BEAR HOLDINGS, LLC / BEAR, LLC

City of Auburn Development Review Application

JUNE 2024

Bear Self Storage Facility
Center Street, Auburn, Maine

WRIGHT-PIERCE
Engineering a Better Environment

WRIGHT-PIERCE
Engineering a Better Environment

11 Bowdoin Mill Island, Suite 140
Topsham, ME 04086
207.725.8721 | wright-pierce.com

June 7, 2024

Eric Cousens, City Planner
City of Auburn
60 Court Street, Suite 104
Auburn, ME 04210

SUBJECT: Development Review Submission
Self-Storage Facility
828 Center Street, Auburn, Maine

Dear Mr. Cousens,

Wright-Pierce is pleased to submit fifteen copies of the attached Site Plan Review Application for the proposed Self Storage and Auto Sales facility on Center Street on behalf of Bear Holdings LLC and Bear, LLC. The project proposes to construct a 9,000 SF auto sales/service building on the southern side of the site with paved vehicle display areas and gravel areas for rental of storage containers. The storage-facility and auto sales are in the General Business zoning district, with the exception of one recently acquired lot on Turner Street in the suburban residential zoning district. A house on the lot was recently demolished and a gravel area will be constructed on a portion of the lot. The project will require a special exception approval from the planning board.

The site has been assembled by a series of land exchanges to total approximately 7.36 acres with frontage on both Center Street and Turner Street. The site is comprised of 4 parcels owned by Bears Holdings, LLC and one by Bear, LLC.

The existing site is served by a water service from Turner Street and sewer service from a sewer line that crosses the site, which were constructed after the previous site plan approval. These existing services will be extended to the proposed building.

Stormwater from the site will be managed by on-site catch basins and stormdrains and the runoff treated in an existing wet pond along the southern portion of the site, two grassed underdrained soil filters near Center Street, and a subsurface sand filter near Center Street. The soil filters and wet pond treat runoff from the building, new pavement, and gravel on the southern side of the site. The subsurface sand filter is proposed to replace an underdrained soil filter and will provide treatment of stormwater from additional paved areas of the dealership. The subsurface system is oversized to also provide detention beyond the required treatment volume, to reduce the peak runoff rate from that area of the site. The storm water system and treatment has been designed to meet the Maine DEP Chapter 500 and 502 requirements for sites with greater than one acre of new impervious area, as described in the attached Stormwater Management Plan. The stormwater will be treated for quality prior to discharge into the un-named stream that abuts the southern boundary of the parcel. The site is in the watershed of Bobbin Mill Brook and the Androscoggin River.

A landscaped buffer of evergreen trees and privacy fencing will be planted along a portion of the southerly project limits to screen the storage containers in the gravel area from the residential abutters and Center Street.

The site has been designed to address the City's Site Plan Review objectives as listed in Sec 60-1277 of the ordinance. An explanation of how the project meets these standards is included with the application.

The project is seeking a waiver of the traffic analysis requirement of the zoning ordinance (Section 46-235), since the proposed site changes only marginally expand the existing low traffic volume uses on the site and only a marginal increase in traffic is anticipated as a result of the proposed project. The existing entrances on Center Street will continue to be utilized. The project will not require a traffic use permit since the anticipated traffic is only 22 passenger car equivalents in the peak hour (Saturday).

Sincerely,
WRIGHT-PIERCE

Jan Wiegman, PE
Senior Project Manager
jan.wiegman@wright-pierce.com

Nate Edwards, PE
Lead Project Engineer
nathan.edwards@wright-pierce.com

Attachments

cc: Richard Raubeson

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

Development Review Application

PROJECT NAME: Bear Self Storage Facility and K&R Auto

PROPOSED DEVELOPMENT ADDRESS: 864, 868, 878, 900 Center St., 1193 Turner St., Auburn, ME

PARCEL ID #: 301-017- 2, 301-018, 301-019, 301-017, 300-009

REVIEW TYPE:
Site Plan □ **Site Plan Amendment** X
Subdivision □ **Subdivision Amendment** □

PROJECT DESCRIPTION: This application is for construction of a building for car display and service, comprised of office areas and vehicle preparation/maintenance areas. New pavement and gravel areas for storage container storage area also proposed. Stormwater treatment of the new developed portions of the site are also proposed.

CONTACT INFORMATION:

Applicant

Name: Bear Holdings,LLC and Bear, LLC
Address: 878 Center Street
City / State Auburn, ME
Zip Code 04210
Work #:
Cell #: 207-838-6210
Fax #:
Home #:
Email: rraubeson50@aol.com

Property Owner

Name: Bear Holdings, LLC and Bear, LLC
Address: 878 Center Street
City / State Auburn, ME
Zip Code 04210
Work #:
Cell #: 207-838-6210
Fax #:
Home #:
Email: rraubeson50@aol.com

Project Representative

Name: Wright-Pierce, Jan B. Wiegman, PE
Address: 11 Bowdoin Mill Island, Suite 140
City / State Topsham, ME
Zip Code 04086
Work #: (207) 725-8721
Cell #:
Fax #:
Home #:
Email: jan.wiegman@wright-pierce.com

Other professional representatives for the project (surveyors, engineers, etc.),

Name:
Address:
City / State
Zip Code
Work #:
Cell #:
Fax #:
Home #:
Email:

PROJECT DATA

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

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	166,835	sq. ft.
Proposed Total Paved Area	200,242	sq. ft.
Proposed Total Impervious Area	262,754	sq. ft.
Proposed Impervious Net Change	95,919	sq. ft.
Impervious surface ratio existing	38	% of lot area
Impervious surface ratio proposed	61	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	34,955	sq. ft.
Proposed Building Footprint	43,955	sq. ft.
Proposed Building Footprint Net change	9,000	sq. ft.
Existing Total Building Floor Area	34,955	sq. ft.
Proposed Total Building Floor Area	43,955	sq. ft.
Proposed Building Floor Area Net Change	9,000	sq. ft
New Building	Yes	(yes or no)
Building Area/Lot coverage existing	8	% of lot area
Building Area/Lot coverage proposed	10	% of lot area

ZONING

Existing	General Business (GB) Suburban Residential (SR)
Proposed, if applicable	N/A

LAND USE

Existing	Storage Facility/Auto Sales
Proposed	Storage Facility/Auto Sales

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	N/A
Proposed Number of Residential Units	N/A
Subdivision, Proposed Number of Lots	N/A

PARKING SPACES

Existing Number of Parking Spaces	N/A
Proposed Number of Parking Spaces	N/A
Number of Handicapped Parking Spaces	N/A
Proposed Total Parking Spaces	N/A

ESTIMATED COST OF PROJECT: $1.544 M

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	166,835	sq. ft.
Proposed Disturbed Area	152,000**	sq. ft.
Proposed Impervious Area	262,754***	sq. ft.

**Total disturbed area. To clarify, this is all in existing developed area.

***Total impervious area in proposed condition. This is not how much new impervious area there is. Project proposes 110,000 SF of new impervious area. Excludes repaving areas that are already paved and where grade is minimally altered since this is considered maintenance by the Maine DEP. All new developed area is new impervious.

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

TRAFFIC ESTIMATE

Total traffic estimated in the peak hour-existing (Since July 1, 1997) Sat: 11 trips passenger car equivalents (PCE)

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) Sat: 22 trips passenger car equivalents (PCE)

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

Zoning Summary

1. Property is located in the General Business/Suburban Residential zoning district.
2. Parcel Area: 9.2 acres / 400,710 square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	10,000 s.f.	400,710
Street Frontage	100 ft.	511 ft.+ - center street
Min Front Yard	25 ft.	120 ft.
Min Rear Yard	35 ft.	330 ft.
Min Side Yard	25 ft.	200 ft.
Max. Building Height	45 ft.	35 ft.
Use Designation		self storage/Auto sales
Parking Requirement	1 space/ per N/A square feet of floor area	
Total Parking:	N/A	N/A
Overlay zoning districts (if any):	N/A	N/A
Urban impaired stream watershed?	YES/NO If yes, watershed name	No

Distances refer to the currently proposed building, not existing

DEVELOPMENT REVIEW APPLICATION SUBMISSION

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

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

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

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

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

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

Signature of Applicant:	Date:
Richard Henderson	6-7-2024

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

Development Review Checklist

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

PROJECT NAME: Bear Self Storage
PROPOSED DEVELOPMENT ADDRESS: 878 Center Street, Auburn, ME 04210
PARCEL #: See Section 1 for list of parcels and tax map.

Required Information		*Check when Submitted*		*Applicable Ordinance*
Site Plan		*Applicant*	*Staff*	
	Owner's Names/Address	✓		
	Names of Development	✓		
	Professionally Prepared Plan	✓		
	Tax Map or Street/Parcel Number	✓		
	Zoning of Property	✓		
	Distance to Property Lines	✓		
	Boundaries of Abutting land	✓		
	Show Setbacks, Yards and Buffers	✓		
	Airport Area of Influence	N/A		
	Parking Space Calcs	N/A		
	Drive Openings/Locations	✓		
	Subdivision Restrictions	N/A		
	Proposed Use	✓		
	PB/BOA/Other Restrictions	N/A		
Fire Dept has not reviewed.	Fire Department Review			
	Open Space/Lot Coverage	✓		

Required Information		*Check when Submitted*		*Applicable Ordinance*
Landscape Plan		*Applicant*	*Staff*	
	Greenspace Requirements	N/A		
	Setbacks to Parking	N/A		
Evergreen tree line proposed for screening. Spaced 10 ft on center.	Buffer Requirements	✓		
	Street Tree Requirements	N/A		
	Screened Dumpsters	N/A		
	Additional Design Guidelines	N/A		
All proposed plantings are white pine and are labeled on the plan.	Planting Schedule	✓		

Stormwater & Erosion Control Plan		*Applicant*	*Staff*	
	Compliance w/ chapter 500	✓		
	Show Existing Surface Drainage	✓		
	Direction of Flow	✓		
	Location of Catch Basins, etc.	✓		
	Drainage Calculations	✓		
	Erosion Control Measures	✓		
Contractor to file permit	Maine Construction General Permit			
To be provided later	Bonding and Inspection Fees			
	Post-Construction Stormwater Plan	✓		
	Inspection/monitoring requirements	✓		
Lighting Plan		*Applicant*	*Staff*	
	Full cut-off fixtures	✓		
	Meets Parking Lot Requirements	N/A		
Traffic Information		*Applicant*	*Staff*	
Waiver for traffic analysis requested. See cover letter.	Access Management			
	Signage			
	PCE - Trips in Peak Hour			

Required Information		*Check when Submitted*		*Applicable Ordinance*
	Vehicular Movements			
	Safety Concerns			
	Pedestrian Circulation			
	Police Traffic			
	Engineering Traffic			
Utility Plan		*Applicant*	*Staff*	
	Water	✓		
	Adequacy of Water Supply	✓		
	Water main extension agreement	N/A		
	Sewer	✓		
	Available city capacity	✓		
	Electric	✓		
	Natural Gas	N/A		
	Cable/Phone	✓		
Natural Resources		*Applicant*	*Staff*	
Not in shoreland	Shoreland Zone	✓		
Not in floodplain	Flood Plain	✓		
	Wetlands or Streams	✓		
No UIS	Urban Impaired Stream	✓		
Not in lake watershed	Phosphorus Check	N/A		
Not near aquifer	Aquifer/Groundwater Protection	✓		
Within 75-ft setback of stream. Will file a NRPA PBR.	Applicable State Permits			
Not in lake watershed	Lake Auburn Watershed	✓		
Not in lake watershed	Taylor Pond Watershed	✓		
Right, Title or Interest		*Applicant*	*Staff*	
	Verify	✓		
	Document Existing Easements, Covenants, etc.	✓		

Required Information		*Check when Submitted*		*Applicable Ordinance*
Technical & Financial Capacity		***Applicant***	***Staff***	
	Cost Est./Financial Capacity	✓		
To be provided when project approved	Performance Guarantee			
State Subdivision Law		***Applicant***	***Staff***	
N/A - Project is not a subdivision.	Verify/Check			
	Covenants/Deed Restrictions			
	Offers of Conveyance to City			
	Association Documents			
	Location of Proposed Streets & Sidewalks			
	Proposed Lot Lines, etc.			
	Data to Determine Lots, etc.			
	Subdivision Lots/Blocks			
	Specified Dedication of Land			
Additional Subdivision Standards		***Applicant***	***Staff***	
N/A - Project is not a subdivision.	Mobile Home Parks			
	PUD			
A JPEG or PDF of the proposed site plan		***Applicant***	***Staff***	
Final sets of the approved plans shall be submitted digitally to the City, on a CD or DVD, in AutoCAD format R 14 or greater, along with PDF images of the plans for archiving				

Auburn Site Plan Review and Special Exception Review Criteria

Bear Self Storage and K&R Auto

We have prepared the following responses to the Site Plan review criteria for approval:

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

   Response: The project treats the runoff from the site with several Maine DEP approved best practices and the overall site meets the DEP stormwater law and site location runoff standards. The lighting for the project will be full cutoff and will not spillover onto adjacent properties. The developed portions of the site will be at least 50' from the nearest commercial property line and 70' or more from the nearest residential property line. Supplemental vegetative screening is planned between the storage use and the adjacent residential uses. The project uses will not generate excessive sounds, dust or vibration and will preserve light and air to neighboring properties.

2. Convenience and safety of vehicular and pedestrian movement within the site and in relation to adjacent areas:

   Response: The site will be accessed by existing driveway entrances and will provide for internal circulation. Pedestrian movement will be accommodated at the front of the building with a sidewalk. There are no connecting sidewalks along the western side of Center Street, so no sidewalks are proposed to adjacent uses.

3. Adequacy of the methods of disposal for wastes:

   Response: Solid waste from the operation of the auto dealership will be accommodated by an on-site dumpster that will be services by a waste hauler and the waste will be disposed of at licensed facilities. The project will connect to the public sewer servicing the site.

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

   Response: The site development will be largely on existing developed portions of the site.

We have prepared the following responses to the Special Exception provisions for approval:

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

   Response: The ordinance does not set out specific requirements for the Auto Sales and service or the storage uses.

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

   Response: The proposed uses will not create or aggravate traffic, fire or safety hazards at the site. The project will use existing site entrances that have been used for storage uses and auto

sales and service uses at the site. At the driveway there is in excess of 750' of site distance in both directions and the speed limit on Center Street in front of the site is 35 mph which is adequate to meet the site distance requirements. Fire access through the site has been provided.

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

Response: To our knowledge there are no master development plan pattern of highway circulation or public land acquisitions in the vicinity of the site.

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

Response: The project is similar to uses already on the site and will not alter the character of the property or properties in the vicinity of the site.

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

Response: The project has been designed to meet the provisions of the Maine DEP Chapter 500 stormwater law requirements. The requirements of Chapter 501 and 502 do not apply to this site. The site does meet the City's general space and bulk standards for the zoning districts. A buffer to the stream along the southern boundary of the site will remain.

6. That the standards imposed are, in all cases, at least as stringent as those elsewhere imposed by the city building code and by the provisions of this chapter.

Response: The project does not seek to change any standards and meets the current standards for development.

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

Response: The project is an expansion of the existing uses at the site and is currently served by the City's essential services. We do not anticipate additional essential city services for the project.

Attachment 1
Title, Right & Interest

ATTACHMENT 1

TITLE, RIGHT OR INTEREST

The project site is currently made up of five parcels owned by Bears Holdings, LLC and Bear, LLC. The following Table 1.1 lists the parcels comprising the project site arranged by City of Auburn tax map and lot number and book and page references to the deeds recorded at the Androscoggin County Registry of Deeds:

TABLE 1

Parcel Listing

Tax Map/Lot Number	Current Ownership	Deed References - Book/Page
300/9	Bear, LLC	11304/245
301/17	Bears Holdings, LLC	9291/232
301/17-2	Bears Holdings, LLC	9291/234
301/18	Bears Holdings, LLC	9291/232
301/19	Bears Holdings, LLC	9291/232

Attached hereto are copies of the deeds and agreements referenced above.

Richard Raubeson is the principal member of both LLCs. We have attached a tax map with the parcels outlined.

ATTACHMENT 1

TITLE, RIGHT OR INTEREST

The project site is currently made up of five parcels owned by Bears Holdings, LLC and Bear, LLC. The following Table 1.1 lists the parcels comprising the project site arranged by City of Auburn tax map and lot number and book and page references to the deeds recorded at the Androscoggin County Registry of Deeds:

TABLE 1

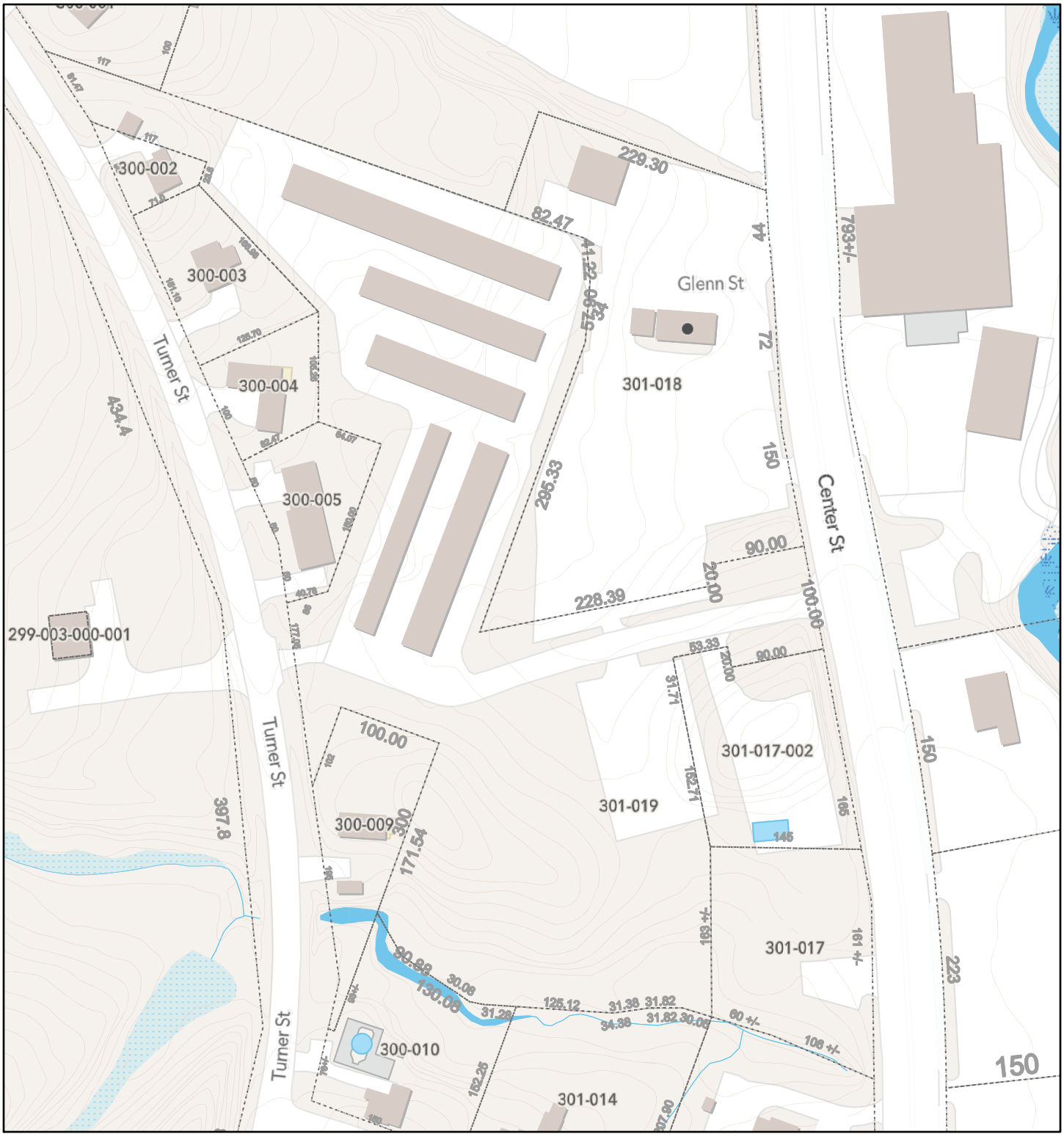
Parcel Listing

Tax Map/Lot Number	Current Ownership	Deed References - Book/Page
300/9	Bear, LLC	11304/245
301/17	Bears Holdings, LLC	9291/232
301/17-2	Bears Holdings, LLC	9291/234
301/18	Bears Holdings, LLC	9291/232
301/19	Bears Holdings, LLC	9291/232

Attached hereto are copies of the deeds and agreements referenced above.

Richard Raubeson is the owner of both LLCs. We have attached a tax map with the parcels outlined.

Bear's Self Storage



8/22/2023, 3:23:35 PM

Current Parcels

Wetlands

1:2,257

0 0.01 0.03 0.05 mi

0 0.02 0.04 0.08 km

Bk 9291 Pg232 #585
01-13-2016 @ 11:02a

QUITCLAIM DEED
Without Covenant

THAT, I, RICHARD K. RAUBESON whose mailing address is 8 Salt Spray Lane, Cape Elizabeth, Maine 04107, in consideration of one dollar and other valuable consideration paid by BEAR'S HOLDINGS ELC, a Maine limited liability company with a mailing address of 8 Salt Spray Lane, Cape Elizabeth, Maine 04107, the receipt whereof I do hereby acknowledge, do hereby remise, release, bargain, sell and convey and forever quitclaim unto the said BEAR'S HOLDINGS LLC, its successors and assigns forever, the following described real estate:

(a) Land and buildings located at 864 Center Street, Auburn, County of Androscoggin, State of Maine, more particularly described in the deed from Carleton B. Ring and Barbara P. Ring to Richard K. Raubeson and Kathleen I. Raubeson dated September 2010 and recorded in the Androscoggin County Registry of Deeds in Book 8017, Page 216.

NO MAINE R.E. TRANSFER TAX PAID

(b) Land and buildings located at 900 Center Street, Auburn, County of Androscoggin, State of Maine, more particularly described in two deeds to Richard K. Raubeson and Kathleen I. Raubeson, one from Frances M. Isaacson dated September 5, 1984 and recorded in the Androscoggin County Registry of Deeds in Book 1755, Page 187, and the other from Harold B. Hallock dated April 14, 1987 and recorded in said registry in Book 2076, Page 76.

(c) Land and buildings located on Center Street, Auburn, County of Androscoggin, State of Maine, more particularly described in the deed from Carleton B. Ring and Barbara P. Ring to Richard K. Raubeson and Kathleen I. Raubeson dated December 22, 2003 and recorded in the Androscoggin County Registry of Deeds in Book 5754, Page 322.

Being the same premises described in the deed from Kathleen I. Raubeson to Richard K. Raubeson dated September 22, 2014, and recorded in said registry in Book 9005, Page 175.

EXCEPTING so much of the foregoing as was conveyed by deed from Lake Superior Corporation and Richard K. Raubeson to Bear LLC dated December 1, 2015, and recorded in said registry in Book 9269, Page 320, and in the deed from Richard K. Raubeson to Lake Superior Corporation by deed dated of near or even date herewith to be recorded herewith.

TO HAVE AND TO HOLD the same, together with all the privileges and appurtenances thereunto belonging to the said Bear's Holdings LLC, its successors and assigns forever.

IN WITNESS WHEREOF, I, the said Richard K. Raubeson, have hereunto set my hand and seal this 11th day of January, 2016.

Witness

Richard K. Raubeson

State of Maine
Androscoggin, ss. January 11, 2016

Personally appeared the above-named Richard K. Raubeson and acknowledged the foregoing instrument to be his free act and deed.

Before me,

Ronald L. Bissonnette, Attorney at Law

dft/F:\Darlene\CLIENTS\Bear's Holdings LLC\Real Estate Tansfers to LLC\Deed from Richard - Androscoggin County.docx

Bk 9291 Pg234 #586
01-13-2016 @ 11:02a

QUITCLAIM DEED
Without Covenant

NOT AN OFFICIAL COPY

THAT, I, RICHARD K. RAUBESON whose mailing address is 8 Salt Spray Lane, Cape Elizabeth, Maine 04107, in consideration of one dollar and other valuable consideration paid by BEAR'S HOLDINGS LLC, a Maine limited liability company with a mailing address of 8 Salt Spray Lane, Cape Elizabeth, Maine 04107, the receipt whereof I do hereby acknowledge, do hereby remise, release, bargain, sell and convey and forever quitclaim unto the said BEAR'S HOLDINGS LLC, its successors and assigns forever, the following real estate located in Auburn, County of Androscoggin, and State of Maine, bounded and described as follows:

(a) Land with any improvements thereon located between Turner Street and Center Street and being more particularly described in the deed from Frances M. Isaacson to K & R Associates dated November 27, 1990 and recorded in Book 2632, Page 147;

(b) Land with any improvements thereon located between Turner Street and Center Street and being more particularly described in the deed from Richard K. Raubeson and Kathleen I. Raubeson to K & R Associates dated November 28, 1990 and recorded in Book 2632, Page 149;

(c) Land with any improvements thereon located on the westerly side of Center Street and being more particularly described in the deed from Carleton B. Ring and Barbara P. Ring to K & R Associates dated October 30, 1989 and recorded in Book 2500, Page 29; and

(d) Land with any improvements thereon located on the westerly side of Center Street, said land being formerly referred to as Glenn Street, and being more particularly described in the deed from Auburn Water District to K & R Associates dated July 19, 1993 and recorded in Book 3084, Page 295.

Being the same premises described in the deed from K & R Associates to Richard K. Raubeson dated September 22, 2014, and recorded in said registry in Book 9005, Page 177.

EXCEPTING so much of the foregoing as was conveyed by deed from Lake Superior Corporation and Richard K. Raubeson to Bear LLC dated December 1, 2015, and recorded in said registry in Book 9269, Page 320, and in the deed from Richard K. Raubeson to Lake Superior Corporation by deed dated of near or even date herewith to be recorded herewith.

All book and page references refer to the records of the Androscoggin County Registry of Deeds.

NO MAINE R.E. TRANSFER TAX PAID

TO HAVE AND TO HOLD the same, together with all the privileges and appurtenances thereunto belonging to the said Bear's Holdings LLC, its successors and assigns forever.

IN WITNESS WHEREOF, I, the said Richard K. Raubeson, have hereunto set my hand and seal this 11th day of January, 2016.

Witness

Richard K. Raubeson

State of Maine
Androscoggin, ss.

January 11, 2016

Personally appeared the above-named Richard K. Raubeson and acknowledged the foregoing instrument to be his free act and deed.

Before me,

Ronald L. Bissonnette, Attorney at Law

dft/F:\Darlene\CLIENTS\Bear's Holdings LLC\Real Estate Tansfers to LLC\Deed from Richard (formerly K & R) - Androscoggin.docx

ANDROSCOGGIN COUNTY
TINA M CHOUINARD
REGISTER OF DEEDS

DLN: 10023402261955

QUITCLAIM DEED WITH COVENANT

JOHN M. VALLIERES, of Auburn, County of Androscoggin, State of Maine, for consideration paid, grants to **BEAR LLC**, a Maine limited liability company, with an address of 8 Salt Spray Lane, Cape Elizabeth, Maine 04107, with QUITCLAIM COVENANT, a certain lot or parcel of land, with any buildings thereon, situated in Auburn, County of Androscoggin, and State of Maine, being more particularly bounded and described as follows:

> Being Lots 40, 41, 42 and 43 on a Plan of Lakeside recorded in the Androscoggin County Registry of Deeds in Book of Plans, Volume 2, Page 197.
>
> Subject to an easement for electric poles granted to Central Maine Power Company by H.L. Wills on August 18, 1920, by instrument recorded in said Registry in Book 299, Page 202.
>
> Also subject to an easement for sewer pipe or drain granted by Albert and Mildred Shaw to Auburn Sewerage District by instrument dated March 31, 1927 and recorded in said Registry in Book 1141, Page 323.
>
> Being the same premises conveyed to John M. Vallieres by deed from Federal National Mortgage Association dated March 25, 2022 and recorded in the Androscoggin County Registry of Deeds Book 11107, Page 149.

IN WITNESS WHEREOF, the Grantor has executed this instrument as of the 9th day of February, 2023.

Witness

John M. Vallieres

STATE OF MAINE
COUNTY OF ANDROSCOGGIN February 9, 2023

Then personally appeared the above-named John Vallieres and acknowledged the foregoing instrument to be his free act and deed.

Before me,

Tina M. Titus, Notary Public
State of Maine

H:\DOCS\TITUS\CLIENTS\Bear LLC\1193 Turner St. Auburn (fr. Vallieres)\Deed Quitclaim with Covenant.docx

TINA M. TITUS
Notary Public, State of Maine
My Commission Expires 3/31/2023

Maine Real Estate Transfer Tax Paid
TINA M. CHOUINARD, REGISTER
ANDROSCOGGIN COUNTY MAINE E-RECORDED

Bk 9291 Pg230 #584
01-13-2016 @ 11:02a

QUITCLAIM DEED

Richard K. Raubeson of Cape Elizabeth, County of Cumberland, State of Maine, for consideration paid, grants to **Lake Superior Corporation**, a Maine corporation with an office in Auburn, Maine County of Androscoggin, State of Maine, with **QUITCLAIM COVENANT**, a certain lot or parcel of land situated in **Auburn**, County of **Androscoggin**, and State of **Maine,** bounded and described as follows:

NO MAINE R.E. TRANSFER TAX PAID

Beginning at the intersection of the southerly line of land of Bear LLC, as described in the deed recorded in Book 9269, Page 320, and the westerly line of Center Street;

Thence southerly by said line of Center Street a distance of 26 feet, more or less to land of Lake Superior Corporation (see Book 7032, Page 300);

Thence westerly by said land of Lake Superior Corporation a distance of 143 feet, more or less to said land of Bear LLC;

Thence N 10° 42' 38" W by said land of Bear LLC a distance of 31.71 feet to a corner;

Thence N 79° 17' 22" E by said land of Bear LLC a distance of 53.33 feet to a corner;

Thence S 10° 42' 38" E by said land of Bear LLC a distance of 20.00 feet to a corner;

Thence N 79° 17' 22" E by said land of Bear LLC a distance of 90.00 feet to the point of beginning.

For grantor's source of title, see the deed recorded in Book 9005, Page 117.

This is a conveyance to the owner of abutting land that does not create a lot under the subdivision laws.

IN WITNESS WHEREOF, the Grantor has caused this instrument to be executed on this 11th day of January, 2016.

Witness

Richard K. Raubeson

STATE OF MAINE
ANDROSCOGGIN COUNTY

January 11, 2016

Then personally appeared the above-named Richard K. Raubeson and acknowledged the foregoing instrument to be his free act and deed.

Before me,

Ronald L. Bissonnette, Attorney at Law

dft/F:\Darlene\CLIENTS\Bear's Holdings LLC\Quitclaim Deed 2016-01-11.doc

ANDROSCOGGIN COUNTY
TINA M CHOUINARD
REGISTER OF DEEDS

Bk 7032 Pg300 #1168
01-18-2007 @ 10:46a

WARRANTY DEED

CARLETON B. RING and **BARBARA P. RING**, husband and wife, both of Auburn, Maine, for consideration paid, grant to **LAKE SUPERIOR CORPORATION,** a Maine corporation with an address c/o Richard Raubeson, 900 Center Street, Auburn, Maine, 04210, with **WARRANTY COVENANTS**, a certain lot or parcel of land, with any buildings thereon, situated in **AUBURN**, County of **ANDROSCOGGIN,** and State of **MAINE**, bounded and described as follows:

1. PARCEL.

A certain lot or parcel of land situated in the City of Auburn, County of Androscoggin, State of Maine, being bounded and described as follows:

Beginning on the apparent westerly sideline of Center Street at the southeasterly corner of land of Richard & Kathleen Raubeson (deed reference Book 5754, Page 322);

Thence South seven degrees twenty-four minutes West (S 7° 24' W), along the apparent westerly sideline of Center Street, about one hundred sixty-five (165) feet to a point that is twenty-five (25) feet northerly of an easterly projection of the northerly exterior face of the house retained by Carleton B. Ring and Barbara A. Ring;

Thence westerly, along land retained by said Rings on a line that is parallel with and twenty-five (25) feet northerly of, as measured perpendicular to, the northerly exterior face of said Rings' house, one hundred forty-five (145) feet;

Thence southerly, continuing along land retained by said Rings, about one hundred sixty-three (163) feet to the northeasterly corner of land now or formerly of Thomas Murphy (deed reference Book 5274, Page 90);

Thence westerly, along the northerly line of land of said Murphy and land now or formerly of David Lane (deed reference Book 2131, Page 95), about three hundred fifty (350) feet to the southeasterly line of land now or formerly of Laurent Demers (deed reference Book 5361, Page 94);

Thence northeasterly, along the southeasterly line of land of said Demers, about two hundred thirty-four (234) feet to the southwesterly corner of said land of Richard and Kathleen Raubeson (deed reference Book 5754, Page 322);

MAINE REAL ESTATE TRANSFER TAX PAID

Thence South seventy-eight degrees eight minutes East (S 78° 08' E), along said southerly line of land of said Raubeson, three hundred fifty-nine and one tenth (359.1) feet to the point of beginning.

Said parcel contains about 2.4 acres.

All bearings refer to Magnetic North as observed on October 5, 1989 and as shown on a plan entitled "Plan of Land in Auburn for Dr. Carleton Ring", dated October 10, 1989, prepared by David Buker, PLS (unrecorded).

See attached Exhibit 1.

2. ACCESS EASEMENT.

Conveyed herewith is a fifty (50) foot wide access easement over said land retained by said Rings, running from Center Street to the above described Parcel. The southerly sideline of said easement runs along the southerly line of land retained by said Rings and along the northerly line of land now or formerly of William Wilding (deed reference 4042, Page 134) and land now or formerly of Nancy Leeman (deed reference Book 2140, Page 145).

This easement shall be for all purposes of a right of way to benefit the real estate of the Grantee described above and shall include, without limitation, the following:

(1) the right of ingress and egress by foot and by vehicle of any sort whatever;

(2) the right to construct, maintain, repair, grade, excavate, fill, pave and improve the full width of the right of way;

(3) the right to install, construct, maintain, repair and replace within the right of way, both above and below ground, utility services to include, without limitation, facilities necessary or convenient for the transmission of electricity, gas, telephone communications, cable television, computer communications, sewerage, water and such similar services which are currently available or in the future may become available.

The easement is not limited to any current use of the property served by the easement but shall serve any lawful purpose to which said property may be put in the future.

3. GRADING RIGHTS.

There is also included herewith an easement for the reasonable rights to grade said land retained by the Rings, as may be needed from time to time as improvements are made to the parcel conveyed herein. Said easement is located

southerly of, adjacent to and within twenty-five (25) feet of the second course of the Parcel described above and easterly of, adjacent to and within thirty-five (35) feet of the third course of the above described Parcel.

4. EXCEPTIONS.

This conveyance is made subject to the following:

(1) an easement granted to the Central Maine Power Co. by Herbert L. Wills, dated August 18, 1920 and recorded in the Androscoggin County Registry of Deeds in Book 299, Page 202;

(2) a Notice of Layout and Taking dated August 24, 1962 and recorded November 8, 1962 by the State of Maine against Carleton B. Ring and Barbara P. Ring including slopes, drainage and other rights recorded in the Androscoggin County Registry of Deeds in Book 883, Page 64;

(3) an easement dated April 7, 1972 and recorded in Book 1142, Page 63 from Barbara Ring and Carleton Ring to the Auburn Sewerage District; and

(4) grading rights conveyed in the deed dated December 22, 2003 and recorded in Book 5754, Page 322 from Carleton B. Ring and Barbara P. Ring to Richard Raubeson and Kathleen Raubeson.

5. EXEMPTION FROM SUBDIVISION LAW.

Said land retained by said Rings has been retained by the Rings for their own use as a single-family residence which has been their principal residence for at least five (5) years immediately preceding the date hereof.

6. SOURCE OF TITLE.

Being a part of the premises described in the deed from Eugenia Cierpich Tufts to Barbara P. Ring and Carleton B. Ring dated March 27, 1959, and recorded in the Androscoggin County Registry of Deeds in Book 800, Page 387. All book and page references are to said registry of deeds.

IN WITNESS WHEREOF, the Grantors have executed this instrument on this 16th day of January, 2007.

Witness

Witness

Carleton B. Ring

Barbara P. Ring

STATE OF MAINE
ANDROSCOGGIN, SS.

January 16, 2007

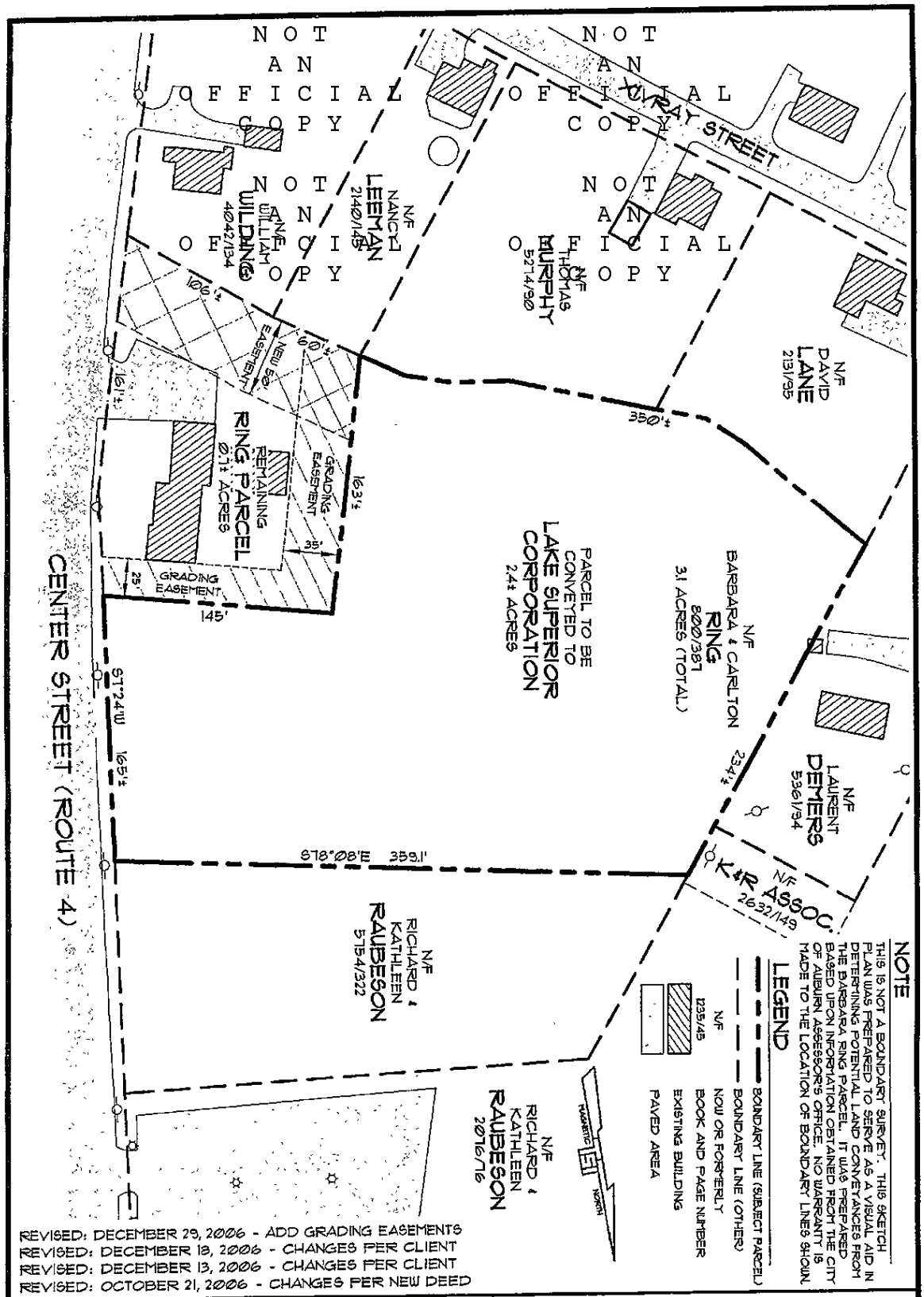
Then personally appeared the above-named Carleton B. Ring and Barbara P. Ring and acknowledged the foregoing instrument to be their free act and deed.

Before me,

Ronald L. Bissonnette, Attorney at Law

dft/H:\CLIENTS\Lake Superior Corporation\Purchase of part of 864 Center St\WARRANTY DEED to Lake Superior.doc

EXHIBIT 1



ANDROSCOGGIN COUNTY
Tina R. Charrond
REGISTER OF DEEDS

Bk 9269 Pg320 #21514
12-04-2015 @ 10:43a

DEED

NO MAINE R.E. TRANSFER TAX PAID

LAKE SUPERIOR CORPORATION, a Maine corporation, and **RICHARD K. RAUBESON**, of Cape Elizabeth, County of Cumberland, State of Maine, (collectively, the "Grantors") for valuable consideration, give, grant and convey to **BEAR LLC**, a Maine limited liability company, with an office in Cape Elizabeth, County of Cumberland, State of Maine, a certain lot or parcel of land situated in **Auburn**, County of **Androscoggin**, State of **Maine**, bounded and described as follows:

1. PARCEL

Beginning at an existing capped ¾ inch rebar, numbered 2177, set in the northeasterly side of Turner Street, so called, at the southwesterly corner of land conveyed to Norman E. Rose and Mary W. Rose from David F. Robinson and Nancy D. Robinson by deed dated June 3, 2004, and recorded in the Registry of Deeds for Androscoggin County in Book 5940, Page 295, thence;

1. **North 75°12'54" East** along the southerly line of said Rose's land a distance of **40.78 feet** to an existing capped ¾ inch rebar, numbered 2177, set at the southeasterly corner of said Rose's land, thence;

2. **North 20°35'20" East** along the easterly line of said Rose's land a distance of **150.00 feet** to and existing 5/8 inch rebar found at the westerly corner of said Rose's land, thence;

3. **North 69°53'29" West** along the northerly line of said Rose's land a distance of **64.07 feet** to an existing 5/8 inch rebar found at the northerly corner of said Rose's land and at the southeasterly corner of land conveyed to Paula Whitehouse and Ronald K. Kekoa from Paula J. Keller and Kathy Whitehouse by deed dated September 9, 2005 and recorded in said Registry in Book 6498, Page 176, thence;

4. **North 00°31'06" East** along the easterly line of said Whitehouse and Kekoa's land a distance of **105.06 feet** to an existing 5/8 inch rebar found at the northeasterly corner of said Whitehouse and Kekoa's land, and at the southeasterly corner of land conveyed to Victoria D. Sanzone from Cartus Financial Corporation by deed dated September 11, 2009 and recorded in said Registry in Book 7789, Page 89, thence;

5. **North 42°55'14" West** along the easterly line of said Sanzone's land a distance of **166.98 feet** to an existing 5/8 inch rebar found at the northeasterly corner of said Sanzone's land and at the southeasterly corner of land conveyed to Brenda Jipson from Bruce A. Ritchie by deed dated August 23, 1994 and recorded in said Registry in Book 3316, Page 305, thence;

6. **North 19°40'00" East** along the southerly line of said Jipson's land a distance of **23.20 feet** to an existing 5/8 inch rebar found at the easterly corner of said Jipson's land, thence;

7. **North 70°22'10" West** along the northerly line of said Jipson's land a distance of **117.00 feet** to an existing capped ¾ inch rebar, numbered 2177, set in the northeasterly line of said Turner Street, thence;

8. **North 32°39'20" West** along the northeasterly line of said Turner Street a distance of **81.47 feet** to an existing capped ¾ inch rebar, numbered 2177, set at the southwesterly corner of land conveyed to David E. Webb and Joan N. Webb from Bertha M. Reny by deed dated July 17, 1972 and recorded in said Registry in Book 1058, Page 73, thence;

9. **South 70°22'10" East** along the southerly line of said Webb's land a distance of **117.00 feet** to an existing 1 inch axel found, at Webb's southeasterly corner and at the southwesterly corner of land conveyed to John Emerson, LLC, from The Emerson Family Partnership, thence;

10. **South 70°22'10" East** along the southerly line of said Emerson's land a distance of **350.00 feet** to the southerly corner of said Emerson's land, thence;

11. **South 70°22'10" East** a distance of **82.47 feet** to a point, thence;

12. **South 05°00'17" East** a distance of **41.22 feet** to a point, thence;

13. **South 05°06'38" West** a distance of **57.90 feet** to a point, thence;

14. **South 20°37'50" West** a distance of **295.33 feet** to a point, thence;

15. **North 79°17'22" East** a distance of **228.39 feet** to a point, thence;

16. **North 10°42'38" West** a distance of **20.00 feet** to a point, thence;

17. **North 79°17'22" East** a distance of **90.00 feet** to a point in the westerly line of Center Street so called, thence;

18. **South 10°14'25" East** along the westerly line of said Center Street a distance of **100.00 feet** to a point, thence;
19. **South 79°17'22" West** a distance of **90.00 feet** to a point, thence;

20. **North 10°42'38" West** a distance of **20.00 feet** to a point, thence;

21. **South 79°17'22" West** a distance of **53.33 feet** to a point, thence;

22. **South 10°42'38" East** a distance of **31.71 feet** to a point in the northerly line of land conveyed to Lake Superior Corporation from Carleton B. Ring and Barbara P. Ring by deed dated September 15, 2014 and recorded in said Registry in Book 7032, Page 300, thence;

23. **South 10°42'38" East** a distance of **152.71 feet** to at point at the northwesterly corner of land conveyed to Richard K. Raubeson from Kathleen I. Raubeson by deed dated September 22, 2014 and recorded in said Registry in Book 9005, Page 175, thence;

24. **South 00°03'02" West** along the westerly line of said Raubeson's land a distance of **163 feet more or less** to a point in the centerline of a small brook at the northwesterly corner of land conveyed to Central Maine Credit Union from Timothy R. Wilding personal representative of the Estate of William R. Wilding by deed dated January 31, 2012 and recorded in said Registry in Book 8330, Page 100, and at the northeasterly corner of land conveyed to Andrea M. Higson and David J. Higson from Thomas C. Murphy and Melissa A. Chamberland by deed dated April 22, 2005 and recorded in said Registry in Book 6313, Page 58, thence;

25. **Westerly, southwesterly, and northwesterly** direction along the centerline of said small brook, and along the northerly line of said Higson's land and along the northerly line of land conveyed to David W. Lane and Ginamarie Lane from Ele J. Cormier, Jr. and Dolores J. Cormier by deed dated July 31, 1987 and recorded in said Registry in Book 2131, Page 95, a distance of **350 feet more or less** to a point in the easterly line of land conveyed to Laurent P. Demers from Wayne Tardie and Joyce Tardie by deed dated April 3, 2003 and recorded in said Registry in Book 5361, Page 94, said point being **North 71°56'24" West** a distance of **332.97 feet** along a tie line from the northwesterly corner of said Central Maine Credit Union's land and the northeasterly corner of said Higson's land, thence;

26. **North 20°35'20" East** along the easterly line of said Demers land a distance of **171.54 feet** to an existing 5/8 inch rebar found at the northeasterly corner of said Demers land, thence;

27. **North 69°24'40" West** along the northerly line of said Demers land a distance of **100.00 feet** to an existing 5/8 inch rebar found at the northwesterly corner of said Demers land, thence;

28. **South 20°35'20" West** along the westerly line of said Demers land a distance of **80.50 feet** to an existing 5/8 inch rebar found at the southwesterly corner of said Demers land and in the northeasterly line of said Turner Street, thence;

29. **North 07°27'53" West** along the northeasterly line of said Turner Street a distance of **177.05 feet** to the point of beginning.

Containing 5.4 acres, more or less, and being sometimes referred to herein as the "Bear LLC Parcel."

2. SURVEY AND BEARINGS

Bearings are Grid North based on the City of Auburn GIS Map. Description is based on a survey by ARCC Land Surveyors, Inc. and lines established by others.

3. SOURCE OF TITLE

Being a portion of land conveyed to Richard K. Raubeson from Kathleen I. Raubeson by deed dated September 22, 2014 and recorded in the Registry of Deeds for Androscoggin County Registry of Deeds in Book 9005, Page 175, a portion of land conveyed to Richard K. Raubeson from K&R Associates by deed dated September 15, 2014 and recorded in said Registry in Book 9005, Page 177, and a portion of land conveyed to Lake Superior Corporation from Carleton B. Ring and Barbara P. Ring by deed dated January 16, 2007 and recorded in said Registry in Book 7032, Page 300.

4. EASEMENT APPURTENANT

Also conveyed herewith is an easement appurtenant to the Bear LLC Parcel in common with the owner of the servient estate to repair, maintain and replace existing riprap spillways and related drainage structures located within 90.00 feet of the westerly line of Center Street adjacent to or near the northerly and southerly lines of the Bear LLC Parcel, said lines being 90.00 feet in length and being the calls numbered 17 and 19, respectively, in the description of the Bear LLC Parcel above.

5. RESERVATION OF EASEMENT

There is reserved for the benefit of land retained by Lake Superior Corporation on the westerly side of Center Street (as described in the deed recorded in Book 7032, Page 300) and for the benefit of land retained by Richard K. Raubeson on the westerly side of Center Street (as

described in the deeds recorded in Book 9005, Page 175 and Book 9005, Page 177) an easement in common with Bear LLC and its successors in interest of the servient estate over the following described parcel (the "Easement Parcel"):

Beginning at the intersection of the westerly line of Center Street with the northerly line of the Bear LLC Parcel that intersects said line of Center Street;

Thence South 10° 14' 25" East along the westerly line of Center Street a distance of 100.00 feet to land retained by Richard K. Raubeson;

Thence South 79° 17' 22" West along said retained land of Raubeson a distance of 90.00 feet;

Thence North 10° 42' 38" West along said retained land of Raubeson a distance of 20.00 feet;

Thence South 79° 17' 22" West along said retained land of Raubeson a distance of 53.33 feet;

Thence continuing South 79° 17' 22" West through the Bear LLC Parcel a distance of 210 feet, more or less, to a point in the southeasterly line of Lot 39 on the Plan of Lakeside (the "Lakeside Plan") recorded in the Androscoggin County Registry of Deeds, Book of Plans, Book 5, Page 197;

Thence North 20° 37' 50" East along the southeasterly lines of Lot 39, Lot 38 and Lot 37 on the Lakeside Plan a distance of 70 feet, more or less, to the northerly line of the Bear LLC Parcel and land retained by Richard Raubeson (see Book 9005, Page 175);

Thence North 79° 17' 22" East along said land retained by Raubeson and the northerly line of the Bear LLC Parcel a distance of 228.39 feet;

Thence North 10° 42' 38" West a distance of 20.00 feet, to a corner in said land retained by Richard K. Raubeson;

Thence North 79° 17' 22" East along said land retained by Richard K. Raubeson a distance of 90.00 feet to the point of beginning.

The easement in common with the owner of the servient estate shall be for all purposes of a right of way to benefit the dominant estate, and shall include, without limitation intended, the following:

(1) the right of ingress and egress by foot and by vehicle of any sort whatever;

(2) the right to construct, maintain, repair, grade, excavate, fill, pave and improve the full width of the right of way;

(3) the right to install, construct, maintain, repair and replace within the right of way, both above and below ground, utility services to include, without limitation, facilities necessary or convenient for the transmission of electricity, gas, telephone communications, cable television, computer communications, sewerage, water and such similar services which are currently available or in the future may become available, and the right to connect to any existing utilities within the Easement Parcel.

To the extent the foregoing grant of easement does not satisfy the requirements of a public utility for the installation, construction, maintenance and repair of such utility services, the owner of the servient estate will execute and deliver the standard form of easement required by the public utility for such purpose relating to and encumbering the Easement Parcel.

The easement is not limited to any current use of the property served by the easement but shall serve any lawful purpose to which said property may be put in the future.

The owners of the dominant estate and of the servient estate shall repair any damage to the Easement Parcel caused by the owners' respective use (or use by the respective owners' invitees) of same and shall restore the Easement Parcel as near as practicable to the condition existing prior to the exercise of the owner's rights in the Easement Parcel.

6. EXISTING EASEMENTS AND STRUCTURES

This conveyance is made subject to all existing easements, conditions and structures located within the Bear LLC Parcel including, without limitation intended, the following:

(1) Easement from Herbert L. Wills to Central Maine Power Company dated August 18, 1920 and recorded in Book 299, Page 202; and

(2) Easement from Barbara Ring and Carleton Ring to the Auburn Sewerage District dated April 7, 1972 and recorded in Book 1142, Page 63.

IN WITNESS WHEREOF, this instrument has been executed and delivered as of the 1ST day of December, 2015.

LAKE SUPERIOR CORPORATION

Witness

By: Richard K. Raubeson, President
Thereunto duly authorized

Witness

RICHARD K. RAUBESON, Individually

STATE OF MAINE
ANDROSCOGGIN COUNTY

December 1, 2015

Then personally appeared the above-named Richard K. Raubeson and acknowledged the foregoing instrument to be his free act and deed, both individually and in said capacity, and the free act and deed of Lake Superior Corporation.

Before me,

Ronald L. Bissonnette
Attorney at Law

dft/F:\Darlene\CLIENTS\RAUBESON\Self Storage Project - Glenn Street\Deed to Bear LLC 2015-11-05.doc

Attachment 2
Demonstration of Technical and Financial Capability

ATTACHMENT 2

FINANCIAL AND TECHNICAL CAPACITY

2.0 Financial Capacity

The cost estimate for the project cost is attached to this section with the total project cost to be approximately $ 1,544,000. The applicant is in discussions with a bank to provide financing for the project.

2.1 Technical Capacity

Bear Holdings LLC has engaged a group of professionals to design the project including Wright-Pierce for the site planning and Davis Land Survey, LLC for the boundary survey. The building and the building systems will be designed by professionals and the Owner will be the general contractor for the project. He has experience with general contracting other projects such as a commercial building expansion in Saco.

Cost Estimate for Permitting

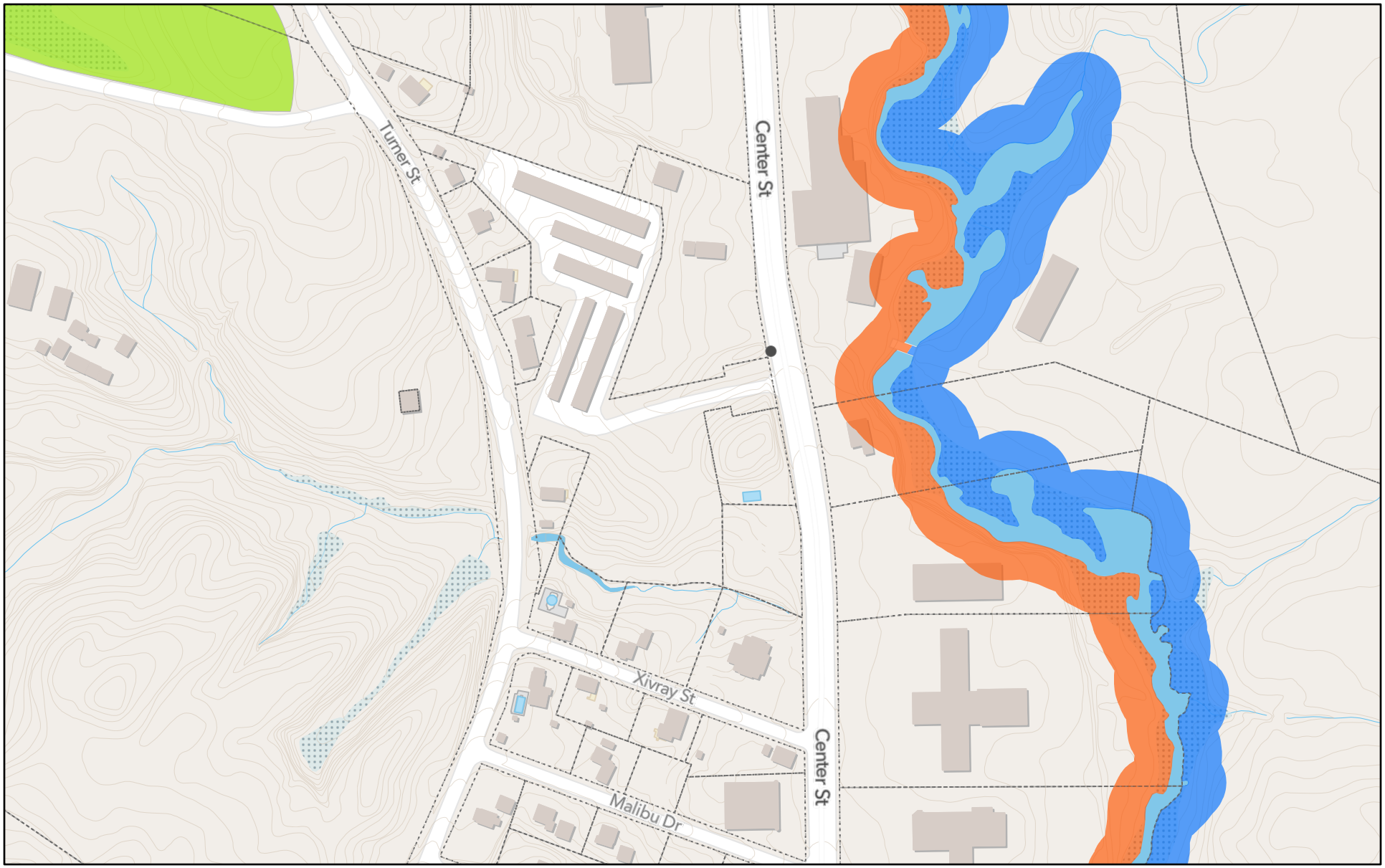
Bear Holding LLC

6/4/2024

	Items	QUANTITY	UNIT	UNIT PRICE	COST
1	Sitework	1	LS	$214,000.00	$214,000
2	Pavement	1	LS	$65,000.00	$65,000
3	Landscaping	1	LS	$20,000.00	$20,000
4	Building design	1	LS	$45,000.00	$45,000
5	Foundations	1	LS	$115,000.00	$90,000
6	Building Shell	1	LS	$755,000.00	$755,000
7	HVAC	1	LS	$55,000.00	$55,000
8	Signage	1	LS	$15,000.00	$15,000
9	Lighting	1	LS	$25,000.00	$25,000
10	Electrical	1	LS	$35,000.00	$35,000
11	Finishes	1	LS	$85,000.00	$85,000
				Sub-Total:	**$1,404,000.00**
				Contingency (10%)	**$140,400**
				Total:	**$1,544,400.00**

Attachment 3
Natural Resources Figures

Shoreland



8/18/2023, 4:35:49 PM

Current Parcels _ Public

ShorelandZoning

Resource Protection

General Development

Stream Protection

1:4,514

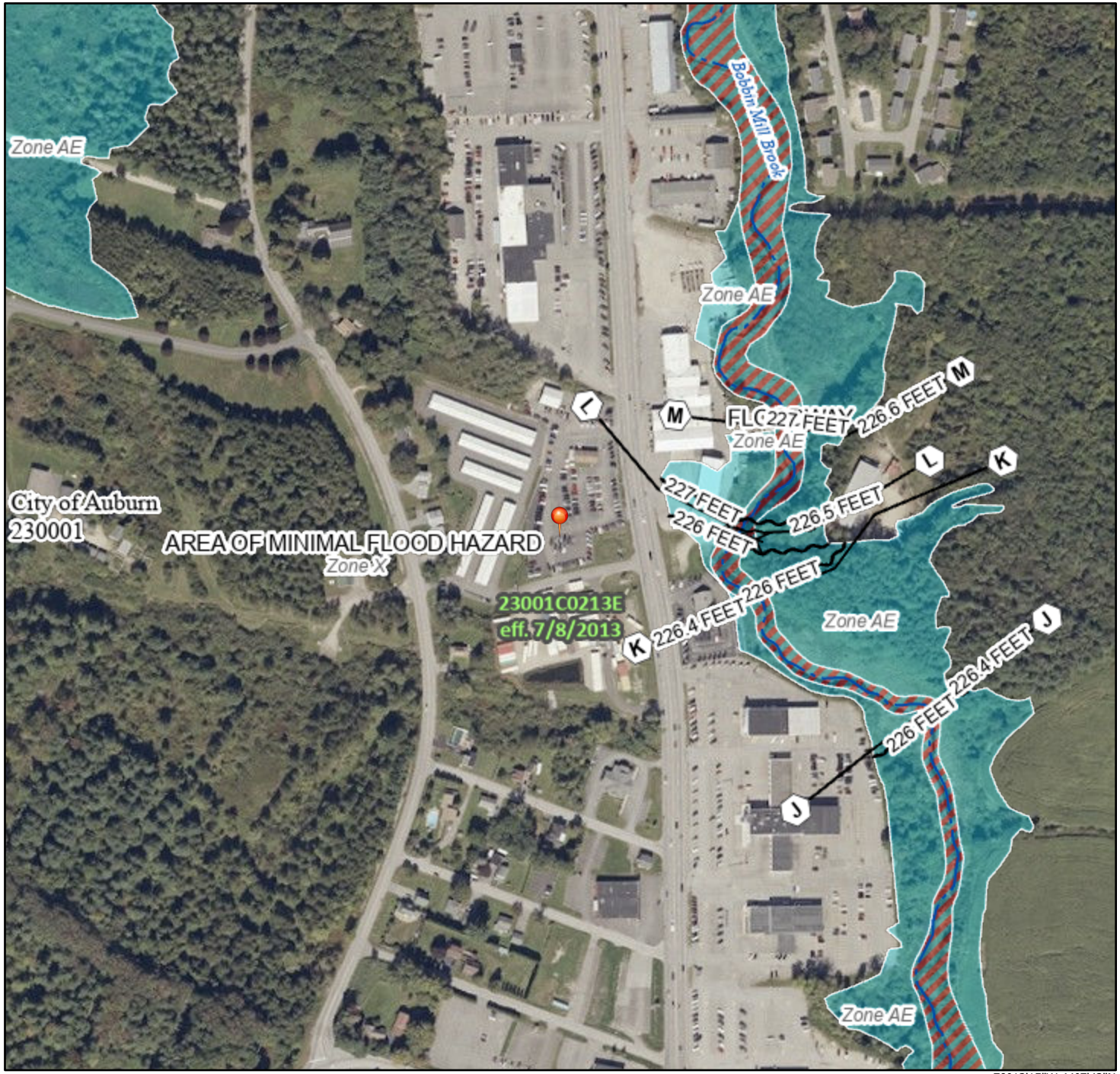
0 0.03 0.06 0.11 mi

0 0.04 0.09 0.17 km

National Flood Hazard Layer FIRMette

FEMA

70°13'52"W 44°8'8"N



70°13'15"W 44°7'42"N

Feet

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

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
- 513 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

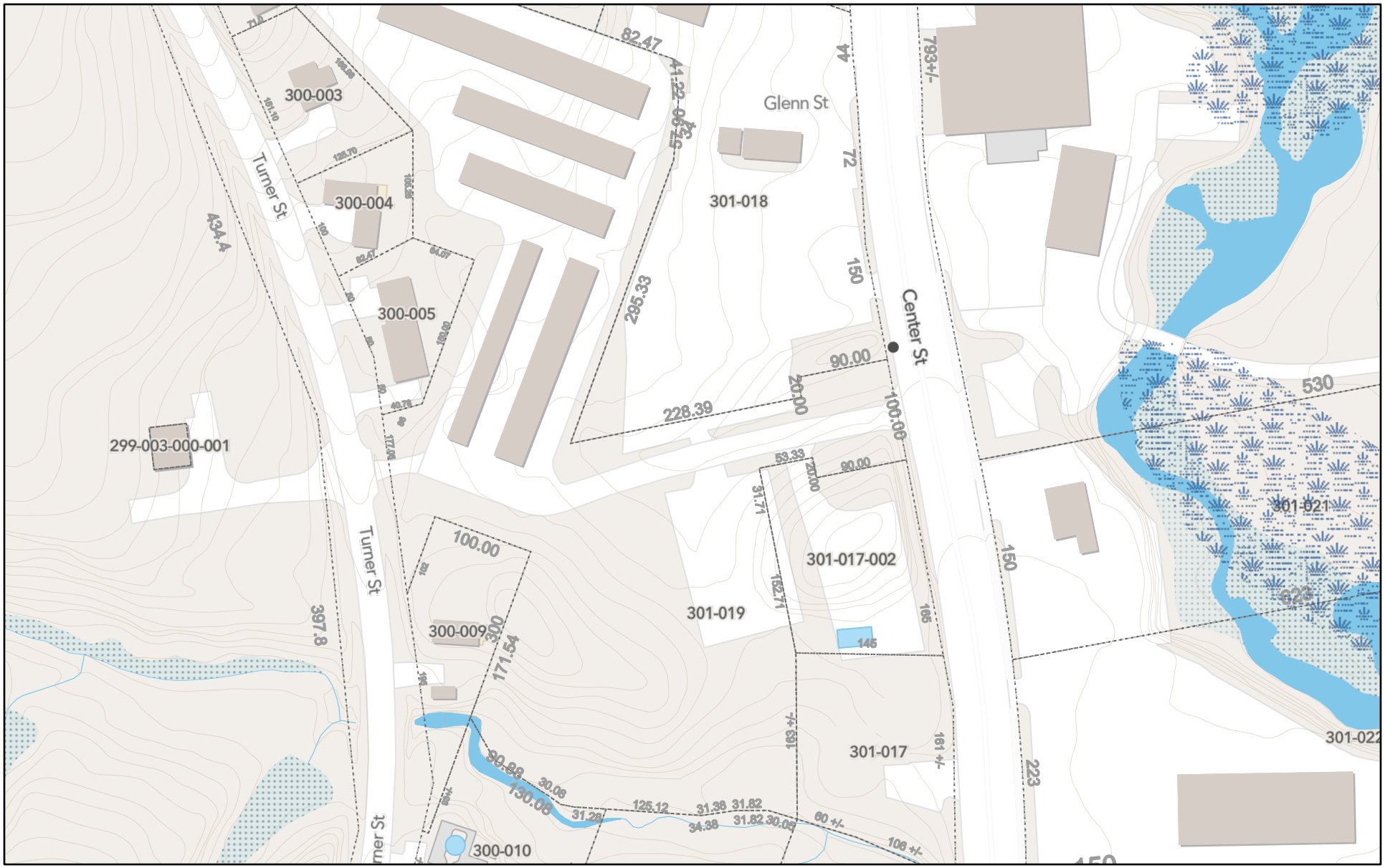
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/18/2023 at 4:33 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.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Wetland and Stream



8/18/2023, 4:37:25 PM

Current Parcels _ Public

Wetlands

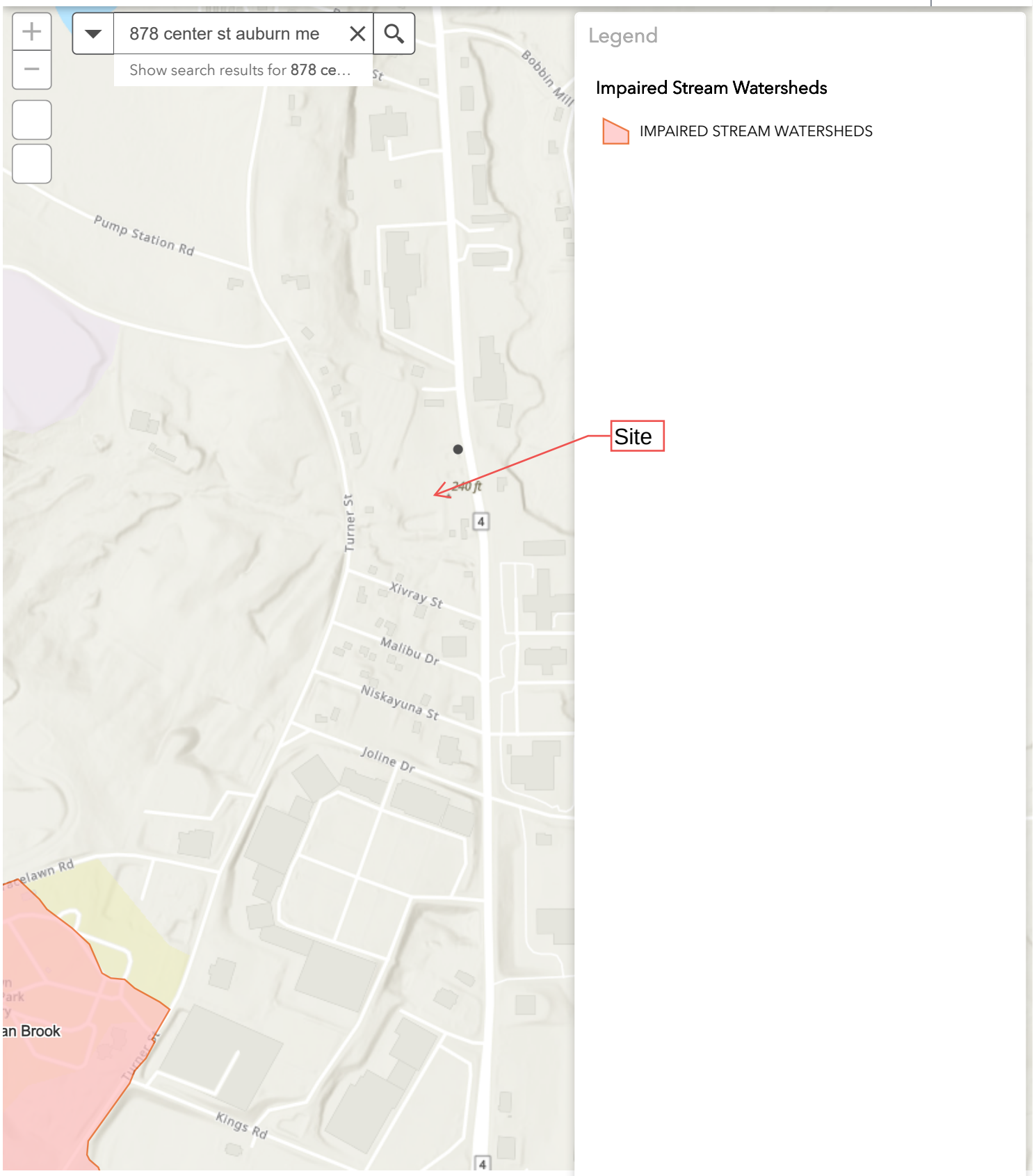
1:2,257

0 0.01 0.03 0.05 mi

0 0.02 0.04 0.08 km

Maine Urban Impaired Stream Watersheds

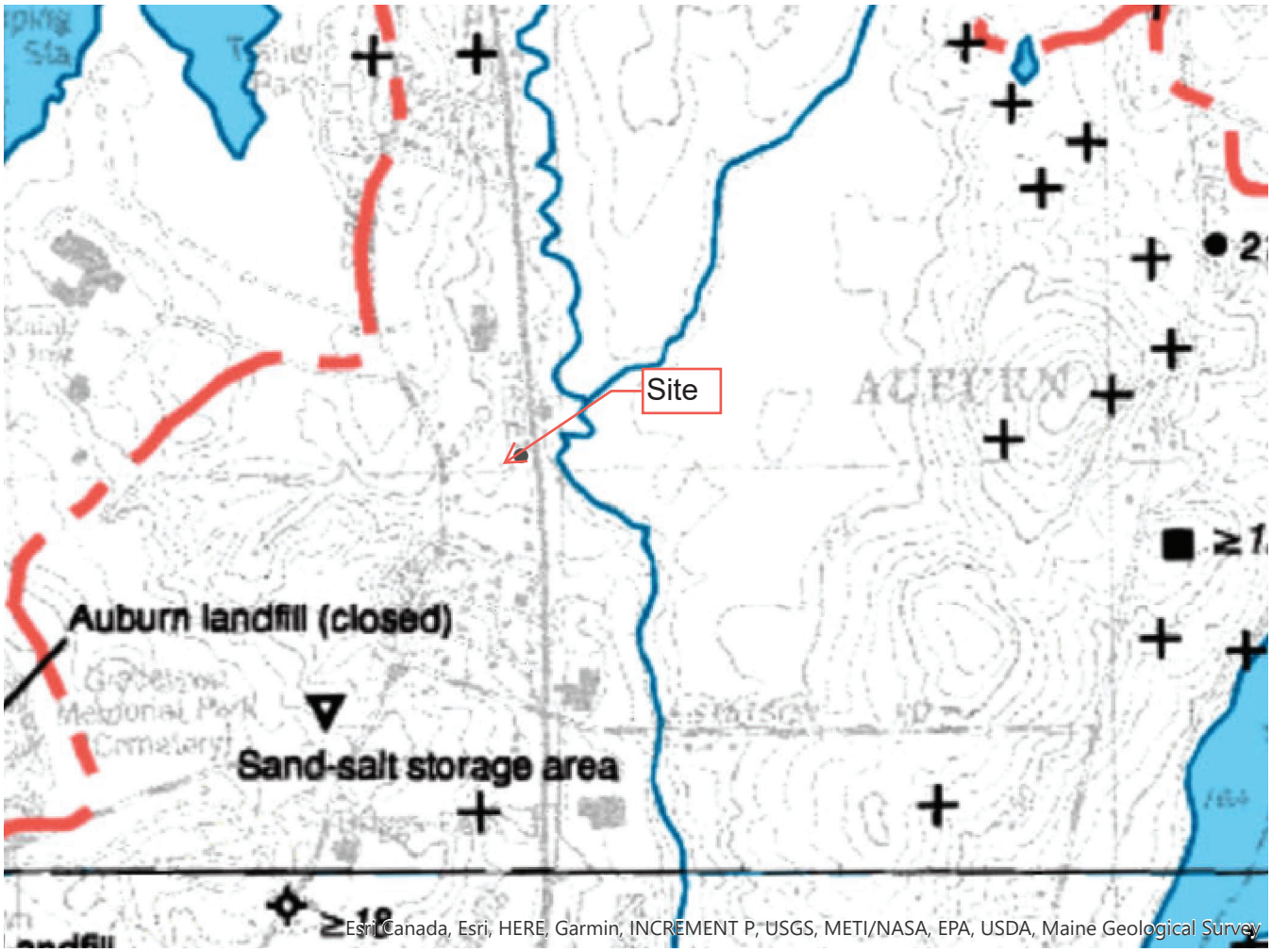
Maine Department of Environmental Prote



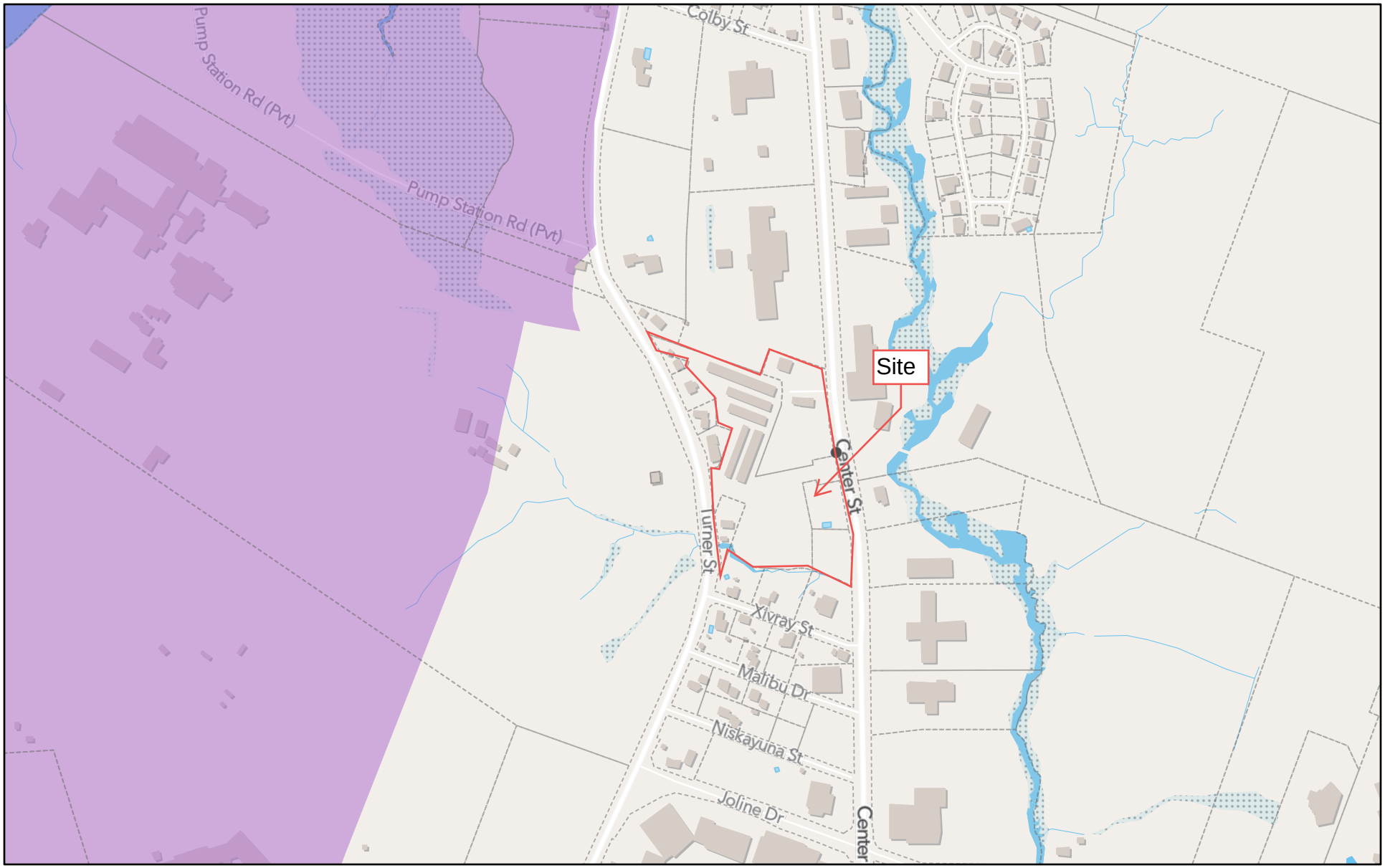
Legend

Impaired Stream Watersheds

IMPAIRED STREAM WATERSHEDS


Site
Auburn landfill (closed)
Sand-salt storage area
Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA, Maine Geological Survey

Lake Auburn Watershed



8/18/2023, 4:48:13 PM

Current Parcels _ Public

Lake Auburn Watershed

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,

Web AppBuilder for ArcGIS

Taylor Pond Watershed

8/18/2023, 4:49:29 PM

Taylor Pond Watershed

1:36,112

0 0.23 0.45 0.9 mi

0 0.35 0.7 1.4 km

Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

Web AppBuilder for ArcGIS

Attachment 4
Stormwater Management Plan and Erosion Control Plan

Bear Self-Storage Facility

Stormwater Management Plan

June 2024

6/6/2024

Prepared By:

Wright-Pierce
11 Bowdoin Mill Island, Suite 140
Topsham, ME 04086
207.725.8721 | wright-pierce.com

1.1 Introduction

Bear Holding's is proposing to construct a new 9,000 SF building on the southerly side of the access driveway at the storage facility portion of the site. The project proposes expanded vehicle display areas at the car dealership and around the proposed building. Additional gravel area is proposed at the storage facility for more storage space. Several stormwater best management practices (BMPs) are proposed to treat and attenuate the peak runoff rates of stormwater of the new development proposed in this application. The site is situated between Center Street and Turner Street and consists of several contiguous parcels owned by Bear Holding's and one parcel by Bear, LLC.

1.2 Existing Conditions

The existing site is entirely developed and consists of a self-storage facility with five storage buildings, gravel area for mobile storage boxes, paved access drives, stormwater wet pond, and car dealership with a paved parking lot and three associated buildings. The existing conditions stormwater model was developed based on the impervious area and non-impervious developed area of the site as approved. See Figure 1 in Appendix A for the existing conditions drainage plan. This drainage plan is based on the previously approved site plan.

The majority of the surface runoff from the development, plus some off-site runoff from the residential properties along Turner Street, is directed to a wet pond located on the southerly portion of the site where the collected runoff is treated and conveyed to an unnamed stream that crosses Center Street and is tributary to Bobbin Mill Brook. Bobbin Mill Brook is a tributary of the Androscoggin River. Runoff from the access drive flows into two underdrained soil filters located on the easterly portion of the site where the collected runoff is treated and conveyed to the existing storm drainage system on Center Street.

Soils mapping and characteristics were obtained from the Medium Intensity Soil Survey for Androscoggin County. As indicated on the attached soils map the primary hydrological soils group covering the site is Group C with some areas covered by Group B and Group D. Current rainfall data from the Northeast Regional Climate Center (NRCC) was utilized for the model. Rainfall depths used were 3.01 in, 4.44 in, 5.56 in, and 7.81 in for the 2-, 10-, 25-, and 100-year, 24-hour storms, respectively.

1.3 Proposed Conditions

This application proposes to expand the gravel storage container area on the southern side of the site. Runoff from this area that does not already flow to the wet pond for treatment will flow to two grassed underdrained soil filters (GUSFs) for treatment and peak flow attenuation. Most of the access drive runoff will also be conveyed to these GUSFs.

The majority of the site's runoff will continue to be treated by the existing wet pond; however, the contributing drainage area boundary will change some due to the proposed grading. The wet pond was originally designed with additional capacity in anticipation of a future phase of work, which our analysis and calculations show has capacity for the proposed improvements without alteration.

Runoff from a portion of the southerly side of the site will not be treated. A residential house owned by Bear Holding's has recently been demolished on the southwesterly side of the site. This impervious area has been seeded and was therefore modeled as landscaped grass in the proposed conditions model.

A new 9,000 SF building is proposed on the southerly side of the access driveway, which is surrounded by new pavement to be used as display area for the car dealership. New gravel area is proposed west of the new building and pavement for storage containers. Since the last approval some new pavement has been installed north of the access driveway at the car dealership, which is all proposed to be treated retroactively with the proposed subsurface soil filter. This application also proposes a minor addition of pavement beyond what has already been installed, which will be treated too.

Section 1.5 of this report outlines how the stormwater treatment requirements will be met by the proposed design.

1.4 Regulatory Requirements

The City of Auburn Site Plan Review Ordinance, Section 14 requires that the stormwater runoff from the site shall be managed in accordance with Maine Department of Environmental Protection's (MDEP) regulations outlined in Chapter 500 and 502. The proposed development will disturb more than one acre of land and will create more than one acre of pavement, and as a result the development must comply with MDEP's Basic and General Standards. These standards provide specific design criteria for water quality treatment.

1.5 Water Quality Treatment Summary

The general intent of the proposed design is to treat runoff from as much of the site as practicable, treat at least 95% of the new impervious areas and 80% of the new developed areas (this includes impervious area), and manage peak runoff rates.

An existing wet pond, two proposed GUSFs, and one proposed SSF will be utilized to meet the stormwater treatment requirements described above. Calculations showing conformance with MDEP design standards are in Appendix B. Calculations performed in HydroCAD for each stormwater practice are included in Appendix C.

The only newly developed area that will not be treated is a small portion of paved access drive at the southeasterly side of the site. This area is approximately 3,000 SF and is outlined in Figure 2 in Appendix A as "Non-Treated Area". Therefore approximately 105,000 SF of 108,000 SF of the new newly developed impervious area will be treated, exceeding the 95% treatment requirement. Since the rest of the areas disturbed by the project are already developed, there are no new non-impervious developed areas to treat. The impervious area treatment calculation was performed by tabulating the areas of the site that had a change from pervious land cover in the existing condition to impervious land cover in the proposed condition. Areas that were already impervious but changed to a new type of impervious land cover were also considered new impervious, even though they are already impervious. It is important to note that this is why the increase in impervious area used to calculate the required impervious area to be treated on the site is greater than what the actual addition of impervious area is on the site. Figure 2 in Appendix A shows the areas of the site that were considered new development for this calculation. The small non-treated area is also noted in this figure.

GUSF 1 is proposed southeast of the new building at the storage facility to detain and treat stormwater from the surrounding proposed paved area. GUSF 2 is adjacent to GUSF 1 and receives runoff from the proposed building and surrounding paved area. The treatment volume and soil filter area of both GUSFs were sized based on MDEP requirements and treat all the impervious area that drains to them, which is all new impervious developed area. The non-impervious area that drains to them does not factor into the MDEP sizing because it has been previously developed. The GUSFs were designed to have significant additional storage capacity beyond what is needed for treatment to attenuate peak runoff rates from the site. Section 1.6 of this report further describes how peak runoff rates are reduced from the site.

The SSF is proposed on the westerly side of the site, north of the access driveway at the car dealership to treat runoff from the expanded vehicle display area. All the new impervious developed area here will be treated by the SSF and has been sized accordingly. Additional runoff from existing pavement and landscaped developed area will also flow to the system but was not used for the MDEP treatment volume calculations since they area is existing. The additional runoff was modeled in HydroCAD to ensure the system is properly sized to handle the flow. This stormwater practice consists of two areas. The first area provides the required stormwater treatment. The second area consists of additional stormwater storage for larger storm events for peak flow attenuation, not treatment. Runoff will be collected by catch basins and conveyed to stormwater chambers. Some of the chambers are isolator rows which will pre-treat the stormwater runoff before the stormwater moves to additional chambers. Stormwater will fill the chambers and infiltrate through a sand filter media layer with underdrains below. When this treatment portion of the system is at capacity, stormwater will bypass to the additional storage chambers. Section 1.6 of this report further describes how peak runoff rates are reduced from the site.

The existing wet pond treats stormwater runoff from the existing storage buildings, surrounding paved and landscaped areas on the northwesterly side of the site and the proposed gravel areas around the pond on the southwesterly side of the site. Some off-site drainage from the residential neighborhood to the west also drains to the pond. Calculations were performed to determine that the existing wet pond has the capacity to treat all of the stormwater runoff that drains to it based on current MDEP requirements to treat all the area draining to it (MDEP requirements for wet ponds have become more stringent since the last approval). Additionally, the grading of the pond was modified in some areas since the last site plan approval, so the storage volume was revised in the HydroCAD model to reflect this.

1.6 Peak Runoff Rate Analysis

A peak runoff rate analysis was performed in HydroCAD, which compared the existing and proposed conditions of the site. As required by the City's Ordinance, the 2-, 10-, and 25-year, 24-hour storms were modeled. As described in Sections 1.2 and 1.3 describing the existing and proposed conditions, the existing conditions were considered those as approved in the last site plan application. The proposed conditions were modeled as shown in this current site plan application. The peak runoff rates are summarized below in Table 1 and the full HydroCAD output report is in Appendix C.

TABLE 1: PEAK RUNOFF RATES

24-Hour Storm Event Recurrence Interval	Study Point 1		Study Point 2	
	Existing (cfs)	Proposed (cfs)	Existing (cfs)	Proposed (cfs)
2-Year	1.3	1.4	6.5	3.4
10-Year	3.5	3.3	12.3	10.7
25-Year	11.2	10.4	17.2	16.8

Two study points were identified where stormwater runoff leaves the site for comparison of the peak runoff rates in the existing and proposed conditions. Study Point 1 is the downstream extent of the stream on the property, immediately before it crosses Center Street via culvert. Study Point 2 is the site's stormwater discharge to the existing closed drainage system on Center Street.

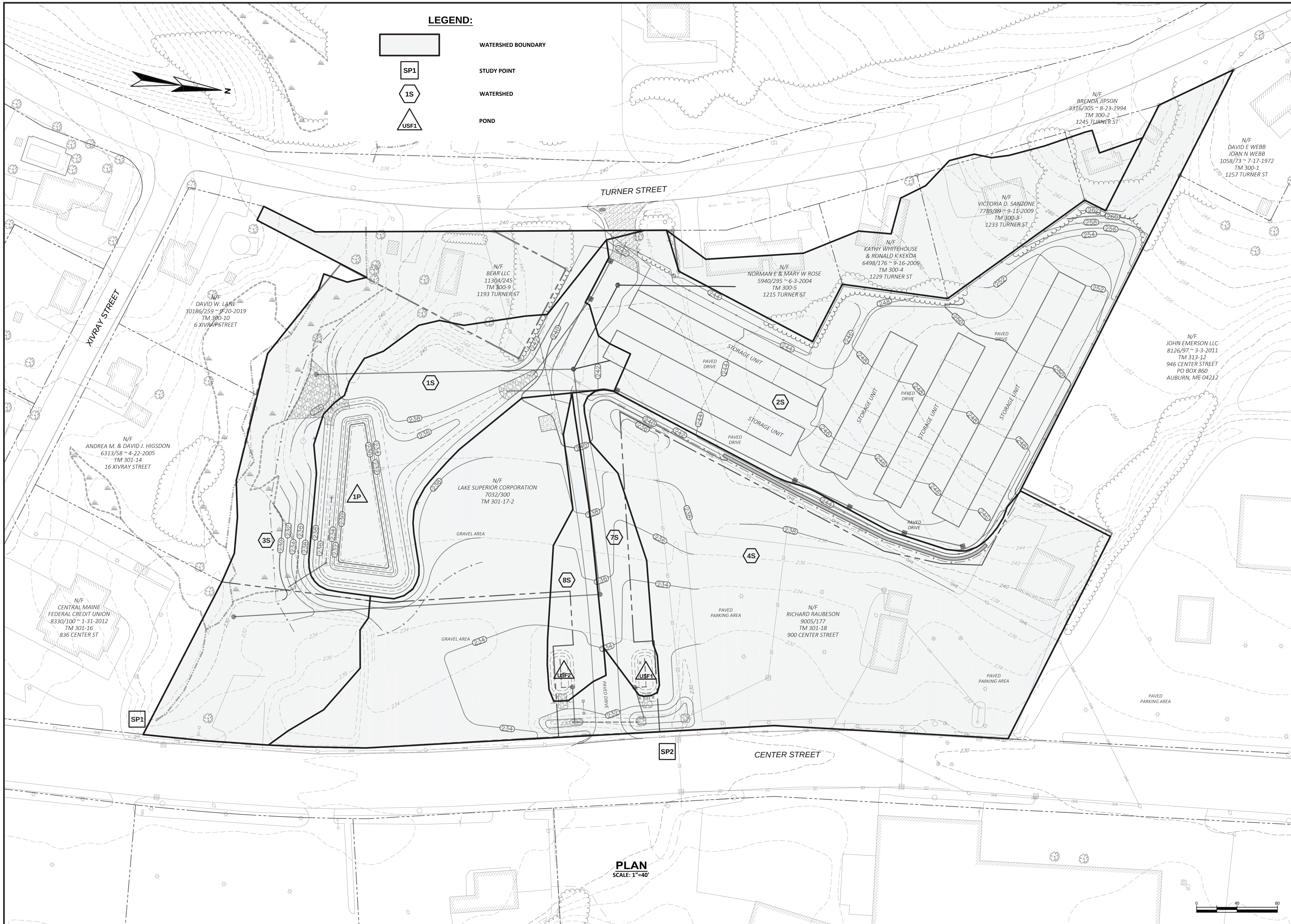
As shown in Table 1, the peak runoff rate to Study Point 1 is reduced during the 2-, 10-, and 25-year, 24-hour storms. This point receives stormwater discharge from the existing wet pond and overland runoff from southerly side of the site along the stream. The wet pond provides significant storage of stormwater mitigating peak runoff rates.

