CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

Meeting Type: Regular Meeting
Meeting Location: Council Conference Room, City Hall, 288 Central Ave, Dover NH 03820
Meeting Date: **Thursday, July 23, 2026**
Meeting Time: **10:30 AM**

1. Site Plan for 68 Durham Road, Assessor's Map I, Lot 11, Zoned R-20, located at 68 Durham Road. (Proposal is to construct two (2), four-unit buildings, one 5,702 sqft and the other 5,440 sqft, in addition to an existing single-family home, for a total of eight (9) units, 7 to be purchased through TDR.) (SITE-2026-0010) *(TDR application and LLA applications have been submitted TRAN-2026-0006 and LOTA-2026-0003.)*

PLAN SNAPSHOT REPORT SITE-2026-0010
FOR CITY OF DOVER, N.H.

Plan Type:	Site Plan - Major	**Project:**		**App Date:**	07/02/2026
Work Class:	New Construction	**District:**	None	**Exp Date:**	09/05/2026
Status:	Fees Due	**Square Feet:**	0.00	**Completed:**	NOT COMPLETED
Valuation:	$0.00	**Assigned To:**	Blonigen, Rachel	**Approval Expire Date:**	

Description: Construction of 8 new townhouse style units in two, 4 unit buildings. Existing single family home at front of site to remain (total of 9 proposed on parcel). TDR request to purchase 7 units. See attached narratives for justification and supporting documentation.

Parcel: I0011-000000 Main	**Address:** 68 Durham Rd Main Dover, NH	**Zone:** R-20(Residential - Low Density)

Wetlands Scientist
Deidra Benjamin
Home: (603) 332-2863

Applicant
Berry Surveying & Engineering
335 Second Crown Point Road
Barrington, NH 03825
Business: (603) 332-2863
Mobile: (603) 781-3403

Surveyor
Berry Surveying & Engineering
335 Second Crown Point Road
Barrington, NH 03825
Business: (603) 332-2863
Mobile: (603) 781-3403

Owner
Robert Paolini
Business: (603) 781-1636

Landscape Architect
Terrain Planning & Design, LLC
Business: (603) 491-2322

Soil Scientist
John Hayes III
Home: (603) 205-4396
Business: (603) 205-4396
Mobile: (603) 205-4396

Engineer
Kevin Poulin
Business: (603) 332-2863

Plan Custom Fields

Total2	0	Total3	6005	Total	0
Total5	0	Total4	0	Total6	8
Total7	0	Total9	5571	Total8	11142
Street Classification Type	Municipal	Recording Number		Net Change in # Parking Spaces (+/-)	17
Water Service	Municipal	Sewer Service	Municipal	Deed Book	5263
Total Acres (GIS)	0.93	Deed Page	820	Total SQFT	40510.8
Deed Date		Proposed Property Use	Construction of 8 new townhouse style units in two, 4 unit buildings. Existing single family home at front of site to remain (total of 9 proposed on parcel). TDR request to purchase 7 units. See attached narratives for justification and supporting documentation.	Area of Parcel to be Developed (SQFT)	34350
Number of Parking Spaces Existing	1	Number of Parking Spaces Proposed	18	Number of Employees Total	0
Number of Employees in Max Shift	0	Distance to City Water	0	Distance to City Sewer	0
Type of Building to be Built	Wood frame construction	Estimated Construction Value	3500000.00	Refuse Removal	Private
Is there an existing Conservation Easement?	No	Existing Conservation Easement Details		Total of Impact Fees to be Assessed	0.00
TotalImpactFeeSDTOD	0.00	Sub Total Residential	0.00	TotalImpactFeeTHTOD	0.00
TotalImpactFee23FTOD	0.00	TotalImpactFeeA4TOD	0.00	TotalImpactFeeMHTOD	0.00
TotalImpactFeeADUTOD	0.00	TotalImpactFeeAONRTOD	0.00	TotalImpactFeeAR55TOD	0.00

PLAN SNAPSHOT REPORT (SITE-2026-0010)

TotalImpactFeeAR62TOD 0.00	TotalImpactFeeRIRCTOD 0.00	Sub Total Non-Residential 0.00
TotalImpactFeeOCSTOD 0.00	TotalImpactFeeITWCTOD 0.00	TotalImpactFeeNHALTOD 0.00
TotalImpactFeeOIUTOD 0.00	TotalImpactFeeAFAOTOD 0.00	

Attachment File Name	Added On	Added By	Attachment Group	Notes
Signature_Chris_Berry_7/2/2026.jpg	07/02/2026 11:35	Berry, Chris		Uploaded via CSS
2026.07.23_PlanningTechnicalReviewCommittee.Agenda.pdf	07/15/2026 11:46	Blonigen, Rachel		TRC Agenda

Invoice No.	Fee	Fee Amount	Amount Paid
INV-2026002519	Planning General Application Fee	$250.00	$0.00
	Total for Invoice INV-2026002519	$250.00	$0.00
NOT INVOICED	Planning Residential Fee	$800.00	$0.00
	Planning Impervious Paved Area Fee	$420.35	$0.00
	Total for Invoice NOT INVOICED	$1,220.35	$0.00
	Grand Total for Plan	**$1,470.35**	**$0.00**

Meeting Type	Location	Scheduled Date	Subject
Technical Review Committee Meeting v.1	City Hall, Second Floor Conference Room	07/23/2026	Technical Review Committee Meeting

Submittal Name	Status	Received Date	Due Date	Complete Date	Resubmit	Completed
Land Use Plan Technical Review v.1	In Review	07/15/2026	07/22/2026		No	No

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Business Development	Business Development	Burdin, James	In Review	07/15/2026	08/12/2026	
City Engineer	Community Services - Engineering	Semprini, Jillian	In Review	07/15/2026	07/22/2026	
Planning	Planning	Crouser, Paul	In Review	07/15/2026	08/12/2026	
Zoning Administrator	Planning	Crouser, Paul	In Review	07/15/2026	07/22/2026	
IS Building Official	Planning / Inspection Services	Maxfield, Jim	In Review	07/15/2026	07/22/2026	
Traffic	Police	Mitrushi, Alex	In Review	07/15/2026	07/22/2026	

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1		07/02/2026 13:25	
Confirm application complete v.1	Generic Action		07/02/2026 13:25
Technical Review Committee Meeting Agenda v.1	Task	07/02/2026 13:25	07/15/2026 11:37
Land Use Plan Technical Review v.1	Receive Submittal	07/15/2026 0:00	
Technical Review Committee Meeting v.1	Hold Meeting	07/15/2026 11:39	
Planning Board v.1			
Planning Board Agenda v.1	Task		

Invoice for Notices v.1	Task
Send Notices v.1	Task
Planner Creates Staff Recommendations v.1	Plan Activity
Distribute Planning Board Materials v.1	Task
Planning Board Hearing v.1	Hold Hearing
Planning Board Decision v.1	Plan Activity
NOD Sent to Applicant v.1	Create Report
Final Plan v.1	
Land Use Plan Stamped and Signed v.1	Generic Action
Recording v.1	Task
Document Archival v.1	Generic Action
Internal Notification of Plan Completion v.1	Generic Action
Building Official Notifies Address v.1	Generic Action
Pre-Con Meeting v.1	Hold Meeting
Create/Link to Records v.1	
Create / Link to Permit - Building Major v.1	Create Sub Permit
Create / Link to Permit - Site Work, Construction v.1	Create Sub Permit

City of Dover, New Hampshire
SITE REVIEW APPLICATION

[Revision Date: July 1, 2021]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: STF Development, LLC (Robert V Paolini) Telephone #603-781-1636

Address of Applicant: 54 Dover Point Road, Unit #3, Dover, NH 03820

E-Mail Address: Crownpoint62@yahoo.com

Name of Property Owner (*if different from applicant*): Same Telephone #_____

Address of Property Owner: _____

PROPERTY INFORMATION

Address of Property: 68 Durham Road, Dover, NH 03820

Assessor's Map # I Lot(s) # 11

Zoning District(s) R-20 & RM-SU Overlay District(s) None

Size of Parcel: 40,508 - 44,660 (pre/post-LLR) sq. ft. 0.93 - 1.03 ac. Property Deed: Book 5263 Page: 820

Existing Use of Property: Single family dwelling

SITE PLAN INFORMATION

Describe Proposed Use: Residential (8 single family attached, 1 ex. single family detached to remain)

Area of Parcel to be Developed: 34,350 sq. ft.

If Multi-family Residential: Number of Units 8 & Buildings Proposed 2

If lodging: Number of Units _____ & number of Buildings _____

Number of Parking Spaces: Existing dw Proposed 18

Highway Access (check where applicable): x City Street ____ State Highway

Number of Employees Total: _____ In Maximum Shift: _____

Disposition of Parcel:

Building Footprint 2,851 / 2,720 sq. ft.

Total Building Area 5,702 / 5,440 sq. ft.

Paved Area 6,005 sq. ft.

Building Setbacks:

Front Yard 20-35 build-to ft.

Rear Yard 30 ft.

Side Yard: Right 20 ft. Left 20 ft.

City Water? x Yes ___ No How far is city water from the property? Clancy Drive

City Sewer? x Yes ___ No How far is city sewer from the property? Durham Road

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

Type of TRANSFER OF DEVELOPMENT RIGHT REQUEST (Check All That Apply):

☒ Residential ☐ Residential (reduced size) ☐ Industrial | ☒ Purchase ☐ Land Preservation

Relief sought (Check All That Apply):

☐ Lot Size ☐ Frontage ☐ Setback ☐ 30' Buffer ☐ Increase by 7 units

Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:
Request for seven (7), non-restricted units above the base density of two (2) units, for a total of nine (9) on the parcel. See attached TDR narrative for further information.

BUILDING INFORMATION

Type of Building to be Built: Wood frame construction

Height of Building: <35' Finished Floor Elevation: 96', 96.3'

Number of Seats (where applicable) N/A

Estimated value of construction: 3,500,000 Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: 157-40-B(5), 157-31-F, 157-32-G

Justification for waiver request(s) (*attach additional sheets as needed*):
See waiver request narrative for further information.

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Christopher R. Berry, LLS (Berry Surveying & Engineering)

Address 335 Second Crown Point Road, Barrington, NH 03825 Telephone #: 603-332-2863

Professional License #: 1624 E-mail address: Crberry@berrysurveying.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Kevin R. Poulin, PE (Berry Surveying & Engineering)

Address 335 Second Crown Point Road, Barrington, NH 03825 Telephone #: 603-332-2863

Professional License #: 17824 E-mail address: K.poulin@berrysurveying.com

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) _____

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) Terrain Planting & Design LLC Eric Buck

Address 311 Kast Hill Road, Hopkinton NH 03229 Telephone #: 603-491-2322

Professional License #: 78 E-mail address: _____

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) John P. Hayes III, CSS, CWS

Address 7 Limestone Way, North Hampton, NH 03862 Telephone #: 603-205-4396

Professional License #: 87 E-mail address: Johnphayes@comcast.net

CONSERVATION EASEMENT HOLDER

Name of Easement Holder: _____ Telephone #_____

Address Easement Holder: _____

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. Furthermore, I/we submit that the existing conditions sheet of the plan represents the lot in question, and that no alteration of the site shall take place during Planning Board review up to and including the pre-construction meeting. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: 5/7/26

Signature of Applicant (*if different from owner*): _____ Date: _____

Signature of Agent: _____ Date: 5/7/26

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: 5/7/26

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

I, and my successors, hereby the City of Dover or its assigns to enter my property for the purpose of completing the site work as required by the approved plan should the letter or credit or other surety be called. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: 5/7/26

Signature of Applicant (*if different from owner*): _____ Date: _____

CERTIFICATION OF FEES

I, and my successors, hereby certify that I understand that the City of Dover collects impact fees, utility investment fees and inspection fees for projects developed in Dover. Said fees must be paid before a Certificate of Occupancy can be obtained for a structure, unless a different payment schedule is agreed to by the applicant and the City prior to approvals being issued by the Dover Planning Board. Additionally, should the property be in "Current Use" it will be subject to the Land Use Change Tax.

Signature of Property Owner: _____ Date: 5/7/26

Signature of Applicant (*if different from owner*): _____ Date: _____

CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE/INVOICE

(Revised July 24, 2023)

Below are the fees associated with plan review and are subject to a nonrefundable application fee to cover administrative expenses. Please complete the information below and provide payment with your application submittal. **Plan review fees shall be paid prior to technical review committee (TRC) being scheduled.** For plans not requiring TRC review, **fees are due 21 days prior** to the Planning Board meeting. Staff will coordinate abutter/notice fees, which will be invoiced and must be paid 28 hours before the Planning Board meeting for an application to be heard. Fees shall be paid by cash or check made payable to "City of Dover".

A. Plan Review Fees

1. Application fee for the following (SELECT ALL THAT APPLY):

- ☐ SUBDIVISION Application fee $200.00 + $150.00 x # _____ new lots created = $_____
- ☐ LOT LINE ADJUSTMENT Application fee $200.00 + $100.00 X # ___ of lots involved = $_____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee $200.00 = $_____
- ☐ SITE REVIEW – RESIDENTIAL Application fee $200.00+ $100.00 x # __ per dwelling unit =$_____
- ☐ SITE REVIEW – NON-RESIDENTIAL Application fee $200.00 + (not to exceed $10,000)
  - New construction $.15 sq. ft. x # _____ sq. ft.= $_____
  - Additions (new floor space) $.10 per sq. ft. x # _____sq. ft.= $_____
- ☐ MOTEL/HOTEL $35.00 x # ___ per lodging unit= $_____
- ☐ CHANGE OF USE Application fee $200.00 + (not to exceed $5,000)
  - Existing floor spaces $.10 per sq. ft. x # _____ sq. ft. = $_____
- ☐ CONDITIONAL USE PERMIT Application fee $200.00 x # _____ per Application = $_____
- ☐ GRAVEL PIT/ EXCAVATIONS
  - Application fee $50.00= $_____
  - Permit fee $75.00= $_____
- ☐ EXTENSIONS/AMENDMENTS/WAIVERS FOR AN APPROVED PLAN Application fee $200.00 = $_____
- ☐ REQUEST FOR REZONING Application fee $200.00 = $_____
- ☐ DRIVEWAY WAIVER Application fee $200.00 = $_____
- ☐ **TOTAL IMPERVIOUS PAVED AREA** (for new development, roadways or additions to existing parking lots, (not to exceed $10,000)) Application fee of $200.00 is N/A if it is part of a Site Review or Subdivision Plan. $200.00 + $.07 per sq. ft. x # _____ sq. ft. = $_____

SUBTOTAL PLAN REVIEW FEE = $_____

AND

B. Abutter Notification/Mailing Labels - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will review the list for accuracy and provide to us the engineer, architect, licensed land surveyor (LLS), licensed landscape architect (LLA) and/or soil scientist whose professional seal appears on the plan with names and addresses for notices.

- ☐ Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
  - Certified letters fee # _____ of x $10.00= $_____
- ☐ Certified letters fee: # of abutters _____ X $10.00= $_____
- ☐ First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X $1.00= $_____
- ☐ Creating/Printing Abutter Labels in triplicate per sheet _____ x $10.00= $_____

C. Foster's newspaper public notice fee $120.00 x # _____ applications = $_____

SUBTOTAL = $_____

TOTAL INVOICE AMOUNT = $_____

PLAN REVIEW FEE COLLECTED/PAID = $ _____

BALANCE DUE = $ _____

The amount due must be paid 28 hours prior to the Planning Board Meeting, to be heard.

City of Dover, New Hampshire
SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

This site plan review checklist, as required by Chapter 153-6-B(2), should be completed by the applicant. It is intended to assist the applicant in the planning process of preparing a Site Plan Review application for Planning Board action. The size of the project will determine the types of information required for review, therefore, a **pre-application conference** with the Planning Department to determine the list of items that must be completed is strongly encouraged.

The first step would be to appear before the Technical Review Committee, to apply, eight (8) folded copies of the site plan with scale of not less than 1"=50' or 1" =100' for larger site plans, need to be provided, along with payment of plan review fees.

Two weeks prior to Planning Board, three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, including response to TRC comments, will be due. Abutter/Notice Fees will be invoiced and need to be paid 28 hours prior to the Planning Board meeting.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan Review Regulations for full details.

APPLICANT: STF Development, LLC File Number: _____

PROJECT TITLE: Residential TDR Site Plan for STF Development, LLC

PROPERTY LOCATION: 68 Durham Road Tax Map: I Lot: 11

	Where/How Provided	Reviewed
1. Completed and signed Application form	X	
2. Plan Review Fees are provided	X	
3. Electronic copy of the engineered/surveyed plan layout	X	
4. Electronic copy of supplementary materials and application	X	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	X	
6. Waiver requests to the Site Plan Review Regulations, with written justification	X	
7. Conditional Use Permit applications	N/A	
8. A colored rendering of the streetscape that will be created along the existing public right-of-way	X	
9. A colored architectural plan showing all sides of buildings	X	
10. Folded copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:	X	
Location map at appropriate scale	X	
Proposed Project name and title and Planning File #	X	
Date, north arrow and scale	X	
Names of all abutting property owners	X	
Name and address of owners and/or applicants	X	
Signature & stamp of NH licensed land surveyor and/or engineer	X	
Zoning District boundaries, including any special or overlay districts	N/A	
Location of Conservation District areas	N/A	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	X	
Location and widths of existing & proposed easements & right of ways	X	
Location and width of existing and proposed access/egress ways	X	

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	X	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	X	
Existing and proposed topographic information at two foot intervals	X	
Existing and proposed buildings and structure locations	X	
Minimum building setbacks or build to lines on all lots	X	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	X	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	X	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	X	
Existing and proposed stormwater lines and facilities	X	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	X	
Location of Flood Hazard Zone	N/A	
Location of all bodies of water and watercourses	N/A	
Location of wetlands and buffers	N/A	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	X	
Existing natural features and/or significant vegetation on property	X	
Depict existing contours up to 100 ft. beyond project limits	X	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	X	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	X	
Location, material and size of existing and proposed pavement area	X	
Location of proposed fire lanes	X	
Specify finished floor elevations of buildings	X	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	X	
Depict all service, storage, loading bays and utility areas	X	
All applicable Dover Common Site Plan notes	X	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	X	
Stormwater Management System Operation and Maintenance Plan	X	
Letter to Serve from Public and Private Utilities	Will provide when obtained	
Erosion and Sedimentation Control Plan	X	
Landscape Operation and Maintenance Plan	X	
Proposed restrictive covenants or homeowners association documents	Will provide	
Dates and permit numbers of all required state and federal permits	Will provide when obtained	
If wetland buffer, indicate placards locations, as applicable	N/A	
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	See Site Specific Soils Report	
Location of proposed drive-in facilities	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	Will provide as needed	

REVIEWED BY: _____ DATE_____ TRC DATE_____

CITY OF DOVER, NEW HAMPSHIRE
PLANNING APPLICATION OWNER AUTHORIZATION

OWNER AUTHORIZATION

I/We hereby submit this application to the City of Dover / City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Property Owner Name: STF Development, LLC (Robert V. Paolini)

Signature(s) of Property Owner(s): _____ Date: 2026-07-01

Signature of Applicant: _____ Date: _____
if different from owner

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity..

Property Owner Name: STF Development, LLC (Robert V. Paolini)

Signature(s) of Property Owner(s): _____ Date: 2026-07-01

Signature of Applicant: _____ Date: _____
if different from owner

IF SIGN PERMIT, SIGN PERMIT APPLICATION INFORMATION

If the sign permit applicant is not the property owner, this form must be completed and included as part of application submission.

I have read this application and state that, to the best of my knowledge, the information provided is true and that the proposed sign(s) will comply with all applicable regulations in Section 170-32 of the Zoning Ordinance of the City of Dover and shall conform to the submitted materials and designs. Furthermore, after 90 days, any application still waiting information will be denied.

Address of Sign Location: _____

Sign Permit Application Type:
(check one)

- ☐ Permanent Sign
- ☐ Temporary Sign
- ☐ Community Sign

City of Dover, New Hampshire
MINOR LOT LINE ADJUSTMENT APPLICATION

[Revision Date: June 4, 2019]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT INFORMATION

Name of Applicant: STF Development, LLC (Robert V Paolini) Telephone # 603-781-1636

Address of Applicant: 54 Dover Point Road, Unit #3, Dover, NH 03820

FIRST PROPERTY OWNER AND PARCEL INFORMATION

Name of 1st Property Owner (*if different from applicant*): Same Telephone #_____

Address of 1st Property Owner: Same

Address of Property: 68 Durham Road, Dover, NH 03820

Assessor's Map # I Lot(s) # 11

Property Deed: Book 5263 Page: 820

Zoning District(s) R-20 & RM-SU Overlay District(s) None

Size of Existing Parcel (sq. ft.): 40,508 Size of Proposed Parcel (sq. ft.): 44,660

SECOND PROPERTY OWNER AND PARCEL INFORMATION

Name of 2nd Property Owner (*if different from applicant*): Same Telephone #_____

Address of 2nd Property Owner: Same

Address of Property: 21 Clancy Drive, Dover, NH 03820

Assessor's Map # I Lot(s) # 12

Property Deed: Book 4186 Page: 859

Zoning District(s) RM-SU & R-20 Overlay District(s) Wetlands protection

Size of Existing Parcel (sq. ft.): 205,327 Size of Proposed Parcel (sq. ft.): 201,175

THIRD PROPERTY OWNER AND PARCEL INFORMATION

Name of 3rd Property Owner (*if different from applicant*): _____ Telephone #_____

Address of 3rd Property Owner: _____

Address of Property: _____

Assessor's Map # _____ Lot(s) # _____

Property Deed: Book _____ Page: _____

Zoning District(s) _____ Overlay District(s) _____

Size of Existing Parcel (sq. ft.): _____ Size of Proposed Parcel (sq. ft.): _____

[Use additional application form if more than two lots are being adjusted]

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Christopher R. Berry, LLS (Berry Surveying & Engineering)

Address 335 Second Crown Point Road, Barrington, NH 03825 Telephone #: 603-332-2863

Professional License #: 1624 E-mail address: Crberry@berrysurveying.com

CONSERVATION EASEMENT HOLDER (s)

Name of Easement Holder: _____ Telephone #_____

Address Easement Holder: _____

Name of 2nd Easement Holder: _____ Telephone #_____

Address 2nd Easement Holder: _____

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of First Property Owner: _____ Date: 5-7-26

Signature of Second Property Owner: _____ Date: 5-7-26

Signature of Applicant (*if different from owner*): _____ Date: _____

Signature of Agent: _____ Date: 5-7-26

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: 5-7-26

CITY OF DOVER MINOR LOT LINE ADJUSTMENT LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE/INVOICE

(Revised July 24, 2023)

Below are the fees associated with plan review and are subject to a nonrefundable application fee to cover administrative expenses. Please complete the information below and provide payment with your application submittal. **Plan review fees shall be paid prior to technical review committee (TRC) being scheduled.** For plans not requiring TRC review, **fees are due 21 days prior** to the Planning Board meeting. Staff will coordinate abutter/notice fees, which will be invoiced and must be paid 28 hours before the Planning Board meeting for an application to be heard. Fees shall be paid by cash or check made payable to "City of Dover".

A. Plan Review Fees

1. Application fee for the following (SELECT ALL THAT APPLY):

- ☐ SUBDIVISION Application fee $200.00 + $150.00 x # _____ new lots created = $_____
- ☐ LOT LINE ADJUSTMENT Application fee $200.00 + $100.00 X # ___ of lots involved = $_____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee $200.00 = $_____
- ☐ SITE REVIEW – RESIDENTIAL Application fee $200.00+ $100.00 x # __ per dwelling unit =$_____
- ☐ SITE REVIEW – NON-RESIDENTIAL Application fee $200.00 + (not to exceed $10,000)
  - New construction $.15 sq. ft. x # _____ sq. ft.= $_____
  - Additions (new floor space) $.10 per sq. ft. x # _____sq. ft.= $_____
- ☐ MOTEL/HOTEL $35.00 x # ___ per lodging unit= $_____
- ☐ CHANGE OF USE Application fee $200.00 + (not to exceed $5,000)
  - Existing floor spaces $.10 per sq. ft. x # _____ sq. ft. = $_____
- ☐ CONDITIONAL USE PERMIT Application fee $200.00 x # _____ per Application = $_____
- ☐ GRAVEL PIT/ EXCAVATIONS
  - Application fee $50.00= $_____
  - Permit fee $75.00= $_____
- ☐ EXTENSIONS/AMENDMENTS/WAIVERS FOR AN APPROVED PLAN Application fee $200.00 = $_____
- ☐ REQUEST FOR REZONING Application fee $200.00 = $_____
- ☐ DRIVEWAY WAIVER Application fee $200.00 = $_____
- ☐ **TOTAL IMPERVIOUS PAVED AREA** (for new development, roadways or additions to existing parking lots, (not to exceed $10,000)) Application fee of $200.00 is N/A if it is part of a Site Review or Subdivision Plan. $200.00 + $.07 per sq. ft. x # _____ sq. ft. = $_____

SUBTOTAL PLAN REVIEW FEE = $_____

AND

B. Abutter Notification/Mailing Labels - this office will create and print the abutter list and provide labels in triplicate for each abutter. The applicant/owner will review the list for accuracy and provide to us the engineer, architect, licensed land surveyor (LLS), licensed landscape architect (LLA) and/or soil scientist whose professional seal appears on the plan with names and addresses for notices.

- ☐ Applicant & Owner, engineer, architect, LLS, LLA and/or soil scientist
  - Certified letters fee # _____ of x $10.00= $_____
- ☐ Certified letters fee: # of abutters _____ X $10.00= $_____
- ☐ First Class Mail fee (for individual owner of units within a condominium or other collective form of ownership): # of abutters _____ X $1.00= $_____
- ☐ Creating/Printing Abutter Labels in triplicate per sheet _____ x $10.00= $_____

C. Foster's newspaper public notice fee $120.00 x # _____ applications = $_____

SUBTOTAL = $_____

TOTAL INVOICE AMOUNT = $_____

PLAN REVIEW FEE COLLECTED/PAID = $ _____

BALANCE DUE = $ _____

The amount due must be paid 28 hours prior to the Planning Board Meeting, to be heard.

City of Dover, New Hampshire
LOT LINE ADJUSTMENT SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

This review checklist is intended to assist the applicant in the planning process of preparing a Subdivision application for Planning Board action. The size of the project will determine the types of information required for review, therefore, a **pre-application conference** with the Planning Department to determine the list of items that must be completed is strongly encouraged.

Plan Review Fees are due along with three (3) full size and twelve (12) half size (11x17), folded, copies of the plan set and materials, 3 weeks prior to the Planning Board meeting. Abutter/Notice Fees will be invoiced and are due 28 hours prior to Planning Board.

The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all subdivision requirements. Please refer to the Subdivision Regulations for full details.

APPLICANT: STF Development, LLC File Number: _____

PROPERTY LOCATION: 68 Durham Road / 21 Clancy Drive Tax Map: I Lot: 11 and Lot: 12

	Where/How Provided	Reviewed
1. Completed and signed Application form	x	
2. Plan Review Fees are provided	x	
3. Electronic copy of the surveyed plat layout	x	
4. Electronic copy of supplementary materials and application	x	
5. Fifteen copies of LLA plan w/scale of not less than 1"=50' or 1"=100' for larger adjustments. Plans shall contain the following items as appropriate:	x	
Location map at appropriate scale	x	
Planning File #	x	
Date, north arrow and scale	x	
Names of all abutting property owners	x	
Name and address of owners	x	
Signature & stamp of NH licensed land surveyor	x	
Zoning District boundaries, including any special or overlay districts	x	
Location of Conservation District areas	N/A	
Location, names and widths of existing and streets, including pavement widths, grades, curbs and crosswalks	x	
Location and widths of existing & proposed easements & right of ways	x	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	x	
Existing and proposed lot areas in square feet	x	
Existing and proposed buildings and structure locations	x	
Minimum building setbacks or build to lines on all lots	x	
Map and lot numbers for existing and proposed lots as assigned by Tax Assessor	x	
Location, material and size of existing and proposed permanent monuments	x	
All applicable Dover Common Subdivision notes	x	

REVIEWED BY: _____ DATE_____

City of Dover, New Hampshire
TRANSFER OF DEVELOPMENT RIGHTS APPLICATION

[Revision Date: September 26, 2024]

Office Use Only	Project #:		Date Received:	
	Amount Paid:		Time Received:	

APPLICANT AND OWNER INFORMATION

Name of Applicant: STF Development, LLC (Robert V Paolini) Telephone #603-781-1636

Address of Applicant: 54 Dover Point Road, Unit #3, Dover, NH 03820

E-Mail Address: Crownpoint62@yahoo.com

Name of Property Owner (if different from applicant): Same Telephone #_____

Address of Property Owner: _____

PROPERTY INFORMATION

Assessor's Map # I Lot(s) # 11

Address of Property: 68 Durham Road, Dover, NH 03820

Zoning District(s) R-20 & RM-SU Overlay District(s) None

Existing Use of Property: Single family dwelling

New impervious area (in s.f.): 9,971

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

Type of TRANSFER OF DEVELOPMENT RIGHT REQUEST (Check All That Apply):

☒ Residential ☐ Residential (reduced size) ☐ Industrial | ☒ Purchase ☐ Land Preservation

Relief sought (Check All That Apply):

☐ Lot Size ☐ Frontage ☐ Setback ☒ Increase by 7 units

Describe Proposed Use or Activity that requires TDR; describe any impacts and document mitigation:

Request for seven (7), non-restricted units above the base density of two (2) units, for a total of nine (9) on the parcel. See attached TDR narrative for further information.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: NHDES Sewer Discharge Permit (not yet submitted)

Name of Professional That Prepared TDR Plans: Kevin R. Poulin, PE, Christopher R. Berry, LLS

Address 335 Second Crown Point Road, Barrington, NH 03835 Telephone #: 603-332-2863

Professional License #: PE 17824, LLS 1624 E-mail address: Crberry@berrysurveying.com
K.poulin@berrysurveying.com

SIGNATURES

I/We hereby submit this application to the City of Dover Planning Board and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant or as agent, I attest that I am duly authorized to act in this capacity.

Signature of Property Owner: _____ Date: 5/7/26

Signature of Applicant (if different from owner): _____ Date: _____

Signature of Agent: _____ Date: 5/7/26

AUTHORIZATION TO ENTER SUBJECT PROPERTY

I, and my successors, hereby authorize members of the Dover Planning Board, Planning Department and other pertinent City Departments and boards to enter my property for the purpose of evaluating this application, including performing inspections during the application phase, post-approval phase, construction phase and occupancy phase. It is understood that these individuals must use all reasonable care, courtesy, and diligence when on the property.

Signature of Property Owner: _____ Date: 5/7/26

CITY OF DOVER TRANSFER OF DEVELOPMENT RIGHTS
LIST OF ABUTTERS

Pursuant to RSA 676:4, the State Law of New Hampshire, the City of Dover is required to notify the applicant, abutters (including holders of conservation easements), and any professional whose seal is on the plan, of the public hearing by certified mail, return receipt requested. Staff will provide the abutter information, while the applicant must provide accurate contact information for the owner, applicant and professional agents representing the project.

Owner:

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Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

BERRY SURVEYING & ENGINEERING
335 Second Crown Point Road
Barrington, NH 03825
Phone: (603) 332-2863
Fax: (603) 335-4623
www.BerrySurveying.Com
crberry@berrysurveying.com

May 7, 2026

City of Dover Planning Board
Attention: Donna Benton, AICP, Director of Planning and Community Development
288 Central Ave
Dover, NH 03820

Re: Residential Transfer of Development Rights (TDR) Site Plan
Project Narrative
STF Development, LLC (Owner & Applicant)
68 Durham Road, Tax Map I, Lot 11
R-20 & RM-SU Zone

Dear Mrs. Benton,

On behalf of our client, STF Development, LLC, Berry Surveying & Engineering (BS&E) is submitting a proposed Residential Transfer of Development Rights Site Plan at Tax Map I, Lot 11.

1. Project Overview

This application seeks TDR Site Plan approval for a nine (9) unit project located within the **R-20 & RM-SU Zone** in Dover, NH. The project site is not located within any Zoning Overlay Districts. The proposed development includes the construction of **two, 4-unit buildings (in addition to a single-family home to remain)**, supported by associated site improvements including parking, access (Murphy Drive), stormwater management, and landscaping.

2. Existing Conditions

Parcel Disposition of Tax Map I, Lot 11

- **Total Lot Area & Land Cover Types**: 40,508 Sq. Ft. (0.93 Ac.) (Pre-LLR) occupied by a single-family home/garage/driveway and is primarily grassed lawn. Topographic and Boundary Survey completed by BS&E. Property is surrounded by roadway to the south (Clancy Drive) and west (Durham Road), a single-family home to the north, and multi-family development (The Garrison) to the east.
- **Upland & Wetland Areas**: Subject parcel free from poorly drained jurisdictional wetlands as delineated by Deidra Benjamin, CWS, in August 2025. Site Specific Soils Map provided by John P. Hayes, III, CWS, CSS.

- **Topographic Conditions**: No slopes of 20% or greater on the parcel, as site is less than 5% slopes throughout. Northern portion of parcel drains to the north over the single-family home property line, while southern portion drains south west to a catch basin at the intersection of Clancy Drive and Durham Road.
- **Soil Characteristics**: The site consists of fine sandy loams in the center of the site and silty soils to the front and rear. These include Deerfield, Eldridge, Boxford, Scitico, and Udorthents (derived from Deerfield).
- **Access and Easements:**
  Parcel has frontage along Durham Road. Tax Map I, Lot 12 (Clancy Drive) is owned by the applicant, with the proposed site being accessed from Clancy Drive. An access easement over Clancy Drive is proposed as part of the LLR Plan.

3. Project Components

Building Composition

- **Units #1-4**: Approximately 1,440 square feet per 2 story units with parking spaces along the sidewalk and front of the units.
- **Units #5-8**: Approximately 1,360 square feet per 3 story units with one car garage on the first level and additional space for parking in front of the garage.
- **Unit #9**: Single family home with three bedrooms to remain. Garage to be removed but most of existing driveway will remain.
- **Height and Massing**: Designed to be consistent with the scale and intent of development in the area. Two story building at the front and 3-story building at rear proposed are not over massed as compared to the surrounding 3-story single family homes and 2-3 story multi-family structures on Clancy Drive and the Garrison.

Site Improvements

- **Parking**: 19 total spaces proposed, two EV and a van accessible space is provided with 3 space bike rack. 17 spaces calculated using 1.9 spaces per residential unit. Planning director to determine if a CUP is required for 2 parking spaces over the maximum allowed.
- Pedestrian walkway connection provided along units #1-4 and connects to the Clancy Drive sidewalk and sidewalks along Durham Road.
- Landscaped areas to provide buffer zones from Durham Road, enhance aesthetics, and assist in stormwater infiltration. The parking lot is less than 20 space, so internal landscaping is not required. However, is provided within the parking lot area.
- Lighting consistent with City standards. Lighting statistical zone requirements are met with the proposal.

4. Lot Line Revision with Tax Map I, Lot 12

A Lot Line Revision is proposed between the subject parcel and Tax Map I, Lot 12 (Clancy Drive) (Dover Planning #13-37). A total of 4,152 Sq. Ft. is to be transferred to the subject parcel along Clancy Drive. This is proposed to establish the front build-to line in a more favourable location for the project development. As demonstrated on the Site Plan density calculation, this area revision with Tax Map I, Lot 12 does not place the project lot area below what would be required to support the 14-unit density on this parcel for the RM-SU Zone. An Access, Grading, and Utility Easement is proposed over a portion of Clancy Drive to support the access of Murphy Drive. A separate **Lot Line Revision Application** is provided within the submission. Post Lot line revision, the area of the subject parcel is 44,660 Sq. Ft. (1.03 Ac.).

5. Zoning and Overlay Compliance

Base Zoning – R-20 Zone & RM-SU Zone

The proposed uses are **permitted** within the R-20 zone and comply with the applicable dimensional and use standards. The R-20 is located 300' from the centerline of Durham Road, which encompasses the majority of the subject parcel. Utilizing the 50' zone line adjustment provision per Chapter 170-10.E, the zone line has been moved 50' to place more of the parcel within the R-20 Zone. This places 43,891 Sq. Ft. of the lot within the R-20 Zone, and 769 Sq. Ft. within the RM-SU Zone. The base permitted residential density is 15,000 Sq. Ft. per unit, resulting in 2 units (See calculations on Site Plan). Using the Transfer of Development Rights (TDR) ordinance (170-29), seven (7) additional units are proposed for a total of 9 units on the parcel. A separate **TDR Narrative** is provided within the application package.

6. Stormwater Management & Erosion and Sediment Control

A comprehensive **stormwater management plan** has been prepared in accordance with City of Dover regulations and the 2025 NH Stormwater Manual (SWM) The plan includes:

- Stormwater Control Measures (SCMs) feature **porous pavement parking spaces** along the left side of Murphy Drive for treatment of on-site pavement and roof runoff. An **Infiltration Pond** is provided at the center of the site to infiltrate roof runoff from a portion of the roof for units #1-4.
- The porous pavement stone reservoir is extended under the conventional pavement to increase the infiltration capability of the practice.
- Peak rates and volume of runoff as demonstrated to be reduced as shown in the Drainage Comparative Analysis at both discharge points.
- An EPA NOI/SWPPP are not required for the project, as disturbance is under 1 acre. A full Erosion & Sediment Control Plan, Details, and Erosion & Sediment

Control Manual are provided as part of the submission in compliance with Dover Regulations for the stormwater management plan.

7. Utilities

- **Sewer**: 6" SDR 35/SCHD. 40 gravity line from each building to an existing 6" SDR 35 collection line within Clancy Drive. No sewer manholes are proposed for the project. As shown on the Project Notes Sheet, project design flow is 2,400 Gallons Per Day (GPD). Sewerage calculations provided demonstrate a 2FPS minimum velocity is met within the existing 6" SDR in Clancy Drive.
- **Water**: 6" C.L.D.I. or C900 waterline taken from Clancy Drive with 1" SDR 9 CTS domestic water services to each unit and a 2" SDR 9 CTS fire protection line are provided to each building. The single-family home will retain its existing services.
- **Electric**: Taken from Transformer 2/33 SC1 off of Clancy Drive.
- **EV**: Two EV charging spaces are provided, including one being adjacent to the accessible parking space.
- **Natural Gas**: Taken from Clancy Drive and provided to each structure.

8. Traffic and Access

The site will be accessed via Clancy Drive, an established roadway with adequate sight distance onto Durham Road. The single-family home will retain the existing driveway, resulting in no changes to the curb cuts along Durham Road. A Traffic Impact Analysis (TIA) has been included to demonstrate minimal impacts to the local transportation network from the eight additional units. See document for further discussion.

9. Required Planning Board Action

The project requires the following approvals, with a separate TDR narrative provided to address the TDR criteria:

- Lot Line Revision approval between Tax Map I, Lot 11 & Tax Map I, Lot 12.
- TDR residential density request to permit the additional seven (7) units on the project site above the calculated density of two (2) units.
- Site Plan Approval.
- Waiver requests for drainage pipe cover (157-40-B(5)), maximum block length (157-31-F), and intersection grade within 75' of intersection (157-32-G).

Please find separate applications and narratives with justifications for each request.

BERRY SURVEYING & ENGINEERING
335 Second Crown Pt. Rd., Barrington, NH 03825
(603) 332-2863 / (603) 335-4623 FAX
www.BerrySurveying.Com

10. Required State and Federal Permits

The project does not require any State or Federal permits.

BS&E looks forward to working with the City of Dover on the required considerations of this project.

Respectfully Submitted,
BERRY SURVEYING & ENGINEERING

Kevin R. Poulin, PE
Associate: VP-Engineering Operation

Christopher R. Berry, LLS
Principal, President

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May 7, 2026

City of Dover Planning Board
Attention: Donna Benton, AICP, Director of Planning and Community Development
288 Central Ave
Dover, NH 03820

Re: Residential Transfer of Development Rights (TDR) Site Plan
TDR Narrative
STF Development, LLC (Owner & Applicant)
68 Durham Road, Tax Map I, Lot 11
R-20 & RM-SU Zone

Dear Mrs. Benton,

On behalf of our client, STF Development, LLC, Berry Surveying & Engineering (BS&E) is submitting a residential TDR Site Plan at 68 Durham Road (Tax Map I, Lot 11).

The proposed project includes the redevelopment of the subject parcel through the construction of two four-unit residential buildings while retaining the existing single-family residence on the property. The project proposes a total of nine (9) residential units. Based on the zoning calculations provided in the project narrative and site plan, the underlying density of the parcel permits two (2) residential units. Pursuant to Chapter 170-29 of the Dover Zoning Ordinance, the Applicant is requesting seven (7) additional residential units through the Transfer of Development Rights (TDR) program. As noted in the project narrative, the following Planning Board action is required for the project beyond Site Plan and TDR Approval:

- Lot Line Revision Approval between the subject parcel and Tax Map I, Lot 12.
- Waiver requests for drainage pipe cover (157-40-B(5)), intersection grade within 75' of intersection (157-32.G) and maximum block length (157-31-F).

Chapter 170-29.G.(8) lays out the criteria which the Planning Board should consider when determining the appropriateness of the increase in density and intensity on individual project sites. These include:

- *Consistency with the Master Plan.*
- *Compatibility with the land uses on neighboring lot.*
- *Is created on property served by public water and sanitary sewer.*
- *Any relief sought should not be caused by the additional density.*

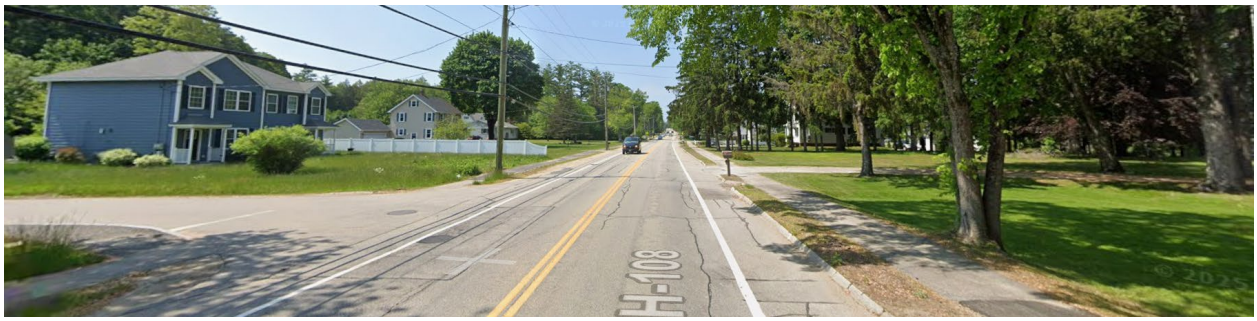
Consistency with the Master Plan:

A review of the of the Vision Chapter Master plan finds the key pillar of the Distinctly Dover Vision to be *"We are a City with an emerging urban vibrancy, guided by intentional growth to create connected neighborhoods, attractive streetscapes, and accessible open space, while maintaining what makes Dover distinct."* This vision context has different meanings based on the location within the City of Dover, which is one attribute that makes Dover distinct. The subject parcel is located within the R-20 & RM-SU Zone. This portion of Durham Road is defined by sidewalks, mature trees and vegetation and development setback from the corridor. The Dover Master Plan emphasizes the importance of creating connected neighborhoods and encouraging residential development in areas with existing utility and transportation infrastructure. The subject parcel is located on an established roadway network with direct access to Durham Road and the surrounding road network. The site also benefits from existing sidewalks along Durham Road and Clancy Drive, allowing pedestrian connectivity to surrounding neighborhoods and the Dover School District.

The proposal advances the Master Plan objective of encouraging efficient land use patterns by redeveloping an already disturbed and developed parcel rather than extending infrastructure into undeveloped or environmentally sensitive areas of the city. The project retains the existing single-family home while adding an increase in residential density, setback at the rear of the site, through the introduction of townhouse-style units that are scaled appropriately for the surrounding neighborhood. The proposed development contributes additional housing stock in a location where municipal services and transportation infrastructure already exist. The project provides a housing type that can serve a range of residents while maintaining compatibility with the scale and character of the area.



Durham Road looking North (Google Maps)



Durham Road looking South at Clancy Drive (Google Maps)

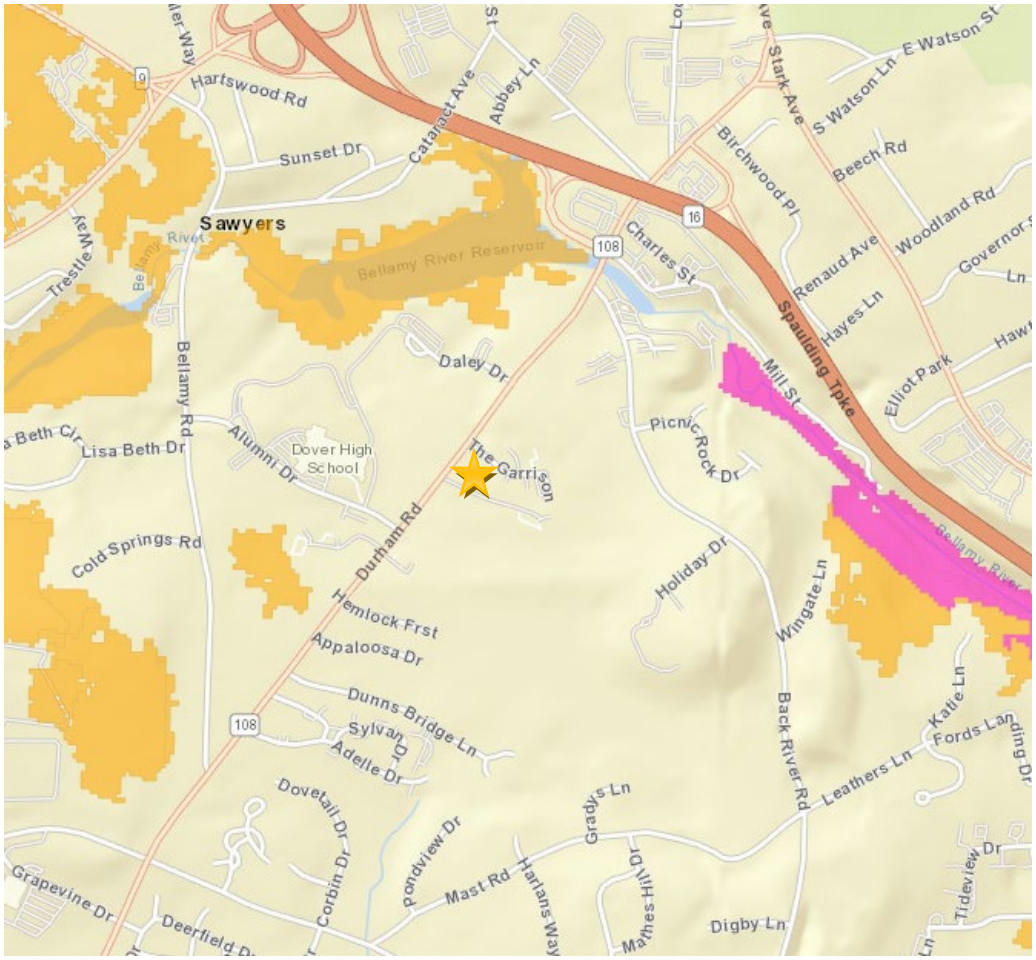

Proposed Streetscape

In review of the Open Space Chapter of the Master Plan we find that there are three priorities noted in the following order:

- *Groundwater quality and quantity*
- *Hazard Mitigation Land*
- *Wildlife habitat*

Within the R-20, being broken into four-unit buildings, the project is not required to provide open space area. As the chapter points out, not all open spaces are conservation lands. There are areas of the City that should be systematically conserved. The use of the TDR program aids in the funding for these efforts and could

be used to further enhance the public use of the existing conserved land. This particular site is not well suited for a conservation effort whereas it is not adjacent to other conserved recourses and is only 1 acre in size while being surrounded by a denser residential population. In reviewing the 2020 Highest Ranked Wildlife Habitat by Ecological Condition, the existing site is not considered highly ranked for wildlife habitat or supporting landscape.



NH Granit Wildlife Action Plan Habitat Rankings

Ground water quality and quantity ranked highest on the list of priorities for the Chapter. The property is not located within the Secondary Groundwater Protection district. The soils in portions of the site allow for opportunities for treated re-infiltration of stormwater through the use of a porous pavement system and infiltration pond for roof runoff. New impervious areas are routed, filtered/treated, and infiltrated in the porous pavement parking areas on the project. This Stormwater Control Measure (SCM) is designed to treat and infiltrate flows to provide a high-quality groundwater recharge through the 12" filter course prior to infiltration. The groundwater recharge requirement

is far exceeded on this project as demonstrated with the drainage analysis. There is no loss of groundwater quality or quantity through these means and methods which have been integrated into the landscape of the project site.

Hazard Mitigation is the second priority of the chapter, which in our opinion, affects the entire watershed, not just lands adjacent to water bodies and areas subject to flooding. The effects of incremental, unmanaged growth and development can be seen along waterways. As a direct result, the City of Dover has developed stormwater regulations that address new development and re-development to improve down stream affects from all developments. The project as designed meets these regulations by reducing down stream peak rates of runoff and volumes, as demonstrated by the Drainage Analysis, provided as part of the application package. In addition, the project removes stormwater flow onto the abutting land owner to the east by routing it to the front of the site. This results in a direct positive impact on the easterly abutting owner.

Though not prioritized as a conservation effort, the distinct lack of housing stock of all kinds and diversity in stock was discussed as a need within the City of Dover. As the Vision points out, intentional growth is a focus for the community. This is to say that the growth should be intentioned, not haphazard, opportunistic, disconnected, otherwise out of place or of mere convenience for land owners and project developers. This TDR project provides an opportunity for units in a location with close proximity to other multi-family development in Dover (The Garrison & Clancy Drive). By providing the stock in an area of the city with low conservation goals, while providing current stormwater and groundwater methodologies, the master plan goals area achieved and thus the TDR goals are achieved.

Compatibility with the land uses on neighboring lot

The proposed development is compatible with the surrounding neighborhood in terms of scale, use, massing, and overall site design. The surrounding area contains a mix of residential uses, including single-family homes, townhouse-style developments, and larger duplex residential structures. The adjacent "The Garrison" development to the east already establishes a multi-family residential character in the immediate vicinity of the site. The proposed project introduces two-story residential buildings that are consistent with the scale and intensity of nearby development. The proposed buildings are intentionally designed to avoid an over-scaled appearance. As noted within the project narrative, the structures are not over massed when compared to surrounding residential buildings, including nearby three-story residential structures and multi-family developments. Similar to the proposal the duplex structure at 81 Durham Road provides massing that is setback off the road. Parking areas are integrated into the middle of

site layout and is supplemented with landscaping to reduce visual impacts from adjoining roadways and neighboring properties. The project maintains the existing single-family residence on the parcel, which further supports compatibility with the surrounding residential character. The retention of the existing home provides a transition between the new townhouse-style buildings and adjacent residential properties. The landscaping plan includes streetscape enhancements to improve the screening from Durham Road and provides congruency with the existing streetscape. A mix of landscaping is proposed along the abutting boundary line to the east to soften the impacts and provide a clear delineation between the parcels.

The architecture chosen, specifically for the front building was intentioned in the single-family features chosen. Formal front doors, usable front deck space with building plantings as well as an appealing roofline that breaks the façade up into four portions to mimic the New Englander street facing "A" feature found on the existing onsite building as well as the abutting building to the east.

Public Sewer and Water

The project will be serviced by municipal water and sewer. Municipal sewer will be connected at Durham Road and municipal water taken from Clancy Drive.

Any relief sought should not be caused by the additional density

As noted, the project requires three waiver requests. The requested waiver for block length is due to subject parcel depth of well less than 500'. The drainage pipe waiver is controlled by a set elevation of an existing catch basin and minimum pipe slope proposed back to the project entrance. The intersection grade waiver is to allow for porous pavement to meet separation from E.S.H.W.T. requirements for stormwater infiltration and stormwater regulation compliance. These waiver requests are demonstrated to not be a function of the TDR density request.

Respectfully Submitted,
BERRY SURVEYING & ENGINEERING

Christopher R. Berry, LLS, PLS
Principal, President

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May 7, 2026

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Re: Residential Transfer of Development Rights (TDR) Site Plan
Waiver Requests
STF Development, LLC (Owner & Applicant)
68 Durham Road, Tax Map I, Lot 11
R-20 District & RM-SU District

Chairperson & Members of the Dover Planning Board:

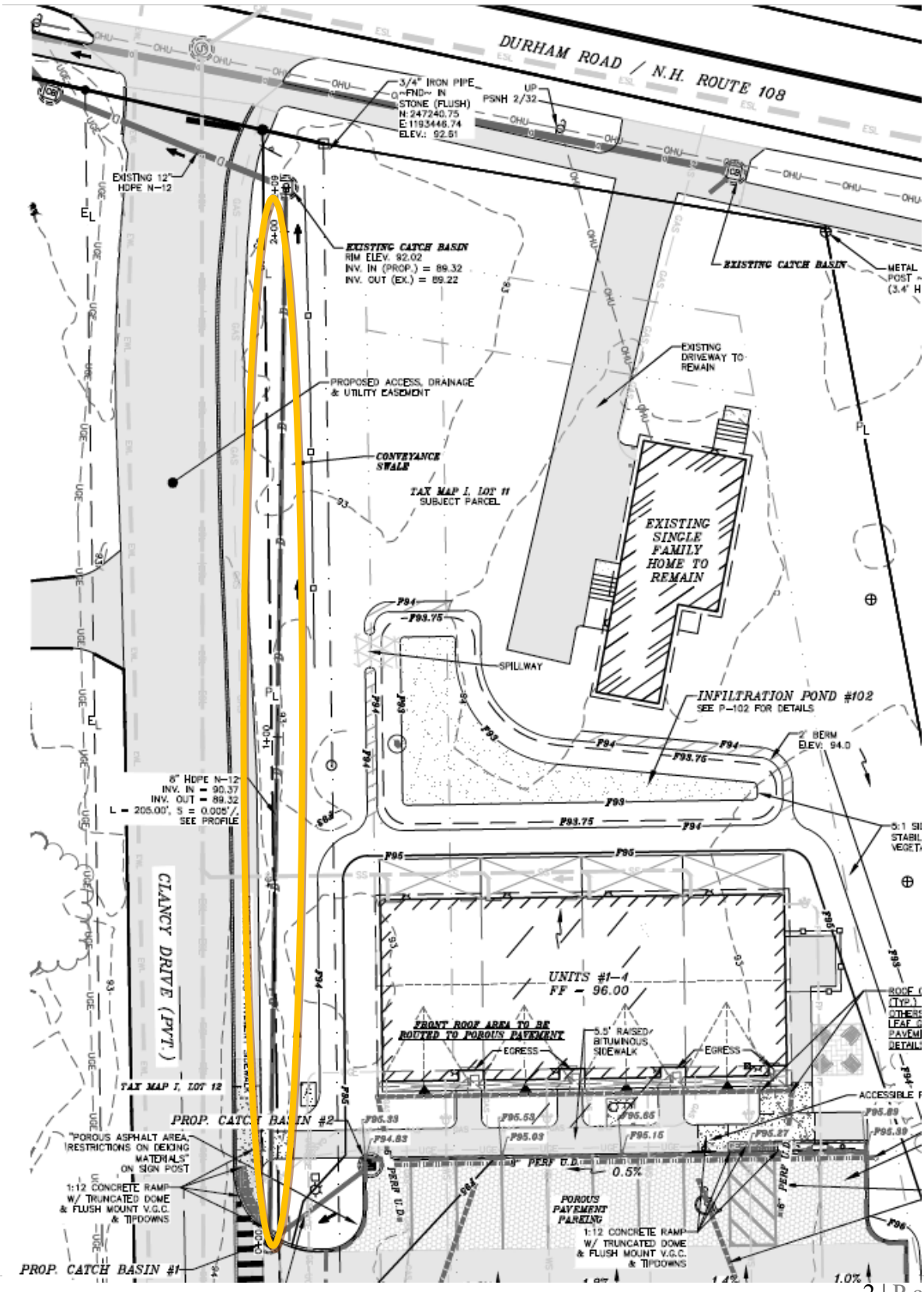
In accordance with Subdivision Regulations Article 157-40-B(5), the following waiver is hereby requested:

1. Identification of Waiver Request: Minimum pipe cover per Subdivision Regulation 157-40-B(5)

- Proposed 8" HDPE N-12 drainage pipe with less than 3' of cover as required. See Grading & Drainage Plan pipe profile.

2. Explanation:

The applicant proposes a porous pavement system to treat and discharge on-site stormwater runoff. The elevation of the drainage discharge line is controlled by the lowest available elevation of the catch basin at the intersection of Clancy Drive and Durham Road/NH Route 108. Based upon the lowest available discharge elevation of the structure, the drainage line has then been designed back to the catch basin at the entrance of the site using minimum pipe slopes of 0.005'/,. The pipe is proposed in a shallow swale at the back of the sidewalk along Clancy Drive. Greater than 2' of cover is provided along the entire pipe run, with 3' provided at the discharge from catch basin #1.


DURHAM ROAD / N.H. ROUTE 108
3/4" IRON PIPE FND IN STONE (FLUSH)
N: 247240.75
E: 1193446.74
ELEV.: 92.51
PSNH 2/32
EXISTING 12" HDPE N-12
EXISTING CATCH BASIN
RIM ELEV. 92.02
INV. IN (PROP.) = 89.32
INV. OUT (EX.) = 89.22
EXISTING CATCH BASIN
EXISTING DRIVEWAY TO REMAIN
PROPOSED ACCESS, DRAINAGE & UTILITY EASEMENT
CONVEYANCE SWALE
TAX MAP I, LOT 11
SUBJECT PARCEL
EXISTING SINGLE FAMILY HOME TO REMAIN
SPILLWAY
INFILTRATION POND #102
SEE P-102 FOR DETAILS
2' BERM ELEV. 94.0
8" HDPE N-12
INV. IN = 90.37
INV. OUT = 89.32
L = 205.00', S = 0.005'/'
SEE PROFILE
CLANCY DRIVE (PVT.)
UNITS #1-4
FF = 96.00
FRONT ROOF AREA TO BE ROUTED TO POROUS PAVEMENT
EGRESS
5.5' RAISED BITUMINOUS SIDEWALK
EGRESS
TAX MAP I, LOT 12
PROP. CATCH BASIN #2
"POROUS ASPHALT AREA, RESTRICTIONS ON DEICING MATERIALS" ON SIGN POST
1:12 CONCRETE RAMP W/ TRUNCATED DOME & FLUSH MOUNT V.G.C. & TIPDOWNS
8" PERF U.D.
0.5%
POROUS PAVEMENT PARKING
1:12 CONCRETE RAMP W/ TRUNCATED DOME & FLUSH MOUNT V.G.C. & TIPDOWNS
PROP. CATCH BASIN #1
1.0%

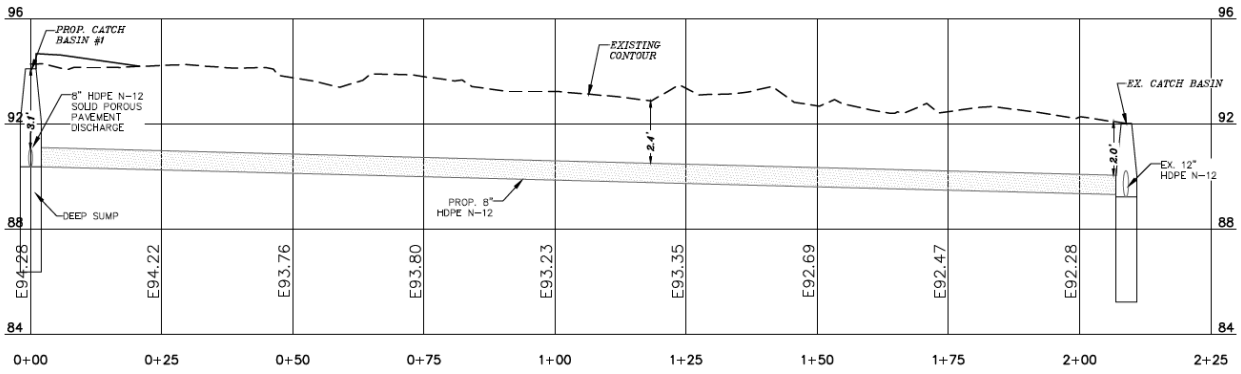


Image from Grading & Drainage Plan showing the locations of catch basin #1 along with the pipe profiles.

3. Waiver Justification:

a. Granting the waiver will properly carry out the purpose and intent of the regulations.

The purpose and intent of this regulation is to provide long term pavement and pipe durability. In this situation, there is 3’ of cover for the pipe under pavement at the start, and the pipe is under earth all the way to the discharge, so pavement durability is not a concern for this pipe run. More than 2.5’ of cover is provided for a majority of the pipe run. Per ADS pipe, a manufacturer of HDPE N-12 pipes, HDPE N-12 pipe is required to have a minimum of 1’ of cover for the provided pipe sizes. The following screenshot is from the ADS document “Technical Note 2.01 Minimum and Maximum Burial Depth for Corrugated HDPE Pipe (per AASHTO)”:

Table 1
Minimum Cover Requirements for ADS N-12®, N-12 ST, and N-12 WT (per AASHTO) with AASHTO H-20, H-25, or HL-93 Load

Inside Diameter, ID, in.(mm)	Minimum Cover ft. (m)	Inside Diameter, ID, in.(mm)	Minimum Cover ft. (m)
4 (100)	1 (0.3)	24 (600)	1 (0.3)
6 (150)	1 (0.3)	30 (750)	1 (0.3)
8 (200)	1 (0.3)	36 (900)	1 (0.3)
10 (250)	1 (0.3)	42 (1050)	1 (0.3)
12 (300)	1 (0.3)	48 (1200)	1 (0.3)
15 (375)	1 (0.3)	54 (1350)	2 (0.6)
18 (450)	1 (0.3)	60 (1500)	2 (0.6)

Notes for Table 1:
1. *Minimum covers presented here were calculated assuming Class III backfill material to 95% standard Proctor density or Class II backfill material to 90% standard Proctor density around the pipe and structural backfill to the crown of the pipe, as recommended in Section 5 of the Drainage Handbook, with an additional layer of compacted traffic lane sub-base for a total cover as required. In shallow traffic installations, especially where pavement is involved, a good quality compacted material to grade is required to prevent surface rutting.*
2. *The minimum covers specified do not include pavement thickness. A pavement section of 0.4' is typical.*
3. *Backfill materials and compaction levels not shown in the table may also be acceptable. Contact ADS for further detail.*
4. *Calculations assume no hydrostatic pressure and native soils that are as strong as the specified minimum backfill recommendations.*

According to the above table, the provided covers over the proposed 8" HDPE N-12 is sufficient per AASHTO loading standards. By allowing cover less than 3' and providing enough cover to match AASHTO H-20 loading requirements, the intent of the regulation is met.

b. Strict conformity to the regulations would pose an unnecessary hardship to the applicant.

Requiring the applicant to provide 3' of cover would pose an unnecessary hardship on the applicant. The design uses the lowest available discharge location (catch basin at the intersection of Clancy Drive / Durham Road, and runs the pipe back to the site using minimum pipe slope to maximize the cover provided. 3' of cover is provided for a portion of the pipe and 2.5' of cover is provided for the majority of the pipe run.

1. Identification of Waiver Request: Minimum block length of 500' per Regulation 157-31-F

- Proposed private road length of 142' Murphy Drive.

2. Explanation:

The subject parcel is +/- 350' deep by +/-100-150' wide, as shown on the Lot Line Revision Plan (Sheet #5).

3. Waiver Justification:

a. Granting the waiver will properly carry out the purpose and intent of the regulations.

Minimum road length regulations are directly related to municipal efficiencies, where it is not efficient to maintain smaller roadways. These are private roads with no municipal responsibility.

b. Strict conformity to the regulations would pose an unnecessary hardship to the applicant.

Requiring the applicant to lengthen the road would pose an unnecessary hardship on the applicant. As the parcel is only +/- 350' deep by +/-100-150' wide, compliance with this regulation is not possible.

1. Identification of Waiver Request: Maximum Road grade of 3% within 75' of intersection per regulation 157-32.G

- Proposed private road grade of 4% within 75' of intersection.

2. Explanation:

The intersection grade is proposed to lift the site up enough to meet separation from E.S.H.W.T. for the porous pavement system to provide infiltration and compliance with drainage regulations.

3. Waiver Justification:

a. Granting the waiver will properly carry out the purpose and intent of the regulations.

The intent of requiring a maximum road grade of 3% within 75' of an intersection is to ensure vehicular safety for all turning movements, sight distance and stopping ability. A 4% grade within an intersection is the NHDOT standard, and will carry out the purpose and intent of the regulations.

b. Strict conformity to the regulations would pose an unnecessary hardship to the applicant.

Requiring the applicant to drop the roadway intersection would result in separation from E.S.H.W.T. to not be met for a portion of the porous pavement system and possibly result in a waiver to the volume of runoff discharged to the MS4 system.

Respectfully Submitted,
BERRY SURVEYING & ENGINEERING

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DRAINAGE ANALYSIS & EROSION AND SEDIMENT CONTROL PLAN

Prepared for:

STF Development, LLC
54 Dover Point Road, Unit #3
DOVER, NH 03820

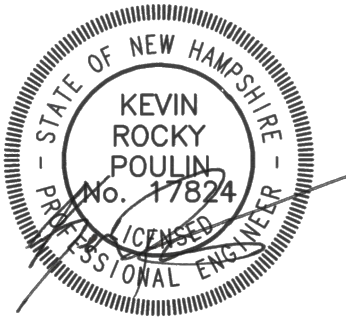
Land of:

STF Development, LLC
54 Dover Point Road, Unit #3
DOVER, NH 03820

68 DURHAM ROAD, DOVER, NH
TAX MAP I, LOT 11

Prepared by:

Berry Surveying & Engineering
335 Second Crown Point Road
Barrington, NH 03825



Project Number:
DB 2025-053

May 7, 2026

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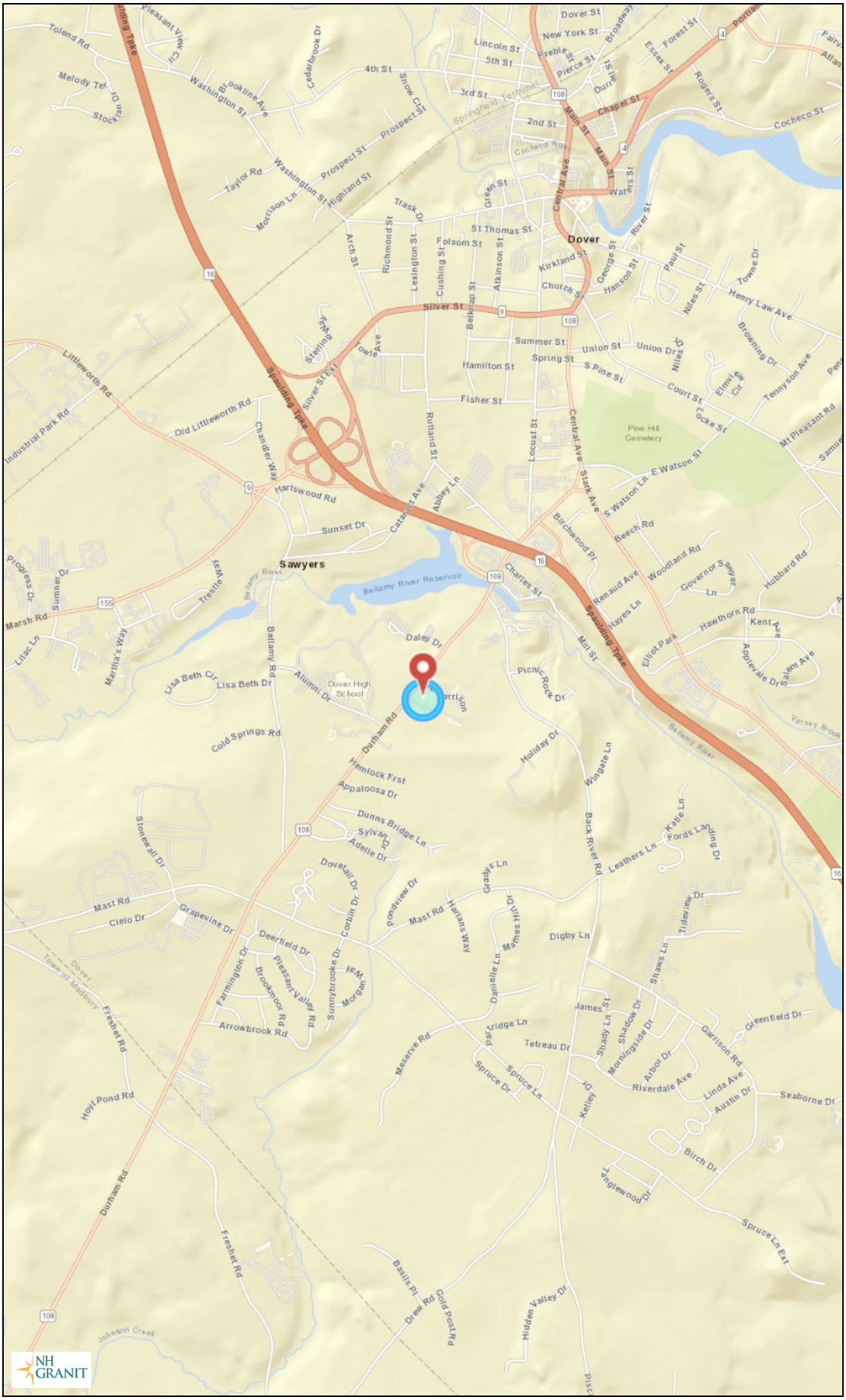
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100 Yr-24 Hr. Node Listing

Appendix II - Proposed Conditions Analysis
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2 Yr-24 Hr. Node Listing
10 Yr-24 Hr. Node Listing
25 Yr-24 Hr. Node Listing
50 Yr-24 Hr. Node Listing
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AoT Stormwater Treatment Spreadsheets
NCRS USDA Web-soil Map
Site Specific Soil Survey Report & Plan
Infiltration Feasibility Study & Report
Ksat Values for New Hampshire Soils, SSSNNE Special Publication #5, 2025
Stormwater System Management: Inspection & Maintenance Manual, Plan, Invasive Species &
NHDES Green SnoPro Utilization Chart
Watershed Report Card, 303(d) List, & ORW List

Enclosed: W-1 Sheet Existing Conditions Watershed Plan Sheet 1
W-2 Sheet Post Construction Watershed Plan Sheet 2



Legend

World_Street_Map

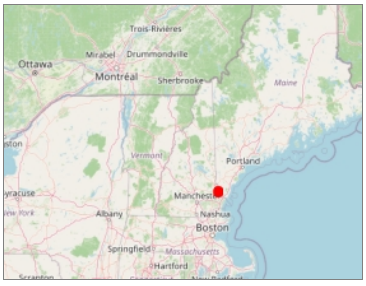
Map Scale

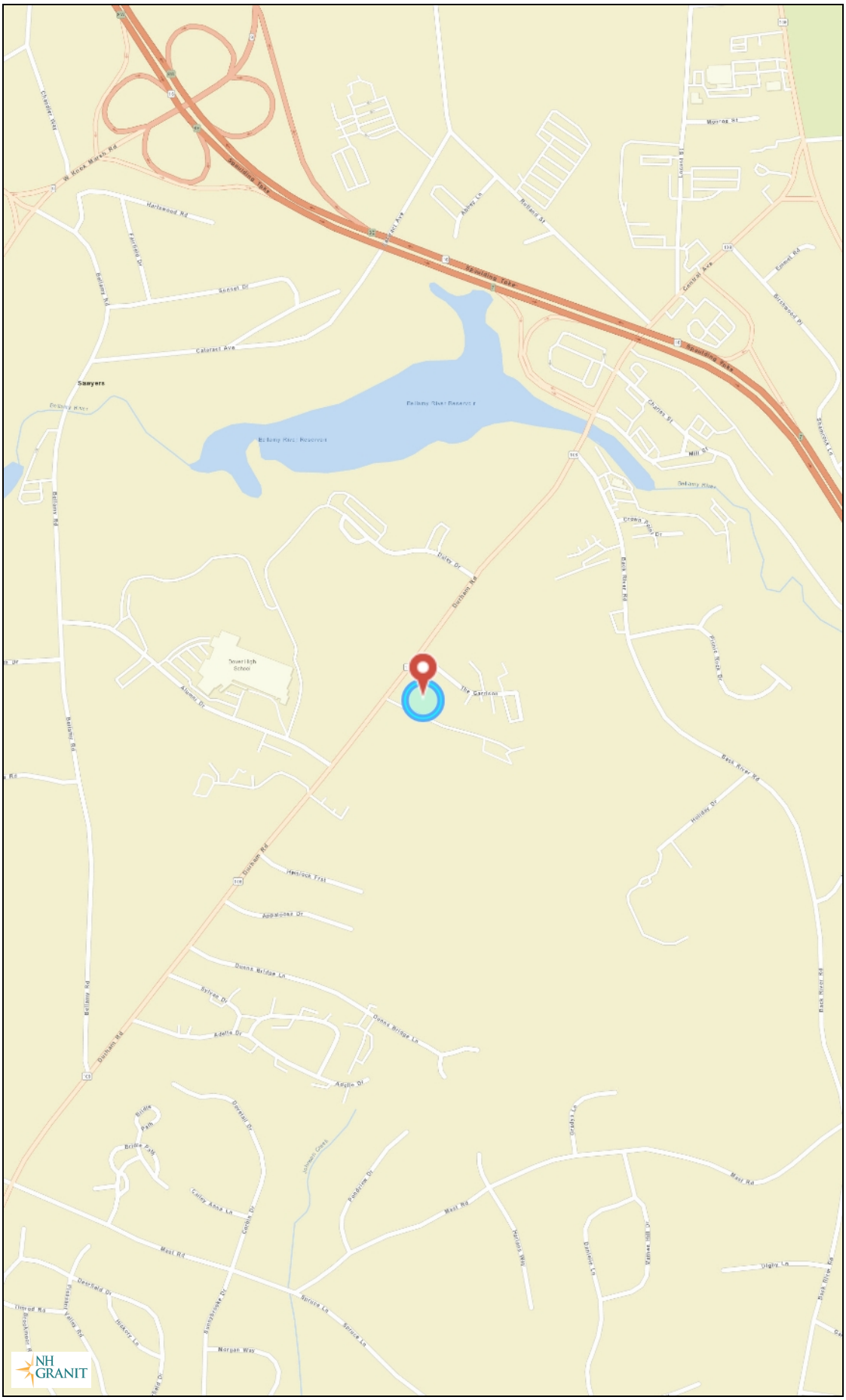
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Notes




Sawyers
Bellamy River Reservoir
Spaulding Turnpike
Durham Rd
Bellamy Rd
Back River Rd
Meat Rd
Mast Rd
Dudley Dr
Hemlock Trail
Appaloosa Dr
Dunns Bridge Ln
Adelle Dr
Holiday Dr
Front Nock Dr
Crown Point Dr
Alumni Dr
Harlewood Rd
Calaract Ave
Central Ave
Monroe St
Emmet Rd
Birchwood Pl
Charles St
Hill St
Shawnock Ln
Fairfield Dr
Bennet Dr
Deerfield Dr
Hickory Ln
Kingsbridge Dr
Norgan Way
Spruce Ln
Bristol Ln
Cooper Dr
Pinebrook Dr
Cathy Anna Ln
Bridle Path
Bridle Path
Jackson Cross
Durham Point Rd
Wallace Hill Dr
Mast Rd
Mast Rd
Dudley Dr
Back River Rd
Back River Rd
Front Nock Dr
Crown Point Dr
Bellamy River
Bellamy Rd
Durham Rd
Durham Rd
Alumni Dr
Dr
Rd
Rd
Dr
Dr
Dr

DESIGN METHOD OBJECTIVES

STF Development, LLC is proposing to develop eight new 2 bedroom dwelling units in addition to the existing single-family dwelling on Tax Map I, Lot 11. A 143 LF private roadway known as Murphy Drive with 18 parking spaces will support the development. The lot is mostly grassed in the existing condition and includes a house with a garage and driveway toward the front of the parcel, Durham Road (NH Route 108).

On-site topography was completed by field crews of Berry Surveying & Engineering in August of 2025 and a Site Specific Soil Survey was completed by John P. Hayes with a report generated on March 13, 2026. Soils on site are included in two hydrologic soil indices: HSI B and HSI D. (See attached report.) A wetland delineation was completed prior to the original field work being conducted (none found on site). The off-site areas which drain onto the locus parcel have been delineated by USDA / NRCS soils in Websoil and USGS Equivalent contours from public sources. (Google Tin & NH Lidar)

Existing and Proposed Conditions analyses were conducted for the purpose of estimating the peak rate of stormwater runoff from the property and subsequently designing adequate mitigation of drainage. There are two existing drainage discharge points which are identified in the existing analysis and duplicated in the proposed conditions analysis. Designing two watershed models we have compared the differences in these rates of peak run-off and surface water volume. Sheet W1, Existing Conditions Watershed Plan, outlines the characteristics of the site in its existing or pre-construction conditions for Tax Map I, Lot 11. While Sheet W2, Proposed Conditions outlines the characteristics of post-construction conditions for Tax Map I, Lot 11. HydroCAD uses a series of node suffixes for numbering purposes (S = Subcatchment, P = Pond Device, R = Reach), to simplify annotation these suffixes are left off the watershed plans and node type is denoted by the symbol shape according to the displayed legend which coincides with HydroCAD graphics. The analyses were conducted using data for; 2 Yr-24 Hr (3.62”), 10 Yr-24 Hr (5.46”), 25 Yr-24 Hr (6.91”), 50 Yr-24 Hr (8.27”), and 100 Yr-24 Hr (9.88”) storm events. Storm event analysis was accomplished using the USDA SCS TR-20 method within the HydroCAD Stormwater Modeling System environment and rainfall quantities are based on the Extreme Precipitation Table for this location from the Northeast Regional Climate Center / Cornell University (http://precip.eas.cornell.edu). As Dover is considered a Seacoast Community by NHDES, the Extreme Precipitation quantities have been adjusted to be 115% of the documented rainfalls for the 24-hour events which is reflected in the numbers listed above.

1.0 Existing Conditions Analysis:

Reference: Sheet W1 - Existing Conditions Watershed Plan (Enclosed)
Existing Conditions Plan
Site Specific Soils Map Plan

The property consists of an existing house with a garage. There are two separate reaches that are the flow path of different subcatchments. After a lot line revision, the area of the parcel is 1.03 acres and the area of the analysis is 1.39 acres. There were no wetlands identified on the site. The current use is supported by municipal water and sewer. On-site soils were mapped by John P. Hayes III, CSS #87 and are shown on the Site Specific Soils Map and included report.

Onsite soils are made up of multiple soil types classified as Hydrologic Soil Index (HSI) B and HSI D. Offsite soils consist of Buxton Silt Loam, which is classified as Hydrologic Soil Index C, and Deerfield loamy sand, which is classified as HSI B, based on the Ksat Values for New Hampshire Soils, SSSNNE Special Publication #5, 2025. Land covers include pavement, grass, roofs, and woods.

Water drains via overland flow to Bellamy River North (NHEST600030903-01-01). The impairment of the watershed are as follows:

Mercury, NE Regional Mercury TMDL, December 20, 2008, TMDL #33883
Chlorophyll-a
Estuarine Bioassessment
Light Attenuation Coefficient
Nitrogen (Total)
Oxygen, Dissolved
PCBS – Fish Consumption Advisory
Dioxin – Fish Consumption Advisory
Fecal Coliform, NH Statewide Bacteria TMDL, September 21, 2010, TMDL #39280

Final Reach #100:

Subcatchment #1 consists of the majority of the rear of the locus parcel as well as off-site land and residential buildings toward the east. The limits of this subcatchment are defined by roof lines of residential buildings to the east and southwest, the property line to the north, and the edge of the offsite porous sidewalk to the south. Runoff generally flows north with some offsite runoff flowing southwest to the property line which is being analyzed as **Final Reach #100**.

Final Reach #200:

Subcatchment #2 is made up of the western portion of the parcel along Durham Road. The limits of this subcatchment are defined by topography to the west and east, the offsite porous sidewalk to the south, and the grading of driveways to the north. Runoff

flows generally south and west to an offsite catch basin analyzed as **Final Reach #200**.

2.0 Proposed Conditions Analysis:

Reference: Sheet W2 - Proposed Conditions Watershed Plan (Enclosed)
Proposed Site Plan
Proposed Grading & Drainage Plans

The client is proposing to expand the existing single residential use with 8 dwelling units (2 buildings) along a proposed roadway consisting of 143 feet. The existing garage structure will be removed prior to building the proposed units with the single family home and driveway at the front of the parcel to remain. The proposal is supported by Porous Pavement (P-101) and an Infiltration Pond (P-102).

Final Reach #100:

Subcatchment #1 is reduced in size due to the construction of new dwelling units, proposed roadway and placement of the infiltration pond (see P-102 below). Runoff still flows north where it crosses the property line analyzed as **Final Reach #100**.

Final Reach #200:

Subcatchment #2 is reduced in size due to the development of **Infiltration Pond #102** to the east. Runoff still flows southwest to the existing catch basin analyzed as **Final Reach #200**.

Subcatchment #12 Is made up of the area of the eastern proposed structure that drains to through the gutter system. The limits of the subcatchment are made up of the overhang of the proposed roof. Runoff drains through the roof gutters where it drains into **Porous Pavement #101**.

Subcatchment #13 is made up of the eastern side of the western buildings roof that drains through the roof gutter system. The limits of this subcatchment are the roof overhang and the ridge line of the roof. Runoff drains through the roof gutters where it drains into **Porous Pavement #101**.

Subcatchment #21 is made up with the section of conventional pavement that misses **Porous Pavement #101** toward the southeast of **Subcatchment #101**. The limit of this subcatchment is made up of the limit of analysis, the edge of curb, and the proposed topography of the roadway. Runoff from this subcatchment drains into **Catch Basin #1** into a closed drainage system toward **Final Reach #200**.

Subcatchment #101 is derived of the area that drains to **Porous Pavement #101.** The limits of this subcatchment are made up of surrounding roofs, the edge of curb to the north east, and the proposed contours the south. Runoff drains into **Porous Pavement #101** where it is infiltrated. Overflow from this pond flows through the

closed drainage system toward **Catch Basin #1**. A stone reservoir extends under the conventional pavement to provide additional infiltration capacity and storage.

Subcatchment #102 is delineated by area that drain to **Infiltration Pond #102**. The limits of this subcatchment are made of the ridge line of the surrounding roof and the berm of **Infiltration Pond #102**. Runoff from this subcatchment drains into the pond where it is infiltrated with overflow discharging through **Reach #102** toward the final analysis point.

3.0a Stormwater Treatment:

A majority of the surface water runoff from the development area is being treated by porous pavement w/ infiltration. Infiltration is also provided from the storage body of the porous pavers (not modeled). These systems provide a minimum of 1' of separation from the E.S.H.W.T. The existing condition contains 2,658 Sq. Ft. of untreated impervious coverage which was reduced to 1,396 Sq. Ft. in the proposed condition.

3.0b Stormwater Infiltration:

Groundwater recharge volume requirements are satisfied by Porous Pavement w/ Infiltration #101 and Infiltration Pond #102 (Sheets P-101 and P-102). See Infiltration Feasibility Study also prepared by Berry Surveying & Engineering and published on the same day.

3.1 FULL COMPARATIVE ANALYSIS

ANALYSIS COMPONENT: PEAK RATE DISCHARGE (Cubic Feet / Second)

		2 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Final Reach #100	Existing	0.69	1.51	2.23	2.95	3.83
	Proposed	0.53	1.11	1.62	2.13	2.75
Final Reach #200	Existing	0.45	0.91	1.31	1.71	2.19
	Proposed	0.38	0.86	1.24	1.60	2.08

ANALYSIS COMPONENT: VOLUME (Acre Feet) (72 HOURS)

		2 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Final Reach #100	Existing	0.096	0.195	0.283	0.372	0.481
	Proposed	0.072	0.142	0.205	0.267	0.344
Final Reach #200	Existing	0.052	0.100	0.142	0.184	0.235
	Proposed	0.046	0.092	0.136	0.179	0.235

4.0 EROSION & SEDIMENT CONTROL PLANS STORMWATER CONTROL MEASURES (SCMs)

Reference: Proposed Site Plan and Grading Plan
Erosion & Sediment Control Plan
Erosion & Sediment Control Details

The proposed site development is protected from erosion and the abutting properties are protected from sediment by the use of Stormwater Control Measures as outlined in the New Hampshire Stormwater Manual (February 2025, NHDES & US EPA); and City of Dover Chapter 153-14 A, Stormwater Management, Erosion Control, and Flood Hazards. **Temporary stabilization measures should be in place within seven calendar days for exposed soils areas that are within one hundred feet of a surface water body or a wetland and no more than 14 calendar days for all other areas. Permanent stabilization should be in place within three calendar days following completion of final grading of exposed soil areas. Erosion and sediment control measures shall be installed prior to any soil land disturbance and must be reviewed and approved by the City of Dover Community Services Department. All swales and drainage structures will be constructed and stabilized prior to having run-off directed to them. Abutting properties will not be adversely affected by this development.** Reference is also made to the Inspection, Operation & Maintenance Manual which has been written specifically for this project and available to the owner.

As this proposed site redevelopment disturbs greater than one acre of land a Notice of Intent is required to be submitted to the US EPA. This project will be covered by the Construction General Permit. As this project proposes less than 100,000 square feet of impact it does not require an issued permit by NHDES AoT, however construction is governed by a General Permit by Rule under NH RSA 485-A:17. A Stormwater Management Plan (SWMP) will be required by the City of Dover. The requirements of Chapter 153-14 A will be included in the plan.

Please find Section 4.0 of this document, and the Stormwater System Operation: Inspection & Maintenance Manual.

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4.0 Perimeter Control (Silt Fence / Silt Soxx / Erosion Control Mix Berm)

4.1 Erosion Control Mix Berm

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B46-B50) (Direct Quotes)

2022 US CGP (As Amended) 2.2.3 (Direct Quotes)

Chapter Env-Wq 1506.05 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Descriptions (NH SWM):

An erosion control mix berm is a type of sediment barrier with trapezoidal berm in shape that intercepts sheet flow and ponds stormwater runoff, allowing sediment to settle, and filtering runoff through sediment as well. They are an environmentally sensitive and cost-effective alternative to silt fence. An alternative to a simple erosion control mix berm is a "continuous contained berm." consisting of erosion control mix compost encapsulated in a mesh fabric (or "filter sock"). Refer to the "Filter Sock" fact sheet in this Appendix for specifications.

This barrier is installed across or at the toe of a slope, to intercept and retain small amounts of sediment from disturbed or unprotected areas.

