Site & Subdivision Plan Application

To the City of Auburn

1315 Minot Avenue Residential Apartments

1315 Minot Avenue
Auburn, Maine

Applicant:
CEP Holdings, LLC
164 Chute Road
Windham, ME 04062

Prepared By:
DM Roma Consulting Engineers
PO Box 1116
Windham, ME 04062

DM ROMA

CONSULTING ENGINEERS

DM ROMA
CONSULTING ENGINEERS

August 7, 2024

Tammy Thatcher, Planning and Permitting Assistant
City of Auburn Planning, Permitting & Code Department
60 Court Street
Auburn, ME 04210

Re: Site and Subdivision Plan Application
1315 Minot Avenue Residential Apartments
1315 Minot Avenue, Auburn
CEP Holdings, LLC - Applicant

Dear Tammy:

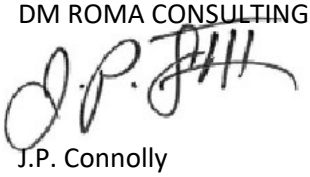
On behalf of CEP Holdings, LLC we have prepared the enclosed application, plans and supporting documentation for Site & Subdivision Plan review of a proposed 24-unit residential development project on a 11.8-acre property located at 1315 Minot Avenue, in Auburn. I was hoping that you could distribute the application materials at your discretion amongst the City Staff and any other review agents such as Auburn Water & Sewer.

The property is located in the General Business 2 (GB2) Zone and is generally undeveloped except for the portion of the site located near the middle of the southerly property line adjacent to Minot Avenue, which has been improved with a gravel pad and driveway. The applicant is proposing to build 24 dwelling units in four (4) multi-family buildings with off-street parking and two (2) storage buildings.

Upon your review of this information, please let us know if you have any questions or require any additional information.

Sincerely,

DM ROMA CONSULTING ENGINEERS



J.P. Connolly
Senior Project Engineer

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SITE & SUBDIVISION PLAN APPLICATION TO CITY OF AUBURN

1315 MINOT AVENUE RESIDENTIAL APARTMENTS

SECTION 1

APPLICATION FORM & SUBMISSION CHECKLIST

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

Development Review Application

PROJECT NAME: 1315 MINOT AVENUE RESIDENTIAL APARTMENTS

PROPOSED DEVELOPMENT ADDRESS: 1315 MINOT AVENUE, AUBURN MAINE

PARCEL ID #: 205-012

REVIEW TYPE:
Site Plan ☑ Site Plan Amendment ☐
Subdivision ☑ Subdivision Amendment ☐

PROJECT DESCRIPTION: THE APPLICANT IS PROPOSING A RESIDENTIAL APARTMENT PROJECT AND INTENDS TO TO CONSTRUCT FOUR (4) MULTI-UNIT RESIDENTIAL BUILDINGS CONSISTING OF SIX (6) UNITS EACH, FOR A TOTAL OF TWENTY-FOUR (24) RESIDENTIAL UNITS AND WILL INCLUDE TWO (2) 3,000 SF STORAGE BUILDINGS, PAVED DRIVE AISLES, SIDEWALKS AND PARKING. THE PROJECT WILL EXTEND PUBLIC WATER AND SEWER SERVICES FROM MINOT AVE TO THE SITE.

CONTACT INFORMATION:

Applicant

Name:	CEP HOLDINGS LLC
Address:	164 CHUTE ROAD
City / State	WINDHAM, MAINE
Zip Code	04062
Work #:	
Cell #:	
Fax #:	
Home #:	
Email:	

Property Owner

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

Project Representative

Name:	DM Roma Consulting Engineers
Address:	PO BOX 11116
City / State	WINDHAM, MAINE
Zip Code	04062
Work #:	207.591.5055
Cell #:	760.840.0997
Fax #:	
Home #:	
Email:	JP@DMROMA.COM; DUSTIN@DMROMA.COM

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

Name:	SURVEY INC.	MAINELY SOILS
Address:	PO BOX 210	17 LENOVA LANE
City / State	WINDHAM, ME	RICHMOND, ME
Zip Code	04062	04357
Work #:	207.892.2556	207.650.4313
Cell #:		
Fax #:		
Home #:		
Email:	WSHIPPEN@SURVEYINCORPORATED.COM	MAINELYSOILS@GMAIL.COM

PROJECT DATA

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

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	1,101±	sq. ft.
Proposed Total Paved Area	24,007±	sq. ft.
Proposed Total Impervious Area	43,047±	sq. ft.
Proposed Impervious Net Change	41,946±	sq. ft.
Impervious surface ratio existing	2.14%	% of lot area
Impervious surface ratio proposed	8.37%	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	0	sq. ft.
Proposed Building Footprint	19,040±	sq. ft.
Proposed Building Footprint Net change	19,040±	sq. ft.
Existing Total Building Floor Area	0	sq. ft.
Proposed Total Building Floor Area	29,040±	sq. ft.
Proposed Building Floor Area Net Change	29,040±	sq. ft
New Building	yes	(yes or no)
Building Area/Lot coverage existing	0	% of lot area
Building Area/Lot coverage proposed	3.70±	% of lot area

ZONING

Existing	GB2
Proposed, if applicable	---

LAND USE

Existing	vacant
Proposed	multi-family residential

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	0
Proposed Number of Residential Units	24
Subdivision, Proposed Number of Lots	1

PARKING SPACES

Existing Number of Parking Spaces	0
Proposed Number of Parking Spaces	45
Number of Handicapped Parking Spaces	2
Proposed Total Parking Spaces	47

ESTIMATED COST OF PROJECT: $253,500 (site cost - see section 12 of application package)

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	1,101±	sq. ft.
Proposed Disturbed Area	82,563±	sq. ft.
Proposed Impervious Area	43,047±	sq. ft.

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

TRAFFIC ESTIMATE

Total traffic estimated in the peak hour-existing (Since July 1, 1997) 0 passenger car equivalents (PCE)

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) 14 (PM weekday) 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 2 (GB2) zoning district.
2. Parcel Area: 11.8± acres / 514,008± square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	56,000 sf	514,008± sf
Street Frontage	100 ft (min.)	1,052± ft
Min Front Yard	25 ft	26.2 ft
Min Rear Yard	35 ft	159.7 ft
Min Side Yard	25 ft	306.6 ft
Max. Building Height	45 ft	28± ft
Use Designation	Multi-family (60-306.a.8)	4 Multi-family Bldgs (6 units each)
Parking Requirement	1 space/ per square feet of floor area	1 space per unit (60.608 multifamily)
Total Parking:	24 spaces	47 spaces
Overlay zoning districts (if any):	---	--- / ---
Urban impaired stream watershed?	YES/NO If yes, watershed name	No (Taylor Brook)

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 Government, select Departments of the City, then Planning, Permitting & Code. On the left menu, choose Subdivisions, Land Use, Zoning Ordinance. Or click HERE.

For additional information on Site Plan Review, please click HERE or scan code:

For additional information on Special Exceptions, please click HERE or scan code:

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:**
	August 9, 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: 1315 Minot Avenue Residential Apartments
PROPOSED DEVELOPMENT ADDRESS: 1315 Minot Avenue
PARCEL #: Assessors Map 205, Lot 12

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	✓		
	Drive Openings/Locations	✓		
	Subdivision Restrictions	n/a		
	Proposed Use	✓		
	PB/BOA/Other Restrictions			
	Fire Department Review			
	Open Space/Lot Coverage	✓		

Required Information		*Check when Submitted*		*Applicable Ordinance*
Landscape Plan		*Applicant*	*Staff*	
	Greenspace Requirements			
	Setbacks to Parking			
	Buffer Requirements			
	Street Tree Requirements			
	Screened Dumpsters	✓		
	Additional Design Guidelines			
	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	✓		
	Maine Construction General Permit	✓		
	Bonding and Inspection Fees	✓		
	Post-Construction Stormwater Plan	✓		
	Inspection/monitoring requirements	✓		
Lighting Plan		*Applicant*	*Staff*	
	Full cut-off fixtures			
	Meets Parking Lot Requirements			
Traffic Information		*Applicant*	*Staff*	
	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			
	Sewer	✓		
	Available city capacity	✓		
	Electric	✓		
	Natural Gas			
	Cable/Phone	✓		
Natural Resources		*Applicant*	*Staff*	
	Shoreland Zone	n/a		
	Flood Plain	n/a		
	Wetlands or Streams	✓		
	Urban Impaired Stream	n/a		
	Phosphorus Check	✓		
	Aquifer/Groundwater Protection	n/a		
	Applicable State Permits	n/a		
	Lake Auburn Watershed	n/a		
	Taylor Pond Watershed	n/a		
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			
	Performance Guarantee			
State Subdivision Law		***Applicant***	***Staff***	
	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***	
	Mobile Home Parks	na		
	PUD	na		
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		✓		

SECTION 2

AGENT AUTHORIZATION

Section 2 – Agent Authorization

CEP Holdings, LLC the developer of the project has retained the services of DM Roma Consulting Engineers, to act on the developer's behalf as the project engineer through the permitting phase of the project and has authorized DM Roma to coordinate and negotiate with the City of Auburn as it relates to project elements such as layout and engineering design, and make decisions related to all aspects of permit applications and review.

SECTION 3

PROJECT NARRATIVE

Section 3 – Project Narrative

Zoning:	Minot Avenue - General Business 2 (GB-2)
Acreage:	11.8± Acres
Tax Map/Lot:	205/12
Existing Use:	Vacant Lot
Proposed Use:	Dwelling, Multifamily

The proposed project includes the construction of four (4) 2-story multi-family residential buildings that will each contain 6 residential units for a total of 24 residential dwelling units, and two additional single story self-storage buildings. The property will be accessed from Minot Avenue, via two driveway entrance/exits one in the location of an existing curb opening and gravel driveway, and one new proposed curb opening. The project proposes to provide and extend public water and sewer utility services to the site, requiring coordination and approval from the Auburn Water and Sewer Districts. The project will include paved parking for 47 vehicles.

SECTION 4

RIGHT, TITLE OR INTEREST DOCUMENTS

DLN # 1002140128554

WARRANTY DEED

Millennial Equity, LLC, a Florida limited liability company with a place of business in Stratham, County of Rockingham, and State of New Hampshire, for consideration paid, grants to CEP Holdings Limited Liability Company, a Maine limited liability company with a mailing address of 164 Chute Road, Windham, ME 04062, with Warranty Covenants, the real estate situated in the City of Auburn, County of Androscoggin, and State of Maine, described as follows:

A certain lot or parcel of land situated in Auburn, Androscoggin County, State of Maine, together with any buildings thereon, bounded and described as follows:

Beginning at a point on the Northerly line of Minot Avenue is said Auburn, said point being the Southwesterly corner of land conveyed to Edward LaRocque by deed recorded in the Androscoggin County Registry of Deeds in book 810, Page 465; thence at a right angle to said Minot Avenue in a Northerly direction along said land of Edward LaRocque and Gertrude LaRocque, three hundred sixty (360) feet, more or less, to a point; said point also being the Northwesterly corner of said LaRocque land; thence in a general Northwesterly direction along land of the United States Government, one hundred seventy (170) feet, more or less, to a point; thence in a general Southwesterly direction, along said land of the United States Government three hundred eighty (380) feet, more or less, to a point; thence in a general Northwesterly direction one thousand fifty (1,050) feet, more or less, to a point; thence in a general Southwesterly direction along land of George Woodbury and Julia Woodbury, to the Northeasterly corner of land conveyed by John P.B. Fortin to Twin Cities Baptist Tabernacle by deed dated October 21, 1974 and recorded in the Androscoggin County Registry of Deeds in Book 1135, Page 66; thence Southerly on the Easterly line of said Tabernacle seven hundred and seventy (770) feet, more or less, to Minot Avenue; thence Easterly on the Northerly line of Minot Avenue one thousand two hundred eighty-five (1,285) feet, more or less, to the point of beginning.

EXCEPTING, however, two parcels of land conveyed by said Fortin to Central Maine Power Company by deed dated December 18, 1974, recorded in Book 1136, Page 335.

Together with the right to cross and to use said parcels as set forth in said deed. The Grantee recognizes that the Power Company has been released from any claim arising from Grantee's use of the parcels.

Being the same premises conveyed to the Grantor by Deed of KJD Maine Company LLC dated February 22, 2019, and recorded in the Androscoggin County Registry of Deeds in Book 10037, Page 194.

Executed this 11th day of January, 2021

Millennial Equity, LLC

By: _____
Clifford Miller, its Manager

State of Maine
York, ss.

January 11, 2021

Personally appeared before me the above named Clifford Miller in his capacity as Manager of Millennial Equity, LLC and acknowledged the foregoing instrument to be his free act and deed in said capacity and the free act and deed of said limited liability company.

_____
Attorney at Law

Printed name:

DAVID J. JONES
ATTORNEY AT LAW
MAINE BAR NO. 710

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

MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Wed Jul 24 2024 11:35:04. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
CEP HOLDINGS LIMITED LIABILITY COMPANY	20214485DC	LIMITED LIABILITY COMPANY	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
11/20/2020	N/A	MAINE

Other Names	(A=Assumed ; F=Former)
NONE	

Principal Home Office Address

Physical	Mailing
75 RUBY LN DURHAM, ME 04222	75 RUBY LN DURHAM, ME 04222

Clerk/Registered Agent

Physical	Mailing
CAMDEN T. MILLER 44 LISBON RD BRUNSWICK, ME 04011	CAMDEN T. MILLER 44 LISBON RD BRUNSWICK, ME 04011

New Search

Click on a link to obtain additional information.

List of Filings	View list of filings	
Obtain additional information:		
Certificate of Existence (Good Standing) (more info)	Short Form without amendments ($30.00)	Long Form with amendments ($30.00)

You will need Adobe Acrobat version 3.0 or higher in order to view PDF files.
If you encounter problems, visit the troubleshooting page.

If you encounter technical difficulties while using these services, please contact the Webmaster. If you are unable to find the information you need through the resources provided on this web site, please contact the Division of Corporations, UCC & Commissions Reporting and Information Section at 207-624-7752 or e-mail.

SECTION 5

TECHNICAL CAPACITY OF THE APPLICANT

Section 5 – Technical Capacity of the Applicant

CEP Holdings, LLC is the developer of the project and intends to operate the facility as a residential apartment complex. CEP Holdings, LLC has successfully developed similar projects in surrounding communities (Portland, Yarmouth, South Portland, and Cumberland)

DM Roma Consulting Engineers has been retained to perform Civil Engineering design and Land Permitting through the Town and State. The Licensed Professional Engineers at DM Roma have been designing land development projects for over 17 years and have extensive experience with Stormwater Management Design, Roadway and Utility engineering, Site grading, Erosion Control design, Engineering of on-site wastewater disposal systems, and regulatory permitting through local municipalities, the Maine Department of Environmental Protection, the Maine Department of Transportation, US Army Corps of Engineers and other affiliated agencies.

Survey, Inc. has been retained to perform Land Surveying services for the project. Bill Shippen is a Licensed Professional Land Surveyor with extensive experience in all aspects of land surveying and subdivision planning.

Mainely Soils LLC was retained to perform soils analysis for septic system suitability and wetland delineation. Alex Finamore is the principal of Mainely Soils LLC, and is a Licensed Site Evaluator and Wetland Scientist.

SECTION 6

SOLID WASTE DISPOSAL

Section 6 – Solid Waste Disposal

The existing project site consists of a previously cleared and filled pad area, as such tree clearing on site required to for the project is associated with grading of fill slopes at the boundary of the project work limits. Stumps and excavated pavement material will be hauled off site by the site contractor and disposed in accordance with all applicable regulations. There are no existing structures to demolish on the property.

During construction of the building, a temporary on-site dumpster will be placed on the property and emptied by a licensed waste hauling company.

Waste generated by the residents of the apartment complex will be stored in an on-site dumpster that will be privately maintained by the property owner. The dumpster will be placed on a concrete pad that will be screened with fencing, as shown on the Civil Design Plans.

We do not anticipate that the project will create any hazardous solid waste that will require special treatment.

SECTION 7

SITE LIGHTING

Section 7 – Site Lighting

The project will include lighting that is mounted to the building to provide illumination of the parking lot areas that run adjacent to the buildings, through the use of entry lighting and supplemented with wall pack lighting. A wall pack specification that is similar to what is expected to be installed has been included for review, and any installed wall pack will be required to have zero uplight distributions

HUBBELL Outdoor Lighting

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO Wall

RWL1/RWL2 LED WALLPACK

FEATURES

- Low profile LED wall luminaire with a variety of IES distributions for lighting applications such as retail, commercial and industrial building mount
- Featuring Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual comfort standard
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, Wiscape and 7-Pin with networked controls
- Battery Backup options available for emergency code compliance
- Quick-mount adapter allows easy installation/maintenance
- 347V and 480V versions for industrial applications and Canada
- Stock versions available in 3500lm and 5500lm configurations at 4000K

C US

BUY AMERICAN SOLUTIONS
See Certification Specifications

RELATED PRODUCTS

Ratio Family | Ratio Area | Ratio Flood

CONTROL TECHNOLOGY

SiteSync LIGHTING CONTROL | NX DISTRIBUTED™ INTELLIGENCE | wiSCAPE™

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating.

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 48 or 160 midpower LEDs
- 3000K, 4000K or 5000K (70 CRI/80 CRI) CCT
- Zero uplight distributions
- LED optics provide IES type II, III and IV distributions. Type II only available in RWL2 configurations.

INSTALLATION

- Quick-mount adapter provides easy installation to wall or to recessed junction boxes (4" square junction box)
- Designed for direct j-box mount.
- Integral back box contains 1/2" conduit hubs
- Integral back box standard with Dual Driver, Dual Power Feed, NX, Wiscape and battery versions (battery versions for RWL1 only)

ELECTRICAL

- 120V-277V universal voltage 50/60Hz 0-10V dimming drivers
- 347V and 480V dimmable driver option for all wattages above 35W.

ELECTRICAL (CONTINUED)

- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than .90 power factor and less than 20% Total Harmonic Distortion
- Driver RoHS and IP66
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dimming drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than 6" standard.

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- Button photocontrol is suitable for 120-277V operation
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor
- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Battery Backup suitable for operating temperatures -25˚C to 40˚C

CONTROLS (CONTINUED)

- Dual Driver and Dual Power Feed options creates product configuration with 2 internal drivers for code compliance
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application.