Peak runoff rates at Study Point 2 are also reduced during the 2-, 10-, and 25-year, 24-hour storms. This is because a large GUSF and SSF collect, treat, and attenuate the stormwater runoff from the site.

1.7 Conclusion

By incorporating various stormwater treatment practices, runoff from the proposed development will meet the MDEP Basic and General Standards.

Appendix A
Figures



LAST SAVED BY: RYAN.BEISAW 6/7/2024 11:23 AM

J:\ENG\ME\AUBURN\21316-BEARSELFSTORAGE_DRAWINGS\CIVIL_FIGURE\21316 FIGURE_PRESTORMWATER.DWG | 21316 Figure_PreStormwater | 1:2.5849 | --- | 6/7/2024 11:29:06 AM | RYAN.BEISAW

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO:	21316
DESIGNED:	J.WIEGMAN
CAD COORD:	R.BEISAW
CAD:	R.BEISAW
CHECKED:	N.EDWARDS
DATE:	06-2024
APPROVED:	J.WIEGMAN
DATE:	06-2024
SUBMISSION:	FOR PERMITTING

STATE OF MAINE
NATHAN S. EDWARDS
No. 17350
6/7/2024
LICENSED
PROFESSIONAL ENGINEER

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

BEARS HOLDING, LLC
BEAR SELF STORAGE FACILITY
SITE IMPROVEMENTS
AUBURN, MAINE

PRE-DEVELOPMENT STORMWATER PLAN

DRAWING
1

LAST SAVED BY: RYAN.BEISAW 6/7/2024 10:19 AM

J:\ENGWE\AUBURN\21316-BEARSELFSTORAGE_DRAWINGS\CIVIL_FIGURE\21316 FIGURE_POSTSTORMWATER.DWG | 21316 Figure_PostStormwater | 1:2.5849 | — | 6/7/2024 11:29:20 AM | RYAN.BEISAW

LEGEND:

- WATERSHED BOUNDARY
- STUDY POINT (SP1)
- WATERSHED (1S)
- POND (GU SF1)
- NEW DEVELOPED AREA
- NON-TREATED AREA

N

TURNER STREET

XIVRAY STREET

CENTER STREET

N/F
DAVID W. LANE
10186/259 ~ 9-20-2019
TM 300-10
6 XIVRAY STREET

N/F
ANDREA M. & DAVID J. HIGSDON
6313/58 ~ 4-22-2005
TM 301-14
16 XIVRAY STREET

N/F
CENTRAL MAINE
FEDERAL CREDIT UNION
8330/100 ~ 1-31-2012
TM 301-16
836 CENTER ST

N/F
BEAR LLC
11304/245
TM 300-9
1193 TURNER ST

N/F
BEAR'S HOLDINGS LLC
9291/232 ~ 1-31-2021
TM 301-19
878 CENTER STREET

N/F
BEAR'S HOLDINGS LLC
9291/230
TM 301-17
864 CENTER STREET

N/F
BEAR'S HOLDINGS LLC
9291/234
TM 301-17-2
868 CENTER STREET

N/F
NORMAN E & MARY W ROSE
5940/295 ~ 6-3-2004
TM 300-5
1215 TURNER ST

N/F
KATHY WHITEHOUSE
& RONALD K KEKOA
6498/176 ~ 9-16-2005
TM 300-4
1229 TURNER ST

N/F
VICTORIA D. SANZONE
7789/89 ~ 9-11-2009
TM 300-3
1233 TURNER ST

N/F
BRENDA JIPSON
3316/305 ~ 8-23-1994
TM 300-2
1245 TURNER ST

N/F
DAVID E WEBB
JOAN N WEBB
1058/73 ~ 7-17-1972
TM 300-1
1257 TURNER ST

N/F
JOHN EMERSON LLC
8126/97 ~ 3-3-2011
TM 313-12
946 CENTER STREET
PO BOX 860
AUBURN, ME 04212

N/F
BEAR'S HOLDINGS LLC
9291/234
TM 301-18
900 CENTER STREET

PAVED AREA
PAVED DRIVE
STORAGE UNIT
PAVED PARKING AREA
1P
1S
2S
3S
4S
5S
6S
7S
8S
SP1
SP2
GU SF1
GU SF2
SSF1

0 40 80

PLAN
SCALE: 1"=40'

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			
6			

PROJECT NO: 21316
DESIGNED: J.WIEGMAN
CAD COORD: R.BEISAW
CAD: R.BEISAW
CHECKED: N.EDWARDS
DATE: 06-2024
APPROVED: J.WIEGMAN
DATE: 06-2024
SUBMISSION: FOR PERMITTING

STATE OF MAINE
NATHAN S. EDWARDS
No. 17350
6/7/2024
LICENSED PROFESSIONAL ENGINEER

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

BEARS HOLDING, LLC
BEAR SELF STORAGE FACILITY
SITE IMPROVEMENTS
AUBURN, MAINE

POST DEVELOPMENT STORMWATER PLAN

DRAWING
2

Appendix B
Stormwater Practice Design Calculations

Project Name:	**Bear Self Storage**
Date:	**6/5/2024**

=Inputs

GRASSED UNDERDRAIN SOIL FILTER 1

DRAINAGE AREA CHARACTERISTICS

Land Cover Type	Area	Units
Impervious	10530	SF
Non-Impervious Developed	0	SF
Total Drainage Area	10530	SF

GRASSED UNDERDRAIN SOIL FILTER VOLUME REQUIREMENTS

Land Cover Type	Area (SF)	Multiplier	Volume (CF)
Impervious Area	10530	1.0	878
Developed Area	0	0.4	-
		Volume Required	**878**

GRASSED UNDERDRAIN SOIL FILTER SURFACE AREA REQUIREMENTS

Land Cover Type	Area (SF)	Multiplier	Area (SF)
Impervious Area	10530	0.05	527
Developed Area	0	0.02	-
		Area Required	**527**

GRASSED UNDERDRAIN SOIL FILTER DESIGN

Design Parameter	Quantity	Units	Req. Met?
Bottom Surface Area (3000 max)	2000	SF	OK
Ponding Depth	1.5	FT	N/A
Porosity	1.00	-	N/A
Storage Volume	4013	CF	OK

Stage-Area-Storage for Pond GUSF1: Soil Filt

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
232.00	2,000	0
232.10	2,090	204
232.20	2,180	418
232.30	2,270	641
232.40	2,360	872
232.50	2,450	1,113
232.60	2,540	1,362
232.70	2,630	1,620
232.80	2,720	1,888
232.90	2,810	2,165
233.00	2,900	2,450
233.10	2,990	2,744
233.20	3,080	3,048
233.30	3,170	3,361
233.40	3,260	3,682
233.50	3,350	4,013
233.60	3,440	4,352
233.70	3,530	4,700
233.80	3,620	5,058
233.90	3,710	5,425
234.00	3,800	5,800
234.10	3,910	6,185
234.20	4,020	6,582
234.30	4,130	6,990
234.40	4,240	7,408
234.50	4,350	7,838

GRASSED UNDERDRAIN SOIL FILTER 2			
DRAINAGE AREA CHARACTERISTICS			
Land Cover Type	**Area**	**Units**	
Impervious	54877	SF	
Non-Impervious Developed	0	SF	
Total Drainage Area	54877	SF	
GRASSED UNDERDRAIN SOIL FILTER VOLUME REQUIREMENTS			
Land Cover Type	**Area (SF)**	**Multiplier**	**Volume (CF)**
Impervious Area	54877	1.0	4,573
Developed Area	0	0.4	-
		Volume Required	**4,573**
GRASSED UNDERDRAIN SOIL FILTER SURFACE AREA REQUIREMENTS			
Land Cover Type	**Area (SF)**	**Multiplier**	**Area (SF)**
Impervious Area	54877	0.05	2,744
Developed Area	0	0.02	-
		Area Required	**2,744**
GRASSED UNDERDRAIN SOIL FILTER DESIGN			
Design Parameter	**Quantity**	**Units**	**Req. Met?**
Bottom Surface Area (3000 max)	3000	SF	OK
Ponding Depth	1.5	FT	N/A
Porosity	1.00	-	N/A
Storage Volume	5750	CF	OK

Stage-Area-Storage for Pond GUSF2: Soil Filt

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
232.00	3,000	0
232.10	3,110	305
232.20	3,220	622
232.30	3,330	950
232.40	3,440	1,288
232.50	3,550	1,638
232.60	3,660	1,998
232.70	3,770	2,369
232.80	3,880	2,752
232.90	3,990	3,146
233.00	4,100	3,550
233.10	4,220	3,966
233.20	4,340	4,394
233.30	4,460	4,834
233.40	4,580	5,286
233.50	4,700	5,750
233.60	4,820	6,226
233.70	4,940	6,714
233.80	5,060	7,214
233.90	5,180	7,726

Project Name:	**Bear Self Storage**
Date:	**6/5/2024**

=Inputs

SUBSURFACE SAND FILTER 1

DRAINAGE AREA CHARACTERISTICS

Land Cover Type	Area	Units
Impervious	27618	SF
Non-Impervious Developed	0	SF
Total Drainage Area	27618	SF

SUBSURFACE FILTER VOLUME REQUIREMENTS

Land Cover Type	Area (SF)	Multiplier	Volume (CF)
Impervious Area	27618	1.0	2,302
Developed Area	0	0.4	-
		Volume Required	**2,302**

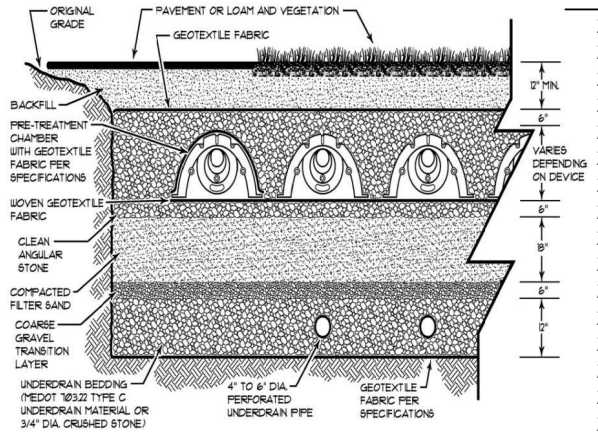
SUBSURFACE SAND FILTER SURFACE AREA REQUIREMENTS

Land Cover Type	Area (SF)	Multiplier	Area (SF)
Impervious Area	27618	0.05	1,381
Developed Area	0	0.02	-
		Area Required	**1,381**

SUBSURFACE SAND FILTER DESIGN

See storage table on right. WQV elevation is 230.5 (top of chamber) and the storage volume is 2,404 CF, which meets theminimum requirement of 2,302 CF.

Figure from Maine DEP Stormwater Manual Volume III



Stage-Area-Storage for Pond SSF1: Sand Filt

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
228.67	**2,257**	0
228.72	2,257	45
228.77	2,257	90
228.82	2,257	135
228.87	2,257	181
228.92	2,257	226
228.97	2,257	271
229.02	2,257	316
229.07	2,257	361
229.12	2,257	406
229.17	2,257	451
229.22	2,257	540
229.27	2,257	629
229.32	2,257	717
229.37	2,257	804
229.42	2,257	891
229.47	2,257	977
229.52	2,257	1,062
229.57	2,257	1,146
229.62	2,257	1,229
229.67	2,257	1,311
229.72	2,257	1,392
229.77	2,257	1,471
229.82	2,257	1,550
229.87	2,257	1,627
229.92	2,257	1,703
229.97	2,257	1,777
230.02	2,257	1,849
230.07	2,257	1,919
230.12	2,257	1,987
230.17	2,257	2,053
230.22	2,257	2,115
230.27	2,257	2,174
230.32	2,257	2,228
230.37	2,257	2,279
230.42	2,257	2,329
230.47	2,257	2,376
230.52	2,257	2,422
230.57	2,257	2,467

Project Name:	**Bear Self Storage**
Date:	**6/5/2024**

=Inputs

WET POND 1

DRAINAGE AREA CHARACTERISTICS

Land Cover Type	Area	Units
Impervious	102121	SF
Non-Impervious Developed	68786	SF
Total Drainage Area	170907	SF

WET POND TREATMENT VOLUME REQUIREMENTS

Permanent Pool Volume

Land Cover Type	Area (SF)	Multiplier	Volume (CF)
Impervious Area	102121	2.0	17,020
Developed Area	68786	0.8	4,586
		Volume Required	**21,606**

Channel Protection Volume

Land Cover Type	Area (SF)	Multiplier	Volume (CF)
Impervious Area	1000	1.0	83
Developed Area	102121	0.4	3,404
		Volume Required	**3,487**

WET POND TREATMENT SURFACE AREA REQUIREMENTS

Land Cover Type	Area (SF)	Multiplier	Area (SF)
Impervious Area	102121	0.05	5,106
Developed Area	68786	0.02	1,376
		Area Required	**6,482**

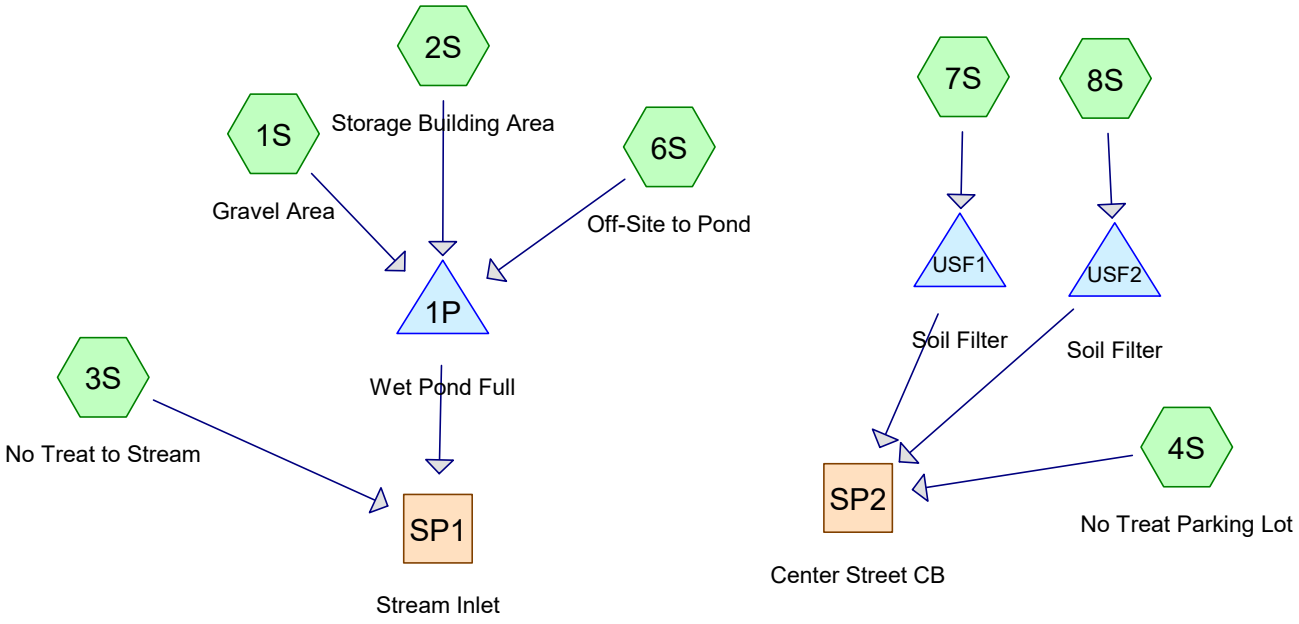
WET POND DESIGN

Design Parameter	Quantity	Units	Req. Met?
Bottom Surface Area	8500	SF	OK
Permanent Pool Volume (PPV)	28157	CF	OK
Channel Protection Volume (CPV)	36205	CF	OK

Wet Pond Storage Volume

Elevation (FT)	Area (SF)	Depth (Ft)	Volume (CF)	Notes
229	-	-	-	Bottom of pond.
234	8533	5	28157	Permanent pool elevation.
235	9585	1	37216	
236	10550	1	47284	
237	11575	1	58346	
237.5	12488	0.5	64362	Top of pond.

Appendix C
HydroCAD Output Reports



Subcat Reach Pond Link

Routing Diagram for Bear Self Storage Existing
Prepared by Wright-Pierce, Printed 6/5/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.572	61	>75% Grass cover, Good, HSG B (2S, 6S)
5.558	74	>75% Grass cover, Good, HSG C (1S, 2S, 3S, 4S, 6S, 7S, 8S)
0.073	96	Gravel (1S, 3S, 4S)
3.757	98	Impervious (1S, 2S, 3S, 4S, 6S, 7S, 8S)
9.961	**82**	**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Gravel Area Runoff Area=44,036 sf 9.97% Impervious Runoff Depth=1.08"
Tc=5.0 min CN=77 Runoff=1.27 cfs 0.091 af

Subcatchment 2S: Storage Building Area Runoff Area=106,131 sf 74.22% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=90 Runoff=5.90 cfs 0.405 af

Subcatchment 3S: No Treat to Stream Runoff Area=70,347 sf 5.45% Impervious Runoff Depth=1.02"
Flow Length=715' Tc=14.4 min CN=76 Runoff=1.25 cfs 0.138 af

Subcatchment 4S: No Treat Parking Lot Runoff Area=159,446 sf 38.56% Impervious Runoff Depth=1.45"
Tc=5.0 min CN=83 Runoff=6.46 cfs 0.444 af

Subcatchment 6S: Off-Site to Pond Runoff Area=33,300 sf 16.56% Impervious Runoff Depth=0.91"
Tc=5.0 min CN=74 Runoff=0.78 cfs 0.058 af

Subcatchment 7S: Runoff Area=9,734 sf 65.78% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=90 Runoff=0.54 cfs 0.037 af

Subcatchment 8S: Runoff Area=10,901 sf 29.97% Impervious Runoff Depth=1.32"
Tc=5.0 min CN=81 Runoff=0.40 cfs 0.028 af

Reach SP1: Stream Inlet Inflow=1.25 cfs 0.252 af
Outflow=1.25 cfs 0.252 af

Reach SP2: Center Street CB Inflow=6.46 cfs 0.481 af
Outflow=6.46 cfs 0.481 af

Pond 1P: Wet Pond Full Peak Elev=236.04' Storage=19,573 cf Inflow=7.95 cfs 0.554 af
Outflow=0.22 cfs 0.115 af

Pond USF1: Soil Filter Peak Elev=232.56' Storage=647 cf Inflow=0.54 cfs 0.037 af
Outflow=0.24 cfs 0.023 af

Pond USF2: Soil Filter Peak Elev=232.52' Storage=613 cf Inflow=0.40 cfs 0.028 af
Outflow=0.04 cfs 0.014 af

Total Runoff Area = 9.961 ac Runoff Volume = 1.200 af Average Runoff Depth = 1.45"
62.28% Pervious = 6.204 ac 37.72% Impervious = 3.757 ac

Summary for Subcatchment 1S: Gravel Area

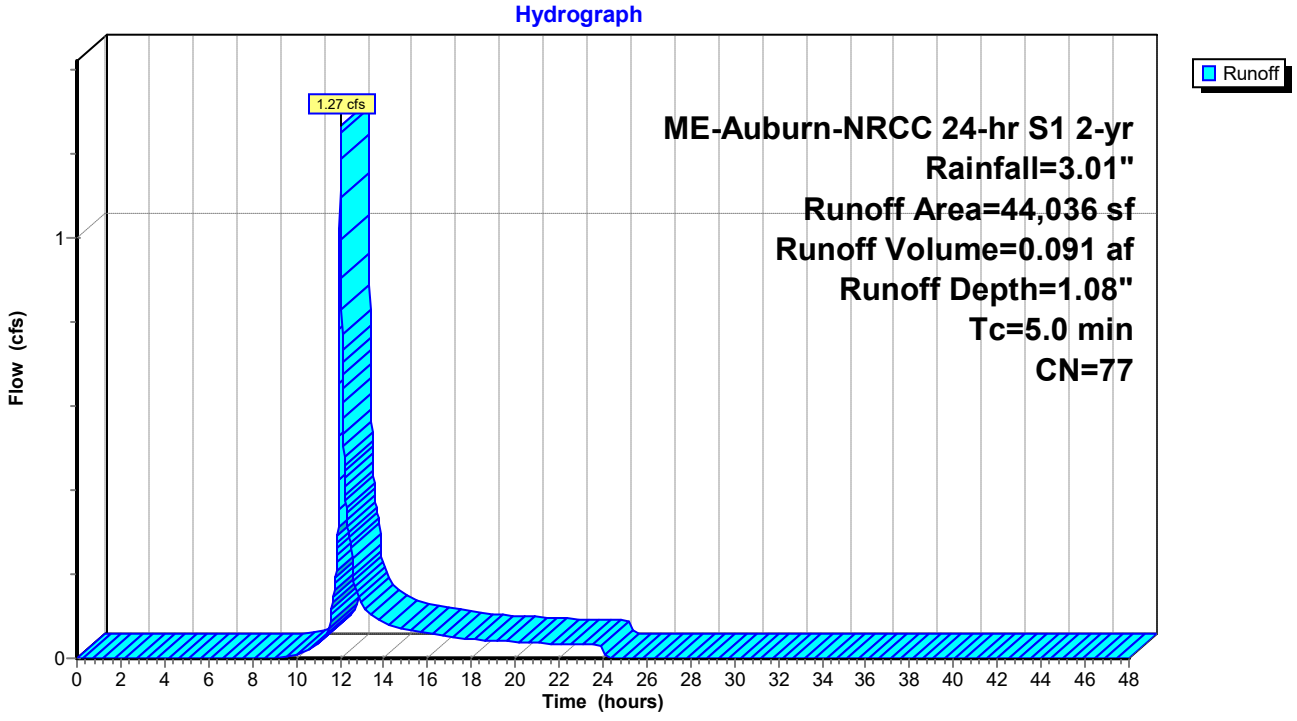
Runoff = 1.27 cfs @ 12.03 hrs, Volume= 0.091 af, Depth= 1.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
*	4,390	98	Impervious
	38,852	74	>75% Grass cover, Good, HSG C
*	794	96	Gravel
	44,036	77	Weighted Average
	39,646		90.03% Pervious Area
	4,390		9.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Gravel Area



Summary for Subcatchment 2S: Storage Building Area

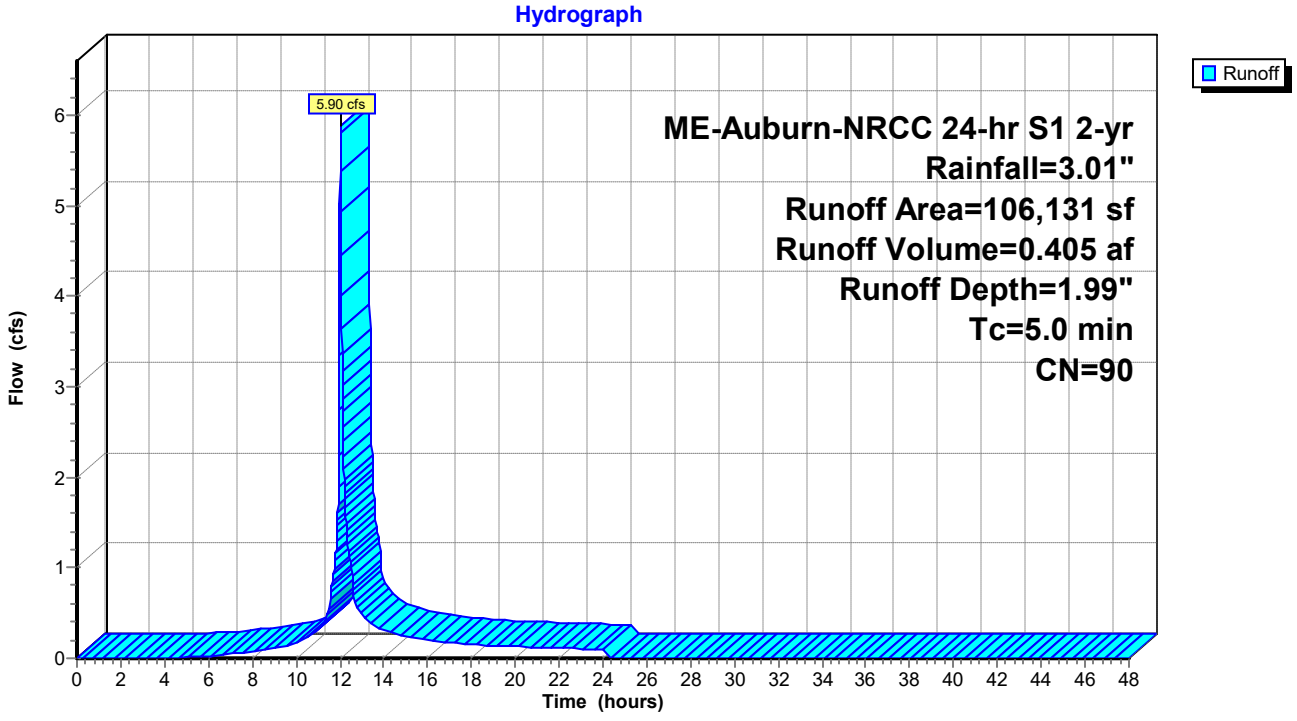
Runoff = 5.90 cfs @ 12.03 hrs, Volume= 0.405 af, Depth= 1.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
*	78,774	98	Impervious
	13,470	74	>75% Grass cover, Good, HSG C
	13,887	61	>75% Grass cover, Good, HSG B
	106,131	90	Weighted Average
	27,357		25.78% Pervious Area
	78,774		74.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Storage Building Area



Summary for Subcatchment 3S: No Treat to Stream

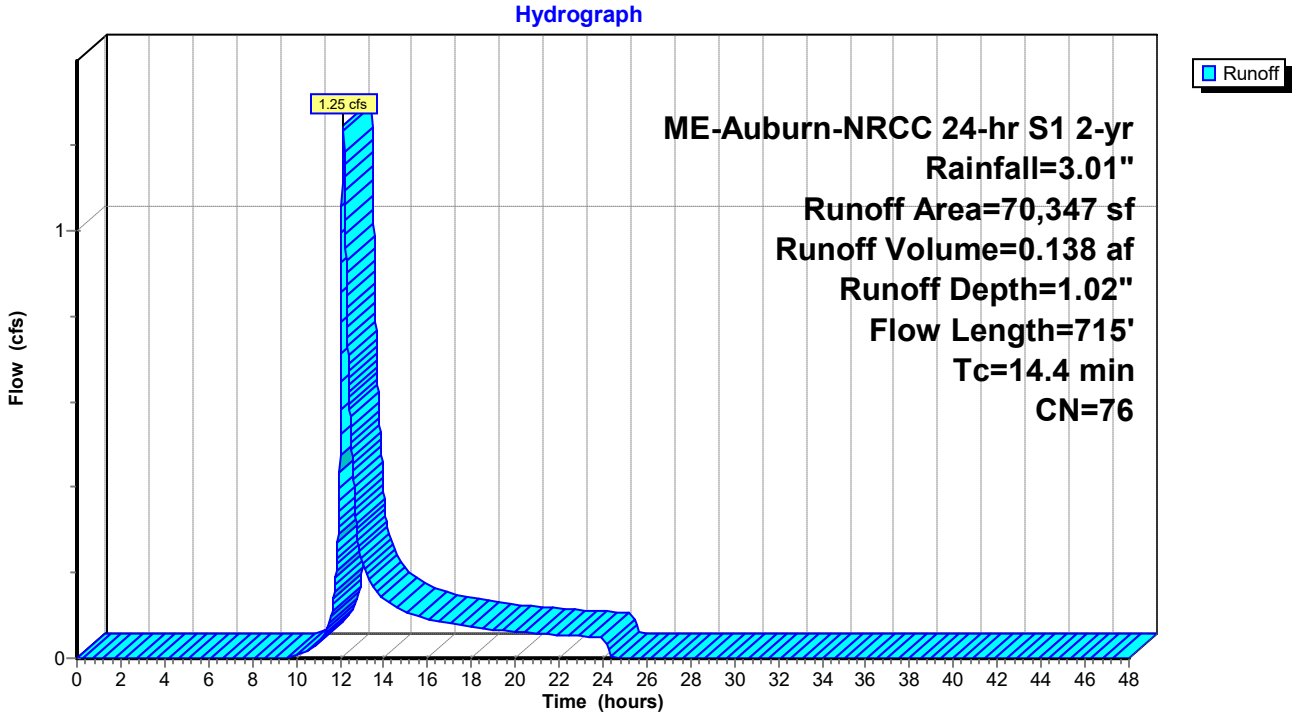
Runoff = 1.25 cfs @ 12.16 hrs, Volume= 0.138 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
*	1,643	96	Gravel
*	3,832	98	Impervious
	64,872	74	>75% Grass cover, Good, HSG C
	70,347	76	Weighted Average
	66,515		94.55% Pervious Area
	3,832		5.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	70	0.0700	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.01"
4.9	100	0.1200	0.34		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.01"
4.9	545	0.0150	1.84		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
14.4	715	Total			

Subcatchment 3S: No Treat to Stream



Summary for Subcatchment 4S: No Treat Parking Lot

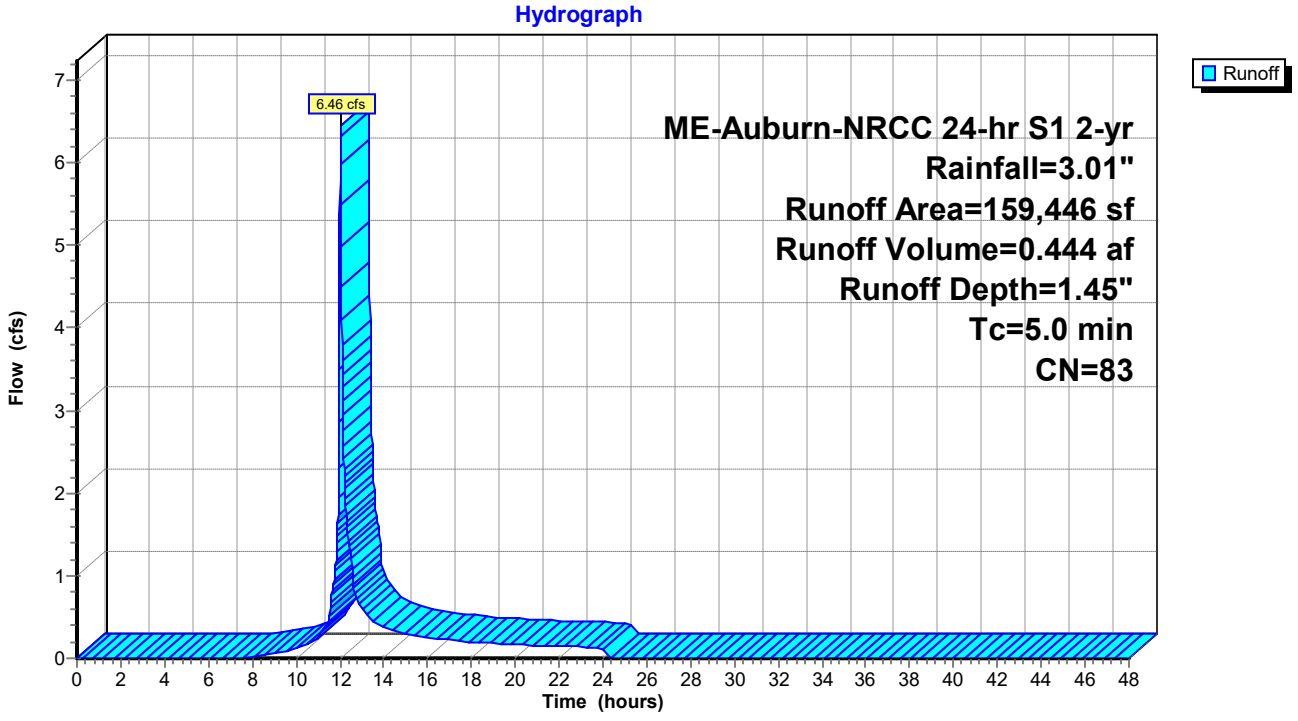
Runoff = 6.46 cfs @ 12.03 hrs, Volume= 0.444 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
*	61,478	98	Impervious
*	761	96	Gravel
	97,207	74	>75% Grass cover, Good, HSG C
	159,446	83	Weighted Average
	97,968		61.44% Pervious Area
	61,478		38.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: No Treat Parking Lot



Summary for Subcatchment 6S: Off-Site to Pond

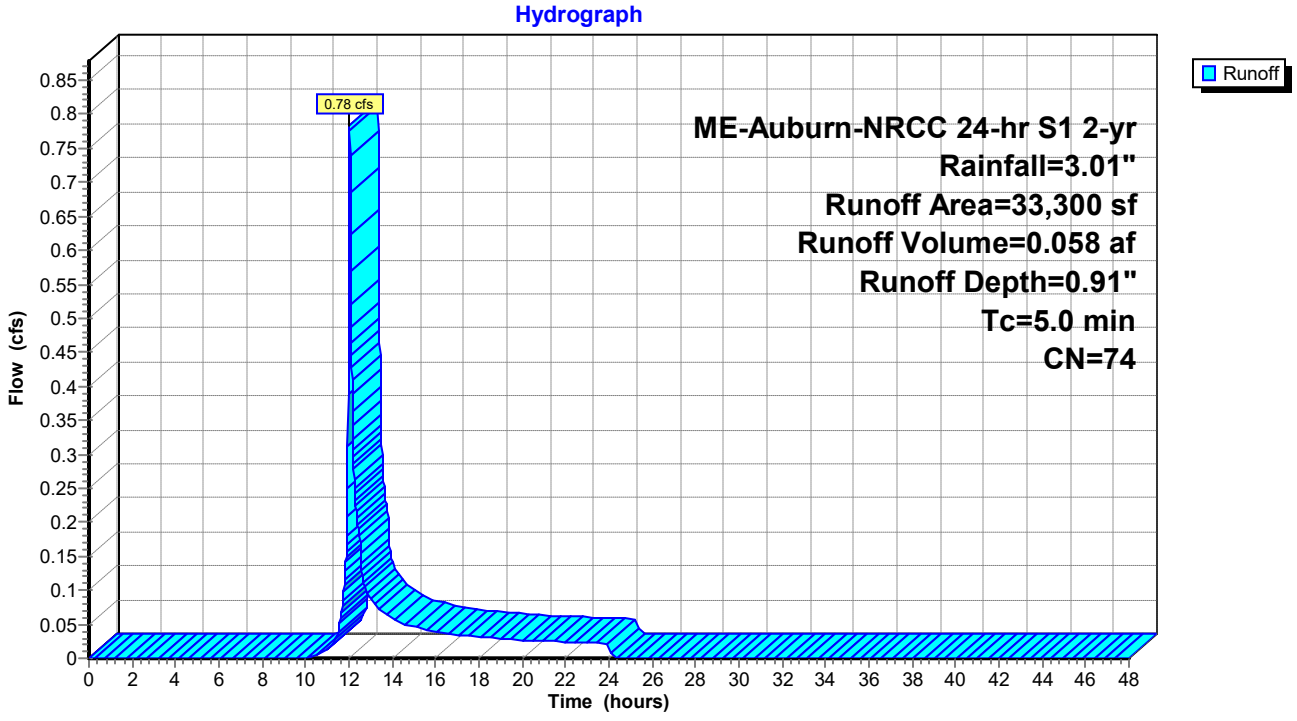
Runoff = 0.78 cfs @ 12.03 hrs, Volume= 0.058 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
*	5,516	98	Impervious
	16,738	74	>75% Grass cover, Good, HSG C
	11,046	61	>75% Grass cover, Good, HSG B
	33,300	74	Weighted Average
	27,784		83.44% Pervious Area
	5,516		16.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 6S: Off-Site to Pond



Summary for Subcatchment 7S:

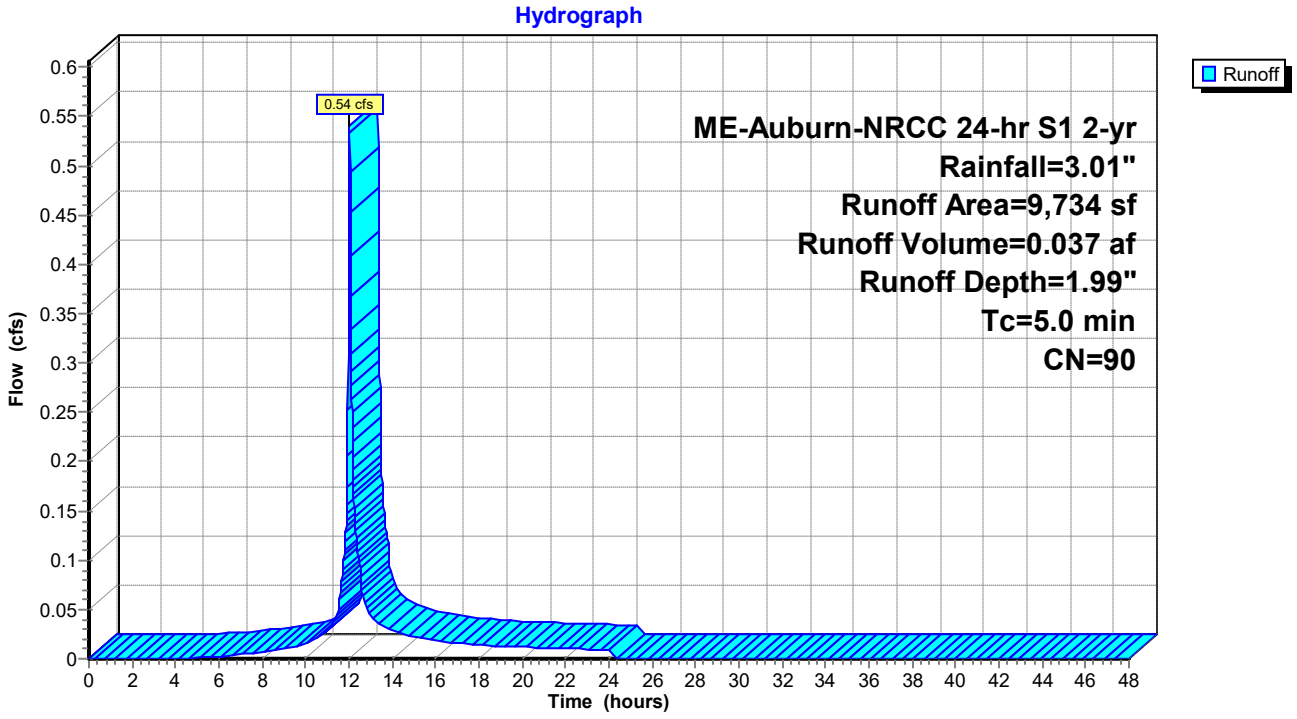
Runoff = 0.54 cfs @ 12.03 hrs, Volume= 0.037 af, Depth= 1.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
*	6,403	98	Impervious
	3,331	74	>75% Grass cover, Good, HSG C
	9,734	90	Weighted Average
	3,331		34.22% Pervious Area
	6,403		65.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 7S:



Summary for Subcatchment 8S:

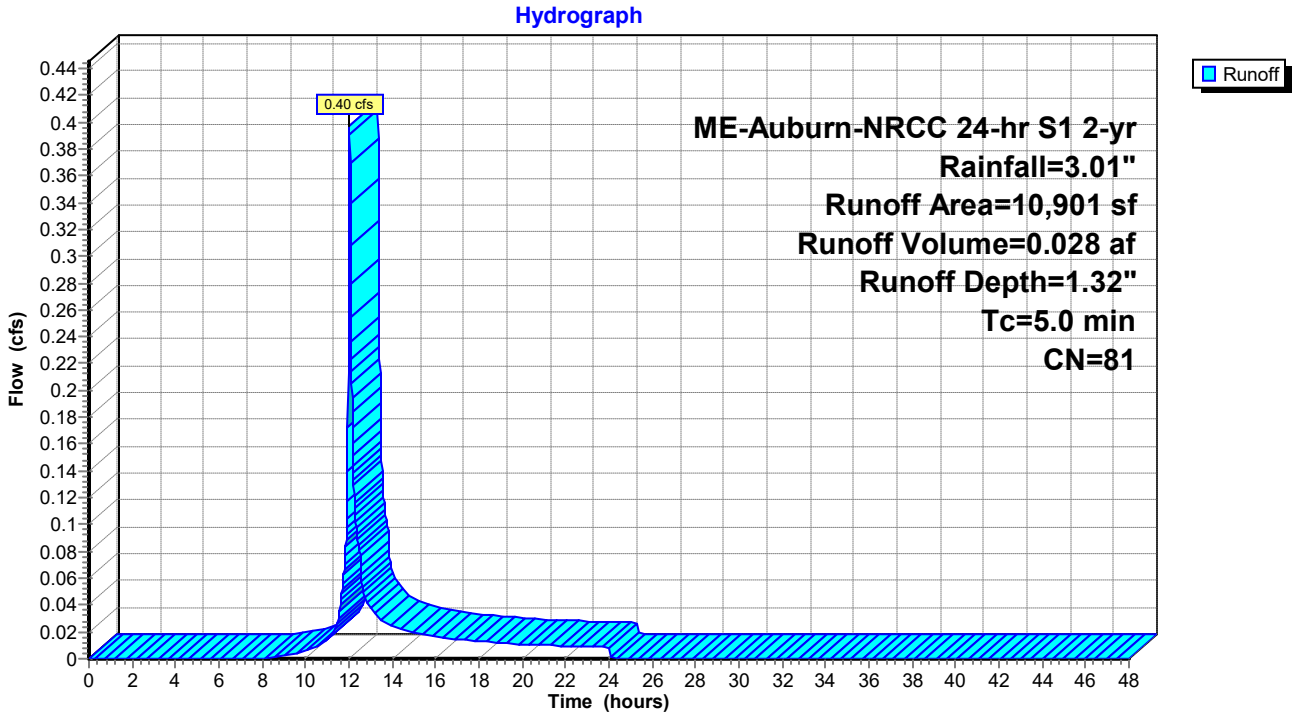
Runoff = 0.40 cfs @ 12.03 hrs, Volume= 0.028 af, Depth= 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
*	3,267	98	Impervious
	7,634	74	>75% Grass cover, Good, HSG C
	10,901	81	Weighted Average
	7,634		70.03% Pervious Area
	3,267		29.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 8S:

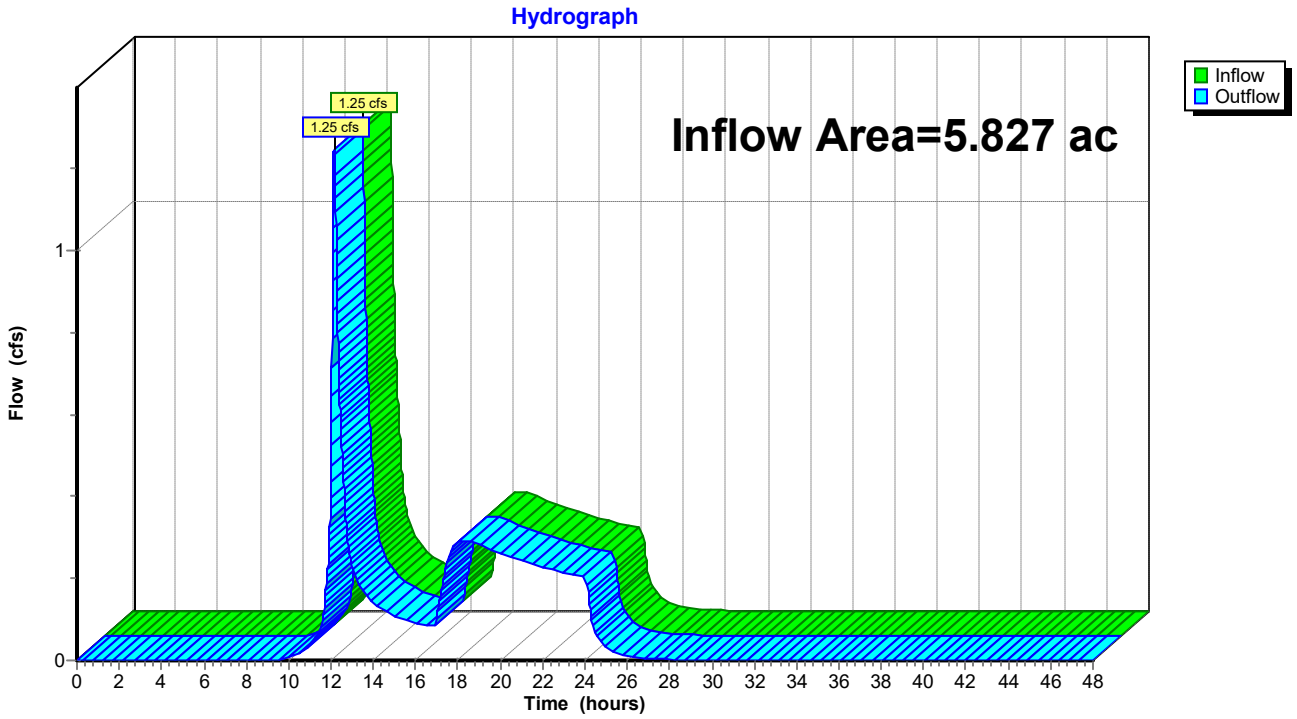


Summary for Reach SP1: Stream Inlet

Inflow Area = 5.827 ac, 36.45% Impervious, Inflow Depth = 0.52" for 2-yr event
Inflow = 1.25 cfs @ 12.16 hrs, Volume= 0.252 af
Outflow = 1.25 cfs @ 12.16 hrs, Volume= 0.252 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP1: Stream Inlet

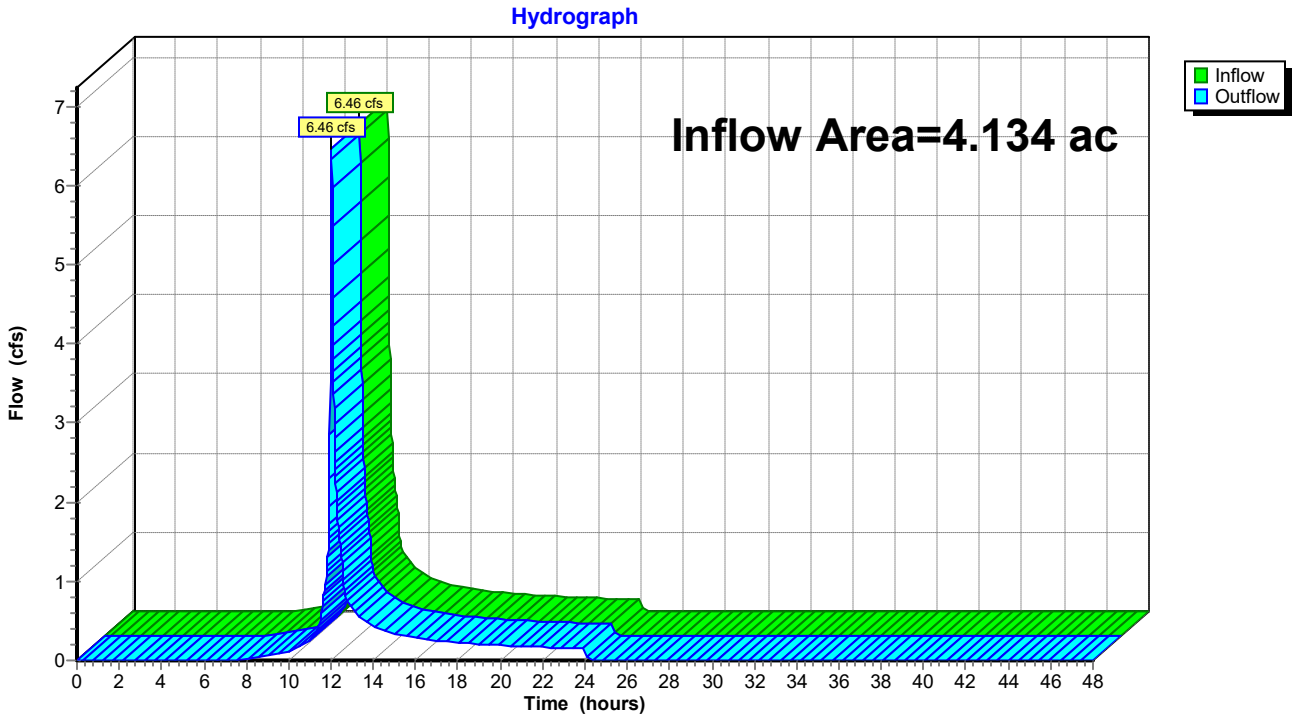


Summary for Reach SP2: Center Street CB

Inflow Area = 4.134 ac, 39.51% Impervious, Inflow Depth = 1.40" for 2-yr event
Inflow = 6.46 cfs @ 12.03 hrs, Volume= 0.481 af
Outflow = 6.46 cfs @ 12.03 hrs, Volume= 0.481 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP2: Center Street CB



Summary for Pond 1P: Wet Pond Full

Inflow Area = 4.212 ac, 48.34% Impervious, Inflow Depth = 1.58" for 2-yr event
Inflow = 7.95 cfs @ 12.03 hrs, Volume= 0.554 af
Outflow = 0.22 cfs @ 18.38 hrs, Volume= 0.115 af, Atten= 97%, Lag= 380.9 min
Primary = 0.22 cfs @ 18.38 hrs, Volume= 0.115 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 236.04' @ 18.38 hrs Surf.Area= 10,593 sf Storage= 19,573 cf

Plug-Flow detention time= 610.5 min calculated for 0.115 af (21% of inflow)
Center-of-Mass det. time= 402.0 min (1,247.8 - 845.7)

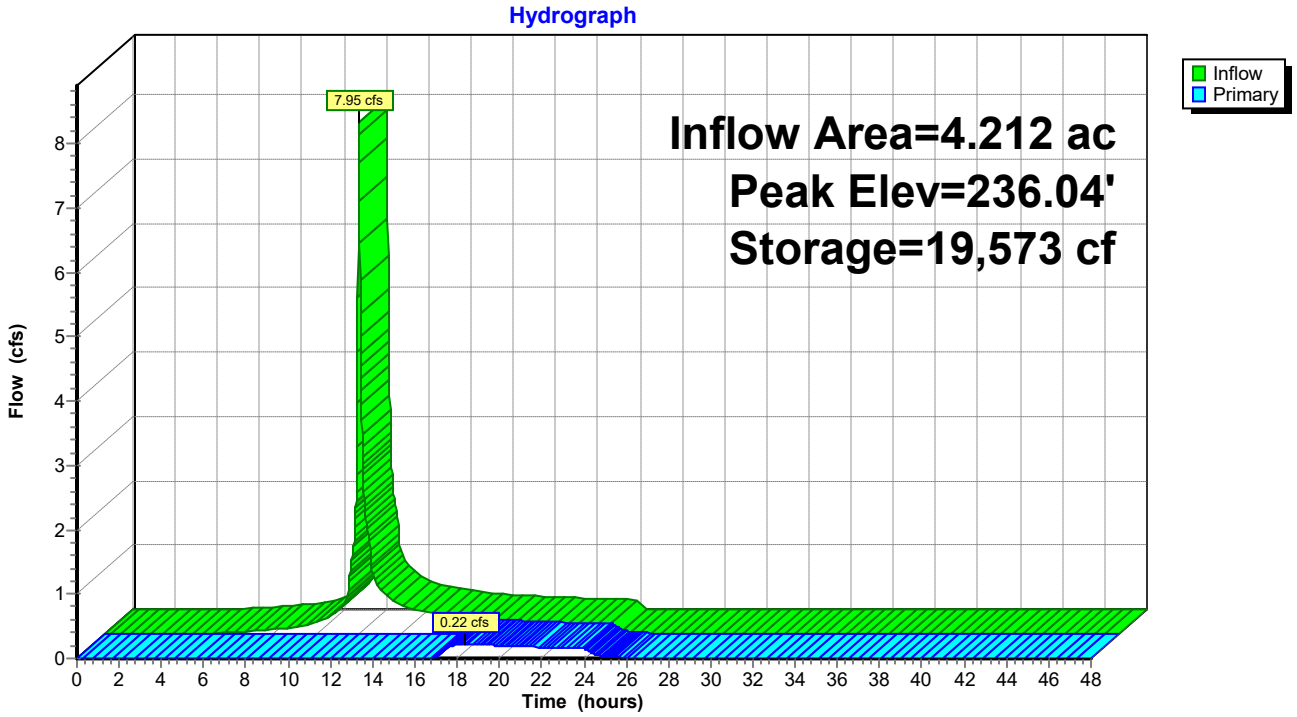
Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	42,677 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
234.00	8,533	0	0
235.00	9,585	9,059	9,059
236.00	10,550	10,068	19,127
237.00	11,575	11,063	30,189
238.00	13,400	12,488	42,677

Device	Routing	Invert	Outlet Devices
#1	Primary	236.00'	**10.0' long x 12.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.22 cfs @ 18.38 hrs HW=236.04' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.22 cfs @ 0.53 fps)

Pond 1P: Wet Pond Full



Summary for Pond USF1: Soil Filter

Inflow Area = 0.223 ac, 65.78% Impervious, Inflow Depth = 1.99" for 2-yr event
Inflow = 0.54 cfs @ 12.03 hrs, Volume= 0.037 af
Outflow = 0.24 cfs @ 12.15 hrs, Volume= 0.023 af, Atten= 56%, Lag= 7.3 min
Primary = 0.24 cfs @ 12.15 hrs, Volume= 0.023 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 232.56' @ 12.15 hrs Surf.Area= 767 sf Storage= 647 cf

Plug-Flow detention time= 237.6 min calculated for 0.023 af (63% of inflow)
Center-of-Mass det. time= 105.6 min (933.2 - 827.6)

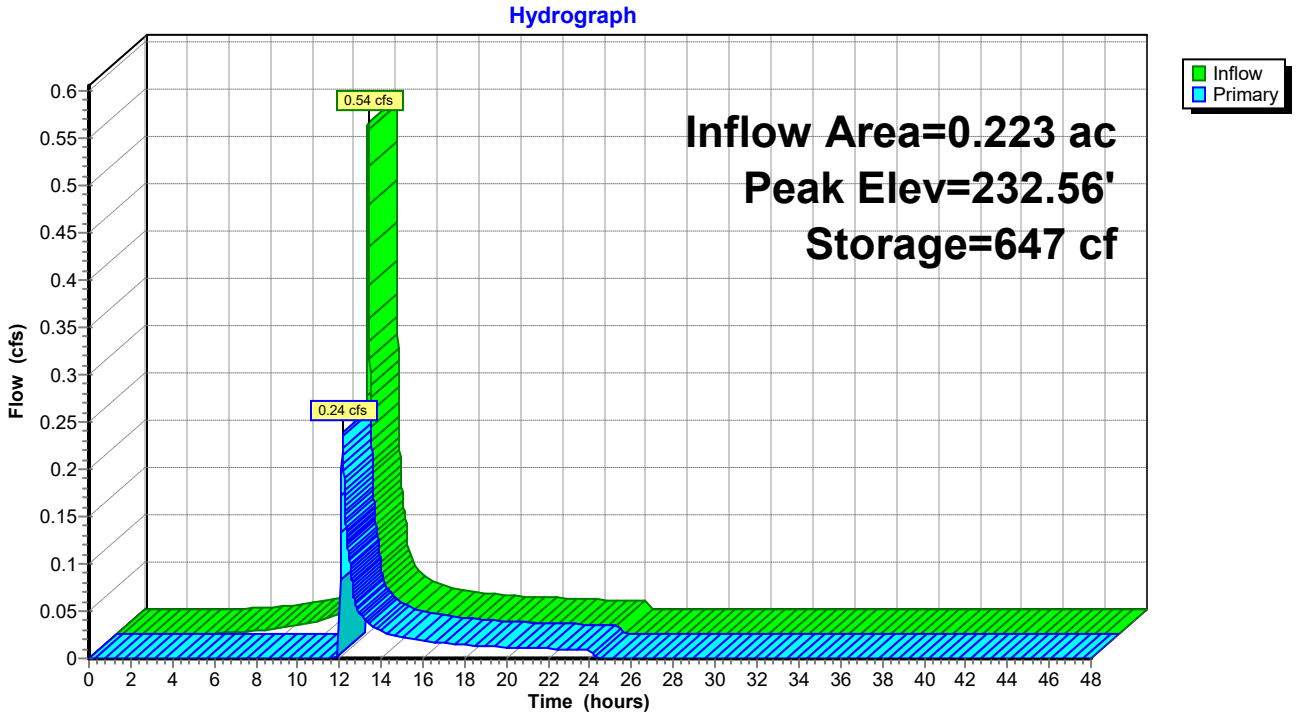
Volume	Invert	Avail.Storage	Storage Description
#1	231.50'	1,518 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
231.50	454	0	0
232.50	745	600	600
233.50	1,092	919	1,518

Device	Routing	Invert	Outlet Devices
#1	Primary	232.50'	**6.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.24 cfs @ 12.15 hrs HW=232.56' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.24 cfs @ 0.63 fps)

Pond USF1: Soil Filter



Summary for Pond USF2: Soil Filter

Inflow Area = 0.250 ac, 29.97% Impervious, Inflow Depth = 1.32" for 2-yr event
Inflow = 0.40 cfs @ 12.03 hrs, Volume= 0.028 af
Outflow = 0.04 cfs @ 13.13 hrs, Volume= 0.014 af, Atten= 91%, Lag= 65.9 min
Primary = 0.04 cfs @ 13.13 hrs, Volume= 0.014 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 232.52' @ 13.13 hrs Surf.Area= 751 sf Storage= 613 cf

Plug-Flow detention time= 322.1 min calculated for 0.014 af (50% of inflow)
Center-of-Mass det. time= 165.2 min (1,037.6 - 872.4)

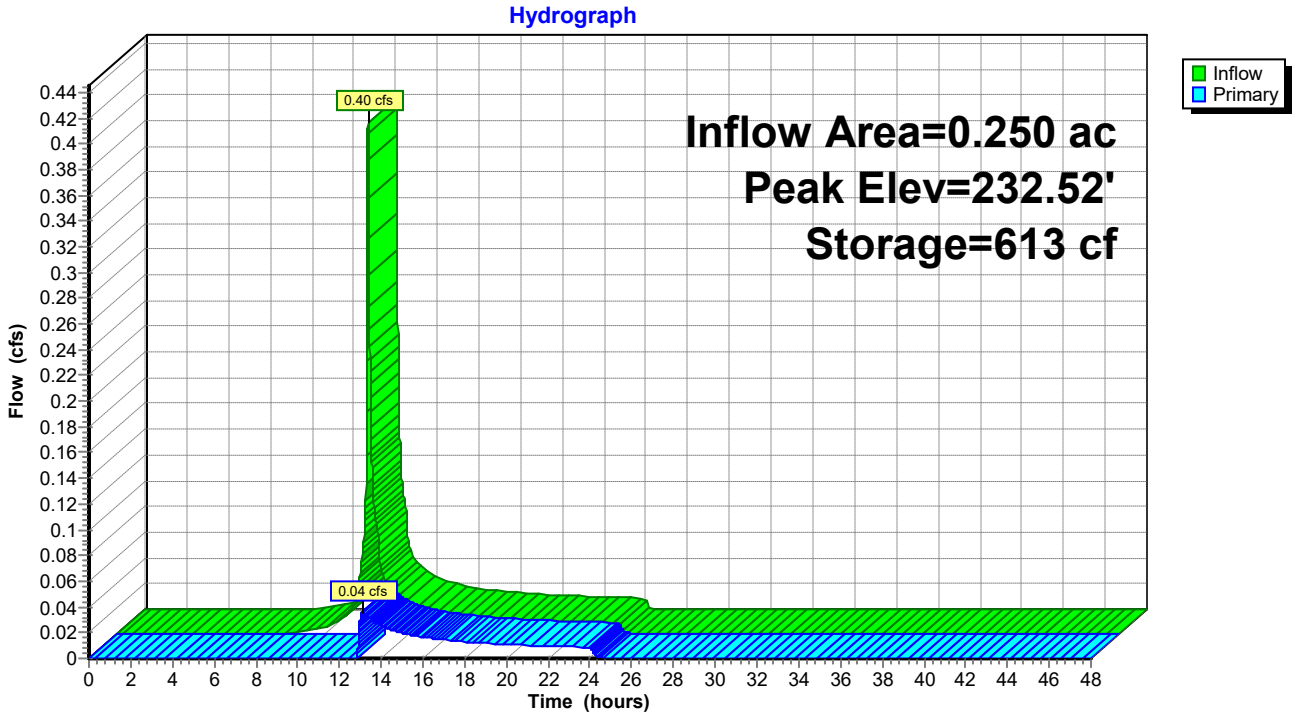
Volume	Invert	Avail.Storage	Storage Description
#1	231.50'	1,518 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
231.50	454	0	0
232.50	745	600	600
233.50	1,092	919	1,518

Device	Routing	Invert	Outlet Devices
#1	Primary	232.50'	**6.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.04 cfs @ 13.13 hrs HW=232.52' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.04 cfs @ 0.33 fps)

Pond USF2: Soil Filter



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Gravel Area Runoff Area=44,036 sf 9.97% Impervious Runoff Depth=2.16"
Tc=5.0 min CN=77 Runoff=2.52 cfs 0.182 af

Subcatchment 2S: Storage Building Area Runoff Area=106,131 sf 74.22% Impervious Runoff Depth=3.34"
Tc=5.0 min CN=90 Runoff=9.21 cfs 0.678 af

Subcatchment 3S: No Treat to Stream Runoff Area=70,347 sf 5.45% Impervious Runoff Depth=2.08"
Flow Length=715' Tc=14.4 min CN=76 Runoff=2.60 cfs 0.280 af

Subcatchment 4S: No Treat Parking Lot Runoff Area=159,446 sf 38.56% Impervious Runoff Depth=2.67"
Tc=5.0 min CN=83 Runoff=11.33 cfs 0.815 af

Subcatchment 6S: Off-Site to Pond Runoff Area=33,300 sf 16.56% Impervious Runoff Depth=1.93"
Tc=5.0 min CN=74 Runoff=1.68 cfs 0.123 af

Subcatchment 7S: Runoff Area=9,734 sf 65.78% Impervious Runoff Depth=3.34"
Tc=5.0 min CN=90 Runoff=0.84 cfs 0.062 af

Subcatchment 8S: Runoff Area=10,901 sf 29.97% Impervious Runoff Depth=2.50"
Tc=5.0 min CN=81 Runoff=0.72 cfs 0.052 af

Reach SP1: Stream Inlet Inflow=3.51 cfs 0.824 af
Outflow=3.51 cfs 0.824 af

Reach SP2: Center Street CB Inflow=12.32 cfs 0.902 af
Outflow=12.32 cfs 0.902 af

Pond 1P: Wet Pond Full Peak Elev=236.21' Storage=21,353 cf Inflow=13.40 cfs 0.983 af
Outflow=2.46 cfs 0.544 af

Pond USF1: Soil Filter Peak Elev=232.64' Storage=707 cf Inflow=0.84 cfs 0.062 af
Outflow=0.78 cfs 0.048 af

Pond USF2: Soil Filter Peak Elev=232.61' Storage=682 cf Inflow=0.72 cfs 0.052 af
Outflow=0.53 cfs 0.038 af

Total Runoff Area = 9.961 ac Runoff Volume = 2.192 af Average Runoff Depth = 2.64"
62.28% Pervious = 6.204 ac 37.72% Impervious = 3.757 ac

Summary for Subcatchment 1S: Gravel Area

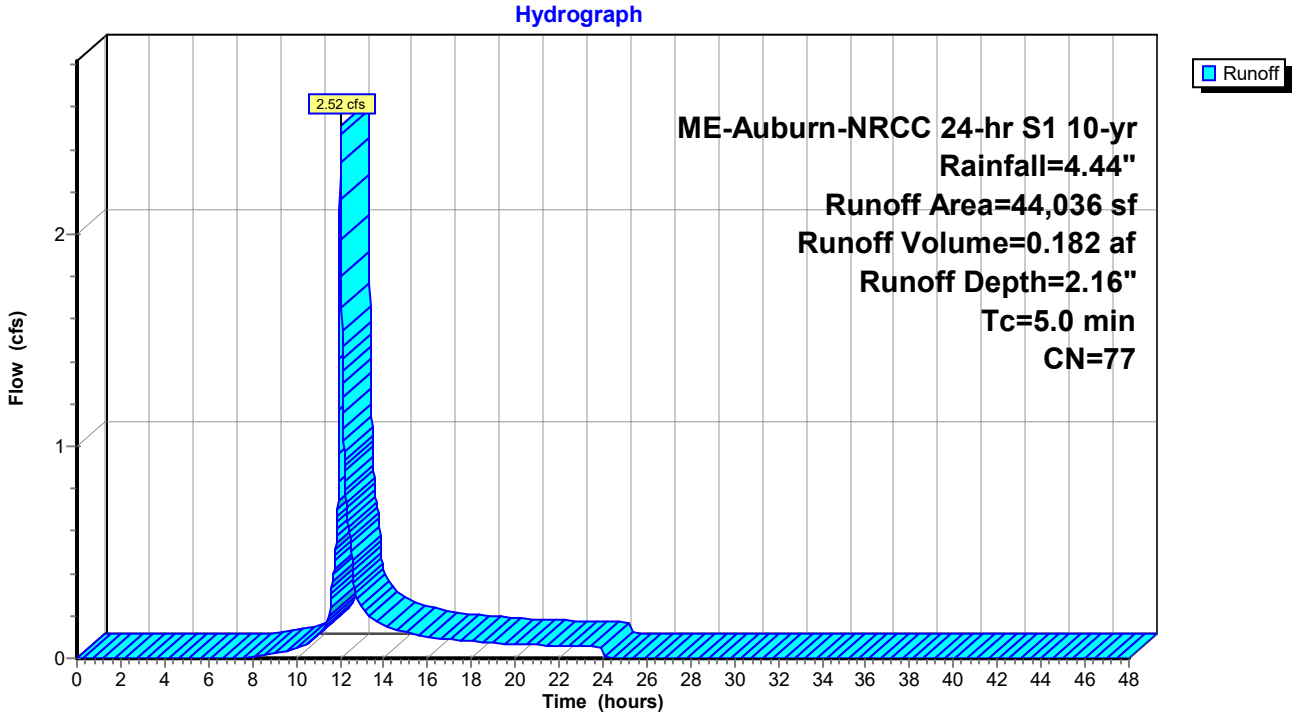
Runoff = 2.52 cfs @ 12.03 hrs, Volume= 0.182 af, Depth= 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
*	4,390	98	Impervious
	38,852	74	>75% Grass cover, Good, HSG C
*	794	96	Gravel
	44,036	77	Weighted Average
	39,646		90.03% Pervious Area
	4,390		9.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Gravel Area



Summary for Subcatchment 2S: Storage Building Area

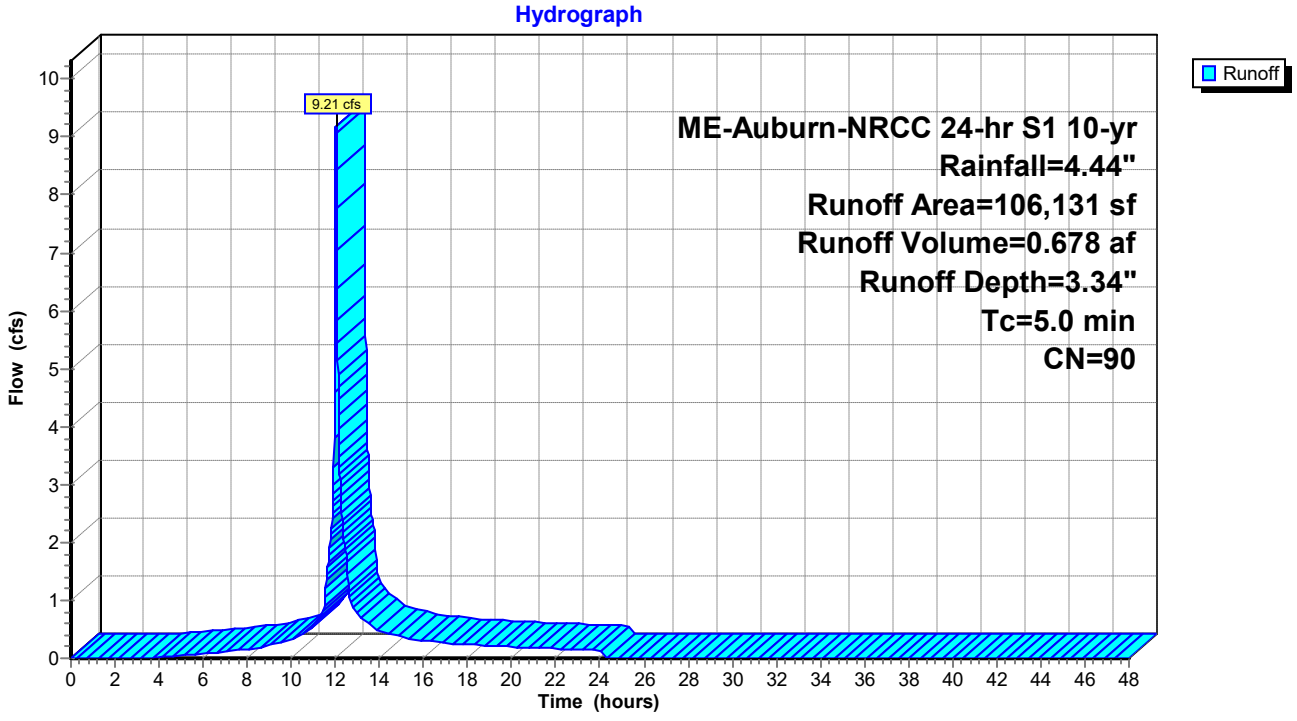
Runoff = 9.21 cfs @ 12.03 hrs, Volume= 0.678 af, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
*	78,774	98	Impervious
	13,470	74	>75% Grass cover, Good, HSG C
	13,887	61	>75% Grass cover, Good, HSG B
	106,131	90	Weighted Average
	27,357		25.78% Pervious Area
	78,774		74.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Storage Building Area



Summary for Subcatchment 3S: No Treat to Stream

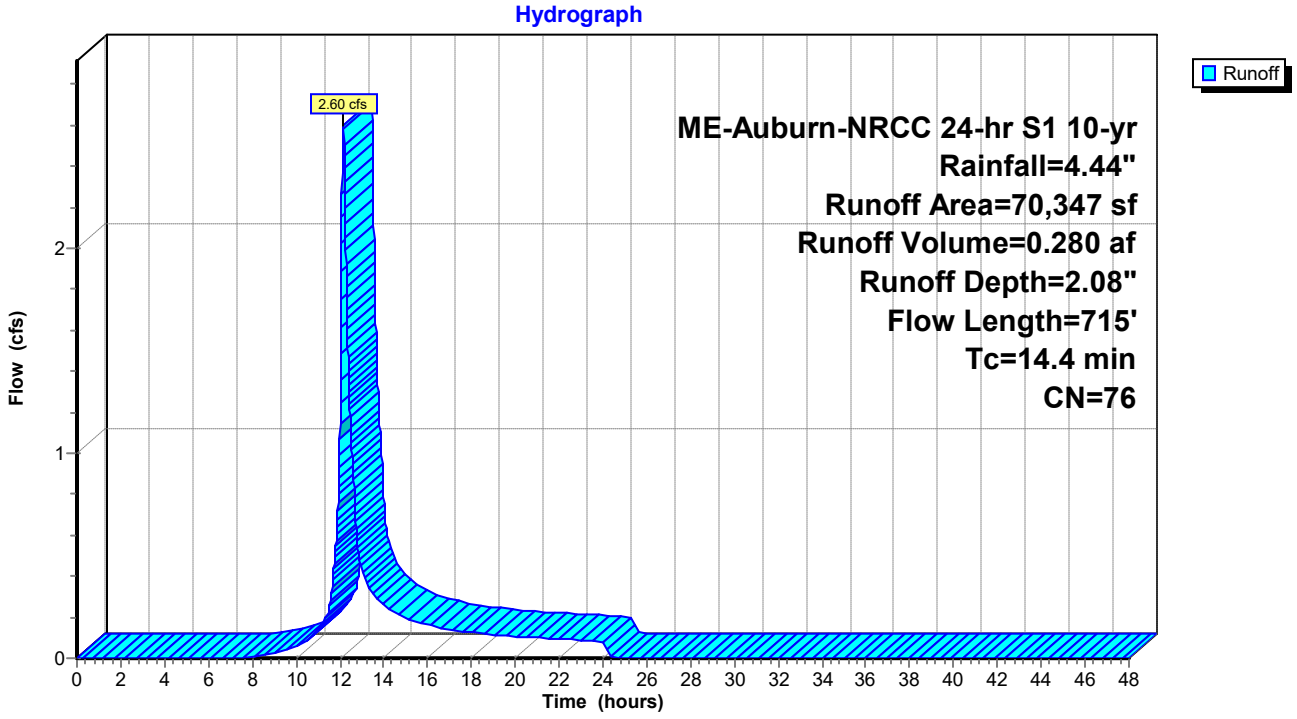
Runoff = 2.60 cfs @ 12.15 hrs, Volume= 0.280 af, Depth= 2.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
*	1,643	96	Gravel
*	3,832	98	Impervious
	64,872	74	>75% Grass cover, Good, HSG C
	70,347	76	Weighted Average
	66,515		94.55% Pervious Area
	3,832		5.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	70	0.0700	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.01"
4.9	100	0.1200	0.34		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.01"
4.9	545	0.0150	1.84		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
14.4	715	Total			

Subcatchment 3S: No Treat to Stream



Summary for Subcatchment 4S: No Treat Parking Lot

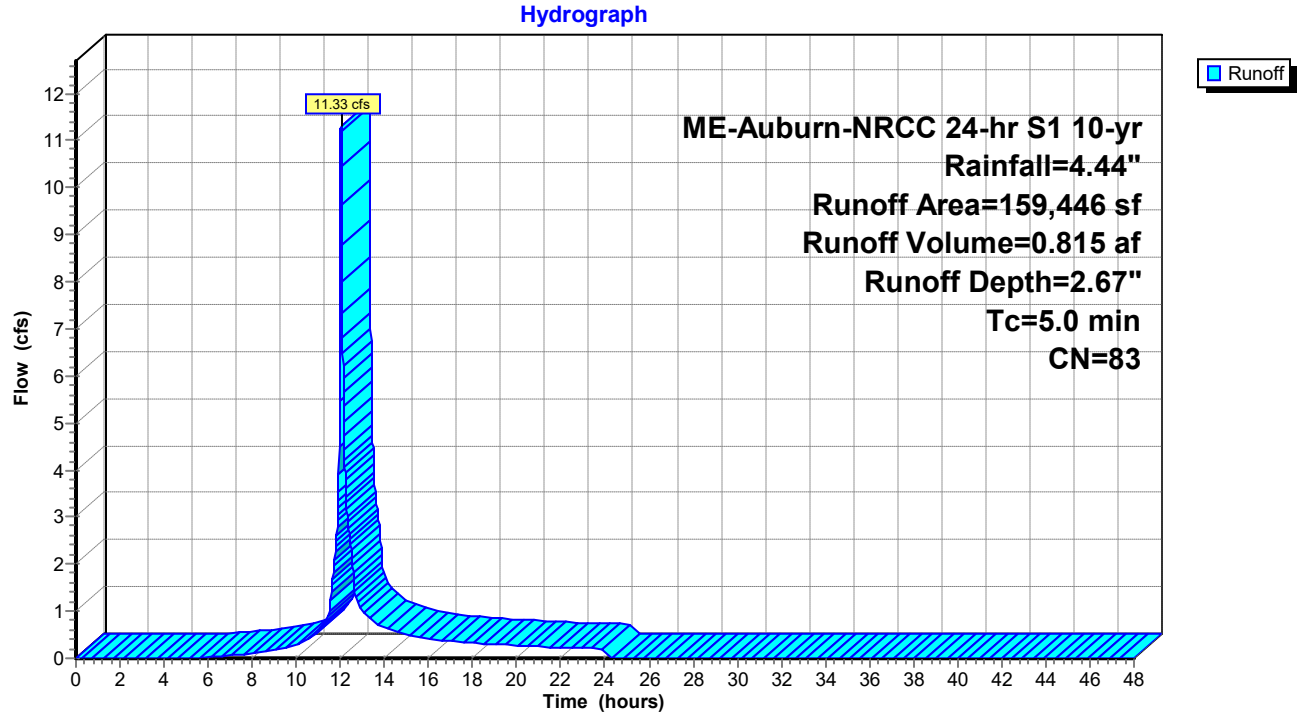
Runoff = 11.33 cfs @ 12.03 hrs, Volume= 0.815 af, Depth= 2.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
*	61,478	98	Impervious
*	761	96	Gravel
	97,207	74	>75% Grass cover, Good, HSG C
	159,446	83	Weighted Average
	97,968		61.44% Pervious Area
	61,478		38.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: No Treat Parking Lot



Summary for Subcatchment 6S: Off-Site to Pond

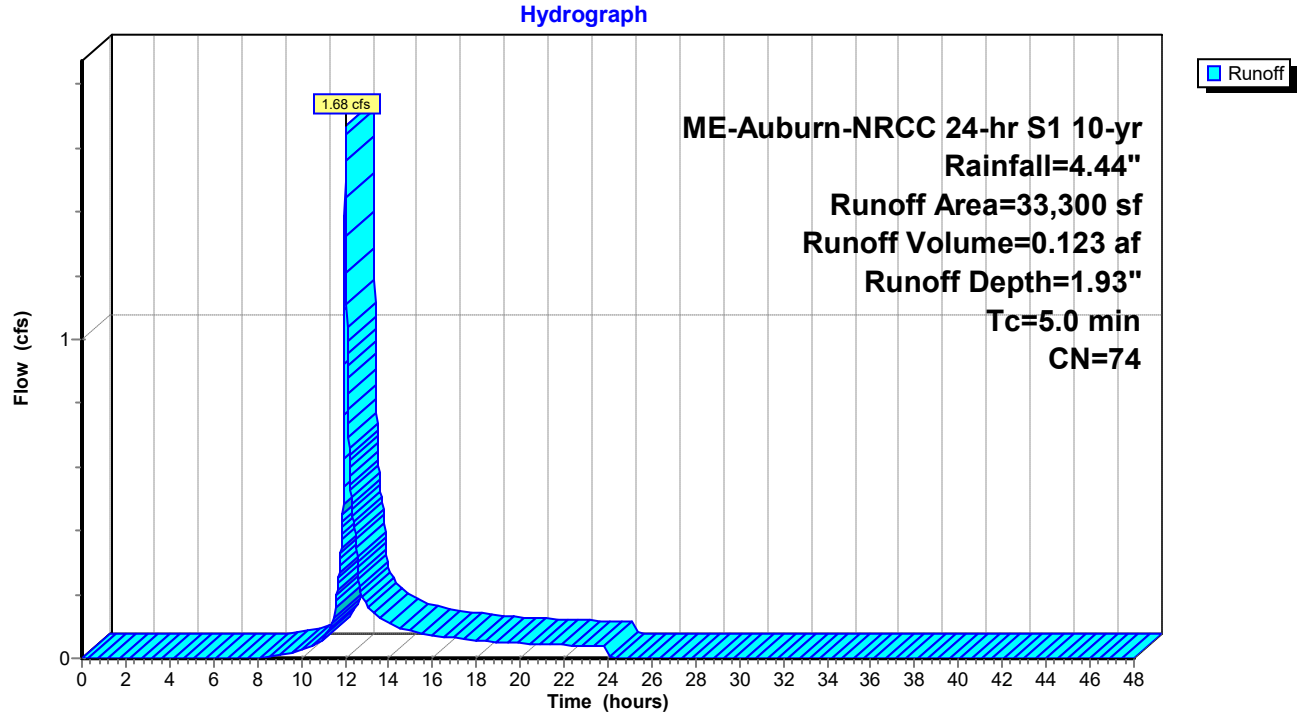
Runoff = 1.68 cfs @ 12.03 hrs, Volume= 0.123 af, Depth= 1.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
*	5,516	98	Impervious
	16,738	74	>75% Grass cover, Good, HSG C
	11,046	61	>75% Grass cover, Good, HSG B
	33,300	74	Weighted Average
	27,784		83.44% Pervious Area
	5,516		16.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 6S: Off-Site to Pond



Summary for Subcatchment 7S:

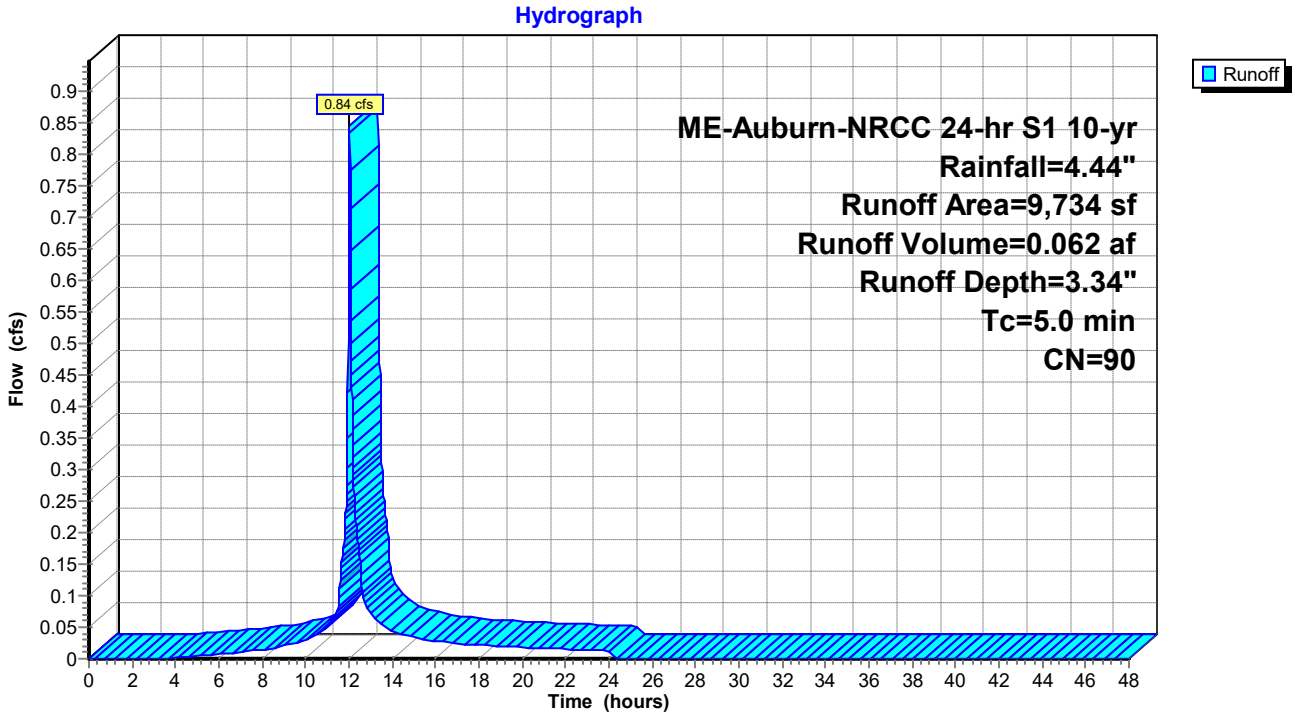
Runoff = 0.84 cfs @ 12.03 hrs, Volume= 0.062 af, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
*	6,403	98	Impervious
	3,331	74	>75% Grass cover, Good, HSG C
	9,734	90	Weighted Average
	3,331		34.22% Pervious Area
	6,403		65.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 7S:



Summary for Subcatchment 8S:

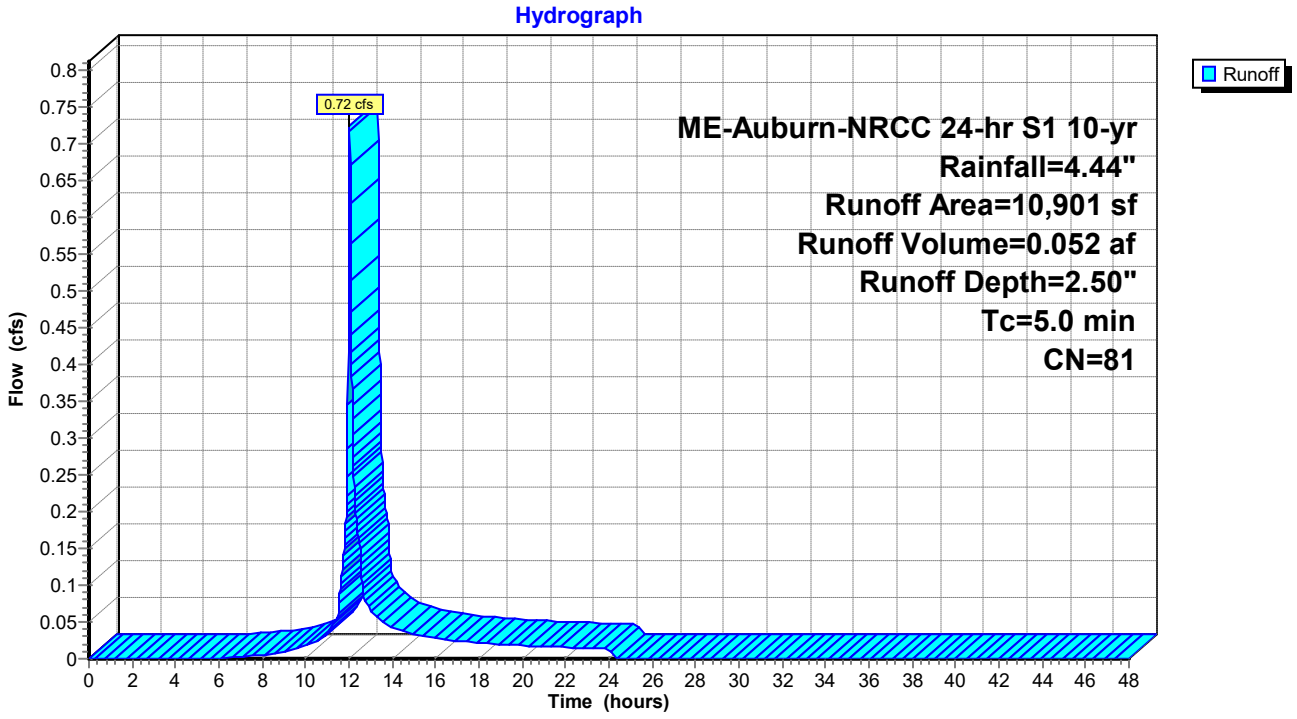
Runoff = 0.72 cfs @ 12.03 hrs, Volume= 0.052 af, Depth= 2.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
*	3,267	98	Impervious
	7,634	74	>75% Grass cover, Good, HSG C
	10,901	81	Weighted Average
	7,634		70.03% Pervious Area
	3,267		29.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 8S:

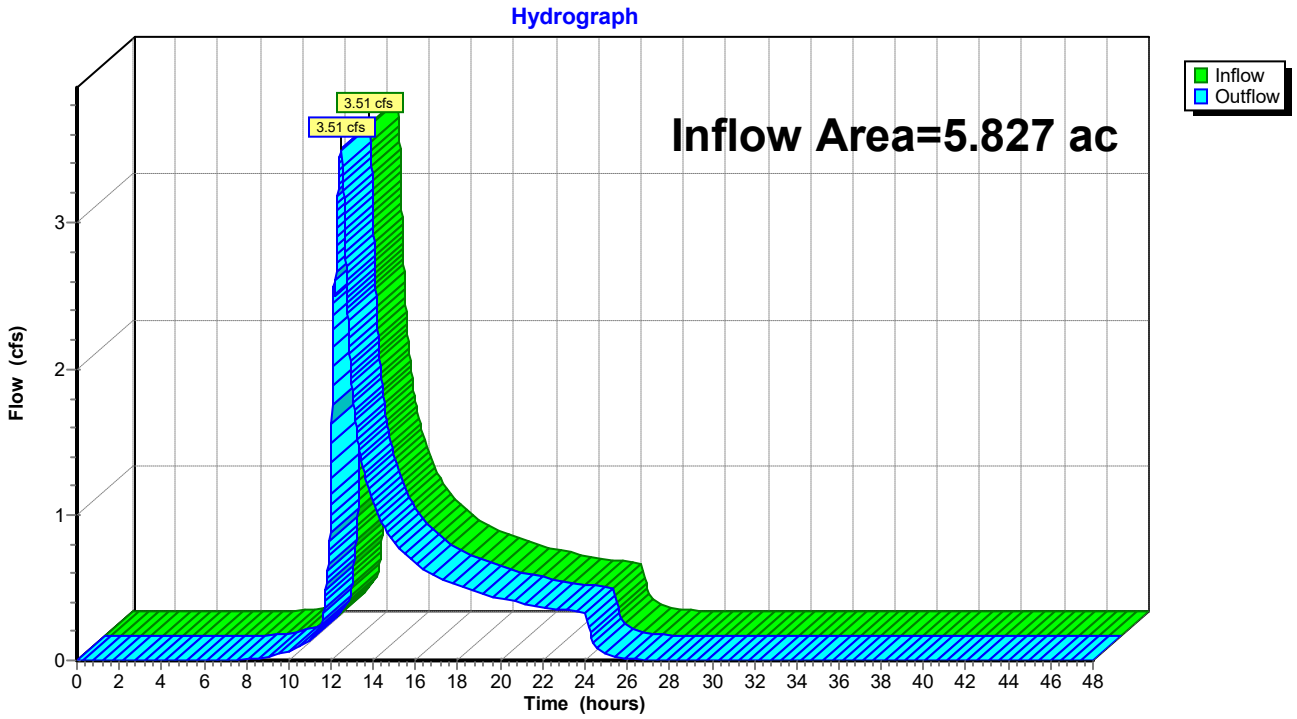


Summary for Reach SP1: Stream Inlet

Inflow Area = 5.827 ac, 36.45% Impervious, Inflow Depth = 1.70" for 10-yr event
Inflow = 3.51 cfs @ 12.49 hrs, Volume= 0.824 af
Outflow = 3.51 cfs @ 12.49 hrs, Volume= 0.824 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP1: Stream Inlet