Erosion control mix berms and socks sometimes offer a better solution than silt fence and other sediment control methods, because the organic material does not require any special trenching, construction, or removal, unlike straw bales, silt fence or coir rolls. This makes the technique very cost-effective. Silt fence must be disposed of as a solid waste.

The erosion control mix is organic, biodegradable, renewable, and can be left onsite. This is particularly important below embankments near streams, as re-entry to remove or maintain a synthetic barrier can cause additional disturbance.

Erosion control mix berms can be easily and quickly fixed if they are disturbed during construction activity.

Considerations (NH SWM):

The erosion control mix berm is used where:

• Erosion will occur in the form of sheet erosion only and there is no concentration of water in a channel or other drainage way above the berm.
• The area upslope of the berm has a slope of less than 5 percent.

• Sedimentation can pollute or degrade adjacent wetland and/ or watercourses.
• Sedimentation will reduce the capacity of storm drainage systems or adversely affect adjacent areas.
• The contributing drainage area is less than 1/4 acre per 100 feet of barrier length, the maximum length of slope above the barrier is 100 feet, and the maximum gradient behind the barrier is 5 percent. If the slope length is greater, other measures such as diversions may be necessary to reduce the slope length.
• Sediment barriers should not be used in areas of concentrated flows. Under no circumstances should erosion control mix barriers be constructed in live streams or in swales where there is the possibility of a washout.
• Sediment barriers are effective only if installed and maintained properly.
• Sediment barriers should be installed prior to any soil disturbance of the contributing drainage area above them.
• Frozen ground, outcrops of bedrock and very rooted forested areas are locations where berms of erosion control mix are most practical and effective.
• Other Erosion and Sediment Control (E&SC) measures should be used at low points of concentrated stormwater runoff, below culvert outlet aprons, around catch basins and closed storm systems, and at bottom of steep perimeter slopes.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Filter berms should be inspected at least daily during prolonged rainfall. They should be repaired immediately if there are any signs of erosion or sedimentation below them. If there are signs of breaching of the barrier, or impounding of large volumes of water behind them, then they should be replaced with other measures to intercept and trap sediment (such as a diversion berm directing stormwater runoff to a sediment trap or basin).
• Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately 1/3 of the height of the barrier.
• Filter berms should be reshaped or reapplied as needed.
• Any sediment deposits remaining in place after the barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.
• See Chapter 6 for general information on inspection and maintenance of E&SC measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

Erosion control mix can be manufactured on or off the project site. It must consist primarily of organic material, separated at the point of generation, and may include shredded bark, stump grindings, composted bark, or acceptable manufactured products. Wood and bark chips, ground construction debris or reprocessed wood products will not be acceptable as the organic component of the mix.

Specifications for erosion control mix berms include:

- Composition of the erosion control mix should be as follows:
    - o Erosion control mix should contain a well-graded mixture of particle sizes and may contain rocks less than 4 inches in diameter. Erosion control mix must be free of refuse, physical contaminants, and material toxic to plant growth.
    - o The mix composition should meet the following standards:
        - The organic matter content should be between 25 and 65 percent, dry weight basis.
        - Particle size by weight should be 100 percent passing a 3-inch screen, 90 percent to 100 percent passing a 1-inch screen, 70 percent to 100 percent passing a 0.75-inch screen, and a maximum of 30 percent to 75 percent, passing a 0.25-inch screen.
        - The organic portion needs to be fibrous and elongated.
        - The mix should not contain silts, clays, or fine sands.
        - Soluble salts content should be less than 4.0 millimhos per centimeter.
        - The pH should be between 5.0 and 8.0.
- The barrier must be placed along a relatively level contour and follow the contour of the land as closely as possible. It may be necessary to cut tall grasses or woody vegetation to avoid creating voids and bridges that would enable fines to wash under the barrier through the grass blades or plant stems.
- The barrier must be a minimum of 12 inches high, as measured on the uphill side of the barrier, and a minimum of 2 feet wide.

2022 CGP Requirements:

2.2.3 Install sediment controls along any perimeter areas of the site that are downslope from any exposed soil or other disturbed areas.

a. The perimeter control must be installed upgradient of any natural buffers established under Part 2.2.1, unless the control is being implemented pursuant to Part 2.2.1a.ii-iii;
b. To prevent stormwater from circumventing the edge of the perimeter control, install the perimeter control on the contour of the slope and extend both ends of the control up slope (e.g., at 45 degrees) forming a crescent rather than a straight line;

c. After installation, to ensure that perimeter controls continue to work effectively:

i. Remove sediment before it has accumulated to one-half of the above-ground height of any perimeter control;

ii. and After a storm event, if there is evidence of stormwater circumventing or undercutting the perimeter control, extend controls and/or repair undercut areas to fix the problem.

BS&E Considerations/Recommendations:

The erosion control mix berm is the preferred method of BS&E and other municipalities, such as Dover, as long as upslope conditions allow.

4.2 Filter Sock

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B51-B55) (Direct Quotes)

2022 US CGP (As Amended) 2.2.3. (Direct Quotes)

General Description (NH SWM):

Filter socks, also known as "continuous contained berms" or "straw wattles" are an alternative to simple erosion control mix berms that add containment and stability. Filter socks consist of stump grindings or erosion control mix compost encapsulated in mesh fabric. A straw wattle consists of straw encapsulated in mesh fabric. These controls are a type of temporary sediment barrier installed across or at the toe of a slope to intercept and retain small amounts of sediment from disturbed or unprotected areas. The primary function of filter socks is to slow and pond the water, allowing soil particles to settle.

Considerations (NH SWM):

• Filter socks are not for use across streams or channels. They should be located only where shallow pools can form and where areas only contribute sheet flow to the device.
• Filter socks should be used for small, disturbed areas such as for providing protection around a soil stockpile.
• Filter socks, similar to other sediment barriers, should be designed for a contributing drainage area of less than 1/4 acre per 100 feet of barrier or with a drainage distance of 100 feet or less.
• Filter socks should only receive sheet flow from upgradient areas.
• Filter socks work especially well in areas where trenching is not feasible such as over frozen ground, over pavement, or over ledge areas.
• Filter socks are especially useful on steep slopes if sufficient anchoring and preparation is made (i.e., remove heavy vegetation) to ensure good contact of sock and underlying soil along its entire length. Maximum gradient behind the barrier is 2h:1v (50 percent).
• Filter socks must be used in conjunction with other measures that prevent or control erosion, as this control measure is for sediment only. Improperly applied or installed sediment barriers may increase erosion.
• Filter socks and straw wattle barriers may also be used for check dams where installation access or other conditions prevent the use of materials such as stone.
• Mesh materials should be 100 percent biodegradable where feasible. The opening size should be less than or equal to 1/8 inches as required by Env-Wq 1506.15. Non-biodegradable mesh encapsulation materials should be removed from the site following 85 percent vegetative site stabilization.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Filter socks should be inspected at least daily during prolonged rainfall.
• At a minimum, sediment deposition should be removed when the silt deposition accumulates to one-half the height of the berm.
• These barriers can be entirely removed as a unit from the site following site stabilization.
• Biodegradable filter socks should last 6 months and may need to be replaced if disturbances are anticipated to last longer.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

• Filter socks can be manufactured on or off the project site.
• Filter socks can range in diameter from 8 inches to 32 inches. Socks with diameters less than 12 inches should only be used for residential projects disturbing a quarter acre or less.
• Filter socks should be staked using 2-inch by 2-inch wooden stakes placed at 10-foot lineal spacing to a depth of 12 inches, or staked per manufacturer specifications. Socks placed on slopes should be anchored with stakes driven through the center of the sock or immediately downslope of the sock.
• The barrier should be installed to maintain surface contact and avoid potential creation of voids that would allow fines to flow under the barrier (i.e., full contact with the ground is critical for filter socks to properly function). It may be necessary to cut tall grasses or woody vegetation.
• Filter socks must consist of primarily organic material including shredded bark, stump grindings, composted bark, or acceptable manufactured products. Unacceptable materials include wood and bark chips, ground construction debris or reprocessed wood projects.
• Seeds may be added to the organic filler material, which can permanently stabilize the shallow slope. The seed mix must not contain non-native or nuisance species seed sources.
• Installation with J-hooks or "smiles" will increase berm efficiency and reduce erosion-causing failures.

2022 CGP Requirements:

2.2.3 Install sediment controls along any perimeter areas of the site that are downslope from any exposed soil or other disturbed areas.

- The perimeter control must be installed upgradient of any natural buffers established under Part 2.2.1, unless the control is being implemented pursuant to Part 2.2.1a.ii-iii;
- To prevent stormwater from circumventing the edge of the perimeter control, install the perimeter control on the contour of the slope and extend both ends of the control up slope (e.g., at 45 degrees) forming a crescent rather than a straight line;

- After installation, to ensure that perimeter controls continue to work effectively:
    - Remove sediment before it has accumulated to one-half of the above-ground height of any perimeter control;
    - and After a storm event, if there is evidence of stormwater circumventing or undercutting the perimeter control, extend controls and/or repair undercut areas to fix the problem.
- Exception. For areas at "linear construction sites" (as defined in Appendix A) where perimeter controls are infeasible (e.g., due to a limited or restricted right-of-way), implement other practices as necessary to minimize pollutant discharges to perimeter areas of the site.

4.3 Silt Fence

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B58-B64) (Direct Quotes)

2022 US CGP (As Amended) 2.2.3 (Direct Quotes)

Chapter Env-Wq 1506.04 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH SWM):

Silt fences are temporary sediment barriers consisting of filter fabric attached to supporting posts and entrenched into the soil. This barrier is installed across or at the toe of a slope, to intercept and retain small amounts of sediment from disturbed or unprotected areas.

Silt fences have a useful life of one season. They function primarily to slow and pond the water and allow soil particles to settle. Silt fences are not designed to withstand high heads of water, and therefore should be located where only shallow pools can form. Their use is limited to areas where overland sheet flows are expected.

Silt fence is a sediment control measure, not an erosion control measure. It is intended to be used in conjunction with other measures that do prevent or control erosion. Improperly applied or installed silt fence will increase erosion.

Silt fences should not be used across streams, channels, swales, ditches, or other drainage ways. Silt fences are not capable of effectively filtering the high rates and volumes of water associated with channelized flow. Silt fences should not be designed to impound sediment or water more than 18 inches high. Silt fences installed across a concentrated flow path are subject to undercutting, end cutting, and overtopping. This frequently not only results in the bypass of sediment laden water, but

also in the complete failure of the fence. Such failures typically release sediment accumulated on the upgradient side of the fence, and result in severe erosion of the channel both upstream and downstream of the fence.

Considerations (NH SWM):

- Silt fence barriers are used where:
    - o Erosion will occur only as of the result from sheet flow (flow depth of less than 0.1 feet) and there is no concentration of water in a channel or other drainage way above the fence.
    - o Sedimentation can pollute or degrade adjacent wetlands or watercourses.
    - o Sedimentation will reduce the capacity of storm drainage systems or adversely affect adjacent areas.
    - o The contributing drainage area is less than 1/4 acre per 100 feet of barrier length, the maximum length of slope above the barrier is 100 feet, and the maximum gradient behind the barrier is 50 percent (2h:1v). If any of these conditions are exceeded, other measures may be necessary to control erosion and to intercept and treat the sediment load.
    - o Sediment barriers should not be used in areas of concentrated flows. Under no circumstances should silt fences be constructed in streams or in swales where there is the possibility of a washout.
- Silt fences can be used for 60 days or longer depending on ultraviolet stability and manufacturer's recommendations. However, silt fences generally have a useful life of one season, and should be periodically replaced on longer duration construction projects.
- Avoid reinforcing silt fences with metal mesh or plastic mesh, which could potentially entangle and harm wildlife (USFWS, 2023).
- Silt fencing generally is a better sediment barrier than hay bale barriers.
- Potential causes of silt fence failure include:
    - o Improper placement on the site.
    - o Allowing excessive drainage area to the silt fence structure.
    - o Inadequate trenching depth and improper backfill and compaction of the bottom of the silt fence fabric.
    - o Improper attachment to posts.
    - o Inadequate maintenance of the silt fence after installation.
    - o Installing silt fence with a descending grade along the fence alignment, resulting in the diversion or concentration of stormwater runoff.
    - o Placement of fence at mid-slope of a cut or fill embankment. Because a silt fence works by impounding water, it should be placed at the toe of such slopes, to allow for this function, and to avoid potential diversion or concentration of flows.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Fences should be inspected and maintained at least daily during prolonged rainfall.
• Sediment deposition should be removed, at a minimum, when deposition accumulates to 1/3 the height of the fence, and moved to an appropriate location so the sediment is not readily transported back toward the silt fence.
• Silt fences should be repaired immediately if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier, or impounding of large volumes of water behind them, sediment barriers should be replaced with a temporary check dam.
• Should the fabric on a silt fence decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric should be replaced promptly.
• Any sediment deposits remaining in place after the silt fence is no longer required should be dressed to conform to the existing grade, prepared and seeded.
• If there is evidence of end flow on properly installed barriers, extend barriers uphill or consider replacing them with other measures, such as temporary diversions and sediment traps.
• Silt fences have a useful life of one season. On longer construction projects, silt fence should be replaced periodically as required to maintain effectiveness.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

Fences should be used in areas where erosion will occur only in the form of sheet erosion and there is no concentration of water in a channel or drainage way above the fence. Sediment barriers should be installed prior to any soil disturbance of the contributing drainage area above them.

Specifications for use of silt fences are as follows:

• The maximum contributing drainage area above the fence should be less than 1/4 acre per 100 linear feet of fence.
• The maximum length of slope above the fence should be 100 feet.
• The maximum slope above the fence should be 2h:1v.
• Fences should be installed following the contour of the land as closely as possible, and
• The ends of the fence should be flared upslope.
• The fabric should be embedded a minimum of 4 inches in depth and 4 inches in width in a trench excavated into the ground, or if site conditions include frozen ground, ledge, or the presence of heavy roots, the base of the fabric should be backfilled with a minimum thickness of 8 inches of 3/4-inch stone.
• The soil should be compacted over the embedded fabric.

• Adjoining sections of the fence should be overlapped by a minimum of 6 inches (24 inches is preferred), folded and stapled to a support post. If metal posts are used, fabric should be wire-tied directly to the posts with three diagonal ties.
• Silt fencing should not be stapled or nailed to trees.
• The height of a silt fence should not exceed 36 inches as higher fences may impound volumes of water sufficient to cause failure of the structure.
• The filter fabric should be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are necessary, filter cloth should be spliced together only at support post, with a minimum 6-inch overlap, and securely sealed.
• A manufactured silt fence system with integral posts may be used.
• A trench should be excavated approximately 4 inches wide and 4 inches deep along the line of posts and upgradient from the barrier. Post spacing should not exceed 6 feet. The trench should be backfilled and the soil compacted over the filter fabric.
• The filter fabric should be stapled or wired to the post, and 8 inches of the fabric should be extended into the trench. The fabric should not extend more than 36 inches above the original ground surface.
• Silt fence may be installed by "slicing" using mechanical equipment specifically designed for this procedure. The slicing method uses an implement towed behind a tractor to "plow" or slice the silt fence material into the soil. The slicing method minimally disrupts the soil upward and slightly displaces the soil, maintaining the soil's profile and creating an optimal condition for subsequent mechanical compaction.
• Silt fences should be installed with "smiles" or "J-hooks" to reduce the drainage area that any segment will impound (see diagrams). The ends of the fence should be turned uphill.
• Silt fences placed at the toe of a slope should be set at least 6 feet downgradient from the toe to allow space for shallow ponding and to allow for maintenance access without disturbing the slope.
• Silt fences should be removed when they have served their useful purpose, but not before the upslope areas have been permanently stabilized.

2022 CGP Requirements:

2.2.3 Install sediment controls along any perimeter areas of the site that are downslope from any exposed soil or other disturbed areas.

- The perimeter control must be installed upgradient of any natural buffers established under Part 2.2.1, unless the control is being implemented pursuant to Part 2.2.1a.ii-iii;
- To prevent stormwater from circumventing the edge of the perimeter control, install the perimeter control on the contour of the slope and extend both ends of the control up slope (e.g., at 45 degrees) forming a crescent rather than a straight line;
- After installation, to ensure that perimeter controls continue to work effectively:
    - Remove sediment before it has accumulated to one-half of the above-ground height of any perimeter control;
    - and After a storm event, if there is evidence of stormwater circumventing or undercutting the perimeter control, extend controls and/or repair undercut areas to fix the problem.

- Exception. For areas at "linear construction sites" (as defined in Appendix A) where perimeter controls are infeasible (e.g., due to a limited or restricted right-of-way), implement other practices as necessary to minimize pollutant discharges to perimeter areas of the site.

4.4 Permeable Pavement / Porous Pavement

References:
New Hampshire Stormwater Manual (February 2025) (NH SWM) (A60-A64) (Direct Quotes)
Chapter Env-Wq 1508.08 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

Description:
Permeable pavement consists of a permeable/pervious surface, base, and subbase materials which allow penetration of stormwater runoff into underlying soils. The surface materials for permeable pavement can consist of paving blocks or grids, porous asphalt, or pervious concrete. These materials are installed on a base which serves as a filter and or reservoir course between the pavement surface and the underlying subbase material. The subbase material typically comprises of a layer of crushed stone that not only supports the overlying pavement structure, but also serves as a reservoir to store stormwater runoff that penetrates the pavement surface until it can percolate into the ground.
Porous asphalt is very similar to conventional asphalt except that it is mixed without particles smaller than coarse sand. Without these smaller size particles, water can pass through the surface and into a crushed stone storage area. An advantage to the use of porous asphalt is the reduced need for stormwater conveyance systems and other additional SCMs.
Pervious concrete uses carefully controlled amounts of water and cementitious materials to create a thick coating around aggregate particles, but retaining significant void space in the placement of the mixture. A pervious concrete mixture contains little or no sand, creating this void content.

Maintenance Requirements:
• Maintenance activities need to comply with laws that protect wildlife, including but not limited to RSA 209:8, RSA 209:9, RSA 209:10, and RSA 212-A:7.
• Provision of signs is recommended, to indicate locations of permeable pavements and the applicability of special maintenance measures.
• No winter sanding of permeable pavements is permitted.
• Minimize application of salt for ice control.
• Never reseal or repave with impermeable materials.
• Inspect annually for pavement deterioration or concrete spalling.
• Monitor periodically to ensure that the pavement surface drains effectively after storms.
• For permeable pavements, clean periodically (one to two times per year) using a vacuum sweeper. Note, permeable surface selection will likely lead to different maintenance sensitivities and approaches.

• Porous Pavement is best maintained by using regenerative air and pure vacuum sweepers rather than the typical mechanical street sweepers.
• For vegetated paver systems, periodically reseed grass pavers to fill in bare spots.
• Major clogging may necessitate restoration or replacement of pavement surface.
• Underdrains jetting will require catch basins access and removal of orifice cap.
• Refer to UNHSC Maintenance Guidelines and Resources, "Checklist for Inspection of Permeable Pavement" for an example inspection checklist.
• The stone reservoir storage is controlled by an orifice on a SCHD40 cap that is fit and screwed on to the underdrain pipe. Must be in place and operational.

4.5 Infiltration Basin

References:
New Hampshire Stormwater Manual (February 2025) (NH SWM) (A48-A52) (Direct Quotes)

Chapter Env-Wq 1508.07 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

Description:

Infiltration basins are impoundments designed to temporarily store stormwater runoff, allowing all or a portion of the water to infiltrate into the ground. An infiltration basin is designed to completely drain between storm events. An infiltration basin is specifically designed to retain and infiltrate the entire Water Quality Volume. Some infiltration basins may infiltrate additional volumes during larger storm events, but many will be designed to release stormwater exceeding the water quality volume from the larger storms. In a properly sited and designed infiltration basin, water quality treatment is provided by stormwater runoff pollutants binding to soil particles beneath the basin as water percolates into the subsurface. Biological and chemical processes occurring in the soil also contribute to the breakdown of pollutants. Infiltrated water is used by plants to support growth, or it is recharged to the underlying groundwater. As with all impoundment SCMs, surface infiltration basins should be designed with an outlet structure to pass peak flows during a range of storm events, as well as with an emergency spillway to pass peak flows around the embankment during extreme storm events that exceed the combined infiltration capacity and outlet structure capacity of the facility. A subsurface infiltration chamber (i.e., basin) is specifically designed to retain and infiltrate the entire Water Quality Volume. Subsurface infiltration basins may comprise a subsurface reservoir and can include a distribution system with associated crushed stone storage bed, or specially designed chambers (with or without perforations) bedded in or above crushed stone.

Maintenance Requirements:

• Maintenance activities need to comply with laws that protect wildlife, including but not limited to RSA 209:8, RSA 209:9, RSA 209:10, and RSA 212-A:7.
• Removal of debris from inlet and outlet structures.
• Removal of accumulated sediment.
• Inspection and repair of outlet structures and accessories.
• Inspection of infiltration components at least twice annually, and following any rainfall event exceeding 2.5 inches in a 24-hour period, with maintenance or rehabilitation conducted as warranted by such inspection.
• Inspection of pre-treatment measures at least twice annually, and removal of accumulated sediment as warranted by inspection, but no less than once annually.
• If an infiltration system does not drain within 72 hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore infiltration function, including but not limited to removal of accumulated sediments or reconstruction of the infiltration basin.
• Vegetation should be inspected at least annually, and maintained in healthy condition, including pruning, removal, and replacement of dead or diseased vegetation, and removal of invasive species.

4.6 Deep Sump Catch Basins

References:
New Hampshire Stormwater Manual (February 2025) (NH SWM) (A18-A21) (Direct Quotes)

Chapter Env-Wq 1508.06 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

Description:

A deep sump catch basin consists of a utility access hole-type structure with an inlet grate, an outlet pipe connected to the piped drainage system, and a sump(s) with a depth several times the diameter of the outlet pipe. The inlet grate is located at the surface, and is sometimes combined with a vertical inlet integrated with a street or parking area curb. The sump's purpose is to capture coarse sediments and debris from the stormwater runoff intercepted by the structure. The outlet pipe can be fitted with a "hood" consisting of a cast metal or formed plastic fitting, designed to prevent floating materials from exiting the structure.

Deep sump catch basins used as pre-treatment are most effective if sited "off-line" since flow-through basins are more susceptible to sediment re-suspension. An outlet hood provides benefits for trapping floating trash, oil, and greases, as well as for short-term spill containment.

Maintenance Requirements:

• Maintenance activities need to comply with laws that protect wildlife, including but not limited to RSA 209:8, RSA 209:9, RSA 209:10, and RSA 212-A:7.

• Sumps may require frequent maintenance. Depending on location, this may require several cleanings of the sumps each year. At a minimum, it is recommended that sumps be inspected at least once annually.
• Sediment should be removed when it approaches 1/2 the sump depth.
• If floating hydrocarbons are observed during an inspection, the material should be removed immediately by skimming, absorbent materials, or other method and disposed of in conformance with applicable state and federal regulations.
• Cleaning may require a vacuum truck instead of "clam-shell" to avoid damage to hood.
• Damaged hoods should be replaced when noted by inspection.

4.7 Conveyance Swale

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (A115-A117) (Direct Quotes)

Chapter Env-Wq 1508.20 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

Description:

Conveyance swales are stabilized channels designed to convey stormwater runoff at non-erosive velocities. They may be stabilized using vegetation, riprap, or a combination, or with an alternative lining designed to accommodate design flows while protecting the integrity of the sides and bottom of the channel. Conveyance swales may provide incidental water quality benefits, but are not specifically designed to provide treatment. Conveyance swales are not considered a Treatment or Pre-treatment Practice under the AoT regulations, unless they are also designed to meet the requirements of an acceptable Treatment/ Pre-treatment Practice as described elsewhere in this Appendix.

Maintenance Requirements:

• Maintenance activities need to comply with laws that protect wildlife, including but not limited to RSA 209:8, RSA 209:9, RSA 209:10, and RSA 212-A:7.
• Grassed swales should be inspected periodically (at least annually) for sediment accumulation, erosion, and condition of surface lining (vegetation or riprap). Repairs, including stone or vegetation replacement, should be made based on this inspection.
• Remove sediment, debris, and invasive species annually, or more frequently as warranted by inspection.
• Mow vegetated swales based on frequency specified by design. Mowing at least once per year is required to control establishment of woody vegetation. It is recommended to cut grass no shorter than 4 inches.

4.8 Temporary Construction Exit

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B73-B75) (Direct Quotes)

2022 US CGP (As Amended) 2.2.4. (Direct Quotes)

Chapter Env-Wq 1506.09 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH SWM):

A stabilized construction exit consists of a pad of stone aggregate placed on a geotextile filter fabric, located at any point where traffic will be leaving a construction site to an existing access roadway or other paved surface. Its purpose is to reduce or eliminate the tracking of sediment onto public roads by construction vehicles. This helps protect receiving waters from sediment carried by stormwater runoff from public roads.

Considerations (NH SWM):

• Only construction traffic leaving the site is required to use the temporary stabilized exit. Consider providing a separate, unprotected, entrance for traffic entering the site. This will increase the longevity of the stabilized exit by eliminating heavy loads entering the site and reducing the total traffic over the device.
• Locate construction exits to limit sediment leaving the site and to provide for maximum utility by all construction vehicles. Avoid entrances that have steep grades and entrances at curves in public roads to minimize sight distance issues.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• The exit should be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand, and repair and/ or maintenance of any measures used to trap sediment.
• When the control pad becomes ineffective, the stone should be removed along with the collected soil material, regraded on site, and stabilized. The entrance should then be reconstructed.
• The contractor should sweep the pavement at exits whenever soil materials are tracked onto the adjacent pavement or traveled way.
• When wheel washing is required, it should be conducted on an area stabilized with aggregate, which drains into an approved sediment-trapping device. All sediment should be prevented from entering storm drains, channels/ swales, or waterways.

• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

Temporary construction exits should meet the following requirements:

• The stone should be 3-inch crushed stone (NHDOT Item No. 304.5).
• The minimum length of the pad should be 75 feet, except that the minimum length may be reduced to 50 feet if a 3-inch to 6-inch-high berm is installed at the entrance of the project site.
• The pad should extend the full width of the construction access road or 10 feet, whichever is greater.
• The pad should slope away from the existing roadway.
• The pad should be at least 6 inches thick.
• A geotextile filter fabric should be placed between the stone pad and the earth surface below the pad.
• The pad should be maintained or replaced when mud and soil particles clog the voids in the stone such that mud and soil particles are tracked off-site.
• Natural drainage that crosses the location of the stone pad should be intercepted and piped beneath the pad, as necessary, with suitable outlet protection.

2022 CGP Requirements:

2.2.10 Minimize sediment track-out.

a. Restrict vehicle use to properly designated exit points;

b. Use appropriate stabilization techniques at all points that exit onto paved roads;

i. Exception: Stabilization is not required for exit points at linear utility construction sites that are used only episodically and for very short durations over the life of the project, provided other exit point controls are implemented to minimize sediment track-out;

c. Implement additional track-out controls as necessary to ensure that sediment removal occurs prior to vehicle exit; and

d. Where sediment has been tracked-out from your site onto paved roads, sidewalks, or other paved areas outside of your site, remove the deposited sediment by the end of the same business day in which the track-out occurs or by the end of the next business day if track-out occurs on a non-business day. Remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. You are prohibited from hosing or sweeping tracked-out sediment into any constructed or natural site drainage feature, storm drain inlet, or receiving water.

4.9 Temporary Storm Drain Inlet Protection

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B89-B93) (Direct Quotes)

2022 US CGP (As Amended) 2.2.10 a. & b. (Direct Quotes)

Chapter Env-Wq 1506.08 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH SWM):

Storm drain inlet protection is a sediment barrier installed around a drop inlet or curb inlet to reduce sediment discharge. There are several types of inlet protection including, but not limited to, the following:

- Gravel and wire mesh inlet barriers.
- Concrete block and gravel inlet barriers.
- Catch basin inserts (e.g., filter sacks).

Sediment removal is accomplished by shallow ponding adjacent to the barrier and resulting settling of the sediment particles. Temporary storm drain inlet protection using stone and wire will not prevent fine sediment from entering a storm drain. This control will only trap the coarser particles. If turbid water is being directed to the storm drain inlet protection as described and that water does not continue to a sediment trap or basin, alternative solutions for treating the water should be evaluated upslope of the catch basin.

The purpose of storm drain inlet protection is to prevent sediment from entering a storm drainage system prior to permanent stabilization of the contributing disturbed area. Storm drains made operational before their drainage areas are stabilized can convey large amounts of sediment to storm sewer systems or natural drainage ways. In some cases, the storm drain itself may accumulate sufficient sediment to significantly reduce or eliminate its conveyance capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets.

Considerations (NH SWM):

- This measure applies primarily to closed drainage systems.
- This measure includes several types of inlet barriers, the use of which may depend on site conditions and the type of inlet. Other techniques for accomplishing the same purpose may be used, but they should be installed only after careful study of their effectiveness.
- This measure is effective in reducing coarse grained suspended particles from stormwater runoff. Silt and clay particles will not be treated by the inlet protection and can sometimes block the inlet (filter sack).
- Stormwater runoff from large, disturbed areas should be routed through a sediment trap or sediment basin.

• The best way to prevent sediment from entering the storm sewer system is to stabilize the site as quickly as possible, preventing erosion and stopping sediment at its source.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Sediment should be removed from inlet barriers, and the barrier restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the barrier. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.
• Inlet barriers should be removed, and the area stabilized when the contributing drainage area has been properly stabilized.
• All catch basins and storm drain inlets must be cleaned at the end of construction and after the site has been fully stabilized.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

• The maximum contributing drainage area to the trap should be less than one acre.
• The inlet protection device should be constructed in a manner that will facilitate clean-out and disposal of trapped sediments and minimize interference with construction activities.
• Any resultant ponding of stormwater must not cause excessive inconvenience or damage to adjacent areas or structures.
• Gravel and wire mesh inlet barriers should meet the following additional requirements:
    o This type of barrier has no overflow provision; therefore, ponding at the inlet may be significantly greater in depth than with other barriers, especially if sediment is not removed regularly. This type of barrier should not be used where overflow may endanger an exposed fill slope or cause excessive flooding. Consideration should also be given to the possible effects of ponding on traffic movement, nearby structures, working areas, and adjacent property.
    o The wire mesh should be placed over the drop inlet so that the entire opening and a minimum of 12 inch around the opening are covered by the mesh.
    o The wire mesh should be hardware cloth or wire with openings up to 1/2-inch.
    o The gravel filter should be clean coarse aggregate.
    o The gravel should extend at least 18 inches beyond on all sides of the drain opening.
    o The gravel should be at least 12 inches in depth.
    o If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stones must be pulled away from the inlet, cleaned and replaced.
• Concrete block and gravel inlet barriers should meet the following additional requirements:
    o The blocks should be placed lengthwise in a single row around the perimeter of the inlet.
    o The block ends should abut one another.
    o The height of the barrier can vary, depending on design needs, by stacking combinations of 4-inch, 8-inch and 12-inch-wide blocks. The barrier of blocks and gravel filter should be a minimum of 12 inches high and no more than 24 inches high.

o A hardware cloth or wire mesh should be placed over the openings of the concrete blocks and extend at least 12 inches around the opening to prevent aggregate from being transported through the openings in the blocks. Hardware cloth or comparable wire mesh with 1/2-inch openings should be used.
o The gravel filter should be clean coarse aggregate.
o The gravel should be placed against the wire and along the outside edges of the blocks to the top of the block barrier.
o If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the blocks, cleaned and replaced.

• Manufactured catch basin sediment barriers (e.g., filter sacks) are now available that could be functionally equivalent to the barriers listed above in certain situations. These measures are acceptable as long as they are installed, used, and maintained as specified by the vendor or manufacturer, and prevent sediment from entering the storm drain system. If such products fail to perform the required sediment trapping function, they should be removed and replaced with an effective alternative barrier. Filter sacks should not be used protect a catch basin that is surrounded by disturbed soil. Filter sacks are most effective when installed on pavements to capture sediment track out from construction vehicles.

2022 CGP Requirements:

2.2.10 Protect storm drain inlets.

a. Install inlet protection measures that remove sediment from discharges prior to entry into any storm drain inlet that carries stormwater from your site to a receiving water, provided you have authority to access the storm drain inlet. Inlet protection measures are not required for storm drain inlets that are conveyed to a sediment basin, sediment trap, or similarly effective control; and

b. Clean, or remove and replace, the inlet protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, remove the deposited sediment by the end of the same business day in which it is found or by the end of the following business day if removal by the same business day is not feasible.

BS&E Considerations/Recommendations:

Manufactured sediment barriers such as silt sacks are the preferred method of protection. A secondary sediment control method such as a silt soxx or other mulch sock product may be necessary to provide additional filtration/protection.

4.10 Temporary Check Dam

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B69-B72) (Direct Quotes)

2022 US CGP (As Amended) 2.2.11 (Direct Quotes)

Chapter Env-Wq 1506.07 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH SWM):

Temporary check dams are small temporary dams constructed across a swale, channel, or drainage ditch. Check dams are used to reduce the velocity of concentrated stormwater flows, thereby reducing erosion of the swale, channel, or ditch.

Check dams may also trap small amounts of sediment generated in the swale, channel, or ditch itself. However, the check dam is not a sediment trapping measure and should not be used as such.

The measure is limited to use in small open channels that drain one acre or less. It should not be used in either perennially flowing streams or intermittent stream channels.

Check dams can be constructed of stone. In locations where stone is not available, timber check dams may be considered. Typical applications include temporary or permanent ditches, channels, or swales, which need protection during the establishment of grass linings.

Hay or straw bales should generally not be used as check dams, or in any location where there is concentrated flow. However, they may be used for check dams in applications where installation access or other conditions prevent the use of preferred materials such as stone; in such cases, installation must provide proper embedment of the straw or hay bale barrier, limit contributing drainage area to less than one acre, and provide for frequent monitoring of the barrier.

Considerations (NH SWM):

• This measure is intended for use in areas of concentrated flow, but must not be used in stream channels (whether perennial or intermittent).
• The check dam may be left in place permanently to avoid unnecessary disturbance of the soil on removal, but only if the project design has accounted for their hydraulic performance and construction plans call for them to be retained.
• If it is necessary to remove a stone check dam from a grass-lined channel that will be mowed, care should be taken to ensure that all stones are removed, including stones that have washed downstream.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Check dams should be inspected at least daily during prolonged rainfall.
• Inspections should verify that the center of the dam is lower than the edges.
• Erosion caused by high flows around the edges of the dam must be corrected immediately.
• If evidence of siltation in the water is apparent downstream from the check dam, the check dam should be inspected and adjusted immediately.
• Check dams should be checked for sediment accumulation after each significant rainfall. Sediment should be removed routinely and when it reaches a maximum depth of 1/2 of the original height.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

Temporary check dams should conform to the following requirements:

• Check dams should be installed before stormwater runoff is directed to the swale, channel, or drainage ditch.
• The maximum contributing drainage area to the dam should be less than one acre.
• The maximum height of the dam should be 2 feet.
• The center of the dam should be at least 6 inches lower than the outer edges.
• The maximum spacing between the dams should be such that the toe of the upstream dam is at the same elevation as the overflow elevation of the downstream dam.
• The check dam should not be used in a flowing stream.
• Hay bale check dams should be embedded into the ground at least 4 inches but no more than 6 inches.
• Stone check dams should be constructed of a well-graded angular 2-inch to 3-inch stone. 3/4-inch stone on the upgradient face is recommended for better filtering, with larger stone on the down-gradient face to provide stability.
• The stone should be keyed into swale/ channel/ ditch side slopes and extended by a minimum of 18 inches to prevent bypass or washout.
• If carefully installed and monitored, timber check dams may be used, and should be constructed of 4-inch to 6- inch logs embedded at least 18 inches deep into the soil. However, stone check dams are generally preferred. The stone has the ability to conform to the channel and settle if scour occurs, rendering stone check dams less susceptible to scour around the ends and downstream of the devices.
• If provided by design and construction plans, leave the dam in place permanently.
• Temporary structures should be removed once the swale, channel, or ditch has been stabilized:

o In temporary ditches, channels, and swales, check dams should be removed, and the ditch/ channel/ swale filled in when it is no longer needed.
o In permanent structures, check dams should be removed when a permanent lining has been established. If the permanent lining is vegetation, then the check dam should be retained until the grass has matured to protect the ditch, channel, or swale. The area beneath the check dam must be seeded and mulched immediately after removal.

2022 CGP Requirements:

2.2.11 Minimize Erosion of Stormwater Conveyances.

Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.

Examples of stormwater controls that can be used to comply with this requirement include the use of erosion controls and/or velocity dissipation devices (e.g., check dams, sediment traps), within and along the length of a constructed site drainage feature and at the outfall to slow down stormwater.

4.11 Temporary Sediment Basin

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B76-B81) (Direct Quotes)

2022 US CGP (As Amended) 2.2.12 (Direct Quotes)

Chapter Env-Wq 1506.12 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Descriptions (NH SWM):

General Description A sediment basin is a water impoundment constructed to capture and store sediment and/ or debris. Sediment is removed by temporarily detaining sediment-laden stormwater runoff, allowing time for the sediment particles to settle. In some instances, settling may be enhanced by the introduction of flocculants (see separate "Flocculants" fact sheet in this Appendix). Flocculants should only be used upon approval by NHDES. Sediment basins may be made by constructing a dam or embankment or by excavating a depression. Sediment basins differ from sediment traps, in that basins are engineered impoundment structures, and may serve larger areas than sediment traps.

The sediment basin is designed to:

• Detain stormwater volume and slowly release it to the downstream waterways (if surface water quality standards can be met at discharge point).
• Trap sediment originating from construction site and prevent subsequent deposition in downstream drainage waterways.
• Provide storage of the trapped sediment and debris.

Considerations (NH SWM):

• Sediment basins should only be used where the following conditions exist:
    o Failure of the embankment or impoundment will not result in loss of life; damage to homes, commercial or industrial buildings, main highways, or railroads; or interruption of the use or service of public utilities.
    o The basin is designed by a Professional Engineer licensed in New Hampshire.
    o The basin is designed in accordance with the measures applicable to impoundment embankments, as identified in the Appendix A "Detention Basin" fact sheet.
• Sediment basins must meet all applicable requirements if they meet New Hampshire's definition of a "dam" (https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/dam-definiton.pdf). Applicable requirements may be accessed at the NHDES Dam Bureau web page at https://www.des.nh.gov/water/dam-maintenance-andmanagement.
• It is possible to use a basin that is designed for eventual permanent use as a detention basin or water quality treatment facility for the final constructed project. However, this measure should not be undertaken unless specifically provided in the design of the project, and authorized by the design engineer. In some cases, the longterm operating integrity of a basin can be adversely affected by temporary use as a sediment basin (such as potential clogging of soils intended to provide future infiltration function).
• A sediment basin should be installed as close as possible to the disturbed area or sediment source.
• Sediment basins should be installed where stormwater runoff from undisturbed areas can be excluded from the drainage area to the basin and should be placed in compliance with the Construction General Permit Appendix F, which requires a 50 foot vegetative natural buffer from wetlands, streams, and other jurisdictional areas.
• Sediment basins mostly trap coarse-grained sediments. Fine-grained sediments such as silts and clays will remain suspended in the water and will travel off-site unless the water is detained for an extended period of time, or unless other treatment measures (such as use of flocculants or downstream filters) are implemented to enhance settling of these materials.
• Sediment basins, like detention basins, can result in warmer water temperatures than the natural condition (i.e., above ambient). Care must be exercised to not locate discharges from sediment basins near to cold-water streams.
• Basin locations and construction activities may affect downstream water quality, wetlands, and water-related wildlife habitats. These conditions must be considered in the design.
• Overall planning and design should be carefully considered to minimize the number of sediment basins required.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Sediment basin installations need to be regularly inspected during their installation. If there is any evidence of siltation downstream of the basin, corrective measures need to be implemented to keep sediment from entering downstream areas.
• Sediment basins should be inspected at least daily during prolonged rainfall.
• Outlet structures and emergency spillways should be examined at the time of inspection for any damage, and repaired immediately if any such damage is observed.
• Side slopes and embankments should be examined at the time of inspection to ensure that they are structurally sound, are not showing signs of seepage, and are not damaged by erosion or by construction activities.
• The water discharged from sediment basins should be monitored during storm events to determine how well they are functioning and if sedimentation is apparent, additional erosion control measures should be applied to eliminate the source of sedimentation.
• Geotextile fabric or stone used around a pipe-outlet riser should be checked periodically and replaced when the material has become clogged with sediment.
• Sediment should be removed, and the trap restored to original capacity when sediment has accumulated to the original design sediment storage volume.
• The materials removed from the basin should be properly disposed of and stabilized.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

Sediment basins must meet the following requirements:

• Basins must be constructed and stabilized prior to disturbing the watershed above them. If sediment basins will be stabilized with vegetation, they must be installed early in the growing season.
• Erosion and Sediment Control (E&SC) measures should be employed during the construction of the sediment basin until stabilized to protect downstream waterbodies from sedimentation due to the construction disturbance required to install this E&SC measure.
• An outlet structure should be provided adequate to handle the 10-year frequency discharge without failure or significant erosion.
    o The outlet should be designed, constructed, and maintained in such a manner that sediment does not leave the trap and that erosion at or below the outlet does not occur.
    o Outlets should be designed so that the top of the embankment provides the minimum freeboard specified in Appendix A "Detention Basin" fact sheet.
    o The outlet should discharge to a stabilized area. The outlets must empty onto undisturbed or stabilized ground, into a watercourse, stabilized channel, or a storm sewer system. Any discharges must meet surface water quality standards. Outlet

protection should be provided (see Appendix A "Permanent Outlet Protection" fact sheet) or control valves on outlet structures should be provided to hold or reduce discharge volume.

• The minimum sediment storage volume of the basin should be 3,600 cubic feet of storage for each acre of drainage area, or the calculated stormwater runoff volume from a 2-year, 24-hour storm. The capacity of the sediment basin should be equal to the stormwater volume to be detained plus the volume of sediment expected to be trapped. Periodic removal of sediment will be necessary to maintain the basin's capacity.
• The side slopes of the basin should be 3h:1v or flatter, and should be stabilized immediately after their construction.
• Embankments should be designed to meet applicable regulations, and should meet the design requirements identified in Appendix A "Detention Basin" fact sheet for embankment construction.
• The drainage area contributing to the basin must be protected against erosion so that expected sedimentation will not shorten the planned effective life of the structure.
• Basins must be designed to be drained within 72 hours or less.
• An emergency spillway should be provided to safely pass the 50-year design storm without damage to the embankment, assuming that the basin is full to design depth at the beginning of the storm. The emergency spillway should not be installed in filled embankments.
• All areas disturbed during construction should be stabilized within 7 calendar days of that disturbance in accordance with the Permanent Vegetation E&SC measure, Temporary Mulching E&SC measure, or other appropriate structural E&SC measure. All construction of sediment basins must be completed and seeded by September 15 if vegetative measures will be used for final stabilization. Otherwise, side slopes must be stabilized with an alternative approved long-term stabilization measure. If structural measures such as riprap will be used for final stabilization, this time limit will not apply. Water should not be directed to the sediment basin until the basin is stabilized with vegetative or other measures.
• A sediment basin with a pipe outlet structure should be fitted with a perforated riser surrounded by a gravel cone. This will serve to filter fine particulate material. A geotextile filter should be installed around the riser prior to the placement of the gravel.

Additional Outlet Protection Considerations (NH SWM):

• Note that sediment basins are vulnerable to discharging sediment-laden water and may require additional protection at the outlet, particularly when construction sediment is fine (i.e., comprised mostly of fine silts or clays).
• Additional measures may include, but are not limited to stone filter rings, porous, baffling systems, and sediment skimmers as pictured below.

2022 CGP Requirements:

a. Situate the basin or impoundment outside of any receiving water. and any natural buffers established under Part 2.2.1;

b. Design the basin or impoundment to avoid collecting water from wetlands;

c. Design the basin or impoundment to provide storage for either: i. The calculated volume of runoff from a 2-year, 24-hour storm;33 or ii. 3,600 cubic feet per acre drained.

d. Utilize outlet structures that withdraw water from the surface of the sediment basin or similar impoundment, unless infeasible;

e. Use erosion controls and velocity dissipation devices to prevent erosion at inlets and outlets; and

f. Remove accumulated sediment to maintain at least one-half of the design capacity and conduct all other appropriate maintenance to ensure the basin or impoundment remains in effective operating condition.

4.12 Temporary Sediment Trap

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B82-B88) (Direct Quotes)

Chapter Env-Wq 1506.10 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH DWM):

A sediment trap is a small, temporary ponding area to intercept sediment-laden stormwater runoff from small, disturbed areas. Intercepted stormwater runoff is retained long enough to allow for settling of the coarser sediment particles. Sediment traps are usually installed at the outlet of stormwater diversion structures, channels, slope drains, construction exit wash areas, or other points of discharge from disturbed area.

Considerations (NH SWM):

- A sediment trap should be installed as close as possible to the disturbed area or sediment source.
- Sediment traps should be used in drainage ways with small watersheds (contributing drainage area less than 5 acres, but usually significantly smaller than this). For larger contributing areas, engineered sediment basins should be used instead.
- Sediment traps should be installed where stormwater runoff from undisturbed areas can be excluded from the trap.
- Traps should be located to obtain maximum storage benefit from the terrain, as well as for ease of removal and disposal of accumulated sediment.
- Sediment trap discharge should meet NH surface water quality standards at discharges to streams, rivers, or other waterbodies.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Sediment traps should be inspected at least daily during prolonged rainfall.
• Sediment should be removed, and the trap restored to original capacity when sediment has accumulated to 50 percent of the original volume.
• The materials removed from the trap should be properly disposed of and stabilized.
• Sediment trap outlets should be examined at the time of inspection for any damage, and repaired immediately if any such damage is observed.
• Geotextile fabric or stone used around a pipe-outlet riser should be checked periodically and replaced when the material has become clogged with sediment.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

Temporary sediment traps should meet the following requirements:

• Sediment traps should be located so that they can be installed prior to disturbing the area they are to protect.
• The trap should be installed as close to the disturbed area or source of sediment as possible.
• The maximum contributing drainage area to the trap should be less than 5 acres.
• The minimum volume of the trap should be 3,600 cubic feet of storage for each acre of drainage area.
• The side slopes of the trap should be 3h:1v or flatter, and should be stabilized immediately after their construction.

Embankments:

• The maximum height of the sediment trap embankment should be 4 feet when measured from the lowest point of natural ground on the downstream side of the embankment.
• The minimum top width of the embankment should be 6 feet.

Outlets (General Requirements):

• The outlet should be designed, constructed, and maintained in such a manner that sediment does not leave the trap and that erosion at or below the outlet does not occur.
• Outlets should be designed so that the top of the embankment is a minimum of 1 foot above the crest elevation of the outlet.
• The outlet should discharge to a stabilized area (see "Temporary and Permanent Mulching," "Temporary Erosion Control Blanket," or "Temporary Vegetation").
• Outlets may be constructed as earth spillways, stone outlets, or pipe outlets.

Earth Outlets:

• An earth outlet sediment trap has a discharge point that is located either over natural ground or cut into natural ground.
• The outlet width should be equal to 6 times the drainage area in acres.
• The embankment and outlet should be vegetated within 3 days of construction.

Stone Outlets:

• A stone outlet sediment trap has an outlet consisting of a crushed stone section in the embankment.
• The stone section should be located at the low point of the natural ground, as determined at the downstream side of the embankment.
• The outlet should be constructed of minimum size 1.5-inch crushed stone.

Pipe Outlets:

• A pipe outlet sediment trap has a pipe through the embankment, with an inlet consisting of a perforated riser.
• The pipe and riser should be constructed of corrugated metal. Plastic pipe (polyvinyl chloride or high-density polyethylene) may be considered, if the piping is located where it will not be subject to damage from vehicle traffic or from ice and frost conditions.
• The top 2/3 of the riser should be perforated with 1-inch diameter holes spaced 8 inches vertically and 10 to 12 inches horizontally around the pipe.
• Anchoring Weight: The riser should have a base with sufficient weight to prevent flotation of the riser. Two approved bases are: (1) A concrete base 12 inches thick with the riser embedded 9 inches into the concrete base, or (2) 1/4-inch minimum thickness steel plate attached to the riser by a continuous weld around the circumference of the riser to form a watertight connection. The plate should be backfilled with a minimum of 2.5 feet of stone, gravel, or earth to prevent flotation. In either case, each side of the square base measurement should be the riser diameter plus 24 inches.
• To increase the efficiency of the trap, the riser can be wrapped with a geotextile fabric held in place by woven wire and secured by strapping. The cloth should cover an area at least 6 inches above the highest hole and 6 inches below the lowest hole. The top of the riser pipe should not be covered with filter cloth.
• Crushed stone can also be used around the riser to increase trap efficiency.
• The minimum pipe sizes should be determined as provided in the following table:

Maximum Drainage Area (acres)	Minimum Barrel Diameter (inches)	Minimum Riser Diameter (inches)
1	15	21
2	18	24
3	21	30
4	24	30
5	30	36

Combination of Earth, Stone, or Pipe Outlets:

• A temporary sediment trap may have a combination of outlets. For instance, an 18-foot earth spillway outlet (adequate for 3 acres) and a pipe outlet with an 18-inch CMP barrel with a 24-inch CMP riser (adequate for 2 acres) could be used for the maximum drainage area of 5 acres.

Vegetation:

• All embankments, earth spillways, and disturbed areas below the structure should be vegetated within 72 hours of completion of the construction of the structure.
• If the structure is not planned for more than one vegetative growing season, the structure may be vegetated using the recommendation for "Temporary Vegetation" described in this Appendix.
• Basins that will be carried over the winter and into the next vegetative growing season should be vegetated using the recommendations for "Permanent Vegetation" described in this Appendix.

4.13 Diversion Ditch/ Berm

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B7-B10) (Direct Quotes)

Chapter Env-Wq 1506.12 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH SWM):

A diversion is a temporary channel constructed across the slope to intercept stormwater runoff and direct it to a stable outlet or sediment trapping structures. The channel may be formed by excavation, placement of a berm (or dike), or a combination of these measures. This temporary measure is used immediately above a new cut or soil fill slope or around the perimeter of a disturbed area. Diversions can be used as follows:

• To divert stormwater runoff from upslope drainage areas away from unprotected disturbed areas and slopes to a stabilized outlet. In this case, the diversion is placed upslope of the construction area.
• To divert sediment-laden stormwater runoff from a disturbed area to a sediment-trapping structure such as a sediment trap or sediment basin. In this case, the diversion is placed below the disturbed area, to assure that sediment-laden stormwater runoff will not leave the site without treatment.

Diversions are intended to facilitate management of the site during construction, and should not be substituted for terracing, vegetated waterways, permanent land grading practices, and other permanent measures for providing long-term erosion control.

Considerations (NH SWM):

• If erosion of the temporary diversion measure occurs during construction, the basin, channel, and berm must be stabilized.
• The gradient along the flow path must have a positive grade to assure drainage, but should not be so steep as to result in erosion due to high velocity channel flow. If such erosion occurs during construction, corrective action should be taken to stabilize the channel and berm, flatten the gradient of the channel, or otherwise eliminate the cause of erosion. Channel slopes greater than 2 percent require stabilization.
• Diversions are typically installed using material available on the site and can usually be constructed with equipment needed for site grading. The useful life of the measure can be extended by stabilizing the berm with vegetation.
• Temporary diversion berms are often used as a perimeter control in association with a sediment trap or a sediment basin, or a series of sediment-trapping facilities, on moderate to large construction sites. If installed properly and in the first phase of grading, maintenance costs are very low.
• Diversions upslope of a construction area should not be located below high sediment-producing areas unless land treatment practices or structural measures designed to prevent damaging accumulations of sediment in the channels are installed with or before the diversions. (The exception is where the diversion is used to divert sediment-laden water to a sedimentation facility.)
• Where diversions carry concentrated flows, their outlets require treatment or structures to dissipate energy and re-disperse flow or re-create sheet flow into undisturbed upland areas, where stormwater runoff can be absorbed. Untreated, sediment-laden stormwater runoff should not be discharged to undisturbed areas.
• Temporary vegetative stabilization of slopes should be conducted on slopes that are not in the final configuration and will have no work for an extended time period, but will have more work in the future.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Diversion berms used to trap sediment should be inspected and cleaned out after every significant storm.
• Diversion ditches must be cleared of sediment whenever sediment accumulates.
• Damages caused by construction traffic or other activity must be repaired before the end of each working day.

• If inspection indicates vegetation has not been established or has been damaged, the affected areas must be reseeded immediately.
• Once diversions have been stabilized, they should be mowed periodically to maintain a healthy vegetative cover, but the grass should not be cut shorter than 4 inches. Diversion ridges can be hazardous to mow, and equipment operators should be made aware of this potential hazard.
• Vegetation should be inspected at least annually, and maintained in healthy condition, including pruning, removal, and replacement of dead or diseased vegetation, and removal of invasive species.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Construction Specifications (NH SWM):

• Temporary diversion berms should be installed as an initial step in the land-disturbing activity. They must be functional prior to exposure of soils in the area being served by the diversion.
• Ditches or gullies within the limits of the diversion should be filled, and trees and other obstructions should be removed before or as part of construction.
• Berms should be located to minimize damages by construction operations and traffic.
• Where the diversion crosses an underground utility or other structure, measures should be employed to prevent damage to the utility, and to prevent settlement or displacement of trench backfill resulting from placement of the diversion.
• Once soil is exposed for a diversion channel, it should be immediately shaped, graded, and stabilized. Berms should be adequately compacted to prevent failure.
• Diversions must be completely stabilized prior to directing stormwater runoff to them.
• Where vegetation is used for stabilization, disturbed areas should be established to grass immediately after construction. Seedbed preparation, seeding, fertilizing, and mulching should comply with "Temporary and Permanent Vegetation" measures described in this Appendix.
• Temporary or permanent seeding and mulch should be applied to the berm immediately following its construction.
• If the soils or winter conditions preclude the use of vegetation and protection is needed, nonvegetative means, such as erosion control mats or an armor stone lining may be used.
• Each diversion must have an adequate outlet. The outlet must convey stormwater runoff to a point where outflow will not cause damage. The outlet should be installed and stabilized before the construction of the diversion.

4.14 Dust Control

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B11-B12) (Direct Quotes)

2022 US CGP (As Amended) 2.2.6. (Direct Quotes)

Chapter Env-Wq 1506.08 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH SWM):

A diversion is a temporary channel constructed across the slope to intercept stormwater runoff and direct it to a stable outlet or sediment trapping structures. The channel may be formed by excavation, placement of a berm (or dike), or a combination of these measures. This temporary measure is used immediately above a new cut or soil fill slope or around the perimeter of a disturbed area. Diversions can be used as follows:

- To divert stormwater runoff from upslope drainage areas away from unprotected disturbed areas and slopes to a stabilized outlet. In this case, the diversion is placed upslope of the construction area.
- To divert sediment-laden stormwater runoff from a disturbed area to a sediment-trapping structure such as a sediment trap or sediment basin. In this case, the diversion is placed below the disturbed area, to assure that sediment-laden stormwater runoff will not leave the site without treatment.

Diversions are intended to facilitate management of the site during construction, and should not be substituted for terracing, vegetated waterways, permanent land grading practices, and other permanent measures for providing longterm erosion control.

Considerations (NH SWM):

- If erosion of the temporary diversion measure occurs during construction, the basin, channel, and berm must be stabilized.
- The gradient along the flow path must have a positive grade to assure drainage, but should not be so steep as to result in erosion due to high velocity channel flow. If such erosion occurs during construction, corrective action should be taken to stabilize the channel and berm, flatten the gradient of the channel, or otherwise eliminate the cause of erosion. Channel slopes greater than 2 percent require stabilization.
- Diversions are typically installed using material available on the site and can usually be constructed with equipment needed for site grading. The useful life of the measure can be extended by stabilizing the berm with vegetation.
- Temporary diversion berms are often used as a perimeter control in association with a sediment trap or a sediment basin, or a series of sediment-trapping facilities, on moderate to large construction sites. If installed properly and in the first phase of grading, maintenance costs are very low.
- Diversions upslope of a construction area should not be located below high sediment-producing areas unless land treatment practices or structural measures designed to prevent damaging accumulations of sediment in the channels are installed with or before the diversions. (The exception is where the diversion is used to divert sediment-laden water to a sedimentation facility.)

• Where diversions carry concentrated flows, their outlets require treatment or structures to dissipate energy and re-disperse flow or re-create sheet flow into undisturbed upland areas, where stormwater runoff can be absorbed. Untreated, sediment-laden stormwater runoff should not be discharged to undisturbed areas.
• Temporary vegetative stabilization of slopes should be conducted on slopes that are not in the final configuration and will have no work for an extended time period, but will have more work in the future.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Diversion berms used to trap sediment should be inspected and cleaned out after every significant storm.
• Diversion ditches must be cleared of sediment whenever sediment accumulates.
• Damages caused by construction traffic or other activity must be repaired before the end of each working day.
• If inspection indicates vegetation has not been established or has been damaged, the affected areas must be reseeded immediately.
• Once diversions have been stabilized, they should be mowed periodically to maintain a healthy vegetative cover, but the grass should not be cut shorter than 4 inches. Diversion ridges can be hazardous to mow, and equipment operators should be made aware of this potential hazard.
• Vegetation should be inspected at least annually, and maintained in healthy condition, including pruning, removal, and replacement of dead or diseased vegetation, and removal of invasive species.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

Water Application:

• Periodically moisten exposed soil surfaces with adequate water to control dust.
• Avoid excessive application of water that would result in mobilizing sediment and subsequent deposition in natural waterbodies.

Stone Application:

• Cover surface with crushed stone or coarse gravel.
• In areas adjacent to waterways, use only chemically stable or washed aggregate.

Commercial Products:

• The use of other commercial products (i.e., tackifiers) to stabilize exposed surfaces or stockpiles for dust control will be subject to acceptance by NHDES on a project-specific basis.

Other Measures:

• Apply other temporary and permanent stabilization measures as specified in this Appendix.
• Calcium chloride cannot be applied in watersheds with chloride-impaired waterbodies. Elsewhere, it should only be used when other methods are not practical, and following these guidelines:

o For dry application, use a commercial chemical product that is either loose dry granules or flakes, fine enough to feed through a spreader at a rate that will keep the surface moist but not cause pollution or plant damage.
o For liquid applications, the application rate will vary depending on the relative quality of materials in a given road surface. Some calcium chloride suppliers may require a road sample before recommending an application rate. Typically, 30 percent calcium chloride is recommended for most gravel roads.

2022 CGP Requirements:

2.2.6 Minimize Dust

On areas of exposed soil, minimize dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged in stormwater from the site.

4.15 Soil Stockpile Protection Practices

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B18-B19) (Direct Quotes)

2022 US CGP (As Amended) 2.2.5. (Direct Quotes)

Chapter Env-Wq 1506.08 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH SWM):

Surface roughening is a technique for creating furrows in a bare soil surface, by tracking the slope with construction equipment. The purpose of surface roughening is to aid the establishment of vegetative cover from seed, to reduce stormwater runoff velocity and increase infiltration, and to reduce erosion and provide for sediment trapping.

This measure applies to all construction slopes to facilitate long-term stabilization with vegetation, and particularly slopes steeper than 3h:1v.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Any sign of rill or gully erosion should be immediately investigated and repaired as needed.
• Periodically inspect seeded slopes for rills or other signs of erosion. Fill these areas slightly above the original grade, reseed, and mulch as soon as possible, but no more than 3 days following inspection.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications Cut Slope Roughening:

• Groove the slope using machinery to create a series of ridges and depressions that run across the slope, on the contour.

Fill Slope Roughening:

• In general, fill slopes with a gradient steeper than 3h:1v should be constructed in lifts not to exceed 12 inches, compacting each lift. The contractor should refer to the project geotechnical report for specific guidance.
• The face of the slope should consist of loose, uncompacted fill 4 to 6 inches deep.
• Use grooving or tracking to roughen the face of the slopes, if necessary.
• Apply seed, fertilizer, and straw mulch, and then track or punch in the mulch with the bulldozer.
• Avoid blading or scraping the final slope face.

Cuts, Fills, and Graded Areas:

• Make mowed slopes no steeper than 3h:1v.
• Roughen these areas to shallow grooves by normal tilling, disking, or harrowing. The final pass of any such tillage should be on the contour.
• Make grooves formed by such implements close together (less than 10 inches), and not less than 1-inch deep.
• Excessive roughness is undesirable where mowing is planned.

Roughening With Tracked Machinery:

• Limit roughening with tracked machinery to soils with a sandy textural component to avoid undue compaction of the soil surface.
• Operate tracked machinery up and down the slope to leave horizontal depressions in the soil. Avoid back-blading during the final grading operation.
• Immediately seed and mulch roughened areas to obtain optimum seed germination and growth.

2022 CGP Requirements:

2.2.5 Manage stockpiles or land clearing debris piles composed, in whole or in part, of sediment and/or soil:

- Locate the piles outside of any natural buffers established under Part 2.2.1 and away from any constructed or natural site drainage features, storm drain inlets, and areas where stormwater flow is concentrated; Install a sediment barrier along all downgradient perimeter areas of stockpiled soil or land clearing debris piles;
- For piles that will be unused for 14 or more days, provide cover
- or appropriate temporary stabilization (consistent with Part 2.2.14);
- You are prohibited from hosing down or sweeping soil or sediment accumulated on pavement or other impervious surfaces into any constructed or natural site drainage feature, storm drain inlet, or receiving water.

4.16 Surface Roughening

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B20-B22) (Direct Quotes)

General Description (NH SWM):

Surface roughening is a technique for creating furrows in a bare soil surface, by tracking the slope with construction equipment. The purpose of surface roughening is to aid the establishment of vegetative cover from seed, to reduce stormwater runoff velocity and increase infiltration, and to reduce erosion and provide for sediment trapping.

This measure applies to all construction slopes to facilitate long-term stabilization with vegetation, and particularly slopes steeper than 3h:1v.

Considerations (NH SWM):

Graded areas with smooth, hard surfaces may be initially attractive, but such surfaces increase the potential for erosion. A rough, loose soil surface gives a mulching effect that provides more favorable moisture conditions than hard, smooth surfaces; this aids seed germination.

Methods for achieving a roughened soil surface on a slope include tracking, furrowing, and serrating (or grooving). Selection of the method is based on slope steepness, mowing requirements, and whether the slope is formed by cutting or filling.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Any sign of rill or gully erosion should be immediately investigated and repaired as needed.
• Periodically inspect seeded slopes for rills or other signs of erosion. Fill these areas slightly above the original grade, reseed, and mulch as soon as possible, but no more than 3 days following inspection.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

Cut Slope Roughening:

• Groove the slope using machinery to create a series of ridges and depressions that run across the slope, on the contour.

Fill Slope Roughening:

• In general, fill slopes with a gradient steeper than 3h:1v should be constructed in lifts not to exceed 12 inches, compacting each lift. The contractor should refer to the project geotechnical report for specific guidance.
• The face of the slope should consist of loose, uncompacted fill 4 to 6 inches deep.
• Use grooving or tracking to roughen the face of the slopes, if necessary.
• Apply seed, fertilizer, and straw mulch, and then track or punch in the mulch with the bulldozer.
• Avoid blading or scraping the final slope face.

Cuts, Fills, and Graded Areas:

• Make mowed slopes no steeper than 3h:1v.
• Roughen these areas to shallow grooves by normal tilling, disking, or harrowing. The final pass of any such tillage should be on the contour.
• Make grooves formed by such implements close together (less than 10 inches), and not less than 1-inch deep.
• Excessive roughness is undesirable where mowing is planned.

Roughening With Tracked Machinery:

• Limit roughening with tracked machinery to soils with a sandy textural component to avoid undue compaction of the soil surface.
• Operate tracked machinery up and down the slope to leave horizontal depressions in the soil. Avoid back-blading during the final grading operation.
• Immediately seed and mulch roughened areas to obtain optimum seed germination and growth.

4.17 Temporary Erosion Control Blanket and Matting

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B33-B39) (Direct Quotes)

2022 US CGP (As Amended) 2.2.14. (Direct Quotes)

Chapter Env-Wq 1506.03 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH SWM):

Erosion control blankets or mats consist of protective manufactured mulch blankets installed on prepared soil surfaces to provide erosion protection and surface stability on steep slopes, vegetated channels, or shorelines during vegetation establishment.

Erosion control blankets temporarily stabilize and protect disturbed soil from raindrop impact and surface erosion. Like other types of mulch, the blankets help increase infiltration, decrease compaction, and soil crusting, and conserve soil moisture. Erosion control blankets increase germination rates for grasses and legumes and promote vegetation establishment. Erosion control blankets also protect seeds from predators and reduce desiccation and evaporation by insulating the soil and seed environment.

Erosion control blankets generally consist of machine-made mats made of organic, biodegradable mulch such as straw, curled wood fiber (excelsior), coconut fiber or a combination thereof, evenly distributed on or between netting. Netting should be wildlife friendly (see wildlife friendly considerations below) and composed of biodegradable natural fiber. The blankets are provided in rolls for ease of handling and installation.

Note: This erosion control measure as described in this manual does not cover the selection and installation of turf reinforcement products. If such products are used on-site, they must be included in the project plans, designed by a Professional Engineer registered in New Hampshire, and included in permit approvals. The brand and product specified on the plans is determined by the slope and drainage circumstances, not all rolled erosion control blankets are not the same. The staking pattern is specified by the slope and product by the manufacturer.

Consideration (NH SWM):

Erosion control blankets can be applied to steep slopes, vegetated waterways, and other areas sensitive to erosion, to supplement vegetation during initial establishment and help provide for safe conveyance of stormwater runoff over the protected surface.

The following considerations are important for proper use of erosion control blankets and matting:

- During the growing season (April 15 – September 15) use mats (or mulch and netting) on:
    - o The base of grassed waterways.
    - o Steep slopes (15 percent or greater).
    - o Any disturbed soil within 100 feet of lakes, ponds, rivers, streams, and wetlands.
- During late fall and winter (September 15 – April 15) use heavy grade mats on all areas noted above plus use lighter grade mats (or mulch and netting) on:
    - o Side slopes of grassed waterways.
    - o Moderate slopes (greater than 8 percent). There may be cases where mats will be needed on slopes flatter than 8 percent, depending on site conditions and length of the slope.
- The most critical aspect of installing mats is obtaining firm continuous contact between the mat and the soil. Without such contact, erosion will occur underneath the mat.
- Install mats and staple in accordance with the manufacturer's recommendations.
- The designer must exercise care to choose the type of blanket or matting which is appropriate for the specific objectives and site conditions of the project. There are many soil stabilization products available, and a thorough review by an engineer or erosion control professional is necessary to evaluate the advantages, disadvantages, and construction requirements of the manufactured products, and to select and specify a product for a particular application.

Maintenance Requirements (NH SWM):

- All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
- Any failure should be repaired immediately. If washout of the slope, displacement of the mat, or damage to the mat occurs, the affected slope shall be repaired and reseeded, and the affected area of mat shall be re-installed or replaced.
- See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Design Erosion Control Blankets and Matting to be Wildlife Friendly (NH SWM):
Blankets and matting should be designed to minimize potential harm to wildlife. Wildlife friendly considerations based on the United States Fish and Wildlife Service (USFWS, 2023) include:

- Use of natural fiber, loose weave netting or no netting. Avoid plastic netting of any type-including "photodegradable" netting.

• Use of 100 percent biodegradable materials.
• Rectangle (elongated) mesh is better than square.
• All edges of blankets and mats should be secured with wooden stakes and buried.
• Remove blankets and mats as soon as they are no longer needed for erosion control.

Specifications (NH SWM):

Site Preparation:

Proper site preparation is essential to ensure complete contact of the protection matting with the soil. Site preparation should include the following specifications:

• Grade and shape area of installation.
• Remove all rocks, clods, trash, vegetation, or other obstructions so that the installed blankets will have direct contact with the soil.
• Prepare seedbed by loosening 2 to 3 inches of topsoil above final grade.
• Incorporate amendments, such as lime and fertilizer, into the soil according to soil test and the seeding plan.

Seeding:

• Seed area before blanket installation for erosion control and re-vegetation. Seeding and top soil layering after mat installation is often specified for turf reinforcement application. When seeding prior to blanket installation, all check slots and other areas disturbed during installation must be reseeded.
• Where soil filling is specified, seed the matting and the entire disturbed area after installation and prior to filling the mat with soil.

Installing and Anchoring Blankets:

• Blankets shall be installed and anchored per the manufacturer's specifications. If the manufacturer's instructions differ from those listed below, the manufacturer's instructions should be followed.
• Blankets shall be placed within 24 hours after sowing seed in that area.
• Lay blankets loosely and maintain direct contact with the soil – avoid stretching.
• U-shaped wire staples, metal geotextile stake pins, or triangular wooden stakes can be used to anchor mats to the ground surface. Biodegradable anchors are preferred.
    o Wire staples should be a minimum gauge as specified by the manufacturer.
    o Metal stake pins should be 3/16-inch diameter steel with a 1.5-inch steel washer at the head of the pin, or as specified by the manufacturer.
• Wire staples and wood or metal stakes should be driven flush to the soil surface. All anchors should have sufficient ground penetration to resist pullout. Longer anchors may be required for loose soils.

Installation on Slopes:

• Blankets shall be installed on slopes per the manufacturer's specifications. If the manufacturer's instructions differ from those listed below, the manufacturer's instructions should be followed.
• Blankets shall be laid loosely over the soils, maintaining contact with the soil, and not stretched.
• Blankets shall be anchored at the top of the slope in a trench to prevent stormwater runoff from undermining the mat. Subsequent mats should be overlapped by the upslope mat. Backfill trench and tamp earth firmly.
• Blankets should be placed starting at the bottom (downslope) so proper overlap is achieved.
• Blankets shall be unrolled in the direction of the water flow, overlapping the edges by a minimum of 4 inches and stapling the edges, as directed by the manufacturer.
• When blankets must be spliced, they shall be placed end over end (shingle style) with 6-inch minimum overlap. Staple through overlapped area, approximately 12 inches apart, or as specified by manufacturer.
• Blankets shall be stapled sufficiently to anchor blanket and maintain contact with the soil. Staples shall be placed down the center and staggered with the staples placed along the edges. Stapling pattern and number of staples will depend on steepness of slope and manufacturer's anchoring methods; follow manufacturer's instructions.

Installation in Channels:

• Blankets shall be installed in channels per the manufacturer's specifications. If the manufacturer's instructions differ from those listed below, the manufacturer's instructions should be followed.
• Dig initial anchor trench across the channel at the lower end of the project area.
• Excavate intermittent check slots, across the channel at 25- to 30-foot intervals along the channel, or as specified by manufacturer.
• Cut longitudinal channel anchor slots along each side of the installation to bury edges of matting. Whenever possible extend matting 2 to 3 inches above the crest of channel side slopes.
• Beginning at the downstream end and in the center of the channel, place the initial end of the first roll in the anchor trench and secure with fastening devices, as directed by the manufacturer. Note: matting will initially be upside down in anchor trench.
• In the same manner, position adjacent rolls in anchor trench, overlapping the preceding roll a minimum of 3 inches.
• Secure these initial ends of mats with anchors at manufacturer's specified intervals, backfill and compact soil.
• Unroll center strip of matting upstream. Stop at next check slot or terminal anchor trench.
• Unroll adjacent mats upstream in similar fashion, maintaining a 3-inch minimum overlap.
• Fold and secure all rolls of matting snugly into all transverse check slots. Lay mat in the bottom of the slot then fold back against itself. Anchor through both layers of mat at manufacturer's specified intervals, then backfill and compact soil. Continue rolling all mat widths upstream to the next check slot or terminal anchor trench.

• Alternative method for noncritical installations: place two rows of anchors on 6-inch centers at 25 to 30 feet intervals in lieu of excavated check slots.
• Shingle-lap spliced ends by a minimum of 1-foot with upstream mat on top to prevent uplifting by water or begin new rolls in a check slot. Anchor overlapped area by placing two rows of anchors, 1-foot apart on 1-foot intervals.
• Place edges of outside mats in previously excavated longitudinal slots, anchor using prescribed staple pattern, backfill and compact soil.
• Anchor, fill, and compact upstream end of mat in a terminal trench, as directed by manufacturer.
• Secure mat to ground surface using U-shaped wire staples, geotextile pins, wooden stakes, or other anchors as recommended by the manufacturer.

2022 CGP Requirements:

2.2.14 Stabilize exposed portions of the site. Implement and maintain stabilization measures (e.g., seeding protected by erosion controls until vegetation is established, sodding, mulching, erosion control blankets, hydromulch, gravel) that minimize erosion from any areas of exposed soil on the site in accordance with Part.

4.18 Temporary and Permanent Mulching

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B23-B25) (Direct Quotes)

2022 US CGP (As Amended) 2.2.14. (Direct Quotes)

Chapter Env-Wq 1506.01 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH SWM):

Temporary mulching consists of the application of plant residues or other suitable materials to the soil surface. Mulching reduces erosion potential by protecting the exposed soil surface from direct impact by rainfall. It also aids in the growth of vegetation by conserving available moisture, controlling weeds, and providing protection against extreme heat and cold. Mulches can also protect the infiltration rate of the soil, prevent soil compaction, and provide a suitable microclimate for seed germination. This is the quickest and most cost-effective method of preventing erosion on disturbed soils and its value should not be underestimated.

Permanent mulching consists of the application of long-term surface cover such as bark, wood chips, or erosion control mix. Permanent mulch can be used as a permanent ground cover, as an overwinter stabilization mulch, or left to naturalize. It is not

designed to support grass vegetation, but legumes or woody vegetation may be established for additional stability. Permanent mulch must not be used in areas of concentrated water flows. Slopes with evidence of groundwater seepage may require the use of other treatments such as riprap.

The composition of "erosion control mix" is further described in the "Erosion Control Mix Berm" fact sheet. In addition to its use for the temporary or semi-permanent stabilization of slopes, it can be applied to protect areas from erosion during spring thaw. It can also be used in construction yards to mitigate muddy conditions. In these applications, the erosion control mix application rate will need to be adjusted for site conditions, use, and long-term effectiveness. With time, the organic component of the erosion control mix will decompose and become ineffective. Any required repairs should be made immediately, with additional erosion control mix placed on top to reach the desired thickness.

Timing of Temporary versus Permanent Stabilization (NH SWM):

All areas of exposed or disturbed soil should be temporarily stabilized as soon as practicable but no later than 45 days from the time of initial disturbance unless a shorter time is specified by local authorities, the construction sequence approved as part of the issued permit, or an independent monitor. Permanent stabilization must be completed as soon as practicable but no later than 3 days following final grading (Env-Wq 1505.03).

The EPA Construction General Permit also requires any area that is inactive for 14 days to be temporarily stabilized; however, it is generally good practice to stabilize any area that will be inactive for 7 days.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• If less than 90 percent of the soil surface is covered by mulch, additional mulch should be immediately applied. Anchor nets must be inspected after rain events for dislocation or failure. If washouts or breakages occur, repair any damage to the slope and re-install or replace netting as necessary. Inspections should take place until grasses are firmly established (85 percent soil surface uniformly covered with healthy stand of grass).
• Erosion control mix mulch used for temporary stabilization should be left in place and incorporated into any permanent mulching or final stabilization phase. Vegetation adds stability and should be promoted.

• Where permanent mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.
• Permanently mulched areas should be inspected at least annually, and after each large rainfall (2.5 inches or more in a 24-hour period). Any repairs required to restore erosion control functionality should be made immediately. Where erosion control mix has been used, place additional mix on top of the mulch to maintain recommended thickness. When the mulch is decomposed, clogged with sediment, eroded or ineffective, it must be replaced or repaired.
• If the mulch needs to be removed, spread it out into the landscape if feasible.
• Vegetation should be inspected at least annually, and maintained in healthy condition, including pruning, removal, and replacement of dead or diseased vegetation, and removal of invasive species.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

General:

• Apply mulch prior to a storm event. This is especially applicable in extremely sensitive areas such as within 100 feet of lakes, ponds, rivers, streams, and wetlands. It will be necessary to closely monitor weather predictions to have adequate warning of significant storms.
• Mulching should be completed within the following specified time periods from original soil exposure:
    - o Within 100 feet of rivers, streams, wetlands, and in lake and pond watersheds, the time period should be no greater than 7 days. This 7-day limit should be reduced further during wet weather periods.
    - o In other areas, the time period can range from 14 to 30 days, the length of time varying with site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources) and the potential impact of erosion on adjacent areas. Other state or local restrictions may also apply.
• The choice of mulch material should be based on site conditions, soils, slope, flow conditions, and time of year.
• Jute and fibrous mats and wood excelsior should be installed according to the applicable manufacturer's instructions.

Hay or Straw Mulches:

• Organic mulches including hay and straw should be air-dried, free of undesirable seeds and coarse materials.
• Application rate should be 2 bales (70 to 90 pounds) per 1000 square feet or 1.5 to 2 tons (90 to 100 bales) per acre to cover 75 to 90 percent of the ground surface.
• Hay or straw mulch should be anchored to prevent displacement by wind or flowing water, using one of the following methods:

o Netting: Install jute, wood fiber, or other biodegradable netting over hay or straw to anchor it to the soil surface. Install netting material according to manufacturer's recommendation. Netting should be used sensibly, as wildlife can become entangled in the materials. Use of plastic netting should be avoided as indicated in Env-Wt 104.64.
o Tackifier: Apply polymer or organic tackifier to anchor hay or straw mulch. Application rates vary by manufacturer: typically, 40 to 60 pounds per acre for polymer material, and 80 to 120 pounds per acre for organic material. Liquid mulch binders are also typically applied heavier at edges, in valleys, and at crests than other areas.

• When mulch is applied to provide protection over winter (past the growing season), it should be applied to a depth of 4 inches (150 to 200 pounds of hay or straw per 1,000 square feet, or double standard application rate). Seeding cannot generally be expected to grow up through this depth of mulch and will be smothered. If vegetation is desired, the mulch will need to be removed in the springtime and the area seeded and mulched.

Wood Chips or Bark:

• Wood chips or ground bark should be applied to a thickness of 2 to 6 inches.
• Wood chips or ground bark should be applied at a rate of 10 to 20 tons per acre or 460 to 920 pounds per 1,000 square feet.

Erosion Control Mix:

Erosion control mix can be manufactured on or off the project site. It must consist primarily of organic material, separated at the point of generation, and may include shredded bark, stump grindings, composted bark, or acceptable manufactured products. Wood and bark chips, ground construction debris or reprocessed wood products will not be acceptable as the organic component of the mix. Erosion control mix must be placed at a thickness of 2 inches or more. See the "Erosion Control Mix Berm" fact sheet for detailed erosion control mix requirements.

Erosion Control Blankets and Mats:

Mats are manufactured combinations of mulch and netting designed to protect against erosion and to retain soil moisture and modify soil temperature. See specifications on "Temporary Erosion Control Blanket and Matting" fact sheet.

2022 CGP Requirements:

2.2.14 Stabilize exposed portions of the site. Implement and maintain stabilization measures (e.g., seeding protected by erosion controls until vegetation is established, sodding, mulching, erosion control blankets, hydromulch, gravel) that minimize erosion from any areas of exposed soil on the site in accordance with Part.

4.19 Temporary and Permanent Vegetation

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B26-B32) (Direct Quotes)

2022 US CGP (As Amended) 2.2.14. (Direct Quotes)

Chapter Env-Wq 1505.04 & 1506.02 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH SWM):

Temporary vegetation consists of the establishment of a grass and legume cover on exposed soils for periods of up to 12 months. The purpose is to reduce erosion and sedimentation by stabilizing disturbed areas that will not be brought to final grade for a year or less and to reduce problems associated with mud and dust production from exposed soil surfaces during construction. Temporary seeding is also essential to preserve the integrity of earthen structures used to control sediment, such as diversions and embankments of sediment basins.

Temporary vegetative cover should be applied where exposed soil surfaces will not be final graded within 45 days from initial disturbance. Such areas include excavated areas, soil stockpiles, berms, embankments and sides of sediment basins, temporary road banks, and other earthworks. Annual plants that sprout rapidly and survive for only one growing season are suitable temporary vegetative cover.

Permanent vegetation should be established on disturbed areas where permanent, long-lived vegetative cover is needed to stabilize soil, reduce damages from sediment and stormwater runoff, and enhance the environment. A site is considered stable when it has a minimum of 85% vegetative cover.

Stormwater runoff and sheet erosion caused by splash erosion (raindrop impact on bare soil) is the source of most fine particles in sediment. To reduce sediment load in stormwater runoff, the soil surface itself should be protected. The most effective and economical means of controlling sheet and rill erosion is to establish a vegetative cover.

Timing of Temporary versus Permanent Stabilization (NH SWM):

All areas of exposed or disturbed soil should be temporarily stabilized as soon as practicable but no later than 45 days from the time of initial disturbance, unless a shorter time is specified by local authorities, the construction sequence approved as part of the issued permit, or an independent monitor. Permanent stabilization must be

completed as soon as practicable but no later than 3 days following final grading (Env-Wq 1505.03).

The EPA Construction General Permit also requires any area that is inactive for 14 days to be temporarily stabilized; however, it is generally good practice to stabilize any area that will be inactive for 7 days.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Temporary seeding should also be inspected just prior to September 15, to ascertain whether additional seeding is required to provide stabilization over the winter period.
• Permanent seeded areas should be inspected at least monthly during the course of construction. Inspections, maintenance, and corrective actions should continue until the owner assumes permanent operation of the site.
• Based on inspection, areas should be reseeded to achieve full stabilization of exposed soils. If it is too late in the planting season to apply additional seed, then other temporary stabilization measures should be implemented.
• At a minimum, 85 percent of the soil surface should be covered by vegetation. Reseeding may be required to achieve or retain 85 percent vegetative cover.
• Seeded areas should be mowed as required to maintain a healthy stand of vegetation, with mowing height and frequency dependent on type of grass cover.
• Vegetation should be inspected at least annually, and maintained in healthy condition, including pruning, removal, and replacement of dead or diseased vegetation, and removal of invasive species.
• If any evidence of erosion or sedimentation is apparent, repairs should be made and areas should be reseeded, with other temporary measures (e.g., mulch) used to provide erosion protection during the period of vegetation establishment.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

Site Preparation:

• Install erosion and sediment control measures such as siltation barriers, diversions, and sediment traps as needed.
• Grade as needed for the access of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring.
• Stormwater runoff should be diverted from the seeded area.

• On slopes 4h:1v or steeper, the final preparation should include creating horizontal grooves perpendicular to the direction of the slope to catch seed and reduce stormwater runoff.

Seedbed Preparation:

• Remove all stones 2 inches or larger in any dimension from the surface. Remove all other debris such as wire, cable, tree roots, concrete, clods, lumps, trash, or other unsuitable material.
• Where the soil has been compacted by construction operations, loosen soil to a depth of 2 inches before applying fertilizer, limestone, and seed.
• If needed to ensure growth, fertilizer and organic soil amendments should be applied during the growing season.

o Apply limestone and fertilizer according to soil test recommendations. If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 600 pounds per acre or 13.8 pounds per 1,000 square feet of low phosphate fertilizer (N-P2O5-K2O) or equivalent. Apply limestone (equivalent to 50 percent calcium plus magnesium oxide) at a rate of 3 tons per acre (138 pounds per 1,000 square feet).
o Fertilizer should be restricted to a low phosphate, slow-release nitrogen fertilizer when applied to areas between 25 feet and 250 feet from a surface water body. No fertilizer except limestone should be applied within 25 feet of a surface water body. These limitations are requirements for any water body protected by the Shoreland Water Quality Protection Act (RSA 483-B; Env-Wq 1400).

Additional Requirements for Permanent Seedbed Preparation:

• Inspect seedbed just before seeding. If traffic has compacted the soil, the area must be tilled and firmed as above.
• Work limestone and fertilizer into the soil as practical to a depth of 4 inches with a disc, spring tooth harrow or other suitable equipment. The final harrowing operation should be on the general contour. Continue tillage until a reasonably uniform, fine seedbed is prepared. All but clay or silty soils and coarse sands should be rolled to firm the seedbed wherever feasible.

Seeding:

• For temporary vegetation, select seed from recommendations in the "Seeding Recommendations for Temporary Vegetation" table below.
• For permanent vegetation, select a seed mixture in Seed Mixture Selection Based on Soil Type table that is appropriate for the soil type and moisture content as found at the site, the amount of sun exposure and for level of use. Select seed from recommendations in Seed Mixtures for Permanent Vegetation.
• Apply seed uniformly by hand, cyclone seeder, drill, cultipacker type seeder or hydroseeder (slurry including seed and fertilizer). Normal seeding depth is from 1/4- to 1/2-inch. Hydroseeding that includes mulch may be left on soil surface. Seeding operations should be on the contour.

• Spring seeding usually gives the best results for all seed mixes or with legumes. Permanent seeding should be completed 45 days prior to the first killing frost. When crown vetch is seeded in later summer, at least 35 percent of the seed should be hard seed (unscarified). If seeding cannot be done within the specified seeding dates, mulch according to the "Temporary and Permanent Mulching" fact sheet and delay seeding until the next recommended seeding period.
o Temporary seeding should typically occur prior to September 15 of the year in which the area being seeded was disturbed.
o Areas seeded between May 15 and August 15 should be covered with hay or straw mulch, according to the "Temporary and Permanent Mulching" fact sheet.
• Vegetated growth covering at least 85 percent of the disturbed area should be achieved prior to October 15. If this condition is not achieved, implement other temporary stabilization measures for overwinter protection, and if applicable, complete permanent seed stabilization during the next growing season.
• Inoculate all legume seed with the correct type and amount of inoculant.
• For permanent seeding, except where either a cultipacker type seeder or hydroseeder is used, the seedbed should be firmed following seeding operations with a roller, or light drag.

Seeding Notes:

Low phosphorus fertilizer is defined by the Shoreland Water Quality Protection Act as less than 2 percent phosphorus. The University of New Hampshire (UNH) Cooperative Extension has found through soil tests that New Hampshire's soils have ample phosphorus and recommend low phosphorus fertilizers with 0 percent to 1 percent phosphorus such as 3:1:3 or 10:0:10 N:P:K. They discourage the use of imbalanced fertilizers.

Slow-release fertilizers must be at least 50 percent slow-release nitrogen component, which means that half of the nitrogen will not be immediately available. Typically, it takes 2 to 24 weeks for all slow-release nitrogen to become available. Slow-release fertilizers do not necessarily reduce nitrogen loading. Nitrogen fertilizers are necessary for grass lawns, however, according to the UNH Cooperative Extension, nitrogen fertilizers for lawns that consist of legume and clover are not necessary.

Hydroseeding:

• When hydroseeding (hydraulic application), prepare the seedbed as specified above or by hand raking to loosen and smooth the soil and remove surface stones larger than 2 inches in diameter.
• Slopes must be no steeper than 2h:1v.
• Lime and fertilizer may be applied simultaneously with the seed. The use of fiber mulch on critical areas is not recommended (unless it is used to hold straw or hay). Better protection is gained by using straw mulch and holding it with adhesive materials or 500 pounds per acre of wood fiber mulch.