CERTIFICATIONS

- Listed to UL1598 and CSAC22.2#250.0-24 for wet locations
- IP65 rated housing
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020. See Buy American Solutions

WARRANTY

- 5 year limited warranty
- See HLI Standard Warranty for additional information

KEY DATA	
Lumen Range	1,000–19,500
Wattage Range	10–155
Efficacy Range (LPW)	118–148
Fixture Projected Life (Hours)	L70>60K
Weights lbs. (kg)	6.5/16.5 (2.9/7.5)

PHOTOMETRY | RATIO BROCHURE | RAR1/RAR2 PSG PAGE | INSTALLATION INSTRUCTIONS

HUBBELL Lighting

HUBBELL Outdoor Lighting

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO WALL

RWL1/RWL2 LED WALLPACK

ORDERING GUIDE

Example: RWL1–48L-10–3K7–2–UNV–BLS–E

CATALOG # _____

ORDERING INFORMATION

Series		# LEDs - Wattage		CCT/CRI		Distribution		Voltage		Color	
RWL1	Ratio Wall 1	**48L-10**	1,000 Lumens[4]	**3K7**	3000K, 70 CRI	**2**	IES TYPE II[1]	**UNV**	120-277V	**BLT**	Black Matte Textured
		48L-15	2,000 Lumens[4]	**4K7**	4000K, 70 CRI	**3**	IES TYPE III	**120**	120V	**BLS**	Black Gloss Smooth
		48L-20	2,500 Lumens[4]	**5K7**	5000K, 70 CRI	**4W**	IES TYPE IV	**208**	208V	**DBT**	Dark Bronze Matte Textured
		48L-25	3,500 Lumens[4]					**240**	240V	**DBS**	Dark Bronze Gloss Smooth
		48L-35	4,500 Lumens					**277**	277V	**GTT**	Graphite Matte Textured
		48L-45	5,500 Lumens[4]					**347**	347V	**LGS**	Light Grey Gloss Smooth
RWL2	Ratio Wall 2	**160L-45**	6,500 Lumens					**480**	480V	**LGT**	Light Grey Matte Textured
		160L-50	7,500 Lumens							**PSS**	Platinum Silver Smooth
		160L-65	9,500 Lumens							**WHT**	White Matte Textured
		160L-80	11,000 Lumens							**WHS**	White Gloss Smooth
		160L-95	13,000 Lumens							**VGT**	Verde Green Textured
		160L-115	15,000 Lumens							**Color Option**	
		160L-135	17,500 Lumens							**CC**	Custom Color
		160L-155	19,500 Lumens								

Control Options Network	
NXWE	NX Wireless Enabled (module + radio)[4,7]
NXSPW_F	NX Wireless, PIR Occ. Sensor, Daylight Harvesting[4,5,7]
NXSP_F	NX, PIR Occ. Sensor, Daylight Harvesting[4,5,7]
WIR	Wireless Controls, wiSCAPE™[2,6]
Stand Alone Sensors	
SCP-8F	Remote control programmable line voltage sensor[3,4]
SCP-20F	Remote control programmable line voltage sensor[3,4]
Control Options	
7PR_	7-Pin Receptacle[6]

Options	
F	Fusing (must specify voltage)
E	Emergency Battery Backup[7,8,9]
EH	Emergency Battery w/ Heater Option[7,8,9]
2DR	Dual Driver[4,6]
2PF	Dual Power Feed[4,6]
PC	Button Photocontrol[8]

Notes:
1. Only available with RWL2
2. wiSCAPE Gateway required for system programming
3. Specific voltage selection is required
4. Not available with 480V
5. Replace "_" with "14" for up to 14' mounting height, "40" for up to 40' mounting height
6. This item is located in the integral backbox which will be automatically added onto the fixture if chosen.
7. This item is located in the integral backbox for RWL1 configurations only.
8. Option only available at 120 or 277V
9. Only available with RWL1

STOCK ORDERING INFORMATION

Catalog Number	Lumens	Wattage	LED Count	CCT/CRI	Voltage	Distribution	Finish
RWL1-48L-25-4K-3	3500lm	25	48L	4000K/70CRI	120-277V	Type III	Dark Bronze Textured
RWL1-48L-25-4K-4W	3500lm	25	48L	4000K/70CRI	120-277V	Type IV Wide	Dark Bronze Textured
RWL1-48L-45-4K-3	5500lm	45	48L	4000K/70CRI	120-277V	Type III	Dark Bronze Textured
RWL1-48L-45-4K-4W	5500lm	45	48L	4000K/70CRI	120-277V	Type IV Wide	Dark Bronze Textured

CONTROLS

Control Options	
Standalone	
SCPREMOTE	Order at least one per project location to program and control

ACCESSORIES AND REPLACEMENT PARTS - MADE TO ORDER

	Catalog Number	Description
☐	**WP-BB-XXX**	Accessory for conduit entry[1]

Notes:
1. replace "xxx" with color option

HUBBELL Lighting

HUBBELL Outdoor Lighting

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO WALL

RWL1/RWL2 LED WALLPACK

PERFORMANCE DATA

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
RWL1	10	10.1	3	1362	135	0	0	1	1355	134	0	0	1	1303	129	0	0	1
			4W	1343	133	0	0	1	1336	132	0	0	1	1285	127	0	0	1
	15	14.5	3	1972	136	1	0	1	1962	135	1	0	1	1887	130	1	0	1
			4W	1945	134	0	0	1	1935	133	0	0	1	1861	128	0	0	1
	20	19.9	3	2722	137	1	0	1	2709	136	1	0	1	2605	131	1	0	1
			4W	2685	135	1	0	1	2672	134	1	0	1	2569	129	1	0	1
	25	28.0	3	3749	134	1	0	1	3732	133	1	0	1	3588	128	1	0	1
			4W	3698	132	1	0	1	3680	131	1	0	1	3538	126	1	0	1
	35	36.9	3	4751	129	1	0	2	4728	128	1	0	2	4546	123	1	0	1
			4W	4685	127	1	0	2	4663	126	1	0	2	4483	121	1	0	2
	45	46.5	3	5812	125	1	0	2	5784	124	1	0	2	5562	120	1	0	2
			4W	5731	123	1	0	2	5704	123	1	0	2	5485	118	1	0	2
RWL2	45	46.1	2	6701	145	1	0	2	6668	145	1	0	2	6412	139	1	0	2
			3	6812	148	1	0	2	6780	147	1	0	2	6519	141	1	0	2
			4W	6678	145	1	0	2	6646	144	1	0	2	6390	139	1	0	2
	50	54.0	2	7747	143	1	0	2	7710	143	1	0	2	7413	137	1	0	2
			3	7876	146	1	0	2	7838	145	1	0	2	7537	140	1	0	2
			4W	7720	143	1	0	2	7683	142	1	0	2	7388	137	1	0	2
	65	67.2	2	9539	142	1	0	2	9494	141	1	0	2	9129	136	1	0	2
			3	9699	144	2	0	2	9652	144	2	0	2	9281	138	2	0	2
			4W	9507	141	2	0	2	9461	141	2	0	2	9097	135	2	0	2
	80	80.8	2	11228	139	2	0	2	11174	138	2	0	2	10745	133	2	0	2
			3	11416	141	2	0	2	11361	141	2	0	2	10924	135	2	0	2
			4W	11190	138	2	0	2	11136	138	2	0	2	10708	133	2	0	2
	95	93.2	2	13148	141	2	0	2	13085	140	2	0	2	12582	135	2	0	2
			3	13368	143	2	0	2	13304	143	2	0	2	12792	137	2	0	2
			4W	13103	141	2	0	2	13040	140	2	0	2	12539	135	2	0	2
	115	109.8	2	15102	138	2	0	3	15030	137	2	0	3	14452	132	2	0	3
			3	15354	140	2	0	3	15281	139	2	0	3	14693	134	2	0	3
			4W	15050	137	2	0	3	14978	136	2	0	3	14402	131	2	0	3
	135	137.1	2	17533	128	2	0	3	17449	127	2	0	3	16778	122	2	0	3
			3	17826	130	2	0	3	17740	129	2	0	3	17058	124	2	0	3
			4W	17473	127	2	0	3	17389	127	2	0	3	16720	122	2	0	3
	155	156.8	2	19495	124	2	0	3	19402	124	2	0	3	18656	119	2	0	3
			3	19821	126	2	0	3	19726	126	2	0	3	18967	121	2	0	3
			4W	19542	125	2	0	3	19448	124	2	0	3	18700	119	2	0	3

HUBBELL Lighting

HUBBELL Outdoor Lighting

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RATIO WALL

RWL1/RWL2 LED WALLPACK

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	TM-21-11 L90 36,000	50,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

ELECTRICAL DATA

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RWL1	10	120	0.08	10.1
		208	0.05	
		240	0.04	
		277	0.04	
		347	0.03	
		480	0.02	
	15	120	0.12	14.5
		208	0.07	
		240	0.06	
		277	0.05	
		347	0.04	
		480	0.03	
	20	120	0.17	19.9
		208	0.10	
		240	0.08	
		277	0.07	
		347	0.06	
		480	0.04	
	25	120	0.23	28.0
		208	0.13	
		240	0.12	
		277	0.10	
		347	0.08	
		480	0.06	
	35	120	0.31	36.9
		208	0.18	
		240	0.15	
		277	0.13	
		347	0.11	
		480	0.08	
	45	120	0.39	46.5
		208	0.22	
		240	0.19	
		277	0.17	
		347	0.13	
		480	0.10	

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RWL2	45	120	0.38	46.1
		208	0.22	
		240	0.19	
		277	0.17	
		347	0.13	
		480	0.10	
	50	120	0.45	54.0
		208	0.26	
		240	0.23	
		277	0.19	
		347	0.16	
		480	0.11	
	65	120	0.56	67.2
		208	0.32	
		240	0.28	
		277	0.24	
		347	0.19	
		480	0.14	
	80	120	0.67	80.8
		208	0.39	
		240	0.34	
		277	0.29	
		347	0.23	
		480	0.17	
	95	120	0.78	93.2
		208	0.45	
		240	0.39	
		277	0.34	
		347	0.27	
		480	0.19	
	115	120	0.92	109.8
		208	0.53	
		240	0.46	
		277	0.40	
		347	0.32	
		480	0.23	
	135	120	1.14	137.1
		208	0.66	
		240	0.57	
		277	0.49	
		347	0.40	
		480	0.29	
	155	120	1.31	156.8
		208	0.75	
		240	0.65	
		277	0.57	
		347	0.45	
		480	0.33	

701 Millennium Blvd • Greenville, SC 29607 / Tel 864.678.1000 / Website www.hubbelloutdoor.com

HUBBELL Lighting

HUBBELL Outdoor Lighting

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

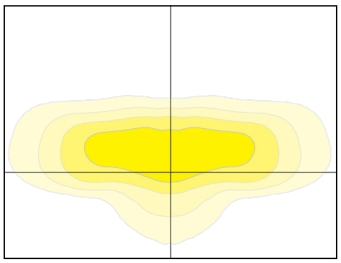
RATIO WALL

RWL1/RWL2 LED WALLPACK

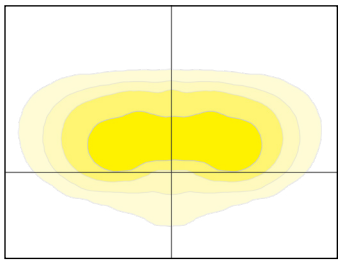
PHOTOMETRY

Mounting Height: 30ft

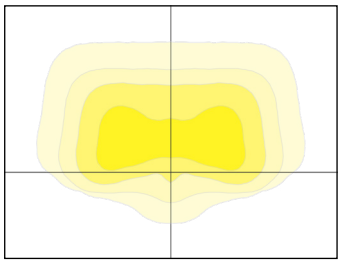
Type II



Type III

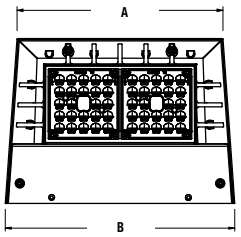


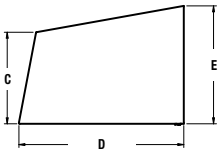
Type VI



DIMENSIONS

RWL1

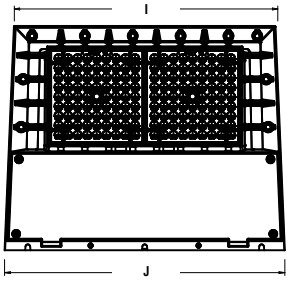


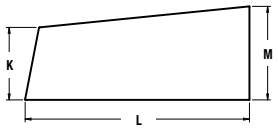


A	B	C	D	E
8.7"	9.7"	3.9"	7.0"	5.0"
221mm	246mm	99mm	178mm	127mm

Weight
6.5 lbs (2.95 kgs)

RWL2

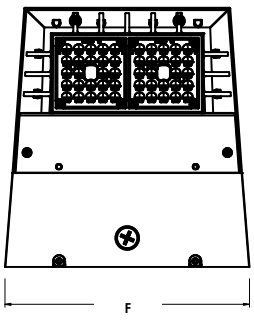


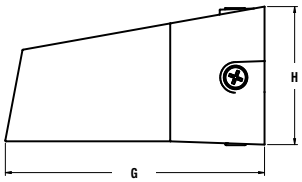


I	J	K	L	M
14.0"	15.0"	3.9"	12.0"	5.0"
356mm	381mm	99mm	305mm	127mm

Weight
16.5 lbs (7.48 kgs)

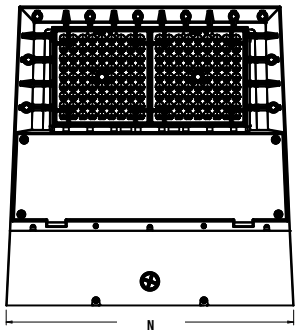
RWL1 with Integral Back Box

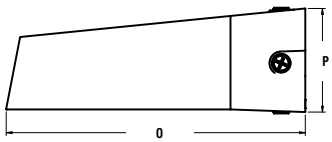




F	G	H
10.4"	11.0"	5.9"
264mm	279mm	150mm

RWL2 with Integral Back Box





N	O	P
15.4"	16.0"	5.5"
391mm	406mm	140mm

HUBBELL Lighting

DATE: LOCATION:

TYPE: PROJECT:

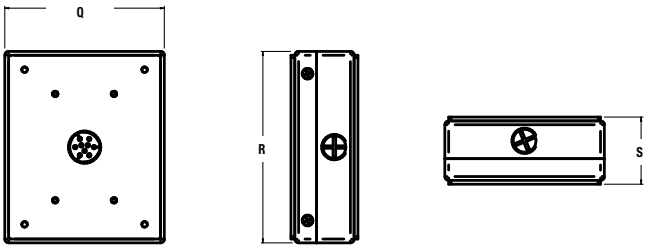
CATALOG #:

RATIO WALL

RWL1/RWL2 LED WALLPACK

DIMENSIONS (CONTINUED)

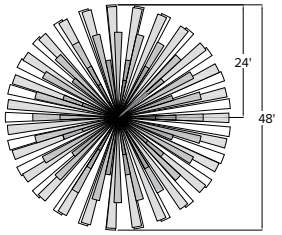
Back Box Accessory

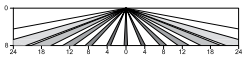


Q	R	S
4.9" 124mm	5.9" 150mm	2.1" 53mm

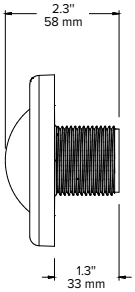
ADDITIONAL INFORMATION

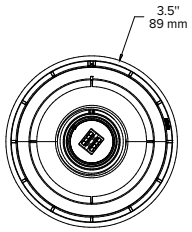
NXSP-14F



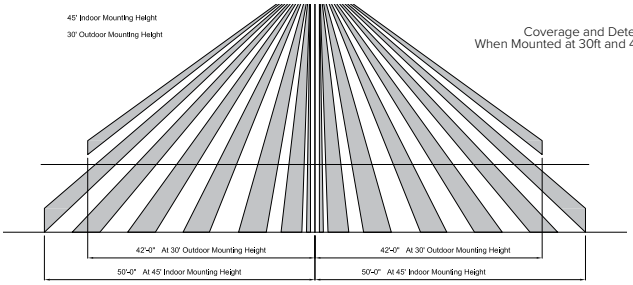


Sensor Lens Coverage and Detection Patterns
When Mounted at 8ft with Low Mount Lens

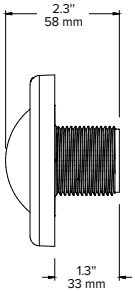


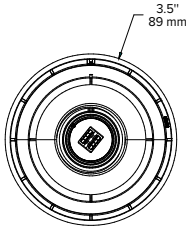


NXSP-40F

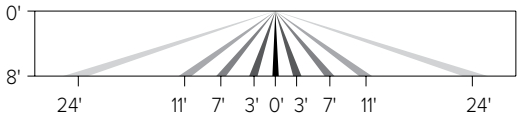


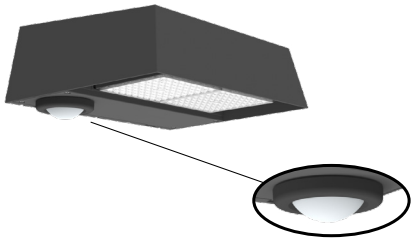
Coverage and Detection Patterns
When Mounted at 30ft and 45ft with Standard Lens

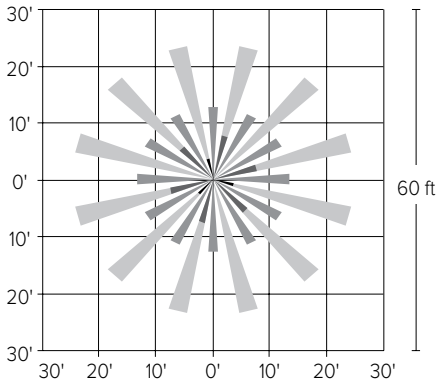


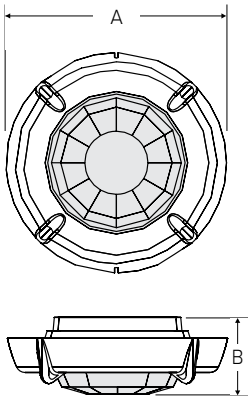


SCP-8F







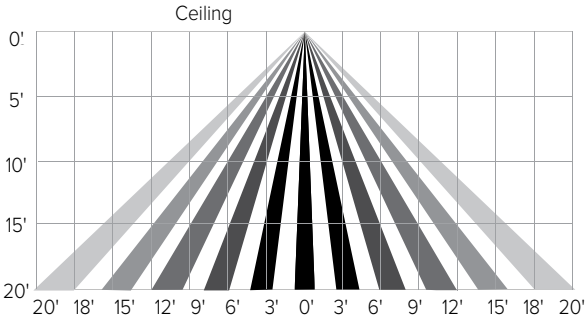


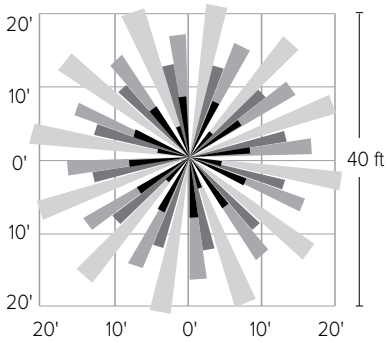
A	B
2.3" (59mm)	.8" (20mm)

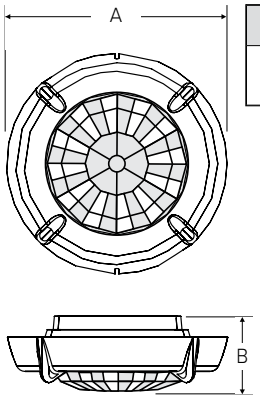
RATIO WALL

RWL1/RWL2 LED WALLPACK

SCP-20F

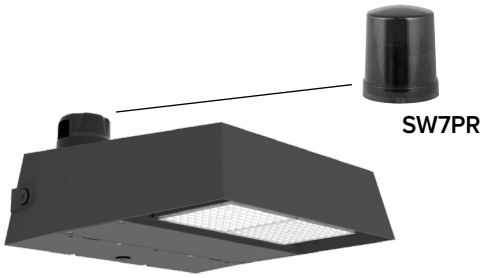






A	B
2.3" (59mm)	.8" (20mm)

SITESYNC 7-PIN MODULE



SW7PR

SiteSync™ LIGHTING CONTROL

- SiteSync features in a new form
- Available as an accessory for new construction or retrofit applications (with existing 7-Pin receptacle)

SECTION 8

VEHICLE TRAFFIC

Section 8 – Vehicle Traffic

Site Trip Generation:
Daily and peak hour trip generation was determined for the proposed project based upon trip tables presented in the tenth edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook. The ITE publication provides numerous land use categories and the average volume of trips generated by each category.

Site trip estimates for the 1315 Minot Avenue Residential Apartments Project; are based upon LUC #220 – Multifamily Housing (Low-Rise); which is described in the ITE publication as: multi-family housing including apartments, townhouses, and/or condominiums located within the same building with at least three other dwelling units and that have between two or three levels.

Calculation of the total number of trips generated per each corresponding time period are summarized below:

Time Period	# of Units	Trip Generation Rate	Trips Generation	Trip Distribution
Weekday	24	6.74	162	81 enter / 81 exit
AM Weekday	24	0.47	12	3 enter / 9 exit
PM Weekday	24	0.57	14	9 enter / 5 exit
Saturday	24	4.55	110	55 enter / 55 exit
Sat. Peak HR	24	0.41	10	5 enter / 5 exit

SECTION 9

STORMWATER MANAGEMENT

DM ROMA
CONSULTING ENGINEERS

STORMWATER MANAGEMENT REPORT

1315 MINOT AVENUE RESIDENTIAL APARTMENTS
1315 MINOT AVENUE
AUBURN, MAINE

A. Narrative

CEP Holdings, LLC., the applicant, is proposing to develop a 11.8-acre parcel property located at 1315 Minot Avenue, in Auburn, Maine. The project site is identified as Lot 12 on the City of Auburn Assessor's Map 205 and is located in the Minot Avenue – General Business (GB2) Zoning District. The property will be accessed from Minot Avenue, via two driveway entrance/exits; one in the location of an existing curb opening and gravel driveway, and one new proposed curb opening.