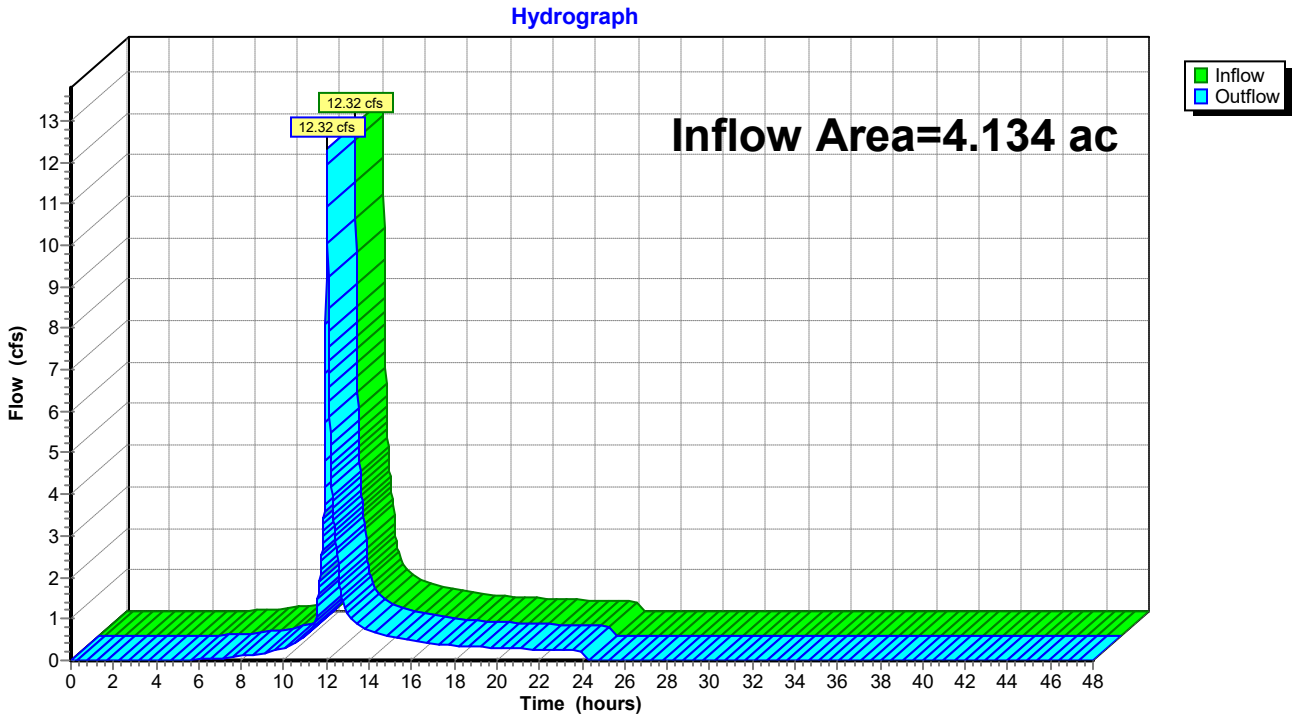


Summary for Reach SP2: Center Street CB

Inflow Area = 4.134 ac, 39.51% Impervious, Inflow Depth = 2.62" for 10-yr event
Inflow = 12.32 cfs @ 12.03 hrs, Volume= 0.902 af
Outflow = 12.32 cfs @ 12.03 hrs, Volume= 0.902 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP2: Center Street CB



Summary for Pond 1P: Wet Pond Full

Inflow Area = 4.212 ac, 48.34% Impervious, Inflow Depth = 2.80" for 10-yr event
Inflow = 13.40 cfs @ 12.03 hrs, Volume= 0.983 af
Outflow = 2.46 cfs @ 12.55 hrs, Volume= 0.544 af, Atten= 82%, Lag= 31.1 min
Primary = 2.46 cfs @ 12.55 hrs, Volume= 0.544 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 236.21' @ 12.55 hrs Surf.Area= 10,764 sf Storage= 21,353 cf

Plug-Flow detention time= 295.6 min calculated for 0.543 af (55% of inflow)
Center-of-Mass det. time= 152.1 min (977.5 - 825.5)

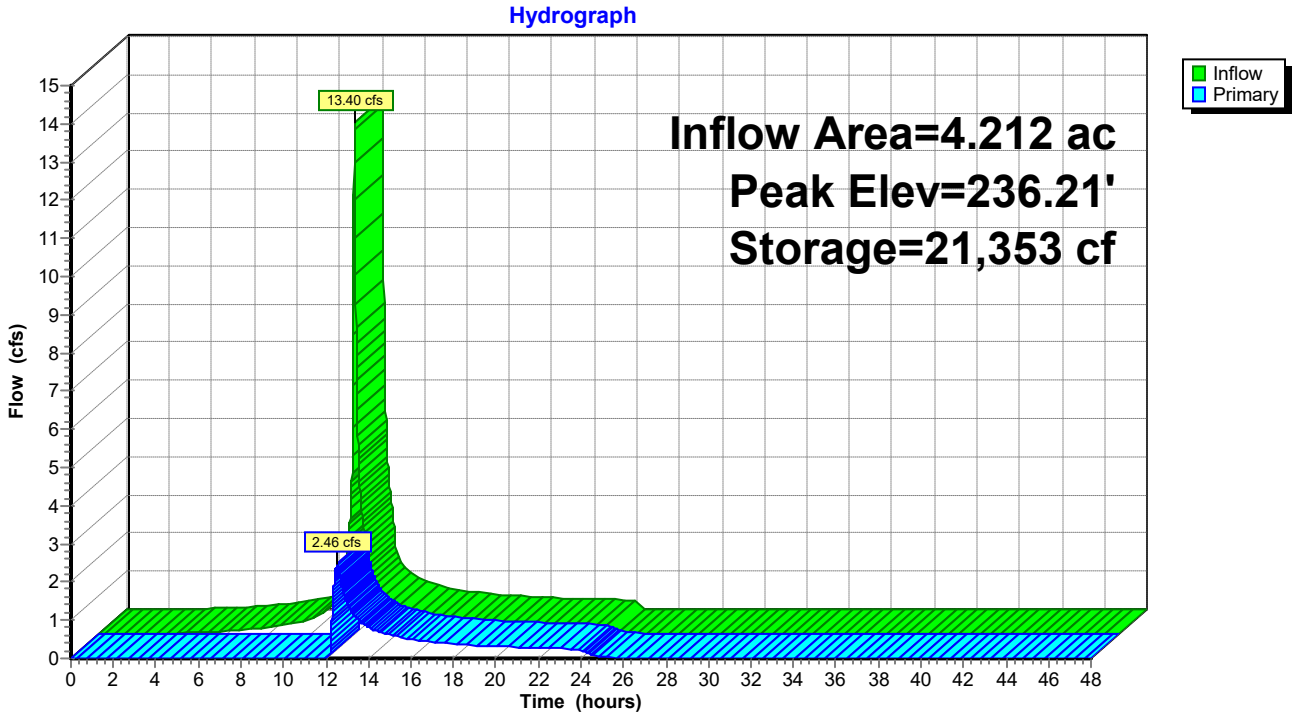
Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	42,677 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
234.00	8,533	0	0
235.00	9,585	9,059	9,059
236.00	10,550	10,068	19,127
237.00	11,575	11,063	30,189
238.00	13,400	12,488	42,677

Device	Routing	Invert	Outlet Devices
#1	Primary	236.00'	**10.0' long x 12.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=2.46 cfs @ 12.55 hrs HW=236.21' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 2.46 cfs @ 1.18 fps)

Pond 1P: Wet Pond Full



Summary for Pond USF1: Soil Filter

Inflow Area = 0.223 ac, 65.78% Impervious, Inflow Depth = 3.34" for 10-yr event
Inflow = 0.84 cfs @ 12.03 hrs, Volume= 0.062 af
Outflow = 0.78 cfs @ 12.05 hrs, Volume= 0.048 af, Atten= 7%, Lag= 1.3 min
Primary = 0.78 cfs @ 12.05 hrs, Volume= 0.048 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 232.64' @ 12.05 hrs Surf.Area= 794 sf Storage= 707 cf

Plug-Flow detention time= 167.3 min calculated for 0.048 af (78% of inflow)
Center-of-Mass det. time= 69.1 min (876.5 - 807.5)

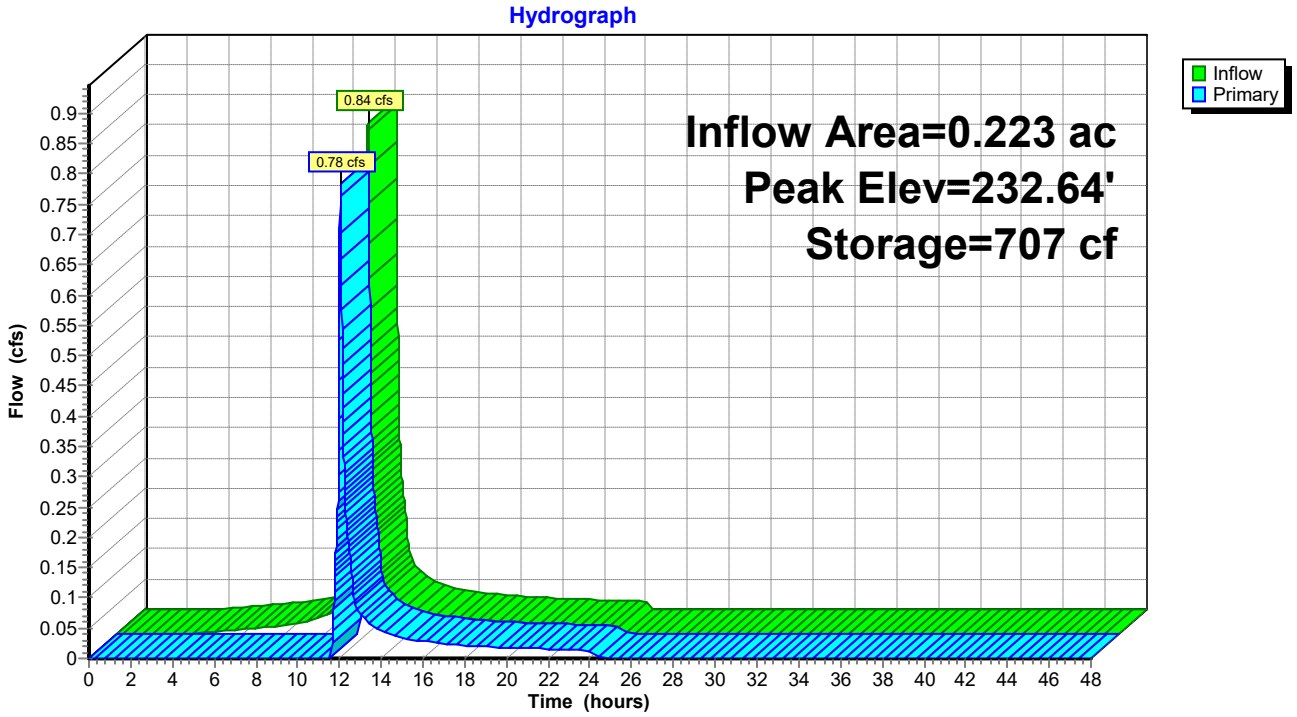
Volume	Invert	Avail.Storage	Storage Description
#1	231.50'	1,518 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
231.50	454	0	0
232.50	745	600	600
233.50	1,092	919	1,518

Device	Routing	Invert	Outlet Devices
#1	Primary	232.50'	**6.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.78 cfs @ 12.05 hrs HW=232.64' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.78 cfs @ 0.93 fps)

Pond USF1: Soil Filter



Summary for Pond USF2: Soil Filter

Inflow Area = 0.250 ac, 29.97% Impervious, Inflow Depth = 2.50" for 10-yr event
Inflow = 0.72 cfs @ 12.03 hrs, Volume= 0.052 af
Outflow = 0.53 cfs @ 12.08 hrs, Volume= 0.038 af, Atten= 27%, Lag= 3.0 min
Primary = 0.53 cfs @ 12.08 hrs, Volume= 0.038 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 232.61' @ 12.08 hrs Surf.Area= 782 sf Storage= 682 cf

Plug-Flow detention time= 180.0 min calculated for 0.038 af (74% of inflow)
Center-of-Mass det. time= 70.0 min (916.5 - 846.5)

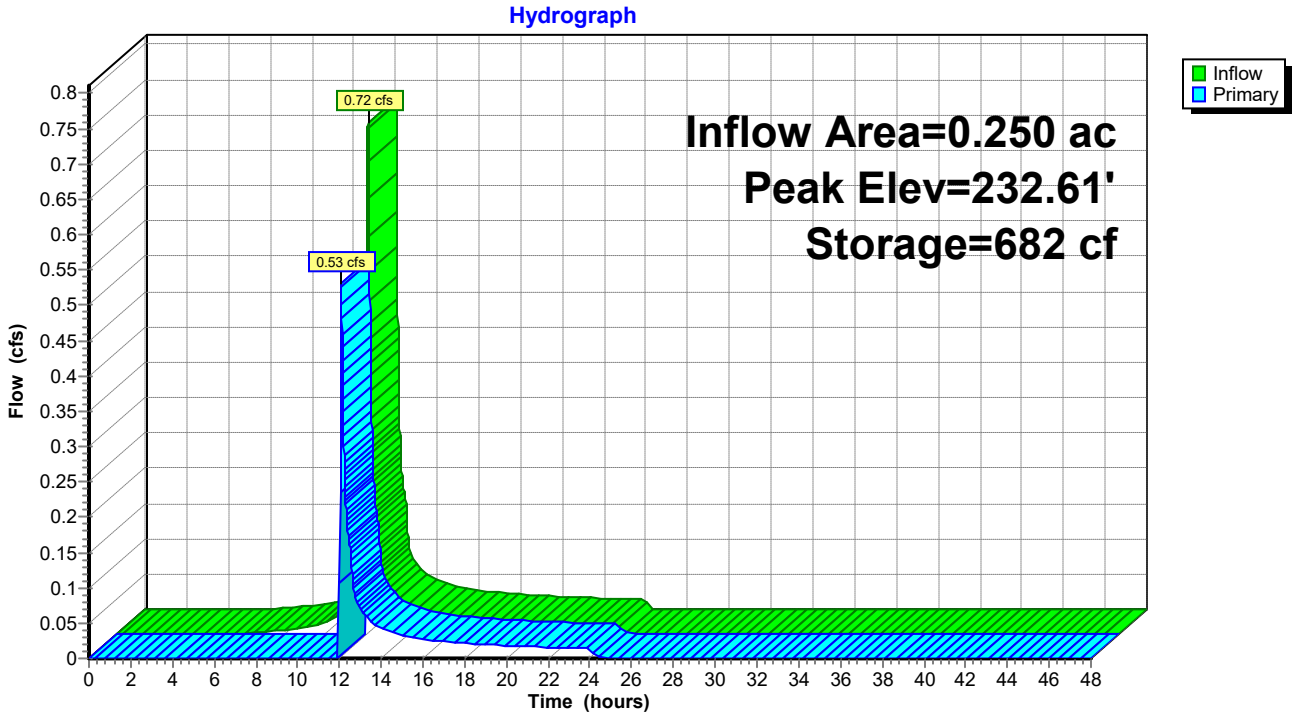
Volume	Invert	Avail.Storage	Storage Description
#1	231.50'	1,518 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
231.50	454	0	0
232.50	745	600	600
233.50	1,092	919	1,518

Device	Routing	Invert	Outlet Devices
#1	Primary	232.50'	**6.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.53 cfs @ 12.08 hrs HW=232.61' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.53 cfs @ 0.82 fps)

Pond USF2: Soil Filter



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Gravel Area Runoff Area=44,036 sf 9.97% Impervious Runoff Depth=3.10"
Tc=5.0 min CN=77 Runoff=3.58 cfs 0.261 af

Subcatchment 2S: Storage Building Area Runoff Area=106,131 sf 74.22% Impervious Runoff Depth=4.42"
Tc=5.0 min CN=90 Runoff=11.87 cfs 0.897 af

Subcatchment 3S: No Treat to Stream Runoff Area=70,347 sf 5.45% Impervious Runoff Depth=3.00"
Flow Length=715' Tc=14.4 min CN=76 Runoff=3.78 cfs 0.404 af

Subcatchment 4S: No Treat Parking Lot Runoff Area=159,446 sf 38.56% Impervious Runoff Depth=3.68"
Tc=5.0 min CN=83 Runoff=15.35 cfs 1.124 af

Subcatchment 6S: Off-Site to Pond Runoff Area=33,300 sf 16.56% Impervious Runoff Depth=2.82"
Tc=5.0 min CN=74 Runoff=2.46 cfs 0.180 af

Subcatchment 7S: Runoff Area=9,734 sf 65.78% Impervious Runoff Depth=4.42"
Tc=5.0 min CN=90 Runoff=1.09 cfs 0.082 af

Subcatchment 8S: Runoff Area=10,901 sf 29.97% Impervious Runoff Depth=3.49"
Tc=5.0 min CN=81 Runoff=1.00 cfs 0.073 af

Reach SP1: Stream Inlet Inflow=11.20 cfs 1.303 af
Outflow=11.20 cfs 1.303 af

Reach SP2: Center Street CB Inflow=17.21 cfs 1.251 af
Outflow=17.21 cfs 1.251 af

Pond 1P: Wet Pond Full Peak Elev=236.43' Storage=23,770 cf Inflow=17.91 cfs 1.338 af
Outflow=7.45 cfs 0.898 af

Pond USF1: Soil Filter Peak Elev=232.67' Storage=729 cf Inflow=1.09 cfs 0.082 af
Outflow=1.02 cfs 0.069 af

Pond USF2: Soil Filter Peak Elev=232.66' Storage=721 cf Inflow=1.00 cfs 0.073 af
Outflow=0.93 cfs 0.059 af

Total Runoff Area = 9.961 ac Runoff Volume = 3.021 af Average Runoff Depth = 3.64"
62.28% Pervious = 6.204 ac 37.72% Impervious = 3.757 ac

Summary for Subcatchment 1S: Gravel Area

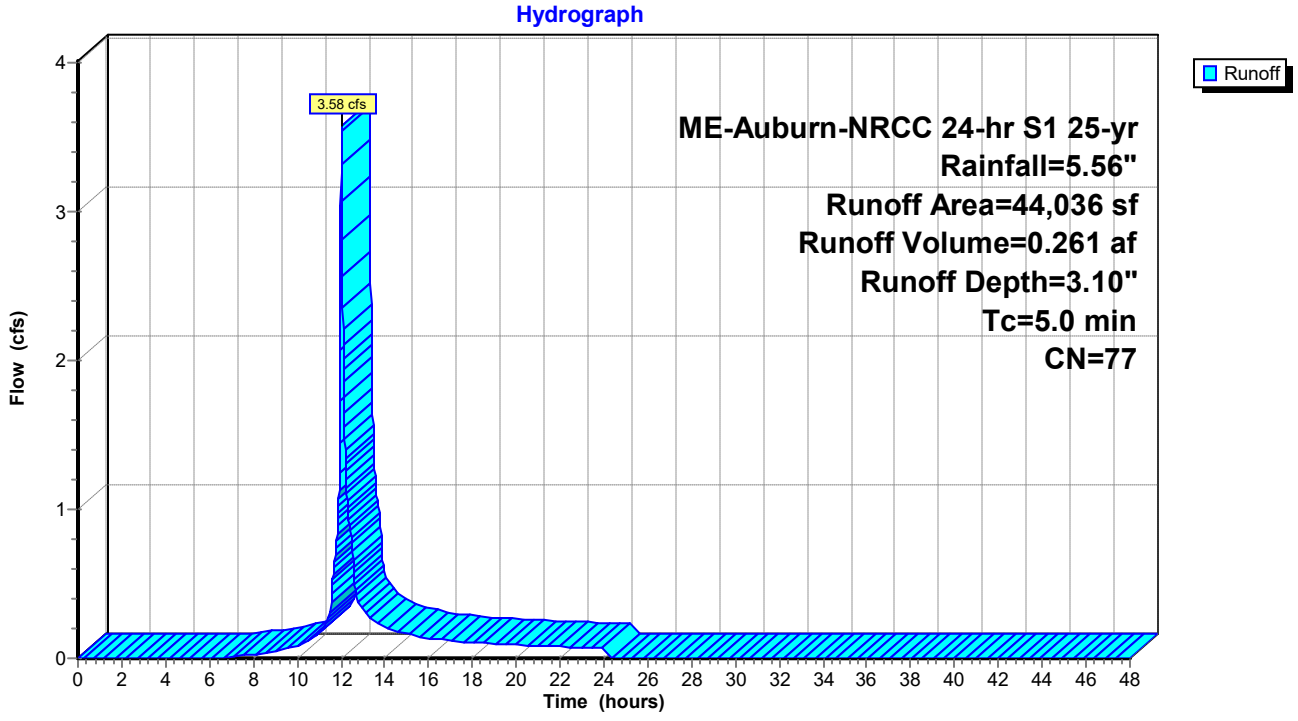
Runoff = 3.58 cfs @ 12.03 hrs, Volume= 0.261 af, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
*	4,390	98	Impervious
	38,852	74	>75% Grass cover, Good, HSG C
*	794	96	Gravel
	44,036	77	Weighted Average
	39,646		90.03% Pervious Area
	4,390		9.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Gravel Area



Summary for Subcatchment 2S: Storage Building Area

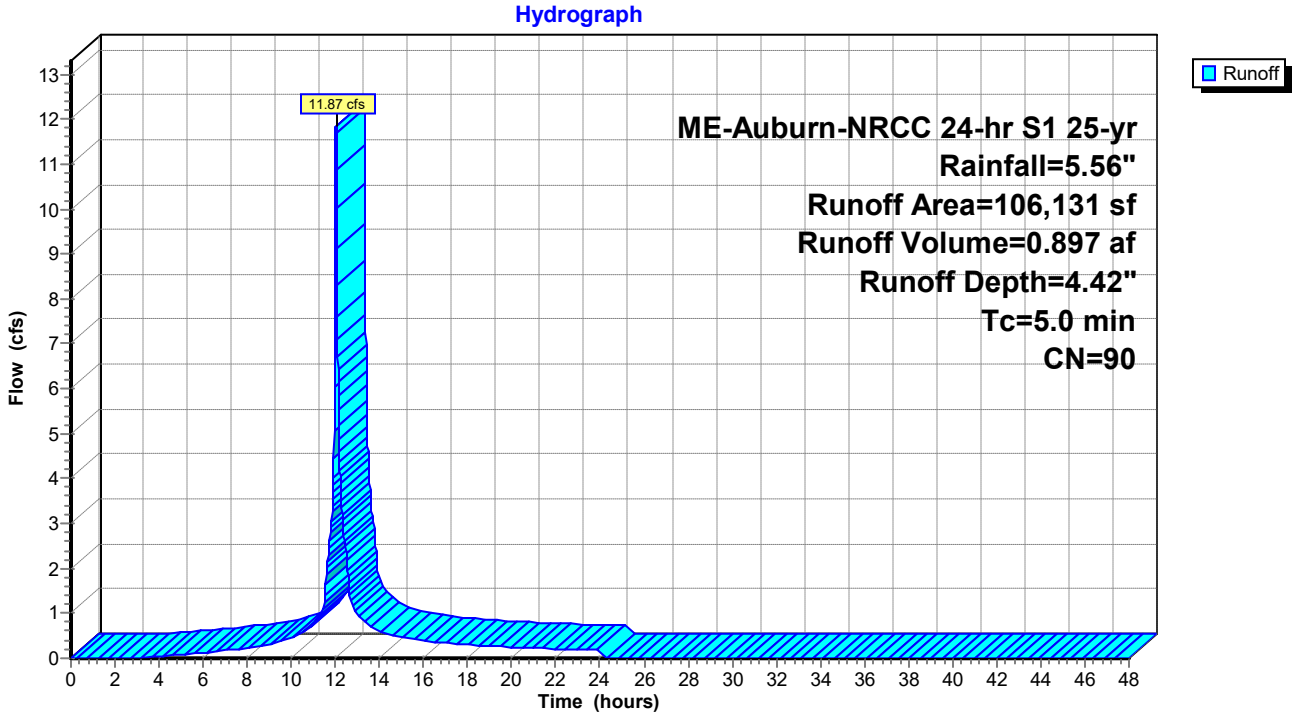
Runoff = 11.87 cfs @ 12.03 hrs, Volume= 0.897 af, Depth= 4.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
*	78,774	98	Impervious
	13,470	74	>75% Grass cover, Good, HSG C
	13,887	61	>75% Grass cover, Good, HSG B
	106,131	90	Weighted Average
	27,357		25.78% Pervious Area
	78,774		74.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Storage Building Area



Summary for Subcatchment 3S: No Treat to Stream

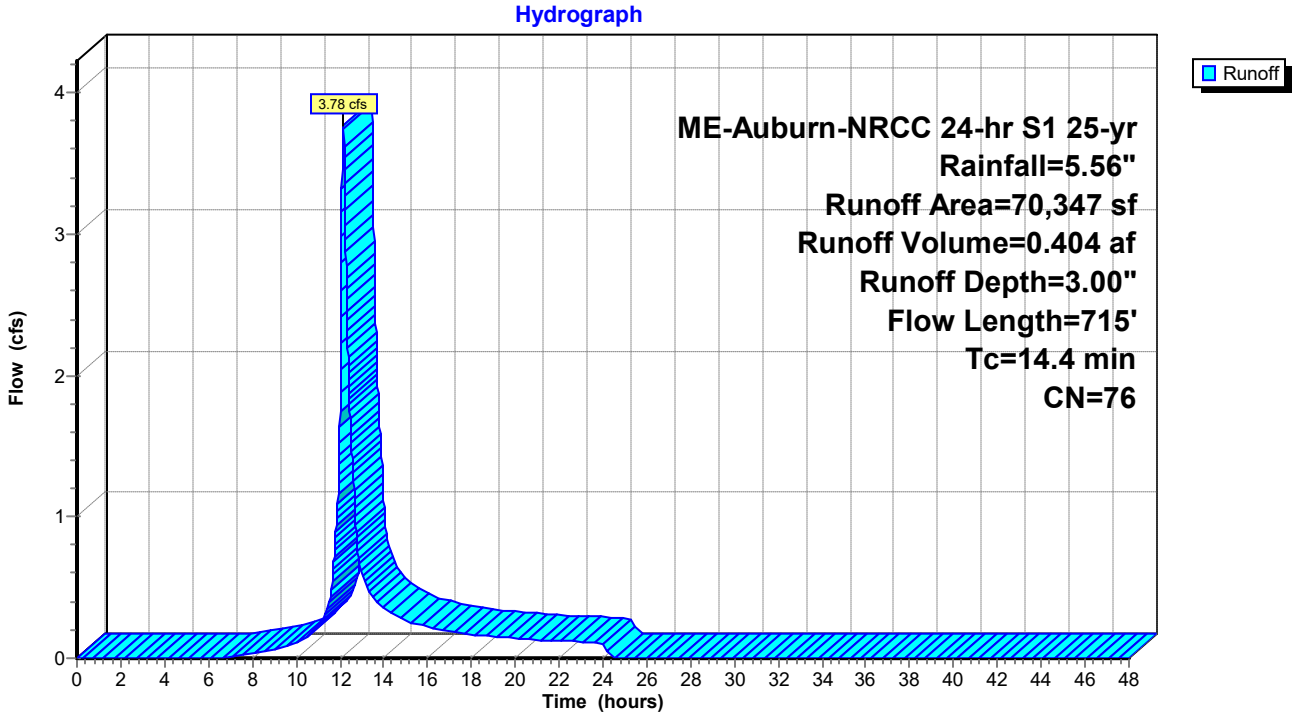
Runoff = 3.78 cfs @ 12.15 hrs, Volume= 0.404 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
*	1,643	96	Gravel
*	3,832	98	Impervious
	64,872	74	>75% Grass cover, Good, HSG C
	70,347	76	Weighted Average
	66,515		94.55% Pervious Area
	3,832		5.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	70	0.0700	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.01"
4.9	100	0.1200	0.34		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.01"
4.9	545	0.0150	1.84		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
14.4	715	Total			

Subcatchment 3S: No Treat to Stream



Summary for Subcatchment 4S: No Treat Parking Lot

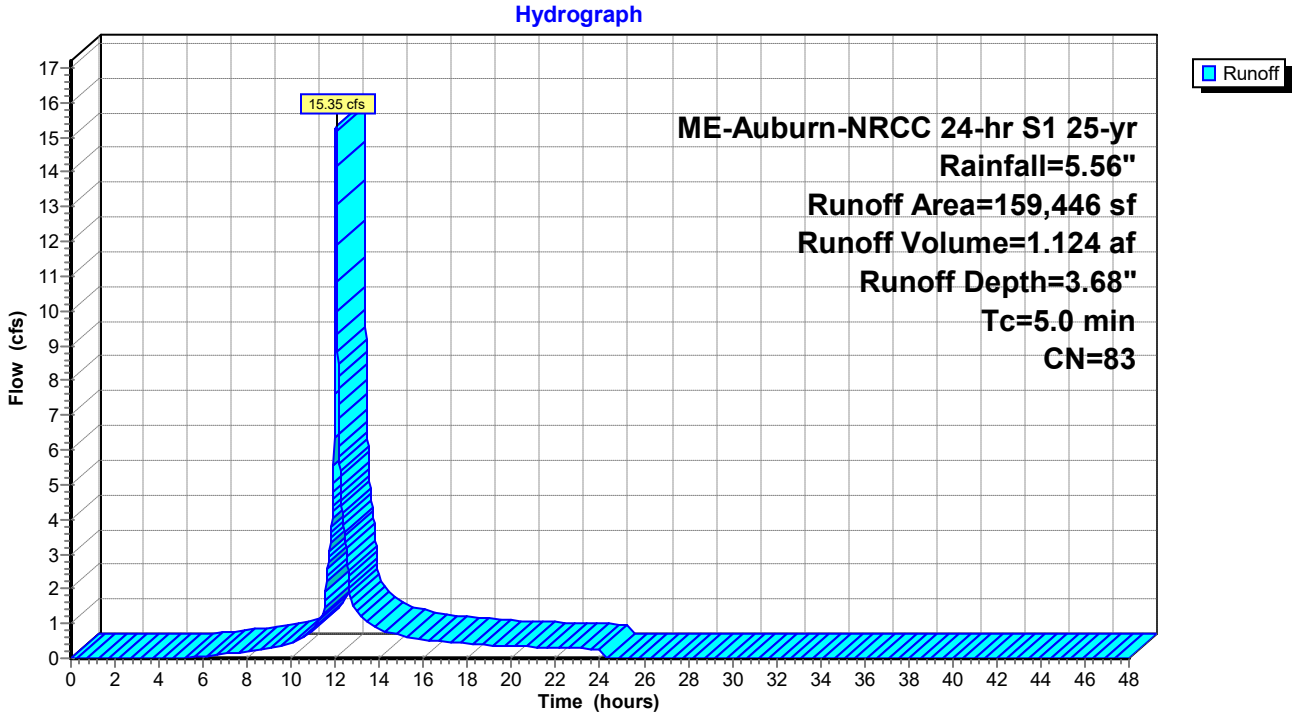
Runoff = 15.35 cfs @ 12.03 hrs, Volume= 1.124 af, Depth= 3.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
*	61,478	98	Impervious
*	761	96	Gravel
	97,207	74	>75% Grass cover, Good, HSG C
	159,446	83	Weighted Average
	97,968		61.44% Pervious Area
	61,478		38.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: No Treat Parking Lot



Summary for Subcatchment 6S: Off-Site to Pond

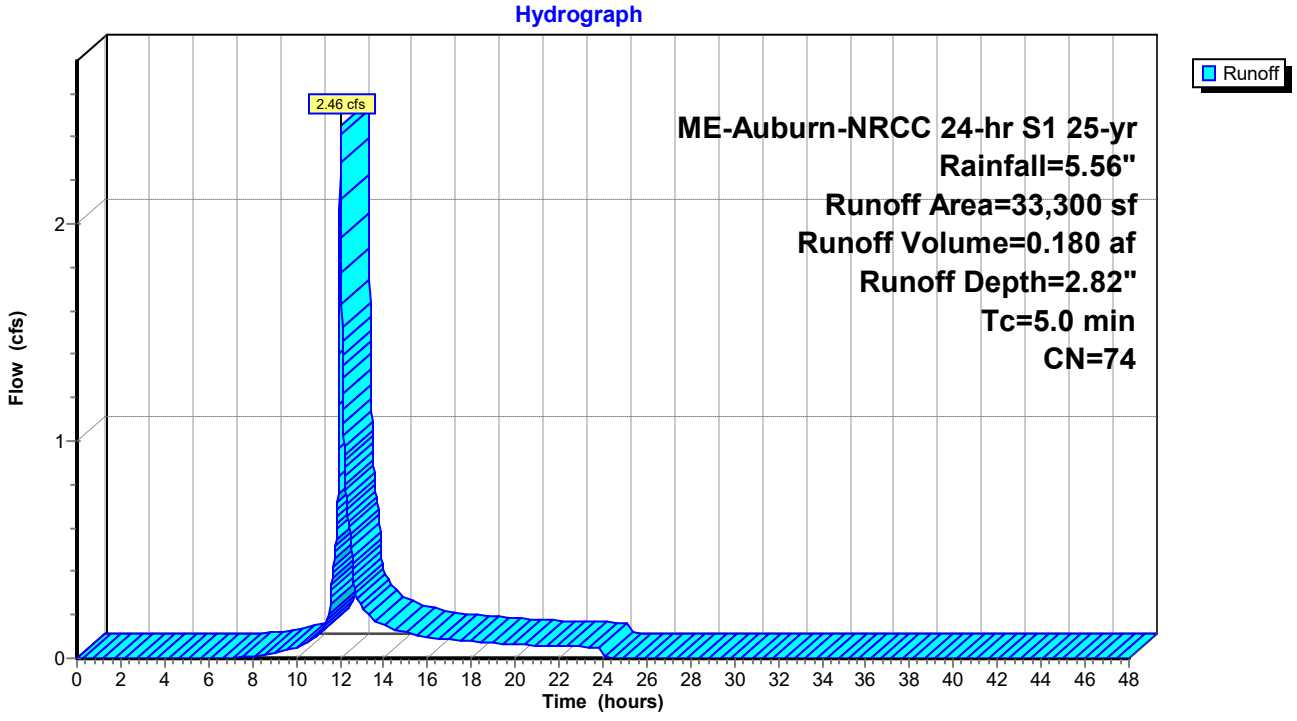
Runoff = 2.46 cfs @ 12.03 hrs, Volume= 0.180 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
*	5,516	98	Impervious
	16,738	74	>75% Grass cover, Good, HSG C
	11,046	61	>75% Grass cover, Good, HSG B
	33,300	74	Weighted Average
	27,784		83.44% Pervious Area
	5,516		16.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 6S: Off-Site to Pond



Summary for Subcatchment 7S:

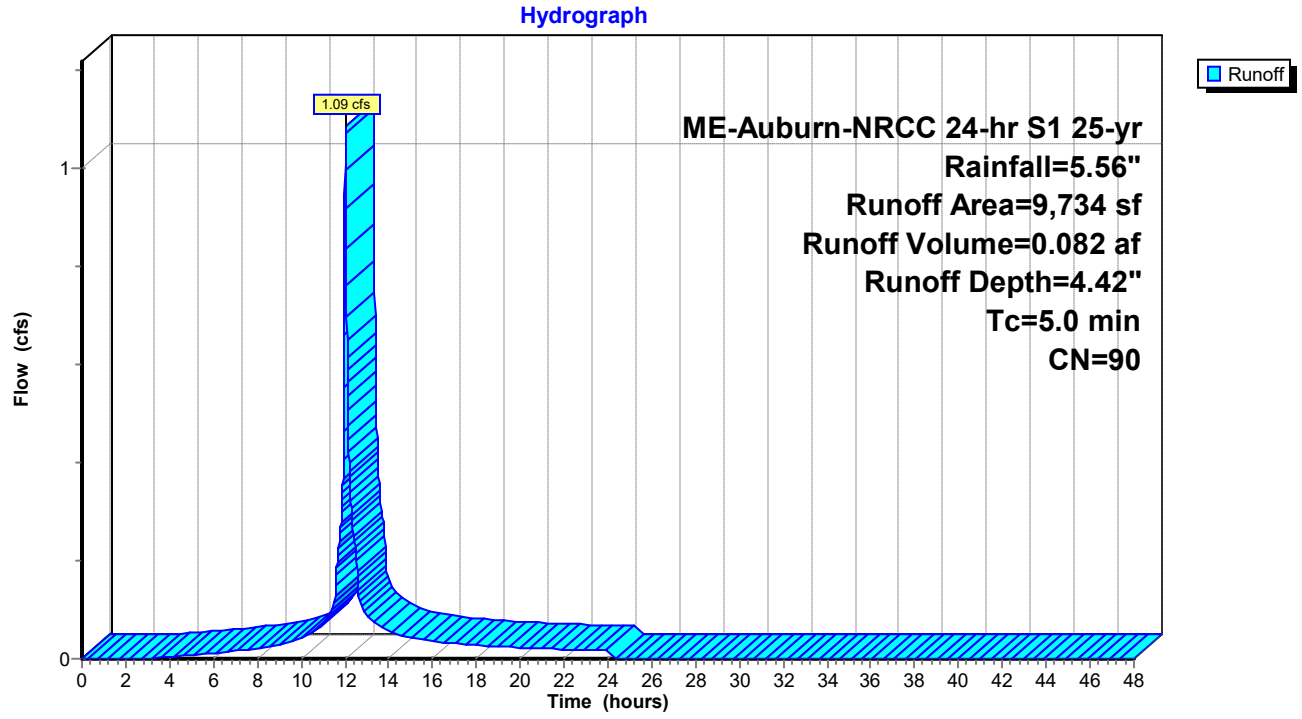
Runoff = 1.09 cfs @ 12.03 hrs, Volume= 0.082 af, Depth= 4.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
*	6,403	98	Impervious
	3,331	74	>75% Grass cover, Good, HSG C
	9,734	90	Weighted Average
	3,331		34.22% Pervious Area
	6,403		65.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 7S:



Summary for Subcatchment 8S:

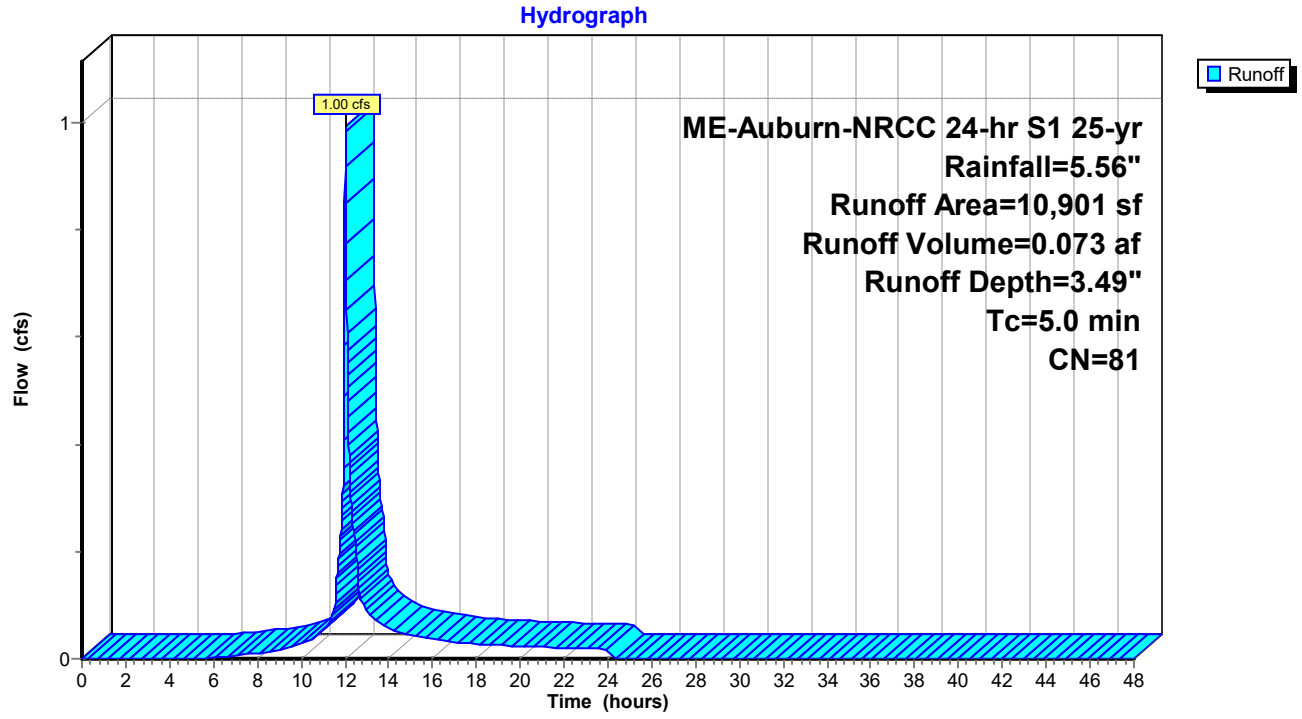
Runoff = 1.00 cfs @ 12.03 hrs, Volume= 0.073 af, Depth= 3.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
*	3,267	98	Impervious
	7,634	74	>75% Grass cover, Good, HSG C
	10,901	81	Weighted Average
	7,634		70.03% Pervious Area
	3,267		29.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 8S:

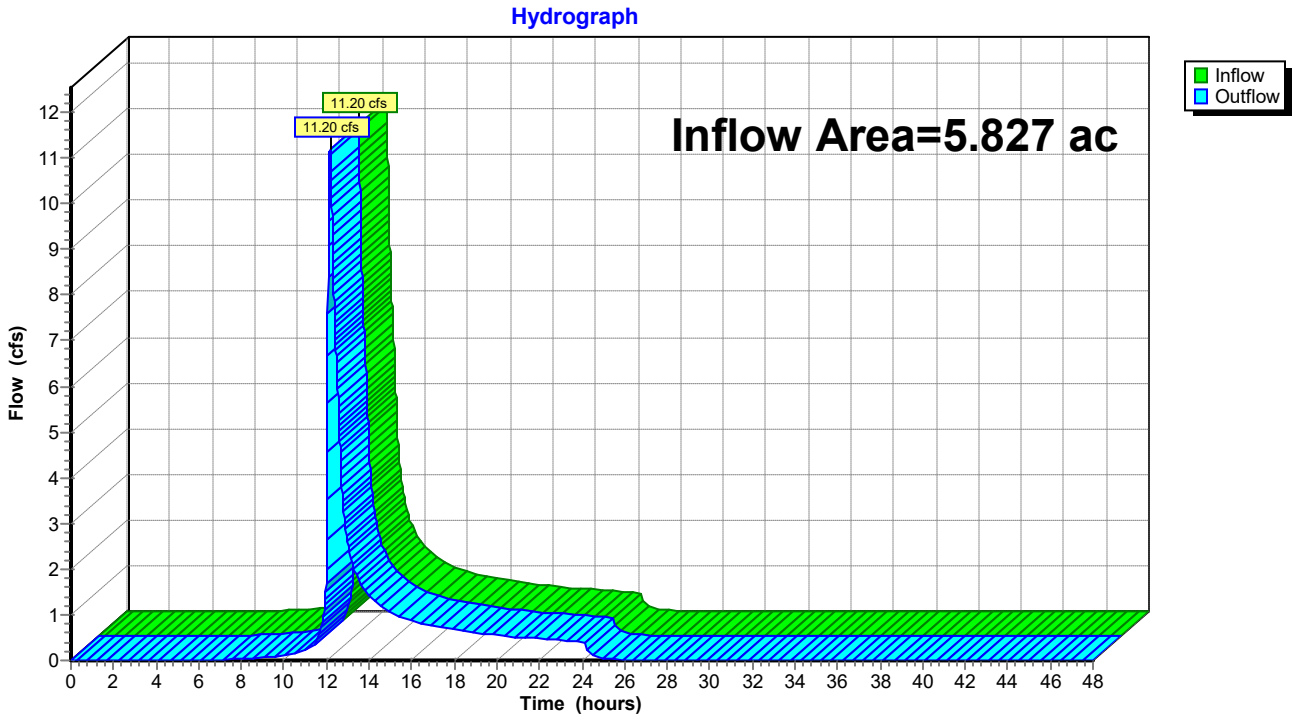


Summary for Reach SP1: Stream Inlet

Inflow Area = 5.827 ac, 36.45% Impervious, Inflow Depth = 2.68" for 25-yr event
Inflow = 11.20 cfs @ 12.17 hrs, Volume= 1.303 af
Outflow = 11.20 cfs @ 12.17 hrs, Volume= 1.303 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP1: Stream Inlet

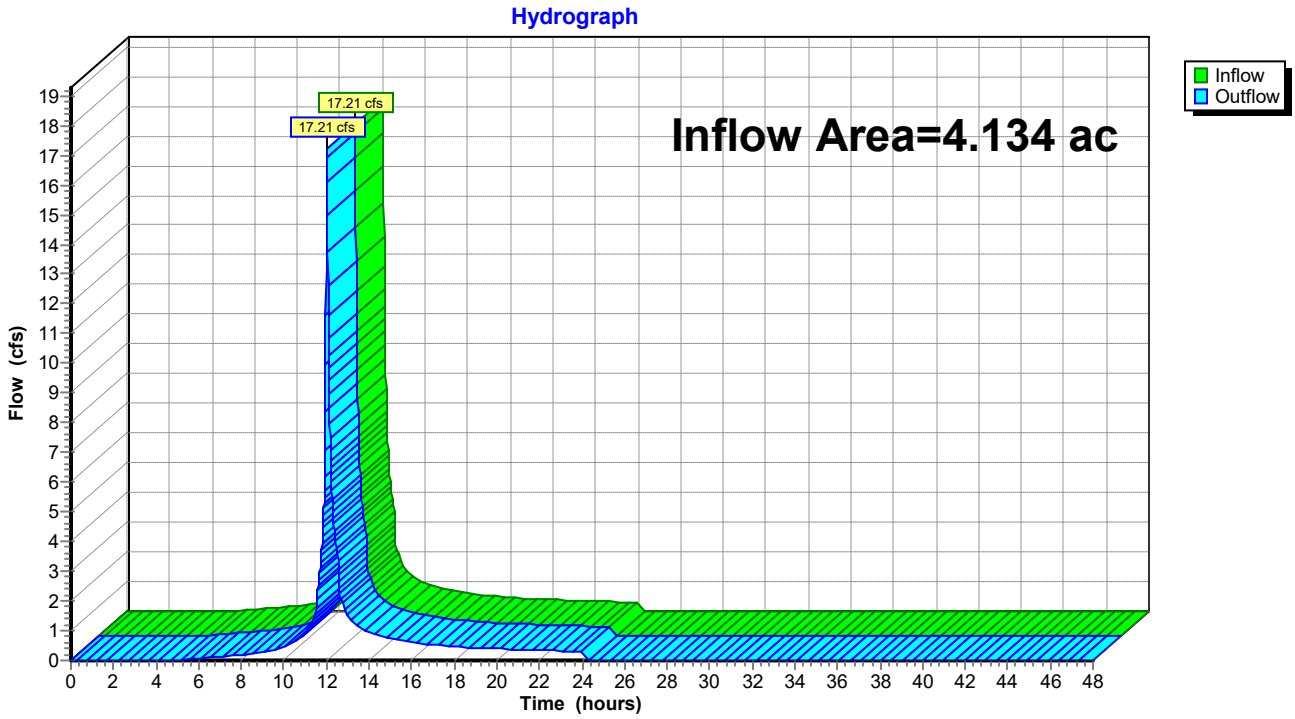


Summary for Reach SP2: Center Street CB

Inflow Area = 4.134 ac, 39.51% Impervious, Inflow Depth = 3.63" for 25-yr event
Inflow = 17.21 cfs @ 12.03 hrs, Volume= 1.251 af
Outflow = 17.21 cfs @ 12.03 hrs, Volume= 1.251 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP2: Center Street CB



Summary for Pond 1P: Wet Pond Full

Inflow Area = 4.212 ac, 48.34% Impervious, Inflow Depth = 3.81" for 25-yr event
Inflow = 17.91 cfs @ 12.03 hrs, Volume= 1.338 af
Outflow = 7.45 cfs @ 12.17 hrs, Volume= 0.898 af, Atten= 58%, Lag= 8.7 min
Primary = 7.45 cfs @ 12.17 hrs, Volume= 0.898 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 236.43' @ 12.17 hrs Surf.Area= 10,992 sf Storage= 23,770 cf

Plug-Flow detention time= 231.4 min calculated for 0.898 af (67% of inflow)
Center-of-Mass det. time= 108.2 min (922.9 - 814.7)

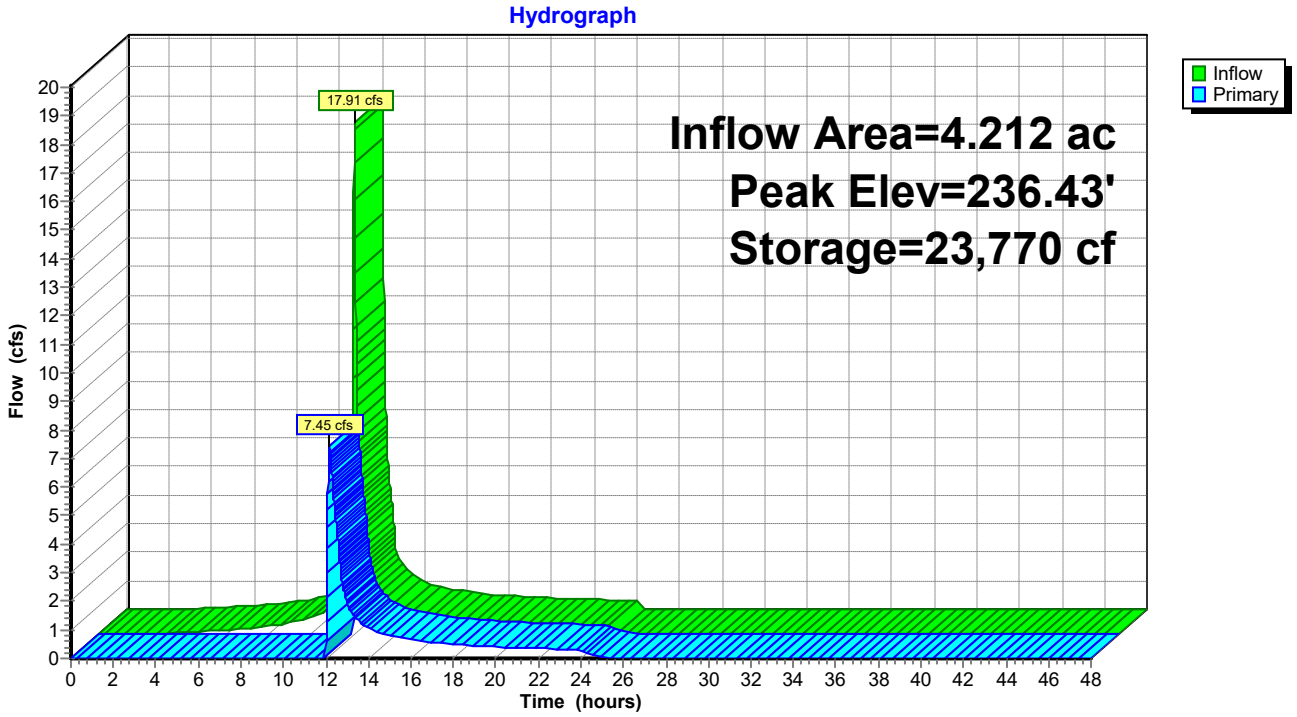
Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	42,677 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
234.00	8,533	0	0
235.00	9,585	9,059	9,059
236.00	10,550	10,068	19,127
237.00	11,575	11,063	30,189
238.00	13,400	12,488	42,677

Device	Routing	Invert	Outlet Devices
#1	Primary	236.00'	**10.0' long x 12.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=7.45 cfs @ 12.17 hrs HW=236.43' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 7.45 cfs @ 1.73 fps)

Pond 1P: Wet Pond Full



Summary for Pond USF1: Soil Filter

Inflow Area = 0.223 ac, 65.78% Impervious, Inflow Depth = 4.42" for 25-yr event
Inflow = 1.09 cfs @ 12.03 hrs, Volume= 0.082 af
Outflow = 1.02 cfs @ 12.05 hrs, Volume= 0.069 af, Atten= 6%, Lag= 1.2 min
Primary = 1.02 cfs @ 12.05 hrs, Volume= 0.069 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 232.67' @ 12.05 hrs Surf.Area= 803 sf Storage= 729 cf

Plug-Flow detention time= 140.8 min calculated for 0.068 af (83% of inflow)
Center-of-Mass det. time= 59.7 min (856.7 - 797.1)

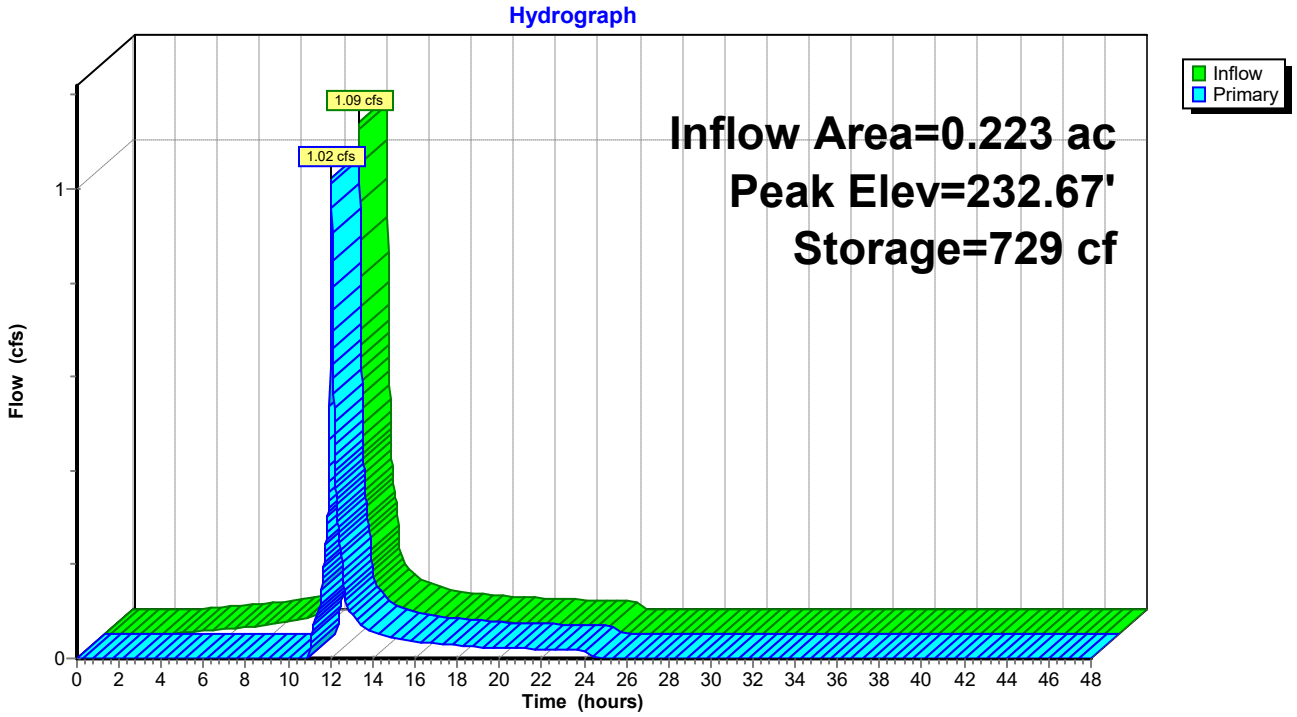
Volume	Invert	Avail.Storage	Storage Description
#1	231.50'	1,518 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
231.50	454	0	0
232.50	745	600	600
233.50	1,092	919	1,518

Device	Routing	Invert	Outlet Devices
#1	Primary	232.50'	**6.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.02 cfs @ 12.05 hrs HW=232.67' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 1.02 cfs @ 1.02 fps)

Pond USF1: Soil Filter



Summary for Pond USF2: Soil Filter

Inflow Area = 0.250 ac, 29.97% Impervious, Inflow Depth = 3.49" for 25-yr event
Inflow = 1.00 cfs @ 12.03 hrs, Volume= 0.073 af
Outflow = 0.93 cfs @ 12.05 hrs, Volume= 0.059 af, Atten= 7%, Lag= 1.3 min
Primary = 0.93 cfs @ 12.05 hrs, Volume= 0.059 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 232.66' @ 12.05 hrs Surf.Area= 799 sf Storage= 721 cf

Plug-Flow detention time= 141.0 min calculated for 0.059 af (81% of inflow)
Center-of-Mass det. time= 53.4 min (886.4 - 833.1)

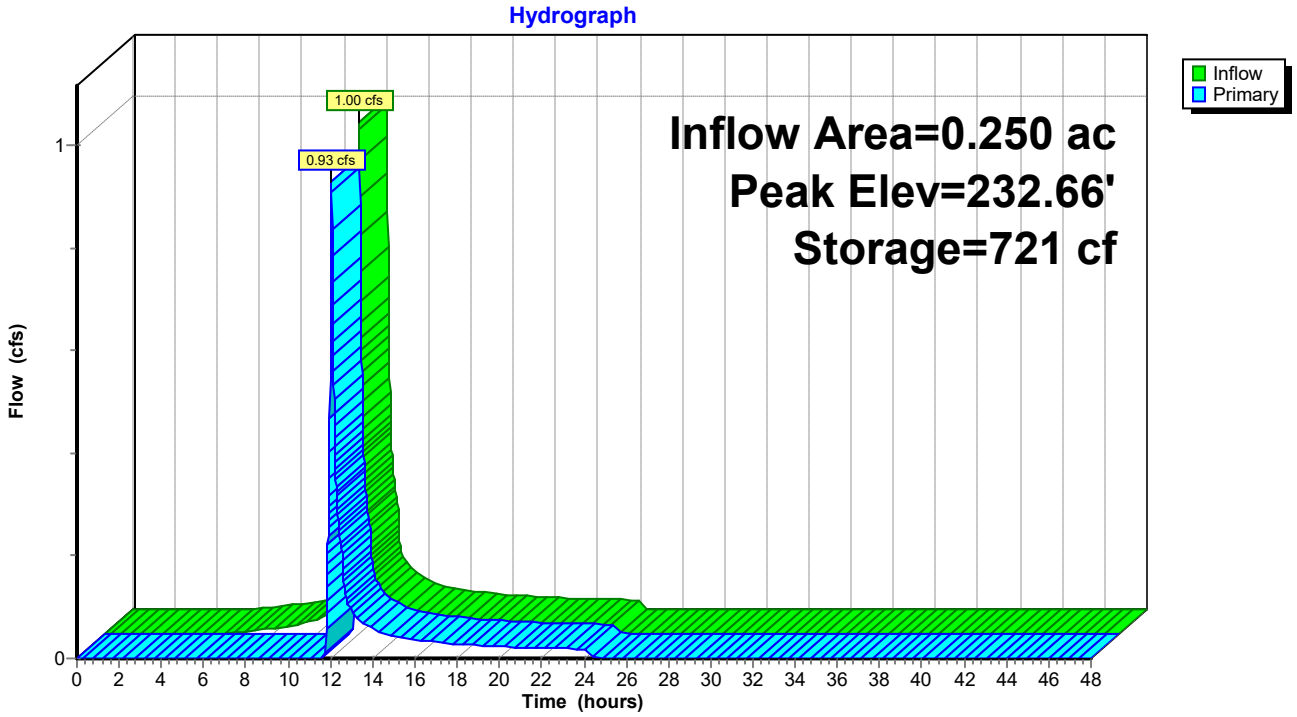
Volume	Invert	Avail.Storage	Storage Description
#1	231.50'	1,518 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

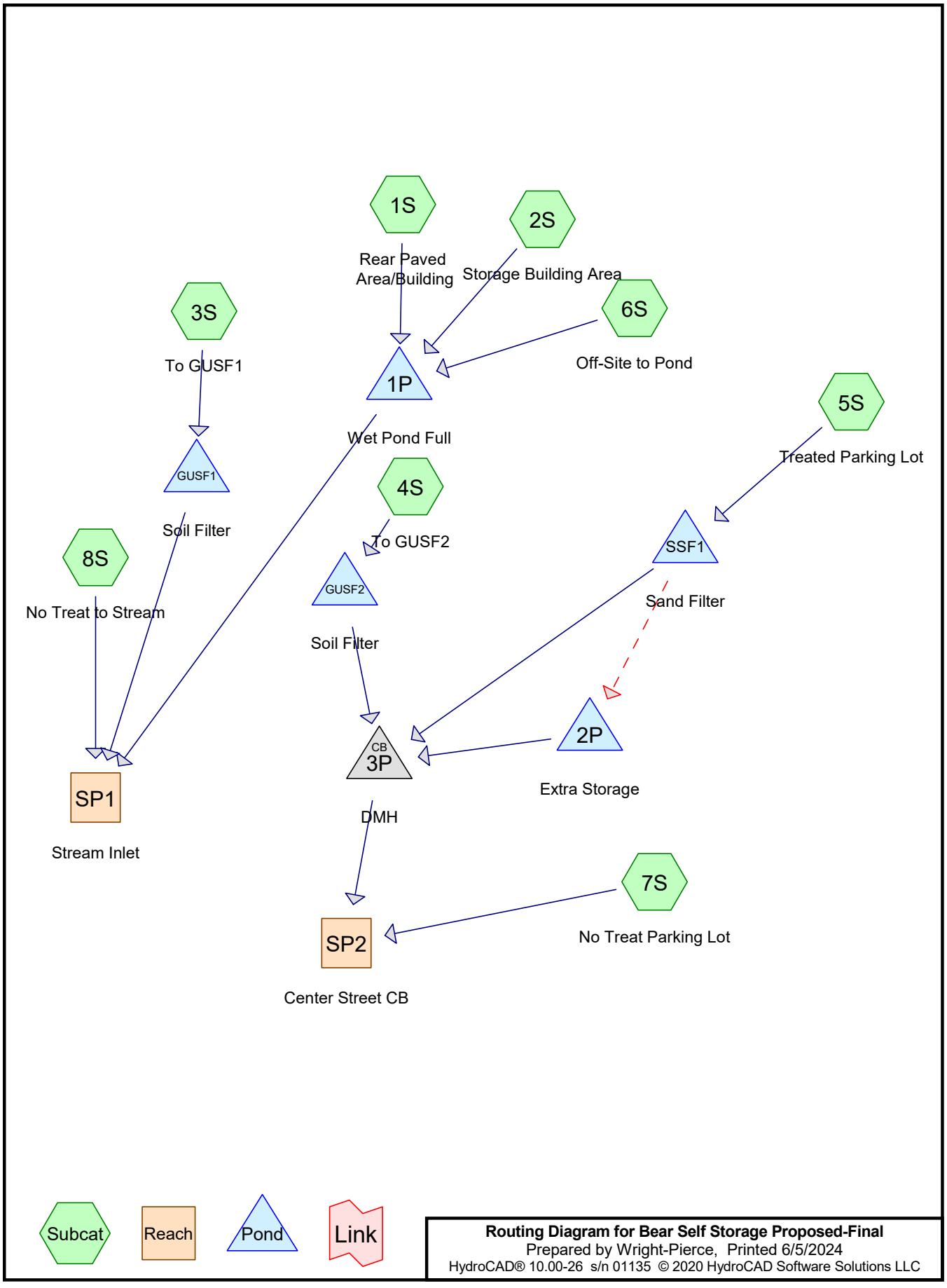
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
231.50	454	0	0
232.50	745	600	600
233.50	1,092	919	1,518

Device	Routing	Invert	Outlet Devices
#1	Primary	232.50'	**6.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.93 cfs @ 12.05 hrs HW=232.66' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.93 cfs @ 0.99 fps)

Pond USF2: Soil Filter





Routing Diagram for Bear Self Storage Proposed-Final
Prepared by Wright-Pierce, Printed 6/5/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.572	61	>75% Grass cover, Good, HSG B (2S, 6S)
3.358	74	>75% Grass cover, Good, HSG C (1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S)
0.426	96	Gravel (1S, 7S)
5.256	98	Impervious (2S, 4S, 5S, 6S, 7S)
0.350	98	Paved parking, HSG C (3S, 8S)
9.961	**88**	**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Rear Paved Runoff Area=31,476 sf 0.00% Impervious Runoff Depth=1.67"
Tc=5.0 min CN=86 Runoff=1.47 cfs 0.101 af

Subcatchment 2S: Storage Building Area Runoff Area=106,131 sf 74.22% Impervious Runoff Depth=1.99"
Tc=5.0 min CN=90 Runoff=5.90 cfs 0.405 af

Subcatchment 3S: To GUSF1 Runoff Area=18,025 sf 58.42% Impervious Runoff Depth=1.83"
Tc=5.0 min CN=88 Runoff=0.92 cfs 0.063 af

Subcatchment 4S: To GUSF2 Runoff Area=69,088 sf 79.43% Impervious Runoff Depth=2.26"
Tc=5.0 min CN=93 Runoff=4.28 cfs 0.299 af

Subcatchment 5S: Treated Parking Lot Runoff Area=62,654 sf 79.82% Impervious Runoff Depth=2.26"
Tc=5.0 min CN=93 Runoff=3.88 cfs 0.271 af

Subcatchment 6S: Off-Site to Pond Runoff Area=33,300 sf 16.56% Impervious Runoff Depth=0.91"
Tc=5.0 min CN=74 Runoff=0.78 cfs 0.058 af

Subcatchment 7S: No Treat Parking Lot Runoff Area=54,784 sf 72.59% Impervious Runoff Depth=2.17"
Tc=5.0 min CN=92 Runoff=3.28 cfs 0.227 af

Subcatchment 8S: No Treat to Stream Runoff Area=58,456 sf 8.05% Impervious Runoff Depth=1.02"
Flow Length=610' Tc=7.7 min CN=76 Runoff=1.36 cfs 0.114 af

Reach SP1: Stream Inlet Inflow=1.36 cfs 0.239 af
Outflow=1.36 cfs 0.239 af

Reach SP2: Center Street CB Inflow=3.39 cfs 0.594 af
Outflow=3.39 cfs 0.594 af

Pond 1P: Wet Pond Full Peak Elev=236.04' Storage=19,586 cf Inflow=8.15 cfs 0.564 af
Outflow=0.23 cfs 0.125 af

Pond 2P: Extra Storage Peak Elev=230.01' Storage=3,139 cf Inflow=3.14 cfs 0.077 af
Outflow=0.06 cfs 0.005 af

Pond 3P: DMH Peak Elev=225.55' Inflow=1.57 cfs 0.367 af
18.0" Round Culvert n=0.013 L=15.0' S=0.1487 '/' Outflow=1.57 cfs 0.367 af

Pond GUSF1: Soil Filter Peak Elev=233.10' Storage=2,744 cf Inflow=0.92 cfs 0.063 af
Outflow=0.00 cfs 0.000 af

Pond GUSF2: Soil Filter Peak Elev=233.56' Storage=6,036 cf Inflow=4.28 cfs 0.299 af
Outflow=1.45 cfs 0.167 af

Pond SSF1: Sand Filter Peak Elev=230.69' Storage=2,571 cf Inflow=3.88 cfs 0.271 af
Primary=0.11 cfs 0.194 af Secondary=3.14 cfs 0.077 af Outflow=3.25 cfs 0.271 af

Total Runoff Area = 9.961 ac Runoff Volume = 1.539 af Average Runoff Depth = 1.85"
43.73% Pervious = 4.356 ac 56.27% Impervious = 5.606 ac

Summary for Subcatchment 1S: Rear Paved Area/Building

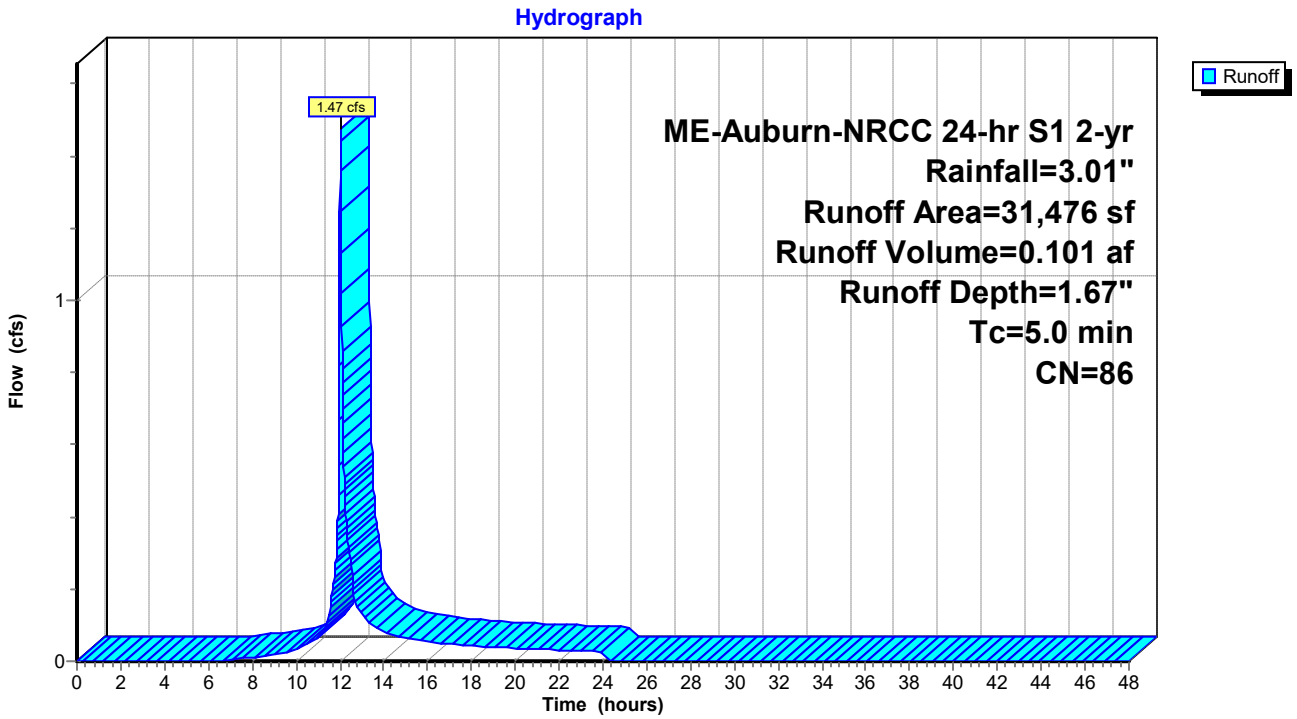
Runoff = 1.47 cfs @ 12.03 hrs, Volume= 0.101 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
	13,645	74	>75% Grass cover, Good, HSG C
*	17,831	96	Gravel
	31,476	86	Weighted Average
	31,476		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Rear Paved Area/Building



Summary for Subcatchment 2S: Storage Building Area

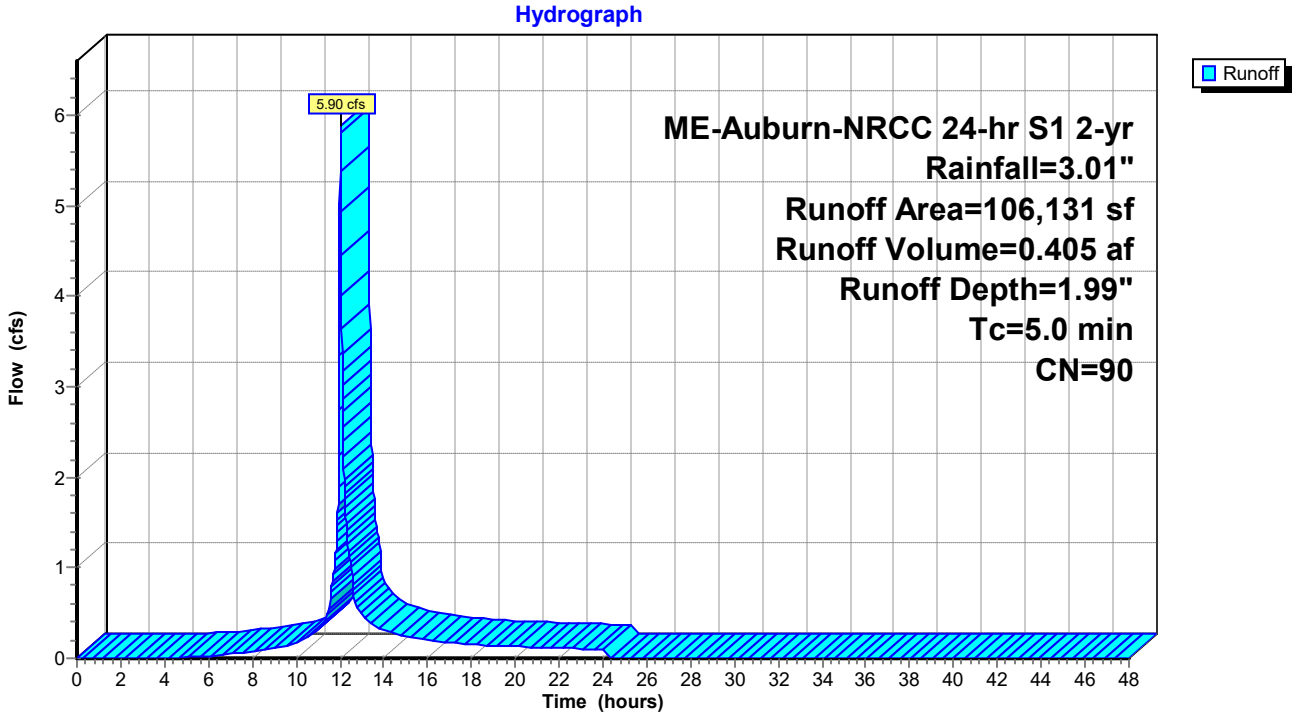
Runoff = 5.90 cfs @ 12.03 hrs, Volume= 0.405 af, Depth= 1.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
*	78,774	98	Impervious
	13,470	74	>75% Grass cover, Good, HSG C
	13,887	61	>75% Grass cover, Good, HSG B
	106,131	90	Weighted Average
	27,357		25.78% Pervious Area
	78,774		74.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Storage Building Area



Summary for Subcatchment 3S: To GUSF1

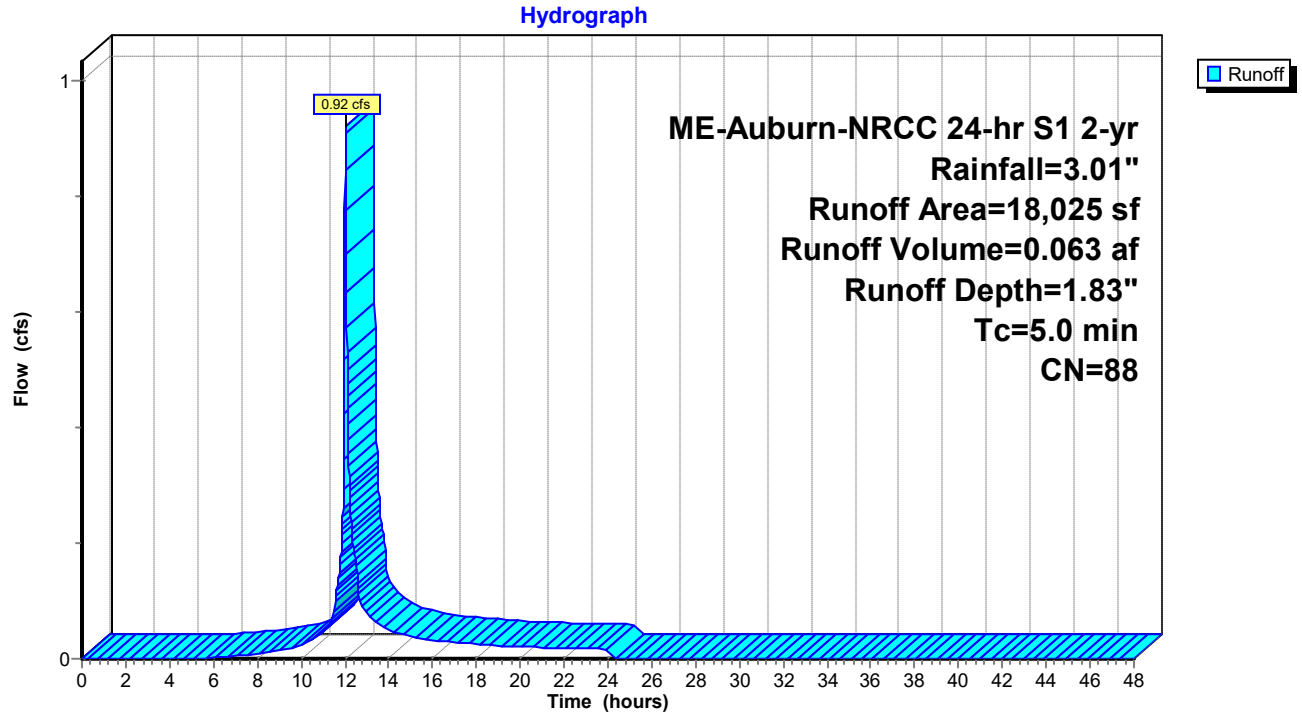
Runoff = 0.92 cfs @ 12.03 hrs, Volume= 0.063 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

Area (sf)	CN	Description
10,530	98	Paved parking, HSG C
7,495	74	>75% Grass cover, Good, HSG C
18,025	88	Weighted Average
7,495		41.58% Pervious Area
10,530		58.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: To GUSF1



Summary for Subcatchment 4S: To GUSF2

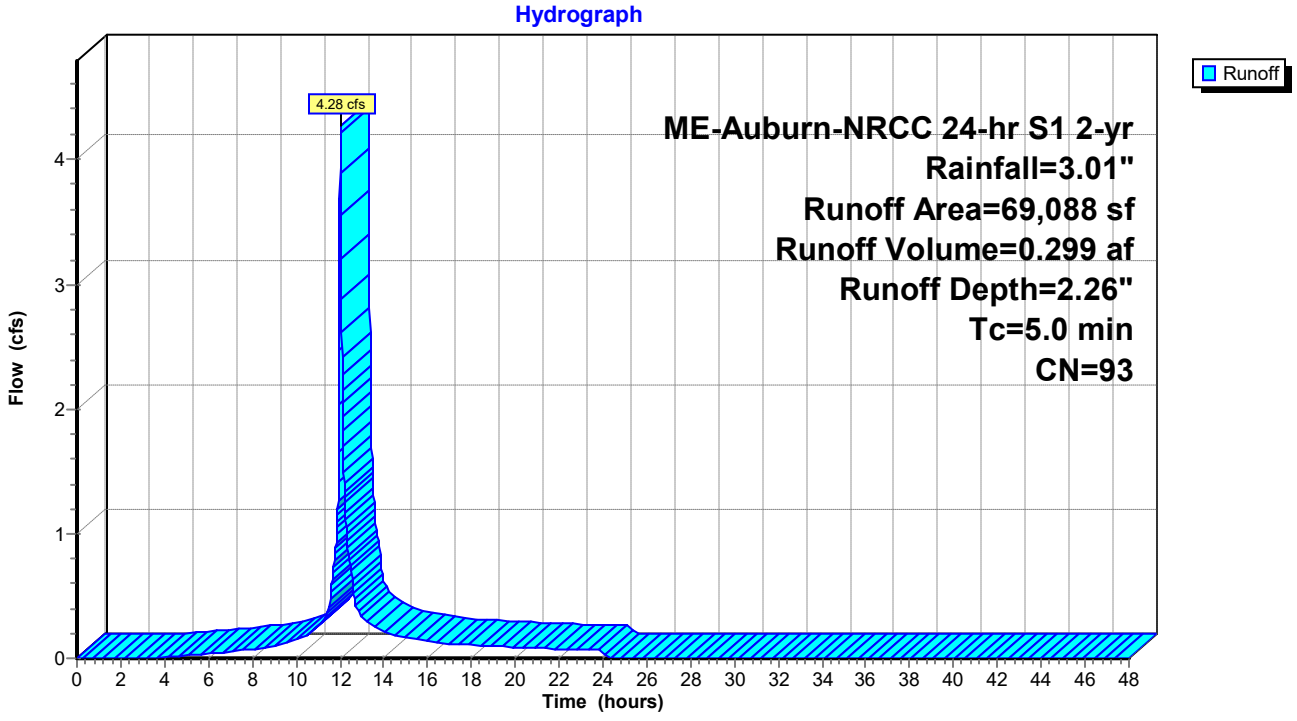
Runoff = 4.28 cfs @ 12.03 hrs, Volume= 0.299 af, Depth= 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
*	53,245	98	Impervious
	14,211	74	>75% Grass cover, Good, HSG C
*	1,632	98	Impervious
	69,088	93	Weighted Average
	14,211		20.57% Pervious Area
	54,877		79.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: To GUSF2



Summary for Subcatchment 5S: Treated Parking Lot

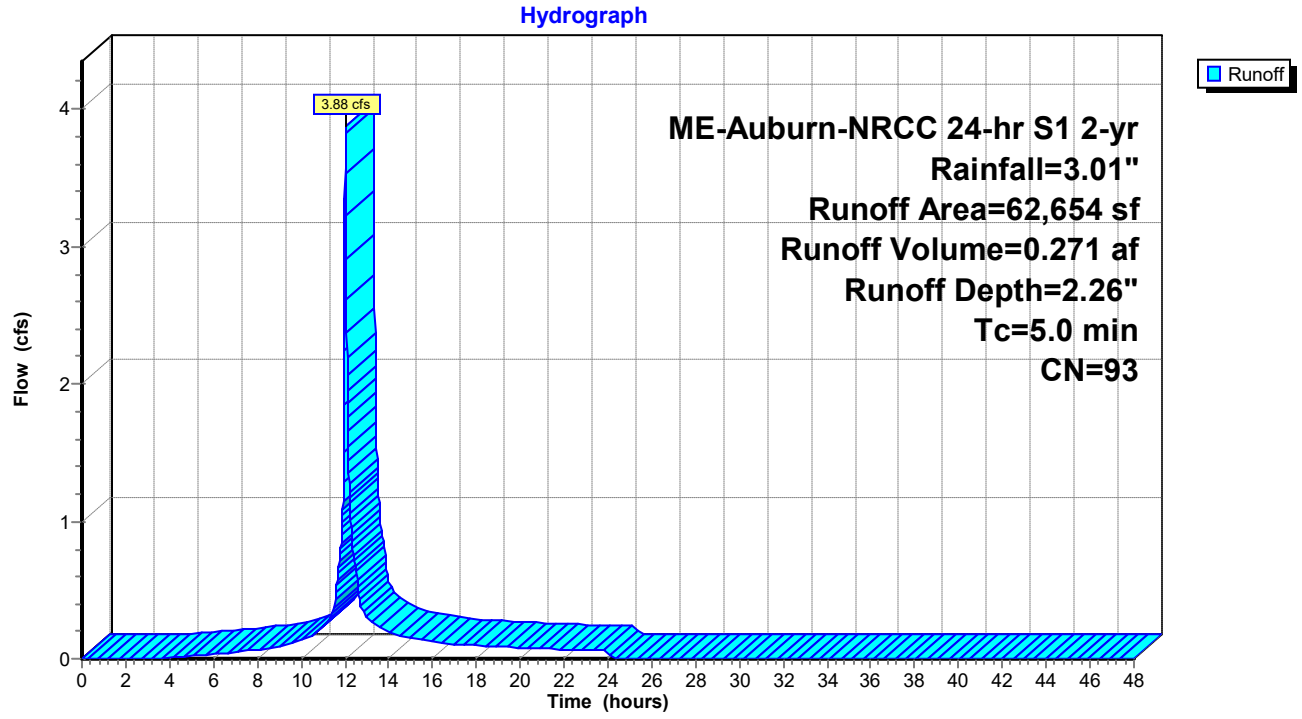
Runoff = 3.88 cfs @ 12.03 hrs, Volume= 0.271 af, Depth= 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
	12,643	74	>75% Grass cover, Good, HSG C
*	50,011	98	Impervious
	62,654	93	Weighted Average
	12,643		20.18% Pervious Area
	50,011		79.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S: Treated Parking Lot



Summary for Subcatchment 6S: Off-Site to Pond

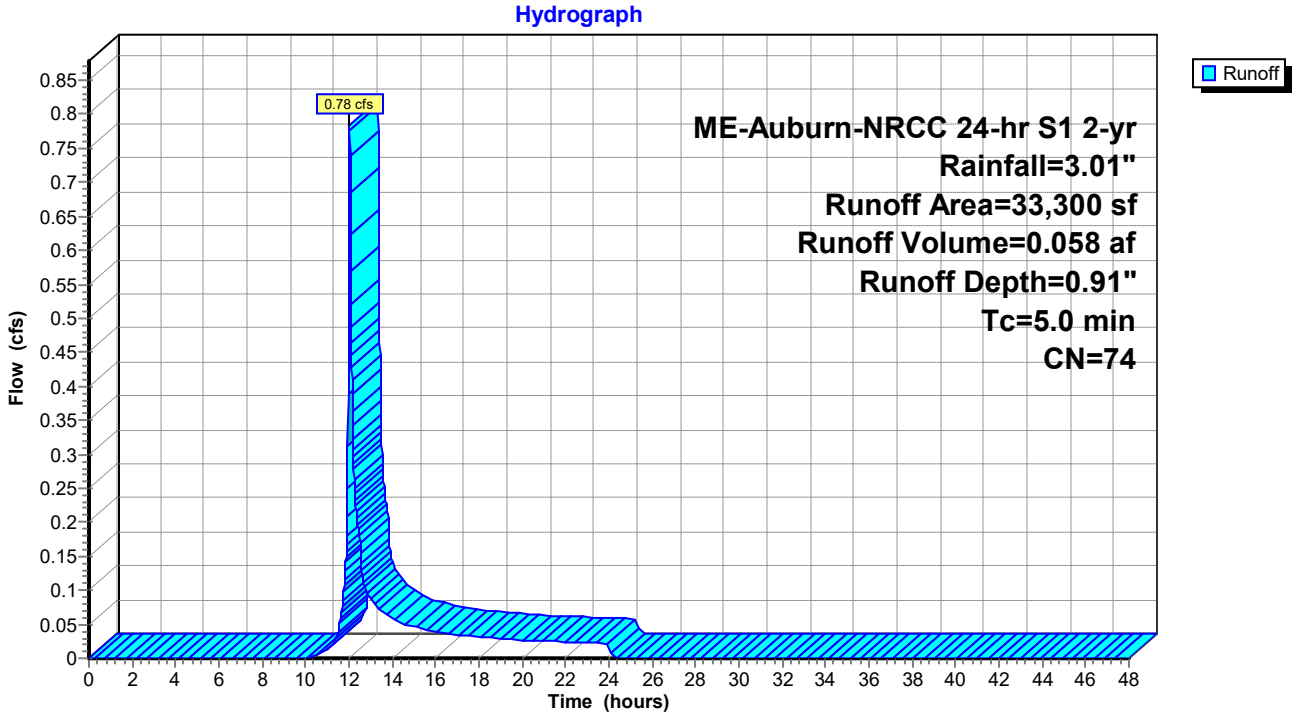
Runoff = 0.78 cfs @ 12.03 hrs, Volume= 0.058 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
*	5,516	98	Impervious
	11,046	61	>75% Grass cover, Good, HSG B
	16,738	74	>75% Grass cover, Good, HSG C
	33,300	74	Weighted Average
	27,784		83.44% Pervious Area
	5,516		16.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 6S: Off-Site to Pond