• Seeding rates must be increased 10 percent when hydroseeding.

Seeding Recommendations for Temporary Vegetation

Species	Per Acre Bushels (BU) or Pounds (lbs)	Per 1,000 Square Feet	Remarks
Winter Rye	2 BU or 112 lbs	2.5 lbs	Best for fall seeding. Seed from August 15 for best cover. Seed to a depth of 1-inch.
Oats	2.5 BU or 80 lbs	2 lbs	Best for spring seedings. Seed no later than May 15 for summer protection. Seed to a depth of 1-inch.
Annual Ryegrass	40 lbs	1 lb	Grows quickly but is of short duration. Use where appearances are important. Seed early spring and/ or between August 15 and September 15. Cover the seed with no more than 1/4-inch of soil.
Perennial Ryegrass	30 lbs	0.7 lb	Good cover which is longer lasting than annual ryegrass. Seed between April 1 and June 1 and/ or between August 15 and September 15. Mulching will allow seeding throughout the growing season. Seed to a depth of approximately 1/2-inch.

Seed Mixture Selection Based on Soil Type

Use	Seed Mixture (see table below)	Soil Drainage: Droughty	Soil Drainage: Well Drained	Soil Drainage: Moderately Well Drained	Soil Drainage: Poorly Drained
Steep cuts and fills, borrow and disposal areas	A B C D E	Fair Poor Poor Fair Fair	Good Good Good Fair Excellent	Good Fair Excellent Good Excellent	Fair Fair Good Excellent Poor
Waterways, emergency spillways, and other channels with flowing water	A C D	Good Good Good	Good Excellent Excellent	Good Excellent Excellent	Fair Fair Fair
Lightly used parking lots, unused lands, and low intensity use recreation sites	A B C D	Good Good Good Fair	Good Good Excellent Good	Good Fair Excellent Good	Fair Poor Fair Excellent
Play areas and athletic fields. (Topsoil is essential for good turf.)	F G	Fair Fair	Excellent Excellent	Excellent Excellent	See Note See Note
Gravel pit	Consult with USDA Natural Resource Conservation Service.				

Seed Mixtures for Permanent Vegetation

Mixture	Species	Pounds Per Acre	Pounds Per 1,000 Square Feet
A	Tall fescue Creeping red fescue Redtop *Total*	20 20 2 42	0.45 0.45 0.05 0.95
B[3]	Tall fescue Creeping red fescue Crown vetch Or Flatpea *Total*	15 10 15 - 30 40 or 55	0.35 0.25 0.35 - 0.75 0.95 or 1.35
C[3]	Tall fescue Creeping red fescue Birdsfoot trefoil *Total*	20 20 8 48	0.45 0.45 .20 1.10
D[3]	Birdsfoot trefoil Redtop Reed canary grass *Total*	10 5 15 30	0.25 0.10 0.35 0.70
E	Tall fescue Flatpea *Total*	20 30 50	0.45 0.75 1.20
F	Creeping red fescue[2] Kentucky bluegrass[2] *Total*	50 50 100	1.15 1.15 2.30
G	Tall fescue[2]	150	3.60

2022 CGP Requirements:

2.2.14 Stabilize exposed portions of the site. Implement and maintain stabilization measures (e.g., seeding protected by erosion controls until vegetation is established, sodding, mulching, erosion control blankets, hydromulch, gravel) that minimize erosion from any areas of exposed soil on the site in accordance with Part.

BS&E Considerations/Recommendations:

Infiltration Pond

The grass that is planted within a Infiltration pond is the ERNMX-126 retention basin floor mix.

4.20 Straw or Hay Bale Barrier

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B65-B68) (Direct Quotes)

Chapter Env-Wq 1506.06 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH SWM):

Straw and hay bale barriers are a type of temporary sediment barrier installed across or at the toe of a slope, to intercept and retain small amounts of sediment from disturbed or unprotected areas.

Straw or hay bale barriers have a useful life of less than six months. They function primarily to slow and pond the water and allow soil particles to settle. They are not designed to withstand high heads of water, and therefore should be located where only shallow pools can form. Their use is limited to areas that only contribute sheet flow to the device.

Straw or hay bale barriers constitute a sediment control measure, not an erosion control measure. They must be used in conjunction with other measures that prevent or control erosion. Improperly applied or installed sediment barriers will increase erosion.

Straw or hay bale barriers should generally not be used across streams, channels, swales, ditches, or other drainage ways or areas with concentrated flows. Such barriers are not capable of effectively filtering the high rates and volumes of water associated with channelized flow. However, they may be used for check dams in applications where installation access or other conditions prevent the use of preferred materials such as stone; in such cases, installation must provide proper embedment of the straw or hay bale barrier, limit contributing drainage area to less than an acre, and provide for frequent monitoring of the barrier. Straw or hay bale barriers installed across a concentrated flow path are subject to undercutting, end cutting, and overtopping. This can frequently result in the bypass of sediment-laden water, but also

in the complete failure of the barrier. Such failures typically release the sediment accumulated on the upgradient side of the barrier, and severe erosion of the channel both upstream and downstream of the device.

Hay Bale Alternatives (NH SWM):

Construction sites have historically used straw or hay bales for erosion and sediment control as check dams, inlet protection, outlet protection and perimeter control. Many applications of straw hale bales for erosion and sediment control are ineffective due to their composition, inappropriate placement, inadequate installation, lack of maintenance, or a combination of these factors. Some local regulations limit the use of hay bales. For these reasons, the United States Environmental Protection Agency (EPA) recommends carefully considering other E&SC measure first. For example, consider silt fence for perimeter controls, stone check dams for diversion channels, erosion control blanket and matting for slope protection, filter sacks for inlet protection, and prefabricated washout containers for concrete washout structures. Refer to the U.S. EPA Fact Sheet for Straw or Hay Bales for more information.

Considerations (NH SWM):

• Straw or hay bale barriers principally trap sediment by temporarily ponding water, allowing particles to settle. These barriers are not designed to withstand high heads of water; therefore, they should be located where only shallow pools can form.
• Straw or hay bale barriers are used where:
    o Erosion will occur only in the form of sheet erosion and there is no concentration of water in a channel or other drainage way above the barrier.
    o Sedimentation can pollute or degrade adjacent wetlands or watercourses.
    o Sedimentation will reduce the capacity of storm drainage systems or adversely affect adjacent areas.
    o The contributing drainage area is less than 1/4 acre per 100 feet of barrier length, the maximum length of slope above the barrier is 100 feet, and the maximum gradient behind the barrier is 50 percent (2h:1v). If any of these conditions are exceeded, other measures may be necessary to control erosion and to intercept and treat the sediment load.
    o Sediment barriers should not be used in areas of concentrated flows. However, they may be used for check dams in applications where installation access or other conditions prevent the use of preferred materials such as stone; in such cases, installation must provide proper embedment of the straw or hay bale barrier, limit contributing drainage area to less than one acre, and provide for frequent monitoring of the barrier. Under no circumstances should sediment barriers be constructed in live streams or in swales where there is the possibility of a washout.
• Straw or hay bales should only be used as a temporary barrier for no longer than 60 days.
• Potential causes of straw or hay bale barrier failure include:

- o Improper placement on the site.
- o Allowing excessive drainage area to the barrier.
- o Inadequate keying of the bales into the ground surface.
- o Inadequate maintenance after installation.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Hay bale barriers should be inspected at least daily during prolonged rainfall.
• Barriers should be repaired immediately if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier or impounding of large volumes of water behind the barrier, the barrier should be replaced with an alternative measure to intercept and capture sediment (e.g., a diversion berm directing sediment-laden stormwater runoff to a sediment trap or basin).
• Damaged or decomposed bales should be replaced promptly.
• Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately 1/3 the height of the barrier.
• Any sediment deposits remaining in place after the filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

• Sediment barriers should be installed prior to any soil disturbance of the contributing drainage area above them.
• Bales should be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another. The ends of the barrier should be flared up slope. Barriers should follow the contour or run parallel across slopes of the land as closely as possible.
• Barriers should not be constructed more than 1 bale high.
• All bales should be either wire-bound or string-tied. Bales should be installed so that bindings are oriented around the sides, parallel to the ground surface to prevent deterioration of the bindings.
• The barrier should be entrenched and backfilled. A trench should be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches.
• After the bales are staked and chinked, the excavated soil should be backfilled against the barrier. Backfill soil should conform to the ground level on the downhill side and should be built up 4 inches against the uphill side of the barrier. Ideally, bales should be placed 10 feet downgradient from the toe of slope.
• At least two stakes driven through the bale and penetrating at least 18 inches into the ground, should securely anchor each bale. The first stake in each bale should be driven toward the previously laid bale to force the bales together.

• The gaps between bales should be chinked (filled by wedging) with hay or straw to prevent water from escaping between the bales.
• Inspection should be frequent, and repair or replacement should be made promptly as needed. Bale barriers should be removed when they have served their usefulness, but not before the upslope areas have been permanently stabilized.

4.21 Control of Invasive Plants

During maintenance activities, check for the presence of invasive plants and remove in a safe manner as described on the following pages. They should be controlled as described on the following pages.

Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- becoming weedy and overgrown;
- killing established shade trees;
- obstructing pipes and drainage systems;
- forming dense beds in water;
- lowering water levels in lakes, streams, and wetlands;
- destroying natural communities;
- promoting erosion on stream banks and hillsides; and

resisting control except by hazardous chemical.

4.22 Construction Sequence

1.) Cut and remove trees in construction area only as required, relocate any project T.B.M.
2.) Construct and/or install temporary and permanent sediment erosion and detention control facilities as specified. Erosion and sediment control measures shall be installed prior to any soil land disturbance and must be reviewed and approved by the Community Services Department.
3.) Erosion, sediment and detention control facility shall be installed & stabilized prior to directing runoff to them. Temporary diversions may be required. Post construction storm water management practices must be initiated and stabilized early in the process.
4.) Clear, cut and dispose of debris in approved facility.
5.) Construct temporary culverts as required, or directed.
6.) Construct roadways for access to desired construction areas. All roads shall be stabilized immediately. Do not place porous pavement wearing course into

service until exterior building construction in complete. Remove any dirt from conventional pavement base course and porous pavement base course before application of porous pavement wearing course. Vaccuming of the base course with proof provided to the design engineer is required before wearing course installation. Dumpsters shall not be located on porous pavement. Remove any excess overflow pavement from the paving of the convention pavement and bituminous sidewalks from the porous surface if overflow occurs.

7.) Start building construction and install perimeter fence where shown.
8.) Install pipe and construction associated appurtenances as required or directed. All disturbed areas shall stabilized immediately after grading.
9.) Begin permanent and temporary seeding and mulching. All cut and fill slopes and disturbed areas shall be seeded or mulched as required, or directed. No area is allowed to be disturbed for a length of time that exceeds 45 days before being stabilized. Daily, or as required. All roadways and parking areas shall be stabilized within 72 hours of achieving finished grades. All cut and fill slopes shall be stabilized within 72 hours of achieving finished grades.
10.) Construct temporary berms, drains ditches, silt fences, sediment traps, etc. Mulch and seed as required.
11.) Inspect and maintain all erosion and sediment control measures during construction. All SWMP inspections must be conducted by a qualified professional such as a professional engineer (PE), a certified professional in erosion and sediment control (CPESC), a certified erosion sediment and storm water inspector (CESSWI), or a certified professional in storm water quality (CPSWQ). Inspection reports shall be submitted to the community services department.
12.) Complete permanent seeding and landscaping.
13.) Remove temporary erosion control measures after seeding areas have established themselves and site improvements are complete.
14.) Smooth and revegetate all disturbed areas.
15.) Finish paving all roadways.

4.23 Temporary Erosion Control Measures

1. The smallest practical area of land shall be exposed at any one time.
2. Erosion, sediment and detention measures shall be installed as shown on the plans and at locations as required, directed by the engineer.
3. All disturbed areas shall be returned to original grades and elevations. Disturbed areas shall be loamed with a minimum of 4" of loam and seeded with not less than one pound of seed per 50 square yards of area. (see seed specifications this sheet)
4. All disturbed areas will be restabilized within 45 days. At any one time, no more than 5 acres, (217,800 Sq. Ft.) Will be disturbed.
5. Silt fences and perimeter barriers shall be inspected periodically and after every rain during the life of the project. All damaged areas shall be repaired, sediment deposits shall periodically be removed and disposed of.

6. After all disturbed areas have been stabilized, the temporary erosion and sediment control measures are to be removed and the area disturbed by the removal smoothed and re-vegetated.
7. Per the EPA CGP requirements there will be reports of the erosion control inspections IAW SWPPP prepared by BS&E. All erosion controls shall be inspected weekly and within 24 hours after 0.25" or greater rain event.
8. Ditches, swales, and basins shall be stabilized prior to directing runoff to them.
9. Do not traffic exposed soil surfaces with construction equipment. If feasible, perform excavations with equipment positioned outside the limits of the infiltration system.
10. Roadways, driveways and cut and fill slopes must be stabilized within 72 hours of achieving final grade.
11. Stabilization means:

11.1. A minimum of 85% of vegetative cover has been established.

11.2. A minimum of 3 inches of non-erosive material such as stone or rip rap has been installed, or

11.3. Erosion control blankets have been installed.

12. This project is to be managed in a manner that meets the requirements and intent of RSA 430:53 and chapter AGR 3800 relative to invasive species.
13. The NHDES stormwater manual, dated February 2025, is a part of this plan set and the more restrictive will govern. (NH SWM)

4.24 Winter Weather Stabilization

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (B96-B98) (Direct Quotes)

Chapter Env-Wq 1505.06 Alteration Of Terrain (RSA 485-A:17)
(As Amended January 5, 2026)

General Description (NH SWM):

A project involving construction activity extending beyond one construction season will require measures to stabilize the site for the over-winter period. If a construction site is not stabilized with pavement, a road gravel base, 85 percent mature vegetation cover, or riprap by October 15, then the site must be protected with over-winter stabilization. The winter construction period is from October 15 through May 1.

Considerations (NH SWM):

Winter excavation and earthwork activities need to be limited in extent and duration, to minimize potential erosion and sedimentation impacts.

The following considerations are important for winter weather stabilization:

• No more than one acre of the site should be exposed (without stabilization) at any one time. Generally, the exposed area should be limited to only those areas in which work will occur during the following 15 days and that can be mulched in one day prior to any snow or rainfall event.
• Subsequent work areas should not be exposed until the previously exposed work area has been fully stabilized.
• An area is considered "exposed" until stabilized with pavement, vegetation, mulching, erosion control mix, erosion control mats, or riprap (or gravel base on a road or parking area).
• All erosion and sediment control measures installed for the project should have routine maintenance and cleaning completed prior to winter work by October 15. These should be inspected and repaired as needed in preparation for the winter season. Temporary embankments should be fully vegetated or otherwise stabilized by accepted methods.

Maintenance Requirements (NH SWM):

• All E&SC measures should be inspected at least once per week and within 24 hours of any storm event exceeding 1/4-inch in a 24-hour period, or as stipulated by the applicable permits. Repairs should be made as necessary.
• Inspection and maintenance measures should continue as needed throughout construction, including the overwinter period, after each snowstorm or period of thawing and stormwater runoff.
• For any area stabilized by temporary or permanent seeding prior to the onset of the winter season, the contractor should conduct an inspection in the spring to ascertain the condition of vegetation cover, and repair any damage areas or bare spots and reseed as required to achieve an established vegetative cover (at least 85 percent of area vegetated with healthy, vigorous growth).
• See Chapter 6 for general information on inspection and maintenance of Erosion and Sediment Control (E&SC) measures (e.g., inspection frequency, corrective actions, documentation requirements, etc.).

Specifications (NH SWM):

To adequately protect water quality during cold weather and during spring stormwater runoff, the following stabilization techniques should be employed during the period from October 15 through May 1:

• Before winter:
  o Stabilization as follows should be completed within a day of establishing the grade that is final or that otherwise will exist for more than 5 days:
    - All proposed vegetated areas having a slope of less than 15 percent which do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, should be seeded and covered with 3 to 4 tons of hay or straw mulch per acre secured with anchored netting, or 2 inches of erosion control mix (see "Erosion Control Mix Berm" fact sheet for material specifications).
    - All proposed vegetated areas having a slope of greater than 15 percent which do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, should be seeded and covered with a properly installed and anchored erosion control blanket or with a minimum 4- inch thickness of erosion control mix, unless otherwise specified by the manufacturer. Note that erosion

control blankets, with compost, should not exceed 2 inches in thickness or they may overheat.

- o All stone-covered slopes must be constructed and stabilized by October 15.
- o Stockpiles of soil materials should be mulched for over winter protection with hay or straw at twice the normal rate or with a 4-inch layer of erosion control mix. Mulching should be done within 24 hours of stocking, and reestablished prior to any rainfall or snowfall. No soil stockpile should be placed (even covered with mulch) within 100 feet from any wetland or other water resource area.
- o Installation of erosion control blankets should not occur over snow of greater than 1-inch in depth or on frozen ground.
- o All grass-lined ditches, swales, and channels should be constructed and stabilized by September 1. All ditches, swales, or channels which do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, should be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions, as determined by a qualified Professional Engineer or a Certified Professional in Erosion and Sediment Control as certified by the CSPESC Council of EnviroCert International, Inc. If a stone lining is necessary, the contractor may need to re-grade the ditch, swale, or channel as required to provide adequate cross-section after allowing for placement of the stone.
- o All stone-lined ditches, swales, and channels must be constructed and stabilized by October 15.

• During winter:

- o The area of exposed, unstabilized soil should be limited to one acre and should be protected against erosion by the methods described in this section prior to any thaw or spring melt event. Subject to applicable regulations, the allowable area of exposed soil may be increased if activities are conducted according to a winter construction plan, developed by a Professional Engineer licensed to practice in the state of New Hampshire or a Certified Professional in Erosion and Sediment Control as certified by the CSPESC Council of EnviroCert International, Inc.
- o Installation of anchored hay mulch or erosion control mix should not occur over snow of greater than 1-inch in depth or on frozen ground.
- o All mulch applied during winter should be anchored (e.g., by netting, tracking, wood cellulose fiber).
- o Frozen materials, (e.g., frost layer that is removed during winter construction), should be stockpiled separately and in a location that is away from any area needing to be protected. Stockpiles of frozen material can melt in the spring and become unworkable and difficult to transport due to the high moisture content in the soil.
- o After October 15, incomplete road or parking areas where active construction of the road or parking area has stopped for the winter season should be protected with a minimum 3-inch layer of base course gravels meeting the graduation requirements of NHDOT Standard Specification for Road and Bridge Construction Table 304-1, Item No. 304.1, 304.2, or 304.3.

o Sediment barriers that are installed during frozen conditions should consist of erosion control mix berms, or continuous contained berms. Silt fences and hay bales should not be installed when frozen conditions prevent proper embedment of these barriers.

Inspection and Maintenance Schedule

Sediment control measures will be inspected during and after storm events to ensure that the practice still has integrity and is not allowing sediment to pass. Depending on SWPPP criteria, all controls will be inspected once every 7 days and after storm events. Inspection reports must be submitted to City of Dover Engineering Department. See also Stormwater System Operation: Inspection & Maintenance Manual published separately also by Berry Surveying & Engineering. See also Storm Water Pollution Prevention Plan (SWPPP) and / or Stormwater Management Plan (SWMP) developed in accordance with EPA NPDES or City of Dover requirements.

Corrective Action measures will be made in accordance with Stormwater Management Plan (SWMP) / SWPPP requirements and records maintained on site by the Contractor.

5.0 Demonstration of Compliance with Dover Chapter 153-14

The following list of standards from chapter 153-14 are shown to demonstrate compliance with Dover stormwater regulations, starting with section 3: Design Standards. Our demonstration of compliance is *italicized* after each standard:

(3) Design standards.

(a) Minimum protections and management standards.

[1] Where applicable, all development must comply with the EPA Phase II Stormwater Rules and the City's MS4 permit, as amended.

Acknowledgement of project compliance with the EPA Phase II stormwater rules is shown in project specific notes & E&SC Plan, note #9. As the impact of the proposal is less than one acre, a Stormwater Pollution Prevention Plan (SWPPP) will be and a Notice of Intent (NOI) will not be needed.

[2] Existing surface waters, including ponds, rivers, perennial and intermittent streams (natural or channelized), and wetlands (including vernal pools), shall be protected by the minimum buffer setback as specified in Chapter 170, Zoning, § 170-27.1. Stormwater and erosion and sediment control stormwater control measures (SCMs) shall be located outside the specified buffer zone unless otherwise approved by the Planning Board.

Please find Grading & Drainage/Watershed Plans showing stormwater SCMs locations. There are no wetlands located on the site.

[3] Low-impact development (LID) site planning and design strategies shall be used to the most extent practicable (MEP) in order to reduce the generation of the stormwater runoff volume for both new and redevelopment projects. An owner/applicant must document why LID strategies are not appropriate if not used to manage stormwater.

Please find Porous Pavement, Porous Pavers, Infiltration Pond designs. Reference is made to the US EPA Low Impact Development (LID) and green infrastructure resources.

[4] All proposed stormwater practices and measures shall be installed and maintained in accordance with manufacturers' specifications and performance specifications outlined in the New Hampshire Stormwater Management Manual (2008) a copy of which can be found on the NHDES website.

Please find Inspection & Maintenance Manual included in the drainage binder. The 2025 NH Stormwater Manual is referenced in the I & M Manual in the Introduction on Page 3.

[5] All storage facilities for fuel, chemicals, chemical or industrial wastes, and biodegradable raw materials shall meet the regulations of the NHDES, including but not limited to those involving underground storage tanks, aboveground storage tanks, hazardous waste and stormwater control measures for groundwater protection (Part Env-Wq 401).

Please find the note added to E&SC Plan, Note 8, regarding storage facilities.

[6] Salt and other deicing materials shall be stored under cover or located such that no direct discharges to receiving waters are possible. Snow storage areas shall be located such that no direct discharges to receiving waters are possible. See the NHDES guidance fact sheet on road salt and snow disposal.

Please find the topic Snow Storage Areas & Winter Maintenance within the Inspection & Maintenance Manual included in the drainage binder.

[7] The use of sodium-chloride-based materials for winter maintenance shall be the minimum necessary for safety. The use of sodium-chloride-based materials is discouraged within the groundwater protection districts.

Please find the topic Snow Storage Areas & Winter Maintenance within the Inspection & Maintenance Manual included in the drainage binder.

[8] Impervious surfaces for parking areas and roads shall be minimized to the extent possible.

Impervious surfaces for parking surfaces and roads are minimized by the use of porous pavement parking. No additional pavement beyond what is needed for site operations is proposed.

[9] Stormwater runoff from new impervious surfaces shall be directed to a stormwater control measure for flow mitigation, treatment and/or infiltration.

Stormwater runoff is conveyed to porous pavement and Infiltration Pond with infiltration occurring after treatment from the porous pavement.

(b) Stormwater management for new development.

[1] Runoff of impervious surfaces shall be treated to provide 80% removal of total suspended solids (TSS) and 50% removal of both total nitrogen and phosphorus. Removal rates shall be determined using approved manufacturer's

pollutant removal efficiency analysis or the pollutant removal efficiencies outlined in the New Hampshire Stormwater Management Manual (February 2025), a copy of which is available from the NHDES website.

The following guidance has been utilized from the Pollutant Removal Efficiencies published by the UNH Stormwater Center SCM Performance Curves (2023):

Porous (Permeable) Pavement (12" Filter):
- *Total Suspended Solids (TSS) reduction of 92%*
- *Total Nitrogen (TN) reduction of 76%*
- *Total Phosphorous (TP) reduction of 62%*

Infiltration Basin:
- *Total Suspended Solids (TSS) reduction of 100%*
- *Total Nitrogen (TN) reduction of 100%*
- *Total Phosphorous (TP) reduction of 98%*

[2] Rainfall amount shall be based on current extreme precipitation estimates obtained from the Northeast Regional Climate Center.

Extreme Precipitation Tables are included in the drainage binder and have been used for analysis with a 115% escalation as a seacoast community.

[3] Measures shall be taken to control the post-development peak rate runoff so that it does not exceed predevelopment runoff for the two-, ten-, twenty-five- and fifty-year, twenty-four-hour storm events.

Please find comparative analysis, Section 3.1 of this document, for this demonstration at all final reaches.

[4] Measures shall be taken to control the post-development surface water runoff volume so that it does not exceed predevelopment runoff for the two-, ten-, twenty-five- and fifty-year, twenty-four-hour storm events. For sites where infiltration/recharge is limited or not practicable, the owner/applicant must demonstrate that the project will not cause or contribute to flooding or functional impairments to streets, adjacent properties, and downstream properties.

Please find comparative analysis, Section 3.1 of this document, for this demonstration at all final reach.

[5] Infiltration rates for designing groundwater recharge practices shall be determined in accordance with Section Env-Wq 1504.14.

An Infiltration Feasibility Study is attached as a separate document within the drainage binder. The infiltration rate is determined via methodology from Env-Wq 1504.14.

[6] Stormwater conveyance practices shall be sized appropriately to convey the ten-year, twenty-four-hour storm event without overtopping or causing flooding on the property.

All Practices have been sized within these parameters.

[7] For large projects adding greater than or equal to 10 acres of impervious cover, or projects located in known areas of flooding concern, or specifically within areas with a 1% chance of being inundated by water in any given year, the owner/applicant shall submit a supplementary report that describes how the project will not increase the future flooding potential and complies with the AoT requirements pertaining to floodplain impacts as described in Section Env-Wq 1503.09, regardless of whether an AoT permit is required.

This standard is not applicable for this project.

[8] The design of the stormwater management systems shall take into account upstream and upgradient runoff that flows onto, over, or through the site to be developed or redeveloped and provide for this contribution of runoff.

Off-site stormwater flow has been accounted for in the project design. Please find watershed sheets within the drainage binder.

[9] Seasonal high-water table elevations must be accounted for in all SCM design criteria.

The seasonal high-water table elevations are shown in the test pit data.

[10] Access for maintenance of stormwater facilities must be included as part of the design, where necessary. Access easements may be required.

All practices have been designed to be maintained and located in open access or paved areas. See the appropriate sections of the Inspection and Maintenance Manual for specified maintenance activity.

[11] Plantings in treatment areas shall be native grasses, shrubs and/or other native plants in sufficient numbers and density to prevent soil erosion and to achieve water-quality treatment.

See Section 4.4 Vegetative Stabilization, of this narrative, for SCM plantings and stabilization seeding descriptions. The applicant is following USDA NRCS seeding recommendations.

(c) Stormwater management for redevelopment. In order to determine the stormwater requirements for redevelopment projects, the percentage of the site covered by existing impervious areas must be calculated. Stormwater requirements for redevelopment will vary based upon the amount of site surface area that is covered by existing impervious surfaces.

[1] For sites meeting the definition of a redevelopment project and having less than 40% existing impervious surface coverage, the stormwater management requirements will be the same as new development projects, with the important distinction that the applicant can meet those requirements either on site or at an approved off-site location (i.e., off-site mitigation). The applicant must satisfactorily demonstrate that impervious area reduction, LID strategies and SCMs have been implemented on site to the MEP.

This standard has been met with the proposed design.

[2] For sites meeting the definition of a redevelopment project and having more than 40% existing impervious surface coverage, stormwater shall be managed in accordance with one or more of the following techniques, listed in order of preference:

This standard is not applicable for this project.

[a] Implement measures on site that result in mitigation and treatment of at least 30% of the existing impervious cover as well as 50% of the additional proposed impervious surfaces and pavement areas through the application of LID; or

[b] Implement other LID techniques on site to the MEP to provide mitigation and treatment for at least 50% of the entire site area.
This standard is not applicable for this project.

[3] The owner/applicant may utilize off-site mitigation to meet the redevelopment requirements when the following standards have been met:

This standard is not applicable for this project.

[a] The owner/applicant shall demonstrate, to the satisfaction of the Planning Board, that on-site treatment has been implemented to the MEP.

[b] The owner/applicant shall find an approved, off-site location within the same watershed as the project site or within the drainage area of the same receiving water body.

[c] Off-site mitigation shall be equivalent to no less than the total area of impervious cover not treated on site.

[d] The owner/applicant shall submit a full design of the proposed off-site measures for review and approval.

[e] The owner/applicant must also demonstrate that there is no downstream drainage or flooding impact as a result of not providing on-site management.

(d) Erosion control standards during construction. The following standards shall be applied in project planning and shall be implemented prior to and during construction activity:

[1] All proposed measures shall meet, at a minimum, the design standards for stormwater control measures set forth in the New Hampshire Stormwater Management Manual (February 2025), a copy of which is available from the NHDES website.

See Inspection & Maintenance Manual and Erosion & Sediment Control Plan, Note #10A.

[2] When a project requires a stormwater permit from the EPA Construction General Permit (CGP) Program, copies of the stormwater pollution prevention plan (SWPPP) inspections shall be provided to the Community Services Department.

Not applicable. See Erosion & Sediment Control Plans, Note #10G.

[3] Stripping of vegetation shall be done in a manner that minimizes soil erosion. Whenever practical, natural vegetation shall be retained, protected, or supplemented.

There is to be no disturbance outside of the limit of construction. Erosion & sediment control measures are to be in place prior to the start of land grubbing. See Erosion & Sediment Control Plan, Note #10B.

[4] The area of land disturbance shall be kept to a minimum and be limited to an area only large enough to accommodate construction activities for a particular construction phase.

This project is constrained by the property lines and development objectives. Low Impact Development practices have been implemented and landscaping steps proposed to mitigate the level of development. See also Erosion & Sediment Control Plan Note #10C.

[5] Off-site surface water and runoff from undisturbed areas shall be diverted away from disturbed areas where feasible, or measures to convey stormwater through the project area without causing erosion of sediment must be included. Integrity of downstream drainage systems shall be maintained.

Please find Erosion & Sediment Control Plan.

[6] Appropriate erosion and sediment control measures shall be installed prior to any soil land disturbance and must be reviewed and approved by the Community Services Department.

Please find Erosion & Sediment Control Plans, Note #10B.

[7] Perimeter site controls shall not be placed within wetland areas, stream channels or wetland buffers.

No wetlands exist on the subject parcel.

[8] Disturbed soil areas shall be either temporarily or permanently stabilized. In areas where final grading has not occurred, temporary stabilization measures should be in place within seven calendar days for exposed soil areas that are within 100 feet of a surface water body or a wetland and no more than 14 calendar days for all other areas. Permanent stabilization should be in place within three calendar days following completion of final grading of exposed soil areas.

Please find Erosion & Sediment Control Plan. There is no surface water body within 100′ of the site.

[9] All temporary erosion and sediment control measures shall be maintained in functioning condition until final site stabilization is accomplished. A proposed SCM inspection schedule shall be included in the submittal.

Please find Erosion & Sediment Control Plan, Note #10D, Inspection & Maintenance Manual.

[10] Additional temporary stabilization for the winter season consistent with NHDES guidelines shall be in place for disturbed areas that are not permanently stabilized by October 1, or at the discretion of the Community Services Department.

Please find winter stabilization note E22, sheet E-102.

[11] Special stabilization details shall be provided with the submission for any land disturbance on slopes equal to or steeper than 3:1.

Please find Rolled Erosion Control Blanket (RECB) Slope Stabilization Detail E21, sheet E-102.

[12] All temporary erosion and sediment control measures shall be removed after final site stabilization. Trapped sediment and other disturbed soil areas resulting from the removal of temporary measures shall be permanently stabilized within 30 calendar days unless conditions dictate otherwise.

Please see Erosion and Sediment Control Plan, Note #10D, and find Inspection & Maintenance Manual containing this statement.

[13] For projects proposing to disturb and expose soils in areas of 10 acres or more at one time, a temporary (or permanent) sediment basin must be provided with storage for a calculated volume of runoff from a drainage area from a two-year, twenty-four-hour storm, or equivalent control measures, where attainable, until final stabilization of the site. Alternatively, the sediment basin can be sized to provide 3,600 cubic feet of storage per acre of drainage area until final stabilization of the site. In determining appropriate locations and number of sediment basins needed, the operators may consider such factors as erodibility of site soils, slope lengths, available area on site, construction period and other unique site considerations.

This standard is not applicable for this project.

[14] Use of temporary sediment basins should avoid any additional vegetation clearing or site land disturbance not otherwise needed for post-construction. Sediment basin locations must be reviewed by the Community Services Department prior to construction and must consider the potential for off-site impacts, including public safety, especially as it relates to sediment movement and/or sediment basin failure, and alternative sediment controls must be used where site limitations preclude a safe design.

The limit of construction is not to be expanded beyond the staked construction limits. See Erosion and Sediment Control Plan, Note #7.

(e) Installation and construction inspections. The owner/applicant shall be responsible for inspection requirements as follow:

[1] The Community Services Department or its designated agent shall have access to the site to complete routine inspections.

The applicant acknowledges this standard. See Erosion and Sediment Control Plan, Note 10E.

[2] The Community Services Department shall be notified 24 hours prior to installation of a stormwater SCM in order to schedule an inspection. These inspections shall be completed during normal working hours.

See Erosion & Sediment Control Plan, Note #10E.

[3] The Planning Board or Community Services Department may require the design engineer and/or an independent third party to provide inspection and oversight of the construction of the stormwater management facilities and erosion and sediment control measures at its discretion. Such oversight may be especially important for implementing techniques such as porous pavement or subsurface stormwater infiltration systems. The owner/applicant shall be responsible for all fees associated with third-party inspections.

See Erosion & Sediment Control Plan, Note #10E.

[4] All SWPPP inspections must be conducted by a qualified professional such as a professional engineer (PE), a certified professional in erosion and sediment control (CPESC), a certified erosion sediment and stormwater inspector (CESSWI), or a certified professional in stormwater quality (CPSWQ). Inspection reports shall be submitted to the Community Services Department.

See Erosion & Sediment Control Plan, Note #10G.

[5] The owner is ultimately responsible for the installation, construction, inspection, and disposition of all stormwater management and erosion control measures required by the provisions of these regulations.

See Erosion & Sediment Control Plan, Note #10H.

(f) Stormwater management plan (SWMP) submittal requirements. At the discretion of the Planning Board or Community Services Department, a technical review by an independent third party may be required of any SWMP prepared under these regulations. Such a review shall be performed by a qualified professional consultant and the expense of which shall be the full responsibility of the owner/applicant.

Much of the standards required in the Stormwater Management Plan (SWMP) are already covered in the Erosion & Sediment Control Plan in Section 4 above. Some items are already covered in the Stormwater System Management: Inspection and Maintenance Manual which is an attached document. This is noted on the Erosion & Sediment Control Plan, Note #10I.

[1] For projects requiring minimum protection standards, a plan including the following information shall be submitted:

[a] Description of erosion and sediment control measures as well as sequence for final stabilization of the project site.

Please find Erosion & Sediment Control Plan Section 4 of this document, specifically section 4.0.

[b] Proposed changes in impervious cover areas and any changes in pre- and post-development drainage patterns.

Please find W1 Existing watershed and W2 Proposed watershed plans within the drainage binder. This is covered in detail in Section 1 and Section 2 of this document.

[c] Description of LID proposed measures.

Please see Section 4.0 of this drainage narrative. Low impact development measures include the implementation of porous pavement and an infiltration pond for treatment.

[2] For projects requiring new development or redevelopment standards, a drainage report that contains the following items shall be submitted:

[a] Description of construction period and earth movement schedule, including anticipated project start and completion dates, sequence and duration of grading and construction activities, sequence and timing of installation and/or application of soil erosion and sediment control measures as well as sequence for final stabilization of the project site.

Please find Section 4.0 in this drainage narrative containing the construction sequence.

[b] Description of the on-site and adjacent wetlands, streams and other water resources, including methods used to identify these resources, and a description of any buffer setbacks that may apply, steep slopes, critical habitat, existing vegetation, areas with a 1% chance of being inundated by water in any given year, and whether any downstream water bodies are listed as impaired according to NHDES's most recent 303(d) list.

Please find Existing Conditions Plan. There is no flood zone, steep slopes, or other sensitive natural areas that would require a buffer.

[c] Soils information for proposed disturbed areas shall be delineated by a certified soil scientist. For all other areas that contribute runoff to the project site, soil types may be identified in accordance with Natural Resources Conservation Service (NRCS) countywide soil survey.

Please find Site Specific Soils Survey (sheet #4) and W-1 Existing Watershed Plans.

[d] Description of existing drainage patterns, receiving water bodies or drainage infrastructure and soil types for recharge potential.

Please find W-1 Existing Watershed Plan, Site Specific Soils Survey (sheet #5).

[e] Watershed area limits, including any off-site and upstream areas contributing flow to shared drainage channels and/or infrastructure.

Please find W-1 Existing Watershed Plan & W-2 Proposed Watershed Plan within the drainage binder.

[f] Description of proposed changes in impervious cover areas and any changes in pre- and post-development drainage patterns.

Please find sections 1.0 and 2.0 of this narrative as well as W-1 Existing Watershed Plan, Existing Drainage Analysis, W-2 Proposed Watershed Plan & Proposed Drainage Analysis. The existing impervious area and proposed impervious area are documented on the Site Plan.

[g] Methods and assumptions used to calculate pre- and post-development runoff volume, peak discharge, and discharge velocity for the specified design storm events.

Please find Section 1.0 & 2.0 of this drainage narrative discussing the existing and proposed development conditions.

[h] Methods and assumptions used to calculate the pollutant load removal.

The following guidance has been utilized from the Pollutant Removal Efficiencies published by the UNH Stormwater Center SCM Performance Curves (2023):

Porous (Permeable) Pavement (12" Filter):
- *Total Suspended Solids (TSS) reduction of 92%*
- *Total Nitrogen (TN) reduction of 76%*
- *Total Phosphorous (TP) reduction of 62%*

Infiltration Basin:
- *Total Suspended Solids (TSS) reduction of 100%*
- *Total Nitrogen (TN) reduction of 100%*
- *Total Phosphorous (TP) reduction of 98%*

[i] Description of LID measures that are proposed to limit the development footprint, preserve existing vegetation and mimic existing hydrology to the extent feasible.

Please find Section 4.0 of this drainage narrative describing stormwater SCMs used for the design. Low impact development measures include the implementation of a porous pavement and an infiltration pond.

[j] If not used, provide rationale why LID measures are not practical for the site.

Porous Pavement, Porous Pavers, and Infiltration Ponds SCMs are proposed on site and qualify as low impact development.

[k] Describe measures and calculations for proposed practices used to achieve no net increase in runoff volumes leaving the site.

Please find comparative analysis demonstrating compliance with the 2-100YR 24Hr storm events, Section 3.1. The descriptions of subcatchments, ponds, and final Reaches are in Section 2.

[l] Provide calculations for the infiltration or exfiltration system.

Please see the attached Infiltration Feasibility Study. Discussion on Infiltration Rates is provided is section 3.0b.

[m] If an increase in post-development runoff volume is anticipated due to limited applicability for LID measures and site constraints, provide an assessment and supporting calculations to demonstrate no adverse impacts to downstream infrastructure, adjacent properties or aquatic habitat.

There is no increase in post-development runoff volume due to the infiltration capabilities of the proposed porous pavement and infiltration pond.

[n] Descriptions, details, and design criteria and calculations for all structural, nonstructural, permanent, and temporary erosion and sedimentation control measures and SCMs. This information should include seeding mixtures and rates, types of sod, methods of seedbed preparation, expected seeding dates (or limitations on seeding time frames), type and rate of lime and fertilizer application, and type and quantity of mulching for temporary and permanent control facilities.

Please find section 4.0 of this narrative, the Inspection & Maintenance Manual and Plan, as well as the Erosion & Sediment Control Plan. Type and rate of lime and fertilizer will be determined on site by testing the topsoil for requirements.

[o] Where proposed changes are anticipated within mapped limits of the areas with a 1% chance of being inundated by water in any given year, provide hydrologic and hydraulic analysis to show no net increase in flood elevations.

There is no disturbance proposed within any flood zones.

[p] Proposed schedule for the inspection and maintenance of all erosion control measures on site prior to achieving final site stabilization.

Please find Section 4.0 of this document, and the Stormwater System Operation: Inspection & Maintenance Manual.

[q] Describe procedures for removing temporary erosion control measures and removal of accumulated sediment captured by such measures.

The maintenance requirements for each erosion and sediment control method are detailed within the Construction Detail on Sheets E-101 and E-102

[r] Any other specific study, calculation, or investigation as requested by the City.

No additional studies or investigations have been requested at this time.

[s] Describe procedures to limit and/or optimize the use of deicing materials and minimize off-site increases in chloride levels in adjacent surface water and groundwater.

Please find Inspection & Maintenance Manual. Additionally references can be found on Erosion and Sediment Control Plan and project notes, note #4.

[t] Provide a maintenance and inspection plan for post-construction monitoring of SCMs to ensure long-term performance and functionality, including details of who will be responsible for inspections and maintenance, proposed schedule, documentation, submittal procedures and contingency plans if future maintenance is required.

Please find Inspection & Maintenance Manual and plan with stormwater control measure design plans.

[u] Provide copies of pertinent state and federal permits.

Copies of all state and federal permits will be provided when received.

(g) Long-term operation and maintenance. The owner shall be responsible for continued inspection and maintenance requirements.

[1] An operation and maintenance manual shall be created with the following information:

[a] The names of the responsible qualified professionals who will implement the required reporting, inspections, and maintenance activities.

Please find Inspection & Maintenance Manual.

[b] An inspection checklist, identifying item or SCM, inspection frequency, and components to be inspected. The list shall clearly outline performance thresholds and triggers for maintenance.

Please find Inspection & Maintenance Manual.

[c] Snow and ice removal shall be performed by a contractor certified by the "Green SnoPro" Program, or approved equivalent, following stormwater control measure for the application of deicing materials.

Please find Inspection & Maintenance Manual.

[d] Deicing log to track amount and type of deicing material applied.

Please find Inspection & Maintenance Manual.

[e] A site plan clearly identifying the locations of all stormwater practices to be inspected and maintained.

Please find Inspection & Maintenance Plans within the drainage binder.

[f] Inspection and maintenance log to be submitted to the City of Dover Community Services Department on an annual basis. Documents shall be submitted no later than December 15 of each year.

Please find Inspection & Maintenance Manual.

[2] The owner of record shall record at the Registry of Deeds documentation sufficient to provide notice to all persons that may acquire any property subject to the requirements and responsibilities described in the approved stormwater management plan. The notice shall comply with the applicable requirements for recording contained in RSA 477 and 478. The notice need not set forth the requirements at length, so long as it is sufficient to provide notice to prospective purchasers of the requirements for maintenance and reporting.

Please find note #28 of project specific notes, sheet #2.

6.0 CONCLUSION

Peak rates of runoff flow and volume of runoff are reduced in the post-construction analysis / condition, as compared to the pre-construction peak rates of runoff flow at **Final Reach #100 & Final Reach #200.** This reduction occurs during the 2 Yr, 10 Yr, 25 Yr, 50 Yr, and 100 Yr/24 Hour extreme storm events due to the installation of the porous pavement and an infiltration pond.

A Site Specific, Terrain Alteration Permit (RSA 485: A-17) is not required for this site plan due to the area of disturbance being less than 100,000 SF (34,350 SF) and the site will operate as a General Permit by Rule under this rule. Because the site impact is less than one acre, a Notice of Intent with the EPA is not required and the site will operate in accordance with the City of Dover Chapter 153-14 A Stormwater Management, Erosion Control, and Flood Hazards and the approved Stormwater Management Plan.

Respectfully Submitted,
BERRY SURVEYING & ENGINEERING

Christopher R. Berry, LLS
Principal, President

Kevin R. Poulin, PE
Associate, VP-Engineering Operations

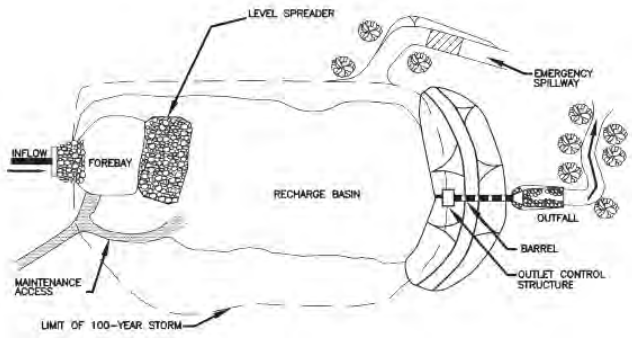
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Infiltration Basin Factsheet

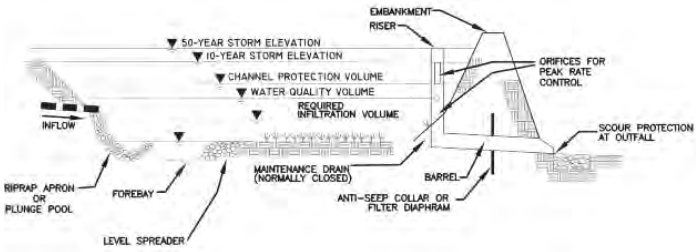
Infiltration Basin represents a practice that provides temporary surface storage of runoff (e.g. ponding) for subsequent infiltration into the ground. Appropriate practices for use of the surface infiltration performance estimates include infiltration basins, infiltration swales (not conveyance swales), rain gardens, and bio-retention systems that rely on infiltration and provide the majority of storage capacity through surface-ponding. If an infiltration system includes both surface storage through ponding and a lesser storage volume within the void spaces of a coarse filter media, then the physical storage volume capacity used to determine the long-term cumulative phosphorus removal efficiency from the infiltration basin performance curves would be equal to the sum of the surface storage volume and the void space storage volume. General design specifications for infiltration basin systems are provided in the most recent version of *The New Hampshire Stormwater Manual, Volume 2: Post-Construction Best Management Practices Selection and Design*.

Sample Design

Plan View



Profile View



Examples images from the *New Hampshire Stormwater Manual, Volume 2*, p. 90

Pollutant Export Rate by Land Use[1]

Source Category by Land Use	Land Surface Cover	P Load Export Rate[1] (lbs./acre/year)	N Load Export Rate[2] (lbs./acre/year)
Commercial (COM) and Industrial (IND)	Directly connected impervious	1.78	15
Multi-Family (MFR) and High-Density Residential (HDR)	Directly connected impervious	2.32	14.1
Medium-Density Residential (MDR)	Directly connected impervious	1.96	14.1
Low-Density Residential (LDR) - "Rural"	Directly connected impervious	1.52	14.1

[1] From NH Small MS4 General Permit, Appendix F

General Equations

Physical Storage Capacity: Depth of Runoff * Drainage Area
Cost: Physical Storage Capacity * Cost Index * Adjustment Factor[1]
Yearly Pollutant Removal: Pollutant Load Export Rate * Drainage Area * Efficiency

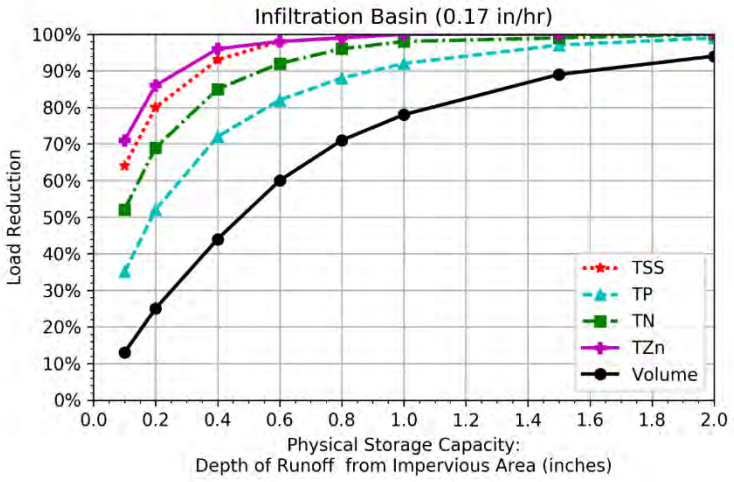
Cost (2023)[1,2]

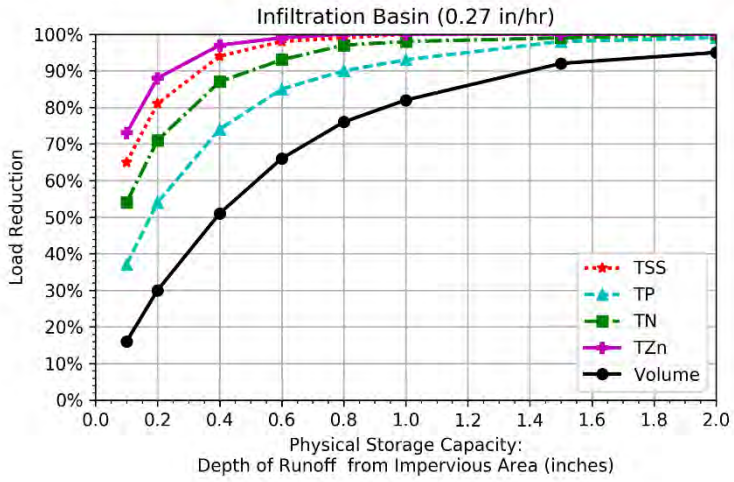
	Materials and Installation Cost ($/ft^3)	Design Cost ($/ft^3)	Total Cost ($/ft^3)
Rural	4.85	2.61	7.46
Mixed	9.69	5.22	14.91
Urban	14.54	7.83	22.37

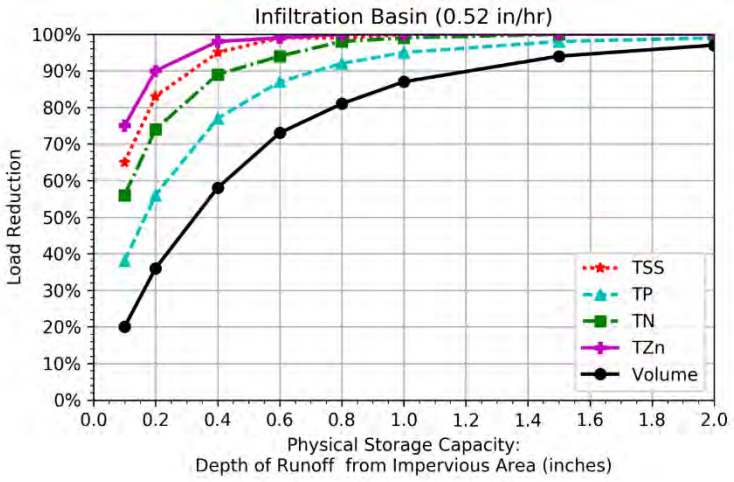
[1] EPA Memorandum "Methodology for developing cost estimates for Opti-Tool." Februrary 20, 2016
[2] Converted from 2010 to 2023 dollars using U.S. Department of Labor (USDOL). (2012). Bureau of Labor Statistics consumer price index inflation calculator. http://www.bls.gov/data/inflation_calculator.htm

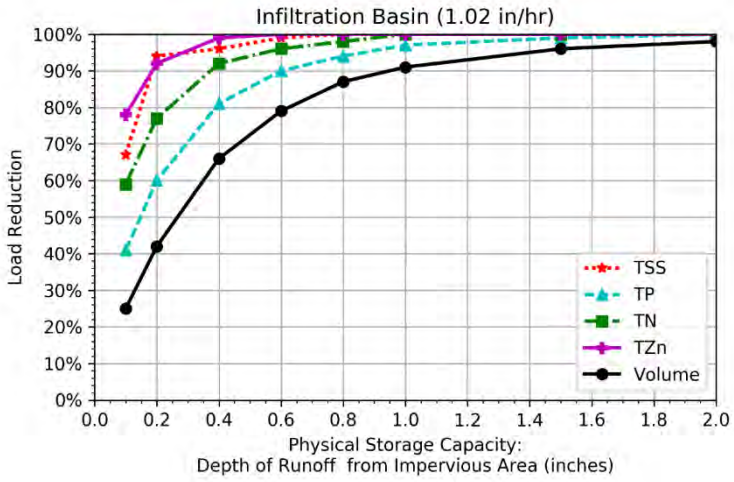
Prepared By:
University of New Hampshire
Stormwater Center
Durham, NH
www.unh.edu/unhsc
February 2023

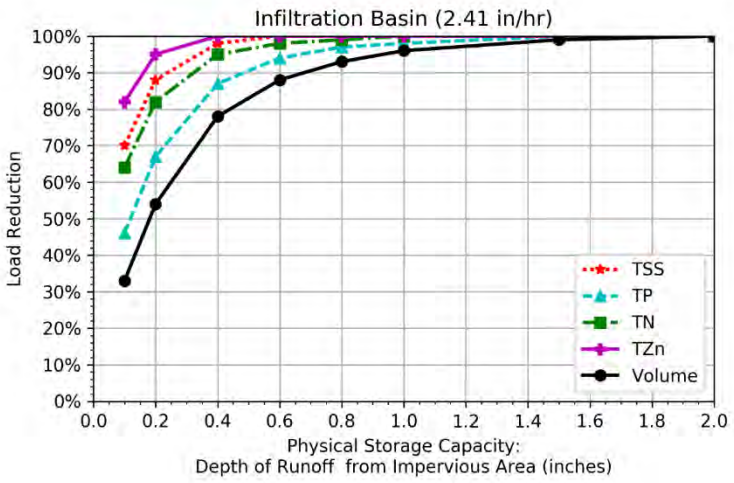
BMP Performance Curves for Soil Infiltration Rate: Infiltration Basin

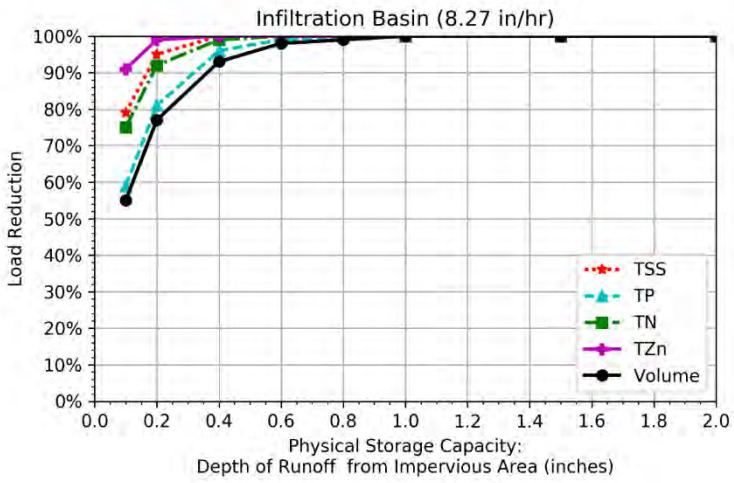












BMP Performance Tables for Soil Infiltration Rate: Infiltration Basin

		Cumulative Load Reduction				
Infiltration Rate (in/hr)	Depth of Runoff from Impervious Area (inches)	TSS	Phosphorus	Nitrogen	Zinc	Runoff Volume
0.17	0.1	64%	35%	52%	71%	13%
	0.2	80%	52%	69%	86%	25%
	0.4	93%	72%	85%	96%	44%
	0.6	98%	82%	92%	98%	60%
	0.8	99%	88%	96%	99%	71%
	1.0	100%	92%	98%	100%	78%
	1.5	100%	97%	99%	100%	89%
	2.0	100%	99%	100%	100%	94%
0.27	0.1	65%	37%	54%	73%	16%
	0.2	81%	54%	71%	88%	30%
	0.4	94%	74%	87%	97%	51%
	0.6	98%	85%	93%	99%	66%
	0.8	99%	90%	97%	100%	76%
	1.0	100%	93%	98%	100%	82%
	1.5	100%	98%	99%	100%	92%
	2.0	100%	99%	100%	100%	95%
0.52	0.1	65%	38%	56%	75%	20%
	0.2	83%	56%	74%	90%	36%
	0.4	95%	77%	89%	98%	58%
	0.6	99%	87%	94%	99%	73%
	0.8	99%	92%	98%	100%	81%
	1.0	100%	95%	99%	100%	87%
	1.5	100%	98%	100%	100%	94%
	2.0	100%	99%	100%	100%	97%

BMP Performance Tables for Soil Infiltration Rate: Infiltration Basin

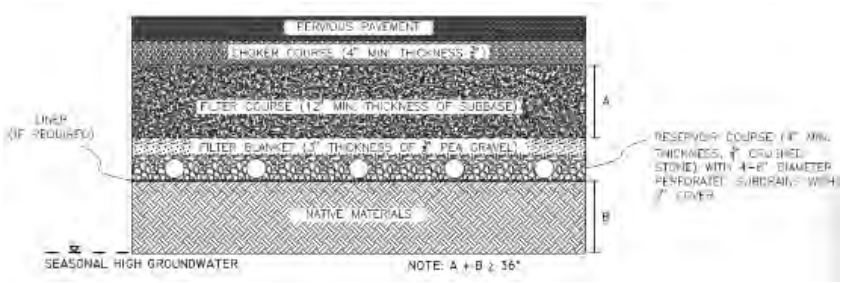
		Cumulative Load Reduction				
Infiltration Rate (in/hr)	Depth of Runoff from Impervious Area (inches)	TSS	Phosphorus	Nitrogen	Zinc	Runoff Volume
1.02	0.1	67%	41%	59%	78%	25%
	0.2	94%	60%	77%	92%	42%
	0.4	96%	81%	92%	99%	66%
	0.6	99%	90%	96%	100%	79%
	0.8	100%	94%	98%	100%	87%
	1.0	100%	97%	100%	100%	91%
	1.5	100%	99%	100%	100%	96%
	2.0	100%	100%	100%	100%	98%
2.41	0.1	70%	46%	64%	82%	33%
	0.2	88%	67%	82%	95%	54%
	0.4	98%	87%	95%	100%	78%
	0.6	100%	94%	98%	100%	88%
	0.8	100%	97%	99%	100%	93%
	1.0	100%	98%	100%	100%	96%
	1.5	100%	100%	100%	100%	99%
	2.0	100%	100%	100%	100%	100%
8.27	0.1	79%	59%	75%	91%	55%
	0.2	95%	81%	92%	99%	77%
	0.4	100%	96%	99%	100%	93%
	0.6	100%	99%	100%	100%	98%
	0.8	100%	100%	100%	100%	99%
	1.0	100%	100%	100%	100%	100%
	1.5	100%	100%	100%	100%	100%
	2.0	100%	100%	100%	100%	100%

Porous Pavement Factsheet

Porous Pavement consists of a porous surface, base, and sub-base materials which allow penetration of runoff through the surface into underlying soils. The surface materials for porous pavements can consist of paving blocks or grids, pervious asphalt, or pervious concrete. These materials are installed on a base which serves as a filter course between the pavement surface and the underlying sub-base material. The sub-base material typically comprises a layer of crushed stone that not only supports the overlying pavement structure, but also serves as a reservoir to store runoff that penetrates the pavement surface until it can percolate into the ground. General design specifications for porous pavement systems are provided in the most recent version of *The New Hampshire Stormwater Manual, Volume 2: Post-Construction Best Management Practices Selection and Design*.

Sample Design

Profile View



Examples images from the *New Hampshire Stormwater Manual, Volume 2*, p. 120

Pollutant Export Rate by Land Use[1]

Source Category by Land Use	Land Surface Cover	P Load Export Rate[1] (lbs./acre/year)	N Load Export Rate[2] (lbs./acre/year)
Commercial (COM) and Industrial (IND)	Directly connected impervious	1.78	15
Multi-Family (MFR) and High-Density Residential (HDR)	Directly connected impervious	2.32	14.1
Medium-Density Residential (MDR)	Directly connected impervious	1.96	14.1
Low-Density Residential (LDR) - "Rural"	Directly connected impervious	1.52	14.1

[1] From NH Small MS4 General Permit, Appendix F

General Equations

Physical Storage Capacity: Depth of Runoff * Drainage Area
Cost: Physical Storage Capacity * Cost Index * Adjustment Factor[1]
Yearly Pollutant Removal: Pollutant Load Export Rate * Drainage Area * Efficiency

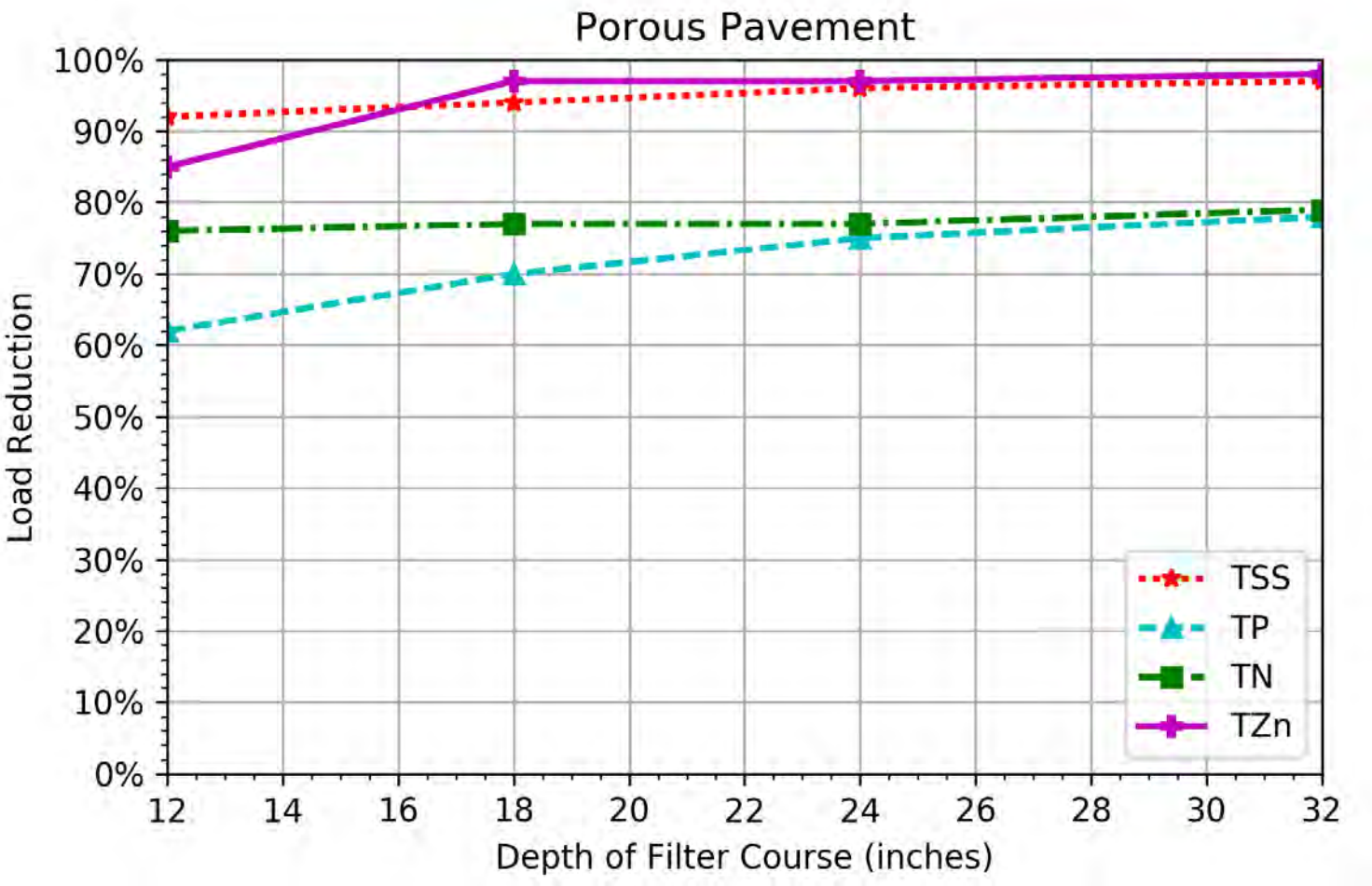
Cost (2023)[1,2]

	Materials and Installation Cost ($/ft^3)		Design Cost ($/ft^3)		Total Cost ($/ft^3)	
	Porous Asphalt	Porous Concrete	Porous Asphalt	Porous Concrete	Porous Asphalt	Porous Concrete
Rural	4.13	14.03	2.22	7.55	6.35	21.58
Mixed	8.26	28.05	4.45	15.11	12.70	43.16
Urban	12.38	42.08	6.67	22.66	19.05	64.74

[1] EPA Memorandum "Methodology for developing cost estimates for Opti-Tool." Februrary 20, 2016
[2] Converted from 2010 to 2023 dollars using U.S. Department of Labor (USDOL). (2012). Bureau of Labor Statistics consumer price index inflation calculator. http://www.bls.gov/data/inflation_calculator.htm

Prepared By:
University of New Hampshire
Stormwater Center
Durham, NH
www.unh.edu/unhsc
February 2023

BMP Performance Curve for Porous Pavement



Porous Pavement BMP Performance Table				
BMP Capacity: Depth of Filter Course Area (inches)	12	18	24	32
Cumulative TSS Phosphorus Load Reduction	92%	94%	96%	97%
Cumulative Phosphorus Load Reduction	62%	70%	75%	78%
Cumulative Nitrogen Load Reduction	76%	77%	77%	79%
Cumulative Zinc Phosphorus Load Reduction	85%	97%	97%	98%

Appendix I –Existing Conditions Analysis

25 Yr - 24 Hr. Full Summary
2 Yr - 24 Hr. Node Listing
10 Yr -24 Hr. Node Listing
25 Yr -24 Hr. Node Listing
50 Yr - 24 Hr. Node Listing
100 Yr -24 Hr. Node Listing

SOILS LEGEND

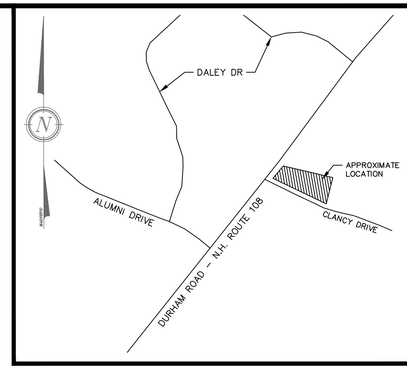
Site Specific Soils

Symbol	Slopes	Taxonomic Soil Name	Hydrologic Soil Index
32	A	Boxford	D
33	A	Scitico	D
38	A	Eldridge	B
313	A	Deerfield	B
400	A	Udorthents (Sandy) (dbadb)	B
915	A	Deerfield Variant	D
953	A	Boxford	D

Slopes: A = 0-3% B = 3-8% C = 8-15% D = 15-25% E = 25- 50% F = 50%+
Denominators: /ED = Excessively Drained /MWD = Moderately Well Drained
/SPD = Somewhat Poorly Drained /P = Poorly Drained
/VP = Very Poorly Drained /Rk = Rocky

NRCS Soils

Symbol	Slopes	Taxonomic Soil Name	Hydrologic Soil Index
Bz	A,B	Buxton Silt Loam	C
De	A	Deerfield Loamy Sand	B



NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT LLC
54 DOVER POINT ROAD
DOVER, NH 03820

2.) TAX MAP I, LOT 11

3.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.

4.) THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING WATERSHED CONDITIONS OF TAX MAP I, LOT 11 AS OF THE DATE OF SURVEY.

5.) HYDROCAD USES A SERIES OF NODE SUFFIXES FOR NUMBERING PURPOSES (S=SUBCATCHMENT, P=POND DEVICE, R=REACH), TO SIMPLIFY ANNOTATION THESE SUFFIXES ARE LEFT OFF THE WATERSHED PLANS AND NODE TYPE IS DENOTED BY THE SYMBOL SHAPE ACCORDING TO THE DISPLAYED LEGEND WHICH COINCIDES WITH HYDROCAD GRAPHICS.

LEGEND:

- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- LIMIT OF SITE SPECIFIC SOIL SURVEY
- SITE SPECIFIC SOIL LINE
- 448A SITE SPECIFIC SOIL SERIES
- HYB NRCS SOIL LINE
- NRCS SOIL LABEL
- LIMIT OF WATERSHED
- TIME OF CONCENTRATION PATH
- FLOW REACH
- S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS
- TYP. TYPICAL
- FND FOUND
- CATCH BASIN W/ STRUCTURE
- BITUMINOUS CONCRETE
- FLOW ARROW

SYMBOLS LEGEND:

- SUBCATCHMENT AREA SYMBOL
- FLOW REACH SYMBOL
- POND DEVICE SYMBOL
- TIME OF CONCENTRATION SEGMENT

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

WETLAND NOTES:

WETLANDS WERE DELINEATED BY DEIDRA BENJAMIN. IN AUGUST OF 2025 UTILIZING THE FOLLOWING STANDARDS:

1. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2016).
3. NATIONAL WETLAND PLANT LIST (CURRENT VERSION).

NO WETLANDS WERE FOUND ON SITE.

STATE OF NEW HAMPSHIRE JOHN P. HAYES III CERTIFIED SOILIST

STATE OF NEW HAMPSHIRE DEIDRA L. BENJAMIN No. 295 CERTIFIED WETLAND SCIENTIST

JOHN P. HAYES, III CSS #87 DEIDRA BENJAMIN, CWS #295

NOT FOR CONSTRUCTION

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

SWPPP EPA SITE MAP (EXISTING)

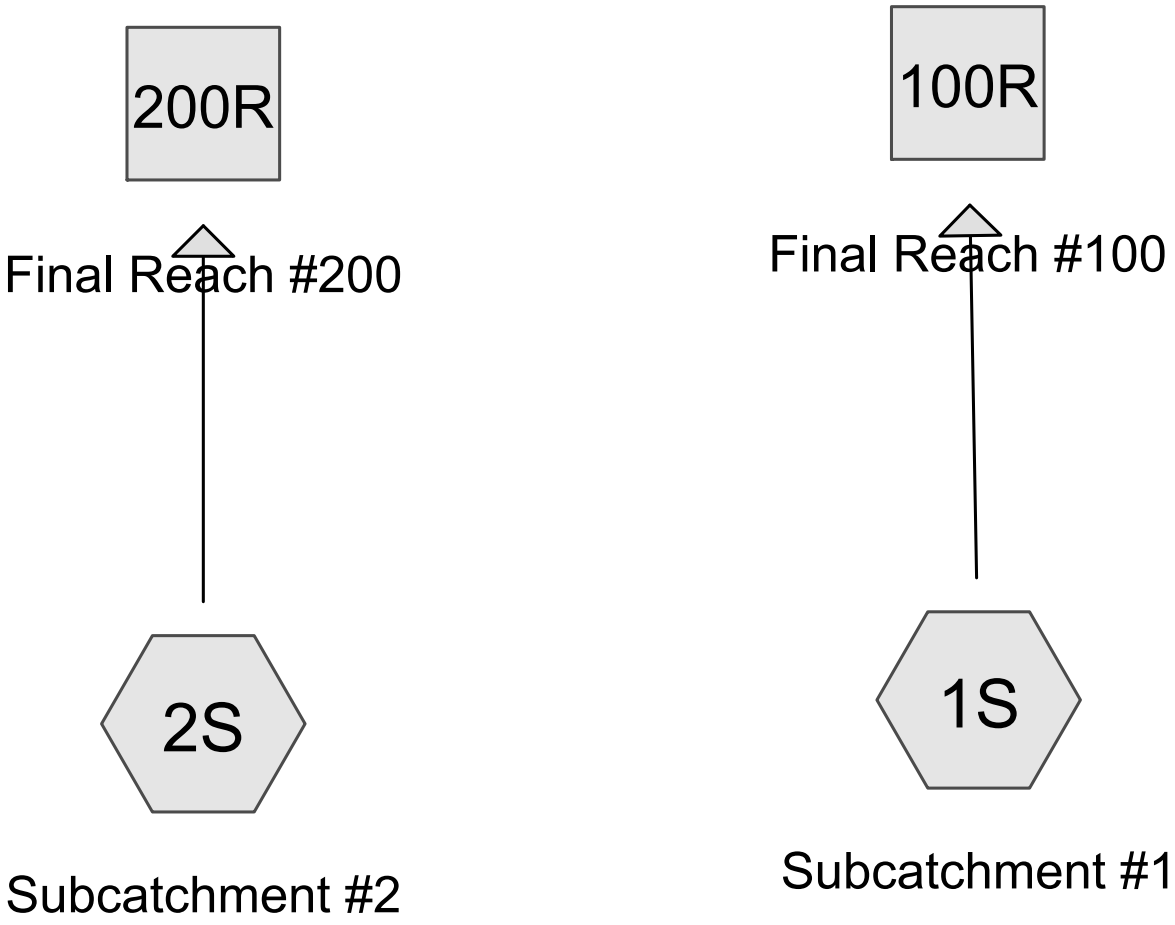
W-1 EXISTING WATERSHED PLAN
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE KEVIN ROCKY POULIN No. 17824 LICENSED PROFESSIONAL ENGINEER

SHEET 1 OF 2



Subcat Reach Pond Link

Routing Diagram for 25-053 Existing Analysis
Prepared by Berry Surveying & Engineering
HydroCAD® 10.20-8a s/n 07605 © 2025 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.625	61	>75% Grass cover, Good, HSG B (1S, 2S)
0.096	74	>75% Grass cover, Good, HSG C (1S, 2S)
0.269	80	>75% Grass cover, Good, HSG D (1S, 2S)
0.057	98	Paved parking, HSG B (1S, 2S)
0.012	98	Paved parking, HSG C (1S, 2S)
0.010	98	Paved parking, HSG D (2S)
0.089	98	Roofs, HSG B (1S, 2S)
0.011	98	Roofs, HSG C (1S)
0.119	55	Woods, Good, HSG B (1S)
0.028	70	Woods, Good, HSG C (1S)
0.070	77	Woods, Good, HSG D (1S)
1.386	**71**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.891	HSG B	1S, 2S
0.147	HSG C	1S, 2S
0.348	HSG D	1S, 2S
0.000	Other	
1.386		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.625	0.096	0.269	0.000	0.990	>75% Grass cover, Good	1S, 2S
0.000	0.057	0.012	0.010	0.000	0.079	Paved parking	1S, 2S
0.000	0.089	0.011	0.000	0.000	0.100	Roofs	1S, 2S
0.000	0.119	0.028	0.070	0.000	0.217	Woods, Good	1S
0.000	**0.891**	**0.147**	**0.348**	**0.000**	**1.386**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment #1 Runoff Area=41,396 sf 10.42% Impervious Runoff Depth=3.58"
Flow Length=207' Tc=27.7 min CN=WQ Runoff=2.23 cfs 0.283 af

Subcatchment 2S: Subcatchment #2 Runoff Area=18,974 sf 18.23% Impervious Runoff Depth=3.92"
Flow Length=216' Tc=18.6 min CN=WQ Runoff=1.31 cfs 0.142 af

Reach 100R: Final Reach #100 Inflow=2.23 cfs 0.283 af
Outflow=2.23 cfs 0.283 af

Reach 200R: Final Reach #200 Inflow=1.31 cfs 0.142 af
Outflow=1.31 cfs 0.142 af

Total Runoff Area = 1.386 ac Runoff Volume = 0.425 af Average Runoff Depth = 3.68"
87.12% Pervious = 1.207 ac 12.88% Impervious = 0.178 ac

Summary for Subcatchment 1S: Subcatchment #1

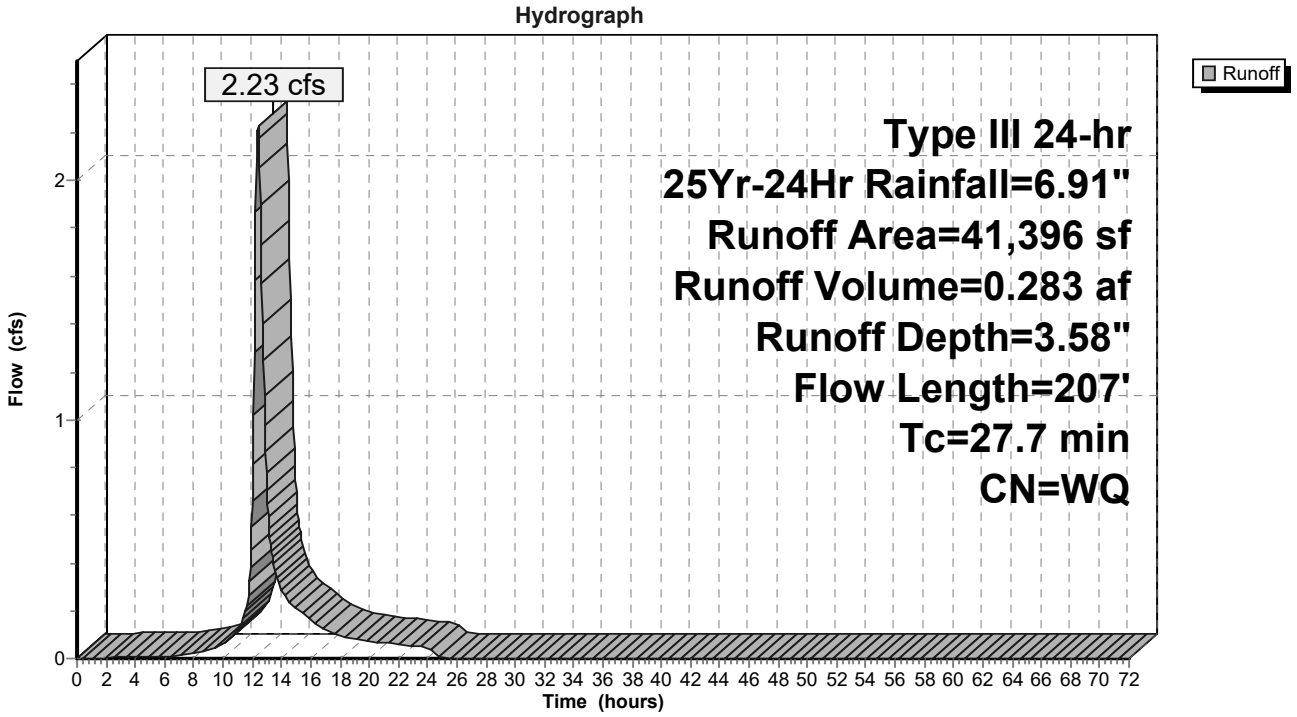
Runoff = 2.23 cfs @ 12.39 hrs, Volume= 0.283 af, Depth= 3.58"
Routed to Reach 100R : Final Reach #100

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.91"

Area (sf)	CN	Description
2,735	98	Roofs, HSG B
17,375	61	>75% Grass cover, Good, HSG B
907	98	Paved parking, HSG B
5,185	55	Woods, Good, HSG B
467	98	Roofs, HSG C
2,998	74	>75% Grass cover, Good, HSG C
206	98	Paved parking, HSG C
1,234	70	Woods, Good, HSG C
7,257	80	>75% Grass cover, Good, HSG D
3,032	77	Woods, Good, HSG D
41,396		Weighted Average
37,081		89.58% Pervious Area
4,315		10.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	61	0.0083	0.05		**Sheet Flow, Segment #1** Woods: Light underbrush n= 0.400 P2= 3.62"
5.2	39	0.0127	0.12		**Sheet Flow, Segment #2** Grass: Short n= 0.150 P2= 3.62"
2.8	95	0.0063	0.56		**Shallow Concentrated Flow, Segment #3** Short Grass Pasture Kv= 7.0 fps
0.4	12	0.0085	0.46		**Shallow Concentrated Flow, Segment #4** Woodland Kv= 5.0 fps
27.7	207	Total			

Subcatchment 1S: Subcatchment #1



Summary for Subcatchment 2S: Subcatchment #2

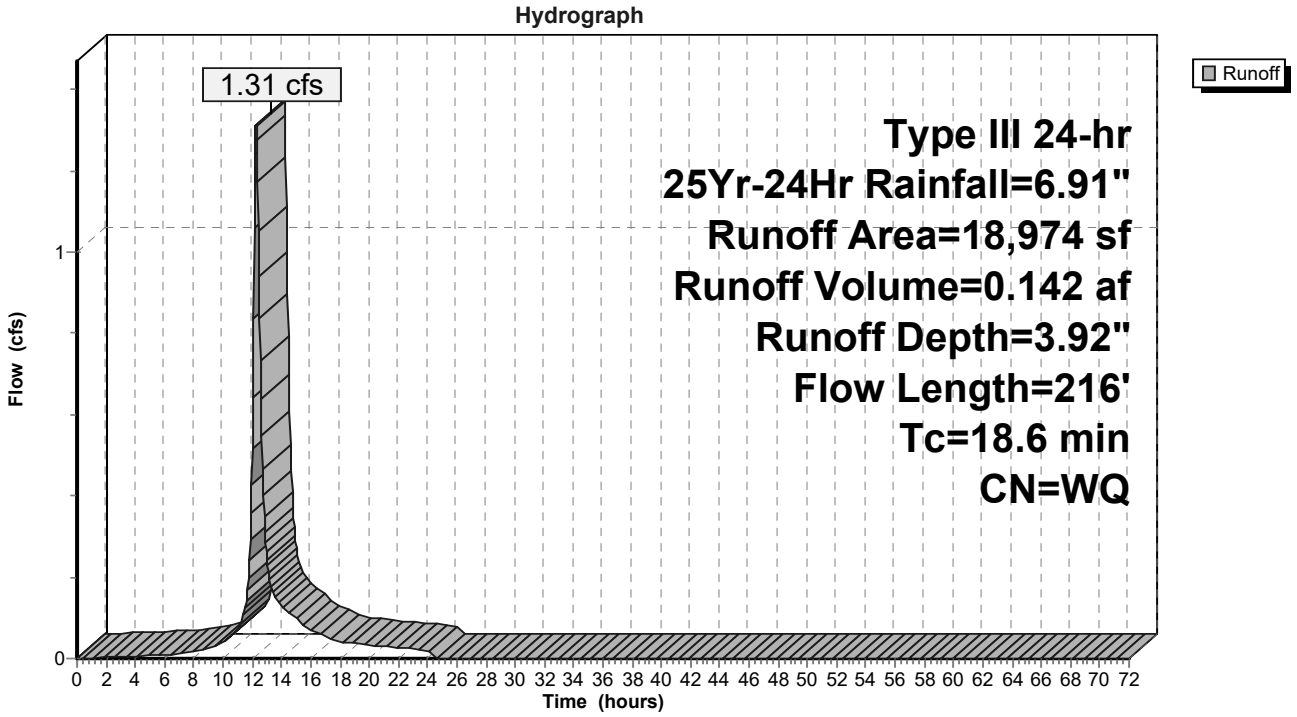
Runoff = 1.31 cfs @ 12.26 hrs, Volume= 0.142 af, Depth= 3.92"
Routed to Reach 200R : Final Reach #200

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.91"

Area (sf)	CN	Description
1,149	98	Roofs, HSG B
9,869	61	>75% Grass cover, Good, HSG B
1,589	98	Paved parking, HSG B
1,182	74	>75% Grass cover, Good, HSG C
302	98	Paved parking, HSG C
4,464	80	>75% Grass cover, Good, HSG D
419	98	Paved parking, HSG D
18,974		Weighted Average
15,515		81.77% Pervious Area
3,459		18.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	39	0.0156	0.14		**Sheet Flow, Segment #1** Grass: Short n= 0.150 P2= 3.62"
10.9	61	0.0049	0.09		**Sheet Flow, Segment #2** Grass: Short n= 0.150 P2= 3.62"
2.3	86	0.0082	0.63		**Shallow Concentrated Flow, Segment #3** Short Grass Pasture Kv= 7.0 fps
0.6	30	0.0166	0.90		**Shallow Concentrated Flow, Segment #4** Short Grass Pasture Kv= 7.0 fps
18.6	216	Total			

Subcatchment 2S: Subcatchment #2



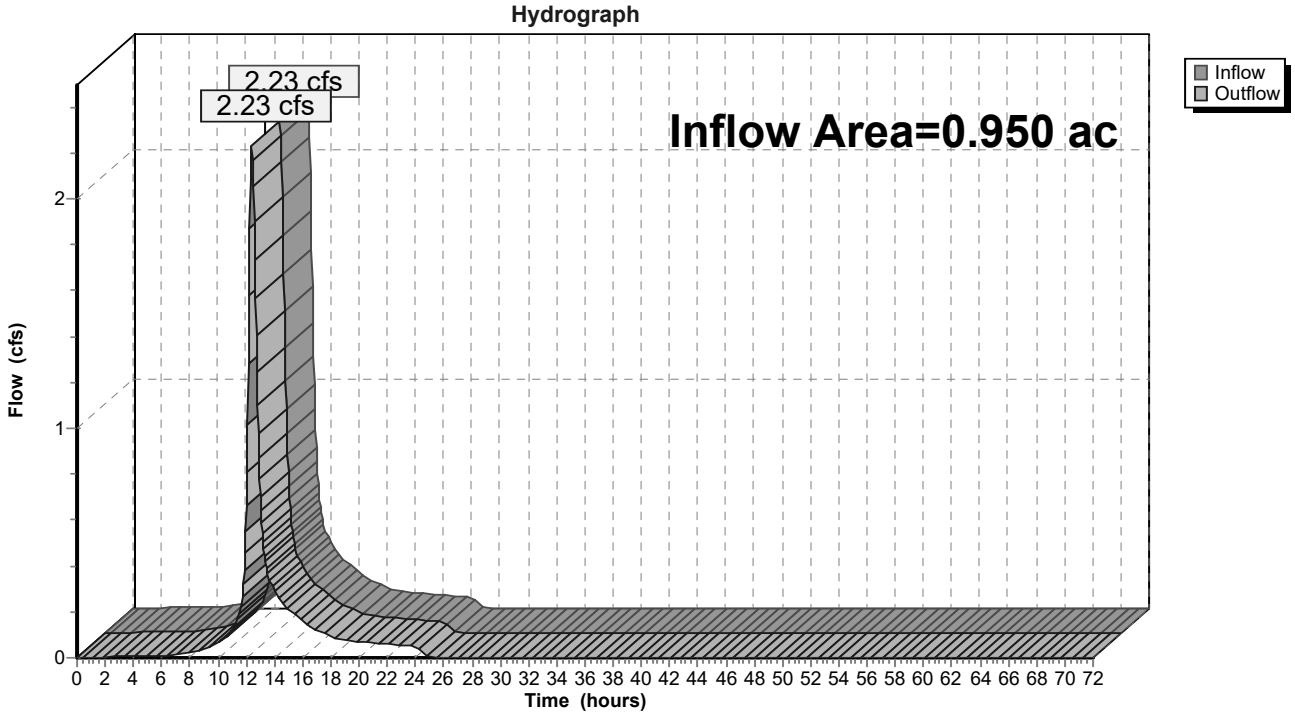
Summary for Reach 100R: Final Reach #100

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

Inflow Area = 0.950 ac, 10.42% Impervious, Inflow Depth = 3.58" for 25Yr-24Hr event
Inflow = 2.23 cfs @ 12.39 hrs, Volume= 0.283 af
Outflow = 2.23 cfs @ 12.39 hrs, Volume= 0.283 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach 100R: Final Reach #100



