar soils: 96 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Altavista

Setting

Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Old loamy alluvium derived from igneous and metamorphic rock

Typical profile

Ap - 0 to 8 inches: sandy loam
E - 8 to 12 inches: fine sandy loam
BE - 12 to 15 inches: sandy clay loam
Bt - 15 to 35 inches: clay loam
BC - 35 to 42 inches: sandy loam
C - 42 to 80 inches: coarse sandy loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F136XY660NC - High terraces, very rare inundation
Hydric soil rating: No

CaA—Cartecay-Toccoa complex, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 1sj4r
Elevation: 710 to 900 feet
Mean annual precipitation: 47 to 51 inches
Mean annual air temperature: 57 to 68 degrees F
Frost-free period: 185 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Cartecay and similar soils: 48 percent
Toccoa and similar soils: 45 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cartecay

Setting

Landform: Flood plains
Across-slope shape: Concave
Parent material: Coarse-loamy alluvium

Typical profile

A - 0 to 4 inches: sandy loam
C - 4 to 37 inches: sandy loam
Cg - 37 to 66 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 9 to 20 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: F136XY610GA - Flood plain forest, wet
Hydric soil rating: No

Description of Toccoa

Setting

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

Typical profile

A - 0 to 6 inches: sandy loam
C - 6 to 80 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 30 to 60 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Ecological site: F136XY620GA - Flood plain forest, moist
Hydric soil rating: No

Minor Components

Wehadkee

Percent of map unit: 7 percent
Landform: Flood plains
Across-slope shape: Concave
Hydric soil rating: Yes

CeC2—Cecil sandy loam, 6 to 10 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2tfg9
Elevation: 200 to 1,400 feet
Mean annual precipitation: 44 to 60 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 190 to 230 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Cecil, moderately eroded, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cecil, Moderately Eroded

Setting

Landform: Hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey residuum weathered from igneous and metamorphic rock

Typical profile

Ap - 0 to 4 inches: sandy loam
Bt1 - 4 to 12 inches: clay loam
Bt2 - 12 to 39 inches: clay
Bt3 - 39 to 50 inches: clay loam
BC - 50 to 64 inches: clay loam
C - 64 to 80 inches: sandy loam

Properties and qualities

Slope: 6 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F136XY820GA - Acidic upland forest, moist
Hydric soil rating: No

ReD—Rion sandy loam, 10 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2tffr
Elevation: 740 to 1,310 feet
Mean annual precipitation: 46 to 62 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 180 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition
Rion and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rion

Setting
Landform: Hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from granite and gneiss

Typical profile
A - 0 to 4 inches: sandy loam
BE - 4 to 12 inches: sandy loam
Bt - 12 to 28 inches: sandy clay loam
BC - 28 to 38 inches: sandy loam
C - 38 to 80 inches: sandy loam

Properties and qualities
Slope: 10 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 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: F136XY820GA - Acidic upland forest, moist
Hydric soil rating: No

Ub—Urban land

Map Unit Composition
Urban land: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

W—Water

Map Unit Composition
Water: 100 percent

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

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NOAA Atlas 14, Volume 9, Version 2
Location name: Vidalia, Georgia, USA*
Latitude: 32.2175°, Longitude: -82.4136°
Elevation: 299 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

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PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**5.38** (4.19-6.85)	**6.25** (4.87-7.98)	**7.72** (5.99-9.86)	**8.94** (6.91-11.5)	**10.7** (7.98-14.0)	**12.0** (8.78-15.9)	**13.4** (9.47-18.0)	**14.8** (10.1-20.3)	**16.7** (10.9-23.3)	**18.1** (11.6-25.6)
10-min	**3.94** (3.07-5.02)	**4.58** (3.57-5.84)	**5.65** (4.39-7.22)	**6.55** (5.06-8.39)	**7.81** (5.84-10.2)	**8.80** (6.43-11.6)	**9.80** (6.93-13.2)	**10.8** (7.36-14.8)	**12.2** (7.99-17.0)	**13.3** (8.47-18.7)
15-min	**3.20** (2.50-4.08)	**3.72** (2.90-4.75)	**4.59** (3.57-5.87)	**5.32** (4.11-6.83)	**6.35** (4.75-8.33)	**7.15** (5.23-9.46)	**7.96** (5.64-10.7)	**8.80** (5.98-12.1)	**9.93** (6.50-13.9)	**10.8** (6.89-15.2)
30-min	**2.33** (1.82-2.98)	**2.71** (2.11-3.46)	**3.34** (2.59-4.27)	**3.87** (2.99-4.96)	**4.62** (3.46-6.06)	**5.21** (3.81-6.90)	**5.81** (4.11-7.82)	**6.43** (4.37-8.82)	**7.27** (4.76-10.2)	**7.92** (5.05-11.2)
60-min	**1.49** (1.16-1.90)	**1.73** (1.35-2.21)	**2.14** (1.66-2.74)	**2.49** (1.92-3.20)	**2.99** (2.24-3.94)	**3.40** (2.49-4.50)	**3.81** (2.70-5.14)	**4.24** (2.89-5.82)	**4.83** (3.17-6.76)	**5.30** (3.38-7.47)
2-hr	**0.909** (0.717-1.15)	**1.06** (0.832-1.33)	**1.31** (1.03-1.65)	**1.52** (1.19-1.93)	**1.84** (1.40-2.40)	**2.09** (1.55-2.75)	**2.36** (1.69-3.15)	**2.63** (1.81-3.59)	**3.02** (2.00-4.18)	**3.32** (2.14-4.64)
3-hr	**0.665** (0.527-0.834)	**0.769** (0.610-0.966)	**0.951** (0.751-1.20)	**1.11** (0.873-1.40)	**1.34** (1.03-1.75)	**1.54** (1.15-2.02)	**1.74** (1.26-2.32)	**1.95** (1.36-2.65)	**2.25** (1.50-3.12)	**2.49** (1.62-3.46)
6-hr	**0.395** (0.317-0.491)	**0.451** (0.362-0.560)	**0.551** (0.440-0.685)	**0.641** (0.510-0.800)	**0.778** (0.604-1.01)	**0.893** (0.676-1.16)	**1.02** (0.743-1.34)	**1.15** (0.807-1.55)	**1.34** (0.904-1.84)	**1.49** (0.978-2.06)
12-hr	**0.237** (0.192-0.291)	**0.265** (0.215-0.326)	**0.317** (0.256-0.390)	**0.366** (0.294-0.452)	**0.442** (0.348-0.569)	**0.508** (0.389-0.656)	**0.579** (0.429-0.762)	**0.657** (0.468-0.881)	**0.770** (0.527-1.05)	**0.863** (0.572-1.18)
24-hr	**0.139** (0.114-0.169)	**0.156** (0.128-0.190)	**0.188** (0.153-0.229)	**0.217** (0.176-0.265)	**0.262** (0.208-0.333)	**0.300** (0.233-0.384)	**0.341** (0.256-0.444)	**0.387** (0.278-0.513)	**0.452** (0.312-0.611)	**0.505** (0.339-0.685)
2-day	**0.079** (0.066-0.096)	**0.091** (0.076-0.110)	**0.111** (0.092-0.134)	**0.130** (0.107-0.157)	**0.157** (0.126-0.196)	**0.179** (0.140-0.226)	**0.203** (0.154-0.261)	**0.229** (0.166-0.300)	**0.265** (0.185-0.355)	**0.294** (0.199-0.396)
3-day	**0.058** (0.049-0.070)	**0.066** (0.055-0.079)	**0.081** (0.067-0.097)	**0.093** (0.077-0.112)	**0.112** (0.091-0.140)	**0.128** (0.101-0.161)	**0.145** (0.110-0.186)	**0.163** (0.119-0.213)	**0.189** (0.133-0.252)	**0.210** (0.143-0.281)
4-day	**0.047** (0.040-0.056)	**0.053** (0.045-0.063)	**0.064** (0.053-0.076)	**0.074** (0.061-0.088)	**0.088** (0.072-0.109)	**0.100** (0.079-0.126)	**0.113** (0.087-0.145)	**0.128** (0.094-0.166)	**0.148** (0.104-0.196)	**0.164** (0.112-0.218)
7-day	**0.031** (0.027-0.037)	**0.035** (0.030-0.041)	**0.041** (0.035-0.049)	**0.047** (0.040-0.056)	**0.056** (0.046-0.069)	**0.063** (0.050-0.078)	**0.071** (0.055-0.089)	**0.079** (0.058-0.102)	**0.091** (0.064-0.119)	**0.100** (0.069-0.132)
10-day	**0.025** (0.021-0.029)	**0.027** (0.023-0.032)	**0.032** (0.027-0.038)	**0.036** (0.031-0.043)	**0.043** (0.035-0.052)	**0.048** (0.038-0.059)	**0.053** (0.041-0.067)	**0.059** (0.044-0.075)	**0.067** (0.048-0.088)	**0.073** (0.051-0.097)
20-day	**0.016** (0.014-0.019)	**0.018** (0.015-0.021)	**0.021** (0.018-0.024)	**0.023** (0.020-0.027)	**0.026** (0.022-0.032)	**0.029** (0.023-0.035)	**0.032** (0.025-0.039)	**0.035** (0.026-0.044)	**0.039** (0.028-0.050)	**0.042** (0.029-0.055)
30-day	**0.013** (0.011-0.015)	**0.014** (0.012-0.017)	**0.016** (0.014-0.019)	**0.018** (0.016-0.021)	**0.021** (0.017-0.025)	**0.023** (0.018-0.027)	**0.024** (0.019-0.030)	**0.026** (0.020-0.033)	**0.029** (0.021-0.037)	**0.031** (0.022-0.040)
45-day	**0.011** (0.009-0.012)	**0.012** (0.010-0.014)	**0.013** (0.012-0.016)	**0.015** (0.013-0.017)	**0.017** (0.014-0.020)	**0.018** (0.015-0.021)	**0.019** (0.015-0.023)	**0.021** (0.016-0.026)	**0.022** (0.016-0.028)	**0.023** (0.017-0.030)
60-day	**0.009** (0.008-0.011)	**0.010** (0.009-0.012)	**0.012** (0.010-0.014)	**0.013** (0.011-0.015)	**0.014** (0.012-0.017)	**0.016** (0.013-0.018)	**0.017** (0.013-0.020)	**0.017** (0.013-0.022)	**0.019** (0.014-0.024)	**0.019** (0.014-0.025)

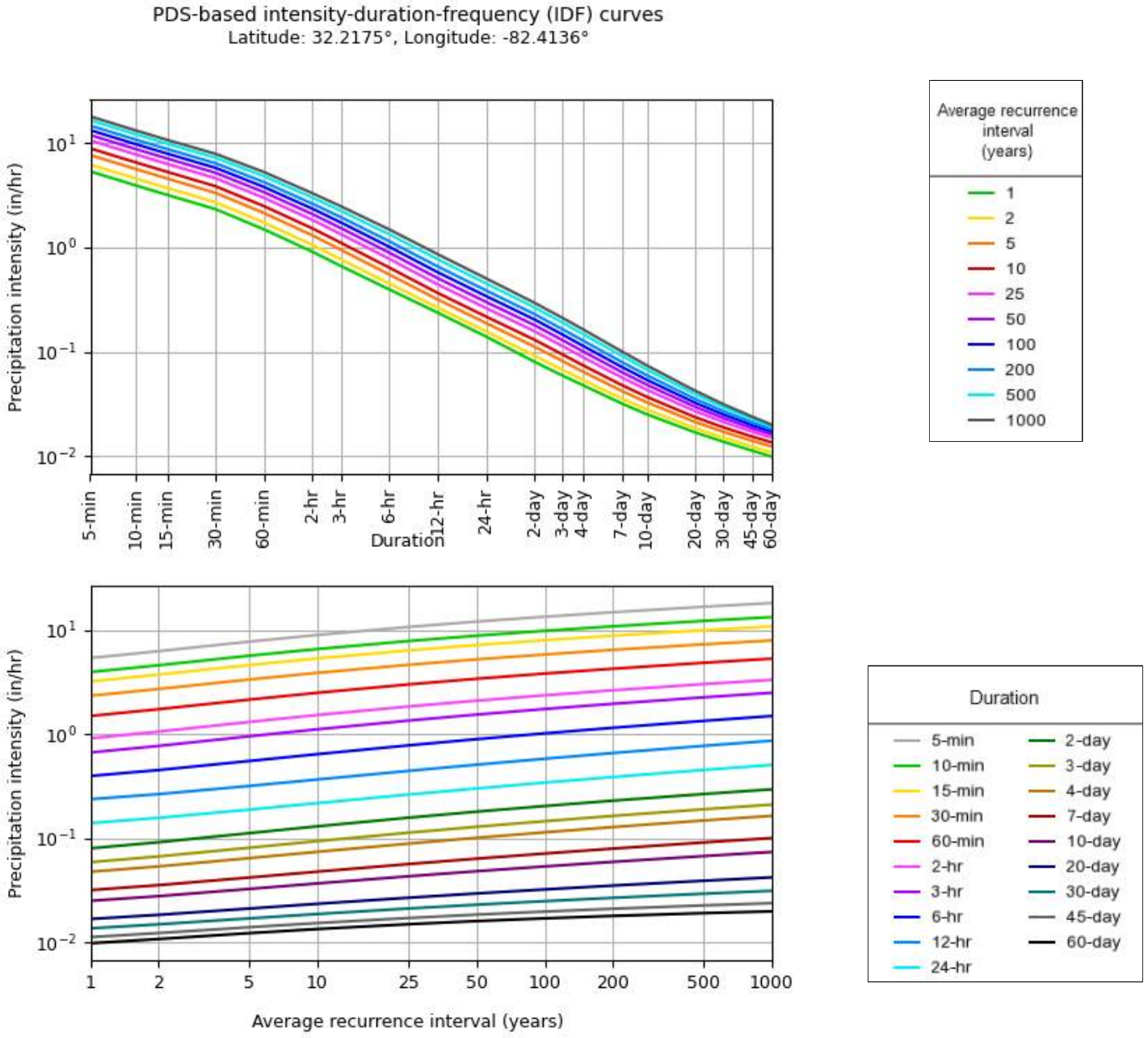
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

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PF graphical



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Small scale terrain



Large scale terrain



Large scale map



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National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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NOAA Atlas 14, Volume 9, Version 2
Location name: Vidalia, Georgia, USA*
Latitude: 32.2175°, Longitude: -82.4136°
Elevation: 299 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.448** (0.349-0.571)	**0.521** (0.406-0.665)	**0.643** (0.499-0.822)	**0.745** (0.576-0.956)	**0.889** (0.665-1.17)	**1.00** (0.732-1.32)	**1.12** (0.789-1.50)	**1.23** (0.838-1.69)	**1.39** (0.910-1.94)	**1.51** (0.964-2.13)
10-min	**0.656** (0.512-0.836)	**0.763** (0.595-0.974)	**0.942** (0.731-1.20)	**1.09** (0.843-1.40)	**1.30** (0.974-1.71)	**1.47** (1.07-1.94)	**1.63** (1.16-2.20)	**1.80** (1.23-2.47)	**2.04** (1.33-2.84)	**2.21** (1.41-3.12)
15-min	**0.800** (0.624-1.02)	**0.931** (0.725-1.19)	**1.15** (0.892-1.47)	**1.33** (1.03-1.71)	**1.59** (1.19-2.08)	**1.79** (1.31-2.36)	**1.99** (1.41-2.68)	**2.20** (1.50-3.01)	**2.48** (1.62-3.46)	**2.70** (1.72-3.80)
30-min	**1.17** (0.910-1.49)	**1.36** (1.06-1.73)	**1.67** (1.30-2.13)	**1.94** (1.50-2.48)	**2.31** (1.73-3.03)	**2.60** (1.91-3.45)	**2.91** (2.06-3.91)	**3.22** (2.19-4.41)	**3.64** (2.38-5.08)	**3.96** (2.53-5.58)
60-min	**1.49** (1.16-1.90)	**1.73** (1.35-2.21)	**2.14** (1.66-2.74)	**2.49** (1.92-3.20)	**2.99** (2.24-3.94)	**3.40** (2.49-4.50)	**3.81** (2.70-5.14)	**4.24** (2.89-5.82)	**4.83** (3.17-6.76)	**5.30** (3.38-7.47)
2-hr	**1.82** (1.43-2.29)	**2.11** (1.66-2.67)	**2.61** (2.05-3.31)	**3.05** (2.38-3.87)	**3.68** (2.79-4.80)	**4.18** (3.10-5.50)	**4.71** (3.38-6.30)	**5.27** (3.62-7.17)	**6.03** (4.00-8.37)	**6.63** (4.28-9.28)
3-hr	**2.00** (1.58-2.50)	**2.31** (1.83-2.90)	**2.86** (2.26-3.59)	**3.34** (2.62-4.21)	**4.04** (3.09-5.26)	**4.62** (3.45-6.05)	**5.22** (3.77-6.96)	**5.87** (4.07-7.96)	**6.76** (4.52-9.36)	**7.48** (4.85-10.4)
6-hr	**2.37** (1.90-2.94)	**2.70** (2.17-3.36)	**3.30** (2.64-4.11)	**3.84** (3.06-4.80)	**4.66** (3.62-6.03)	**5.35** (4.05-6.96)	**6.08** (4.45-8.06)	**6.88** (4.84-9.28)	**8.01** (5.42-11.0)	**8.93** (5.86-12.3)
12-hr	**2.86** (2.32-3.51)	**3.20** (2.59-3.93)	**3.82** (3.09-4.71)	**4.42** (3.55-5.46)	**5.33** (4.20-6.86)	**6.12** (4.70-7.92)	**6.98** (5.18-9.18)	**7.93** (5.64-10.6)	**9.29** (6.36-12.7)	**10.4** (6.90-14.2)
24-hr	**3.35** (2.76-4.08)	**3.76** (3.09-4.58)	**4.52** (3.70-5.50)	**5.22** (4.24-6.38)	**6.29** (5.01-8.00)	**7.21** (5.59-9.22)	**8.20** (6.15-10.7)	**9.30** (6.69-12.3)	**10.9** (7.51-14.7)	**12.1** (8.14-16.5)
2-day	**3.84** (3.19-4.62)	**4.39** (3.65-5.29)	**5.37** (4.45-6.48)	**6.25** (5.14-7.56)	**7.55** (6.06-9.46)	**8.64** (6.76-10.9)	**9.78** (7.40-12.6)	**11.0** (8.00-14.4)	**12.8** (8.91-17.1)	**14.2** (9.60-19.0)
3-day	**4.24** (3.55-5.06)	**4.82** (4.03-5.76)	**5.83** (4.86-6.99)	**6.75** (5.60-8.12)	**8.13** (6.57-10.1)	**9.27** (7.31-11.6)	**10.5** (7.99-13.4)	**11.8** (8.63-15.4)	**13.7** (9.60-18.2)	**15.1** (10.3-20.3)
4-day	**4.57** (3.85-5.44)	**5.15** (4.33-6.13)	**6.18** (5.18-7.37)	**7.11** (5.92-8.51)	**8.51** (6.92-10.6)	**9.68** (7.68-12.1)	**10.9** (8.38-13.9)	**12.3** (9.03-16.0)	**14.2** (10.0-18.8)	**15.8** (10.8-21.0)
7-day	**5.34** (4.54-6.29)	**5.96** (5.06-7.03)	**7.05** (5.96-8.33)	**8.02** (6.75-9.52)	**9.48** (7.78-11.6)	**10.7** (8.55-13.2)	**12.0** (9.25-15.1)	**13.4** (9.90-17.2)	**15.3** (10.9-20.1)	**16.9** (11.7-22.3)
10-day	**6.01** (5.14-7.05)	**6.67** (5.70-7.83)	**7.82** (6.66-9.19)	**8.84** (7.48-10.4)	**10.3** (8.52-12.6)	**11.6** (9.30-14.2)	**12.9** (9.99-16.1)	**14.2** (10.6-18.2)	**16.2** (11.6-21.1)	**17.7** (12.3-23.3)
20-day	**8.05** (6.97-9.34)	**8.83** (7.64-10.2)	**10.1** (8.74-11.8)	**11.3** (9.66-13.1)	**12.9** (10.7-15.4)	**14.2** (11.5-17.1)	**15.5** (12.1-19.1)	**16.9** (12.7-21.3)	**18.7** (13.6-24.2)	**20.2** (14.2-26.4)
30-day	**9.83** (8.57-11.3)	**10.7** (9.36-12.4)	**12.2** (10.6-14.1)	**13.5** (11.6-15.6)	**15.2** (12.7-18.1)	**16.6** (13.5-19.9)	**17.9** (14.1-21.9)	**19.3** (14.6-24.2)	**21.1** (15.4-27.1)	**22.5** (16.0-29.3)
45-day	**12.1** (10.7-13.9)	**13.3** (11.6-15.2)	**15.1** (13.2-17.3)	**16.6** (14.4-19.1)	**18.5** (15.5-21.7)	**20.0** (16.4-23.7)	**21.4** (16.9-25.9)	**22.7** (17.3-28.2)	**24.5** (17.9-31.1)	**25.7** (18.4-33.2)
60-day	**14.1** (12.5-16.1)	**15.5** (13.7-17.7)	**17.7** (15.5-20.2)	**19.3** (16.9-22.2)	**21.5** (18.1-25.0)	**23.1** (19.0-27.2)	**24.5** (19.5-29.5)	**25.9** (19.7-31.9)	**27.5** (20.2-34.7)	**28.6** (20.5-36.8)

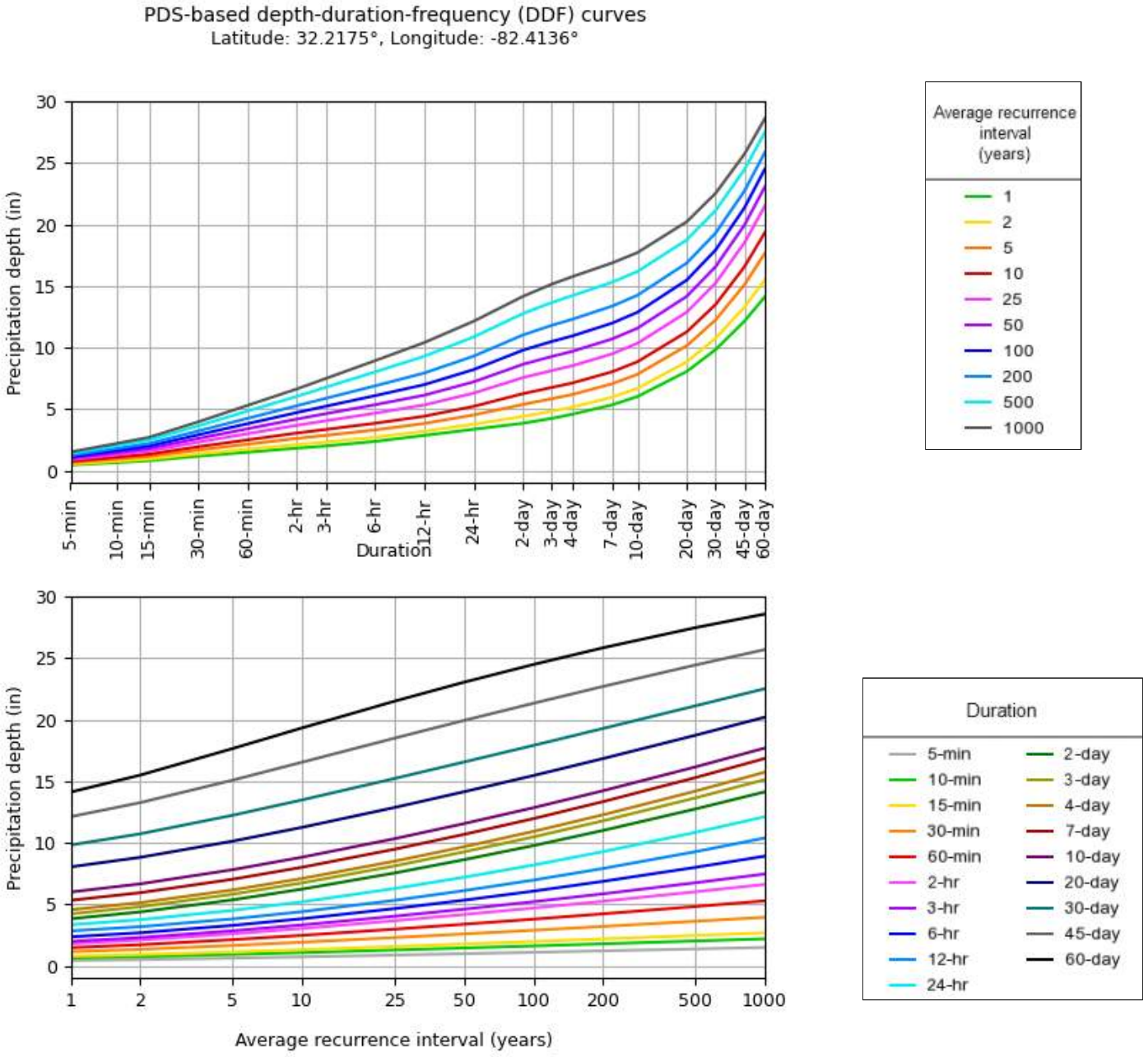
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

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PF graphical



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Small scale terrain



Large scale terrain



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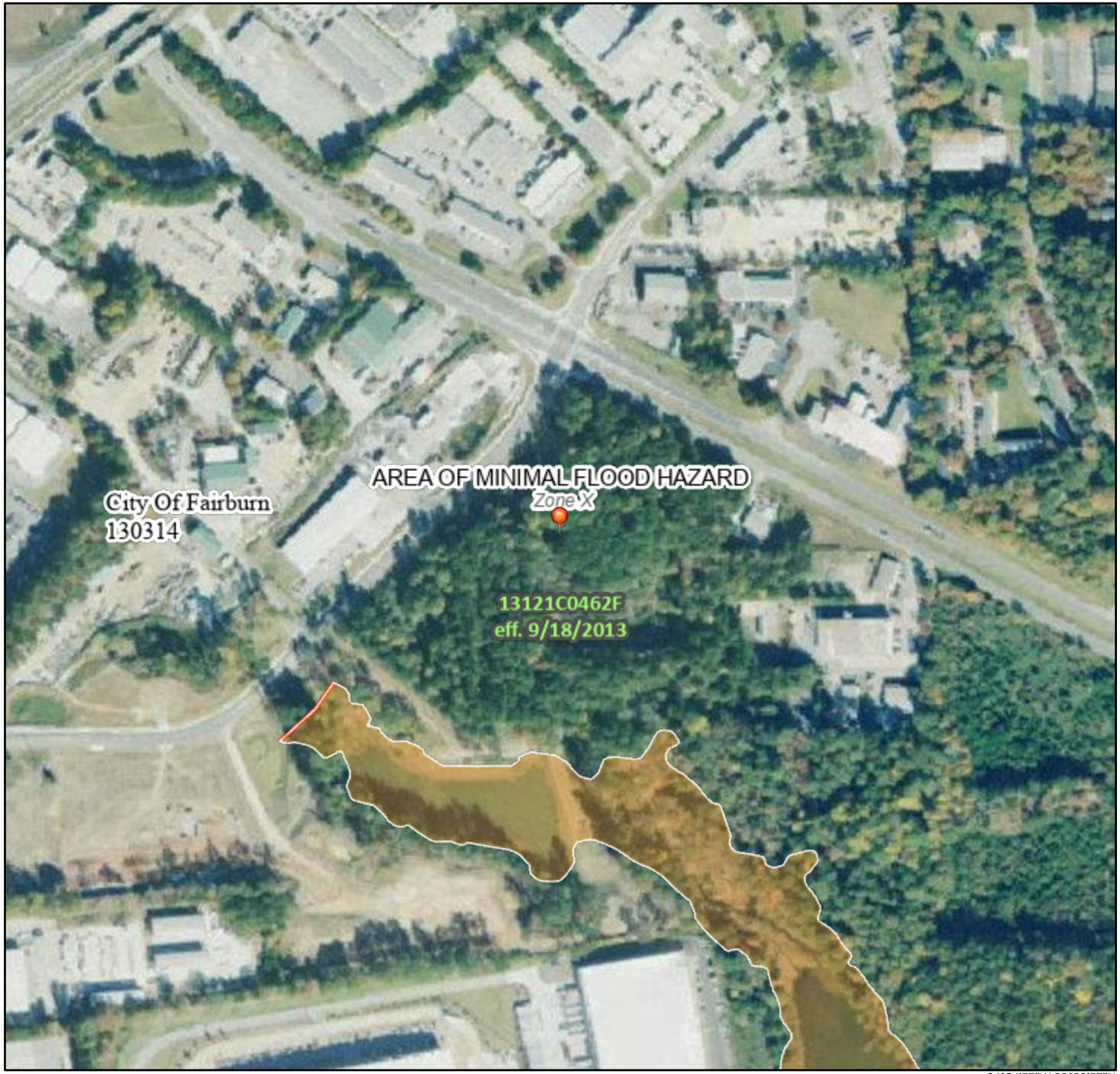
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National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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National Flood Hazard Layer FIRMette

FEMA

84°35'35"W 33°33'27"N



84°34'57"W 33°32'57"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

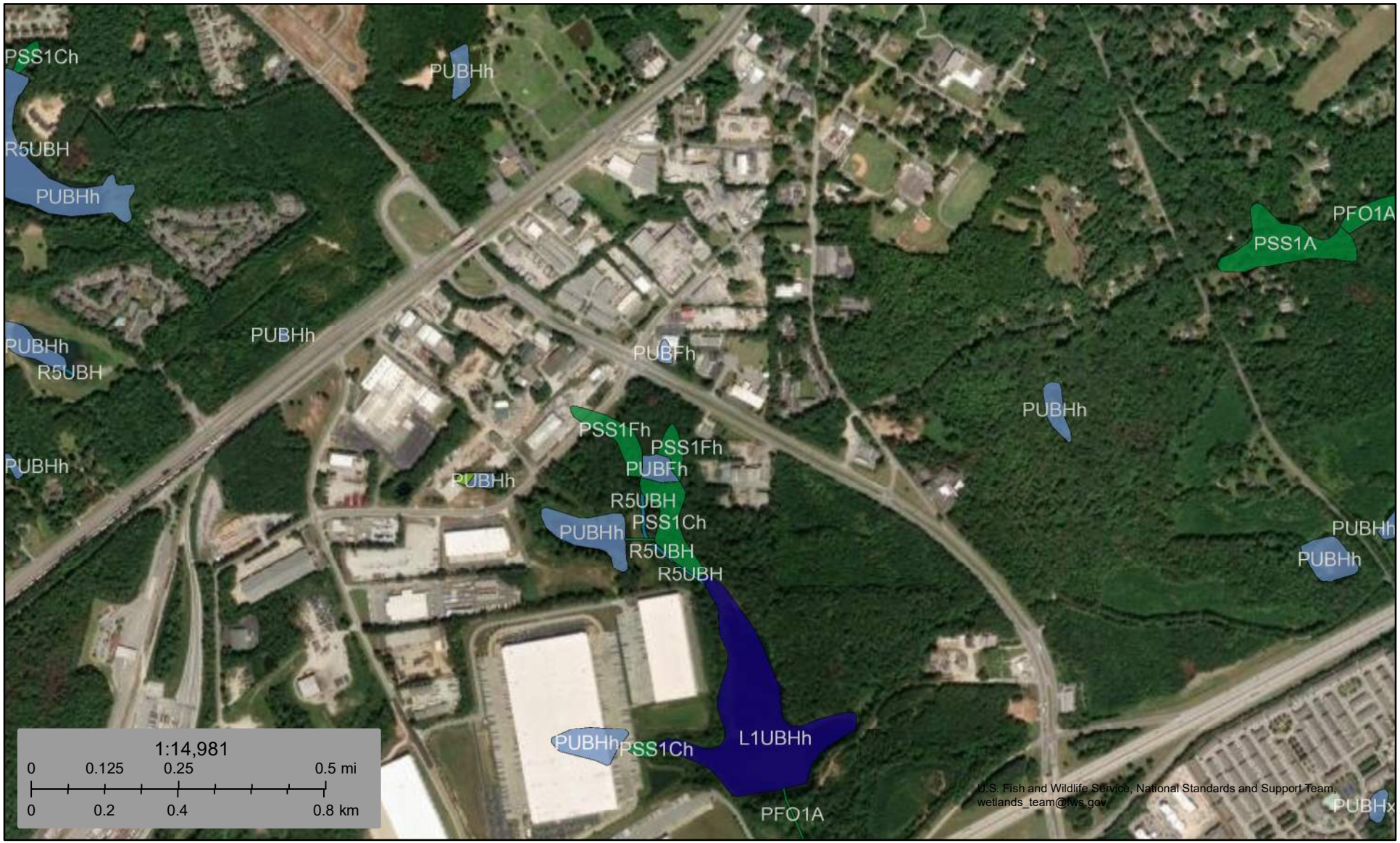
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The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/23/2025 at 6:39 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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U.S. Fish and Wildlife Service
National Wetlands Inventory

WetlandsMapperRTFairburn



July 25, 2025

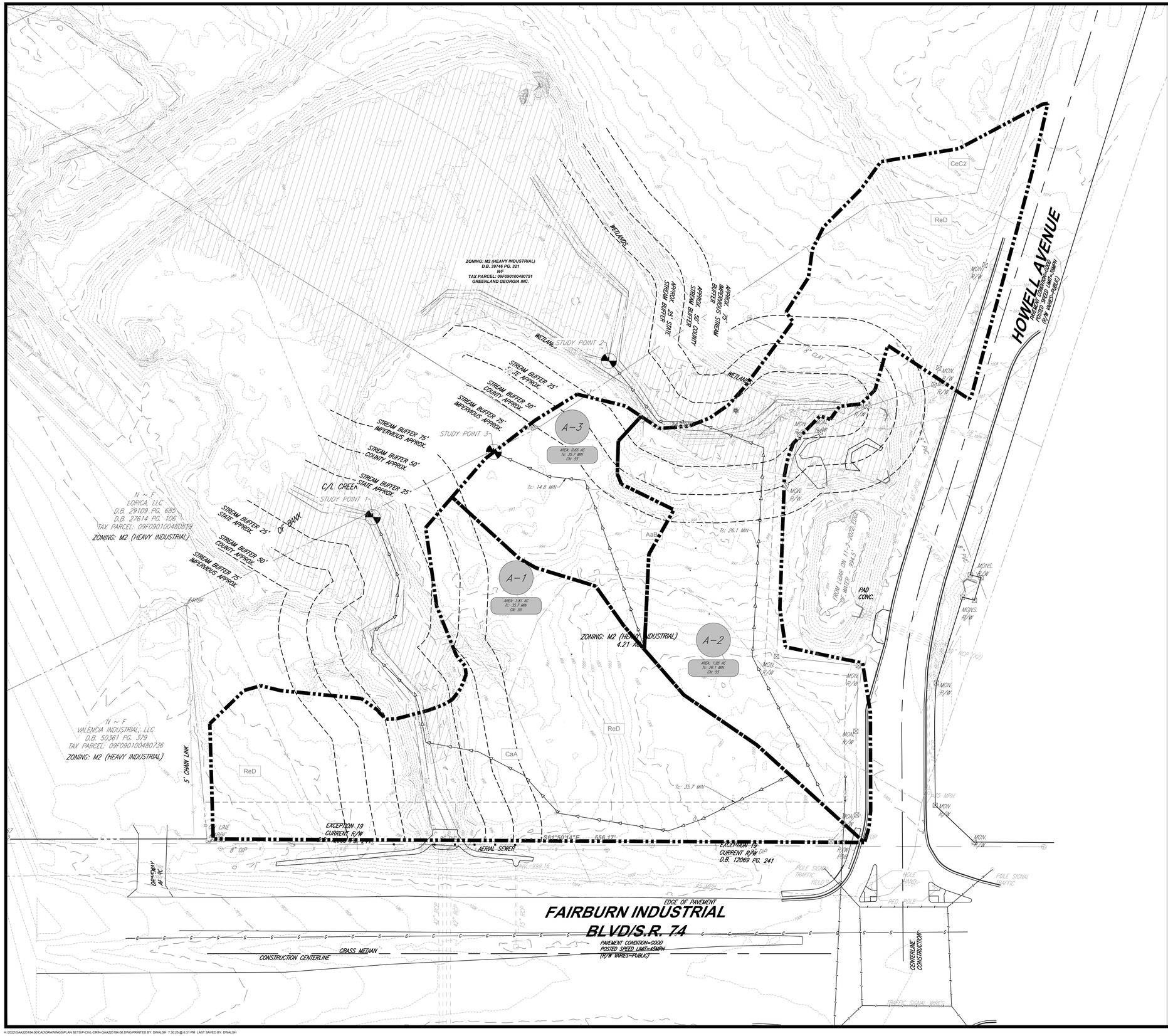
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

APPENDIX 3 | PRE-DEVELOPMENT HYDROLOGY

BOHLER



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Phone: (678) 695-6800
GA@BohlerEng.com

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Nathan Fuss
No. PE048094
PROFESSIONAL
08/01/2025
ENGINEER
NATHAN R. FUSS

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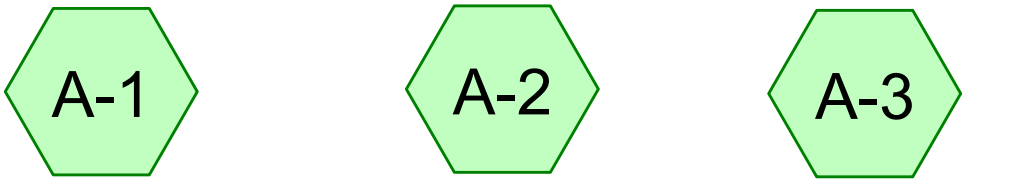
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3225 CUMBERLAND BLVD. SE
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

PREDEVELOPED DRAINAGE MAP

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
A	
SHEET NO.	REVISION



Pre-Developed Pre-Developed Pre-Developed

Subcat Reach Pond Link

Routing Diagram for GAA220184.00 - RT Fairburn
Prepared by Bohler, Printed 7/30/2025
HydroCAD® 10.20-5c s/n 03478 © 2023 HydroCAD Software Solutions LLC

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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 II 24-hr		Default	24.00	1	3.35	2
2	5 YEAR	Type II 24-hr		Default	24.00	1	4.52	2
3	10 YEAR	Type II 24-hr		Default	24.00	1	5.22	2
4	25 YEAR	Type II 24-hr		Default	24.00	1	6.29	2
5	50 YEAR	Type II 24-hr		Default	24.00	1	7.21	2
6	100 YEAR	Type II 24-hr		Default	24.00	1	8.20	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.410	55	Woods, Good, HSG B (A-1, A-2, A-3)
4.410	**55**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
4.410	HSG B	A-1, A-2, A-3
0.000	HSG C	
0.000	HSG D	
0.000	Other	
4.410		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	4.410	0.000	0.000	0.000	4.410	Woods, Good	A-1, A-2, A-3
0.000	**4.410**	**0.000**	**0.000**	**0.000**	**4.410**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 A-1: Pre-Developed Runoff Area=1.810 ac 0.00% Impervious Runoff Depth=0.30"
Flow Length=463' Tc=35.7 min CN=55 Runoff=0.18 cfs 0.045 af

Subcatchment A-2: Pre-Developed Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=0.30"
Flow Length=393' Tc=26.1 min CN=55 Runoff=0.24 cfs 0.048 af

Subcatchment A-3: Pre-Developed Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=0.30"
Flow Length=242' Tc=14.8 min CN=55 Runoff=0.11 cfs 0.016 af

Total Runoff Area = 4.410 ac Runoff Volume = 0.109 af Average Runoff Depth = 0.30"
100.00% Pervious = 4.410 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A-1: Pre-Developed

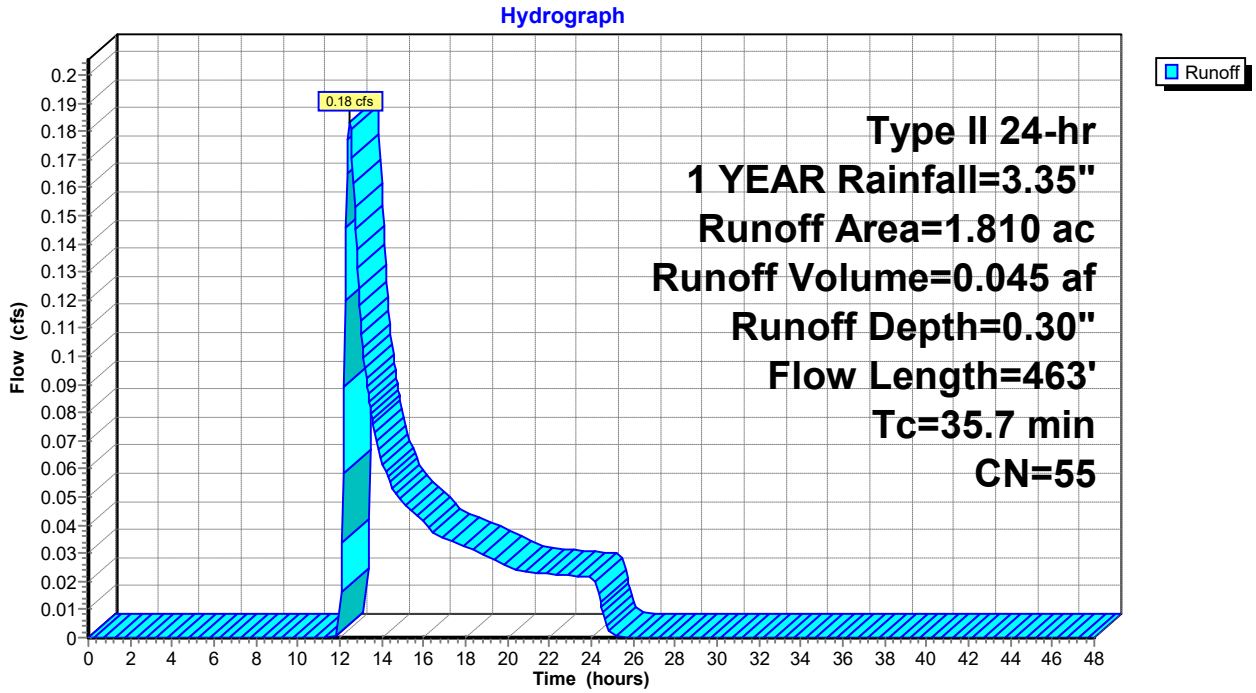
Runoff = 0.18 cfs @ 12.48 hrs, Volume= 0.045 af, Depth= 0.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
1.810	55	Woods, Good, HSG B
1.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	100	0.0077	0.06		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
6.7	363	0.0330	0.91		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
35.7	463	Total			

Subcatchment A-1: Pre-Developed



Hydrograph for Subcatchment A-1: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	28.50	3.35	0.30	0.00
0.50	0.02	0.00	0.00	29.00	3.35	0.30	0.00
1.00	0.04	0.00	0.00	29.50	3.35	0.30	0.00
1.50	0.05	0.00	0.00	30.00	3.35	0.30	0.00
2.00	0.07	0.00	0.00	30.50	3.35	0.30	0.00
2.50	0.09	0.00	0.00	31.00	3.35	0.30	0.00
3.00	0.12	0.00	0.00	31.50	3.35	0.30	0.00
3.50	0.14	0.00	0.00	32.00	3.35	0.30	0.00
4.00	0.16	0.00	0.00	32.50	3.35	0.30	0.00
4.50	0.19	0.00	0.00	33.00	3.35	0.30	0.00
5.00	0.21	0.00	0.00	33.50	3.35	0.30	0.00
5.50	0.24	0.00	0.00	34.00	3.35	0.30	0.00
6.00	0.27	0.00	0.00	34.50	3.35	0.30	0.00
6.50	0.30	0.00	0.00	35.00	3.35	0.30	0.00
7.00	0.33	0.00	0.00	35.50	3.35	0.30	0.00
7.50	0.37	0.00	0.00	36.00	3.35	0.30	0.00
8.00	0.40	0.00	0.00	36.50	3.35	0.30	0.00
8.50	0.44	0.00	0.00	37.00	3.35	0.30	0.00
9.00	0.49	0.00	0.00	37.50	3.35	0.30	0.00
9.50	0.55	0.00	0.00	38.00	3.35	0.30	0.00
10.00	0.61	0.00	0.00	38.50	3.35	0.30	0.00
10.50	0.68	0.00	0.00	39.00	3.35	0.30	0.00
11.00	0.79	0.00	0.00	39.50	3.35	0.30	0.00
11.50	0.95	0.00	0.00	40.00	3.35	0.30	0.00
12.00	2.22	0.04	0.01	40.50	3.35	0.30	0.00
12.50	2.46	0.08	**0.18**	41.00	3.35	0.30	0.00
13.00	2.59	0.10	0.11	41.50	3.35	0.30	0.00
13.50	2.68	0.12	0.08	42.00	3.35	0.30	0.00
14.00	2.75	0.13	0.06	42.50	3.35	0.30	0.00
14.50	2.81	0.15	0.05	43.00	3.35	0.30	0.00
15.00	2.86	0.16	0.05	43.50	3.35	0.30	0.00
15.50	2.91	0.17	0.04	44.00	3.35	0.30	0.00
16.00	2.95	0.18	0.04	44.50	3.35	0.30	0.00
16.50	2.99	0.19	0.04	45.00	3.35	0.30	0.00
17.00	3.02	0.20	0.04	45.50	3.35	0.30	0.00
17.50	3.05	0.21	0.03	46.00	3.35	0.30	0.00
18.00	3.09	0.22	0.03	46.50	3.35	0.30	0.00
18.50	3.11	0.23	0.03	47.00	3.35	0.30	0.00
19.00	3.14	0.23	0.03	47.50	3.35	0.30	0.00
19.50	3.17	0.24	0.03	48.00	3.35	0.30	0.00
20.00	3.19	0.25	0.03				
20.50	3.21	0.25	0.02				
21.00	3.23	0.26	0.02				
21.50	3.25	0.27	0.02				
22.00	3.27	0.27	0.02				
22.50	3.29	0.28	0.02				
23.00	3.31	0.28	0.02				
23.50	3.33	0.29	0.02				
24.00	**3.35**	**0.30**	0.02				
24.50	3.35	0.30	0.01				
25.00	3.35	0.30	0.00				
25.50	3.35	0.30	0.00				
26.00	3.35	0.30	0.00				
26.50	3.35	0.30	0.00				
27.00	3.35	0.30	0.00				
27.50	3.35	0.30	0.00				
28.00	3.35	0.30	0.00				

Summary for Subcatchment A-2: Pre-Developed

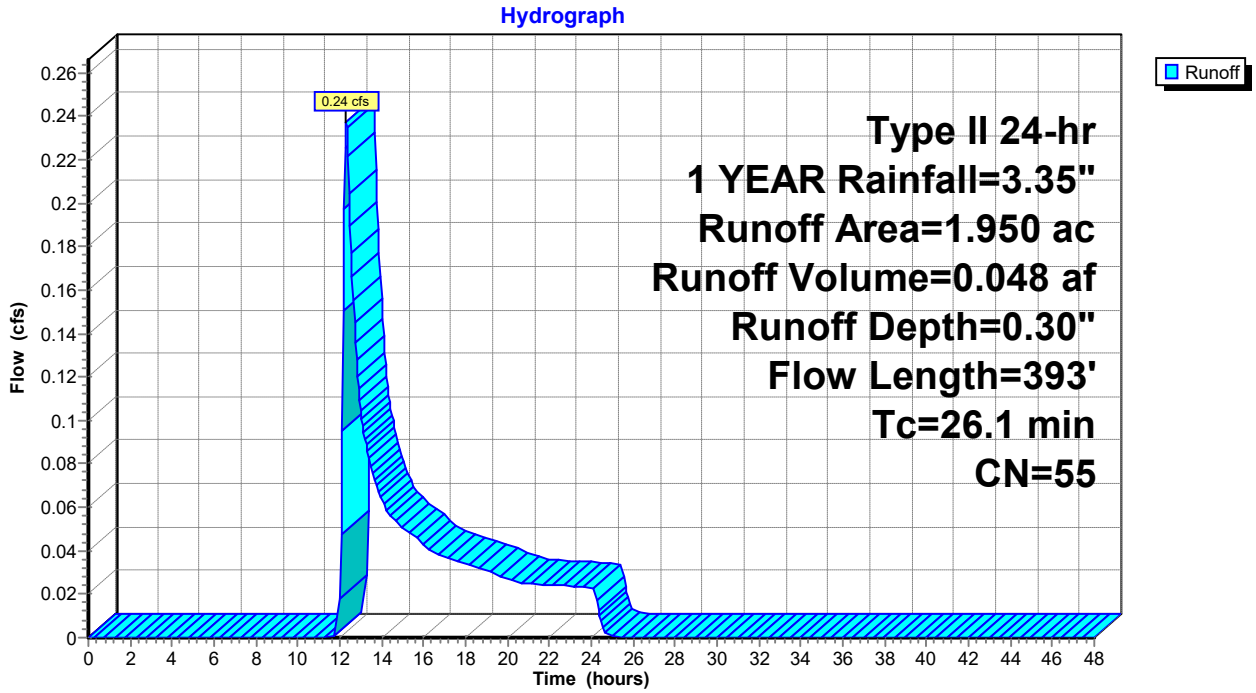
Runoff = 0.24 cfs @ 12.32 hrs, Volume= 0.048 af, Depth= 0.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
1.950	55	Woods, Good, HSG B
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	100	0.0156	0.08		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
4.2	293	0.0552	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
26.1	393	Total			

Subcatchment A-2: Pre-Developed



Hydrograph for Subcatchment A-2: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.14	0.00	0.00
4.00	0.16	0.00	0.00
4.50	0.19	0.00	0.00
5.00	0.21	0.00	0.00
5.50	0.24	0.00	0.00
6.00	0.27	0.00	0.00
6.50	0.30	0.00	0.00
7.00	0.33	0.00	0.00
7.50	0.37	0.00	0.00
8.00	0.40	0.00	0.00
8.50	0.44	0.00	0.00
9.00	0.49	0.00	0.00
9.50	0.55	0.00	0.00
10.00	0.61	0.00	0.00
10.50	0.68	0.00	0.00
11.00	0.79	0.00	0.00
11.50	0.95	0.00	0.00
12.00	2.22	0.04	**0.02**
12.50	2.46	0.08	**0.19**
13.00	2.59	0.10	0.10
13.50	2.68	0.12	0.08
14.00	2.75	0.13	0.06
14.50	2.81	0.15	0.05
15.00	2.86	0.16	0.05
15.50	2.91	0.17	0.05
16.00	2.95	0.18	0.04
16.50	2.99	0.19	0.04
17.00	3.02	0.20	0.04
17.50	3.05	0.21	0.04
18.00	3.09	0.22	0.03
18.50	3.11	0.23	0.03
19.00	3.14	0.23	0.03
19.50	3.17	0.24	0.03
20.00	3.19	0.25	0.03
20.50	3.21	0.25	0.03
21.00	3.23	0.26	0.02
21.50	3.25	0.27	0.02
22.00	3.27	0.27	0.02
22.50	3.29	0.28	0.02
23.00	3.31	0.28	0.02
23.50	3.33	0.29	0.02
24.00	**3.35**	**0.30**	0.02
24.50	3.35	0.30	0.01
25.00	3.35	0.30	0.00
25.50	3.35	0.30	0.00
26.00	3.35	0.30	0.00
26.50	3.35	0.30	0.00
27.00	3.35	0.30	0.00
27.50	3.35	0.30	0.00
28.00	3.35	0.30	0.00
28.50	3.35	0.30	0.00
29.00	3.35	0.30	0.00
29.50	3.35	0.30	0.00
30.00	3.35	0.30	0.00
30.50	3.35	0.30	0.00
31.00	3.35	0.30	0.00
31.50	3.35	0.30	0.00
32.00	3.35	0.30	0.00
32.50	3.35	0.30	0.00
33.00	3.35	0.30	0.00
33.50	3.35	0.30	0.00
34.00	3.35	0.30	0.00
34.50	3.35	0.30	0.00
35.00	3.35	0.30	0.00
35.50	3.35	0.30	0.00
36.00	3.35	0.30	0.00
36.50	3.35	0.30	0.00
37.00	3.35	0.30	0.00
37.50	3.35	0.30	0.00
38.00	3.35	0.30	0.00
38.50	3.35	0.30	0.00
39.00	3.35	0.30	0.00
39.50	3.35	0.30	0.00
40.00	3.35	0.30	0.00
40.50	3.35	0.30	0.00
41.00	3.35	0.30	0.00
41.50	3.35	0.30	0.00
42.00	3.35	0.30	0.00
42.50	3.35	0.30	0.00
43.00	3.35	0.30	0.00
43.50	3.35	0.30	0.00
44.00	3.35	0.30	0.00
44.50	3.35	0.30	0.00
45.00	3.35	0.30	0.00
45.50	3.35	0.30	0.00
46.00	3.35	0.30	0.00
46.50	3.35	0.30	0.00
47.00	3.35	0.30	0.00
47.50	3.35	0.30	0.00
48.00	3.35	0.30	0.00

Summary for Subcatchment A-3: Pre-Developed

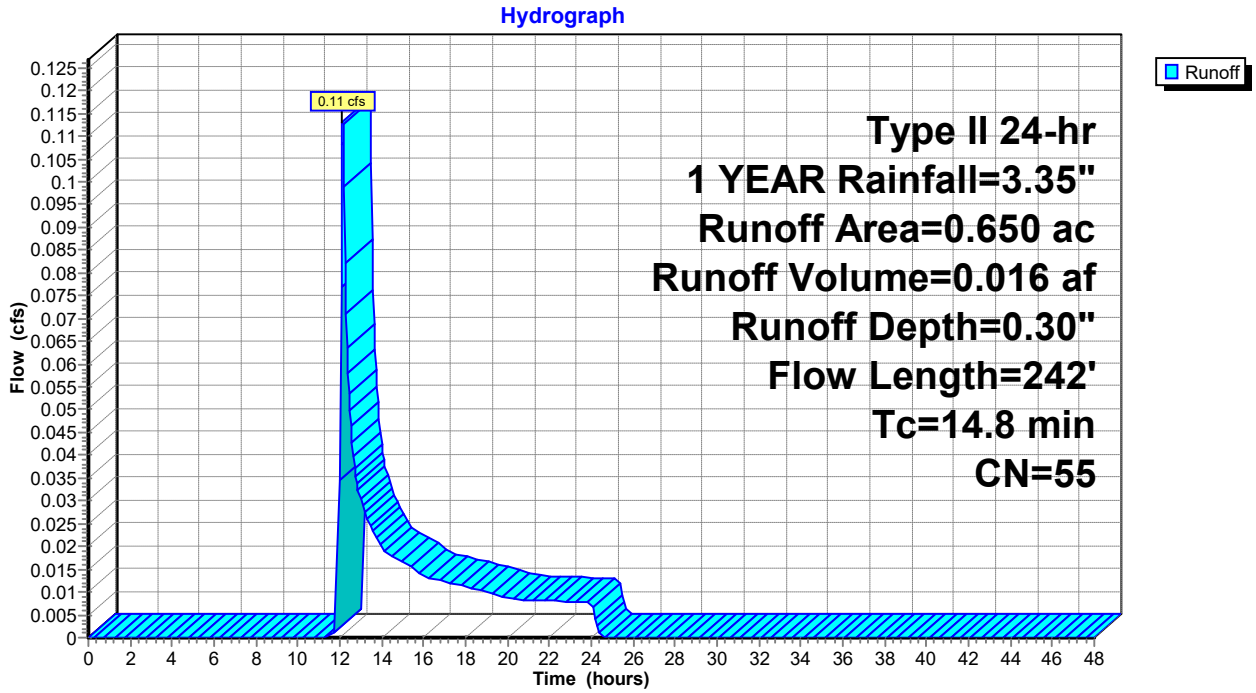
Runoff = 0.11 cfs @ 12.14 hrs, Volume= 0.016 af, Depth= 0.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
0.650	55	Woods, Good, HSG B
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	100	0.0704	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
2.8	142	0.0292	0.85		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
14.8	242	Total			

Subcatchment A-3: Pre-Developed



Hydrograph for Subcatchment A-3: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.14	0.00	0.00
4.00	0.16	0.00	0.00
4.50	0.19	0.00	0.00
5.00	0.21	0.00	0.00
5.50	0.24	0.00	0.00
6.00	0.27	0.00	0.00
6.50	0.30	0.00	0.00
7.00	0.33	0.00	0.00
7.50	0.37	0.00	0.00
8.00	0.40	0.00	0.00
8.50	0.44	0.00	0.00
9.00	0.49	0.00	0.00
9.50	0.55	0.00	0.00
10.00	0.61	0.00	0.00
10.50	0.68	0.00	0.00
11.00	0.79	0.00	0.00
11.50	0.95	0.00	0.00
12.00	2.22	0.04	**0.03**
12.50	2.46	0.08	**0.05**
13.00	2.59	0.10	0.03
13.50	2.68	0.12	0.02
14.00	2.75	0.13	0.02
14.50	2.81	0.15	0.02
15.00	2.86	0.16	0.02
15.50	2.91	0.17	0.02
16.00	2.95	0.18	0.01
16.50	2.99	0.19	0.01
17.00	3.02	0.20	0.01
17.50	3.05	0.21	0.01
18.00	3.09	0.22	0.01
18.50	3.11	0.23	0.01
19.00	3.14	0.23	0.01
19.50	3.17	0.24	0.01
20.00	3.19	0.25	0.01
20.50	3.21	0.25	0.01
21.00	3.23	0.26	0.01
21.50	3.25	0.27	0.01
22.00	3.27	0.27	0.01
22.50	3.29	0.28	0.01
23.00	3.31	0.28	0.01
23.50	3.33	0.29	0.01
24.00	**3.35**	**0.30**	0.01
24.50	3.35	0.30	0.00
25.00	3.35	0.30	0.00
25.50	3.35	0.30	0.00
26.00	3.35	0.30	0.00
26.50	3.35	0.30	0.00
27.00	3.35	0.30	0.00
27.50	3.35	0.30	0.00
28.00	3.35	0.30	0.00
28.50	3.35	0.30	0.00
29.00	3.35	0.30	0.00
29.50	3.35	0.30	0.00
30.00	3.35	0.30	0.00
30.50	3.35	0.30	0.00
31.00	3.35	0.30	0.00
31.50	3.35	0.30	0.00
32.00	3.35	0.30	0.00
32.50	3.35	0.30	0.00
33.00	3.35	0.30	0.00
33.50	3.35	0.30	0.00
34.00	3.35	0.30	0.00
34.50	3.35	0.30	0.00
35.00	3.35	0.30	0.00
35.50	3.35	0.30	0.00
36.00	3.35	0.30	0.00
36.50	3.35	0.30	0.00
37.00	3.35	0.30	0.00
37.50	3.35	0.30	0.00
38.00	3.35	0.30	0.00
38.50	3.35	0.30	0.00
39.00	3.35	0.30	0.00
39.50	3.35	0.30	0.00
40.00	3.35	0.30	0.00
40.50	3.35	0.30	0.00
41.00	3.35	0.30	0.00
41.50	3.35	0.30	0.00
42.00	3.35	0.30	0.00
42.50	3.35	0.30	0.00
43.00	3.35	0.30	0.00
43.50	3.35	0.30	0.00
44.00	3.35	0.30	0.00
44.50	3.35	0.30	0.00
45.00	3.35	0.30	0.00
45.50	3.35	0.30	0.00
46.00	3.35	0.30	0.00
46.50	3.35	0.30	0.00
47.00	3.35	0.30	0.00
47.50	3.35	0.30	0.00
48.00	3.35	0.30	0.00

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 A-1: Pre-Developed Runoff Area=1.810 ac 0.00% Impervious Runoff Depth=0.75"
Flow Length=463' Tc=35.7 min CN=55 Runoff=0.74 cfs 0.113 af

Subcatchment A-2: Pre-Developed Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=0.75"
Flow Length=393' Tc=26.1 min CN=55 Runoff=1.00 cfs 0.122 af

Subcatchment A-3: Pre-Developed Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=0.75"
Flow Length=242' Tc=14.8 min CN=55 Runoff=0.49 cfs 0.041 af

Total Runoff Area = 4.410 ac Runoff Volume = 0.276 af Average Runoff Depth = 0.75"
100.00% Pervious = 4.410 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A-1: Pre-Developed

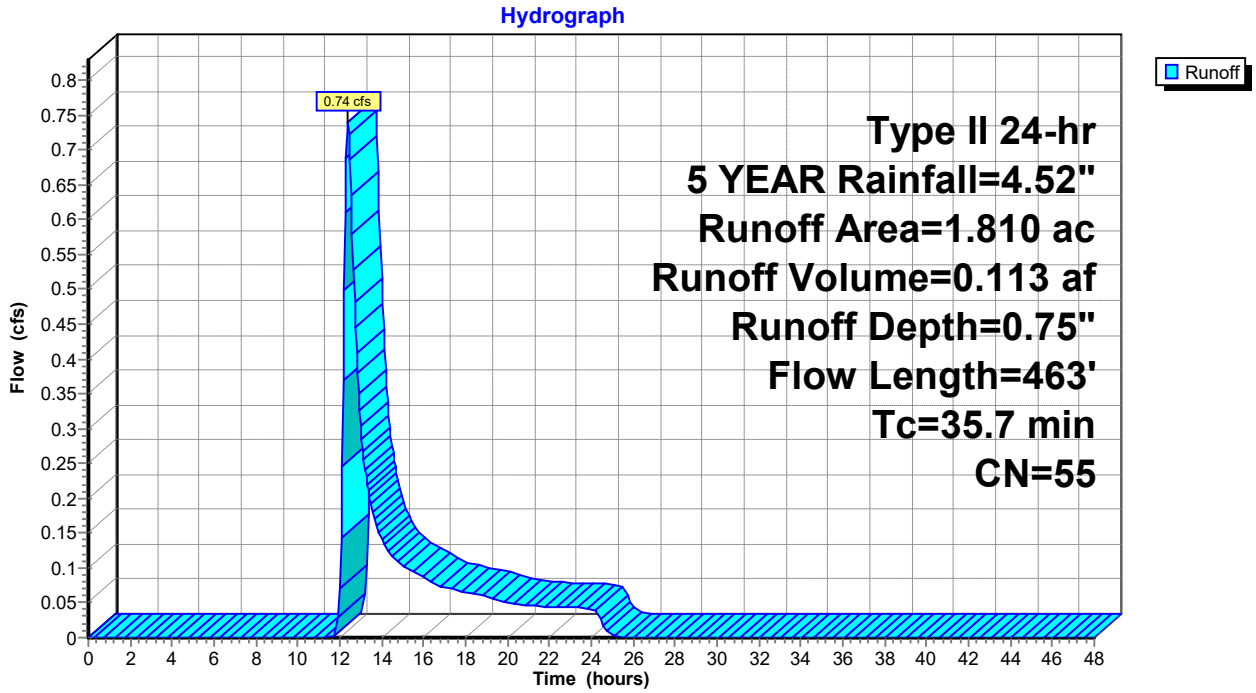
Runoff = 0.74 cfs @ 12.39 hrs, Volume= 0.113 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
1.810	55	Woods, Good, HSG B
1.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	100	0.0077	0.06		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
6.7	363	0.0330	0.91		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
35.7	463	Total			

Subcatchment A-1: Pre-Developed



Hydrograph for Subcatchment A-1: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.00
4.00	0.22	0.00	0.00
4.50	0.25	0.00	0.00
5.00	0.28	0.00	0.00
5.50	0.32	0.00	0.00
6.00	0.36	0.00	0.00
6.50	0.40	0.00	0.00
7.00	0.45	0.00	0.00
7.50	0.49	0.00	0.00
8.00	0.54	0.00	0.00
8.50	0.60	0.00	0.00
9.00	0.66	0.00	0.00
9.50	0.74	0.00	0.00
10.00	0.82	0.00	0.00
10.50	0.92	0.00	0.00
11.00	1.06	0.00	0.00
11.50	1.28	0.00	0.00
12.00	3.00	0.19	**0.07**
12.50	3.32	0.29	**0.69**
13.00	3.49	0.34	0.30
13.50	3.61	0.38	0.19
14.00	3.71	0.42	0.14
14.50	3.79	0.45	0.12
15.00	3.86	0.47	0.10
15.50	3.92	0.50	0.10
16.00	3.98	0.52	0.09
16.50	4.03	0.54	0.08
17.00	4.08	0.56	0.07
17.50	4.12	0.58	0.07
18.00	4.16	0.60	0.07
18.50	4.20	0.61	0.06
19.00	4.24	0.63	0.06
19.50	4.27	0.64	0.05
20.00	4.30	0.66	0.05
20.50	4.33	0.67	0.05
21.00	4.36	0.68	0.05
21.50	4.39	0.69	0.05
22.00	4.42	0.70	0.04
22.50	4.44	0.72	0.04
23.00	4.47	0.73	0.04
23.50	4.49	0.74	0.04
24.00	**4.52**	**0.75**	0.04
24.50	4.52	0.75	0.02
25.00	4.52	0.75	0.00
25.50	4.52	0.75	0.00
26.00	4.52	0.75	0.00
26.50	4.52	0.75	0.00
27.00	4.52	0.75	0.00
27.50	4.52	0.75	0.00
28.00	4.52	0.75	0.00
28.50	4.52	0.75	0.00
29.00	4.52	0.75	0.00
29.50	4.52	0.75	0.00
30.00	4.52	0.75	0.00
30.50	4.52	0.75	0.00
31.00	4.52	0.75	0.00
31.50	4.52	0.75	0.00
32.00	4.52	0.75	0.00
32.50	4.52	0.75	0.00
33.00	4.52	0.75	0.00
33.50	4.52	0.75	0.00
34.00	4.52	0.75	0.00
34.50	4.52	0.75	0.00
35.00	4.52	0.75	0.00
35.50	4.52	0.75	0.00
36.00	4.52	0.75	0.00
36.50	4.52	0.75	0.00
37.00	4.52	0.75	0.00
37.50	4.52	0.75	0.00
38.00	4.52	0.75	0.00
38.50	4.52	0.75	0.00
39.00	4.52	0.75	0.00
39.50	4.52	0.75	0.00
40.00	4.52	0.75	0.00
40.50	4.52	0.75	0.00
41.00	4.52	0.75	0.00
41.50	4.52	0.75	0.00
42.00	4.52	0.75	0.00
42.50	4.52	0.75	0.00
43.00	4.52	0.75	0.00
43.50	4.52	0.75	0.00
44.00	4.52	0.75	0.00
44.50	4.52	0.75	0.00
45.00	4.52	0.75	0.00
45.50	4.52	0.75	0.00
46.00	4.52	0.75	0.00
46.50	4.52	0.75	0.00
47.00	4.52	0.75	0.00
47.50	4.52	0.75	0.00
48.00	4.52	0.75	0.00

Summary for Subcatchment A-2: Pre-Developed

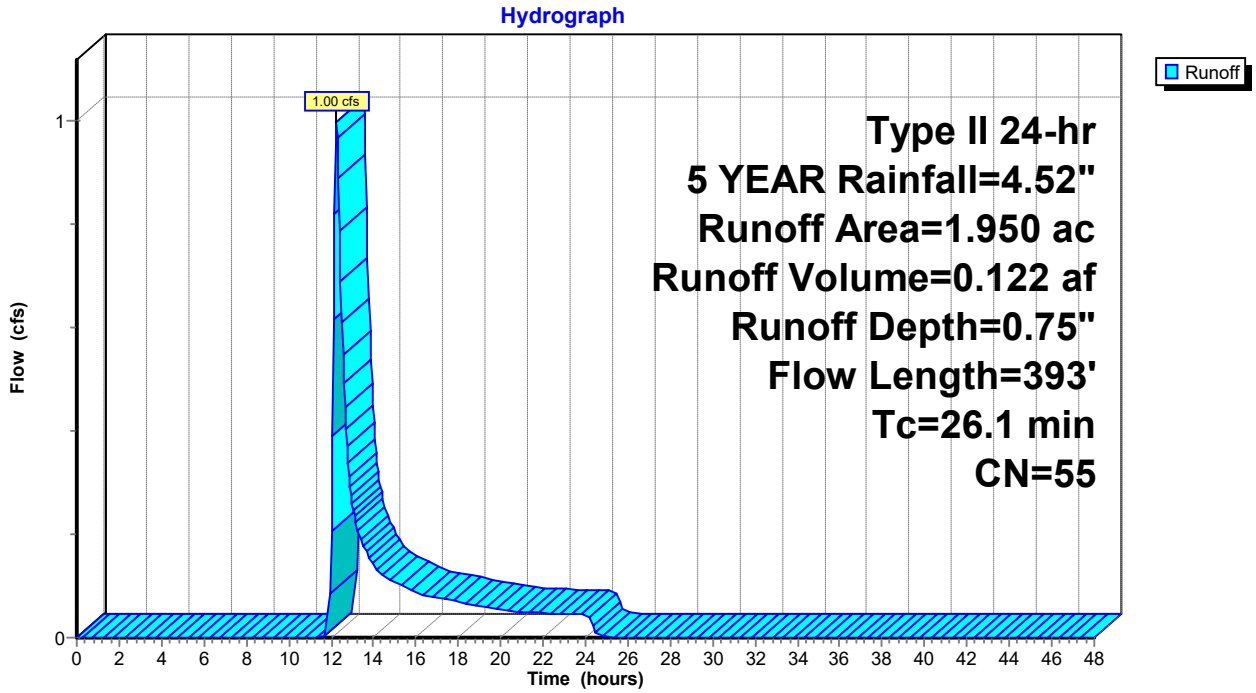
Runoff = 1.00 cfs @ 12.25 hrs, Volume= 0.122 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
1.950	55	Woods, Good, HSG B
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	100	0.0156	0.08		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
4.2	293	0.0552	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
26.1	393	Total			

Subcatchment A-2: Pre-Developed



Hydrograph for Subcatchment A-2: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.00
4.00	0.22	0.00	0.00
4.50	0.25	0.00	0.00
5.00	0.28	0.00	0.00
5.50	0.32	0.00	0.00
6.00	0.36	0.00	0.00
6.50	0.40	0.00	0.00
7.00	0.45	0.00	0.00
7.50	0.49	0.00	0.00
8.00	0.54	0.00	0.00
8.50	0.60	0.00	0.00
9.00	0.66	0.00	0.00
9.50	0.74	0.00	0.00
10.00	0.82	0.00	0.00
10.50	0.92	0.00	0.00
11.00	1.06	0.00	0.00
11.50	1.28	0.00	0.00
12.00	3.00	0.19	**0.21**
12.50	3.32	0.29	**0.61**
13.00	3.49	0.34	0.26
13.50	3.61	0.38	0.18
14.00	3.71	0.42	0.14
14.50	3.79	0.45	0.12
15.00	3.86	0.47	0.11
15.50	3.92	0.50	0.10
16.00	3.98	0.52	0.09
16.50	4.03	0.54	0.08
17.00	4.08	0.56	0.08
17.50	4.12	0.58	0.07
18.00	4.16	0.60	0.07
18.50	4.20	0.61	0.07
19.00	4.24	0.63	0.06
19.50	4.27	0.64	0.06
20.00	4.30	0.66	0.05
20.50	4.33	0.67	0.05
21.00	4.36	0.68	0.05
21.50	4.39	0.69	0.05
22.00	4.42	0.70	0.05
22.50	4.44	0.72	0.05
23.00	4.47	0.73	0.05
23.50	4.49	0.74	0.05
24.00	**4.52**	**0.75**	0.04
24.50	4.52	0.75	0.01
25.00	4.52	0.75	0.00
25.50	4.52	0.75	0.00
26.00	4.52	0.75	0.00
26.50	4.52	0.75	0.00
27.00	4.52	0.75	0.00
27.50	4.52	0.75	0.00
28.00	4.52	0.75	0.00
28.50	4.52	0.75	0.00
29.00	4.52	0.75	0.00
29.50	4.52	0.75	0.00
30.00	4.52	0.75	0.00
30.50	4.52	0.75	0.00
31.00	4.52	0.75	0.00
31.50	4.52	0.75	0.00
32.00	4.52	0.75	0.00
32.50	4.52	0.75	0.00
33.00	4.52	0.75	0.00
33.50	4.52	0.75	0.00
34.00	4.52	0.75	0.00
34.50	4.52	0.75	0.00
35.00	4.52	0.75	0.00
35.50	4.52	0.75	0.00
36.00	4.52	0.75	0.00
36.50	4.52	0.75	0.00
37.00	4.52	0.75	0.00
37.50	4.52	0.75	0.00
38.00	4.52	0.75	0.00
38.50	4.52	0.75	0.00
39.00	4.52	0.75	0.00
39.50	4.52	0.75	0.00
40.00	4.52	0.75	0.00
40.50	4.52	0.75	0.00
41.00	4.52	0.75	0.00
41.50	4.52	0.75	0.00
42.00	4.52	0.75	0.00
42.50	4.52	0.75	0.00
43.00	4.52	0.75	0.00
43.50	4.52	0.75	0.00
44.00	4.52	0.75	0.00
44.50	4.52	0.75	0.00
45.00	4.52	0.75	0.00
45.50	4.52	0.75	0.00
46.00	4.52	0.75	0.00
46.50	4.52	0.75	0.00
47.00	4.52	0.75	0.00
47.50	4.52	0.75	0.00
48.00	4.52	0.75	0.00

Summary for Subcatchment A-3: Pre-Developed

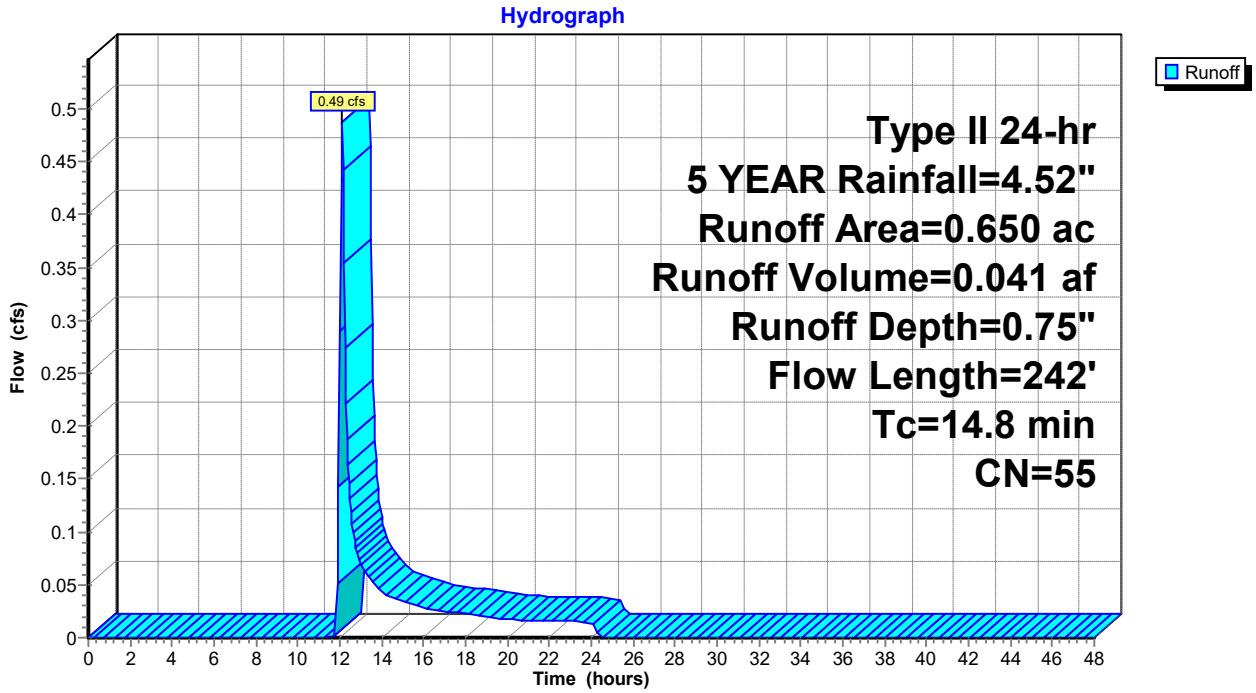
Runoff = 0.49 cfs @ 12.10 hrs, Volume= 0.041 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
0.650	55	Woods, Good, HSG B
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	100	0.0704	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
2.8	142	0.0292	0.85		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
14.8	242	Total			

Subcatchment A-3: Pre-Developed



Hydrograph for Subcatchment A-3: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.00
4.00	0.22	0.00	0.00
4.50	0.25	0.00	0.00
5.00	0.28	0.00	0.00
5.50	0.32	0.00	0.00
6.00	0.36	0.00	0.00
6.50	0.40	0.00	0.00
7.00	0.45	0.00	0.00
7.50	0.49	0.00	0.00
8.00	0.54	0.00	0.00
8.50	0.60	0.00	0.00
9.00	0.66	0.00	0.00
9.50	0.74	0.00	0.00
10.00	0.82	0.00	0.00
10.50	0.92	0.00	0.00
11.00	1.06	0.00	0.00
11.50	1.28	0.00	0.00
12.00	3.00	0.19	**0.29**
12.50	3.32	0.29	**0.13**
13.00	3.49	0.34	0.07
13.50	3.61	0.38	0.05
14.00	3.71	0.42	0.04
14.50	3.79	0.45	0.04
15.00	3.86	0.47	0.04
15.50	3.92	0.50	0.03
16.00	3.98	0.52	0.03
16.50	4.03	0.54	0.03
17.00	4.08	0.56	0.03
17.50	4.12	0.58	0.02
18.00	4.16	0.60	0.02
18.50	4.20	0.61	0.02
19.00	4.24	0.63	0.02
19.50	4.27	0.64	0.02
20.00	4.30	0.66	0.02
20.50	4.33	0.67	0.02
21.00	4.36	0.68	0.02
21.50	4.39	0.69	0.02
22.00	4.42	0.70	0.02
22.50	4.44	0.72	0.02
23.00	4.47	0.73	0.02
23.50	4.49	0.74	0.02
24.00	**4.52**	**0.75**	0.01
24.50	4.52	0.75	0.00
25.00	4.52	0.75	0.00
25.50	4.52	0.75	0.00
26.00	4.52	0.75	0.00
26.50	4.52	0.75	0.00
27.00	4.52	0.75	0.00
27.50	4.52	0.75	0.00
28.00	4.52	0.75	0.00
28.50	4.52	0.75	0.00
29.00	4.52	0.75	0.00
29.50	4.52	0.75	0.00
30.00	4.52	0.75	0.00
30.50	4.52	0.75	0.00
31.00	4.52	0.75	0.00
31.50	4.52	0.75	0.00
32.00	4.52	0.75	0.00
32.50	4.52	0.75	0.00
33.00	4.52	0.75	0.00
33.50	4.52	0.75	0.00
34.00	4.52	0.75	0.00
34.50	4.52	0.75	0.00
35.00	4.52	0.75	0.00
35.50	4.52	0.75	0.00
36.00	4.52	0.75	0.00
36.50	4.52	0.75	0.00
37.00	4.52	0.75	0.00
37.50	4.52	0.75	0.00
38.00	4.52	0.75	0.00
38.50	4.52	0.75	0.00
39.00	4.52	0.75	0.00
39.50	4.52	0.75	0.00
40.00	4.52	0.75	0.00
40.50	4.52	0.75	0.00
41.00	4.52	0.75	0.00
41.50	4.52	0.75	0.00
42.00	4.52	0.75	0.00
42.50	4.52	0.75	0.00
43.00	4.52	0.75	0.00
43.50	4.52	0.75	0.00
44.00	4.52	0.75	0.00
44.50	4.52	0.75	0.00
45.00	4.52	0.75	0.00
45.50	4.52	0.75	0.00
46.00	4.52	0.75	0.00
46.50	4.52	0.75	0.00
47.00	4.52	0.75	0.00
47.50	4.52	0.75	0.00
48.00	4.52	0.75	0.00

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 A-1: Pre-Developed Runoff Area=1.810 ac 0.00% Impervious Runoff Depth=1.09"
Flow Length=463' Tc=35.7 min CN=55 Runoff=1.21 cfs 0.165 af

Subcatchment A-2: Pre-Developed Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=1.09"
Flow Length=393' Tc=26.1 min CN=55 Runoff=1.63 cfs 0.177 af

Subcatchment A-3: Pre-Developed Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=1.09"
Flow Length=242' Tc=14.8 min CN=55 Runoff=0.79 cfs 0.059 af

Total Runoff Area = 4.410 ac Runoff Volume = 0.401 af Average Runoff Depth = 1.09"
100.00% Pervious = 4.410 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A-1: Pre-Developed

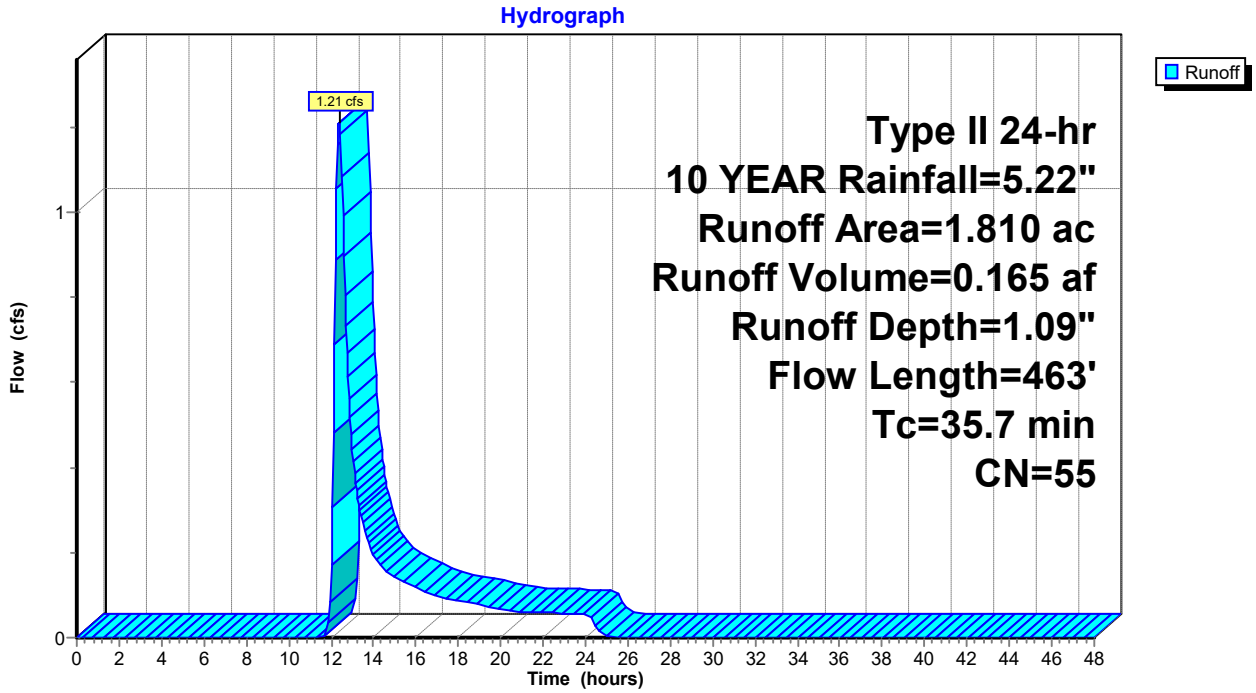
Runoff = 1.21 cfs @ 12.37 hrs, Volume= 0.165 af, Depth= 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
1.810	55	Woods, Good, HSG B
1.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	100	0.0077	0.06		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
6.7	363	0.0330	0.91		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
35.7	463	Total			

Subcatchment A-1: Pre-Developed



Hydrograph for Subcatchment A-1: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	28.50	5.22	1.09	0.00
0.50	0.03	0.00	0.00	29.00	5.22	1.09	0.00
1.00	0.05	0.00	0.00	29.50	5.22	1.09	0.00
1.50	0.08	0.00	0.00	30.00	5.22	1.09	0.00
2.00	0.11	0.00	0.00	30.50	5.22	1.09	0.00
2.50	0.15	0.00	0.00	31.00	5.22	1.09	0.00
3.00	0.18	0.00	0.00	31.50	5.22	1.09	0.00
3.50	0.21	0.00	0.00	32.00	5.22	1.09	0.00
4.00	0.25	0.00	0.00	32.50	5.22	1.09	0.00
4.50	0.29	0.00	0.00	33.00	5.22	1.09	0.00
5.00	0.33	0.00	0.00	33.50	5.22	1.09	0.00
5.50	0.37	0.00	0.00	34.00	5.22	1.09	0.00
6.00	0.42	0.00	0.00	34.50	5.22	1.09	0.00
6.50	0.47	0.00	0.00	35.00	5.22	1.09	0.00
7.00	0.52	0.00	0.00	35.50	5.22	1.09	0.00
7.50	0.57	0.00	0.00	36.00	5.22	1.09	0.00
8.00	0.63	0.00	0.00	36.50	5.22	1.09	0.00
8.50	0.69	0.00	0.00	37.00	5.22	1.09	0.00
9.00	0.77	0.00	0.00	37.50	5.22	1.09	0.00
9.50	0.85	0.00	0.00	38.00	5.22	1.09	0.00
10.00	0.94	0.00	0.00	38.50	5.22	1.09	0.00
10.50	1.06	0.00	0.00	39.00	5.22	1.09	0.00
11.00	1.23	0.00	0.00	39.50	5.22	1.09	0.00
11.50	1.48	0.00	0.00	40.00	5.22	1.09	0.00
12.00	3.46	0.33	**0.17**	40.50	5.22	1.09	0.00
12.50	3.84	0.47	**1.08**	41.00	5.22	1.09	0.00
13.00	4.03	0.54	0.44	41.50	5.22	1.09	0.00
13.50	4.17	0.60	0.26	42.00	5.22	1.09	0.00
14.00	4.28	0.65	0.20	42.50	5.22	1.09	0.00
14.50	4.37	0.69	0.16	43.00	5.22	1.09	0.00
15.00	4.46	0.72	0.14	43.50	5.22	1.09	0.00
15.50	4.53	0.76	0.13	44.00	5.22	1.09	0.00
16.00	4.59	0.79	0.12	44.50	5.22	1.09	0.00
16.50	4.65	0.81	0.10	45.00	5.22	1.09	0.00
17.00	4.71	0.84	0.10	45.50	5.22	1.09	0.00
17.50	4.76	0.86	0.09	46.00	5.22	1.09	0.00
18.00	4.81	0.89	0.09	46.50	5.22	1.09	0.00
18.50	4.85	0.91	0.08	47.00	5.22	1.09	0.00
19.00	4.90	0.93	0.08	47.50	5.22	1.09	0.00
19.50	4.93	0.95	0.07	48.00	5.22	1.09	0.00
20.00	4.97	0.96	0.07				
20.50	5.00	0.98	0.06				
21.00	5.04	1.00	0.06				
21.50	5.07	1.01	0.06				
22.00	5.10	1.03	0.06				
22.50	5.13	1.05	0.06				
23.00	5.16	1.06	0.06				
23.50	5.19	1.08	0.06				
24.00	**5.22**	**1.09**	0.06				
24.50	5.22	1.09	0.03				
25.00	5.22	1.09	0.00				
25.50	5.22	1.09	0.00				
26.00	5.22	1.09	0.00				
26.50	5.22	1.09	0.00				
27.00	5.22	1.09	0.00				
27.50	5.22	1.09	0.00				
28.00	5.22	1.09	0.00				

Summary for Subcatchment A-2: Pre-Developed

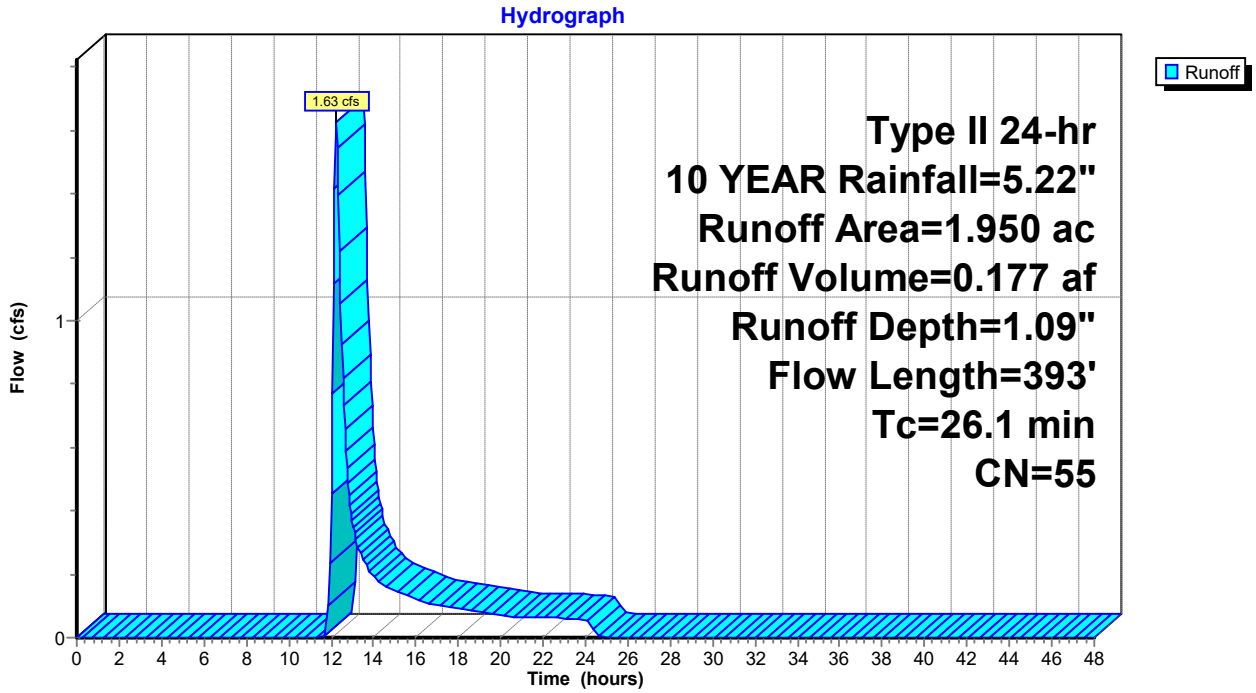
Runoff = 1.63 cfs @ 12.24 hrs, Volume= 0.177 af, Depth= 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
1.950	55	Woods, Good, HSG B
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	100	0.0156	0.08		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
4.2	293	0.0552	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
26.1	393	Total			

Subcatchment A-2: Pre-Developed



Hydrograph for Subcatchment A-2: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.11	0.00	0.00
2.50	0.15	0.00	0.00
3.00	0.18	0.00	0.00
3.50	0.21	0.00	0.00
4.00	0.25	0.00	0.00
4.50	0.29	0.00	0.00
5.00	0.33	0.00	0.00
5.50	0.37	0.00	0.00
6.00	0.42	0.00	0.00
6.50	0.47	0.00	0.00
7.00	0.52	0.00	0.00
7.50	0.57	0.00	0.00
8.00	0.63	0.00	0.00
8.50	0.69	0.00	0.00
9.00	0.77	0.00	0.00
9.50	0.85	0.00	0.00
10.00	0.94	0.00	0.00
10.50	1.06	0.00	0.00
11.00	1.23	0.00	0.00
11.50	1.48	0.00	0.00
12.00	3.46	0.33	**0.46**
12.50	3.84	0.47	**0.92**
13.00	4.03	0.54	0.37
13.50	4.17	0.60	0.25
14.00	4.28	0.65	0.20
14.50	4.37	0.69	0.16
15.00	4.46	0.72	0.15
15.50	4.53	0.76	0.13
16.00	4.59	0.79	0.12
16.50	4.65	0.81	0.11
17.00	4.71	0.84	0.10
17.50	4.76	0.86	0.10
18.00	4.81	0.89	0.09
18.50	4.85	0.91	0.09
19.00	4.90	0.93	0.08
19.50	4.93	0.95	0.08
20.00	4.97	0.96	0.07
20.50	5.00	0.98	0.07
21.00	5.04	1.00	0.07
21.50	5.07	1.01	0.06
22.00	5.10	1.03	0.06
22.50	5.13	1.05	0.06
23.00	5.16	1.06	0.06
23.50	5.19	1.08	0.06
24.00	**5.22**	**1.09**	0.06
24.50	5.22	1.09	0.01
25.00	5.22	1.09	0.00
25.50	5.22	1.09	0.00
26.00	5.22	1.09	0.00
26.50	5.22	1.09	0.00
27.00	5.22	1.09	0.00
27.50	5.22	1.09	0.00
28.00	5.22	1.09	0.00
28.50	5.22	1.09	0.00
29.00	5.22	1.09	0.00
29.50	5.22	1.09	0.00
30.00	5.22	1.09	0.00
30.50	5.22	1.09	0.00
31.00	5.22	1.09	0.00
31.50	5.22	1.09	0.00
32.00	5.22	1.09	0.00
32.50	5.22	1.09	0.00
33.00	5.22	1.09	0.00
33.50	5.22	1.09	0.00
34.00	5.22	1.09	0.00
34.50	5.22	1.09	0.00
35.00	5.22	1.09	0.00
35.50	5.22	1.09	0.00
36.00	5.22	1.09	0.00
36.50	5.22	1.09	0.00
37.00	5.22	1.09	0.00
37.50	5.22	1.09	0.00
38.00	5.22	1.09	0.00
38.50	5.22	1.09	0.00
39.00	5.22	1.09	0.00
39.50	5.22	1.09	0.00
40.00	5.22	1.09	0.00
40.50	5.22	1.09	0.00
41.00	5.22	1.09	0.00
41.50	5.22	1.09	0.00
42.00	5.22	1.09	0.00
42.50	5.22	1.09	0.00
43.00	5.22	1.09	0.00
43.50	5.22	1.09	0.00
44.00	5.22	1.09	0.00
44.50	5.22	1.09	0.00
45.00	5.22	1.09	0.00
45.50	5.22	1.09	0.00
46.00	5.22	1.09	0.00
46.50	5.22	1.09	0.00
47.00	5.22	1.09	0.00
47.50	5.22	1.09	0.00
48.00	5.22	1.09	0.00

Summary for Subcatchment A-3: Pre-Developed

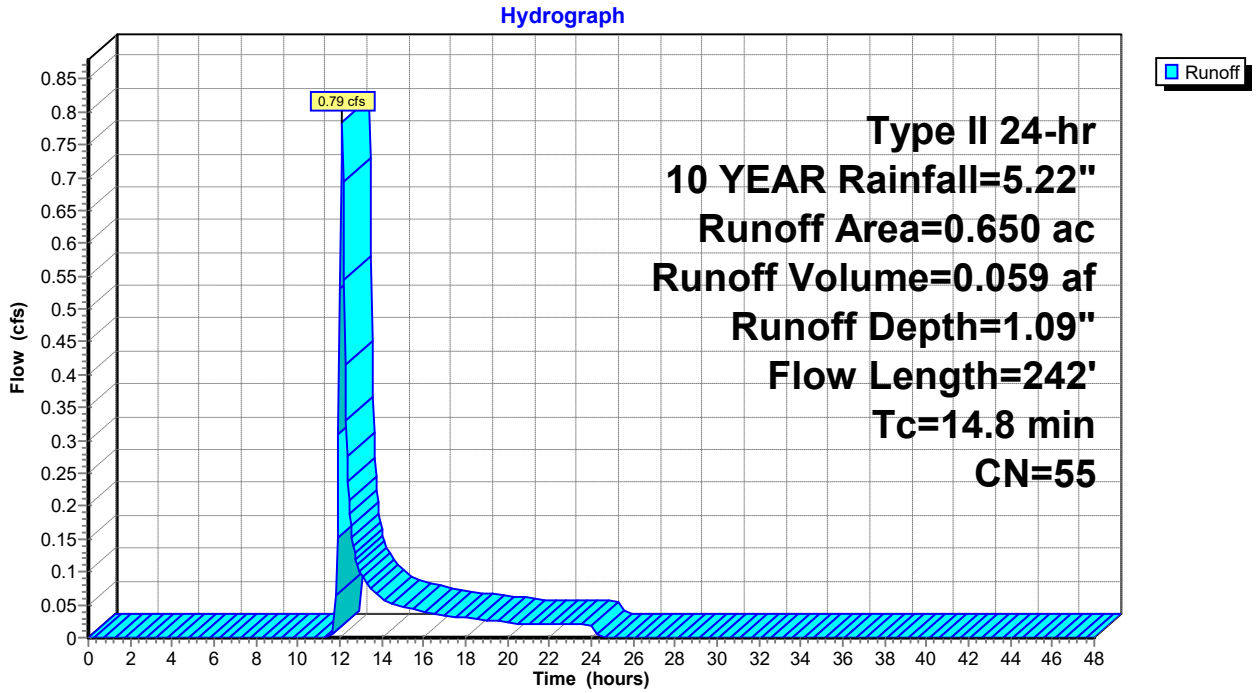
Runoff = 0.79 cfs @ 12.09 hrs, Volume= 0.059 af, Depth= 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
0.650	55	Woods, Good, HSG B
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	100	0.0704	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
2.8	142	0.0292	0.85		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
14.8	242	Total			

Subcatchment A-3: Pre-Developed



Hydrograph for Subcatchment A-3: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.11	0.00	0.00
2.50	0.15	0.00	0.00
3.00	0.18	0.00	0.00
3.50	0.21	0.00	0.00
4.00	0.25	0.00	0.00
4.50	0.29	0.00	0.00
5.00	0.33	0.00	0.00
5.50	0.37	0.00	0.00
6.00	0.42	0.00	0.00
6.50	0.47	0.00	0.00
7.00	0.52	0.00	0.00
7.50	0.57	0.00	0.00
8.00	0.63	0.00	0.00
8.50	0.69	0.00	0.00
9.00	0.77	0.00	0.00
9.50	0.85	0.00	0.00
10.00	0.94	0.00	0.00
10.50	1.06	0.00	0.00
11.00	1.23	0.00	0.00
11.50	1.48	0.00	0.00
12.00	3.46	0.33	**0.53**
12.50	3.84	0.47	**0.19**
13.00	4.03	0.54	0.10
13.50	4.17	0.60	0.08
14.00	4.28	0.65	0.06
14.50	4.37	0.69	0.05
15.00	4.46	0.72	0.05
15.50	4.53	0.76	0.04
16.00	4.59	0.79	0.04
16.50	4.65	0.81	0.04
17.00	4.71	0.84	0.03
17.50	4.76	0.86	0.03
18.00	4.81	0.89	0.03
18.50	4.85	0.91	0.03
19.00	4.90	0.93	0.03
19.50	4.93	0.95	0.02
20.00	4.97	0.96	0.02
20.50	5.00	0.98	0.02
21.00	5.04	1.00	0.02
21.50	5.07	1.01	0.02
22.00	5.10	1.03	0.02
22.50	5.13	1.05	0.02
23.00	5.16	1.06	0.02
23.50	5.19	1.08	0.02
24.00	**5.22**	**1.09**	0.02
24.50	5.22	1.09	0.00
25.00	5.22	1.09	0.00
25.50	5.22	1.09	0.00
26.00	5.22	1.09	0.00
26.50	5.22	1.09	0.00
27.00	5.22	1.09	0.00
27.50	5.22	1.09	0.00
28.00	5.22	1.09	0.00
28.50	5.22	1.09	0.00
29.00	5.22	1.09	0.00
29.50	5.22	1.09	0.00
30.00	5.22	1.09	0.00
30.50	5.22	1.09	0.00
31.00	5.22	1.09	0.00
31.50	5.22	1.09	0.00
32.00	5.22	1.09	0.00
32.50	5.22	1.09	0.00
33.00	5.22	1.09	0.00
33.50	5.22	1.09	0.00
34.00	5.22	1.09	0.00
34.50	5.22	1.09	0.00
35.00	5.22	1.09	0.00
35.50	5.22	1.09	0.00
36.00	5.22	1.09	0.00
36.50	5.22	1.09	0.00
37.00	5.22	1.09	0.00
37.50	5.22	1.09	0.00
38.00	5.22	1.09	0.00
38.50	5.22	1.09	0.00
39.00	5.22	1.09	0.00
39.50	5.22	1.09	0.00
40.00	5.22	1.09	0.00
40.50	5.22	1.09	0.00
41.00	5.22	1.09	0.00
41.50	5.22	1.09	0.00
42.00	5.22	1.09	0.00
42.50	5.22	1.09	0.00
43.00	5.22	1.09	0.00
43.50	5.22	1.09	0.00
44.00	5.22	1.09	0.00
44.50	5.22	1.09	0.00
45.00	5.22	1.09	0.00
45.50	5.22	1.09	0.00
46.00	5.22	1.09	0.00
46.50	5.22	1.09	0.00
47.00	5.22	1.09	0.00
47.50	5.22	1.09	0.00
48.00	5.22	1.09	0.00

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 A-1: Pre-Developed Runoff Area=1.810 ac 0.00% Impervious Runoff Depth=1.69"
Flow Length=463' Tc=35.7 min CN=55 Runoff=2.06 cfs 0.254 af

Subcatchment A-2: Pre-Developed Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=1.69"
Flow Length=393' Tc=26.1 min CN=55 Runoff=2.77 cfs 0.274 af

Subcatchment A-3: Pre-Developed Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=1.69"
Flow Length=242' Tc=14.8 min CN=55 Runoff=1.31 cfs 0.091 af

Total Runoff Area = 4.410 ac Runoff Volume = 0.620 af Average Runoff Depth = 1.69"
100.00% Pervious = 4.410 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A-1: Pre-Developed

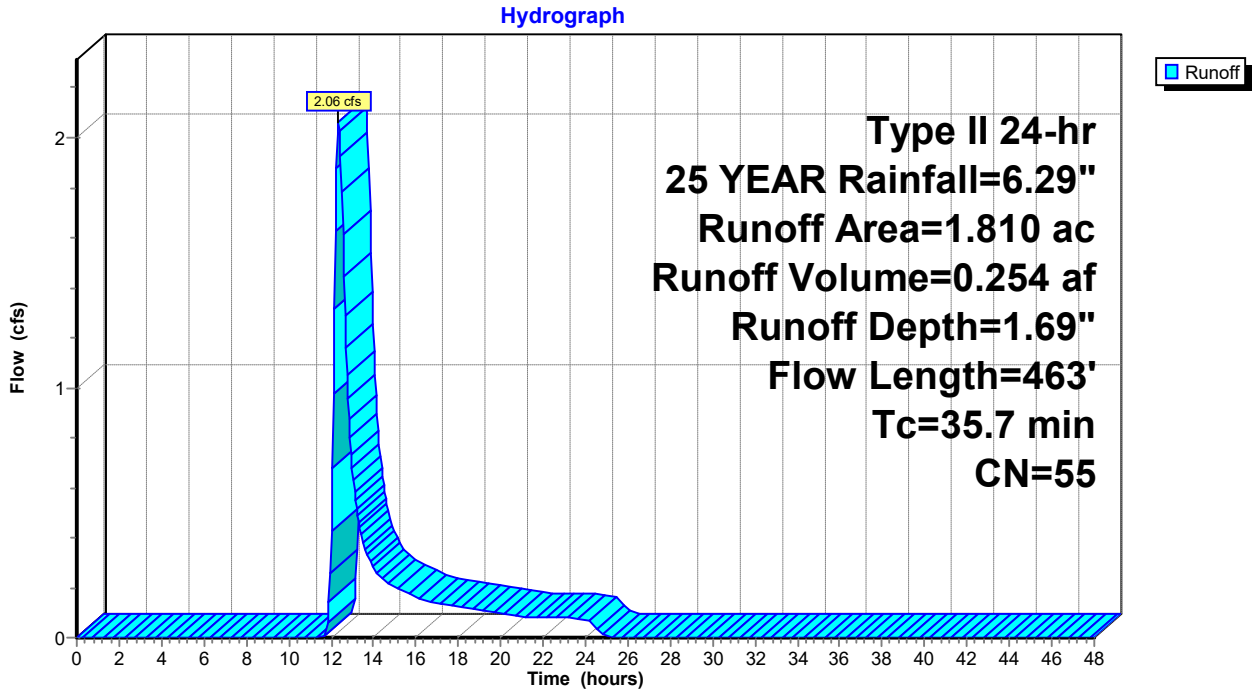
Runoff = 2.06 cfs @ 12.35 hrs, Volume= 0.254 af, Depth= 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
1.810	55	Woods, Good, HSG B
1.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	100	0.0077	0.06		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
6.7	363	0.0330	0.91		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
35.7	463	Total			

Subcatchment A-1: Pre-Developed



Hydrograph for Subcatchment A-1: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.00
3.00	0.22	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.30	0.00	0.00
4.50	0.35	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.50	0.00	0.00
6.50	0.56	0.00	0.00
7.00	0.62	0.00	0.00
7.50	0.69	0.00	0.00
8.00	0.75	0.00	0.00
8.50	0.83	0.00	0.00
9.00	0.92	0.00	0.00
9.50	1.03	0.00	0.00
10.00	1.14	0.00	0.00
10.50	1.28	0.00	0.00
11.00	1.48	0.00	0.00
11.50	1.78	0.00	0.00
12.00	4.17	0.60	**0.43**
12.50	4.62	0.80	**1.78**
13.00	4.86	0.91	0.68
13.50	5.03	0.99	0.39
14.00	5.16	1.06	0.28
14.50	5.27	1.12	0.23
15.00	5.37	1.17	0.20
15.50	5.46	1.22	0.18
16.00	5.54	1.26	0.16
16.50	5.61	1.30	0.15
17.00	5.67	1.33	0.14
17.50	5.73	1.37	0.13
18.00	5.79	1.40	0.12
18.50	5.85	1.43	0.12
19.00	5.90	1.46	0.11
19.50	5.95	1.49	0.10
20.00	5.99	1.51	0.09
20.50	6.03	1.53	0.09
21.00	6.07	1.56	0.08
21.50	6.11	1.58	0.08
22.00	6.15	1.60	0.08
22.50	6.18	1.62	0.08
23.00	6.22	1.65	0.08
23.50	6.26	1.67	0.08
24.00	**6.29**	**1.69**	0.08
24.50	6.29	1.69	0.04
25.00	6.29	1.69	0.00
25.50	6.29	1.69	0.00
26.00	6.29	1.69	0.00
26.50	6.29	1.69	0.00
27.00	6.29	1.69	0.00
27.50	6.29	1.69	0.00
28.00	6.29	1.69	0.00
28.50	6.29	1.69	0.00
29.00	6.29	1.69	0.00
29.50	6.29	1.69	0.00
30.00	6.29	1.69	0.00
30.50	6.29	1.69	0.00
31.00	6.29	1.69	0.00
31.50	6.29	1.69	0.00
32.00	6.29	1.69	0.00
32.50	6.29	1.69	0.00
33.00	6.29	1.69	0.00
33.50	6.29	1.69	0.00
34.00	6.29	1.69	0.00
34.50	6.29	1.69	0.00
35.00	6.29	1.69	0.00
35.50	6.29	1.69	0.00
36.00	6.29	1.69	0.00
36.50	6.29	1.69	0.00
37.00	6.29	1.69	0.00
37.50	6.29	1.69	0.00
38.00	6.29	1.69	0.00
38.50	6.29	1.69	0.00
39.00	6.29	1.69	0.00
39.50	6.29	1.69	0.00
40.00	6.29	1.69	0.00
40.50	6.29	1.69	0.00
41.00	6.29	1.69	0.00
41.50	6.29	1.69	0.00
42.00	6.29	1.69	0.00
42.50	6.29	1.69	0.00
43.00	6.29	1.69	0.00
43.50	6.29	1.69	0.00
44.00	6.29	1.69	0.00
44.50	6.29	1.69	0.00
45.00	6.29	1.69	0.00
45.50	6.29	1.69	0.00
46.00	6.29	1.69	0.00
46.50	6.29	1.69	0.00
47.00	6.29	1.69	0.00
47.50	6.29	1.69	0.00
48.00	6.29	1.69	0.00

Summary for Subcatchment A-2: Pre-Developed

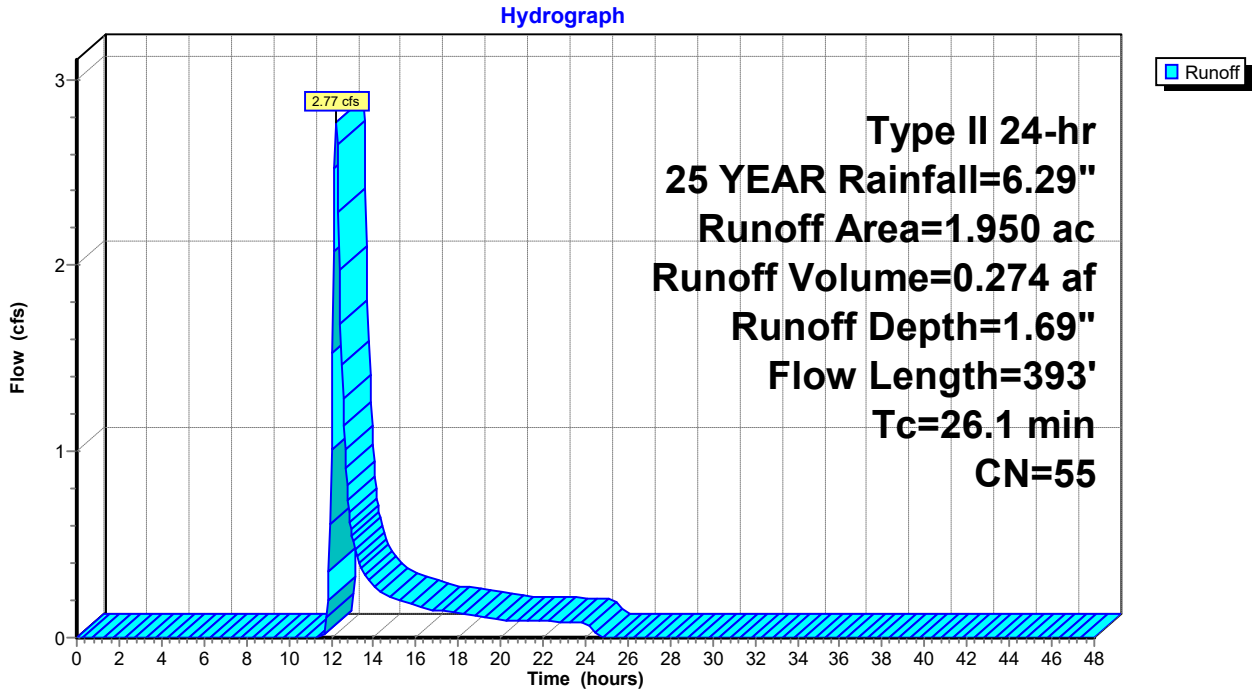
Runoff = 2.77 cfs @ 12.22 hrs, Volume= 0.274 af, Depth= 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
1.950	55	Woods, Good, HSG B
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	100	0.0156	0.08		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
4.2	293	0.0552	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
26.1	393	Total			

Subcatchment A-2: Pre-Developed



Hydrograph for Subcatchment A-2: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.00
3.00	0.22	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.30	0.00	0.00
4.50	0.35	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.50	0.00	0.00
6.50	0.56	0.00	0.00
7.00	0.62	0.00	0.00
7.50	0.69	0.00	0.00
8.00	0.75	0.00	0.00
8.50	0.83	0.00	0.00
9.00	0.92	0.00	0.00
9.50	1.03	0.00	0.00
10.00	1.14	0.00	0.00
10.50	1.28	0.00	0.00
11.00	1.48	0.00	0.00
11.50	1.78	0.00	0.00
12.00	4.17	0.60	**1.01**
12.50	4.62	0.80	**1.46**
13.00	4.86	0.91	0.55
13.50	5.03	0.99	0.36
14.00	5.16	1.06	0.28
14.50	5.27	1.12	0.23
15.00	5.37	1.17	0.21
15.50	5.46	1.22	0.19
16.00	5.54	1.26	0.17
16.50	5.61	1.30	0.15
17.00	5.67	1.33	0.15
17.50	5.73	1.37	0.14
18.00	5.79	1.40	0.13
18.50	5.85	1.43	0.12
19.00	5.90	1.46	0.12
19.50	5.95	1.49	0.11
20.00	5.99	1.51	0.10
20.50	6.03	1.53	0.09
21.00	6.07	1.56	0.09
21.50	6.11	1.58	0.09
22.00	6.15	1.60	0.09
22.50	6.18	1.62	0.09
23.00	6.22	1.65	0.08
23.50	6.26	1.67	0.08
24.00	**6.29**	**1.69**	0.08
24.50	6.29	1.69	0.02
25.00	6.29	1.69	0.00
25.50	6.29	1.69	0.00
26.00	6.29	1.69	0.00
26.50	6.29	1.69	0.00
27.00	6.29	1.69	0.00
27.50	6.29	1.69	0.00
28.00	6.29	1.69	0.00
28.50	6.29	1.69	0.00
29.00	6.29	1.69	0.00
29.50	6.29	1.69	0.00
30.00	6.29	1.69	0.00
30.50	6.29	1.69	0.00
31.00	6.29	1.69	0.00
31.50	6.29	1.69	0.00
32.00	6.29	1.69	0.00
32.50	6.29	1.69	0.00
33.00	6.29	1.69	0.00
33.50	6.29	1.69	0.00
34.00	6.29	1.69	0.00
34.50	6.29	1.69	0.00
35.00	6.29	1.69	0.00
35.50	6.29	1.69	0.00
36.00	6.29	1.69	0.00
36.50	6.29	1.69	0.00
37.00	6.29	1.69	0.00
37.50	6.29	1.69	0.00
38.00	6.29	1.69	0.00
38.50	6.29	1.69	0.00
39.00	6.29	1.69	0.00
39.50	6.29	1.69	0.00
40.00	6.29	1.69	0.00
40.50	6.29	1.69	0.00
41.00	6.29	1.69	0.00
41.50	6.29	1.69	0.00
42.00	6.29	1.69	0.00
42.50	6.29	1.69	0.00
43.00	6.29	1.69	0.00
43.50	6.29	1.69	0.00
44.00	6.29	1.69	0.00
44.50	6.29	1.69	0.00
45.00	6.29	1.69	0.00
45.50	6.29	1.69	0.00
46.00	6.29	1.69	0.00
46.50	6.29	1.69	0.00
47.00	6.29	1.69	0.00
47.50	6.29	1.69	0.00
48.00	6.29	1.69	0.00

Summary for Subcatchment A-3: Pre-Developed

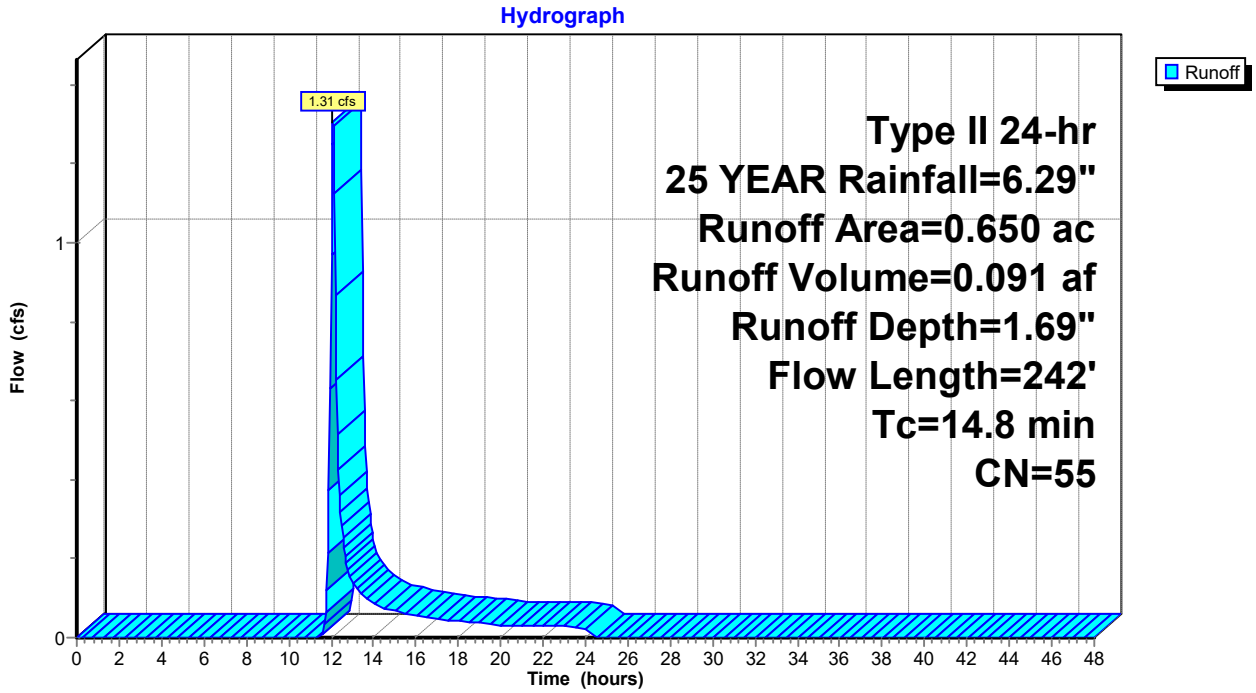
Runoff = 1.31 cfs @ 12.09 hrs, Volume= 0.091 af, Depth= 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
0.650	55	Woods, Good, HSG B
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	100	0.0704	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
2.8	142	0.0292	0.85		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
14.8	242	Total			

Subcatchment A-3: Pre-Developed



Hydrograph for Subcatchment A-3: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.00
3.00	0.22	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.30	0.00	0.00
4.50	0.35	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.50	0.00	0.00
6.50	0.56	0.00	0.00
7.00	0.62	0.00	0.00
7.50	0.69	0.00	0.00
8.00	0.75	0.00	0.00
8.50	0.83	0.00	0.00
9.00	0.92	0.00	0.00
9.50	1.03	0.00	0.00
10.00	1.14	0.00	0.00
10.50	1.28	0.00	0.00
11.00	1.48	0.00	0.00
11.50	1.78	0.00	0.00
12.00	4.17	0.60	**0.97**
12.50	4.62	0.80	**0.28**
13.00	4.86	0.91	0.14
13.50	5.03	0.99	0.11
14.00	5.16	1.06	0.09
14.50	5.27	1.12	0.07
15.00	5.37	1.17	0.07
15.50	5.46	1.22	0.06
16.00	5.54	1.26	0.05
16.50	5.61	1.30	0.05
17.00	5.67	1.33	0.05
17.50	5.73	1.37	0.05
18.00	5.79	1.40	0.04
18.50	5.85	1.43	0.04
19.00	5.90	1.46	0.04
19.50	5.95	1.49	0.03
20.00	5.99	1.51	0.03
20.50	6.03	1.53	0.03
21.00	6.07	1.56	0.03
21.50	6.11	1.58	0.03
22.00	6.15	1.60	0.03
22.50	6.18	1.62	0.03
23.00	6.22	1.65	0.03
23.50	6.26	1.67	0.03
24.00	**6.29**	**1.69**	0.03
24.50	6.29	1.69	0.00
25.00	6.29	1.69	0.00
25.50	6.29	1.69	0.00
26.00	6.29	1.69	0.00
26.50	6.29	1.69	0.00
27.00	6.29	1.69	0.00
27.50	6.29	1.69	0.00
28.00	6.29	1.69	0.00
28.50	6.29	1.69	0.00
29.00	6.29	1.69	0.00
29.50	6.29	1.69	0.00
30.00	6.29	1.69	0.00
30.50	6.29	1.69	0.00
31.00	6.29	1.69	0.00
31.50	6.29	1.69	0.00
32.00	6.29	1.69	0.00
32.50	6.29	1.69	0.00
33.00	6.29	1.69	0.00
33.50	6.29	1.69	0.00
34.00	6.29	1.69	0.00
34.50	6.29	1.69	0.00
35.00	6.29	1.69	0.00
35.50	6.29	1.69	0.00
36.00	6.29	1.69	0.00
36.50	6.29	1.69	0.00
37.00	6.29	1.69	0.00
37.50	6.29	1.69	0.00
38.00	6.29	1.69	0.00
38.50	6.29	1.69	0.00
39.00	6.29	1.69	0.00
39.50	6.29	1.69	0.00
40.00	6.29	1.69	0.00
40.50	6.29	1.69	0.00
41.00	6.29	1.69	0.00
41.50	6.29	1.69	0.00
42.00	6.29	1.69	0.00
42.50	6.29	1.69	0.00
43.00	6.29	1.69	0.00
43.50	6.29	1.69	0.00
44.00	6.29	1.69	0.00
44.50	6.29	1.69	0.00
45.00	6.29	1.69	0.00
45.50	6.29	1.69	0.00
46.00	6.29	1.69	0.00
46.50	6.29	1.69	0.00
47.00	6.29	1.69	0.00
47.50	6.29	1.69	0.00
48.00	6.29	1.69	0.00

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 A-1: Pre-Developed Runoff Area=1.810 ac 0.00% Impervious Runoff Depth=2.26"
Flow Length=463' Tc=35.7 min CN=55 Runoff=2.89 cfs 0.341 af

Subcatchment A-2: Pre-Developed Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=2.26"
Flow Length=393' Tc=26.1 min CN=55 Runoff=3.87 cfs 0.367 af

Subcatchment A-3: Pre-Developed Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=2.26"
Flow Length=242' Tc=14.8 min CN=55 Runoff=1.81 cfs 0.122 af

Total Runoff Area = 4.410 ac Runoff Volume = 0.830 af Average Runoff Depth = 2.26"
100.00% Pervious = 4.410 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A-1: Pre-Developed

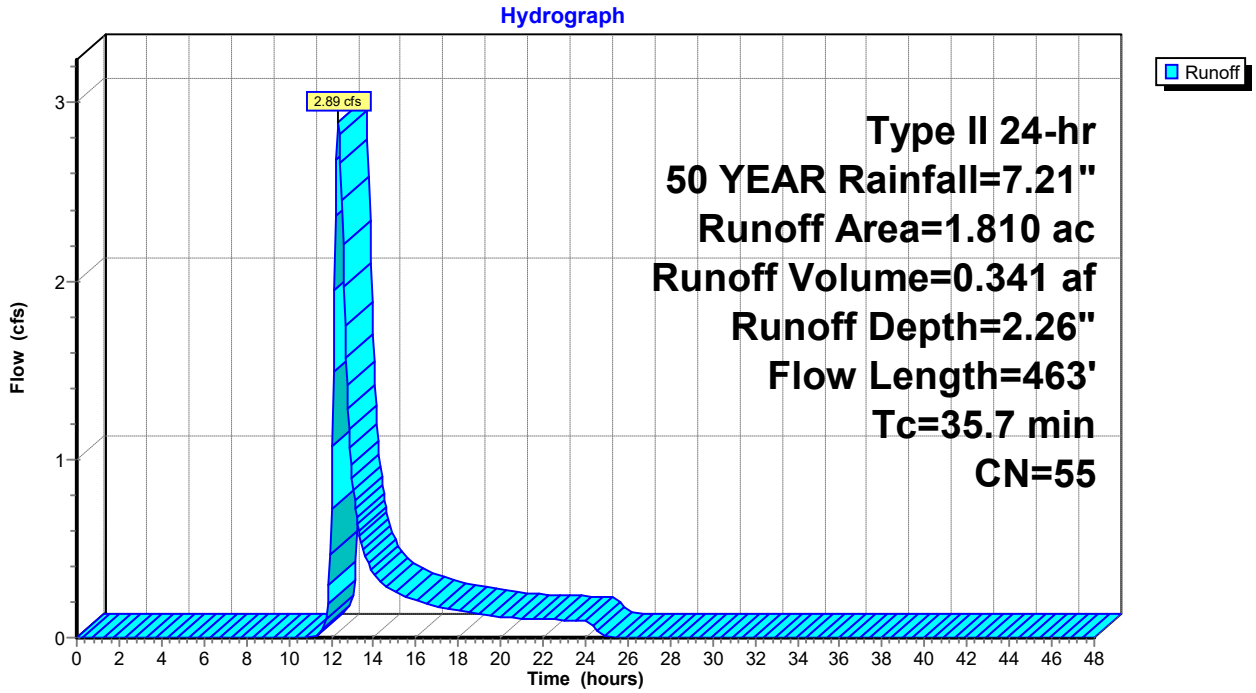
Runoff = 2.89 cfs @ 12.34 hrs, Volume= 0.341 af, Depth= 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
1.810	55	Woods, Good, HSG B
1.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	100	0.0077	0.06		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
6.7	363	0.0330	0.91		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
35.7	463	Total			

Subcatchment A-1: Pre-Developed



Hydrograph for Subcatchment A-1: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.30	0.00	0.00
4.00	0.35	0.00	0.00
4.50	0.40	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.51	0.00	0.00
6.00	0.58	0.00	0.00
6.50	0.64	0.00	0.00
7.00	0.71	0.00	0.00
7.50	0.79	0.00	0.00
8.00	0.87	0.00	0.00
8.50	0.95	0.00	0.00
9.00	1.06	0.00	0.00
9.50	1.18	0.00	0.00
10.00	1.31	0.00	0.00
10.50	1.47	0.00	0.00
11.00	1.69	0.00	0.00
11.50	2.04	0.02	0.02
12.00	4.78	0.87	**0.72**
12.50	5.30	1.13	**2.45**
13.00	5.57	1.28	0.89
13.50	5.76	1.38	0.50
14.00	5.91	1.47	0.36
14.50	6.04	1.54	0.29
15.00	6.15	1.61	0.26
15.50	6.26	1.67	0.23
16.00	6.34	1.72	0.21
16.50	6.43	1.77	0.19
17.00	6.50	1.81	0.17
17.50	6.57	1.86	0.16
18.00	6.64	1.90	0.16
18.50	6.70	1.94	0.15
19.00	6.76	1.97	0.14
19.50	6.81	2.01	0.13
20.00	6.86	2.04	0.12
20.50	6.91	2.07	0.11
21.00	6.96	2.10	0.11
21.50	7.00	2.12	0.10
22.00	7.04	2.15	0.10
22.50	7.09	2.18	0.10
23.00	7.13	2.21	0.10
23.50	7.17	2.23	0.10
24.00	**7.21**	**2.26**	0.10
24.50	7.21	2.26	0.05
25.00	7.21	2.26	0.01
25.50	7.21	2.26	0.00
26.00	7.21	2.26	0.00
26.50	7.21	2.26	0.00
27.00	7.21	2.26	0.00
27.50	7.21	2.26	0.00
28.00	7.21	2.26	0.00
28.50	7.21	2.26	0.00
29.00	7.21	2.26	0.00
29.50	7.21	2.26	0.00
30.00	7.21	2.26	0.00
30.50	7.21	2.26	0.00
31.00	7.21	2.26	0.00
31.50	7.21	2.26	0.00
32.00	7.21	2.26	0.00
32.50	7.21	2.26	0.00
33.00	7.21	2.26	0.00
33.50	7.21	2.26	0.00
34.00	7.21	2.26	0.00
34.50	7.21	2.26	0.00
35.00	7.21	2.26	0.00
35.50	7.21	2.26	0.00
36.00	7.21	2.26	0.00
36.50	7.21	2.26	0.00
37.00	7.21	2.26	0.00
37.50	7.21	2.26	0.00
38.00	7.21	2.26	0.00
38.50	7.21	2.26	0.00
39.00	7.21	2.26	0.00
39.50	7.21	2.26	0.00
40.00	7.21	2.26	0.00
40.50	7.21	2.26	0.00
41.00	7.21	2.26	0.00
41.50	7.21	2.26	0.00
42.00	7.21	2.26	0.00
42.50	7.21	2.26	0.00
43.00	7.21	2.26	0.00
43.50	7.21	2.26	0.00
44.00	7.21	2.26	0.00
44.50	7.21	2.26	0.00
45.00	7.21	2.26	0.00
45.50	7.21	2.26	0.00
46.00	7.21	2.26	0.00
46.50	7.21	2.26	0.00
47.00	7.21	2.26	0.00
47.50	7.21	2.26	0.00
48.00	7.21	2.26	0.00

Summary for Subcatchment A-2: Pre-Developed

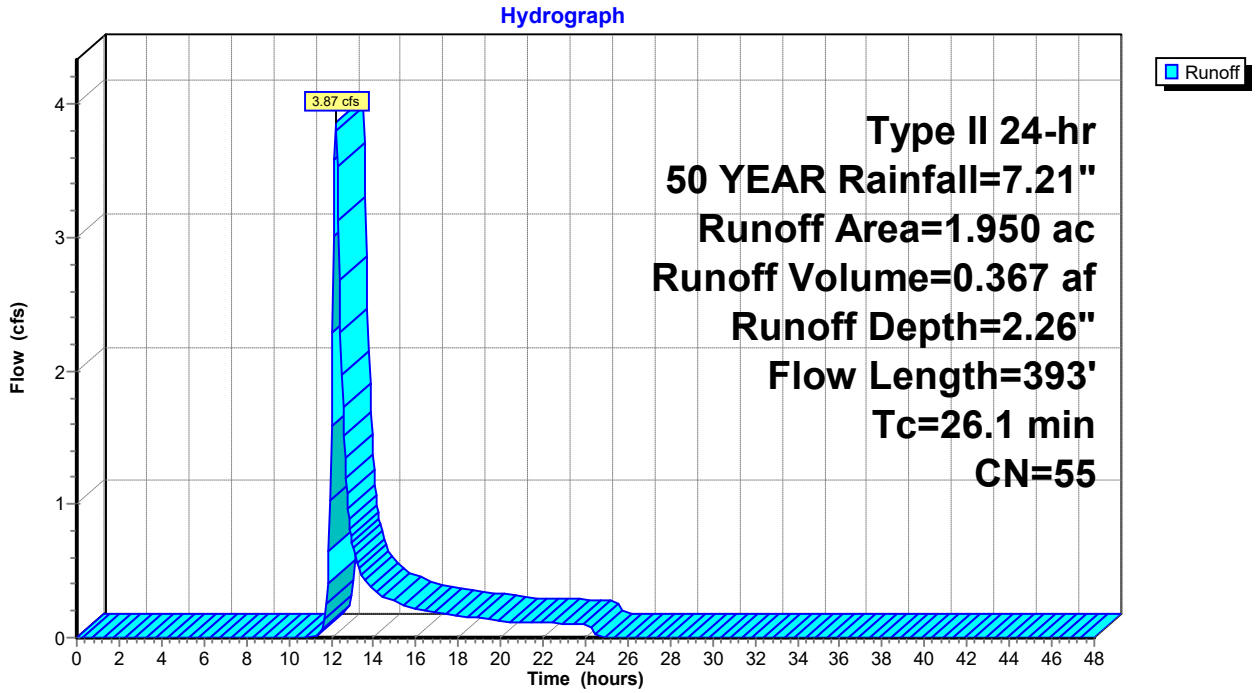
Runoff = 3.87 cfs @ 12.22 hrs, Volume= 0.367 af, Depth= 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
1.950	55	Woods, Good, HSG B
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	100	0.0156	0.08		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
4.2	293	0.0552	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
26.1	393	Total			

Subcatchment A-2: Pre-Developed



Hydrograph for Subcatchment A-2: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.30	0.00	0.00
4.00	0.35	0.00	0.00
4.50	0.40	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.51	0.00	0.00
6.00	0.58	0.00	0.00
6.50	0.64	0.00	0.00
7.00	0.71	0.00	0.00
7.50	0.79	0.00	0.00
8.00	0.87	0.00	0.00
8.50	0.95	0.00	0.00
9.00	1.06	0.00	0.00
9.50	1.18	0.00	0.00
10.00	1.31	0.00	0.00
10.50	1.47	0.00	0.00
11.00	1.69	0.00	0.00
11.50	2.04	0.02	0.04
12.00	4.78	0.87	**1.58**
12.50	5.30	1.13	**1.97**
13.00	5.57	1.28	0.71
13.50	5.76	1.38	0.46
14.00	5.91	1.47	0.36
14.50	6.04	1.54	0.30
15.00	6.15	1.61	0.27
15.50	6.26	1.67	0.24
16.00	6.34	1.72	0.22
16.50	6.43	1.77	0.19
17.00	6.50	1.81	0.18
17.50	6.57	1.86	0.17
18.00	6.64	1.90	0.16
18.50	6.70	1.94	0.15
19.00	6.76	1.97	0.14
19.50	6.81	2.01	0.13
20.00	6.86	2.04	0.12
20.50	6.91	2.07	0.12
21.00	6.96	2.10	0.11
21.50	7.00	2.12	0.11
22.00	7.04	2.15	0.11
22.50	7.09	2.18	0.11
23.00	7.13	2.21	0.11
23.50	7.17	2.23	0.10
24.00	**7.21**	**2.26**	0.10
24.50	7.21	2.26	0.02
25.00	7.21	2.26	0.00
25.50	7.21	2.26	0.00
26.00	7.21	2.26	0.00
26.50	7.21	2.26	0.00
27.00	7.21	2.26	0.00
27.50	7.21	2.26	0.00
28.00	7.21	2.26	0.00
28.50	7.21	2.26	0.00
29.00	7.21	2.26	0.00
29.50	7.21	2.26	0.00
30.00	7.21	2.26	0.00
30.50	7.21	2.26	0.00
31.00	7.21	2.26	0.00
31.50	7.21	2.26	0.00
32.00	7.21	2.26	0.00
32.50	7.21	2.26	0.00
33.00	7.21	2.26	0.00
33.50	7.21	2.26	0.00
34.00	7.21	2.26	0.00
34.50	7.21	2.26	0.00
35.00	7.21	2.26	0.00
35.50	7.21	2.26	0.00
36.00	7.21	2.26	0.00
36.50	7.21	2.26	0.00
37.00	7.21	2.26	0.00
37.50	7.21	2.26	0.00
38.00	7.21	2.26	0.00
38.50	7.21	2.26	0.00
39.00	7.21	2.26	0.00
39.50	7.21	2.26	0.00
40.00	7.21	2.26	0.00
40.50	7.21	2.26	0.00
41.00	7.21	2.26	0.00
41.50	7.21	2.26	0.00
42.00	7.21	2.26	0.00
42.50	7.21	2.26	0.00
43.00	7.21	2.26	0.00
43.50	7.21	2.26	0.00
44.00	7.21	2.26	0.00
44.50	7.21	2.26	0.00
45.00	7.21	2.26	0.00
45.50	7.21	2.26	0.00
46.00	7.21	2.26	0.00
46.50	7.21	2.26	0.00
47.00	7.21	2.26	0.00
47.50	7.21	2.26	0.00
48.00	7.21	2.26	0.00

Summary for Subcatchment A-3: Pre-Developed

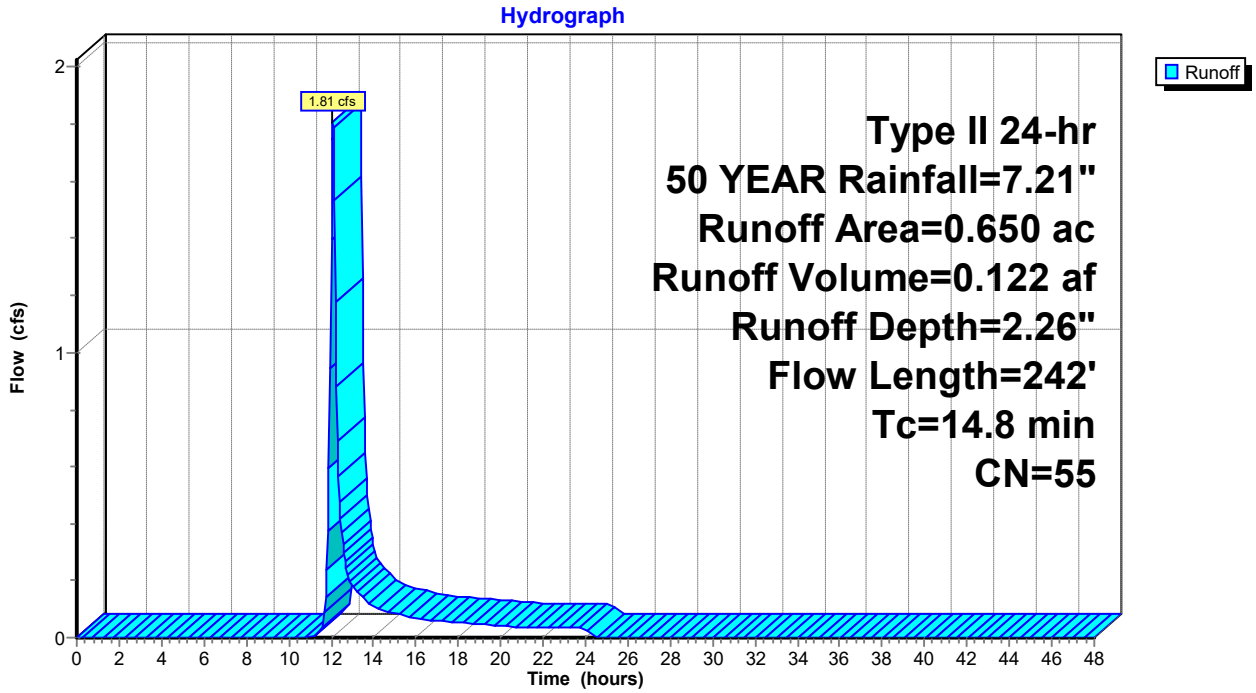
Runoff = 1.81 cfs @ 12.08 hrs, Volume= 0.122 af, Depth= 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
0.650	55	Woods, Good, HSG B
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	100	0.0704	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
2.8	142	0.0292	0.85		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
14.8	242	Total			

Subcatchment A-3: Pre-Developed



Hydrograph for Subcatchment A-3: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.30	0.00	0.00
4.00	0.35	0.00	0.00
4.50	0.40	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.51	0.00	0.00
6.00	0.58	0.00	0.00
6.50	0.64	0.00	0.00
7.00	0.71	0.00	0.00
7.50	0.79	0.00	0.00
8.00	0.87	0.00	0.00
8.50	0.95	0.00	0.00
9.00	1.06	0.00	0.00
9.50	1.18	0.00	0.00
10.00	1.31	0.00	0.00
10.50	1.47	0.00	0.00
11.00	1.69	0.00	0.00
11.50	2.04	0.02	0.03
12.00	4.78	0.87	**1.40**
12.50	5.30	1.13	**0.37**
13.00	5.57	1.28	0.19
13.50	5.76	1.38	0.14
14.00	5.91	1.47	0.11
14.50	6.04	1.54	0.10
15.00	6.15	1.61	0.09
15.50	6.26	1.67	0.08
16.00	6.34	1.72	0.07
16.50	6.43	1.77	0.06
17.00	6.50	1.81	0.06
17.50	6.57	1.86	0.06
18.00	6.64	1.90	0.05
18.50	6.70	1.94	0.05
19.00	6.76	1.97	0.05
19.50	6.81	2.01	0.04
20.00	6.86	2.04	0.04
20.50	6.91	2.07	0.04
21.00	6.96	2.10	0.04
21.50	7.00	2.12	0.04
22.00	7.04	2.15	0.04
22.50	7.09	2.18	0.04
23.00	7.13	2.21	0.04
23.50	7.17	2.23	0.03
24.00	**7.21**	**2.26**	0.03
24.50	7.21	2.26	0.00
25.00	7.21	2.26	0.00
25.50	7.21	2.26	0.00
26.00	7.21	2.26	0.00
26.50	7.21	2.26	0.00
27.00	7.21	2.26	0.00
27.50	7.21	2.26	0.00
28.00	7.21	2.26	0.00
28.50	7.21	2.26	0.00
29.00	7.21	2.26	0.00
29.50	7.21	2.26	0.00
30.00	7.21	2.26	0.00
30.50	7.21	2.26	0.00
31.00	7.21	2.26	0.00
31.50	7.21	2.26	0.00
32.00	7.21	2.26	0.00
32.50	7.21	2.26	0.00
33.00	7.21	2.26	0.00
33.50	7.21	2.26	0.00
34.00	7.21	2.26	0.00
34.50	7.21	2.26	0.00
35.00	7.21	2.26	0.00
35.50	7.21	2.26	0.00
36.00	7.21	2.26	0.00
36.50	7.21	2.26	0.00
37.00	7.21	2.26	0.00
37.50	7.21	2.26	0.00
38.00	7.21	2.26	0.00
38.50	7.21	2.26	0.00
39.00	7.21	2.26	0.00
39.50	7.21	2.26	0.00
40.00	7.21	2.26	0.00
40.50	7.21	2.26	0.00
41.00	7.21	2.26	0.00
41.50	7.21	2.26	0.00
42.00	7.21	2.26	0.00
42.50	7.21	2.26	0.00
43.00	7.21	2.26	0.00
43.50	7.21	2.26	0.00
44.00	7.21	2.26	0.00
44.50	7.21	2.26	0.00
45.00	7.21	2.26	0.00
45.50	7.21	2.26	0.00
46.00	7.21	2.26	0.00
46.50	7.21	2.26	0.00
47.00	7.21	2.26	0.00
47.50	7.21	2.26	0.00
48.00	7.21	2.26	0.00

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 A-1: Pre-Developed Runoff Area=1.810 ac 0.00% Impervious Runoff Depth=2.92"
Flow Length=463' Tc=35.7 min CN=55 Runoff=3.86 cfs 0.441 af

Subcatchment A-2: Pre-Developed Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=2.92"
Flow Length=393' Tc=26.1 min CN=55 Runoff=5.15 cfs 0.475 af

Subcatchment A-3: Pre-Developed Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=2.92"
Flow Length=242' Tc=14.8 min CN=55 Runoff=2.39 cfs 0.158 af

Total Runoff Area = 4.410 ac Runoff Volume = 1.074 af Average Runoff Depth = 2.92"
100.00% Pervious = 4.410 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A-1: Pre-Developed

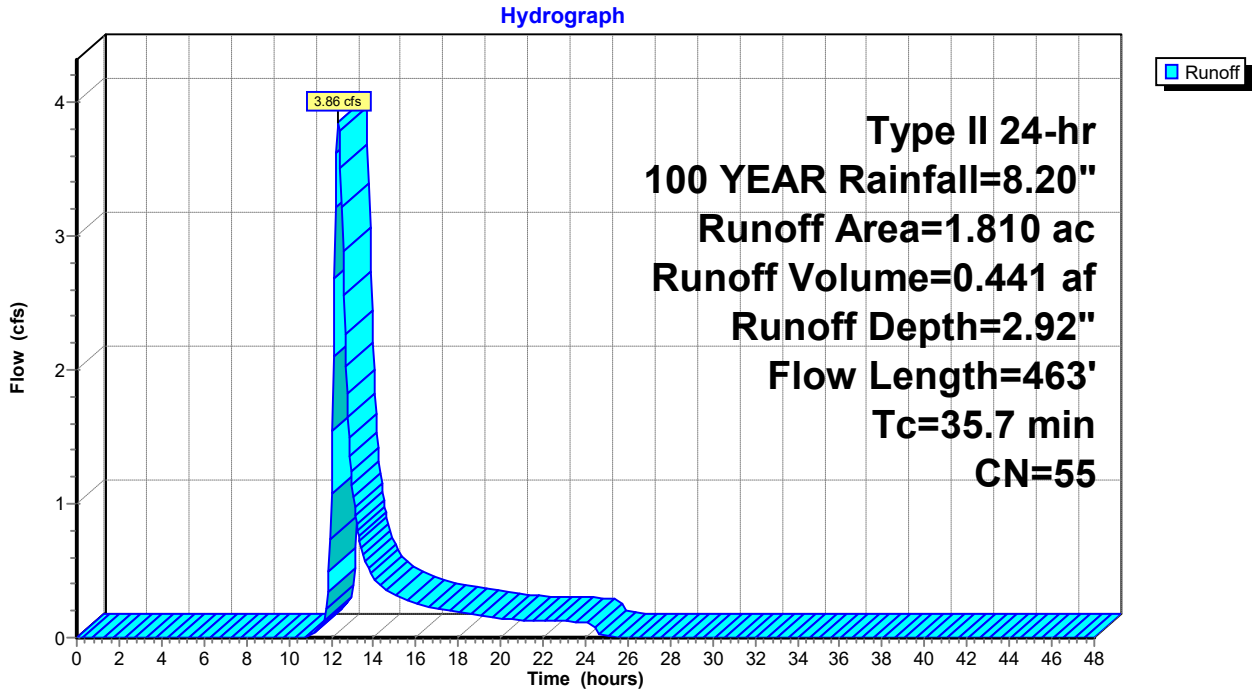
Runoff = 3.86 cfs @ 12.34 hrs, Volume= 0.441 af, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
1.810	55	Woods, Good, HSG B
1.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	100	0.0077	0.06		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
6.7	363	0.0330	0.91		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
35.7	463	Total			

Subcatchment A-1: Pre-Developed



Hydrograph for Subcatchment A-1: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.23	0.00	0.00
3.00	0.28	0.00	0.00
3.50	0.34	0.00	0.00
4.00	0.39	0.00	0.00
4.50	0.45	0.00	0.00
5.00	0.52	0.00	0.00
5.50	0.58	0.00	0.00
6.00	0.66	0.00	0.00
6.50	0.73	0.00	0.00
7.00	0.81	0.00	0.00
7.50	0.90	0.00	0.00
8.00	0.98	0.00	0.00
8.50	1.08	0.00	0.00
9.00	1.21	0.00	0.00
9.50	1.34	0.00	0.00
10.00	1.48	0.00	0.00
10.50	1.67	0.00	0.00
11.00	1.93	0.01	0.01
11.50	2.32	0.05	0.08
12.00	5.44	1.21	**1.08**
12.50	6.03	1.53	**3.21**
13.00	6.33	1.71	1.14
13.50	6.55	1.84	0.63
14.00	6.72	1.95	0.45
14.50	6.87	2.04	0.36
15.00	7.00	2.12	0.32
15.50	7.11	2.20	0.29
16.00	7.22	2.26	0.26
16.50	7.31	2.32	0.23
17.00	7.39	2.38	0.21
17.50	7.48	2.43	0.20
18.00	7.55	2.48	0.19
18.50	7.62	2.53	0.18
19.00	7.69	2.57	0.17
19.50	7.75	2.61	0.16
20.00	7.81	2.65	0.14
20.50	7.86	2.69	0.13
21.00	7.91	2.72	0.13
21.50	7.96	2.76	0.13
22.00	8.01	2.79	0.13
22.50	8.06	2.83	0.12
23.00	8.11	2.86	0.12
23.50	8.15	2.89	0.12
24.00	**8.20**	**2.92**	0.12
24.50	8.20	2.92	0.06
25.00	8.20	2.92	0.01
25.50	8.20	2.92	0.00
26.00	8.20	2.92	0.00
26.50	8.20	2.92	0.00
27.00	8.20	2.92	0.00
27.50	8.20	2.92	0.00
28.00	8.20	2.92	0.00
28.50	8.20	2.92	0.00
29.00	8.20	2.92	0.00
29.50	8.20	2.92	0.00
30.00	8.20	2.92	0.00
30.50	8.20	2.92	0.00
31.00	8.20	2.92	0.00
31.50	8.20	2.92	0.00
32.00	8.20	2.92	0.00
32.50	8.20	2.92	0.00
33.00	8.20	2.92	0.00
33.50	8.20	2.92	0.00
34.00	8.20	2.92	0.00
34.50	8.20	2.92	0.00
35.00	8.20	2.92	0.00
35.50	8.20	2.92	0.00
36.00	8.20	2.92	0.00
36.50	8.20	2.92	0.00
37.00	8.20	2.92	0.00
37.50	8.20	2.92	0.00
38.00	8.20	2.92	0.00
38.50	8.20	2.92	0.00
39.00	8.20	2.92	0.00
39.50	8.20	2.92	0.00
40.00	8.20	2.92	0.00
40.50	8.20	2.92	0.00
41.00	8.20	2.92	0.00
41.50	8.20	2.92	0.00
42.00	8.20	2.92	0.00
42.50	8.20	2.92	0.00
43.00	8.20	2.92	0.00
43.50	8.20	2.92	0.00
44.00	8.20	2.92	0.00
44.50	8.20	2.92	0.00
45.00	8.20	2.92	0.00
45.50	8.20	2.92	0.00
46.00	8.20	2.92	0.00
46.50	8.20	2.92	0.00
47.00	8.20	2.92	0.00
47.50	8.20	2.92	0.00
48.00	8.20	2.92	0.00

Summary for Subcatchment A-2: Pre-Developed

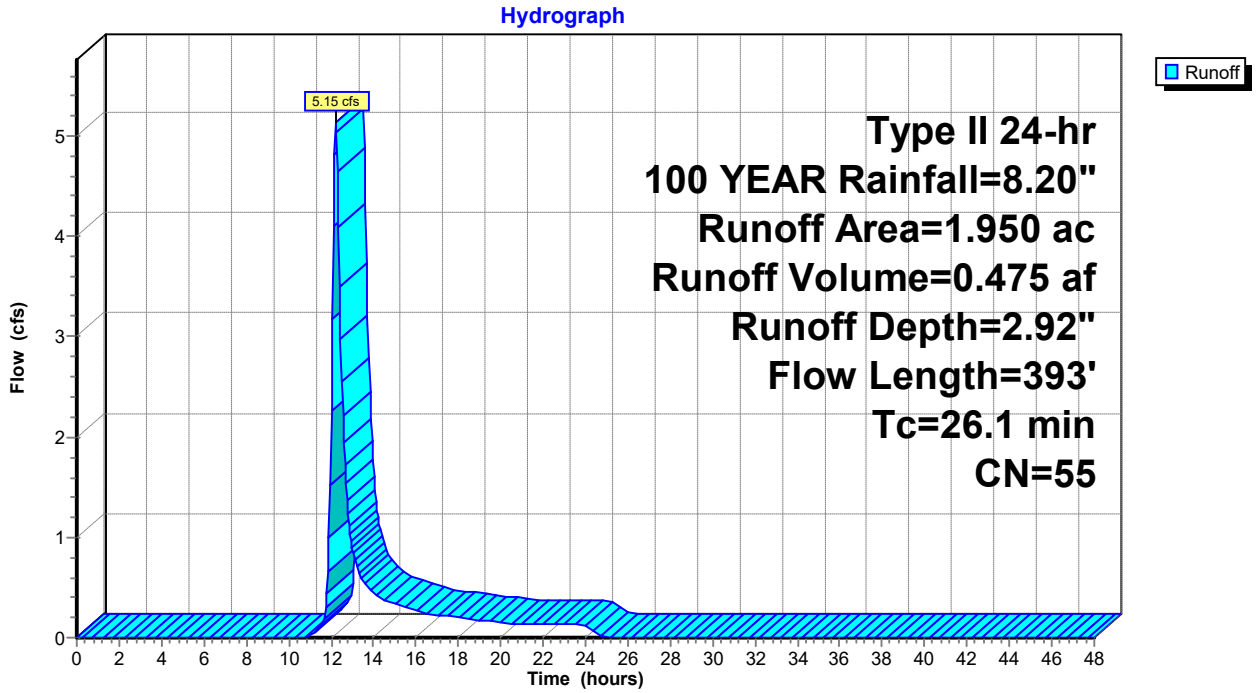
Runoff = 5.15 cfs @ 12.21 hrs, Volume= 0.475 af, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
1.950	55	Woods, Good, HSG B
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	100	0.0156	0.08		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
4.2	293	0.0552	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
26.1	393	Total			

Subcatchment A-2: Pre-Developed



Hydrograph for Subcatchment A-2: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.23	0.00	0.00
3.00	0.28	0.00	0.00
3.50	0.34	0.00	0.00
4.00	0.39	0.00	0.00
4.50	0.45	0.00	0.00
5.00	0.52	0.00	0.00
5.50	0.58	0.00	0.00
6.00	0.66	0.00	0.00
6.50	0.73	0.00	0.00
7.00	0.81	0.00	0.00
7.50	0.90	0.00	0.00
8.00	0.98	0.00	0.00
8.50	1.08	0.00	0.00
9.00	1.21	0.00	0.00
9.50	1.34	0.00	0.00
10.00	1.48	0.00	0.00
10.50	1.67	0.00	0.00
11.00	1.93	0.01	0.02
11.50	2.32	0.05	0.12
12.00	5.44	1.21	**2.26**
12.50	6.03	1.53	**2.55**
13.00	6.33	1.71	0.89
13.50	6.55	1.84	0.57
14.00	6.72	1.95	0.45
14.50	6.87	2.04	0.37
15.00	7.00	2.12	0.33
15.50	7.11	2.20	0.30
16.00	7.22	2.26	0.27
16.50	7.31	2.32	0.24
17.00	7.39	2.38	0.23
17.50	7.48	2.43	0.21
18.00	7.55	2.48	0.20
18.50	7.62	2.53	0.19
19.00	7.69	2.57	0.18
19.50	7.75	2.61	0.16
20.00	7.81	2.65	0.15
20.50	7.86	2.69	0.14
21.00	7.91	2.72	0.14
21.50	7.96	2.76	0.14
22.00	8.01	2.79	0.13
22.50	8.06	2.83	0.13
23.00	8.11	2.86	0.13
23.50	8.15	2.89	0.13
24.00	**8.20**	**2.92**	0.12
24.50	8.20	2.92	0.03
25.00	8.20	2.92	0.00
25.50	8.20	2.92	0.00
26.00	8.20	2.92	0.00
26.50	8.20	2.92	0.00
27.00	8.20	2.92	0.00
27.50	8.20	2.92	0.00
28.00	8.20	2.92	0.00
28.50	8.20	2.92	0.00
29.00	8.20	2.92	0.00
29.50	8.20	2.92	0.00
30.00	8.20	2.92	0.00
30.50	8.20	2.92	0.00
31.00	8.20	2.92	0.00
31.50	8.20	2.92	0.00
32.00	8.20	2.92	0.00
32.50	8.20	2.92	0.00
33.00	8.20	2.92	0.00
33.50	8.20	2.92	0.00
34.00	8.20	2.92	0.00
34.50	8.20	2.92	0.00
35.00	8.20	2.92	0.00
35.50	8.20	2.92	0.00
36.00	8.20	2.92	0.00
36.50	8.20	2.92	0.00
37.00	8.20	2.92	0.00
37.50	8.20	2.92	0.00
38.00	8.20	2.92	0.00
38.50	8.20	2.92	0.00
39.00	8.20	2.92	0.00
39.50	8.20	2.92	0.00
40.00	8.20	2.92	0.00
40.50	8.20	2.92	0.00
41.00	8.20	2.92	0.00
41.50	8.20	2.92	0.00
42.00	8.20	2.92	0.00
42.50	8.20	2.92	0.00
43.00	8.20	2.92	0.00
43.50	8.20	2.92	0.00
44.00	8.20	2.92	0.00
44.50	8.20	2.92	0.00
45.00	8.20	2.92	0.00
45.50	8.20	2.92	0.00
46.00	8.20	2.92	0.00
46.50	8.20	2.92	0.00
47.00	8.20	2.92	0.00
47.50	8.20	2.92	0.00
48.00	8.20	2.92	0.00

Summary for Subcatchment A-3: Pre-Developed

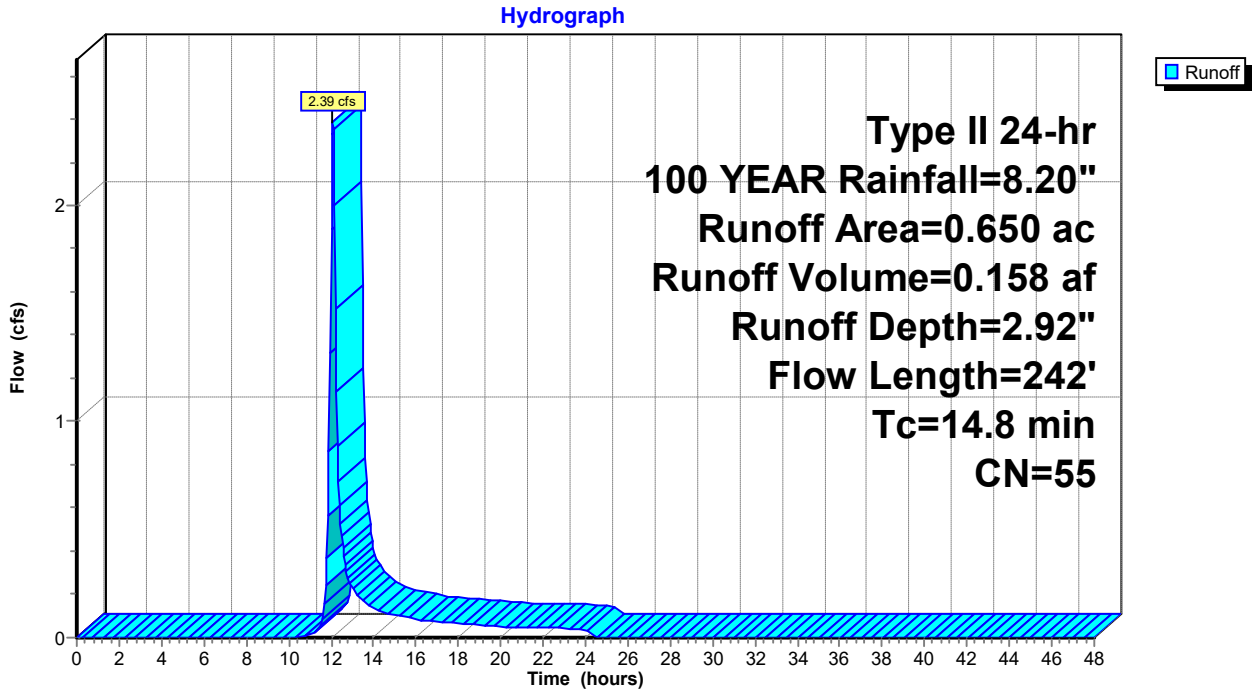
Runoff = 2.39 cfs @ 12.08 hrs, Volume= 0.158 af, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
0.650	55	Woods, Good, HSG B
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	100	0.0704	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
2.8	142	0.0292	0.85		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
14.8	242	Total			

Subcatchment A-3: Pre-Developed



Hydrograph for Subcatchment A-3: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.23	0.00	0.00
3.00	0.28	0.00	0.00
3.50	0.34	0.00	0.00
4.00	0.39	0.00	0.00
4.50	0.45	0.00	0.00
5.00	0.52	0.00	0.00
5.50	0.58	0.00	0.00
6.00	0.66	0.00	0.00
6.50	0.73	0.00	0.00
7.00	0.81	0.00	0.00
7.50	0.90	0.00	0.00
8.00	0.98	0.00	0.00
8.50	1.08	0.00	0.00
9.00	1.21	0.00	0.00
9.50	1.34	0.00	0.00
10.00	1.48	0.00	0.00
10.50	1.67	0.00	0.00
11.00	1.93	0.01	0.01
11.50	2.32	0.05	0.06
12.00	5.44	1.21	**1.89**
12.50	6.03	1.53	**0.47**
13.00	6.33	1.71	0.23
13.50	6.55	1.84	0.17
14.00	6.72	1.95	0.14
14.50	6.87	2.04	0.12
15.00	7.00	2.12	0.11
15.50	7.11	2.20	0.10
16.00	7.22	2.26	0.09
16.50	7.31	2.32	0.08
17.00	7.39	2.38	0.07
17.50	7.48	2.43	0.07
18.00	7.55	2.48	0.07
18.50	7.62	2.53	0.06
19.00	7.69	2.57	0.06
19.50	7.75	2.61	0.05
20.00	7.81	2.65	0.05
20.50	7.86	2.69	0.05
21.00	7.91	2.72	0.05
21.50	7.96	2.76	0.05
22.00	8.01	2.79	0.04
22.50	8.06	2.83	0.04
23.00	8.11	2.86	0.04
23.50	8.15	2.89	0.04
24.00	**8.20**	**2.92**	0.04
24.50	8.20	2.92	0.00
25.00	8.20	2.92	0.00
25.50	8.20	2.92	0.00
26.00	8.20	2.92	0.00
26.50	8.20	2.92	0.00
27.00	8.20	2.92	0.00
27.50	8.20	2.92	0.00
28.00	8.20	2.92	0.00
28.50	8.20	2.92	0.00
29.00	8.20	2.92	0.00
29.50	8.20	2.92	0.00
30.00	8.20	2.92	0.00
30.50	8.20	2.92	0.00
31.00	8.20	2.92	0.00
31.50	8.20	2.92	0.00
32.00	8.20	2.92	0.00
32.50	8.20	2.92	0.00
33.00	8.20	2.92	0.00
33.50	8.20	2.92	0.00
34.00	8.20	2.92	0.00
34.50	8.20	2.92	0.00
35.00	8.20	2.92	0.00
35.50	8.20	2.92	0.00
36.00	8.20	2.92	0.00
36.50	8.20	2.92	0.00
37.00	8.20	2.92	0.00
37.50	8.20	2.92	0.00
38.00	8.20	2.92	0.00
38.50	8.20	2.92	0.00
39.00	8.20	2.92	0.00
39.50	8.20	2.92	0.00
40.00	8.20	2.92	0.00
40.50	8.20	2.92	0.00
41.00	8.20	2.92	0.00
41.50	8.20	2.92	0.00
42.00	8.20	2.92	0.00
42.50	8.20	2.92	0.00
43.00	8.20	2.92	0.00
43.50	8.20	2.92	0.00
44.00	8.20	2.92	0.00
44.50	8.20	2.92	0.00
45.00	8.20	2.92	0.00
45.50	8.20	2.92	0.00
46.00	8.20	2.92	0.00
46.50	8.20	2.92	0.00
47.00	8.20	2.92	0.00
47.50	8.20	2.92	0.00
48.00	8.20	2.92	0.00

Events for Subcatchment A-1: Pre-Developed

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	0.18	0.045	0.30
5 YEAR	4.52	0.74	0.113	0.75
10 YEAR	5.22	1.21	0.165	1.09
25 YEAR	6.29	2.06	0.254	1.69
50 YEAR	7.21	2.89	0.341	2.26
100 YEAR	**8.20**	**3.86**	**0.441**	**2.92**

Events for Subcatchment A-2: Pre-Developed

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	0.24	0.048	0.30
5 YEAR	4.52	1.00	0.122	0.75
10 YEAR	5.22	1.63	0.177	1.09
25 YEAR	6.29	2.77	0.274	1.69
50 YEAR	7.21	3.87	0.367	2.26
100 YEAR	**8.20**	**5.15**	**0.475**	**2.92**

Events for Subcatchment A-3: Pre-Developed

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	0.11	0.016	0.30
5 YEAR	4.52	0.49	0.041	0.75
10 YEAR	5.22	0.79	0.059	1.09
25 YEAR	6.29	1.31	0.091	1.69
50 YEAR	7.21	1.81	0.122	2.26
100 YEAR	**8.20**	**2.39**	**0.158**	**2.92**

APPENDIX 4 | POST-DEVELOPMENT HYDROLOGY

BOHLER

ZONING: M2 (HEAVY INDUSTRIAL)
D.B. 39746 PG. 321
N/F
TAX PARCEL: 09F090100480751
GREENLAND GEORGIA INC.

WETLANDS

APPROX. 75' WETLANDS STREAM BUFFER

APPROX. 50' COUNTY STREAM BUFFER

APPROX. 25' STATE STREAM BUFFER

WETLAND

STUDY POINT 2

B-3
AREA: 0.54 AC
Tc: 5 MIN
CN: 89

STREAM BUFFER 50' COUNTY APPROX.

STREAM BUFFER 75' IMPERVIOUS APPROX.

APPROX. LOCATION OF UNDERGROUND STORMWATER MANAGEMENT SYSTEM (ADS MC-3500) (APPROX. 43,000 CF OF STORAGE)

STUDY POINT 3

STREAM BUFFER 75' IMPERVIOUS APPROX.

STREAM BUFFER 50' COUNTY APPROX.

STREAM BUFFER 25' STATE APPROX.

C/L CREEK

STUDY POINT 1

N ~ F
LORICA, LLC
D.B. 29109 PG. 685
D.B. 27614 PG. 106
TAX PARCEL: 09F090100480819
ZONING: M2 (HEAVY INDUSTRIAL)

STREAM BUFFER 25' STATE APPROX.

TOP OF BANK

STREAM BUFFER 50' COUNTY APPROX.

STREAM BUFFER 75' IMPERVIOUS APPROX.

CeC2

ReD

HOWELL AVENUE
PAVEMENT CONDITION=GOOD
POSTED SPEED LIMIT=30MPH
(R/W VARIES-PUBLIC)

B-2A
AREA: 0.54 AC
Tc: 10 MIN
CN: 61

MON. R/W

B-2
AREA: 1.03 AC
Tc: 5 MIN
CN: 94

APPROX. LOCATION OF UNDERGROUND STORMWATER MANAGEMENT SYSTEM (ADS MC-7200) (APPROX. 20,000 CF OF STORAGE)

PAD CONC.

MONS. R/W

ZONING: M2 (HEAVY INDUSTRIAL)
4.21 AC
RACETRAC MARKET
± 008 SQ. FT.