Summary for Subcatchment 7S: No Treat Parking Lot

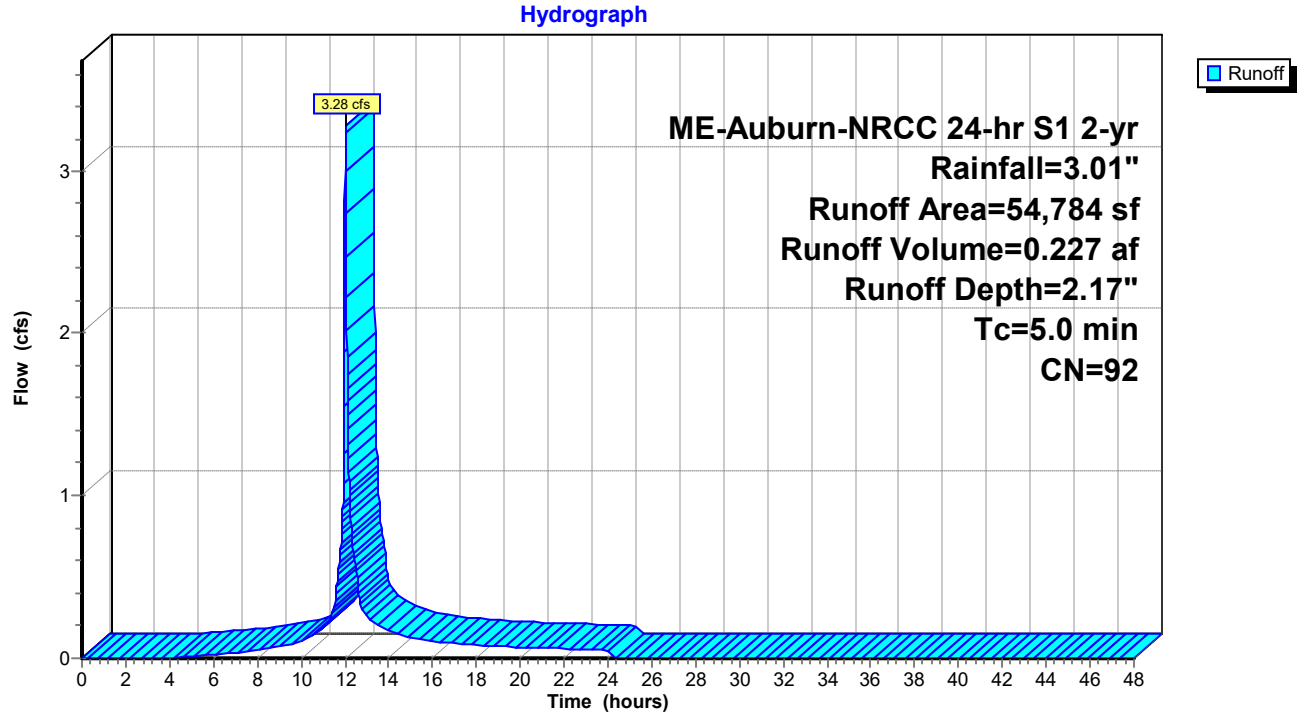
Runoff = 3.28 cfs @ 12.03 hrs, Volume= 0.227 af, Depth= 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

	Area (sf)	CN	Description
*	39,768	98	Impervious
	14,306	74	>75% Grass cover, Good, HSG C
*	710	96	Gravel
	54,784	92	Weighted Average
	15,016		27.41% Pervious Area
	39,768		72.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 7S: No Treat Parking Lot



Summary for Subcatchment 8S: No Treat to Stream

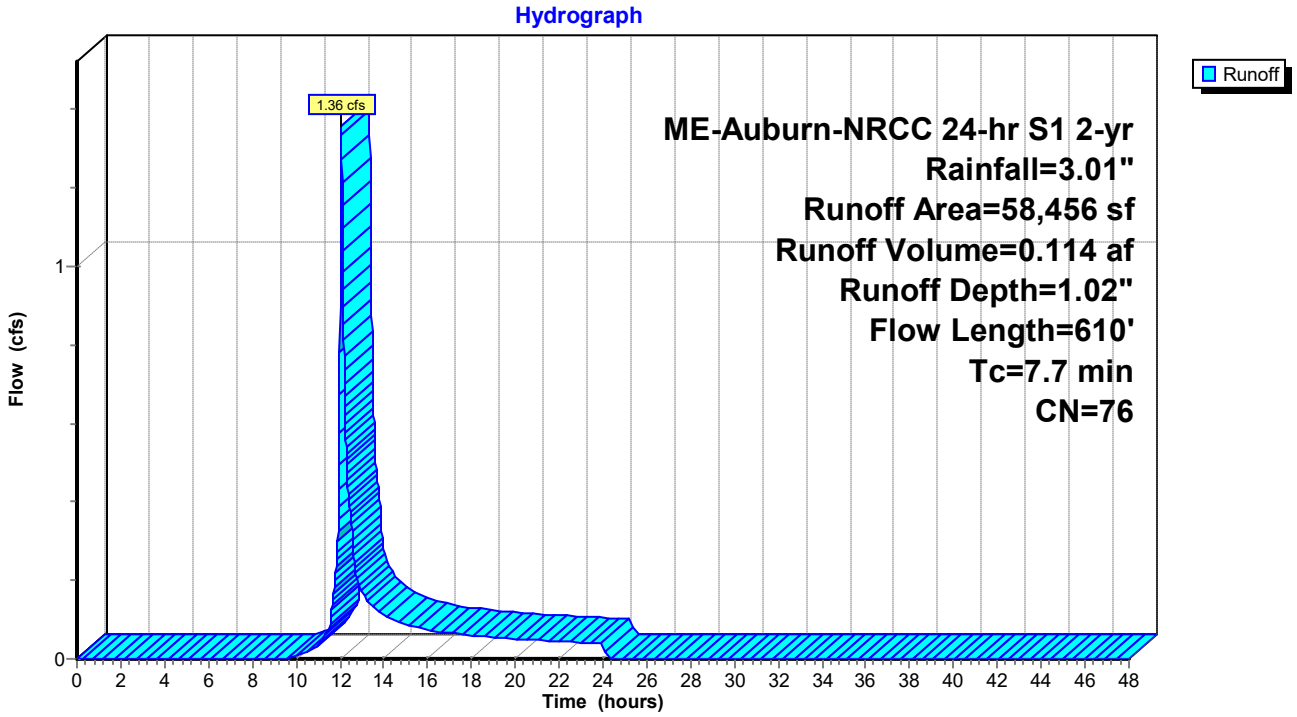
Runoff = 1.36 cfs @ 12.06 hrs, Volume= 0.114 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 2-yr Rainfall=3.01"

Area (sf)	CN	Description
4,705	98	Paved parking, HSG C
53,751	74	>75% Grass cover, Good, HSG C
58,456	76	Weighted Average
53,751		91.95% Pervious Area
4,705		8.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	65	0.2000	0.38		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.01"
4.9	545	0.0150	1.84		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.7	610	Total			

Subcatchment 8S: No Treat to Stream

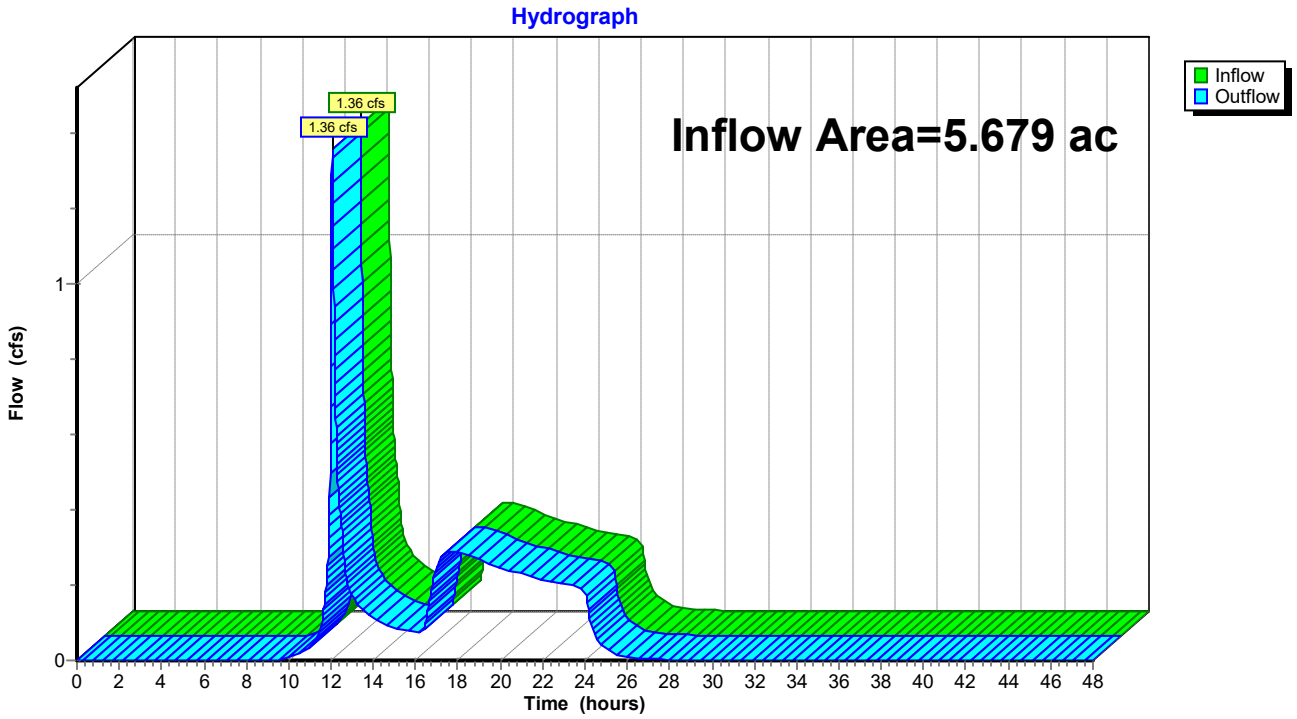


Summary for Reach SP1: Stream Inlet

Inflow Area = 5.679 ac, 40.23% Impervious, Inflow Depth = 0.50" for 2-yr event
Inflow = 1.36 cfs @ 12.06 hrs, Volume= 0.239 af
Outflow = 1.36 cfs @ 12.06 hrs, Volume= 0.239 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP1: Stream Inlet

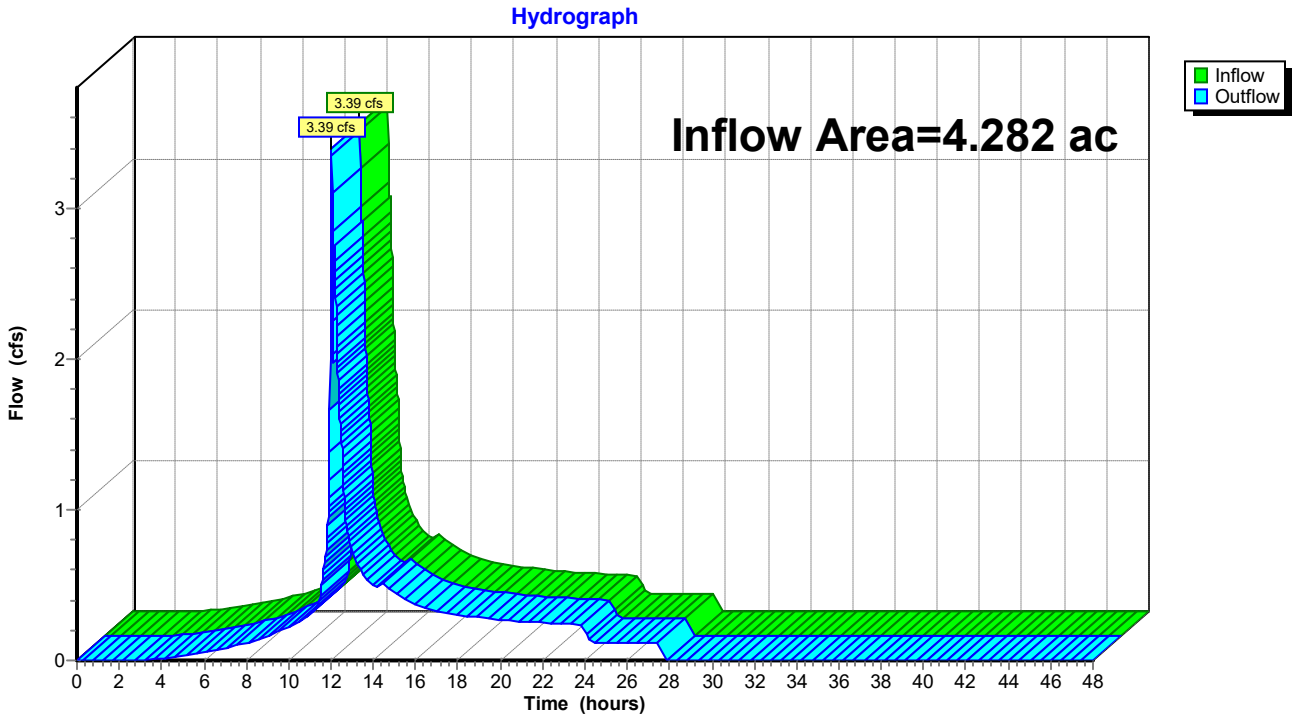


Summary for Reach SP2: Center Street CB

Inflow Area = 4.282 ac, 77.55% Impervious, Inflow Depth = 1.67" for 2-yr event
Inflow = 3.39 cfs @ 12.03 hrs, Volume= 0.594 af
Outflow = 3.39 cfs @ 12.03 hrs, Volume= 0.594 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP2: Center Street CB



Summary for Pond 1P: Wet Pond Full

Inflow Area = 3.923 ac, 49.32% Impervious, Inflow Depth = 1.72" for 2-yr event
Inflow = 8.15 cfs @ 12.03 hrs, Volume= 0.564 af
Outflow = 0.23 cfs @ 17.77 hrs, Volume= 0.125 af, Atten= 97%, Lag= 344.6 min
Primary = 0.23 cfs @ 17.77 hrs, Volume= 0.125 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 236.04' @ 17.77 hrs Surf.Area= 10,595 sf Storage= 19,586 cf

Plug-Flow detention time= 591.1 min calculated for 0.124 af (22% of inflow)
Center-of-Mass det. time= 387.2 min (1,226.5 - 839.2)

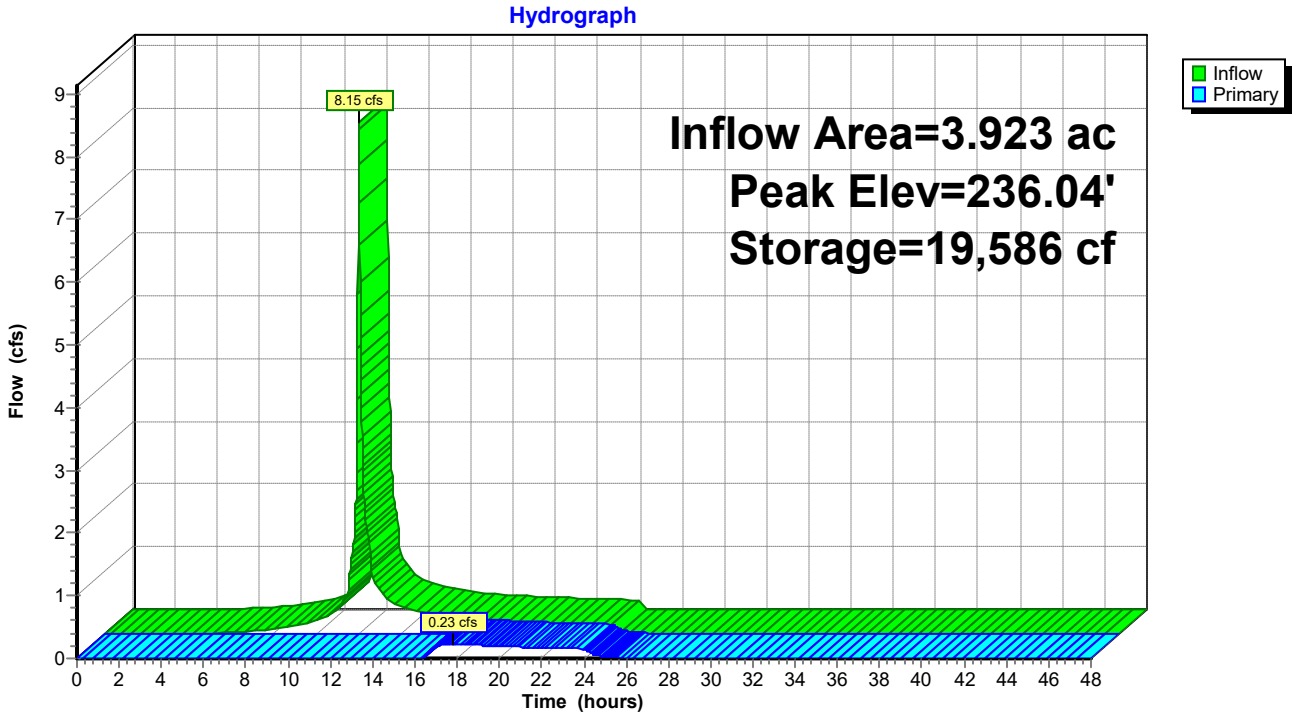
Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	36,205 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
234.00	8,533	0	0
235.00	9,585	9,059	9,059
236.00	10,550	10,068	19,127
237.00	11,575	11,063	30,189
237.50	12,488	6,016	36,205

Device	Routing	Invert	Outlet Devices
#1	Primary	236.00'	**10.0' long x 12.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=0.23 cfs @ 17.77 hrs HW=236.04' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.23 cfs @ 0.54 fps)

Pond 1P: Wet Pond Full



Summary for Pond 2P: Extra Storage

Inflow	=	3.14 cfs @	12.06 hrs,	Volume=	0.077 af
Outflow	=	0.06 cfs @	14.35 hrs,	Volume=	0.005 af, Atten= 98%, Lag= 137.4 min
Primary	=	0.06 cfs @	14.35 hrs,	Volume=	0.005 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 230.01' @ 14.35 hrs Surf.Area= 1,371 sf Storage= 3,139 cf
Flood Elev= 231.00' Surf.Area= 1,371 sf Storage= 3,680 cf

Plug-Flow detention time= 175.9 min calculated for 0.005 af (7% of inflow)
Center-of-Mass det. time= 138.8 min (898.9 - 760.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	226.00'	2,118 cf	**11.00'W x 124.66'L x 5.00'H Field A** 6,856 cf Overall - 1,562 cf Embedded = 5,294 cf x 40.0% Voids
#2A	226.00'	1,562 cf	**ADS_StormTech SC-740 +Cap** x 34 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 34 Chambers in 2 Rows
		3,680 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	226.00'	**12.0" Round Culvert X 2.00** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 226.00' / 225.10' S= 0.0113 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	230.00'	**6.0' long Sharp-Crested Vee/Trap Weir X 2.00** Cv= 2.62 (C= 3.28)

Primary OutFlow Max=0.06 cfs @ 14.35 hrs HW=230.01' TW=225.25' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.06 cfs of 12.45 cfs potential flow)
↑**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.06 cfs @ 0.38 fps)

Pond 2P: Extra Storage - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

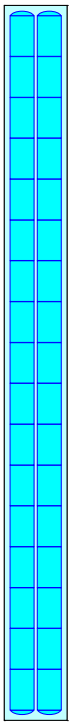
17 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 122.66' Row Length +12.0" End Stone x 2 = 124.66' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
30.0" Chamber Height + 30.0" Cover = 5.00' Field Height

34 Chambers x 45.9 cf = 1,562.0 cf Chamber Storage

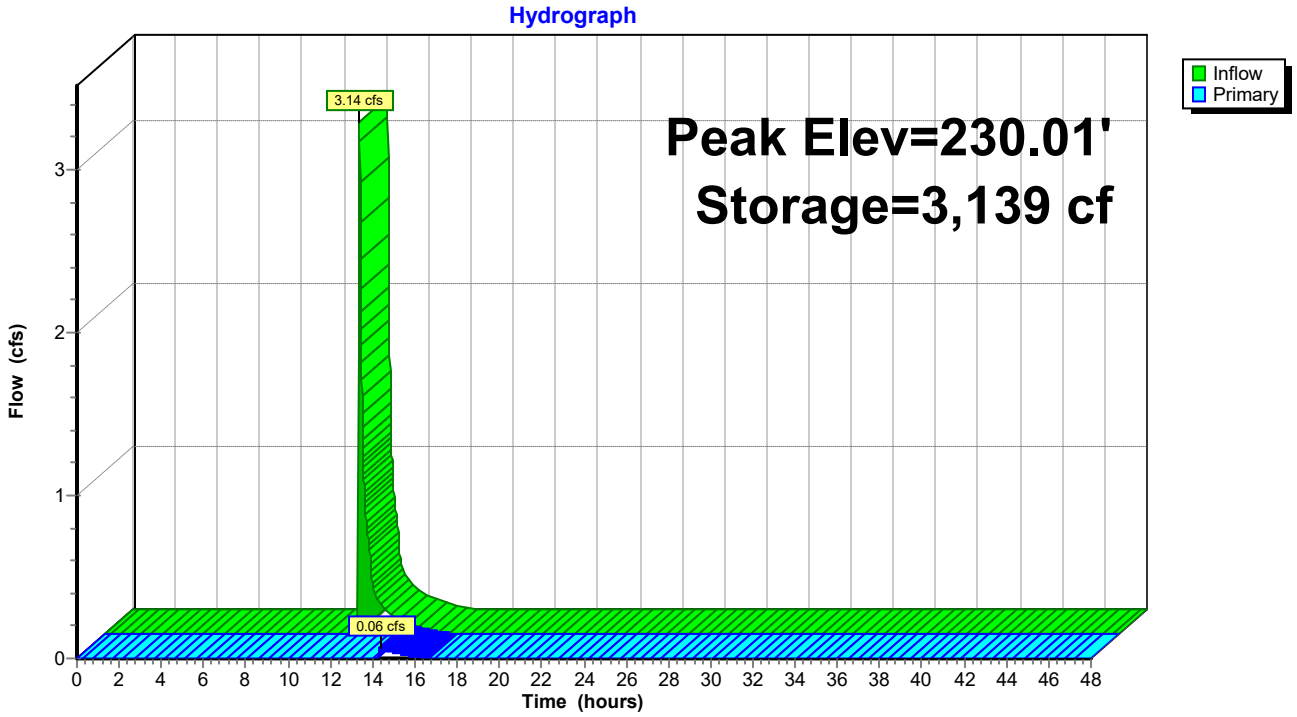
6,856.1 cf Field - 1,562.0 cf Chambers = 5,294.2 cf Stone x 40.0% Voids = 2,117.7 cf Stone Storage

Chamber Storage + Stone Storage = 3,679.6 cf = 0.084 af
Overall Storage Efficiency = 53.7%
Overall System Size = 124.66' x 11.00' x 5.00'

34 Chambers
253.9 cy Field
196.1 cy Stone



Pond 2P: Extra Storage



Summary for Pond 3P: DMH

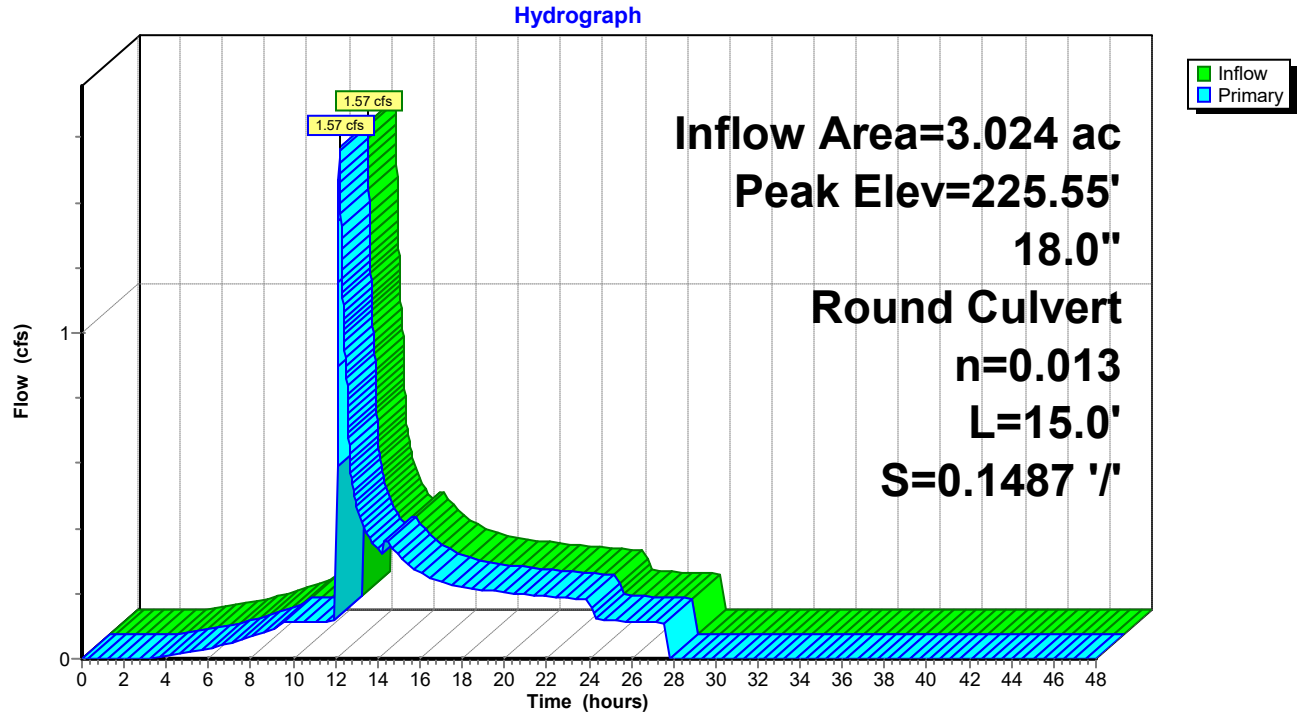
Inflow Area = 3.024 ac, 79.62% Impervious, Inflow Depth = 1.45" for 2-yr event
Inflow = 1.57 cfs @ 12.18 hrs, Volume= 0.367 af
Outflow = 1.57 cfs @ 12.18 hrs, Volume= 0.367 af, Atten= 0%, Lag= 0.0 min
Primary = 1.57 cfs @ 12.18 hrs, Volume= 0.367 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 225.55' @ 12.18 hrs
Flood Elev= 232.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	224.98'	**18.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 224.98' / 222.75' S= 0.1487 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=1.56 cfs @ 12.18 hrs HW=225.55' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.56 cfs @ 2.56 fps)

Pond 3P: DMH



Summary for Pond GUSF1: Soil Filter

Inflow Area = 0.414 ac, 58.42% Impervious, Inflow Depth = 1.83" for 2-yr event
Inflow = 0.92 cfs @ 12.03 hrs, Volume= 0.063 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 233.10' @ 24.29 hrs Surf.Area= 2,990 sf Storage= 2,744 cf
Flood Elev= 234.00' Surf.Area= 3,800 sf Storage= 5,800 cf

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

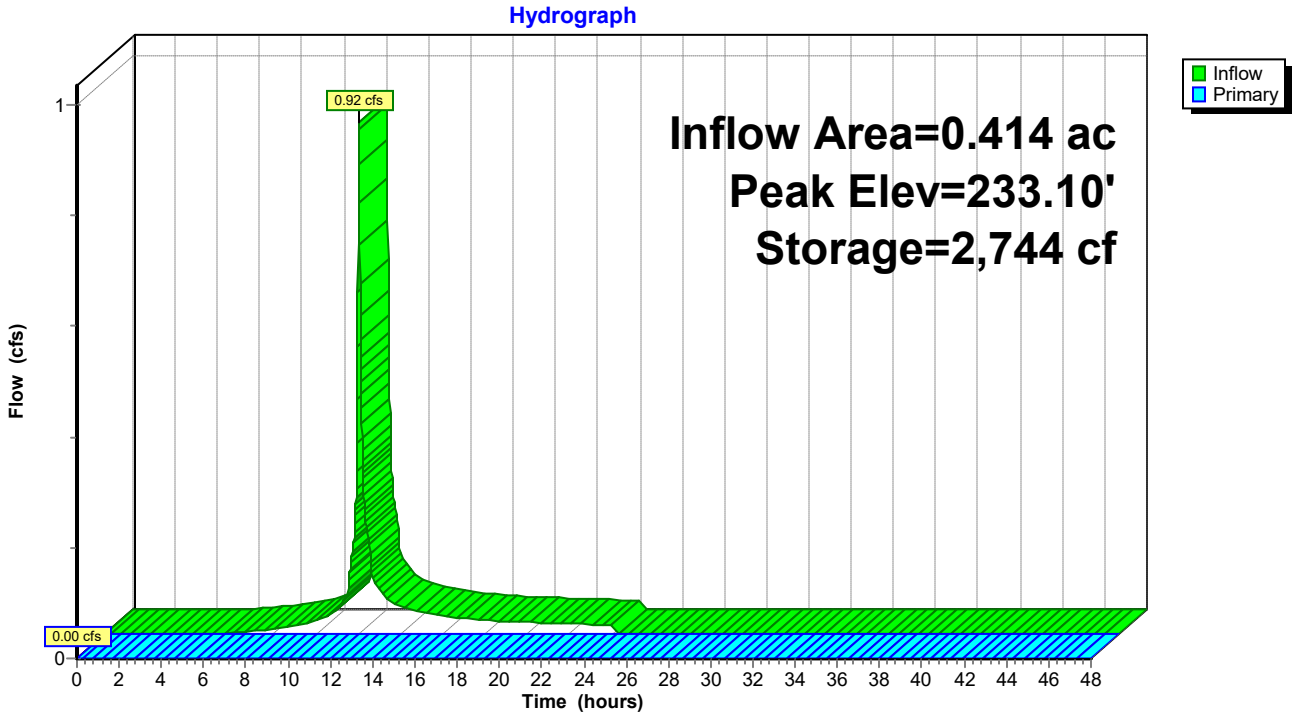
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	10,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.00	2,000	0	0
233.00	2,900	2,450	2,450
234.00	3,800	3,350	5,800
235.00	5,000	4,400	10,200

Device	Routing	Invert	Outlet Devices
#1	Device 2	233.50'	**6.0" x 1.5" Horiz. Orifice/Grate X 24.00** C= 0.600 Limited to weir flow at low heads
#2	Primary	229.17'	**12.0" Round Culvert** L= 89.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.17' / 229.00' S= 0.0019 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=232.00' TW=0.00' (Dynamic Tailwater)
↑**2=Culvert** (Passes 0.00 cfs of 4.30 cfs potential flow)
↑**1=Orifice/Grate** (Controls 0.00 cfs)

Pond GUSF1: Soil Filter



Summary for Pond GUSF2: Soil Filter

Inflow Area = 1.586 ac, 79.43% Impervious, Inflow Depth = 2.26" for 2-yr event
Inflow = 4.28 cfs @ 12.03 hrs, Volume= 0.299 af
Outflow = 1.45 cfs @ 12.18 hrs, Volume= 0.167 af, Atten= 66%, Lag= 9.5 min
Primary = 1.45 cfs @ 12.18 hrs, Volume= 0.167 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 233.56' @ 12.18 hrs Surf.Area= 4,772 sf Storage= 6,036 cf
Flood Elev= 234.00' Surf.Area= 5,300 sf Storage= 8,250 cf

Plug-Flow detention time= 274.8 min calculated for 0.167 af (56% of inflow)
Center-of-Mass det. time= 132.9 min (941.0 - 808.1)

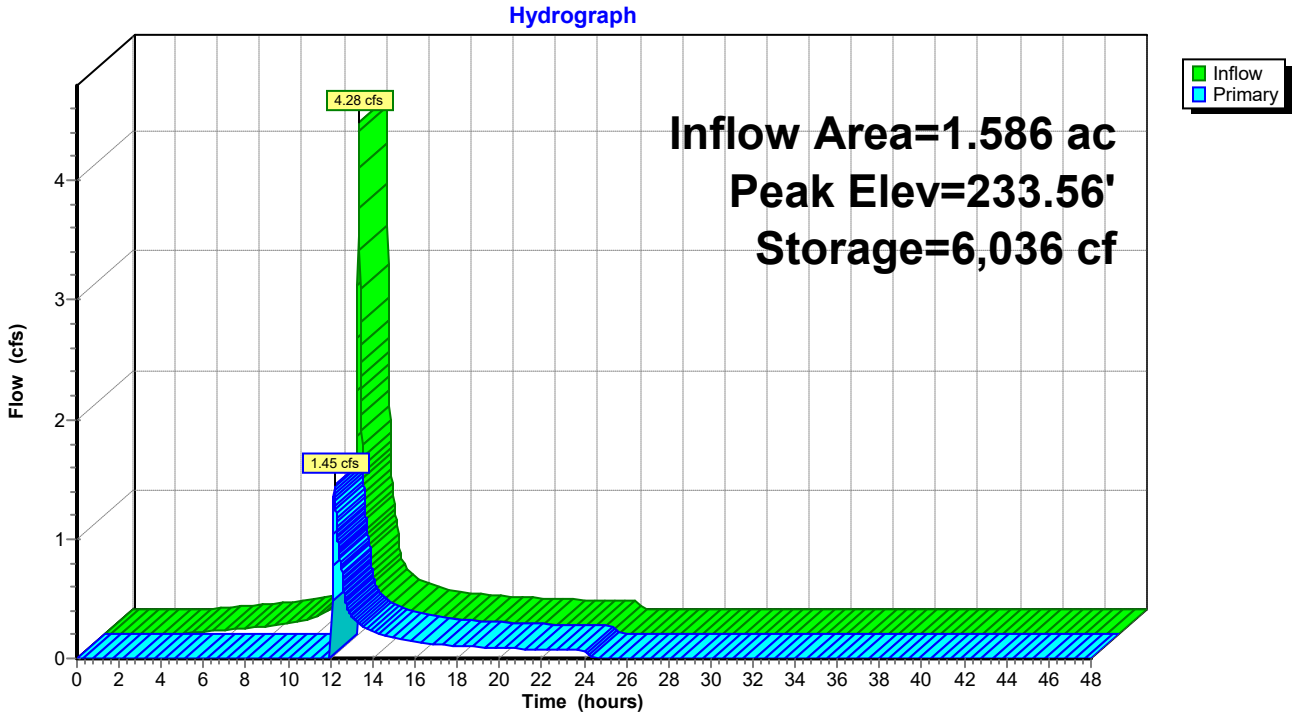
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	14,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.00	3,000	0	0
233.00	4,100	3,550	3,550
234.00	5,300	4,700	8,250
235.00	6,600	5,950	14,200

Device	Routing	Invert	Outlet Devices
#1	Device 2	233.50'	**6.0" x 1.5" Horiz. Orifice/Grate X 24.00** C= 0.600 Limited to weir flow at low heads
#2	Primary	229.17'	**12.0" Round Culvert** L= 89.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.17' / 227.00' S= 0.0244 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.45 cfs @ 12.18 hrs HW=233.56' TW=225.55' (Dynamic Tailwater)
↑**2=Culvert** (Passes 1.45 cfs of 7.17 cfs potential flow)
↑**1=Orifice/Grate** (Weir Controls 1.45 cfs @ 0.80 fps)

Pond GUSF2: Soil Filter



Summary for Pond SSF1: Sand Filter

Inflow Area = 1.438 ac, 79.82% Impervious, Inflow Depth = 2.26" for 2-yr event
Inflow = 3.88 cfs @ 12.03 hrs, Volume= 0.271 af
Outflow = 3.25 cfs @ 12.06 hrs, Volume= 0.271 af, Atten= 16%, Lag= 2.1 min
Primary = 0.11 cfs @ 10.13 hrs, Volume= 0.194 af
Secondary = 3.14 cfs @ 12.06 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 230.69' @ 12.06 hrs Surf.Area= 2,257 sf Storage= 2,571 cf
Flood Elev= 231.00' Surf.Area= 2,257 sf Storage= 2,855 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 151.4 min (959.5 - 808.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	228.67'	1,605 cf	**18.17'W x 124.24'L x 2.33'H Field A** 5,266 cf Overall - 1,253 cf Embedded = 4,013 cf x 40.0% Voids
#2A	229.17'	1,253 cf	**ADS_StormTech SC-310 +Cap** x 85 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 85 Chambers in 5 Rows
		2,858 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Secondary	229.17'	**12.0" Round Culvert X 2.00** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.17' / 229.07' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	230.50'	**6.0' long Sharp-Crested Vee/Trap Weir X 2.00** Cv= 2.62 (C= 3.28)
#3	Primary	228.67'	**2.200 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.11 cfs @ 10.13 hrs HW=228.69' TW=225.13' (Dynamic Tailwater)
└─**3=Exfiltration** (Exfiltration Controls 0.11 cfs)

Secondary OutFlow Max=3.10 cfs @ 12.06 hrs HW=230.68' TW=226.23' (Dynamic Tailwater)
└─**1=Culvert** (Passes 3.10 cfs of 7.33 cfs potential flow)
└─**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 3.10 cfs @ 1.41 fps)

Pond SSF1: Sand Filter - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 6.0" Spacing = 40.0" C-C Row Spacing

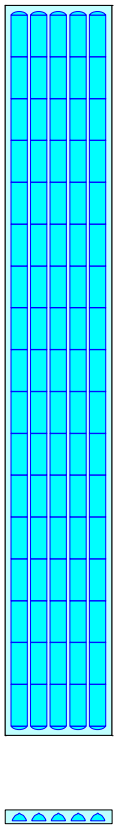
17 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 122.24' Row Length +12.0" End Stone x 2 = 124.24' Base Length
5 Rows x 34.0" Wide + 6.0" Spacing x 4 + 12.0" Side Stone x 2 = 18.17' Base Width
6.0" Base + 16.0" Chamber Height + 6.0" Cover = 2.33' Field Height

85 Chambers x 14.7 cf = 1,253.1 cf Chamber Storage

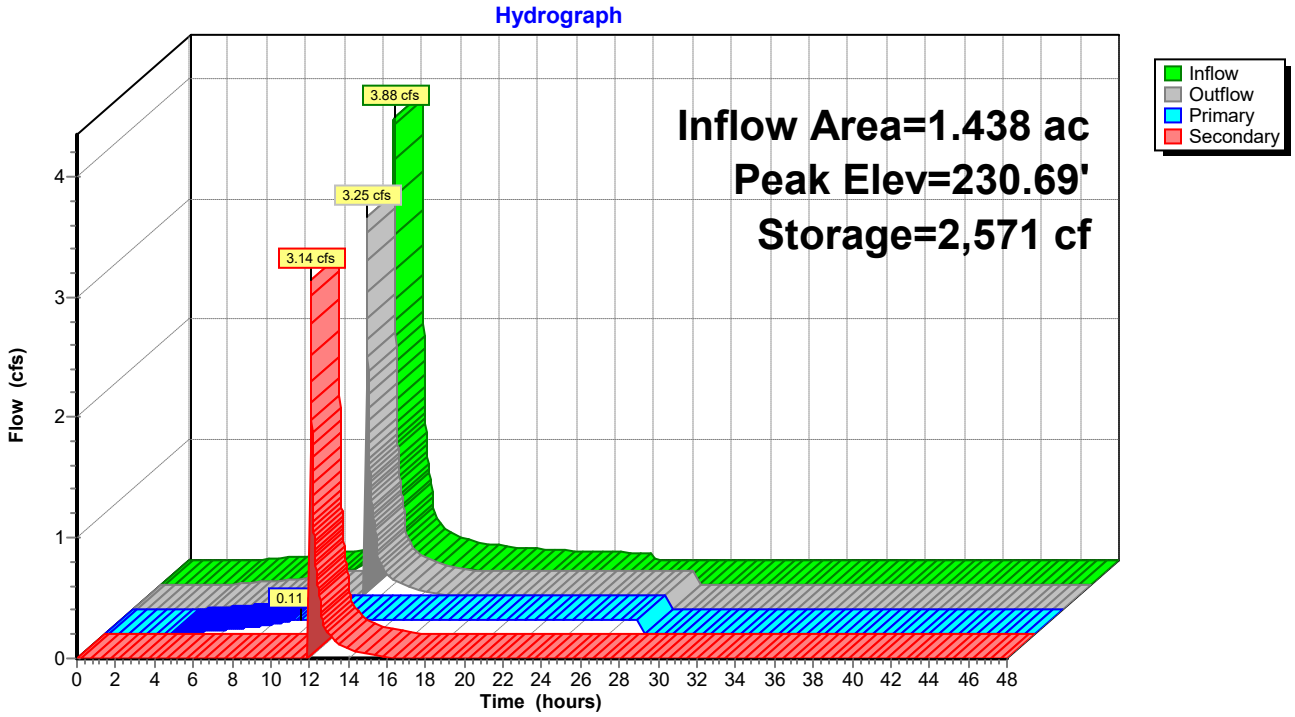
5,266.4 cf Field - 1,253.1 cf Chambers = 4,013.3 cf Stone x 40.0% Voids = 1,605.3 cf Stone Storage

Chamber Storage + Stone Storage = 2,858.4 cf = 0.066 af
Overall Storage Efficiency = 54.3%
Overall System Size = 124.24' x 18.17' x 2.33'

85 Chambers
195.1 cy Field
148.6 cy Stone



Pond SSF1: Sand Filter



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Rear Paved Runoff Area=31,476 sf 0.00% Impervious Runoff Depth=2.95"
Tc=5.0 min CN=86 Runoff=2.45 cfs 0.178 af

Subcatchment 2S: Storage Building Area Runoff Area=106,131 sf 74.22% Impervious Runoff Depth=3.34"
Tc=5.0 min CN=90 Runoff=9.21 cfs 0.678 af

Subcatchment 3S: To GUSF1 Runoff Area=18,025 sf 58.42% Impervious Runoff Depth=3.14"
Tc=5.0 min CN=88 Runoff=1.49 cfs 0.108 af

Subcatchment 4S: To GUSF2 Runoff Area=69,088 sf 79.43% Impervious Runoff Depth=3.65"
Tc=5.0 min CN=93 Runoff=6.40 cfs 0.482 af

Subcatchment 5S: Treated Parking Lot Runoff Area=62,654 sf 79.82% Impervious Runoff Depth=3.65"
Tc=5.0 min CN=93 Runoff=5.80 cfs 0.437 af

Subcatchment 6S: Off-Site to Pond Runoff Area=33,300 sf 16.56% Impervious Runoff Depth=1.93"
Tc=5.0 min CN=74 Runoff=1.68 cfs 0.123 af

Subcatchment 7S: No Treat Parking Lot Runoff Area=54,784 sf 72.59% Impervious Runoff Depth=3.54"
Tc=5.0 min CN=92 Runoff=4.97 cfs 0.371 af

Subcatchment 8S: No Treat to Stream Runoff Area=58,456 sf 8.05% Impervious Runoff Depth=2.08"
Flow Length=610' Tc=7.7 min CN=76 Runoff=2.79 cfs 0.233 af

Reach SP1: Stream Inlet Inflow=3.28 cfs 0.788 af
Outflow=3.28 cfs 0.788 af

Reach SP2: Center Street CB Inflow=10.65 cfs 1.087 af
Outflow=10.65 cfs 1.087 af

Pond 1P: Wet Pond Full Peak Elev=236.21' Storage=21,406 cf Inflow=13.34 cfs 0.978 af
Outflow=2.54 cfs 0.539 af

Pond 2P: Extra Storage Peak Elev=230.21' Storage=3,244 cf Inflow=5.63 cfs 0.207 af
Outflow=3.68 cfs 0.135 af

Pond 3P: DMH Peak Elev=226.56' Inflow=7.74 cfs 0.716 af
18.0" Round Culvert n=0.013 L=15.0' S=0.1487 '/' Outflow=7.74 cfs 0.716 af

Pond GUSF1: Soil Filter Peak Elev=233.51' Storage=4,030 cf Inflow=1.49 cfs 0.108 af
Outflow=0.04 cfs 0.016 af

Pond GUSF2: Soil Filter Peak Elev=233.80' Storage=7,208 cf Inflow=6.40 cfs 0.482 af
Outflow=3.95 cfs 0.350 af

Pond SSF1: Sand Filter Peak Elev=230.77' Storage=2,651 cf Inflow=5.80 cfs 0.437 af
Primary=0.11 cfs 0.230 af Secondary=5.63 cfs 0.207 af Outflow=5.75 cfs 0.437 af

Total Runoff Area = 9.961 ac Runoff Volume = 2.610 af Average Runoff Depth = 3.14"
43.73% Pervious = 4.356 ac 56.27% Impervious = 5.606 ac

Summary for Subcatchment 1S: Rear Paved Area/Building

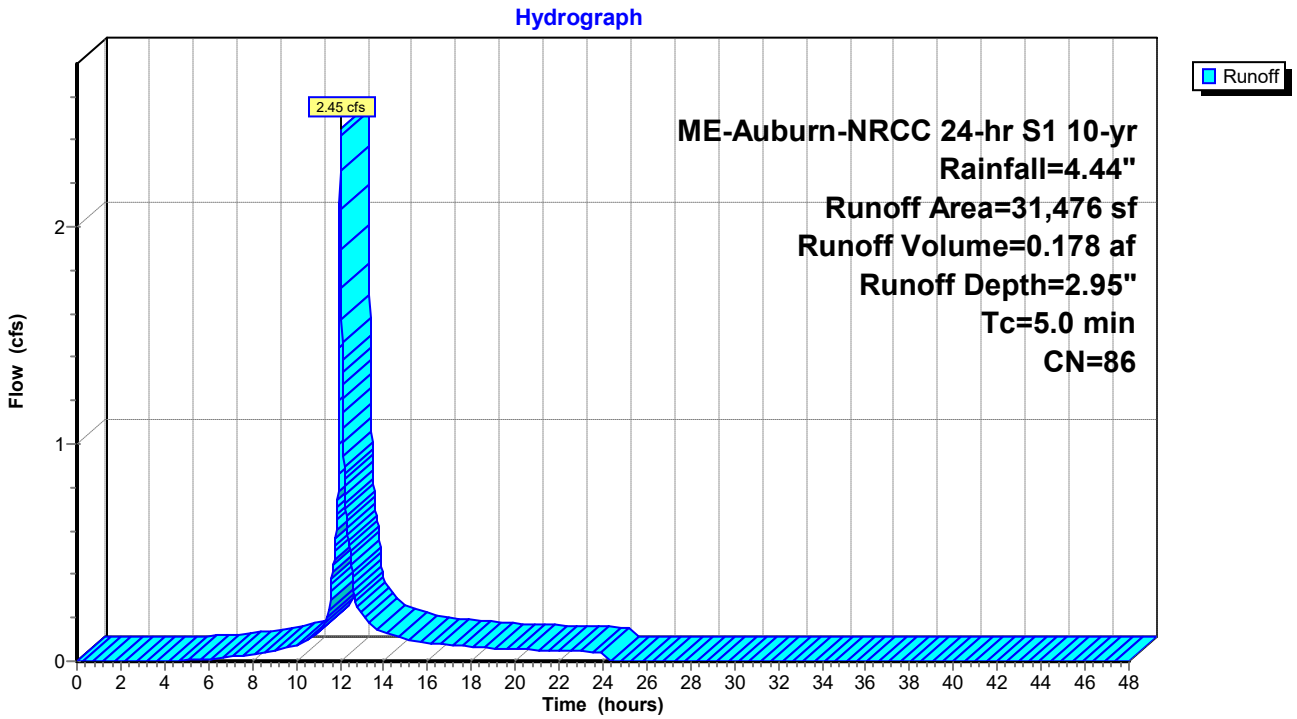
Runoff = 2.45 cfs @ 12.03 hrs, Volume= 0.178 af, Depth= 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
	13,645	74	>75% Grass cover, Good, HSG C
*	17,831	96	Gravel
	31,476	86	Weighted Average
	31,476		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Rear Paved Area/Building



Summary for Subcatchment 2S: Storage Building Area

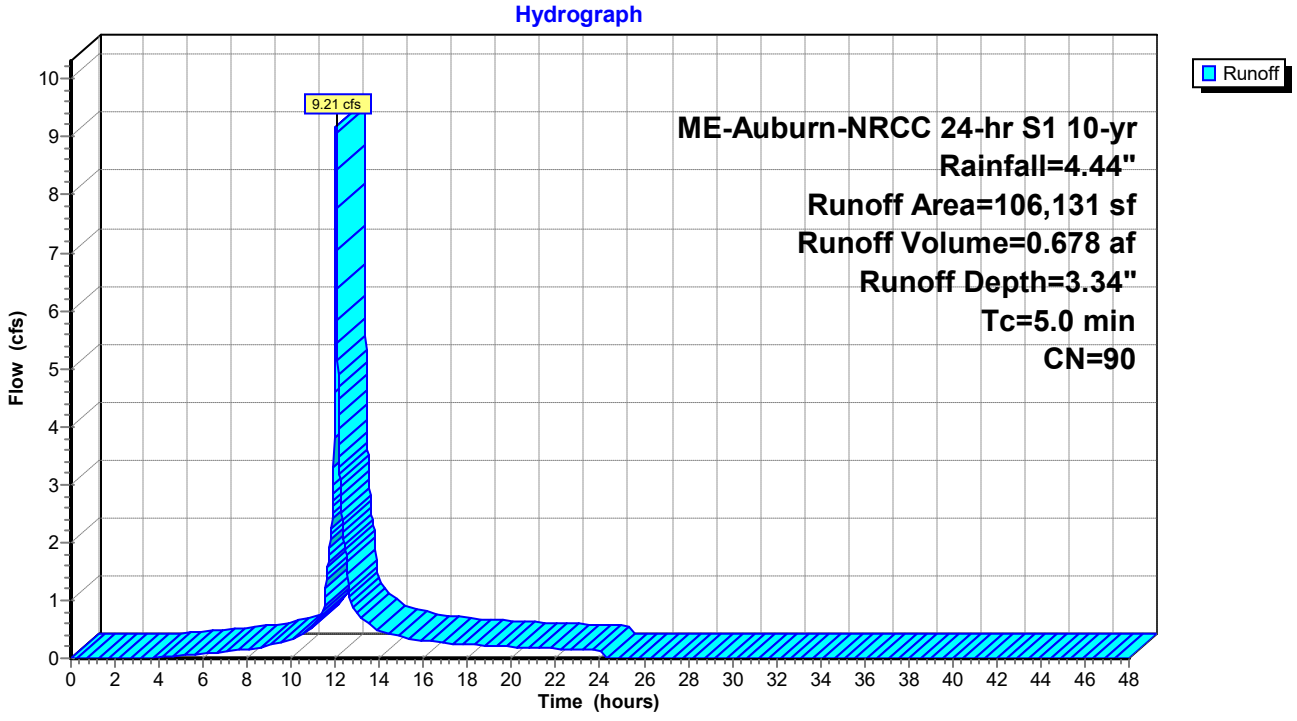
Runoff = 9.21 cfs @ 12.03 hrs, Volume= 0.678 af, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
*	78,774	98	Impervious
	13,470	74	>75% Grass cover, Good, HSG C
	13,887	61	>75% Grass cover, Good, HSG B
	106,131	90	Weighted Average
	27,357		25.78% Pervious Area
	78,774		74.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Storage Building Area



Summary for Subcatchment 3S: To GUSF1

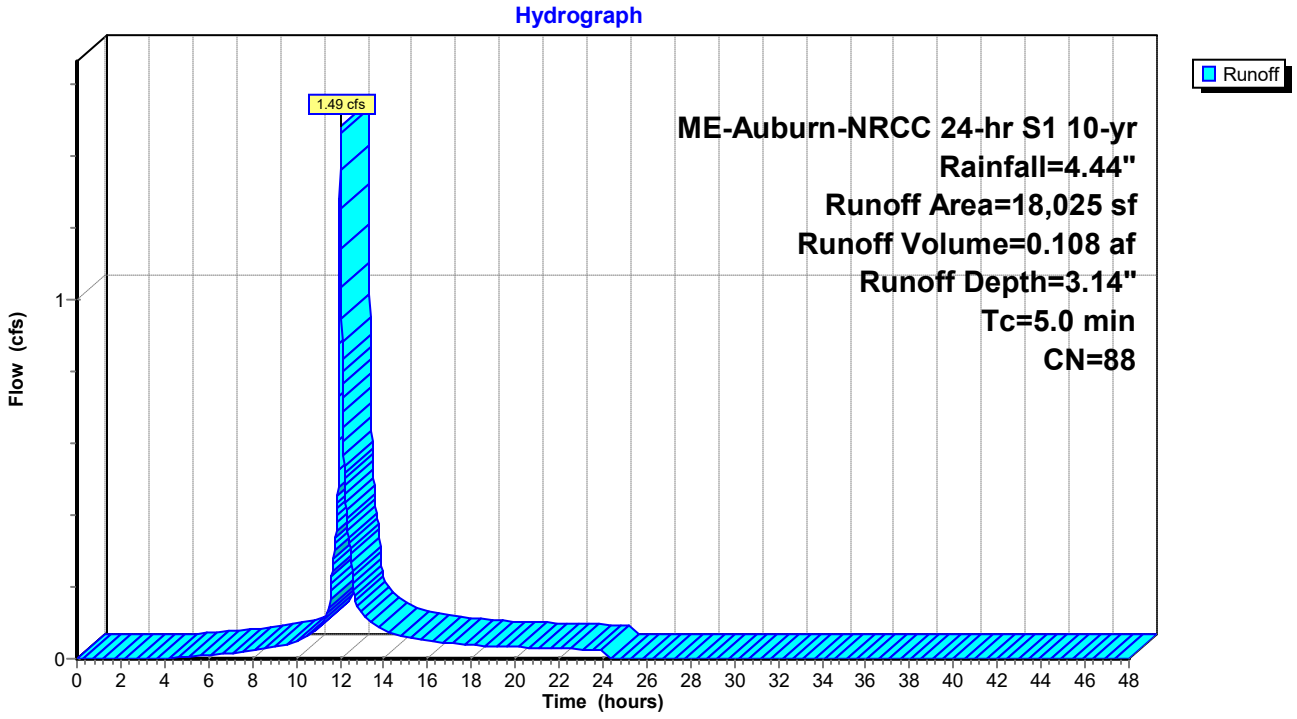
Runoff = 1.49 cfs @ 12.03 hrs, Volume= 0.108 af, Depth= 3.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

Area (sf)	CN	Description
10,530	98	Paved parking, HSG C
7,495	74	>75% Grass cover, Good, HSG C
18,025	88	Weighted Average
7,495		41.58% Pervious Area
10,530		58.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: To GUSF1



Summary for Subcatchment 4S: To GUSF2

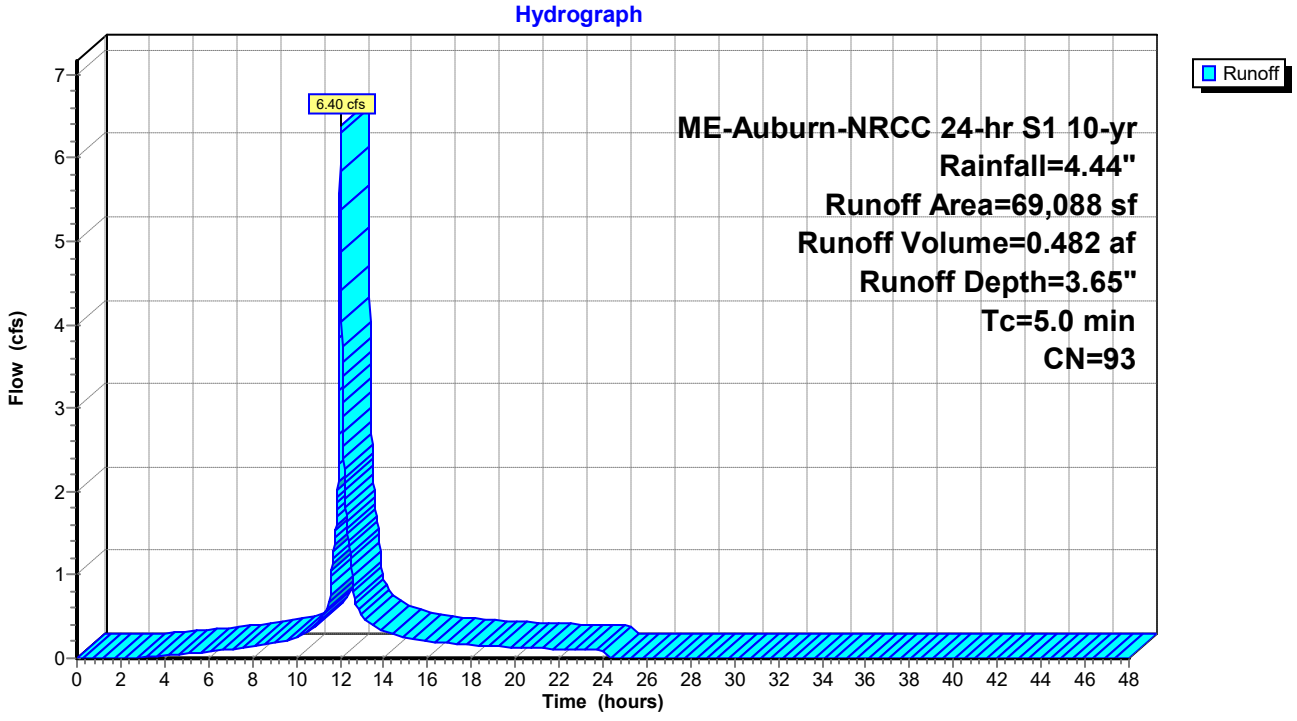
Runoff = 6.40 cfs @ 12.03 hrs, Volume= 0.482 af, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
*	53,245	98	Impervious
	14,211	74	>75% Grass cover, Good, HSG C
*	1,632	98	Impervious
	69,088	93	Weighted Average
	14,211		20.57% Pervious Area
	54,877		79.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: To GUSF2



Summary for Subcatchment 5S: Treated Parking Lot

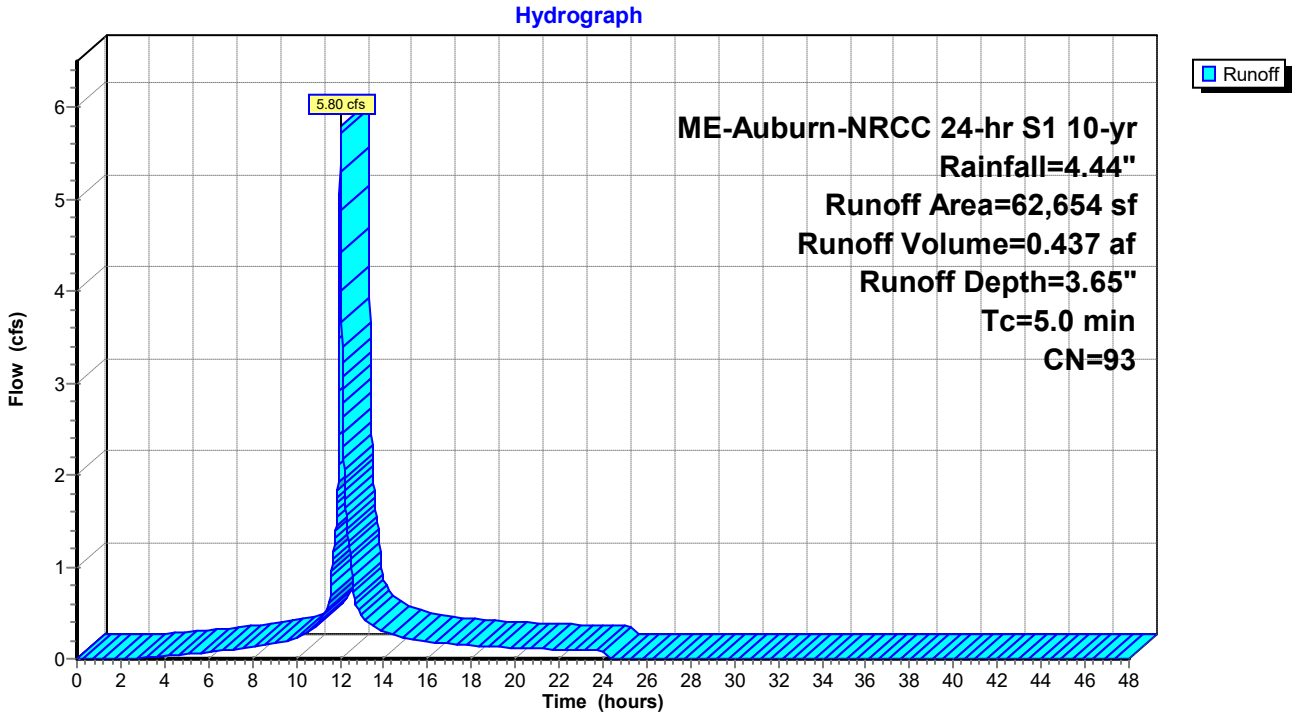
Runoff = 5.80 cfs @ 12.03 hrs, Volume= 0.437 af, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
	12,643	74	>75% Grass cover, Good, HSG C
*	50,011	98	Impervious
	62,654	93	Weighted Average
	12,643		20.18% Pervious Area
	50,011		79.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S: Treated Parking Lot



Summary for Subcatchment 6S: Off-Site to Pond

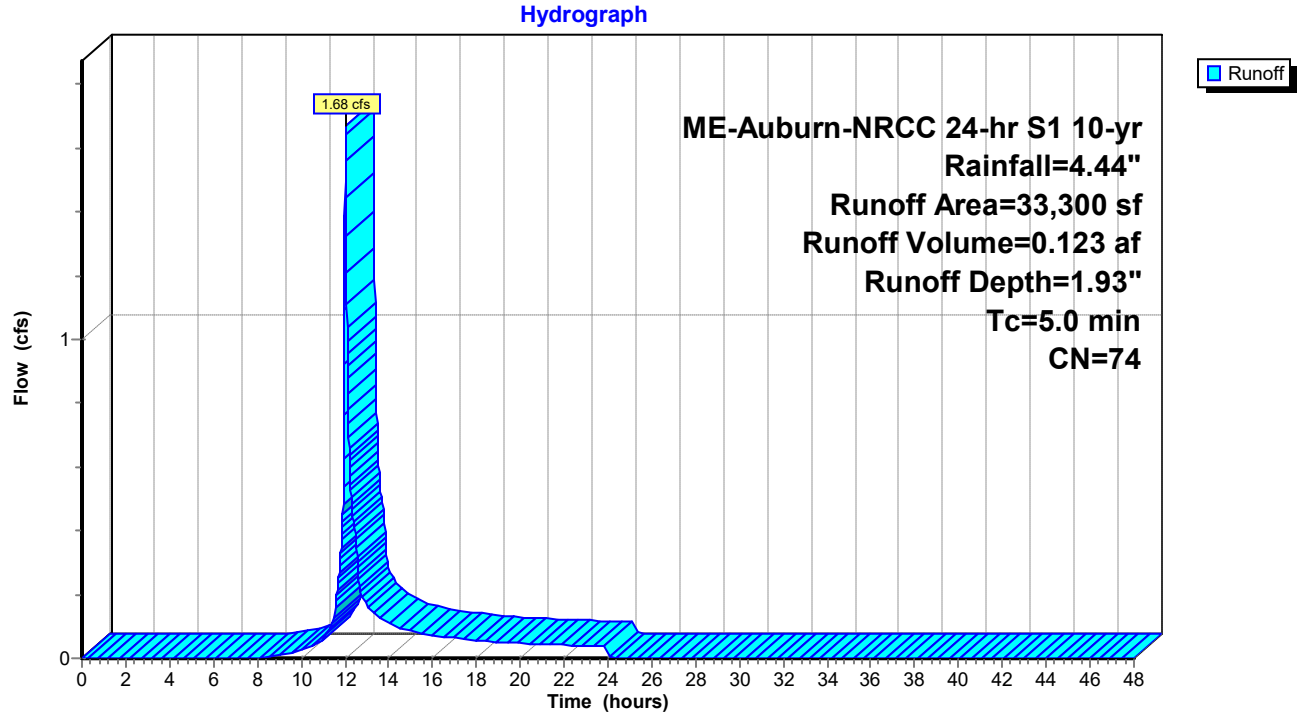
Runoff = 1.68 cfs @ 12.03 hrs, Volume= 0.123 af, Depth= 1.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
*	5,516	98	Impervious
	11,046	61	>75% Grass cover, Good, HSG B
	16,738	74	>75% Grass cover, Good, HSG C
	33,300	74	Weighted Average
	27,784		83.44% Pervious Area
	5,516		16.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 6S: Off-Site to Pond



Summary for Subcatchment 7S: No Treat Parking Lot

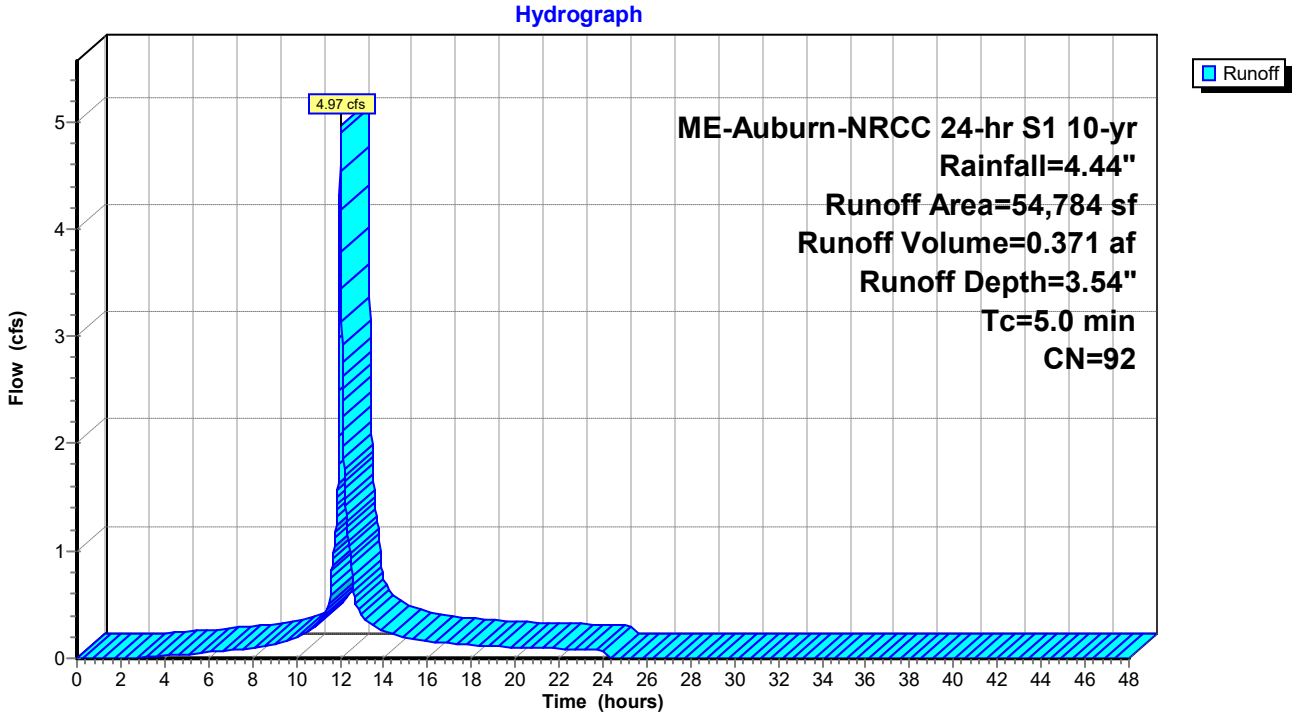
Runoff = 4.97 cfs @ 12.03 hrs, Volume= 0.371 af, Depth= 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

	Area (sf)	CN	Description
*	39,768	98	Impervious
	14,306	74	>75% Grass cover, Good, HSG C
*	710	96	Gravel
	54,784	92	Weighted Average
	15,016		27.41% Pervious Area
	39,768		72.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 7S: No Treat Parking Lot



Summary for Subcatchment 8S: No Treat to Stream

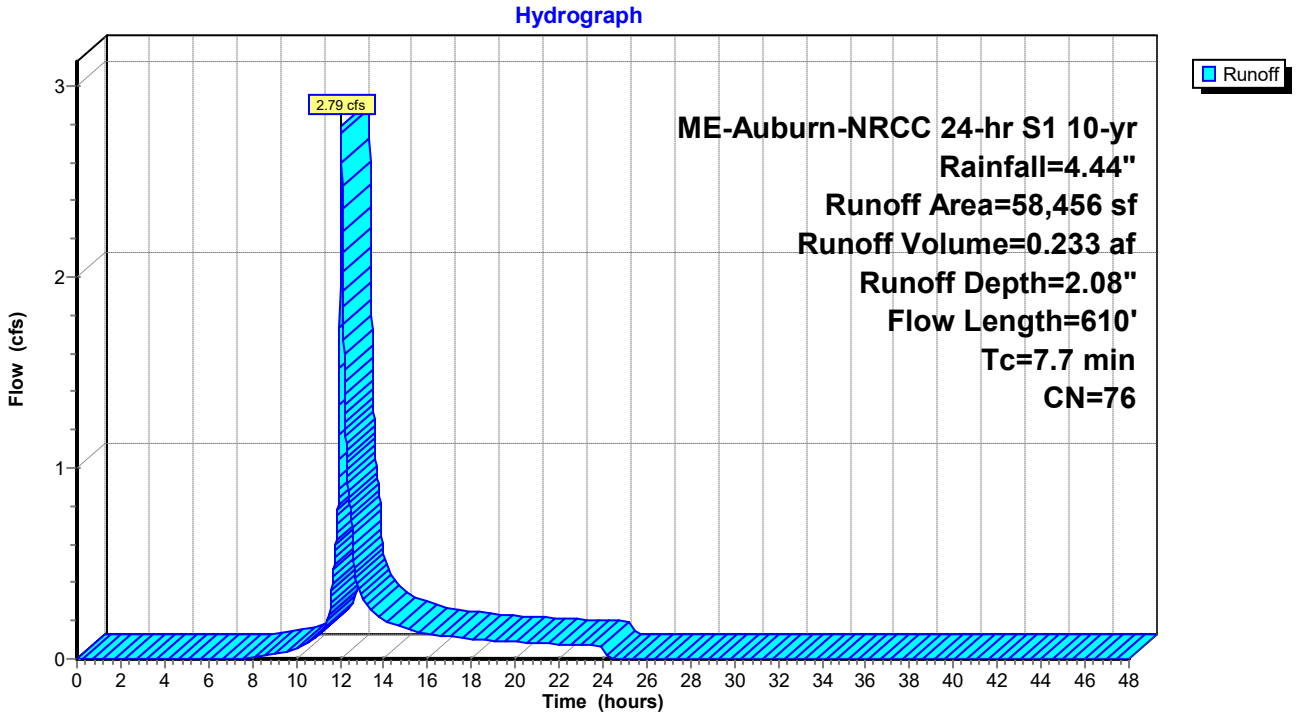
Runoff = 2.79 cfs @ 12.06 hrs, Volume= 0.233 af, Depth= 2.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 10-yr Rainfall=4.44"

Area (sf)	CN	Description
4,705	98	Paved parking, HSG C
53,751	74	>75% Grass cover, Good, HSG C
58,456	76	Weighted Average
53,751		91.95% Pervious Area
4,705		8.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	65	0.2000	0.38		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.01"
4.9	545	0.0150	1.84		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.7	610	Total			

Subcatchment 8S: No Treat to Stream

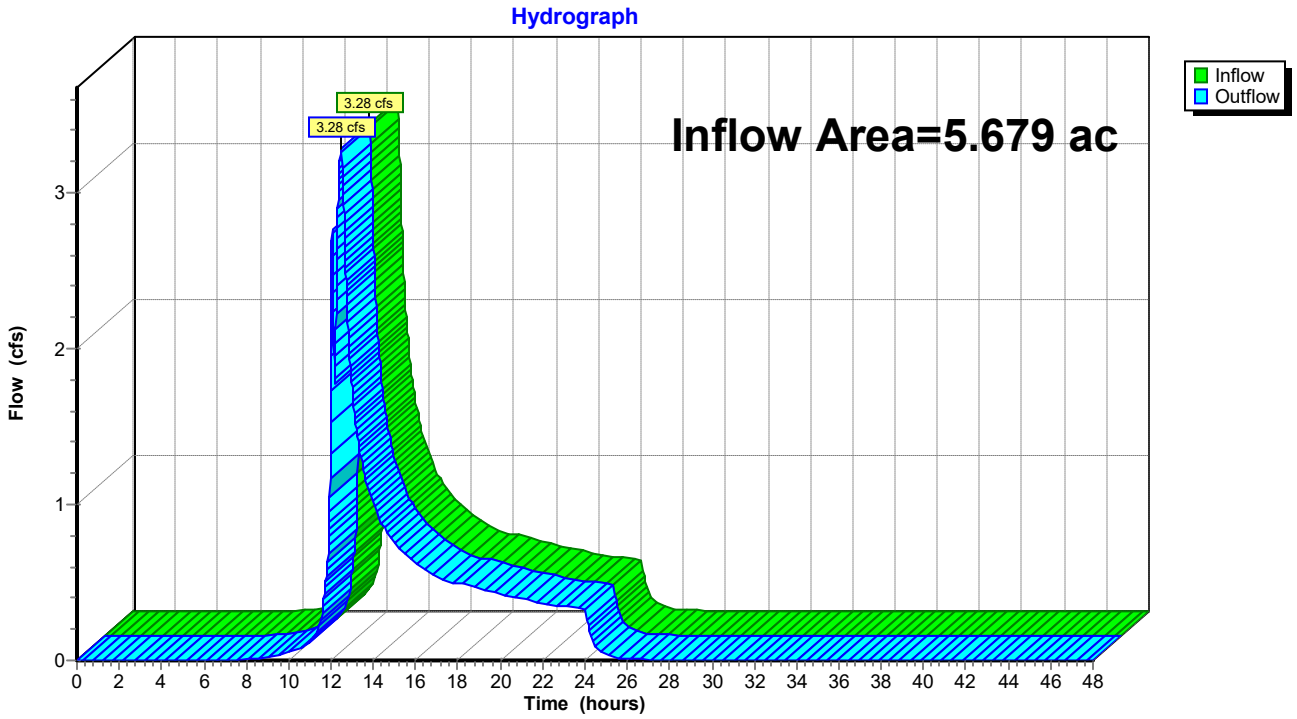


Summary for Reach SP1: Stream Inlet

Inflow Area = 5.679 ac, 40.23% Impervious, Inflow Depth = 1.66" for 10-yr event
Inflow = 3.28 cfs @ 12.48 hrs, Volume= 0.788 af
Outflow = 3.28 cfs @ 12.48 hrs, Volume= 0.788 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP1: Stream Inlet

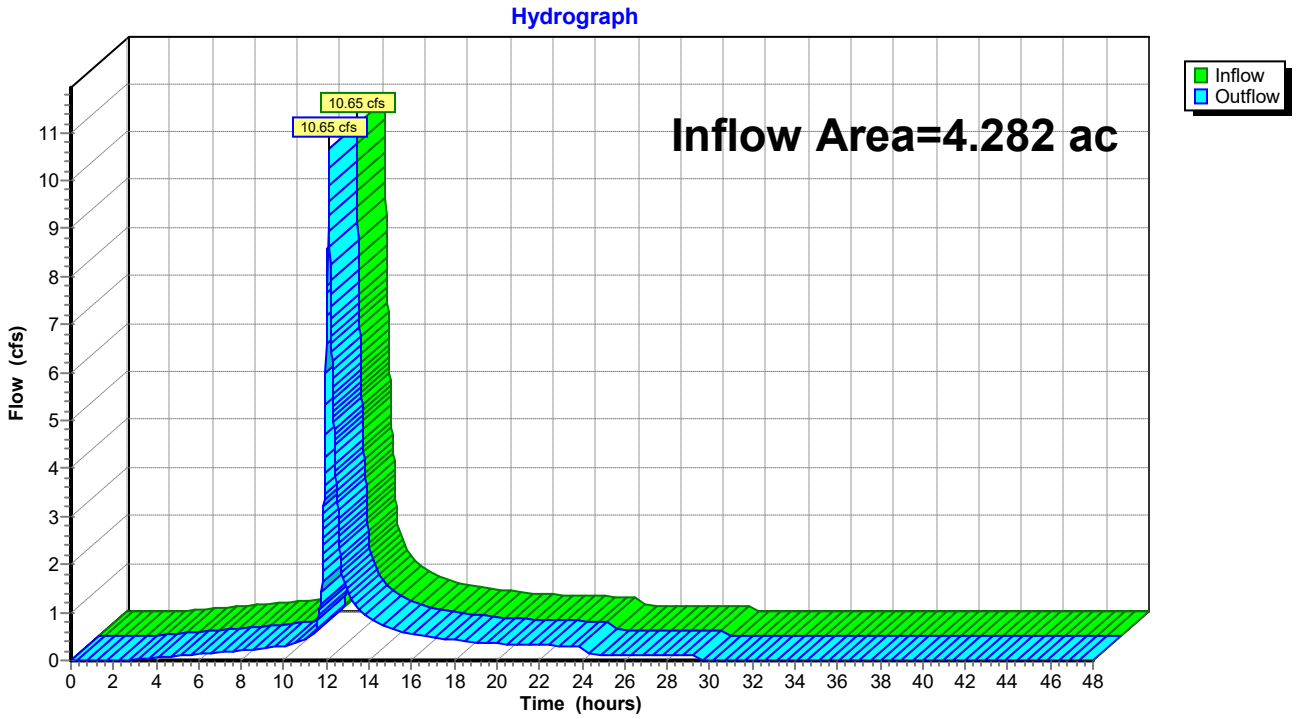


Summary for Reach SP2: Center Street CB

Inflow Area = 4.282 ac, 77.55% Impervious, Inflow Depth = 3.05" for 10-yr event
Inflow = 10.65 cfs @ 12.10 hrs, Volume= 1.087 af
Outflow = 10.65 cfs @ 12.10 hrs, Volume= 1.087 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP2: Center Street CB



Summary for Pond 1P: Wet Pond Full

Inflow Area = 3.923 ac, 49.32% Impervious, Inflow Depth = 2.99" for 10-yr event
Inflow = 13.34 cfs @ 12.03 hrs, Volume= 0.978 af
Outflow = 2.54 cfs @ 12.53 hrs, Volume= 0.539 af, Atten= 81%, Lag= 30.1 min
Primary = 2.54 cfs @ 12.53 hrs, Volume= 0.539 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 236.21' @ 12.53 hrs Surf.Area= 10,769 sf Storage= 21,406 cf

Plug-Flow detention time= 294.9 min calculated for 0.539 af (55% of inflow)
Center-of-Mass det. time= 152.2 min (971.2 - 819.0)

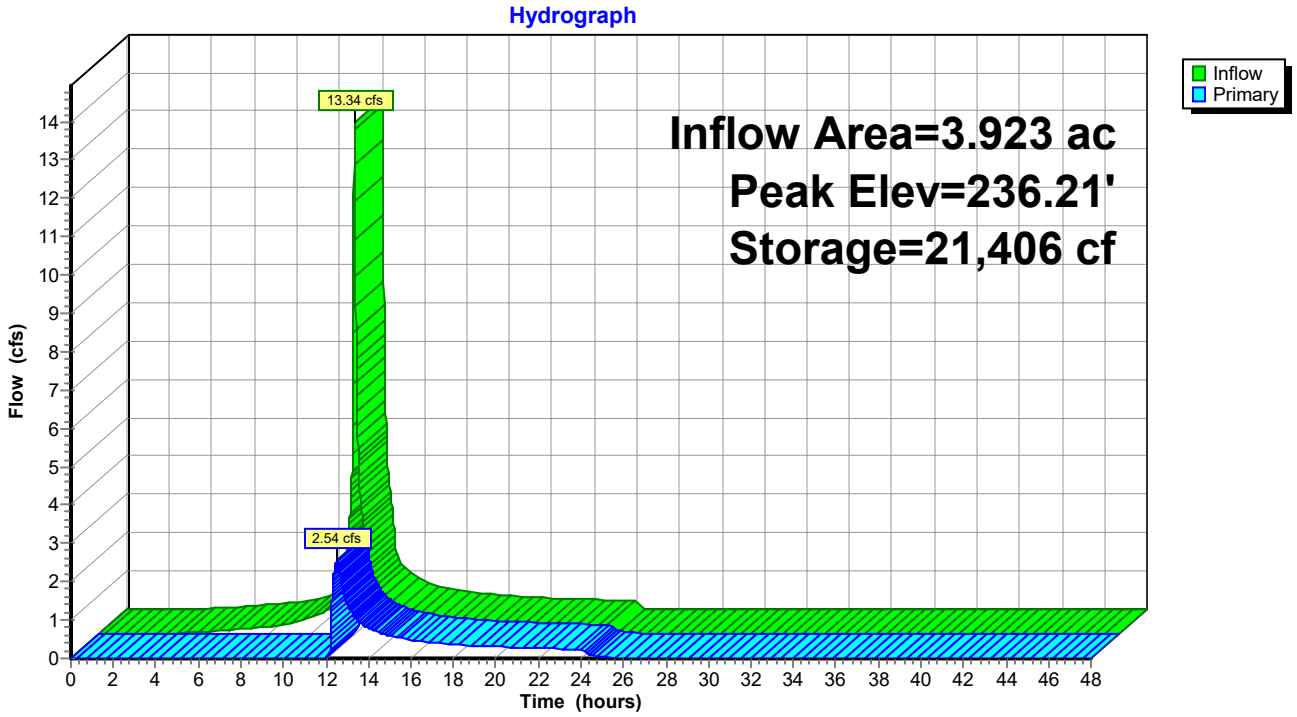
Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	36,205 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
234.00	8,533	0	0
235.00	9,585	9,059	9,059
236.00	10,550	10,068	19,127
237.00	11,575	11,063	30,189
237.50	12,488	6,016	36,205

Device	Routing	Invert	Outlet Devices
#1	Primary	236.00'	**10.0' long x 12.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=2.54 cfs @ 12.53 hrs HW=236.21' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 2.54 cfs @ 1.19 fps)

Pond 1P: Wet Pond Full



Summary for Pond 2P: Extra Storage

Inflow	=	5.63 cfs @	12.03 hrs,	Volume=	0.207 af
Outflow	=	3.68 cfs @	12.10 hrs,	Volume=	0.135 af, Atten= 35%, Lag= 4.1 min
Primary	=	3.68 cfs @	12.10 hrs,	Volume=	0.135 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 230.21' @ 12.10 hrs Surf.Area= 1,371 sf Storage= 3,244 cf
Flood Elev= 231.00' Surf.Area= 1,371 sf Storage= 3,680 cf

Plug-Flow detention time= 70.8 min calculated for 0.135 af (65% of inflow)
Center-of-Mass det. time= 28.0 min (796.8 - 768.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	226.00'	2,118 cf	**11.00'W x 124.66'L x 5.00'H Field A** 6,856 cf Overall - 1,562 cf Embedded = 5,294 cf x 40.0% Voids
#2A	226.00'	1,562 cf	**ADS_StormTech SC-740 +Cap** x 34 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 34 Chambers in 2 Rows
		3,680 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	226.00'	**12.0" Round Culvert X 2.00** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 226.00' / 225.10' S= 0.0113 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	230.00'	**6.0' long Sharp-Crested Vee/Trap Weir X 2.00** Cv= 2.62 (C= 3.28)

Primary OutFlow Max=3.63 cfs @ 12.10 hrs HW=230.20' TW=226.55' (Dynamic Tailwater)
↑**1=Culvert** (Passes 3.63 cfs of 12.04 cfs potential flow)
↑**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 3.63 cfs @ 1.48 fps)

Pond 2P: Extra Storage - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

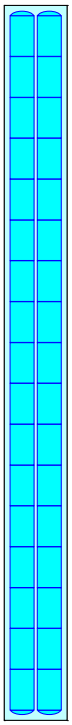
17 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 122.66' Row Length +12.0" End Stone x 2 = 124.66' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
30.0" Chamber Height + 30.0" Cover = 5.00' Field Height

34 Chambers x 45.9 cf = 1,562.0 cf Chamber Storage

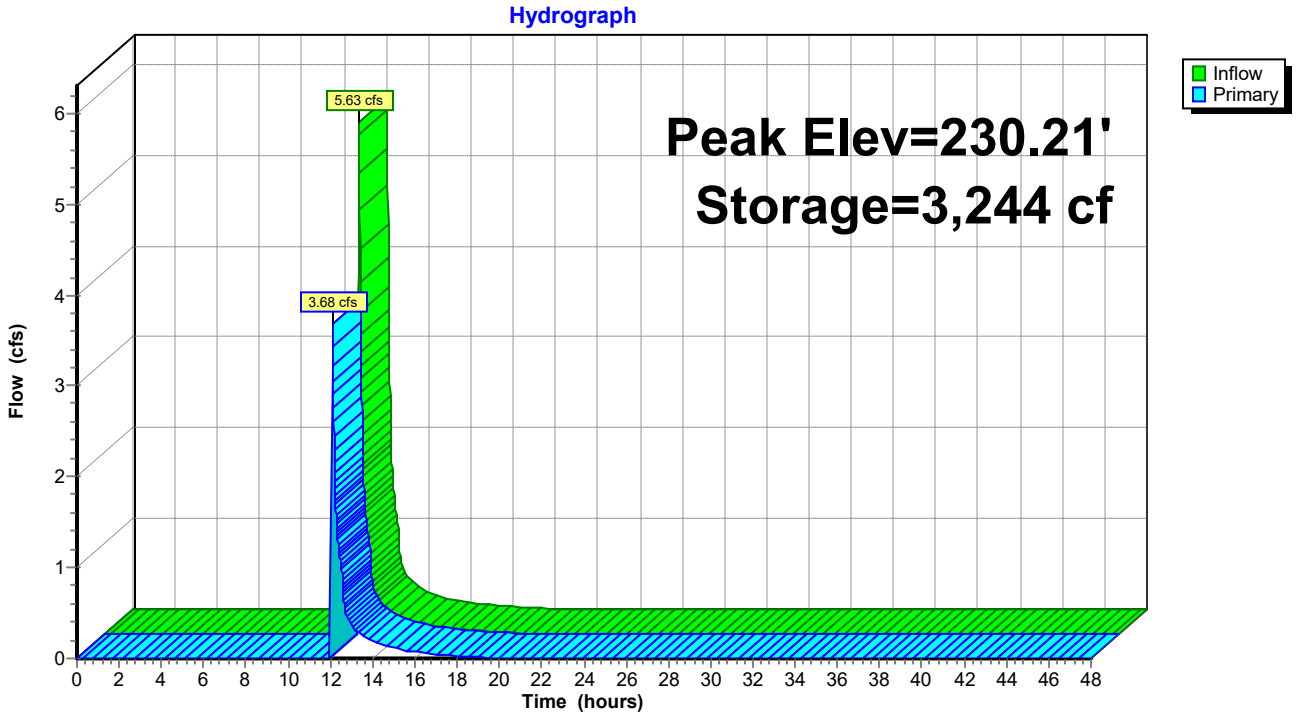
6,856.1 cf Field - 1,562.0 cf Chambers = 5,294.2 cf Stone x 40.0% Voids = 2,117.7 cf Stone Storage

Chamber Storage + Stone Storage = 3,679.6 cf = 0.084 af
Overall Storage Efficiency = 53.7%
Overall System Size = 124.66' x 11.00' x 5.00'

34 Chambers
253.9 cy Field
196.1 cy Stone



Pond 2P: Extra Storage



Summary for Pond 3P: DMH

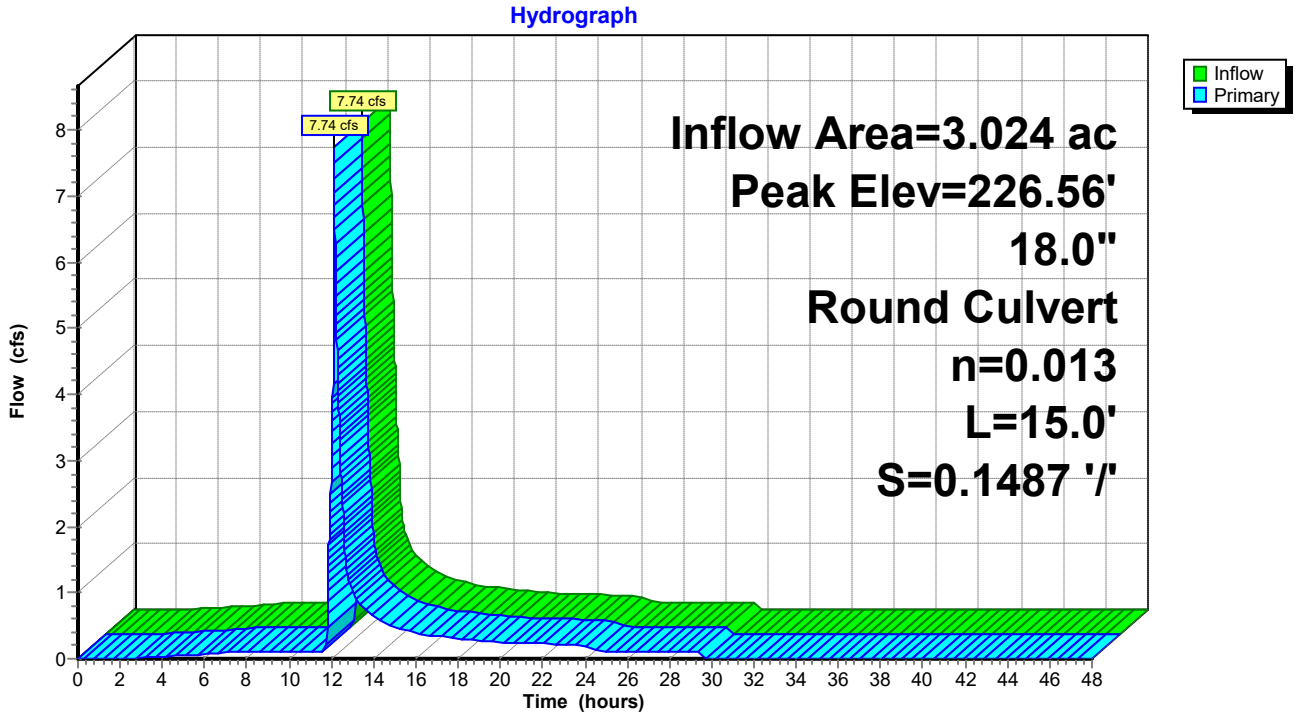
Inflow Area = 3.024 ac, 79.62% Impervious, Inflow Depth = 2.84" for 10-yr event
Inflow = 7.74 cfs @ 12.10 hrs, Volume= 0.716 af
Outflow = 7.74 cfs @ 12.10 hrs, Volume= 0.716 af, Atten= 0%, Lag= 0.0 min
Primary = 7.74 cfs @ 12.10 hrs, Volume= 0.716 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 226.56' @ 12.10 hrs
Flood Elev= 232.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	224.98'	**18.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 224.98' / 222.75' S= 0.1487 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=7.69 cfs @ 12.10 hrs HW=226.55' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 7.69 cfs @ 4.35 fps)