The development will include the construction of four (4) 2-story multi-family residential buildings that will each contain 6 residential units for a total of 24 residential dwelling units, and two additional single story self-storage buildings. The project proposes to provide and extend public water and sewer utility services to the site, requiring coordination and approval from the Auburn Water and Sewer Districts. The project will include paved parking for 47 vehicles.

In general, the project site predominantly drains initially to the north into a wetland complex, that drains in a west to east direction. Once offsite, the sub-basin watershed associated with the project site continues to drain overland in a westerly direction, crossing under Garfield Road near Garfield Road Park and continuing westerly crossing Hotel Road, and ultimately into to an unmamed stream tributary to Talyor Brook. Taylor Brook then drains to Little Androscoggin River, which discharges into the Androscoggin River.

B. Alterations to Land Cover

Based on the proposed design, upon completion the site will consist of approximately 43,047 square feet (0.99± acres) of impervious surface consisting of the proposed buildings, driveway & parking pavement, sidewalks and dumpster pad and approximately 39,516 square feet (0.91± acres) of landscaped area associated with lawn and landscaping, totaling approximately 82,563 square feet (1.90± acres) of developed area.

As the project is not located in a direct watershed of a lake most-at-risk from new development and proposes the creation of less than 1 acre of impervious area (0.99± acres as proposed), and a total developed project area less than 20 acres (1.90± acres) the proposed development must meet the Basic Standards as indicated in the Chapter 500 Stormwater Management regulations.

The site is generally moderately sloped (2-8%) in the area where the development will occur. Soils on the property were determined utilizing the Medium Intensity Soil Maps for Cumberland County, Maine published by the Natural Resources Conservation Service. The soils boundaries and hydrologic soils group (HSG) designations are indicated on the Soils Map which has been included as Section 10 of the Site & Subdivision Plan application.

C. Methodology and Modeling Assumptions

The proposed stormwater management system has been designed utilizing Best Management Practices to maintain existing drainage patterns while providing stormwater quality improvement measures. The goal of the storm drainage system design is to remove potential stormwater pollutants from runoff generated by the development while providing attenuation of the peak rates of runoff leaving the site. The method utilized to predict the surface water runoff rates in this analysis is a computer program entitled HydroCAD, which is based on the same methods that were originally developed by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service, and utilized in the TR-20 modeling program. Peak rates of runoff are forecasted based upon land use, hydrologic soil conditions, vegetative cover, contributing watershed area, time of concentration, rainfall data, storage volumes of detention basins and the hydraulic capacity of structures. The computer model predicts the amount of runoff as a function of time, with the ability to include the attenuation effect due to dams, lakes, large wetlands, floodplains and constructed stormwater management basins. The input data for rainfalls with statistical recurrence frequencies of 2-, 10- and 25 years was obtained from Appendix H of the MDEP, Chapter 500 Stormwater Management, last revised in 2015. The National Weather Service developed four synthetic storm types to simulate rainfall patterns around the country. For analysis in Cumberland County, Maine, the type III rainfall pattern with a 24-hour duration is appropriate.

D. Basic Standards

The project is required by the City of Auburn and the MDEP to provide permanent and temporary Erosion Control Best Management Practices. These methods are outlined in detail in the plan set.

E. Flooding Analysis

As a requirement of the City of Auburn, the project has been designed to maintain pre-development drainage conditions during the 24-hour, 2-, 10- and 25-year frequency storm events. The project's stormwater design incorporates the integration of a stormwater collection system consisting of catch basins, storm drains and a driveway culvert to safely capture and convey stormwater from the site. The one study point shown on the Stormwater Map was analyzed to demonstrate the site design's compliance with the City's standard.

To demonstrate compliance with the Flooding Standard, one (1) study point was analyzed.

The first study point (SP-1) is located at the northeasterly corner of the project site along the easterly extent of the sub-basin watershed limits and represents the tributary area ultimately captured and conveyed in the wetland system, before crossing the existing CMP utility corridor.

The results of the analysis are summarized in Table 1 below:

Table 1 – Peak Rates of Stormwater Runoff

Study Point	2-Year (cfs)		10-Year (cfs)		25-Year (cfs)	
	Pre	Post	Pre	Post	Pre	Post
SP-1	30.98	31.03	62.61	62.44	91.87	91.53

As a result of the proposed project design and the hydraulic characteristics of the wetland complex that the project discharges to the stormwater model indicates the project's design produces a minor change to the existing pre-developed stormwater flow patterns and volume in all storm events. As illustrated in Table 1 on the previous page the project will result in a 0.05 cfs (0.16%) increase at SP1 in the 2-year 24-hour storm event, and minor reduction in peak flows in the 10-year and 25-year 24-hour storm events (decrease of 0.27 cfs and 0.34 cfs respectively).

The watershed maps showing post-development drainage patterns are included in the plan set. The post-development drainage computations performed with the HydroCAD software program are included as Attachment 2 of this report.

F. Maintenance of common facilities or property

The applicant will be responsible for the maintenance of the stormwater facilities until a homeowner's association is created. An Inspection, Maintenance and Housekeeping Plan for the project has been created and has been included in as Attachment 3 of this report.

Prepared by:

DM ROMA CONSULTING ENGINEERS

J.P. Connolly	Dustin M. Roma, P.E.	8-7-2024
Senior Project Engineer	President	

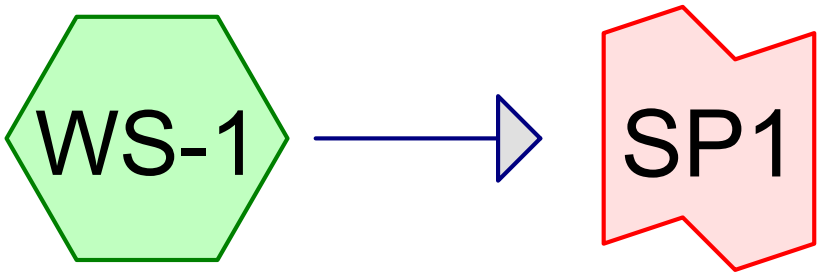
ATTACHMENT 1

SOILS MAP

(INCLUDED IN SITE & SUBDIVISION PLAN APPLICATION SECTION 10 “SOILS INFORMATION”)

ATTACHMENT 2

HYDROCAD OUTPUT



Subcat Reach Pond Link

Routing Diagram for 21015 - PRE
Prepared by {enter your company name here}, Printed 7/26/2024

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 WS-1: Runoff Area=2,010,787 sf 2.24% Impervious Runoff Depth=1.02"
Flow Length=2,435' Tc=26.9 min CN=76 Runoff=30.98 cfs 170,085 cf

Link SP1: Inflow=30.98 cfs 170,085 cf
Primary=30.98 cfs 170,085 cf

Total Runoff Area = 2,010,787 sf Runoff Volume = 170,085 cf Average Runoff Depth = 1.02"
97.76% Pervious = 1,965,769 sf 2.24% Impervious = 45,018 sf

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 WS-1: Runoff Area=2,010,787 sf 2.24% Impervious Runoff Depth=1.97"
Flow Length=2,435' Tc=26.9 min CN=76 Runoff=62.61 cfs 330,337 cf

Link SP1: Inflow=62.61 cfs 330,337 cf
Primary=62.61 cfs 330,337 cf

Total Runoff Area = 2,010,787 sf Runoff Volume = 330,337 cf Average Runoff Depth = 1.97"
97.76% Pervious = 1,965,769 sf 2.24% Impervious = 45,018 sf

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 WS-1: Runoff Area=2,010,787 sf 2.24% Impervious Runoff Depth=2.87"
Flow Length=2,435' Tc=26.9 min CN=76 Runoff=91.87 cfs 480,687 cf

Link SP1: Inflow=91.87 cfs 480,687 cf
Primary=91.87 cfs 480,687 cf

Total Runoff Area = 2,010,787 sf Runoff Volume = 480,687 cf Average Runoff Depth = 2.87"
97.76% Pervious = 1,965,769 sf 2.24% Impervious = 45,018 sf

Summary for Subcatchment WS-1:

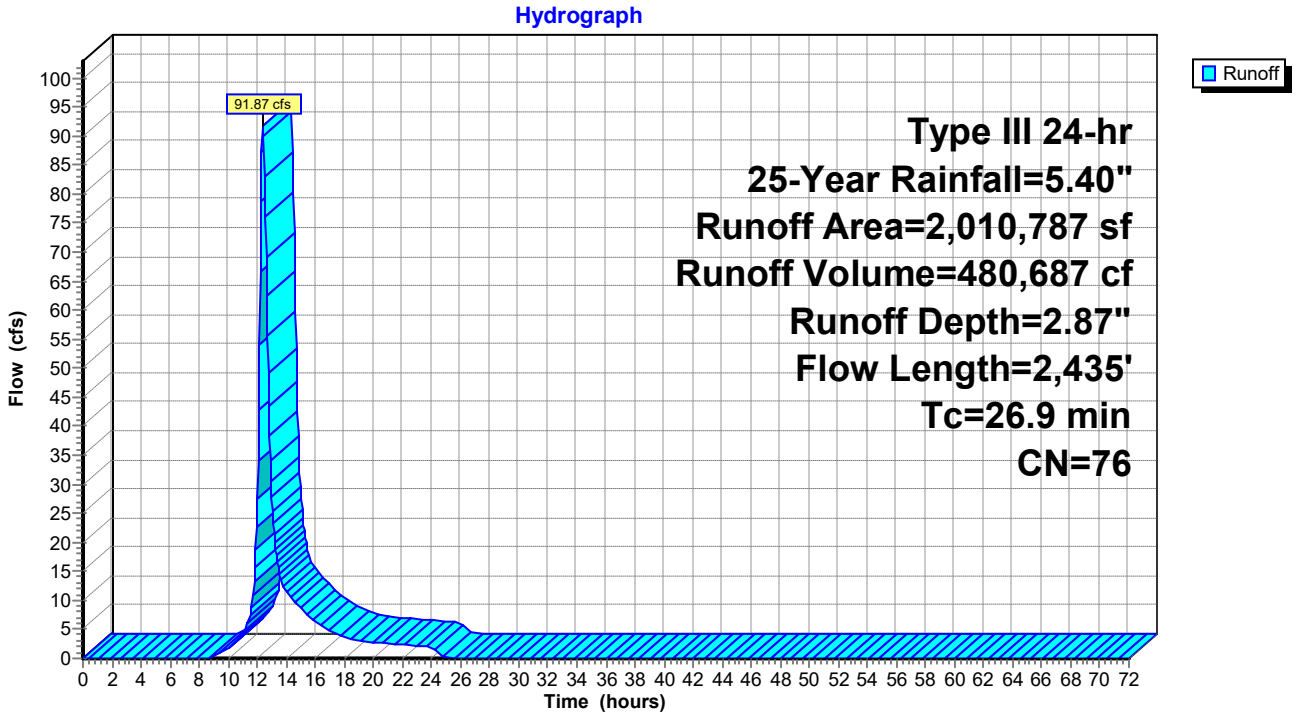
Runoff = 91.87 cfs @ 12.38 hrs, Volume= 480,687 cf, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.40"

	Area (sf)	CN	Description
*	7,877	98	Existing Buildings
*	37,141	98	Existing Paved Surfaces
*	17,357	96	Existing Gravel Surface
	60,174	39	>75% Grass cover, Good, HSG A
	98,778	74	>75% Grass cover, Good, HSG C
	299,489	80	>75% Grass cover, Good, HSG D
	8,164	30	Woods, Good, HSG A
	191,125	70	Woods, Good, HSG C
	1,290,682	77	Woods, Good, HSG D
	2,010,787	76	Weighted Average
	1,965,769		97.76% Pervious Area
	45,018		2.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0800	0.14		**Sheet Flow, Seg A to B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	144	0.0626	6.60	361.89	**Channel Flow, Seg B to C** Area= 54.8 sf Perim= 111.8' r= 0.49' n= 0.035 Earth, dense weeds
1.1	609	0.1117	8.86	418.99	**Channel Flow, Seg C to D** Area= 47.3 sf Perim= 95.9' r= 0.49' n= 0.035 Earth, dense weeds
7.8	1,532	0.0059	3.26	1,093.48	**Channel Flow, Seg D to E** Area= 335.3 sf Perim= 335.3' r= 1.00' n= 0.035 Earth, dense weeds
26.9	2,435	Total			

Subcatchment WS-1:

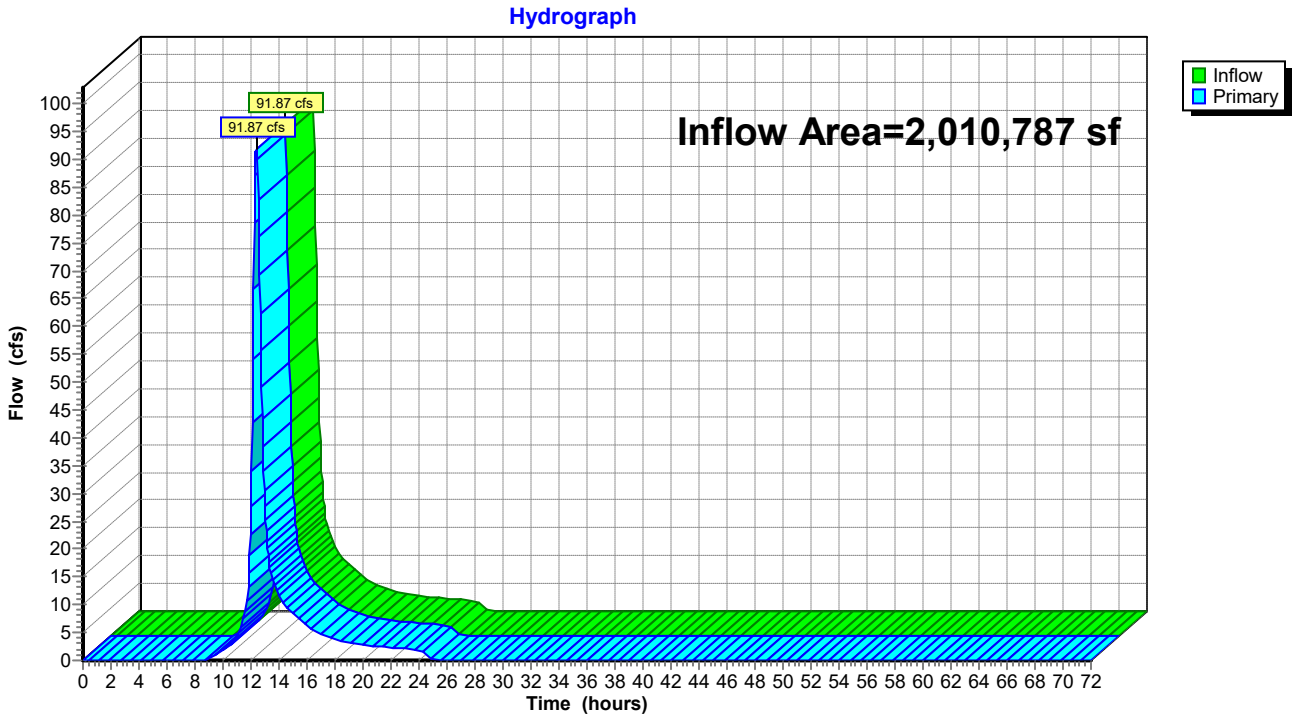


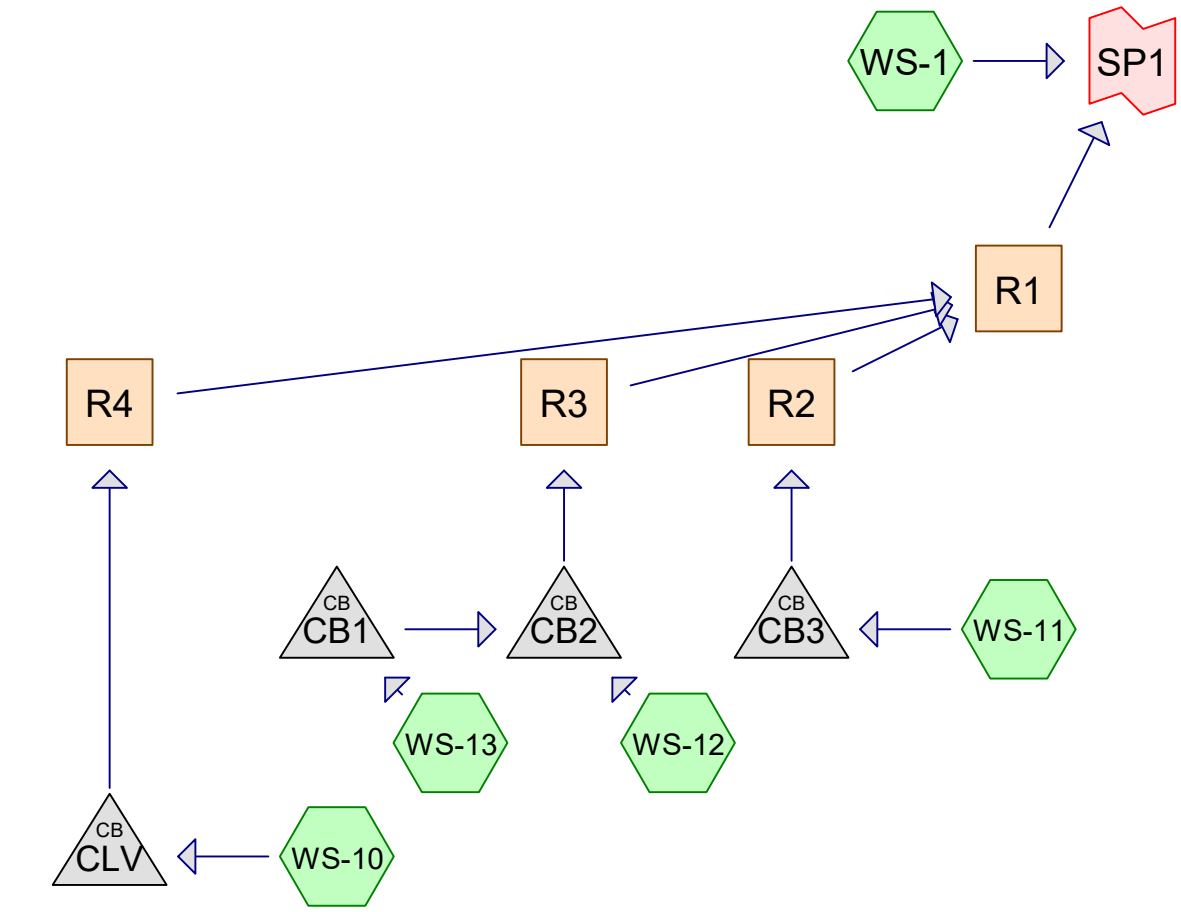
Summary for Link SP1:

Inflow Area = 2,010,787 sf, 2.24% Impervious, Inflow Depth = 2.87" for 25-Year event
Inflow = 91.87 cfs @ 12.38 hrs, Volume= 480,687 cf
Primary = 91.87 cfs @ 12.38 hrs, Volume= 480,687 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link SP1:





driveway culvert

Subcat Reach Pond Link

Routing Diagram for 21015 - POST

Prepared by {enter your company name here}, Printed 7/26/2024

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 WS-1: Runoff Area=1,962,522 sf 3.17% Impervious Runoff Depth=1.02"
Flow Length=2,435' Tc=26.9 min CN=76 Runoff=30.23 cfs 166,003 cf

Subcatchment WS-10: Runoff Area=25,537 sf 39.90% Impervious Runoff Depth=0.58"
Flow Length=345' Tc=20.1 min CN=67 Runoff=0.21 cfs 1,245 cf

Subcatchment WS-11: Runoff Area=8,088 sf 86.13% Impervious Runoff Depth=2.16"
Tc=6.0 min CN=92 Runoff=0.45 cfs 1,457 cf