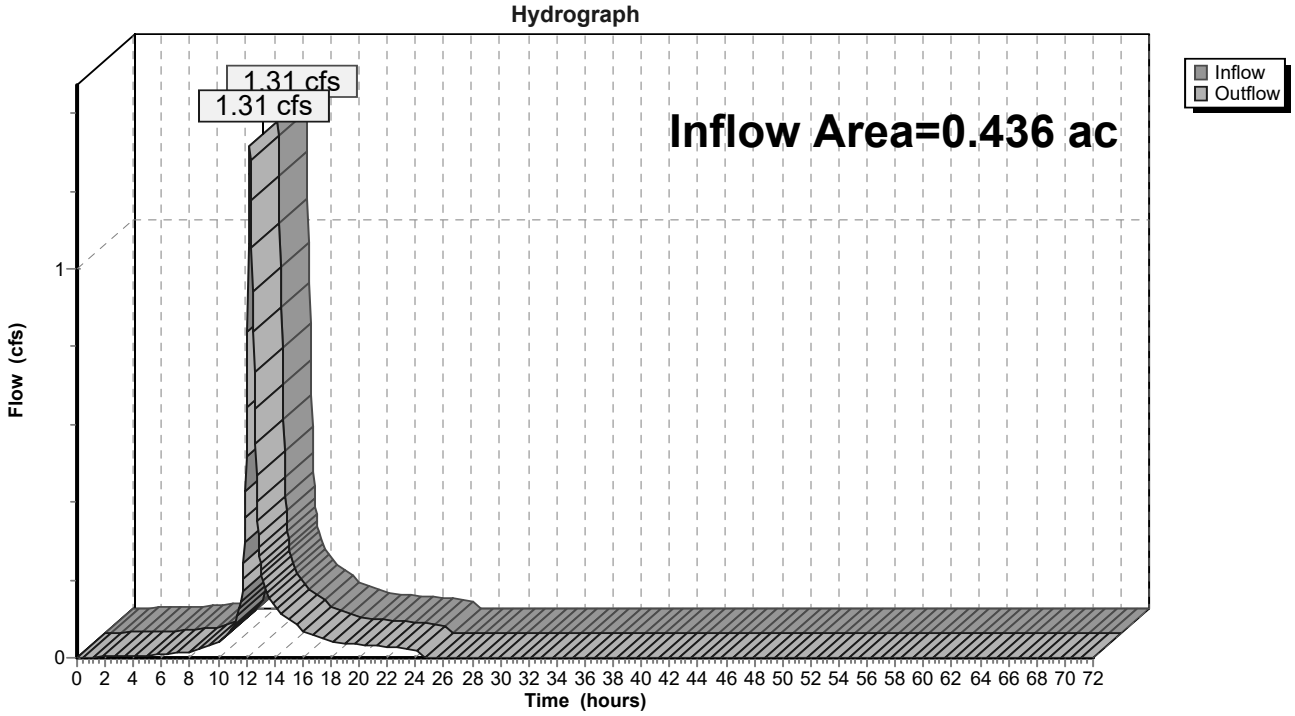
Summary for Reach 200R: Final Reach #200

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

Inflow Area = 0.436 ac, 18.23% Impervious, Inflow Depth = 3.92" for 25Yr-24Hr event
Inflow = 1.31 cfs @ 12.26 hrs, Volume= 0.142 af
Outflow = 1.31 cfs @ 12.26 hrs, Volume= 0.142 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach 200R: Final Reach #200



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment #1 Runoff Area=41,396 sf 10.42% Impervious Runoff Depth=1.21"
Flow Length=207' Tc=27.7 min CN=WQ Runoff=0.69 cfs 0.096 af

Subcatchment 2S: Subcatchment #2 Runoff Area=18,974 sf 18.23% Impervious Runoff Depth=1.43"
Flow Length=216' Tc=18.6 min CN=WQ Runoff=0.45 cfs 0.052 af

Reach 100R: Final Reach #100 Inflow=0.69 cfs 0.096 af
Outflow=0.69 cfs 0.096 af

Reach 200R: Final Reach #200 Inflow=0.45 cfs 0.052 af
Outflow=0.45 cfs 0.052 af

Total Runoff Area = 1.386 ac Runoff Volume = 0.148 af Average Runoff Depth = 1.28"
87.12% Pervious = 1.207 ac 12.88% Impervious = 0.178 ac

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment #1 Runoff Area=41,396 sf 10.42% Impervious Runoff Depth=2.46"
Flow Length=207' Tc=27.7 min CN=WQ Runoff=1.51 cfs 0.195 af

Subcatchment 2S: Subcatchment #2 Runoff Area=18,974 sf 18.23% Impervious Runoff Depth=2.76"
Flow Length=216' Tc=18.6 min CN=WQ Runoff=0.91 cfs 0.100 af

Reach 100R: Final Reach #100 Inflow=1.51 cfs 0.195 af
Outflow=1.51 cfs 0.195 af

Reach 200R: Final Reach #200 Inflow=0.91 cfs 0.100 af
Outflow=0.91 cfs 0.100 af

Total Runoff Area = 1.386 ac Runoff Volume = 0.295 af Average Runoff Depth = 2.55"
87.12% Pervious = 1.207 ac 12.88% Impervious = 0.178 ac

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment #1 Runoff Area=41,396 sf 10.42% Impervious Runoff Depth=3.58"
Flow Length=207' Tc=27.7 min CN=WQ Runoff=2.23 cfs 0.283 af

Subcatchment 2S: Subcatchment #2 Runoff Area=18,974 sf 18.23% Impervious Runoff Depth=3.92"
Flow Length=216' Tc=18.6 min CN=WQ Runoff=1.31 cfs 0.142 af

Reach 100R: Final Reach #100 Inflow=2.23 cfs 0.283 af
Outflow=2.23 cfs 0.283 af

Reach 200R: Final Reach #200 Inflow=1.31 cfs 0.142 af
Outflow=1.31 cfs 0.142 af

Total Runoff Area = 1.386 ac Runoff Volume = 0.425 af Average Runoff Depth = 3.68"
87.12% Pervious = 1.207 ac 12.88% Impervious = 0.178 ac

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment #1 Runoff Area=41,396 sf 10.42% Impervious Runoff Depth=4.69"
Flow Length=207' Tc=27.7 min CN=WQ Runoff=2.95 cfs 0.372 af

Subcatchment 2S: Subcatchment #2 Runoff Area=18,974 sf 18.23% Impervious Runoff Depth=5.07"
Flow Length=216' Tc=18.6 min CN=WQ Runoff=1.71 cfs 0.184 af

Reach 100R: Final Reach #100 Inflow=2.95 cfs 0.372 af
Outflow=2.95 cfs 0.372 af

Reach 200R: Final Reach #200 Inflow=1.71 cfs 0.184 af
Outflow=1.71 cfs 0.184 af

Total Runoff Area = 1.386 ac Runoff Volume = 0.555 af Average Runoff Depth = 4.81"
87.12% Pervious = 1.207 ac 12.88% Impervious = 0.178 ac

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment #1 Runoff Area=41,396 sf 10.42% Impervious Runoff Depth=6.07"
Flow Length=207' Tc=27.7 min CN=WQ Runoff=3.83 cfs 0.481 af

Subcatchment 2S: Subcatchment #2 Runoff Area=18,974 sf 18.23% Impervious Runoff Depth=6.48"
Flow Length=216' Tc=18.6 min CN=WQ Runoff=2.19 cfs 0.235 af

Reach 100R: Final Reach #100 Inflow=3.83 cfs 0.481 af
Outflow=3.83 cfs 0.481 af

Reach 200R: Final Reach #200 Inflow=2.19 cfs 0.235 af
Outflow=2.19 cfs 0.235 af

Total Runoff Area = 1.386 ac Runoff Volume = 0.716 af Average Runoff Depth = 6.20"
87.12% Pervious = 1.207 ac 12.88% Impervious = 0.178 ac

Appendix II - Proposed Conditions Analysis

25 Yr - 24 Hr. Full Summary
2 Yr - 24 Hr. Node Listing
10 Yr -24 Hr. Node Listing
25 Yr -24 Hr. Node Listing
50 Yr - 24 Hr. Node Listing
100 Yr -24 Hr. Node Listing

NOTES (CONT.):

7.) EPA CGP 7.2.4 SITE MAP LEGEND

B5 VEHICLE EXIT
C RECEIVING WATERS
G2 STORMWATER BEST MANAGEMENT PRACTICE

SEE ALSO:

GRADING & DRAINAGE PLAN
EROSION & SEDIMENT CONTROL PLAN
DRAINAGE ANALYSIS & EROSION AND SEDIMENT CONTROL MANUAL
DRAINAGE OPERATION: INSPECTION & MAINTENANCE MANUAL

SOILS LEGEND

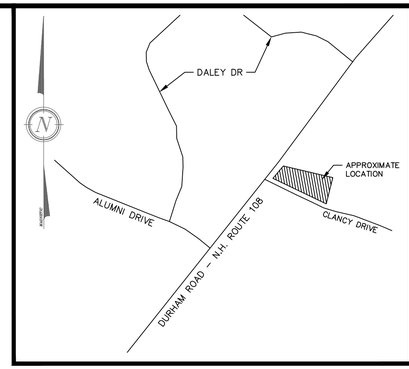
Site Specific Soils

Symbol	Slopes	Taxonomic Soil Name	Hydrologic Soil Index
32	A	Boxford	D
33	A	Scitico	D
38	A	Eldridge	B
313	A	Deerfield	B
400	A	Udorthents (Sandy) (dbadb)	B
915	A	Deerfield Variant	D
953	A	Boxford	D

Slopes: A = 0-3% B = 3-8% C = 8-15% D = 15-25% E = 25- 50% F = 50%+
Denominators: /ED = Excessively Drained /MWD = Moderately Well Drained /SPD = Somewhat Poorly Drained /P = Poorly Drained /VP = Very Poorly Drained /Rk = Rocky

NRCS Soils

Symbol	Slopes	Taxonomic Soil Name	Hydrologic Soil Index
Bz	A,B	Buxton Silt Loam	C
De	A	Deerfield Loamy Sand	B



NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT LLC
54 DOVER POINT ROAD
DOVER, NH 03820

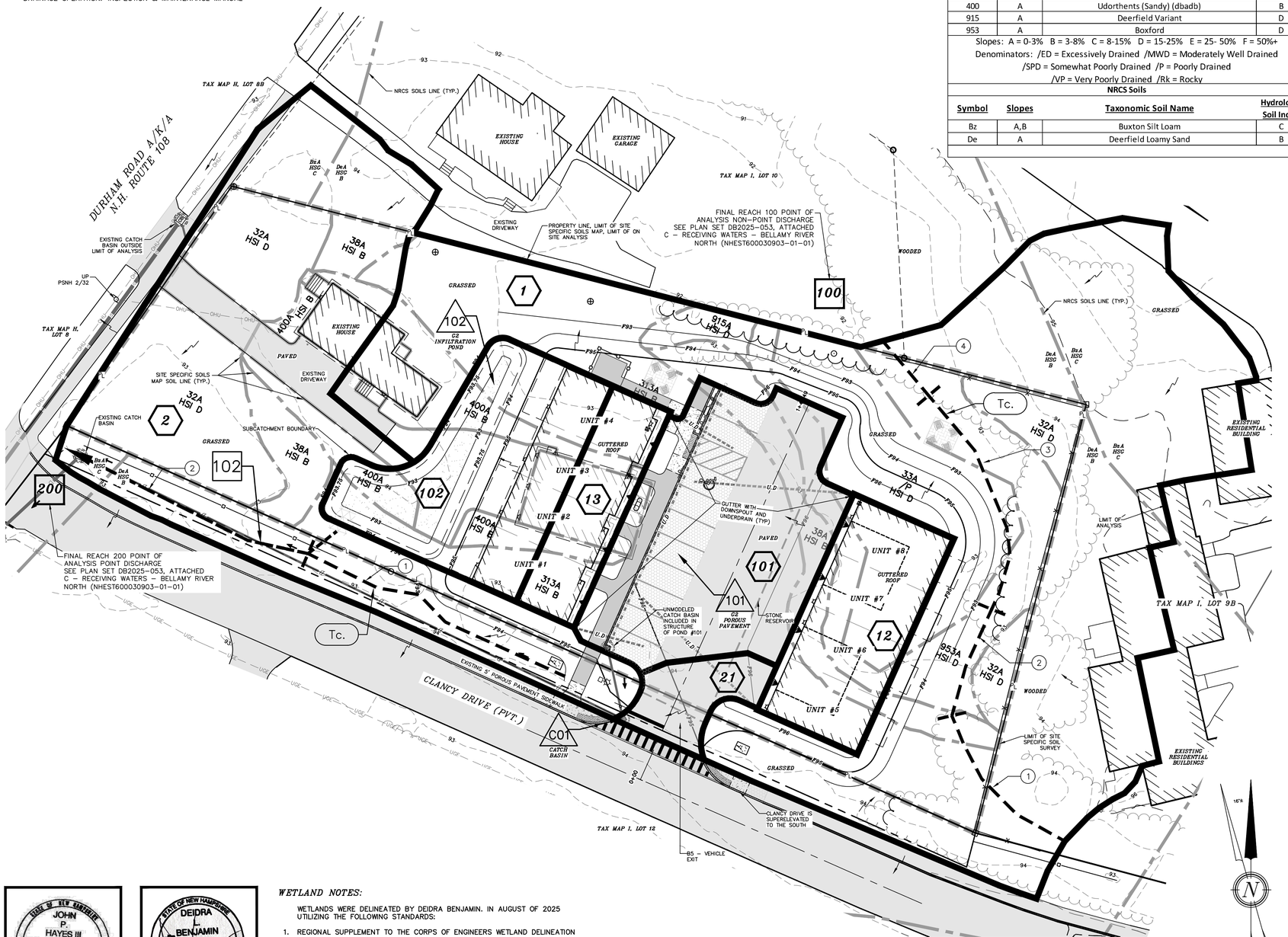
2.) TAX MAP I, LOT 11

3.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL COORDINATES BASED ON NAD83. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.

4.) THE INTENT OF THIS PLAN IS TO SHOW THE POST CONSTRUCTION DRAINAGE CONDITIONS OF TAX MAP I, LOT 11.

5.) SEE PROPOSED GRADING & DRAINAGE PLAN FOR SLOPES & EROSION & SEDIMENT CONTROL PLAN FOR STOCKPILE AREA AND CONSTRUCTION ENTRANCE.

6.) HYDROCAD USES A SERIES OF NODE SUFFIXES FOR NUMBERING PURPOSES (S=SUBCATCHMENT, P=POND DEVICE, R=REACH), TO SIMPLIFY ANNOTATION THESE SUFFIXES ARE LEFT OFF THE WATERSHED PLANS AND NODE TYPE IS DENOTED BY THE SYMBOL SHAPE ACCORDING TO THE DISPLAYED LEGEND WHICH COINCIDES WITH HYDROCAD GRAPHICS.



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

SYMBOLS LEGEND:

- SUBCATCHMENT AREA SYMBOL
- FLOW REACH SYMBOL
- POND DEVICE SYMBOL
- TIME OF CONCENTRATION SEGMENT

LEGEND:

- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- LIMIT OF SITE SPECIFIC SOIL SURVEY MAPPING
- SITE SPECIFIC SOIL LINE
- SITE SPECIFIC SOIL SERIES
- NRCS SOIL LINE
- NRCS SOIL LABEL
- LIMIT OF WATERSHED/SUBCATCHMENT
- TIME OF CONCENTRATION PATH
- FLOW REACH
- S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS
- TYP. TYPICAL
- FND FOUND
- EXISTING CATCH BASIN W/ STRUCTURE
- PROPOSED CATCH BASIN W/ STRUCTURE
- PROPOSED DRAINAGE LINE
- U.D UNDERDRAIN
- STORMWATER CONTROL MEASURE (SCM)
- BERM
- POROUS PAVEMENT
- BITUMINOUS CONCRETE
- MATTED SPILLWAY
- PROPOSED CONCRETE SIDEWALK OR PAD
- FLOW ARROW

WETLAND NOTES:

WETLANDS WERE DELINEATED BY DEIDRA BENJAMIN. IN AUGUST OF 2025 UTILIZING THE FOLLOWING STANDARDS:

1. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2016).
3. NATIONAL WETLAND PLANT LIST (CURRENT VERSION).

NO WETLANDS WERE FOUND ON SITE.

STATE OF NEW HAMPSHIRE JOHN P. HAYES III LICENSED SOILS SCIENTIST No. 87

STATE OF NEW HAMPSHIRE DEIDRA L. BENJAMIN CERTIFIED WETLAND SCIENTIST No. 295

JOHN P. HAYES, III CSS #87 DEIDRA BENJAMIN, CWS #295

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

SWPPP EPA SITE MAP (PROPOSED)

DETAIL W-2 PROPOSED WATERSHED PLAN
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

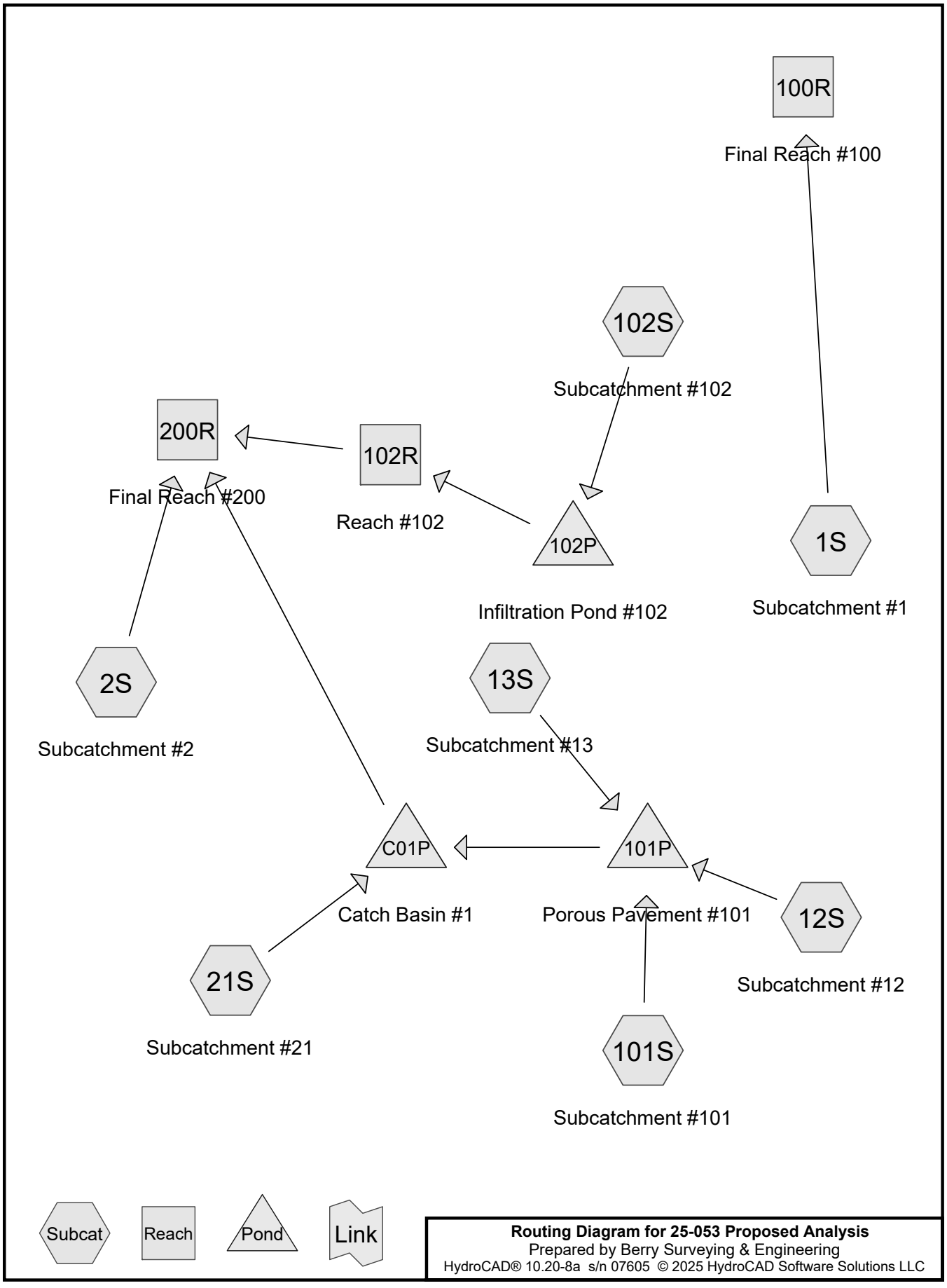
BERRY & SURVEYING ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

STATE OF NEW HAMPSHIRE KEVIN ROCKY POULIN No. 17824 LICENSED PROFESSIONAL ENGINEER

SHEET 2 OF 2

NOT FOR CONSTRUCTION



Routing Diagram for 25-053 Proposed Analysis
Prepared by Berry Surveying & Engineering
HydroCAD® 10.20-8a s/n 07605 © 2025 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.420	61	>75% Grass cover, Good, HSG B (1S, 2S, 101S, 102S)
0.096	74	>75% Grass cover, Good, HSG C (1S, 2S)
0.218	80	>75% Grass cover, Good, HSG D (1S, 2S)
0.176	98	Paved parking, HSG B (1S, 2S, 21S, 101S)
0.012	98	Paved parking, HSG C (1S, 2S)
0.024	98	Paved parking, HSG D (1S, 2S, 101S)
0.179	98	Roofs, HSG B (1S, 2S, 12S, 13S, 102S)
0.011	98	Roofs, HSG C (1S)
0.049	98	Roofs, HSG D (1S, 12S)
0.116	55	Woods, Good, HSG B (1S)
0.028	70	Woods, Good, HSG C (1S)
0.057	77	Woods, Good, HSG D (1S)
1.386	**77**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.891	HSG B	1S, 2S, 12S, 13S, 21S, 101S, 102S
0.147	HSG C	1S, 2S
0.348	HSG D	1S, 2S, 12S, 101S
0.000	Other	
1.386		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.420	0.096	0.218	0.000	0.734	>75% Grass cover, Good	1S, 2S, 101S, 102S
0.000	0.176	0.012	0.024	0.000	0.212	Paved parking	1S, 2S, 21S, 101S
0.000	0.179	0.011	0.049	0.000	0.238	Roofs	1S, 2S, 12S, 13S, 102S
0.000	0.116	0.028	0.057	0.000	0.201	Woods, Good	1S
0.000	**0.891**	**0.147**	**0.348**	**0.000**	**1.386**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	101P	91.73	90.47	21.2	0.0594	0.012	0.0	8.0	0.0	
2	C01P	90.37	89.32	205.0	0.0051	0.012	0.0	8.0	0.0	

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment #1 Runoff Area=28,825 sf 12.77% Impervious Runoff Depth=3.72"
Flow Length=208' Tc=27.2 min CN=WQ Runoff=1.62 cfs 0.205 af

Subcatchment 2S: Subcatchment #2 Runoff Area=14,695 sf 13.94% Impervious Runoff Depth=3.91"
Flow Length=184' Tc=18.6 min CN=WQ Runoff=1.02 cfs 0.110 af

Subcatchment 12S: Subcatchment #12 Runoff Area=3,116 sf 100.00% Impervious Runoff Depth=6.67"
Tc=6.0 min CN=WQ Runoff=0.47 cfs 0.040 af

Subcatchment 13S: Subcatchment #13 Runoff Area=1,804 sf 100.00% Impervious Runoff Depth=6.67"
Tc=6.0 min CN=98 Runoff=0.27 cfs 0.023 af

Subcatchment 21S: Subcatchment #21 Runoff Area=1,037 sf 100.00% Impervious Runoff Depth=6.67"
Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af

Subcatchment 101S: Subcatchment #101 Runoff Area=6,318 sf 93.65% Impervious Runoff Depth=6.41"
Tc=6.0 min CN=WQ Runoff=0.93 cfs 0.078 af

Subcatchment 102S: Subcatchment #102 Runoff Area=4,574 sf 44.51% Impervious Runoff Depth=4.43"
Tc=6.0 min CN=WQ Runoff=0.48 cfs 0.039 af

Reach 100R: Final Reach #100 Inflow=1.62 cfs 0.205 af
Outflow=1.62 cfs 0.205 af

Reach 102R: Reach #102 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.022 L=97.6' S=0.0031 '/' Capacity=8.98 cfs Outflow=0.00 cfs 0.000 af

Reach 200R: Final Reach #200 Inflow=1.24 cfs 0.136 af
Outflow=1.24 cfs 0.136 af

Pond 101P: Porous Pavement #101 Peak Elev=92.93' Storage=1,398 cf Inflow=1.67 cfs 0.140 af
Discarded=0.26 cfs 0.128 af Primary=0.15 cfs 0.013 af Outflow=0.42 cfs 0.140 af

Pond 102P: Infiltration Pond #102 Peak Elev=93.44' Storage=461 cf Inflow=0.48 cfs 0.039 af
Discarded=0.09 cfs 0.039 af Primary=0.00 cfs 0.000 af Outflow=0.09 cfs 0.039 af

Pond C01P: Catch Basin #1 Peak Elev=90.68' Storage=0.000 af Inflow=0.24 cfs 0.026 af
8.0" Round Culvert n=0.012 L=205.0' S=0.0051 '/' Outflow=0.24 cfs 0.026 af

Total Runoff Area = 1.386 ac Runoff Volume = 0.507 af Average Runoff Depth = 4.39"
67.47% Pervious = 0.935 ac 32.53% Impervious = 0.451 ac

Summary for Subcatchment 1S: Subcatchment #1

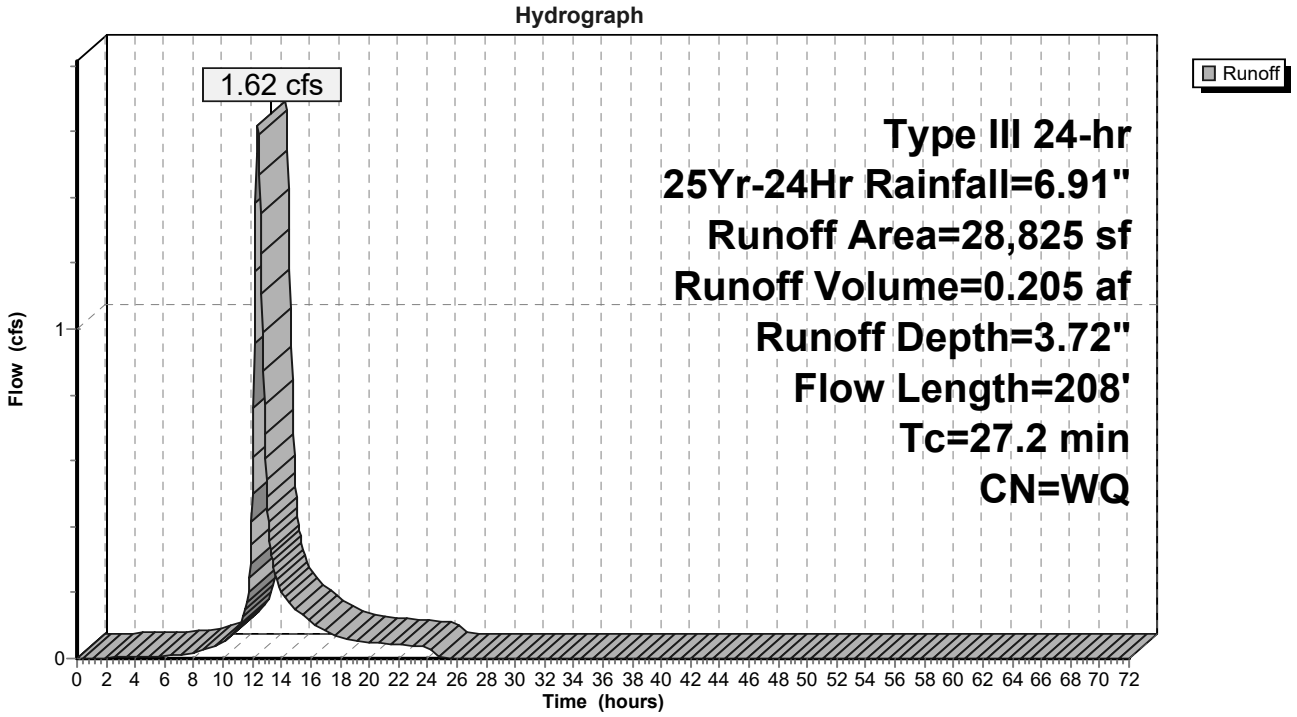
Runoff = 1.62 cfs @ 12.38 hrs, Volume= 0.205 af, Depth= 3.72"
Routed to Reach 100R : Final Reach #100

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.91"

Area (sf)	CN	Description
2,205	98	Roofs, HSG B
8,343	61	>75% Grass cover, Good, HSG B
492	98	Paved parking, HSG B
5,048	55	Woods, Good, HSG B
467	98	Roofs, HSG C
2,998	74	>75% Grass cover, Good, HSG C
206	98	Paved parking, HSG C
1,234	70	Woods, Good, HSG C
210	98	Roofs, HSG D
5,053	80	>75% Grass cover, Good, HSG D
100	98	Paved parking, HSG D
2,469	77	Woods, Good, HSG D
28,825		Weighted Average
25,145		87.23% Pervious Area
3,680		12.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	61	0.0083	0.05		**Sheet Flow, Segment #1** Woods: Light underbrush n= 0.400 P2= 3.62"
4.6	39	0.0177	0.14		**Sheet Flow, Segment #2** Grass: Short n= 0.150 P2= 3.62"
2.4	83	0.0070	0.59		**Shallow Concentrated Flow, Segment #3** Short Grass Pasture Kv= 7.0 fps
0.9	25	0.0085	0.46		**Shallow Concentrated Flow, Segment #4** Woodland Kv= 5.0 fps
27.2	208	Total			

Subcatchment 1S: Subcatchment #1



Summary for Subcatchment 2S: Subcatchment #2

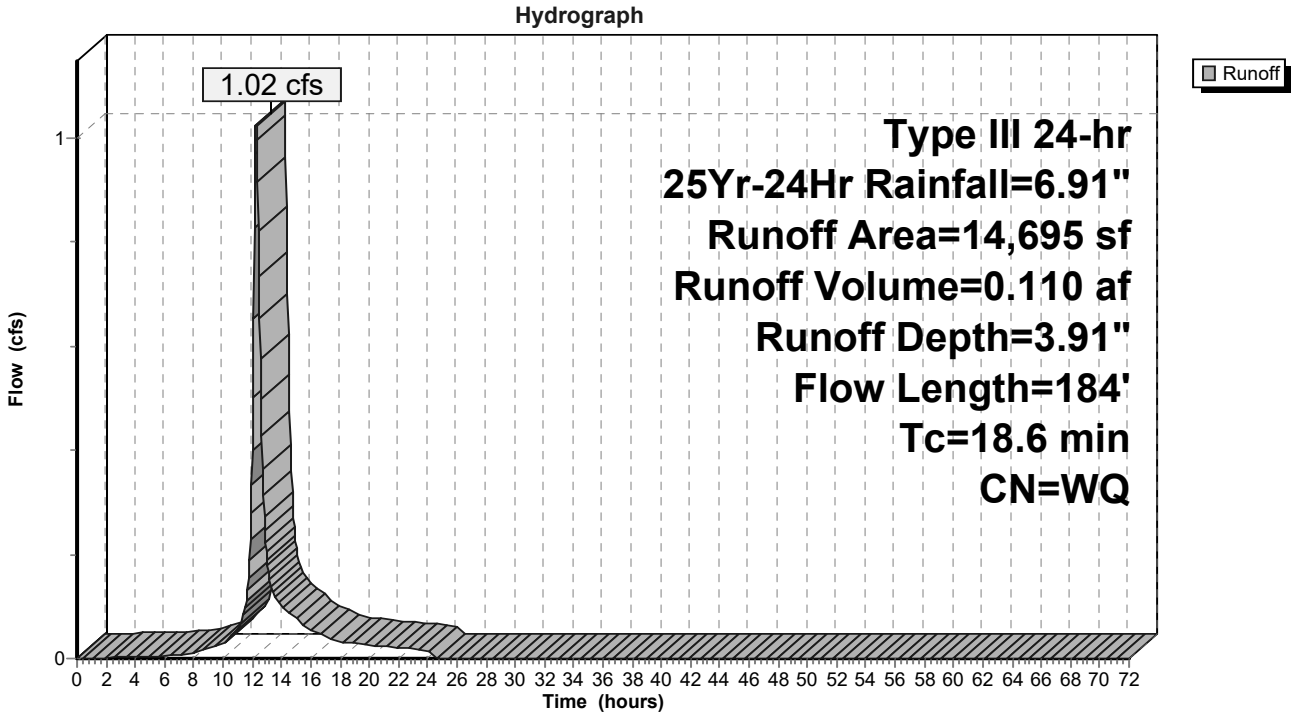
Runoff = 1.02 cfs @ 12.26 hrs, Volume= 0.110 af, Depth= 3.91"
Routed to Reach 200R : Final Reach #200

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.91"

Area (sf)	CN	Description
548	98	Roofs, HSG B
7,000	61	>75% Grass cover, Good, HSG B
780	98	Paved parking, HSG B
1,182	74	>75% Grass cover, Good, HSG C
302	98	Paved parking, HSG C
4,464	80	>75% Grass cover, Good, HSG D
419	98	Paved parking, HSG D
14,695		Weighted Average
12,646		86.06% Pervious Area
2,049		13.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	100	0.0050	0.10		**Sheet Flow, Segment #1** Grass: Short n= 0.150 P2= 3.62"
2.6	84	0.0060	0.54		**Shallow Concentrated Flow, Segment #2** Short Grass Pasture Kv= 7.0 fps
18.6	184	Total			

Subcatchment 2S: Subcatchment #2



Summary for Subcatchment 12S: Subcatchment #12

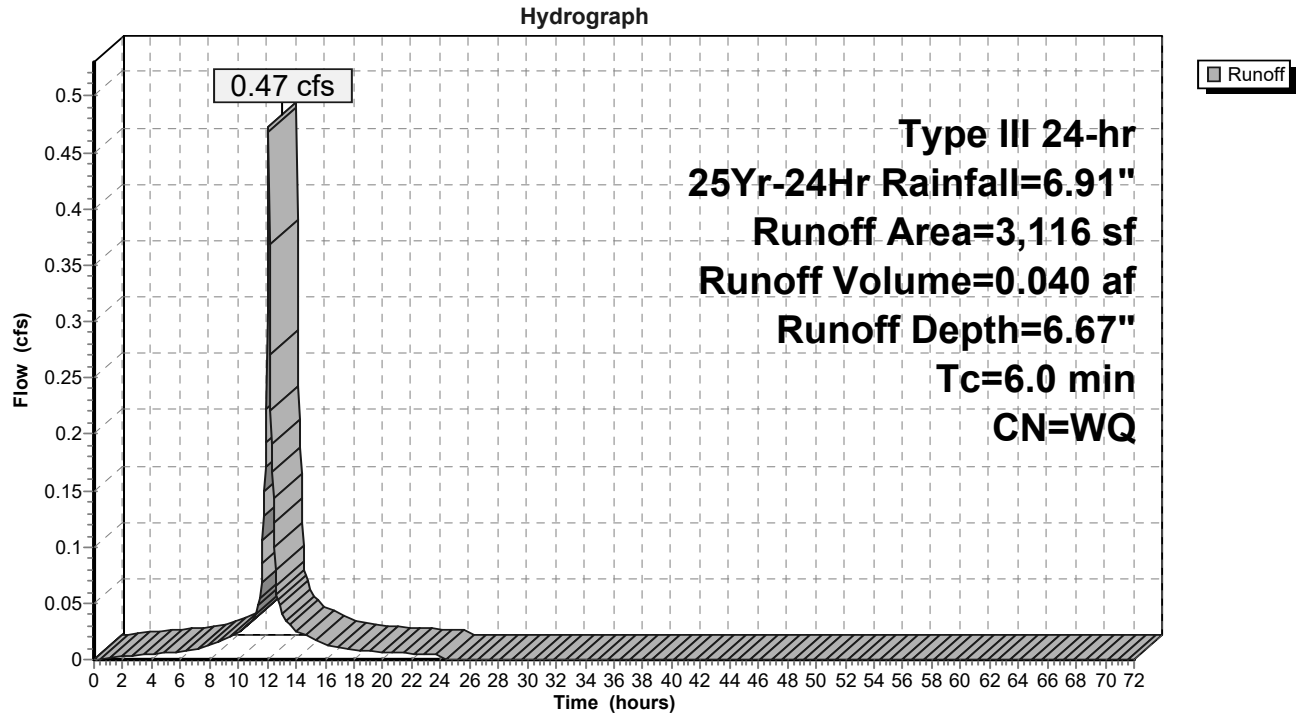
Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.040 af, Depth= 6.67"
Routed to Pond 101P : Porous Pavement #101

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.91"

Area (sf)	CN	Description
1,208	98	Roofs, HSG B
1,908	98	Roofs, HSG D
3,116		Weighted Average
3,116		100.00% Impervious Area

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

Subcatchment 12S: Subcatchment #12



Summary for Subcatchment 13S: Subcatchment #13

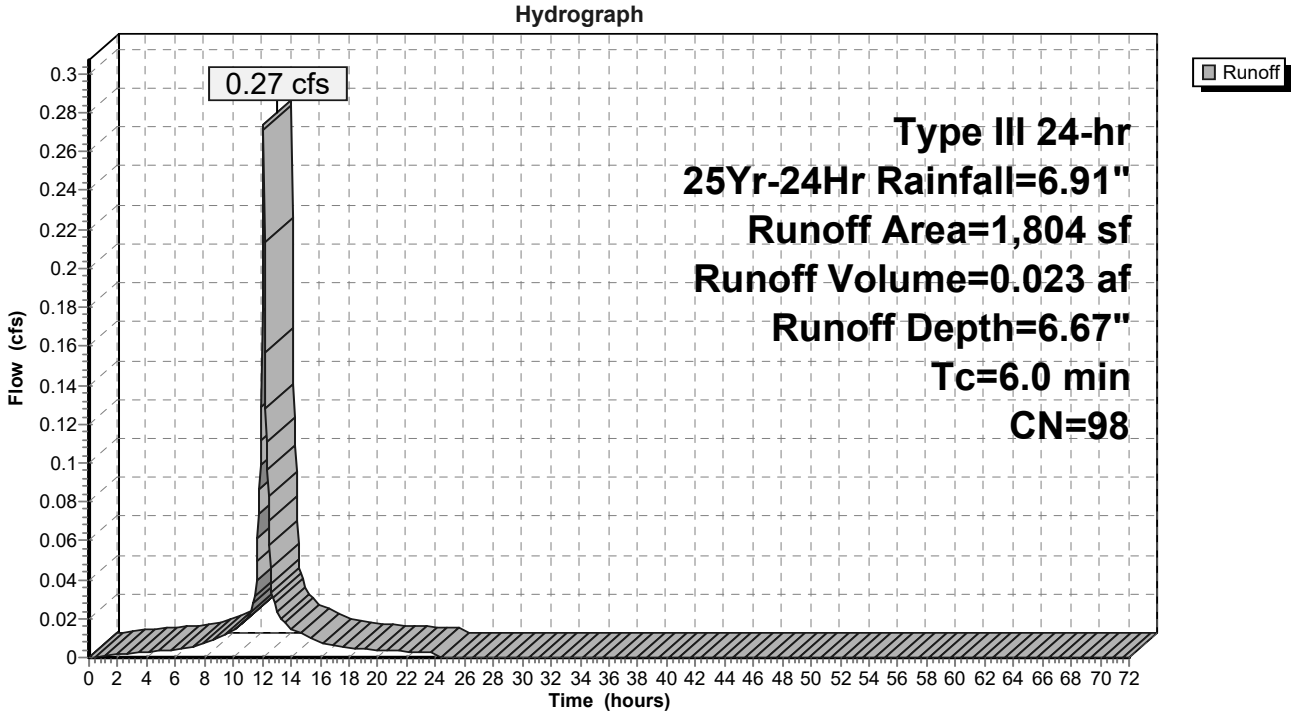
Runoff = 0.27 cfs @ 12.09 hrs, Volume= 0.023 af, Depth= 6.67"
Routed to Pond 101P : Porous Pavement #101

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.91"

Area (sf)	CN	Description
1,804	98	Roofs, HSG B
1,804		100.00% Impervious Area

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

Subcatchment 13S: Subcatchment #13



Summary for Subcatchment 21S: Subcatchment #21

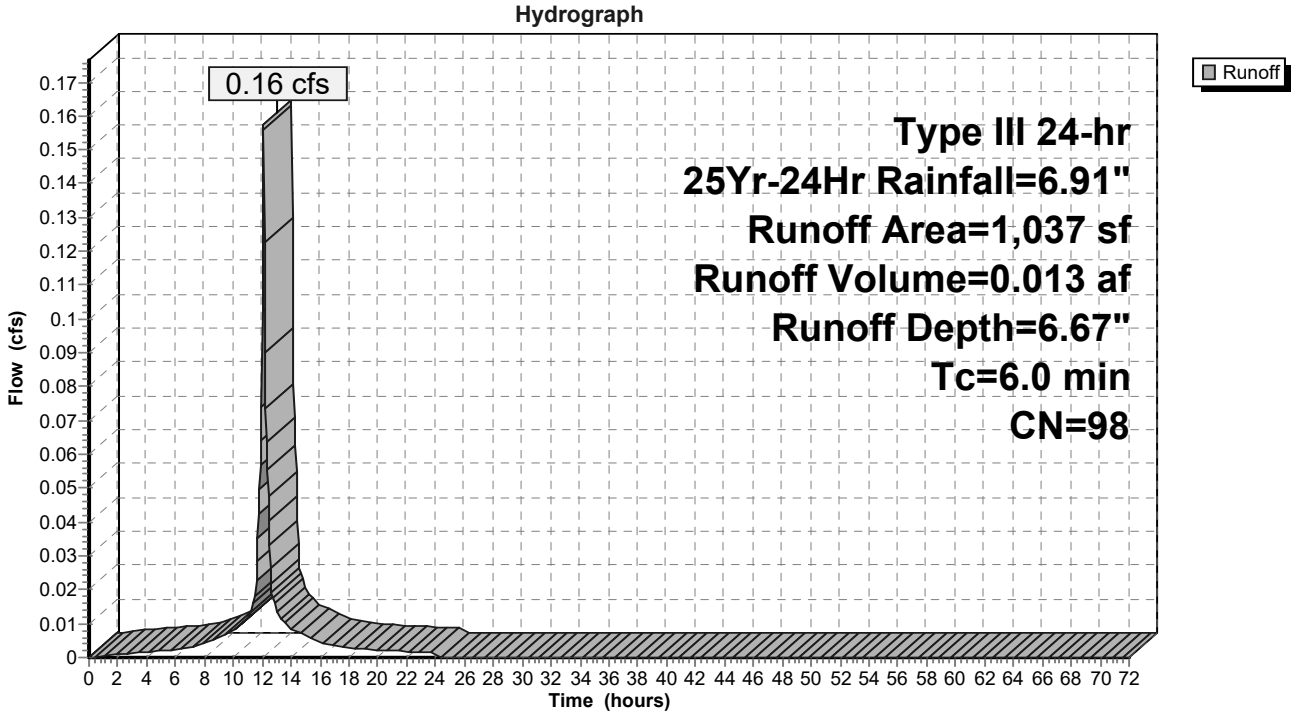
Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.013 af, Depth= 6.67"
Routed to Pond C01P : Catch Basin #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.91"

Area (sf)	CN	Description
1,037	98	Paved parking, HSG B
1,037		100.00% Impervious Area

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

Subcatchment 21S: Subcatchment #21



Summary for Subcatchment 101S: Subcatchment #101

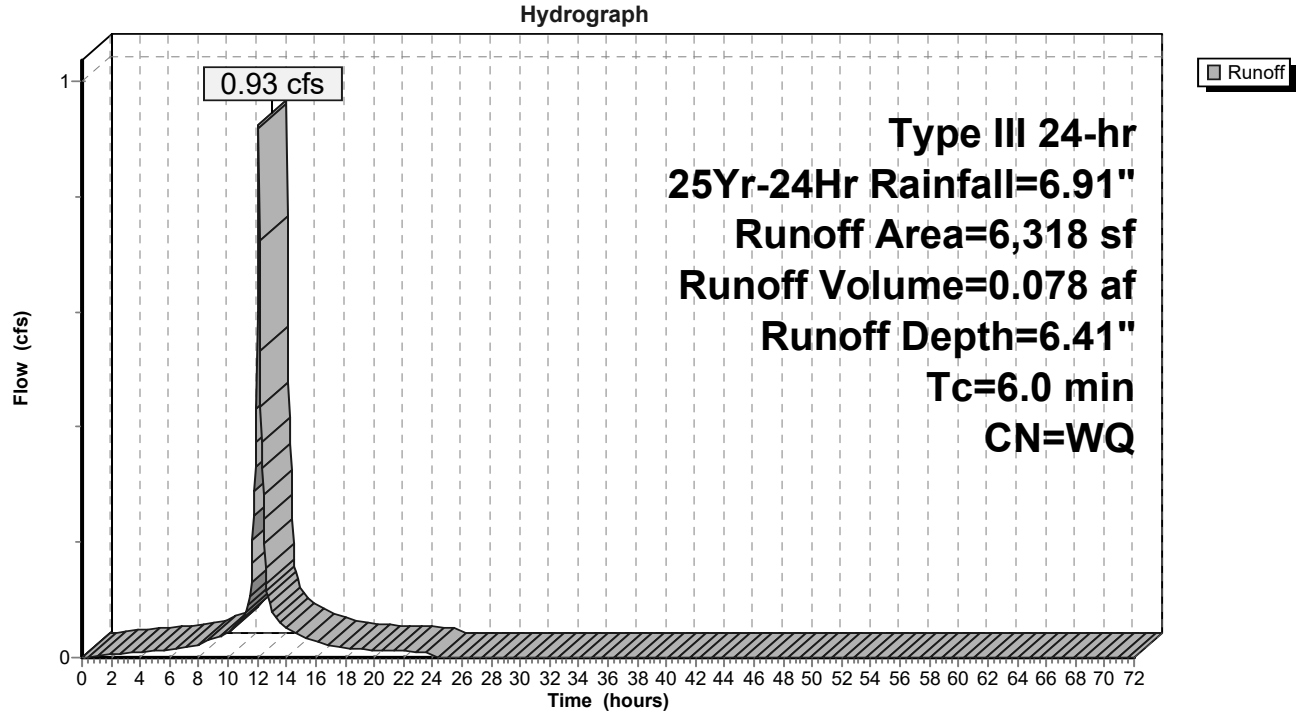
Runoff = 0.93 cfs @ 12.09 hrs, Volume= 0.078 af, Depth= 6.41"
Routed to Pond 101P : Porous Pavement #101

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.91"

Area (sf)	CN	Description
401	61	>75% Grass cover, Good, HSG B
5,369	98	Paved parking, HSG B
548	98	Paved parking, HSG D
6,318		Weighted Average
401		6.35% Pervious Area
5,917		93.65% Impervious Area

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

Subcatchment 101S: Subcatchment #101



Summary for Subcatchment 102S: Subcatchment #102

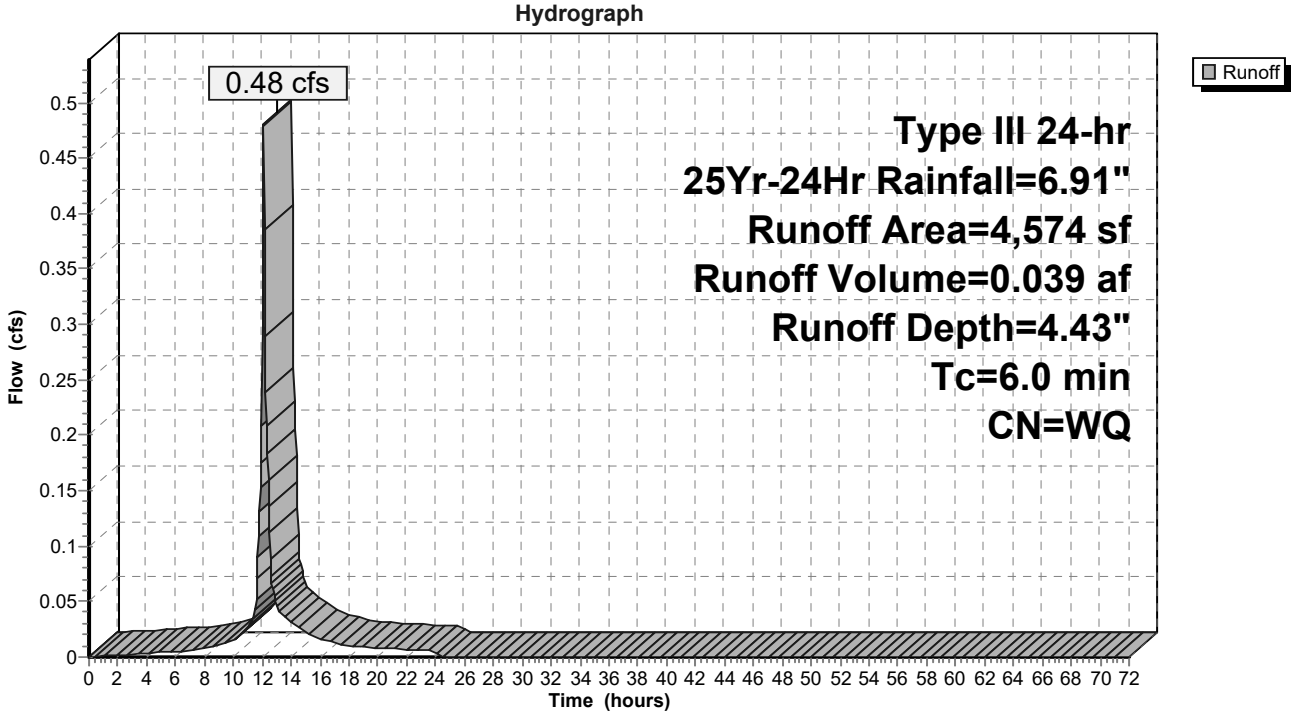
Runoff = 0.48 cfs @ 12.09 hrs, Volume= 0.039 af, Depth= 4.43"
Routed to Pond 102P : Infiltration Pond #102

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25Yr-24Hr Rainfall=6.91"

Area (sf)	CN	Description
2,036	98	Roofs, HSG B
2,538	61	>75% Grass cover, Good, HSG B
4,574		Weighted Average
2,538		55.49% Pervious Area
2,036		44.51% Impervious Area

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

Subcatchment 102S: Subcatchment #102



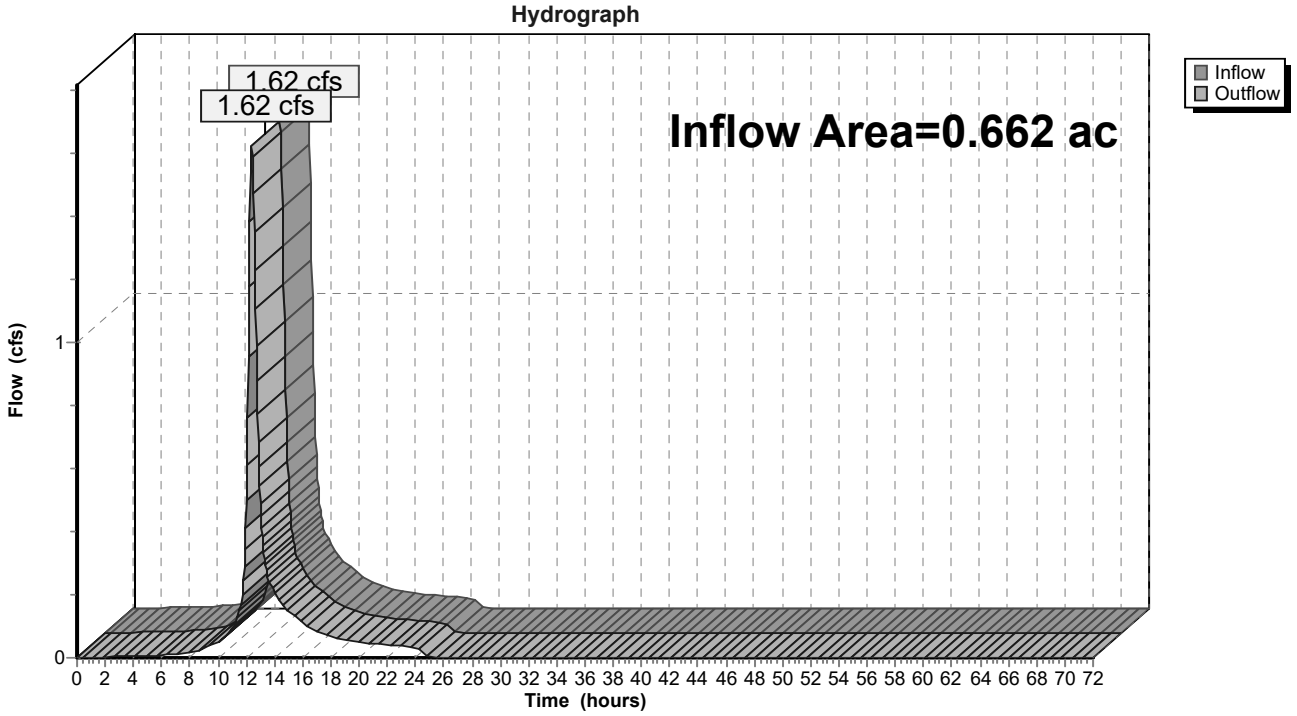
Summary for Reach 100R: Final Reach #100

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

Inflow Area = 0.662 ac, 12.77% Impervious, Inflow Depth = 3.72" for 25Yr-24Hr event
Inflow = 1.62 cfs @ 12.38 hrs, Volume= 0.205 af
Outflow = 1.62 cfs @ 12.38 hrs, Volume= 0.205 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach 100R: Final Reach #100



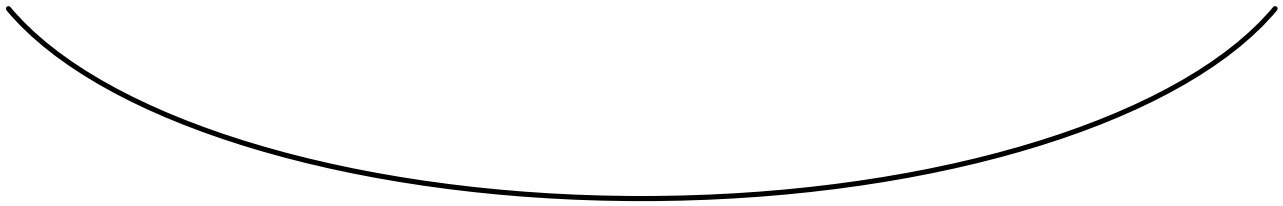
Summary for Reach 102R: Reach #102

Inflow Area = 0.105 ac, 44.51% Impervious, Inflow Depth = 0.00" for 25Yr-24Hr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 200R : Final Reach #200

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

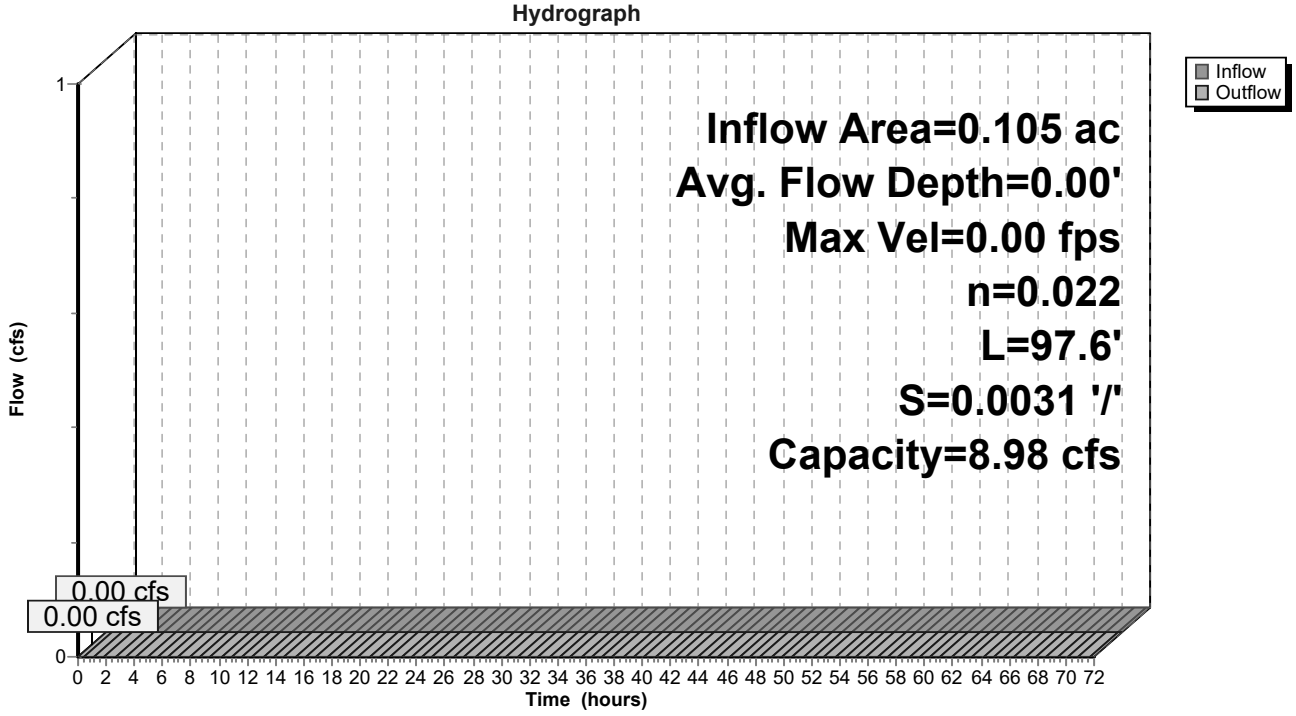
Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 5.0 sf, Capacity= 8.98 cfs

15.00' x 0.50' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 97.6' Slope= 0.0031 '/'
Inlet Invert= 93.10', Outlet Invert= 92.80'



‡

Reach 102R: Reach #102



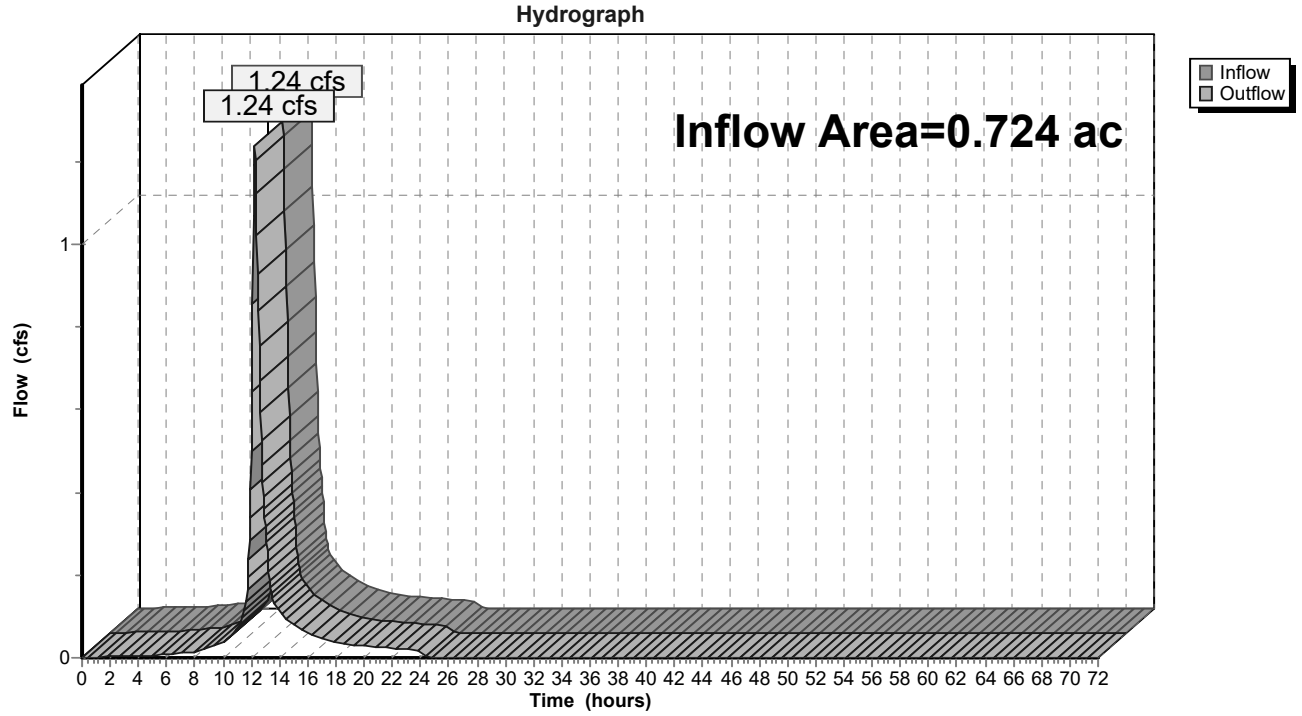
Summary for Reach 200R: Final Reach #200

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

Inflow Area = 0.724 ac, 50.59% Impervious, Inflow Depth = 2.25" for 25Yr-24Hr event
Inflow = 1.24 cfs @ 12.25 hrs, Volume= 0.136 af
Outflow = 1.24 cfs @ 12.25 hrs, Volume= 0.136 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach 200R: Final Reach #200



Summary for Pond 101P: Porous Pavement #101

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=72)

Inflow Area = 0.258 ac, 96.43% Impervious, Inflow Depth = 6.53" for 25Yr-24Hr event
Inflow = 1.67 cfs @ 12.09 hrs, Volume= 0.140 af
Outflow = 0.42 cfs @ 12.46 hrs, Volume= 0.140 af, Atten= 75%, Lag= 22.4 min
Discarded = 0.26 cfs @ 11.65 hrs, Volume= 0.128 af
Primary = 0.15 cfs @ 12.46 hrs, Volume= 0.013 af
Routed to Pond C01P : Catch Basin #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 92.93' @ 12.46 hrs Surf.Area= 4,561 sf Storage= 1,398 cf
Flood Elev= 94.83' Surf.Area= 4,561 sf Storage= 2,491 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 20.6 min (765.3 - 744.7)

Volume	Invert	Avail.Storage	Storage Description
#1	94.50'	30 cf	**Porous Pavement (Prismatic)**Listed below (Recalc) -Impervious 594 cf Overall x 5.0% Voids
#2	94.17'	238 cf	**Choker Course (Prismatic)**Listed below (Recalc) -Impervious 594 cf Overall x 40.0% Voids
#3	93.17'	360 cf	**FIlter Course (Prismatic)**Listed below (Recalc) -Impervious 1,801 cf Overall x 20.0% Voids
#4	92.17'	1,824 cf	**Stone Reservoir (Prismatic)**Listed below (Recalc) 4,561 cf Overall x 40.0% Voids
#5	94.83'	33 cf	**Overflow (Prismatic)** Listed below (Recalc) -Impervious
#6	91.73'	39 cf	**4.00'D x 3.10'H Catch Basin**-Impervious
		2,524 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.50	1,801	0	0
94.83	1,801	594	594

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.17	1,801	0	0
94.50	1,801	594	594

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
93.17	1,801	0	0
94.17	1,801	1,801	1,801

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.17	4,561	0	0
93.17	4,561	4,561	4,561

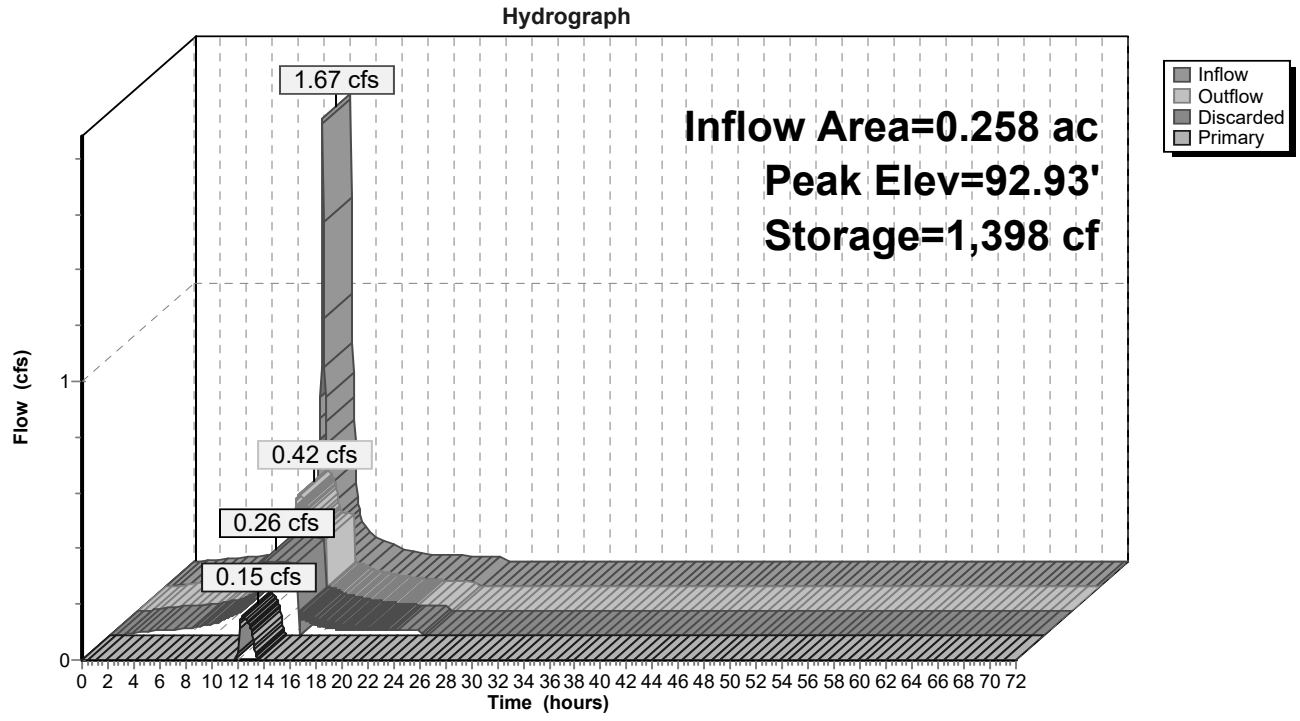
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.83	4	0	0
95.00	386	33	33

Device	Routing	Invert	Outlet Devices
#1	Discarded	92.17'	**2.490 in/hr Infiltration over Surface area**
#2	Primary	91.73'	**8.0" Round 8" HDPE N-12** L= 21.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 91.73' / 90.47' S= 0.0594 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#3	Device 2	92.50'	**8.0" Vert. 8" Underdrain** C= 0.600 Limited to weir flow at low heads
#4	Device 3	91.83'	**3.0" Vert. 3" Control Orifice** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.26 cfs @ 11.65 hrs HW=92.17' (Free Discharge)
└**1=Infiltration** (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=0.15 cfs @ 12.46 hrs HW=92.93' TW=90.65' (Dynamic Tailwater)
└**2=8" HDPE N-12** (Passes 0.15 cfs of 1.56 cfs potential flow)
└**3=8" Underdrain** (Passes 0.15 cfs of 0.53 cfs potential flow)
└**4=3" Control Orifice** (Orifice Controls 0.15 cfs @ 3.15 fps)

Pond 101P: Porous Pavement #101



Summary for Pond 102P: Infiltration Pond #102

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=83)

Inflow Area = 0.105 ac, 44.51% Impervious, Inflow Depth = 4.43" for 25Yr-24Hr event
Inflow = 0.48 cfs @ 12.09 hrs, Volume= 0.039 af
Outflow = 0.09 cfs @ 12.56 hrs, Volume= 0.039 af, Atten= 82%, Lag= 28.1 min
Discarded = 0.09 cfs @ 12.56 hrs, Volume= 0.039 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 102R : Reach #102

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 93.44' @ 12.56 hrs Surf.Area= 1,258 sf Storage= 461 cf
Flood Elev= 94.00' Surf.Area= 1,893 sf Storage= 1,335 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 34.9 min (813.9 - 779.0)

Volume	Invert	Avail.Storage	Storage Description
#1	93.00'	1,335 cf	**Open Water Storage (Irregular)**Listed below (Recalc)

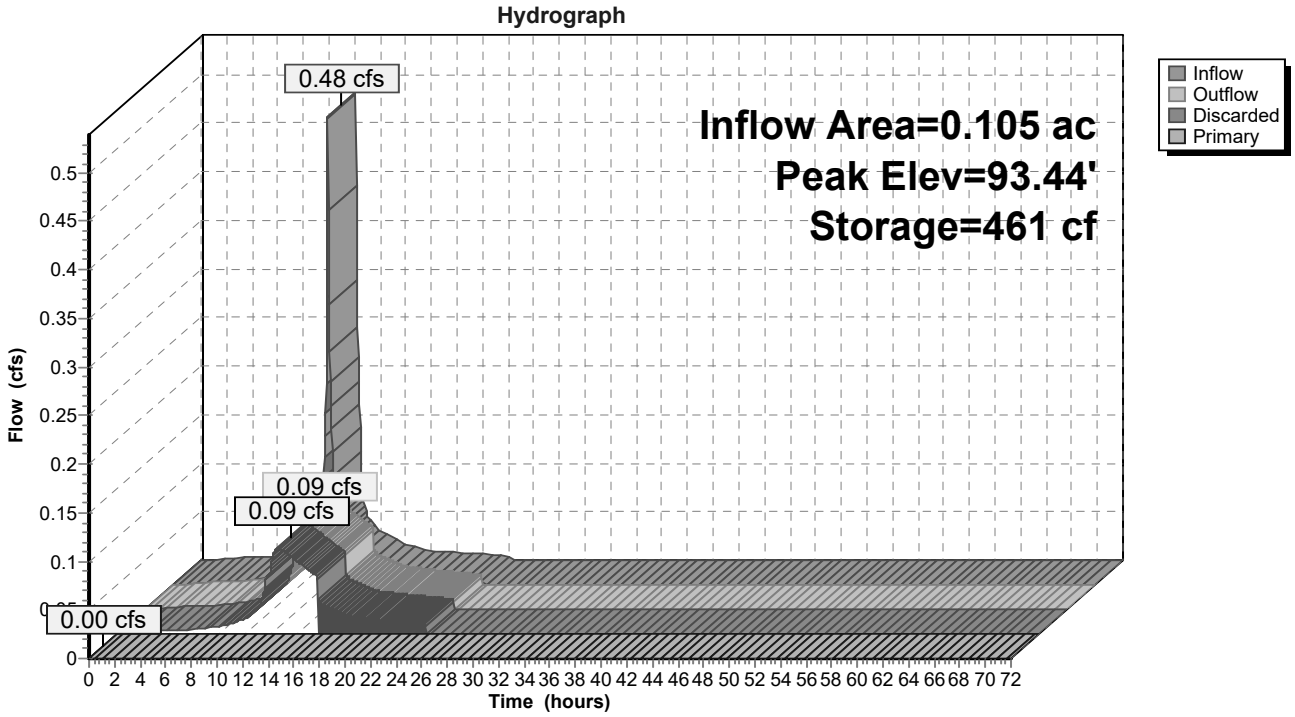
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
93.00	837	191.7	0	0	837
93.75	1,600	215.3	899	899	1,616
94.00	1,893	226.9	436	1,335	2,028

Device	Routing	Invert	Outlet Devices
#1	Primary	93.75'	**5.0' long x 4.5' breadth E-Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.36 2.52 2.70 2.68 2.67 2.67 2.65 2.66 2.66 2.67 2.70 2.70 2.72 2.75 2.81 2.93 3.10
#2	Discarded	93.00'	**3.000 in/hr Infiltration over Surface area**

Discarded OutFlow Max=0.09 cfs @ 12.56 hrs HW=93.44' (Free Discharge)
2=Infiltration (Exfiltration Controls 0.09 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.00' TW=93.10' (Dynamic Tailwater)
1=E-Spillway (Controls 0.00 cfs)

Pond 102P: Infiltration Pond #102



Summary for Pond C01P: Catch Basin #1

Inflow Area = 0.282 ac, 96.73% Impervious, Inflow Depth = 1.10" for 25Yr-24Hr event
Inflow = 0.24 cfs @ 12.16 hrs, Volume= 0.026 af
Outflow = 0.24 cfs @ 12.16 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.1 min
Primary = 0.24 cfs @ 12.16 hrs, Volume= 0.026 af
Routed to Reach 200R : Final Reach #200

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 90.68' @ 12.16 hrs Surf.Area= 0.000 ac Storage= 0.000 af
Flood Elev= 94.10' Surf.Area= 0.000 ac Storage= 0.001 af

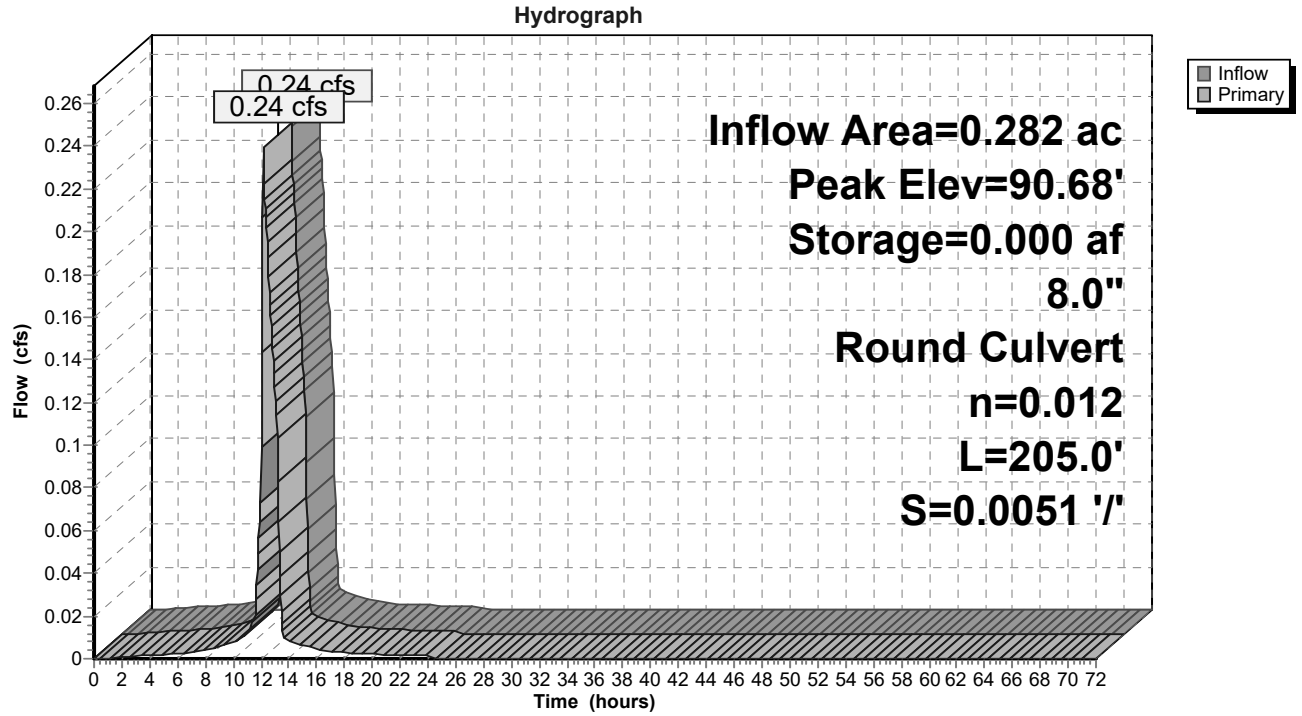
Plug-Flow detention time= 1.8 min calculated for 0.026 af (100% of inflow)
Center-of-Mass det. time= 0.8 min (752.0 - 751.2)

Volume	Invert	Avail.Storage	Storage Description
#1	90.37'	0.001 af	**4.00'D x 3.73'H 4' Structure**

Device	Routing	Invert	Outlet Devices
#1	Primary	90.37'	**8.0" Round 8" HDPE N-12** L= 205.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 90.37' / 89.32' S= 0.0051 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf

Primary OutFlow Max=0.24 cfs @ 12.16 hrs HW=90.68' TW=0.00' (Dynamic Tailwater)
↑**1=8" HDPE N-12** (Barrel Controls 0.24 cfs @ 2.21 fps)

Pond C01P: Catch Basin #1



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment #1 Runoff Area=28,825 sf 12.77% Impervious Runoff Depth=1.30"
Flow Length=208' Tc=27.2 min CN=WQ Runoff=0.53 cfs 0.072 af

Subcatchment 2S: Subcatchment #2 Runoff Area=14,695 sf 13.94% Impervious Runoff Depth=1.40"
Flow Length=184' Tc=18.6 min CN=WQ Runoff=0.34 cfs 0.039 af

Subcatchment 12S: Subcatchment #12 Runoff Area=3,116 sf 100.00% Impervious Runoff Depth=3.39"
Tc=6.0 min CN=WQ Runoff=0.25 cfs 0.020 af

Subcatchment 13S: Subcatchment #13 Runoff Area=1,804 sf 100.00% Impervious Runoff Depth=3.39"
Tc=6.0 min CN=98 Runoff=0.14 cfs 0.012 af

Subcatchment 21S: Subcatchment #21 Runoff Area=1,037 sf 100.00% Impervious Runoff Depth=3.39"
Tc=6.0 min CN=98 Runoff=0.08 cfs 0.007 af

Subcatchment 101S: Subcatchment #101 Runoff Area=6,318 sf 93.65% Impervious Runoff Depth=3.21"
Tc=6.0 min CN=WQ Runoff=0.47 cfs 0.039 af

Subcatchment 102S: Subcatchment #102 Runoff Area=4,574 sf 44.51% Impervious Runoff Depth=1.86"
Tc=6.0 min CN=WQ Runoff=0.19 cfs 0.016 af

Reach 100R: Final Reach #100 Inflow=0.53 cfs 0.072 af
Outflow=0.53 cfs 0.072 af

Reach 102R: Reach #102 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.022 L=97.6' S=0.0031 '/' Capacity=8.98 cfs Outflow=0.00 cfs 0.000 af

Reach 200R: Final Reach #200 Inflow=0.38 cfs 0.046 af
Outflow=0.38 cfs 0.046 af

Pond 101P: Porous Pavement #101 Peak Elev=92.43' Storage=474 cf Inflow=0.86 cfs 0.071 af
Discarded=0.26 cfs 0.071 af Primary=0.00 cfs 0.000 af Outflow=0.26 cfs 0.071 af

Pond 102P: Infiltration Pond #102 Peak Elev=93.11' Storage=97 cf Inflow=0.19 cfs 0.016 af
Discarded=0.06 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.016 af

Pond C01P: Catch Basin #1 Peak Elev=90.55' Storage=0.000 af Inflow=0.08 cfs 0.007 af
8.0" Round Culvert n=0.012 L=205.0' S=0.0051 '/' Outflow=0.08 cfs 0.007 af

Total Runoff Area = 1.386 ac Runoff Volume = 0.205 af Average Runoff Depth = 1.77"
67.47% Pervious = 0.935 ac 32.53% Impervious = 0.451 ac

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment #1 Runoff Area=28,825 sf 12.77% Impervious Runoff Depth=2.58"
Flow Length=208' Tc=27.2 min CN=WQ Runoff=1.11 cfs 0.142 af

Subcatchment 2S: Subcatchment #2 Runoff Area=14,695 sf 13.94% Impervious Runoff Depth=2.74"
Flow Length=184' Tc=18.6 min CN=WQ Runoff=0.71 cfs 0.077 af

Subcatchment 12S: Subcatchment #12 Runoff Area=3,116 sf 100.00% Impervious Runoff Depth=5.22"
Tc=6.0 min CN=WQ Runoff=0.37 cfs 0.031 af

Subcatchment 13S: Subcatchment #13 Runoff Area=1,804 sf 100.00% Impervious Runoff Depth=5.22"
Tc=6.0 min CN=98 Runoff=0.22 cfs 0.018 af

Subcatchment 21S: Subcatchment #21 Runoff Area=1,037 sf 100.00% Impervious Runoff Depth=5.22"
Tc=6.0 min CN=98 Runoff=0.12 cfs 0.010 af

Subcatchment 101S: Subcatchment #101 Runoff Area=6,318 sf 93.65% Impervious Runoff Depth=5.00"
Tc=6.0 min CN=WQ Runoff=0.73 cfs 0.060 af

Subcatchment 102S: Subcatchment #102 Runoff Area=4,574 sf 44.51% Impervious Runoff Depth=3.24"
Tc=6.0 min CN=WQ Runoff=0.35 cfs 0.028 af

Reach 100R: Final Reach #100 Inflow=1.11 cfs 0.142 af
Outflow=1.11 cfs 0.142 af

Reach 102R: Reach #102 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.022 L=97.6' S=0.0031 '/' Capacity=8.98 cfs Outflow=0.00 cfs 0.000 af

Reach 200R: Final Reach #200 Inflow=0.86 cfs 0.092 af
Outflow=0.86 cfs 0.092 af

Pond 101P: Porous Pavement #101 Peak Elev=92.70' Storage=981 cf Inflow=1.31 cfs 0.110 af
Discarded=0.26 cfs 0.105 af Primary=0.11 cfs 0.005 af Outflow=0.37 cfs 0.109 af

Pond 102P: Infiltration Pond #102 Peak Elev=93.29' Storage=285 cf Inflow=0.35 cfs 0.028 af
Discarded=0.08 cfs 0.028 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.028 af

Pond C01P: Catch Basin #1 Peak Elev=90.61' Storage=0.000 af Inflow=0.15 cfs 0.015 af
8.0" Round Culvert n=0.012 L=205.0' S=0.0051 '/' Outflow=0.15 cfs 0.015 af

Total Runoff Area = 1.386 ac Runoff Volume = 0.368 af Average Runoff Depth = 3.18"
67.47% Pervious = 0.935 ac 32.53% Impervious = 0.451 ac

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment #1 Runoff Area=28,825 sf 12.77% Impervious Runoff Depth=3.72"
Flow Length=208' Tc=27.2 min CN=WQ Runoff=1.62 cfs 0.205 af

Subcatchment 2S: Subcatchment #2 Runoff Area=14,695 sf 13.94% Impervious Runoff Depth=3.91"
Flow Length=184' Tc=18.6 min CN=WQ Runoff=1.02 cfs 0.110 af

Subcatchment 12S: Subcatchment #12 Runoff Area=3,116 sf 100.00% Impervious Runoff Depth=6.67"
Tc=6.0 min CN=WQ Runoff=0.47 cfs 0.040 af

Subcatchment 13S: Subcatchment #13 Runoff Area=1,804 sf 100.00% Impervious Runoff Depth=6.67"
Tc=6.0 min CN=98 Runoff=0.27 cfs 0.023 af

Subcatchment 21S: Subcatchment #21 Runoff Area=1,037 sf 100.00% Impervious Runoff Depth=6.67"
Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af

Subcatchment 101S: Subcatchment #101 Runoff Area=6,318 sf 93.65% Impervious Runoff Depth=6.41"
Tc=6.0 min CN=WQ Runoff=0.93 cfs 0.078 af

Subcatchment 102S: Subcatchment #102 Runoff Area=4,574 sf 44.51% Impervious Runoff Depth=4.43"
Tc=6.0 min CN=WQ Runoff=0.48 cfs 0.039 af

Reach 100R: Final Reach #100 Inflow=1.62 cfs 0.205 af
Outflow=1.62 cfs 0.205 af

Reach 102R: Reach #102 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.022 L=97.6' S=0.0031 '/' Capacity=8.98 cfs Outflow=0.00 cfs 0.000 af

Reach 200R: Final Reach #200 Inflow=1.24 cfs 0.136 af
Outflow=1.24 cfs 0.136 af

Pond 101P: Porous Pavement #101 Peak Elev=92.93' Storage=1,398 cf Inflow=1.67 cfs 0.140 af
Discarded=0.26 cfs 0.128 af Primary=0.15 cfs 0.013 af Outflow=0.42 cfs 0.140 af

Pond 102P: Infiltration Pond #102 Peak Elev=93.44' Storage=461 cf Inflow=0.48 cfs 0.039 af
Discarded=0.09 cfs 0.039 af Primary=0.00 cfs 0.000 af Outflow=0.09 cfs 0.039 af

Pond C01P: Catch Basin #1 Peak Elev=90.68' Storage=0.000 af Inflow=0.24 cfs 0.026 af
8.0" Round Culvert n=0.012 L=205.0' S=0.0051 '/' Outflow=0.24 cfs 0.026 af

Total Runoff Area = 1.386 ac Runoff Volume = 0.507 af Average Runoff Depth = 4.39"
67.47% Pervious = 0.935 ac 32.53% Impervious = 0.451 ac

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment #1 Runoff Area=28,825 sf 12.77% Impervious Runoff Depth=4.84"
Flow Length=208' Tc=27.2 min CN=WQ Runoff=2.13 cfs 0.267 af

Subcatchment 2S: Subcatchment #2 Runoff Area=14,695 sf 13.94% Impervious Runoff Depth=5.06"
Flow Length=184' Tc=18.6 min CN=WQ Runoff=1.33 cfs 0.142 af

Subcatchment 12S: Subcatchment #12 Runoff Area=3,116 sf 100.00% Impervious Runoff Depth=8.03"
Tc=6.0 min CN=WQ Runoff=0.57 cfs 0.048 af

Subcatchment 13S: Subcatchment #13 Runoff Area=1,804 sf 100.00% Impervious Runoff Depth=8.03"
Tc=6.0 min CN=98 Runoff=0.33 cfs 0.028 af

Subcatchment 21S: Subcatchment #21 Runoff Area=1,037 sf 100.00% Impervious Runoff Depth=8.03"
Tc=6.0 min CN=98 Runoff=0.19 cfs 0.016 af

Subcatchment 101S: Subcatchment #101 Runoff Area=6,318 sf 93.65% Impervious Runoff Depth=7.75"
Tc=6.0 min CN=WQ Runoff=1.12 cfs 0.094 af

Subcatchment 102S: Subcatchment #102 Runoff Area=4,574 sf 44.51% Impervious Runoff Depth=5.60"
Tc=6.0 min CN=WQ Runoff=0.61 cfs 0.049 af

Reach 100R: Final Reach #100 Inflow=2.13 cfs 0.267 af
Outflow=2.13 cfs 0.267 af

Reach 102R: Reach #102 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.022 L=97.6' S=0.0031 '/' Capacity=8.98 cfs Outflow=0.00 cfs 0.000 af

Reach 200R: Final Reach #200 Inflow=1.60 cfs 0.179 af
Outflow=1.60 cfs 0.179 af

Pond 101P: Porous Pavement #101 Peak Elev=93.16' Storage=1,819 cf Inflow=2.01 cfs 0.169 af
Discarded=0.26 cfs 0.148 af Primary=0.19 cfs 0.021 af Outflow=0.45 cfs 0.169 af

Pond 102P: Infiltration Pond #102 Peak Elev=93.58' Storage=640 cf Inflow=0.61 cfs 0.049 af
Discarded=0.10 cfs 0.049 af Primary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.049 af

Pond C01P: Catch Basin #1 Peak Elev=90.73' Storage=0.000 af Inflow=0.32 cfs 0.037 af
8.0" Round Culvert n=0.012 L=205.0' S=0.0051 '/' Outflow=0.32 cfs 0.037 af

Total Runoff Area = 1.386 ac Runoff Volume = 0.644 af Average Runoff Depth = 5.57"
67.47% Pervious = 0.935 ac 32.53% Impervious = 0.451 ac

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment #1 Runoff Area=28,825 sf 12.77% Impervious Runoff Depth=6.24"
Flow Length=208' Tc=27.2 min CN=WQ Runoff=2.75 cfs 0.344 af

Subcatchment 2S: Subcatchment #2 Runoff Area=14,695 sf 13.94% Impervious Runoff Depth=6.48"
Flow Length=184' Tc=18.6 min CN=WQ Runoff=1.71 cfs 0.182 af

Subcatchment 12S: Subcatchment #12 Runoff Area=3,116 sf 100.00% Impervious Runoff Depth=9.64"
Tc=6.0 min CN=WQ Runoff=0.68 cfs 0.057 af

Subcatchment 13S: Subcatchment #13 Runoff Area=1,804 sf 100.00% Impervious Runoff Depth=9.64"
Tc=6.0 min CN=98 Runoff=0.39 cfs 0.033 af

Subcatchment 21S: Subcatchment #21 Runoff Area=1,037 sf 100.00% Impervious Runoff Depth=9.64"
Tc=6.0 min CN=98 Runoff=0.23 cfs 0.019 af

Subcatchment 101S: Subcatchment #101 Runoff Area=6,318 sf 93.65% Impervious Runoff Depth=9.34"
Tc=6.0 min CN=WQ Runoff=1.34 cfs 0.113 af

Subcatchment 102S: Subcatchment #102 Runoff Area=4,574 sf 44.51% Impervious Runoff Depth=7.03"
Tc=6.0 min CN=WQ Runoff=0.77 cfs 0.062 af

Reach 100R: Final Reach #100 Inflow=2.75 cfs 0.344 af
Outflow=2.75 cfs 0.344 af

Reach 102R: Reach #102 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.022 L=97.6' S=0.0031 '/' Capacity=8.98 cfs Outflow=0.00 cfs 0.000 af

Reach 200R: Final Reach #200 Inflow=2.08 cfs 0.235 af
Outflow=2.08 cfs 0.235 af

Pond 101P: Porous Pavement #101 Peak Elev=94.24' Storage=2,268 cf Inflow=2.41 cfs 0.204 af
Discarded=0.26 cfs 0.169 af Primary=0.31 cfs 0.034 af Outflow=0.57 cfs 0.204 af

Pond 102P: Infiltration Pond #102 Peak Elev=93.73' Storage=868 cf Inflow=0.77 cfs 0.062 af
Discarded=0.11 cfs 0.062 af Primary=0.00 cfs 0.000 af Outflow=0.11 cfs 0.062 af

Pond C01P: Catch Basin #1 Peak Elev=90.77' Storage=0.000 af Inflow=0.38 cfs 0.053 af
8.0" Round Culvert n=0.012 L=205.0' S=0.0051 '/' Outflow=0.38 cfs 0.053 af

Total Runoff Area = 1.386 ac Runoff Volume = 0.810 af Average Runoff Depth = 7.02"
67.47% Pervious = 0.935 ac 32.53% Impervious = 0.451 ac

Appendix III - Calculations, Charts, & Graphs

Extreme Precipitation Tables
AoT Stormwater Treatment Spreadsheets
NCRS USDA Web-soil Map
Site Specific Soil Survey Report & Plan
Infiltration Feasibility Study & Report
Ksat Values for New Hampshire Soils, SSSNNE Special Publication #5, 2025
Stormwater System Management: Inspection & Maintenance Manual, Plan, Invasive Species & NHDES Green SnoPro Utilization Chart
Watershed Report Card/303d List

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point	
Smoothing	Yes
State	
Location	
Latitude	43.176 degrees North
Longitude	70.882 degrees West
Elevation	20 feet
Date/Time	Wed Mar 04 2026 09:49:40 GMT-0500 (Eastern Standard Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.03	**1yr**	0.70	0.98	1.20	1.55	2.00	2.61	2.86	**1yr**	2.31	2.75	3.15	3.88	4.45	**1yr**
2yr	0.32	0.49	0.61	0.81	1.01	1.29	**2yr**	0.88	1.17	1.50	1.91	2.45	3.15	3.50	**2yr**	2.79	3.37	3.86	4.59	5.23	**2yr**
5yr	0.37	0.57	0.72	0.96	1.23	1.58	**5yr**	1.06	1.44	1.85	2.39	3.08	3.98	4.49	**5yr**	3.52	4.31	4.93	5.81	6.57	**5yr**
10yr	0.40	0.63	0.80	1.09	1.42	1.85	**10yr**	1.22	1.69	2.18	2.83	3.66	4.75	5.41	**10yr**	4.21	5.21	5.94	6.93	7.80	**10yr**
25yr	0.46	0.74	0.94	1.30	1.72	2.27	**25yr**	1.49	2.09	2.70	3.53	4.61	6.01	6.95	**25yr**	5.32	6.68	7.60	8.77	9.80	**25yr**
50yr	0.52	0.83	1.06	1.48	2.00	2.66	**50yr**	1.73	2.46	3.18	4.19	5.50	7.19	8.39	**50yr**	6.36	8.07	9.16	10.49	11.66	**50yr**
100yr	0.58	0.94	1.21	1.71	2.32	3.12	**100yr**	2.00	2.89	3.75	4.96	6.54	8.59	10.14	**100yr**	7.61	9.75	11.04	12.54	13.88	**100yr**
200yr	0.64	1.05	1.36	1.95	2.70	3.67	**200yr**	2.33	3.40	4.42	5.89	7.80	10.28	12.26	**200yr**	9.10	11.79	13.32	15.00	16.52	**200yr**
500yr	0.75	1.24	1.62	2.35	3.30	4.53	**500yr**	2.84	4.22	5.50	7.38	9.83	13.03	15.75	**500yr**	11.54	15.15	17.06	19.02	20.81	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.60	0.74	0.90	**1yr**	0.64	0.88	0.92	1.26	1.58	2.12	2.46	**1yr**	1.88	2.37	2.88	3.33	4.02	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.18	**2yr**	0.86	1.16	1.36	1.83	2.36	3.04	3.40	**2yr**	2.69	3.27	3.75	4.47	5.05	**2yr**
5yr	0.35	0.54	0.67	0.91	1.16	1.40	**5yr**	1.00	1.37	1.61	2.15	2.78	3.71	4.12	**5yr**	3.29	3.97	4.61	5.41	6.12	**5yr**
10yr	0.38	0.59	0.73	1.02	1.31	1.60	**10yr**	1.13	1.56	1.81	2.44	3.13	4.27	4.78	**10yr**	3.78	4.60	5.32	6.25	7.02	**10yr**
25yr	0.44	0.66	0.82	1.18	1.55	1.91	**25yr**	1.34	1.87	2.11	2.84	3.65	4.93	5.79	**25yr**	4.37	5.57	6.49	7.56	8.44	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.18	**50yr**	1.52	2.13	2.35	3.19	4.09	5.63	6.69	**50yr**	4.98	6.43	7.53	8.74	9.69	**50yr**
100yr	0.54	0.81	1.01	1.46	2.01	2.50	**100yr**	1.73	2.45	2.63	3.57	4.57	6.41	7.71	**100yr**	5.67	7.41	8.75	10.09	11.10	**100yr**
200yr	0.59	0.89	1.13	1.64	2.28	2.86	**200yr**	1.97	2.80	2.93	4.00	5.10	7.29	8.89	**200yr**	6.45	8.55	10.15	11.65	12.75	**200yr**
500yr	0.69	1.03	1.32	1.92	2.73	3.44	**500yr**	2.36	3.36	3.40	4.63	5.91	8.62	10.72	**500yr**	7.63	10.31	12.35	14.13	15.25	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.71	0.87	1.08	**1yr**	0.75	1.05	1.24	1.74	2.22	2.88	3.08	**1yr**	2.55	2.96	3.43	4.22	4.82	**1yr**
2yr	0.33	0.51	0.62	0.85	1.04	1.25	**2yr**	0.90	1.22	1.47	1.96	2.51	3.29	3.62	**2yr**	2.91	3.48	3.99	4.74	5.45	**2yr**
5yr	0.39	0.61	0.75	1.03	1.31	1.58	**5yr**	1.13	1.55	1.86	2.50	3.20	4.24	4.85	**5yr**	3.75	4.66	5.27	6.22	6.99	**5yr**
10yr	0.46	0.70	0.87	1.22	1.57	1.92	**10yr**	1.36	1.88	2.24	3.05	3.86	5.22	6.05	**10yr**	4.62	5.82	6.64	7.64	8.53	**10yr**
25yr	0.56	0.84	1.05	1.50	1.97	2.48	**25yr**	1.70	2.42	2.88	3.97	4.97	7.10	8.12	**25yr**	6.28	7.81	8.88	10.06	11.11	**25yr**
50yr	0.64	0.98	1.22	1.75	2.35	3.00	**50yr**	2.03	2.93	3.50	4.84	6.03	8.78	10.18	**50yr**	7.77	9.79	11.08	12.37	13.59	**50yr**
100yr	0.75	1.13	1.41	2.04	2.80	3.62	**100yr**	2.42	3.54	4.24	5.93	7.34	10.86	12.75	**100yr**	9.61	12.26	13.82	15.24	16.63	**100yr**
200yr	0.87	1.30	1.65	2.39	3.34	4.39	**200yr**	2.88	4.30	5.16	7.26	8.92	13.47	15.99	**200yr**	11.92	15.37	17.26	18.76	20.38	**200yr**
500yr	1.06	1.58	2.03	2.95	4.19	5.65	**500yr**	3.62	5.52	6.67	9.50	11.56	17.92	21.57	**500yr**	15.86	20.74	23.17	24.73	26.67	**500yr**

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GROUNDWATER RECHARGE VOLUME (GRV)
(Env-Wq 1504.12)

-	ac	Area of HSG A soil that was replaced by impervious cover	0.40"
0.21	ac	Area of HSG B soil that was replaced by impervious cover	0.25"
-	ac	Area of HSG C soil that was replaced by impervious cover	0.10"
0.06	ac	Area of HSG D soil or impervious cover that was replaced by impervious cover	0.0"
0.20	inches	Rd = Weighted groundwater recharge depth	
0.0518	ac-in	GRV = AI * Rd	
188	cf	GRV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
	← Y/N	Is a stage-storage table attached showing that the GRV can be stored below the lowest invert of the outlet structure (if applicable)? Multiple stormwater control measures may be used to meet the GRV requirements.	