Pond 3P: DMH



Summary for Pond GUSF1: Soil Filter

Inflow Area = 0.414 ac, 58.42% Impervious, Inflow Depth = 3.14" for 10-yr event
Inflow = 1.49 cfs @ 12.03 hrs, Volume= 0.108 af
Outflow = 0.04 cfs @ 18.24 hrs, Volume= 0.016 af, Atten= 97%, Lag= 372.5 min
Primary = 0.04 cfs @ 18.24 hrs, Volume= 0.016 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 233.51' @ 18.24 hrs Surf.Area= 3,355 sf Storage= 4,030 cf
Flood Elev= 234.00' Surf.Area= 3,800 sf Storage= 5,800 cf

Plug-Flow detention time= 688.8 min calculated for 0.016 af (15% of inflow)
Center-of-Mass det. time= 431.4 min (1,248.7 - 817.3)

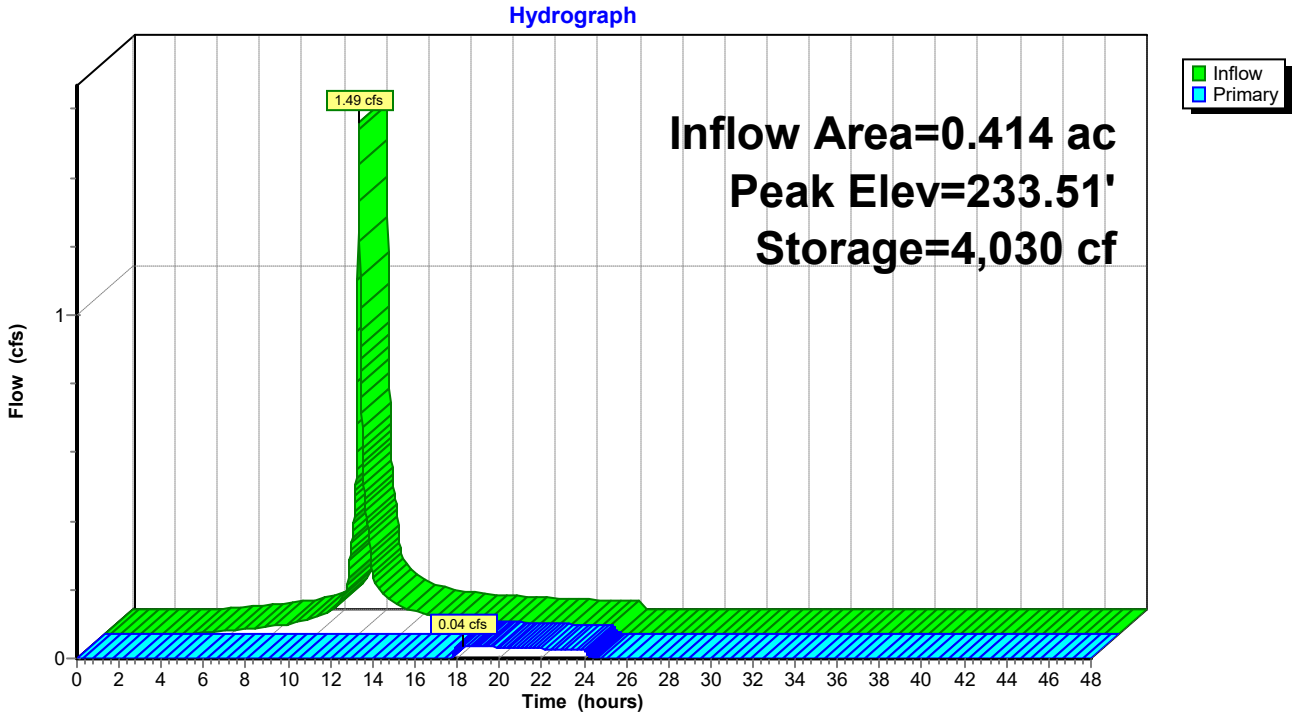
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	10,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.00	2,000	0	0
233.00	2,900	2,450	2,450
234.00	3,800	3,350	5,800
235.00	5,000	4,400	10,200

Device	Routing	Invert	Outlet Devices
#1	Device 2	233.50'	**6.0" x 1.5" Horiz. Orifice/Grate X 24.00** C= 0.600 Limited to weir flow at low heads
#2	Primary	229.17'	**12.0" Round Culvert** L= 89.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.17' / 229.00' S= 0.0019 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.04 cfs @ 18.24 hrs HW=233.51' TW=0.00' (Dynamic Tailwater)
↑**2=Culvert** (Passes 0.04 cfs of 5.69 cfs potential flow)
↑**1=Orifice/Grate** (Weir Controls 0.04 cfs @ 0.24 fps)

Pond GUSF1: Soil Filter



Summary for Pond GUSF2: Soil Filter

Inflow Area = 1.586 ac, 79.43% Impervious, Inflow Depth = 3.65" for 10-yr event
Inflow = 6.40 cfs @ 12.03 hrs, Volume= 0.482 af
Outflow = 3.95 cfs @ 12.09 hrs, Volume= 0.350 af, Atten= 38%, Lag= 4.0 min
Primary = 3.95 cfs @ 12.09 hrs, Volume= 0.350 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 233.80' @ 12.09 hrs Surf.Area= 5,059 sf Storage= 7,208 cf
Flood Elev= 234.00' Surf.Area= 5,300 sf Storage= 8,250 cf

Plug-Flow detention time= 199.7 min calculated for 0.350 af (73% of inflow)
Center-of-Mass det. time= 87.9 min (878.5 - 790.6)

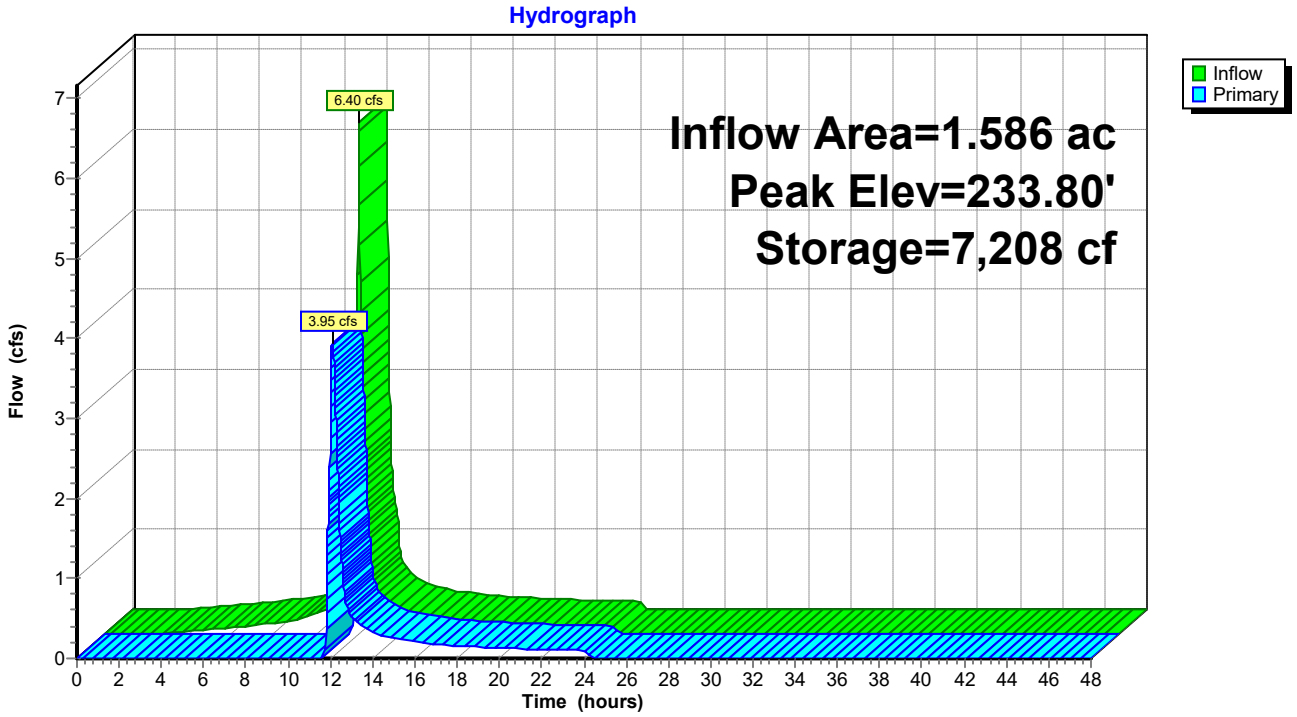
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	14,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.00	3,000	0	0
233.00	4,100	3,550	3,550
234.00	5,300	4,700	8,250
235.00	6,600	5,950	14,200

Device	Routing	Invert	Outlet Devices
#1	Device 2	233.50'	**6.0" x 1.5" Horiz. Orifice/Grate X 24.00** C= 0.600 Limited to weir flow at low heads
#2	Primary	229.17'	**12.0" Round Culvert** L= 89.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.17' / 227.00' S= 0.0244 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.95 cfs @ 12.09 hrs HW=233.80' TW=226.49' (Dynamic Tailwater)
↑**2=Culvert** (Passes 3.95 cfs of 7.32 cfs potential flow)
↑**1=Orifice/Grate** (Orifice Controls 3.95 cfs @ 2.63 fps)

Pond GUSF2: Soil Filter



Summary for Pond SSF1: Sand Filter

Inflow Area = 1.438 ac, 79.82% Impervious, Inflow Depth = 3.65" for 10-yr event
Inflow = 5.80 cfs @ 12.03 hrs, Volume= 0.437 af
Outflow = 5.75 cfs @ 12.03 hrs, Volume= 0.437 af, Atten= 1%, Lag= 0.4 min
Primary = 0.11 cfs @ 8.31 hrs, Volume= 0.230 af
Secondary = 5.63 cfs @ 12.03 hrs, Volume= 0.207 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 230.77' @ 12.03 hrs Surf.Area= 2,257 sf Storage= 2,651 cf
Flood Elev= 231.00' Surf.Area= 2,257 sf Storage= 2,855 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 118.6 min (909.2 - 790.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	228.67'	1,605 cf	**18.17'W x 124.24'L x 2.33'H Field A** 5,266 cf Overall - 1,253 cf Embedded = 4,013 cf x 40.0% Voids
#2A	229.17'	1,253 cf	**ADS_StormTech SC-310 +Cap** x 85 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 85 Chambers in 5 Rows
		2,858 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Secondary	229.17'	**12.0" Round Culvert X 2.00** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.17' / 229.07' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	230.50'	**6.0' long Sharp-Crested Vee/Trap Weir X 2.00** Cv= 2.62 (C= 3.28)
#3	Primary	228.67'	**2.200 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.11 cfs @ 8.31 hrs HW=228.69' TW=225.13' (Dynamic Tailwater)
└─**3=Exfiltration** (Exfiltration Controls 0.11 cfs)

Secondary OutFlow Max=5.62 cfs @ 12.03 hrs HW=230.77' TW=228.48' (Dynamic Tailwater)
└─**1=Culvert** (Passes 5.62 cfs of 7.85 cfs potential flow)
└─**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 5.62 cfs @ 1.71 fps)

Pond SSF1: Sand Filter - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 6.0" Spacing = 40.0" C-C Row Spacing

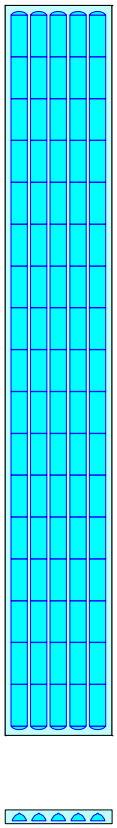
17 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 122.24' Row Length +12.0" End Stone x 2 = 124.24' Base Length
5 Rows x 34.0" Wide + 6.0" Spacing x 4 + 12.0" Side Stone x 2 = 18.17' Base Width
6.0" Base + 16.0" Chamber Height + 6.0" Cover = 2.33' Field Height

85 Chambers x 14.7 cf = 1,253.1 cf Chamber Storage

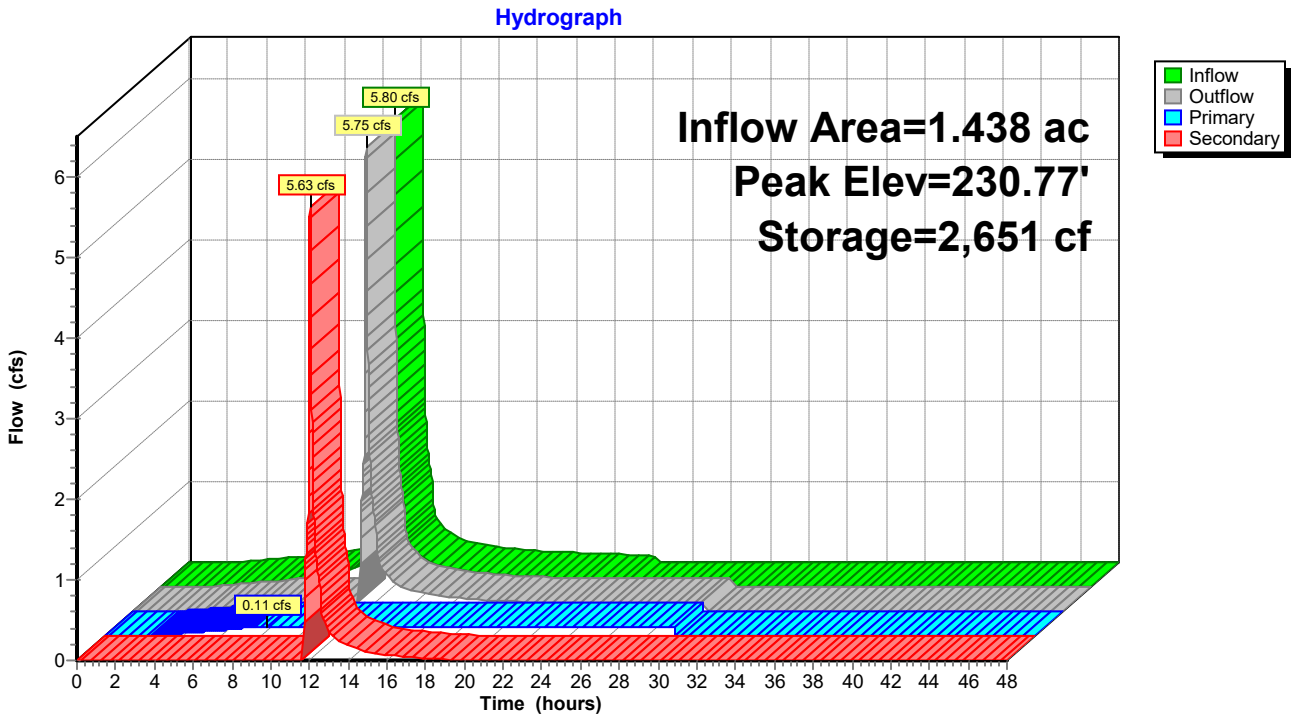
5,266.4 cf Field - 1,253.1 cf Chambers = 4,013.3 cf Stone x 40.0% Voids = 1,605.3 cf Stone Storage

Chamber Storage + Stone Storage = 2,858.4 cf = 0.066 af
Overall Storage Efficiency = 54.3%
Overall System Size = 124.24' x 18.17' x 2.33'

85 Chambers
195.1 cy Field
148.6 cy Stone



Pond SSF1: Sand Filter



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Rear Paved Runoff Area=31,476 sf 0.00% Impervious Runoff Depth=3.99"
Tc=5.0 min CN=86 Runoff=3.25 cfs 0.240 af

Subcatchment 2S: Storage Building Area Runoff Area=106,131 sf 74.22% Impervious Runoff Depth=4.42"
Tc=5.0 min CN=90 Runoff=11.87 cfs 0.897 af

Subcatchment 3S: To GUSF1 Runoff Area=18,025 sf 58.42% Impervious Runoff Depth=4.20"
Tc=5.0 min CN=88 Runoff=1.94 cfs 0.145 af

Subcatchment 4S: To GUSF2 Runoff Area=69,088 sf 79.43% Impervious Runoff Depth=4.75"
Tc=5.0 min CN=93 Runoff=8.10 cfs 0.628 af

Subcatchment 5S: Treated Parking Lot Runoff Area=62,654 sf 79.82% Impervious Runoff Depth=4.75"
Tc=5.0 min CN=93 Runoff=7.35 cfs 0.569 af

Subcatchment 6S: Off-Site to Pond Runoff Area=33,300 sf 16.56% Impervious Runoff Depth=2.82"
Tc=5.0 min CN=74 Runoff=2.46 cfs 0.180 af

Subcatchment 7S: No Treat Parking Lot Runoff Area=54,784 sf 72.59% Impervious Runoff Depth=4.64"
Tc=5.0 min CN=92 Runoff=6.33 cfs 0.486 af

Subcatchment 8S: No Treat to Stream Runoff Area=58,456 sf 8.05% Impervious Runoff Depth=3.00"
Flow Length=610' Tc=7.7 min CN=76 Runoff=4.03 cfs 0.336 af

Reach SP1: Stream Inlet Inflow=10.44 cfs 1.267 af
Outflow=10.44 cfs 1.267 af

Reach SP2: Center Street CB Inflow=16.78 cfs 1.479 af
Outflow=16.78 cfs 1.479 af

Pond 1P: Wet Pond Full Peak Elev=236.44' Storage=23,848 cf Inflow=17.58 cfs 1.317 af
Outflow=7.64 cfs 0.878 af

Pond 2P: Extra Storage Peak Elev=230.30' Storage=3,295 cf Inflow=6.43 cfs 0.324 af
Outflow=6.40 cfs 0.252 af

Pond 3P: DMH Peak Elev=227.41' Inflow=11.03 cfs 0.993 af
18.0" Round Culvert n=0.013 L=15.0' S=0.1487 '/' Outflow=11.03 cfs 0.993 af

Pond GUSF1: Soil Filter Peak Elev=233.51' Storage=4,056 cf Inflow=1.94 cfs 0.145 af
Outflow=0.14 cfs 0.053 af

Pond GUSF2: Soil Filter Peak Elev=233.92' Storage=7,832 cf Inflow=8.10 cfs 0.628 af
Outflow=4.68 cfs 0.496 af

Pond SSF1: Sand Filter Peak Elev=231.02' Storage=2,858 cf Inflow=7.35 cfs 0.569 af
Primary=0.11 cfs 0.245 af Secondary=6.43 cfs 0.324 af Outflow=6.55 cfs 0.569 af

Total Runoff Area = 9.961 ac Runoff Volume = 3.481 af Average Runoff Depth = 4.19"
43.73% Pervious = 4.356 ac 56.27% Impervious = 5.606 ac

Summary for Subcatchment 1S: Rear Paved Area/Building

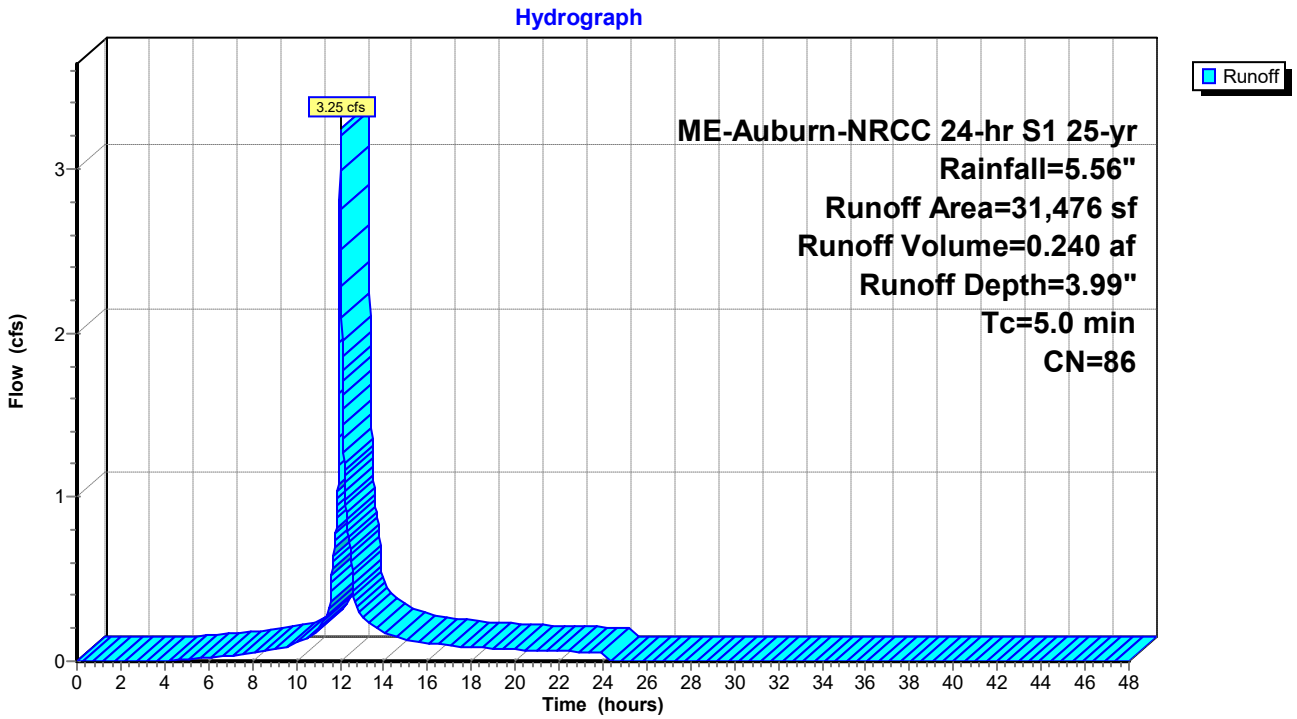
Runoff = 3.25 cfs @ 12.03 hrs, Volume= 0.240 af, Depth= 3.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
	13,645	74	>75% Grass cover, Good, HSG C
*	17,831	96	Gravel
	31,476	86	Weighted Average
	31,476		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Rear Paved Area/Building



Summary for Subcatchment 2S: Storage Building Area

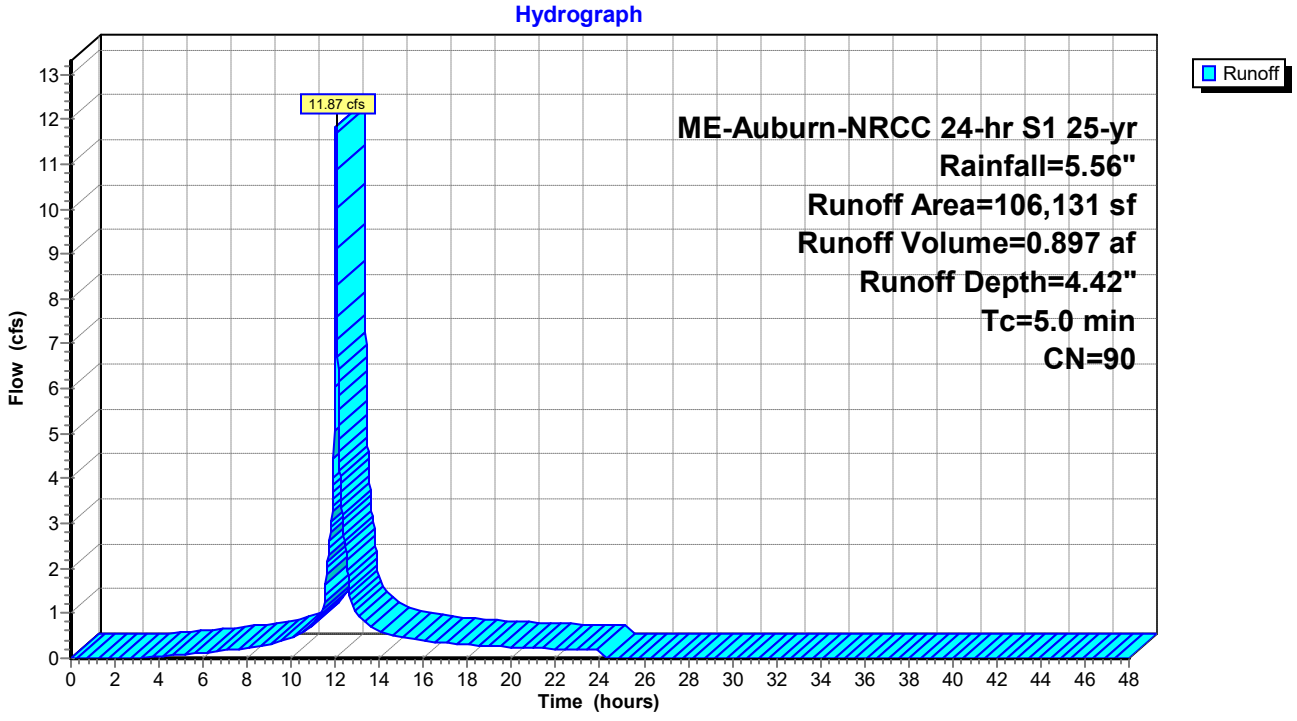
Runoff = 11.87 cfs @ 12.03 hrs, Volume= 0.897 af, Depth= 4.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
*	78,774	98	Impervious
	13,470	74	>75% Grass cover, Good, HSG C
	13,887	61	>75% Grass cover, Good, HSG B
	106,131	90	Weighted Average
	27,357		25.78% Pervious Area
	78,774		74.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Storage Building Area



Summary for Subcatchment 3S: To GUSF1

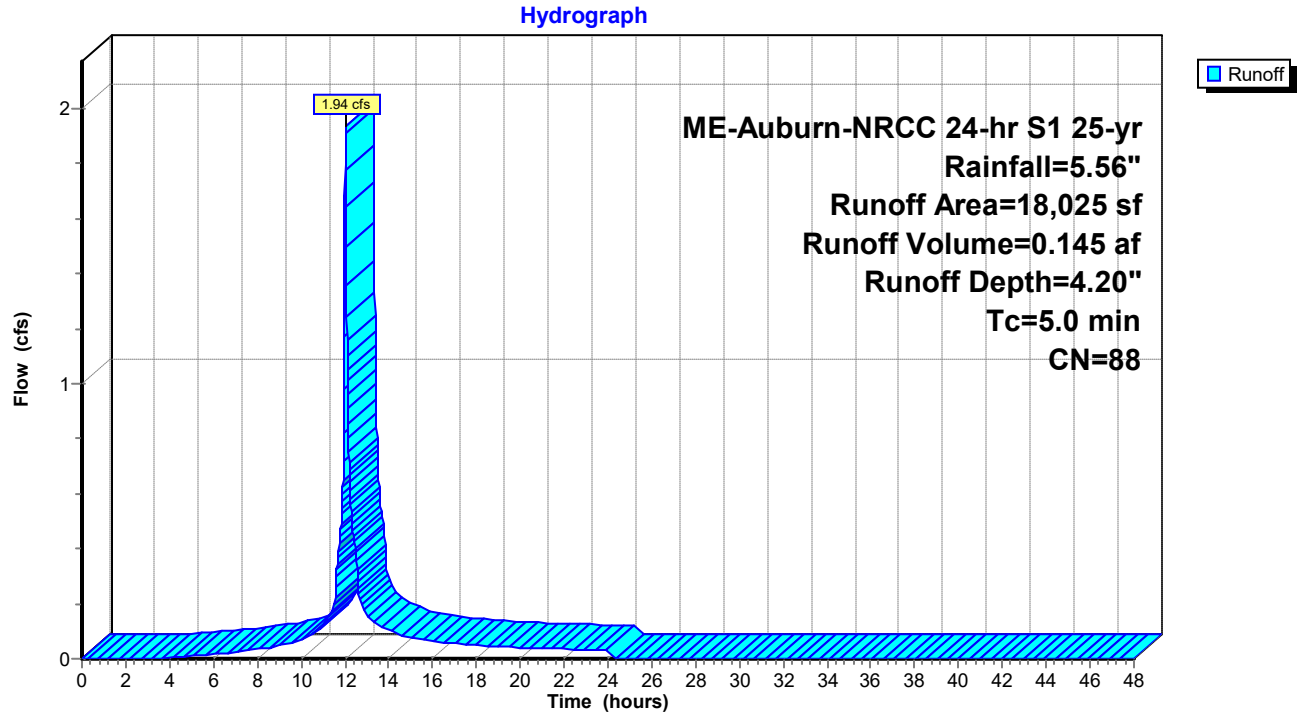
Runoff = 1.94 cfs @ 12.03 hrs, Volume= 0.145 af, Depth= 4.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

Area (sf)	CN	Description
10,530	98	Paved parking, HSG C
7,495	74	>75% Grass cover, Good, HSG C
18,025	88	Weighted Average
7,495		41.58% Pervious Area
10,530		58.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: To GUSF1



Summary for Subcatchment 4S: To GUSF2

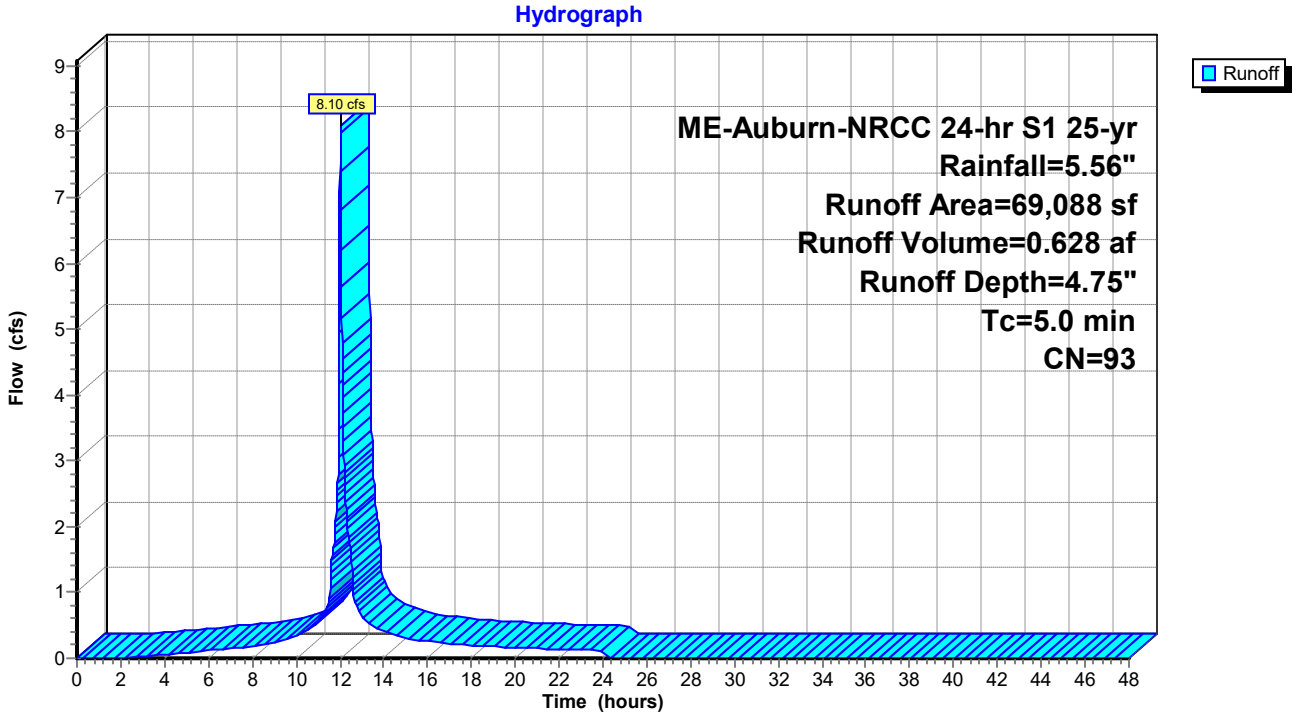
Runoff = 8.10 cfs @ 12.03 hrs, Volume= 0.628 af, Depth= 4.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
*	53,245	98	Impervious
	14,211	74	>75% Grass cover, Good, HSG C
*	1,632	98	Impervious
	69,088	93	Weighted Average
	14,211		20.57% Pervious Area
	54,877		79.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: To GUSF2



Summary for Subcatchment 5S: Treated Parking Lot

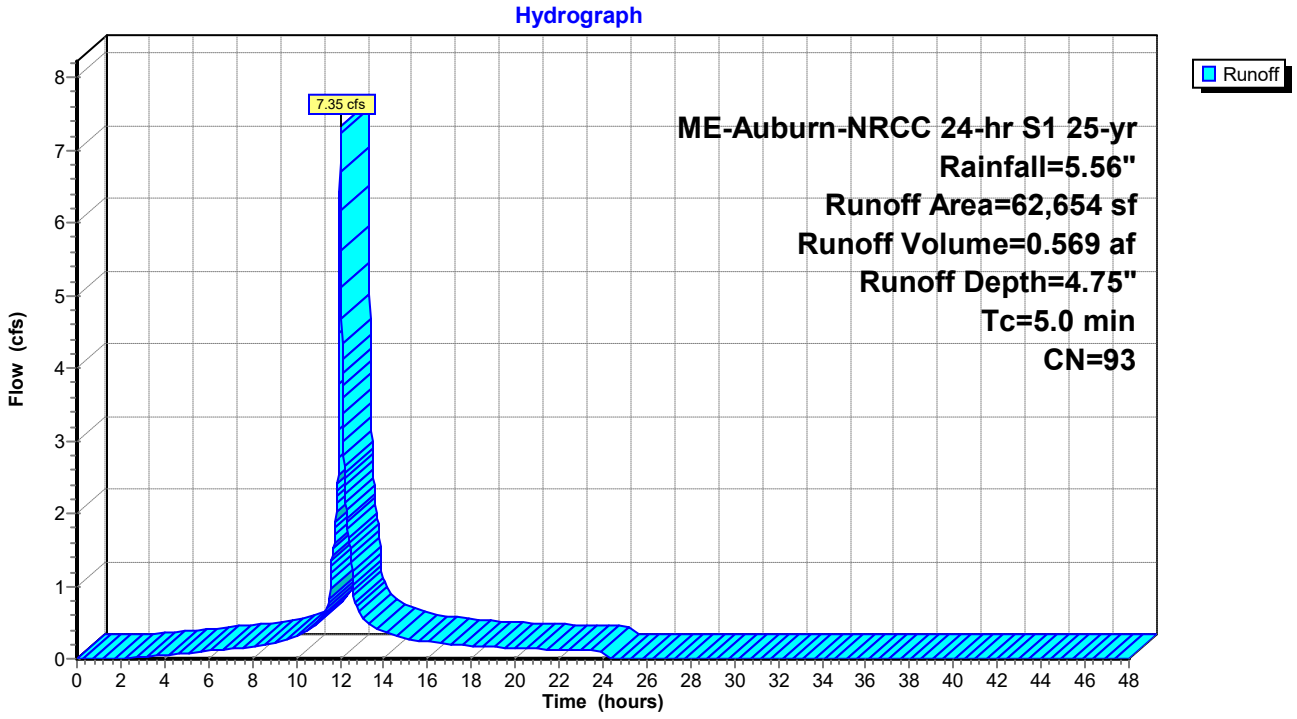
Runoff = 7.35 cfs @ 12.03 hrs, Volume= 0.569 af, Depth= 4.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
	12,643	74	>75% Grass cover, Good, HSG C
*	50,011	98	Impervious
	62,654	93	Weighted Average
	12,643		20.18% Pervious Area
	50,011		79.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S: Treated Parking Lot



Summary for Subcatchment 6S: Off-Site to Pond

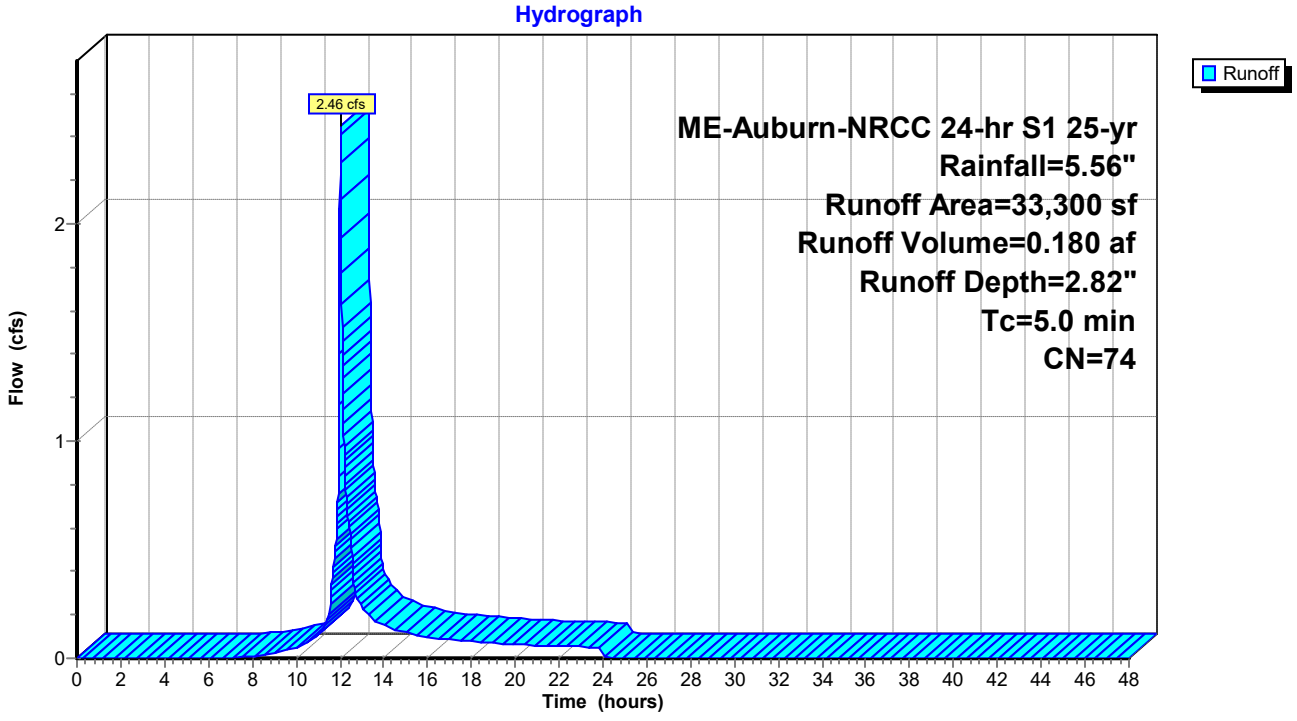
Runoff = 2.46 cfs @ 12.03 hrs, Volume= 0.180 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
*	5,516	98	Impervious
	11,046	61	>75% Grass cover, Good, HSG B
	16,738	74	>75% Grass cover, Good, HSG C
	33,300	74	Weighted Average
	27,784		83.44% Pervious Area
	5,516		16.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 6S: Off-Site to Pond



Summary for Subcatchment 7S: No Treat Parking Lot

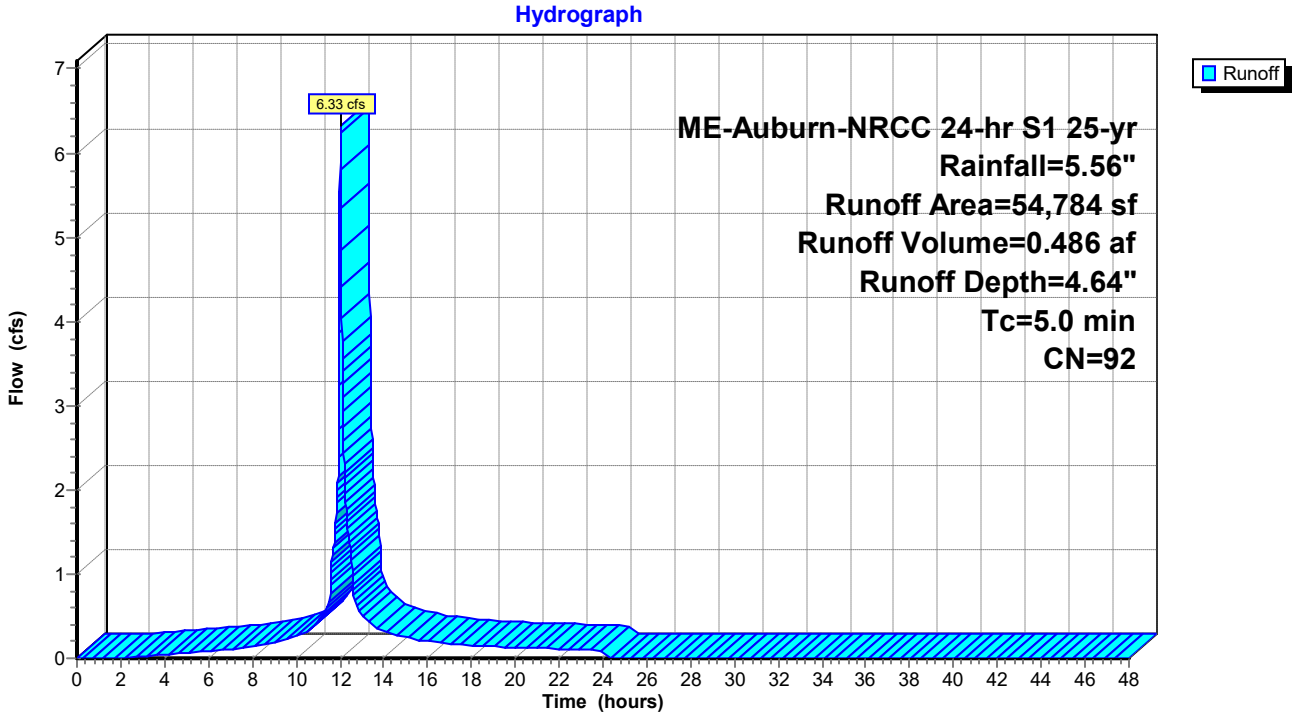
Runoff = 6.33 cfs @ 12.03 hrs, Volume= 0.486 af, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

	Area (sf)	CN	Description
*	39,768	98	Impervious
	14,306	74	>75% Grass cover, Good, HSG C
*	710	96	Gravel
	54,784	92	Weighted Average
	15,016		27.41% Pervious Area
	39,768		72.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 7S: No Treat Parking Lot



Summary for Subcatchment 8S: No Treat to Stream

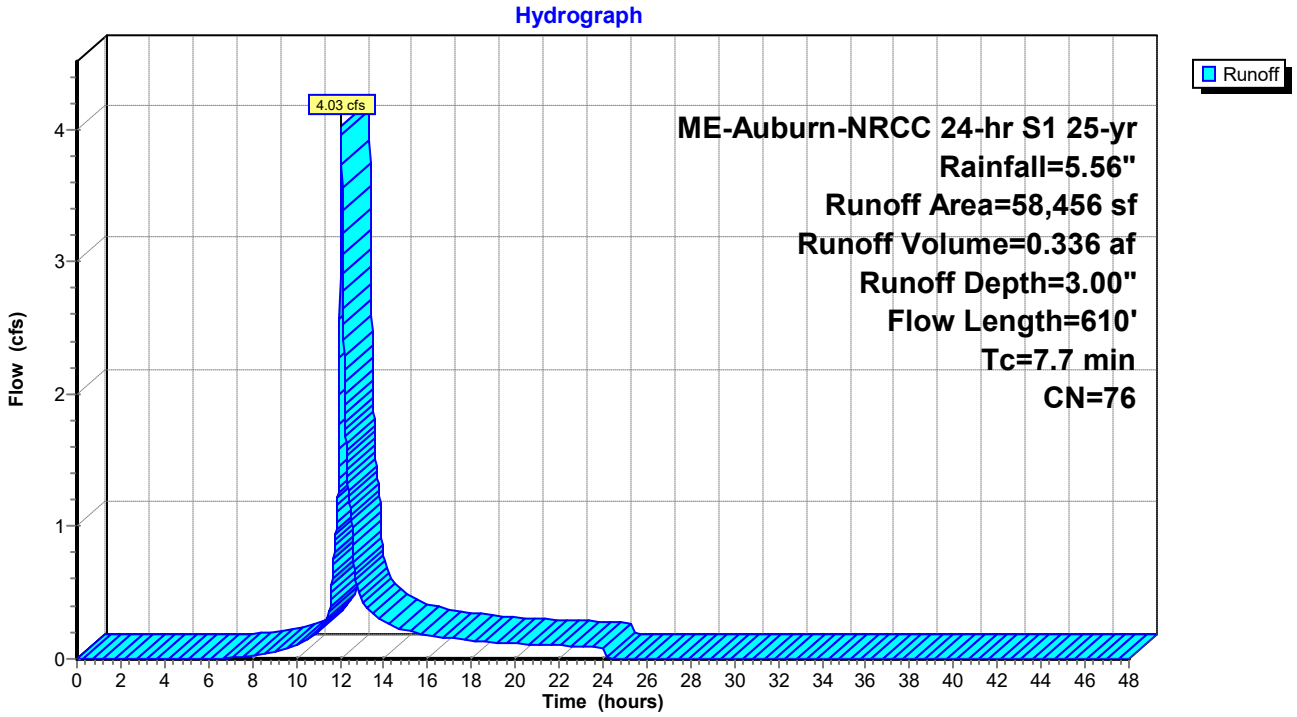
Runoff = 4.03 cfs @ 12.06 hrs, Volume= 0.336 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 25-yr Rainfall=5.56"

Area (sf)	CN	Description
4,705	98	Paved parking, HSG C
53,751	74	>75% Grass cover, Good, HSG C
58,456	76	Weighted Average
53,751		91.95% Pervious Area
4,705		8.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	65	0.2000	0.38		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.01"
4.9	545	0.0150	1.84		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.7	610	Total			

Subcatchment 8S: No Treat to Stream

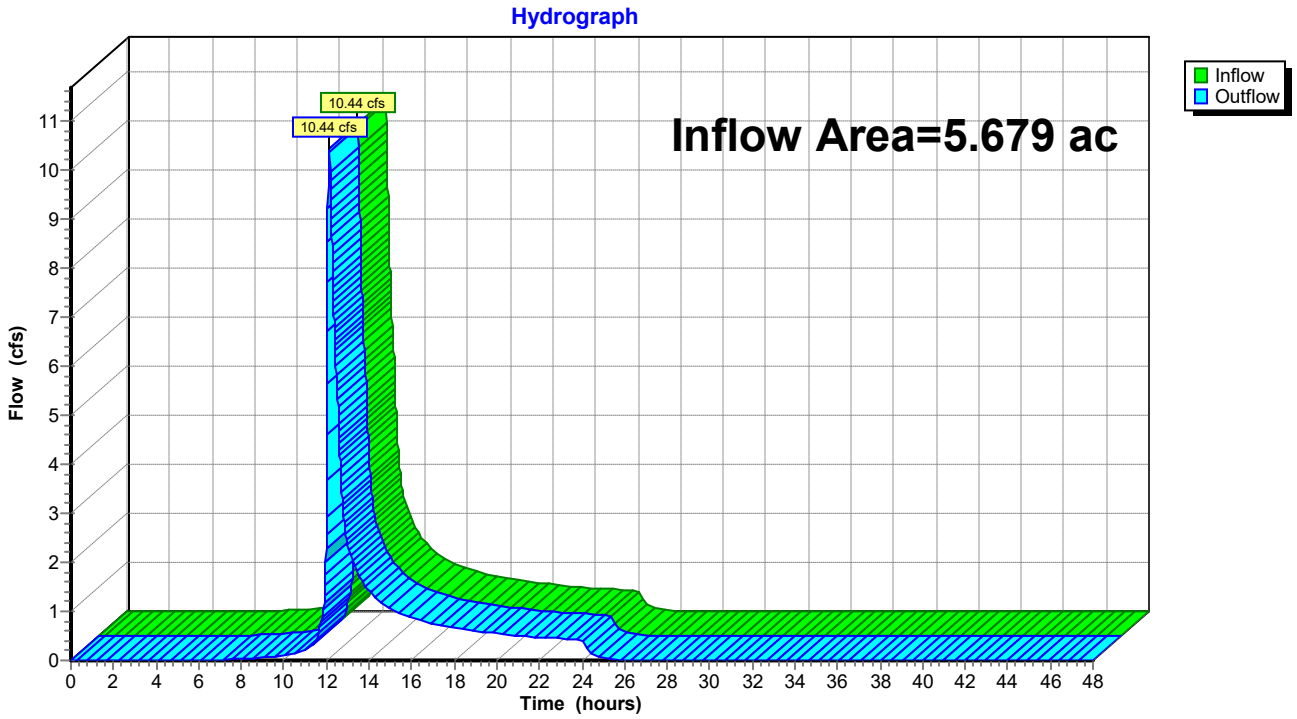


Summary for Reach SP1: Stream Inlet

Inflow Area = 5.679 ac, 40.23% Impervious, Inflow Depth = 2.68" for 25-yr event
Inflow = 10.44 cfs @ 12.13 hrs, Volume= 1.267 af
Outflow = 10.44 cfs @ 12.13 hrs, Volume= 1.267 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP1: Stream Inlet

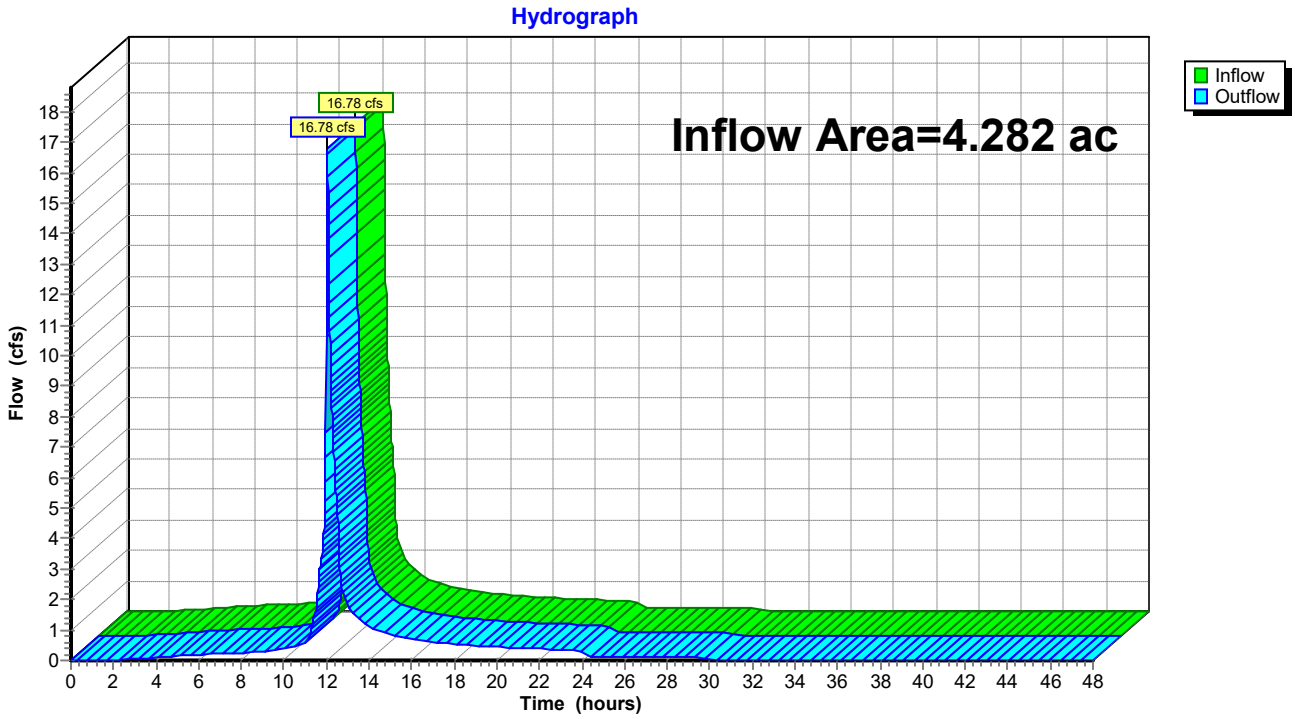


Summary for Reach SP2: Center Street CB

Inflow Area = 4.282 ac, 77.55% Impervious, Inflow Depth = 4.14" for 25-yr event
Inflow = 16.78 cfs @ 12.04 hrs, Volume= 1.479 af
Outflow = 16.78 cfs @ 12.04 hrs, Volume= 1.479 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP2: Center Street CB



Summary for Pond 1P: Wet Pond Full

Inflow Area = 3.923 ac, 49.32% Impervious, Inflow Depth = 4.03" for 25-yr event
Inflow = 17.58 cfs @ 12.03 hrs, Volume= 1.317 af
Outflow = 7.64 cfs @ 12.16 hrs, Volume= 0.878 af, Atten= 57%, Lag= 8.2 min
Primary = 7.64 cfs @ 12.16 hrs, Volume= 0.878 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 236.44' @ 12.16 hrs Surf.Area= 10,999 sf Storage= 23,848 cf

Plug-Flow detention time= 234.2 min calculated for 0.878 af (67% of inflow)
Center-of-Mass det. time= 110.6 min (918.9 - 808.3)

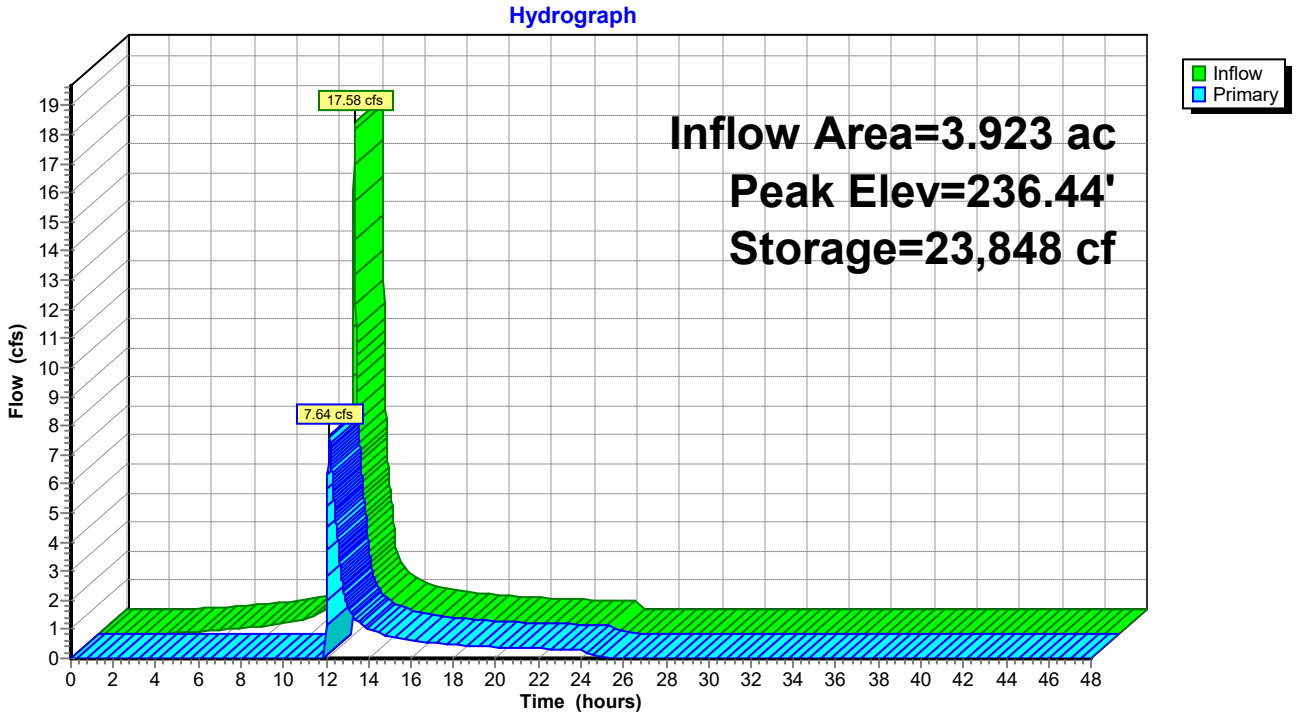
Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	36,205 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
234.00	8,533	0	0
235.00	9,585	9,059	9,059
236.00	10,550	10,068	19,127
237.00	11,575	11,063	30,189
237.50	12,488	6,016	36,205

Device	Routing	Invert	Outlet Devices
#1	Primary	236.00'	**10.0' long x 12.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=7.64 cfs @ 12.16 hrs HW=236.44' TW=0.00' (Dynamic Tailwater)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 7.64 cfs @ 1.74 fps)

Pond 1P: Wet Pond Full



Summary for Pond 2P: Extra Storage

Inflow	=	6.43 cfs @	12.05 hrs,	Volume=	0.324 af
Outflow	=	6.40 cfs @	12.06 hrs,	Volume=	0.252 af, Atten= 1%, Lag= 0.3 min
Primary	=	6.40 cfs @	12.06 hrs,	Volume=	0.252 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 230.30' @ 12.06 hrs Surf.Area= 1,371 sf Storage= 3,295 cf
Flood Elev= 231.00' Surf.Area= 1,371 sf Storage= 3,680 cf

Plug-Flow detention time= 70.9 min calculated for 0.252 af (78% of inflow)
Center-of-Mass det. time= 21.9 min (800.5 - 778.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	226.00'	2,118 cf	**11.00'W x 124.66'L x 5.00'H Field A** 6,856 cf Overall - 1,562 cf Embedded = 5,294 cf x 40.0% Voids
#2A	226.00'	1,562 cf	**ADS_StormTech SC-740 +Cap** x 34 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 34 Chambers in 2 Rows
		3,680 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	226.00'	**12.0" Round Culvert X 2.00** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 226.00' / 225.10' S= 0.0113 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	230.00'	**6.0' long Sharp-Crested Vee/Trap Weir X 2.00** Cv= 2.62 (C= 3.28)

Primary OutFlow Max=6.38 cfs @ 12.06 hrs HW=230.30' TW=227.39' (Dynamic Tailwater)
↑**1=Culvert** (Passes 6.38 cfs of 10.73 cfs potential flow)
↑**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 6.38 cfs @ 1.79 fps)

Pond 2P: Extra Storage - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

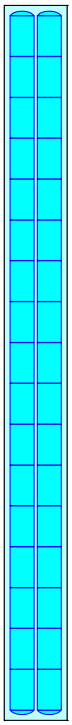
17 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 122.66' Row Length +12.0" End Stone x 2 = 124.66' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
30.0" Chamber Height + 30.0" Cover = 5.00' Field Height

34 Chambers x 45.9 cf = 1,562.0 cf Chamber Storage

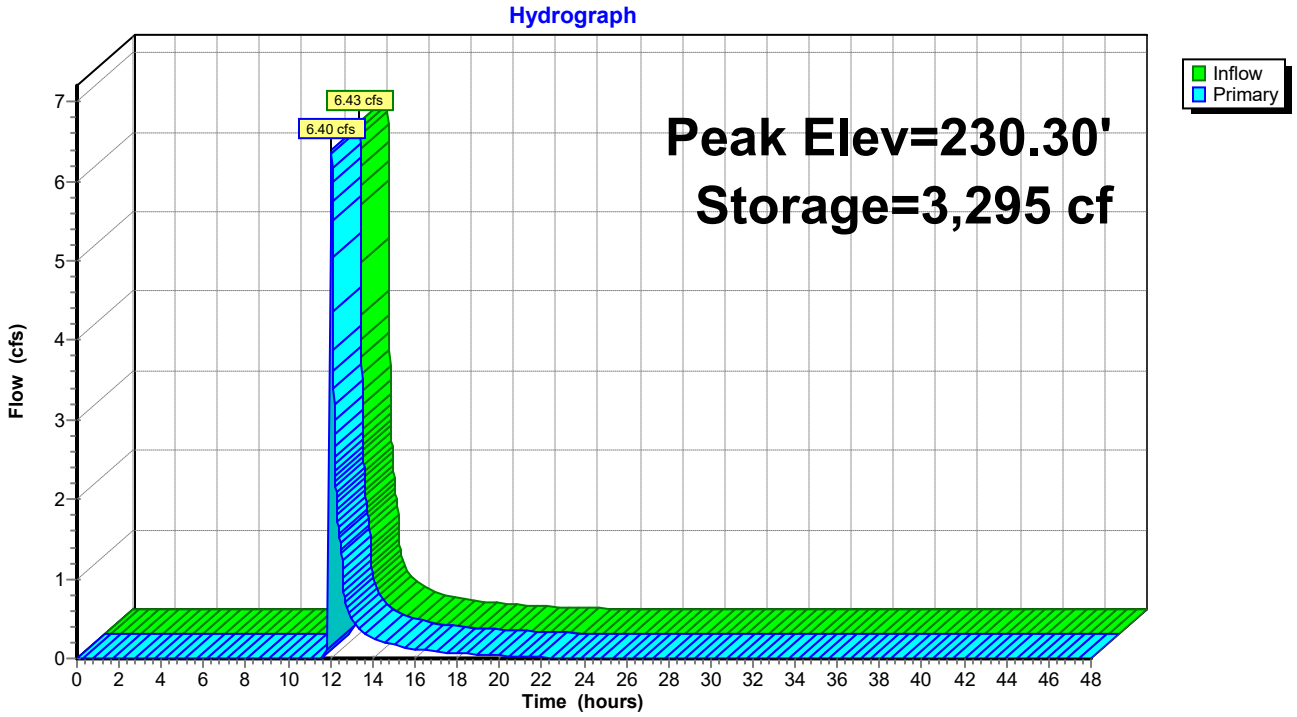
6,856.1 cf Field - 1,562.0 cf Chambers = 5,294.2 cf Stone x 40.0% Voids = 2,117.7 cf Stone Storage

Chamber Storage + Stone Storage = 3,679.6 cf = 0.084 af
Overall Storage Efficiency = 53.7%
Overall System Size = 124.66' x 11.00' x 5.00'

34 Chambers
253.9 cy Field
196.1 cy Stone



Pond 2P: Extra Storage



Summary for Pond 3P: DMH

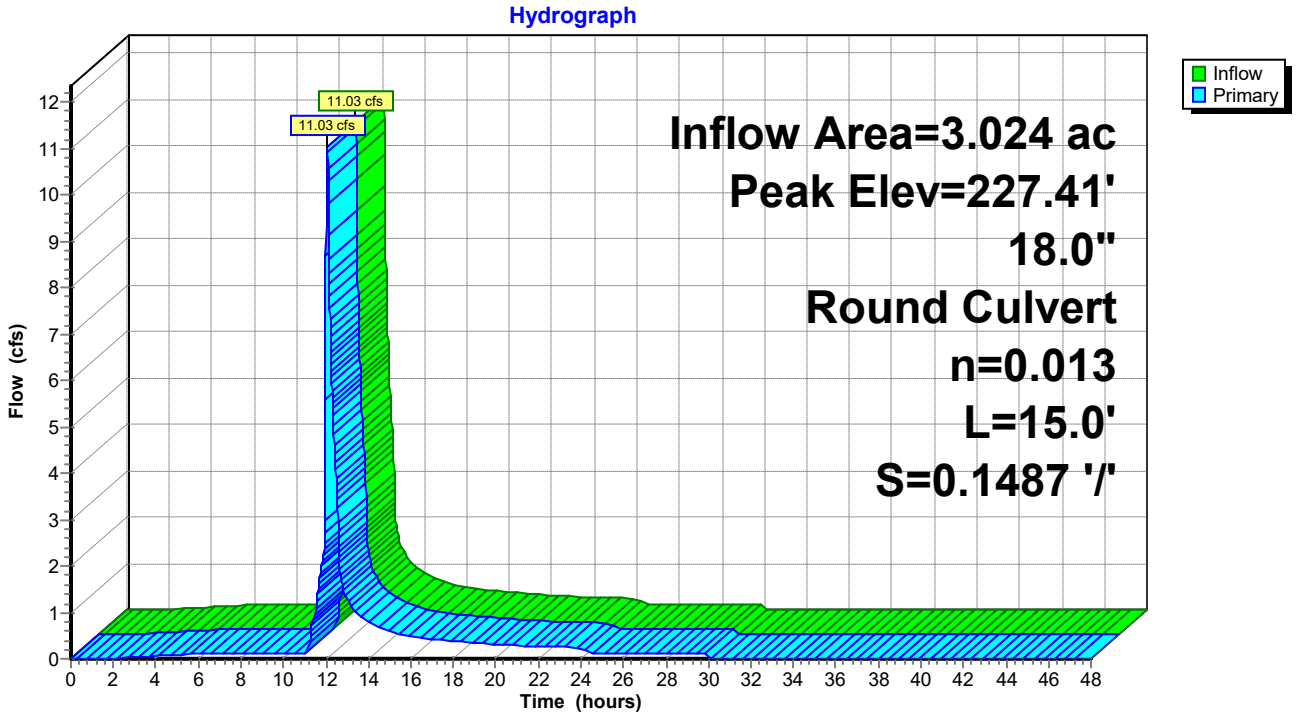
Inflow Area = 3.024 ac, 79.62% Impervious, Inflow Depth = 3.94" for 25-yr event
Inflow = 11.03 cfs @ 12.06 hrs, Volume= 0.993 af
Outflow = 11.03 cfs @ 12.06 hrs, Volume= 0.993 af, Atten= 0%, Lag= 0.0 min
Primary = 11.03 cfs @ 12.06 hrs, Volume= 0.993 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 227.41' @ 12.06 hrs
Flood Elev= 232.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	224.98'	**18.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 224.98' / 222.75' S= 0.1487 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=11.01 cfs @ 12.06 hrs HW=227.40' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 11.01 cfs @ 6.23 fps)

Pond 3P: DMH



Summary for Pond GUSF1: Soil Filter

Inflow Area = 0.414 ac, 58.42% Impervious, Inflow Depth = 4.20" for 25-yr event
Inflow = 1.94 cfs @ 12.03 hrs, Volume= 0.145 af
Outflow = 0.14 cfs @ 13.19 hrs, Volume= 0.053 af, Atten= 93%, Lag= 69.9 min
Primary = 0.14 cfs @ 13.19 hrs, Volume= 0.053 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 233.51' @ 13.19 hrs Surf.Area= 3,362 sf Storage= 4,056 cf
Flood Elev= 234.00' Surf.Area= 3,800 sf Storage= 5,800 cf

Plug-Flow detention time= 401.4 min calculated for 0.053 af (36% of inflow)
Center-of-Mass det. time= 229.3 min (1,035.3 - 806.1)

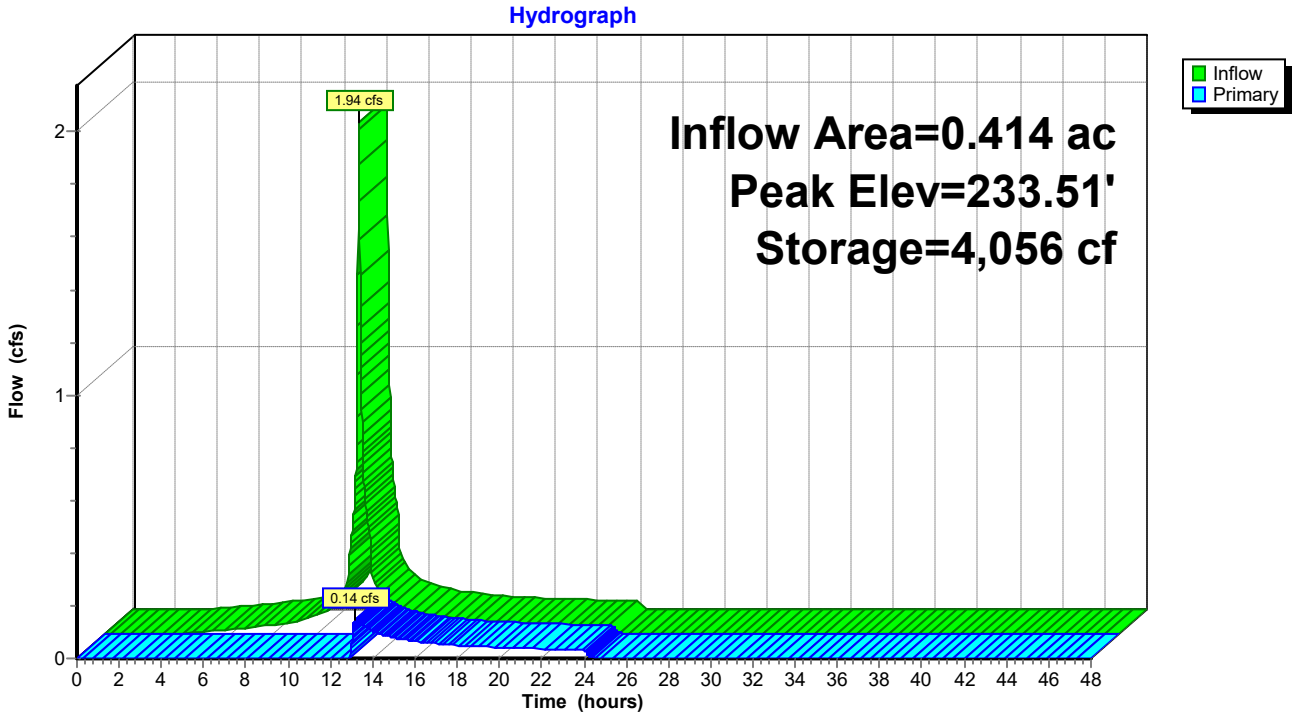
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	10,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.00	2,000	0	0
233.00	2,900	2,450	2,450
234.00	3,800	3,350	5,800
235.00	5,000	4,400	10,200

Device	Routing	Invert	Outlet Devices
#1	Device 2	233.50'	**6.0" x 1.5" Horiz. Orifice/Grate X 24.00** C= 0.600 Limited to weir flow at low heads
#2	Primary	229.17'	**12.0" Round Culvert** L= 89.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.17' / 229.00' S= 0.0019 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.14 cfs @ 13.19 hrs HW=233.51' TW=0.00' (Dynamic Tailwater)
↑**2=Culvert** (Passes 0.14 cfs of 5.70 cfs potential flow)
↑**1=Orifice/Grate** (Weir Controls 0.14 cfs @ 0.37 fps)

Pond GUSF1: Soil Filter



Summary for Pond GUSF2: Soil Filter

Inflow Area = 1.586 ac, 79.43% Impervious, Inflow Depth = 4.75" for 25-yr event
Inflow = 8.10 cfs @ 12.03 hrs, Volume= 0.628 af
Outflow = 4.68 cfs @ 12.10 hrs, Volume= 0.496 af, Atten= 42%, Lag= 4.7 min
Primary = 4.68 cfs @ 12.10 hrs, Volume= 0.496 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 233.92' @ 12.10 hrs Surf.Area= 5,205 sf Storage= 7,832 cf
Flood Elev= 234.00' Surf.Area= 5,300 sf Storage= 8,250 cf

Plug-Flow detention time= 172.2 min calculated for 0.496 af (79% of inflow)
Center-of-Mass det. time= 76.6 min (858.2 - 781.7)

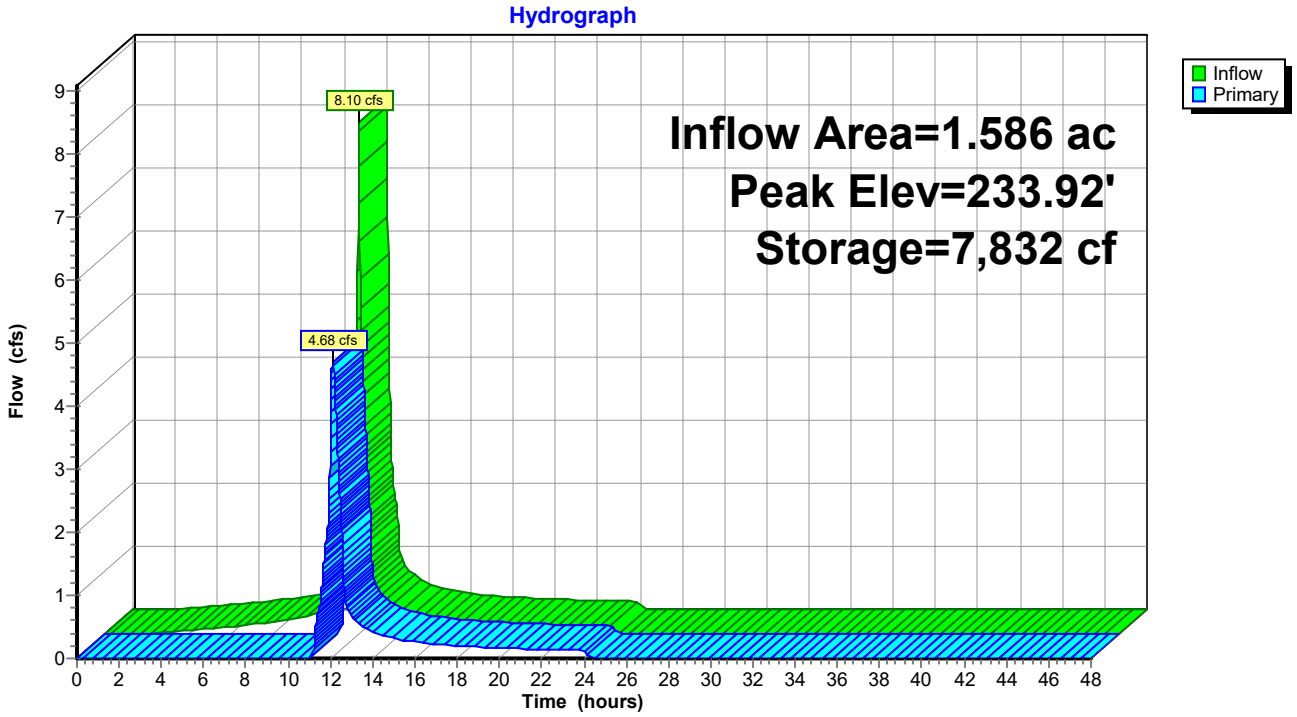
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	14,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.00	3,000	0	0
233.00	4,100	3,550	3,550
234.00	5,300	4,700	8,250
235.00	6,600	5,950	14,200

Device	Routing	Invert	Outlet Devices
#1	Device 2	233.50'	**6.0" x 1.5" Horiz. Orifice/Grate X 24.00** C= 0.600 Limited to weir flow at low heads
#2	Primary	229.17'	**12.0" Round Culvert** L= 89.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.17' / 227.00' S= 0.0244 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.68 cfs @ 12.10 hrs HW=233.92' TW=227.24' (Dynamic Tailwater)
↑**2=Culvert** (Passes 4.68 cfs of 7.40 cfs potential flow)
↑**1=Orifice/Grate** (Orifice Controls 4.68 cfs @ 3.12 fps)

Pond GUSF2: Soil Filter



Summary for Pond SSF1: Sand Filter

Inflow Area = 1.438 ac, 79.82% Impervious, Inflow Depth = 4.75" for 25-yr event
Inflow = 7.35 cfs @ 12.03 hrs, Volume= 0.569 af
Outflow = 6.55 cfs @ 12.05 hrs, Volume= 0.569 af, Atten= 11%, Lag= 1.5 min
Primary = 0.11 cfs @ 6.96 hrs, Volume= 0.245 af
Secondary = 6.43 cfs @ 12.05 hrs, Volume= 0.324 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 231.02' @ 12.05 hrs Surf.Area= 2,257 sf Storage= 2,858 cf
Flood Elev= 231.00' Surf.Area= 2,257 sf Storage= 2,855 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 99.6 min (881.3 - 781.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	228.67'	1,605 cf	**18.17'W x 124.24'L x 2.33'H Field A** 5,266 cf Overall - 1,253 cf Embedded = 4,013 cf x 40.0% Voids
#2A	229.17'	1,253 cf	**ADS_StormTech SC-310 +Cap** x 85 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 85 Chambers in 5 Rows
		2,858 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Secondary	229.17'	**12.0" Round Culvert X 2.00** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.17' / 229.07' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	230.50'	**6.0' long Sharp-Crested Vee/Trap Weir X 2.00** Cv= 2.62 (C= 3.28)
#3	Primary	228.67'	**2.200 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.11 cfs @ 6.96 hrs HW=228.69' TW=225.13' (Dynamic Tailwater)
└**3=Exfiltration** (Exfiltration Controls 0.11 cfs)

Secondary OutFlow Max=6.41 cfs @ 12.05 hrs HW=231.02' TW=230.30' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 6.41 cfs @ 4.08 fps)
└**2=Sharp-Crested Vee/Trap Weir** (Passes 6.41 cfs of 14.53 cfs potential flow)

Pond SSF1: Sand Filter - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 6.0" Spacing = 40.0" C-C Row Spacing

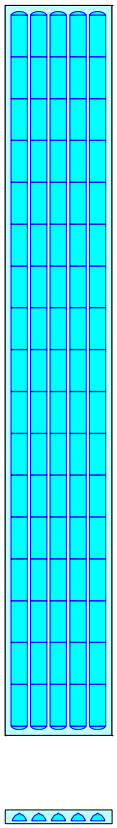
17 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 122.24' Row Length +12.0" End Stone x 2 = 124.24' Base Length
5 Rows x 34.0" Wide + 6.0" Spacing x 4 + 12.0" Side Stone x 2 = 18.17' Base Width
6.0" Base + 16.0" Chamber Height + 6.0" Cover = 2.33' Field Height

85 Chambers x 14.7 cf = 1,253.1 cf Chamber Storage

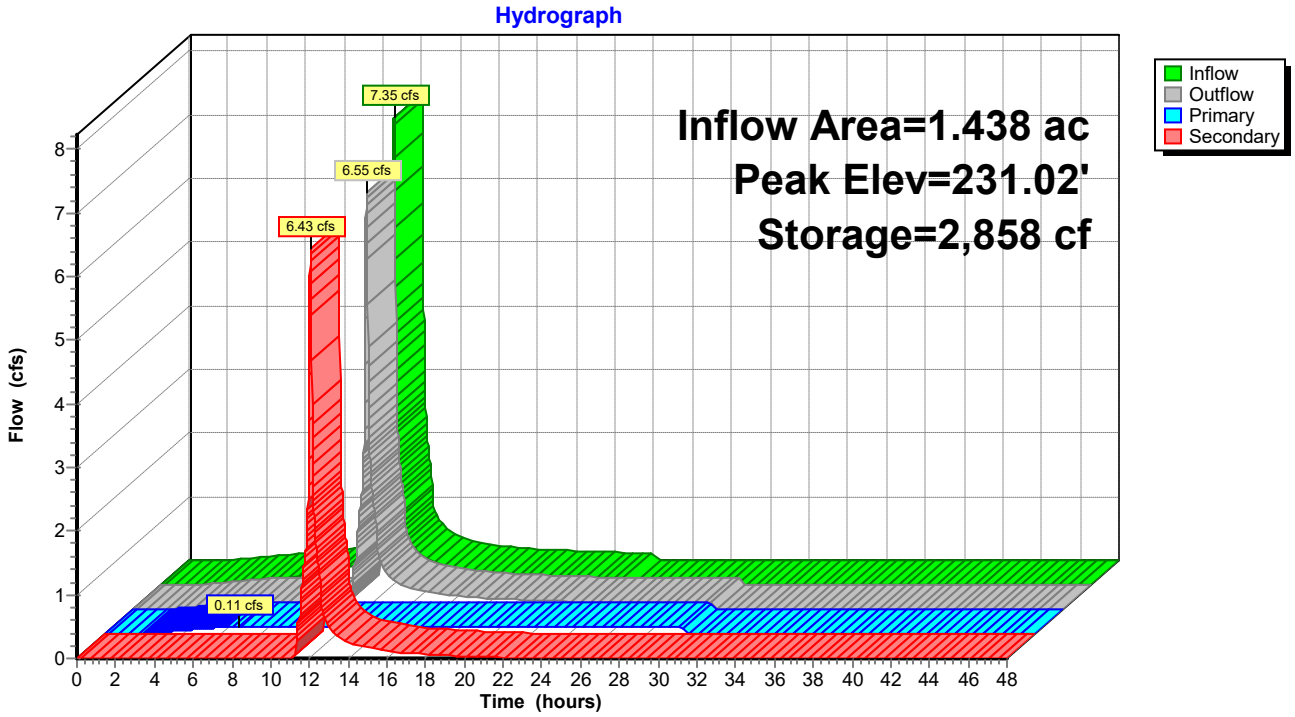
5,266.4 cf Field - 1,253.1 cf Chambers = 4,013.3 cf Stone x 40.0% Voids = 1,605.3 cf Stone Storage

Chamber Storage + Stone Storage = 2,858.4 cf = 0.066 af
Overall Storage Efficiency = 54.3%
Overall System Size = 124.24' x 18.17' x 2.33'

85 Chambers
195.1 cy Field
148.6 cy Stone



Pond SSF1: Sand Filter



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Rear Paved Runoff Area=31,476 sf 0.00% Impervious Runoff Depth=6.15"
Tc=5.0 min CN=86 Runoff=4.78 cfs 0.370 af

Subcatchment 2S: Storage Building Area Runoff Area=106,131 sf 74.22% Impervious Runoff Depth=6.62"
Tc=5.0 min CN=90 Runoff=16.94 cfs 1.344 af

Subcatchment 3S: To GUSF1 Runoff Area=18,025 sf 58.42% Impervious Runoff Depth=6.38"
Tc=5.0 min CN=88 Runoff=2.81 cfs 0.220 af

Subcatchment 4S: To GUSF2 Runoff Area=69,088 sf 79.43% Impervious Runoff Depth=6.97"
Tc=5.0 min CN=93 Runoff=11.34 cfs 0.922 af

Subcatchment 5S: Treated Parking Lot Runoff Area=62,654 sf 79.82% Impervious Runoff Depth=6.97"
Tc=5.0 min CN=93 Runoff=10.29 cfs 0.836 af

Subcatchment 6S: Off-Site to Pond Runoff Area=33,300 sf 16.56% Impervious Runoff Depth=4.76"
Tc=5.0 min CN=74 Runoff=4.05 cfs 0.303 af

Subcatchment 7S: No Treat Parking Lot Runoff Area=54,784 sf 72.59% Impervious Runoff Depth=6.86"
Tc=5.0 min CN=92 Runoff=8.92 cfs 0.718 af

Subcatchment 8S: No Treat to Stream Runoff Area=58,456 sf 8.05% Impervious Runoff Depth=4.99"
Flow Length=610' Tc=7.7 min CN=76 Runoff=6.54 cfs 0.558 af

Reach SP1: Stream Inlet Inflow=26.07 cfs 2.263 af
Outflow=26.07 cfs 2.263 af

Reach SP2: Center Street CB Inflow=23.27 cfs 2.272 af
Outflow=23.27 cfs 2.272 af

Pond 1P: Wet Pond Full Peak Elev=236.78' Storage=27,672 cf Inflow=25.77 cfs 2.017 af
Outflow=18.43 cfs 1.578 af

Pond 2P: Extra Storage Peak Elev=230.67' Storage=3,496 cf Inflow=12.12 cfs 0.578 af
Outflow=9.09 cfs 0.506 af

Pond 3P: DMH Peak Elev=228.70' Inflow=14.66 cfs 1.554 af
18.0" Round Culvert n=0.013 L=15.0' S=0.1487 '/' Outflow=14.66 cfs 1.554 af

Pond GUSF1: Soil Filter Peak Elev=233.57' Storage=4,234 cf Inflow=2.81 cfs 0.220 af
Outflow=1.64 cfs 0.128 af

Pond GUSF2: Soil Filter Peak Elev=234.19' Storage=9,285 cf Inflow=11.34 cfs 0.922 af
Outflow=6.00 cfs 0.790 af

Pond SSF1: Sand Filter Peak Elev=233.02' Storage=2,858 cf Inflow=10.29 cfs 0.836 af
Primary=0.11 cfs 0.258 af Secondary=12.12 cfs 0.578 af Outflow=12.24 cfs 0.836 af

Total Runoff Area = 9.961 ac Runoff Volume = 5.271 af Average Runoff Depth = 6.35"
43.73% Pervious = 4.356 ac 56.27% Impervious = 5.606 ac

Summary for Subcatchment 1S: Rear Paved Area/Building

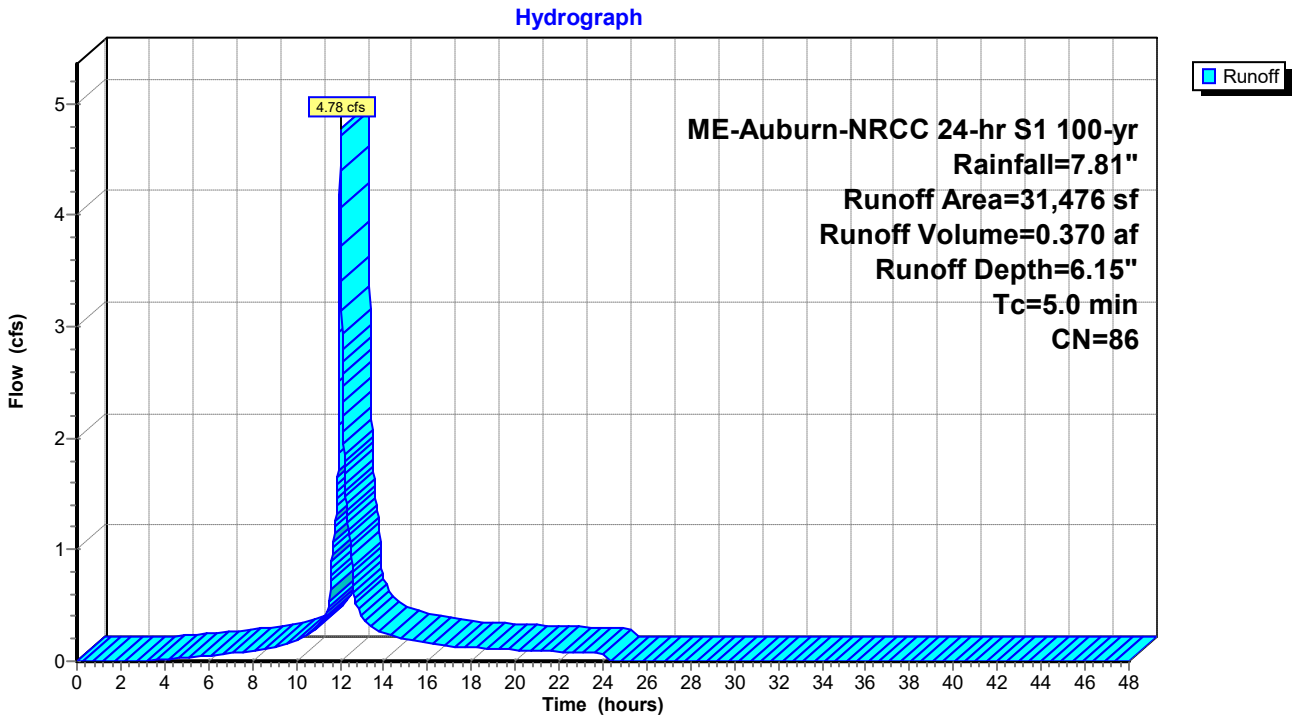
Runoff = 4.78 cfs @ 12.03 hrs, Volume= 0.370 af, Depth= 6.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 100-yr Rainfall=7.81"

	Area (sf)	CN	Description
	13,645	74	>75% Grass cover, Good, HSG C
*	17,831	96	Gravel
	31,476	86	Weighted Average
	31,476		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: Rear Paved Area/Building



Summary for Subcatchment 2S: Storage Building Area

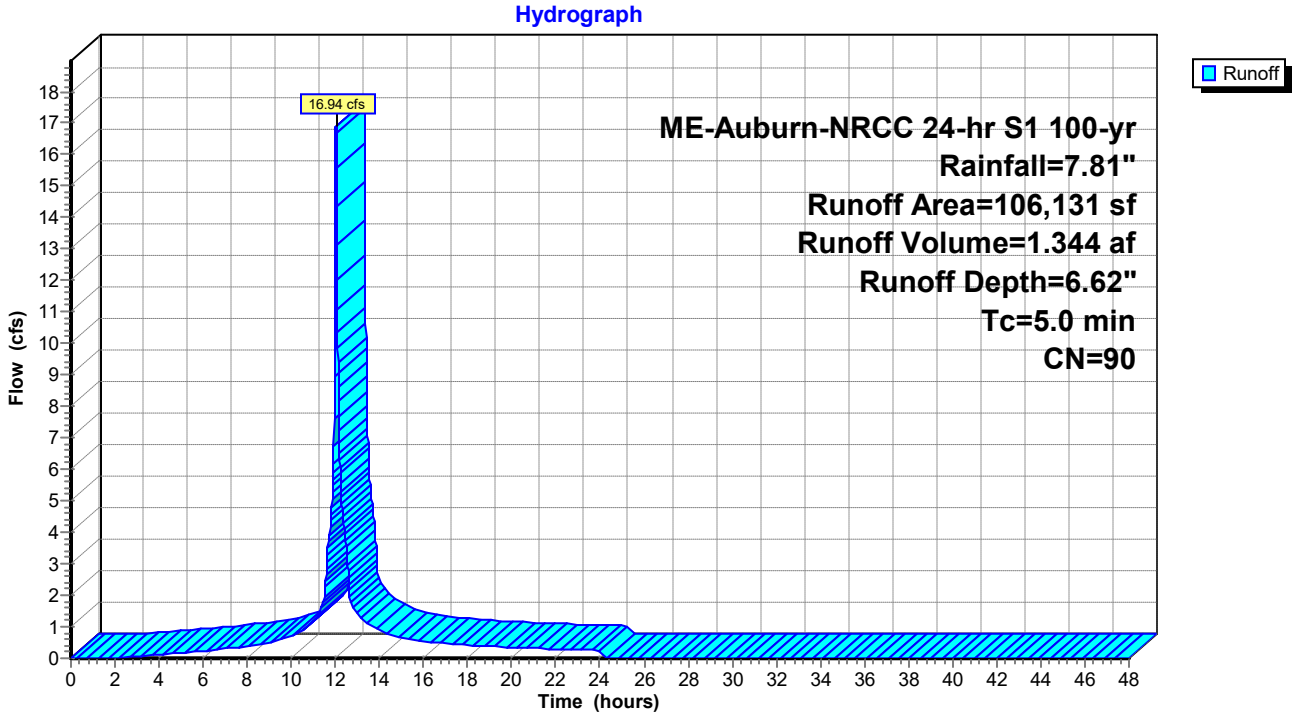
Runoff = 16.94 cfs @ 12.03 hrs, Volume= 1.344 af, Depth= 6.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 100-yr Rainfall=7.81"

	Area (sf)	CN	Description
*	78,774	98	Impervious
	13,470	74	>75% Grass cover, Good, HSG C
	13,887	61	>75% Grass cover, Good, HSG B
	106,131	90	Weighted Average
	27,357		25.78% Pervious Area
	78,774		74.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: Storage Building Area