B-1
AREA: 1.56 AC
Tc: 5 MIN
CN: 97

N ~ F
VALENCIA INDUSTRIAL, LLC
D.B. 50361 PG. 379
TAX PARCEL: 09F090100480736
ZONING: M2 (HEAVY INDUSTRIAL)

5' CHAIN LINK

B-1A
AREA: 0.69 AC
Tc: 34.1 MIN
CN: 60

EXCEPTION 19
CURRENT R/W

S61°50'14"E 556.47'

AERIAL SEWER

EXCEPTION 19
CURRENT R/W
D.B. 12069 PG. 241

DRIVEWAY APRON

EDGE OF PAVEMENT

FAIRBURN INDUSTRIAL BLVD/S.R. 74

PAVEMENT CONDITION=GOOD
POSTED SPEED LIMIT=45MPH
(R/W VARIES-PUBLIC)

GRASS MEDIAN

CONSTRUCTION CENTERLINE

CENTERLINE CONSTRUCTION

TRAFFIC SIGNAL WIRES

POLE SIGNAL TRAFFIC

POLE HAND

PED. POLE

NORTH

40 20 10 0 40
1"= 40'

NO.	REVISION	BY	DATE

GEORGIA 811
www.Georgia811.com
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811
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YOU MUST CALL 811 BEFORE ANY EXCAVATION WHETHER IT'S ON PRIVATE OR PUBLIC LAND
1-800-282-7411
(IN GREATER ATLANTA)

RACETRAC 24-HOUR CONTACT
PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE,
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA
REGISTERED
Nathan Fuss
No. PE046694
PROFESSIONAL
08/01/2025
ENGINEER
NATHAN R. FUSS

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RaceTrac

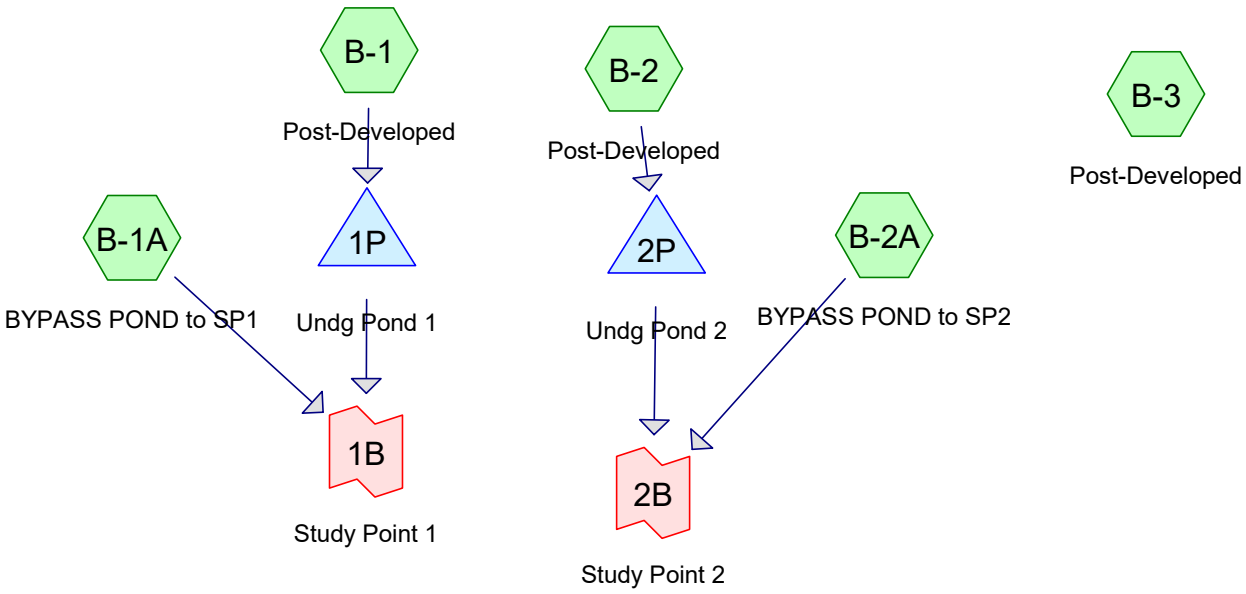
RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

POSTDEVELOPED DRAINAGE MAP

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
B	
SHEET NO.	REVISION



Subcat Reach Pond Link

Routing Diagram for GAA220184.00 - RT Fairburn
Prepared by Bohler, Printed 7/30/2025
HydroCAD® 10.20-5c s/n 03478 © 2023 HydroCAD Software Solutions LLC

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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 II 24-hr		Default	24.00	1	3.35	2
2	5 YEAR	Type II 24-hr		Default	24.00	1	4.52	2
3	10 YEAR	Type II 24-hr		Default	24.00	1	5.22	2
4	25 YEAR	Type II 24-hr		Default	24.00	1	6.29	2
5	50 YEAR	Type II 24-hr		Default	24.00	1	7.21	2
6	100 YEAR	Type II 24-hr		Default	24.00	1	8.20	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.300	61	>75% Grass cover, Good, HSG B (B-1, B-1A, B-2, B-2A, B-3)
2.860	98	Paved parking, HSG B (B-1, B-2)
0.100	55	Woods, Good, HSG B (B-1A)
4.260	**86**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
4.260	HSG B	B-1, B-1A, B-2, B-2A, B-3
0.000	HSG C	
0.000	HSG D	
0.000	Other	
4.260		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.300	0.000	0.000	0.000	1.300	>75% Grass cover, Good	B-1, B-1A , B-2, B-2A , B-3
0.000	2.860	0.000	0.000	0.000	2.860	Paved parking	B-1, B-2
0.000	0.100	0.000	0.000	0.000	0.100	Woods, Good	B-1A
0.000	**4.260**	**0.000**	**0.000**	**0.000**	**4.260**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 B-1: Post-Developed Runoff Area=1.980 ac 98.48% Impervious Runoff Depth=3.01"
Tc=5.0 min CN=97 Runoff=9.37 cfs 0.496 af

Subcatchment B-1A: BYPASS POND to Runoff Area=0.690 ac 0.00% Impervious Runoff Depth=0.47"
Tc=35.7 min CN=60 Runoff=0.16 cfs 0.027 af

Subcatchment B-2: Post-Developed Runoff Area=1.010 ac 90.10% Impervious Runoff Depth=2.69"
Tc=5.0 min CN=94 Runoff=4.51 cfs 0.226 af

Subcatchment B-2A: BYPASS POND to Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=0.51"
Tc=10.0 min CN=61 Runoff=0.26 cfs 0.019 af

Subcatchment B-3: Post-Developed Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=0.51"
Tc=5.0 min CN=61 Runoff=0.11 cfs 0.006 af

Pond 1P: Undg Pond 1 Peak Elev=999.26' Storage=0.450 af Inflow=9.37 cfs 0.496 af
Outflow=0.04 cfs 0.120 af

Pond 2P: Undg Pond 2 Peak Elev=997.47' Storage=0.181 af Inflow=4.51 cfs 0.226 af
Outflow=0.04 cfs 0.119 af

Link 1B: Study Point 1 Inflow=0.19 cfs 0.147 af
Primary=0.19 cfs 0.147 af

Link 2B: Study Point 2 Inflow=0.30 cfs 0.138 af
Primary=0.30 cfs 0.138 af

Total Runoff Area = 4.260 ac Runoff Volume = 0.774 af Average Runoff Depth = 2.18"
32.86% Pervious = 1.400 ac 67.14% Impervious = 2.860 ac

Summary for Subcatchment B-1: Post-Developed

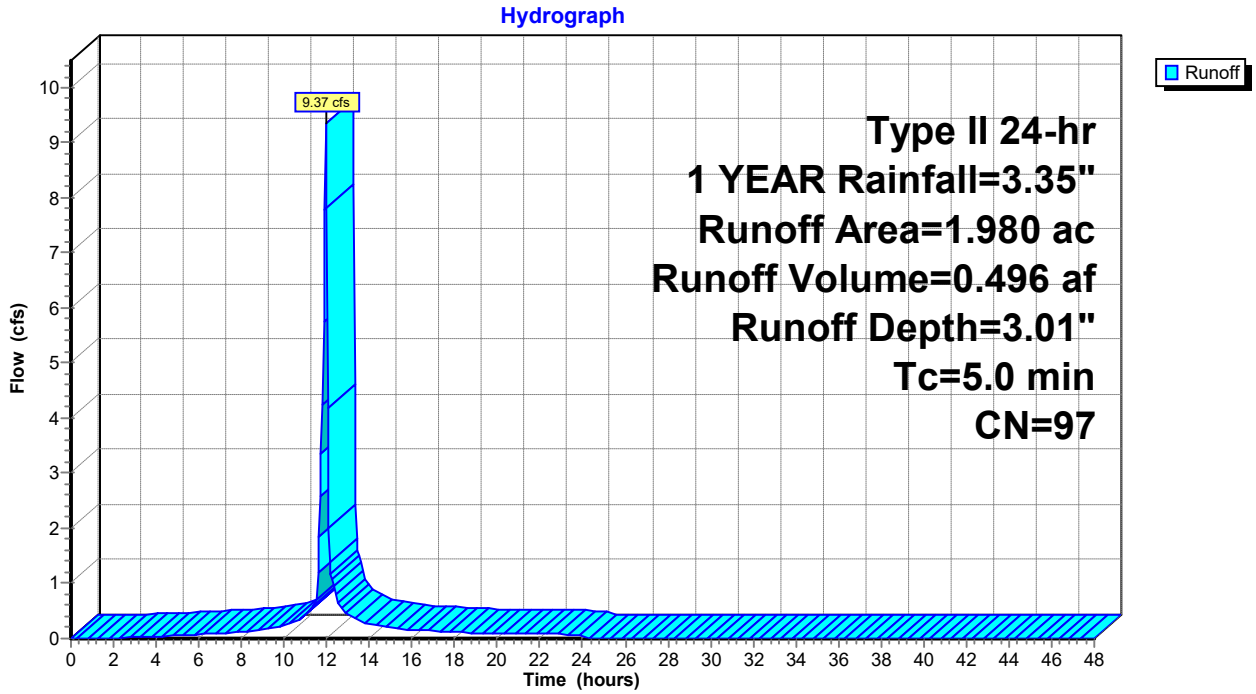
Runoff = 9.37 cfs @ 11.95 hrs, Volume= 0.496 af, Depth= 3.01"
Routed to Pond 1P : Undg Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
1.950	98	Paved parking, HSG B
0.030	61	>75% Grass cover, Good, HSG B
1.980	97	Weighted Average
0.030		1.52% Pervious Area
1.950		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-1: Post-Developed



Hydrograph for Subcatchment B-1: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.01
3.00	0.12	0.01	0.02
3.50	0.14	0.01	0.03
4.00	0.16	0.02	0.04
4.50	0.19	0.04	0.05
5.00	0.21	0.05	0.06
5.50	0.24	0.06	0.07
6.00	0.27	0.08	0.08
6.50	0.30	0.10	0.08
7.00	0.33	0.13	0.09
7.50	0.37	0.15	0.10
8.00	0.40	0.18	0.11
8.50	0.44	0.21	0.14
9.00	0.49	0.25	0.17
9.50	0.55	0.30	0.18
10.00	0.61	0.35	0.22
10.50	0.68	0.42	0.30
11.00	0.79	0.51	0.42
11.50	0.95	0.66	**0.70**
12.00	2.22	1.89	**7.83**
12.50	2.46	2.13	0.69
13.00	2.59	2.25	0.43
13.50	2.68	2.34	0.33
14.00	2.75	2.41	0.26
14.50	2.81	2.47	0.23
15.00	2.86	2.52	0.20
15.50	2.91	2.57	0.18
16.00	2.95	2.61	0.16
16.50	2.99	2.64	0.15
17.00	3.02	2.68	0.14
17.50	3.05	2.71	0.13
18.00	3.09	2.74	0.12
18.50	3.11	2.77	0.11
19.00	3.14	2.80	0.10
19.50	3.17	2.82	0.10
20.00	3.19	2.85	0.09
20.50	3.21	2.87	0.08
21.00	3.23	2.89	0.08
21.50	3.25	2.91	0.08
22.00	3.27	2.93	0.08
22.50	3.29	2.95	0.08
23.00	3.31	2.97	0.08
23.50	3.33	2.99	0.07
24.00	**3.35**	**3.01**	0.07
24.50	3.35	3.01	0.00
25.00	3.35	3.01	0.00
25.50	3.35	3.01	0.00
26.00	3.35	3.01	0.00
26.50	3.35	3.01	0.00
27.00	3.35	3.01	0.00
27.50	3.35	3.01	0.00
28.00	3.35	3.01	0.00
28.50	3.35	3.01	0.00
29.00	3.35	3.01	0.00
29.50	3.35	3.01	0.00
30.00	3.35	3.01	0.00
30.50	3.35	3.01	0.00
31.00	3.35	3.01	0.00
31.50	3.35	3.01	0.00
32.00	3.35	3.01	0.00
32.50	3.35	3.01	0.00
33.00	3.35	3.01	0.00
33.50	3.35	3.01	0.00
34.00	3.35	3.01	0.00
34.50	3.35	3.01	0.00
35.00	3.35	3.01	0.00
35.50	3.35	3.01	0.00
36.00	3.35	3.01	0.00
36.50	3.35	3.01	0.00
37.00	3.35	3.01	0.00
37.50	3.35	3.01	0.00
38.00	3.35	3.01	0.00
38.50	3.35	3.01	0.00
39.00	3.35	3.01	0.00
39.50	3.35	3.01	0.00
40.00	3.35	3.01	0.00
40.50	3.35	3.01	0.00
41.00	3.35	3.01	0.00
41.50	3.35	3.01	0.00
42.00	3.35	3.01	0.00
42.50	3.35	3.01	0.00
43.00	3.35	3.01	0.00
43.50	3.35	3.01	0.00
44.00	3.35	3.01	0.00
44.50	3.35	3.01	0.00
45.00	3.35	3.01	0.00
45.50	3.35	3.01	0.00
46.00	3.35	3.01	0.00
46.50	3.35	3.01	0.00
47.00	3.35	3.01	0.00
47.50	3.35	3.01	0.00
48.00	3.35	3.01	0.00

Summary for Subcatchment B-1A: BYPASS POND to SP1

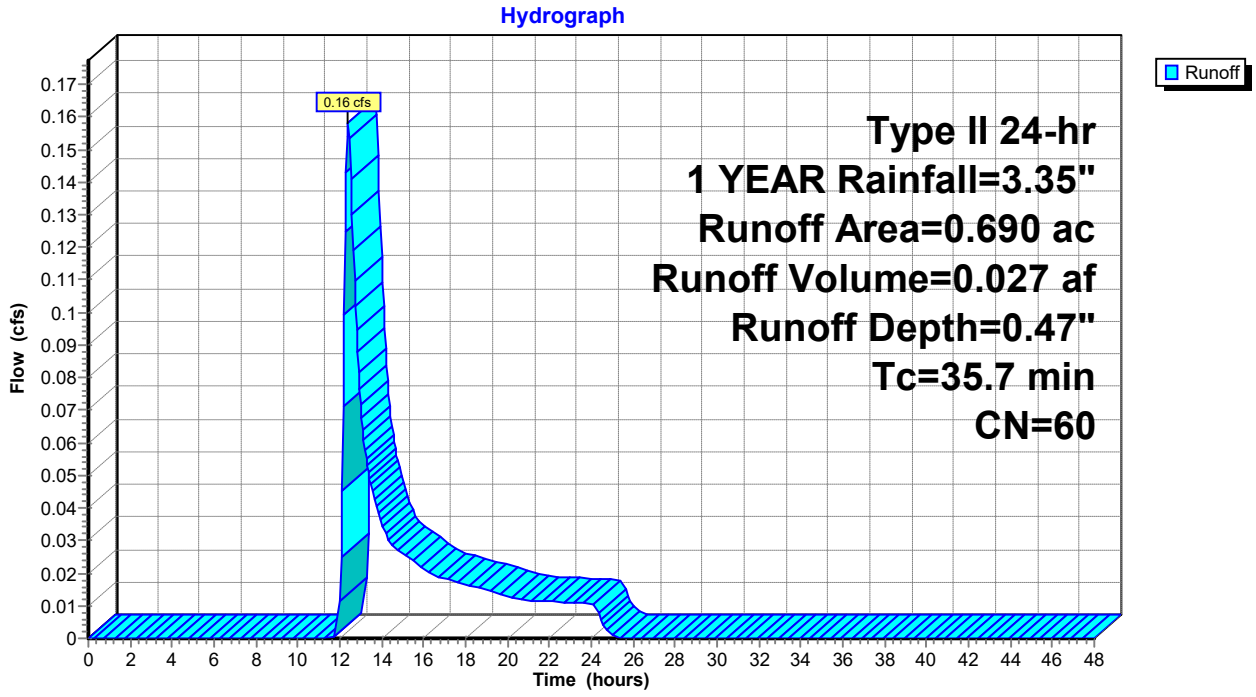
Runoff = 0.16 cfs @ 12.41 hrs, Volume= 0.027 af, Depth= 0.47"
Routed to Link 1B : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
0.100	55	Woods, Good, HSG B
0.590	61	>75% Grass cover, Good, HSG B
0.690	60	Weighted Average
0.690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.7					**Direct Entry,**

Subcatchment B-1A: BYPASS POND to SP1



Hydrograph for Subcatchment B-1A: BYPASS POND to SP1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.14	0.00	0.00
4.00	0.16	0.00	0.00
4.50	0.19	0.00	0.00
5.00	0.21	0.00	0.00
5.50	0.24	0.00	0.00
6.00	0.27	0.00	0.00
6.50	0.30	0.00	0.00
7.00	0.33	0.00	0.00
7.50	0.37	0.00	0.00
8.00	0.40	0.00	0.00
8.50	0.44	0.00	0.00
9.00	0.49	0.00	0.00
9.50	0.55	0.00	0.00
10.00	0.61	0.00	0.00
10.50	0.68	0.00	0.00
11.00	0.79	0.00	0.00
11.50	0.95	0.00	0.00
12.00	2.22	0.10	**0.01**
12.50	2.46	0.16	**0.15**
13.00	2.59	0.20	0.07
13.50	2.68	0.23	0.05
14.00	2.75	0.25	0.04
14.50	2.81	0.27	0.03
15.00	2.86	0.28	0.03
15.50	2.91	0.30	0.02
16.00	2.95	0.31	0.02
16.50	2.99	0.33	0.02
17.00	3.02	0.34	0.02
17.50	3.05	0.35	0.02
18.00	3.09	0.36	0.02
18.50	3.11	0.38	0.02
19.00	3.14	0.39	0.01
19.50	3.17	0.40	0.01
20.00	3.19	0.40	0.01
20.50	3.21	0.41	0.01
21.00	3.23	0.42	0.01
21.50	3.25	0.43	0.01
22.00	3.27	0.44	0.01
22.50	3.29	0.45	0.01
23.00	3.31	0.45	0.01
23.50	3.33	0.46	0.01
24.00	**3.35**	**0.47**	0.01
24.50	3.35	0.47	0.01
25.00	3.35	0.47	0.00
25.50	3.35	0.47	0.00
26.00	3.35	0.47	0.00
26.50	3.35	0.47	0.00
27.00	3.35	0.47	0.00
27.50	3.35	0.47	0.00
28.00	3.35	0.47	0.00
28.50	3.35	0.47	0.00
29.00	3.35	0.47	0.00
29.50	3.35	0.47	0.00
30.00	3.35	0.47	0.00
30.50	3.35	0.47	0.00
31.00	3.35	0.47	0.00
31.50	3.35	0.47	0.00
32.00	3.35	0.47	0.00
32.50	3.35	0.47	0.00
33.00	3.35	0.47	0.00
33.50	3.35	0.47	0.00
34.00	3.35	0.47	0.00
34.50	3.35	0.47	0.00
35.00	3.35	0.47	0.00
35.50	3.35	0.47	0.00
36.00	3.35	0.47	0.00
36.50	3.35	0.47	0.00
37.00	3.35	0.47	0.00
37.50	3.35	0.47	0.00
38.00	3.35	0.47	0.00
38.50	3.35	0.47	0.00
39.00	3.35	0.47	0.00
39.50	3.35	0.47	0.00
40.00	3.35	0.47	0.00
40.50	3.35	0.47	0.00
41.00	3.35	0.47	0.00
41.50	3.35	0.47	0.00
42.00	3.35	0.47	0.00
42.50	3.35	0.47	0.00
43.00	3.35	0.47	0.00
43.50	3.35	0.47	0.00
44.00	3.35	0.47	0.00
44.50	3.35	0.47	0.00
45.00	3.35	0.47	0.00
45.50	3.35	0.47	0.00
46.00	3.35	0.47	0.00
46.50	3.35	0.47	0.00
47.00	3.35	0.47	0.00
47.50	3.35	0.47	0.00
48.00	3.35	0.47	0.00

Summary for Subcatchment B-2: Post-Developed

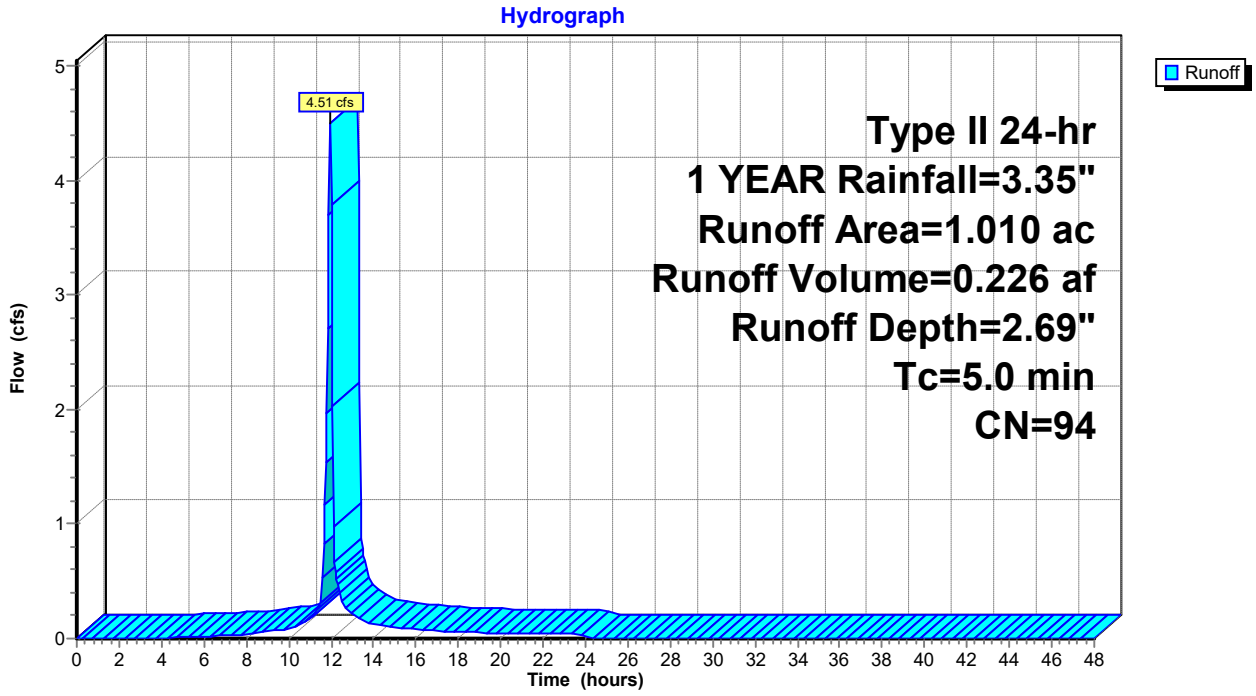
Runoff = 4.51 cfs @ 11.95 hrs, Volume= 0.226 af, Depth= 2.69"
Routed to Pond 2P : Undg Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
0.910	98	Paved parking, HSG B
0.100	61	>75% Grass cover, Good, HSG B
1.010	94	Weighted Average
0.100		9.90% Pervious Area
0.910		90.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-2: Post-Developed



Hydrograph for Subcatchment B-2: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.14	0.00	0.00
4.00	0.16	0.00	0.00
4.50	0.19	0.00	0.01
5.00	0.21	0.01	0.01
5.50	0.24	0.02	0.02
6.00	0.27	0.03	0.02
6.50	0.30	0.04	0.02
7.00	0.33	0.05	0.03
7.50	0.37	0.06	0.03
8.00	0.40	0.08	0.04
8.50	0.44	0.10	0.05
9.00	0.49	0.13	0.06
9.50	0.55	0.17	0.07
10.00	0.61	0.21	0.09
10.50	0.68	0.26	0.12
11.00	0.79	0.34	0.18
11.50	0.95	0.46	**0.31**
12.00	2.22	1.60	**3.80**
12.50	2.46	1.83	0.34
13.00	2.59	1.95	0.21
13.50	2.68	2.04	0.16
14.00	2.75	2.11	0.13
14.50	2.81	2.16	0.11
15.00	2.86	2.21	0.10
15.50	2.91	2.26	0.09
16.00	2.95	2.30	0.08
16.50	2.99	2.34	0.07
17.00	3.02	2.37	0.07
17.50	3.05	2.40	0.06
18.00	3.09	2.43	0.06
18.50	3.11	2.46	0.06
19.00	3.14	2.49	0.05
19.50	3.17	2.51	0.05
20.00	3.19	2.53	0.04
20.50	3.21	2.55	0.04
21.00	3.23	2.57	0.04
21.50	3.25	2.59	0.04
22.00	3.27	2.61	0.04
22.50	3.29	2.63	0.04
23.00	3.31	2.65	0.04
23.50	3.33	2.67	0.04
24.00	**3.35**	**2.69**	0.04
24.50	3.35	2.69	0.00
25.00	3.35	2.69	0.00
25.50	3.35	2.69	0.00
26.00	3.35	2.69	0.00
26.50	3.35	2.69	0.00
27.00	3.35	2.69	0.00
27.50	3.35	2.69	0.00
28.00	3.35	2.69	0.00
28.50	3.35	2.69	0.00
29.00	3.35	2.69	0.00
29.50	3.35	2.69	0.00
30.00	3.35	2.69	0.00
30.50	3.35	2.69	0.00
31.00	3.35	2.69	0.00
31.50	3.35	2.69	0.00
32.00	3.35	2.69	0.00
32.50	3.35	2.69	0.00
33.00	3.35	2.69	0.00
33.50	3.35	2.69	0.00
34.00	3.35	2.69	0.00
34.50	3.35	2.69	0.00
35.00	3.35	2.69	0.00
35.50	3.35	2.69	0.00
36.00	3.35	2.69	0.00
36.50	3.35	2.69	0.00
37.00	3.35	2.69	0.00
37.50	3.35	2.69	0.00
38.00	3.35	2.69	0.00
38.50	3.35	2.69	0.00
39.00	3.35	2.69	0.00
39.50	3.35	2.69	0.00
40.00	3.35	2.69	0.00
40.50	3.35	2.69	0.00
41.00	3.35	2.69	0.00
41.50	3.35	2.69	0.00
42.00	3.35	2.69	0.00
42.50	3.35	2.69	0.00
43.00	3.35	2.69	0.00
43.50	3.35	2.69	0.00
44.00	3.35	2.69	0.00
44.50	3.35	2.69	0.00
45.00	3.35	2.69	0.00
45.50	3.35	2.69	0.00
46.00	3.35	2.69	0.00
46.50	3.35	2.69	0.00
47.00	3.35	2.69	0.00
47.50	3.35	2.69	0.00
48.00	3.35	2.69	0.00

Summary for Subcatchment B-2A: BYPASS POND to SP2

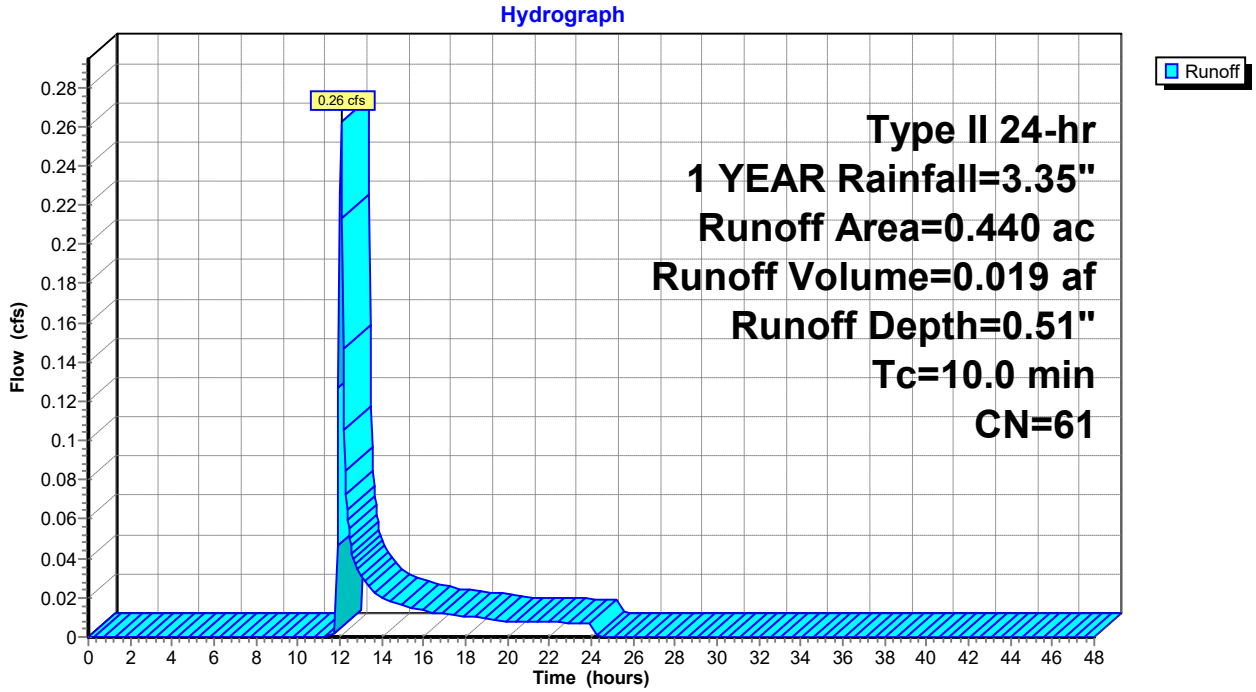
Runoff = 0.26 cfs @ 12.05 hrs, Volume= 0.019 af, Depth= 0.51"
Routed to Link 2B : Study Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
0.440	61	>75% Grass cover, Good, HSG B
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment B-2A: BYPASS POND to SP2



Hydrograph for Subcatchment B-2A: BYPASS POND to SP2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.14	0.00	0.00
4.00	0.16	0.00	0.00
4.50	0.19	0.00	0.00
5.00	0.21	0.00	0.00
5.50	0.24	0.00	0.00
6.00	0.27	0.00	0.00
6.50	0.30	0.00	0.00
7.00	0.33	0.00	0.00
7.50	0.37	0.00	0.00
8.00	0.40	0.00	0.00
8.50	0.44	0.00	0.00
9.00	0.49	0.00	0.00
9.50	0.55	0.00	0.00
10.00	0.61	0.00	0.00
10.50	0.68	0.00	0.00
11.00	0.79	0.00	0.00
11.50	0.95	0.00	0.00
12.00	2.22	0.12	**0.23**
12.50	2.46	0.18	**0.05**
13.00	2.59	0.22	0.03
13.50	2.68	0.25	0.02
14.00	2.75	0.27	0.02
14.50	2.81	0.29	0.02
15.00	2.86	0.31	0.02
15.50	2.91	0.33	0.01
16.00	2.95	0.35	0.01
16.50	2.99	0.36	0.01
17.00	3.02	0.37	0.01
17.50	3.05	0.39	0.01
18.00	3.09	0.40	0.01
18.50	3.11	0.41	0.01
19.00	3.14	0.42	0.01
19.50	3.17	0.43	0.01
20.00	3.19	0.44	0.01
20.50	3.21	0.45	0.01
21.00	3.23	0.46	0.01
21.50	3.25	0.47	0.01
22.00	3.27	0.47	0.01
22.50	3.29	0.48	0.01
23.00	3.31	0.49	0.01
23.50	3.33	0.50	0.01
24.00	**3.35**	**0.51**	0.01
24.50	3.35	0.51	0.00
25.00	3.35	0.51	0.00
25.50	3.35	0.51	0.00
26.00	3.35	0.51	0.00
26.50	3.35	0.51	0.00
27.00	3.35	0.51	0.00
27.50	3.35	0.51	0.00
28.00	3.35	0.51	0.00
28.50	3.35	0.51	0.00
29.00	3.35	0.51	0.00
29.50	3.35	0.51	0.00
30.00	3.35	0.51	0.00
30.50	3.35	0.51	0.00
31.00	3.35	0.51	0.00
31.50	3.35	0.51	0.00
32.00	3.35	0.51	0.00
32.50	3.35	0.51	0.00
33.00	3.35	0.51	0.00
33.50	3.35	0.51	0.00
34.00	3.35	0.51	0.00
34.50	3.35	0.51	0.00
35.00	3.35	0.51	0.00
35.50	3.35	0.51	0.00
36.00	3.35	0.51	0.00
36.50	3.35	0.51	0.00
37.00	3.35	0.51	0.00
37.50	3.35	0.51	0.00
38.00	3.35	0.51	0.00
38.50	3.35	0.51	0.00
39.00	3.35	0.51	0.00
39.50	3.35	0.51	0.00
40.00	3.35	0.51	0.00
40.50	3.35	0.51	0.00
41.00	3.35	0.51	0.00
41.50	3.35	0.51	0.00
42.00	3.35	0.51	0.00
42.50	3.35	0.51	0.00
43.00	3.35	0.51	0.00
43.50	3.35	0.51	0.00
44.00	3.35	0.51	0.00
44.50	3.35	0.51	0.00
45.00	3.35	0.51	0.00
45.50	3.35	0.51	0.00
46.00	3.35	0.51	0.00
46.50	3.35	0.51	0.00
47.00	3.35	0.51	0.00
47.50	3.35	0.51	0.00
48.00	3.35	0.51	0.00

Summary for Subcatchment B-3: Post-Developed

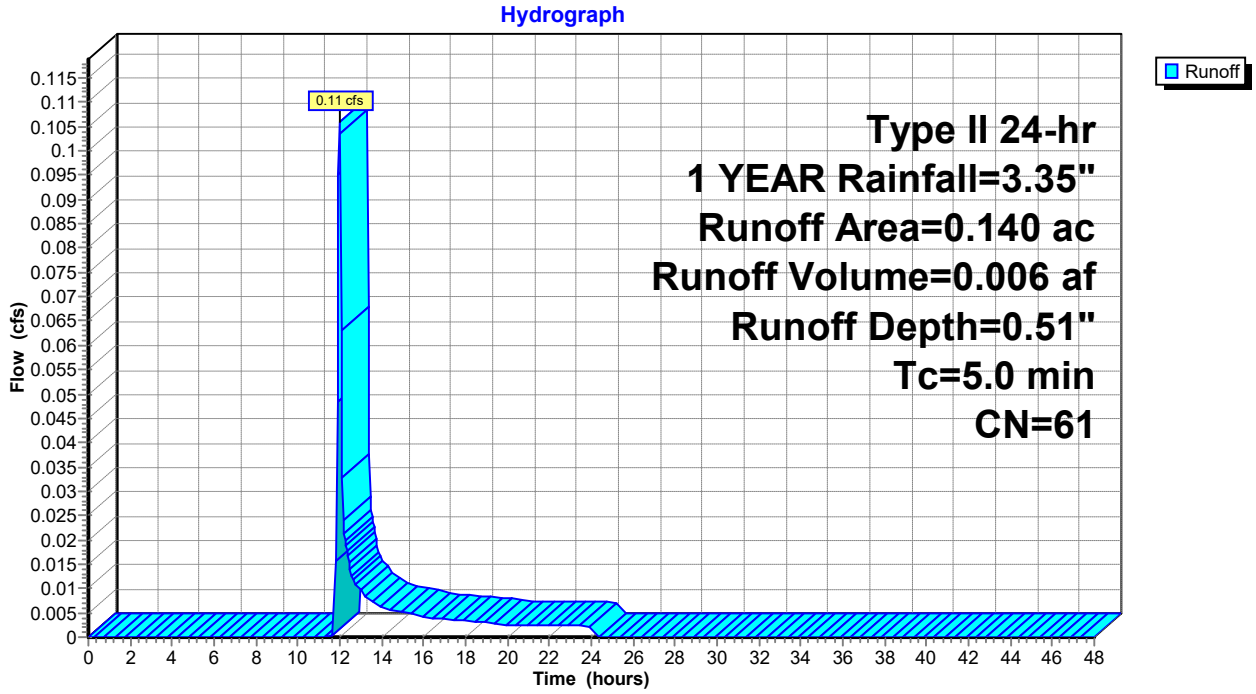
Runoff = 0.11 cfs @ 11.98 hrs, Volume= 0.006 af, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
0.140	61	>75% Grass cover, Good, HSG B
0.140	61	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-3: Post-Developed



Hydrograph for Subcatchment B-3: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.14	0.00	0.00
4.00	0.16	0.00	0.00
4.50	0.19	0.00	0.00
5.00	0.21	0.00	0.00
5.50	0.24	0.00	0.00
6.00	0.27	0.00	0.00
6.50	0.30	0.00	0.00
7.00	0.33	0.00	0.00
7.50	0.37	0.00	0.00
8.00	0.40	0.00	0.00
8.50	0.44	0.00	0.00
9.00	0.49	0.00	0.00
9.50	0.55	0.00	0.00
10.00	0.61	0.00	0.00
10.50	0.68	0.00	0.00
11.00	0.79	0.00	0.00
11.50	0.95	0.00	0.00
12.00	2.22	0.12	**0.10**
12.50	2.46	0.18	0.01
13.00	2.59	0.22	0.01
13.50	2.68	0.25	0.01
14.00	2.75	0.27	0.01
14.50	2.81	0.29	0.01
15.00	2.86	0.31	0.01
15.50	2.91	0.33	0.00
16.00	2.95	0.35	0.00
16.50	2.99	0.36	0.00
17.00	3.02	0.37	0.00
17.50	3.05	0.39	0.00
18.00	3.09	0.40	0.00
18.50	3.11	0.41	0.00
19.00	3.14	0.42	0.00
19.50	3.17	0.43	0.00
20.00	3.19	0.44	0.00
20.50	3.21	0.45	0.00
21.00	3.23	0.46	0.00
21.50	3.25	0.47	0.00
22.00	3.27	0.47	0.00
22.50	3.29	0.48	0.00
23.00	3.31	0.49	0.00
23.50	3.33	0.50	0.00
24.00	**3.35**	**0.51**	0.00
24.50	3.35	0.51	0.00
25.00	3.35	0.51	0.00
25.50	3.35	0.51	0.00
26.00	3.35	0.51	0.00
26.50	3.35	0.51	0.00
27.00	3.35	0.51	0.00
27.50	3.35	0.51	0.00
28.00	3.35	0.51	0.00
28.50	3.35	0.51	0.00
29.00	3.35	0.51	0.00
29.50	3.35	0.51	0.00
30.00	3.35	0.51	0.00
30.50	3.35	0.51	0.00
31.00	3.35	0.51	0.00
31.50	3.35	0.51	0.00
32.00	3.35	0.51	0.00
32.50	3.35	0.51	0.00
33.00	3.35	0.51	0.00
33.50	3.35	0.51	0.00
34.00	3.35	0.51	0.00
34.50	3.35	0.51	0.00
35.00	3.35	0.51	0.00
35.50	3.35	0.51	0.00
36.00	3.35	0.51	0.00
36.50	3.35	0.51	0.00
37.00	3.35	0.51	0.00
37.50	3.35	0.51	0.00
38.00	3.35	0.51	0.00
38.50	3.35	0.51	0.00
39.00	3.35	0.51	0.00
39.50	3.35	0.51	0.00
40.00	3.35	0.51	0.00
40.50	3.35	0.51	0.00
41.00	3.35	0.51	0.00
41.50	3.35	0.51	0.00
42.00	3.35	0.51	0.00
42.50	3.35	0.51	0.00
43.00	3.35	0.51	0.00
43.50	3.35	0.51	0.00
44.00	3.35	0.51	0.00
44.50	3.35	0.51	0.00
45.00	3.35	0.51	0.00
45.50	3.35	0.51	0.00
46.00	3.35	0.51	0.00
46.50	3.35	0.51	0.00
47.00	3.35	0.51	0.00
47.50	3.35	0.51	0.00
48.00	3.35	0.51	0.00

Summary for Pond 1P: Undg Pond 1

Inflow Area = 1.980 ac, 98.48% Impervious, Inflow Depth = 3.01" for 1 YEAR event
Inflow = 9.37 cfs @ 11.95 hrs, Volume= 0.496 af
Outflow = 0.04 cfs @ 24.07 hrs, Volume= 0.120 af, Atten= 100%, Lag= 727.1 min
Primary = 0.04 cfs @ 24.07 hrs, Volume= 0.120 af
Routed to Link 1B : Study Point 1

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 999.26' @ 24.07 hrs Surf.Area= 0.286 ac Storage= 0.450 af

Plug-Flow detention time= 1,149.0 min calculated for 0.120 af (24% of inflow)
Center-of-Mass det. time= 952.8 min (1,713.1 - 760.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	997.00'	0.394 af	**51.42'W x 242.31'L x 5.50'H Field A** 1.573 af Overall - 0.588 af Embedded = 0.985 af x 40.0% Voids
#2A	997.75'	0.588 af	**ADS_StormTech MC-3500 d +Cap** x 231 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 231 Chambers in 7 Rows Cap Storage= 14.9 cf x 2 x 7 rows = 208.6 cf
		0.982 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	997.00'	**36.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	997.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,001.00'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,002.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.04 cfs @ 24.07 hrs HW=999.26' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.04 cfs of 29.29 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.04 cfs @ 7.18 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Undg Pond 1 - 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 7 rows = 208.6 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

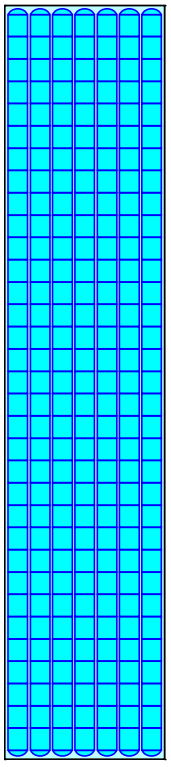
33 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 240.31' Row Length +12.0" End Stone x 2 = 242.31' Base Length
7 Rows x 77.0" Wide + 9.0" Spacing x 6 + 12.0" Side Stone x 2 = 51.42' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

231 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 7 Rows = 25,607.5 cf Chamber Storage

68,523.2 cf Field - 25,607.5 cf Chambers = 42,915.7 cf Stone x 40.0% Voids = 17,166.3 cf Stone Storage

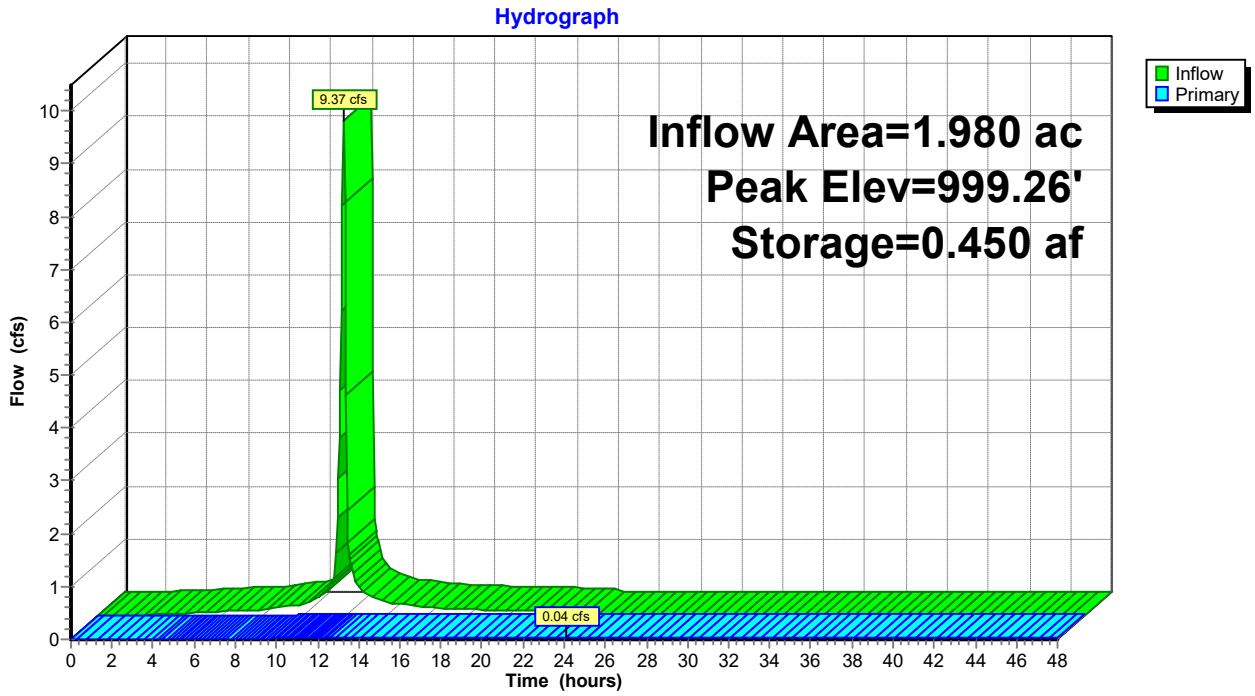
Chamber Storage + Stone Storage = 42,773.8 cf = 0.982 af
Overall Storage Efficiency = 62.4%
Overall System Size = 242.31' x 51.42' x 5.50'

231 Chambers
2,537.9 cy Field
1,589.5 cy Stone





Pond 1P: Undg Pond 1



Hydrograph for Pond 1P: Undg Pond 1

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	997.00	0.00
1.00	0.00	0.000	997.00	0.00
2.00	0.00	0.000	997.00	0.00
3.00	0.02	0.001	997.01	0.00
4.00	0.04	0.004	997.03	0.00
5.00	0.06	0.007	997.06	0.00
6.00	0.08	0.012	997.11	0.01
7.00	0.09	0.019	997.16	0.01
8.00	0.11	0.026	997.23	0.01
9.00	0.17	0.037	997.32	0.01
10.00	0.22	0.051	997.45	0.02
11.00	**0.42**	0.075	997.66	0.02
12.00	**7.83**	0.266	998.48	0.03
13.00	0.43	0.357	998.87	0.04
14.00	0.26	0.382	998.97	0.04
15.00	0.20	0.397	999.04	0.04
16.00	0.16	0.409	999.09	0.04
17.00	0.14	0.418	999.12	0.04
18.00	0.12	0.426	999.16	0.04
19.00	0.10	0.432	999.18	0.04
20.00	0.09	0.436	999.20	0.04
21.00	0.08	0.440	999.22	0.04
22.00	0.08	0.444	999.24	0.04
23.00	0.08	0.447	999.25	0.04
24.00	0.07	**0.450**	**999.26**	**0.04**
25.00	0.00	**0.447**	**999.25**	**0.04**
26.00	0.00	0.444	999.24	0.04
27.00	0.00	0.441	999.22	0.04
28.00	0.00	0.438	999.21	0.04
29.00	0.00	0.434	999.19	0.04
30.00	0.00	0.431	999.18	0.04
31.00	0.00	0.428	999.17	0.04
32.00	0.00	0.425	999.15	0.04
33.00	0.00	0.422	999.14	0.04
34.00	0.00	0.419	999.13	0.04
35.00	0.00	0.415	999.11	0.04
36.00	0.00	0.412	999.10	0.04
37.00	0.00	0.409	999.09	0.04
38.00	0.00	0.406	999.07	0.04
39.00	0.00	0.403	999.06	0.04
40.00	0.00	0.400	999.05	0.04
41.00	0.00	0.397	999.03	0.04
42.00	0.00	0.394	999.02	0.04
43.00	0.00	0.391	999.01	0.04
44.00	0.00	0.388	998.99	0.04
45.00	0.00	0.385	998.98	0.04
46.00	0.00	0.382	998.97	0.04
47.00	0.00	0.379	998.96	0.04
48.00	0.00	0.376	998.94	0.04

Summary for Pond 2P: Undg Pond 2

Inflow Area = 1.010 ac, 90.10% Impervious, Inflow Depth = 2.69" for 1 YEAR event
Inflow = 4.51 cfs @ 11.95 hrs, Volume= 0.226 af
Outflow = 0.04 cfs @ 21.38 hrs, Volume= 0.119 af, Atten= 99%, Lag= 565.9 min
Primary = 0.04 cfs @ 21.38 hrs, Volume= 0.119 af
Routed to Link 2B : Study Point 2

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 997.47' @ 21.38 hrs Surf.Area= 0.103 ac Storage= 0.181 af

Plug-Flow detention time= 1,034.5 min calculated for 0.119 af (53% of inflow)
Center-of-Mass det. time= 923.1 min (1,704.5 - 781.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	995.00'	0.166 af	**37.58'W x 119.53'L x 6.75'H Field A** 0.696 af Overall - 0.282 af Embedded = 0.414 af x 40.0% Voids
#2A	995.75'	0.282 af	**ADS_StormTech MC-7200 +Cap** x 68 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 68 Chambers in 4 Rows Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf
		0.448 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	995.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	999.00'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,001.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.04 cfs @ 21.38 hrs HW=997.47' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.04 cfs of 18.33 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.04 cfs @ 7.50 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Undg Pond 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-7200 +Cap (ADS StormTech® MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

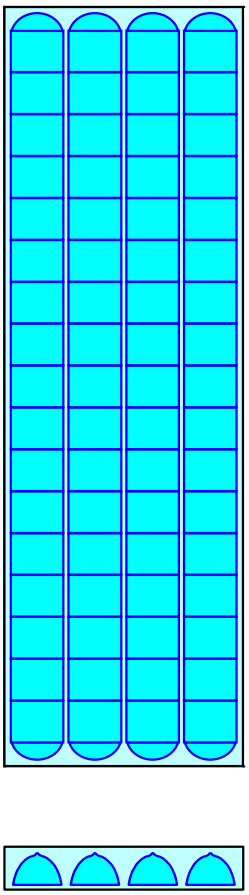
17 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 117.52' Row Length +12.0" End Stone x 2 = 119.53' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

68 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 4 Rows = 12,275.5 cf Chamber Storage

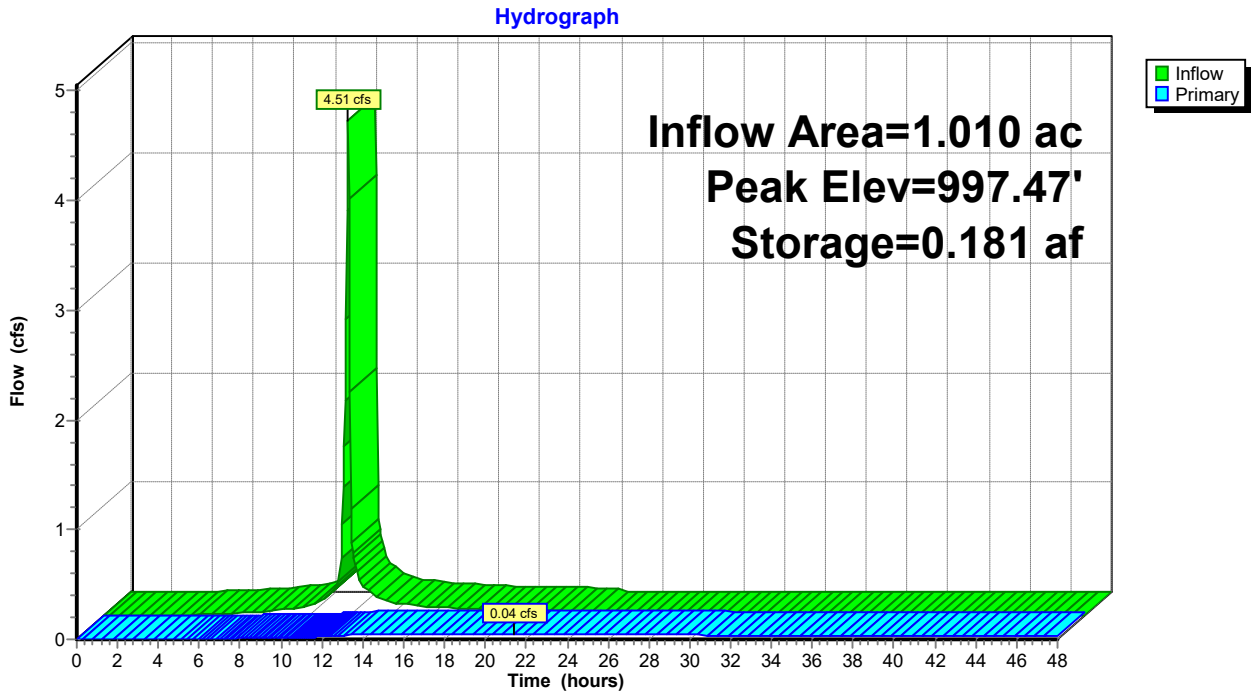
30,322.0 cf Field - 12,275.5 cf Chambers = 18,046.5 cf Stone x 40.0% Voids = 7,218.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,494.1 cf = 0.448 af
Overall Storage Efficiency = 64.3%
Overall System Size = 119.53' x 37.58' x 6.75'

68 Chambers
1,123.0 cy Field
668.4 cy Stone



Pond 2P: Undg Pond 2



Hydrograph for Pond 2P: Undg Pond 2

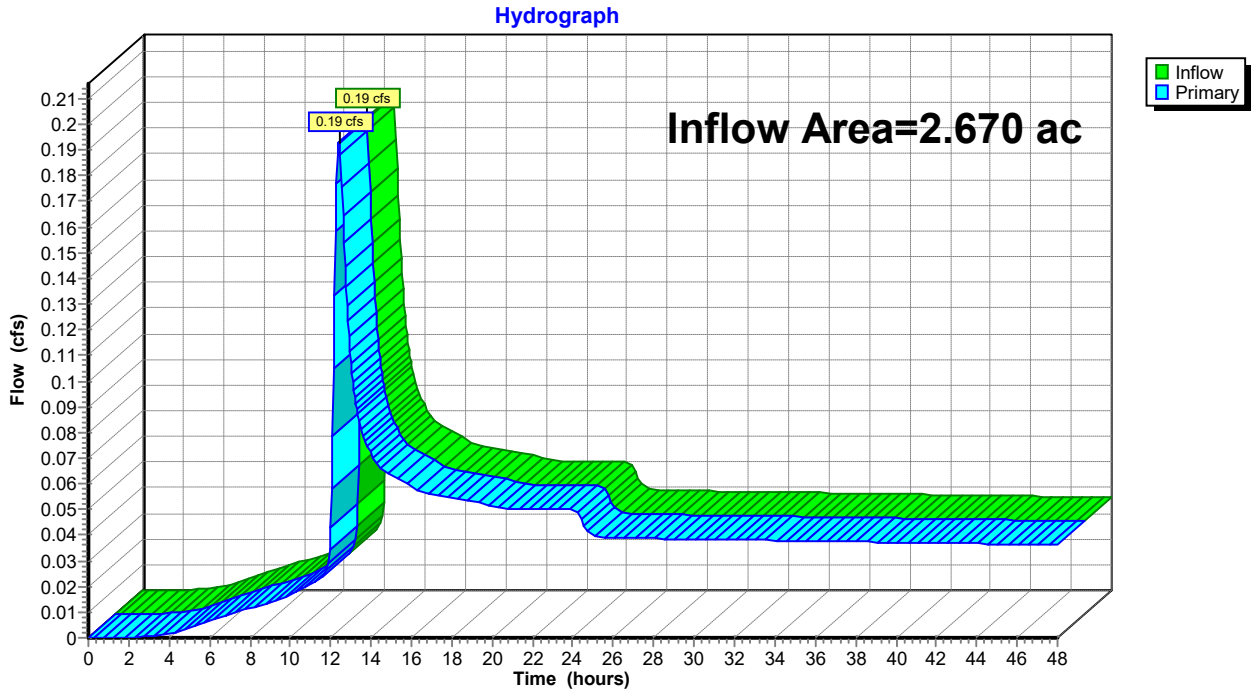
Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	995.00	0.00
1.00	0.00	0.000	995.00	0.00
2.00	0.00	0.000	995.00	0.00
3.00	0.00	0.000	995.00	0.00
4.00	0.00	0.000	995.00	0.00
5.00	0.01	0.001	995.02	0.00
6.00	0.02	0.002	995.04	0.00
7.00	0.03	0.003	995.08	0.01
8.00	0.04	0.006	995.14	0.01
9.00	0.06	0.009	995.22	0.01
10.00	0.09	0.014	995.34	0.01
11.00	**0.18**	0.023	995.55	0.02
12.00	**3.80**	0.111	996.65	0.03
13.00	0.21	0.154	997.15	0.04
14.00	0.13	0.164	997.27	0.04
15.00	0.10	0.170	997.34	0.04
16.00	0.08	0.174	997.39	0.04
17.00	0.07	0.177	997.42	0.04
18.00	0.06	0.179	997.44	0.04
19.00	0.05	0.180	997.46	0.04
20.00	0.04	0.181	997.47	0.04
21.00	0.04	**0.181**	**997.47**	**0.04**
22.00	0.04	**0.181**	**997.47**	**0.04**
23.00	0.04	0.180	997.47	0.04
24.00	0.04	0.180	997.46	0.04
25.00	0.00	0.177	997.43	0.04
26.00	0.00	0.174	997.39	0.04
27.00	0.00	0.170	997.35	0.04
28.00	0.00	0.167	997.31	0.04
29.00	0.00	0.164	997.27	0.04
30.00	0.00	0.161	997.23	0.04
31.00	0.00	0.157	997.19	0.04
32.00	0.00	0.154	997.16	0.04
33.00	0.00	0.151	997.12	0.04
34.00	0.00	0.148	997.08	0.04
35.00	0.00	0.145	997.05	0.04
36.00	0.00	0.142	997.01	0.04
37.00	0.00	0.139	996.98	0.04
38.00	0.00	0.136	996.94	0.04
39.00	0.00	0.133	996.91	0.04
40.00	0.00	0.130	996.87	0.04
41.00	0.00	0.127	996.84	0.04
42.00	0.00	0.124	996.81	0.03
43.00	0.00	0.121	996.77	0.03
44.00	0.00	0.118	996.74	0.03
45.00	0.00	0.116	996.71	0.03
46.00	0.00	0.113	996.68	0.03
47.00	0.00	0.110	996.64	0.03
48.00	0.00	0.107	996.61	0.03

Summary for Link 1B: Study Point 1

Inflow Area = 2.670 ac, 73.03% Impervious, Inflow Depth > 0.66" for 1 YEAR event
Inflow = 0.19 cfs @ 12.41 hrs, Volume= 0.147 af
Primary = 0.19 cfs @ 12.41 hrs, Volume= 0.147 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 1B: Study Point 1



Hydrograph for Link 1B: Study Point 1

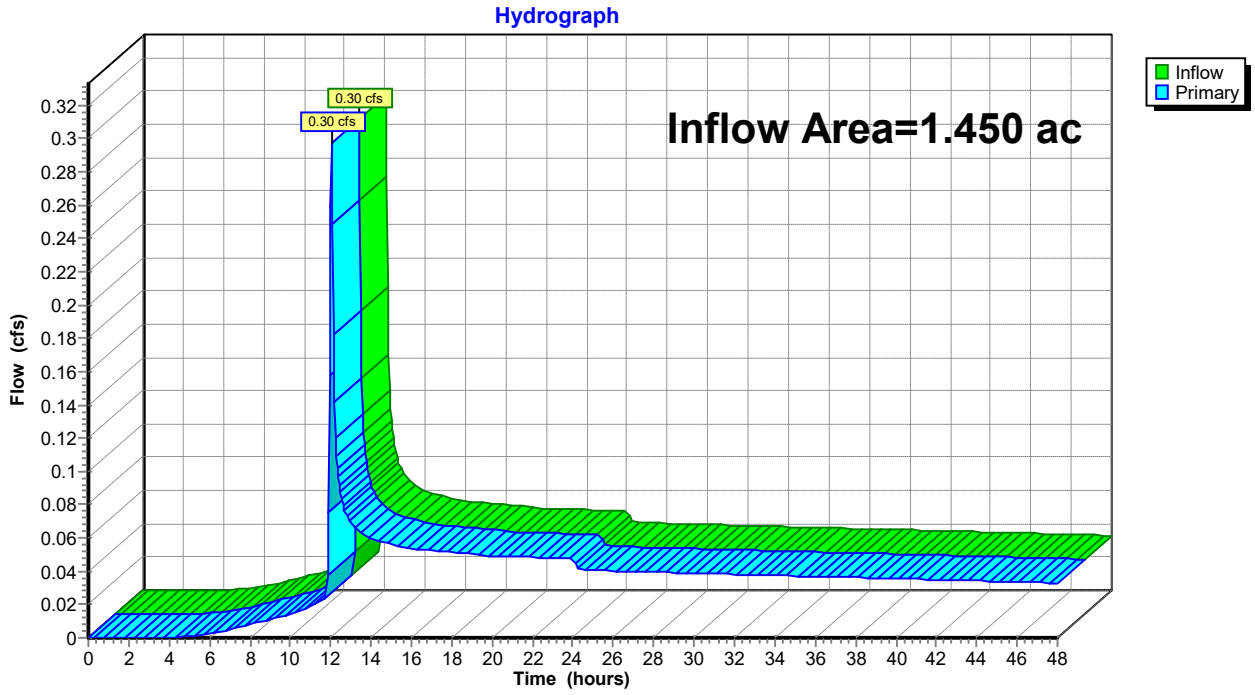
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.04	0.00	0.04
0.50	0.00	0.00	0.00	29.00	0.04	0.00	0.04
1.00	0.00	0.00	0.00	29.50	0.04	0.00	0.04
1.50	0.00	0.00	0.00	30.00	0.04	0.00	0.04
2.00	0.00	0.00	0.00	30.50	0.04	0.00	0.04
2.50	0.00	0.00	0.00	31.00	0.04	0.00	0.04
3.00	0.00	0.00	0.00	31.50	0.04	0.00	0.04
3.50	0.00	0.00	0.00	32.00	0.04	0.00	0.04
4.00	0.00	0.00	0.00	32.50	0.04	0.00	0.04
4.50	0.00	0.00	0.00	33.00	0.04	0.00	0.04
5.00	0.00	0.00	0.00	33.50	0.04	0.00	0.04
5.50	0.01	0.00	0.01	34.00	0.04	0.00	0.04
6.00	0.01	0.00	0.01	34.50	0.04	0.00	0.04
6.50	0.01	0.00	0.01	35.00	0.04	0.00	0.04
7.00	0.01	0.00	0.01	35.50	0.04	0.00	0.04
7.50	0.01	0.00	0.01	36.00	0.04	0.00	0.04
8.00	0.01	0.00	0.01	36.50	0.04	0.00	0.04
8.50	0.01	0.00	0.01	37.00	0.04	0.00	0.04
9.00	0.01	0.00	0.01	37.50	0.04	0.00	0.04
9.50	0.02	0.00	0.02	38.00	0.04	0.00	0.04
10.00	0.02	0.00	0.02	38.50	0.04	0.00	0.04
10.50	0.02	0.00	0.02	39.00	0.04	0.00	0.04
11.00	0.02	0.00	0.02	39.50	0.04	0.00	0.04
11.50	0.02	0.00	0.02	40.00	0.04	0.00	0.04
12.00	**0.04**	0.00	**0.04**	40.50	0.04	0.00	0.04
12.50	**0.19**	0.00	**0.19**	41.00	0.04	0.00	0.04
13.00	0.11	0.00	0.11	41.50	0.04	0.00	0.04
13.50	0.08	0.00	0.08	42.00	0.04	0.00	0.04
14.00	0.07	0.00	0.07	42.50	0.04	0.00	0.04
14.50	0.07	0.00	0.07	43.00	0.04	0.00	0.04
15.00	0.06	0.00	0.06	43.50	0.04	0.00	0.04
15.50	0.06	0.00	0.06	44.00	0.04	0.00	0.04
16.00	0.06	0.00	0.06	44.50	0.04	0.00	0.04
16.50	0.06	0.00	0.06	45.00	0.04	0.00	0.04
17.00	0.06	0.00	0.06	45.50	0.04	0.00	0.04
17.50	0.06	0.00	0.06	46.00	0.04	0.00	0.04
18.00	0.05	0.00	0.05	46.50	0.04	0.00	0.04
18.50	0.05	0.00	0.05	47.00	0.04	0.00	0.04
19.00	0.05	0.00	0.05	47.50	0.04	0.00	0.04
19.50	0.05	0.00	0.05	48.00	0.04	0.00	0.04
20.00	0.05	0.00	0.05				
20.50	0.05	0.00	0.05				
21.00	0.05	0.00	0.05				
21.50	0.05	0.00	0.05				
22.00	0.05	0.00	0.05				
22.50	0.05	0.00	0.05				
23.00	0.05	0.00	0.05				
23.50	0.05	0.00	0.05				
24.00	0.05	0.00	0.05				
24.50	0.04	0.00	0.04				
25.00	0.04	0.00	0.04				
25.50	0.04	0.00	0.04				
26.00	0.04	0.00	0.04				
26.50	0.04	0.00	0.04				
27.00	0.04	0.00	0.04				
27.50	0.04	0.00	0.04				
28.00	0.04	0.00	0.04				

Summary for Link 2B: Study Point 2

Inflow Area = 1.450 ac, 62.76% Impervious, Inflow Depth > 1.14" for 1 YEAR event
Inflow = 0.30 cfs @ 12.05 hrs, Volume= 0.138 af
Primary = 0.30 cfs @ 12.05 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2B: Study Point 2



Hydrograph for Link 2B: Study Point 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.04	0.00	0.04
0.50	0.00	0.00	0.00	29.00	0.04	0.00	0.04
1.00	0.00	0.00	0.00	29.50	0.04	0.00	0.04
1.50	0.00	0.00	0.00	30.00	0.04	0.00	0.04
2.00	0.00	0.00	0.00	30.50	0.04	0.00	0.04
2.50	0.00	0.00	0.00	31.00	0.04	0.00	0.04
3.00	0.00	0.00	0.00	31.50	0.04	0.00	0.04
3.50	0.00	0.00	0.00	32.00	0.04	0.00	0.04
4.00	0.00	0.00	0.00	32.50	0.04	0.00	0.04
4.50	0.00	0.00	0.00	33.00	0.04	0.00	0.04
5.00	0.00	0.00	0.00	33.50	0.04	0.00	0.04
5.50	0.00	0.00	0.00	34.00	0.04	0.00	0.04
6.00	0.00	0.00	0.00	34.50	0.04	0.00	0.04
6.50	0.00	0.00	0.00	35.00	0.04	0.00	0.04
7.00	0.01	0.00	0.01	35.50	0.04	0.00	0.04
7.50	0.01	0.00	0.01	36.00	0.04	0.00	0.04
8.00	0.01	0.00	0.01	36.50	0.04	0.00	0.04
8.50	0.01	0.00	0.01	37.00	0.04	0.00	0.04
9.00	0.01	0.00	0.01	37.50	0.04	0.00	0.04
9.50	0.01	0.00	0.01	38.00	0.04	0.00	0.04
10.00	0.01	0.00	0.01	38.50	0.04	0.00	0.04
10.50	0.02	0.00	0.02	39.00	0.04	0.00	0.04
11.00	0.02	0.00	0.02	39.50	0.04	0.00	0.04
11.50	0.02	0.00	0.02	40.00	0.04	0.00	0.04
12.00	**0.26**	0.00	**0.26**	40.50	0.04	0.00	0.04
12.50	**0.09**	0.00	**0.09**	41.00	0.04	0.00	0.04
13.00	0.07	0.00	0.07	41.50	0.04	0.00	0.04
13.50	0.06	0.00	0.06	42.00	0.03	0.00	0.03
14.00	0.06	0.00	0.06	42.50	0.03	0.00	0.03
14.50	0.06	0.00	0.06	43.00	0.03	0.00	0.03
15.00	0.06	0.00	0.06	43.50	0.03	0.00	0.03
15.50	0.05	0.00	0.05	44.00	0.03	0.00	0.03
16.00	0.05	0.00	0.05	44.50	0.03	0.00	0.03
16.50	0.05	0.00	0.05	45.00	0.03	0.00	0.03
17.00	0.05	0.00	0.05	45.50	0.03	0.00	0.03
17.50	0.05	0.00	0.05	46.00	0.03	0.00	0.03
18.00	0.05	0.00	0.05	46.50	0.03	0.00	0.03
18.50	0.05	0.00	0.05	47.00	0.03	0.00	0.03
19.00	0.05	0.00	0.05	47.50	0.03	0.00	0.03
19.50	0.05	0.00	0.05	48.00	0.03	0.00	0.03
20.00	0.05	0.00	0.05				
20.50	0.05	0.00	0.05				
21.00	0.05	0.00	0.05				
21.50	0.05	0.00	0.05				
22.00	0.05	0.00	0.05				
22.50	0.05	0.00	0.05				
23.00	0.05	0.00	0.05				
23.50	0.05	0.00	0.05				
24.00	0.05	0.00	0.05				
24.50	0.04	0.00	0.04				
25.00	0.04	0.00	0.04				
25.50	0.04	0.00	0.04				
26.00	0.04	0.00	0.04				
26.50	0.04	0.00	0.04				
27.00	0.04	0.00	0.04				
27.50	0.04	0.00	0.04				
28.00	0.04	0.00	0.04				

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 B-1: Post-Developed Runoff Area=1.980 ac 98.48% Impervious Runoff Depth=4.17"
Tc=5.0 min CN=97 Runoff=12.77 cfs 0.688 af

Subcatchment B-1A: BYPASS POND to Runoff Area=0.690 ac 0.00% Impervious Runoff Depth=1.03"
Tc=35.7 min CN=60 Runoff=0.45 cfs 0.059 af

Subcatchment B-2: Post-Developed Runoff Area=1.010 ac 90.10% Impervious Runoff Depth=3.84"
Tc=5.0 min CN=94 Runoff=6.28 cfs 0.323 af

Subcatchment B-2A: BYPASS POND to Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=1.09"
Tc=10.0 min CN=61 Runoff=0.67 cfs 0.040 af

Subcatchment B-3: Post-Developed Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=1.09"
Tc=5.0 min CN=61 Runoff=0.26 cfs 0.013 af

Pond 1P: Undg Pond 1 Peak Elev=1,000.10' Storage=0.633 af Inflow=12.77 cfs 0.688 af
Outflow=0.05 cfs 0.142 af

Pond 2P: Undg Pond 2 Peak Elev=998.52' Storage=0.266 af Inflow=6.28 cfs 0.323 af
Outflow=0.05 cfs 0.145 af

Link 1B: Study Point 1 Inflow=0.49 cfs 0.202 af
Primary=0.49 cfs 0.202 af

Link 2B: Study Point 2 Inflow=0.71 cfs 0.185 af
Primary=0.71 cfs 0.185 af

Total Runoff Area = 4.260 ac Runoff Volume = 1.123 af Average Runoff Depth = 3.16"
32.86% Pervious = 1.400 ac 67.14% Impervious = 2.860 ac

Summary for Subcatchment B-1: Post-Developed

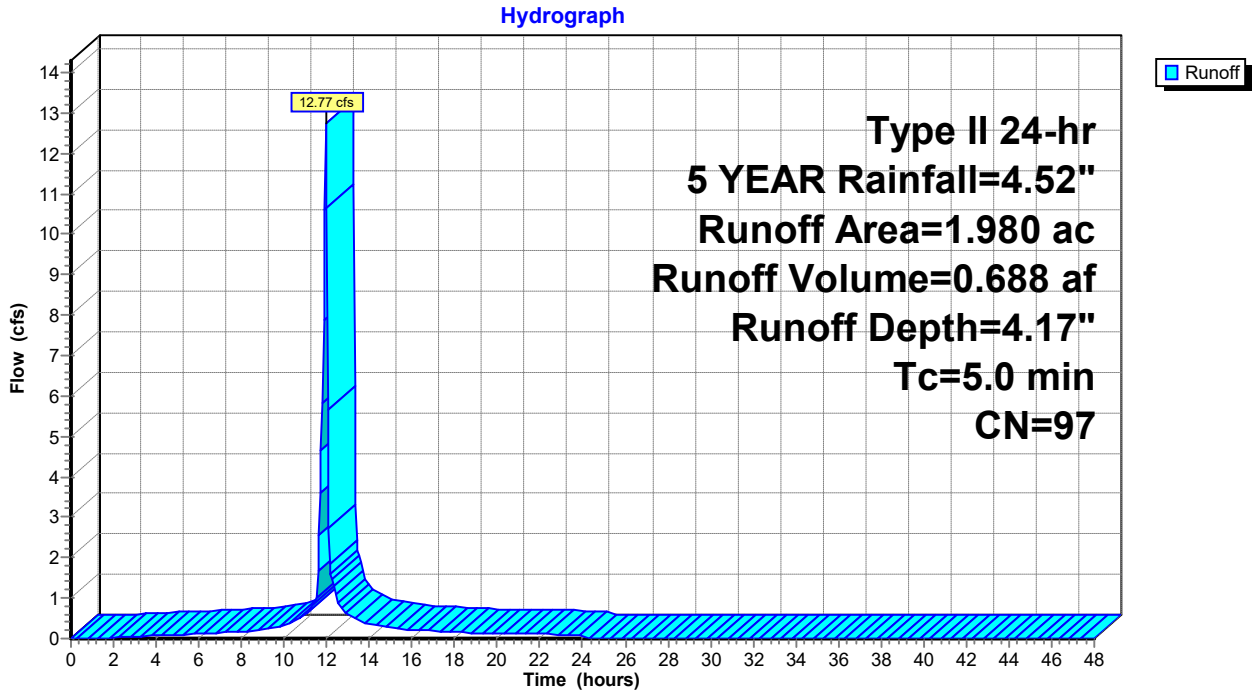
Runoff = 12.77 cfs @ 11.95 hrs, Volume= 0.688 af, Depth= 4.17"
Routed to Pond 1P : Undg Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
1.950	98	Paved parking, HSG B
0.030	61	>75% Grass cover, Good, HSG B
1.980	97	Weighted Average
0.030		1.52% Pervious Area
1.950		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-1: Post-Developed



Hydrograph for Subcatchment B-1: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.02
2.50	0.13	0.01	0.03
3.00	0.16	0.02	0.05
3.50	0.19	0.04	0.06
4.00	0.22	0.05	0.07
4.50	0.25	0.07	0.08
5.00	0.28	0.09	0.09
5.50	0.32	0.12	0.11
6.00	0.36	0.15	0.12
6.50	0.40	0.18	0.13
7.00	0.45	0.21	0.14
7.50	0.49	0.25	0.15
8.00	0.54	0.29	0.17
8.50	0.60	0.34	0.20
9.00	0.66	0.40	0.25
9.50	0.74	0.46	0.26
10.00	0.82	0.54	0.32
10.50	0.92	0.63	0.42
11.00	1.06	0.76	0.59
11.50	1.28	0.97	**0.97**
12.00	3.00	2.66	**10.65**
12.50	3.32	2.98	0.94
13.00	3.49	3.14	0.58
13.50	3.61	3.27	0.44
14.00	3.71	3.36	0.35
14.50	3.79	3.44	0.31
15.00	3.86	3.51	0.27
15.50	3.92	3.57	0.24
16.00	3.98	3.63	0.21
16.50	4.03	3.68	0.20
17.00	4.08	3.73	0.19
17.50	4.12	3.77	0.17
18.00	4.16	3.81	0.16
18.50	4.20	3.85	0.15
19.00	4.24	3.89	0.14
19.50	4.27	3.92	0.13
20.00	4.30	3.95	0.12
20.50	4.33	3.98	0.11
21.00	4.36	4.01	0.11
21.50	4.39	4.04	0.11
22.00	4.42	4.07	0.11
22.50	4.44	4.09	0.11
23.00	4.47	4.12	0.10
23.50	4.49	4.14	0.10
24.00	**4.52**	**4.17**	0.10
24.50	4.52	4.17	0.00
25.00	4.52	4.17	0.00
25.50	4.52	4.17	0.00
26.00	4.52	4.17	0.00
26.50	4.52	4.17	0.00
27.00	4.52	4.17	0.00
27.50	4.52	4.17	0.00
28.00	4.52	4.17	0.00
28.50	4.52	4.17	0.00
29.00	4.52	4.17	0.00
29.50	4.52	4.17	0.00
30.00	4.52	4.17	0.00
30.50	4.52	4.17	0.00
31.00	4.52	4.17	0.00
31.50	4.52	4.17	0.00
32.00	4.52	4.17	0.00
32.50	4.52	4.17	0.00
33.00	4.52	4.17	0.00
33.50	4.52	4.17	0.00
34.00	4.52	4.17	0.00
34.50	4.52	4.17	0.00
35.00	4.52	4.17	0.00
35.50	4.52	4.17	0.00
36.00	4.52	4.17	0.00
36.50	4.52	4.17	0.00
37.00	4.52	4.17	0.00
37.50	4.52	4.17	0.00
38.00	4.52	4.17	0.00
38.50	4.52	4.17	0.00
39.00	4.52	4.17	0.00
39.50	4.52	4.17	0.00
40.00	4.52	4.17	0.00
40.50	4.52	4.17	0.00
41.00	4.52	4.17	0.00
41.50	4.52	4.17	0.00
42.00	4.52	4.17	0.00
42.50	4.52	4.17	0.00
43.00	4.52	4.17	0.00
43.50	4.52	4.17	0.00
44.00	4.52	4.17	0.00
44.50	4.52	4.17	0.00
45.00	4.52	4.17	0.00
45.50	4.52	4.17	0.00
46.00	4.52	4.17	0.00
46.50	4.52	4.17	0.00
47.00	4.52	4.17	0.00
47.50	4.52	4.17	0.00
48.00	4.52	4.17	0.00

Summary for Subcatchment B-1A: BYPASS POND to SP1

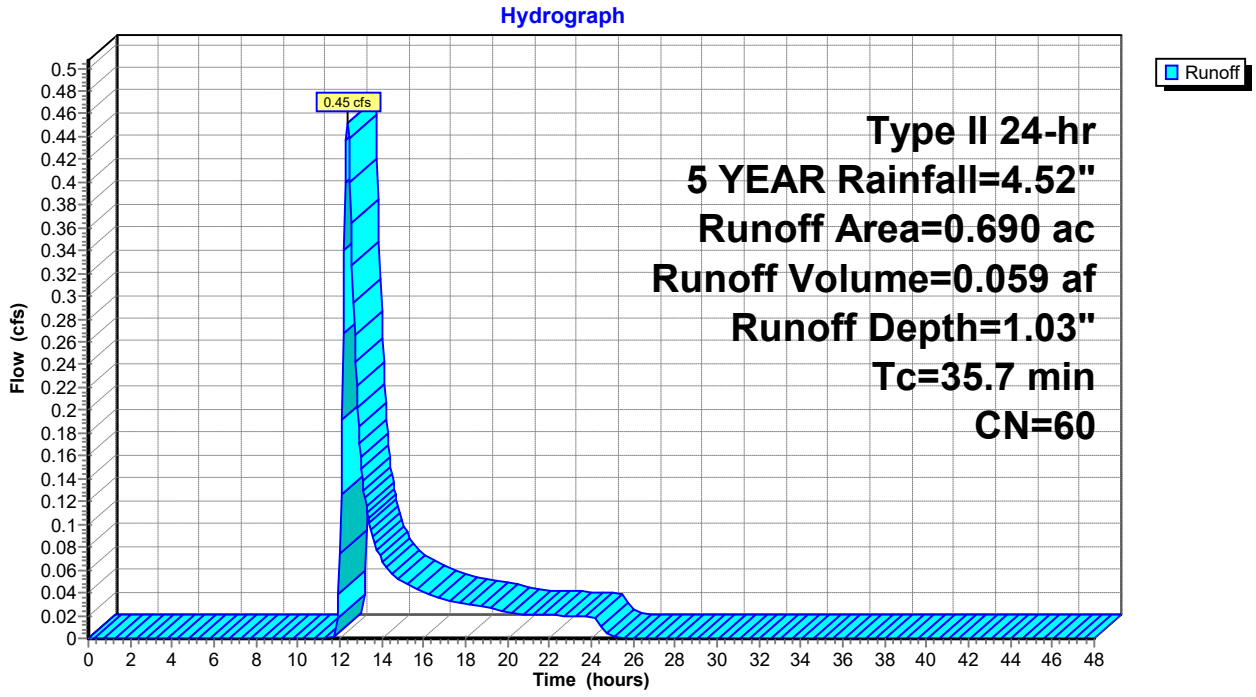
Runoff = 0.45 cfs @ 12.36 hrs, Volume= 0.059 af, Depth= 1.03"
Routed to Link 1B : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
0.100	55	Woods, Good, HSG B
0.590	61	>75% Grass cover, Good, HSG B
0.690	60	Weighted Average
0.690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.7					**Direct Entry,**

Subcatchment B-1A: BYPASS POND to SP1



Hydrograph for Subcatchment B-1A: BYPASS POND to SP1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.00
4.00	0.22	0.00	0.00
4.50	0.25	0.00	0.00
5.00	0.28	0.00	0.00
5.50	0.32	0.00	0.00
6.00	0.36	0.00	0.00
6.50	0.40	0.00	0.00
7.00	0.45	0.00	0.00
7.50	0.49	0.00	0.00
8.00	0.54	0.00	0.00
8.50	0.60	0.00	0.00
9.00	0.66	0.00	0.00
9.50	0.74	0.00	0.00
10.00	0.82	0.00	0.00
10.50	0.92	0.00	0.00
11.00	1.06	0.00	0.00
11.50	1.28	0.00	0.00
12.00	3.00	0.33	**0.07**
12.50	3.32	0.46	**0.40**
13.00	3.49	0.53	0.16
13.50	3.61	0.58	0.09
14.00	3.71	0.62	0.07
14.50	3.79	0.66	0.06
15.00	3.86	0.69	0.05
15.50	3.92	0.72	0.05
16.00	3.98	0.75	0.04
16.50	4.03	0.78	0.04
17.00	4.08	0.80	0.03
17.50	4.12	0.82	0.03
18.00	4.16	0.84	0.03
18.50	4.20	0.86	0.03
19.00	4.24	0.88	0.03
19.50	4.27	0.90	0.03
20.00	4.30	0.92	0.02
20.50	4.33	0.93	0.02
21.00	4.36	0.95	0.02
21.50	4.39	0.96	0.02
22.00	4.42	0.97	0.02
22.50	4.44	0.99	0.02
23.00	4.47	1.00	0.02
23.50	4.49	1.02	0.02
24.00	**4.52**	**1.03**	0.02
24.50	4.52	1.03	0.01
25.00	4.52	1.03	0.00
25.50	4.52	1.03	0.00
26.00	4.52	1.03	0.00
26.50	4.52	1.03	0.00
27.00	4.52	1.03	0.00
27.50	4.52	1.03	0.00
28.00	4.52	1.03	0.00
28.50	4.52	1.03	0.00
29.00	4.52	1.03	0.00
29.50	4.52	1.03	0.00
30.00	4.52	1.03	0.00
30.50	4.52	1.03	0.00
31.00	4.52	1.03	0.00
31.50	4.52	1.03	0.00
32.00	4.52	1.03	0.00
32.50	4.52	1.03	0.00
33.00	4.52	1.03	0.00
33.50	4.52	1.03	0.00
34.00	4.52	1.03	0.00
34.50	4.52	1.03	0.00
35.00	4.52	1.03	0.00
35.50	4.52	1.03	0.00
36.00	4.52	1.03	0.00
36.50	4.52	1.03	0.00
37.00	4.52	1.03	0.00
37.50	4.52	1.03	0.00
38.00	4.52	1.03	0.00
38.50	4.52	1.03	0.00
39.00	4.52	1.03	0.00
39.50	4.52	1.03	0.00
40.00	4.52	1.03	0.00
40.50	4.52	1.03	0.00
41.00	4.52	1.03	0.00
41.50	4.52	1.03	0.00
42.00	4.52	1.03	0.00
42.50	4.52	1.03	0.00
43.00	4.52	1.03	0.00
43.50	4.52	1.03	0.00
44.00	4.52	1.03	0.00
44.50	4.52	1.03	0.00
45.00	4.52	1.03	0.00
45.50	4.52	1.03	0.00
46.00	4.52	1.03	0.00
46.50	4.52	1.03	0.00
47.00	4.52	1.03	0.00
47.50	4.52	1.03	0.00
48.00	4.52	1.03	0.00

Summary for Subcatchment B-2: Post-Developed

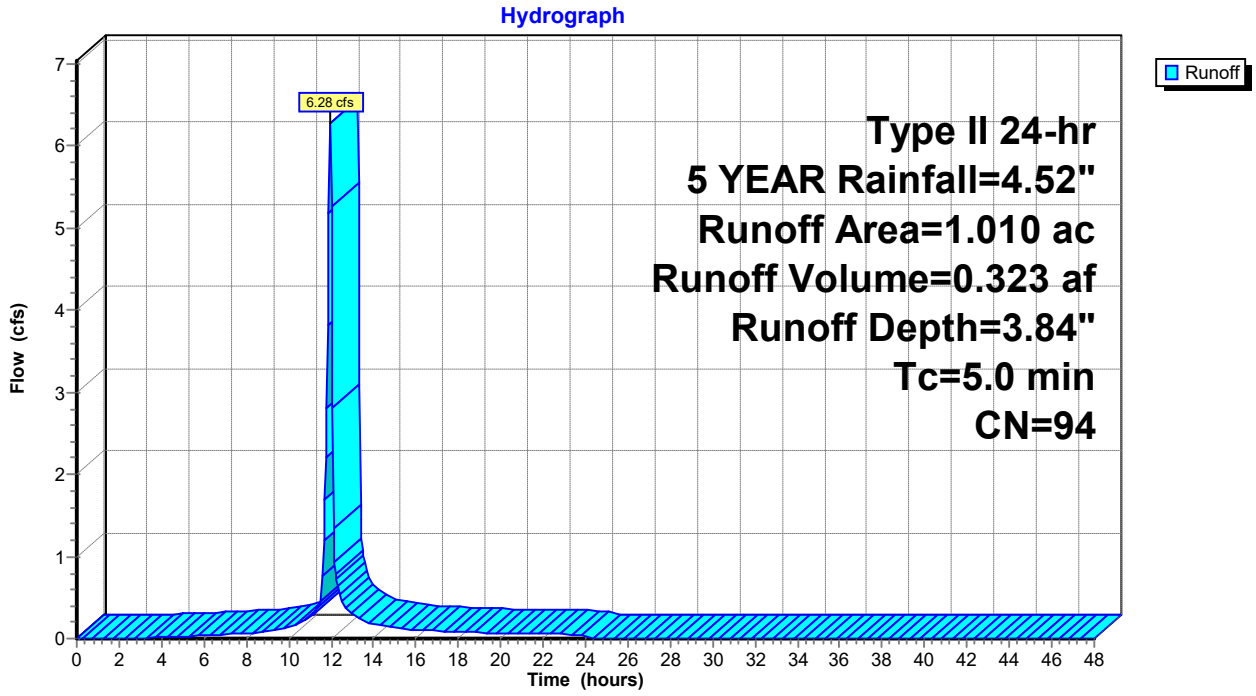
Runoff = 6.28 cfs @ 11.95 hrs, Volume= 0.323 af, Depth= 3.84"
Routed to Pond 2P : Undg Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
0.910	98	Paved parking, HSG B
0.100	61	>75% Grass cover, Good, HSG B
1.010	94	Weighted Average
0.100		9.90% Pervious Area
0.910		90.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-2: Post-Developed



Hydrograph for Subcatchment B-2: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.01
4.00	0.22	0.01	0.01
4.50	0.25	0.02	0.02
5.00	0.28	0.03	0.03
5.50	0.32	0.05	0.03
6.00	0.36	0.06	0.04
6.50	0.40	0.08	0.04
7.00	0.45	0.11	0.05
7.50	0.49	0.13	0.06
8.00	0.54	0.16	0.06
8.50	0.60	0.20	0.08
9.00	0.66	0.25	0.10
9.50	0.74	0.30	0.11
10.00	0.82	0.36	0.14
10.50	0.92	0.44	0.18
11.00	1.06	0.56	0.26
11.50	1.28	0.74	**0.45**
12.00	3.00	2.35	**5.27**
12.50	3.32	2.66	0.47
13.00	3.49	2.83	0.29
13.50	3.61	2.94	0.22
14.00	3.71	3.04	0.17
14.50	3.79	3.11	0.15
15.00	3.86	3.19	0.14
15.50	3.92	3.25	0.12
16.00	3.98	3.30	0.11
16.50	4.03	3.35	0.10
17.00	4.08	3.40	0.09
17.50	4.12	3.44	0.09
18.00	4.16	3.48	0.08
18.50	4.20	3.52	0.08
19.00	4.24	3.56	0.07
19.50	4.27	3.59	0.07
20.00	4.30	3.62	0.06
20.50	4.33	3.65	0.06
21.00	4.36	3.68	0.06
21.50	4.39	3.71	0.06
22.00	4.42	3.73	0.05
22.50	4.44	3.76	0.05
23.00	4.47	3.79	0.05
23.50	4.49	3.81	0.05
24.00	**4.52**	**3.84**	0.05
24.50	4.52	3.84	0.00
25.00	4.52	3.84	0.00
25.50	4.52	3.84	0.00
26.00	4.52	3.84	0.00
26.50	4.52	3.84	0.00
27.00	4.52	3.84	0.00
27.50	4.52	3.84	0.00
28.00	4.52	3.84	0.00
28.50	4.52	3.84	0.00
29.00	4.52	3.84	0.00
29.50	4.52	3.84	0.00
30.00	4.52	3.84	0.00
30.50	4.52	3.84	0.00
31.00	4.52	3.84	0.00
31.50	4.52	3.84	0.00
32.00	4.52	3.84	0.00
32.50	4.52	3.84	0.00
33.00	4.52	3.84	0.00
33.50	4.52	3.84	0.00
34.00	4.52	3.84	0.00
34.50	4.52	3.84	0.00
35.00	4.52	3.84	0.00
35.50	4.52	3.84	0.00
36.00	4.52	3.84	0.00
36.50	4.52	3.84	0.00
37.00	4.52	3.84	0.00
37.50	4.52	3.84	0.00
38.00	4.52	3.84	0.00
38.50	4.52	3.84	0.00
39.00	4.52	3.84	0.00
39.50	4.52	3.84	0.00
40.00	4.52	3.84	0.00
40.50	4.52	3.84	0.00
41.00	4.52	3.84	0.00
41.50	4.52	3.84	0.00
42.00	4.52	3.84	0.00
42.50	4.52	3.84	0.00
43.00	4.52	3.84	0.00
43.50	4.52	3.84	0.00
44.00	4.52	3.84	0.00
44.50	4.52	3.84	0.00
45.00	4.52	3.84	0.00
45.50	4.52	3.84	0.00
46.00	4.52	3.84	0.00
46.50	4.52	3.84	0.00
47.00	4.52	3.84	0.00
47.50	4.52	3.84	0.00
48.00	4.52	3.84	0.00

Summary for Subcatchment B-2A: BYPASS POND to SP2

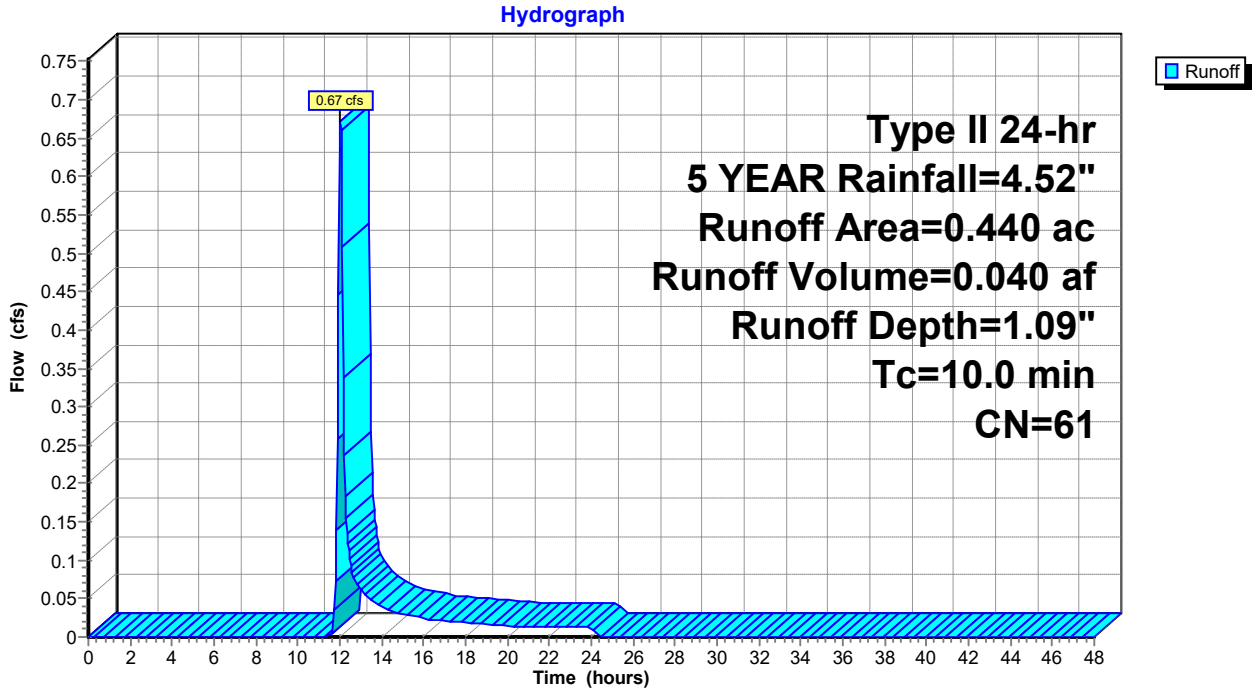
Runoff = 0.67 cfs @ 12.03 hrs, Volume= 0.040 af, Depth= 1.09"
Routed to Link 2B : Study Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
0.440	61	>75% Grass cover, Good, HSG B
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment B-2A: BYPASS POND to SP2



Hydrograph for Subcatchment B-2A: BYPASS POND to SP2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.00
4.00	0.22	0.00	0.00
4.50	0.25	0.00	0.00
5.00	0.28	0.00	0.00
5.50	0.32	0.00	0.00
6.00	0.36	0.00	0.00
6.50	0.40	0.00	0.00
7.00	0.45	0.00	0.00
7.50	0.49	0.00	0.00
8.00	0.54	0.00	0.00
8.50	0.60	0.00	0.00
9.00	0.66	0.00	0.00
9.50	0.74	0.00	0.00
10.00	0.82	0.00	0.00
10.50	0.92	0.00	0.00
11.00	1.06	0.00	0.00
11.50	1.28	0.00	0.00
12.00	3.00	0.36	**0.63**
12.50	3.32	0.49	**0.10**
13.00	3.49	0.57	0.06
13.50	3.61	0.62	0.05
14.00	3.71	0.67	0.04
14.50	3.79	0.71	0.03
15.00	3.86	0.74	0.03
15.50	3.92	0.77	0.03
16.00	3.98	0.80	0.02
16.50	4.03	0.83	0.02
17.00	4.08	0.85	0.02
17.50	4.12	0.87	0.02
18.00	4.16	0.90	0.02
18.50	4.20	0.92	0.02
19.00	4.24	0.94	0.02
19.50	4.27	0.95	0.02
20.00	4.30	0.97	0.01
20.50	4.33	0.99	0.01
21.00	4.36	1.00	0.01
21.50	4.39	1.02	0.01
22.00	4.42	1.03	0.01
22.50	4.44	1.05	0.01
23.00	4.47	1.06	0.01
23.50	4.49	1.08	0.01
24.00	**4.52**	**1.09**	0.01
24.50	4.52	1.09	0.00
25.00	4.52	1.09	0.00
25.50	4.52	1.09	0.00
26.00	4.52	1.09	0.00
26.50	4.52	1.09	0.00
27.00	4.52	1.09	0.00
27.50	4.52	1.09	0.00
28.00	4.52	1.09	0.00
28.50	4.52	1.09	0.00
29.00	4.52	1.09	0.00
29.50	4.52	1.09	0.00
30.00	4.52	1.09	0.00
30.50	4.52	1.09	0.00
31.00	4.52	1.09	0.00
31.50	4.52	1.09	0.00
32.00	4.52	1.09	0.00
32.50	4.52	1.09	0.00
33.00	4.52	1.09	0.00
33.50	4.52	1.09	0.00
34.00	4.52	1.09	0.00
34.50	4.52	1.09	0.00
35.00	4.52	1.09	0.00
35.50	4.52	1.09	0.00
36.00	4.52	1.09	0.00
36.50	4.52	1.09	0.00
37.00	4.52	1.09	0.00
37.50	4.52	1.09	0.00
38.00	4.52	1.09	0.00
38.50	4.52	1.09	0.00
39.00	4.52	1.09	0.00
39.50	4.52	1.09	0.00
40.00	4.52	1.09	0.00
40.50	4.52	1.09	0.00
41.00	4.52	1.09	0.00
41.50	4.52	1.09	0.00
42.00	4.52	1.09	0.00
42.50	4.52	1.09	0.00
43.00	4.52	1.09	0.00
43.50	4.52	1.09	0.00
44.00	4.52	1.09	0.00
44.50	4.52	1.09	0.00
45.00	4.52	1.09	0.00
45.50	4.52	1.09	0.00
46.00	4.52	1.09	0.00
46.50	4.52	1.09	0.00
47.00	4.52	1.09	0.00
47.50	4.52	1.09	0.00
48.00	4.52	1.09	0.00

Summary for Subcatchment B-3: Post-Developed

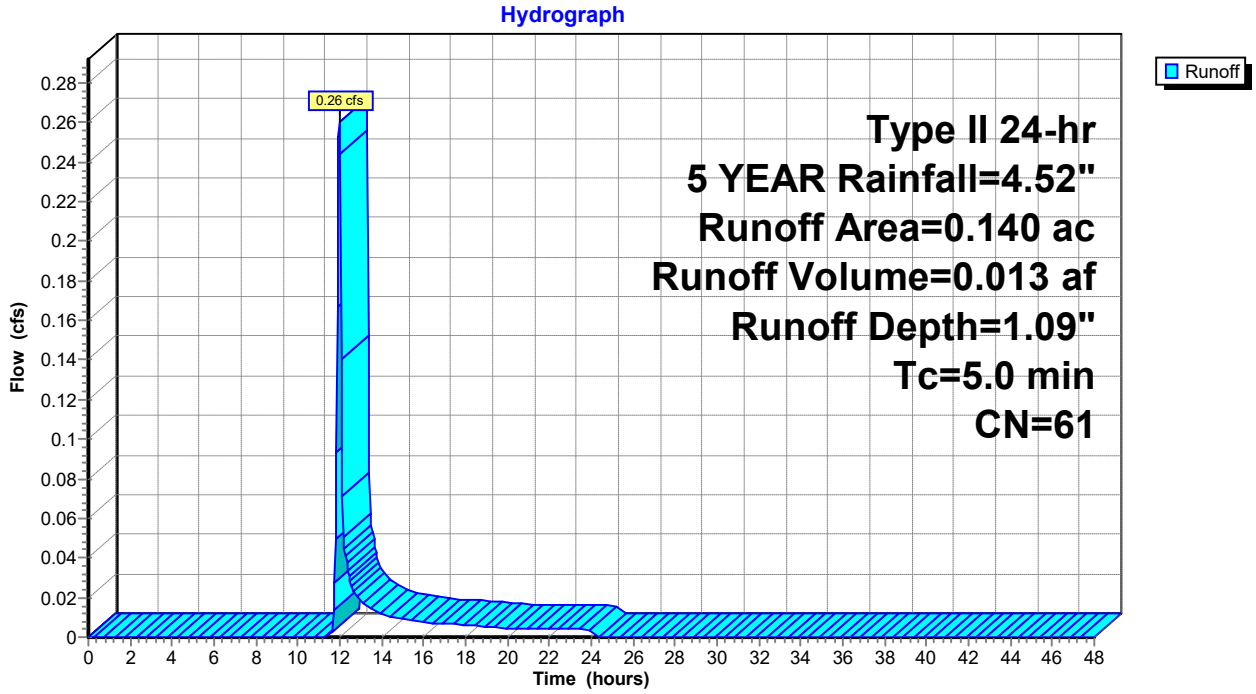
Runoff = 0.26 cfs @ 11.97 hrs, Volume= 0.013 af, Depth= 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
0.140	61	>75% Grass cover, Good, HSG B
0.140	61	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-3: Post-Developed



Hydrograph for Subcatchment B-3: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.00
4.00	0.22	0.00	0.00
4.50	0.25	0.00	0.00
5.00	0.28	0.00	0.00
5.50	0.32	0.00	0.00
6.00	0.36	0.00	0.00
6.50	0.40	0.00	0.00
7.00	0.45	0.00	0.00
7.50	0.49	0.00	0.00
8.00	0.54	0.00	0.00
8.50	0.60	0.00	0.00
9.00	0.66	0.00	0.00
9.50	0.74	0.00	0.00
10.00	0.82	0.00	0.00
10.50	0.92	0.00	0.00
11.00	1.06	0.00	0.00
11.50	1.28	0.00	**0.00**
12.00	3.00	0.36	**0.24**
12.50	3.32	0.49	0.03
13.00	3.49	0.57	0.02
13.50	3.61	0.62	0.01
14.00	3.71	0.67	0.01
14.50	3.79	0.71	0.01
15.00	3.86	0.74	0.01
15.50	3.92	0.77	0.01
16.00	3.98	0.80	0.01
16.50	4.03	0.83	0.01
17.00	4.08	0.85	0.01
17.50	4.12	0.87	0.01
18.00	4.16	0.90	0.01
18.50	4.20	0.92	0.01
19.00	4.24	0.94	0.01
19.50	4.27	0.95	0.00
20.00	4.30	0.97	0.00
20.50	4.33	0.99	0.00
21.00	4.36	1.00	0.00
21.50	4.39	1.02	0.00
22.00	4.42	1.03	0.00
22.50	4.44	1.05	0.00
23.00	4.47	1.06	0.00
23.50	4.49	1.08	0.00
24.00	**4.52**	**1.09**	0.00
24.50	4.52	1.09	0.00
25.00	4.52	1.09	0.00
25.50	4.52	1.09	0.00
26.00	4.52	1.09	0.00
26.50	4.52	1.09	0.00
27.00	4.52	1.09	0.00
27.50	4.52	1.09	0.00
28.00	4.52	1.09	0.00
28.50	4.52	1.09	0.00
29.00	4.52	1.09	0.00
29.50	4.52	1.09	0.00
30.00	4.52	1.09	0.00
30.50	4.52	1.09	0.00
31.00	4.52	1.09	0.00
31.50	4.52	1.09	0.00
32.00	4.52	1.09	0.00
32.50	4.52	1.09	0.00
33.00	4.52	1.09	0.00
33.50	4.52	1.09	0.00
34.00	4.52	1.09	0.00
34.50	4.52	1.09	0.00
35.00	4.52	1.09	0.00
35.50	4.52	1.09	0.00
36.00	4.52	1.09	0.00
36.50	4.52	1.09	0.00
37.00	4.52	1.09	0.00
37.50	4.52	1.09	0.00
38.00	4.52	1.09	0.00
38.50	4.52	1.09	0.00
39.00	4.52	1.09	0.00
39.50	4.52	1.09	0.00
40.00	4.52	1.09	0.00
40.50	4.52	1.09	0.00
41.00	4.52	1.09	0.00
41.50	4.52	1.09	0.00
42.00	4.52	1.09	0.00
42.50	4.52	1.09	0.00
43.00	4.52	1.09	0.00
43.50	4.52	1.09	0.00
44.00	4.52	1.09	0.00
44.50	4.52	1.09	0.00
45.00	4.52	1.09	0.00
45.50	4.52	1.09	0.00
46.00	4.52	1.09	0.00
46.50	4.52	1.09	0.00
47.00	4.52	1.09	0.00
47.50	4.52	1.09	0.00
48.00	4.52	1.09	0.00

Summary for Pond 1P: Undg Pond 1

Inflow Area = 1.980 ac, 98.48% Impervious, Inflow Depth = 4.17" for 5 YEAR event
Inflow = 12.77 cfs @ 11.95 hrs, Volume= 0.688 af
Outflow = 0.05 cfs @ 24.08 hrs, Volume= 0.142 af, Atten= 100%, Lag= 727.7 min
Primary = 0.05 cfs @ 24.08 hrs, Volume= 0.142 af
Routed to Link 1B : Study Point 1

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,000.10' @ 24.08 hrs Surf.Area= 0.286 ac Storage= 0.633 af

Plug-Flow detention time= 1,184.4 min calculated for 0.142 af (21% of inflow)
Center-of-Mass det. time= 950.7 min (1,703.8 - 753.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	997.00'	0.394 af	**51.42'W x 242.31'L x 5.50'H Field A** 1.573 af Overall - 0.588 af Embedded = 0.985 af x 40.0% Voids
#2A	997.75'	0.588 af	**ADS_StormTech MC-3500 d +Cap** x 231 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 231 Chambers in 7 Rows Cap Storage= 14.9 cf x 2 x 7 rows = 208.6 cf
		0.982 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	997.00'	**36.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	997.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,001.00'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,002.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.05 cfs @ 24.08 hrs HW=1,000.10' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.05 cfs of 43.02 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 8.42 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Undg Pond 1 - 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 7 rows = 208.6 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

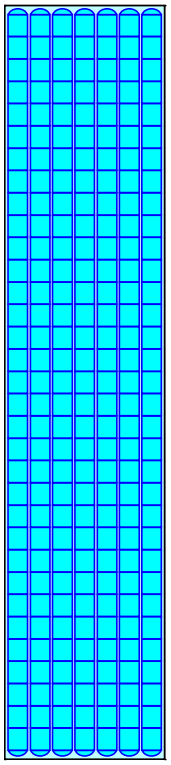
33 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 240.31' Row Length +12.0" End Stone x 2 = 242.31' Base Length
7 Rows x 77.0" Wide + 9.0" Spacing x 6 + 12.0" Side Stone x 2 = 51.42' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

231 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 7 Rows = 25,607.5 cf Chamber Storage

68,523.2 cf Field - 25,607.5 cf Chambers = 42,915.7 cf Stone x 40.0% Voids = 17,166.3 cf Stone Storage

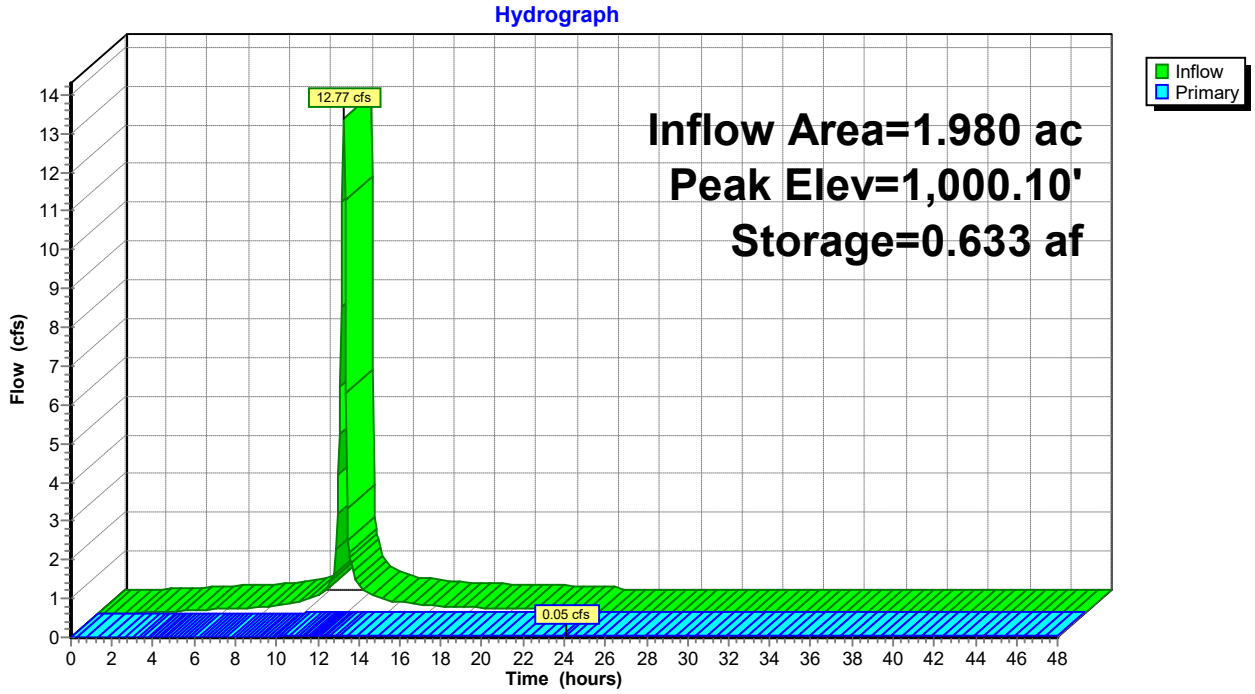
Chamber Storage + Stone Storage = 42,773.8 cf = 0.982 af
Overall Storage Efficiency = 62.4%
Overall System Size = 242.31' x 51.42' x 5.50'

231 Chambers
2,537.9 cy Field
1,589.5 cy Stone





Pond 1P: Undg Pond 1



Hydrograph for Pond 1P: Undg Pond 1

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	997.00	0.00
1.00	0.00	0.000	997.00	0.00
2.00	0.02	0.001	997.00	0.00
3.00	0.05	0.003	997.03	0.00
4.00	0.07	0.008	997.07	0.00
5.00	0.09	0.014	997.12	0.01
6.00	0.12	0.022	997.19	0.01
7.00	0.14	0.032	997.28	0.01
8.00	0.17	0.044	997.38	0.02
9.00	0.25	0.059	997.52	0.02
10.00	0.32	0.080	997.70	0.02
11.00	**0.59**	0.114	997.86	0.02
12.00	**10.65**	0.377	998.95	0.04
13.00	0.58	0.501	999.49	0.04
14.00	0.35	0.535	999.64	0.04
15.00	0.27	0.556	999.74	0.04
16.00	0.21	0.573	999.81	0.04
17.00	0.19	0.586	999.87	0.04
18.00	0.16	0.596	999.92	0.04
19.00	0.14	0.605	999.96	0.04
20.00	0.12	0.612	1,000.00	0.05
21.00	0.11	0.618	1,000.02	0.05
22.00	0.11	0.623	1,000.05	0.05
23.00	0.10	0.628	1,000.07	0.05
24.00	0.10	**0.633**	**1,000.10**	**0.05**
25.00	0.00	**0.630**	**1,000.08**	**0.05**
26.00	0.00	0.626	1,000.06	0.05
27.00	0.00	0.622	1,000.05	0.05
28.00	0.00	0.618	1,000.03	0.05
29.00	0.00	0.615	1,000.01	0.05
30.00	0.00	0.611	999.99	0.05
31.00	0.00	0.607	999.97	0.04
32.00	0.00	0.604	999.96	0.04
33.00	0.00	0.600	999.94	0.04
34.00	0.00	0.596	999.92	0.04
35.00	0.00	0.592	999.90	0.04
36.00	0.00	0.589	999.89	0.04
37.00	0.00	0.585	999.87	0.04
38.00	0.00	0.582	999.85	0.04
39.00	0.00	0.578	999.84	0.04
40.00	0.00	0.574	999.82	0.04
41.00	0.00	0.571	999.80	0.04
42.00	0.00	0.567	999.79	0.04
43.00	0.00	0.563	999.77	0.04
44.00	0.00	0.560	999.75	0.04
45.00	0.00	0.556	999.74	0.04
46.00	0.00	0.553	999.72	0.04
47.00	0.00	0.549	999.70	0.04
48.00	0.00	0.546	999.69	0.04

Summary for Pond 2P: Undg Pond 2

Inflow Area = 1.010 ac, 90.10% Impervious, Inflow Depth = 3.84" for 5 YEAR event
Inflow = 6.28 cfs @ 11.95 hrs, Volume= 0.323 af
Outflow = 0.05 cfs @ 23.98 hrs, Volume= 0.145 af, Atten= 99%, Lag= 721.9 min
Primary = 0.05 cfs @ 23.98 hrs, Volume= 0.145 af
Routed to Link 2B : Study Point 2

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 998.52' @ 23.98 hrs Surf.Area= 0.103 ac Storage= 0.266 af

Plug-Flow detention time= 1,048.3 min calculated for 0.145 af (45% of inflow)
Center-of-Mass det. time= 926.3 min (1,698.3 - 772.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	995.00'	0.166 af	**37.58'W x 119.53'L x 6.75'H Field A** 0.696 af Overall - 0.282 af Embedded = 0.414 af x 40.0% Voids
#2A	995.75'	0.282 af	**ADS_StormTech MC-7200 +Cap** x 68 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 68 Chambers in 4 Rows Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf
		0.448 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	995.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	999.00'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,001.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.05 cfs @ 23.98 hrs HW=998.52' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.05 cfs of 24.03 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 8.98 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Undg Pond 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-7200 +Cap (ADS StormTech® MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

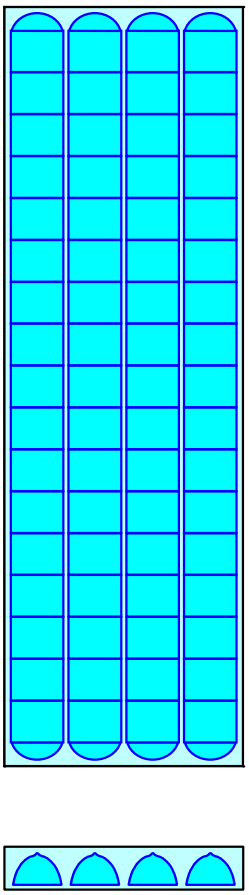
17 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 117.52' Row Length +12.0" End Stone x 2 = 119.53' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

68 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 4 Rows = 12,275.5 cf Chamber Storage

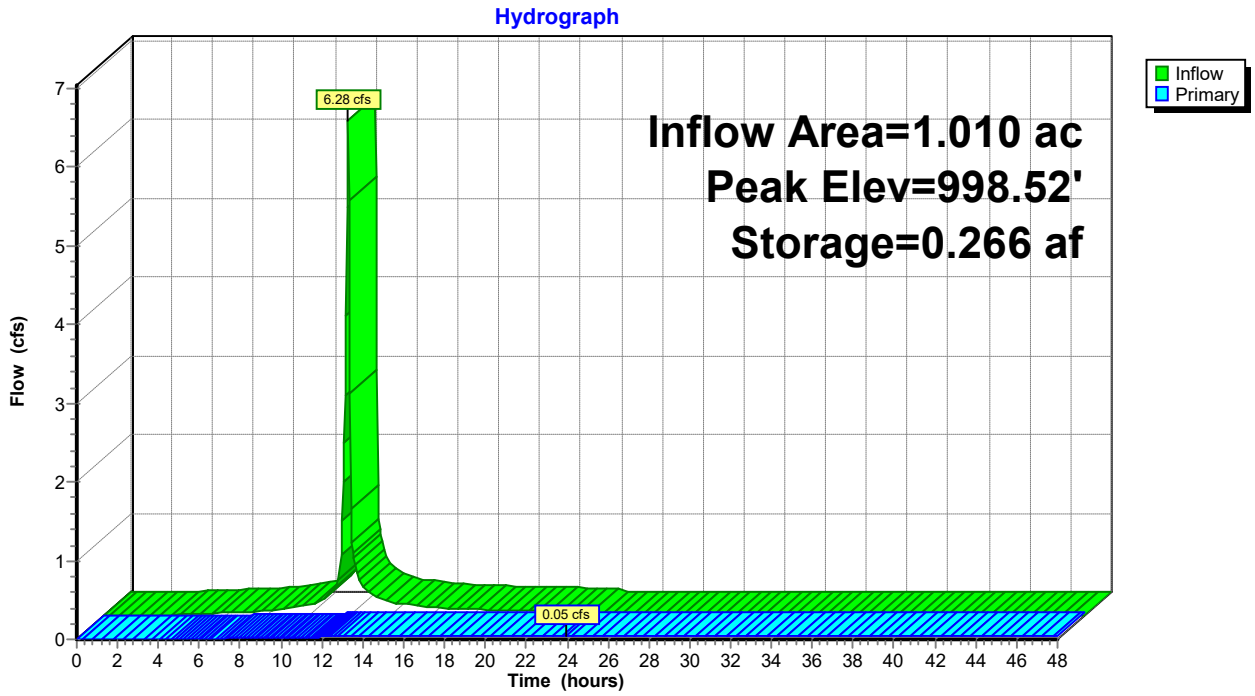
30,322.0 cf Field - 12,275.5 cf Chambers = 18,046.5 cf Stone x 40.0% Voids = 7,218.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,494.1 cf = 0.448 af
Overall Storage Efficiency = 64.3%
Overall System Size = 119.53' x 37.58' x 6.75'

68 Chambers
1,123.0 cy Field
668.4 cy Stone



Pond 2P: Undg Pond 2



Hydrograph for Pond 2P: Undg Pond 2

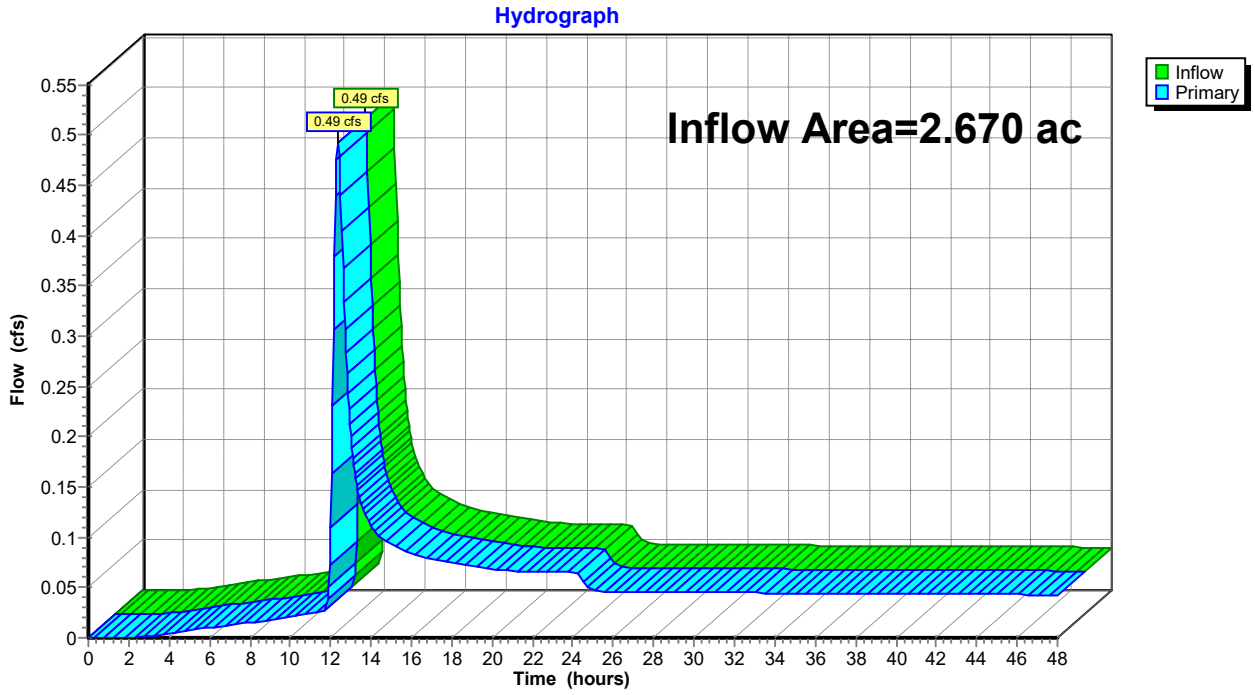
Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	995.00	0.00
1.00	0.00	0.000	995.00	0.00
2.00	0.00	0.000	995.00	0.00
3.00	0.00	0.000	995.00	0.00
4.00	0.01	0.001	995.02	0.00
5.00	0.03	0.002	995.05	0.00
6.00	0.04	0.004	995.11	0.01
7.00	0.05	0.007	995.18	0.01
8.00	0.06	0.011	995.27	0.01
9.00	0.10	0.017	995.40	0.02
10.00	0.14	0.024	995.59	0.02
11.00	**0.26**	0.038	995.83	0.02
12.00	**5.27**	0.163	997.26	0.04
13.00	0.29	0.224	997.99	0.05
14.00	0.17	0.238	998.17	0.05
15.00	0.14	0.247	998.28	0.05
16.00	0.11	0.253	998.36	0.05
17.00	0.09	0.257	998.41	0.05
18.00	0.08	0.261	998.45	0.05
19.00	0.07	0.263	998.48	0.05
20.00	0.06	0.264	998.50	0.05
21.00	0.06	0.265	998.51	0.05
22.00	0.05	0.266	998.52	0.05
23.00	0.05	0.266	998.52	0.05
24.00	0.05	**0.266**	**998.52**	**0.05**
25.00	0.00	0.263	998.48	0.05
26.00	0.00	0.258	998.42	0.05
27.00	0.00	0.255	998.37	0.05
28.00	0.00	0.251	998.32	0.05
29.00	0.00	0.247	998.27	0.05
30.00	0.00	0.243	998.23	0.05
31.00	0.00	0.239	998.18	0.05
32.00	0.00	0.235	998.13	0.05
33.00	0.00	0.231	998.08	0.05
34.00	0.00	0.228	998.04	0.05
35.00	0.00	0.224	997.99	0.05
36.00	0.00	0.220	997.94	0.04
37.00	0.00	0.216	997.90	0.04
38.00	0.00	0.213	997.85	0.04
39.00	0.00	0.209	997.81	0.04
40.00	0.00	0.206	997.77	0.04
41.00	0.00	0.202	997.72	0.04
42.00	0.00	0.198	997.68	0.04
43.00	0.00	0.195	997.64	0.04
44.00	0.00	0.191	997.60	0.04
45.00	0.00	0.188	997.55	0.04
46.00	0.00	0.185	997.51	0.04
47.00	0.00	0.181	997.47	0.04
48.00	0.00	0.178	997.43	0.04

Summary for Link 1B: Study Point 1

Inflow Area = 2.670 ac, 73.03% Impervious, Inflow Depth > 0.91" for 5 YEAR event
Inflow = 0.49 cfs @ 12.36 hrs, Volume= 0.202 af
Primary = 0.49 cfs @ 12.36 hrs, Volume= 0.202 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 1B: Study Point 1



Hydrograph for Link 1B: Study Point 1

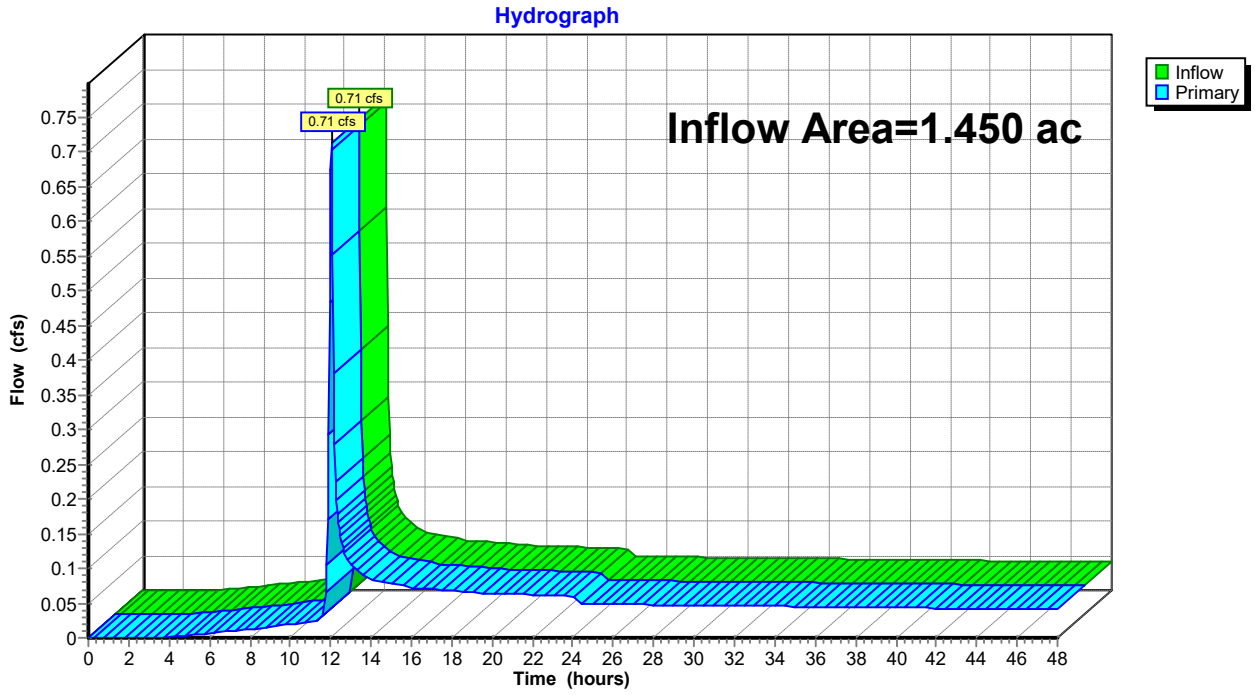
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.04	0.00	0.04
3.00	0.00	0.00	0.00	31.50	0.04	0.00	0.04
3.50	0.00	0.00	0.00	32.00	0.04	0.00	0.04
4.00	0.00	0.00	0.00	32.50	0.04	0.00	0.04
4.50	0.01	0.00	0.01	33.00	0.04	0.00	0.04
5.00	0.01	0.00	0.01	33.50	0.04	0.00	0.04
5.50	0.01	0.00	0.01	34.00	0.04	0.00	0.04
6.00	0.01	0.00	0.01	34.50	0.04	0.00	0.04
6.50	0.01	0.00	0.01	35.00	0.04	0.00	0.04
7.00	0.01	0.00	0.01	35.50	0.04	0.00	0.04
7.50	0.01	0.00	0.01	36.00	0.04	0.00	0.04
8.00	0.02	0.00	0.02	36.50	0.04	0.00	0.04
8.50	0.02	0.00	0.02	37.00	0.04	0.00	0.04
9.00	0.02	0.00	0.02	37.50	0.04	0.00	0.04
9.50	0.02	0.00	0.02	38.00	0.04	0.00	0.04
10.00	0.02	0.00	0.02	38.50	0.04	0.00	0.04
10.50	0.02	0.00	0.02	39.00	0.04	0.00	0.04
11.00	0.02	0.00	0.02	39.50	0.04	0.00	0.04
11.50	0.03	0.00	0.03	40.00	0.04	0.00	0.04
12.00	**0.11**	0.00	**0.11**	40.50	0.04	0.00	0.04
12.50	**0.44**	0.00	**0.44**	41.00	0.04	0.00	0.04
13.00	0.20	0.00	0.20	41.50	0.04	0.00	0.04
13.50	0.14	0.00	0.14	42.00	0.04	0.00	0.04
14.00	0.11	0.00	0.11	42.50	0.04	0.00	0.04
14.50	0.10	0.00	0.10	43.00	0.04	0.00	0.04
15.00	0.09	0.00	0.09	43.50	0.04	0.00	0.04
15.50	0.09	0.00	0.09	44.00	0.04	0.00	0.04
16.00	0.08	0.00	0.08	44.50	0.04	0.00	0.04
16.50	0.08	0.00	0.08	45.00	0.04	0.00	0.04
17.00	0.08	0.00	0.08	45.50	0.04	0.00	0.04
17.50	0.08	0.00	0.08	46.00	0.04	0.00	0.04
18.00	0.08	0.00	0.08	46.50	0.04	0.00	0.04
18.50	0.07	0.00	0.07	47.00	0.04	0.00	0.04
19.00	0.07	0.00	0.07	47.50	0.04	0.00	0.04
19.50	0.07	0.00	0.07	48.00	0.04	0.00	0.04
20.00	0.07	0.00	0.07				
20.50	0.07	0.00	0.07				
21.00	0.07	0.00	0.07				
21.50	0.07	0.00	0.07				
22.00	0.07	0.00	0.07				
22.50	0.07	0.00	0.07				
23.00	0.07	0.00	0.07				
23.50	0.07	0.00	0.07				
24.00	0.07	0.00	0.07				
24.50	0.06	0.00	0.06				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Summary for Link 2B: Study Point 2

Inflow Area = 1.450 ac, 62.76% Impervious, Inflow Depth > 1.53" for 5 YEAR event
Inflow = 0.71 cfs @ 12.03 hrs, Volume= 0.185 af
Primary = 0.71 cfs @ 12.03 hrs, Volume= 0.185 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2B: Study Point 2



Hydrograph for Link 2B: Study Point 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.00	0.00	0.00	32.00	0.05	0.00	0.05
4.00	0.00	0.00	0.00	32.50	0.05	0.00	0.05
4.50	0.00	0.00	0.00	33.00	0.05	0.00	0.05
5.00	0.00	0.00	0.00	33.50	0.05	0.00	0.05
5.50	0.00	0.00	0.00	34.00	0.05	0.00	0.05
6.00	0.01	0.00	0.01	34.50	0.05	0.00	0.05
6.50	0.01	0.00	0.01	35.00	0.05	0.00	0.05
7.00	0.01	0.00	0.01	35.50	0.04	0.00	0.04
7.50	0.01	0.00	0.01	36.00	0.04	0.00	0.04
8.00	0.01	0.00	0.01	36.50	0.04	0.00	0.04
8.50	0.01	0.00	0.01	37.00	0.04	0.00	0.04
9.00	0.02	0.00	0.02	37.50	0.04	0.00	0.04
9.50	0.02	0.00	0.02	38.00	0.04	0.00	0.04
10.00	0.02	0.00	0.02	38.50	0.04	0.00	0.04
10.50	0.02	0.00	0.02	39.00	0.04	0.00	0.04
11.00	0.02	0.00	0.02	39.50	0.04	0.00	0.04
11.50	0.03	0.00	0.03	40.00	0.04	0.00	0.04
12.00	**0.67**	0.00	**0.67**	40.50	0.04	0.00	0.04
12.50	**0.15**	0.00	**0.15**	41.00	0.04	0.00	0.04
13.00	0.11	0.00	0.11	41.50	0.04	0.00	0.04
13.50	0.09	0.00	0.09	42.00	0.04	0.00	0.04
14.00	0.08	0.00	0.08	42.50	0.04	0.00	0.04
14.50	0.08	0.00	0.08	43.00	0.04	0.00	0.04
15.00	0.08	0.00	0.08	43.50	0.04	0.00	0.04
15.50	0.08	0.00	0.08	44.00	0.04	0.00	0.04
16.00	0.07	0.00	0.07	44.50	0.04	0.00	0.04
16.50	0.07	0.00	0.07	45.00	0.04	0.00	0.04
17.00	0.07	0.00	0.07	45.50	0.04	0.00	0.04
17.50	0.07	0.00	0.07	46.00	0.04	0.00	0.04
18.00	0.07	0.00	0.07	46.50	0.04	0.00	0.04
18.50	0.07	0.00	0.07	47.00	0.04	0.00	0.04
19.00	0.07	0.00	0.07	47.50	0.04	0.00	0.04
19.50	0.06	0.00	0.06	48.00	0.04	0.00	0.04
20.00	0.06	0.00	0.06				
20.50	0.06	0.00	0.06				
21.00	0.06	0.00	0.06				
21.50	0.06	0.00	0.06				
22.00	0.06	0.00	0.06				
22.50	0.06	0.00	0.06				
23.00	0.06	0.00	0.06				
23.50	0.06	0.00	0.06				
24.00	0.06	0.00	0.06				
24.50	0.05	0.00	0.05				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 B-1: Post-Developed Runoff Area=1.980 ac 98.48% Impervious Runoff Depth=4.87"
Tc=5.0 min CN=97 Runoff=14.79 cfs 0.803 af

Subcatchment B-1A: BYPASS POND to Runoff Area=0.690 ac 0.00% Impervious Runoff Depth=1.43"
Tc=35.7 min CN=60 Runoff=0.67 cfs 0.082 af

Subcatchment B-2: Post-Developed Runoff Area=1.010 ac 90.10% Impervious Runoff Depth=4.53"
Tc=5.0 min CN=94 Runoff=7.33 cfs 0.381 af

Subcatchment B-2A: BYPASS POND to Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=1.50"
Tc=10.0 min CN=61 Runoff=0.96 cfs 0.055 af

Subcatchment B-3: Post-Developed Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=1.50"
Tc=5.0 min CN=61 Runoff=0.37 cfs 0.018 af

Pond 1P: Undg Pond 1 Peak Elev=1,000.66' Storage=0.743 af Inflow=14.79 cfs 0.803 af
Outflow=0.05 cfs 0.155 af

Pond 2P: Undg Pond 2 Peak Elev=999.05' Storage=0.306 af Inflow=7.33 cfs 0.381 af
Outflow=0.09 cfs 0.173 af

Link 1B: Study Point 1 Inflow=0.72 cfs 0.237 af
Primary=0.72 cfs 0.237 af

Link 2B: Study Point 2 Inflow=1.00 cfs 0.228 af
Primary=1.00 cfs 0.228 af

Total Runoff Area = 4.260 ac Runoff Volume = 1.339 af Average Runoff Depth = 3.77"
32.86% Pervious = 1.400 ac 67.14% Impervious = 2.860 ac

Summary for Subcatchment B-1: Post-Developed

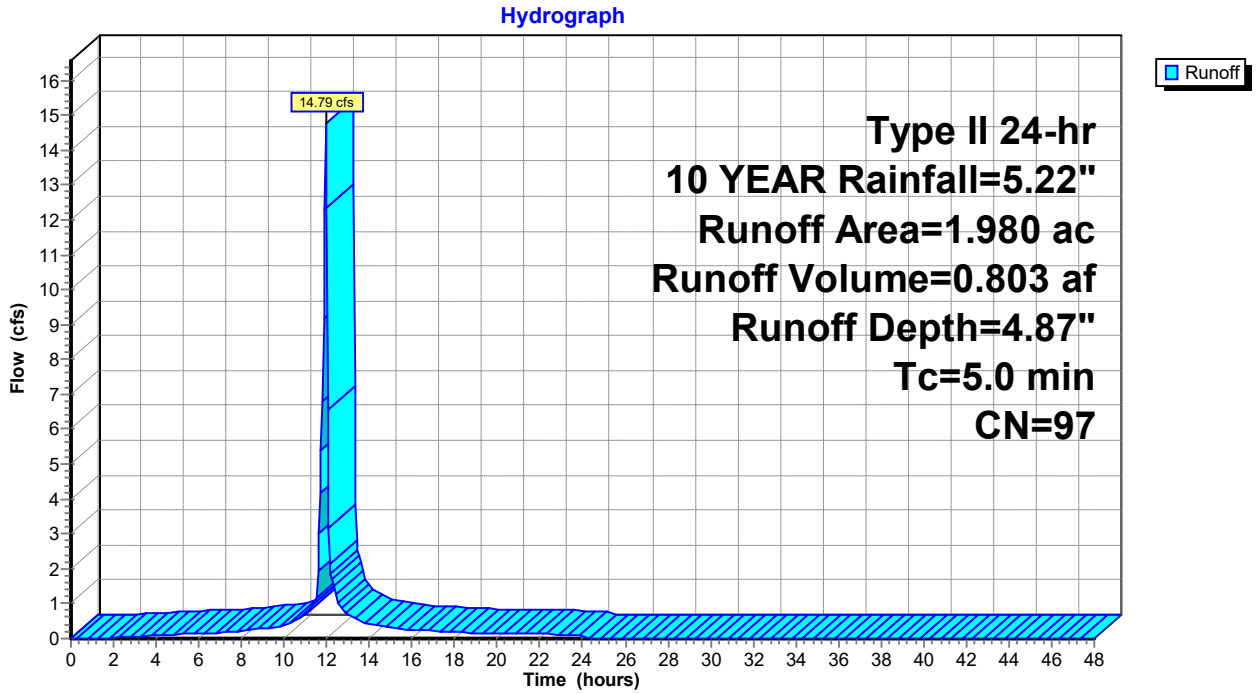
Runoff = 14.79 cfs @ 11.95 hrs, Volume= 0.803 af, Depth= 4.87"
Routed to Pond 1P : Undg Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
1.950	98	Paved parking, HSG B
0.030	61	>75% Grass cover, Good, HSG B
1.980	97	Weighted Average
0.030		1.52% Pervious Area
1.950		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-1: Post-Developed



Hydrograph for Subcatchment B-1: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.08	0.00	0.01
2.00	0.11	0.01	0.03
2.50	0.15	0.02	0.05
3.00	0.18	0.03	0.06
3.50	0.21	0.05	0.08
4.00	0.25	0.07	0.09
4.50	0.29	0.10	0.10
5.00	0.33	0.12	0.12
5.50	0.37	0.16	0.13
6.00	0.42	0.19	0.14
6.50	0.47	0.23	0.16
7.00	0.52	0.27	0.17
7.50	0.57	0.32	0.19
8.00	0.63	0.36	0.20
8.50	0.69	0.42	0.24
9.00	0.77	0.49	0.29
9.50	0.85	0.57	0.31
10.00	0.94	0.65	0.38
10.50	1.06	0.77	0.49
11.00	1.23	0.92	0.69
11.50	1.48	1.16	**1.13**
12.00	3.46	3.12	**12.33**
12.50	3.84	3.49	1.08
13.00	4.03	3.68	0.67
13.50	4.17	3.82	0.51
14.00	4.28	3.93	0.40
14.50	4.37	4.02	0.35
15.00	4.46	4.10	0.32
15.50	4.53	4.18	0.28
16.00	4.59	4.24	0.24
16.50	4.65	4.30	0.23
17.00	4.71	4.36	0.21
17.50	4.76	4.41	0.20
18.00	4.81	4.46	0.19
18.50	4.85	4.50	0.18
19.00	4.90	4.54	0.16
19.50	4.93	4.58	0.15
20.00	4.97	4.62	0.14
20.50	5.00	4.65	0.13
21.00	5.04	4.68	0.13
21.50	5.07	4.72	0.13
22.00	5.10	4.75	0.13
22.50	5.13	4.78	0.12
23.00	5.16	4.81	0.12
23.50	5.19	4.84	0.12
24.00	**5.22**	**4.87**	0.11
24.50	5.22	4.87	0.00
25.00	5.22	4.87	0.00
25.50	5.22	4.87	0.00
26.00	5.22	4.87	0.00
26.50	5.22	4.87	0.00
27.00	5.22	4.87	0.00
27.50	5.22	4.87	0.00
28.00	5.22	4.87	0.00
28.50	5.22	4.87	0.00
29.00	5.22	4.87	0.00
29.50	5.22	4.87	0.00
30.00	5.22	4.87	0.00
30.50	5.22	4.87	0.00
31.00	5.22	4.87	0.00
31.50	5.22	4.87	0.00
32.00	5.22	4.87	0.00
32.50	5.22	4.87	0.00
33.00	5.22	4.87	0.00
33.50	5.22	4.87	0.00
34.00	5.22	4.87	0.00
34.50	5.22	4.87	0.00
35.00	5.22	4.87	0.00
35.50	5.22	4.87	0.00
36.00	5.22	4.87	0.00
36.50	5.22	4.87	0.00
37.00	5.22	4.87	0.00
37.50	5.22	4.87	0.00
38.00	5.22	4.87	0.00
38.50	5.22	4.87	0.00
39.00	5.22	4.87	0.00
39.50	5.22	4.87	0.00
40.00	5.22	4.87	0.00
40.50	5.22	4.87	0.00
41.00	5.22	4.87	0.00
41.50	5.22	4.87	0.00
42.00	5.22	4.87	0.00
42.50	5.22	4.87	0.00
43.00	5.22	4.87	0.00
43.50	5.22	4.87	0.00
44.00	5.22	4.87	0.00
44.50	5.22	4.87	0.00
45.00	5.22	4.87	0.00
45.50	5.22	4.87	0.00
46.00	5.22	4.87	0.00
46.50	5.22	4.87	0.00
47.00	5.22	4.87	0.00
47.50	5.22	4.87	0.00
48.00	5.22	4.87	0.00

Summary for Subcatchment B-1A: BYPASS POND to SP1

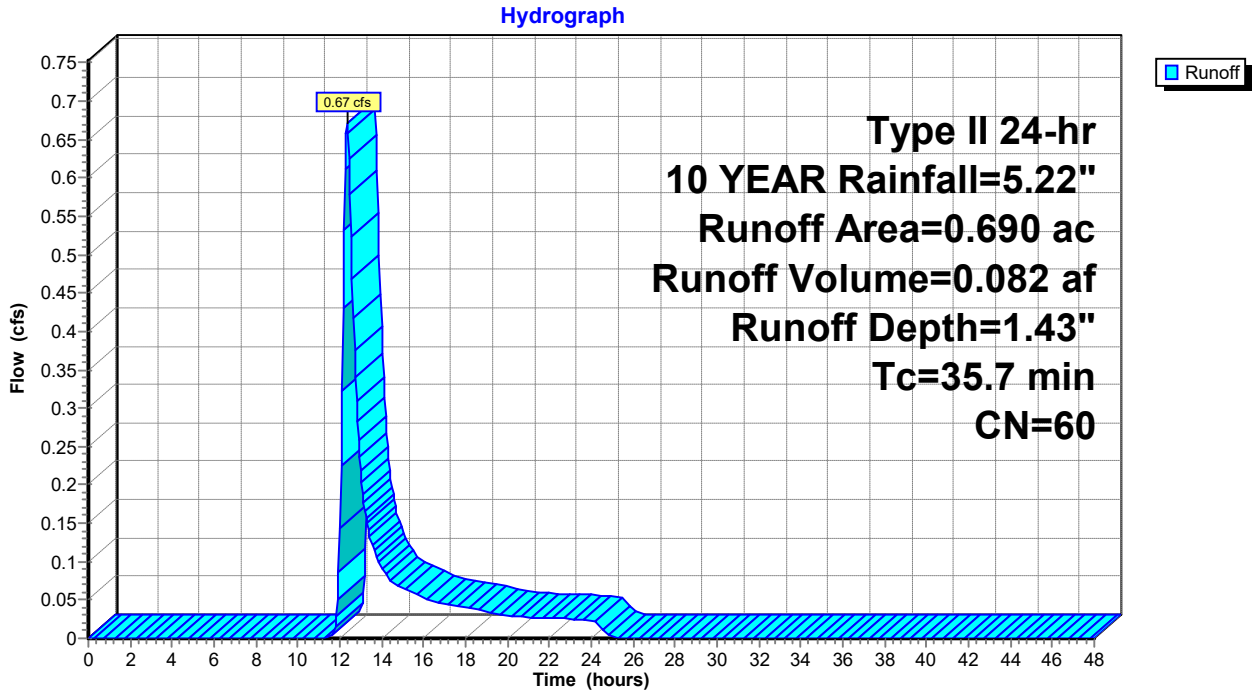
Runoff = 0.67 cfs @ 12.35 hrs, Volume= 0.082 af, Depth= 1.43"
Routed to Link 1B : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
0.100	55	Woods, Good, HSG B
0.590	61	>75% Grass cover, Good, HSG B
0.690	60	Weighted Average
0.690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.7					**Direct Entry,**

Subcatchment B-1A: BYPASS POND to SP1



Hydrograph for Subcatchment B-1A: BYPASS POND to SP1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.11	0.00	0.00
2.50	0.15	0.00	0.00
3.00	0.18	0.00	0.00
3.50	0.21	0.00	0.00
4.00	0.25	0.00	0.00
4.50	0.29	0.00	0.00
5.00	0.33	0.00	0.00
5.50	0.37	0.00	0.00
6.00	0.42	0.00	0.00
6.50	0.47	0.00	0.00
7.00	0.52	0.00	0.00
7.50	0.57	0.00	0.00
8.00	0.63	0.00	0.00
8.50	0.69	0.00	0.00
9.00	0.77	0.00	0.00
9.50	0.85	0.00	0.00
10.00	0.94	0.00	0.00
10.50	1.06	0.00	0.00
11.00	1.23	0.00	0.00
11.50	1.48	0.00	0.00
12.00	3.46	0.51	**0.14**
12.50	3.84	0.68	**0.58**
13.00	4.03	0.78	0.22
13.50	4.17	0.85	0.12
14.00	4.28	0.90	0.09
14.50	4.37	0.95	0.07
15.00	4.46	1.00	0.07
15.50	4.53	1.04	0.06
16.00	4.59	1.07	0.05
16.50	4.65	1.10	0.05
17.00	4.71	1.13	0.04
17.50	4.76	1.16	0.04
18.00	4.81	1.19	0.04
18.50	4.85	1.22	0.04
19.00	4.90	1.24	0.04
19.50	4.93	1.26	0.03
20.00	4.97	1.28	0.03
20.50	5.00	1.30	0.03
21.00	5.04	1.32	0.03
21.50	5.07	1.34	0.03
22.00	5.10	1.36	0.03
22.50	5.13	1.38	0.03
23.00	5.16	1.40	0.03
23.50	5.19	1.41	0.02
24.00	**5.22**	**1.43**	0.02
24.50	5.22	1.43	0.01
25.00	5.22	1.43	0.00
25.50	5.22	1.43	0.00
26.00	5.22	1.43	0.00
26.50	5.22	1.43	0.00
27.00	5.22	1.43	0.00
27.50	5.22	1.43	0.00
28.00	5.22	1.43	0.00
28.50	5.22	1.43	0.00
29.00	5.22	1.43	0.00
29.50	5.22	1.43	0.00
30.00	5.22	1.43	0.00
30.50	5.22	1.43	0.00
31.00	5.22	1.43	0.00
31.50	5.22	1.43	0.00
32.00	5.22	1.43	0.00
32.50	5.22	1.43	0.00
33.00	5.22	1.43	0.00
33.50	5.22	1.43	0.00
34.00	5.22	1.43	0.00
34.50	5.22	1.43	0.00
35.00	5.22	1.43	0.00
35.50	5.22	1.43	0.00
36.00	5.22	1.43	0.00
36.50	5.22	1.43	0.00
37.00	5.22	1.43	0.00
37.50	5.22	1.43	0.00
38.00	5.22	1.43	0.00
38.50	5.22	1.43	0.00
39.00	5.22	1.43	0.00
39.50	5.22	1.43	0.00
40.00	5.22	1.43	0.00
40.50	5.22	1.43	0.00
41.00	5.22	1.43	0.00
41.50	5.22	1.43	0.00
42.00	5.22	1.43	0.00
42.50	5.22	1.43	0.00
43.00	5.22	1.43	0.00
43.50	5.22	1.43	0.00
44.00	5.22	1.43	0.00
44.50	5.22	1.43	0.00
45.00	5.22	1.43	0.00
45.50	5.22	1.43	0.00
46.00	5.22	1.43	0.00
46.50	5.22	1.43	0.00
47.00	5.22	1.43	0.00
47.50	5.22	1.43	0.00
48.00	5.22	1.43	0.00

Summary for Subcatchment B-2: Post-Developed

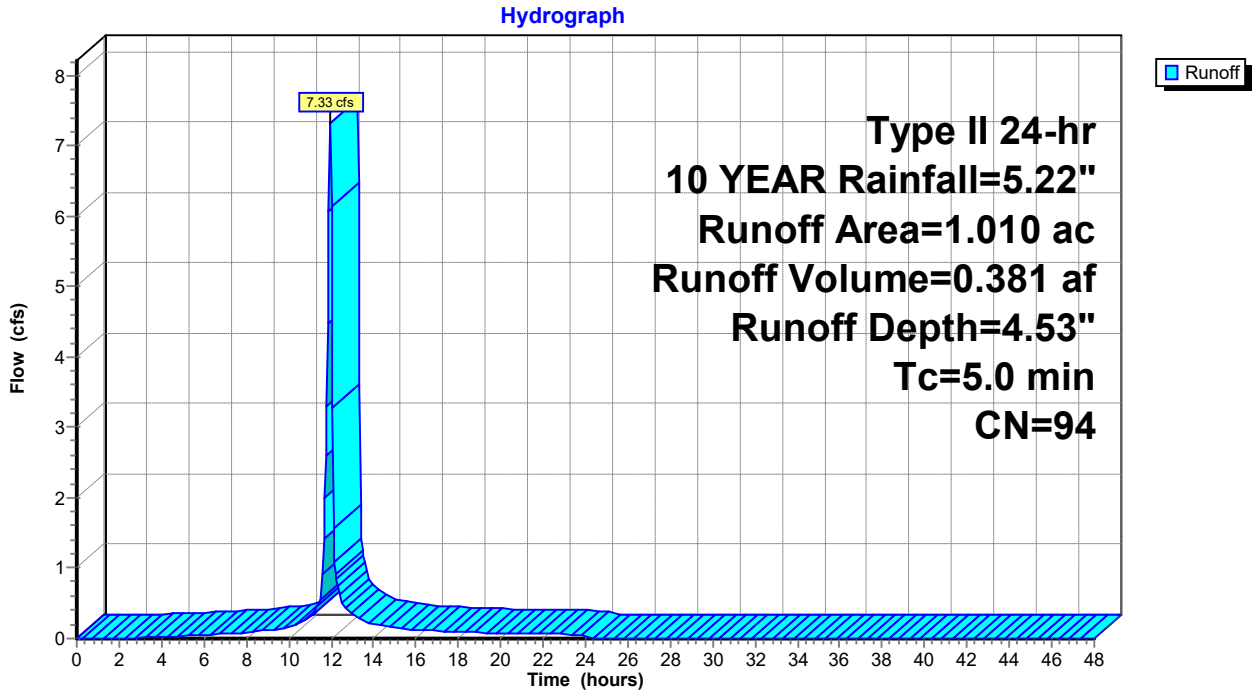
Runoff = 7.33 cfs @ 11.95 hrs, Volume= 0.381 af, Depth= 4.53"
Routed to Pond 2P : Undg Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
0.910	98	Paved parking, HSG B
0.100	61	>75% Grass cover, Good, HSG B
1.010	94	Weighted Average
0.100		9.90% Pervious Area
0.910		90.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-2: Post-Developed



Hydrograph for Subcatchment B-2: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.11	0.00	0.00
2.50	0.15	0.00	0.00
3.00	0.18	0.00	0.01
3.50	0.21	0.01	0.02
4.00	0.25	0.02	0.02
4.50	0.29	0.03	0.03
5.00	0.33	0.05	0.03
5.50	0.37	0.07	0.04
6.00	0.42	0.09	0.05
6.50	0.47	0.12	0.06
7.00	0.52	0.15	0.06
7.50	0.57	0.18	0.07
8.00	0.63	0.22	0.08
8.50	0.69	0.26	0.10
9.00	0.77	0.32	0.12
9.50	0.85	0.38	0.13
10.00	0.94	0.46	0.17
10.50	1.06	0.56	0.22
11.00	1.23	0.70	0.32
11.50	1.48	0.92	**0.53**
12.00	3.46	2.80	**6.14**
12.50	3.84	3.16	0.54
13.00	4.03	3.35	0.34
13.50	4.17	3.49	0.26
14.00	4.28	3.60	0.20
14.50	4.37	3.69	0.18
15.00	4.46	3.77	0.16
15.50	4.53	3.84	0.14
16.00	4.59	3.91	0.12
16.50	4.65	3.96	0.11
17.00	4.71	4.02	0.11
17.50	4.76	4.07	0.10
18.00	4.81	4.12	0.10
18.50	4.85	4.16	0.09
19.00	4.90	4.20	0.08
19.50	4.93	4.24	0.08
20.00	4.97	4.28	0.07
20.50	5.00	4.31	0.07
21.00	5.04	4.34	0.07
21.50	5.07	4.38	0.06
22.00	5.10	4.41	0.06
22.50	5.13	4.44	0.06
23.00	5.16	4.47	0.06
23.50	5.19	4.50	0.06
24.00	**5.22**	**4.53**	0.06
24.50	5.22	4.53	0.00
25.00	5.22	4.53	0.00
25.50	5.22	4.53	0.00
26.00	5.22	4.53	0.00
26.50	5.22	4.53	0.00
27.00	5.22	4.53	0.00
27.50	5.22	4.53	0.00
28.00	5.22	4.53	0.00
28.50	5.22	4.53	0.00
29.00	5.22	4.53	0.00
29.50	5.22	4.53	0.00
30.00	5.22	4.53	0.00
30.50	5.22	4.53	0.00
31.00	5.22	4.53	0.00
31.50	5.22	4.53	0.00
32.00	5.22	4.53	0.00
32.50	5.22	4.53	0.00
33.00	5.22	4.53	0.00
33.50	5.22	4.53	0.00
34.00	5.22	4.53	0.00
34.50	5.22	4.53	0.00
35.00	5.22	4.53	0.00
35.50	5.22	4.53	0.00
36.00	5.22	4.53	0.00
36.50	5.22	4.53	0.00
37.00	5.22	4.53	0.00
37.50	5.22	4.53	0.00
38.00	5.22	4.53	0.00
38.50	5.22	4.53	0.00
39.00	5.22	4.53	0.00
39.50	5.22	4.53	0.00
40.00	5.22	4.53	0.00
40.50	5.22	4.53	0.00
41.00	5.22	4.53	0.00
41.50	5.22	4.53	0.00
42.00	5.22	4.53	0.00
42.50	5.22	4.53	0.00
43.00	5.22	4.53	0.00
43.50	5.22	4.53	0.00
44.00	5.22	4.53	0.00
44.50	5.22	4.53	0.00
45.00	5.22	4.53	0.00
45.50	5.22	4.53	0.00
46.00	5.22	4.53	0.00
46.50	5.22	4.53	0.00
47.00	5.22	4.53	0.00
47.50	5.22	4.53	0.00
48.00	5.22	4.53	0.00

Summary for Subcatchment B-2A: BYPASS POND to SP2

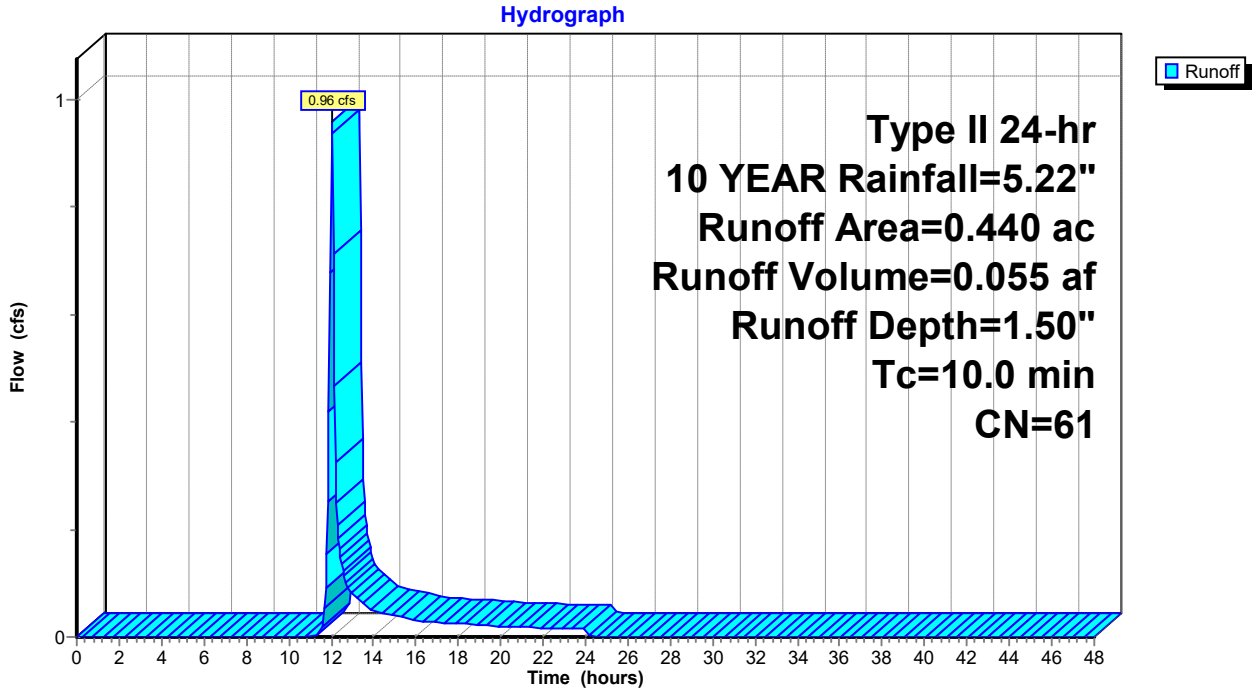
Runoff = 0.96 cfs @ 12.03 hrs, Volume= 0.055 af, Depth= 1.50"
Routed to Link 2B : Study Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
0.440	61	>75% Grass cover, Good, HSG B
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment B-2A: BYPASS POND to SP2



Hydrograph for Subcatchment B-2A: BYPASS POND to SP2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	28.50	5.22	1.50	0.00
0.50	0.03	0.00	0.00	29.00	5.22	1.50	0.00
1.00	0.05	0.00	0.00	29.50	5.22	1.50	0.00
1.50	0.08	0.00	0.00	30.00	5.22	1.50	0.00
2.00	0.11	0.00	0.00	30.50	5.22	1.50	0.00
2.50	0.15	0.00	0.00	31.00	5.22	1.50	0.00
3.00	0.18	0.00	0.00	31.50	5.22	1.50	0.00
3.50	0.21	0.00	0.00	32.00	5.22	1.50	0.00
4.00	0.25	0.00	0.00	32.50	5.22	1.50	0.00
4.50	0.29	0.00	0.00	33.00	5.22	1.50	0.00
5.00	0.33	0.00	0.00	33.50	5.22	1.50	0.00
5.50	0.37	0.00	0.00	34.00	5.22	1.50	0.00
6.00	0.42	0.00	0.00	34.50	5.22	1.50	0.00
6.50	0.47	0.00	0.00	35.00	5.22	1.50	0.00
7.00	0.52	0.00	0.00	35.50	5.22	1.50	0.00
7.50	0.57	0.00	0.00	36.00	5.22	1.50	0.00
8.00	0.63	0.00	0.00	36.50	5.22	1.50	0.00
8.50	0.69	0.00	0.00	37.00	5.22	1.50	0.00
9.00	0.77	0.00	0.00	37.50	5.22	1.50	0.00
9.50	0.85	0.00	0.00	38.00	5.22	1.50	0.00
10.00	0.94	0.00	0.00	38.50	5.22	1.50	0.00
10.50	1.06	0.00	0.00	39.00	5.22	1.50	0.00
11.00	1.23	0.00	0.00	39.50	5.22	1.50	0.00
11.50	1.48	0.01	0.01	40.00	5.22	1.50	0.00
12.00	3.46	0.56	**0.92**	40.50	5.22	1.50	0.00
12.50	3.84	0.73	**0.14**	41.00	5.22	1.50	0.00
13.00	4.03	0.83	0.08	41.50	5.22	1.50	0.00
13.50	4.17	0.90	0.06	42.00	5.22	1.50	0.00
14.00	4.28	0.96	0.05	42.50	5.22	1.50	0.00
14.50	4.37	1.01	0.04	43.00	5.22	1.50	0.00
15.00	4.46	1.05	0.04	43.50	5.22	1.50	0.00
15.50	4.53	1.10	0.04	44.00	5.22	1.50	0.00
16.00	4.59	1.13	0.03	44.50	5.22	1.50	0.00
16.50	4.65	1.17	0.03	45.00	5.22	1.50	0.00
17.00	4.71	1.20	0.03	45.50	5.22	1.50	0.00
17.50	4.76	1.23	0.03	46.00	5.22	1.50	0.00
18.00	4.81	1.26	0.02	46.50	5.22	1.50	0.00
18.50	4.85	1.28	0.02	47.00	5.22	1.50	0.00
19.00	4.90	1.31	0.02	47.50	5.22	1.50	0.00
19.50	4.93	1.33	0.02	48.00	5.22	1.50	0.00
20.00	4.97	1.35	0.02				
20.50	5.00	1.37	0.02				
21.00	5.04	1.39	0.02				
21.50	5.07	1.41	0.02				
22.00	5.10	1.43	0.02				
22.50	5.13	1.45	0.02				
23.00	5.16	1.47	0.02				
23.50	5.19	1.49	0.02				
24.00	**5.22**	**1.50**	0.02				
24.50	5.22	1.50	0.00				
25.00	5.22	1.50	0.00				
25.50	5.22	1.50	0.00				
26.00	5.22	1.50	0.00				
26.50	5.22	1.50	0.00				
27.00	5.22	1.50	0.00				
27.50	5.22	1.50	0.00				
28.00	5.22	1.50	0.00				

Summary for Subcatchment B-3: Post-Developed

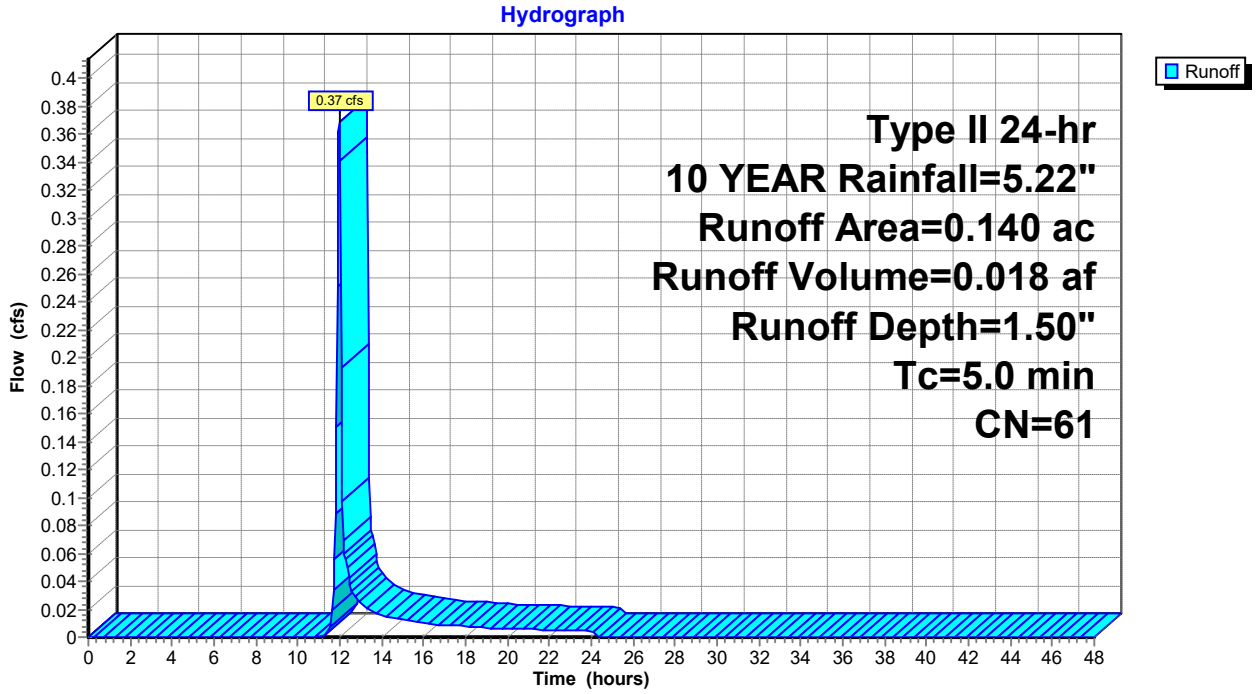
Runoff = 0.37 cfs @ 11.97 hrs, Volume= 0.018 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
0.140	61	>75% Grass cover, Good, HSG B
0.140	61	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-3: Post-Developed



Hydrograph for Subcatchment B-3: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.11	0.00	0.00
2.50	0.15	0.00	0.00
3.00	0.18	0.00	0.00
3.50	0.21	0.00	0.00
4.00	0.25	0.00	0.00
4.50	0.29	0.00	0.00
5.00	0.33	0.00	0.00
5.50	0.37	0.00	0.00
6.00	0.42	0.00	0.00
6.50	0.47	0.00	0.00
7.00	0.52	0.00	0.00
7.50	0.57	0.00	0.00
8.00	0.63	0.00	0.00
8.50	0.69	0.00	0.00
9.00	0.77	0.00	0.00
9.50	0.85	0.00	0.00
10.00	0.94	0.00	0.00
10.50	1.06	0.00	0.00
11.00	1.23	0.00	0.00
11.50	1.48	0.01	**0.00**
12.00	3.46	0.56	**0.34**
12.50	3.84	0.73	0.04
13.00	4.03	0.83	0.02
13.50	4.17	0.90	0.02
14.00	4.28	0.96	0.02
14.50	4.37	1.01	0.01
15.00	4.46	1.05	0.01
15.50	4.53	1.10	0.01
16.00	4.59	1.13	0.01
16.50	4.65	1.17	0.01
17.00	4.71	1.20	0.01
17.50	4.76	1.23	0.01
18.00	4.81	1.26	0.01
18.50	4.85	1.28	0.01
19.00	4.90	1.31	0.01
19.50	4.93	1.33	0.01
20.00	4.97	1.35	0.01
20.50	5.00	1.37	0.01
21.00	5.04	1.39	0.01
21.50	5.07	1.41	0.01
22.00	5.10	1.43	0.01
22.50	5.13	1.45	0.01
23.00	5.16	1.47	0.01
23.50	5.19	1.49	0.01
24.00	**5.22**	**1.50**	0.01
24.50	5.22	1.50	0.00
25.00	5.22	1.50	0.00
25.50	5.22	1.50	0.00
26.00	5.22	1.50	0.00
26.50	5.22	1.50	0.00
27.00	5.22	1.50	0.00
27.50	5.22	1.50	0.00
28.00	5.22	1.50	0.00
28.50	5.22	1.50	0.00
29.00	5.22	1.50	0.00
29.50	5.22	1.50	0.00
30.00	5.22	1.50	0.00
30.50	5.22	1.50	0.00
31.00	5.22	1.50	0.00
31.50	5.22	1.50	0.00
32.00	5.22	1.50	0.00
32.50	5.22	1.50	0.00
33.00	5.22	1.50	0.00
33.50	5.22	1.50	0.00
34.00	5.22	1.50	0.00
34.50	5.22	1.50	0.00
35.00	5.22	1.50	0.00
35.50	5.22	1.50	0.00
36.00	5.22	1.50	0.00
36.50	5.22	1.50	0.00
37.00	5.22	1.50	0.00
37.50	5.22	1.50	0.00
38.00	5.22	1.50	0.00
38.50	5.22	1.50	0.00
39.00	5.22	1.50	0.00
39.50	5.22	1.50	0.00
40.00	5.22	1.50	0.00
40.50	5.22	1.50	0.00
41.00	5.22	1.50	0.00
41.50	5.22	1.50	0.00
42.00	5.22	1.50	0.00
42.50	5.22	1.50	0.00
43.00	5.22	1.50	0.00
43.50	5.22	1.50	0.00
44.00	5.22	1.50	0.00
44.50	5.22	1.50	0.00
45.00	5.22	1.50	0.00
45.50	5.22	1.50	0.00
46.00	5.22	1.50	0.00
46.50	5.22	1.50	0.00
47.00	5.22	1.50	0.00
47.50	5.22	1.50	0.00
48.00	5.22	1.50	0.00

Summary for Pond 1P: Undg Pond 1

Inflow Area = 1.980 ac, 98.48% Impervious, Inflow Depth = 4.87" for 10 YEAR event
Inflow = 14.79 cfs @ 11.95 hrs, Volume= 0.803 af
Outflow = 0.05 cfs @ 24.08 hrs, Volume= 0.155 af, Atten= 100%, Lag= 728.0 min
Primary = 0.05 cfs @ 24.08 hrs, Volume= 0.155 af
Routed to Link 1B : Study Point 1

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,000.66' @ 24.08 hrs Surf.Area= 0.286 ac Storage= 0.743 af

Plug-Flow detention time= 1,203.5 min calculated for 0.155 af (19% of inflow)
Center-of-Mass det. time= 950.7 min (1,700.8 - 750.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	997.00'	0.394 af	**51.42'W x 242.31'L x 5.50'H Field A** 1.573 af Overall - 0.588 af Embedded = 0.985 af x 40.0% Voids
#2A	997.75'	0.588 af	**ADS_StormTech MC-3500 d +Cap** x 231 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 231 Chambers in 7 Rows Cap Storage= 14.9 cf x 2 x 7 rows = 208.6 cf
		0.982 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	997.00'	**36.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	997.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,001.00'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,002.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.05 cfs @ 24.08 hrs HW=1,000.66' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.05 cfs of 50.01 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 9.16 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Undg Pond 1 - 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 7 rows = 208.6 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

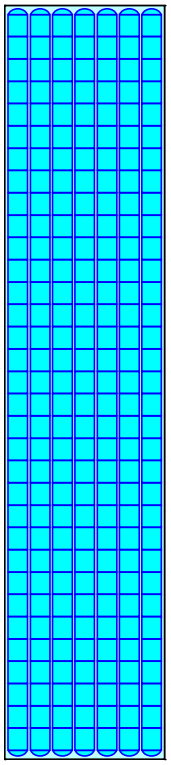
33 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 240.31' Row Length +12.0" End Stone x 2 = 242.31' Base Length
7 Rows x 77.0" Wide + 9.0" Spacing x 6 + 12.0" Side Stone x 2 = 51.42' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

231 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 7 Rows = 25,607.5 cf Chamber Storage

68,523.2 cf Field - 25,607.5 cf Chambers = 42,915.7 cf Stone x 40.0% Voids = 17,166.3 cf Stone Storage

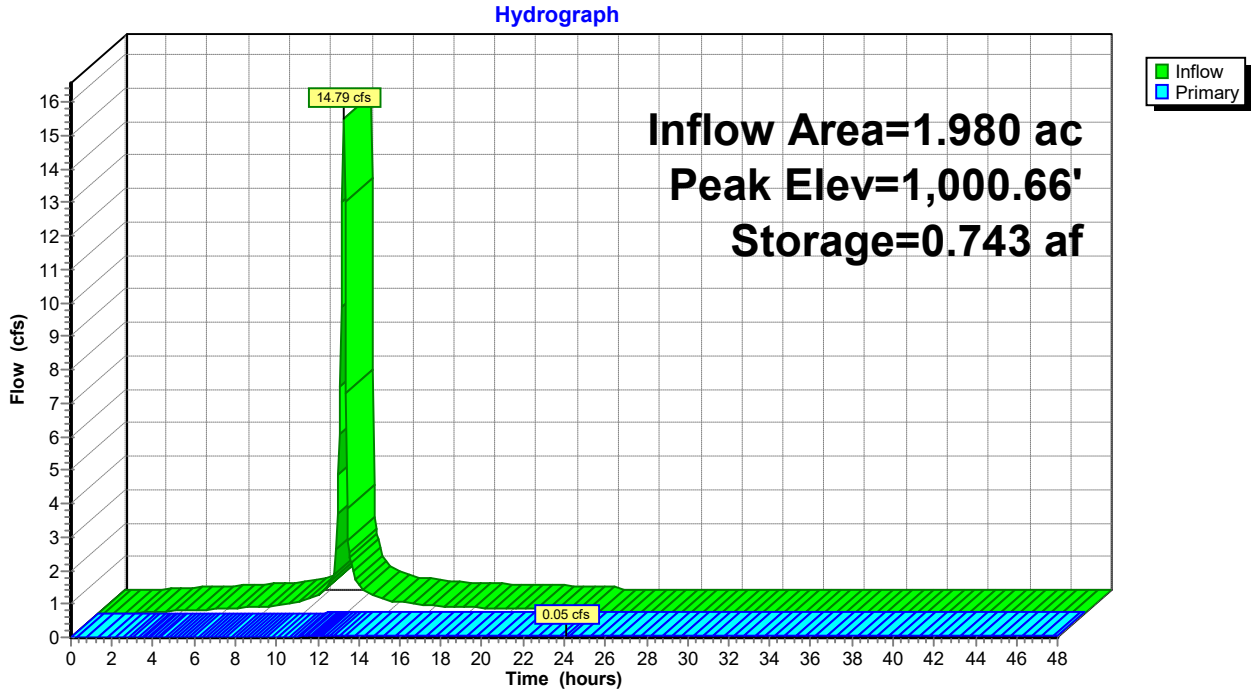
Chamber Storage + Stone Storage = 42,773.8 cf = 0.982 af
Overall Storage Efficiency = 62.4%
Overall System Size = 242.31' x 51.42' x 5.50'

231 Chambers
2,537.9 cy Field
1,589.5 cy Stone





Pond 1P: Undg Pond 1



Hydrograph for Pond 1P: Undg Pond 1

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	997.00	0.00
1.00	0.00	0.000	997.00	0.00
2.00	0.03	0.001	997.01	0.00
3.00	0.06	0.005	997.04	0.00
4.00	0.09	0.011	997.09	0.01
5.00	0.12	0.019	997.16	0.01
6.00	0.14	0.029	997.25	0.01
7.00	0.17	0.041	997.35	0.01
8.00	0.20	0.055	997.48	0.02
9.00	0.29	0.073	997.64	0.02
10.00	0.38	0.098	997.80	0.02
11.00	**0.69**	0.138	997.96	0.03
12.00	**12.33**	0.443	999.23	0.04
13.00	0.67	0.588	999.88	0.04
14.00	0.40	0.627	1,000.07	0.05
15.00	0.32	0.652	1,000.19	0.05
16.00	0.24	0.671	1,000.29	0.05
17.00	0.21	0.686	1,000.36	0.05
18.00	0.19	0.699	1,000.43	0.05
19.00	0.16	0.710	1,000.48	0.05
20.00	0.14	0.718	1,000.52	0.05
21.00	0.13	0.725	1,000.56	0.05
22.00	0.13	0.731	1,000.59	0.05
23.00	0.12	0.737	1,000.63	0.05
24.00	0.11	**0.743**	**1,000.66**	**0.05**
25.00	0.00	**0.740**	**1,000.64**	**0.05**
26.00	0.00	0.735	1,000.62	0.05
27.00	0.00	0.731	1,000.59	0.05
28.00	0.00	0.727	1,000.57	0.05
29.00	0.00	0.723	1,000.55	0.05
30.00	0.00	0.719	1,000.53	0.05
31.00	0.00	0.715	1,000.51	0.05
32.00	0.00	0.711	1,000.49	0.05
33.00	0.00	0.707	1,000.47	0.05
34.00	0.00	0.703	1,000.45	0.05
35.00	0.00	0.699	1,000.43	0.05
36.00	0.00	0.695	1,000.40	0.05
37.00	0.00	0.691	1,000.38	0.05
38.00	0.00	0.687	1,000.36	0.05
39.00	0.00	0.683	1,000.34	0.05
40.00	0.00	0.679	1,000.32	0.05
41.00	0.00	0.675	1,000.30	0.05
42.00	0.00	0.671	1,000.28	0.05
43.00	0.00	0.667	1,000.27	0.05
44.00	0.00	0.664	1,000.25	0.05
45.00	0.00	0.660	1,000.23	0.05
46.00	0.00	0.656	1,000.21	0.05
47.00	0.00	0.652	1,000.19	0.05
48.00	0.00	0.648	1,000.17	0.05

Summary for Pond 2P: Undg Pond 2

Inflow Area = 1.010 ac, 90.10% Impervious, Inflow Depth = 4.53" for 10 YEAR event
Inflow = 7.33 cfs @ 11.95 hrs, Volume= 0.381 af
Outflow = 0.09 cfs @ 18.07 hrs, Volume= 0.173 af, Atten= 99%, Lag= 366.9 min
Primary = 0.09 cfs @ 18.07 hrs, Volume= 0.173 af
Routed to Link 2B : Study Point 2

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 999.05' @ 18.07 hrs Surf.Area= 0.103 ac Storage= 0.306 af

Plug-Flow detention time= 997.0 min calculated for 0.172 af (45% of inflow)
Center-of-Mass det. time= 873.7 min (1,641.5 - 767.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	995.00'	0.166 af	**37.58'W x 119.53'L x 6.75'H Field A** 0.696 af Overall - 0.282 af Embedded = 0.414 af x 40.0% Voids
#2A	995.75'	0.282 af	**ADS_StormTech MC-7200 +Cap** x 68 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 68 Chambers in 4 Rows Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf
		0.448 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	995.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	999.00'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,001.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.09 cfs @ 18.07 hrs HW=999.05' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.09 cfs of 26.44 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 9.65 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.04 cfs @ 0.75 fps)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Undg Pond 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-7200 +Cap (ADS StormTech® MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

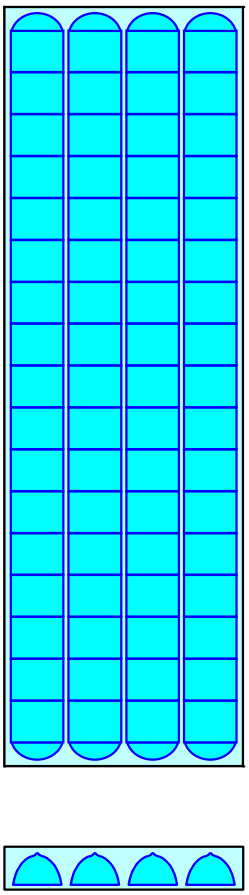
17 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 117.52' Row Length +12.0" End Stone x 2 = 119.53' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

68 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 4 Rows = 12,275.5 cf Chamber Storage

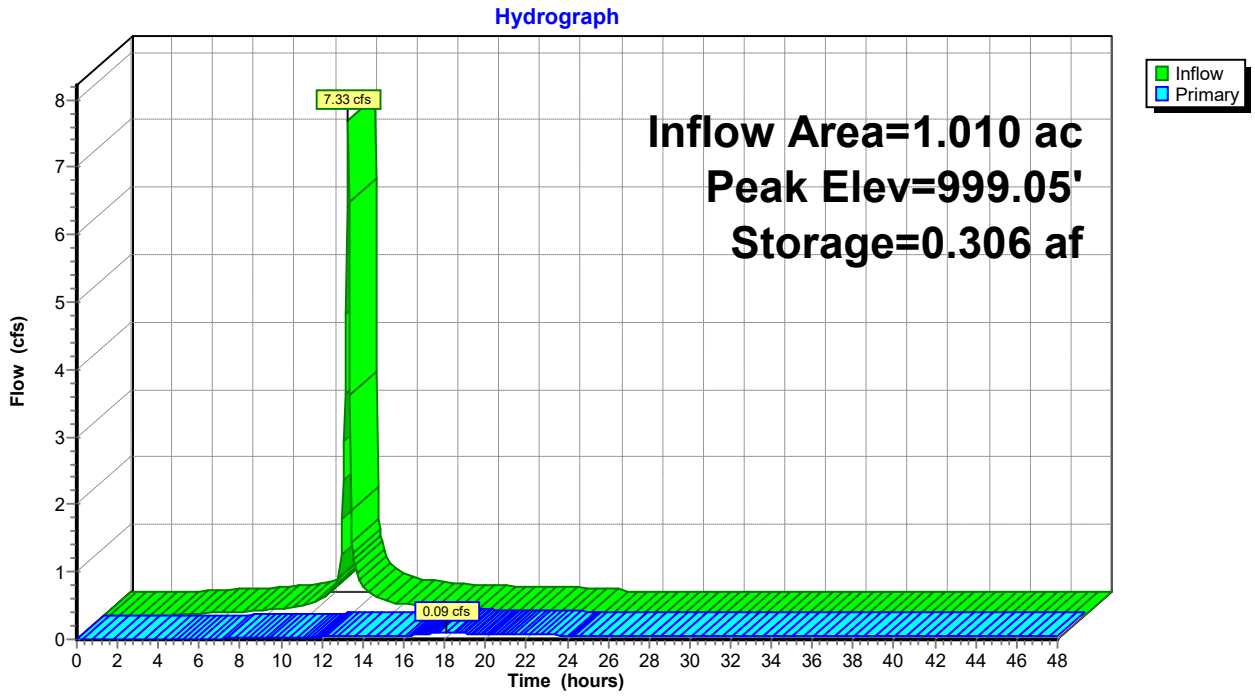
30,322.0 cf Field - 12,275.5 cf Chambers = 18,046.5 cf Stone x 40.0% Voids = 7,218.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,494.1 cf = 0.448 af
Overall Storage Efficiency = 64.3%
Overall System Size = 119.53' x 37.58' x 6.75'

68 Chambers
1,123.0 cy Field
668.4 cy Stone



Pond 2P: Undg Pond 2



Hydrograph for Pond 2P: Undg Pond 2

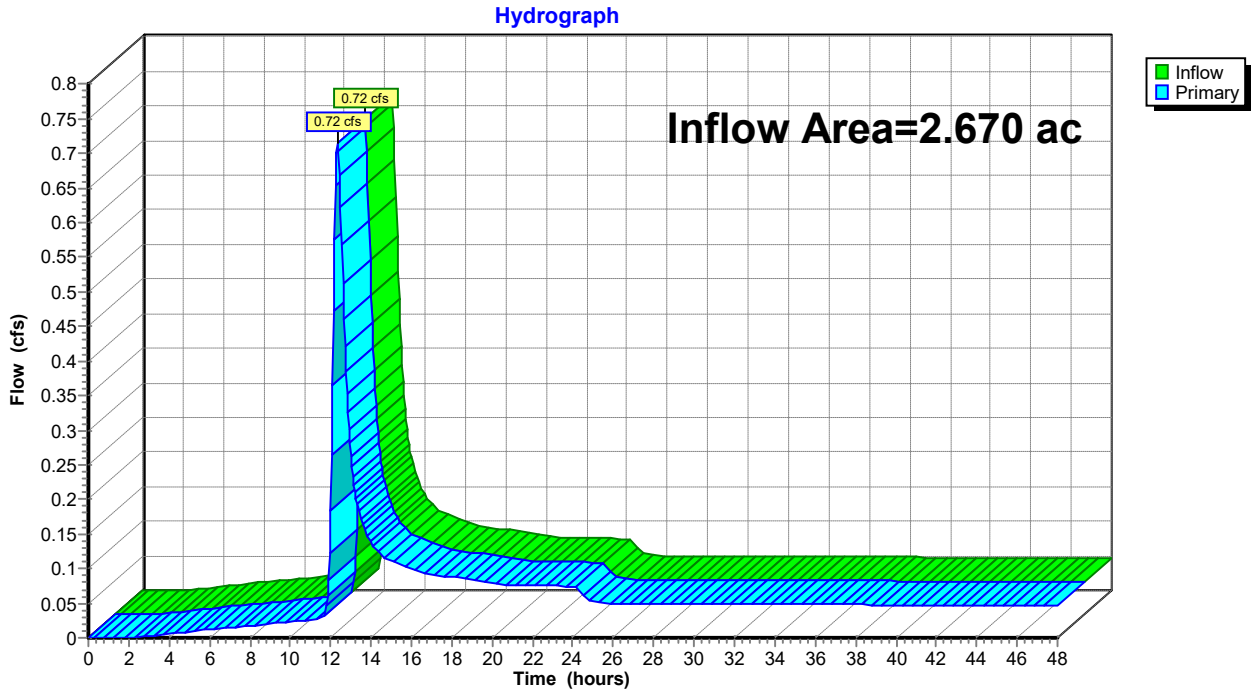
Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	995.00	0.00
1.00	0.00	0.000	995.00	0.00
2.00	0.00	0.000	995.00	0.00
3.00	0.01	0.000	995.01	0.00
4.00	0.02	0.001	995.03	0.00
5.00	0.03	0.003	995.08	0.01
6.00	0.05	0.006	995.15	0.01
7.00	0.06	0.010	995.25	0.01
8.00	0.08	0.015	995.36	0.01
9.00	0.12	0.022	995.53	0.02
10.00	0.17	0.032	995.76	0.02
11.00	**0.32**	0.049	995.95	0.02
12.00	**6.14**	0.196	997.65	0.04
13.00	0.34	0.266	998.52	0.05
14.00	0.20	0.283	998.75	0.05
15.00	0.16	0.294	998.89	0.05
16.00	0.12	0.301	998.99	0.05
17.00	0.11	0.305	999.04	0.08
18.00	0.10	**0.306**	**999.05**	**0.09**
19.00	0.08	**0.306**	**999.05**	**0.09**
20.00	0.07	0.305	999.04	0.08
21.00	0.07	0.304	999.03	0.07
22.00	0.06	0.304	999.02	0.07
23.00	0.06	0.304	999.02	0.06
24.00	0.06	0.303	999.01	0.06
25.00	0.00	0.299	998.96	0.05
26.00	0.00	0.295	998.90	0.05
27.00	0.00	0.291	998.84	0.05
28.00	0.00	0.286	998.79	0.05
29.00	0.00	0.282	998.73	0.05
30.00	0.00	0.278	998.68	0.05
31.00	0.00	0.274	998.62	0.05
32.00	0.00	0.270	998.57	0.05
33.00	0.00	0.266	998.52	0.05
34.00	0.00	0.262	998.47	0.05
35.00	0.00	0.258	998.41	0.05
36.00	0.00	0.254	998.36	0.05
37.00	0.00	0.250	998.31	0.05
38.00	0.00	0.246	998.26	0.05
39.00	0.00	0.242	998.22	0.05
40.00	0.00	0.238	998.17	0.05
41.00	0.00	0.234	998.12	0.05
42.00	0.00	0.231	998.07	0.05
43.00	0.00	0.227	998.03	0.05
44.00	0.00	0.223	997.98	0.05
45.00	0.00	0.219	997.93	0.04
46.00	0.00	0.216	997.89	0.04
47.00	0.00	0.212	997.85	0.04
48.00	0.00	0.208	997.80	0.04

Summary for Link 1B: Study Point 1

Inflow Area = 2.670 ac, 73.03% Impervious, Inflow Depth > 1.07" for 10 YEAR event
Inflow = 0.72 cfs @ 12.35 hrs, Volume= 0.237 af
Primary = 0.72 cfs @ 12.35 hrs, Volume= 0.237 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 1B: Study Point 1



Hydrograph for Link 1B: Study Point 1

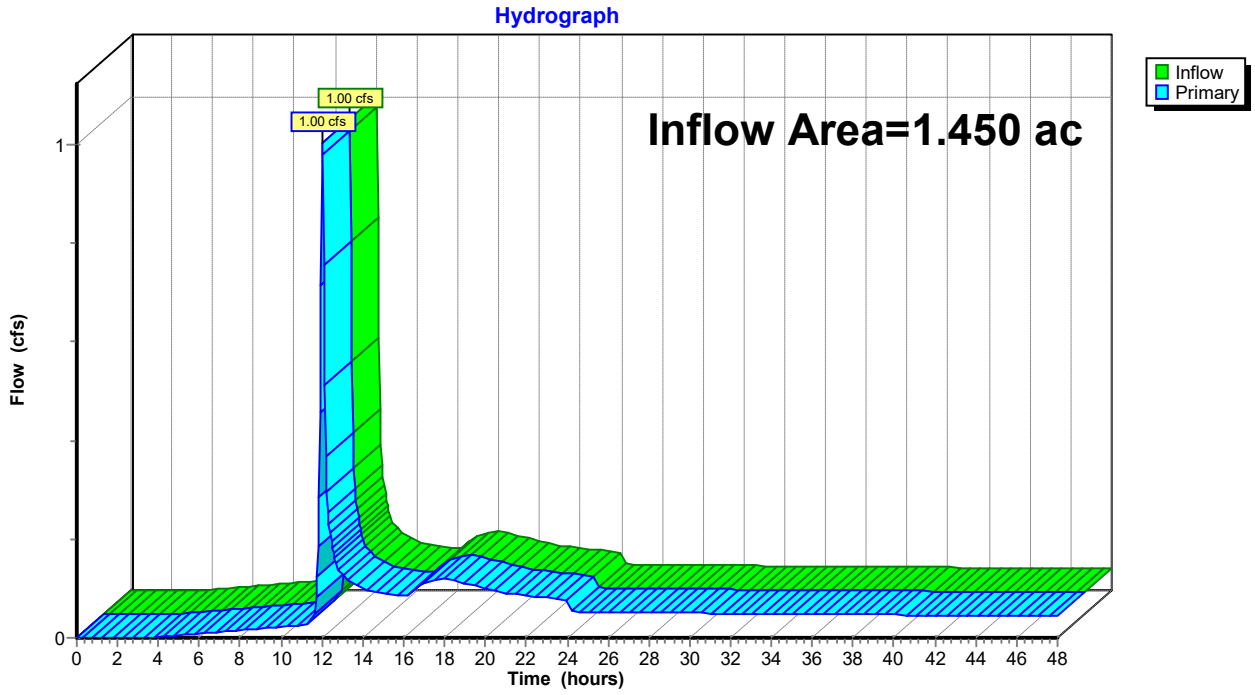
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.00	0.00	0.00	32.00	0.05	0.00	0.05
4.00	0.01	0.00	0.01	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.01	0.00	0.01	34.50	0.05	0.00	0.05
6.50	0.01	0.00	0.01	35.00	0.05	0.00	0.05
7.00	0.01	0.00	0.01	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.02	0.00	0.02	38.00	0.05	0.00	0.05
10.00	0.02	0.00	0.02	38.50	0.05	0.00	0.05
10.50	0.02	0.00	0.02	39.00	0.05	0.00	0.05
11.00	0.03	0.00	0.03	39.50	0.05	0.00	0.05
11.50	0.03	0.00	0.03	40.00	0.05	0.00	0.05
12.00	**0.18**	0.00	**0.18**	40.50	0.05	0.00	0.05
12.50	**0.62**	0.00	**0.62**	41.00	0.05	0.00	0.05
13.00	0.26	0.00	0.26	41.50	0.05	0.00	0.05
13.50	0.17	0.00	0.17	42.00	0.05	0.00	0.05
14.00	0.14	0.00	0.14	42.50	0.05	0.00	0.05
14.50	0.12	0.00	0.12	43.00	0.05	0.00	0.05
15.00	0.11	0.00	0.11	43.50	0.05	0.00	0.05
15.50	0.11	0.00	0.11	44.00	0.05	0.00	0.05
16.00	0.10	0.00	0.10	44.50	0.05	0.00	0.05
16.50	0.09	0.00	0.09	45.00	0.05	0.00	0.05
17.00	0.09	0.00	0.09	45.50	0.05	0.00	0.05
17.50	0.09	0.00	0.09	46.00	0.05	0.00	0.05
18.00	0.09	0.00	0.09	46.50	0.05	0.00	0.05
18.50	0.09	0.00	0.09	47.00	0.05	0.00	0.05
19.00	0.08	0.00	0.08	47.50	0.05	0.00	0.05
19.50	0.08	0.00	0.08	48.00	0.05	0.00	0.05
20.00	0.08	0.00	0.08				
20.50	0.08	0.00	0.08				
21.00	0.08	0.00	0.08				
21.50	0.08	0.00	0.08				
22.00	0.08	0.00	0.08				
22.50	0.08	0.00	0.08				
23.00	0.08	0.00	0.08				
23.50	0.07	0.00	0.07				
24.00	0.07	0.00	0.07				
24.50	0.06	0.00	0.06				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Summary for Link 2B: Study Point 2

Inflow Area = 1.450 ac, 62.76% Impervious, Inflow Depth > 1.88" for 10 YEAR event
Inflow = 1.00 cfs @ 12.03 hrs, Volume= 0.228 af
Primary = 1.00 cfs @ 12.03 hrs, Volume= 0.228 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2B: Study Point 2



Hydrograph for Link 2B: Study Point 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.00	0.00	0.00	32.00	0.05	0.00	0.05
4.00	0.00	0.00	0.00	32.50	0.05	0.00	0.05
4.50	0.00	0.00	0.00	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.01	0.00	0.01	34.50	0.05	0.00	0.05
6.50	0.01	0.00	0.01	35.00	0.05	0.00	0.05
7.00	0.01	0.00	0.01	35.50	0.05	0.00	0.05
7.50	0.01	0.00	0.01	36.00	0.05	0.00	0.05
8.00	0.01	0.00	0.01	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.02	0.00	0.02	38.00	0.05	0.00	0.05
10.00	0.02	0.00	0.02	38.50	0.05	0.00	0.05
10.50	0.02	0.00	0.02	39.00	0.05	0.00	0.05
11.00	0.02	0.00	0.02	39.50	0.05	0.00	0.05
11.50	0.04	0.00	0.04	40.00	0.05	0.00	0.05
12.00	**0.96**	0.00	**0.96**	40.50	0.05	0.00	0.05
12.50	**0.18**	0.00	**0.18**	41.00	0.05	0.00	0.05
13.00	0.13	0.00	0.13	41.50	0.05	0.00	0.05
13.50	0.11	0.00	0.11	42.00	0.05	0.00	0.05
14.00	0.10	0.00	0.10	42.50	0.05	0.00	0.05
14.50	0.09	0.00	0.09	43.00	0.05	0.00	0.05
15.00	0.09	0.00	0.09	43.50	0.05	0.00	0.05
15.50	0.09	0.00	0.09	44.00	0.05	0.00	0.05
16.00	0.08	0.00	0.08	44.50	0.04	0.00	0.04
16.50	0.10	0.00	0.10	45.00	0.04	0.00	0.04
17.00	0.11	0.00	0.11	45.50	0.04	0.00	0.04
17.50	0.12	0.00	0.12	46.00	0.04	0.00	0.04
18.00	0.12	0.00	0.12	46.50	0.04	0.00	0.04
18.50	0.12	0.00	0.12	47.00	0.04	0.00	0.04
19.00	0.11	0.00	0.11	47.50	0.04	0.00	0.04
19.50	0.11	0.00	0.11	48.00	0.04	0.00	0.04
20.00	0.10	0.00	0.10				
20.50	0.09	0.00	0.09				
21.00	0.09	0.00	0.09				
21.50	0.09	0.00	0.09				
22.00	0.09	0.00	0.09				
22.50	0.08	0.00	0.08				
23.00	0.08	0.00	0.08				
23.50	0.08	0.00	0.08				
24.00	0.08	0.00	0.08				
24.50	0.05	0.00	0.05				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 B-1: Post-Developed Runoff Area=1.980 ac 98.48% Impervious Runoff Depth=5.93"
Tc=5.0 min CN=97 Runoff=17.88 cfs 0.979 af

Subcatchment B-1A: BYPASS POND to Runoff Area=0.690 ac 0.00% Impervious Runoff Depth=2.11"
Tc=35.7 min CN=60 Runoff=1.05 cfs 0.122 af

Subcatchment B-2: Post-Developed Runoff Area=1.010 ac 90.10% Impervious Runoff Depth=5.58"
Tc=5.0 min CN=94 Runoff=8.93 cfs 0.470 af

Subcatchment B-2A: BYPASS POND to Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=2.20"
Tc=10.0 min CN=61 Runoff=1.44 cfs 0.081 af

Subcatchment B-3: Post-Developed Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=2.20"
Tc=5.0 min CN=61 Runoff=0.55 cfs 0.026 af

Pond 1P: Undg Pond 1 Peak Elev=1,001.10' Storage=0.817 af Inflow=17.88 cfs 0.979 af
Outflow=0.26 cfs 0.272 af

Pond 2P: Undg Pond 2 Peak Elev=999.23' Storage=0.319 af Inflow=8.93 cfs 0.470 af
Outflow=0.40 cfs 0.261 af

Link 1B: Study Point 1 Inflow=1.10 cfs 0.393 af
Primary=1.10 cfs 0.393 af

Link 2B: Study Point 2 Inflow=1.49 cfs 0.342 af
Primary=1.49 cfs 0.342 af

Total Runoff Area = 4.260 ac Runoff Volume = 1.677 af Average Runoff Depth = 4.72"
32.86% Pervious = 1.400 ac 67.14% Impervious = 2.860 ac

Summary for Subcatchment B-1: Post-Developed

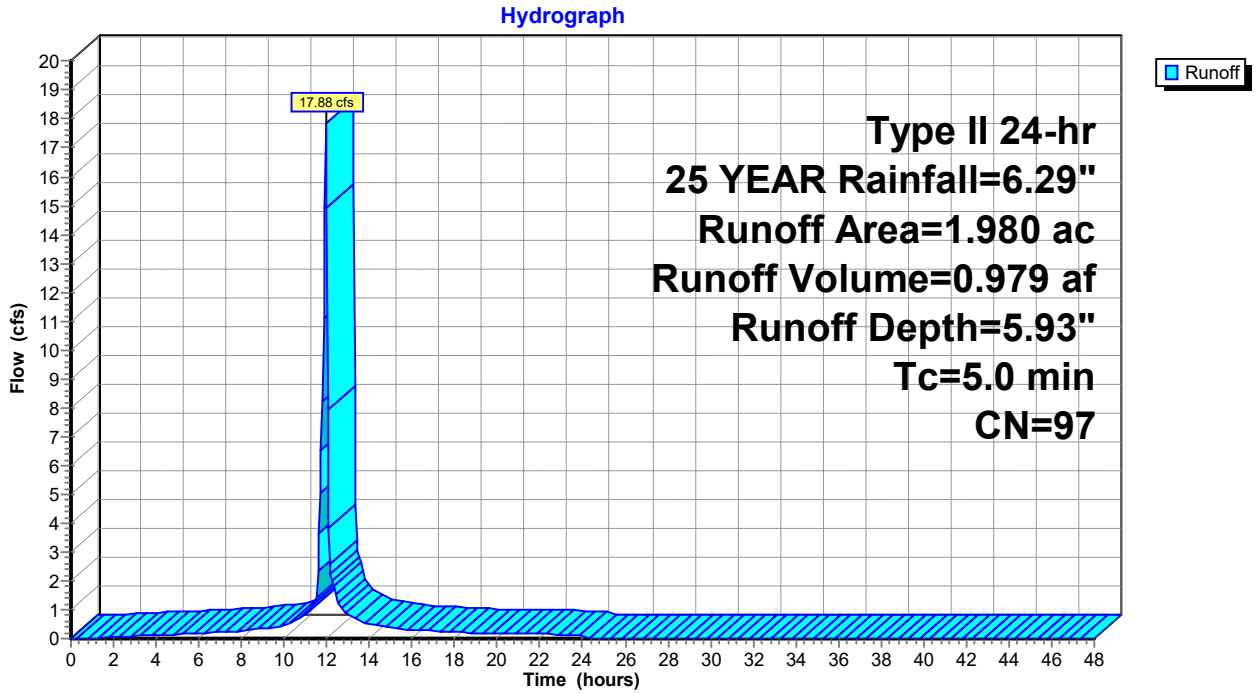
Runoff = 17.88 cfs @ 11.95 hrs, Volume= 0.979 af, Depth= 5.93"
Routed to Pond 1P : Undg Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
1.950	98	Paved parking, HSG B
0.030	61	>75% Grass cover, Good, HSG B
1.980	97	Weighted Average
0.030		1.52% Pervious Area
1.950		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-1: Post-Developed



Hydrograph for Subcatchment B-1: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.03
2.00	0.14	0.02	0.05
2.50	0.18	0.03	0.07
3.00	0.22	0.05	0.09
3.50	0.26	0.08	0.10
4.00	0.30	0.10	0.12
4.50	0.35	0.14	0.13
5.00	0.40	0.17	0.15
5.50	0.45	0.21	0.17
6.00	0.50	0.26	0.19
6.50	0.56	0.31	0.20
7.00	0.62	0.36	0.22
7.50	0.69	0.42	0.23
8.00	0.75	0.48	0.25
8.50	0.83	0.55	0.30
9.00	0.92	0.64	0.36
9.50	1.03	0.73	0.38
10.00	1.14	0.84	0.46
10.50	1.28	0.97	0.60
11.00	1.48	1.16	0.84
11.50	1.78	1.46	**1.38**
12.00	4.17	3.82	**14.90**
12.50	4.62	4.27	1.31
13.00	4.86	4.50	0.81
13.50	5.03	4.67	0.62
14.00	5.16	4.80	0.48
14.50	5.27	4.91	0.43
15.00	5.37	5.01	0.38
15.50	5.46	5.10	0.34
16.00	5.54	5.18	0.29
16.50	5.61	5.25	0.27
17.00	5.67	5.32	0.26
17.50	5.73	5.38	0.24
18.00	5.79	5.44	0.23
18.50	5.85	5.49	0.21
19.00	5.90	5.54	0.20
19.50	5.95	5.59	0.18
20.00	5.99	5.63	0.17
20.50	6.03	5.67	0.16
21.00	6.07	5.71	0.16
21.50	6.11	5.75	0.15
22.00	6.15	5.79	0.15
22.50	6.18	5.83	0.15
23.00	6.22	5.86	0.14
23.50	6.26	5.90	0.14
24.00	**6.29**	**5.93**	0.14
24.50	6.29	5.93	0.00
25.00	6.29	5.93	0.00
25.50	6.29	5.93	0.00
26.00	6.29	5.93	0.00
26.50	6.29	5.93	0.00
27.00	6.29	5.93	0.00
27.50	6.29	5.93	0.00
28.00	6.29	5.93	0.00
28.50	6.29	5.93	0.00
29.00	6.29	5.93	0.00
29.50	6.29	5.93	0.00
30.00	6.29	5.93	0.00
30.50	6.29	5.93	0.00
31.00	6.29	5.93	0.00
31.50	6.29	5.93	0.00
32.00	6.29	5.93	0.00
32.50	6.29	5.93	0.00
33.00	6.29	5.93	0.00
33.50	6.29	5.93	0.00
34.00	6.29	5.93	0.00
34.50	6.29	5.93	0.00
35.00	6.29	5.93	0.00
35.50	6.29	5.93	0.00
36.00	6.29	5.93	0.00
36.50	6.29	5.93	0.00
37.00	6.29	5.93	0.00
37.50	6.29	5.93	0.00
38.00	6.29	5.93	0.00
38.50	6.29	5.93	0.00
39.00	6.29	5.93	0.00
39.50	6.29	5.93	0.00
40.00	6.29	5.93	0.00
40.50	6.29	5.93	0.00
41.00	6.29	5.93	0.00
41.50	6.29	5.93	0.00
42.00	6.29	5.93	0.00
42.50	6.29	5.93	0.00
43.00	6.29	5.93	0.00
43.50	6.29	5.93	0.00
44.00	6.29	5.93	0.00
44.50	6.29	5.93	0.00
45.00	6.29	5.93	0.00
45.50	6.29	5.93	0.00
46.00	6.29	5.93	0.00
46.50	6.29	5.93	0.00
47.00	6.29	5.93	0.00
47.50	6.29	5.93	0.00
48.00	6.29	5.93	0.00

Summary for Subcatchment B-1A: BYPASS POND to SP1

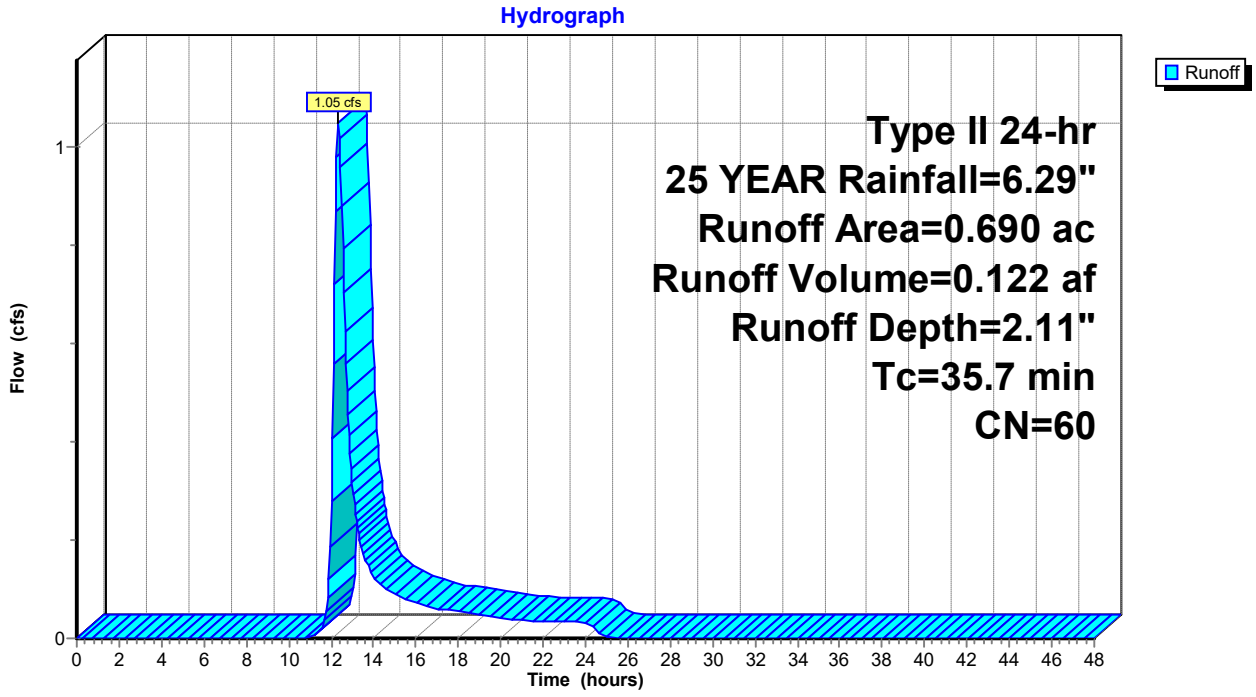
Runoff = 1.05 cfs @ 12.34 hrs, Volume= 0.122 af, Depth= 2.11"
Routed to Link 1B : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
0.100	55	Woods, Good, HSG B
0.590	61	>75% Grass cover, Good, HSG B
0.690	60	Weighted Average
0.690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.7					**Direct Entry,**

Subcatchment B-1A: BYPASS POND to SP1



Hydrograph for Subcatchment B-1A: BYPASS POND to SP1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.00
3.00	0.22	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.30	0.00	0.00
4.50	0.35	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.50	0.00	0.00
6.50	0.56	0.00	0.00
7.00	0.62	0.00	0.00
7.50	0.69	0.00	0.00
8.00	0.75	0.00	0.00
8.50	0.83	0.00	0.00
9.00	0.92	0.00	0.00
9.50	1.03	0.00	0.00
10.00	1.14	0.00	0.00
10.50	1.28	0.00	0.00
11.00	1.48	0.00	0.00
11.50	1.78	0.03	0.01
12.00	4.17	0.85	**0.28**
12.50	4.62	1.09	**0.88**
13.00	4.86	1.22	0.32
13.50	5.03	1.32	0.18
14.00	5.16	1.39	0.13
14.50	5.27	1.46	0.10
15.00	5.37	1.52	0.09
15.50	5.46	1.58	0.08
16.00	5.54	1.62	0.07
16.50	5.61	1.67	0.06
17.00	5.67	1.71	0.06
17.50	5.73	1.75	0.06
18.00	5.79	1.79	0.05
18.50	5.85	1.82	0.05
19.00	5.90	1.86	0.05
19.50	5.95	1.89	0.04
20.00	5.99	1.91	0.04
20.50	6.03	1.94	0.04
21.00	6.07	1.97	0.04
21.50	6.11	1.99	0.04
22.00	6.15	2.02	0.04
22.50	6.18	2.04	0.03
23.00	6.22	2.07	0.03
23.50	6.26	2.09	0.03
24.00	**6.29**	**2.11**	0.03
24.50	6.29	2.11	0.02
25.00	6.29	2.11	0.00
25.50	6.29	2.11	0.00
26.00	6.29	2.11	0.00
26.50	6.29	2.11	0.00
27.00	6.29	2.11	0.00
27.50	6.29	2.11	0.00
28.00	6.29	2.11	0.00
28.50	6.29	2.11	0.00
29.00	6.29	2.11	0.00
29.50	6.29	2.11	0.00
30.00	6.29	2.11	0.00
30.50	6.29	2.11	0.00
31.00	6.29	2.11	0.00
31.50	6.29	2.11	0.00
32.00	6.29	2.11	0.00
32.50	6.29	2.11	0.00
33.00	6.29	2.11	0.00
33.50	6.29	2.11	0.00
34.00	6.29	2.11	0.00
34.50	6.29	2.11	0.00
35.00	6.29	2.11	0.00
35.50	6.29	2.11	0.00
36.00	6.29	2.11	0.00
36.50	6.29	2.11	0.00
37.00	6.29	2.11	0.00
37.50	6.29	2.11	0.00
38.00	6.29	2.11	0.00
38.50	6.29	2.11	0.00
39.00	6.29	2.11	0.00
39.50	6.29	2.11	0.00
40.00	6.29	2.11	0.00
40.50	6.29	2.11	0.00
41.00	6.29	2.11	0.00
41.50	6.29	2.11	0.00
42.00	6.29	2.11	0.00
42.50	6.29	2.11	0.00
43.00	6.29	2.11	0.00
43.50	6.29	2.11	0.00
44.00	6.29	2.11	0.00
44.50	6.29	2.11	0.00
45.00	6.29	2.11	0.00
45.50	6.29	2.11	0.00
46.00	6.29	2.11	0.00
46.50	6.29	2.11	0.00
47.00	6.29	2.11	0.00
47.50	6.29	2.11	0.00
48.00	6.29	2.11	0.00

Summary for Subcatchment B-2: Post-Developed

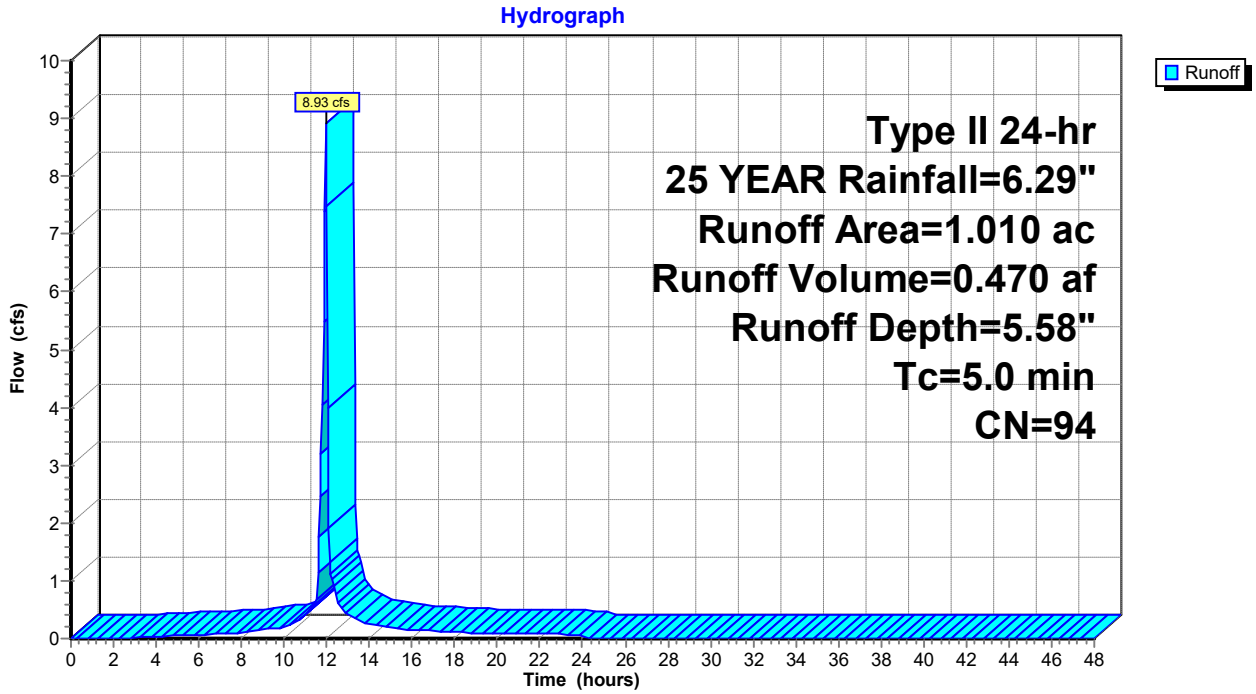
Runoff = 8.93 cfs @ 11.95 hrs, Volume= 0.470 af, Depth= 5.58"
Routed to Pond 2P : Undg Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
0.910	98	Paved parking, HSG B
0.100	61	>75% Grass cover, Good, HSG B
1.010	94	Weighted Average
0.100		9.90% Pervious Area
0.910		90.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-2: Post-Developed



Hydrograph for Subcatchment B-2: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.01
3.00	0.22	0.01	0.02
3.50	0.26	0.02	0.03
4.00	0.30	0.04	0.03
4.50	0.35	0.06	0.04
5.00	0.40	0.08	0.05
5.50	0.45	0.11	0.06
6.00	0.50	0.14	0.07
6.50	0.56	0.18	0.08
7.00	0.62	0.22	0.09
7.50	0.69	0.26	0.09
8.00	0.75	0.31	0.10
8.50	0.83	0.37	0.13
9.00	0.92	0.44	0.16
9.50	1.03	0.52	0.17
10.00	1.14	0.62	0.21
10.50	1.28	0.74	0.28
11.00	1.48	0.92	0.39
11.50	1.78	1.19	**0.66**
12.00	4.17	3.49	**7.47**
12.50	4.62	3.94	0.66
13.00	4.86	4.17	0.41
13.50	5.03	4.33	0.31
14.00	5.16	4.46	0.24
14.50	5.27	4.57	0.22
15.00	5.37	4.67	0.19
15.50	5.46	4.76	0.17
16.00	5.54	4.84	0.15
16.50	5.61	4.91	0.14
17.00	5.67	4.97	0.13
17.50	5.73	5.03	0.12
18.00	5.79	5.09	0.12
18.50	5.85	5.15	0.11
19.00	5.90	5.20	0.10
19.50	5.95	5.24	0.09
20.00	5.99	5.28	0.08
20.50	6.03	5.32	0.08
21.00	6.07	5.36	0.08
21.50	6.11	5.40	0.08
22.00	6.15	5.44	0.08
22.50	6.18	5.48	0.07
23.00	6.22	5.51	0.07
23.50	6.26	5.55	0.07
24.00	**6.29**	**5.58**	0.07
24.50	6.29	5.58	0.00
25.00	6.29	5.58	0.00
25.50	6.29	5.58	0.00
26.00	6.29	5.58	0.00
26.50	6.29	5.58	0.00
27.00	6.29	5.58	0.00
27.50	6.29	5.58	0.00
28.00	6.29	5.58	0.00
28.50	6.29	5.58	0.00
29.00	6.29	5.58	0.00
29.50	6.29	5.58	0.00
30.00	6.29	5.58	0.00
30.50	6.29	5.58	0.00
31.00	6.29	5.58	0.00
31.50	6.29	5.58	0.00
32.00	6.29	5.58	0.00
32.50	6.29	5.58	0.00
33.00	6.29	5.58	0.00
33.50	6.29	5.58	0.00
34.00	6.29	5.58	0.00
34.50	6.29	5.58	0.00
35.00	6.29	5.58	0.00
35.50	6.29	5.58	0.00
36.00	6.29	5.58	0.00
36.50	6.29	5.58	0.00
37.00	6.29	5.58	0.00
37.50	6.29	5.58	0.00
38.00	6.29	5.58	0.00
38.50	6.29	5.58	0.00
39.00	6.29	5.58	0.00
39.50	6.29	5.58	0.00
40.00	6.29	5.58	0.00
40.50	6.29	5.58	0.00
41.00	6.29	5.58	0.00
41.50	6.29	5.58	0.00
42.00	6.29	5.58	0.00
42.50	6.29	5.58	0.00
43.00	6.29	5.58	0.00
43.50	6.29	5.58	0.00
44.00	6.29	5.58	0.00
44.50	6.29	5.58	0.00
45.00	6.29	5.58	0.00
45.50	6.29	5.58	0.00
46.00	6.29	5.58	0.00
46.50	6.29	5.58	0.00
47.00	6.29	5.58	0.00
47.50	6.29	5.58	0.00
48.00	6.29	5.58	0.00

Summary for Subcatchment B-2A: BYPASS POND to SP2

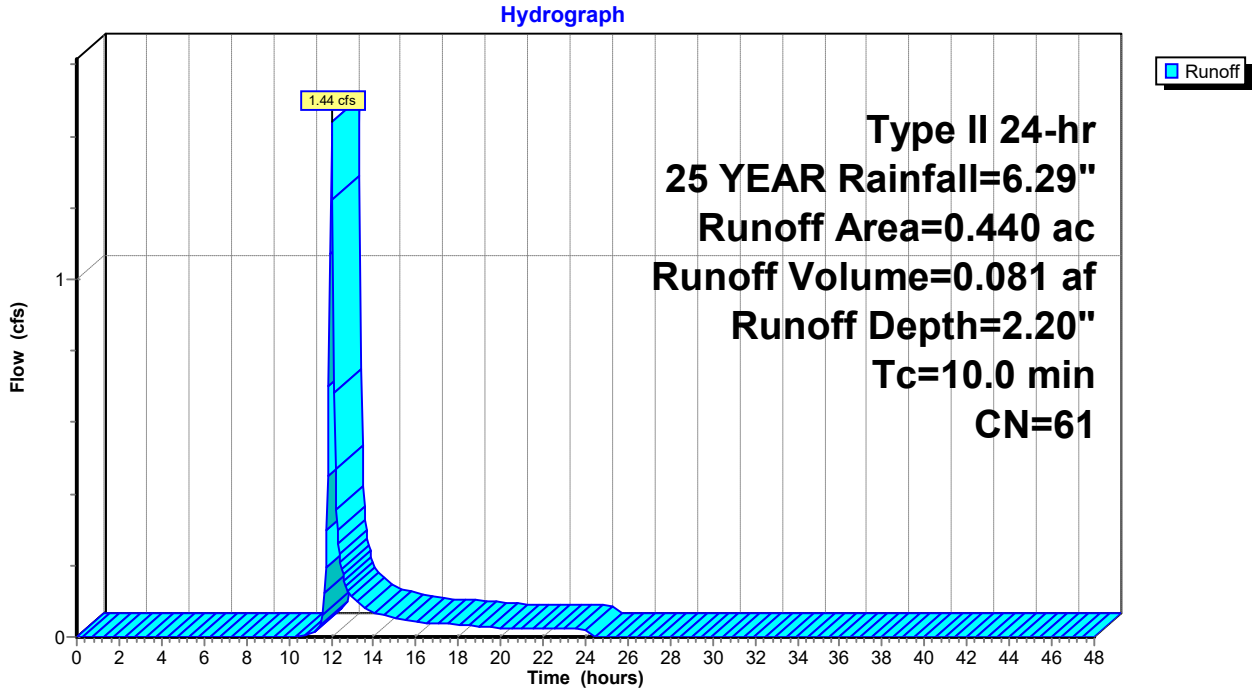
Runoff = 1.44 cfs @ 12.02 hrs, Volume= 0.081 af, Depth= 2.20"
Routed to Link 2B : Study Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
0.440	61	>75% Grass cover, Good, HSG B
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment B-2A: BYPASS POND to SP2