Provide calculations/discussion below showing that the project meets the groundwater recharge requirements (Env-Wq 1507.04):

P101 2YR Infiltration Volume = 0.039 AF = 1,699 CF

P102 2YR Infiltration Volume = 0.016 AF = 697 CF

Total 2YR Infiltration Volume = 2,396 CF

See attached 2 year Infiltration Volume summaries

Summary for Pond 101P: Porous Pavement #101

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=51)

Inflow Area = 0.258 ac, 96.43% Impervious, Inflow Depth = 3.29" for 2Yr-24Hr event
Inflow = 0.86 cfs @ 12.09 hrs, Volume= 0.071 af
Outflow = 0.26 cfs @ 11.80 hrs, Volume= 0.071 af, Atten= 69%, Lag= 0.0 min
Discarded = 0.26 cfs @ 11.80 hrs, Volume= 0.071 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond C01P : Catch Basin #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 92.43' @ 12.40 hrs Surf.Area= 4,561 sf Storage= 474 cf
Flood Elev= 94.83' Surf.Area= 4,561 sf Storage= 2,491 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 8.4 min (763.3 - 754.9)

Volume	Invert	Avail.Storage	Storage Description
#1	94.50'	30 cf	**Porous Pavement (Prismatic)**Listed below (Recalc) -Impervious 594 cf Overall x 5.0% Voids
#2	94.17'	238 cf	**Choker Course (Prismatic)**Listed below (Recalc) -Impervious 594 cf Overall x 40.0% Voids
#3	93.17'	360 cf	**FIlter Course (Prismatic)**Listed below (Recalc) -Impervious 1,801 cf Overall x 20.0% Voids
#4	92.17'	1,824 cf	**Stone Reservoir (Prismatic)**Listed below (Recalc) 4,561 cf Overall x 40.0% Voids
#5	94.83'	33 cf	**Overflow (Prismatic)** Listed below (Recalc) -Impervious
#6	91.73'	39 cf	**4.00'D x 3.10'H Catch Basin**-Impervious
		2,524 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.50	1,801	0	0
94.83	1,801	594	594

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.17	1,801	0	0
94.50	1,801	594	594

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
93.17	1,801	0	0
94.17	1,801	1,801	1,801

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.17	4,561	0	0
93.17	4,561	4,561	4,561

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.83	4	0	0
95.00	386	33	33

Device	Routing	Invert	Outlet Devices
#1	Discarded	92.17'	**2.490 in/hr Infiltration over Surface area**
#2	Primary	91.73'	**8.0" Round 8" HDPE N-12** L= 21.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 91.73' / 90.70' S= 0.0486 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#3	Device 2	92.50'	**8.0" Vert. 8" Underdrain** C= 0.600 Limited to weir flow at low heads
#4	Device 3	91.83'	**3.0" Vert. 3" Control Orifice** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.26 cfs @ 11.80 hrs HW=92.17' (Free Discharge)
└─**1=Infiltration** (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=91.73' TW=90.37' (Dynamic Tailwater)
└─**2=8" HDPE N-12** (Controls 0.00 cfs)
  └─**3=8" Underdrain** (Controls 0.00 cfs)
    └─**4=3" Control Orifice** (Controls 0.00 cfs)

Summary for Pond 102P: Infiltration Pond #102

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=107)

Inflow Area = 0.105 ac, 44.51% Impervious, Inflow Depth = 1.86" for 2Yr-24Hr event
Inflow = 0.19 cfs @ 12.09 hrs, Volume= 0.016 af
Outflow = 0.06 cfs @ 12.41 hrs, Volume= 0.016 af, Atten= 66%, Lag= 18.8 min
Discarded = 0.06 cfs @ 12.41 hrs, Volume= 0.016 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 102R : Reach #102

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 93.11' @ 12.41 hrs Surf.Area= 933 sf Storage= 97 cf
Flood Elev= 94.00' Surf.Area= 1,893 sf Storage= 1,335 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 6.7 min (788.0 - 781.4)

Volume	Invert	Avail.Storage	Storage Description
#1	93.00'	1,335 cf	**Open Water Storage (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
93.00	837	191.7	0	0	837
93.75	1,600	215.3	899	899	1,616
94.00	1,893	226.9	436	1,335	2,028

Device	Routing	Invert	Outlet Devices
#1	Primary	93.75'	**5.0' long x 4.0' breadth E-Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	93.00'	**3.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.06 cfs @ 12.41 hrs HW=93.11' (Free Discharge)
2=Exfiltration (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.00' TW=93.10' (Dynamic Tailwater)
1=E-Spillway (Controls 0.00 cfs)

FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.08)

Type/Node Name: **Porous Pavement W/ Infiltration #101**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.08(a).	
0.15	ac	A = Area draining to the practice	
0.14	ac	A_I = Impervious area draining to the practice	
0.94	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.89	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.13	ac-in	WQV= 1" x Rv x A	
470	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
117	cf	25% x WQV (check calc for sediment forebay volume)	
352	cf	75% x WQV (check calc for surface sand filter volume)	
N/A		Method of Pretreatment? (not required for clean or roof runoff)	
N/A	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
1,801	sf	A_{SA} = Surface area of the practice	
2.49	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
		If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
	Yes/No	(Use the calculations below)	
1.3	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
-	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
93.17	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
92.50	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
91.97	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
90.47	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
0.67	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
2.70	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
1.20	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
92.59	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
94.83	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
	:1	Pond side slopes	**≥ 3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
Concrete		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
0.0	acres	A_{SA} = Surface area of the pervious pavement	
3.5	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
12.0	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA mod. 304.1 (see spec)**
Sheet	P-101	Note what sheet in the plan set contains the filter course spec.	

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

Underdrain held 4" above the bottom of the stone reservoir to provide infiltration and an overflow device

Ratio is provided based upon runon area. Additional roof area is routed to the stone reservoir course and does not run onto the porous pavement surface.

Summary for Pond 101P: Porous Pavement #101

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=85)

Inflow Area = 0.258 ac, 96.43% Impervious, Inflow Depth = 7.87" for 50Yr-24Hr event
Inflow = 2.01 cfs @ 12.09 hrs, Volume= 0.169 af
Outflow = 0.45 cfs @ 12.48 hrs, Volume= 0.169 af, Atten= 77%, Lag= 23.9 min
Discarded = 0.26 cfs @ 11.60 hrs, Volume= 0.148 af
Primary = 0.19 cfs @ 12.48 hrs, Volume= 0.021 af
Routed to Pond C01P : Catch Basin #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 93.16' @ 12.48 hrs Surf.Area= 4,561 sf Storage= 1,819 cf
Flood Elev= 94.83' Surf.Area= 4,561 sf Storage= 2,491 cf

Plug-Flow detention time= 25.6 min calculated for 0.169 af (100% of inflow)
Center-of-Mass det. time= 25.1 min (767.6 - 742.5)

Volume	Invert	Avail.Storage	Storage Description
#1	94.50'	30 cf	**Porous Pavement (Prismatic)**Listed below (Recalc) -Impervious 594 cf Overall x 5.0% Voids
#2	94.17'	238 cf	**Choker Course (Prismatic)**Listed below (Recalc) -Impervious 594 cf Overall x 40.0% Voids
#3	93.17'	360 cf	**FIlter Course (Prismatic)**Listed below (Recalc) -Impervious 1,801 cf Overall x 20.0% Voids
#4	92.17'	1,824 cf	**Stone Reservoir (Prismatic)**Listed below (Recalc) 4,561 cf Overall x 40.0% Voids
#5	94.83'	33 cf	**Overflow (Prismatic)** Listed below (Recalc) -Impervious
#6	91.73'	39 cf	**4.00'D x 3.10'H Catch Basin**-Impervious
		2,524 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.50	1,801	0	0
94.83	1,801	594	594

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.17	1,801	0	0
94.50	1,801	594	594

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
93.17	1,801	0	0
94.17	1,801	1,801	1,801

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.17	4,561	0	0
93.17	4,561	4,561	4,561

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.83	4	0	0
95.00	386	33	33

Device	Routing	Invert	Outlet Devices
#1	Discarded	92.17'	**2.490 in/hr Infiltration over Surface area**
#2	Primary	91.73'	**8.0" Round 8" HDPE N-12** L= 21.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 91.73' / 90.70' S= 0.0486 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#3	Device 2	92.50'	**8.0" Vert. 8" Underdrain** C= 0.600 Limited to weir flow at low heads
#4	Device 3	91.83'	**3.0" Vert. 3" Control Orifice** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.26 cfs @ 11.60 hrs HW=92.17' (Free Discharge)
└─**1=Infiltration** (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=0.19 cfs @ 12.48 hrs HW=93.16' TW=90.63' (Dynamic Tailwater)
└─**2=8" HDPE N-12** (Passes 0.19 cfs of 1.76 cfs potential flow)
└─**3=8" Underdrain** (Passes 0.19 cfs of 0.96 cfs potential flow)
└─**4=3" Control Orifice** (Orifice Controls 0.19 cfs @ 3.90 fps)

Run On Area ONLY

Summary for Pond 101P: Porous Pavement #101

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=46)

Inflow Area = 0.145 ac, 93.65% Impervious, Inflow Depth = 7.75" for 50Yr-24Hr event
Inflow = 1.12 cfs @ 12.09 hrs, Volume= 0.094 af
Outflow = 0.29 cfs @ 12.45 hrs, Volume= 0.094 af, Atten= 74%, Lag= 21.5 min
Discarded = 0.26 cfs @ 11.75 hrs, Volume= 0.093 af
Primary = 0.03 cfs @ 12.45 hrs, Volume= 0.001 af
Routed to Pond C01P : Catch Basin #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 92.59' @ 12.45 hrs Surf.Area= 4,561 sf Storage= 785 cf
Flood Elev= 94.83' Surf.Area= 4,561 sf Storage= 2,491 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 13.7 min (757.6 - 743.8)

Volume	Invert	Avail.Storage	Storage Description
#1	94.50'	30 cf	**Porous Pavement (Prismatic)**Listed below (Recalc) -Impervious 594 cf Overall x 5.0% Voids
#2	94.17'	238 cf	**Choker Course (Prismatic)**Listed below (Recalc) -Impervious 594 cf Overall x 40.0% Voids
#3	93.17'	360 cf	**FIlter Course (Prismatic)**Listed below (Recalc) -Impervious 1,801 cf Overall x 20.0% Voids
#4	92.17'	1,824 cf	**Stone Reservoir (Prismatic)**Listed below (Recalc) 4,561 cf Overall x 40.0% Voids
#5	94.83'	33 cf	**Overflow (Prismatic)** Listed below (Recalc) -Impervious
#6	91.73'	39 cf	**4.00'D x 3.10'H Catch Basin**-Impervious
		2,524 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.50	1,801	0	0
94.83	1,801	594	594

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.17	1,801	0	0
94.50	1,801	594	594

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
93.17	1,801	0	0
94.17	1,801	1,801	1,801

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.17	4,561	0	0
93.17	4,561	4,561	4,561

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
94.83	4	0	0
95.00	386	33	33

Device	Routing	Invert	Outlet Devices
#1	Discarded	92.17'	**2.490 in/hr Infiltration over Surface area**
#2	Primary	91.73'	**8.0" Round 8" HDPE N-12** L= 21.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 91.73' / 90.70' S= 0.0486 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf
#3	Device 2	92.50'	**8.0" Vert. 8" Underdrain** C= 0.600 Limited to weir flow at low heads
#4	Device 3	91.83'	**3.0" Vert. 3" Control Orifice** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.26 cfs @ 11.75 hrs HW=92.17' (Free Discharge)
└─**1=Infiltration** (Exfiltration Controls 0.26 cfs)

Primary OutFlow Max=0.03 cfs @ 12.45 hrs HW=92.59' TW=90.53' (Dynamic Tailwater)
└─**2=8" HDPE N-12** (Passes 0.03 cfs of 1.22 cfs potential flow)
  └─**3=8" Underdrain** (Orifice Controls 0.03 cfs @ 1.04 fps)
    └─**4=3" Control Orifice** (Passes 0.03 cfs of 0.07 cfs potential flow)

Summary for Pond 102P: Infiltration Pond #102

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=73)

Inflow Area = 0.105 ac, 44.51% Impervious, Inflow Depth = 5.60" for 50Yr-24Hr event
Inflow = 0.61 cfs @ 12.09 hrs, Volume= 0.049 af
Outflow = 0.10 cfs @ 12.59 hrs, Volume= 0.049 af, Atten= 84%, Lag= 30.1 min
Discarded = 0.10 cfs @ 12.59 hrs, Volume= 0.049 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 102R : Reach #102

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 93.58' @ 12.59 hrs Surf.Area= 1,403 sf Storage= 640 cf
Flood Elev= 94.00' Surf.Area= 1,893 sf Storage= 1,335 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 47.4 min (824.9 - 777.5)

Volume	Invert	Avail.Storage	Storage Description
#1	93.00'	1,335 cf	**Open Water Storage (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
93.00	837	191.7	0	0	837
93.75	1,600	215.3	899	899	1,616
94.00	1,893	226.9	436	1,335	2,028

Device	Routing	Invert	Outlet Devices
#1	Primary	93.75'	**5.0' long x 4.0' breadth E-Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	93.00'	**3.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.10 cfs @ 12.59 hrs HW=93.58' (Free Discharge)
2=Exfiltration (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=93.00' TW=93.10' (Dynamic Tailwater)
1=E-Spillway (Controls 0.00 cfs)

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **Infiltration Pond #102**

Enter the type of infiltration practice (such as basin, trench) and the node name in the drainage analysis, if applicable.

Yes		Have you reviewed Env-Wq 1508.07(a) to ensure that infiltration is allowed?	← **yes**
0.11	ac	A = Area draining to the practice	
0.05	ac	A_I = Impervious area draining to the practice	
0.45	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.45	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.05	ac-in	WQV= 1" x Rv x A	
172	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
43	cf	25% x WQV (check calc for sediment forebay volume)	
N/A		Method of pretreatment? (not required for clean or roof runoff)	
N/A	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	≥ **25%WQV**
899	cf	V = Volume[1] (attach a stage-storage table)	≥ **WQV**
837	sf	A_{SA} = Surface area of the bottom of the pond	
3.00	iph	$Ksat_{DESIGN}$ = Design infiltration rate[2]	
0.8	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	≤ **72-hrs**
93.00	feet	E_{BTM} = Elevation of the bottom of the basin	
92.00	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
90.67	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.00	feet	D_{SHWT} = Separation from SHWT	≥ *[3]
2.3	feet	D_{ROCK} = Separation from bedrock	≥ *[3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	≥ **24"**
	ft	D_T = Depth of trench, if trench proposed	**4 - 10 ft**
	Yes/No	If a trench or underground system is proposed, has observation well been provided?	←**yes**
		If a trench is proposed, does material meet Env-Wq 1508.07(k)(2) requirements.[4]	← **yes**
Yes	Yes/No	If a basin is proposed, Is the perimeter curvilinear, and basin floor flat?	← **yes**
5.0	:1	If a basin is proposed, pond side slopes.	≥**3:1**
93.29	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
93.58	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
94.00	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← **yes**
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← **yes**

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. $Ksat_{DESIGN}$ includes a factor of safety. See Env-Wq 1504.14 for requirements for determining the infiltr. rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes:

Stage-Area-Storage for Pond 102P: Infiltration Pond #102

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
93.00	837	0
93.01	846	8
93.02	854	17
93.03	863	25
93.04	872	34
93.05	880	43
93.06	889	52
93.07	898	61
93.08	907	70
93.09	916	79
93.10	925	88
93.11	934	97
93.12	943	107
93.13	952	116
93.14	961	126
93.15	970	135
93.16	979	145
93.17	988	155
93.18	998	165
93.19	1,007	175
93.20	1,017	185
93.21	1,026	195
93.22	1,035	206
93.23	1,045	216
93.24	1,054	226
93.25	1,064	237
93.26	1,074	248
93.27	1,083	259
93.28	1,093	269
93.29	1,103	280
93.30	1,113	291
93.31	1,123	303
93.32	1,133	314
93.33	1,143	325
93.34	1,153	337
93.35	1,163	348
93.36	1,173	360
93.37	1,183	372
93.38	1,193	384
93.39	1,203	396
93.40	1,213	408
93.41	1,224	420
93.42	1,234	432
93.43	1,244	445
93.44	1,255	457
93.45	1,265	470
93.46	1,276	482
93.47	1,286	495
93.48	1,297	508
93.49	1,308	521
93.50	1,318	534
93.51	1,329	548
93.52	1,340	561
93.53	1,351	574
93.54	1,362	588
93.55	1,373	602
93.56	1,384	615
93.57	1,395	629
93.58	1,406	643
93.59	1,417	657
93.60	1,428	672
93.61	1,439	686
93.62	1,450	700
93.63	1,461	715
93.64	1,473	730
93.65	1,484	744
93.66	1,496	759
93.67	1,507	774
93.68	1,518	789
93.69	1,530	805
93.70	1,542	820
93.71	1,553	835
93.72	1,565	851
93.73	1,576	867
93.74	1,588	883
93.75	1,600	899
93.76	1,611	915
93.77	1,623	931
93.78	1,634	947
93.79	1,645	963
93.80	1,657	980
93.81	1,668	997
93.82	1,680	1,013
93.83	1,691	1,030
93.84	1,703	1,047
93.85	1,714	1,064
93.86	1,726	1,081
93.87	1,738	1,099
93.88	1,749	1,116
93.89	1,761	1,134
93.90	1,773	1,151
93.91	1,785	1,169
93.92	1,797	1,187
93.93	1,808	1,205
93.94	1,820	1,223
93.95	1,832	1,242
93.96	1,844	1,260
93.97	1,857	1,278
93.98	1,869	1,297
93.99	1,881	1,316
94.00	**1,893**	**1,335**

Total Volume = 899 CF

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Strafford County, New Hampshire



March 4, 2026

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:2,470 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 35 70 140 210

Feet
0 100 200 400 600

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Strafford County, New Hampshire
Survey Area Data: Version 26, Sep 9, 2025

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BzA	Buxton silt loam, 0 to 3 percent slopes	2.8	8.9%
BzB	Buxton silt loam, 3 to 8 percent slopes	12.7	40.9%
DeA	Deerfield loamy fine sand, 0 to 3 percent slopes	4.4	14.2%
HfB	Hollis-Gloucester fine sandy loams, 3 to 8 percent slopes	1.8	5.9%
HgB	Hollis-Gloucester very rocky fine sandy loams, 3 to 8 percent slopes	1.0	3.3%
ScA	Scantic silt loam, 0 to 3 percent slopes	8.3	26.7%
Totals for Area of Interest		**31.1**	**100.0%**

Map Unit Descriptions

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

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

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

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Strafford County, New Hampshire

BzA—Buxton silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9d6n
Elevation: 0 to 280 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Buxton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Buxton

Setting

Parent material: Glaciomarine

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 28 inches: silty clay loam
H3 - 28 to 43 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F145XY006CT - Semi-Rich Moist Lake Plain
Hydric soil rating: No

Minor Components

Scantic

Percent of map unit: 10 percent
Landform: Marine terraces
Hydric soil rating: Yes

Not named

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

BzB—Buxton silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9d6p
Elevation: 0 to 260 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Buxton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Buxton

Setting

Parent material: Glaciomarine

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 28 inches: silty clay loam
H3 - 28 to 43 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Ecological site: F145XY006CT - Semi-Rich Moist Lake Plain
Hydric soil rating: No

Minor Components

Elmwood

Percent of map unit: 10 percent
Hydric soil rating: No

Not named

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

DeA—Deerfield loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2xfg8
Landscape: Lowlands, valleys
Elevation: 0 to 1,100 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Deerfield and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Deerfield

Setting

Landscape: Lowlands, valleys
Landform: Outwash terraces, Outwash deltas, Outwash plains, Kame terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy outwash derived from granite, gneiss, and/or quartzite

Typical profile

Ap - 0 to 9 inches: loamy fine sand
Bw - 9 to 25 inches: loamy fine sand
BC - 25 to 33 inches: fine sand
Cg - 33 to 60 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: About 15 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum: 11.0
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: A
Ecological site: F144AY027MA - Moist Sandy Outwash
Hydric soil rating: No

Minor Components

Windsor

Percent of map unit: 7 percent
Landscape: Valleys, lowlands
Landform: Outwash terraces, Kame terraces, Outwash deltas, Outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Wareham

Percent of map unit: 5 percent
Landscape: Lowlands, outwash plains
Landform: Drainageways, Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sudbury

Percent of map unit: 2 percent
Landscape: Lowlands, valleys
Landform: Outwash plains, Kame terraces, Outwash deltas, Outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Ninigret

Percent of map unit: 1 percent
Landscape: Lowlands, valleys
Landform: Kame terraces, Outwash plains, Outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear
Across-slope shape: Convex, concave
Hydric soil rating: No

HfB—Hollis-Gloucester fine sandy loams, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9d7s
Elevation: 30 to 1,100 feet
Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hollis and similar soils: 55 percent
Gloucester and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting

Parent material: Till

Typical profile

H1 - 0 to 14 inches: fine sandy loam
H2 - 14 to 18 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Gloucester

Setting

Parent material: Till

Typical profile

H1 - 0 to 14 inches: fine sandy loam
H2 - 14 to 28 inches: very gravelly loamy sand
H3 - 28 to 40 inches: very gravelly coarse sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F144AY032NH - Dry Till Uplands
Hydric soil rating: No

Minor Components

Not named

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

Acton

Percent of map unit: 3 percent
Hydric soil rating: No

Leicester

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

HgB—Hollis-Gloucester very rocky fine sandy loams, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9d7v
Elevation: 30 to 1,120 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hollis and similar soils: 50 percent
Gloucester and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting

Parent material: Till

Typical profile

H1 - 0 to 14 inches: very stony fine sandy loam
H2 - 14 to 18 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Gloucester

Setting

Parent material: Till

Typical profile

H1 - 0 to 14 inches: very stony fine sandy loam
H2 - 14 to 28 inches: very gravelly loamy sand
H3 - 28 to 40 inches: very gravelly coarse sand

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: F144AY032NH - Dry Till Uplands
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 10 percent
Hydric soil rating: No

Not named
Percent of map unit: 5 percent
Hydric soil rating: No

Acton
Percent of map unit: 3 percent
Hydric soil rating: No

Leicester
Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

ScA—Scantic silt loam, 0 to 3 percent slopes

Map Unit Setting
National map unit symbol: 9d8s
Elevation: 0 to 260 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of local importance

Map Unit Composition
Scantic and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting
Landform: Marine terraces

Typical profile
H1 - 0 to 13 inches: silt loam
H2 - 13 to 23 inches: silty clay loam
H3 - 23 to 40 inches: silty clay

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F144AY019NH - Wet Lake Plain
Hydric soil rating: Yes

Minor Components

Not named wet

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

Swanton

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

Biddeford

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

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3/14/26
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Site Specific Soil Map
Map I Lot 11
68 Durham Road, NH

Dear Chris,

This letter report presents the findings of a Site Specific Soil Survey conducted on the referenced property by John P. Hayes III on March 13, 2026. The soil survey was conducted in accordance with the New Hampshire Supplement of the Site-Specific Soil Mapping Standard For New Hampshire and Vermont, Special Publication # 3, Version 7.0 July 2021, published by the Society of Soil Scientist of Northern New England.

The property that is the subject of the soil survey is located on the southeast side of Durham Road, and the northeast side of Clancy Drive, in Dover NH. The Lot is 0.93 acres in size. The plans used for these soil maps are a 20 scale plan, where 1 inch equals 20 feet, with one foot contours.

The purpose of the soil survey is to provide the client with soils information for urban and suburban or rural land planning. Soil characteristics on the property were evaluated through observation of numerous test holes, and hand auger probes conducted throughout the property. Slope phases were determined with the use of the topography provided on the plan. The Site-specific Soil Map Units identified are taken from the New Hampshire State-Wide Numerical Soils Legend, Issue #10 January 2011, and are briefly described below. Official Series Descriptions (OSD) for each of these soil series are enclosed with this report. The soil map units comply with the Range In Characteristics described in the OSD. Any limiting inclusions on the site, do not exceed 15 percent of any of the soil map units. Dissimilar inclusions, if any, will be noted in the report. Limits of the Site Specific mapping units are highlighted on the plan. The Hydrological Soil Indices for each of the soil series was determined using SSSNNE Special Publication No. 5 Hydrological Soil Indices and Ksat Values for New Hampshire Soils September 2025. Limits of the Site Specific mapping units are highlighted on the plan.

Portions of the soil map with the map unit denominator of P, contain poorly drained soils. Portions of the soil map with the map unit 400, contain disturbed soils that have been excavated and/or regraded.. These disturbed soils are moderately well drained, and are sandy in texture. A Disturbed Soil Mapping Unit Supplement for New Hampshire DES AoT Site Specific Soil Maps is also included. This supplement explains the additional information given about each disturbed soil map units that are present on the site.

MAP UNIT #	SOIL TAXANOMIC NAME	SLOPES	HYDRO LOGIC SOIL INDICES	DESCRIPTION
32	**Boxford (moderately well drained)**	A	D	The Boxford series consists of very deep, moderately well drained soils that are formed in clayey marine sediments. These soils are located on the northeastern side of the property, and on the southwestern portion, adjacent to Durham road. These soils are deep to bedrock. Saturated hydraulic conductivity is moderately high in the surface horizon and the upper part of the subsoil, and low to moderately low in the lower part of the subsoil and in the substratum. A typical soil profile of these soils onsite would be: 0-8 inches 10YR 3/2 silt loam, granular, friable 8-18 inches 10YR 5/4 silt loam, blocky, friable 18-40 inches 2.5Y 5/3 silt loam with redoximorphic features present, blocky, firm Some inclusions of the Deerfield soils, asnd the somewhat poorly drained component of the Boxford soils, and may be present, but are less than 10 percent of the mapped area. Estimated seasonal high water tables in these soils range from 15 to 24 inches.
33 P	**Scitico**	A	D	The Scitico series consists of very deep, poorly drained soils formed in silty and clayey sediments. These soils are located in the northeastern portion of the lot. These soils are deep to bedrock. Permeability is moderate or moderately slow in the surface layer, moderately slow or slow in the upper subsoil, slow or very slow in the lower subsoil, and very slow in the substratum. A typical soil profile of these soils onsite would be: 0-5 inches 2.5Y 3/2 silt loam, with redoximorphic features present, granular, friable 5-22 inches 2.5Y 5/3 silt loam, with redoximorphic features present, blocky, firm 22-30 inches 2.5Y 5/2 silty clay loam, with redoximorphic features present, blocky, firm Estimated seasonal high water tables in these soils range from 0 to 10 inches
38	**Eldridge**	A	B	The Eldridge series consists of very deep, moderately well drained soils formed in sandy glaciofluvial deposits that are underlain by loamy estaurine, or glaciolacustrine deposits. These soils are located in the eastern portion of the parcel, near

MAP UNIT #	SOIL TAXANOMIC NAME	SLOPES	HYDRO LOGIC SOIL INDICES	DESCRIPTION
38	**Eldridge**	**A**	**B**	the existing house and driveway, and in the central/western portion of the lot.These soils are deep to bedrock. Permeability is rapid in the solum and moderately slow or slow in the substratum. A typical soil profile of these soils onsite would be: 0-8 inches 10YR 3/2 fine sandy loam granular, friable. 8-22 inches 10YR 4/6 loamy fine sand, granular friable 22-34 inches 2.5Y 5/3 loamy fine sand with redoximorphic features present, massive, friable. 34-40 inches 5Y 4/3 very fine sand and silt with redoximorphic features present massive firm Some inclusions of moderately well drained Boxford, and Deerfield soils may be present, but are less than 10 percent of the mapped area. Estimated seasonal high water tables in these soils range from 15 to 28 inches.
313	**Deerfield**	**A**	**B**	The Deerfield series consists of very deep, moderately well drained soils formed in glaciofluvial deposits. These soils are located on the central and southern portions of the property, Saturated hydraulic conductivity is high or very high. These soils are deep to bedrock. A typical soil profile of these soils onsite would be: 0-8 inches 10YR 3/2 loamy sand granular, friable. 8-14 inches 7.5YR 5/6 loamy sand granular friable. 14-24 inches10YR 5/4 loamy sand, granular, friable 24-40 inches 10 YR 6/3 sand and fine sand with redoximorphic features present granular friable. Some inclusions of moderately well drained Boxford and Elmridge, and the somewhat poorly drained Deerfield Variant, soils may be present, but are less than 10 percent of the mapped area. Estimated seasonal high water tables in these soils range from 15 to 30 inches.
400 (dbadb)	**Udorthents (sandy)**	**A**	**B**	Udorthents are disturbed soils that have been excavated, and are sandy in texture. These soils are located in the western/central portion of the lot, adjacent to the structures and the driveway. These disturbed soils appear to be mostly derrived from the surrounding Deerfield soils. These soils are moderately well drained, and are deep to bedrock.

MAP UNIT #	SOIL TAXANOMIC NAME	SLOPES	HYDRO LOGIC SOIL INDICES	DESCRIPTION
400 (dbadb)	**Udorthents (sandy)**	**A**	**B**	Saturated hydraulic conductivity is moderately high or high in the mineral solum and low to moderately high in the substratum. A typical soil profile of these soils onsite would be: 0-8 inches 10YR 3/2 loamy fine sand, granular, friable. 8-32 inches 10YR 5/4 loamy sand, granular, friable 32-40 inches 2.5 Y 6/3 fine sand with redoximorphic features present massive friable. Estimated seasonal high water tables in these soils range from 18 to 34 inches.
915	**Deerfield Variant (somewhat poorly drained)**	**A**	**D**	The Deerfield Variant series consists of very deep, somewhat poorly drained soils formed in glaciofluvial deposits. These soils are located in the northern/central portion of the property. These soils are deep to bedrock. Saturated hydraulic conductivity is high to very high. A typical soil profile of these soils onsite would be: 0-8 inches 10YR 3/2 loamy fine sand granular, friable. 8-14 inches 10YR 5/4 loamy sand granular, friable. 14-24 inches 10YR 6/3 loamy sand with redoximorphic features present granular friable 24-40 inches 10 YR 6/2 sand and very fine sand with redoximorphic features present granular friable. Some inclusions of moderately well drained Deerfield, soils may be present, but are less than 10 percent of the mapped area. Estimated seasonal high water tables in these soils range from 11 to 15 inches.
953	**Boxford (somewhat poorly drained)**	**A**	**D**	This component of the Boxford series consists of very deep, somewhat poorly drained soils that are formed in clayey marine sediments. These soils are located in the northern portion of lot. These soils are deep to bedrock. Saturated hydraulic conductivity is moderately high in the surface horizon and the upper part of the subsoil, and low to moderately low in the lower part of the subsoil and in the substratum. A typical soil profile of these soils onsite would be: 0- 6 inches, 2.5Y 3/2 silt loam, granular, friable 6-12 inches 2.5Y 5/4, silt loam, blocky, friable

MAP UNIT #	SOIL TAXANOMIC NAME	SLOPES	HYDRO LOGIC SOIL INDICES	DESCRIPTION
953	**Boxford (somewhat poorly drained)**	**A**	**D**	12-28 inches 2.5Y 6/2 silt loam, with redoximorphic features present, blocky, firm. Some inclusions of the moderately well drained component of the Boxford soils, may be present, but are less than 10 percent of the mapped area. Estimated seasonal high water tables in these soils range from 10 to 15 inches.

Slope Phases

Alpha Slope Symbol	Range
A	**0 – 3%**
B	**3 – 8%**
C	**8 – 15%**
D	**15 – 25%**
E	**25 – 50%**
F	**> 50%**

I trust that this Soil Survey and report meet your current planning needs. Please do not hesitate to contact me if you have any questions.

Sincerely:

John P. Hayes III



John P. Hayes III CSS, CWS

LEGEND:

- IRON BOUND/REBAR (FND)
- IRON PIPE (FND)
- STONE BOUND (FND)
- CONCRETE BOUND (FND)
- UTILITY POLE / GUY WIRE
- SINGLE POST SIGN
- TEMPORARY BENCHMARK
- CATCH BASIN W/ STRUCTURE
- DRAIN MANHOLE W/ STRUCTURE
- ABUTTING PROPERTY LINE
- COMMON PROPERTY LINE
- OHU — OHU — OHU — OVERHEAD UTILITIES
- 116 — EXISTING CONTOUR MINOR
- 115 — EXISTING CONTOUR MAJOR
- SOIL LINE
- LIMIT OF SOIL SURVEY
- 448A — SOIL SERIES
- FND — FOUND
- TYP. — TYPICAL
- S.C.R.D. — STRAFFORD COUNTY REGISTRY OF DEEDS

STATE OF NEW HAMPSHIRE — JOHN P. HAYES III — No. 087 — CERTIFIED SOIL SCIENTIST

JOHN P. HAYES, III CSS #87

STATE OF NEW HAMPSHIRE — DEIDRA L. BENJAMIN — No. 295 — CERTIFIED WETLAND SCIENTIST

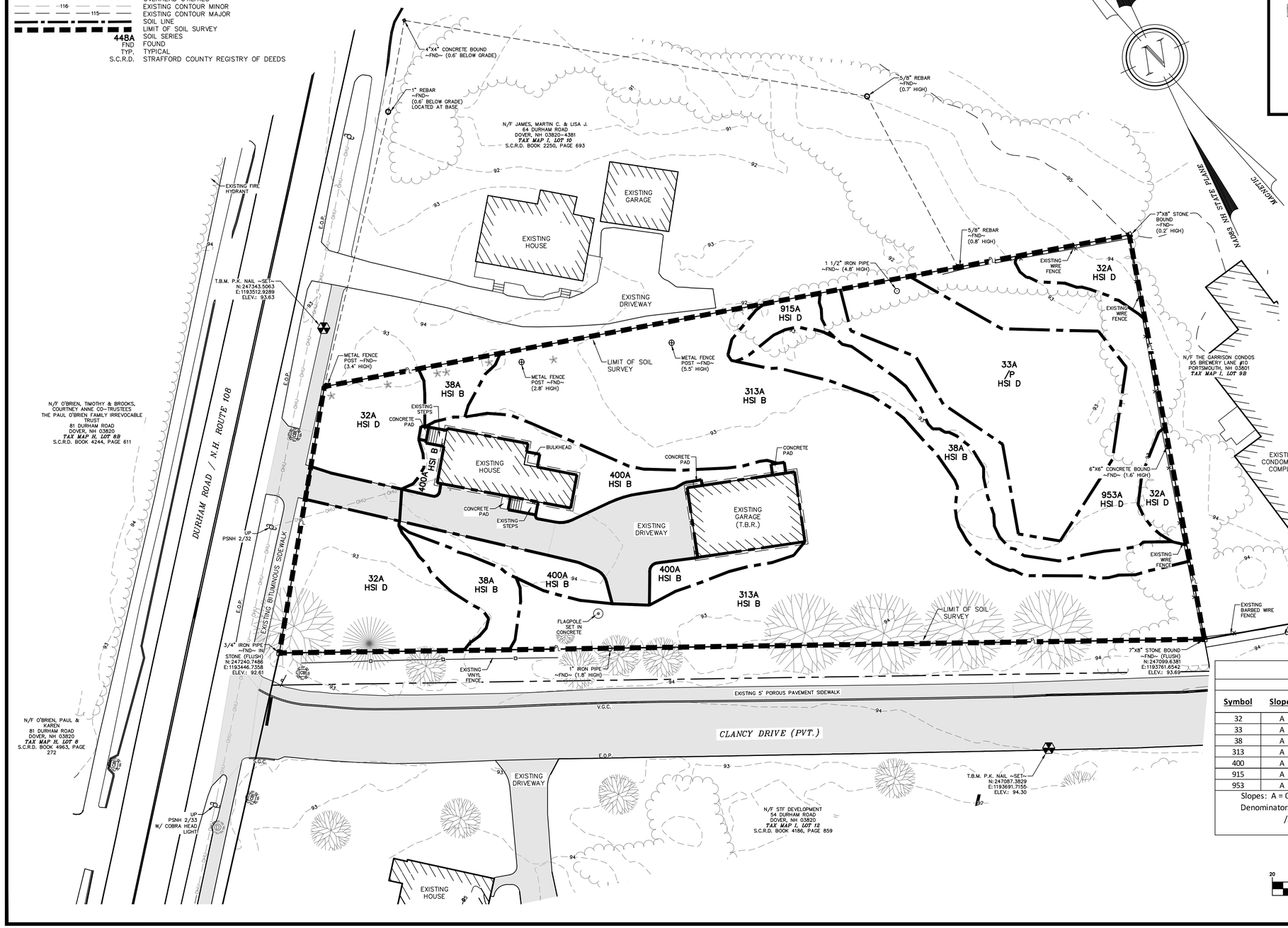
DEIDRA BENJAMIN, CWS #295

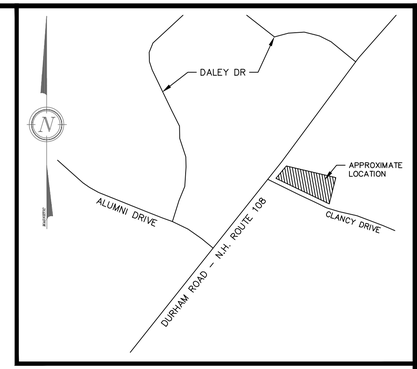
WETLAND NOTES:

WETLANDS WERE DELINEATED BY DEIDRA BENJAMIN. IN AUGUST OF 2025 UTILIZING THE FOLLOWING STANDARDS:

1. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2016).
3. NATIONAL WETLAND PLANT LIST (CURRENT VERSION).

NO WETLANDS WERE FOUND ON SITE.





NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

2.) TAX MAP 1, LOT 11

3.) S.C.R.D. BOOK 5263, PAGE 820

4.) LOT AREA PRE LLR: 40,508 SQ.FT., 0.93 AC.
LOT AREA POST LLR: 44,660 SQ.FT., 1.03 AC.

5.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN. FLOOD HAZARD REF: FEMA, COMMUNITY #330145, MAP #33017C0320E, DATED: SEPTEMBER 30, 2015.

6) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.

7.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN AUGUST, 2025. WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.

8.) ON-SITE TOPOGRAPHY PROVIDED IS DEMARCATED AT 1' INTERVALS, AND IS THE RESULT OF A FIELD SURVEY PERFORMED IN AUGUST, 2025.

9.) THE INTENT OF THIS PLAN IS TO SHOW THE SITE SPECIFIC SOIL SURVEY OF TAX MAP 1, LOT 11 AS OF THE DATE OF THE SURVEY.

SOILS LEGEND

Site Specific Soils

Symbol	Slopes	Taxonomic Soil Name	Hydrologic Soil Index
32	A	Boxford	D
33	A	Scitico	D
38	A	Eldridge	B
313	A	Deerfield	B
400	A	Udorthents (Sandy) (dbadb)	B
915	A	Deerfield Variant	D
953	A	Boxford	D

Slopes: A = 0-3% B = 3-8% C = 8-15% D = 15-25% E = 25- 50% F = 50%+
Denominators: /ED = Excessively Drained /MWD = Moderately Well Drained
/SPD = Somewhat Poorly Drained /P = Poorly Drained
/VP = Very Poorly Drained /Rk = Rocky

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

SITE SPECIFIC SOILS MAP
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE — No. 1624 — LICENSED LAND SURVEYOR — CHRISTOPHER R. BERRY — SIGNATURE

NOT FOR CONSTRUCTION

BERRY SURVEYING & ENGINEERING
335 Second Crown Point Road
Barrington, NH 03825
Phone: (603) 332-2863
Fax: (603) 335-4632
www.BerrySurveying.Com

Infiltration Feasibility Report

Prepared for:

STF Development, LLC
54 Dover Point Road, Unit #3
DOVER, NH 03820

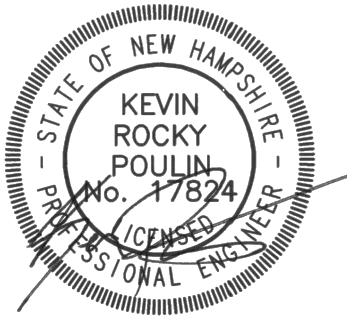
Land of:

STF Development, LLC
54 Dover Point Road, Unit #3
DOVER, NH 03820

68 DURHAM ROAD, DOVER, NH
TAX MAP I, LOT 11

Prepared by:

Berry Surveying & Engineering
335 Second Crown Point Road
Barrington, NH 03825



Project Number:
DB 2025-053

May 7, 2026

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1.0	Location of Practice	Page 2
2.0	Existing Topography at Location of Practice	Page 2
3.0	Soil Identification Within Practice	Page 2
4.0	Seasonal High Water Table and Bedrock Elevations	Page 4
5.0	Soil Plan	Page 7
6.0	Summary of Infiltration Rates	Page 9

1.0 Location of Practices:

The project proposes infiltration for ground water recharge as well as channel flow protection purposes via Porous Pavement w/ Infiltration #101 and Infiltration Pond #102.

Porous Pavement w/ Infiltration #101 (Pond #101P) – This Stormwater Control Measure (SCM) is located at the center of the parcel, on the western side of Murphy Drive from stationing 0+35 to 1+35. Subcatchment area includes the porous surface **(Subcatchment #101)** and two adjacent buildings with roof runoff routed via gutter systems **(Subcatchment #12 and #13)**.

Infiltration Pond #102 (Pond #102P) – This SCM is located at the western side of Building #1 toward the center of the parcel. Subcatchment area includes the area draining directly to the infiltration pond **(Subcatchment #102)**.

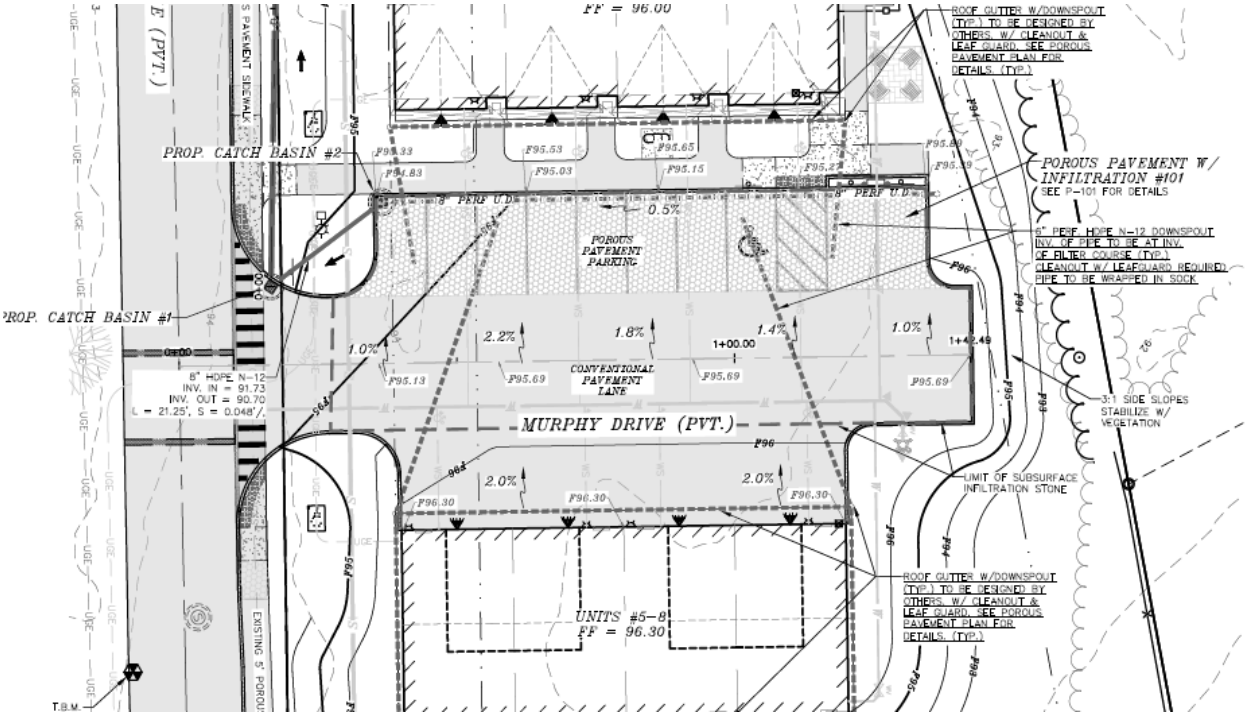
2.0 Existing Topography at the Location of the Practice

Porous Pavement w/ Infiltration #101 (Pond #101P) – The existing topography within this practice is less than 3%. This area is currently grassed.

Infiltration Pond #102 (Pond #102P) – The existing topography within this practice is less than 3%. This area is currently paved and grassed.

3.0 Soil Identification Within Practices:

Porous Pavement w/ Infiltration #101 (Pond #101P) – The practice has a surface area of 1,801 Sq. Ft. and the stone reservoir has an extended surface area of 4,561 Sq. Ft.. See Site Specific Soil Map Report by John P Hayes III. The soil in the vicinity of this practice is Deerfield (313), Eldridge (38), Scitico (33), and Boxford (32) considered to be HSI B and D soils where the restrictive published Ksat values are 6.0, 0.06, and 0 inches per hour. Using a factor of safety this practice was designed using 2.49 in. / hr.



Porous Pavement W/ Infiltration #101 (Pond #101) – (Reference Sheet Grading & Drainage Plan)

Infiltration Pond #102 (Pond #102P) – The practice has a surface area of 837 Sq. Ft. The practice has no closest test hole. See Site Specific Soil Map Report by John P Hayes III. The soil in the vicinity of this practice is Deerfield (313) and Udorthents (Deerfield Derived) (400) considered to be HSI B soil where the most restrictive published Ksat is 6.0 inches per hour. This practice was designed using 3.0 in. / hr

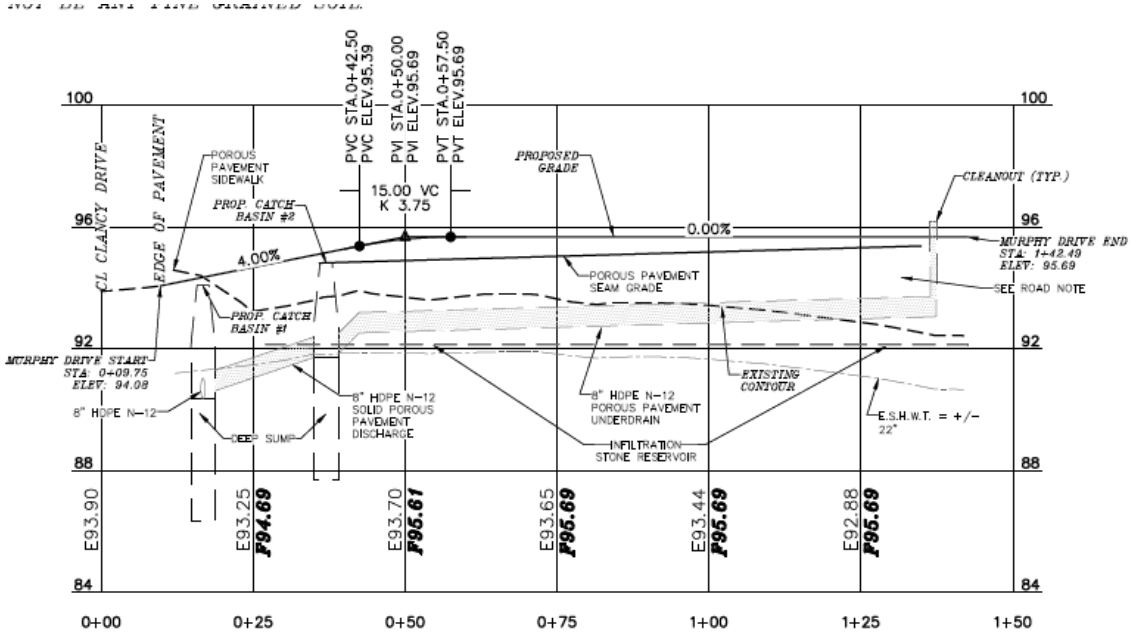
Infiltration Pond 102 (Pond #102) – (Reference Sheet Grading & Drainage Plan)

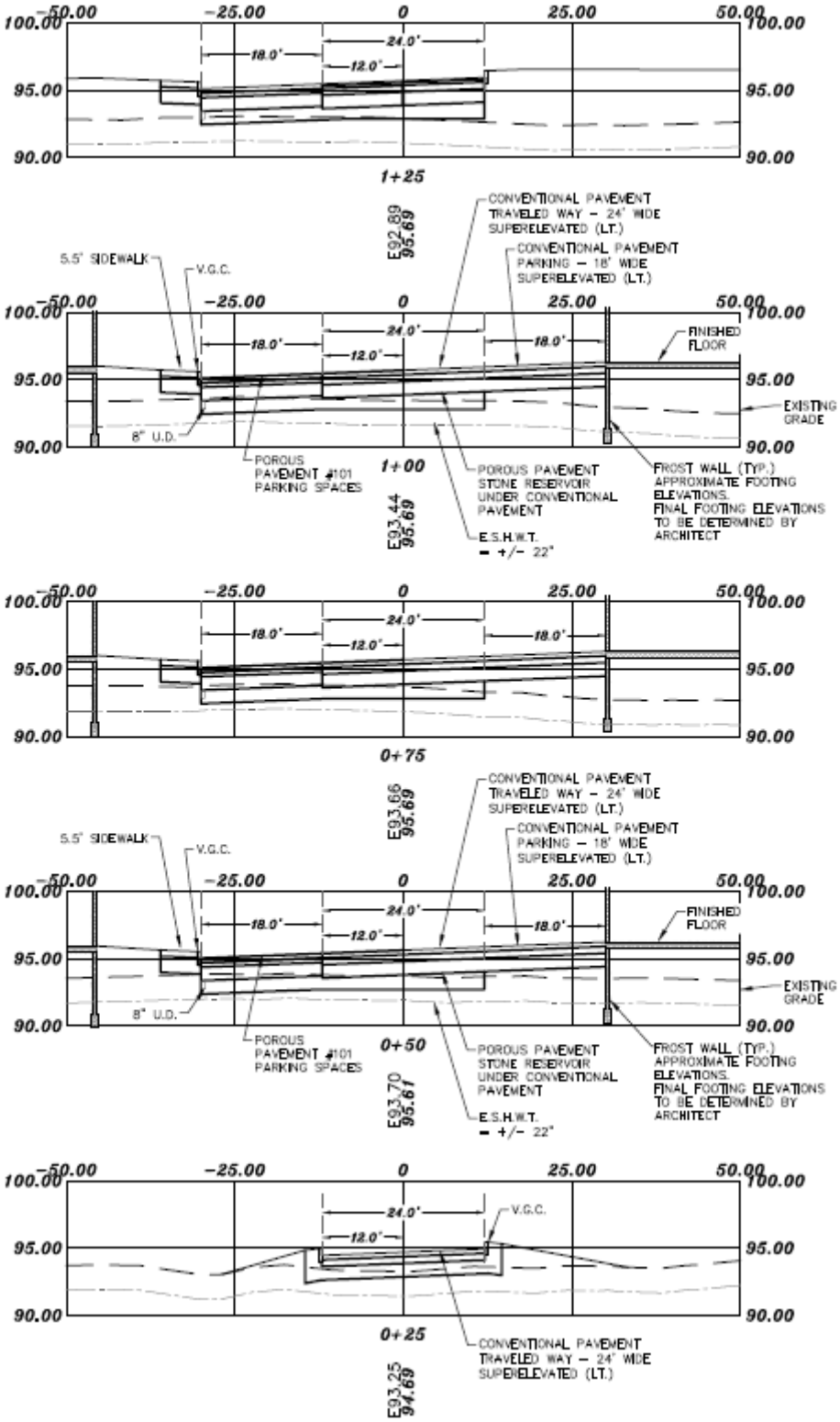
4.0 Seasonal High Water Table (SHWT) and Bedrock Elevations

SHWT = 22 Inches +/- 8"	91.97'
Bedrock = 40 Inches +/- 8"	90.47'
Ground Water = N/A	N/A

Porous Pavement W/ Inf. #101 (Pond #101): Inv. Filter Media Low 93.17'

See cross section below.



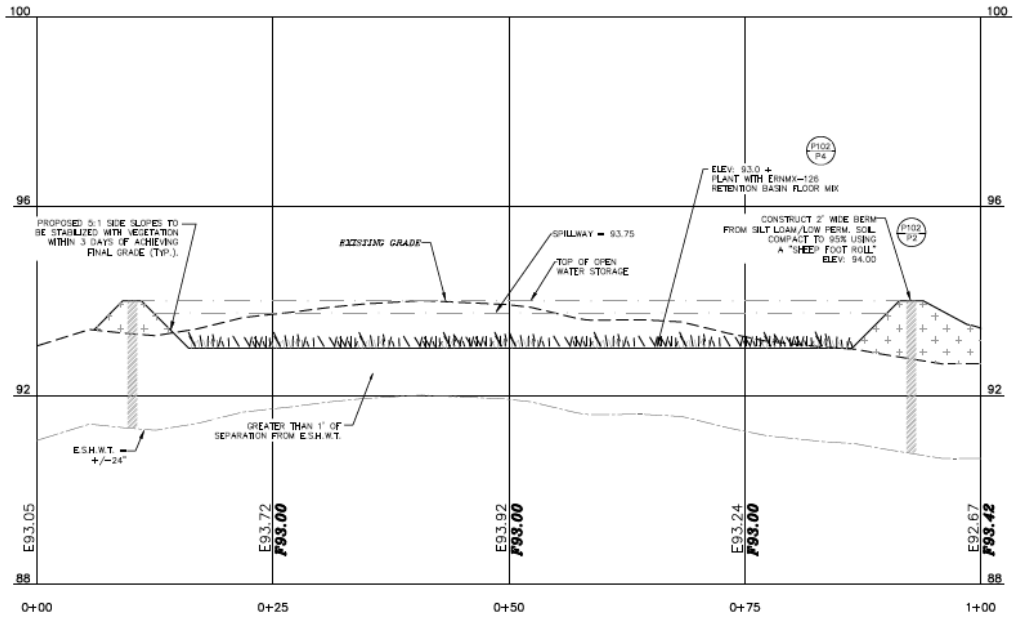


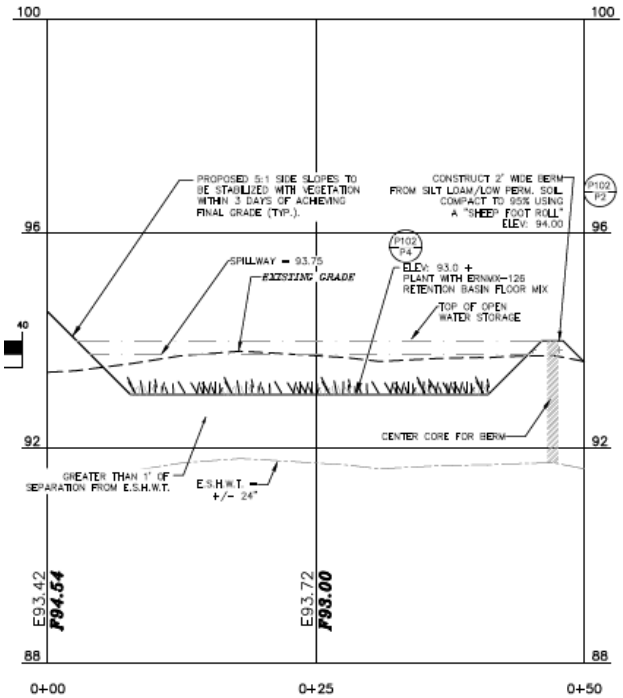
Reference Sheet - Cross Sections

SHWT = 24 Inches +/- 9”	92.00’
Bedrock = 40 Inches +/- 4”	90.67’
Ground Water = N/A	N/A

Infiltration Pond #102 (Pond #102): Inv. Pond 93.00’

See cross section below.

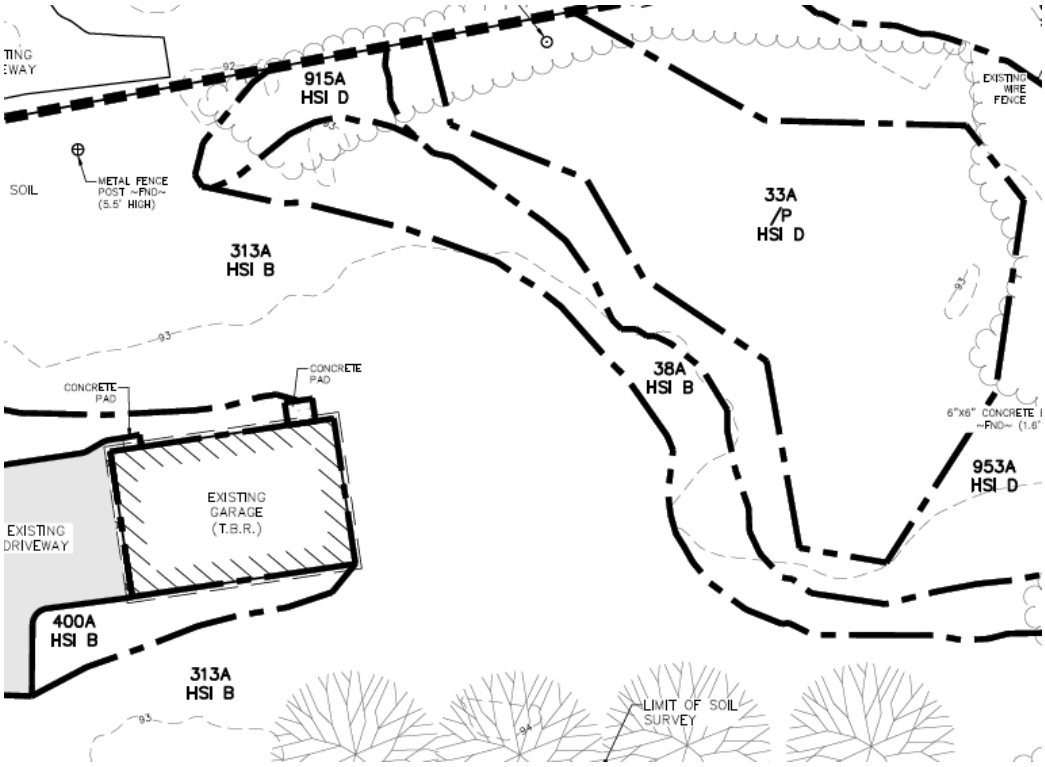


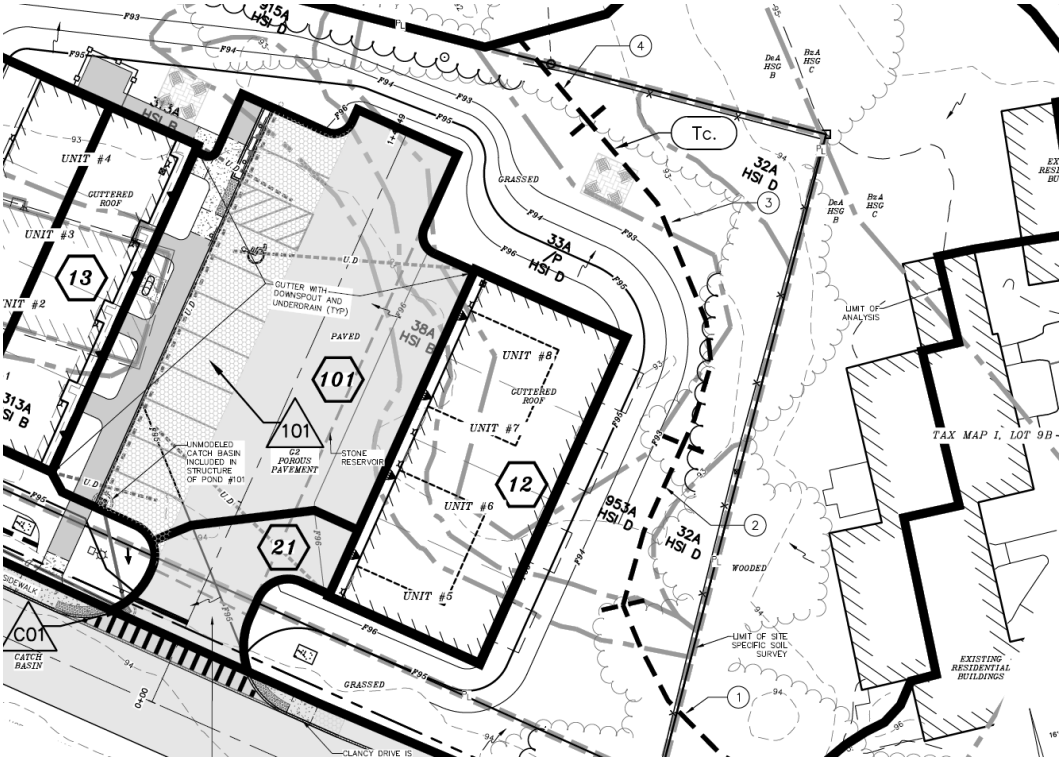


(Reference Sheet – P-102)

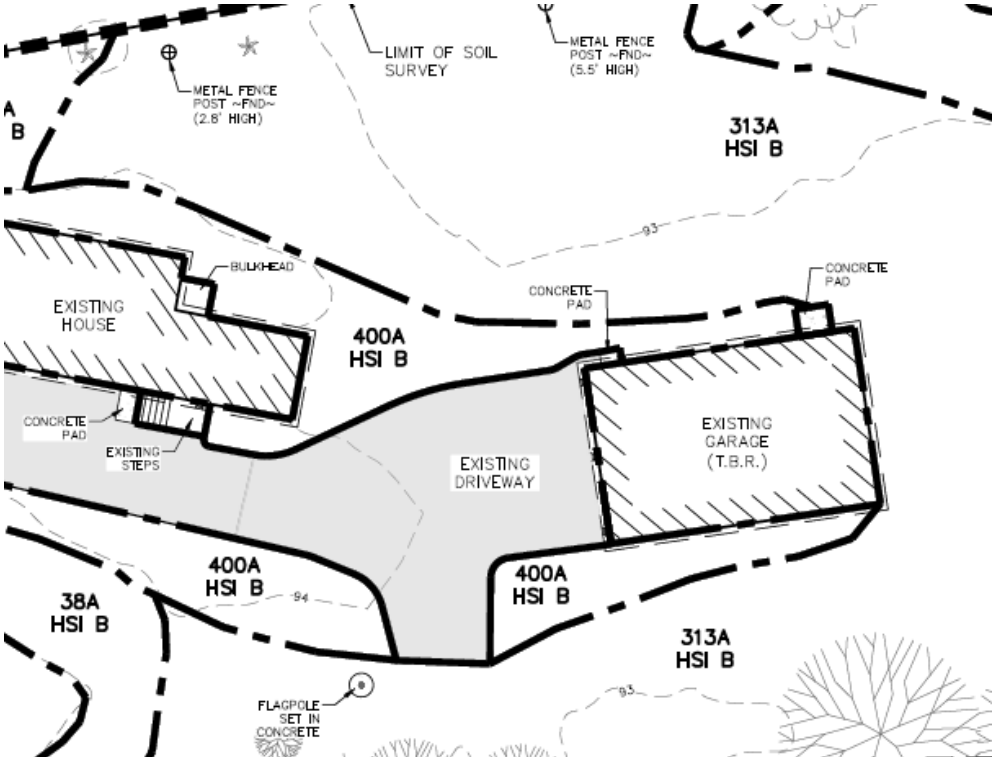
5.0 Soil Plan in the Area of the Constructed Practice

Porous Pavement W/ Infiltration #101 (Pond #101) is located over mostly over Deerfield soil (313), and partially intersects Scitico (33), Eldridge (38), and Boxford (953).





Infiltration Pond #102 (Pond #102) is located over Deerfield soil (313) and Udorthents (Deerfield Derived) (400).





6.0 Summary of Infiltration Rate

Porous Pavement W/ Infiltration #101 (Pond #101), are located over Deerfield soil (313), Edridge (38), Scitico (33), and Boxford (953). These soils are considered to be Hydrologic Soil Index (HSI) B (Deerfield and Eldridge) and HSI D (Scitico and Boxford), in the soil area as mapped by Site Specific Soil Survey by John P. Hayes III, CSS with a documented Ksat of 6.0, 0.06, and 0 inches per hour. The design exfiltration rate for the SCMs is calculated through a weighted average that equals 2.49 inches per hour. The table below shows the infiltration rates with the factor of safety of 50% already applied.

Infiltration Rate Calcluations				
Practice #	Area (3in/hr) (Sq. Ft.)	Area (0.1in/hr) (Sq. Ft.)	Area (0in/hr) (Sq. Ft.)	Calculated Infiltration Rate (In/Hr)
P101	3780	437	344.0	2.49

Infiltration Pond #102 (Pond #102) is located in both Udorthents (Deerfield Derived) (400) and Deerfield soil (313), considered to be HSI B in the soil area as mapped by Site Specific Soil Survey by John P. Hayes III, CSS with a documented Ksat of 6.0 inches per hour. The design exfiltration rate for the SCMs is 3.0 inches per hour.

Amoozemeter testing was not conducted on site and the alternate method of using the USDA /NRCS published values was employed. Reference is made to K Sat Values for New Hampshire Soils (Including Hydrologic and DES Soil Lot Sizing Groups, sponsored by the Society of Soil Scientists of Northern New England, Special Publication #5 dated September 2025.

Respectfully submitted:

BERRY SURVEYING & ENGINEERING

Kevin R. Poulin, PE
Associate, VP-Engineering Operations

BPF

Hydrologic Soil Indices and Ksat Values for New Hampshire Soils



Society of Soil Scientists of Northern New England
Special Publication No. 5
Adopted 12 September 2025

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Table 1. HSI and Ksat Values for New Hampshire Soils	**Pages 10 - 14**
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Introduction

The Society of Soil Scientists of Northern New England (SSSNNE) is a non-profit professional organization of soil scientists, both in the private and public sectors, which is dedicated to the advancement of soil science. SSSNNE fosters the profession of soil classification, mapping and interpretation, and encourages the dissemination of information concerning soil science. With the intent of contributing to human welfare, SSSNNE seeks to educate the public on the wise use of soils and the associated natural resources.

Hydrologic Soil Indices

Hydrologic Soil Groups (HSG) were developed by the USDA-Natural Resources Conservation Service (NRCS) to categorize soil series into groups with similar precipitation infiltration characteristics. HSGs are primarily used to assess the capability of land to absorb precipitation. Soil series are assigned to one of four HSGs using data collected on controlled study plots and linking the data to known soil characteristics.

Site Specific Soil Maps in New Hampshire provide an HSG for each map unit, to help engineers design appropriate stormwater management systems for land development in a way that protects public interests, natural resources, and water quality. The Plans are reviewed by the New Hampshire Alteration of Terrain Bureau (NH-AOT) to ensure compliance with New Hampshire laws and regulations.

SSSNNE-publication 5, Ksat Values for New Hampshire Soils, 2009, listed HSG developed from NRCS data for soil series mapped in New Hampshire. Users of this publication have noted some inconsistencies, such as HSG values that are different for physically similar soils in different temperature regimes. Publication 5 did not assign HSG for human disturbed soil map units. In addition, Publication 5 needs to be updated to reflect newly named soil series, remove series no longer in use, and remove miscellaneous land types and non-soil areas from the listings.

The NRCS relies on the research data and experience of many professionals to prepare HSG values. While HSGs are excellent tools, SSSNNE believes a single purpose, New Hampshire-specific Hydrologic Soil Index (HSI) would be better for design of stormwater management systems. At least two other New England states have recognized the limitations of the NRCS-HSG and have developed State specific methods for determining stormwater infiltration and runoff potential. In 2022, SSSNNE established a work group to review the NRCS method for determining HSG and methods developed by other states. The considerable thought and work done in other states and by NRCS provided an important foundation for this document.

SSSNNE selected an approach like the one developed at the University of Rhode Island. The New Hampshire approach differs by creating the concept of a Hydrologic Soil Index (HSI) for each soil series and which can be readily applied to human disturbed soils. The term HSI was chosen so users would not confuse this New Hampshire-specific HSI with NRCS generated HSG values. Though the HSI concept was developed with helpful input from NRCS soil scientists and relies heavily on previous NRCS research, this is not a NRCS approved document. HSIs are calculated using three principal criteria: depth to the seasonal high water, depth to bedrock or a restrictive layer, and particle-size families. The values for these criteria are taken from the Official Series Descriptions.

HSI is a single purpose tool that can be derived from the attached Logic Matrix or Logic Triangle. They both yield the same result; users can select whichever is easier for them. Table 1 in this document lists the HSI for soils commonly mapped in New Hampshire. With this tool, a New Hampshire Certified Soil Scientist (NHCSS) can consistently determine an appropriate HSI for named soil series, human disturbed soils, and unnamed soils. Unnamed soils might include a soil that does not match the description of any soils mapped in NH, is outside the range of characteristics of mapped soils, or matches a soil but is in the wrong temperature regime. This makes HSI more useful for the Site

Specific Soil Mapping required for NH Alteration of Terrain permit applications.

The four HSI designations are A through D. Though they are specifically determined using the Logic Matrix or the Logic Triangle, they can be generally described as well.

Group A- Water is transmitted freely through the soil and internal free water is deep. Soils in this group have low runoff potential when thoroughly wet. Group A soils have sandy textures.

Group B- Water is transmitted through the soil at a moderate rate and free water occurrence is deep or moderately deep. Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded. Group B soils typically have loamy sand or sandy loam textures.

Group C- Water is transmitted through the soil at a moderately rate and internal free water occurrence is neither shallow nor deep. Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil may be somewhat restricted. Group C soils typically are sandy loam to silt loam textures.

Group D- Water is transmitted through the soil at a slow rate or internal free water can be shallow. Soils in this group have high runoff potential when thoroughly wet. Water movement through the soil may be slowed by restrictive horizons or saturation to the surface.

Saturated Hydraulic Conductivity (K_{SAT})

K_{sat} refers to the ease with which pores in a saturated soil transmit water. The estimates presented here are expressed in terms of inches per hour K_{sat} values are based on soil characteristics observed in the field, particularly structure, consistence, porosity, and texture.

Saturated flows occur when the soil water pressure is positive; that is, when the soil matric potential is zero. In most soils this occurs when about 95 percent of the total pore space is filled with water. The remaining 5 percent is filled with entrapped air. Saturated hydraulic conductivity cannot be used to describe water movement under unsaturated conditions.

Soil features (and thus soil data) for a particular soil series may be slightly different from one soil survey area to the next. For example, a Marlow soil in Carroll County may have a higher sand content in its B horizon than a Marlow soil in Coos County; resulting in a slightly different Ksat range for the B horizon.

The K_{sat} data for this publication was obtained from USDA-NRCS soil data. This data is presented in B and C horizons only as it is assumed that the topsoil (A or A_p horizon) will be removed in typical construction practices.

While the table below is not a complete New Hampshire Statewide legend, it includes soils commonly mapped and for which data was available at the time of this publication. For soils not found on this table and human disturbed soils, the Ksat value is best determined by actual field measurements.

Explanatory Notes

What is the difference between a Hydrologic Soil Group (HSG) and a Hydrologic Soil Index (HSI)?

A Hydrologic Soil Group is an interpretation of a soil's ability to infiltrate precipitation and is related to its hydrologic conductivity. HSGs are generated by the Natural Resources Conservation Service, based on national standards and calculated for specific regions. HGS's are dynamic and subject to revision. They are published on the Web Soil Survey. [1]

A Hydrologic Soil Index is a single-use interpretation of a soil's ability to infiltrate precipitation and is related to the soil characteristics. It is generated from the most current NRCS Official Series Descriptions with adjustments for correlation with the New Hampshire Statewide Soil Legend, and Site Specific Soil Mapping Standards in New Hampshire and Vermont[2]. HSIs are static and published by SSSNNE. They are intended to be used by soil scientists with Site Specific Soil Surveys for New Hampshire Department of Environmental Services, Alteration of Terrain Bureau permit applications.

How was the HSI table generated?

The table of HSI was generated using NASIS and SUREGO data provided by the NRCS. The raw data was adapted by SSSNNE to correlate with soil series known to be mapped in New Hampshire.
The NRCS Logic Matrix was cross-checked with HSI Logic Triangle parameters of particle-size family, drainage class and depth to bedrock or restrictive layers, as described in NRCS Official Series Descriptions.

How to calculate HSI for complexes and undifferentiated map units?

This process begins during the construction of a soil map, by selecting the appropriate map unit based on transect data collected while mapping. The field work should be sufficient to estimate the percentage of each component of the named soil series or miscellaneous area. A transect is a traverse across a map unit, in representative locations, where soil excavations and profile descriptions or detailed notes are collected at regular intervals. The number of observations along

[1] https://websoilsurvey.nrcs.usda.gov

[2] Society of Soil Scientists of Northern New England (SSSNNE), Site-Specific Soil Mapping Standards for New Hampshire and Vermont, Special Publication No. 3 Version 7.0, July 2021.

a transect is at the discretion of the NHCSS making the map. The accuracy of the estimated composition of the map unit is improved as the number of observations increases. Transect data is used to estimate the composition of complexes and undifferentiated map units. This information is incorporated in the map unit description.

- Example of a complex map unit: 281C – Berkshire-Tunbridge complex, very stony, 8 to 15% slopes. This map unit consists of 55% Berkshire soils, 30% Tunbridge soils with 10% dissimilar inclusions such as rock outcrop and soils that are less than 20 inches deep to bedrock, and 5% moderately well drained Sunapee soils…
- Example of an undifferentiated map unit: 273C – Berkshire, Monadnock and Hermon soils, extremely boulder, 8 to 15% slopes. This map unit consists of 50% Berkshire soils, 25% Monadnock soils and 15% Hermon, with 10% inclusions…

Once the map unit is established, a detailed break-down of the applicable HSIs can be listed. From the percentage of the map unit components provided by the NHCSS, the design engineer can select the most appropriate HSI for the proposed practice or use a weighted average.

Map Unit Number	Map Unit Components By Soil Series	Percentage of Map Unit	HSI
281C	Berkshire	55	B
	Tunbridge	30	C
273C	Berkshire	50	B
	Monadnock	25	B
	Hermon	15	A

Presentation of the Data

SSSNNE publishes HSI data in tabular and graphic format. The tabular format follows the convention used in SSSNNE Special Publication No. 5. This format provides a quick reference to the HSI assigned for each soil series mapped in New Hampshire.

How to select an HSI for disturbed soil map units?

The HSI Logic Triangle and Logic Matrix were specifically designed to help Soil Scientists produce consistent results when assigning an HSI to disturbed soil map units. Use the soil particle-size family (soil textures listed), soil drainage class, and depth to bedrock or restrictive layers to calculate a custom HSI for each disturbed soil map unit described in the Site Specific Soil Map report.

Status of the New Hampshire Statewide Numerical Soils Legend

The New Hampshire Statewide Numerical Soil Legend was last published by the USDA, NRCS as issue #10, January 2011. Since then, it has been frequently updated electronically, but no new publication has been produced.
This document includes soils commonly mapped in New Hampshire for which data, legend numbers, and soil descriptions were available.

How is particle-size family determined?

For soils with Official Series Descriptions, the particle-size family is given in that description and used for making the HSI determination. For other soils, such as human disturbed soils, the dominant particle-size family in the particle-size control section (generally 10 to 40 inches) is used.

Why is there missing data for some soils?

In the table below, some soils note ‘no horizon’ in the Ksat columns. Not all soils have B and/or C horizons. For example, some organic soils have no B horizon, and some shallow to bedrock soils have no C horizon.

The table is not a complete list of all soils mapped in New Hampshire, but has the commonly mapped soils for which data is available.