Summary for Subcatchment 3S: To GUSF1

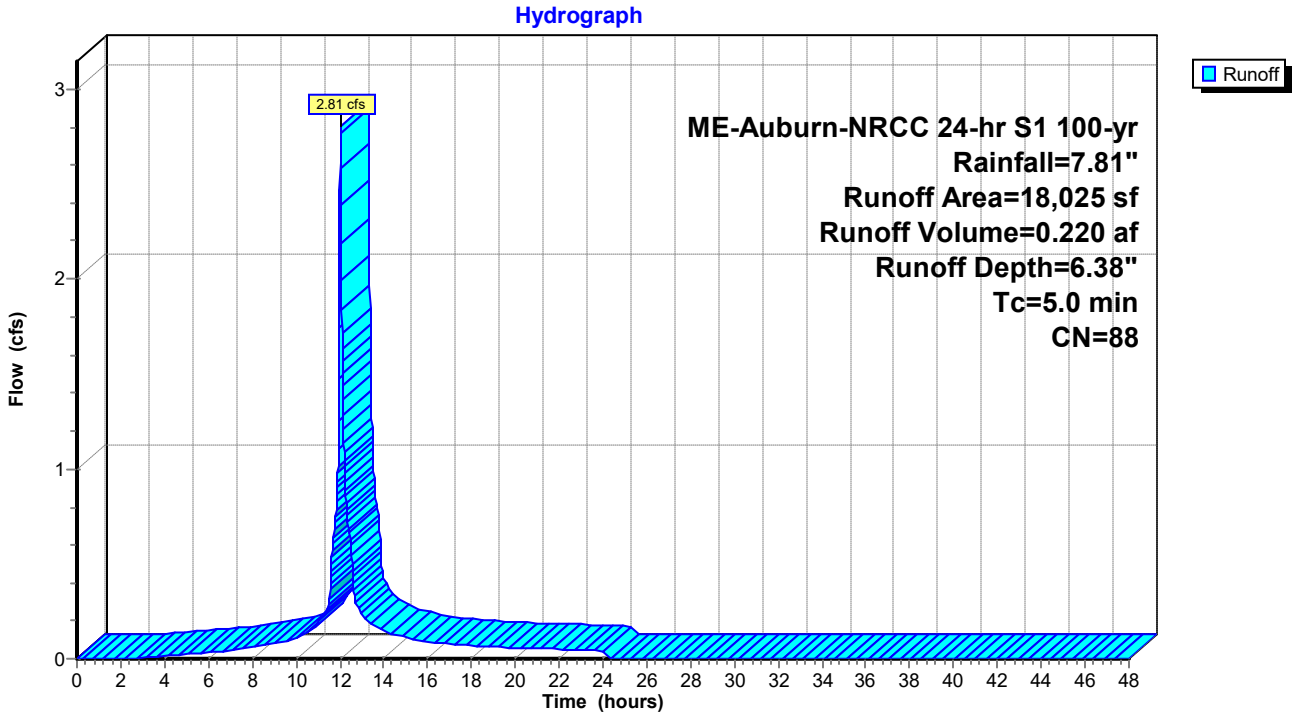
Runoff = 2.81 cfs @ 12.03 hrs, Volume= 0.220 af, Depth= 6.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 100-yr Rainfall=7.81"

Area (sf)	CN	Description
10,530	98	Paved parking, HSG C
7,495	74	>75% Grass cover, Good, HSG C
18,025	88	Weighted Average
7,495		41.58% Pervious Area
10,530		58.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: To GUSF1



Summary for Subcatchment 4S: To GUSF2

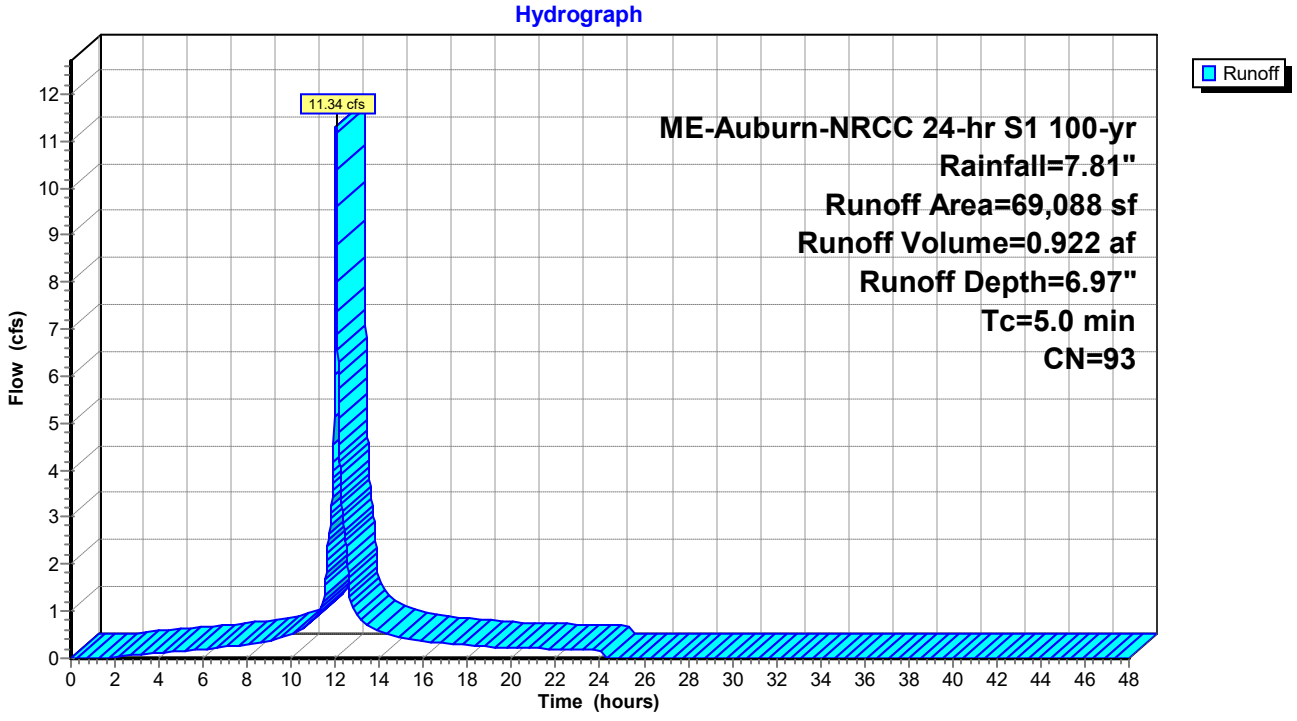
Runoff = 11.34 cfs @ 12.03 hrs, Volume= 0.922 af, Depth= 6.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 100-yr Rainfall=7.81"

	Area (sf)	CN	Description
*	53,245	98	Impervious
	14,211	74	>75% Grass cover, Good, HSG C
*	1,632	98	Impervious
	69,088	93	Weighted Average
	14,211		20.57% Pervious Area
	54,877		79.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: To GUSF2



Summary for Subcatchment 5S: Treated Parking Lot

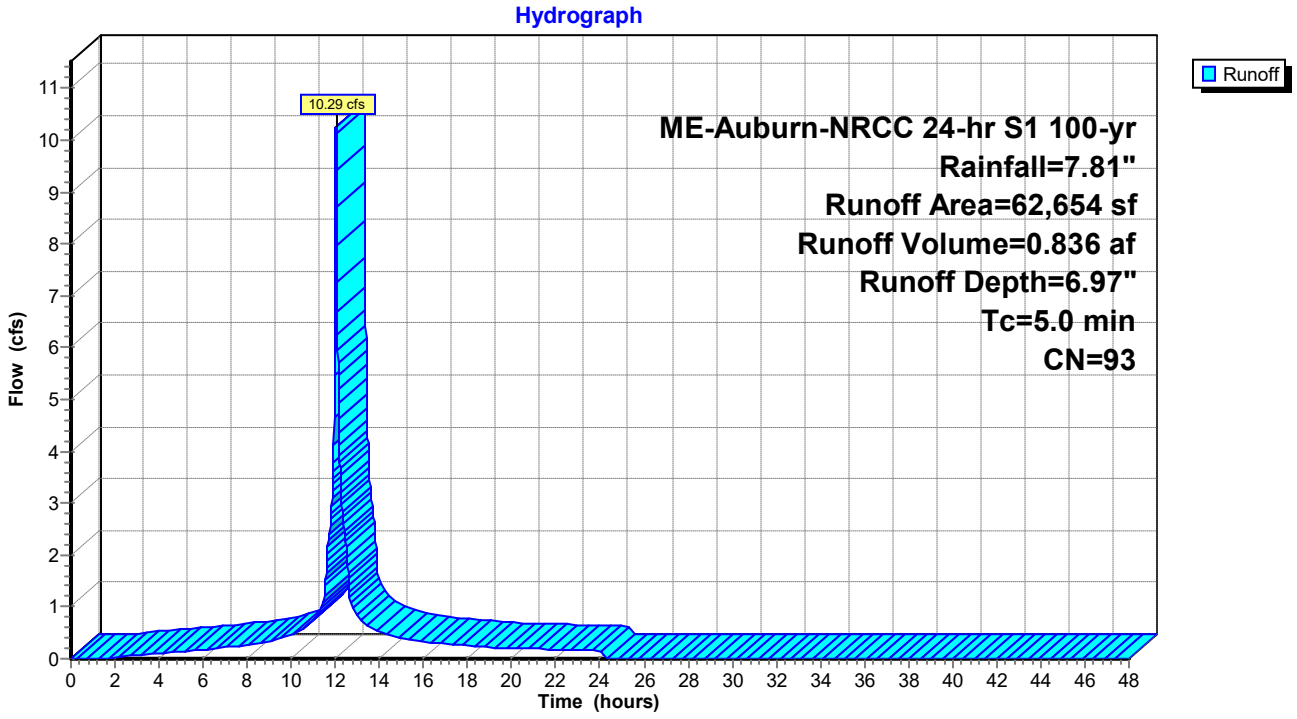
Runoff = 10.29 cfs @ 12.03 hrs, Volume= 0.836 af, Depth= 6.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 100-yr Rainfall=7.81"

	Area (sf)	CN	Description
	12,643	74	>75% Grass cover, Good, HSG C
*	50,011	98	Impervious
	62,654	93	Weighted Average
	12,643		20.18% Pervious Area
	50,011		79.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 5S: Treated Parking Lot



Summary for Subcatchment 6S: Off-Site to Pond

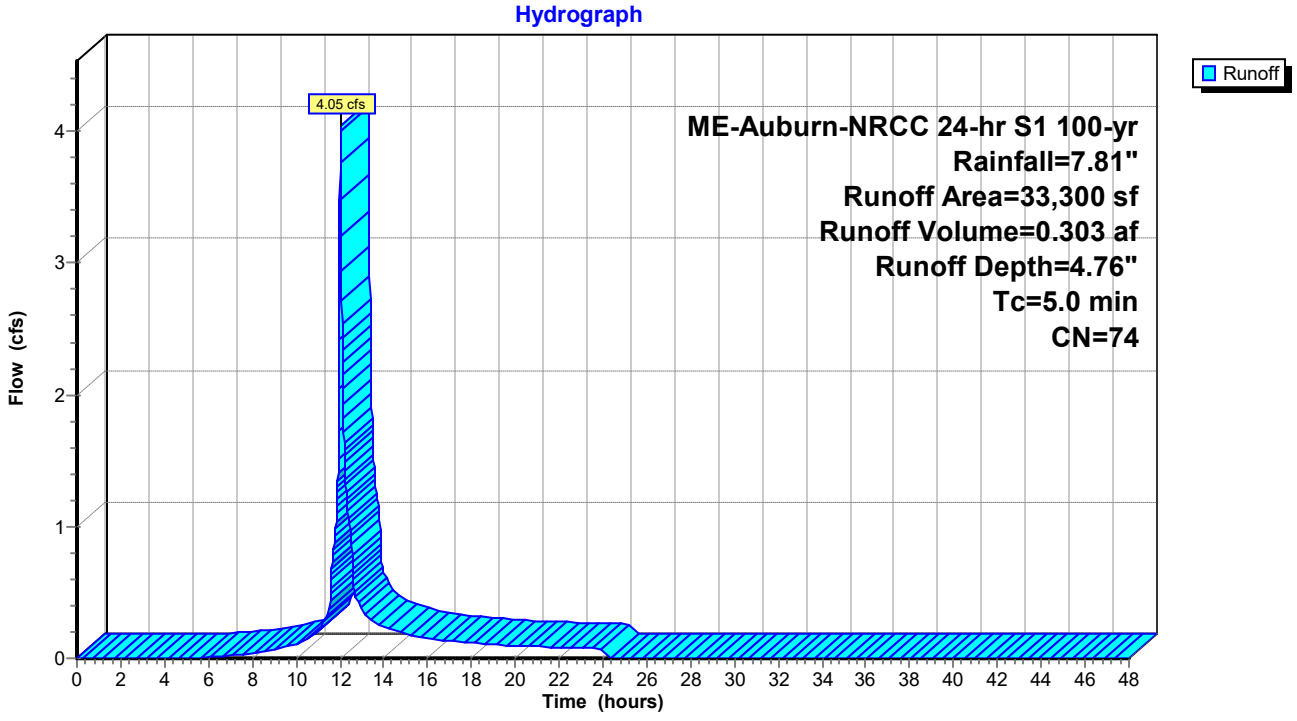
Runoff = 4.05 cfs @ 12.03 hrs, Volume= 0.303 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 100-yr Rainfall=7.81"

	Area (sf)	CN	Description
*	5,516	98	Impervious
	11,046	61	>75% Grass cover, Good, HSG B
	16,738	74	>75% Grass cover, Good, HSG C
	33,300	74	Weighted Average
	27,784		83.44% Pervious Area
	5,516		16.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 6S: Off-Site to Pond



Summary for Subcatchment 7S: No Treat Parking Lot

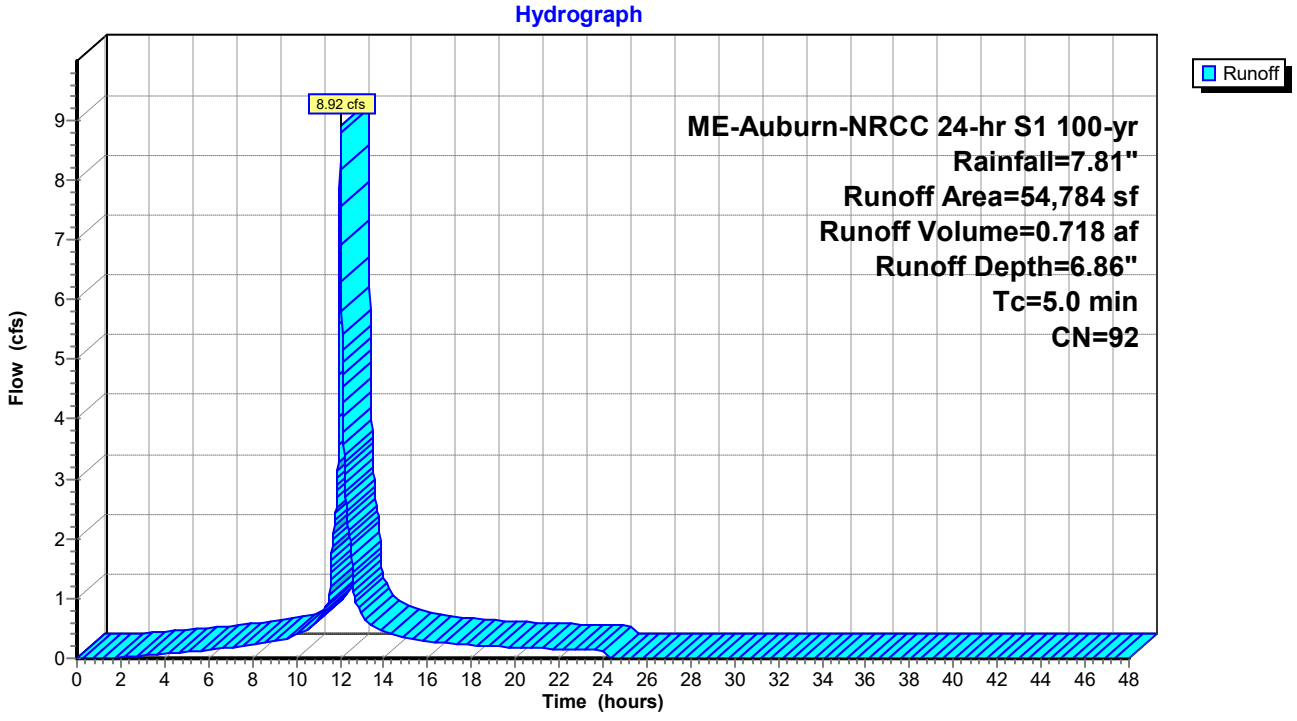
Runoff = 8.92 cfs @ 12.03 hrs, Volume= 0.718 af, Depth= 6.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 100-yr Rainfall=7.81"

	Area (sf)	CN	Description
*	39,768	98	Impervious
	14,306	74	>75% Grass cover, Good, HSG C
*	710	96	Gravel
	54,784	92	Weighted Average
	15,016		27.41% Pervious Area
	39,768		72.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 7S: No Treat Parking Lot



Summary for Subcatchment 8S: No Treat to Stream

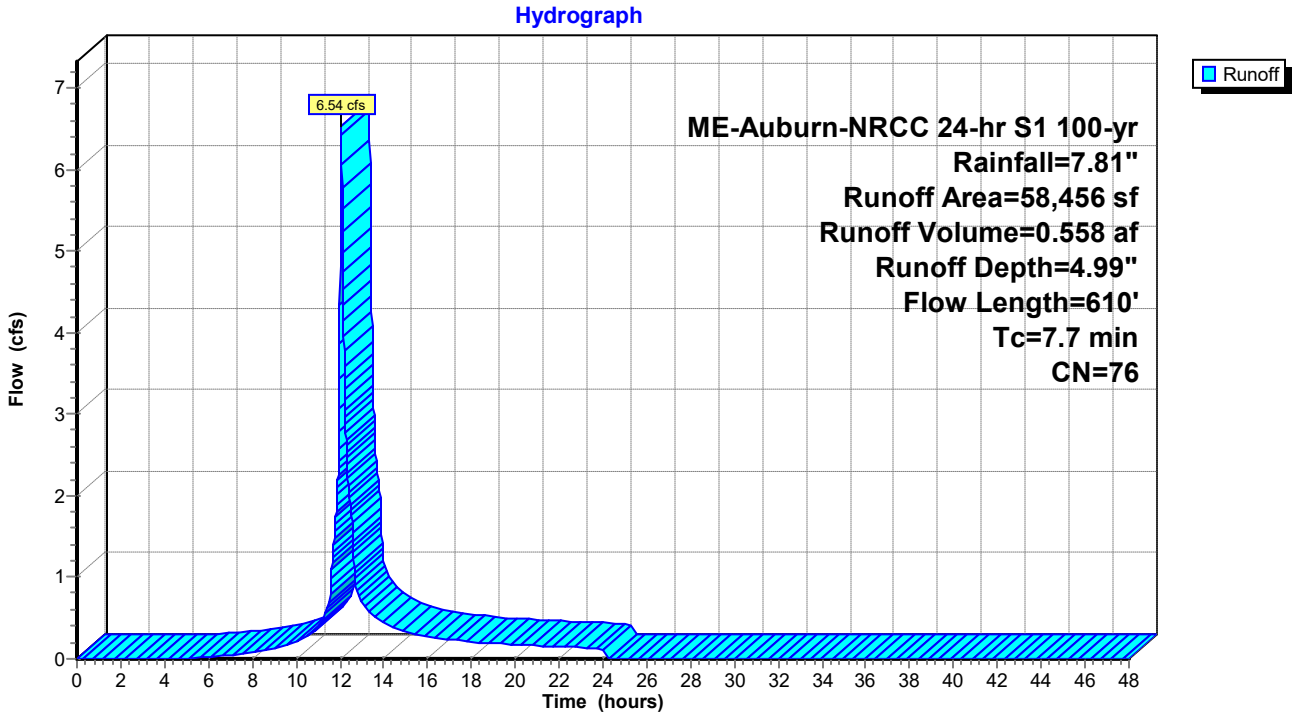
Runoff = 6.54 cfs @ 12.06 hrs, Volume= 0.558 af, Depth= 4.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
ME-Auburn-NRCC 24-hr S1 100-yr Rainfall=7.81"

Area (sf)	CN	Description
4,705	98	Paved parking, HSG C
53,751	74	>75% Grass cover, Good, HSG C
58,456	76	Weighted Average
53,751		91.95% Pervious Area
4,705		8.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	65	0.2000	0.38		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.01"
4.9	545	0.0150	1.84		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.7	610	Total			

Subcatchment 8S: No Treat to Stream

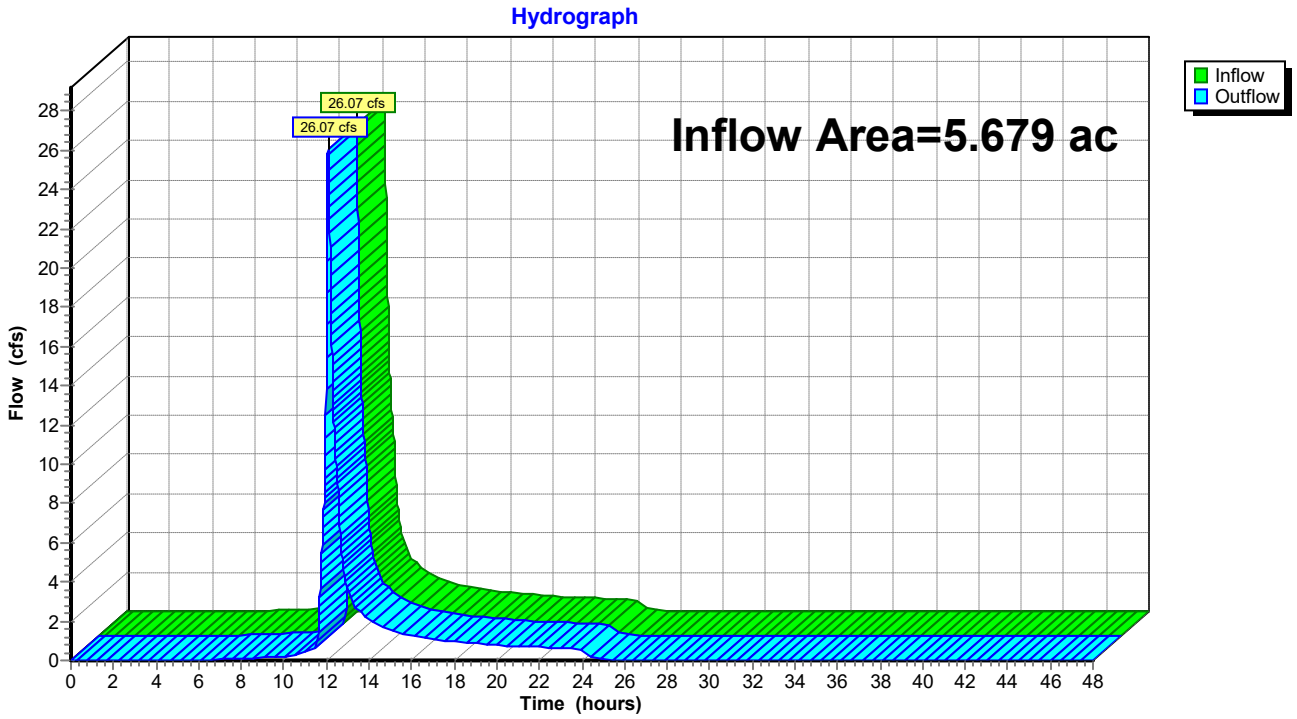


Summary for Reach SP1: Stream Inlet

Inflow Area = 5.679 ac, 40.23% Impervious, Inflow Depth = 4.78" for 100-yr event
Inflow = 26.07 cfs @ 12.08 hrs, Volume= 2.263 af
Outflow = 26.07 cfs @ 12.08 hrs, Volume= 2.263 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP1: Stream Inlet

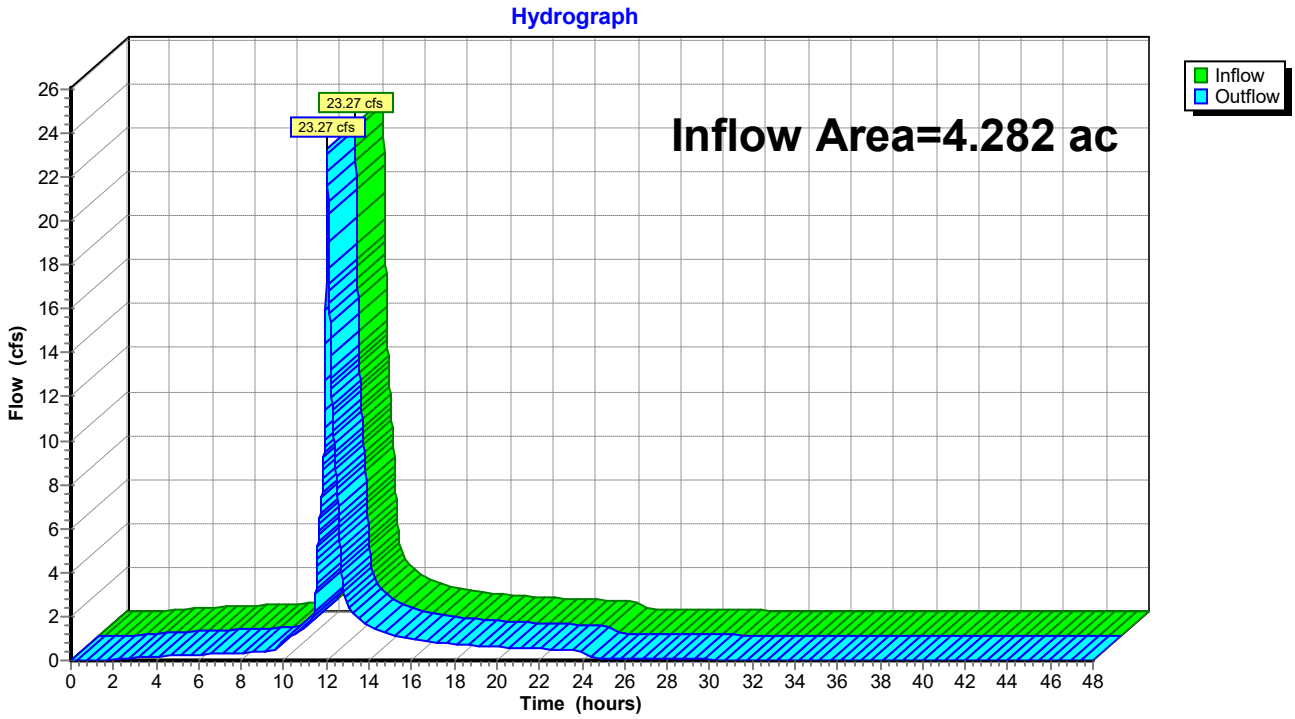


Summary for Reach SP2: Center Street CB

Inflow Area = 4.282 ac, 77.55% Impervious, Inflow Depth = 6.37" for 100-yr event
Inflow = 23.27 cfs @ 12.03 hrs, Volume= 2.272 af
Outflow = 23.27 cfs @ 12.03 hrs, Volume= 2.272 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach SP2: Center Street CB



Summary for Pond 1P: Wet Pond Full

Inflow Area = 3.923 ac, 49.32% Impervious, Inflow Depth = 6.17" for 100-yr event
Inflow = 25.77 cfs @ 12.03 hrs, Volume= 2.017 af
Outflow = 18.43 cfs @ 12.08 hrs, Volume= 1.578 af, Atten= 28%, Lag= 3.2 min
Primary = 18.43 cfs @ 12.08 hrs, Volume= 1.578 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 236.78' @ 12.08 hrs Surf.Area= 11,350 sf Storage= 27,672 cf

Plug-Flow detention time= 179.3 min calculated for 1.578 af (78% of inflow)
Center-of-Mass det. time= 82.9 min (876.6 - 793.7)

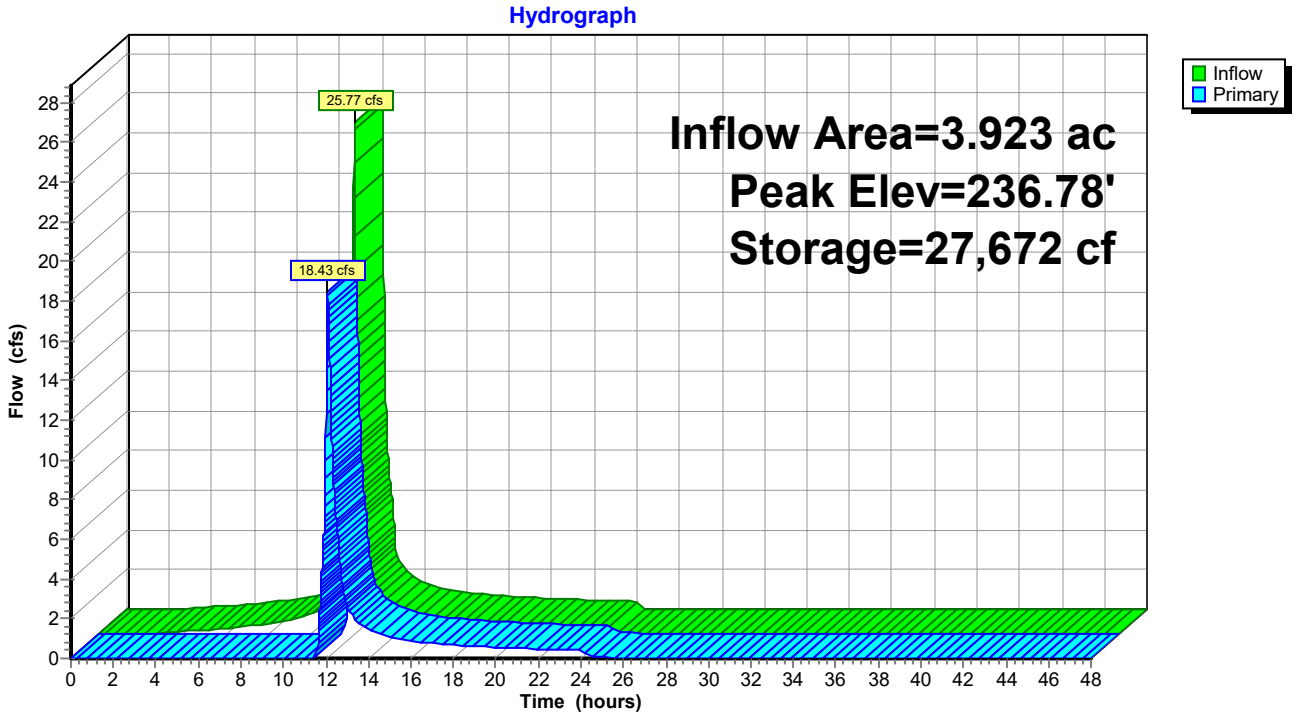
Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	36,205 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
234.00	8,533	0	0
235.00	9,585	9,059	9,059
236.00	10,550	10,068	19,127
237.00	11,575	11,063	30,189
237.50	12,488	6,016	36,205

Device	Routing	Invert	Outlet Devices
#1	Primary	236.00'	**10.0' long x 12.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Primary OutFlow Max=18.43 cfs @ 12.08 hrs HW=236.78' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 18.43 cfs @ 2.36 fps)

Pond 1P: Wet Pond Full



Summary for Pond 2P: Extra Storage

Inflow	=	12.12 cfs @	12.02 hrs,	Volume=	0.578 af
Outflow	=	9.09 cfs @	12.00 hrs,	Volume=	0.506 af, Atten= 25%, Lag= 0.0 min
Primary	=	9.09 cfs @	12.00 hrs,	Volume=	0.506 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 230.67' @ 12.06 hrs Surf.Area= 1,371 sf Storage= 3,496 cf
Flood Elev= 231.00' Surf.Area= 1,371 sf Storage= 3,680 cf

Plug-Flow detention time= 68.8 min calculated for 0.506 af (88% of inflow)
Center-of-Mass det. time= 20.2 min (806.2 - 786.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	226.00'	2,118 cf	**11.00'W x 124.66'L x 5.00'H Field A** 6,856 cf Overall - 1,562 cf Embedded = 5,294 cf x 40.0% Voids
#2A	226.00'	1,562 cf	**ADS_StormTech SC-740 +Cap** x 34 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 34 Chambers in 2 Rows
		3,680 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	226.00'	**12.0" Round Culvert X 2.00** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 226.00' / 225.10' S= 0.0113 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	230.00'	**6.0' long Sharp-Crested Vee/Trap Weir X 2.00** Cv= 2.62 (C= 3.28)

Primary OutFlow Max=9.00 cfs @ 12.00 hrs HW=230.38' TW=228.33' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 9.00 cfs @ 5.73 fps)
↑**2=Sharp-Crested Vee/Trap Weir** (Passes 9.00 cfs of 9.09 cfs potential flow)

Pond 2P: Extra Storage - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

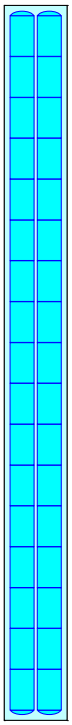
17 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 122.66' Row Length +12.0" End Stone x 2 = 124.66' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
30.0" Chamber Height + 30.0" Cover = 5.00' Field Height

34 Chambers x 45.9 cf = 1,562.0 cf Chamber Storage

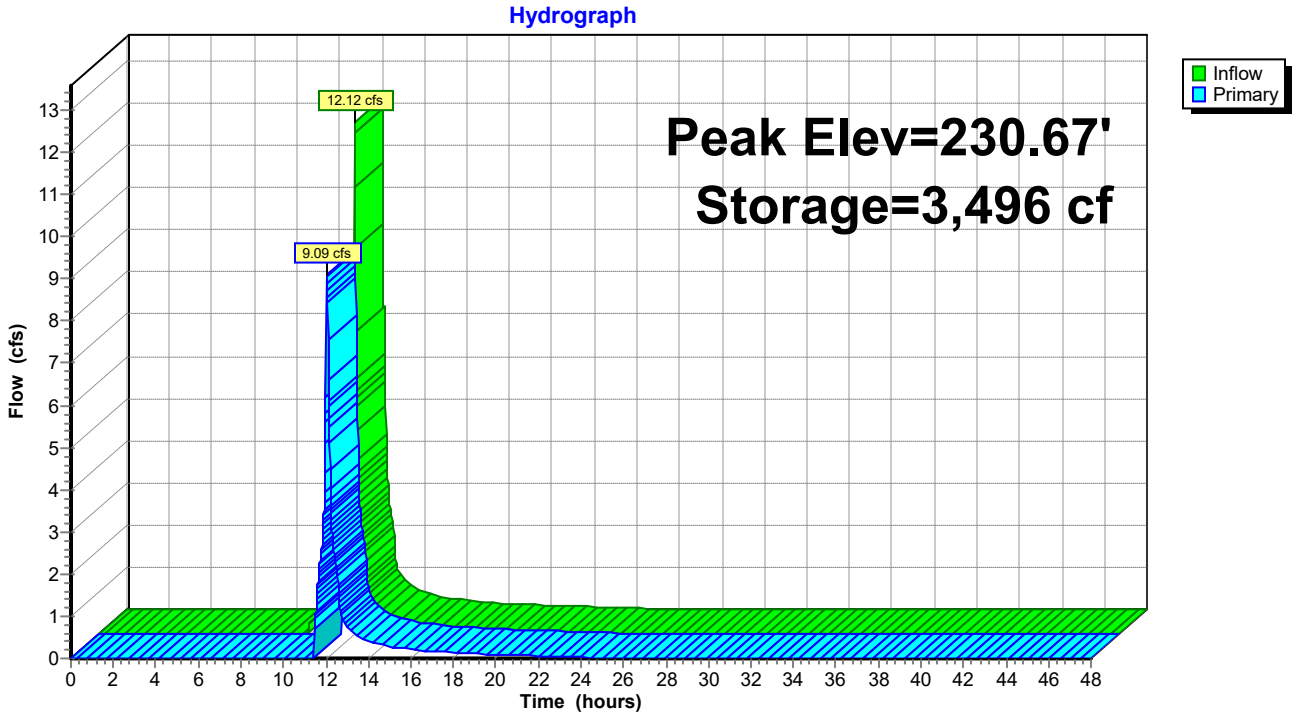
6,856.1 cf Field - 1,562.0 cf Chambers = 5,294.2 cf Stone x 40.0% Voids = 2,117.7 cf Stone Storage

Chamber Storage + Stone Storage = 3,679.6 cf = 0.084 af
Overall Storage Efficiency = 53.7%
Overall System Size = 124.66' x 11.00' x 5.00'

34 Chambers
253.9 cy Field
196.1 cy Stone



Pond 2P: Extra Storage



Summary for Pond 3P: DMH

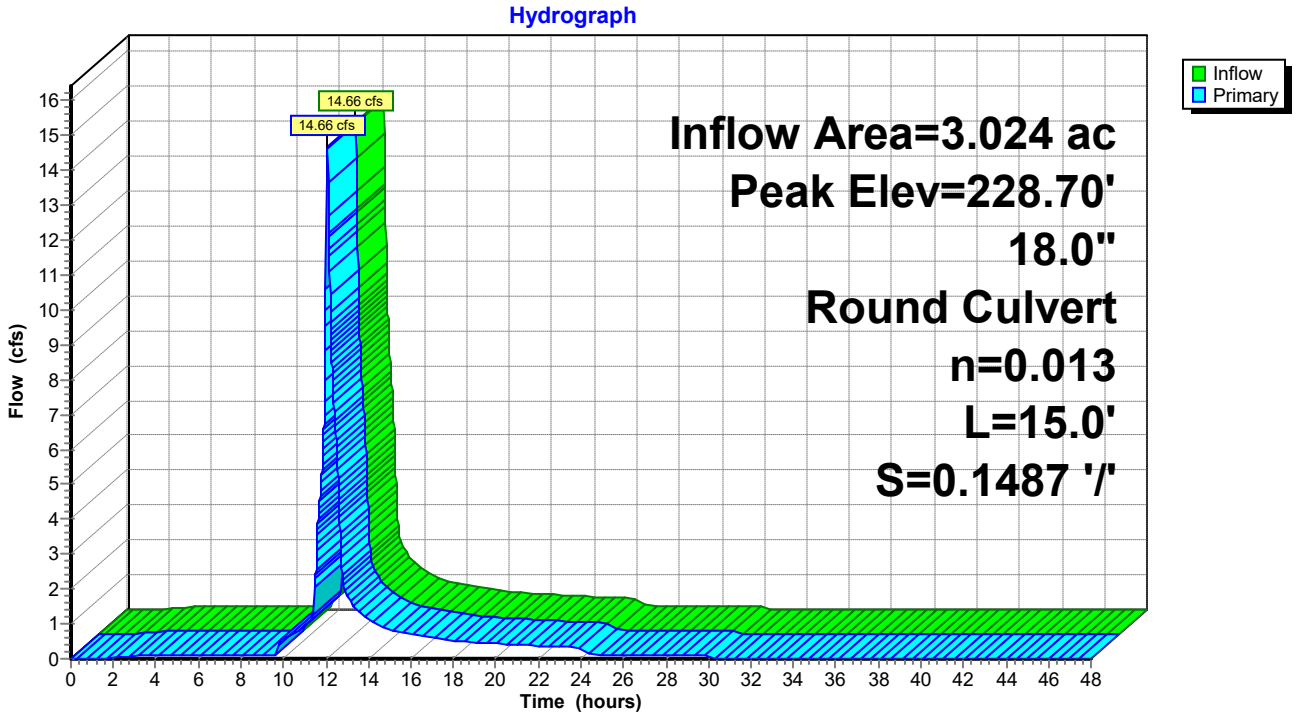
Inflow Area = 3.024 ac, 79.62% Impervious, Inflow Depth = 6.17" for 100-yr event
Inflow = 14.66 cfs @ 12.06 hrs, Volume= 1.554 af
Outflow = 14.66 cfs @ 12.06 hrs, Volume= 1.554 af, Atten= 0%, Lag= 0.0 min
Primary = 14.66 cfs @ 12.06 hrs, Volume= 1.554 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 228.70' @ 12.06 hrs
Flood Elev= 232.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	224.98'	**18.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 224.98' / 222.75' S= 0.1487 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=14.66 cfs @ 12.06 hrs HW=228.70' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 14.66 cfs @ 8.29 fps)

Pond 3P: DMH



Summary for Pond GUSF1: Soil Filter

Inflow Area = 0.414 ac, 58.42% Impervious, Inflow Depth = 6.38" for 100-yr event
Inflow = 2.81 cfs @ 12.03 hrs, Volume= 0.220 af
Outflow = 1.64 cfs @ 12.11 hrs, Volume= 0.128 af, Atten= 42%, Lag= 5.1 min
Primary = 1.64 cfs @ 12.11 hrs, Volume= 0.128 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 233.57' @ 12.11 hrs Surf.Area= 3,409 sf Storage= 4,234 cf
Flood Elev= 234.00' Surf.Area= 3,800 sf Storage= 5,800 cf

Plug-Flow detention time= 256.8 min calculated for 0.128 af (58% of inflow)
Center-of-Mass det. time= 122.5 min (913.4 - 790.9)

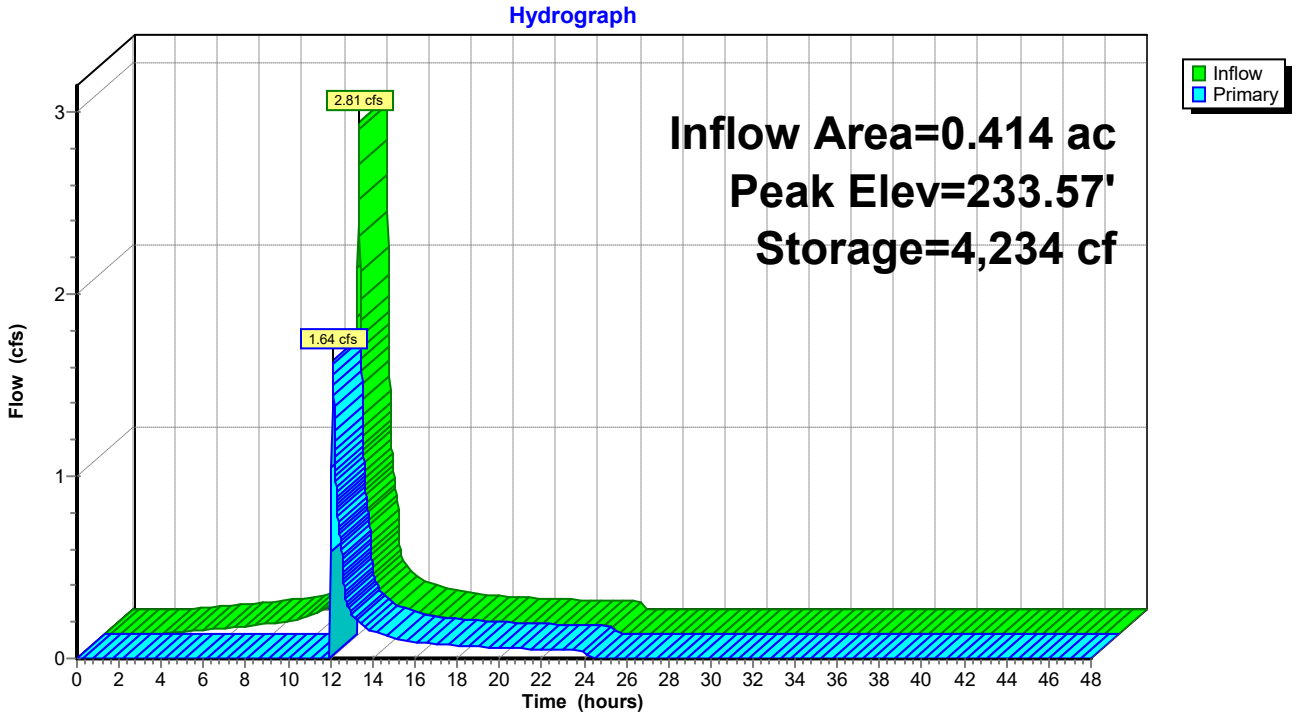
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	10,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.00	2,000	0	0
233.00	2,900	2,450	2,450
234.00	3,800	3,350	5,800
235.00	5,000	4,400	10,200

Device	Routing	Invert	Outlet Devices
#1	Device 2	233.50'	**6.0" x 1.5" Horiz. Orifice/Grate X 24.00** C= 0.600 Limited to weir flow at low heads
#2	Primary	229.17'	**12.0" Round Culvert** L= 89.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.17' / 229.00' S= 0.0019 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.64 cfs @ 12.11 hrs HW=233.57' TW=0.00' (Dynamic Tailwater)
↑**2=Culvert** (Passes 1.64 cfs of 5.74 cfs potential flow)
↑**1=Orifice/Grate** (Weir Controls 1.64 cfs @ 0.84 fps)

Pond GUSF1: Soil Filter



Summary for Pond GUSF2: Soil Filter

Inflow Area = 1.586 ac, 79.43% Impervious, Inflow Depth = 6.97" for 100-yr event
Inflow = 11.34 cfs @ 12.03 hrs, Volume= 0.922 af
Outflow = 6.00 cfs @ 12.13 hrs, Volume= 0.790 af, Atten= 47%, Lag= 6.3 min
Primary = 6.00 cfs @ 12.13 hrs, Volume= 0.790 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 234.19' @ 12.13 hrs Surf.Area= 5,548 sf Storage= 9,285 cf
Flood Elev= 234.00' Surf.Area= 5,300 sf Storage= 8,250 cf

Plug-Flow detention time= 137.5 min calculated for 0.790 af (86% of inflow)
Center-of-Mass det. time= 63.9 min (833.8 - 769.8)

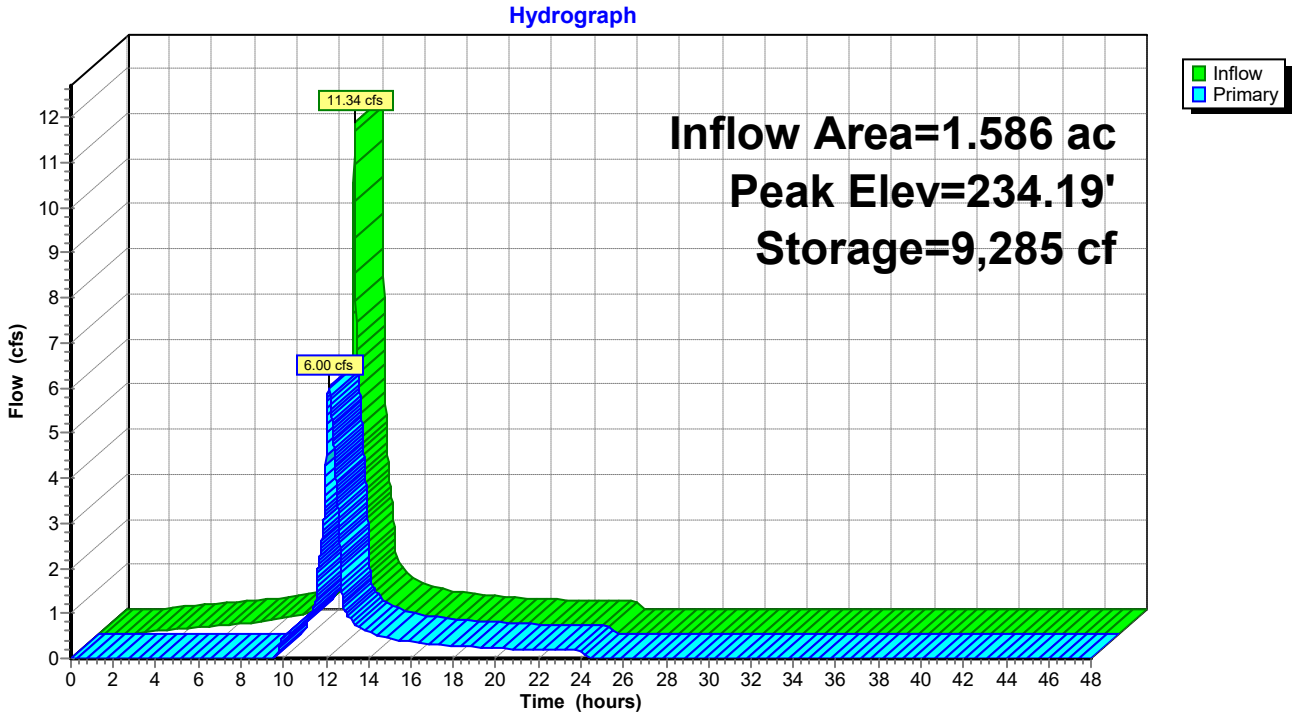
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	14,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.00	3,000	0	0
233.00	4,100	3,550	3,550
234.00	5,300	4,700	8,250
235.00	6,600	5,950	14,200

Device	Routing	Invert	Outlet Devices
#1	Device 2	233.50'	**6.0" x 1.5" Horiz. Orifice/Grate X 24.00** C= 0.600 Limited to weir flow at low heads
#2	Primary	229.17'	**12.0" Round Culvert** L= 89.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.17' / 227.00' S= 0.0244 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=6.00 cfs @ 12.13 hrs HW=234.19' TW=227.79' (Dynamic Tailwater)
↑**2=Culvert** (Passes 6.00 cfs of 7.57 cfs potential flow)
↑**1=Orifice/Grate** (Orifice Controls 6.00 cfs @ 4.00 fps)

Pond GUSF2: Soil Filter



Summary for Pond SSF1: Sand Filter

Inflow Area = 1.438 ac, 79.82% Impervious, Inflow Depth = 6.97" for 100-yr event
Inflow = 10.29 cfs @ 12.03 hrs, Volume= 0.836 af
Outflow = 12.24 cfs @ 12.02 hrs, Volume= 0.836 af, Atten= 0%, Lag= 0.0 min
Primary = 0.11 cfs @ 4.83 hrs, Volume= 0.258 af
Secondary = 12.12 cfs @ 12.02 hrs, Volume= 0.578 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 233.02' @ 12.04 hrs Surf.Area= 2,257 sf Storage= 2,858 cf
Flood Elev= 231.00' Surf.Area= 2,257 sf Storage= 2,855 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 75.6 min (845.4 - 769.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	228.67'	1,605 cf	**18.17'W x 124.24'L x 2.33'H Field A** 5,266 cf Overall - 1,253 cf Embedded = 4,013 cf x 40.0% Voids
#2A	229.17'	1,253 cf	**ADS_StormTech SC-310 +Cap** x 85 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap 85 Chambers in 5 Rows
		2,858 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Secondary	229.17'	**12.0" Round Culvert X 2.00** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 229.17' / 229.07' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	230.50'	**6.0' long Sharp-Crested Vee/Trap Weir X 2.00** Cv= 2.62 (C= 3.28)
#3	Primary	228.67'	**2.200 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.11 cfs @ 4.83 hrs HW=228.69' TW=225.13' (Dynamic Tailwater)
└**3=Exfiltration** (Exfiltration Controls 0.11 cfs)

Secondary OutFlow Max=11.92 cfs @ 12.02 hrs HW=232.96' TW=230.48' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 11.92 cfs @ 7.59 fps)
└**2=Sharp-Crested Vee/Trap Weir** (Passes 11.92 cfs of 152.06 cfs potential flow)

Pond SSF1: Sand Filter - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-310 +Cap (ADS StormTech® SC-310 with cap length)
Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf
Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap

34.0" Wide + 6.0" Spacing = 40.0" C-C Row Spacing

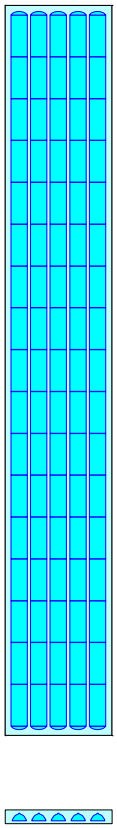
17 Chambers/Row x 7.12' Long +0.60' Cap Length x 2 = 122.24' Row Length +12.0" End Stone x 2 = 124.24' Base Length
5 Rows x 34.0" Wide + 6.0" Spacing x 4 + 12.0" Side Stone x 2 = 18.17' Base Width
6.0" Base + 16.0" Chamber Height + 6.0" Cover = 2.33' Field Height

85 Chambers x 14.7 cf = 1,253.1 cf Chamber Storage

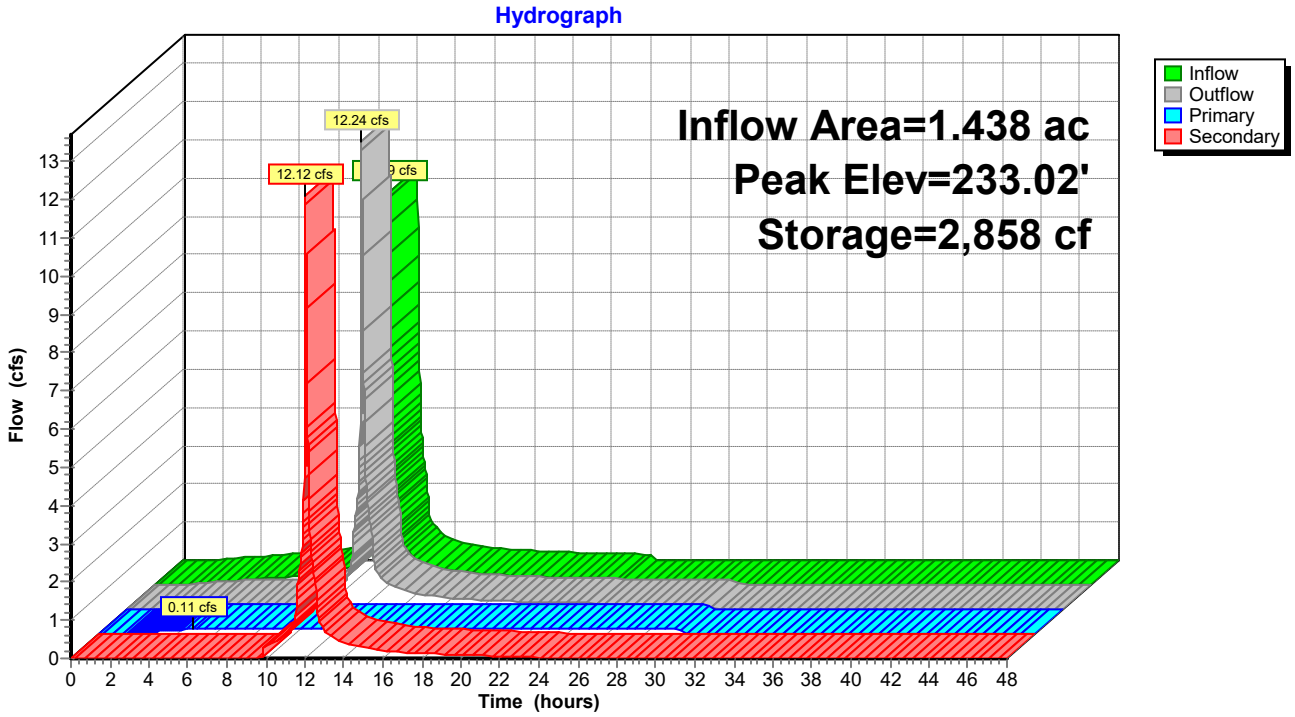
5,266.4 cf Field - 1,253.1 cf Chambers = 4,013.3 cf Stone x 40.0% Voids = 1,605.3 cf Stone Storage

Chamber Storage + Stone Storage = 2,858.4 cf = 0.066 af
Overall Storage Efficiency = 54.3%
Overall System Size = 124.24' x 18.17' x 2.33'

85 Chambers
195.1 cy Field
148.6 cy Stone



Pond SSF1: Sand Filter



Erosion and Sedimentation Control Plan

Bear's Self Storage
878 Center Street
Auburn, Maine

Introduction

This Erosion and Sedimentation Control Plan (E&S Plan) has been developed to provide a strategy to prevent unreasonable erosion of soil and sediment transport beyond the project site or into a protected natural resource. These strategies apply to the proposed development immediately prior to soil disturbing activities on the site and shall remain in place until the site is permanently stabilized.

The information presented in this E&S Plan is provided as an overview of the anticipated measures to be used on this site. In some instances, additional measures may be required due to unexpected conditions that arise during construction. Also, specific detail on the application of a recommended practice for an unexpected instance may not be covered in this E&S Plan. For additional detail on any of the erosion and sedimentation control measures discussed in this E&S Plan or for further recommendations of applicable practices, refer to the "Maine Erosion and Sediment Control BMPs" manual published by the Maine Department of Environmental Protection (MDEP) dated March 2003, as revised.

1.1 Plan Implementation Phases

Generally, the implementation of this plan occurs in three distinct phases as described below.

1.1.1 Pre-construction Phase

Prior to the beginning of any construction, perimeter sediment barriers (i.e. silt fence, erosion control mix berm, etc…) shall be installed at, or just below, the limits of clearing or grubbing, and/or just above any adjacent property line or protected natural resource. Prior to any clearing or grubbing, a construction entrance shall be constructed at the intersection of the site access with the adjacent street to avoid tracking of mud, dust and debris from the site.

1.1.2 Construction Phase

Areas undergoing actual construction shall only expose that amount of mineral soil necessary for progressive and efficient site construction. Any area that has been disturbed and is not "permanently stabilized" (as described by this E&S Plan) shall be considered "open." Open areas shall be protected and stabilized with temporary erosion and sedimentation control measures as shown on the project plans and as described within this E&S Plan.

Preparation for winter stabilization applies to some disturbed areas that are open on or after September 15th of the construction season (refer to the Winter Construction Section of this E&S Plan, Paragraph B – Overwinter Stabilization Timeframe). Any areas that remain open after November 1 or new soil disturbance that occurs after November 1, but before April 15, must be protected by additional measures as described in the Winter Construction section of this E&S Plan. The recommendations outlined in the Winter Construction section of this E&S Plan shall supersede other conflicting recommendations.

1.1.3 Post-construction Phase

Once the site has reached permanent stabilization, remove any temporary sediment control measures, such as silt fence, within 30 days. All accumulated sediment/debris in the permanent stormwater management system, ditches, swales, paved surfaces, and/or any other location that has accumulated sediment/debris during construction shall be removed and disposed of in an approved manner.

1.2 Permanent Stabilization

The strategies outlined in this E&S Plan shall be in effect until the site reaches permanent stabilization. Newly seeded or sodded areas must be protected from vehicle traffic, excessive pedestrian traffic, and concentrated runoff until the vegetation is well established. If necessary, areas must be seeded and mulched again if germination is sparse, plant coverage is spotty, or topsoil erosion is evident. The following list defines permanent stabilization for applicable situations.

1.2.1 Seeded Areas

For seeded areas, permanent stabilization means a 90% cover of vigorous perennial growth with no evidence of washing or rilling of the topsoil.

1.2.2 Sodded Areas

For sodded areas, permanent stabilization means the complete binding of the sod roots into the underlying soil with no slumping of the sod or die-off.

1.2.3 Permanent Mulch

For mulched areas, permanent mulching means total coverage of the exposed area with an approved mulch material. Erosion control mix may be used as mulch for permanent stabilization according to approved application rates and limitations.

1.2.4 Riprap

For areas stabilized with riprap, permanent stabilization means that slopes stabilized with riprap have an appropriate backing of well-graded gravel or approved geotextile to prevent soil movement from behind the riprap. Larger stones should be at the toe of the slope to support stability.

1.2.5 Paved Areas

For paved areas, permanent stabilization means the placement of compacted gravel subbase is completed.

1.2.6 Ditches, Channels, and Swales

For open channels, permanent stabilization means the channel is stabilized with a 90% cover of vigorous perennial growth, a well-graded riprap lining, or with another non-erosive lining such as specified. There must be no evidence of slumping of the channel lining, undercutting of the channel banks, or down-cutting of the channel.

1.3 Temporary Erosion and Sedimentation Control BMPs

The placement/use of the following erosion and sedimentation control measures shall be in accordance with the "Maine Erosion and Sediment Control BMPs" manual published by the Maine Department of Environmental Protection (MDEP) dated March 2003, as revised.

1.3.1 Sedimentation Barriers

Prior to the beginning of any construction, sediment barriers (i.e. silt fence, erosion control mix berms, etc…) shall be installed across the slope(s), on the contour, at or just below the limits of clearing or grubbing, and/or just above any adjacent property line or watercourse to protect against construction related erosion. Sediment barriers shall be maintained until all tributary open areas have been permanently stabilized. The following are recommended perimeter sediment barriers:

- Silt fence: Shall be installed per the detail on the plans. The effective height of the fence shall not exceed 36 inches. It is recommended that silt fence be removed by cutting the fence materials at ground level so as to avoid additional soil disturbance.
- Staked hay bales: Shall be installed per the detail on the plans. Bales shall be wire-bound or string-tied and these bindings must remain parallel with the ground surface during installation to prevent deterioration of the bindings. Bales shall be installed within a minimum four (4) inch deep trench line with ends of adjacent bales tightly abutting another. Bales shall be held in place by at least two stakes.
- Erosion control mix berm: Shall be installed per the detail on the plans. The berm shall be a minimum height of 12-inches and a minimum width of two feet. The mix shall consist primarily of organic material and contain a well-graded mixture of particle sizes. The mix must meet the most recent composition specifications published by the MDEP. No trenching is required for installation of this barrier.
- Filter sock: Shall be installed per the detail on the plans. A filter sock is a tube made from netting that contains erosion control mix or other organic material. A filter sock shall be used in small areas and where a trench cannot be dug for a silt fence, such as where there is pavement or frozen ground. The ground where the filter sock is placed shall be smooth and level.

1.3.2 Surface Stabilization

All disturbed areas that will not be worked for more than 7 days shall be protected and stabilized with mulch or other non-erodable cover. Areas located within 75 feet of a wetland or waterbody must be protected and stabilized within 48 hours of the initial disturbance of the soil or prior to any storm event, whichever comes first. Areas that have been seeded (temporary or permanent) shall be stabilized immediately. The following are recommended practices for surface stabilization:

- Straw Mulch: Organic mulches including straw need to be air-dried, free of undesirable seeds and coarse materials. Application rate shall be 2 bales (70-90 lbs) per 1000 square feet or 1.5 to 2 tons (90-100 bales) per acre. This type of mulch must be anchored with a tackifier amendment and/or via physical means (i.e. vehicle tracking, jute netting, etc…) to avoid displacement by wind or water.
- Erosion control mix: Erosion Control Mix can be manufactured on or off the site. It is composed primarily of shredded bark, stump grindings, composted bark, or other acceptable products based on a similar raw source. The mix must meet the most recent composition specifications published by the MDEP. The mix shall be placed evenly and must provide 100% soil coverage. Erosion control mix shall be applied such that the thickness on slopes 3:1 or less is 2 inches plus ½ inch per 20 feet of slope up to 100 feet. The thickness on slopes between 3:1 and 2:1 is 4 inches plus ½ inch per 20 feet of slope up to 100 feet. This shall not be used on slopes greater that 2:1.
- Erosion control blankets: Erosion Control Blankets are used on steep slopes (greater than 3H:1V) and also areas that will receive concentrated stormwater flows. Erosion Control Blankets are also great for overwinter stabilization. Blankets aid in controlling erosion on disturbed soils and critical areas during the

establishment period of vegetation. Various forms of erosion control blankets are commercially available, each with different advantages for different applications. The type of blanket to be used for individual applications shall be as indicated on the development plan set or via the use of an approved equivalent blanket. In all applications, the blanket manufacturer's specifications and installation methods shall be referenced and adhered to.

1.3.3 Soil Stockpiles

All topsoil shall be stockpiled for future use on the project at a stable location on-site. Structural measures, such as sediment barriers, may be warranted for additional sediment control of the stockpile areas. Stockpiles of soil or subsoil shall be mulched with straw or with erosion control mix. This must be done within 24 hours of stocking and re-established prior to any rainfall. Any soil stockpile will not be placed (even covered with straw) within 75 feet from any protected natural resources.

1.3.4 Stabilized Construction Entrance/Exit

Prior to any clearing or grubbing, a stabilized construction entrance/exit shall be constructed wherever traffic will exit the construction site onto a paved roadway in order to minimize the tracking of sediment and debris from the construction site onto public roadways. The entrances and adjacent roadway areas shall be periodically swept or washed to further minimize the tracking of mud, dust or debris from the construction area. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment trapping device. Construction entrances/exits shall be inspected on a weekly basis, and before and after each storm to ensure voids have not been filled with sediment. Stabilized construction exits shall be constructed in areas as specified and detailed on the plans.

1.3.5 Stone Check Dams

Stone check dams are generally temporary devices, which are constructed across a swale or drainage ditch and shall be used in channels that have a slope greater than 6%. Their purpose is to reduce the velocity of concentrated stormwater flows, thereby reducing erosion of the swale or ditch. These devices will also trap small amounts of sediment generated in the ditch itself, however, they are not an effective sediment trapping device and should not be used as such. Stone check dams are typically constructed of 2"-3" crushed stone and stand 24 inches in height.

1.3.6 Storm Drain Inlet Protection

Storm drains are typically operational prior to permanent stabilization of tributary areas. In these instances, hay bales, crushed stone barriers, and/or silt sacks shall be used within a catch basin or prior to a pipe entrance. This temporary protection will assist in the removal of sediment prior to entrance into a storm drainage system and the prevention of clogging and/or loss of capacity. These devices alone will not prevent all sediment from entering the stormwater system and should be used in conjunction with other devices to achieve desired sediment removal levels.

1.3.7 Dewatering

Water from construction dewatering will pass first through a filter bag or secondary containment structure (e.g. hay bale lined pool) prior to discharge. The discharge site shall be selected to avoid flooding, icing and sediment discharges to a protected natural resource. Discharge is permitted within the filter basin locations prior to the installation of the filter media.

1.3.8 Dust Control

Dust control during construction shall be achieved by the use of a watering truck to periodically sprinkle the exposed roadway areas as necessary to reduce dust during the dry months. The road surface may also be swept and vacuumed to the edge of the roadway to reduce dust. Dust shall not be swept into a waterbody or wetland. Applying other dust control products such as calcium chloride or other manufactured products are allowed if authorized by the proper local, state and/or federal regulating agencies. However, it is the contractor's ultimate responsibility to mitigate dust and soil loss from the site.

1.3.9 Temporary Stream Diversion

A temporary stream diversion allows for a dry working environment at an active construction site while ensuring the stream maintains its flow. The flow velocity of the stream diversion should remain the same as normal conditions. Only aggregate of ¾-inch to 4-inches or larger should be used and the stream diversion shall be at a height that is half that of the bankfull width plus one foot. The temporary stream diversion shall be installed per the detail on the plans.

1.3.10 Temporary Stream Crossing

Temporary stream crossings are to be used for less than one year and include bridges, fords, and culverts. The temporary stream crossing shall not affect channel flow or cause flow backups or washouts. The crossing should be monitored for debris and sediment that discharges to the stream and for ensuring fish passage is clear.

- Temporary culvert: Shall be installed per the detail on the plans. The culvert diameter shall be at a minimum of 18" and the culvert shall not require major excavation or approach fill when fitting into the existing channel. Geotextile fabric used shall extend past the end of the culvert by 12-inches to 18-inches.
- Temporary bridge: Shall be installed per the detail on the plans. A temporary bridge can be made of logs, pre-stressed concrete beams, metal beams, and other materials that are easily removable and can support the expected loads. The bridge should be installed so that it least disturbs fish habitats and fully spans the stream.
- Temporary access ford: Shall be installed per the detail on the plans. A temporary access ford shall be used when a streambed is lined with natural bedrock. Geotextile fabric used shall extend past the crossing by 12-inches to 18-inches. The temporary ford shall be installed to allow for fish passage.

1.3.11 Slope Drains

Slope drains help contain runoff on a slope to a discharge point and can be permanent or temporary. For a temporary slope drain, the slope drain may have a heavy-duty flexible pipe or a plastic-lined channel. Additionally, the pipe shall be 12-inches or greater in diameter if it is to be used for more than one day. The drainage area shall be less than 5 acres. The slope drain shall be installed per the detail on the plans and follow MaineDOT specs.

1.4 Vegetative Measures

1.4.1 Temporary Vegetation

If any disturbed area of soil will be left bare for more than 7 days, or if construction is to be completed in phases over an extended duration, temporary seeding and mulching shall commence immediately following initial fine grading of the site. In sensitive areas (within 75 feet of protected natural resources) temporary mulch must be applied within 48 hours or prior to any storm event on all disturbed surfaces. It shall be maintained and reseeded, as necessary, to ensure good vegetative cover for the entire duration of construction. Seed will be selected from

the following table (Table 1 - Temporary Seed Mixture) according to the time of year or via an approved equivalent method.

Table 1 Temporary Seed Mixture

Seed	Lbs./Acre	Lbs./1000s.f.	Recommended Seeding Date
Winter Rye	112	2.6	8/15 thru 10/1
Oats	80	1.8	4/1 thru 7/1 8/15 thru 9/15
Annual Ryegrass	40	0.9	4/1 thru 7/1
Sudangrass	40	0.9	5/15 thru 8/15
Perennial	40	0.9	8/15 thru 9/15

Note:

1. Some tree and shrub species may be desirable for sites primarily covered with sand and gravel. These methods shall be approved by the appropriate regulatory authority prior to use.

1.4.2 Permanent Vegetation

Revegetation measures shall commence immediately upon completion of final grading of areas to be loamed and seeded. Revegetation measures shall consist of the following:

1.4.2.1 Seedbed Preparation

- Four (4) inches of loam will be spread over disturbed areas and smoothed to a uniform surface. Loam shall be free of subsoil, clay lumps, stones and other objects over 2" in any dimension, and without weeds, roots or other objectionable material.
- Soil tests shall be taken at the time of soil stripping to determine fertilization requirements. Soil tests shall be taken promptly as to not interfere with the 7-day limit on soil exposure (48-hours adjacent to a protected natural resource). Based upon test results, soil amendments shall be incorporated into the soil prior to final seeding. In lieu of soil tests, soil amendments may be applied as shown below in Table 2:

Table 2 Recommended Soil Amendments

Item	Application Rate
10-20-20 Fertilizer (N-P205-K20 or equal)	18.4lbs./1,000 s.f.
Ground Limestone (50% calcium and magnesium oxide)	138-lbs./1,000 s.f.

1.4.2.2 Application of Seed

- Seeding: The seed mixture shown below in Table 3 shall be utilized for permanent seeding applications. Alternate seed mixtures may be utilized as approved. Refer to Appendix A of the MDEP Erosion and Sedimentation Control Practices Field Guide for Contractors for additional seed mixture options.

Table 3 Permanent Seed Mixture

Seed Type	Application Rate
Creeping Red Fescue	0.46 lbs/1,000 s.f. (20 lbs/acre)
Red Top	0.05 lbs/1,000 s.f. (2 lbs/acre)
Tall Fescue	0.46 lbs/1,000 s.f. (20 lbs/acre)
Total:	0.97 lbs/1,000 s.f. (42 lbs/acre)

- Hydroseeding: Shall be conducted on prepared areas as described above. Hydroseeding shall not be done on slopes steeper than 2H:1V. Lime and fertilizer may be applied simultaneously with the seed. Recommended seeding rates must be increased by 10% when hydroseeding.
- Surface Stabilization: Mulching or other approved surface stabilization methods shall commence immediately after seed is applied. Refer to the surface stabilization section of this plan for more information.

1.4.2.3 Sodding

Following seedbed preparation, sod can be applied in lieu of seeding in areas where immediate vegetation is most beneficial such as ditches, around stormwater drop inlets and areas of aesthetic value. Sod should be laid at right angles to the direction of flow starting at the lowest elevation. Sod should be rolled or tamped down to even out the joints once laid down. Where flow is prevalent the sod must be properly anchored down. Irrigate the sod immediately after installation. In most cases, sod can be best established between April 1 and November 15 of the construction year.

1.5 Winter Construction

The winter construction period is from November 1 through April 15. If the construction site is not permanently stabilized by November 1 then the site needs to be protected with over-winter stabilization.

Winter excavation and earthwork shall be completed such that no more than 1 acre of the site is without stabilization at any one time. Limit the exposed area to those areas in which work is expected to be undertaken during the preceding 15 days and that can be mulched in one day prior to any snow event. All areas shall be considered to be denuded until the subbase gravel is installed in roadway areas or the areas of future loam and seed have been loamed, seeded and mulched.

Any added measures, which may be necessary to control erosion/sedimentation from the site dependent upon the actual site and weather conditions, must be installed. Continuation of earthwork operations on additional areas shall not begin until the exposed soil surface on the area being worked has been stabilized, in order to minimize areas without erosion control protection.

1.5.1 Winter Construction BMP Adjustments

1) Sediments Barriers: During frozen conditions, sediment barriers shall consist of erosion control mix berms as frozen soil prevents the proper installation of hay bales and silt fences.

2) Mulching: Between the dates of November 1 and April 15, all mulch shall be anchored by either mulch netting, asphalt emulsion chemical, track or weed cellulose fiber. When the ground surface is not visible through the mulch then cover is sufficient. After November 1st, mulch and anchoring of all exposed soil shall occur at the end of each final grading workday.

- Open Surfaces (flatter than 8%): Straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 square feet or 1.5 tons/acre) and shall be properly anchored. Mulch shall not be spread on top of snow. The snow will be removed down to one-inch depth or less prior to application. After each day of final grading, the area will be properly stabilized with anchored straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched with straw at a rate of 150 lb. per 1,000 square feet (3 tons/acre) and adequately anchored that ground surface is not visible through the mulch.
- Open Slopes (8% or steeper) and Drainage Ways: Slopes shall not be left exposed for any extended time of work suspension unless fully mulched and anchored with netting or erosion control blankets. Mulching shall be applied at a rate of 230-lbs/1,000 square feet on all slopes steeper than 8%. Mulch netting shall be used to anchor mulch in all drainage ways with a slope steeper than 3% for slopes exposed to direct winds and for all other slopes steeper than 8%. Erosion control blankets shall be used in lieu of mulch in all drainage ways. Erosion control mix can be used to substitute erosion control blankets on slopes that do not exceed 2H:1V. In this case, the erosion control mix shall be spread out, not placed in a berm as it is installed as a sedimentation barrier.

3) Soil Stockpiles: Stockpiles of soil or subsoil shall be mulched for over winter protection with straw at twice the normal rate or at 150-lbs/1,000 square feet (3 tons per acre) or with a four-inch layer of wood waste erosion control mix. This will be done within 24 hours of stocking and re-established prior to any rainfall or snowfall. Any soil stockpile will not be placed (even covered with straw) within 100 feet from any natural resources.

4) Natural Resources Protection: Any areas within 100 feet from any protected natural resources, if not stabilized with a minimum of 90% mature vegetation catch, shall be mulched by December 1 and anchored with plastic netting or protected with erosion control mats. During winter construction, a double line of sediment barriers (i.e. silt fence backed with hay bales or erosion control mix) will be placed between any natural resource and the disturbed area. Projects crossing the natural resource shall be protected a minimum distance of 100 feet on either side from the resource. Existing projects not stabilized by December 1 shall be protected with the second line of sediment barrier to ensure functionality during the spring thaw and rains.

5) Seeding: Between the dates of October 15 and April 1st, loam or seed will not be required. During periods of above freezing temperatures finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until such time as the final treatment can be applied. If the date is after November 1st and if the exposed area has been loamed, final graded with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched.

Dormant seeding may be selected to be placed prior to the placement of mulch and fabric netting anchored with staples. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5-lbs/1000 square feet. All areas seeded during the

winter will be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 90% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

1.5.2 Overwinter Stabilization Timeframe

1) Ditches and Channels: All grass-lined ditches and channels must be constructed and stabilized by September 1. All stone-lined ditches and channels must be constructed and stabilized on the site by November 15. If a ditch or channel is not grass-lined by September 15, then one of the following actions must be taken to stabilize the ditch for late fall and winter.

   - Install a sod lining in the ditch: A ditch must be lined with properly installed sod by October 1. Proper installation includes the contractor pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, watering the sod to promote root growth into the disturbed soil, and anchoring the sod with jute or plastic mesh to prevent the sod strips from sloughing during flow conditions.
   - Install a stone lining in the ditch: A ditch must be lined with stone riprap by November 15. A registered professional engineer must be hired to determine the stone size and lining thickness needed to withstand the anticipated flow velocities and flow depths within the ditch. If necessary, the ditch must be regraded prior to placing the stone lining to prevent the stone lining from reducing the ditch's cross-sectional area.

2) Disturbed Slopes: All stone-covered slopes must be constructed and stabilized by November 15. All slopes to be vegetated must be seeded by September 15. The MDEP will consider any area having a grade greater than 15% (10H:1V) to be a slope. If a slope to be vegetated is not stabilized by September 1, then one of the following actions must be taken to stabilize the slope for late fall and winter.

   - Stabilize the soil with temporary vegetation and erosion control blankets: By October 1 the disturbed slope must be seeded with winter rye at a seeding rate of 3 pounds per 1,000 square feet and apply erosion control blankets over the mulched slope. If the rye fails to grow at least three inches or cover at least 75% of the disturbed slope by November 1, the slope will be covered with a layer of erosion control mix or stone riprap as described in the following standards.
   - Stabilize the slope with sod: The disturbed slope must be stabilized with properly installed sod by October 1. Proper installation includes pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. Slopes steeper than 33% (3H:1V) or having groundwater seeps on the slope face, may not use late-season sod installation for stabilization.
   - Stabilize the slope with erosion control mix: A six-inch layer of erosion control mix must be spread over the slope by November 15. Prior to placing the erosion control mix, any snow accumulation on the disturbed slope must be removed. Slopes steeper than 50% (2H:1V) or having groundwater seeps on the slope face cannot use erosion control mix to stabilize slopes.

- Stabilize the slope with stone riprap: A layer of stone riprap can be placed on the slope by November 15. A registered professional engineer must be hired to determine the stone size needed for stability and to design a filter layer for underneath the riprap.

3) Other Disturbed Soils: By September 15, all disturbed soils on areas having a slope flatter than 15% (10H:1V) must receive seed and mulch. If disturbed areas are not stabilized by this date, then one of the following actions must be taken to stabilize the soil for late fall and winter.

- Stabilize the soil with temporary vegetation: By October 1, seed the disturbed soil with winter rye at a seeding rate of 3 pounds per 1,000 square feet, lightly mulch the seeded soil with straw at 75 pounds per 1000 square feet, and anchor the mulch with plastic netting. Monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or cover at least 90% of the disturbed soil before November 1, then mulch the area for over-winter protection as described in the following "Stabilize the soil with mulch" standard.
- Stabilize the soil with sod: Stabilize the disturbed soil with properly installed sod by October 1. Proper installation includes pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.
- Stabilize the soil with mulch: By November 15, mulch the disturbed soil by spreading straw at a rate of at least 150 pounds per 1000 square feet on the area so that no soil is visible through the mulch. Prior to applying the mulch, any snow accumulation on the disturbed area must be removed. Immediately after applying the mulch, anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

1.6 Inspection and Maintenance

Inspection and maintenance are required of all erosion and sedimentation control measures outlined in this plan. Refer to the Inspection, Maintenance, and Housekeeping Plan for this project for an outline of the associated inspection and maintenance requirements.

Inspection, Maintenance and Housekeeping Plan

Bear's Self Storage
878 Center Street
Auburn, Maine

Introduction

The following plan outlines the anticipated inspection and maintenance procedures for the erosion and sedimentation controls as well as stormwater management devices for the project site. Also, this plan outlines several housekeeping requirements that shall be followed during and after construction. These procedures should be followed in order to ensure the intended function of the designed measures and to prevent unreasonable adverse impacts to the surrounding environment.

The procedures outlined in this inspection and maintenance plan are provided as an overview of the anticipated practices to be used on this site. In some instances, additional measures may be required due to unexpected conditions. For additional detail on any of the erosion and sedimentation control measures or stormwater management devices to be utilized on this project, refer to the most recently revised edition of the "October 2016 Revision to the 2003 Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual for Designers and Engineers" manual and/or the "Volume III (Technical Design Manual) of the Maine Stormwater Management Design Manual (May 2016)" manual as published by the Maine Department of Environmental Protection (MDEP).

Section 1 During Construction

1.1 Inspection

During the construction process, it is the Contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. These responsibilities include inspecting disturbed and impervious areas, erosion control measures, material storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected at least once a week as well as before and after a storm event, and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in any applicable permits, shall conduct the inspections.

1.2 Maintenance

All measures shall be maintained in an effective operating condition until areas are permanently stabilized. If Best Management Practices (BMPs) need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, then necessary improvements or repairs will be started no later than the end of the next workday and implementation must be completed within 7 calendar days and prior to any storm event (rainfall).

1.3 Documentation

A log summarizing the inspections and any corrective action taken must be maintained on-site. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, material storage areas, and vehicle access points to the site. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional

BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to the appropriate regulatory agency upon request. This documentation shall be maintained for at least three years after the site is permanently stabilized.

1.4 Specific Inspection and Maintenance Tasks

The following is a list of erosion control and stormwater management measures and the specific inspection and maintenance tasks to be performed during construction.

1.4.1 Sediment Barriers

- Hay bale barriers, silt fences, and filter berms shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
- If the fabric on silt fence or filter barrier should decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, it shall be replaced.
- Sediment deposits should be removed after each storm event. They must be removed before deposits reach approximately one-half the height of the barrier.
- Filter berms shall be reshaped as needed.
- Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared, and seeded.

1.4.2 Erosion Control Blankets

- Inspect these reinforced areas semi-annually and after significant rainfall events for slumping, sliding, seepage, and scour. Pay close attention to unreinforced areas adjacent to the erosion control blankets, which may experience accelerated erosion.
- Review all applicable inspection and maintenance procedures recommended by the specific blanket manufacturer. These tasks shall be included in addition to the requirements of this plan.

1.4.3 Temporary Storm Drain Inlet Protection

- The inlet protection structure shall be inspected before each rain event and repaired as necessary.
- Sediment shall be removed and the storm drain sediment barrier restored to its original dimensions when the sediment has accumulated to half of the design depth of the trap.
- Barriers shall be removed upon permanent stabilization of the tributary area.
- Upon removal of the barrier, all accumulated sediments downstream of the structure shall be cleaned from the storm drain system.

1.4.4 Stabilized Construction Entrances/Exits

- The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way.
- When the control pad becomes ineffective, the stone shall be removed along with the collected soil material. The entrance should then be reconstructed.
- Areas that have received mud-tracking or sediment deposits shall be swept or washed. Washing shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device (not into storm drains, ditches, or waterways).

1.4.5 Temporary Seed and Mulch

- Mulched areas should be inspected after rain events to check for rill erosion.
- If less than 90% of the soil surface is covered by mulch, additional mulch shall be applied in bare areas.
- In applications where seeding and mulch have been applied in conjunction with erosion control blankets, the blankets must be inspected after rain events for dislocation or undercutting.

- Mulch shall continue to be reapplied until 95% of the soil surface has established temporary vegetative cover.

1.4.6 Stabilized Temporary Drainage Swales, Ditches, Channels, and other Conveyance Practices

- Sediment accumulation in the swale, ditch, or channel shall be removed once the cross-sectional area is reduced by 25%.
- The swales, ditches, and channels shall be inspected after rainfall events. Any evidence of sloughing of the side slopes or channel erosion shall be repaired and corrective action should be taken to prevent reoccurrence of the problem.
- In addition to the stabilized lining of the channel (i.e. erosion control blankets), stone check dams may be needed to further reduce channel velocity.
- The downstream receiving area for a level spreader shall be protected during active construction and should be free of irregularities. The slope shall be less than 30%, if not a conduit and velocity dissipator must be used to bring the discharge to a stable area.
- Provide adequate culvert inlet protection and remove accumulating sediment and debris during construction.
- Other maintenance requirements for specific conveyance and distribution systems, such as vegetated swale, flow splitter, level spreader, and permeable road base, can be found in the "Volume III (Technical Design Manual) of the Maine Stormwater Management Design Manual (May 2016)" manual as published by the Maine Department of Environmental Protection (MDEP).

1.4.7 Grassed Underdrained Soil Filters, Subsurface Sand Filter, and Wet Pond

- Ensure vehicles and machinery do not drive or park on the filters or ponds during construction to prevent excessive soil compaction. Provide signage or construction fencing if necessary.
- The channel or area in which outflow discharges to must be stabilized prior to operation of the BMP.
- Ponds and grassed filters shall not be fertilized unless vegetation needs to be established.
- Remove any debris and sediment that may accumulate during construction.
- Soil compaction on the filter media shall be prevented during construction.
- Wet ponds shall be inspected following major storms.
- Infiltration systems shall be inspected after storm events for erosion and sediment accumulation.

Section 2 After Construction

2.1 Inspection

After construction, it is the responsibility of the owner or assigned heirs to comply with the inspection and maintenance procedures outlined in this section. All measures must be maintained in effective operating condition. A person with knowledge of erosion and stormwater control, including the standards and conditions in all applicable permits, shall conduct the inspections.

2.2 Specific Inspection and Maintenance Tasks

2.2.1 Vegetated Areas

- Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems.
- Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

- Mow vegetation as needed.

2.2.2 Catch Basins, Outlet Control Structures, and Drain Manholes

- Inspect and, if required, clean-out catch basins at least once a year, preferably in early spring.
- Clean out must include the removal and legal disposal of accumulated sediments and debris at the bottom of the basin, at any inlet grates, at any inflow channels to the basin, and at any pipes between basins.
- If the basin outlet is designed to trap floatable materials, then remove the floating debris and any floating oils (using oil-absorptive pads).

2.2.3 Winter Sanding and Snow Removal

- Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring.
- Accumulations on pavement may be removed by pavement sweeping.
- Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader or other acceptable method.
- Snow plowed or otherwise removed from the site shall not be placed in stormwater BMPs, such as ponds or basins.

2.2.4 Culverts

- Inspect and, if required, clean-out culverts at least once a year, preferably in early spring and fall.
- Clean out must include the removal and legal disposal of accumulated sediments and debris at the inverts, outlets, and within the conduit, and at any riprap associated with any inverts and outlets.

2.2.5 Check for scouring at outlet locations. Provide flow dissipation as necessary. Vegetated Swales, Ditches, Channels, and other Conveyance Practices

- Inspect and, if required, clean-out swales, ditches, and channels in the spring, fall, and after heavy rains. Mow at least annually and remove any recurring woody vegetation.
- Clean out must include the removal and legal disposal of accumulated sediments and debris within the swale, ditch, or channel and at any riprap area. Give particular attention to restrictions to flow.
- Check for erosion within the ditch line. Repair erosion control matting or riprap as necessary. Maintain in order to correct erosion of the channel's bottom while maintaining flow capacity.
- Check for rill and slump erosion along slopes. Stabilize with mulch and vegetation, or with more intensive methods if rill or slump erosion is severe or a recurring item.
- Inspect for scouring at outlet locations. Provide flow dissipation as necessary. In areas with riprap, replace riprap in areas where underlying filter fabric or underdrain gravel is showing, or in areas where riprap stones have been removed or come loose.

2.2.6 Grassed Underdrained Soil Filters, Subsurface Sand Filter, and Wet Pond

- Inspect and, if required, remove sediment and debris found in the control structure, and forebay and impoundment in the fall.
- Inspect embankments for settlement, slope erosion, piping, slumping, and loss of storage volume annually in the fall and following heavy rain. Noted issues should be corrected immediately. Mow embankments at least annually and remove any woody vegetation.
- Inspect wet pond once every six months to ensure the pond is emptying through the gravel filter slowly.
- Filters shall be inspected semi-annually and after large storms.
- Inspect the outlet control structure monthly during wet weather conditions and, if required, repair broken seals, obstructed orifices, and plugged trash racks. Debris must not block the inlet or outlet of the basin.

- Check for damage to trash racks or debris guards and repair as necessary.
- Riprapped spillways shall be inspected once per year. Control woody vegetation on the pond's spillway. Remove debris and accumulated sediments. Provide flow dissipation as necessary. In areas with riprap, replace riprap in areas where underlying filter fabric or underdrain gravel is showing, or in areas where riprap stones have been removed or come loose.
- Look for sediment deposited in riprap inlets and crushed stone strips or along edges of the pond where stormwater may enter into the soil filter. If the sediments leave less than 1 foot to the top of the berm between the forebay and the impoundment, remove the sediments and reline the forebay with stones. If the sediments extend more than 1/8th of the width of the soil filter, remove the sediments and restore the vegetation.
- Monitor the time it takes for the stormwater takes to drain from the soil filter. For a 1inch or larger rainfall event, the pond should be drained in 24 to 48 hours. If the timeframe to drain the pond approaches 48 hours, the filter media should be reworked or replaced.

    i This item shall be inspected following each rain event greater than 1" in 24 hours during the first 6 months following construction of a fully stabilized basin.

    ii In months 7-12 following construction, this item shall be inspected once again, preferably following a rain event greater than 1" in 24 hours.

    iii This item shall be inspected twice per year each year after the first year. One of these inspections should be completed following a rain event greater than 1" in 24 hours.

2.3 Duration of Maintenance

Perform maintenance as described and required for any associated permits unless and until the system is formally accepted by a municipality or quasi-municipal district or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system. Maintenance repairs shall begin no more than 90 calendar days after being identified and shall be completed no more than 120 days after being identified.

Section 3 Housekeeping

Information on Housekeeping practices has been included on the Erosion and Sedimentation Control Notes and Details Plan.