Hydrograph for Subcatchment B-2A: BYPASS POND to SP2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.00
3.00	0.22	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.30	0.00	0.00
4.50	0.35	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.50	0.00	0.00
6.50	0.56	0.00	0.00
7.00	0.62	0.00	0.00
7.50	0.69	0.00	0.00
8.00	0.75	0.00	0.00
8.50	0.83	0.00	0.00
9.00	0.92	0.00	0.00
9.50	1.03	0.00	0.00
10.00	1.14	0.00	0.00
10.50	1.28	0.00	0.00
11.00	1.48	0.01	0.01
11.50	1.78	0.04	0.03
12.00	4.17	0.90	**1.40**
12.50	4.62	1.15	0.19
13.00	4.86	1.28	0.11
13.50	5.03	1.38	0.09
14.00	5.16	1.46	0.07
14.50	5.27	1.53	0.06
15.00	5.37	1.60	0.05
15.50	5.46	1.65	0.05
16.00	5.54	1.70	0.04
16.50	5.61	1.75	0.04
17.00	5.67	1.79	0.04
17.50	5.73	1.83	0.04
18.00	5.79	1.87	0.03
18.50	5.85	1.90	0.03
19.00	5.90	1.94	0.03
19.50	5.95	1.97	0.03
20.00	5.99	2.00	0.02
20.50	6.03	2.02	0.02
21.00	6.07	2.05	0.02
21.50	6.11	2.08	0.02
22.00	6.15	2.10	0.02
22.50	6.18	2.13	0.02
23.00	6.22	2.15	0.02
23.50	6.26	2.18	0.02
24.00	**6.29**	**2.20**	0.02
24.50	6.29	2.20	0.00
25.00	6.29	2.20	0.00
25.50	6.29	2.20	0.00
26.00	6.29	2.20	0.00
26.50	6.29	2.20	0.00
27.00	6.29	2.20	0.00
27.50	6.29	2.20	0.00
28.00	6.29	2.20	0.00
28.50	6.29	2.20	0.00
29.00	6.29	2.20	0.00
29.50	6.29	2.20	0.00
30.00	6.29	2.20	0.00
30.50	6.29	2.20	0.00
31.00	6.29	2.20	0.00
31.50	6.29	2.20	0.00
32.00	6.29	2.20	0.00
32.50	6.29	2.20	0.00
33.00	6.29	2.20	0.00
33.50	6.29	2.20	0.00
34.00	6.29	2.20	0.00
34.50	6.29	2.20	0.00
35.00	6.29	2.20	0.00
35.50	6.29	2.20	0.00
36.00	6.29	2.20	0.00
36.50	6.29	2.20	0.00
37.00	6.29	2.20	0.00
37.50	6.29	2.20	0.00
38.00	6.29	2.20	0.00
38.50	6.29	2.20	0.00
39.00	6.29	2.20	0.00
39.50	6.29	2.20	0.00
40.00	6.29	2.20	0.00
40.50	6.29	2.20	0.00
41.00	6.29	2.20	0.00
41.50	6.29	2.20	0.00
42.00	6.29	2.20	0.00
42.50	6.29	2.20	0.00
43.00	6.29	2.20	0.00
43.50	6.29	2.20	0.00
44.00	6.29	2.20	0.00
44.50	6.29	2.20	0.00
45.00	6.29	2.20	0.00
45.50	6.29	2.20	0.00
46.00	6.29	2.20	0.00
46.50	6.29	2.20	0.00
47.00	6.29	2.20	0.00
47.50	6.29	2.20	0.00
48.00	6.29	2.20	0.00

Summary for Subcatchment B-3: Post-Developed

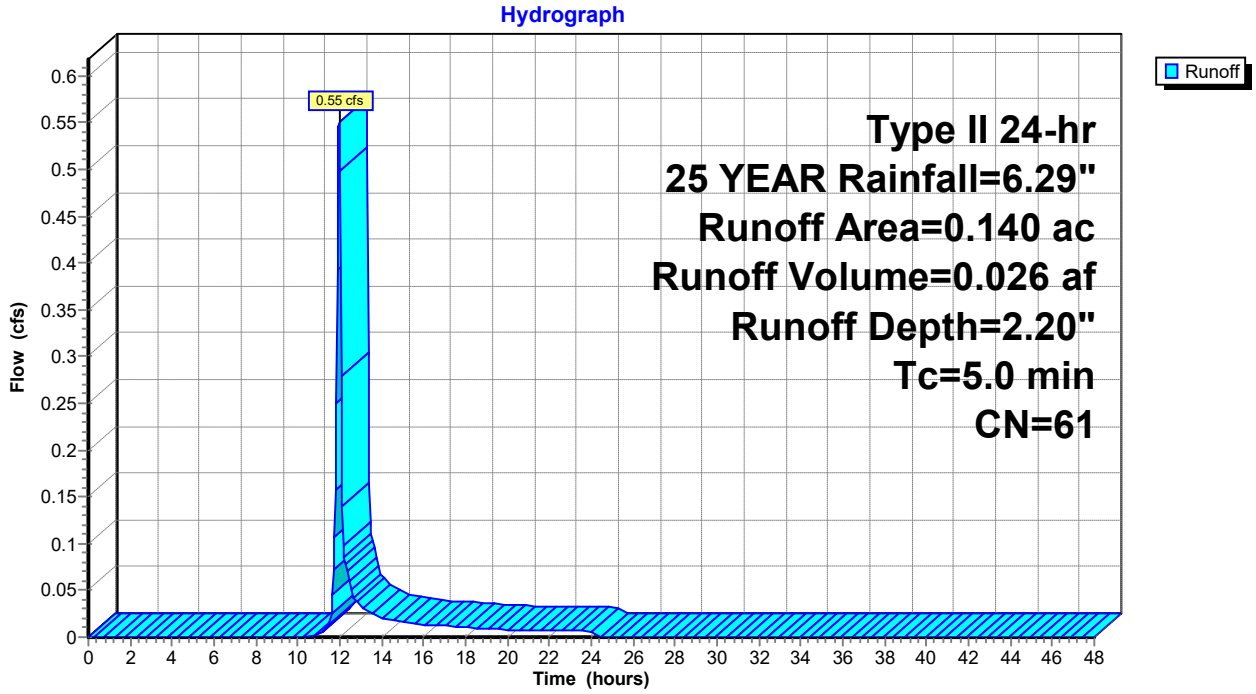
Runoff = 0.55 cfs @ 11.96 hrs, Volume= 0.026 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
0.140	61	>75% Grass cover, Good, HSG B
0.140	61	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-3: Post-Developed



Hydrograph for Subcatchment B-3: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.00
3.00	0.22	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.30	0.00	0.00
4.50	0.35	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.50	0.00	0.00
6.50	0.56	0.00	0.00
7.00	0.62	0.00	0.00
7.50	0.69	0.00	0.00
8.00	0.75	0.00	0.00
8.50	0.83	0.00	0.00
9.00	0.92	0.00	0.00
9.50	1.03	0.00	0.00
10.00	1.14	0.00	0.00
10.50	1.28	0.00	0.00
11.00	1.48	0.01	0.00
11.50	1.78	0.04	**0.01**
12.00	4.17	0.90	**0.50**
12.50	4.62	1.15	0.05
13.00	4.86	1.28	0.03
13.50	5.03	1.38	0.03
14.00	5.16	1.46	0.02
14.50	5.27	1.53	0.02
15.00	5.37	1.60	0.02
15.50	5.46	1.65	0.02
16.00	5.54	1.70	0.01
16.50	5.61	1.75	0.01
17.00	5.67	1.79	0.01
17.50	5.73	1.83	0.01
18.00	5.79	1.87	0.01
18.50	5.85	1.90	0.01
19.00	5.90	1.94	0.01
19.50	5.95	1.97	0.01
20.00	5.99	2.00	0.01
20.50	6.03	2.02	0.01
21.00	6.07	2.05	0.01
21.50	6.11	2.08	0.01
22.00	6.15	2.10	0.01
22.50	6.18	2.13	0.01
23.00	6.22	2.15	0.01
23.50	6.26	2.18	0.01
24.00	**6.29**	**2.20**	0.01
24.50	6.29	2.20	0.00
25.00	6.29	2.20	0.00
25.50	6.29	2.20	0.00
26.00	6.29	2.20	0.00
26.50	6.29	2.20	0.00
27.00	6.29	2.20	0.00
27.50	6.29	2.20	0.00
28.00	6.29	2.20	0.00
28.50	6.29	2.20	0.00
29.00	6.29	2.20	0.00
29.50	6.29	2.20	0.00
30.00	6.29	2.20	0.00
30.50	6.29	2.20	0.00
31.00	6.29	2.20	0.00
31.50	6.29	2.20	0.00
32.00	6.29	2.20	0.00
32.50	6.29	2.20	0.00
33.00	6.29	2.20	0.00
33.50	6.29	2.20	0.00
34.00	6.29	2.20	0.00
34.50	6.29	2.20	0.00
35.00	6.29	2.20	0.00
35.50	6.29	2.20	0.00
36.00	6.29	2.20	0.00
36.50	6.29	2.20	0.00
37.00	6.29	2.20	0.00
37.50	6.29	2.20	0.00
38.00	6.29	2.20	0.00
38.50	6.29	2.20	0.00
39.00	6.29	2.20	0.00
39.50	6.29	2.20	0.00
40.00	6.29	2.20	0.00
40.50	6.29	2.20	0.00
41.00	6.29	2.20	0.00
41.50	6.29	2.20	0.00
42.00	6.29	2.20	0.00
42.50	6.29	2.20	0.00
43.00	6.29	2.20	0.00
43.50	6.29	2.20	0.00
44.00	6.29	2.20	0.00
44.50	6.29	2.20	0.00
45.00	6.29	2.20	0.00
45.50	6.29	2.20	0.00
46.00	6.29	2.20	0.00
46.50	6.29	2.20	0.00
47.00	6.29	2.20	0.00
47.50	6.29	2.20	0.00
48.00	6.29	2.20	0.00

Summary for Pond 1P: Undg Pond 1

Inflow Area = 1.980 ac, 98.48% Impervious, Inflow Depth = 5.93" for 25 YEAR event
Inflow = 17.88 cfs @ 11.95 hrs, Volume= 0.979 af
Outflow = 0.26 cfs @ 16.84 hrs, Volume= 0.272 af, Atten= 99%, Lag= 293.5 min
Primary = 0.26 cfs @ 16.84 hrs, Volume= 0.272 af
Routed to Link 1B : Study Point 1

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,001.10' @ 16.84 hrs Surf.Area= 0.286 ac Storage= 0.817 af

Plug-Flow detention time= 931.8 min calculated for 0.272 af (28% of inflow)
Center-of-Mass det. time= 730.8 min (1,477.1 - 746.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	997.00'	0.394 af	**51.42'W x 242.31'L x 5.50'H Field A** 1.573 af Overall - 0.588 af Embedded = 0.985 af x 40.0% Voids
#2A	997.75'	0.588 af	**ADS_StormTech MC-3500 d +Cap** x 231 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 231 Chambers in 7 Rows Cap Storage= 14.9 cf x 2 x 7 rows = 208.6 cf
		0.982 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	997.00'	**36.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	997.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,001.00'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,002.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.26 cfs @ 16.84 hrs HW=1,001.10' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.26 cfs of 54.90 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 9.70 fps)
├**3=Orifice/Grate** (Orifice Controls 0.21 cfs @ 1.02 fps)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Undg Pond 1 - 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 7 rows = 208.6 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

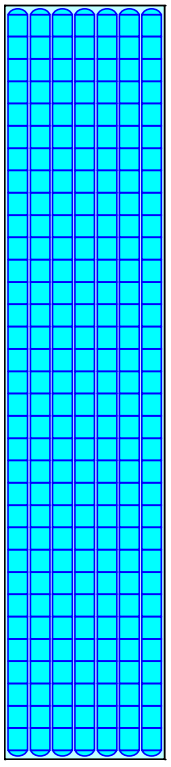
33 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 240.31' Row Length +12.0" End Stone x 2 = 242.31' Base Length
7 Rows x 77.0" Wide + 9.0" Spacing x 6 + 12.0" Side Stone x 2 = 51.42' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

231 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 7 Rows = 25,607.5 cf Chamber Storage

68,523.2 cf Field - 25,607.5 cf Chambers = 42,915.7 cf Stone x 40.0% Voids = 17,166.3 cf Stone Storage

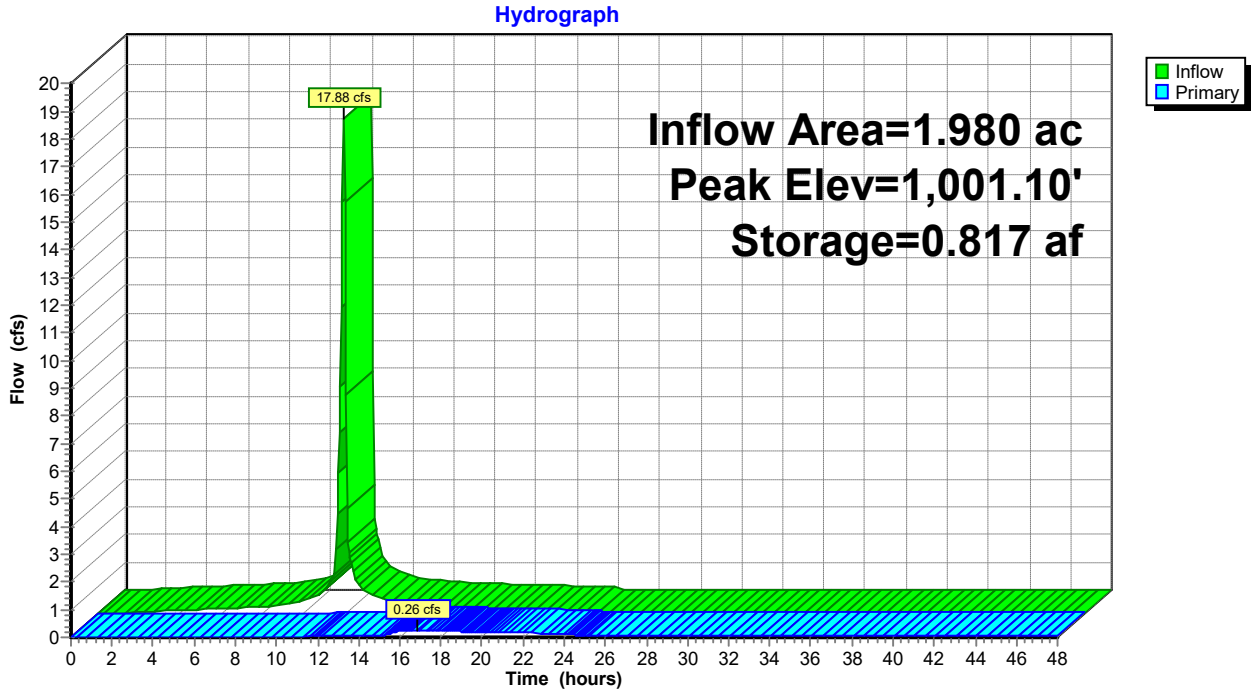
Chamber Storage + Stone Storage = 42,773.8 cf = 0.982 af
Overall Storage Efficiency = 62.4%
Overall System Size = 242.31' x 51.42' x 5.50'

231 Chambers
2,537.9 cy Field
1,589.5 cy Stone





Pond 1P: Undg Pond 1



Hydrograph for Pond 1P: Undg Pond 1

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	997.00	0.00
1.00	0.00	0.000	997.00	0.00
2.00	0.05	0.002	997.02	0.00
3.00	0.09	0.008	997.07	0.00
4.00	0.12	0.016	997.14	0.01
5.00	0.15	0.026	997.23	0.01
6.00	0.19	0.039	997.34	0.01
7.00	0.22	0.054	997.48	0.02
8.00	0.25	0.072	997.63	0.02
9.00	0.36	0.095	997.79	0.02
10.00	0.46	0.126	997.91	0.02
11.00	**0.84**	0.175	998.11	0.03
12.00	**14.90**	0.545	999.69	0.04
13.00	0.81	0.720	1,000.54	0.05
14.00	0.48	0.768	1,000.80	0.05
15.00	0.38	0.799	1,000.98	0.05
16.00	0.29	**0.815**	**1,001.09**	**0.23**
17.00	0.26	**0.817**	**1,001.10**	**0.26**
18.00	0.23	0.816	1,001.09	0.24
19.00	0.20	0.815	1,001.09	0.21
20.00	0.17	0.813	1,001.08	0.19
21.00	0.16	0.812	1,001.07	0.17
22.00	0.15	0.811	1,001.06	0.16
23.00	0.14	0.811	1,001.06	0.15
24.00	0.14	0.810	1,001.06	0.14
25.00	0.00	0.803	1,001.01	0.06
26.00	0.00	0.799	1,000.98	0.05
27.00	0.00	0.795	1,000.96	0.05
28.00	0.00	0.790	1,000.93	0.05
29.00	0.00	0.786	1,000.90	0.05
30.00	0.00	0.782	1,000.88	0.05
31.00	0.00	0.777	1,000.85	0.05
32.00	0.00	0.773	1,000.83	0.05
33.00	0.00	0.769	1,000.80	0.05
34.00	0.00	0.765	1,000.78	0.05
35.00	0.00	0.761	1,000.76	0.05
36.00	0.00	0.756	1,000.73	0.05
37.00	0.00	0.752	1,000.71	0.05
38.00	0.00	0.748	1,000.69	0.05
39.00	0.00	0.744	1,000.66	0.05
40.00	0.00	0.740	1,000.64	0.05
41.00	0.00	0.736	1,000.62	0.05
42.00	0.00	0.732	1,000.60	0.05
43.00	0.00	0.728	1,000.57	0.05
44.00	0.00	0.724	1,000.55	0.05
45.00	0.00	0.719	1,000.53	0.05
46.00	0.00	0.715	1,000.51	0.05
47.00	0.00	0.711	1,000.49	0.05
48.00	0.00	0.707	1,000.47	0.05

Summary for Pond 2P: Undg Pond 2

Inflow Area = 1.010 ac, 90.10% Impervious, Inflow Depth = 5.58" for 25 YEAR event
Inflow = 8.93 cfs @ 11.95 hrs, Volume= 0.470 af
Outflow = 0.40 cfs @ 13.03 hrs, Volume= 0.261 af, Atten= 96%, Lag= 65.0 min
Primary = 0.40 cfs @ 13.03 hrs, Volume= 0.261 af
Routed to Link 2B : Study Point 2

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 999.23' @ 13.03 hrs Surf.Area= 0.103 ac Storage= 0.319 af

Plug-Flow detention time= 735.8 min calculated for 0.261 af (55% of inflow)
Center-of-Mass det. time= 623.9 min (1,386.6 - 762.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	995.00'	0.166 af	**37.58'W x 119.53'L x 6.75'H Field A** 0.696 af Overall - 0.282 af Embedded = 0.414 af x 40.0% Voids
#2A	995.75'	0.282 af	**ADS_StormTech MC-7200 +Cap** x 68 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 68 Chambers in 4 Rows Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf
		0.448 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	995.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	999.00'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,001.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.40 cfs @ 13.03 hrs HW=999.23' (Free Discharge)
↑—**1=Orifice/Grate** (Passes 0.40 cfs of 27.17 cfs potential flow)
↑—**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 9.85 fps)
—**3=Orifice/Grate** (Orifice Controls 0.34 cfs @ 1.52 fps)
—**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Undg Pond 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-7200 +Cap (ADS StormTech® MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

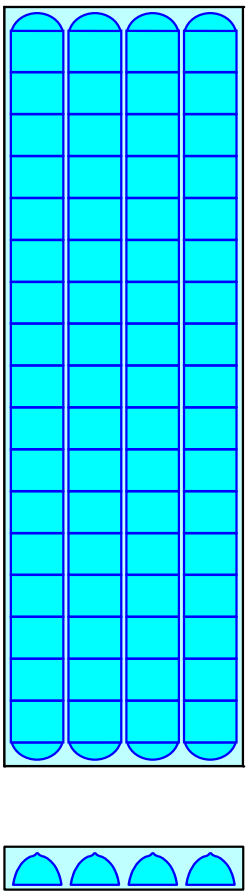
17 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 117.52' Row Length +12.0" End Stone x 2 = 119.53' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

68 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 4 Rows = 12,275.5 cf Chamber Storage

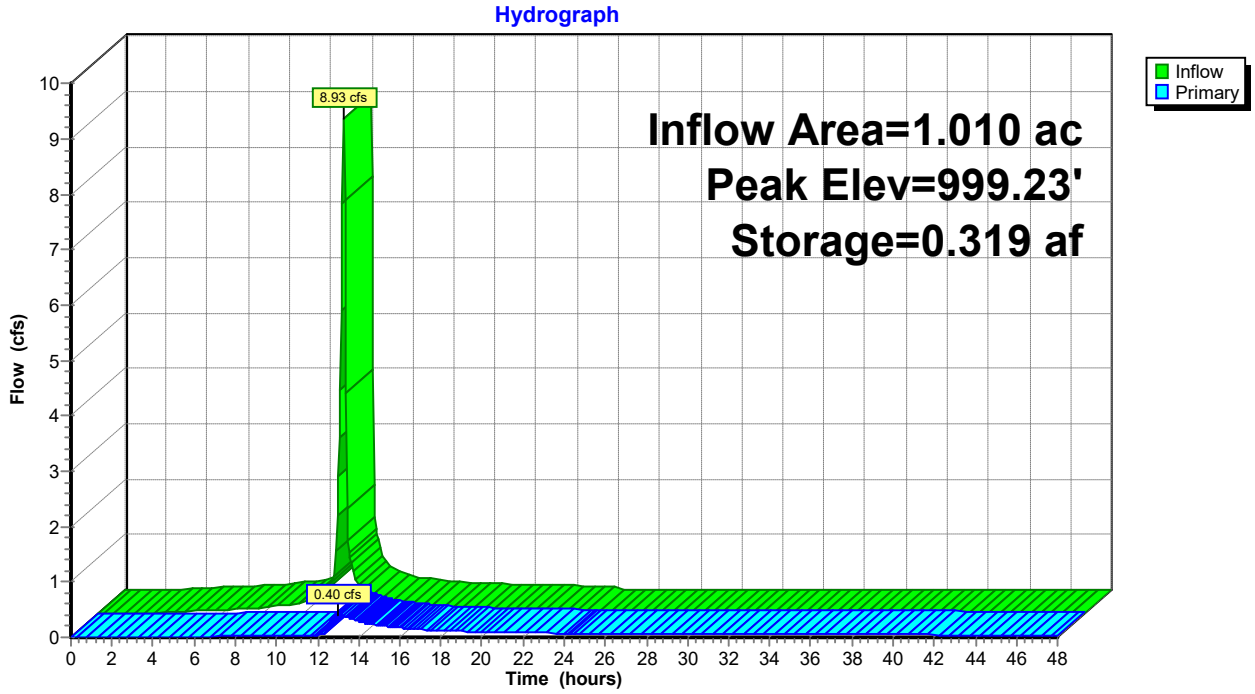
30,322.0 cf Field - 12,275.5 cf Chambers = 18,046.5 cf Stone x 40.0% Voids = 7,218.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,494.1 cf = 0.448 af
Overall Storage Efficiency = 64.3%
Overall System Size = 119.53' x 37.58' x 6.75'

68 Chambers
1,123.0 cy Field
668.4 cy Stone



Pond 2P: Undg Pond 2



Hydrograph for Pond 2P: Undg Pond 2

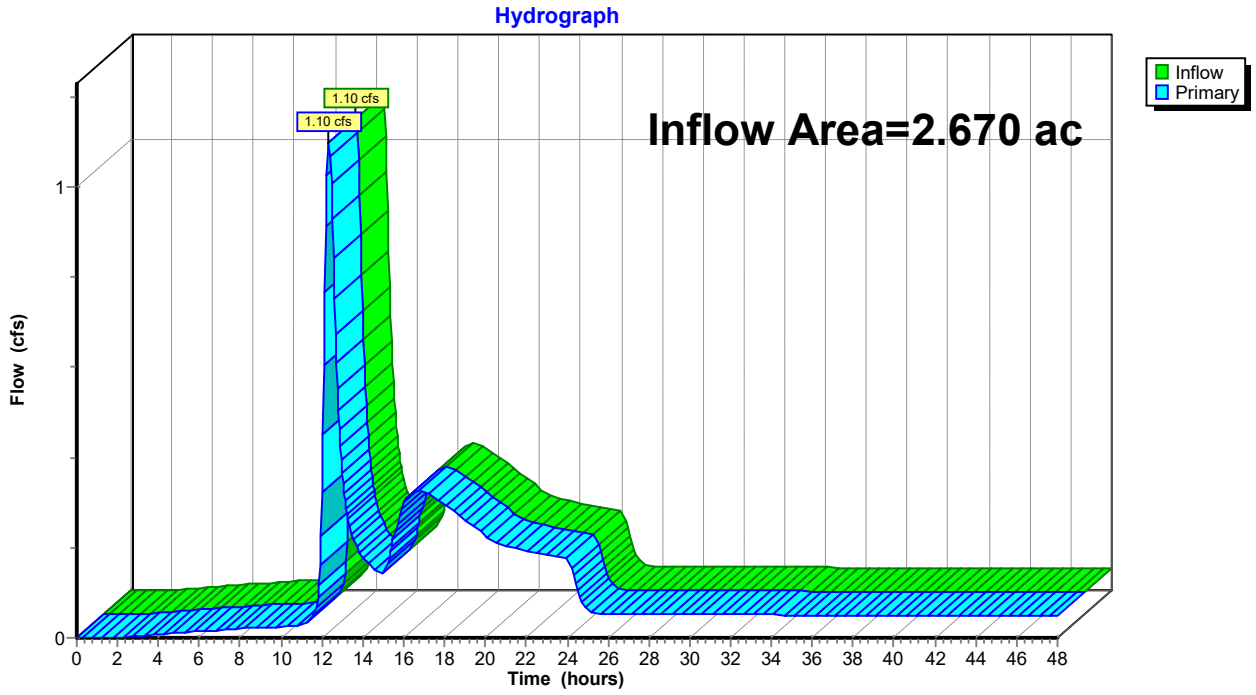
Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	995.00	0.00
1.00	0.00	0.000	995.00	0.00
2.00	0.00	0.000	995.00	0.00
3.00	0.02	0.001	995.02	0.00
4.00	0.03	0.003	995.07	0.00
5.00	0.05	0.006	995.14	0.01
6.00	0.07	0.010	995.24	0.01
7.00	0.09	0.015	995.36	0.01
8.00	0.10	0.021	995.52	0.02
9.00	0.16	0.031	995.74	0.02
10.00	0.21	0.043	995.89	0.02
11.00	**0.39**	0.065	996.13	0.03
12.00	**7.47**	0.246	998.26	0.05
13.00	0.41	**0.319**	**999.23**	**0.40**
14.00	0.24	**0.315**	**999.18**	**0.30**
15.00	0.19	0.312	999.14	0.22
16.00	0.15	0.310	999.11	0.17
17.00	0.13	0.309	999.09	0.14
18.00	0.12	0.308	999.08	0.13
19.00	0.10	0.307	999.07	0.11
20.00	0.08	0.306	999.06	0.09
21.00	0.08	0.306	999.05	0.09
22.00	0.08	0.305	999.04	0.08
23.00	0.07	0.305	999.03	0.08
24.00	0.07	0.304	999.03	0.07
25.00	0.00	0.300	998.97	0.05
26.00	0.00	0.296	998.91	0.05
27.00	0.00	0.292	998.86	0.05
28.00	0.00	0.287	998.80	0.05
29.00	0.00	0.283	998.74	0.05
30.00	0.00	0.279	998.69	0.05
31.00	0.00	0.275	998.64	0.05
32.00	0.00	0.271	998.58	0.05
33.00	0.00	0.267	998.53	0.05
34.00	0.00	0.263	998.48	0.05
35.00	0.00	0.259	998.43	0.05
36.00	0.00	0.255	998.38	0.05
37.00	0.00	0.251	998.33	0.05
38.00	0.00	0.247	998.28	0.05
39.00	0.00	0.243	998.23	0.05
40.00	0.00	0.239	998.18	0.05
41.00	0.00	0.235	998.13	0.05
42.00	0.00	0.231	998.08	0.05
43.00	0.00	0.228	998.04	0.05
44.00	0.00	0.224	997.99	0.05
45.00	0.00	0.220	997.95	0.04
46.00	0.00	0.217	997.90	0.04
47.00	0.00	0.213	997.86	0.04
48.00	0.00	0.209	997.81	0.04

Summary for Link 1B: Study Point 1

Inflow Area = 2.670 ac, 73.03% Impervious, Inflow Depth > 1.77" for 25 YEAR event
Inflow = 1.10 cfs @ 12.34 hrs, Volume= 0.393 af
Primary = 1.10 cfs @ 12.34 hrs, Volume= 0.393 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 1B: Study Point 1



Hydrograph for Link 1B: Study Point 1

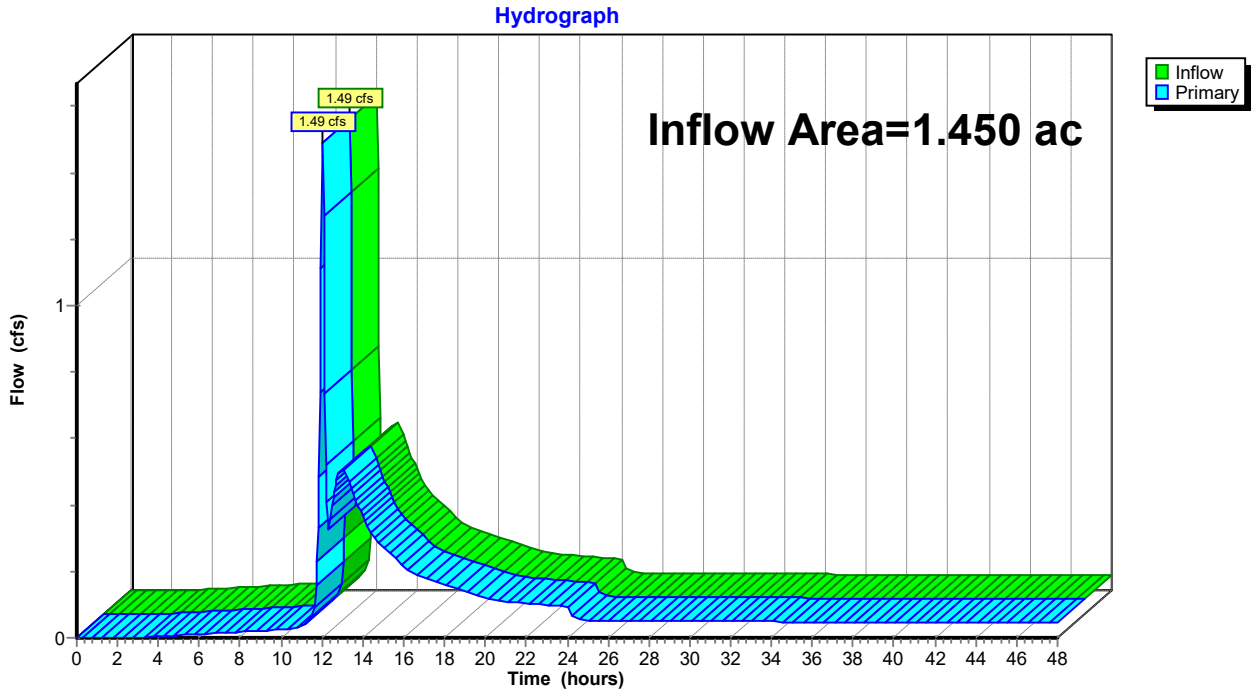
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.01	0.00	0.01	32.00	0.05	0.00	0.05
4.00	0.01	0.00	0.01	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.01	0.00	0.01	34.50	0.05	0.00	0.05
6.50	0.02	0.00	0.02	35.00	0.05	0.00	0.05
7.00	0.02	0.00	0.02	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.02	0.00	0.02	38.00	0.05	0.00	0.05
10.00	0.02	0.00	0.02	38.50	0.05	0.00	0.05
10.50	0.03	0.00	0.03	39.00	0.05	0.00	0.05
11.00	0.03	0.00	0.03	39.50	0.05	0.00	0.05
11.50	0.04	0.00	0.04	40.00	0.05	0.00	0.05
12.00	**0.32**	0.00	**0.32**	40.50	0.05	0.00	0.05
12.50	**0.93**	0.00	**0.93**	41.00	0.05	0.00	0.05
13.00	0.37	0.00	0.37	41.50	0.05	0.00	0.05
13.50	0.23	0.00	0.23	42.00	0.05	0.00	0.05
14.00	0.18	0.00	0.18	42.50	0.05	0.00	0.05
14.50	0.15	0.00	0.15	43.00	0.05	0.00	0.05
15.00	0.14	0.00	0.14	43.50	0.05	0.00	0.05
15.50	0.22	0.00	0.22	44.00	0.05	0.00	0.05
16.00	0.30	0.00	0.30	44.50	0.05	0.00	0.05
16.50	0.32	0.00	0.32	45.00	0.05	0.00	0.05
17.00	0.32	0.00	0.32	45.50	0.05	0.00	0.05
17.50	0.31	0.00	0.31	46.00	0.05	0.00	0.05
18.00	0.30	0.00	0.30	46.50	0.05	0.00	0.05
18.50	0.28	0.00	0.28	47.00	0.05	0.00	0.05
19.00	0.26	0.00	0.26	47.50	0.05	0.00	0.05
19.50	0.24	0.00	0.24	48.00	0.05	0.00	0.05
20.00	0.23	0.00	0.23				
20.50	0.21	0.00	0.21				
21.00	0.20	0.00	0.20				
21.50	0.20	0.00	0.20				
22.00	0.19	0.00	0.19				
22.50	0.19	0.00	0.19				
23.00	0.19	0.00	0.19				
23.50	0.18	0.00	0.18				
24.00	0.18	0.00	0.18				
24.50	0.11	0.00	0.11				
25.00	0.06	0.00	0.06				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Summary for Link 2B: Study Point 2

Inflow Area = 1.450 ac, 62.76% Impervious, Inflow Depth > 2.83" for 25 YEAR event
Inflow = 1.49 cfs @ 12.02 hrs, Volume= 0.342 af
Primary = 1.49 cfs @ 12.02 hrs, Volume= 0.342 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2B: Study Point 2



Hydrograph for Link 2B: Study Point 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.00	0.00	0.00	32.00	0.05	0.00	0.05
4.00	0.00	0.00	0.00	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.01	0.00	0.01	34.50	0.05	0.00	0.05
6.50	0.01	0.00	0.01	35.00	0.05	0.00	0.05
7.00	0.01	0.00	0.01	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.02	0.00	0.02	38.00	0.05	0.00	0.05
10.00	0.02	0.00	0.02	38.50	0.05	0.00	0.05
10.50	0.03	0.00	0.03	39.00	0.05	0.00	0.05
11.00	0.03	0.00	0.03	39.50	0.05	0.00	0.05
11.50	0.06	0.00	0.06	40.00	0.05	0.00	0.05
12.00	**1.45**	0.00	**1.45**	40.50	0.05	0.00	0.05
12.50	0.40	0.00	0.40	41.00	0.05	0.00	0.05
13.00	0.51	0.00	0.51	41.50	0.05	0.00	0.05
13.50	0.45	0.00	0.45	42.00	0.05	0.00	0.05
14.00	0.36	0.00	0.36	42.50	0.05	0.00	0.05
14.50	0.31	0.00	0.31	43.00	0.05	0.00	0.05
15.00	0.27	0.00	0.27	43.50	0.05	0.00	0.05
15.50	0.24	0.00	0.24	44.00	0.05	0.00	0.05
16.00	0.22	0.00	0.22	44.50	0.04	0.00	0.04
16.50	0.19	0.00	0.19	45.00	0.04	0.00	0.04
17.00	0.18	0.00	0.18	45.50	0.04	0.00	0.04
17.50	0.17	0.00	0.17	46.00	0.04	0.00	0.04
18.00	0.16	0.00	0.16	46.50	0.04	0.00	0.04
18.50	0.15	0.00	0.15	47.00	0.04	0.00	0.04
19.00	0.14	0.00	0.14	47.50	0.04	0.00	0.04
19.50	0.13	0.00	0.13	48.00	0.04	0.00	0.04
20.00	0.12	0.00	0.12				
20.50	0.11	0.00	0.11				
21.00	0.11	0.00	0.11				
21.50	0.11	0.00	0.11				
22.00	0.10	0.00	0.10				
22.50	0.10	0.00	0.10				
23.00	0.10	0.00	0.10				
23.50	0.10	0.00	0.10				
24.00	0.10	0.00	0.10				
24.50	0.05	0.00	0.05				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 B-1: Post-Developed Runoff Area=1.980 ac 98.48% Impervious Runoff Depth=6.85"
Tc=5.0 min CN=97 Runoff=20.53 cfs 1.131 af

Subcatchment B-1A: BYPASS POND to Runoff Area=0.690 ac 0.00% Impervious Runoff Depth=2.75"
Tc=35.7 min CN=60 Runoff=1.40 cfs 0.158 af

Subcatchment B-2: Post-Developed Runoff Area=1.010 ac 90.10% Impervious Runoff Depth=6.50"
Tc=5.0 min CN=94 Runoff=10.30 cfs 0.547 af

Subcatchment B-2A: BYPASS POND to Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=2.85"
Tc=10.0 min CN=61 Runoff=1.89 cfs 0.105 af

Subcatchment B-3: Post-Developed Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=2.85"
Tc=5.0 min CN=61 Runoff=0.72 cfs 0.033 af

Pond 1P: Undg Pond 1 Peak Elev=1,001.22' Storage=0.833 af Inflow=20.53 cfs 1.131 af
Outflow=0.72 cfs 0.423 af

Pond 2P: Undg Pond 2 Peak Elev=999.46' Storage=0.335 af Inflow=10.30 cfs 0.547 af
Outflow=1.06 cfs 0.337 af

Link 1B: Study Point 1 Inflow=1.45 cfs 0.581 af
Primary=1.45 cfs 0.581 af

Link 2B: Study Point 2 Inflow=2.14 cfs 0.442 af
Primary=2.14 cfs 0.442 af

Total Runoff Area = 4.260 ac Runoff Volume = 1.974 af Average Runoff Depth = 5.56"
32.86% Pervious = 1.400 ac 67.14% Impervious = 2.860 ac

Summary for Subcatchment B-1: Post-Developed

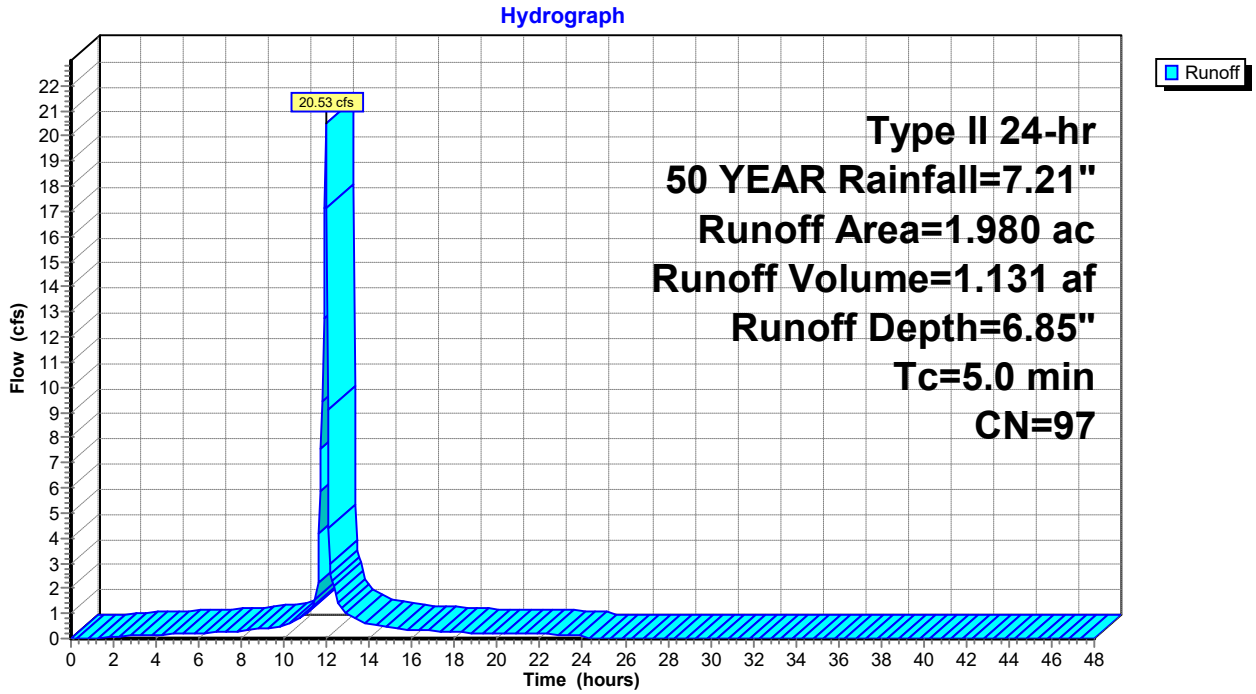
Runoff = 20.53 cfs @ 11.95 hrs, Volume= 1.131 af, Depth= 6.85"
Routed to Pond 1P : Undg Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
1.950	98	Paved parking, HSG B
0.030	61	>75% Grass cover, Good, HSG B
1.980	97	Weighted Average
0.030		1.52% Pervious Area
1.950		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-1: Post-Developed



Hydrograph for Subcatchment B-1: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.01
1.50	0.12	0.01	0.04
2.00	0.16	0.02	0.07
2.50	0.20	0.04	0.09
3.00	0.25	0.07	0.11
3.50	0.30	0.10	0.13
4.00	0.35	0.14	0.14
4.50	0.40	0.18	0.16
5.00	0.45	0.22	0.18
5.50	0.51	0.27	0.20
6.00	0.58	0.32	0.22
6.50	0.64	0.38	0.24
7.00	0.71	0.44	0.26
7.50	0.79	0.51	0.27
8.00	0.87	0.58	0.29
8.50	0.95	0.66	0.35
9.00	1.06	0.76	0.42
9.50	1.18	0.87	0.44
10.00	1.31	1.00	0.54
10.50	1.47	1.16	0.70
11.00	1.69	1.37	0.97
11.50	2.04	1.71	**1.59**
12.00	4.78	4.43	**17.10**
12.50	5.30	4.95	1.50
13.00	5.57	5.21	0.93
13.50	5.76	5.41	0.71
14.00	5.91	5.56	0.55
14.50	6.04	5.68	0.49
15.00	6.15	5.80	0.44
15.50	6.26	5.90	0.39
16.00	6.34	5.99	0.34
16.50	6.43	6.07	0.32
17.00	6.50	6.14	0.30
17.50	6.57	6.22	0.28
18.00	6.64	6.28	0.26
18.50	6.70	6.35	0.24
19.00	6.76	6.40	0.23
19.50	6.81	6.46	0.21
20.00	6.86	6.51	0.19
20.50	6.91	6.55	0.18
21.00	6.96	6.60	0.18
21.50	7.00	6.64	0.18
22.00	7.04	6.69	0.17
22.50	7.09	6.73	0.17
23.00	7.13	6.77	0.17
23.50	7.17	6.81	0.16
24.00	**7.21**	**6.85**	0.16
24.50	7.21	6.85	0.00
25.00	7.21	6.85	0.00
25.50	7.21	6.85	0.00
26.00	7.21	6.85	0.00
26.50	7.21	6.85	0.00
27.00	7.21	6.85	0.00
27.50	7.21	6.85	0.00
28.00	7.21	6.85	0.00
28.50	7.21	6.85	0.00
29.00	7.21	6.85	0.00
29.50	7.21	6.85	0.00
30.00	7.21	6.85	0.00
30.50	7.21	6.85	0.00
31.00	7.21	6.85	0.00
31.50	7.21	6.85	0.00
32.00	7.21	6.85	0.00
32.50	7.21	6.85	0.00
33.00	7.21	6.85	0.00
33.50	7.21	6.85	0.00
34.00	7.21	6.85	0.00
34.50	7.21	6.85	0.00
35.00	7.21	6.85	0.00
35.50	7.21	6.85	0.00
36.00	7.21	6.85	0.00
36.50	7.21	6.85	0.00
37.00	7.21	6.85	0.00
37.50	7.21	6.85	0.00
38.00	7.21	6.85	0.00
38.50	7.21	6.85	0.00
39.00	7.21	6.85	0.00
39.50	7.21	6.85	0.00
40.00	7.21	6.85	0.00
40.50	7.21	6.85	0.00
41.00	7.21	6.85	0.00
41.50	7.21	6.85	0.00
42.00	7.21	6.85	0.00
42.50	7.21	6.85	0.00
43.00	7.21	6.85	0.00
43.50	7.21	6.85	0.00
44.00	7.21	6.85	0.00
44.50	7.21	6.85	0.00
45.00	7.21	6.85	0.00
45.50	7.21	6.85	0.00
46.00	7.21	6.85	0.00
46.50	7.21	6.85	0.00
47.00	7.21	6.85	0.00
47.50	7.21	6.85	0.00
48.00	7.21	6.85	0.00

Summary for Subcatchment B-1A: BYPASS POND to SP1

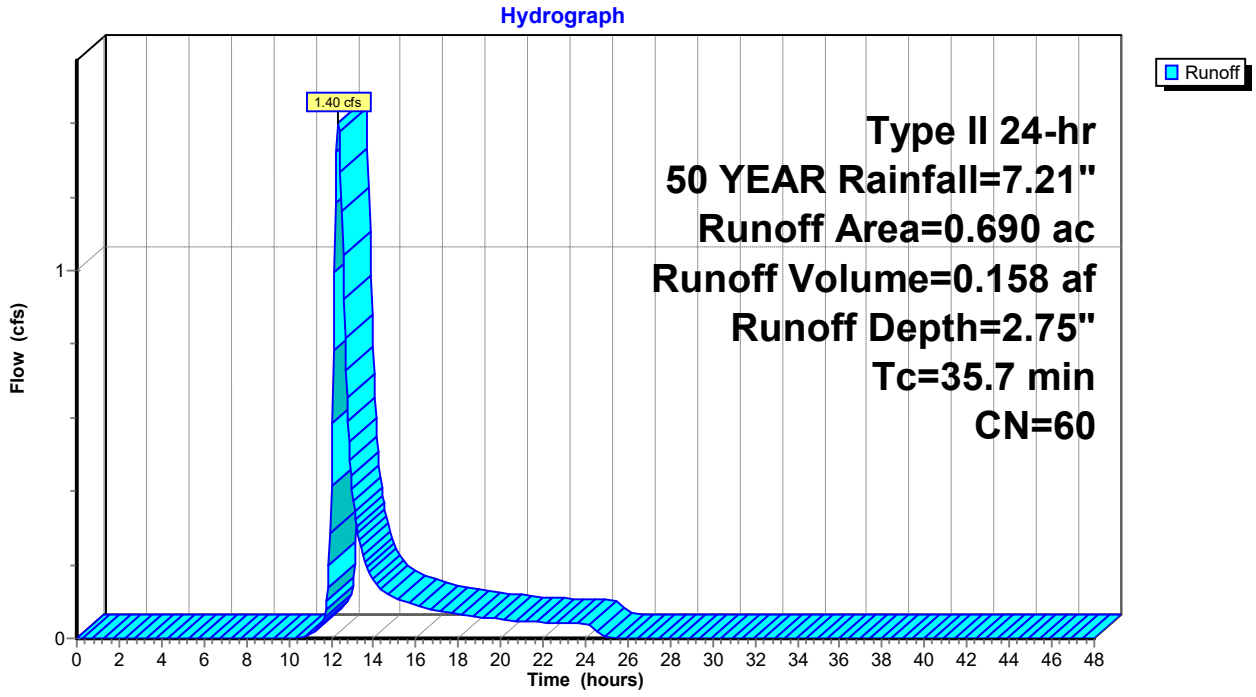
Runoff = 1.40 cfs @ 12.33 hrs, Volume= 0.158 af, Depth= 2.75"
Routed to Link 1B : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
0.100	55	Woods, Good, HSG B
0.590	61	>75% Grass cover, Good, HSG B
0.690	60	Weighted Average
0.690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.7					**Direct Entry,**

Subcatchment B-1A: BYPASS POND to SP1



Hydrograph for Subcatchment B-1A: BYPASS POND to SP1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.30	0.00	0.00
4.00	0.35	0.00	0.00
4.50	0.40	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.51	0.00	0.00
6.00	0.58	0.00	0.00
6.50	0.64	0.00	0.00
7.00	0.71	0.00	0.00
7.50	0.79	0.00	0.00
8.00	0.87	0.00	0.00
8.50	0.95	0.00	0.00
9.00	1.06	0.00	0.00
9.50	1.18	0.00	0.00
10.00	1.31	0.00	0.00
10.50	1.47	0.00	0.00
11.00	1.69	0.02	0.01
11.50	2.04	0.07	0.04
12.00	4.78	1.17	**0.41**
12.50	5.30	1.48	**1.16**
13.00	5.57	1.64	0.41
13.50	5.76	1.77	0.22
14.00	5.91	1.86	0.16
14.50	6.04	1.95	0.13
15.00	6.15	2.02	0.11
15.50	6.26	2.09	0.10
16.00	6.34	2.15	0.09
16.50	6.43	2.21	0.08
17.00	6.50	2.26	0.07
17.50	6.57	2.31	0.07
18.00	6.64	2.35	0.07
18.50	6.70	2.40	0.06
19.00	6.76	2.44	0.06
19.50	6.81	2.47	0.05
20.00	6.86	2.51	0.05
20.50	6.91	2.54	0.05
21.00	6.96	2.57	0.05
21.50	7.00	2.60	0.04
22.00	7.04	2.63	0.04
22.50	7.09	2.67	0.04
23.00	7.13	2.70	0.04
23.50	7.17	2.72	0.04
24.00	**7.21**	**2.75**	0.04
24.50	7.21	2.75	0.02
25.00	7.21	2.75	0.00
25.50	7.21	2.75	0.00
26.00	7.21	2.75	0.00
26.50	7.21	2.75	0.00
27.00	7.21	2.75	0.00
27.50	7.21	2.75	0.00
28.00	7.21	2.75	0.00
28.50	7.21	2.75	0.00
29.00	7.21	2.75	0.00
29.50	7.21	2.75	0.00
30.00	7.21	2.75	0.00
30.50	7.21	2.75	0.00
31.00	7.21	2.75	0.00
31.50	7.21	2.75	0.00
32.00	7.21	2.75	0.00
32.50	7.21	2.75	0.00
33.00	7.21	2.75	0.00
33.50	7.21	2.75	0.00
34.00	7.21	2.75	0.00
34.50	7.21	2.75	0.00
35.00	7.21	2.75	0.00
35.50	7.21	2.75	0.00
36.00	7.21	2.75	0.00
36.50	7.21	2.75	0.00
37.00	7.21	2.75	0.00
37.50	7.21	2.75	0.00
38.00	7.21	2.75	0.00
38.50	7.21	2.75	0.00
39.00	7.21	2.75	0.00
39.50	7.21	2.75	0.00
40.00	7.21	2.75	0.00
40.50	7.21	2.75	0.00
41.00	7.21	2.75	0.00
41.50	7.21	2.75	0.00
42.00	7.21	2.75	0.00
42.50	7.21	2.75	0.00
43.00	7.21	2.75	0.00
43.50	7.21	2.75	0.00
44.00	7.21	2.75	0.00
44.50	7.21	2.75	0.00
45.00	7.21	2.75	0.00
45.50	7.21	2.75	0.00
46.00	7.21	2.75	0.00
46.50	7.21	2.75	0.00
47.00	7.21	2.75	0.00
47.50	7.21	2.75	0.00
48.00	7.21	2.75	0.00

Summary for Subcatchment B-2: Post-Developed

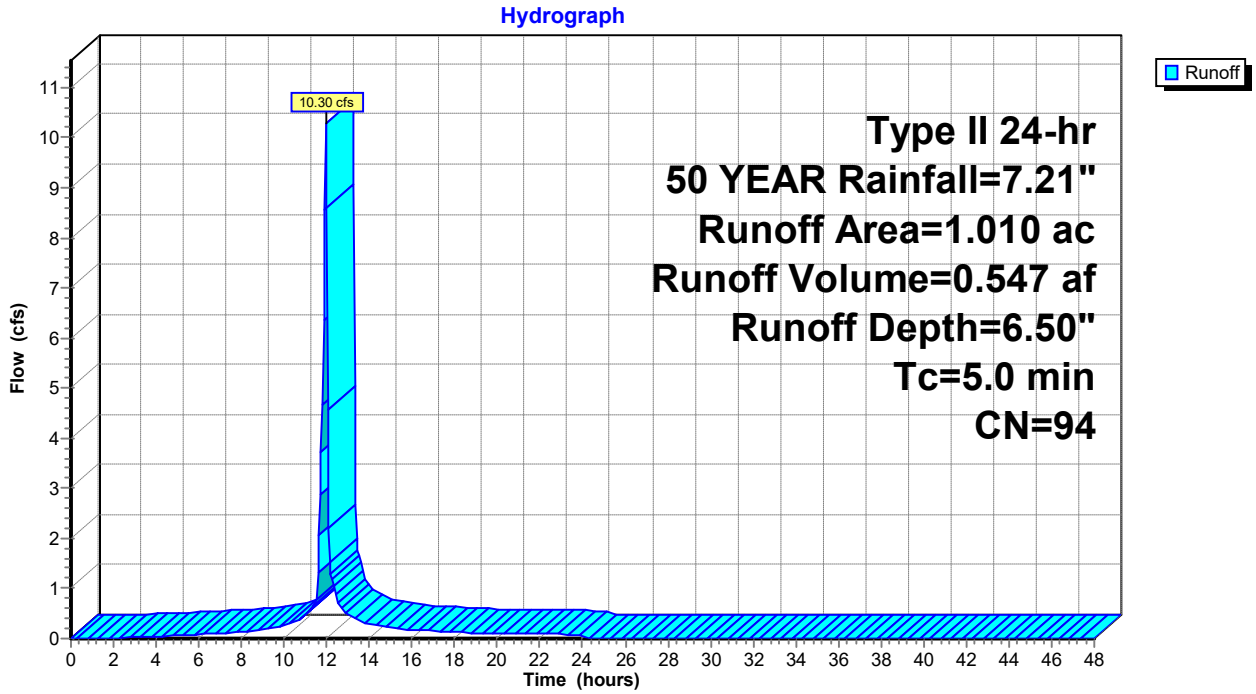
Runoff = 10.30 cfs @ 11.95 hrs, Volume= 0.547 af, Depth= 6.50"
Routed to Pond 2P : Undg Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
0.910	98	Paved parking, HSG B
0.100	61	>75% Grass cover, Good, HSG B
1.010	94	Weighted Average
0.100		9.90% Pervious Area
0.910		90.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-2: Post-Developed



Hydrograph for Subcatchment B-2: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.01
2.50	0.20	0.01	0.02
3.00	0.25	0.02	0.03
3.50	0.30	0.04	0.04
4.00	0.35	0.06	0.04
4.50	0.40	0.08	0.05
5.00	0.45	0.11	0.06
5.50	0.51	0.15	0.07
6.00	0.58	0.19	0.09
6.50	0.64	0.23	0.10
7.00	0.71	0.28	0.11
7.50	0.79	0.34	0.12
8.00	0.87	0.40	0.13
8.50	0.95	0.47	0.16
9.00	1.06	0.55	0.19
9.50	1.18	0.65	0.20
10.00	1.31	0.76	0.25
10.50	1.47	0.91	0.33
11.00	1.69	1.11	0.46
11.50	2.04	1.43	**0.77**
12.00	4.78	4.09	**8.60**
12.50	5.30	4.60	0.76
13.00	5.57	4.87	0.47
13.50	5.76	5.06	0.36
14.00	5.91	5.21	0.28
14.50	6.04	5.34	0.25
15.00	6.15	5.45	0.22
15.50	6.26	5.55	0.20
16.00	6.34	5.64	0.17
16.50	6.43	5.72	0.16
17.00	6.50	5.79	0.15
17.50	6.57	5.86	0.14
18.00	6.64	5.93	0.13
18.50	6.70	5.99	0.12
19.00	6.76	6.05	0.11
19.50	6.81	6.10	0.11
20.00	6.86	6.15	0.10
20.50	6.91	6.20	0.09
21.00	6.96	6.24	0.09
21.50	7.00	6.29	0.09
22.00	7.04	6.33	0.09
22.50	7.09	6.37	0.09
23.00	7.13	6.42	0.08
23.50	7.17	6.46	0.08
24.00	**7.21**	**6.50**	0.08
24.50	7.21	6.50	0.00
25.00	7.21	6.50	0.00
25.50	7.21	6.50	0.00
26.00	7.21	6.50	0.00
26.50	7.21	6.50	0.00
27.00	7.21	6.50	0.00
27.50	7.21	6.50	0.00
28.00	7.21	6.50	0.00
28.50	7.21	6.50	0.00
29.00	7.21	6.50	0.00
29.50	7.21	6.50	0.00
30.00	7.21	6.50	0.00
30.50	7.21	6.50	0.00
31.00	7.21	6.50	0.00
31.50	7.21	6.50	0.00
32.00	7.21	6.50	0.00
32.50	7.21	6.50	0.00
33.00	7.21	6.50	0.00
33.50	7.21	6.50	0.00
34.00	7.21	6.50	0.00
34.50	7.21	6.50	0.00
35.00	7.21	6.50	0.00
35.50	7.21	6.50	0.00
36.00	7.21	6.50	0.00
36.50	7.21	6.50	0.00
37.00	7.21	6.50	0.00
37.50	7.21	6.50	0.00
38.00	7.21	6.50	0.00
38.50	7.21	6.50	0.00
39.00	7.21	6.50	0.00
39.50	7.21	6.50	0.00
40.00	7.21	6.50	0.00
40.50	7.21	6.50	0.00
41.00	7.21	6.50	0.00
41.50	7.21	6.50	0.00
42.00	7.21	6.50	0.00
42.50	7.21	6.50	0.00
43.00	7.21	6.50	0.00
43.50	7.21	6.50	0.00
44.00	7.21	6.50	0.00
44.50	7.21	6.50	0.00
45.00	7.21	6.50	0.00
45.50	7.21	6.50	0.00
46.00	7.21	6.50	0.00
46.50	7.21	6.50	0.00
47.00	7.21	6.50	0.00
47.50	7.21	6.50	0.00
48.00	7.21	6.50	0.00

Summary for Subcatchment B-2A: BYPASS POND to SP2

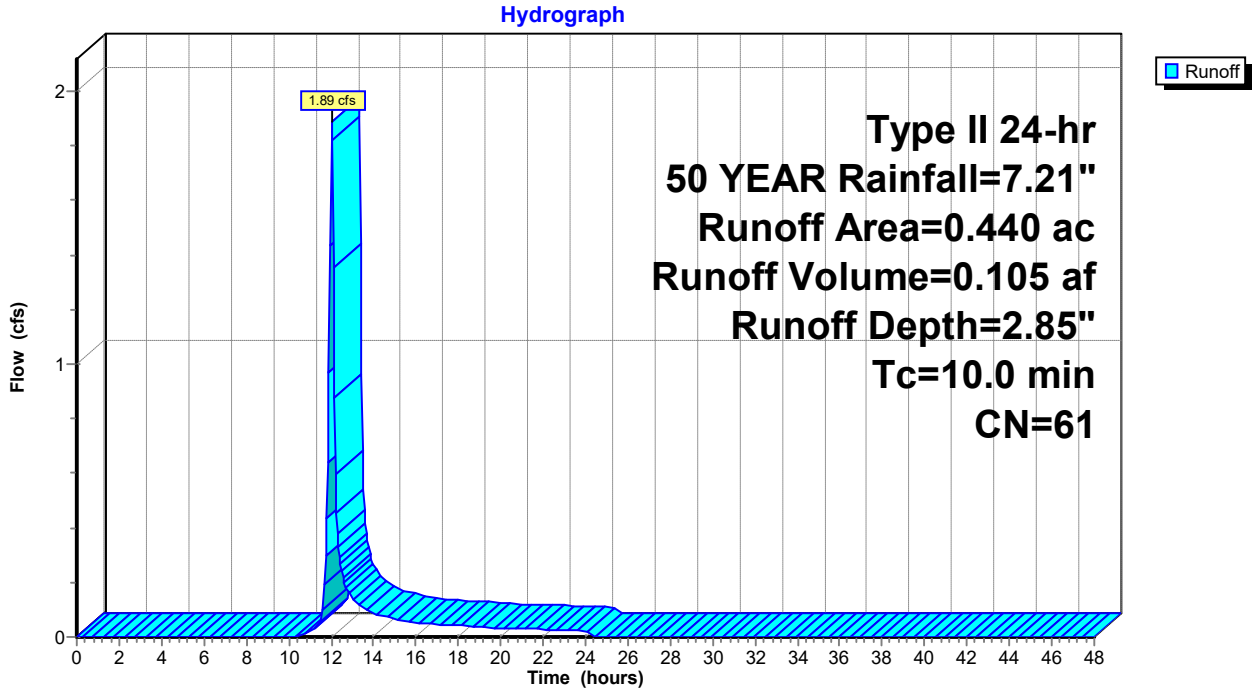
Runoff = 1.89 cfs @ 12.02 hrs, Volume= 0.105 af, Depth= 2.85"
Routed to Link 2B : Study Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
0.440	61	>75% Grass cover, Good, HSG B
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment B-2A: BYPASS POND to SP2



Hydrograph for Subcatchment B-2A: BYPASS POND to SP2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.30	0.00	0.00
4.00	0.35	0.00	0.00
4.50	0.40	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.51	0.00	0.00
6.00	0.58	0.00	0.00
6.50	0.64	0.00	0.00
7.00	0.71	0.00	0.00
7.50	0.79	0.00	0.00
8.00	0.87	0.00	0.00
8.50	0.95	0.00	0.00
9.00	1.06	0.00	0.00
9.50	1.18	0.00	0.00
10.00	1.31	0.00	0.00
10.50	1.47	0.01	0.01
11.00	1.69	0.03	0.02
11.50	2.04	0.08	0.06
12.00	4.78	1.24	**1.85**
12.50	5.30	1.55	0.24
13.00	5.57	1.72	0.14
13.50	5.76	1.85	0.11
14.00	5.91	1.95	0.08
14.50	6.04	2.03	0.07
15.00	6.15	2.11	0.07
15.50	6.26	2.18	0.06
16.00	6.34	2.24	0.05
16.50	6.43	2.30	0.05
17.00	6.50	2.35	0.05
17.50	6.57	2.40	0.04
18.00	6.64	2.45	0.04
18.50	6.70	2.49	0.04
19.00	6.76	2.53	0.04
19.50	6.81	2.57	0.03
20.00	6.86	2.60	0.03
20.50	6.91	2.64	0.03
21.00	6.96	2.67	0.03
21.50	7.00	2.70	0.03
22.00	7.04	2.73	0.03
22.50	7.09	2.76	0.03
23.00	7.13	2.80	0.03
23.50	7.17	2.83	0.03
24.00	**7.21**	**2.85**	0.03
24.50	7.21	2.85	0.00
25.00	7.21	2.85	0.00
25.50	7.21	2.85	0.00
26.00	7.21	2.85	0.00
26.50	7.21	2.85	0.00
27.00	7.21	2.85	0.00
27.50	7.21	2.85	0.00
28.00	7.21	2.85	0.00
28.50	7.21	2.85	0.00
29.00	7.21	2.85	0.00
29.50	7.21	2.85	0.00
30.00	7.21	2.85	0.00
30.50	7.21	2.85	0.00
31.00	7.21	2.85	0.00
31.50	7.21	2.85	0.00
32.00	7.21	2.85	0.00
32.50	7.21	2.85	0.00
33.00	7.21	2.85	0.00
33.50	7.21	2.85	0.00
34.00	7.21	2.85	0.00
34.50	7.21	2.85	0.00
35.00	7.21	2.85	0.00
35.50	7.21	2.85	0.00
36.00	7.21	2.85	0.00
36.50	7.21	2.85	0.00
37.00	7.21	2.85	0.00
37.50	7.21	2.85	0.00
38.00	7.21	2.85	0.00
38.50	7.21	2.85	0.00
39.00	7.21	2.85	0.00
39.50	7.21	2.85	0.00
40.00	7.21	2.85	0.00
40.50	7.21	2.85	0.00
41.00	7.21	2.85	0.00
41.50	7.21	2.85	0.00
42.00	7.21	2.85	0.00
42.50	7.21	2.85	0.00
43.00	7.21	2.85	0.00
43.50	7.21	2.85	0.00
44.00	7.21	2.85	0.00
44.50	7.21	2.85	0.00
45.00	7.21	2.85	0.00
45.50	7.21	2.85	0.00
46.00	7.21	2.85	0.00
46.50	7.21	2.85	0.00
47.00	7.21	2.85	0.00
47.50	7.21	2.85	0.00
48.00	7.21	2.85	0.00

Summary for Subcatchment B-3: Post-Developed

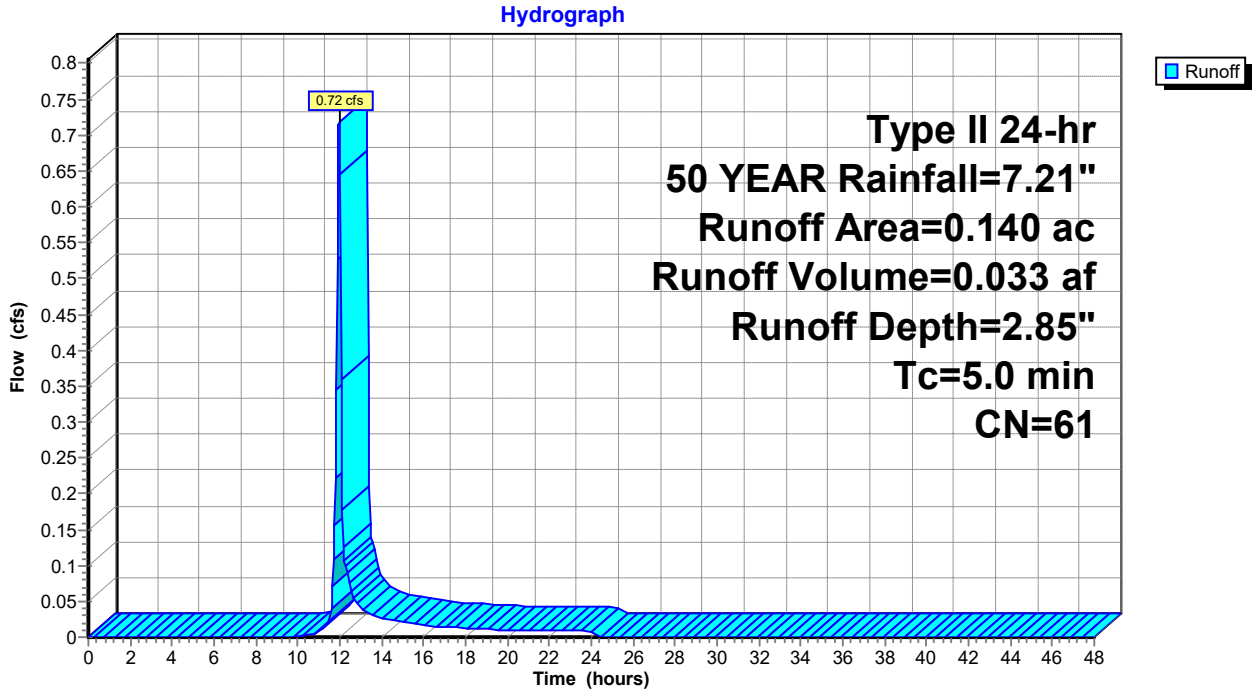
Runoff = 0.72 cfs @ 11.96 hrs, Volume= 0.033 af, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
0.140	61	>75% Grass cover, Good, HSG B
0.140	61	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-3: Post-Developed



Hydrograph for Subcatchment B-3: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.30	0.00	0.00
4.00	0.35	0.00	0.00
4.50	0.40	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.51	0.00	0.00
6.00	0.58	0.00	0.00
6.50	0.64	0.00	0.00
7.00	0.71	0.00	0.00
7.50	0.79	0.00	0.00
8.00	0.87	0.00	0.00
8.50	0.95	0.00	0.00
9.00	1.06	0.00	0.00
9.50	1.18	0.00	0.00
10.00	1.31	0.00	0.00
10.50	1.47	0.01	0.00
11.00	1.69	0.03	0.01
11.50	2.04	0.08	**0.02**
12.00	4.78	1.24	**0.64**
12.50	5.30	1.55	0.07
13.00	5.57	1.72	0.04
13.50	5.76	1.85	0.03
14.00	5.91	1.95	0.03
14.50	6.04	2.03	0.02
15.00	6.15	2.11	0.02
15.50	6.26	2.18	0.02
16.00	6.34	2.24	0.02
16.50	6.43	2.30	0.02
17.00	6.50	2.35	0.01
17.50	6.57	2.40	0.01
18.00	6.64	2.45	0.01
18.50	6.70	2.49	0.01
19.00	6.76	2.53	0.01
19.50	6.81	2.57	0.01
20.00	6.86	2.60	0.01
20.50	6.91	2.64	0.01
21.00	6.96	2.67	0.01
21.50	7.00	2.70	0.01
22.00	7.04	2.73	0.01
22.50	7.09	2.76	0.01
23.00	7.13	2.80	0.01
23.50	7.17	2.83	0.01
24.00	**7.21**	**2.85**	0.01
24.50	7.21	2.85	0.00
25.00	7.21	2.85	0.00
25.50	7.21	2.85	0.00
26.00	7.21	2.85	0.00
26.50	7.21	2.85	0.00
27.00	7.21	2.85	0.00
27.50	7.21	2.85	0.00
28.00	7.21	2.85	0.00
28.50	7.21	2.85	0.00
29.00	7.21	2.85	0.00
29.50	7.21	2.85	0.00
30.00	7.21	2.85	0.00
30.50	7.21	2.85	0.00
31.00	7.21	2.85	0.00
31.50	7.21	2.85	0.00
32.00	7.21	2.85	0.00
32.50	7.21	2.85	0.00
33.00	7.21	2.85	0.00
33.50	7.21	2.85	0.00
34.00	7.21	2.85	0.00
34.50	7.21	2.85	0.00
35.00	7.21	2.85	0.00
35.50	7.21	2.85	0.00
36.00	7.21	2.85	0.00
36.50	7.21	2.85	0.00
37.00	7.21	2.85	0.00
37.50	7.21	2.85	0.00
38.00	7.21	2.85	0.00
38.50	7.21	2.85	0.00
39.00	7.21	2.85	0.00
39.50	7.21	2.85	0.00
40.00	7.21	2.85	0.00
40.50	7.21	2.85	0.00
41.00	7.21	2.85	0.00
41.50	7.21	2.85	0.00
42.00	7.21	2.85	0.00
42.50	7.21	2.85	0.00
43.00	7.21	2.85	0.00
43.50	7.21	2.85	0.00
44.00	7.21	2.85	0.00
44.50	7.21	2.85	0.00
45.00	7.21	2.85	0.00
45.50	7.21	2.85	0.00
46.00	7.21	2.85	0.00
46.50	7.21	2.85	0.00
47.00	7.21	2.85	0.00
47.50	7.21	2.85	0.00
48.00	7.21	2.85	0.00

Summary for Pond 1P: Undg Pond 1

Inflow Area = 1.980 ac, 98.48% Impervious, Inflow Depth = 6.85" for 50 YEAR event
Inflow = 20.53 cfs @ 11.95 hrs, Volume= 1.131 af
Outflow = 0.72 cfs @ 13.47 hrs, Volume= 0.423 af, Atten= 96%, Lag= 91.1 min
Primary = 0.72 cfs @ 13.47 hrs, Volume= 0.423 af
Routed to Link 1B : Study Point 1

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,001.22' @ 13.47 hrs Surf.Area= 0.286 ac Storage= 0.833 af

Plug-Flow detention time= 687.2 min calculated for 0.423 af (37% of inflow)
Center-of-Mass det. time= 525.1 min (1,269.0 - 743.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	997.00'	0.394 af	**51.42'W x 242.31'L x 5.50'H Field A** 1.573 af Overall - 0.588 af Embedded = 0.985 af x 40.0% Voids
#2A	997.75'	0.588 af	**ADS_StormTech MC-3500 d +Cap** x 231 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 231 Chambers in 7 Rows Cap Storage= 14.9 cf x 2 x 7 rows = 208.6 cf
		0.982 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	997.00'	**36.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	997.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,001.00'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,002.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.72 cfs @ 13.47 hrs HW=1,001.22' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.72 cfs of 56.13 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 9.84 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.66 cfs @ 1.51 fps)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Undg Pond 1 - 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 7 rows = 208.6 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

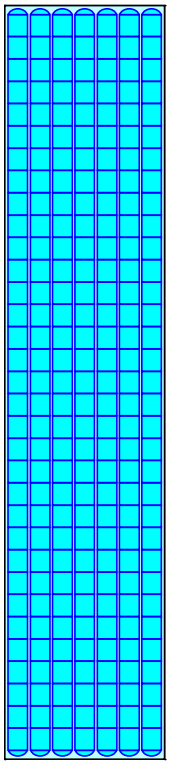
33 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 240.31' Row Length +12.0" End Stone x 2 = 242.31' Base Length
7 Rows x 77.0" Wide + 9.0" Spacing x 6 + 12.0" Side Stone x 2 = 51.42' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

231 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 7 Rows = 25,607.5 cf Chamber Storage

68,523.2 cf Field - 25,607.5 cf Chambers = 42,915.7 cf Stone x 40.0% Voids = 17,166.3 cf Stone Storage

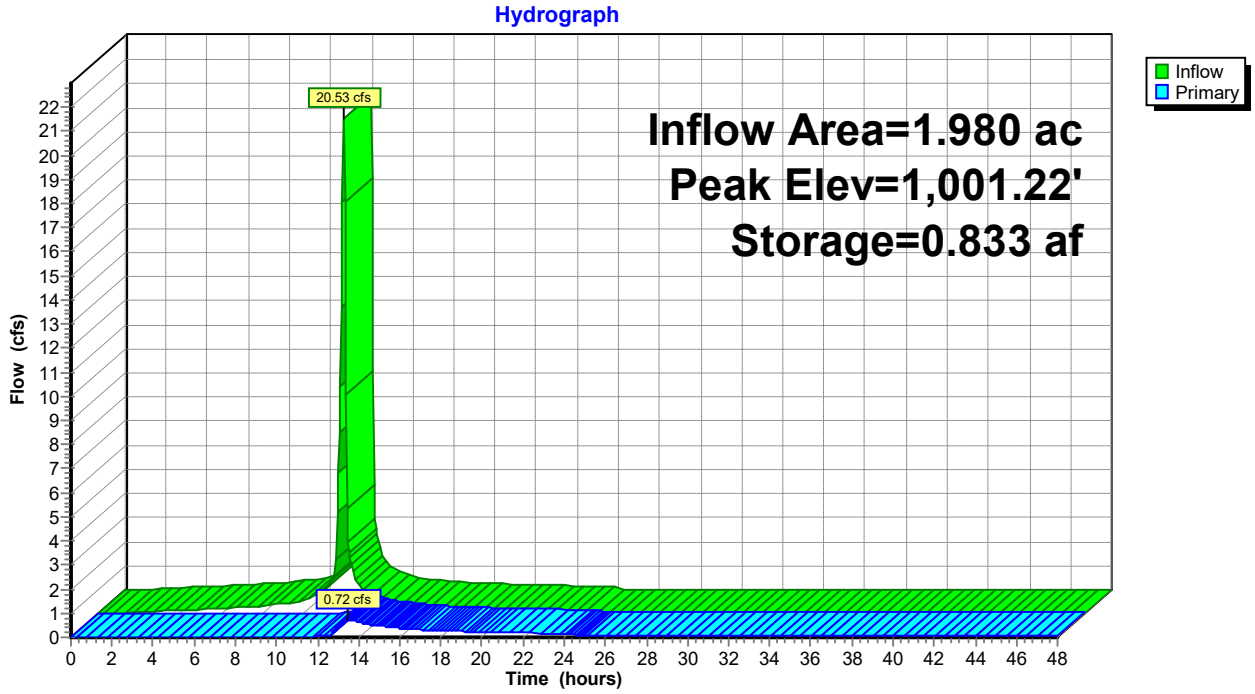
Chamber Storage + Stone Storage = 42,773.8 cf = 0.982 af
Overall Storage Efficiency = 62.4%
Overall System Size = 242.31' x 51.42' x 5.50'

231 Chambers
2,537.9 cy Field
1,589.5 cy Stone





Pond 1P: Undg Pond 1



Hydrograph for Pond 1P: Undg Pond 1

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	997.00	0.00
1.00	0.01	0.000	997.00	0.00
2.00	0.07	0.003	997.03	0.00
3.00	0.11	0.011	997.09	0.01
4.00	0.14	0.021	997.18	0.01
5.00	0.18	0.033	997.29	0.01
6.00	0.22	0.049	997.42	0.02
7.00	0.26	0.067	997.58	0.02
8.00	0.29	0.088	997.76	0.02
9.00	0.42	0.115	997.87	0.02
10.00	0.54	0.151	998.01	0.03
11.00	**0.97**	0.208	998.24	0.03
12.00	**17.10**	0.634	1,000.10	0.05
13.00	0.93	**0.827**	**1,001.17**	**0.52**
14.00	0.55	**0.831**	**1,001.20**	**0.64**
15.00	0.44	0.826	1,001.16	0.48
16.00	0.34	0.822	1,001.14	0.38
17.00	0.30	0.820	1,001.12	0.32
18.00	0.26	0.818	1,001.11	0.28
19.00	0.23	0.816	1,001.10	0.25
20.00	0.19	0.815	1,001.08	0.21
21.00	0.18	0.813	1,001.08	0.19
22.00	0.17	0.813	1,001.07	0.18
23.00	0.17	0.812	1,001.07	0.17
24.00	0.16	0.812	1,001.07	0.16
25.00	0.00	0.804	1,001.01	0.06
26.00	0.00	0.799	1,000.99	0.05
27.00	0.00	0.795	1,000.96	0.05
28.00	0.00	0.791	1,000.93	0.05
29.00	0.00	0.787	1,000.91	0.05
30.00	0.00	0.782	1,000.88	0.05
31.00	0.00	0.778	1,000.86	0.05
32.00	0.00	0.774	1,000.83	0.05
33.00	0.00	0.770	1,000.81	0.05
34.00	0.00	0.765	1,000.78	0.05
35.00	0.00	0.761	1,000.76	0.05
36.00	0.00	0.757	1,000.74	0.05
37.00	0.00	0.753	1,000.71	0.05
38.00	0.00	0.749	1,000.69	0.05
39.00	0.00	0.745	1,000.67	0.05
40.00	0.00	0.740	1,000.64	0.05
41.00	0.00	0.736	1,000.62	0.05
42.00	0.00	0.732	1,000.60	0.05
43.00	0.00	0.728	1,000.58	0.05
44.00	0.00	0.724	1,000.56	0.05
45.00	0.00	0.720	1,000.53	0.05
46.00	0.00	0.716	1,000.51	0.05
47.00	0.00	0.712	1,000.49	0.05
48.00	0.00	0.708	1,000.47	0.05

Summary for Pond 2P: Undg Pond 2

Inflow Area = 1.010 ac, 90.10% Impervious, Inflow Depth = 6.50" for 50 YEAR event
Inflow = 10.30 cfs @ 11.95 hrs, Volume= 0.547 af
Outflow = 1.06 cfs @ 12.32 hrs, Volume= 0.337 af, Atten= 90%, Lag= 22.2 min
Primary = 1.06 cfs @ 12.32 hrs, Volume= 0.337 af
Routed to Link 2B : Study Point 2

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 999.46' @ 12.32 hrs Surf.Area= 0.103 ac Storage= 0.335 af

Plug-Flow detention time= 601.6 min calculated for 0.337 af (62% of inflow)
Center-of-Mass det. time= 497.9 min (1,257.1 - 759.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	995.00'	0.166 af	**37.58'W x 119.53'L x 6.75'H Field A** 0.696 af Overall - 0.282 af Embedded = 0.414 af x 40.0% Voids
#2A	995.75'	0.282 af	**ADS_StormTech MC-7200 +Cap** x 68 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 68 Chambers in 4 Rows Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf
		0.448 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	995.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	999.00'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,001.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.06 cfs @ 12.32 hrs HW=999.46' (Free Discharge)
└**1=Orifice/Grate** (Passes 1.06 cfs of 28.14 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.06 cfs @ 10.12 fps)
  ├**3=Orifice/Grate** (Orifice Controls 1.00 cfs @ 2.18 fps)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Undg Pond 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-7200 +Cap (ADS StormTech® MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

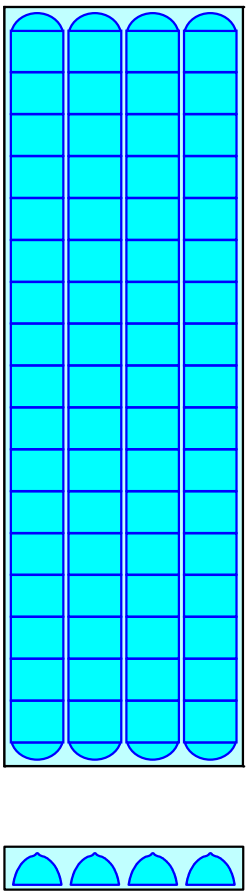
17 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 117.52' Row Length +12.0" End Stone x 2 = 119.53' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

68 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 4 Rows = 12,275.5 cf Chamber Storage

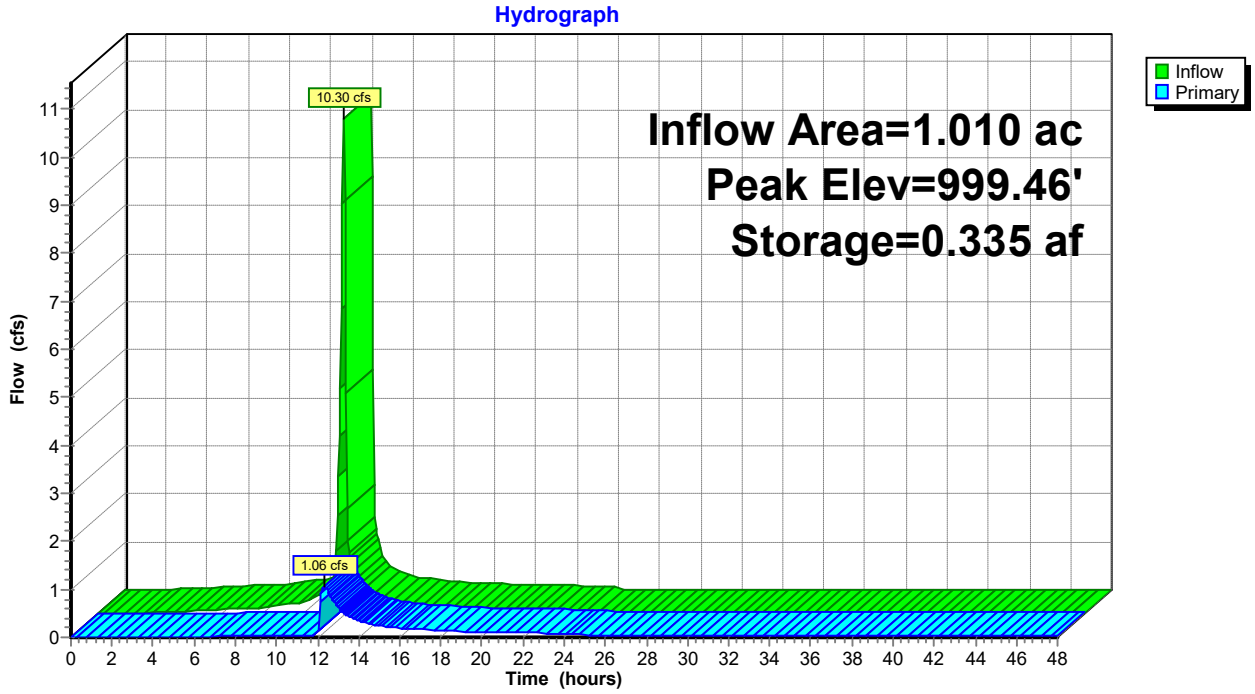
30,322.0 cf Field - 12,275.5 cf Chambers = 18,046.5 cf Stone x 40.0% Voids = 7,218.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,494.1 cf = 0.448 af
Overall Storage Efficiency = 64.3%
Overall System Size = 119.53' x 37.58' x 6.75'

68 Chambers
1,123.0 cy Field
668.4 cy Stone



Pond 2P: Undg Pond 2



Hydrograph for Pond 2P: Undg Pond 2

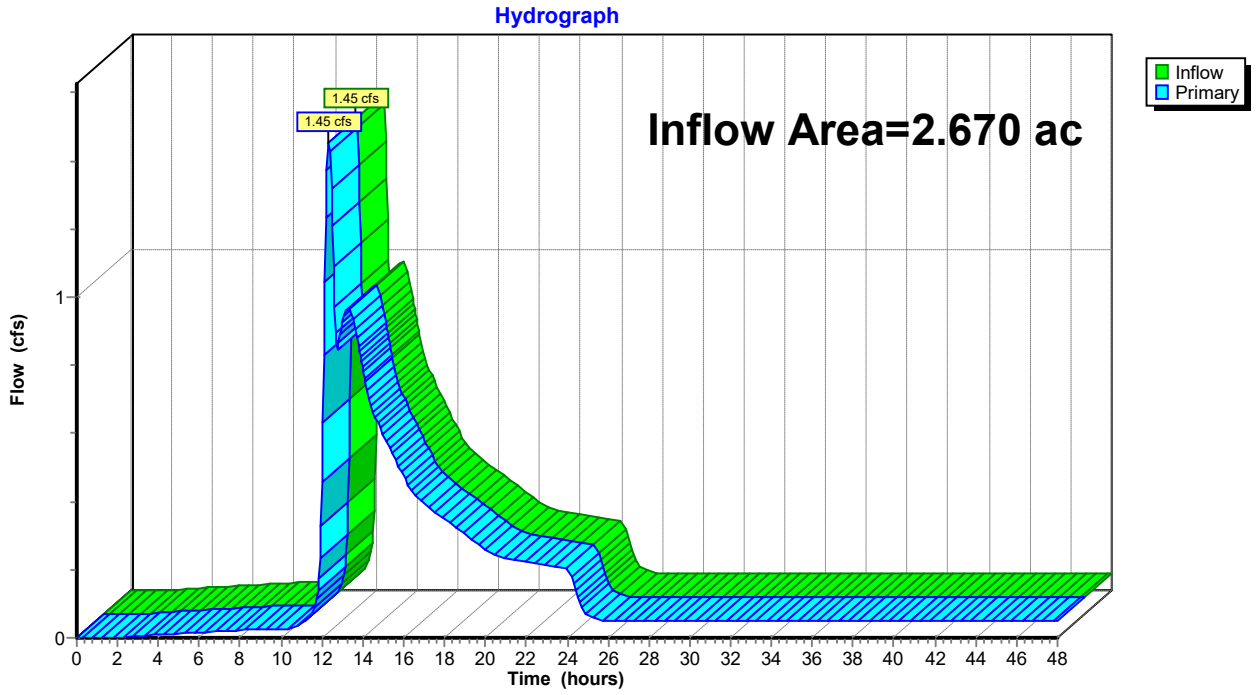
Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	995.00	0.00
1.00	0.00	0.000	995.00	0.00
2.00	0.01	0.000	995.00	0.00
3.00	0.03	0.001	995.03	0.00
4.00	0.04	0.004	995.10	0.01
5.00	0.06	0.008	995.19	0.01
6.00	0.09	0.013	995.32	0.01
7.00	0.11	0.020	995.48	0.02
8.00	0.13	0.028	995.67	0.02
9.00	0.19	0.039	995.84	0.02
10.00	0.25	0.054	996.01	0.03
11.00	**0.46**	0.080	996.30	0.03
12.00	**8.60**	**0.289**	**998.83**	**0.05**
13.00	0.47	**0.325**	**999.31**	**0.62**
14.00	0.28	0.317	999.20	0.35
15.00	0.22	0.314	999.15	0.25
16.00	0.17	0.311	999.13	0.20
17.00	0.15	0.310	999.11	0.16
18.00	0.13	0.309	999.09	0.14
19.00	0.11	0.308	999.08	0.13
20.00	0.10	0.307	999.07	0.11
21.00	0.09	0.306	999.06	0.10
22.00	0.09	0.306	999.05	0.09
23.00	0.08	0.306	999.05	0.09
24.00	0.08	0.306	999.04	0.08
25.00	0.00	0.301	998.98	0.05
26.00	0.00	0.297	998.92	0.05
27.00	0.00	0.292	998.86	0.05
28.00	0.00	0.288	998.81	0.05
29.00	0.00	0.284	998.75	0.05
30.00	0.00	0.280	998.70	0.05
31.00	0.00	0.276	998.64	0.05
32.00	0.00	0.271	998.59	0.05
33.00	0.00	0.267	998.54	0.05
34.00	0.00	0.263	998.49	0.05
35.00	0.00	0.259	998.43	0.05
36.00	0.00	0.255	998.38	0.05
37.00	0.00	0.251	998.33	0.05
38.00	0.00	0.247	998.28	0.05
39.00	0.00	0.244	998.23	0.05
40.00	0.00	0.240	998.19	0.05
41.00	0.00	0.236	998.14	0.05
42.00	0.00	0.232	998.09	0.05
43.00	0.00	0.228	998.04	0.05
44.00	0.00	0.225	998.00	0.05
45.00	0.00	0.221	997.95	0.04
46.00	0.00	0.217	997.91	0.04
47.00	0.00	0.213	997.86	0.04
48.00	0.00	0.210	997.82	0.04

Summary for Link 1B: Study Point 1

Inflow Area = 2.670 ac, 73.03% Impervious, Inflow Depth > 2.61" for 50 YEAR event
Inflow = 1.45 cfs @ 12.33 hrs, Volume= 0.581 af
Primary = 1.45 cfs @ 12.33 hrs, Volume= 0.581 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 1B: Study Point 1



Hydrograph for Link 1B: Study Point 1

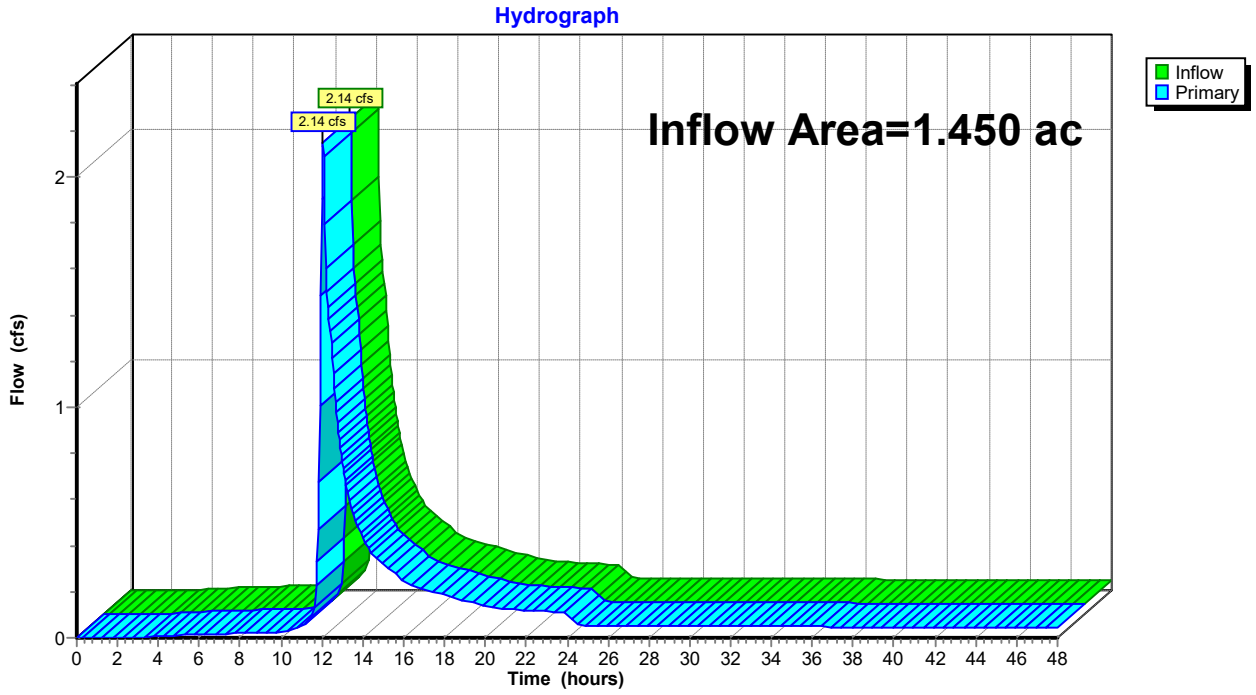
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.01	0.00	0.01	31.50	0.05	0.00	0.05
3.50	0.01	0.00	0.01	32.00	0.05	0.00	0.05
4.00	0.01	0.00	0.01	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.02	0.00	0.02	34.50	0.05	0.00	0.05
6.50	0.02	0.00	0.02	35.00	0.05	0.00	0.05
7.00	0.02	0.00	0.02	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.02	0.00	0.02	38.00	0.05	0.00	0.05
10.00	0.03	0.00	0.03	38.50	0.05	0.00	0.05
10.50	0.03	0.00	0.03	39.00	0.05	0.00	0.05
11.00	0.04	0.00	0.04	39.50	0.05	0.00	0.05
11.50	0.07	0.00	0.07	40.00	0.05	0.00	0.05
12.00	**0.46**	0.00	**0.46**	40.50	0.05	0.00	0.05
12.50	**1.21**	0.00	**1.21**	41.00	0.05	0.00	0.05
13.00	0.93	0.00	0.93	41.50	0.05	0.00	0.05
13.50	0.94	0.00	0.94	42.00	0.05	0.00	0.05
14.00	0.80	0.00	0.80	42.50	0.05	0.00	0.05
14.50	0.67	0.00	0.67	43.00	0.05	0.00	0.05
15.00	0.60	0.00	0.60	43.50	0.05	0.00	0.05
15.50	0.53	0.00	0.53	44.00	0.05	0.00	0.05
16.00	0.47	0.00	0.47	44.50	0.05	0.00	0.05
16.50	0.42	0.00	0.42	45.00	0.05	0.00	0.05
17.00	0.39	0.00	0.39	45.50	0.05	0.00	0.05
17.50	0.37	0.00	0.37	46.00	0.05	0.00	0.05
18.00	0.35	0.00	0.35	46.50	0.05	0.00	0.05
18.50	0.33	0.00	0.33	47.00	0.05	0.00	0.05
19.00	0.30	0.00	0.30	47.50	0.05	0.00	0.05
19.50	0.28	0.00	0.28	48.00	0.05	0.00	0.05
20.00	0.26	0.00	0.26				
20.50	0.24	0.00	0.24				
21.00	0.23	0.00	0.23				
21.50	0.23	0.00	0.23				
22.00	0.22	0.00	0.22				
22.50	0.22	0.00	0.22				
23.00	0.21	0.00	0.21				
23.50	0.21	0.00	0.21				
24.00	0.21	0.00	0.21				
24.50	0.13	0.00	0.13				
25.00	0.07	0.00	0.07				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Summary for Link 2B: Study Point 2

Inflow Area = 1.450 ac, 62.76% Impervious, Inflow Depth > 3.66" for 50 YEAR event
Inflow = 2.14 cfs @ 12.07 hrs, Volume= 0.442 af
Primary = 2.14 cfs @ 12.07 hrs, Volume= 0.442 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2B: Study Point 2



Hydrograph for Link 2B: Study Point 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.00	0.00	0.00	32.00	0.05	0.00	0.05
4.00	0.01	0.00	0.01	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.01	0.00	0.01	34.50	0.05	0.00	0.05
6.50	0.02	0.00	0.02	35.00	0.05	0.00	0.05
7.00	0.02	0.00	0.02	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.02	0.00	0.02	38.00	0.05	0.00	0.05
10.00	0.03	0.00	0.03	38.50	0.05	0.00	0.05
10.50	0.03	0.00	0.03	39.00	0.05	0.00	0.05
11.00	0.05	0.00	0.05	39.50	0.05	0.00	0.05
11.50	0.09	0.00	0.09	40.00	0.05	0.00	0.05
12.00	**1.90**	0.00	**1.90**	40.50	0.05	0.00	0.05
12.50	**1.21**	0.00	**1.21**	41.00	0.05	0.00	0.05
13.00	0.76	0.00	0.76	41.50	0.05	0.00	0.05
13.50	0.55	0.00	0.55	42.00	0.05	0.00	0.05
14.00	0.43	0.00	0.43	42.50	0.05	0.00	0.05
14.50	0.36	0.00	0.36	43.00	0.05	0.00	0.05
15.00	0.32	0.00	0.32	43.50	0.05	0.00	0.05
15.50	0.28	0.00	0.28	44.00	0.05	0.00	0.05
16.00	0.25	0.00	0.25	44.50	0.04	0.00	0.04
16.50	0.23	0.00	0.23	45.00	0.04	0.00	0.04
17.00	0.21	0.00	0.21	45.50	0.04	0.00	0.04
17.50	0.20	0.00	0.20	46.00	0.04	0.00	0.04
18.00	0.18	0.00	0.18	46.50	0.04	0.00	0.04
18.50	0.17	0.00	0.17	47.00	0.04	0.00	0.04
19.00	0.16	0.00	0.16	47.50	0.04	0.00	0.04
19.50	0.15	0.00	0.15	48.00	0.04	0.00	0.04
20.00	0.14	0.00	0.14				
20.50	0.13	0.00	0.13				
21.00	0.13	0.00	0.13				
21.50	0.12	0.00	0.12				
22.00	0.12	0.00	0.12				
22.50	0.12	0.00	0.12				
23.00	0.11	0.00	0.11				
23.50	0.11	0.00	0.11				
24.00	0.11	0.00	0.11				
24.50	0.06	0.00	0.06				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 B-1: Post-Developed Runoff Area=1.980 ac 98.48% Impervious Runoff Depth=7.84"
Tc=5.0 min CN=97 Runoff=23.38 cfs 1.294 af

Subcatchment B-1A: BYPASS POND to Runoff Area=0.690 ac 0.00% Impervious Runoff Depth=3.48"
Tc=35.7 min CN=60 Runoff=1.81 cfs 0.200 af

Subcatchment B-2: Post-Developed Runoff Area=1.010 ac 90.10% Impervious Runoff Depth=7.48"
Tc=5.0 min CN=94 Runoff=11.77 cfs 0.630 af

Subcatchment B-2A: BYPASS POND to Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=3.60"
Tc=10.0 min CN=61 Runoff=2.39 cfs 0.132 af

Subcatchment B-3: Post-Developed Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=3.60"
Tc=5.0 min CN=61 Runoff=0.91 cfs 0.042 af

Pond 1P: Undg Pond 1 Peak Elev=1,001.43' Storage=0.860 af Inflow=23.38 cfs 1.294 af
Outflow=1.89 cfs 0.585 af

Pond 2P: Undg Pond 2 Peak Elev=999.90' Storage=0.364 af Inflow=11.77 cfs 0.630 af
Outflow=2.81 cfs 0.420 af

Link 1B: Study Point 1 Inflow=3.60 cfs 0.786 af
Primary=3.60 cfs 0.786 af

Link 2B: Study Point 2 Inflow=4.82 cfs 0.551 af
Primary=4.82 cfs 0.551 af

Total Runoff Area = 4.260 ac Runoff Volume = 2.297 af Average Runoff Depth = 6.47"
32.86% Pervious = 1.400 ac 67.14% Impervious = 2.860 ac

Summary for Subcatchment B-1: Post-Developed

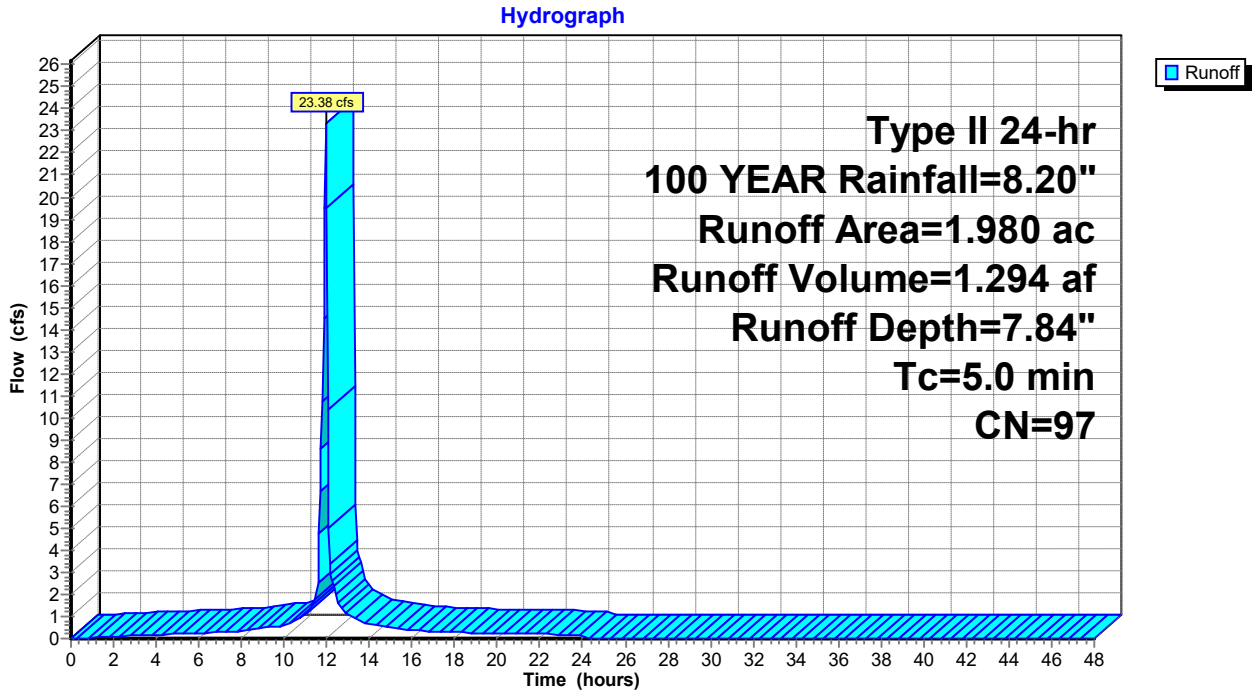
Runoff = 23.38 cfs @ 11.95 hrs, Volume= 1.294 af, Depth= 7.84"
Routed to Pond 1P : Undg Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
1.950	98	Paved parking, HSG B
0.030	61	>75% Grass cover, Good, HSG B
1.980	97	Weighted Average
0.030		1.52% Pervious Area
1.950		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-1: Post-Developed



Hydrograph for Subcatchment B-1: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.02
1.50	0.13	0.01	0.06
2.00	0.18	0.03	0.09
2.50	0.23	0.06	0.12
3.00	0.28	0.09	0.14
3.50	0.34	0.13	0.16
4.00	0.39	0.17	0.17
4.50	0.45	0.22	0.19
5.00	0.52	0.27	0.22
5.50	0.58	0.33	0.24
6.00	0.66	0.39	0.26
6.50	0.73	0.46	0.28
7.00	0.81	0.53	0.30
7.50	0.90	0.61	0.32
8.00	0.98	0.69	0.33
8.50	1.08	0.79	0.41
9.00	1.21	0.90	0.49
9.50	1.34	1.03	0.50
10.00	1.48	1.17	0.61
10.50	1.67	1.35	0.80
11.00	1.93	1.60	1.10
11.50	2.32	1.99	**1.82**
12.00	5.44	5.08	**19.47**
12.50	6.03	5.67	1.71
13.00	6.33	5.97	1.06
13.50	6.55	6.19	0.80
14.00	6.72	6.37	0.63
14.50	6.87	6.51	0.56
15.00	7.00	6.64	0.50
15.50	7.11	6.76	0.44
16.00	7.22	6.86	0.38
16.50	7.31	6.95	0.36
17.00	7.39	7.04	0.34
17.50	7.48	7.12	0.32
18.00	7.55	7.19	0.30
18.50	7.62	7.26	0.28
19.00	7.69	7.33	0.26
19.50	7.75	7.39	0.24
20.00	7.81	7.45	0.22
20.50	7.86	7.50	0.21
21.00	7.91	7.55	0.20
21.50	7.96	7.60	0.20
22.00	8.01	7.65	0.20
22.50	8.06	7.70	0.19
23.00	8.11	7.75	0.19
23.50	8.15	7.79	0.18
24.00	**8.20**	**7.84**	0.18
24.50	8.20	7.84	0.00
25.00	8.20	7.84	0.00
25.50	8.20	7.84	0.00
26.00	8.20	7.84	0.00
26.50	8.20	7.84	0.00
27.00	8.20	7.84	0.00
27.50	8.20	7.84	0.00
28.00	8.20	7.84	0.00
28.50	8.20	7.84	0.00
29.00	8.20	7.84	0.00
29.50	8.20	7.84	0.00
30.00	8.20	7.84	0.00
30.50	8.20	7.84	0.00
31.00	8.20	7.84	0.00
31.50	8.20	7.84	0.00
32.00	8.20	7.84	0.00
32.50	8.20	7.84	0.00
33.00	8.20	7.84	0.00
33.50	8.20	7.84	0.00
34.00	8.20	7.84	0.00
34.50	8.20	7.84	0.00
35.00	8.20	7.84	0.00
35.50	8.20	7.84	0.00
36.00	8.20	7.84	0.00
36.50	8.20	7.84	0.00
37.00	8.20	7.84	0.00
37.50	8.20	7.84	0.00
38.00	8.20	7.84	0.00
38.50	8.20	7.84	0.00
39.00	8.20	7.84	0.00
39.50	8.20	7.84	0.00
40.00	8.20	7.84	0.00
40.50	8.20	7.84	0.00
41.00	8.20	7.84	0.00
41.50	8.20	7.84	0.00
42.00	8.20	7.84	0.00
42.50	8.20	7.84	0.00
43.00	8.20	7.84	0.00
43.50	8.20	7.84	0.00
44.00	8.20	7.84	0.00
44.50	8.20	7.84	0.00
45.00	8.20	7.84	0.00
45.50	8.20	7.84	0.00
46.00	8.20	7.84	0.00
46.50	8.20	7.84	0.00
47.00	8.20	7.84	0.00
47.50	8.20	7.84	0.00
48.00	8.20	7.84	0.00

Summary for Subcatchment B-1A: BYPASS POND to SP1

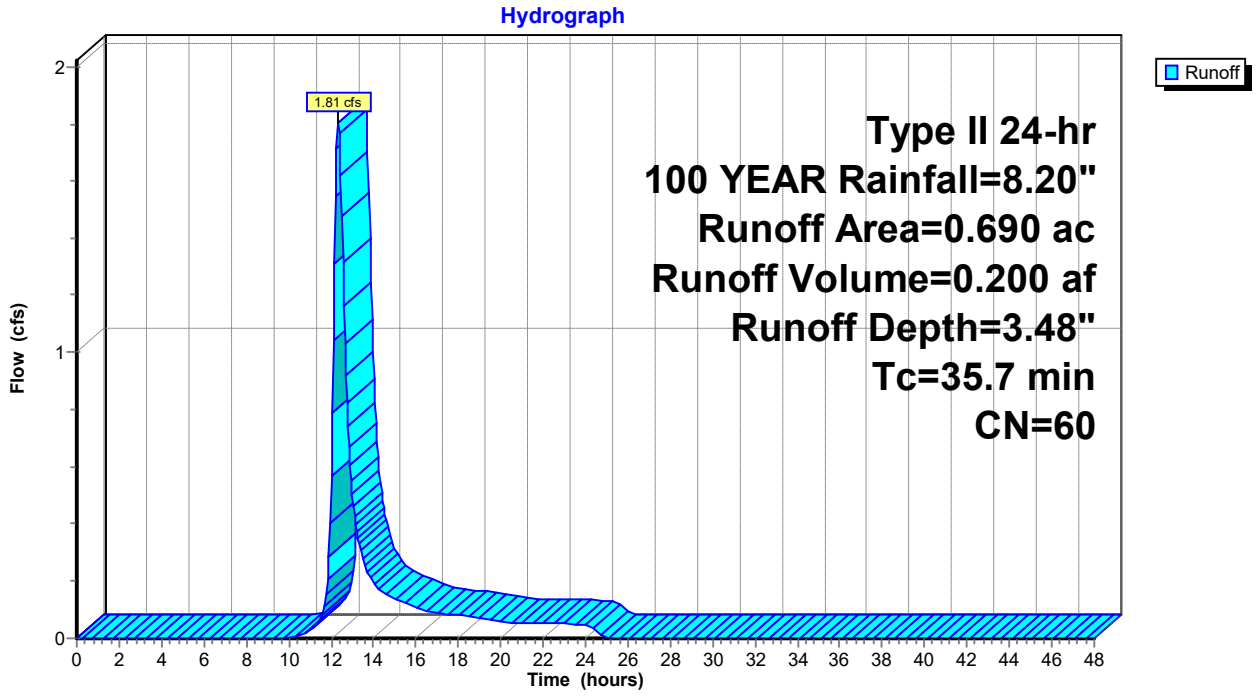
Runoff = 1.81 cfs @ 12.33 hrs, Volume= 0.200 af, Depth= 3.48"
Routed to Link 1B : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
0.100	55	Woods, Good, HSG B
0.590	61	>75% Grass cover, Good, HSG B
0.690	60	Weighted Average
0.690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.7					**Direct Entry,**

Subcatchment B-1A: BYPASS POND to SP1



Hydrograph for Subcatchment B-1A: BYPASS POND to SP1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.23	0.00	0.00
3.00	0.28	0.00	0.00
3.50	0.34	0.00	0.00
4.00	0.39	0.00	0.00
4.50	0.45	0.00	0.00
5.00	0.52	0.00	0.00
5.50	0.58	0.00	0.00
6.00	0.66	0.00	0.00
6.50	0.73	0.00	0.00
7.00	0.81	0.00	0.00
7.50	0.90	0.00	0.00
8.00	0.98	0.00	0.00
8.50	1.08	0.00	0.00
9.00	1.21	0.00	0.00
9.50	1.34	0.00	0.00
10.00	1.48	0.00	0.00
10.50	1.67	0.02	0.01
11.00	1.93	0.05	0.03
11.50	2.32	0.13	0.07
12.00	5.44	1.56	**0.57**
12.50	6.03	1.94	**1.48**
13.00	6.33	2.14	0.50
13.50	6.55	2.29	0.27
14.00	6.72	2.41	0.19
14.50	6.87	2.51	0.15
15.00	7.00	2.60	0.14
15.50	7.11	2.68	0.12
16.00	7.22	2.76	0.11
16.50	7.31	2.82	0.10
17.00	7.39	2.89	0.09
17.50	7.48	2.95	0.09
18.00	7.55	3.00	0.08
18.50	7.62	3.05	0.08
19.00	7.69	3.10	0.07
19.50	7.75	3.15	0.07
20.00	7.81	3.19	0.06
20.50	7.86	3.23	0.06
21.00	7.91	3.27	0.05
21.50	7.96	3.30	0.05
22.00	8.01	3.34	0.05
22.50	8.06	3.38	0.05
23.00	8.11	3.41	0.05
23.50	8.15	3.45	0.05
24.00	**8.20**	**3.48**	0.05
24.50	8.20	3.48	0.02
25.00	8.20	3.48	0.00
25.50	8.20	3.48	0.00
26.00	8.20	3.48	0.00
26.50	8.20	3.48	0.00
27.00	8.20	3.48	0.00
27.50	8.20	3.48	0.00
28.00	8.20	3.48	0.00
28.50	8.20	3.48	0.00
29.00	8.20	3.48	0.00
29.50	8.20	3.48	0.00
30.00	8.20	3.48	0.00
30.50	8.20	3.48	0.00
31.00	8.20	3.48	0.00
31.50	8.20	3.48	0.00
32.00	8.20	3.48	0.00
32.50	8.20	3.48	0.00
33.00	8.20	3.48	0.00
33.50	8.20	3.48	0.00
34.00	8.20	3.48	0.00
34.50	8.20	3.48	0.00
35.00	8.20	3.48	0.00
35.50	8.20	3.48	0.00
36.00	8.20	3.48	0.00
36.50	8.20	3.48	0.00
37.00	8.20	3.48	0.00
37.50	8.20	3.48	0.00
38.00	8.20	3.48	0.00
38.50	8.20	3.48	0.00
39.00	8.20	3.48	0.00
39.50	8.20	3.48	0.00
40.00	8.20	3.48	0.00
40.50	8.20	3.48	0.00
41.00	8.20	3.48	0.00
41.50	8.20	3.48	0.00
42.00	8.20	3.48	0.00
42.50	8.20	3.48	0.00
43.00	8.20	3.48	0.00
43.50	8.20	3.48	0.00
44.00	8.20	3.48	0.00
44.50	8.20	3.48	0.00
45.00	8.20	3.48	0.00
45.50	8.20	3.48	0.00
46.00	8.20	3.48	0.00
46.50	8.20	3.48	0.00
47.00	8.20	3.48	0.00
47.50	8.20	3.48	0.00
48.00	8.20	3.48	0.00

Summary for Subcatchment B-2: Post-Developed

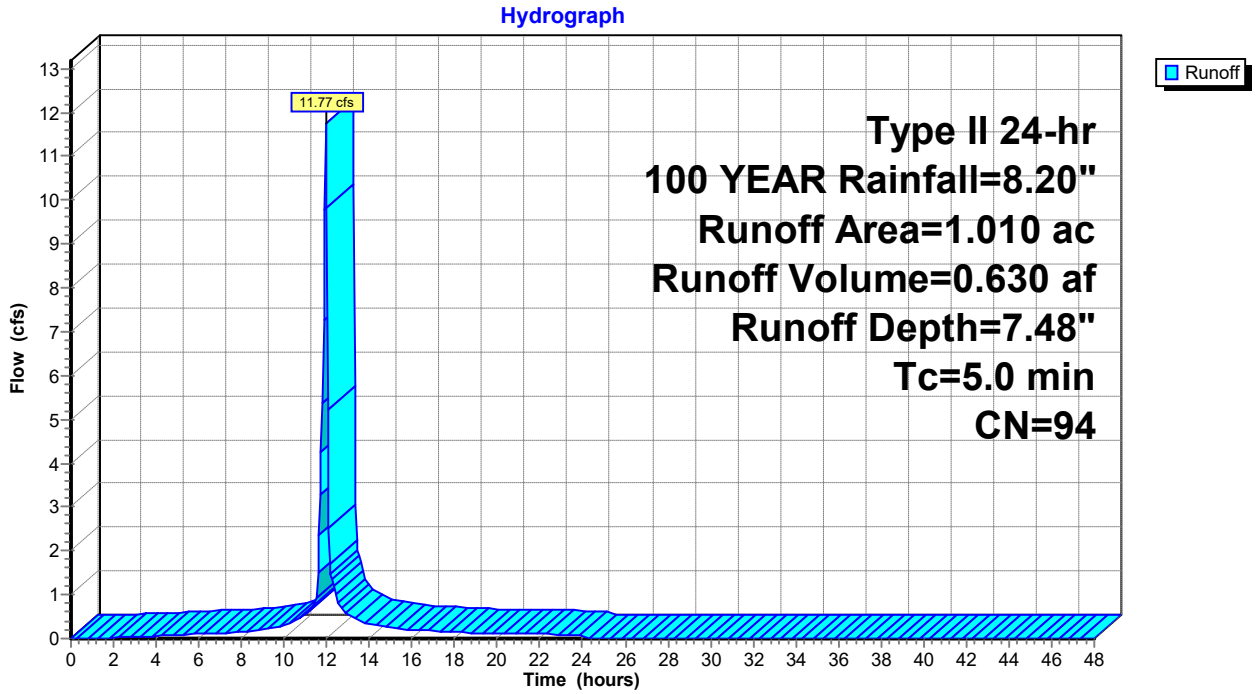
Runoff = 11.77 cfs @ 11.95 hrs, Volume= 0.630 af, Depth= 7.48"
Routed to Pond 2P : Undg Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
0.910	98	Paved parking, HSG B
0.100	61	>75% Grass cover, Good, HSG B
1.010	94	Weighted Average
0.100		9.90% Pervious Area
0.910		90.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-2: Post-Developed



Hydrograph for Subcatchment B-2: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.01
2.50	0.23	0.01	0.03
3.00	0.28	0.03	0.04
3.50	0.34	0.05	0.05
4.00	0.39	0.08	0.06
4.50	0.45	0.11	0.07
5.00	0.52	0.15	0.08
5.50	0.58	0.19	0.09
6.00	0.66	0.24	0.10
6.50	0.73	0.29	0.12
7.00	0.81	0.35	0.13
7.50	0.90	0.42	0.14
8.00	0.98	0.49	0.15
8.50	1.08	0.57	0.18
9.00	1.21	0.68	0.22
9.50	1.34	0.79	0.23
10.00	1.48	0.92	0.29
10.50	1.67	1.09	0.38
11.00	1.93	1.33	0.53
11.50	2.32	1.70	**0.89**
12.00	5.44	4.74	**9.82**
12.50	6.03	5.32	0.87
13.00	6.33	5.62	0.54
13.50	6.55	5.84	0.41
14.00	6.72	6.01	0.32
14.50	6.87	6.16	0.28
15.00	7.00	6.29	0.25
15.50	7.11	6.40	0.22
16.00	7.22	6.50	0.20
16.50	7.31	6.59	0.18
17.00	7.39	6.68	0.17
17.50	7.48	6.76	0.16
18.00	7.55	6.84	0.15
18.50	7.62	6.91	0.14
19.00	7.69	6.97	0.13
19.50	7.75	7.03	0.12
20.00	7.81	7.09	0.11
20.50	7.86	7.14	0.11
21.00	7.91	7.19	0.10
21.50	7.96	7.24	0.10
22.00	8.01	7.29	0.10
22.50	8.06	7.34	0.10
23.00	8.11	7.39	0.10
23.50	8.15	7.44	0.09
24.00	**8.20**	**7.48**	0.09
24.50	8.20	7.48	0.00
25.00	8.20	7.48	0.00
25.50	8.20	7.48	0.00
26.00	8.20	7.48	0.00
26.50	8.20	7.48	0.00
27.00	8.20	7.48	0.00
27.50	8.20	7.48	0.00
28.00	8.20	7.48	0.00
28.50	8.20	7.48	0.00
29.00	8.20	7.48	0.00
29.50	8.20	7.48	0.00
30.00	8.20	7.48	0.00
30.50	8.20	7.48	0.00
31.00	8.20	7.48	0.00
31.50	8.20	7.48	0.00
32.00	8.20	7.48	0.00
32.50	8.20	7.48	0.00
33.00	8.20	7.48	0.00
33.50	8.20	7.48	0.00
34.00	8.20	7.48	0.00
34.50	8.20	7.48	0.00
35.00	8.20	7.48	0.00
35.50	8.20	7.48	0.00
36.00	8.20	7.48	0.00
36.50	8.20	7.48	0.00
37.00	8.20	7.48	0.00
37.50	8.20	7.48	0.00
38.00	8.20	7.48	0.00
38.50	8.20	7.48	0.00
39.00	8.20	7.48	0.00
39.50	8.20	7.48	0.00
40.00	8.20	7.48	0.00
40.50	8.20	7.48	0.00
41.00	8.20	7.48	0.00
41.50	8.20	7.48	0.00
42.00	8.20	7.48	0.00
42.50	8.20	7.48	0.00
43.00	8.20	7.48	0.00
43.50	8.20	7.48	0.00
44.00	8.20	7.48	0.00
44.50	8.20	7.48	0.00
45.00	8.20	7.48	0.00
45.50	8.20	7.48	0.00
46.00	8.20	7.48	0.00
46.50	8.20	7.48	0.00
47.00	8.20	7.48	0.00
47.50	8.20	7.48	0.00
48.00	8.20	7.48	0.00

Summary for Subcatchment B-2A: BYPASS POND to SP2

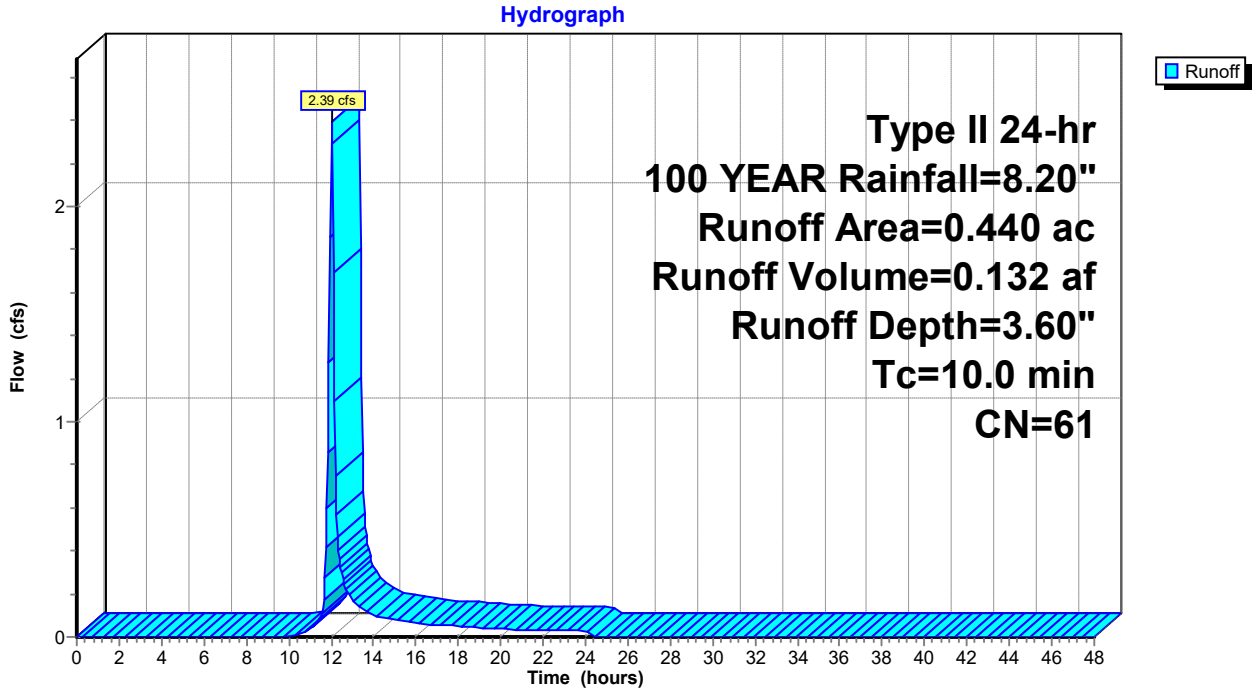
Runoff = 2.39 cfs @ 12.02 hrs, Volume= 0.132 af, Depth= 3.60"
Routed to Link 2B : Study Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
0.440	61	>75% Grass cover, Good, HSG B
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment B-2A: BYPASS POND to SP2



Hydrograph for Subcatchment B-2A: BYPASS POND to SP2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.23	0.00	0.00
3.00	0.28	0.00	0.00
3.50	0.34	0.00	0.00
4.00	0.39	0.00	0.00
4.50	0.45	0.00	0.00
5.00	0.52	0.00	0.00
5.50	0.58	0.00	0.00
6.00	0.66	0.00	0.00
6.50	0.73	0.00	0.00
7.00	0.81	0.00	0.00
7.50	0.90	0.00	0.00
8.00	0.98	0.00	0.00
8.50	1.08	0.00	0.00
9.00	1.21	0.00	0.00
9.50	1.34	0.00	0.00
10.00	1.48	0.01	0.01
10.50	1.67	0.02	0.02
11.00	1.93	0.06	0.04
11.50	2.32	0.15	0.09
12.00	5.44	1.64	**2.35**
12.50	6.03	2.02	0.30
13.00	6.33	2.23	0.17
13.50	6.55	2.38	0.13
14.00	6.72	2.50	0.10
14.50	6.87	2.61	0.09
15.00	7.00	2.70	0.08
15.50	7.11	2.78	0.07
16.00	7.22	2.86	0.06
16.50	7.31	2.93	0.06
17.00	7.39	2.99	0.06
17.50	7.48	3.05	0.05
18.00	7.55	3.11	0.05
18.50	7.62	3.16	0.05
19.00	7.69	3.21	0.04
19.50	7.75	3.26	0.04
20.00	7.81	3.30	0.04
20.50	7.86	3.34	0.04
21.00	7.91	3.38	0.03
21.50	7.96	3.42	0.03
22.00	8.01	3.45	0.03
22.50	8.06	3.49	0.03
23.00	8.11	3.53	0.03
23.50	8.15	3.56	0.03
24.00	**8.20**	**3.60**	0.03
24.50	8.20	3.60	0.00
25.00	8.20	3.60	0.00
25.50	8.20	3.60	0.00
26.00	8.20	3.60	0.00
26.50	8.20	3.60	0.00
27.00	8.20	3.60	0.00
27.50	8.20	3.60	0.00
28.00	8.20	3.60	0.00
28.50	8.20	3.60	0.00
29.00	8.20	3.60	0.00
29.50	8.20	3.60	0.00
30.00	8.20	3.60	0.00
30.50	8.20	3.60	0.00
31.00	8.20	3.60	0.00
31.50	8.20	3.60	0.00
32.00	8.20	3.60	0.00
32.50	8.20	3.60	0.00
33.00	8.20	3.60	0.00
33.50	8.20	3.60	0.00
34.00	8.20	3.60	0.00
34.50	8.20	3.60	0.00
35.00	8.20	3.60	0.00
35.50	8.20	3.60	0.00
36.00	8.20	3.60	0.00
36.50	8.20	3.60	0.00
37.00	8.20	3.60	0.00
37.50	8.20	3.60	0.00
38.00	8.20	3.60	0.00
38.50	8.20	3.60	0.00
39.00	8.20	3.60	0.00
39.50	8.20	3.60	0.00
40.00	8.20	3.60	0.00
40.50	8.20	3.60	0.00
41.00	8.20	3.60	0.00
41.50	8.20	3.60	0.00
42.00	8.20	3.60	0.00
42.50	8.20	3.60	0.00
43.00	8.20	3.60	0.00
43.50	8.20	3.60	0.00
44.00	8.20	3.60	0.00
44.50	8.20	3.60	0.00
45.00	8.20	3.60	0.00
45.50	8.20	3.60	0.00
46.00	8.20	3.60	0.00
46.50	8.20	3.60	0.00
47.00	8.20	3.60	0.00
47.50	8.20	3.60	0.00
48.00	8.20	3.60	0.00

Summary for Subcatchment B-3: Post-Developed

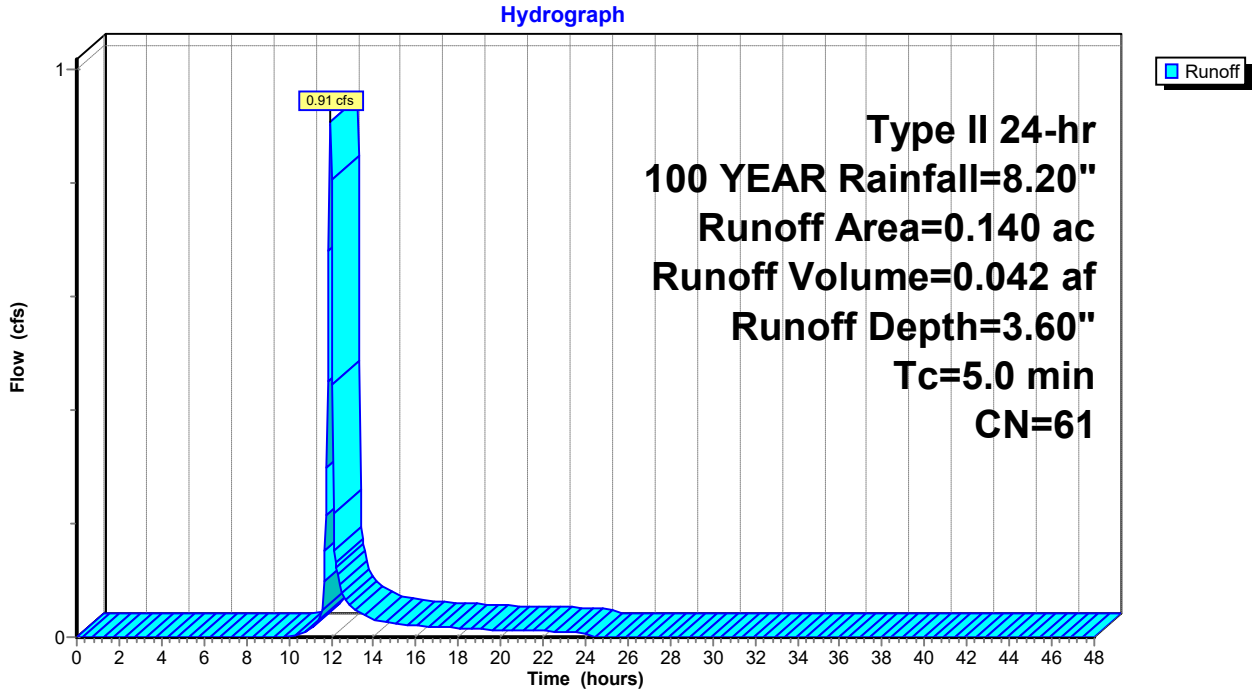
Runoff = 0.91 cfs @ 11.96 hrs, Volume= 0.042 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
0.140	61	>75% Grass cover, Good, HSG B
0.140	61	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-3: Post-Developed



Hydrograph for Subcatchment B-3: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.23	0.00	0.00
3.00	0.28	0.00	0.00
3.50	0.34	0.00	0.00
4.00	0.39	0.00	0.00
4.50	0.45	0.00	0.00
5.00	0.52	0.00	0.00
5.50	0.58	0.00	0.00
6.00	0.66	0.00	0.00
6.50	0.73	0.00	0.00
7.00	0.81	0.00	0.00
7.50	0.90	0.00	0.00
8.00	0.98	0.00	0.00
8.50	1.08	0.00	0.00
9.00	1.21	0.00	0.00
9.50	1.34	0.00	0.00
10.00	1.48	0.01	0.00
10.50	1.67	0.02	0.01
11.00	1.93	0.06	0.01
11.50	2.32	0.15	**0.03**
12.00	5.44	1.64	**0.81**
12.50	6.03	2.02	0.08
13.00	6.33	2.23	0.05
13.50	6.55	2.38	0.04
14.00	6.72	2.50	0.03
14.50	6.87	2.61	0.03
15.00	7.00	2.70	0.03
15.50	7.11	2.78	0.02
16.00	7.22	2.86	0.02
16.50	7.31	2.93	0.02
17.00	7.39	2.99	0.02
17.50	7.48	3.05	0.02
18.00	7.55	3.11	0.02
18.50	7.62	3.16	0.01
19.00	7.69	3.21	0.01
19.50	7.75	3.26	0.01
20.00	7.81	3.30	0.01
20.50	7.86	3.34	0.01
21.00	7.91	3.38	0.01
21.50	7.96	3.42	0.01
22.00	8.01	3.45	0.01
22.50	8.06	3.49	0.01
23.00	8.11	3.53	0.01
23.50	8.15	3.56	0.01
24.00	**8.20**	**3.60**	0.01
24.50	8.20	3.60	0.00
25.00	8.20	3.60	0.00
25.50	8.20	3.60	0.00
26.00	8.20	3.60	0.00
26.50	8.20	3.60	0.00
27.00	8.20	3.60	0.00
27.50	8.20	3.60	0.00
28.00	8.20	3.60	0.00
28.50	8.20	3.60	0.00
29.00	8.20	3.60	0.00
29.50	8.20	3.60	0.00
30.00	8.20	3.60	0.00
30.50	8.20	3.60	0.00
31.00	8.20	3.60	0.00
31.50	8.20	3.60	0.00
32.00	8.20	3.60	0.00
32.50	8.20	3.60	0.00
33.00	8.20	3.60	0.00
33.50	8.20	3.60	0.00
34.00	8.20	3.60	0.00
34.50	8.20	3.60	0.00
35.00	8.20	3.60	0.00
35.50	8.20	3.60	0.00
36.00	8.20	3.60	0.00
36.50	8.20	3.60	0.00
37.00	8.20	3.60	0.00
37.50	8.20	3.60	0.00
38.00	8.20	3.60	0.00
38.50	8.20	3.60	0.00
39.00	8.20	3.60	0.00
39.50	8.20	3.60	0.00
40.00	8.20	3.60	0.00
40.50	8.20	3.60	0.00
41.00	8.20	3.60	0.00
41.50	8.20	3.60	0.00
42.00	8.20	3.60	0.00
42.50	8.20	3.60	0.00
43.00	8.20	3.60	0.00
43.50	8.20	3.60	0.00
44.00	8.20	3.60	0.00
44.50	8.20	3.60	0.00
45.00	8.20	3.60	0.00
45.50	8.20	3.60	0.00
46.00	8.20	3.60	0.00
46.50	8.20	3.60	0.00
47.00	8.20	3.60	0.00
47.50	8.20	3.60	0.00
48.00	8.20	3.60	0.00

Summary for Pond 1P: Undg Pond 1

Inflow Area = 1.980 ac, 98.48% Impervious, Inflow Depth = 7.84" for 100 YEAR event
Inflow = 23.38 cfs @ 11.95 hrs, Volume= 1.294 af
Outflow = 1.89 cfs @ 12.46 hrs, Volume= 0.585 af, Atten= 92%, Lag= 30.3 min
Primary = 1.89 cfs @ 12.46 hrs, Volume= 0.585 af
Routed to Link 1B : Study Point 1

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,001.43' @ 12.46 hrs Surf.Area= 0.286 ac Storage= 0.860 af

Plug-Flow detention time= 544.4 min calculated for 0.585 af (45% of inflow)
Center-of-Mass det. time= 403.5 min (1,145.2 - 741.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	997.00'	0.394 af	**51.42'W x 242.31'L x 5.50'H Field A** 1.573 af Overall - 0.588 af Embedded = 0.985 af x 40.0% Voids
#2A	997.75'	0.588 af	**ADS_StormTech MC-3500 d +Cap** x 231 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 231 Chambers in 7 Rows Cap Storage= 14.9 cf x 2 x 7 rows = 208.6 cf
		0.982 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	997.00'	**36.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	997.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,001.00'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,002.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.88 cfs @ 12.46 hrs HW=1,001.43' (Free Discharge)
└**1=Orifice/Grate** (Passes 1.88 cfs of 58.28 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.06 cfs @ 10.09 fps)
  ├**3=Orifice/Grate** (Orifice Controls 1.83 cfs @ 2.11 fps)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Undg Pond 1 - 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 7 rows = 208.6 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

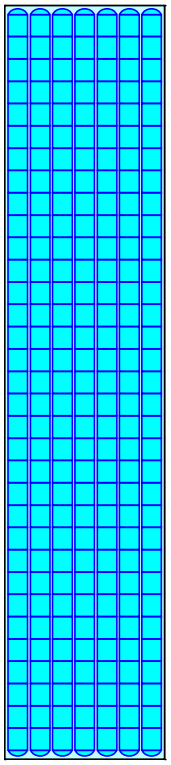
33 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 240.31' Row Length +12.0" End Stone x 2 = 242.31' Base Length
7 Rows x 77.0" Wide + 9.0" Spacing x 6 + 12.0" Side Stone x 2 = 51.42' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

231 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 7 Rows = 25,607.5 cf Chamber Storage

68,523.2 cf Field - 25,607.5 cf Chambers = 42,915.7 cf Stone x 40.0% Voids = 17,166.3 cf Stone Storage

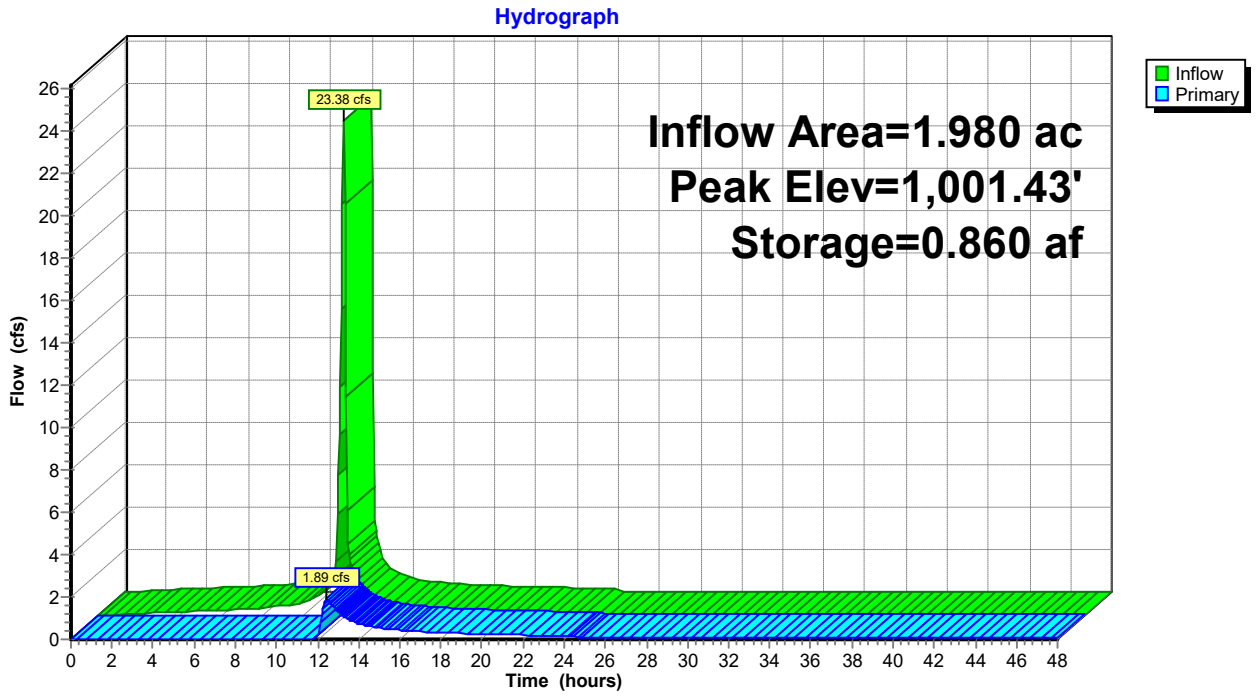
Chamber Storage + Stone Storage = 42,773.8 cf = 0.982 af
Overall Storage Efficiency = 62.4%
Overall System Size = 242.31' x 51.42' x 5.50'

231 Chambers
2,537.9 cy Field
1,589.5 cy Stone





Pond 1P: Undg Pond 1



Hydrograph for Pond 1P: Undg Pond 1

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	997.00	0.00
1.00	0.02	0.000	997.00	0.00
2.00	0.09	0.005	997.04	0.00
3.00	0.14	0.014	997.12	0.01
4.00	0.17	0.026	997.23	0.01
5.00	0.22	0.041	997.36	0.01
6.00	0.26	0.059	997.52	0.02
7.00	0.30	0.080	997.70	0.02
8.00	0.33	0.105	997.83	0.02
9.00	0.49	0.136	997.95	0.03
10.00	0.61	0.177	998.12	0.03
11.00	**1.10**	0.243	998.39	0.03
12.00	**19.47**	**0.729**	**1,000.58**	**0.05**
13.00	1.06	**0.848**	**1,001.34**	**1.30**
14.00	0.63	0.834	1,001.23	0.75
15.00	0.50	0.828	1,001.18	0.55
16.00	0.38	0.824	1,001.15	0.44
17.00	0.34	0.821	1,001.13	0.36
18.00	0.30	0.820	1,001.12	0.32
19.00	0.26	0.818	1,001.11	0.28
20.00	0.22	0.816	1,001.09	0.24
21.00	0.20	0.815	1,001.09	0.21
22.00	0.20	0.814	1,001.08	0.20
23.00	0.19	0.814	1,001.08	0.19
24.00	0.18	0.813	1,001.08	0.19
25.00	0.00	0.804	1,001.02	0.07
26.00	0.00	0.800	1,000.99	0.05
27.00	0.00	0.795	1,000.96	0.05
28.00	0.00	0.791	1,000.93	0.05
29.00	0.00	0.787	1,000.91	0.05
30.00	0.00	0.783	1,000.88	0.05
31.00	0.00	0.778	1,000.86	0.05
32.00	0.00	0.774	1,000.83	0.05
33.00	0.00	0.770	1,000.81	0.05
34.00	0.00	0.766	1,000.79	0.05
35.00	0.00	0.762	1,000.76	0.05
36.00	0.00	0.757	1,000.74	0.05
37.00	0.00	0.753	1,000.71	0.05
38.00	0.00	0.749	1,000.69	0.05
39.00	0.00	0.745	1,000.67	0.05
40.00	0.00	0.741	1,000.65	0.05
41.00	0.00	0.737	1,000.62	0.05
42.00	0.00	0.733	1,000.60	0.05
43.00	0.00	0.728	1,000.58	0.05
44.00	0.00	0.724	1,000.56	0.05
45.00	0.00	0.720	1,000.54	0.05
46.00	0.00	0.716	1,000.52	0.05
47.00	0.00	0.712	1,000.49	0.05
48.00	0.00	0.708	1,000.47	0.05

Summary for Pond 2P: Undg Pond 2

Inflow Area = 1.010 ac, 90.10% Impervious, Inflow Depth = 7.48" for 100 YEAR event
Inflow = 11.77 cfs @ 11.95 hrs, Volume= 0.630 af
Outflow = 2.81 cfs @ 12.11 hrs, Volume= 0.420 af, Atten= 76%, Lag= 9.5 min
Primary = 2.81 cfs @ 12.11 hrs, Volume= 0.420 af
Routed to Link 2B : Study Point 2

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 999.90' @ 12.11 hrs Surf.Area= 0.103 ac Storage= 0.364 af

Plug-Flow detention time= 510.4 min calculated for 0.419 af (67% of inflow)
Center-of-Mass det. time= 412.0 min (1,168.1 - 756.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	995.00'	0.166 af	**37.58'W x 119.53'L x 6.75'H Field A** 0.696 af Overall - 0.282 af Embedded = 0.414 af x 40.0% Voids
#2A	995.75'	0.282 af	**ADS_StormTech MC-7200 +Cap** x 68 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 68 Chambers in 4 Rows Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf
		0.448 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	995.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	999.00'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,001.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.77 cfs @ 12.11 hrs HW=999.89' (Free Discharge)
└**1=Orifice/Grate** (Passes 2.77 cfs of 29.85 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.06 cfs @ 10.61 fps)
  ├**3=Orifice/Grate** (Orifice Controls 2.71 cfs @ 3.03 fps)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Undg Pond 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-7200 +Cap (ADS StormTech® MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

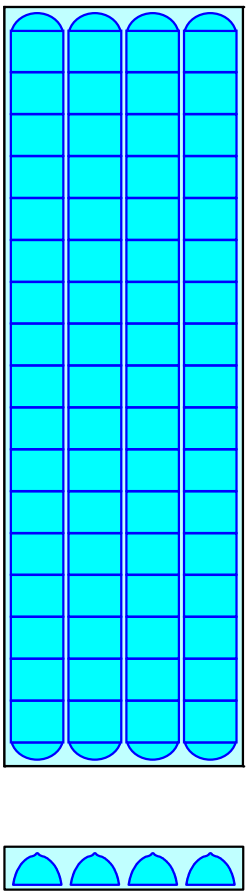
17 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 117.52' Row Length +12.0" End Stone x 2 = 119.53' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

68 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 4 Rows = 12,275.5 cf Chamber Storage

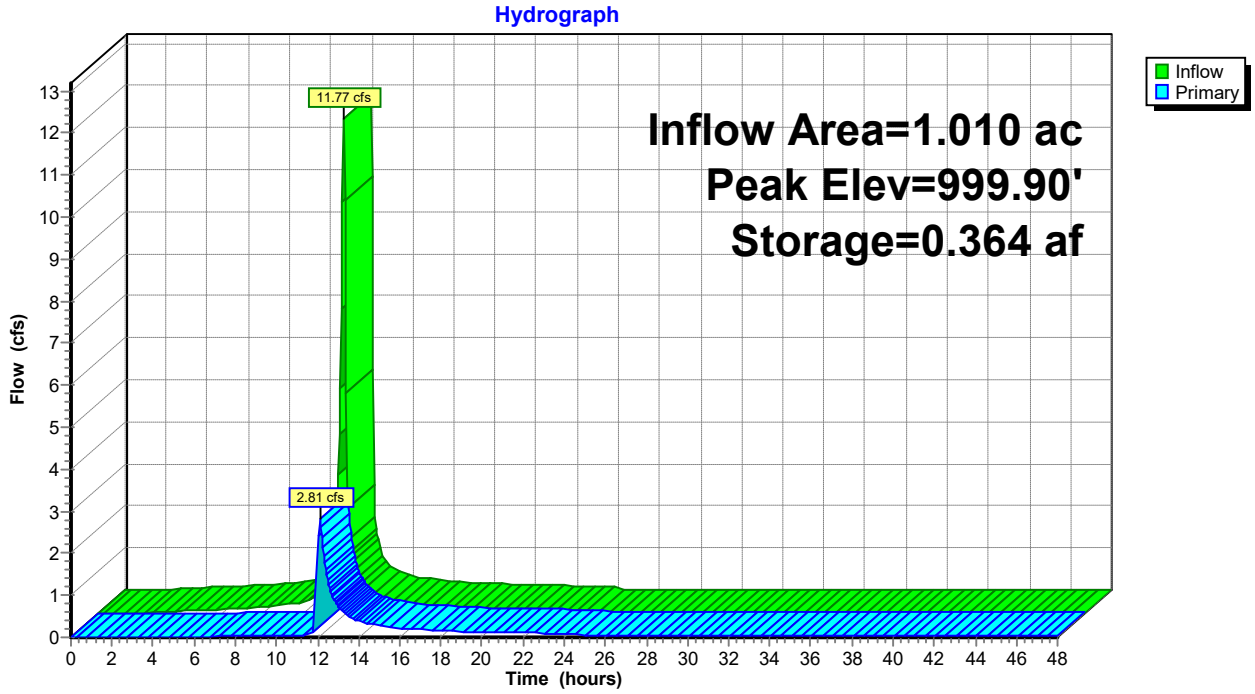
30,322.0 cf Field - 12,275.5 cf Chambers = 18,046.5 cf Stone x 40.0% Voids = 7,218.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,494.1 cf = 0.448 af
Overall Storage Efficiency = 64.3%
Overall System Size = 119.53' x 37.58' x 6.75'

68 Chambers
1,123.0 cy Field
668.4 cy Stone



Pond 2P: Undg Pond 2



Hydrograph for Pond 2P: Undg Pond 2

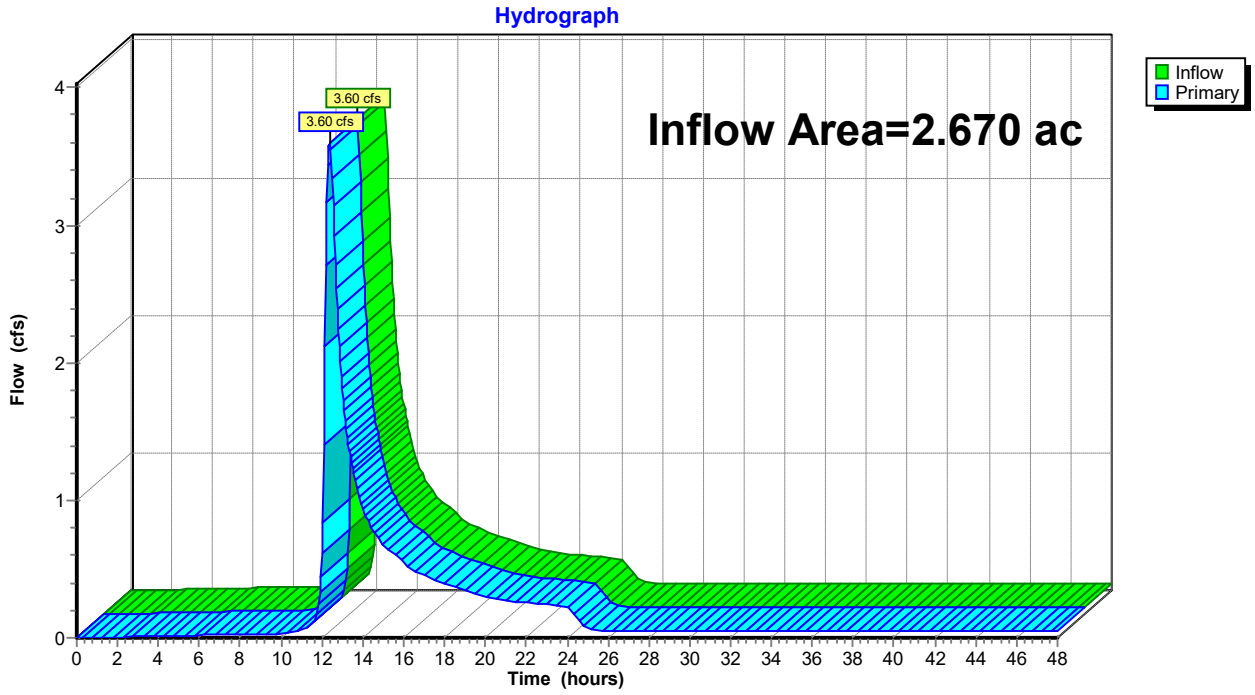
Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	995.00	0.00
1.00	0.00	0.000	995.00	0.00
2.00	0.01	0.000	995.01	0.00
3.00	0.04	0.002	995.05	0.00
4.00	0.06	0.006	995.14	0.01
5.00	0.08	0.010	995.25	0.01
6.00	0.10	0.017	995.41	0.02
7.00	0.13	0.025	995.60	0.02
8.00	0.15	0.035	995.79	0.02
9.00	0.22	0.048	995.94	0.02
10.00	0.29	0.066	996.14	0.03
11.00	**0.53**	0.096	996.48	0.03
12.00	**9.82**	**0.334**	**999.45**	**1.03**
13.00	0.54	**0.328**	**999.35**	**0.73**
14.00	0.32	0.318	999.22	0.39
15.00	0.25	0.315	999.17	0.28
16.00	0.20	0.312	999.14	0.22
17.00	0.17	0.311	999.12	0.18
18.00	0.15	0.310	999.10	0.16
19.00	0.13	0.309	999.09	0.14
20.00	0.11	0.308	999.08	0.12
21.00	0.10	0.307	999.07	0.11
22.00	0.10	0.307	999.06	0.10
23.00	0.10	0.307	999.06	0.10
24.00	0.09	0.306	999.05	0.09
25.00	0.00	0.301	998.99	0.05
26.00	0.00	0.297	998.93	0.05
27.00	0.00	0.293	998.87	0.05
28.00	0.00	0.288	998.81	0.05
29.00	0.00	0.284	998.76	0.05
30.00	0.00	0.280	998.70	0.05
31.00	0.00	0.276	998.65	0.05
32.00	0.00	0.272	998.60	0.05
33.00	0.00	0.268	998.54	0.05
34.00	0.00	0.264	998.49	0.05
35.00	0.00	0.260	998.44	0.05
36.00	0.00	0.256	998.39	0.05
37.00	0.00	0.252	998.34	0.05
38.00	0.00	0.248	998.29	0.05
39.00	0.00	0.244	998.24	0.05
40.00	0.00	0.240	998.19	0.05
41.00	0.00	0.236	998.14	0.05
42.00	0.00	0.232	998.10	0.05
43.00	0.00	0.229	998.05	0.05
44.00	0.00	0.225	998.00	0.05
45.00	0.00	0.221	997.96	0.04
46.00	0.00	0.217	997.91	0.04
47.00	0.00	0.214	997.87	0.04
48.00	0.00	0.210	997.82	0.04

Summary for Link 1B: Study Point 1

Inflow Area = 2.670 ac, 73.03% Impervious, Inflow Depth > 3.53" for 100 YEAR event
Inflow = 3.60 cfs @ 12.38 hrs, Volume= 0.786 af
Primary = 3.60 cfs @ 12.38 hrs, Volume= 0.786 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 1B: Study Point 1



Hydrograph for Link 1B: Study Point 1

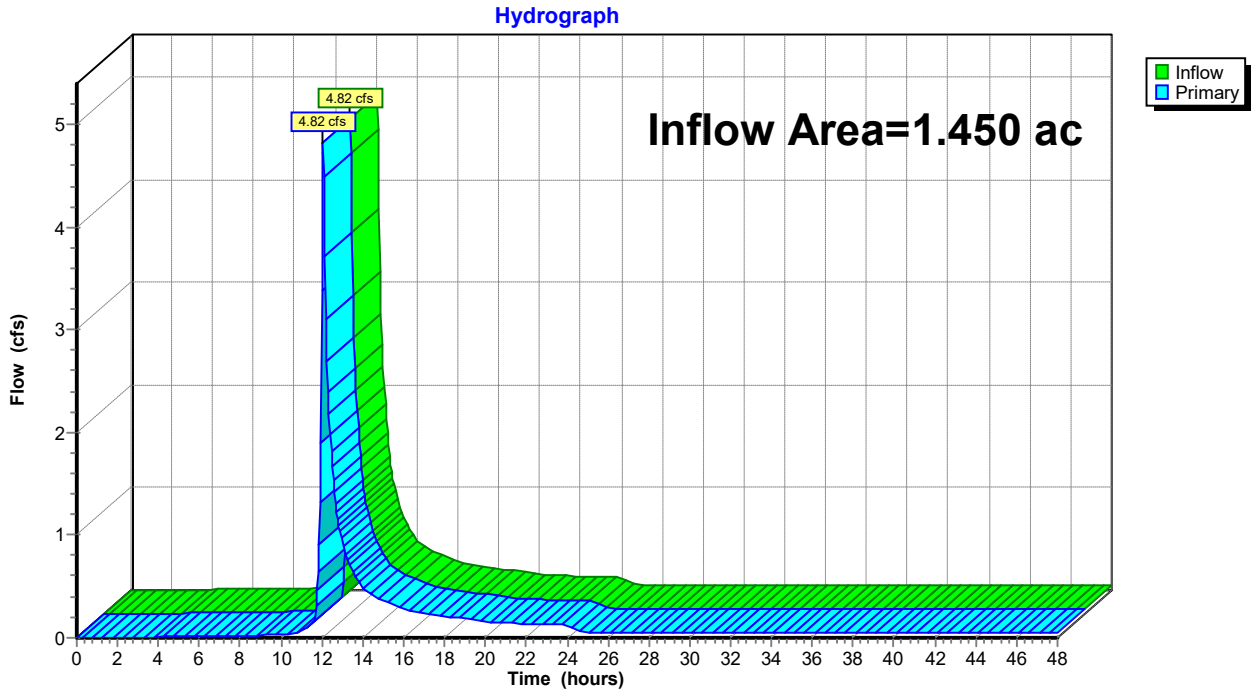
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.01	0.00	0.01	31.50	0.05	0.00	0.05
3.50	0.01	0.00	0.01	32.00	0.05	0.00	0.05
4.00	0.01	0.00	0.01	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.02	0.00	0.02	34.00	0.05	0.00	0.05
6.00	0.02	0.00	0.02	34.50	0.05	0.00	0.05
6.50	0.02	0.00	0.02	35.00	0.05	0.00	0.05
7.00	0.02	0.00	0.02	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.03	0.00	0.03	37.50	0.05	0.00	0.05
9.50	0.03	0.00	0.03	38.00	0.05	0.00	0.05
10.00	0.03	0.00	0.03	38.50	0.05	0.00	0.05
10.50	0.04	0.00	0.04	39.00	0.05	0.00	0.05
11.00	0.06	0.00	0.06	39.50	0.05	0.00	0.05
11.50	0.10	0.00	0.10	40.00	0.05	0.00	0.05
12.00	**0.62**	0.00	**0.62**	40.50	0.05	0.00	0.05
12.50	**3.34**	0.00	**3.34**	41.00	0.05	0.00	0.05
13.00	1.81	0.00	1.81	41.50	0.05	0.00	0.05
13.50	1.24	0.00	1.24	42.00	0.05	0.00	0.05
14.00	0.94	0.00	0.94	42.50	0.05	0.00	0.05
14.50	0.78	0.00	0.78	43.00	0.05	0.00	0.05
15.00	0.68	0.00	0.68	43.50	0.05	0.00	0.05
15.50	0.61	0.00	0.61	44.00	0.05	0.00	0.05
16.00	0.54	0.00	0.54	44.50	0.05	0.00	0.05
16.50	0.49	0.00	0.49	45.00	0.05	0.00	0.05
17.00	0.45	0.00	0.45	45.50	0.05	0.00	0.05
17.50	0.42	0.00	0.42	46.00	0.05	0.00	0.05
18.00	0.40	0.00	0.40	46.50	0.05	0.00	0.05
18.50	0.38	0.00	0.38	47.00	0.05	0.00	0.05
19.00	0.35	0.00	0.35	47.50	0.05	0.00	0.05
19.50	0.32	0.00	0.32	48.00	0.05	0.00	0.05
20.00	0.30	0.00	0.30				
20.50	0.28	0.00	0.28				
21.00	0.27	0.00	0.27				
21.50	0.26	0.00	0.26				
22.00	0.26	0.00	0.26				
22.50	0.25	0.00	0.25				
23.00	0.24	0.00	0.24				
23.50	0.24	0.00	0.24				
24.00	0.23	0.00	0.23				
24.50	0.14	0.00	0.14				
25.00	0.07	0.00	0.07				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Summary for Link 2B: Study Point 2

Inflow Area = 1.450 ac, 62.76% Impervious, Inflow Depth > 4.56" for 100 YEAR event
Inflow = 4.82 cfs @ 12.07 hrs, Volume= 0.551 af
Primary = 4.82 cfs @ 12.07 hrs, Volume= 0.551 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2B: Study Point 2



Hydrograph for Link 2B: Study Point 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.01	0.00	0.01	32.00	0.05	0.00	0.05
4.00	0.01	0.00	0.01	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.02	0.00	0.02	34.50	0.05	0.00	0.05
6.50	0.02	0.00	0.02	35.00	0.05	0.00	0.05
7.00	0.02	0.00	0.02	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.03	0.00	0.03	38.00	0.05	0.00	0.05
10.00	0.03	0.00	0.03	38.50	0.05	0.00	0.05
10.50	0.05	0.00	0.05	39.00	0.05	0.00	0.05
11.00	0.07	0.00	0.07	39.50	0.05	0.00	0.05
11.50	0.12	0.00	0.12	40.00	0.05	0.00	0.05
12.00	**3.39**	0.00	**3.39**	40.50	0.05	0.00	0.05
12.50	**1.67**	0.00	**1.67**	41.00	0.05	0.00	0.05
13.00	0.91	0.00	0.91	41.50	0.05	0.00	0.05
13.50	0.64	0.00	0.64	42.00	0.05	0.00	0.05
14.00	0.50	0.00	0.50	42.50	0.05	0.00	0.05
14.50	0.41	0.00	0.41	43.00	0.05	0.00	0.05
15.00	0.36	0.00	0.36	43.50	0.05	0.00	0.05
15.50	0.32	0.00	0.32	44.00	0.05	0.00	0.05
16.00	0.29	0.00	0.29	44.50	0.05	0.00	0.05
16.50	0.26	0.00	0.26	45.00	0.04	0.00	0.04
17.00	0.24	0.00	0.24	45.50	0.04	0.00	0.04
17.50	0.23	0.00	0.23	46.00	0.04	0.00	0.04
18.00	0.21	0.00	0.21	46.50	0.04	0.00	0.04
18.50	0.20	0.00	0.20	47.00	0.04	0.00	0.04
19.00	0.19	0.00	0.19	47.50	0.04	0.00	0.04
19.50	0.17	0.00	0.17	48.00	0.04	0.00	0.04
20.00	0.16	0.00	0.16				
20.50	0.15	0.00	0.15				
21.00	0.14	0.00	0.14				
21.50	0.14	0.00	0.14				
22.00	0.14	0.00	0.14				
22.50	0.13	0.00	0.13				
23.00	0.13	0.00	0.13				
23.50	0.13	0.00	0.13				
24.00	0.13	0.00	0.13				
24.50	0.07	0.00	0.07				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Events for Subcatchment B-1: Post-Developed

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	9.37	0.496	3.01
5 YEAR	4.52	12.77	0.688	4.17
10 YEAR	5.22	14.79	0.803	4.87
25 YEAR	6.29	17.88	0.979	5.93
50 YEAR	7.21	20.53	1.131	6.85
100 YEAR	**8.20**	**23.38**	**1.294**	**7.84**

Events for Subcatchment B-1A: BYPASS POND to SP1

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	0.16	0.027	0.47
5 YEAR	4.52	0.45	0.059	1.03
10 YEAR	5.22	0.67	0.082	1.43
25 YEAR	6.29	1.05	0.122	2.11
50 YEAR	7.21	1.40	0.158	2.75
100 YEAR	**8.20**	**1.81**	**0.200**	**3.48**

Events for Subcatchment B-2: Post-Developed

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	4.51	0.226	2.69
5 YEAR	4.52	6.28	0.323	3.84
10 YEAR	5.22	7.33	0.381	4.53
25 YEAR	6.29	8.93	0.470	5.58
50 YEAR	7.21	10.30	0.547	6.50
100 YEAR	**8.20**	**11.77**	**0.630**	**7.48**

Events for Subcatchment B-2A: BYPASS POND to SP2

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	0.26	0.019	0.51
5 YEAR	4.52	0.67	0.040	1.09
10 YEAR	5.22	0.96	0.055	1.50
25 YEAR	6.29	1.44	0.081	2.20
50 YEAR	7.21	1.89	0.105	2.85
100 YEAR	**8.20**	**2.39**	**0.132**	**3.60**

Events for Subcatchment B-3: Post-Developed

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	0.11	0.006	0.51
5 YEAR	4.52	0.26	0.013	1.09
10 YEAR	5.22	0.37	0.018	1.50
25 YEAR	6.29	0.55	0.026	2.20
50 YEAR	7.21	0.72	0.033	2.85
100 YEAR	**8.20**	**0.91**	**0.042**	**3.60**

Events for Pond 1P: Undg Pond 1

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
1 YEAR	9.37	0.04	999.26	0.450
5 YEAR	12.77	0.05	1,000.10	0.633
10 YEAR	14.79	0.05	1,000.66	0.743
25 YEAR	17.88	0.26	1,001.10	0.817
50 YEAR	20.53	0.72	1,001.22	0.833
100 YEAR	**23.38**	**1.89**	**1,001.43**	**0.860**

Events for Pond 2P: Undg Pond 2

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
1 YEAR	4.51	0.04	997.47	0.181
5 YEAR	6.28	0.05	998.52	0.266
10 YEAR	7.33	0.09	999.05	0.306
25 YEAR	8.93	0.40	999.23	0.319
50 YEAR	10.30	1.06	999.46	0.335
100 YEAR	**11.77**	**2.81**	**999.90**	**0.364**

Events for Link 1B: Study Point 1

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1 YEAR	0.19	0.19	**0.00**
5 YEAR	0.49	0.49	0.00
10 YEAR	0.72	0.72	0.00
25 YEAR	1.10	1.10	0.00
50 YEAR	1.45	1.45	0.00
100 YEAR	**3.60**	**3.60**	0.00

Events for Link 2B: Study Point 2

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1 YEAR	0.30	0.30	**0.00**
5 YEAR	0.71	0.71	0.00
10 YEAR	1.00	1.00	0.00
25 YEAR	1.49	1.49	0.00
50 YEAR	2.14	2.14	0.00
100 YEAR	**4.82**	**4.82**	0.00

APPENDIX 5 | SITE DEVELOPMENT REVIEW TOOL

BOHLER

Georgia Stormwater Management Manual
Stormwater Quality Site Development Review Tool
Version 2.2

General Information

Name of Developer:	RaceTrac	**Date Submitted:**	7/25/2025
Development Name:	RaceTrac Fairburn, GA	**Permit Number:**	
Site Location / Address:	Fairburn Industrial Blvd and Howell	**Developer Contact:**	RaceTrac Petroleum, Inc.
	Fairburn, GA	**Phone Number:**	(770) 431-7600
		Name of Engineer(s):	Bohler
Development Type:	Commercial/Retail	**Maintenance Responsibility:**	

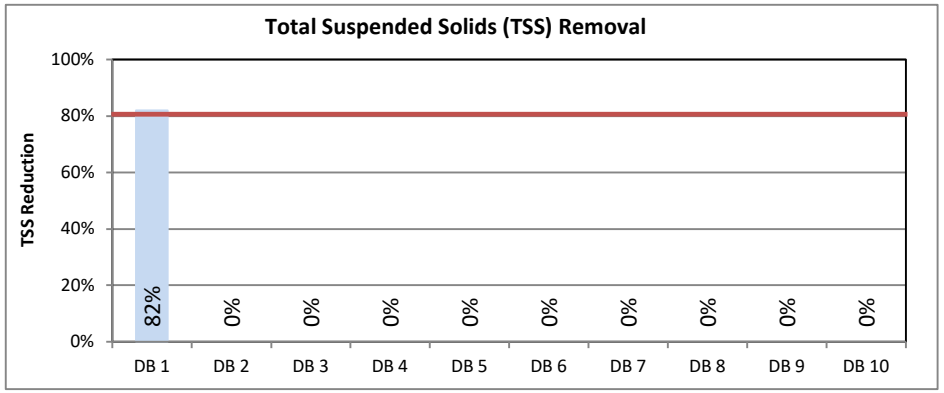
Site Summary

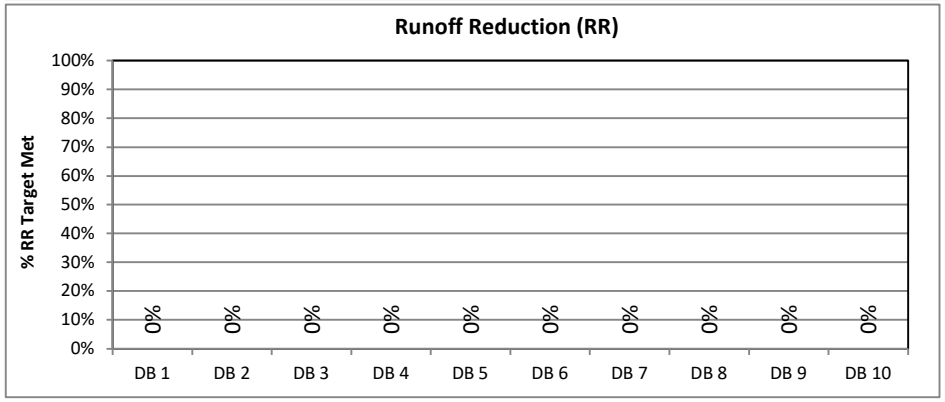
Total Pre-Development Area (ac):	**5.20**
Total Post-Development Area (ac):	**5.20**
Total Treated Area (ac):	**2.70**
Total Untreated Area (ac):	**2.50**

		I (ac)	P (ac)	CA (ac)
TOTAL ONSITE	**DB 1**	3.05	2.15	0.00
Drainage Basin 2	**DB 2**	0.00	0.00	0.00
Drainage Basin 3	**DB 3**	0.00	0.00	0.00
Drainage Basin 4	**DB 4**	0.00	0.00	0.00
Drainage Basin 5	**DB 5**	0.00	0.00	0.00
Drainage Basin 6	**DB 6**	0.00	0.00	0.00
Drainage Basin 7	**DB 7**	0.00	0.00	0.00
Drainage Basin 8	**DB 8**	0.00	0.00	0.00
Drainage Basin 9	**DB 9**	0.00	0.00	0.00
Drainage Basin 10	**DB 10**	0.00	0.00	0.00
	TOTAL	**3.05**	**2.15**	**0.00**

I = Impervious Area, P = Pervious Area, CA = Conservation Area

Target Runoff Reduction Volume Achieved?	**No**
Target TSS Removal Achieved?	**Yes**
Total Target Runoff Reduction Volume (cf)	13,090
Runoff Reduction Volume Achieved (cf)	0
Total Target Water Quality Volume (cf)	13,090
% TSS Removal Achieved	82%





Official Use Only

Tracking #:		**Conditions of Approval:**	
Reviewed By:			
Date Approved:			

Georgia Stormwater Management Manual
Stormwater Quality Site Development Review Tool, v2.2

Development Name: RaceTrac Fairburn, GA
Drainage Basin Name: TOTAL ONSITE

data input cells
calculation cells
constant values

Site Data

Indicate Pre-Development Land Cover and Runoff Curve Numbers in the Site's Disturbed Area

Cover Type	HSG* A (acres)	CN	HSG B (acres)	CN	HSG C (acres)	CN	HSG D (acres)	CN	Total	% Cover
Woods - Fair Condition		36	5.20	60		73		79	5.20	100%
Open space - Fair condition (grass cover 50% to 75%)		49		69		79		84	0.00	0%
Impervious		98		98		98		98	0.00	0%
Select a land cover type…		0		0		0		0	0.00	0%
Select a land cover type…		0		0		0		0	0.00	0%
Local Jurisdiction Input									0.00	0%
Other									0.00	0%
Total	0.00		5.20		0.00		0.00		5.20	100%

*HSG = hydrologic soil group

Impervious (ac)	0.00
Weighted CN	60
Potential Max Soil Retention, S_{pre} (in)	6.67

Indicate Post-Development Land Cover and Runoff Curve Numbers in the Site's Disturbed Area

Cover Type	HSG A (acres)	CN	HSG B (acres)	CN	HSG C (acres)	CN	HSG D (acres)	CN	Total	% Cover
Impervious		98	3.05	98		98		98	3.05	59%
Open space - Fair condition (grass cover 50% to 75%)		49	2.15	69		79		84	2.15	41%
Woods - Fair Condition		36		60		73		79	0.00	0%
Select a land cover type…		0		0		0		0	0.00	0%
Select a land cover type…		0		0		0		0	0.00	0%
Local Jurisdiction Input									0.00	0%
Other									0.00	0%
Total	0.00		5.20		0.00		0.00		5.20	100%

Impervious (ac)	3.05
Rv	0.58
Weighted CN	86
Potential Max Soil Retention, S_{post} (in)	1.63

Conservation Area Credits

Scenario 1: Natural Conservation Area **See the GSMM Volume 2, Section 2.3.3.3 for more information.*

☐ Check the box if a portion of the post-developed area is protected by a conservation easement or equivalent form of protection.

Area (ac) of development protected by a conservation easement or equivalent form of protection.

Note: The green cell will unlock if the Scenario 1 box above is checked

Scenario 2: Site Reforestation/Revegetation **See the GSMM Volume 2, Section 4.22 for more information.*

☐ Check the box if a portion of the post-developed area employs site reforestation/revegetation and is protected by a conservation easement or equivalent form of protection.

Area (ac) of development reforested/revegetated and protected by a conservation easement or equivalent form of protection.

Note: The green cell will unlock if the Scenario 2 box above is checked

Scenario 3: Soil Restoration **See the GSMM Volume 2, Section 4.23 for more information.*

☐ Check the box if a portion of the post-developed area employs soil restoration and is protected by a conservation easement or equivalent form of protection.

Area (ac) of development with restored soils and protected by a conservation easement or equivalent form of protection.

Note: The green cell will unlock if the Scenario 3 box above is checked

Scenario 4: Site Reforestation/Revegetation & Soil Restoration **See the GSMM Volume 2, Section 4.22 and 4.23 for more information.*

☐ Check the box if the same portion of the post-developed area employs site reforestation/revegetation and soil restoration, and is protected by a conservation easement or equivalent form of protection.

Area (ac) with restored soils in a reforested & revegetated area and protected by a conservation easement or equivalent form of protection.

Note: The green cell will unlock if the Scenario 4 box above is checked

Total Conservation Area Credit (acres) **0.00**

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Development Name: RaceTrac Fairburn, GA
Drainage Basin Name: TOTAL ONSITE

data input cells
calculation cells
constant values

Water Quality Goals

Target Runoff Reduction Storm (in): 1.20

Total Site Area for Water Quality Volume (acres)	5.20
Target Runoff Reduction Volume (cf)	13,090
Target Water Quality Volume (cf)	13,090

Select BMPs for Runoff Reduction and Water Quality

		Area Draining to Each BMP			Storage Volume Provided by BMP (cf)	RR Conveyance Volume Provided by BMP (cf)	Down-stream BMP	Runoff Reduction Calculations						WQ Calculations	
		On-site Pervious Area (acres)	On-site Impervious Area (acres)	Offsite Area (acres)				RR Volume from Direct Drainage (cf)	RR Volume from Upstream Practices (cf)	Total RR Volume Received by BMP (cf)	Runoff Reduction %	RR Achieved (cf)	Remaining RR Volume (cf)	WQ_v from Direct Drainage (cf)	Effective TSS Removal %
BMP 1	ADS INLET FILTER	0.00	2.70				BMP 2	11,173	0	11,173	0%	0	11,173	11,173	80%
BMP 2	ADS Underground Detention (Isolator Row)							0	11,173	11,173	0%	0	11,173	0	80%
BMP 3	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 4	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 5	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 6	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 7	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 8	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 9	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 10	Select a BMP…							0	0	0	N/A	0	0	0	N/A
	TOTAL	0.00	2.70	0.00				11,173				0		11,173	
	UNTREATED AREA (acres)	2.15	0.35												

Target Runoff Reduction Volume (cf)	13,090
Target Achieved?	No
Remaining Runoff Reduction Volume (cf)	13,090

Target Water Quality Volume (cf)	13,090
% TSS Removal Achieved	82%
Target Achieved?	Yes!
Remaining TSS Removal %	0%

Georgia Stormwater Management Manual
Stormwater Quality Site Development Review Tool, v2.2

Development Name: RaceTrac Fairburn, GA
Drainage Basin Name: TOTAL ONSITE

data input cells
calculation cells
constant values

Channel and Flood Protection Calculations

	1-yr, 24-hr storm	2-yr, 24-hr storm	25-yr, 24-hr storm	100-yr, 24-hr storm
Target Rainfall Event (in)	3.56	4.18	7.40	9.44

	1-yr, 24-hr storm	2-yr, 24-hr storm	25-yr, 24-hr storm	100-yr, 24-hr storm
Pre-Development Runoff Volume (in)	0.56	0.85	2.89	4.45
Post Development Runoff Volume (in) with no BMPs	2.15	2.71	5.75	7.73
Post-Development Runoff Volume (in) with BMPs	2.15	2.71	5.75	7.73
Adjusted CN	**86**	**86**	**86**	**86**

*See Stormwater Management Standards to Determine Detention Requirements.

Comments

APPENDIX 6 | STORMWATER DETAILS

BOHLER

Underground Detention



Underground detention is detention storage located in underground tanks or vaults designed to provide water quantity control through temporary storage of stormwater runoff. In addition they can improve water quality by removing heavy amounts of sediment.

There are some common problems to be aware of when maintaining an underground detention area. They include, but are not limited to, the following:

- Sediment build-up
- Clogging in the inlet and outlet structure
- Requirement to have Occupational Safety and Health Administration (OSHA) confined space entry training

Routine maintenance should be performed on the underground detention areas to ensure that the structure is properly functioning. Routine maintenance includes the removal of debris from inlet and outlet structures and cleaning sediment built up inside the structure. Because this is an underground system, inspection and maintenance may be difficult to conduct. Generally these underground systems can be inspected by looking in an access opening. Sometimes, however, maintenance requires an individual who is certified in OSHA confined space entry. Should there be a situation where a safety concern arises, the inspection should stop and the safety concern addressed. Once the concern is addressed, the inspection can continue.

Inspect the underground detention area after a large rainstorm. If the underground detention area is not draining properly, check the inlet and outlet structures to make sure they are not clogged.

Sediment should be removed from the practice by either a vacuum or boom. If the system is accepting water that flowed from a hazardous facility, the sediment may need to be disposed of by other means. Check with the local government to identify any additional constraints on the disposal of sediments excavated from underground detention.

The table on the following page shows a schedule for when different maintenance activities should be performed on a submerged gravel wetland.

Underground Detention Typical Routine Maintenance Activities and Schedule

Activity	Schedule
• Remove any trash/debris and sediment buildup in the underground trash racks, vaults or tanks. • Check drainage areas for trash, erosion, and debris. • Clean underground detention if hazardous or foreign substances are spilled in the contributing drainage area. • Perform structural repairs to inlet and outlets.	As needed
• Follow manufacturer's guidelines and develop/adjust plan for the underground detention. • Clean out underground detentions with vacuum or boom trucks. • Clean sediment or oil chambers	Annually

Underground Detention

Maintenance Item	Condition: Good	Marginal	Poor	N/A*	Comment
General Inspection					
Access to the site is adequately maintained for inspection and maintenance.					
Area is clean (trash, debris, grass clippings, etc. removed).					
Inlet Structure and Pretreatment					
Drainage ways (overland flow or pipes) to the practice are free of trash, debris, large branches, etc.					
Inlet structure is in good condition. No signs of cracks or leaks.					
Diversion structure (high flow bypass structure or other) is free of trash, debris, or sediment. Comment on overall condition of diversion structure and list type.					
Inlet pipe fits tightly to the underground detention.					
Inlet has protection to prevent clogging with leaves or other debris and has fine mesh for mosquito control.					
Main Treatment					
Main treatment area is free of trash, debris, and sediment.					
Structure seems to be working properly. No signs of settling, leaking, or cracking. Comment on overall condition of structure.					
Emergency Overflow and Outlet Structure					
Area is free of trash, debris, and sediment.					
Overflow valve appears to be in good condition and show no signs of leaking.					
Results					
Overall condition of Underground Detention:					
Additional Comments					

Notes: *If a specific maintenance item was not checked, please explain why in the appropriate comment box.

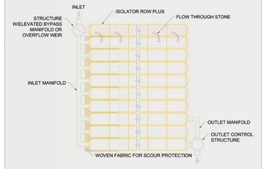
Isolator® Row Plus

The StormTech Isolator Row Plus is an enhancement to our proven water quality treatment system. This updated system is an NJCAT verified water quality treatment device that can be incorporated into any system layout.

Features

- Isolator Row Plus is now NJCAT verified. As a Manufactured Treatment Device it achieves over 80% TSS removal by filtration NJDEP Laboratory Protocol Assessment NJCAT Technology Verification.
- A patented Flamp™ (Flared End Ramp) provides a smooth transition from pipe invert to fabric bottom. The Flamp is attached to the inlet pipe inside the chamber end cap and improves chamber function over time by distributing sediment and debris that would otherwise collect at the inlet. It also serves to improve the fluid and solid flow back into the inlet pipe during maintenance and cleaning.
- Proprietary ADS Plus fabric maintains durability and sediment removal while allowing for higher water quality flow rates. A single layer of ADS Plus fabric is placed between the angular base stone and the Isolator Row Plus chambers.

Schematic of the StormTech Isolator Row Plus System



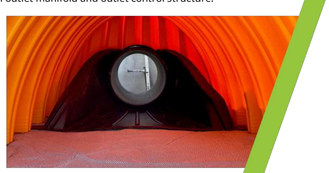
Technology Descriptions

The Isolator Row Plus is designed to capture the "first flush" runoff and offers the versatility to be sized on a volume or a flow basis. An upstream manhole not only provides access to the Isolator Row Plus but includes a high/low concept such that stormwater flow rates or volumes that exceed the capacity of the Isolator Row Plus bypass through a manifold to the other chambers. This is achieved with either an elevated bypass manifold or a high-flow weir. This creates a differential between the Isolator Row Plus row of chambers and the manifold to the rest of the system, thus allowing for settlement time in the Isolator Row Plus. After Stormwater flows through the Isolator Row Plus and into the rest of the StormTech chamber system it is either infiltrated into the soils below or passed at a controlled rate through an outlet manifold and outlet control structure.

Summary of Verified Claims[1]

Treatment Rate (gpm/ft²)	4.1
Underlying Geotextile Layers	1
NJDEP Test Sediment	D50=75um
Mean Particle Concentration (mg/L)	200
TSS Removal Efficiency	>80%

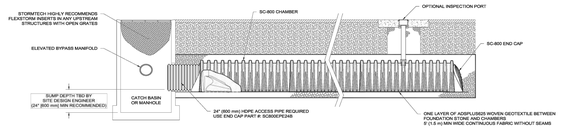
[1] Verification testing of the StormTech SC-740 Isolator Row PLUS in accordance with NJDEP Laboratory protocol to access total suspended solids removal by filtration manufactured treatment device, 2013



ADS StormTech™

adspipe.com
800-821-6710

StormTech Isolator Row Plus (not to scale)



Maintenance

The Isolator Row Plus was designed to reduce the cost of periodic maintenance. By "isolating" sediment to just one row of the StormTech system, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout.

Maintenance is accomplished with the JetVac® process. The JetVac process utilizes a high-pressure water nozzle to propel itself down the Isolator Row Plus while scouring and suspending sediment. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency.

StormTech Isolator Row Plus

Chamber Model	Chamber Storage	Chamber Footprint	Treatment Rate
SC-160LP	15.0 cf (0.42 m³)	11.45 sf (1.06 m²)	0.11 cfs (3.11 L/s)
SC-310	31.0 cf (0.88 m³)	17.7 sf (1.64 m²)	0.16 cfs (4.53 L/s)
DC-780	78.4 cf (2.22 m³)	27.8 sf (2.58 m²)	0.26 cfs (7.36 L/s)
SC-800	81.0 cf (2.29 m³)	27.3 sf (2.54 m²)	0.25 cfs (7.1 L/s)
MC-3500	175.0 cf (4.96 m³)	42.9 sf (3.99 m²)	0.40 cfs (11.32 L/s)
MC-4500	162.6 cf (4.60 m³)	30.1 sf (2.80 m²)	0.28 cfs (7.93 L/s)
MC-7200	267.3 cf (7.57 m³)	50.0 sf (4.65 m²)	0.45 cfs (12.74 L/s)

Installation

Installation of the stormwater treatment unit(s) shall be preformed per manufacture's installation instructions. Such instructions can be obtained by calling Advanced Drainage Systems Inc. at (800) 821-6710 or by logging on to adspipe.com.

ADS StormTech™

adspipe.com
800-821-6710

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NO.	REVISION	BY	DATE

BOHLER
211 PERIMETER CENTER PKWY NE, SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA REGISTERED Nathan Fuss No. PE046894 PROFESSIONAL 01/29/2025 ENGINEER NATHAN R. FUSS

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RaceTrac

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BLVD, SE
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

DRAINAGE DETAILS

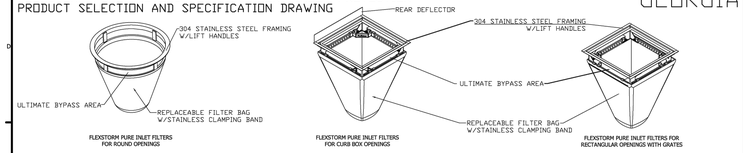
FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	01/10/2024
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C7.1	
SHEET NO.	REVISION

FLEXSTORM PURE FILTERS FOR PERMANENT INLET PROTECTION
PRODUCT SELECTION AND SPECIFICATION DRAWING

GEORGIA



FLEXSTORM PURE INLET FILTERS FOR ROUND OPENINGS

FLEXSTORM PURE INLET FILTERS FOR CURB BOX OPENINGS

FLEXSTORM PURE INLET FILTERS FOR RECTANGULAR OPENINGS WITH GRATES

Product selection for FLEXSTORM PURE Filters (Permanent Inlet Protection)

Standard	USF Casting	Inlet Type	Grate Size	Opening Size	Bag Cap. (ft^3)	Flow Ratings (CFS)			Part #			
						FXP/FXP+	PC/PC+	Bypass	FX	FXP+	PC	PC+
2' x 2' Frame and Grate	4190-6259	Square/Rect (SQ)	23.5 x 23.5	22 x 22	2.4	1.9	1.6	4.5	62MHD22FX	62MHD22FXP	62MHD22PC	62MHD22PCP
2' x 3' Std.	4180	Square/Rect (SQ)	36 x 24	34 x 22	4.5	2.5	2.1	6.0	62LHD2436FX	62LHD2436FXP	62LHD2436PC	62LHD2436PCP
1019 A Type A/B/C/D	4607	Square/Rect (SQ)	28.75 X 21	26.5 X 18.25	3.0	1.9	1.6	4.7	62HD1019AFX	62HD1019AFXP	62HD1019APC	62HD1019APCP
1019 A Type E	5151	Curb Box (CB)	28.75 X 21	26.5 X 18.25	3.0	1.9	1.6	4.7	62MHDCBFX	62MHDCBFXP	62MHDCBPC	62MHDCBPCP
City of Macon Georgia Std.	5167	Wall Mount (WM)	40.5	39.5	2.7	2.1	1.8	N/A	62HDWM1FX	62HDWM1FXP	62HDWM1PC	62HDWM1PCP
1010 Catch Basin	4612	Square/Rect (SQ)	33.75 x 21.75	31.375 x 19.375	4.0	2.2	1.9	7.2	62LHDFX	62LHDFXP	62LHDPC	62LHDPCP
1013 Catch Basin	5135	Curb Box (CB)	33.75 x 21.75	31.375 x 19.375	4.0	2.2	1.9	7.2	62MHDCBFX	62MHDCBFXP	62MHDCBPC	62MHDCBPCP
1019 B (Type V-1)	5149/5150	Curb Box (CB)	33.75 x 21.75	31.375 x 19.375	4.4	2.3	2.0	5.8	62LHDCBFX	62LHDCBFXP	62LHDCBPC	62LHDCBPCP
1019 B (Type V-2)	4612	Square/Rect (SQ)	33.75 x 21.75	31.375 x 19.375	4.4	2.3	2.0	5.8	62LHDFX	62LHDFXP	62LHDPC	62LHDPCP

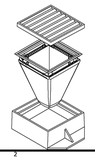
*FLOW RATINGS SHOWN ARE 50% MAXIMUM

NOTES:

1. ALL FRAMING IS CONSTRUCTED OF 304 STAINLESS STEEL FOR 25 YEAR SERVICE LIFE RATING
2. TOTAL BYPASS CAPACITY WILL VARY WITH EACH SIZED DRAINAGE STRUCTURE. FLEXSTORM DESIGNS FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE.
3. UPON ORDERING ADS P/N CONFIRMATION OF THE IOT CALLOUT, FLEXSTORM ITEM CODE, CASTING MAKE AND MODEL, OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED.
4. FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT WWW.INLETFILTERS.COM

INSTALLATION

1. REMOVE GRATE
2. DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
3. REPLACE GRATE



FLEXSTORM PURE

ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC A DIVISION OF ADS, INC. WWW.INLETFILTERS.COM (866) 287-8655 PH (630) 355-3477 FX INFO@INLETFILTERS.COM

SIZE	DWG NO	REV
C	P-GA-SUBMIT	A
SCALE	SHEET 1 OF 1	

FLEXSTORM OPERATION AND MAINTENANCE PLAN

FLEXSTORM INLET FILTERS

OPERATION & MAINTENANCE PLAN

Installation Instructions:

1. Remove grate from the drainage structure
2. Clean stone and dirt from ledge (lip) of drainage structure
3. Drop the FLEXSTORM inlet filter through the clear opening such that the hangers rest firmly on the lip of the structure.
4. Replace the grate and confirm it is not elevated more than 1/8", the thickness of the steel hangers.

Frequency of Inspections:

1. Inspection should occur following any rain event >½".
2. Post construction inspections should occur 4 times per year. In snowfall affected regions additional inspections should take place before and after snowfall season.
3. Industrial application site inspections (loading ramps, wash racks, maintenance facilities) should occur on a regularly scheduled basis no less than 3 times/year.

Maintenance Guidelines:

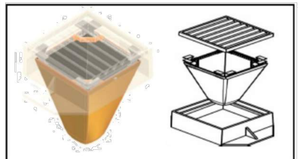
1. Empty the sediment bag if more than half filled with sediment and debris, or as directed.
2. Remove the grate, engage the lifting bars with the FLEXSTORM Removal Tool, and lift from drainage structure.
3. Dispose of sediment or debris as directed by the Engineer or Maintenance contract.
4. An industrial vacuum can be used to collect sediment.
5. Remove caked on silt from sediment bag and flush with Medium spray with optimal filtration.
6. Replace bag if torn or punctured to >½" diameter on lower half of bag.

Post Construction PC Bag Maintenance:

1. At 50% saturation the average 2'x2' Adsorb-it lined PC filter will retain approximately 75 oz (4.2 lbs) of oil and should be serviced. To recover the oils the filter can be centrifuged or passed through a wringer.
2. Oil skimmer pouches start to turn black when saturated, indicating time for replacement. Each ClearTec Rubberizer pouch will absorb ~62oz (4 lbs) of oil before needing replacement.
3. Dispose of all oil contaminated products in accordance with EPA guidelines. ClearTec Rubberizer, since a solidifier, will not leach under pressure and can be disposed of in most landfills, recycled for industrial applications, or burned as fuel.

Sediment Bag Replacement:

1. Remove the bag by loosening or cutting off clamping bag.
2. Take new sediment bag and secure worm drive clamping band to the frame channel.
3. Ensure Bag is secure and there is no slack around perimeter.



STRUCTURE ID#/LOCATION:

DATE	TASK PERFORMED	INSPECTOR

FLEXSTORM P/Ns FOR NYLOPLAST ROUND FRAME AND GRATE

INLET TYPE NYLO: ROUND IN NYLOPLAST BASIN

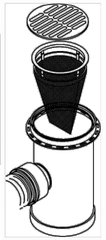
Casting Size	FX Bag		Flexstorm Ratings (Flow at 50% of max)			FX+ Bag
	ADS P/N	Bag Depth	Bag Capacity (ft^3)	FX/FX+ Flow Rate (CFS)	Total Bypass (CFS)	ADS P/N
8" Drop in	6208NYFX	22"	0.2	0.9	1.3	6208NYFXP
8" Inline	6208NYFX	22"	0.2	0.9	1.3	6208NYFXP
10" Drop in	6210NYFX	22"	0.3	1.2	1.75	6210NYFXP
10" Inline	6210NYFX	22"	0.3	1.2	1.75	6210NYFXP
12" Round	6212NYFX	22"	0.3	1.4	2.0	6212NYFXP
15" Round	6215NYFX	22"	0.6	1.7	2.5	6215NYFXP
18" Round	6218NYFX	22"	0.9	2.1	3.1	6218NYFXP
24" Round	6224NYFX	22"	1.6	2.8	4.3	6224NYFXP
30" Round	6230NYFX	22"	2.8	3.6	5.7	6230NYFXP

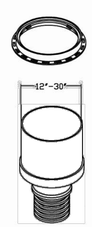
Casting Size	PC Bag		Flexstorm Ratings (Flow at 50% of Max)			PC+ Bag
	ADS P/N	Bag Depth	Bag Capacity (ft^3)	PC/PC+ Flow Rate (CFS)	Total Bypass (CFS)	ADS P/N
8" Inline	6208NYPC	22"	0.2	0.4	1.3	6208NYPCP
8" Drop in	6208NYPC	22"	0.2	0.4	1.3	6208NYPCP
10" Drop in	6210NYPC	22"	0.3	0.6	1.75	6210NYPCP
12" Round	6212NYPC	22"	0.3	0.9	2.0	6212NYPCP
15" Round	6215NYPC	22"	0.6	1.2	2.5	6215NYPCP
18" Round	6218NYPC	22"	0.9	1.4	3.1	6218NYPCP
24" Round	6224NYPC	22"	1.6	1.9	4.3	6224NYPCP
30" Round	6230NYPC	22"	2.8	2.5	5.7	6230NYPCP

STANDARD BAG DEPTH

SHORT BAG DEPTH









8" and 10" Designs



12" and Plus Designs

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SIZE	FRAME TYPE	DWG NO	REV
C	NY	NYLOPLAST	A
SCALE	SHEET 1 OF 1		

FlexStorm Pure™ Inlet Filter

FlexStorm Pure inlet filters are the preferred choice for permanent inlet protection and stormwater runoff control. Constructed of stainless steel, FlexStorm Pure inlet filters will fit any drainage structure and are available with site-specific filter bags providing various levels of filtration.