Subcatchment WS-12: Runoff Area=8,352 sf 94.04% Impervious Runoff Depth=2.66"
Tc=6.0 min CN=97 Runoff=0.54 cfs 1,850 cf

Subcatchment WS-13: Runoff Area=6,288 sf 95.12% Impervious Runoff Depth=2.66"
Tc=6.0 min CN=97 Runoff=0.40 cfs 1,393 cf

Reach R1: Avg. Flow Depth=0.14' Max Vel=0.43 fps Inflow=1.11 cfs 5,945 cf
n=0.035 L=337.0' S=0.0036 '/' Capacity=981.15 cfs Outflow=0.84 cfs 5,945 cf

Reach R2: Avg. Flow Depth=0.05' Max Vel=0.63 fps Inflow=0.45 cfs 1,457 cf
n=0.035 L=196.1' S=0.0265 '/' Capacity=900.29 cfs Outflow=0.38 cfs 1,457 cf

Reach R3: Avg. Flow Depth=0.07' Max Vel=0.61 fps Inflow=0.94 cfs 3,243 cf
n=0.035 L=315.0' S=0.0165 '/' Capacity=710.34 cfs Outflow=0.72 cfs 3,243 cf

Reach R4: Avg. Flow Depth=0.05' Max Vel=0.40 fps Inflow=0.21 cfs 1,245 cf
n=0.035 L=769.5' S=0.0107 '/' Capacity=1,885.87 cfs Outflow=0.12 cfs 1,245 cf

Pond CB1: Peak Elev=265.83' Inflow=0.40 cfs 1,393 cf
15.0" Round Culvert n=0.013 L=92.6' S=0.0100 '/' Outflow=0.40 cfs 1,393 cf

Pond CB2: Peak Elev=264.99' Inflow=0.94 cfs 3,243 cf
15.0" Round Culvert n=0.013 L=60.5' S=0.0739 '/' Outflow=0.94 cfs 3,243 cf

Pond CB3: Peak Elev=266.35' Inflow=0.45 cfs 1,457 cf
15.0" Round Culvert n=0.013 L=60.5' S=0.0992 '/' Outflow=0.45 cfs 1,457 cf

Pond CLV: driveway culvert Peak Elev=263.74' Inflow=0.21 cfs 1,245 cf
15.0" Round Culvert n=0.013 L=55.5' S=0.0090 '/' Outflow=0.21 cfs 1,245 cf

Link SP1: Inflow=31.03 cfs 171,947 cf
Primary=31.03 cfs 171,947 cf

Total Runoff Area = 2,010,787 sf Runoff Volume = 171,947 cf Average Runoff Depth = 1.03"
95.36% Pervious = 1,917,585 sf 4.64% Impervious = 93,202 sf

Summary for Subcatchment WS-1:

Runoff = 30.23 cfs @ 12.41 hrs, Volume= 166,003 cf, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

	Area (sf)	CN	Description
*	7,877	98	Existing Buildings
*	8,880	98	Proposed Buildings
*	37,141	98	Existing Paved Surfaces
*	8,314	98	Proposed Paved Surfaces
*	15,809	96	Existing Gravel Surface
	60,174	39	>75% Grass cover, Good, HSG A
	34,867	74	>75% Grass cover, Good, HSG C
	299,489	80	>75% Grass cover, Good, HSG D
	8,164	30	Woods, Good, HSG A
	191,125	70	Woods, Good, HSG C
	1,290,682	77	Woods, Good, HSG D
	1,962,522	76	Weighted Average
	1,900,310		96.83% Pervious Area
	62,212		3.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0800	0.14		**Sheet Flow, Seg A to B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	144	0.0626	6.60	361.89	**Channel Flow, Seg B to C** Area= 54.8 sf Perim= 111.8' r= 0.49' n= 0.035 Earth, dense weeds
1.1	609	0.1117	8.86	418.99	**Channel Flow, Seg C to D** Area= 47.3 sf Perim= 95.9' r= 0.49' n= 0.035 Earth, dense weeds
7.8	1,532	0.0059	3.26	1,093.48	**Channel Flow, Seg D to E** Area= 335.3 sf Perim= 335.3' r= 1.00' n= 0.035 Earth, dense weeds
26.9	2,435	Total			

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 WS-1: Runoff Area=1,962,522 sf 3.17% Impervious Runoff Depth=1.97"
Flow Length=2,435' Tc=26.9 min CN=76 Runoff=61.11 cfs 322,408 cf

Subcatchment WS-10: Runoff Area=25,537 sf 39.90% Impervious Runoff Depth=1.33"
Flow Length=345' Tc=20.1 min CN=67 Runoff=0.57 cfs 2,838 cf

Subcatchment WS-11: Runoff Area=8,088 sf 86.13% Impervious Runoff Depth=3.41"
Tc=6.0 min CN=92 Runoff=0.70 cfs 2,297 cf

Subcatchment WS-12: Runoff Area=8,352 sf 94.04% Impervious Runoff Depth=3.95"
Tc=6.0 min CN=97 Runoff=0.78 cfs 2,749 cf

Subcatchment WS-13: Runoff Area=6,288 sf 95.12% Impervious Runoff Depth=3.95"
Tc=6.0 min CN=97 Runoff=0.59 cfs 2,070 cf

Reach R1: Avg. Flow Depth=0.17' Max Vel=0.49 fps Inflow=1.76 cfs 9,954 cf
n=0.035 L=337.0' S=0.0036 '/' Capacity=981.15 cfs Outflow=1.39 cfs 9,954 cf

Reach R2: Avg. Flow Depth=0.06' Max Vel=0.70 fps Inflow=0.70 cfs 2,297 cf
n=0.035 L=196.1' S=0.0265 '/' Capacity=900.29 cfs Outflow=0.60 cfs 2,297 cf

Reach R3: Avg. Flow Depth=0.09' Max Vel=0.68 fps Inflow=1.37 cfs 4,819 cf
n=0.035 L=315.0' S=0.0165 '/' Capacity=710.34 cfs Outflow=1.07 cfs 4,819 cf

Reach R4: Avg. Flow Depth=0.08' Max Vel=0.52 fps Inflow=0.57 cfs 2,838 cf
n=0.035 L=769.5' S=0.0107 '/' Capacity=1,885.87 cfs Outflow=0.37 cfs 2,838 cf

Pond CB1: Peak Elev=265.90' Inflow=0.59 cfs 2,070 cf
15.0" Round Culvert n=0.013 L=92.6' S=0.0100 '/' Outflow=0.59 cfs 2,070 cf

Pond CB2: Peak Elev=265.11' Inflow=1.37 cfs 4,819 cf
15.0" Round Culvert n=0.013 L=60.5' S=0.0739 '/' Outflow=1.37 cfs 4,819 cf

Pond CB3: Peak Elev=266.44' Inflow=0.70 cfs 2,297 cf
15.0" Round Culvert n=0.013 L=60.5' S=0.0992 '/' Outflow=0.70 cfs 2,297 cf

Pond CLV: driveway culvert Peak Elev=263.90' Inflow=0.57 cfs 2,838 cf
15.0" Round Culvert n=0.013 L=55.5' S=0.0090 '/' Outflow=0.57 cfs 2,838 cf

Link SP1: Inflow=62.44 cfs 332,361 cf
Primary=62.44 cfs 332,361 cf

Total Runoff Area = 2,010,787 sf Runoff Volume = 332,361 cf Average Runoff Depth = 1.98"
95.36% Pervious = 1,917,585 sf 4.64% Impervious = 93,202 sf

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 WS-1: Runoff Area=1,962,522 sf 3.17% Impervious Runoff Depth=2.87"
Flow Length=2,435' Tc=26.9 min CN=76 Runoff=89.67 cfs 469,149 cf

Subcatchment WS-10: Runoff Area=25,537 sf 39.90% Impervious Runoff Depth=2.09"
Flow Length=345' Tc=20.1 min CN=67 Runoff=0.93 cfs 4,441 cf

Subcatchment WS-11: Runoff Area=8,088 sf 86.13% Impervious Runoff Depth=4.48"
Tc=6.0 min CN=92 Runoff=0.90 cfs 3,020 cf

Subcatchment WS-12: Runoff Area=8,352 sf 94.04% Impervious Runoff Depth=5.05"
Tc=6.0 min CN=97 Runoff=0.98 cfs 3,512 cf

Subcatchment WS-13: Runoff Area=6,288 sf 95.12% Impervious Runoff Depth=5.05"
Tc=6.0 min CN=97 Runoff=0.74 cfs 2,644 cf

Reach R1: Avg. Flow Depth=0.19' Max Vel=0.53 fps Inflow=2.37 cfs 13,617 cf
n=0.035 L=337.0' S=0.0036 '/' Capacity=981.15 cfs Outflow=1.92 cfs 13,617 cf

Reach R2: Avg. Flow Depth=0.07' Max Vel=0.75 fps Inflow=0.90 cfs 3,020 cf
n=0.035 L=196.1' S=0.0265 '/' Capacity=900.29 cfs Outflow=0.79 cfs 3,020 cf

Reach R3: Avg. Flow Depth=0.10' Max Vel=0.72 fps Inflow=1.72 cfs 6,156 cf
n=0.035 L=315.0' S=0.0165 '/' Capacity=710.34 cfs Outflow=1.37 cfs 6,156 cf

Reach R4: Avg. Flow Depth=0.10' Max Vel=0.59 fps Inflow=0.93 cfs 4,441 cf
n=0.035 L=769.5' S=0.0107 '/' Capacity=1,885.87 cfs Outflow=0.64 cfs 4,441 cf

Pond CB1: Peak Elev=265.96' Inflow=0.74 cfs 2,644 cf
15.0" Round Culvert n=0.013 L=92.6' S=0.0100 '/' Outflow=0.74 cfs 2,644 cf

Pond CB2: Peak Elev=265.20' Inflow=1.72 cfs 6,156 cf
15.0" Round Culvert n=0.013 L=60.5' S=0.0739 '/' Outflow=1.72 cfs 6,156 cf

Pond CB3: Peak Elev=266.51' Inflow=0.90 cfs 3,020 cf
15.0" Round Culvert n=0.013 L=60.5' S=0.0992 '/' Outflow=0.90 cfs 3,020 cf

Pond CLV: driveway culvert Peak Elev=264.02' Inflow=0.93 cfs 4,441 cf
15.0" Round Culvert n=0.013 L=55.5' S=0.0090 '/' Outflow=0.93 cfs 4,441 cf

Link SP1: Inflow=91.53 cfs 482,766 cf
Primary=91.53 cfs 482,766 cf

Total Runoff Area = 2,010,787 sf Runoff Volume = 482,766 cf Average Runoff Depth = 2.88"
95.36% Pervious = 1,917,585 sf 4.64% Impervious = 93,202 sf

Summary for Subcatchment WS-1:

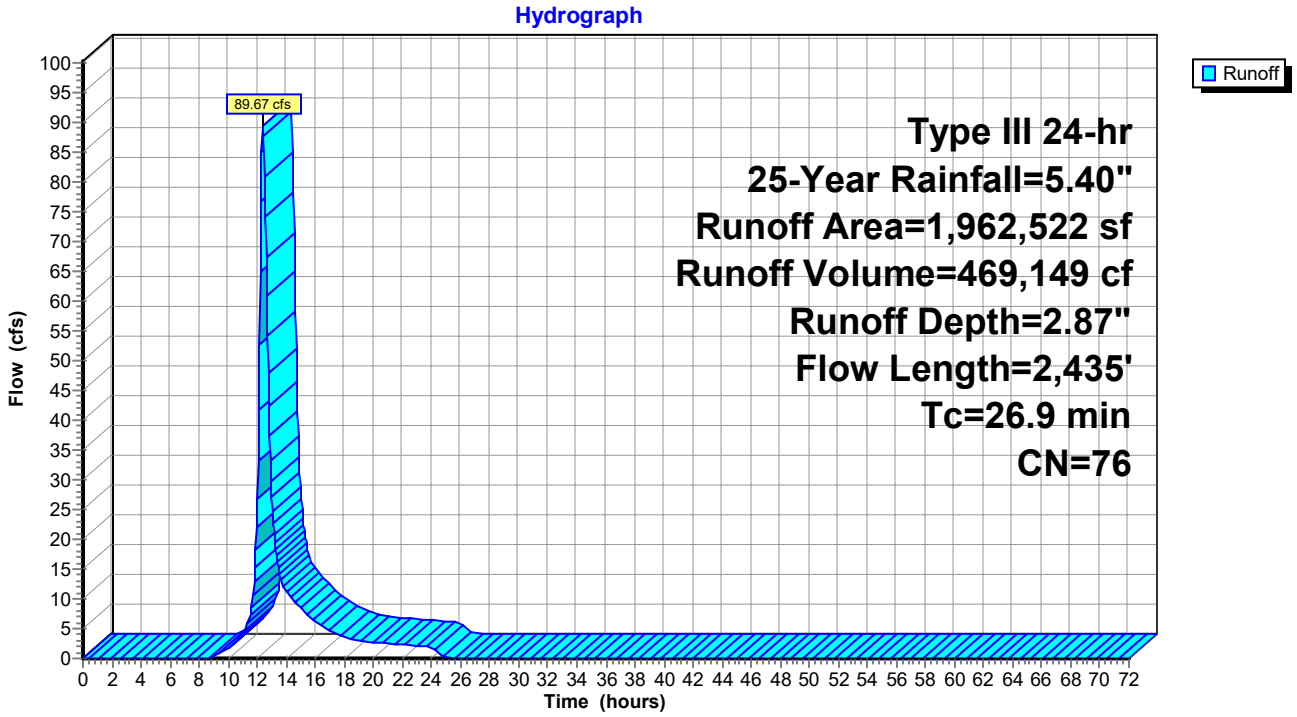
Runoff = 89.67 cfs @ 12.38 hrs, Volume= 469,149 cf, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.40"

	Area (sf)	CN	Description
*	7,877	98	Existing Buildings
*	8,880	98	Proposed Buildings
*	37,141	98	Existing Paved Surfaces
*	8,314	98	Proposed Paved Surfaces
*	15,809	96	Existing Gravel Surface
	60,174	39	>75% Grass cover, Good, HSG A
	34,867	74	>75% Grass cover, Good, HSG C
	299,489	80	>75% Grass cover, Good, HSG D
	8,164	30	Woods, Good, HSG A
	191,125	70	Woods, Good, HSG C
	1,290,682	77	Woods, Good, HSG D
	1,962,522	76	Weighted Average
	1,900,310		96.83% Pervious Area
	62,212		3.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	150	0.0800	0.14		**Sheet Flow, Seg A to B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.4	144	0.0626	6.60	361.89	**Channel Flow, Seg B to C** Area= 54.8 sf Perim= 111.8' r= 0.49' n= 0.035 Earth, dense weeds
1.1	609	0.1117	8.86	418.99	**Channel Flow, Seg C to D** Area= 47.3 sf Perim= 95.9' r= 0.49' n= 0.035 Earth, dense weeds
7.8	1,532	0.0059	3.26	1,093.48	**Channel Flow, Seg D to E** Area= 335.3 sf Perim= 335.3' r= 1.00' n= 0.035 Earth, dense weeds
26.9	2,435	Total			

Subcatchment WS-1:



Summary for Subcatchment WS-10:

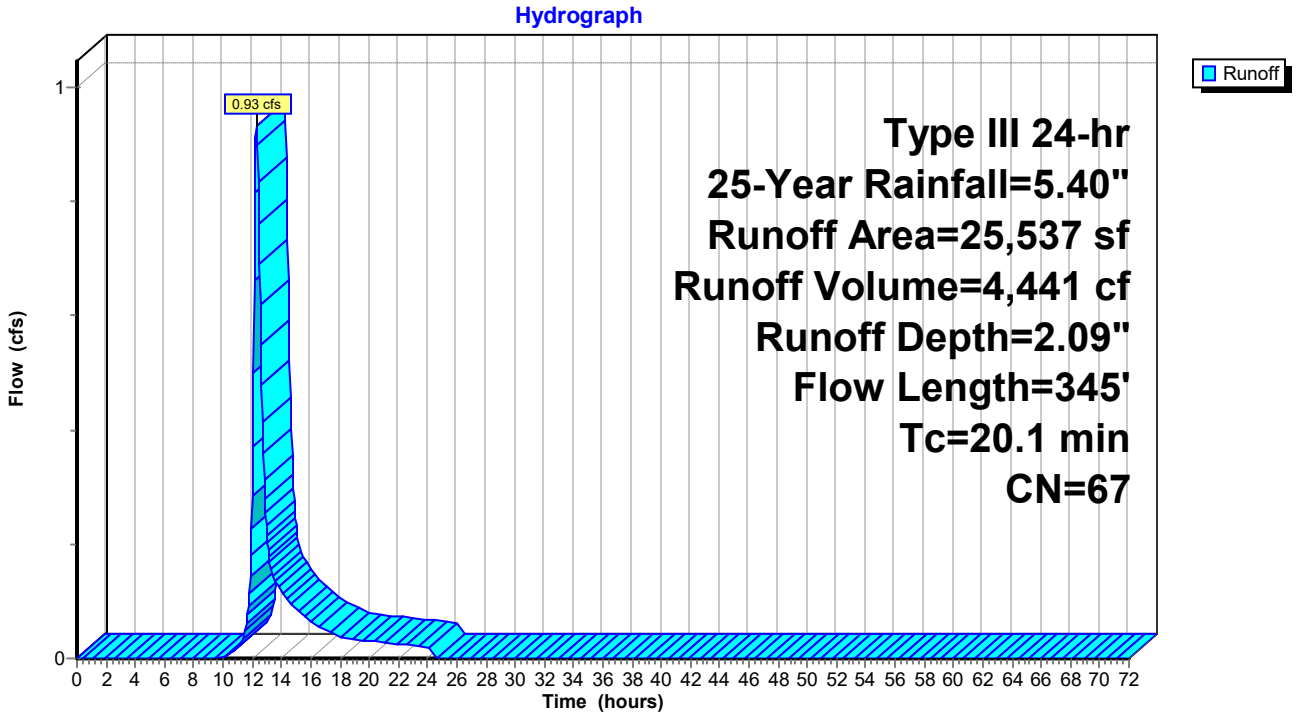
Runoff = 0.93 cfs @ 12.30 hrs, Volume= 4,441 cf, Depth= 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.40"

	Area (sf)	CN	Description
*	0	98	Existing Buildings
*	5,600	98	Proposed Buildings
*	4,257	98	Existing Paved Surfaces
*	332	98	Proposed Paved Surfaces
*	0	96	Existing Gravel Surface
	12,044	39	>75% Grass cover, Good, HSG A
	3,304	74	>75% Grass cover, Good, HSG C
	0	80	>75% Grass cover, Good, HSG D
	0	30	Woods, Good, HSG A
	0	70	Woods, Good, HSG C
	0	77	Woods, Good, HSG D
	25,537	67	Weighted Average
	15,348		60.10% Pervious Area
	10,189		39.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.8	150	0.0216	0.13		**Sheet Flow, Seg A to B** Grass: Dense n= 0.240 P2= 3.00"
0.3	195	0.0333	9.59	153.38	**Trap/Vee/Rect Channel Flow, Seg B to C** Bot.W=2.00' D=2.00' Z= 3.0 '/' Top.W=14.00' n= 0.030 Earth, grassed & winding
20.1	345	Total			

Subcatchment WS-10:



Summary for Subcatchment WS-11:

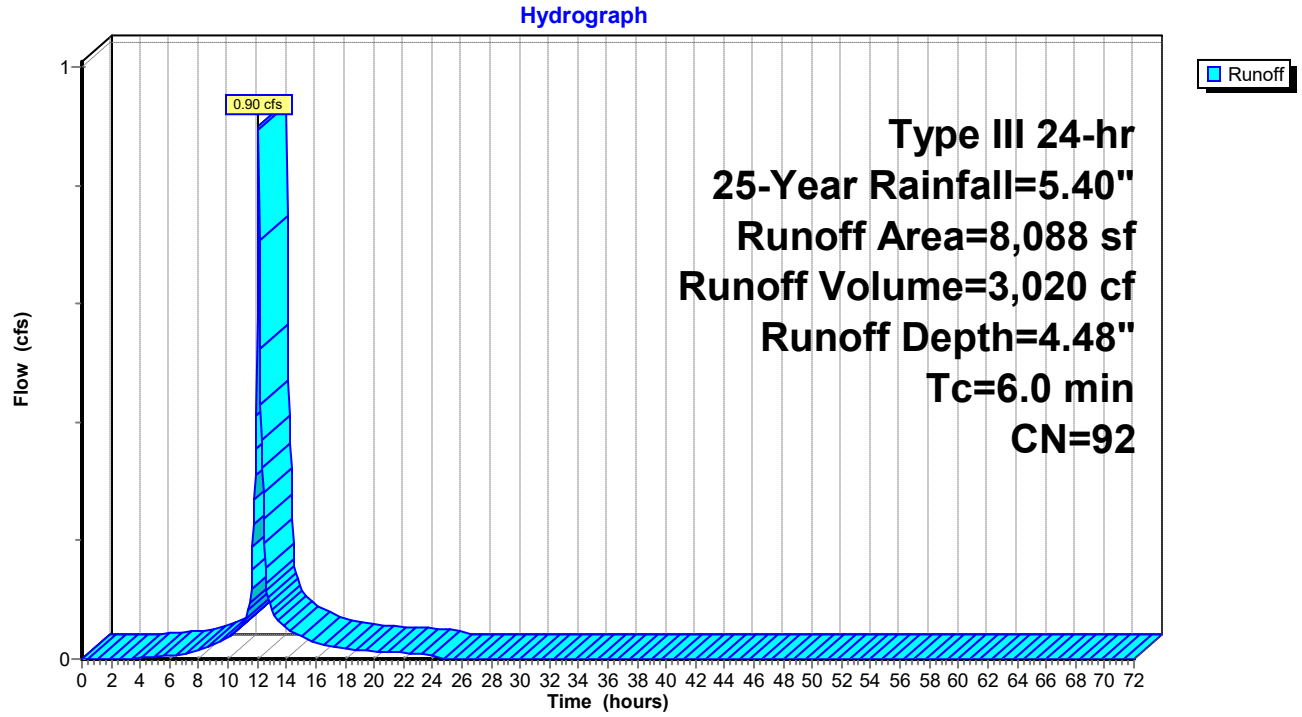
Runoff = 0.90 cfs @ 12.09 hrs, Volume= 3,020 cf, Depth= 4.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.40"

	Area (sf)	CN	Description
*	0	98	Existing Buildings
*	1,680	98	Proposed Buildings
*	0	98	Existing Paved Surfaces
*	5,286	98	Proposed Paved Surfaces
*	0	96	Existing Gravel Surface
	564	39	>75% Grass cover, Good, HSG A
	558	74	>75% Grass cover, Good, HSG C
	0	80	>75% Grass cover, Good, HSG D
	0	30	Woods, Good, HSG A
	0	70	Woods, Good, HSG C
	0	77	Woods, Good, HSG D
	8,088	92	Weighted Average
	1,122		13.87% Pervious Area
	6,966		86.13% Impervious Area

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

Subcatchment WS-11:



Summary for Subcatchment WS-12:

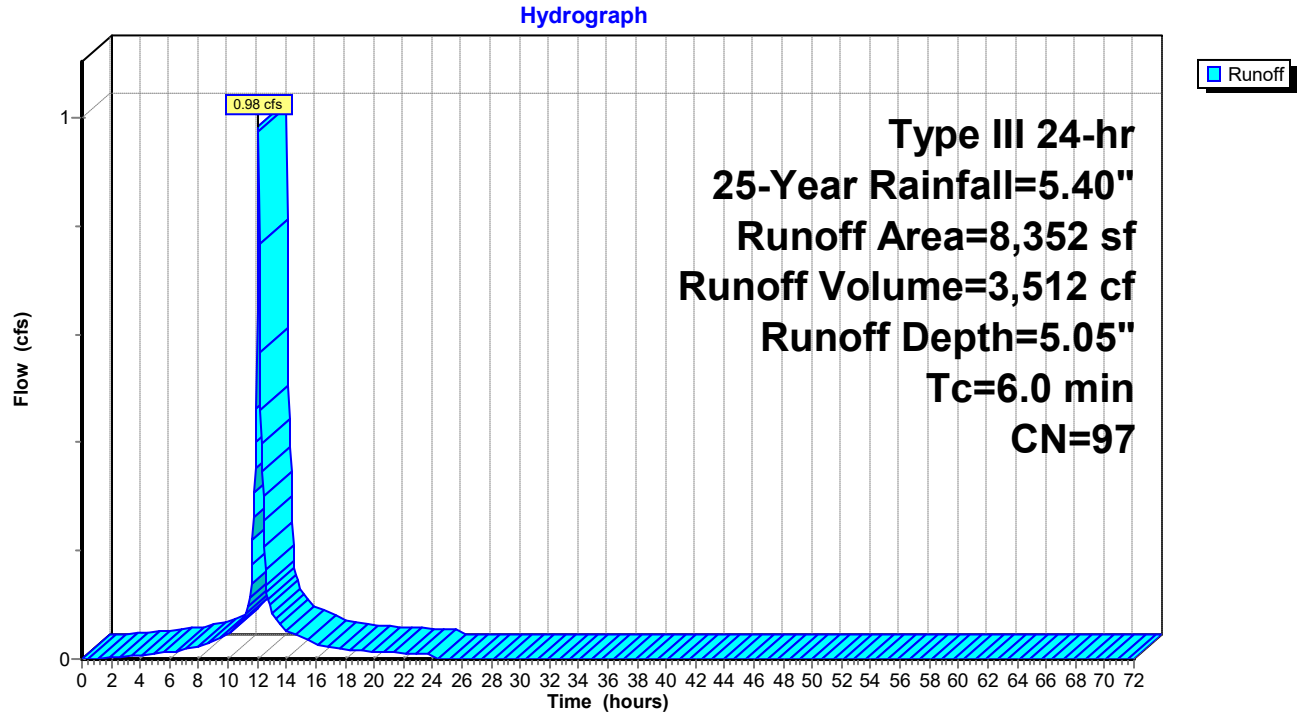
Runoff = 0.98 cfs @ 12.09 hrs, Volume= 3,512 cf, Depth= 5.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.40"

	Area (sf)	CN	Description
*	0	98	Existing Buildings
*	1,680	98	Proposed Buildings
*	0	98	Existing Paved Surfaces
*	6,174	98	Proposed Paved Surfaces
*	0	96	Existing Gravel Surface
	0	39	>75% Grass cover, Good, HSG A
	498	74	>75% Grass cover, Good, HSG C
	0	80	>75% Grass cover, Good, HSG D
	0	30	Woods, Good, HSG A
	0	70	Woods, Good, HSG C
	0	77	Woods, Good, HSG D
	8,352	97	Weighted Average
	498		5.96% Pervious Area
	7,854		94.04% Impervious Area

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

Subcatchment WS-12:



Summary for Subcatchment WS-13:

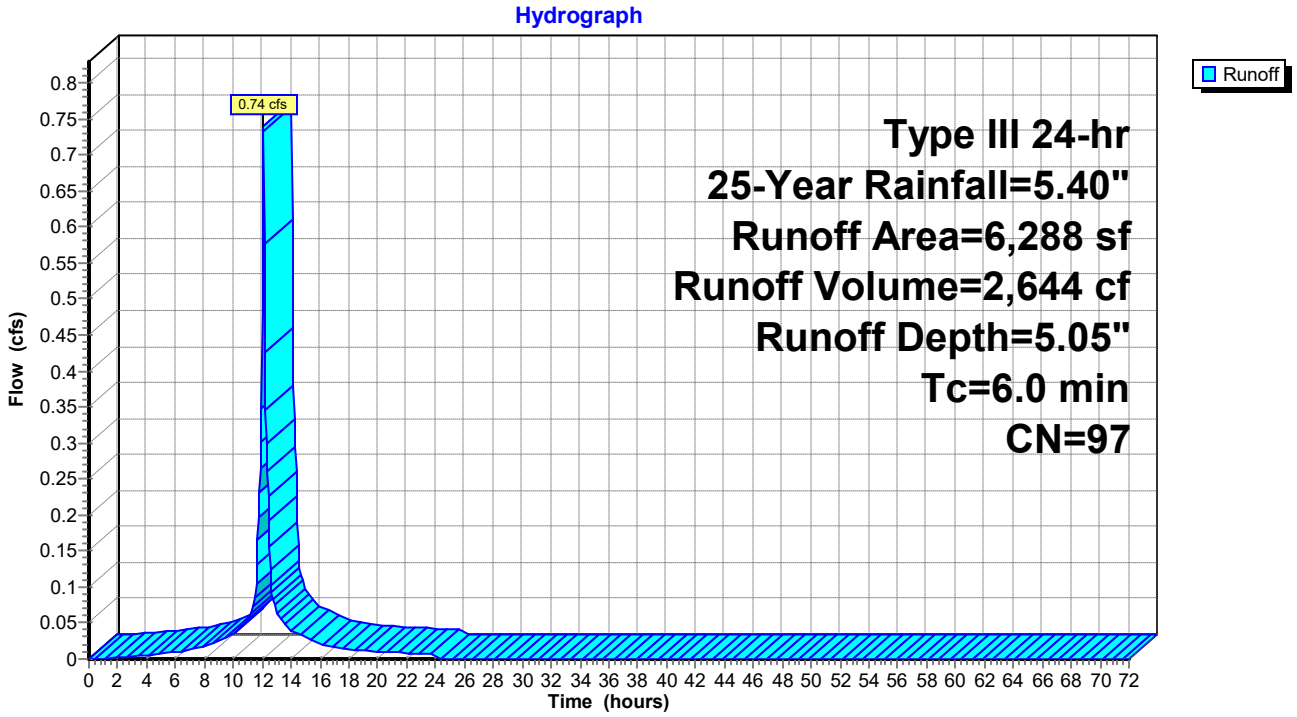
Runoff = 0.74 cfs @ 12.09 hrs, Volume= 2,644 cf, Depth= 5.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.40"

	Area (sf)	CN	Description
*	0	98	Existing Buildings
*	1,200	98	Proposed Buildings
*	0	98	Existing Paved Surfaces
*	4,781	98	Proposed Paved Surfaces
*	0	96	Existing Gravel Surface
	0	39	>75% Grass cover, Good, HSG A
	307	74	>75% Grass cover, Good, HSG C
	0	80	>75% Grass cover, Good, HSG D
	0	30	Woods, Good, HSG A
	0	70	Woods, Good, HSG C
	0	77	Woods, Good, HSG D
	6,288	97	Weighted Average
	307		4.88% Pervious Area
	5,981		95.12% Impervious Area

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

Subcatchment WS-13:



Summary for Reach R1:

Inflow Area = 48,265 sf, 64.21% Impervious, Inflow Depth = 3.39" for 25-Year event
Inflow = 2.37 cfs @ 12.16 hrs, Volume= 13,617 cf
Outflow = 1.92 cfs @ 12.30 hrs, Volume= 13,617 cf, Atten= 19%, Lag= 8.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.53 fps, Min. Travel Time= 10.5 min
Avg. Velocity = 0.21 fps, Avg. Travel Time= 26.3 min

Peak Storage= 1,211 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.19'
Bank-Full Depth= 2.00' Flow Area= 387.3 sf, Capacity= 981.15 cfs

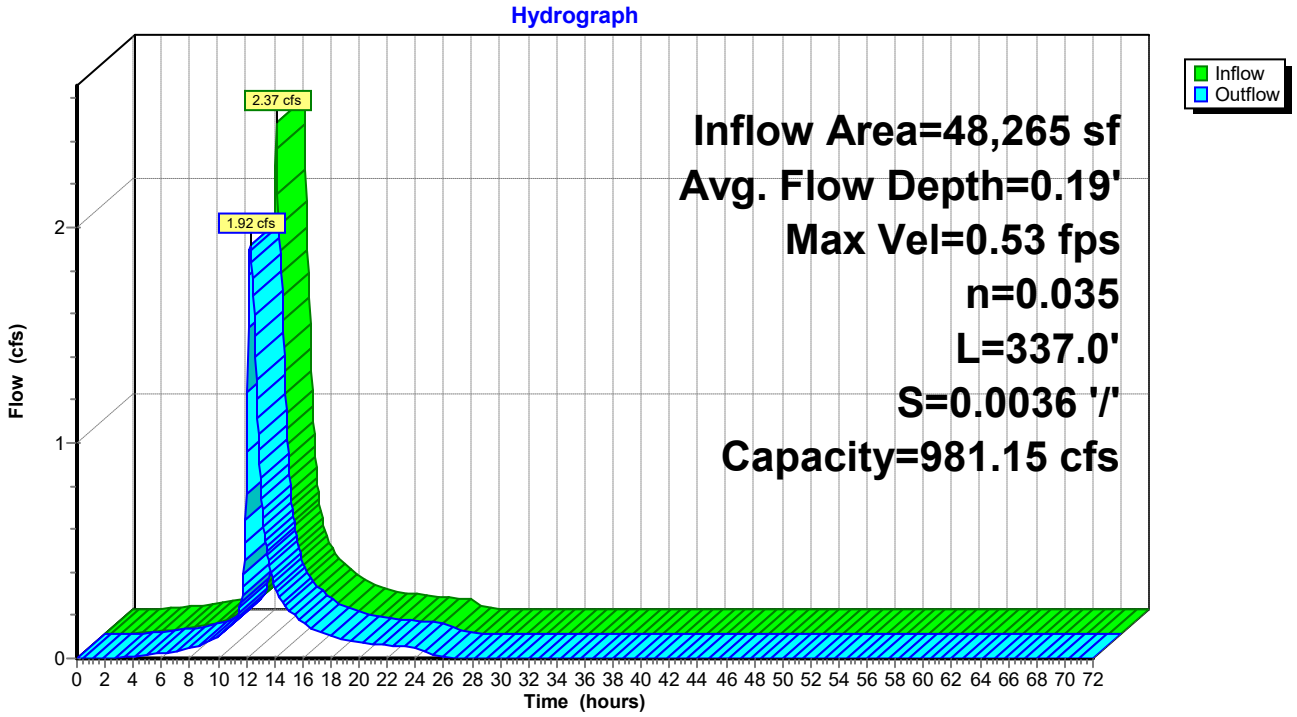
Custom cross-section, Length= 337.0' Slope= 0.0036 '/'
Constant n= 0.035 Earth, dense weeds
Inlet Invert= 254.80', Outlet Invert= 253.60'

‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	256.00	0.00
213.36	254.00	2.00
387.28	256.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	387.3	387.3	130,513	981.15

Reach R1:


Hydrograph
Inflow
Outflow
2.37 cfs
1.92 cfs
Inflow Area=48,265 sf
Avg. Flow Depth=0.19'
Max Vel=0.53 fps
n=0.035
L=337.0'
S=0.0036 '/'
Capacity=981.15 cfs
Flow (cfs)
0
1
2
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

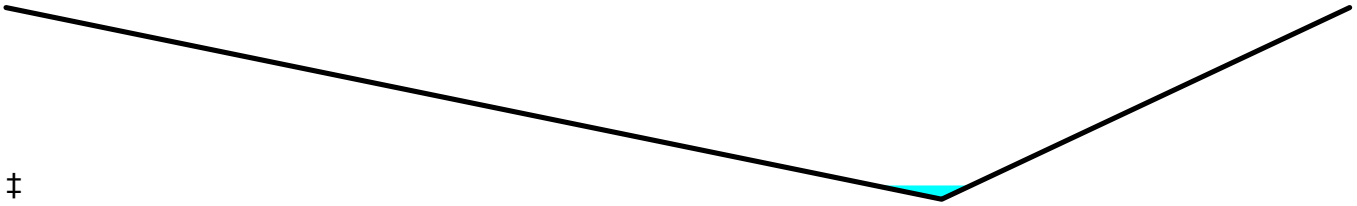
Summary for Reach R2:

Inflow Area = 8,088 sf, 86.13% Impervious, Inflow Depth = 4.48" for 25-Year event
Inflow = 0.90 cfs @ 12.09 hrs, Volume= 3,020 cf
Outflow = 0.79 cfs @ 12.14 hrs, Volume= 3,020 cf, Atten= 12%, Lag= 2.9 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.75 fps, Min. Travel Time= 4.4 min
Avg. Velocity = 0.31 fps, Avg. Travel Time= 10.6 min

Peak Storage= 206 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 1.00' Flow Area= 206.7 sf, Capacity= 900.29 cfs

Custom cross-section, Length= 196.1' Slope= 0.0265 '/'
Constant n= 0.035 Earth, dense weeds
Inlet Invert= 260.00', Outlet Invert= 254.80'

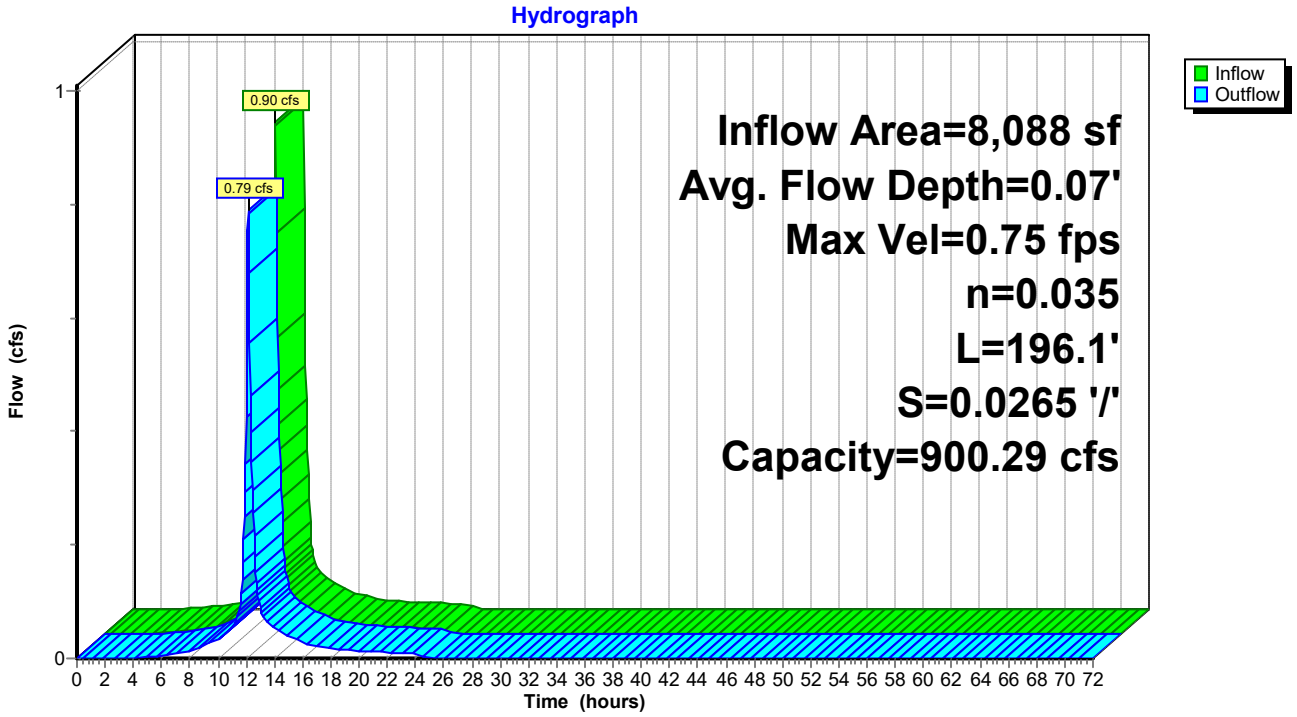


‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	255.00	0.00
287.89	254.00	1.00
413.42	255.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
1.00	206.7	413.4	40,536	900.29

Reach R2:


Hydrograph
Inflow
Outflow
0.90 cfs
0.79 cfs
Inflow Area=8,088 sf
Avg. Flow Depth=0.07'
Max Vel=0.75 fps
n=0.035
L=196.1'
S=0.0265 '/'
Capacity=900.29 cfs
Flow (cfs)
1
0
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