Stormwater Inspection and Maintenance Form

878 Center Street
Auburn, Maine

Bear's Self Storage

Inspector: _____ Date: _____

Maintenance Personnel: _____

	Inspection		Maintenance	
SITE AREA	Date	Comments	Date	Corrective Action
Sediment Barriers				
Erosion Control Blankets				
Temporary Storm Drain Inlet Protection				
Stabilized Construction Entrances/Exits				
Temporary Seed and Mulch				
Stabilized Temporary Drainage Swales, Ditches, Channels, and other Conveyance Practies				
Catch Basins, Outlet Control Structures, and Drain				
Winter Sanding and Snow Removal				
Culverts				
Grassed Underdrain Soil Filter (GUSF) 1				
Grassed Underdrain Soil Filter (GUSF) 2				
Subsurface Sand Filter				
Wet Pond				

Sediment/Debris Disposal

Location of Sediment/Debris Accumulation	Location of Sediment/Debris Disposal	Date of Disposal

Attachment 5
Lighting Plan

ATTACHMENT 5

SITE LIGHTING

Site Lighting

The site lighting will consist of full cut off LED fixtures mounted on the building that will be motion controlled. Full cut off LED lighting fixtures are proposed along the Center Street edge of the vehicle display area. The proposed fixture information is included in this section.

KIM LIGHTING®

DATE: LOCATION:

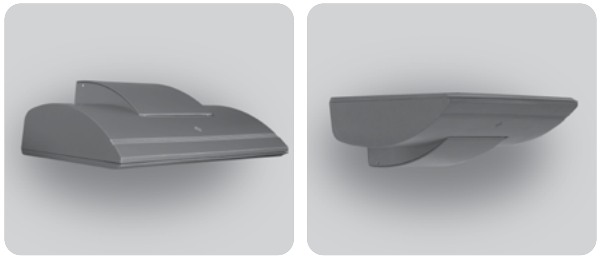
TYPE: PROJECT:

CATALOG #:

WDS

WALL MOUNTED

Wall Director



Wall Director Small

FEATURES

- -5° to +10° tilt adjustment
- High performance optics deliver up to 7,500 lumens
- up or down mountable without modification
- Programmable occupancy sensor (dimming)
- NX Lighting Controls
- 130+ lumens per watt
- UL/cUL listed for wet locations, IP66 Listed

c UL us LISTED

Downlight only, 3000K and warmer CCTs

DLC LISTED

IK07

BUY AMERICAN SOLUTIONS

See Certification Specifications

RELATED PRODUCTS

Wall Director Medium

CONTROL TECHNOLOGY

NX LIGHTING CONTROLS

SPECIFICATIONS

CONSTRUCTION

- Optical housing is a one-piece, die-cast low copper (<0.6%) aluminum alloy with integral heat sink. The housing rotates against mounting arm housing to provide -5° to 10° of adjustment with degree markers label. At 0° adjustment, lens is totally concealed from view above horizontal with fixture mounted in the downward position.
- Mounting arm housing is one-piece die-cast, low copper (<0.6%) aluminum alloy with provisions for tilt mechanism. Mounting arm fastens to the mounting plate with keyhole slots freeing both hands for securing and wiring. One stainless steel socket-head screw on the tilt mechanism frees the optical housing to rotate for aiming. Tightening the screws locks the housing and lens frame together with sealing provided by a silicone gasket. For visual aiming, adjustment may be accomplished with the fixture on.
- Lens Frame is a one-piece, die-cast low copper (<0.6%) aluminum alloy with integral cooling fins to dissipate driver thermal.
- Bracketry and hardware shall be stainless steel.
- Finish: fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat

OPTICS

- LEDs mount to a metal printed circuit board assembly (MCPCB).
- Optical lenses are clear injection molded PMMA acrylic.
- Secondary lens is impact resistant 1/8" tempered glass with anti-reflective coating.

INSTALLATION

- Junction box (by others): Standard with steel, quick-mount junction box plate that mounts directly to 4" J-Box.
- Mounting plate is stainless steel and features a one-piece EPDM gasket on back side of plate to firmly seal fixture to wall surface, forbidding entry of moisture and particulates.
- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

SERVICING

- Housing should hang freely in an open service position for inspection of primary wire connections. Once in service position, the housing can be removed for service by sliding the assembly to the left (for down mounting) or to the right (for up mounting) and disconnecting the wiring plugs.
- Driver assembly shall be mounted to a prewired internal tray with quick disconnects for removal.

ELECTRICAL

- Universal voltage, 120 through 277V with a ±10% tolerance. Driver is Underwriters Laboratories listed.
- High voltage configurations, 347/480. Driver has a 0-10V dimming interface for multi-level illumination options. Driver is Underwriters Laboratories listed.
- "Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components
- Drivers shall have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments
- Luminaire shall be capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C
- Modular wiring harness in the service area provides user access to the dimming circuitry
- Optional factory programmed dimming profile
- Surge protection: 10,000k in parallel, 20,000k in series
- Wiring: No. 18AWM rated 90°C, wet rating.

(Specifications continued on page 3)

KEY DATA	
Lumen Range	2,855–8,567
Wattage Range	29–74
Efficacy Range (LPW)	89–129
Reported Life (Hours)	L70/60,000
Weight	20 lbs/9.07 kg

KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

WDS

WALL MOUNTED

ORDERING GUIDE

Example: WDS-D-24L-30-3K7-1-UNV-BLS-PC-EM

CATALOG #

HOUSING

WDS

Model	Mounting	Source	Wattage	Light Engine	Distribution
WDS WallDirector Small	**D** Down	**24L** 24 LEDs	**30** 30 Watts, 3000 lm	**AM** [6] Amber-595nm Peak	**1** Type I
	U [1] Up		**40** 40 Watts, 4500 lm	**3K7** 3000K/70CRI	**2** Type II
			60 60 Watts, 6000 lm	**3K8** 3000K/80CRI	**3** Type III
			75 75 Watts, 7500 lm	**4K7** 4000K/70CRI	**4W** Type IV Wide
				4K8 4000K/80CRI	**4F** Type IV Forward
				5K7 5000K/70CRI	**WG** [2] Wall Graze
					SP Spot/Column
					FTD [2] Forward Throw Diffuse
					WTD [2] Wide Throw Diffuse

Voltage	Fixture Finish	Control Options	Options	Control Accessories
UNV 120-277V	**BLS** Black Gloss Smooth	**SCP-8F** [3,4,5,9] Programmable Occ. Sensor (<9' height)	**EM** [3] Integral Battery Backup Unit (8W)	**SCPREMOTE** SCP configuration tool
347 [3,10] 347V	**BLT** Black Matte Textured	**SCP-20F** [3,4,5,9] Programmable Occ. Sensor (9' - 20' height)	**SF** Single Fuse & Fuse holder	
480 [3,10] 480V	**DBS** Dark Bronze Gloss Smooth	**NXW** [4,5] NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	**DF** Double Fuse & Fuse holder	
	DBT Dark Bronze Matte Textured		**SCM1** 1/2" Surface Conduit Mount	
	GTT Graphite Matte Textured		**SCM2** 3/4" Surface Conduit Mount	
	LGS Light Grey Gloss Smooth		**PC** [3,5] Button Photocell	
	LGT Light Grey Matte Textured			
	PSS Platinum Silver Gloss Smooth			
	VGT Verde Green Matte Textured			
	WHS White Gloss Smooth			
	WHT White Matte Textured			

Color Option

CC [8] Custom Color

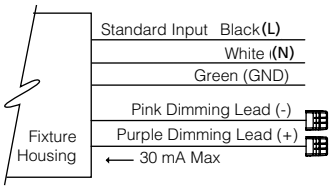
Notes:

1 Not available with EM option or with SCP sensor options.
2 WG, FTD, and WTD come with a diffused lens
3 Not available with other control options
4 Input voltage 120-347V
5 Not available in 480V
6 Turtle friendly
8 Consult factory for custom color, marine and corrosive finish options
9 SCPREMOTE SCP configuration tool needed.
10 Not available with 30 watt or 40 watts

SPECIFICATIONS (CONT')

DIMMING:

- Dimming range from 100% to 10% through the use of the standard 0-10V interface on the programmable driver.



- Modular wiring harness in the service area provides user access to the dimming circuitry.
- Dimming circuitry compatible with 0-10V, user-defined control devices.
- Optional factory programmed dimming profile.

BUTTON PHOTOCELL

- Optional universal voltage (120-277V) button photocontrol for dusk to dawn energy savings. Photocontrol is factory installed inside the housing with a fully gasketed sensor on the side wall. For multiple fixture mountings, one fixture is supplied with a photocell to operate the others.

NX LIGHTING CONTROLS

NX lighting controls platform utilizes a Distributed Network Architecture (DNA) that connects intelligent devices including luminaires, controllers, panels, occupancy sensors, photocells, wall switches and dimmers, creating a system with an unmatched level of reliability, scalability and simplicity

OPTIONAL FUSING:

- SF for 120, 277, and 347 Line volts
- DF for 208, 240, and 480 Line volts
- Hight temperature fuse holders factory installed inside the fixture housing.
- Fuse is included.

OPTIONAL BACKUP BATTERY

- Integral battery backup provides emergency path of egress lighting for the required 90 minutes for 0°C ambient.

CAUTION:

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

CERTIFICATIONS AND LISTINGS

- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- IEC 66262 Mechanical Impact Code IK08
- IP66 certified
- RoHS compliant
- This product qualifies as a “designated country construction material” per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/16/2020. See Buy American Solutions.

WARRANTY

- 5 year warranty

DATE: LOCATION:

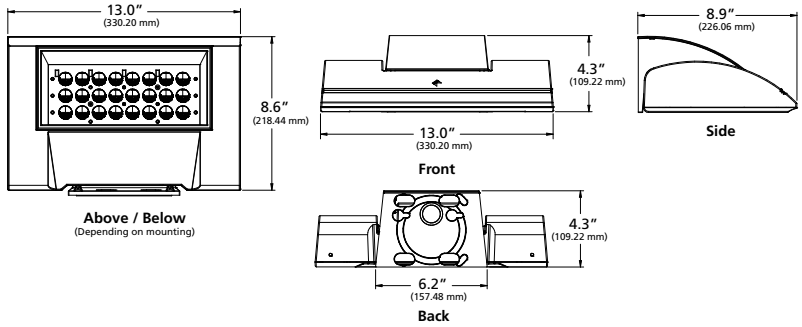
TYPE: PROJECT:

CATALOG #:

WDS

WALL MOUNTED

DIMENSIONS



Weight: 20 lbs

DELIVERED LUMENS

LEDs #	Drive Current	Lumens Package	Nominal Watts	Lens Options	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
							B	U	G			B	U	G			B	U	G	
24L	350mA	3,000	30	Clear	1	3433	1	0	0	119	3519	1	0	0	122	3560	1	0	0	123
					2	3351	1	0	1	116	3436	1	0	1	119	3475	1	0	1	120
					3	3340	1	0	1	116	3424	1	0	1	119	3463	1	0	1	120
					4F	3343	1	0	1	116	3427	1	0	1	119	3466	1	0	1	120
					4W	3267	1	0	1	113	3349	1	0	1	116	3387	1	0	1	117
					SP	3600	3	0	0	125	3691	3	0	0	128	3733	3	0	0	129
				Diffused	WG	3144	1	0	1	109	3223	2	0	1	112	3260	2	0	1	113
					FTD	2855	1	0	1	99	2927	1	0	1	101	2960	1	0	1	103
					WTD	3151	1	0	1	109	3230	1	0	1	112	3267	1	0	1	113
	500mA	4,500	40	Clear	1	4593	1	0	0	111	4708	1	0	0	113	4762	1	0	0	115
					2	4484	1	0	1	108	4596	1	0	1	111	4649	1	0	1	112
					3	4468	1	0	1	108	4581	1	0	1	110	4633	1	0	1	112
					4F	4472	1	0	1	108	4585	1	0	1	110	4637	1	0	1	112
					4W	4370	1	0	2	105	4480	1	0	2	108	4531	1	0	2	109
					SP	4817	3	0	0	116	4938	3	0	0	119	4994	3	0	0	120
				Diffused	WG	4206	2	0	1	101	4312	2	0	1	104	4361	2	0	1	105
					FTD	3819	1	0	1	92	3915	1	0	1	94	3960	1	0	1	95
					WTD	4215	1	0	1	102	4321	1	0	1	104	4371	1	0	1	105

WDS
WALL MOUNTED

DELIVERED LUMENS (CONTINUED)

LEDs #	Drive Current	Lumens Package	Nominal Watts	Lens Options	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
						Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
							B	U	G			B	U	G			B	U	G	
24L	725mA	6,000	60	Clear	1	6333	1	0	1	108	6492	1	0	1	111	6566	1	0	1	112
					2	6182	1	0	1	106	6338	1	0	1	108	6410	1	0	1	110
					3	6161	1	0	2	105	6316	1	0	2	108	6388	1	0	2	109
					4F	6166	1	0	2	105	6321	1	0	2	108	6393	1	0	2	109
					4W	6025	1	0	2	103	6177	1	0	2	106	6248	1	0	2	107
					SP	6641	4	0	0	114	6808	4	0	0	116	6886	4	0	0	118
				Diffused	WG	5800	2	0	1	99	5945	2	0	1	102	6013	2	0	1	103
					FTD	5266	1	0	1	90	5398	2	0	1	92	5460	2	0	1	93
					WTD	5812	1	0	1	99	5958	1	0	1	102	6026	1	0	1	103
	925mA	7,500	75	Clear	1	7879	1	0	1	106	8077	1	0	1	109	8170	1	0	1	110
					2	7692	1	0	1	104	7885	1	0	1	107	7975	1	0	2	108
					3	7665	1	0	2	104	7858	1	0	2	106	7948	1	0	2	107
					4F	7672	1	0	2	104	7865	1	0	2	106	7955	1	0	2	107
					4W	7497	1	0	2	101	7685	1	0	2	104	7773	1	0	2	105
					SP	8263	4	0	0	112	8471	4	0	0	114	8567	4	0	0	116
				Diffused	WG	7216	3	0	1	98	7397	3	0	1	100	7482	3	0	1	101
					FTD	6552	2	0	1	89	6717	2	0	1	91	6793	2	0	2	92
					WTD	7231	2	0	1	98	7413	2	0	1	100	7498	2	0	1	101

WDS
WALL MOUNTED

PHOTOMETRY

WDS-D-24L-75-4K7-1

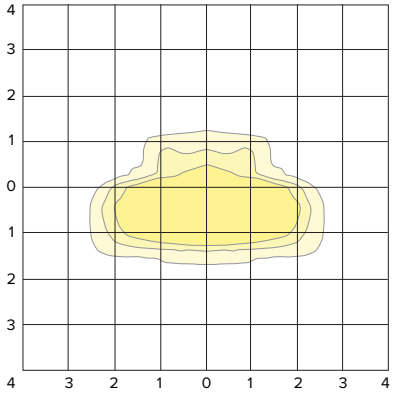
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**8077**
Watts	**74**
Efficacy	**109.1**
IES Type	**I**
BUG Rating	**B1-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	7166	88.7%
Downward House Side	912	11.3%
Downward Total	8077	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	8077	100%

ISOFOOT CANDLE PLOT



WDS-D-24L-75-4K7-2

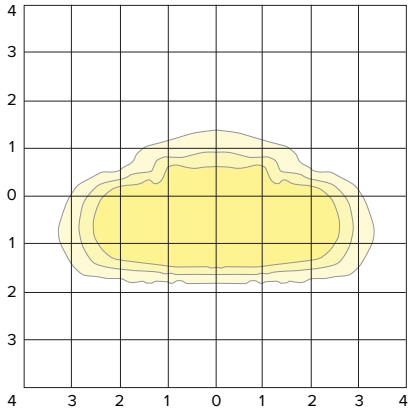
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**7885**
Watts	**74**
Efficacy	**106.6**
IES Type	**II**
BUG Rating	**B1-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	6393	81.1%
Downward House Side	1492	18.9%
Downward Total	7885	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	7885	100%

ISOFOOT CANDLE PLOT



WDS-D-24L-75-4K7-3

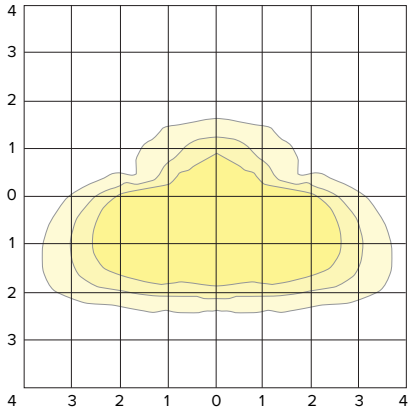
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**7858**
Watts	**74**
Efficacy	**106.2**
IES Type	**III**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	6551	83.4%
Downward House Side	1307	16.6%
Downward Total	7858	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	7858	100%

ISOFOOT CANDLE PLOT



WDS

WALL MOUNTED

PHOTOMETRY

WDS-D-24L-75-4K7-4F

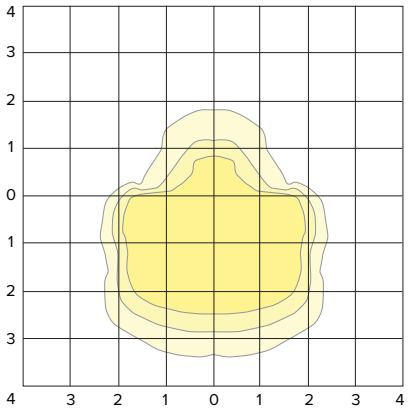
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**7865**
Watts	**74**
Efficacy	**106.3**
IES Type	**III**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	6782	86.2%
Downward House Side	1083	13.8%
Downward Total	7865	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	7865	100%

ISOFOOT CANDLE PLOT



WDS-D-24L-75-4K7-4W

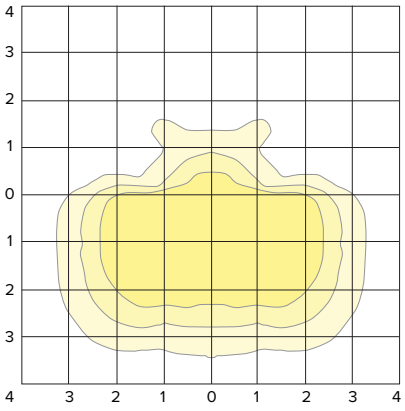
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**7685**
Watts	**74**
Efficacy	**103.9**
IES Type	**III**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	6794	88.4%
Downward House Side	892	11.6%
Downward Total	7685	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	7685	100%

ISOFOOT CANDLE PLOT



WDS-D-24L-75-4K7-FTD

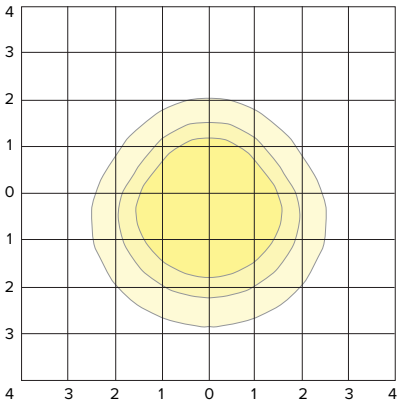
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**6717**
Watts	**74**
Efficacy	**90.8**
IES Type	**III**
BUG Rating	**B2-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	4462	66.4%
Downward House Side	2255	33.6%
Downward Total	6717	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	6717	100%

ISOFOOT CANDLE PLOT



WDS
WALL MOUNTED

PHOTOMETRY

WDS-D-24L-75-4K7-SP

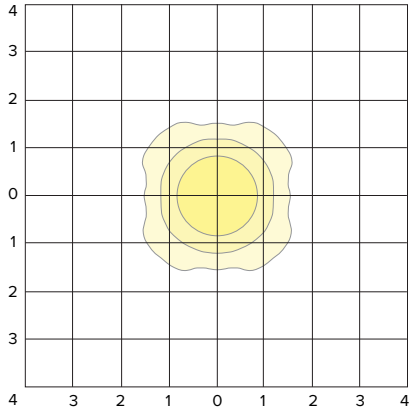
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**8471**
Watts	**74**
Efficacy	**114.5**
IES Type	**VS**
BUG Rating	**B4-U0-G0**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	4236	50.0%
Downward House Side	4236	50.0%
Downward Total	8471	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	8471	100%

ISOFOOT CANDLE PLOT



WDS-D-24L-75-4K7-WG

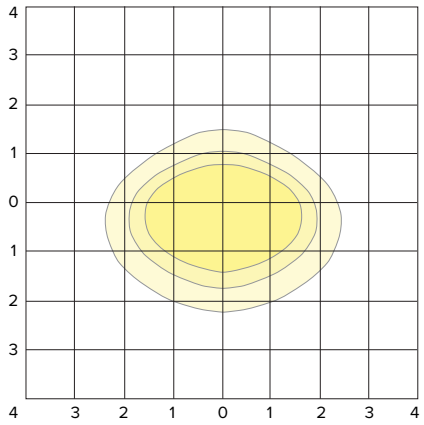
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**7396**
Watts	**74**
Efficacy	**99.9**
IES Type	**I**
BUG Rating	**B3-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	4931	66.7%
Downward House Side	2465	33.3%
Downward Total	7396	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	7396	100%

ISOFOOT CANDLE PLOT



WDS-D-24L-75-4K7-WTD

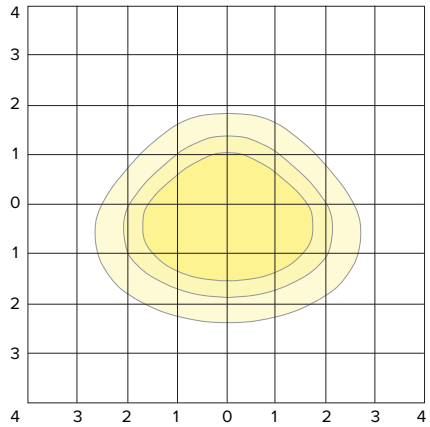
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**7413**
Watts	**74**
Efficacy	**100.2**
IES Type	**I**
BUG Rating	**B2-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5341	72.1%
Downward House Side	2072	27.9%
Downward Total	7413	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	7413	100%

ISOFOOT CANDLE PLOT



KIM LIGHTING®

DATE: LOCATION:

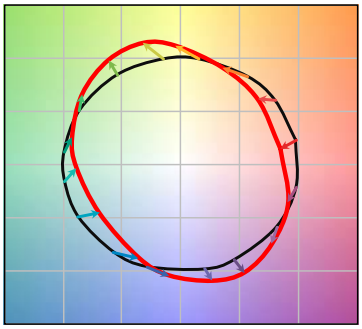
TYPE: PROJECT:

CATALOG #:

WDS
WALL MOUNTED

TM-30 DATA

COLOR VECTOR GRAPHIC

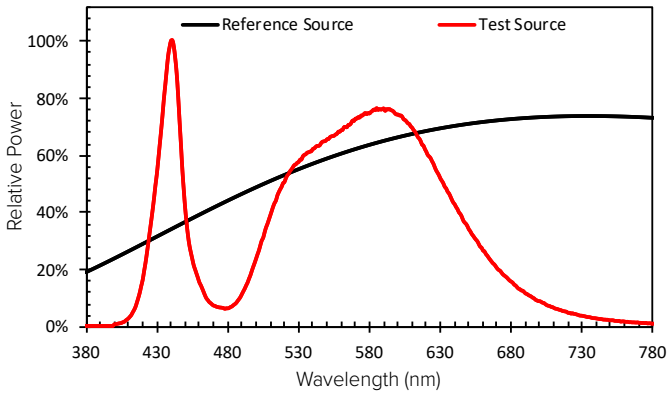


Reference Illuminant — Test Source

TEST SOURCE

R_f	68
R_g	99
CCT(K)	3947
D_{UV}	0.0004
x	0.3831
y	0.3793
CIE R_a	72

SPECTRAL POWER DISTRIBUTION COMPARISON



ELECTRICAL DATA

Drive Current	System Watts	Line Voltage		Amps AC						Min. Power Factor	Max THD (%)	Dimming				
												Dimming Range	Source current out of 0-10V		Absolute voltage range on 0-10V (+)	
		VAC	Hz	120	208	240	277	347	480				Min	Max	Min	Max
350mA	29	120-480	50/60	0.24	0.14	0.12	0.10	0.08	0.06	>0.9	20	10% to 100%	0mA	1mA	0V	10V
500mA	42			0.38	0.22	0.19	0.16	0.13	0.09							
725mA	59			0.48	0.27	0.24	0.21	0.16	0.12							
925mA	74			0.67	0.39	0.34	0.29	0.23	0.17							

TM-21 Lifetime Calculation - Projected Lumen Maintenance (25°C / 77°C)						
Ambient Temp.	0	25,000	36,000	50,000	100,000	Reported L70
25°C / 77°F	100%	97%	95%	93%	86%	60khrs
40°C / 104°F	100%	92%	89%	86%	75%	

CRI Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
3000K	1	0.9119	0.7033
4000K	1	0.8941	0.734
5000K	1	0.879	0.7712

Amber Multiplier	
CCT	Multiplier
5000K	1
AM	0.1727

2700K Multiplier	
CCT	Multiplier
5000K	1
2700K	0.897

prescolite

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LBSE-RD

EDGE-LIT ROUND FIXED CCT DIRECT J-BOX MOUNT DOWNLIGHT

LITEBOX® edge-lit

FEATURES

- 4”, 6”, and 8” aperture, delivering 750-1750 lumens
- Low surface profile of ½”
- Quick snap installation with no housing required
- Installs directly to most 3-1/2” and 4” J-Boxes
- Fixed CCT (3000K or 3500K, 80+ CRI) options
- Universal 120-277V, ideal for commercial applications
- All models standard with 0-10V/Triac/ELV dimming

WET LOCATION · C ETL LISTED US · Intertek · ENERGY STAR · IC

RELATED PRODUCTS

- 4" Edge-lit Family
- 6" Edge-lit Family
- 8" Edge-lit Family

SERVICE PROGRAMS

STOCK

SPECIFICATIONS

CONSTRUCTION

- Durable cast aluminum low profile trim with ½” surface profile
- Suitable for New Construction or remodel, IC or Non-IC applications
- Eliminates the need for a recessed housing, ideal for areas with limited plenum space
- Optional non-conductive Decorative Color Trim accessories available in White, Black, Silver, and Brushed Oil Rubbed Bronze

OPTICS

- Utilizes the latest Edge-Lit LED technology
- Integral diffuse polycarbonate lens provides uniform light distribution
- Light distribution is free of distracting bright spots
- Visually comfortable with low glare

ELECTRICAL

- Edge-Lit LED array with 3 SDCM color consistency
- Long LED life: Maintains 80% of lumen output at 54,000 hours of operation, L80 at >54,000 hours (TM-21)
- Available in Fixed CCT in 3000K or 3500K, 80+ CRI
- High efficiency integral driver with universal 120V-277V, 50/60Hz

ELECTRICAL (CONTINUED)

- All models have flicker-free dimming with 120-277V 0-10V Dim to Off or 120V Triac or ELV phase cut to 5%
- See Additional Information section for a list of recommended dimmers
- EMI: Meets Class A (<24dba) noise rating, FCC CFR 47 Part 15 Class B, ≥0.9 Power Factor, <20% THD

INSTALLATION

- Installs directly to most common 3-1/2” or 4” octagonal and round junction boxes with a minimum 1-1/2” depth including fire rated (by others)
- Metal plate mounts to the J-Box and accepts snap-in spring clips for a secure fit

CERTIFICATIONS

- cETLus listed to UL1598
- Can be used in direct contact with insulation (IC Rated)
- Suitable for wet locations, covered ceiling
- Suitable for use in clothes closets when installed in accordance to N.E.C. 410.16
- ENERGY STAR® certified

WARRANTY

- 5 year warranty
- See HLI Standard Warranty for additional information

KEY DATA	
Lumen Range	783-1973
Wattage Range	10.4-20.0
Efficacy Range (LPW)	75-99
Reported Life (Hours)	L80 / >54,000
Input Current (mA)	87-167 (120V)

HUBBELL Lighting

prescolite

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LBSE-RD

EDGE-LIT ROUND FIXED CCT DIRECT J-BOX MOUNT DOWNLIGHT

STOCK

Click icon for Stock list and details

ORDERING GUIDE

Example: LBSE-4RD-35K8-WH

CATALOG # _____

HOUSING

LBSE	–		–		–	
Model/CCT Configuration		**Aperture/Shape/Function**		**CCT/CRI**		**Trim Color**
LBSE Edge-Lit Surface, Fixed CCT, 120-277V with 0-10V/Triac/ELV dimming		**4RD** 4" Round, Direct J-Box Mount, 750 Lumens **6RD** 6" Round, Direct J-Box Mount, 1100 Lumens **8RD** 8" Round, Direct J-Box Mount, 1750 Lumens		**30K8** 3000K, 80+ CRI **35K8** 3500K, 80+ CRI		**WH** White

Accessories	
☐ **LBSE-4RD-T-WH**	Trim Accessory, 4" Round, White
☐ **LBSE-4RD-T-BL**	Trim Accessory, 4" Round, Black
☐ **LBSE-4RD-T-BBZ**	Trim Accessory, 4" Round, Brushed Oil Rubbed Bronze
☐ **LBSE-4RD-T-SVR**	Trim Accessory, 4" Round, Silver
☐ **LBSE-6RD-T-WH**	Trim Accessory, 6" Round, White
☐ **LBSE-6RD-T-BL**	Trim Accessory, 6" Round, Black
☐ **LBSE-6RD-T-BBZ**	Trim Accessory, 6" Round, Brushed Oil Rubbed Bronze
☐ **LBSE-6RD-T-SVR**	Trim Accessory, 6" Round, Silver
☐ **LBSE-8RD-T-WH**	Trim Accessory, 8" Round, White
☐ **LBSE-8RD-T-BL**	Trim Accessory, 8" Round, Black
☐ **LBSE-8RD-T-BBZ**	Trim Accessory, 8" Round, Brushed Oil Rubbed Bronze
☐ **LBSE-8RD-T-SVR**	Trim Accessory, 8" Round, Silver
☐ **LBSES-C-12**	Extension Cable, LBSE/LBSES, 12"
☐ **LBSES-C-24**	Extension Cable, LBSE/LBSES, 24"

HUBBELL Lighting

prescolite

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

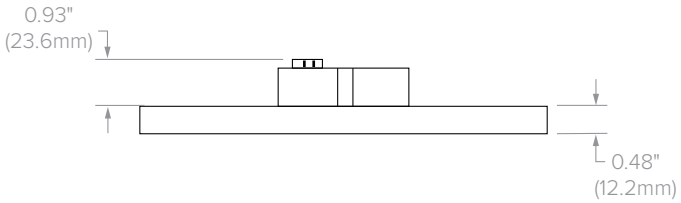
LBSE-RD

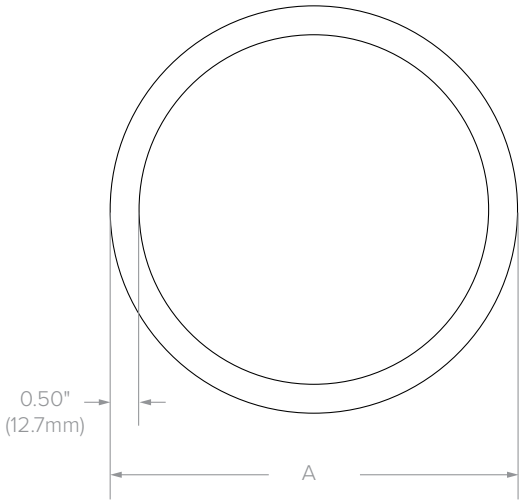
EDGE-LIT ROUND FIXED CCT DIRECT J-BOX MOUNT DOWNLIGHT

PERFORMANCE DATA TABLE

Nominal Aperture	Nominal Lumens	Cat #	CCT	CRI	Delivered Lumens	Watts	LPW
4"	750	LBSE-4RD-30K8-WH	3000K	80	783	10.4	75
		LBSE-4RD-35K8-WH	3500K		846	10.4	81
6"	1100	LBSE-6RD-30K8-WH	3000K	80	1144	12.9	89
		LBSE-6RD-35K8-WH	3500K		1237	12.9	96
8"	1750	LBSE-8RD-30K8-WH	3000K	80	1825	20.0	91
		LBSE-8RD-35K8-WH	3500K		1973	20.0	99

DIMENSIONS





Dimensional Data	
Aperture (Cat Logic)	"A"
4" (4RD)	ø4.61" (117.1mm)
6" (6RD)	ø6.00" (152.4mm)
8" (8RD)	ø8.00" (203.2mm)

HUBBELL Lighting

prescolite

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LBSE-RD

EDGE-LIT ROUND FIXED CCT DIRECT J-BOX MOUNT DOWNLIGHT

PHOTOMETRY

LBSE-4RD-30K8-WH

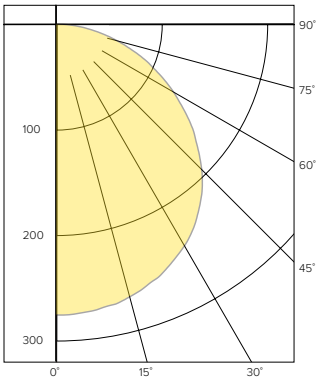
LUMINAIRE DATA

Test No.	**R20.00827-01**
Description	**4" Downlight, 3000K, 80 CRI**
Delivered Lumens	**783**
Watts	**10.4W**
Efficacy	**75.0**
Mounting	**Surface**
Spacing Criterion	**1.3**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	342	43.6
0-60	611	78.0
0-90	783	100.0
0-180	783	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	260
5	259
15	253
25	239
35	217
45	184
55	142
65	98
75	55
85	15
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	48544
55°	46342
65°	43318
75°	39448
85°	32315

*Candela/Square Meter

LBSE-6RD-30K8-WH

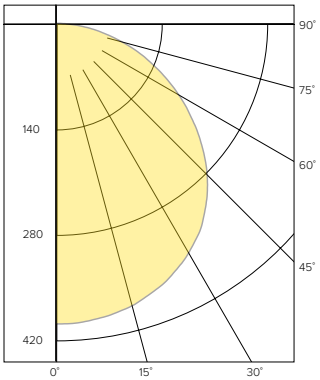
LUMINAIRE DATA

Test No.	**R20.00832-01**
Description	**6" Downlight, 3000K, 80 CRI**
Delivered Lumens	**1144**
Watts	**12.9W**
Efficacy	**89**
Mounting	**Surface**
Spacing Criterion	**1.3**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	499	43.6
0-60	891	77.9
0-90	1144	100.0
0-180	1144	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	380
5	379
15	369
25	348
35	317
45	268
55	207
65	144
75	80
85	23
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	23513
55°	22408
65°	21066
75°	19135
85°	16235

*Candela/Square Meter

LBSE-8RD-30K8-WH

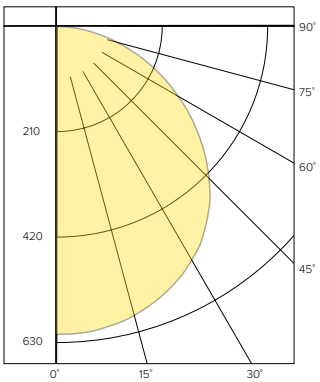
LUMINAIRE DATA

Test No.	**R20.00834-01**
Description	**8" Downlight, 3000K, 80 CRI**
Delivered Lumens	**1826**
Watts	**20W**
Efficacy	**92**
Mounting	**Surface**
Spacing Criterion	**1.3**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0-40	798	43.7
0-60	1422	77.9
0-90	1826	100.0
0-180	1826	100.0

POLAR GRAPH



CANDELA DISTRIBUTION

Degree	Candela
0	608
5	607
15	592
25	558
35	505
45	427
55	331
65	228
75	127
85	38
90	0

LUMINANCE DATA*

Vertical Angle	Average
45°	24287
55°	23187
65°	21736
75°	19752
85°	17413

*Candela/Square Meter

HUBBELL Lighting

prescolite

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

LBSE-RD

EDGE-LIT ROUND FIXED CCT DIRECT J-BOX MOUNT DOWNLIGHT

ADDITIONAL INFORMATION

Dimming Compatibility

See the DIMMING link for more information on dimming compatibility and recommended dimmer list.

J-Box Compatibility

LITEBOX® Edge-Lit Direct J-Box Mount downlights are compatible with many standard 3-1/2” and 4” octagonal and round J-Boxes with a 1-1/2” minimum depth. Fire rated J-Boxes may also be used.

DIMMING

HUBBELL Lighting

KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SARA2

ARCHITECTURAL AREA/SITE

The Archetype®

FEATURES

- TIR Strike Optics
- Available in Monochromatic Amber, 2700K, 3000K, 3500K, 4000K and 5000K
- Type 1, 2, 3, 4, 4W, 5W, 5QM, L, and R distributions
- 0 - 10V dimming drivers standard
- IP65 optical assembly

c UL us LISTED

BUY AMERICAN SOLUTIONS — See Certification Specifications

ida DARK SKY APPROVED 2014 — 3000K and warmer CCTs only

CONTROL TECHNOLOGY

NX LIGHTING CONTROLS

wiSCAPE™

RELATED PRODUCTS

Ouro Pavilion PGL8

SPECIFICATIONS

CONSTRUCTION

- One piece die-cast housing, low copper (<0.6% Cu) Aluminum Alloy with integral cooling ribs over the optical chamber and electrical compartment
- Solid barrier wall separates optical and electrical compartments
- Double-thick wall with gussets on the support-arm mounting end
- Housing forms a half cylinder with 55° front face plane providing a recess to allow a flush single-latch detail
- All hardware is stainless steel or electro-zinc plated steel
- Finish: fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat
- One-piece die-cast, low copper (<0 6% Cu) aluminum alloy lens frame with 1" minimum depth around the gasket flange
- Optional clear 1/8" thick tempered glass lens retained by eight steel clips with full silicone gasketing around the perimete
- Optional, fixture supplied with a one-piece flat, clear, UV stabilized polycarbonate, fully gasketed, replacing the standard tempered glass lens. CAUTION: Use only when vandalism is anticipated to be high. Useful life is limited by UV discoloration from sunlight. A program of regular inspection and periodic replacement is highly recommended to maintain optimum fixture performance
- One-piece extruded aluminum arm with internal bolt guides and fully radiussed top and bottom
- Luminaire-to-pole attachment is by internal draw bolts, and includes a pole reinforcing plate with wire strain relief

CONSTRUCTION (CONTINUED)

- Arm is circular cut for specified round pole
- Optional cast, low copper aluminum horizontal slip-fitter with adaptor plate to secure the luminaire to 2" IPS pipe size arms
- Optional cast aluminum wall mount plate assembly. Attaches to the wall over the junction box. Luminaire attaches to the wall plate

OPTICS

- Optical cartridge system consisting of a die cast heat sink, LED Total Internal Reflection (TIR) optics, gasket and bezel plate
- Molded silicone gasket ensures a weather-proof seal around each individual LED
- Features revolutionary individual LED optical control based on high performance TIR optical designs
- Optional BackLight Control for complete control of unwanted backlight
- IP65 Optical assembly
- Type 1, 2, 3, 4, 4W, 5W, 5QM, R, and L standard distributions
- Available in Monochromatic Amber, 2700K, 3000K, 3500K, 4000K and 5000K
- Die-cast, low copper aluminum heat sink modules provide thermal transfer at PCB level
- Anodized aluminum heat sink modules

INSTALLATION

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury

ELECTRICAL

- Dimming range from 10% to 100% through the use of standard 0-10V interface on the programmable driver
- Modular wiring harness in the service area provides user access to the dimming circuitry
- Optional factory programmed dimming profile
- Surge protection: 10kV surge suppression
- SF for 120, 277, 347 Line volts
  DF for 208, 240, 480 Line volts

CONTROLS

- 7-pin Receptacle and Button Photocell

CERTIFICATIONS AND LISTINGS

- Listed to UL1598 and CSA C22.2#250.0-24 for wet location and 40°C ambient temperatures
- IDA approved, 3000K and warmer CCTs only
- RoHS compliant
- This product qualifies as a “designated country construction material” per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 6/06/2020. See Buy American Solutions

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	2,714–10,814
Wattage Range	58.87–84.27
Efficacy Range (LPW)	45.3–127.7
Reported Life (Hours)	L70/60,000
Weight	21 lbs 9.5 kg
EPS Side View	0.70

KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SARA2

ARCHITECTURAL AREA/SITE

ORDERING GUIDE

Example: 1SA-SARA2-54L-500-35K8-3-CLR-SQ-UNV-BLT-7PR-SF

CATALOG #

SARA2

Mounting		Model		LED Engine		CCT/CRI [7]		Distribution		Voltage		Lens Options		House Side Shield	
1SA	Single Arm Mount	SARA2	The Archetype 2.0 Small Fixture	27L-695	27 LEDs - 6,000 Lumens	AM [1,8]	Monochromatic Amber	1	Type I	UNV	120-277V	(Blank)	No Lens	BC [3]	Backlight Control
1W	Wall Mount			54L-500	54 LEDs - 9,000 Lumens	27K8 [2]	2700K, 80CRI	2	Type II	347	347V	CLR	Clear Glass Lens		
HSF	Horizontal Slipfitter			Equivalent SAR-E35 = 27L-695 SAR-P35 = 27L-695 SAR-P70 = 54L-500		27K9 [2]	2700K, 90CRI	3	Type III	480	480V	CP	Clear Polycarbonate Lens		
						3K7	3000K, 70CRI	4	Type IV Forward						
						3K8 [2]	3000K, 80CRI	4W	Type IV Wide						
						3K9 [2]	3000K, 90CRI	5W	Type V Wide						
						35K8 [2]	3500K, 80CRI	5QM	Type V Square Medium						
						35K9 [2]	3500K, 90CRI	R	Corner Right						
						4K7	4000K, 70CRI	L	Corner Left						
						4K8 [2]	4000K, 80CRI								
						4K9 [2]	4000K, 90CRI								
						5K7	5000K, 70CRI								
						5K8 [2]	5000K, 80CRI								
						5K9 [2]	5000K, 90CRI								

Mounting Options		Fixture Finish		Photocell Options		Fuse Options		Other Options	
VSF [9]	Vertical Slipfitter Mount for 2" pipe tenon (2-3/8"O.D. x 4" LONG)	BLS	Black Gloss Smooth	7PR	7-Pin Photocell Receptacle	SF	Single Fuse 120, 277, 347 Line Volts	TPL	Tamper Resistant Latch
SVSF [9]	Vertical Slipfitter Mount square for 2" pipe tenon (2-3/8"O.D. x 4" LONG)	BLT	Black Matte Textured	PC [10]	Button Photocell	DF	Double Fuse 208, 240, 480 Line Volts		
2.40	Side Arm Mount 2.4" O.D. Pole	DBS	Dark Bronze Gloss Smooth						
3	Side Arm Mount 3" O.D. Pole	DBT	Dark Bronze Matte Textured						
3.25	Side Arm Mount 3.25" O.D. Pole	GTT	Graphite Matte Textured						
3.5	Side Arm Mount 3.5" O.D. Pole	LGS	Light Grey Gloss Smooth						
3.75	Side Arm Mount 3.75" O.D. Pole	LGT	Light Grey Matte Textured						
4.00	Side Arm Mount 4" O.D. Pole	PSS	Platinum Silver Smooth						
4.5	Side Arm Mount 4.5" O.D. Pole	VGT	Verde Green Matte Textured						
5	Side Arm Mount 5" O.D. Pole	WHS	White Gloss Smooth						
6	Side Arm Mount 6" O.D. Pole	WHT	White Matte Textured						
SQ	Side Arm Mount Square Pole	**Color Option**							
		CC	Custom Color						

Control Options		Control Accessories [4]	
SCH-R	Round Pole Mounted (Occupancy Sensor up to 16' to 30')	WIR-RME-L	wiSCAPE 7-pin Module
SCH-S	Square Pole Mounted (Occupancy Sensor up to 16' to 30')	NXOFM-1R1D-UNV	NX 7-Pin Twist-Lock® with NX Networked Wireless Radio, Integral Automatic Dimming Photocell, Integral Single Pole Relay with Dimming, and Bluetooth Programming

Notes:

1 Not available with 5QM and 5W distributions

2 See Lumen Multiplier chart on Page 12 for lumen scaling factor Consult factory for additional details.

3 Not available with Type 5 distributions or CLR option

4 Not available with other sensor or wireless control options

7 5-step MacAdam Ellipse Binning is standard. Consult factory for 3-step MacAdam Ellipse Binning

8 Turtle Friendly

9 For all arm configurations, please refer to page 4. VSF/SVSF options ordered separately.

10 Not available in 480V

SPECIFICATIONS (CONTINUED)

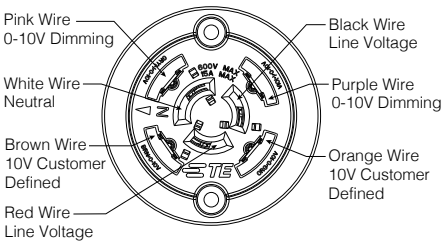
CONTROLS

BUTTON PHOTOCELL

- Factory installed photocell inside housing with a fully gasketed sensor on the side wall. For multiple fixture mountings, one fixture is supplied with a photocell to operate the others

7PR

- Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment. 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance. ANSI twist-lock control module by-others
- Standard customer operation modes:
  1. Traditional on/off photoelectric control
  2. 5-pin wireless photoelectric control for added dimming feature
  3. 7-pin wireless photoelectric control for dimming and additional I/O connections for customer use



wiSCAPE™

- wiSCAPE™ wireless control modules allow an individual fixture to managed, monitored and measured. The modules communicate securely over a robust certified meshed radio signal. The wiSCAPE modules provide on/off/dim control, external device input, alerts and metering.

WIR-RME-L

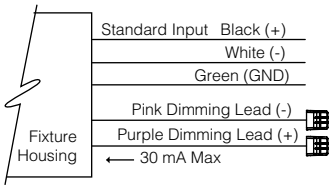
- wiSCAPE External Module,120-480V, 1000ft range (LOS), Internal Photocell, 1 Digital Input, Compatible with the A-25-7H option

NX LIGHTING CONTROLS

- NX lighting controls platform utilizes a Distributed Network Architecture (DNA) that connects intelligent devices including luminaires, controllers, panels, occupancy sensors, photocells, wall switches and dimmers, creating a system with an unmatched level of reliability, scalability and simplicity.

DIMMING:

- Dimming range from 100% to 10% through the use of the standard 0-10V interface on the programmable driver



- Modular wiring harness in the service area provides user access to the dimming circuitry
- Dimming circuitry compatible with 0-10V, user-defined control devices
- Optional factory programmed dimming profile

POLE MOUNTED

ROUND POLE-MOUNTED OCCUPANCY SENSOR UP TO 30'

SCH-R

- Round Pole Mounted Occupancy Sensor up to 30' - Outdoor occupancy sensor with 0-10V interface dimming control mounts directly to the pole. Wide 360° pattern. Module colors available Black, Gray, and White. Module is cut for round pole mounting. Pole diameter needed. Pole to be drilled in the field with provided installation instructions
- Ordering Example: SCH-R4[1]/277[2]/BL[3]

SQUARE POLE-MOUNTED OCCUPANCY SENSOR UP TO 30'

SCH-S

- Square Pole Mounted Occupancy Sensor up to 30' - Outdoor occupancy sensor with 0-10V interface dimming control mounts directly to the pole. Wide 360° pattern. Module colors available Black, Gray, and White. Module is cut for square pole mounting
- Ordering Example: SCH-S/277[2]/BL[3]

ASTRODIM

- AstroDIM provides multi-stage night-time power reduction based on an internal timer referenced to the power on/off time. There is no need for an external control infrastructure. The unit automatically performs a dimming profile based on the predefined scheduled reference to the midpoint, which is calculated based on the power on/off times

OPTIONAL FUSING:

- SF for 120, 277, and 347 Line volts
- DF for 208, 240, and 480 Line volts
- High temperature fuse holders factory installed inside the fixture housing
- Fuse is included

CAUTION:

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury

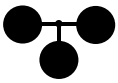
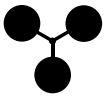
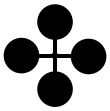
Notes:
1 Pole diameter
2 Voltage
3 Color

SARA2

ARCHITECTURAL AREA/SITE

PRODUCT EXCEPTIONS & DETAILS

Configuration			EPA
	1SA	1 Arm Side Mount	0.9
	1W	Single Wall Mount	n/a
	HSF	Horizontal Slipfitter	n/a

Configuration			
	1SA		3ST
	2SB		3SY
	2SL		4SC

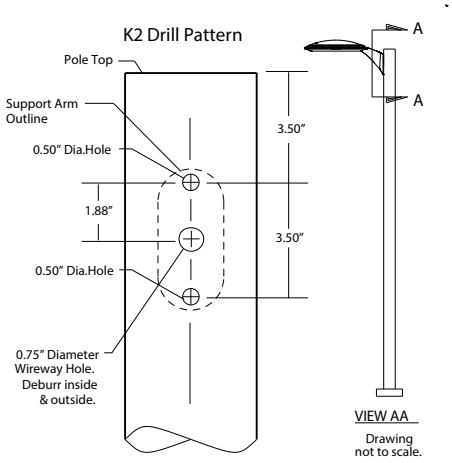
MOUNTING OPTIONS

SUPPORT ARM:

- Die-cast, low copper aluminum alloy, with splice access cover
- Die-cast pole adaptor and an internal reinforcing plate are provided with a wire strain relief
- The arm adapter is square or circular cut for specified pole size and shape
- For field wire connections, a terminal block is mounted in the arm cavity and accessible behind the splice access cover. The block accepts #14 to #8 wire sizes and is factory prewired to the electrical module's quick-disconnect plug inside the electrical compartment

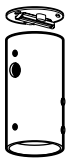
FIXTURE DRILLING INSTRUCTIONS:

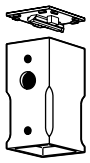
- For ARX, ALT, BNS1, SAR, SET, SRS, UR, and WP9 Fixtures



OPTIONAL VERTICAL SLIP-FITTER (VSF/SVSF):

- Internally accessible slip-fitter attaches to a 2-3/8" x 4" long tenon and allows hands-free wiring and maintenance
- Available for round and square poles





- For VSF arm configurations, please use 4". Mounting option on fixture ordering configuration. The optional VSF/SVSF will need to be ordered separately.
- SVSF use square configuration.

Ordering example for round:

- 2 - 1SA/SARA2/54L-500/35K8/3/CLR/**4.00**/UNV/BLT
- 1 - VSF-2SB

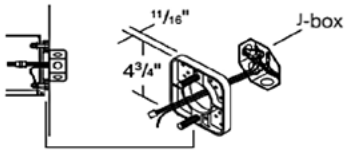
Ordering example for square:

- 2 - 1SA/SARA2/54L-500/35K8/3/CLR/**SQ**/UNV/BLT
- 1 - SVSF-2SB

VSF	SVSF
VSF-1SA	SVSF-1SA
VSF-2SB	SVSF-2SB
VSF-2SL	SVSF-2SL
VSF-3ST	SVSF-3ST
VSF-3SY	SVSF-3SY
VSF-4SC	SVSF-4SC

WALL MOUNT

- Fixture mounts to 3" or 4" junction boxes by a cast aluminum adapter plate with fixture mounting bolts.
- **NOTE**: Junction box in wall must provide adequate fixture support. See NEC sections 370-13, 17 and 410-14, 16. Quick-disconnect plug and wiring are provided to allow field connections prior to fixture mounting.



Wall mount using adapter plate 3" or 4" J-box in wall (by others)

SARA2

ARCHITECTURAL AREA/SITE

DELIVERED LUMENS

NO LENS

LED #	Nominal Lumen Package	Drive Current	Distribution	3000K 70CRI				lm/w	4000K 70CRI				lm/w	5000K 70CRI				lm/w
				Lumen	BUG Rating				Lumen	BUG Rating				Lumen	BUG Rating			
					B	U	G			B	U	G			B	U	G	
27	6,000	695	1	6316	1	0	0	105.5	6782	1	0	1	113.3	6902	1	0	1	115.3
			1-BC	3602	0	0	0	60.2	3867	0	0	0	64.6	3936	0	0	0	65.7
			2	5933	1	0	1	99.1	6370	1	0	1	106.4	6483	1	0	1	108.3
			2-BC	3358	0	0	1	56.1	3606	0	0	1	60.2	3670	0	0	1	61.3
			3	5701	1	0	2	95.2	6122	1	0	2	102.3	6230	1	0	2	104.1
			3-BC	3172	0	0	1	53.0	3406	0	0	1	56.9	3466	0	0	1	57.9
			4	5956	1	0	2	99.5	6395	1	0	2	106.8	6508	1	0	2	108.7
			4-BC	3943	0	0	1	65.9	4234	0	0	2	70.7	4309	0	0	2	72.0
			4W	5564	1	0	2	59.9	5974	1	0	2	99.8	6080	1	0	2	101.6
			4W-BC	3259	0	0	1	54.4	3499	0	0	1	58.4	3561	0	0	1	59.5
			5W	5950	3	0	1	99.4	6389	3	0	1	106.7	6502	3	0	1	108.6
			5QM	6390	2	0	1	106.7	6861	2	0	1	114.6	6983	2	0	1	116.6
			R	6032	1	0	2	100.8	6476	1	0	2	108.2	6591	1	0	2	110.1
			L	6032	1	0	2	100.8	6476	1	0	2	108.2	6591	1	0	2	110.1
54	9,000	500	1	9781	1	0	1	116.1	10502	1	0	1	124.6	10688	1	0	1	127.0
			1-BC	5578	0	0	0	66.2	5989	0	0	0	71.1	6095	0	0	0	72.7
			2	9188	1	0	2	109.0	9865	2	0	2	116.8	10040	2	0	2	118.6
			2-BC	5201	0	0	1	61.7	5585	0	0	1	84.3	5684	0	0	1	67.2
			3	8829	1	0	2	104.8	9480	1	0	2	112.5	9648	1	0	2	115.6
			3-BC	4912	0	0	2	58.3	5275	0	0	2	62.6	5368	0	0	2	63.6
			4	9223	1	0	2	109.4	9903	1	0	2	117.5	10079	1	0	2	119.6
			4-BC	6107	0	0	2	72.5	6557	0	0	2	77.8	6673	0	0	2	79.2
			4W	8616	1	0	2	84.3	9251	0	0	2	109.8	9415	1	0	2	112.0
			4W-BC	5047	0	0	2	59.9	5419	0	0	2	64.3	5515	0	0	2	65.9
			5W	9215	3	0	2	109.3	9895	3	0	2	117.4	10070	3	0	2	119.1
			5QM	9896	3	0	1	117.4	10626	3	0	1	126.1	10814	3	0	1	127.7
			R	9341	1	0	2	110.8	10029	2	0	2	119.0	10207	2	0	2	120.8
			L	9341	1	0	2	110.8	10029	2	0	2	119.0	10207	2	0	2	120.8

DELIVERED LUMENS (CONTINUED)

CLR LENS

LED #	Nominal Lumen Package	Drive Current	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
				Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
					B	U	G			B	U	G			B	U	G	
27	6,000	695	1	5491	1	0	0	91.7	5896	1	0	0	98.5	6001	1	0	0	100.2
			1-BC	3132	0	0	0	52.3	3362	0	0	0	56.2	3422	0	0	0	57.2
			2	5158	1	0	1	86.2	5538	1	0	1	92.5	5636	1	0	1	94.1
			2-BC	2919	0	0	1	48.8	3135	0	0	1	52.4	3191	0	0	1	53.3
			3	4956	1	0	1	82.8	5322	1	0	2	88.9	5416	1	0	2	90.5
			3-BC	2758	0	0	1	46.1	2961	0	0	1	49.5	3013	0	0	1	50.3
			4	5178	0	0	2	86.5	5560	1	0	2	92.9	5658	1	0	2	94.5
			4-BC	3428	0	0	1	57.3	3681	0	0	1	61.5	3746	0	0	1	62.6
			4W	4837	1	0	2	80.8	5194	1	0	2	86.8	5286	1	0	2	88.3
			4W-BC	2833	0	0	1	47.3	3042	0	0	1	50.8	3096	0	0	1	51.7
			5W	5173	3	0	1	86.4	5555	3	0	1	92.8	5653	3	0	1	94.4
			5QM	5555	2	0	1	92.8	5965	2	0	1	99.6	6071	2	0	1	101.4
			R	5244	1	0	2	87.6	5630	1	0	2	94.0	5730	1	0	2	95.7
			L	5244	1	0	2	87.6	5630	1	0	2	94.0	5730	1	0	2	95.7
54	9,000	500	1	8504	1	0	1	100.9	9130	1	0	1	108.3	9292	1	0	1	110.3
			1-BC	4850	0	0	0	57.6	5207	0	0	0	61.8	5299	0	0	0	62.9
			2	7988	1	0	2	94.8	8577	1	0	2	101.8	8729	1	0	2	103.6
			2-BC	4522	0	0	1	53.7	4856	0	0	1	57.6	4942	0	0	1	58.6
			3	7676	1	0	2	91.1	8242	1	0	2	97.8	8388	1	0	2	100.0
			3-BC	4271	0	0	1	50.7	4586	0	0	1	54.4	4667	0	0	1	55.4
			4	8019	1	0	2	95.2	8610	1	0	2	102.2	8763	1	0	2	104.0
			4-BC	5309	0	0	2	63.0	5701	0	0	2	67.7	5802	0	0	2	68.9
			4W	7491	1	0	2	88.9	8043	1	0	2	95.4	8185	1	0	2	97.1
			4W-BC	4388	0	0	2	52.1	4711	0	0	2	55.9	4795	0	0	2	56.9
			5W	8012	3	0	2	95.1	8603	3	0	1	102.1	8755	3	0	2	103.9
			5QM	8604	3	0	1	102.1	9238	3	0	1	109.6	9402	3	0	1	111.6
			R	8121	1	0	2	96.4	8719	1	0	2	103.5	8874	1	0	2	105.3
			L	8121	1	0	2	96.4	8719	1	0	2	103.5	8874	1	0	2	105.3

SARA2

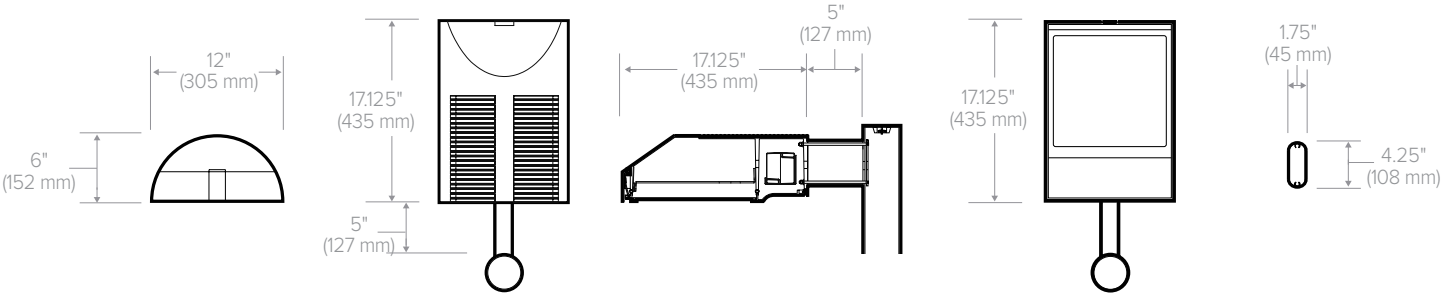
ARCHITECTURAL AREA/SITE

DELIVERED LUMENS (CONTINUED)

PL LENS

LED #	Nominal Lumen Package	Drive Current	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
				Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
					B	U	G			B	U	G			B	U	G	
27	6,000	695	1	5403	1	0	0	90.2	5802	1	0	0	96.9	5905	1	0	0	98.6
			1-BC	3082	0	0	0	51.5	3308	0	0	0	55.3	3367	0	0	0	56.2
			2	5076	1	0	1	84.8	5450	1	0	1	91.0	5546	1	0	1	92.6
			2-BC	2873	0	0	1	48.0	3085	0	0	1	51.5	3140	0	0	1	52.4
			3	4877	1	0	1	81.5	5237	1	0	1	87.5	5330	1	0	2	89.0
			3-BC	2714	0	0	1	45.3	2914	0	0	1	48.7	2965	0	0	1	49.5
			4	5095	1	0	2	85.1	5471	1	0	2	91.4	5568	1	0	2	93.0
			4-BC	3373	0	0	1	56.3	3622	0	0	1	60.5	3686	0	0	1	61.6
			4W	4760	1	0	2	79.5	5111	1	0	2	85.4	5202	0	0	1	86.9
			4W-BC	2788	0	0	1	46.6	2993	0	0	1	50.0	3046	0	0	1	50.9
			5W	5090	3	0	1	85.0	5466	3	0	1	91.3	5563	3	0	1	92.9
			5QM	5467	2	0	1	91.3	5870	2	0	1	98.0	5974	2	0	1	99.8
			R	5160	1	0	2	86.2	5540	1	0	2	92.5	5639	1	0	2	94.2
			L	5160	1	0	2	86.2	5540	1	0	2	92.5	5639	1	0	2	94.2
54	9,000	500	1	8368	1	0	1	99.3	8985	1	0	1	106.6	9144	1	0	1	108.5
			1-BC	4772	0	0	0	56.6	5124	0	0	0	60.8	5214	0	0	0	61.9
			2	7860	1	0	1	93.3	8440	1	0	2	100.2	8589	1	0	2	101.9
			2-BC	4450	0	0	1	52.8	4778	0	0	1	56.7	4863	0	0	1	57.7
			3	7553	1	0	2	89.6	8110	1	0	2	96.2	8254	1	0	2	97.9
			3-BC	4202	0	0	1	49.9	4513	0	0	1	53.6	4592	0	0	1	54.5
			4	7890	1	0	2	93.6	8472	1	0	2	100.5	8623	0	0	2	102.3
			4-BC	5225	0	0	2	62.0	5610	0	0	2	66.6	5709	0	0	2	67.7
			4W	7371	1	0	2	87.5	7914	1	0	2	93.9	8055	1	0	2	95.6
			4W-BC	4318	0	0	2	51.2	4636	0	0	2	55.0	4718	0	0	2	56.0
			5W	7884	3	0	2	93.6	8465	3	0	2	100.5	8615	3	0	2	102.2
			5QM	8466	3	0	1	100.5	9091	3	0	1	107.9	9252	3	0	1	109.8
			R	7991	1	0	2	94.8	8580	1	0	2	101.8	8732	1	0	2	103.6
			L	7991	1	0	2	94.8	8580	1	0	2	101.8	8732	1	0	2	103.6

DIMENSIONS



FRONT TOP SIDE BOTTOM ARM CROSS SECTION

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SARA2

ARCHITECTURAL AREA/SITE

PHOTOMETRY

SAR2-27L-695-4K7-1

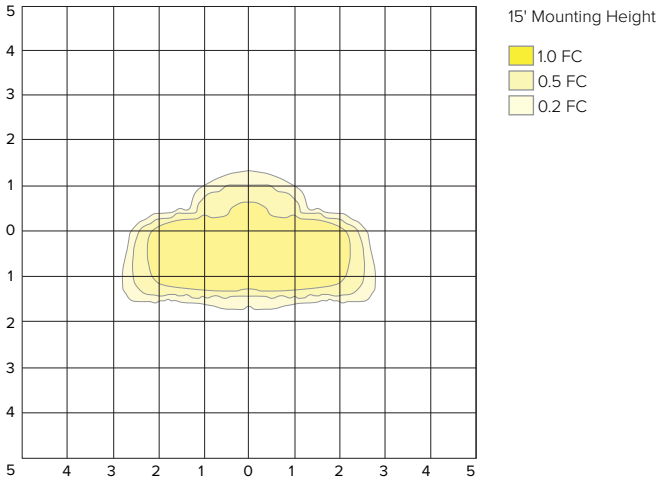
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**6782**
Watts	**59.87**
Efficacy	**113.3**
IES Type	**1**
BUG Rating	**B1-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	6026	88.8%
Downward House Side	757	11.2%
Downward Total	6783	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	6783	100%

ISOFOOT CANDLE PLOT



SAR2-27L-695-4K7-1-BC

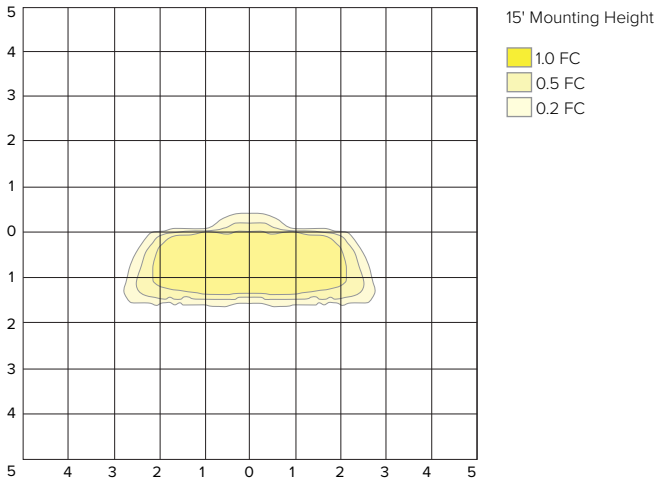
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**3871**
Watts	**59.87**
Efficacy	**64.7**
IES Type	**1-BC**
BUG Rating	**B0-U0-G0**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	3796	98.0%
Downward House Side	76	2.0%
Downward Total	3871	99.9%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	3871	100%

ISOFOOT CANDLE PLOT



SAR2-27L-695-4K7-2

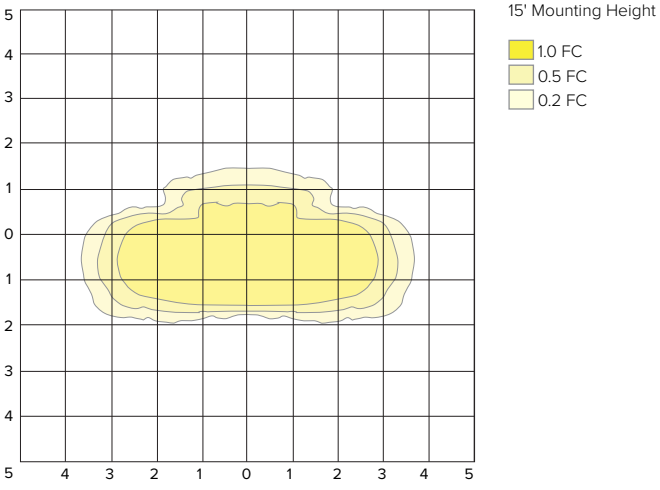
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**6370**
Watts	**59.87**
Efficacy	**106.4**
IES Type	**2**
BUG Rating	**B1-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5259	82.5%
Downward House Side	1112	17.5%
Downward Total	6371	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	6371	100%

ISOFOOT CANDLE PLOT



SARA2

ARCHITECTURAL AREA/SITE

PHOTOMETRY

SAR2-27L-695-4K7-2-BC

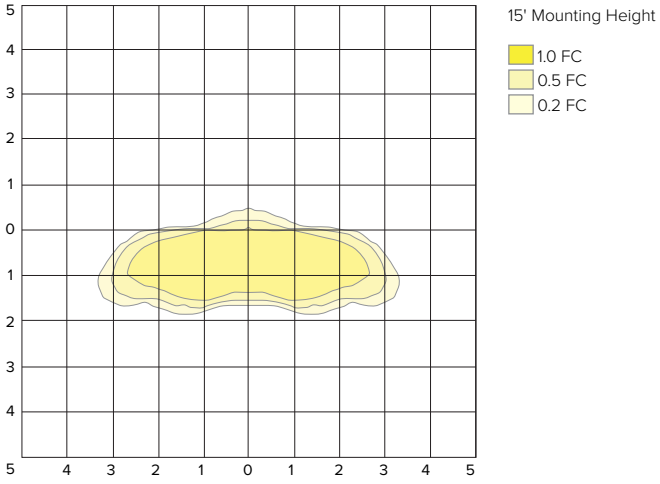
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**3609**
Watts	**59.87**
Efficacy	**60.3**
IES Type	**2-BC**
BUG Rating	**B0-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	3528	97.7%
Downward House Side	81	2.2%
Downward Total	3609	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	3609	100%

ISOFOOT CANDLE PLOT



SAR2-27L-695-4K7-3

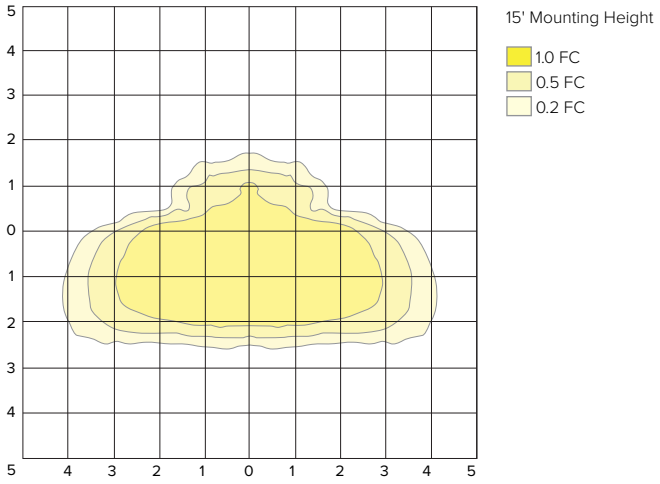
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**6122**
Watts	**58.87**
Efficacy	**104.0**
IES Type	**3**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5245	85.7%
Downward House Side	877	14.3%
Downward Total	6122	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	6122	100%

ISOFOOT CANDLE PLOT



SAR2-27L-695-4K7-3-BC

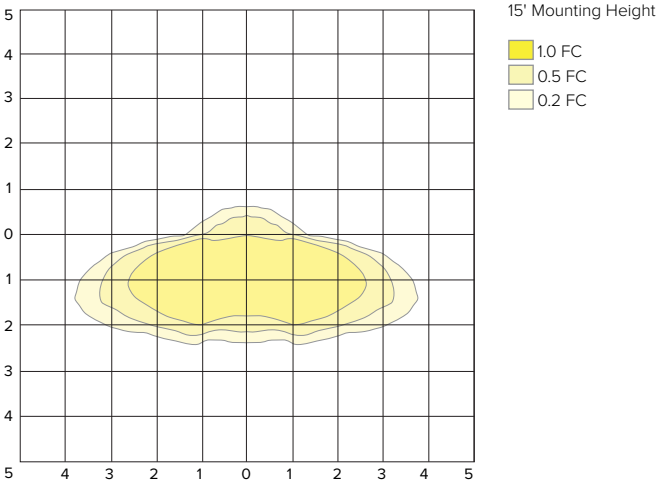
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**3407**
Watts	**59.87**
Efficacy	**56.9**
IES Type	**3-BC**
BUG Rating	**B0-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	3304	96.9%
Downward House Side	103	3.0%
Downward Total	3407	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	3407	100%

ISOFOOT CANDLE PLOT



SARA2

ARCHITECTURAL AREA/SITE

PHOTOMETRY

SAR2-27L-695-4K7-4

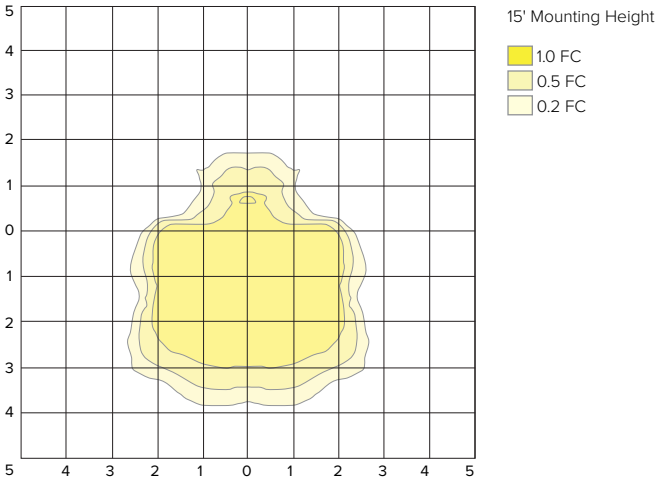
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**6395**
Watts	**59.87**
Efficacy	**106.8**
IES Type	**4**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5544	86.7%
Downward House Side	852	13.3%
Downward Total	6396	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	6396	100%

ISOFOOT CANDLE PLOT



SAR2-27L-695-4K7-4-BC

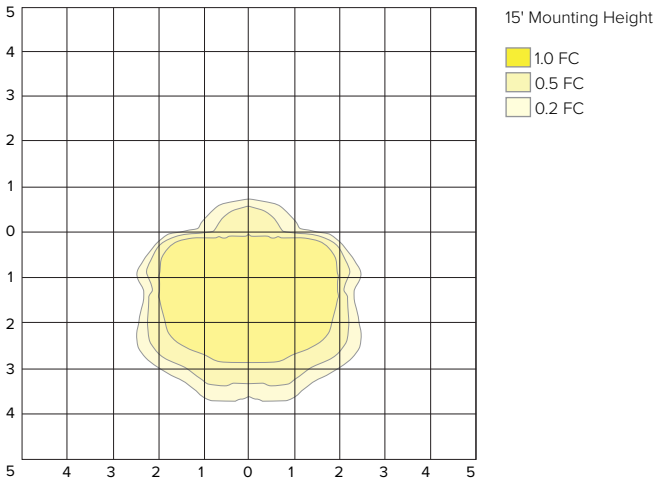
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**4236**
Watts	**59.87**
Efficacy	**70.8**
IES Type	**4-BC**
BUG Rating	**B0-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	3995	94.3%
Downward House Side	241	5.7%
Downward Total	4236	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	4236	100%

ISOFOOT CANDLE PLOT



SAR2-27L-695-4K7-4W

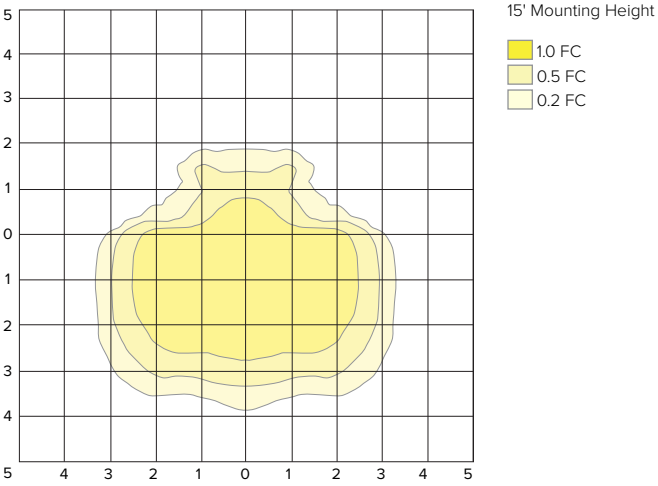
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**5975**
Watts	**59.87**
Efficacy	**99.8**
IES Type	**4W**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5179	86.7%
Downward House Side	796	13.3%
Downward Total	5975	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	5975	100%

ISOFOOT CANDLE PLOT



DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

SARA2

ARCHITECTURAL AREA/SITE

PHOTOMETRY

SAR2-27L-695-4K7-4W-BC

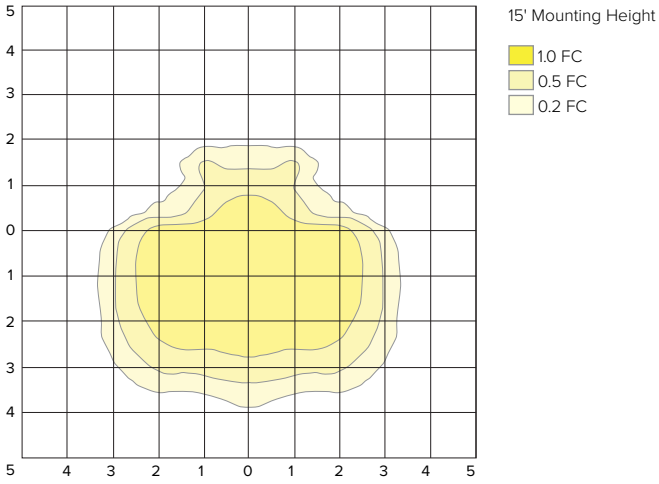
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**4236**
Watts	**59.87**
Efficacy	**70.8**
IES Type	**4W-BC**
BUG Rating	**B0-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	3995	94.3%
Downward House Side	241	5.7%
Downward Total	4236	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	4236	100%

ISOFOOT CANDLE PLOT



SAR2-27L-695-4K7-5QM

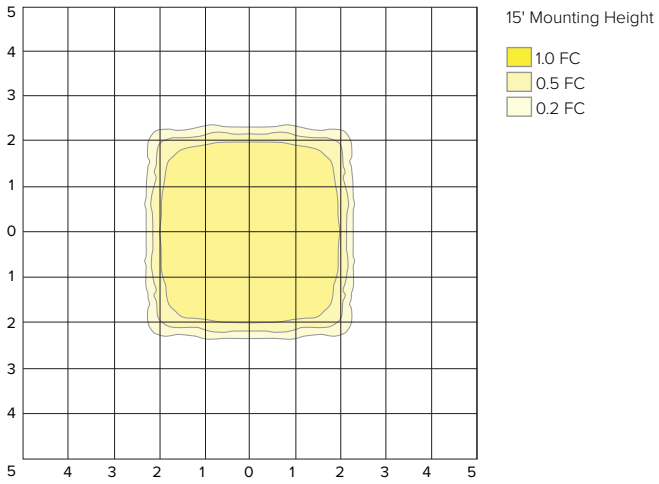
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**6862**
Watts	**59.87**
Efficacy	**114.6**
IES Type	**5QM**
BUG Rating	**B2-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	3431	50.0%
Downward House Side	3431	50.0%
Downward Total	6862	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	6862	100%

ISOFOOT CANDLE PLOT



SAR2-27L-695-4K7-5W

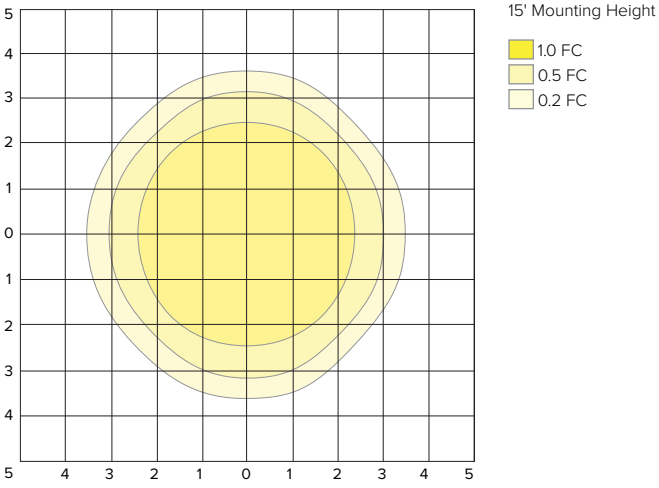
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**6390**
Watts	**59.87**
Efficacy	**106.7**
IES Type	**5QM**
BUG Rating	**B3-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	3195	50.0%
Downward House Side	3195	50.0%
Downward Total	6390	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	6390	100%

ISOFOOT CANDLE PLOT



SARA2

ARCHITECTURAL AREA/SITE

PHOTOMETRY

SAR2-27L-695-4K7-R

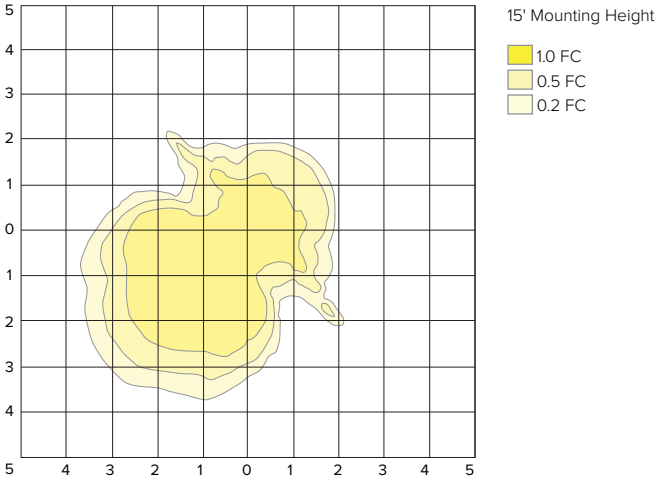
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**6475**
Watts	**59.87**
Efficacy	**108.2**
IES Type	**R**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5340	82.5%
Downward House Side	1135	17.5%
Downward Total	6475	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	6475	100%

ISOFOOT CANDLE PLOT



15' Mounting Height

1.0 FC
0.5 FC
0.2 FC

SAR2-27L-695-4K7-L

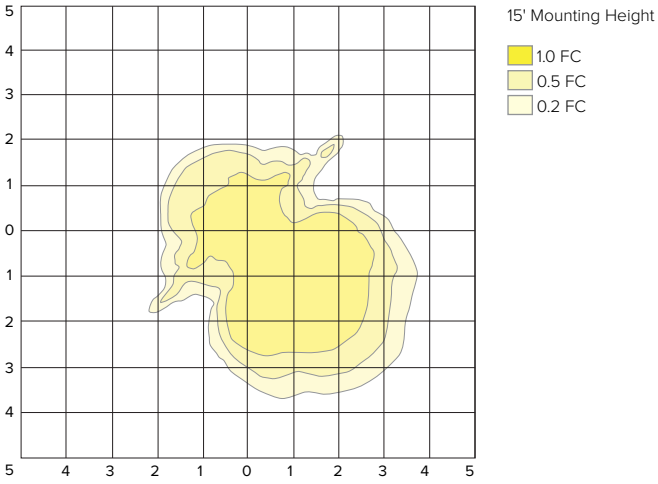
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**6476**
Watts	**59.87**
Efficacy	**108.2**
IES Type	**L**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**10 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5493	84.8%
Downward House Side	983	15.2%
Downward Total	6476	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	6476	100%

ISOFOOT CANDLE PLOT



15' Mounting Height

1.0 FC
0.5 FC
0.2 FC

KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

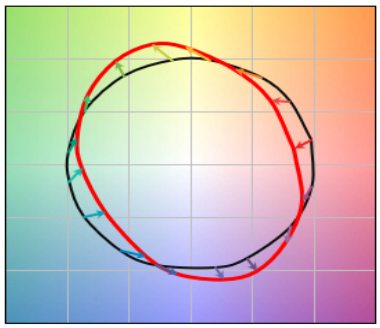
CATALOG #:

SARA2

ARCHITECTURAL AREA/SITE

TM-30 DATA

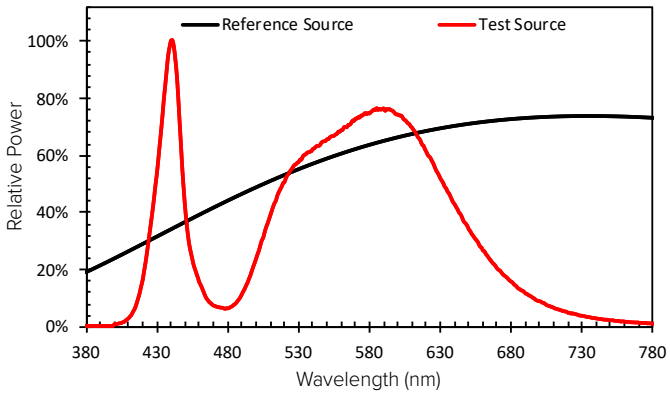
COLOR VECTOR GRAPHIC



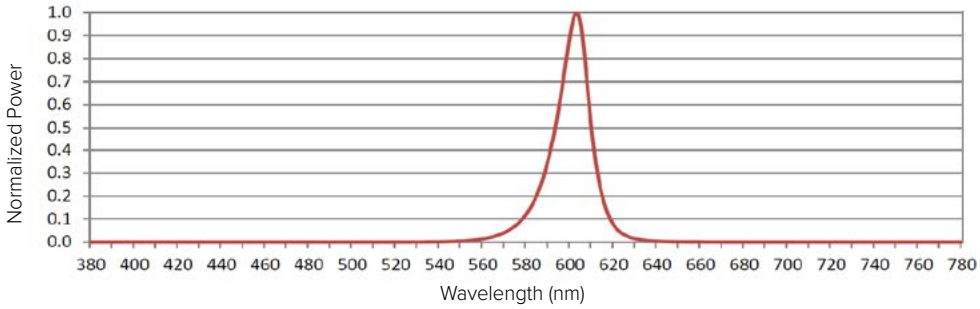
TEST SOURCE

R_f	68
R_g	99
CCT(K)	3947
D_{UV}	0.0004
x	0.3831
y	0.3793
CIE R_a	72

SPECTRAL POWER DISTRIBUTION COMPARISON



AMBER SPECTRAL POWER DISTRIBUTION



ELECTRICAL DATA

LED Count	System Watts	Current	Line Voltage		Amps AC						Min Power Factor	Max. THD (%)	Dimming				
			VAC	Hz	120	208	240	277	347	480			Dimming Range	Source Current Out		Absolute Voltage	
														Min	Max	Min	Max
27 LEDs	58.87	695 mA	120-480	50/60	0.50	0.29	0.25	0.22	0.17	0.12	>0.9	20	10% to 100%	0mA	1mA	0V	10V
54 LEDs	84.27	500 mA			0.70	0.41	0.35	0.30	0.24	0.18							

TM-21 Lifetime Calculation - Projected Lumen Maintenance (25°C / 77°C)						
Ambient Temp.	0	25,000	36,000	50,000	100,000	Reported L70
25°C / 77°F	100%	98.05%	96.94%	95.54%	90.73%	>60khrs

CRI Lumen Multiplier for 80 and 90 CRI		
CCT	80 CRI	90 CRI
2700K	0.859	0.655
3000K	0.9119	.7033
3500K	0.906	0.732
4000K	0.8941	.734
5000K	0.879	.7712
Scaling factor of 5000K 70CRI lumen packages		

Attachment 6
Auburn Water and Sewer District
Ability to Serve

Nathan Edwards

From: Mike Broadbent <mbroadbent@awsd.org>
Sent: Thursday, June 6, 2024 12:20 PM
To: Nathan Edwards
Cc: Jan Wiegman
Subject: RE: Bear Self Storage - Ability to Serve

Thanks Nate, the District can handle the additional 400gpd your proposing. Is this sufficient or do you need a letter?

Mike

From: Nathan Edwards <Nathan.Edwards@wright-pierce.com>
Sent: Thursday, June 6, 2024 11:45 AM
To: Mike Broadbent <mbroadbent@awsd.org>
Cc: Jan Wiegman <jan.wiegman@wright-pierce.com>
Subject: RE: Bear Self Storage - Ability to Serve

Hi Mike,

I hope you are doing well.

The plans changed at Bear's Self Storage and we are just now submitting an application for local development review at Bear's Self Storage/dealership. The existing building will remain at the dealership. The plan now is to construct a new building on the storage area side of the same site instead of the existing dealership side. The building will be 9,000 SF and used for office space, car service, and potentially car display for the dealership. Our estimation is it will use approximately 400 gpd of water per day. This is a conservative estimate assuming 200 gpd from the employees and 200 gpd from occasional car washes in the service bays. The employee usage rate is based on the ME wastewater disposal rules guidance of 12 gpd per employee. It is unlikely there will be that many employees, but we wanted to be conservative.

We are anticipating significantly less usage than what I mentioned with the previous design (400 gpd vs. 1600 gpd), but would you please confirm you have the capacity for 400 gpd?

Thank you,

Nate Edwards, PE
Wright-Pierce | Lead Project Engineer
direct 603.570.7119 | **office** 207.761.2991

WRIGHT-PIERCE
Engineering a Better Environment

From: Mike Broadbent <mbroadbent@awsd.org>
Sent: Thursday, September 7, 2023 2:26 PM
To: Nathan Edwards <Nathan.Edwards@wright-pierce.com>
Cc: Jan Wiegman <jan.wiegman@wright-pierce.com>
Subject: RE: Bear Self Storage - Ability to Serve

Nate,

Thanks for reaching out, there is sufficient capacity to serve this increase. They may need to increase the size of their water meter, in that case they will have to pay a sewer capacity fee increase. Is the current meter adequate for the fixtures in the new building?

Mike

From: Nathan Edwards <Nathan.Edwards@wright-pierce.com>
Sent: Thursday, September 7, 2023 2:07 PM
To: Mike Broadbent <mbroadbent@awsd.org>
Cc: Jan Wiegman <jan.wiegman@wright-pierce.com>
Subject: Bear Self Storage - Ability to Serve

Hi Mike,

We are designing some improvements at the Bear Self Storage Facility and K&R Auto Sales dealership at 900 Center Street in Auburn. We plan to submit a Development Review application any day now. The site is currently served by public water and sewer. The project proposes to demolish the existing building at the dealership and replace it with a larger building that we anticipate using approximately 1,600 gpd. Is there adequate supply for this?

Please let me know if you need any additional information.

Thanks,

Nate Edwards, PE
Wright-Pierce | Lead Project Engineer
direct 603.570.7119 | **office** 207.761.2991

WRIGHT-PIERCE
Engineering a Better Environment

Attachment 6
Site Plans

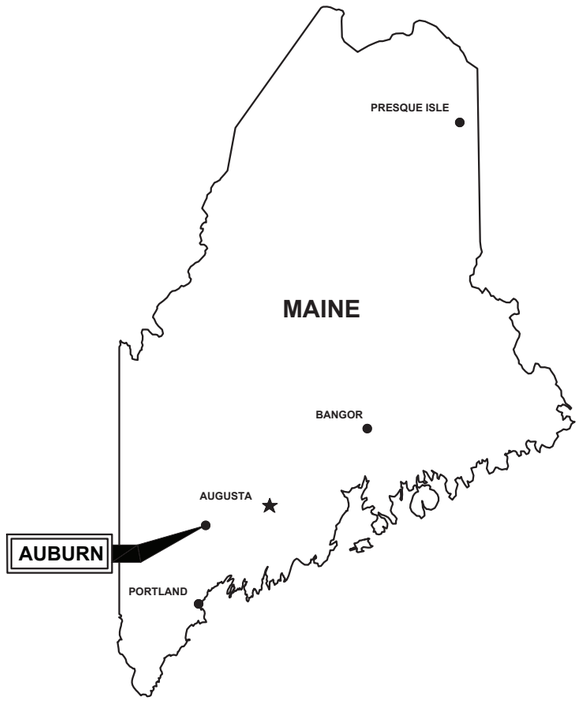
BEAR SELF STORAGE FACILITY

CONTRACT DRAWINGS

AUBURN, ME

JUNE 2024

FOR PERMITTING



DRAWING INDEX

GENERAL	
---	COVER SHEET
CIVIL	
C-1	GENERAL NOTES, LEGEND AND ABBREVIATIONS
C-2	EXISTING CONDITIONS & DEMOLITION PLAN
C-3	SITE LAYOUT PLAN
C-4	SITE GRADING AND DRAINAGE PLAN
C-5	SITE UTILITIES PLAN
C-6	PROPOSED LANDSCAPE PLAN
C-7	DETAILS I
C-8	DETAILS II
C-9	DETAILS III
C-10	EROSION CONTROL NOTES AND DETAILS

LOCATION PLAN
SCALE: NTS

WRIGHT-PIERCE
Engineering a Better Environment

207.725.8721 | www.wright-pierce.com

WP PROJECT No. 21316

GENERAL NOTES

1. LOCATION OF PUBLIC UTILITIES SHOWN IS ONLY APPROXIMATE AND MAY NOT BE COMPLETE. PRIVATE UNDERGROUND UTILITIES SUCH AS, BUT NOT LIMITED TO, SEWER LINES, WATER LINES AND BURIED ELECTRICAL SERVICE ENTRANCES ARE NOT SHOWN. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION AND SIZE OF EXISTING UTILITIES IN THE FIELD WITH THE RESPECTIVE UTILITY REPRESENTATIVE PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL REFER TO SECTION 01050 REGARDING COORDINATION WITH OTHERS, INCLUDING RESPONSIBILITIES AND OTHER RELATED COSTS. UTILITY CONTACTS ARE AS FOLLOWS.