Applications

- Car washes
- Commercial
- Loading ramps
- Industrial
- Gas stations
- Parking lots
- Dock drains
- Maintenance

Features

- Custom stainless steel frames are configured to fit into any drainage structure
- Flow and bypass rates meet specific inlet requirements
- Works below grade with bypass to drain area if bag is full
- Installed and maintained by one worker, without additional equipment

Benefits

- Stainless steel frame provides extended service life
- Easily replaceable filter bags
- Meets stringent removal requirements:
  - All bags rated >84% removal efficiency
  - Bag styles available to remove hydrocarbon oils when required





ADS

FlexStorm Pure Inlet Filters Specification

Material and Performance

The filter is comprised of a stainless steel frame and a replaceable geotextile filter bag attached to the frame with a stainless steel locking band. The filter bag hangs suspended below the grate that shall allow full bypass flow into the drainage structure if the bag is completely filled with sediment. The standard "FX" filter bags are rated for 200 gpm/sqft (21.44 liters/minute/cubic meter) with a removal efficiency of 85%. The post construction "PCP" filter bags are rated for 137 gpm/sqft (14.69 liters/minute/cubic meter) and have a removal efficiency of 97%.

Installation

1. Remove the grate from the inlet.
2. Clean debris from the ledges of the inlet.
3. Place the inlet filter onto the load bearing ledges of the structure.
4. Replace the grate and confirm it is not elevated more than ⅛" (3 mm).

Frequency of Inspections

1. Inspection should occur following rain events greater than ½" (13 mm).
2. Filter inspections should occur a minimum of three times per year, and in snowfall affected regions, inspections prior to and after snowfall season.
3. Industrial application site inspections (loading ramps, wash racks & maintenance facilities) to be scheduled on a recurring basis no less than four times per year or as needed.

Maintenance Guidelines

1. Empty the filter bag manually or by industrial vacuum taking care not to damage the geotextile bag when more than half filled or during scheduled inspection period.
2. Remove compacted silt from sediment bag and flush with medium spray.
3. "PCP" style bags should be pressed or wrung to recover retained oils.
4. Oil skimmer pouches solidify and darken when saturated, indicating time for replacement.
5. Dispose of all oil-contaminated products and recovered oils in accordance with EPA guidelines. Oil skimmer pouches, since a solidifier, will not leach and can be disposed of directly.
6. Inspect and replace bag if torn or punctured.

Filter Bag Replacement

1. Remove the bag by loosening or cutting off clamping band.
2. Take the new correctly sized sediment bag and secure hose clamping band to the frame channel as previously removed.
3. Ensure bag is secure and there is no slack around perimeter.

Build America, Buy America (BABA)

For any questions related to Build America, Buy America (BABA) Act compliance contact an ADS representative.

ADS

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NO.	REVISION	BY	DATE

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211 PERIMETER CENTER PKWY NE, SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA REGISTERED Nathan Fuss No. PE046694 PROFESSIONAL 01/23/2025 ENGINEER NATHAN R. FUSS

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RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BLVD. SE, SUITE 100
ATLANTA, GA 30339
(770) 431-7600

DRAINAGE DETAILS

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	01/10/2024
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C7.2	
SHEET NO.	REVISION

CITY OF FAIRBURN

BOARD OF APPEALS

AGENDA ITEM

To: Board of Appeals

From: Chancellor Felton, Planner

Date: August 21, 2025

Agenda Item: RaceTrac – 0 Fairburn Industrial Boulevard [Parcel ID: 09F090100480751] – Request to encroach into the Impervious Surface Setback.

Agent/Applicant/Petitioner Information

Applicant: RaceTrac, Inc

Property Owner: Greenland Georgia, Inc.

Background

The site is located at 0 Fairburn Industrial Boulevard on the southeast corner of the intersection of Fairburn Industrial Boulevard and Howell Avenue. The site is currently zoned M-2 (Heavy Industrial) and is in the Highway 74 Overlay District. The site is approximately 16.97 acres.

Discussion

The applicant is proposing to construct a 6,008-square foot gas station and convenience store with seven gasoline fuel pumps and five diesel pumps.

The Stream Buffer Protection Code requires that "an additional setback shall be maintained for 25 feet, measured horizontally, beyond the undisturbed natural vegetative buffer, in which all impervious cover shall be prohibited. Grading, filling and earthmoving shall be minimized within the setback."

The applicant is proposing to encroach into the Impervious Surface Setback.

Authority

As authorized in Section 65-233, where a parcel was platted prior to the effective date of the ordinance from which this article was derived, and its shape, topography or other existing physical condition prevents land development consistent with this article, and the city administrator finds and determines that the requirements of this article prohibit the otherwise lawful use of the property by the owner, the city board of zoning appeals may grant a variance from the buffer and setback requirements hereunder, provided such variance require mitigation measures to offset the effects of any proposed land development on the parcel.

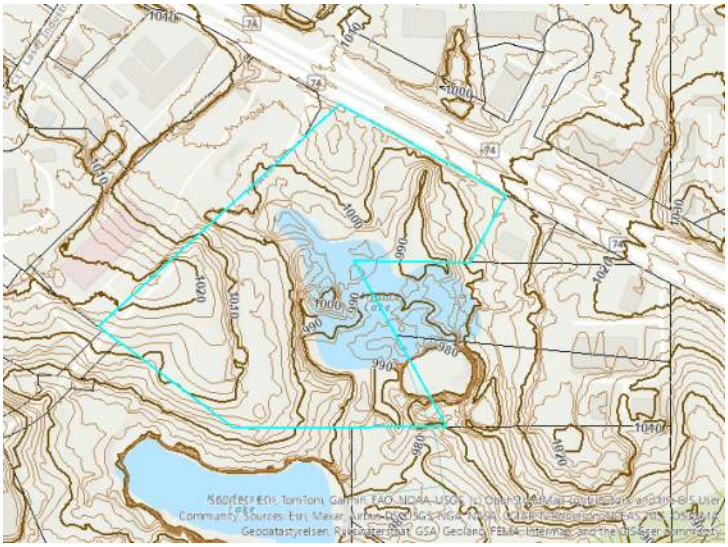
Except as provided in subsection (b)(1) of this section, the board of zoning appeals shall grant no variance from any provision of this article without first conducting a public hearing on the application for variance and authorizing the granting of the variance by an affirmative vote of the board of zoning appeals. The city

shall give public notice of each such public hearing in a newspaper of general circulation within the city. The city shall require that the applicant post a sign giving notice of the proposed variance and the public hearing. The sign shall be of a size and posted in such a location on the property as to be clearly visible from the primary adjacent road right-of-way. *Variances will be considered only in the following cases:*

a. When a property's shape, topography or other physical conditions existing at the time of the adoption of the ordinance from which this article is derived prevents land development unless a buffer variance is granted.
<u>This condition has been satisfied</u>. The property's shape, topography, and other physical conditions existed at the time of the adoption of the ordinance. The site is approximately 16.97 acres with road frontages on Fairburn Industrial Boulevard and Howell Avenue. Based on the shape, topography, and other physical conditions of the site, it would be impossible to build the proposed gas station with adequate traffic circulation unless relief is given.

b. Unusual circumstances when strict adherence to the minimal buffer requirements in the article would create an extreme hardship.
<u>This condition has been satisfied</u>. Staff does find that there is an unusual hardship in this case. The applicant would not be able to provide adequate traffic circulation for the gas station without any stream buffer variances.

<u>Variance Considerations</u>



a. The shape, size, topography, slope, soils, vegetation, and other physical characteristics of the property.
The shape of the site is unique. The size of the site is 16.97 acres. The topography of the site is highly variable and inconsistent. The site is currently undeveloped woodlands.

b. The locations of all streams on the property, including along property boundaries.
The streams take up a majority of the property.

c. The location and extent of the proposed buffer or setback intrusion.
The location of the proposed buffer intrusion is on the northeast side of the site.

d. Whether alternative designs are possible which require less intrusion or no intrusion.
Alternative designs are not possible.

e. The long-term and construction water quality impacts of the proposed variance.
The applicant would be required to adhere to Best Management Practices (BMP) during the construction of the gas station. The City would be monitoring to make sure the BMPs are being adhered to throughout the process. Long-term and water quality effects will be minimal as the 50-foot undisturbed vegetative buffer will not be disturbed long-term.

f. Whether issuance of the variance is at least as protective of natural resources and the environment.
The variance is not as protective of the natural resources and environment as the existing site condition. The site is currently undeveloped and has no impervious surface. Therefore, the development of the site would not be as protective of the natural resources and the environment as the existing conditions. However, the applicant will provide mitigations as required by local, State, and Federal law.

Staff Recommendations

Staff recommends **APPROVAL** of the variance with the conditions that:

1. All gutters/downspouts shall be tied into a water quality device, subject to the approval of Public Works.
2. Any disturbance to the undisturbed vegetative buffer shall be restored to natural buffer standards utilizing native and perennial landscaping and vegetation, subject to the approval of Public Works, prior to the issuance of a certificate of occupancy.
3. Parking spaces shall be constructed of pervious materials (i.e. pervious pavers or other pervious material), subject to the approval of Public Works.
4. All lot drainage shall be approved by Public Works prior to the issuance of a certificate of occupancy.
5. Total suspended solids meet at least 80% removal from all stormwater basins.
6. Any significant modifications as determined by Staff to the proposed plan in regard to the Impervious Surface Setback encroachment would necessitate a further review by the Board of Appeals.

Attachments:

- Site Pictures
- Application
- Plans

- Hydrology Report

SITE PICTURES

South viewpoint



VARIANCE APPLICATION CHECKLIST

Please submit one (1) copy of the following documents and information.

ITEM #	REQUIRED ITEM	CHECK √ *(Office Use Only)*
1.	Application Checklist	
2.	Application Form	
3.	Survey	
4.	Legal Description	
5.	Warranty Deed	
6.	Lease Agreement	
7.	Letter of Intent	
8.	Conceptual Site Plan	

Fees: $350 per variance application and $31 public hearing sign

For any documents that are larger than 11" x 17," a copy reduced to 11" x 17" shall also be required.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED.

APPLICATIONS ARE ACCEPTED MONDAY – FRIDAY FROM 9:00 A.M. TO 3:00 P.M.

APPLICATION FOR VARIANCES

Date Received: _____

VARIANCE #: _____
(Office Use Only)

SECTION I – GENERAL INFORMATION

APPLICANT INFORMATION

Applicant Name: RaceTrac, Inc

Address: 200 Galleria Pkwy, Ste 900 Atlanta GA 30339

Phone: (678) 444-3225 Cell: _____ Fax: _____

Email Address: sjones@racetrac.com

OWNER INFORMATION (If different from Applicant)

Owner Name: Greenland Georgia, Inc. - CONTACT: Suresh Jatia

Address: _____

Phone: (770) 435-1100 Cell: _____ Fax: _____

Email Address: suresh@greenlandamerica.com

PROPERTY INFORMATION

Address: 0 FAIRBURN INDUSTRIAL BLVD

Parcel ID#: 09F090100480751 Land Lot: 48 District: 9-F Acreage: 5.3 ac

Request: We are seeking a variance to encroach into the 75' impervious surface setback (Sec. 65-233-a-2).

CHECK ONE OF THE FOLLOWING REQUESTED VARIANCE TYPES IN SECTION II.

SECTION II **VARIANCES REQUIRING PUBLIC HEARING BY THE PLANNING AND ZONING COMMISSION OR CITY COUNCIL**

[X] 1) **PRIMARY VARIANCE:** Seeks relief from any provision in the Zoning Ordinance that is not being handled as a minor variance or administrative minor variance.

[ ] 2) **SECONDARY VARIANCE:** Seeks relief from variance decisions and interpretations made by the zoning administrator or relief from minor variance or administrative minor variance requests.

[ ] 2) **CONCURRENT VARIANCE:** Seeks relief from any provision in the Zoning Ordinance when filed simultaneously with a rezoning, use permit, or zoning modification request on the same property.

MINOR & ADMINISTRATIVE MINOR VARIANCES [NO PUBLIC HEARING REQUIRED]

[ ] 1) **MINOR VARIANCE:** Seeks relief from the minimum yard requirements, not to exceed 10% of required setback (example: 35-foot front yard = 3.5-foot variance)

[ ] 2) **ADMINISTRATIVE MINOR VARIANCE:** Relief requiring 1 foot or less from required building setback

VARIANCE CONSIDERATIONS:

1) Relief, if granted, would be in harmony with, or, could be made to be in harmony with, the general purpose and intent of this chapter; or

See attached narrative.

2) The application of the particular provision of this chapter to a particular piece of property, due to extraordinary and exceptional conditions pertaining to that property because of its size, shape, or topography, would create an unnecessary hardship for the owner while causing no detriment to the public; or

See attached narrative.

3) Conditions resulting from existing foliage or structures bring about a hardship whereby a sign meeting minimum letter size, square footage and height requirements cannot be read from an adjoining public road.

See attached narrative.

SECTION III LEGAL DESCRIPTION OF PROPERTY *(Legal description/survey must match submitted site plan.)*

SUBDIVISION _____ UNIT/PHASE: _____ LOT NO(S): _____

LAND LOT(S): 48 DISTRICT: 9-F TAX ID: 09F090100480751

PROPERTY ADDRESS 0 FAIRBURN INDUSTRIAL BLVD

SECTION IV AUTHORITY TO PURSUE VARIANCE

NOTICE: Part 1 and/or Part 2 below must be signed and notarized when the petition is submitted. Please complete Section IV as follows:

a) If you are the sole owner of the property and not the petitioner complete Part 1.
b) If you are the petitioner and not the sole owner of the property complete Part 2.
c) If you are the sole owner and petitioner complete Part 1.
d) If there are multiple owners each must complete a separate Part 1 and include it in the application.

Part 1. OWNER INFORMATION

Owner states under an oath that he or she is the owner of the property described in the attached legal description. ***[EACH OWNER'S SIGNATURE MUST BE NOTARIZED]***

Suresh Jatia
TYPE OR PRINT OWNER'S NAME

C03, 3rd fl. Paragon Centre
ADDRESS Pandurang Budkar Marg
Worli, Mumbai - 400013
CITY, STATE & ZIP CODE

OWNER'S SIGNATURE

91-22-24944805
AREA CODE/ PHONE NUMBER

Suresh@greenlandamerica.com
EMAIL ADDRESS

Sworn to and subscribed before me this 7th day of April 20 25

NOTARY PUBLIC

NANCY RENEE BLACK NOTARY PUBLIC EXPIRES GEORGIA AUGUST 29, 2026 COBB COUNTY

***Part 2.* APPLICANT INFORMATION**

Petitioner states under oath that: (1) he/she is the executor or Attorney-in-fact under a Power-of-Attorney for the owner (attach a copy of the Power-of-Attorney letter and type name above as "Owner"); (2) he/she has an option to purchase said property (attach a copy of the contract and type name of owner above as "Owner"); or (3) he/she has an estate for years which permits the petitioner to apply (attach a copy of lease and type name of owner above as "Owner").

RaceTrac, Inc
TYPE OR PRINT PETITIONER'S NAME

200 Galleria Pkwy, Suite 900
ADDRESS

Atlanta GA 30339
CITY & STATE ZIP CODE

Sworn to and subscribed before me this the 10th Day of February 20 25

NOTARY PUBLIC

SAMANTHA JONES NOTARY PUBLIC COBB COUNTY, GEORGIA MY COMMISSION EXPIRES JULY 01, 2025

PETITIONER'S SIGNATURE

(512)417-3275
PHONE NUMBER

sjones@raletrac.com
EMAIL ADDRESS

***V.* ATTORNEY/AGENT INFORMATION**

CHECK ONE: [ ] ATTORNEY [ ] AGENT

Laura Benz
TYPE OR PRINT ATTORNEY/AGENT NAME

19 W. Broad Street
ADDRESS

Newnan, GA 30263
CITY, STATE & ZIP CODE

(404) 437-7789
AREA CODE/PHONE NUMBER

Laura@LWBenz.com
EMAIL ADDRESS

Laura W. Benz
SIGNATURE OF ATTORNEY/AGENT

Variance Narrative for § 65-233(a)(2) and Criteria Response

and other materials required by City of Fairburn, Georgia
for the Variance request of
RACETRAC
for +/- 4.21 Acres of Land
Located at 0 Fairburn Industrial Boulevard, Fairburn, Georgia 30213

Submitted for the Applicant by:
Laura W. Benz, Esq.
Benz Law LLC
19 W. Broad Street
Newnan, GA 30263
404.493.7789
Laura@LWBenz.com

I. BASIS OF VARIANCE REQUEST

The standard to obtain a variance for a stream buffer and associated setback is established in §65-233(b).

a. The property's shape, topography and other physical conditions prevents land development unless a buffer variance is granted.



The site is approximately four acres and irregularly shaped due to the construction of a stormwater pond that was developed in association with the construction of Howell Avenue. The site has approximately 17 feet of topographic relief requiring structural walls to avoid larger grading impacts for building pads. The natural features of the site include a perennial stream that flows to the south until transitioning into a wetland. The wetland is approximately 2.05 acres and spans the central portion of the site. An upland berm on the southern portion of the wetland inhibits flow resulting in standing water. There is also an intermittent stream in the northwest portion of the wetland that has three culverts associated with the stormwater management infrastructure along Howell Avenue. Outfall from the Howell Avenue stormwater retention pond flows into the wetland onsite. A map of the natural features is shown below to illustrate the implications to potential development of the site. In addition, the identified access points to the site were determined by GDOT and require crossing the

additional 25’ non-impervious setback to access to the site.

As set forth in the ordinance, the Applicant is applying for a variance based on the unusual topography and the multiple streams crossing the resulting in no opportunity for any development under any design configuration unless a variance is granted and the unusual circumstances when strict adherence to the minimal buffer requirements in the law would create an unusual hardship. Regulations acknowledge that there are circumstances which require exemptions or consideration of strict compliance with regulatory requirements. The request for a variance from the non-impervious surface setback satisfies the criteria for granting such under the Fairburn ordinance.

The two ingress/egress points to the development are outside the control of the Applicant. The ingress/egress point on State Route 74 is established by Georgia Department of Transportation with the location being east of one of the streams onsite, thus requiring access through the buffer to the remainder of the site. The ingress/egress from Howell Avenue to the Property is restricted by the stormwater detention facility constructed during the prior roadway improvements which push the ingress/egress point south and to the other side of the second stream on the Property and requiring access through the non-impervious setback as shown below.

b. Unusual circumstances when strict adherence to the minimal buffer requirements in the article would create an extreme hardship. Variances will not be considered when, following adoption of the ordinance from which this article is derived, actions of any property owner of a given property have created conditions of a hardship on that property.

As discussed above, the site is approximately four acres and has two streams that transverse the site as well as a large wetland. The existence of the streams and associated buffers significantly reduce the available area for development. The site also has significant topographic relief requiring the construction of structural walls to create a suitable building pad while minimizing impacts to streams and wetland. Adherence to the 25’ non-impervious setback requirement would make the site undevelopable. There have been no actions of the owner that have created the hardship conditions set forth herein.

II. RESPONSE TO VARIANCE STANDARDS

As required by the Ordinance, please find the following information required for consideration of the variance request.

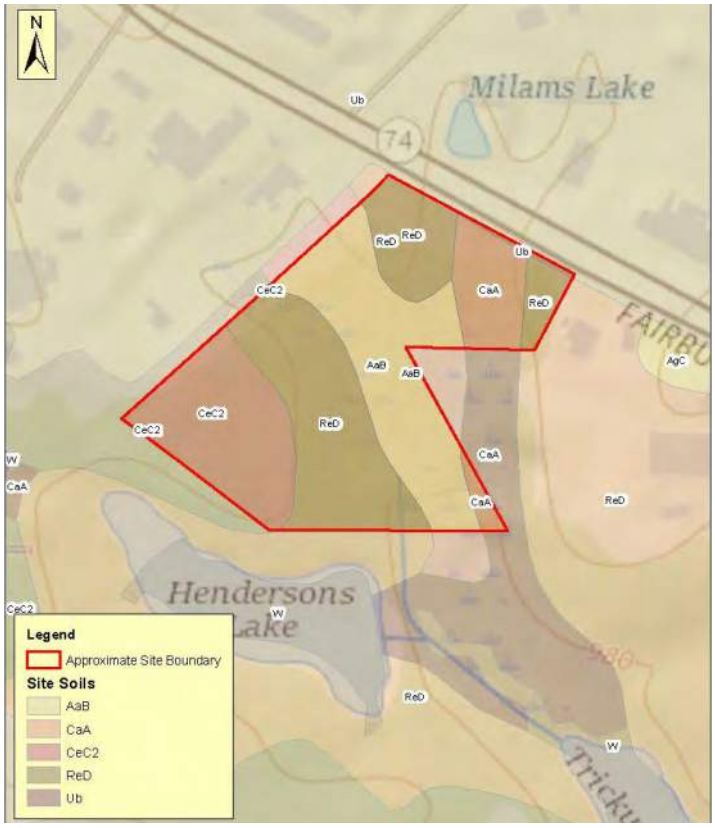
1. A site map that includes locations of all streams, wetlands, floodplain boundaries and other natural features, as determined by field survey.

Response: The map is attached as Exhibit A.

2. A description of the shape, size, topography, slope, soils, vegetation and other physical characteristics of the property;

Response: The site is approximately 4.12 acres and irregularly shaped due to the development of a stormwater detention pond associated with the construction of Howell Avenue. Approximately half the site is classified as a wetland (2.05 acre) that spans the central part of the

site and the site has topographic variation in excess of 20 feet. Mapped soils are shown in the figure below and are further described as Altavista sandy loam (AaB), Cartecay-Toccoa complex (CaA), Cecil sandy loam (CeC2), Rion sandy loam (ReD), and Urban land(Ub). The site is primarily comprised of a mixed pine-hardwood forest dominated by sweet gum, loblolly pine, red maple, tulip poplar and Chinese privet.



3. A detailed site plan that shows the locations of all existing and proposed structures and other impervious cover, the limits of all existing and proposed land disturbance, both inside and outside the buffer and setback. The exact area of the buffer to be affected shall be accurately and clearly indicated.

Response: The required map is attached as Exhibit A.

4. Documentation of unusual hardship should the buffer be maintained.

Response: An explanation of the hardship is discussed above in Section I(b).

5. At least one alternative plan, which does not include a buffer or setback intrusion, or an explanation of why such a site plan is not possible;

Response: The Property's availability for development is impacted by its smaller size of

4.21 acres that is further reduced when removing the presence of two streams and a wetland that bifurcate the site. Failure to issue a variance to the stream buffer requirements would preclude development from any kind on the Property. In addition, the site experiences in excess of 20 feet of topographic relief which requires grading activities for any developable building pad.

6. A calculation of the total area and length of the proposed intrusion;

Response: Response: Per §65-232(2)(iii) intrusions necessary to provide access to a property as well as §65-232(2)(1) driveways are exempt from the regulation. As shown in the figure below, the majority of the encroachment into the 50' buffer shown in yellow corridors are due to the driveway along SR 74 (Figure 1-yellow) and Howell Avenue (Figure 2-blue), both exempt and sited perpendicular to the streams and associated buffers to minimize impacts. The minor encroachment into the buffer requiring a variance is for minimal grading activities. The total proposed area for all encroachments through the non-impervious area 1.37 acres. As stated within the purpose, the Applicant has minimized its development activities within the protected buffer and avoided impacts to the majority of the onsite stream buffers.



Figure 1: Driveway Buffer from SR 74

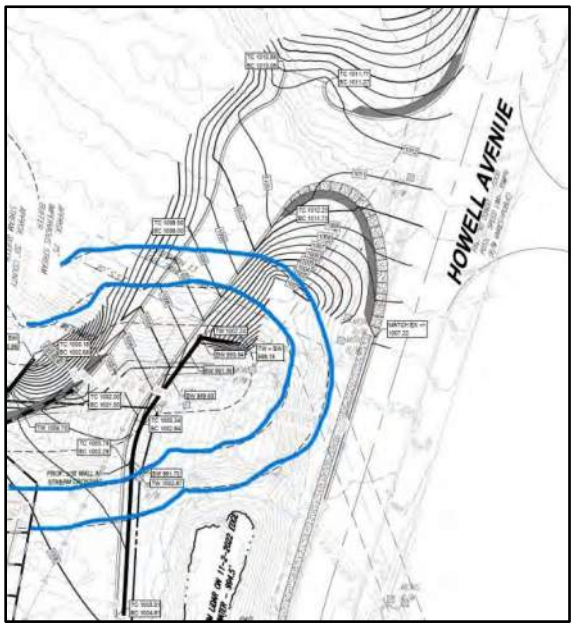


Figure 2: Driveway Buffer from Howell

7. A stormwater management site plan, if applicable; and

Response**:** To assure water quality and minimizing impacts to downstream property owners from erosion, the Applicant will prepare an erosion and sedimentation control plan in accordance with the Georgia Stormwater Management Manual and Fairburn City Ordinances. Currently the water quality and temperature are influenced by the surrounding upstream and downstream areas which are predominantly industrial with high impervious surfaces. Upon construction of the proposed development, the project will meet the requirements set forth by the Georgia Stormwater Management Manual addressing post-development total suspended solids and/or stormwater runoff reduction and water quality protection to assure the site is discharging at or below pre-development levels and water quality is being maintained. In addition, the Applicant proposes to implement

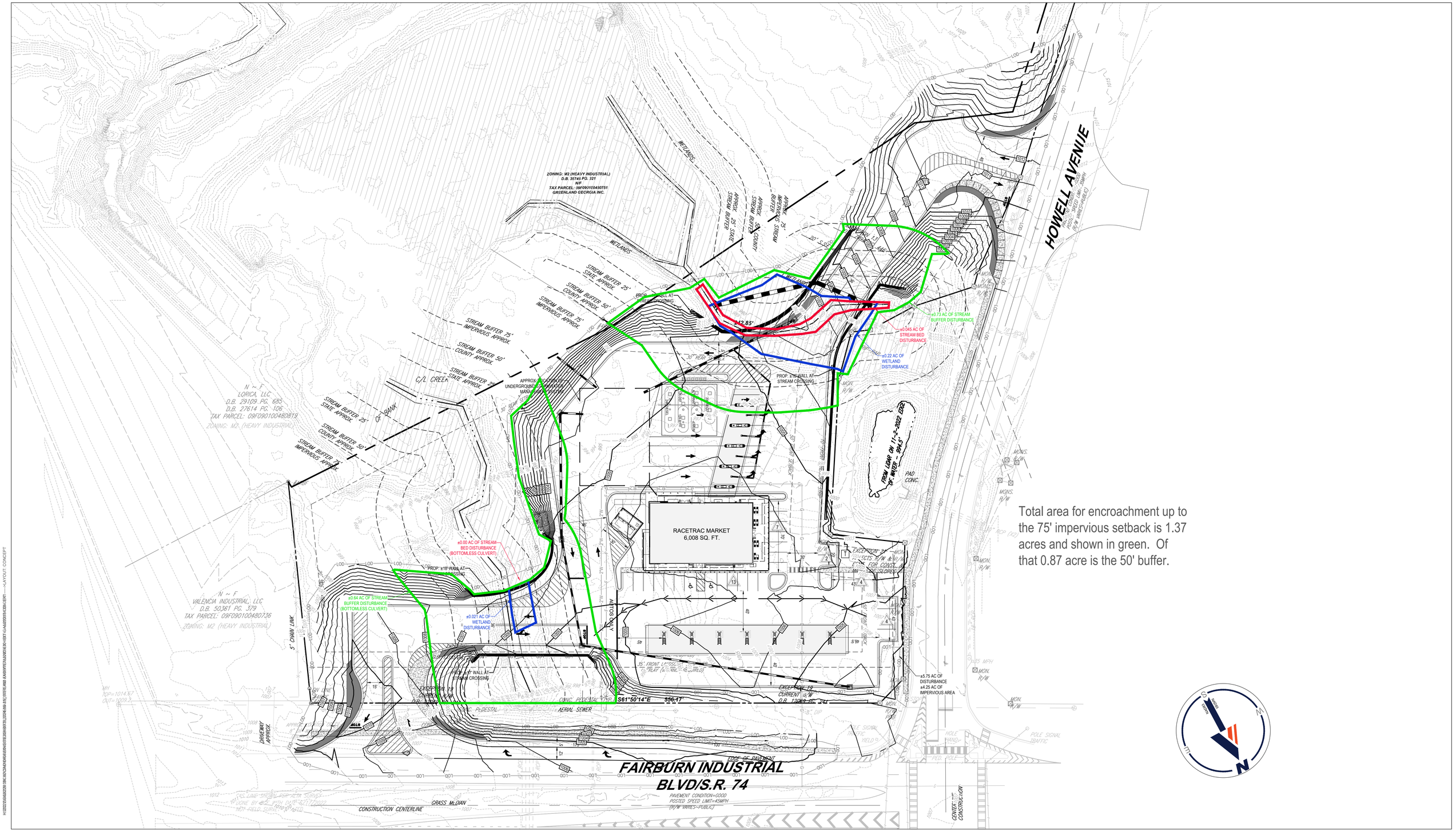
underground detention with the StormTech MC-7200 Chamber as shown in Exhibit C.

8. Proposed mitigation, if any, for the intrusion. If no mitigation is proposed, the request must include an explanation of why none is being proposed.

Response: The Applicant proposes to purchase compensatory mitigation credits from a US Army Corps of Engineers approved mitigation bank in accordance with GA EPD Stream Buffer mitigation guidance.

The Applicant commits to meeting the requirements of the GSMM which will meet water quality and water runoff reductions. Implementing these standards will result in a negligible impact long term and during construction resulting in an overall negligible impact to waters upon approval of the variance. The proposal has avoided and minimized impacts to the stream buffers to the extent practical. The commitment to meet the requirements set forth in the GSMM coupled with the purchase of compensatory mitigation credits in accordance with the GA EPD stream buffer mitigation guidance will result in the proposal being as protective of the natural resources and environment.

The regulations impose a hardship on the development of the property and the issuance of a variance is in harmony with the purpose of the Ordinance. This portion of the City of Fairburn ordinance acknowledges that there are circumstances when standard zoning requirements should be waived. The purpose of the stream buffer ordinance is to protect the public health, safety, environment and general welfare, minimize public and private losses due to erosion, siltation and water pollution and to maintain stream water quality.



Total area for encroachment up to the 75' impervious setback is 1.37 acres and shown in green. Of that 0.87 acre is the 50' buffer.

BOHLER

211 PERIMETER CENTER PKWY NE,
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

RACETRAC FAIRBURN WETLANDS & STREAM IMPACTS EXHIBIT

HWY 74 & HOWELL AVE, FAIRBURN, GA 30213

05/05/2025 | NF | GAA220184.00 | Rev.0

40 20 10 0 40
1"= 40'

H:\2022\GAA220184.00\CIVIL\CAD\GRADING\SHEETS\GAA220184.00_GRADING_PLAN.DWG——LAYOUT: CONCEPT

StormTech® MC-7200 Chamber

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.



Nominal Chamber Specifications
(not to scale)

Size (L x W x H)
83” x 100” x 60”
2108 mm x 2540 mm x 1524 mm

Chamber Storage
175.9 ft³ (4.98 m³)

Min. Installed Storage*
267.3 ft³ (7.57 m³)

Weight
202 lbs (91.6 kg)

Shipping
7 chambers/pallet
5 end caps/pallet
6 pallets/truck

*Assumes a minimum of 12” (300 mm) of stone above, 9” (230 mm) of stone below chambers, 9” (230 mm) of stone between chambers/ end caps and 40% stone porosity.

Nominal End Cap Specifications
(not to scale)

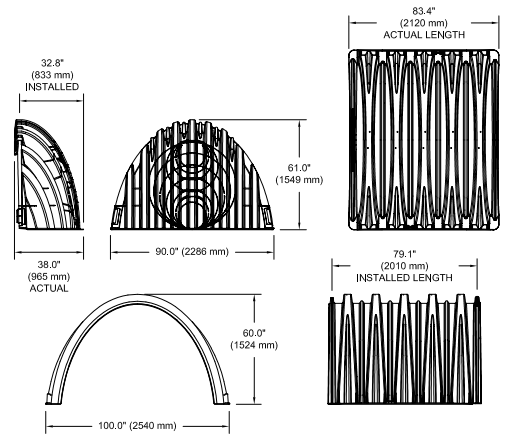
Size (L x W x H)
38” x 90” x 61”
965 mm x 2286 mm x 1549 mm

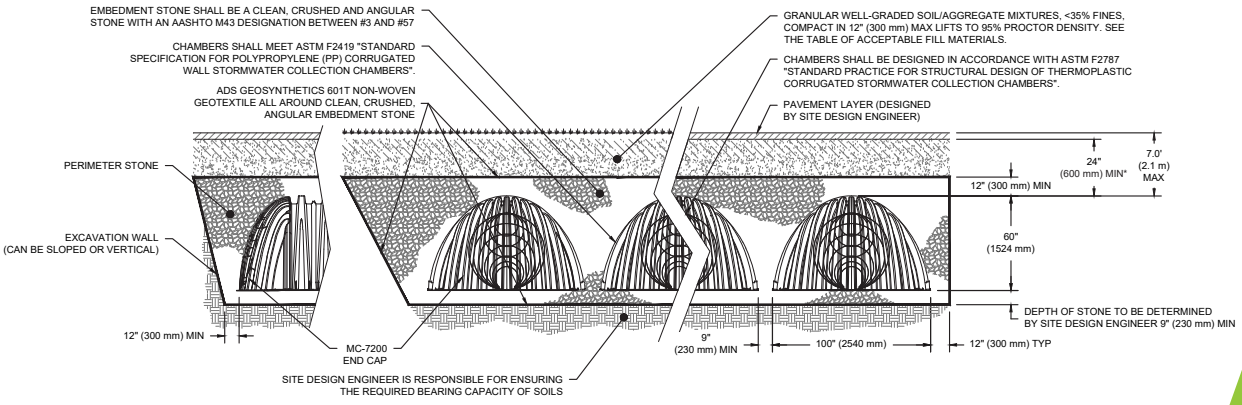
End Cap Storage
39.5 ft³ (1.12 m³)

Min. Installed Storage*
115.3 ft³ (3.26 m³)

Weight
Nominal 90.0 lbs (40.8 kg)

*Assumes a minimum of 12” (300 mm) of stone above, 9” (230 mm) of stone below, 12” (300 mm) of stone perimeter, 9” (230 mm) of stone between chambers/end caps and 40% stone porosity.





*MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR. INCREASE COVER TO 30" (750 mm).

ADS StormTech™

StormTech MC-7200 Specifications

Storage Volume Per Chamber

	Bare Chamber Storage ft³ (m³)	Chamber and Stone Foundation Depth in. (mm)			
		9 in (230 mm)	12 in (300 mm)	15 in (375 mm)	18 in (450 mm)
Chamber	175.9 (4.98)	267.3 (7.57)	273.3 (7.74)	279.3 (7.91)	285.3 (8.08)
End Cap	39.5 (1.12)	115.3 (3.26)	118.6 (3.36)	121.9 (3.45)	125.2 (3.54)

Note: Assumes 9" (230 mm) row spacing, 40% stone porosity, 12" (300 mm) stone above and includes the bare chamber/end cap volume. End cap volume assumes 12" (300 mm) stone perimeter in front of end cap.

Amount of Stone Per Chamber

English Tons (yds³)	Stone Foundation Depth			
	9 in	12 in	15 in	18 in
Chamber	12.1 (8.5)	12.9 (9.0)	13.6 (9.6)	14.3 (10.1)
End Cap	9.8 (7.0)	10.2 (7.3)	10.6 (7.6)	11.1 (7.9)
Metric Kilograms (m³)	**230 mm**	**300 mm**	**375 mm**	**450 mm**
Chamber	10977 (6.5)	11703 (6.9)	12338 (7.3)	12973 (7.7)
End Cap	8890 (5.3)	9253 (5.5)	9616 (5.8)	10069 (6.0)

Note: Assumes 12" (300 mm) of stone above and 9" (230 mm) row spacing and 12" (300 mm) of perimeter stone in front of end caps. 1 yd³ = 1.42 english tons.

Volume Excavation Per Chamber yd³ (m³)

	Stone Foundation Depth			
	9 in (230 mm)	12 in (300 mm)	15 in (375mm)	18 in (450 mm)
Chamber	17.2 (13.2)	17.7 (13.5)	18.3 (14.0)	18.8 (14.4)
End Cap	9.7 (7.4)	10.0 (7.6)	10.3 (7.9)	10.6 (8.1)

Note: Assumes 9" (230 mm) of separation between chamber rows, 12" (300 mm) of perimeter in front of the end caps, and 24" (600 mm) of cover. The volume of excavation will vary as depth of cover increases.

ADS StormTech products, manufactured in accordance with ASTM F2418 or ASTMF2922, comply with all requirements in the Build America, Buy America (BABA) Act.

Working on a project?
Visit us at adspipe.com/stormtech and utilize the Design Tool

ADS StormTech™

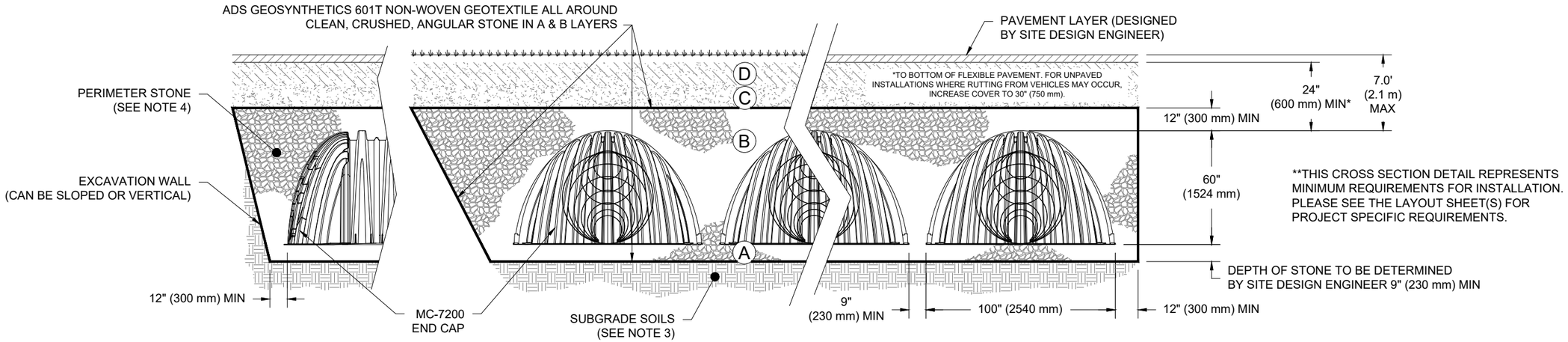
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adspipe.com
800-821-6710

ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

MC-7200

STANDARD CROSS SECTION

DATE: 12/21/23 | DRAWN: SLS | PROJECT #: | CHECKED: SLS

DATE	DRWN	CHKD	DESCRIPTION

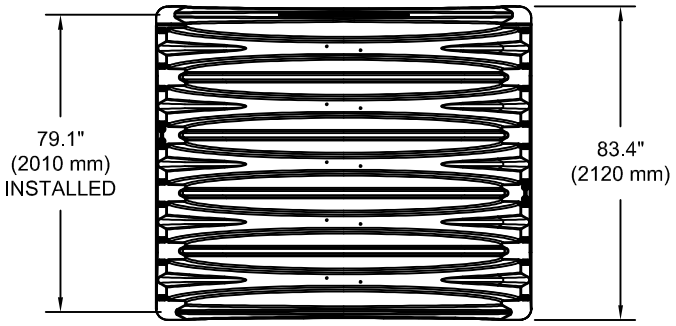
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

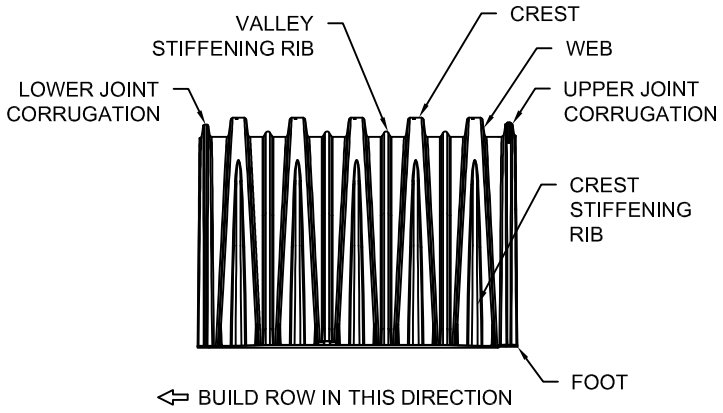
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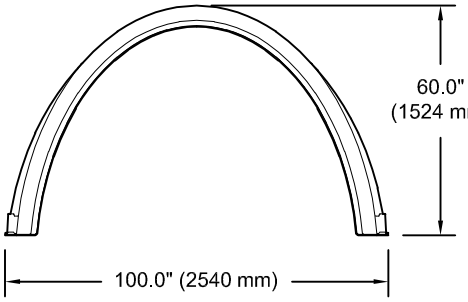
4640 TRUEMAN BLVD
HILLIARD, OH 43026

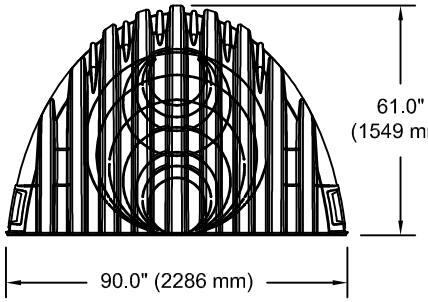
MC-7200 TECHNICAL SPECIFICATION

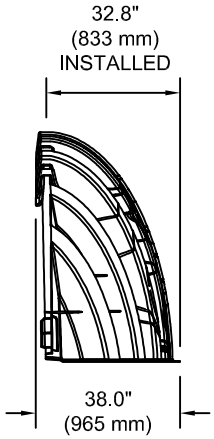
NTS











NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 79.1"	(2540 mm X 1524 mm X 2010 mm)
CHAMBER STORAGE	175.9 CUBIC FEET	(4.98 m³)
MINIMUM INSTALLED STORAGE*	267.3 CUBIC FEET	(7.56 m³)
WEIGHT (NOMINAL)	205 lbs.	(92.9 kg)

NOMINAL END CAP SPECIFICATIONS

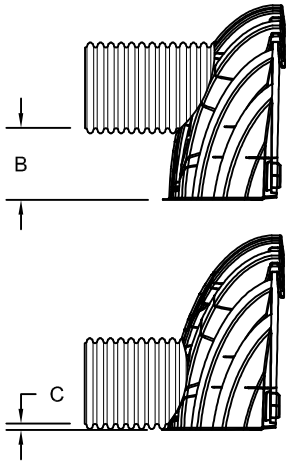
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

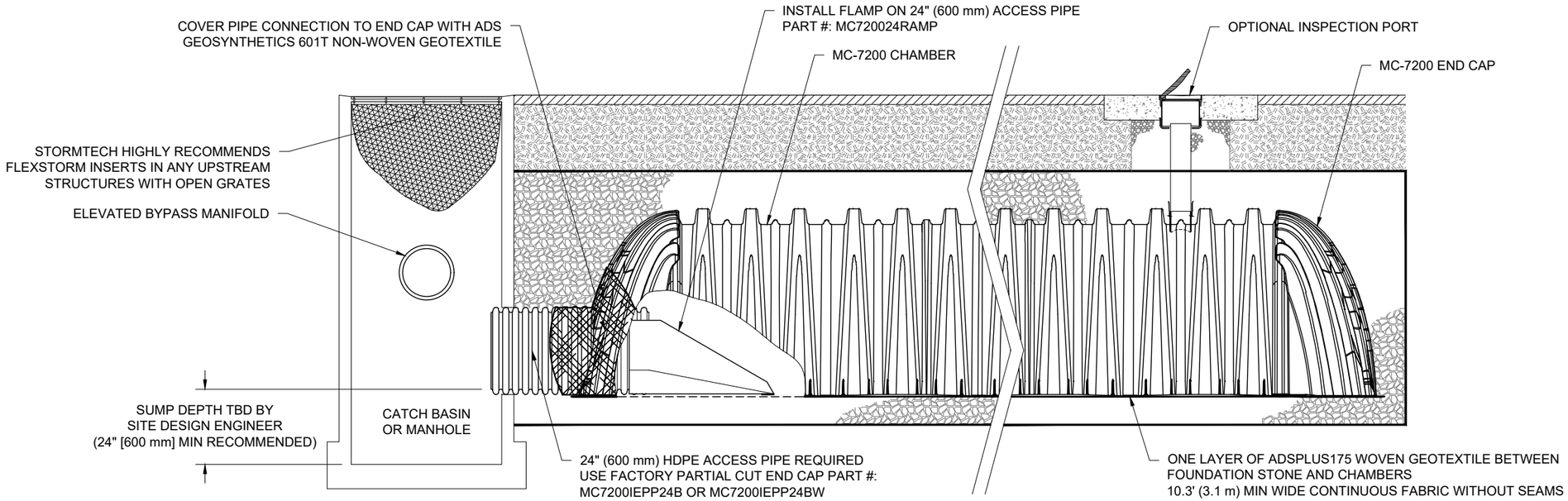
PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC7200IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC7200IEPP06B		---	0.86" (22 mm)
MC7200IEPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC7200IEPP08B		---	1.01" (26 mm)
MC7200IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC7200IEPP10B		---	1.33" (34 mm)
MC7200IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC7200IEPP12B		---	1.55" (39 mm)
MC7200IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC7200IEPP15B		---	1.70" (43 mm)
MC7200IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC7200IEPP18TW			
MC7200IEPP18B		---	1.97" (50 mm)
MC7200IEPP18BW			
MC7200IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC7200IEPP24TW			
MC7200IEPP24B		---	2.26" (57 mm)
MC7200IEPP24BW			
MC7200IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC7200IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC7200IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PREFABRICATED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-7200 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.



MC-7200 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

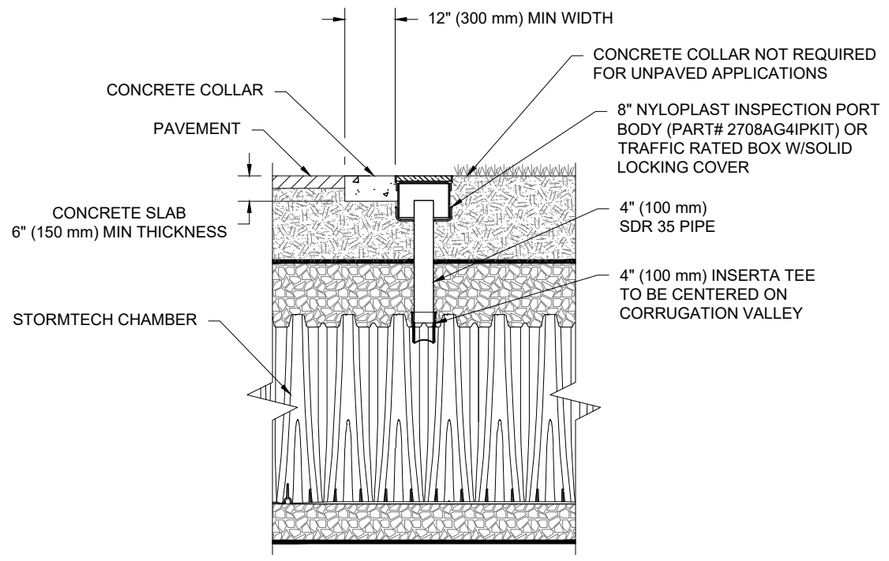
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

4" PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)
NTS

MC-7200
ISOLATOR ROW PLUS DETAILS
DATE: 9/13/22 | DRAWN: KLJ | CHECKED: KLJ | PROJECT #:

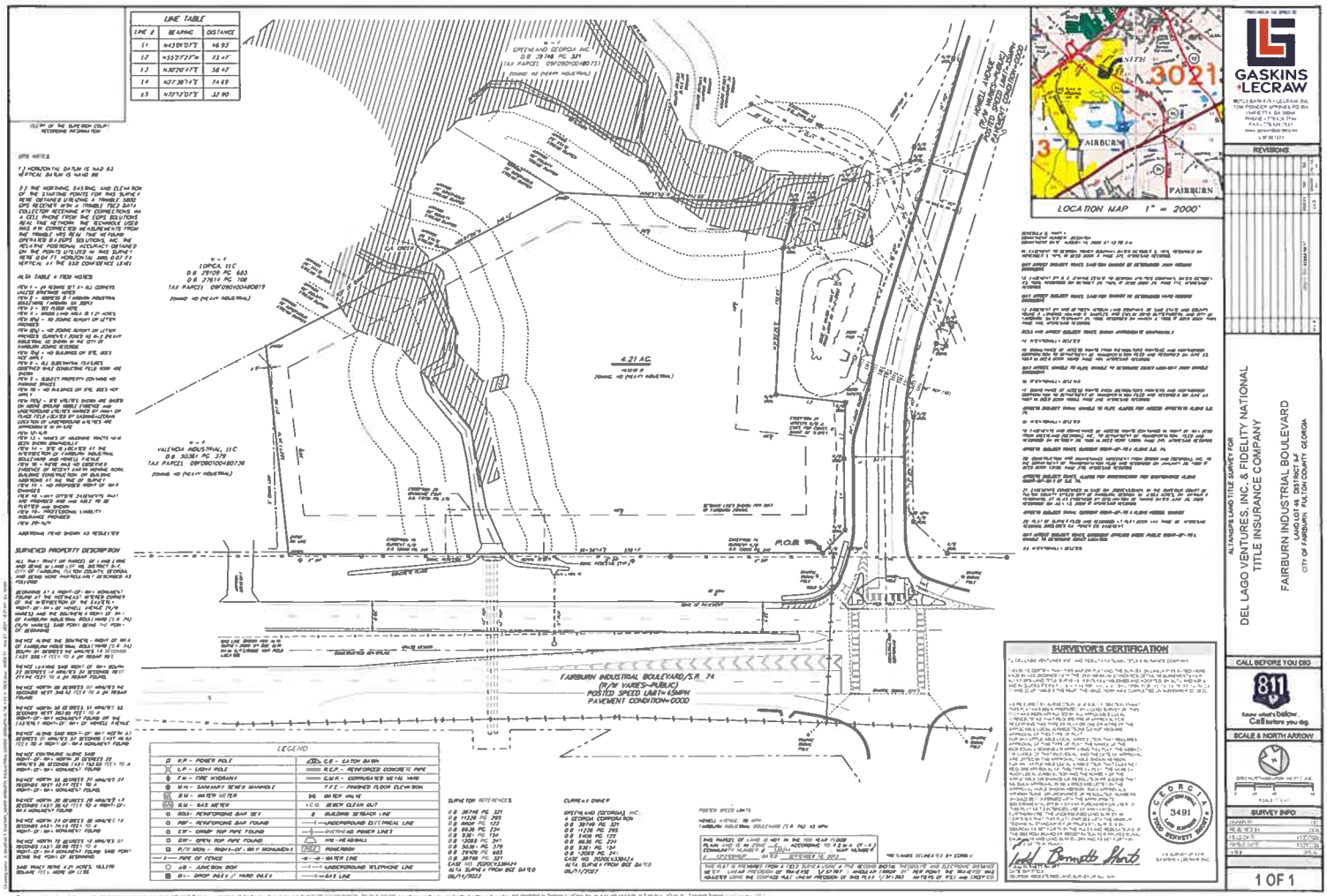
DATE	DRWN	CHKD	DESCRIPTION

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4640 TRUEMAN BLVD
HILLIARD, OH 43026

ALTA Survey


LINE TABLE
LINE # | BEARING | DISTANCE
L1 | N43°01'07"E | 46.93
L2 | N55°27'27"W | 23.47
L3 | N38°26'47"E | 58.42
L4 | N27°38'14"E | 74.69
L5 | N73°13'07"E | 32.90
LOCATION MAP 1" = 2000'
FAIRBURN INDUSTRIAL BOULEVARD/S.R. 74
(R/W VARIES-PUBLIC)
POSTED SPEED LIMIT= 45MPH
PAVEMENT CONDITION=GOOD
4.21 AC.
P.O.B.
LEGEND
R.P. - POWER POLE
L.P. - LIGHT POLE
F.H. - FIRE HYDRANT
S.M. - SANITARY SEWER MANHOLE
W.M. - WATER METER
G.M. - GAS METER
C.O. - SEWER CLEAN OUT
B.S.L. - BUILDING SETBACK LINE
C.B. - CATCH BASIN
R.C.P. - REINFORCED CONCRETE PIPE
C.M.P. - CORRUGATED METAL PIPE
F.F.E. - FINISHED FLOOR ELEVATION
W.V. - WATER VALVE
R.B.F. - REINFORCING BAR FOUND
R.B.S. - REINFORCING BAR SET
C.T.V. - CRIMP TOP PIPE FOUND
C.T.S. - CRIMP TOP PIPE SET
P.O.B. - POINT OF BEGINNING
P.O.C. - POINT OF COMMENCEMENT
POB - POINT OF BEGINNING
POC - POINT OF COMMENCEMENT
P.T. - POINT OF TANGENCY
P.C. - POINT OF CURVATURE
P.R.C. - POINT OF REVERSE CURVATURE
P.C.C. - POINT OF COMPOUND CURVATURE
P.I. - POINT OF INTERSECTION
P.C.I. - POINT OF CURVATURE INTERSECTION
P.T.I. - POINT OF TANGENCY INTERSECTION
P.R.C.I. - POINT OF REVERSE CURVATURE INTERSECTION
P.C.C.I. - POINT OF COMPOUND CURVATURE INTERSECTION
P.O.B. - POINT OF BEGINNING
P.O.C. - POINT OF COMMENCEMENT
POWER POLE
LIGHT POLE
FIRE HYDRANT
SANITARY SEWER MANHOLE
WATER METER
GAS METER
SEWER CLEAN OUT
BUILDING SETBACK LINE
CATCH BASIN
REINFORCED CONCRETE PIPE
CORRUGATED METAL PIPE
FINISHED FLOOR ELEVATION
WATER VALVE
REINFORCING BAR SET
REINFORCING BAR FOUND
CRIMP TOP PIPE FOUND
CRIMP TOP PIPE SET
POINT OF BEGINNING
POINT OF COMMENCEMENT
POINT OF TANGENCY
POINT OF CURVATURE
POINT OF REVERSE CURVATURE
POINT OF COMPOUND CURVATURE
POINT OF INTERSECTION
POINT OF CURVATURE INTERSECTION
POINT OF TANGENCY INTERSECTION
POINT OF REVERSE CURVATURE INTERSECTION
POINT OF COMPOUND CURVATURE INTERSECTION
POINT OF BEGINNING
POINT OF COMMENCEMENT
OVERHEAD POWER LINES
UNDERGROUND ELECTRICAL LINE
UNDERGROUND POWER LINES
FENCE
WATER LINE
UNDERGROUND TELEPHONE LINE
GAS LINE
SURVEYOR'S CERTIFICATION
GASKINS LECRAW
REVISIONS
DEL LAGO VENTURES, INC. & FIDELITY NATIONAL TITLE INSURANCE COMPANY
FAIRBURN INDUSTRIAL BOULEVARD
LAND LOT 46, DISTRICT 1F
CITY OF FAIRBURN, FULTON COUNTY, GEORGIA
CALL BEFORE YOU DIG
811
Know what's below. Call before you dig.
SCALE & NORTH ARROW
SURVEY INFO
1 OF 1

Legal Description

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 48, DISTRICT 9-F, CITY OF FAIRBURN, FULTON COUNTY, GEORGIA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A RIGHT-OF-WAY MONUMENT FOUND AT THE NORTHEAST MITERED CORNER OF THE INTERSECTION OF THE EASTERLY RIGHT-OF-WAY OF HOWELL AVENUE (R/W VARIES) AND THE SOUTHERLY RIGHT OF WAY OF FAIRBURN INDUSTRIAL BOULEVARD (S.R. 74) (R/W VARIES), SAID POINT BEING THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY RIGHT OF WAY OF FAIRBURN INDUSTRIAL BOULEVARD (S.R. 74) SOUTH 61 DEGREES 50 MINUTES 14 SECONDS EAST 556.17 FEET TO A #4 REBAR SET;

THENCE LEAVING SAID RIGHT OF WAY SOUTH 23 DEGREES 02 MINUTES 19 SECONDS WEST 212.06 FEET TO A #4 REBAR SET;

THENCE NORTH 88 DEGREES 29 MINUTES 07 SECONDS WEST 351.90 FEET TO A #4 REBAR SET;

THENCE SOUTH 84 DEGREES 13 MINUTES 31 SECONDS WEST A DISTANCE OF 354.83 FEET TO A #4 REBAR SET;

THENCE NORTH 68 DEGREES 18 MINUTES 11 SECONDS WEST A DISTANCE OF 96.69 FEET TO A #4 REBAR SET;

THENCE SOUTH 45 DEGREES 23 MINUTES 34 SECONDS WEST A DISTANCE OF 211.56 FEET TO A #4 REBAR SET;

THENCE SOUTH 72 DEGREES 09 MINUTES 52 SECONDS WEST A DISTANCE OF 57.95 FEET TO #4 REBAR SET ON THE SOUTH EASTERLY RIGHT OF WAY OF HOWELL AVENUE;

THENCE ALONG SAID RIGHT OF WAY NORTH 45 DEGREES 23 MINUTES 23 SECONDS EAST A DISTANCE OF 251.84 FEET TO A #4 REBAR SET;

THENCE CONTINUING ALONG SAID RIGHT OF WAY NORTH 45 DEGREES 23 MINUTES 23 SECONDS EAST A DISTANCE OF 70.42 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 52 DEGREES 23 MINUTES 09 SECONDS EAST A DISTANCE OF 100.78 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 43 DEGREES 43 MINUTES 09 SECONDS EAST A DISTANCE OF 15.49 FEET TO A POINT;

THENCE SOUTH 80 DEGREES 00 MINUTES 54 SECONDS EAST A DISTANCE OF 61.26 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 89 DEGREES 52 MINUTES 08 SECONDS EAST A DISTANCE OF 48.94 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE SOUTH 68 DEGREES 33 MINUTES 17 SECONDS EAST A DISTANCE OF 18.70 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 43 DEGREES 01 MINUTES 07 SECONDS EAST 46.93 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 31 DEGREES 22 MINUTES 26 SECONDS EAST 152.65 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 55 DEGREES 27 MINUTES 27 SECONDS WEST 73.47 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 30 DEGREES 20 MINUTES 47 SECONDS EAST 58.42 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 27 DEGREES 38 MINUTES 14 SECONDS EAST 74.69 FEET TO A RIGHT-OF-WAY MONUMENT FOUND;

THENCE NORTH 72 DEGREES 12 MINUTES 07 SECONDS EAST 32.90 FEET TO A RIGHT-OF-WAY MONUMENT FOUND, SAID POINT BEING THE POINT OF BEGINNING;

SAID TRACT BEING 5.30 ACRES, 230,999 SQUARE FEET, MORE OR LESS.

Warranty Deed

00131036

GEORGIA, Fulton County, Clerk's Office Superior Court
Filed & Recorded, DEC 11 1987 at 4:10 Barbara J. Price CLERK

GENERAL WARRANTY DEED

Fulton County, Georgia
Real Estate Transfer Tax
Paid $ 300.00
Date DEC 11 1987
Clerk, Superior Court
By Deputy Clerk

STATE OF GEORGIA

COUNTY OF FULTON

THIS INDENDURE, made as of this 10th day of December, 1987, between NORTHBROOK CORPORATION, a Georgia corporation, as party of the first part (hereinafter referred to as "Grantor"), and GREENLAND (GEORGIA), INC., a Georgia corporation, as party of the second part (hereinafter referred to as "Grantee").

W I T N E S S E T H:

That Grantor, for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00) and other good and valuable considerations, in hand paid at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey unto the Grantee, its successors, and assigns all that tract or parcel of land described in Exhibit "A" attached hereto and subject to those items described in Exhibit "B" attached hereto (the "Permitted Exceptions").

TO HAVE AND TO HOLD the said bargained premises, together with all and singular rights, members and appurtenances thereof, to the only proper use, benefit and behoof of Grantee forever IN FEE SIMPLE.

And Grantor will warrant and forever defend the right and title to the above described property unto Grantee against the lawful claims of all persons whomsoever, except for claims arising under the Permitted Exceptions.

IN WITNESS WHEREOF, Grantor has hereunto set its hand and affixed its seal the day and year first above written.

Signed, sealed and delivered in the presence of:

Charles O'Benedict
Unofficial Witness

Colleen S. Voulbrock
Notary Public

My commission expires:

[NOTARIAL SEAL]
Notary Public, Georgia, State at Large
My Commission Expires Feb. 20, 1989

N.P. SEAL

NORTHBROOK CORPORATION, a Georgia corporation

BY: Ralph L. Eskew
RALPH L. ESKEW, President

[AFFIX CORPORATE SEAL]

CORP. SEAL

10-T-164(A)

EXHIBIT "A"

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 48 of the 9-F District of Fulton County, Georgia and being more particularly described as follows:

BEGINNING at a point on the southwesterly right-of-way of Georgia State Highway No. 74 (a 100-ft. right-of-way), which point is located 582.9 feet northwesterly from the intersection of the southwesterly side of Georgia State Highway No. 74 and the line dividing Land Lots 47 and 48; running thence south 24 degrees 11 minutes 13 seconds west 293.48 feet to a point; running thence north 87 degrees 32 minutes 52 seconds west 351.9 feet to a point; running thence south 28 degrees 57 minutes 58 seconds east 623.1 feet to a point located on the line dividing Land Lots 31 and 48; running thence north 88 degrees 27 minutes 13 seconds west along said land lot line 669.2 feet to an iron pin found; running thence north 50 degrees 28 minutes west 536.2 feet to a point; running thence north 46 degrees 15 minutes 10 seconds east 1038.52 feet to a point located on the southwesterly right-of-way of said Georgia State Highway No. 74; running thence south 60 degrees 54 minutes 48 seconds east along said right-of-way 575.28 feet to a point and the POINT OF BEGINNING, said property consisting of 16.97 acres as depicted on Plat for Greenland (Georgia), Inc., dated October 22, 1987 by Steed & Boyd Land Surveyors.

RE

00131036

EXHIBIT "B"

PERMITTED EXCEPTIONS

1. Express Easement dated December 23, 1986, by Northbrook Corporation, to William D. Reeves and David W. Porter filed and recorded January 16, 1987, in Deed Book 10576, Page 090, aforesaid Records, for purposes of constructing a sewer line to connect onto County sanitary sewer system, said easement to be 30-feet in width through the period of construction, and upon completion, said easement will be 10-feet width.

2. Right-of-way dated December 30, 1975, from Verdun Land Company, Nominee to Fulton County, recorded on January 8, 1976, in Deed Book 6408, Pages 122 through 127, inclusive, aforesaid Records.

3. Matters disclosed on Plat of Survey for Greenland (Georgia), Inc., delineated by Steed & Boyd Land Surveyors, dated October 22, 1987, discloses the following:

   (a) a sewer line with manholes crossing the caption property;

   (b) a 20-foot sanitary sewer easement entering caption from the northwesterly boundary thereof connecting to aforesaid sewer line in (a) hereof;

   (c) Informational Note on said plat reveals that this plat was taken from a survey of December 6, 1985, revised December 5, 1986. According to Surveyor's Report, Joseph W. Steed, Jr., certifies that a careful inspection was again performed on December 5, 1986, and said Surveyor states that no encroachments are evident; and that a "Lake was on the site at one time, but has been drained"; and a sanitary sewer as shown on plat. Exception is taken to any other facts which should be certified by an up-to-date Surveyor's Report subsequent to December 5, 1986.

RLG

BOOK 11226 PAGE 297

Letter of Intent

211 Perimeter Center Parkway NE, Suite 425
Atlanta, GA 30346
678.695.6800

February 26, 2025

Chancellor Felton
City of Fairburn
Department of Planning and Zoning
314 NW Broad Street
Fairburn, GA 30213

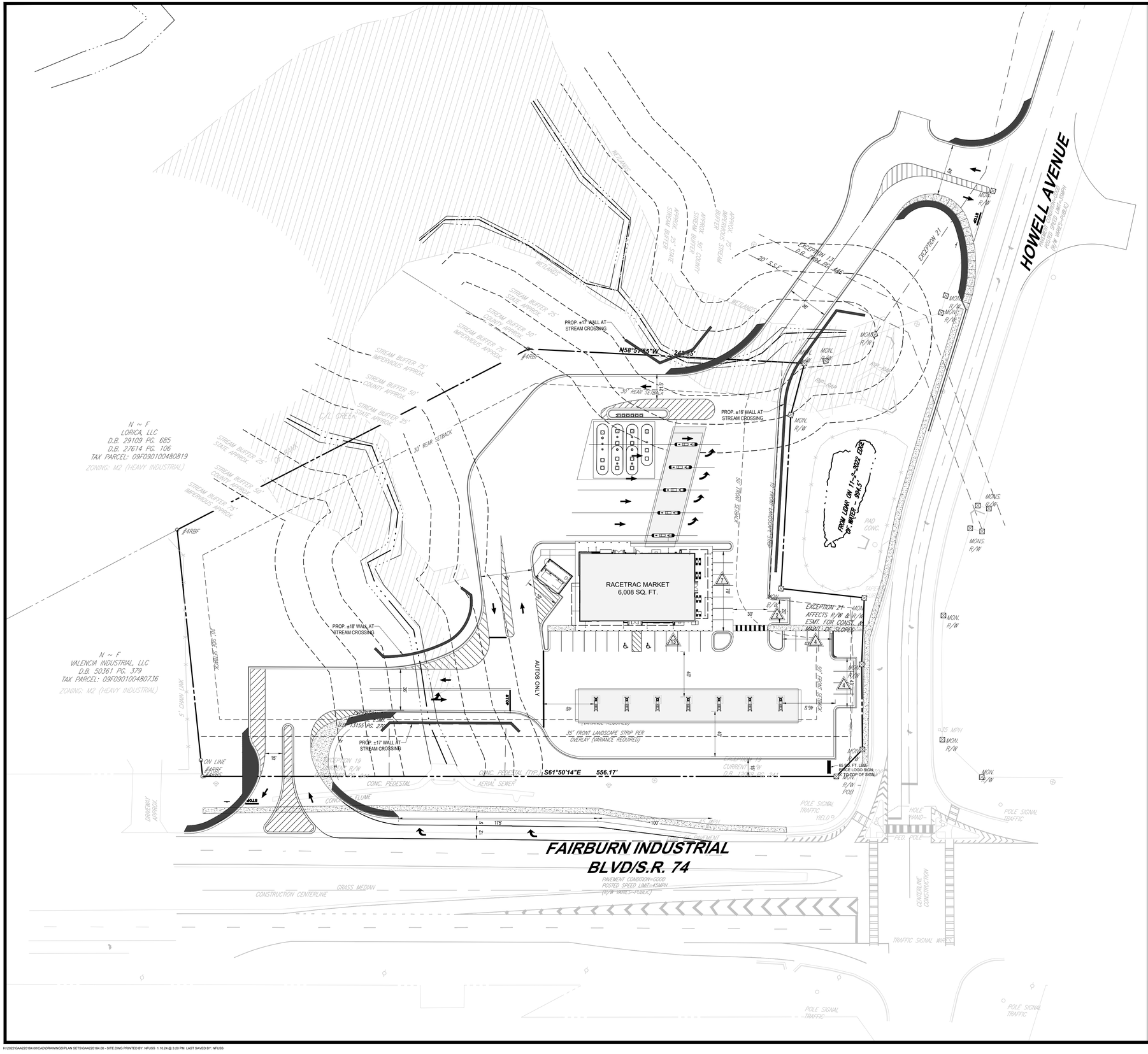
RE: Letter of Intent
RaceTrac, Inc.
Fairburn Industrial Blvd & Howell Ave
Fairburn, GA
BE #GAA220184.00

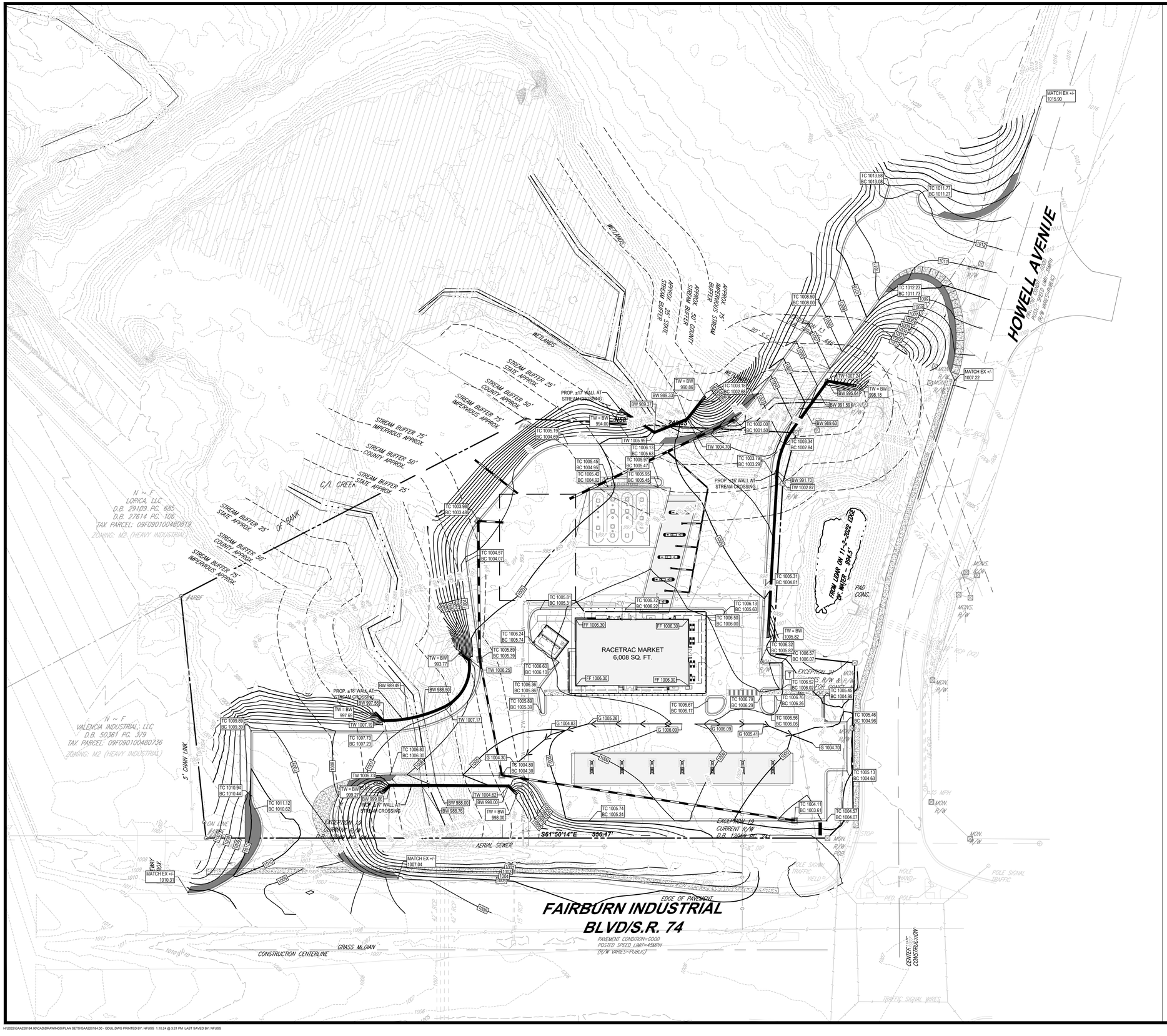
It is the intent of Bohler, LLC on behalf of RaceTrac, Inc., to develop a site encompassing ±13.91 acres located at the southeast parcel at the intersection of Fairburn Industrial Blvd and Howell Ave in Fairburn, GA. The project proposes the construction of one ±6,008 SF gas station convenient store with seven gasoline fuel pumps and five diesel pumps. Other site improvements include new pavement markings, parking, limited sidewalks, landscaping, utilities, and stormwater management.

Should you have any questions or require additional information, please do not hesitate to contact this office at (678) 695-6800.

Sincerely,
BOHLER ENGINEERING GA, LLC

Nathan Fuss, PE


HOWELL AVENUE
FAIRBURN INDUSTRIAL BLVD/S.R. 74
RACETRAC MARKET
6,008 SQ. FT.
PROP. ±17' WALL AT STREAM CROSSING
PROP. ±16' WALL AT STREAM CROSSING
PROP. ±18' WALL AT STREAM CROSSING
PROP. ±17' WALL AT STREAM CROSSING
N58°51'55"W 249.05'
S61°50'14"E 556.17'
30' REAR SETBACK
20' S.S.E.
EXCEPTION 1,3 D.B. 1804, PG. 446
EXCEPTION 21
EXCEPTION 19 D.B. 13155, PG. 270
EXCEPTION 21 AFFECTS R/W & ESMT. FOR CONST. & MAINT. OF SLOPES
FROM LDMP ON 11-2-2022 GDS
N ~ F
LORICA, LLC
D.B. 29109 PG. 685
D.B. 27614 PG. 106
TAX PARCEL: 09F090100480819
ZONING: M2 (HEAVY INDUSTRIAL)
N ~ F
VALENCIA INDUSTRIAL, LLC
D.B. 50361 PG. 379
TAX PARCEL: 09F090100480736
ZONING: M2 (HEAVY INDUSTRIAL)
WETLANDS
STREAM BUFFER 25' STATE APPROX.
STREAM BUFFER 50' COUNTY APPROX.
STREAM BUFFER 75' IMPERVIOUS APPROX.
CL CREEK
5' CHAIN LINK
ZABBIS 30"
AUTOS ONLY
ON LINE #4RBF
#4RBF
#4RBF
CONC. PEDESTAL (TYP.)
AERIAL SEWER
CONC. FLUME
DRIVEWAY APPROX.
POLE SIGNAL TRAFFIC
HOLE YARD
PED. POLE
PAD CONC.
MON. R/W
MONS. R/W
35 MPH
65 SQ. FT. LED PRICE LOGO SIGN ON TOP OF SIGN
MON. R/W POST
CONSTRUCTION CENTERLINE
GRASS MEDIAN
PAVEMENT CONDITION=GOOD
POSTED SPEED LIMIT=45MPH
(R/W VARIES-PUBLIC)
TRAFFIC SIGNAL WIRE
CENTERLINE CONSTRUCTION
PAVEMENT
100'
175'
5'
12'
15'
45'
57'
59'
65'
70'
80'
90'
40'
30'
35'
25'
10'
5.59'
5.59'
5.59



GRADING LEGEND

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
120 / 125	CONTOUR LINE	120 / 125
TC 516.00 BC 515.55 OR 384	SPOT ELEVATIONS	TC 516.00 BC 515.55
SAN #	SANITARY LABEL	SANI #
STM #	STORM LABEL	STM #
	STORM SEWER	
D	STORM MANHOLE	D
	TYPICAL END SECTION	
	HEADWALL OR ENDWALL	
	YARD INLET	
	CURB INLET	
	MONITORING WELL	
	BORING	
	BENCHMARK	
	TEST PIT	

GENERAL GRADING NOTES

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AS REFERENCED IN THIS PLAN SET. IF NO GEOTECHNICAL REPORT HAS BEEN REFERENCED, THE CONTRACTOR MUST HAVE A GEOTECHNICAL ENGINEER PROVIDE WRITTEN SPECIFICATIONS AND RECOMMENDATIONS PRIOR TO THE CONTRACTOR COMMENCING THE GRADING WORK. THE CONTRACTOR MUST FOLLOW THE REQUIREMENTS OF ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS, WHICH HAVE JURISDICTION OVER THIS PROJECT.
3. THE CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS AND APPROVALS FOR ALL OFF-SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. THE CONTRACTOR MUST SUPPLY A COPY OF APPROVALS TO THE ENGINEER OF RECORD AND THE OWNER PRIOR TO THE CONTRACTOR COMMENCING ANY WORK.
4. THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFYING EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION. SHOULD DISCREPANCIES BETWEEN THE PLANS AND INFORMATION OBTAINED THROUGH FIELD VERIFICATIONS BE IDENTIFIED OR EXIST, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING.
5. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ALL UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. THE CONTRACTOR MUST COMPACT ALL EXCAVATED OR FILLED AREAS IN STRICT ACCORDANCE WITH THE GEOTECHNICAL REPORT'S GUIDANCE. MOISTURE CONTENT AT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED. THIS REPORT MUST VERIFY THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS. RULES, STATUTES, LAWS, ORDINANCES AND CODES WHICH ARE IN EFFECT AND WHICH ARE APPLICABLE TO THE PROJECT. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/DEVELOPER, OR OWNER/DEVELOPER'S REPRESENTATIVE, SUBBASE MUST BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL, COMPACTED AS THE GEOTECHNICAL REPORT DIRECTS. EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILL, AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY AMENDMENTS OR REVISIONS THERETO.
6. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT TOPS MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED FINISHED GRADES WITH NO TRIPPING OR SAFETY HAZARD IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.
7. IN THE EVENT OF A DISCREPANCY(IES) AND/OR A CONFLICT(S) BETWEEN PLANS, OR RELATIVE TO OTHER PLANS, THE GRADING PLAN TAKES PRECEDENCE AND CONTROLS. THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, IN WRITING, OF ANY DISCREPANCY(IES) AND/OR CONFLICT(S).
8. THE CONTRACTOR IS RESPONSIBLE TO IMPORT FILL OR EXPORT EXCESS MATERIAL AS NECESSARY TO CONFORM TO THE PROPOSED GRADING, AND TO BACKFILL EXCAVATIONS FOR THE INSTALLATION OF UNDERGROUND IMPROVEMENTS.

BOHLER
211 PERIMETER CENTER PKWY NE.
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

NO.	REVISION	BY	DATE

THESE PLANS ARE SUBJECT TO FEDERAL COPYRIGHT LAWS. ANY USE OF SAME WITHOUT THE EXPRESSED WRITTEN PERMISSION OF RACETRAC PETROLEUM, INC. IS PROHIBITED.

RaceTrac

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

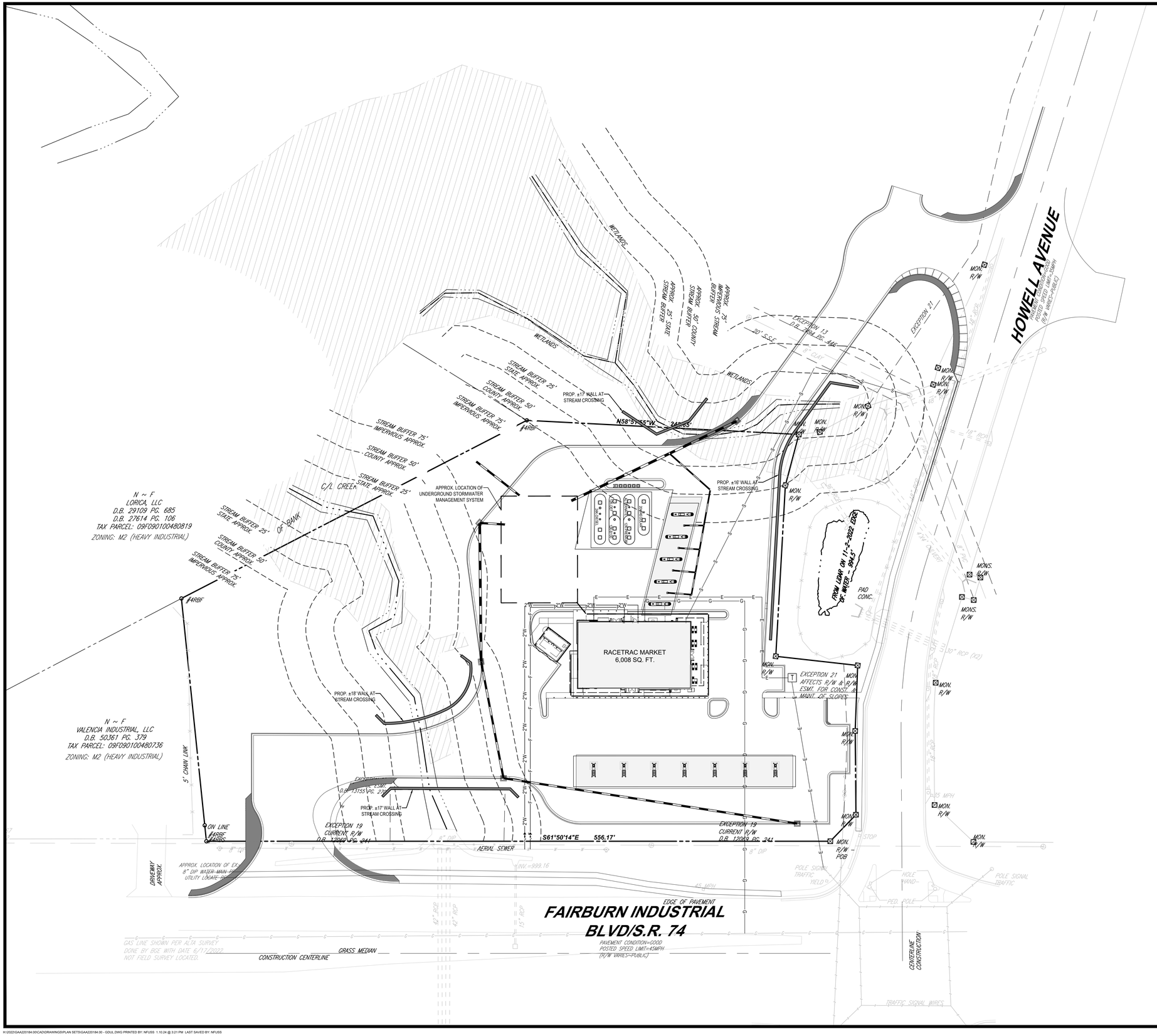
GRADING PLAN

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	01/10/2024
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C4	
SHEET NO.	REVISION

40 20 10 0 40
1"= 40'



UTILITY LEGEND

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
SAN #	SANITARY LABEL	SAN #
STM #	STORM LABEL	STM #
SL	SANITARY SEWER LATERAL	SL
W	UNDERGROUND WATER LINE	W
E	UNDERGROUND ELECTRIC LINE	E
G	UNDERGROUND GAS LINE	G
OH	OVERHEAD WIRE	OH
T	UNDERGROUND TELEPHONE LINE	T
C	UNDERGROUND CABLE LINE	C
	STORM SEWER	
S	SANITARY SEWER MAIN	S
	HYDRANT	
S	SANITARY MANHOLE	S
D	STORM MANHOLE	D
WM	WATER METER	
WV	WATER VALVE	
	GAS VALVE	
	GAS METER	
	TYPICAL END SECTION	
	HEADWALL OR ENDWALL	
	YARD INLET	
	CURB INLET	
	CLEAN OUT	
E	ELECTRIC MANHOLE	E
T	TELEPHONE MANHOLE	T
EB	ELECTRIC BOX	EB
EP	ELECTRIC PEDESTAL	EP
	MONITORING WELL	
	TEST PIT	

NO.	REVISION	BY	DATE

BOHLER
211 PERIMETER CENTER PKWY NE,
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

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RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

UTILITY PLAN

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	01/10/2024
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C8	
SHEET NO.	REVISION

40 20 10 0 40
1"= 40'

CLERK OF THE SUPERIOR COURT
RECORDING INFORMATION

LEGEND

P.P.– POWER POLE	C.B.– CATCH BASIN
L.P.– LIGHT POLE	R.C.P.– REINFORCED CONCRETE PIPE
F.H.– FIRE HYDRANT	C.M.P.– CORRUGATED METAL PIPE
M.H.– SANITARY SEWER MANHOLE	F.F.E.– FINISHED FLOOR ELEVATION
W.M.– WATER METER	WATER VALVE
G.M.– GAS METER	C.O. SEWER CLEAN OUT
RBS– REINFORCING BAR SET	BUILDING SETBACK LINE
RBF– REINFORCING BAR FOUND	–––E––– UNDERGROUND ELECTRICAL LINE
CTF– CRIMP TOP PIPE FOUND	OVERHEAD POWER LINES
OTF– OPEN TOP PIPE FOUND	HW.–HEADWALL
R/W MON.– RIGHT–OF–WAY MONUMENT	PBX POWERBOX
TYPE OF FENCE	–W– –W– WATER LINE
J.B.– JUNCTION BOX	–––T––– UNDERGROUND TELEPHONE LINE
D.I.– DROP INLET / YARD INLET	–––G––– GAS LINE

GPS NOTES:

1.) HORIZONTAL DATUM IS NAD 83.
VERTICAL DATUM IS NAVD 88.

2.) THE NORTHING, EASTING, AND ELEVATION OF THE STARTING POINTS FOR THIS SURVEY WERE OBTAINED UTILIZING A TRIMBLE 5800 GPS RECEIVER WITH A TRIMBLE TSC2 DATA COLLECTOR RECEIVING RTK CORRECTIONS VIA A CELL PHONE FROM THE EGPS SOLUTIONS REAL TIME NETWORK. THE TECHNIQUE USED WAS RTK CORRECTED MEASUREMENTS FROM THE TRIMBLE VRS REAL TIME NETWORK OPERATED BY EGPS SOLUTIONS, INC. THE RELATIVE POSITIONAL ACCURACY OBTAINED ON THE POINTS UTILIZED IN THIS SURVEY WERE 0.04 FT. HORIZONTAL AND 0.07 FT. VERTICAL AT THE 95% CONFIDENCE LEVEL.

SURVEYOR REFERENCES:

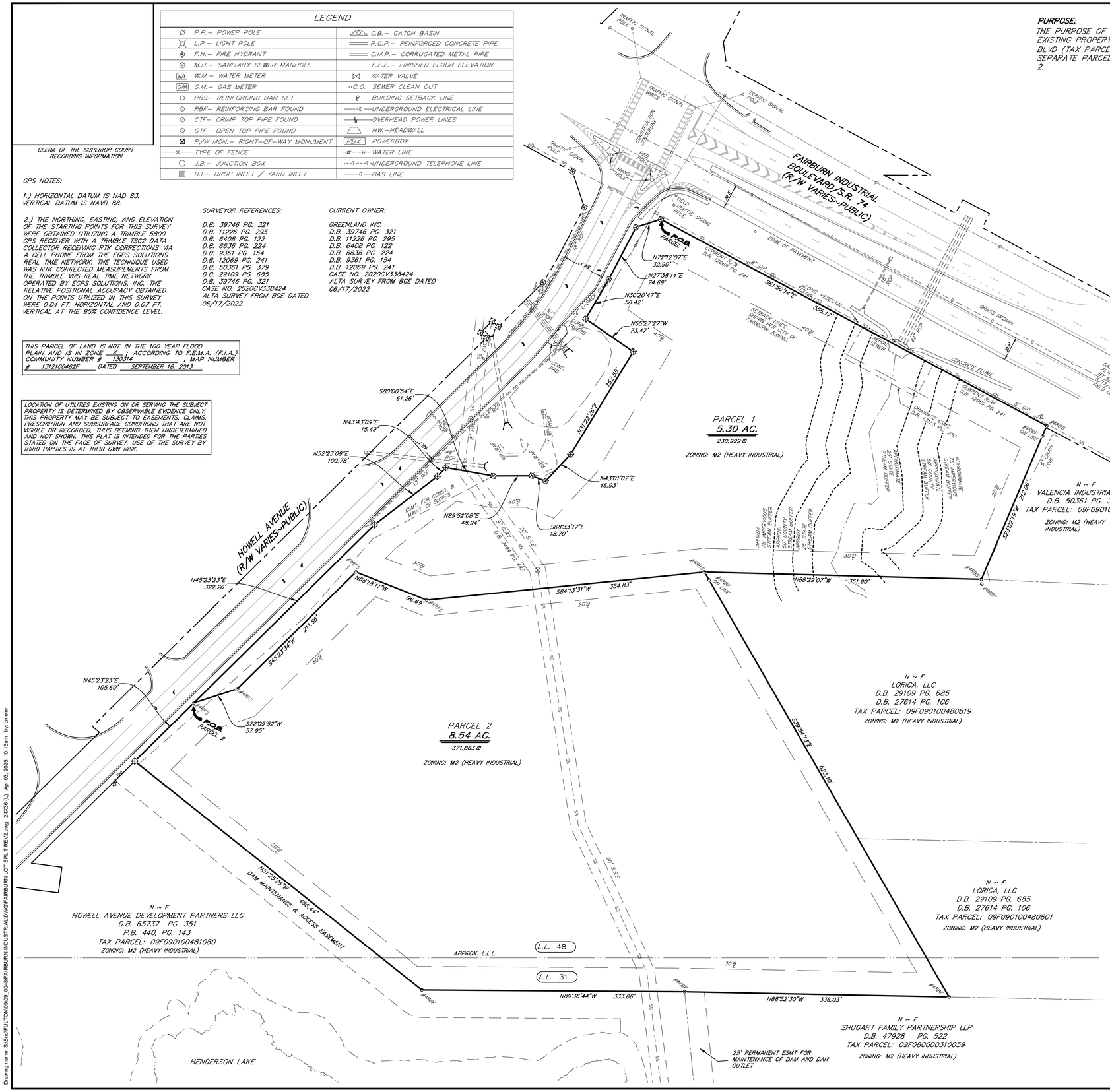
D.B. 39746 PG. 321
D.B. 11226 PG. 295
D.B. 6408 PG. 122
D.B. 6636 PG. 224
D.B. 9361 PG. 154
D.B. 12069 PG. 241
D.B. 50361 PG. 379
D.B. 29109 PG. 685
D.B. 39746 PG. 321
CASE NO. 2020CV338424
ALTA SURVEY FROM BGE DATED 06/17/2022

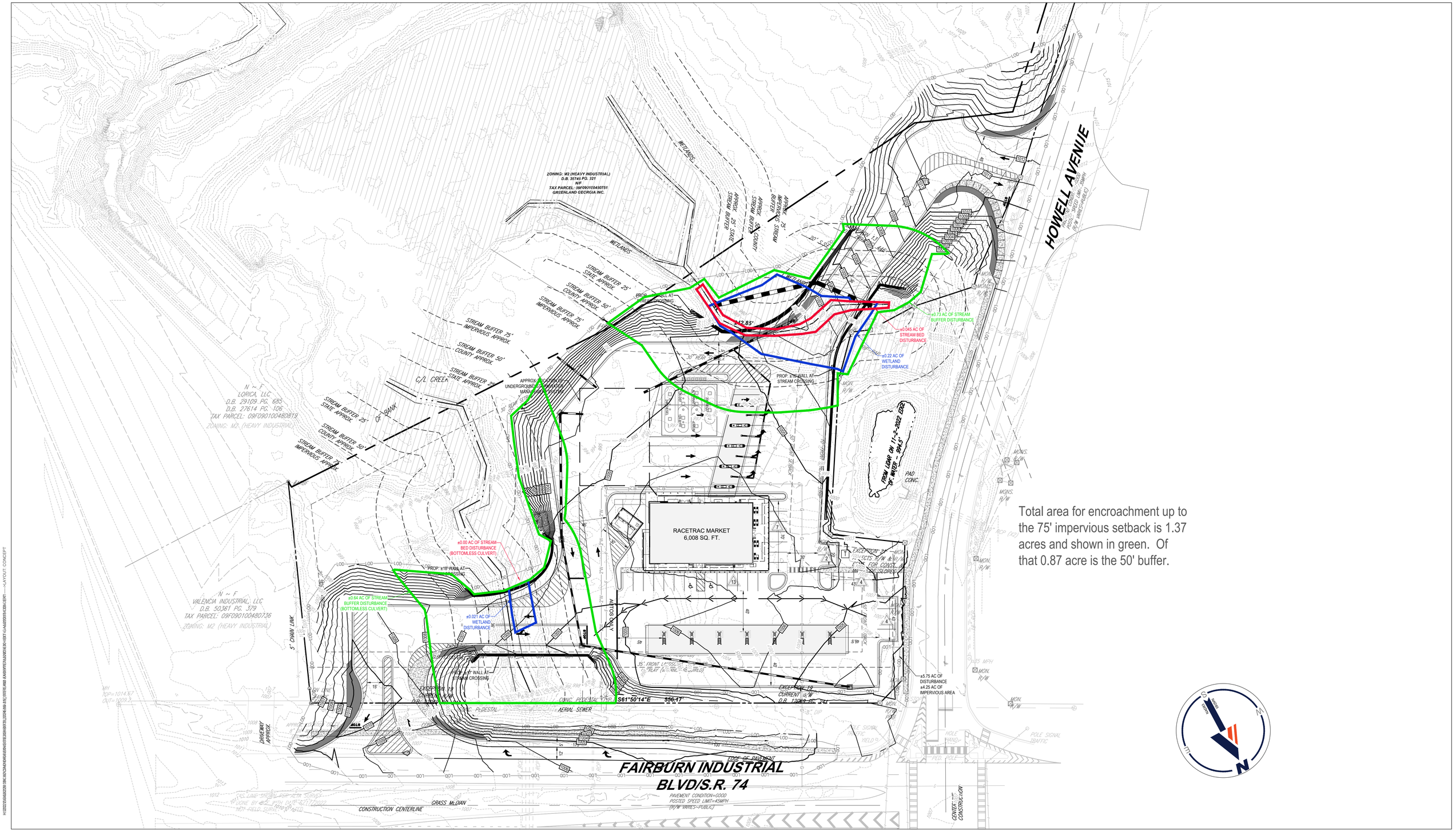
CURRENT OWNER:

GREENLAND INC.
D.B. 39746 PG. 321
D.B. 11226 PG. 295
D.B. 6408 PG. 122
D.B. 6636 PG. 224
D.B. 9361 PG. 154
D.B. 12069 PG. 241
CASE NO. 2020CV338424
ALTA SURVEY FROM BGE DATED 06/17/2022

THIS PARCEL OF LAND IS NOT IN THE 100 YEAR FLOOD PLAIN AND IS IN ZONE X , ACCORDING TO F.E.M.A. (F.I.A.) COMMUNITY NUMBER # 130314 , MAP NUMBER # 13121C0462F DATED SEPTEMBER 18, 2013 .

LOCATION OF UTILITIES EXISTING ON OR SERVING THE SUBJECT PROPERTY IS DETERMINED BY OBSERVABLE EVIDENCE ONLY. THIS PROPERTY MAY BE SUBJECT TO EASEMENTS, CLAIMS, PRESCRIPTION AND SUBSURFACE CONDITIONS THAT ARE NOT VISIBLE OR RECORDED, THUS DEEMING THEM UNDETERMINED AND NOT SHOWN. THIS PLAT IS INTENDED FOR THE PARTIES STATED ON THE FACE OF SURVEY. USE OF THE SURVEY BY THIRD PARTIES IS AT THEIR OWN RISK.


FAIRBURN INDUSTRIAL BOULEVARD (S.R. 74) (R/W VARIES–PUBLIC)
HOWELL AVENUE (R/W VARIES–PUBLIC)
POB PARCEL 1
POB PARCEL 2
PARCEL 1
5.30 AC.
230,999 ft
ZONING: M2 (HEAVY INDUSTRIAL)
PARCEL 2
8.54 AC.
371,863 ft
ZONING: M2 (HEAVY INDUSTRIAL)
N ~ F
VALENCIA INDUSTRIAL, LLC
D.B. 50361 PG. 379
TAX PARCEL: 09F090100480736
ZONING: M2 (HEAVY INDUSTRIAL)
N ~ F
LORICA, LLC
D.B. 29109 PG. 685
D.B. 27614 PG. 106
TAX PARCEL: 09F090100480819
ZONING: M2 (HEAVY INDUSTRIAL)
N ~ F
LORICA, LLC
D.B. 29109 PG. 685
D.B. 27614 PG. 106
TAX PARCEL: 09F090100480801
ZONING: M2 (HEAVY INDUSTRIAL)
N ~ F
HOWELL AVENUE DEVELOPMENT PARTNERS LLC
D.B. 65737 PG. 351
P.B. 440, PG. 143
TAX PARCEL: 09F090100481080
ZONING: M2 (HEAVY INDUSTRIAL)
N ~ F
SHUGART FAMILY PARTNERSHIP LLP
D.B. 47928 PG. 522
TAX PARCEL: 09F080000310059
ZONING: M2 (HEAVY INDUSTRIAL)
HENDERSON LAKE
APPROX. L.L.L.
L.L. 48
L.L. 31
DAM MAINTENANCE & ACCESS EASEMENT
25' PERMANENT ESMT FOR MAINTENANCE OF DAM AND DAM OUTLET
CONCRETE FLUME
GRASS MEDIAN
EDGE OF PAVEMENT
CONSTRUCTION CENTERLINE
TRAFFIC SIGNAL POLE
TRAFFIC SIGNAL BOX
HAND HOLE
YIELD SIGN
CONCRETE PEDESTAL
SETBACK LINES SHOWN PER CITY OF FAIRBURN ZONING.
EAS LINE SHOWN PER R/W MON. AND PINS FOUND AT PARCEL CORNERS, NOT FIELD LOCATED.
APPROX. 75' IMPERVIOUS SURFACE BUFFER
APPROX. 50' COUNTY STREAM BUFFER
APPROX. 25' STATE STREAM BUFFER
APPROXIMATE LIMITS OF STREAM BUFFER
#RBF
#RBS
#RBF ON LINE
5' CHAIN LINK
N45°23'23"E 322.26'
N68°18'11"W 96.89'
S84°13'31"W 354.83'
N88°29'07"W 351.90'
S24°02'19"W 212.08'
S45°23'34"W 211.36'
N45°23'23"E 105.60'
S72°09'52"W 57.95'
S29°34'13"E 623.10'
N89°36'44"W 333.86'
N88°52'30"W 336.03'
N61°25'26"W 465.44'
S81°50'14"E 356.17'
N72°12'07"E 32.90'
N27°38'14"E 74.69'
N30°20'47"E 58.42'
N55°27'27"W 73.47'
S80°00'54"E 61.26'
N43°43'09"E 15.49'
N52°23'09"E 100.78'
N11°22'26"E 152.65'
N43°01'07"E 46.93'
N89°52'08"E 48.94'
S68°33'17"E 18.70'
20' S.S.E.
D.B. 7484 PG. 176
20' R/W
18' R/W
40' B/L
30' B/L
20' B/L
50' B/L
SS
W
OHP
OHP–PAD
PPP–PAD
PPP
PPP–PAD
PPP–PAD
PPP–PAD



Total area for encroachment up to the 75' impervious setback is 1.37 acres and shown in green. Of that 0.87 acre is the 50' buffer.

BOHLER

211 PERIMETER CENTER PKWY NE,
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

RACETRAC FAIRBURN WETLANDS & STREAM IMPACTS EXHIBIT

HWY 74 & HOWELL AVE, FAIRBURN, GA 30213

05/05/2025 | NF | GAA220184.00 | Rev.0

40 20 10 0 40
1"= 40'

PLANT SCHEDULE

Symbol	Qty	Botanical Name	Common Name	Scheduled Size	Remarks
		Trees			
	6	Acer rubrum 'October Glory'	October Glory Red Maple	4" Cal; 12' Hgt	Single straight leader
	12	Lagerstroemia indica x faueri 'Sioux'	Sioux Crepe Myrtle	8' Hgt	Multi-trunked, 3 canes min, 3/4" per cane
	16	Quercus shumardii	Shumard Oak	4" Cal; 12' Hgt	Single straight leader
	27	Taxodium distichum	Bald Cypress	5" Cal; 14' Hgt	Single straight leader
	17	Ulmus americana 'Princeton'	Princeton Elm	5" Cal; 14' Hgt	
		Shrubs			
	37	Ilex cornuta 'Needlepoint'	Needlepoint Holly	3 Gal	
		Groundcovers			
	67	Liriope muscari 'Big Blue'	Big Blue Liriope	1 Gal	Plant 18" OC
		Other			

LANDSCAPE REQUIREMENTS

A. SITE DENSITY

REQUIRED

Canopy trees: 2.5" Cal
Understory trees: 1.5" Cal

1. 20 tree density units (TDUs) per acre; or one unit per 2,000 SF of impervious area
   - 5.30 acres x 20 TDUs = 106.0 TDUs required
   - or 121,793 SF / 2,000 SF x 1 tree = 60.9 TDUs required
   - 50% of replacement trees shall be canopy trees = 39 canopy trees required

PROVIDED

	QTY	TREE	SIZE	UNITS		TOTAL	CANOPY TREES	PARKING LOT
1.	6	RED MAPLE	4"	0.7	=	4.2	6	6
	12	CREPE MYRTLE	8' HGT	0.5	=	6.0		
	16	SHUMARD OAK	4"	0.7	=	11.2	16	16
	27	BALD CYPRESS	5"	0.9	=	24.3	27	5
	17	PRINCETON ELM	5"	0.9	=	15.3	17	17
	78	TOTAL UNITS			=	61.0	TDUs provided	
					=	66.0	canopy trees provided	

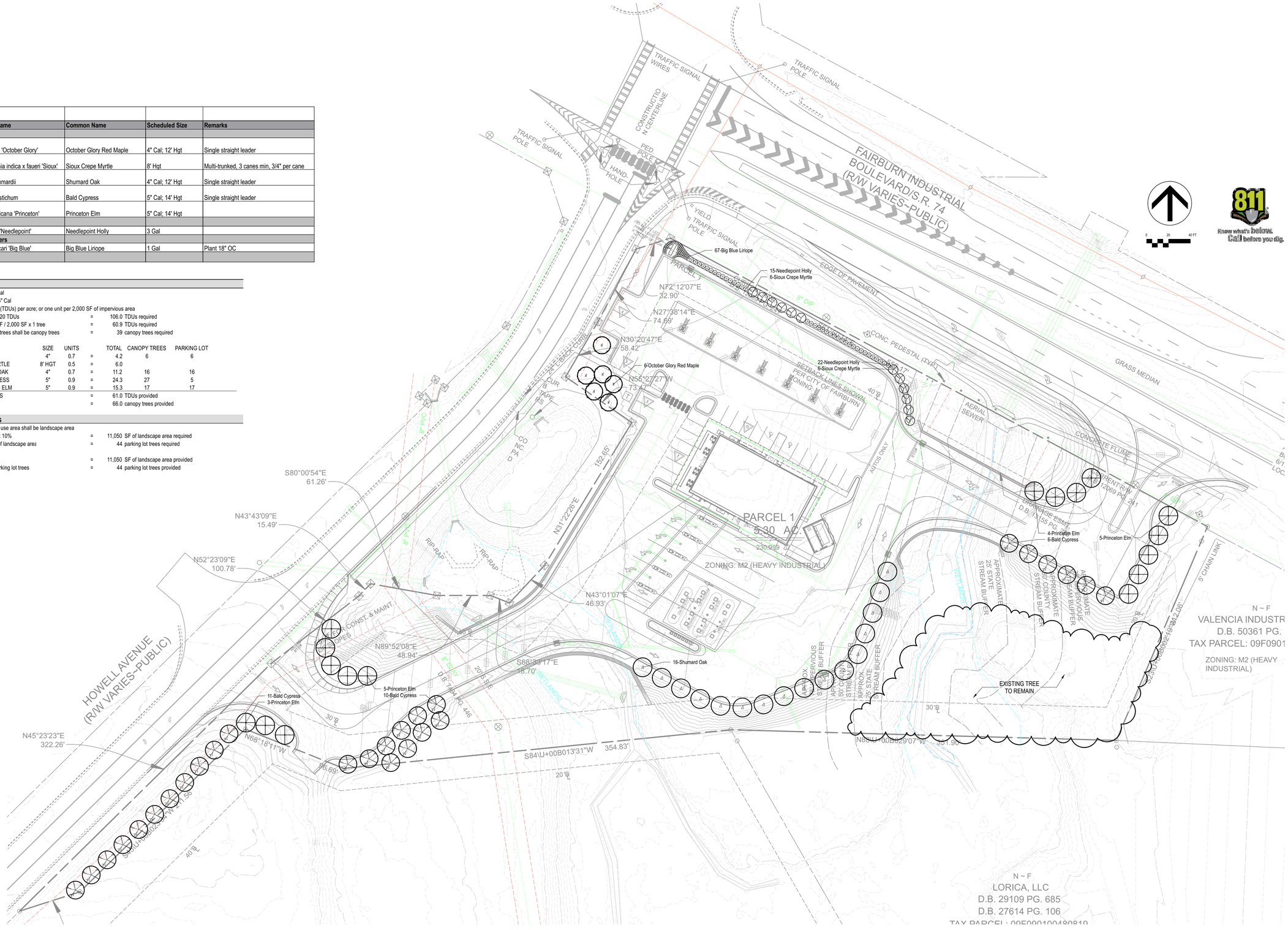
B. VEHICULAR USE AREA LANDSCAPING

REQUIRED

1. 10% of the vehicular use area shall be landscape area
   - 110,500 SF x 10% = 11,050 SF of landscape area required
2. (1) tree per 250 SF of landscape area = 44 parking lot trees required

PROVIDED

1. Landscape area = 11,050 SF of landscape area provided
2. See Section A for parking lot trees = 44 parking lot trees provided



MLD STUDIO
Landscape Architecture
51 old canton street
alpharetta, ga 30009
770.442.8171

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BLVD.
ATLANTA, GEORGIA 30339
(770) 431-7600

LAND LOTS 31 & 48, DISTRICT 9-F
CITY OF FAIRBURN, FULTON COUNTY, GA

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

MLD PROJECT #	2023181
DRAWN BY	KCN
CHECKED BY	ADN
DATE	6/24/25

Landscape Plan

L-1.1

PERMIT

PLANT SCHEDULE

Symbol	Qty	Botanical Name	Common Name	Scheduled Size	Remarks
		Trees			
	6	Acer rubrum 'October Glory'	October Glory Red Maple	4" Cal; 12' Hgt	Single straight leader
	12	Lagerstroemia indica x faueri 'Sioux'	Sioux Crepe Myrtle	8' Hgt	Multi-trunked, 3 canes min, 3/4" per cane
	16	Quercus shumardii	Shumard Oak	4" Cal; 12' Hgt	Single straight leader
	27	Taxodium distichum	Bald Cypress	5" Cal; 14' Hgt	Single straight leader
	17	Ulmus americana 'Princeton'	Princeton Elm	5" Cal; 14' Hgt	
		Shrubs			
	37	Ilex cornuta 'Needlepoint'	Needlepoint Holly	3 Gal	
		Groundcovers			
	67	Liriope muscari 'Big Blue'	Big Blue Liriope	1 Gal	Plant 18" OC
		Other			

LANDSCAPE REQUIREMENTS

A. SITE DENSITY

REQUIRED Canopy trees: 2.5" Cal
Understory trees: 1.5" Cal

1. 20 tree density units (TDUs) per acre; or one unit per 2,000 SF of impervious area
   - 5.30 acres x 20 TDUs = 106.0 TDUs required
   - or 121,793 SF / 2,000 SF x 1 tree = 60.9 TDUs required
   - 50% of replacement trees shall be canopy trees = 39 canopy trees required

PROVIDED

	QTY	TREE	SIZE	UNITS		TOTAL	CANOPY TREES	PARKING LOT
1.	6	RED MAPLE	4"	0.7	=	4.2	6	6
	12	CREPE MYRTLE	8' HGT	0.5	=	6.0		
	16	SHUMARD OAK	4"	0.7	=	11.2	16	16
	27	BALD CYPRESS	5"	0.9	=	24.3	27	5
	17	PRINCETON ELM	5"	0.9	=	15.3	17	17
	78	TOTAL UNITS			=	61.0	TDUs provided	
					=	66	canopy trees provided	

B. VEHICULAR USE AREA LANDSCAPING

REQUIRED
1. 10% of the vehicular use area shall be landscape area
   - 110,500 SF x 10% = 11,050 SF of landscape area required
2. (1) tree per 250 SF of landscape area = 44 parking lot trees required

PROVIDED
1. Landscape area = 11,050 SF of landscape area provided
2. See Section A for parking lot trees = 44 parking lot trees provided



MLD STUDIO
Landscape Architecture
51 old canton street
alpharetta, ga 30009
770.442.8171

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BLVD.
ATLANTA, GEORGIA 30339
(770) 431-7600

LAND LOTS 31 & 48, DISTRICT 9-F
CITY OF FAIRBURN, FULTON COUNTY, GA

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

MLD PROJECT #	2023181
DRAWN BY	KCN
CHECKED BY	ADN
DATE	6/24/25

Rendering

PERMIT

L-1.0

SCHEMATIC DESIGN PLANS

FOR

RaceTrac

LOCATION OF SITE:

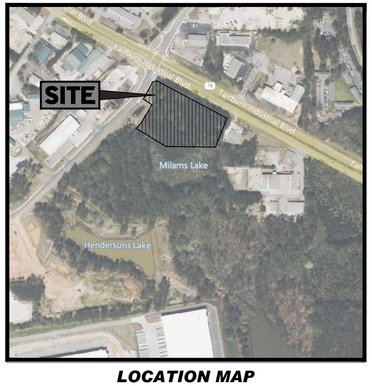
RACETRACK FAIRBURN TRAVEL CENTER

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

PARCEL ID: 09F090100480751

ZONING: M-2 (HEAVY INDUSTRIAL)



LOCATION MAP

SCALE: 1" = 500'

PLAN REFERENCE: BING MAPS

OWNER

GREENLAND GEORGIA INC
4020 CHARWOOD TRCE
MARIETTA, GA 30062-6046

DEVELOPER

RACETRAC, INC.
200 GALLERIA PARKWAY SE
SUITE 900
ATLANTA, GA 30339
CONTACT: JUSTEN GIAMALVO
(770) 431-600
JGIAMBALVO@RACETRAC.COM

PREPARED BY

BOHLER

CONTACT: NATHAN FUSS, P.E.

REFERENCES AND CONTACTS

REFERENCES

♦BOUNDARY & TOPOGRAPHIC SURVEY:
GASKINS + LECRAW, INC.
1266 POWDER SPRINGS RD SW
MARIETTA, GA 30064
DATED: 09/07/23 (REV. 1)
JOB # /SURVEY JOB #: 005060

♦GEOTECHNICAL INVESTIGATION REPORT:
TERRACON CONSULTANTS, INC.
2105 NEWPOINT PLACE, SUITE 600
LAWRENCEVILLE, GA 30043
DATED: 05/09/2022

♦ARCHITECTURAL PLAN:
HFR & ASSOCIATES
3680 PLEASANT HILL ROAD, SUITE 200
DULUTH, GA 30096
DATED: TBD

♦UTILITES
JOHN MARTIN - UTILITIES DIRECTOR
56 MALONE STREET SW
FAIRBURN, GA 30213
PHONE: (770) 964-2244 x 351

♦CITY OF FAIRBURN COMMUNITY DEVELOPMENT
LESTER THOMPSON
56 MALONE STREET SW
FAIRBURN, GA 30213
PHONE: (770) 964-2244 x 306

* THE ABOVE REFERENCED DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THESE PLANS, HOWEVER, BOHLER ENGINEERING DOES NOT CERTIFY THE ACCURACY OF THE WORK REFERENCED OR DERIVED FROM THESE DOCUMENTS, BY OTHERS.

GENERAL NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, AND SCHEDULE INSPECTION ACCORDING TO AGENCY INSTRUCTION.
2. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK, INCLUDING LANDSCAPING.
3. CONTRACTOR SHALL SUBMIT FOR REVIEW TO THE OWNER'S CONSTRUCTION MANAGER SHOP DRAWINGS ON ALL PRECAST AND MANUFACTURED ITEMS TO USE ON THIS SITE. FAILURE TO OBTAIN APPROVAL BEFORE INSTALLATION MAY RESULT IN REMOVAL AND REPLACEMENT AT CONTRACTOR'S EXPENSE. CONSTRUCTION MANAGER'S APPROVAL OF A SHOP DRAWING DOES NOT RELIEVE CONTRACTOR'S RESPONSIBILITY FOR PERFORMANCE OF THE ITEM.
4. WORK PERFORMED UNDER THIS CONTRACT SHALL INTERFACE SMOOTHLY WITH OTHER WORK BEING PERFORMED ON SITE BY OTHER CONTRACTORS AND UTILITY COMPANIES. IT IS NECESSARY FOR THE CONTRACTOR TO COORDINATE AND SCHEDULE HIS ACTIVITIES, WHERE NECESSARY WITH OTHER CONTRACTOR'S AND UTILITY COMPANIES.
5. MATERIALS AND CONSTRUCTION METHODS FOR STREETS AND STORM DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY.
6. CONTRACTOR SHALL REVIEW SOIL REPORTS AND BORINGS PRIOR TO BIDDING THE PROJECT AND COMMENCING CONSTRUCTION.
7. AT LEAST 72 HOURS PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE AGENCIES AND SUPPLY THEM WITH ALL REQUIRED SHOP DRAWINGS, THE CONTRACTOR'S NAME, STARTING DATE, PROJECTED SCHEDULE, AND OTHER INFORMATION AS REQUIRED. ANY WORK PERFORMED PRIOR TO NOTIFYING THE ENGINEER OR WITHOUT AGENCY INSPECTOR PRESENT MAY BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
8. THE CONTRACTOR SHALL USE EACH PLAN IN CONJUNCTION WITH THE ENTIRE SET OF DRAWINGS AND JOB SPECIFICATIONS. DO NOT REMOVE OR DEMOLISH ANYTHING WITHOUT VERIFYING AND COORDINATING WITH ALL ELECTRICAL, PLUMBING, MECHANICAL, GENERAL TRADES, AND UTILITY COMPANIES AS THEY AFFECT THE OVERALL PROJECT.
9. ALL WORK SHOWN SHALL BE DONE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

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COVER SHEET

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
COV	
SHEET NO.	REVISION

STANDARD DRAWING LEGEND

FOR ENTIRE PLAN SET

	LIMIT OF WORK	LOW LOW
	LIMIT OF DISTURBANCE	LOD LOD
EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
	ONSITE PROPERTY LINE / R.O.W. LINE	
	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	
	EASEMENT LINE	
	SETBACK LINE	
	CONCRETE CURB & GUTTER	CURB AND GUTTER; SPILL; TRANSITION; DEPRESSED CURB AND GUTTER
	UTILITY POLE WITH LIGHT	
	POLE LIGHT	
	TRAFFIC LIGHT	
	UTILITY POLE	
	TYPICAL LIGHT	
	ACORN LIGHT	
	TYPICAL SIGN	
X	PARKING COUNTS	X
170 / 169	CONTOUR LINE	190 / 187
TC 516.4 GR 516.4	SPOT ELEVATIONS	TC 516.00; TC 516.00 BC 515.55; MATCH EX 518.02 ±
SAN #	SANITARY LABEL	SAN #
X #	STORM LABEL	X #
SL	SANITARY SEWER LATERAL	SL
W	UNDERGROUND WATER LINE	W
E	UNDERGROUND ELECTRIC LINE	E
G	UNDERGROUND GAS LINE	G
OH	OVERHEAD WIRE	OH
T	UNDERGROUND TELEPHONE LINE	T
C	UNDERGROUND CABLE LINE	C
	STORM SEWER	
S	SANITARY SEWER MAIN	S
	HYDRANT	
S	SANITARY MANHOLE	
D	STORM MANHOLE	
WM	WATER METER	
WV	WATER VALVE	
	GAS VALVE	
	GAS METER	
	TYPICAL END SECTION	
	HEADWALL OR ENDWALL	
	GRATE INLET	
	CURB INLET	
	CLEAN OUT	
E	ELECTRIC MANHOLE	E
T	TELEPHONE MANHOLE	T
EB	ELECTRIC BOX	EB
EP	ELECTRIC PEDESTAL	EP
	MONITORING WELL	
	TEST PIT	
	BENCHMARK	
	BORING	

STANDARD ABBREVIATIONS

FOR ENTIRE PLAN SET

AC	ACRES
ADA	AMERICANS WITH DISABILITY ACT
ARCH	ARCHITECTURAL
BC	BOTTOM OF CURB
BF	BASEMENT FLOOR
BK	BLOCK
BL	BASELINE
BLDG	BUILDING
BM	BUILDING BENCHMARK
BRL	BUILDING RESTRICTION LINE
CF	CUBIC FEET
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CONN	CONNECTION
CONC	CONCRETE
CPP	CORRUGATED PLASTIC PIPE
CY	CUBIC YARDS
DEC	DECORATIVE
DEP	DEPRESSED
DIP	DUCTILE IRON PIPE
DOM	DOMESTIC
ELEC	ELECTRIC
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
EW	END WALL
EX	EXISTING
FES	FLARED END SECTION
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FG	FINISHED GRADE
G	GRADE
GF	GARAGE FLOOR (AT DOOR)
GH	GRADE HIGHER SIDE OF WALL
GL	GRADE LOWER SIDE OF WALL
GRT	GRATE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
HOR	HORIZONTAL
HW	HEADWALL
INT	INTERSECTION
INV	INVERT
LF	LINEAR FOOT
LOC	LIMITS OF CLEARING
LOD	LIMITS OF DISTURBANCE
LOS	LINE OF SIGHT
LP	LOW POINT
L/S	LANDSCAPE
MAX	MAXIMUM
MIN	MINIMUM
MH	MANHOLE
MJ	MECHANICAL JOINT
OC	ON CENTER
PA	POINT OF ANALYSIS
PC	POINT OF CURVATURE
PCCR	POINT OF COMPOUND CURVATURE, CURB RETURN
PI	POINT OF INTERSECTION
POG	POINT OF GRADE
PROP	PROPOSED
PT	POINT OF TANGENCY
PTCR	POINT OF TANGENCY, CURB RETURN
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RET WALL	RETAINING WALL
R/W	RIGHT OF WAY
S	SLOPE
SAN	SANITARY SEWER
SF	SQUARE FEET
STA	STATION
STM	STORM
S/W	SIDEWALK
TBA	TO BE ABANDONED
TBR	TO BE REMOVED
TBRL	TO BE RELOCATED
TBV	TO BE VACATED
TC	TOP OF CURB
TELE	TELEPHONE
TPF	TREE PROTECTION FENCE
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
UP	UTILITY POLE
W	WIDE
W/L	WATER LINE
W/M	WATER METER
±	PLUS OR MINUS
°	DEGREE
Ø	DIAMETER
#	NUMBER

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DRAWN-BY	KJ
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GENERAL NOTES

(Rev. 2/2021)

1. THESE PLANS ARE SOLELY BASED ON INFORMATION THE OWNER AND OTHERS PROVIDED TO BOHLER ENGINEERING. BOHLER LLC (HEREIN "BOHLER") PRIOR TO THE DATE ON WHICH THE ENGINEER OF RECORD AND BOHLER PREPARED THESE PLANS. THE CONTRACTOR MUST FIELD VERIFY ALL EXISTING CONDITIONS AND IMMEDIATELY NOTIFY BOHLER , IN WRITING, IF ANY ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THESE PLANS, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.
2. THE CONTRACTOR MUST STRICTLY COMPLY WITH THESE NOTES AND ALL SPECIFICATIONS/REPORTS CONTAINED HEREIN. THE CONTRACTOR MUST ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS, THESE NOTES, AND THE REQUIREMENTS ARTICULATED IN THE NOTES CONTAINED IN ALL THE OTHER DRAWINGS THAT COMPRISE THE PLAN SET OF DRAWINGS. ADDITIONAL NOTES AND SPECIFIC PLAN NOTES MAY BE FOUND ON THE INDIVIDUAL PLANS. THESE GENERAL NOTES APPLY TO THIS ENTIRE DOCUMENT PACKAGE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE, PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION.
3. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST CONFIRM WITH THE ENGINEER OF RECORD AND BOHLER THAT THE LATEST EDITION OF THE DOCUMENTS AND/OR REPORTS REFERENCED WITHIN THE PLAN REFERENCES ARE BEING USED FOR CONSTRUCTION. THIS IS THE CONTRACTOR'S SOLE AND COMPLETE RESPONSIBILITY.
4. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION IS TO BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE CONDITIONS OF APPROVAL TO ALL PLANS AND PERMITS. THE CONTRACTOR MUST ENSURE THAT ALL PERMITS HAVE BEEN OBTAINED AND HAS ALSO CONFIRMED THAT ALL NECESSARY AND REQUIRED PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.
5. THE CONTRACTOR MUST ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS/REPORTS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT, AND ALL PROVISIONS AND CONDITIONS OF THE CONSTRUCTION CONTRACT WITH THE OWNER/DEVELOPER INCLUDING ALL EXHIBITS, ATTACHMENTS AND ADDENDA TO SAME.
6. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFULLY REVIEWING THE MOST CURRENT ARCHITECTURAL, CIVIL AND STRUCTURAL CONSTRUCTION DOCUMENTS (INCLUDING, BUT NOT LIMITED TO, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLANS, WHERE APPLICABLE). THE CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND ENGINEER OF RECORD AND BOHLER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST BETWEEN THESE PLANS AND ANY OTHER PLANS THAT COMPRISE THE CONSTRUCTION DOCUMENTS.
7. CONTRACTOR MUST REFER TO AND ENSURE COMPLIANCE WITH THE APPROVED ARCHITECTURAL/BUILDING PLANS OF RECORD FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY POINTS, ELEVATIONS, BUILDING DIMENSIONS, AND EXACT SIZE OF UTILITY CONNECTIONS.
8. THE CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND MEASUREMENTS SHOWN ON THESE PLANS, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR MUST IMMEDIATELY NOTIFY ENGINEER OF RECORD AND BOHLER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH HAS TO BE RE-DONE OR REPAIRED DUE TO DIMENSIONS, MEASUREMENTS OR GRADES SHOWN INCORRECTLY ON THESE PLANS PRIOR TO BOTH (A) THE CONTRACTOR GIVING THE ENGINEER OF RECORD AND BOHLER WRITTEN NOTICE OF SAME, AND (B) ENGINEER OF RECORD AND BOHLER, THEREAFTER, PROVIDING THE CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.
9. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND MEASUREMENTS INCLUDED ON DESIGN DOCUMENTS HEREIN AND MUST NOT SCALE OFF THE DRAWINGS DUE TO POTENTIAL PRINTING INACCURACIES. ALL DIMENSIONS AND MEASUREMENTS ARE TO BE CHECKED AND CONFIRMED BY THE GENERAL CONTRACTOR PRIOR TO PREPARATION OF SHOP DRAWINGS, FABRICATION OF ANY MATERIALS AND ACTUAL CONSTRUCTION. PLACEMENT OF SITE WORK. SITE PLAN DRAWINGS ARE NOT INTENDED AS SURVEY DOCUMENTS. DIMENSIONS SUPERSEDE GRAPHICAL REPRESENTATIONS. THE CONTRACTOR MUST MAKE CONTRACTOR'S OWN MEASUREMENTS FOR LAYOUT OF IMPROVEMENTS.
10. THE OWNER AND CONTRACTOR MUST BE FAMILIAR WITH AND OBTAIN PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
11. WHEN INCLUDED AS ONE OF THE REFERENCED DOCUMENTS, THE GEOTECHNICAL REPORT, SPECIFICATIONS AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY, THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN: (A) THE PLANS; AND (B) THE GEOTECHNICAL REPORT AND RECOMMENDATIONS, MUST TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER OF RECORD AND BOHLER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORT AND PLANS AND SPECIFICATIONS, PRIOR TO PROCEEDING WITH ANY FURTHER WORK. IF A GEOTECHNICAL REPORT WAS NOT CREATED, THEN THE CONTRACTOR MUST FOLLOW AND COMPLY WITH ALL OF THE REQUIREMENTS OF ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE SPECIFICATIONS WHICH HAVE JURISDICTION OVER THIS PROJECT.
12. ENGINEER OF RECORD AND BOHLER ARE NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND FURTHER, HAS NO LIABILITY FOR ANY HAZARDOUS MATERIALS, HAZARDOUS SUBSTANCES, OR POLLUTANTS ON, ABOUT OR UNDER THE PROPERTY.
13. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WELL LOCATIONS AND PROTECTING AND SHORING ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES AND PROPERTIES. ALL OF THIS WORK IS TO BE PERFORMED AT CONTRACTOR'S SOLE COST AND EXPENSE.
14. THE CONTRACTOR MUST EXERCISE EXTREME CAUTION WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, UTILITIES, BUILDINGS, AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT.
15. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION AND CONSTRUCTION WASTES, UNSUITABLE EXCAVATED MATERIAL, EXCESS SOIL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER THE CONTRACTOR.
16. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN RECORDS TO DEMONSTRATE PROPER AND FULLY COMPLIANT DISPOSAL ACTIVITIES, TO BE PROMPTLY PROVIDED TO THE OWNER UPON REQUEST.
17. THE CONTRACTOR MUST REPAIR, AT CONTRACTOR'S SOLE COST, ALL DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, SIDEWALKS, PAVEMENT, STRIPING, CURBS, ETC. AND SHALL NOT BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RE-PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNAL INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DURING CONSTRUCTION AND ANY DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION IN NON-COMPLIANCE WITH LOCAL CODES, LAWS, RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE CONTRACTOR MUST, PROMPTLY, DOCUMENT ALL EXISTING DAMAGE AND NOTIFY, IN WRITING, THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
18. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR AND HAVE NO CONTRACTUAL, LEGAL OR OTHER RESPONSIBILITIES FOR JOB SITE SAFETY, JOB SITE SUPERVISION, OR ANYTHING RELATED TO THE SAME. THE ENGINEER OF RECORD AND BOHLER HAVE NOT BEEN RETAINED TO PERFORM OR TO BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF ENGINEER OF RECORD'S AND BOHLER SERVICES AS RELATED TO THE PROJECT. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES OR VIOLATIONS OTHER THAN THEIR OWN.
19. THE CONTRACTOR MUST IMMEDIATELY IDENTIFY IN WRITING, TO THE ENGINEER OF RECORD AND BOHLER , ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF THE CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER WRITTEN NOTIFICATION AS DESCRIBED ABOVE, IT WILL BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, THE CONTRACTOR MUST INDEMNIFY, DEFEND AND HOLD HARMLESS THE ENGINEER OF RECORD AND BOHLER FOR ANY AND ALL DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH RESULT FROM OR ARE IN ANY WAY RELATED TO SAME INCLUDING, BUT NOT LIMITED TO, ANY THIRD PARTY AND FIRST PARTY CLAIMS.
20. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM THE CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS, ANY CURRENT CODES, RULES, STATUTES AND THE LIKE. IF THE CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, RULES, STATUTES, CODES AND THE LIKE, THE CONTRACTOR AND/OR OWNER AGREE TO AND MUST JOINTLY, INDEPENDENTLY, SEPARATELY, AND SEVERALLY INDEMNIFY AND HOLD THE ENGINEER OF RECORD AND BOHLER HARMLESS FOR AND FROM ALL INJURIES, CLAIMS AND DAMAGES THAT ENGINEER AND BOHLER SUFFER AND ANY AND ALL COSTS THAT ENGINEER AND BOHLER INCUR AS RELATED TO SAME.
21. ALL CONTRACTORS MUST CARRY AT LEAST THE MINIMUM AMOUNT OF THE MOST COMMERCIALLY REASONABLE STATUTORY WORKER'S COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND COMMERCIAL GENERAL LIABILITY INSURANCE (CGL) INCLUDING ALSO ALL UMBRELLA COVERAGES. ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER , AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONSULTANTS, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSUREDS AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE (DEFEND, IF APPLICABLE) AND HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED AND AGREED TO BY THE CONTRACTOR HEREIN. ALL CONTRACTORS MUST FURNISH BOHLER WITH CERTIFICATIONS OF INSURANCE OR CERTIFICATES OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE COVERAGES PRIOR TO COMMENCING ANY WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND TWO YEARS AFTER THE CONSTRUCTION IS COMPLETED AND AFTER ALL PERMITS ARE ISSUED, WHICHEVER DATE IS LATER. IN ADDITION, ALL CONTRACTORS AGREE THAT THEY WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONSULTANTS, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, INJURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PROCEEDINGS, TORT DAMAGES, STATUTORY CLAIMS, STATUTORY DAMAGES, LOSS AND/OR ACTION, LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTOR(S), ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. THE CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION, SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.
22. THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES FOR COMPLETION OF THE WORK DEPICTED BOTH ON THESE PLANS, AND FOR ANY CONFLICTS IN SCOPE AND REVISIONS THAT RESULT FROM SAME. THE CONTRACTOR IS FULLY AND SOLELY RESPONSIBLE FOR DETERMINING THE MEANS AND METHODS FOR COMPLETION OF THE WORK, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
23. NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER, NOR THE PRESENCE OF BOHLER AND/OR ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, SHAREHOLDERS, MEMBERS, PRINCIPALS, AGENTS, EMPLOYEES, REPRESENTATIVES, CONSULTANTS, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE (HEREIN "BOHLER PARTIES"), RELIEVES OR WILL RELIEVE THE CONTRACTOR OF AND FROM CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE WITH ALL HEALTH AND SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. THE PARTIES HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONTRACTOR (OR ANY RESPONSIBILITY FOR) ANY CONSTRUCTION, THE CONTRACTOR OR ITS EMPLOYEES RELATING TO THEIR WORK AND ANY AND ALL HEALTH AND SAFETY PROGRAMS OR PROCEDURES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR MUST INDEMNIFY, DEFEND, PROTECT AND HOLD HARMLESS BOHLER PARTIES FOR AND FROM ANY AND ALL LIABILITY TO BOHLER PARTIES RESULTING FROM THE CONTRACTOR'S WORK, SERVICES AND/OR VIOLATIONS OF THIS NOTE, THESE NOTES OR ANY NOTES IN THE PLAN SET AND, FURTHER, THE CONTRACTOR MUST NAME BOHLER AS AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE.
24. WHEN IT IS CLEARLY AND SPECIFICALLY WITHIN BOHLER'S SCOPE OF SERVICES CONTRACT WITH THE OWNER/DEVELOPER, BOHLER WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF EVALUATING CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION DOCUMENTS. CONSTRUCTION MEANS AND METHODS AND/OR TECHNIQUES OR PROCEDURES. COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND BOHLER HAS NO RESPONSIBILITY OR LIABILITY FOR SAME. BOHLER WILL PERFORM ITS SHOP DRAWING REVIEW WITH REASONABLE PROMPTNESS, AS CONDITIONS PERMIT. ANY DOCUMENT , DOCUMENTING BOHLER'S REVIEW OF A SPECIFIC ITEM OR LIMITED SCOPE, MUST NOT INDICATE THAT BOHLER HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS THE CONTRACTOR MUST, IN WRITING, PROMPTLY AND IMMEDIATELY BRING ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS TO BOHLER'S ATTENTION. BOHLER IS NOT REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
25. IF THE CONTRACTOR DEVIATES FROM THESE PLANS AND/OR SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER OF RECORD AND BOHLER FOR ALL DEVIATIONS WITHIN ENGINEER'S SCOPE, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK PERFORMED WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT TO SUCH DEVIATIONS, AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, MUST DEFEND, INDEMNIFY, PROTECT, AND HOLD HARMLESS THE ENGINEER OF RECORD AND BOHLER PARTIES TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, FOR AND FROM ALL FINES, ATTORNEY'S FEES, DAMAGES, COSTS, CLAIMS, INJURIES, PENALTIES AND THE LIKE RELATED TO SAME.
26. THE CONTRACTOR IS RESPONSIBLE FOR A MAINTAINING AND PROTECTING THE TRAFFIC CONTROL PLAN AND ELEMENTS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS, FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE RIGHT OF WAY OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE AND IS THE CONTRACTOR'S SOLE RESPONSIBILITY
27. OWNER MUST MAINTAIN AND RESERVE ALL PHYSICAL SITE FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS IN STRICT ACCORDANCE WITH THE APPROVED PLAN(S) AND DESIGN, AND, FURTHER, THE ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD THE ENGINEER OF RECORD AND BOHLER PARTIES, HARMLESS FOR ALL INJURIES, DAMAGES AND COSTS THAT ENGINEER OF RECORD AND BOHLER INCUR AS A RESULT OF SAID FAILURE OR FAILURE TO PRESERVE.
28. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION ACTIVITIES AND MATERIALS COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL RULES AND REGULATIONS, LAWS, ORDINANCES, AND CODES, AND ALL APPLICABLE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 ET SEQ.) AS AMENDED, AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.
29. THE CONTRACTOR MUST STRICTLY COMPLY WITH THE LATEST AND CURRENT OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCY WITH JURISDICTION OVER EXCAVATION AND TRENCHING PROCEDURES. ENGINEER OF RECORD AND BOHLER HAS NO RESPONSIBILITY FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES AND WORK.
30. THE CONTRACTOR AND THE OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF THE CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY , INDEPENDENTLY, SEPARATELY, COLLECTIVELY, AND SEVERALLY DEFEND, PROTECT AND HOLD ENGINEER OF RECORD AND BOHLER PARTIES HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.
31. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN AN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIREMENTS OR LOCAL GOVERNING AGENCY FOR SITES WHERE ONE (1) ACRE OR MORE IS DISTURBED BY CONSTRUCTION ACTIVITIES (UNLESS THE LOCAL JURISDICTION REQUIRES A DIFFERENT THRESHOLD). THE CONTRACTOR MUST ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF ALL SUBCONTRACTORS, ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES, AS APPROPRIATE AND FURTHER, THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR FAILING TO DO SO.
32. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED DOCUMENTS PREPARED BY THE ENGINEER OF RECORD AND BOHLER, THE USE OF THE WORDS 'CERTIFY' OR 'CERTIFICATION' CONSTITUTES AN EXPRESSION ONLY OF PROFESSIONAL OPINION REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE ENGINEER OF RECORD'S AND BOHLER KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON AND ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE OF ANY NATURE OR TYPE, EITHER EXPRESSED OR IMPLIED, UNDER ANY CIRCUMSTANCES.

DEMOLITION NOTES

(Rev. 2/2021)

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. THE CONTRACTOR MUST CONDUCT DEMOLITION/REMOVALS ACTIVITIES IN SUCH A MANNER AS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND ALL OTHER ADJACENT FACILITIES. THE CONTRACTOR MUST OBTAIN ALL APPROPRIATE PERMITS FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY(IES) PRIOR TO THE COMMENCEMENT OF ANY ROAD OPENING OR DEMOLITION ACTIVITIES IN OR ADJACENT TO THE RIGHT-OF-WAY.
3. WHEN DEMOLITION-RELATED ACTIVITIES IMPACT ROADWAYS AND/OR ROADWAY RIGHT-OF-WAY, THE CONTRACTOR MUST PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH THE CURRENT FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AND THE FEDERAL, STATE, AND LOCAL REGULATIONS.
4. THE DEMOLITION (AND/OR REMOVALS) PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION AND TO IDENTIFY ONLY CONDITIONS REGARDING ITEMS TO BE DEMOLISHED, REMOVED, AND/OR TO REMAIN.
   A. THE CONTRACTOR MUST ALSO DEVELOP ALL CONSTRUCTION DOCUMENTS AND INCLUDE WITHIN THE DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS.
   B. THIS PLAN IS NOT INTENDED TO APPROVE DIRECTIVE OR PRESCRIPTIVE METHODS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE EMPLOYED TO ACCOMPLISH THE WORK. ALL MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE USED MUST BE IN STRICT ACCORDANCE AND CONFORMANCE WITH ALL STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR MUST COMPLY WITH ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE FOR THE CONTRACTOR AND THE PUBLIC.
5. THE CONTRACTOR MUST NOTIFY ENGINEER OF RECORD AND BOHLER, IN WRITING, IF ANY METHODS OR MEANS OF DEMOLITION, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE CONTRACTOR, AT THE CONTRACTOR'S SOLE COST, MUST REPAIR ALL DAMAGE TO ALL ITEMS AND FEATURES THAT ARE TO REMAIN, CONSTRUCTED AS PART OF THE GENERAL SITE IMPROVEMENTS. ALL DEMOLITION PLANS MUST INCLUDE THE RESTORATION OF ALL ITEMS AND FEATURES REPAIRED TO THEIR PRE-DEMOLITION CONDITION, OR BETTER. CONTRACTOR MUST PERFORM ALL REPAIRS AT THE CONTRACTOR'S SOLE EXPENSE.
6. ENGINEER OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. THE CONTRACTOR MUST PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, COMPLYING WITH ALL OSHA REQUIREMENTS, TO ENSURE THE PUBLIC SAFETY AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONSTRUCTION SCHEDULE FOR THE SAME.
7. THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY, WHICH MUST INCLUDE, BUT IS NOT LIMITED TO, THE INSTALLATION AND MAINTENANCE OF BARRIERS, FENCING, OTHER APPROPRIATE AND NECESSARY SAFETY DEVICES AND ITEMS NECESSARY TO PROTECT THE PUBLIC FROM THE PROCESS OF CONSTRUCTION AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR MUST SAFEGUARD THE SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE ENTRY OF UNAUTHORIZED PERSONS DURING NON-WORK HOURS.
8. PRIOR TO THE COMMENCEMENT OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY, THE CONTRACTOR MUST, IN WRITING, RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS AND/OR SPECIFICATIONS, ALL CONCERNS OR QUESTIONS REGARDING THE SAFETY STANDARDS, AND/OR THE SAFETY OF THE CONTRACTOR AND/OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT. ANY SUCH CONCERNS MUST BE CONVEYED TO THE ENGINEER OF RECORD AND BOHLER, IN WRITING, IN THE FORM OF A REQUEST FOR INFORMATION (RFI) ADDRESSED TO THE ENGINEER OF RECORD AND BY BOHLER, IN WRITING. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS

LINE TABLE		
LINE #	BEARING	DISTANCE
L1	N43°01'07"E	46.93'
L2	N55°27'27"W	73.47'
L3	N30°20'47"E	58.42'
L4	N27°38'14"E	74.69'
L5	N72°12'07"E	32.90'

CLERK OF THE SUPERIOR COURT
RECORDING INFORMATION

GPS NOTES:

1.) HORIZONTAL DATUM IS NAD 83.
VERTICAL DATUM IS NAVD 88.

2.) THE NORTHING, EASTING, AND ELEVATION OF THE STARTING POINTS FOR THIS SURVEY WERE OBTAINED UTILIZING A TRIMBLE 5800 GPS RECEIVER WITH A TRIMBLE TSC2 DATA COLLECTOR RECEIVING RTK CORRECTIONS VIA A CELL PHONE FROM THE EGPS SOLUTIONS REAL TIME NETWORK. THE TECHNIQUE USED WAS RTK CORRECTED MEASUREMENTS FROM THE TRIMBLE VRS REAL TIME NETWORK OPERATED BY EGPS SOLUTIONS, INC. THE RELATIVE POSITIONAL ACCURACY OBTAINED ON THE POINTS UTILIZED IN THIS SURVEY WERE 0.04 FT. HORIZONTAL AND 0.07 FT. VERTICAL AT THE 95% CONFIDENCE LEVEL.

ALTA TABLE A ITEM NOTES:

ITEM 1 – #4 REBARS SET AT ALL CORNERS UNLESS OTHERWISE NOTED.
ITEM 2 – ADDRESS IS FAIRBURN INDUSTRIAL BOULEVARD, FAIRBURN, GA 30213
ITEM 3 – SEE FLOOD NOTE.
ITEM 4 – GROSS LAND AREA IS 4.21 ACRES.
ITEM 6(a) – NO ZONING REPORT OR LETTER PROVIDED.
ITEM 6(b) – NO ZONING REPORT OR LETTER PROVIDED. CURRENTLY ZONED AS M-2 (HEAVY INDUSTRIAL AS SHOWN IN THE CITY OF FAIRBURN ZONING RECORDS.
ITEM 7(a) – NO BUILDINGS ON SITE, DOES NOT APPLY.
ITEM 8 – ALL SUBSTANTIAL FEATURES OBSERVED WHILE CONDUCTING FIELD WORK ARE SHOWN.
ITEM 9 – SUBJECT PROPERTY CONTAINS NO PARKING SPACES.
ITEM 10 – NO BUILDINGS ON SITE, DOES NOT APPLY.
ITEM 11(b) – SITE UTILITIES SHOWN ARE BASED ON ABOVE GROUND VISIBLE EVIDENCE AND UNDERGROUND UTILITIES MARKED BY PAINT OR FLAGS FIELD LOCATED BY GASKINS+LECRAW. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE IN NATURE.
ITEM 12–N/A
ITEM 13 – NAMES OF ADJOINING TRACTS HAVE BEEN SHOWN GRAPHICALLY.
ITEM 14 – SITE IS LOCATED AT THE INTERSECTION OF FAIRBURN INDUSTRIAL BOULEVARD AND HOWELL AVENUE.
ITEM 16 – THERE WAS NO OBSERVED EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS AT THE TIME OF SURVEY.
ITEM 17 – NO PROPOSED RIGHT OF WAY CHANGES.
ITEM 18 – ANY OFFSITE EASEMENTS THAT ARE PROVIDED AND ARE ABLE TO BE PLOTTED ARE SHOWN
ITEM 19– PROFESSIONAL LIABILITY INSURANCE PROVIDED.
ITEM 20–N/A

ADDITIONAL ITEMS SHOWN AS REQUESTED.

SURVEYED PROPERTY DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 48, DISTRICT 9–F, CITY OF FAIRBURN, FULTON COUNTY, GEORGIA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A RIGHT–OF–WAY MONUMENT FOUND AT THE NORTHEAST MITERED CORNER OF THE INTERSECTION OF THE EASTERLY RIGHT–OF–WAY OF HOWELL AVENUE (R/W VARIES) AND THE SOUTHERLY RIGHT OF WAY OF FAIRBURN INDUSTRIAL BOULEVARD (S.R. 74) (R/W VARIES), SAID POINT BEING THE POINT OF BEGINNING;

THENCE ALONG THE SOUTHERLY RIGHT OF WAY OF FAIRBURN INDUSTRIAL BOULEVARD (S.R. 74) SOUTH 61 DEGREES 50 MINUTES 14 SECONDS EAST 556.17 FEET TO A #4 REBAR SET;

THENCE LEAVING SAID RIGHT OF WAY SOUTH 22 DEGREES 17 MINUTES 34 SECONDS WEST 217.60 FEET TO A #4 REBAR FOUND;

THENCE NORTH 89 DEGREES 07 MINUTES 09 SECONDS WEST 346.42 FEET TO A #4 REBAR FOUND;

THENCE NORTH 58 DEGREES 51 MINUTES 55 SECONDS WEST 242.85 FEET TO A RIGHT–OF–WAY MONUMENT FOUND ON THE EASTERLY RIGHT–OF–WAY OF HOWELL AVENUE;

THENCE ALONG SAID RIGHT–OF–WAY NORTH 43 DEGREES 01 MINUTES 07 SECONDS EAST 46.93 FEET TO A RIGHT–OF–WAY MONUMENT FOUND;

THENCE CONTINUING ALONG SAID RIGHT–OF–WAY NORTH 31 DEGREES 22 MINUTES 26 SECONDS EAST 152.65 FEET TO A RIGHT–OF–WAY MONUMENT FOUND;

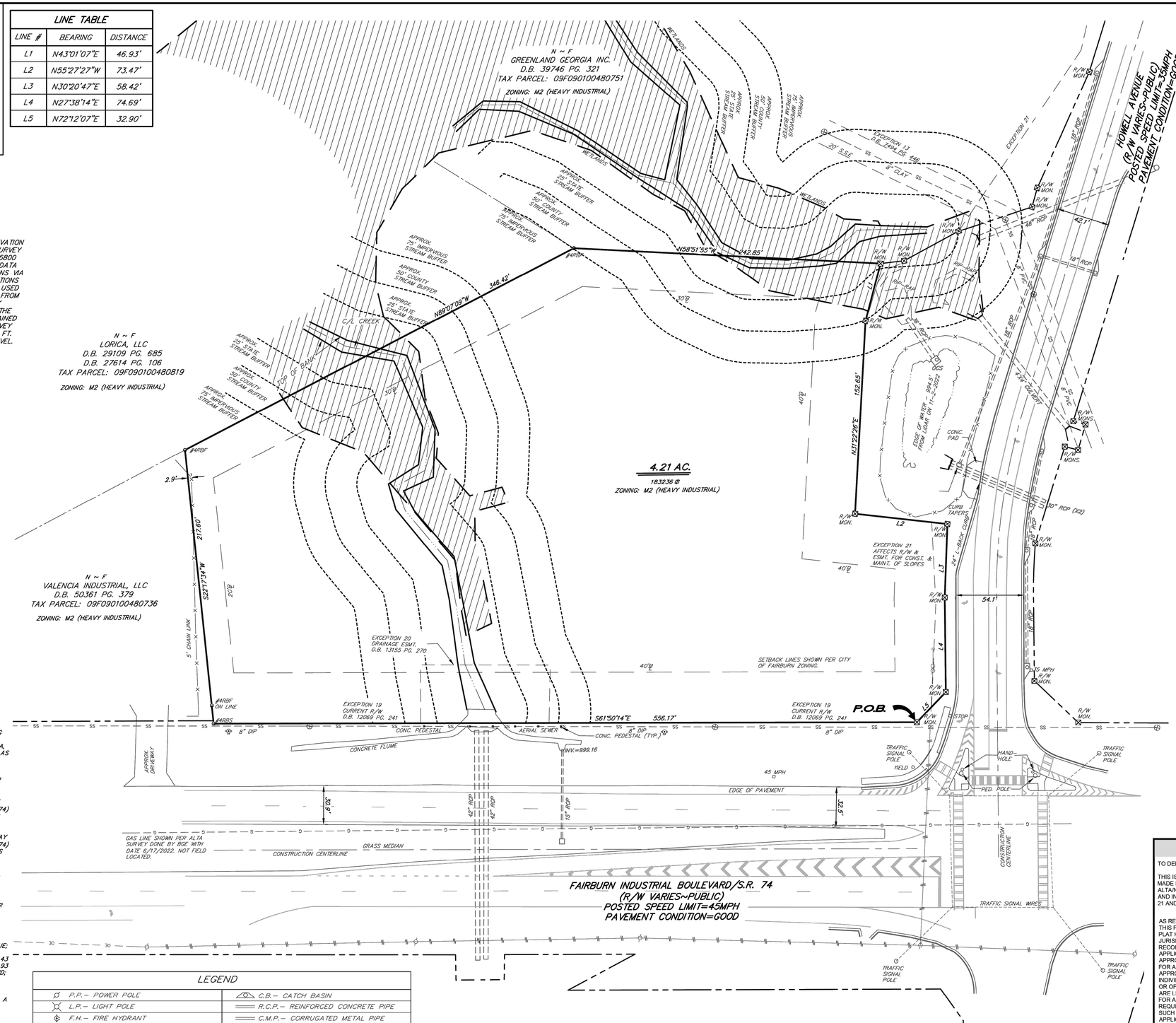
THENCE NORTH 55 DEGREES 27 MINUTES 27 SECONDS WEST 73.47 FEET TO A RIGHT–OF–WAY MONUMENT FOUND;

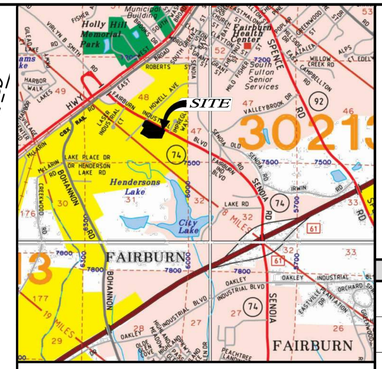
THENCE NORTH 30 DEGREES 20 MINUTES 47 SECONDS EAST 58.42 FEET TO A RIGHT–OF–WAY MONUMENT FOUND;

THENCE NORTH 27 DEGREES 38 MINUTES 14 SECONDS EAST 74.69 FEET TO A RIGHT–OF–WAY MONUMENT FOUND;

THENCE NORTH 72 DEGREES 12 MINUTES 07 SECONDS EAST 32.90 FEET TO A RIGHT–OF–WAY MONUMENT FOUND, SAID POINT BEING THE POINT OF BEGINNING;

SAID TRACT BEING 4.21 ACRES, 183,236 SQUARE FEET, MORE OR LESS.





LOCATION MAP 1" = 2000'

SCHEDULE B, PART II
COMMITMENT NUMBER: 22.3341A
COMMITMENT DATE: AUGUST 14, 2023 AT 12:00 A.M.

11. EASEMENT TO GEORGIA POWER COMPANY DATED OCTOBER 5, 1911, RECORDED ON NOVEMBER 1, 1911, IN DEED BOOK R. PAGE 371, AFORESAID RECORDS.

MAY AFFECT SUBJECT TRACT, LOCATION CANNOT BE DETERMINED FROM RECORD DOCUMENT.

12. EASEMENT BY G. E JENKINS ESTATE TO GEORGIA UTILITIES COMPANY, DATED OCTOBER 23, 1923, RECORDED ON OCTOBER 29, 1923, IN DEED BOOK 29. PAGE 117, AFORESAID RECORDS.

MAY AFFECT SUBJECT TRACT, LOCATION CANNOT BE DETERMINED FROM RECORD DOCUMENT.

13. EASEMENT BY AND BETWEEN VERDUN LAND COMPANY, OF SAID STATE AND COUNTY, YOUNG H. LONGINO, HULAND R. SAMPLES, AND EVELYN BOYD BUTTERWORTH, AND CITY OF FAIRBURN, DATED FEBRUARY 21, 1980, RECORDED ON MARCH 3, 1980 IN DEED BOOK 7494, PAGE 446, AFORESAID RECORDS.

DOES NOT AFFECT SUBJECT TRACT, SHOWN APPROXIMATE GRAPHICALLY.

14. INTENTIONALLY DELETED.

15. CONVEYANCE OF ACCESS RIGHTS FROM DISTRIBUTORS PRINTERS AND NORTHBROOK CORPORATION TO DEPARTMENT OF TRANSPORTATION FILED AND RECORDED ON JUNE 23, 1987 IN DEED BOOK 10892. PAGE 404, AFORESAID RECORDS.

MAY AFFECT, UNABLE TO PLOT, UNABLE TO DETERMINE EXACT LOCATION FROM RECORD DOCUMENT.

16. INTENTIONALLY DELETED.

17. CONVEYANCE OF ACCESS RIGHTS FROM DISTRIBUTORS PRINTERS AND NORTHBROOK CORPORATION TO DEPARTMENT OF TRANSPORTATION FILED AND RECORDED ON JUNE 23, 1987 IN DEED BOOK 10893, PAGE 242, AFORESAID RECORDS.

AFFECTS SUBJECT TRACT, UNABLE TO PLOT, ALLOWS FOR ACCESS DRIVEWAYS ALONG S.R. 74.

18. INTENTIONALLY DELETED.

19. EASEMENTS AND CONVEYANCE OF ACCESS RIGHTS CONTAINED IN RIGHT OF WAY DEED FROM GREENLAND (GEORGIA), INC., TO DEPARTMENT OF TRANSPORTATION FILED AND RECORDED ON OCTOBER 28, 1988 IN DEED BOOK 12069, PAGE 241, AFORESAID RECORDS.

AFFECTS SUBJECT TRACT, CURRENT RIGHT–OF–WAY ALONG S.R. 74.

20. CONSTRUCTION AND MAINTENANCE AGREEMENT FROM GREENLAND (GEORGIA), INC. TO THE DEPARTMENT OF TRANSPORTATION FILED AND RECORDED ON JANUARY 26, 1990 IN DEED BOOK 13155. PAGE 270, AFORESAID RECORDS.

AFFECTS SUBJECT TRACT, ALLOWS FOR CONSTRUCTION AND MAINTENANCE ALONG RIGHT–OF–WAY OF S.R. 74.

21. EASEMENTS CONDEMNED IN CASE NO. 2020CV338424, IN THE SUPERIOR COURT OF FULTON COUNTY, STYLED CITY OF FAIRBURN, GEORGIA VS. 2.003 ACRES, DR. ARTHUR E. FERDINAND, ET AL AS EVIDENCED BY DECLARATION OF TAKING DATED JUNE 26, 2020 RECORDED ON JULY 17, 2020 IN AFORESAID RECORDS

AFFECTS SUBJECT TRACT, CURRENT RIGHT–OF–WAY ALONG HOWELL AVENUE.

22. PLAT OF SURVEY FILED AND RECORDED AT PLAT BOOK 144, PAGE 96, AFORESAID RECORDS DISCLOSES GA. POWER CO. EASEMENT.

MAY AFFECT SUBJECT TRACT, EASEMENT APPEARS INSIDE PUBLIC RIGHT–OF–WAY, UNABLE TO DETERMINE EXACT LOCATION.

23. INTENTIONALLY DELETED.

SURVEYOR'S CERTIFICATION

TO DEL LAGO VENTURES, INC. AND FIDELITY NATIONAL TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARDS DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(A), 6(B), 7(A), 8, 9, 10(A), 10(B), 11(B), 12, 13, 14, 16, 17, 18, 19, 20, 21 AND 22 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON NOVEMBER 22, 2022.

AS REQUIRED BY SUBSECTION (d) of O.G.C.A. SECTION 15-6-67, THIS PLAT HAS BEEN PREPARED BY A LAND SURVEYOR. THIS PLAT HAS BEEN APPROVED BY ALL APPLICABLE LOCAL JURISDICTIONS THAT REQUIRE PRIOR APPROVAL FOR RECORDING THIS TYPE OF PLAT OR ONE OR MORE OF THE APPLICABLE LOCAL JURISDICTIONS DO NOT REQUIRE APPROVAL OF THIS TYPE OF PLAT.
FOR ANY APPLICABLE LOCAL JURISDICTION THAT REQUIRES APPROVAL OF THIS TYPE OF PLAT, THE NAMES OF THE INDIVIDUALS SIGNING OR APPROVING THIS PLAT, THE AGENCY OR OFFICE OF THAT INDIVIDUAL, AND THE DATE OF APPROVAL ARE LISTED IN THE APPROVAL TABLE SHOWN HEREON.
FOR ANY APPLICABLE LOCAL JURISDICTION THAT DOES NOT REQUIRE APPROVAL OF THIS TYPE OF PLAT, THE NAME OF SUCH LOCAL JURISDICTION AND THE NUMBER OF THE APPLICABLE ORDINANCE OR RESOLUTION PROVIDING THAT NO SUCH APPROVAL IS REQUIRED ARE LISTED IN THE APPROVAL TABLE SHOWN HEREON. SUCH APPROVALS, AFFIRMATIONS, OR ORDINANCE OR RESOLUTION NUMBERS SHOULD BE CONFIRMED WITH THE APPROPRIATE GOVERNMENTAL BODIES BY ANY PURCHASER OR USER OF THIS PLAT AS TO INTENDED USE OF ANY PARCEL.
FURTHERMORE, THE UNDERSIGNED LAND SURVEYOR CERTIFIES THAT THIS PLAT COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN THE RULES AND REGULATIONS OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN O.C.G.A.SECTION 15-6-67.

GEORGIA PROFESSIONAL 3491 LAND SURVEYOR TODD BENNETT SHORT

Todd Bennett Short

TODD BENNETT SHORT
DATE:09/07/2023
GEORGIA REGISTERED LAND SURVEYOR NO. 3491

AS SURVEYOR FOR GASKINS + LECRAW, INC.

LEGEND	
P.P.– POWER POLE	C.B.– CATCH BASIN
L.P.– LIGHT POLE	R.C.P.– REINFORCED CONCRETE PIPE
F.H.– FIRE HYDRANT	C.M.P.– CORRUGATED METAL PIPE
M.H.– SANITARY SEWER MANHOLE	F.F.E.– FINISHED FLOOR ELEVATION
W.M.– WATER METER	W.V.– WATER VALVE
G.M.– GAS METER	C.O.– SEWER CLEAN OUT
RBS– REINFORCING BAR SET	B.S.– BUILDING SETBACK LINE
RBF– REINFORCING BAR FOUND	E —UNDERGROUND ELECTRICAL LINE
CTF– CRIMP TOP PIPE FOUND	OVERHEAD POWER LINES
OTF– OPEN TOP PIPE FOUND	HW.–HEADWALL
R/W MON.– RIGHT–OF–WAY MONUMENT	PBX POWERBOX
TYPE OF FENCE	W –W–WATER LINE
J.B.– JUNCTION BOX	T —UNDERGROUND TELEPHONE LINE
D.I.– DROP INLET / YARD INLET	G —GAS LINE

SURVEYOR REFERENCES:

D.B. 39746 PG. 321
D.B. 11226 PG. 295
D.B. 6408 PG. 122
D.B. 6636 PG. 224
D.B. 9361 PG. 154
D.B. 12069 PG. 241
D.B. 50361 PG. 379
D.B. 29109 PG. 685
D.B. 39746 PG. 321
CASE NO. 2020CV338424
ALTA SURVEY FROM BGE DATED 06/17/2022

CURRENT OWNER:

GREENLAND (GEORGIA), INC.,
A GEORGIA CORPORATION
D.B. 39746 PG. 321
D.B. 11226 PG. 295
D.B. 6408 PG. 122
D.B. 6636 PG. 224
D.B. 9361 PG. 154
D.B. 12069 PG. 241
CASE NO. 2020CV338424
ALTA SURVEY FROM BGE DATED 06/17/2022

POSTED SPEED LIMITS:

HOWELL AVENUE: 35 MPH
FAIRBURN INDUSTRIAL BOULEVARD (S.R. 74): 45 MPH

THIS PARCEL OF LAND IS NOT IN THE 100 YEAR FLOOD PLAIN AND IS IN ZONE X , ACCORDING TO F.E.M.A. (F.I.A.) COMMUNITY NUMBER # 130314 , MAP NUMBER # 13121C0462F DATED SEPTEMBER 18, 2013 .

*WETLANDS DELINEATED BY CORBLU

THIS PLAT IS PREPARED FROM A FIELD SURVEY USING A FIVE SECOND DIGITAL THEODOLITE AND ELECTRONIC DISTANCE METER ; LINEAR PRECISION OF TRAVERSE : 1/ 57,867 ; ANGULAR ERROR: 01" PER POINT. THE TRAVERSE WAS ADJUSTED USING THE COMPASS RULE. LINEAR PRECISION OF THIS PLAT: 1/ 511,203 . MATTERS OF TITLE ARE EXCEPTED.

PREPARED IN THE OFFICE OF:

GASKINS +LECRAW

© 2023 GASKINS + LECRAW, INC.
1266 POWDER SPRINGS RD SW
MARIETTA, GA 30064
PHONE - 770.424.7168
FAX - 770.424.7583
www.gaskinslecraw.com
LSF001371

REVISIONS:

REV.#	DATE	DRAWN BY:	CHECKED BY:
1	09/07/23	TBS	TBS
	UPDATE TITLE COMMITMENT		

ALTA/NSPS LAND TITLE SURVEY FOR:
DEL LAGO VENTURES, INC. & FIDELITY NATIONAL TITLE INSURANCE COMPANY

FAIRBURN INDUSTRIAL BOULEVARD
LAND LOT 48, DISTRICT 9–F,
CITY OF FAIRBURN, FULTON COUNTY, GEORGIA

CALL BEFORE YOU DIG

811 Know what's below. Call before you dig.

SCALE & NORTH ARROW:

GRID NORTH-GEORGIA WEST ZONE
0' 20' 40' 80'
SCALE: 1" = 40'

SURVEY INFO:

DRAWN BY:	TBS
REVIEWED BY:	DCO
FIELD DATE:	11/22/2022
OFFICE DATE:	11/29/2022
JOB #:	005060

1 OF 1

Drawing name: S:\Brett\FULTON\005060_004BF\FAIRBURN INDUSTRIAL\DWG\FAIRBURN ALTA 4.21 ACRES.dwg SHEET1 Sep 07, 2023 10:25am by tshort

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Gaskins + LeCraw, Inc. shall be without liability to Gaskins + LeCraw, Inc. Copyright Gaskins + LeCraw, Inc. 2023

DEMOLITION / REMOVAL LEGEND

DEMOLITION/REMOVAL NOTE	TYPICAL NOTE TEXT
	EASEMENT LINE
	CONCRETE CURB & GUTTER
	UTILITY POLE WITH LIGHT
	POLE LIGHT
	TRAFFIC LIGHT
	UTILITY POLE
	TYPICAL LIGHT
	ACORN LIGHT
	TYPICAL SIGN
	PARKING COUNTS
TC:594.4 OR: 594	SPOT ELEVATIONS
SAN	SANITARY LABEL
STM	STORM LABEL
SL	SANITARY SEWER LATERAL
W	UNDERGROUND WATER LINE
E	UNDERGROUND ELECTRIC LINE
G	UNDERGROUND GAS LINE
OH	OVERHEAD WIRE
T	UNDERGROUND TELEPHONE LINE
C	UNDERGROUND CABLE LINE
	STORM SEWER
S	SANITARY SEWER MAIN
	HYDRANT
S	SANITARY MANHOLE
D	STORM MANHOLE
WM	WATER METER
WV	WATER VALVE
	GAS VALVE
	GAS METER

ANNOTATION LEGEND:

TBR:	TO BE REMOVED
TR:	TO REMAIN
TBRL:	TO BE RELOCATED
TBA:	TO BE ABANDONED
TBRP:	TO BE REPLACED

OWNER/DEVELOPER

RACETRAC PETROLEUM, INC.
200 GALLERIA PARKWAY S.E.,
SUITE 900
ATLANTA, GA 30339
CONTACT: JUSTEN GIAMBALVO
PHONE: (770) 431-7600
EMAIL: JGIAMBALVO@RACETRAC.COM

DISTURBED AREA SUMMARY

DESCRIPTION	AREA (ACRES)
TOTAL PARCEL AREA	± 5.3 AC
ON-SITE DISTURBED AREA	± 4.27 AC
OFF-SITE DISTURBED AREA	± 1.12 AC
TOTAL DISTURBED AREA	± 5.39 AC

40 20 10 0 40
1"= 40'

NO.	REVISION	BY	DATE

GEORGIA811 www.Georgia811.com Contact 811 before you dig.
GEORGIA
YOU MUST CALL 811 BEFORE ANY EXCAVATION WHETHER ITS ON PRIVATE OR PUBLIC LAND.
811
www.georgia811.com
RACETRAC 24-HOUR CONTACT
PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE.
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA
REGISTERED
Nathan Fuss
No. PE/RA/6934
PROFESSIONAL
08/01/2025
ENGINEER
NATHAN R. FUSS

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RaceTrac

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

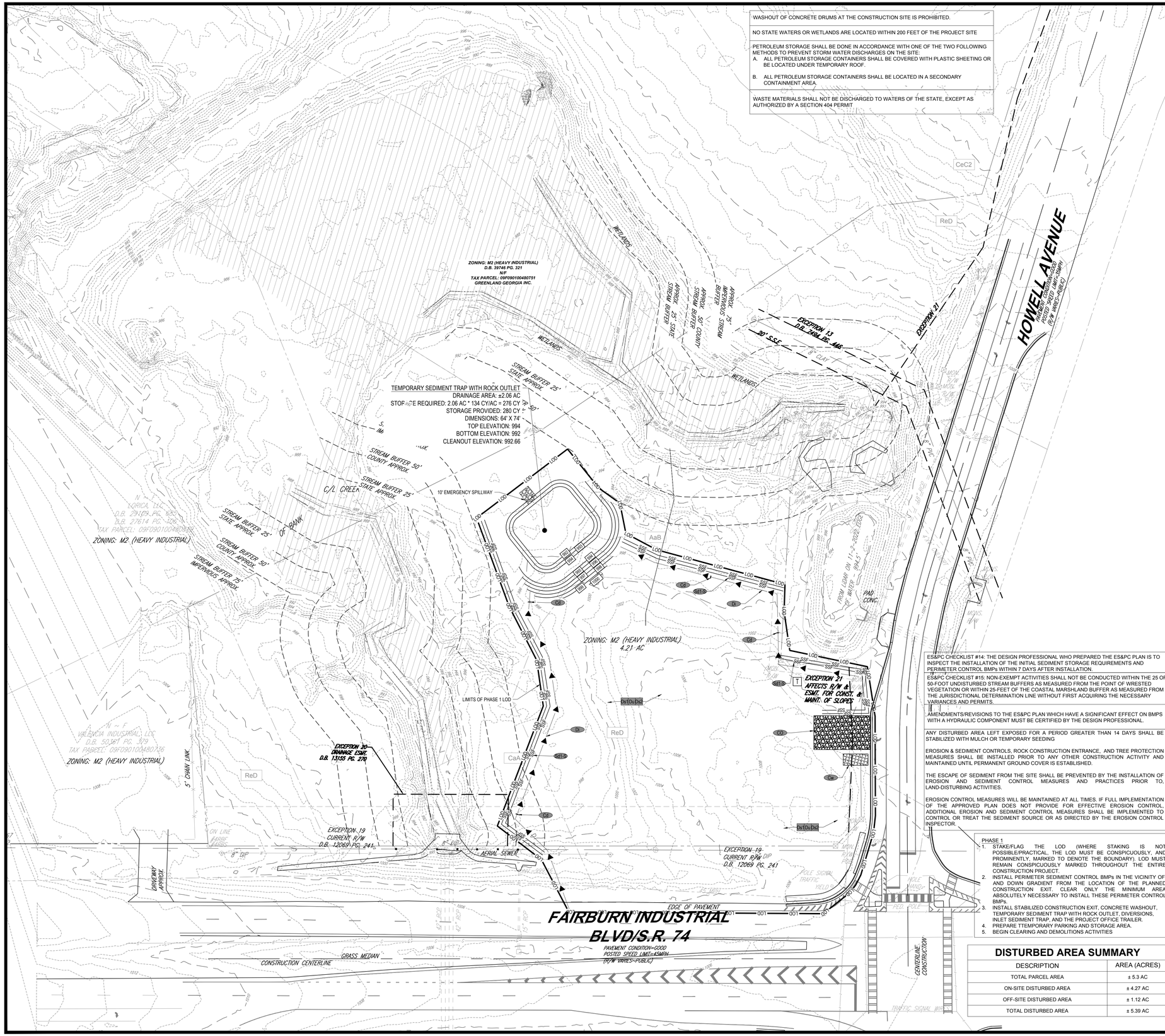
DEMOLITION PLAN

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
SHEET NO.	REVISION

WASHOUT OF CONCRETE DRUMS AT THE CONSTRUCTION SITE IS PROHIBITED.
NO STATE WATERS OR WETLANDS ARE LOCATED WITHIN 200 FEET OF THE PROJECT SITE
PETROLEUM STORAGE SHALL BE DONE IN ACCORDANCE WITH ONE OF THE TWO FOLLOWING METHODS TO PREVENT STORM WATER DISCHARGES ON THE SITE: A. ALL PETROLEUM STORAGE CONTAINERS SHALL BE COVERED WITH PLASTIC SHEETING OR BE LOCATED UNDER TEMPORARY ROOF. B. ALL PETROLEUM STORAGE CONTAINERS SHALL BE LOCATED IN A SECONDARY CONTAINMENT AREA.
WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT



GENERAL NOTES:

1. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE
2. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO PUBLIC RIGHT OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMANDS, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIAL SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE ONTO PUBLIC - ROADWAY OR INTO STORM DRAIN MUST BE REMOVED.
3. PROVIDE GPS COORDINATES AT CONSTRUCTION EXIT AS REQUIRED ON THE NOTICE INTENT UNDER THE NPDES APPLICATION.
4. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEAN. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL OCCUR WITHIN THE APPROVED LIMITS.
5. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
6. OWNER AGREES TO PROVIDE AND MAINTAIN OFF-STREET PARKING ON THE SUBJECT PROPERTY DURING THE ENTIRE CONSTRUCTION PERIOD.
7. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE ROADWAY FRONTAGE IMPROVEMENTS ARE BEING MADE.
8. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UP STREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAY HAVE BEEN PAVED.
9. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
10. ALL SEWER EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION.
11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH CITY OF FAIRBURN STANDARDS AND SPECIFICATIONS

DESIGN PROFESSIONAL'S CERTIFICATION:

(1) I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT " MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH LAND DISTURBING ACTIVITY WAS PERMITTED. THE PLAN PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALL. THE DESIGNATED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENT CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR100001.

(2) "I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION."

(3) "I CERTIFY UNDER THE PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED UPON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

Nathan Fuss
GSWCC LEVEL II DESIGN PROFESSIONAL

0000087123
(VALID THROUGH 03-08-28)
CERTIFICATION #

EROSION & SEDIMENT CONTROL LEGEND

LOD—LOD		LIMITS OF DISTURBANCE
		SOILS BOUNDARY
	CW	CONCRETE WASHOUT
	CO	STABILIZED CONSTRUCTION EXIT
	Du	DUST CONTROL (USING: PHASING OF THE PROJECT, MULCH, SPRINKLING WATER, SPRAY-ON-ADHESIVE, CALCIUM CHLORIDE, BARRIERS, ETC.)
	Ds1	DISTURBED AREA STABILIZATION - MULCHING
	Ds2	DISTURBED AREA STABILIZATION - TEMPORARY SEEDING
SF	Sd1-S	TYPE S DOUBLE ROW SEDIMENT BARRIER (SENSITIVE AREAS) (H=30")
	Di	DIVERSION
		TEMPORARY SEDIMENT BASIN TRAP WITH ROCK OUTLET
	Cd-Hb	CHECK DAM - STRAW BALES

ES&PC CHECKLIST
ES&PC CHECKLIST #14: THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPs WITHIN 7 DAYS AFTER INSTALLATION.
ES&PC CHECKLIST #15: NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50 FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING EROSION & SEDIMENT CONTROLS, ROCK CONSTRUCTION ENTRANCE, AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, LAND-DISTURBING ACTIVITIES. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE OR AS DIRECTED BY THE EROSION CONTROL INSPECTOR.

PHASE 1
1. STAKE/FLAG THE LOD (WHERE STAKING IS NOT POSSIBLE/PRACTICAL, THE LOD MUST BE CONSPICUOUSLY, AND PROMINENTLY, MARKED TO DENOTE THE BOUNDARY). LOD MUST REMAIN CONSPICUOUSLY MARKED THROUGHOUT THE ENTIRE CONSTRUCTION PROJECT.
2. INSTALL PERIMETER SEDIMENT CONTROL BMPs IN THE VICINITY OF, AND DOWN GRADIENT FROM THE LOCATION OF THE PLANNED CONSTRUCTION EXIT. CLEAR ONLY THE MINIMUM AREA ABSOLUTELY NECESSARY TO INSTALL THESE PERIMETER CONTROL BMPs.
3. INSTALL STABILIZED CONSTRUCTION EXIT, CONCRETE WASHOUT, TEMPORARY SEDIMENT TRAP WITH ROCK OUTLET, DIVERSIONS, INLET SEDIMENT TRAP, AND THE PROJECT OFFICE TRAILER.
4. PREPARE TTEMPORARY PARKING AND STORAGE AREA.
5. BEGIN CLEARING AND DEMOLITIONS ACTIVITIES

MAPPED SOIL TYPES

SOIL TYPE	DESCRIPTION	HYDROLOGIC SOIL GROUP
ReD	RION SANDY LOAM, 10 TO 15 PERCENT SLOPES	B
CaA	CARTECAY-TOCCOA COMPLEX, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	A/D
AaB	ALTAVISTA SANDY LOAM, 2 TO 6 PERCENT SLOPES	C
CeC2	CECIL SANDY LOAM, 6 TO 10 PERCENT SLOPES, MODEATELY ERODED	B
TAKEN FROM: USDA, NRCS WEB SOIL SURVEY FOR FULTON COUNTY, GEORGIA		

DISTURBED AREA SUMMARY

DESCRIPTION	AREA (ACRES)
TOTAL PARCEL AREA	± 5.3 AC
ON-SITE DISTURBED AREA	± 4.27 AC
OFF-SITE DISTURBED AREA	± 1.12 AC
TOTAL DISTURBED AREA	± 5.39 AC

THIS PLAN TO BE UTILIZED FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

24-HOUR ES&PC EMERGENCY CONTACT
TATE GODWIN (770) 530-7401
tgodwin@racetrac.com

DEVELOPER
RACETRAC, INC.
200 GALLERIA PARKWAY SE
SUITE 900
ATLANTA, GA 30339

NO.	REVISION	BY	DATE

GEORGIA811 www.Georgia811.com Contact 811 before you dig.
IT'S THE LAW!!!
YOU MUST CALL 811 BEFORE ANY EXCAVATION WHETHER IT'S ON PRIVATE OR PUBLIC LAND
1-800-282-7411
or dial 811 or 8-1-1
811 or 8-1-1

RACETRAC 24-HOUR CONTACT
PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE, SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA REGISTERED Nathan Fuss No. PE046694 PROFESSIONAL 08/01/2025 ENGINEER NATHAN R. FUSS

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RaceTrac

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BLVD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

ES&PC 1

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C2.1	
SHEET NO.	REVISION

WASHOUT OF CONCRETE DRUMS AT THE CONSTRUCTION SITE IS PROHIBITED.
NO STATE WATERS OR WETLANDS ARE LOCATED WITHIN 200 FEET OF THE PROJECT SITE
PETROLEUM STORAGE SHALL BE DONE IN ACCORDANCE WITH ONE OF THE TWO FOLLOWING METHODS TO PREVENT STORM WATER DISCHARGES ON THE SITE: A. ALL PETROLEUM STORAGE CONTAINERS SHALL BE COVERED WITH PLASTIC SHEETING OR BE LOCATED UNDER TEMPORARY ROOF. B. ALL PETROLEUM STORAGE CONTAINERS SHALL BE LOCATED IN A SECONDARY CONTAINMENT AREA.
WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT

EXCAVATED INLET SEDIMENT TRAP #3		
1	DRAINAGE AREA (DA)	0.76 ACRES
2	REQUIRED SEDIMENT STORAGE (ST)	(134 CY/AC) * DA = 102 CY = 2,750 ft³
3	EXCAVATION DEPTH (ED)	3.0 Ft
4	SLOPE OF SIDES	2:1
5	REQUIRED SURFACE AREA (SAmin) SAmin= ST/ED	SAmin= 917 ft²
6	SHAPE:	
	LENGTH	31 ft
	WIDTH	31 ft

EXCAVATED INLET SEDIMENT TRAP #1		
1	DRAINAGE AREA (DA)	0.80 ACRES
2	REQUIRED SEDIMENT STORAGE (ST)	(134 CY/AC) * DA = 107 CY = 2,884 ft³
3	EXCAVATION DEPTH (ED)	3.0 Ft.
4	SLOPE OF SIDES	2:1
5	REQUIRED SURFACE AREA (SAmin) SAmin= ST/ED	SAmin= 965 ft²
6	SHAPE:	
	LENGTH	32 ft
	WIDTH	32 ft

EXCAVATED INLET SEDIMENT TRAP #2		
1	DRAINAGE AREA (DA)	0.36 AC
2	REQUIRED SEDIMENT STORAGE (ST)	(134 CY/AC) * DA = 48 CY = 1,302 ft³
3	EXCAVATION DEPTH (ED)	3.0 Ft.
4	SLOPE OF SIDES	2:1
5	REQUIRED SURFACE AREA (SAmin) SAmin= ST/ED	SAmin= 434 ft²
6	SHAPE:	
	LENGTH	21 ft
	WIDTH	21 ft

GENERAL NOTES:

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8. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UP STREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAY HAVE BEEN PAVED.
9. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
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(2) "I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION."

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Nathan Fuss — GSWCC LEVEL II DESIGN PROFESSIONAL

0000087123 (VALID THROUGH 03-08-28) — CERTIFICATION #

EROSION & SEDIMENT CONTROL LEGEND

- LOD LOD — LIMITS OF DISTURBANCE
- SOILS BOUNDARY
- CW — CONCRETE WASHOUT
- CO — STABILIZED CONSTRUCTION EXIT
- Du — DUST CONTROL (USING: PHASING OF THE PROJECT, MULCH, SPRINKLING WATER, SPRAY-ON-ADHESIVE, CALCIUM CHLORIDE, BARRIERS, ETC.)
- Ds4 — DISTURBED AREA STABILIZATION - WITH SODDING (SEE LANDSCAPE PLAN FOR PLANTING TYPES AND QUANTITIES)
- St — OUTLET PROTECTION
- Ss — SLOPE STABILIZATION
- SF Sd1-S — TYPE S DOUBLE ROW SEDIMENT BARRIER (SENSITIVE AREAS) (H=30")
- Di — DIVERSION
- SD2-P — INLET SEDIMENT TRAP - CURB INLET PROTECTION
- EXCAVATED INLET SEDIMENT TRAP

ES&PC CHECKLIST #14: THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPs WITHIN 7 DAYS AFTER INSTALLATION.

ES&PC CHECKLIST #15: NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING

EROSION & SEDIMENT CONTROLS, ROCK CONSTRUCTION ENTRANCE, AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, LAND-DISTURBING ACTIVITIES.

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE OR AS DIRECTED BY THE EROSION CONTROL INSPECTOR.

PHASE 2

1. INSTALL UNDERGROUND UTILITIES, STORM SEWER PIPES, AND STORM STRUCTURES
2. BEGIN INSTALLATIONS OF UNDERGROUND DETENTION SYSTEM
3. INSTALL EXCAVATED INLET SEDIMENT TRAPS AS SHOWN. FILL IN TEMPORARY SEDIMENT PONDS, AND BRING FINAL GRADE AS CONSTRUCTION PROGRESSES
4. MUCK TEMPORARY SEDIMENT POND, AND BRING FINAL GRADE AS CONSTRUCTION PROGRESSES
5. TEMPORARY STABILIZE, THROUGHOUT CONSTRUCTION IMMEDIATELY FOLLOWING THE COMPLETION OF THE MOST RECENT LAND DISTURBING/GRADING ACTIVITY, ANY DISTURBED AREAS, INCLUDING MATERIAL STOCKPILES THAT ARE SCHEDULED OR LIKELY TO REMAIN INACTIVE FOR 14 DAYS OR MORE
6. IMMEDIATELY PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE
7. PREPARE SITE FOR PAVING.
8. BEGIN INSTALLATION OF CURB/GUTTER, AND BUILDING FOUNDATION.

DISTURBED AREA SUMMARY

DESCRIPTION	AREA (ACRES)
TOTAL PARCEL AREA	± 5.3 AC
ON-SITE DISTURBED AREA	± 4.27 AC
OFF-SITE DISTURBED AREA	± 1.12 AC
TOTAL DISTURBED AREA	± 5.39 AC

MAPPED SOIL TYPES

SOIL TYPE	DESCRIPTION	HYDROLOGIC SOIL GROUP
ReD	RION SANDY LOAM, 10 TO 15 PERCENT SLOPES	B
CaA	CARTECAY-TOCCOA COMPLEX, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	A/D
AaB	ALTAVISTA SANDY LOAM, 2 TO 6 PERCENT SLOPES	C
CeC2	CECIL SANDY LOAM, 6 TO 10 PERCENT SLOPES, MODEATELY ERODED	B
TAKEN FROM: USDA, NRCS WEB SOIL SURVEY FOR FULTON COUNTY, GEORGIA		

THIS PLAN TO BE UTILIZED FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

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ZONING: M2 (HEAVY INDUSTRIAL)
VALENCIA INDUSTRIAL, LLC
D.B. 50361 PG. 379
TAX PARCEL: 09F090100480736

HOWELL AVENUE
PAVEMENT CONDITION=GOOD
POSTED SPEED LIMIT=35MPH
(R/W VARIES-PUBLIC)

FAIRBURN INDUSTRIAL BLVD/S.R. 74
PAVEMENT CONDITION=GOOD
POSTED SPEED LIMIT=45MPH
(R/W VARIES-PUBLIC)

APPROX. LOCATION OF UNDERGROUND STORMWATER MANAGEMENT SYSTEM (ADS MC-7200) (APPROX. 20,000 CF OF STORAGE)

APPROX. LOCATION OF UNDERGROUND STORMWATER MANAGEMENT SYSTEM (ADS MC-3500) (APPROX. 43,000 CF OF STORAGE)

WETLANDS
STREAM BUFFER 25' STATE APPROX.
STREAM BUFFER 50' COUNTY APPROX.
STREAM BUFFER 75' IMPERVIOUS APPROX.
APPROX. 25' STATE STREAM BUFFER
APPROX. 50' COUNTY STREAM BUFFER
APPROX. 75' IMPERVIOUS STREAM BUFFER
FROM LIMIT OF WETLANDS
8" DIP
TRAFFIC SIGNAL WIRE
HOLD HAND-PED. POLE

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GEORGIA REGISTERED Nathan Fuss No. PE046694 PROFESSIONAL 08/07/2025 ENGINEER NATHAN R. FUSS

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ES&PC 2

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C2.2	
SHEET NO.	REVISION

WASHOUT OF CONCRETE DRUMS AT THE CONSTRUCTION SITE IS PROHIBITED.

NO STATE WATERS OR WETLANDS ARE LOCATED WITHIN 200 FEET OF THE PROJECT SITE

PETROLEUM STORAGE SHALL BE DONE IN ACCORDANCE WITH ONE OF THE TWO FOLLOWING METHODS TO PREVENT STORM WATER DISCHARGES ON THE SITE:

A. ALL PETROLEUM STORAGE CONTAINERS SHALL BE COVERED WITH PLASTIC SHEETING OR BE LOCATED UNDER TEMPORARY ROOF.

B. ALL PETROLEUM STORAGE CONTAINERS SHALL BE LOCATED IN A SECONDARY CONTAINMENT AREA.

WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT

GENERAL NOTES:

1. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE
2. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO PUBLIC RIGHT OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMANDS, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIAL SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE ONTO PUBLIC - ROADWAY OR INTO STORM DRAIN MUST BE REMOVED.
3. PROVIDE GPS COORDINATES AT CONSTRUCTION EXIT AS REQUIRED ON THE NOTICE INTENT UNDER THE NPDES APPLICATION.
4. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEAN. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL OCCUR WITHIN THE APPROVED LIMITS.
5. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
6. OWNER AGREES TO PROVIDE AND MAINTAIN OFF-STREET PARKING ON THE SUBJECT PROPERTY DURING THE ENTIRE CONSTRUCTION PERIOD.
7. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE ROADWAY FRONTAGE IMPROVEMENTS ARE BEING MADE.
8. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UP STREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAY HAVE BEEN PAVED.
9. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
10. ALL SEWER EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION.
11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH CITY OF FAIRBURN STANDARDS AND SPECIFICATIONS

DESIGN PROFESSIONAL'S CERTIFICATION:

(1) I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT " MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH LAND DISTURBING ACTIVITY WAS PERMITTED. THE PLAN PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALL. THE DESIGNATED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENT CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR100001.

(2) "I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION."

(3) "I CERTIFY UNDER THE PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED UPON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

Nathan Fuss

GSWCC LEVEL II DESIGN PROFESSIONAL

0000087123
(VALID THROUGH 03-08-28)
CERTIFICATION #

EROSION & SEDIMENT CONTROL LEGEND

LOD—LOD		LIMITS OF DISTURBANCE
		SOILS BOUNDARY
	CW	CONCRETE WASHOUT
	CO	STABILIZED CONSTRUCTION EXIT
	St	OUTLET PROTECTION
	Ss	SLOPE STABILIZATION
	Ds/4	DISTURBED AREA STABILIZATION - WITH SODDING (SEE LANDSCAPE PLAN FOR PLANTING TYPES AND QUANTITIES)
SF	Sd1-S	TYPE S DOUBLE ROW SEDIMENT BARRIER (SENSITIVE AREAS) (H=30")
	Di	DIVERSION
	SD2-P	INLET SEDIMENT TRAP - CURB INLET PROTECTION
	SD2-F	INLET SEDIMENT TRAP - FILTER FABRIC WITH SUPPORTING FRAME
	Du	DUST CONTROL (USING: PHASING OF THE PROJECT, MULCH, SPRINKLING WATER, SPRAY-ON-ADHESIVE, CALCIUM CHLORIDE, BARRIERS, ETC.)

MAPPED SOIL TYPES

SOIL TYPE	DESCRIPTION	HYDROLOGIC SOIL GROUP
ReD	RION SANDY LOAM, 10 TO 15 PERCENT SLOPES	B
CaA	CARTECAY-TOCCOA COMPLEX, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	A/D
AaB	ALTAVISTA SANDY LOAM, 2 TO 6 PERCENT SLOPES	C
CeC2	CECIL SANDY LOAM, 6 TO 10 PERCENT SLOPES, MODEATELY ERODED	B
TAKEN FROM: USDA, NRCS WEB SOIL SURVEY FOR FULTON COUNTY, GEORGIA		

ES&PC CHECKLIST #14: THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPs WITHIN 7 DAYS AFTER INSTALLATION.

ES&PC CHECKLIST #15: NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING

EROSION & SEDIMENT CONTROLS, ROCK CONSTRUCTION ENTRANCE, AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, LAND-DISTURBING ACTIVITIES.

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE OR AS DIRECTED BY THE EROSION CONTROL INSPECTOR.

PHASE 3

1. PROVIDE PERMANENT PIPE CONNECTIONS. ENSURE ALL PERMANENT PIPES ARE FULLY OPERATIONAL.
2. FINISH CURB/GUTTER AND PAVING OF SITE.
3. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL AREAS.
4. COMPLETE CONSTRUCTION OF BUILDING.
5. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS)
6. STABILIZE ANY AREAS DISTURBED BY THE REMOVAL OF TEMPORARY BMPS
7. CONTINUE DAILY INSPECTIONS AND REPORTS UNTIL THE SITE IS FULLY STABILIZED AND THE GENERAL CONSTRUCTION PERMIT GAR100001 IS TERMINATED.

NOTE:
THE GENERAL CONTRACTOR MAY COMPLETE CONSTRUCTION-RELATED ACTIVITIES CONCURRENTLY, ONLY IF ALL PRECEDING BMPS AND STABILIZATION ACTIVITIES HAVE BEEN COMPLETELY INSTALLED. BMP-RELATED STEPS IN THE ABOVE SEQUENCE ARE BOLDED FOR CLARITY. THE CEC MUST APPROVE, IN WRITING, ANY CHANGES IN THE ABOVE SWPPP IMPLEMENTATION SEQUENCE, BEFORE THEIR IMPLEMENTATION BEGINS.

THE ESTIMATED DATES OF IMPLEMENTATION OF POLLUTION CONTROL MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR ON THE SOIL EROSION/SEDIMENATION CONTROL OPERATION TIME SCHEDULE ON SHEET C - 8.6.

DISTURBED AREA SUMMARY

DESCRIPTION	AREA (ACRES)
TOTAL PARCEL AREA	± 5.3 AC
ON-SITE DISTURBED AREA	± 4.27 AC
OFF-SITE DISTURBED AREA	± 1.12 AC
TOTAL DISTURBED AREA	± 5.39 AC

THIS PLAN TO BE UTILIZED FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

24-HOUR ES&PC EMERGENCY CONTACT
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ZONING: M2 (HEAVY INDUSTRIAL)
VALENCIA INDUSTRIAL, LLC
D.B. 50361 PG. 379
TAX PARCEL: 09F090100480736

WETLANDS
STREAM BUFFER 25' STATE APPROX.
STREAM BUFFER 50' COUNTY APPROX.
STREAM BUFFER 75' IMPERVIOUS APPROX.
APPROX. LOCATION OF UNDERGROUND STORMWATER MANAGEMENT SYSTEM (ADS MC-3500) (APPROX. 43,000 CF OF STORAGE)
C/L CREEK
TOP OF BANK
5' CHAIN LINK
EXCEPTION 30 DRAINAGE ESMT. D.B. 13155 PG. 270
EXCEPTION 19 CURRENT R/W D.B. 12069 PG. 241
5" GAS LINE
AERIAL SEWER
DRIVEWAY APPROX.
RACETRAC MARKET 6,008 SQ. FT.
APPROX. LOCATION OF UNDERGROUND STORMWATER MANAGEMENT SYSTEM (ADS MC-7200) (APPROX. 20,000 CF OF STORAGE)
PAD CONC.
EXCEPTION 21 AFFECTS R/W & EASMT. FOR CONST. & MAINT. OF SLOPES
EXCEPTION 13 D.B. 5145, PG. 446
20' S.S.E.
EXCEPTION 22
R.O.W. VARIES
HOWELL AVENUE
PAVEMENT CONDITION=GOOD POSTED SPEED LIMIT=35MPH (R/W VARIES-PUBLIC)
FAIRBURN INDUSTRIAL BLVD/S.R. 74
PAVEMENT CONDITION=GOOD POSTED SPEED LIMIT=45MPH (R/W VARIES-PUBLIC)
EDGE OF PAVEMENT
GRASS MEDIAN
CONSTRUCTION CENTERLINE
CENTERLINE CONSTRUCTION
TRAFFIC SIGNAL WIRE
HOLE HAND-PED. POLE
CeC2
ReD
CaA
AaB
Ds4
Du
St
Ss
CW
CO
SF
Di
SD2-F

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GEORGIA REGISTERED PROFESSIONAL Nathan Fuss No. PE046694 08/01/2025 ENGINEER NATHAN R. FUSS

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ES&PC 3
FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.
CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C2.3	
SHEET NO.	REVISION

DISTURBED AREA STABILIZATION (WITH SODDING)

Ds4



DEFINITION:
A PERMANENT VEGETATIVE COVER USING SODS ON HIGHLY ERODIBLE OR CRITICALLY ERODED LANDS.

PURPOSE:
ESTABLISH IMMEDIATE GROUND COVER.
REDUCE RUNOFF AND EROSION.
IMPROVE AESTHETICS AND LAND VALUE.
REDUCE DUST AND SEDIMENTS.
STABILIZE WATERWAYS, CRITICAL AREAS.
FILTER SEDIMENTS, NUTRIENTS AND BUGS.
REDUCE DOWNSTREAM COMPLAINTS.
REDUCE LIKELIHOOD OF LEGAL ACTION.
REDUCE LIKELIHOOD OF WORK STOPPAGE DUE TO LEGAL ACTION.
INCREASE "GOOD NEIGHBOR" BENEFITS.

CONDITIONS:
THIS APPLICATION IS APPROPRIATE FOR AREAS THAT REQUIRE IMMEDIATE VEGETATIVE COVERS, DROP INLETS, GRASS SWALES, AND WATERWAYS WITH INTERMITTENT FLOW.

PLANNING CONSIDERATIONS:
SODDING CAN INITIALLY BE MORE COSTLY THAN SEEDING, BUT THE ADVANTAGES JUSTIFY THE INCREASED INITIAL COSTS:

1. IMMEDIATE EROSION CONTROL, GREEN SURFACE, AND QUICK USE.
2. REDUCED FAILURE AS COMPARED TO SEED AS WELL AS THE LACK OF WEEDS.
3. CAN BE ESTABLISHED NEARLY YEAR-ROUND.

SODDING IS PREFERABLE TO SEED IN WATERWAYS AND SWALES BECAUSE OF THE IMMEDIATE PROTECTION OF THE CHANNEL AFTER APPLICATION. SODDING MUST BE STAKED IN CONCENTRATED FLOW AREAS (SEE FIGURE 6-6.1).

GSWCC 2016 EDITION

CONSIDER USING SOD FRAMED AROUND DROP INLETS TO REDUCE SEDIMENTS AND MAINTAINING THE GRADE

CONSTRUCTION SPECIFICATIONS
SOIL PREPARATION:
BRING SOIL SURFACE TO FINAL GRADE. CLEAR SURFACE OF TRASH, WOODY DEBRIS, STONES AND CLODS LARGER THAN 1". APPLY SOD TO SOIL SURFACES ONLY AND NOT FROZEN SURFACES, OR GRAVEL TYPE SOILS.