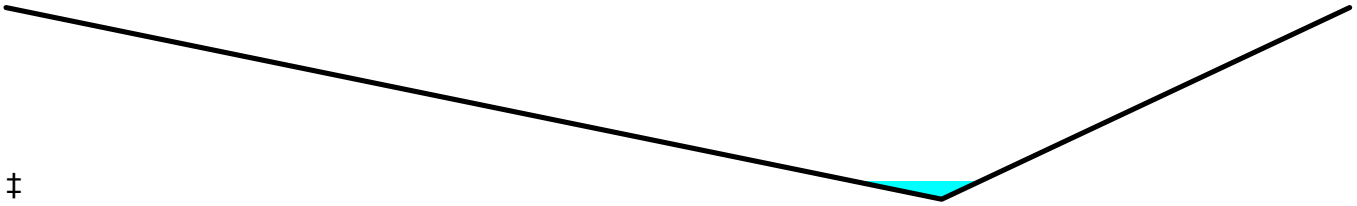
Summary for Reach R3:

Inflow Area = 14,640 sf, 94.50% Impervious, Inflow Depth = 5.05" for 25-Year event
Inflow = 1.72 cfs @ 12.09 hrs, Volume= 6,156 cf
Outflow = 1.37 cfs @ 12.15 hrs, Volume= 6,156 cf, Atten= 20%, Lag= 4.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.72 fps, Min. Travel Time= 7.3 min
Avg. Velocity = 0.29 fps, Avg. Travel Time= 18.4 min

Peak Storage= 599 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 1.00' Flow Area= 206.7 sf, Capacity= 710.34 cfs

Custom cross-section, Length= 315.0' Slope= 0.0165 '/'
Constant n= 0.035 Earth, dense weeds
Inlet Invert= 260.00', Outlet Invert= 254.80'

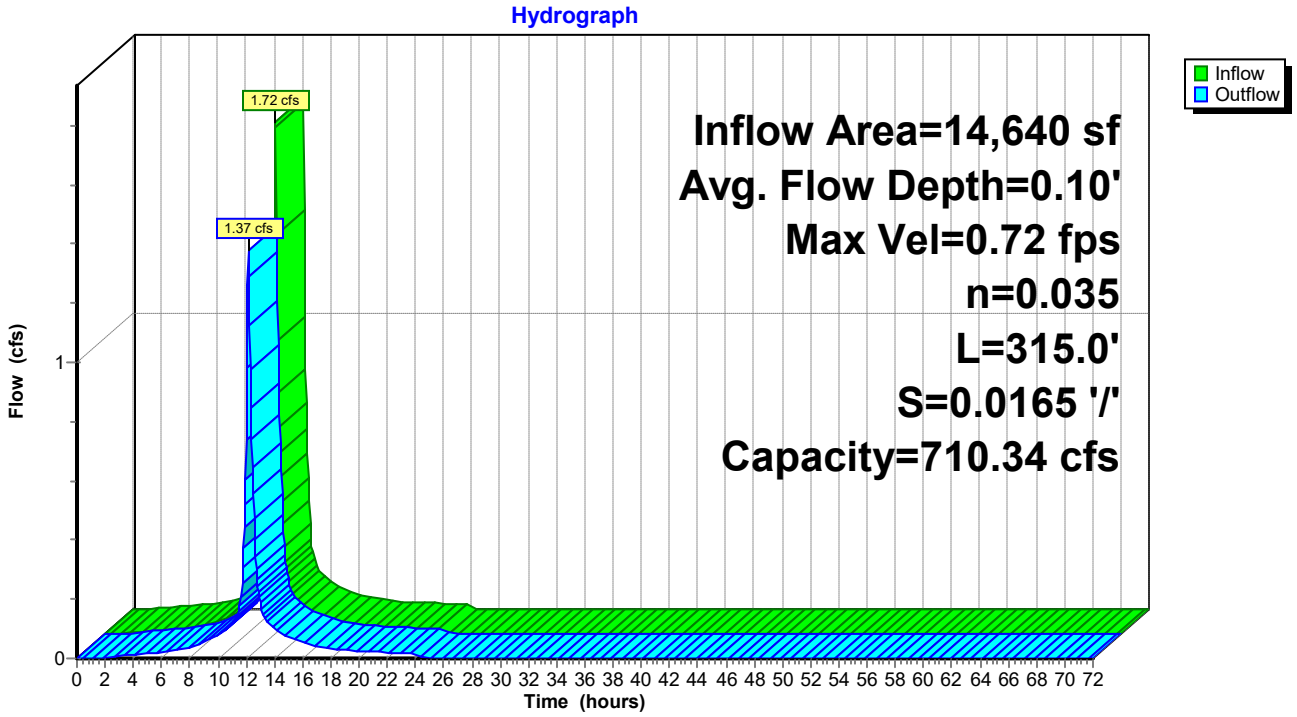


‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	255.00	0.00
287.89	254.00	1.00
413.42	255.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
1.00	206.7	413.4	65,114	710.34

Reach R3:


Hydrograph
Inflow
Outflow
1.72 cfs
1.37 cfs
Inflow Area=14,640 sf
Avg. Flow Depth=0.10'
Max Vel=0.72 fps
n=0.035
L=315.0'
S=0.0165 '/'
Capacity=710.34 cfs
Flow (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

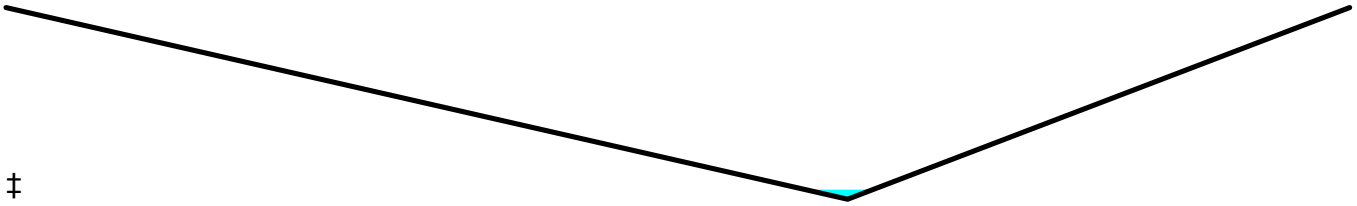
Summary for Reach R4:

Inflow Area = 25,537 sf, 39.90% Impervious, Inflow Depth = 2.09" for 25-Year event
Inflow = 0.93 cfs @ 12.30 hrs, Volume= 4,441 cf
Outflow = 0.64 cfs @ 12.54 hrs, Volume= 4,441 cf, Atten= 32%, Lag= 14.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.59 fps, Min. Travel Time= 21.6 min
Avg. Velocity = 0.29 fps, Avg. Travel Time= 44.0 min

Peak Storage= 825 cf @ 12.54 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 2.00' Flow Area= 430.3 sf, Capacity= 1,885.87 cfs

Custom cross-section, Length= 769.5' Slope= 0.0107 '/'
Constant n= 0.035 Earth, dense weeds
Inlet Invert= 263.00', Outlet Invert= 254.80'

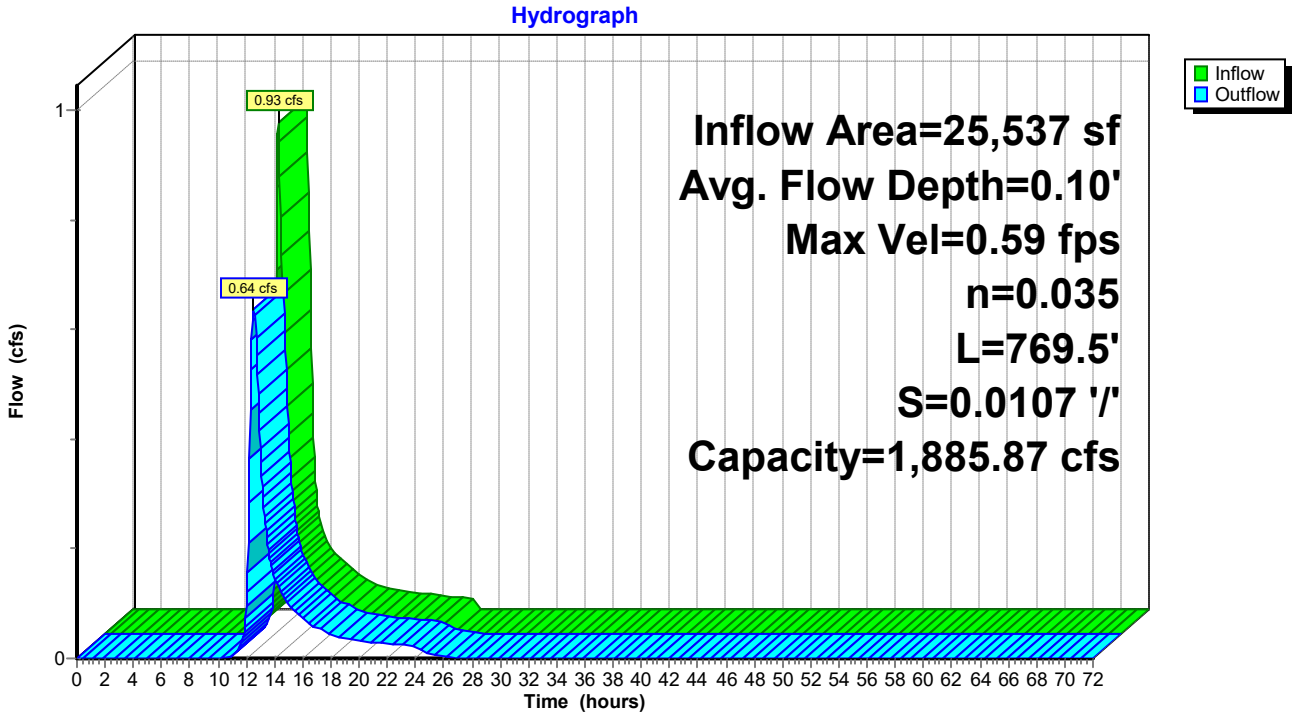


‡

Offset (feet)	Elevation (feet)	Chan.Depth (feet)
0.00	258.00	0.00
269.50	256.00	2.00
430.30	258.00	0.00

Depth (feet)	End Area (sq-ft)	Perim. (feet)	Storage (cubic-feet)	Discharge (cfs)
0.00	0.0	0.0	0	0.00
2.00	430.3	430.3	331,116	1,885.87

Reach R4:


Hydrograph
Inflow
Outflow
0.93 cfs
0.64 cfs
Inflow Area=25,537 sf
Avg. Flow Depth=0.10'
Max Vel=0.59 fps
n=0.035
L=769.5'
S=0.0107 '/'
Capacity=1,885.87 cfs
Flow (cfs)
0
1
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

Summary for Pond CB1:

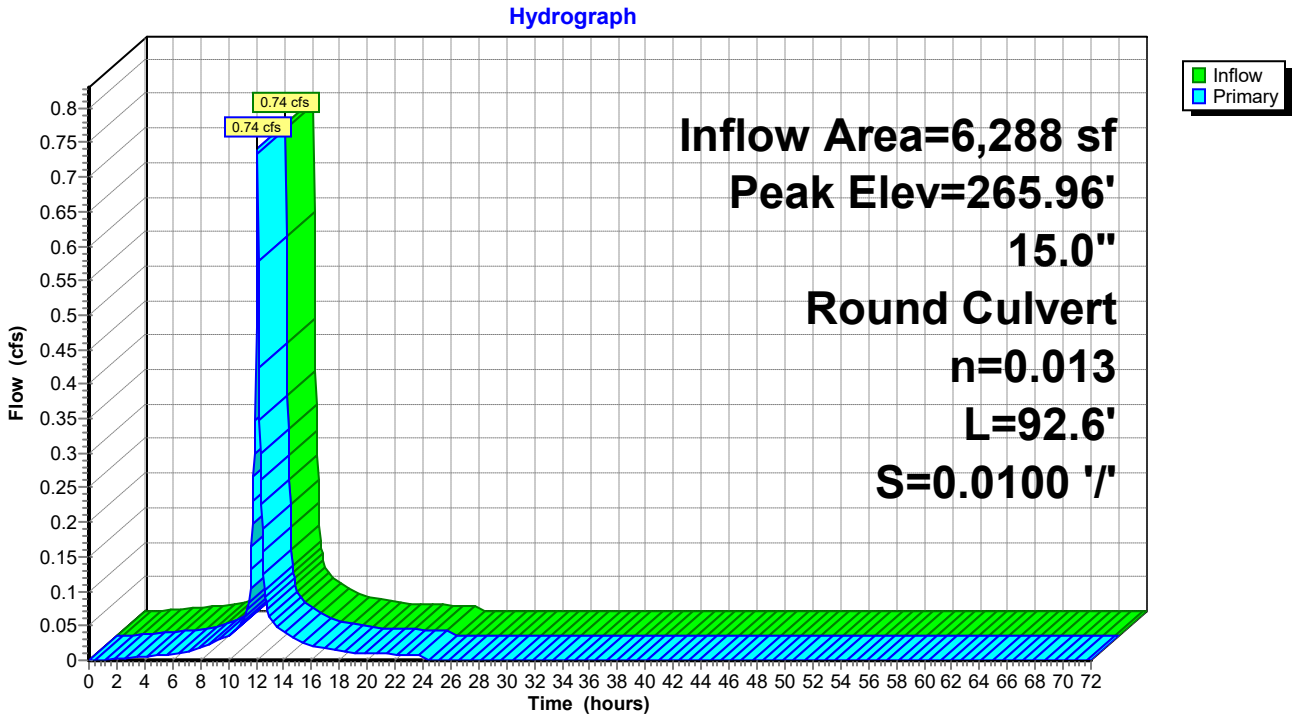
Inflow Area = 6,288 sf, 95.12% Impervious, Inflow Depth = 5.05" for 25-Year event
Inflow = 0.74 cfs @ 12.09 hrs, Volume= 2,644 cf
Outflow = 0.74 cfs @ 12.09 hrs, Volume= 2,644 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.74 cfs @ 12.09 hrs, Volume= 2,644 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 265.96' @ 12.09 hrs
Flood Elev= 271.33'

Device	Routing	Invert	Outlet Devices
#1	Primary	265.50'	**15.0" Round SD-15"** L= 92.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 265.50' / 264.57' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.72 cfs @ 12.09 hrs HW=265.95' TW=265.19' (Dynamic Tailwater)
↑**1=SD-15"** (Inlet Controls 0.72 cfs @ 1.81 fps)

Pond CB1:



Summary for Pond CB2:

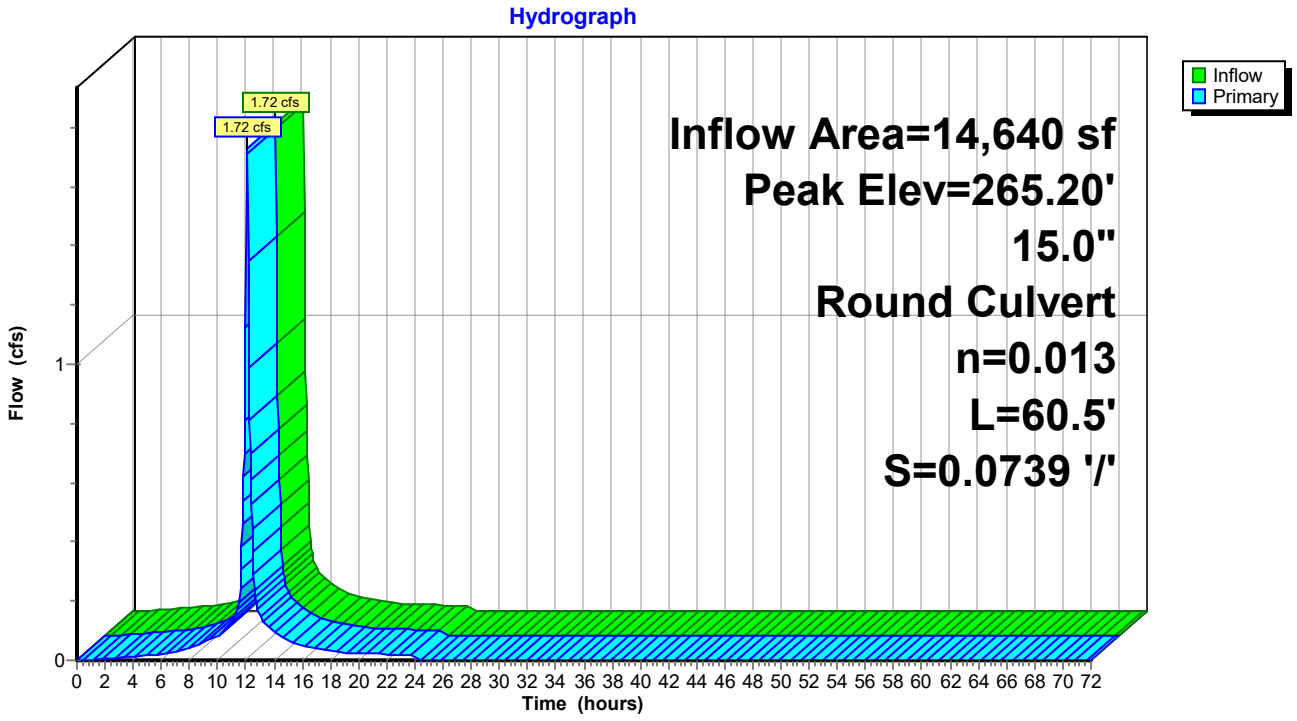
Inflow Area = 14,640 sf, 94.50% Impervious, Inflow Depth = 5.05" for 25-Year event
Inflow = 1.72 cfs @ 12.09 hrs, Volume= 6,156 cf
Outflow = 1.72 cfs @ 12.09 hrs, Volume= 6,156 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.72 cfs @ 12.09 hrs, Volume= 6,156 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 265.20' @ 12.09 hrs
Flood Elev= 271.33'

Device	Routing	Invert	Outlet Devices
#1	Primary	264.47'	**15.0" Round SD-15"** L= 60.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 264.47' / 260.00' S= 0.0739 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.68 cfs @ 12.09 hrs HW=265.19' TW=260.09' (Dynamic Tailwater)
↳**1=SD-15"** (Inlet Controls 1.68 cfs @ 2.28 fps)

Pond CB2:



Summary for Pond CB3:

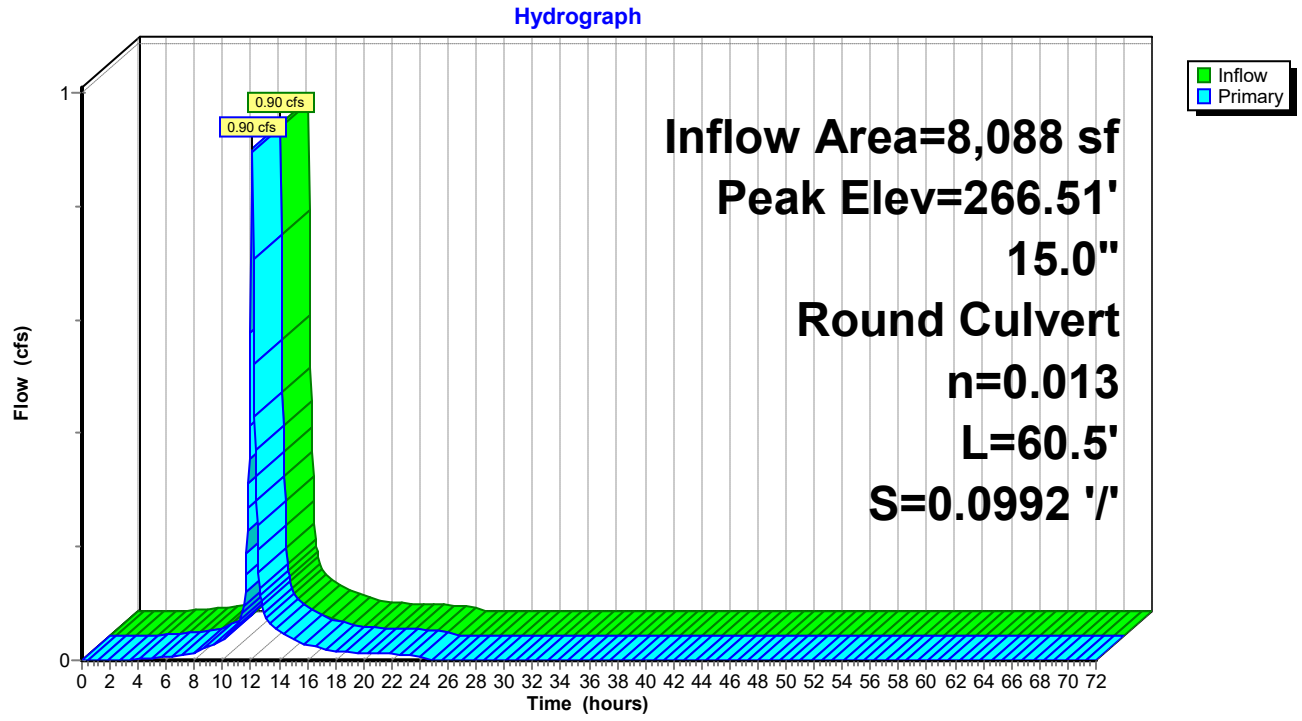
Inflow Area = 8,088 sf, 86.13% Impervious, Inflow Depth = 4.48" for 25-Year event
Inflow = 0.90 cfs @ 12.09 hrs, Volume= 3,020 cf
Outflow = 0.90 cfs @ 12.09 hrs, Volume= 3,020 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.90 cfs @ 12.09 hrs, Volume= 3,020 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 266.51' @ 12.09 hrs
Flood Elev= 271.33'