ELECTRIC:

CENTRAL MAINE POWER
209 WHITTIER ROAD
FARMINGTON, MAINE 04938
TEL. (207) 779-9118

TELEPHONE/CABLE:

NEW ENGLAND TELEPHONE
5 DAVIS FARM ROAD
PORTLAND, ME 04103
TEL. (207) 797-8251

MID MAINE TELECOM
900D HAMMOND STREET
BANGOR, ME 04101
TEL. (207) 992-9945

TIME WARNER CABLE
37 ALFRED PLOURDE PARKWAY
LEWISTON, MAINE 04240
TEL. (207) 783-9902

OXFORD NETWORKS
491 LISBON STREET
LEWISTON, ME 04240
TEL. (207) 333-3471

OTT COMMUNICATIONS
56 CAMPUS DRIVE
NEW GLOUCESTER, ME 04260
TEL. (207) 688-8824

DIG SAFE:

TEL. 1-800-225-4977

WATER & SEWER:

AUBURN WATER & SEWERAGE DISTRICTS
P.O. BOX 414
AUBURN, MAINE 04210
TEL. (207) 784-6469

GAS:

UNITIL CORP.
1075 FOREST AVENUE
PORTLAND, ME 04101
TEL. (207) 541-2568

CITY OF AUBURN

60 COURT STREET
AUBURN, MAINE 04240
TEL. (207) 333-6601

2. ALL UTILITY COVERS, CATCH BASINS, MANHOLES, VALVE BOXES AND OTHER BURIED FACILITIES WITH SURFACE ACCESS SHALL BE ADJUSTED TO MATCH THE NEW PAVEMENT GRADE UNLESS OTHERWISE NOTED. THE RELOCATION OF UTILITY POLES WILL BE PERFORMED BY THE APPROPRIATE UTILITY OR ITS AUTHORIZED REPRESENTATIVE. THE CONTRACTOR SHALL COOPERATE WITH THE UTILITY IN EVERY WAY TO EXPEDITE SUCH ADJUSTMENTS. CONTRACTOR TO COORDINATE ALL UTILITY RELOCATION AND INSTALLATION WITH THE APPROPRIATE UTILITY COMPANY.
3. ALL TEST PITS SHALL BE EXCAVATED PRIOR TO CONSTRUCTION LAYOUT AT THE APPROXIMATE LOCATIONS NOTED ON THE PLANS AND ACTUAL LOCATIONS OF SUBSURFACE UTILITIES SHALL BE REPORTED TO THE ENGINEER. WHERE APPROPRIATE, MINOR ADJUSTMENTS TO THE ALIGNMENTS OF PROPOSED LINES SHALL BE MADE TO ACCOMMODATE EXISTING UTILITIES. ALL ADJUSTMENTS (NORTHINGS, EASTINGS AND ELEVATIONS) MUST BE DEPICTED IN THE RECORD AS-BUILT DRAWING DATA SUBMITTED TO THE ENGINEER FOR INCLUSION IN THE RECORD AS-BUILT DRAWINGS.
4. COMPACTION TESTS SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION. ANY SETTLEMENT OCCURRING WITHIN ONE YEAR OF SUBSTANTIAL COMPLETION OF THE PROJECT WILL BE CORRECTED BY THE CONTRACTOR IN A MANNER ACCEPTABLE TO THE ENGINEER AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. ALL EXISTING SEWER AND STORM DRAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE EXCEPT AS OTHERWISE INDICATED. ANY EXISTING SEWERS, STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION AND NOT TO BE REPLACED SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURES CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY.
7. IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO THE APPROPRIATE UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.
8. CONTRACTOR SHALL INSTALL AND MAINTAIN PERMANENT AND TEMPORARY TRAFFIC CONTROL DEVICES AS NECESSARY AND IN A MANNER CONSISTENT WITH MAINE DOT REQUIREMENTS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRAFFIC FLOW AT ALL TIMES. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN TO THE OWNER AND ENGINEER PRIOR TO COMMENCING CONSTRUCTION. THE POLICE DEPARTMENT AND FIRE DEPARTMENT ARE TO BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF ANY STREET CLOSING OR DETOUR. AUBURN POLICE DEPARTMENT TEL. 207-333-6650. AUBURN FIRE DEPARTMENT TEL. 207-784-5433.
10. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY RIGHTS-OF-WAY AND EASEMENTS. THE CONTRACTOR SHALL VERIFY THAT THE NECESSARY EASEMENTS HAVE BEEN SECURED BY THE OWNER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH EASEMENT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION.
11. OPEN TRENCHES IN THE ROADWAY MUST BE BACK FILLED AT THE END OF THE WORKDAY, UNLESS PERMISSION TO LEAVE THEM OPEN IS GIVEN IN WRITING BY THE OWNER. ALL STREETS MUST BE PAVED PRIOR TO THE WINTER SHUTDOWN. TEMPORARY PAVEMENT SHALL BE CONSIDERED INCIDENTAL. OPEN TRENCHES OUTSIDE OF THE ROADWAY MAY BE LEFT OPEN IF THE CONTRACTOR PROVIDES ADEQUATELY SAFE BARRICADES AND LIGHTS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESETTING ALL EXISTING PROPERTY MONUMENTATION THAT IS DISTURBED BY HIS OPERATIONS AT NO EXPENSE TO THE OWNER. THIS WORK IS TO BE DONE BY A LAND SURVEYOR LICENSED IN THE STATE OF MAINE. PROPERTY BOUNDS FOUND ARE SHOWN ON LAYOUT PLANS, THIS MAY NOT BE INCLUSIVE OF ALL BOUNDS THAT EXIST IN THE PROJECT AREA. IF ANY ADDITIONAL BOUNDS ARE FOUND, THE CONTRACTOR SHALL DOCUMENT THE LOCATION AND NOTIFY THE ENGINEER.
13. THE CONTRACTOR SHALL NOT HAVE ANY RIGHT OF PROPERTY IN ANY MATERIALS TAKEN FROM ANY EXCAVATION. SUITABLE EXCAVATED MATERIAL MAY BE INCORPORATED IN THE PROJECT. EXCESS MATERIAL MAY BE DISPOSED OF AT A LOCATION PROVIDED BY THE TOWN, IF OWNER SO DESIRES.
14. CONSTRUCT HANDICAP RAMPS AT ENDS OF ALL SIDEWALKS, FOR DRIVEWAYS OR ROADWAYS AND AS OTHERWISE SHOWN ON THE PLANS. SIDEWALKS AND HANDICAP RAMPS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).
15. THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED.
16. APPROXIMATE LIMIT OF WORK ON PLANS IS INTENDED TO SHOW GENERAL SCOPE OF THE WORK. ACTUAL LIMITS OF THE WORK ARE TO BE DETERMINED IN THE FIELD TO MEET PROJECT NEEDS AS DETERMINED BY THE OWNER AND THE ENGINEER.
17. PAVEMENT IS TO BE SAWCUT AT ALL SIDE ROADS, PAVED DRIVES, PAVED SIDEWALKS, AS WELL AS THE BEGINNING AND END OF THE PROJECT LIMITS. PAVEMENT GRINDING BEYOND THE SAW CUT WILL BE REQUIRED AT ALL LOCATIONS.
18. CURB CUT LOCATIONS FOR DRIVEWAYS SHALL BE FIELD VERIFIED. ADJUST CURB CUTS IF APPROPRIATE.
19. WHERE GRAVEL DRIVES NEED TO BE REGRADED BEYOND THE PROPOSED EDGE OF ROADWAY OR PROPOSED SIDEWALK USE SCREENED STONE TO ADJUST TO GRADE. EXCAVATE AS NECESSARY TO PROVIDE A MINIMUM GRAVEL DEPTH OF 12 INCHES IN ANY CUT SECTIONS.
20. THE CONTRACTOR SHALL NOTIFY RESIDENTS 48 HOURS IN ADVANCE OF WHEN CONSTRUCTION WILL DISRUPT ACCESS TO THE RESIDENTS PROPERTY, INCLUDING DRIVEWAYS, WALKWAYS, ETC. DURING NOTIFICATION, CONTRACTOR SHALL VERIFY WITH OWNER ANY KNOWN BOUNDARY MARKER LOCATIONS.
21. EXISTING SIGNS THAT ARE IMPACTED BY THIS PROJECT SHALL BE RESET PER CITY OF AUBURN STANDARDS AND IN ACCORDANCE WITH MAINE DOT AND M.U.T.C.D. ADDITIONAL SIGNS MY BE REQUIRED AS DIRECTED BY THE ENGINEER.
22. ALL MANHOLES ARE 4 FOOT DIAMETER, ECCENTRIC CONE TOP, UNLESS OTHERWISE NOTED. THE INVERTS SHOWN ARE AT THE INSIDE FACE OF THE MANHOLE.
23. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
24. REFER TO SPECIFICATION FOR PIPE AND STRUCTURE BEDDING AND BACKFILL REQUIREMENTS.
25. CONTRACTOR SHALL RE-SHAPE INVERTS AS REQUIRED WHEN CONNECTING INTO EXISTING MANHOLES.
26. ALL PERMITS, INCLUDING THE TOWN'S STREET OPENING PERMIT, ARE THE RESPONSIBILITY OF THE CONTRACTOR. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH PERMIT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION.
27. THE CONTRACTOR SHALL BE REQUIRED TO FURNISH AND MAINTAIN A TELEPHONE NUMBER WHERE THE CONTRACTOR CAN BE REACHED 24 HOURS A DAY, 7 DAYS A WEEK, UNTIL PROJECT SUBSTANTIAL COMPLETION.
28. RIGID INSULATION SHALL BE PROVIDED ON ALL NEW STORM DRAIN LINES INSTALLED SUCH THAT THE CROWN IS AT A DEPTH OF 3'-0" OR LESS FROM FINISH GRADE.
29. FLOWS FROM DEWATERING EFFORTS SHALL NOT BE DISCHARGED TO SANITARY OR COMBINED SEWERS.
30. ANY EXISTING STRUCTURES, STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION THAT ARE TO REMAIN IN SERVICE SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER, EXCEPT WHEN IN DIRECT CONFLICT WITH THE NEW SEWER OR WHERE NOT SHOWN OR INDICATED.

SITE GRADING NOTES

1. STRIPPING OF TOPSOIL (LOAM) SHALL BE IN ACCORDANCE WITH SPECIFICATION.
2. ALL ROAD AND PARKING AREA SURFACES SHALL PITCH 1/4 INCH PER FOOT MINIMUM UNLESS OTHERWISE NOTED.
3. ALL AREAS THAT ARE EXCAVATED, FILLED, OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE LOAMED, GRADED, LIMED, FERTILIZED, SEEDED AND MULCHED, UNLESS OTHERWISE NOTED. THE TOP 4 INCHES OF SOIL SHALL BE LOAM.
4. THE CONTRACTOR SHALL PROVIDE PROPER EROSION CONTROL AND DRAINAGE MEASURES IN ALL AREAS OF WORK, AND CONFINE SOIL SEDIMENT TO WITHIN THE LIMITS OF EXCAVATION AND GRADING. PRIOR TO BEGINNING EXCAVATION WORK, EROSION CONTROL FENCE SHALL BE INSTALLED AT THE DOWN GRADIENT PERIMETER OF THE ACTUAL LIMITS OF GRUBBING AND/OR GRADING, AND AS SHOWN ON THE DRAWINGS. EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS ARE A MINIMUM, CONTRACTOR SHALL TAKE ALL OTHER NECESSARY MEASURES. EROSION CONTROL FENCE SHALL ALSO BE INSTALLED AT THE DOWN GRADIENT PERIMETER OF THE TOPSOIL STOCKPILES. ALL DISTURBED EARTH SURFACES SHALL BE STABILIZED IN THE SHORTEST PRACTICAL TIME AND TEMPORARY EROSION CONTROL DEVICES SHALL BE EMPLOYED UNTIL SUCH TIME AS ADEQUATE SOIL STABILIZATION HAS BEEN ACHIEVED. TEMPORARY STORAGE OF EXCAVATED MATERIAL SHALL BE STABILIZED IN A MANNER THAT WILL MINIMIZE EROSION. ALL INSTALLED EROSION CONTROL FACILITIES SHALL BE REMOVED AT THE END OF THE PROJECT.
5. ALL STORM DRAINAGE INLETS SHALL BE PROTECTED BY HAY BALE FILTERS TO PREVENT ENTRY OF SEDIMENT FROM RUNOFF WATERS DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL COLLECTED SEDIMENT, AND THAT WHICH COLLECTS IN THE STORM DRAIN SYSTEM.
6. CONTRACTOR SHALL CONTROL DUST ON THE CONSTRUCTION SITE TO A REASONABLE LIMIT, AS DETERMINED BY THE ENGINEER, AND AS OUTLINED IN SPECIFICATION.
7. CONTRACTOR SHALL NOT TRACK OR SPILL EARTH, DEBRIS OR OTHER CONSTRUCTION MATERIAL ON PUBLIC OR PRIVATE STREETS AND PLANT DRIVES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE ASSOCIATED CLEAN UP.
8. WHERE EXISTING PAVEMENT IS REMOVED AND REPLACED, MATCH EXISTING GRADES TO THE EXTENT POSSIBLE. COORDINATE FINE GRADING WITH THE ENGINEER.

SITE LAYOUT NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF ALL PROPOSED WORK AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THIS PROVIDED LAYOUT INFORMATION THROUGHOUT THE COURSE OF CONSTRUCTION. REPORT ANY LAYOUT DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
2. THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO, THE OWNER AND ENGINEER. THE CONTRACTOR SHALL LIMIT HIS ACTIVITIES TO THESE AREAS.

EXISTING SITE NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES AND STRUCTURES, AS SHOWN ON THE DRAWINGS, ARE APPROXIMATE AND MAY NOT BE COMPLETE. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE BASED ON PREVIOUS CONSTRUCTION DESIGN PLANS, WHICH ARE AVAILABLE FOR INSPECTION AT THE ENGINEER'S OFFICE. NO GUARANTEE IS MADE THAT UTILITIES OR STRUCTURES WILL BE ENCOUNTERED WHERE SHOWN OR THAT ALL UNDERGROUND UTILITIES AND STRUCTURES ARE SHOWN. ALL LOCATIONS AND SIZES OF EXISTING UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD WITH TEST PITS AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION OF NEW FACILITIES OR PIPING THAT MAY BE AFFECTED. THE CONTRACTOR WILL REALIGN NEW PIPE LOCATIONS AS REQUIRED TO CONFORM TO EXISTING LINES AND AS APPROVED BY THE ENGINEER.
2. CONTRACTOR TO NOTE THAT, IN GENERAL, ALL EXISTING CONDITION INFORMATION ON THE DRAWINGS ARE SHOWN WITH A LIGHTER LINE WEIGHT AND WITH A SLANTED TYPE TEXT.
3. UNLESS OTHERWISE NOTED, THERE IS NO KNOWN ASBESTOS WITHIN THE AREA OF WORK. IF THE PRESENCE OF ASBESTOS IS DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER IMMEDIATELY. DISPOSAL OF ASBESTOS SHALL BE IN ACCORDANCE WITH STATE OF MAINE REGULATIONS.

SURVEY NOTES:

1. BEARINGS ARE REFERENCED TO GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM WEST ZONE 2011 NAD83.
2. DEED REFERENCES ARE MADE TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.
3. THE PARCEL IS LOCATED IN THE GENERAL BUSINESS ZONING DISTRICT.
4. THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD AREA AS SHOWN ON THE F.E.M.A. FLOOD INSURANCE RATE MAP COMMUNITY PANEL 23001C0213E, EFFECTIVE DATE JULY 7, 2013.
5. CONTOURS WITHIN "LIMIT OF TOPO" BASED ON TOPOGRAPHIC FIELD SURVEY DONE IN MARCH AND APRIL 2022. CONTOURS BEYOND THOSE LIMITS ARE LIDAR CONTOURS FROM NV5 GEOSPATIAL, POWERED BY QUANTUM SPATIAL, USGS. THE CUSTOM DOWNLOAD CITED AS NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) DIGITAL COAST DATA ACCESS VIEWER. CUSTOM PROCESSING OF "2020 USGS LIDAR: SOUTH COASTAL MAINE (QL2)". CHARLESTON, SC: NOAA OFFICE FOR COASTAL MANAGEMENT. ACCESSED MARCH 31, 2022 AT HTTPS://COAST.NOAA.GOV/DATAVIEWER.
6. THE LOCATION, DEPTH, SIZE & EXISTENCE OF ALL UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES WAS NOT VERIFIED. CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET PRIOR TO EXCAVATION TO CONFIRM THE LOCATION OF ALL PUBLIC & PRIVATE UTILITIES WITHIN THE PROJECT AREA.

CIVIL ABBREVIATIONS

&	AND
Ø, DIA	DIAMETER
#, NO	NUMBER
AC	ASBESTOS CEMENT
APP'D	APPROVED
BR	BRICK
BLDG	BUILDING
CB	CATCH BASIN
CEN	CENTER
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIPP	CURED-IN-PLACE-PIPE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
COR	CORNER
CY	CUBIC YARD
DEMO	DEMOLITION
DMH	DRAIN MANHOLE
DI	DUCTILE IRON
DR	DRAIN
DWG	DRAWING
EL	ELEVATION
EMH	ELECTRIC MANHOLE
FM	FORCE MAIN
FT	FEET
G	GAS
HDPE	HIGH DENSITY POLYETHYLENE
HYD	HYDRANT
IN	INCH
INF	INFLUENT
INV	INVERT
LBS	POUNDS
LF	LINEAR FOOT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MW	MONITORING WELL
N	NORTH
NGVD	NATIONAL GEODETIC VERTICAL DATUM
N/A	NOT AVAILABLE/APPLICABLE
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OUT	OUTFALL
PC	PERFORATED CLAY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PS	PRIMARY SLUDGE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REQ'D	REQUIRED
S	SLOPE, SEWER
SD	STORM DRAIN
SF	SQUARE FEET
SMH	SANITARY SEWER MANHOLE
SQ	SQUARE
STA	STATION
T, XFMR	TRANSFORMER
TBM	TEMPORARY BENCH MARK
THK	THICKNESS
TOS	TOP OF STRUCTURE
TYP	TYPICAL
UD	UNDERDRAIN
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
VC	VITRIFIED CLAY
VF	VERTICAL FOOT
W/	WITH
W	POTABLE WATER

LEGEND

EXISTING		PROPOSED
	PROPERTY/ROW LINE	
	SETBACK LINE	
	EASEMENT LINE	
	CENTERLINE	
	EDGE OF PAVEMENT	
	CURBING	
	EDGE OF GRAVEL	
	EDGE OF CONCRETE	
122	CONTOUR	123
	BUILDING	
	STONEWALL	
	TREELINE	
	CHAIN LINK FENCE	
	STOCKADE FENCE	
	BARB WIRE FENCE	
	RETAINING WALL	
	GUARDRAIL	
8"	SEWER	8"S
4"	SEWER FORCE MAIN	4"FM
4"	GAS	4"G
8"	WATER	8"W
15"	STORM DRAIN	15"SD
6"	UNDERDRAIN	6"UD
12" CMP	CULVERT	12" CMP
	UNDERGROUND ELECTRIC	
	OVERHEAD ELECTRIC	
	UNDERGROUND TELEPHONE	
	UNDERGROUND CABLE TV	
	IRON PIPE/REBAR	
	DRILLHOLE	
	MONUMENT	
	SURVEY CONTROL POINT	
124.6	SPOT ELEVATION	134.5
SMH	SEWER MANHOLE	SMH
DMH	DRAINAGE MANHOLE	DMH
CB CB CB	CATCH BASIN	CB CB
EMH	ELECTRIC MANHOLE	EMH
TMH	TELEPHONE MANHOLE	TMH
	SHUTOFF VALVE	
	WATER SERVICE SHUTOFF	
	YARD HYDRANT	
	HYDRANT	
	GAS SERVICE SHUTOFF	
	GAS GATE VALVE	
	UTILITY POLE	
	UTILITY POLE W/ GUY	
	UTILITY POLE W/ LIGHT	
	LIGHT POLE	
	BOLLARD	
	FLAGPOLE	
	CONIFEROUS TREE	
	DECIDUOUS TREE	
	SHRUB	
	WETLAND FLAG	
	EDGE OF WATER	
	STREAM	
	EDGE OF WETLANDS	
	FLOODPLAIN	
	WETLANDS	
	DRAINAGE FLOW	
	DRAINAGE SWALE	
	PAVEMENT MARKINGS	
	SIGN	
MB	MAILBOX	
	TEMPORARY BENCH MARK	
TP	TEST PIT	
B	TEST BORING	
P	TEST PROBE	
MW	MONITORING WELL	
	LIMIT OF WORK	
	SILT FENCE	
	RIPRAP	
	RAILROAD	
	MATCHLINE	
	ROCK OUTCROP	

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			
6			

PROJECT NO. 21316
DESIGNED: N.EDWARDS
CAD COORD: R.BEISAW
CAD: R.BEISAW
CHECKED: N.EDWARDS
DATE: 06-2024
APPROVED: J.WIEGMAN
DATE: 06-2024
SUBMISSION: FOR PERMITTING

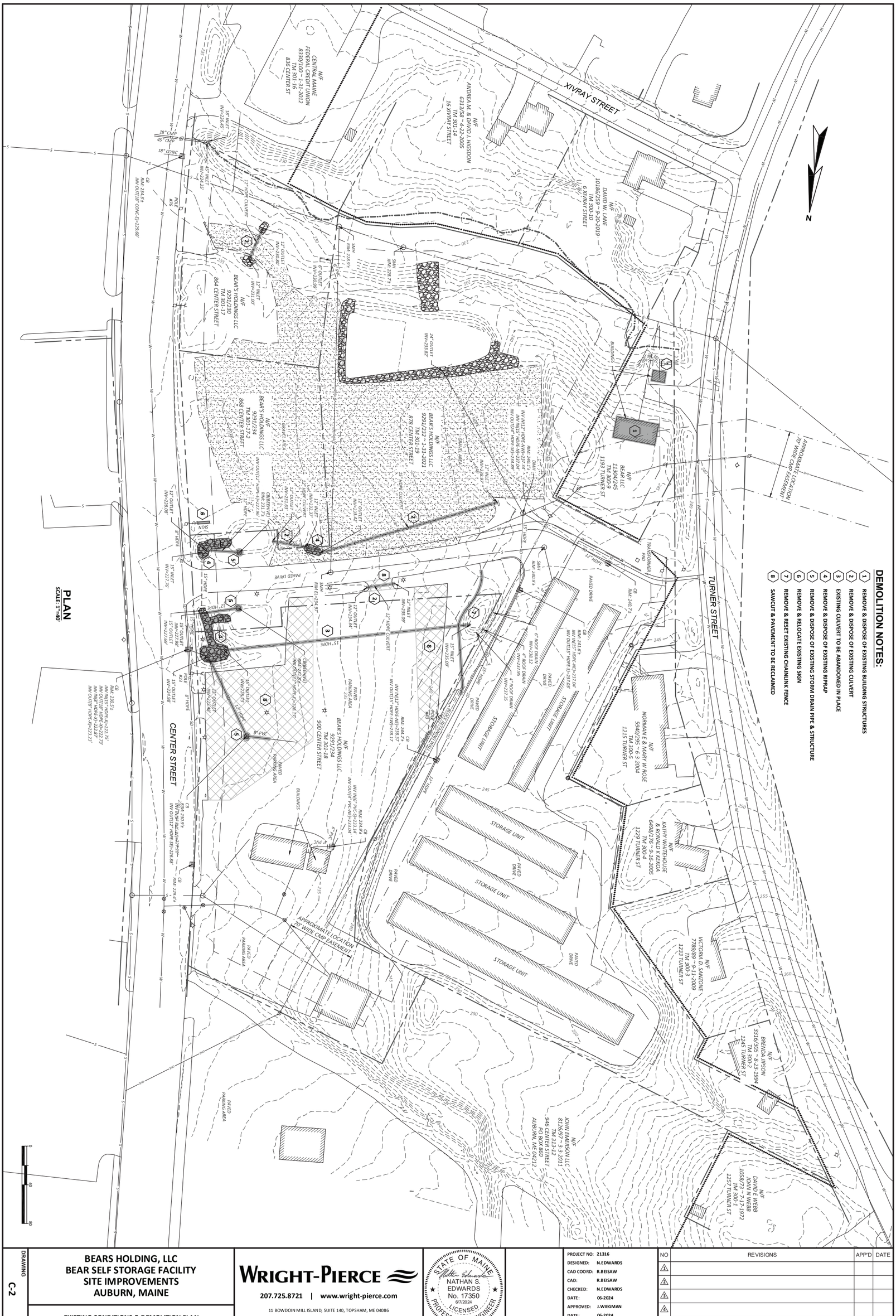
STATE OF MAINE — NATHANIEL S. EDWARDS — No. 17350 — 6/7/2024 — LICENSED PROFESSIONAL ENGINEER

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

BEARS HOLDING, LLC
BEAR SELF STORAGE FACILITY
SITE IMPROVEMENTS
AUBURN, MAINE

GENERAL NOTES, LEGEND AND ABBREVIATIONS

DRAWING
C-1



BEARS HOLDING, LLC
BEAR SELF STORAGE FACILITY
SITE IMPROVEMENTS
AUBURN, MAINE

EXISTING CONDITIONS & DEMOLITION PLAN

DRAWING C-2

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

STATE OF MAINE
NATHAN S. EDWARDS
No. 17350
6/7/2024
LICENSED PROFESSIONAL ENGINEER

PROJECT NO:	21316
DESIGNED:	N.EDWARDS
CAD COORD:	R.BEISAW
CAD:	R.BEISAW
CHECKED:	N.EDWARDS
DATE:	06-2024
APPROVED:	J.WIEGMAN
DATE:	06-2024
SUBMISSION:	FOR PERMITTING

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

LAST SAVED BY: RYAN.BEISAW 6/7/2024 8:49 AM

J:\ENG\MTL\AUBURN\21316-BEARSELFSTORAGE_DRAWINGS\CIV\21316-CS-LAYOUT.DWG | 21316-CS-layout | 1:2.5849 | — | 6/7/2024 11:25:48 AM | RYAN.BEISAW

CITY OF AUBURN PLANNING BOARD

SITE PLAN, APPROVED BY THE CITY OF AUBURN PLANNING BOARD

CHAIRPERSON _____ DATE _____

N

TURNER STREET

APPROXIMATE LOCATION 70' WIDE CMP EASEMENT

XIVRAY STREET

N/F
DAVID W. LANE
10186/259 ~ 9-20-2019
TM 300-10
6 XIVRAY STREET

N/F
BEAR LLC
11304/245
TM 300-9
1193 TURNER ST

N/F
ANDREA M. & DAVID J. HIGSDON
6313/58 ~ 4-22-2005
TM 301-14
16 XIVRAY STREET

75' SETBACK

PROPOSED GRAVEL AREA

GRAVEL AREA

N/F
BEAR'S HOLDINGS LLC
9291/232 ~ 1-31-2021
TM 301-19
878 CENTER STREET

12'x12' CONCRETE DUMPSTER PAD
INSTALL SLIP FORM CURB

CB-3
PAVED AUTO DISPLAY AREA
CB-2
150'

INSTALL CONCRETE TRANSFORMER PAD

OWS

PROPOSED BUILDING
9,000 SF.

WALL LIGHT PACK, TYP

RETAINING WALL

CONCRETE WALK

HAND HOLE

SUBURBAN RESIDENTIAL / GENERAL BUSINESS ZONE BOUNDARY

N/F
CENTRAL MAINE FEDERAL CREDIT UNION
8330/100 ~ 1-31-2012
TM 301-16
836 CENTER ST

N/F
BEAR'S HOLDINGS LLC
9291/230
TM 301-17
864 CENTER STREET

PAVED AUTO DISPLAY AREA

N/F
BEAR'S HOLDINGS LLC
9291/234
TM 301-17-2
868 CENTER STREET

GUSF-2

OCS-1

GUSF-1

OCS-2

RELOCATED SIGN

DMH-2

TRANSFORMER PAD

CB

PAVED DRIVE

SMH

DMH

STORAGE UNIT

PAVED DRIVE

CB-1

DMH-1

ROCK RETAINING WALL

POLE #43

NEW PAVED AREA

SUBSURFACE SAND FILTER
85 STORMTECH SC-310 CHAMBERS
(INCLUDES 30 ISOLATOR CHAMBERS)

SUBSURFACE DETENTION
34 STORMTECH SC-740 CHAMBERS

N/F
BEAR'S HOLDINGS LLC
9291/234
TM 301-18
900 CENTER STREET

CB-4
CB-5
DMH-3
DMH-8
CB-7
DMH-7
DMH-6
DMH-4
CB-6
DMH-5

APPROXIMATE LOCATION 70' WIDE CMP EASEMENT

POLE #23

CENTER STREET

TM 301-19
878 CENTER STREET

N/F
KATHY WHITEHOUSE
& RONALD K KEKOA
6498/176 ~ 9-16-2005
TM 300-4
1229 TURNER ST

N/F
NORMAN E & MARY W ROSE
5940/295 ~ 6-3-2004
TM 300-5
1215 TURNER ST

N/F
VICTORIA D. SANZONE
7789/89 ~ 9-11-2009
TM 300-3
1233 TURNER ST

N/F
BRENDA JIPSON
3316/305 ~ 8-23-1994
TM 300-2
1245 TURNER ST

N/F
DAVID E WEBB
JOAN N WEBB
1058/73 ~ 7-17-1972
TM 300-1
1257 TURNER ST

SUBURBAN RESIDENTIAL / GENERAL BUSINESS ZONE BOUNDARY

N/F
JOHN EMERSON LLC
8126/97 ~ 3-3-2011
TM 313-12
946 CENTER STREET
PO BOX 860
AUBURN, ME 04212

PAVED PARKING AREA

POLE #76

DIMENSIONAL REQUIREMENTS

ZONE DISTRICT	YARD REQUIREMENTS			MIN. LOT WIDTH / DEPTH	LOT DENSITY	MAX. BUILDING HEIGHT
	REAR	SIDE	FRONT			
GENERAL BUSINESS	35'	5' MIN. 25' MAX.	25'	100' / 100'	30% MAX. COVERAGE BY BLDG	45'
SUBURBAN RESIDENTIAL	25'	5' MIN. 15' MAX.	25'	150' / 125'	2 BLDGS PER ACRE	35'
PROVIDED	230'	175'	117'	>150'	13%	30'

PLAN
SCALE: 1"=40'

0 40 80

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			
6			

PROJECT NO: 21316
DESIGNED: N.EDWARDS
CAD COORD: R.BEISAW
CAD: R.BEISAW
CHECKED: N.EDWARDS
DATE: 06-2024
APPROVED: J.WIEGMAN
DATE: 06-2024
SUBMISSION: FOR PERMITTING

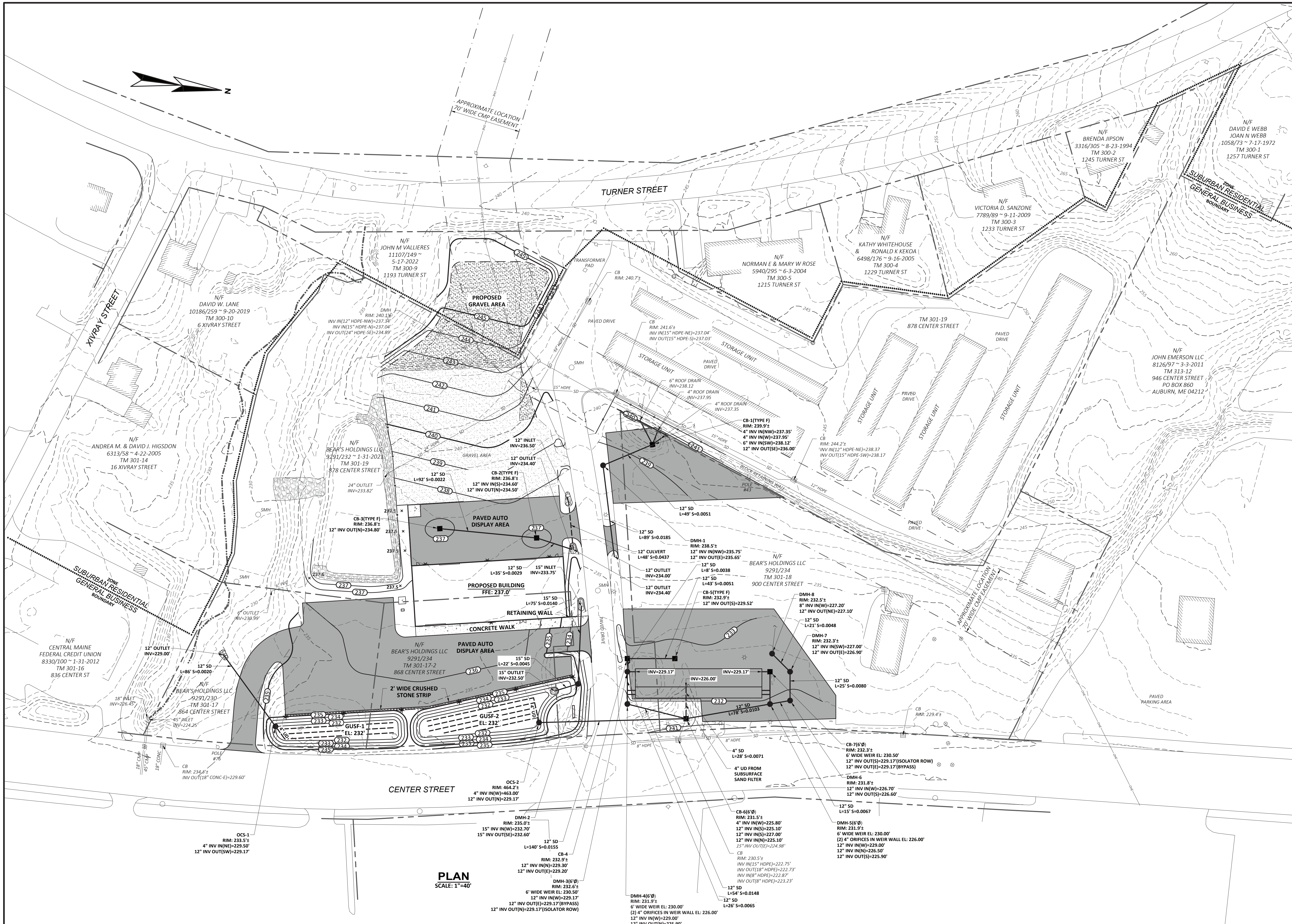
STATE OF MAINE
NATHANIEL S. EDWARDS
No. 17350
6/7/2024
LICENSED PROFESSIONAL ENGINEER

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

BEARS HOLDING, LLC
BEAR SELF STORAGE FACILITY
SITE IMPROVEMENTS
AUBURN, MAINE

SITE LAYOUT PLAN

DRAWING
C-3



BEARS HOLDING, LLC
BEAR SELF STORAGE FACILITY
SITE IMPROVEMENTS
AUBURN, MAINE

SITE GRADING AND DRAINAGE PLAN

DRAWING C-4

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

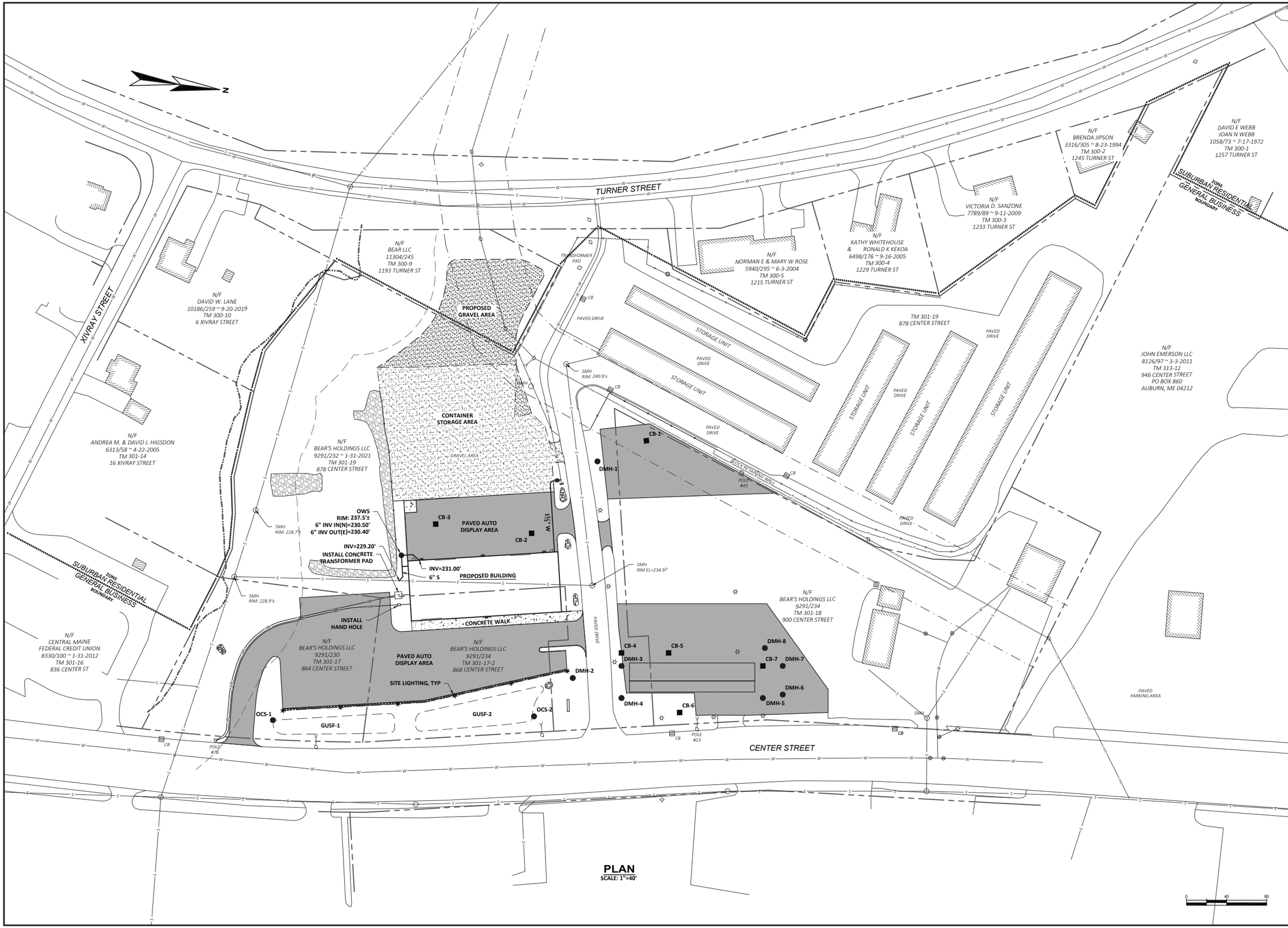
STATE OF MAINE — NATHAN S. EDWARDS No. 17350 6/7/2024 LICENSED PROFESSIONAL ENGINEER

PROJECT NO:	21316
DESIGNED:	N.EDWARDS
CAD COORD:	R.BEISAW
CAD:	R.BEISAW
CHECKED:	N.EDWARDS
DATE:	06-2024
APPROVED:	J.WIEGMAN
DATE:	06-2024
SUBMISSION:	FOR PERMITTING

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

LAST SAVED BY: RYAN.BEISAW 6/7/2024 8:55 AM

LAST SAVED BY: RYAN.BESAW 6/7/2024 8:49 AM



PLAN
SCALE: 1"=40'

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21316
DESIGNED: N.EDWARDS
CAD COORD: R.BESAW
CAD: R.BESAW
CHECKED: N.EDWARDS
DATE: 06-2024
APPROVED: J.WIEGMAN
DATE: 06-2024
SUBMISSION: FOR PERMITTING

STATE OF MAINE
NATHANIEL S. EDWARDS
No. 17350
6/7/2024
LICENSED PROFESSIONAL ENGINEER

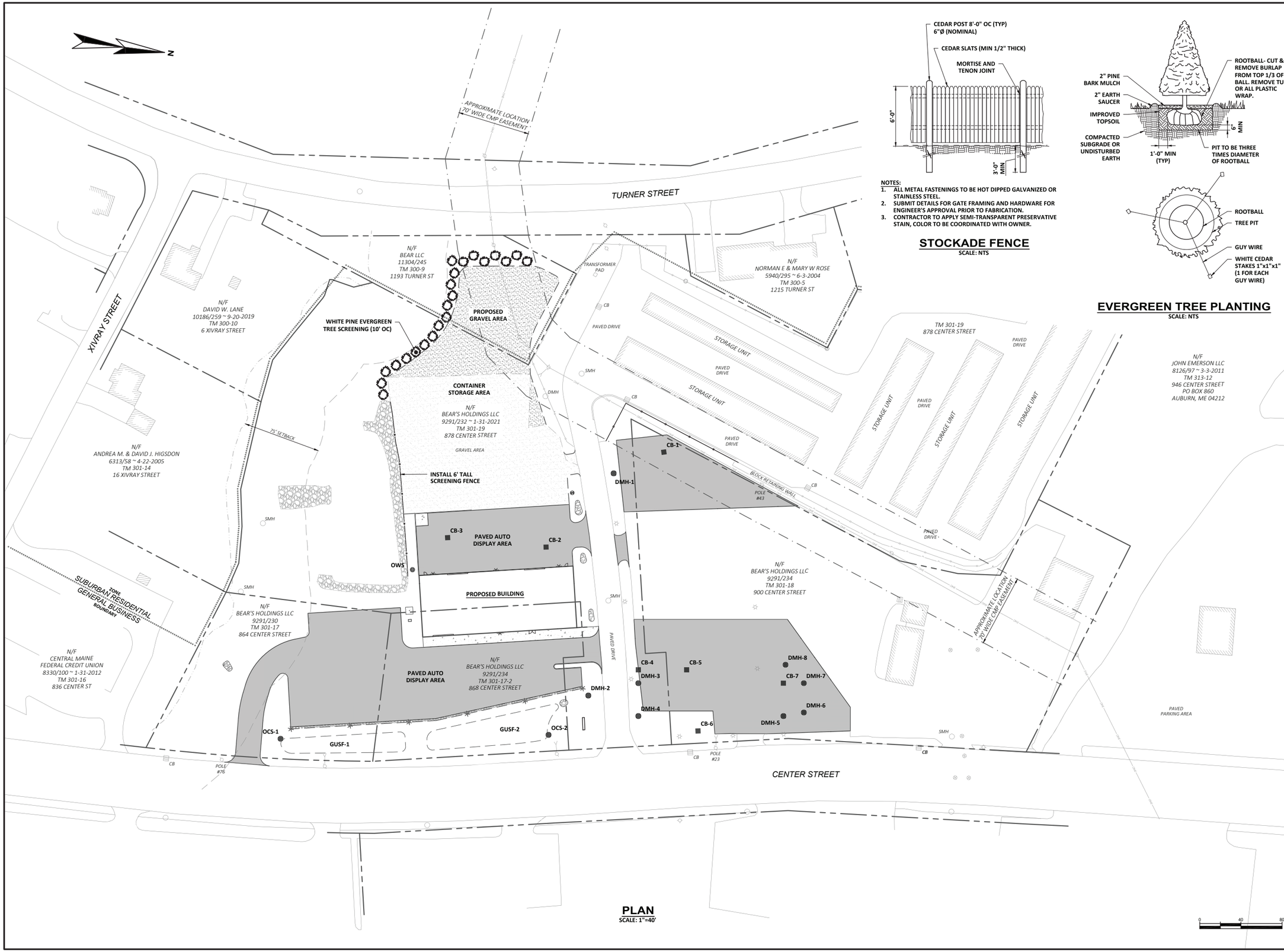
WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

BEARS HOLDING, LLC
BEAR SELF STORAGE FACILITY
SITE IMPROVEMENTS
AUBURN, MAINE

SITE UTILITIES PLAN

DRAWING
C-5

J:\ENG\ME\AUBURN\21316-BEARSELFSTORAGE_DRAWINGS\CIV\21316-CS-UTILITIES.DWG | 21316-CS-Utilities | 1:2.5849 | — | 6/7/2024 11:26:08 AM | RYAN.BESAW



PLAN
SCALE: 1"=40'

0 40 80

NOTES:
1. ALL METAL FASTENINGS TO BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.
2. SUBMIT DETAILS FOR GATE FRAMING AND HARDWARE FOR ENGINEER'S APPROVAL PRIOR TO FABRICATION.
3. CONTRACTOR TO APPLY SEMI-TRANSPARENT PRESERVATIVE STAIN, COLOR TO BE COORDINATED WITH OWNER.

STOCKADE FENCE
SCALE: NTS

EVERGREEN TREE PLANTING
SCALE: NTS

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21316
DESIGNED: N.EDWARDS
CAD COORD: R.BISAW
CAD: R.BISAW
CHECKED: N.EDWARDS
DATE: 06-2024
APPROVED: J.WIEGMAN
DATE: 06-2024
SUBMISSION: FOR PERMITTING

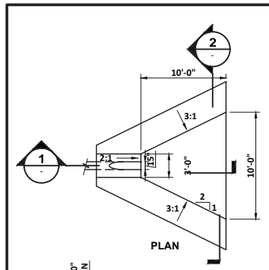
STATE OF MAINE
JONATHAN S. EDWARDS
No. 17350
REGISTERED PROFESSIONAL ENGINEER
07/2024

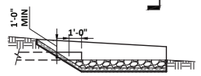
WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

BEARS HOLDING, LLC
BEAR SELF STORAGE FACILITY
SITE IMPROVEMENTS
AUBURN, MAINE

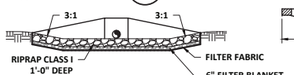
PROPOSED LANDSCAPE PLAN

DRAWING
C-6



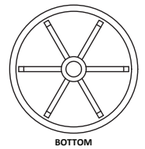


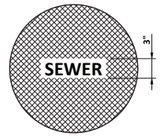
SECTION 1
SCALE: NTS

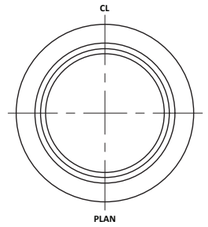


SECTION 2
SCALE: NTS

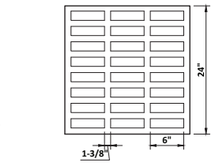
RIPRAP APRON
SCALE: NTS

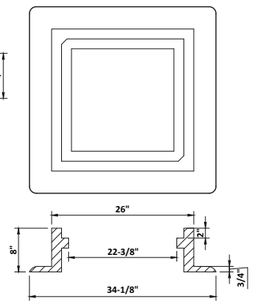




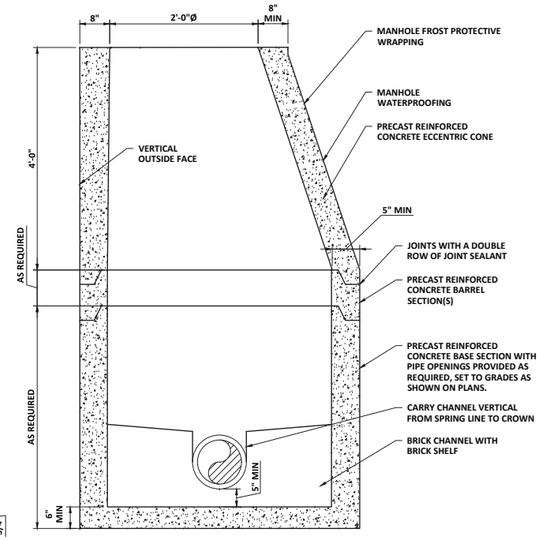


CATCH BASIN & MANHOLE STANDARD COVER AND FRAME
SCALE: NTS



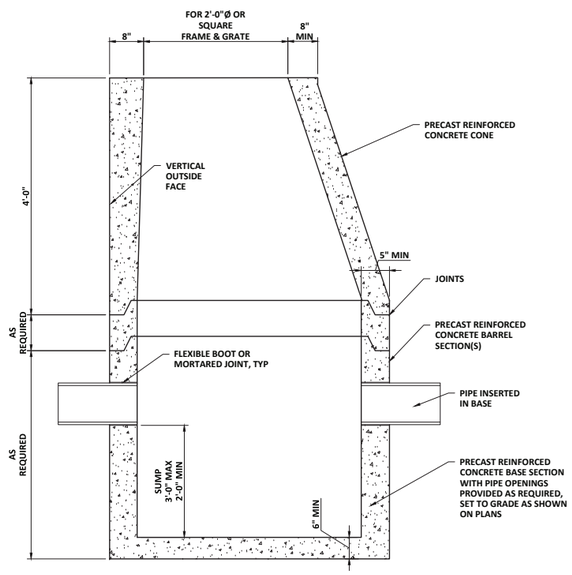


FRAME AND COVER FOR TYPE "A" CATCH BASIN
SCALE: NTS



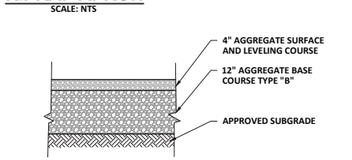
NOTES:
1. MANHOLE CHANNELS REQUIRING A CHANGE IN DIRECTION ARE TO BE BUILT ON A SMOOTH CURVE OF THE LONGEST POSSIBLE RADIUS. IF SIDE PIPES ENTER CHANNEL, SHAPE TO RECEIVE ADDED SIDE FLOW.
2. USE A FLAT SLAB TOP MANHOLE WHEN THE HEIGHT DIFFERENCE BETWEEN THE HIGHEST INVERT AND RIM IS LESS THAN 6'-0" AND WHEN MANHOLE DIAMETER IS GREATER THAN 4'-0".

TYPICAL 4-FT MANHOLE
SCALE: "NTS"

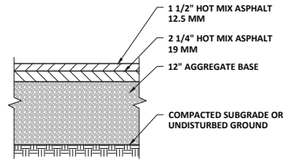


NOTE:
USE FLAT SLAB TOP CATCH BASIN WHERE REQUIRED TO MATCH GRADE

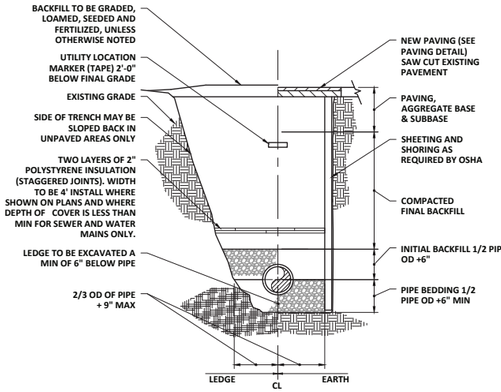
4-FT CATCH BASIN
SCALE: NTS



TYPICAL SECTION OF GRAVEL AREAS
SCALE: NTS

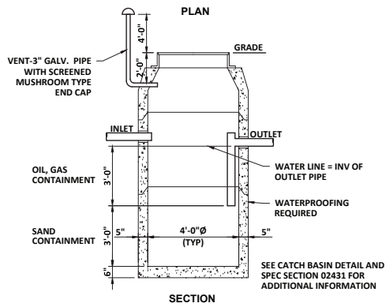


PARKING LOT PAVEMENT
SCALE: "NTS"



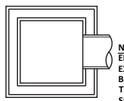
NOTES:
1. ALL EXCAVATION MUST MEET OSHA STANDARDS.
2. INSTALL 3 FOOT LONG IMPERVIOUS MATERIAL DAM IN BEDDING/INITIAL BACKFILL MATERIAL EVERY 100' AND WHERE SHOWN ON PLANS TO PREVENT TRENCH GROUNDWATER FROM BEING CHANNELED ALONG BEDDING/INITIAL BACKFILL.
3. SEE SPECIFICATIONS FOR BEDDING AND BACKFILL REQUIREMENTS.

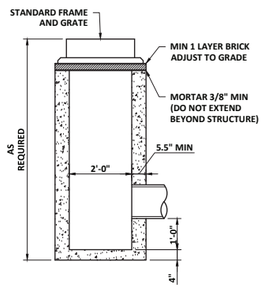
PIPE TRENCH
SCALE: "NTS"



SECTION

OIL/WATER SEPARATOR
SCALE: NTS





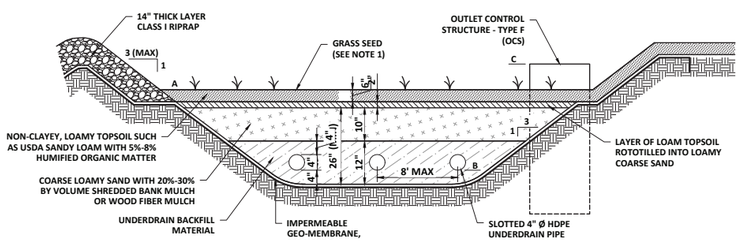
2'x2' CATCH BASIN (TYPE F)
SCALE: NTS

TABLE I	
SPECIFICATIONS FOR LOAMY COARSE SAND	
SEIVE #	% PASSING BY WEIGHT
10	85-100
20	70-100
60	15-40
200	8-15
200 CLAY SIZE	2.0

TABLE II	
UNDERDRAIN BACKFILL	
SEIVE #	% PASSING BY WEIGHT
1"	95-100
0.5"	75-100
4	50-100
20	15-80
50	0-15
200	0-5.0

UNDERDRAIN SOIL FILTER TABLE				
SOIL FILTER REFERENCE	(A) ELEVATION OF SOIL FILTER	(B) UNDERDRAIN INVERT ELEVATION	(C) RIM ELEVATION OUTLET STRUCTURE	MIN SURFACE AREA AT SOIL FILTER ELEVATION (SF)
GUSF-1	232.00	229.80	233.50	2,000
GUSF-2	232.00	229.80	233.50	3,000

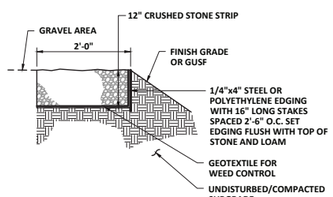
TABLE III	
USF-A SEED MIXTURE (WETLAND)	
CREEPING RED FESUCE	20 LBS/ACRE (0.5 LBS/1,000 S.F.)
TALL FESCUE	20 LBS/ACRE (0.5 LBS/1,000 S.F.)
BIRDSFOOT TREFOIL	8 LBS/ACRE (0.2 LBS/1,000 S.F.)



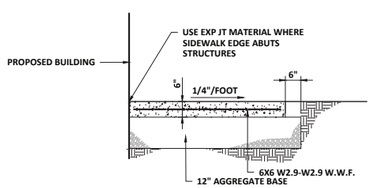
NOTES:
1. GRASS SEED MIXTURE SHALL BE DROUGHT TOLERANT CONSERVATION MIX.
2. PLACE FILTER MEDIA AND LOAM TOPSOIL ONLY AFTER SITE HAS BEEN STABILIZED.
3. IMPERMEABLE GEO-MEMBRANE SHALL BE 4 LDRE, PVC OR HDPE IMPERMEABLE LINER OF AT LEAST 30 MIL THICKNESS.
4. UNDERDRAIN PIPE SHALL SLOPE AT 0.0050 MIN. (SEE DRAWING C5.0)
5. FLOW RESTRICTION IN THE FORM OF AN ORIFICE SHALL BE PROVIDED AT OUTLET TO OBTAIN 24-48 HOUR RELEASE TIME.
6. WITHIN 30 DAYS OF COMPLETION OF THE UNDERDRAINED FILTER BASIN, THE APPLICANT MUST SUBMIT A LOG OF INSPECTION REPORTS DETAILING THE ITEMS INSPECTED, PHOTOS TAKEN, AND THE DATES OF EACH INSPECTION TO THE BUREAU OF LAND RESOURCES FOR REVIEW.
7. SEDIMENT FOREBAY SHALL HAVE A MINIMUM LENGTH TO WIDTH RATIO OF 2:1.

UNDERDRAIN CONSTRUCTION, TESTING AND SUBMITTAL NOTES:
1. CONSTRUCTION OVERSIGHT: INSPECTION OF THE FILTER BASIN MUST BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER WITH REQUIRED REPORTING TO THE DEP. ALL MATERIAL INTENDED FOR THE FILTER BASIN MUST BE APPROVED BY THE DESIGN ENGINEER AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THE MATERIAL CONFORMS TO ALL DEP SPECIFICATIONS. AT A MINIMUM, INSPECTIONS WILL OCCUR:
   1.1. AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED (NOT BACKFILLED);
   1.2. AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE SOIL FILTER MEDIA;
   1.3. AFTER THE SOIL FILTER MEDIA HAS BEEN INSTALLED, SEEDED AND MULCHED; AND
   1.4. AFTER ONE YEAR, TO INSPECT VEGETATION AND MAKE CORRECTIONS.
2. TESTING AND SUBMITTALS: THE SOURCE OF EACH COMPONENT OF THE SOIL FILTER MEDIA NEEDS TO BE IDENTIFIED PRIOR TO CONSTRUCTION. ALL RESULTS OF FIELD AND LABORATORY TESTING MUST BE SUBMITTED TO THE DEP FOR APPROVAL.
   2.1. MEDIA SOURCE: SAMPLES OF EACH TYPE OF MATERIAL SHOULD BE BLENDED FOR THE MIXED FILTER MEDIA AND
   2.2. UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM
   2.3. THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIREMENTS WILL BE DETERMINED BY THE TESTING LABORATORY.
   2.4. SIEVE ANALYSIS: A SIEVE ANALYSIS CONFORMING TO ASTM C136 SHOULD BE PERFORMED ON EACH TYPE OF THE SAMPLE MATERIAL.
   2.5. PERMEABILITY TESTING: TESTING THE PERMEABILITY OF THE SOIL FILTER MEDIA MIXTURE IS RECOMMENDED WITH THE MIXTURE AT A MEASURED BULK DRY DENSITY OF 90-92% BASED ON ASTM D698.

GRASSED UNDERDRAIN SOIL FILTER CONSTRUCTION
SCALE: 'NTS'



CRUSHED STONE STRIP
SCALE: "NTS"



CONCRETE SIDEWALK
SCALE: NTS

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO. 21316
DESIGNED: N.EDWARDS
CAD COORD: R.BISAW
CAD: R.BISAW
CHECKED: N.EDWARDS
DATE: 06-2024
APPROVED: J.WIEGMAN
DATE: 06-2024
SUBMISSION: FOR PERMITTING

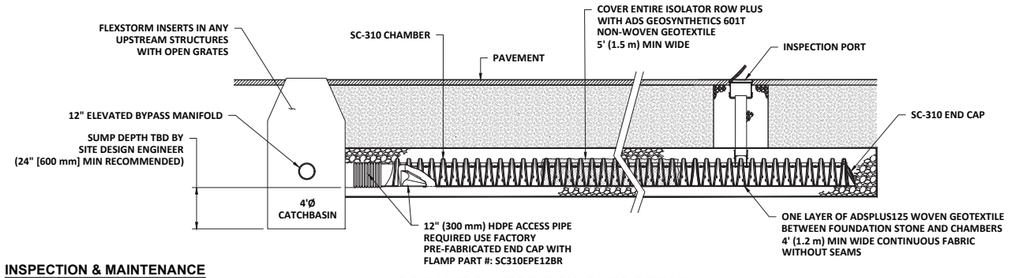
STATE OF MAINE
NATHANIEL S. EDWARDS
No. 17350
6/7/2024
LICENSED PROFESSIONAL ENGINEER

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

BEARS HOLDING, LLC
BEAR SELF STORAGE FACILITY
SITE IMPROVEMENTS
AUBURN, MAINE

DETAILS I

DRAWING
C-7



SC-310 ISOLATOR ROW PLUS DETAIL
SCALE: '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.

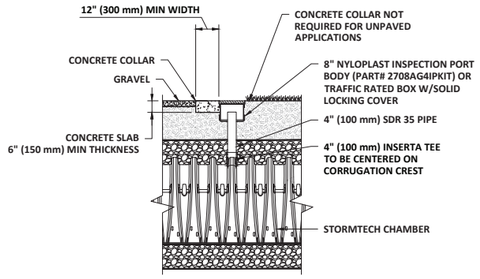
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

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.

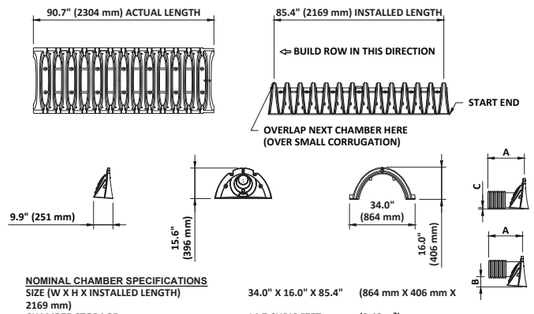
NOTES

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 CREST.

4" PVC INSPECTION PORT DETAIL
SCALE: 'NTS'



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

PRE-FAB STUB AT BOTTOM OF END CAP WITH FLAMP END WITH "BR"
PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE CORED END CAPS END WITH "PC"

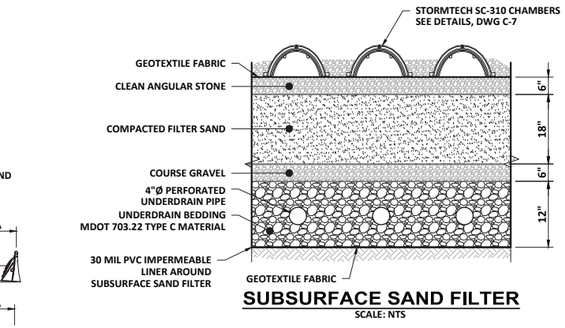
PART #	STUB	A	B	C
SC310EPE06T / SC310EPE06TPC	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	---

ALL STUBS, EXCEPT FOR THE SC310EPE12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

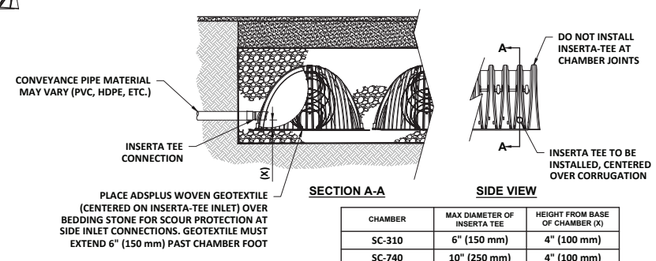
* FOR THE SC310EPE12B THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

SC-310 TECHNICAL SPECIFICATIONS
SCALE: 'NTS'



SUBSURFACE SAND FILTER
SCALE: NTS



SECTION A-A | SIDE VIEW

NOTES:
- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

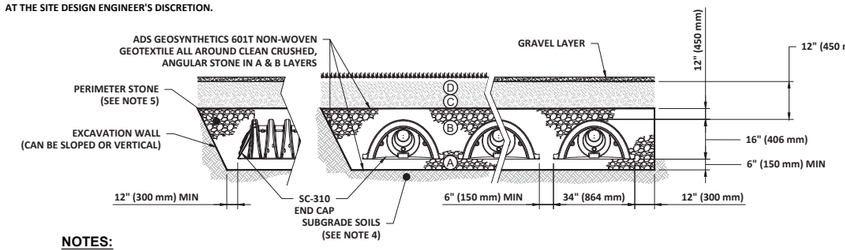
CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

INSERTA-TEE SIDE INLET DETAIL
SCALE: 'NTS'

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 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 18" (450 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 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	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	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 6" (150 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.



NOTES:
1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 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 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 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.

SC-310 CROSS SECTION DETAIL
SCALE: 'NTS'

SC-310 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-310.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. 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 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. 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.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

1. STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.
   STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY. CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

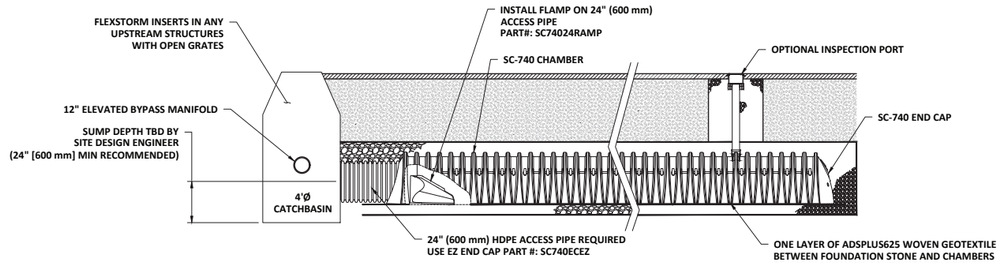
PROJECT NO: 21316
DESIGNED: J.WIEGMAN
CAD COORD: R.BEISAW
CAD: R.BEISAW
CHECKED: N.EDWARDS
DATE: 06-2024
APPROVED: J.WIEGMAN
DATE: 06-2024
SUBMISSION: FOR PERMITTING

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

BEARS HOLDING, LLC
BEAR SELF STORAGE FACILITY
SITE IMPROVEMENTS
AUBURN, MAINE

DETAILS II

DRAWING
C-8



SC-740 ISOLATOR ROW PLUS DETAIL

SCALE: '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.

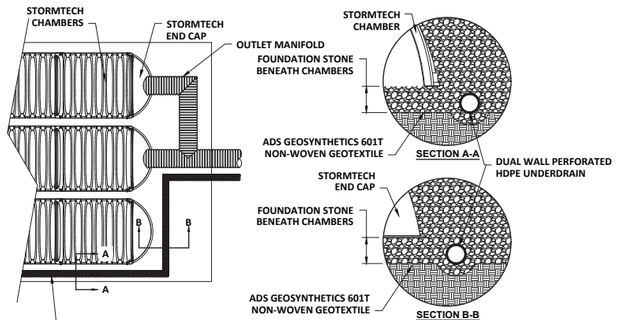
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

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.

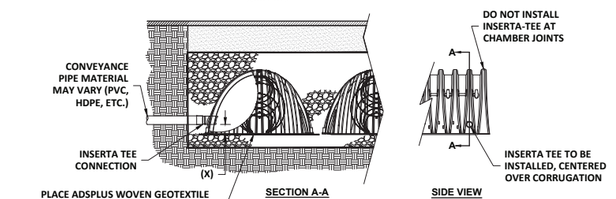
NOTES

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.



UNDERDRAIN DETAIL

SCALE: 'NTS'

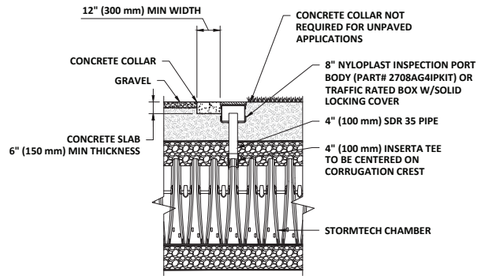


NOTES:
- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
SC-800	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

INSERTA-TEE SIDE INLET DETAIL

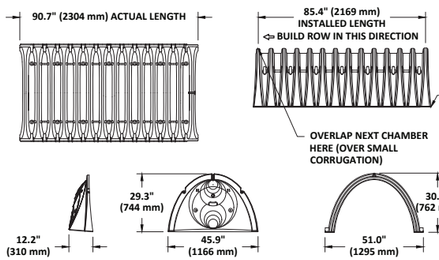
SCALE: 'NTS'



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

4" PVC INSPECTION PORT DETAIL

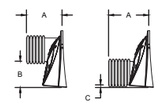
SCALE: 'NTS'



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740ECEZ*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740ECEZ THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

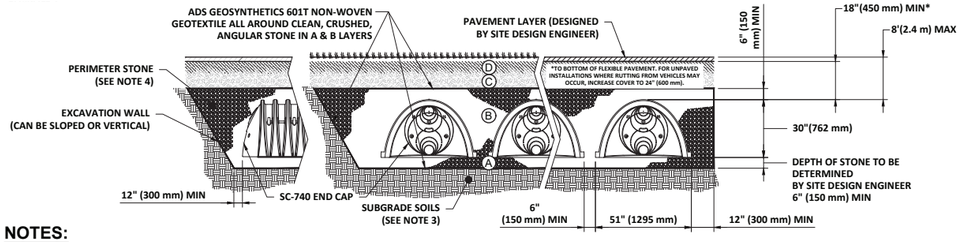
SC-740 TECHNICAL SPECIFICATIONS

SCALE: 'NTS'

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 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 18" (450 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 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
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 6" (150 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".
2. SC-740 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 2".
   - 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 550 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.

SC-740 CROSS SECTION DETAIL

SCALE: 'NTS'

SC-740 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. 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 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. 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.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.
   STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			
6			

PROJECT NO: 21316
DESIGNED: N.EDWARDS
CAD COORD: R.BISAW
CAD: R.BISAW
CHECKED: N.EDWARDS
DATE: 06-2024
APPROVED: J.WIEGMAN
DATE: 06-2024
SUBMISSION: FOR PERMITTING

STATE OF MAINE — NICHOLAS THOMAS EDWARDS — No. 17350 — 6/7/2024 — LICENSED PROFESSIONAL ENGINEER

WRIGHT-PIERCE | www.wright-pierce.com
207.725.8721
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

BEARS HOLDING, LLC
BEAR SELF STORAGE FACILITY
SITE IMPROVEMENTS
AUBURN, MAINE

DETAILS III

DRAWING
C-9

EROSION AND SEDIMENTATION CONTROL NOTES

THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS IN ACCORDANCE WITH OCTOBER 2016 REVISION TO THE 2003 MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS) MANUAL FOR DESIGNERS AND ENGINEERS, OR LATEST EDITION. EROSION CONTROL MIX SHALL BE AS SPECIFIED IN THIS CITATION, PAGE 40.

THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL STRUCTURES ARE SHOWN ON THE SITE PLAN.

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH 2016 REVISION TO THE 2003 MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS, OR LATEST EDITION. ALL TEMPORARY MEASURES SHALL NOT BE REMOVED UNTIL SITE IS FULLY STABILIZED.
2. IN AREAS ADJACENT TO NATURAL RESOURCES, LOCATIONS TO BE VEGETATED IN THEIR FINISH CONDITION SHALL BE STABILIZED WITH MULCH WITHIN 7 DAYS OF MOST RECENT DISTURBANCE.
3. AREAS THAT WILL NOT RECEIVE FINAL GRADING FOR UP TO ONE YEAR SHALL BE STABILIZED WITH MULCH WITHIN 7 DAYS OF MOST RECENT DISTURBANCE.
4. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE MAINTAINED IN AN UNTREATED OR UNVEGETATED CONDITION FOR THE MINIMUM TIME REQUIRED. IN GENERAL AREAS TO BE VEGETATED SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL.
5. SEDIMENT BARRIERS (SILT FENCE, STONE CHECK DAMS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF UPGRADIENT DRAINAGE AREAS. SEDIMENT BARRIERS SHALL BE INSTALLED DOWNGRADIENT OF STOCKPILES, AND STORMWATER SHALL BE PREVENTED FROM RUNNING ONTO THE STOCKPILES. PLASTIC SHEETING OR OTHER MATERIAL, WOVEN OR NON-WOVEN GEOTEXTILE FABRIC, MAY BE USED TO COVER STOCKPILES.
6. INSTALL SILT FENCE AT TOE OF SLOPES TO FILTER SILT FROM RUNOFF. SEE SILT FENCE DETAIL FOR PROPER INSTALLATION. SILT FENCE WILL REMAIN IN PLACE PER NOTE #5.
7. ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSURE. IF REPAIRS ARE IDENTIFIED, THEY SHALL BEGIN NO LATER THAN THE END OF THE FOLLOWING WORK DAY AND BE COMPLETE WITHIN 7 DAYS FROM INSPECTION. SEDIMENT DEPOSITS MUST BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED.
8. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2 TO 1) UNLESS STABILIZED WITH RIPRAP OR OTHER STRUCTURAL MEANS. NO SLOPES IN EXCESS OF 1.5H:1V SHALL BE ALLOWED UNLESS STAMPED BY A PROFESSIONAL ENGINEER.
9. IF FINAL SEEDING AND SODDING IS NOT EXPECTED PRIOR TO THE ANTICIPATED DATE OF THE FIRST KILLING FROST, USE TEMPORARY ANNUAL RYEGRASS SEEDING AND MULCHING ON ROUGH GRADED SUBSOIL TO PROTECT THE SITE AND DELAY PERMANENT LOAMING, FINE GRADING, AND SEEDING OR SODDING UNTIL SPRING.
10. WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISH GRADED SHALL BE COMPLETED 30 DAYS PRIOR TO THE FIRST KILLING FROST.
11. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY, WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
12. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND REVEGETATED.
13. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
14. EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
15. EXPOSED AREA SHOULD BE LIMITED SUCH THAT THE AREA CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.
16. STABILIZATION SCHEDULE BEFORE WINTER:

SEPTEMBER 1:	ALL SLOPES GREATER THAN 15% MUST BE SEEDED AND MULCHED. ALL GRASS-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED.
SEPTEMBER 15	ALL DISTURBED AREAS MUST BE SEEDED AND MULCHED. ALL SLOPES MUST BE STABILIZED, SEEDED AND MULCHED. SLOPES 3:1 OR GREATER TO BE STABILIZED WITH EROSION CONTROL MATTING AND SEEDED. ALL DISTURBED AREAS TO BE PROTECTED WITH AN ANNUAL GRASS MUST BE SEEDED AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND MULCHED.
OCTOBER 1	ALL DISTURBED AREAS TO BE PROTECTED WITH WINTER RYE MUST BE APPLIED AT A RATE OF 3LBS PER 1000 SQUARE FEET, AND WITH HAY APPLIED AT A RATE OF 75LBS PER 1000 SQUARE FEET OR WITH AN EROSION CONTROL BLANKET.
OCTOBER 15:	SOIL MUST BE SEEDED WITH WINTER RYE AND PROTECTED WITH EROSION CONTROL BLANKET IF NOT YET STABILIZED.
NOVEMBER 1:	AREA SHOULD BE STABILIZED IF RYE HAS NOT GROWN THREE INCHES AND DOES NOT HAVE 75% COVERAGE.
NOVEMBER 15	ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED. SLOPES THAT ARE COVERED WITH RIPRAP MUST BE CONSTRUCTED BY THAT DATE.
DECEMBER 1	ALL DISTURBED AREAS WHERE THE GROWTH OF VEGETATION FAILS TO BE AT LEAST THREE INCHES TALL OR AT LEAST 75% OF THE DISTURBED SOIL IS COVERED BY VEGETATION, MUST BE PROTECTED FOR OVER-WINTER.

17. MULCH MAY REQUIRE ANCHORING TO ENSURE THAT MULCH REMAINS IN-PLACE. MULCH NETTING, CRIMPING, OR PUNCHING ARE ACCEPTABLE METHODS. MULCH NETTING SHALL BE TENAX RADIX EROSION CONTROL NETS OR APPROVED EQUAL, AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
18. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS AND EQUIPMENT ON-SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.
19. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS, ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
20. MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
21. EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.
22. AUTHORIZED NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:
    - A. DISCHARGES FROM FIREFIGHTING ACTIVITY;
    - B. FIRE HYDRANT FLUSHINGS;
    - C. VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
    - D. DUST CONTROL RUNOFF IN ACCORDANCE WITH SPECIFICATIONS AND ANY APPLICABLE PERMIT CONDITIONS;
    - E. ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
    - F. PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
    - G. UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
    - H. UNCONTAMINATED GROUNDWATER OR SPRING WATER;
    - I. FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
    - J. UNCONTAMINATED EXCAVATION DEWATERING;
    - K. POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
    - L. LANDSCAPE IRRIGATION.
24. UNAUTHORIZED NON-STORMWATER DISCHARGES: THE MAINEDEP'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
    - A. WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
    - B. FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
    - C. SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
    - D. TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

EROSION CONTROL - WINTER CONSTRUCTION

1. WINTER CONSTRUCTION PERIOD DEFINED: NOVEMBER 1 THROUGH APRIL 15.
2. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
3. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW AT A RATE OF 100 LB. PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE. IN ALL CASES, MULCH SHALL BE APPLIED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH. OVERWINTER HAY MULCH SHOULD BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET. MULCH SHOULD BE ANCHORED WITH NETTING OR TACKIFIER TO PREVENT MOVEMENT BEFORE FREEZING.
4. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE-FREEZING TEMPERATURES, THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED AND IS SMOOTH, THEN THE AREA MUST BE STABILIZED WITH MULCH. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT EXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
5. THE APPLICATION OF MULCH TO FINE GRADED AREAS WILL BE STABILIZED AS FOLLOWS:
    - A. BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION, CHEMICAL TACK OR WOOD CELLULOSE FIBER.
    - B. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GRATER THAN 8%. THIS SHALL BE IN ADDITION TO EROSION CONTROL MATTING-DITCHES DETAIL.
    - C. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15%. AFTER OCTOBER 1ST, THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
6. AFTER NOVEMBER 1ST THE CONTRACTOR SHALL APPLY MULCH AND ANCHORING ON ALL BARE EARTH AT THE END OF EACH WORKING DAY.
7. DURING WINTER CONSTRUCTION PERIODS ALL SNOW SHALL BE REMOVED FROM AREAS OF MULCHING PRIOR TO PLACEMENT.
8. THE INSPECTION FREQUENCY FOR AREAS BEING WORKED ON DURING WINTER CONSTRUCTION SHALL BE AFTER EACH RAINFALL, SNOWSTORM, OR THAWING, AND AT LEAST ONCE A WEEK.
    - A. CONTRACTOR SHALL NOT BE REQUIRED TO INSPECT AREAS OF THE SITE THAT ARE NOT VISIBLE DUE TO SNOW IF THOSE AREAS ARE NOT BEING ACTIVELY CONSTRUCTED, HAVE BEEN INSPECTED AND PROPERLY REPAIRED PRIOR TO THE SNOW EVENT.

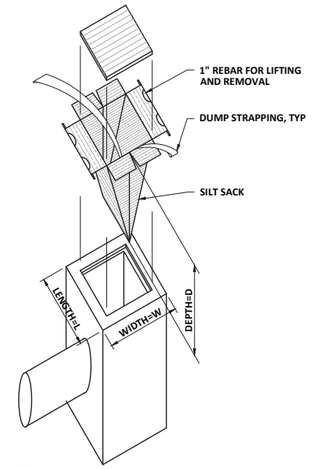
EROSION CONTROL - WETLAND NOTES

1. WETLANDS AND SURFACE WATERS (EXCEPTING THOSE WHICH ARE TO BE FILLED IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS) WILL BE PROTECTED WITH SILT FENCE INSTALLED AT THE EDGE OF THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE.
2. IF THE WORK INCLUDES CROSSING OF WETLANDS AND/OR STREAMS, THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS WORKING IN THESE AREAS.
3. ANY WETLAND CROSSING WORK SHALL BE COMPLETED BETWEEN THE PERIOD OF MAY 1 AND SEPTEMBER 30.
4. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION WITHIN OR ADJACENT TO WETLAND AREAS. ALL TEMPORARY MEASURES SHALL NOT BE REMOVED UNTIL SITE IS FULLY STABILIZED.
5. WETLAND VEGETATIVE LAYERS SHALL BE REMOVED AND SALVAGED FOR RESTORATION OF THE DISTURBED AREAS.
6. STORAGE AREAS FOR WETLAND MATERIALS SHALL BE PROPERLY PROTECTED AGAINST EROSION.
7. SEEDING OF THE DISTURBED AREAS WITHIN WETLAND AREAS SHALL UTILIZE MIXTURES APPROPRIATE FOR WETLAND AREAS AS OUTLINED IN THE SPECIFICATIONS.

INSPECTIONS

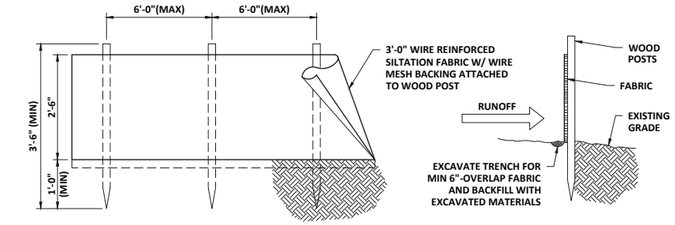
REGULAR INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE MADE AT LEAST WEEKLY AND PRIOR TO AND FOLLOWING STORM EVENTS. MINIMUM INSPECTIONS SHALL BE MADE AS LISTED IN THE TABLE BELOW. SEE INSPECTIONS, MAINTENANCE AND HOUSEKEEPING PLAN FOR ADDITIONAL INFORMATION.

INSPECTED ITEM	EXAMPLE REPAIR INDICATORS
MULCHED SURFACES	THIN MULCH OR INADEQUATE APPLICATION. WIND MOVEMENT
SEEDED SURFACES	POOR SEED GERMINATION. LOSS OF MULCH. DEVELOPMENT OF RIVULETS.
SEDIMENT BARRIER	SEDIMENT BUILD-UP TO ONE HALF THE HEIGHT OF THE BARRIER. UNDERMINING OF THE BARRIER. SUPPORTING STAKES LOOSE, TOPPLED OR UNMARKED. BREAKS IN BARRIER.
PERIMETER DIVERSION	DISCHARGE IS TO STABILIZED AREA. EROSION OR BREAKS IN BARRIER. SUPPORTING STAKES LOOSE, TOPPLED OR UNMARKED.
CATCH BASIN PROTECTION	SEDIMENT BUILD-UP AND STRUCTURE BLOCKAGES. SLOW FLOW/PONDING WATER. BREAKS IN FABRIC OR VOIDS IN BARRIER.
DEWATERING FILTER	BREAKS IN FABRIC OR SUPPORTING STRUCTURE. SLOW FLOW, INDICATING HIGH SEDIMENT BUILD-UP.
CONSTRUCTION ENTRANCE	SEDIMENTATION OF ROADWAYS. OFF-SITE DUST COMPLAINTS.
STOCKPILE	BALLOONING OR BLOWOUTS, RUNOFF AND EROSION

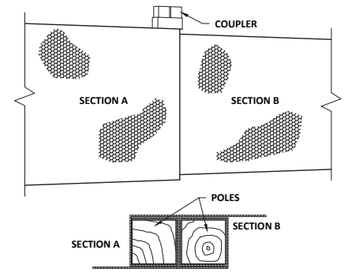


NOTE:
INSTALL SILT SACK PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. EMPTY OR REMOVE SEDIMENT FROM SILT SACK WHEN RESTRAINT CORD IS NO LONGER VISIBLE. CLEAN, RINSE, AND REPLACE AS NEEDED.

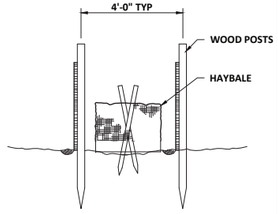
SILT SACK CATCH BASIN INLET
SCALE: NTS



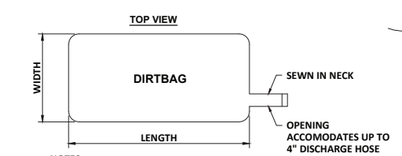
SILT FENCE INSTALLATION DETAIL
SCALE: NTS



JOINING SILT FENCE SECTIONS
SCALE: "NTS"

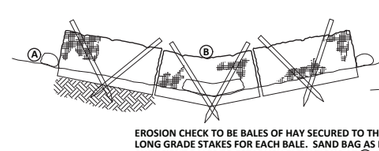


COMBINATION SILT FENCE AND HAY BALE BARRIER
SCALE: NTS



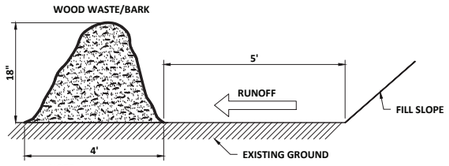
NOTES:
1. DIRTBAG TO BE PLACED ON AGGREGATE OR STRAW.
2. SEAMS MUST BE HIGH STRENGTH DOUBLE STITCHED "J" SEAMS.
3. SEAM MUST BE TESTED UNDER ASTM D-4884. ACF TEST RESULTS AVAILABLE UPON REQUEST.

DIRT BAG
SCALE: "NTS"



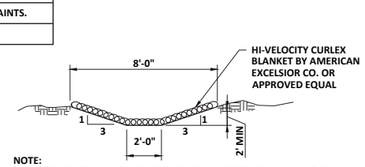
EROSION CHECK TO BE BALES OF HAY SECURED TO THE GROUND WITH TWO 4' LONG GRADE STAKES FOR EACH BALE. SAND BAG AS REQUIRED, PLACE SUFFICIENT BALES TO ESTABLISH ELEVATIONS AT (A) AT LEAST 6 INCHES ABOVE OVERFLOW AT (B)

HAY BALE CHECK DAM
SCALE: "NTS"



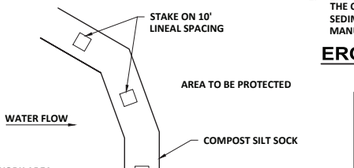
NOTE:
1. EROSION CONTROL MIX SHALL BE AS SPECIFIED ON PAGE 45 OF THE OCTOBER 2016 REVISION TO THE 2003 MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS) MANUAL FOR DESIGNERS AND ENGINEERS, OR LATEST EDITION.

EROSION CONTROL MIX BERM
SCALE: "NTS"



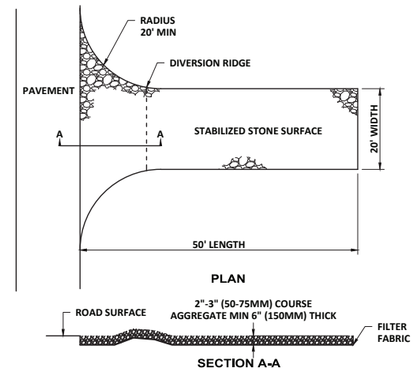
NOTE:
1. PROVIDE FOR DRAINAGE SWALES AS INDICATED ON GRADING & DRAINAGE PLAN. ADDITIONAL REQUIREMENTS MAY APPLY. SEE EROSION CONTROL - WINTER CONSTRUCTION NOTE 5 AS APPLICABLE.

EROSION CONTROL MATTING - DITCHES
SCALE: "NTS"



NOTES:
1. ALL MATERIAL TO MEET SPECIFICATIONS
2. SILT SOCK COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS
3. SILT SOCK DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER
4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

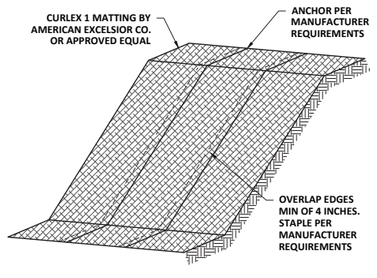
COMPOST SILT SOCK
SCALE: NTS



SECTION A-A
(TEMPORARY, TO BE REMOVED PRIOR TO FINAL SITE PAVING)

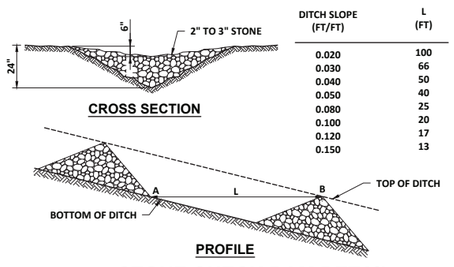
NOTE:
1. STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED DURING CONSTRUCTION AS REQUIRED TO PREVENT OFF-SITE TRACKING OF SEDIMENT. ANY SEDIMENT TRACKED OFF-SITE SHALL BE REMOVED AND DISPOSED OF IN A MANNER THAT SEDIMENTS DO NOT ENTER DOWN SLOPE WATER RESOURCES.

STABILIZED CONSTRUCTION ENTRANCE
SCALE: "NTS"



NOTE:
INSTALL ON SLOPES 3:1 OR GREATER

EROSION CONTROL MATTING - SLOPES
SCALE: "NTS"



DITCH SLOPE (FT/FT)	L (FT)
0.020	100
0.030	66
0.040	50
0.050	40
0.080	25
0.100	20
0.120	17
0.150	13

STONE CHECK DAM DETAIL
SCALE: NTS

NO	REVISIONS	DATE	APP'D
1			
2			
3			
4			
5			
6			

PROJECT NO. 21316
DESIGNED: N.EDWARDS
CAD COORD: R.BESAW
CAD: R.BESAW
CHECKED: N.EDWARDS
DATE: 06-2024
APPROVED: J.WIEGMAN
DATE: 06-2024
SUBMISSION: FOR PERMITTING

STATE OF MAINE — NICHOLAS J. EDWARDS — No. 17350 — 6/7/2024 — LICENSED PROFESSIONAL ENGINEER

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

BEARS HOLDING, LLC
BEAR SELF STORAGE FACILITY
SITE IMPROVEMENTS
AUBURN, MAINE

EROSION CONTROL NOTES AND DETAILS

DRAWING
C-10

WRIGHT-PIERCE
Engineering a Better Environment

11 Bowdoin Mill Island, Suite 140
Topsham, ME 04086
207.725.8721 | www.wright-pierce.com