Table 1. Logic Matrix

Depth To Restrictive Layer	Depth To Seasonal High Water Table	Particle-size Family (Texture)	HSI
< 20 inches (50.8 cm)	**All**	**All**	**D**
20 to 40 inches (50.8 to 101.6 cm)	**< 15 inches** (38.1 cm) (very poorly drained, poorly drained, somewhat poorly drained)	**All**	**D**
20 to 40 inches (50.8 to 101.6 cm)	**≥ 15 inches** (38.1 cm)	Sandy	**B**
		Loamy	**C**
		Coarse Silty	**C**
		Fine Silty and Clayey	**D**
>40 inches (101.6 cm)	**< 15 inches** (38.1 cm) (very poorly drained, poorly drained, somewhat poorly drained)	**All**	**D**
	15 to 40 inches (38.1 to 101.6 cm) (moderately well drained)	Sandy	**B**
		Loamy	**B**
		Coarse Silty	**C**
		Fine Silty and Clayey	**D**
	> 40 inches (101.6 cm) (well drained, somewhat excessively & excessively drained)	Sandy	**A**
		Loamy	**B**
		Coarse Silty	**B**
		Fine Silty and Clayey	**D**

(When a soil has more than one particle size family, the finer particle size family is used)

Figure 1. Logic Triangle

(When a soil has more than one particle size family, the finer particle size family is used)

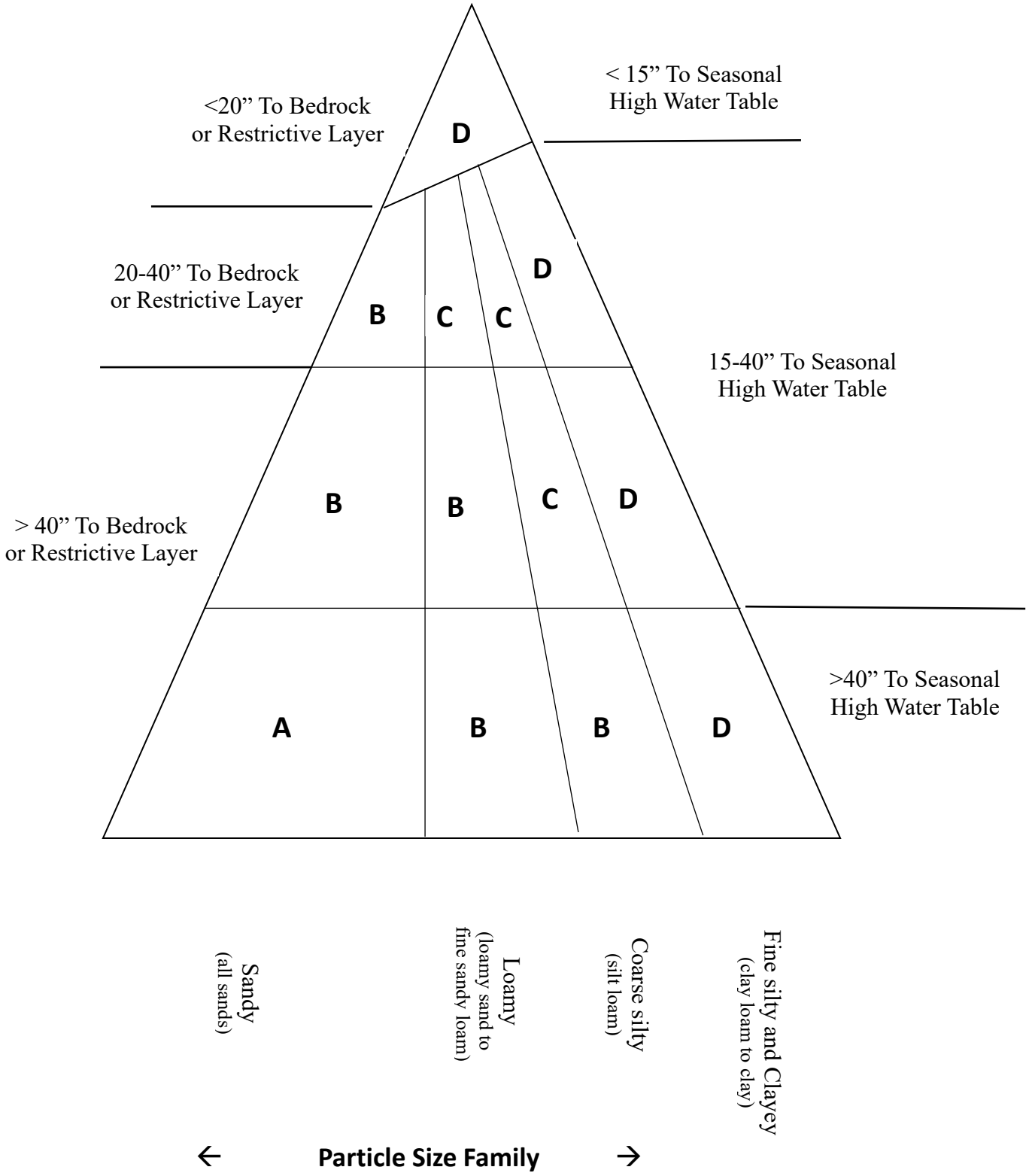


Table 1. HSI and Ksat Values for New Hampshire Soils

Soil Series	Legend Number	HSI	Low Ksat (B) inches/hour	High Ksat (B) inches/hour	Low Ksat (C) inches/hour	High Ksat (C) inches/hour
Abenaki	501	B	0.6	2	6	99
Abram		D			No Horizon	
Acton	146	A	2	20	2	20
Adams	36	A	6	20	20	99
Agawam	24	B	6	20	20	100
Allagash	127	B	0.6	2	6	20
Bangor	572	B	0.6	2	0.6	2
Becket	56	C	0.6	2	0.06	0.6
Belgrade	532	C	0.6	2	0.06	2
Bemis	224	D	0.6	0.2	0	0.2
Berkshire	72	B	0.6	6	0.6	6
Bernardston	330	C	0.6	2	0.06	0.2
Bice	225	B	0.6	6	0.6	6
Biddeford	234	D	0	0.2	0	0.2
Binghamville	534	D	0.2	2	0.06	0.2
Boscawen	220	A	6	20	20	100
Boxford	32	D	0.1	0.2	0	0.2
Brayton	240	D	0.6	2	0.06	0.6
Buckland	237	C	0.6	2	0.06	0.2
Bucksport	895	D	No Horizon		No Horizon	
Burnham	131	D	0.2	6	0.02	0.2
Buxton	232	D	0.1	0.6	0	0.2
Cabot	589	D	0.6	2	0.06	0.2
Caesar	526	A	20	100	20	100
Canaan	663	D	2	20	2	20
Canterbury	166	C	0.6	2	0.06	0.6
Canton	42	B	2	6	6	20
Cardigan	357	C	0.6	2	0.6	2
Catden	296	D	No Horizon		No Horizon	
Champlain	35	A	6	20	20	100
Charles	209	D	No Horizon		0.6	100
Charlton	62	B	0.6	6	0.6	6
Chatfield	89	C	0.6	6	No Horizon	
Chesuncook	126	C	0.6	2	0.02	0.2
Chichester	442	B	0.6	2	2	6
Chocorua	395	D	No Horizon		6	20
Cohas	505	D	0.6	2	0.6	100

Soil Series	Legend Number	HSI	Low Ksat (B) inches/hour	High Ksat (B) inches/hour	Low Ksat (C) inches/hour	High Ksat (C) inches/hour
Colonel	927	D	0.6	2	0.06	0.6
Colton	22	A	6	20	20	100
Croghan	613	B	20	100	20	100
Dartmouth	132	C	0.6	2	0.06	0.6
Deerfield	313	B	6	20	20	100
Dixmont	578	B	0.6	2	0.6	2
Duane	413	B	6	20	6	20
Dutchess	366	B	0.6	2	0.6	2
Eldridge	38	B	6	20	0.06	0.6
Elliottsville	128	C	0.6	2	0.6	2
Elmwood	338	D	2	6	0	0.2
Fryeburg	208	B	0.6	2	2	6
Gilmanton	478	C	0.6	2	0.06	0.6
Glebe	671	C	2	6	2	6
Gloucester	11	A	6	20	6	20
Grange	433	D	0.6	2	0.6	2
Groveton	27	B	0.6	2	0.6	6
Hadley	8	B	0.6	2	0.6	6
Haven	410	B	0.6	2	20	100
Henniker	46	C	0.6	2	0.06	0.6
Hermon	55	A	2	20	6	20
Hinckley	12	A	6	20	20	100
Hitchcock	130	B	0.6	2	0.06	0.6
Hogback	91	D	2	6	2	6
Hollis	86	D	0.6	6	No Horizon	
Hoosic	510	A	2	20	20	100
Howland	566	C	0.6	2	0.06	0.2
Kearsarge	359	D	0.6	2	0.6	2
Kinsman	614	D	6	20	6	20
Leicester	514	D	0.6	6	0.6	20
Lim	3	D	0.6	2	6	20
Limerick	109	D	0.6	2	0.6	2
Lombard	259	B	0.6	6	2	20
Lovewell	307	C	0.6	2	0.6	2
Lyman	92	D	2	6	2	6
Lyme	246	D	0.6	6	0.6	6
Machias	520	D	2	6	6	20
Macomber	252	C	0.6	2	0.6	2
Madawaska	28	B	0.6	2	6	20

Soil Series	Legend Number	HSI	Low Ksat (B) inches/hour	High Ksat (B) inches/hour	Low Ksat (C) inches/hour	High Ksat (C) inches/hour
Marlow	76	C	0.6	2	0.06	0.6
Masardis	23	A	6	20	6	20
Mashpee	315	D	6	20	6	20
Maybid	134	D	0	0.2	0	0.2
Meadowsedge	894	D	No Horizon		No Horizon	
Medomak	406	D	0.6	2	0.6	2
Melrose	37	D	2	6	0	0.2
Merrimac	10	A	2	20	6	20
Metacomet	458	C	0.6	2	0.06	0.6
Metallak	404	B	6	100	6	100
Millsite	251	C	0.6	6	0.6	6
Monadnock	142	B	0.6	2	2	6
Monarda	569	D	0.2	2	0.02	0.2
Monson	133	D	0.6	2	0.6	2
Montauk	44	C	0.6	6	0.06	0.6
Moosilauke	414	D	6	20	6	20
Mundal	610	C	0.6	2	0.06	0.6
Natchaug	496	D	No Horizon		0.2	2
Naumburg	214	D	6	20	6	20
Newfields	444	B	0.6	2	0.6	2
Nicholville	632	C	0.6	2	0.6	2
Ninigret	513	B	0.6	6	6	20
Occum	1	B	0.6	2	6	20
Ondawa	101	B	0.6	6	6	20
Ossipee	495	D	No Horizon		0.2	2
Pawcatuck	497	D	No Horizon		20	100
Paxton	66	C	0.6	2	0	0.2
Peacham	549	D	0.6	2	0	0.2
Pemi	633	D	0.6	2	0.06	0.6
Pennichuck	460	C	0.6	2	0.6	2
Pillsbury	646	D	0.6	2	0.06	0.2
Pittstown	334	C	0.6	2	0.06	0.2
Plaisted	563	C	0.6	2	0.06	0.6
Podunk	104	B	0.6	6	6	20
Pondicherry	992	D	No Horizon		6	20
Poocham	230	B	0.6	2	0.2	2
Pootatuck	4	B	0.6	6	6	20
Quonset	310	A	2	20	20	100
Rawsonville	98	C	0.6	6	0.6	6

Soil Series	Legend Number	HSI	Low Ksat (B) inches/hour	High Ksat (B) inches/hour	Low Ksat (C) inches/hour	High Ksat (C) inches/hour
Raynham	533	D	0.2	2	0.06	0.2
Raypol	540	D	0.6	2	6	100
Redstone	665	B	2	6	6	20
Ricker	674	D	2	6	2	6
Ridgebury	656	D	0.6	6	0	0.2
Rippowam	5	D	0.6	6	6	20
Roundabout	333	D	0.2	2	0.06	0.6
Rumney	105	D	0.6	6	6	20
Saco	6	D	0.6	2	6	20
Saddleback	673	D	0.6	2	0.6	2
Salmon	630	B	0.6	2	0.6	2
Scantic	233	D	0	0.2	0	0.2
Scarboro	115	D	No Horizon		6	20
Scio	531	C	0.6	2	0.6	2
Scitico	33	D	0	0.2	0	0.2
Scituate	448	C	0.6	2	0.06	0.2
Searsport	15	D	No Horizon		6	20
Sheepscot	14	B	6	20	6	20
Sisk	667	C	0.6	2	0	0.6
Skerry	558	C	0.6	2	0.06	0.6
Squamscott	538	D	6	20	0.06	0.6
Stetson	523	A	0.6	6	6	20
Stissing	340	D	0.6	2	0.06	0.2
Success	154	A	2	6	6	20
Sudbury	118	B	2	6	6	20
Suffield	536	D	0.6	2	0	0.2
Sunapee	168	B	0.6	2	0.6	6
Suncook	2	A	6	20	6	20
Sunday	202	A	6	20	6	20
Surplus	669	C	0.6	2	0	0.6
Sutton	68	B	0.6	6	0.6	6
Swanton	438	D	2	6	0	0.2
Telos	123	D	0.6	2	0.02	0.2
Timakwa	393	D	No Horizon		6	100
Tunbridge	99	C	0.6	6	0.6	6
Unadilla	30	B	0.6	2	2	20
Vassalboro	150	D	No Horizon		No Horizon	
Walpole	546	D	2	6	6	20
Wareham	34	D	6	20	6	20

Soil Series	Legend Number	HSI	Low Ksat (B) inches/hour	High Ksat (B) inches/hour	Low Ksat (C) inches/hour	High Ksat (C) inches/hour
Warwick	210	B	2	6	20	100
Waumbek	58	B	2	20	6	20
Westbrook	597	D	No Horizon		0	2
Whitman	49	D	0	0.2	0	0.2
Windsor	26	A	6	20	6	20
Winooski	9	C	0.6	6	0.6	6
Wonsqueak	995	D	No Horizon		0.2	2
Woodbridge	29	C	0.6	2	0	0.6
Woodstock	93	D	2	6	2	6

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FINAL DRAFT Jillian Phillips, Research Assistant, University of Rhode Island Cooperative Extension. Mark Stolt, Professor of Pedology, University of Rhode Island Lorraine Joubert, RI Nonpoint Education for Municipal Officials James Turenne, Certified Professional Soil Scientist, USDA-NRCS

Maine Association of Professional Soil Scientists Method for Onsite Assignment of Hydrologic Soil Group, 23 December 2019

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Stormwater System Management:

Inspection and Maintenance Manual

Prepared for:

STF Development, LLC
54 Dover Point Road, Unit #3
DOVER, NH 03820

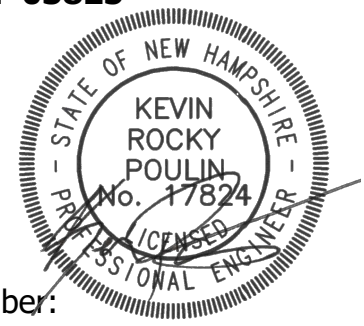
Land of

STF Development, LLC
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DOVER, NH 03820

68 DURHAM ROAD, DOVER, NH
TAX MAP I, LOT 11

Prepared by:

Berry Surveying & Engineering
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Project Number:
DB2025-053

May 7, 2026

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Control of Invasive Plants, NH Department of Agriculture Attached – 4 Pages

Introduction

The Stormwater Control Measures (SCM) described in this manual are specified in more detail within the plan set giving design details and specifications. The New Hampshire Stormwater Manual (February 2025, NHDES & US EPA) is included by reference to this manual. Additional details, construction specifications, and example drawings are provided within this reference.
(http://des.nh.gov/organization/divisions/water/stormwater/)

The SCMs are covered below in the general order in which the storm water flows. Each SCM has a description and maintenance consideration listed. A Check List table is proved after the narrative to summarize the maintenance responsibilities and schedule. A Log Form is also provided for the owners use.

For details regarding the design of the Stormwater System see also Drainage Analysis & Sediment and Erosion Control Plan also published by Berry Surveying & Engineering dated May 7, 2026. See also plan set completed for STF Development, LLC dated May 7, 2026, as revised.

Robert V. Paolini, owner, and managing member of STF Development, LLC is responsible for the Stormwater System Operation and Maintenance that will be constructed on this property. A significant step in this responsibility is the Inspection and Maintenance of each component of the system. Ongoing, semi-annual, and annual inspection and maintenance requirement are documented below and must be taken seriously. Failure of any component of the system can result in surface water run-off ponding and/or freezing in the driveway and parking lots, leaving the developed site untreated, and/or causing violations to issued permits. The owner must maintain, and have available, plans of the Stormwater System in order properly inspect and maintain the system. (Reduced copies attached.) Robert V. Paolini is responsible to ensure that any subsequent owner, owners association, or subcontractor has copies of the Log Form and Annual Report records and fully understands the responsibilities of this plan. The grantor owner will ensure this document is provided to the grantee owner by duplicating the Ownership Responsibility Sheet which is found toward the back of this document, which will be maintained with the Inspection & Maintenance Logs, provided to the City of Dover Engineering Department, DPW, Dover Community Services with the Annual Report.

STF Development, LLC is proposing to develop eight new residential units in addition to the existing single-family dwelling on Tax Map I, Lot 11.

The following drainage features will all require periodic inspections and maintenance based on this manual:

Deep Sump Catch Basins

Conveyance Swales

Porous Pavement w/ Infiltration #101 and Outlet Control

Infiltration Pond #102 W/ Matted Emergency Spillway

Stabilization for Long Term Cover

Deep Sump Catch Basins

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (A18-A21) (Direct Quotes)

Chapter Env-Wq 1508.06 Alteration Of Terrain (RSA 485-A:17)

(As Amended January 5, 2026)

Description:

A deep sump catch basin consists of a utility access hole-type structure with an inlet grate, an outlet pipe connected to the piped drainage system, and a sump(s) with a depth several times the diameter of the outlet pipe. The inlet grate is located at the surface, and is sometimes combined with a vertical inlet integrated with a street or parking area curb. The sump's purpose is to capture coarse sediments and debris from the stormwater runoff intercepted by the structure. The outlet pipe can be fitted with a "hood" consisting of a cast metal or formed plastic fitting, designed to prevent floating materials from exiting the structure.

Deep sump catch basins used as pre-treatment are most effective if sited "off-line" since flow-through basins are more susceptible to sediment re-suspension. An outlet hood provides benefits for trapping floating trash, oil, and greases, as well as for short-term spill containment.

Maintenance Requirements:

• Maintenance activities need to comply with laws that protect wildlife, including but not limited to RSA 209:8, RSA 209:9, RSA 209:10, and RSA 212-A:7.
• Sumps may require frequent maintenance. Depending on location, this may require several cleanings of the sumps each year. At a minimum, it is recommended that sumps be inspected at least once annually.
• Sediment should be removed when it approaches 1/2 the sump depth.
• If floating hydrocarbons are observed during an inspection, the material should be removed immediately by skimming, absorbent materials, or other method and disposed of in conformance with applicable state and federal regulations.
• Cleaning may require a vacuum truck instead of "clam-shell" to avoid damage to hood.

• Damaged hoods should be replaced when noted by inspection.

Catch Basin Cleaning

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (A3-A6) (Direct Quotes)

Description:

Catch basins are chambers which allow surface stormwater runoff to enter the stormwater conveyance system. Most catch basins are built at the curb line and have a low area below the invert of the outlet pipe (i.e., sump) intended to retain coarse sediment. By trapping sediment, the catch basin minimizes solids that may clog the drain pipes and be carried to receiving waterbodies. To maintain their ability to trap sediment and prevent flooding, catch basins must be cleaned periodically. Aesthetic and water quality benefits from the removal of sediment, decaying debris, and highly polluted water from catch basins include reducing foul odors, reducing suspended solids, and reducing the load of oxygen-demanding substances that reach receiving waters (EPA, 1999). Catch basin cleaning is also a requirement of the New Hampshire MS4 General Permit. The permit requires routine inspections, cleaning, and maintenance such that no catch basin at any time will be more than 1/2 full. For unpermitted communities, this should be a target goal. Refer to the permit for additional requirements for New Hampshire MS4 catch basin operations and maintenance.

Design Guidance:

• Typically, a catch basin should be cleaned if the depth of the deposits is greater than or equal to 1/2 the depth from the basin floor to the invert of the lowest pipe or opening into or out of the basin. If a catch basin significantly exceeds the 1/2 depth standard during annual inspection, then it should be cleaned more frequently.
• Material removed from catch basins is usually disposed of in conventional landfills. However, sediment and debris removed from catch basins can potentially be classified as hazardous waste. As a result, materials removed from catch basins must be chemically analyzed to determine how they should be stored, treated, and disposed of. For more information on proper management of catch basin waste materials, see the New Hampshire Department of Environmental Services (NHDES) Management of Municipal Roadway Soils fact sheet.

• See **Porous Pavement** for outlet structure orifice control within a catch basin.

Conveyance Swale

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (A115-A117) (Direct Quotes)

Chapter Env-Wq 1508.20 Alteration Of Terrain (RSA 485-A:17)

(As Amended January 5, 2026)

Description:

Conveyance swales are stabilized channels designed to convey stormwater runoff at non-erosive velocities. They may be stabilized using vegetation, riprap, or a combination, or with an alternative lining designed to accommodate design flows while protecting the integrity of the sides and bottom of the channel. Conveyance swales may provide incidental water quality benefits, but are not specifically designed to provide treatment. Conveyance swales are not considered a Treatment or Pre-treatment Practice under the AoT regulations, unless they are also designed to meet the requirements of an acceptable Treatment/ Pre-treatment Practice as described elsewhere in this Appendix.

Maintenance Requirements:

• Maintenance activities need to comply with laws that protect wildlife, including but not limited to RSA 209:8, RSA 209:9, RSA 209:10, and RSA 212-A:7.

• Grassed swales should be inspected periodically (at least annually) for sediment accumulation, erosion, and condition of surface lining (vegetation or riprap). Repairs, including stone or vegetation replacement, should be made based on this inspection.

• Remove sediment, debris, and invasive species annually, or more frequently as warranted by inspection.

• Mow vegetated swales based on frequency specified by design. Mowing at least once per year is required to control establishment of woody vegetation. It is recommended to cut grass no shorter than 4 inches.

Permeable Pavement / Porous Pavement

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (A60-A64) (Direct Quotes)

Chapter Env-Wq 1508.08 Alteration Of Terrain (RSA 485-A:17)

(As Amended January 5, 2026)

Description:

Permeable pavement consists of a permeable/pervious surface, base, and subbase materials which allow penetration of stormwater runoff into underlying soils. The surface materials for permeable pavement can consist of paving blocks or grids, porous asphalt, or pervious concrete. These materials are installed on a base which serves as a filter and or reservoir course between the pavement surface and the underlying subbase material. The subbase material typically comprises of a layer of crushed stone that not only supports the overlying pavement structure, but also serves as a reservoir to store stormwater runoff that penetrates the pavement surface until it can percolate into the ground.

Porous asphalt is very similar to conventional asphalt except that it is mixed without particles smaller than coarse sand. Without these smaller size particles, water can pass through the surface and into a crushed stone storage area. An advantage to the use of porous asphalt is the reduced need for stormwater conveyance systems and other additional SCMs.

Pervious concrete uses carefully controlled amounts of water and cementitious materials to create a thick coating around aggregate particles, but retaining significant void space in the placement of the mixture. A pervious concrete mixture contains little or no sand, creating this void content.

Maintenance Requirements:

• Maintenance activities need to comply with laws that protect wildlife, including but not limited to RSA 209:8, RSA 209:9, RSA 209:10, and RSA 212-A:7.

• Provision of signs is recommended, to indicate locations of permeable pavements and the applicability of special maintenance measures.

• No winter sanding of permeable pavements is permitted.

• Minimize application of salt for ice control.

• Never reseal or repave with impermeable materials.

• Inspect annually for pavement deterioration or concrete spalling.

• Monitor periodically to ensure that the pavement surface drains effectively after storms.

• For permeable pavements, clean periodically (one to two times per year) using a vacuum sweeper. Note, permeable surface selection will likely lead to different maintenance sensitivities and approaches.

• Porous Pavement is best maintained by using regenerative air and pure vacuum sweepers rather than the typical mechanical street sweepers.

• For vegetated paver systems, periodically reseed grass pavers to fill in bare spots.

• Major clogging may necessitate restoration or replacement of pavement surface.

• Underdrains jetting will require catch basins access and removal of orifice cap.

• Refer to UNHSC Maintenance Guidelines and Resources, "Checklist for Inspection of Permeable Pavement" for an example inspection checklist.

• The stone reservoir storage is controlled by an orifice on a SCHD40 cap that is fit and screwed on to the underdrain pipe. Must be in place and operational.

Infiltration Basin

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (A48-A52) (Direct Quotes)

Chapter Env-Wq 1508.07 Alteration Of Terrain (RSA 485-A:17)

(As Amended January 5, 2026)

Description:

Infiltration basins are impoundments designed to temporarily store stormwater runoff, allowing all or a portion of the water to infiltrate into the ground. An infiltration basin is designed to completely drain between storm events. An infiltration basin is specifically

designed to retain and infiltrate the entire Water Quality Volume. Some infiltration basins may infiltrate additional volumes during larger storm events, but many will be designed to release stormwater exceeding the water quality volume from the larger storms. In a properly sited and designed infiltration basin, water quality treatment is provided by stormwater runoff pollutants binding to soil particles beneath the basin as water percolates into the subsurface. Biological and chemical processes occurring in the soil also contribute to the breakdown of pollutants. Infiltrated water is used by plants to support growth, or it is recharged to the underlying groundwater. As with all impoundment SCMs, surface infiltration basins should be designed with an outlet structure to pass peak flows during a range of storm events, as well as with an emergency spillway to pass peak flows around the embankment during extreme storm events that exceed the combined infiltration capacity and outlet structure capacity of the facility. A subsurface infiltration chamber (i.e., basin) is specifically designed to retain and infiltrate the entire Water Quality Volume. Subsurface infiltration basins may comprise a subsurface reservoir and can include a distribution system with associated crushed stone storage bed, or specially designed chambers (with or without perforations) bedded in or above crushed stone.

Maintenance Requirements:

• Maintenance activities need to comply with laws that protect wildlife, including but not limited to RSA 209:8, RSA 209:9, RSA 209:10, and RSA 212-A:7.
• Removal of debris from inlet and outlet structures.
• Removal of accumulated sediment.
• Inspection and repair of outlet structures and accessories.
• Inspection of infiltration components at least twice annually, and following any rainfall event exceeding 2.5 inches in a 24-hour period, with maintenance or rehabilitation conducted as warranted by such inspection.
• Inspection of pre-treatment measures at least twice annually, and removal of accumulated sediment as warranted by inspection, but no less than once annually.
• If an infiltration system does not drain within 72 hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore infiltration function, including but not limited to removal of accumulated sediments or reconstruction of the infiltration basin.
• Vegetation should be inspected at least annually, and maintained in healthy condition, including pruning, removal, and replacement of dead or diseased vegetation, and removal of invasive species.

Leaf Litter Pickup

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (A7-A8) (Direct Quotes)

Description:

Leaf litter is a significant source of nutrients (i.e., phosphorus and nitrogen) in stormwater runoff, especially during the fall season. As leaf litter decays on streets or in the storm drain system, it releases excess phosphorus and nitrogen. Leaf litter can be carried by rain and melting snow and washed into storm drains. Once in the storm drain system, leaves may enter nearby waterbodies and harm aquatic plants and animals by smothering natural vegetation. In addition, excessive amounts of nutrients in waterbodies can lead to accelerated effects of eutrophication, contributing to excess algae and odors (USGS, 2019).

Through proper handling and disposal of leaf litter, the amount of phosphorus in stormwater runoff, and the receiving waterbodies, can be minimized.

Design Guidance:

Leaf litter pickup is a major component of street sweeping. Pollutant removal efficiency will vary seasonally with increased leaf-fall and removal during the fall (September to December).

Snow and Ice Management

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (A9-A13) (Direct Quotes)

Chapter Env-Wq 2200

Description:

Rising concentrations of chloride from salt applications/deicing chemicals have been identified in New Hampshire waters, similar to other colder regions of the United States and Canada. A 120 percent increase in the number of chloride contaminated wells in New Hampshire has occurred over the past 30 years. The majority of lakes and ponds that have active sampling programs display worsening trends for chloride

concentrations. To protect New Hampshire waters from chloride contamination, the New Hampshire Department of Environmental Services (NHDES), New Hampshire Department of Transportation, and the University of New Hampshire Technology Transfer Center, created the Green SnowPro Program for commercial salt applicators. This program offers snow and ice management training, proficiency testing, and certification in state-of-the-science salt reduction practices that prioritize public safety while mitigating salt usage. For additional incentive, commercial salt applicators certified by NHDES Green SnowPro under RSA 489-C, and property owners or managers who hire them, are granted limited liability protection against damages arising from snow and ice conditions under RSA 508:22. In addition, municipalities also have the opportunity to have their public works departments and snow and ice management crews certified as Green SnowPro under RSA-489-C. Municipalities that implement a comprehensive suite of snow and ice best practices achieve higher levels of Green SnowPro certification by NHDES. For additional information regarding road salt reduction and to become Green SnowPro certified or to engage with one for winter snow and ice property management in New Hampshire, refer to the NHDES Road Salt Reduction website. NHDES also recommends the creation of a Road Salt and Deicing Minimization Plan when a development will create one acre or more of pavement, including parking lots and roadways. The plan should address the policies that the development will keep in place to minimize salt and other deicer use after the project has been completed. A component of the plan should include tracking the use of salt and other deicers for each storm event and compiling salt use data annually.

Design Guidance:

• Snow disposal guidelines to minimize impact to the environment should include the following:

- Snow should be stored near flowing surface waters, but at least 25 feet from the high-water mark of the surface water and/or top of stream bank. Upland sites further from surface waters are acceptable, provided they do not impact water supply sources as described below. o A silt fence or equivalent barrier should be securely placed between the snow storage area and the highwater mark and/or the top of stream bank.
- Snow storage areas should be at least 75 feet from any private water supply wells, at least 200 feet from any community water supply wells, and at least 400 feet from any municipal wells. Snow storage is prohibited in wellhead protection areas.
- All debris in the snow storage area should be cleared from the site prior to snow storage.

- By May 15 each year, all debris from active snow storage areas should be cleared and properly disposed of.
- Designated snow storage areas should not be located near any SCMs to ensure the SCMs continue to function as designed during melt events and to reduce the amount of debris flowing into SCMs, which can clog and flood drainage areas.
- Snow storage site selection should consider the following:
  - How much snow disposal capacity is needed so an adequate number and size of sites can be selected and prepared.
  - Sites lacking mature tree growth are preferred because trees make collection of debris more difficult after the winter season.

• Municipal open space, parks, recreation fields and parking areas should be considered for potential snow disposal sites. If there are no municipal sites available, securing permissions from landowners of nonmunicipally owned sites should be considered.
• Recommended deicing application rate guidelines are provided in the table below. An example form for tracking salt and other deicer usage is also provided.

Street Sweeping

References:

New Hampshire Stormwater Manual (February 2025) (NH SWM) (A14-A16) (Direct Quotes)

Description:

Street sweeping is a pollution prevention practice that removes sediment, debris and trash that accumulates along streets and roads from winter sanding practices and everyday use. Street sweeping is often performed to improve aesthetics and to reduce the export of sand to the drainage network and receiving waters. In addition to sediment, debris and trash, other pollutants that may be minimized through street sweeping include some nutrients, oxygen-demanding substances and trace metals.

There are three types of commonly used street sweepers:

• **Mechanical sweepers** use rotating brooms to force debris from the street surface into a hopper by a conveyor system. Water is usually sprayed on the pavement surface to control dust. This type of sweeper typically removes only coarse particles and therefore is less effective at removing nutrients, oxygen-demanding materials, and toxic substances that are typically attached to fine particles.

• **Regenerative-air sweepers** combine the rotating brooms of mechanical sweepers with forced air to dislodge the remaining dirt and use a high-power vacuum to pick up the dislodged particles. This allows for greater removal of fine particles and the associated pollutants.
• **Vacuum-assisted sweepers** combine the rotating brooms of mechanical sweepers with a high-power vacuum. Some will spray water to control dust and others operate completely dry with a continuous filtration system.
Vacuum-assisted sweepers and regenerative-air sweepers are considered more effective than the mechanical sweeper at particulate pickup. However, it is understood that the overall effectiveness of street sweeping operations to remove pollutants from a given area will depend on a number of variables and may require a combination of technologies and operational efforts. Other variables include the season, the frequency and location of sweeping, the ability to sweep on heavily traveled roads, the number of passes made and the operation speed of the sweeper.

Design Guidance:

As outlined under 'Design Considerations', street sweeping programs should be developed that accommodate areas of concern based on traffic volume, land use, field observations of sediment and trash accumulation and proximity to surface waters. At a minimum, street sweeping should be performed twice annually, preferably as soon as possible after the snow melts to reduce the amount of sand, grit, debris, and associated pollutants from winter sanding from entering surface waters.

Control of Invasive Plants

During maintenance activities, check for the presence of invasive plants and remove in a safe manner as described on the following pages. They should be controlled as described on the following pages.

Invasive plants are introduced, alien, or non-native plants, which have been moved by people from their native habitat to a new area. Some exotic plants are imported for human use such as landscaping, erosion control, or food crops. They also can arrive as "hitchhikers" among shipments of other plants, seeds, packing materials, or fresh produce. Some exotic plants become invasive and cause harm by:

- becoming weedy and overgrown;
- killing established shade trees;
- obstructing pipes and drainage systems;
- forming dense beds in water;
- lowering water levels in lakes, streams, and wetlands;
- destroying natural communities;

- promoting erosion on stream banks and hillsides; and

resisting control except by hazardous chemical.

Annual Report

Description: The owner is responsible to keep an **I & M Activity Log** that documents inspection, maintenance and repairs to the storm water management system, and a **Deicing Log** to track the amount and type of deicing material applied to the site. The original owner is responsible to ensure that any subsequent owner (s) have copies of the Stormwater System Management: Inspection and Maintenance Manual, copies of past logs and check lists. This includes any owner association for potential condominium conversion of the property. The Annual Report will be prepared and submitted to the City of Dover, Community Services, Engineering Department with copies of both logs and check lists no later than December 15th of each year. Upon an ownership change, the Annual Report will include the Transfer of Ownership Responsibility Forms duplicated from the form found below.

The plan set that accompanies this project includes a grading and drainage plan, construction details, and a sediment & erosion control plan. The Inspection and Maintenance Plan is attached.

Respectfully
BERRY SURVEYING & ENGINEERING

Kevin R. Poulin, PE
Associate, VP-Engineering Operations

BPF

Stormwater System Operation and Maintenance Plan
Inspection & Maintenance Manual Checklist

Residential Development
STF Development, LLC
Murphy Drive
(68 Durham Road)
Dover, NH

☑	Date	SCM / System	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
		Pavement Sweeping	Three Times Per Year	N/A	N/A
		Litter/Trash Removal	Routinely	Inspect dumpsters, outdoor waste receptacles area, and yard areas.	Parcel will be free of litter/trash.
		Deicing Agents	N/A	N/A	Use salt as the primary agent for roadway safety during winter.
		Closed Drainage System:			
		Porous Pavement	2-4 times per year	Check for sediment and debris accumulation buildup.	Vacuum pavement to remove debris. Jet underdrain annually. Removal and reinstallation of orifice cap required.

☑	Date	SCM / System	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
		Porous Pavers	2-4 times per year	Check for sediment and debris accumulation buildup/ponding.	If clogging occurs, remove and wash or replace peastone and fabric. Remove any vegetation growing between the pavers. Refer to manufacturer's instructions for pressure washing or vacuuming.
		Porous Pavement	2 times per year	Orifice outlet control	The SCHD40 cap with orifice must be fit and screwed in place and must be operational.
		Infiltration Basin	2 times per year	Check for sediment and debris accumulation buildup.	Remove sediment & debris when required. Remove Invasive Species.
		Infiltration Basin	Annually	Drain completely within 72 hours	Evaluate the surface of the Infiltration Pond for sedimentation and clogging. Remove clogging and restore the pond surface to original conditions.

☑	**Date**	**SCM / System**	**Minimum Inspection Frequency**	**Minimum Inspection Requirements**	**Maintenance / Cleanout Threshold**
		Deep Sump Catch Basins	2 times per year	Check for sediment accumulation & clogging.	Sediment accumulated to a depth of 2 feet.
		Winter Maintenance	Ongoing	Remove snow as directed.	Ongoing
		Post Winter Maintenance	Annually	Remove excess sand, gross solids, and repair vegetation and plantings	Parcel will be free of excess sand, litter/trash. Vegetation per approved plans.
		Annual Report	1 time per year	Submit Annual Report to Dover, Community Services, Engineering Department and kept on file by the owner.	Report to be submitted on or before December 15th each year.

Inspection Checklist: Page 3

Deep Sump Catch Basins

Conveyance Swale

Porous Pavement w/ Infiltration #101 and Orifice Outlet Control

Infiltration Pond #102 W/ Matted Emergency Spillway

Stabilization for Long Term Cover

Inspection Notes:

Stormwater System Operation and Maintenance Plan

Inspection & Maintenance Manual Log Form

Residential Development
STF Development, LLC
Murphy Drive
(68 Durham Road)
Dover, NH

SCM / System	Date Inspected	Inspector	Cleaning/Repair (List Items & Comments)	Repair Date	Performed By:

Stormwater System Operation and Maintenance Plan

Deicing Log Form

Residential Development
STF Development, LLC
Murphy Drive
(68 Durham Road)
Dover, NH

Date	Amount Applied	Performed By:	Date	Amount Applied	Performed By:

Stormwater System Operation & Maintenance Plan CERTIFICATION

Owner	Responsibility
Name: ROBERT V PAOLINI, MANAGING MEMBER STF Development, LLC Address: 54 Dover Point Road, Unit #3 DOVER, NH 03820 Telephone: 603-781-1636 E-Mail Address: crownpoint62@yahoo.com	The owner is responsible for the conduct of all construction activities, and ultimate compliance with all the provisions of the Stormwater System Operation & Maintenance Plan and the implementation of the Inspection and Maintenance Manual.

OWNER CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed:_____ Date: _____

Printed Name:

Representing:

Pavement Temp. (°F) and Trend (↑ ↓)	Weather Condition	Maintenance Actions	Application Rate (lbs/per 1000 sq.ft.)			
			Salt Prewetted/Pretreated with salt brine	Salt Prewetted/Pretreated with other blends	Dry salt	Winter sand
>30 ↑	Snow	Plow, treat intersections only				Not recommended
	Frz. Rain	Apply chemical				Not recommended
30 ↓	Snow	Plow and apply chemical				Not recommended
	Frz. Rain	Apply chemical				Not recommended
25 - 30 ↑	Snow	Plow and apply chemical				Not recommended
	Frz. Rain	Apply chemical				Not recommended
25 - 30 ↓	Snow	Plow and apply chemical				Not recommended
	Frz. Rain	Apply chemical				3.25
20 - 25 ↑	Snow or frz. Rain	Plow and Apply chemical				3.25 for frz. Rain
20 - 25 ↓	Snow	Plow and apply chemical				Not recommended
	Frz. Rain	Apply chemical				3.25
15 - 20 ↑	Snow	Plow and apply chemical				Not recommended
	Frz. Rain	Apply chemical				3.25
15 - 20 ↓	Snow or Frz. Rain	Plow and apply chemical				3.25 for frz. Rain
0 to 15 ↑↓	Snow	Plow, treat with blends, sand hazardous areas	Not recommended		Not recommended	5.0 and spot-treat as needed
< 0	Snow	Plow, treat with blends, sand hazardous areas	Not recommended		Not recommended	5.0 and spot-treat as needed

Table 19. Application Rates for Deicing

These rates & table format are based on road application guidelines (Mn Snow & Ice Control Field Handbook, Manual 2005-1). Develop your own application rates by adjusting your current rates incrementally downward toward these guidelines. Where temperature categories overlap, select the rate most applicable to your situation.

Control of Invasive Plants

New Hampshire
Department of Agriculture,
Markets & Food
Douglas Cygan
603-271-3488
doug.cygan@agr.nh.gov

This guide lists garden plants and weeds which are already causing significant changes to natural areas in the Mid-Atlantic. **Measures for controlling each species are indicated by number, e.g., (3), in the text with a full explanation at the end of this article.** Click on the word Control: to jump to that section. Then click your "back" button to return to the text. Following each section suggested alternative plants are given. These alternatives are native plants, well adapted and needing little care, attractive to birds and butterflies, and an important part of the food web for our indigenous species.

INVASIVE TREES

NORWAY MAPLE (*Acer platanoides*) has large leaves similar to sugar maple. To easily confirm that the plant is Norway maple, break off a leaf and if it's truly Norway maple it will exude milky white sap. Fall foliage is yellow. (Exception: cultivars such as 'Crimson King,' which have red leaves in spring or summer, may have red autumn leaves.) The leaves turn color late, usually in late October after native trees have dropped their foliage. This tree suppresses growth of grass, garden plants, and forest understory beneath it, at least as far as the drip-line. Its wind-borne seeds can germinate and grow in deep shade. The presence of young Norway maples in our woodlands is increasing.

Control: (1); (7), (8), (9), or (10); (11) in mid-October to early November, before the leaves turn color.

TREE OF HEAVEN (*Ailanthus altissima*), is incredibly tough and can grow in the poorest conditions. It produces huge quantities of wind-borne seeds, grows rapidly, and secretes a toxin that kills other plants. Its long compound leaves, with 11-25 lance-shaped leaflets, smell like peanut butter or burnt coffee when crushed. Once established, this tree cannot be removed by mechanical means alone.

Control: (1) - seedlings only. Herbicide - use Garlon 3a (9) with no more than a 1" gap between cuts, or (10); plus (11) on re-growth. Or paint bottom 12" of bark with Garlon 4 Ultra (in February or March to protect surrounding plants). USE MAXIMUM STRENGTH SPECIFIED ON LABEL for all herbicide applications on Ailanthus. Glyphosate is not effective against Ailanthus.

INVASIVE SHRUBS

AUTUMN OLIVE (*Eleagnus umbellata*): Formerly recommended for erosion control and wildlife value, these have proved highly invasive and diminish the overall quality of wildlife habitat.

Control: (1) - up to 4" diameter trunks; (7) or (10) or bury stump. Do not mow.

MULTIFLORA ROSE (*Rosa multiflora*), formerly recommended for erosion control, hedges, and wildlife habitat, becomes a huge shrub that chokes out all other vegetation and is too dense for many species of birds to nest in, though a few favor it. In shade, it grows up trees like a vine. It is covered with white flowers in June. (Our native roses have fewer flowers, mostly pink.) Distinguish multiflora by its size, and by the presence of very hard, curved thorns, and a fringed edge to the leaf stalk.

Control: (1) - pull seedlings, dig out larger plants at least 6" from the crown and 6" down; (4) on extensive infestations; (10) or (11). It may remain green in winter, so herbicide may *applied when other plants are dormant. For foliar application, mix Rodeo with extra sticker-spreader, or use Roundup Sure Shot Foam on small plants.*

BUSH HONEYSUCKLES (*Lonicera spp.*), including Belle, Amur, Morrow's, and Tatarian honeysuckle. (In our region, assume that any honeysuckle is exotic unless it is a scarlet-flowered vine). Bush honeysuckles create denser shade than native shrubs, reducing plant diversity and eliminating nest sites for many forest interior species.
Control: (2) on ornamentals; (1); on shady sites only, brush cut in early spring and again in early fall (3); (4) during the growing season; (7); or (10) late in the growing season.

BLUNT-LEAVED PRIVET (*Ligustrum* obtusifolium). *Control:* (1); (7) or (10); or trim off all flowers. Do not cut back or mow.

BURNING BUSH, WINGED EUONYMUS (*Euonymus alatus*), identified by wide, corky wings on the branches.
Control: (1); (7) or (10); or trim off all flowers.

JAPANESE BARBERRY (*Berberis thunbergii*), and all cultivars and varieties.
Control: (1); (7) or (10); or trim off all flowers.

INVASIVE WOODY VINES

All of these vines shade out the shrubs and young trees of the forest understory, eventually killing them, and changing the open structure of the forest into a dense tangle. DO NOT PLANT NEXT TO OPEN SPACE.

JAPANESE HONEYSUCKLE (*Lonicera japonica*), including Hall's honeysuckle, has gold-and-white flowers with a heavenly scent and sweet nectar in June. This is probably the familiar honeysuckle of your childhood. It is a rampant grower that spirals around trees, often strangling them.
Control: (1); (3); (10); (11) in fall or early spring when native vegetation is dormant. Plan to re-treat repeatedly.

ORIENTAL BITTERSWEET (*Celastrus orbiculatus*) has almost completely displaced American bittersweet (*C. scandens*). The Asian plant has its flowers and bright orange seed capsules in clusters all along the stem, while the native species bears them only at the branch tips.
Control: (1); keep ornamental plants cut back, remove all fruits as soon as they open, and bag or burn fruits; to eradicate use Garlon 3a (10).

JAPANESE KNOTWEED, MEXICAN BAMBOO (*Polygonum cuspidatum*) can grow in shade. The stems have knotty joints, reminiscent of bamboo. It grows 6-10' tall and has large pointed oval or triangular leaves.
Control: Cut at least 3 times each growing season and/or treat with Rodeo (10) or (11). In gardens, heavy mulch or dense shade may kill it.

INVASIVE HERBACEOUS PLANTS

GARLIC MUSTARD (*Alliaria petiolata*, *A. officinalis*), a white-flowered biennial with rough, scalloped leaves (kidney-, heart- or arrow-shaped), recognizable by the smell of garlic and taste of mustard when its leaves are crushed. (The odor fades by fall.)
Control: Pull before it flowers in spring (1), removing crown and roots. Tamp down soil afterwards. Once it has flowered, cut (2), being careful not to scatter seed, then bag and burn or send to the landfill. (11) may be appropriate in some settings.

JAPANESE STILT GRASS (*Microstegium vimineum*) can be identified by its lime-green color and a line of silvery hairs down the middle of the 2-3" long blade. It tolerates sun or dense shade and quickly invades areas left bare or disturbed by tilling or flooding. An annual grass, it builds up a large seed bank in the soil.

Control: Easily pulled in early to mid-summer (1) - be sure to pull before it goes to seed. If seeds have formed, bag and burn or send to landfill. Mowing weekly or when it has just begun to flower may prevent it from setting seed (3). Use glyphosate (11) or herbicidal soap (less effective) on large infestations. Follow up with (5) in spring.

MILE-A-MINUTE VINE, DEVIL'S TAIL TEARTHUMB (*Polygonum perfoliatum*), a rapidly growing annual vine with triangular leaves, barbed stems, and turquoise berries in August which are spread by birds. It quickly covers and shades out herbaceous plants.
Control: same as for stilt grass.

SPOTTED KNAPWEED (*Centaurea maculosa*), a biennial with thistle-like flowers.
Control: Do NOT pull (1) unless the plant is young and the ground is very soft - the tap root will break off and produce several new plants. Wear sturdy gloves. (2); (6); (10) or (11).

CONTROL MEASURES

(1) PULL seedlings and small or shallow-rooted plants when soil is moist. Dig out larger plants, including the root systems. Use a forked spade or weed wrench for trees or shrubs.
(2) DEADHEAD to prevent spread of seeds of invasive plants. Cut off seeds or fruits before they ripen. Bag, and burn or send to a landfill.
(3) MOW or CUTTING at least 4 times a season to deplete plants' store of nutrients and carbohydrates, reduce seed formation, and kill or minimize spread of plants. If necessary, repeat each year.
(4) CONTROLLED BURNING during the spring, repeated over several years, allows native vegetation to compete more effectively with the invasive species. This requires a permit. Spot treatment with glyphosate in late fall can be used to make this method more effective.
(5) Use a CORN-BASED PRE-EMERGENCE HERBICIDE on annual weeds. This product is also an organic fertilizer, i.e., it can stimulate growth of existing plants, including weeds, so it is appropriate for lawns and gardens but may not be appropriate in woodlands.
(6) In lawns, SPOT TREAT with BROAD-LEAF WEEDKILLER. Good lawn-care practices (test soil; use lime and fertilizer only when soil test shows a need; mow high and frequently; leave clippings on lawn) reduce weed infestations.
(7) CUT DOWN the tree. Grind out the stump, or clip off re-growth.
(8) GIRDLE tree: cut through the bark and growing layer (cambium) all around the trunk, about 6" above the ground. Girdling is most effective in spring when the sap is rising, and from middle to late summer when the tree is sending down food to the roots. Clip off sucker sprouts.
(9) FRILL: Using a machete, hatchet or similar device, hack scars (several holes in larger trees) downward into the cambium layer, and squirt in glyphosate (or triclopyr if recommended in text above). Follow label directions for Injection and Frill Applications. This is most effective from middle to late summer. Clip off any sucker sprouts or treat with glyphosate.
(10) CUT STEM / CUT STUMP WITH GLYPHOSATE (or triclopyr if specified above). Follow label directions for Cut Stump Application. Clip off sucker sprouts or paint with glyphosate. See Note on Herbicides.
(11) FOLIAR SPRAY WITH GLYPHOSATE herbicide (see Note on Herbicides). Use a backpack or garden sprayer or mist blower, following label directions. Avoid overspray and/or dripping onto non-target plants, because glyphosate kills most plants except moss. If it rolls off waxy or grass-like foliage, use additional sticker-spreader. Deciduous trees, shrubs, and perennials move nutrients down to the roots in late summer. Glyphosate is particularly effective at this time and when plants have just gone out of flowering. Several invasive species retain their foliage after native plants have lost theirs, and resume growth earlier in spring than most natives. This allows you to treat them without harming the natives. However, the plant must be actively growing for the herbicide to work. Retreatments may be necessary the following year if suckering occurs or the plant hasn't been entirely killed.

NOTE ON HERBICIDES: It is highly recommended that small populations try to be controlled using non-chemical methods wherever feasible. However, for large infestations, and for a few plants specified above, herbicide use is essential. Apply herbicides carefully to avoid non-target plants, glyphosate is the least environmentally damaging herbicide in most cases. Add food coloring for visibility, and a soap-based sticker such as Cide-Kick. Glyphosate is ineffective on some

plants; for these, triclopyr (Garlon) may be indicated. When using herbicides, read the entire label and observe all precautions listed, including proper disposal. If in doubt, call your local Cooperative Extension Service.

LEGEND:

- CONTOUR MINOR, EXISTING
- CONTOUR MAJOR, EXISTING
- CONTOUR MINOR, PROPOSED
- CONTOUR MAJOR, PROPOSED
- TREELINE
- ROAD CENTERLINE
- PROPOSED DRAINAGE LINE
- PROPOSED UNDERDRAIN
- LIMIT OF INFILTRATION STONE RESERVOIR
- BITUMINOUS CONCRETE
- STORMWATER CONTROL MEASURE (SCM)
- BERM
- POROUS PAVEMENT
- PROPOSED CONCRETE SIDEWALK OR PAD
- MATTED SPILLWAY
- EXISTING CATCH BASIN W/STRUCTURE
- PROPOSED CATCH BASIN W/ STRUCTURE

NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT LLC
54 DOVER POINT ROAD
DOVER, NH 03820

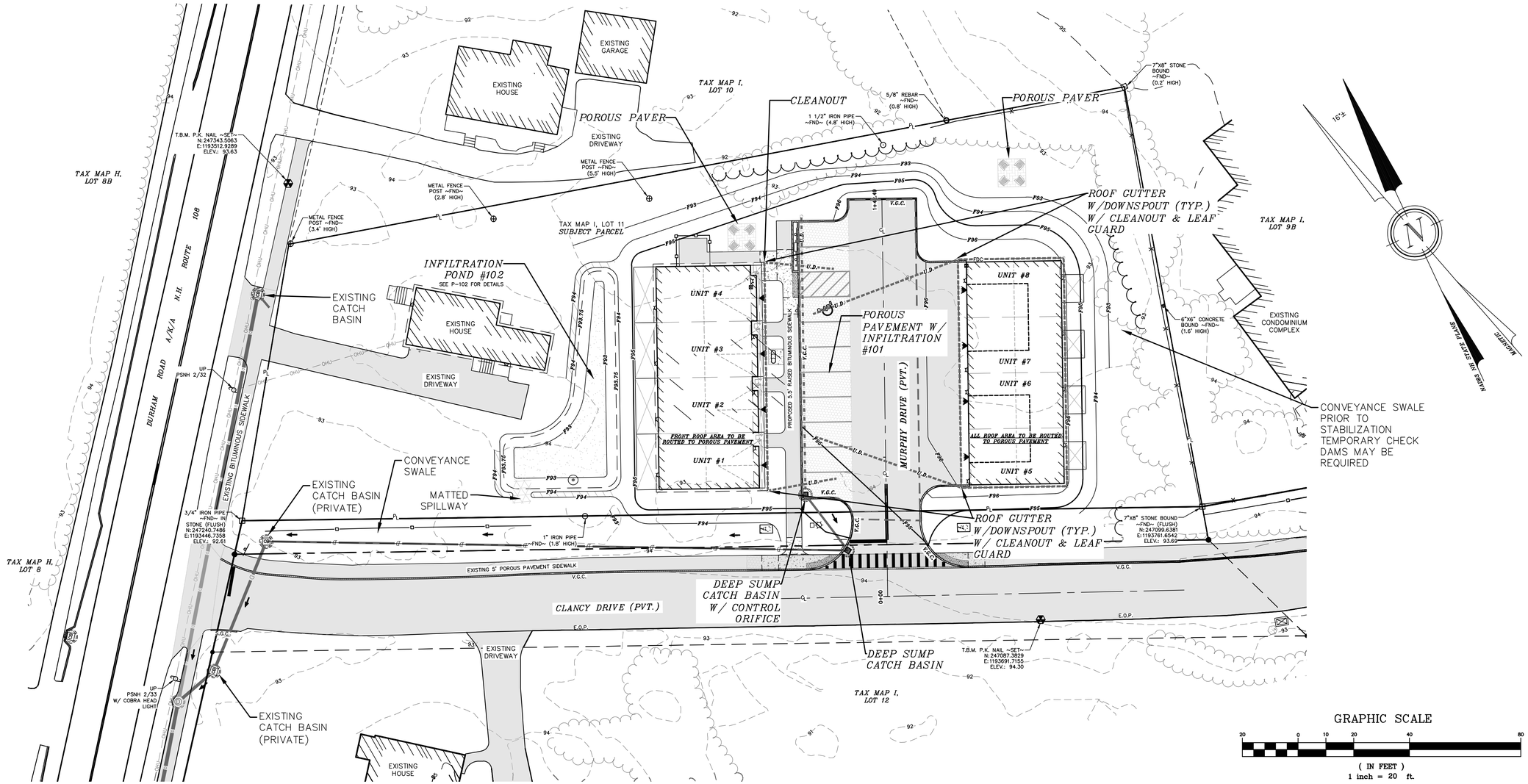
2.) TAX MAP I, LOT 11

3.) S.C.R.D. BOOK 5263, PAGE 820

4.) LOT AREA PRE LLR: 40,508 Sq. Ft., 0.93 Ac.
LOT AREA POST LLR: 44,660 SQ.FT., 1.03 AC.

5.) THE INTENT OF THIS PLAN IS TO DEMONSTRATE THE DRAINAGE INFRASTRUCTURE THAT REQUIRES PERIODIC INSPECTION AND MAINTENANCE. IT IS TO ACCOMPANY A DOCUMENT ENTITLED "INSPECTION AND MAINTENANCE MANUAL, STORMWATER SYSTEM MANAGEMENT PUBLISHED BY BERRY SURVEYING & ENGINEERING ON THE SAME DATE.

NOTE: HALF SCALE PLANS, (11–INCHES X 17–INCHES) WILL HAVE A SCALE THAT IS TWICE THE PUBLISHED SCALE.



DOVER FILE #SITE 26–XXX DOVER FILE #TRAN 26–XXX

REVISION	DATE	DESCRIPTION

INSPECTION & MAINTENANCE PLAN
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

P1

STABILIZATION NOTE:

SEE NOTE #6, SHEET E-102, DETAIL E-18
SIDE SLOPES ARE TO BE STABILIZED WITHIN THREE WORKING DAYS UPON COMPLETION OF FINAL GRADE.

INFILTRATION SURFACE PROTECTION NOTE:

SEE EROSION AND SEDIMENT CONTROL PLAN
IT IS RECOMMENDED THAT THE CONTRACTOR TAKE MEASURES TO PROTECT THE INFILTRATION SURFACE FROM SEDIMENTATION CAUSED BY EROSION ON THE SIDE SLOPES.

TRACKING IS NOT PERMITTED ON THE INFILTRATION SURFACE. EXCAVATIONS SHOULD TAKE PLACE ON THE OUTSIDE LIMITS OF THE INFILTRATION SYSTEM WHERE FEASIBLE. IF TRACKING DOES TAKE PLACE, SCARIFICATION IS REQUIRED PRIOR TO BE BACKFILL OF LOAM AND SEED.

AFTER THE INFILTRATION SYSTEM AREA IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.

DO NOT PLACE INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.

CONSTRUCTION SEQUENCE NOTE:

EROSION, SEDIMENT AND DETENTION CONTROL FACILITIES SHALL BE INSTALLED & STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM. TEMPORARY DIVERSIONS MAY BE REQUIRED. POST CONSTRUCTION STORM WATER MANAGEMENT PRACTICES MUST BE INITIATED AND STABILIZED EARLY IN THE PROCESS. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL SCMs ARE STABILIZED. SWALES CONVEYING RUNOFF TO SCMs WILL BE CONSTRUCTED AND PUT INTO SERVICE ONCE THE RECEIVING SCM IS STABILIZED. SEE DETAIL E17, SHEET E-102 FOR FULL CONSTRUCTION SEQUENCE.

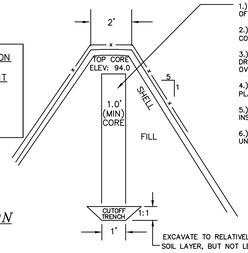
CONSTRUCTION NOTE: THE DESIGN ENGINEER IS TO BE ON SITE TO INSPECT THE BOTTOM OF THE POND BEFORE THE PLACEMENT OF THE FINE AGGREGATE. PLEASE PROVIDE 48 HOURS NOTICE PRIOR TO REQUESTED INSPECTION.

DESIGN REFERENCES

1 UNH STORMWATER CENTER.
2 NEW HAMPSHIRE STORMWATER MANUAL, FEBRUARY 2025 AS AMENDED.

P2

LOW PERMEABILITY MATERIAL GRADATION	
SIEVE SIZE	% PASSING BY WEIGHT
#4	95 – 100
#40	60 – 95
#100	40 – 60
#200	25 – 45



1.) 1.0' CORE IS TO BE CONSTRUCTED OF COMPACTED LOAM MATERIAL.

2.) CORE IS TO BE INSTALLED & COMPACTED IN 12" LIFTS.

3.) INSTALLATION OF ENTIRE DRAINAGE STRUCTURE IS TO BE OVERSEEN BY DESIGN ENGINEER.

4.) GENERAL FILL MATERIALS ARE TO PLACED & COMPACTED IN 12" LIFTS.

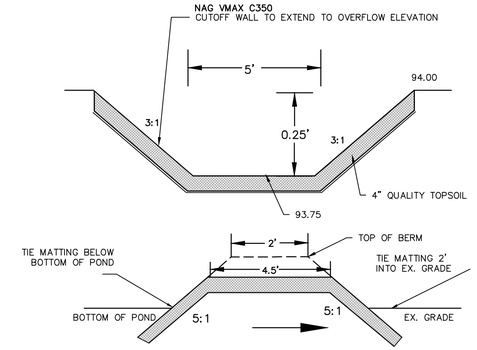
5.) GENERAL FILL MATERIAL MAY BE INSTALLED USING ONSITE MATERIALS.

6.) CORE IS TO BE CONSTRUCTED UNDERNEATH THE PROPOSED SPILLWAY.

EXCAVATE TO RELATIVELY IMPERVIOUS SOIL LAYER, BUT NOT LESS THAN 3'

BERM CONSTRUCTION
NOT TO SCALE

P3



EMERGENCY SPILLWAY PROFILE
NOT TO SCALE

P4

PLANTING SPECIFICATION

Retention Basin Floor Mix - Low Maintenance - ERNMX-126

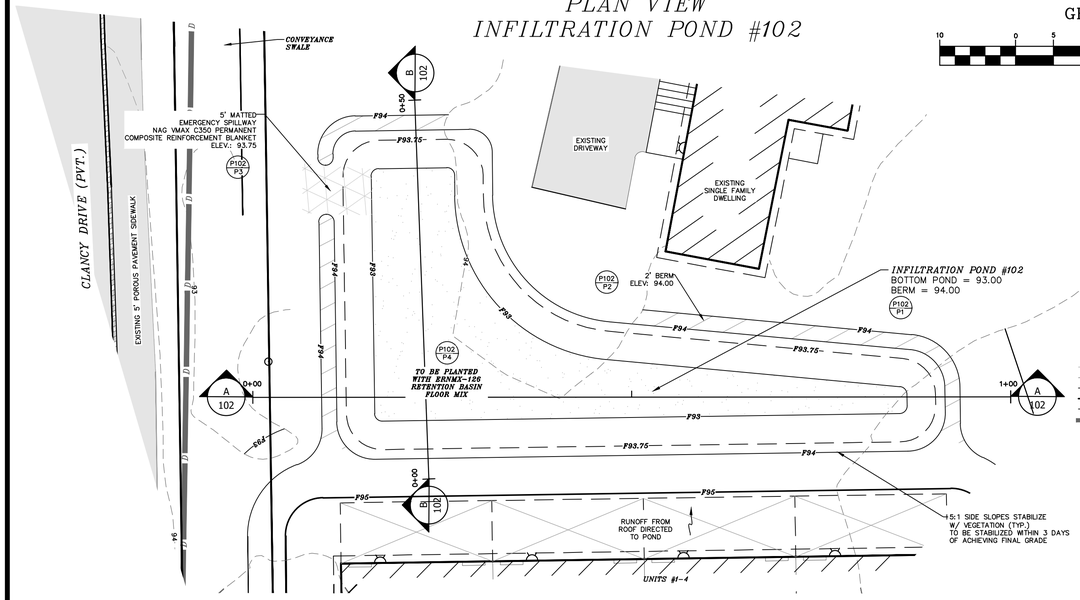
	Botanical Name	Common Name	Price/Lb
20.00 %	*Panicum clandestinum, Tioga*	Deertongue, Tioga	23.08
20.00 %	*Puccinellia distans, Fults*	Alkaligrass, Fults	4.56
18.00 %	*Elymus virginicus, Madison-NY Ecotype*	Virginia Wildrye, Madison-NY Ecotype	9.96
15.00 %	*Agrostis stolonifera, 'Pennacross'*	Creeping Bentgrass, 'Pennacross'	14.40
15.00 %	*Poa palustris*	Fowl Bluegrass	16.80
10.00 %	*Carex vulpinoidea, PA Ecotype*	Fox Sedge, PA Ecotype	28.80
1.00 %	*Carex scoparia, PA Ecotype*	Blunt Broom Sedge, PA Ecotype	81.60
1.00 %	*Juncus effusus*	Soft Rush	48.00
100.00 %		**Mix Price/Lb Bulk:**	**$15.98**

Seeding Rate: 20-40 lbs per acre, or 0.5-1 lb/1,000 sq ft with a cover crop. For a cover crop use one of the following: grain rye (1 Sep to 30 Apr; 30 lbs/acre), Japanese millet (1 May to 31 Aug; 10 lbs/acre), or barnyard grass (1 May to 31 Aug; 10 lbs/acre).

Grasses & Grass-like Species - Herbaceous Perennial; Stormwater Management

The hardy inexpensive grass and grass-like species are ideal for retention basins that may have high salt inflows and where mowing may be required. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

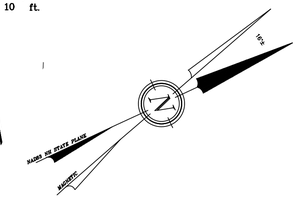
PLAN VIEW
INFILTRATION POND #102



GRAPHIC SCALE

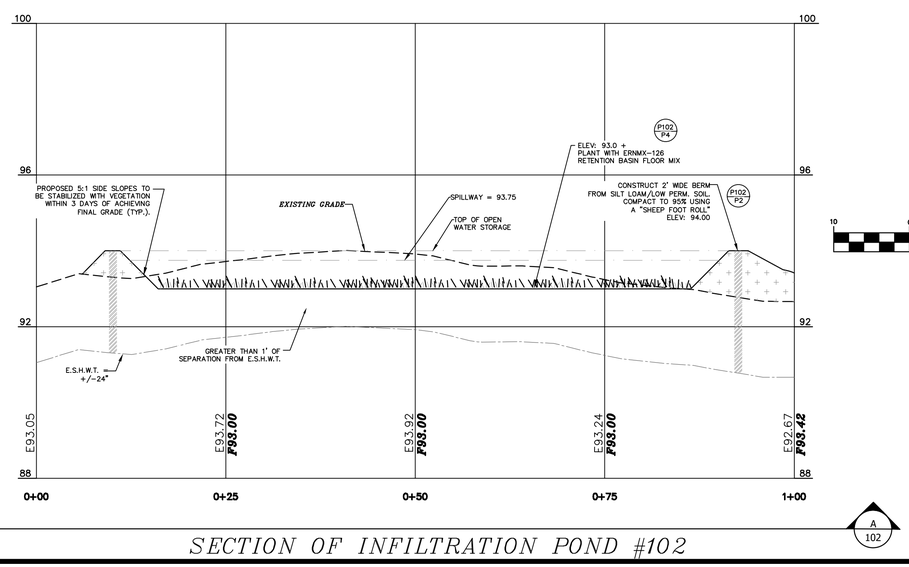
10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.



LEGEND:

E101 E6 — DETAIL SHEET / DETAIL
CONTOUR MINOR, EXISTING
CONTOUR MAJOR, EXISTING
CONTOUR MINOR, PROPOSED
CONTOUR MAJOR, PROPOSED
CENTER LINE
DRAIN LINE, PROPOSED
FLOW ARROW
STORMWATER CONTROL MEASURE (SCM)
BERM
MATTED SPILLWAY
BITUMINOUS CONCRETE

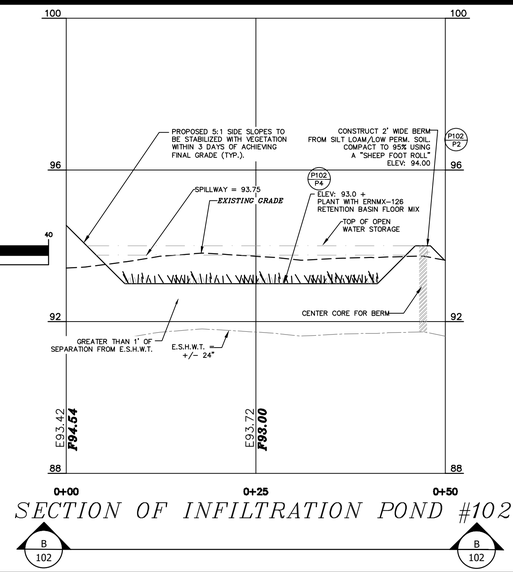


SECTION OF INFILTRATION POND #102

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.
VERTICAL SCALE: 1" = 2'



SECTION OF INFILTRATION POND #102

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

INFILTRATION POND #102
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

BERRY & SURVEYING ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 10 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

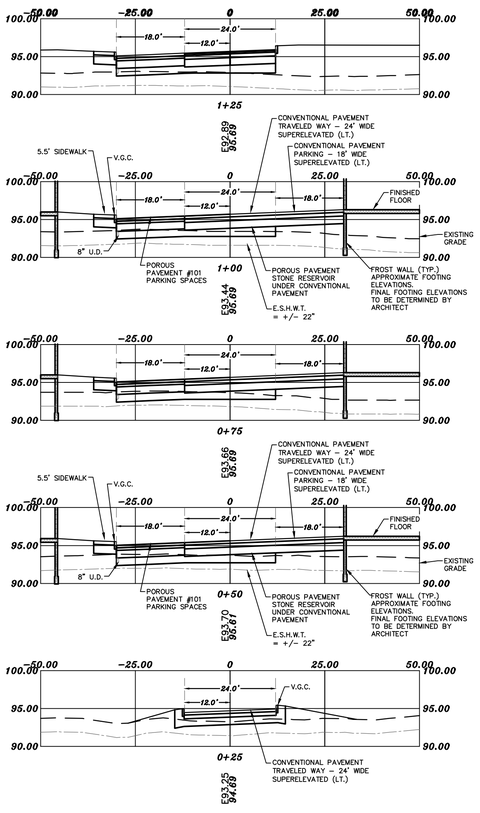
P-102

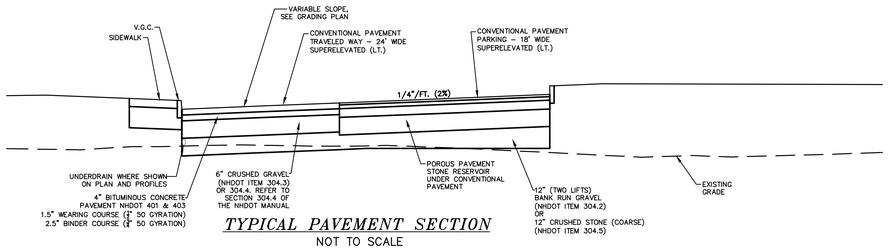
NOT FOR CONSTRUCTION

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.
Vertical Scale 1 INCH = 10 FT.





TYPICAL PAVEMENT SECTION
NOT TO SCALE

P1

DESIGN NOTES:

1.) POROUS ASPHALT PAVEMENT WILL CONFORM TO UNHSC (2007b) SPECIFICATIONS AS UPDATED BY UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS (DATED: SEPTEMBER 2016).

2.) THE FILTER COURSE WILL BE INSTALLED AT A MINIMUM DEPTH OF 12 INCHES AND CONSIST OF NHDOT (2016) SAND, ITEM 304.1 PER THE NH STORMWATER MANUAL.

3.) SEE CROSS SECTIONS FOR DETAILS.

4.) SEE STORMWATER SYSTEM MANAGEMENT: INSPECTION AND MAINTENANCE MANUAL AND PLAN, DATED MAY 7, 2026 FOR MAINTENANCE REQUIREMENTS.

REFERENCE:

1.) NH STORMWATER MANUAL (FEBRUARY 2025) APPENDIX A, A-60 – A-64.

2.) UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS, FEBRUARY 2014, REVISED SEPTEMBER 2016, UNIVERSITY OF NEW HAMPSHIRE STORWATER CENTER, DURHAM, NH 03824-3534.

3.) POROUS ASPHALT PAVEMENT FOR STORMWATER MANAGEMENT, THE UNH STORMWATER CENTER.

POROUS PAVEMENT
TOTAL SECTION DEPTH = 32"
TOTAL SECTION REQUIRED = 31.2"
(65% OF FROST DEPTH)
FROST DEPTH = 48" (UNHSC)
12" FILTER MEDIA PROVIDED

SEE GRADING PLANS & PROFILES FOR SPOT ELEVATIONS

ROAD NOTE:

GRANULAR FILL REQUIRED WITHIN 12" OF SELECT MATERIALS. COMPACT ALL ROAD FILL MATERIALS IN 6" LIFTS. UNDER THE UNIFIED SOIL CLASSIFICATION SYSTEM, THE GRANULAR FILL BE GRAVELLY OR SANDY SOIL AND WILL NOT BE ANY FINE GRAINED SOIL. ORGANIC MATERIAL SHALL BE EXCAVATED FROM BENEATH THE ROADWAY.

CONSTRUCTION NOTE: THE DESIGN ENGINEER IS TO BE ON SITE PRIOR TO AND DURING THE PLACEMENT OF THE RESERVOIR STONE, AND TO WITNESS THE INSTALLATION OF THE UNDER-DRAIN. PLEASE PROVIDE 24 HOURS NOTICE PRIOR TO REQUESTED INSPECTION.

CHOKER COURSE *

SIEVE SIZE	% PASSING BY WEIGHT
1 1/2"	100
1"	95 – 100
1/2"	25 – 60
# 4	0 – 10
# 8	0 – 5

* EQUIVALENT TO STANDARD STONE SIZE #57 – AASHTO

FILTER COURSE *

SIEVE SIZE	% PASSING BY WEIGHT
6"	100
# 4	70 – 100
# 200	0 – 6**

* EQUIVALENT TO MODIFIED NHDOT 304.1 – SECTION 304 OF NHDOT NHDOT STANDARD SPECIFICATIONS

** LESS THAN 4% FINES

POROUS ASPHALT MIX DESIGN CRITERIA

SIEVE SIZE	% PASSING BY WEIGHT
3/4"	100
1/2"	85 – 100
3/8"	55 – 75
# 4	10 – 25
# 8	5 – 12
# 200	2 – 4
BINDER CONTENT (AASHTO T164)	5.8 – 6.5%
AIR VOID CONTENT (AASHTO D6752)	16 – 22%
DRAINDOWN (AASHTO D6390)	≤ 0.3%
RETAINED TENSILE STRENGTH (AASHTO D6390)	≥ 80%
CANTABRO ABRASION TEST (UNAGED)	≤ 20%
CANTABRO ABRASION TEST (7 DAYS)	≤ 30%

FILTER BLANKET COURSE *

SIEVE SIZE	% PASSING BY WEIGHT
1/2"	100
3/8"	95 – 100
# 4	22 – 55
# 8	0 – 10

* EQUIVALENT TO STANDARD WASHED STONE – SECTION 702 OF NHDOT NHDOT STANDARD SPECIFICATIONS

RESERVOIR COURSE *

SIEVE SIZE	% PASSING BY WEIGHT
2 1/2"	100
2"	90 – 100
1 1/2"	35 – 70
1"	0 – 15
1/2"	0 – 5

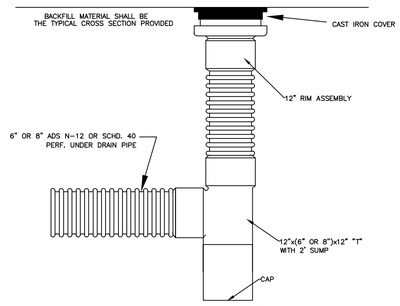
* EQUIVALENT TO STANDARD STONE SIZE #3 – AASHTO

POROUS ASPHALT PAVEMENT
NOT TO SCALE

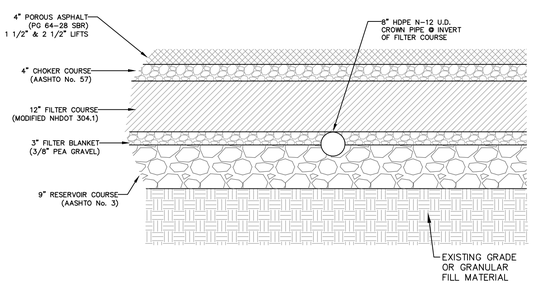
12" CAST IRON COVER
NOT TO SCALE

CASTINGS ARE RATED FOR H20 WHEEL LOAD TRAFFIC

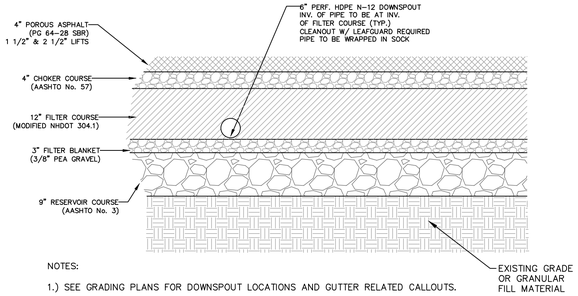
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT



ADS N-12, INLINE DRAIN/CLEANOUT
NOT TO SCALE USED FOR ALL CLEANOUTS



POROUS ASPHALT PAVEMENT SECTION
NOT TO SCALE



NOTES:

1.) SEE GRADING PLANS FOR DOWNSPOUT LOCATIONS AND GUTTER RELATED CALLOUTS.

2.) A CLEANOUT IS REQUIRED FOR EACH DOWNSPOUT NEAR THE BUILDING.

DOWNSPOUT DISCHARGE POROUS PAVEMENT DETAIL
NOT TO SCALE

NOTE:

THE FRONT OF UNITS 1-4 AND ALL OF UNITS 5-8 WILL HAVE GUTTERS AND DRAINS INTO THE POROUS PAVEMENT.

P-101

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

CROSS SECTIONS & POROUS PRODUCT SPECIFICATIONS
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

SHEET 12 OF 23

NOT FOR CONSTRUCTION

Outstanding Resource Waters, Impairments, and completed TMDLs.
File last update March 16, 2022.