Device	Routing	Invert	Outlet Devices
#1	Primary	266.00'	**15.0" Round SD-15"** L= 60.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 266.00' / 260.00' S= 0.0992 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.88 cfs @ 12.09 hrs HW=266.50' TW=260.07' (Dynamic Tailwater)
1=SD-15" (Inlet Controls 0.88 cfs @ 1.90 fps)

Pond CB3:



Summary for Pond CLV: driveway culvert

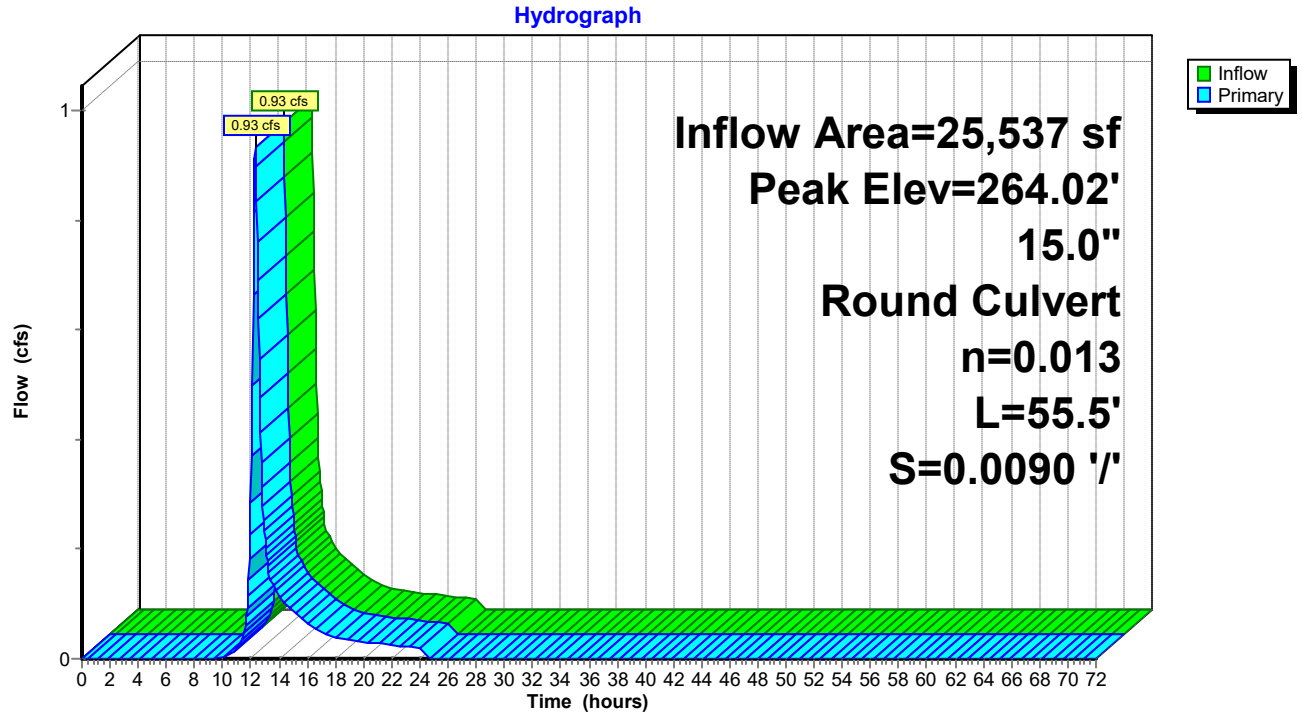
Inflow Area = 25,537 sf, 39.90% Impervious, Inflow Depth = 2.09" for 25-Year event
Inflow = 0.93 cfs @ 12.30 hrs, Volume= 4,441 cf
Outflow = 0.93 cfs @ 12.30 hrs, Volume= 4,441 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.93 cfs @ 12.30 hrs, Volume= 4,441 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 264.02' @ 12.30 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	263.50'	**15.0" Round SD-15"** L= 55.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 263.50' / 263.00' S= 0.0090 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.93 cfs @ 12.30 hrs HW=264.02' TW=263.09' (Dynamic Tailwater)
↑—**1=SD-15"** (Inlet Controls 0.93 cfs @ 1.94 fps)

Pond CLV: driveway culvert

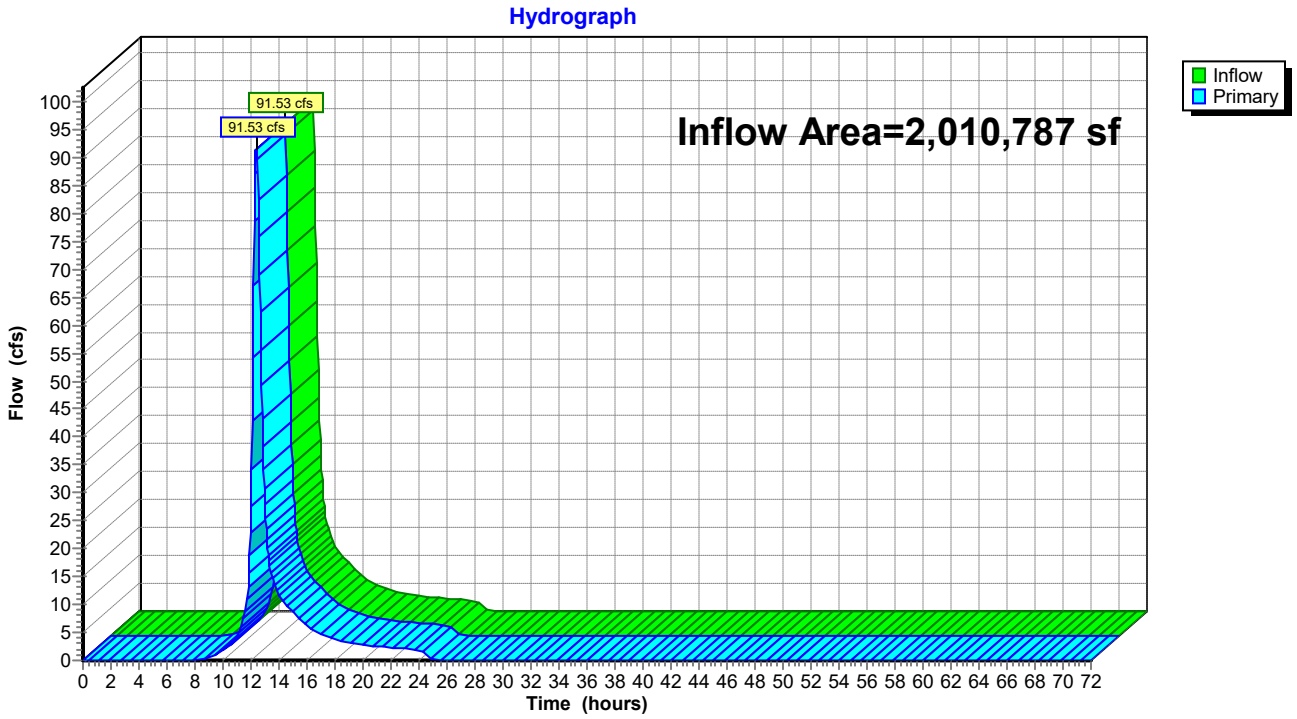


Summary for Link SP1:

Inflow Area = 2,010,787 sf, 4.64% Impervious, Inflow Depth = 2.88" for 25-Year event
Inflow = 91.53 cfs @ 12.38 hrs, Volume= 482,766 cf
Primary = 91.53 cfs @ 12.38 hrs, Volume= 482,766 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link SP1:



ATTACHMENT 3

INSPECTION, MAINTENANCE AND HOUSEKEEPING PLAN

DM ROMA
CONSULTING ENGINEERS

INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

(Prepared by Jayson Haskell, PE #13002)

1315 MINOT AVENUE RESIDENTIAL APARTMENTS
1315 MINOT AVENUE
AUBURN, MAINE

Responsible Party

Owner: CEP Holdings, LLC
164 Chute Road
Windham, Maine 04062

The owner/applicant is responsible for the maintenance of all stormwater management structures and related site components and the keeping of a maintenance log book with service records until a homeowner's association is created. Once the homeowner's association is created, a Transfer Application will need to be submitted to the Maine Department of Environmental Protection to properly transfer responsibilities of the stormwater infrastructure.

Records of all inspections and maintenance work performed must be kept on file with the owner and retained for a minimum of five years. The maintenance log will be made available to the Town and Maine Department of Environmental Protection (MDEP) upon request. At a minimum, the maintenance of stormwater management systems will be performed on the prescribed schedule. If the ownership of the development is transferred to another entity, a Transfer Application will need to be submitted to the Maine Department of Environmental Protection to properly transfer responsibilities of the stormwater infrastructure.

The procedures outlined in this plan are provided as a general overview of the anticipated practices to be utilized on this site. In some instances, additional measures may be required due to unexpected conditions. *The Maine Erosion and Sedimentation Control BMP* and *Stormwater Management for Maine: Best Management Practices* Manuals published by the MDEP should be referenced for additional information.

During Construction

1. **Inspection and Corrective Action:** It is the contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. Inspection shall occur on all 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 24 hours before and after a storm event generating more than 0.5 inch of rainfall over a 24-hour period and prior to completing permanent

stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections.

2. **Maintenance:** Erosion controls shall be maintained in effective operating condition until areas are permanently stabilized. If best management practices (BMPs) need to be repaired, the repair work should be initiated upon discovery of the problem but no later than the end of the next workday. If BMPs need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within seven calendar days and prior to any rainfall event.

3. **Construction vehicles and equipment:** Construction vehicles and equipment shall not be driven or stored within any proposed stormwater treatment buffer or basin. To ensure the buffer's natural condition and filtration capacity is maintained and the underdrained filter basins function as designed, prohibiting vehicles and equipment from these areas will limit the risk of inhibiting the function of the BMPs due to compaction or vegetation impact.

4. **Snow Storage:** The proposed underdrained filter basin shall not be utilized for snow storage. Snow storage areas shall be located away from the basins, and in areas that will direct snow melt runoff into the basin on site.

5. **Documentation:** A report 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 the major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) 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 MDEP and Town staff, and a copy must be provided upon request. The owner shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

Housekeeping

1. **Spill prevention:** Controls must be used to prevent pollutants from construction and waste materials on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

2. **Groundwater protection:** During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that

prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

3. **Fugitive sediment and dust:** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

4. **Debris and other materials:** Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

5. **Excavation de-watering:** 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.

6. **Authorized Non-stormwater discharges:** Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:
   (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 permit conditions and MDEP Chapter 500 Appendix (C)(3);
   (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 (see requirements in MDEP Chapter 500 Appendix C(5));
(k) Potable water sources including waterline flushings; and
(l) Landscape irrigation.

7. **Unauthorized non-stormwater discharges:** Approval from the Town does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Section 6 above. Specifically, the Town'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.

Post Construction

1. **Inspection and Corrective Action:** All stormwater measures, including but not limited to those shown on the enclosed Stormwater Infrastructure Map, must be maintained by the owner in effective operating condition. A qualified third-party inspector hired by the owner shall at least annually inspect the stormwater management facilities. This person should have knowledge of erosion and stormwater control including the standards and conditions of the site's approvals. The inspector shall be certified through the MDEP to inspect the stormwater infrastructure. The following areas, facilities, and measures must be inspected, and identified deficiencies must be corrected. Areas, facilities, and measures other than those listed below may also require inspection on a specific site.

   A. **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 is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

   B. **Ditches, Swales, and Open Channels:** Inspect ditches, swales, and other open channels in the spring, late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris, control vegetative growth that could obstruct flow, and repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Repair any slumping side slopes as soon as practicable. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side slopes.

C. **Storm Drains & Culverts:** Inspect storm drains in the spring, late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the storm drain's outlet.

D. **Catch Basins:** 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 any 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).

E. **Roofline Drip edges:** The drip edges should be inspected semi-annually and following major storm events for the first year and every six months thereafter. The reservoir crushed stone should drain within 24 to 48 hours following a major storm event. If ponding exceeds 48 hours, the stone reservoir course shall be removed and the filter bed be rototilled to reestablish the soil's filtration capacity. If water ponds in the reservoir course for more than 72 hours, the top several inches of the filter shall be replaced with fresh material. Inspect for debris and sediment build up at surface and remove as needed. The drip edges are part of the stormwater management plan and cannot be paved over or altered in anyway.

F. **Regular Maintenance:** Clear accumulations of winter sand along roadway and parking areas once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along pavement shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader.

G. **Documentation:** Keep a log (report) summarizing inspections, maintenance, and any corrective actions taken. The log must include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal. The log must be made accessible to Town and MDEP staff upon request. The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization. Attached is a sample log.

Duration of Maintenance

Perform maintenance as described.

INSPECTION AND MAINTENANCE LOG – GENERAL INSPECTION

1315 MINOT AVENUE RESIDENTIAL APARTMENTS
1315 MINOT AVENUE
AUBURN, MAINE

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The owner is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the Town and MDEP upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Vegetated Areas	Inspect slopes and embankments early in Spring.			
Ditches, swales and other open channels	Inspect after major rainfall event.			
	Inspect for erosion or slumping and repair			
	Mowed at least annually			
Storm Drains & Culverts	Inspect semiannually and after major rainfall.			
	Repair erosion at inlet or outlet of pipe.			
	Repair displaced riprap.			
	Clean accumulated sediment in culverts when >20% full.			
Roofline Dripedges	Check after each rainfall event to ensure that pond drains within 24-48 hours.			
	Replace top several inches of filter stone does not drain within 72 hours.			
	Inspect semi-annually for erosion or sediment accumulation and repair as necessary.			
Catch Basins	Inspect to ensure that structure is properly draining.			
	Remove accumulated sediment semiannually.			
	Inspect grates/inlets and remove debris as needed.			
Regular Maintenance	Clear accumulation of winter sand in paved areas annually.			

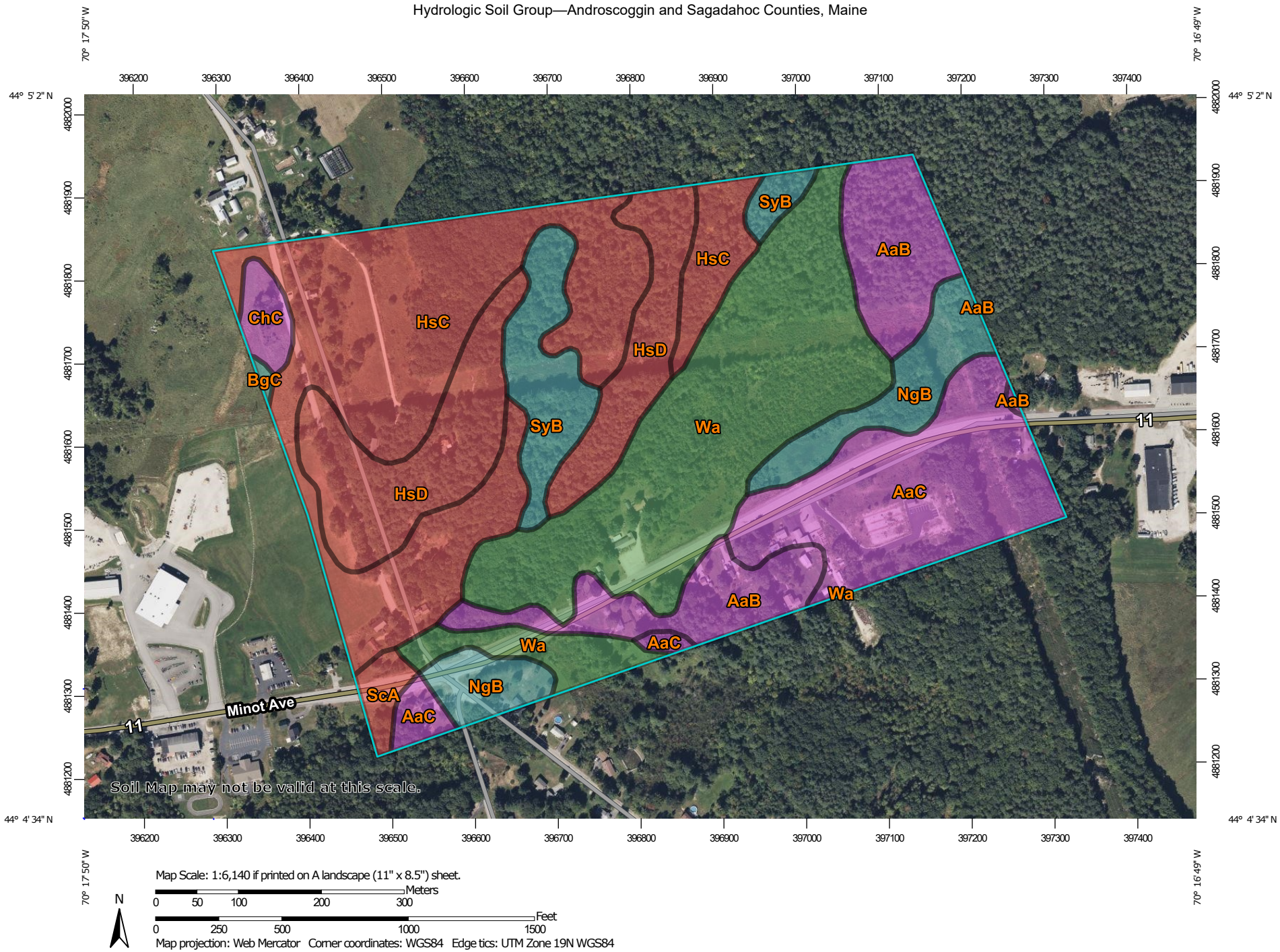
SECTION 10

SOILS INFORMATION

Section 10 – Soils Information

The Medium Intensity Soil Survey published by the USDA Natural Resources Conservation Service indicates that the existing soils on the property are classified as a Walpole fine sandy loam and Ninigret fine sandy loam, with a Hydrologic Soil Group rating of “A/D” and “C” respectively.

Contained in this section are the USDA Medium Intensity Soils Map, and Map Unit Description of soils within the sub-basin watershed for the project site.



Map Scale: 1:6,140 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

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

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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

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

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

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

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

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

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

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

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

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AaB	Adams loamy sand, 0 to 8 percent slopes	A	11.9	10.1%
AaC	Adams loamy sand, 8 to 15 percent slopes	A	16.0	13.6%
BgC	Nicholville very fine sandy loam, 8 to 15 percent slopes	C	0.2	0.1%
ChC	Charlton very stony fine sandy loam, 8 to 15 percent slopes	A	1.6	1.3%
HsC	Lyman-Abram complex, 8 to 15 percent slopes, very rocky	D	30.6	26.0%
HsD	Lyman-Abram complex, 15 to 35 percent slopes, very rocky	D	15.2	12.9%
NgB	Ninigret fine sandy loam, 0 to 8 percent slopes	C	7.2	6.2%
ScA	Scantic silt loam, 0 to 3 percent slopes	D	1.3	1.1%
SyB	Sutton very stony loam, 0 to 8 percent slopes	C	6.3	5.4%
Wa	Walpole fine sandy loam	A/D	27.3	23.2%
Totals for Area of Interest			**117.6**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

SECTION 11

WATER SUPPLY FOR DOMESTIC AND FIRE PROTECTION USE

Section 11 – Water Supply for Domestic and Fire Protection Use

The project plans have been provided to the Auburn Water and Sewer Districts for review and approval of the water main extension and service lines. There is no water main extension needed for the project. The attached infrastructure map was provided by the Auburn Wate and Sewer District.