TOPSOIL PROPERLY APPLIED WILL HELP GUARANTEE A stand.DON'T USE TOPSOIL RECENTLY TREATED WITH HERBICIDES OR SOIL STERILANTS.

MIX FERTILIZER INTO SOIL SURFACE. FERTILIZE BASED ON SOIL TESTS OR TABLE 6-6.1.

TABLE 6-6.1 FERTILIZER REQUIREMENTS FOR SOIL SURFACE APPLICATION

FERTILIZER TYPE	FERTILIZER RATE (LBS/ACRE)	FERTILIZER RATE (LBS/SQ FT)	SEASON
10-10-10	1000	.025	FALL

AGRICULTURAL LIME SHOULD BE APPLIED BASED ON SOIL TESTS OR AT A RATE OF 1 TO 2 TONS PER ACRE.

INSTALLATION:
LAY SOD WITH TIGHT JOINTS AND IN STRAIGHT LINES. DON'T OVERLAP JOINTS. STAGGER JOINTS AND DO NOT STRETCH SOD (SEE FIGURE 6-6.2)

ON SLOPES STEEPER THAN 3:1, SOD SHOULD BE ANCHORED WITH PINS OR OTHER APPROVED METHODS. INSTALLED SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE GOOD CONTACT BETWEEN SOD AND SOIL.

IRRIGATE SOD AND SOIL TO A DEPTH OF 4" IMMEDIATELY AFTER INSTALLATION.

SOD SHOULD NOT BE CUT OR SPREAD IN EXTREMELY WET OR DRY WEATHER. IRRIGATION SHOULD BE USED TO SUPPLEMENT RAINFALL FOR A MINIMUM OF 2-3 WEEKS.

MATERIALS:

SOD SELECTED SHOULD BE CERTIFIED. SOD GROWN IN THE GENERAL AREA OF THE PROJECT IS DESIRABLE.

1. SOD SHOULD BE MACHINE CUT AND CONTAIN 3/4" (+ OR -1/4") OF SOIL, NOT INCLUDING SHOOTS OR THATCH.
2. SOD SHOULD BE CUT TO THE DESIRED SIZE WITHIN (+ OR -5%. TORN OR UNEVEN PADS SHOULD BE REJECTED.
3. SOD SHOULD BE CUT AND INSTALLED WITHIN 36 HOURS OF DIGGING.
4. AVOID PLANTING WHEN SUBJECT TO FROST HEAVE OR HOT WEATHER, IF IRRIGATION IS NOT AVAILABLE.
5. THE SOD TYPE SHOULD BE SHOWN ON THE PLANS OR INSTALLED ACCORDING TO TABLE 6-6.2. SEE FIGURE 6-6.1 FOR YOUR RESOURCE AREA.

MAINTENANCE:

RE-SOD AREAS WHERE AN ADEQUATE STAND OF SOD IS NOT OBTAINED. NEW SOD SHOULD BE MOWED SPARINGLY. GRASS HEIGHT SHOULD NOT BE CUT LESS THAN 2"-3" OR AS SPECIFIED (SEE FIGURE 6-6.2).

APPLY ONE TON OF AGRICULTURAL LIME AS INDICATED BY SOIL TEST OR EVERY 4-6 YEARS. FERTILIZE GRASSES IN ACCORDANCE WITH SOIL TESTS OR TABLE 6-6.3.

TABLE 6-6.2 SOD PLANTING REQUIREMENTS

GRASS	VARIETIES	RESOURCE AREA	GROWING SEASON
BERMUDAGRASS	COMMON TIFWAY TIFGREEN TIFLAWN	M-L,P,C P,C P,C P,C	WARM WEATHER
BAHIAGRASS	PENSACOLA	P,C	WARM WEATHER
BERMUDAGRASS	—	P,C	WARM WEATHER
BERMUDAGRASS	COMMON BITTERBLUE RALEIGH	C	WARM WEATHER
BERMUDAGRASS	EMERALD MYER	P,C	WARM WEATHER
BERMUDAGRASS	KENTUCKY	M-L,P	COOL WEATHER

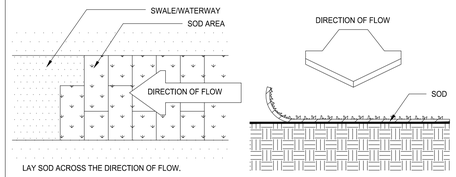
TABLE 6-6.3 FERTILIZER REQUIREMENTS FOR SOD

TYPES OF SPECIES	PLANTING YEAR	FERTILIZER (N-P-K)	RATE (LBS/ACRE)	NITROGEN TOP DRESSING RATE (LBS/ACRE)
COOL SEASON GRASSES	FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500 1000 400	50-100 - 30
WARM SEASON GRASSES	FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500 800 400	50-100 50-100 30

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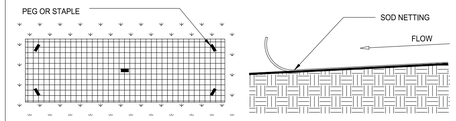
SODDED WATERWAYS

SOD DIRECTIONS



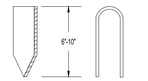
LAY SOD ACROSS THE DIRECTION OF FLOW.

NETTING DIRECTIONS



LAY NET WITH THE DIRECTION OF FLOW.

PEG DETAIL

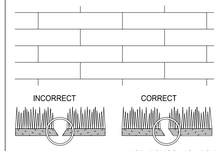


IN CRITICAL AREAS, SECURE SOD WITH NETTING USING STAPLES.

USE PEGS OR STAPLES TO FASTEN SOD FIRMLY – AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3-4 FEET IF THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND.

SOD MAINTENANCE AND INSTALLATION

SOD LAYOUT AND PREPARATION



LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER, DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

BUTTING: ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

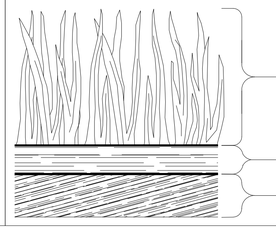
DIRECTIONS FOR INITIAL MAINTENANCE

Step 1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL

Step 2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

Step 3. MOW WHEN THE SOD IS ESTABLISHED – IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3").

APPEARANCE OF GOOD SOD



SHOOTS OR GRASS BLADES : GRASS SHOULD BE GREEN AND HEALTHY, MOWED AT A 2"-3" CUTTING HEIGHT.

THATCH: GRASS CLIPPINGS AND DEAD LEAVES (UP TO 1/2" THICK).

ROOT ZONE : SOIL AND ROOTS. SHOULD BE 1/2"-3/4" THICK WITH DENSE ROOT MAT FOR STRENGTH.

DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

Ds2



DEFINITION

THE ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS FOR SEASONAL PROTECTION ON DISTURBED OR DENUDED AREAS.

PURPOSE

- TO REDUCE RUNOFF AND SEDIMENT DAMAGE OF DOWN STREAM RESOURCES
- TO PROTECT THE SOIL SURFACE FROM EROSION
- TO IMPROVE WILDLIFE HABITAT
- TO IMPROVE AESTHETICS
- TO IMPROVE TILTH, INFILTRATION AND AERATION AS WELL AS ORGANIC MATTER FOR PERMANENT PLANTINGS

REQUIREMENT FOR REGULATORY COMPLIANCE

MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. TEMPORARY GRASSING, INSTEAD OF MULCH, CAN BE APPLIED TO ROUGH GRADED AREAS THAT WILL BE EXPOSED FOR LESS THAN SIX MONTHS. IF AN AREA IS EXPECTED TO BE UNDISTURBED FOR LONGER THAN SIX MONTHS, PERMANENT PERENNIAL VEGETATION SHALL BE USED. IF OPTIMUM PLANTING CONDITIONS FOR TEMPORARY GRASSING IS LACKING, MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE. REFER TO SPECIFICATION **DS1-DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).**

CONDITIONS

TEMPORARY VEGETATIVE MEASURES SHOULD BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL AND EFFECTIVE STABILIZATION. MOST TYPES OF TEMPORARY VEGETATION ARE IDEAL TO USE AS COMPANION CROPS UNTIL THE PERMANENT VEGETATION IS ESTABLISHED. NOTE: SOME SPECIES OF TEMPORARY VEGETATION ARE NOT APPROPRIATE FOR COMPANION CROP PLANTINGS BECAUSE OF THEIR POTENTIAL TO OUT-COMPETE THE DESIRED SPECIES (E.G. ANNUAL RYEGRASS). CONTACT NRCS OR THE LOCAL SWCD FOR MORE INFORMATION.

SPECIFICATIONS
GRADING AND SHAPING

EXCESSIVE WATER RUN-OFF SHALL BE REDUCED BY PROPERLY DESIGNED AND INSTALLED EROSION CONTROL PRACTICES SUCH AS CLOSED DRAINS, DITCHES, DIKES, DIVERSIONS, SEDIMENT BARRIERS AND OTHERS. NO SHAPING OR GRADING IS REQUIRED IF SLOPES CAN BE STABILIZED BY HAND-SEEDED VEGETATION OR IF HYDRAULIC SEEDING EQUIPMENT IS TO BE USED.

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SEEDBED PREPARATION

WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT REQUIRED. WHEN USING CONVENTIONAL OR HAND-SEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL IS LOOSE AND NOT SEALED BY RAINFALL.

WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.

LIME AND FERTILIZER

AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE DETERMINED BY SOIL TEST FOR PH. QUICK ACTING LIME SHOULD BE INCORPORATED TO MODIFY PH DURING THE GERMINATION PERIOD. BIO STIMULANTS SHOULD ALSO BE CONSIDERED WHEN THERE IS LESS THAN 3% ORGANIC MATTER IN THE SOIL. GRADED AREAS REQUIRE LIME APPLICATION. SOILS MUST BE TESTED TO DETERMINE REQUIRED AMOUNTS OF FERTILIZER AND AMENDMENTS. FERTILIZER SHOULD BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER, OR CHISEL ON SLOPES TOO STEEP FOR, OR INACCESSIBLE TO EQUIPMENT, FERTILIZER SHALL BE HYDRAULICALLY APPLIED, PREFERABLY IN THE FIRST PASS WITH SEED AND SOME HYDRAULIC MULCH, THEN TOPPED WITH THE REMAINING REQUIRED APPLICATION RATE.

SEEDING

SELECT A GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE YEAR. SEED SHALL BE APPLIED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTI-PACKER-SEEDER, OR HYDRAULIC SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIPACKER SEEDERS SHOULD NORMALLY PLACE SEED ONE-QUARTER TO ONE-HALF INCH DEEP. APPROPRIATE DEPTH OF PLANTING IS TEN TIMES THE SEED DIAMETER. SOIL SHOULD BE "RAKED" LIGHTLY TO COVER SEED WITH SOIL IF SEEDED BY HAND. SEE TABLE 6-4.1

MULCHING

TEMPORARY VEGETATION CAN, IN MOST CASES, BE ESTABLISHED WITHOUT THE USE OF MULCH, PROVIDED THERE IS LITTLE TO NO EROSION POTENTIAL. HOWEVER, THE USE OF MULCH CAN OFTEN ACCELERATE AND ENHANCE GERMINATION AND VEGETATION ESTABLISHMENT. MULCH WITHOUT SEEDING SHOULD BE CONSIDERED FOR SHORT TERM PROTECTION. REFER TO **DS1 - DISTURBED AREA STABILIZATION (WITH MULCHING ONLY).**

IRRIGATION

DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED TO A DEPTH THAT WILL INSURE GERMINATION OF THE SEED. SUBSEQUENT APPLICATIONS SHOULD BE MADE WHEN NEEDED.

PLANT, PLANTING RATES, AND PLANTING DATES FOR TEMPORARY COVER OR COMPANION CROPS 1/

Species	Broadcast Rates 2/- Per Acre	Broadcast PLS 3/ Per 1000 sq.ft.	Resource Area 4/	Planting Dates by Resource Areas (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.) J F M A M J J A S O N D	Remarks
BARLEY (Hordeum vulgare)			P		
alone	3 bu. (144 lbs.)	3.3 lb.			14,000 seed per pound. Moderately Use on productive soils.
In mixture	1/2 bu. (24 lbs.)	0.6 lb.			
LESPEDEZA, ANNUAL (Lespedeza striata)			P		
alone	40 lbs.	0.9 lb.			200,000 seed per pound. May volunteer for several years. Use inoculant EL
in mixtures	10 lbs.	0.2 lb.			
LOVEGRASS, WEEPING (Eragrostis curvula)			P		
alone	4 lbs.	0.1 lb.			1,800,000 seed per pound May last for several years. Mix with Sericea lespedeza
in mixtures	2lbs.	0.05 lb.			
MILLET, BROWNTOP (Panicum fasciculatum)		C	P		137,000 seed per pound. Quick dense cover. Will provide too much competition in mixtures if seeded at high rates.
alone	40 lbs.	0.9 lb.			
in mixtures	10 lbs.	0.2 lb.			

PLANT, PLANTING RATES, AND PLANTING DATES FOR TEMPORARY COVER OR COMPANION CROPS 1/

Species	Broadcast Rates 2/ - Per Acre	Broadcast PLS 3/ Per 1000 sq.ft.	Resource Area 4/	Planting Dates by Resource Areas (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.) J F M A M J J A S O N D	Remarks
MILLET, PEARL (Pennisetum glaucum)			P		89,000 seed per pound. Quick dense cover. May reach 5 feet in height. Not recommended for mixtures
alone	50 lbs	1.1 lb.			
OATS (Avena sativa)			P		13,000 seed per pound. Use on productive soils. Not as winterhardyas rye or barley.
alone	4 bu. (128 lbs.)	2.9 lb.			
In mixtures	1 bu. (32 lbs.)	0.7lb			
RYE (Secale cereale)			P		18,000 seed per pound. Quick cover. Drought tolerant and winterhardy.
alone	3 bu. (168 lbs.)	3.9 lb.			
In mixture	1/2 bu. (28 lbs.)	0.6 lb.			
RYEGRASS, ANNUAL (Lolium temulentum)			P		227,000 seed per pound. Dense cover. Very competitive and is not to be used in
alone	40 lbs.	0.9 lb.			
SUDANGRASS (Sorghum Sudanese)			P		59,000 seed per pound. Good on droughty sites. Not recommended for mixtures.
alone	60 lbs	1.4lb			

P_PLANT, PLANTING RATES, AND PLANTING DATES FOR TEMPORARY COVER OR COMPANION CROPS

Species	Broadcast Rates 2/- Per Acre	Broadcast PLS 3/ Per 1000 sq.ft.	Resource Area 4/	Planting Dates by Resource Areas (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.) J F M A M J J A S O N D	Remarks
WHEAT (Triticum Aestivum)			P		15,200 seed per pound.
alone	3 bu. (180 lbs.)	4.1 lb.			
In mixtures	1/2 bu. (30 lbs.)	0.7 lb.			

1/ Temporary cover crops are very competitive and will crown out perennials if's seeded too heavily.
2/ Reduce seeding rates by 50% when drilled.
3/ PLS is an abbreviation for Pure Live Seed.
4/ P represents the Southern Piedmont MLRA.

BOHLER
211 PERIMETER CENTER PKWY NE, SUITE 425
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Phone: (678) 695-6800
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NO.	REVISION	BY	DATE

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IT'S THE LAW!!!
YOU MUST CALL 811 BEFORE ANY EXCAVATION WHETHER IT'S ON PRIVATE OR PUBLIC LAND
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PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

GEORGIA REGISTERED Nathan Fuss No. PE048894 PROFESSIONAL 08/01/2025 ENGINEER NATHAN R. FUSS

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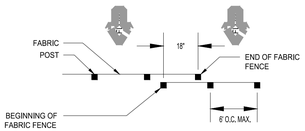
FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C2.4	
SHEET NO.	REVISION

FASTENERS FOR SILT FENCES

OVERLAP AT FABRIC ENDS



TOP VEIW - NOT TO SCALE

FRONT VIEWS - NOT TO SCALE

NOTES:
1. THE FABRIC AND WIRE SHOULD BE SECURELY FASTENED TO POSTS AND FABRIC ENDS MUST BE OVERLAPPED A MINIMUM OF 18" OR WRAPPED TOGETHER AROUND A POST TO PROVIDE A CONTINUOUS FABRIC BARRIER AROUND THE INLET.

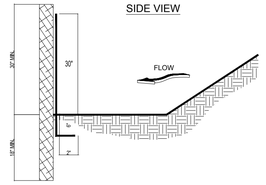
Table 6-27.2 Post Size			
Type	"Min Length"	"Type of Post"	Size of Post
NS	4'	Soft wood Oak Steel	"3"dia or 2x4 1.5" x1.5" 1.15lb./ft. min"
S	4'	"Steel Oak"	"1.15-1.25 lb./ ft. min 2"x2""

Table 6-27.3 Fasteners for Wood Posts				
	Gauge	Crown	Legs	"Staples / Post"
"Wire Staples"	17 min.	"3/4" wide"	"1/2" long"	5 min.
	Gauge	Length	"Button Heads"	Nail/ Post
Nails	14 min.	1"	3/4"	4 min.
Note: Filter Fabric may also be attached to the post by wire, cords, and pockets.				

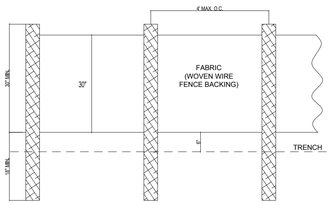
SILT FENCE - TYPE SENSITIVE

Sd1-S

SIDE VIEW



FRONT VIEW



NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (") IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

DISTURBED AREA STABILIZATION (WITH SODDING)

Ds4



DEFINITION

A permanent vegetative cover using sods on highly erodible or critically eroded lands.

PURPOSE

- Establish immediate ground cover.
- Reduce runoff and erosion.
- Improve aesthetics and land value.
- Reduce dust and sediments.
- Stabilize waterways, critical areas.
- Filter sediments, nutrients and bugs.
- Reduce downstream complaints.
- Reduce likelihood of legal action.
- Reduce likelihood of work stoppage due to legal action.
- Increase "good neighbor" benefits.

CONDITIONS

This application is appropriate for areas which require immediate vegetative covers, drop inlets, grass swales, and waterways with intermittent flow.

PLANNING CONSIDERATIONS

Sodding can initially be more costly than seeding, but the advantages justify the increased initial costs.

1. Immediate erosion control, green surface, and quick use.
2. Reduced failure as compared to seed as well as the lack of weeds.
3. Can be established nearly year-round.

Sodding is preferable to seed in waterways and swales because of the immediate protection of the channel after application. Sodding must be staked in concentrated flow areas (See Figure 6-6.1).

Consider using sod framed around drop inlets to reduce sediments and maintaining the grade.

CONSTRUCTION SPECIFICATIONS INSTALLATION

Soil Preparation

Bring soil surface to final grade. Clear surface of trash, woody debris, stones and clods larger than 1". Apply sod to soil surfaces only and not frozen surfaces, or gravel type soils.

Topsoil properly applied will help guarantee a stand. Don't use topsoil recently treated with herbicides or soil sterilants.

Mix fertilizer into soil surface. Fertilize based on soil tests or Table 6-6.1.

Table 6-6.1. Fertilizer Requirements for Soil Surface Application

Fertilizer Type	Fertilizer Rate (lbs /acre)	Fertilizer Rate (lbs /sq ft)	Season
10-10-10	1000	.025	Fall

Agricultural lime should be applied based on soil tests or at a rate of 1 to 2 tons per acre.

Installation

Lay sod with tight joints and in straight lines. Don't overlap joints. Stagger joints and do not stretch sod (See Figure 6-6.2)

On slopes steeper than 3:1, sod should be anchored with pins or other approved methods. Installed sod should be rolled or tamped to provide good contact between sod and soil.

Irrigate sod and soil to a depth of 4" immediately after installation.

Sod should not be cut or spread in extremely wet or dry weather. Irrigation should be used to supplement rainfall for a minimum of 2-3 weeks.

MATERIALS

Sod selected should be certified. Sod grown in the general area of the project is desirable.

1. Sod should be machine cut and contain 3/4" (+ or -1/4") of soil, not including shoots or thatch.
2. Sod should be cut to the desired size within + or -5%. Torn or uneven pads should be rejected.
3. Sod should be cut and installed within 36 hours of digging.
4. Avoid planting when subject to frost heave or hot weather if irrigation is not available.
5. The sod type should be shown on the plans or installed according to Table 6-6.2. See Figure 6-6.4 for your Resource Area.

Table 6-6.2. Sod Planting Requirements

Grass	Varieties	Resource Area	Growing Season
Bermudagrass	Common Tifway Tifgreen Tifdwarf	M-L,P,C P,C P,C P,C	Warm Weather
Bahiagrass	Pensacola	P,C	Warm Weather
Centipede	-	P,C	Warm Weather
St. Augustine	Common Bitterblue Raleigh	C	Warm Weather
Zoysia	Emerald Myer	P,C	Warm Weather
Tall Fescue	Kentucky	M-L,P	Cool Weather

MAINTENANCE

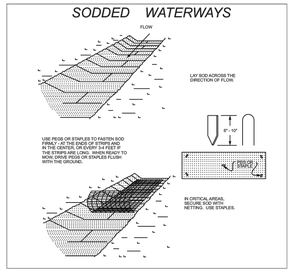
Re-sod areas where an adequate stand of sod is not obtained. New sod should be mowed sparingly. Grass height should not be cut less than 2"-3" or as specified (See Figure 6-6.2).

Apply one ton of agricultural lime as indicated by soil test or every 4-6 years. Fertilize grasses in accordance with soil tests or Table 6-6.3.

Table 6-6.3. Fertilizer Requirements for Sod

Types of Species	Planting Year	Fertilizer (N-P-K)	Rate (lbs /acre)	Nitrogen Top Dressing Rate (lbs /acre)
Cool season grasses	First	6-12-12	1500	50-100
	Second Maintenance	6-12-12 10-10-10	1000 400	30
Warm season grasses	First	6-12-12	1500	50-100
	Second Maintenance	6-12-12 10-10-10	800 400	50-100 30

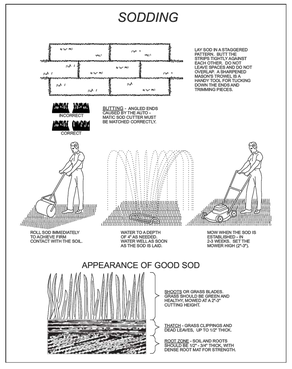
SODDED WATERWAYS



Source: Va. DSWC

Figure 6-6.1

SODDING

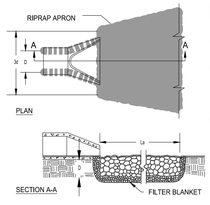


Source: Va. DSWC

Figure 6-6.2

RIPRAP OUTLET PROTECTION

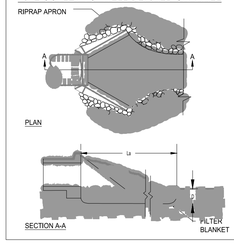
PIPE OUTLET TO FLAT AREA -- NO WELL DEFINED CHANNEL



NOTES:
1. La IS THE LENGTH OF THE RIPRAP APRON.
2. D = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL-DEFINED CHANNEL, EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK (WHICHEVER IS LESS).
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND THE SOIL FOUNDATION.

St

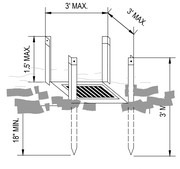
PIPE OUTLET TO WELL DEFINED CHANNEL



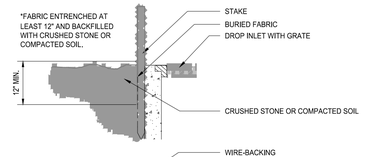
FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION

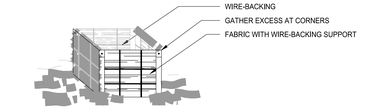
Sd2-F

STEEL FRAME AND SILT FENCE INSTALLATION



NOTES:
1. DESIGN IS FOR SLOPES NO GREATER THAN 5% (NOT DESIGNED FOR CONCENTRATED FLOWS).
2. THE STEEL POSTS SUPPORTING THE SILT FENCE MATERIAL SHOULD BE SPACED EVENLY AROUND THE PERIMETER OF THE INLET (MAXIMUM OF 3' APART).
3. THE STEEL POSTS SHOULD BE SECURELY DRIVEN AT LEAST 18" DEEP.
4. THE FABRIC SHOULD BE ENTRENCHED AT LEAST 12" AND THEN BACKFILLED WITH CRUSHED STONE OR COMPACTED SOIL.

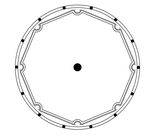


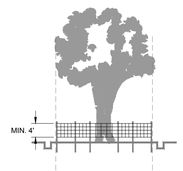


TR

TREE PROTECTION

"SNOW" FENCE

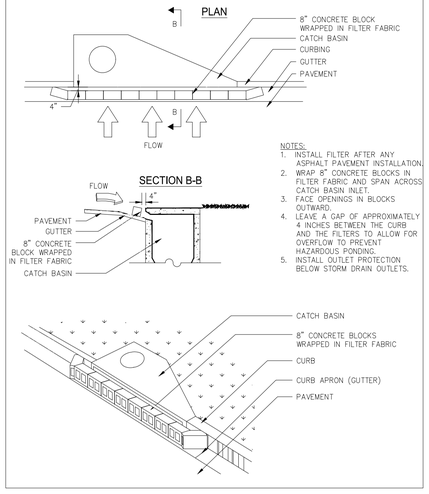




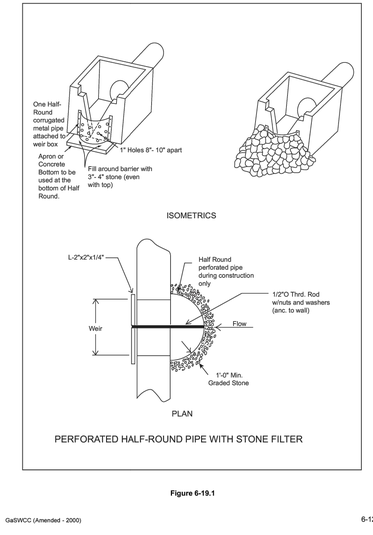
NOTES:
1. USE TRENCHER (I.E. DITCH WHICH) TO CUT A 4"-5" W X 18" D TRENCH ALONG DRIP LINE (LIMIT OF CLEARING) AND BACKFILL WITH SAND AND LIGHTLY COMPACT.
2. SPACE STAKES AT INTERVALS SUFFICIENT TO MAINTAIN ALL FENCING OUT OF DRIP LINE OR AS SHOWN BY ENGINEER (SET STAKES NO GREATER THAN 6 FEET ON CENTER-REBAR IS NOT TO BE USED FOR STAKES).
3. MAINTAIN FENCE BY REPAIRING AND/OR REPLACING DAMAGED FENCE. DO NOT REMOVE FENCING PRIOR TO LANDSCAPING OPERATIONS.
4. DO NOT STORE OR STACK MATERIALS, EQUIPMENT, OR VEHICLES WITHIN FENCED AREA.
5. FENCE SHALL BE ORANGE VINYL "SNOW FENCE" 4' HIGH MINIMUM.

Sd2-P

CURB INLET FILTER "PIGS IN BLANKET"



NOTES:
1. INSTALL FILTER AFTER ANY ASPHALT PAVEMENT INSTALLATION.
2. WRAP 8" CONCRETE BLOCKS IN FILTER FABRIC AND SPAN ACROSS CATCH BASIN INLET.
3. FACE OPENINGS IN BLOCKS OUTWARD.
4. LEAVE A GAP OF APPROXIMATELY 4 INCHES BETWEEN THE CURB AND THE FILTERS TO ALLOW FOR OVERFLOW TO PREVENT HAZARDOUS PONDING.
5. INSTALL OUTLET PROTECTION BELOW STORM DRAIN OUTLETS.



PERFORATED HALF-ROUND PIPE WITH STONE FILTER

Figure 6-19.1

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GEORGIA REGISTERED PROFESSIONAL Nathan Fuss No. PE046694 PROFESSIONAL 08/01/2025 NATHAN R. FUSS ENGINEER

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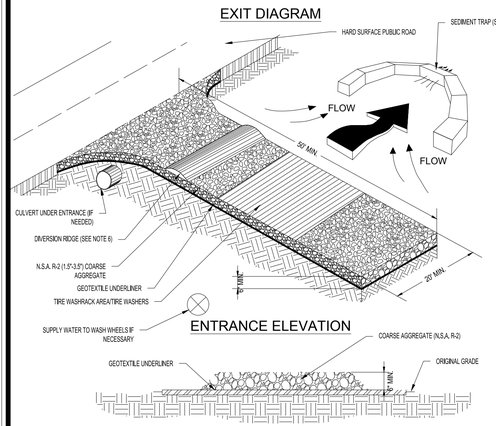
FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
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SHEET NO.	REVISION

CRUSHED STONE CONSTRUCTION EXIT

EXIT DIAGRAM



ENTRANCE ELEVATION

NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%..
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

CO

SLOPE STABILIZATION

Ss



DEFINITION

A PROTECTIVE COVERING USED TO PREVENT EROSION AND ESTABLISH TEMPORARY OR PERMANENT VEGETATION ON STEEP SLOPES, SHORE LINES, OR CHANNELS.

PURPOSE

TO PROVIDE A COVER LAYER THAT STABILIZES THE SOIL AND ACTS AS A RAIN DROP IMPACT DISSIPATER WHILE PROVIDING A MICROCLIMATE THAT PROTECTS YOUNG VEGETATION AND PROMOTES ITS ESTABLISHMENT. IF USING SLOPE STABILIZATION TO REINFORCE CHANNELS, PLEASE REFER TO SPECIFICATION, **CH- CHANNEL STABILIZATION**.

CONDITIONS

SLOPE STABILIZATION CAN BE APPLIED TO FLAT AREAS OR SLOPES WHERE THE EROSION HAZARD IS HIGH AND SLOPE PROTECTION IS NEEDED DURING THE ESTABLISHMENT OF VEGETATION.

PLANNING CONSIDERATIONS

CARE MUST BE TAKEN TO CHOOSE THE TYPE OF SLOPE STABILIZATION PRODUCT THAT IS MOST APPROPRIATE FOR THE SPECIFIC NEEDS OF A PROJECT. TWO GENERAL TYPES OF SLOPE STABILIZATION PRODUCTS ARE DISCUSSED WITHIN THIS SPECIFICATION.

ROLLED EROSION CONTROL PRODUCTS (RECP)

A NATURAL FIBER BLANKET WITH SINGLE OR DOUBLE PHOTODEGRADABLE OR BIODEGRADABLE NETS.

HYDRAULIC EROSION CONTROL PRODUCTS (HECP)

HECP SHALL UTILIZE STRAW, COTTON, WOOD OR OTHER NATURAL BASED FIBERS HELD TOGETHER BY A SOIL BINDING AGENT THAT WORKS TO STABILIZE SOIL PARTICLES. PAPER MULCH SHOULD NOT BE USED FOR EROSION CONTROL.

CRITERIA

ROLLED EROSION CONTROL PRODUCTS (RECPS) AND HYDRAULIC EROSION CONTROL PRODUCTS (HECPS).

•INSTALLATION AND STAPLING OF RECPS AND APPLICATION RATES FOR THE HECPS SHALL CONFORM TO MANUFACTURER'S GUIDELINES FOR APPLICATION

•SHORT-TERM RECPS AS A MINIMUM SHALL BE USED TO STABILIZE CONCENTRATED FLOW AREAS WITH A VELOCITY LESS THAN 5FT/SEC ON SLOPES 3:1 OR GREATER WITH A HEIGHT OF 10 FEET OR GREATER.

MATERIALS – HECP

HYDRAULIC EROSION CONTROL PRODUCTS SHALL BE PREPACKAGED FROM THE MANUFACTURER. FIELD MIXING OF PERFORMANCE ENHANCING ADDITIVES WILL NOT BE ALLOWED. FIBEROUS COMPONENTS SHOULD BE ALL NATURAL OR BIODEGRADABLE. PRODUCTS SHALL BE DETERMINED TO BE NON-TOXIC IN ACCORDANCE WITH EPA-821-R-02-012.

MATERIALS – RECP

BLANKETS SHALL BE NONTOXIC TO VEGETATION, SEED, OR WILDLIFE. PRODUCTS SHALL BE DETERMINED TO BE NON-TOXIC IN ACCORDANCE WITH EPA-821-R-02-012. AT MINIMUM, THE PLASTIC OR BIODEGRADABLE NETTING SHALL BE STITCHED TO THE FIBROUS MATRIX TO MAXIMIZE STRENGTH AND PROVIDE FOR EASE OF HANDLING.

RECPS ARE CATEGORIZED AS FOLLOWS:

a. SHORT-TERM
(FUNCTIONAL LONGEVITY 12 MO.)
i. PHOTODEGRADABLE
STRAW BLANKETS WITH A TOP AND BOTTOM SIDE PHOTO DEGRADABLE NET. THE MAXIMUM SIZE OF THE MESH SHOULD BE OPENINGS OF ½" X ½". THE BLANKET SHOULD BE SEWN TOGETHER ON 1.5" CENTERS WITH DEGRADABLE THREAD. MINIMUM THICKNESS SHOULD BE 0.35" AND MINIMUM DENSITY SHOULD BE 0.5 LBS PER SQUARE YARD.

ii. BIODEGRADABLE
STRAW BLANKET WITH A TOP AND BOTTOM SIDE BIODEGRADABLE JUTE NET. THE TOP SIDE NET SHOULD CONSIST OF MACHINE DIRECTION STRANDS THAT ARE TWISTED TOGETHER AND THEN INTERWOVEN WITH CROSS DIRECTION STRANDS (LENO WEAVE). THE BOTTOM NET MAY BE LENO WEAVE OR OTHERWISE TO MEET REQUIREMENTS. THE APPROXIMATE SIZE OF THE MESH SHOULD BE OPENINGS OF 0.5" X 1.0". THE BLANKET SHOULD BE SEWN TOGETHER ON 1.5" CENTERS WITH DEGRADABLE THREAD. MINIMUM THICKNESS SHOULD BE 0.25" AND MINIMUM DENSITY SHOULD BE 0.5 LBS PER SQUARE YARD.

b. EXTENDED-TERM
(FUNCTIONAL LONGEVITY 24 MO.)
i.PHOTODEGRADABLE
BLANKETS THAT CONSIST OF 70% STRAW AND 30% COCONUT WITH A TOP AND BOTTOM SIDE PHOTODEGRADABLE THE TOP NET SHOULD HAVE ULTRAVIOLET ADDITIVES TO DELAY BREAKDOWN. THE MAXIMUM SIZE OF THE MESH SHOULD BE OPENINGS OF 0.65" X 0.65". THE BLANKET SHOULD BE SEWN TOGETHER ON 1.5" CENTERS WITH DEGRADABLE THREAD. MINIMUM THICKNESS SHOULD BE 0.35" AND MINIMUM DENSITY SHOULD BE 0.6 LBS PER SQUARE YARD.

ii.BIODEGRADABLE
BLANKETS THAT CONSIST OF 70% STRAW AND 30% COCONUT WITH A TOP AND BOTTOM SIDE BIODEGRADABLE JUTE NET. THE TOP SIDE NET SHOULD CONSIST OF MACHINE DIRECTION STRANDS THAT ARE TWISTED TOGETHER.
AND THEN INTERWOVEN WITH CROSS DIRECTION STRANDS (LENO WEAVE). THE BOTTOM NET MAY BE LENO WEAVE OR OTHERWISE TO MEET REQUIREMENTS. THE APPROXIMATE SIZE OF THE MESH SHOULD BE
OPENINGS OF 0.5" X 1.0". THE BLANKET SHOULD BE SEWN TOGETHER ON 1.5" CENTERS WITH DEGRADABLE MINIMUM THICKNESS SHOULD BE 0.25" AND MINIMUM DENSITY SHOULD BE 0.65 LBS PER SQUARE YARD.

c. LONG-TERM
(FUNCTIONAL LONGEVITY 36 MO.)
i. PHOTODEGRADABLE
BLANKETS THAT CONSIST OF 100% COCONUT WITH A TOP AND BOTTOM SIDE PHOTODEGRADABLE NET. EACH NET SHOULD HAVE ULTRAVIOLET ADDITIVES TO DELAY BREAKDOWN. THE MAXIMUM SIZE OF THE MESH SHOULD BE OPENINGS OF 0.65" X 0.65". THE BLANKET SHOULD BE SEWN TOGETHER ON 1.5" CENTERS WITH DEGRADABLE THREAD. MINIMUM THICKNESS SHOULD BE 0.3" AND MINIMUM DENSITY SHOULD BE 0.5 LBS PER SQUARE YARD.

ii. BIODEGRADABLE
BLANKETS THAT CONSIST OF 100% COCONUT WITH A TOP AND BOTTOM SIDE BIODEGRADABLE JUTE NET. THE TOP SIDE NET SHOULD CONSIST OF MACHINE DIRECTION STRANDS THAT ARE TWISTED TOGETHER AND THEN INTERWOVEN WITH CROSS DIRECTION STRANDS (LENO WEAVE). THE BOTTOM NET MAY BE LENO WEAVE OR OTHERWISE TO MEET REQUIREMENTS. THE APPROXIMATE SIZE OF THE MESH SHOULD BE OPENINGS OF 0.5" X 1.0". THE BLANKET SHOULD BE SEWN TOGETHER ON 1.5" CENTERS WITH DEGRADABLE THREAD. MINIMUM THICKNESS SHOULD BE 0.25" AND MINIMUM DENSITY SHOULD BE0.5 LBS PER SQUARE YARD.

NOTES
IT IS THE INTENTION OF THIS SECTION TO ALLOW INTERCHANGEABLE USE OF RECPS AND HECPS FOR EROSION PROTECTION ON SLOPES. THE PROJECT ENGINEER SHOULD SELECT THE TYPE OF EROSION CONTROL PRODUCT THAT BEST FITS THE NEED OF THE PARTICULAR SITE.

SITE PREPARATION
AFTER THE SITE HAS BEEN SHAPED AND GRADED TO THE APPROVED DESIGN, PREPARE A FRIABLE SEEDBED RELATIVELY FREE FROM CLODS AND ROCKS MORE THAN ONE INCH IN DIAMETER, AND ANY FOREIGN MATERIAL THAT WILL PREVENT CONTACT OF THE SOIL STABILIZATION
MAT WITH THE SOIL SURFACE. SURFACE MUST BE SMOOTH TO ENSURE PROPER CONTACT OF BLANKETS OR MATTING TO THE SOIL SURFACE. IF NECESSARY, REDIRECT ANY RUNOFF FROM THE DITCH OR SLOPE DURING INSTALLATION.

MAINTENANCE
ALL EROSION CONTROL BLANKETS AND MATTING SHOULD BE INSPECTED PERIODICALLY FOLLOWING INSTALLATION, PARTICULARLY AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. ANY DISLOCATION OR FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUTS OR BREAKAGE OCCURS, REINSTALL THE MATERIAL AFTER.
REPAIRING DAMAGE TO THE SLOPE OR DITCH. CONTINUE TO MONITOR THESE AREAS UNTIL THEY BECOME PERMANENTLY STABILIZED.

TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)

BLANKET AND MATTING CROSS-SECTIONS

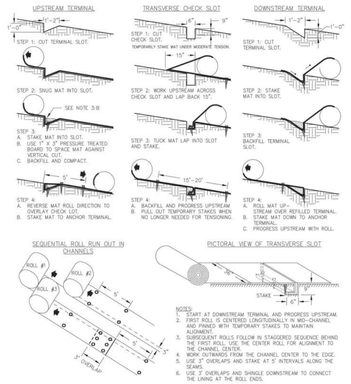
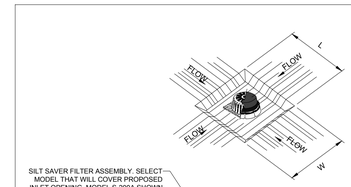
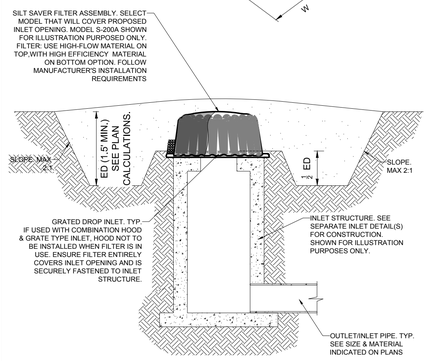


Figure 6-10.1 - Typical Installation Guidelines for Matting and Blankets



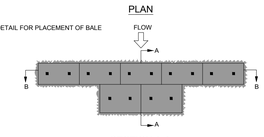


EXCAVATED INLET SEDIMENT TRAP

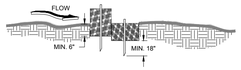
Sd2-E

TYPICAL STRAW BALE CHECK DAM

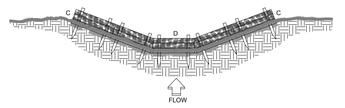
PLAN



SECTION A-A



SECTION B-B



NOTES:
1. BALES SHOULD BE BOUND WITH WIRE OR NYLON STRING AND SHOULD BE PLACED IN ROWS WITH BALE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. REMOVE #4 REBAR AFTER STRAW BALES ARE NO LONGER IN PLACE.
3. POINT C OF SECTION B-B SHOULD ALWAYS BE HIGHER THAN POINT D.

DUST CONTROL ON DISTURBED AREAS

Du



DEFINITION

CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITES, ROADS, AND DEMOLITION SITES.

PURPOSE
- TO PREVENT SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES.
- TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES THAT MAY BE HARMFUL OR INJURIOUS TO HUMAN HEALTH, WELFARE, OR SAFETY, OR TO ANIMALS OR PLANT LIFE.

CONDITIONS
THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST WHERE ON AND OFF-SITE DAMAGE MAY OCCUR WITHOUT TREATMENT.

METHOD AND MATERIALS

A. TEMPORARY METHODS

MULCHES, SEE STANDARD DS1 - DISTURBED AREA STABILIZATION (WITH MULCHING ONLY). SYNTHETIC RESINS MAY BE USED INSTEAD OF ASPHALT TO BIND MULCH MATERIAL. REFER TO SPECIFICATION TAC - TACKIFIERS. RESINS SHOULD BE USED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

VEGETATIVE COVER. SEE SPECIFICATION DS2 - DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).

SPRAY-ON ADHESIVES. THESE ARE USED ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS. REFER TO SPECIFICATION TAC - TACKIFIERS.

TILLAGE. THIS PRACTICE IS DESIGNED TO ROUGHEN AND BRING CLODS TO THE SURFACE. IT IS AN EMERGENCY MEASURE THAT SHOULD BE USED BEFORE WIND EROSION STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT THAT MAY PRODUCE THE DESIRED EFFECT.

IRRIGATION. THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED.

BARRIERS. SOLID BOARD FENCES, SNOWFENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 15 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.

CALCIUM CHLORIDE. APPLY AT RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

B. PERMANENT METHODS

PERMANENT VEGETATION. SEE SPECIFICATION **DS3 -DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)**. EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.

TOPSOILING. THIS ENTAILS COVERING THE SURFACE WITH LESS EROSIVE SOIL MATERIAL. SEE SPECIFICATION **TP - TOPSOILING**.

STONE. COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. SEE SPECIFICATION **CR-CONSTRUCTION ROAD STABILIZATION**.

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DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)

Ds1



DEFINITION

APPLYING PLANT RESIDUES OR OTHER SUITABLE MATERIALS, PRODUCED ON THE SITE IF POSSIBLE, TO THE SOIL SURFACE.

PURPOSE
- TO REDUCE RUNOFF AND EROSION
- TO CONSERVE MOISTURE
- TO PREVENT SURFACE COMPACTION OR CRUSTING
- TO CONTROL UNDESIRABLE VEGETATION
- TO MODIFY SOIL TEMPERATURE
- TO INCREASE BIOLOGICAL ACTIVITY IN THE SOIL

REQUIREMENT FOR REGULATORY COMPLIANCE
MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS, BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, DEPENDING ON THE MATERIAL USED, ANCHORED AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE.
MAINTENANCE SHALL BE REQUIRED TO MAINTAIN APPROPRIATE DEPTH AND 90% COVER. TEMPORARY VEGETATION MAY BE EMPLOYED INSTEAD OF MULCH IF THE AREA WILL REMAIN UNDISTURBED FOR LESS THAN SIX MONTHS.
IF ANY AREA WILL REMAIN UNDISTURBED FOR GREATER THAN SIX MONTHS, PERMANENT VEGETATIVE TECHNIQUES SHALL BE EMPLOYED. REFER TO **DS2 -DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING), DS3 - DISTURBED AREA STABILIZATION (WITH PERMANENT SEEDING), AND DS4 - DISTURBED AREA STABILIZATION (WITH SODDING)**.

SPECIFICATIONS
MULCHING WITHOUT SEEDING
THIS STANDARD APPLIES TO GRADED OR CLEARED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER, BUT CAN BE STABILIZED WITH A MULCH COVER.

SITE PREPARATION
1. GRADE TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.
2. INSTALL NEEDED EROSION CONTROL MEASURES AS REQUIRED SUCH AS DIKES, DIVERSIONS, BERMS, TERRACES AND SEDIMENT BARRIERS.
3. LOOSEN COMPACT SOIL TO A MINIMUM DEPTH OF 3 INCHES.

MULCHING MATERIALS
SELECT ONE OF THE FOLLOWING MATERIALS AND APPLY AT THE DEPTH INDICATED:
1. DRY STRAW OR HAY SHALL BE APPLIED AT A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVERAGE. ONE ADVANTAGE OF THIS MATERIAL IS EASY APPLICATION.
2. WOOD WASTE (CHIPS, SAWDUST OR BARK) SHALL BE APPLIED AT A DEPTH OF 2 TO 3 INCHES. ORGANIC MATERIAL FROM THE CLEARING STAGE OF DEVELOPMENT SHOULD REMAIN ON SITE, BE CHIPPED, AND APPLIED AS MULCH. THIS METHOD OF MULCHING CAN GREATLY REDUCE EROSION CONTROL COSTS.
3. POLYETHYLENE FILM SHALL BE SECURED OVER BANKS OR STOCKPILED SOIL MATERIAL FOR TEMPORARY PROTECTION. THIS MATERIAL CAN BE SALVAGED AND RE-USED.

APPLYING MULCH

WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.

1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICAL EQUIPMENT.
2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, 20-30 POUNDS OF NITROGEN PER ACRE IN ADDITION TO THE NORMAL AMOUNT SHALL BE APPLIED TO OFFSET THE UPTAKE OF NITROGEN CAUSED BY THE DECOMPOSITION OF THE ORGANIC MULCHES.
3. APPLY POLYETHYLENE FILM ON EXPOSED AREAS.

ANCHORING MULCH
1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK." DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION.

   STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED. TACKIFIERS, BINDERS AND HYDRAULIC MULCH WITH TACKIFIER SPECIFICALLY DESIGNED FOR TACKING STRAW CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. PLEASE REFER TO SPECIFICATION **TAC – TACKIFIERS**. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.
3. POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

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CW

TEMPORARY CONCRETE WASHOUT FACILITIES



DEFINITION

AFTER CONCRETE IS POURED AT A CONSTRUCTION SITE, THE CHUTES OF READY MIXED CONCRETE TRUCKS AND HOPPERS OF CONCRETE PUMP TRUCKS MUST BE WASHED OUT TO REMOVE THE REMAINING CONCRETE BEFORE IT HARDENS. EQUIPMENT SUCH AS WHEELBARROWS AND HAND TOOLS ALSO NEED TO BE WASHED DOWN. AT THE END OF EACH WORK DAY, THE DRUMS OF CONCRETE TRUCKS MUST BE WASHED OUT. THIS IS CUSTOMARILY DONE AT THE READY MIXED BATCH PLANTS, WHICH ARE USUALLY OFF-SITE FACILITIES, HOWEVER LARGE OR RURAL CONSTRUCTION PROJECTS MAY HAVE ON-SITE BATCH PLANTS. CEMENTITIOUS (HAVING THE PROPERTIES OF CEMENT) WASHWATER AND SOLIDS ALSO COME FROM USING SUCH CONSTRUCTION MATERIALS AS MORTAR, PLASTER, STUCCO, AND GROUT.

PURPOSE

- TO COLLECT AND RETAIN ALL THE CONCRETE WASHOUT WATER AND SOLIDS IN LEAK PROOF CONTAINERS, SO THAT THIS CAUSTIC MATERIAL DOES NOT REACH THE SOIL SURFACE AND THEN MIGRATE TO SURFACE WATERS OR INTO THE GROUND WATER

- TO RECYCLE 100 PERCENT OF THE COLLECTED CONCRETE WASHOUT WATER AND SOLIDS.

- ANOTHER OBJECTIVE IS TO SUPPORT THE DIVERSION OF RECYCLABLE MATERIALS FROM LANDFILLS.

IMPLEMENTATION

- A SIGN SHOULD BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

- STORE DRY AND WET MATERIALS UNDER COVER, AWAY FROM DRAINAGE AREAS.

- AVOID MIXING EXCESS AMOUNTS OF CONCRETE.

- PERFORM WASHOUT OF CONCRETE TRUCKS IN DESIGNATED AREAS ONLY, WHERE WASHOUT WILL NOT REACH STORMWATER.

- DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, STREAMS OR ONTO THE GROUND. TRUCKS SHOULD ALWAYS BE WASHED OUT INTO DESIGNATED FACILITIES.

- DO NOT ALLOW EXCESS CONCRETE TO BE DUMPED ONSITE, EXCEPT IN DESIGNATED AREAS.

- FOR ONSITE WASHOUT:

  - ON LARGER SITES, IT IS RECOMMENDED TO LOCATE WASHOUT AREAS AT LEAST 50 FEET FROM STORM DRAINS, OPEN DITCHES, OR WATER BODIES. DO NOT ALLOW RUNOFF FROM THIS AREA BY CONSTRUCTING A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE.

  - WASHOUT WASTES INTO THE TEMPORARY WASHOUT WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED PROPERLY.

- DO NOT WASH SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE INTO THE STREET OR STORM DRAIN. COLLECT AND RETURN SWEEPINGS TO AGGREGATE BASE STOCKPILE OR DISPOSE IN THE TRASH.

- TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM FREEBOARD OF 6" FOR ABOVE GRADE FACILITIES AND 12" FOR BELOW GRADE FACILITIES (IF ACCEPTED BY THE JURISDICTION).

WASHOUT CONTAINER REQUIREMENTS:

DIFFERENT TYPES OF WASHOUT CONTAINERS ARE AVAILABLE FOR COLLECTING, RETAINING, AND RECYCLING THE WASHWATER AND SOLIDS FROM WASHING DOWN FIXED TRUCK CHUTES AND PUMP TRUCK HOPPERS AT CONSTRUCTION SITES. PER GA GENERAL CONSTRUCTION GENERAL PERMITS GAR100001, GAR100002, AND GAR100003 **THE CONTAINERS MUST BE LEAK PROOF, WATER PROOF, AND BE COMMERCIALLY SERVICED CONTAINMENT SYSTEMS THAT ARE 100% RECYCLED**. EXAMPLES OF APPROVED CONTAINERS ARE THE "ECO-PAN" PRODUCT, AND "CONCRETE WASHOUT SYSTEMS" BY LEWIS CONCRETE INC. GC MUST VERIFY THAT THE TYPE OF CONTAINER IS ACCEPTABLE BY THE JURISDICTION AND MEETS ALL REQUIREMENTS OF THE EPA CONCRETE WASHOUT GUIDANCE DOCUMENT.

OPERATION AND MAINTENANCE:

CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY AND AFTER HEAVY RAINS TO CHECK FOR LEAKS. IDENTIFY ANY PLASTIC LININGS AND SIDEWALLS HAVE BEEN DAMAGED BY CONSTRUCTION ACTIVITIES, AND DETERMINE WHETHER THEY HAVE BEEN FILLED TO OVER 75 PERCENT CAPACITY. WHEN THE WASHOUT CONTAINER IS FILLED TO OVER 75 PERCENT OF ITS CAPACITY, THE WASHWATER SHOULD BE VACUUMED OFF OR ALLOWED TO EVAPORATE TO AVOID OVERFLOWS. THEN WHEN THE REMAINING CEMENTITIOUS SOLIDS HAVE HARDENED, THEY SHOULD BE REMOVED AND RECYCLED. DAMAGES TO THE CONTAINER SHOULD BE REPAIRED PROMPTLY. BEFORE HEAVY RAINS, THE WASHOUT CONTAINER'S LIQUID LEVEL SHOULD BE LOWERED OR THE CONTAINER SHOULD BE COVERED TO AVOID AN OVERFLOW DURING THE RAIN STORM.

REMOVAL OF TEMPORARY CONCRETE WASHOUT FACILITIES:

- WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND PROPERLY DISPOSED OR RECYCLED IN ACCORDANCE WITH FEDERAL, STATE OR LOCAL REGULATIONS. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND PROPERLY DISPOSED OR RECYCLED IN ACCORDANCE WITH FEDERAL, STATE OR LOCAL REGULATIONS.
- HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

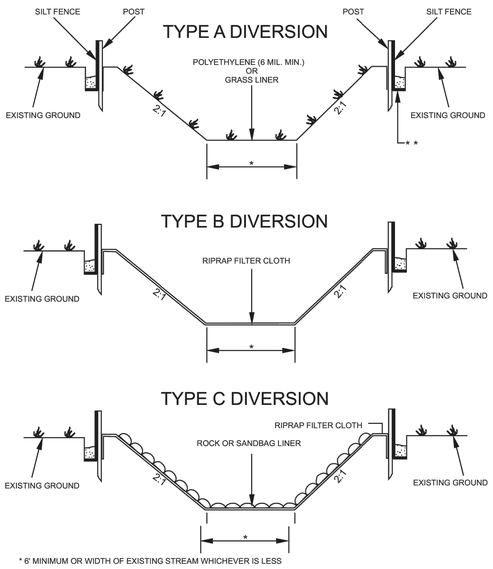
EDUCATING CONCRETE SUBCONTRCATORS:

- THE CONSTRUCTION SITE SUPERINTENDENT SHOULD MAKE READY MIXED TRUCK DRIVERS AWARE OF WASHOUT FACILITY LOCATIONS AND BE WATCHFUL FOR IMPROPER DUMPING OF CEMENTITIOUS MATERIAL.

- EDUCATE EMPLOYEES, SUBCONTRACTORS, AND SUPPLIERS ON THE CONCRETE WASTE MANAGEMENT TECHNIQUES DESCRIBED HEREIN.

- ARRANGE FOR CONTRACTOR'S SUPERINTENDENT OR REPRESENTATIVE TO OVERSEE AND ENFORCE CONCRETE WASTE MANAGEMENT PROCEDURES.

- IN ADDITION, CONCRETE WASHOUT REQUIREMENTS SHOULD BE INCLUDED IN CONTRACTS WITH CONCRETE DELIVERY COMPANIES


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GENERAL CONSERVATION NOTES AND SPECIFICATIONS

(SOURCE: GEORGIA SOIL AND WATER CONSERVATION COMMISSION

I. GENERAL INFORMATION

A. THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE AVAILABLE AT THE SITE
B. NO SEDIMENT OR SEDIMENT LADEN WATER MUST BE ALLOWED TO LEAVE THE SITE WITHOUT FIRST BEING PROPERLY FILTERED.
C. ANY SEDIMENT THAT IS TRACKED ONTO THE ROAD MUST BE CLEANED OFF BEFORE THE END OF THE DAY.
D. DISTURBED AREAS ON WHICH EARTHMOVING ACTIVITIES HAVE CEASED AND WHICH WILL REMAIN EXPOSED SHALL BE STABILIZED IMMEDIATELY, EITHER TEMPORARILY OR PERMANENTLY, INCLUDING THE RESTORATION OF DRIVEWAYS, STOCKPILES, OFF-SITE UNDERGROUND UTILITY LINES AND GRADED PERIMETER AREAS. DURING NON-GERMINATION PERIODS, MULCH MUST BE APPLIED AT RECOMMENDED RATES. CRUSHED STONE ON PAVEMENT SUBGRADE IS CONSIDERED ADEQUATE PROTECTION.
E. AREAS THAT FAIL TO GERMINATE MUST BE RE-SEEDED OR MULCHED.
F. WHERE DISTURBED AREAS ARE DIFFICULT TO STABILIZE, NETTING SHOULD BE USED TO HOLD SEED AND MULCH IN PLACE; THIS IS ESPECIALLY IMPORTANT AROUND WATERCOURSES, IN SWALES AND AREAS OF CONCENTRATED FLOWS, STEEP SLOPES.
G. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING, AND RE-NETTING, MUST BE PERFORMED IMMEDIATELY.
H. IF AT ANY TIME PRIOR TO SITE STABILIZATION ANY ESC PROBLEMS OCCUR WHICH REQUIRE ADDITIONAL CONTROLS, IMMEDIATE ACTION MUST BE TAKEN TO CORRECT THE PROBLEMS.
I. THE CONTRACTOR MUST DEVELOP AND COORDINATE WITH OWNER AND HAVE APPROVED BY THE GSWCC, A SEPARATE EROSION AND SEDIMENT POLLUTION CONTROL PLAN FOR EACH SPOIL, BORROW OR OTHER WORK AREA NOT DETAILED ON THE PERMITTED PLANS, WHETHER LOCATED WITHIN OR OUTSIDE OF THE LIMITS OF CONSTRUCTION.
J. CONTRACTOR SHALL NOTIFY THE GSWCC OF DISPOSAL METHOD AND LOCATION OF MATERIALS (IF ANY) TO BE REMOVED FROM SITE.
K. STANDARD FOR DISPOSAL OF MATERIALS:
L. ALL MATERIALS TO BE RECYCLED OR DISPOSED OF MUST DO SO IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS. STOCKPILES TO BE HAULED OFF SITE MUST HAVE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN AT THE DESTINATION LOCATION.

II. STANDARD FOR LAND GRADING

A. DEFINITION: RESHAPING THE GROUND SURFACE BY GRADING TO PLAN GRADES, WHICH ARE DETERMINED BY TOPOGRAPHIC SURVEY AND LAYOUT.
1. PROVISIONS SHALL BE MADE TO SAFELY CONDUCT SURFACE WATER TO STORM DRAINS OR SUITABLE WATER COURSES AND TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FULL SLOPES.
2. ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS.

B. INSTALLATION REQUIREMENTS
1. TIMBER, LOGS, BRUSH, RUBBISH, ROCKS, STUMPS AND VEGETABLE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OR FILL AREAS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH STANDARD FOR DISPOSAL OF MATERIALS.
2. FILL MATERIAL IS TO BE FREE OF BRUSH, RUBBISH, TIMBER, LOGS, VEGETATIVE MATTER AND STUMPS IN AMOUNTS THAT WILL BE DETRIMENTAL TO CONSTRUCTING STABLE FILLS.
3. ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESS SATURATION.
4. ALL DISTURBED AREAS SHALL BE LEFT WITH A NEAT AND FINISHED APPEARANCE AND SHALL BE PROTECTED FROM EROSION.
5. (SEE I. D.)

III. STANDARD FOR UTILITY TRENCH EXCAVATION

A. LIMIT ADVANCE CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
B. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY. DAILY BACKFILLING OF THE TRENCH MAY BE DELAYED FOR A MAX. OF SIX DAYS FOR CERTAIN CASES REQUIRING TESTING OF THE INSTALLED PIPE.
C. WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING TO A FACILITY FOR REMOVAL OF SEDIMENT (SEDIMENT FILTER BAG, SEE DETAIL) BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS.
D. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES / FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE IMMEDIATELY.
E. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
F. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.

IV. STANDARD FOR TEMPORARY STABILIZATION

A. STANDARD FOR TEMPORARY STABILIZATION WITH MULCH
1. MULCHING IS MOST APPLICABLE TO THOSE AREAS SUBJECT TO PERIODIC DISTURBANCE AND REWORKING. IN ADDITION, STABILIZATION WITH MULCH SHALL BE USED DURING NON-GERMINATION PERIODS.
2. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE.
3. GRADE AS NEED AND FEASIBLE. SEE STANDARD FOR LAND GRADING.
4. PROTECTIVE MATERIALS TO BE USED:
   a. UNROTTED SMALL-GRAIN STRAW OR HAY AT 3.0 TONS PER ACRE SPREAD UNIFORMLY AT 135 POUNDS PER 1000 SQUARE FEET AND ANCHORED WITH LIQUID MULCH BINDER OR; WOOD-FIBER OR PAPER-FIBER MULCH AT A RATE OF 1500 POUNDS PER ACRE MAY BE APPLIED BY A
   b. HYDROSEEDER OR HYDROMULCHER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL. LIQUID MULCH BINDERS: APPLY IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. IF EMULSIFIED ASPHALT - (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1 AND CRS-2), APPLY 0.04 GAL./SQ. YD. OR 194 GAL./ACRE ON FLAT SLOPES LESS THAN 8' HIGH. ON SLOPES 8' OR MORE HIGH USE 0.075 GAL./SQ. YD. OR 363 GAL./ACRE.

B. STANDARD FOR TEMPORARY STABILIZATION WITH SEED
1. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MUST BE SEEDED AND MULCHED IMMEDIATELY WITH A TEMPORARY COVER.
2. SEEDBED PREPARATION
   a. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
   b. APPLY GROUND LIMESTONE AT A RATE OF 1 TON/AC.
   c. APPLY 10-10-10 FERTILIZER A RATE OF 150 LB/AC.
   d. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF FOUR (4) INCHES.

C. SEEDING
LATE WINTER/EARLY SPRING (PIEDMONT JAN.1 - MAY 1; COASTAL PLAIN DEC. 1 - APRIL 15)
1. SEED MIXTURE TEMPORARY:
   - RYE(GRAIN) SHALL BE APPLIED AT A RATE OF 120 LB/ACRE
   - ANNUAL LESPEDEZA (KOBE) SHALL BE APPLIED AT A RATE OF 50 LB/ACRE
2. APPLY SEED UNIFORMLY. NORMAL SEEDING DEPTH IS FROM 1/4" TO 1/2". HYDROSEEDINGS (INCLUDING FERTILIZER AND SEED IN A SLURRY FORM), MAY BE LEFT ON THE SOIL SURFACE. SOIL CONSERVATION DISTRICT CAN REQUIRE SPECIFIC TECHNIQUES FOR HYDROSEEDING AND/OR HYDROMULCHING IN AREAS WITH DROUGHTY CONDITIONS. FOR MULCHING REQUIREMENTS, SEE STANDARD FOR STABILIZATION WITH MULCH.
3. FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

SUMMER (PIEDMONT MAY 1 - AUG. 15; COASTAL PLAIN APRIL 15 - AUG. 15)
1. SEED MIXTURE TEMPORARY: GERMAN MILLET SHALL BE APPLIED AT A RATE OF 40 LB/ACRE
2. APPLY SEED UNIFORMLY. NORMAL SEEDING DEPTH IS FROM 1/4" TO 1/2". HYDROSEEDINGS (INCLUDING FERTILIZER AND SEED IN A SLURRY FORM), MAY BE LEFT ON THE SOIL SURFACE. SOIL CONSERVATION DISTRICT CAN REQUIRE SPECIFIC TECHNIQUES FOR HYDROSEEDING AND/OR HYDROMULCHING IN AREAS WITH DROUGHTY CONDITIONS. FOR MULCHING REQUIREMENTS, SEE STANDARD FOR STABILIZATION WITH MULCH.
3. FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER

FALL (PIEDMONT MAY 1 - AUG. 15; COASTAL PLAIN APRIL 15 - AUG. 15)
1. SEED MIXTURE TEMPORARY: RYE (GRAIN) SHALL BE APPLIED AT A RATE OF 120 LB/ACRE
2. APPLY SEED UNIFORMLY. NORMAL SEEDING DEPTH IS FROM 1/4" TO 1/2". HYDROSEEDINGS (INCLUDING FERTILIZER AND SEED IN A SLURRY FORM), MAY BE LEFT ON THE SOIL SURFACE. SOIL CONSERVATION DISTRICT CAN REQUIRE SPECIFIC TECHNIQUES FOR HYDROSEEDING AND/OR HYDROMULCHING IN AREAS WITH DROUGHTY CONDITIONS. FOR MULCHING REQUIREMENTS, SEE STANDARD FOR STABILIZATION WITH MULCH.
3. FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER

V. STANDARD FOR PERMANENT STABILIZATION

A. SPECIFICATION FOR SEEDING AND SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER
1. SITE PREPARATION
   a. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE.
   b. SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT AND LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL PH TO 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.
   c. IMMEDIATELY PRIOR TO TOPSOIL DISTRIBUTION, THE SURFACE SHOULD BE SCARIFIED TO PROVIDE A GOOD BOND WITH THE TOPSOIL.
2. APPLYING TOPSOIL
   a. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE.
   b. ALL DISTURBED TOPSOIL ON-SITE IS TO BE REDISTRIBUTED ON-SITE IN AREAS NOT COVERED BY IMPERVIOUS SURFACES. NO REMOVAL OF TOPSOIL IS ALLOWED UNLESS APPROVED BY THE TOWNSHIP. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS RECOMMENDED. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE.
3. SEEDBED PREPARATION
   a. PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
   b. APPLY 10-20-10 OR EQUIVALENT RATED FERTILIZER AT A RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1000 SQUARE FEET.
   c. APPLY 300 POUNDS 34-0-0 PER ACRE OR EQUIVALENT OF SLOW RELEASE NITROGEN.
   d. APPLY PULVERIZED DOLOMITIC LIMESTONE AT A RATE OF 1/3 TONS PER ACRES OR 15 POUNDS PER 1000 SQUARE FEET.
   e. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM FINE SEEDBED IS PREPARED.
   f. REMOVE FROM THE SURFACE ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION, REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.
   g. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RE-TILLED AND FIRMED AS ABOVE.
4. SEEDING
   a. SEED MIXTURE PERMANENT: SAHARA BERMUDA GRASS AT A RATE OF 275 LB/ACRE IN ADDITION TO TEMPORARY SEEDING (SEE ABOVE), SEEDING DATES 3/1 TO 5/15 8/15 TO 10/1.
   b. SEED MIX SHALL HAVE A PURE LIVE SEED (PLS) RATING OF 60% OR GREATER
   c. APPLY SEED UNIFORMLY. NORMAL SEEDING DEPTH IS FROM 1/4" TO 1/2". HYDROSEEDINGS (INCLUDING FERTILIZER AND SEED IN A SLURRY FORM), WHICH ARE MULCHED, MAY BE LEFT ON THE SOIL SURFACE.

GSWCC EROSION AND SEDIMENT CONTROL NOTES (9)

1. THE PRIMARY PERMITTEE OF THIS PROJECT IS RACETRAC, INC., 200 GALLERIA ST, SUITE 900, ATLANTA, GA 30339,
   CONTACT: TATE GODWIN, tgodwin@racetrac.com , TEL: (770) 530-7401 (5)
2. THE TOTAL ACREAGE OF THE PROPERTY IS ± 5.3 ACRES AND THE TOTAL DISTURBED AREA IS ± 5.39 ACRES
3. THE PROPERTY IS LOCATED AT GPS LOCATION LAT: 33.554375, LONG: -84.587450, FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE., FAIRBURN, GA 30213.
4. THE RECEIVING WATERS OF THIS PROJECT IS TRICKUM CREEK. THE SITE DOES DISCHARGE WITHIN 1 LINEAR MILE UPSTREAM OF AN IMPAIRED STREAM SEGMENT (11)
5. THE IMPROVEMENTS FOR THIS PROJECT INCLUDE CONSTRUCTION OF A ±6,008 SF BUILDING, ASSOCIATED PARKING FACILITIES, FUEL CANOPIES, AN UNDERGROUND STORM WATER DETENTION SYSTEM, SANITARY SEWER UTILITIES, AND UNDERGROUND STORM WATER PIPES. FURTHER IMPROVEMENTS ARE TO COME IN THE LAND DEVELOPMENT PERMIT SET.
6. WASHOUT OF THE DRUM OF A CONCRETE TRUCK AT THE CONSTRUCTION SITE IS PROHIBITED. CONCRETE WASHDOWN OF TOOLS, CONCRETE MIXER CHUTES, HOPPERS AND THE REAR OF VEHICLES WILL ONLY BE ALLOWED IN A DESIGNATED AREA PROVIDED FOR THIS PURPOSE, AS SHOWN ON THE DRAWINGS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE FOLLOWED:
   a. CONTAIN ALL WASH WATER ON SOIL IN A BOWL SHAPED AREA CREATED IN DESIGNATED WASH AREA TO PREVENT THE WASH WATER FROM FLOWING FROM THE WASHOUT AREA;
   b. USE THE MINIMUM AMOUNT OF WATER TO WASH DOWN THE TOOLS, CONCRETE MIXER CHUTES, HOPPERS AND THE REAR OF VEHICLES;
   c. REMOVE ANY CONCRETE SEDIMENT FROM THE AREA SURROUNDING THE WASHOUT AREA BEFORE IT HARDENS; AND
   d. REMOVE ALL CONCRETE RESIDUE FROM THE DESIGNATED AREA ONCE IT HAS HARDENED. (24)
7. ON-SITE BURIAL PITS ARE NOT ALLOWED AT ANY LOCATION.
8. ANY GRADING BEYOND THE LIMITS OF CONSTRUCTION SHOWN ON THIS PLAN IS SUBJECT TO A FINE.
9. GRADING 1 ACRE OR MORE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION AND SUBJECT TO A FINE.
10. GROUND STABILIZATION MUST OCCUR WITHIN 7 DAYS ON PERIMETER AREAS AND SLOPES GREATER THAN 3:1, AND GROUND STABILIZATION MUST OCCUR WITHIN 14 DAYS ON OTHER AREAS.
11. BASIN OUTLET STRUCTURES WITH DRAINAGE AREAS EQUAL OR GREATER THAN ONE ACRES MUST WITHDRAW WATER FROM THE SURFACE.
12. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY THE GSWCC EROSION CONTROL INSPECTOR.
13. ALL ELEVATIONS ARE IN REFERENCE TO THE SURVEYORS BENCHMARK WHICH MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
14. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEORGIA MANUAL FOR EROSION AND SEDIMENT CONTROL DESIGN MANUAL, U.S. DEPT. OF AGRICULTURE, AND ANY APPLICABLE LOCAL LAWS AND CODES.
15. PERMANENT CUT AND FILL SLOPES PLACED ON A SUITABLE FOUNDATION SHOULD BE CONSTRUCTED AT 2:1(HORIZONTAL TO VERTICAL) OR FLATTER. PERMANENT SLOPES OF 3:1 SHOULD BE CONSTRUCTED WHERE MOWING IS DESIRABLE AND AS INDICATED. IF FILL MATERIAL IS BROUGHT ONTO THE PROPERTY OR IF WASTE MATERIAL IS HAULED FROM THE PROPERTY THEN THE CONTRACTOR SHALL DISCLOSE THE LOCATION OF ANY ON-SITES AND/OR OFF-SITE BARROW LOCATION AND/OR WASTE BURIAL LOCATION TO THE EROSION CONTROL INSPECTOR.
16. ANY REPORT SUBMITTED TO GSWCC MUST ALSO BE SENT TO FULTON COUNTY ENGINEERING DEPARTMENT ATTENTION DIRECTOR INCLUDING ANY SELF INSPECTION REPORTS.
17. LIMITS OF CLEARING SHOWN ARE BASED ON CUT AND FILL SLOPES OR OTHER GRADING REQUIREMENTS.
18. CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES AS INDICATED PRIOR TO GRADING OPERATIONS. NO DEVICE MAY BE REMOVED WITHOUT APPROVAL OF EROSION CONTROL COORDINATOR.
19. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY WITH EXISTING CONTOURS.
20. ALL DISTANCES ARE HORIZONTAL GROUND.
21. ANCHOR SILT FENCE WITH COMPACTED BACKFILL ON TREE PROTECTION ZONES. DO NOT BURY.
22. ALL EROSION CONTROL DEVICES SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM EVENT. IF ANY FAILURES ARE FOUND, THEY SHOULD BE REPAIRED AS SOON AS POSSIBLE.
23. ANY ASSOCIATED DEMOLITION PERMITS AND METHODS OF DEMOLITION ARE TO BE OBTAINED AND ARRANGED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
24. SEDIMENT TRAPS AND BASINS NEED TO BE STABILIZED IMMEDIATELY AFTER INSTALLATION.
25. STONE OUTLETS SHOULD BE INSTALLED AT LOW POINTS OF THE SILT FENCING, BASED ON FIELD CONDITIONS.
26. SPILL CLEANUP AND CONTROL PRACTICES:
    LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES WILL BE MADE AVAILABLE TO SITE PERSONNEL. MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREAS. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, CAT UTTER, SAND, SAWDUST AND PROPERLY LABELED PLASTIC AND METAL WASTE CONTAINERS. SPILL PREVENTION PRACTICES AND PROCEDURES WILL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. ALL SPILLS WILL BE REPORTED AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS. FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER), THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-424-8802. FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-424-8802. FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD WILL BE CONTACTED WITHIN 24 HOURS. FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL WILL BE CLEANED UP AND LOCAL AGENCIES WILL BE CONTACTED AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE LICENSED PROFESSIONAL WHO PREPARED THIS PLAN IF MORE THAN 1,320 GALLONS OF PETROLEUM IS STORED ONSITE (THIS INCLUDES CAPACITIES OF EQUIPMENT) OR IF ANY ONE PIECE OF EQUIPMENT HAS A CAPACITY GREATER THAN 660 GALLONS. THE CONTRACTOR WILL NEED A SPILL PREVENTION CONTAINMENT AND COUNTERMEASURES PLAN PREPARED BY THAT LICENSED PROFESSIONAL.
27. WHERE APPLICABLE, NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
28. THE PRIMARY PERMITTEE AND TERTIARY PERMITTEE(S) MUST RETAIN THE DESIGN PROFESSIONAL WHO PREPARED THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, EXCEPT WHEN THE PERMITTEE HAS REQUESTED IN WRITING AND EPD HAS AGREED TO AN ALTERNATE DESIGN PROFESSIONAL, TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMP'S WHICH THE DESIGN PROFESSIONAL DESIGNED WITHIN SEVEN (7) DAYS AFTER INSTALLATION. THE DESIGN PROFESSIONAL SHALL DETERMINE IF THESE BMP'S HAVE BEEN INSTALLED AND ARE BEING MAINTAINED AS DESIGNED. THE DESIGN PROFESSIONAL SHALL REPORT THE RESULTS OF THE INSPECTION TO THE PERMITTEE WITHIN SEVEN (7) DAYS AND THE PERMITTEE MUST CORRECT ALL DEFICIENCIES WITHIN TWO (2) BUSINESS DAYS OF RECEIPT OF THE INSPECTION REPORT FROM THE DESIGN PROFESSIONAL UNLESS WEATHER RELATED SITE CONDITIONS ARE SUCH THAT ADDITIONAL TIME IS REQUIRED.
29. THE PRIMARY, SECONDARY OR TERTIARY PERMITTEES, AS APPLICABLE, SHALL AMEND THEIR PLANS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, WHICH HAS A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT. AMENDMENTS TO THE PLANS MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL. ALL REVISIONS OR AMENDMENTS SHALL BE SUBMITTED TO THE LOCAL ISSUING AUTHORITY FOR REVIEW.
30. NO WASTE MATERIAL INCLUDING BUT NOT LIMITED TO WASTE BUILDING MATERIALS, CONSTRUCTION AND DEMOLITION DEBRIS, CONCRETE WASHOUT OR EXCAVATED SEDIMENT, SHALL BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

INSPECTIONS:
A. PRIMARY PERMITTEE.
(1). EACH DAY WHEN ANY TYPE OF CONSTRUCTION ACTIVITY HAS TAKEN PLACE AT A PRIMARY PERMITTEE'S SITE, CERTIFIED PERSONNEL PROVIDED BY THE PRIMARY PERMITTEE SHALL INSPECT: (A) ALL AREAS AT THE PRIMARY PERMITTEE'S SITE WHERE PETROLEUM PRODUCTS ARE STORED USED OR HANDLED FOR AND LEAKS FROM VEHICLES AND EQUIPMENT AND (B) ALL LOCATIONS AT THE PRIMARY PERMITTEE'S SITE WHERE VEHICLES ENTER OR EXIT HE SITE FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
(2). MEASURE AND RECORD RAINFALL WITHIN DISTURBED AREAS OF THE SITE THAT HAVE NOT MET FINAL STABILIZATION ONCE EVERY 24 HOURS EXCEPT ANY NON-WORKING SATURDAY,NON-WORKING SUNDAY AND NON-WORKING FEDERAL HOLIDAY. THE DATA COLLECTED FOR THE PURPOSE OF COMPLIANCE WITH THIS PERMIT SHALL BE REPRESENTATIVE OF THE MONITORED ACTIVITY. MEASUREMENT OF RAINFALL MAY BE SUSPENDED IF ALL AREAS OF THE SITE HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION.
(3). CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT THE FOLLOWING AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES RAINFALL OR GREATER (UNLESS SUCH STORM ENDS AFTER 5.00 PM ON ANY FRIDAY OR ON ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY OR ANY NON-WORKING FEDERAL HOLIDAY IN WHICH CASE THE INSPECTION SHALL BE COMPLETED BY THE END OF THE NEXT BUSINESS DAY AND/OR WORKING DAY, WHICHEVER OCCURS FIRST): (A) DISTURBED AREAS OF THE PRIMARY PERMITTEE'S CONSTRUCTION SITE; (B) AREAS USED BY THE PRIMARY PERMITTEE FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION; AND
(C) STRUCTURAL CONTROL MEASURES. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN APPLICABLE TO THE PRIMARY PERMITTEE'S SITE SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S). FOR AREAS OF A SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION, THE PERMITTEE MUST COMPLY WITH PART IV.D.4.A.(4). THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
(4). CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT AT LEAST ONCE PER MONTH DURING THE TERM OF THIS PERMIT (I.E., UNTIL A NOTICE OF TERMINATION IS RECEIVED BY EPD) THE AREAS OF THE SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION. THESE AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM AND THE RECEIVING WATER(S). EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S).
(5). BASED ON THE RESULTS OF EACH INSPECTION, THE SITE DESCRIPTION AND THE POLLUTION PREVENTION AND CONTROL MEASURES IDENTIFIED IN THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, THE PLAN SHALL BE REVISED AS APPROPRIATE NOT LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION. IMPLEMENTATION OF SUCH CHANGES SHALL BE MADE AS SOON AS PRACTICAL BUT IN NO CASE LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION. THE PRIMARY PERMITTEE MUST AMEND THE PLAN IN ACCORDANCE WITH PART IV.D.4.B.(5). WHEN A SECONDARY PERMITTEE NOTIFIES THE PRIMARY PERMITTEE OF ANY PLAN DEFICIENCIES.
(6). A REPORT OF EACH INSPECTION THAT INCLUDES THE NAME(S) OF CERTIFIED PERSONNEL MAKING EACH INSPECTION, THE DATE(S) OF EACH INSPECTION, CONSTRUCTION PHASE (I.E.,INITIAL, INTERMEDIATE OR FINAL), MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PART IV.D.4.A.(5). OF THIS PERMIT SHALL BE MAINTAINED AT THE CONSTRUCTION SITE OR BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION UNTIL THE ENTIRE SITE OR THAT PORTION OF A CONSTRUCTION SITE THAT HAS BEEN PHASED HAS UNDERGONE FINAL STABILIZATION AND A NOTICE OF TERMINATION IS SUBMITTED TO EPD. SUCH REPORTS SHALL BE READILY AVAILABLE BY END OF THE SECOND BUSINESS DAY AND/OR WORKING DAY AND SHALL IDENTIFY ALL INCIDENTS OF BEST MANAGEMENT PRACTICES THAT HAVE NOT BEEN PROPERLY INSTALLED AND/OR MAINTAINED AS DESCRIBED IN THE PLAN. WHERE THE REPORT DOES NOT IDENTIFY INCIDENTS, THE INSPECTION REPORT SHALL CONTAIN A CERTIFICATION THAT THE BEST MANAGEMENT PRACTICES ARE IN COMPLIANCE WITH THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART V.G.2. OF THIS PERMIT.
31. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, LAND DISTURBING ACTIVITIES (19)
32. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO C

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST

STAND ALONE CONSTRUCTION PROJECTS (PRIMARY AND TERTIARY PERMITTEES) GAR100001

SWCD: COASTAL - REGION 1

Project Name: RACETRAC FAIRBURN	**Address: FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE., FAIRBURN, GA 30213**
City/County: CITY OF FAIRBURN	**Date on Plans: AS SHOWN ON PLANS**

Name & email of person filling out checklist: NATE FUSS, NFUSS@BOHLERENG.COM

PLAN PAGE #	Included Y/N		TO BE SHOWN ON ES&PC PLAN	LOCATION MARKER
C2.9	Y	1	"The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land-disturbing activity was permitted. (The completed Checklist must be submitted with the ES&PC Plan or the Plan will not be reviewed. Permit IV.D.1. pg 2/27	
C2.1 TO C2.8	Y	2	Level II certification number issued by the Commission, signature and seal of the certified design professional.(Signature, seal and level II number must be on each sheet pertaining to ES&PC plan or the Plan will not be reviewed. The level II certification must be issued to the Design Professional, after completion of a GSWCC approved course, and whose signature and seal are on the plan.)	
N/A	N/A	3	Limits of disturbance shall be less than 50 acres at any one time without prior written authorization from the GAEPD District Office. If GAEPD approves the request to disturb 50 acres or more at any one time, the Plan must include at least 4 of the BMP's listed in Appendix 1 of this checklist and the GAEPD approval letter. "(A copy of the written approval by GAEPD must be attached to the plan for the Plan to be reviewed.)	
C2.1 TO C2.3	Y	4	The name and phone number of the 24-hour contact responsible for erosion, sedimentation and pollution controls.	
C2.7	Y	5	Provide the name, address, email address, and phone number of primary permittee.	
C2.1 TO C2.3	Y	6	Note total and disturbed acreages of the project or phase under construction.	
C2.1 TO C2.2	Y	7	Provide the GPS location of the construction exit for the site. Give the Latitude and Longitude in decimal degrees.	
TITLE-BLOCK	Y	8	Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.	
C2.7	Y	9	Description of the nature of construction activity and existing site conditions.	
COV	Y	10	Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.	
C2.7	Y	11	Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, marshlands, etc. which may be affected.	
C2.1 TO C2.8	Y	12	Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on Part IV page 19 of the permit.	
C2.1 TO C2.8	Y	13	Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate and comprehensive system of BMP's and sampling to meet permit requirements as stated on Part IV page 19 of the permit. *	
C2.7	Y	14	Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect and certify the installation of the initial sediment storage requirements and perimeter control BMP's within 7 days after installation.	
C2.1 TO C2.3	Y	15	Clearly note the statement that "Non-exempt activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of wrested vegetation or within 25-feet of the coastal marshland buffer as measured from the Jurisdictional Determination Line without first acquiring the necessary variances and permits."	
N/A	N/A	16	Provide a description of any buffer encroachments and indicate whether a buffer variance is required.	
C2.1 TO C2.3	Y	17	Clearly note the statement that "Amendments/revisions to the ES&PC Plan which have a significant effect on BMP's with a hydraulic component must be certified by the design professional." *	
C-2.1 TO C-2.3	Y	18	Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a Section 404 permit." *	
C-2.1 TO C-2.3	Y	19	Clearly note statement that "The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities."	
C-2.1 TO C-2.3	Y	20	Clearly note statement that "Erosion control measures will be maintained at all times. If full implementation of the approved Plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source."	
C-2.1 TO C-2.3	Y	21	Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."	
N/A	N/A	22	Any construction activity which discharges storm water into an Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as, any portion of a Biota Impaired Stream Segment must comply with Part III. C. of the permit. Include the completed Appendix 1 listing all the BMP's that will be used for those areas of the site which discharge to the Impaired Stream Segment. *	
N/A	N/A	23	If a TMDL Implementation Plan for sediment has been finalized for the Impaired Stream Segment (identified in Item 22 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan. *	
C2.7	Y	24	BMP's for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited. *	
C2.7	Y	25	Provide BMP's for the remediation of all petroleum spills and leaks.	
C2.1 TO C2.3	Y	26	Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed. *	
C2.7	Y	27	Description of practices to provide cover for building materials and building products on site. *	
C2.1 TO C2.3	Y	28	Description of the practices that will be used to reduce the pollutants in storm water discharges. *	
C2.8	Y	29	Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sediment storage BMP's, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).	
C2.7	Y	30	Provide complete requirements of Inspections and record keeping by the primary permittee. *	
C2.7	Y	31	Provide complete requirements of Sampling Frequency and Reporting of sampling results. *	
C2.7	Y	32	Provide complete details for Retention of Records as per Part IV.F. of the permit. *	
C2.7	Y	33	Description of analytical methods to be used to collect and analyze the samples from each location. *	
C-2.8	Y	34	Appendix B rationale for NTU values at all outfall sampling points where applicable. *	
C2.1 TO C2.3	Y	35	Delineate all sampling locations on all phases of the Plan, and perennial and intermittent streams and other water bodies into which storm water is discharged. *	
C2.1 TO C2.3	Y	36	A description of appropriate controls and measures that will be implemented at the construction site including (1) initial sediment storage requirements and perimeter control BMP's, (2) intermediate grading and drainage BMP's, and (3) final BMP's. For construction sites where there will be no mass grading and the initial perimeter control BMP's, intermediate grading and drainage BMP's, and final BMP's are the same, the Plan may combine all of the BMP's into a single phase. *	
C2.1 TO C2.3	Y	37	Graphic scale and North arrow.	
C2.1 TO C2.3	Y	38	Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following:	

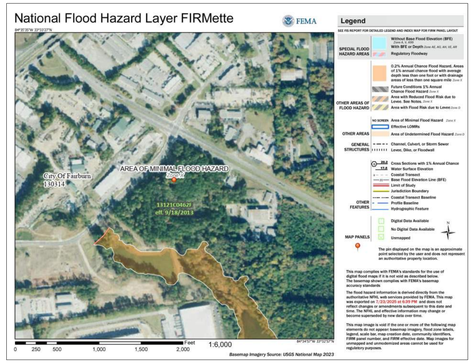
Map Scale	Ground Slope	Contour Intervals, ft.
1 inch = 100ft or larger scale	Flat 0 - 2%	0.5 or 1
	Rolling 2 - 8%	1 or 2
	Steep 8% +	2.5 or 10

N/A	N/A	39	Use of alternative BMP's whose performance has been documented to be equivalent to or superior to conventional BMP's as certified by a Design Professional (unless disapproved by GAEPD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.gaswcc.georgia.gov.	
N/A	N/A	40	Use of alternative BMP for application to the Equivalent BMP List. Please refer to Appendix A-2 of the Manual for Erosion & Sediment Control in Georgia 2016 Edition. *	
N/A	N/A	41	Delineation of the applicable 25-foot or 50-foot undisturbed buffers adjacent to state waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact.	
N/A	N/A	42	Delineation of on-site wetlands and all state waters located on and within 200 feet of the project site.	
HYDRO REPORT	Y	43	Delineation and acreage of contributing drainage basins on the project site.	
HYDRO REPORT	Y	44	Provide hydrology study and maps of drainage basins for both the pre- and post-developed conditions. *	
HYDRO REPORT	Y	45	Estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.	
C2.1 TO C2.3	Y	46	Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate all storm water discharge points.	
C2.1	Y	47	Soil series for the project site and their delineation.	
C2.1 TO C2.3	Y	48	The limits of disturbance for each phase of construction.	
C2.1 TO C2.3	Y	49	Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retrofitted detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the Plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual included for structural BMP's and all calculations used by the storage design professional to obtain the required sediment when using equivalent controls. When discharging from sediment basins and impoundments, permittee's are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasible,a written justification explaining this decision must be included in the Plan.	
C2.1 TO C2.3	Y	50	Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend.	
C2.4 TO C2.6	Y	51	Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.	
C2.1 TO C2.3	Y	52	Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time of the year that seeding will take place and for the appropriate geographic region of Georgia.	

* If using this checklist for a project that is less than 1 acre and not part of a common development but within 200 ft of a perennial stream, the * checklist items would be N/A.

Effective January 1, 2025

FEMA FIRM MAPS 13211C0462F N.T.S.



FLOOD CERTIFICATION

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENTS AGENCY'S FLOOD INSURANCE RATE MAPS (FIRM) 13225C0150C, WITH EFFECTIVE DATE OF SEPTEMBER 26, 2008, THE PROJECT SITE LIES WITHIN ZONE X, WHICH IS OUTSIDE ANY ESTABLISHED FLOOD HAZARD AREA.

CONSTRUCTION SCHEDULE

CONSTRUCTION SCHEDULE

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8
PHASE I								
STAKE/FLAG THE LOD (WHERE STAKING IS NOT POSSIBLE/PRACTICAL, THE LOD MUST BE CONSPICUOUSLY, AND PROMINENTLY, MARKED TO DENOTE THE BOUNDARY). LOD MUST REMAIN CONSPICUOUSLY MARKED THROUGHOUT THE ENTIRE CONSTRUCTION PROJECT.								
INSTALL PERIMETER SEDIMENT CONTROL BMPS IN THE VICINITY OF, AND DOWN GRADIENT FROM, THE LOCATION OF THE PLANNED CONSTRUCTION EXIT, CONSTRUCTION OFFICE TRAILER, AND TEMPORARY PARKING AND STORAGE AREAS . CLEAR ONLY THE MINIMUM AREA ABSOLUTELY NECESSARY TO INSTALL THESE PERIMETER CONTROL BMPS.								
INSTALL STABILIZED CONSTRUCTION EXIT, ROCK SEDIMENT TRAP, TEMPORARY SEDIMENT POND, AND SET THE PROJECT OFFICE TRAILER.								
INSTALL REMAINING PERIMETER SEDIMENT CONTROL BMPS, AS SHOWN ON THE SITE MAPS. CLEAR ONLY THE MINIMUM AREA NECESSARY TO INSTALL PERIMETER CONTROL BMPS								
PREPARE TEMPORARY PARKING AND STORAGE AREA								
BEGIN CLEARING AND DEMOLITION ACTIVITIES								
MAINTENANCE OF ES&PC MEASURES THROUGHOUT ENTIRE DURATION OF PROJECT.								
PHASE II								
BEGIN GRADING THE SITE								
INSTALL UNDERGROUND UTILITIES AS SHOWN INCLUDING STORM SEWER PIPES, SANITARY PIPES, WATER METERS AND BACKFLOWS, ETC.								
TEMPORARILY STABILIZE, THROUGHOUT CONSTRUCTION IMMEDIATELY FOLLOWING THE COMPLETION OF THE MOST RECENT LAND DISTURBING/GRADING ACTIVITY, ANY DISTURBED AREAS, INCLUDING MATERIAL STOCKPILES THAT ARE SCHEDULED OR LIKELY TO REMAIN INACTIVE FOR 14 DAYS OR MORE.								
BEGIN CONSTRUCTION AND GRADING OF THE RETROFIT POND.								
FILL THE 9/442 UPON COMPLETION OF THE SEDIMENT BASIN.								
IMMEDIATELY PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.								
PREPARE SITE FOR PAVING								
BEGIN INSTALLATION OF CURB/GUTTER, AND BUILDING FOUNDATION								
PHASE III								
PROVIDE PERMANENT PIPE CONNECTIONS. ENSURE ALL PERMANENT PIPES ARE FULLY OPERATIONAL.								
FINISH CURB/GUTTER AND PAVING OF SITE.								
COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL AREAS.								
COMPLETE CONSTRUCTION OF BUILDING.								
REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS).								
STABILIZE ANY ARE AS DISTURBED BY THE REMOVAL OF TEMPORARY BMPS								
CONTINUE DAILY INSPECTIONS AND REPORTS UNTIL THE SITE IS FULLY STABILIZED AND THE GENERAL CONSTRUCTION PERMIT GAR100001 IS TERMINATED								

***START OF CONSTRUCTION DATE IS SUBJECT TO CHANGE**

DESIGN PROFESSIONAL'S CERTIFICATION:

(1) I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT " MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH LAND DISTURBING ACTIVITY WAS PERMITTED, THE PLAN PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALL. THE DESIGNATED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENT CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR100001.

(2) "I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION,"

(3) "I CERTIFY UNDER THE PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED UPON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

Nathan Fuss

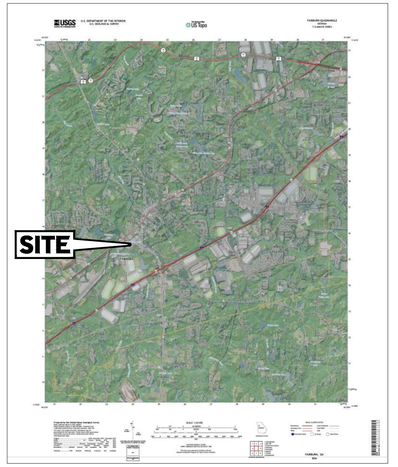
GSWCC LEVEL II DESIGN PROFESSIONAL

0000087123 (VALID THROUGH 03-08-28)

CERTIFICATION #

U.S.G.S TOPOGRAPHIC MAP

N.T.S.



APPENDIX B
NEPHELOMETRIC TURBIDITY UNIT (NTU) TABLE

WATERS SUPPORTING WARM WATER FISHERIES

Surface Water Drainage Area (Square Miles)

Site Size (Acres)	0-4.99	5-9.99	10-24.99	25-49.99	50-99.99
1.00-10	75	150	200	400	750
10.01-25	50	100	100	200	300
25.01-50	50	50	100	100	200
50.01-100	50	50	50	100	100
100.01+	50	50	50	50	50

NOTES:

1. ALL OUTFALL SAMPLING POINTS SHALL CONFORM TO AN NTU VALUE OF 75 PER THE ABOVE TABLE, AS FOUND AT A SITE BETWEEN 1.00 AND 10 ACRES IN SIZE WITH A DRAINAGE AREA OF LESS THAN 5 SQUARE MILES.
2. SOURCE: STATE OF GEORGIA DEPARTMENT OF NATURAL RESOURCES ENVIRONMENTAL PROTECTION DIVISION, GENERAL PERMIT NO. GAR10001

DESIGN PROFESSIONAL 7-DAY VISIT CERTIFICATION

DATE OF INSPECTION: _____

I CERTIFY THE SITE WAS IN COMPLIANCE WITH THE ES&PC PLAN ON THE DATE OF INSPECTION

_____ _____

GSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #

INSPECTION REVEALED THE FOLLOWING DISCREPANCIES FROM THE ES&PC PLAN:

_____

_____

_____

THESE DEFICIENCIES MUST BE ADDRESSED IMMEDIATELY AND A RE-INSPECTION SCHEDULED. WORK SHALL NOT PROCEED ON THE SITE UNTIL DESIGN PROFESSIONAL CERTIFICATION IS OBTAINED

1. THE PRIMARY PERMITTEE SHALL RETAIN THE FOLLOWING RECORDS AT THE CONSTRUCTION SITE OR THE RECORDS SHALL BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI:
   a. A COPY OF ALL NOTICES OF INTENT SUBMITTED TO EPD;
   b. A COPY OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN REQUIRED BY THIS PERMIT;
   c. THE DESIGN PROFESSIONAL'S REPORT OF THE RESULTS OF THE INSPECTION CONDUCTED IN ACCORDANCE WITH PART IV.A.5. OF THE GENERAL PERMIT;
   d. A COPY OF ALL SAMPLING INFORMATION, RESULTS, AND REPORTS REQUIRED BY THE GENERAL PERMIT;
   e. A COPY OF ALL INSPECTION REPORTS GENERATED IN ACCORDANCE WITH PART IV.D.4.A. OF THE GENERAL PERMIT;
   f. A COPY OF ALL VIOLATION SUMMARIES AND VIOLATION SUMMARY REPORTS GENERATED IN ACCORDANCE WITH PART OF THE GENERAL PERMIT; AND
   g. DAILY RAINFALL INFORMATION COLLECTED IN ACCORDANCE WITH PART IV.D.4.A.(2). OF THE GENERAL PERMIT.
2. COPIES OF ALL NOTICES OF INTENT, NOTICES OF TERMINATION, INSPECTION REPORTS, SAMPLING REPORTS (INCLUDING ALL CALIBRATION AND MAINTENANCE RECORDS AND ALL ORIGINAL STRIP CHART RECORDINGS FOR CONTINUOUS MONITORING INSTRUMENTATION) OR OTHER REPORTS REQUESTED BY THE EPD, EROSION, SEDIMENTATION AND POLLUTION CONTROL PLANS, RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT AND ALL OTHER RECORDS REQUIRED BY THIS PERMIT SHALL BE RETAINED BY THE PERMITTEE WHO EITHER PRODUCED OR USED IT FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE THAT THE NOT IS SUBMITTED IN ACCORDANCE WITH PART VI. OF THIS PERMIT. THESE RECORDS MUST BE MAINTAINED AT THE PERMITTEE'S PRIMARY PLACE OF BUSINESS OR AT A DESIGNATED ALTERNATIVE LOCATION ONCE THE CONSTRUCTION ACTIVITY HAS CEASED AT THE PERMITTED SITE. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE EPD AT ANY TIME UPON WRITTEN NOTIFICATION TO THE PERMITTEE.

THIS PERMIT REQUIRES THE MONITORING OF NEPHELOMETRIC TURBIDITY IN RECEIVING WATER(S) OR OUTFALLS IN ACCORDANCE WITH THIS PERMIT. THIS PARAGRAPH SHALL NOT APPLY TO ANY LAND DISTURBANCE ASSOCIATED WITH THE CONSTRUCTION OF SINGLE-FAMILY RESIDENCES WHICH ARE NOT APART OF A COMMON DEVELOPMENT OR SUBDIVISION OR UNLESS FIVE (5) ACRES OR MORE WILL BE DISTURBED. THE FOLLOWING PROCEDURES CONSTITUTE EPD'S GUIDELINES FOR SAMPLING TURBIDITY.

A. SAMPLING REQUIREMENTS SHALL INCLUDE:

1. A USGS TOPOGRAPHIC MAP, A TOPOGRAPHIC MAP OR A DRAWING (REFERRED TO AS A TOPOGRAPHIC MAP) THAT IS A SCALE EQUAL TO OR MORE DETAILED THAN A 1:24,000 MAP SHOWING THE LOCATION OF THE SITE OR THE STAND ALONE CONSTRUCTION; (1) THE LOCATION OF ALL PERENNIAL LAND INTERMITTENT STREAMS AND OTHER WATER BODIES AS SHOWN ON A USGS TOPOGRAPHIC MAP, AND ALL OTHER PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES LOCATED DURING MANDATORY FIELD VERIFICATION, INTO WHICH THE STORM AFTER IS DISCHARGED AND (2) THE RECEIVING WATER AND.OR OUTFALL SAMPLING LOCATIONS. WHEN THE PERMITTEE HAS CHOSEN TO USE A USGS TOPOGRAPHIC MAP AND THE RECEIVING WATER(S) IS NOT SHOWN ON THE USGS TOPOGRAPHIC MAP, THE LOCATION OF THE RECEIVING WATER(S) MUST BE HAND-DRAWN ON THE USGS TOPOGRAPHIC MAP FROM WHERE THE STORM WATER(S) ENTERS THE RECEIVING WATER(S) TO THE POINT WHERE THE RECEIVING WATER(S) COMBINES WITH THE FIRST BLUE LINE STREAM SHOWN ON THE USGS TOPOGRAPHIC MAP.
2. A WRITTEN NARRATIVE OF SITE SPECIFIC ANALYTICAL METHODS USED TO COLLECT, HANDLE AND ANALYZE THE SAMPLES INCLUDING THE QUALITY CONTROL/QUALITY ASSURANCE PROCEDURES. THIS NARRATIVE MUST INCLUDE PRECISE SAMPLING METHODOLOGY FOR EACH SAMPLING LOCATION.
3. WHEN THE PERMITTEE HAS DETERMINED THAT SOME OR ALL OUTFALLS WILL BE SAMPLED, A RATIONALE MUST BE INCLUDED ON THE PLAN FOR THE NTU LIMIT(Ss0 SELECTED FROM APPENDIX B. THIS RATIONALE MUST INCLUDE THE SIZE OF THE CONSTRUCTION SITE, THE CALCULATION OF THE SIZE OF THE SURFACE WATER DRAINAGE AREA AND THE TYPE OF RECEIVING WATERS.
4. ANY ADDITIONAL INFORMATION EPD DETERMINES NECESSARY TO BE PART OF THE PLAN, EPD WILL PROVIDE WRITTEN NOTICE TO THE PERMITTEE OF THE INFORMATION NECESSARY AND THE TIME LINE FOR SUBMITTAL.

B. SAMPLING TYPE

ALL SAMPLING SHALL BE COLLECTED BY GRAB SAMPLES AND THE ANALYSIS OF THESE SAMPLES MUST BE CONDUCTED IN ACCORDANCE WITH METHODOLOGY AND TEST PROCEDURES ESTABLISHED BY 40 CFR PARK 136; THE GUIDANCE DOCUMENT TITLED "NPDES STORM WATER SAMPLING GUIDANCE DOCUMENT, EPA 833-B-92-001" AND GUIDANCE DOCUMENTS THAT MAY BE PREPARED BY THE EPD.

1. SAMPLE CONTAINERS SHOULD BE LABELED PRIOR TO COLLECTING THE SAMPLES.
2. SAMPLES SHOULD BE WELL MIXED BEFORE TRANSFERRING TO A SECONDARY CONTAINER.
3. LARGE MOUTH, WELL CLEANED AND RINSED GLASS OR PLASTIC JARS SHOULD BE USED FOR COLLECTION SAMPLES. THE JARS SHOULD BE CLEANED THOROUGHLY TO AVOID CONTAMINATION.
4. MANUAL, AUTOMATIC OR RISING STAGE SAMPLING MAY BE UTILIZED. SAMPLES REQUIRED BY THIS PERMIT SHOULD BE ANALYZED IMMEDIATELY, BUT IN NO CASE LATER THAN 48 HOURS AFTER COLLECTION. HOWEVER, SAMPLES FROM AUTOMATIC SAMPLES MUST BE COLLECTED NO LATER THAN THE NEXT BUSINESS DAY AFTER THEIR ACCUMULATION. UNLESS FLOW THROUGH AUTOMATED ANALYSIS IS UTILIZED. IF AUTOMATIC SAMPLING IS UTILIZED AND THE AUTOMATIC SAMPLER IS NOT ACTIVE DURING THE QUALIFYING EVENT, THE PERMITTEE MUST UTILIZED MANUAL SAMPLING OR RISING STAGE SAMPLING DURING THE NEXT QUALIFYING EVENT. DILUTION OF SAMPLES IN NOT REQUIRED. SAMPLES MAY BE ANALYZED DIRECTLY WITH A PROPERLY CALIBRATED TURBIDIMETER. SAMPLES ARE NOT REQUIRED TO BE COOLED.
5. SAMPLING AND ANALYSIS OF THE RECEIVING WATERS OR OUTFALLS BEYOND THE MINIMUM FREQUENCY STATED IN THE PERMIT MUST BE REPORTED TO EPD AS SPECIFIED IN PART IV.E.

C. SAMPLING POINTS

1. FOR CONSTRUCTION ACTIVITIES THE PRIMARY PERMITTEE MUST SAMPLE ALL RECEIVING WATERS OR ALL OUTFALLS OR A COMBINATION OF RECEIVING WATERS AND OUTFALLS. SAMPLES TAKEN FOR THE PURPOSE OF COMPLIANCE WITH THIS PERMIT SHALL BE REPRESENTATIVE OF THE MONITORED ACTIVITY AND REPRESENTATIVE OF THE WATER QUALITY OF THE RECEIVING WATERS AND/OR THE STORM WATER OUTFALLS USING THE FOLLOWING MINIMUM GUIDELINES.
   a. THE UPSTREAM SAMPLE FOR EACH RECEIVING WATERS MUST BE TAKEN IMMEDIATELY UPSTREAM OF THE CONFLUENCE OF THE FIRST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY BUT DOWNSTREAM OF ANY OTHER STORM WATER DISCHARGES NOT ASSOCIATED WITH THE PERMITTED ACTIVITY. WHERE APPROPRIATE, SEVERAL UPSTREAM SAMPLES FROM ACROSS THE RECEIVING WATERS MAY NEED TO BE TAKEN AND THE ARITHMETIC AVERAGE FOR THE TURBIDITY OF THESE SAMPLES USED FOR THE UPSTREAM TURBIDITY VALUE.
   b. THE DOWNSTREAM SAMPLE FOR EACH RECEIVING WATERS MUST BE TAKEN DOWNSTREAM OF THE CONFLUENCE OF THE LAST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY BUT UPSTREAM OF ANY OTHER STORM WATER DISCHARGE NOT ASSOCIATED WITH THE PERMITTED ACTIVITY. WHERE APPROPRIATE, SEVERAL DOWNSTREAM SAMPLES FROM ACROSS THE RECEIVING WATERS MAY NEED TO BE TAKEN AND THE ARITHMETIC AVERAGE OF THE TURBIDITY OF THESE SAMPLES USED FOR THE DOWNSTREAM TURBIDITY VALUE.
   c. IDEALLY THE SAMPLES SHOULD BE TAKEN FROM THE HORIZONTAL AND VERTICAL CENTER OF THE RECEIVING WATERS OR THE STORM WATER OUTFALL CHANNELS.
   d. CARE SHOULD BE TAKEN TO AVOID STIRRING THE BOTTOM SEDIMENTS IN THE RECEIVING WATERS OR THE OUTFALL STORM WATER CHANNEL.
   e. THE SAMPLES SHOULD BE KEPT FROM FLOATING DEBRIS.

D. SAMPLING FREQUENCY

1. THE PRIMARY PERMITTEE MUST SAMPLE IN ACCORDANCE WITH THE PLAN AT LEAST ONCE FOR EACH RAINFALL EVENT DESCRIBED BELOW. FOR A QUALIFYING EVENT, THE PERMITTEE SHALL SAMPLE AT THE BEGINNING OF ANY STORMWATER DISCHARGE TO A MONITORED RECEIVING WATER AND/OR FROM A MONITORED OUTFALL LOCATION WITHIN IN FORTY-FIVE (45) MINUTES OR AS SOON AS POSSIBLE.

2. HOWEVER, WHERE MANUAL AND AUTOMATIC SAMPLING ARE IMPOSSIBLE (AS DEFINED IN THIS PERMIT), OR ARE BEYOND THE PERMITTEE'S CONTROL, THE PERMITTEE SHALL TAKE SAMPLES AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN TWELVE (12) HOURS AFTER THE BEGINNING OF THE STORMWATER DISCHARGE.

(3). SAMPLING BY THE PERMITTEE SHALL OCCUR FOR THE FOLLOWING QUALIFYING EVENTS:

(A). FOR EACH AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL, THE FIRST RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH WITH A STORMWATER DISCHARGE THAT OCCURS DURING NORMAL BUSINESS HOURS AS DEFINED IN THIS PERMIT EITHER 90 DAYS AFTER THE FIRST SAMPLING EVENT OR AFTER ALL MASS GRADING OPERATIONS HAVE BEEN COMPLETED, BUT PRIOR TO SUBMITTAL OF A NOT; IN THE DRAINAGE AREA OF THE LOCATION SELECTED AS THE SAMPLING LOCATION, WHICHEVER COMES FIRST;

(C). AT THE TIME OF SAMPLING PERFORMED PURSUANT TO (A) AND (B) ABOVE, IF BMPS IN ANY AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL ARE NOT PROPERLY DESIGNED, INSTALLED AND MAINTAINED, CORRECTIVE ACTION SHALL BE DEFINED AND IMPLEMENTED WITHIN TWO (2) BUSINESS DAYS, AND TURBIDITY SAMPLES SHALL BE TAKEN FROM DISCHARGES FROM THAT AREA OF THE SITE FOR EACH SUBSEQUENT RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH DURING NORMAL BUSINESS HOURS* UNTIL THE SELECTED TURBIDITY STANDARD IS ATTAINED, OR UNTIL POST-STORM EVENT INSPECTIONS DETERMINE THAT BMPS ARE PROPERLY DESIGNED, INSTALLED AND MAINTAINED;

(D). WHERE SAMPLING PURSUANT TO (A), (B) OR (C) ABOVE IS REQUIRED BUT NOT POSSIBLE (OR NOT REQUIRED BECAUSE THERE WAS NO DISCHARGE), THE PERMITTEE, IN ACCORDANCE WITH PART IV.D.4.A.(6), MUST INCLUDE A WRITTEN JUSTIFICATION IN TH

APPENDIX 1

THE ES&PC PLAN MUST INCLUDE AT LEAST FOUR (4) OF THE FOLLOWING BMPS FOR THOSE AREAS OF THE SITE WHICH DISCHARGE TO AN IMPAIRED STREAM SEGMENT OR FOR SITES WHICH EPD HAS APPROVED IN WRITING A REQUEST TO DISTURB 50 ACRES OR MORE AT ANY ONE TIME.

The four items chosen must be appropriate for the site conditions.

Plan Page #	Included Y/N		
--	N	a.	During construction activities, double the width of the 25-foot undisturbed vegetated buffer along all State Waters requiring a buffer and the 50-foot undisturbed vegetated buffer along all State Waters classified as "trout streams" requiring a buffer. During construction activities, EPD will not grant variances to any such buffers that are increased in width.
C2.1-C2.2	Y	b.	Increase all temporary sediment basins and retrofitted storm water management basins to provide sediment storage of at least 3600 cubic feet (134 cubic yards) per acre drained.
--	N	c.	Use baffles in all temporary sediment basins and retrofitted storm water management basins to at least double the conventional flow path length to the outlet structure.
C2.1-C2.3	Y	d.	A large sign (minimum 4 feet x 8 feet) must be posted on site by the actual start date of construction. The sign must be visible from a public roadway. The sign must identify the following: (1) construction site, (2) the permittee(s), (3) the contact person(s) and telephone number(s), and (4) the permittee-hosted website where the Plan can be viewed and must be provided on the submitted NOI. The sign must remain on site and the Plan must be available on the provided website until a NOT has been submitted.
--	N	e.	Use **tackifiers** and/or mulch to stabilize areas left disturbed for more than seven (7) calendar days in accordance with **Part III. D.1.** of the current NPDES Permits.
--	N	f.	Conduct turbidity sampling after every rain event of 0.5 inch or greater within any 24-hour period, recognizing the exceptions specified in **Part IV.D.6.d.** of the current NPDES Permits.
--	N	g.	Comply with the applicable end-of-pipe turbidity effluent limit, without the "BMP defense" as provided for in O.C.G.A. 12-7-6 (a)(1).
--	N	h.	Reduce the total planned site disturbance to less than 50% impervious surfaces (excluding any State-mandated buffer areas from such calculations). All calculations must be included on the Plan.
--	N	i.	Limit the amount of disturbed area at any one time to no greater than 25 acres or 50% of the total planned site, whichever is less. All calculations must be included on the Plan.
--	N	j.	Use "Dirt II" techniques available on the EPD website to model and manage construction storm water runoff (including sheet flow). All calculations must be included on the Plan.
C2.2-C2.3	Y	k.	**Conduct soil tests representative of conditions at the time of planting to identify and to implement site-specific fertilizer needs and/or** add appropriate organic soil amendments (e.g., compost) and conduct pre- and post-construction soil sampling to a depth of six (6) inches to document improved levels of soil carbon after final stabilization of the construction site.
--	N	l.	Use mulch filter berms, in addition to a silt fence, on the site perimeter wherever construction storm water (including sheet flow) may be discharged. Mulch filter berms cannot be placed in waterways or areas of concentrated flow.
--	N	m.	Use appropriate erosion control slope stabilization instead of concrete in all construction storm water ditches and storm drainages designed for a 25-year, 24-hour rainfall event.
--	N	n.	Use flocculants or coagulants under a passive dosing method (e.g., flocculant blocks) within all construction storm water ditches and storm drainages that feed into temporary sediment basins and retrofitted management basins.
--	N	o.	Install sod for a minimum 20-foot width (in lieu of seeding) after final grade has been achieved, along the site perimeter wherever storm water (including sheet flow) may be discharged.
--	N	p.	Certified personnel shall conduct inspections at least twice every seven (7) calendar days and within 24 hours of the end of the storm that is 0.5 inches rainfall or greater in accordance with **Part IV.D.4.a.(3)(a)-(c)** of this permit. *
--	N	q.	Apply the appropriate compost blankets (minimum depth 1.5 inches) to protect soil surfaces until vegetation is established during the final stabilization phase of the construction activity.
--	N	r.	Use Alternative BMPs whose performance has been documented to be superior to conventional BMPs as certified by a design professional (unless disapproved by EPD or the Georgia Soil and Water Conservation Commission). (If using this item please refer to the Alternative BMP guidance document found at *www.gaswcc.georgia.gov*)
--	N	s.	Limit the total planned site disturbance to less than 15% impervious surfaces (excluding any State mandated buffer areas from such calculations). All calculations must be included in the Plan.
--	N	t.	Conduct inspections during the intermediate grading and drainage BMP phase and during the final BMP phase of the project by the design professional who prepared the Plan in accordance with **Part IV.A.5** of the permit.
			The Plan must include a statement that the primary permittee must retain the design professional who prepared the Plan to conduct inspections during the intermediate grading and drainage BMP phase and during the final BMP phase.
C2.2-C2.3	Y	u.	Install Post Construction BMPs (e.g., runoff reduction BMPs) which remove 80% TSS as outlined in the Georgia Stormwater Management Manual, known as the Blue Book, or an equivalent or more stringent design manual.

* This requirement is different for infrastructure projects:

Certified personnel for primary permittees shall conduct inspections at least once every seven (7) calendar days and within 24 hours of the end of the storm that is 0.5 inches rainfall or greater in accordance with Part IV.D.4.a.(3)(a) – (c) of the permit.

Effective January 1, 2025

NO.	REVISION	BY	DATE

GEORGIA 811 www.Georgia811.com
Contact 811 before you dig.
GEORGIA LAW
YOU MUST CALL 811 BEFORE ANY EXCAVATION WHETHER IT'S ON PRIVATE OR PUBLIC LAND
1-800-282-7411
ga811.georgia811.com

RACETRAC 24-HOUR CONTACT
PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE,
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA REGISTERED
Nathan Fuss
No. PE046694
PROFESSIONAL
08/01/2025
ENGINEER
NATHAN R. FUSS

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RaceTrac

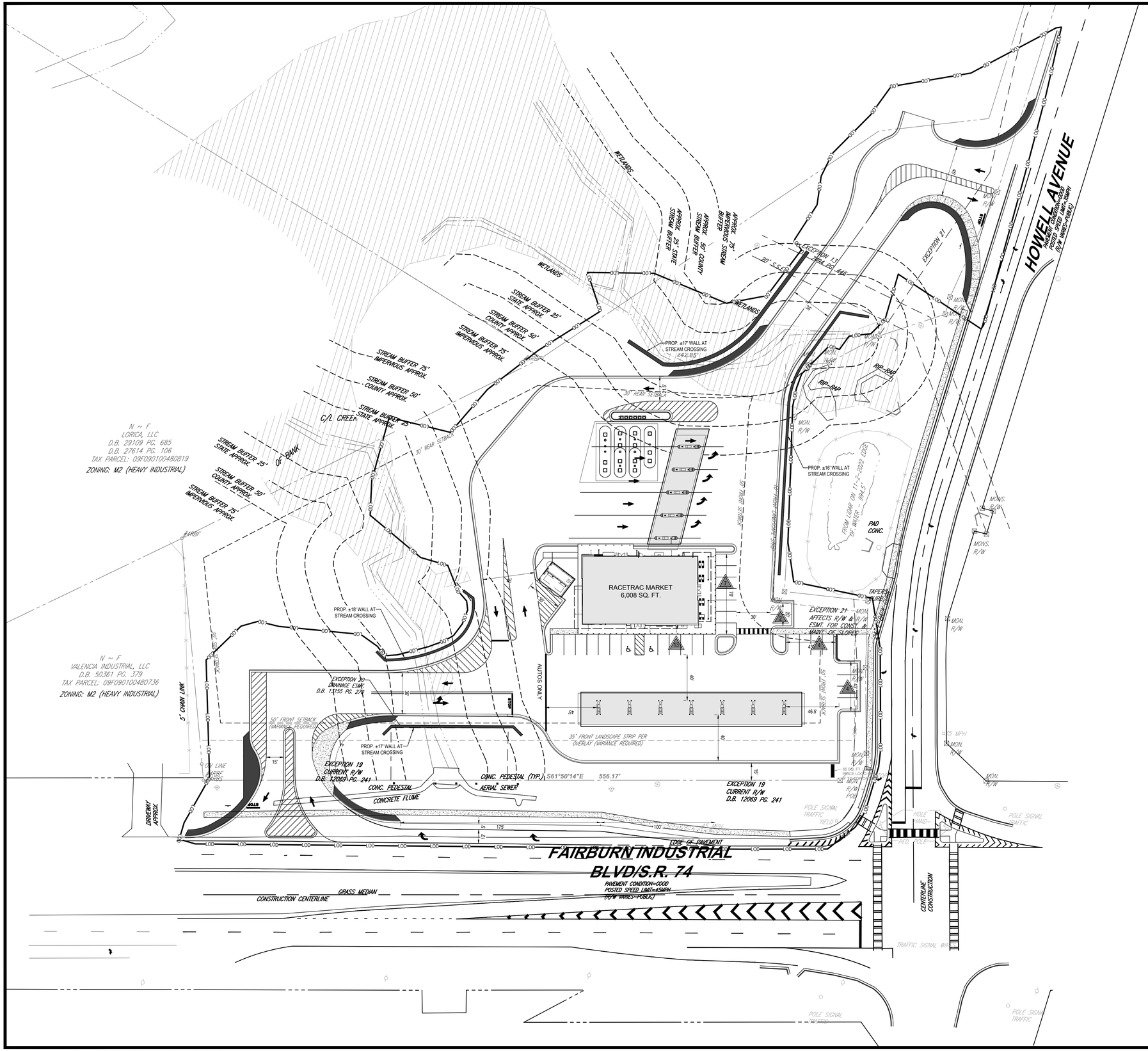
RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BLVD, SUITED
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

EROSION & SEDIMENT CONTROL - APPENDIX 1

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C2.9	
SHEET NO.	REVISION



		ALLOWED/REQUIRED	PROVIDED
MIN. LOT AREA			
	TOTAL SITE ACREAGE	5.0 AC	±5.20 AC
MIN. BUILDING SETBACK			
	FRONT(FAIRBURN INDUSTRIAL & HOWELL AVE.)	50'	±35'*
	SIDE	20'	349.5'
	REAR	30'	177.2'
MIN. LANDSCAPE STRIPS/BUFFERS			
	FRONT(STRIP)	10' ALONG HOWELL AVE	0'*
	FRONT(BUFFER YARD)	35' ALONG ROUTE 74 R.O.W.	10'*
PARKING REQUIREMENTS			
	MIN. PARKING	1 PER 200 SF OF GFA + 3 PARKING SPACES FOR FUEL STATION = ±34	30
	MAX. PARKING	N/A	30
MIN. PARKING SPACE DIMENSIONS		10'x18'	10'x18'
MAX. IMPERVIOUS AREA		N/A	±3.75 AC
MIN. DRIVE AISLE		N/A	30'

* VARIANCE REQUIRED

GENERAL SITE NOTES

1. OWNERS:
   GREENLAND GEORGIA INC
   4020 CHARWOOD TRCE
   MARIETTA, GA 30062-6046
2. EQUITABLE DEVELOPER/APPLICANT:
   RACETRAC PETROLEUM, INC.
   200 GALLERIA PARKWAY S.E.,
   SUITE 900
   ATLANTA, GA 30339
   CONTACT: JUSTEN GIAMBALVO
   PHONE: (770) 431-7600
3. ALL SIDEWALKS, STRIPING AND SIGNAGE TO BE ADA AND CODE COMPLIANT.
4. ZONING DATA:
   PARCEL NUMBERS: 09F090100480751
   GROSS LOT AREA: 4.21 AC
   EXISTING ZONING: M-2 HEAVY INDUSTRIAL
   OVERALY: GEORGIA HIGHWAY 74 OVERLAY
   ZONING DISTRICT
   EXISTING USE: VACANT LAND
   PROPOSED USE: FUELING CENTER (PERMITTED)
5. THIS PLAN IS BASED ON THE FOLLOWING:
   ALTA SURVEY BY GASKINS + LECRAW INC.
   1226 POWDER SPRINGS RD SW
   MARIETTA, GA 30064
   PROJECT NO.: 005060
   DATED: 09/07/2023
6. THE IMPROVEMENTS FOR THIS PROJECT INCLUDE THE CONSTRUCTION OF A RACETRAC TRAVEL CENTER STRUCTURE, PARKING FACILITIES, UNDERGROUND UTILITIES, LANDSCAPING, STORMWATER QUALITY, AND DETENTION REQUIREMENTS.
7. PARKING LOTS SHALL BE MAINTAINED IN GOOD CONDITION FREE OF POTHOLES, WEEDS, DUST, TRASH, AND DEBRIS.
8. IF ANY STRUCTURE THAT LIES WITHIN A 100-YEAR FLOODPLAIN OR WITH A DETENTION POND WILL BE ELEVATED SUCH THAT THE LOWEST FINISHED FLOOR ELEVATION SHALL BE NO LESS THAN 2' ABOVE THE 100-YEAR WATER SURFACE ELEVATION.
9. ALL TRAFFIC CONTROL SIGNS THAT ARE REMOVED OR DAMAGED MUST BE REINSTALLED OR REPLACED. ALL SIGNS MUST BE REINSTALLED TO THE STANDARDS IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

OWNER/DEVELOPER

RACETRAC PETROLEUM, INC.
200 GALLERIA PARKWAY S.E.,
SUITE 900
ATLANTA, GA 30339
CONTACT: JUSTEN GIAMBALVO
PHONE: (770) 431-7600
EMAIL: JGIAMBALVO@RACETRAC.COM

RT CURB LEGEND

	CATCH CURB (DETAIL 1, SHEET SD1)
	SHED CURB (DETAIL 2, SHEET SD1)
EP	EDGE OF PAVEMENT (GUTTER LINE)
TC	TOP OF CURB

40 20 10 0 40
1"= 40'

NO.	REVISION	BY	DATE

GEORGIA 811 www.Georgia811.com Contact 811 before you dig.
GEORGIA LAW YOU MUST CALL 811 BEFORE ANY EXCAVATION WHETHER IT'S ON PRIVATE OR PUBLIC LAND. 1-800-282-7411 (Non-participants)

RACETRAC 24-HOUR CONTACT
PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE.
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA REGISTERED Nathan First No. PE046894 PROFESSIONAL 08/01/2025 ENGINEER NATHAN R. FUSS

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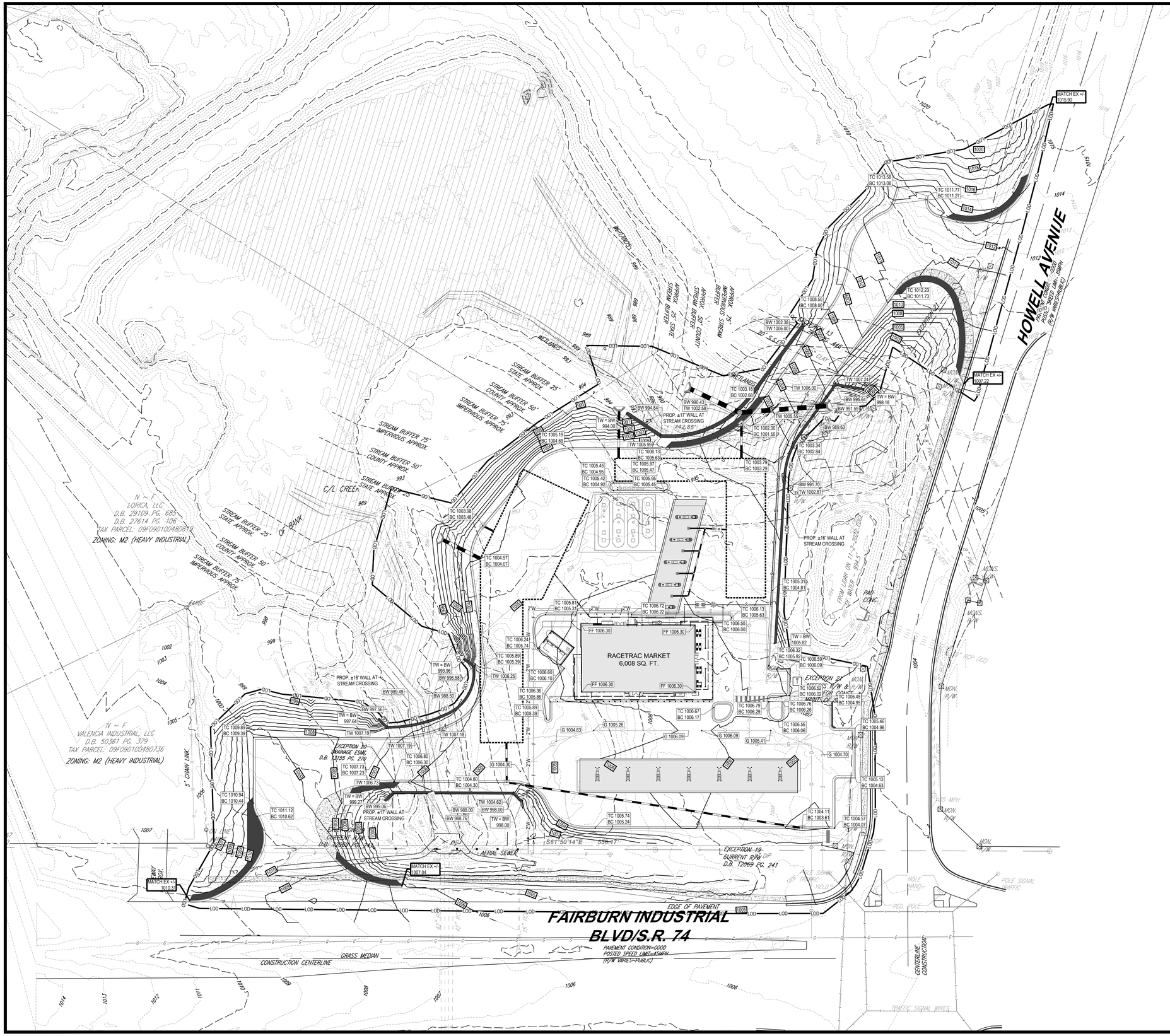
RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

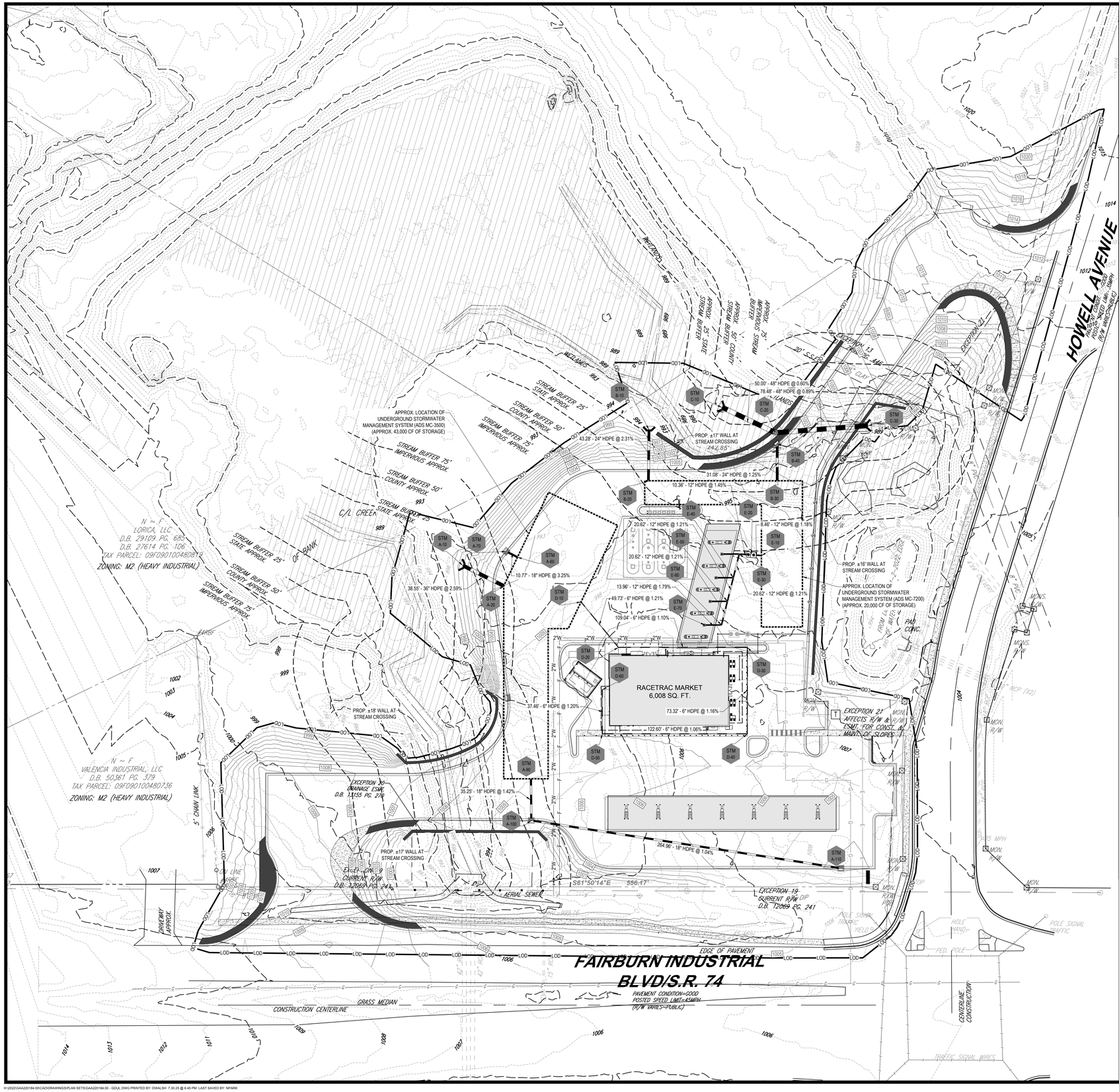
SITE PLAN

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C3	
SHEET NO.	REVISION


RACETRAC MARKET
6,008 SQ. FT.
FF 1006.30
FAIRBURN INDUSTRIAL BLVD/S.R. 74
HOWELL AVENUE
PAVEMENT CONDITION=GOOD
POSTED SPEED LIMIT=45MPH
(R/W VARIES-PUBLIC)
CONSTRUCTION CENTERLINE
GRASS MEDIAN
EDGE OF PAVEMENT
AERIAL SEWER
C/L CREEK
STREAM BUFFER 25' STATE APPROX.
STREAM BUFFER 50' COUNTY APPROX.
STREAM BUFFER 75' IMPERVIOUS APPROX.
WETLANDS
PROP. ±17' WALL AT STREAM CROSSING
PROP. ±16' WALL AT STREAM CROSSING
PROP. 30" RCP (TYP.)
PROP. 36" RCP
PROP. 24" RCP
PROP. 18" RCP
PROP. 15" RCP
PROP. 12" RCP
PROP. 8" SAN. SEWER
PROP. 6" SAN. SEWER
PROP. 4" SAN. SEWER
PROP. 2" SAN. SEWER
PROP. 1.5" SAN. SEWER
PROP. 1" SAN. SEWER
PROP. 3/4" SAN. SEWER
PROP. 1/2" SAN. SEWER
PROP. 3/8" SAN. SEWER
PROP. 1/4" SAN. SEWER
PROP. 1/8" SAN. SEWER
PROP. 1/16" SAN. SEWER
PROP. 1/32" SAN. SEWER
PROP. 1/64" SAN. SEWER
PROP. 1/128" SAN. SEWER
PROP. 1/256" SAN. SEWER
PROP. 1/512" SAN. SEWER
PROP. 1/1024" SAN. SEWER
PROP. 1/2048" SAN. SEWER
PROP. 1/4096" SAN. SEWER
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PROP. 1/330527984395124299475957654016385519914202341482140



STORM STRUCTURE SCHEDULE

NAME	TYPE	RIM ELEV. (FT.)	INVERTS
A-10	NULL STRUCTURE	996.73'	INV IN = 996.00' (36")
A-20	PROP OUTLET CONTROL STRUCTURE	1004.00'	INV OUT = 997.00' (36")
A-60	PROP OUTFALL TO UNDG DETENTION POND	1003.76'	INV IN = 997.00' (18")
A-70	PROP 18" NYLOPLAST DRAIN BASIN W/ COMBO INLET	1003.48'	INV OUT = 997.35' (18")
A-80	PROP NYLOPLAST DRAIN BASIN W/ COMBO INLET TO DISCHARGE DIRECTLY INTO UNDG DRAINAGE SYSTEM	1005.39'	
A-90	PROP OUTFALL TO UNDG DETENTION POND	1005.01'	INV IN = 996.50' (18")
A-100	PROP 24" NYLOPLAST DRAIN BASIN W/ COMBO INLET	1004.30'	INV IN = 997.00' (18") INV OUT = 997.00' (18")
A-110	PROP 18" NYLOPLAST DRAIN BASIN W/ COMBO INLET	1003.61'	INV OUT = 999.75' (18")
B-10	PROP CONCRETE WINGED HEADWALL	994.00'	INV OUT = 995.00' (24")
B-20	OUTLET CONTROL STRUCTURE	1005.09'	INV IN = 994.00' (24")
B-30	OUTFALL TO UNDG DETENTION POND	1003.25'	INV IN = 996.51' (24")
B-40	PROP 18" NYLOPLAST DRAIN BASIN W/ COMBO INLET	1001.50'	INV OUT = 996.90' (24")
C-10	PROP CONCRETE WINGED HEADWALL	992.25'	INV IN = 988.00' (48")
C-20	COMBO INLETS	1002.06'	INV IN = 988.30' (48") INV OUT = 988.30' (48")
C-30	PROP CONCRETE WINGED HEADWALL	993.48'	INV OUT = 989.00' (48")
D-10	CLEANOUTS	1005.24'	INV IN = 997.00' (6")
D-20	CLEANOUTS	1006.19'	INV IN = 997.60' (6") INV OUT = 997.60' (6")
D-30	CLEANOUTS	1005.86'	INV IN = 998.80' (6") INV OUT = 998.80' (6")
D-40	CLEANOUTS	1006.19'	INV IN = 999.65' (6") INV OUT = 999.65' (6")
D-50	CLEANOUTS	1006.06'	INV IN = 1000.95' (6") INV OUT = 1000.95' (6")
D-60	NULL STRUCTURE	1001.97'	INV OUT = 1001.40' (6")
E-10	OUTFALL TO UNDG DETENTION POND	1004.88'	INV IN = 994.50' (12")
E-20	PROP 1,500 GAL OIL/WATER SEPERATOR	1005.03'	INV IN = 994.60' (12") INV OUT = 994.60' (12")
E-30	PROP CLEANOUT	1005.22'	INV IN = 994.75' (12") INV OUT = 994.75' (12")
E-40	PROP CLEANOUT	1005.46'	INV IN = 995.00' (12") INV OUT = 995.00' (12")
E-50	PROP CLEANOUT	1005.71'	INV IN = 995.25' (12") INV OUT = 995.25' (12")
E-60	PROP CLEANOUT	1005.94'	INV IN = 995.50' (12") INV OUT = 995.50' (12")
E-70	PROP 12" DRAIN BASIN (TYP.)	1006.06'	INV OUT = 995.75' (12")

STORM SEWER PIPE SCHEDULE

FROM	FROM INV	TO	TO INV	PIPE LENGTH	SLOPE (%)	DIAMETER (IN.)	MATERIAL
A-10	996.00'	A-20	997.00'	38.55'	2.59%	36"	HDPE
A-60	997.00'	A-70	997.35'	10.77'	3.25%	18"	HDPE
A-90	996.50'	A-100	997.00'	35.25'	1.42%	18"	HDPE
A-100	997.00'	A-110	999.75'	264.96'	1.04%	18"	HDPE
B-20	994.00'	B-10	995.00'	43.28'	2.31%	24"	HDPE
B-30	996.51'	B-40	996.90'	31.08'	1.25%	24"	HDPE
C-10	988.00'	C-20	988.30'	50.00'	0.60%	48"	HDPE
C-20	988.30'	C-30	989.00'	78.48'	0.89%	48"	HDPE
D-10	997.00'	D-20	997.60'	49.73'	1.21%	6"	HDPE
D-20	997.60'	D-30	998.80'	109.04'	1.10%	6"	HDPE
D-30	998.80'	D-40	999.65'	73.32'	1.16%	6"	HDPE
D-40	999.65'	D-50	1000.95'	122.60'	1.06%	6"	HDPE
D-50	1000.95'	D-60	1001.40'	37.46'	1.20%	6"	HDPE
E-20	994.60'	E-10	994.50'	8.46'	1.18%	12"	HDPE
E-30	994.75'	E-20	994.60'	10.36'	1.45%	12"	HDPE
E-40	995.00'	E-30	994.75'	20.62'	1.21%	12"	HDPE
E-50	995.25'	E-40	995.00'	20.62'	1.21%	12"	HDPE
E-60	995.50'	E-50	995.25'	20.62'	1.21%	12"	HDPE
E-70	995.75'	E-60	995.50'	13.96'	1.79%	12"	HDPE

NO.	REVISION	BY	DATE

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RACETRAC 24-HOUR CONTACT PHONE: (770)530-7401 EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE, SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA REGISTERED Nathan Fuss No. PE046694 PROFESSIONAL 08/01/2025 ENGINEER NATHAN R. FUSS

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DRAINAGE PLAN

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C7	
SHEET NO.	REVISION

Underground Detention



Underground detention is detention storage located in underground tanks or vaults designed to provide water quantity control through temporary storage of stormwater runoff. In addition they can improve water quality by removing heavy amounts of sediment.

There are some common problems to be aware of when maintaining an underground detention area. They include, but are not limited to, the following:

- Sediment build-up
- Clogging in the inlet and outlet structure
- Requirement to have Occupational Safety and Health Administration (OSHA) confined space entry training

Routine maintenance should be performed on the underground detention areas to ensure that the structure is properly functioning. Routine maintenance includes the removal of debris from inlet and outlet structures and cleaning sediment built up inside the structure. Because this is an underground system, inspection and maintenance may be difficult to conduct. Generally these underground systems can be inspected by looking in an access opening. Sometimes, however, maintenance requires an individual who is certified in OSHA confined space entry. Should there be a situation where a safety concern arises, the inspection should stop and the safety concern addressed. Once the concern is addressed, the inspection can continue.

Inspect the underground detention area after a large rainstorm. If the underground detention area is not draining properly, check the inlet and outlet structures to make sure they are not clogged.

Sediment should be removed from the practice by either a vacuum or boom. If the system is accepting water that flowed from a hazardous facility, the sediment may need to be disposed of by other means. Check with the local government to identify any additional constraints on the disposal of sediments excavated from underground detention.

The table on the following page shows a schedule for when different maintenance activities should be performed on a submerged gravel wetland.

Underground Detention Typical Routine Maintenance Activities and Schedule

Activity	Schedule
• Remove any trash/debris and sediment buildup in the underground trash racks, vaults or tanks. • Check drainage areas for trash, erosion, and debris. • Clean underground detention if hazardous or foreign substances are spilled in the contributing drainage area. • Perform structural repairs to inlet and outlets.	As needed
• Follow manufacturer's guidelines and develop/adjust plan for the underground detention. • Clean out underground detentions with vacuum or boom trucks. • Clean sediment or oil chambers	Annually

Underground Detention

Maintenance Item	Condition: Good	Marginal	Poor	N/A*	Comment
General Inspection					
Access to the site is adequately maintained for inspection and maintenance.					
Area is clean (trash, debris, grass clippings, etc. removed).					
Inlet Structure and Pretreatment					
Drainage ways (overland flow or pipes) to the practice are free of trash, debris, large branches, etc.					
Inlet structure is in good condition. No signs of cracks or leaks.					
Diversion structure (high flow bypass structure or other) is free of trash, debris, or sediment. Comment on overall condition of diversion structure and list type.					
Inlet pipe fits tightly to the underground detention.					
Inlet has protection to prevent clogging with leaves or other debris and has fine mesh for mosquito control.					
Main Treatment					
Main treatment area is free of trash, debris, and sediment.					
Structure seems to be working properly. No signs of settling, leaking, or cracking. Comment on overall condition of structure.					
Emergency Overflow and Outlet Structure					
Area is free of trash, debris, and sediment.					
Overflow valve appears to be in good condition and show no signs of leaking.					
Results					
Overall condition of Underground Detention:					
Additional Comments					

Notes: *If a specific maintenance item was not checked, please explain why in the appropriate comment box.

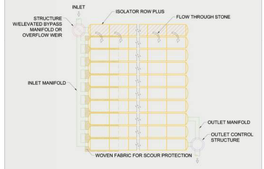
Isolator® Row Plus

The StormTech Isolator Row Plus is an enhancement to our proven water quality treatment system. This updated system is an NJCAT verified water quality treatment device that can be incorporated into any system layout.

Features

- Isolator Row Plus is now NJCAT verified. As a Manufactured Treatment Device it achieves over 80% TSS removal by filtration NJDEP Laboratory Protocol Assessment NJCAT Technology Verification.
- A patented Flamp™ (Flared End Ramp) provides a smooth transition from pipe invert to fabric bottom. The Flamp is attached to the inlet pipe inside the chamber end cap and improves chamber function over time by distributing sediment and debris that would otherwise collect at the inlet. It also serves to improve the fluid and solid flow back into the inlet pipe during maintenance and cleaning.
- Proprietary ADS Plus fabric maintains durability and sediment removal while allowing for higher water quality flow rates. A single layer of ADS Plus fabric is placed between the angular base stone and the Isolator Row Plus chambers.

Schematic of the StormTech Isolator Row Plus System



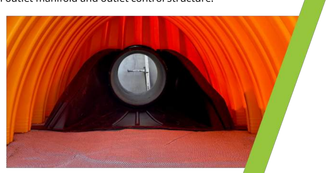
Technology Descriptions

The Isolator Row Plus is designed to capture the "first flush" runoff and offers the versatility to be sized on a volume or a flow basis. An upstream manhole not only provides access to the Isolator Row Plus but includes a high/low concept such that stormwater flow rates or volumes that exceed the capacity of the Isolator Row Plus bypass through a manifold to the other chambers. This is achieved with either an elevated bypass manifold or a high-flow weir. This creates a differential between the Isolator Row Plus row of chambers and the manifold to the rest of the system, thus allowing for settlement time in the Isolator Row Plus. After Stormwater flows through the Isolator Row Plus and into the rest of the StormTech chamber system it is either infiltrated into the soils below or passed at a controlled rate through an outlet manifold and outlet control structure.

Summary of Verified Claims[1]

Treatment Rate (gpm/ft²)	4.1
Underlying Geotextile Layers	1
NJDEP Test Sediment	D50=75um
Mean Particle Concentration (mg/L)	200
TSS Removal Efficiency	>80%

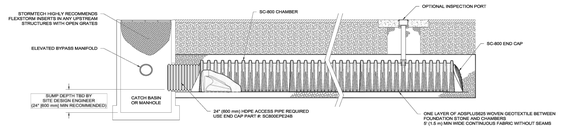
[1] Verification testing of the StormTech SC-740 Isolator Row PLUS in accordance with NJDEP Laboratory protocol to access total suspended solids removal by filtration manufactured treatment device, 2013



ADS StormTech™

adspipe.com
800-821-6710

StormTech Isolator Row Plus (not to scale)



Maintenance

The Isolator Row Plus was designed to reduce the cost of periodic maintenance. By "isolating" sediment to just one row of the StormTech system, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout.

Maintenance is accomplished with the JetVac® process. The JetVac process utilizes a high-pressure water nozzle to propel itself down the Isolator Row Plus while scouring and suspending sediment. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency.

StormTech Isolator Row Plus

Chamber Model	Chamber Storage	Chamber Footprint	Treatment Rate
SC-160LP	15.0 cf (0.42 m³)	11.45 sf (1.06 m²)	0.11 cfs (3.11 L/s)
SC-310	31.0 cf (0.88 m³)	17.7 sf (1.64 m²)	0.16 cfs (4.53 L/s)
DC-780	78.4 cf (2.22 m³)	27.8 sf (2.58 m²)	0.26 cfs (7.36 L/s)
SC-800	81.0 cf (2.29 m³)	27.3 sf (2.54 m²)	0.25 cfs (7.1 L/s)
MC-3500	175.0 cf (4.96 m³)	42.9 sf (3.99 m²)	0.40 cfs (11.32 L/s)
MC-4500	162.6 cf (4.60 m³)	30.1 sf (2.80 m²)	0.28 cfs (7.93 L/s)
MC-7200	267.3 cf (7.57 m³)	50.0 sf (4.65 m²)	0.45 cfs (12.74 L/s)

Installation

Installation of the stormwater treatment unit(s) shall be preformed per manufacture's installation instructions. Such instructions can be obtained by calling Advanced Drainage Systems Inc. at (800) 821-6710 or by logging on to adspipe.com.

ADS StormTech™

adspipe.com
800-821-6710

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NO.	REVISION	BY	DATE

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EMAIL: tgodwin@racetrac.com

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ATLANTA, GEORGIA 30346
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GEORGIA REGISTERED Nathan Fuss No. PE046894 PROFESSIONAL ENGINEER 08/01/2025 NATHAN R. FUSS

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3225 CUMBERLAND BLVD, SE
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

DRAINAGE DETAILS

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

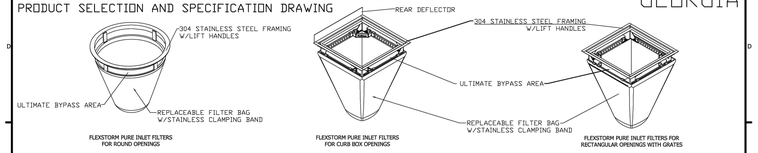
CITY OF FAIRBURN, GA

DRAWN BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C7.1	
SHEET NO.	REVISION

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FLEXSTORM PURE FILTERS FOR PERMANENT INLET PROTECTION
PRODUCT SELECTION AND SPECIFICATION DRAWING

GEORGIA



FLEXSTORM PURE INLET FILTERS FOR ROUND OPENINGS

FLEXSTORM PURE INLET FILTERS FOR CURB BOX OPENINGS

FLEXSTORM PURE INLET FILTERS FOR RECTANGULAR OPENINGS WITH GRATES

Product selection for FLEXSTORM PURE Filters (Permanent Inlet Protection)

Standard	USF Casting	Inlet Type	Grate Size	Opening Size	Bag Cap. (ft^2)	Flow Ratings (CFS)			Part #			
						FXP/FXP+	PC/PC+	Bypass	FX	FXP+	PC	PC+
2' x 2' Frame and Grate	4190-6259	Square/Rect (SQ)	23.5 x 23.5	22 x 22	2.4	1.9	1.6	4.5	62MHD22FX	62MHD22FXP	62MHD22PC	62MHD22PCP
2' x 3' Std.	4180	Square/Rect (SQ)	36 x 24	34 x 22	4.5	2.5	2.1	6.0	62LHD2436FX	62LHD2436FXP	62LHD2436PC	62LHD2436PCP
1019 A Type A/B/C/D	4607	Square/Rect (SQ)	28.75 X 21	26.5 X 18.25	3.0	1.9	1.6	4.7	62HD1019AFX	62HD1019AFXP	62HD1019APC	62HD1019APCP
1019 A Type E	5151	Curb Box (CB)	28.75 X 21	26.5 X 18.25	3.0	1.9	1.6	4.7	62MHDCBFX	62MHDCBFXP	62MHDCBPC	62MHDCBPCP
City of Macon Georgia Std.	5167	Wall Mount (WM)	40.5	39.5	2.7	2.1	1.8	N/A	62HDWM1FX	62HDWM1FXP	62HDWM1PC	62HDWM1PCP
1010 Catch Basin	4612	Square/Rect (SQ)	33.75 x 21.75	31.375 x 19.375	4.0	2.2	1.9	7.2	62LHDFX	62LHDFXP	62LHDPC	62LHDPCP
1013 Catch Basin	5135	Curb Box (CB)	33.75 x 21.75	31.375 x 19.375	4.0	2.2	1.9	7.2	62MHDCBFX	62MHDCBFXP	62MHDCBPC	62MHDCBPCP
1019 B (Type V-1)	5149/5150	Curb Box (CB)	33.75 x 21.75	31.375 x 19.375	4.4	2.3	2.0	5.8	62LHDCBFX	62LHDCBFXP	62LHDCBPC	62LHDCBPCP
1019 B (Type V-2)	4612	Square/Rect (SQ)	33.75 x 21.75	31.375 x 19.375	4.4	2.3	2.0	5.8	62LHDFX	62LHDFXP	62LHDPC	62LHDPCP

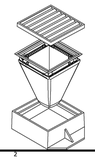
*FLOW RATINGS SHOWN ARE 50% MAXIMUM

NOTES:

1. ALL FRAMING IS CONSTRUCTED OF 304 STAINLESS STEEL FOR 25 YEAR SERVICE LIFE RATING
2. TOTAL BYPASS CAPACITY WILL VARY WITH EACH SIZED DRAINAGE STRUCTURE. FLEXSTORM DESIGNS FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE.
3. UPON ORDERING ADS P/N CONFIRMATION OF THE IOT CALLOUT, FLEXSTORM ITEM CODE, CASTING MAKE AND MODEL, OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED.
4. FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT WWW.INLETFILTERS.COM

INSTALLATION

1. REMOVE GRATE
2. DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
3. REPLACE GRATE



FLEXSTORM PURE

ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC A DIVISION OF ADS, INC. WWW.INLETFILTERS.COM (866) 287-8655 PH (630) 355-3477 FX INFO@INLETFILTERS.COM

SIZE	DWG NO	REV
C	P-GA-SUBMIT	A
SCALE	SHEET 1 OF 1	

FLEXSTORM OPERATION AND MAINTENANCE PLAN

FLEXSTORM INLET FILTERS

OPERATION & MAINTENANCE PLAN

Installation Instructions:

1. Remove grate from the drainage structure
2. Clean stone and dirt from ledge (lip) of drainage structure
3. Drop the FLEXSTORM inlet filter through the clear opening such that the hangers rest firmly on the lip of the structure.
4. Replace the grate and confirm it is not elevated more than 1/8", the thickness of the steel hangers.

Frequency of Inspections:

1. Inspection should occur following any rain event >½".
2. Post construction inspections should occur 4 times per year. In snowfall affected regions additional inspections should take place before and after snowfall season.
3. Industrial application site inspections (loading ramps, wash racks, maintenance facilities) should occur on a regularly scheduled basis no less than 3 times/year.

Maintenance Guidelines:

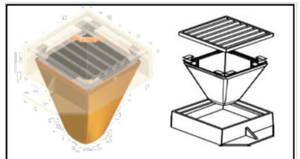
1. Empty the sediment bag if more than half filled with sediment and debris, or as directed.
2. Remove the grate, engage the lifting bars with the FLEXSTORM Removal Tool, and lift from drainage structure.
3. Dispose of sediment or debris as directed by the Engineer or Maintenance contract.
4. An industrial vacuum can be used to collect sediment.
5. Remove caked on silt from sediment bag and flush with Medium spray with optimal filtration.
6. Replace bag if torn or punctured to >½" diameter on lower half of bag.

Post Construction PC Bag Maintenance:

1. At 50% saturation the average 2'x2' Adsorb-it lined PC filter will retain approximately 75 oz (4.2 lbs) of oil and should be serviced. To recover the oils the filter can be centrifuged or passed through a wringer.
2. Oil skimmer pouches start to turn black when saturated, indicating time for replacement. Each ClearTec Rubberizer pouch will absorb ~62oz (4 lbs) of oil before needing replacement.
3. Dispose of all oil contaminated products in accordance with EPA guidelines. ClearTec Rubberizer, since a solidifier, will not leach under pressure and can be disposed of in most landfills, recycled for industrial applications, or burned as fuel.

Sediment Bag Replacement:

1. Remove the bag by loosening or cutting off clamping bag.
2. Take new sediment bag and secure worm drive clamping band to the frame channel.
3. Ensure Bag is secure and there is no slack around perimeter.



STRUCTURE ID#/LOCATION:

DATE	TASK PERFORMED	INSPECTOR

FLEXSTORM P/Ns FOR NYLOPLAST ROUND FRAME AND GRATE

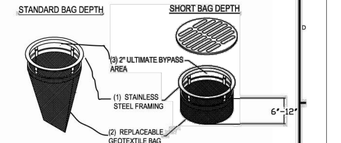
INLET TYPE NYLO: ROUND IN NYLOPLAST BASIN

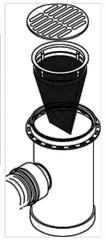
Casting Size	FX Bag		Flexstorm Ratings (Flow at 50% of max)			FX+ Bag
	ADS P/N	Bag Depth	Bag Capacity (ft^2)	FX/FX+ Flow Rate (CFS)	Total Bypass (CFS)	ADS P/N
8" Drop in	6208NYFX	22"	0.2	0.9	1.3	6208NYFXP
8" Inline	6208NYFX	22"	0.2	0.9	1.3	6208NYFXP
10" Drop in	6210NYFX	22"	0.3	1.2	1.75	6210NYFXP
10" Inline	6210NYFX	22"	0.3	1.2	1.75	6210NYFXP
12" Round	6212NYFX	22"	0.3	1.4	2.0	6212NYFXP
15" Round	6215NYFX	22"	0.6	1.7	2.5	6215NYFXP
18" Round	6218NYFX	22"	0.9	2.1	3.1	6218NYFXP
24" Round	6224NYFX	22"	1.6	2.8	4.3	6224NYFXP
30" Round	6230NYFX	22"	2.8	3.6	5.7	6230NYFXP

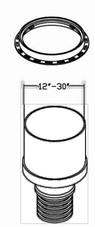
Casting Size	PC Bag		Flexstorm Ratings (Flow at 50% of Max)			PC+ Bag
	ADS P/N	Bag Depth	Bag Capacity (ft^2)	PC/PC+ Flow Rate (CFS)	Total Bypass (CFS)	ADS P/N
8" Inline	6208NYPC	22"	0.2	0.4	1.3	6208NYPCP
8" Drop In	6208NYPC	22"	0.2	0.4	1.3	6208NYPCP
10" Drop In	6210NYPC	22"	0.3	0.6	1.75	6210NYPCP
12" Round	6212NYPC	22"	0.3	0.9	2.0	6212NYPCP
15" Round	6215NYPC	22"	0.6	1.2	2.5	6215NYPCP
18" Round	6218NYPC	22"	0.9	1.4	3.1	6218NYPCP
24" Round	6224NYPC	22"	1.6	1.9	4.3	6224NYPCP
30" Round	6230NYPC	22"	2.8	2.5	5.7	6230NYPCP

STANDARD BAG DEPTH

SHORT BAG DEPTH









8" and 10" Designs



12" and Plus Designs

FLEXSTORM PURE

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SIZE	FRAME TYPE	DWG NO	REV
C	NY	NYLOPLAST	A
SCALE	SHEET 1 OF 1		

FlexStorm Pure™ Inlet Filter

FlexStorm Pure inlet filters are the preferred choice for permanent inlet protection and stormwater runoff control. Constructed of stainless steel, FlexStorm Pure inlet filters will fit any drainage structure and are available with site-specific filter bags providing various levels of filtration.

Applications

- Car washes
- Commercial
- Loading ramps
- Industrial
- Gas stations
- Parking lots
- Dock drains
- Maintenance

Features

- Custom stainless steel frames are configured to fit into any drainage structure
- Flow and bypass rates meet specific inlet requirements
- Works below grade with bypass to drain area if bag is full
- Installed and maintained by one worker, without additional equipment

Benefits

- Stainless steel frame provides extended service life
- Easily replaceable filter bags
- Meets stringent removal requirements:
  - All bags rated >84% removal efficiency
  - Bag styles available to remove hydrocarbon oils when required





ADS

FlexStorm Pure Inlet Filters Specification

Material and Performance

The filter is comprised of a stainless steel frame and a replaceable geotextile filter bag attached to the frame with a stainless steel locking band. The filter bag hangs suspended below the grate that shall allow full bypass flow into the drainage structure if the bag is completely filled with sediment. The standard "FX" filter bags are rated for 200 gpm/sqft (21.44 liters/minute/cubic meter) with a removal efficiency of 85%. The post construction "PCP" filter bags are rated for 137 gpm/sqft (14.69 liters/minute/cubic meter) and have a removal efficiency of 97%.

Installation

1. Remove the grate from the inlet.
2. Clean debris from the ledges of the inlet.
3. Place the inlet filter onto the load bearing ledges of the structure.
4. Replace the grate and confirm it is not elevated more than ⅛" (3 mm).

Frequency of Inspections

1. Inspection should occur following rain events greater than ½" (13 mm).
2. Filter inspections should occur a minimum of three times per year, and in snowfall affected regions, inspections prior to and after snowfall season.
3. Industrial application site inspections (loading ramps, wash racks & maintenance facilities) to be scheduled on a recurring basis no less than four times per year or as needed.

Maintenance Guidelines

1. Empty the filter bag manually or by industrial vacuum taking care not to damage the geotextile bag when more than half filled or during scheduled inspection period.
2. Remove compacted silt from sediment bag and flush with medium spray.
3. "PCP" style bags should be pressed or wrung to recover retained oils.
4. Oil skimmer pouches solidify and darken when saturated, indicating time for replacement.
5. Dispose of all oil-contaminated products and recovered oils in accordance with EPA guidelines. Oil skimmer pouches, since a solidifier, will not leach and can be disposed of directly.
6. Inspect and replace bag if torn or punctured.

Filter Bag Replacement

1. Remove the bag by loosening or cutting off clamping band.
2. Take the new correctly sized sediment bag and secure hose clamping band to the frame channel as previously removed.
3. Ensure bag is secure and there is no slack around perimeter.

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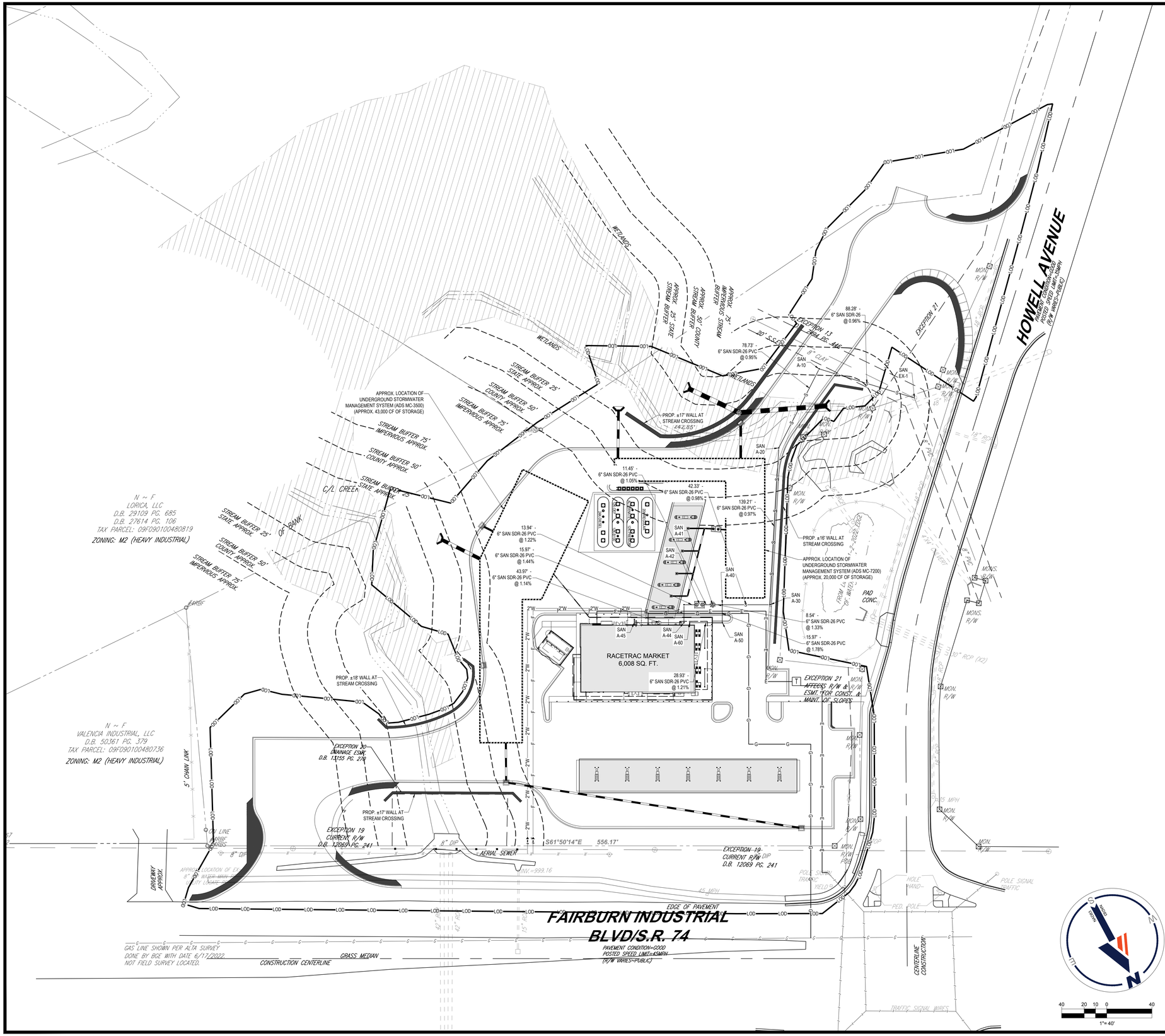
RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
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DRAINAGE DETAILS

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C7.2	
SHEET NO.	REVISION



UTILITY LEGEND

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
SAN /	SANITARY LABEL	SAN #
STM /	STORM LABEL	STM #
SL	SANITARY SEWER LATERAL	SL
W	UNDERGROUND WATER LINE	W
E	UNDERGROUND ELECTRIC LINE	E
G	UNDERGROUND GAS LINE	G
OH	OVERHEAD WIRE	OH
T	UNDERGROUND TELEPHONE LINE	T
C	UNDERGROUND CABLE LINE	C
	STORM SEWER	
S	SANITARY SEWER MAIN	S
	HYDRANT	
S	SANITARY MANHOLE	S
D	STORM MANHOLE	D
WM	WATER METER	
WV	WATER VALVE	
	GAS VALVE	
	GAS METER	
	TYPICAL END SECTION	
	HEADWALL OR ENDWALL	
	YARD INLET	
	CURB INLET	
	CLEAN OUT	
E	ELECTRIC MANHOLE	E
T	TELEPHONE MANHOLE	T
EB	ELECTRIC BOX	EB
EP	ELECTRIC PEDESTAL	EP
	MONITORING WELL	
	TEST PIT	

SANITARY STRUCTURE SCHEDULE

NAME	TYPE	RIM ELEV. (FT.)	INVERTS
A-10	CLEANOUT	1006.22'	INV IN = 996.85' (6") INV OUT = 996.85' (6")
A-20	CLEANOUT	1002.77'	INV IN = 997.60' (6") INV OUT = 997.60' (6")
A-30	CLEANOUT	1005.02'	INV IN = 998.95' (6") INV OUT = 998.95' (6")
A-40	CLEANOUT	1005.58'	INV IN = 999.37' (6") INV IN = 999.37' (6") INV OUT = 999.37' (6")
A-41	SAMPLING MANHOLE	1005.70'	INV IN = 999.98' (6") INV OUT = 999.48' (6")
A-42	1,500 GAL GREASE TRAP	1005.85'	INV IN = 1000.10' (6") INV OUT = 1000.10' (6")
A-43	CLEANOUT	1006.04'	INV IN = 1000.27' (6") INV OUT = 1000.27' (6")
A-44	CLEANOUT	1006.25'	INV IN = 1000.50' (6") INV OUT = 1000.50' (6")
A-45	BLDG CONN	1006.28'	INV OUT = 1001.00' (6")
A-50	CLEANOUT	1005.92'	INV IN = 999.65' (6") INV OUT = 999.65' (6")
A-60	BLDG CONN	1000.57'	INV OUT = 1000.00' (6")
EX-1	EXST SAN MH	1000.32'	INV IN = 996.00' (6")

SANITARY PIPE SCHEDULE

FROM	FROM INV	TO	TO INV	PIPE LENGTH	SLOPE (%)	DIAMETER (IN.)	MATERIAL
A-10	996.85'	A-20	997.60'	78.73'	0.95%	6"	SDR-26
A-20	997.60'	A-30	998.95'	139.21'	0.97%	6"	SDR-26
A-30	998.95'	A-40	999.37'	42.33'	0.98%	6"	SDR-26
A-40	999.37'	A-41	999.48'	8.54'	1.33%	6"	SDR-26
A-40	999.37'	A-50	999.65'	15.97'	1.78%	6"	SDR-26
A-41	999.98'	A-42	1000.10'	11.45'	1.05%	6"	SDR-26
A-42	1000.10'	A-43	1000.27'	13.94'	1.22%	6"	SDR-26
A-43	1000.27'	A-44	1000.50'	15.97'	1.44%	6"	SDR-26
A-44	1000.50'	A-45	1001.00'	43.97'	1.14%	6"	SDR-26
A-50	999.65'	A-60	1000.00'	28.93'	1.21%	6"	SDR-26
EX-1	996.00'	A-10	996.85'	88.28'	0.96%	6"	SDR-26

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Nathan Fuss
No. PE034694
PROFESSIONAL
08/01/2025
NATHAN R. FUSS

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UTILITY PLAN

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C8	
SHEET NO.	REVISION

2025

STORMWATER REPORT: RACETRAC FAIRBURN, GA

Prepared for

RACETRAC, INC

200 Galleria Parkway SE, Suite 900
Atlanta, GA 30339

Bohler Project #: GAA220184.00
Submittal: August 1st, 2025



08-01-2025

Nate Fuss, P.E.

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APPENDIX 5 | SITE DEVELOPMENT REVIEW TOOL

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1. DESCRIPTION

1.1 Project Location and Characteristics

The project site is located north of Fairburn Industrial Blvd and west of Howell Avenue in the City of Fairburn, GA, within the jurisdiction of the City of Fairburn. The site covers an area of 5.20 disturbed aces and is densely wooded. The site has two streams that connect south of the site and discharges into Hendersons Lake. The existing streams on site also take runoff from properties north of Fairburn Industrial Blvd and East of Howell Avenue. See Appendix 1 – Site Location Map.

1.2 Project Description

The proposed improvements will include the construction of one 6,008 SF Racetrac convenient store that includes associated parking and loading spaces to serve the store, necessary utilities as well as a total of two fuel canopies containing a total of twelve fuel dispenser islands (seven auto and five for trucks). See attached civil engineering drawings for full details of proposed improvements.

1.3 Methodology

This report was prepared in accordance with the GA Stormwater Management Manual 2016 Edition. Per the Blue Book, the post developed peak flow rates for the 1, 2, 10, 25, 50 and 100-yr storm events must be reduced to the pre-developed levels. This analysis uses the SCS Unit hydrograph method using a type II-24 hr. storm type distribution. Rainfall totals were obtained from NOAA as provided in Appendix - 2. Soil type information was obtained from a USDA NRCS Web Soil Survey and is also included in Appendix - 2. Routing calculations were performed using the computer program HydroCAD (version 10.20) by HydroCAD Software Solutions LLC.

1.4 Pre-Developed Conditions

The project site is currently undeveloped and has roadway frontage along Fairburn Industrial Blvd and Howell Avenue. The site is all pervious area with natural cover around the entire site. Existing conditions can be seen in Appendix 3 – Pre-Developed Hydrology, which shows the existing drainage patterns. Three study points have been identified and analysized. Study point 1 has a heavy amount discharge coming in from the culvert discharging from across fairburn

industrial boulevard along with the site area. Study point 2 also has a heavy amount of runoff discharging from the culvert from across Howell Avenue along with the on-site area. Study point 3 has also been identified as sheet flow that looks to connect in the two streams from both study point 1 and 2. The predeveloped area is only analyzing the disturbed area as the undisturbed area should not have an increase flow from the predeveloped to post developed conditions. Table 1 illustrates the CN number and time of concentration used for each drainage basin on-site and table 2 presents the predeveloped flows for each study point discussed.

Table 1 - Pre-Developed Drainage Basin Summary

Subarea Designation	Total Area (Ac)	Wooded HSG B Soils Area CN 55 (Ac)	Pasture/Grass HSG B CN 69 (Ac)	Composite CN	Total T_c (Min)
A-1	1.81	1.81	--	55	35.7
A-2	1.95	1.95	--	55	26.1
A-3	0.65	0.65	--	55	14.8

Table 2 - Pre-Developed Runoff Peak Flows (cfs)

Subarea Designation	Pre-Developed Peak Flows					
	1 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Study Point 1	0.18	0.74	1.21	2.06	2.89	3.86
Study Point 2	0.24	1.00	1.53	2.77	3.87	5.15
Study Point 3	0.11	0.49	0.79	1.31	1.81	2.39

The map and calculations of the pre-developed hydrographs can be seen in Appendix 3 - Pre-Developed Hydrology. Post-developed conditions will be compared to the pre-developed conditions of Study Point 1, 2, and 3.

1.5 Post-Developed Conditions and Proposed Drainage Strategy

The proposed improvements include the construction of one 6,008 SF Racetrac convenient store that includes associated parking and loading spaces to serve the store, necessary utilities as well as a total of two fuel canopies containing a total of twelve fuel dispenser islands (seven auto and five for trucks). The proposed improvements can be seen in Appendix - 4 - Post-Development Hydrology. To mitigate the impact of the impervious areas of the site and to comply with the 2016 GA Stormwater Management Manual and Peach County Stormwater

Management Ordinance, the site will make use of a ADS Inlet Filters and ADS Isolator Row through our proposed underground detention stormwater pond. Details on the proposed water quality devices are included in Appendix 6 – Stormwater Details. Per the Site Development Review Tool, the ADS Inlet Filters and Isolator Row will provide the required 80% TSS removal. See Appendix 5 for the Post-Developed Drainage Map and Stormwater Calculations.

1.6 Water Quality Strategy

Per the GSMM section 1.2.2.3, Water Quality Volume (WQV) is equal to the runoff generated on a site from 1.2 inches of rainfall. This volume must be treated to at least 80% TSS removal before it may be discharged, and this may be achieved through the use of site design/practices and/or structural stormwater controls. Detailed calculations of the WQV required for the site are as follows:

Water Quality Volume:

$$WQV = \frac{1.2" x\ Rv\ x\ A}{12}$$

Where:
WQV = Water Quality Volume (ft^3)
A = Drainage area (ft^2) → A= 5.20 acres = 226,512 ft^2
Rv = Volumetric Runoff coefficient = 0.05 + 0.009I = 0.05 + 0.009(59) = 0.581
I = Impervious area in % = 59%

$$\therefore Required\ WQV = \frac{1.2" * (0.581)\ (5.20 * 43{,}560)\ ft^2}{12}$$ = 13,160 ft^3 → 13,090 ft^3 per SDRT

Per the Site Development Review Tool provided in Appendix 5, the site receives this water quality treatment through structural stormwater controls. The calculated WQV is captured by the stormwater conveyance network, where it is then treated by ADS Inlet Filters at each Inlet and Isolator Row provided within the underground detention pond. These proposed BMP's will provide 82% TSS removal credit, which meets GSMM water quality requirements.

1.7 Routing Calculations

Routing calculations were performed on the underground stormwater detention pond to verify that the total post-developed peak flows from the site do not exceed the Pre-developed flows for the 1, 2, 10, 25, 50 and 100 year events. Table 3 summarizes the characteristics of each post-developed drainage basin. Table 4 below summarizes the pre-developed flows compared to the

Post-developed runoff for the site. Table 5 presents the difference in flow between the pre-developed and post-developed conditions.

Table 3 – Post Developed Drainage Basin Summary

Subarea Designation	Total Area (Ac)	PAVEMENT CN 98	Grass HSG B CN 61 (Ac)	Woods/ grass HSG B Soils Area CN 55 (Ac)	Composite CN	Total T_c (Min)
B-1	1.98	1.95	0.03	0	97	5
B-1A	0.69	--	0.59	.1	60	5
B-2	1.01	0.91	0.1	0	94	5
B-2A	0.44	--	0.44	--	61	5
B-3	0.14	--	0.14	--	61	5

Table 4 - Post-Developed Runoff Peak Flows (cfs)

Subarea Designation	Post-Developed Peak Flows					
	1 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Study Point 1	0.19	0.49	0.72	1.10	1.45	3.60
Study Point 2	0.30	0.71	1.00	1.49	2.14	4.82
Study Point 3	0.21	0.26	0.37	0.55	0.72	0.91

Table 5 – Pre- Vs. Post Peak Flow Comparison Summary (cfs)

Pre Dev Flow - Post Dev Flow (cfs) SUBBASINS	1 Yr	2 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Study Point 1	0.01	0.25	0.49	0.96	1.44	0.26
Study Point 2	-.06	0.29	0.53	1.28	1.73	0.33
Study Point 3	0	0.23	0.42	0.76	1.09	1.48

Table 6 – Underground Pond 1 Elevation Summary

Underground Storage	1 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Top of Stone Elevation	1002.5	1002.5	1002.5	1002.5	1002.5	1002.5
Water Surface Elevation	999.26	1000.1	1000.66	1001.1	1001.22	1001.43

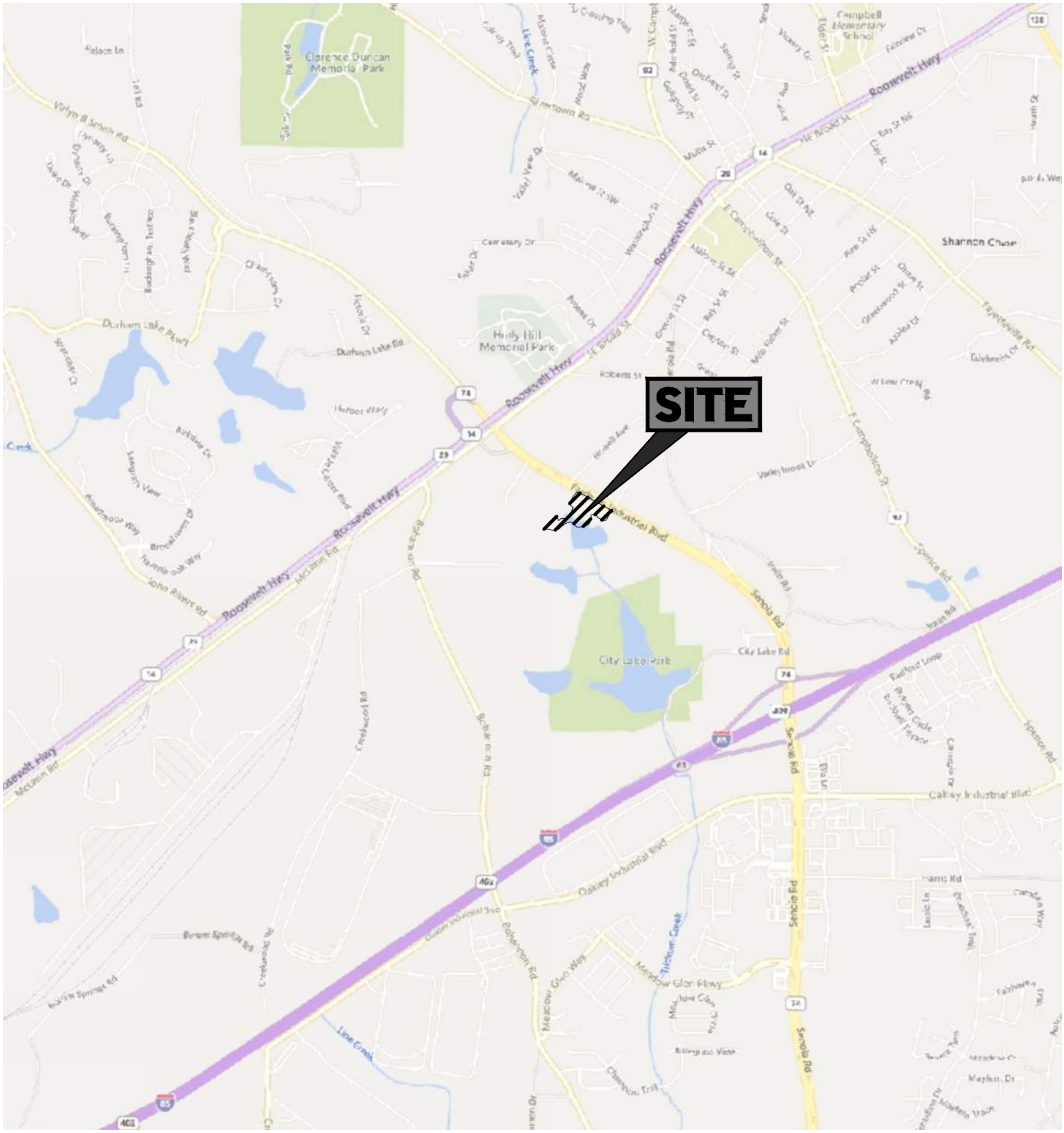
Table 7 – Underground Pond 2 Elevation Summary

Underground Storage	1 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Top of Stone Elevation	1001.75	1001.75	1001.75	1001.75	1001.75	1001.75
Water Surface Elevation	997.47	998.52	999.05	999.23	999.45	999.9

1.10 Conclusions

The requirements and criteria from GA Stormwater Management Manual are met or exceeded. The flows in the proposed conditions do not exceed the flows from existing conditions causing no effects downstream of the site. The Site Development Review Tool (Appendix 5) further depicts how this project is meeting the 1.2" Water Quality Volume requirement.

APPENDIX 1 | SITE LOCATION MAP


SITE
Clarence Duncan Memorial Park
Roosevelt Hwy
Holly Hill Memorial Park
Shannon Chase
City Lake Park
Oakley Industrial Blvd
Sencia Rd
Durham Lake Pkwy
Durham Lake Rd
Creekwood Rd
Bohannon Rd
Meadow Glen Pkwy
Harris Rd
Spence Rd
Fairburn Rd
Howell Ave
Valley Brook Ln
Fayetteville Rd
Campbell Elementary School
Virlyn B Smith Rd
Palace Ln
Cemetery Dr
Line Creek
Trickum Creek
Bohannon Rd
Brown Spring Rd
Austin Springs Rd
Champion Trail
Billingsley View
Mayfield Dr
Fairways
Harris Rd
Lesli Ln
Cascade Trail
Cascade Ct
Spence Rd
Fairfield Creek
Bluebird Circle
Bluebird Terrace
Oakley Industrial Blvd
Sencia Rd
Old Lake Rd
Irwin Rd
Spence Rd
Yeats Rd
Roosevelt Hwy
McLarin Rd
John Rivers Rd
Brookhaven Way
Sawgrass View
Buttonbush Dr
Cascade Falls Center Blvd
Heroes Way
Durham Lake Rd
Victoria Dr
Cherry Tree Dr
Dogwood Trail
Dogwood Ln
Dogwood Terrace
Buckingham Terrace
Dogwood Way
Duke Dr
Woodchuck Way
Cherry Ln
Cherry Tree Way
Cherry Tree Ct
Cemetery Dr
Fisher Dr
Roberts Dr
Roberts St
Grove St SE
Bay St SE
Clayton St
Main St SW
Walnut St SW
Yadkin View Dr
Mulia St
Orchard St
Spring St
Gaskins St
Gaskins Ct
Mason Circle
Lake Creek
Gilmtown Rd
Mt Olivet Rd
Mt Olivet Church Rd
Bay St NE
Cole St
Ave A NE
Ave B NE
Ave C NE
Ave D NE
Ave E NE
Ave F NE
Ave G NE
Ave H NE
Ave I NE
Ave J NE
Ave K NE
Ave L NE
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APPENDIX 2 | SITE DATA

BOHLER

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 Fulton County, Georgia



July 25, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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AaB—Altavista sandy loam, 2 to 6 percent slopes.....10
CaA—Cartecay-Toccoa complex, 0 to 2 percent slopes, occasionally flooded..... 11
CeC2—Cecil sandy loam, 6 to 10 percent slopes, moderately eroded.....12
ReD—Rion sandy loam, 10 to 15 percent slopes..... 13
Ub—Urban land.....14
W—Water.....14
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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:2,140 if printed on B landscape (17" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N 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 1:12,000.