2020/2022 Assessment Mapper | NHDES TMDL Info | EPA TMDL Info | OneStop Mapper

Applicable EPA Approved Assessment Cycle	Assessment Unit ID (AUID) (for mapped extent, see the 2020/2022 Assessment Mapper)	Assessment Unit Name	Town(s) - Primary town listed first	Water Size	Size Unit	Designated Use	Parameter Name	Parameter Level - NHDES Category	TMDL Approval Date	TMDL Name [All freshwaters are covered by the Mercury TMDL (Approved 12/21/2007, TMDL ID 33883)]	TMDL ID	Outstanding Resource Water (ORW) (AUIDs not shown are Non-ORWs) {See the OneStop Mapper if your AUID says "Review OneStop GIS ORW Layer"}
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-P				Non-ORW
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Aquatic Life Integrity	Dissolved oxygen saturation	5-M				Non-ORW
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-P				Non-ORW
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Aquatic Life Integrity	Oxygen, Dissolved	5-P				Non-ORW
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Aquatic Life Integrity	pH	5-M				Non-ORW
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Primary Contact Recreation	Chlorophyll-a	5-M				Non-ORW
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Primary Contact Recreation	Enterococcus	4A-M	9/21/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39277	Non-ORW
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Primary Contact Recreation	Nitrogen (Total)	5-P				Non-ORW
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Shellfish Consumption	Fecal Coliform	4A-P	8/29/2011	58 NH BACTERIA IMPAIRED WATERS	40669	Non-ORW
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030406-01	SALMON FALLS RIVER	DOVER, ROLLINSFORD, RYE	0.282	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	2-Methylnaphthalene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Acenaphthene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Acenaphthylene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Anthracene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Benzo(a)pyrene (PAHs)	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Benzo[a]anthracene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Benzo[g,h,i]perylene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Chrysene (C1-C4)	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	DDD	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	DDE	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	DDT	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Dibenz[a,h]anthracene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Dieldrin	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Fluoranthene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Fluorene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Indeno[1,2,3-cd]pyrene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Naphthalene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-M				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Oxygen, Dissolved	5-M				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Phenanthrene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Aquatic Life Integrity	Pyrene	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Primary Contact Recreation	Chlorophyll-a	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Primary Contact Recreation	Enterococcus	4A-M	9/21/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39277	Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Primary Contact Recreation	Nitrogen (Total)	5-P				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Shellfish Consumption	Fecal Coliform	4A-P	8/29/2011	58 NH BACTERIA IMPAIRED WATERS	40669	Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030608-01	COCHECO RIVER	DOVER	0.277	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	2-Methylnaphthalene	5-P				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Acenaphthene	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Acenaphthylene	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Aluminum	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Anthracene	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Arsenic	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Benzo(a)pyrene (PAHs)	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Benzo[a]anthracene	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Cadmium	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Chrysene (C1-C4)	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Copper	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	DDD	5-P				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	DDE	5-P				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	DDT	5-P				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Dibenz[a,h]anthracene	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Dissolved oxygen saturation	5-P				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Fluoranthene	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Fluorene	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Lead	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Mercury	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Naphthalene	5-P				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Nickel	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Oxygen, Dissolved	5-P				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	pH	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Phenanthrene	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	Pyrene	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Aquatic Life Integrity	trans-Nonachlor	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Primary Contact Recreation	Chlorophyll-a	5-P				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Primary Contact Recreation	Enterococcus	4A-P	9/27/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39278	Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Primary Contact Recreation	Nitrogen (Total)	5-P				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M				Non-ORW

2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030709-01-01	LAMPREY RIVER NORTH	NEWMARKET	0.033	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030709-01-02	LAMPREY RIVER SOUTH	NEWMARKET	0.137	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-M				Non-ORW
2020/2022	NHEST600030709-01-02	LAMPREY RIVER SOUTH	NEWMARKET	0.137	SQUARE MILES	Aquatic Life Integrity	Estuarine Bioassessments	5-P				Non-ORW
2020/2022	NHEST600030709-01-02	LAMPREY RIVER SOUTH	NEWMARKET	0.137	SQUARE MILES	Aquatic Life Integrity	Light Attenuation Coefficient	5-P				Non-ORW
2020/2022	NHEST600030709-01-02	LAMPREY RIVER SOUTH	NEWMARKET	0.137	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-M				Non-ORW
2020/2022	NHEST600030709-01-02	LAMPREY RIVER SOUTH	NEWMARKET	0.137	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030709-01-02	LAMPREY RIVER SOUTH	NEWMARKET	0.137	SQUARE MILES	Primary Contact Recreation	Chlorophyll-a	5-M				Non-ORW
2020/2022	NHEST600030709-01-02	LAMPREY RIVER SOUTH	NEWMARKET	0.137	SQUARE MILES	Primary Contact Recreation	Enterococcus	4A-M	9/27/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39278	Non-ORW
2020/2022	NHEST600030709-01-02	LAMPREY RIVER SOUTH	NEWMARKET	0.137	SQUARE MILES	Primary Contact Recreation	Nitrogen (Total)	5-P				Non-ORW
2020/2022	NHEST600030709-01-02	LAMPREY RIVER SOUTH	NEWMARKET	0.137	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030709-01-02	LAMPREY RIVER SOUTH	NEWMARKET	0.137	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030709-01-02	LAMPREY RIVER SOUTH	NEWMARKET	0.137	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Acenaphthene	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Acenaphthylene	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Aluminum	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Anthracene	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Arsenic	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Benzo(a)pyrene (PAHs)	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Benzo[a]anthracene	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Cadmium	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-P				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Chrysene (C1-C4)	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Copper	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Dibenz[a,h]anthracene	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Dissolved oxygen saturation	5-P				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Fluoranthene	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Fluorene	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Lead	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Mercury	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Nickel	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-P				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Oxygen, Dissolved	5-P				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Phenanthrene	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Pyrene	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	trans-Nonachlor	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Aquatic Life Integrity	Zinc	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Primary Contact Recreation	Chlorophyll-a	5-P				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Primary Contact Recreation	Enterococcus	4A-M	9/27/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39277	Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Primary Contact Recreation	Nitrogen (Total)	5-P				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030806-01-01	SQUAMSCOTT RIVER SOUTH	STRATHAM, EXETER, NEWFIELDS	0.274	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-P				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Aquatic Life Integrity	Dissolved oxygen saturation	5-M				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Aquatic Life Integrity	Estuarine Bioassessments	5-P				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Aquatic Life Integrity	Light Attenuation Coefficient	5-P				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-P				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Aquatic Life Integrity	Oxygen, Dissolved	5-P				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Aquatic Life Integrity	pH	5-M				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Primary Contact Recreation	Chlorophyll-a	5-M				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Primary Contact Recreation	Enterococcus	4A-P	9/27/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39277	Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Primary Contact Recreation	Nitrogen (Total)	5-P				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030806-01-02	SQUAMSCOTT RIVER NORTH	STRATHAM, NEWFIELDS	0.205	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030902-01-03	OYSTER RIVER	DURHAM	0.464	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-M				Non-ORW
2020/2022	NHEST600030902-01-03	OYSTER RIVER	DURHAM	0.464	SQUARE MILES	Aquatic Life Integrity	Dissolved oxygen saturation	5-P				Non-ORW
2020/2022	NHEST600030902-01-03	OYSTER RIVER	DURHAM	0.464	SQUARE MILES	Aquatic Life Integrity	Estuarine Bioassessments	5-P				Non-ORW
2020/2022	NHEST600030902-01-03	OYSTER RIVER	DURHAM	0.464	SQUARE MILES	Aquatic Life Integrity	Light Attenuation Coefficient	5-P				Non-ORW
2020/2022	NHEST600030902-01-03	OYSTER RIVER	DURHAM	0.464	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-M				Non-ORW
2020/2022	NHEST600030902-01-03	OYSTER RIVER	DURHAM	0.464	SQUARE MILES	Aquatic Life Integrity	Oxygen, Dissolved	5-P				Non-ORW
2020/2022	NHEST600030902-01-03	OYSTER RIVER	DURHAM	0.464	SQUARE MILES	Fish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030902-01-03	OYSTER RIVER	DURHAM	0.464	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030902-01-03	OYSTER RIVER	DURHAM	0.464	SQUARE MILES	Primary Contact Recreation	Enterococcus	4A-P	9/21/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39277	Non-ORW
2020/2022	NHEST600030902-01-03	OYSTER RIVER	DURHAM	0.464	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030902-01-03	OYSTER RIVER	DURHAM	0.464	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030902-01-03	OYSTER RIVER	DURHAM	0.464	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030902-01-04	LOWER OYSTER RIVER	DURHAM	0.122	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-M				Non-ORW
2020/2022	NHEST600030902-01-04	LOWER OYSTER RIVER	DURHAM	0.122	SQUARE MILES	Aquatic Life Integrity	Dissolved oxygen saturation	5-P				Non-ORW
2020/2022	NHEST600030902-01-04	LOWER OYSTER RIVER	DURHAM	0.122	SQUARE MILES	Aquatic Life Integrity	Estuarine Bioassessments	5-P				Non-ORW
2020/2022	NHEST600030902-01-04	LOWER OYSTER RIVER	DURHAM	0.122	SQUARE MILES	Aquatic Life Integrity	Light Attenuation Coefficient	5-P				Non-ORW
2020/2022	NHEST600030902-01-04	LOWER OYSTER RIVER	DURHAM	0.122	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-P				Non-ORW
2020/2022	NHEST600030902-01-04	LOWER OYSTER RIVER	DURHAM	0.122	SQUARE MILES	Aquatic Life Integrity	Oxygen, Dissolved	5-P				Non-ORW
2020/2022	NHEST600030902-01-04	LOWER OYSTER RIVER	DURHAM	0.122	SQUARE MILES	Fish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030902-01-04	LOWER OYSTER RIVER	DURHAM	0.122	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030902-01-04	LOWER OYSTER RIVER	DURHAM	0.122	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030902-01-04	LOWER OYSTER RIVER	DURHAM	0.122	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030902-01-04	LOWER OYSTER RIVER	DURHAM	0.122	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M				Non-ORW
2020/2022	NHEST600030903-01-01	BELLAMY RIVER NORTH	DOVER	0.251	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-P				Non-ORW
2020/2022	NHEST600030903-01-01	BELLAMY RIVER NORTH	DOVER	0.251	SQUARE MILES	Aquatic Life Integrity	Estuarine Bioassessments	5-P				Non-ORW
2020/2022	NHEST600030903-01-01	BELLAMY RIVER NORTH	DOVER	0.251	SQUARE MILES	Aquatic Life Integrity	Light Attenuation Coefficient	5-P				Non-ORW
2020/2022	NHEST600030903-01-01	BELLAMY RIVER NORTH	DOVER	0.251	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-P				Non-ORW
2020/2022	NHEST600030903-01-01	BELLAMY RIVER NORTH	DOVER	0.251	SQUARE MILES	Aquatic Life Integrity	Oxygen, Dissolved	5-P				Non-ORW
2020/2022	NHEST600030903-01-01	BELLAMY RIVER NORTH	DOVER	0.251	SQUARE MILES	Fish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M				Non-ORW

2020/2022	NHEST600030903-01-01	BELLAMY RIVER NORTH	DOVER	0.251	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-01	BELLAMY RIVER NORTH	DOVER	0.251	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-01	BELLAMY RIVER NORTH	DOVER	0.251	SQUARE MILES	Shellfish Consumption	Fecal Coliform	4A-P	9/21/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39280		Non-ORW
2020/2022	NHEST600030903-01-01	BELLAMY RIVER NORTH	DOVER	0.251	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-01	BELLAMY RIVER NORTH	DOVER	0.251	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-03	BELLAMY RIVER SOUTH CLEMENT POINT	DOVER	0.158	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-P					Non-ORW
2020/2022	NHEST600030903-01-03	BELLAMY RIVER SOUTH CLEMENT POINT	DOVER	0.158	SQUARE MILES	Aquatic Life Integrity	Estuarine Bioassessments	5-P					Non-ORW
2020/2022	NHEST600030903-01-03	BELLAMY RIVER SOUTH CLEMENT POINT	DOVER	0.158	SQUARE MILES	Aquatic Life Integrity	Light Attenuation Coefficient	5-P					Non-ORW
2020/2022	NHEST600030903-01-03	BELLAMY RIVER SOUTH CLEMENT POINT	DOVER	0.158	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-P					Non-ORW
2020/2022	NHEST600030903-01-03	BELLAMY RIVER SOUTH CLEMENT POINT	DOVER	0.158	SQUARE MILES	Aquatic Life Integrity	Oxygen, Dissolved	5-P					Non-ORW
2020/2022	NHEST600030903-01-03	BELLAMY RIVER SOUTH CLEMENT POINT	DOVER	0.158	SQUARE MILES	Fish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-03	BELLAMY RIVER SOUTH CLEMENT POINT	DOVER	0.158	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-03	BELLAMY RIVER SOUTH CLEMENT POINT	DOVER	0.158	SQUARE MILES	Primary Contact Recreation	Enterococcus	2-G	9/21/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39277		Non-ORW
2020/2022	NHEST600030903-01-03	BELLAMY RIVER SOUTH CLEMENT POINT	DOVER	0.158	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-03	BELLAMY RIVER SOUTH CLEMENT POINT	DOVER	0.158	SQUARE MILES	Shellfish Consumption	Fecal Coliform	4A-M	9/21/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39280		Non-ORW
2020/2022	NHEST600030903-01-03	BELLAMY RIVER SOUTH CLEMENT POINT	DOVER	0.158	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-03	BELLAMY RIVER SOUTH CLEMENT POINT	DOVER	0.158	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-04	Bellamy River South	DOVER, DURHAM, MADBURY	0.272	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-P					Non-ORW
2020/2022	NHEST600030903-01-04	Bellamy River South	DOVER, DURHAM, MADBURY	0.272	SQUARE MILES	Aquatic Life Integrity	Estuarine Bioassessments	5-P					Non-ORW
2020/2022	NHEST600030903-01-04	Bellamy River South	DOVER, DURHAM, MADBURY	0.272	SQUARE MILES	Aquatic Life Integrity	Light Attenuation Coefficient	5-P					Non-ORW
2020/2022	NHEST600030903-01-04	Bellamy River South	DOVER, DURHAM, MADBURY	0.272	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-P					Non-ORW
2020/2022	NHEST600030903-01-04	Bellamy River South	DOVER, DURHAM, MADBURY	0.272	SQUARE MILES	Aquatic Life Integrity	Oxygen, Dissolved	5-P					Non-ORW
2020/2022	NHEST600030903-01-04	Bellamy River South	DOVER, DURHAM, MADBURY	0.272	SQUARE MILES	Fish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-04	Bellamy River South	DOVER, DURHAM, MADBURY	0.272	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-04	Bellamy River South	DOVER, DURHAM, MADBURY	0.272	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-04	Bellamy River South	DOVER, DURHAM, MADBURY	0.272	SQUARE MILES	Shellfish Consumption	Fecal Coliform	4A-M	9/21/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39280		Non-ORW
2020/2022	NHEST600030903-01-04	Bellamy River South	DOVER, DURHAM, MADBURY	0.272	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030903-01-04	Bellamy River South	DOVER, DURHAM, MADBURY	0.272	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-01	WINNICUT RIVER	GREENLAND	0.191	SQUARE MILES	Aquatic Life Integrity	Estuarine Bioassessments	5-P					Non-ORW
2020/2022	NHEST600030904-01	WINNICUT RIVER	GREENLAND	0.191	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-01	WINNICUT RIVER	GREENLAND	0.191	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-01	WINNICUT RIVER	GREENLAND	0.191	SQUARE MILES	Shellfish Consumption	Fecal Coliform	4A-P	8/29/2011	58 NH BACTERIA IMPAIRED WATERS	40669		Non-ORW
2020/2022	NHEST600030904-01	WINNICUT RIVER	GREENLAND	0.191	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-01	WINNICUT RIVER	GREENLAND	0.191	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-02	GREAT BAY PROHIB SZ1	NEWMARKET, GREENLAND, NEWFIELDS, STRATHAM	0.809	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-M					Non-ORW
2020/2022	NHEST600030904-02	GREAT BAY PROHIB SZ1	NEWMARKET, GREENLAND, NEWFIELDS, STRATHAM	0.809	SQUARE MILES	Aquatic Life Integrity	Estuarine Bioassessments	5-P					Non-ORW
2020/2022	NHEST600030904-02	GREAT BAY PROHIB SZ1	NEWMARKET, GREENLAND, NEWFIELDS, STRATHAM	0.809	SQUARE MILES	Aquatic Life Integrity	Light Attenuation Coefficient	5-M					Non-ORW
2020/2022	NHEST600030904-02	GREAT BAY PROHIB SZ1	NEWMARKET, GREENLAND, NEWFIELDS, STRATHAM	0.809	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-M					Non-ORW
2020/2022	NHEST600030904-02	GREAT BAY PROHIB SZ1	NEWMARKET, GREENLAND, NEWFIELDS, STRATHAM	0.809	SQUARE MILES	Aquatic Life Integrity	pH	5-M					Non-ORW
2020/2022	NHEST600030904-02	GREAT BAY PROHIB SZ1	NEWMARKET, GREENLAND, NEWFIELDS, STRATHAM	0.809	SQUARE MILES	Fish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-02	GREAT BAY PROHIB SZ1	NEWMARKET, GREENLAND, NEWFIELDS, STRATHAM	0.809	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-02	GREAT BAY PROHIB SZ1	NEWMARKET, GREENLAND, NEWFIELDS, STRATHAM	0.809	SQUARE MILES	Primary Contact Recreation	Enterococcus	4A-P	9/21/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39278		Non-ORW
2020/2022	NHEST600030904-02	GREAT BAY PROHIB SZ1	NEWMARKET, GREENLAND, NEWFIELDS, STRATHAM	0.809	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-02	GREAT BAY PROHIB SZ1	NEWMARKET, GREENLAND, NEWFIELDS, STRATHAM	0.809	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-02	GREAT BAY PROHIB SZ1	NEWMARKET, GREENLAND, NEWFIELDS, STRATHAM	0.809	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-03	GREAT BAY PROHIB SZ2	NEWMARKET, GREENLAND	1.036	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-M					Non-ORW
2020/2022	NHEST600030904-03	GREAT BAY PROHIB SZ2	NEWMARKET, GREENLAND	1.036	SQUARE MILES	Aquatic Life Integrity	Estuarine Bioassessments	5-P					Non-ORW
2020/2022	NHEST600030904-03	GREAT BAY PROHIB SZ2	NEWMARKET, GREENLAND	1.036	SQUARE MILES	Aquatic Life Integrity	Light Attenuation Coefficient	5-M					Non-ORW
2020/2022	NHEST600030904-03	GREAT BAY PROHIB SZ2	NEWMARKET, GREENLAND	1.036	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-M					Non-ORW
2020/2022	NHEST600030904-03	GREAT BAY PROHIB SZ2	NEWMARKET, GREENLAND	1.036	SQUARE MILES	Fish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-03	GREAT BAY PROHIB SZ2	NEWMARKET, GREENLAND	1.036	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-03	GREAT BAY PROHIB SZ2	NEWMARKET, GREENLAND	1.036	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-03	GREAT BAY PROHIB SZ2	NEWMARKET, GREENLAND	1.036	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-03	GREAT BAY PROHIB SZ2	NEWMARKET, GREENLAND	1.036	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-04-02	CROMMET CREEK	DURHAM	0.063	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-M					Non-ORW
2020/2022	NHEST600030904-04-02	CROMMET CREEK	DURHAM	0.063	SQUARE MILES	Aquatic Life Integrity	Estuarine Bioassessments	5-P					Non-ORW
2020/2022	NHEST600030904-04-02	CROMMET CREEK	DURHAM	0.063	SQUARE MILES	Aquatic Life Integrity	Light Attenuation Coefficient	5-M					Non-ORW
2020/2022	NHEST600030904-04-02	CROMMET CREEK	DURHAM	0.063	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-M					Non-ORW
2020/2022	NHEST600030904-04-02	CROMMET CREEK	DURHAM	0.063	SQUARE MILES	Fish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-04-02	CROMMET CREEK	DURHAM	0.063	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-04-02	CROMMET CREEK	DURHAM	0.063	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-04-02	CROMMET CREEK	DURHAM	0.063	SQUARE MILES	Shellfish Consumption	Fecal Coliform	4A-P	9/21/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39280		Non-ORW
2020/2022	NHEST600030904-04-02	CROMMET CREEK	DURHAM	0.063	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-04-02	CROMMET CREEK	DURHAM	0.063	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-04-03	PICKERING BROOK	GREENLAND, NEWINGTON	0.207	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-M					Non-ORW
2020/2022	NHEST600030904-04-03	PICKERING BROOK	GREENLAND, NEWINGTON	0.207	SQUARE MILES	Aquatic Life Integrity	Estuarine Bioassessments	5-P					Non-ORW
2020/2022	NHEST600030904-04-03	PICKERING BROOK	GREENLAND, NEWINGTON	0.207	SQUARE MILES	Aquatic Life Integrity	Light Attenuation Coefficient	5-M					Non-ORW
2020/2022	NHEST600030904-04-03	PICKERING BROOK	GREENLAND, NEWINGTON	0.207	SQUARE MILES	Aquatic Life Integrity	Nitrogen (Total)	5-M					Non-ORW
2020/2022	NHEST600030904-04-03	PICKERING BROOK	GREENLAND, NEWINGTON	0.207	SQUARE MILES	Fish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-04-03	PICKERING BROOK	GREENLAND, NEWINGTON	0.207	SQUARE MILES	Fish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-04-03	PICKERING BROOK	GREENLAND, NEWINGTON	0.207	SQUARE MILES	Primary Contact Recreation	Enterococcus	4A-M	9/21/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39277		Non-ORW
2020/2022	NHEST600030904-04-03	PICKERING BROOK	GREENLAND, NEWINGTON	0.207	SQUARE MILES	Shellfish Consumption	DIOXIN - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-04-03	PICKERING BROOK	GREENLAND, NEWINGTON	0.207	SQUARE MILES	Shellfish Consumption	Fecal Coliform	4A-P	9/21/2010	NEW HAMPSHIRE STATEWIDE BACTERIA	39280		Non-ORW
2020/2022	NHEST600030904-04-03	PICKERING BROOK	GREENLAND, NEWINGTON	0.207	SQUARE MILES	Shellfish Consumption	MERCURY - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-04-03	PICKERING BROOK	GREENLAND, NEWINGTON	0.207	SQUARE MILES	Shellfish Consumption	PCBS - FISH CONSUMPTION ADVISORY	5-M					Non-ORW
2020/2022	NHEST600030904-04-04	FABYAN POINT	NEWINGTON	0.014	SQUARE MILES	Aquatic Life Integrity	Chlorophyll-a	5-M					Non-ORW

Welcome to New Hampshire's Watershed Report Cards built from the 2024, 305(b)/303(d)

Each Watershed Report Card covers a single 12-digit Hydrologic Unit Code (HUC12), on average a 34 square mile area. Each Watershed Report Card has three components;

1. REPORT CARD - A one page card that summarizes the overall use support for Aquatic Life Integrity, Primary Contact (i.e. Swimming), and Secondary Contact (i.e. Boating) Designated Uses on every Assessment Unit ID (AUID) within the HUC12.
2. HUC 12 MAP - A map of the watershed with abbreviated labels for each AUID within the HUC12.
3. ASSESSMENT DETAILS - Anywhere from one to forty pages with the detailed assessment information for each and every AUID in the Report Card and Map.

How are the Surface Water Quality Assessment determinations made?

All readily available data with reliable Quality Assurance/Quality Control is used in the biennial surface water quality assessments. For a full understanding of how the Surface Water Quality Standards (Env-Wq 1700) are translated into surface water quality assessments we urge the reader to review the 2024 Consolidated Assessment and Listing Methodology (CALM).

Where can I find more advanced mapping resources?

GIS files are available by assessment cycle at the NHDES FTP site.

I'd like to see the more raw water quality data?

The web mapping tool allows you to download the data used in the assessment of the primary contact and aquatic life designated uses by clicking on the "Data Access Waterbody Data (Aquatic Life and Swimming Uses)" link for any assessment unit.

How are assessments coded in the report card?

Assessment outcomes are displayed on a color scale as well as an alpha numeric scale that provides additional distinctions for the designated use and parameter level assessments as outlined in the table below.

Category	Description	Severe	Poor	Likely Bad	No Data	Likely Good	Marginal	Good
		Not Supporting, Severe	Not Supporting, Marginal	Insufficient Information – Potentially Not Supporting	No Data	Insufficient Information – Potentially Full Supporting	Full Support, Marginal	Full Support, Good
Category 2	Meets standards						2-M or 2-OBS	2-G
Category 3	Insufficient Information			3-PNS	3-ND	3-PAS		
Category 4A	Does not Meet Standards; TMDL* Completed	4A-P	4A-M or 4A-T					
Category 4B	Does not Meet Standards; Other enforceable measure will correct the issue.	4B-P	4B-M or 4B-T					
Category 4C	Does not Meet Standards; Non-pollutant (i.e. exotic weeds)	4C-P	4C-M					
Category 5	Does not Meet Standards; TMDL* Needed	5-P	5-M or 5-T					
Category 5R	Does not Meet Standards; An EPA-approved alternative plan has been completed	5R-P	5R-M					

* TMDL stands for Total Maximum Daily Load studies

Watershed 305(b) Assessment Summary Report:

Assessment Cycle: 2024

HUC 12: 010600030903

HUC 12 Name: Bellamy River

(Locator map on next page only applies to this HUC12)

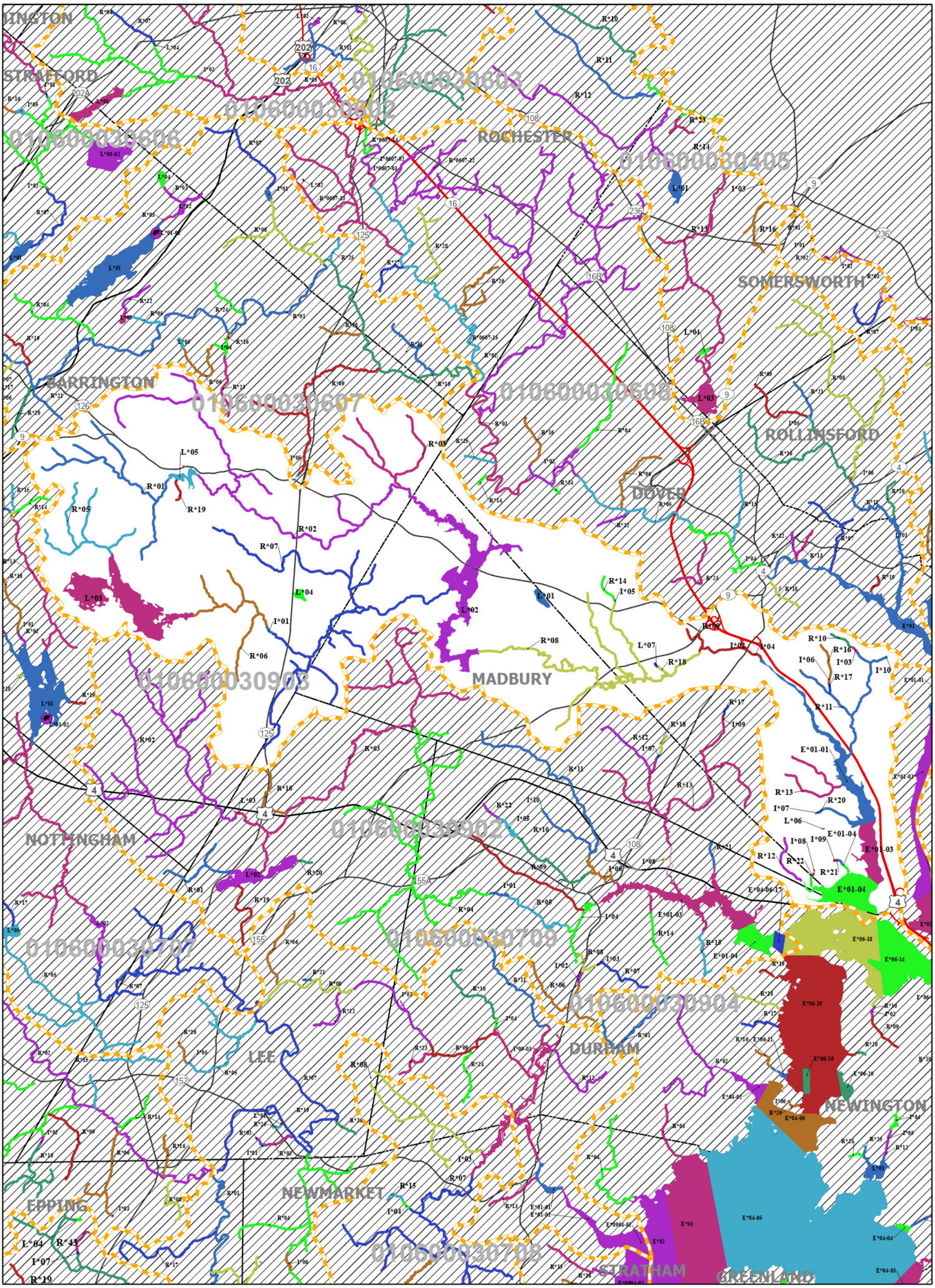
Good	Meets water quality standards/thresholds by a relatively large margin.
Marginal	Meets water quality standards/thresholds but only marginally.
Likely Good	Limited data available, however, the data that is available suggests that the parameter is Potentially Attaining Standards (PAS).
No Current Data	Insufficient information to make an assessment decision.
Likely Bad	Limited data available, however, the data that is available suggests that the parameter is Potentially Not Supporting (PNS) water quality standards.
Poor	Not meeting water quality standards/thresholds. The impairment is marginal.
Severe	Not meeting water quality standards/thresholds. The impairment is more severe and causes poor water quality.



Assessment Unit ID	Map Label	Assessment Unit Name	Aquatic Life	Fish Consump.	Swimming	Boating
NHEST600030903-01-01	E*01-01	Bellamy River North		5-M	3-ND	3-ND
NHEST600030903-01-03	E*01-03	Bellamy River South Clement Point	5-P	5-M	3-ND	3-ND
NHEST600030903-01-04	E*01-04	Bellamy River South	5-P	5-M	3-ND	3-ND
NHIMP600030903-01	I*01	Bellamy River	3-ND	4A-M	3-ND	3-ND
NHIMP600030903-03	I*03	Canney Brook - Wildlife Pond	3-ND	4A-M	3-ND	3-ND
NHIMP600030903-05	I*05	Knox Marsh Brook	3-ND	4A-M	3-ND	3-ND
NHIMP600030903-06	I*06	Unnamed Brook - Thornwood Commons Pond	3-ND	4A-M	3-ND	3-ND
NHIMP600030903-07	I*07	Unnamed Brook - Bellamy River Wildlife Pond	3-ND	4A-M	3-ND	3-ND
NHIMP600030903-08	I*08	Unnamed Brook - Farm Pond	3-ND	4A-M	3-ND	3-ND
NHIMP600030903-09	I*09	Unnamed Brook - Webster Brook Dam	3-ND	4A-M	3-ND	3-ND
NHIMP600030903-10	I*10	Unnamed Brook - Farm Pond	3-ND	4A-M	3-ND	3-ND
NHLAK600030903-01	L*01	Barbadoes Pond	3-ND	4A-M	3-ND	3-ND

NHLAK600030903-02	L*02	Bellamy Reservoir	5-M	4A-M	3-PAS	3-ND
NHLAK600030903-03	L*03	Swains Lake	5-P	4A-M	3-PAS	3-ND
NHLAK600030903-04	L*04	Winkley Pond	5-P	4A-M	3-ND	3-ND
NHLAK600030903-05	L*05	Branch Mallego Brook Pond	3-ND	4A-M	3-ND	3-ND
NHLAK600030903-06	L*06	Farm Pond	3-ND	4A-M	3-ND	3-ND
NHLAK600030903-07	L*07	Unnamed Pond	3-ND	4A-M	3-ND	3-ND
NHRIV600030903-01	R*01	Madla Brook	5-M	4A-M	3-ND	3-ND
NHRIV600030903-02	R*02	Mallego Brook	5-P	4A-M	3-ND	3-ND
NHRIV600030903-03	R*03	Calef Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030903-05	R*05	Unnamed Brook - To Swains Lake	3-ND	4A-M	3-ND	3-ND
NHRIV600030903-06	R*06	Bellamy River - Unnamed Brook	5-M	4A-M	3-ND	3-ND
NHRIV600030903-07	R*07	Bellamy River	5-P	4A-M	4A-P	4A-P
NHRIV600030903-08	R*08	Bellamy River - Kelly Brook - Knox Marsh Brook	5-M	4A-M	4A-P	2-G
NHRIV600030903-09	R*09	Bellamy River - Unnamed Brook	5-M	4A-M	4A-P	3-ND
NHRIV600030903-10	R*10	Canney Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030903-11	R*11	Varney Brook - Canney Brook	3-ND	4A-M	4A-P	4A-M
NHRIV600030903-12	R*12	Unnamed Brook - To Bellamy River Royalls Cove	3-ND	4A-M	3-ND	3-ND
NHRIV600030903-13	R*13	Garrison Brook	3-ND	4A-M	4A-P	3-ND
NHRIV600030903-14	R*14	Knox Marsh Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030903-16	R*16	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030903-17	R*17	Varney Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030903-18	R*18	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030903-19	R*19	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030903-20	R*20	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030903-21	R*21	Unnamed Brook	3-ND	4A-M	3-ND	3-ND
NHRIV600030903-22	R*22	Unnamed Brook	3-ND	4A-M	3-ND	3-ND

AUIDs For HUC12: 010600030903 - Bellamy River



HUC12 Boundaries
Town Boundaries
Major Roads
Interstate Highway
US Highway
State Highway

Assessment Unit Coloring AUs Ending with:

0 = 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 =

N W E S

Abbrv. Label	HUC 12
L* 03	010 700060201

AUID = NH L AK 700060201 - 03

Assessment Unit IDs are derived from the HUC12 they reside within. The labels have been shortened on this map for presentation purposes.
Example: the Label "L*03" in HUC12 = 010700060201 represents AUID = "NHLAK700060201-03"
In rare cases where an AUID extends beyond the boundary of a single HUC12, additional portions of the end of the HUC 12 number have also been replaced.

0 0.75 1.5 2.25 3 Miles

Scale: 1:78,820

S:\WD-Watershed\WQ_Planning\305b_303d\2024\Report_Cards\HUC12_maps

Assessment Unit ID: NHEST600030903-01-01
Assessment Unit Name: Bellamy River North
Town(s) Primary Town is Listed First: Dover

Size: 0.250551 SQUARE MILES
Assessment Unit Category: 5-P
Beach: N

2024, 305(b)/303(d) - All Reviewed Parameters by Assessment Unit

Designated Use Description	Desig. Use Category	Parameter Name	Parameter Threatened (Y/N)	Last Sample	Last Exceed	Parameter Category	TMDL Priority
Aquatic Life Integrity	5-P	.BETA.-ENDOSULFAN (ENDOSULFAN 2)	N	2003	N/A	3-ND	
		2-METHYLNAPHTHALENE	N	2015	N/A	3-ND	
		ACENAPHTHENE	N	2015	2015	3-ND	
		ACENAPHTHYLENE	N	2015	2015	3-ND	
		ALUMINUM	N	2015	2015	3-ND	
		AMMONIA (TOTAL)	N	2018	N/A	3-ND	
		ANTHRACENE	N	2015	2015	3-ND	
		ANTIMONY	N	2003	N/A	3-ND	
		ARSENIC	N	2015	2015	3-ND	
		BENZO(A)PYRENE (PAHS)	N	2015	2015	3-ND	
		BENZO[A]ANTHRACENE	N	2015	2015	3-ND	
		BENZO[B]FLUORANTHENE	N	2015	N/A	3-ND	
		BENZO[G,H,I]PERYLENE	N	2015	N/A	3-ND	
		BENZO[K]FLUORANTHENE	N	2015	N/A	3-ND	
		BIPHENYL	N	2015	N/A	3-ND	
		CADMIUM	N	2015	2003	3-ND	

Good	Marginal	Likely Good	No Current Data	Likely Bad	Poor	Severe
Meets water quality standards/thresholds by a relatively large margin.	Meets water quality standards/thresholds but only marginally.	Limited data available. The data that is available suggests that the parameter is Potentially Attaining Standards (PAS)	Insufficient information to make an assessment decision.	Limited data available The data that is available suggests that the parameter is Potentially Not Supporting (PNS) water quality standards.	Not meeting water quality standards/thresholds. The impairment is marginal.	Not meeting water quality standards/thresholds The impairment is more severe and causes poor water quality.

Aquatic Life Integrity	5-P	CHRYSENE (C1-C4)	N	2015	2015	3-ND	
		CIS-CHLORDANE	N	2003	N/A	3-ND	
		COLORED DISSOLVED ORGANIC MATTER (CDOM)	N	2010	N/A	3-ND	
		COPPER	N	2015	2015	3-ND	
		Chlorophyll-a	N	2018	MED.	5-P	LOW
		DDD	N	2003	N/A	3-ND	
		DDE	N	2003	N/A	3-ND	
		DDT	N	2003	N/A	3-ND	
		DIBENZ[A,H]ANTHRACENE	N	2015	2015	3-ND	
		DIELDRIN	N	2003	N/A	3-ND	
		DISSOLVED ORGANIC CARBON (DOC)	N	2018	N/A	3-ND	
		DISSOLVED OXYGEN SATURATION	N	2018	2018	2-M	
		ENDOSULFAN SULFATE	N	2003	N/A	3-ND	
		ENDRIN	N	2003	N/A	3-ND	
		Estuarine Bioassessments	N	2018	MED.	5-P	LOW
		FLUORANTHENE	N	2015	2015	3-ND	
		FLUORENE	N	2015	2015	3-ND	
		HEXACHLOROBENZENE	N	2003	N/A	3-ND	
		INDENO[1,2,3-CD]PYRENE	N	2015	N/A	3-ND	
		IRON	N	2015	N/A	3-ND	
		LEAD	N	2015	2015	3-ND	
		LIGHT ATTENUATION COEFFICIENT	N	2018	N/A	5-P	LOW

Good	**Marginal**	**Likely Good**	**No Current Data**	**Likely Bad**	**Poor**	**Severe**
Meets water quality standards/thresholds by a relatively large margin.	Meets water quality standards/thresholds but only marginally.	Limited data available. The data that is available suggests that the parameter is Potentially Attaining Standards (PAS)	Insufficient information to make an assessment decision.	Limited data available The data that is available suggests that the parameter is Potentially Not Supporting (PNS) water quality standards.	Not meeting water quality standards/thresholds. The impairment is marginal.	Not meeting water quality standards/thresholds The impairment is more severe and causes poor water quality.

Aquatic Life Integrity	5-P	LINDANE	N	2003	N/A	3-ND	
		MERCURY	N	2015	2015	3-ND	
		NAPHTHALENE	N	2015	2000	3-ND	
		NICKEL	N	2015	2015	3-ND	
		Nitrogen (Total)	N	2018	MED.	5-P	LOW
		OXYGEN, DISSOLVED	N	2018	2018	5-P	LOW
		PH	N	2018	1998	3-ND	
		PHENANTHRENE	N	2015	2015	3-ND	
		POLYCHLORINATED BIPHENYLS	N	2003	N/A	3-ND	
		PYRENE	N	2015	2015	3-ND	
		SALINITY	N	2021	N/A	3-ND	
		SILVER	N	2015	2003	3-ND	
		TEMPERATURE, WATER	N	2021	N/A	3-ND	
		TOTAL SUSPENDED SOLIDS (TSS)	N	2018	N/A	3-ND	
		TOXAPHENE	N	2003	N/A	3-ND	
		TRANS-NONACHLOR	N	2003	N/A	3-ND	
		ZINC	N	2015	2015	3-ND	
Fish Consumption	5-M	COPPER	N	1997	N/A	3-ND	
		MERCURY - FISH CONSUMPTION ADVISORY	N			5-M	LOW
		PCBS - FISH CONSUMPTION ADVISORY	N			5-M	LOW
		ZINC	N	1997	N/A	3-ND	
Potential Drinking Water Supply	2-G	COPPER	N	1997	N/A	3-ND	

Good	**Marginal**	**Likely Good**	**No Current Data**	**Likely Bad**	**Poor**	**Severe**
Meets water quality standards/thresholds by a relatively large margin.	Meets water quality standards/thresholds but only marginally.	Limited data available. The data that is available suggests that the parameter is Potentially Attaining Standards (PAS)	Insufficient information to make an assessment decision.	Limited data available The data that is available suggests that the parameter is Potentially Not Supporting (PNS) water quality standards.	Not meeting water quality standards/thresholds. The impairment is marginal.	Not meeting water quality standards/thresholds The impairment is more severe and causes poor water quality.

Potential Drinking Water Supply	2-G	ESCHERICHIA COLI	N	2018	2018	3-ND	
		FECAL COLIFORM	N	2022	2022	3-PNS	
		FLUORIDE	N	1997	N/A	3-ND	
		IRON	N	1997	N/A	3-ND	
		POTASSIUM	N	1997	N/A	3-ND	
		ZINC	N	1997	N/A	3-ND	
Primary Contact Recreation	3-ND	CHLOROPHYLL-A	N	2017	N/A	3-ND	
		ENTEROCOCCUS	N	2018	2017	3-ND	
Secondary Contact Recreation	3-ND	ENTEROCOCCUS	N	2018	N/A	3-ND	
Shellfish Consumption	5-M	COPPER	N	1997		3-ND	
		DIOXIN - FISH CONSUMPTION ADVISORY	N			5-M	LOW
		Fecal Coliform	N			4A-P	
		MERCURY - FISH CONSUMPTION ADVISORY	N			5-M	LOW
		PCBS - FISH CONSUMPTION ADVISORY	N			5-M	LOW
		ZINC	N	1997		3-ND	
Wildlife	3-ND						

Good	**Marginal**	**Likely Good**	**No Current Data**	**Likely Bad**	**Poor**	**Severe**
Meets water quality standards/thresholds by a relatively large margin.	Meets water quality standards/thresholds but only marginally.	Limited data available. The data that is available suggests that the parameter is Potentially Attaining Standards (PAS)	Insufficient information to make an assessment decision.	Limited data available The data that is available suggests that the parameter is Potentially Not Supporting (PNS) water quality standards.	Not meeting water quality standards/thresholds. The impairment is marginal.	Not meeting water quality standards/thresholds The impairment is more severe and causes poor water quality.

SOILS & DEWATERING:

32	*BOXFORD*	*SILT LOAM*	*K= 0.49*
33	*SCITICO*	*SILTY CLAY*	*UNRATED*
38	*ELDRIDGE*	*VERY FINE SAND W/ SILT*	*K= 0.43*
313	*DEERFIELD*	*LOAMY SANDY*	*K= 0.17*
400	*UDORTHENTS (SANDY)*	*LOAMY SANDY*	*K= 0.17*
915	*DEERFIELD VARIANT*	*LOAMY SANDY*	*K= 0.17*
953	*BOXFORD (SOMEWHAT POORLY DRAINED)*	*SILT LOAM*	*K= 0.49*

SEE SITE SPECIFIC SOILS MAP (SSSM)
SEE WEBSOIL USDA–NRCS
ERODIBILITY FACTOR – K, CPESC MANUAL, ENVIROCERT INTERNATIONAL INC. &
ROCKINGHAM COUNTTY SOIL SURVEY, ROCKWEB SOIL ATTRIBUTES.

CONTRACTOR TO BE AWARE OF THE SOIL PROFILES AND ENSURE THAT PROPER EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE TAKEN AT ALL TIMES. ANY DEWATERING REQUIREMENTS IN NEW HAMPSHIRE REQUIRE SPECIAL PROVISIONS IN ACCORDANCE WITH THE "CLARIFICATION OF SECTION 9.1.2 (STATE OF NEW HAMPSHIRE CONDITIONS) AND OTHER NH SPECIFIC INFORMATION FOR THE U.S. EPA 2022 NPDES CONSTRUCTION GENERAL PERMIT (CGP)" DATED FEBRUARY 17, 2022 INCLUDED IN THE SWPPP.

COVER MANAGEMENT DURING CONSTRUCTION FOR EXPOSED SOIL WILL INCLUDE HAY / STRAW APPLIED AT A RATE OF 2.0 TONS PER ACRE, TEMPORARY SEEDING OF ANNUAL RYE GRASS, AND PERMANENT SEEDING AT THE EARLIES OPPORTUNITY. SEE ADDITIONAL REQUIREMENT FOR STABILIZATION ON THE EROSION AND SEDIMENT CONTROL DETAIL SHEETS, E–101 AND E–102.

THE CONSTRUCTION SCHEDULE WILL BE MANAGED SO THAT ALL STORMWATER STRUCTURES WILL BE BUILT AND STABILIZED PRIOR TO RECEIVING SURFACE WATER RUNOFF. CONTRACTOR TO BE RESPONSIBLE FOR ALL DIVERSIONS DURING CONSTRUCTION AND FOR INTERIM SEDIMENT AND EROSION CONTROL MEASURES. SEE E&SC NOTES SHEET E–102

EROSION & EROSION CONTROL NOTES:

1.) CONTRACTOR IS TO INSTALL A CONSTRUCTION ENTRANCE PRIOR TO EARTH DISTURBING ACTIVITIES, UTILIZING 3" ANGULAR STONE UNDERLAID WITH ENGINEER FABRIC.

2.) CONTRACTOR IS RESPONSIBLE FOR SWEEPING THE PARKING LOT, SIDEWALKS AND ROADWAY, TO ENSURE THAT NO SEDIMENT IS BEING TRACKED ONTO CLANCY DRIVE OR THE SURROUNDING ROADWAYS.

3.) CONTRACTOR IS RESPONSIBLE FOR CLEANING AND MAINTAINING THE INLET PROTECTION ONCE INSTALLED.

4.) FUGITIVE DUST IS TO BE CONTROLLED THROUGHOUT THE CONSTRUCTION PROCESS IN ACCORDANCE WITH ENV–A 1000.

5.) CONTRACTOR IS TO MEET THE REQUIREMENTS SPECIFIED IN RSA 430:51–57 AND AGR 3800, RELATING TO INVASIVE SPECIES.

6.) CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE WATER QUALITY FROM ANY RUN OFF DURING THE CONSTRUCTION PROCESS, IN ACCORDANCE WITH ENV–WQ 1507, IN ORDER TO PREVENT VIOLATIONS OF THE STORM WATER QUALITY STANDARDS.

7.) CONTRACTOR MAY USE SILT FENCE, SILT SOXX OR MULCH BERM FOR PERIMETER CONTROL. SPECIFIC PRACTICES MAY BE SPECIFIED, SEE PLAN. THE CONTRACTOR IS NOT THE EXPAND CONSTRUCTION BEYOND THE STAKED OUT LIMITS. PERIMETER CONTROL: THE OPERATOR/CONTRACTOR HAS THE OPTION OF EROSION CONTROL MULCH BERM, SILT FENCE, OR FILTER SOCKS. NOTE E.C.M.B. SCOPE RESTRICTIONS.

8.) ALL STORAGE FACILITIES FOR FUEL, CHEMICALS, CHEMICAL OR INDUSTRIAL WASTES, AND BIODEGRADABLE RAW MATERIALS SHALL MEET THE REGULATIONS OF THE NHDES, INCLUDING BUT NOT LIMITED TO THOSE INVOLVING UNDERGROUND STORAGE TANKS, ABOVE GROUND STORAGE TANKS, HAZARDOUS WASTE AND BEST MANAGEMENT PRACTICES FOR GROUND WATER PROTECTION (PART ENV–WQ 401).

9.) ALL DEVELOPMENT MUST COMPLY WITH THE EPA PHASE II STORMWATER RULES AND THE CITY'S MS4 PERMIT, AS AMENDED.

STORMWATER BMP PROTECTION NOTE:
IT IS RECOMMENDED THAT THE CONTRACTOR TAKE MEASURES TO PROTECT THE BIOMEDIA SURFACE OR WETLAND SOIL SURFACE FROM SEDIMENTATION CAUSED BY EROSION ON THE SIDE SLOPES. SEE P–102 FOR PROJECT SPECIFIC SCM REQUIREMENTS AND SCM PLANTING SPECIFICATIONS.

CONSTRUCTION SEQUENCE NOTE:
EROSION, SEDIMENT AND DETENTION CONTROL FACILITIES SHALL BE INSTALLED & STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM. TEMPORARY DIVERSIONS MAY BE REQUIRED. POST CONSTRUCTION STORM WATER MANAGEMENT PRACTICES MUST BE INITIATED AND STABILIZED EARLY IN THE PROCESS. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL SCMs ARE STABILIZED. SWALES CONVEYING RUNOFF TO SCMs WILL BE CONSTRUCTED AND PUT INTO SERVICE ONCE THE RECEIVING SCM IS STABILIZED. SEE DETAIL E17, SHEET E–102 FOR FULL CONSTRUCTION SEQUENCE.

10.) CITY OF DOVER: IN ACCORDANCE WITH SITE PLAN REVIEW REGULATIONS (153–14) THE FOLLOWING STORMWATER MEASURES ARE REQUIRED.

A.) ALL PROPOSED SCMs WILL CONFORM TO THE NH STORMWATER MANUAL (FEBRUARY 2025).

B.) EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL LAND DISTURBANCE AND MUST BE REVIEWED AND APPROVED BY COMMUNITY SERVICE.

C.) TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN SEVEN CALENDAR DAYS FOR EXPOSED SOILS AREAS THAT ARE WITHIN ONE HUNDRED FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.

D.) ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL STABILIZATION IS ACCOMPLISHED. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 CALENDAR DAYS UNLESS CONDITIONS DICTATE OTHERWISE.

E.) COMMUNITY SERVICES DEPARTMENT OR THEIR DESIGNATED AGENT SHALL HAVE ACCESS TO THE SITE TO COMPLETE ROUTINE INSPECTIONS AND SHALL BE NOTIFIED 24–HOURS PRIOR TO INSTALLATION OF A STORMWATER BMP IN ORDER TO SCHEDULE AN INSPECTION, DURING NORMAL WORKING HOURS.

F.) THE PLANNING BOARD OR COMMUNITY SERVICES MAY REQUIRE THE DESIGN ENGINEER AND/OR AN INDEPENDENT, THIRD–PARTY INSPECTION AND OVERSIGHT OF THE CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES AND EROSION AND SEDIMENT CONTROL AT THEIR DISCRETION. THE OWNER / APPLICANT IS RESPONSIBLE FOR ALL FEES ASSOCIATED WITH INSPECTIONS.

G.) ALL SWMP INSPECTIONS MUST BE CONDUCTED BY A QUALIFIED PROFESSIONAL SUCH AS A PROFESSIONAL ENGINEER (PE), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORMWATER INSPECTOR (CESSWI), OR A CERTIFIED PROFESSIONAL IN STORMWATER QUALITY (CPSWQ). INSPECTION REPORTS WILL BE SUBMITTED TO THE COMMUNITY SERVICES DEPARTMENT.

H.) THE OWNER IS ULTIMATELY RESPONSIBLE FOR THE INSTALLATION, CONSTRUCTION, INSPECTION, AND DISPOSITION OF ALL STORMWATER MANAGEMENT AND EROSION CONTROL MEASURES REQUIRED BY THE PROVISIONS OF THESE REGULATIONS.

I.) STORMWATER MANAGEMENT PLAN (SWMP) SUBMITTAL REQUIREMENTS. AT THE DISCRETION OF THE PLANNING BOARD OR COMMUNITY SERVICES DEPARTMENT, A TECHNICAL REVIEW BY AN INDEPENDENT THIRD PARTY MAY BE REQUIRED OF ANY SWMP PREPARED UNDER THESE REGULATIONS. SUCH A REVIEW SHALL BE PERFORMED BY A QUALIFIED PROFESSIONAL CONSULTANT AND THE EXPENSE OF WHICH SHALL BE THE FULL RESPONSIBILITY OF THE OWNER/APPLICANT.

NOTES:

1.)OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

2.) TAX MAP I, LOT 11

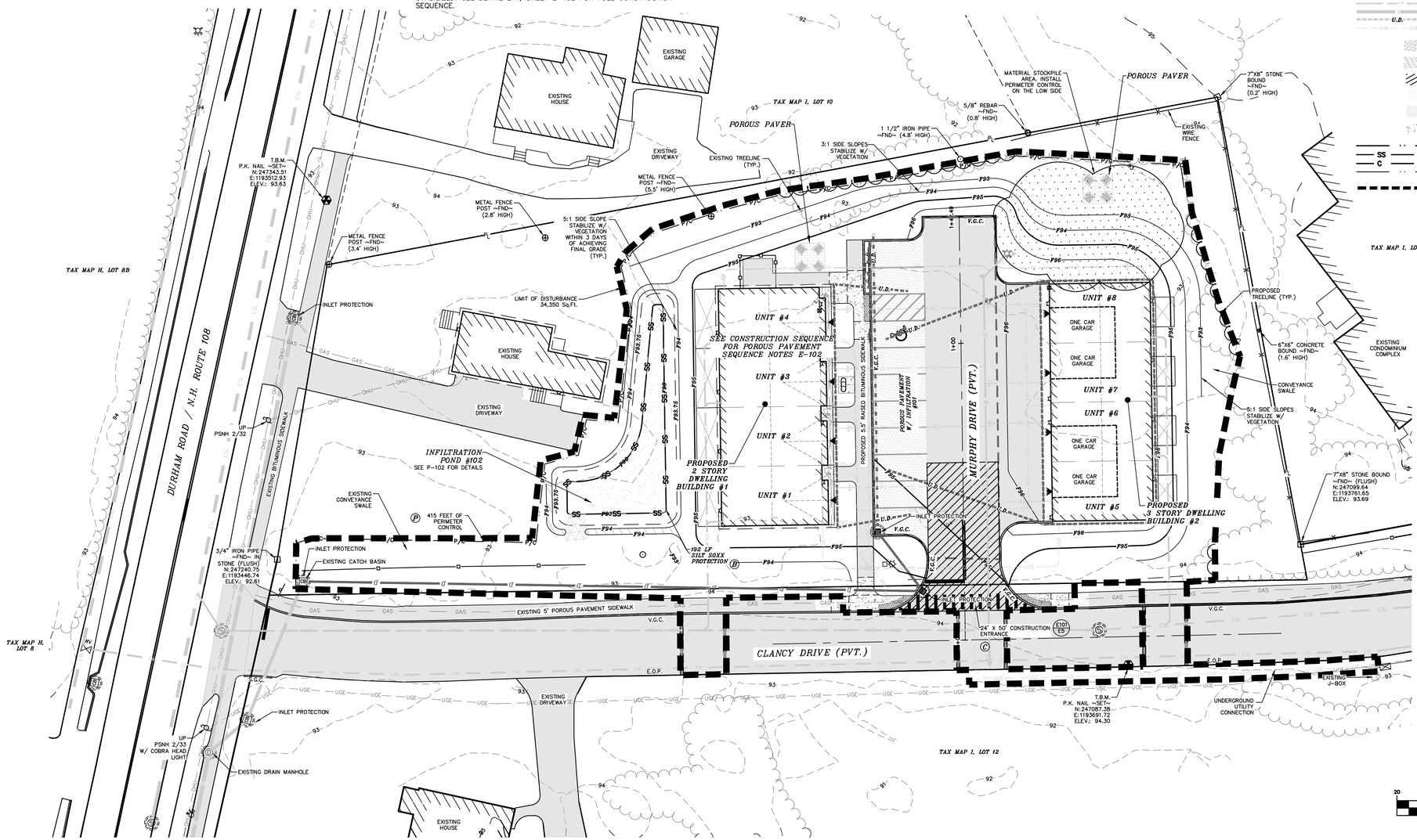
3.) S.C.R.D. BOOK 5263, PAGE 820

4.) LOT AREA POST LLR: 44,660 SQ.FT., 1.03 AC..

5.) THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES FOR SITE DESIGN OF TAX MAP I, LOT 11 LOCATED IN DOVER, N.H.

LEGEND:

- IRON BOUND ~FND~
- EXISTING/PROPOSED CATCH BASIN W/ STRUCTURE
- TEMPORARY BENCHMARK (T.B.M.)
- E101 / E6 — DETAIL SHEET / DETAIL
- 176 / 175 — CONTOUR MINOR, EXISTING / CONTOUR MAJOR, EXISTING
- P176 / P175 — CONTOUR MINOR, PROPOSED / CONTOUR MAJOR, PROPOSED
- CENTER LINE
- D — EXISTING DRAINAGE LINE / PROPOSED DRAINAGE LINE
- W — PROPOSED WATER MAIN
- S — PROPOSED WATER SERVICE
- F — PROPOSED FIRE PROTECTION
- E — PROPOSED SEWER LINE
- U.D. — PROPOSED UNDERDRAIN / UNDERGROUND UTILITY
- STORMWATER CONTROL MEASURE (SCM)
- BERM
- CONSTRUCTION ENTRANCE
- PROPOSED POROUS PAVEMENT
- PROPOSED BITUMINOUS CONCRETE
- PROPOSED CONCRETE SIDEWALK OR PAD
- SF — SILT FENCE / EROSION MIX BERM
- SS / C — FILTREXX 8" – 12" SILT SOXX AS SPECIFIED / ORANGE CONSTRUCTION PERIMETER FENCE
- P/C — PERIMETER CONTROL
- LIMIT OF PROJECT DISTURBANCE
- (B) SCM PROTECTION
- (P) PERIMETER CONTROL
- (C) ROADWAY CONSTRUCTION



REVISION	DATE	DESCRIPTION

DOVER FILE #SITE 26–XXX DOVER FILE #TRAN 26–XXX

EROSION AND SEDIMENT CONTROL PLAN
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

25-053 Murphy Drive

#2 BR Units	4		
#3 BR Units	14		
# Bedrooms	50	Full Velocity (Manning Equation)	
Flow Received from Units (gpm)		V=(1.486/n)*(R^2/3)*(S^1/2)	
GPM=(150GPD * #BR * 6)/1440min/day		n	0.011
31.25		R	0.125
Flow Received from Infiltration (Main Line) (gpm)		Pipe Dia (in)	6
Inf. Rate = ((300 GPD*6IN*LF)/5280 LF)/1440 min/day		Area (ft^2)	0.196
0.071		Ex. 6" SDR 35	
Flow Received from Infiltration (Up Stream/Service) (gpm)		Inv In	86.25
Inf. Rate = ((300 GPD*6IN*LF)/5280 LF)/1440 min/day		Inv Out	83.11
0.085		Length (ft)	299.36
Cumulative Infiltration (gpm)		Slope	0.0105
0.156		Full Velocity (ft/s)	3.46
Total Flow Received (BR Flow + INF) (gpm)		Discharge Rate (gpm)	304.67
31.41		Q/Q Max Ratio	0.10
EX SMH +/- STA 6+25 Clancy		V/Vfull Ratio	0.63
Rim Elev	95.70	Peak Flow Velocity ft/s	2.18
Inv In	86.33		
Inv Out	86.25	Upstream/Service Size Pipe Dia (in)	6
Depth SMH	9.45	Upstream/Service Pipe Linear Footage	358.5

#2 BR Units	8		
#3 BR Units	14		
# Bedrooms	58	Full Velocity (Manning Equation)	
Flow Received from Units (gpm)		V=(1.486/n)*(R^2/3)*(S^1/2)	
GPM=(150GPD * #BR * 6)/1440min/day		n	0.011
36.25		R	0.125
Flow Received from Infiltration (Main Line) (gpm)		Pipe Dia (in)	6
Inf. Rate = ((300 GPD*8IN*LF)/5280 LF)/1440 min/day		Area (ft^2)	0.196
0.070		Ex. 6" SDR 35	
Flow Received from Infiltration (Services) (gpm)		Inv In	83.01
Inf. Rate = ((300 GPD*6IN*LF)/5280 LF)/1440 min/day		Inv Out	80.69
0.028		Length (ft)	295.80
Cumulative Infiltration (gpm)		Slope	0.0078
0.098		Full Velocity (ft/s)	2.99
Total Flow Received (BR Flow + INF) (gpm)		Discharge Rate (gpm)	263.45
36.35		Q/Q Max Ratio	0.14
EX SMH +/- STA 3+16 Clancy		V/Vfull Ratio	0.71
Rim Elev	94.14	Peak Flow Velocity ft/s	2.12
Inv In	83.11		
Inv Out	83.01	Service Size Pipe Dia (in)	6
Depth SMH	11.13	Service Pipe Linear Footage	118.5

#2 BR Units	8		
#3 BR Units	14		
# Bedrooms	58	Full Velocity (Manning Equation)	
Flow Received from Units (gpm)		V=(1.486/n)*(R^2/3)*(S^1/2)	
GPM=(150GPD * #BR * 6)/1440min/day		n	0.011
36.25		R	0.125
Flow Received from Infiltration (Main Line) (gpm)		Pipe Dia (in)	6
Inf. Rate = ((300 GPD*8IN*LF)/5280 LF)/1440 min/day		Area (ft^2)	0.196
0.003		Ex. 6" SDR 35	
Flow Received from Infiltration (Services) (gpm)		Inv In	80.38
Inf. Rate = ((300 GPD*6IN*LF)/5280 LF)/1440 min/day		Inv Out	80.25
0.000		Length (ft)	13.00
Cumulative Infiltration (gpm)		Slope	0.0100
0.003		Full Velocity (ft/s)	3.38
Total Flow Received (BR Flow + INF) (gpm)		Discharge Rate (gpm)	297.48
36.25		Q/Q Max Ratio	0.12
EX SMH +/- STA 0+20 Clancy		V/Vfull Ratio	0.69
Rim Elev	93.19	Peak Flow Velocity ft/s	2.33
Inv In	80.69		
Inv Out	80.38	Service Size Pipe Dia (in)	6
Depth SMH	12.81	Service Pipe Linear Footage	0.0

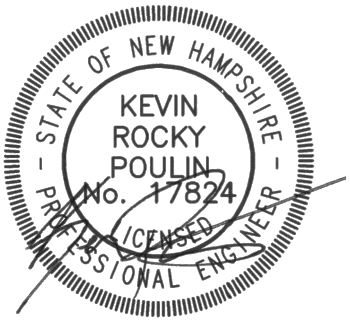
25-053 Sewer Calculations Summary		
Peaking Factor		6
Flow/Bedroom (gpd)		150
Proposed units from Murphy Drive are 2 bedrooms		
Existing units on Clancy Drive Drive are 3 bedrooms		
Berry Surveying & Engineering	7-May-26	Pg 1 of 1
Murphy Drive		
Total 6" SDR 35/Schd. 40 Length (Ft)	Total Rate (Design Flow)(GPD):	Total Rate (Design Flow)(GPM):
237.5	2,400	10.00
Design flow is only for the pro additional sewerage loading, not including Ex. Clancy Drive		
Intention of inclusion of Ex. Clancy Drive sewer line is to demonstrate a 2 FPS min. velocity		



BERRY SURVEYING & ENGINEERING
335 Second Crown Point Road
Barrington, NH 03825
Phone: (603) 332-2863
Fax: (603) 335-4623
www.BerrySurveying.Com
May 7, 2026

City of Dover Planning Department
Attn: Director of Planning & Community Development: Mrs. Donna Benton
288 Central Ave.
Dover, NH 03820

RE: Traffic Impact Analysis (TIA)
Murphy Drive TDR Site Plan
STF Development, LLC
Tax Map I, Lot 11
68 Durham Road
Dover, NH 03820



Mrs. Benton,

Pursuant to the City of Dover Site Review Regulations, Berry Surveying & Engineering (BS&E), on behalf of STF Development, LLC, has prepared a Standard Traffic Impact Analysis (TIA) for the construction of two (2) multi-family dwelling structures (8 units) on a private roadway known as Murphy Drive (off of Clancy Drive). The single-family home on site will remain, and retain existing driveway. Clancy Drive currently serves 14 Residential units and will be servicing a total of 22 units with the proposal. The point of analysis is the existing intersection of Clancy Drive and Durham Road (NH Route 108).

The following conclusions/observations have been reached from the TIA:

- The existing condition shows 101 total vehicle trips are predicted to occur on a weekday, 7 vehicle trips (2 enter/5 exit) are predicted to occur at the weekday AM peak hour and 8 vehicle trips (5 enter/3 exit) at the PM peak hour for Clancy Drive.

- The proposed condition shows that there will be an additional 57 weekday vehicle trips, 4 weekday AM peak hour vehicle trips, and 5 weekday PM peak hour vehicle trips to occur on Clancy Drive.

- The proposed condition shows 158 total vehicle trips are predicted to occur on a weekday, 11 vehicle trips (3 enter/8 exit) are predicted to occur at the weekday AM peak hour and 13 vehicle trips (7 enter/6 exit) at the PM peak hour for Clancy Drive post development.

- It is the opinion of BS&E that the surrounding roadway infrastructure is sufficient to support the proposed development during the weekday peak hours and all other hours.

- There are public transit opportunities adjacent to the site that has the potential for a reduction in trips from what is demonstrated.

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Proposed Development & Introduction

The proposal is to redevelop Tax Map I, Lots 11 to contain two (2) multi-family dwelling structures (8 units). A single-family home is proposed to remain on-site and retain the existing driveway. This dwelling unit is not included in the Clancy Drive trip generation demonstrated. The access to the site is a 24-foot-wide roadway, known as Murphy Drive, with 24-foot pavement entrance radii for vehicle turning. Murphy Drive is 143 LF in length. The centerline of Murphy Drive will be +/- 275LF to the southeast of the existing intersection of Durham Road and Clancy Drive.

The purpose of this analysis is to determine the maximum number of trips coming to and leaving the proposed project site during certain peak periods of the day. This information is then used in determining the impact on safety as it relates to the existing roadway infrastructure. The following components of the analysis are typical for a project of this size pursuant to the Institute of Traffic Engineers (ITE) manual.

Existing Conditions

Existing Site Description

The subject parcel is known as Tax Map I, Lots 11 containing 44,660 Sq. Ft. (1.03 Ac.) of land, post lot line revision. Tax Map I, Lot 11 currently contains a single-family dwelling unit with a driveway at the northwestern edge of the frontage. The property is bordered by Durham Road to the west and Clancy Drive to the south located within the R-20 and RM-SU District. There are several residential (single and multi-family) driveways, local roads, and arterial roadways surrounding the subject parcel, which are discussed later in the analysis.

Durham Road Roadway Description

Durham Road is a two-lane minor arterial road according to the NHDOT Traffic Count (TCDS) System (NHDOT). This portion of Durham Road is not under NHDOT jurisdiction. Durham Road runs north to south perpendicular to N.H. Route 16 and provides access to Dover and NH Route 16 to the north and Durham to the south. It has an Average Annual Daily Traffic (AADT) of approximately 16,199 (2025) divided between north and south in the parcel in the data publicly available from the NHDOT. It is noted based upon count station availability, the count location and proximity to Bark Rive Road provide a conservative pass by value of vehicle trips.

Durham Road in the area of the project is composed of a thirty-two-foot-wide paved surface (edge of pavement to edge of pavement) with a twelve-foot northbound lane and a twelve-foot southbound lane. There are variable width shoulders with

sidewalk on both sides of the road with the western side having sloped granite curbing. There is centerline delineation and fog / edge lines provided. The posted speed limit of the roadway is 30 miles per hour (MPH). The geometry of Durham Road in the vicinity of the subject parcel is generally straight, gently sloped to the east and begins to slope at 4-6% west of the parcel. There are public transit opportunities within a ¼ mile of Cancy Drive that will be discussed later in the analysis.

Clancy Drive is composed of a twenty-foot-wide paved surface (edge of pavement to edge of pavement) with ten-foot traveled lanes. There is a 5-foot existing porous pavement sidewalk to the northern side of the roadway and gravel shoulder to the south. The geometry of Clancy Drive is generally straight and flat in the area of the proposed Murphy Drive intersection.

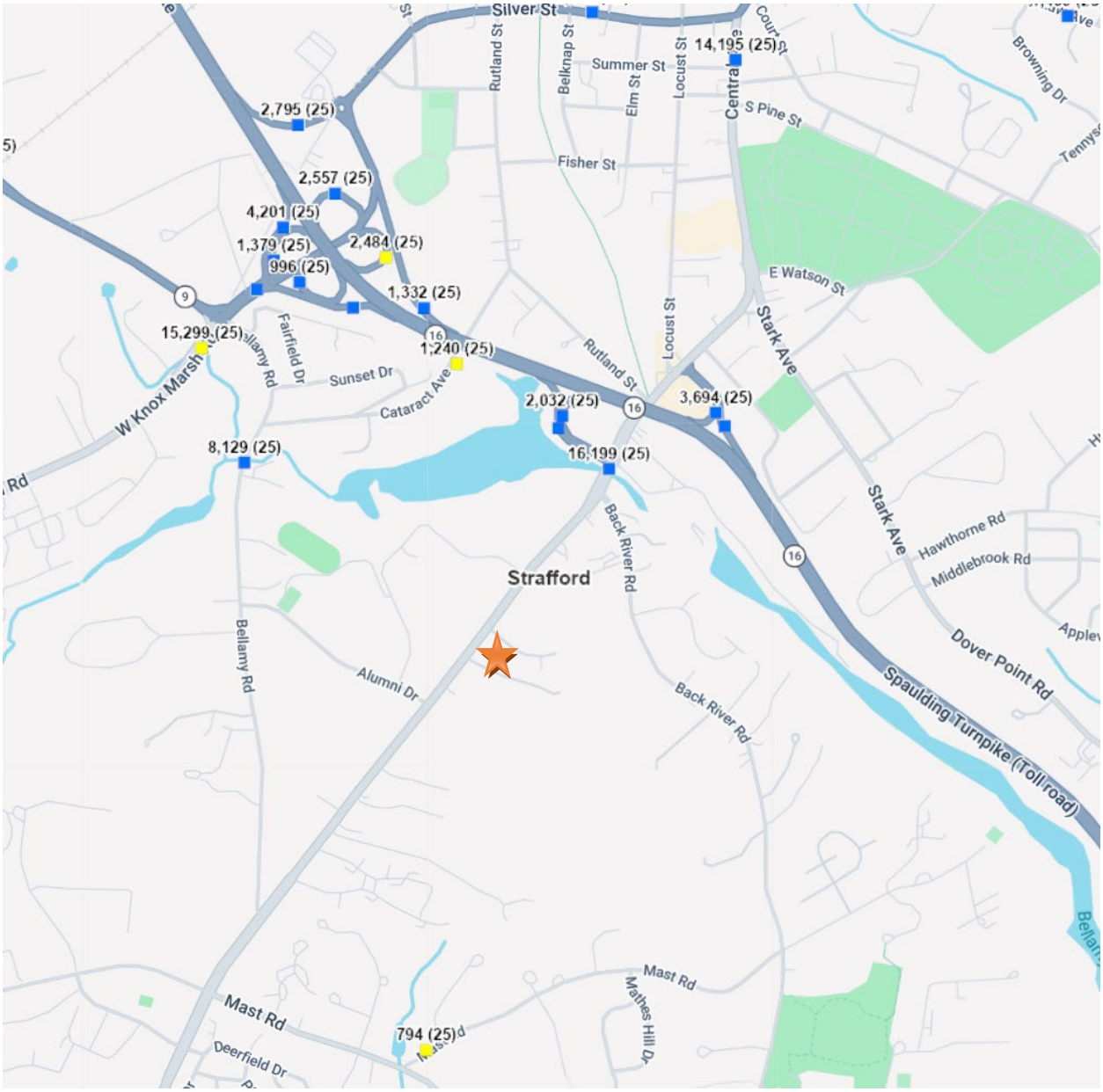


Figure 1: Durham Road with surrounding roadways (NHDOT)

Existing Traffic Volumes

According to traffic counts recorded by NHDOT for May 20 - May 22, 2025, to the north of 68 Durham Road, AM and PM weekday two-way peaks were 1,640 trips and 1,571 trips, respectively. It is shown by NHDOT that this portion of Durham Road has an AADT 16,199 (2025) divided between North and South in the data provided by NHDOT.

The highest weekday peak hour traffic volume on this section of Durham Road northbound occurred from 7:30-8:30 AM with 905 vehicles and from 4:00-5:00 PM with 867 vehicles. Southbound highest weekday peak hour traffic volume occurred from 7:30-8:30 AM with 808 vehicles and from 4:30-5:30 PM with 786 vehicles. Table #1 shows the traffic direction breakdown of Durham Road and Tables #2-4 provide 15-minute interval data. Figures #2-4 are graphical representations of the traffic variations occurring throughout the day. It can be seen from the directional percent distribution that the primary direction of travel during the Weekday AM peak hour is nearly a 50/50 directional split. The primary direction of travel during the PM peak hour is similar also generating a nearly 50/50 directional split. The consistent higher north bound value represents use of Durham Road to access NH Route 16. Additionally, the site's location in proximity to the school can cause an increased count during months where school is in session. As this road is designated as a minor arterial roadway by the NHDOT, this type of directional distribution is similar to other minor arterial roadways. Traffic counts of Durham Road provided by NHDOT are included in Appendix A.

Traffic Distribution Sixth Street						
Date	Northbound		Southbound		Two-Way	
Tuesday 5/20/25	AM Peak	851	AM Peak	795	AM Peak	1646
	PM Peak	826	PM Peak	786	PM Peak	1612
Wednesday 5/21/25	AM Peak	866	AM Peak	808	AM Peak	1671
	PM Peak	867	PM Peak	726	PM Peak	1593
Thursday 5/22/25	AM Peak	905	AM Peak	757	AM Peak	1603
	PM Peak	743	PM Peak	686	PM Peak	1416
Average Peak Hour Traffic	AM Peak	874	AM Peak	787	AM Peak	1640
	PM Peak	812	PM Peak	733	PM Peak	1540
% Distribution	AM Peak	52.6	AM Peak	47.4		
	PM Peak	52.6	PM Peak	47.4		

Table 1: Directional breakdown of trips occurring on Durham Road

Northbound Vehicle Count Tuesday 5/20/25		Southtbound Vehicle Count Tuesday 5/20/25		Two-Way Vehicle Count Tuesday 5/20/25	
7:00:00 AM	238	7:00:00 AM	138	7:00:00 AM	376
7:15:00 AM	198	7:15:00 AM	164	7:15:00 AM	362
7:30:00 AM	218	7:30:00 AM	190	7:30:00 AM	408
7:45:00 AM	239	7:45:00 AM	196	7:45:00 AM	435
8:00:00 AM	229	8:00:00 AM	201	8:00:00 AM	430
8:15:00 AM	165	8:15:00 AM	208	8:15:00 AM	373
8:30:00 AM	174	8:30:00 AM	167	8:30:00 AM	341
8:45:00 AM	182	8:45:00 AM	184	8:45:00 AM	366
4:00:00 PM	199	4:00:00 PM	147	4:00:00 PM	346
4:15:00 PM	222	4:15:00 PM	198	4:15:00 PM	420
4:30:00 PM	194	4:30:00 PM	189	4:30:00 PM	383
4:45:00 PM	204	4:45:00 PM	178	4:45:00 PM	382
5:00:00 PM	194	5:00:00 PM	186	5:00:00 PM	380
5:15:00 PM	234	5:15:00 PM	233	5:15:00 PM	467
5:30:00 PM	183	5:30:00 PM	186	5:30:00 PM	369
5:45:00 PM	181	5:45:00 PM	183	5:45:00 PM	364
AM Peak Veh	851	AM Peak Veh	795	AM Peak Veh	1646
PM Peak Veh	826	PM Peak Veh	786	PM Peak Veh	1612

Table 2: Tuesday May 20, 2025, AM & PM Weekday Peak Hour 15-minute intervals

Northbound Vehicle Count Wednesday 5/21/25		Southtbound Vehicle Count Wednesday 5/21/25		Two-Way Vehicle Count Wednesday 5/21/25	
7:00:00 AM	234	7:00:00 AM	238	7:00:00 AM	472
7:15:00 AM	195	7:15:00 AM	169	7:15:00 AM	364
7:30:00 AM	210	7:30:00 AM	185	7:30:00 AM	395
7:45:00 AM	227	7:45:00 AM	213	7:45:00 AM	440
8:00:00 AM	228	8:00:00 AM	192	8:00:00 AM	420
8:15:00 AM	165	8:15:00 AM	218	8:15:00 AM	383
8:30:00 AM	157	8:30:00 AM	147	8:30:00 AM	304
8:45:00 AM	170	8:45:00 AM	164	8:45:00 AM	334
4:00:00 PM	188	4:00:00 PM	181	4:00:00 PM	369
4:15:00 PM	230	4:15:00 PM	175	4:15:00 PM	405
4:30:00 PM	217	4:30:00 PM	174	4:30:00 PM	391
4:45:00 PM	232	4:45:00 PM	196	4:45:00 PM	428
5:00:00 PM	184	5:00:00 PM	152	5:00:00 PM	336
5:15:00 PM	221	5:15:00 PM	182	5:15:00 PM	403
5:30:00 PM	209	5:30:00 PM	177	5:30:00 PM	386
5:45:00 PM	247	5:45:00 PM	173	5:45:00 PM	420
AM Peak Veh	866	AM Peak Veh	808	AM Peak Veh	1671
PM Peak Veh	867	PM Peak Veh	726	PM Peak Veh	1593

Table 3: Wednesday May 21, 2025, AM & PM Weekday Peak Hour 15-minute intervals

Northbound Vehicle Count Thursday 5/22/25		Southtbound Vehicle Count Thursday 5/22/25		Two-Way Vehicle Count Thursday 5/22/25	
7:00:00 AM	202	7:00:00 AM	158	7:00:00 AM	360
7:15:00 AM	172	7:15:00 AM	165	7:15:00 AM	337
7:30:00 AM	238	7:30:00 AM	163	7:30:00 AM	401
7:45:00 AM	232	7:45:00 AM	196	7:45:00 AM	428
8:00:00 AM	235	8:00:00 AM	202	8:00:00 AM	437
8:15:00 AM	200	8:15:00 AM	196	8:15:00 AM	396
8:30:00 AM	172	8:30:00 AM	149	8:30:00 AM	321
8:45:00 AM	166	8:45:00 AM	166	8:45:00 AM	332
4:00:00 PM	172	4:00:00 PM	152	4:00:00 PM	324
4:15:00 PM	186	4:15:00 PM	175	4:15:00 PM	361
4:30:00 PM	187	4:30:00 PM	164	4:30:00 PM	351
4:45:00 PM	182	4:45:00 PM	182	4:45:00 PM	364
5:00:00 PM	175	5:00:00 PM	165	5:00:00 PM	340
5:15:00 PM	199	5:15:00 PM	177	5:15:00 PM	376
5:30:00 PM	160	5:30:00 PM	154	5:30:00 PM	314
5:45:00 PM	161	5:45:00 PM	122	5:45:00 PM	283
AM Peak Veh	905	AM Peak Veh	757	AM Peak Veh	1603
PM Peak Veh	743	PM Peak Veh	686	PM Peak Veh	1416

Table 4: Thursday May 22, 2025, AM & PM Weekday Peak Hour 15-minute intervals

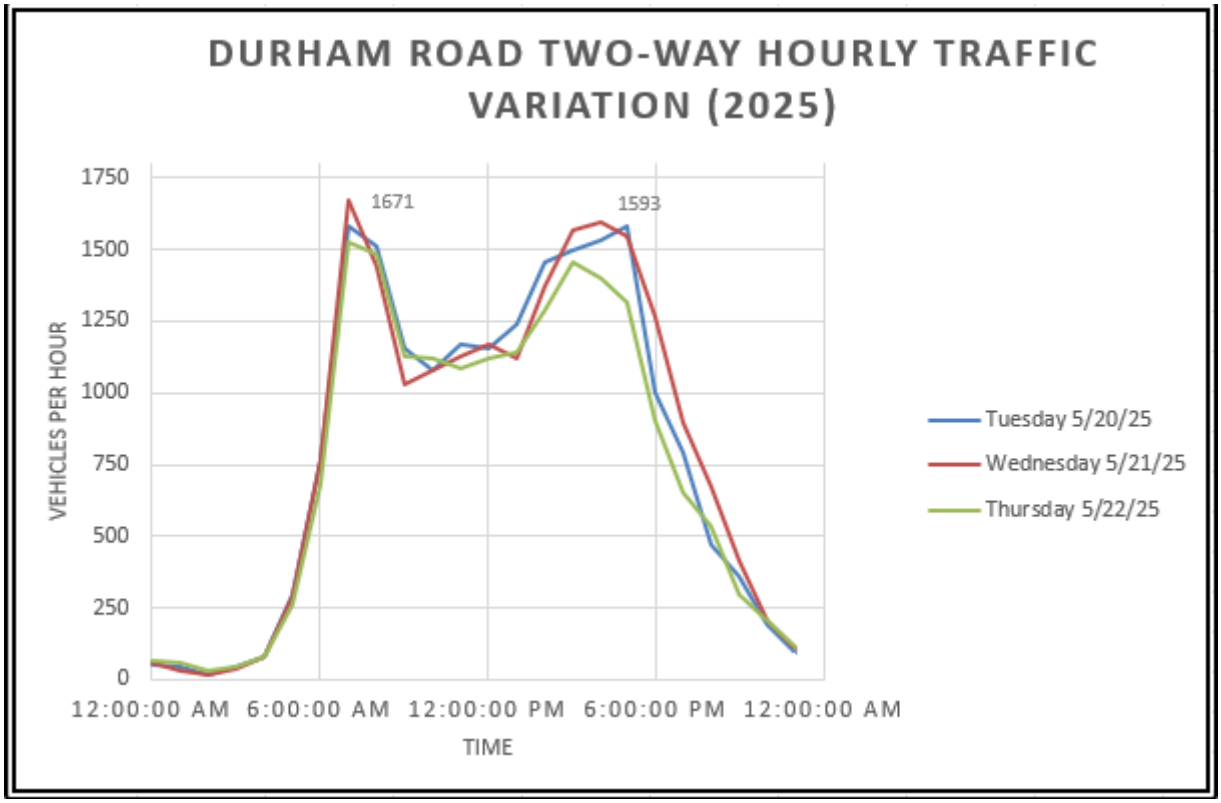


Figure 2: Durham Road 2025 two-way hourly variation

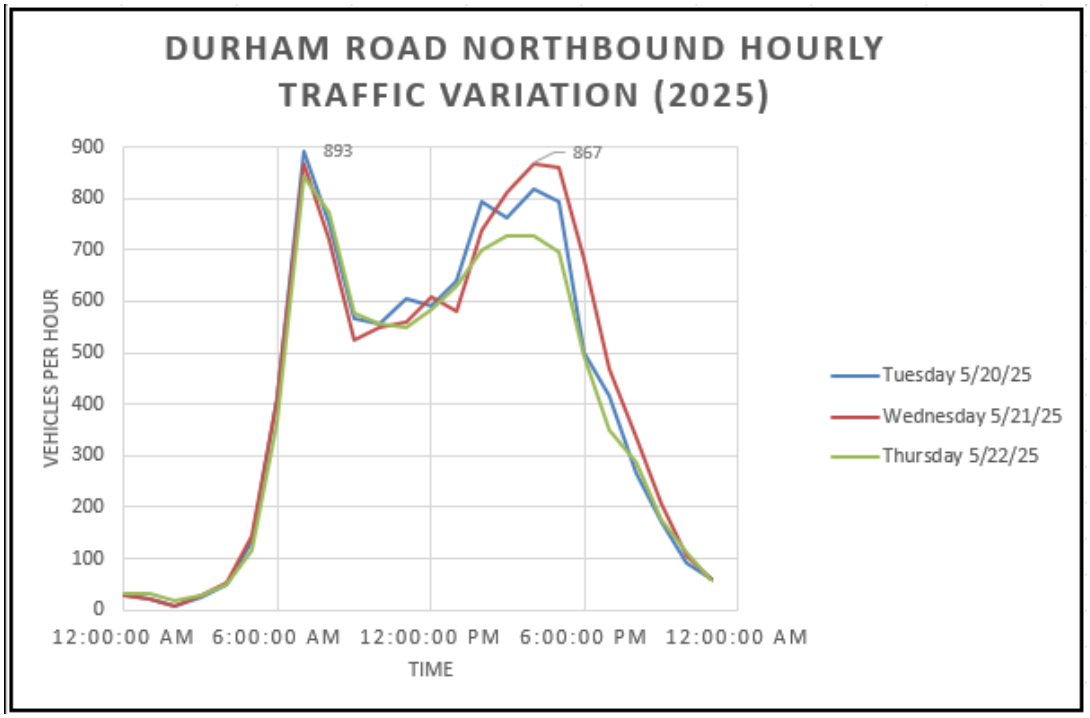


Figure 3: Durham Road 2025 northbound hourly variation

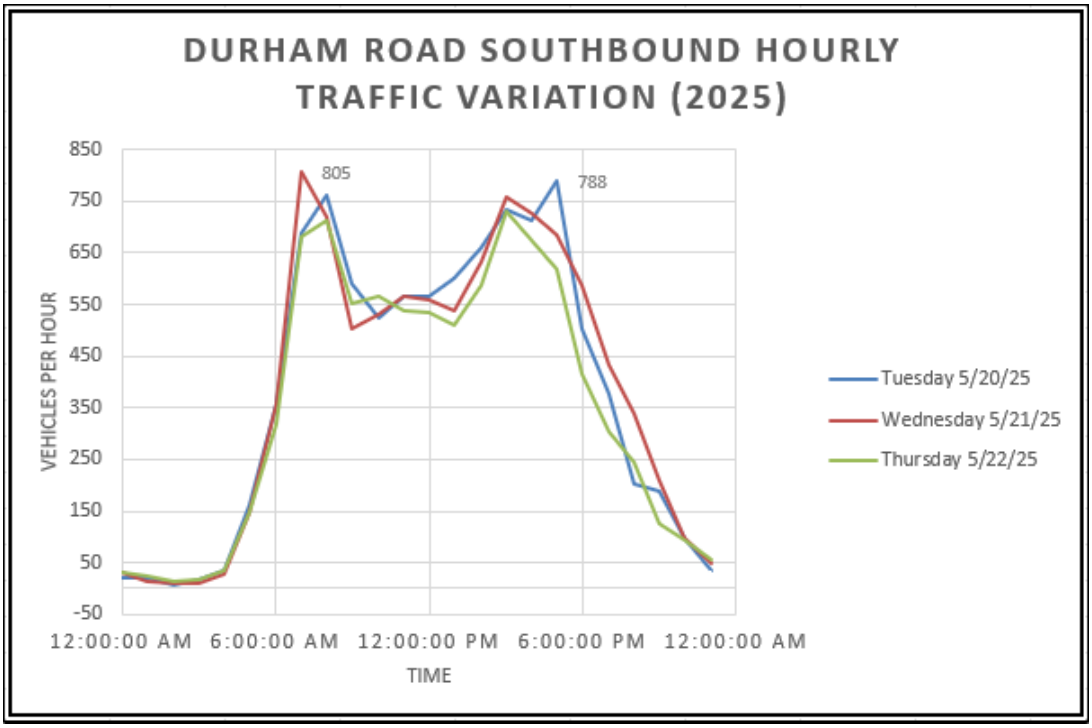


Figure 4: Durham Road 2025 southbound hourly variation with peak values

Existing Vehicle Speeds

As previously mentioned, the posted speed limit of Durham Road is 30 MPH. For the purposes of the safety analysis below, the 85th percentile of speed is required. This particular section of Durham Road was observed by Berry Surveying & Engineering to analyze the pass by traffic, reviewing speed. Excessive speeds did occur, with most operators obeyed the posted speed limits within a deviation of 10 MPH. This is consistent with speeds found on urban roads. This is also impacted by the proximity to the signalized intersection of NH Route 16 and the Dover school district. The 85th percentile derived by observation and consistency with general practice is 40 MPH.

Surrounding Roadways & Signalized Intersections

There are several local roadways within a half mile of proposed Durham Road. To the north, local roads include: Daley Drive (Dover schools), Back River Road, Mill Street, Charles Street and high trafficked roads Central Ave. and NH Route 16. To the south, local roads include Hemlock Forest Drive, Appaloosa Drive, Dunns Bridge Lane, Sylvan Drive, Alumni Drive (Dover schools) Adelle Drive, and Bellamy Road. Back River Road is considered a signal-controlled intersection, with a two laned approach for both roadways. The other mentioned roadways are stop controlled at the minor legs.

Proximity to Public Transportation/Pedestrian Access

The proposed build out presents an excellent opportunity for the utilization of public transportation for residents and guests alike. Approximately 300 feet to the south are bus stops, Durham Road at Dover High School and Durham Road at Dover Veterinary Hospital. There is an existing sidewalk on both sides of Durham Road which provides access north to Central Ave and south toward the bus stops and a Hannaford's supermarket. This connectivity to sidewalks and bus stop proximity has a potential for a reduction in vehicle trip generation.

Existing Trip Generation

The 11th Edition ITE Trip Generation Manual was used to determine the existing volume of trips from Clancy Drive. Included is the percentage of entrance-to-exit traffic experienced during the weekday AM & PM peak hours between 7 and 9 AM and 4 and 6 PM, and total weekday volume. Land Use Code Single Family attached Housing (215) was used in deriving the existing trip generation from Clancy Drive. Table 5 provides average trip rate, total trips generated, enter to exit ratio, and the enter to exit distribution.

Single-Family Attached Housing Existing:

Time Method	Weekday Total Dwelling Units			Time Method	AM Peak Adj. Street Traffic Dwelling Units			Time Method	PM Peak Adj. Street Traffic Dwelling Units		
# Units	14			# Units	14			# Units	14		
Avg. Rate	7.2			Avg. Rate	0.48			Avg. Rate	0.57		
Total Trips	101			Total Trips	7			Total Trips	8		
% Enter	50	Total Enter	50	% Enter	25	Total Enter	2	% Enter	59	Total Enter	5
% Exit	50	Total Exit	51	% Exit	75	Total Exit	5	% Exit	41	Total Exit	3

Table 5: Peak hr of existing adjacent street traffic AM, PM, & weekday total

Proposed Trip Generation

The 11th Edition ITE Trip Generation Manual was used to determine the proposed volume of trips on Clancy Drive. Included is the percentage of entrance-to-exit traffic experienced during the weekday AM & PM peak hours between 7 and 9 AM and 4 and 6 PM, and total weekday volume. Land Use Code Single Family Attached Housing (215) was used in deriving the proposed trip generation from Clancy Drive. Table #6 provides average trip rate, total trips generated, enter to exit ratio, and the enter to exit distribution for the proposed trips at Clancy Drive. Table #7 provides the increase in trips from the existing condition.

Single-Family Attached Housing Clancy Drive:

Time Method	Weekday Total Dwelling Units			Time Method	AM Peak Adj. Street Traffic Dwelling Units			Time Method	PM Peak Adj. Street Traffic Dwelling Units		
# Units	22			# Units	22			# Units	22		
Avg. Rate	7.2			Avg. Rate	0.48			Avg. Rate	0.57		
Total Trips	158			Total Trips	11			Total Trips	13		
% Enter	50	Total Enter	79	% Enter	25	Total Enter	3	% Enter	59	Total Enter	7
% Exit	50	Total Exit	79	% Exit	75	Total Exit	8	% Exit	41	Total Exit	6

Table 6: Peak hr of proposed adjacent street traffic AM, PM, & weekday total

Increase from Existing Trip Generation

Changes in Trip Generation	
Time	Change in Trips Generated
Weekday Total	57
Weekday AM Peak Hour	4
Weekday PM Peak Hour	5

Table 7: Increase from existing trip generation

Build Traffic Projections and Turning Analysis

Traffic data obtained from NHDOT in 2025 has been projected to 2026 and ten years further to 2036. This has been done using a May peak seasonal adjustment factor of

1.01 (Urban Highways Group 4, AM & PM) and using an annual growth rate of 1%, compounded annually. The derivation of the peak seasonal adjustment factor comes from an average series of values from other urban highways from across New Hampshire, which can be found as Table #10 in Appendix B. Figures #5 and #6 show the build turning movements to and from Clancy Drive during weekday AM and PM peak hours. These figures also show the projected volume of traffic northbound and southbound on Durham Road for 2026 and 2036. A visual of these turning movements is shown in the following figures.

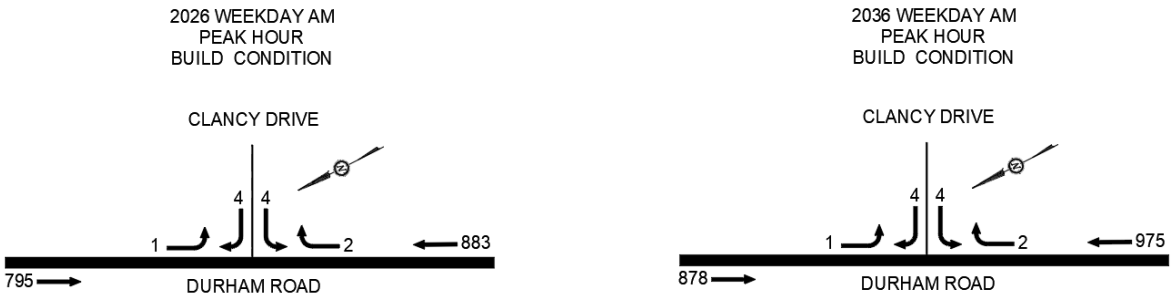


Figure 5: 2026 & 2036 build projected volumes & turn movement weekday AM peak

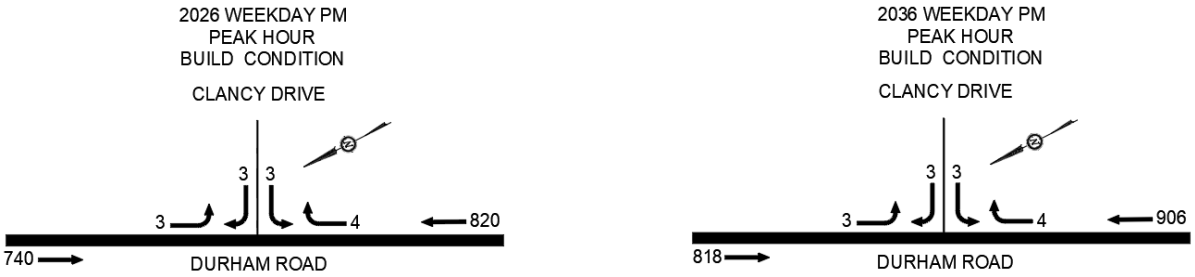


Figure 6: 2026 & 2036 build projected volumes & turn movement weekday PM peak

Tables #8 & #9 show in a tabular format the total trips that are calculated to occur to and from Clancy Drive are shown at the weekday peak hours analyzed in a build situation. These trips are further broken down into enter and exit to and from the site as well as percentage of left and right turns.

Time	AM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	11			
Trips Enter from Durham Road Northbound		1.6	Right	14.4
Trips Enter from Durham Road Southbound		1.4	Left	12.9
Trips Exit to Durham Road Northbound		3.8	Right	34.5
Trips Exit to Durham Road Southbound		4.2	Left	38.3

Table 8: Weekday AM peak hour build turning movements to and from Clancy Dr.

Time	PM Peak Hour	# Trips	Turn Type	% Distribution
Total Trips	13			
Trips Enter from Durham Road Northbound		3.7	Right	28.3
Trips Enter from Durham Road Southbound		3.3	Left	25.5
Trips Exit to Durham Road Northbound		3.2	Right	24.3
Trips Exit to Sixth Street Southbound		2.8	Left	21.9

Table 9: Weekday PM peak hour build turning movements to and from Clancy Dr.

Sight Distance and Safety Analysis

Sight distance on Durham Road to the north and south, as well as roadway alignment are the two determining factors of safety. Sight distance off of Clancy Drive is well unobstructed and previously approved by the City of Dover in 2013. It is the opinion of BS&E that the surrounding roadway infrastructure is sufficient to support the prosed development during the weekday peak hours and all other hours.

Conclusions and Recommendations

- The existing condition shows 101 total vehicle trips are predicted to occur on a weekday, 7 vehicle trips (2 enter/5 exit) are predicted to occur at the weekday AM peak hour and 8 vehicle trips (5 enter/3 exit) at the PM peak hour for Clancy Drive.

- The proposed condition shows that there will be an additional 57 weekday vehicle trips, 4 weekday AM peak hour vehicle trips, and 5 weekday PM peak hour vehicle trips to occur on Clancy Drive.

- The proposed condition shows 158 total vehicle trips are predicted to occur on a weekday, 11 vehicle trips (3 enter/8 exit) are predicted to occur at the weekday AM peak hour and 13 vehicle trips (7 enter/6 exit) at the PM peak hour for Clancy Drive post development.

- It is the opinion of BS&E that the surrounding roadway infrastructure is sufficient to support the proposed development during the weekday peak hours and all other hours.

- There are public transit opportunities and sidewalk connectivity adjacent to the site that has the potential for a reduction in trips from what is demonstrated.