The project's multi-family building design will utilize fire walls to provide fire abatement requirements for the project. The building design will be provided to the Fire Department for review and approval as part of the Building Permit Application process.

SECTION 12

PROVISIONS FOR WASTEWATER DISPOSAL

Section 12 – Provisions for Wastewater Disposal

Wastewater generated from the proposed development is calculated to have a design flow of 4,320 Gallons Per Day based on the Maine Wastewater Disposal Rules handbook published by the Maine Department of Health and Human Services (DHHS). The project proposes to extend the public sewer main in Minot Avenue into the site and install sewer service connection from each proposed unit to it. The project plans have been provided to the Auburn Water and Sewer Districts for review and approval of the sewer main extension and building sewer services.

SECTION 13

PROJECT COST ESTIMATE AND FINANCIAL CAPACITY

Section 13 – Project Cost Estimate and Financial Capacity

The project sitework costs are estimated to be the following:

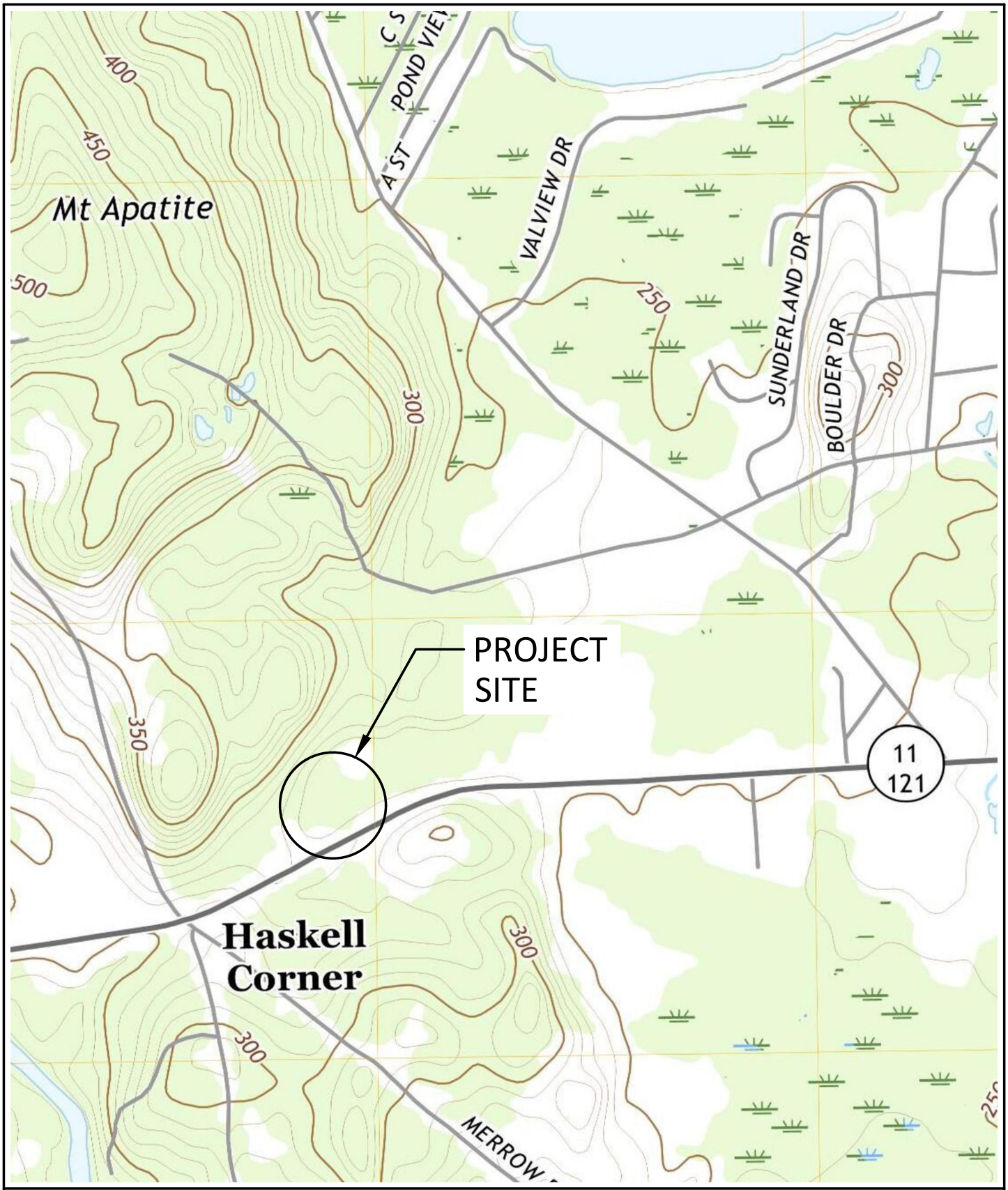
1.	Site Preparation	$7,500
2.	Aggregates for Driveways & Sidewalks	$55,000
3.	Water Main & Services	$22,000
4.	Electrical Services	$8,000
5.	Stormwater Collection	$25,000
6.	Sewer Main extension and services	$35,000
7.	Loam, Lawn & Landscaping	$35,000
8.	Curbing & Bituminous Paving	$66,000
	Total Sitework Estimate:	$253,500

The four (4) 6-unit buildings cost is estimated at $1,750,000.

The applicant previously purchased the land so there is no additional land acquisition cost. The applicant is working to finalize building design and working with their lender to provide a letter indicating that the applicant has the financial capacity to complete the project.

SECTION 14

SITE VICINITY MAP – USGS QUADRANGLE



SITE LOCATION MAP

1315 MINOT AVENUE RESIDENTIAL APARTMENTS
AUBURN, MAINE

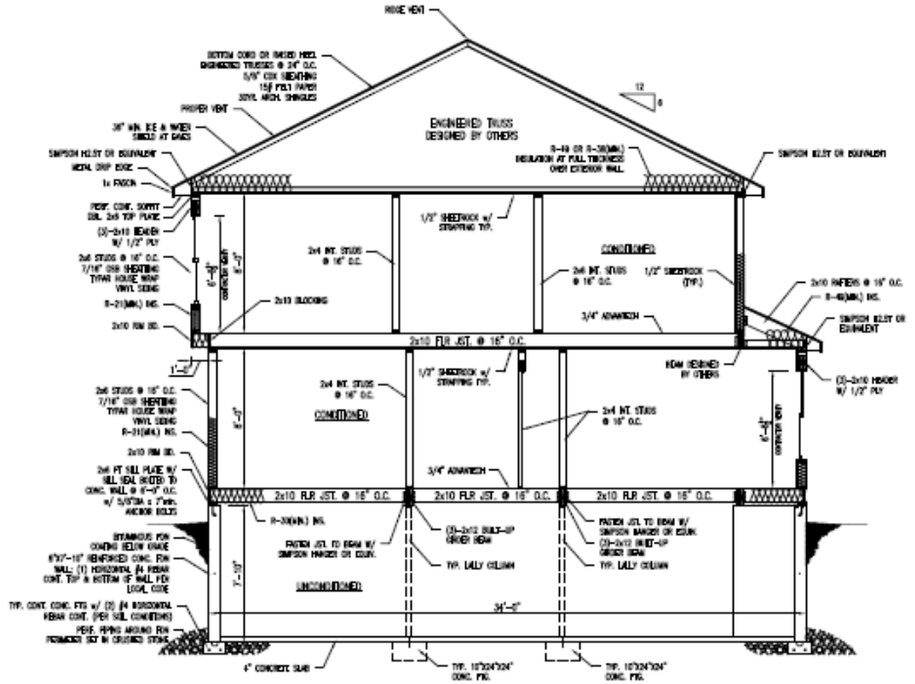
FOR RECORD OWNER:
CEP HOLDINGS, LLC
164 CHUTE ROAD
WINDHAM, ME 04062

SCALE: 1"=1000'
DATE: 7-25-2024
JOB NUMBER: 21015

DM ROMA
CONSULTING ENGINEERS
P.O. BOX 1116
WINDHAM, ME 04062
(207) 591-5055

SECTION 15

BUILDING ARCHITECTURAL PLANS



S-1
1/8" = 1'-0"

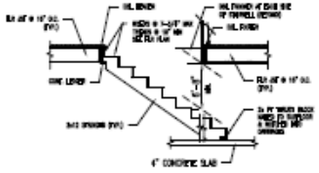
CONSTRUCTION NOTE:

CONTRACTOR IS TO VERIFY GRADE AND ALL DIMENSIONS IN FIELD BEFORE CONSTRUCTION. SECTION SHOWN MAY DIFFER FROM ACTUAL FINISHED CONSTRUCTION. FINAL MATERIALS, WINDOW/DOOR LOCATIONS AND SIZES, TO BE DETERMINED PER OWNER/CONT. SITE CONDITIONS AND OR LOCAL CODES.

1HR FIRE RATED WALL:

ONE LAYER OF 5/8" TYPE X GYPSUM WALLBOARD OR VENEER BASE APPLIED TO EACH SIDE OF 2x4 IN. WOOD STUDS 16 IN. O.C. STAGGERED 8 IN. O.C. ON 2x6 IN. WOOD PLATES. USE 8d COOLER NAILS 24 IN. O.C. FOR BASE LAYER AND 6d COOLER NAILS 8 IN. O.C. FOR FACE LAYER. STAGGER VERTICAL JOINTS 16 IN. O.C. EACH LAYER AND SIDE

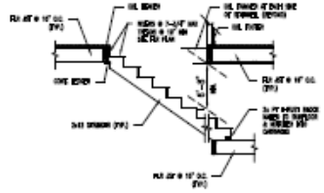
1HR FIRE RATED WALL



NOTE:

1. SUBSTITUTE RAFTER, CL JST'S & STUD WALL SIZES WITH PLAN CALL OUT

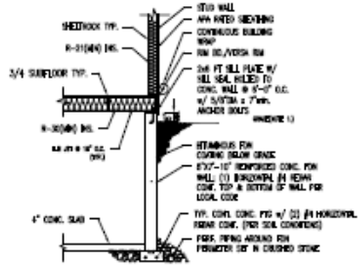
TYPICAL STAIR FRAMING
N.T.S.



NOTE:

1. SUBSTITUTE RAFTER, CL JST'S & STUD WALL SIZES WITH PLAN CALL OUT

TYPICAL STAIR FRAMING
N.T.S.

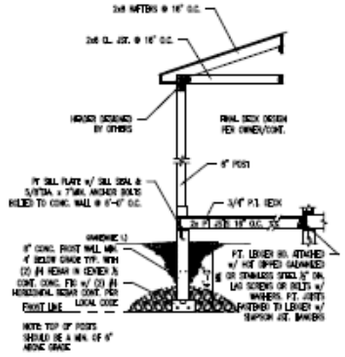


NOTE:

1. THE GROUND IMMEDIATELY ADJACENT TO THE FOUNDATION SHALL BE SLOPED AWAY FROM THE BUILDING AT A SLOPE OF 1/2" VERTICAL TO 12" HORIZONTAL FOR A MINIMUM DISTANCE OF 6'-0". THIS CONDITION SHALL EXIST AFTER SETTLEMENT OF BACKFILL HAS OCCURRED.

2. SUBSTITUTE FLR JOISTS AND STUD WALL SIZES WITH PLAN CALL OUT

TYPICAL INS. BETWEEN FDN & 1st FLR
N.T.S.



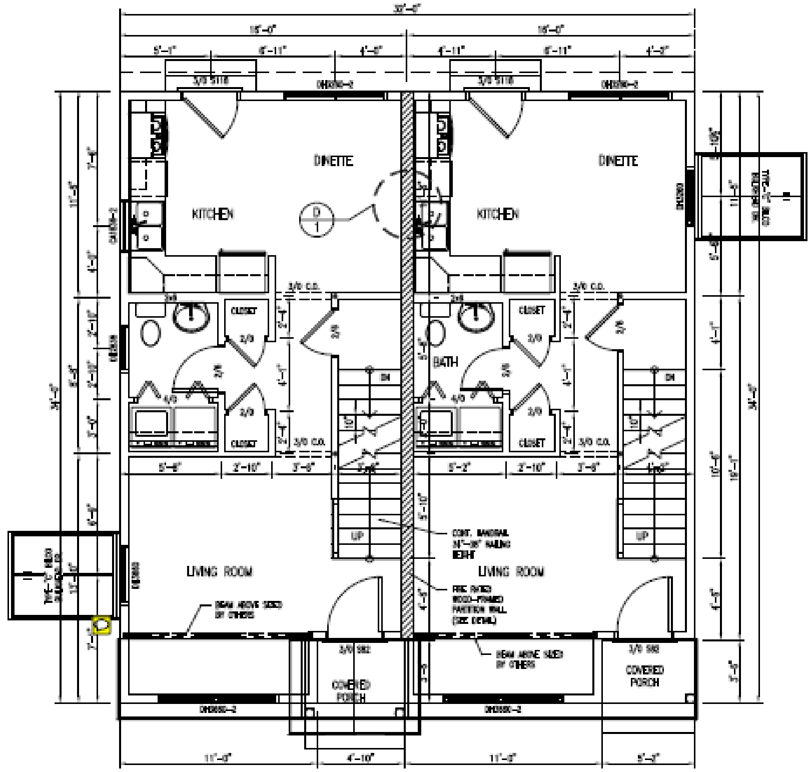
NOTE TOP OF POSTS SHOULD BE A MIN. OF 6" ABOVE GRADE

NOTE:

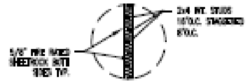
1. THE GROUND IMMEDIATELY ADJACENT TO THE FOUNDATION SHALL BE SLOPED AWAY FROM THE BUILDING AT A SLOPE OF 1/2" VERTICAL TO 12" HORIZONTAL FOR A MINIMUM DISTANCE OF 6'-0". THIS CONDITION SHALL EXIST AFTER SETTLEMENT OF BACKFILL HAS OCCURRED.

2. SUBSTITUTE FLR JOISTS AND STUD WALL SIZES WITH PLAN CALL OUT

CONC. FROST WALL AT DECKING
N.T.S.



FIRST FLOOR PLAN
1/4" = 1'-0"



D-1

1HR FIRE RATED WALL:

ONE LAYER OF 5/8" TYPE X GYPSUM WALLBOARD OR VENEER BASE APPLIED TO EACH SIDE OF 2x4 IN. WOOD STUDS 16 IN. O.C. STAGGERED 8 IN. O.C. ON 2x6 IN. WOOD PLATES. USE 6d COATED NAILS 24 IN. O.C. FOR BASE LAYER AND 8d COATED NAILS 8 IN. O.C. FOR FACE LAYER. STAGGER VERTICAL JOINTS 16 IN. O.C. EACH LAYER AND SIDE.

SMOKE ALARMS:

SHALL BE INTERCONNECTED & INSTALLED IN THE FOLLOWING LOCATIONS

1. EACH SLEEPING AREA
2. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS
3. ON EACH ADDITIONAL STORY OF THE DWELLING INCLUDING BASEMENTS
4. FIRE BLOCKING, FIRE RATED FIXTURES & CAULKING BETWEEN FLOORS WHEN/WHERE REQUIRED. 5/8 TYPE-X FIRE RATED SHEETROCK ON ALL WALLS & CEILINGS SEPARATING FLOORS WHEN/WHERE REQUIRED, PER TOWN AND LOCAL CODE

* DENOTES EGRESS WINDOW

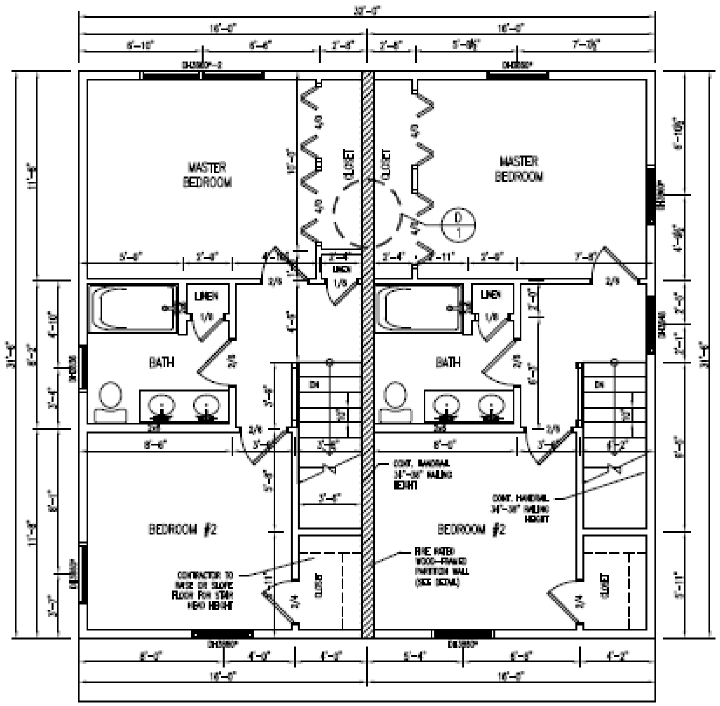
CARBON MONOXIDE ALARMS:

SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS

1. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS
2. IN THE IMMEDIATE VICINITY OF THE BEDROOMS IN DWELLING UNITS WITHIN WHICH FUEL-FIRED APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT HAVE ATTACHED GARAGES

CONSTRUCTION NOTE:

CONTRACTOR TO VERIFY GRADE IN FIELD, AND ALL DIMENSIONS ON PLANS BEFORE STARTING NEW CONSTRUCTION. DESIGN SHOWN MAY DIFFER FROM ACTUAL FINISHED CONSTRUCTION. FINAL MATERIALS, WINDOW/DOOR LOCATIONS AND SIZES, TO BE DETERMINED PER OWNER/CONT. OR LOCAL CODES.



SECOND FLOOR PLAN
1/4" = 1'-0"

FASTENER SPACING FOR SOUTHERN PINE OR HEM-FIR DECK LEDGER AND 2-INCH NOMINAL SOLID-SAWN SPRUCE-PINE-FIR BAND JOIST (DECK LIVE LOAD = 40PSF, DECK DEAD LOAD = 10PSF)

JOIST SPAN	6'-0" AND LESS	6'-1" AND 8'-0"	8'-1" AND 10'-0"	10'-1" AND 12'-0"	12'-1" AND 14'-0"	14'-1" AND 16'-0"	16'-1" AND 18'-0"
CONNECTION DETAILS	ON-CENTER SPACING OF FASTENERS						
1/2" DIAMETER LAG SCREW WITH 15/32" MAXIMUM SHEATHING	30	23	18	15	13	11	10
1/2" DIAMETER LAG SCREW WITH 15/32" MAXIMUM SHEATHING	36	36	34	29	24	21	19
1/2" DIAMETER LAG SCREW WITH 15/32" MAXIMUM SHEATHING & 1/2" STACKED WASHERS	36	36	29	24	21	18	16

(REF. TABLE R507.2)

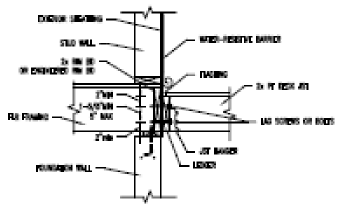


FIGURE R507.2.1(2)
PLACEMENT OF LAG SCREWS AND BOLTS IN BAND JOISTS

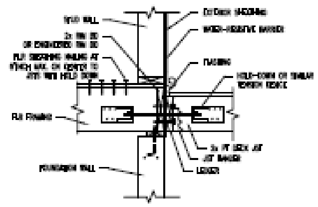


FIGURE R507.2.3
DECK ATTACHMENT FOR LATERAL LOADS