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

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

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

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

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

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

Soil Survey Area: Fulton County, Georgia
Survey Area Data: Version 19, Aug 31, 2024

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

Date(s) aerial images were photographed: Mar 1, 2023—Sep 1, 2023

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
AaB	Altavista sandy loam, 2 to 6 percent slopes	5.7	16.5%
CaA	Cartecay-Toccoa complex, 0 to 2 percent slopes, occasionally flooded	3.7	10.7%
CeC2	Cecil sandy loam, 6 to 10 percent slopes, moderately eroded	4.5	13.0%
ReD	Rion sandy loam, 10 to 15 percent slopes	12.0	34.7%
Ub	Urban land	7.8	22.4%
W	Water	1.0	2.7%
Totals for Area of Interest		**34.7**	**100.0%**

Map Unit Descriptions

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Fulton County, Georgia

AaB—Altavista sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 31l93
Elevation: 70 to 560 feet
Mean annual precipitation: 39 to 47 inches
Mean annual air temperature: 55 to 63 degrees F
Frost-free period: 200 to 250 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Altavista and similar soils: 96 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Altavista

Setting

Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Old loamy alluvium derived from igneous and metamorphic rock

Typical profile

Ap - 0 to 8 inches: sandy loam
E - 8 to 12 inches: fine sandy loam
BE - 12 to 15 inches: sandy clay loam
Bt - 15 to 35 inches: clay loam
BC - 35 to 42 inches: sandy loam
C - 42 to 80 inches: coarse sandy loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F136XY660NC - High terraces, very rare inundation
Hydric soil rating: No

CaA—Cartecay-Toccoa complex, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 1sj4r
Elevation: 710 to 900 feet
Mean annual precipitation: 47 to 51 inches
Mean annual air temperature: 57 to 68 degrees F
Frost-free period: 185 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Cartecay and similar soils: 48 percent
Toccoa and similar soils: 45 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cartecay

Setting

Landform: Flood plains
Across-slope shape: Concave
Parent material: Coarse-loamy alluvium

Typical profile

A - 0 to 4 inches: sandy loam
C - 4 to 37 inches: sandy loam
Cg - 37 to 66 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 9 to 20 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: F136XY610GA - Flood plain forest, wet
Hydric soil rating: No

Description of Toccoa

Setting

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

Typical profile

A - 0 to 6 inches: sandy loam
C - 6 to 80 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 30 to 60 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Ecological site: F136XY620GA - Flood plain forest, moist
Hydric soil rating: No

Minor Components

Wehadkee

Percent of map unit: 7 percent
Landform: Flood plains
Across-slope shape: Concave
Hydric soil rating: Yes

CeC2—Cecil sandy loam, 6 to 10 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2tfg9
Elevation: 200 to 1,400 feet
Mean annual precipitation: 44 to 60 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 190 to 230 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Cecil, moderately eroded, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cecil, Moderately Eroded

Setting

Landform: Hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey residuum weathered from igneous and metamorphic rock

Typical profile

Ap - 0 to 4 inches: sandy loam
Bt1 - 4 to 12 inches: clay loam
Bt2 - 12 to 39 inches: clay
Bt3 - 39 to 50 inches: clay loam
BC - 50 to 64 inches: clay loam
C - 64 to 80 inches: sandy loam

Properties and qualities

Slope: 6 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F136XY820GA - Acidic upland forest, moist
Hydric soil rating: No

ReD—Rion sandy loam, 10 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2tffr
Elevation: 740 to 1,310 feet
Mean annual precipitation: 46 to 62 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 180 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition
Rion and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rion

Setting
Landform: Hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from granite and gneiss

Typical profile
A - 0 to 4 inches: sandy loam
BE - 4 to 12 inches: sandy loam
Bt - 12 to 28 inches: sandy clay loam
BC - 28 to 38 inches: sandy loam
C - 38 to 80 inches: sandy loam

Properties and qualities
Slope: 10 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 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: F136XY820GA - Acidic upland forest, moist
Hydric soil rating: No

Ub—Urban land

Map Unit Composition
Urban land: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

W—Water

Map Unit Composition
Water: 100 percent

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

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NOAA Atlas 14, Volume 9, Version 2
Location name: Vidalia, Georgia, USA*
Latitude: 32.2175°, Longitude: -82.4136°
Elevation: 299 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**5.38** (4.19-6.85)	**6.25** (4.87-7.98)	**7.72** (5.99-9.86)	**8.94** (6.91-11.5)	**10.7** (7.98-14.0)	**12.0** (8.78-15.9)	**13.4** (9.47-18.0)	**14.8** (10.1-20.3)	**16.7** (10.9-23.3)	**18.1** (11.6-25.6)
10-min	**3.94** (3.07-5.02)	**4.58** (3.57-5.84)	**5.65** (4.39-7.22)	**6.55** (5.06-8.39)	**7.81** (5.84-10.2)	**8.80** (6.43-11.6)	**9.80** (6.93-13.2)	**10.8** (7.36-14.8)	**12.2** (7.99-17.0)	**13.3** (8.47-18.7)
15-min	**3.20** (2.50-4.08)	**3.72** (2.90-4.75)	**4.59** (3.57-5.87)	**5.32** (4.11-6.83)	**6.35** (4.75-8.33)	**7.15** (5.23-9.46)	**7.96** (5.64-10.7)	**8.80** (5.98-12.1)	**9.93** (6.50-13.9)	**10.8** (6.89-15.2)
30-min	**2.33** (1.82-2.98)	**2.71** (2.11-3.46)	**3.34** (2.59-4.27)	**3.87** (2.99-4.96)	**4.62** (3.46-6.06)	**5.21** (3.81-6.90)	**5.81** (4.11-7.82)	**6.43** (4.37-8.82)	**7.27** (4.76-10.2)	**7.92** (5.05-11.2)
60-min	**1.49** (1.16-1.90)	**1.73** (1.35-2.21)	**2.14** (1.66-2.74)	**2.49** (1.92-3.20)	**2.99** (2.24-3.94)	**3.40** (2.49-4.50)	**3.81** (2.70-5.14)	**4.24** (2.89-5.82)	**4.83** (3.17-6.76)	**5.30** (3.38-7.47)
2-hr	**0.909** (0.717-1.15)	**1.06** (0.832-1.33)	**1.31** (1.03-1.65)	**1.52** (1.19-1.93)	**1.84** (1.40-2.40)	**2.09** (1.55-2.75)	**2.36** (1.69-3.15)	**2.63** (1.81-3.59)	**3.02** (2.00-4.18)	**3.32** (2.14-4.64)
3-hr	**0.665** (0.527-0.834)	**0.769** (0.610-0.966)	**0.951** (0.751-1.20)	**1.11** (0.873-1.40)	**1.34** (1.03-1.75)	**1.54** (1.15-2.02)	**1.74** (1.26-2.32)	**1.95** (1.36-2.65)	**2.25** (1.50-3.12)	**2.49** (1.62-3.46)
6-hr	**0.395** (0.317-0.491)	**0.451** (0.362-0.560)	**0.551** (0.440-0.685)	**0.641** (0.510-0.800)	**0.778** (0.604-1.01)	**0.893** (0.676-1.16)	**1.02** (0.743-1.34)	**1.15** (0.807-1.55)	**1.34** (0.904-1.84)	**1.49** (0.978-2.06)
12-hr	**0.237** (0.192-0.291)	**0.265** (0.215-0.326)	**0.317** (0.256-0.390)	**0.366** (0.294-0.452)	**0.442** (0.348-0.569)	**0.508** (0.389-0.656)	**0.579** (0.429-0.762)	**0.657** (0.468-0.881)	**0.770** (0.527-1.05)	**0.863** (0.572-1.18)
24-hr	**0.139** (0.114-0.169)	**0.156** (0.128-0.190)	**0.188** (0.153-0.229)	**0.217** (0.176-0.265)	**0.262** (0.208-0.333)	**0.300** (0.233-0.384)	**0.341** (0.256-0.444)	**0.387** (0.278-0.513)	**0.452** (0.312-0.611)	**0.505** (0.339-0.685)
2-day	**0.079** (0.066-0.096)	**0.091** (0.076-0.110)	**0.111** (0.092-0.134)	**0.130** (0.107-0.157)	**0.157** (0.126-0.196)	**0.179** (0.140-0.226)	**0.203** (0.154-0.261)	**0.229** (0.166-0.300)	**0.265** (0.185-0.355)	**0.294** (0.199-0.396)
3-day	**0.058** (0.049-0.070)	**0.066** (0.055-0.079)	**0.081** (0.067-0.097)	**0.093** (0.077-0.112)	**0.112** (0.091-0.140)	**0.128** (0.101-0.161)	**0.145** (0.110-0.186)	**0.163** (0.119-0.213)	**0.189** (0.133-0.252)	**0.210** (0.143-0.281)
4-day	**0.047** (0.040-0.056)	**0.053** (0.045-0.063)	**0.064** (0.053-0.076)	**0.074** (0.061-0.088)	**0.088** (0.072-0.109)	**0.100** (0.079-0.126)	**0.113** (0.087-0.145)	**0.128** (0.094-0.166)	**0.148** (0.104-0.196)	**0.164** (0.112-0.218)
7-day	**0.031** (0.027-0.037)	**0.035** (0.030-0.041)	**0.041** (0.035-0.049)	**0.047** (0.040-0.056)	**0.056** (0.046-0.069)	**0.063** (0.050-0.078)	**0.071** (0.055-0.089)	**0.079** (0.058-0.102)	**0.091** (0.064-0.119)	**0.100** (0.069-0.132)
10-day	**0.025** (0.021-0.029)	**0.027** (0.023-0.032)	**0.032** (0.027-0.038)	**0.036** (0.031-0.043)	**0.043** (0.035-0.052)	**0.048** (0.038-0.059)	**0.053** (0.041-0.067)	**0.059** (0.044-0.075)	**0.067** (0.048-0.088)	**0.073** (0.051-0.097)
20-day	**0.016** (0.014-0.019)	**0.018** (0.015-0.021)	**0.021** (0.018-0.024)	**0.023** (0.020-0.027)	**0.026** (0.022-0.032)	**0.029** (0.023-0.035)	**0.032** (0.025-0.039)	**0.035** (0.026-0.044)	**0.039** (0.028-0.050)	**0.042** (0.029-0.055)
30-day	**0.013** (0.011-0.015)	**0.014** (0.012-0.017)	**0.016** (0.014-0.019)	**0.018** (0.016-0.021)	**0.021** (0.017-0.025)	**0.023** (0.018-0.027)	**0.024** (0.019-0.030)	**0.026** (0.020-0.033)	**0.029** (0.021-0.037)	**0.031** (0.022-0.040)
45-day	**0.011** (0.009-0.012)	**0.012** (0.010-0.014)	**0.013** (0.012-0.016)	**0.015** (0.013-0.017)	**0.017** (0.014-0.020)	**0.018** (0.015-0.021)	**0.019** (0.015-0.023)	**0.021** (0.016-0.026)	**0.022** (0.016-0.028)	**0.023** (0.017-0.030)
60-day	**0.009** (0.008-0.011)	**0.010** (0.009-0.012)	**0.012** (0.010-0.014)	**0.013** (0.011-0.015)	**0.014** (0.012-0.017)	**0.016** (0.013-0.018)	**0.017** (0.013-0.020)	**0.017** (0.013-0.022)	**0.019** (0.014-0.024)	**0.019** (0.014-0.025)

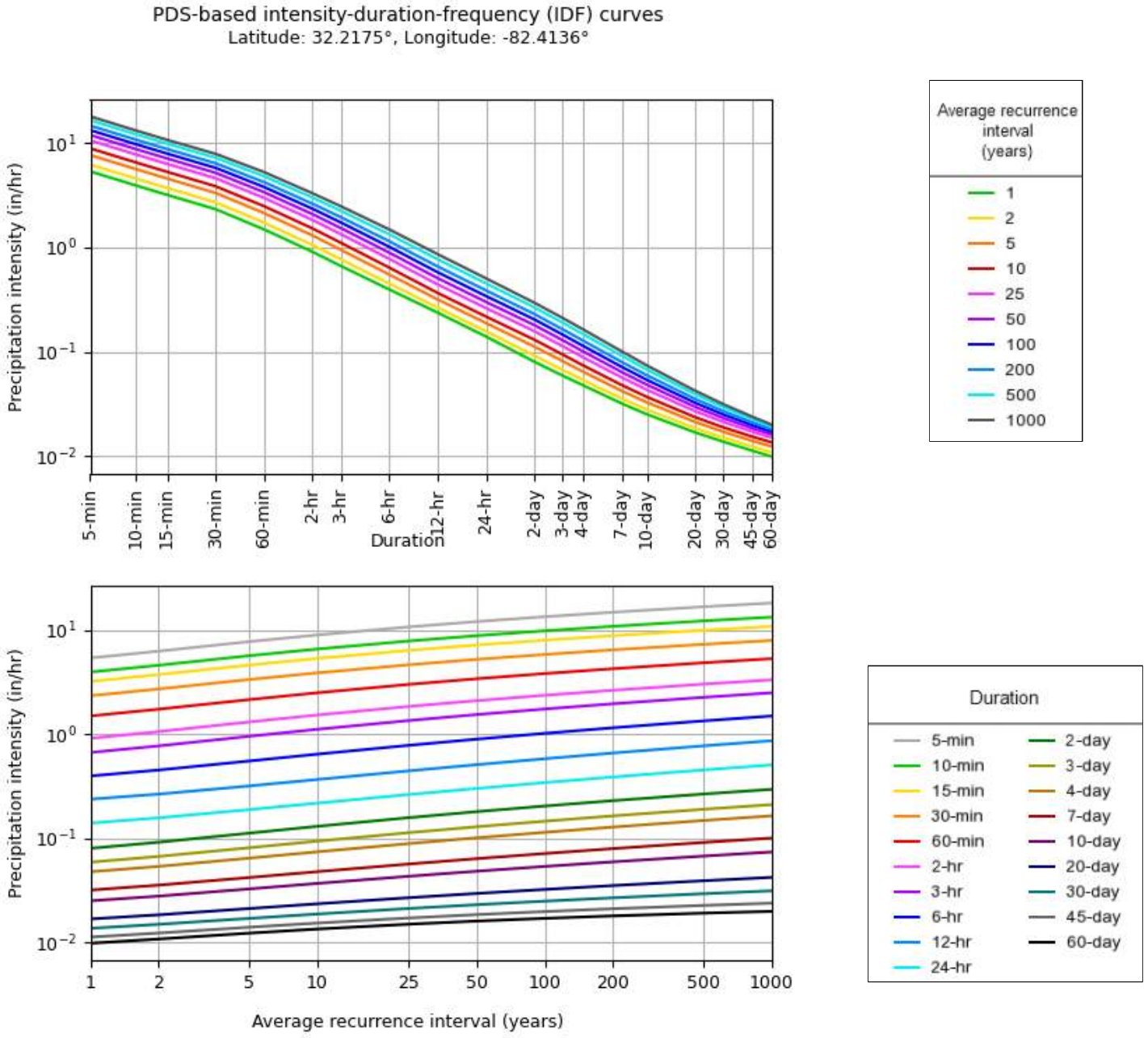
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical



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Maps & aerials

Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



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NOAA Atlas 14, Volume 9, Version 2
Location name: Vidalia, Georgia, USA*
Latitude: 32.2175°, Longitude: -82.4136°
Elevation: 299 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

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PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.448** (0.349-0.571)	**0.521** (0.406-0.665)	**0.643** (0.499-0.822)	**0.745** (0.576-0.956)	**0.889** (0.665-1.17)	**1.00** (0.732-1.32)	**1.12** (0.789-1.50)	**1.23** (0.838-1.69)	**1.39** (0.910-1.94)	**1.51** (0.964-2.13)
10-min	**0.656** (0.512-0.836)	**0.763** (0.595-0.974)	**0.942** (0.731-1.20)	**1.09** (0.843-1.40)	**1.30** (0.974-1.71)	**1.47** (1.07-1.94)	**1.63** (1.16-2.20)	**1.80** (1.23-2.47)	**2.04** (1.33-2.84)	**2.21** (1.41-3.12)
15-min	**0.800** (0.624-1.02)	**0.931** (0.725-1.19)	**1.15** (0.892-1.47)	**1.33** (1.03-1.71)	**1.59** (1.19-2.08)	**1.79** (1.31-2.36)	**1.99** (1.41-2.68)	**2.20** (1.50-3.01)	**2.48** (1.62-3.46)	**2.70** (1.72-3.80)
30-min	**1.17** (0.910-1.49)	**1.36** (1.06-1.73)	**1.67** (1.30-2.13)	**1.94** (1.50-2.48)	**2.31** (1.73-3.03)	**2.60** (1.91-3.45)	**2.91** (2.06-3.91)	**3.22** (2.19-4.41)	**3.64** (2.38-5.08)	**3.96** (2.53-5.58)
60-min	**1.49** (1.16-1.90)	**1.73** (1.35-2.21)	**2.14** (1.66-2.74)	**2.49** (1.92-3.20)	**2.99** (2.24-3.94)	**3.40** (2.49-4.50)	**3.81** (2.70-5.14)	**4.24** (2.89-5.82)	**4.83** (3.17-6.76)	**5.30** (3.38-7.47)
2-hr	**1.82** (1.43-2.29)	**2.11** (1.66-2.67)	**2.61** (2.05-3.31)	**3.05** (2.38-3.87)	**3.68** (2.79-4.80)	**4.18** (3.10-5.50)	**4.71** (3.38-6.30)	**5.27** (3.62-7.17)	**6.03** (4.00-8.37)	**6.63** (4.28-9.28)
3-hr	**2.00** (1.58-2.50)	**2.31** (1.83-2.90)	**2.86** (2.26-3.59)	**3.34** (2.62-4.21)	**4.04** (3.09-5.26)	**4.62** (3.45-6.05)	**5.22** (3.77-6.96)	**5.87** (4.07-7.96)	**6.76** (4.52-9.36)	**7.48** (4.85-10.4)
6-hr	**2.37** (1.90-2.94)	**2.70** (2.17-3.36)	**3.30** (2.64-4.11)	**3.84** (3.06-4.80)	**4.66** (3.62-6.03)	**5.35** (4.05-6.96)	**6.08** (4.45-8.06)	**6.88** (4.84-9.28)	**8.01** (5.42-11.0)	**8.93** (5.86-12.3)
12-hr	**2.86** (2.32-3.51)	**3.20** (2.59-3.93)	**3.82** (3.09-4.71)	**4.42** (3.55-5.46)	**5.33** (4.20-6.86)	**6.12** (4.70-7.92)	**6.98** (5.18-9.18)	**7.93** (5.64-10.6)	**9.29** (6.36-12.7)	**10.4** (6.90-14.2)
24-hr	**3.35** (2.76-4.08)	**3.76** (3.09-4.58)	**4.52** (3.70-5.50)	**5.22** (4.24-6.38)	**6.29** (5.01-8.00)	**7.21** (5.59-9.22)	**8.20** (6.15-10.7)	**9.30** (6.69-12.3)	**10.9** (7.51-14.7)	**12.1** (8.14-16.5)
2-day	**3.84** (3.19-4.62)	**4.39** (3.65-5.29)	**5.37** (4.45-6.48)	**6.25** (5.14-7.56)	**7.55** (6.06-9.46)	**8.64** (6.76-10.9)	**9.78** (7.40-12.6)	**11.0** (8.00-14.4)	**12.8** (8.91-17.1)	**14.2** (9.60-19.0)
3-day	**4.24** (3.55-5.06)	**4.82** (4.03-5.76)	**5.83** (4.86-6.99)	**6.75** (5.60-8.12)	**8.13** (6.57-10.1)	**9.27** (7.31-11.6)	**10.5** (7.99-13.4)	**11.8** (8.63-15.4)	**13.7** (9.60-18.2)	**15.1** (10.3-20.3)
4-day	**4.57** (3.85-5.44)	**5.15** (4.33-6.13)	**6.18** (5.18-7.37)	**7.11** (5.92-8.51)	**8.51** (6.92-10.6)	**9.68** (7.68-12.1)	**10.9** (8.38-13.9)	**12.3** (9.03-16.0)	**14.2** (10.0-18.8)	**15.8** (10.8-21.0)
7-day	**5.34** (4.54-6.29)	**5.96** (5.06-7.03)	**7.05** (5.96-8.33)	**8.02** (6.75-9.52)	**9.48** (7.78-11.6)	**10.7** (8.55-13.2)	**12.0** (9.25-15.1)	**13.4** (9.90-17.2)	**15.3** (10.9-20.1)	**16.9** (11.7-22.3)
10-day	**6.01** (5.14-7.05)	**6.67** (5.70-7.83)	**7.82** (6.66-9.19)	**8.84** (7.48-10.4)	**10.3** (8.52-12.6)	**11.6** (9.30-14.2)	**12.9** (9.99-16.1)	**14.2** (10.6-18.2)	**16.2** (11.6-21.1)	**17.7** (12.3-23.3)
20-day	**8.05** (6.97-9.34)	**8.83** (7.64-10.2)	**10.1** (8.74-11.8)	**11.3** (9.66-13.1)	**12.9** (10.7-15.4)	**14.2** (11.5-17.1)	**15.5** (12.1-19.1)	**16.9** (12.7-21.3)	**18.7** (13.6-24.2)	**20.2** (14.2-26.4)
30-day	**9.83** (8.57-11.3)	**10.7** (9.36-12.4)	**12.2** (10.6-14.1)	**13.5** (11.6-15.6)	**15.2** (12.7-18.1)	**16.6** (13.5-19.9)	**17.9** (14.1-21.9)	**19.3** (14.6-24.2)	**21.1** (15.4-27.1)	**22.5** (16.0-29.3)
45-day	**12.1** (10.7-13.9)	**13.3** (11.6-15.2)	**15.1** (13.2-17.3)	**16.6** (14.4-19.1)	**18.5** (15.5-21.7)	**20.0** (16.4-23.7)	**21.4** (16.9-25.9)	**22.7** (17.3-28.2)	**24.5** (17.9-31.1)	**25.7** (18.4-33.2)
60-day	**14.1** (12.5-16.1)	**15.5** (13.7-17.7)	**17.7** (15.5-20.2)	**19.3** (16.9-22.2)	**21.5** (18.1-25.0)	**23.1** (19.0-27.2)	**24.5** (19.5-29.5)	**25.9** (19.7-31.9)	**27.5** (20.2-34.7)	**28.6** (20.5-36.8)

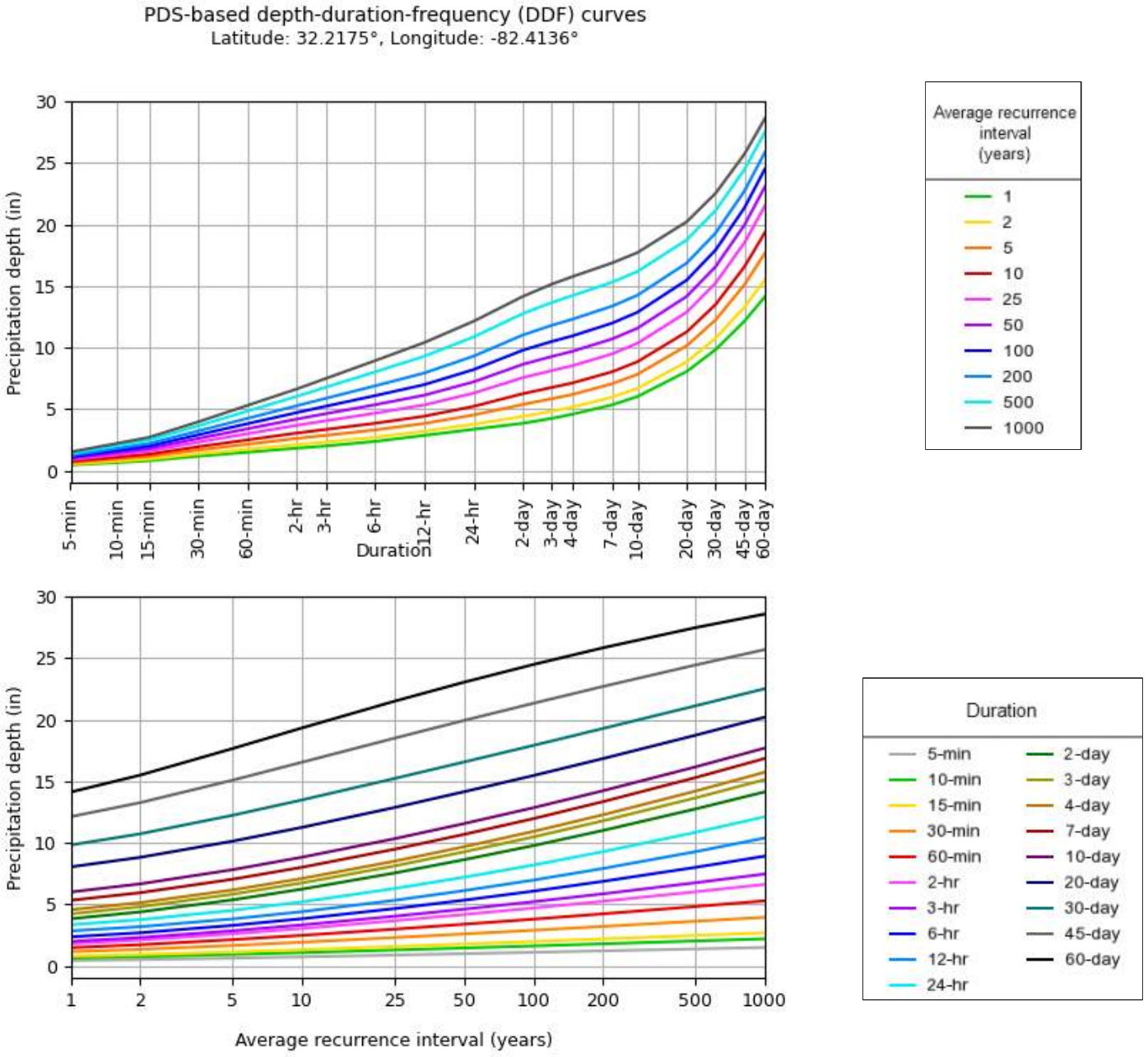
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical



NOAA Atlas 14, Volume 9, Version 2

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Maps & aerials

Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



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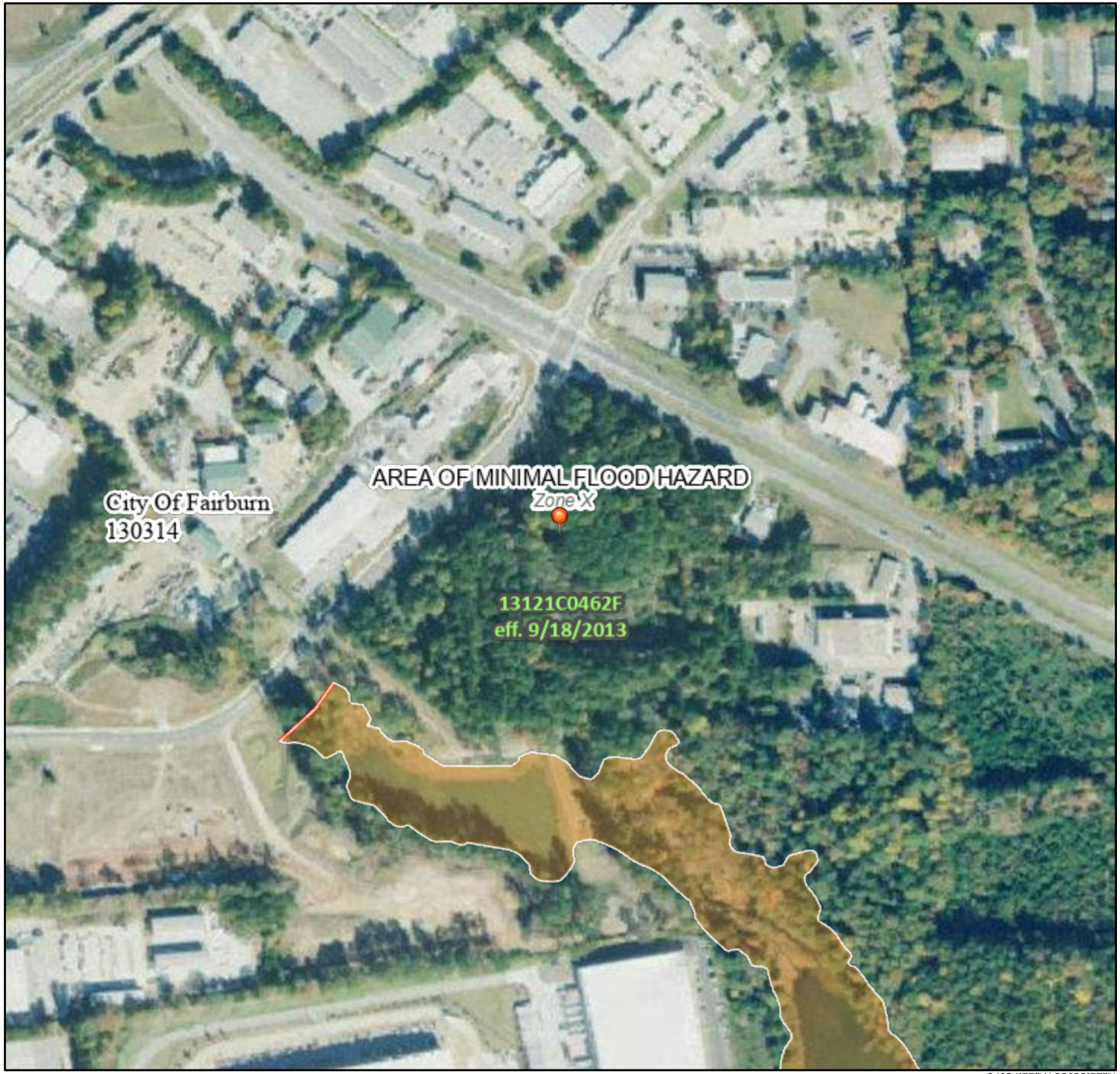
US Department of Commerce
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National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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National Flood Hazard Layer FIRMette

FEMA

84°35'35"W 33°33'27"N



84°34'57"W 33°32'57"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

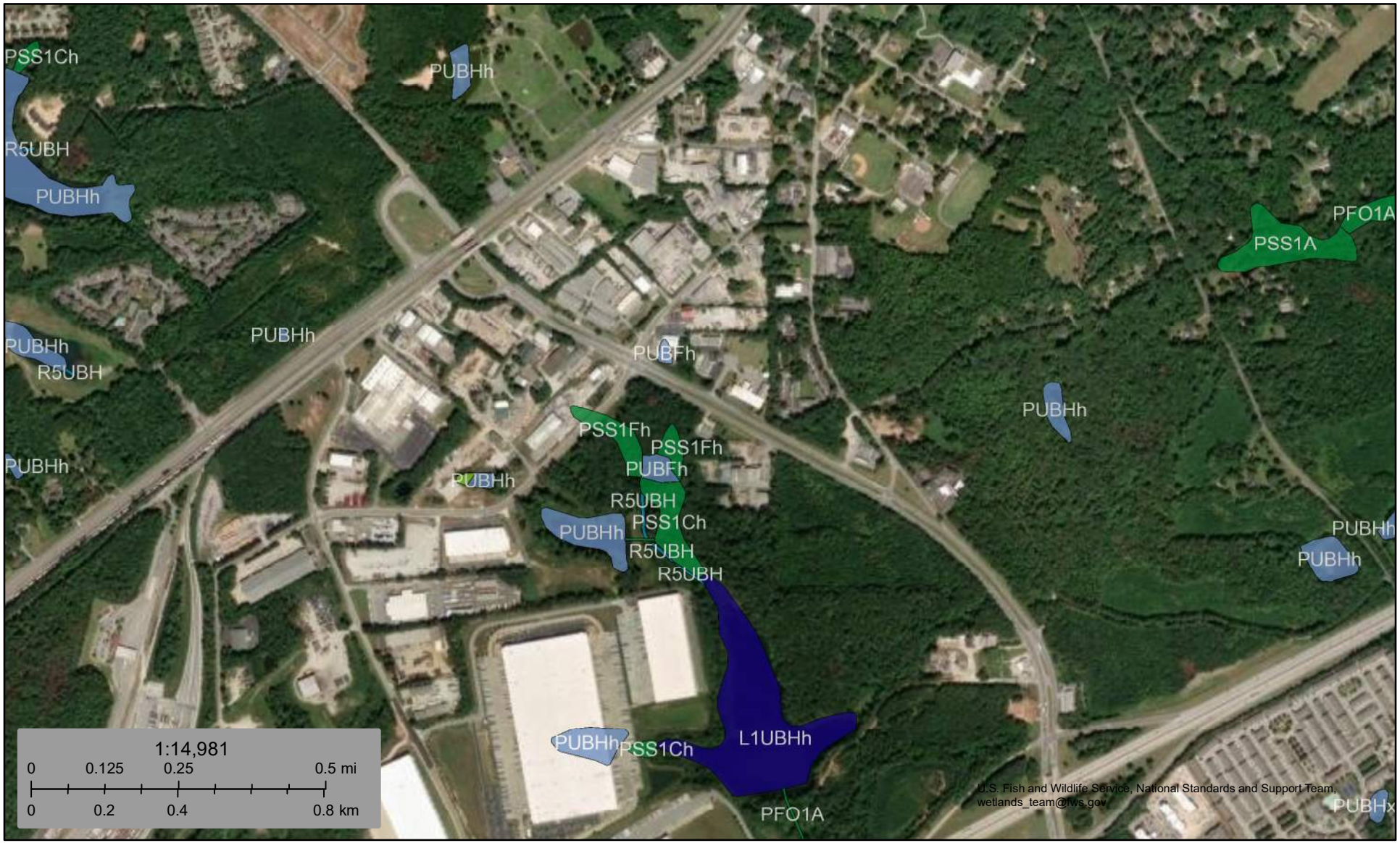
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The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/23/2025 at 6:39 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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U.S. Fish and Wildlife Service
National Wetlands Inventory

WetlandsMapperRTFairburn



July 25, 2025

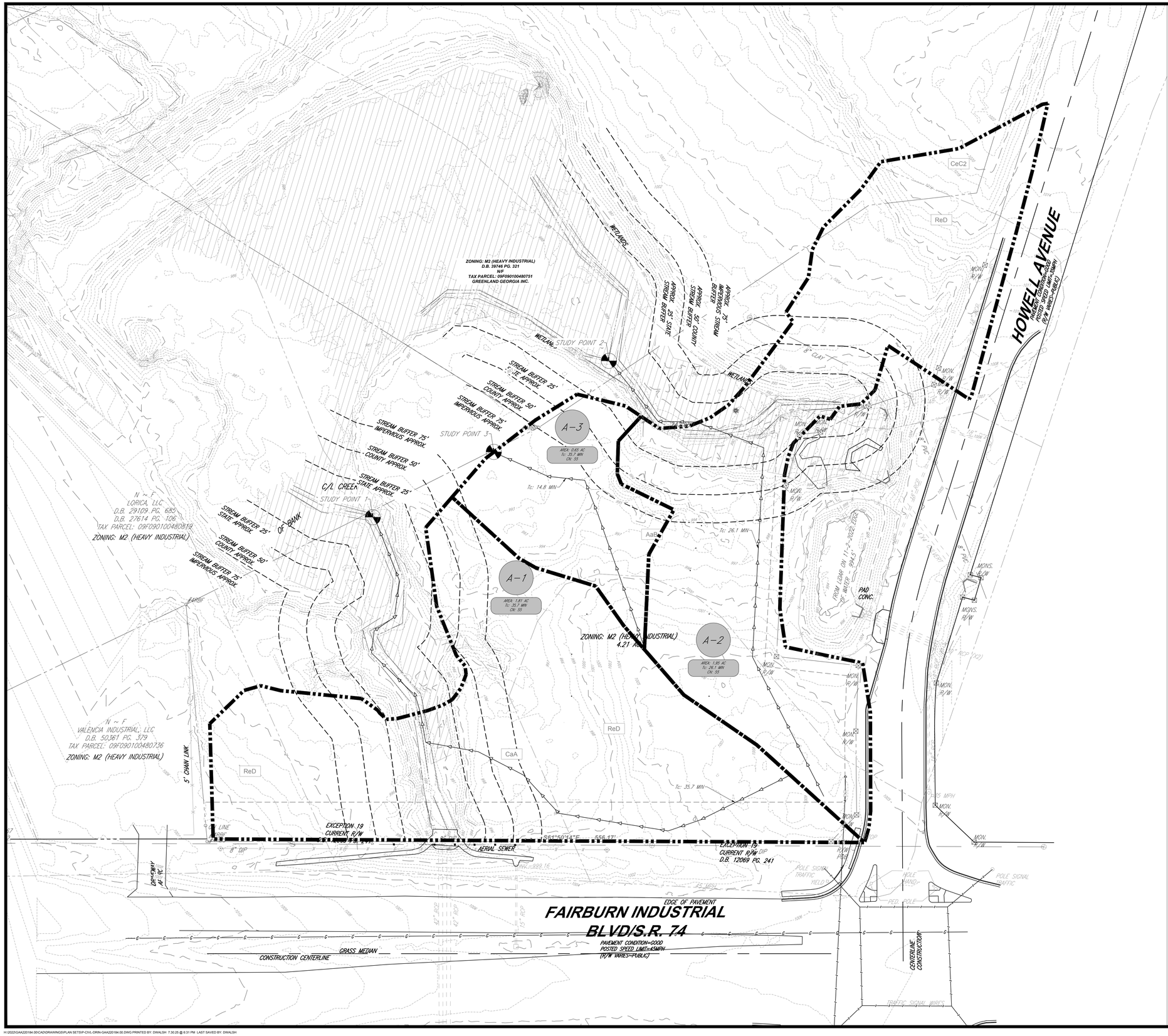
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

APPENDIX 3 | PRE-DEVELOPMENT HYDROLOGY

BOHLER



NO.	REVISION	BY	DATE

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SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA REGISTERED
Nathan Fuss
No. PE048094
PROFESSIONAL
08/01/2025
ENGINEER
NATHAN R. FUSS

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RaceTrac

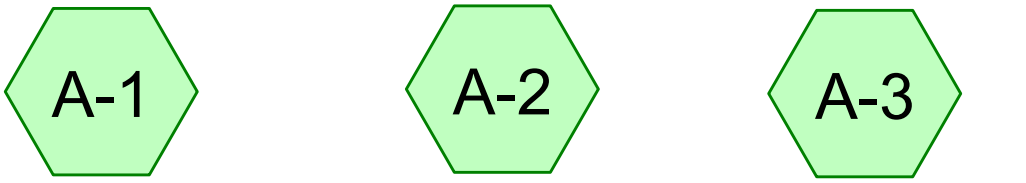
RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BLVD. SE
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

PREDEVELOPED DRAINAGE MAP

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
A	
SHEET NO.	REVISION



Pre-Developed Pre-Developed Pre-Developed

Subcat Reach Pond Link

Routing Diagram for GAA220184.00 - RT Fairburn
Prepared by Bohler, Printed 7/30/2025
HydroCAD® 10.20-5c s/n 03478 © 2023 HydroCAD Software Solutions LLC

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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 II 24-hr		Default	24.00	1	3.35	2
2	5 YEAR	Type II 24-hr		Default	24.00	1	4.52	2
3	10 YEAR	Type II 24-hr		Default	24.00	1	5.22	2
4	25 YEAR	Type II 24-hr		Default	24.00	1	6.29	2
5	50 YEAR	Type II 24-hr		Default	24.00	1	7.21	2
6	100 YEAR	Type II 24-hr		Default	24.00	1	8.20	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.410	55	Woods, Good, HSG B (A-1, A-2, A-3)
4.410	**55**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
4.410	HSG B	A-1, A-2, A-3
0.000	HSG C	
0.000	HSG D	
0.000	Other	
4.410		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	4.410	0.000	0.000	0.000	4.410	Woods, Good	A-1, A-2, A-3
0.000	**4.410**	**0.000**	**0.000**	**0.000**	**4.410**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 A-1: Pre-Developed Runoff Area=1.810 ac 0.00% Impervious Runoff Depth=0.30"
Flow Length=463' Tc=35.7 min CN=55 Runoff=0.18 cfs 0.045 af

Subcatchment A-2: Pre-Developed Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=0.30"
Flow Length=393' Tc=26.1 min CN=55 Runoff=0.24 cfs 0.048 af

Subcatchment A-3: Pre-Developed Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=0.30"
Flow Length=242' Tc=14.8 min CN=55 Runoff=0.11 cfs 0.016 af

Total Runoff Area = 4.410 ac Runoff Volume = 0.109 af Average Runoff Depth = 0.30"
100.00% Pervious = 4.410 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A-1: Pre-Developed

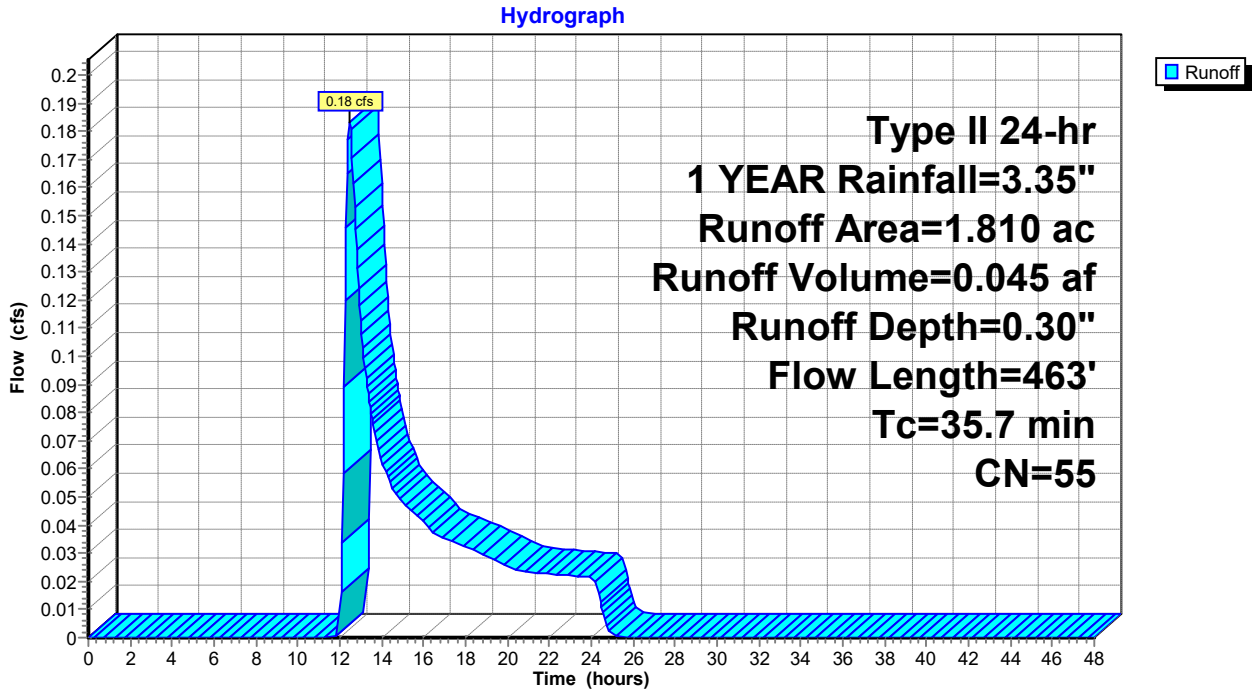
Runoff = 0.18 cfs @ 12.48 hrs, Volume= 0.045 af, Depth= 0.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
1.810	55	Woods, Good, HSG B
1.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	100	0.0077	0.06		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
6.7	363	0.0330	0.91		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
35.7	463	Total			

Subcatchment A-1: Pre-Developed



Hydrograph for Subcatchment A-1: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	28.50	3.35	0.30	0.00
0.50	0.02	0.00	0.00	29.00	3.35	0.30	0.00
1.00	0.04	0.00	0.00	29.50	3.35	0.30	0.00
1.50	0.05	0.00	0.00	30.00	3.35	0.30	0.00
2.00	0.07	0.00	0.00	30.50	3.35	0.30	0.00
2.50	0.09	0.00	0.00	31.00	3.35	0.30	0.00
3.00	0.12	0.00	0.00	31.50	3.35	0.30	0.00
3.50	0.14	0.00	0.00	32.00	3.35	0.30	0.00
4.00	0.16	0.00	0.00	32.50	3.35	0.30	0.00
4.50	0.19	0.00	0.00	33.00	3.35	0.30	0.00
5.00	0.21	0.00	0.00	33.50	3.35	0.30	0.00
5.50	0.24	0.00	0.00	34.00	3.35	0.30	0.00
6.00	0.27	0.00	0.00	34.50	3.35	0.30	0.00
6.50	0.30	0.00	0.00	35.00	3.35	0.30	0.00
7.00	0.33	0.00	0.00	35.50	3.35	0.30	0.00
7.50	0.37	0.00	0.00	36.00	3.35	0.30	0.00
8.00	0.40	0.00	0.00	36.50	3.35	0.30	0.00
8.50	0.44	0.00	0.00	37.00	3.35	0.30	0.00
9.00	0.49	0.00	0.00	37.50	3.35	0.30	0.00
9.50	0.55	0.00	0.00	38.00	3.35	0.30	0.00
10.00	0.61	0.00	0.00	38.50	3.35	0.30	0.00
10.50	0.68	0.00	0.00	39.00	3.35	0.30	0.00
11.00	0.79	0.00	0.00	39.50	3.35	0.30	0.00
11.50	0.95	0.00	0.00	40.00	3.35	0.30	0.00
12.00	2.22	0.04	0.01	40.50	3.35	0.30	0.00
12.50	2.46	0.08	**0.18**	41.00	3.35	0.30	0.00
13.00	2.59	0.10	0.11	41.50	3.35	0.30	0.00
13.50	2.68	0.12	0.08	42.00	3.35	0.30	0.00
14.00	2.75	0.13	0.06	42.50	3.35	0.30	0.00
14.50	2.81	0.15	0.05	43.00	3.35	0.30	0.00
15.00	2.86	0.16	0.05	43.50	3.35	0.30	0.00
15.50	2.91	0.17	0.04	44.00	3.35	0.30	0.00
16.00	2.95	0.18	0.04	44.50	3.35	0.30	0.00
16.50	2.99	0.19	0.04	45.00	3.35	0.30	0.00
17.00	3.02	0.20	0.04	45.50	3.35	0.30	0.00
17.50	3.05	0.21	0.03	46.00	3.35	0.30	0.00
18.00	3.09	0.22	0.03	46.50	3.35	0.30	0.00
18.50	3.11	0.23	0.03	47.00	3.35	0.30	0.00
19.00	3.14	0.23	0.03	47.50	3.35	0.30	0.00
19.50	3.17	0.24	0.03	48.00	3.35	0.30	0.00
20.00	3.19	0.25	0.03				
20.50	3.21	0.25	0.02				
21.00	3.23	0.26	0.02				
21.50	3.25	0.27	0.02				
22.00	3.27	0.27	0.02				
22.50	3.29	0.28	0.02				
23.00	3.31	0.28	0.02				
23.50	3.33	0.29	0.02				
24.00	**3.35**	**0.30**	0.02				
24.50	3.35	0.30	0.01				
25.00	3.35	0.30	0.00				
25.50	3.35	0.30	0.00				
26.00	3.35	0.30	0.00				
26.50	3.35	0.30	0.00				
27.00	3.35	0.30	0.00				
27.50	3.35	0.30	0.00				
28.00	3.35	0.30	0.00				

Summary for Subcatchment A-2: Pre-Developed

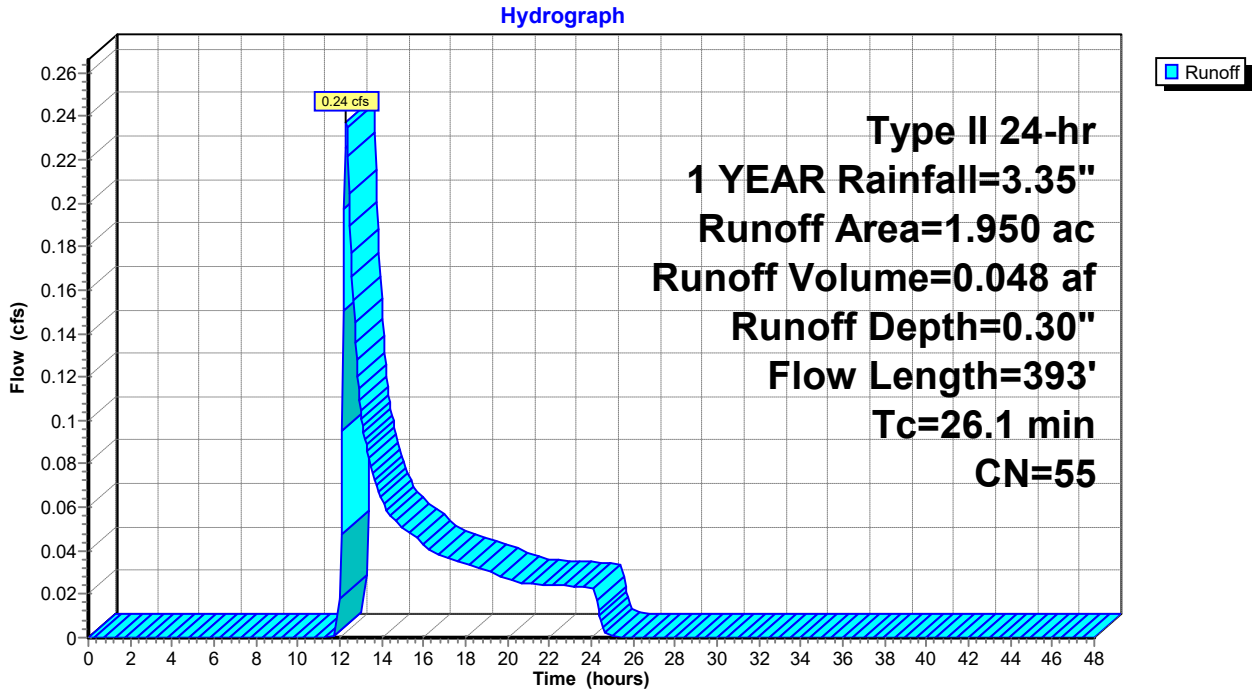
Runoff = 0.24 cfs @ 12.32 hrs, Volume= 0.048 af, Depth= 0.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
1.950	55	Woods, Good, HSG B
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	100	0.0156	0.08		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
4.2	293	0.0552	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
26.1	393	Total			

Subcatchment A-2: Pre-Developed



Hydrograph for Subcatchment A-2: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.14	0.00	0.00
4.00	0.16	0.00	0.00
4.50	0.19	0.00	0.00
5.00	0.21	0.00	0.00
5.50	0.24	0.00	0.00
6.00	0.27	0.00	0.00
6.50	0.30	0.00	0.00
7.00	0.33	0.00	0.00
7.50	0.37	0.00	0.00
8.00	0.40	0.00	0.00
8.50	0.44	0.00	0.00
9.00	0.49	0.00	0.00
9.50	0.55	0.00	0.00
10.00	0.61	0.00	0.00
10.50	0.68	0.00	0.00
11.00	0.79	0.00	0.00
11.50	0.95	0.00	0.00
12.00	2.22	0.04	**0.02**
12.50	2.46	0.08	**0.19**
13.00	2.59	0.10	0.10
13.50	2.68	0.12	0.08
14.00	2.75	0.13	0.06
14.50	2.81	0.15	0.05
15.00	2.86	0.16	0.05
15.50	2.91	0.17	0.05
16.00	2.95	0.18	0.04
16.50	2.99	0.19	0.04
17.00	3.02	0.20	0.04
17.50	3.05	0.21	0.04
18.00	3.09	0.22	0.03
18.50	3.11	0.23	0.03
19.00	3.14	0.23	0.03
19.50	3.17	0.24	0.03
20.00	3.19	0.25	0.03
20.50	3.21	0.25	0.03
21.00	3.23	0.26	0.02
21.50	3.25	0.27	0.02
22.00	3.27	0.27	0.02
22.50	3.29	0.28	0.02
23.00	3.31	0.28	0.02
23.50	3.33	0.29	0.02
24.00	**3.35**	**0.30**	0.02
24.50	3.35	0.30	0.01
25.00	3.35	0.30	0.00
25.50	3.35	0.30	0.00
26.00	3.35	0.30	0.00
26.50	3.35	0.30	0.00
27.00	3.35	0.30	0.00
27.50	3.35	0.30	0.00
28.00	3.35	0.30	0.00
28.50	3.35	0.30	0.00
29.00	3.35	0.30	0.00
29.50	3.35	0.30	0.00
30.00	3.35	0.30	0.00
30.50	3.35	0.30	0.00
31.00	3.35	0.30	0.00
31.50	3.35	0.30	0.00
32.00	3.35	0.30	0.00
32.50	3.35	0.30	0.00
33.00	3.35	0.30	0.00
33.50	3.35	0.30	0.00
34.00	3.35	0.30	0.00
34.50	3.35	0.30	0.00
35.00	3.35	0.30	0.00
35.50	3.35	0.30	0.00
36.00	3.35	0.30	0.00
36.50	3.35	0.30	0.00
37.00	3.35	0.30	0.00
37.50	3.35	0.30	0.00
38.00	3.35	0.30	0.00
38.50	3.35	0.30	0.00
39.00	3.35	0.30	0.00
39.50	3.35	0.30	0.00
40.00	3.35	0.30	0.00
40.50	3.35	0.30	0.00
41.00	3.35	0.30	0.00
41.50	3.35	0.30	0.00
42.00	3.35	0.30	0.00
42.50	3.35	0.30	0.00
43.00	3.35	0.30	0.00
43.50	3.35	0.30	0.00
44.00	3.35	0.30	0.00
44.50	3.35	0.30	0.00
45.00	3.35	0.30	0.00
45.50	3.35	0.30	0.00
46.00	3.35	0.30	0.00
46.50	3.35	0.30	0.00
47.00	3.35	0.30	0.00
47.50	3.35	0.30	0.00
48.00	3.35	0.30	0.00

Summary for Subcatchment A-3: Pre-Developed

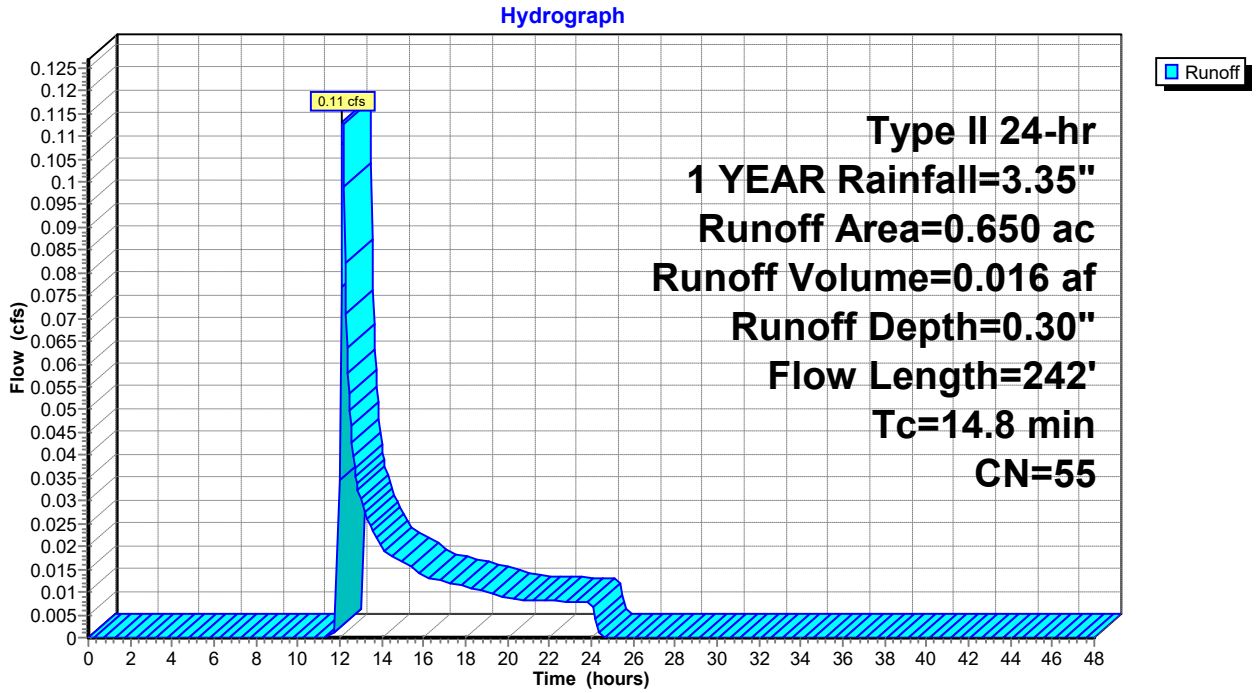
Runoff = 0.11 cfs @ 12.14 hrs, Volume= 0.016 af, Depth= 0.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
0.650	55	Woods, Good, HSG B
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	100	0.0704	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
2.8	142	0.0292	0.85		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
14.8	242	Total			

Subcatchment A-3: Pre-Developed



Hydrograph for Subcatchment A-3: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.14	0.00	0.00
4.00	0.16	0.00	0.00
4.50	0.19	0.00	0.00
5.00	0.21	0.00	0.00
5.50	0.24	0.00	0.00
6.00	0.27	0.00	0.00
6.50	0.30	0.00	0.00
7.00	0.33	0.00	0.00
7.50	0.37	0.00	0.00
8.00	0.40	0.00	0.00
8.50	0.44	0.00	0.00
9.00	0.49	0.00	0.00
9.50	0.55	0.00	0.00
10.00	0.61	0.00	0.00
10.50	0.68	0.00	0.00
11.00	0.79	0.00	0.00
11.50	0.95	0.00	0.00
12.00	2.22	0.04	**0.03**
12.50	2.46	0.08	**0.05**
13.00	2.59	0.10	0.03
13.50	2.68	0.12	0.02
14.00	2.75	0.13	0.02
14.50	2.81	0.15	0.02
15.00	2.86	0.16	0.02
15.50	2.91	0.17	0.02
16.00	2.95	0.18	0.01
16.50	2.99	0.19	0.01
17.00	3.02	0.20	0.01
17.50	3.05	0.21	0.01
18.00	3.09	0.22	0.01
18.50	3.11	0.23	0.01
19.00	3.14	0.23	0.01
19.50	3.17	0.24	0.01
20.00	3.19	0.25	0.01
20.50	3.21	0.25	0.01
21.00	3.23	0.26	0.01
21.50	3.25	0.27	0.01
22.00	3.27	0.27	0.01
22.50	3.29	0.28	0.01
23.00	3.31	0.28	0.01
23.50	3.33	0.29	0.01
24.00	**3.35**	**0.30**	0.01
24.50	3.35	0.30	0.00
25.00	3.35	0.30	0.00
25.50	3.35	0.30	0.00
26.00	3.35	0.30	0.00
26.50	3.35	0.30	0.00
27.00	3.35	0.30	0.00
27.50	3.35	0.30	0.00
28.00	3.35	0.30	0.00
28.50	3.35	0.30	0.00
29.00	3.35	0.30	0.00
29.50	3.35	0.30	0.00
30.00	3.35	0.30	0.00
30.50	3.35	0.30	0.00
31.00	3.35	0.30	0.00
31.50	3.35	0.30	0.00
32.00	3.35	0.30	0.00
32.50	3.35	0.30	0.00
33.00	3.35	0.30	0.00
33.50	3.35	0.30	0.00
34.00	3.35	0.30	0.00
34.50	3.35	0.30	0.00
35.00	3.35	0.30	0.00
35.50	3.35	0.30	0.00
36.00	3.35	0.30	0.00
36.50	3.35	0.30	0.00
37.00	3.35	0.30	0.00
37.50	3.35	0.30	0.00
38.00	3.35	0.30	0.00
38.50	3.35	0.30	0.00
39.00	3.35	0.30	0.00
39.50	3.35	0.30	0.00
40.00	3.35	0.30	0.00
40.50	3.35	0.30	0.00
41.00	3.35	0.30	0.00
41.50	3.35	0.30	0.00
42.00	3.35	0.30	0.00
42.50	3.35	0.30	0.00
43.00	3.35	0.30	0.00
43.50	3.35	0.30	0.00
44.00	3.35	0.30	0.00
44.50	3.35	0.30	0.00
45.00	3.35	0.30	0.00
45.50	3.35	0.30	0.00
46.00	3.35	0.30	0.00
46.50	3.35	0.30	0.00
47.00	3.35	0.30	0.00
47.50	3.35	0.30	0.00
48.00	3.35	0.30	0.00

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 A-1: Pre-Developed Runoff Area=1.810 ac 0.00% Impervious Runoff Depth=0.75"
Flow Length=463' Tc=35.7 min CN=55 Runoff=0.74 cfs 0.113 af

Subcatchment A-2: Pre-Developed Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=0.75"
Flow Length=393' Tc=26.1 min CN=55 Runoff=1.00 cfs 0.122 af

Subcatchment A-3: Pre-Developed Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=0.75"
Flow Length=242' Tc=14.8 min CN=55 Runoff=0.49 cfs 0.041 af

Total Runoff Area = 4.410 ac Runoff Volume = 0.276 af Average Runoff Depth = 0.75"
100.00% Pervious = 4.410 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A-1: Pre-Developed

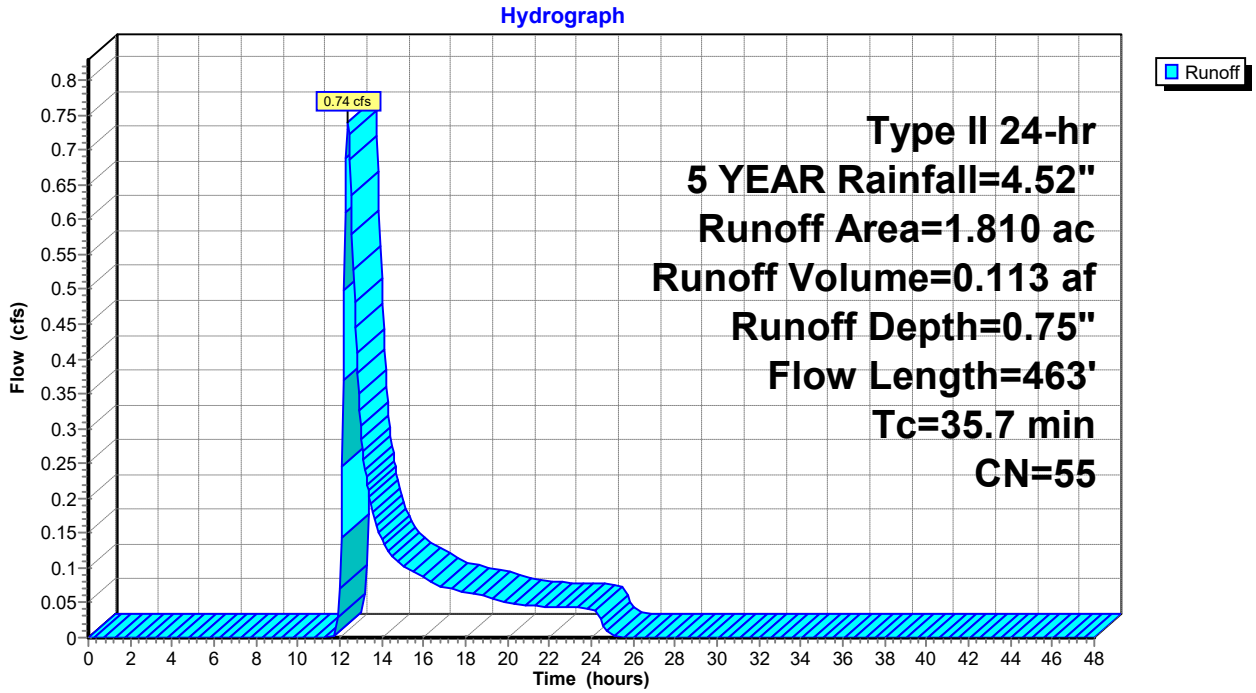
Runoff = 0.74 cfs @ 12.39 hrs, Volume= 0.113 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
1.810	55	Woods, Good, HSG B
1.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	100	0.0077	0.06		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
6.7	363	0.0330	0.91		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
35.7	463	Total			

Subcatchment A-1: Pre-Developed



Hydrograph for Subcatchment A-1: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.00
4.00	0.22	0.00	0.00
4.50	0.25	0.00	0.00
5.00	0.28	0.00	0.00
5.50	0.32	0.00	0.00
6.00	0.36	0.00	0.00
6.50	0.40	0.00	0.00
7.00	0.45	0.00	0.00
7.50	0.49	0.00	0.00
8.00	0.54	0.00	0.00
8.50	0.60	0.00	0.00
9.00	0.66	0.00	0.00
9.50	0.74	0.00	0.00
10.00	0.82	0.00	0.00
10.50	0.92	0.00	0.00
11.00	1.06	0.00	0.00
11.50	1.28	0.00	0.00
12.00	3.00	0.19	**0.07**
12.50	3.32	0.29	**0.69**
13.00	3.49	0.34	0.30
13.50	3.61	0.38	0.19
14.00	3.71	0.42	0.14
14.50	3.79	0.45	0.12
15.00	3.86	0.47	0.10
15.50	3.92	0.50	0.10
16.00	3.98	0.52	0.09
16.50	4.03	0.54	0.08
17.00	4.08	0.56	0.07
17.50	4.12	0.58	0.07
18.00	4.16	0.60	0.07
18.50	4.20	0.61	0.06
19.00	4.24	0.63	0.06
19.50	4.27	0.64	0.05
20.00	4.30	0.66	0.05
20.50	4.33	0.67	0.05
21.00	4.36	0.68	0.05
21.50	4.39	0.69	0.05
22.00	4.42	0.70	0.04
22.50	4.44	0.72	0.04
23.00	4.47	0.73	0.04
23.50	4.49	0.74	0.04
24.00	**4.52**	**0.75**	0.04
24.50	4.52	0.75	0.02
25.00	4.52	0.75	0.00
25.50	4.52	0.75	0.00
26.00	4.52	0.75	0.00
26.50	4.52	0.75	0.00
27.00	4.52	0.75	0.00
27.50	4.52	0.75	0.00
28.00	4.52	0.75	0.00
28.50	4.52	0.75	0.00
29.00	4.52	0.75	0.00
29.50	4.52	0.75	0.00
30.00	4.52	0.75	0.00
30.50	4.52	0.75	0.00
31.00	4.52	0.75	0.00
31.50	4.52	0.75	0.00
32.00	4.52	0.75	0.00
32.50	4.52	0.75	0.00
33.00	4.52	0.75	0.00
33.50	4.52	0.75	0.00
34.00	4.52	0.75	0.00
34.50	4.52	0.75	0.00
35.00	4.52	0.75	0.00
35.50	4.52	0.75	0.00
36.00	4.52	0.75	0.00
36.50	4.52	0.75	0.00
37.00	4.52	0.75	0.00
37.50	4.52	0.75	0.00
38.00	4.52	0.75	0.00
38.50	4.52	0.75	0.00
39.00	4.52	0.75	0.00
39.50	4.52	0.75	0.00
40.00	4.52	0.75	0.00
40.50	4.52	0.75	0.00
41.00	4.52	0.75	0.00
41.50	4.52	0.75	0.00
42.00	4.52	0.75	0.00
42.50	4.52	0.75	0.00
43.00	4.52	0.75	0.00
43.50	4.52	0.75	0.00
44.00	4.52	0.75	0.00
44.50	4.52	0.75	0.00
45.00	4.52	0.75	0.00
45.50	4.52	0.75	0.00
46.00	4.52	0.75	0.00
46.50	4.52	0.75	0.00
47.00	4.52	0.75	0.00
47.50	4.52	0.75	0.00
48.00	4.52	0.75	0.00

Summary for Subcatchment A-2: Pre-Developed

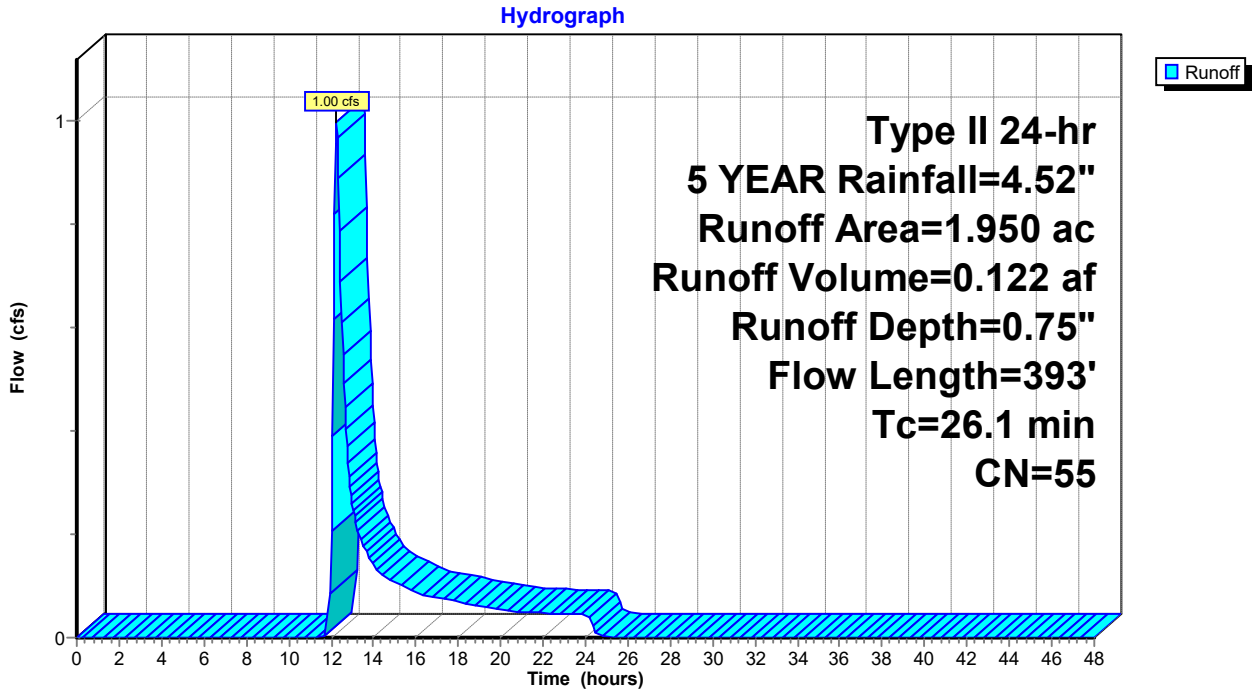
Runoff = 1.00 cfs @ 12.25 hrs, Volume= 0.122 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
1.950	55	Woods, Good, HSG B
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	100	0.0156	0.08		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
4.2	293	0.0552	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
26.1	393	Total			

Subcatchment A-2: Pre-Developed



Hydrograph for Subcatchment A-2: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.00
4.00	0.22	0.00	0.00
4.50	0.25	0.00	0.00
5.00	0.28	0.00	0.00
5.50	0.32	0.00	0.00
6.00	0.36	0.00	0.00
6.50	0.40	0.00	0.00
7.00	0.45	0.00	0.00
7.50	0.49	0.00	0.00
8.00	0.54	0.00	0.00
8.50	0.60	0.00	0.00
9.00	0.66	0.00	0.00
9.50	0.74	0.00	0.00
10.00	0.82	0.00	0.00
10.50	0.92	0.00	0.00
11.00	1.06	0.00	0.00
11.50	1.28	0.00	0.00
12.00	3.00	0.19	**0.21**
12.50	3.32	0.29	**0.61**
13.00	3.49	0.34	0.26
13.50	3.61	0.38	0.18
14.00	3.71	0.42	0.14
14.50	3.79	0.45	0.12
15.00	3.86	0.47	0.11
15.50	3.92	0.50	0.10
16.00	3.98	0.52	0.09
16.50	4.03	0.54	0.08
17.00	4.08	0.56	0.08
17.50	4.12	0.58	0.07
18.00	4.16	0.60	0.07
18.50	4.20	0.61	0.07
19.00	4.24	0.63	0.06
19.50	4.27	0.64	0.06
20.00	4.30	0.66	0.05
20.50	4.33	0.67	0.05
21.00	4.36	0.68	0.05
21.50	4.39	0.69	0.05
22.00	4.42	0.70	0.05
22.50	4.44	0.72	0.05
23.00	4.47	0.73	0.05
23.50	4.49	0.74	0.05
24.00	**4.52**	**0.75**	0.04
24.50	4.52	0.75	0.01
25.00	4.52	0.75	0.00
25.50	4.52	0.75	0.00
26.00	4.52	0.75	0.00
26.50	4.52	0.75	0.00
27.00	4.52	0.75	0.00
27.50	4.52	0.75	0.00
28.00	4.52	0.75	0.00
28.50	4.52	0.75	0.00
29.00	4.52	0.75	0.00
29.50	4.52	0.75	0.00
30.00	4.52	0.75	0.00
30.50	4.52	0.75	0.00
31.00	4.52	0.75	0.00
31.50	4.52	0.75	0.00
32.00	4.52	0.75	0.00
32.50	4.52	0.75	0.00
33.00	4.52	0.75	0.00
33.50	4.52	0.75	0.00
34.00	4.52	0.75	0.00
34.50	4.52	0.75	0.00
35.00	4.52	0.75	0.00
35.50	4.52	0.75	0.00
36.00	4.52	0.75	0.00
36.50	4.52	0.75	0.00
37.00	4.52	0.75	0.00
37.50	4.52	0.75	0.00
38.00	4.52	0.75	0.00
38.50	4.52	0.75	0.00
39.00	4.52	0.75	0.00
39.50	4.52	0.75	0.00
40.00	4.52	0.75	0.00
40.50	4.52	0.75	0.00
41.00	4.52	0.75	0.00
41.50	4.52	0.75	0.00
42.00	4.52	0.75	0.00
42.50	4.52	0.75	0.00
43.00	4.52	0.75	0.00
43.50	4.52	0.75	0.00
44.00	4.52	0.75	0.00
44.50	4.52	0.75	0.00
45.00	4.52	0.75	0.00
45.50	4.52	0.75	0.00
46.00	4.52	0.75	0.00
46.50	4.52	0.75	0.00
47.00	4.52	0.75	0.00
47.50	4.52	0.75	0.00
48.00	4.52	0.75	0.00

Summary for Subcatchment A-3: Pre-Developed

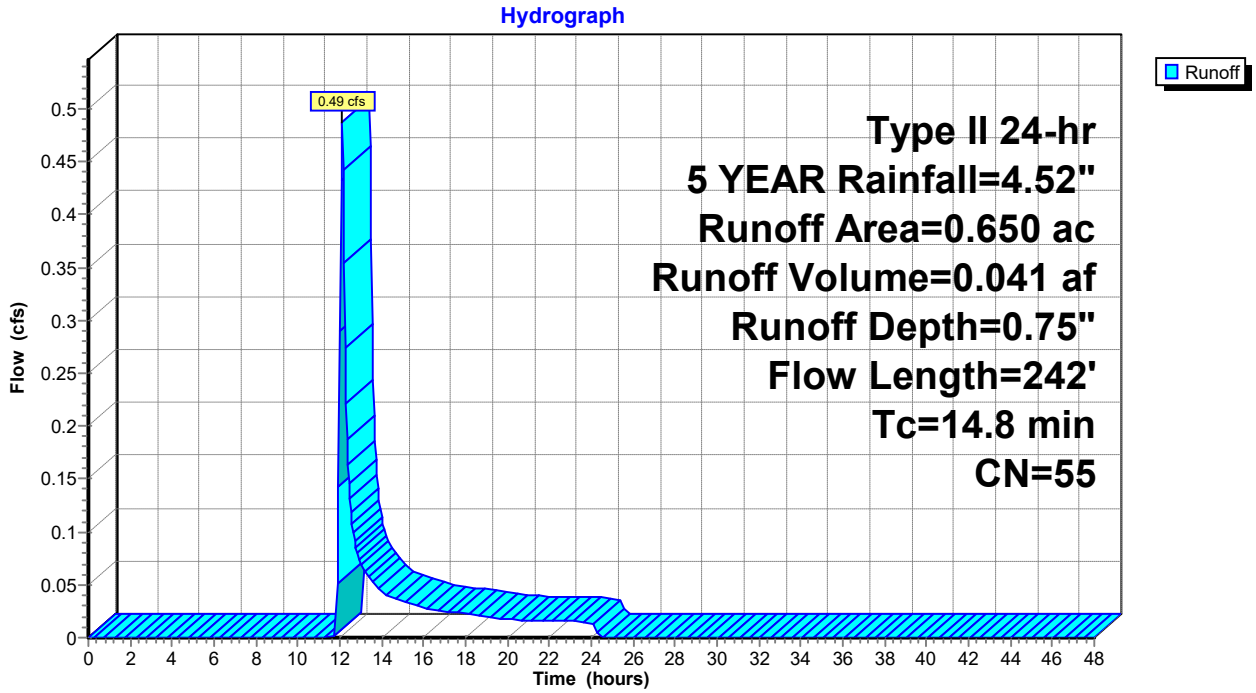
Runoff = 0.49 cfs @ 12.10 hrs, Volume= 0.041 af, Depth= 0.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
0.650	55	Woods, Good, HSG B
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	100	0.0704	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
2.8	142	0.0292	0.85		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
14.8	242	Total			

Subcatchment A-3: Pre-Developed



Hydrograph for Subcatchment A-3: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.00
4.00	0.22	0.00	0.00
4.50	0.25	0.00	0.00
5.00	0.28	0.00	0.00
5.50	0.32	0.00	0.00
6.00	0.36	0.00	0.00
6.50	0.40	0.00	0.00
7.00	0.45	0.00	0.00
7.50	0.49	0.00	0.00
8.00	0.54	0.00	0.00
8.50	0.60	0.00	0.00
9.00	0.66	0.00	0.00
9.50	0.74	0.00	0.00
10.00	0.82	0.00	0.00
10.50	0.92	0.00	0.00
11.00	1.06	0.00	0.00
11.50	1.28	0.00	0.00
12.00	3.00	0.19	**0.29**
12.50	3.32	0.29	**0.13**
13.00	3.49	0.34	0.07
13.50	3.61	0.38	0.05
14.00	3.71	0.42	0.04
14.50	3.79	0.45	0.04
15.00	3.86	0.47	0.04
15.50	3.92	0.50	0.03
16.00	3.98	0.52	0.03
16.50	4.03	0.54	0.03
17.00	4.08	0.56	0.03
17.50	4.12	0.58	0.02
18.00	4.16	0.60	0.02
18.50	4.20	0.61	0.02
19.00	4.24	0.63	0.02
19.50	4.27	0.64	0.02
20.00	4.30	0.66	0.02
20.50	4.33	0.67	0.02
21.00	4.36	0.68	0.02
21.50	4.39	0.69	0.02
22.00	4.42	0.70	0.02
22.50	4.44	0.72	0.02
23.00	4.47	0.73	0.02
23.50	4.49	0.74	0.02
24.00	**4.52**	**0.75**	0.01
24.50	4.52	0.75	0.00
25.00	4.52	0.75	0.00
25.50	4.52	0.75	0.00
26.00	4.52	0.75	0.00
26.50	4.52	0.75	0.00
27.00	4.52	0.75	0.00
27.50	4.52	0.75	0.00
28.00	4.52	0.75	0.00
28.50	4.52	0.75	0.00
29.00	4.52	0.75	0.00
29.50	4.52	0.75	0.00
30.00	4.52	0.75	0.00
30.50	4.52	0.75	0.00
31.00	4.52	0.75	0.00
31.50	4.52	0.75	0.00
32.00	4.52	0.75	0.00
32.50	4.52	0.75	0.00
33.00	4.52	0.75	0.00
33.50	4.52	0.75	0.00
34.00	4.52	0.75	0.00
34.50	4.52	0.75	0.00
35.00	4.52	0.75	0.00
35.50	4.52	0.75	0.00
36.00	4.52	0.75	0.00
36.50	4.52	0.75	0.00
37.00	4.52	0.75	0.00
37.50	4.52	0.75	0.00
38.00	4.52	0.75	0.00
38.50	4.52	0.75	0.00
39.00	4.52	0.75	0.00
39.50	4.52	0.75	0.00
40.00	4.52	0.75	0.00
40.50	4.52	0.75	0.00
41.00	4.52	0.75	0.00
41.50	4.52	0.75	0.00
42.00	4.52	0.75	0.00
42.50	4.52	0.75	0.00
43.00	4.52	0.75	0.00
43.50	4.52	0.75	0.00
44.00	4.52	0.75	0.00
44.50	4.52	0.75	0.00
45.00	4.52	0.75	0.00
45.50	4.52	0.75	0.00
46.00	4.52	0.75	0.00
46.50	4.52	0.75	0.00
47.00	4.52	0.75	0.00
47.50	4.52	0.75	0.00
48.00	4.52	0.75	0.00

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 A-1: Pre-Developed Runoff Area=1.810 ac 0.00% Impervious Runoff Depth=1.09"
Flow Length=463' Tc=35.7 min CN=55 Runoff=1.21 cfs 0.165 af

Subcatchment A-2: Pre-Developed Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=1.09"
Flow Length=393' Tc=26.1 min CN=55 Runoff=1.63 cfs 0.177 af

Subcatchment A-3: Pre-Developed Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=1.09"
Flow Length=242' Tc=14.8 min CN=55 Runoff=0.79 cfs 0.059 af

Total Runoff Area = 4.410 ac Runoff Volume = 0.401 af Average Runoff Depth = 1.09"
100.00% Pervious = 4.410 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A-1: Pre-Developed

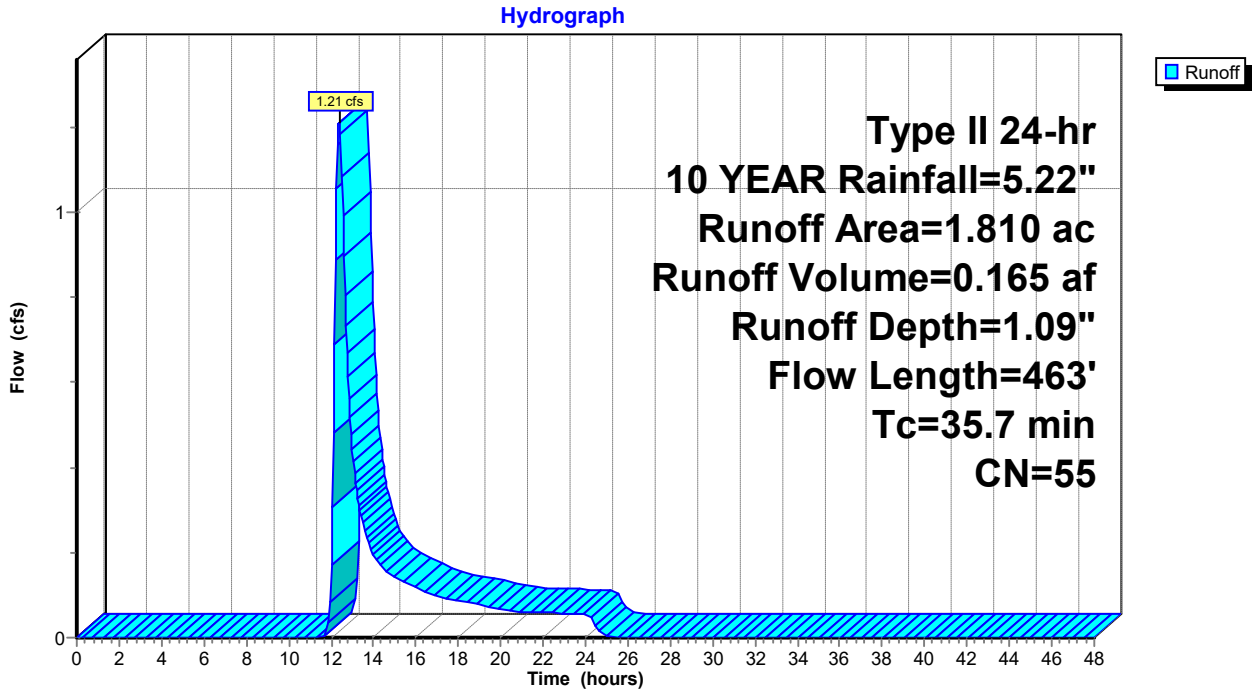
Runoff = 1.21 cfs @ 12.37 hrs, Volume= 0.165 af, Depth= 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
1.810	55	Woods, Good, HSG B
1.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	100	0.0077	0.06		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
6.7	363	0.0330	0.91		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
35.7	463	Total			

Subcatchment A-1: Pre-Developed



Hydrograph for Subcatchment A-1: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	28.50	5.22	1.09	0.00
0.50	0.03	0.00	0.00	29.00	5.22	1.09	0.00
1.00	0.05	0.00	0.00	29.50	5.22	1.09	0.00
1.50	0.08	0.00	0.00	30.00	5.22	1.09	0.00
2.00	0.11	0.00	0.00	30.50	5.22	1.09	0.00
2.50	0.15	0.00	0.00	31.00	5.22	1.09	0.00
3.00	0.18	0.00	0.00	31.50	5.22	1.09	0.00
3.50	0.21	0.00	0.00	32.00	5.22	1.09	0.00
4.00	0.25	0.00	0.00	32.50	5.22	1.09	0.00
4.50	0.29	0.00	0.00	33.00	5.22	1.09	0.00
5.00	0.33	0.00	0.00	33.50	5.22	1.09	0.00
5.50	0.37	0.00	0.00	34.00	5.22	1.09	0.00
6.00	0.42	0.00	0.00	34.50	5.22	1.09	0.00
6.50	0.47	0.00	0.00	35.00	5.22	1.09	0.00
7.00	0.52	0.00	0.00	35.50	5.22	1.09	0.00
7.50	0.57	0.00	0.00	36.00	5.22	1.09	0.00
8.00	0.63	0.00	0.00	36.50	5.22	1.09	0.00
8.50	0.69	0.00	0.00	37.00	5.22	1.09	0.00
9.00	0.77	0.00	0.00	37.50	5.22	1.09	0.00
9.50	0.85	0.00	0.00	38.00	5.22	1.09	0.00
10.00	0.94	0.00	0.00	38.50	5.22	1.09	0.00
10.50	1.06	0.00	0.00	39.00	5.22	1.09	0.00
11.00	1.23	0.00	0.00	39.50	5.22	1.09	0.00
11.50	1.48	0.00	0.00	40.00	5.22	1.09	0.00
12.00	3.46	0.33	**0.17**	40.50	5.22	1.09	0.00
12.50	3.84	0.47	**1.08**	41.00	5.22	1.09	0.00
13.00	4.03	0.54	0.44	41.50	5.22	1.09	0.00
13.50	4.17	0.60	0.26	42.00	5.22	1.09	0.00
14.00	4.28	0.65	0.20	42.50	5.22	1.09	0.00
14.50	4.37	0.69	0.16	43.00	5.22	1.09	0.00
15.00	4.46	0.72	0.14	43.50	5.22	1.09	0.00
15.50	4.53	0.76	0.13	44.00	5.22	1.09	0.00
16.00	4.59	0.79	0.12	44.50	5.22	1.09	0.00
16.50	4.65	0.81	0.10	45.00	5.22	1.09	0.00
17.00	4.71	0.84	0.10	45.50	5.22	1.09	0.00
17.50	4.76	0.86	0.09	46.00	5.22	1.09	0.00
18.00	4.81	0.89	0.09	46.50	5.22	1.09	0.00
18.50	4.85	0.91	0.08	47.00	5.22	1.09	0.00
19.00	4.90	0.93	0.08	47.50	5.22	1.09	0.00
19.50	4.93	0.95	0.07	48.00	5.22	1.09	0.00
20.00	4.97	0.96	0.07				
20.50	5.00	0.98	0.06				
21.00	5.04	1.00	0.06				
21.50	5.07	1.01	0.06				
22.00	5.10	1.03	0.06				
22.50	5.13	1.05	0.06				
23.00	5.16	1.06	0.06				
23.50	5.19	1.08	0.06				
24.00	**5.22**	**1.09**	0.06				
24.50	5.22	1.09	0.03				
25.00	5.22	1.09	0.00				
25.50	5.22	1.09	0.00				
26.00	5.22	1.09	0.00				
26.50	5.22	1.09	0.00				
27.00	5.22	1.09	0.00				
27.50	5.22	1.09	0.00				
28.00	5.22	1.09	0.00				

Summary for Subcatchment A-2: Pre-Developed

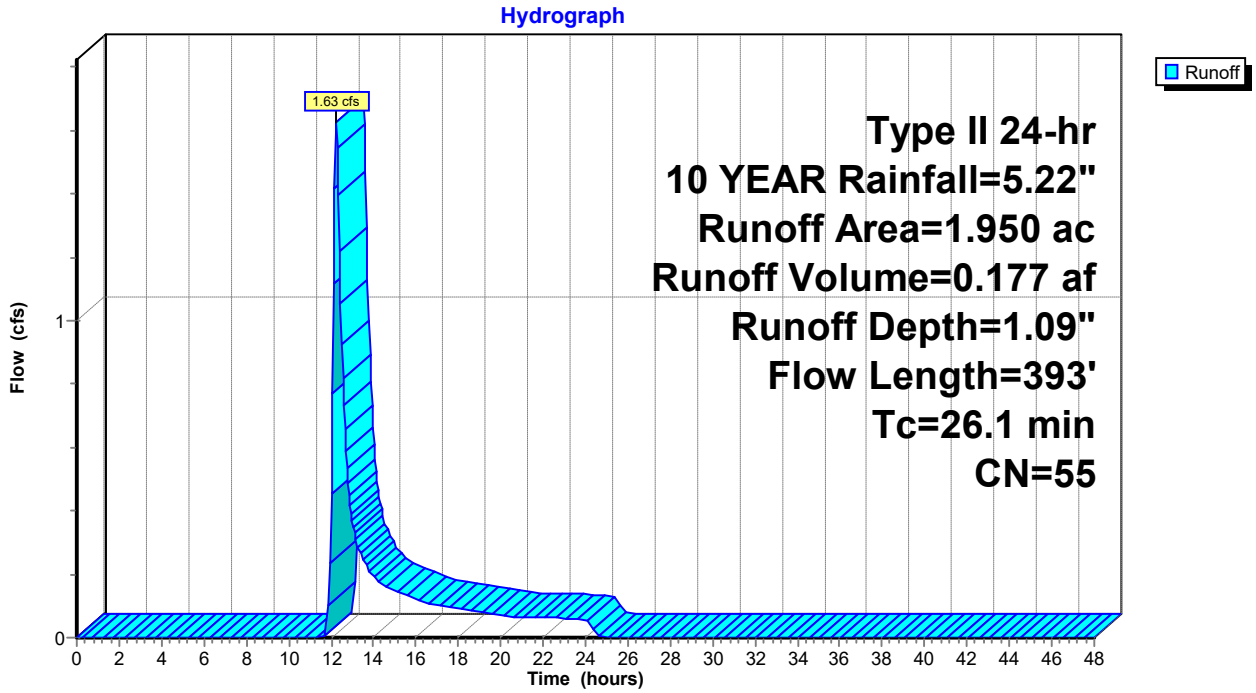
Runoff = 1.63 cfs @ 12.24 hrs, Volume= 0.177 af, Depth= 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
1.950	55	Woods, Good, HSG B
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	100	0.0156	0.08		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
4.2	293	0.0552	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
26.1	393	Total			

Subcatchment A-2: Pre-Developed



Hydrograph for Subcatchment A-2: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.11	0.00	0.00
2.50	0.15	0.00	0.00
3.00	0.18	0.00	0.00
3.50	0.21	0.00	0.00
4.00	0.25	0.00	0.00
4.50	0.29	0.00	0.00
5.00	0.33	0.00	0.00
5.50	0.37	0.00	0.00
6.00	0.42	0.00	0.00
6.50	0.47	0.00	0.00
7.00	0.52	0.00	0.00
7.50	0.57	0.00	0.00
8.00	0.63	0.00	0.00
8.50	0.69	0.00	0.00
9.00	0.77	0.00	0.00
9.50	0.85	0.00	0.00
10.00	0.94	0.00	0.00
10.50	1.06	0.00	0.00
11.00	1.23	0.00	0.00
11.50	1.48	0.00	0.00
12.00	3.46	0.33	**0.46**
12.50	3.84	0.47	**0.92**
13.00	4.03	0.54	0.37
13.50	4.17	0.60	0.25
14.00	4.28	0.65	0.20
14.50	4.37	0.69	0.16
15.00	4.46	0.72	0.15
15.50	4.53	0.76	0.13
16.00	4.59	0.79	0.12
16.50	4.65	0.81	0.11
17.00	4.71	0.84	0.10
17.50	4.76	0.86	0.10
18.00	4.81	0.89	0.09
18.50	4.85	0.91	0.09
19.00	4.90	0.93	0.08
19.50	4.93	0.95	0.08
20.00	4.97	0.96	0.07
20.50	5.00	0.98	0.07
21.00	5.04	1.00	0.07
21.50	5.07	1.01	0.06
22.00	5.10	1.03	0.06
22.50	5.13	1.05	0.06
23.00	5.16	1.06	0.06
23.50	5.19	1.08	0.06
24.00	**5.22**	**1.09**	0.06
24.50	5.22	1.09	0.01
25.00	5.22	1.09	0.00
25.50	5.22	1.09	0.00
26.00	5.22	1.09	0.00
26.50	5.22	1.09	0.00
27.00	5.22	1.09	0.00
27.50	5.22	1.09	0.00
28.00	5.22	1.09	0.00
28.50	5.22	1.09	0.00
29.00	5.22	1.09	0.00
29.50	5.22	1.09	0.00
30.00	5.22	1.09	0.00
30.50	5.22	1.09	0.00
31.00	5.22	1.09	0.00
31.50	5.22	1.09	0.00
32.00	5.22	1.09	0.00
32.50	5.22	1.09	0.00
33.00	5.22	1.09	0.00
33.50	5.22	1.09	0.00
34.00	5.22	1.09	0.00
34.50	5.22	1.09	0.00
35.00	5.22	1.09	0.00
35.50	5.22	1.09	0.00
36.00	5.22	1.09	0.00
36.50	5.22	1.09	0.00
37.00	5.22	1.09	0.00
37.50	5.22	1.09	0.00
38.00	5.22	1.09	0.00
38.50	5.22	1.09	0.00
39.00	5.22	1.09	0.00
39.50	5.22	1.09	0.00
40.00	5.22	1.09	0.00
40.50	5.22	1.09	0.00
41.00	5.22	1.09	0.00
41.50	5.22	1.09	0.00
42.00	5.22	1.09	0.00
42.50	5.22	1.09	0.00
43.00	5.22	1.09	0.00
43.50	5.22	1.09	0.00
44.00	5.22	1.09	0.00
44.50	5.22	1.09	0.00
45.00	5.22	1.09	0.00
45.50	5.22	1.09	0.00
46.00	5.22	1.09	0.00
46.50	5.22	1.09	0.00
47.00	5.22	1.09	0.00
47.50	5.22	1.09	0.00
48.00	5.22	1.09	0.00

Summary for Subcatchment A-3: Pre-Developed

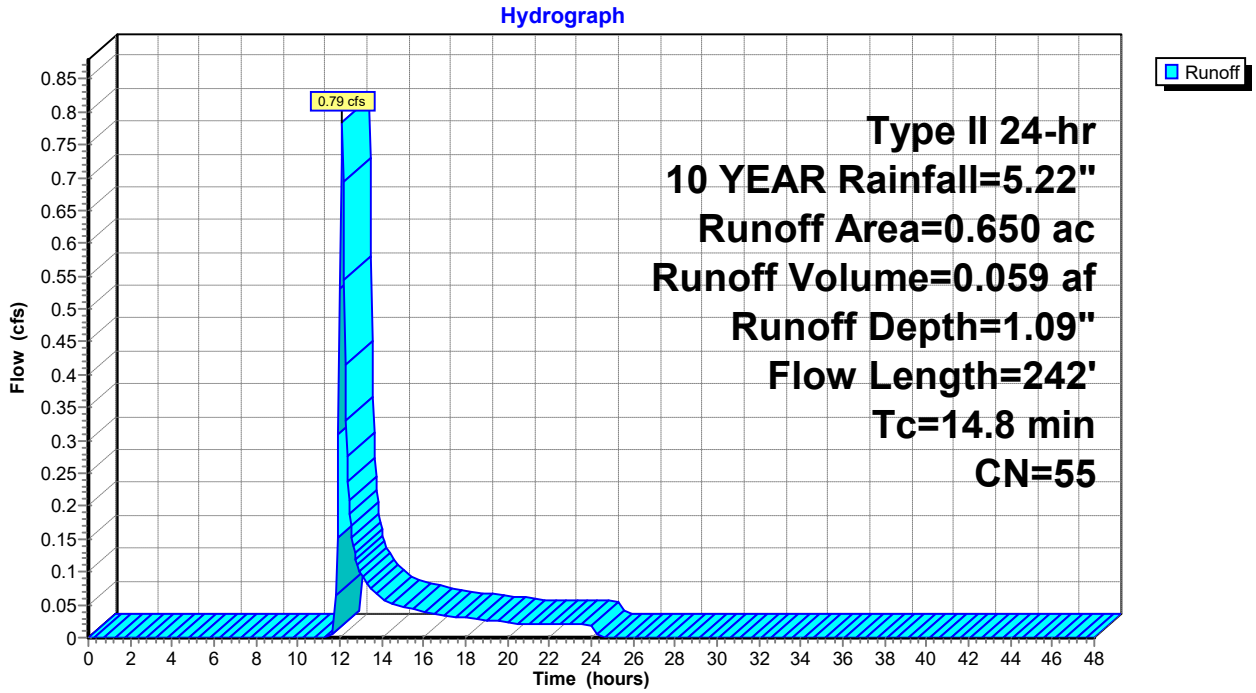
Runoff = 0.79 cfs @ 12.09 hrs, Volume= 0.059 af, Depth= 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
0.650	55	Woods, Good, HSG B
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	100	0.0704	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
2.8	142	0.0292	0.85		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
14.8	242	Total			

Subcatchment A-3: Pre-Developed



Hydrograph for Subcatchment A-3: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.11	0.00	0.00
2.50	0.15	0.00	0.00
3.00	0.18	0.00	0.00
3.50	0.21	0.00	0.00
4.00	0.25	0.00	0.00
4.50	0.29	0.00	0.00
5.00	0.33	0.00	0.00
5.50	0.37	0.00	0.00
6.00	0.42	0.00	0.00
6.50	0.47	0.00	0.00
7.00	0.52	0.00	0.00
7.50	0.57	0.00	0.00
8.00	0.63	0.00	0.00
8.50	0.69	0.00	0.00
9.00	0.77	0.00	0.00
9.50	0.85	0.00	0.00
10.00	0.94	0.00	0.00
10.50	1.06	0.00	0.00
11.00	1.23	0.00	0.00
11.50	1.48	0.00	0.00
12.00	3.46	0.33	**0.53**
12.50	3.84	0.47	**0.19**
13.00	4.03	0.54	0.10
13.50	4.17	0.60	0.08
14.00	4.28	0.65	0.06
14.50	4.37	0.69	0.05
15.00	4.46	0.72	0.05
15.50	4.53	0.76	0.04
16.00	4.59	0.79	0.04
16.50	4.65	0.81	0.04
17.00	4.71	0.84	0.03
17.50	4.76	0.86	0.03
18.00	4.81	0.89	0.03
18.50	4.85	0.91	0.03
19.00	4.90	0.93	0.03
19.50	4.93	0.95	0.02
20.00	4.97	0.96	0.02
20.50	5.00	0.98	0.02
21.00	5.04	1.00	0.02
21.50	5.07	1.01	0.02
22.00	5.10	1.03	0.02
22.50	5.13	1.05	0.02
23.00	5.16	1.06	0.02
23.50	5.19	1.08	0.02
24.00	**5.22**	**1.09**	0.02
24.50	5.22	1.09	0.00
25.00	5.22	1.09	0.00
25.50	5.22	1.09	0.00
26.00	5.22	1.09	0.00
26.50	5.22	1.09	0.00
27.00	5.22	1.09	0.00
27.50	5.22	1.09	0.00
28.00	5.22	1.09	0.00
28.50	5.22	1.09	0.00
29.00	5.22	1.09	0.00
29.50	5.22	1.09	0.00
30.00	5.22	1.09	0.00
30.50	5.22	1.09	0.00
31.00	5.22	1.09	0.00
31.50	5.22	1.09	0.00
32.00	5.22	1.09	0.00
32.50	5.22	1.09	0.00
33.00	5.22	1.09	0.00
33.50	5.22	1.09	0.00
34.00	5.22	1.09	0.00
34.50	5.22	1.09	0.00
35.00	5.22	1.09	0.00
35.50	5.22	1.09	0.00
36.00	5.22	1.09	0.00
36.50	5.22	1.09	0.00
37.00	5.22	1.09	0.00
37.50	5.22	1.09	0.00
38.00	5.22	1.09	0.00
38.50	5.22	1.09	0.00
39.00	5.22	1.09	0.00
39.50	5.22	1.09	0.00
40.00	5.22	1.09	0.00
40.50	5.22	1.09	0.00
41.00	5.22	1.09	0.00
41.50	5.22	1.09	0.00
42.00	5.22	1.09	0.00
42.50	5.22	1.09	0.00
43.00	5.22	1.09	0.00
43.50	5.22	1.09	0.00
44.00	5.22	1.09	0.00
44.50	5.22	1.09	0.00
45.00	5.22	1.09	0.00
45.50	5.22	1.09	0.00
46.00	5.22	1.09	0.00
46.50	5.22	1.09	0.00
47.00	5.22	1.09	0.00
47.50	5.22	1.09	0.00
48.00	5.22	1.09	0.00

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 A-1: Pre-Developed Runoff Area=1.810 ac 0.00% Impervious Runoff Depth=1.69"
Flow Length=463' Tc=35.7 min CN=55 Runoff=2.06 cfs 0.254 af

Subcatchment A-2: Pre-Developed Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=1.69"
Flow Length=393' Tc=26.1 min CN=55 Runoff=2.77 cfs 0.274 af

Subcatchment A-3: Pre-Developed Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=1.69"
Flow Length=242' Tc=14.8 min CN=55 Runoff=1.31 cfs 0.091 af

Total Runoff Area = 4.410 ac Runoff Volume = 0.620 af Average Runoff Depth = 1.69"
100.00% Pervious = 4.410 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A-1: Pre-Developed

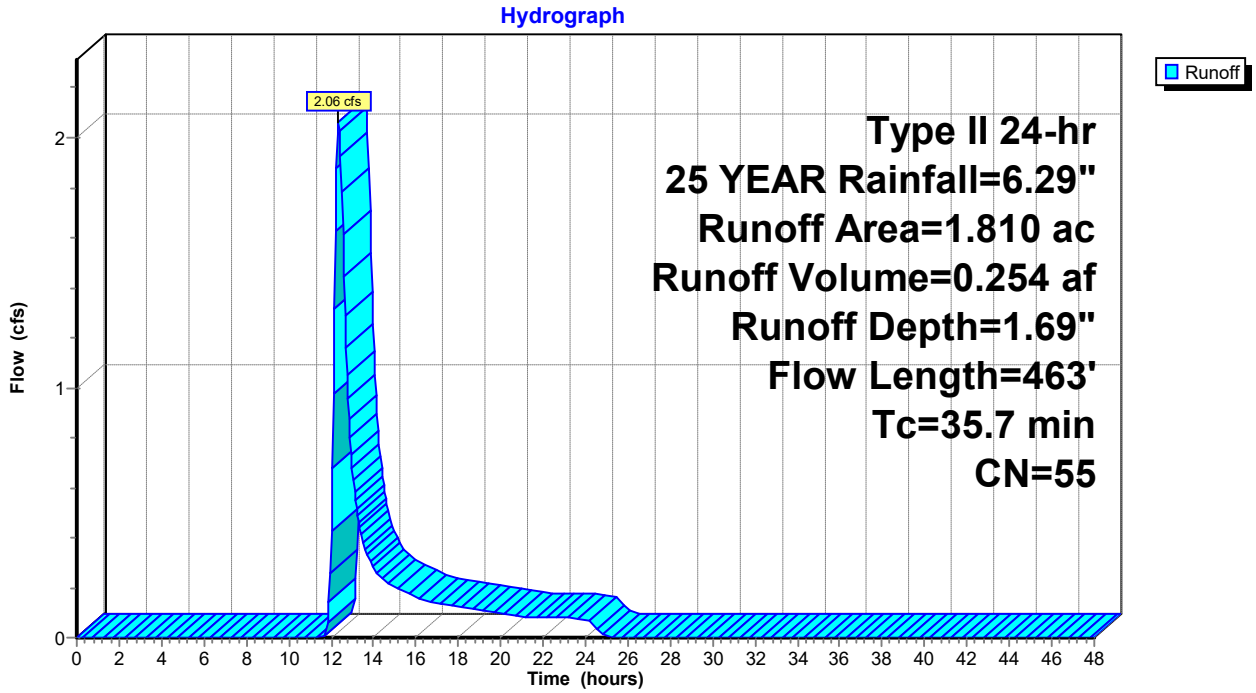
Runoff = 2.06 cfs @ 12.35 hrs, Volume= 0.254 af, Depth= 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
1.810	55	Woods, Good, HSG B
1.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	100	0.0077	0.06		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
6.7	363	0.0330	0.91		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
35.7	463	Total			

Subcatchment A-1: Pre-Developed



Hydrograph for Subcatchment A-1: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.00
3.00	0.22	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.30	0.00	0.00
4.50	0.35	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.50	0.00	0.00
6.50	0.56	0.00	0.00
7.00	0.62	0.00	0.00
7.50	0.69	0.00	0.00
8.00	0.75	0.00	0.00
8.50	0.83	0.00	0.00
9.00	0.92	0.00	0.00
9.50	1.03	0.00	0.00
10.00	1.14	0.00	0.00
10.50	1.28	0.00	0.00
11.00	1.48	0.00	0.00
11.50	1.78	0.00	0.00
12.00	4.17	0.60	**0.43**
12.50	4.62	0.80	**1.78**
13.00	4.86	0.91	0.68
13.50	5.03	0.99	0.39
14.00	5.16	1.06	0.28
14.50	5.27	1.12	0.23
15.00	5.37	1.17	0.20
15.50	5.46	1.22	0.18
16.00	5.54	1.26	0.16
16.50	5.61	1.30	0.15
17.00	5.67	1.33	0.14
17.50	5.73	1.37	0.13
18.00	5.79	1.40	0.12
18.50	5.85	1.43	0.12
19.00	5.90	1.46	0.11
19.50	5.95	1.49	0.10
20.00	5.99	1.51	0.09
20.50	6.03	1.53	0.09
21.00	6.07	1.56	0.08
21.50	6.11	1.58	0.08
22.00	6.15	1.60	0.08
22.50	6.18	1.62	0.08
23.00	6.22	1.65	0.08
23.50	6.26	1.67	0.08
24.00	**6.29**	**1.69**	0.08
24.50	6.29	1.69	0.04
25.00	6.29	1.69	0.00
25.50	6.29	1.69	0.00
26.00	6.29	1.69	0.00
26.50	6.29	1.69	0.00
27.00	6.29	1.69	0.00
27.50	6.29	1.69	0.00
28.00	6.29	1.69	0.00
28.50	6.29	1.69	0.00
29.00	6.29	1.69	0.00
29.50	6.29	1.69	0.00
30.00	6.29	1.69	0.00
30.50	6.29	1.69	0.00
31.00	6.29	1.69	0.00
31.50	6.29	1.69	0.00
32.00	6.29	1.69	0.00
32.50	6.29	1.69	0.00
33.00	6.29	1.69	0.00
33.50	6.29	1.69	0.00
34.00	6.29	1.69	0.00
34.50	6.29	1.69	0.00
35.00	6.29	1.69	0.00
35.50	6.29	1.69	0.00
36.00	6.29	1.69	0.00
36.50	6.29	1.69	0.00
37.00	6.29	1.69	0.00
37.50	6.29	1.69	0.00
38.00	6.29	1.69	0.00
38.50	6.29	1.69	0.00
39.00	6.29	1.69	0.00
39.50	6.29	1.69	0.00
40.00	6.29	1.69	0.00
40.50	6.29	1.69	0.00
41.00	6.29	1.69	0.00
41.50	6.29	1.69	0.00
42.00	6.29	1.69	0.00
42.50	6.29	1.69	0.00
43.00	6.29	1.69	0.00
43.50	6.29	1.69	0.00
44.00	6.29	1.69	0.00
44.50	6.29	1.69	0.00
45.00	6.29	1.69	0.00
45.50	6.29	1.69	0.00
46.00	6.29	1.69	0.00
46.50	6.29	1.69	0.00
47.00	6.29	1.69	0.00
47.50	6.29	1.69	0.00
48.00	6.29	1.69	0.00

Summary for Subcatchment A-2: Pre-Developed

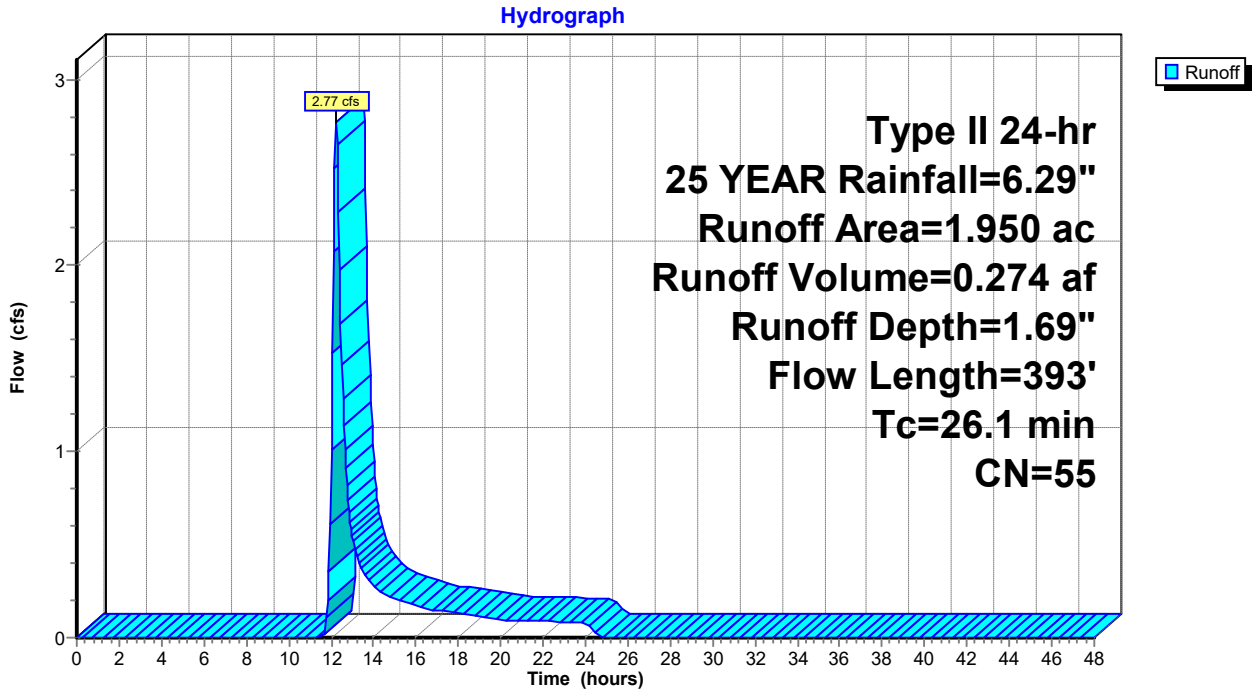
Runoff = 2.77 cfs @ 12.22 hrs, Volume= 0.274 af, Depth= 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
1.950	55	Woods, Good, HSG B
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	100	0.0156	0.08		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
4.2	293	0.0552	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
26.1	393	Total			

Subcatchment A-2: Pre-Developed



Hydrograph for Subcatchment A-2: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.00
3.00	0.22	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.30	0.00	0.00
4.50	0.35	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.50	0.00	0.00
6.50	0.56	0.00	0.00
7.00	0.62	0.00	0.00
7.50	0.69	0.00	0.00
8.00	0.75	0.00	0.00
8.50	0.83	0.00	0.00
9.00	0.92	0.00	0.00
9.50	1.03	0.00	0.00
10.00	1.14	0.00	0.00
10.50	1.28	0.00	0.00
11.00	1.48	0.00	0.00
11.50	1.78	0.00	0.00
12.00	4.17	0.60	**1.01**
12.50	4.62	0.80	**1.46**
13.00	4.86	0.91	0.55
13.50	5.03	0.99	0.36
14.00	5.16	1.06	0.28
14.50	5.27	1.12	0.23
15.00	5.37	1.17	0.21
15.50	5.46	1.22	0.19
16.00	5.54	1.26	0.17
16.50	5.61	1.30	0.15
17.00	5.67	1.33	0.15
17.50	5.73	1.37	0.14
18.00	5.79	1.40	0.13
18.50	5.85	1.43	0.12
19.00	5.90	1.46	0.12
19.50	5.95	1.49	0.11
20.00	5.99	1.51	0.10
20.50	6.03	1.53	0.09
21.00	6.07	1.56	0.09
21.50	6.11	1.58	0.09
22.00	6.15	1.60	0.09
22.50	6.18	1.62	0.09
23.00	6.22	1.65	0.08
23.50	6.26	1.67	0.08
24.00	**6.29**	**1.69**	0.08
24.50	6.29	1.69	0.02
25.00	6.29	1.69	0.00
25.50	6.29	1.69	0.00
26.00	6.29	1.69	0.00
26.50	6.29	1.69	0.00
27.00	6.29	1.69	0.00
27.50	6.29	1.69	0.00
28.00	6.29	1.69	0.00
28.50	6.29	1.69	0.00
29.00	6.29	1.69	0.00
29.50	6.29	1.69	0.00
30.00	6.29	1.69	0.00
30.50	6.29	1.69	0.00
31.00	6.29	1.69	0.00
31.50	6.29	1.69	0.00
32.00	6.29	1.69	0.00
32.50	6.29	1.69	0.00
33.00	6.29	1.69	0.00
33.50	6.29	1.69	0.00
34.00	6.29	1.69	0.00
34.50	6.29	1.69	0.00
35.00	6.29	1.69	0.00
35.50	6.29	1.69	0.00
36.00	6.29	1.69	0.00
36.50	6.29	1.69	0.00
37.00	6.29	1.69	0.00
37.50	6.29	1.69	0.00
38.00	6.29	1.69	0.00
38.50	6.29	1.69	0.00
39.00	6.29	1.69	0.00
39.50	6.29	1.69	0.00
40.00	6.29	1.69	0.00
40.50	6.29	1.69	0.00
41.00	6.29	1.69	0.00
41.50	6.29	1.69	0.00
42.00	6.29	1.69	0.00
42.50	6.29	1.69	0.00
43.00	6.29	1.69	0.00
43.50	6.29	1.69	0.00
44.00	6.29	1.69	0.00
44.50	6.29	1.69	0.00
45.00	6.29	1.69	0.00
45.50	6.29	1.69	0.00
46.00	6.29	1.69	0.00
46.50	6.29	1.69	0.00
47.00	6.29	1.69	0.00
47.50	6.29	1.69	0.00
48.00	6.29	1.69	0.00

Summary for Subcatchment A-3: Pre-Developed

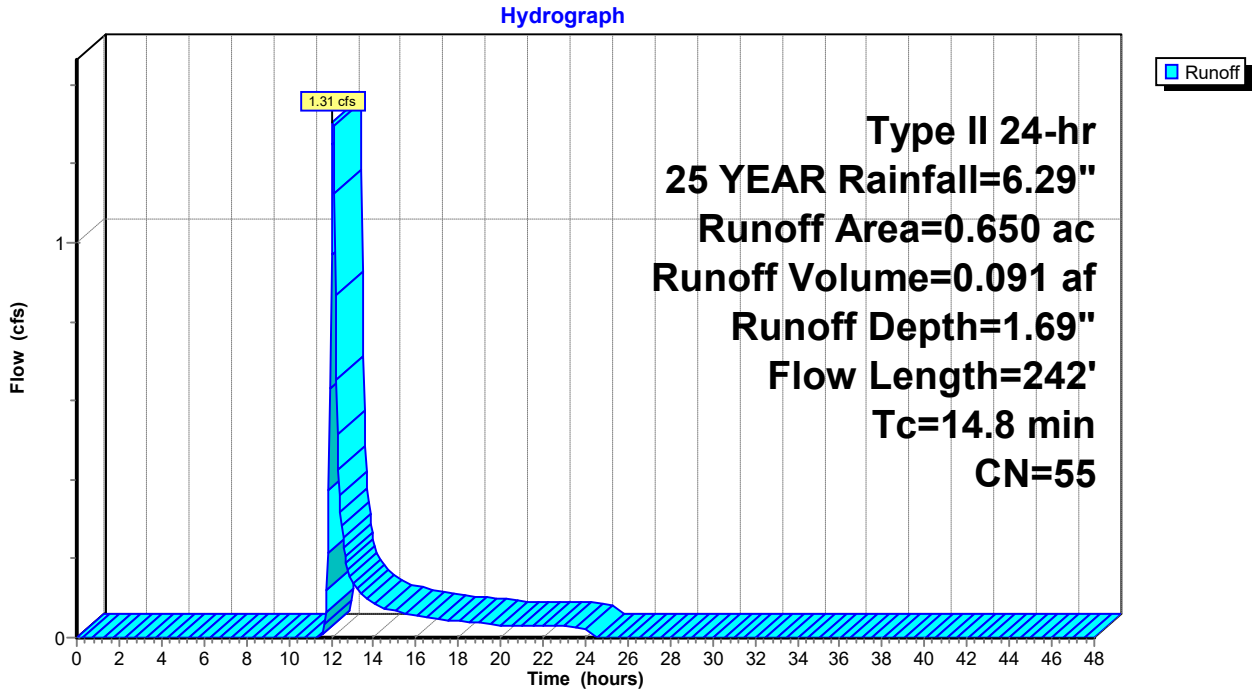
Runoff = 1.31 cfs @ 12.09 hrs, Volume= 0.091 af, Depth= 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
0.650	55	Woods, Good, HSG B
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	100	0.0704	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
2.8	142	0.0292	0.85		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
14.8	242	Total			

Subcatchment A-3: Pre-Developed



Hydrograph for Subcatchment A-3: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.00
3.00	0.22	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.30	0.00	0.00
4.50	0.35	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.50	0.00	0.00
6.50	0.56	0.00	0.00
7.00	0.62	0.00	0.00
7.50	0.69	0.00	0.00
8.00	0.75	0.00	0.00
8.50	0.83	0.00	0.00
9.00	0.92	0.00	0.00
9.50	1.03	0.00	0.00
10.00	1.14	0.00	0.00
10.50	1.28	0.00	0.00
11.00	1.48	0.00	0.00
11.50	1.78	0.00	0.00
12.00	4.17	0.60	**0.97**
12.50	4.62	0.80	**0.28**
13.00	4.86	0.91	0.14
13.50	5.03	0.99	0.11
14.00	5.16	1.06	0.09
14.50	5.27	1.12	0.07
15.00	5.37	1.17	0.07
15.50	5.46	1.22	0.06
16.00	5.54	1.26	0.05
16.50	5.61	1.30	0.05
17.00	5.67	1.33	0.05
17.50	5.73	1.37	0.05
18.00	5.79	1.40	0.04
18.50	5.85	1.43	0.04
19.00	5.90	1.46	0.04
19.50	5.95	1.49	0.03
20.00	5.99	1.51	0.03
20.50	6.03	1.53	0.03
21.00	6.07	1.56	0.03
21.50	6.11	1.58	0.03
22.00	6.15	1.60	0.03
22.50	6.18	1.62	0.03
23.00	6.22	1.65	0.03
23.50	6.26	1.67	0.03
24.00	**6.29**	**1.69**	0.03
24.50	6.29	1.69	0.00
25.00	6.29	1.69	0.00
25.50	6.29	1.69	0.00
26.00	6.29	1.69	0.00
26.50	6.29	1.69	0.00
27.00	6.29	1.69	0.00
27.50	6.29	1.69	0.00
28.00	6.29	1.69	0.00
28.50	6.29	1.69	0.00
29.00	6.29	1.69	0.00
29.50	6.29	1.69	0.00
30.00	6.29	1.69	0.00
30.50	6.29	1.69	0.00
31.00	6.29	1.69	0.00
31.50	6.29	1.69	0.00
32.00	6.29	1.69	0.00
32.50	6.29	1.69	0.00
33.00	6.29	1.69	0.00
33.50	6.29	1.69	0.00
34.00	6.29	1.69	0.00
34.50	6.29	1.69	0.00
35.00	6.29	1.69	0.00
35.50	6.29	1.69	0.00
36.00	6.29	1.69	0.00
36.50	6.29	1.69	0.00
37.00	6.29	1.69	0.00
37.50	6.29	1.69	0.00
38.00	6.29	1.69	0.00
38.50	6.29	1.69	0.00
39.00	6.29	1.69	0.00
39.50	6.29	1.69	0.00
40.00	6.29	1.69	0.00
40.50	6.29	1.69	0.00
41.00	6.29	1.69	0.00
41.50	6.29	1.69	0.00
42.00	6.29	1.69	0.00
42.50	6.29	1.69	0.00
43.00	6.29	1.69	0.00
43.50	6.29	1.69	0.00
44.00	6.29	1.69	0.00
44.50	6.29	1.69	0.00
45.00	6.29	1.69	0.00
45.50	6.29	1.69	0.00
46.00	6.29	1.69	0.00
46.50	6.29	1.69	0.00
47.00	6.29	1.69	0.00
47.50	6.29	1.69	0.00
48.00	6.29	1.69	0.00

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 A-1: Pre-Developed Runoff Area=1.810 ac 0.00% Impervious Runoff Depth=2.26"
Flow Length=463' Tc=35.7 min CN=55 Runoff=2.89 cfs 0.341 af

Subcatchment A-2: Pre-Developed Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=2.26"
Flow Length=393' Tc=26.1 min CN=55 Runoff=3.87 cfs 0.367 af

Subcatchment A-3: Pre-Developed Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=2.26"
Flow Length=242' Tc=14.8 min CN=55 Runoff=1.81 cfs 0.122 af

Total Runoff Area = 4.410 ac Runoff Volume = 0.830 af Average Runoff Depth = 2.26"
100.00% Pervious = 4.410 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A-1: Pre-Developed

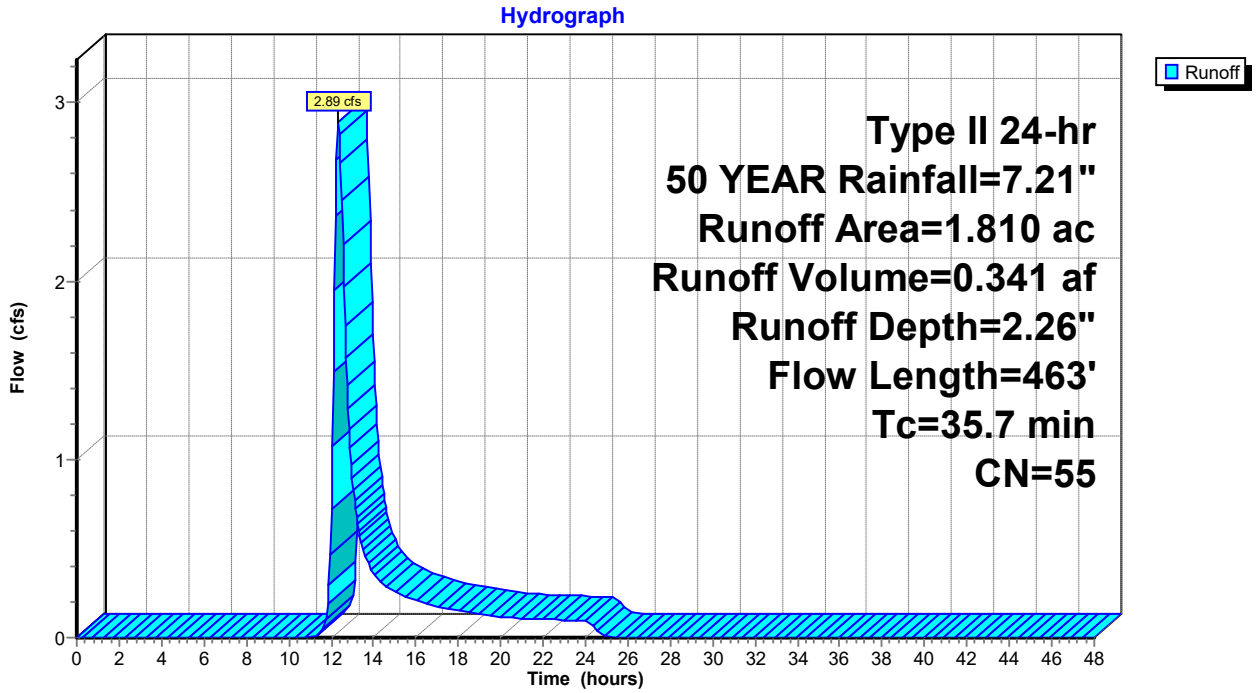
Runoff = 2.89 cfs @ 12.34 hrs, Volume= 0.341 af, Depth= 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
1.810	55	Woods, Good, HSG B
1.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	100	0.0077	0.06		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
6.7	363	0.0330	0.91		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
35.7	463	Total			

Subcatchment A-1: Pre-Developed



Hydrograph for Subcatchment A-1: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.30	0.00	0.00
4.00	0.35	0.00	0.00
4.50	0.40	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.51	0.00	0.00
6.00	0.58	0.00	0.00
6.50	0.64	0.00	0.00
7.00	0.71	0.00	0.00
7.50	0.79	0.00	0.00
8.00	0.87	0.00	0.00
8.50	0.95	0.00	0.00
9.00	1.06	0.00	0.00
9.50	1.18	0.00	0.00
10.00	1.31	0.00	0.00
10.50	1.47	0.00	0.00
11.00	1.69	0.00	0.00
11.50	2.04	0.02	0.02
12.00	4.78	0.87	**0.72**
12.50	5.30	1.13	**2.45**
13.00	5.57	1.28	0.89
13.50	5.76	1.38	0.50
14.00	5.91	1.47	0.36
14.50	6.04	1.54	0.29
15.00	6.15	1.61	0.26
15.50	6.26	1.67	0.23
16.00	6.34	1.72	0.21
16.50	6.43	1.77	0.19
17.00	6.50	1.81	0.17
17.50	6.57	1.86	0.16
18.00	6.64	1.90	0.16
18.50	6.70	1.94	0.15
19.00	6.76	1.97	0.14
19.50	6.81	2.01	0.13
20.00	6.86	2.04	0.12
20.50	6.91	2.07	0.11
21.00	6.96	2.10	0.11
21.50	7.00	2.12	0.10
22.00	7.04	2.15	0.10
22.50	7.09	2.18	0.10
23.00	7.13	2.21	0.10
23.50	7.17	2.23	0.10
24.00	**7.21**	**2.26**	0.10
24.50	7.21	2.26	0.05
25.00	7.21	2.26	0.01
25.50	7.21	2.26	0.00
26.00	7.21	2.26	0.00
26.50	7.21	2.26	0.00
27.00	7.21	2.26	0.00
27.50	7.21	2.26	0.00
28.00	7.21	2.26	0.00
28.50	7.21	2.26	0.00
29.00	7.21	2.26	0.00
29.50	7.21	2.26	0.00
30.00	7.21	2.26	0.00
30.50	7.21	2.26	0.00
31.00	7.21	2.26	0.00
31.50	7.21	2.26	0.00
32.00	7.21	2.26	0.00
32.50	7.21	2.26	0.00
33.00	7.21	2.26	0.00
33.50	7.21	2.26	0.00
34.00	7.21	2.26	0.00
34.50	7.21	2.26	0.00
35.00	7.21	2.26	0.00
35.50	7.21	2.26	0.00
36.00	7.21	2.26	0.00
36.50	7.21	2.26	0.00
37.00	7.21	2.26	0.00
37.50	7.21	2.26	0.00
38.00	7.21	2.26	0.00
38.50	7.21	2.26	0.00
39.00	7.21	2.26	0.00
39.50	7.21	2.26	0.00
40.00	7.21	2.26	0.00
40.50	7.21	2.26	0.00
41.00	7.21	2.26	0.00
41.50	7.21	2.26	0.00
42.00	7.21	2.26	0.00
42.50	7.21	2.26	0.00
43.00	7.21	2.26	0.00
43.50	7.21	2.26	0.00
44.00	7.21	2.26	0.00
44.50	7.21	2.26	0.00
45.00	7.21	2.26	0.00
45.50	7.21	2.26	0.00
46.00	7.21	2.26	0.00
46.50	7.21	2.26	0.00
47.00	7.21	2.26	0.00
47.50	7.21	2.26	0.00
48.00	7.21	2.26	0.00

Summary for Subcatchment A-2: Pre-Developed

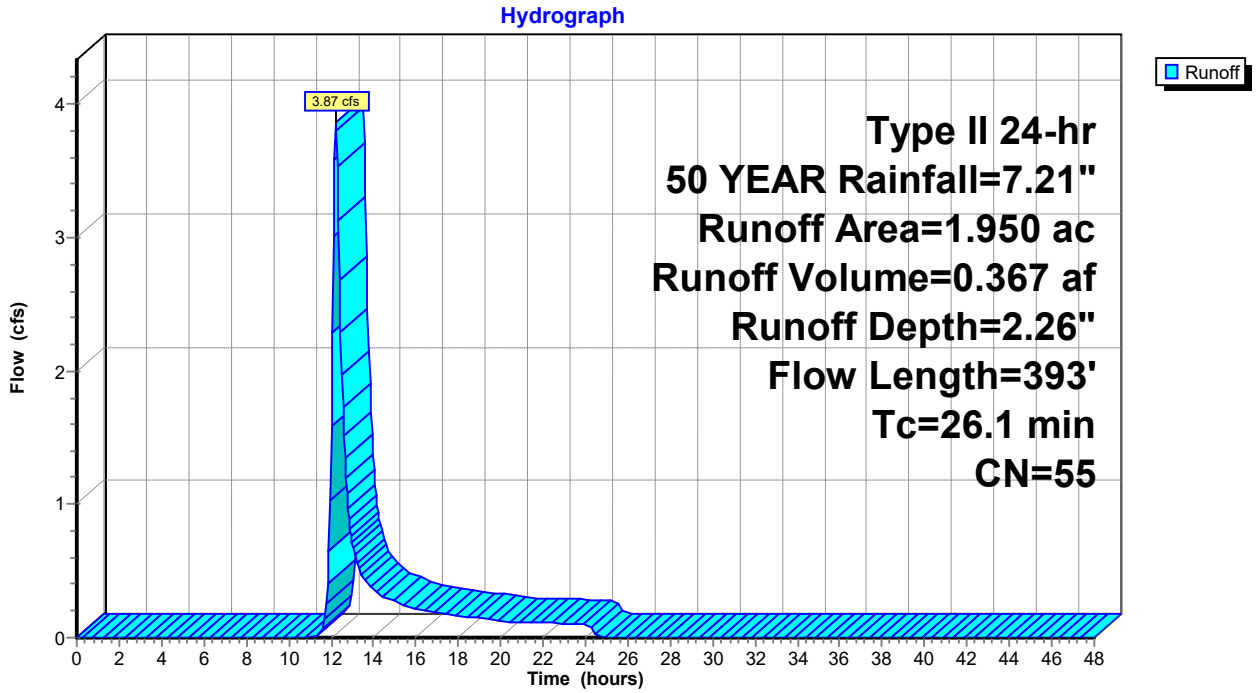
Runoff = 3.87 cfs @ 12.22 hrs, Volume= 0.367 af, Depth= 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
1.950	55	Woods, Good, HSG B
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	100	0.0156	0.08		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
4.2	293	0.0552	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
26.1	393	Total			

Subcatchment A-2: Pre-Developed



Hydrograph for Subcatchment A-2: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.30	0.00	0.00
4.00	0.35	0.00	0.00
4.50	0.40	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.51	0.00	0.00
6.00	0.58	0.00	0.00
6.50	0.64	0.00	0.00
7.00	0.71	0.00	0.00
7.50	0.79	0.00	0.00
8.00	0.87	0.00	0.00
8.50	0.95	0.00	0.00
9.00	1.06	0.00	0.00
9.50	1.18	0.00	0.00
10.00	1.31	0.00	0.00
10.50	1.47	0.00	0.00
11.00	1.69	0.00	0.00
11.50	2.04	0.02	0.04
12.00	4.78	0.87	**1.58**
12.50	5.30	1.13	**1.97**
13.00	5.57	1.28	0.71
13.50	5.76	1.38	0.46
14.00	5.91	1.47	0.36
14.50	6.04	1.54	0.30
15.00	6.15	1.61	0.27
15.50	6.26	1.67	0.24
16.00	6.34	1.72	0.22
16.50	6.43	1.77	0.19
17.00	6.50	1.81	0.18
17.50	6.57	1.86	0.17
18.00	6.64	1.90	0.16
18.50	6.70	1.94	0.15
19.00	6.76	1.97	0.14
19.50	6.81	2.01	0.13
20.00	6.86	2.04	0.12
20.50	6.91	2.07	0.12
21.00	6.96	2.10	0.11
21.50	7.00	2.12	0.11
22.00	7.04	2.15	0.11
22.50	7.09	2.18	0.11
23.00	7.13	2.21	0.11
23.50	7.17	2.23	0.10
24.00	**7.21**	**2.26**	0.10
24.50	7.21	2.26	0.02
25.00	7.21	2.26	0.00
25.50	7.21	2.26	0.00
26.00	7.21	2.26	0.00
26.50	7.21	2.26	0.00
27.00	7.21	2.26	0.00
27.50	7.21	2.26	0.00
28.00	7.21	2.26	0.00
28.50	7.21	2.26	0.00
29.00	7.21	2.26	0.00
29.50	7.21	2.26	0.00
30.00	7.21	2.26	0.00
30.50	7.21	2.26	0.00
31.00	7.21	2.26	0.00
31.50	7.21	2.26	0.00
32.00	7.21	2.26	0.00
32.50	7.21	2.26	0.00
33.00	7.21	2.26	0.00
33.50	7.21	2.26	0.00
34.00	7.21	2.26	0.00
34.50	7.21	2.26	0.00
35.00	7.21	2.26	0.00
35.50	7.21	2.26	0.00
36.00	7.21	2.26	0.00
36.50	7.21	2.26	0.00
37.00	7.21	2.26	0.00
37.50	7.21	2.26	0.00
38.00	7.21	2.26	0.00
38.50	7.21	2.26	0.00
39.00	7.21	2.26	0.00
39.50	7.21	2.26	0.00
40.00	7.21	2.26	0.00
40.50	7.21	2.26	0.00
41.00	7.21	2.26	0.00
41.50	7.21	2.26	0.00
42.00	7.21	2.26	0.00
42.50	7.21	2.26	0.00
43.00	7.21	2.26	0.00
43.50	7.21	2.26	0.00
44.00	7.21	2.26	0.00
44.50	7.21	2.26	0.00
45.00	7.21	2.26	0.00
45.50	7.21	2.26	0.00
46.00	7.21	2.26	0.00
46.50	7.21	2.26	0.00
47.00	7.21	2.26	0.00
47.50	7.21	2.26	0.00
48.00	7.21	2.26	0.00

Summary for Subcatchment A-3: Pre-Developed

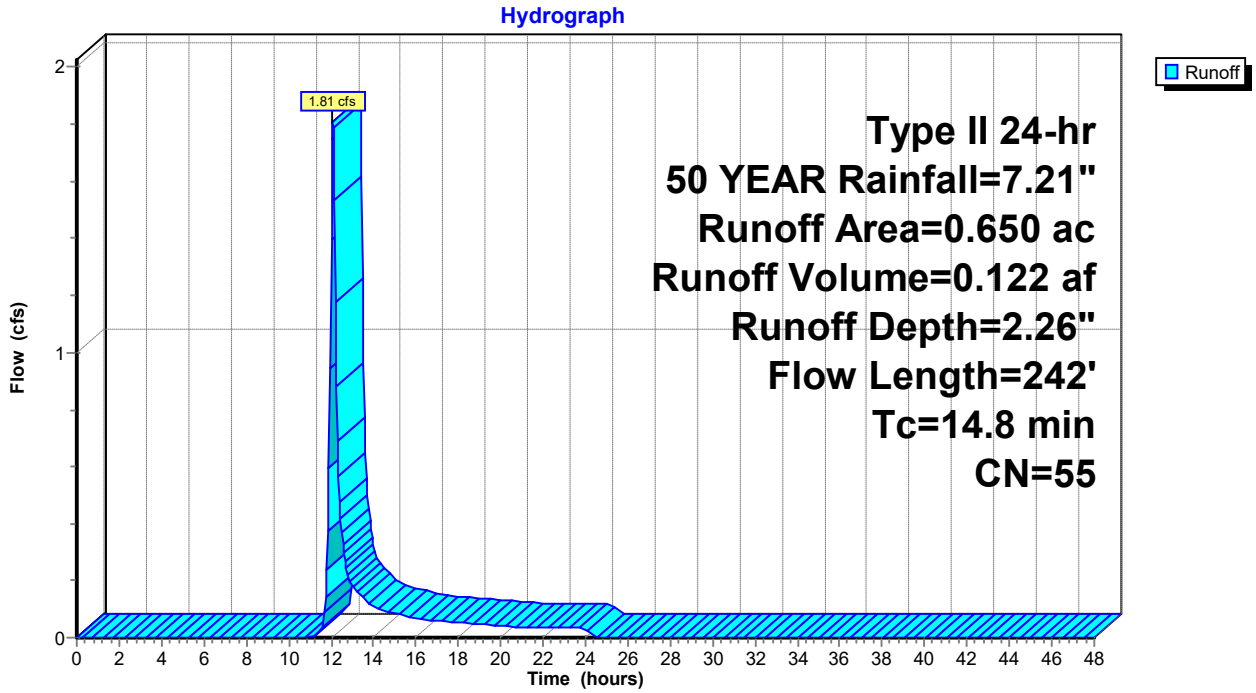
Runoff = 1.81 cfs @ 12.08 hrs, Volume= 0.122 af, Depth= 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
0.650	55	Woods, Good, HSG B
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	100	0.0704	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
2.8	142	0.0292	0.85		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
14.8	242	Total			

Subcatchment A-3: Pre-Developed



Hydrograph for Subcatchment A-3: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.30	0.00	0.00
4.00	0.35	0.00	0.00
4.50	0.40	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.51	0.00	0.00
6.00	0.58	0.00	0.00
6.50	0.64	0.00	0.00
7.00	0.71	0.00	0.00
7.50	0.79	0.00	0.00
8.00	0.87	0.00	0.00
8.50	0.95	0.00	0.00
9.00	1.06	0.00	0.00
9.50	1.18	0.00	0.00
10.00	1.31	0.00	0.00
10.50	1.47	0.00	0.00
11.00	1.69	0.00	0.00
11.50	2.04	0.02	0.03
12.00	4.78	0.87	**1.40**
12.50	5.30	1.13	**0.37**
13.00	5.57	1.28	0.19
13.50	5.76	1.38	0.14
14.00	5.91	1.47	0.11
14.50	6.04	1.54	0.10
15.00	6.15	1.61	0.09
15.50	6.26	1.67	0.08
16.00	6.34	1.72	0.07
16.50	6.43	1.77	0.06
17.00	6.50	1.81	0.06
17.50	6.57	1.86	0.06
18.00	6.64	1.90	0.05
18.50	6.70	1.94	0.05
19.00	6.76	1.97	0.05
19.50	6.81	2.01	0.04
20.00	6.86	2.04	0.04
20.50	6.91	2.07	0.04
21.00	6.96	2.10	0.04
21.50	7.00	2.12	0.04
22.00	7.04	2.15	0.04
22.50	7.09	2.18	0.04
23.00	7.13	2.21	0.04
23.50	7.17	2.23	0.03
24.00	**7.21**	**2.26**	0.03
24.50	7.21	2.26	0.00
25.00	7.21	2.26	0.00
25.50	7.21	2.26	0.00
26.00	7.21	2.26	0.00
26.50	7.21	2.26	0.00
27.00	7.21	2.26	0.00
27.50	7.21	2.26	0.00
28.00	7.21	2.26	0.00
28.50	7.21	2.26	0.00
29.00	7.21	2.26	0.00
29.50	7.21	2.26	0.00
30.00	7.21	2.26	0.00
30.50	7.21	2.26	0.00
31.00	7.21	2.26	0.00
31.50	7.21	2.26	0.00
32.00	7.21	2.26	0.00
32.50	7.21	2.26	0.00
33.00	7.21	2.26	0.00
33.50	7.21	2.26	0.00
34.00	7.21	2.26	0.00
34.50	7.21	2.26	0.00
35.00	7.21	2.26	0.00
35.50	7.21	2.26	0.00
36.00	7.21	2.26	0.00
36.50	7.21	2.26	0.00
37.00	7.21	2.26	0.00
37.50	7.21	2.26	0.00
38.00	7.21	2.26	0.00
38.50	7.21	2.26	0.00
39.00	7.21	2.26	0.00
39.50	7.21	2.26	0.00
40.00	7.21	2.26	0.00
40.50	7.21	2.26	0.00
41.00	7.21	2.26	0.00
41.50	7.21	2.26	0.00
42.00	7.21	2.26	0.00
42.50	7.21	2.26	0.00
43.00	7.21	2.26	0.00
43.50	7.21	2.26	0.00
44.00	7.21	2.26	0.00
44.50	7.21	2.26	0.00
45.00	7.21	2.26	0.00
45.50	7.21	2.26	0.00
46.00	7.21	2.26	0.00
46.50	7.21	2.26	0.00
47.00	7.21	2.26	0.00
47.50	7.21	2.26	0.00
48.00	7.21	2.26	0.00

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 A-1: Pre-Developed Runoff Area=1.810 ac 0.00% Impervious Runoff Depth=2.92"
Flow Length=463' Tc=35.7 min CN=55 Runoff=3.86 cfs 0.441 af

Subcatchment A-2: Pre-Developed Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=2.92"
Flow Length=393' Tc=26.1 min CN=55 Runoff=5.15 cfs 0.475 af

Subcatchment A-3: Pre-Developed Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=2.92"
Flow Length=242' Tc=14.8 min CN=55 Runoff=2.39 cfs 0.158 af

Total Runoff Area = 4.410 ac Runoff Volume = 1.074 af Average Runoff Depth = 2.92"
100.00% Pervious = 4.410 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A-1: Pre-Developed

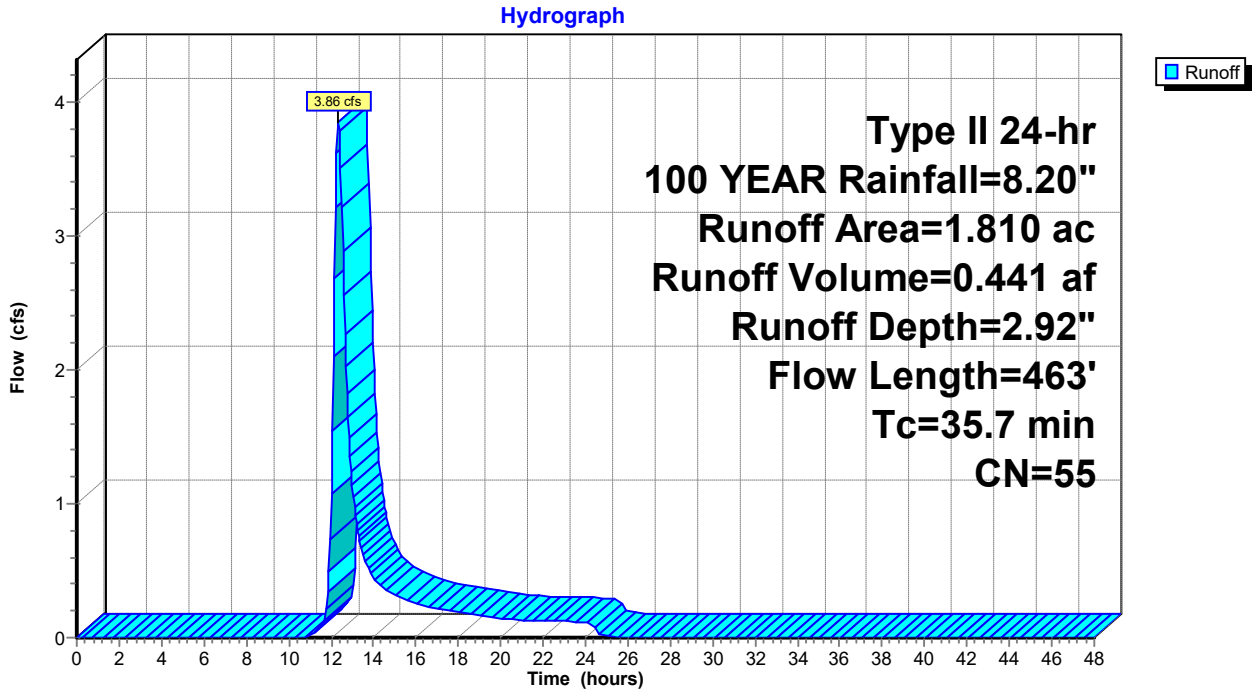
Runoff = 3.86 cfs @ 12.34 hrs, Volume= 0.441 af, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
1.810	55	Woods, Good, HSG B
1.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.0	100	0.0077	0.06		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
6.7	363	0.0330	0.91		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
35.7	463	Total			

Subcatchment A-1: Pre-Developed



Hydrograph for Subcatchment A-1: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.23	0.00	0.00
3.00	0.28	0.00	0.00
3.50	0.34	0.00	0.00
4.00	0.39	0.00	0.00
4.50	0.45	0.00	0.00
5.00	0.52	0.00	0.00
5.50	0.58	0.00	0.00
6.00	0.66	0.00	0.00
6.50	0.73	0.00	0.00
7.00	0.81	0.00	0.00
7.50	0.90	0.00	0.00
8.00	0.98	0.00	0.00
8.50	1.08	0.00	0.00
9.00	1.21	0.00	0.00
9.50	1.34	0.00	0.00
10.00	1.48	0.00	0.00
10.50	1.67	0.00	0.00
11.00	1.93	0.01	0.01
11.50	2.32	0.05	0.08
12.00	5.44	1.21	**1.08**
12.50	6.03	1.53	**3.21**
13.00	6.33	1.71	1.14
13.50	6.55	1.84	0.63
14.00	6.72	1.95	0.45
14.50	6.87	2.04	0.36
15.00	7.00	2.12	0.32
15.50	7.11	2.20	0.29
16.00	7.22	2.26	0.26
16.50	7.31	2.32	0.23
17.00	7.39	2.38	0.21
17.50	7.48	2.43	0.20
18.00	7.55	2.48	0.19
18.50	7.62	2.53	0.18
19.00	7.69	2.57	0.17
19.50	7.75	2.61	0.16
20.00	7.81	2.65	0.14
20.50	7.86	2.69	0.13
21.00	7.91	2.72	0.13
21.50	7.96	2.76	0.13
22.00	8.01	2.79	0.13
22.50	8.06	2.83	0.12
23.00	8.11	2.86	0.12
23.50	8.15	2.89	0.12
24.00	**8.20**	**2.92**	0.12
24.50	8.20	2.92	0.06
25.00	8.20	2.92	0.01
25.50	8.20	2.92	0.00
26.00	8.20	2.92	0.00
26.50	8.20	2.92	0.00
27.00	8.20	2.92	0.00
27.50	8.20	2.92	0.00
28.00	8.20	2.92	0.00
28.50	8.20	2.92	0.00
29.00	8.20	2.92	0.00
29.50	8.20	2.92	0.00
30.00	8.20	2.92	0.00
30.50	8.20	2.92	0.00
31.00	8.20	2.92	0.00
31.50	8.20	2.92	0.00
32.00	8.20	2.92	0.00
32.50	8.20	2.92	0.00
33.00	8.20	2.92	0.00
33.50	8.20	2.92	0.00
34.00	8.20	2.92	0.00
34.50	8.20	2.92	0.00
35.00	8.20	2.92	0.00
35.50	8.20	2.92	0.00
36.00	8.20	2.92	0.00
36.50	8.20	2.92	0.00
37.00	8.20	2.92	0.00
37.50	8.20	2.92	0.00
38.00	8.20	2.92	0.00
38.50	8.20	2.92	0.00
39.00	8.20	2.92	0.00
39.50	8.20	2.92	0.00
40.00	8.20	2.92	0.00
40.50	8.20	2.92	0.00
41.00	8.20	2.92	0.00
41.50	8.20	2.92	0.00
42.00	8.20	2.92	0.00
42.50	8.20	2.92	0.00
43.00	8.20	2.92	0.00
43.50	8.20	2.92	0.00
44.00	8.20	2.92	0.00
44.50	8.20	2.92	0.00
45.00	8.20	2.92	0.00
45.50	8.20	2.92	0.00
46.00	8.20	2.92	0.00
46.50	8.20	2.92	0.00
47.00	8.20	2.92	0.00
47.50	8.20	2.92	0.00
48.00	8.20	2.92	0.00

Summary for Subcatchment A-2: Pre-Developed

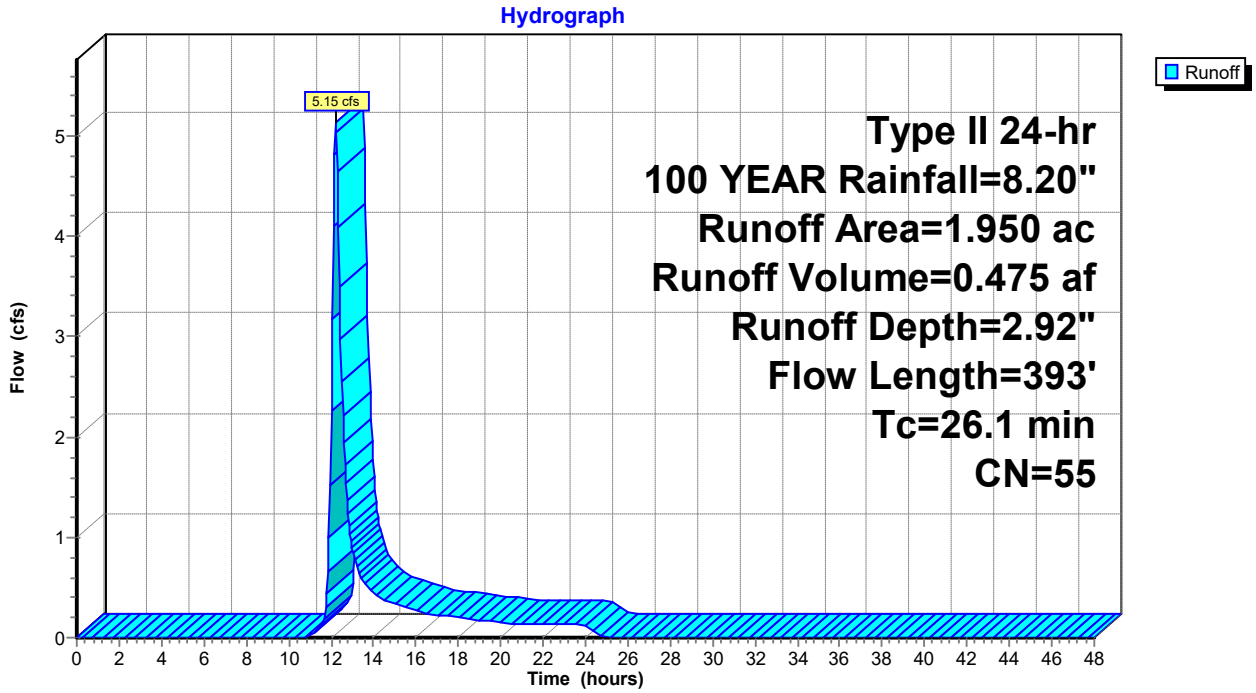
Runoff = 5.15 cfs @ 12.21 hrs, Volume= 0.475 af, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
1.950	55	Woods, Good, HSG B
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	100	0.0156	0.08		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
4.2	293	0.0552	1.17		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
26.1	393	Total			

Subcatchment A-2: Pre-Developed



Hydrograph for Subcatchment A-2: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.23	0.00	0.00
3.00	0.28	0.00	0.00
3.50	0.34	0.00	0.00
4.00	0.39	0.00	0.00
4.50	0.45	0.00	0.00
5.00	0.52	0.00	0.00
5.50	0.58	0.00	0.00
6.00	0.66	0.00	0.00
6.50	0.73	0.00	0.00
7.00	0.81	0.00	0.00
7.50	0.90	0.00	0.00
8.00	0.98	0.00	0.00
8.50	1.08	0.00	0.00
9.00	1.21	0.00	0.00
9.50	1.34	0.00	0.00
10.00	1.48	0.00	0.00
10.50	1.67	0.00	0.00
11.00	1.93	0.01	0.02
11.50	2.32	0.05	0.12
12.00	5.44	1.21	**2.26**
12.50	6.03	1.53	**2.55**
13.00	6.33	1.71	0.89
13.50	6.55	1.84	0.57
14.00	6.72	1.95	0.45
14.50	6.87	2.04	0.37
15.00	7.00	2.12	0.33
15.50	7.11	2.20	0.30
16.00	7.22	2.26	0.27
16.50	7.31	2.32	0.24
17.00	7.39	2.38	0.23
17.50	7.48	2.43	0.21
18.00	7.55	2.48	0.20
18.50	7.62	2.53	0.19
19.00	7.69	2.57	0.18
19.50	7.75	2.61	0.16
20.00	7.81	2.65	0.15
20.50	7.86	2.69	0.14
21.00	7.91	2.72	0.14
21.50	7.96	2.76	0.14
22.00	8.01	2.79	0.13
22.50	8.06	2.83	0.13
23.00	8.11	2.86	0.13
23.50	8.15	2.89	0.13
24.00	**8.20**	**2.92**	0.12
24.50	8.20	2.92	0.03
25.00	8.20	2.92	0.00
25.50	8.20	2.92	0.00
26.00	8.20	2.92	0.00
26.50	8.20	2.92	0.00
27.00	8.20	2.92	0.00
27.50	8.20	2.92	0.00
28.00	8.20	2.92	0.00
28.50	8.20	2.92	0.00
29.00	8.20	2.92	0.00
29.50	8.20	2.92	0.00
30.00	8.20	2.92	0.00
30.50	8.20	2.92	0.00
31.00	8.20	2.92	0.00
31.50	8.20	2.92	0.00
32.00	8.20	2.92	0.00
32.50	8.20	2.92	0.00
33.00	8.20	2.92	0.00
33.50	8.20	2.92	0.00
34.00	8.20	2.92	0.00
34.50	8.20	2.92	0.00
35.00	8.20	2.92	0.00
35.50	8.20	2.92	0.00
36.00	8.20	2.92	0.00
36.50	8.20	2.92	0.00
37.00	8.20	2.92	0.00
37.50	8.20	2.92	0.00
38.00	8.20	2.92	0.00
38.50	8.20	2.92	0.00
39.00	8.20	2.92	0.00
39.50	8.20	2.92	0.00
40.00	8.20	2.92	0.00
40.50	8.20	2.92	0.00
41.00	8.20	2.92	0.00
41.50	8.20	2.92	0.00
42.00	8.20	2.92	0.00
42.50	8.20	2.92	0.00
43.00	8.20	2.92	0.00
43.50	8.20	2.92	0.00
44.00	8.20	2.92	0.00
44.50	8.20	2.92	0.00
45.00	8.20	2.92	0.00
45.50	8.20	2.92	0.00
46.00	8.20	2.92	0.00
46.50	8.20	2.92	0.00
47.00	8.20	2.92	0.00
47.50	8.20	2.92	0.00
48.00	8.20	2.92	0.00

Summary for Subcatchment A-3: Pre-Developed

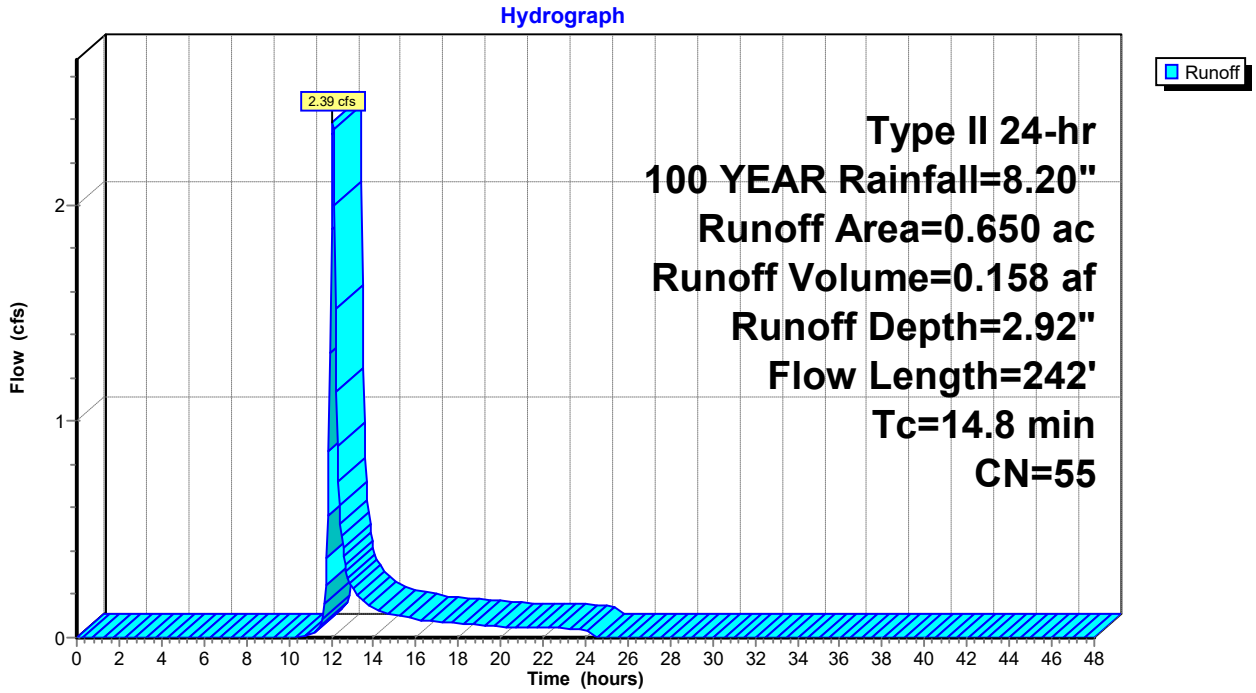
Runoff = 2.39 cfs @ 12.08 hrs, Volume= 0.158 af, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
0.650	55	Woods, Good, HSG B
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	100	0.0704	0.14		**Sheet Flow, Sheet Flow** Woods: Light underbrush n= 0.400 P2= 3.76"
2.8	142	0.0292	0.85		**Shallow Concentrated Flow, Shallow Concentrated Flow** Woodland Kv= 5.0 fps
14.8	242	Total			

Subcatchment A-3: Pre-Developed



Hydrograph for Subcatchment A-3: Pre-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.23	0.00	0.00
3.00	0.28	0.00	0.00
3.50	0.34	0.00	0.00
4.00	0.39	0.00	0.00
4.50	0.45	0.00	0.00
5.00	0.52	0.00	0.00
5.50	0.58	0.00	0.00
6.00	0.66	0.00	0.00
6.50	0.73	0.00	0.00
7.00	0.81	0.00	0.00
7.50	0.90	0.00	0.00
8.00	0.98	0.00	0.00
8.50	1.08	0.00	0.00
9.00	1.21	0.00	0.00
9.50	1.34	0.00	0.00
10.00	1.48	0.00	0.00
10.50	1.67	0.00	0.00
11.00	1.93	0.01	0.01
11.50	2.32	0.05	0.06
12.00	5.44	1.21	**1.89**
12.50	6.03	1.53	**0.47**
13.00	6.33	1.71	0.23
13.50	6.55	1.84	0.17
14.00	6.72	1.95	0.14
14.50	6.87	2.04	0.12
15.00	7.00	2.12	0.11
15.50	7.11	2.20	0.10
16.00	7.22	2.26	0.09
16.50	7.31	2.32	0.08
17.00	7.39	2.38	0.07
17.50	7.48	2.43	0.07
18.00	7.55	2.48	0.07
18.50	7.62	2.53	0.06
19.00	7.69	2.57	0.06
19.50	7.75	2.61	0.05
20.00	7.81	2.65	0.05
20.50	7.86	2.69	0.05
21.00	7.91	2.72	0.05
21.50	7.96	2.76	0.05
22.00	8.01	2.79	0.04
22.50	8.06	2.83	0.04
23.00	8.11	2.86	0.04
23.50	8.15	2.89	0.04
24.00	**8.20**	**2.92**	0.04
24.50	8.20	2.92	0.00
25.00	8.20	2.92	0.00
25.50	8.20	2.92	0.00
26.00	8.20	2.92	0.00
26.50	8.20	2.92	0.00
27.00	8.20	2.92	0.00
27.50	8.20	2.92	0.00
28.00	8.20	2.92	0.00
28.50	8.20	2.92	0.00
29.00	8.20	2.92	0.00
29.50	8.20	2.92	0.00
30.00	8.20	2.92	0.00
30.50	8.20	2.92	0.00
31.00	8.20	2.92	0.00
31.50	8.20	2.92	0.00
32.00	8.20	2.92	0.00
32.50	8.20	2.92	0.00
33.00	8.20	2.92	0.00
33.50	8.20	2.92	0.00
34.00	8.20	2.92	0.00
34.50	8.20	2.92	0.00
35.00	8.20	2.92	0.00
35.50	8.20	2.92	0.00
36.00	8.20	2.92	0.00
36.50	8.20	2.92	0.00
37.00	8.20	2.92	0.00
37.50	8.20	2.92	0.00
38.00	8.20	2.92	0.00
38.50	8.20	2.92	0.00
39.00	8.20	2.92	0.00
39.50	8.20	2.92	0.00
40.00	8.20	2.92	0.00
40.50	8.20	2.92	0.00
41.00	8.20	2.92	0.00
41.50	8.20	2.92	0.00
42.00	8.20	2.92	0.00
42.50	8.20	2.92	0.00
43.00	8.20	2.92	0.00
43.50	8.20	2.92	0.00
44.00	8.20	2.92	0.00
44.50	8.20	2.92	0.00
45.00	8.20	2.92	0.00
45.50	8.20	2.92	0.00
46.00	8.20	2.92	0.00
46.50	8.20	2.92	0.00
47.00	8.20	2.92	0.00
47.50	8.20	2.92	0.00
48.00	8.20	2.92	0.00

Events for Subcatchment A-1: Pre-Developed

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	0.18	0.045	0.30
5 YEAR	4.52	0.74	0.113	0.75
10 YEAR	5.22	1.21	0.165	1.09
25 YEAR	6.29	2.06	0.254	1.69
50 YEAR	7.21	2.89	0.341	2.26
100 YEAR	**8.20**	**3.86**	**0.441**	**2.92**

Events for Subcatchment A-2: Pre-Developed

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	0.24	0.048	0.30
5 YEAR	4.52	1.00	0.122	0.75
10 YEAR	5.22	1.63	0.177	1.09
25 YEAR	6.29	2.77	0.274	1.69
50 YEAR	7.21	3.87	0.367	2.26
100 YEAR	**8.20**	**5.15**	**0.475**	**2.92**

Events for Subcatchment A-3: Pre-Developed

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	0.11	0.016	0.30
5 YEAR	4.52	0.49	0.041	0.75
10 YEAR	5.22	0.79	0.059	1.09
25 YEAR	6.29	1.31	0.091	1.69
50 YEAR	7.21	1.81	0.122	2.26
100 YEAR	**8.20**	**2.39**	**0.158**	**2.92**

APPENDIX 4 | POST-DEVELOPMENT HYDROLOGY

BOHLER

ZONING: M2 (HEAVY INDUSTRIAL)
D.B. 39746 PG. 321
N/F
TAX PARCEL: 09F090100480751
GREENLAND GEORGIA INC.

WETLANDS

APPROX. 75' WETLANDS STREAM BUFFER

APPROX. 50' COUNTY STREAM BUFFER

APPROX. 25' STATE STREAM BUFFER

WETLAND

STUDY POINT 2

B-3
AREA: 0.54 AC
Tc: 5 MIN
CN: 89

STREAM BUFFER 50' COUNTY APPROX.

STREAM BUFFER 75' IMPERVIOUS APPROX.

APPROX. LOCATION OF UNDERGROUND STORMWATER MANAGEMENT SYSTEM (ADS MC-3500) (APPROX. 43,000 CF OF STORAGE)

STUDY POINT 3

STREAM BUFFER 75' IMPERVIOUS APPROX.

STREAM BUFFER 50' COUNTY APPROX.

STREAM BUFFER 25' STATE APPROX.

C/L CREEK

STUDY POINT 1

N ~ F
LORICA, LLC
D.B. 29109 PG. 685
D.B. 27614 PG. 106
TAX PARCEL: 09F090100480819
ZONING: M2 (HEAVY INDUSTRIAL)

STREAM BUFFER 25' STATE APPROX.

TOP OF BANK

STREAM BUFFER 50' COUNTY APPROX.

STREAM BUFFER 75' IMPERVIOUS APPROX.

CeC2

ReD

HOWELL AVENUE
PAVEMENT CONDITION=GOOD
POSTED SPEED LIMIT=30MPH
(R/W VARIES-PUBLIC)

B-2A
AREA: 0.54 AC
Tc: 10 MIN
CN: 61

MON. R/W

B-2
AREA: 1.03 AC
Tc: 5 MIN
CN: 94

APPROX. LOCATION OF UNDERGROUND STORMWATER MANAGEMENT SYSTEM (ADS MC-7200) (APPROX. 20,000 CF OF STORAGE)

PAD CONC.

MONS. R/W

ZONING: M2 (HEAVY INDUSTRIAL)
4.21 AC
RACETRAC MARKET
± 008 SQ. FT.

B-1
AREA: 1.56 AC
Tc: 5 MIN
CN: 97

N ~ F
VALENCIA INDUSTRIAL, LLC
D.B. 50361 PG. 379
TAX PARCEL: 09F090100480736
ZONING: M2 (HEAVY INDUSTRIAL)

5' CHAIN LINK

B-1A
AREA: 0.69 AC
Tc: 34.1 MIN
CN: 60

EXCEPTION 19
CURRENT R/W

S61°50'14"E 556.47'

AERIAL SEWER

EXCEPTION 19
CURRENT R/W
D.B. 12069 PG. 241

DRIVEWAY APRON

EDGE OF PAVEMENT

FAIRBURN INDUSTRIAL BLVD/S.R. 74

PAVEMENT CONDITION=GOOD
POSTED SPEED LIMIT=45MPH
(R/W VARIES-PUBLIC)

GRASS MEDIAN

CONSTRUCTION CENTERLINE

CENTERLINE CONSTRUCTION

TRAFFIC SIGNAL WIRES

POLE SIGNAL TRAFFIC

POLE HAND

PED. POLE

NORTH

40 20 10 0 40
1"= 40'

NO.	REVISION	BY	DATE

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(IN GREATER ATLANTA)

RACETRAC 24-HOUR CONTACT
PHONE: (770)530-7401
EMAIL: tgodwin@racetrac.com

BOHLER
211 PERIMETER CENTER PKWY NE,
SUITE 425
ATLANTA, GEORGIA 30346
Phone: (678) 695-6800
GA@BohlerEng.com

GEORGIA
REGISTERED
Nathan Fuss
No. PE046694
PROFESSIONAL
08/01/2025
ENGINEER
NATHAN R. FUSS

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RaceTrac

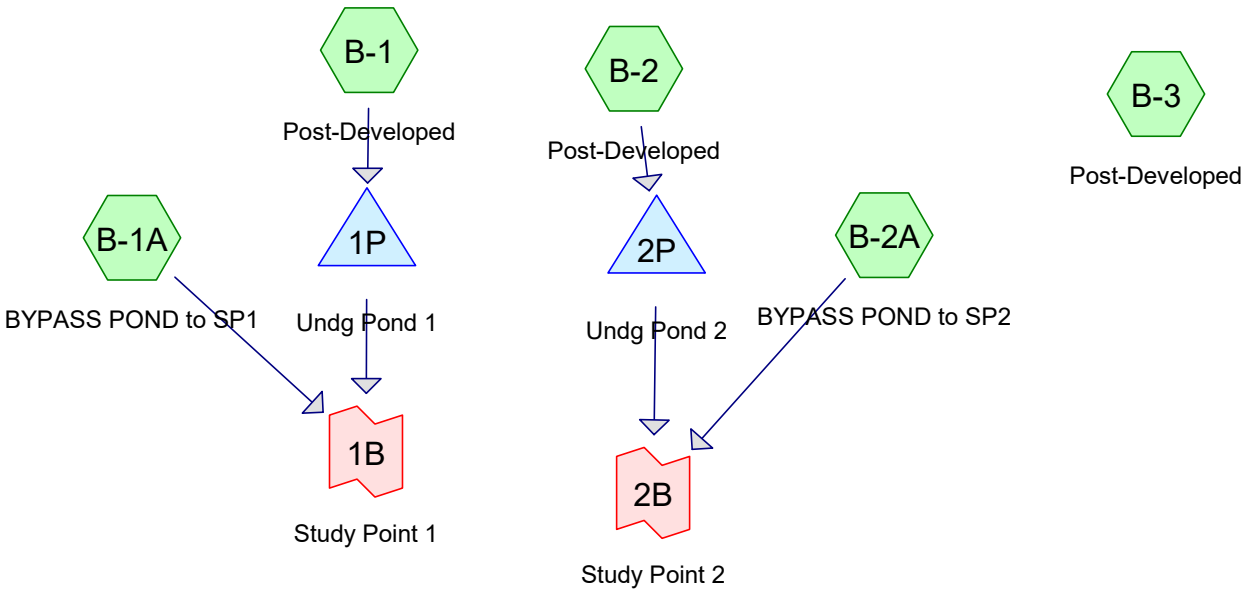
RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BOULEVARD
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

POSTDEVELOPED DRAINAGE MAP

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	08/01/2025
SCALE	AS NOTED
PROJECT No: GAA220184.00	
B	
SHEET NO.	REVISION



Subcat Reach Pond Link

Routing Diagram for GAA220184.00 - RT Fairburn
Prepared by Bohler, Printed 7/30/2025
HydroCAD® 10.20-5c s/n 03478 © 2023 HydroCAD Software Solutions LLC

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13 Subcat B-2A: BYPASS POND to SP2
15 Subcat B-3: Post-Developed
17 Pond 1P: Undg Pond 1
21 Pond 2P: Undg Pond 2
25 Link 1B: Study Point 1
27 Link 2B: Study Point 2

5 YEAR Event
29 Node Listing
30 Subcat B-1: Post-Developed
32 Subcat B-1A: BYPASS POND to SP1
34 Subcat B-2: Post-Developed
36 Subcat B-2A: BYPASS POND to SP2
38 Subcat B-3: Post-Developed
40 Pond 1P: Undg Pond 1
44 Pond 2P: Undg Pond 2
48 Link 1B: Study Point 1
50 Link 2B: Study Point 2

10 YEAR Event
52 Node Listing
53 Subcat B-1: Post-Developed
55 Subcat B-1A: BYPASS POND to SP1
57 Subcat B-2: Post-Developed
59 Subcat B-2A: BYPASS POND to SP2
61 Subcat B-3: Post-Developed
63 Pond 1P: Undg Pond 1
67 Pond 2P: Undg Pond 2
71 Link 1B: Study Point 1
73 Link 2B: Study Point 2

25 YEAR Event
75 Node Listing
76 Subcat B-1: Post-Developed
78 Subcat B-1A: BYPASS POND to SP1
80 Subcat B-2: Post-Developed
82 Subcat B-2A: BYPASS POND to SP2
84 Subcat B-3: Post-Developed
86 Pond 1P: Undg Pond 1
90 Pond 2P: Undg Pond 2
94 Link 1B: Study Point 1
96 Link 2B: Study Point 2

50 YEAR Event

98 Node Listing
99 Subcat B-1: Post-Developed
101 Subcat B-1A: BYPASS POND to SP1
103 Subcat B-2: Post-Developed
105 Subcat B-2A: BYPASS POND to SP2
107 Subcat B-3: Post-Developed
109 Pond 1P: Undg Pond 1
113 Pond 2P: Undg Pond 2
117 Link 1B: Study Point 1
119 Link 2B: Study Point 2

100 YEAR Event

121 Node Listing
122 Subcat B-1: Post-Developed
124 Subcat B-1A: BYPASS POND to SP1
126 Subcat B-2: Post-Developed
128 Subcat B-2A: BYPASS POND to SP2
130 Subcat B-3: Post-Developed
132 Pond 1P: Undg Pond 1
136 Pond 2P: Undg Pond 2
140 Link 1B: Study Point 1
142 Link 2B: Study Point 2

Multi-Event Tables

144 Subcat B-1: Post-Developed
145 Subcat B-1A: BYPASS POND to SP1
146 Subcat B-2: Post-Developed
147 Subcat B-2A: BYPASS POND to SP2
148 Subcat B-3: Post-Developed
149 Pond 1P: Undg Pond 1
150 Pond 2P: Undg Pond 2
151 Link 1B: Study Point 1
152 Link 2B: Study Point 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1 YEAR	Type II 24-hr		Default	24.00	1	3.35	2
2	5 YEAR	Type II 24-hr		Default	24.00	1	4.52	2
3	10 YEAR	Type II 24-hr		Default	24.00	1	5.22	2
4	25 YEAR	Type II 24-hr		Default	24.00	1	6.29	2
5	50 YEAR	Type II 24-hr		Default	24.00	1	7.21	2
6	100 YEAR	Type II 24-hr		Default	24.00	1	8.20	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.300	61	>75% Grass cover, Good, HSG B (B-1, B-1A, B-2, B-2A, B-3)
2.860	98	Paved parking, HSG B (B-1, B-2)
0.100	55	Woods, Good, HSG B (B-1A)
4.260	**86**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
4.260	HSG B	B-1, B-1A, B-2, B-2A, B-3
0.000	HSG C	
0.000	HSG D	
0.000	Other	
4.260		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.300	0.000	0.000	0.000	1.300	>75% Grass cover, Good	B-1, B-1A , B-2, B-2A , B-3
0.000	2.860	0.000	0.000	0.000	2.860	Paved parking	B-1, B-2
0.000	0.100	0.000	0.000	0.000	0.100	Woods, Good	B-1A
0.000	**4.260**	**0.000**	**0.000**	**0.000**	**4.260**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 B-1: Post-Developed Runoff Area=1.980 ac 98.48% Impervious Runoff Depth=3.01"
Tc=5.0 min CN=97 Runoff=9.37 cfs 0.496 af

Subcatchment B-1A: BYPASS POND to Runoff Area=0.690 ac 0.00% Impervious Runoff Depth=0.47"
Tc=35.7 min CN=60 Runoff=0.16 cfs 0.027 af

Subcatchment B-2: Post-Developed Runoff Area=1.010 ac 90.10% Impervious Runoff Depth=2.69"
Tc=5.0 min CN=94 Runoff=4.51 cfs 0.226 af

Subcatchment B-2A: BYPASS POND to Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=0.51"
Tc=10.0 min CN=61 Runoff=0.26 cfs 0.019 af

Subcatchment B-3: Post-Developed Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=0.51"
Tc=5.0 min CN=61 Runoff=0.11 cfs 0.006 af

Pond 1P: Undg Pond 1 Peak Elev=999.26' Storage=0.450 af Inflow=9.37 cfs 0.496 af
Outflow=0.04 cfs 0.120 af

Pond 2P: Undg Pond 2 Peak Elev=997.47' Storage=0.181 af Inflow=4.51 cfs 0.226 af
Outflow=0.04 cfs 0.119 af

Link 1B: Study Point 1 Inflow=0.19 cfs 0.147 af
Primary=0.19 cfs 0.147 af

Link 2B: Study Point 2 Inflow=0.30 cfs 0.138 af
Primary=0.30 cfs 0.138 af

Total Runoff Area = 4.260 ac Runoff Volume = 0.774 af Average Runoff Depth = 2.18"
32.86% Pervious = 1.400 ac 67.14% Impervious = 2.860 ac

Summary for Subcatchment B-1: Post-Developed

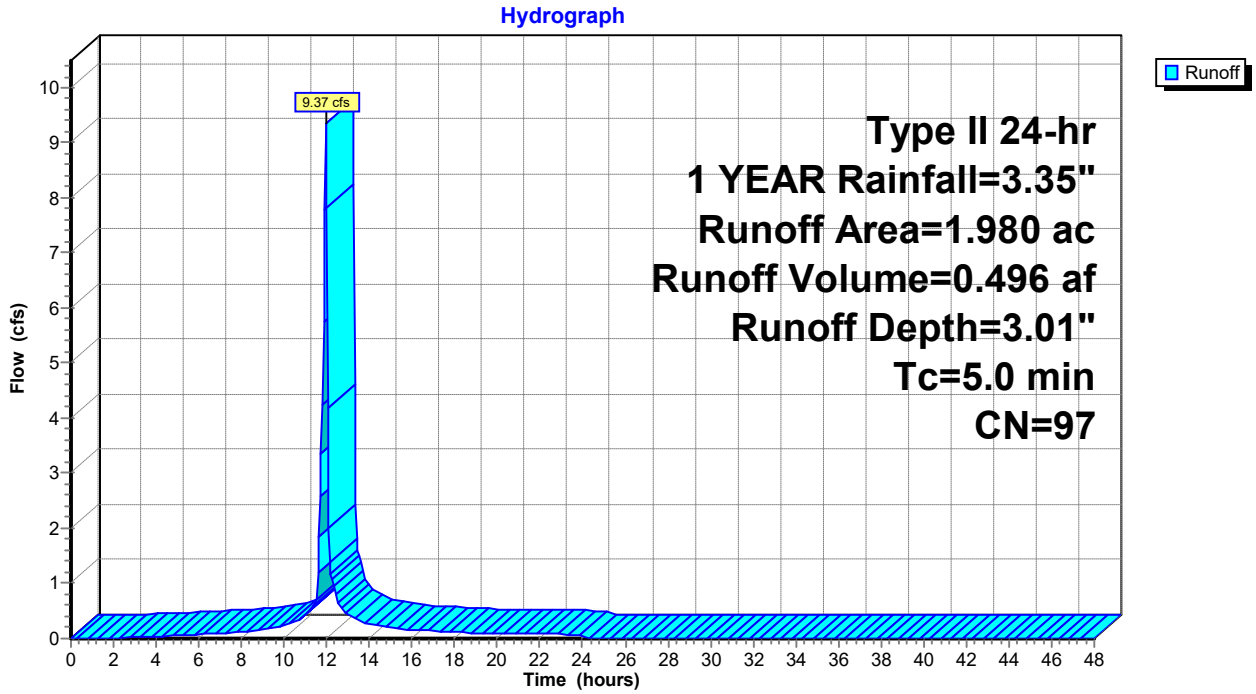
Runoff = 9.37 cfs @ 11.95 hrs, Volume= 0.496 af, Depth= 3.01"
Routed to Pond 1P : Undg Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
1.950	98	Paved parking, HSG B
0.030	61	>75% Grass cover, Good, HSG B
1.980	97	Weighted Average
0.030		1.52% Pervious Area
1.950		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-1: Post-Developed



Hydrograph for Subcatchment B-1: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.01
3.00	0.12	0.01	0.02
3.50	0.14	0.01	0.03
4.00	0.16	0.02	0.04
4.50	0.19	0.04	0.05
5.00	0.21	0.05	0.06
5.50	0.24	0.06	0.07
6.00	0.27	0.08	0.08
6.50	0.30	0.10	0.08
7.00	0.33	0.13	0.09
7.50	0.37	0.15	0.10
8.00	0.40	0.18	0.11
8.50	0.44	0.21	0.14
9.00	0.49	0.25	0.17
9.50	0.55	0.30	0.18
10.00	0.61	0.35	0.22
10.50	0.68	0.42	0.30
11.00	0.79	0.51	0.42
11.50	0.95	0.66	**0.70**
12.00	2.22	1.89	**7.83**
12.50	2.46	2.13	0.69
13.00	2.59	2.25	0.43
13.50	2.68	2.34	0.33
14.00	2.75	2.41	0.26
14.50	2.81	2.47	0.23
15.00	2.86	2.52	0.20
15.50	2.91	2.57	0.18
16.00	2.95	2.61	0.16
16.50	2.99	2.64	0.15
17.00	3.02	2.68	0.14
17.50	3.05	2.71	0.13
18.00	3.09	2.74	0.12
18.50	3.11	2.77	0.11
19.00	3.14	2.80	0.10
19.50	3.17	2.82	0.10
20.00	3.19	2.85	0.09
20.50	3.21	2.87	0.08
21.00	3.23	2.89	0.08
21.50	3.25	2.91	0.08
22.00	3.27	2.93	0.08
22.50	3.29	2.95	0.08
23.00	3.31	2.97	0.08
23.50	3.33	2.99	0.07
24.00	**3.35**	**3.01**	0.07
24.50	3.35	3.01	0.00
25.00	3.35	3.01	0.00
25.50	3.35	3.01	0.00
26.00	3.35	3.01	0.00
26.50	3.35	3.01	0.00
27.00	3.35	3.01	0.00
27.50	3.35	3.01	0.00
28.00	3.35	3.01	0.00
28.50	3.35	3.01	0.00
29.00	3.35	3.01	0.00
29.50	3.35	3.01	0.00
30.00	3.35	3.01	0.00
30.50	3.35	3.01	0.00
31.00	3.35	3.01	0.00
31.50	3.35	3.01	0.00
32.00	3.35	3.01	0.00
32.50	3.35	3.01	0.00
33.00	3.35	3.01	0.00
33.50	3.35	3.01	0.00
34.00	3.35	3.01	0.00
34.50	3.35	3.01	0.00
35.00	3.35	3.01	0.00
35.50	3.35	3.01	0.00
36.00	3.35	3.01	0.00
36.50	3.35	3.01	0.00
37.00	3.35	3.01	0.00
37.50	3.35	3.01	0.00
38.00	3.35	3.01	0.00
38.50	3.35	3.01	0.00
39.00	3.35	3.01	0.00
39.50	3.35	3.01	0.00
40.00	3.35	3.01	0.00
40.50	3.35	3.01	0.00
41.00	3.35	3.01	0.00
41.50	3.35	3.01	0.00
42.00	3.35	3.01	0.00
42.50	3.35	3.01	0.00
43.00	3.35	3.01	0.00
43.50	3.35	3.01	0.00
44.00	3.35	3.01	0.00
44.50	3.35	3.01	0.00
45.00	3.35	3.01	0.00
45.50	3.35	3.01	0.00
46.00	3.35	3.01	0.00
46.50	3.35	3.01	0.00
47.00	3.35	3.01	0.00
47.50	3.35	3.01	0.00
48.00	3.35	3.01	0.00

Summary for Subcatchment B-1A: BYPASS POND to SP1

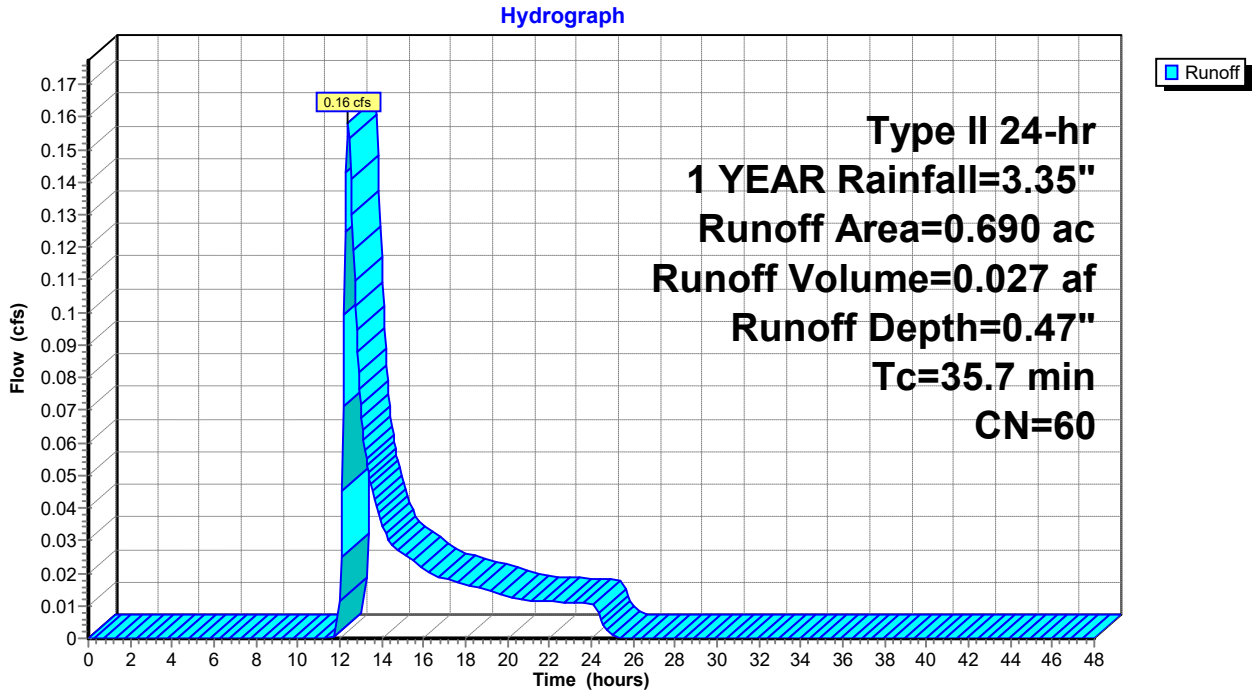
Runoff = 0.16 cfs @ 12.41 hrs, Volume= 0.027 af, Depth= 0.47"
Routed to Link 1B : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
0.100	55	Woods, Good, HSG B
0.590	61	>75% Grass cover, Good, HSG B
0.690	60	Weighted Average
0.690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.7					**Direct Entry,**

Subcatchment B-1A: BYPASS POND to SP1



Hydrograph for Subcatchment B-1A: BYPASS POND to SP1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.14	0.00	0.00
4.00	0.16	0.00	0.00
4.50	0.19	0.00	0.00
5.00	0.21	0.00	0.00
5.50	0.24	0.00	0.00
6.00	0.27	0.00	0.00
6.50	0.30	0.00	0.00
7.00	0.33	0.00	0.00
7.50	0.37	0.00	0.00
8.00	0.40	0.00	0.00
8.50	0.44	0.00	0.00
9.00	0.49	0.00	0.00
9.50	0.55	0.00	0.00
10.00	0.61	0.00	0.00
10.50	0.68	0.00	0.00
11.00	0.79	0.00	0.00
11.50	0.95	0.00	0.00
12.00	2.22	0.10	**0.01**
12.50	2.46	0.16	**0.15**
13.00	2.59	0.20	0.07
13.50	2.68	0.23	0.05
14.00	2.75	0.25	0.04
14.50	2.81	0.27	0.03
15.00	2.86	0.28	0.03
15.50	2.91	0.30	0.02
16.00	2.95	0.31	0.02
16.50	2.99	0.33	0.02
17.00	3.02	0.34	0.02
17.50	3.05	0.35	0.02
18.00	3.09	0.36	0.02
18.50	3.11	0.38	0.02
19.00	3.14	0.39	0.01
19.50	3.17	0.40	0.01
20.00	3.19	0.40	0.01
20.50	3.21	0.41	0.01
21.00	3.23	0.42	0.01
21.50	3.25	0.43	0.01
22.00	3.27	0.44	0.01
22.50	3.29	0.45	0.01
23.00	3.31	0.45	0.01
23.50	3.33	0.46	0.01
24.00	**3.35**	**0.47**	0.01
24.50	3.35	0.47	0.01
25.00	3.35	0.47	0.00
25.50	3.35	0.47	0.00
26.00	3.35	0.47	0.00
26.50	3.35	0.47	0.00
27.00	3.35	0.47	0.00
27.50	3.35	0.47	0.00
28.00	3.35	0.47	0.00
28.50	3.35	0.47	0.00
29.00	3.35	0.47	0.00
29.50	3.35	0.47	0.00
30.00	3.35	0.47	0.00
30.50	3.35	0.47	0.00
31.00	3.35	0.47	0.00
31.50	3.35	0.47	0.00
32.00	3.35	0.47	0.00
32.50	3.35	0.47	0.00
33.00	3.35	0.47	0.00
33.50	3.35	0.47	0.00
34.00	3.35	0.47	0.00
34.50	3.35	0.47	0.00
35.00	3.35	0.47	0.00
35.50	3.35	0.47	0.00
36.00	3.35	0.47	0.00
36.50	3.35	0.47	0.00
37.00	3.35	0.47	0.00
37.50	3.35	0.47	0.00
38.00	3.35	0.47	0.00
38.50	3.35	0.47	0.00
39.00	3.35	0.47	0.00
39.50	3.35	0.47	0.00
40.00	3.35	0.47	0.00
40.50	3.35	0.47	0.00
41.00	3.35	0.47	0.00
41.50	3.35	0.47	0.00
42.00	3.35	0.47	0.00
42.50	3.35	0.47	0.00
43.00	3.35	0.47	0.00
43.50	3.35	0.47	0.00
44.00	3.35	0.47	0.00
44.50	3.35	0.47	0.00
45.00	3.35	0.47	0.00
45.50	3.35	0.47	0.00
46.00	3.35	0.47	0.00
46.50	3.35	0.47	0.00
47.00	3.35	0.47	0.00
47.50	3.35	0.47	0.00
48.00	3.35	0.47	0.00

Summary for Subcatchment B-2: Post-Developed

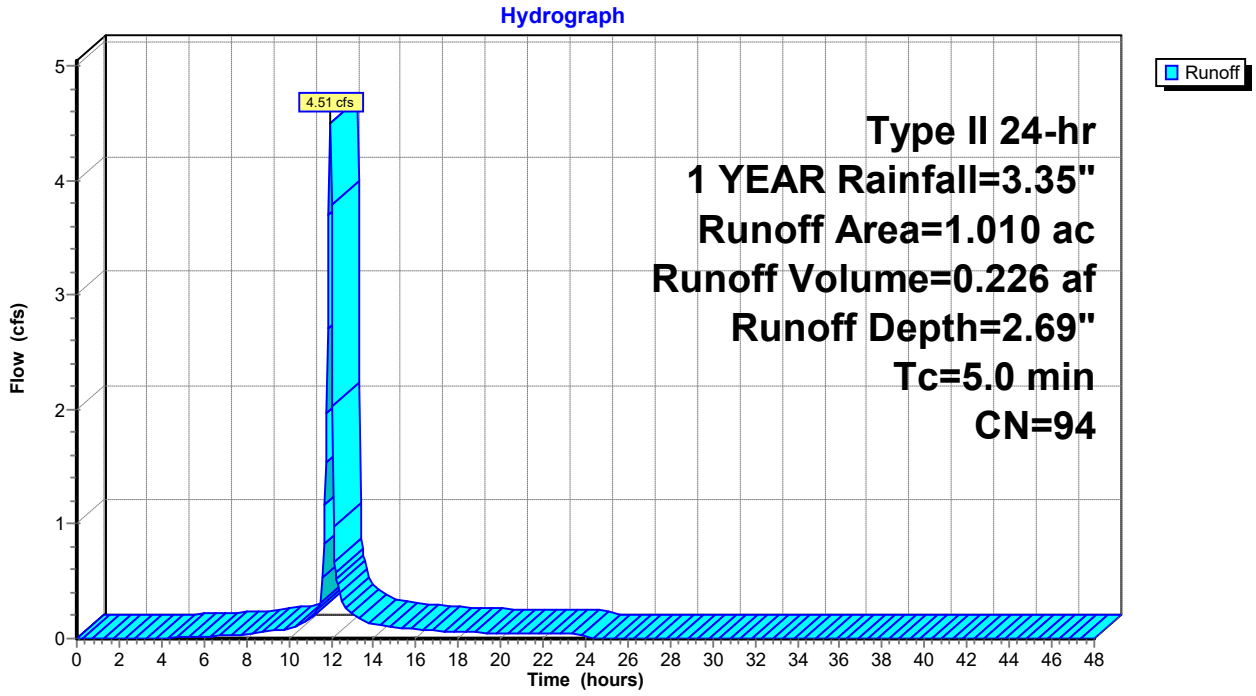
Runoff = 4.51 cfs @ 11.95 hrs, Volume= 0.226 af, Depth= 2.69"
Routed to Pond 2P : Undg Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
0.910	98	Paved parking, HSG B
0.100	61	>75% Grass cover, Good, HSG B
1.010	94	Weighted Average
0.100		9.90% Pervious Area
0.910		90.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-2: Post-Developed



Hydrograph for Subcatchment B-2: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.14	0.00	0.00
4.00	0.16	0.00	0.00
4.50	0.19	0.00	0.01
5.00	0.21	0.01	0.01
5.50	0.24	0.02	0.02
6.00	0.27	0.03	0.02
6.50	0.30	0.04	0.02
7.00	0.33	0.05	0.03
7.50	0.37	0.06	0.03
8.00	0.40	0.08	0.04
8.50	0.44	0.10	0.05
9.00	0.49	0.13	0.06
9.50	0.55	0.17	0.07
10.00	0.61	0.21	0.09
10.50	0.68	0.26	0.12
11.00	0.79	0.34	0.18
11.50	0.95	0.46	**0.31**
12.00	2.22	1.60	**3.80**
12.50	2.46	1.83	0.34
13.00	2.59	1.95	0.21
13.50	2.68	2.04	0.16
14.00	2.75	2.11	0.13
14.50	2.81	2.16	0.11
15.00	2.86	2.21	0.10
15.50	2.91	2.26	0.09
16.00	2.95	2.30	0.08
16.50	2.99	2.34	0.07
17.00	3.02	2.37	0.07
17.50	3.05	2.40	0.06
18.00	3.09	2.43	0.06
18.50	3.11	2.46	0.06
19.00	3.14	2.49	0.05
19.50	3.17	2.51	0.05
20.00	3.19	2.53	0.04
20.50	3.21	2.55	0.04
21.00	3.23	2.57	0.04
21.50	3.25	2.59	0.04
22.00	3.27	2.61	0.04
22.50	3.29	2.63	0.04
23.00	3.31	2.65	0.04
23.50	3.33	2.67	0.04
24.00	**3.35**	**2.69**	0.04
24.50	3.35	2.69	0.00
25.00	3.35	2.69	0.00
25.50	3.35	2.69	0.00
26.00	3.35	2.69	0.00
26.50	3.35	2.69	0.00
27.00	3.35	2.69	0.00
27.50	3.35	2.69	0.00
28.00	3.35	2.69	0.00
28.50	3.35	2.69	0.00
29.00	3.35	2.69	0.00
29.50	3.35	2.69	0.00
30.00	3.35	2.69	0.00
30.50	3.35	2.69	0.00
31.00	3.35	2.69	0.00
31.50	3.35	2.69	0.00
32.00	3.35	2.69	0.00
32.50	3.35	2.69	0.00
33.00	3.35	2.69	0.00
33.50	3.35	2.69	0.00
34.00	3.35	2.69	0.00
34.50	3.35	2.69	0.00
35.00	3.35	2.69	0.00
35.50	3.35	2.69	0.00
36.00	3.35	2.69	0.00
36.50	3.35	2.69	0.00
37.00	3.35	2.69	0.00
37.50	3.35	2.69	0.00
38.00	3.35	2.69	0.00
38.50	3.35	2.69	0.00
39.00	3.35	2.69	0.00
39.50	3.35	2.69	0.00
40.00	3.35	2.69	0.00
40.50	3.35	2.69	0.00
41.00	3.35	2.69	0.00
41.50	3.35	2.69	0.00
42.00	3.35	2.69	0.00
42.50	3.35	2.69	0.00
43.00	3.35	2.69	0.00
43.50	3.35	2.69	0.00
44.00	3.35	2.69	0.00
44.50	3.35	2.69	0.00
45.00	3.35	2.69	0.00
45.50	3.35	2.69	0.00
46.00	3.35	2.69	0.00
46.50	3.35	2.69	0.00
47.00	3.35	2.69	0.00
47.50	3.35	2.69	0.00
48.00	3.35	2.69	0.00

Summary for Subcatchment B-2A: BYPASS POND to SP2

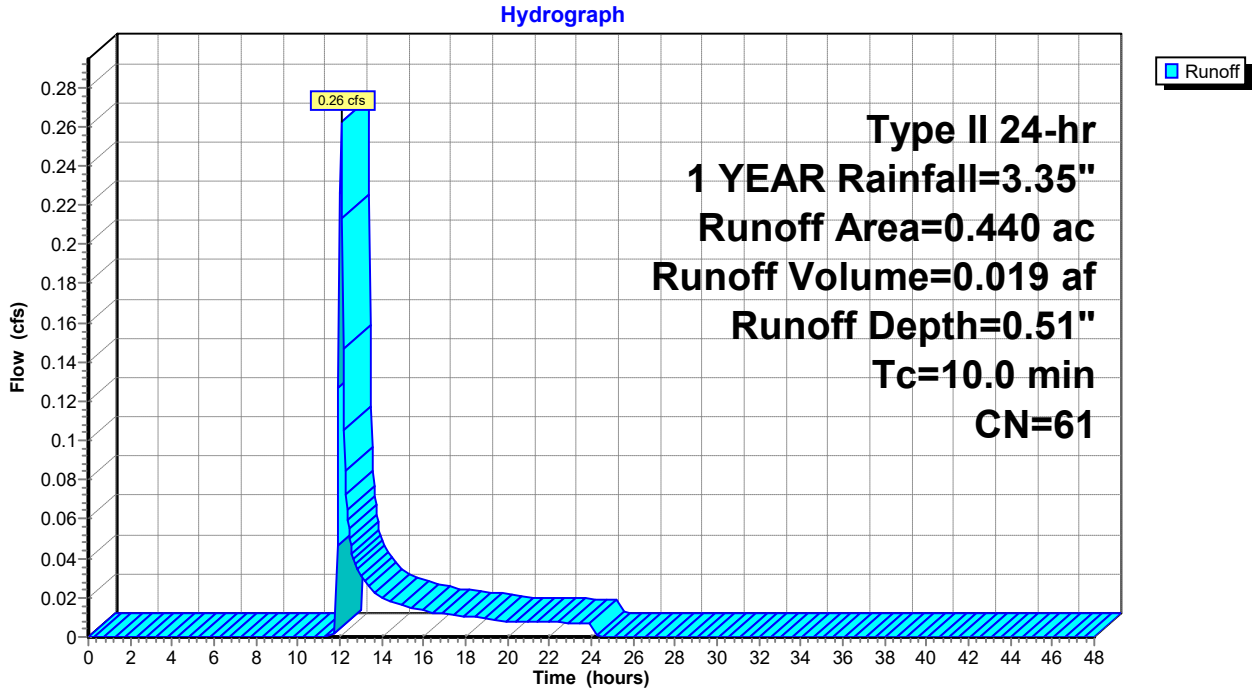
Runoff = 0.26 cfs @ 12.05 hrs, Volume= 0.019 af, Depth= 0.51"
Routed to Link 2B : Study Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
0.440	61	>75% Grass cover, Good, HSG B
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment B-2A: BYPASS POND to SP2



Hydrograph for Subcatchment B-2A: BYPASS POND to SP2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.14	0.00	0.00
4.00	0.16	0.00	0.00
4.50	0.19	0.00	0.00
5.00	0.21	0.00	0.00
5.50	0.24	0.00	0.00
6.00	0.27	0.00	0.00
6.50	0.30	0.00	0.00
7.00	0.33	0.00	0.00
7.50	0.37	0.00	0.00
8.00	0.40	0.00	0.00
8.50	0.44	0.00	0.00
9.00	0.49	0.00	0.00
9.50	0.55	0.00	0.00
10.00	0.61	0.00	0.00
10.50	0.68	0.00	0.00
11.00	0.79	0.00	0.00
11.50	0.95	0.00	0.00
12.00	2.22	0.12	**0.23**
12.50	2.46	0.18	**0.05**
13.00	2.59	0.22	0.03
13.50	2.68	0.25	0.02
14.00	2.75	0.27	0.02
14.50	2.81	0.29	0.02
15.00	2.86	0.31	0.02
15.50	2.91	0.33	0.01
16.00	2.95	0.35	0.01
16.50	2.99	0.36	0.01
17.00	3.02	0.37	0.01
17.50	3.05	0.39	0.01
18.00	3.09	0.40	0.01
18.50	3.11	0.41	0.01
19.00	3.14	0.42	0.01
19.50	3.17	0.43	0.01
20.00	3.19	0.44	0.01
20.50	3.21	0.45	0.01
21.00	3.23	0.46	0.01
21.50	3.25	0.47	0.01
22.00	3.27	0.47	0.01
22.50	3.29	0.48	0.01
23.00	3.31	0.49	0.01
23.50	3.33	0.50	0.01
24.00	**3.35**	**0.51**	0.01
24.50	3.35	0.51	0.00
25.00	3.35	0.51	0.00
25.50	3.35	0.51	0.00
26.00	3.35	0.51	0.00
26.50	3.35	0.51	0.00
27.00	3.35	0.51	0.00
27.50	3.35	0.51	0.00
28.00	3.35	0.51	0.00
28.50	3.35	0.51	0.00
29.00	3.35	0.51	0.00
29.50	3.35	0.51	0.00
30.00	3.35	0.51	0.00
30.50	3.35	0.51	0.00
31.00	3.35	0.51	0.00
31.50	3.35	0.51	0.00
32.00	3.35	0.51	0.00
32.50	3.35	0.51	0.00
33.00	3.35	0.51	0.00
33.50	3.35	0.51	0.00
34.00	3.35	0.51	0.00
34.50	3.35	0.51	0.00
35.00	3.35	0.51	0.00
35.50	3.35	0.51	0.00
36.00	3.35	0.51	0.00
36.50	3.35	0.51	0.00
37.00	3.35	0.51	0.00
37.50	3.35	0.51	0.00
38.00	3.35	0.51	0.00
38.50	3.35	0.51	0.00
39.00	3.35	0.51	0.00
39.50	3.35	0.51	0.00
40.00	3.35	0.51	0.00
40.50	3.35	0.51	0.00
41.00	3.35	0.51	0.00
41.50	3.35	0.51	0.00
42.00	3.35	0.51	0.00
42.50	3.35	0.51	0.00
43.00	3.35	0.51	0.00
43.50	3.35	0.51	0.00
44.00	3.35	0.51	0.00
44.50	3.35	0.51	0.00
45.00	3.35	0.51	0.00
45.50	3.35	0.51	0.00
46.00	3.35	0.51	0.00
46.50	3.35	0.51	0.00
47.00	3.35	0.51	0.00
47.50	3.35	0.51	0.00
48.00	3.35	0.51	0.00

Summary for Subcatchment B-3: Post-Developed

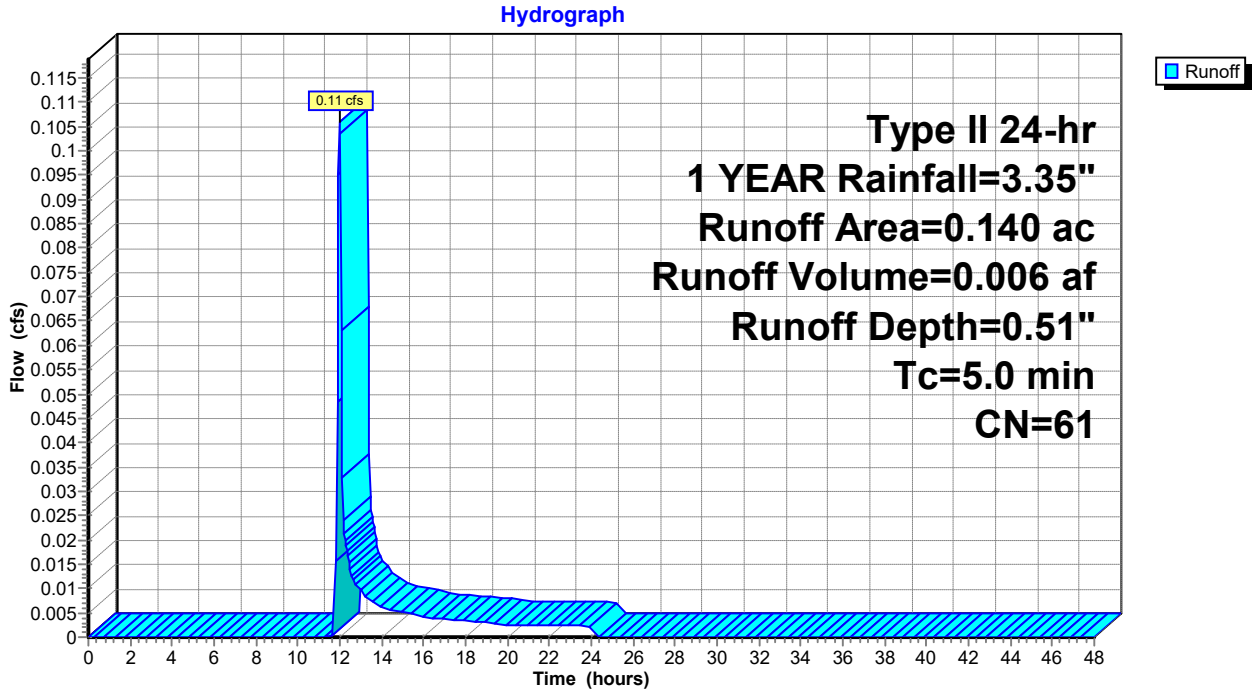
Runoff = 0.11 cfs @ 11.98 hrs, Volume= 0.006 af, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 YEAR Rainfall=3.35"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
0.140	61	>75% Grass cover, Good, HSG B
0.140	61	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-3: Post-Developed



Hydrograph for Subcatchment B-3: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.05	0.00	0.00
2.00	0.07	0.00	0.00
2.50	0.09	0.00	0.00
3.00	0.12	0.00	0.00
3.50	0.14	0.00	0.00
4.00	0.16	0.00	0.00
4.50	0.19	0.00	0.00
5.00	0.21	0.00	0.00
5.50	0.24	0.00	0.00
6.00	0.27	0.00	0.00
6.50	0.30	0.00	0.00
7.00	0.33	0.00	0.00
7.50	0.37	0.00	0.00
8.00	0.40	0.00	0.00
8.50	0.44	0.00	0.00
9.00	0.49	0.00	0.00
9.50	0.55	0.00	0.00
10.00	0.61	0.00	0.00
10.50	0.68	0.00	0.00
11.00	0.79	0.00	0.00
11.50	0.95	0.00	0.00
12.00	2.22	0.12	**0.10**
12.50	2.46	0.18	0.01
13.00	2.59	0.22	0.01
13.50	2.68	0.25	0.01
14.00	2.75	0.27	0.01
14.50	2.81	0.29	0.01
15.00	2.86	0.31	0.01
15.50	2.91	0.33	0.00
16.00	2.95	0.35	0.00
16.50	2.99	0.36	0.00
17.00	3.02	0.37	0.00
17.50	3.05	0.39	0.00
18.00	3.09	0.40	0.00
18.50	3.11	0.41	0.00
19.00	3.14	0.42	0.00
19.50	3.17	0.43	0.00
20.00	3.19	0.44	0.00
20.50	3.21	0.45	0.00
21.00	3.23	0.46	0.00
21.50	3.25	0.47	0.00
22.00	3.27	0.47	0.00
22.50	3.29	0.48	0.00
23.00	3.31	0.49	0.00
23.50	3.33	0.50	0.00
24.00	**3.35**	**0.51**	0.00
24.50	3.35	0.51	0.00
25.00	3.35	0.51	0.00
25.50	3.35	0.51	0.00
26.00	3.35	0.51	0.00
26.50	3.35	0.51	0.00
27.00	3.35	0.51	0.00
27.50	3.35	0.51	0.00
28.00	3.35	0.51	0.00
28.50	3.35	0.51	0.00
29.00	3.35	0.51	0.00
29.50	3.35	0.51	0.00
30.00	3.35	0.51	0.00
30.50	3.35	0.51	0.00
31.00	3.35	0.51	0.00
31.50	3.35	0.51	0.00
32.00	3.35	0.51	0.00
32.50	3.35	0.51	0.00
33.00	3.35	0.51	0.00
33.50	3.35	0.51	0.00
34.00	3.35	0.51	0.00
34.50	3.35	0.51	0.00
35.00	3.35	0.51	0.00
35.50	3.35	0.51	0.00
36.00	3.35	0.51	0.00
36.50	3.35	0.51	0.00
37.00	3.35	0.51	0.00
37.50	3.35	0.51	0.00
38.00	3.35	0.51	0.00
38.50	3.35	0.51	0.00
39.00	3.35	0.51	0.00
39.50	3.35	0.51	0.00
40.00	3.35	0.51	0.00
40.50	3.35	0.51	0.00
41.00	3.35	0.51	0.00
41.50	3.35	0.51	0.00
42.00	3.35	0.51	0.00
42.50	3.35	0.51	0.00
43.00	3.35	0.51	0.00
43.50	3.35	0.51	0.00
44.00	3.35	0.51	0.00
44.50	3.35	0.51	0.00
45.00	3.35	0.51	0.00
45.50	3.35	0.51	0.00
46.00	3.35	0.51	0.00
46.50	3.35	0.51	0.00
47.00	3.35	0.51	0.00
47.50	3.35	0.51	0.00
48.00	3.35	0.51	0.00

Summary for Pond 1P: Undg Pond 1

Inflow Area = 1.980 ac, 98.48% Impervious, Inflow Depth = 3.01" for 1 YEAR event
Inflow = 9.37 cfs @ 11.95 hrs, Volume= 0.496 af
Outflow = 0.04 cfs @ 24.07 hrs, Volume= 0.120 af, Atten= 100%, Lag= 727.1 min
Primary = 0.04 cfs @ 24.07 hrs, Volume= 0.120 af
Routed to Link 1B : Study Point 1

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 999.26' @ 24.07 hrs Surf.Area= 0.286 ac Storage= 0.450 af

Plug-Flow detention time= 1,149.0 min calculated for 0.120 af (24% of inflow)
Center-of-Mass det. time= 952.8 min (1,713.1 - 760.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	997.00'	0.394 af	**51.42'W x 242.31'L x 5.50'H Field A** 1.573 af Overall - 0.588 af Embedded = 0.985 af x 40.0% Voids
#2A	997.75'	0.588 af	**ADS_StormTech MC-3500 d +Cap** x 231 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 231 Chambers in 7 Rows Cap Storage= 14.9 cf x 2 x 7 rows = 208.6 cf
		0.982 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	997.00'	**36.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	997.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,001.00'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,002.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.04 cfs @ 24.07 hrs HW=999.26' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.04 cfs of 29.29 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.04 cfs @ 7.18 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Undg Pond 1 - 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 7 rows = 208.6 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

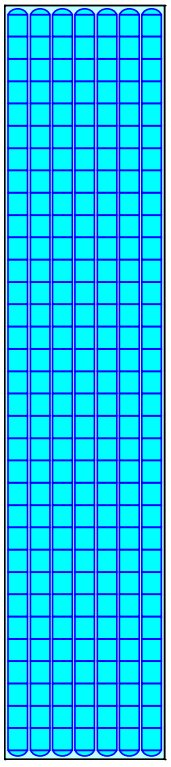
33 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 240.31' Row Length +12.0" End Stone x 2 = 242.31' Base Length
7 Rows x 77.0" Wide + 9.0" Spacing x 6 + 12.0" Side Stone x 2 = 51.42' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

231 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 7 Rows = 25,607.5 cf Chamber Storage

68,523.2 cf Field - 25,607.5 cf Chambers = 42,915.7 cf Stone x 40.0% Voids = 17,166.3 cf Stone Storage

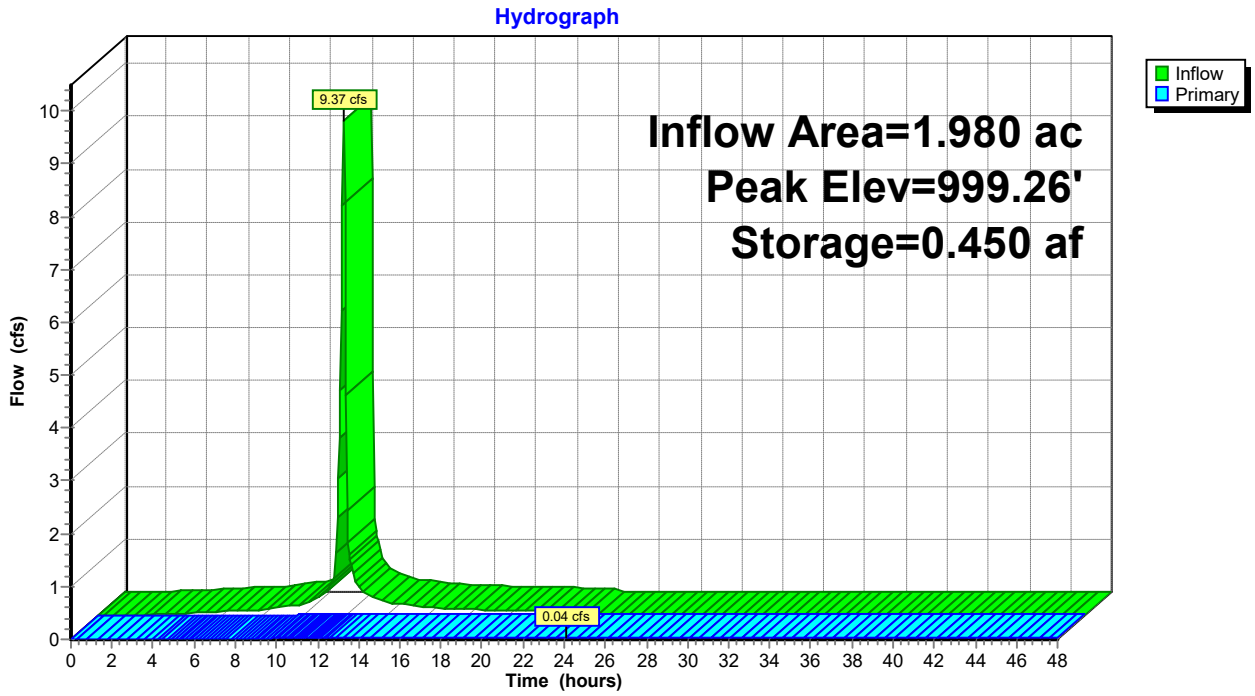
Chamber Storage + Stone Storage = 42,773.8 cf = 0.982 af
Overall Storage Efficiency = 62.4%
Overall System Size = 242.31' x 51.42' x 5.50'

231 Chambers
2,537.9 cy Field
1,589.5 cy Stone





Pond 1P: Undg Pond 1



Hydrograph for Pond 1P: Undg Pond 1

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	997.00	0.00
1.00	0.00	0.000	997.00	0.00
2.00	0.00	0.000	997.00	0.00
3.00	0.02	0.001	997.01	0.00
4.00	0.04	0.004	997.03	0.00
5.00	0.06	0.007	997.06	0.00
6.00	0.08	0.012	997.11	0.01
7.00	0.09	0.019	997.16	0.01
8.00	0.11	0.026	997.23	0.01
9.00	0.17	0.037	997.32	0.01
10.00	0.22	0.051	997.45	0.02
11.00	**0.42**	0.075	997.66	0.02
12.00	**7.83**	0.266	998.48	0.03
13.00	0.43	0.357	998.87	0.04
14.00	0.26	0.382	998.97	0.04
15.00	0.20	0.397	999.04	0.04
16.00	0.16	0.409	999.09	0.04
17.00	0.14	0.418	999.12	0.04
18.00	0.12	0.426	999.16	0.04
19.00	0.10	0.432	999.18	0.04
20.00	0.09	0.436	999.20	0.04
21.00	0.08	0.440	999.22	0.04
22.00	0.08	0.444	999.24	0.04
23.00	0.08	0.447	999.25	0.04
24.00	0.07	**0.450**	**999.26**	**0.04**
25.00	0.00	**0.447**	**999.25**	**0.04**
26.00	0.00	0.444	999.24	0.04
27.00	0.00	0.441	999.22	0.04
28.00	0.00	0.438	999.21	0.04
29.00	0.00	0.434	999.19	0.04
30.00	0.00	0.431	999.18	0.04
31.00	0.00	0.428	999.17	0.04
32.00	0.00	0.425	999.15	0.04
33.00	0.00	0.422	999.14	0.04
34.00	0.00	0.419	999.13	0.04
35.00	0.00	0.415	999.11	0.04
36.00	0.00	0.412	999.10	0.04
37.00	0.00	0.409	999.09	0.04
38.00	0.00	0.406	999.07	0.04
39.00	0.00	0.403	999.06	0.04
40.00	0.00	0.400	999.05	0.04
41.00	0.00	0.397	999.03	0.04
42.00	0.00	0.394	999.02	0.04
43.00	0.00	0.391	999.01	0.04
44.00	0.00	0.388	998.99	0.04
45.00	0.00	0.385	998.98	0.04
46.00	0.00	0.382	998.97	0.04
47.00	0.00	0.379	998.96	0.04
48.00	0.00	0.376	998.94	0.04

Summary for Pond 2P: Undg Pond 2

Inflow Area = 1.010 ac, 90.10% Impervious, Inflow Depth = 2.69" for 1 YEAR event
Inflow = 4.51 cfs @ 11.95 hrs, Volume= 0.226 af
Outflow = 0.04 cfs @ 21.38 hrs, Volume= 0.119 af, Atten= 99%, Lag= 565.9 min
Primary = 0.04 cfs @ 21.38 hrs, Volume= 0.119 af
Routed to Link 2B : Study Point 2

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 997.47' @ 21.38 hrs Surf.Area= 0.103 ac Storage= 0.181 af

Plug-Flow detention time= 1,034.5 min calculated for 0.119 af (53% of inflow)
Center-of-Mass det. time= 923.1 min (1,704.5 - 781.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	995.00'	0.166 af	**37.58'W x 119.53'L x 6.75'H Field A** 0.696 af Overall - 0.282 af Embedded = 0.414 af x 40.0% Voids
#2A	995.75'	0.282 af	**ADS_StormTech MC-7200 +Cap** x 68 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 68 Chambers in 4 Rows Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf
		0.448 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	995.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	999.00'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,001.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.04 cfs @ 21.38 hrs HW=997.47' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.04 cfs of 18.33 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.04 cfs @ 7.50 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Undg Pond 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-7200 +Cap (ADS StormTech® MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

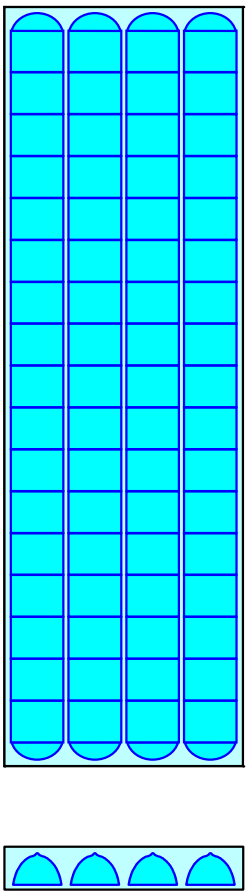
17 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 117.52' Row Length +12.0" End Stone x 2 = 119.53' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

68 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 4 Rows = 12,275.5 cf Chamber Storage

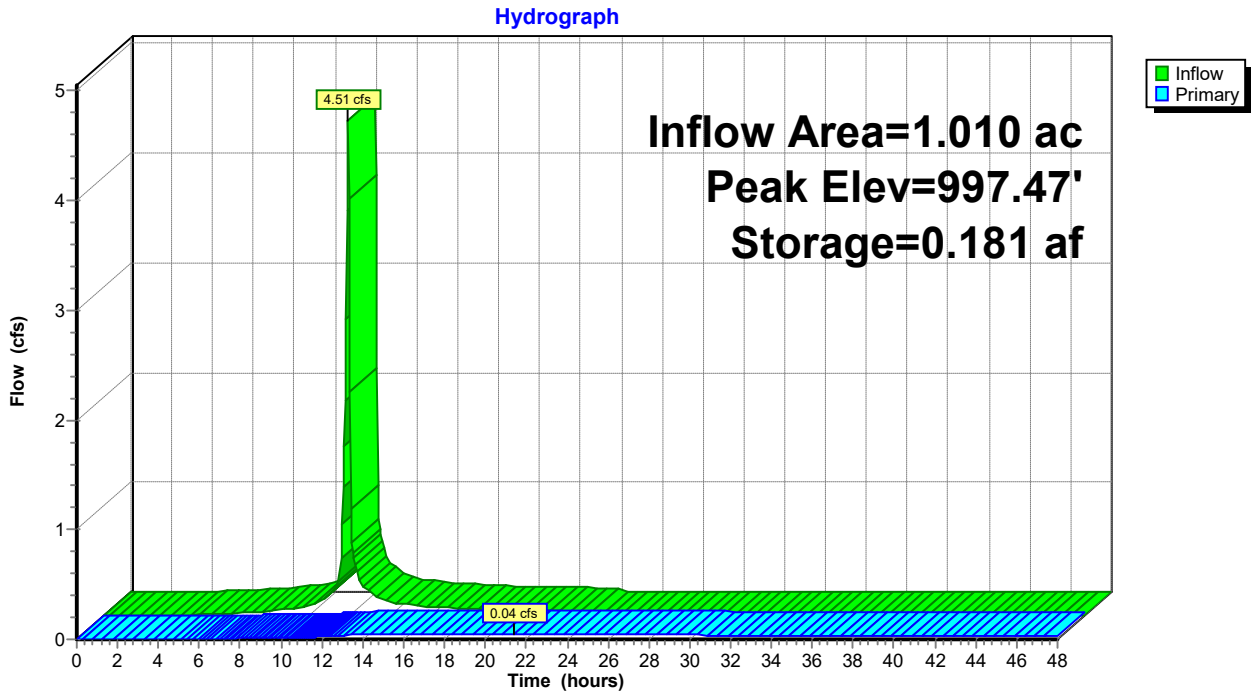
30,322.0 cf Field - 12,275.5 cf Chambers = 18,046.5 cf Stone x 40.0% Voids = 7,218.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,494.1 cf = 0.448 af
Overall Storage Efficiency = 64.3%
Overall System Size = 119.53' x 37.58' x 6.75'

68 Chambers
1,123.0 cy Field
668.4 cy Stone



Pond 2P: Undg Pond 2



Hydrograph for Pond 2P: Undg Pond 2

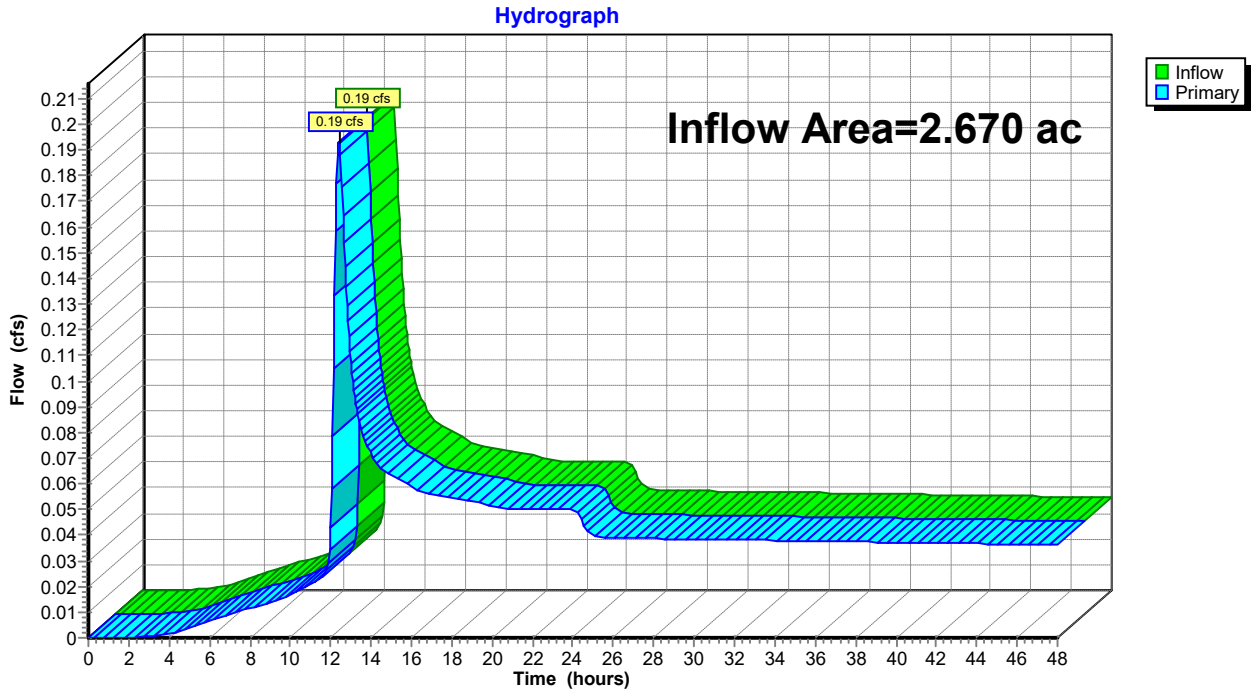
Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	995.00	0.00
1.00	0.00	0.000	995.00	0.00
2.00	0.00	0.000	995.00	0.00
3.00	0.00	0.000	995.00	0.00
4.00	0.00	0.000	995.00	0.00
5.00	0.01	0.001	995.02	0.00
6.00	0.02	0.002	995.04	0.00
7.00	0.03	0.003	995.08	0.01
8.00	0.04	0.006	995.14	0.01
9.00	0.06	0.009	995.22	0.01
10.00	0.09	0.014	995.34	0.01
11.00	**0.18**	0.023	995.55	0.02
12.00	**3.80**	0.111	996.65	0.03
13.00	0.21	0.154	997.15	0.04
14.00	0.13	0.164	997.27	0.04
15.00	0.10	0.170	997.34	0.04
16.00	0.08	0.174	997.39	0.04
17.00	0.07	0.177	997.42	0.04
18.00	0.06	0.179	997.44	0.04
19.00	0.05	0.180	997.46	0.04
20.00	0.04	0.181	997.47	0.04
21.00	0.04	**0.181**	**997.47**	**0.04**
22.00	0.04	**0.181**	**997.47**	**0.04**
23.00	0.04	0.180	997.47	0.04
24.00	0.04	0.180	997.46	0.04
25.00	0.00	0.177	997.43	0.04
26.00	0.00	0.174	997.39	0.04
27.00	0.00	0.170	997.35	0.04
28.00	0.00	0.167	997.31	0.04
29.00	0.00	0.164	997.27	0.04
30.00	0.00	0.161	997.23	0.04
31.00	0.00	0.157	997.19	0.04
32.00	0.00	0.154	997.16	0.04
33.00	0.00	0.151	997.12	0.04
34.00	0.00	0.148	997.08	0.04
35.00	0.00	0.145	997.05	0.04
36.00	0.00	0.142	997.01	0.04
37.00	0.00	0.139	996.98	0.04
38.00	0.00	0.136	996.94	0.04
39.00	0.00	0.133	996.91	0.04
40.00	0.00	0.130	996.87	0.04
41.00	0.00	0.127	996.84	0.04
42.00	0.00	0.124	996.81	0.03
43.00	0.00	0.121	996.77	0.03
44.00	0.00	0.118	996.74	0.03
45.00	0.00	0.116	996.71	0.03
46.00	0.00	0.113	996.68	0.03
47.00	0.00	0.110	996.64	0.03
48.00	0.00	0.107	996.61	0.03

Summary for Link 1B: Study Point 1

Inflow Area = 2.670 ac, 73.03% Impervious, Inflow Depth > 0.66" for 1 YEAR event
Inflow = 0.19 cfs @ 12.41 hrs, Volume= 0.147 af
Primary = 0.19 cfs @ 12.41 hrs, Volume= 0.147 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 1B: Study Point 1



Hydrograph for Link 1B: Study Point 1

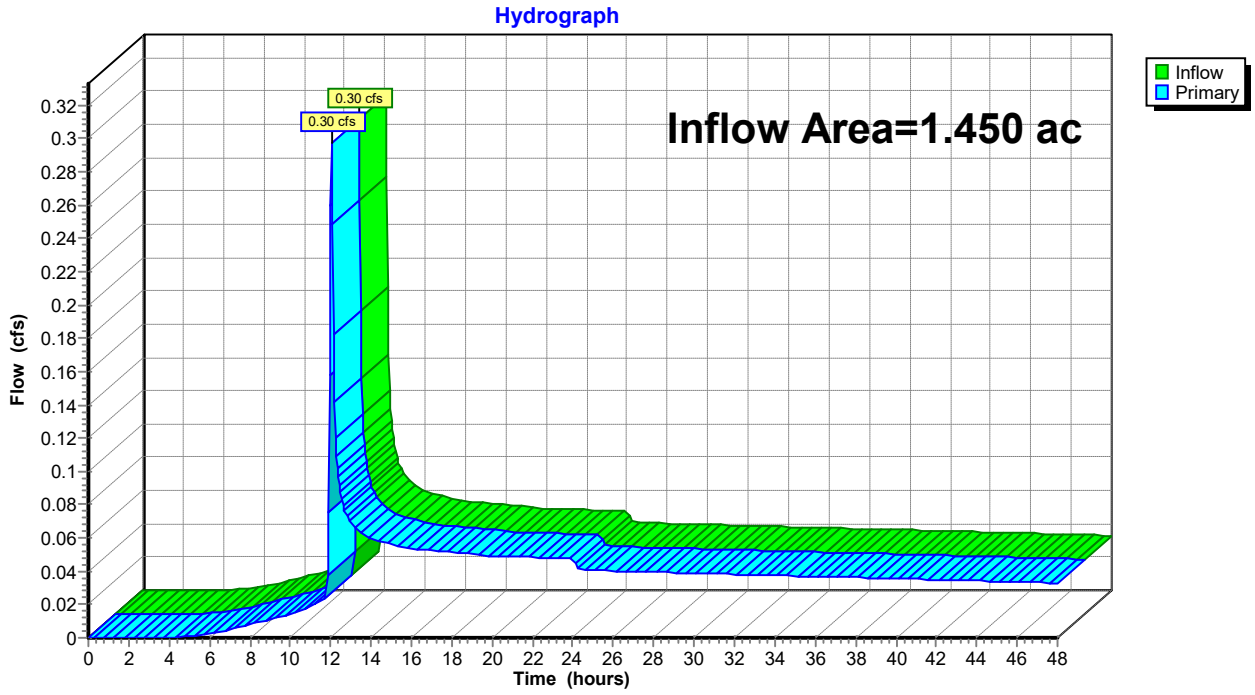
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.04	0.00	0.04
0.50	0.00	0.00	0.00	29.00	0.04	0.00	0.04
1.00	0.00	0.00	0.00	29.50	0.04	0.00	0.04
1.50	0.00	0.00	0.00	30.00	0.04	0.00	0.04
2.00	0.00	0.00	0.00	30.50	0.04	0.00	0.04
2.50	0.00	0.00	0.00	31.00	0.04	0.00	0.04
3.00	0.00	0.00	0.00	31.50	0.04	0.00	0.04
3.50	0.00	0.00	0.00	32.00	0.04	0.00	0.04
4.00	0.00	0.00	0.00	32.50	0.04	0.00	0.04
4.50	0.00	0.00	0.00	33.00	0.04	0.00	0.04
5.00	0.00	0.00	0.00	33.50	0.04	0.00	0.04
5.50	0.01	0.00	0.01	34.00	0.04	0.00	0.04
6.00	0.01	0.00	0.01	34.50	0.04	0.00	0.04
6.50	0.01	0.00	0.01	35.00	0.04	0.00	0.04
7.00	0.01	0.00	0.01	35.50	0.04	0.00	0.04
7.50	0.01	0.00	0.01	36.00	0.04	0.00	0.04
8.00	0.01	0.00	0.01	36.50	0.04	0.00	0.04
8.50	0.01	0.00	0.01	37.00	0.04	0.00	0.04
9.00	0.01	0.00	0.01	37.50	0.04	0.00	0.04
9.50	0.02	0.00	0.02	38.00	0.04	0.00	0.04
10.00	0.02	0.00	0.02	38.50	0.04	0.00	0.04
10.50	0.02	0.00	0.02	39.00	0.04	0.00	0.04
11.00	0.02	0.00	0.02	39.50	0.04	0.00	0.04
11.50	0.02	0.00	0.02	40.00	0.04	0.00	0.04
12.00	**0.04**	0.00	**0.04**	40.50	0.04	0.00	0.04
12.50	**0.19**	0.00	**0.19**	41.00	0.04	0.00	0.04
13.00	0.11	0.00	0.11	41.50	0.04	0.00	0.04
13.50	0.08	0.00	0.08	42.00	0.04	0.00	0.04
14.00	0.07	0.00	0.07	42.50	0.04	0.00	0.04
14.50	0.07	0.00	0.07	43.00	0.04	0.00	0.04
15.00	0.06	0.00	0.06	43.50	0.04	0.00	0.04
15.50	0.06	0.00	0.06	44.00	0.04	0.00	0.04
16.00	0.06	0.00	0.06	44.50	0.04	0.00	0.04
16.50	0.06	0.00	0.06	45.00	0.04	0.00	0.04
17.00	0.06	0.00	0.06	45.50	0.04	0.00	0.04
17.50	0.06	0.00	0.06	46.00	0.04	0.00	0.04
18.00	0.05	0.00	0.05	46.50	0.04	0.00	0.04
18.50	0.05	0.00	0.05	47.00	0.04	0.00	0.04
19.00	0.05	0.00	0.05	47.50	0.04	0.00	0.04
19.50	0.05	0.00	0.05	48.00	0.04	0.00	0.04
20.00	0.05	0.00	0.05				
20.50	0.05	0.00	0.05				
21.00	0.05	0.00	0.05				
21.50	0.05	0.00	0.05				
22.00	0.05	0.00	0.05				
22.50	0.05	0.00	0.05				
23.00	0.05	0.00	0.05				
23.50	0.05	0.00	0.05				
24.00	0.05	0.00	0.05				
24.50	0.04	0.00	0.04				
25.00	0.04	0.00	0.04				
25.50	0.04	0.00	0.04				
26.00	0.04	0.00	0.04				
26.50	0.04	0.00	0.04				
27.00	0.04	0.00	0.04				
27.50	0.04	0.00	0.04				
28.00	0.04	0.00	0.04				

Summary for Link 2B: Study Point 2

Inflow Area = 1.450 ac, 62.76% Impervious, Inflow Depth > 1.14" for 1 YEAR event
Inflow = 0.30 cfs @ 12.05 hrs, Volume= 0.138 af
Primary = 0.30 cfs @ 12.05 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2B: Study Point 2



Hydrograph for Link 2B: Study Point 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.04	0.00	0.04
0.50	0.00	0.00	0.00	29.00	0.04	0.00	0.04
1.00	0.00	0.00	0.00	29.50	0.04	0.00	0.04
1.50	0.00	0.00	0.00	30.00	0.04	0.00	0.04
2.00	0.00	0.00	0.00	30.50	0.04	0.00	0.04
2.50	0.00	0.00	0.00	31.00	0.04	0.00	0.04
3.00	0.00	0.00	0.00	31.50	0.04	0.00	0.04
3.50	0.00	0.00	0.00	32.00	0.04	0.00	0.04
4.00	0.00	0.00	0.00	32.50	0.04	0.00	0.04
4.50	0.00	0.00	0.00	33.00	0.04	0.00	0.04
5.00	0.00	0.00	0.00	33.50	0.04	0.00	0.04
5.50	0.00	0.00	0.00	34.00	0.04	0.00	0.04
6.00	0.00	0.00	0.00	34.50	0.04	0.00	0.04
6.50	0.00	0.00	0.00	35.00	0.04	0.00	0.04
7.00	0.01	0.00	0.01	35.50	0.04	0.00	0.04
7.50	0.01	0.00	0.01	36.00	0.04	0.00	0.04
8.00	0.01	0.00	0.01	36.50	0.04	0.00	0.04
8.50	0.01	0.00	0.01	37.00	0.04	0.00	0.04
9.00	0.01	0.00	0.01	37.50	0.04	0.00	0.04
9.50	0.01	0.00	0.01	38.00	0.04	0.00	0.04
10.00	0.01	0.00	0.01	38.50	0.04	0.00	0.04
10.50	0.02	0.00	0.02	39.00	0.04	0.00	0.04
11.00	0.02	0.00	0.02	39.50	0.04	0.00	0.04
11.50	0.02	0.00	0.02	40.00	0.04	0.00	0.04
12.00	**0.26**	0.00	**0.26**	40.50	0.04	0.00	0.04
12.50	**0.09**	0.00	**0.09**	41.00	0.04	0.00	0.04
13.00	0.07	0.00	0.07	41.50	0.04	0.00	0.04
13.50	0.06	0.00	0.06	42.00	0.03	0.00	0.03
14.00	0.06	0.00	0.06	42.50	0.03	0.00	0.03
14.50	0.06	0.00	0.06	43.00	0.03	0.00	0.03
15.00	0.06	0.00	0.06	43.50	0.03	0.00	0.03
15.50	0.05	0.00	0.05	44.00	0.03	0.00	0.03
16.00	0.05	0.00	0.05	44.50	0.03	0.00	0.03
16.50	0.05	0.00	0.05	45.00	0.03	0.00	0.03
17.00	0.05	0.00	0.05	45.50	0.03	0.00	0.03
17.50	0.05	0.00	0.05	46.00	0.03	0.00	0.03
18.00	0.05	0.00	0.05	46.50	0.03	0.00	0.03
18.50	0.05	0.00	0.05	47.00	0.03	0.00	0.03
19.00	0.05	0.00	0.05	47.50	0.03	0.00	0.03
19.50	0.05	0.00	0.05	48.00	0.03	0.00	0.03
20.00	0.05	0.00	0.05				
20.50	0.05	0.00	0.05				
21.00	0.05	0.00	0.05				
21.50	0.05	0.00	0.05				
22.00	0.05	0.00	0.05				
22.50	0.05	0.00	0.05				
23.00	0.05	0.00	0.05				
23.50	0.05	0.00	0.05				
24.00	0.05	0.00	0.05				
24.50	0.04	0.00	0.04				
25.00	0.04	0.00	0.04				
25.50	0.04	0.00	0.04				
26.00	0.04	0.00	0.04				
26.50	0.04	0.00	0.04				
27.00	0.04	0.00	0.04				
27.50	0.04	0.00	0.04				
28.00	0.04	0.00	0.04				

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 B-1: Post-Developed Runoff Area=1.980 ac 98.48% Impervious Runoff Depth=4.17"
Tc=5.0 min CN=97 Runoff=12.77 cfs 0.688 af

Subcatchment B-1A: BYPASS POND to Runoff Area=0.690 ac 0.00% Impervious Runoff Depth=1.03"
Tc=35.7 min CN=60 Runoff=0.45 cfs 0.059 af

Subcatchment B-2: Post-Developed Runoff Area=1.010 ac 90.10% Impervious Runoff Depth=3.84"
Tc=5.0 min CN=94 Runoff=6.28 cfs 0.323 af

Subcatchment B-2A: BYPASS POND to Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=1.09"
Tc=10.0 min CN=61 Runoff=0.67 cfs 0.040 af

Subcatchment B-3: Post-Developed Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=1.09"
Tc=5.0 min CN=61 Runoff=0.26 cfs 0.013 af

Pond 1P: Undg Pond 1 Peak Elev=1,000.10' Storage=0.633 af Inflow=12.77 cfs 0.688 af
Outflow=0.05 cfs 0.142 af

Pond 2P: Undg Pond 2 Peak Elev=998.52' Storage=0.266 af Inflow=6.28 cfs 0.323 af
Outflow=0.05 cfs 0.145 af

Link 1B: Study Point 1 Inflow=0.49 cfs 0.202 af
Primary=0.49 cfs 0.202 af

Link 2B: Study Point 2 Inflow=0.71 cfs 0.185 af
Primary=0.71 cfs 0.185 af

Total Runoff Area = 4.260 ac Runoff Volume = 1.123 af Average Runoff Depth = 3.16"
32.86% Pervious = 1.400 ac 67.14% Impervious = 2.860 ac

Summary for Subcatchment B-1: Post-Developed

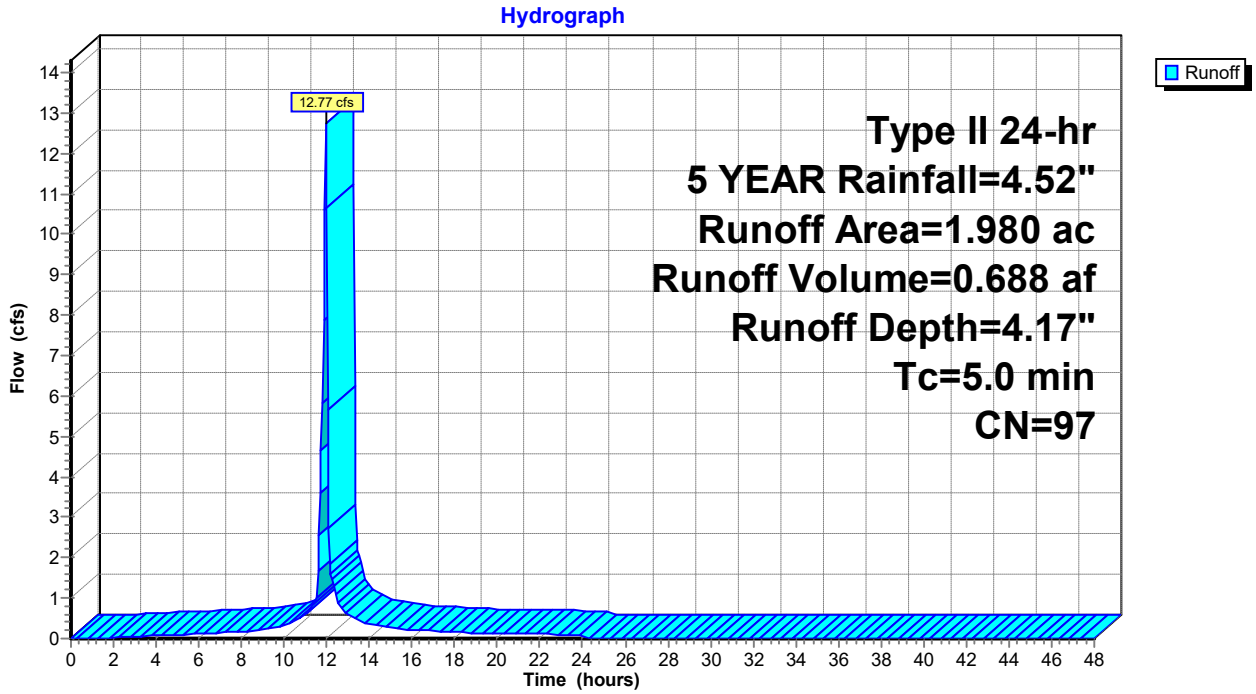
Runoff = 12.77 cfs @ 11.95 hrs, Volume= 0.688 af, Depth= 4.17"
Routed to Pond 1P : Undg Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
1.950	98	Paved parking, HSG B
0.030	61	>75% Grass cover, Good, HSG B
1.980	97	Weighted Average
0.030		1.52% Pervious Area
1.950		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-1: Post-Developed



Hydrograph for Subcatchment B-1: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.02
2.50	0.13	0.01	0.03
3.00	0.16	0.02	0.05
3.50	0.19	0.04	0.06
4.00	0.22	0.05	0.07
4.50	0.25	0.07	0.08
5.00	0.28	0.09	0.09
5.50	0.32	0.12	0.11
6.00	0.36	0.15	0.12
6.50	0.40	0.18	0.13
7.00	0.45	0.21	0.14
7.50	0.49	0.25	0.15
8.00	0.54	0.29	0.17
8.50	0.60	0.34	0.20
9.00	0.66	0.40	0.25
9.50	0.74	0.46	0.26
10.00	0.82	0.54	0.32
10.50	0.92	0.63	0.42
11.00	1.06	0.76	0.59
11.50	1.28	0.97	**0.97**
12.00	3.00	2.66	**10.65**
12.50	3.32	2.98	0.94
13.00	3.49	3.14	0.58
13.50	3.61	3.27	0.44
14.00	3.71	3.36	0.35
14.50	3.79	3.44	0.31
15.00	3.86	3.51	0.27
15.50	3.92	3.57	0.24
16.00	3.98	3.63	0.21
16.50	4.03	3.68	0.20
17.00	4.08	3.73	0.19
17.50	4.12	3.77	0.17
18.00	4.16	3.81	0.16
18.50	4.20	3.85	0.15
19.00	4.24	3.89	0.14
19.50	4.27	3.92	0.13
20.00	4.30	3.95	0.12
20.50	4.33	3.98	0.11
21.00	4.36	4.01	0.11
21.50	4.39	4.04	0.11
22.00	4.42	4.07	0.11
22.50	4.44	4.09	0.11
23.00	4.47	4.12	0.10
23.50	4.49	4.14	0.10
24.00	**4.52**	**4.17**	0.10
24.50	4.52	4.17	0.00
25.00	4.52	4.17	0.00
25.50	4.52	4.17	0.00
26.00	4.52	4.17	0.00
26.50	4.52	4.17	0.00
27.00	4.52	4.17	0.00
27.50	4.52	4.17	0.00
28.00	4.52	4.17	0.00
28.50	4.52	4.17	0.00
29.00	4.52	4.17	0.00
29.50	4.52	4.17	0.00
30.00	4.52	4.17	0.00
30.50	4.52	4.17	0.00
31.00	4.52	4.17	0.00
31.50	4.52	4.17	0.00
32.00	4.52	4.17	0.00
32.50	4.52	4.17	0.00
33.00	4.52	4.17	0.00
33.50	4.52	4.17	0.00
34.00	4.52	4.17	0.00
34.50	4.52	4.17	0.00
35.00	4.52	4.17	0.00
35.50	4.52	4.17	0.00
36.00	4.52	4.17	0.00
36.50	4.52	4.17	0.00
37.00	4.52	4.17	0.00
37.50	4.52	4.17	0.00
38.00	4.52	4.17	0.00
38.50	4.52	4.17	0.00
39.00	4.52	4.17	0.00
39.50	4.52	4.17	0.00
40.00	4.52	4.17	0.00
40.50	4.52	4.17	0.00
41.00	4.52	4.17	0.00
41.50	4.52	4.17	0.00
42.00	4.52	4.17	0.00
42.50	4.52	4.17	0.00
43.00	4.52	4.17	0.00
43.50	4.52	4.17	0.00
44.00	4.52	4.17	0.00
44.50	4.52	4.17	0.00
45.00	4.52	4.17	0.00
45.50	4.52	4.17	0.00
46.00	4.52	4.17	0.00
46.50	4.52	4.17	0.00
47.00	4.52	4.17	0.00
47.50	4.52	4.17	0.00
48.00	4.52	4.17	0.00

Summary for Subcatchment B-1A: BYPASS POND to SP1

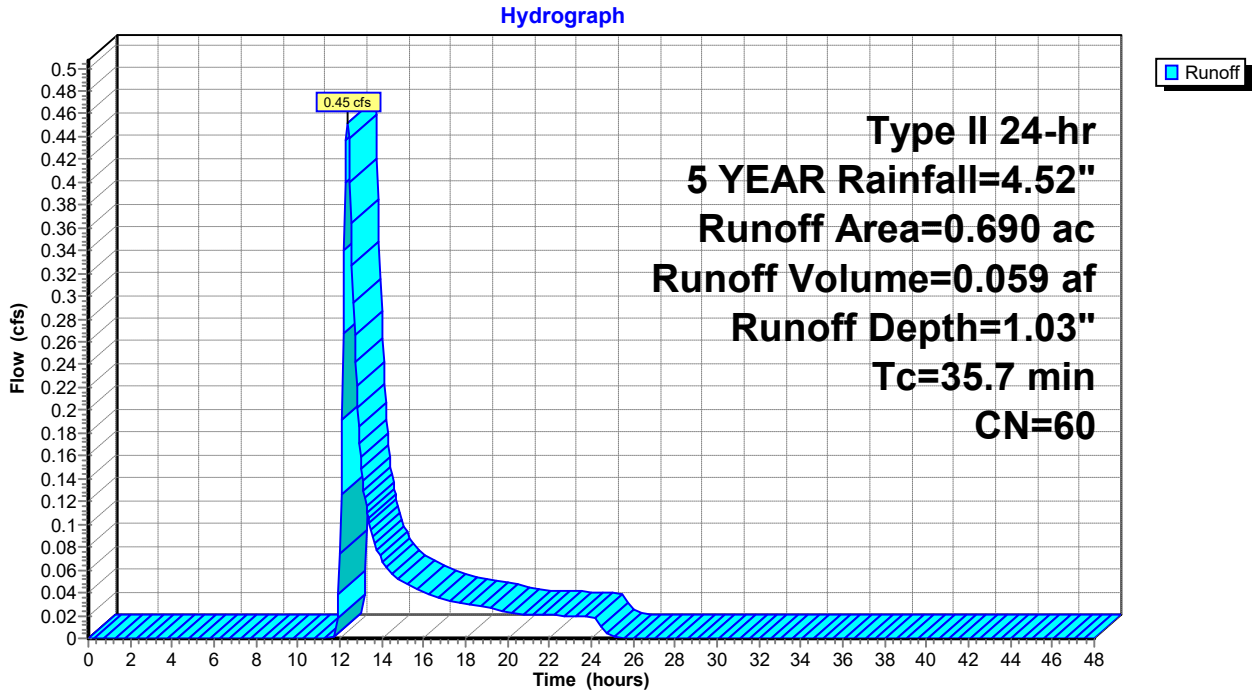
Runoff = 0.45 cfs @ 12.36 hrs, Volume= 0.059 af, Depth= 1.03"
Routed to Link 1B : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
0.100	55	Woods, Good, HSG B
0.590	61	>75% Grass cover, Good, HSG B
0.690	60	Weighted Average
0.690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.7					**Direct Entry,**

Subcatchment B-1A: BYPASS POND to SP1



Hydrograph for Subcatchment B-1A: BYPASS POND to SP1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.00
4.00	0.22	0.00	0.00
4.50	0.25	0.00	0.00
5.00	0.28	0.00	0.00
5.50	0.32	0.00	0.00
6.00	0.36	0.00	0.00
6.50	0.40	0.00	0.00
7.00	0.45	0.00	0.00
7.50	0.49	0.00	0.00
8.00	0.54	0.00	0.00
8.50	0.60	0.00	0.00
9.00	0.66	0.00	0.00
9.50	0.74	0.00	0.00
10.00	0.82	0.00	0.00
10.50	0.92	0.00	0.00
11.00	1.06	0.00	0.00
11.50	1.28	0.00	0.00
12.00	3.00	0.33	**0.07**
12.50	3.32	0.46	**0.40**
13.00	3.49	0.53	0.16
13.50	3.61	0.58	0.09
14.00	3.71	0.62	0.07
14.50	3.79	0.66	0.06
15.00	3.86	0.69	0.05
15.50	3.92	0.72	0.05
16.00	3.98	0.75	0.04
16.50	4.03	0.78	0.04
17.00	4.08	0.80	0.03
17.50	4.12	0.82	0.03
18.00	4.16	0.84	0.03
18.50	4.20	0.86	0.03
19.00	4.24	0.88	0.03
19.50	4.27	0.90	0.03
20.00	4.30	0.92	0.02
20.50	4.33	0.93	0.02
21.00	4.36	0.95	0.02
21.50	4.39	0.96	0.02
22.00	4.42	0.97	0.02
22.50	4.44	0.99	0.02
23.00	4.47	1.00	0.02
23.50	4.49	1.02	0.02
24.00	**4.52**	**1.03**	0.02
24.50	4.52	1.03	0.01
25.00	4.52	1.03	0.00
25.50	4.52	1.03	0.00
26.00	4.52	1.03	0.00
26.50	4.52	1.03	0.00
27.00	4.52	1.03	0.00
27.50	4.52	1.03	0.00
28.00	4.52	1.03	0.00
28.50	4.52	1.03	0.00
29.00	4.52	1.03	0.00
29.50	4.52	1.03	0.00
30.00	4.52	1.03	0.00
30.50	4.52	1.03	0.00
31.00	4.52	1.03	0.00
31.50	4.52	1.03	0.00
32.00	4.52	1.03	0.00
32.50	4.52	1.03	0.00
33.00	4.52	1.03	0.00
33.50	4.52	1.03	0.00
34.00	4.52	1.03	0.00
34.50	4.52	1.03	0.00
35.00	4.52	1.03	0.00
35.50	4.52	1.03	0.00
36.00	4.52	1.03	0.00
36.50	4.52	1.03	0.00
37.00	4.52	1.03	0.00
37.50	4.52	1.03	0.00
38.00	4.52	1.03	0.00
38.50	4.52	1.03	0.00
39.00	4.52	1.03	0.00
39.50	4.52	1.03	0.00
40.00	4.52	1.03	0.00
40.50	4.52	1.03	0.00
41.00	4.52	1.03	0.00
41.50	4.52	1.03	0.00
42.00	4.52	1.03	0.00
42.50	4.52	1.03	0.00
43.00	4.52	1.03	0.00
43.50	4.52	1.03	0.00
44.00	4.52	1.03	0.00
44.50	4.52	1.03	0.00
45.00	4.52	1.03	0.00
45.50	4.52	1.03	0.00
46.00	4.52	1.03	0.00
46.50	4.52	1.03	0.00
47.00	4.52	1.03	0.00
47.50	4.52	1.03	0.00
48.00	4.52	1.03	0.00

Summary for Subcatchment B-2: Post-Developed

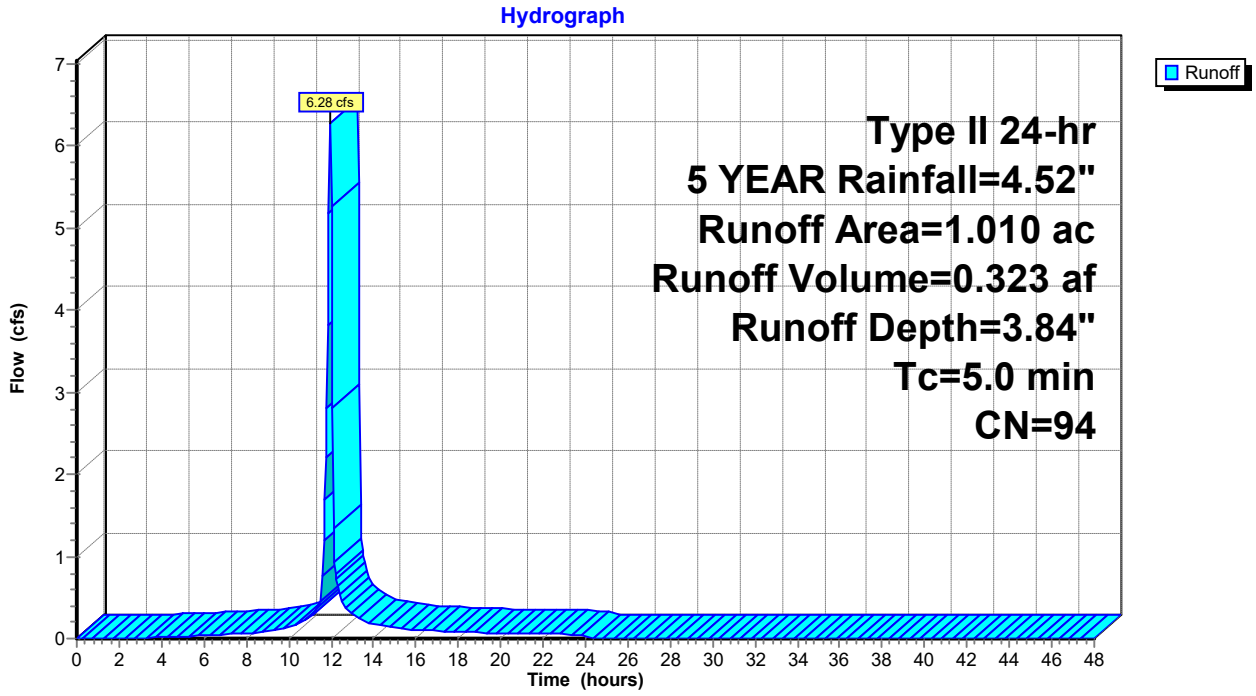
Runoff = 6.28 cfs @ 11.95 hrs, Volume= 0.323 af, Depth= 3.84"
Routed to Pond 2P : Undg Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
0.910	98	Paved parking, HSG B
0.100	61	>75% Grass cover, Good, HSG B
1.010	94	Weighted Average
0.100		9.90% Pervious Area
0.910		90.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-2: Post-Developed



Hydrograph for Subcatchment B-2: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.01
4.00	0.22	0.01	0.01
4.50	0.25	0.02	0.02
5.00	0.28	0.03	0.03
5.50	0.32	0.05	0.03
6.00	0.36	0.06	0.04
6.50	0.40	0.08	0.04
7.00	0.45	0.11	0.05
7.50	0.49	0.13	0.06
8.00	0.54	0.16	0.06
8.50	0.60	0.20	0.08
9.00	0.66	0.25	0.10
9.50	0.74	0.30	0.11
10.00	0.82	0.36	0.14
10.50	0.92	0.44	0.18
11.00	1.06	0.56	0.26
11.50	1.28	0.74	**0.45**
12.00	3.00	2.35	**5.27**
12.50	3.32	2.66	0.47
13.00	3.49	2.83	0.29
13.50	3.61	2.94	0.22
14.00	3.71	3.04	0.17
14.50	3.79	3.11	0.15
15.00	3.86	3.19	0.14
15.50	3.92	3.25	0.12
16.00	3.98	3.30	0.11
16.50	4.03	3.35	0.10
17.00	4.08	3.40	0.09
17.50	4.12	3.44	0.09
18.00	4.16	3.48	0.08
18.50	4.20	3.52	0.08
19.00	4.24	3.56	0.07
19.50	4.27	3.59	0.07
20.00	4.30	3.62	0.06
20.50	4.33	3.65	0.06
21.00	4.36	3.68	0.06
21.50	4.39	3.71	0.06
22.00	4.42	3.73	0.05
22.50	4.44	3.76	0.05
23.00	4.47	3.79	0.05
23.50	4.49	3.81	0.05
24.00	**4.52**	**3.84**	0.05
24.50	4.52	3.84	0.00
25.00	4.52	3.84	0.00
25.50	4.52	3.84	0.00
26.00	4.52	3.84	0.00
26.50	4.52	3.84	0.00
27.00	4.52	3.84	0.00
27.50	4.52	3.84	0.00
28.00	4.52	3.84	0.00
28.50	4.52	3.84	0.00
29.00	4.52	3.84	0.00
29.50	4.52	3.84	0.00
30.00	4.52	3.84	0.00
30.50	4.52	3.84	0.00
31.00	4.52	3.84	0.00
31.50	4.52	3.84	0.00
32.00	4.52	3.84	0.00
32.50	4.52	3.84	0.00
33.00	4.52	3.84	0.00
33.50	4.52	3.84	0.00
34.00	4.52	3.84	0.00
34.50	4.52	3.84	0.00
35.00	4.52	3.84	0.00
35.50	4.52	3.84	0.00
36.00	4.52	3.84	0.00
36.50	4.52	3.84	0.00
37.00	4.52	3.84	0.00
37.50	4.52	3.84	0.00
38.00	4.52	3.84	0.00
38.50	4.52	3.84	0.00
39.00	4.52	3.84	0.00
39.50	4.52	3.84	0.00
40.00	4.52	3.84	0.00
40.50	4.52	3.84	0.00
41.00	4.52	3.84	0.00
41.50	4.52	3.84	0.00
42.00	4.52	3.84	0.00
42.50	4.52	3.84	0.00
43.00	4.52	3.84	0.00
43.50	4.52	3.84	0.00
44.00	4.52	3.84	0.00
44.50	4.52	3.84	0.00
45.00	4.52	3.84	0.00
45.50	4.52	3.84	0.00
46.00	4.52	3.84	0.00
46.50	4.52	3.84	0.00
47.00	4.52	3.84	0.00
47.50	4.52	3.84	0.00
48.00	4.52	3.84	0.00

Summary for Subcatchment B-2A: BYPASS POND to SP2

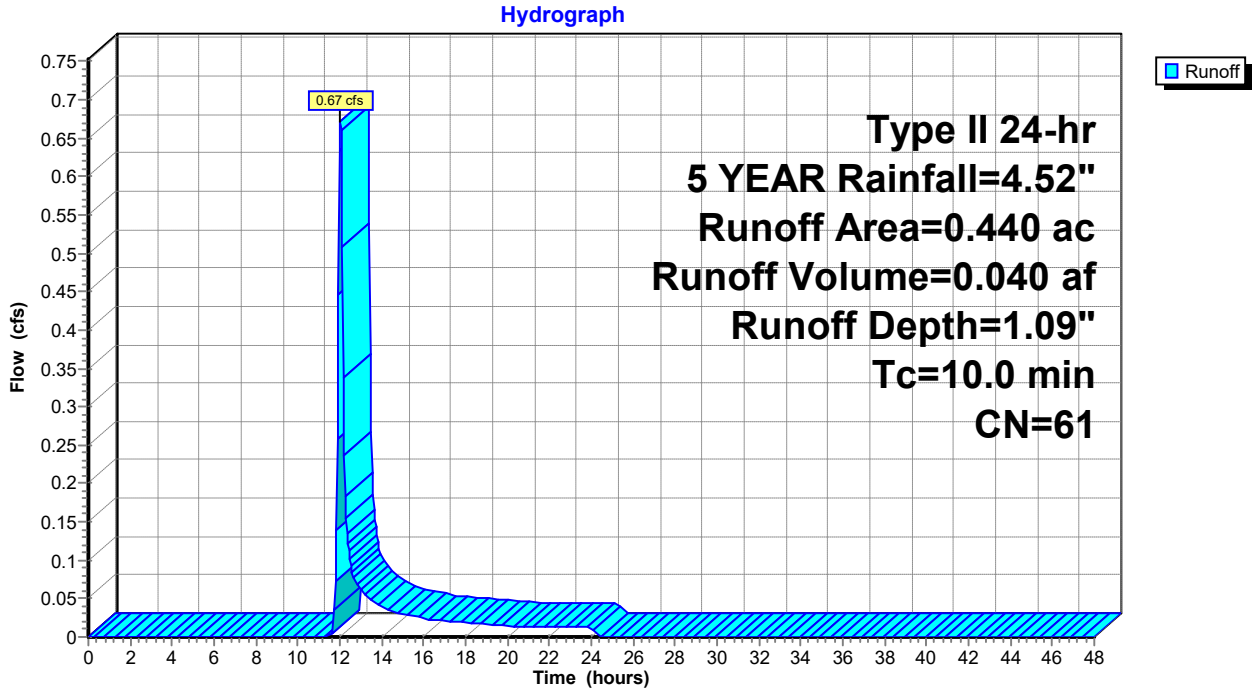
Runoff = 0.67 cfs @ 12.03 hrs, Volume= 0.040 af, Depth= 1.09"
Routed to Link 2B : Study Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
0.440	61	>75% Grass cover, Good, HSG B
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment B-2A: BYPASS POND to SP2



Hydrograph for Subcatchment B-2A: BYPASS POND to SP2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.00
4.00	0.22	0.00	0.00
4.50	0.25	0.00	0.00
5.00	0.28	0.00	0.00
5.50	0.32	0.00	0.00
6.00	0.36	0.00	0.00
6.50	0.40	0.00	0.00
7.00	0.45	0.00	0.00
7.50	0.49	0.00	0.00
8.00	0.54	0.00	0.00
8.50	0.60	0.00	0.00
9.00	0.66	0.00	0.00
9.50	0.74	0.00	0.00
10.00	0.82	0.00	0.00
10.50	0.92	0.00	0.00
11.00	1.06	0.00	0.00
11.50	1.28	0.00	0.00
12.00	3.00	0.36	**0.63**
12.50	3.32	0.49	**0.10**
13.00	3.49	0.57	0.06
13.50	3.61	0.62	0.05
14.00	3.71	0.67	0.04
14.50	3.79	0.71	0.03
15.00	3.86	0.74	0.03
15.50	3.92	0.77	0.03
16.00	3.98	0.80	0.02
16.50	4.03	0.83	0.02
17.00	4.08	0.85	0.02
17.50	4.12	0.87	0.02
18.00	4.16	0.90	0.02
18.50	4.20	0.92	0.02
19.00	4.24	0.94	0.02
19.50	4.27	0.95	0.02
20.00	4.30	0.97	0.01
20.50	4.33	0.99	0.01
21.00	4.36	1.00	0.01
21.50	4.39	1.02	0.01
22.00	4.42	1.03	0.01
22.50	4.44	1.05	0.01
23.00	4.47	1.06	0.01
23.50	4.49	1.08	0.01
24.00	**4.52**	**1.09**	0.01
24.50	4.52	1.09	0.00
25.00	4.52	1.09	0.00
25.50	4.52	1.09	0.00
26.00	4.52	1.09	0.00
26.50	4.52	1.09	0.00
27.00	4.52	1.09	0.00
27.50	4.52	1.09	0.00
28.00	4.52	1.09	0.00
28.50	4.52	1.09	0.00
29.00	4.52	1.09	0.00
29.50	4.52	1.09	0.00
30.00	4.52	1.09	0.00
30.50	4.52	1.09	0.00
31.00	4.52	1.09	0.00
31.50	4.52	1.09	0.00
32.00	4.52	1.09	0.00
32.50	4.52	1.09	0.00
33.00	4.52	1.09	0.00
33.50	4.52	1.09	0.00
34.00	4.52	1.09	0.00
34.50	4.52	1.09	0.00
35.00	4.52	1.09	0.00
35.50	4.52	1.09	0.00
36.00	4.52	1.09	0.00
36.50	4.52	1.09	0.00
37.00	4.52	1.09	0.00
37.50	4.52	1.09	0.00
38.00	4.52	1.09	0.00
38.50	4.52	1.09	0.00
39.00	4.52	1.09	0.00
39.50	4.52	1.09	0.00
40.00	4.52	1.09	0.00
40.50	4.52	1.09	0.00
41.00	4.52	1.09	0.00
41.50	4.52	1.09	0.00
42.00	4.52	1.09	0.00
42.50	4.52	1.09	0.00
43.00	4.52	1.09	0.00
43.50	4.52	1.09	0.00
44.00	4.52	1.09	0.00
44.50	4.52	1.09	0.00
45.00	4.52	1.09	0.00
45.50	4.52	1.09	0.00
46.00	4.52	1.09	0.00
46.50	4.52	1.09	0.00
47.00	4.52	1.09	0.00
47.50	4.52	1.09	0.00
48.00	4.52	1.09	0.00

Summary for Subcatchment B-3: Post-Developed

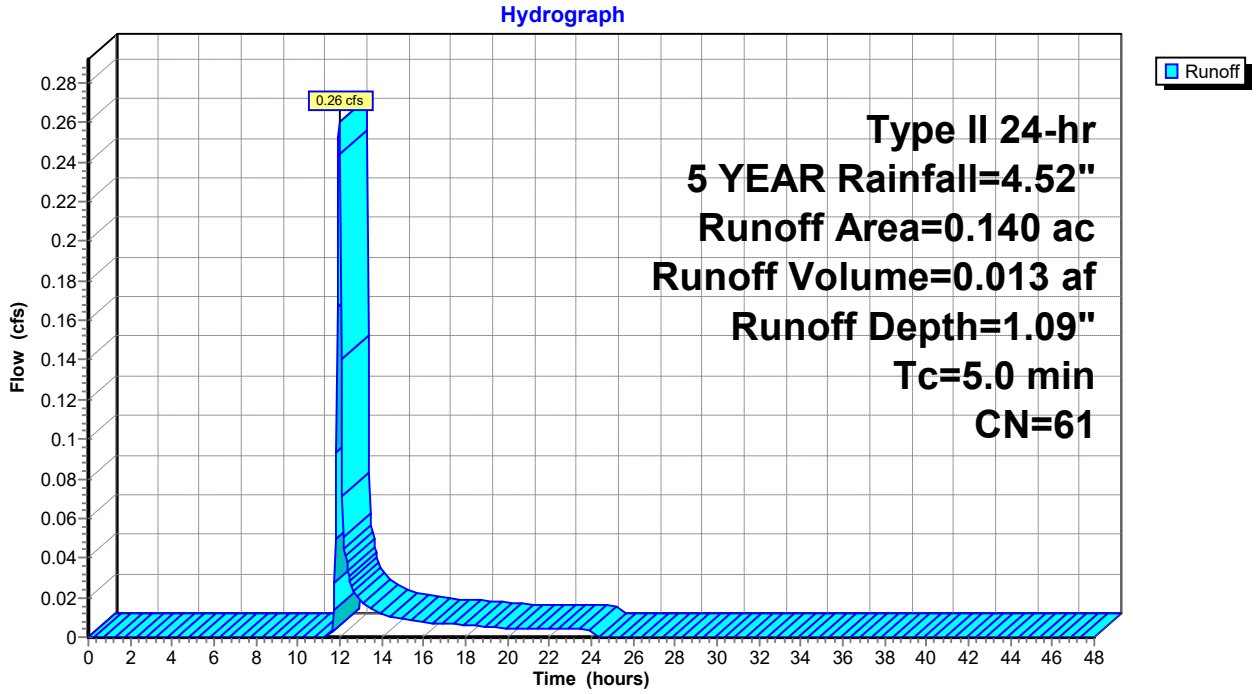
Runoff = 0.26 cfs @ 11.97 hrs, Volume= 0.013 af, Depth= 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 YEAR Rainfall=4.52"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
0.140	61	>75% Grass cover, Good, HSG B
0.140	61	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-3: Post-Developed



Hydrograph for Subcatchment B-3: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.07	0.00	0.00
2.00	0.10	0.00	0.00
2.50	0.13	0.00	0.00
3.00	0.16	0.00	0.00
3.50	0.19	0.00	0.00
4.00	0.22	0.00	0.00
4.50	0.25	0.00	0.00
5.00	0.28	0.00	0.00
5.50	0.32	0.00	0.00
6.00	0.36	0.00	0.00
6.50	0.40	0.00	0.00
7.00	0.45	0.00	0.00
7.50	0.49	0.00	0.00
8.00	0.54	0.00	0.00
8.50	0.60	0.00	0.00
9.00	0.66	0.00	0.00
9.50	0.74	0.00	0.00
10.00	0.82	0.00	0.00
10.50	0.92	0.00	0.00
11.00	1.06	0.00	0.00
11.50	1.28	0.00	**0.00**
12.00	3.00	0.36	**0.24**
12.50	3.32	0.49	0.03
13.00	3.49	0.57	0.02
13.50	3.61	0.62	0.01
14.00	3.71	0.67	0.01
14.50	3.79	0.71	0.01
15.00	3.86	0.74	0.01
15.50	3.92	0.77	0.01
16.00	3.98	0.80	0.01
16.50	4.03	0.83	0.01
17.00	4.08	0.85	0.01
17.50	4.12	0.87	0.01
18.00	4.16	0.90	0.01
18.50	4.20	0.92	0.01
19.00	4.24	0.94	0.01
19.50	4.27	0.95	0.00
20.00	4.30	0.97	0.00
20.50	4.33	0.99	0.00
21.00	4.36	1.00	0.00
21.50	4.39	1.02	0.00
22.00	4.42	1.03	0.00
22.50	4.44	1.05	0.00
23.00	4.47	1.06	0.00
23.50	4.49	1.08	0.00
24.00	**4.52**	**1.09**	0.00
24.50	4.52	1.09	0.00
25.00	4.52	1.09	0.00
25.50	4.52	1.09	0.00
26.00	4.52	1.09	0.00
26.50	4.52	1.09	0.00
27.00	4.52	1.09	0.00
27.50	4.52	1.09	0.00
28.00	4.52	1.09	0.00
28.50	4.52	1.09	0.00
29.00	4.52	1.09	0.00
29.50	4.52	1.09	0.00
30.00	4.52	1.09	0.00
30.50	4.52	1.09	0.00
31.00	4.52	1.09	0.00
31.50	4.52	1.09	0.00
32.00	4.52	1.09	0.00
32.50	4.52	1.09	0.00
33.00	4.52	1.09	0.00
33.50	4.52	1.09	0.00
34.00	4.52	1.09	0.00
34.50	4.52	1.09	0.00
35.00	4.52	1.09	0.00
35.50	4.52	1.09	0.00
36.00	4.52	1.09	0.00
36.50	4.52	1.09	0.00
37.00	4.52	1.09	0.00
37.50	4.52	1.09	0.00
38.00	4.52	1.09	0.00
38.50	4.52	1.09	0.00
39.00	4.52	1.09	0.00
39.50	4.52	1.09	0.00
40.00	4.52	1.09	0.00
40.50	4.52	1.09	0.00
41.00	4.52	1.09	0.00
41.50	4.52	1.09	0.00
42.00	4.52	1.09	0.00
42.50	4.52	1.09	0.00
43.00	4.52	1.09	0.00
43.50	4.52	1.09	0.00
44.00	4.52	1.09	0.00
44.50	4.52	1.09	0.00
45.00	4.52	1.09	0.00
45.50	4.52	1.09	0.00
46.00	4.52	1.09	0.00
46.50	4.52	1.09	0.00
47.00	4.52	1.09	0.00
47.50	4.52	1.09	0.00
48.00	4.52	1.09	0.00

Summary for Pond 1P: Undg Pond 1

Inflow Area = 1.980 ac, 98.48% Impervious, Inflow Depth = 4.17" for 5 YEAR event
Inflow = 12.77 cfs @ 11.95 hrs, Volume= 0.688 af
Outflow = 0.05 cfs @ 24.08 hrs, Volume= 0.142 af, Atten= 100%, Lag= 727.7 min
Primary = 0.05 cfs @ 24.08 hrs, Volume= 0.142 af
Routed to Link 1B : Study Point 1

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,000.10' @ 24.08 hrs Surf.Area= 0.286 ac Storage= 0.633 af

Plug-Flow detention time= 1,184.4 min calculated for 0.142 af (21% of inflow)
Center-of-Mass det. time= 950.7 min (1,703.8 - 753.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	997.00'	0.394 af	**51.42'W x 242.31'L x 5.50'H Field A** 1.573 af Overall - 0.588 af Embedded = 0.985 af x 40.0% Voids
#2A	997.75'	0.588 af	**ADS_StormTech MC-3500 d +Cap** x 231 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 231 Chambers in 7 Rows Cap Storage= 14.9 cf x 2 x 7 rows = 208.6 cf
		0.982 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	997.00'	**36.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	997.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,001.00'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,002.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.05 cfs @ 24.08 hrs HW=1,000.10' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.05 cfs of 43.02 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 8.42 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Undg Pond 1 - 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 7 rows = 208.6 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

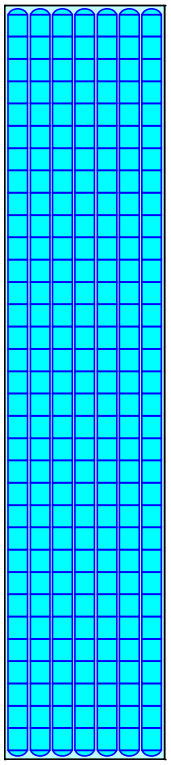
33 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 240.31' Row Length +12.0" End Stone x 2 = 242.31' Base Length
7 Rows x 77.0" Wide + 9.0" Spacing x 6 + 12.0" Side Stone x 2 = 51.42' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

231 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 7 Rows = 25,607.5 cf Chamber Storage

68,523.2 cf Field - 25,607.5 cf Chambers = 42,915.7 cf Stone x 40.0% Voids = 17,166.3 cf Stone Storage

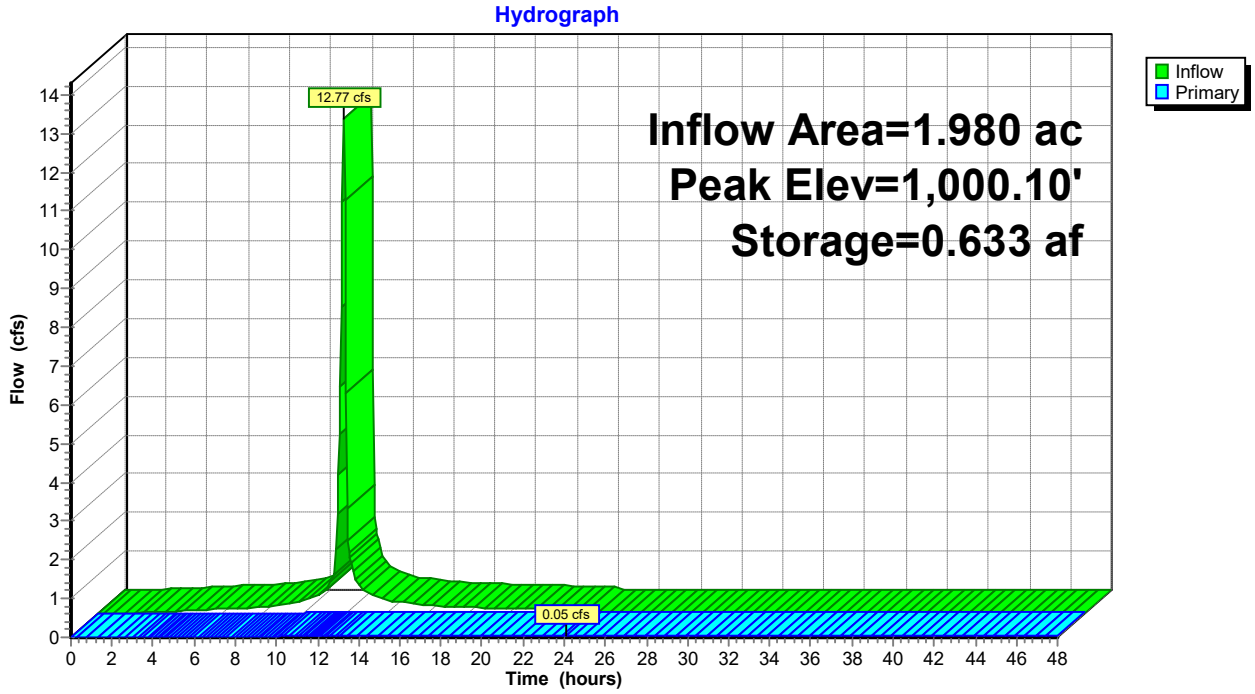
Chamber Storage + Stone Storage = 42,773.8 cf = 0.982 af
Overall Storage Efficiency = 62.4%
Overall System Size = 242.31' x 51.42' x 5.50'

231 Chambers
2,537.9 cy Field
1,589.5 cy Stone





Pond 1P: Undg Pond 1



Hydrograph for Pond 1P: Undg Pond 1

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	997.00	0.00
1.00	0.00	0.000	997.00	0.00
2.00	0.02	0.001	997.00	0.00
3.00	0.05	0.003	997.03	0.00
4.00	0.07	0.008	997.07	0.00
5.00	0.09	0.014	997.12	0.01
6.00	0.12	0.022	997.19	0.01
7.00	0.14	0.032	997.28	0.01
8.00	0.17	0.044	997.38	0.02
9.00	0.25	0.059	997.52	0.02
10.00	0.32	0.080	997.70	0.02
11.00	**0.59**	0.114	997.86	0.02
12.00	**10.65**	0.377	998.95	0.04
13.00	0.58	0.501	999.49	0.04
14.00	0.35	0.535	999.64	0.04
15.00	0.27	0.556	999.74	0.04
16.00	0.21	0.573	999.81	0.04
17.00	0.19	0.586	999.87	0.04
18.00	0.16	0.596	999.92	0.04
19.00	0.14	0.605	999.96	0.04
20.00	0.12	0.612	1,000.00	0.05
21.00	0.11	0.618	1,000.02	0.05
22.00	0.11	0.623	1,000.05	0.05
23.00	0.10	0.628	1,000.07	0.05
24.00	0.10	**0.633**	**1,000.10**	**0.05**
25.00	0.00	**0.630**	**1,000.08**	**0.05**
26.00	0.00	0.626	1,000.06	0.05
27.00	0.00	0.622	1,000.05	0.05
28.00	0.00	0.618	1,000.03	0.05
29.00	0.00	0.615	1,000.01	0.05
30.00	0.00	0.611	999.99	0.05
31.00	0.00	0.607	999.97	0.04
32.00	0.00	0.604	999.96	0.04
33.00	0.00	0.600	999.94	0.04
34.00	0.00	0.596	999.92	0.04
35.00	0.00	0.592	999.90	0.04
36.00	0.00	0.589	999.89	0.04
37.00	0.00	0.585	999.87	0.04
38.00	0.00	0.582	999.85	0.04
39.00	0.00	0.578	999.84	0.04
40.00	0.00	0.574	999.82	0.04
41.00	0.00	0.571	999.80	0.04
42.00	0.00	0.567	999.79	0.04
43.00	0.00	0.563	999.77	0.04
44.00	0.00	0.560	999.75	0.04
45.00	0.00	0.556	999.74	0.04
46.00	0.00	0.553	999.72	0.04
47.00	0.00	0.549	999.70	0.04
48.00	0.00	0.546	999.69	0.04

Summary for Pond 2P: Undg Pond 2

Inflow Area = 1.010 ac, 90.10% Impervious, Inflow Depth = 3.84" for 5 YEAR event
Inflow = 6.28 cfs @ 11.95 hrs, Volume= 0.323 af
Outflow = 0.05 cfs @ 23.98 hrs, Volume= 0.145 af, Atten= 99%, Lag= 721.9 min
Primary = 0.05 cfs @ 23.98 hrs, Volume= 0.145 af
Routed to Link 2B : Study Point 2

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 998.52' @ 23.98 hrs Surf.Area= 0.103 ac Storage= 0.266 af

Plug-Flow detention time= 1,048.3 min calculated for 0.145 af (45% of inflow)
Center-of-Mass det. time= 926.3 min (1,698.3 - 772.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	995.00'	0.166 af	**37.58'W x 119.53'L x 6.75'H Field A** 0.696 af Overall - 0.282 af Embedded = 0.414 af x 40.0% Voids
#2A	995.75'	0.282 af	**ADS_StormTech MC-7200 +Cap** x 68 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 68 Chambers in 4 Rows Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf
		0.448 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	995.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	999.00'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,001.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.05 cfs @ 23.98 hrs HW=998.52' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.05 cfs of 24.03 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 8.98 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Undg Pond 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-7200 +Cap (ADS StormTech® MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

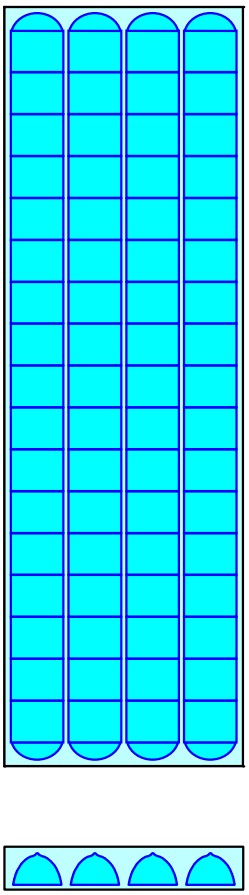
17 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 117.52' Row Length +12.0" End Stone x 2 = 119.53' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

68 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 4 Rows = 12,275.5 cf Chamber Storage

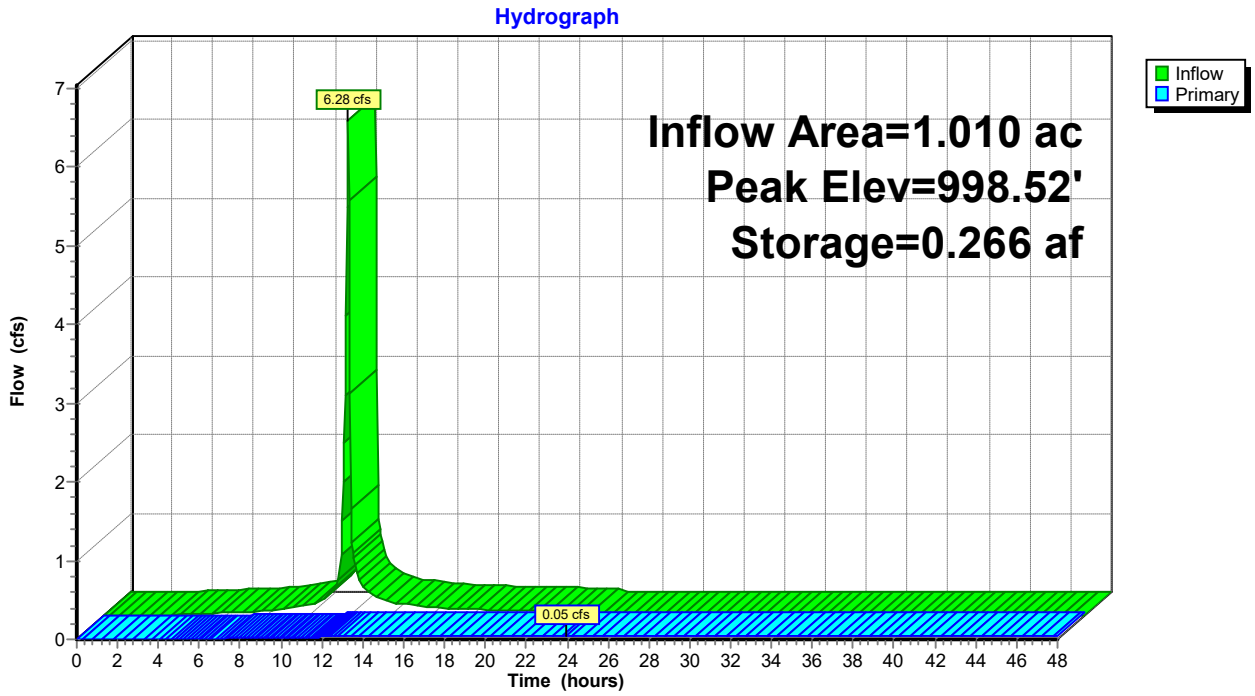
30,322.0 cf Field - 12,275.5 cf Chambers = 18,046.5 cf Stone x 40.0% Voids = 7,218.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,494.1 cf = 0.448 af
Overall Storage Efficiency = 64.3%
Overall System Size = 119.53' x 37.58' x 6.75'

68 Chambers
1,123.0 cy Field
668.4 cy Stone



Pond 2P: Undg Pond 2



Hydrograph for Pond 2P: Undg Pond 2

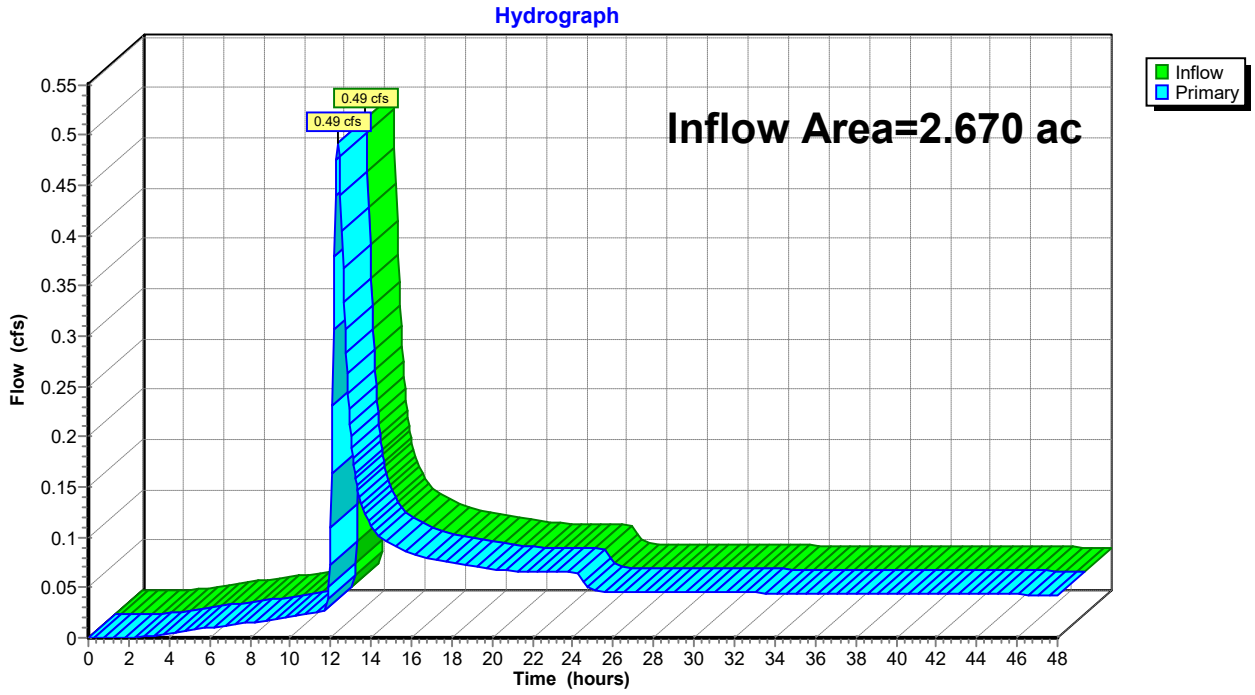
Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	995.00	0.00
1.00	0.00	0.000	995.00	0.00
2.00	0.00	0.000	995.00	0.00
3.00	0.00	0.000	995.00	0.00
4.00	0.01	0.001	995.02	0.00
5.00	0.03	0.002	995.05	0.00
6.00	0.04	0.004	995.11	0.01
7.00	0.05	0.007	995.18	0.01
8.00	0.06	0.011	995.27	0.01
9.00	0.10	0.017	995.40	0.02
10.00	0.14	0.024	995.59	0.02
11.00	**0.26**	0.038	995.83	0.02
12.00	**5.27**	0.163	997.26	0.04
13.00	0.29	0.224	997.99	0.05
14.00	0.17	0.238	998.17	0.05
15.00	0.14	0.247	998.28	0.05
16.00	0.11	0.253	998.36	0.05
17.00	0.09	0.257	998.41	0.05
18.00	0.08	0.261	998.45	0.05
19.00	0.07	0.263	998.48	0.05
20.00	0.06	0.264	998.50	0.05
21.00	0.06	0.265	998.51	0.05
22.00	0.05	0.266	998.52	0.05
23.00	0.05	0.266	998.52	0.05
24.00	0.05	**0.266**	**998.52**	**0.05**
25.00	0.00	0.263	998.48	0.05
26.00	0.00	0.258	998.42	0.05
27.00	0.00	0.255	998.37	0.05
28.00	0.00	0.251	998.32	0.05
29.00	0.00	0.247	998.27	0.05
30.00	0.00	0.243	998.23	0.05
31.00	0.00	0.239	998.18	0.05
32.00	0.00	0.235	998.13	0.05
33.00	0.00	0.231	998.08	0.05
34.00	0.00	0.228	998.04	0.05
35.00	0.00	0.224	997.99	0.05
36.00	0.00	0.220	997.94	0.04
37.00	0.00	0.216	997.90	0.04
38.00	0.00	0.213	997.85	0.04
39.00	0.00	0.209	997.81	0.04
40.00	0.00	0.206	997.77	0.04
41.00	0.00	0.202	997.72	0.04
42.00	0.00	0.198	997.68	0.04
43.00	0.00	0.195	997.64	0.04
44.00	0.00	0.191	997.60	0.04
45.00	0.00	0.188	997.55	0.04
46.00	0.00	0.185	997.51	0.04
47.00	0.00	0.181	997.47	0.04
48.00	0.00	0.178	997.43	0.04

Summary for Link 1B: Study Point 1

Inflow Area = 2.670 ac, 73.03% Impervious, Inflow Depth > 0.91" for 5 YEAR event
Inflow = 0.49 cfs @ 12.36 hrs, Volume= 0.202 af
Primary = 0.49 cfs @ 12.36 hrs, Volume= 0.202 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 1B: Study Point 1



Hydrograph for Link 1B: Study Point 1

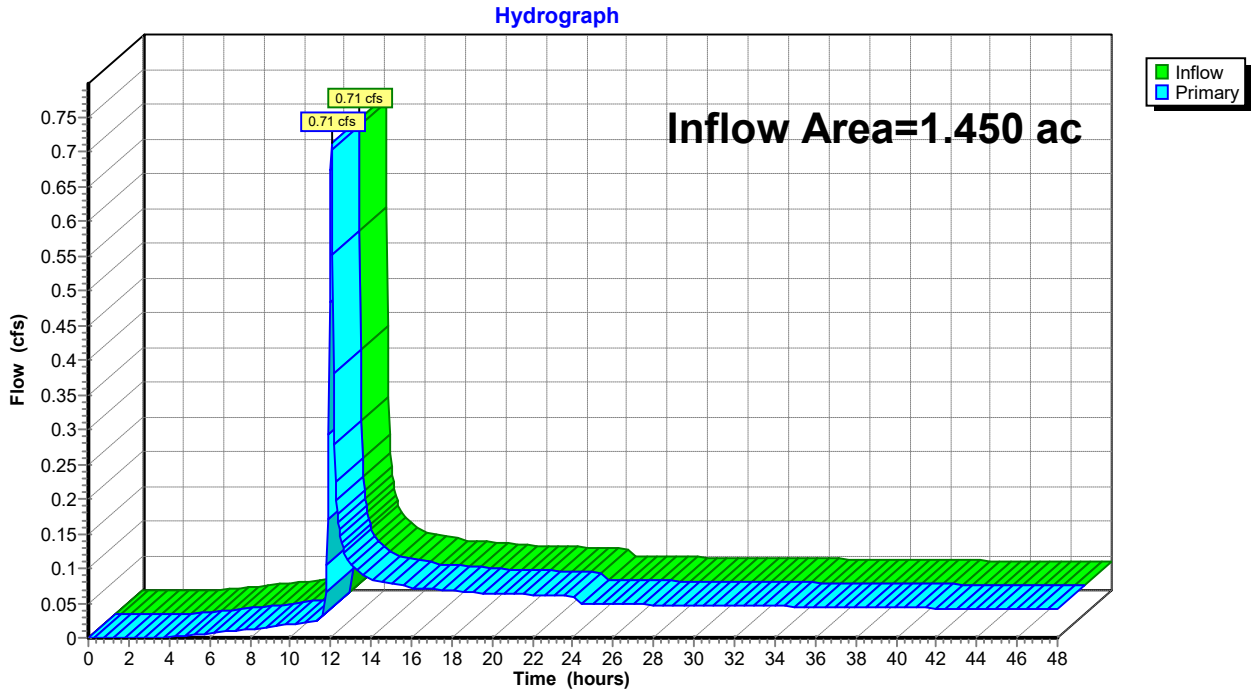
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.04	0.00	0.04
3.00	0.00	0.00	0.00	31.50	0.04	0.00	0.04
3.50	0.00	0.00	0.00	32.00	0.04	0.00	0.04
4.00	0.00	0.00	0.00	32.50	0.04	0.00	0.04
4.50	0.01	0.00	0.01	33.00	0.04	0.00	0.04
5.00	0.01	0.00	0.01	33.50	0.04	0.00	0.04
5.50	0.01	0.00	0.01	34.00	0.04	0.00	0.04
6.00	0.01	0.00	0.01	34.50	0.04	0.00	0.04
6.50	0.01	0.00	0.01	35.00	0.04	0.00	0.04
7.00	0.01	0.00	0.01	35.50	0.04	0.00	0.04
7.50	0.01	0.00	0.01	36.00	0.04	0.00	0.04
8.00	0.02	0.00	0.02	36.50	0.04	0.00	0.04
8.50	0.02	0.00	0.02	37.00	0.04	0.00	0.04
9.00	0.02	0.00	0.02	37.50	0.04	0.00	0.04
9.50	0.02	0.00	0.02	38.00	0.04	0.00	0.04
10.00	0.02	0.00	0.02	38.50	0.04	0.00	0.04
10.50	0.02	0.00	0.02	39.00	0.04	0.00	0.04
11.00	0.02	0.00	0.02	39.50	0.04	0.00	0.04
11.50	0.03	0.00	0.03	40.00	0.04	0.00	0.04
12.00	**0.11**	0.00	**0.11**	40.50	0.04	0.00	0.04
12.50	**0.44**	0.00	**0.44**	41.00	0.04	0.00	0.04
13.00	0.20	0.00	0.20	41.50	0.04	0.00	0.04
13.50	0.14	0.00	0.14	42.00	0.04	0.00	0.04
14.00	0.11	0.00	0.11	42.50	0.04	0.00	0.04
14.50	0.10	0.00	0.10	43.00	0.04	0.00	0.04
15.00	0.09	0.00	0.09	43.50	0.04	0.00	0.04
15.50	0.09	0.00	0.09	44.00	0.04	0.00	0.04
16.00	0.08	0.00	0.08	44.50	0.04	0.00	0.04
16.50	0.08	0.00	0.08	45.00	0.04	0.00	0.04
17.00	0.08	0.00	0.08	45.50	0.04	0.00	0.04
17.50	0.08	0.00	0.08	46.00	0.04	0.00	0.04
18.00	0.08	0.00	0.08	46.50	0.04	0.00	0.04
18.50	0.07	0.00	0.07	47.00	0.04	0.00	0.04
19.00	0.07	0.00	0.07	47.50	0.04	0.00	0.04
19.50	0.07	0.00	0.07	48.00	0.04	0.00	0.04
20.00	0.07	0.00	0.07				
20.50	0.07	0.00	0.07				
21.00	0.07	0.00	0.07				
21.50	0.07	0.00	0.07				
22.00	0.07	0.00	0.07				
22.50	0.07	0.00	0.07				
23.00	0.07	0.00	0.07				
23.50	0.07	0.00	0.07				
24.00	0.07	0.00	0.07				
24.50	0.06	0.00	0.06				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Summary for Link 2B: Study Point 2

Inflow Area = 1.450 ac, 62.76% Impervious, Inflow Depth > 1.53" for 5 YEAR event
Inflow = 0.71 cfs @ 12.03 hrs, Volume= 0.185 af
Primary = 0.71 cfs @ 12.03 hrs, Volume= 0.185 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2B: Study Point 2



Hydrograph for Link 2B: Study Point 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.00	0.00	0.00	32.00	0.05	0.00	0.05
4.00	0.00	0.00	0.00	32.50	0.05	0.00	0.05
4.50	0.00	0.00	0.00	33.00	0.05	0.00	0.05
5.00	0.00	0.00	0.00	33.50	0.05	0.00	0.05
5.50	0.00	0.00	0.00	34.00	0.05	0.00	0.05
6.00	0.01	0.00	0.01	34.50	0.05	0.00	0.05
6.50	0.01	0.00	0.01	35.00	0.05	0.00	0.05
7.00	0.01	0.00	0.01	35.50	0.04	0.00	0.04
7.50	0.01	0.00	0.01	36.00	0.04	0.00	0.04
8.00	0.01	0.00	0.01	36.50	0.04	0.00	0.04
8.50	0.01	0.00	0.01	37.00	0.04	0.00	0.04
9.00	0.02	0.00	0.02	37.50	0.04	0.00	0.04
9.50	0.02	0.00	0.02	38.00	0.04	0.00	0.04
10.00	0.02	0.00	0.02	38.50	0.04	0.00	0.04
10.50	0.02	0.00	0.02	39.00	0.04	0.00	0.04
11.00	0.02	0.00	0.02	39.50	0.04	0.00	0.04
11.50	0.03	0.00	0.03	40.00	0.04	0.00	0.04
12.00	**0.67**	0.00	**0.67**	40.50	0.04	0.00	0.04
12.50	**0.15**	0.00	**0.15**	41.00	0.04	0.00	0.04
13.00	0.11	0.00	0.11	41.50	0.04	0.00	0.04
13.50	0.09	0.00	0.09	42.00	0.04	0.00	0.04
14.00	0.08	0.00	0.08	42.50	0.04	0.00	0.04
14.50	0.08	0.00	0.08	43.00	0.04	0.00	0.04
15.00	0.08	0.00	0.08	43.50	0.04	0.00	0.04
15.50	0.08	0.00	0.08	44.00	0.04	0.00	0.04
16.00	0.07	0.00	0.07	44.50	0.04	0.00	0.04
16.50	0.07	0.00	0.07	45.00	0.04	0.00	0.04
17.00	0.07	0.00	0.07	45.50	0.04	0.00	0.04
17.50	0.07	0.00	0.07	46.00	0.04	0.00	0.04
18.00	0.07	0.00	0.07	46.50	0.04	0.00	0.04
18.50	0.07	0.00	0.07	47.00	0.04	0.00	0.04
19.00	0.07	0.00	0.07	47.50	0.04	0.00	0.04
19.50	0.06	0.00	0.06	48.00	0.04	0.00	0.04
20.00	0.06	0.00	0.06				
20.50	0.06	0.00	0.06				
21.00	0.06	0.00	0.06				
21.50	0.06	0.00	0.06				
22.00	0.06	0.00	0.06				
22.50	0.06	0.00	0.06				
23.00	0.06	0.00	0.06				
23.50	0.06	0.00	0.06				
24.00	0.06	0.00	0.06				
24.50	0.05	0.00	0.05				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 B-1: Post-Developed Runoff Area=1.980 ac 98.48% Impervious Runoff Depth=4.87"
Tc=5.0 min CN=97 Runoff=14.79 cfs 0.803 af

Subcatchment B-1A: BYPASS POND to Runoff Area=0.690 ac 0.00% Impervious Runoff Depth=1.43"
Tc=35.7 min CN=60 Runoff=0.67 cfs 0.082 af

Subcatchment B-2: Post-Developed Runoff Area=1.010 ac 90.10% Impervious Runoff Depth=4.53"
Tc=5.0 min CN=94 Runoff=7.33 cfs 0.381 af

Subcatchment B-2A: BYPASS POND to Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=1.50"
Tc=10.0 min CN=61 Runoff=0.96 cfs 0.055 af

Subcatchment B-3: Post-Developed Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=1.50"
Tc=5.0 min CN=61 Runoff=0.37 cfs 0.018 af

Pond 1P: Undg Pond 1 Peak Elev=1,000.66' Storage=0.743 af Inflow=14.79 cfs 0.803 af
Outflow=0.05 cfs 0.155 af

Pond 2P: Undg Pond 2 Peak Elev=999.05' Storage=0.306 af Inflow=7.33 cfs 0.381 af
Outflow=0.09 cfs 0.173 af

Link 1B: Study Point 1 Inflow=0.72 cfs 0.237 af
Primary=0.72 cfs 0.237 af

Link 2B: Study Point 2 Inflow=1.00 cfs 0.228 af
Primary=1.00 cfs 0.228 af

Total Runoff Area = 4.260 ac Runoff Volume = 1.339 af Average Runoff Depth = 3.77"
32.86% Pervious = 1.400 ac 67.14% Impervious = 2.860 ac

Summary for Subcatchment B-1: Post-Developed

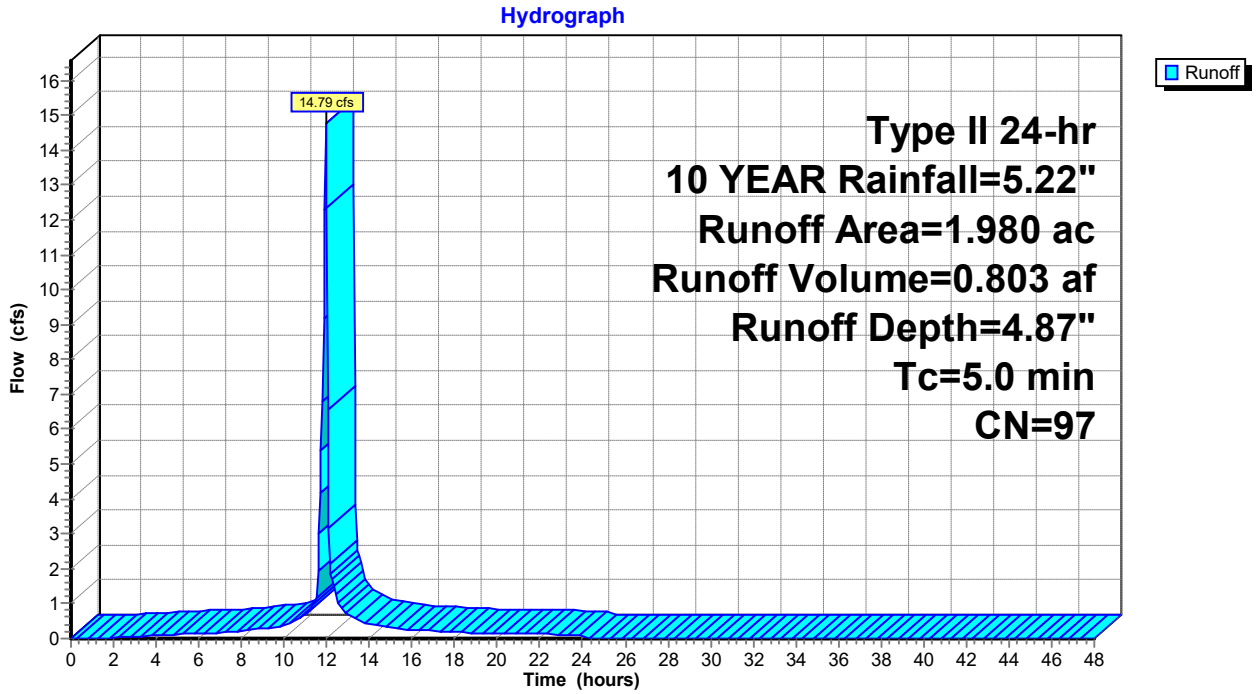
Runoff = 14.79 cfs @ 11.95 hrs, Volume= 0.803 af, Depth= 4.87"
Routed to Pond 1P : Undg Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
1.950	98	Paved parking, HSG B
0.030	61	>75% Grass cover, Good, HSG B
1.980	97	Weighted Average
0.030		1.52% Pervious Area
1.950		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-1: Post-Developed



Hydrograph for Subcatchment B-1: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.08	0.00	0.01
2.00	0.11	0.01	0.03
2.50	0.15	0.02	0.05
3.00	0.18	0.03	0.06
3.50	0.21	0.05	0.08
4.00	0.25	0.07	0.09
4.50	0.29	0.10	0.10
5.00	0.33	0.12	0.12
5.50	0.37	0.16	0.13
6.00	0.42	0.19	0.14
6.50	0.47	0.23	0.16
7.00	0.52	0.27	0.17
7.50	0.57	0.32	0.19
8.00	0.63	0.36	0.20
8.50	0.69	0.42	0.24
9.00	0.77	0.49	0.29
9.50	0.85	0.57	0.31
10.00	0.94	0.65	0.38
10.50	1.06	0.77	0.49
11.00	1.23	0.92	0.69
11.50	1.48	1.16	**1.13**
12.00	3.46	3.12	**12.33**
12.50	3.84	3.49	1.08
13.00	4.03	3.68	0.67
13.50	4.17	3.82	0.51
14.00	4.28	3.93	0.40
14.50	4.37	4.02	0.35
15.00	4.46	4.10	0.32
15.50	4.53	4.18	0.28
16.00	4.59	4.24	0.24
16.50	4.65	4.30	0.23
17.00	4.71	4.36	0.21
17.50	4.76	4.41	0.20
18.00	4.81	4.46	0.19
18.50	4.85	4.50	0.18
19.00	4.90	4.54	0.16
19.50	4.93	4.58	0.15
20.00	4.97	4.62	0.14
20.50	5.00	4.65	0.13
21.00	5.04	4.68	0.13
21.50	5.07	4.72	0.13
22.00	5.10	4.75	0.13
22.50	5.13	4.78	0.12
23.00	5.16	4.81	0.12
23.50	5.19	4.84	0.12
24.00	**5.22**	**4.87**	0.11
24.50	5.22	4.87	0.00
25.00	5.22	4.87	0.00
25.50	5.22	4.87	0.00
26.00	5.22	4.87	0.00
26.50	5.22	4.87	0.00
27.00	5.22	4.87	0.00
27.50	5.22	4.87	0.00
28.00	5.22	4.87	0.00
28.50	5.22	4.87	0.00
29.00	5.22	4.87	0.00
29.50	5.22	4.87	0.00
30.00	5.22	4.87	0.00
30.50	5.22	4.87	0.00
31.00	5.22	4.87	0.00
31.50	5.22	4.87	0.00
32.00	5.22	4.87	0.00
32.50	5.22	4.87	0.00
33.00	5.22	4.87	0.00
33.50	5.22	4.87	0.00
34.00	5.22	4.87	0.00
34.50	5.22	4.87	0.00
35.00	5.22	4.87	0.00
35.50	5.22	4.87	0.00
36.00	5.22	4.87	0.00
36.50	5.22	4.87	0.00
37.00	5.22	4.87	0.00
37.50	5.22	4.87	0.00
38.00	5.22	4.87	0.00
38.50	5.22	4.87	0.00
39.00	5.22	4.87	0.00
39.50	5.22	4.87	0.00
40.00	5.22	4.87	0.00
40.50	5.22	4.87	0.00
41.00	5.22	4.87	0.00
41.50	5.22	4.87	0.00
42.00	5.22	4.87	0.00
42.50	5.22	4.87	0.00
43.00	5.22	4.87	0.00
43.50	5.22	4.87	0.00
44.00	5.22	4.87	0.00
44.50	5.22	4.87	0.00
45.00	5.22	4.87	0.00
45.50	5.22	4.87	0.00
46.00	5.22	4.87	0.00
46.50	5.22	4.87	0.00
47.00	5.22	4.87	0.00
47.50	5.22	4.87	0.00
48.00	5.22	4.87	0.00

Summary for Subcatchment B-1A: BYPASS POND to SP1

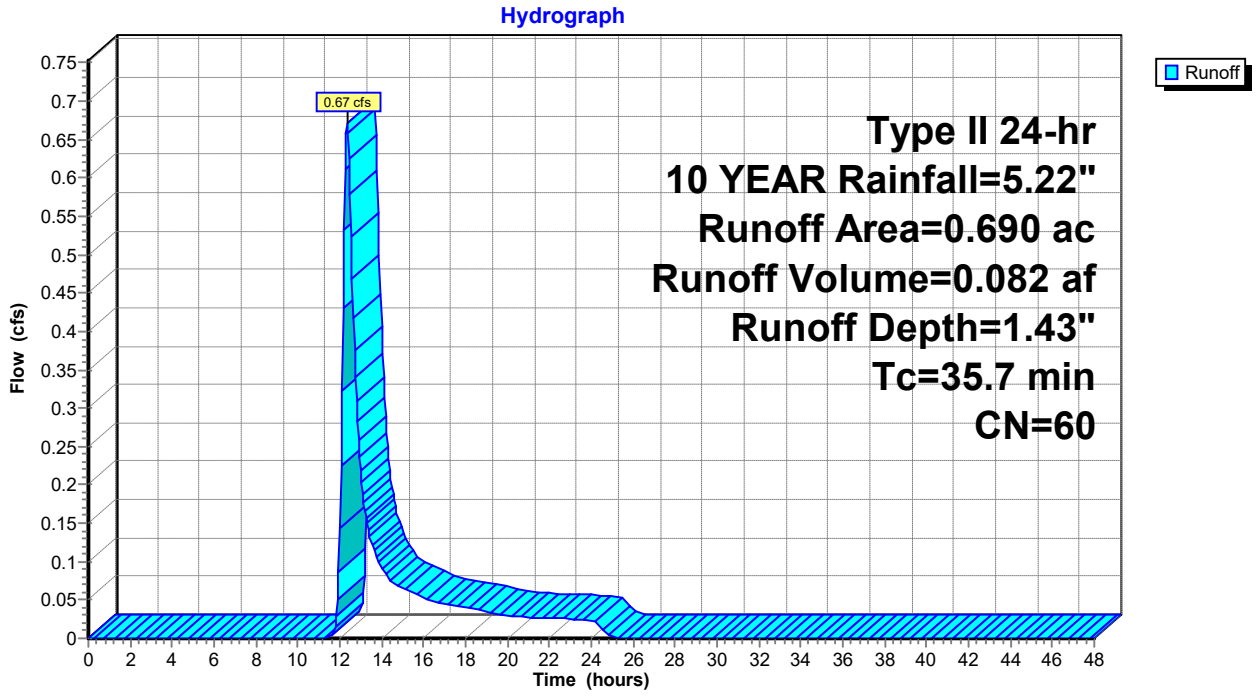
Runoff = 0.67 cfs @ 12.35 hrs, Volume= 0.082 af, Depth= 1.43"
Routed to Link 1B : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
0.100	55	Woods, Good, HSG B
0.590	61	>75% Grass cover, Good, HSG B
0.690	60	Weighted Average
0.690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.7					**Direct Entry,**

Subcatchment B-1A: BYPASS POND to SP1



Hydrograph for Subcatchment B-1A: BYPASS POND to SP1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.11	0.00	0.00
2.50	0.15	0.00	0.00
3.00	0.18	0.00	0.00
3.50	0.21	0.00	0.00
4.00	0.25	0.00	0.00
4.50	0.29	0.00	0.00
5.00	0.33	0.00	0.00
5.50	0.37	0.00	0.00
6.00	0.42	0.00	0.00
6.50	0.47	0.00	0.00
7.00	0.52	0.00	0.00
7.50	0.57	0.00	0.00
8.00	0.63	0.00	0.00
8.50	0.69	0.00	0.00
9.00	0.77	0.00	0.00
9.50	0.85	0.00	0.00
10.00	0.94	0.00	0.00
10.50	1.06	0.00	0.00
11.00	1.23	0.00	0.00
11.50	1.48	0.00	0.00
12.00	3.46	0.51	**0.14**
12.50	3.84	0.68	**0.58**
13.00	4.03	0.78	0.22
13.50	4.17	0.85	0.12
14.00	4.28	0.90	0.09
14.50	4.37	0.95	0.07
15.00	4.46	1.00	0.07
15.50	4.53	1.04	0.06
16.00	4.59	1.07	0.05
16.50	4.65	1.10	0.05
17.00	4.71	1.13	0.04
17.50	4.76	1.16	0.04
18.00	4.81	1.19	0.04
18.50	4.85	1.22	0.04
19.00	4.90	1.24	0.04
19.50	4.93	1.26	0.03
20.00	4.97	1.28	0.03
20.50	5.00	1.30	0.03
21.00	5.04	1.32	0.03
21.50	5.07	1.34	0.03
22.00	5.10	1.36	0.03
22.50	5.13	1.38	0.03
23.00	5.16	1.40	0.03
23.50	5.19	1.41	0.02
24.00	**5.22**	**1.43**	0.02
24.50	5.22	1.43	0.01
25.00	5.22	1.43	0.00
25.50	5.22	1.43	0.00
26.00	5.22	1.43	0.00
26.50	5.22	1.43	0.00
27.00	5.22	1.43	0.00
27.50	5.22	1.43	0.00
28.00	5.22	1.43	0.00
28.50	5.22	1.43	0.00
29.00	5.22	1.43	0.00
29.50	5.22	1.43	0.00
30.00	5.22	1.43	0.00
30.50	5.22	1.43	0.00
31.00	5.22	1.43	0.00
31.50	5.22	1.43	0.00
32.00	5.22	1.43	0.00
32.50	5.22	1.43	0.00
33.00	5.22	1.43	0.00
33.50	5.22	1.43	0.00
34.00	5.22	1.43	0.00
34.50	5.22	1.43	0.00
35.00	5.22	1.43	0.00
35.50	5.22	1.43	0.00
36.00	5.22	1.43	0.00
36.50	5.22	1.43	0.00
37.00	5.22	1.43	0.00
37.50	5.22	1.43	0.00
38.00	5.22	1.43	0.00
38.50	5.22	1.43	0.00
39.00	5.22	1.43	0.00
39.50	5.22	1.43	0.00
40.00	5.22	1.43	0.00
40.50	5.22	1.43	0.00
41.00	5.22	1.43	0.00
41.50	5.22	1.43	0.00
42.00	5.22	1.43	0.00
42.50	5.22	1.43	0.00
43.00	5.22	1.43	0.00
43.50	5.22	1.43	0.00
44.00	5.22	1.43	0.00
44.50	5.22	1.43	0.00
45.00	5.22	1.43	0.00
45.50	5.22	1.43	0.00
46.00	5.22	1.43	0.00
46.50	5.22	1.43	0.00
47.00	5.22	1.43	0.00
47.50	5.22	1.43	0.00
48.00	5.22	1.43	0.00

Summary for Subcatchment B-2: Post-Developed

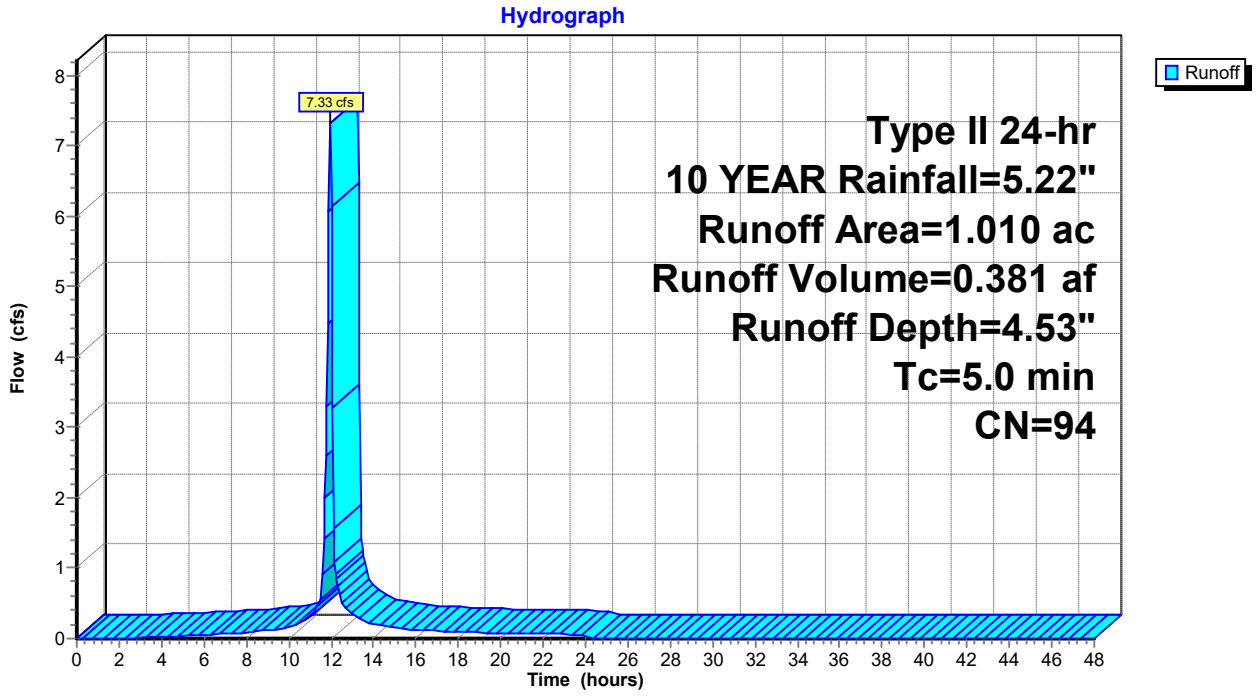
Runoff = 7.33 cfs @ 11.95 hrs, Volume= 0.381 af, Depth= 4.53"
Routed to Pond 2P : Undg Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
0.910	98	Paved parking, HSG B
0.100	61	>75% Grass cover, Good, HSG B
1.010	94	Weighted Average
0.100		9.90% Pervious Area
0.910		90.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-2: Post-Developed



Hydrograph for Subcatchment B-2: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.11	0.00	0.00
2.50	0.15	0.00	0.00
3.00	0.18	0.00	0.01
3.50	0.21	0.01	0.02
4.00	0.25	0.02	0.02
4.50	0.29	0.03	0.03
5.00	0.33	0.05	0.03
5.50	0.37	0.07	0.04
6.00	0.42	0.09	0.05
6.50	0.47	0.12	0.06
7.00	0.52	0.15	0.06
7.50	0.57	0.18	0.07
8.00	0.63	0.22	0.08
8.50	0.69	0.26	0.10
9.00	0.77	0.32	0.12
9.50	0.85	0.38	0.13
10.00	0.94	0.46	0.17
10.50	1.06	0.56	0.22
11.00	1.23	0.70	0.32
11.50	1.48	0.92	**0.53**
12.00	3.46	2.80	**6.14**
12.50	3.84	3.16	0.54
13.00	4.03	3.35	0.34
13.50	4.17	3.49	0.26
14.00	4.28	3.60	0.20
14.50	4.37	3.69	0.18
15.00	4.46	3.77	0.16
15.50	4.53	3.84	0.14
16.00	4.59	3.91	0.12
16.50	4.65	3.96	0.11
17.00	4.71	4.02	0.11
17.50	4.76	4.07	0.10
18.00	4.81	4.12	0.10
18.50	4.85	4.16	0.09
19.00	4.90	4.20	0.08
19.50	4.93	4.24	0.08
20.00	4.97	4.28	0.07
20.50	5.00	4.31	0.07
21.00	5.04	4.34	0.07
21.50	5.07	4.38	0.06
22.00	5.10	4.41	0.06
22.50	5.13	4.44	0.06
23.00	5.16	4.47	0.06
23.50	5.19	4.50	0.06
24.00	**5.22**	**4.53**	0.06
24.50	5.22	4.53	0.00
25.00	5.22	4.53	0.00
25.50	5.22	4.53	0.00
26.00	5.22	4.53	0.00
26.50	5.22	4.53	0.00
27.00	5.22	4.53	0.00
27.50	5.22	4.53	0.00
28.00	5.22	4.53	0.00
28.50	5.22	4.53	0.00
29.00	5.22	4.53	0.00
29.50	5.22	4.53	0.00
30.00	5.22	4.53	0.00
30.50	5.22	4.53	0.00
31.00	5.22	4.53	0.00
31.50	5.22	4.53	0.00
32.00	5.22	4.53	0.00
32.50	5.22	4.53	0.00
33.00	5.22	4.53	0.00
33.50	5.22	4.53	0.00
34.00	5.22	4.53	0.00
34.50	5.22	4.53	0.00
35.00	5.22	4.53	0.00
35.50	5.22	4.53	0.00
36.00	5.22	4.53	0.00
36.50	5.22	4.53	0.00
37.00	5.22	4.53	0.00
37.50	5.22	4.53	0.00
38.00	5.22	4.53	0.00
38.50	5.22	4.53	0.00
39.00	5.22	4.53	0.00
39.50	5.22	4.53	0.00
40.00	5.22	4.53	0.00
40.50	5.22	4.53	0.00
41.00	5.22	4.53	0.00
41.50	5.22	4.53	0.00
42.00	5.22	4.53	0.00
42.50	5.22	4.53	0.00
43.00	5.22	4.53	0.00
43.50	5.22	4.53	0.00
44.00	5.22	4.53	0.00
44.50	5.22	4.53	0.00
45.00	5.22	4.53	0.00
45.50	5.22	4.53	0.00
46.00	5.22	4.53	0.00
46.50	5.22	4.53	0.00
47.00	5.22	4.53	0.00
47.50	5.22	4.53	0.00
48.00	5.22	4.53	0.00

Summary for Subcatchment B-2A: BYPASS POND to SP2

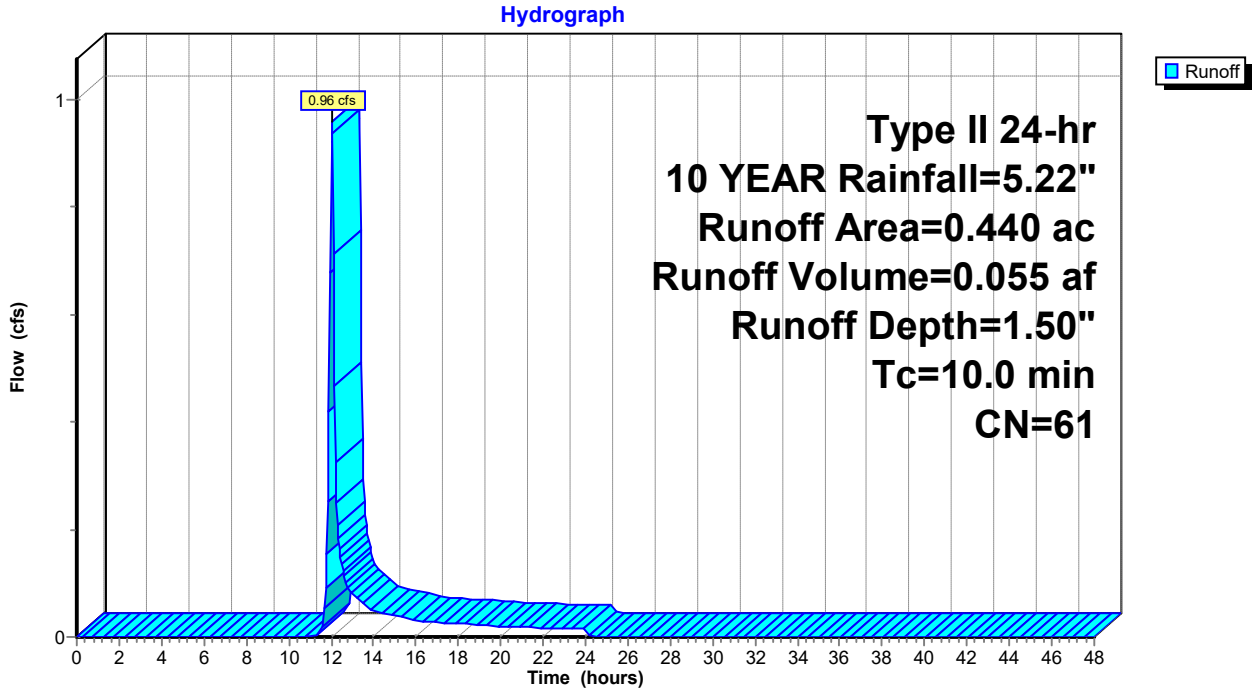
Runoff = 0.96 cfs @ 12.03 hrs, Volume= 0.055 af, Depth= 1.50"
Routed to Link 2B : Study Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
0.440	61	>75% Grass cover, Good, HSG B
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment B-2A: BYPASS POND to SP2



Hydrograph for Subcatchment B-2A: BYPASS POND to SP2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	28.50	5.22	1.50	0.00
0.50	0.03	0.00	0.00	29.00	5.22	1.50	0.00
1.00	0.05	0.00	0.00	29.50	5.22	1.50	0.00
1.50	0.08	0.00	0.00	30.00	5.22	1.50	0.00
2.00	0.11	0.00	0.00	30.50	5.22	1.50	0.00
2.50	0.15	0.00	0.00	31.00	5.22	1.50	0.00
3.00	0.18	0.00	0.00	31.50	5.22	1.50	0.00
3.50	0.21	0.00	0.00	32.00	5.22	1.50	0.00
4.00	0.25	0.00	0.00	32.50	5.22	1.50	0.00
4.50	0.29	0.00	0.00	33.00	5.22	1.50	0.00
5.00	0.33	0.00	0.00	33.50	5.22	1.50	0.00
5.50	0.37	0.00	0.00	34.00	5.22	1.50	0.00
6.00	0.42	0.00	0.00	34.50	5.22	1.50	0.00
6.50	0.47	0.00	0.00	35.00	5.22	1.50	0.00
7.00	0.52	0.00	0.00	35.50	5.22	1.50	0.00
7.50	0.57	0.00	0.00	36.00	5.22	1.50	0.00
8.00	0.63	0.00	0.00	36.50	5.22	1.50	0.00
8.50	0.69	0.00	0.00	37.00	5.22	1.50	0.00
9.00	0.77	0.00	0.00	37.50	5.22	1.50	0.00
9.50	0.85	0.00	0.00	38.00	5.22	1.50	0.00
10.00	0.94	0.00	0.00	38.50	5.22	1.50	0.00
10.50	1.06	0.00	0.00	39.00	5.22	1.50	0.00
11.00	1.23	0.00	0.00	39.50	5.22	1.50	0.00
11.50	1.48	0.01	0.01	40.00	5.22	1.50	0.00
12.00	3.46	0.56	**0.92**	40.50	5.22	1.50	0.00
12.50	3.84	0.73	**0.14**	41.00	5.22	1.50	0.00
13.00	4.03	0.83	0.08	41.50	5.22	1.50	0.00
13.50	4.17	0.90	0.06	42.00	5.22	1.50	0.00
14.00	4.28	0.96	0.05	42.50	5.22	1.50	0.00
14.50	4.37	1.01	0.04	43.00	5.22	1.50	0.00
15.00	4.46	1.05	0.04	43.50	5.22	1.50	0.00
15.50	4.53	1.10	0.04	44.00	5.22	1.50	0.00
16.00	4.59	1.13	0.03	44.50	5.22	1.50	0.00
16.50	4.65	1.17	0.03	45.00	5.22	1.50	0.00
17.00	4.71	1.20	0.03	45.50	5.22	1.50	0.00
17.50	4.76	1.23	0.03	46.00	5.22	1.50	0.00
18.00	4.81	1.26	0.02	46.50	5.22	1.50	0.00
18.50	4.85	1.28	0.02	47.00	5.22	1.50	0.00
19.00	4.90	1.31	0.02	47.50	5.22	1.50	0.00
19.50	4.93	1.33	0.02	48.00	5.22	1.50	0.00
20.00	4.97	1.35	0.02				
20.50	5.00	1.37	0.02				
21.00	5.04	1.39	0.02				
21.50	5.07	1.41	0.02				
22.00	5.10	1.43	0.02				
22.50	5.13	1.45	0.02				
23.00	5.16	1.47	0.02				
23.50	5.19	1.49	0.02				
24.00	**5.22**	**1.50**	0.02				
24.50	5.22	1.50	0.00				
25.00	5.22	1.50	0.00				
25.50	5.22	1.50	0.00				
26.00	5.22	1.50	0.00				
26.50	5.22	1.50	0.00				
27.00	5.22	1.50	0.00				
27.50	5.22	1.50	0.00				
28.00	5.22	1.50	0.00				

Summary for Subcatchment B-3: Post-Developed

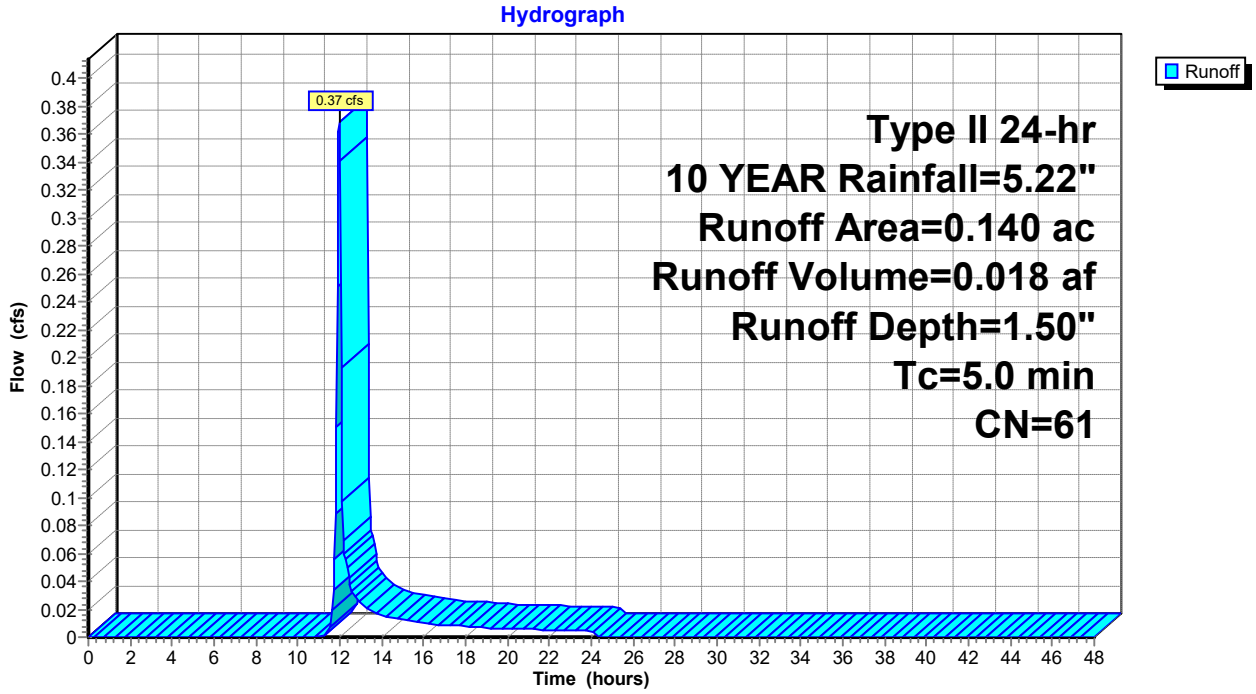
Runoff = 0.37 cfs @ 11.97 hrs, Volume= 0.018 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=5.22"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
0.140	61	>75% Grass cover, Good, HSG B
0.140	61	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-3: Post-Developed



Hydrograph for Subcatchment B-3: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.11	0.00	0.00
2.50	0.15	0.00	0.00
3.00	0.18	0.00	0.00
3.50	0.21	0.00	0.00
4.00	0.25	0.00	0.00
4.50	0.29	0.00	0.00
5.00	0.33	0.00	0.00
5.50	0.37	0.00	0.00
6.00	0.42	0.00	0.00
6.50	0.47	0.00	0.00
7.00	0.52	0.00	0.00
7.50	0.57	0.00	0.00
8.00	0.63	0.00	0.00
8.50	0.69	0.00	0.00
9.00	0.77	0.00	0.00
9.50	0.85	0.00	0.00
10.00	0.94	0.00	0.00
10.50	1.06	0.00	0.00
11.00	1.23	0.00	0.00
11.50	1.48	0.01	**0.00**
12.00	3.46	0.56	**0.34**
12.50	3.84	0.73	0.04
13.00	4.03	0.83	0.02
13.50	4.17	0.90	0.02
14.00	4.28	0.96	0.02
14.50	4.37	1.01	0.01
15.00	4.46	1.05	0.01
15.50	4.53	1.10	0.01
16.00	4.59	1.13	0.01
16.50	4.65	1.17	0.01
17.00	4.71	1.20	0.01
17.50	4.76	1.23	0.01
18.00	4.81	1.26	0.01
18.50	4.85	1.28	0.01
19.00	4.90	1.31	0.01
19.50	4.93	1.33	0.01
20.00	4.97	1.35	0.01
20.50	5.00	1.37	0.01
21.00	5.04	1.39	0.01
21.50	5.07	1.41	0.01
22.00	5.10	1.43	0.01
22.50	5.13	1.45	0.01
23.00	5.16	1.47	0.01
23.50	5.19	1.49	0.01
24.00	**5.22**	**1.50**	0.01
24.50	5.22	1.50	0.00
25.00	5.22	1.50	0.00
25.50	5.22	1.50	0.00
26.00	5.22	1.50	0.00
26.50	5.22	1.50	0.00
27.00	5.22	1.50	0.00
27.50	5.22	1.50	0.00
28.00	5.22	1.50	0.00
28.50	5.22	1.50	0.00
29.00	5.22	1.50	0.00
29.50	5.22	1.50	0.00
30.00	5.22	1.50	0.00
30.50	5.22	1.50	0.00
31.00	5.22	1.50	0.00
31.50	5.22	1.50	0.00
32.00	5.22	1.50	0.00
32.50	5.22	1.50	0.00
33.00	5.22	1.50	0.00
33.50	5.22	1.50	0.00
34.00	5.22	1.50	0.00
34.50	5.22	1.50	0.00
35.00	5.22	1.50	0.00
35.50	5.22	1.50	0.00
36.00	5.22	1.50	0.00
36.50	5.22	1.50	0.00
37.00	5.22	1.50	0.00
37.50	5.22	1.50	0.00
38.00	5.22	1.50	0.00
38.50	5.22	1.50	0.00
39.00	5.22	1.50	0.00
39.50	5.22	1.50	0.00
40.00	5.22	1.50	0.00
40.50	5.22	1.50	0.00
41.00	5.22	1.50	0.00
41.50	5.22	1.50	0.00
42.00	5.22	1.50	0.00
42.50	5.22	1.50	0.00
43.00	5.22	1.50	0.00
43.50	5.22	1.50	0.00
44.00	5.22	1.50	0.00
44.50	5.22	1.50	0.00
45.00	5.22	1.50	0.00
45.50	5.22	1.50	0.00
46.00	5.22	1.50	0.00
46.50	5.22	1.50	0.00
47.00	5.22	1.50	0.00
47.50	5.22	1.50	0.00
48.00	5.22	1.50	0.00

Summary for Pond 1P: Undg Pond 1

Inflow Area = 1.980 ac, 98.48% Impervious, Inflow Depth = 4.87" for 10 YEAR event
Inflow = 14.79 cfs @ 11.95 hrs, Volume= 0.803 af
Outflow = 0.05 cfs @ 24.08 hrs, Volume= 0.155 af, Atten= 100%, Lag= 728.0 min
Primary = 0.05 cfs @ 24.08 hrs, Volume= 0.155 af
Routed to Link 1B : Study Point 1

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,000.66' @ 24.08 hrs Surf.Area= 0.286 ac Storage= 0.743 af

Plug-Flow detention time= 1,203.5 min calculated for 0.155 af (19% of inflow)
Center-of-Mass det. time= 950.7 min (1,700.8 - 750.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	997.00'	0.394 af	**51.42'W x 242.31'L x 5.50'H Field A** 1.573 af Overall - 0.588 af Embedded = 0.985 af x 40.0% Voids
#2A	997.75'	0.588 af	**ADS_StormTech MC-3500 d +Cap** x 231 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 231 Chambers in 7 Rows Cap Storage= 14.9 cf x 2 x 7 rows = 208.6 cf
		0.982 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	997.00'	**36.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	997.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,001.00'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,002.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.05 cfs @ 24.08 hrs HW=1,000.66' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.05 cfs of 50.01 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 9.16 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Undg Pond 1 - 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 7 rows = 208.6 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

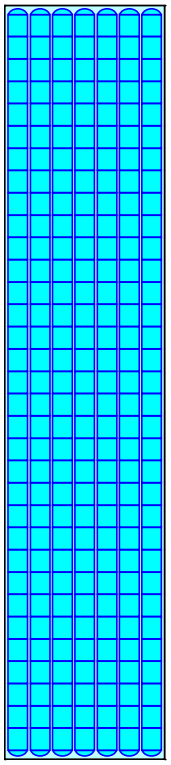
33 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 240.31' Row Length +12.0" End Stone x 2 = 242.31' Base Length
7 Rows x 77.0" Wide + 9.0" Spacing x 6 + 12.0" Side Stone x 2 = 51.42' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

231 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 7 Rows = 25,607.5 cf Chamber Storage

68,523.2 cf Field - 25,607.5 cf Chambers = 42,915.7 cf Stone x 40.0% Voids = 17,166.3 cf Stone Storage

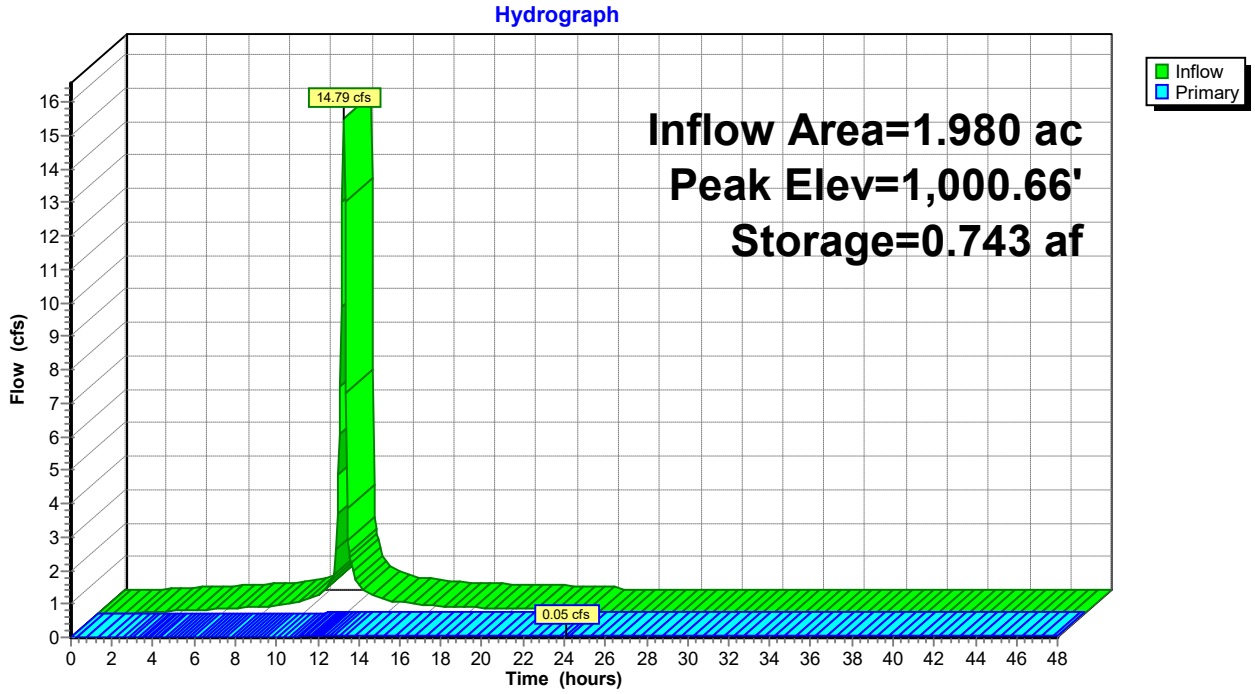
Chamber Storage + Stone Storage = 42,773.8 cf = 0.982 af
Overall Storage Efficiency = 62.4%
Overall System Size = 242.31' x 51.42' x 5.50'

231 Chambers
2,537.9 cy Field
1,589.5 cy Stone





Pond 1P: Undg Pond 1



Hydrograph for Pond 1P: Undg Pond 1

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	997.00	0.00
1.00	0.00	0.000	997.00	0.00
2.00	0.03	0.001	997.01	0.00
3.00	0.06	0.005	997.04	0.00
4.00	0.09	0.011	997.09	0.01
5.00	0.12	0.019	997.16	0.01
6.00	0.14	0.029	997.25	0.01
7.00	0.17	0.041	997.35	0.01
8.00	0.20	0.055	997.48	0.02
9.00	0.29	0.073	997.64	0.02
10.00	0.38	0.098	997.80	0.02
11.00	**0.69**	0.138	997.96	0.03
12.00	**12.33**	0.443	999.23	0.04
13.00	0.67	0.588	999.88	0.04
14.00	0.40	0.627	1,000.07	0.05
15.00	0.32	0.652	1,000.19	0.05
16.00	0.24	0.671	1,000.29	0.05
17.00	0.21	0.686	1,000.36	0.05
18.00	0.19	0.699	1,000.43	0.05
19.00	0.16	0.710	1,000.48	0.05
20.00	0.14	0.718	1,000.52	0.05
21.00	0.13	0.725	1,000.56	0.05
22.00	0.13	0.731	1,000.59	0.05
23.00	0.12	0.737	1,000.63	0.05
24.00	0.11	**0.743**	**1,000.66**	**0.05**
25.00	0.00	**0.740**	**1,000.64**	**0.05**
26.00	0.00	0.735	1,000.62	0.05
27.00	0.00	0.731	1,000.59	0.05
28.00	0.00	0.727	1,000.57	0.05
29.00	0.00	0.723	1,000.55	0.05
30.00	0.00	0.719	1,000.53	0.05
31.00	0.00	0.715	1,000.51	0.05
32.00	0.00	0.711	1,000.49	0.05
33.00	0.00	0.707	1,000.47	0.05
34.00	0.00	0.703	1,000.45	0.05
35.00	0.00	0.699	1,000.43	0.05
36.00	0.00	0.695	1,000.40	0.05
37.00	0.00	0.691	1,000.38	0.05
38.00	0.00	0.687	1,000.36	0.05
39.00	0.00	0.683	1,000.34	0.05
40.00	0.00	0.679	1,000.32	0.05
41.00	0.00	0.675	1,000.30	0.05
42.00	0.00	0.671	1,000.28	0.05
43.00	0.00	0.667	1,000.27	0.05
44.00	0.00	0.664	1,000.25	0.05
45.00	0.00	0.660	1,000.23	0.05
46.00	0.00	0.656	1,000.21	0.05
47.00	0.00	0.652	1,000.19	0.05
48.00	0.00	0.648	1,000.17	0.05

Summary for Pond 2P: Undg Pond 2

Inflow Area = 1.010 ac, 90.10% Impervious, Inflow Depth = 4.53" for 10 YEAR event
Inflow = 7.33 cfs @ 11.95 hrs, Volume= 0.381 af
Outflow = 0.09 cfs @ 18.07 hrs, Volume= 0.173 af, Atten= 99%, Lag= 366.9 min
Primary = 0.09 cfs @ 18.07 hrs, Volume= 0.173 af
Routed to Link 2B : Study Point 2

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 999.05' @ 18.07 hrs Surf.Area= 0.103 ac Storage= 0.306 af

Plug-Flow detention time= 997.0 min calculated for 0.172 af (45% of inflow)
Center-of-Mass det. time= 873.7 min (1,641.5 - 767.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	995.00'	0.166 af	**37.58'W x 119.53'L x 6.75'H Field A** 0.696 af Overall - 0.282 af Embedded = 0.414 af x 40.0% Voids
#2A	995.75'	0.282 af	**ADS_StormTech MC-7200 +Cap** x 68 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 68 Chambers in 4 Rows Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf
		0.448 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	995.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	999.00'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,001.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.09 cfs @ 18.07 hrs HW=999.05' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.09 cfs of 26.44 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 9.65 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.04 cfs @ 0.75 fps)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Undg Pond 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-7200 +Cap (ADS StormTech® MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

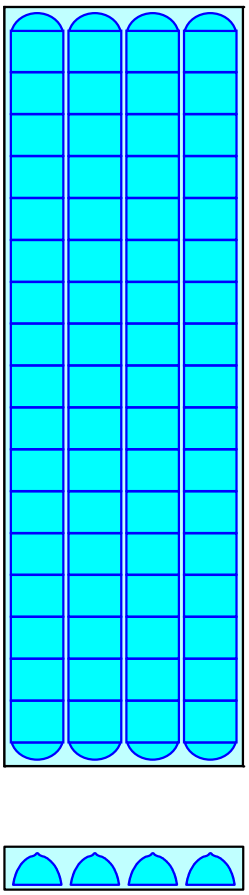
17 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 117.52' Row Length +12.0" End Stone x 2 = 119.53' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

68 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 4 Rows = 12,275.5 cf Chamber Storage

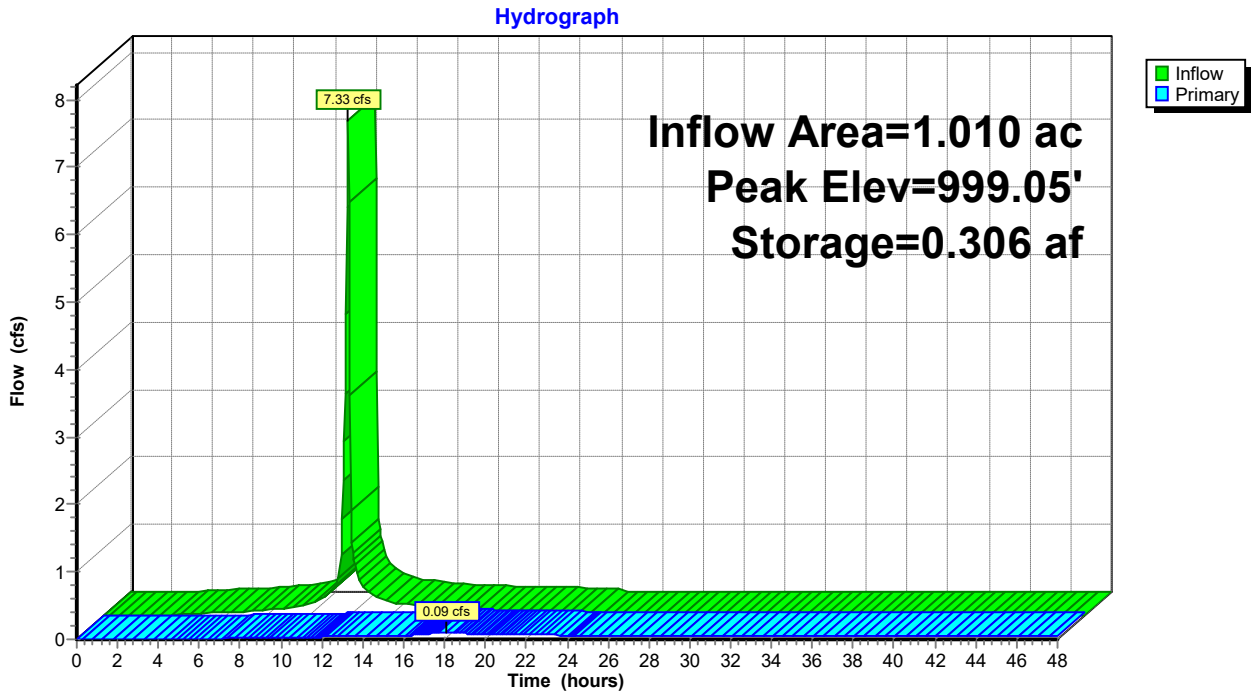
30,322.0 cf Field - 12,275.5 cf Chambers = 18,046.5 cf Stone x 40.0% Voids = 7,218.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,494.1 cf = 0.448 af
Overall Storage Efficiency = 64.3%
Overall System Size = 119.53' x 37.58' x 6.75'

68 Chambers
1,123.0 cy Field
668.4 cy Stone



Pond 2P: Undg Pond 2



Hydrograph for Pond 2P: Undg Pond 2

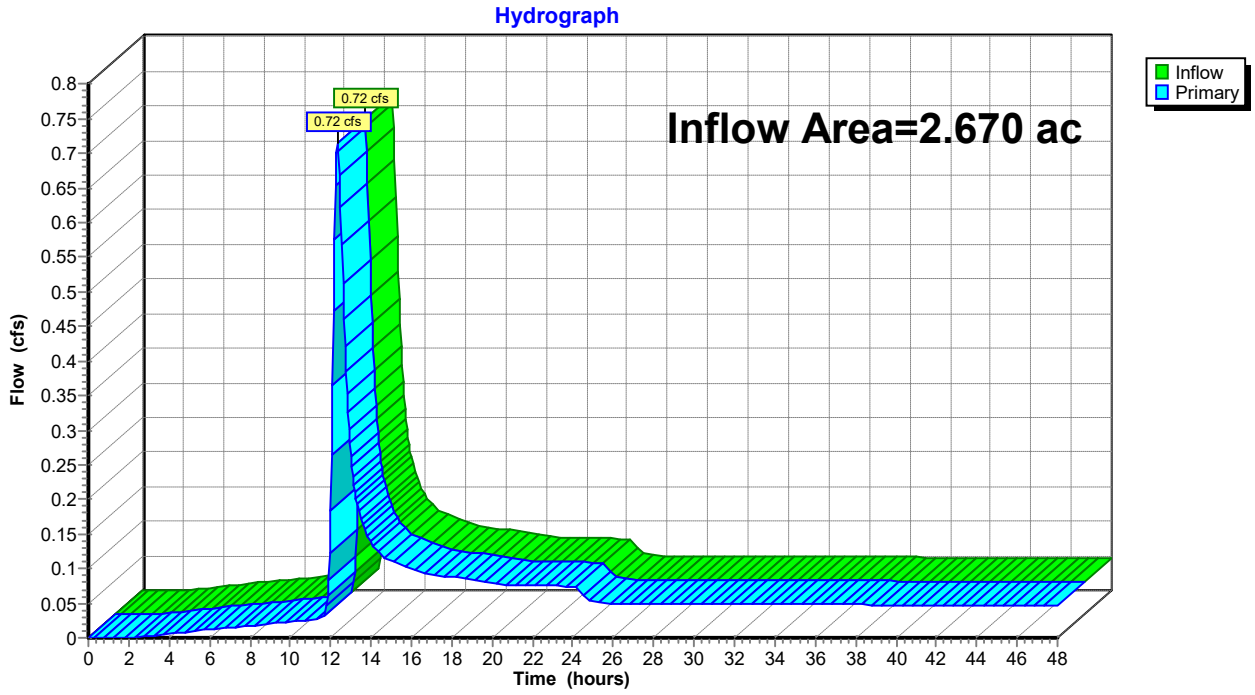
Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	995.00	0.00
1.00	0.00	0.000	995.00	0.00
2.00	0.00	0.000	995.00	0.00
3.00	0.01	0.000	995.01	0.00
4.00	0.02	0.001	995.03	0.00
5.00	0.03	0.003	995.08	0.01
6.00	0.05	0.006	995.15	0.01
7.00	0.06	0.010	995.25	0.01
8.00	0.08	0.015	995.36	0.01
9.00	0.12	0.022	995.53	0.02
10.00	0.17	0.032	995.76	0.02
11.00	**0.32**	0.049	995.95	0.02
12.00	**6.14**	0.196	997.65	0.04
13.00	0.34	0.266	998.52	0.05
14.00	0.20	0.283	998.75	0.05
15.00	0.16	0.294	998.89	0.05
16.00	0.12	0.301	998.99	0.05
17.00	0.11	0.305	999.04	0.08
18.00	0.10	**0.306**	**999.05**	**0.09**
19.00	0.08	**0.306**	**999.05**	**0.09**
20.00	0.07	0.305	999.04	0.08
21.00	0.07	0.304	999.03	0.07
22.00	0.06	0.304	999.02	0.07
23.00	0.06	0.304	999.02	0.06
24.00	0.06	0.303	999.01	0.06
25.00	0.00	0.299	998.96	0.05
26.00	0.00	0.295	998.90	0.05
27.00	0.00	0.291	998.84	0.05
28.00	0.00	0.286	998.79	0.05
29.00	0.00	0.282	998.73	0.05
30.00	0.00	0.278	998.68	0.05
31.00	0.00	0.274	998.62	0.05
32.00	0.00	0.270	998.57	0.05
33.00	0.00	0.266	998.52	0.05
34.00	0.00	0.262	998.47	0.05
35.00	0.00	0.258	998.41	0.05
36.00	0.00	0.254	998.36	0.05
37.00	0.00	0.250	998.31	0.05
38.00	0.00	0.246	998.26	0.05
39.00	0.00	0.242	998.22	0.05
40.00	0.00	0.238	998.17	0.05
41.00	0.00	0.234	998.12	0.05
42.00	0.00	0.231	998.07	0.05
43.00	0.00	0.227	998.03	0.05
44.00	0.00	0.223	997.98	0.05
45.00	0.00	0.219	997.93	0.04
46.00	0.00	0.216	997.89	0.04
47.00	0.00	0.212	997.85	0.04
48.00	0.00	0.208	997.80	0.04

Summary for Link 1B: Study Point 1

Inflow Area = 2.670 ac, 73.03% Impervious, Inflow Depth > 1.07" for 10 YEAR event
Inflow = 0.72 cfs @ 12.35 hrs, Volume= 0.237 af
Primary = 0.72 cfs @ 12.35 hrs, Volume= 0.237 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 1B: Study Point 1



Hydrograph for Link 1B: Study Point 1

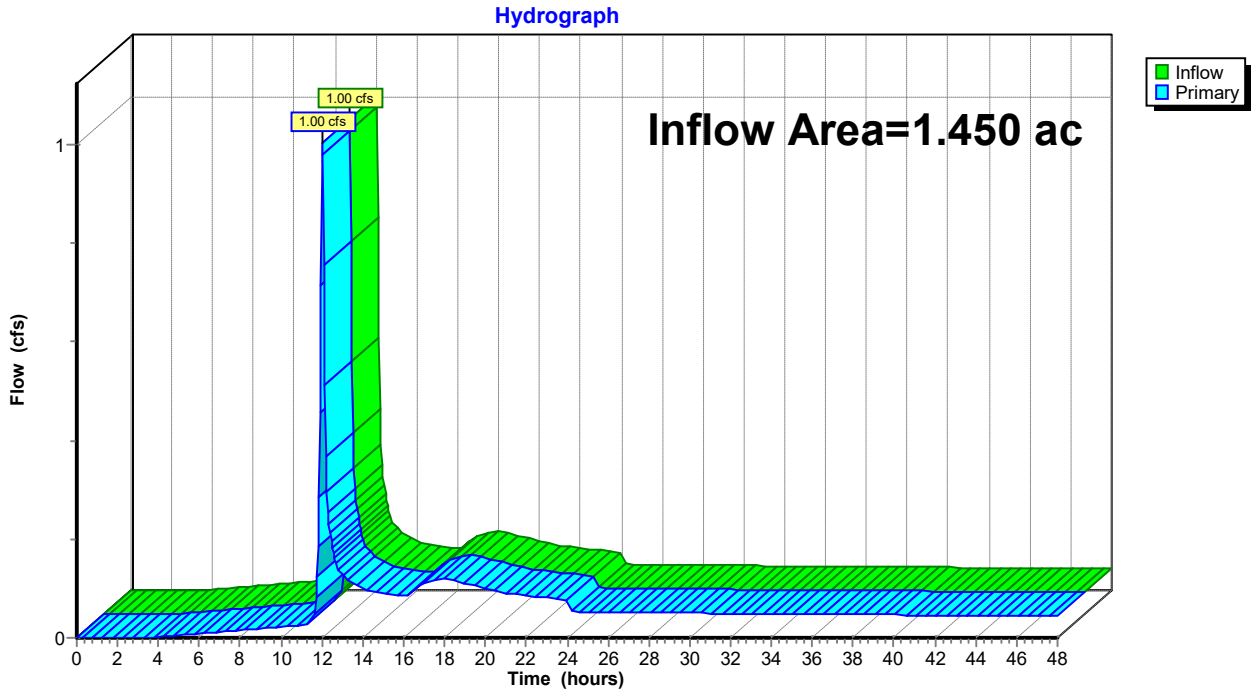
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.00	0.00	0.00	32.00	0.05	0.00	0.05
4.00	0.01	0.00	0.01	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.01	0.00	0.01	34.50	0.05	0.00	0.05
6.50	0.01	0.00	0.01	35.00	0.05	0.00	0.05
7.00	0.01	0.00	0.01	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.02	0.00	0.02	38.00	0.05	0.00	0.05
10.00	0.02	0.00	0.02	38.50	0.05	0.00	0.05
10.50	0.02	0.00	0.02	39.00	0.05	0.00	0.05
11.00	0.03	0.00	0.03	39.50	0.05	0.00	0.05
11.50	0.03	0.00	0.03	40.00	0.05	0.00	0.05
12.00	**0.18**	0.00	**0.18**	40.50	0.05	0.00	0.05
12.50	**0.62**	0.00	**0.62**	41.00	0.05	0.00	0.05
13.00	0.26	0.00	0.26	41.50	0.05	0.00	0.05
13.50	0.17	0.00	0.17	42.00	0.05	0.00	0.05
14.00	0.14	0.00	0.14	42.50	0.05	0.00	0.05
14.50	0.12	0.00	0.12	43.00	0.05	0.00	0.05
15.00	0.11	0.00	0.11	43.50	0.05	0.00	0.05
15.50	0.11	0.00	0.11	44.00	0.05	0.00	0.05
16.00	0.10	0.00	0.10	44.50	0.05	0.00	0.05
16.50	0.09	0.00	0.09	45.00	0.05	0.00	0.05
17.00	0.09	0.00	0.09	45.50	0.05	0.00	0.05
17.50	0.09	0.00	0.09	46.00	0.05	0.00	0.05
18.00	0.09	0.00	0.09	46.50	0.05	0.00	0.05
18.50	0.09	0.00	0.09	47.00	0.05	0.00	0.05
19.00	0.08	0.00	0.08	47.50	0.05	0.00	0.05
19.50	0.08	0.00	0.08	48.00	0.05	0.00	0.05
20.00	0.08	0.00	0.08				
20.50	0.08	0.00	0.08				
21.00	0.08	0.00	0.08				
21.50	0.08	0.00	0.08				
22.00	0.08	0.00	0.08				
22.50	0.08	0.00	0.08				
23.00	0.08	0.00	0.08				
23.50	0.07	0.00	0.07				
24.00	0.07	0.00	0.07				
24.50	0.06	0.00	0.06				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Summary for Link 2B: Study Point 2

Inflow Area = 1.450 ac, 62.76% Impervious, Inflow Depth > 1.88" for 10 YEAR event
Inflow = 1.00 cfs @ 12.03 hrs, Volume= 0.228 af
Primary = 1.00 cfs @ 12.03 hrs, Volume= 0.228 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2B: Study Point 2



Hydrograph for Link 2B: Study Point 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.00	0.00	0.00	32.00	0.05	0.00	0.05
4.00	0.00	0.00	0.00	32.50	0.05	0.00	0.05
4.50	0.00	0.00	0.00	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.01	0.00	0.01	34.50	0.05	0.00	0.05
6.50	0.01	0.00	0.01	35.00	0.05	0.00	0.05
7.00	0.01	0.00	0.01	35.50	0.05	0.00	0.05
7.50	0.01	0.00	0.01	36.00	0.05	0.00	0.05
8.00	0.01	0.00	0.01	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.02	0.00	0.02	38.00	0.05	0.00	0.05
10.00	0.02	0.00	0.02	38.50	0.05	0.00	0.05
10.50	0.02	0.00	0.02	39.00	0.05	0.00	0.05
11.00	0.02	0.00	0.02	39.50	0.05	0.00	0.05
11.50	0.04	0.00	0.04	40.00	0.05	0.00	0.05
12.00	**0.96**	0.00	**0.96**	40.50	0.05	0.00	0.05
12.50	**0.18**	0.00	**0.18**	41.00	0.05	0.00	0.05
13.00	0.13	0.00	0.13	41.50	0.05	0.00	0.05
13.50	0.11	0.00	0.11	42.00	0.05	0.00	0.05
14.00	0.10	0.00	0.10	42.50	0.05	0.00	0.05
14.50	0.09	0.00	0.09	43.00	0.05	0.00	0.05
15.00	0.09	0.00	0.09	43.50	0.05	0.00	0.05
15.50	0.09	0.00	0.09	44.00	0.05	0.00	0.05
16.00	0.08	0.00	0.08	44.50	0.04	0.00	0.04
16.50	0.10	0.00	0.10	45.00	0.04	0.00	0.04
17.00	0.11	0.00	0.11	45.50	0.04	0.00	0.04
17.50	0.12	0.00	0.12	46.00	0.04	0.00	0.04
18.00	0.12	0.00	0.12	46.50	0.04	0.00	0.04
18.50	0.12	0.00	0.12	47.00	0.04	0.00	0.04
19.00	0.11	0.00	0.11	47.50	0.04	0.00	0.04
19.50	0.11	0.00	0.11	48.00	0.04	0.00	0.04
20.00	0.10	0.00	0.10				
20.50	0.09	0.00	0.09				
21.00	0.09	0.00	0.09				
21.50	0.09	0.00	0.09				
22.00	0.09	0.00	0.09				
22.50	0.08	0.00	0.08				
23.00	0.08	0.00	0.08				
23.50	0.08	0.00	0.08				
24.00	0.08	0.00	0.08				
24.50	0.05	0.00	0.05				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 B-1: Post-Developed Runoff Area=1.980 ac 98.48% Impervious Runoff Depth=5.93"
Tc=5.0 min CN=97 Runoff=17.88 cfs 0.979 af

Subcatchment B-1A: BYPASS POND to Runoff Area=0.690 ac 0.00% Impervious Runoff Depth=2.11"
Tc=35.7 min CN=60 Runoff=1.05 cfs 0.122 af

Subcatchment B-2: Post-Developed Runoff Area=1.010 ac 90.10% Impervious Runoff Depth=5.58"
Tc=5.0 min CN=94 Runoff=8.93 cfs 0.470 af

Subcatchment B-2A: BYPASS POND to Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=2.20"
Tc=10.0 min CN=61 Runoff=1.44 cfs 0.081 af

Subcatchment B-3: Post-Developed Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=2.20"
Tc=5.0 min CN=61 Runoff=0.55 cfs 0.026 af

Pond 1P: Undg Pond 1 Peak Elev=1,001.10' Storage=0.817 af Inflow=17.88 cfs 0.979 af
Outflow=0.26 cfs 0.272 af

Pond 2P: Undg Pond 2 Peak Elev=999.23' Storage=0.319 af Inflow=8.93 cfs 0.470 af
Outflow=0.40 cfs 0.261 af

Link 1B: Study Point 1 Inflow=1.10 cfs 0.393 af
Primary=1.10 cfs 0.393 af

Link 2B: Study Point 2 Inflow=1.49 cfs 0.342 af
Primary=1.49 cfs 0.342 af

Total Runoff Area = 4.260 ac Runoff Volume = 1.677 af Average Runoff Depth = 4.72"
32.86% Pervious = 1.400 ac 67.14% Impervious = 2.860 ac

Summary for Subcatchment B-1: Post-Developed

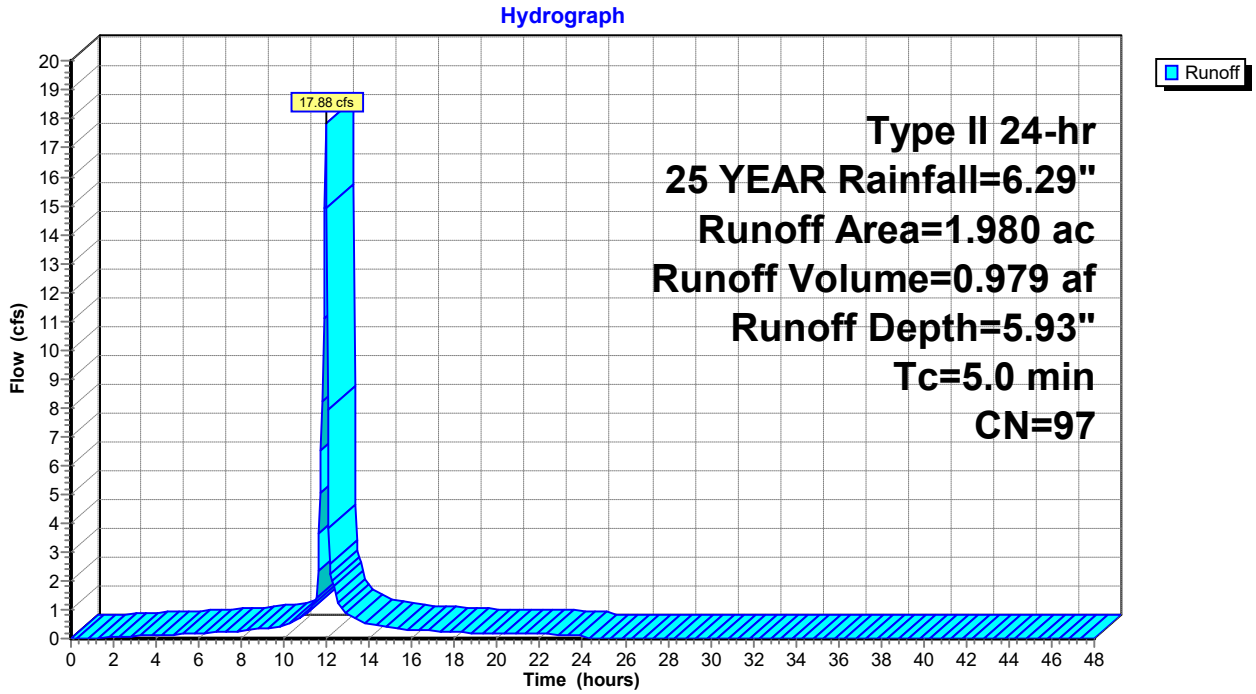
Runoff = 17.88 cfs @ 11.95 hrs, Volume= 0.979 af, Depth= 5.93"
Routed to Pond 1P : Undg Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
1.950	98	Paved parking, HSG B
0.030	61	>75% Grass cover, Good, HSG B
1.980	97	Weighted Average
0.030		1.52% Pervious Area
1.950		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-1: Post-Developed



Hydrograph for Subcatchment B-1: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.03
2.00	0.14	0.02	0.05
2.50	0.18	0.03	0.07
3.00	0.22	0.05	0.09
3.50	0.26	0.08	0.10
4.00	0.30	0.10	0.12
4.50	0.35	0.14	0.13
5.00	0.40	0.17	0.15
5.50	0.45	0.21	0.17
6.00	0.50	0.26	0.19
6.50	0.56	0.31	0.20
7.00	0.62	0.36	0.22
7.50	0.69	0.42	0.23
8.00	0.75	0.48	0.25
8.50	0.83	0.55	0.30
9.00	0.92	0.64	0.36
9.50	1.03	0.73	0.38
10.00	1.14	0.84	0.46
10.50	1.28	0.97	0.60
11.00	1.48	1.16	0.84
11.50	1.78	1.46	**1.38**
12.00	4.17	3.82	**14.90**
12.50	4.62	4.27	1.31
13.00	4.86	4.50	0.81
13.50	5.03	4.67	0.62
14.00	5.16	4.80	0.48
14.50	5.27	4.91	0.43
15.00	5.37	5.01	0.38
15.50	5.46	5.10	0.34
16.00	5.54	5.18	0.29
16.50	5.61	5.25	0.27
17.00	5.67	5.32	0.26
17.50	5.73	5.38	0.24
18.00	5.79	5.44	0.23
18.50	5.85	5.49	0.21
19.00	5.90	5.54	0.20
19.50	5.95	5.59	0.18
20.00	5.99	5.63	0.17
20.50	6.03	5.67	0.16
21.00	6.07	5.71	0.16
21.50	6.11	5.75	0.15
22.00	6.15	5.79	0.15
22.50	6.18	5.83	0.15
23.00	6.22	5.86	0.14
23.50	6.26	5.90	0.14
24.00	**6.29**	**5.93**	0.14
24.50	6.29	5.93	0.00
25.00	6.29	5.93	0.00
25.50	6.29	5.93	0.00
26.00	6.29	5.93	0.00
26.50	6.29	5.93	0.00
27.00	6.29	5.93	0.00
27.50	6.29	5.93	0.00
28.00	6.29	5.93	0.00
28.50	6.29	5.93	0.00
29.00	6.29	5.93	0.00
29.50	6.29	5.93	0.00
30.00	6.29	5.93	0.00
30.50	6.29	5.93	0.00
31.00	6.29	5.93	0.00
31.50	6.29	5.93	0.00
32.00	6.29	5.93	0.00
32.50	6.29	5.93	0.00
33.00	6.29	5.93	0.00
33.50	6.29	5.93	0.00
34.00	6.29	5.93	0.00
34.50	6.29	5.93	0.00
35.00	6.29	5.93	0.00
35.50	6.29	5.93	0.00
36.00	6.29	5.93	0.00
36.50	6.29	5.93	0.00
37.00	6.29	5.93	0.00
37.50	6.29	5.93	0.00
38.00	6.29	5.93	0.00
38.50	6.29	5.93	0.00
39.00	6.29	5.93	0.00
39.50	6.29	5.93	0.00
40.00	6.29	5.93	0.00
40.50	6.29	5.93	0.00
41.00	6.29	5.93	0.00
41.50	6.29	5.93	0.00
42.00	6.29	5.93	0.00
42.50	6.29	5.93	0.00
43.00	6.29	5.93	0.00
43.50	6.29	5.93	0.00
44.00	6.29	5.93	0.00
44.50	6.29	5.93	0.00
45.00	6.29	5.93	0.00
45.50	6.29	5.93	0.00
46.00	6.29	5.93	0.00
46.50	6.29	5.93	0.00
47.00	6.29	5.93	0.00
47.50	6.29	5.93	0.00
48.00	6.29	5.93	0.00

Summary for Subcatchment B-1A: BYPASS POND to SP1

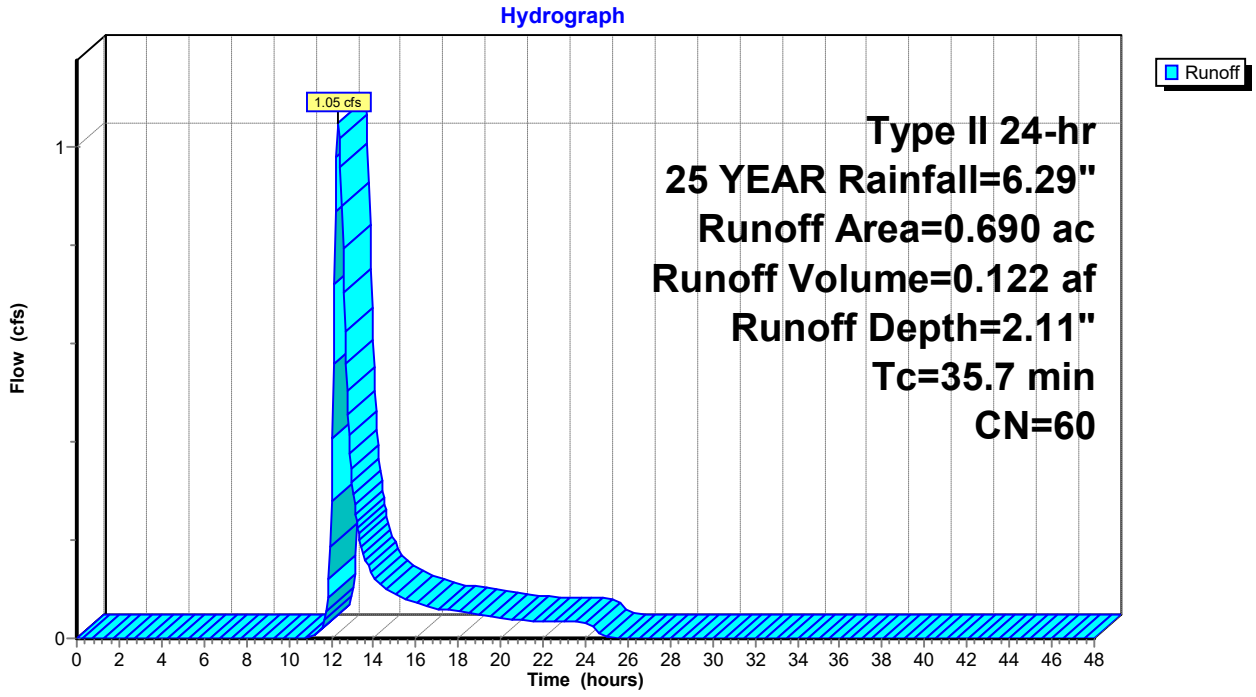
Runoff = 1.05 cfs @ 12.34 hrs, Volume= 0.122 af, Depth= 2.11"
Routed to Link 1B : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
0.100	55	Woods, Good, HSG B
0.590	61	>75% Grass cover, Good, HSG B
0.690	60	Weighted Average
0.690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.7					**Direct Entry,**

Subcatchment B-1A: BYPASS POND to SP1



Hydrograph for Subcatchment B-1A: BYPASS POND to SP1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.00
3.00	0.22	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.30	0.00	0.00
4.50	0.35	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.50	0.00	0.00
6.50	0.56	0.00	0.00
7.00	0.62	0.00	0.00
7.50	0.69	0.00	0.00
8.00	0.75	0.00	0.00
8.50	0.83	0.00	0.00
9.00	0.92	0.00	0.00
9.50	1.03	0.00	0.00
10.00	1.14	0.00	0.00
10.50	1.28	0.00	0.00
11.00	1.48	0.00	0.00
11.50	1.78	0.03	0.01
12.00	4.17	0.85	**0.28**
12.50	4.62	1.09	**0.88**
13.00	4.86	1.22	0.32
13.50	5.03	1.32	0.18
14.00	5.16	1.39	0.13
14.50	5.27	1.46	0.10
15.00	5.37	1.52	0.09
15.50	5.46	1.58	0.08
16.00	5.54	1.62	0.07
16.50	5.61	1.67	0.06
17.00	5.67	1.71	0.06
17.50	5.73	1.75	0.06
18.00	5.79	1.79	0.05
18.50	5.85	1.82	0.05
19.00	5.90	1.86	0.05
19.50	5.95	1.89	0.04
20.00	5.99	1.91	0.04
20.50	6.03	1.94	0.04
21.00	6.07	1.97	0.04
21.50	6.11	1.99	0.04
22.00	6.15	2.02	0.04
22.50	6.18	2.04	0.03
23.00	6.22	2.07	0.03
23.50	6.26	2.09	0.03
24.00	**6.29**	**2.11**	0.03
24.50	6.29	2.11	0.02
25.00	6.29	2.11	0.00
25.50	6.29	2.11	0.00
26.00	6.29	2.11	0.00
26.50	6.29	2.11	0.00
27.00	6.29	2.11	0.00
27.50	6.29	2.11	0.00
28.00	6.29	2.11	0.00
28.50	6.29	2.11	0.00
29.00	6.29	2.11	0.00
29.50	6.29	2.11	0.00
30.00	6.29	2.11	0.00
30.50	6.29	2.11	0.00
31.00	6.29	2.11	0.00
31.50	6.29	2.11	0.00
32.00	6.29	2.11	0.00
32.50	6.29	2.11	0.00
33.00	6.29	2.11	0.00
33.50	6.29	2.11	0.00
34.00	6.29	2.11	0.00
34.50	6.29	2.11	0.00
35.00	6.29	2.11	0.00
35.50	6.29	2.11	0.00
36.00	6.29	2.11	0.00
36.50	6.29	2.11	0.00
37.00	6.29	2.11	0.00
37.50	6.29	2.11	0.00
38.00	6.29	2.11	0.00
38.50	6.29	2.11	0.00
39.00	6.29	2.11	0.00
39.50	6.29	2.11	0.00
40.00	6.29	2.11	0.00
40.50	6.29	2.11	0.00
41.00	6.29	2.11	0.00
41.50	6.29	2.11	0.00
42.00	6.29	2.11	0.00
42.50	6.29	2.11	0.00
43.00	6.29	2.11	0.00
43.50	6.29	2.11	0.00
44.00	6.29	2.11	0.00
44.50	6.29	2.11	0.00
45.00	6.29	2.11	0.00
45.50	6.29	2.11	0.00
46.00	6.29	2.11	0.00
46.50	6.29	2.11	0.00
47.00	6.29	2.11	0.00
47.50	6.29	2.11	0.00
48.00	6.29	2.11	0.00

Summary for Subcatchment B-2: Post-Developed

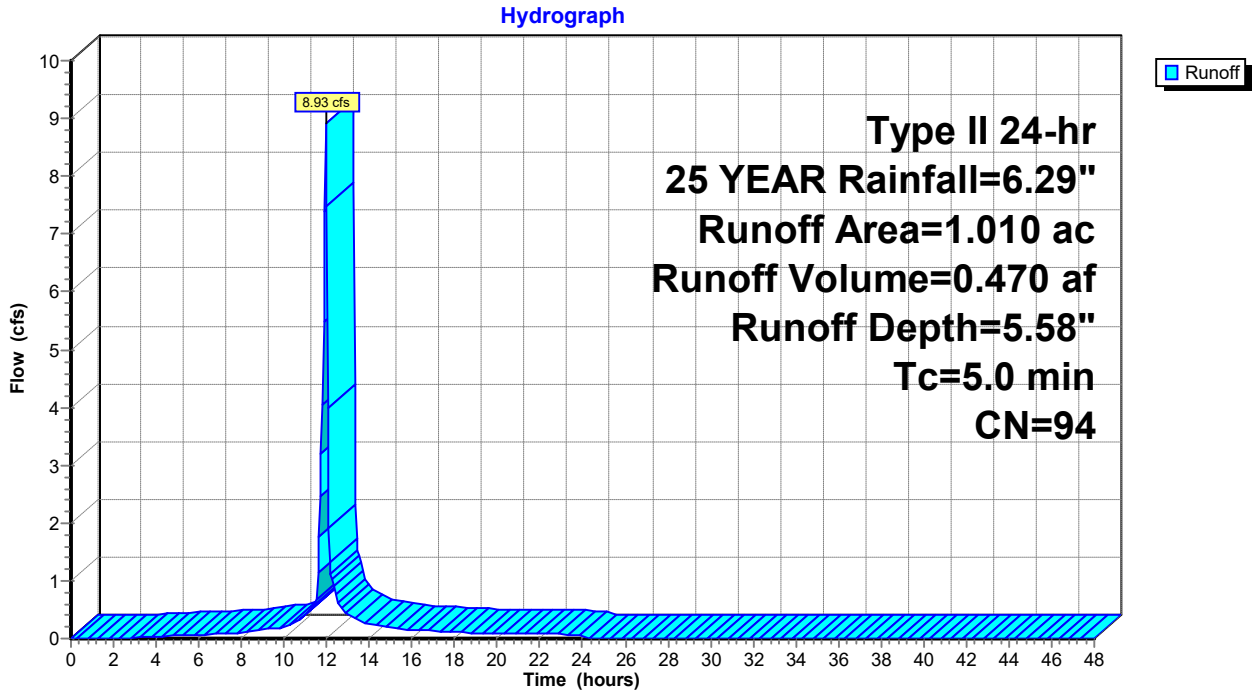
Runoff = 8.93 cfs @ 11.95 hrs, Volume= 0.470 af, Depth= 5.58"
Routed to Pond 2P : Undg Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
0.910	98	Paved parking, HSG B
0.100	61	>75% Grass cover, Good, HSG B
1.010	94	Weighted Average
0.100		9.90% Pervious Area
0.910		90.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-2: Post-Developed



Hydrograph for Subcatchment B-2: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.01
3.00	0.22	0.01	0.02
3.50	0.26	0.02	0.03
4.00	0.30	0.04	0.03
4.50	0.35	0.06	0.04
5.00	0.40	0.08	0.05
5.50	0.45	0.11	0.06
6.00	0.50	0.14	0.07
6.50	0.56	0.18	0.08
7.00	0.62	0.22	0.09
7.50	0.69	0.26	0.09
8.00	0.75	0.31	0.10
8.50	0.83	0.37	0.13
9.00	0.92	0.44	0.16
9.50	1.03	0.52	0.17
10.00	1.14	0.62	0.21
10.50	1.28	0.74	0.28
11.00	1.48	0.92	0.39
11.50	1.78	1.19	**0.66**
12.00	4.17	3.49	**7.47**
12.50	4.62	3.94	0.66
13.00	4.86	4.17	0.41
13.50	5.03	4.33	0.31
14.00	5.16	4.46	0.24
14.50	5.27	4.57	0.22
15.00	5.37	4.67	0.19
15.50	5.46	4.76	0.17
16.00	5.54	4.84	0.15
16.50	5.61	4.91	0.14
17.00	5.67	4.97	0.13
17.50	5.73	5.03	0.12
18.00	5.79	5.09	0.12
18.50	5.85	5.15	0.11
19.00	5.90	5.20	0.10
19.50	5.95	5.24	0.09
20.00	5.99	5.28	0.08
20.50	6.03	5.32	0.08
21.00	6.07	5.36	0.08
21.50	6.11	5.40	0.08
22.00	6.15	5.44	0.08
22.50	6.18	5.48	0.07
23.00	6.22	5.51	0.07
23.50	6.26	5.55	0.07
24.00	**6.29**	**5.58**	0.07
24.50	6.29	5.58	0.00
25.00	6.29	5.58	0.00
25.50	6.29	5.58	0.00
26.00	6.29	5.58	0.00
26.50	6.29	5.58	0.00
27.00	6.29	5.58	0.00
27.50	6.29	5.58	0.00
28.00	6.29	5.58	0.00
28.50	6.29	5.58	0.00
29.00	6.29	5.58	0.00
29.50	6.29	5.58	0.00
30.00	6.29	5.58	0.00
30.50	6.29	5.58	0.00
31.00	6.29	5.58	0.00
31.50	6.29	5.58	0.00
32.00	6.29	5.58	0.00
32.50	6.29	5.58	0.00
33.00	6.29	5.58	0.00
33.50	6.29	5.58	0.00
34.00	6.29	5.58	0.00
34.50	6.29	5.58	0.00
35.00	6.29	5.58	0.00
35.50	6.29	5.58	0.00
36.00	6.29	5.58	0.00
36.50	6.29	5.58	0.00
37.00	6.29	5.58	0.00
37.50	6.29	5.58	0.00
38.00	6.29	5.58	0.00
38.50	6.29	5.58	0.00
39.00	6.29	5.58	0.00
39.50	6.29	5.58	0.00
40.00	6.29	5.58	0.00
40.50	6.29	5.58	0.00
41.00	6.29	5.58	0.00
41.50	6.29	5.58	0.00
42.00	6.29	5.58	0.00
42.50	6.29	5.58	0.00
43.00	6.29	5.58	0.00
43.50	6.29	5.58	0.00
44.00	6.29	5.58	0.00
44.50	6.29	5.58	0.00
45.00	6.29	5.58	0.00
45.50	6.29	5.58	0.00
46.00	6.29	5.58	0.00
46.50	6.29	5.58	0.00
47.00	6.29	5.58	0.00
47.50	6.29	5.58	0.00
48.00	6.29	5.58	0.00

Summary for Subcatchment B-2A: BYPASS POND to SP2

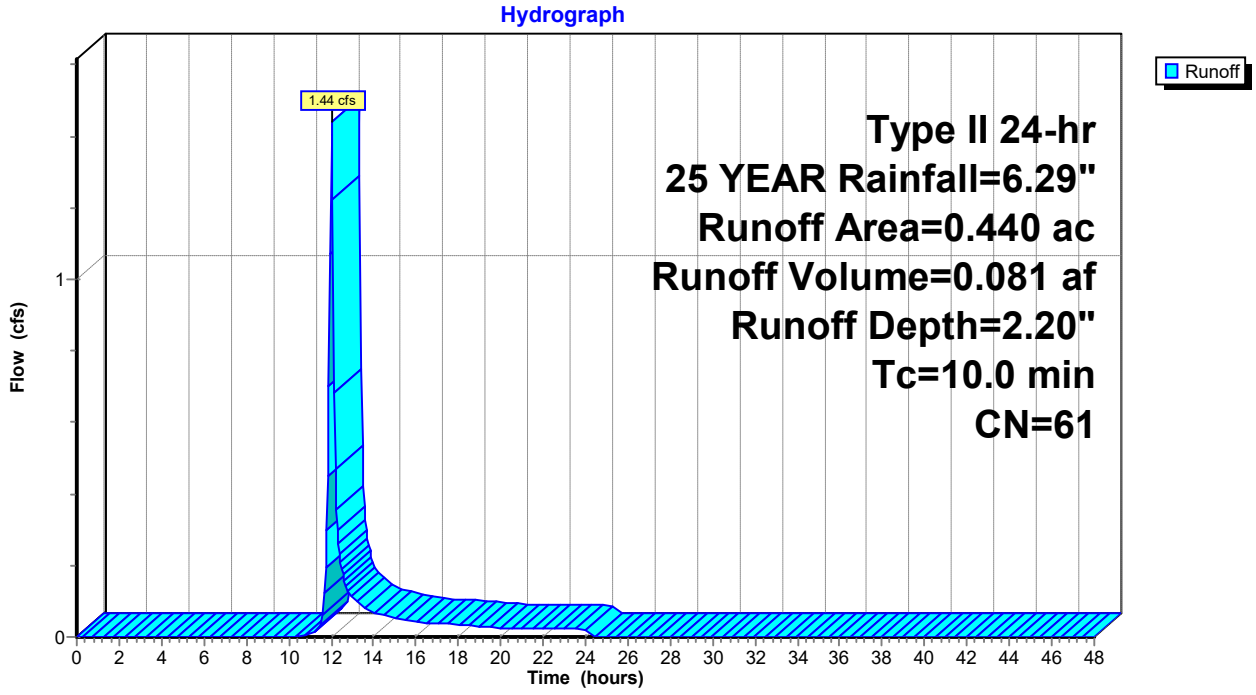
Runoff = 1.44 cfs @ 12.02 hrs, Volume= 0.081 af, Depth= 2.20"
Routed to Link 2B : Study Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
0.440	61	>75% Grass cover, Good, HSG B
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment B-2A: BYPASS POND to SP2



Hydrograph for Subcatchment B-2A: BYPASS POND to SP2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.00
3.00	0.22	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.30	0.00	0.00
4.50	0.35	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.50	0.00	0.00
6.50	0.56	0.00	0.00
7.00	0.62	0.00	0.00
7.50	0.69	0.00	0.00
8.00	0.75	0.00	0.00
8.50	0.83	0.00	0.00
9.00	0.92	0.00	0.00
9.50	1.03	0.00	0.00
10.00	1.14	0.00	0.00
10.50	1.28	0.00	0.00
11.00	1.48	0.01	0.01
11.50	1.78	0.04	0.03
12.00	4.17	0.90	**1.40**
12.50	4.62	1.15	0.19
13.00	4.86	1.28	0.11
13.50	5.03	1.38	0.09
14.00	5.16	1.46	0.07
14.50	5.27	1.53	0.06
15.00	5.37	1.60	0.05
15.50	5.46	1.65	0.05
16.00	5.54	1.70	0.04
16.50	5.61	1.75	0.04
17.00	5.67	1.79	0.04
17.50	5.73	1.83	0.04
18.00	5.79	1.87	0.03
18.50	5.85	1.90	0.03
19.00	5.90	1.94	0.03
19.50	5.95	1.97	0.03
20.00	5.99	2.00	0.02
20.50	6.03	2.02	0.02
21.00	6.07	2.05	0.02
21.50	6.11	2.08	0.02
22.00	6.15	2.10	0.02
22.50	6.18	2.13	0.02
23.00	6.22	2.15	0.02
23.50	6.26	2.18	0.02
24.00	**6.29**	**2.20**	0.02
24.50	6.29	2.20	0.00
25.00	6.29	2.20	0.00
25.50	6.29	2.20	0.00
26.00	6.29	2.20	0.00
26.50	6.29	2.20	0.00
27.00	6.29	2.20	0.00
27.50	6.29	2.20	0.00
28.00	6.29	2.20	0.00
28.50	6.29	2.20	0.00
29.00	6.29	2.20	0.00
29.50	6.29	2.20	0.00
30.00	6.29	2.20	0.00
30.50	6.29	2.20	0.00
31.00	6.29	2.20	0.00
31.50	6.29	2.20	0.00
32.00	6.29	2.20	0.00
32.50	6.29	2.20	0.00
33.00	6.29	2.20	0.00
33.50	6.29	2.20	0.00
34.00	6.29	2.20	0.00
34.50	6.29	2.20	0.00
35.00	6.29	2.20	0.00
35.50	6.29	2.20	0.00
36.00	6.29	2.20	0.00
36.50	6.29	2.20	0.00
37.00	6.29	2.20	0.00
37.50	6.29	2.20	0.00
38.00	6.29	2.20	0.00
38.50	6.29	2.20	0.00
39.00	6.29	2.20	0.00
39.50	6.29	2.20	0.00
40.00	6.29	2.20	0.00
40.50	6.29	2.20	0.00
41.00	6.29	2.20	0.00
41.50	6.29	2.20	0.00
42.00	6.29	2.20	0.00
42.50	6.29	2.20	0.00
43.00	6.29	2.20	0.00
43.50	6.29	2.20	0.00
44.00	6.29	2.20	0.00
44.50	6.29	2.20	0.00
45.00	6.29	2.20	0.00
45.50	6.29	2.20	0.00
46.00	6.29	2.20	0.00
46.50	6.29	2.20	0.00
47.00	6.29	2.20	0.00
47.50	6.29	2.20	0.00
48.00	6.29	2.20	0.00

Summary for Subcatchment B-3: Post-Developed

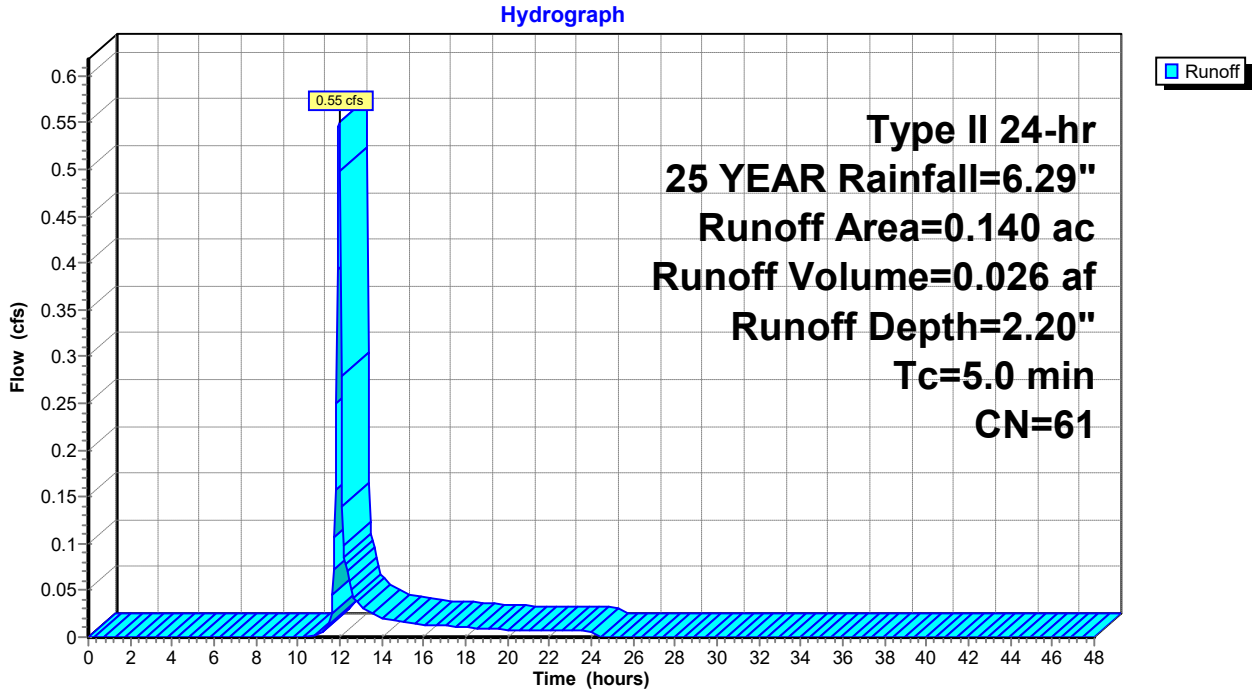
Runoff = 0.55 cfs @ 11.96 hrs, Volume= 0.026 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=6.29"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
0.140	61	>75% Grass cover, Good, HSG B
0.140	61	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-3: Post-Developed



Hydrograph for Subcatchment B-3: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.03	0.00	0.00
1.00	0.07	0.00	0.00
1.50	0.10	0.00	0.00
2.00	0.14	0.00	0.00
2.50	0.18	0.00	0.00
3.00	0.22	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.30	0.00	0.00
4.50	0.35	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.50	0.00	0.00
6.50	0.56	0.00	0.00
7.00	0.62	0.00	0.00
7.50	0.69	0.00	0.00
8.00	0.75	0.00	0.00
8.50	0.83	0.00	0.00
9.00	0.92	0.00	0.00
9.50	1.03	0.00	0.00
10.00	1.14	0.00	0.00
10.50	1.28	0.00	0.00
11.00	1.48	0.01	0.00
11.50	1.78	0.04	**0.01**
12.00	4.17	0.90	**0.50**
12.50	4.62	1.15	0.05
13.00	4.86	1.28	0.03
13.50	5.03	1.38	0.03
14.00	5.16	1.46	0.02
14.50	5.27	1.53	0.02
15.00	5.37	1.60	0.02
15.50	5.46	1.65	0.02
16.00	5.54	1.70	0.01
16.50	5.61	1.75	0.01
17.00	5.67	1.79	0.01
17.50	5.73	1.83	0.01
18.00	5.79	1.87	0.01
18.50	5.85	1.90	0.01
19.00	5.90	1.94	0.01
19.50	5.95	1.97	0.01
20.00	5.99	2.00	0.01
20.50	6.03	2.02	0.01
21.00	6.07	2.05	0.01
21.50	6.11	2.08	0.01
22.00	6.15	2.10	0.01
22.50	6.18	2.13	0.01
23.00	6.22	2.15	0.01
23.50	6.26	2.18	0.01
24.00	**6.29**	**2.20**	0.01
24.50	6.29	2.20	0.00
25.00	6.29	2.20	0.00
25.50	6.29	2.20	0.00
26.00	6.29	2.20	0.00
26.50	6.29	2.20	0.00
27.00	6.29	2.20	0.00
27.50	6.29	2.20	0.00
28.00	6.29	2.20	0.00
28.50	6.29	2.20	0.00
29.00	6.29	2.20	0.00
29.50	6.29	2.20	0.00
30.00	6.29	2.20	0.00
30.50	6.29	2.20	0.00
31.00	6.29	2.20	0.00
31.50	6.29	2.20	0.00
32.00	6.29	2.20	0.00
32.50	6.29	2.20	0.00
33.00	6.29	2.20	0.00
33.50	6.29	2.20	0.00
34.00	6.29	2.20	0.00
34.50	6.29	2.20	0.00
35.00	6.29	2.20	0.00
35.50	6.29	2.20	0.00
36.00	6.29	2.20	0.00
36.50	6.29	2.20	0.00
37.00	6.29	2.20	0.00
37.50	6.29	2.20	0.00
38.00	6.29	2.20	0.00
38.50	6.29	2.20	0.00
39.00	6.29	2.20	0.00
39.50	6.29	2.20	0.00
40.00	6.29	2.20	0.00
40.50	6.29	2.20	0.00
41.00	6.29	2.20	0.00
41.50	6.29	2.20	0.00
42.00	6.29	2.20	0.00
42.50	6.29	2.20	0.00
43.00	6.29	2.20	0.00
43.50	6.29	2.20	0.00
44.00	6.29	2.20	0.00
44.50	6.29	2.20	0.00
45.00	6.29	2.20	0.00
45.50	6.29	2.20	0.00
46.00	6.29	2.20	0.00
46.50	6.29	2.20	0.00
47.00	6.29	2.20	0.00
47.50	6.29	2.20	0.00
48.00	6.29	2.20	0.00

Summary for Pond 1P: Undg Pond 1

Inflow Area = 1.980 ac, 98.48% Impervious, Inflow Depth = 5.93" for 25 YEAR event
Inflow = 17.88 cfs @ 11.95 hrs, Volume= 0.979 af
Outflow = 0.26 cfs @ 16.84 hrs, Volume= 0.272 af, Atten= 99%, Lag= 293.5 min
Primary = 0.26 cfs @ 16.84 hrs, Volume= 0.272 af
Routed to Link 1B : Study Point 1

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,001.10' @ 16.84 hrs Surf.Area= 0.286 ac Storage= 0.817 af

Plug-Flow detention time= 931.8 min calculated for 0.272 af (28% of inflow)
Center-of-Mass det. time= 730.8 min (1,477.1 - 746.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	997.00'	0.394 af	**51.42'W x 242.31'L x 5.50'H Field A** 1.573 af Overall - 0.588 af Embedded = 0.985 af x 40.0% Voids
#2A	997.75'	0.588 af	**ADS_StormTech MC-3500 d +Cap** x 231 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 231 Chambers in 7 Rows Cap Storage= 14.9 cf x 2 x 7 rows = 208.6 cf
		0.982 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	997.00'	**36.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	997.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,001.00'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,002.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.26 cfs @ 16.84 hrs HW=1,001.10' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.26 cfs of 54.90 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 9.70 fps)
├**3=Orifice/Grate** (Orifice Controls 0.21 cfs @ 1.02 fps)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Undg Pond 1 - 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 7 rows = 208.6 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

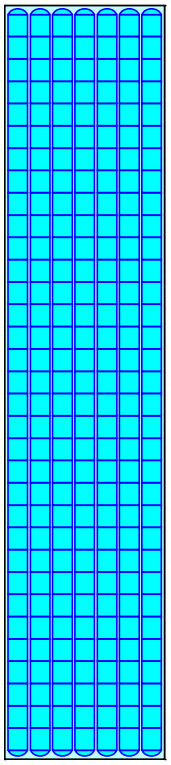
33 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 240.31' Row Length +12.0" End Stone x 2 = 242.31' Base Length
7 Rows x 77.0" Wide + 9.0" Spacing x 6 + 12.0" Side Stone x 2 = 51.42' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

231 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 7 Rows = 25,607.5 cf Chamber Storage

68,523.2 cf Field - 25,607.5 cf Chambers = 42,915.7 cf Stone x 40.0% Voids = 17,166.3 cf Stone Storage

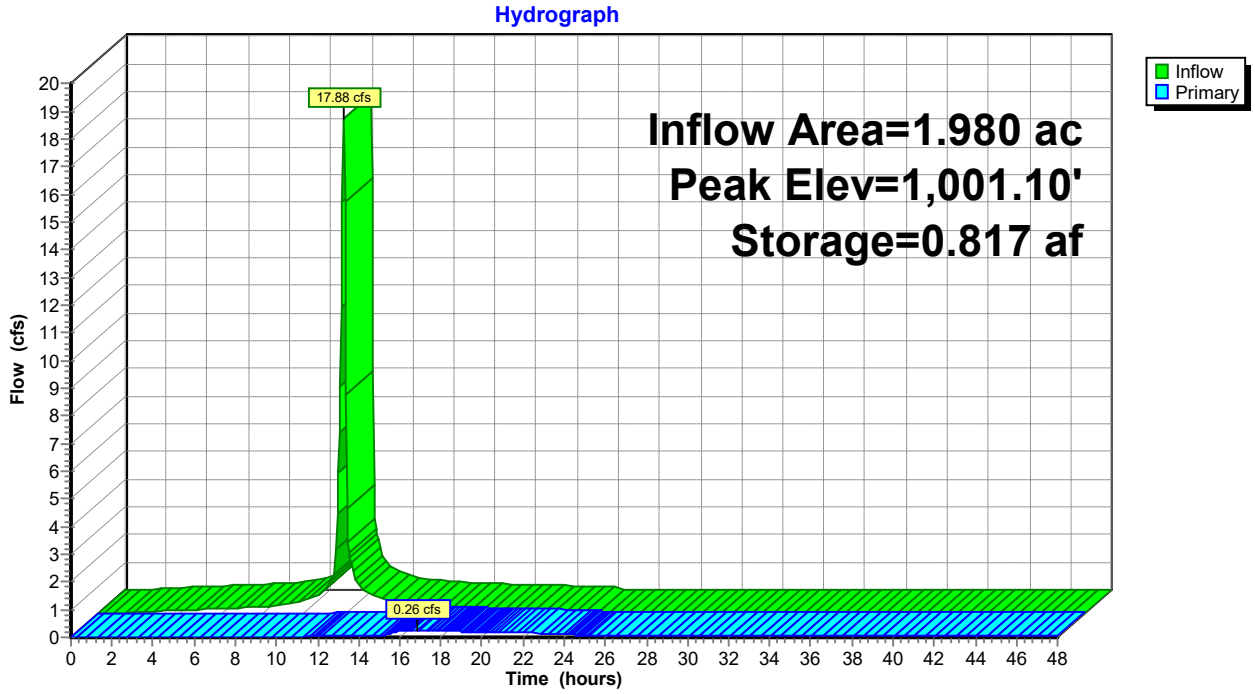
Chamber Storage + Stone Storage = 42,773.8 cf = 0.982 af
Overall Storage Efficiency = 62.4%
Overall System Size = 242.31' x 51.42' x 5.50'

231 Chambers
2,537.9 cy Field
1,589.5 cy Stone





Pond 1P: Undg Pond 1



Hydrograph for Pond 1P: Undg Pond 1

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	997.00	0.00
1.00	0.00	0.000	997.00	0.00
2.00	0.05	0.002	997.02	0.00
3.00	0.09	0.008	997.07	0.00
4.00	0.12	0.016	997.14	0.01
5.00	0.15	0.026	997.23	0.01
6.00	0.19	0.039	997.34	0.01
7.00	0.22	0.054	997.48	0.02
8.00	0.25	0.072	997.63	0.02
9.00	0.36	0.095	997.79	0.02
10.00	0.46	0.126	997.91	0.02
11.00	**0.84**	0.175	998.11	0.03
12.00	**14.90**	0.545	999.69	0.04
13.00	0.81	0.720	1,000.54	0.05
14.00	0.48	0.768	1,000.80	0.05
15.00	0.38	0.799	1,000.98	0.05
16.00	0.29	**0.815**	**1,001.09**	**0.23**
17.00	0.26	**0.817**	**1,001.10**	**0.26**
18.00	0.23	0.816	1,001.09	0.24
19.00	0.20	0.815	1,001.09	0.21
20.00	0.17	0.813	1,001.08	0.19
21.00	0.16	0.812	1,001.07	0.17
22.00	0.15	0.811	1,001.06	0.16
23.00	0.14	0.811	1,001.06	0.15
24.00	0.14	0.810	1,001.06	0.14
25.00	0.00	0.803	1,001.01	0.06
26.00	0.00	0.799	1,000.98	0.05
27.00	0.00	0.795	1,000.96	0.05
28.00	0.00	0.790	1,000.93	0.05
29.00	0.00	0.786	1,000.90	0.05
30.00	0.00	0.782	1,000.88	0.05
31.00	0.00	0.777	1,000.85	0.05
32.00	0.00	0.773	1,000.83	0.05
33.00	0.00	0.769	1,000.80	0.05
34.00	0.00	0.765	1,000.78	0.05
35.00	0.00	0.761	1,000.76	0.05
36.00	0.00	0.756	1,000.73	0.05
37.00	0.00	0.752	1,000.71	0.05
38.00	0.00	0.748	1,000.69	0.05
39.00	0.00	0.744	1,000.66	0.05
40.00	0.00	0.740	1,000.64	0.05
41.00	0.00	0.736	1,000.62	0.05
42.00	0.00	0.732	1,000.60	0.05
43.00	0.00	0.728	1,000.57	0.05
44.00	0.00	0.724	1,000.55	0.05
45.00	0.00	0.719	1,000.53	0.05
46.00	0.00	0.715	1,000.51	0.05
47.00	0.00	0.711	1,000.49	0.05
48.00	0.00	0.707	1,000.47	0.05

Summary for Pond 2P: Undg Pond 2

Inflow Area = 1.010 ac, 90.10% Impervious, Inflow Depth = 5.58" for 25 YEAR event
Inflow = 8.93 cfs @ 11.95 hrs, Volume= 0.470 af
Outflow = 0.40 cfs @ 13.03 hrs, Volume= 0.261 af, Atten= 96%, Lag= 65.0 min
Primary = 0.40 cfs @ 13.03 hrs, Volume= 0.261 af
Routed to Link 2B : Study Point 2

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 999.23' @ 13.03 hrs Surf.Area= 0.103 ac Storage= 0.319 af

Plug-Flow detention time= 735.8 min calculated for 0.261 af (55% of inflow)
Center-of-Mass det. time= 623.9 min (1,386.6 - 762.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	995.00'	0.166 af	**37.58'W x 119.53'L x 6.75'H Field A** 0.696 af Overall - 0.282 af Embedded = 0.414 af x 40.0% Voids
#2A	995.75'	0.282 af	**ADS_StormTech MC-7200 +Cap** x 68 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 68 Chambers in 4 Rows Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf
		0.448 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	995.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	999.00'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,001.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.40 cfs @ 13.03 hrs HW=999.23' (Free Discharge)
↑—**1=Orifice/Grate** (Passes 0.40 cfs of 27.17 cfs potential flow)
↑—**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 9.85 fps)
—**3=Orifice/Grate** (Orifice Controls 0.34 cfs @ 1.52 fps)
—**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Undg Pond 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-7200 +Cap (ADS StormTech® MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

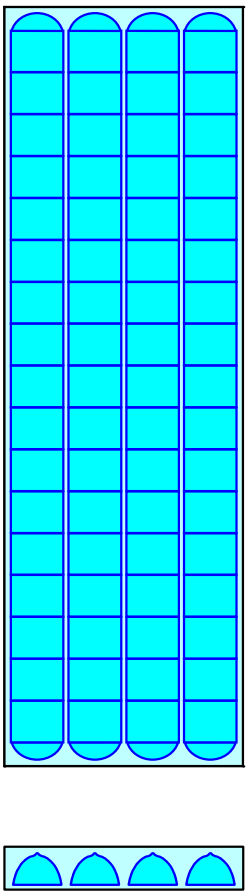
17 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 117.52' Row Length +12.0" End Stone x 2 = 119.53' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

68 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 4 Rows = 12,275.5 cf Chamber Storage

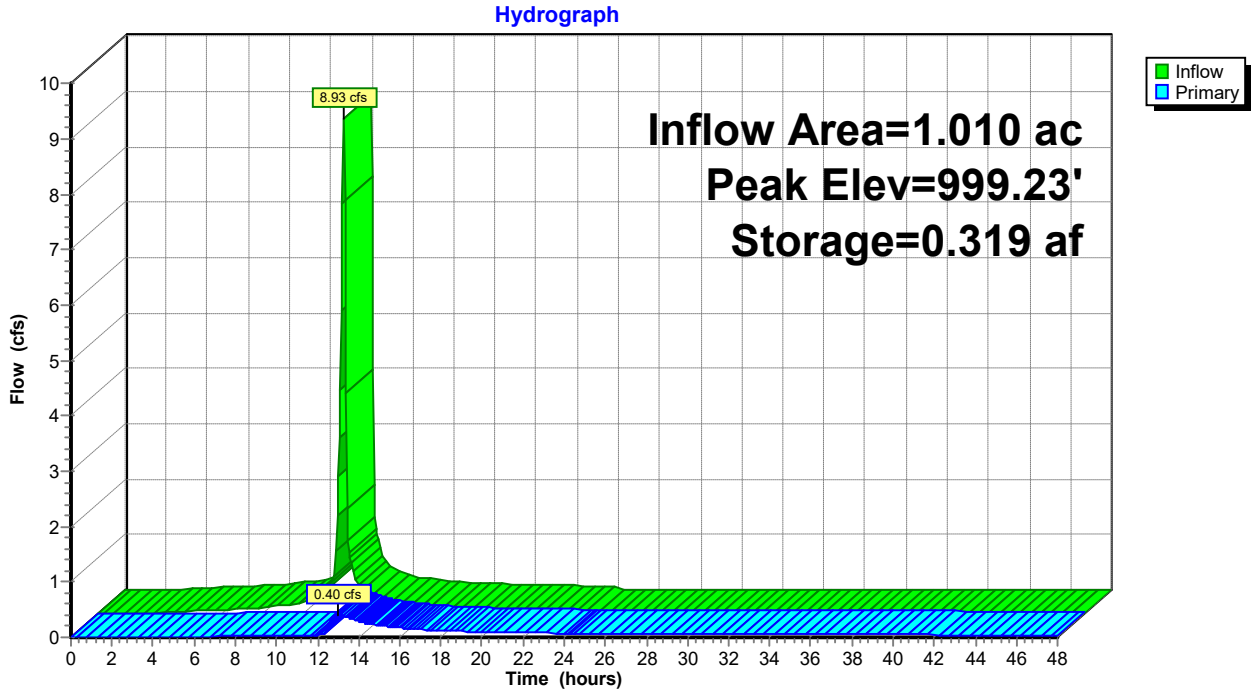
30,322.0 cf Field - 12,275.5 cf Chambers = 18,046.5 cf Stone x 40.0% Voids = 7,218.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,494.1 cf = 0.448 af
Overall Storage Efficiency = 64.3%
Overall System Size = 119.53' x 37.58' x 6.75'

68 Chambers
1,123.0 cy Field
668.4 cy Stone



Pond 2P: Undg Pond 2



Hydrograph for Pond 2P: Undg Pond 2

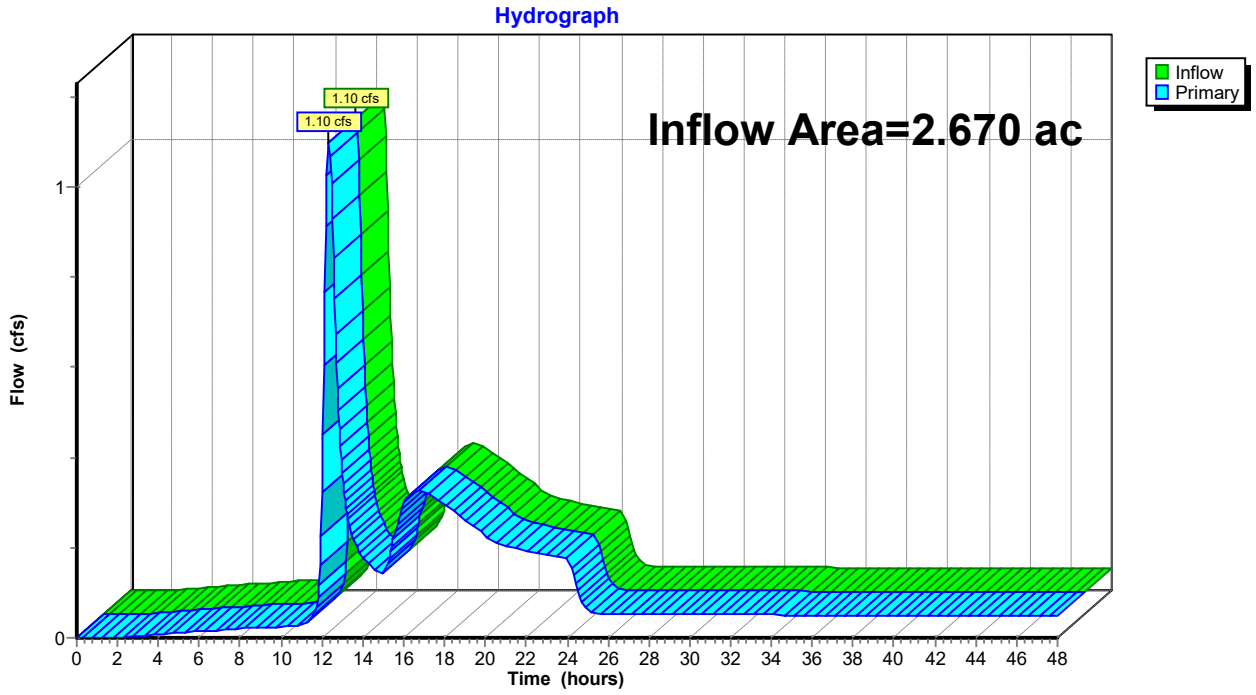
Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	995.00	0.00
1.00	0.00	0.000	995.00	0.00
2.00	0.00	0.000	995.00	0.00
3.00	0.02	0.001	995.02	0.00
4.00	0.03	0.003	995.07	0.00
5.00	0.05	0.006	995.14	0.01
6.00	0.07	0.010	995.24	0.01
7.00	0.09	0.015	995.36	0.01
8.00	0.10	0.021	995.52	0.02
9.00	0.16	0.031	995.74	0.02
10.00	0.21	0.043	995.89	0.02
11.00	**0.39**	0.065	996.13	0.03
12.00	**7.47**	0.246	998.26	0.05
13.00	0.41	**0.319**	**999.23**	**0.40**
14.00	0.24	**0.315**	**999.18**	**0.30**
15.00	0.19	0.312	999.14	0.22
16.00	0.15	0.310	999.11	0.17
17.00	0.13	0.309	999.09	0.14
18.00	0.12	0.308	999.08	0.13
19.00	0.10	0.307	999.07	0.11
20.00	0.08	0.306	999.06	0.09
21.00	0.08	0.306	999.05	0.09
22.00	0.08	0.305	999.04	0.08
23.00	0.07	0.305	999.03	0.08
24.00	0.07	0.304	999.03	0.07
25.00	0.00	0.300	998.97	0.05
26.00	0.00	0.296	998.91	0.05
27.00	0.00	0.292	998.86	0.05
28.00	0.00	0.287	998.80	0.05
29.00	0.00	0.283	998.74	0.05
30.00	0.00	0.279	998.69	0.05
31.00	0.00	0.275	998.64	0.05
32.00	0.00	0.271	998.58	0.05
33.00	0.00	0.267	998.53	0.05
34.00	0.00	0.263	998.48	0.05
35.00	0.00	0.259	998.43	0.05
36.00	0.00	0.255	998.38	0.05
37.00	0.00	0.251	998.33	0.05
38.00	0.00	0.247	998.28	0.05
39.00	0.00	0.243	998.23	0.05
40.00	0.00	0.239	998.18	0.05
41.00	0.00	0.235	998.13	0.05
42.00	0.00	0.231	998.08	0.05
43.00	0.00	0.228	998.04	0.05
44.00	0.00	0.224	997.99	0.05
45.00	0.00	0.220	997.95	0.04
46.00	0.00	0.217	997.90	0.04
47.00	0.00	0.213	997.86	0.04
48.00	0.00	0.209	997.81	0.04

Summary for Link 1B: Study Point 1

Inflow Area = 2.670 ac, 73.03% Impervious, Inflow Depth > 1.77" for 25 YEAR event
Inflow = 1.10 cfs @ 12.34 hrs, Volume= 0.393 af
Primary = 1.10 cfs @ 12.34 hrs, Volume= 0.393 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 1B: Study Point 1



Hydrograph for Link 1B: Study Point 1

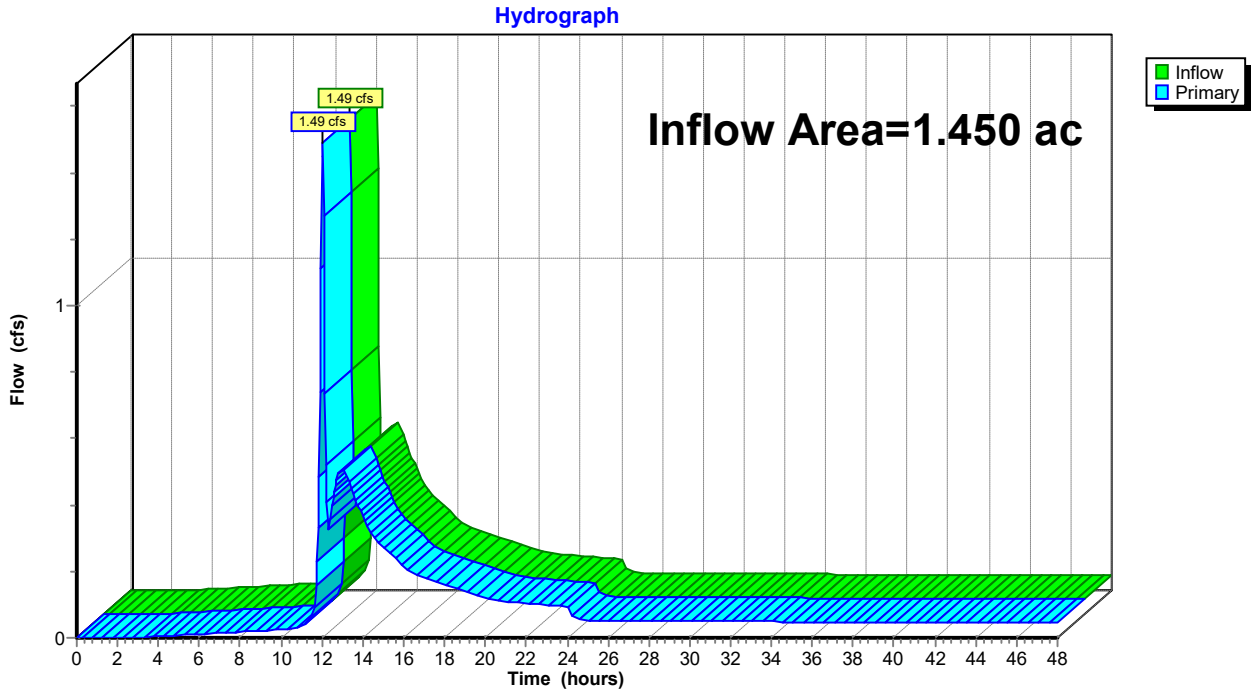
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.01	0.00	0.01	32.00	0.05	0.00	0.05
4.00	0.01	0.00	0.01	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.01	0.00	0.01	34.50	0.05	0.00	0.05
6.50	0.02	0.00	0.02	35.00	0.05	0.00	0.05
7.00	0.02	0.00	0.02	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.02	0.00	0.02	38.00	0.05	0.00	0.05
10.00	0.02	0.00	0.02	38.50	0.05	0.00	0.05
10.50	0.03	0.00	0.03	39.00	0.05	0.00	0.05
11.00	0.03	0.00	0.03	39.50	0.05	0.00	0.05
11.50	0.04	0.00	0.04	40.00	0.05	0.00	0.05
12.00	**0.32**	0.00	**0.32**	40.50	0.05	0.00	0.05
12.50	**0.93**	0.00	**0.93**	41.00	0.05	0.00	0.05
13.00	0.37	0.00	0.37	41.50	0.05	0.00	0.05
13.50	0.23	0.00	0.23	42.00	0.05	0.00	0.05
14.00	0.18	0.00	0.18	42.50	0.05	0.00	0.05
14.50	0.15	0.00	0.15	43.00	0.05	0.00	0.05
15.00	0.14	0.00	0.14	43.50	0.05	0.00	0.05
15.50	0.22	0.00	0.22	44.00	0.05	0.00	0.05
16.00	0.30	0.00	0.30	44.50	0.05	0.00	0.05
16.50	0.32	0.00	0.32	45.00	0.05	0.00	0.05
17.00	0.32	0.00	0.32	45.50	0.05	0.00	0.05
17.50	0.31	0.00	0.31	46.00	0.05	0.00	0.05
18.00	0.30	0.00	0.30	46.50	0.05	0.00	0.05
18.50	0.28	0.00	0.28	47.00	0.05	0.00	0.05
19.00	0.26	0.00	0.26	47.50	0.05	0.00	0.05
19.50	0.24	0.00	0.24	48.00	0.05	0.00	0.05
20.00	0.23	0.00	0.23				
20.50	0.21	0.00	0.21				
21.00	0.20	0.00	0.20				
21.50	0.20	0.00	0.20				
22.00	0.19	0.00	0.19				
22.50	0.19	0.00	0.19				
23.00	0.19	0.00	0.19				
23.50	0.18	0.00	0.18				
24.00	0.18	0.00	0.18				
24.50	0.11	0.00	0.11				
25.00	0.06	0.00	0.06				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Summary for Link 2B: Study Point 2

Inflow Area = 1.450 ac, 62.76% Impervious, Inflow Depth > 2.83" for 25 YEAR event
Inflow = 1.49 cfs @ 12.02 hrs, Volume= 0.342 af
Primary = 1.49 cfs @ 12.02 hrs, Volume= 0.342 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2B: Study Point 2



Hydrograph for Link 2B: Study Point 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.00	0.00	0.00	32.00	0.05	0.00	0.05
4.00	0.00	0.00	0.00	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.01	0.00	0.01	34.50	0.05	0.00	0.05
6.50	0.01	0.00	0.01	35.00	0.05	0.00	0.05
7.00	0.01	0.00	0.01	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.02	0.00	0.02	38.00	0.05	0.00	0.05
10.00	0.02	0.00	0.02	38.50	0.05	0.00	0.05
10.50	0.03	0.00	0.03	39.00	0.05	0.00	0.05
11.00	0.03	0.00	0.03	39.50	0.05	0.00	0.05
11.50	0.06	0.00	0.06	40.00	0.05	0.00	0.05
12.00	**1.45**	0.00	**1.45**	40.50	0.05	0.00	0.05
12.50	0.40	0.00	0.40	41.00	0.05	0.00	0.05
13.00	0.51	0.00	0.51	41.50	0.05	0.00	0.05
13.50	0.45	0.00	0.45	42.00	0.05	0.00	0.05
14.00	0.36	0.00	0.36	42.50	0.05	0.00	0.05
14.50	0.31	0.00	0.31	43.00	0.05	0.00	0.05
15.00	0.27	0.00	0.27	43.50	0.05	0.00	0.05
15.50	0.24	0.00	0.24	44.00	0.05	0.00	0.05
16.00	0.22	0.00	0.22	44.50	0.04	0.00	0.04
16.50	0.19	0.00	0.19	45.00	0.04	0.00	0.04
17.00	0.18	0.00	0.18	45.50	0.04	0.00	0.04
17.50	0.17	0.00	0.17	46.00	0.04	0.00	0.04
18.00	0.16	0.00	0.16	46.50	0.04	0.00	0.04
18.50	0.15	0.00	0.15	47.00	0.04	0.00	0.04
19.00	0.14	0.00	0.14	47.50	0.04	0.00	0.04
19.50	0.13	0.00	0.13	48.00	0.04	0.00	0.04
20.00	0.12	0.00	0.12				
20.50	0.11	0.00	0.11				
21.00	0.11	0.00	0.11				
21.50	0.11	0.00	0.11				
22.00	0.10	0.00	0.10				
22.50	0.10	0.00	0.10				
23.00	0.10	0.00	0.10				
23.50	0.10	0.00	0.10				
24.00	0.10	0.00	0.10				
24.50	0.05	0.00	0.05				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 B-1: Post-Developed Runoff Area=1.980 ac 98.48% Impervious Runoff Depth=6.85"
Tc=5.0 min CN=97 Runoff=20.53 cfs 1.131 af

Subcatchment B-1A: BYPASS POND to Runoff Area=0.690 ac 0.00% Impervious Runoff Depth=2.75"
Tc=35.7 min CN=60 Runoff=1.40 cfs 0.158 af

Subcatchment B-2: Post-Developed Runoff Area=1.010 ac 90.10% Impervious Runoff Depth=6.50"
Tc=5.0 min CN=94 Runoff=10.30 cfs 0.547 af

Subcatchment B-2A: BYPASS POND to Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=2.85"
Tc=10.0 min CN=61 Runoff=1.89 cfs 0.105 af

Subcatchment B-3: Post-Developed Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=2.85"
Tc=5.0 min CN=61 Runoff=0.72 cfs 0.033 af

Pond 1P: Undg Pond 1 Peak Elev=1,001.22' Storage=0.833 af Inflow=20.53 cfs 1.131 af
Outflow=0.72 cfs 0.423 af

Pond 2P: Undg Pond 2 Peak Elev=999.46' Storage=0.335 af Inflow=10.30 cfs 0.547 af
Outflow=1.06 cfs 0.337 af

Link 1B: Study Point 1 Inflow=1.45 cfs 0.581 af
Primary=1.45 cfs 0.581 af

Link 2B: Study Point 2 Inflow=2.14 cfs 0.442 af
Primary=2.14 cfs 0.442 af

Total Runoff Area = 4.260 ac Runoff Volume = 1.974 af Average Runoff Depth = 5.56"
32.86% Pervious = 1.400 ac 67.14% Impervious = 2.860 ac

Summary for Subcatchment B-1: Post-Developed

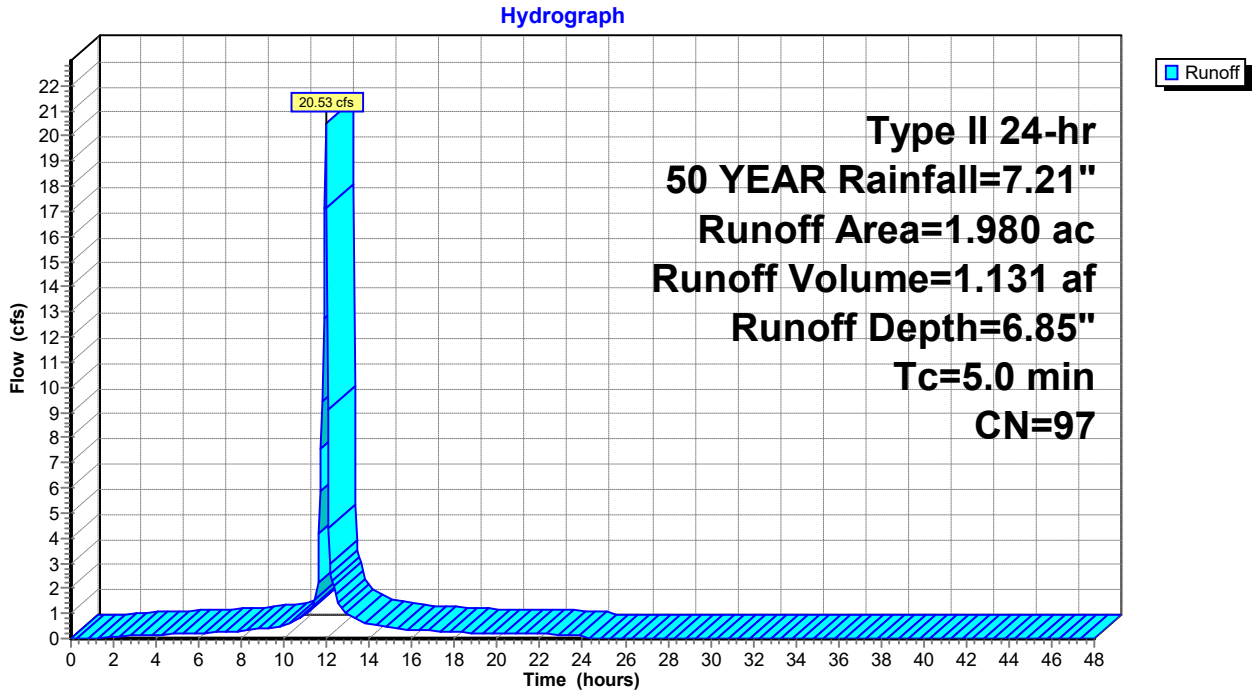
Runoff = 20.53 cfs @ 11.95 hrs, Volume= 1.131 af, Depth= 6.85"
Routed to Pond 1P : Undg Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
1.950	98	Paved parking, HSG B
0.030	61	>75% Grass cover, Good, HSG B
1.980	97	Weighted Average
0.030		1.52% Pervious Area
1.950		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-1: Post-Developed



Hydrograph for Subcatchment B-1: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.01
1.50	0.12	0.01	0.04
2.00	0.16	0.02	0.07
2.50	0.20	0.04	0.09
3.00	0.25	0.07	0.11
3.50	0.30	0.10	0.13
4.00	0.35	0.14	0.14
4.50	0.40	0.18	0.16
5.00	0.45	0.22	0.18
5.50	0.51	0.27	0.20
6.00	0.58	0.32	0.22
6.50	0.64	0.38	0.24
7.00	0.71	0.44	0.26
7.50	0.79	0.51	0.27
8.00	0.87	0.58	0.29
8.50	0.95	0.66	0.35
9.00	1.06	0.76	0.42
9.50	1.18	0.87	0.44
10.00	1.31	1.00	0.54
10.50	1.47	1.16	0.70
11.00	1.69	1.37	0.97
11.50	2.04	1.71	**1.59**
12.00	4.78	4.43	**17.10**
12.50	5.30	4.95	1.50
13.00	5.57	5.21	0.93
13.50	5.76	5.41	0.71
14.00	5.91	5.56	0.55
14.50	6.04	5.68	0.49
15.00	6.15	5.80	0.44
15.50	6.26	5.90	0.39
16.00	6.34	5.99	0.34
16.50	6.43	6.07	0.32
17.00	6.50	6.14	0.30
17.50	6.57	6.22	0.28
18.00	6.64	6.28	0.26
18.50	6.70	6.35	0.24
19.00	6.76	6.40	0.23
19.50	6.81	6.46	0.21
20.00	6.86	6.51	0.19
20.50	6.91	6.55	0.18
21.00	6.96	6.60	0.18
21.50	7.00	6.64	0.18
22.00	7.04	6.69	0.17
22.50	7.09	6.73	0.17
23.00	7.13	6.77	0.17
23.50	7.17	6.81	0.16
24.00	**7.21**	**6.85**	0.16
24.50	7.21	6.85	0.00
25.00	7.21	6.85	0.00
25.50	7.21	6.85	0.00
26.00	7.21	6.85	0.00
26.50	7.21	6.85	0.00
27.00	7.21	6.85	0.00
27.50	7.21	6.85	0.00
28.00	7.21	6.85	0.00
28.50	7.21	6.85	0.00
29.00	7.21	6.85	0.00
29.50	7.21	6.85	0.00
30.00	7.21	6.85	0.00
30.50	7.21	6.85	0.00
31.00	7.21	6.85	0.00
31.50	7.21	6.85	0.00
32.00	7.21	6.85	0.00
32.50	7.21	6.85	0.00
33.00	7.21	6.85	0.00
33.50	7.21	6.85	0.00
34.00	7.21	6.85	0.00
34.50	7.21	6.85	0.00
35.00	7.21	6.85	0.00
35.50	7.21	6.85	0.00
36.00	7.21	6.85	0.00
36.50	7.21	6.85	0.00
37.00	7.21	6.85	0.00
37.50	7.21	6.85	0.00
38.00	7.21	6.85	0.00
38.50	7.21	6.85	0.00
39.00	7.21	6.85	0.00
39.50	7.21	6.85	0.00
40.00	7.21	6.85	0.00
40.50	7.21	6.85	0.00
41.00	7.21	6.85	0.00
41.50	7.21	6.85	0.00
42.00	7.21	6.85	0.00
42.50	7.21	6.85	0.00
43.00	7.21	6.85	0.00
43.50	7.21	6.85	0.00
44.00	7.21	6.85	0.00
44.50	7.21	6.85	0.00
45.00	7.21	6.85	0.00
45.50	7.21	6.85	0.00
46.00	7.21	6.85	0.00
46.50	7.21	6.85	0.00
47.00	7.21	6.85	0.00
47.50	7.21	6.85	0.00
48.00	7.21	6.85	0.00

Summary for Subcatchment B-1A: BYPASS POND to SP1

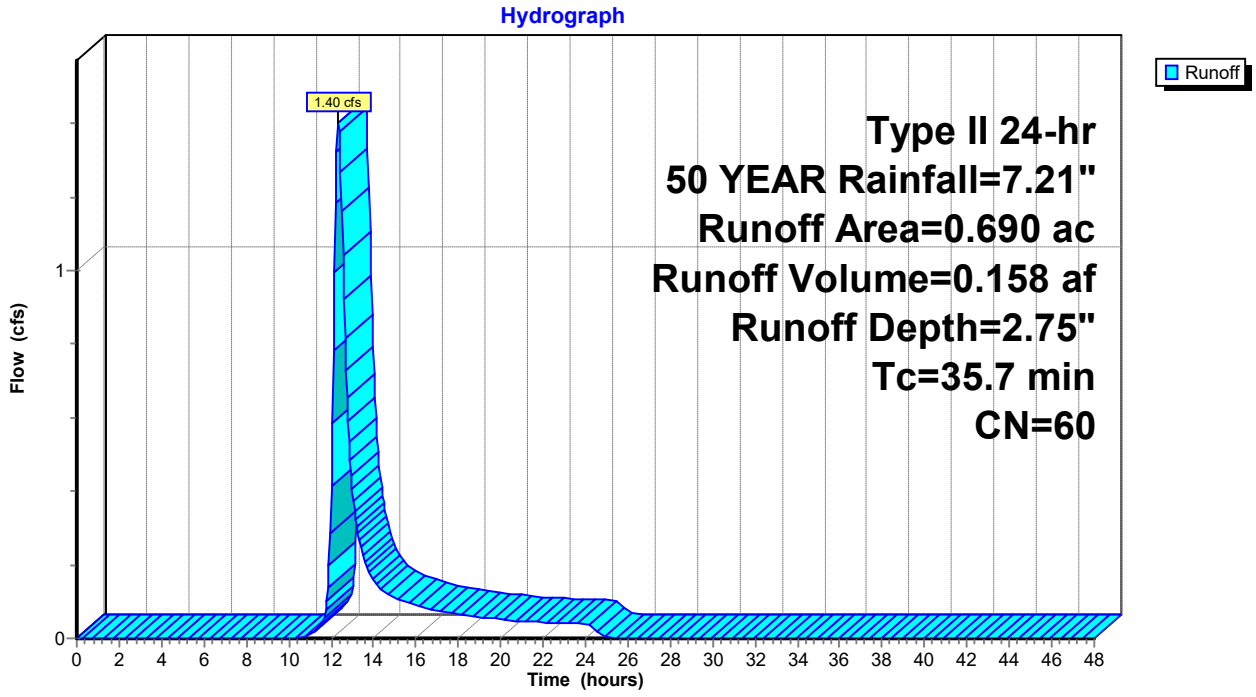
Runoff = 1.40 cfs @ 12.33 hrs, Volume= 0.158 af, Depth= 2.75"
Routed to Link 1B : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
0.100	55	Woods, Good, HSG B
0.590	61	>75% Grass cover, Good, HSG B
0.690	60	Weighted Average
0.690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.7					**Direct Entry,**

Subcatchment B-1A: BYPASS POND to SP1



Hydrograph for Subcatchment B-1A: BYPASS POND to SP1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.30	0.00	0.00
4.00	0.35	0.00	0.00
4.50	0.40	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.51	0.00	0.00
6.00	0.58	0.00	0.00
6.50	0.64	0.00	0.00
7.00	0.71	0.00	0.00
7.50	0.79	0.00	0.00
8.00	0.87	0.00	0.00
8.50	0.95	0.00	0.00
9.00	1.06	0.00	0.00
9.50	1.18	0.00	0.00
10.00	1.31	0.00	0.00
10.50	1.47	0.00	0.00
11.00	1.69	0.02	0.01
11.50	2.04	0.07	0.04
12.00	4.78	1.17	**0.41**
12.50	5.30	1.48	**1.16**
13.00	5.57	1.64	0.41
13.50	5.76	1.77	0.22
14.00	5.91	1.86	0.16
14.50	6.04	1.95	0.13
15.00	6.15	2.02	0.11
15.50	6.26	2.09	0.10
16.00	6.34	2.15	0.09
16.50	6.43	2.21	0.08
17.00	6.50	2.26	0.07
17.50	6.57	2.31	0.07
18.00	6.64	2.35	0.07
18.50	6.70	2.40	0.06
19.00	6.76	2.44	0.06
19.50	6.81	2.47	0.05
20.00	6.86	2.51	0.05
20.50	6.91	2.54	0.05
21.00	6.96	2.57	0.05
21.50	7.00	2.60	0.04
22.00	7.04	2.63	0.04
22.50	7.09	2.67	0.04
23.00	7.13	2.70	0.04
23.50	7.17	2.72	0.04
24.00	**7.21**	**2.75**	0.04
24.50	7.21	2.75	0.02
25.00	7.21	2.75	0.00
25.50	7.21	2.75	0.00
26.00	7.21	2.75	0.00
26.50	7.21	2.75	0.00
27.00	7.21	2.75	0.00
27.50	7.21	2.75	0.00
28.00	7.21	2.75	0.00
28.50	7.21	2.75	0.00
29.00	7.21	2.75	0.00
29.50	7.21	2.75	0.00
30.00	7.21	2.75	0.00
30.50	7.21	2.75	0.00
31.00	7.21	2.75	0.00
31.50	7.21	2.75	0.00
32.00	7.21	2.75	0.00
32.50	7.21	2.75	0.00
33.00	7.21	2.75	0.00
33.50	7.21	2.75	0.00
34.00	7.21	2.75	0.00
34.50	7.21	2.75	0.00
35.00	7.21	2.75	0.00
35.50	7.21	2.75	0.00
36.00	7.21	2.75	0.00
36.50	7.21	2.75	0.00
37.00	7.21	2.75	0.00
37.50	7.21	2.75	0.00
38.00	7.21	2.75	0.00
38.50	7.21	2.75	0.00
39.00	7.21	2.75	0.00
39.50	7.21	2.75	0.00
40.00	7.21	2.75	0.00
40.50	7.21	2.75	0.00
41.00	7.21	2.75	0.00
41.50	7.21	2.75	0.00
42.00	7.21	2.75	0.00
42.50	7.21	2.75	0.00
43.00	7.21	2.75	0.00
43.50	7.21	2.75	0.00
44.00	7.21	2.75	0.00
44.50	7.21	2.75	0.00
45.00	7.21	2.75	0.00
45.50	7.21	2.75	0.00
46.00	7.21	2.75	0.00
46.50	7.21	2.75	0.00
47.00	7.21	2.75	0.00
47.50	7.21	2.75	0.00
48.00	7.21	2.75	0.00

Summary for Subcatchment B-2: Post-Developed

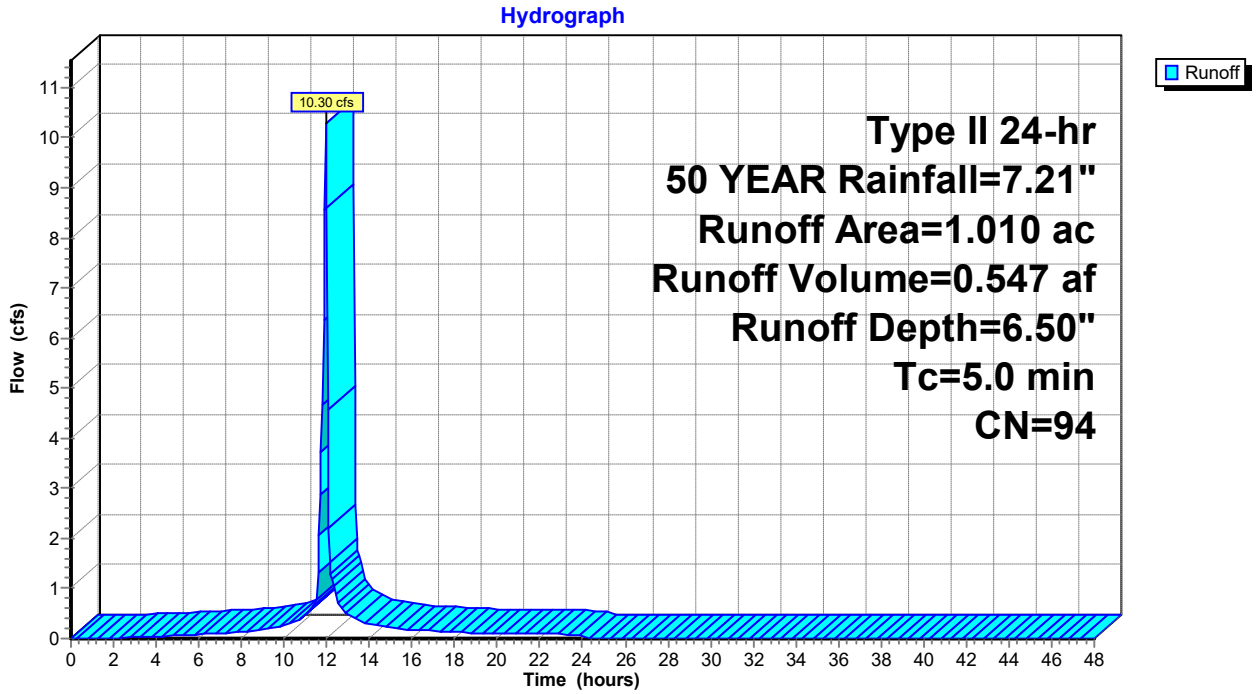
Runoff = 10.30 cfs @ 11.95 hrs, Volume= 0.547 af, Depth= 6.50"
Routed to Pond 2P : Undg Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
0.910	98	Paved parking, HSG B
0.100	61	>75% Grass cover, Good, HSG B
1.010	94	Weighted Average
0.100		9.90% Pervious Area
0.910		90.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-2: Post-Developed



Hydrograph for Subcatchment B-2: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.01
2.50	0.20	0.01	0.02
3.00	0.25	0.02	0.03
3.50	0.30	0.04	0.04
4.00	0.35	0.06	0.04
4.50	0.40	0.08	0.05
5.00	0.45	0.11	0.06
5.50	0.51	0.15	0.07
6.00	0.58	0.19	0.09
6.50	0.64	0.23	0.10
7.00	0.71	0.28	0.11
7.50	0.79	0.34	0.12
8.00	0.87	0.40	0.13
8.50	0.95	0.47	0.16
9.00	1.06	0.55	0.19
9.50	1.18	0.65	0.20
10.00	1.31	0.76	0.25
10.50	1.47	0.91	0.33
11.00	1.69	1.11	0.46
11.50	2.04	1.43	**0.77**
12.00	4.78	4.09	**8.60**
12.50	5.30	4.60	0.76
13.00	5.57	4.87	0.47
13.50	5.76	5.06	0.36
14.00	5.91	5.21	0.28
14.50	6.04	5.34	0.25
15.00	6.15	5.45	0.22
15.50	6.26	5.55	0.20
16.00	6.34	5.64	0.17
16.50	6.43	5.72	0.16
17.00	6.50	5.79	0.15
17.50	6.57	5.86	0.14
18.00	6.64	5.93	0.13
18.50	6.70	5.99	0.12
19.00	6.76	6.05	0.11
19.50	6.81	6.10	0.11
20.00	6.86	6.15	0.10
20.50	6.91	6.20	0.09
21.00	6.96	6.24	0.09
21.50	7.00	6.29	0.09
22.00	7.04	6.33	0.09
22.50	7.09	6.37	0.09
23.00	7.13	6.42	0.08
23.50	7.17	6.46	0.08
24.00	**7.21**	**6.50**	0.08
24.50	7.21	6.50	0.00
25.00	7.21	6.50	0.00
25.50	7.21	6.50	0.00
26.00	7.21	6.50	0.00
26.50	7.21	6.50	0.00
27.00	7.21	6.50	0.00
27.50	7.21	6.50	0.00
28.00	7.21	6.50	0.00
28.50	7.21	6.50	0.00
29.00	7.21	6.50	0.00
29.50	7.21	6.50	0.00
30.00	7.21	6.50	0.00
30.50	7.21	6.50	0.00
31.00	7.21	6.50	0.00
31.50	7.21	6.50	0.00
32.00	7.21	6.50	0.00
32.50	7.21	6.50	0.00
33.00	7.21	6.50	0.00
33.50	7.21	6.50	0.00
34.00	7.21	6.50	0.00
34.50	7.21	6.50	0.00
35.00	7.21	6.50	0.00
35.50	7.21	6.50	0.00
36.00	7.21	6.50	0.00
36.50	7.21	6.50	0.00
37.00	7.21	6.50	0.00
37.50	7.21	6.50	0.00
38.00	7.21	6.50	0.00
38.50	7.21	6.50	0.00
39.00	7.21	6.50	0.00
39.50	7.21	6.50	0.00
40.00	7.21	6.50	0.00
40.50	7.21	6.50	0.00
41.00	7.21	6.50	0.00
41.50	7.21	6.50	0.00
42.00	7.21	6.50	0.00
42.50	7.21	6.50	0.00
43.00	7.21	6.50	0.00
43.50	7.21	6.50	0.00
44.00	7.21	6.50	0.00
44.50	7.21	6.50	0.00
45.00	7.21	6.50	0.00
45.50	7.21	6.50	0.00
46.00	7.21	6.50	0.00
46.50	7.21	6.50	0.00
47.00	7.21	6.50	0.00
47.50	7.21	6.50	0.00
48.00	7.21	6.50	0.00

Summary for Subcatchment B-2A: BYPASS POND to SP2

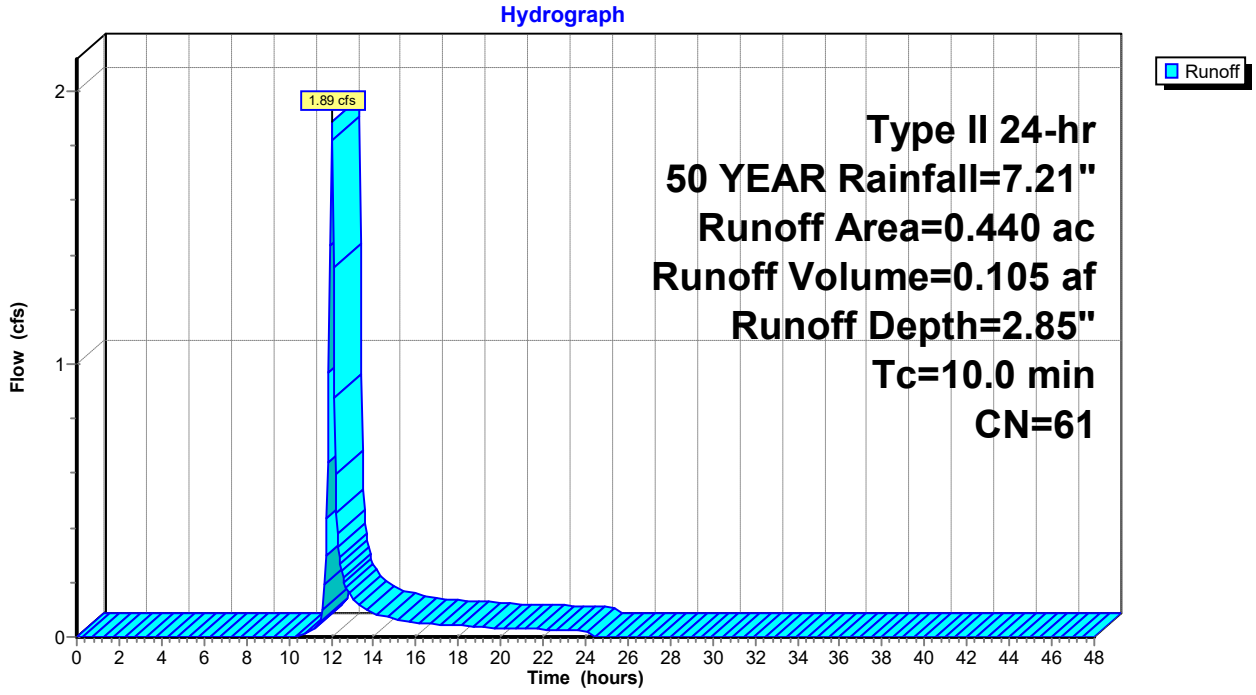
Runoff = 1.89 cfs @ 12.02 hrs, Volume= 0.105 af, Depth= 2.85"
Routed to Link 2B : Study Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
0.440	61	>75% Grass cover, Good, HSG B
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment B-2A: BYPASS POND to SP2



Hydrograph for Subcatchment B-2A: BYPASS POND to SP2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.30	0.00	0.00
4.00	0.35	0.00	0.00
4.50	0.40	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.51	0.00	0.00
6.00	0.58	0.00	0.00
6.50	0.64	0.00	0.00
7.00	0.71	0.00	0.00
7.50	0.79	0.00	0.00
8.00	0.87	0.00	0.00
8.50	0.95	0.00	0.00
9.00	1.06	0.00	0.00
9.50	1.18	0.00	0.00
10.00	1.31	0.00	0.00
10.50	1.47	0.01	0.01
11.00	1.69	0.03	0.02
11.50	2.04	0.08	0.06
12.00	4.78	1.24	**1.85**
12.50	5.30	1.55	0.24
13.00	5.57	1.72	0.14
13.50	5.76	1.85	0.11
14.00	5.91	1.95	0.08
14.50	6.04	2.03	0.07
15.00	6.15	2.11	0.07
15.50	6.26	2.18	0.06
16.00	6.34	2.24	0.05
16.50	6.43	2.30	0.05
17.00	6.50	2.35	0.05
17.50	6.57	2.40	0.04
18.00	6.64	2.45	0.04
18.50	6.70	2.49	0.04
19.00	6.76	2.53	0.04
19.50	6.81	2.57	0.03
20.00	6.86	2.60	0.03
20.50	6.91	2.64	0.03
21.00	6.96	2.67	0.03
21.50	7.00	2.70	0.03
22.00	7.04	2.73	0.03
22.50	7.09	2.76	0.03
23.00	7.13	2.80	0.03
23.50	7.17	2.83	0.03
24.00	**7.21**	**2.85**	0.03
24.50	7.21	2.85	0.00
25.00	7.21	2.85	0.00
25.50	7.21	2.85	0.00
26.00	7.21	2.85	0.00
26.50	7.21	2.85	0.00
27.00	7.21	2.85	0.00
27.50	7.21	2.85	0.00
28.00	7.21	2.85	0.00
28.50	7.21	2.85	0.00
29.00	7.21	2.85	0.00
29.50	7.21	2.85	0.00
30.00	7.21	2.85	0.00
30.50	7.21	2.85	0.00
31.00	7.21	2.85	0.00
31.50	7.21	2.85	0.00
32.00	7.21	2.85	0.00
32.50	7.21	2.85	0.00
33.00	7.21	2.85	0.00
33.50	7.21	2.85	0.00
34.00	7.21	2.85	0.00
34.50	7.21	2.85	0.00
35.00	7.21	2.85	0.00
35.50	7.21	2.85	0.00
36.00	7.21	2.85	0.00
36.50	7.21	2.85	0.00
37.00	7.21	2.85	0.00
37.50	7.21	2.85	0.00
38.00	7.21	2.85	0.00
38.50	7.21	2.85	0.00
39.00	7.21	2.85	0.00
39.50	7.21	2.85	0.00
40.00	7.21	2.85	0.00
40.50	7.21	2.85	0.00
41.00	7.21	2.85	0.00
41.50	7.21	2.85	0.00
42.00	7.21	2.85	0.00
42.50	7.21	2.85	0.00
43.00	7.21	2.85	0.00
43.50	7.21	2.85	0.00
44.00	7.21	2.85	0.00
44.50	7.21	2.85	0.00
45.00	7.21	2.85	0.00
45.50	7.21	2.85	0.00
46.00	7.21	2.85	0.00
46.50	7.21	2.85	0.00
47.00	7.21	2.85	0.00
47.50	7.21	2.85	0.00
48.00	7.21	2.85	0.00

Summary for Subcatchment B-3: Post-Developed

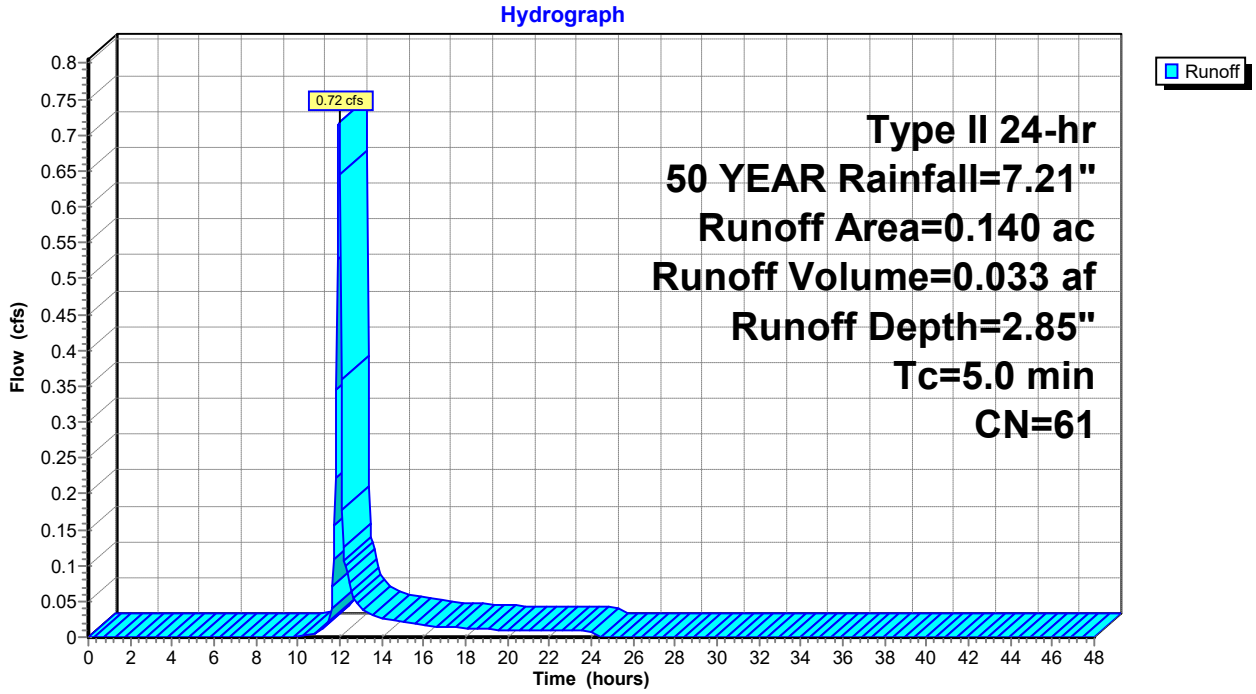
Runoff = 0.72 cfs @ 11.96 hrs, Volume= 0.033 af, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 YEAR Rainfall=7.21"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
0.140	61	>75% Grass cover, Good, HSG B
0.140	61	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-3: Post-Developed



Hydrograph for Subcatchment B-3: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.30	0.00	0.00
4.00	0.35	0.00	0.00
4.50	0.40	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.51	0.00	0.00
6.00	0.58	0.00	0.00
6.50	0.64	0.00	0.00
7.00	0.71	0.00	0.00
7.50	0.79	0.00	0.00
8.00	0.87	0.00	0.00
8.50	0.95	0.00	0.00
9.00	1.06	0.00	0.00
9.50	1.18	0.00	0.00
10.00	1.31	0.00	0.00
10.50	1.47	0.01	0.00
11.00	1.69	0.03	0.01
11.50	2.04	0.08	**0.02**
12.00	4.78	1.24	**0.64**
12.50	5.30	1.55	0.07
13.00	5.57	1.72	0.04
13.50	5.76	1.85	0.03
14.00	5.91	1.95	0.03
14.50	6.04	2.03	0.02
15.00	6.15	2.11	0.02
15.50	6.26	2.18	0.02
16.00	6.34	2.24	0.02
16.50	6.43	2.30	0.02
17.00	6.50	2.35	0.01
17.50	6.57	2.40	0.01
18.00	6.64	2.45	0.01
18.50	6.70	2.49	0.01
19.00	6.76	2.53	0.01
19.50	6.81	2.57	0.01
20.00	6.86	2.60	0.01
20.50	6.91	2.64	0.01
21.00	6.96	2.67	0.01
21.50	7.00	2.70	0.01
22.00	7.04	2.73	0.01
22.50	7.09	2.76	0.01
23.00	7.13	2.80	0.01
23.50	7.17	2.83	0.01
24.00	**7.21**	**2.85**	0.01
24.50	7.21	2.85	0.00
25.00	7.21	2.85	0.00
25.50	7.21	2.85	0.00
26.00	7.21	2.85	0.00
26.50	7.21	2.85	0.00
27.00	7.21	2.85	0.00
27.50	7.21	2.85	0.00
28.00	7.21	2.85	0.00
28.50	7.21	2.85	0.00
29.00	7.21	2.85	0.00
29.50	7.21	2.85	0.00
30.00	7.21	2.85	0.00
30.50	7.21	2.85	0.00
31.00	7.21	2.85	0.00
31.50	7.21	2.85	0.00
32.00	7.21	2.85	0.00
32.50	7.21	2.85	0.00
33.00	7.21	2.85	0.00
33.50	7.21	2.85	0.00
34.00	7.21	2.85	0.00
34.50	7.21	2.85	0.00
35.00	7.21	2.85	0.00
35.50	7.21	2.85	0.00
36.00	7.21	2.85	0.00
36.50	7.21	2.85	0.00
37.00	7.21	2.85	0.00
37.50	7.21	2.85	0.00
38.00	7.21	2.85	0.00
38.50	7.21	2.85	0.00
39.00	7.21	2.85	0.00
39.50	7.21	2.85	0.00
40.00	7.21	2.85	0.00
40.50	7.21	2.85	0.00
41.00	7.21	2.85	0.00
41.50	7.21	2.85	0.00
42.00	7.21	2.85	0.00
42.50	7.21	2.85	0.00
43.00	7.21	2.85	0.00
43.50	7.21	2.85	0.00
44.00	7.21	2.85	0.00
44.50	7.21	2.85	0.00
45.00	7.21	2.85	0.00
45.50	7.21	2.85	0.00
46.00	7.21	2.85	0.00
46.50	7.21	2.85	0.00
47.00	7.21	2.85	0.00
47.50	7.21	2.85	0.00
48.00	7.21	2.85	0.00

Summary for Pond 1P: Undg Pond 1

Inflow Area = 1.980 ac, 98.48% Impervious, Inflow Depth = 6.85" for 50 YEAR event
Inflow = 20.53 cfs @ 11.95 hrs, Volume= 1.131 af
Outflow = 0.72 cfs @ 13.47 hrs, Volume= 0.423 af, Atten= 96%, Lag= 91.1 min
Primary = 0.72 cfs @ 13.47 hrs, Volume= 0.423 af
Routed to Link 1B : Study Point 1

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,001.22' @ 13.47 hrs Surf.Area= 0.286 ac Storage= 0.833 af

Plug-Flow detention time= 687.2 min calculated for 0.423 af (37% of inflow)
Center-of-Mass det. time= 525.1 min (1,269.0 - 743.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	997.00'	0.394 af	**51.42'W x 242.31'L x 5.50'H Field A** 1.573 af Overall - 0.588 af Embedded = 0.985 af x 40.0% Voids
#2A	997.75'	0.588 af	**ADS_StormTech MC-3500 d +Cap** x 231 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 231 Chambers in 7 Rows Cap Storage= 14.9 cf x 2 x 7 rows = 208.6 cf
		0.982 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	997.00'	**36.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	997.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,001.00'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,002.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.72 cfs @ 13.47 hrs HW=1,001.22' (Free Discharge)
└**1=Orifice/Grate** (Passes 0.72 cfs of 56.13 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 9.84 fps)
  ├**3=Orifice/Grate** (Orifice Controls 0.66 cfs @ 1.51 fps)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Undg Pond 1 - 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 7 rows = 208.6 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

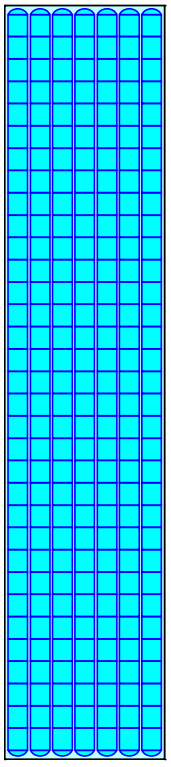
33 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 240.31' Row Length +12.0" End Stone x 2 = 242.31' Base Length
7 Rows x 77.0" Wide + 9.0" Spacing x 6 + 12.0" Side Stone x 2 = 51.42' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

231 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 7 Rows = 25,607.5 cf Chamber Storage

68,523.2 cf Field - 25,607.5 cf Chambers = 42,915.7 cf Stone x 40.0% Voids = 17,166.3 cf Stone Storage

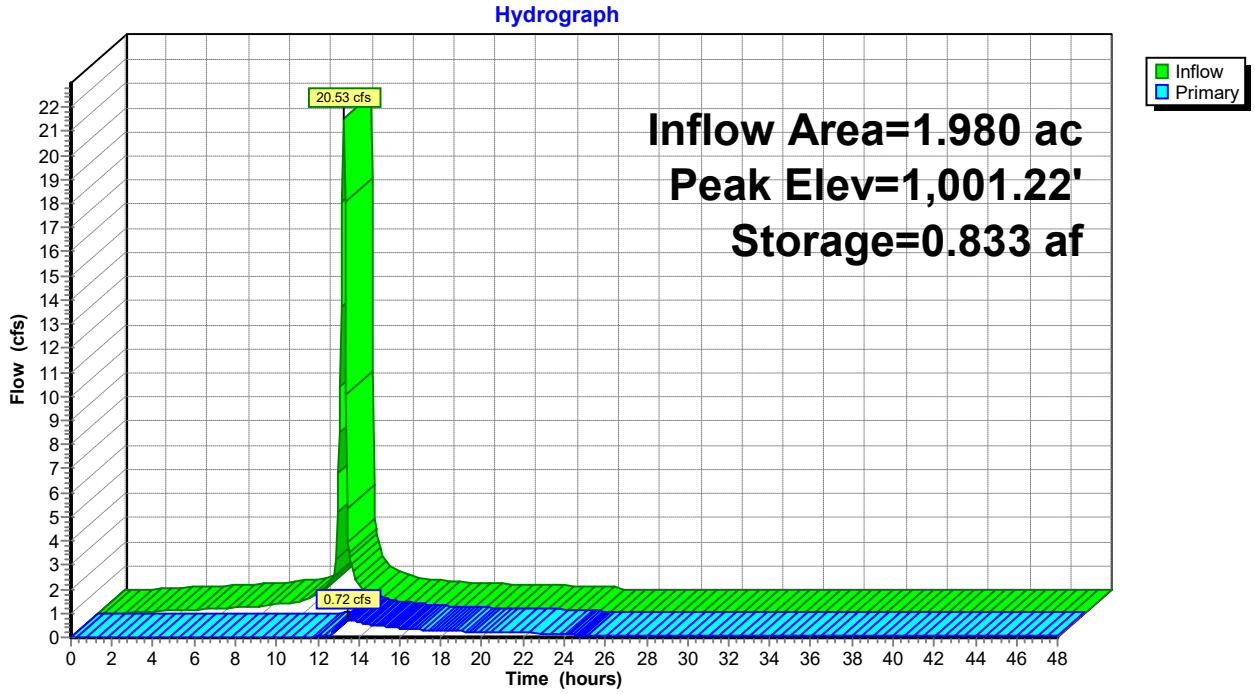
Chamber Storage + Stone Storage = 42,773.8 cf = 0.982 af
Overall Storage Efficiency = 62.4%
Overall System Size = 242.31' x 51.42' x 5.50'

231 Chambers
2,537.9 cy Field
1,589.5 cy Stone





Pond 1P: Undg Pond 1



Hydrograph for Pond 1P: Undg Pond 1

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	997.00	0.00
1.00	0.01	0.000	997.00	0.00
2.00	0.07	0.003	997.03	0.00
3.00	0.11	0.011	997.09	0.01
4.00	0.14	0.021	997.18	0.01
5.00	0.18	0.033	997.29	0.01
6.00	0.22	0.049	997.42	0.02
7.00	0.26	0.067	997.58	0.02
8.00	0.29	0.088	997.76	0.02
9.00	0.42	0.115	997.87	0.02
10.00	0.54	0.151	998.01	0.03
11.00	**0.97**	0.208	998.24	0.03
12.00	**17.10**	0.634	1,000.10	0.05
13.00	0.93	**0.827**	**1,001.17**	**0.52**
14.00	0.55	**0.831**	**1,001.20**	**0.64**
15.00	0.44	0.826	1,001.16	0.48
16.00	0.34	0.822	1,001.14	0.38
17.00	0.30	0.820	1,001.12	0.32
18.00	0.26	0.818	1,001.11	0.28
19.00	0.23	0.816	1,001.10	0.25
20.00	0.19	0.815	1,001.08	0.21
21.00	0.18	0.813	1,001.08	0.19
22.00	0.17	0.813	1,001.07	0.18
23.00	0.17	0.812	1,001.07	0.17
24.00	0.16	0.812	1,001.07	0.16
25.00	0.00	0.804	1,001.01	0.06
26.00	0.00	0.799	1,000.99	0.05
27.00	0.00	0.795	1,000.96	0.05
28.00	0.00	0.791	1,000.93	0.05
29.00	0.00	0.787	1,000.91	0.05
30.00	0.00	0.782	1,000.88	0.05
31.00	0.00	0.778	1,000.86	0.05
32.00	0.00	0.774	1,000.83	0.05
33.00	0.00	0.770	1,000.81	0.05
34.00	0.00	0.765	1,000.78	0.05
35.00	0.00	0.761	1,000.76	0.05
36.00	0.00	0.757	1,000.74	0.05
37.00	0.00	0.753	1,000.71	0.05
38.00	0.00	0.749	1,000.69	0.05
39.00	0.00	0.745	1,000.67	0.05
40.00	0.00	0.740	1,000.64	0.05
41.00	0.00	0.736	1,000.62	0.05
42.00	0.00	0.732	1,000.60	0.05
43.00	0.00	0.728	1,000.58	0.05
44.00	0.00	0.724	1,000.56	0.05
45.00	0.00	0.720	1,000.53	0.05
46.00	0.00	0.716	1,000.51	0.05
47.00	0.00	0.712	1,000.49	0.05
48.00	0.00	0.708	1,000.47	0.05

Summary for Pond 2P: Undg Pond 2

Inflow Area = 1.010 ac, 90.10% Impervious, Inflow Depth = 6.50" for 50 YEAR event
Inflow = 10.30 cfs @ 11.95 hrs, Volume= 0.547 af
Outflow = 1.06 cfs @ 12.32 hrs, Volume= 0.337 af, Atten= 90%, Lag= 22.2 min
Primary = 1.06 cfs @ 12.32 hrs, Volume= 0.337 af
Routed to Link 2B : Study Point 2

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 999.46' @ 12.32 hrs Surf.Area= 0.103 ac Storage= 0.335 af

Plug-Flow detention time= 601.6 min calculated for 0.337 af (62% of inflow)
Center-of-Mass det. time= 497.9 min (1,257.1 - 759.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	995.00'	0.166 af	**37.58'W x 119.53'L x 6.75'H Field A** 0.696 af Overall - 0.282 af Embedded = 0.414 af x 40.0% Voids
#2A	995.75'	0.282 af	**ADS_StormTech MC-7200 +Cap** x 68 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 68 Chambers in 4 Rows Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf
		0.448 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	995.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	999.00'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,001.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.06 cfs @ 12.32 hrs HW=999.46' (Free Discharge)
└**1=Orifice/Grate** (Passes 1.06 cfs of 28.14 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.06 cfs @ 10.12 fps)
  ├**3=Orifice/Grate** (Orifice Controls 1.00 cfs @ 2.18 fps)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Undg Pond 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-7200 +Cap (ADS StormTech® MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

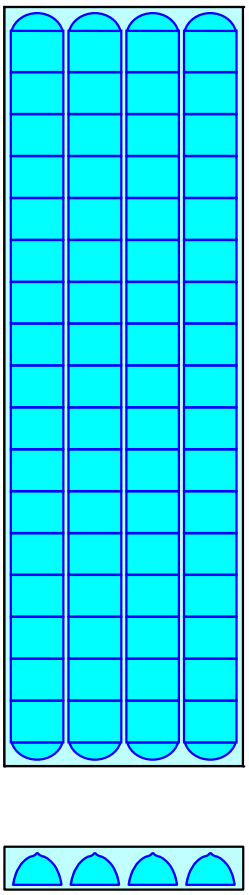
17 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 117.52' Row Length +12.0" End Stone x 2 = 119.53' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

68 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 4 Rows = 12,275.5 cf Chamber Storage

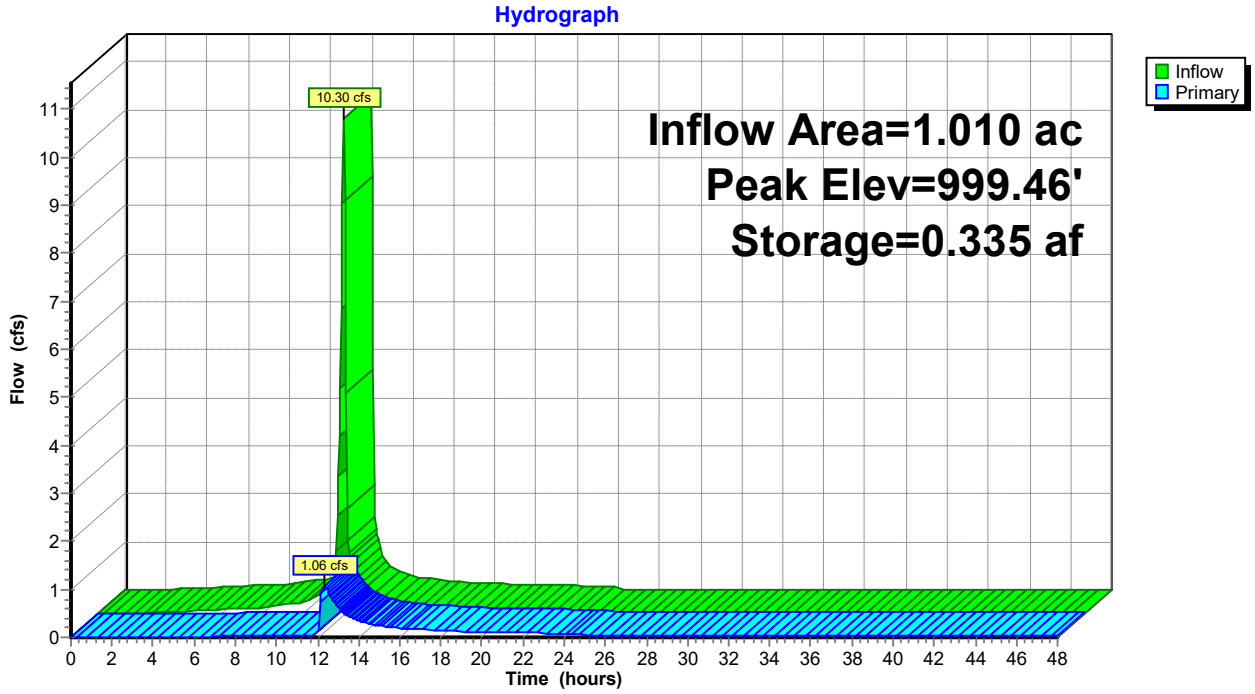
30,322.0 cf Field - 12,275.5 cf Chambers = 18,046.5 cf Stone x 40.0% Voids = 7,218.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,494.1 cf = 0.448 af
Overall Storage Efficiency = 64.3%
Overall System Size = 119.53' x 37.58' x 6.75'

68 Chambers
1,123.0 cy Field
668.4 cy Stone



Pond 2P: Undg Pond 2



Hydrograph for Pond 2P: Undg Pond 2

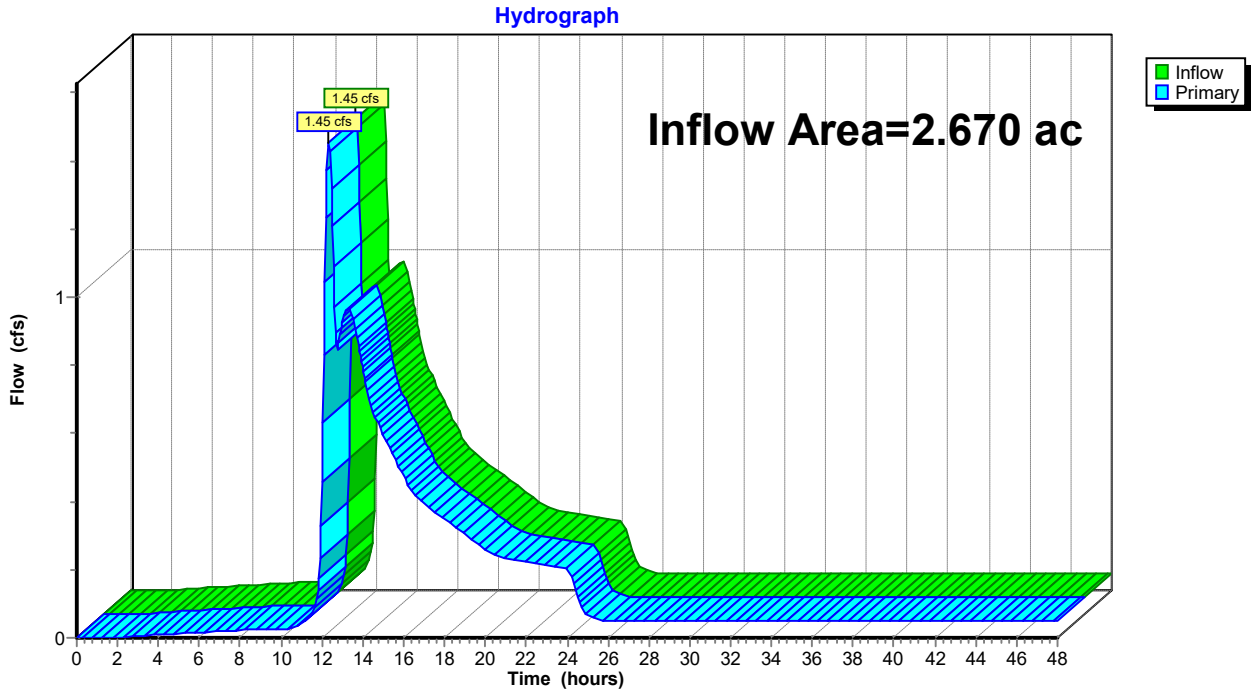
Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	995.00	0.00
1.00	0.00	0.000	995.00	0.00
2.00	0.01	0.000	995.00	0.00
3.00	0.03	0.001	995.03	0.00
4.00	0.04	0.004	995.10	0.01
5.00	0.06	0.008	995.19	0.01
6.00	0.09	0.013	995.32	0.01
7.00	0.11	0.020	995.48	0.02
8.00	0.13	0.028	995.67	0.02
9.00	0.19	0.039	995.84	0.02
10.00	0.25	0.054	996.01	0.03
11.00	**0.46**	0.080	996.30	0.03
12.00	**8.60**	**0.289**	**998.83**	**0.05**
13.00	0.47	**0.325**	**999.31**	**0.62**
14.00	0.28	0.317	999.20	0.35
15.00	0.22	0.314	999.15	0.25
16.00	0.17	0.311	999.13	0.20
17.00	0.15	0.310	999.11	0.16
18.00	0.13	0.309	999.09	0.14
19.00	0.11	0.308	999.08	0.13
20.00	0.10	0.307	999.07	0.11
21.00	0.09	0.306	999.06	0.10
22.00	0.09	0.306	999.05	0.09
23.00	0.08	0.306	999.05	0.09
24.00	0.08	0.306	999.04	0.08
25.00	0.00	0.301	998.98	0.05
26.00	0.00	0.297	998.92	0.05
27.00	0.00	0.292	998.86	0.05
28.00	0.00	0.288	998.81	0.05
29.00	0.00	0.284	998.75	0.05
30.00	0.00	0.280	998.70	0.05
31.00	0.00	0.276	998.64	0.05
32.00	0.00	0.271	998.59	0.05
33.00	0.00	0.267	998.54	0.05
34.00	0.00	0.263	998.49	0.05
35.00	0.00	0.259	998.43	0.05
36.00	0.00	0.255	998.38	0.05
37.00	0.00	0.251	998.33	0.05
38.00	0.00	0.247	998.28	0.05
39.00	0.00	0.244	998.23	0.05
40.00	0.00	0.240	998.19	0.05
41.00	0.00	0.236	998.14	0.05
42.00	0.00	0.232	998.09	0.05
43.00	0.00	0.228	998.04	0.05
44.00	0.00	0.225	998.00	0.05
45.00	0.00	0.221	997.95	0.04
46.00	0.00	0.217	997.91	0.04
47.00	0.00	0.213	997.86	0.04
48.00	0.00	0.210	997.82	0.04

Summary for Link 1B: Study Point 1

Inflow Area = 2.670 ac, 73.03% Impervious, Inflow Depth > 2.61" for 50 YEAR event
Inflow = 1.45 cfs @ 12.33 hrs, Volume= 0.581 af
Primary = 1.45 cfs @ 12.33 hrs, Volume= 0.581 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 1B: Study Point 1



Hydrograph for Link 1B: Study Point 1

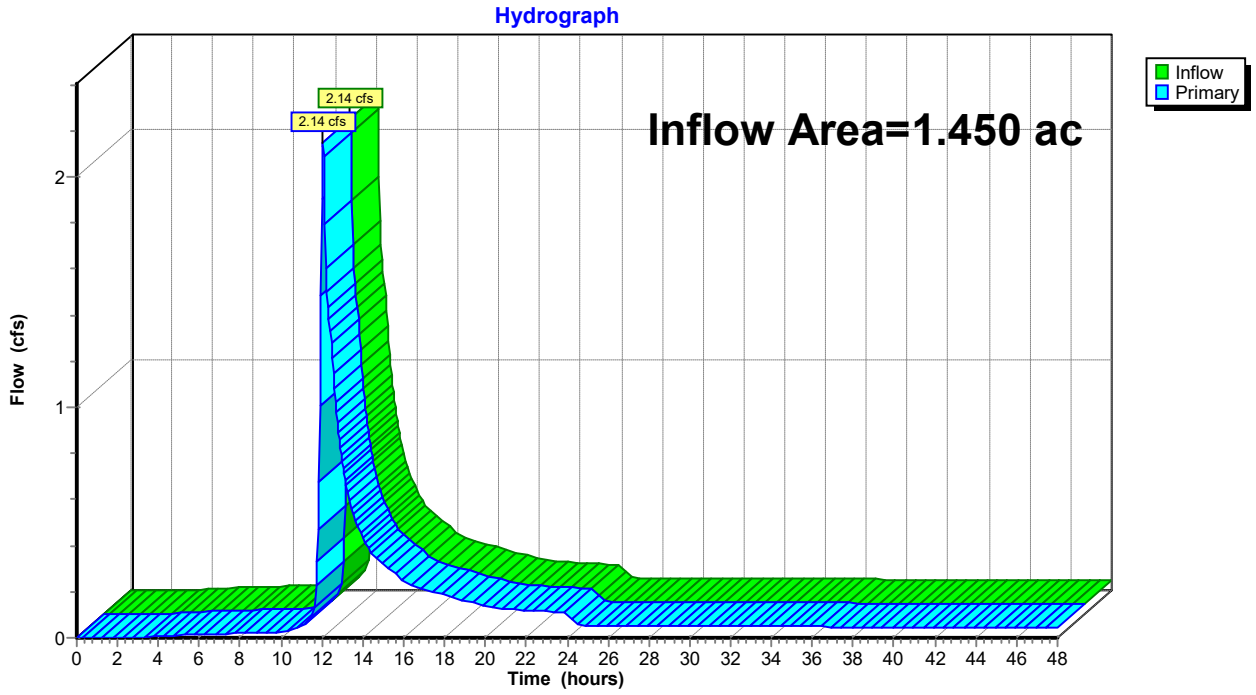
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.01	0.00	0.01	31.50	0.05	0.00	0.05
3.50	0.01	0.00	0.01	32.00	0.05	0.00	0.05
4.00	0.01	0.00	0.01	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.02	0.00	0.02	34.50	0.05	0.00	0.05
6.50	0.02	0.00	0.02	35.00	0.05	0.00	0.05
7.00	0.02	0.00	0.02	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.02	0.00	0.02	38.00	0.05	0.00	0.05
10.00	0.03	0.00	0.03	38.50	0.05	0.00	0.05
10.50	0.03	0.00	0.03	39.00	0.05	0.00	0.05
11.00	0.04	0.00	0.04	39.50	0.05	0.00	0.05
11.50	0.07	0.00	0.07	40.00	0.05	0.00	0.05
12.00	**0.46**	0.00	**0.46**	40.50	0.05	0.00	0.05
12.50	**1.21**	0.00	**1.21**	41.00	0.05	0.00	0.05
13.00	0.93	0.00	0.93	41.50	0.05	0.00	0.05
13.50	0.94	0.00	0.94	42.00	0.05	0.00	0.05
14.00	0.80	0.00	0.80	42.50	0.05	0.00	0.05
14.50	0.67	0.00	0.67	43.00	0.05	0.00	0.05
15.00	0.60	0.00	0.60	43.50	0.05	0.00	0.05
15.50	0.53	0.00	0.53	44.00	0.05	0.00	0.05
16.00	0.47	0.00	0.47	44.50	0.05	0.00	0.05
16.50	0.42	0.00	0.42	45.00	0.05	0.00	0.05
17.00	0.39	0.00	0.39	45.50	0.05	0.00	0.05
17.50	0.37	0.00	0.37	46.00	0.05	0.00	0.05
18.00	0.35	0.00	0.35	46.50	0.05	0.00	0.05
18.50	0.33	0.00	0.33	47.00	0.05	0.00	0.05
19.00	0.30	0.00	0.30	47.50	0.05	0.00	0.05
19.50	0.28	0.00	0.28	48.00	0.05	0.00	0.05
20.00	0.26	0.00	0.26				
20.50	0.24	0.00	0.24				
21.00	0.23	0.00	0.23				
21.50	0.23	0.00	0.23				
22.00	0.22	0.00	0.22				
22.50	0.22	0.00	0.22				
23.00	0.21	0.00	0.21				
23.50	0.21	0.00	0.21				
24.00	0.21	0.00	0.21				
24.50	0.13	0.00	0.13				
25.00	0.07	0.00	0.07				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Summary for Link 2B: Study Point 2

Inflow Area = 1.450 ac, 62.76% Impervious, Inflow Depth > 3.66" for 50 YEAR event
Inflow = 2.14 cfs @ 12.07 hrs, Volume= 0.442 af
Primary = 2.14 cfs @ 12.07 hrs, Volume= 0.442 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2B: Study Point 2



Hydrograph for Link 2B: Study Point 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.00	0.00	0.00	32.00	0.05	0.00	0.05
4.00	0.01	0.00	0.01	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.01	0.00	0.01	34.50	0.05	0.00	0.05
6.50	0.02	0.00	0.02	35.00	0.05	0.00	0.05
7.00	0.02	0.00	0.02	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.02	0.00	0.02	38.00	0.05	0.00	0.05
10.00	0.03	0.00	0.03	38.50	0.05	0.00	0.05
10.50	0.03	0.00	0.03	39.00	0.05	0.00	0.05
11.00	0.05	0.00	0.05	39.50	0.05	0.00	0.05
11.50	0.09	0.00	0.09	40.00	0.05	0.00	0.05
12.00	**1.90**	0.00	**1.90**	40.50	0.05	0.00	0.05
12.50	**1.21**	0.00	**1.21**	41.00	0.05	0.00	0.05
13.00	0.76	0.00	0.76	41.50	0.05	0.00	0.05
13.50	0.55	0.00	0.55	42.00	0.05	0.00	0.05
14.00	0.43	0.00	0.43	42.50	0.05	0.00	0.05
14.50	0.36	0.00	0.36	43.00	0.05	0.00	0.05
15.00	0.32	0.00	0.32	43.50	0.05	0.00	0.05
15.50	0.28	0.00	0.28	44.00	0.05	0.00	0.05
16.00	0.25	0.00	0.25	44.50	0.04	0.00	0.04
16.50	0.23	0.00	0.23	45.00	0.04	0.00	0.04
17.00	0.21	0.00	0.21	45.50	0.04	0.00	0.04
17.50	0.20	0.00	0.20	46.00	0.04	0.00	0.04
18.00	0.18	0.00	0.18	46.50	0.04	0.00	0.04
18.50	0.17	0.00	0.17	47.00	0.04	0.00	0.04
19.00	0.16	0.00	0.16	47.50	0.04	0.00	0.04
19.50	0.15	0.00	0.15	48.00	0.04	0.00	0.04
20.00	0.14	0.00	0.14				
20.50	0.13	0.00	0.13				
21.00	0.13	0.00	0.13				
21.50	0.12	0.00	0.12				
22.00	0.12	0.00	0.12				
22.50	0.12	0.00	0.12				
23.00	0.11	0.00	0.11				
23.50	0.11	0.00	0.11				
24.00	0.11	0.00	0.11				
24.50	0.06	0.00	0.06				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 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 B-1: Post-Developed Runoff Area=1.980 ac 98.48% Impervious Runoff Depth=7.84"
Tc=5.0 min CN=97 Runoff=23.38 cfs 1.294 af

Subcatchment B-1A: BYPASS POND to Runoff Area=0.690 ac 0.00% Impervious Runoff Depth=3.48"
Tc=35.7 min CN=60 Runoff=1.81 cfs 0.200 af

Subcatchment B-2: Post-Developed Runoff Area=1.010 ac 90.10% Impervious Runoff Depth=7.48"
Tc=5.0 min CN=94 Runoff=11.77 cfs 0.630 af

Subcatchment B-2A: BYPASS POND to Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=3.60"
Tc=10.0 min CN=61 Runoff=2.39 cfs 0.132 af

Subcatchment B-3: Post-Developed Runoff Area=0.140 ac 0.00% Impervious Runoff Depth=3.60"
Tc=5.0 min CN=61 Runoff=0.91 cfs 0.042 af

Pond 1P: Undg Pond 1 Peak Elev=1,001.43' Storage=0.860 af Inflow=23.38 cfs 1.294 af
Outflow=1.89 cfs 0.585 af

Pond 2P: Undg Pond 2 Peak Elev=999.90' Storage=0.364 af Inflow=11.77 cfs 0.630 af
Outflow=2.81 cfs 0.420 af

Link 1B: Study Point 1 Inflow=3.60 cfs 0.786 af
Primary=3.60 cfs 0.786 af

Link 2B: Study Point 2 Inflow=4.82 cfs 0.551 af
Primary=4.82 cfs 0.551 af

Total Runoff Area = 4.260 ac Runoff Volume = 2.297 af Average Runoff Depth = 6.47"
32.86% Pervious = 1.400 ac 67.14% Impervious = 2.860 ac

Summary for Subcatchment B-1: Post-Developed

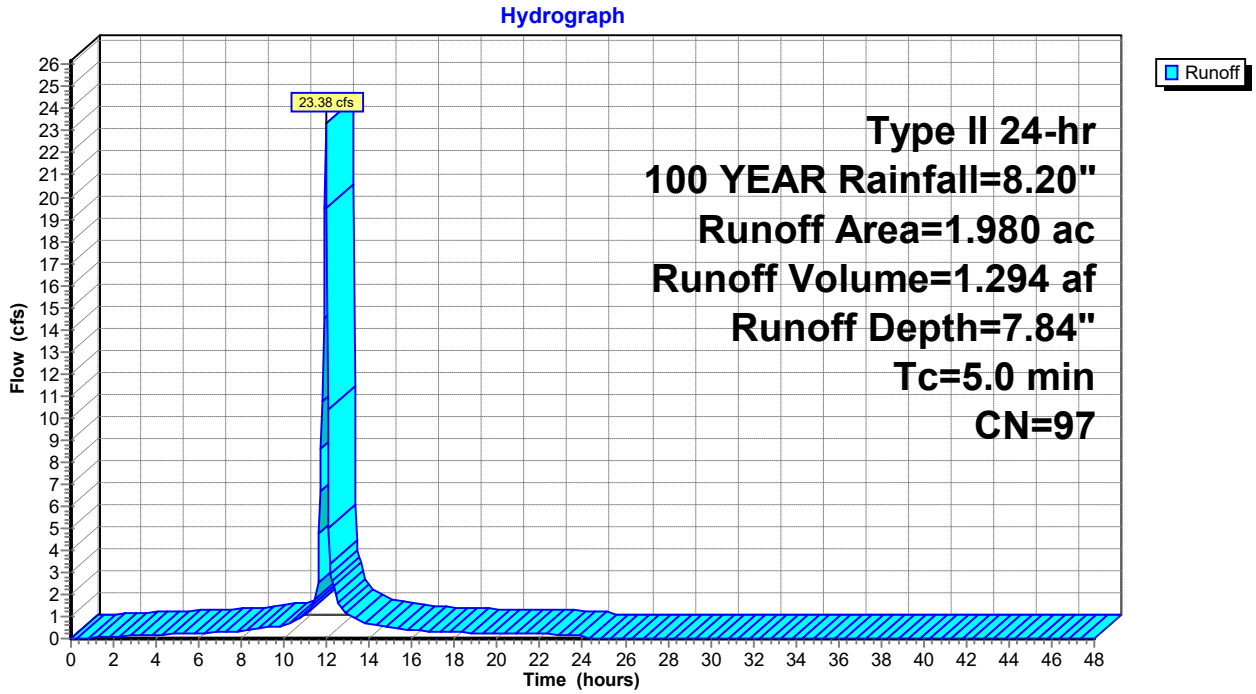
Runoff = 23.38 cfs @ 11.95 hrs, Volume= 1.294 af, Depth= 7.84"
Routed to Pond 1P : Undg Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
1.950	98	Paved parking, HSG B
0.030	61	>75% Grass cover, Good, HSG B
1.980	97	Weighted Average
0.030		1.52% Pervious Area
1.950		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-1: Post-Developed



Hydrograph for Subcatchment B-1: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.02
1.50	0.13	0.01	0.06
2.00	0.18	0.03	0.09
2.50	0.23	0.06	0.12
3.00	0.28	0.09	0.14
3.50	0.34	0.13	0.16
4.00	0.39	0.17	0.17
4.50	0.45	0.22	0.19
5.00	0.52	0.27	0.22
5.50	0.58	0.33	0.24
6.00	0.66	0.39	0.26
6.50	0.73	0.46	0.28
7.00	0.81	0.53	0.30
7.50	0.90	0.61	0.32
8.00	0.98	0.69	0.33
8.50	1.08	0.79	0.41
9.00	1.21	0.90	0.49
9.50	1.34	1.03	0.50
10.00	1.48	1.17	0.61
10.50	1.67	1.35	0.80
11.00	1.93	1.60	1.10
11.50	2.32	1.99	**1.82**
12.00	5.44	5.08	**19.47**
12.50	6.03	5.67	1.71
13.00	6.33	5.97	1.06
13.50	6.55	6.19	0.80
14.00	6.72	6.37	0.63
14.50	6.87	6.51	0.56
15.00	7.00	6.64	0.50
15.50	7.11	6.76	0.44
16.00	7.22	6.86	0.38
16.50	7.31	6.95	0.36
17.00	7.39	7.04	0.34
17.50	7.48	7.12	0.32
18.00	7.55	7.19	0.30
18.50	7.62	7.26	0.28
19.00	7.69	7.33	0.26
19.50	7.75	7.39	0.24
20.00	7.81	7.45	0.22
20.50	7.86	7.50	0.21
21.00	7.91	7.55	0.20
21.50	7.96	7.60	0.20
22.00	8.01	7.65	0.20
22.50	8.06	7.70	0.19
23.00	8.11	7.75	0.19
23.50	8.15	7.79	0.18
24.00	**8.20**	**7.84**	0.18
24.50	8.20	7.84	0.00
25.00	8.20	7.84	0.00
25.50	8.20	7.84	0.00
26.00	8.20	7.84	0.00
26.50	8.20	7.84	0.00
27.00	8.20	7.84	0.00
27.50	8.20	7.84	0.00
28.00	8.20	7.84	0.00
28.50	8.20	7.84	0.00
29.00	8.20	7.84	0.00
29.50	8.20	7.84	0.00
30.00	8.20	7.84	0.00
30.50	8.20	7.84	0.00
31.00	8.20	7.84	0.00
31.50	8.20	7.84	0.00
32.00	8.20	7.84	0.00
32.50	8.20	7.84	0.00
33.00	8.20	7.84	0.00
33.50	8.20	7.84	0.00
34.00	8.20	7.84	0.00
34.50	8.20	7.84	0.00
35.00	8.20	7.84	0.00
35.50	8.20	7.84	0.00
36.00	8.20	7.84	0.00
36.50	8.20	7.84	0.00
37.00	8.20	7.84	0.00
37.50	8.20	7.84	0.00
38.00	8.20	7.84	0.00
38.50	8.20	7.84	0.00
39.00	8.20	7.84	0.00
39.50	8.20	7.84	0.00
40.00	8.20	7.84	0.00
40.50	8.20	7.84	0.00
41.00	8.20	7.84	0.00
41.50	8.20	7.84	0.00
42.00	8.20	7.84	0.00
42.50	8.20	7.84	0.00
43.00	8.20	7.84	0.00
43.50	8.20	7.84	0.00
44.00	8.20	7.84	0.00
44.50	8.20	7.84	0.00
45.00	8.20	7.84	0.00
45.50	8.20	7.84	0.00
46.00	8.20	7.84	0.00
46.50	8.20	7.84	0.00
47.00	8.20	7.84	0.00
47.50	8.20	7.84	0.00
48.00	8.20	7.84	0.00

Summary for Subcatchment B-1A: BYPASS POND to SP1

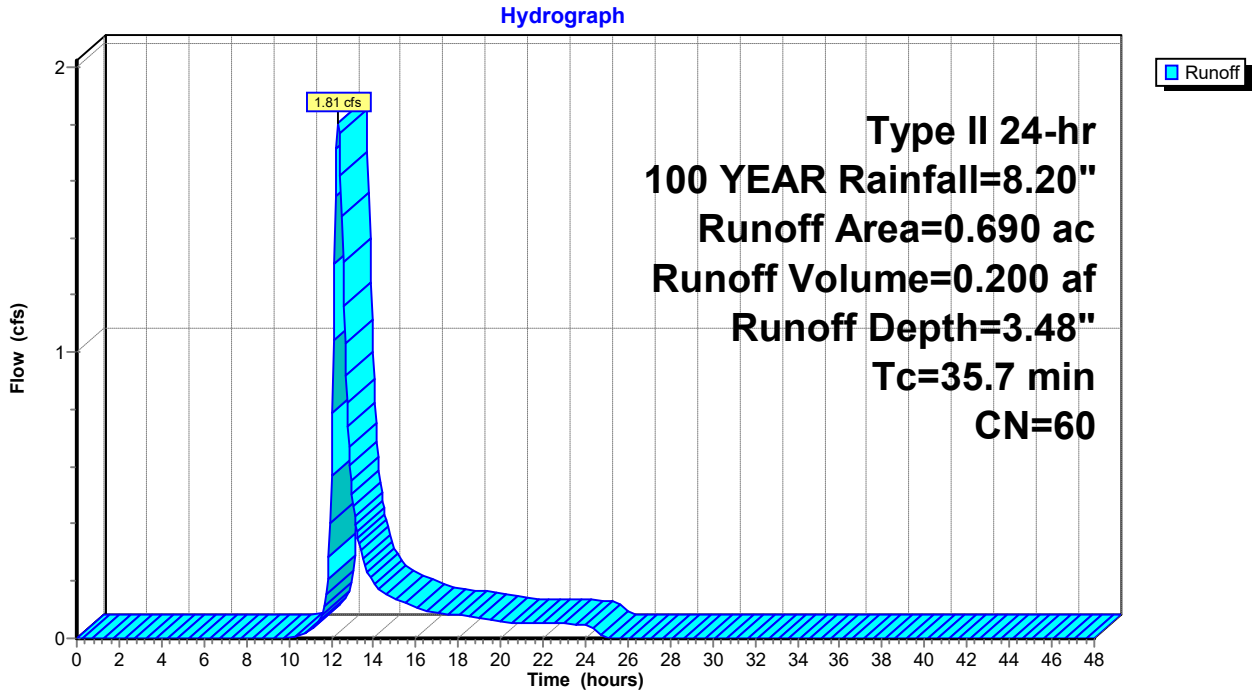
Runoff = 1.81 cfs @ 12.33 hrs, Volume= 0.200 af, Depth= 3.48"
Routed to Link 1B : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
0.100	55	Woods, Good, HSG B
0.590	61	>75% Grass cover, Good, HSG B
0.690	60	Weighted Average
0.690		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.7					**Direct Entry,**

Subcatchment B-1A: BYPASS POND to SP1



Hydrograph for Subcatchment B-1A: BYPASS POND to SP1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.23	0.00	0.00
3.00	0.28	0.00	0.00
3.50	0.34	0.00	0.00
4.00	0.39	0.00	0.00
4.50	0.45	0.00	0.00
5.00	0.52	0.00	0.00
5.50	0.58	0.00	0.00
6.00	0.66	0.00	0.00
6.50	0.73	0.00	0.00
7.00	0.81	0.00	0.00
7.50	0.90	0.00	0.00
8.00	0.98	0.00	0.00
8.50	1.08	0.00	0.00
9.00	1.21	0.00	0.00
9.50	1.34	0.00	0.00
10.00	1.48	0.00	0.00
10.50	1.67	0.02	0.01
11.00	1.93	0.05	0.03
11.50	2.32	0.13	0.07
12.00	5.44	1.56	**0.57**
12.50	6.03	1.94	**1.48**
13.00	6.33	2.14	0.50
13.50	6.55	2.29	0.27
14.00	6.72	2.41	0.19
14.50	6.87	2.51	0.15
15.00	7.00	2.60	0.14
15.50	7.11	2.68	0.12
16.00	7.22	2.76	0.11
16.50	7.31	2.82	0.10
17.00	7.39	2.89	0.09
17.50	7.48	2.95	0.09
18.00	7.55	3.00	0.08
18.50	7.62	3.05	0.08
19.00	7.69	3.10	0.07
19.50	7.75	3.15	0.07
20.00	7.81	3.19	0.06
20.50	7.86	3.23	0.06
21.00	7.91	3.27	0.05
21.50	7.96	3.30	0.05
22.00	8.01	3.34	0.05
22.50	8.06	3.38	0.05
23.00	8.11	3.41	0.05
23.50	8.15	3.45	0.05
24.00	**8.20**	**3.48**	0.05
24.50	8.20	3.48	0.02
25.00	8.20	3.48	0.00
25.50	8.20	3.48	0.00
26.00	8.20	3.48	0.00
26.50	8.20	3.48	0.00
27.00	8.20	3.48	0.00
27.50	8.20	3.48	0.00
28.00	8.20	3.48	0.00
28.50	8.20	3.48	0.00
29.00	8.20	3.48	0.00
29.50	8.20	3.48	0.00
30.00	8.20	3.48	0.00
30.50	8.20	3.48	0.00
31.00	8.20	3.48	0.00
31.50	8.20	3.48	0.00
32.00	8.20	3.48	0.00
32.50	8.20	3.48	0.00
33.00	8.20	3.48	0.00
33.50	8.20	3.48	0.00
34.00	8.20	3.48	0.00
34.50	8.20	3.48	0.00
35.00	8.20	3.48	0.00
35.50	8.20	3.48	0.00
36.00	8.20	3.48	0.00
36.50	8.20	3.48	0.00
37.00	8.20	3.48	0.00
37.50	8.20	3.48	0.00
38.00	8.20	3.48	0.00
38.50	8.20	3.48	0.00
39.00	8.20	3.48	0.00
39.50	8.20	3.48	0.00
40.00	8.20	3.48	0.00
40.50	8.20	3.48	0.00
41.00	8.20	3.48	0.00
41.50	8.20	3.48	0.00
42.00	8.20	3.48	0.00
42.50	8.20	3.48	0.00
43.00	8.20	3.48	0.00
43.50	8.20	3.48	0.00
44.00	8.20	3.48	0.00
44.50	8.20	3.48	0.00
45.00	8.20	3.48	0.00
45.50	8.20	3.48	0.00
46.00	8.20	3.48	0.00
46.50	8.20	3.48	0.00
47.00	8.20	3.48	0.00
47.50	8.20	3.48	0.00
48.00	8.20	3.48	0.00

Summary for Subcatchment B-2: Post-Developed

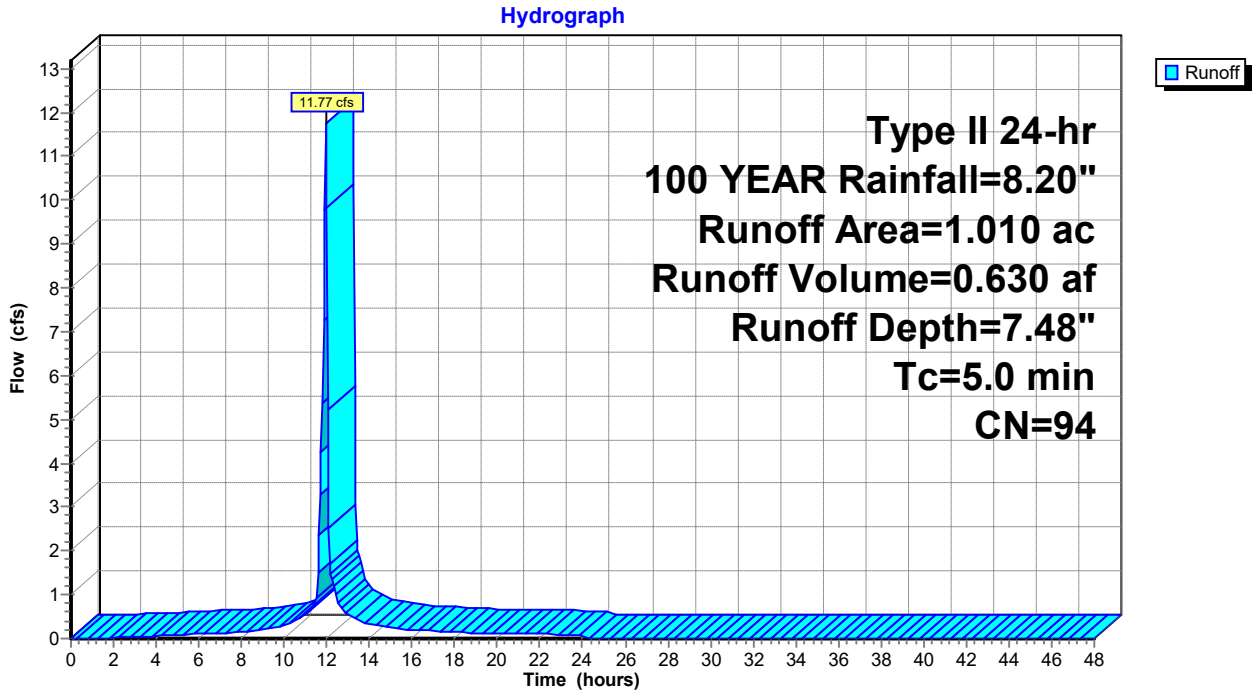
Runoff = 11.77 cfs @ 11.95 hrs, Volume= 0.630 af, Depth= 7.48"
Routed to Pond 2P : Undg Pond 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
0.910	98	Paved parking, HSG B
0.100	61	>75% Grass cover, Good, HSG B
1.010	94	Weighted Average
0.100		9.90% Pervious Area
0.910		90.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-2: Post-Developed



Hydrograph for Subcatchment B-2: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.01
2.50	0.23	0.01	0.03
3.00	0.28	0.03	0.04
3.50	0.34	0.05	0.05
4.00	0.39	0.08	0.06
4.50	0.45	0.11	0.07
5.00	0.52	0.15	0.08
5.50	0.58	0.19	0.09
6.00	0.66	0.24	0.10
6.50	0.73	0.29	0.12
7.00	0.81	0.35	0.13
7.50	0.90	0.42	0.14
8.00	0.98	0.49	0.15
8.50	1.08	0.57	0.18
9.00	1.21	0.68	0.22
9.50	1.34	0.79	0.23
10.00	1.48	0.92	0.29
10.50	1.67	1.09	0.38
11.00	1.93	1.33	0.53
11.50	2.32	1.70	**0.89**
12.00	5.44	4.74	**9.82**
12.50	6.03	5.32	0.87
13.00	6.33	5.62	0.54
13.50	6.55	5.84	0.41
14.00	6.72	6.01	0.32
14.50	6.87	6.16	0.28
15.00	7.00	6.29	0.25
15.50	7.11	6.40	0.22
16.00	7.22	6.50	0.20
16.50	7.31	6.59	0.18
17.00	7.39	6.68	0.17
17.50	7.48	6.76	0.16
18.00	7.55	6.84	0.15
18.50	7.62	6.91	0.14
19.00	7.69	6.97	0.13
19.50	7.75	7.03	0.12
20.00	7.81	7.09	0.11
20.50	7.86	7.14	0.11
21.00	7.91	7.19	0.10
21.50	7.96	7.24	0.10
22.00	8.01	7.29	0.10
22.50	8.06	7.34	0.10
23.00	8.11	7.39	0.10
23.50	8.15	7.44	0.09
24.00	**8.20**	**7.48**	0.09
24.50	8.20	7.48	0.00
25.00	8.20	7.48	0.00
25.50	8.20	7.48	0.00
26.00	8.20	7.48	0.00
26.50	8.20	7.48	0.00
27.00	8.20	7.48	0.00
27.50	8.20	7.48	0.00
28.00	8.20	7.48	0.00
28.50	8.20	7.48	0.00
29.00	8.20	7.48	0.00
29.50	8.20	7.48	0.00
30.00	8.20	7.48	0.00
30.50	8.20	7.48	0.00
31.00	8.20	7.48	0.00
31.50	8.20	7.48	0.00
32.00	8.20	7.48	0.00
32.50	8.20	7.48	0.00
33.00	8.20	7.48	0.00
33.50	8.20	7.48	0.00
34.00	8.20	7.48	0.00
34.50	8.20	7.48	0.00
35.00	8.20	7.48	0.00
35.50	8.20	7.48	0.00
36.00	8.20	7.48	0.00
36.50	8.20	7.48	0.00
37.00	8.20	7.48	0.00
37.50	8.20	7.48	0.00
38.00	8.20	7.48	0.00
38.50	8.20	7.48	0.00
39.00	8.20	7.48	0.00
39.50	8.20	7.48	0.00
40.00	8.20	7.48	0.00
40.50	8.20	7.48	0.00
41.00	8.20	7.48	0.00
41.50	8.20	7.48	0.00
42.00	8.20	7.48	0.00
42.50	8.20	7.48	0.00
43.00	8.20	7.48	0.00
43.50	8.20	7.48	0.00
44.00	8.20	7.48	0.00
44.50	8.20	7.48	0.00
45.00	8.20	7.48	0.00
45.50	8.20	7.48	0.00
46.00	8.20	7.48	0.00
46.50	8.20	7.48	0.00
47.00	8.20	7.48	0.00
47.50	8.20	7.48	0.00
48.00	8.20	7.48	0.00

Summary for Subcatchment B-2A: BYPASS POND to SP2

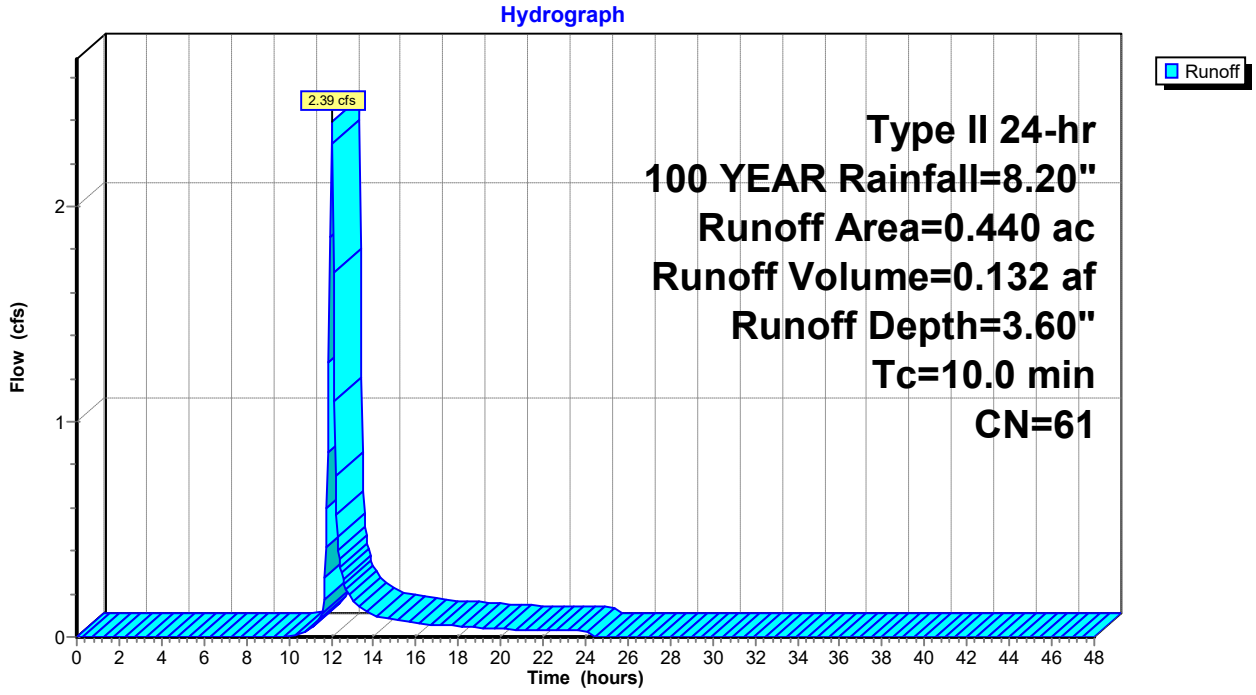
Runoff = 2.39 cfs @ 12.02 hrs, Volume= 0.132 af, Depth= 3.60"
Routed to Link 2B : Study Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
0.440	61	>75% Grass cover, Good, HSG B
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry,**

Subcatchment B-2A: BYPASS POND to SP2



Hydrograph for Subcatchment B-2A: BYPASS POND to SP2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.23	0.00	0.00
3.00	0.28	0.00	0.00
3.50	0.34	0.00	0.00
4.00	0.39	0.00	0.00
4.50	0.45	0.00	0.00
5.00	0.52	0.00	0.00
5.50	0.58	0.00	0.00
6.00	0.66	0.00	0.00
6.50	0.73	0.00	0.00
7.00	0.81	0.00	0.00
7.50	0.90	0.00	0.00
8.00	0.98	0.00	0.00
8.50	1.08	0.00	0.00
9.00	1.21	0.00	0.00
9.50	1.34	0.00	0.00
10.00	1.48	0.01	0.01
10.50	1.67	0.02	0.02
11.00	1.93	0.06	0.04
11.50	2.32	0.15	0.09
12.00	5.44	1.64	**2.35**
12.50	6.03	2.02	0.30
13.00	6.33	2.23	0.17
13.50	6.55	2.38	0.13
14.00	6.72	2.50	0.10
14.50	6.87	2.61	0.09
15.00	7.00	2.70	0.08
15.50	7.11	2.78	0.07
16.00	7.22	2.86	0.06
16.50	7.31	2.93	0.06
17.00	7.39	2.99	0.06
17.50	7.48	3.05	0.05
18.00	7.55	3.11	0.05
18.50	7.62	3.16	0.05
19.00	7.69	3.21	0.04
19.50	7.75	3.26	0.04
20.00	7.81	3.30	0.04
20.50	7.86	3.34	0.04
21.00	7.91	3.38	0.03
21.50	7.96	3.42	0.03
22.00	8.01	3.45	0.03
22.50	8.06	3.49	0.03
23.00	8.11	3.53	0.03
23.50	8.15	3.56	0.03
24.00	**8.20**	**3.60**	0.03
24.50	8.20	3.60	0.00
25.00	8.20	3.60	0.00
25.50	8.20	3.60	0.00
26.00	8.20	3.60	0.00
26.50	8.20	3.60	0.00
27.00	8.20	3.60	0.00
27.50	8.20	3.60	0.00
28.00	8.20	3.60	0.00
28.50	8.20	3.60	0.00
29.00	8.20	3.60	0.00
29.50	8.20	3.60	0.00
30.00	8.20	3.60	0.00
30.50	8.20	3.60	0.00
31.00	8.20	3.60	0.00
31.50	8.20	3.60	0.00
32.00	8.20	3.60	0.00
32.50	8.20	3.60	0.00
33.00	8.20	3.60	0.00
33.50	8.20	3.60	0.00
34.00	8.20	3.60	0.00
34.50	8.20	3.60	0.00
35.00	8.20	3.60	0.00
35.50	8.20	3.60	0.00
36.00	8.20	3.60	0.00
36.50	8.20	3.60	0.00
37.00	8.20	3.60	0.00
37.50	8.20	3.60	0.00
38.00	8.20	3.60	0.00
38.50	8.20	3.60	0.00
39.00	8.20	3.60	0.00
39.50	8.20	3.60	0.00
40.00	8.20	3.60	0.00
40.50	8.20	3.60	0.00
41.00	8.20	3.60	0.00
41.50	8.20	3.60	0.00
42.00	8.20	3.60	0.00
42.50	8.20	3.60	0.00
43.00	8.20	3.60	0.00
43.50	8.20	3.60	0.00
44.00	8.20	3.60	0.00
44.50	8.20	3.60	0.00
45.00	8.20	3.60	0.00
45.50	8.20	3.60	0.00
46.00	8.20	3.60	0.00
46.50	8.20	3.60	0.00
47.00	8.20	3.60	0.00
47.50	8.20	3.60	0.00
48.00	8.20	3.60	0.00

Summary for Subcatchment B-3: Post-Developed

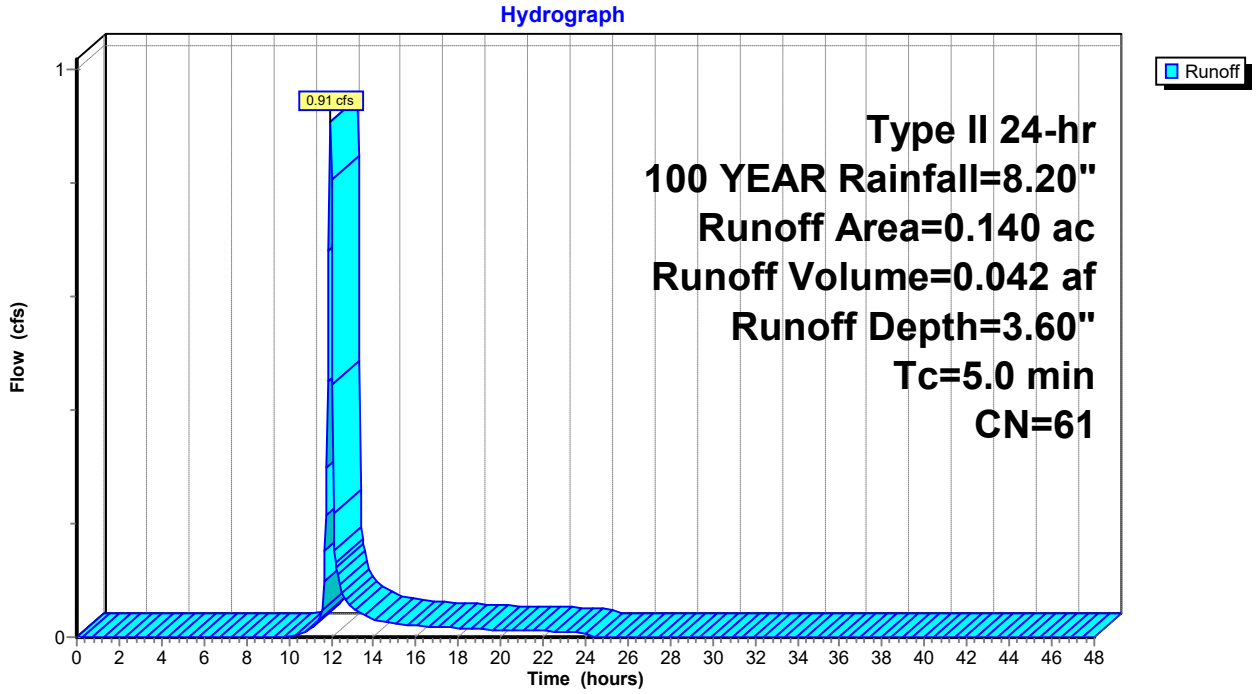
Runoff = 0.91 cfs @ 11.96 hrs, Volume= 0.042 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 YEAR Rainfall=8.20"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
0.140	61	>75% Grass cover, Good, HSG B
0.140	61	Weighted Average
0.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Default**

Subcatchment B-3: Post-Developed



Hydrograph for Subcatchment B-3: Post-Developed

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.13	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.23	0.00	0.00
3.00	0.28	0.00	0.00
3.50	0.34	0.00	0.00
4.00	0.39	0.00	0.00
4.50	0.45	0.00	0.00
5.00	0.52	0.00	0.00
5.50	0.58	0.00	0.00
6.00	0.66	0.00	0.00
6.50	0.73	0.00	0.00
7.00	0.81	0.00	0.00
7.50	0.90	0.00	0.00
8.00	0.98	0.00	0.00
8.50	1.08	0.00	0.00
9.00	1.21	0.00	0.00
9.50	1.34	0.00	0.00
10.00	1.48	0.01	0.00
10.50	1.67	0.02	0.01
11.00	1.93	0.06	0.01
11.50	2.32	0.15	**0.03**
12.00	5.44	1.64	**0.81**
12.50	6.03	2.02	0.08
13.00	6.33	2.23	0.05
13.50	6.55	2.38	0.04
14.00	6.72	2.50	0.03
14.50	6.87	2.61	0.03
15.00	7.00	2.70	0.03
15.50	7.11	2.78	0.02
16.00	7.22	2.86	0.02
16.50	7.31	2.93	0.02
17.00	7.39	2.99	0.02
17.50	7.48	3.05	0.02
18.00	7.55	3.11	0.02
18.50	7.62	3.16	0.01
19.00	7.69	3.21	0.01
19.50	7.75	3.26	0.01
20.00	7.81	3.30	0.01
20.50	7.86	3.34	0.01
21.00	7.91	3.38	0.01
21.50	7.96	3.42	0.01
22.00	8.01	3.45	0.01
22.50	8.06	3.49	0.01
23.00	8.11	3.53	0.01
23.50	8.15	3.56	0.01
24.00	**8.20**	**3.60**	0.01
24.50	8.20	3.60	0.00
25.00	8.20	3.60	0.00
25.50	8.20	3.60	0.00
26.00	8.20	3.60	0.00
26.50	8.20	3.60	0.00
27.00	8.20	3.60	0.00
27.50	8.20	3.60	0.00
28.00	8.20	3.60	0.00
28.50	8.20	3.60	0.00
29.00	8.20	3.60	0.00
29.50	8.20	3.60	0.00
30.00	8.20	3.60	0.00
30.50	8.20	3.60	0.00
31.00	8.20	3.60	0.00
31.50	8.20	3.60	0.00
32.00	8.20	3.60	0.00
32.50	8.20	3.60	0.00
33.00	8.20	3.60	0.00
33.50	8.20	3.60	0.00
34.00	8.20	3.60	0.00
34.50	8.20	3.60	0.00
35.00	8.20	3.60	0.00
35.50	8.20	3.60	0.00
36.00	8.20	3.60	0.00
36.50	8.20	3.60	0.00
37.00	8.20	3.60	0.00
37.50	8.20	3.60	0.00
38.00	8.20	3.60	0.00
38.50	8.20	3.60	0.00
39.00	8.20	3.60	0.00
39.50	8.20	3.60	0.00
40.00	8.20	3.60	0.00
40.50	8.20	3.60	0.00
41.00	8.20	3.60	0.00
41.50	8.20	3.60	0.00
42.00	8.20	3.60	0.00
42.50	8.20	3.60	0.00
43.00	8.20	3.60	0.00
43.50	8.20	3.60	0.00
44.00	8.20	3.60	0.00
44.50	8.20	3.60	0.00
45.00	8.20	3.60	0.00
45.50	8.20	3.60	0.00
46.00	8.20	3.60	0.00
46.50	8.20	3.60	0.00
47.00	8.20	3.60	0.00
47.50	8.20	3.60	0.00
48.00	8.20	3.60	0.00

Summary for Pond 1P: Undg Pond 1

Inflow Area = 1.980 ac, 98.48% Impervious, Inflow Depth = 7.84" for 100 YEAR event
Inflow = 23.38 cfs @ 11.95 hrs, Volume= 1.294 af
Outflow = 1.89 cfs @ 12.46 hrs, Volume= 0.585 af, Atten= 92%, Lag= 30.3 min
Primary = 1.89 cfs @ 12.46 hrs, Volume= 0.585 af
Routed to Link 1B : Study Point 1

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 1,001.43' @ 12.46 hrs Surf.Area= 0.286 ac Storage= 0.860 af

Plug-Flow detention time= 544.4 min calculated for 0.585 af (45% of inflow)
Center-of-Mass det. time= 403.5 min (1,145.2 - 741.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	997.00'	0.394 af	**51.42'W x 242.31'L x 5.50'H Field A** 1.573 af Overall - 0.588 af Embedded = 0.985 af x 40.0% Voids
#2A	997.75'	0.588 af	**ADS_StormTech MC-3500 d +Cap** x 231 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 231 Chambers in 7 Rows Cap Storage= 14.9 cf x 2 x 7 rows = 208.6 cf
		0.982 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	997.00'	**36.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	997.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,001.00'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,002.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.88 cfs @ 12.46 hrs HW=1,001.43' (Free Discharge)
└**1=Orifice/Grate** (Passes 1.88 cfs of 58.28 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.06 cfs @ 10.09 fps)
  ├**3=Orifice/Grate** (Orifice Controls 1.83 cfs @ 2.11 fps)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Undg Pond 1 - 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 7 rows = 208.6 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

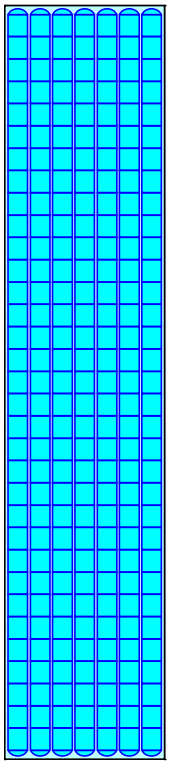
33 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 240.31' Row Length +12.0" End Stone x 2 = 242.31' Base Length
7 Rows x 77.0" Wide + 9.0" Spacing x 6 + 12.0" Side Stone x 2 = 51.42' Base Width
9.0" Stone Base + 45.0" Chamber Height + 12.0" Stone Cover = 5.50' Field Height

231 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 7 Rows = 25,607.5 cf Chamber Storage

68,523.2 cf Field - 25,607.5 cf Chambers = 42,915.7 cf Stone x 40.0% Voids = 17,166.3 cf Stone Storage

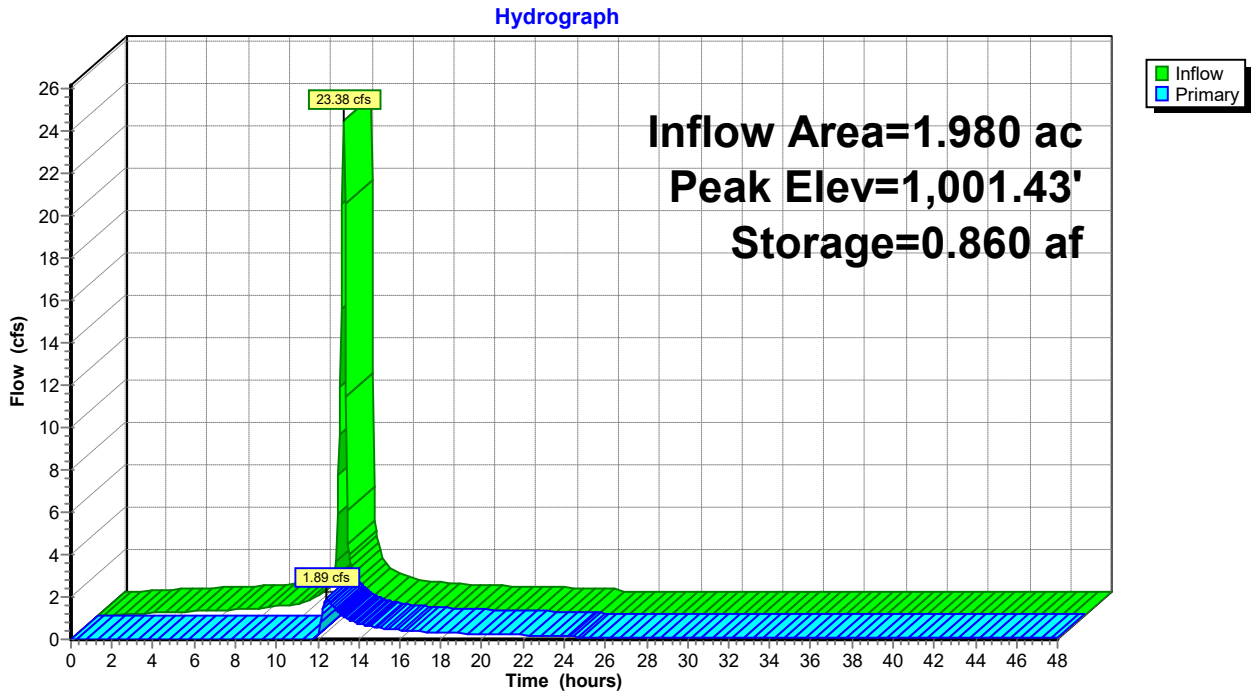
Chamber Storage + Stone Storage = 42,773.8 cf = 0.982 af
Overall Storage Efficiency = 62.4%
Overall System Size = 242.31' x 51.42' x 5.50'

231 Chambers
2,537.9 cy Field
1,589.5 cy Stone





Pond 1P: Undg Pond 1



Hydrograph for Pond 1P: Undg Pond 1

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	997.00	0.00
1.00	0.02	0.000	997.00	0.00
2.00	0.09	0.005	997.04	0.00
3.00	0.14	0.014	997.12	0.01
4.00	0.17	0.026	997.23	0.01
5.00	0.22	0.041	997.36	0.01
6.00	0.26	0.059	997.52	0.02
7.00	0.30	0.080	997.70	0.02
8.00	0.33	0.105	997.83	0.02
9.00	0.49	0.136	997.95	0.03
10.00	0.61	0.177	998.12	0.03
11.00	**1.10**	0.243	998.39	0.03
12.00	**19.47**	**0.729**	**1,000.58**	**0.05**
13.00	1.06	**0.848**	**1,001.34**	**1.30**
14.00	0.63	0.834	1,001.23	0.75
15.00	0.50	0.828	1,001.18	0.55
16.00	0.38	0.824	1,001.15	0.44
17.00	0.34	0.821	1,001.13	0.36
18.00	0.30	0.820	1,001.12	0.32
19.00	0.26	0.818	1,001.11	0.28
20.00	0.22	0.816	1,001.09	0.24
21.00	0.20	0.815	1,001.09	0.21
22.00	0.20	0.814	1,001.08	0.20
23.00	0.19	0.814	1,001.08	0.19
24.00	0.18	0.813	1,001.08	0.19
25.00	0.00	0.804	1,001.02	0.07
26.00	0.00	0.800	1,000.99	0.05
27.00	0.00	0.795	1,000.96	0.05
28.00	0.00	0.791	1,000.93	0.05
29.00	0.00	0.787	1,000.91	0.05
30.00	0.00	0.783	1,000.88	0.05
31.00	0.00	0.778	1,000.86	0.05
32.00	0.00	0.774	1,000.83	0.05
33.00	0.00	0.770	1,000.81	0.05
34.00	0.00	0.766	1,000.79	0.05
35.00	0.00	0.762	1,000.76	0.05
36.00	0.00	0.757	1,000.74	0.05
37.00	0.00	0.753	1,000.71	0.05
38.00	0.00	0.749	1,000.69	0.05
39.00	0.00	0.745	1,000.67	0.05
40.00	0.00	0.741	1,000.65	0.05
41.00	0.00	0.737	1,000.62	0.05
42.00	0.00	0.733	1,000.60	0.05
43.00	0.00	0.728	1,000.58	0.05
44.00	0.00	0.724	1,000.56	0.05
45.00	0.00	0.720	1,000.54	0.05
46.00	0.00	0.716	1,000.52	0.05
47.00	0.00	0.712	1,000.49	0.05
48.00	0.00	0.708	1,000.47	0.05

Summary for Pond 2P: Undg Pond 2

Inflow Area = 1.010 ac, 90.10% Impervious, Inflow Depth = 7.48" for 100 YEAR event
Inflow = 11.77 cfs @ 11.95 hrs, Volume= 0.630 af
Outflow = 2.81 cfs @ 12.11 hrs, Volume= 0.420 af, Atten= 76%, Lag= 9.5 min
Primary = 2.81 cfs @ 12.11 hrs, Volume= 0.420 af
Routed to Link 2B : Study Point 2

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 999.90' @ 12.11 hrs Surf.Area= 0.103 ac Storage= 0.364 af

Plug-Flow detention time= 510.4 min calculated for 0.419 af (67% of inflow)
Center-of-Mass det. time= 412.0 min (1,168.1 - 756.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	995.00'	0.166 af	**37.58'W x 119.53'L x 6.75'H Field A** 0.696 af Overall - 0.282 af Embedded = 0.414 af x 40.0% Voids
#2A	995.75'	0.282 af	**ADS_StormTech MC-7200 +Cap** x 68 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 68 Chambers in 4 Rows Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf
		0.448 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 1	995.00'	**1.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	999.00'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	1,001.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.77 cfs @ 12.11 hrs HW=999.89' (Free Discharge)
└**1=Orifice/Grate** (Passes 2.77 cfs of 29.85 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.06 cfs @ 10.61 fps)
  ├**3=Orifice/Grate** (Orifice Controls 2.71 cfs @ 3.03 fps)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Undg Pond 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-7200 +Cap (ADS StormTech® MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 4 rows = 316.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

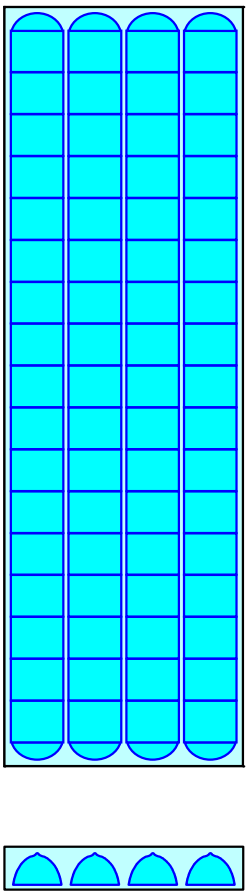
17 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 117.52' Row Length +12.0" End Stone x 2 = 119.53' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

68 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 4 Rows = 12,275.5 cf Chamber Storage

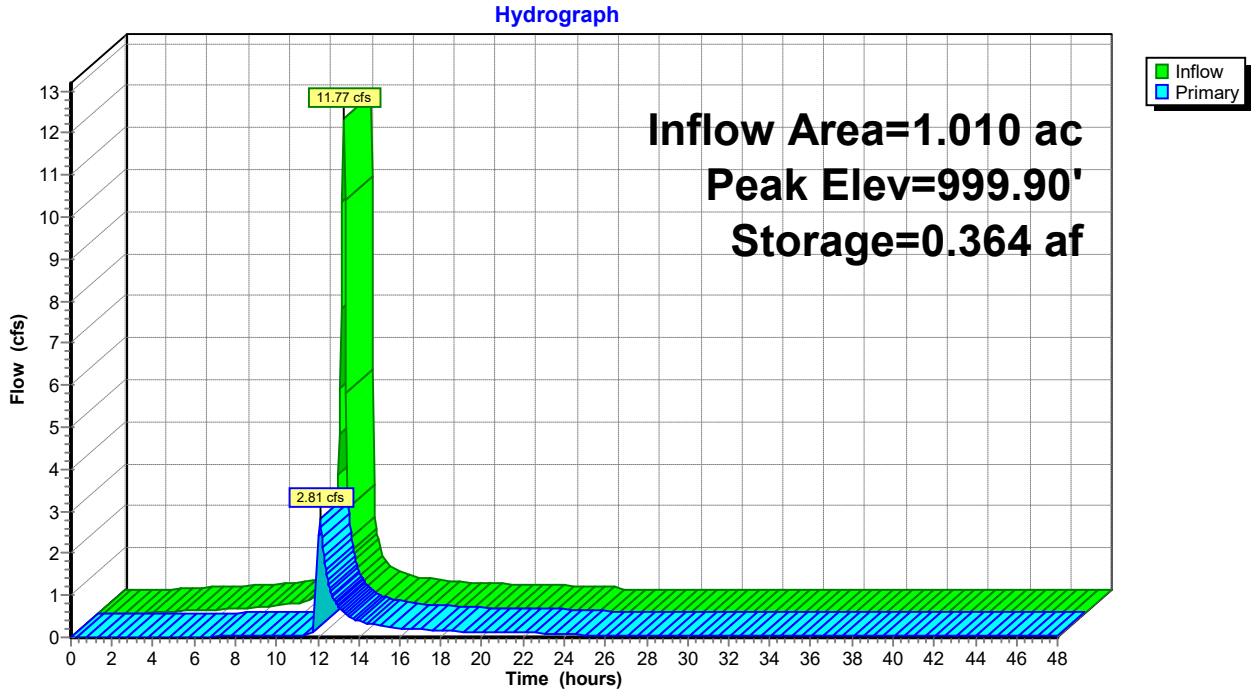
30,322.0 cf Field - 12,275.5 cf Chambers = 18,046.5 cf Stone x 40.0% Voids = 7,218.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,494.1 cf = 0.448 af
Overall Storage Efficiency = 64.3%
Overall System Size = 119.53' x 37.58' x 6.75'

68 Chambers
1,123.0 cy Field
668.4 cy Stone



Pond 2P: Undg Pond 2



Hydrograph for Pond 2P: Undg Pond 2

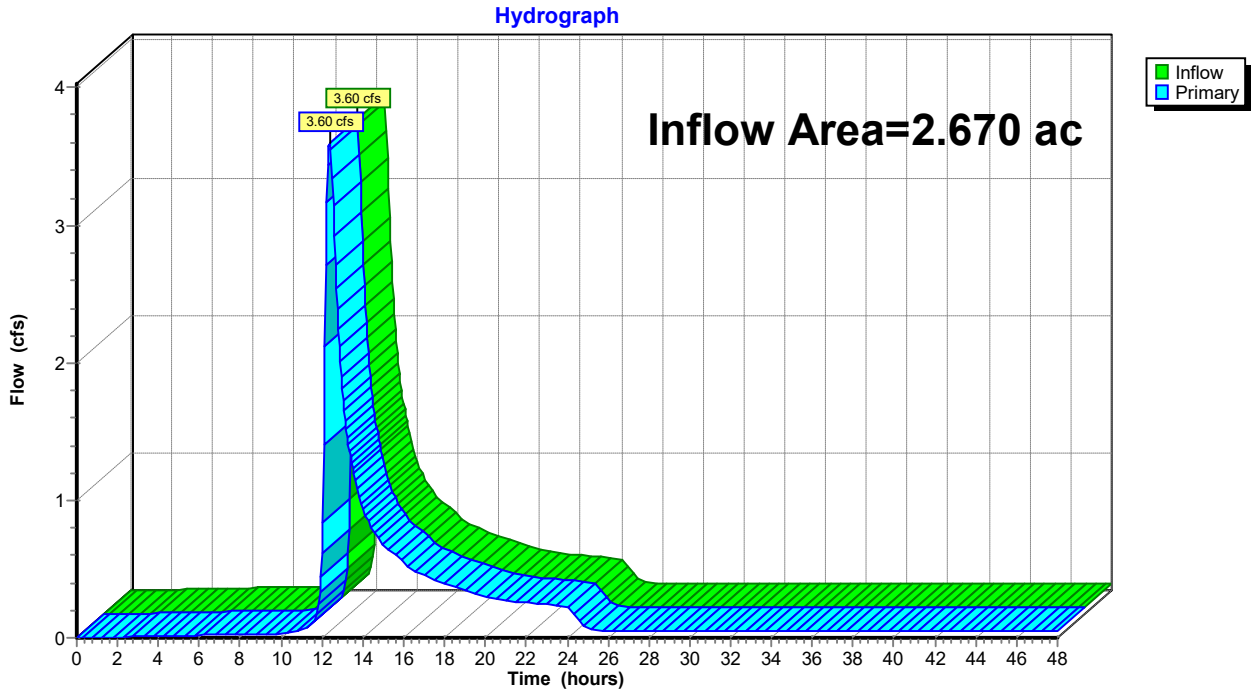
Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	995.00	0.00
1.00	0.00	0.000	995.00	0.00
2.00	0.01	0.000	995.01	0.00
3.00	0.04	0.002	995.05	0.00
4.00	0.06	0.006	995.14	0.01
5.00	0.08	0.010	995.25	0.01
6.00	0.10	0.017	995.41	0.02
7.00	0.13	0.025	995.60	0.02
8.00	0.15	0.035	995.79	0.02
9.00	0.22	0.048	995.94	0.02
10.00	0.29	0.066	996.14	0.03
11.00	**0.53**	0.096	996.48	0.03
12.00	**9.82**	**0.334**	**999.45**	**1.03**
13.00	0.54	**0.328**	**999.35**	**0.73**
14.00	0.32	0.318	999.22	0.39
15.00	0.25	0.315	999.17	0.28
16.00	0.20	0.312	999.14	0.22
17.00	0.17	0.311	999.12	0.18
18.00	0.15	0.310	999.10	0.16
19.00	0.13	0.309	999.09	0.14
20.00	0.11	0.308	999.08	0.12
21.00	0.10	0.307	999.07	0.11
22.00	0.10	0.307	999.06	0.10
23.00	0.10	0.307	999.06	0.10
24.00	0.09	0.306	999.05	0.09
25.00	0.00	0.301	998.99	0.05
26.00	0.00	0.297	998.93	0.05
27.00	0.00	0.293	998.87	0.05
28.00	0.00	0.288	998.81	0.05
29.00	0.00	0.284	998.76	0.05
30.00	0.00	0.280	998.70	0.05
31.00	0.00	0.276	998.65	0.05
32.00	0.00	0.272	998.60	0.05
33.00	0.00	0.268	998.54	0.05
34.00	0.00	0.264	998.49	0.05
35.00	0.00	0.260	998.44	0.05
36.00	0.00	0.256	998.39	0.05
37.00	0.00	0.252	998.34	0.05
38.00	0.00	0.248	998.29	0.05
39.00	0.00	0.244	998.24	0.05
40.00	0.00	0.240	998.19	0.05
41.00	0.00	0.236	998.14	0.05
42.00	0.00	0.232	998.10	0.05
43.00	0.00	0.229	998.05	0.05
44.00	0.00	0.225	998.00	0.05
45.00	0.00	0.221	997.96	0.04
46.00	0.00	0.217	997.91	0.04
47.00	0.00	0.214	997.87	0.04
48.00	0.00	0.210	997.82	0.04

Summary for Link 1B: Study Point 1

Inflow Area = 2.670 ac, 73.03% Impervious, Inflow Depth > 3.53" for 100 YEAR event
Inflow = 3.60 cfs @ 12.38 hrs, Volume= 0.786 af
Primary = 3.60 cfs @ 12.38 hrs, Volume= 0.786 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 1B: Study Point 1



Hydrograph for Link 1B: Study Point 1

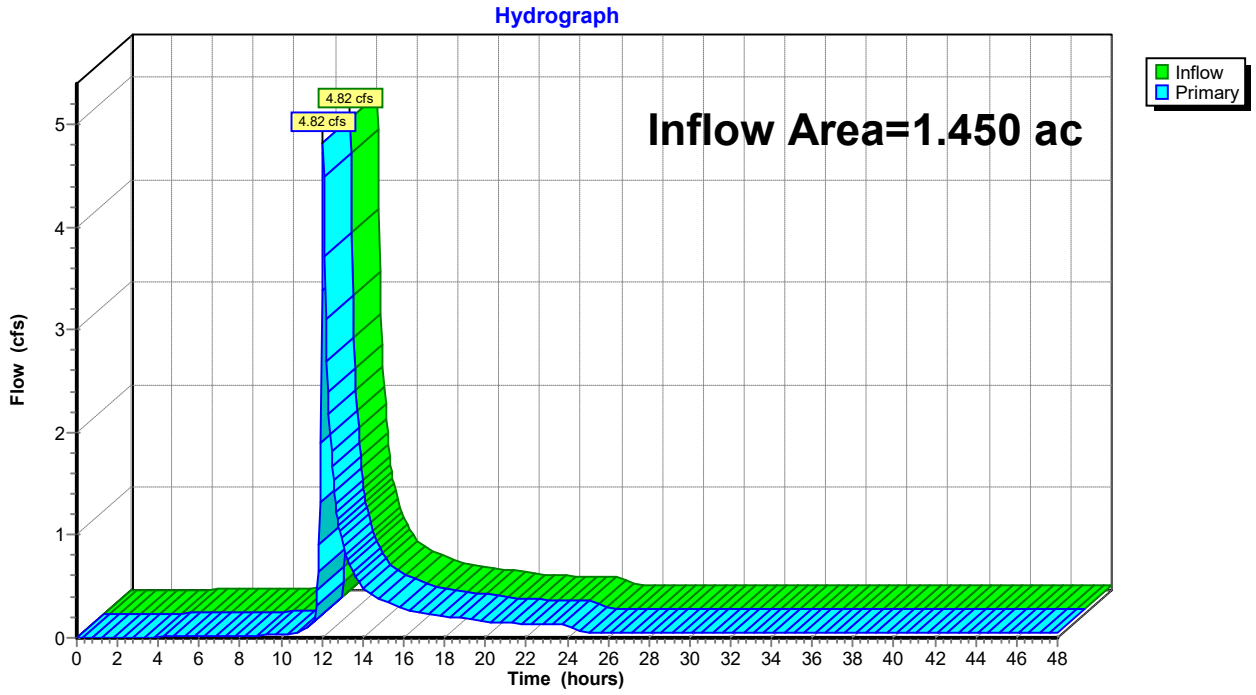
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.01	0.00	0.01	31.50	0.05	0.00	0.05
3.50	0.01	0.00	0.01	32.00	0.05	0.00	0.05
4.00	0.01	0.00	0.01	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.02	0.00	0.02	34.00	0.05	0.00	0.05
6.00	0.02	0.00	0.02	34.50	0.05	0.00	0.05
6.50	0.02	0.00	0.02	35.00	0.05	0.00	0.05
7.00	0.02	0.00	0.02	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.03	0.00	0.03	37.50	0.05	0.00	0.05
9.50	0.03	0.00	0.03	38.00	0.05	0.00	0.05
10.00	0.03	0.00	0.03	38.50	0.05	0.00	0.05
10.50	0.04	0.00	0.04	39.00	0.05	0.00	0.05
11.00	0.06	0.00	0.06	39.50	0.05	0.00	0.05
11.50	0.10	0.00	0.10	40.00	0.05	0.00	0.05
12.00	**0.62**	0.00	**0.62**	40.50	0.05	0.00	0.05
12.50	**3.34**	0.00	**3.34**	41.00	0.05	0.00	0.05
13.00	1.81	0.00	1.81	41.50	0.05	0.00	0.05
13.50	1.24	0.00	1.24	42.00	0.05	0.00	0.05
14.00	0.94	0.00	0.94	42.50	0.05	0.00	0.05
14.50	0.78	0.00	0.78	43.00	0.05	0.00	0.05
15.00	0.68	0.00	0.68	43.50	0.05	0.00	0.05
15.50	0.61	0.00	0.61	44.00	0.05	0.00	0.05
16.00	0.54	0.00	0.54	44.50	0.05	0.00	0.05
16.50	0.49	0.00	0.49	45.00	0.05	0.00	0.05
17.00	0.45	0.00	0.45	45.50	0.05	0.00	0.05
17.50	0.42	0.00	0.42	46.00	0.05	0.00	0.05
18.00	0.40	0.00	0.40	46.50	0.05	0.00	0.05
18.50	0.38	0.00	0.38	47.00	0.05	0.00	0.05
19.00	0.35	0.00	0.35	47.50	0.05	0.00	0.05
19.50	0.32	0.00	0.32	48.00	0.05	0.00	0.05
20.00	0.30	0.00	0.30				
20.50	0.28	0.00	0.28				
21.00	0.27	0.00	0.27				
21.50	0.26	0.00	0.26				
22.00	0.26	0.00	0.26				
22.50	0.25	0.00	0.25				
23.00	0.24	0.00	0.24				
23.50	0.24	0.00	0.24				
24.00	0.23	0.00	0.23				
24.50	0.14	0.00	0.14				
25.00	0.07	0.00	0.07				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Summary for Link 2B: Study Point 2

Inflow Area = 1.450 ac, 62.76% Impervious, Inflow Depth > 4.56" for 100 YEAR event
Inflow = 4.82 cfs @ 12.07 hrs, Volume= 0.551 af
Primary = 4.82 cfs @ 12.07 hrs, Volume= 0.551 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link 2B: Study Point 2



Hydrograph for Link 2B: Study Point 2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)	Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00	28.50	0.05	0.00	0.05
0.50	0.00	0.00	0.00	29.00	0.05	0.00	0.05
1.00	0.00	0.00	0.00	29.50	0.05	0.00	0.05
1.50	0.00	0.00	0.00	30.00	0.05	0.00	0.05
2.00	0.00	0.00	0.00	30.50	0.05	0.00	0.05
2.50	0.00	0.00	0.00	31.00	0.05	0.00	0.05
3.00	0.00	0.00	0.00	31.50	0.05	0.00	0.05
3.50	0.01	0.00	0.01	32.00	0.05	0.00	0.05
4.00	0.01	0.00	0.01	32.50	0.05	0.00	0.05
4.50	0.01	0.00	0.01	33.00	0.05	0.00	0.05
5.00	0.01	0.00	0.01	33.50	0.05	0.00	0.05
5.50	0.01	0.00	0.01	34.00	0.05	0.00	0.05
6.00	0.02	0.00	0.02	34.50	0.05	0.00	0.05
6.50	0.02	0.00	0.02	35.00	0.05	0.00	0.05
7.00	0.02	0.00	0.02	35.50	0.05	0.00	0.05
7.50	0.02	0.00	0.02	36.00	0.05	0.00	0.05
8.00	0.02	0.00	0.02	36.50	0.05	0.00	0.05
8.50	0.02	0.00	0.02	37.00	0.05	0.00	0.05
9.00	0.02	0.00	0.02	37.50	0.05	0.00	0.05
9.50	0.03	0.00	0.03	38.00	0.05	0.00	0.05
10.00	0.03	0.00	0.03	38.50	0.05	0.00	0.05
10.50	0.05	0.00	0.05	39.00	0.05	0.00	0.05
11.00	0.07	0.00	0.07	39.50	0.05	0.00	0.05
11.50	0.12	0.00	0.12	40.00	0.05	0.00	0.05
12.00	**3.39**	0.00	**3.39**	40.50	0.05	0.00	0.05
12.50	**1.67**	0.00	**1.67**	41.00	0.05	0.00	0.05
13.00	0.91	0.00	0.91	41.50	0.05	0.00	0.05
13.50	0.64	0.00	0.64	42.00	0.05	0.00	0.05
14.00	0.50	0.00	0.50	42.50	0.05	0.00	0.05
14.50	0.41	0.00	0.41	43.00	0.05	0.00	0.05
15.00	0.36	0.00	0.36	43.50	0.05	0.00	0.05
15.50	0.32	0.00	0.32	44.00	0.05	0.00	0.05
16.00	0.29	0.00	0.29	44.50	0.05	0.00	0.05
16.50	0.26	0.00	0.26	45.00	0.04	0.00	0.04
17.00	0.24	0.00	0.24	45.50	0.04	0.00	0.04
17.50	0.23	0.00	0.23	46.00	0.04	0.00	0.04
18.00	0.21	0.00	0.21	46.50	0.04	0.00	0.04
18.50	0.20	0.00	0.20	47.00	0.04	0.00	0.04
19.00	0.19	0.00	0.19	47.50	0.04	0.00	0.04
19.50	0.17	0.00	0.17	48.00	0.04	0.00	0.04
20.00	0.16	0.00	0.16				
20.50	0.15	0.00	0.15				
21.00	0.14	0.00	0.14				
21.50	0.14	0.00	0.14				
22.00	0.14	0.00	0.14				
22.50	0.13	0.00	0.13				
23.00	0.13	0.00	0.13				
23.50	0.13	0.00	0.13				
24.00	0.13	0.00	0.13				
24.50	0.07	0.00	0.07				
25.00	0.05	0.00	0.05				
25.50	0.05	0.00	0.05				
26.00	0.05	0.00	0.05				
26.50	0.05	0.00	0.05				
27.00	0.05	0.00	0.05				
27.50	0.05	0.00	0.05				
28.00	0.05	0.00	0.05				

Events for Subcatchment B-1: Post-Developed

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	9.37	0.496	3.01
5 YEAR	4.52	12.77	0.688	4.17
10 YEAR	5.22	14.79	0.803	4.87
25 YEAR	6.29	17.88	0.979	5.93
50 YEAR	7.21	20.53	1.131	6.85
100 YEAR	**8.20**	**23.38**	**1.294**	**7.84**

Events for Subcatchment B-1A: BYPASS POND to SP1

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	0.16	0.027	0.47
5 YEAR	4.52	0.45	0.059	1.03
10 YEAR	5.22	0.67	0.082	1.43
25 YEAR	6.29	1.05	0.122	2.11
50 YEAR	7.21	1.40	0.158	2.75
100 YEAR	**8.20**	**1.81**	**0.200**	**3.48**

Events for Subcatchment B-2: Post-Developed

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	4.51	0.226	2.69
5 YEAR	4.52	6.28	0.323	3.84
10 YEAR	5.22	7.33	0.381	4.53
25 YEAR	6.29	8.93	0.470	5.58
50 YEAR	7.21	10.30	0.547	6.50
100 YEAR	**8.20**	**11.77**	**0.630**	**7.48**

Events for Subcatchment B-2A: BYPASS POND to SP2

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	0.26	0.019	0.51
5 YEAR	4.52	0.67	0.040	1.09
10 YEAR	5.22	0.96	0.055	1.50
25 YEAR	6.29	1.44	0.081	2.20
50 YEAR	7.21	1.89	0.105	2.85
100 YEAR	**8.20**	**2.39**	**0.132**	**3.60**

Events for Subcatchment B-3: Post-Developed

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 YEAR	3.35	0.11	0.006	0.51
5 YEAR	4.52	0.26	0.013	1.09
10 YEAR	5.22	0.37	0.018	1.50
25 YEAR	6.29	0.55	0.026	2.20
50 YEAR	7.21	0.72	0.033	2.85
100 YEAR	**8.20**	**0.91**	**0.042**	**3.60**

Events for Pond 1P: Undg Pond 1

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
1 YEAR	9.37	0.04	999.26	0.450
5 YEAR	12.77	0.05	1,000.10	0.633
10 YEAR	14.79	0.05	1,000.66	0.743
25 YEAR	17.88	0.26	1,001.10	0.817
50 YEAR	20.53	0.72	1,001.22	0.833
100 YEAR	**23.38**	**1.89**	**1,001.43**	**0.860**

Events for Pond 2P: Undg Pond 2

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
1 YEAR	4.51	0.04	997.47	0.181
5 YEAR	6.28	0.05	998.52	0.266
10 YEAR	7.33	0.09	999.05	0.306
25 YEAR	8.93	0.40	999.23	0.319
50 YEAR	10.30	1.06	999.46	0.335
100 YEAR	**11.77**	**2.81**	**999.90**	**0.364**

Events for Link 1B: Study Point 1

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1 YEAR	0.19	0.19	**0.00**
5 YEAR	0.49	0.49	0.00
10 YEAR	0.72	0.72	0.00
25 YEAR	1.10	1.10	0.00
50 YEAR	1.45	1.45	0.00
100 YEAR	**3.60**	**3.60**	0.00

Events for Link 2B: Study Point 2

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1 YEAR	0.30	0.30	**0.00**
5 YEAR	0.71	0.71	0.00
10 YEAR	1.00	1.00	0.00
25 YEAR	1.49	1.49	0.00
50 YEAR	2.14	2.14	0.00
100 YEAR	**4.82**	**4.82**	0.00

APPENDIX 5 | SITE DEVELOPMENT REVIEW TOOL

BOHLER

Georgia Stormwater Management Manual
Stormwater Quality Site Development Review Tool
Version 2.2

General Information

Name of Developer:	RaceTrac	**Date Submitted:**	7/25/2025
Development Name:	RaceTrac Fairburn, GA	**Permit Number:**	
Site Location / Address:	Fairburn Industrial Blvd and Howell	**Developer Contact:**	RaceTrac Petroleum, Inc.
	Fairburn, GA	**Phone Number:**	(770) 431-7600
		Name of Engineer(s):	Bohler
Development Type:	Commercial/Retail	**Maintenance Responsibility:**	

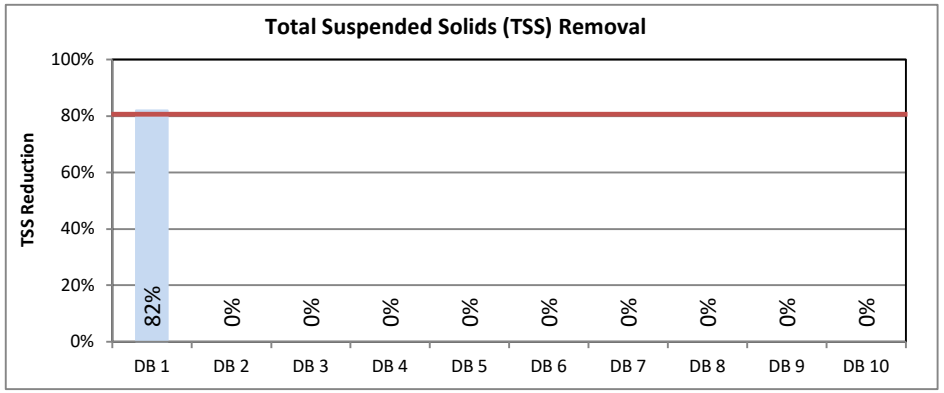
Site Summary

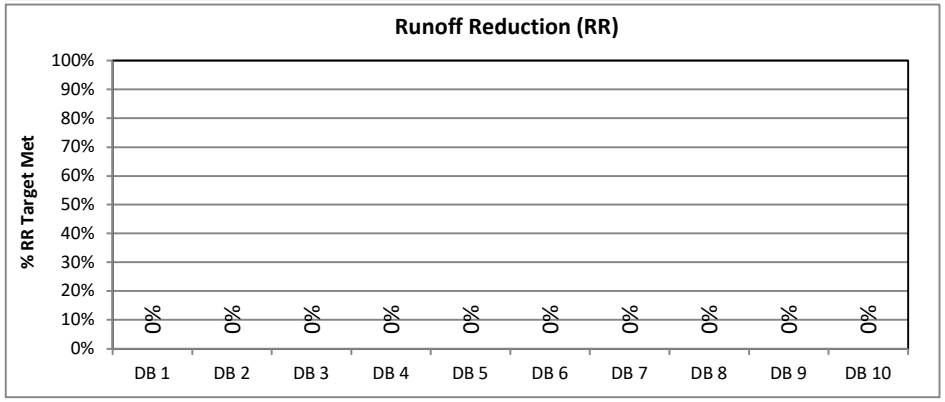
Total Pre-Development Area (ac):	**5.20**
Total Post-Development Area (ac):	**5.20**
Total Treated Area (ac):	**2.70**
Total Untreated Area (ac):	**2.50**

		I (ac)	P (ac)	CA (ac)
TOTAL ONSITE	**DB 1**	3.05	2.15	0.00
Drainage Basin 2	**DB 2**	0.00	0.00	0.00
Drainage Basin 3	**DB 3**	0.00	0.00	0.00
Drainage Basin 4	**DB 4**	0.00	0.00	0.00
Drainage Basin 5	**DB 5**	0.00	0.00	0.00
Drainage Basin 6	**DB 6**	0.00	0.00	0.00
Drainage Basin 7	**DB 7**	0.00	0.00	0.00
Drainage Basin 8	**DB 8**	0.00	0.00	0.00
Drainage Basin 9	**DB 9**	0.00	0.00	0.00
Drainage Basin 10	**DB 10**	0.00	0.00	0.00
	TOTAL	**3.05**	**2.15**	**0.00**

I = Impervious Area, P = Pervious Area, CA = Conservation Area

Target Runoff Reduction Volume Achieved?	**No**
Target TSS Removal Achieved?	**Yes**
Total Target Runoff Reduction Volume (cf)	13,090
Runoff Reduction Volume Achieved (cf)	0
Total Target Water Quality Volume (cf)	13,090
% TSS Removal Achieved	82%





Official Use Only

Tracking #:		**Conditions of Approval:**	
Reviewed By:			
Date Approved:			

Georgia Stormwater Management Manual
Stormwater Quality Site Development Review Tool, v2.2

Development Name: RaceTrac Fairburn, GA
Drainage Basin Name: TOTAL ONSITE

data input cells
calculation cells
constant values

Site Data

Indicate Pre-Development Land Cover and Runoff Curve Numbers in the Site's Disturbed Area

Cover Type	HSG* A (acres)	CN	HSG B (acres)	CN	HSG C (acres)	CN	HSG D (acres)	CN	Total	% Cover
Woods - Fair Condition		36	5.20	60		73		79	5.20	100%
Open space - Fair condition (grass cover 50% to 75%)		49		69		79		84	0.00	0%
Impervious		98		98		98		98	0.00	0%
Select a land cover type…		0		0		0		0	0.00	0%
Select a land cover type…		0		0		0		0	0.00	0%
Local Jurisdiction Input									0.00	0%
Other									0.00	0%
Total	0.00		5.20		0.00		0.00		5.20	100%

*HSG = hydrologic soil group

Impervious (ac)	0.00
Weighted CN	60
Potential Max Soil Retention, S_{pre} (in)	6.67

Indicate Post-Development Land Cover and Runoff Curve Numbers in the Site's Disturbed Area

Cover Type	HSG A (acres)	CN	HSG B (acres)	CN	HSG C (acres)	CN	HSG D (acres)	CN	Total	% Cover
Impervious		98	3.05	98		98		98	3.05	59%
Open space - Fair condition (grass cover 50% to 75%)		49	2.15	69		79		84	2.15	41%
Woods - Fair Condition		36		60		73		79	0.00	0%
Select a land cover type…		0		0		0		0	0.00	0%
Select a land cover type…		0		0		0		0	0.00	0%
Local Jurisdiction Input									0.00	0%
Other									0.00	0%
Total	0.00		5.20		0.00		0.00		5.20	100%

Impervious (ac)	3.05
Rv	0.58
Weighted CN	86
Potential Max Soil Retention, S_{post} (in)	1.63

Conservation Area Credits

Scenario 1: Natural Conservation Area **See the GSMM Volume 2, Section 2.3.3.3 for more information.*

☐ Check the box if a portion of the post-developed area is protected by a conservation easement or equivalent form of protection.

Area (ac) of development protected by a conservation easement or equivalent form of protection.

Note: The green cell will unlock if the Scenario 1 box above is checked

Scenario 2: Site Reforestation/Revegetation **See the GSMM Volume 2, Section 4.22 for more information.*

☐ Check the box if a portion of the post-developed area employs site reforestation/revegetation and is protected by a conservation easement or equivalent form of protection.

Area (ac) of development reforested/revegetated and protected by a conservation easement or equivalent form of protection.

Note: The green cell will unlock if the Scenario 2 box above is checked

Scenario 3: Soil Restoration **See the GSMM Volume 2, Section 4.23 for more information.*

☐ Check the box if a portion of the post-developed area employs soil restoration and is protected by a conservation easement or equivalent form of protection.

Area (ac) of development with restored soils and protected by a conservation easement or equivalent form of protection.

Note: The green cell will unlock if the Scenario 3 box above is checked

Scenario 4: Site Reforestation/Revegetation & Soil Restoration **See the GSMM Volume 2, Section 4.22 and 4.23 for more information.*

☐ Check the box if the same portion of the post-developed area employs site reforestation/revegetation and soil restoration, and is protected by a conservation easement or equivalent form of protection.

Area (ac) with restored soils in a reforested & revegetated area and protected by a conservation easement or equivalent form of protection.

Note: The green cell will unlock if the Scenario 4 box above is checked

Total Conservation Area Credit (acres) **0.00**

Georgia Stormwater Management Manual
Stormwater Quality Site Development Review Tool, v2.2

Development Name: RaceTrac Fairburn, GA
Drainage Basin Name: TOTAL ONSITE

data input cells
calculation cells
constant values

Water Quality Goals

Target Runoff Reduction Storm (in): 1.20

Total Site Area for Water Quality Volume (acres)	5.20
Target Runoff Reduction Volume (cf)	13,090
Target Water Quality Volume (cf)	13,090

Select BMPs for Runoff Reduction and Water Quality

		Area Draining to Each BMP			Storage Volume Provided by BMP (cf)	RR Conveyance Volume Provided by BMP (cf)	Down-stream BMP	Runoff Reduction Calculations						WQ Calculations	
		On-site Pervious Area (acres)	On-site Impervious Area (acres)	Offsite Area (acres)				RR Volume from Direct Drainage (cf)	RR Volume from Upstream Practices (cf)	Total RR Volume Received by BMP (cf)	Runoff Reduction %	RR Achieved (cf)	Remaining RR Volume (cf)	WQ_v from Direct Drainage (cf)	Effective TSS Removal %
BMP 1	ADS INLET FILTER	0.00	2.70				BMP 2	11,173	0	11,173	0%	0	11,173	11,173	80%
BMP 2	ADS Underground Detention (Isolator Row)							0	11,173	11,173	0%	0	11,173	0	80%
BMP 3	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 4	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 5	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 6	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 7	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 8	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 9	Select a BMP…							0	0	0	N/A	0	0	0	N/A
BMP 10	Select a BMP…							0	0	0	N/A	0	0	0	N/A
	TOTAL	0.00	2.70	0.00				11,173				0		11,173	
	UNTREATED AREA (acres)	2.15	0.35												

Target Runoff Reduction Volume (cf)	13,090
Target Achieved?	No
Remaining Runoff Reduction Volume (cf)	13,090

Target Water Quality Volume (cf)	13,090
% TSS Removal Achieved	82%
Target Achieved?	Yes!
Remaining TSS Removal %	0%

Georgia Stormwater Management Manual
Stormwater Quality Site Development Review Tool, v2.2

Development Name: RaceTrac Fairburn, GA
Drainage Basin Name: TOTAL ONSITE

data input cells
calculation cells
constant values

Channel and Flood Protection Calculations

	1-yr, 24-hr storm	2-yr, 24-hr storm	25-yr, 24-hr storm	100-yr, 24-hr storm
Target Rainfall Event (in)	3.56	4.18	7.40	9.44

	1-yr, 24-hr storm	2-yr, 24-hr storm	25-yr, 24-hr storm	100-yr, 24-hr storm
Pre-Development Runoff Volume (in)	0.56	0.85	2.89	4.45
Post Development Runoff Volume (in) with no BMPs	2.15	2.71	5.75	7.73
Post-Development Runoff Volume (in) with BMPs	2.15	2.71	5.75	7.73
Adjusted CN	**86**	**86**	**86**	**86**

*See Stormwater Management Standards to Determine Detention Requirements.

Comments

APPENDIX 6 | STORMWATER DETAILS

BOHLER

Underground Detention



Underground detention is detention storage located in underground tanks or vaults designed to provide water quantity control through temporary storage of stormwater runoff. In addition they can improve water quality by removing heavy amounts of sediment.

There are some common problems to be aware of when maintaining an underground detention area. They include, but are not limited to, the following:

- Sediment build-up
- Clogging in the inlet and outlet structure
- Requirement to have Occupational Safety and Health Administration (OSHA) confined space entry training

Routine maintenance should be performed on the underground detention areas to ensure that the structure is properly functioning. Routine maintenance includes the removal of debris from inlet and outlet structures and cleaning sediment built up inside the structure. Because this is an underground system, inspection and maintenance may be difficult to conduct. Generally these underground systems can be inspected by looking in an access opening. Sometimes, however, maintenance requires an individual who is certified in OSHA confined space entry. Should there be a situation where a safety concern arises, the inspection should stop and the safety concern addressed. Once the concern is addressed, the inspection can continue.

Inspect the underground detention area after a large rainstorm. If the underground detention area is not draining properly, check the inlet and outlet structures to make sure they are not clogged.

Sediment should be removed from the practice by either a vacuum or boom. If the system is accepting water that flowed from a hazardous facility, the sediment may need to be disposed of by other means. Check with the local government to identify any additional constraints on the disposal of sediments excavated from underground detention.

The table on the following page shows a schedule for when different maintenance activities should be performed on a submerged gravel wetland.

Underground Detention Typical Routine Maintenance Activities and Schedule

Activity	Schedule
• Remove any trash/debris and sediment buildup in the underground trash racks, vaults or tanks. • Check drainage areas for trash, erosion, and debris. • Clean underground detention if hazardous or foreign substances are spilled in the contributing drainage area. • Perform structural repairs to inlet and outlets.	As needed
• Follow manufacturer's guidelines and develop/adjust plan for the underground detention. • Clean out underground detentions with vacuum or boom trucks. • Clean sediment or oil chambers	Annually

Underground Detention

Maintenance Item	Condition: Good	Marginal	Poor	N/A*	Comment
General Inspection					
Access to the site is adequately maintained for inspection and maintenance.					
Area is clean (trash, debris, grass clippings, etc. removed).					
Inlet Structure and Pretreatment					
Drainage ways (overland flow or pipes) to the practice are free of trash, debris, large branches, etc.					
Inlet structure is in good condition. No signs of cracks or leaks.					
Diversion structure (high flow bypass structure or other) is free of trash, debris, or sediment. Comment on overall condition of diversion structure and list type.					
Inlet pipe fits tightly to the underground detention.					
Inlet has protection to prevent clogging with leaves or other debris and has fine mesh for mosquito control.					
Main Treatment					
Main treatment area is free of trash, debris, and sediment.					
Structure seems to be working properly. No signs of settling, leaking, or cracking. Comment on overall condition of structure.					
Emergency Overflow and Outlet Structure					
Area is free of trash, debris, and sediment.					
Overflow valve appears to be in good condition and show no signs of leaking.					
Results					
Overall condition of Underground Detention:					
Additional Comments					

Notes: *If a specific maintenance item was not checked, please explain why in the appropriate comment box.

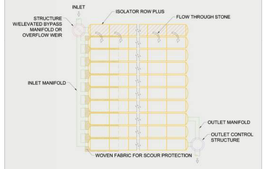
Isolator® Row Plus

The StormTech Isolator Row Plus is an enhancement to our proven water quality treatment system. This updated system is an NJCAT verified water quality treatment device that can be incorporated into any system layout.

Features

- Isolator Row Plus is now NJCAT verified. As a Manufactured Treatment Device it achieves over 80% TSS removal by filtration NJDEP Laboratory Protocol Assessment NJCAT Technology Verification.
- A patented Flamp™ (Flared End Ramp) provides a smooth transition from pipe invert to fabric bottom. The Flamp is attached to the inlet pipe inside the chamber end cap and improves chamber function over time by distributing sediment and debris that would otherwise collect at the inlet. It also serves to improve the fluid and solid flow back into the inlet pipe during maintenance and cleaning.
- Proprietary ADS Plus fabric maintains durability and sediment removal while allowing for higher water quality flow rates. A single layer of ADS Plus fabric is placed between the angular base stone and the Isolator Row Plus chambers.

Schematic of the StormTech Isolator Row Plus System



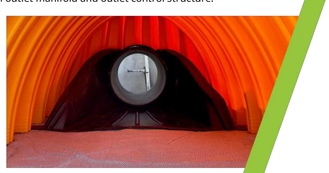
Technology Descriptions

The Isolator Row Plus is designed to capture the "first flush" runoff and offers the versatility to be sized on a volume or a flow basis. An upstream manhole not only provides access to the Isolator Row Plus but includes a high/low concept such that stormwater flow rates or volumes that exceed the capacity of the Isolator Row Plus bypass through a manifold to the other chambers. This is achieved with either an elevated bypass manifold or a high-flow weir. This creates a differential between the Isolator Row Plus row of chambers and the manifold to the rest of the system, thus allowing for settlement time in the Isolator Row Plus. After Stormwater flows through the Isolator Row Plus and into the rest of the StormTech chamber system it is either infiltrated into the soils below or passed at a controlled rate through an outlet manifold and outlet control structure.

Summary of Verified Claims[1]

Treatment Rate (gpm/ft²)	4.1
Underlying Geotextile Layers	1
NJDEP Test Sediment	D50=75um
Mean Particle Concentration (mg/L)	200
TSS Removal Efficiency	>80%

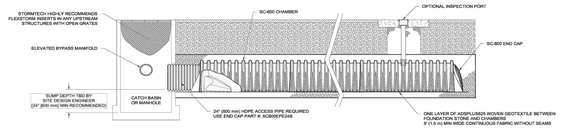
[1] Verification testing of the StormTech SC-740 Isolator Row PLUS in accordance with NJDEP Laboratory protocol to access total suspended solids removal by filtration manufactured treatment device, 2013



ADS StormTech™

adspipe.com
800-821-6710

StormTech Isolator Row Plus (not to scale)



Maintenance

The Isolator Row Plus was designed to reduce the cost of periodic maintenance. By "isolating" sediment to just one row of the StormTech system, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout.

Maintenance is accomplished with the JetVac® process. The JetVac process utilizes a high-pressure water nozzle to propel itself down the Isolator Row Plus while scouring and suspending sediment. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency.

StormTech Isolator Row Plus

Chamber Model	Chamber Storage	Chamber Footprint	Treatment Rate
SC-160LP	15.0 cf (0.42 m³)	11.45 sf (1.06 m²)	0.11 cfs (3.11 L/s)
SC-310	31.0 cf (0.88 m³)	17.7 sf (1.64 m²)	0.16 cfs (4.53 L/s)
DC-780	78.4 cf (2.22 m³)	27.8 sf (2.58 m²)	0.26 cfs (7.36 L/s)
SC-800	81.0 cf (2.29 m³)	27.3 sf (2.54 m²)	0.25 cfs (7.1 L/s)
MC-3500	175.0 cf (4.96 m³)	42.9 sf (3.99 m²)	0.40 cfs (11.32 L/s)
MC-4500	162.6 cf (4.60 m³)	30.1 sf (2.80 m²)	0.28 cfs (7.93 L/s)
MC-7200	267.3 cf (7.57 m³)	50.0 sf (4.65 m²)	0.45 cfs (12.74 L/s)

Installation

Installation of the stormwater treatment unit(s) shall be preformed per manufacture's installation instructions. Such instructions can be obtained by calling Advanced Drainage Systems Inc. at (800) 821-6710 or by logging on to adspipe.com.

ADS StormTech™

adspipe.com
800-821-6710

ADS "Terms and Conditions of Sale" are available on the ADS website, www.adspipe.com
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NO.	REVISION	BY	DATE

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GEORGIA REGISTERED Nathan Fuss No. PE046894 PROFESSIONAL 01/29/2025 ENGINEER NATHAN R. FUSS

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RaceTrac

RACETRAC PETROLEUM, INC.
3225 CUMBERLAND BLVD, SE
SUITE 100 ATLANTA, GA 30339
(770) 431-7600

DRAINAGE DETAILS

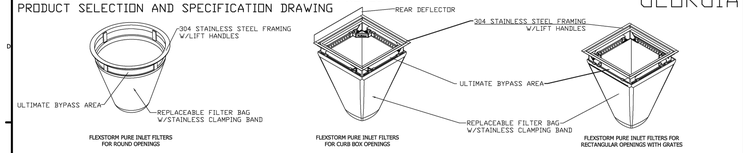
FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	01/10/2024
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C7.1	
SHEET NO.	REVISION

FLEXSTORM PURE FILTERS FOR PERMANENT INLET PROTECTION
PRODUCT SELECTION AND SPECIFICATION DRAWING

GEORGIA



FLEXSTORM PURE INLET FILTERS FOR ROUND OPENINGS

FLEXSTORM PURE INLET FILTERS FOR CURB BOX OPENINGS

FLEXSTORM PURE INLET FILTERS FOR RECTANGULAR OPENINGS WITH GRATES

Product selection for FLEXSTORM PURE Filters (Permanent Inlet Protection)

Standard	USF Casting	Inlet Type	Grate Size	Opening Size	Bag Cap. (ft^3)	Flow Ratings (CFS)			Part #			
						FXP/FXP+	PC/PC+	Bypass	FX	FXP+	PC	PC+
2' x 2' Frame and Grate	4190-6259	Square/Rect (SQ)	23.5 x 23.5	22 x 22	2.4	1.9	1.6	4.5	62MHD22FX	62MHD22FXP	62MHD22PC	62MHD22PCP
2' x 3' Std.	4180	Square/Rect (SQ)	36 x 24	34 x 22	4.5	2.5	2.1	6.0	62LHD2436FX	62LHD2436FXP	62LHD2436PC	62LHD2436PCP
1019 A Type A/B/C/D	4607	Square/Rect (SQ)	28.75 X 21	26.5 X 18.25	3.0	1.9	1.6	4.7	62HD1019AFX	62HD1019AFXP	62HD1019APC	62HD1019APCP
1019 A Type E	5151	Curb Box (CB)	28.75 X 21	26.5 X 18.25	3.0	1.9	1.6	4.7	62MHDCBFX	62MHDCBFXP	62MHDCBPC	62MHDCBPCP
City of Macon Georgia Std.	5167	Wall Mount (WM)	40.5	39.5	2.7	2.1	1.8	N/A	62HDWM1FX	62HDWM1FXP	62HDWM1PC	62HDWM1PCP
1010 Catch Basin	4612	Square/Rect (SQ)	33.75 x 21.75	31.375 x 19.375	4.0	2.2	1.9	7.2	62LHDFX	62LHDFXP	62LHDPC	62LHDPCP
1013 Catch Basin	5135	Curb Box (CB)	33.75 x 21.75	31.375 x 19.375	4.0	2.2	1.9	7.2	62MHDCBFX	62MHDCBFXP	62MHDCBPC	62MHDCBPCP
1019 B (Type V-1)	5149/5150	Curb Box (CB)	33.75 x 21.75	31.375 x 19.375	4.4	2.3	2.0	5.8	62LHDCBFX	62LHDCBFXP	62LHDCBPC	62LHDCBPCP
1019 B (Type V-2)	4612	Square/Rect (SQ)	33.75 x 21.75	31.375 x 19.375	4.4	2.3	2.0	5.8	62LHDFX	62LHDFXP	62LHDPC	62LHDPCP

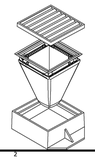
*FLOW RATINGS SHOWN ARE 50% MAXIMUM

NOTES:

1. ALL FRAMING IS CONSTRUCTED OF 304 STAINLESS STEEL FOR 25 YEAR SERVICE LIFE RATING
2. TOTAL BYPASS CAPACITY WILL VARY WITH EACH SIZED DRAINAGE STRUCTURE. FLEXSTORM DESIGNS FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE.
3. UPON ORDERING ADS P/N CONFIRMATION OF THE IOT CALLOUT, FLEXSTORM ITEM CODE, CASTING MAKE AND MODEL, OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED.
4. FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT WWW.INLETFILTERS.COM

INSTALLATION

1. REMOVE GRATE
2. DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
3. REPLACE GRATE



FLEXSTORM PURE

ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC A DIVISION OF ADS, INC. WWW.INLETFILTERS.COM (866) 287-8655 PH (630) 355-3477 FX INFO@INLETFILTERS.COM

SIZE	DWG NO	REV
C	P-GA-SUBMIT	A
SCALE	SHEET 1 OF 1	

FLEXSTORM OPERATION AND MAINTENANCE PLAN

FLEXSTORM INLET FILTERS

OPERATION & MAINTENANCE PLAN

Installation Instructions:

1. Remove grate from the drainage structure
2. Clean stone and dirt from ledge (lip) of drainage structure
3. Drop the FLEXSTORM inlet filter through the clear opening such that the hangers rest firmly on the lip of the structure.
4. Replace the grate and confirm it is not elevated more than 1/8", the thickness of the steel hangers.

Frequency of Inspections:

1. Inspection should occur following any rain event >½".
2. Post construction inspections should occur 4 times per year. In snowfall affected regions additional inspections should take place before and after snowfall season.
3. Industrial application site inspections (loading ramps, wash racks, maintenance facilities) should occur on a regularly scheduled basis no less than 3 times/year.

Maintenance Guidelines:

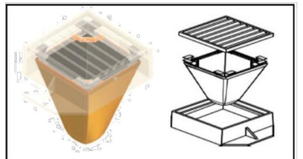
1. Empty the sediment bag if more than half filled with sediment and debris, or as directed.
2. Remove the grate, engage the lifting bars with the FLEXSTORM Removal Tool, and lift from drainage structure.
3. Dispose of sediment or debris as directed by the Engineer or Maintenance contract.
4. An industrial vacuum can be used to collect sediment.
5. Remove caked on silt from sediment bag and flush with Medium spray with optimal filtration.
6. Replace bag if torn or punctured to >½" diameter on lower half of bag.

Post Construction PC Bag Maintenance:

1. At 50% saturation the average 2'x2' Adsorb-it lined PC filter will retain approximately 75 oz (4.2 lbs) of oil and should be serviced. To recover the oils the filter can be centrifuged or passed through a wringer.
2. Oil skimmer pouches start to turn black when saturated, indicating time for replacement. Each ClearTec Rubberizer pouch will absorb ~62oz (4 lbs) of oil before needing replacement.
3. Dispose of all oil contaminated products in accordance with EPA guidelines. ClearTec Rubberizer, since a solidifier, will not leach under pressure and can be disposed of in most landfills, recycled for industrial applications, or burned as fuel.

Sediment Bag Replacement:

1. Remove the bag by loosening or cutting off clamping bag.
2. Take new sediment bag and secure worm drive clamping band to the frame channel.
3. Ensure Bag is secure and there is no slack around perimeter.



STRUCTURE ID#/LOCATION:

DATE	TASK PERFORMED	INSPECTOR

FLEXSTORM P/Ns FOR NYLOPLAST ROUND FRAME AND GRATE

INLET TYPE NYLO: ROUND IN NYLOPLAST BASIN

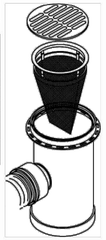
Casting Size	FX Bag		Flexstorm Ratings (Flow at 50% of max)			FX+ Bag
	ADS P/N	Bag Depth	Bag Capacity (ft^3)	FX/FX+ Flow Rate (CFS)	Total Bypass (CFS)	ADS P/N
8" Drop in	6208NYFX	22"	0.2	0.9	1.3	6208NYFXP
8" Inline	6208NYFX	22"	0.2	0.9	1.3	6208NYFXP
10" Drop in	6210NYFX	22"	0.3	1.2	1.75	6210NYFXP
10" Inline	6210NYFX	22"	0.3	1.2	1.75	6210NYFXP
12" Round	6212NYFX	22"	0.3	1.4	2.0	6212NYFXP
15" Round	6215NYFX	22"	0.6	1.7	2.5	6215NYFXP
18" Round	6218NYFX	22"	0.9	2.1	3.1	6218NYFXP
24" Round	6224NYFX	22"	1.6	2.8	4.3	6224NYFXP
30" Round	6230NYFX	22"	2.8	3.6	5.7	6230NYFXP

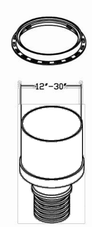
Casting Size	PC Bag		Flexstorm Ratings (Flow at 50% of Max)			PC+ Bag
	ADS P/N	Bag Depth	Bag Capacity (ft^3)	PC/PC+ Flow Rate (CFS)	Total Bypass (CFS)	ADS P/N
8" Inline	6208NYPC	22"	0.2	0.4	1.3	6208NYPCP
8" Drop in	6208NYPC	22"	0.2	0.4	1.3	6208NYPCP
10" Drop in	6210NYPC	22"	0.3	0.6	1.75	6210NYPCP
12" Round	6212NYPC	22"	0.3	0.9	2.0	6212NYPCP
15" Round	6215NYPC	22"	0.6	1.2	2.5	6215NYPCP
18" Round	6218NYPC	22"	0.9	1.4	3.1	6218NYPCP
24" Round	6224NYPC	22"	1.6	1.9	4.3	6224NYPCP
30" Round	6230NYPC	22"	2.8	2.5	5.7	6230NYPCP

STANDARD BAG DEPTH

SHORT BAG DEPTH









8" and 10" Designs



12" and Plus Designs

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SIZE	FRAME TYPE	DWG NO	REV
C	NY	NYLOPLAST	A
SCALE	SHEET 1 OF 1		

FlexStorm Pure™ Inlet Filter

FlexStorm Pure inlet filters are the preferred choice for permanent inlet protection and stormwater runoff control. Constructed of stainless steel, FlexStorm Pure inlet filters will fit any drainage structure and are available with site-specific filter bags providing various levels of filtration.

Applications

- Car washes
- Commercial
- Loading ramps
- Industrial
- Gas stations
- Parking lots
- Dock drains
- Maintenance

Features

- Custom stainless steel frames are configured to fit into any drainage structure
- Flow and bypass rates meet specific inlet requirements
- Works below grade with bypass to drain area if bag is full
- Installed and maintained by one worker, without additional equipment

Benefits

- Stainless steel frame provides extended service life
- Easily replaceable filter bags
- Meets stringent removal requirements:
  - All bags rated >84% removal efficiency
  - Bag styles available to remove hydrocarbon oils when required





ADS

FlexStorm Pure Inlet Filters Specification

Material and Performance

The filter is comprised of a stainless steel frame and a replaceable geotextile filter bag attached to the frame with a stainless steel locking band. The filter bag hangs suspended below the grate that shall allow full bypass flow into the drainage structure if the bag is completely filled with sediment. The standard "FX" filter bags are rated for 200 gpm/sqft (21.44 liters/minute/cubic meter) with a removal efficiency of 85%. The post construction "PCP" filter bags are rated for 137 gpm/sqft (14.69 liters/minute/cubic meter) and have a removal efficiency of 97%.

Installation

1. Remove the grate from the inlet.
2. Clean debris from the ledges of the inlet.
3. Place the inlet filter onto the load bearing ledges of the structure.
4. Replace the grate and confirm it is not elevated more than ⅛" (3 mm).

Frequency of Inspections

1. Inspection should occur following rain events greater than ½" (13 mm).
2. Filter inspections should occur a minimum of three times per year, and in snowfall affected regions, inspections prior to and after snowfall season.
3. Industrial application site inspections (loading ramps, wash racks & maintenance facilities) to be scheduled on a recurring basis no less than four times per year or as needed.

Maintenance Guidelines

1. Empty the filter bag manually or by industrial vacuum taking care not to damage the geotextile bag when more than half filled or during scheduled inspection period.
2. Remove compacted silt from sediment bag and flush with medium spray.
3. "PCP" style bags should be pressed or wrung to recover retained oils.
4. Oil skimmer pouches solidify and darken when saturated, indicating time for replacement.
5. Dispose of all oil-contaminated products and recovered oils in accordance with EPA guidelines. Oil skimmer pouches, since a solidifier, will not leach and can be disposed of directly.
6. Inspect and replace bag if torn or punctured.

Filter Bag Replacement

1. Remove the bag by loosening or cutting off clamping band.
2. Take the new correctly sized sediment bag and secure hose clamping band to the frame channel as previously removed.
3. Ensure bag is secure and there is no slack around perimeter.

Build America, Buy America (BABA)

For any questions related to Build America, Buy America (BABA) Act compliance contact an ADS representative.

ADS

adspipe.com
800-821-6710

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NO.	REVISION	BY	DATE

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GEORGIA REGISTERED Nathan Fuss No. PE046694 PROFESSIONAL 01/23/2025 ENGINEER NATHAN R. FUSS

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DRAINAGE DETAILS

FAIRBURN INDUSTRIAL BLVD. & HOWELL AVE.

CITY OF FAIRBURN, GA

DRAWN-BY	KJ
DATE	01/10/2024
SCALE	AS NOTED
PROJECT No: GAA220184.00	
C7.2	
SHEET NO.	REVISION