Respectfully Submitted,
BERRY SURVEYING & ENGINEERING

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Appendix A

Traffic Counts & Speed Data

New Hampshire DOT Department of Transportation

Traffic Count (TCDS)

Home | Locate | Locate All | Email This | Auto-Locate:

List View

Record 1 of 1 Goto Record go

Location ID	82125077	MPO ID	
Type	SPOT	HPMS ID	
On NHS	No	On HPMS	No
LRS ID	S0000108__	LRS Loc Pt.	
SF Group	04 (2025)	Route Type	
AF Group	04 (2025)	Route	NH 108
GF Group	E (2025)	Active	Yes
Class Dist Grp	Default (2025)	Category	Short Count Volume
Seas Clss Grp	Default (2025)		
WIM Group	Default (2025)		
QC Group	Default		
Fnct'l Class	Minor Arterial	Milepost	
Located On	Central Ave		
Loc On Alias	NH 108 (DURHAM RD) NORTH OF BACK RIVER RD (SB-NB) (81125202-81125203)		

More Detail

STATION DATA

Directions: 2-WAY | NB | SB

AADT

	Year	AADT	DHV-30	K %	D %	PA	BC	Src
	2025	16,199	1,614	10	52	15,082 (93%)	1,117 (7%)	
	2024	16,624[3]				15,394 (93%)	1,230 (7%)	Grown from 2023
	2023	16,298[3]		9	55	15,140 (93%)	1,158 (7%)	Grown from 2022
	2022	15,932	1,512	9	55	14,927 (94%)	1,005 (6%)	
	2021	16,892[3]		11	61	15,355 (91%)	1,537 (9%)	Grown from 2020

|<< < > >>| 1-5 of 22

Figure 7: History of AADT for Durham Road

Volume Count Report

LOCATION INFO	
Location ID	82125077
Type	SPOT
Fnct'l Class	4
Located On	Central Ave
Loc On Alias	NH 108 (DURHAM RD) NORTH OF BACK RIVER RD (SB-NB) (81125202-81125203)
Direction	2-WAY
County	STRAFFORD
Community	DOVER
MPO ID	
HPMS ID	
Agency	New Hampshire DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Tue 5/20/2025
End Date	Wed 5/21/2025
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	2-WAY
Station	821250775010
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	12	13	11	15	51
1:00-2:00	15	13	8	7	43
2:00-3:00	6	4	3	2	15
3:00-4:00	8	8	12	14	42
4:00-5:00	15	19	13	36	83
5:00-6:00	43	68	81	102	294
6:00-7:00	98	167	203	299	767
7:00-8:00	376	362	408	435	1,581
8:00-9:00	430	373	341	366	1,510
9:00-10:00	290	293	283	291	1,157
10:00-11:00	259	262	288	272	1,081
11:00-12:00	295	262	307	305	1,169
12:00-13:00	275	285	305	292	1,157
13:00-14:00	336	292	290	322	1,240
14:00-15:00	331	381	336	407	1,455
15:00-16:00	340	411	329	415	1,495
16:00-17:00	346	420	383	382	1,531
17:00-18:00	380	467	369	364	1,580
18:00-19:00	259	278	240	226	1,003
19:00-20:00	196	223	199	175	793
20:00-21:00	140	125	114	89	468
21:00-22:00	124	95	82	60	361
22:00-23:00	69	46	40	34	189
23:00-24:00	27	27	22	18	94
Total					19,159
AADT					16,566
AM Peak					07:30-08:30 1,646
PM Peak					16:30-17:30 1,612

Figure 8: Tuesday May 20, 2025 traffic count 2-way

Volume Count Report

LOCATION INFO	
Location ID	82125077_NB
Type	SPOT
Fnct'l Class	4
Located On	NH 108 (DURHAM RD) NB NORTH OF BACK RIVER RD (82125077)
Loc On Alias	NH 108 (DURHAM RD) NORTH OF BACK RIVER RD (SB-NB) (81125202-81125203)
Direction	NB
County	STRAFFORD
Community	DOVER
MPO ID	
HPMS ID	
Agency	New Hampshire DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Tue 5/20/2025
End Date	Wed 5/21/2025
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Station	821250775010
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	7	9	6	7	29
1:00-2:00	4	9	3	5	21
2:00-3:00	5	2	1	1	9
3:00-4:00	3	6	8	8	25
4:00-5:00	10	12	9	18	49
5:00-6:00	16	30	38	48	132
6:00-7:00	43	90	113	165	411
7:00-8:00	238	198	218	239	893
8:00-9:00	229	165	174	182	750
9:00-10:00	154	141	131	142	568
10:00-11:00	131	147	158	121	557
11:00-12:00	161	143	151	149	604
12:00-13:00	138	146	156	150	590
13:00-14:00	170	151	149	170	640
14:00-15:00	186	204	188	217	795
15:00-16:00	182	199	170	211	762
16:00-17:00	199	222	194	204	819
17:00-18:00	194	234	183	181	792
18:00-19:00	134	147	116	104	501
19:00-20:00	100	112	113	91	416
20:00-21:00	78	69	68	51	266
21:00-22:00	57	44	38	32	171
22:00-23:00	34	21	21	16	92
23:00-24:00	20	21	10	9	60
Total					9,952
AM Peak					07:00-08:00 893
PM Peak					15:45-16:45 826

Figure 9: Tuesday May 20, 2025 traffic count northbound

Volume Count Report

LOCATION INFO	
Location ID	82125077_SB
Type	SPOT
Fnct'l Class	4
Located On	NH 108 (DURHAM RD) SB NORTH OF BACK RIVER RD (82125077)
Loc On Alias	NH 108 (DURHAM RD) NORTH OF BACK RIVER RD (SB-NB) (81125202-81125203)
Direction	SB
County	STRAFFORD
Community	DOVER
MPO ID	
HPMS ID	
Agency	New Hampshire DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Tue 5/20/2025
End Date	Wed 5/21/2025
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Station	821250775010
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	5	4	5	8	22
1:00-2:00	11	4	5	2	22
2:00-3:00	1	2	2	1	6
3:00-4:00	5	2	4	6	17
4:00-5:00	5	7	4	18	34
5:00-6:00	27	38	43	54	162
6:00-7:00	55	77	90	134	356
7:00-8:00	138	164	190	196	688
8:00-9:00	201	208	167	184	760
9:00-10:00	136	152	152	149	589
10:00-11:00	128	115	130	151	524
11:00-12:00	134	119	156	156	565
12:00-13:00	137	139	149	142	567
13:00-14:00	166	141	141	152	600
14:00-15:00	145	177	148	190	660
15:00-16:00	158	212	159	204	733
16:00-17:00	147	198	189	178	712
17:00-18:00	186	233	186	183	788
18:00-19:00	125	131	124	122	502
19:00-20:00	96	111	86	84	377
20:00-21:00	62	56	46	38	202
21:00-22:00	67	51	44	28	190
22:00-23:00	35	25	19	18	97
23:00-24:00	7	6	12	9	34
Total					9,207
AM Peak					07:30-08:30 795
PM Peak					17:00-18:00 788

Figure 10: Tuesday May 20, 2025 traffic count southbound

Volume Count Report

LOCATION INFO	
Location ID	82125077
Type	SPOT
Fnct'l Class	4
Located On	Central Ave
Loc On Alias	NH 108 (DURHAM RD) NORTH OF BACK RIVER RD (SB-NB) (81125202-81125203)
Direction	2-WAY
County	STRAFFORD
Community	DOVER
MPO ID	
HPMS ID	
Agency	New Hampshire DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Wed 5/21/2025
End Date	Thu 5/22/2025
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	2-WAY
Station	821250775010
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	17	17	14	9	57
1:00-2:00	8	9	10	7	34
2:00-3:00	6	3	7	3	19
3:00-4:00	3	13	10	13	39
4:00-5:00	10	26	15	30	81
5:00-6:00	41	57	91	101	290
6:00-7:00	104	146	199	318	767
7:00-8:00	472	364	395	440	1,671
8:00-9:00	420	383	304	334	1,441
9:00-10:00	278	246	236	269	1,029
10:00-11:00	239	272	285	284	1,080
11:00-12:00	275	283	282	286	1,126
12:00-13:00	288	281	293	306	1,168
13:00-14:00	256	280	281	304	1,121
14:00-15:00	320	334	340	378	1,372
15:00-16:00	380	401	369	419	1,569
16:00-17:00	369	405	391	428	1,593
17:00-18:00	336	403	386	420	1,545
18:00-19:00	355	310	312	291	1,268
19:00-20:00	252	249	208	190	899
20:00-21:00	145	187	197	145	674
21:00-22:00	118	149	75	73	415
22:00-23:00	70	45	45	44	204
23:00-24:00	28	34	25	21	108
Total					19,570
AADT					16,617
AM Peak					07:00-08:00 1,671
PM Peak					16:00-17:00 1,593

Figure 11: Wednesday May 21, 2025 traffic count 2-way

Volume Count Report

LOCATION INFO	
Location ID	82125077_NB
Type	SPOT
Fnct'l Class	4
Located On	NH 108 (DURHAM RD) NB NORTH OF BACK RIVER RD (82125077)
Loc On Alias	NH 108 (DURHAM RD) NORTH OF BACK RIVER RD (SB-NB) (81125202-81125203)
Direction	NB
County	STRAFFORD
Community	DOVER
MPO ID	
HPMS ID	
Agency	New Hampshire DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Wed 5/21/2025
End Date	Thu 5/22/2025
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Station	821250775010
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	8	10	6	3	27
1:00-2:00	5	8	4	4	21
2:00-3:00	3	2	2	2	9
3:00-4:00	3	9	8	7	27
4:00-5:00	6	16	13	19	54
5:00-6:00	25	28	38	54	145
6:00-7:00	51	76	106	178	411
7:00-8:00	234	195	210	227	866
8:00-9:00	228	165	157	170	720
9:00-10:00	136	128	121	140	525
10:00-11:00	110	140	149	149	548
11:00-12:00	141	151	135	132	559
12:00-13:00	154	147	141	166	608
13:00-14:00	126	149	149	158	582
14:00-15:00	190	178	177	194	739
15:00-16:00	205	209	183	214	811
16:00-17:00	188	230	217	232	867
17:00-18:00	184	221	209	247	861
18:00-19:00	202	176	141	163	682
19:00-20:00	121	138	108	100	467
20:00-21:00	79	96	91	70	336
21:00-22:00	69	53	38	45	205
22:00-23:00	40	24	16	25	105
23:00-24:00	18	15	13	13	59
Total					10,234
AM Peak					07:00-08:00 866
PM Peak					17:15-18:15 879

Figure 12: Wednesday May 21, 2025 traffic count northbound

Volume Count Report

LOCATION INFO	
Location ID	82125077_SB
Type	SPOT
Fnct'l Class	4
Located On	NH 108 (DURHAM RD) SB NORTH OF BACK RIVER RD (82125077)
Loc On Alias	NH 108 (DURHAM RD) NORTH OF BACK RIVER RD (SB-NB) (81125202-81125203)
Direction	SB
County	STRAFFORD
Community	DOVER
MPO ID	
HPMS ID	
Agency	New Hampshire DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Wed 5/21/2025
End Date	Thu 5/22/2025
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Station	821250775010
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	9	7	8	6	30
1:00-2:00	3	1	6	3	13
2:00-3:00	3	1	5	1	10
3:00-4:00	0	4	2	6	12
4:00-5:00	4	10	2	11	27
5:00-6:00	16	29	53	47	145
6:00-7:00	53	70	93	140	356
7:00-8:00	238	169	185	213	805
8:00-9:00	192	218	147	164	721
9:00-10:00	142	118	115	129	504
10:00-11:00	129	132	136	135	532
11:00-12:00	134	132	147	154	567
12:00-13:00	134	134	152	140	560
13:00-14:00	130	131	132	146	539
14:00-15:00	130	156	163	184	633
15:00-16:00	175	192	186	205	758
16:00-17:00	181	175	174	196	726
17:00-18:00	152	182	177	173	684
18:00-19:00	153	134	171	128	586
19:00-20:00	131	111	100	90	432
20:00-21:00	66	91	106	75	338
21:00-22:00	49	96	37	28	210
22:00-23:00	30	21	29	19	99
23:00-24:00	10	19	12	8	49
Total					9,336
AM Peak					07:30-08:30 808
PM Peak					15:15-16:15 764

Figure 13: Wednesday May 21, 2025 traffic count southbound

Volume Count Report

LOCATION INFO	
Location ID	82125077
Type	SPOT
Fnct'l Class	4
Located On	Central Ave
Loc On Alias	NH 108 (DURHAM RD) NORTH OF BACK RIVER RD (SB-NB) (81125202-81125203)
Direction	2-WAY
County	STRAFFORD
Community	DOVER
MPO ID	
HPMS ID	
Agency	New Hampshire DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 5/22/2025
End Date	Fri 5/23/2025
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	2-WAY
Station	821250775010
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	14	17	18	15	64
1:00-2:00	21	14	12	11	58
2:00-3:00	8	6	11	6	31
3:00-4:00	6	7	20	14	47
4:00-5:00	11	18	14	40	83
5:00-6:00	45	49	78	89	261
6:00-7:00	88	136	181	276	681
7:00-8:00	360	337	401	428	1,526
8:00-9:00	437	396	321	332	1,486
9:00-10:00	298	257	301	273	1,129
10:00-11:00	260	277	283	302	1,122
11:00-12:00	257	253	278	299	1,087
12:00-13:00	269	285	299	265	1,118
13:00-14:00	243	301	264	331	1,139
14:00-15:00	337	316	288	345	1,286
15:00-16:00	336	374	370	377	1,457
16:00-17:00	324	361	351	364	1,400
17:00-18:00	340	376	314	283	1,313
18:00-19:00	222	233	216	236	907
19:00-20:00	214	162	146	134	656
20:00-21:00	185	153	113	82	533
21:00-22:00	86	84	70	59	299
22:00-23:00	57	56	56	38	207
23:00-24:00	42	29	24	18	113
Total					18,003
AADT					15,408
AM Peak					07:30-08:30 1,662
PM Peak					15:00-16:00 1,457

Figure 14: Thursday May 22, 2025 traffic count 2-way

Volume Count Report

LOCATION INFO	
Location ID	82125077_NB
Type	SPOT
Fnct'l Class	4
Located On	NH 108 (DURHAM RD) NB NORTH OF BACK RIVER RD (82125077)
Loc On Alias	NH 108 (DURHAM RD) NORTH OF BACK RIVER RD (SB-NB) (81125202-81125203)
Direction	NB
County	STRAFFORD
Community	DOVER
MPO ID	
HPMS ID	
Agency	New Hampshire DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 5/22/2025
End Date	Fri 5/23/2025
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Station	821250775010
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	7	10	10	5	32
1:00-2:00	9	10	8	5	32
2:00-3:00	4	3	6	4	17
3:00-4:00	5	5	9	11	30
4:00-5:00	7	10	9	23	49
5:00-6:00	17	25	34	39	115
6:00-7:00	44	67	97	157	365
7:00-8:00	202	172	238	232	844
8:00-9:00	235	200	172	166	773
9:00-10:00	146	136	159	136	577
10:00-11:00	122	142	140	153	557
11:00-12:00	124	132	135	157	548
12:00-13:00	135	150	161	138	584
13:00-14:00	138	152	148	190	628
14:00-15:00	188	181	146	185	700
15:00-16:00	174	199	168	185	726
16:00-17:00	172	186	187	182	727
17:00-18:00	175	199	160	161	695
18:00-19:00	110	131	116	136	493
19:00-20:00	105	90	83	73	351
20:00-21:00	85	82	73	48	288
21:00-22:00	52	51	39	33	175
22:00-23:00	35	30	27	22	114
23:00-24:00	28	12	9	9	58
Total					9,478
AM Peak					07:30-08:30 905
PM Peak					16:30-17:30 743

Figure 15: Thursday May 22, 2025 68 Durham Road traffic count northbound

Volume Count Report

LOCATION INFO	
Location ID	82125077_SB
Type	SPOT
Fnct'l Class	4
Located On	NH 108 (DURHAM RD) SB NORTH OF BACK RIVER RD (82125077)
Loc On Alias	NH 108 (DURHAM RD) NORTH OF BACK RIVER RD (SB-NB) (81125202-81125203)
Direction	SB
County	STRAFFORD
Community	DOVER
MPO ID	
HPMS ID	
Agency	New Hampshire DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Thu 5/22/2025
End Date	Fri 5/23/2025
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	
Station	821250775010
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	
Latitude,Longitude	

INTERVAL:15-MIN

Time	15-min Interval 1st	2nd	3rd	4th	Hourly Count
0:00-1:00	7	7	8	10	32
1:00-2:00	12	4	4	6	26
2:00-3:00	4	3	5	2	14
3:00-4:00	1	2	11	3	17
4:00-5:00	4	8	5	17	34
5:00-6:00	28	24	44	50	146
6:00-7:00	44	69	84	119	316
7:00-8:00	158	165	163	196	682
8:00-9:00	202	196	149	166	713
9:00-10:00	152	121	142	137	552
10:00-11:00	138	135	143	149	565
11:00-12:00	133	121	143	142	539
12:00-13:00	134	135	138	127	534
13:00-14:00	105	149	116	141	511
14:00-15:00	149	135	142	160	586
15:00-16:00	162	175	202	192	731
16:00-17:00	152	175	164	182	673
17:00-18:00	165	177	154	122	618
18:00-19:00	112	102	100	100	414
19:00-20:00	109	72	63	61	305
20:00-21:00	100	71	40	34	245
21:00-22:00	34	33	31	26	124
22:00-23:00	22	26	29	16	93
23:00-24:00	14	17	15	9	55
Total					8,525
AM Peak					07:30-08:30 757
PM Peak					15:00-16:00 731

Figure 16: Thursday May 22, 2025 68 Durham Road traffic count southbound

Appendix B

Miscellaneous

Group 4 Averages:		Year 2024 Monthly Data Urban Highways	
		Adjustment to	
Month	ADT	Average	Peak
January	14,556	1.04	1.09
February	15,385	0.98	1.03
March	14,276	1.06	1.11
April	14,515	1.04	1.10
May	15,571	0.97	1.02
June	15,918	0.95	1.00
July	15,765	0.96	1.01
August	15,856	0.95	1.00
September	15,571	0.97	1.02
October	15,698	0.96	1.01
November	14,429	1.05	1.10
December	13,960	1.08	1.14
Average ADT:	15,125		
Peak ADT:	15,918		

Table 10: Derivation of the seasonal peaking factor

Appendix C

Trip Generation Derivation

Land Use: 215
Single-Family Attached Housing

Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space.

Additional Data

The database for this land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Dakota, Utah, Virginia, and Wisconsin.

Source Numbers

168, 204, 211, 237, 305, 306, 319, 321, 357, 390, 418, 525, 571, 583, 638, 735, 868, 869, 870, 896, 912, 959, 1009, 1046, 1056, 1058, 1077

Figure 17: ITE Trip Generation, 11th Edition Existing and Proposed LUC Description

BERRY SURVEYING & ENGINEERING
335 Second Crown Pt. Rd., Barrington, NH 03825
(603) 332-2863 / (603) 335-4623 FAX
www.BerrySurveying.Com

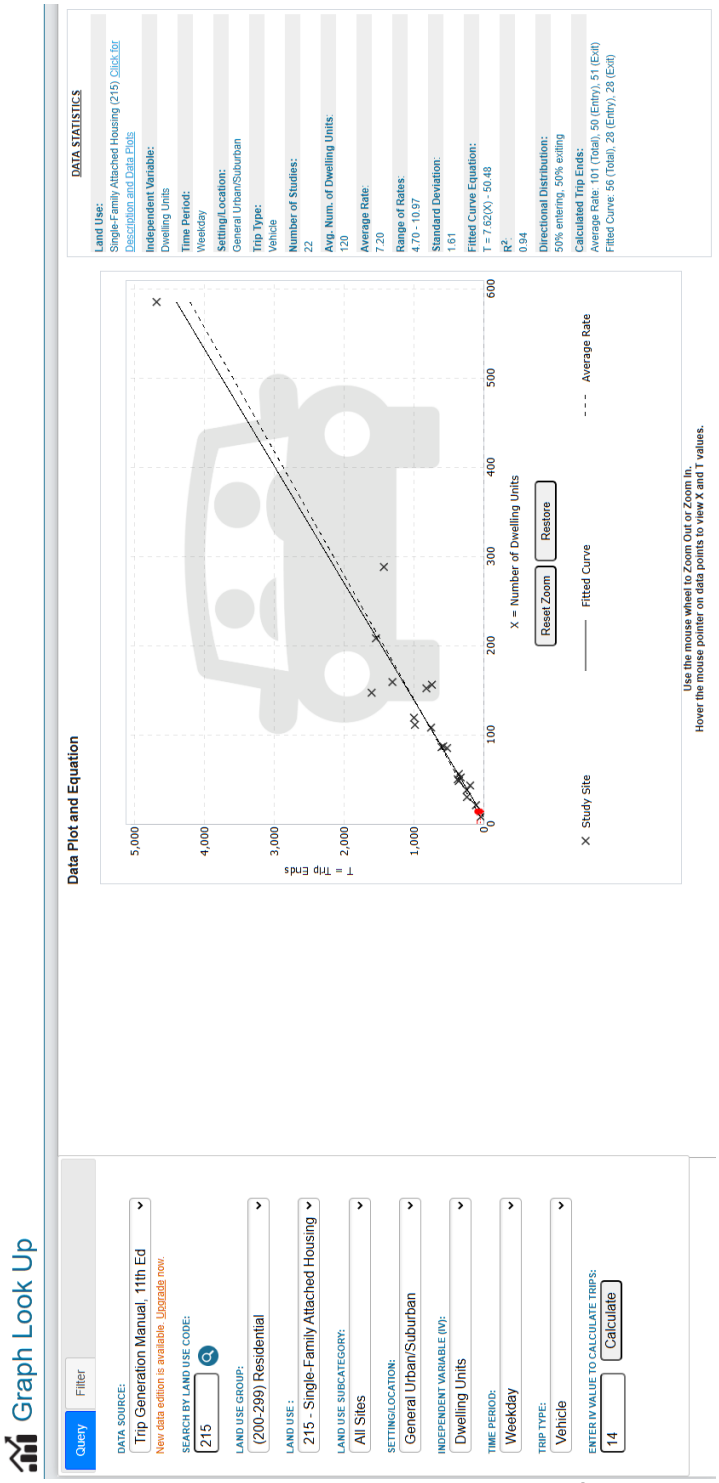


Figure 18: ITE Trip Generation, 11th Edition Ex Weekday Total Clancy Drive

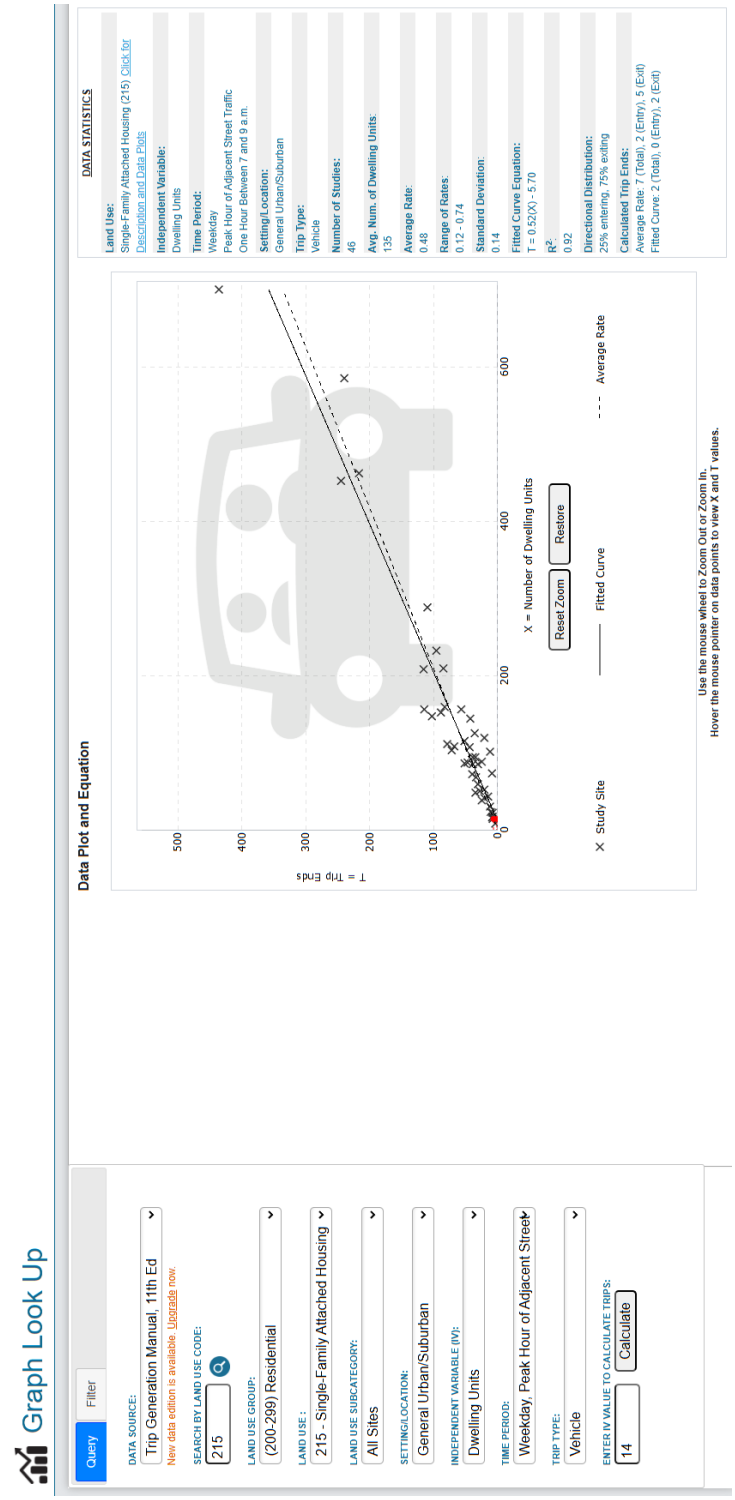


Figure 19: ITE Trip Generation, 11th Edition Ex Weekday AM Peak hour Clancy Drive

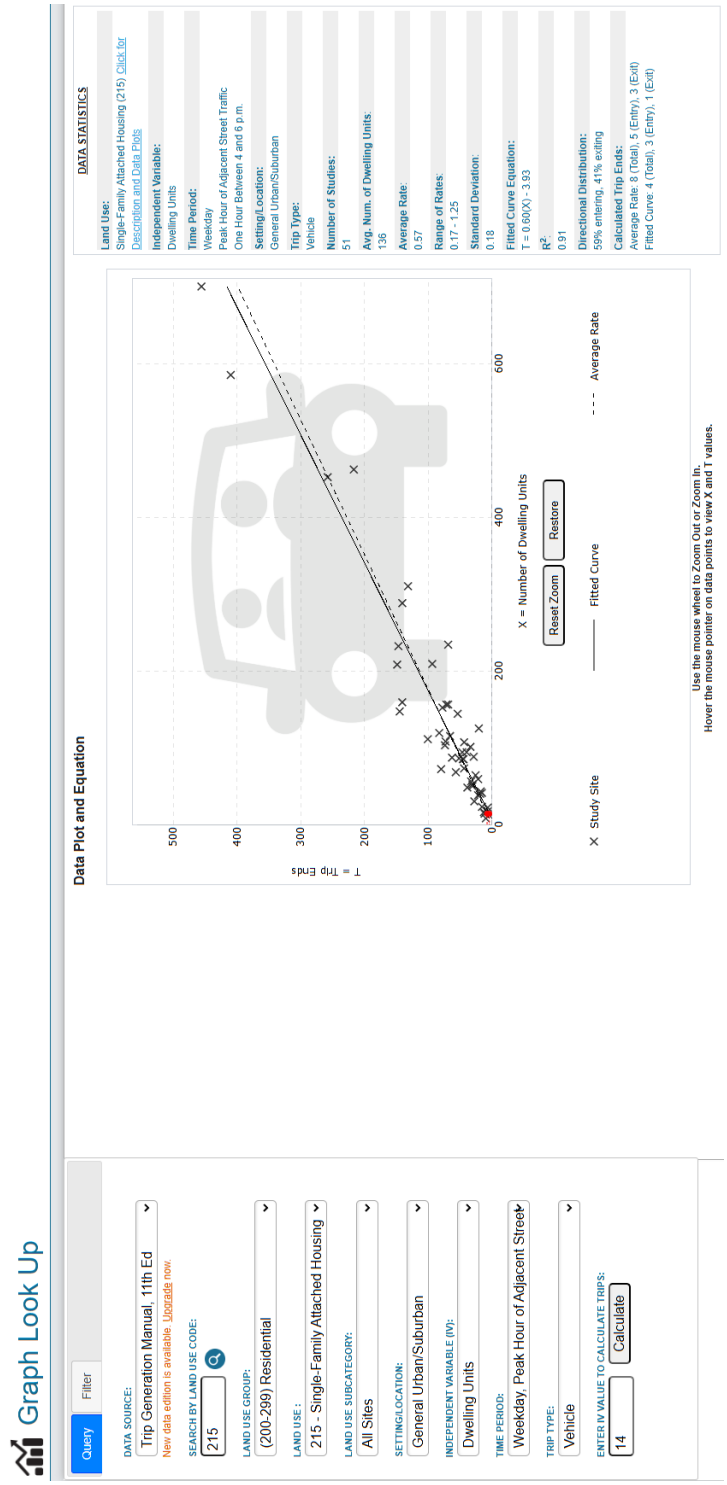


Figure 20: ITE Trip Generation, 11th Edition Ex Weekday PM Peak Hour Clancy Drive

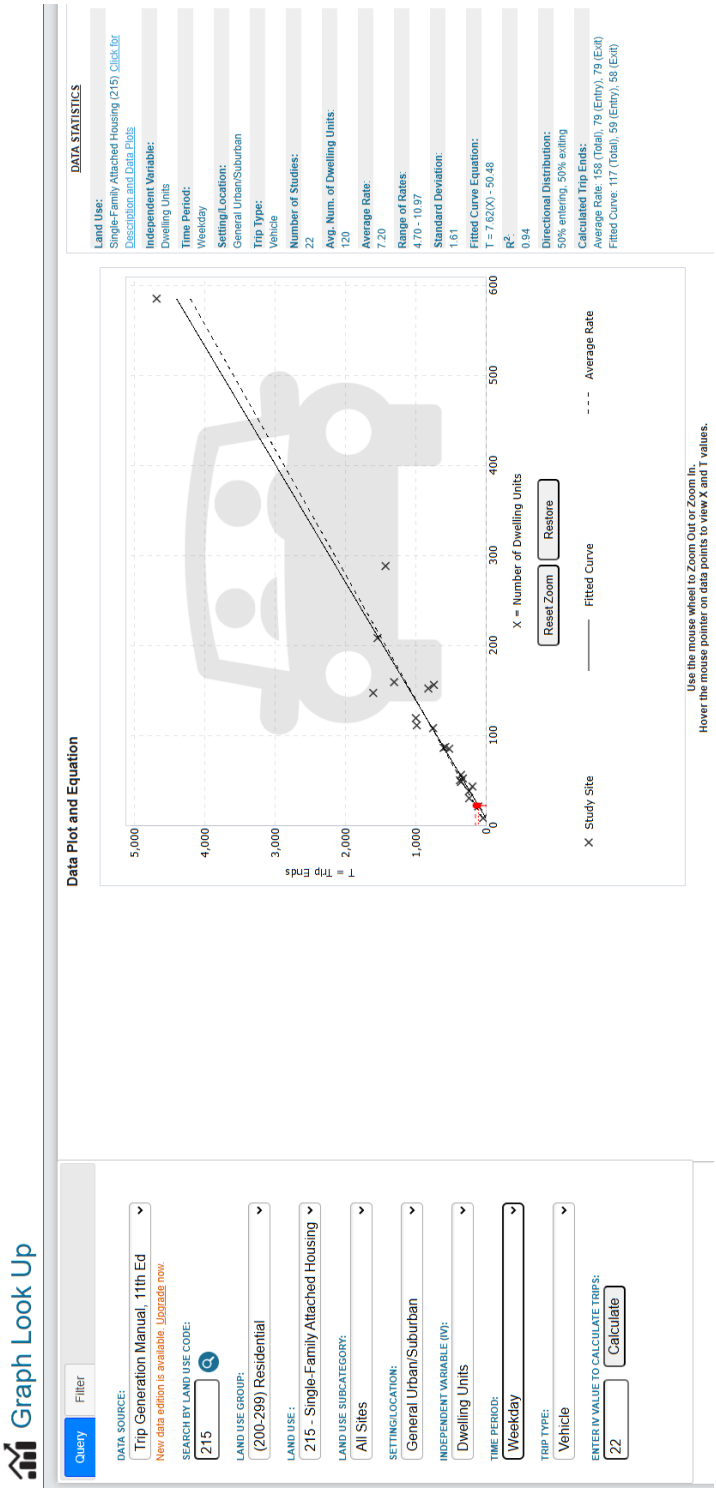


Figure 21: ITE Trip Generation, 11th Edition Prop Weekday Total Clancy Drive

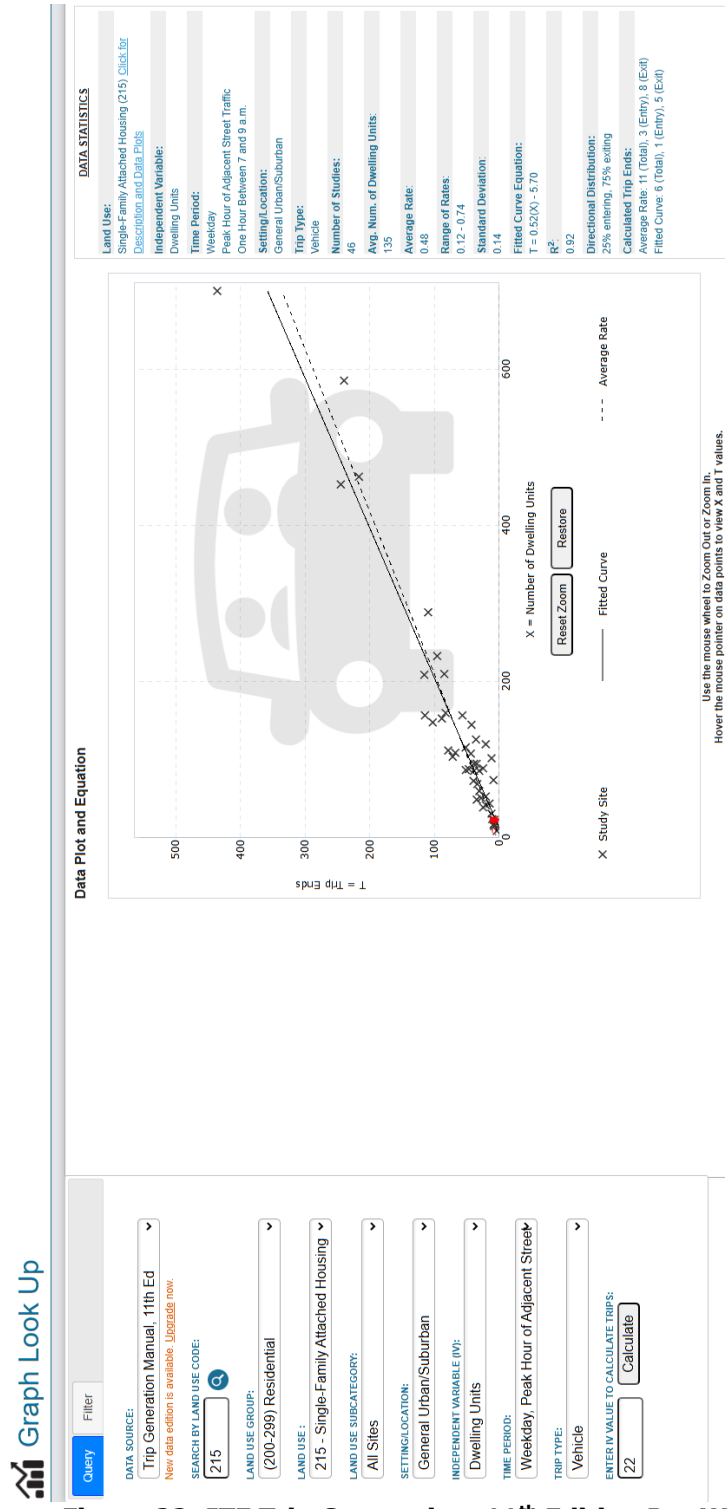


Figure 22: ITE Trip Generation, 11th Edition Pro Weekday AM Peak hour Clancy Drive

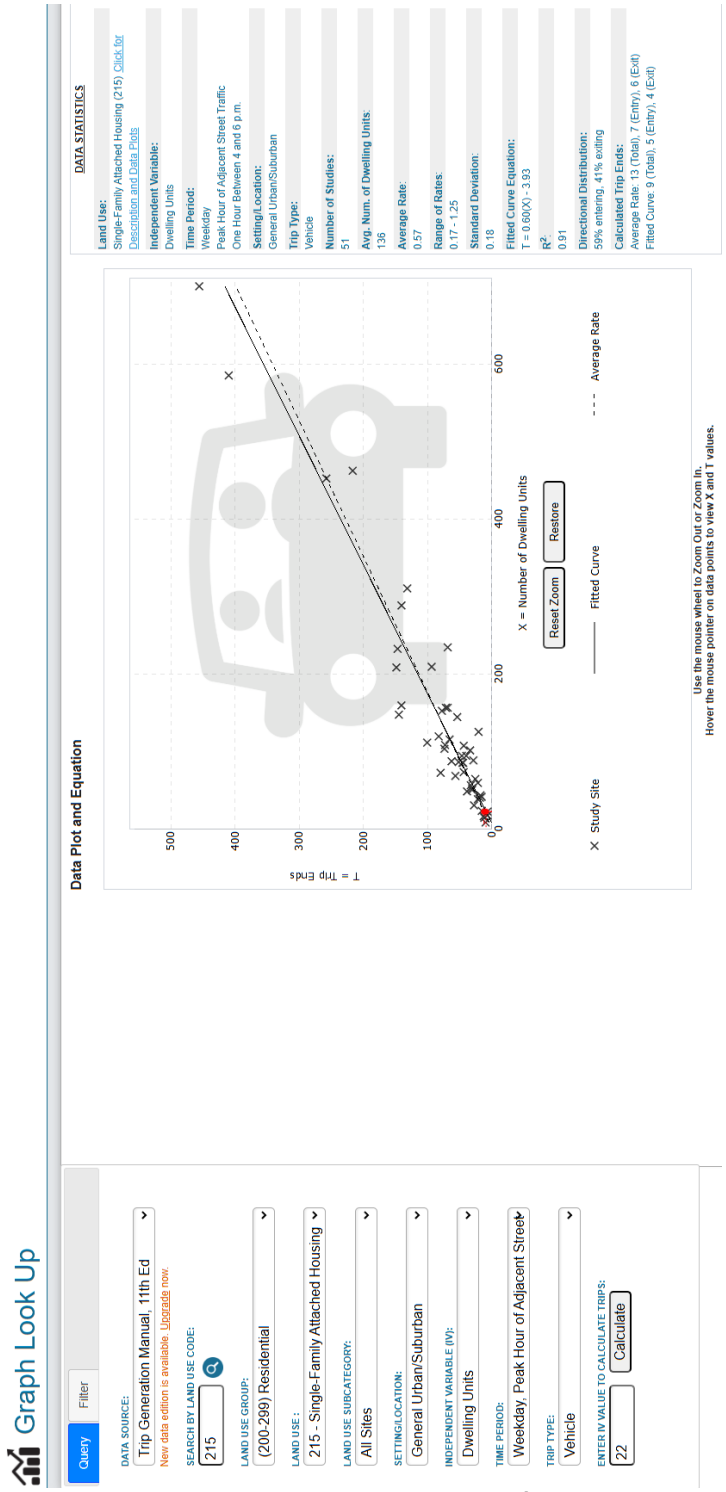


Figure 23: ITE Trip Generation, 11th Edition Pro Weekday PM Peak Hour Clancy Drive

RESIDENTIAL TRANSFER OF DEVELOPMENT RIGHTS (TDR) SITE PLAN & LOT LINE REVISION

FOR

STF DEVELOPMENT, LLC
68 DURHAM ROAD
DOVER, NH
TAX MAP I, LOT 11

TABLE OF CONTENTS:

SHEET 1 ~ NEIGHBORHOOD PLAN
SHEET 2 ~ PROJECT NOTES
SHEET 3 ~ EXISTING CONDITIONS PLAN
SHEET 4 ~ SITE SPECIFIC SOILS MAP
SHEET 5 ~ LOT LINE REVISION PLAN*
SHEET 6 ~ SITE PLAN
SHEET 7 ~ GRADING PLAN & PROFILE
SHEET 8 ~ INFILTRATION POND #102 (P-102)
SHEET 9 ~ EROSION & SEDIMENT CONTROL PLAN
SHEET 10 ~ UTILITY PLAN & PROFILE WATER LINE
SHEET 11 ~ UTILITY PLAN & PROFILE SEWER LINE
SHEET 12 ~ CROSS SECTIONS (P-101)
SHEET 13 ~ LANDSCAPING PLAN
SHEET 14 ~ LIGHTING PLAN
SHEET 15 ~ DOVER FIRE TRUCK MOVEMENT PLAN
SHEET 16 ~ EROSION & SEDIMENT CONTROL DETAILS (E-101)
SHEET 17 ~ EROSION & SEDIMENT CONTROL DETAILS (E-102)
SHEET 18 ~ CONSTRUCTION DETAILS (C-101)
SHEET 19 ~ CONSTRUCTION DETAILS (C-102)
SHEET 20 ~ DRAINAGE CONSTRUCTION DETAILS (D-101)
SHEET 21 ~ UTILITY CONSTRUCTION DETAILS (U-101)
SHEET 22 ~ UTILITY CONSTRUCTION DETAILS (U-102)
SHEET 23 ~ LANDSCAPING CONSTRUCTION DETAILS (L-101)

*DENOTES A PLAN IS TO BE RECORDED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS (S.C.R.D.)

OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

SURVEYOR OF RECORD: CHRISTOPHER R. BERRY, LLS
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
(603) 332-2863

ENGINEER OF RECORD: KEVIN R. POULIN, PE
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825
(603) 332-2863

SOIL SCIENTIST: JOHN P. HAYES, III, CSS, CWS
7 LIMESTONE WAY
NORTH HAMPTON, NH 03862

WETLAND SCIENTIST: DEIDRA L. BENJAMIN, CWS
100 LEAVITT ROAD
PITTSFIELD, NH 03263

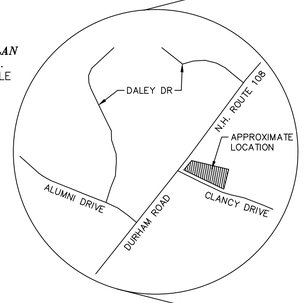
LANDSCAPE ARCHITECT: ERIC BUCK, LA
TERRAIN PLANTING & DESIGN LLC
311 KAST HILL ROAD
HOPKINTON, NH 03229
(603) 491-2322

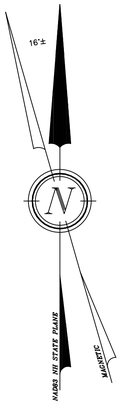
NOTE:

BERRY SURVEYING & ENGINEERING HAS PREPARED AN INSPECTION & MAINTENANCE MANUAL, DRAINAGE NARRATIVE, AND EROSION AND SEDIMENT CONTROL PLAN AS PART OF THIS PROJECTS DOCUMENTATION. THE DRAINAGE NARRATIVE AND SEDIMENT CONTROL PLAN PROVIDES NEW HAMPSHIRE STORMWATER MANUAL INFORMATION AND REQUIREMENTS FOR MEASURES TO BE INSTALLED ON SITE.

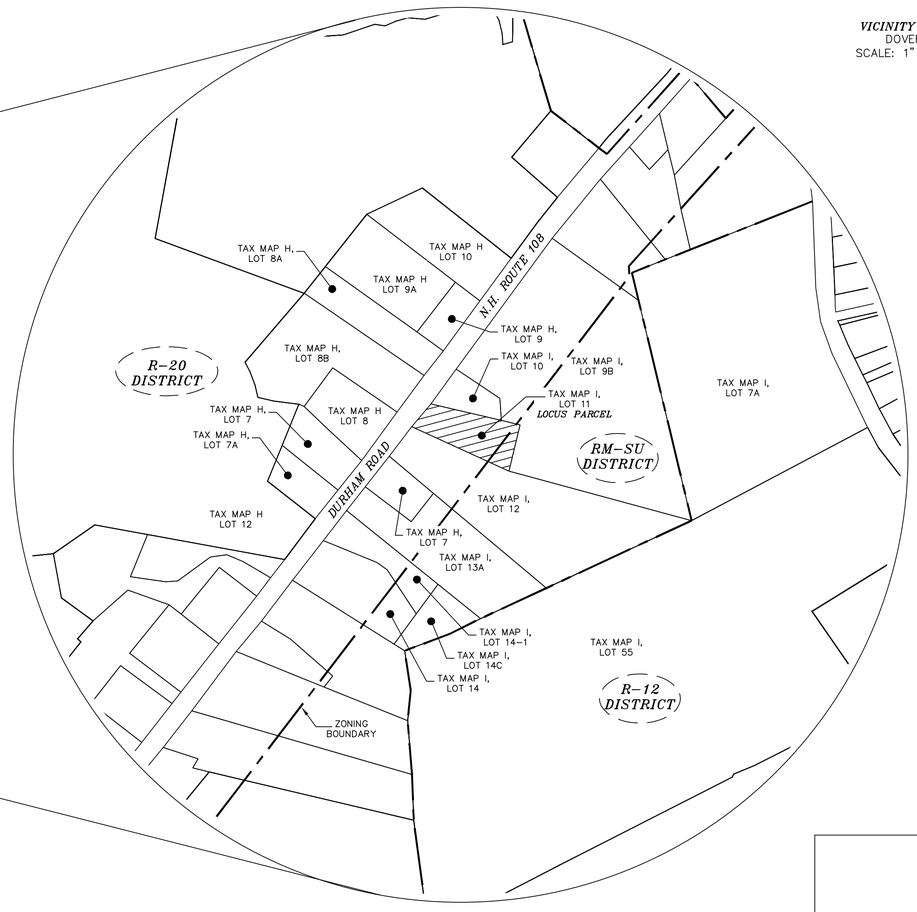
ALL USERS ARE BOUND TO THESE DOCUMENT AS PART OF THE APPROVAL OF THE PLANNING BOARD. COPIES OF THE YEARLY INSPECTIONS ARE TO BE DELIVERED TO THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT.

LOCATION PLAN
DOVER, N.H.
NOT TO SCALE





VICINITY SKETCH
DOVER, NH
SCALE: 1" = 250' ±



REQUIRED PERMITS/APPROVALS:

~ DOVER SITE PLAN APPROVAL (PENDING)
~ DOVER TRANSFER OF DEVELOPMENT RIGHTS (TDR) APPROVAL (PENDING)

WHETHER OR NOT OTHERWISE EXPRESSLY RECITED ON THIS SITE PLAN, THE SITE PLAN APPROVAL GRANTED IS CONDITIONED ON FAITHFUL AND DILIGENT ADHERENCE BY THE OWNER/SUBDIVIDER/DEVELOPER OF ALL TERMS, CONDITIONS, PROVISIONS AND SPECIFICATIONS OF THE CITY OF DOVER LAND SITE PLAN REGULATIONS AS AMENDED OR AS MAY LATER BE AMENDED, IN EFFECT ON THE DATE OF APPROVAL, UNLESS OR EXCEPT INSOFAR AS EXPRESSLY WAIVED, IN ANY PARTICULAR, BELOW. NON – ADHERENCE MAY RESULT IN A REVOCATION OF APPROVAL. ANY VARIATION FROM THE APPROVED PLAN WILL REQUIRE A RESUBMISSION FOR SITE PLAN APPROVAL.

GENERAL PLAN SET NOTES:

1.) 11x17" PLANS ARE TWICE THE PUBLISHED SCALE.

2.) ALL PLANS ARE CONSIDERED TO BE NOT FOR CONSTRUCTION UNLESS THEY CONTAIN THE APPROVAL STAMP OF THE CITY OF DOVER.

APPROVED DOVER

STATE OF NEW HAMPSHIRE
DEIDRA L. BENJAMIN
No. 295
CERTIFIED WETLAND SCIENTIST

STATE OF NEW HAMPSHIRE
JOHN P. HAYES III
No. 087
CERTIFIED SOIL SCIENTIST

STATE OF NEW HAMPSHIRE
No. 1624
LICENSED LAND SURVEYOR
CHRISTOPHER R. BERRY
SIGNATURE

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

REVISION	DATE	DESCRIPTION

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

TRANSFER OF DEVELOPMENT RIGHTS (TDR) SITE PLAN

COVER PAGE
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS SHOWN
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

NOT FOR CONSTRUCTION

ABBREVIATION LEGEND:

E.O.P.	EDGE OF PAVEMENT
V.G.C.	VERTICAL GRANITE CURB
S.G.C.	SLOPED GRANITE CURB
BITUM.	BITUMINOUS
E.S.H.W.T	ESTIMATED SEASONAL HIGH WATER TABLE
TYP.	TYPICAL
U.G.E	UNDER GROUND ELECTRIC / UTILITIES
O.H.U.	OVERHEAD ELECTRIC / UTILITIES
CLDI	CONCRETE LINED DUCTILE IRON
DI	DUCTILE IRON
F.P.	FIRE PROTECTION
FDC	FIRE DEPARTMENT CONNECTION
U.D.	UNDER DRAIN
C.O.	CLEAN OUT
INV.	INVERT
ELEV.	ELEVATION
HDPE	HIGH DENSITY POLYETHYLENE
RCP	REINFORCED CONCRETE PIPE
RECB	ROLLED EROSION CONTROL BLANKET
F.G.	FINISHED GRADE
E.G.	EXISTING GRADE
E.T.W.	EDGE OF TRAVELED WAY
T.B.R.	TO BE REMOVED
PL	PROPERTY LINE
EL	EASEMENT LINE
CL	CENTER LINE
CF	CUBIC FEET
P.C.	POINT OF CURVATURE
P.T.	POINT OF TANGENCY
P.V.C.	POINT OF VERTICAL CURVE
P.V.I.	POINT OF VERTICAL INTERSECTION
P.V.T.	POINT OF VERTICAL TANGENCY
TYP.	EXISTING
PROP.	PROPOSED
STA.	STATION
SCM	STORMWATER CONTROL MEASURE
'/.	FEET / FEET
TP	TEST PIT
FND	FOUND
TBS	TO BE SET
FF	FINISHED FLOOR
GFF	GARAGE FINISHED FLOOR

{ } SSL ( ) ~ {SIZE} SINGLE SOLID LINE (COLOR W=WHITE, Y=YELLOW)
{ } DSL ( ) ~ {SIZE} DOUBLE SOLID LINE (COLOR W=WHITE, Y=YELLOW)
{ } SSB ( ) ~ {SIZE} SINGLE SOLID W/ BROKEN LINE (COLOR W=WHITE, Y=YELLOW)
{ } SBL ( ) ~ {SIZE} SINGLE BROKEN LINE (COLOR W=WHITE, Y=YELLOW)
{ } DBL ( ) ~ {SIZE} DOUBLE BROKEN LINE (COLOR W=WHITE, Y=YELLOW)

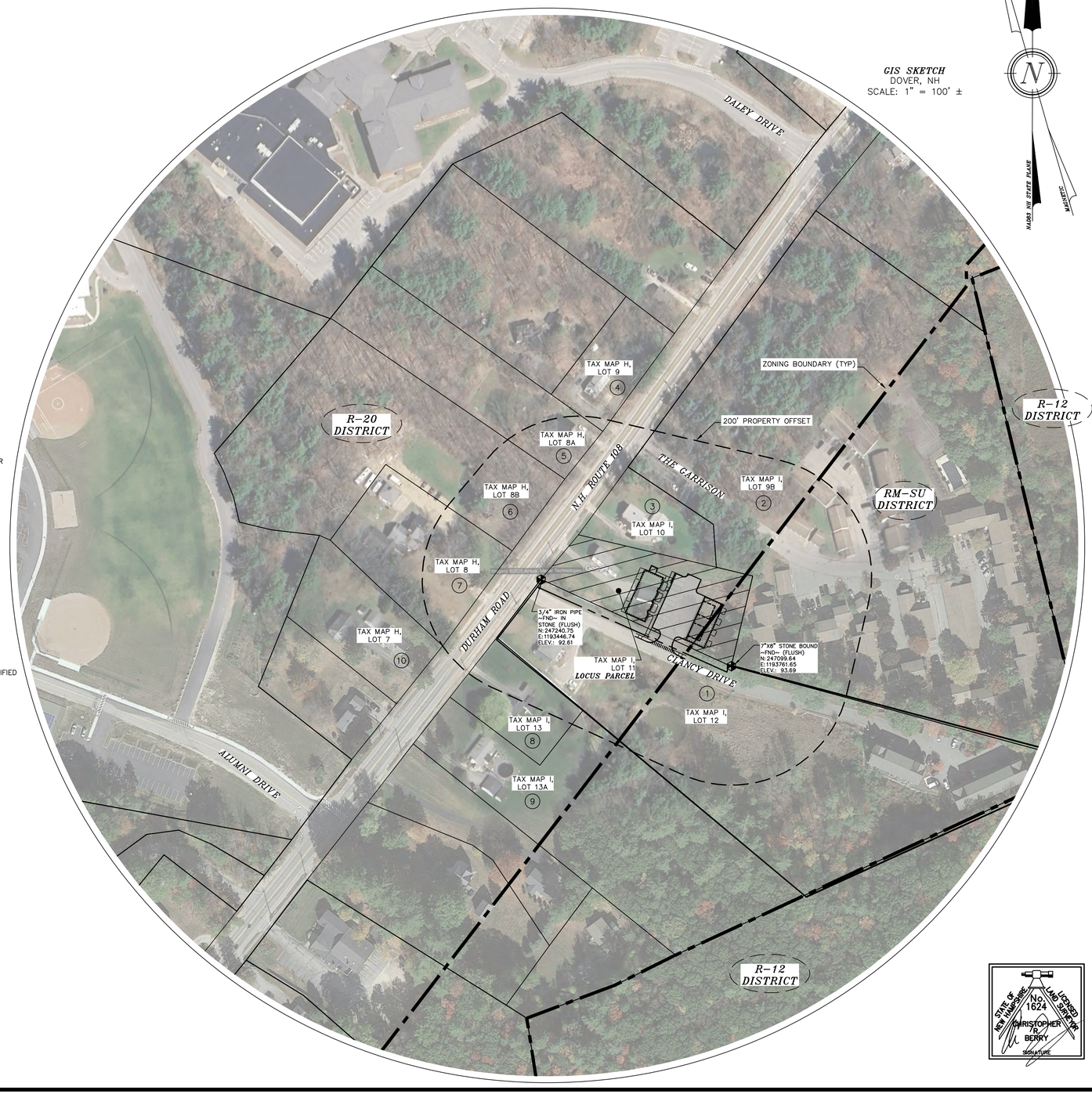
EXISTING LEGEND:

- IRON BOUND/REBAR (FND)
- IRON PIPE (FND)
- STONE BOUND (FND)
- CONCRETE BOUND (FND)
- UTILITY POLE / GUY WIRE
- SINGLE POST SIGN
- TEMPORARY BENCHMARK
- TEST PIT
- GATE VALVE
- FIRE HYDRANT
- CATCH BASIN W/ STRUCTURE
- DRAIN MANHOLE W/ STRUCTURE
- SEWER MANHOLE W/ STRUCTURE
- ABUTTING PROPERTY LINE
- COMMON PROPERTY LINE
- BUILDING SETBACK LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING DRAIN LINE
- EXISTING GAS LINE
- OVERHEAD UTILITIES
- UNDERGROUND UTILITIES
- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- ZONING BOUNDARY
- TREE LINE
- NRCS SOIL LINE
- NRCS SOIL LABEL
- SITE SPECIFIC SOIL LINE
- LIMIT OF SOIL SURVEY
- 448A SOIL SERIES
- FND FOUND
- TYP. TYPICAL
- T.B.R. TO BE REMOVED
- S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS

PROPOSED LEGEND:

- E101 / E6 DETAIL SHEET / DETAIL
- CONTOUR MINOR, PROPOSED
- CONTOUR MAJOR, PROPOSED
- ROAD CENTERLINE
- SHOULDER
- PROPOSED DRAIN LINE
- UNDERDRAIN
- MATTED SPILLWAY
- STORMWATER CONTROL MEASURE (SCM)
- BERM
- LIMIT OF INFILTRATION STONE RESERVOIR
- CATCH BASIN W/ STRUCTURE
- TRANSFORMER
- UNDERGROUND UTILITY
- GATE VALVE
- FIRE HYDRANT
- THRUST BLOCKS
- FIRE DEPARTMENT CONNECTION
- GAS VALVE
- SEWER MANHOLE W/ STRUCTURE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED FIRE PROTECTION LINE
- PROPOSED SEWER SERVICE
- PROPOSED GAS LINE
- EXISTING SPOT GRADE
- PROPOSED SPOT GRADE
- FLOW ARROW
- SAW CUT & MILL
- SILT FENCE / EROSION MIX BERM
- FILTREXX® 8" - 12" SILT SOXX AS SPECIFIED
- PERIMETER CONTROL (SEE E-101)
- CONSTRUCTION FENCE
- BEST MANAGEMENT PROTECTION
- PERIMETER CONTROL
- RESIDENTIAL/ROADWAY CONSTRUCTION
- FENCE
- LAMP "A", MOUNTED ON BUILDING
- LAMP "B", MOUNTED ON BUILDING
- LAMP "C", MOUNTED ON POLE
- SNOW STORAGE
- CONCRETE
- BITUMINOUS PAVEMENT
- POROUS PAVEMENT

GIS SKETCH
DOVER, NH
SCALE: 1" = 100' ±



ABUTTERS WITHIN 200':

1. N/F STF DEVELOPMENT LLC
54 DOVER POINT ROAD
DOVER, NH 03820
TAX MAP I, LOT 12
S.C.R.D. BOOK 4186, PAGE 859

2. N/F THE GARRISON CONDOS
95 BREWERY LANE #10
PORTSMOUYH, NH 03801
TAX MAP I, LOT 9B

3. N/F JAMES, MARTIN C. & LISA J.
64 DURHAM ROAD
DOVER, NH 03820
TAX MAP I, LOT 10
S.C.R.D. BOOK 2250, PAGE 693

4. N/F CONNOLLY, LAUREN M. & STEVENS, FRANK JR.
65 DURHAM ROAD
DOVER, NH 03820
TAX MAP H, LOT 9
S.C.R.D. BOOK 5276, PAGE 845

5. N/F EDGECOMB, TERRANCE C. & LAURIE A.
69 DURHAM ROAD #8
DOVER, NH 03820
TAX MAP H, LOT 8A
S.C.R.D. BOOK 2677, PAGE 521

ABUTTERS WITHIN 200' CONT.:

6. N/F O'BRIEN, TIMOTHY & BROOKS, COURTNEY ANNE CO-TRUSTEES
THE PAUL O'BRIEN FAMILY IRREVOCABLE TRUST
81 DURHAM ROAD
DOVER, NH 03820
TAX MAP H, LOT 8B
S.C.R.D. BOOK 4244, PAGE 611

7. N/F O'BRIEN, PAUL & KAREN
81 DURHAM ROAD
DOVER, NH 03820
TAX MAP H, LOT 8
S.C.R.D. BOOK 4963, PAGE 272

8. N/F CATALFO FAMILY REVOCABLE TRUST
CATALFO, ALFRED W. & JANE A., TRUSTEES
82 DURHAM ROAD
DOVER, NH 03820
TAX MAP I, LOT 13
S.C.R.D. BOOK 3163, PAGE 253

9. N/F CATALFO FAMILY REVOCABLE TRUST
CATALFO, ALFRED W. & JANE A., TRUSTEES
82 DURHAM ROAD
DOVER, NH 03820
TAX MAP I, LOT 13A
S.C.R.D. BOOK 3163, PAGE 251

10. N/F KEATING, JAMES F. & HALL, KATHLEEN A.
113 COURT STREET
DOVER, NH 03820
TAX MAP H, LOT 7
S.C.R.D. BOOK 3564, PAGE 925

LANDSCAPE LEGEND:

TREES:
- AR – 'OCTOBER GLORY' MAPLE
- MC – EXCLAMATION PLANETREE
- PM – DOUGLAS FIR

BUSHES:
- BW – BOXWOOD
- HM – HYDRANGERA

GRASS:
- KF – FEATHER REED GRASS

REVISION	DATE	DESCRIPTION

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

NEIGHBORHOOD PLAN
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS SHOWN
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 1624 CHRISTOPHER R. BERRY SIGNATURE

STATE OF NEW HAMPSHIRE KEVIN ROCKY POULIN No. 17824 LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

2.) TAX MAP 1, LOT 11

MANAGING MEMBER SIGNATURE

3.) S.C.R.D. BOOK 5263, PAGE 820

4.) LOT AREA PRE LLR: 40,508 SQ.FT., 0.93 AC.
LOT AREA POST LLR: 44,660 SQ.FT., 1.03 AC.

5.) ZONING: R-20, LOW DENSITY RESIDENTIAL (43,891 Sq. Ft., 1.01 Ac., POST-LLR & 50' ZONE LINE ADJ.)

DENSITY: 15,000 Sq. Ft. / DWELLING UNIT	(SEE TDR REQUEST)
SETBACKS:	
FRONT BUILD TO ~ 20' MIN. – 35' MAX.	(20'–35' PROVIDED)
SIDE ~ 20'	(>20' PROVIDED)
REAR ~ 30'	(>30' PROVIDED)
MIN. LOT SIZE: 20,000 Sq.Ft.	(44,660 Sq. Ft. PROVIDED)
MAX. LOT COVERAGE: 30%	(18.7% PROVIDED)
MIN. FRONTAGE: 125 Ft.	(462.92' PROVIDED)
MAX. BUILDING HEIGHT: 35 Ft.	(<35' PROVIDED)

ZONING: RM–SU, SUBURBAN DENSITY RESIDENTIAL (769 Sq. Ft., 0.02 Ac., POST–LLR & 50' ZONE LINE ADJ.)

DENSITY: 10,000 Sq. Ft. / DWELLING UNIT	
SETBACKS:	
FRONT ~ 50'	
SIDE ~ 20'	
REAR ~ 20'	
MIN. LOT SIZE: 20,000 Sq.Ft.	
MAX. LOT COVERAGE: 40%	
MIN. FRONTAGE: 100 Ft.	
MAX. BUILDING HEIGHT: 40 Ft.	

6.) THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED SITE DESIGN OF TAX MAP 1, LOT 11 LOCATED IN DOVER, N.H.

7.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN.
FLOOD HAZARD REF: FEMA, COMMUNITY #330145,
MAP #33017C0310E, DATED: SEPTEMBER 30, 2015.

8.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.

9.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN AUGUST, 2025 WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.

10.) ON–SITE TOPOGRAPHY PROVIDED IS DEMARCATED AT 1' INTERVALS, AND IS THE RESULT OF A FIELD SURVEY PERFORMED IN AUGUST, 2025.

11.) THIS SITE IS SERVICED BY MUNICIPAL SEWER AND WATER.

12.) WETLANDS WERE DELINEATED BY DIEDRA BENJAMIN, CERTIFIED WETLANDS SCIENTIST, IN ACCORDANCE WITH CHAPTER 170–27.1 OF THE ZONING ORDINANCE, IN AUGUST, 2025. NO WETLANDS WERE FOUND ON SITE.

13.) AS–BUILT PLANS OF THE SUBDIVISION SHALL BE SUBMITTED ON PAPER AND IN DIGITAL FORMAT AUTOCAD DWG, AUTOCAD DXF OR ESRI FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT. AS–BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO–REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.

14.) THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE PROPOSED.

15.) ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2016" AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATION FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.

16.) ALL EROSION CONTROL NOTES SHALL INCLUDE PROVISIONS FOR CONSTRUCTION SEQUENCING, TEMPORARY EROSION CONTROL MEASURES, AND PERMANENT STANDARDS SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION.

17.) THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR ANY EARTH DISTURBING ACTIVITY OCCURS: NO 50' BUFFERS ON SITE SO NOT APPLICABLE FOR THIS PROJECT.

18.) ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS. (NOT APPLICABLE)

19.) A LETTER OF CREDIT FOR THE COST OF RE–VEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED, AND THE APPROVED CONSTRUCTION SIGN INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS. THE PROPOSED PROJECT WILL CONSIST OF ONE PHASE AND WILL DISTURB 34,350 Sq. Ft., 0.79 Ac. (SEE NOTE #42)

20.) A PRE–CONSTRUCTION CONFERENCE WITH THE DEVELOPER, THE DESIGN ENGINEER, THE EARTHWORK CONTRACTOR AND THE CITY ENGINEER SHALL OCCUR PRIOR TO ANY EARTH DISTURBING ACTIVITY.

21.) THE SITE CONSTRUCTION HOURS SHALL BE LIMITED TO, MONDAY THROUGH FRIDAY 7AM–6PM SATURDAY 8AM–4PM, NO SUNDAY, OR FEDERAL HOLIDAY HOURS. HOURS OF CONSTRUCTION SHALL BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. THE PROJECT SIGN SHALL INDICATE THE ROAD IS PROPOSED TO BE PRIVATE AND SHALL RECEIVE NO CITY SERVICES.

22.) BUILDING ADDRESSES SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.

23.) THE PROPOSED USE FOR THIS SITE WILL CONSIST OF THE CONSTRUCTION OF EIGHT (8) NEW DWELLING UNITS IN TWO, FOUR UNIT STRUCTURES. THERE IS A TOTAL OF 16 BEDROOMS PROPOSED FOR THIS DEVELOPMENT IN ADDITION TO THE THREE BEDROOM HOME TO REMAIN, FOR A TOTAL OF NINE (9) UNITS ON THE SUBJECT PARCEL.

24.) THE FOLLOWNG FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY:
NONE REQUIRED

25.) COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.

26.) ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.

27.) ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.

28.) THE OWNER OF RECORD SHALL RECORD AT THE REGISTRY OF DEEDS DOCUMENTATION SUFFICIENT TO PROVIDE NOTICE TO ALL PERSONS/ENTITIES THAT MAY ACQUIRE ANY PROPERTY SUBJECT TO THE REQUIREMENTS AND RESPONSIBILITIES DESCRIBED IN THE APPROVED STORMWATER MANAGEMENT PLAN. THE NOTICE SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS FOR RECORDING CONTAINED IN RSA 477 AND 478. THE NOTICE NEED NOT SET FORTH THE REQUIREMENTS AT LENGTH, SO LONG AS IT IS SUFFICIENT TO PROVIDE NOTICE TO PROSPECTIVE PURCHASERS TO THE REQUIREMENTS FOR MAINTENANCE AND REPORTING.

29.) FIRE DEPARTMENT ACCESS ROADS SHALL BE INSTALLED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS IN ALL WEATHER CONDITIONS AT ALL TIMES.

30.) EXTERIOR LIGHTING SHALL BE CUT–OFF TYPE FIXTURES PER CHAPTER 153–14–E AND SHALL PROVIDE LIGHTING DIRECTED ON–SITE ONLY.

31.) APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR DOMESTIC WATER LINES.

32.) SITE IS TO COMPLY WITH NFPA 1 CHAPTER 18 "AS APPLIABLE".

33.) MURPHY DRIVE IS PROPOSED TO BE PRIVATE. REFER TO THE DEVELOPMENT AGREEMENT FOR ROAD & DRAINAGE RESPONSIBILITIES. MURPHY DRIVE PROPOSES POROUS PAVEMENT PARKING. MURPHY DRIVE WILL ALWAYS BE PRIVATE AND WILL NEVER BE ACCEPTED BY THE CITY OF DOVER.

34.) APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL. HTTPS://WWW.UNH.EDU/UNHSC/PTAPP

35.) THE STRUCTURES SHALL BE SERVED BY A SPRINKLER SYSTEM AS APPLICABLE TO DOVER CHAPTER 81–30 AND THE NH BUILDING AND FIRE CODES.

NOTES CONTINUED:

36.) SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED AND APPROVED BY INSPECTION SERVICES PRIOR TO CONNECTION OF THE BACKFLOW DEVICE, NOT APPLICABLE

37.) FIRE DEPARTMENT CONNECTION(S), IF REQUIRED BY THE SPECIFIC SYSTEM, SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13. ACCESS TO THE FDC SHALL MAINTAIN A CLEAR AND UNOBSTRUCTED PATH AT ALL TIMES, NOT APPLICABLE

38.) THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS (I.E. IBC, ANSI–117.1) AND NH RSA 155–A:5.

39.) PRIVATE TRASH PICKUP WILL BE DONE THROUGH TOTERS STORED WITHIN THE FENCED AREA ON THE SIDE OF THE BUILDING (UNITS 1–4) AND IN THE GARAGES (UNITS 5–8) AND WILL BE COLLECTED THROUGH A PRIVATE WASTE PICK UP COMPANY.

40.) THE BUILDINGS ARE DESIGNED AS SLAB ON GRADE WITH 4' FROST WALLS.

41.) NATURAL GAS IS PROVIDED FROM CLANCY DRIVE.

42.) PROJECT DISTURBANCE: TOTAL 34,350 Sq. Ft. (0.79 Ac.) NOTE THAT THE PROJECT IS NOT SUBJECT TO THE EPA NPDES PHASE II. SEE EROSION & SEDIMENT CONTROL NOTES & DRAINAGE NARRATIVE FOR THE REQUIREMENTS OF THE DOVER STORMWATER MANAGEMENT PERMIT.

43.) THE OWNERS AND THEIR SUCCESSORS ARE RESPONSIBLE FOR THE LIFETIME MAINTENANCE OF ALL BUFFERING AND INTERNAL LANDSCAPING THROUGH THE HOA.

44.) THE PERIMETER BOUNDARY WILL BE STAKED OUT BY BERRY SURVEYING & ENGINEERING PRIOR TO THE START OF CONSTRUCTION.

45.) THE APPLICANT IS TO PROVIDE SURETY WITHIN THE CONFINES OF NH RSA 674:36.

46.) DURING PERIODS OF HEAVY SNOW AND WHEN TEMPORARY PILES ARE USED ON SITE, SNOW IS TO BE LOADED INTO TRUCKS AND REMOVED FROM THE SITE. SNOW IS TO BE DISPOSED OF ON AN APPROVED SNOW DUMP.

POROUS PAVEMENT SHALL BE MAINTAINED IN ACCORDANCE WITH THE SITE'S APPROVED O&M MANUAL IN PERPETUITY. FAILURE TO DO SO COULD RESULT IN A FAILURE TO COMPLY WITH THE PLANNING BOARD APPROVALS.

GRADING NOTES:

1.) THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS DATED 2016. CURRENT STANDARD PLANS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

2.) CONTRACTOR SHALL TAKE SPECIAL CARE IN NOT DISTURBING EXISTING MONUMENTS BOUNDS, AND OR BENCHMARKS WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION

3.) THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE EXACTLY AND TO PRESERVE ANY AND ALL UNDERGROUND UTILITIES CALL "DIG–SAFE" 1–888–DIGSAFE (344–7233) AT LEAST 72 HOURS BEFORE COMMENCING CONSTRUCTION

4.) WHERE AN EXISTING UNDERGROUND UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.

5.) THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.

6.) AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. LIMIT OF GRADING SHOULD NOT BE EXPANDED WITHOUT CONSULTING THE DESIGN ENGINEER. SEE ALSO E&SC PLAN.

7.) THE TERM "PROPOSED" (PROP.) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS, OR, WHERE APPLICABLE, RE–USING EXISTING MATERIALS IDENTIFIED AS "REMOVE & RESET" (R & R).

8.) ALL SYMBOLS, WORDS, TRANSVERSE MARKINGS (STOP BARS, CROSSWALK LINES, AND RAILROAD SYMBOLS), LANE LINES, AND ALL OTHER MARKINGS NOTED WITH |T| SHALL BE THERMOPLASTIC.

9.) ALL DISTURBED AREAS NOT DESIGNATED TO BE PAVED SHALL HAVE LOAM PLACED AND SEEDED. THE LOAM SHALL HAVE A MINIMUM DEPTH OF 4 INCHES AND SHALL BE PLACED FLUSH WITH THE TOP OF THE ADJACENT CURB, EDGING, BERM OR PAVEMENT SURFACE.

10.) ALL ELEVATIONS TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE DESIGN ENGINEER IS TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY. TEMPORARY BENCHMARKS (T.B.M.) ARE TO BE PROVIDED BY THE DESIGN ENGINEER.

11.) WRITTEN DIMENSION ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR IS TO CONFIRM ALL ELEVATIONS. CONFLICTS WILL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.

12.) SEE DETAILS CONCERNING SITE LAYOUT, DRAINAGE, UTILITY, AND SEDIMENT AND EROSION CONTROLS.

13.) DESIGN ENGINEER OF RECORD SHALL PROVIDE SIGNED LETTER TO CITY ENGINEER CERTIFYING THAT THE STORMWATER MANAGEMENT SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH APPROVED PLANS. DESIGN ENGINEER OR DESIGN ENGINEERS REPRESENTATIVE IS TO BE PERIODICALLY ON SITE AND INSPECT DURING CONSTRUCTION PROCESS. CONTRACTOR IS TO PROVIDE 24–48 HOURS NOTICES PRIOR TO INSPECTION REQUESTS.

14.) UPON FINAL COMPLETION AND 85% STABILIZATION THE DRAINAGE SYSTEM IS TO BE CLEANED OF ALL DEBRIS TO INCLUDE THE PUMPING OF THE BASINS. SEE SHEET E102, DETAIL E18 FOR DEFINITION OF STABLE. ALSO TO BE DONE ONCE A YEAR DURING THE CONSTRUCTION PROCESS.

15.) ALL DRAINAGE PIPE IS TO BE HDPE N–12. INDIVIDUAL PIPE SIZES ARE SPECIFIED, RECYCLED PIPE IS APPROVED FOR PROJECT SITE. RECYCLED HDPE PIPE "GREEN PIPE" IS ACCEPTABLE FOR THIS PROJECT SITE.

16.) CATCH BASINS ARE TO HAVE NH STANDARD FRAMES AND GRATES MADE IN NORTH AMERICA. GRATES ARE TO BE INSTALLED BINDER FLUSH PRIOR TO BASE PAVE. UPON PROJECT COMPLETION FRAMES AND GRATES ARE TO BE CUT AND RIM RAISED TO FINAL PAVEMENT SURFACE. THIS IS TO ENSURE STORMWATER ENTERS THE SYSTEM AS DESIGN DURING THE INTERIM CONSTRUCTION PERIOD.

EROSION & EROSION CONTROL NOTES:

1.) CONTRACTOR IS TO INSTALL A CONSTRUCTION ENTRANCE PRIOR TO EARTH DISTURBING ACTIVITIES, UTILIZING 3" ANGULAR STONE UNDERLAID WITH ENGINEER FABRIC.

2.) CONTRACTOR IS RESPONSIBLE FOR SWEEPING THE PARKING LOT, SIDEWALKS AND ROADWAY, TO ENSURE THAT NO SEDIMENT IS BEING TRACKED ONTO CLANCY DRIVE OR DURHAM ROAD.

3.) CONTRACTOR IS RESPONSIBLE FOR CLEANING AND MAINTAINING THE INLET PROTECTION ONCE INSTALLED.

4.) FUGITIVE DUST IS TO BE CONTROLLED THROUGHOUT THE CONSTRUCTION PROCESS IN ACCORDANCE WITH ENV–A 1000.

5.) CONTRACTOR IS TO MEET THE REQUIREMENTS SPECIFIED IN RSA 430:51–57 AND AGR 3800, RELATING TO INVASIVE SPECIES.

6.) CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE WATER QUALITY FROM ANY RUN OFF DURING THE CONSTRUCTION PROCESS, IN ACCORDANCE WITH ENV–WQ 1507, IN ORDER TO PREVENT VIOLATIONS OF THE STORM WATER QUALITY STANDARDS.

7.) CONTRACTOR AY USE SILT FENCE, SILT SOXX OR MULCH BERM FOR PERIMETER CONTROL. SPECIFIC PRACTICES MAY BE SPECIFIED, SEE PLAN. THE CONTRACTOR IS NOT THE EXPAND CONSTRUCTION BEYOND THE STAKED OUT LIMITS.

8.) ALL STORAGE FACILITIES FOR FUEL, CHEMICALS, CHEMICAL OR INDUSTRIAL WASTES, AND BIODEGRADABLE RAW MATERIALS SHALL MEET THE REGULATIONS OF THE NHDES, INCLUDING BUT NOT LIMITED TO THOSE INVOLVING UNDERGROUND STORAGE TANKS, ABOVE GROUND STORAGE TANKS, HAZARDOUS WASTE AND BEST MANAGEMENT PRACTICES FOR GROUND WATER PROTECTION (PART ENV–WQ 401).

9.) ALL DEVELOPMENT MUST COMPLY WITH THE EPA PHASE II STORMWATER RULES AND THE CITY'S MS4 PERMIT, AS AMENDED.

10.) CITY OF DOVER: IN ACCORDANCE WITH SITE PLAN REVIEW REGULATIONS (153–14) THE FOLLOWING STORMWATER MEASURES ARE REQUIRED.

A.) ALL PROPOSED BMPs WILL CONFORM TO THE NH STORMWATER MANUAL VOLUME 3.
B.) EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL LAND DISTURBANCE AND MUST BE REVIEWED AND APPROVED BY COMMUNITY SERVICE.
C.) TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN SEVEN CALENDAR DAYS FOR EXPOSED SOILS AREAS THAT ARE WITHIN ONE HUNDRED FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.
D.) ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL STABILIZATION IS ACCOMPLISHED. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 CALENDAR DAYS UNLESS CONDITIONS DICTATE OTHERWISE.
E.) COMMUNITY SERVICES DEPARTMENT OR THEIR DESIGNATED AGENT SHALL HAVE ACCESS TO THE SITE TO COMPLETE ROUTINE INSPECTIONS AND SHALL BE NOTIFIED 24–HOURS PRIOR TO INSTALLATION OF A STORMWATER BMP IN ORDER TO SCHEDULE AN INSPECTION, DURING NORMAL WORKING HOURS.
F.) THE PLANNING BOARD OR COMMUNITY SERVICES MAY REQUIRE THE DESIGN ENGINEER AND/OR AN INDEPENDENT, THIRD–PARTY INSPECTION AND OVERSIGHT OF THE CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES AND EROSION AND SEDIMENT CONTROL AT THEIR DISCRETION. THE OWNER / APPLICANT IS RESPONSIBLE FOR ALL FEES ASSOCIATED WITH INSPECTIONS.
G.) ALL SWMP INSPECTIONS MUST BE CONDUCTED BY A QUALIFIED PROFESSIONAL SUCH AS A PROFESSIONAL ENGINEER (PE), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORMWATER INSPECTOR (CESSW), OR A CERTIFIED PROFESSIONAL IN STORMWATER QUALITY (CPSWQ). INSPECTION REPORTS WILL BE SUBMITTED TO THE COMMUNITY SERVICES DEPARTMENT.
H.) THE OWNER IS ULTIMATELY RESPONSIBLE FOR THE INSTALLATION, CONSTRUCTION, INSPECTION, AND DISPOSITION OF ALL STORMWATER MANAGEMENT AND EROSION CONTROL MEASURES REQUIRED BY THE PROVISIONS OF THESE REGULATIONS.
I.) STORMWATER MANAGEMENT PLAN (SWMP) SUBMITTAL REQUIREMENTS. AT THE DISCRETION OF THE PLANNING BOARD OR COMMUNITY SERVICES DEPARTMENT, A TECHNICAL REVIEW BY AN INDEPENDENT THIRD PARTY MAY BE REQUIRED OF ANY SWMP PREPARED UNDER THESE REGULATIONS. SUCH A REVIEW SHALL BE PERFORMED BY A QUALIFIED PROFESSIONAL CONSULTANT AND THE EXPENSE OF WHICH SHALL BE THE FULL RESPONSIBILITY OF THE OWNER/APPLICANT.

UTILITY NOTES:

1.) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVE AND BELOW GROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY UTILITY CONFLICTS SHOULD BE REPORTED IMMEDIATELY TO THE DESIGN ENGINEER.

2.) THE CONTRACTOR SHALL CALL AND COORDINATE WITH DIGSAFE 1–888–344–7233 AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

3.) PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES, TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EGFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL MEETING THE ENGINEERS SPECGIFIC RECOMMENDED CRITERIA.

4.) IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER (NOT ALLOWED IN CITY R.O.W.), EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATION. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.

5.) PLACEMENT OF BORROW MATERIALS SHALL BE PERFORMED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION. VOIDS BETWEEN STONES AND CLUMPS OF MATERIAL SHALL BE FILLED WITH FINE MATERIALS.

6.) FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES AND THE DOVER DPW.

7.) CONTRACTOR TO CONTACT DOVER DPW A MINIMUM OF TWO WEEKS PRIOR TO ANY CONSTRUCTION TO COORDINATE ALL WORK CONCERNING INSTALLATION OF ANY PROPOSED WATER LINE IMPROVEMENTS.

8.) ALL WATER MAIN AND SERVICE INSTALLATIONS SHALL CONFORM TO CITY OF DOVER STANDARDS. ALL HIGHWAY CONSTRUCTION WILL MEET THE CITY OF DOVER STANDARDS.

9.) CONTRACTOR SHALL COORDINATE ALL ELECTRICAL INSTALLATIONS WITH EVERSOURCE AT (800) 662–7764. ALL ELECTRIC CONDUIT INSTALLATION SHALL BE INSPECTED BY EVERSOURCE PRIOR TO BACKFILL. A 48–HOUR MINIMUM NOTICE IS REQUIRED.

10.) CONTRACTOR SHALL COORDINATE ALL TELECOMMUNICATIONS INSTALLATIONS WITH FAIRPOINT COMMUNICATIONS AT (603) 427–5525.

11.) CONTRACTOR SHALL COORDINATE ALL CABLE INSTALLATIONS WITH COMCAST.

12.) ALL SEWER MANHOLE RIMS & COVERS ARE TO BE LIFTMATE R–1743–LM.

13.) ALL WATER SERVICES ARE TO BE WITNESSED WITH A 2"x4" PAINTED BLUE. ALL SEWER SERVICES ARE TO BE WITNESSED WITH A 2"x4" PAINTED YELLOW, IS STUBBED PRIOR TO BUILDING CONSTRUCTION. DETECTABLE METALLIC UNDERGROUND TAPE SHALL BE LABELED APPROPRIATELY.

14.) CURB BOXES SHOULD BE PLACED IN THE LAWN AREA, OR IF PLACED IN PAVEMENT, A ROAD BOX IS REQUIRED.

15.) SEE EXISTING CONDITIONS PLAN FOR DATUM. VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE COORDINATES GATHERED USING TOPCON CARLSON BRX7 SURVEY GRADE GPS.

16.) MINIMUM SLOPE FOR ALL SEWER SERVICE CONNECTIONS IS TO BE NO LESS THAN 0.01 FT/FT. MINIMUM SLOPE FOR ALL 6" SEWER SERVICES.

17.) ALL SEWER INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF NHDES & DOVER DPW SEWER DIVISION STANDARDS. ALL PVC SEWER PIPE IS TO CONFORM WITH ENV–WQ 704.05 (c)–(e) FOR SDR 35 GRAVITY SEWER PIPE,

18.) CONTRACTOR TO TRANSFER TEMPORARY BENCHMARK TO A SUITABLE BENCHMARK TO CONTROL CONSTRUCTION. ANY ELEVATION DISCREPANCIES ARE TO BE REPORTED TO THE THE DESIGN ENGINEER IMMEDIATELY.

19.) ALL SEWER AND WATER CROSSINGS ARE TO MAINTAIN A 1.5' OF SEPARATION.

20.) C900 WATERLINE MAY BE SUBSTITUTED FOR C.L.D.I. WATERLINE WITH THE APPROVAL OF THE CITY ENGINEER.

21.) THE EXISTING 1–FAMILY DWELLING HAS EXISTING CONNECTIONS TO CITY SEWER AND WATER. THE PROPOSED 4–FAMILY DWELLINGS (2) WILL CONSIST OF 2 BEDROOMS PER UNIT. THERE ARE A TOTAL OF 16 BEDROOMS PROPOSED.
TOTAL DESIGN FLOW : 2,400 GPD

LOT & IMPERVIOUS COVERAGE:

EXISTING:
HOUSE & OVERHANGS – 1,034 Sq.Ft.
STEPS – 55 Sq.Ft.
BULKHEAD – 15 Sq.Ft.
GARAGE & OVERHANGS – 1,201 Sq.Ft.
TOTAL COVERAGE: 2,305 Sq.Ft. (5.7%) (PRE–LLR)

DRIVEWAY – 2,658 Sq.Ft.
CONCRETE PADS – 54 Sq.Ft.
TOTAL IMPERVIOUS: 2,712 Sq.Ft. (6.7%)
TOTAL EXISTING IMPERVIOUS AREA: 5,017 Sq.Ft. (12.4%) (PRE–LLR)

PROPOSED:
INCLUDES BUILDING, OVERHANG, PORCH, DECK & STEPS
EXISTING SINGLE FAMILY DWELLING = 1,104 Sq.Ft.
UNITS #1 – #4 = 3,840 Sq.Ft.
UNITS #5 – #8 = 3,396 Sq.Ft.
TOTAL LOT COVERAGE: 8,340 Sq.Ft. (18.7%) (POST–LLR)

EXISTING DRIVEWAY TO REMAIN = 1,241 Sq.Ft.
PROPOSED DRIVEWAY/PARKING = 6,005 Sq.Ft.
PROPOSED CURB = 138 Sq.Ft.
PROPOSED SIDEWALKS (CONC. & BIT.) = 971 Sq.Ft.
EXISTING CONCRETE PADS = 35 Sq.Ft.
PROPOSED CONCRETE PADS = 59 Sq.Ft.
TOTAL IMPERVIOUS (NON–BUILDING): 6,648 Sq.Ft. (14.9%) (POST–LLR)
TOTAL PROPOSED IMPERVIOUS AREA: 14,988 Sq.Ft. (33.6%) (POST–LLR)
(1,801 Sq. Ft. POROUS PAVEMENT NOT INCLUDED AS IMPERVIOUS SURFACE)

PARKING REQUIREMENTS:

CHAPTER 153–14D PARKING TABLE
- RESIDENTIAL
  RESIDENTIAL – 1.4 SPACES PER UNIT
  VISITOR – 0.5 SPACES PER UNIT
  9 UNITS x 1.9 = 17.1 SPACES

TOTAL MAXIMUM = 17 SPACES

EXISTING HOUSE – 1 SPACE
BUILDING #1 – 10 SPACES
BUILDING #2 – 8 SPACES

TOTAL PROPOSED = 19 SPACES

ACCESSIBLE PARKING = 1 REQUIRED, 1 PROPOSED
5% EV REQUIREMENT = 1.10 SPACES, 2 PROPOSED
5% BIKE PARKING = 1.10 SPACES, 4 PROVIDED

DIRECTOR OF PLANNING TO DETERMINE IF A CUP IS REQUIRED FOR 2 PARKING SPACES OVER THE MAXIMUM ALLOWED.

SNOW STORAGE CALCULATION:

- STORAGE CALCULATION (6:1 RATIO USED)
  •• PLOWABLE AREA = 7,519 Sq.Ft. / 6 = 1,253 Sq.Ft.
  •• > 1,254 Sq.Ft. PROVIDED
  ••• SNOW SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS

LEGEND:

- IRON BOUND/REBAR (FND)
- IRON PIPE (FND)
- STONE BOUND (FND)
- CONCRETE BOUND (FND)
- UTILITY POLE / GUY WIRE
- SINGLE POST SIGN
- TEMPORARY BENCHMARK
- GATE VALVE
- CATCH BASIN W/ STRUCTURE
- DRAIN MANHOLE W/ STRUCTURE
- SEWER MANHOLE W/ STRUCTURE

- ABUTTING PROPERTY LINE
- COMMON PROPERTY LINE
- BUILDING SETBACK LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING DRAIN LINE
- OVERHEAD UTILITIES
- UNDERGROUND UTILITIES
- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- ZONING BOUNDARY
- NRCS SOIL LINE

BzB NRCS SOIL LABEL
FND FOUND
TYP. TYPICAL
TBR TO BE REMOVED
S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS

UTILITY NOTE:

THE UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR NOR THE ENGINEER MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.

DEIDRA BENJAMIN, CWS #295

STATE OF NEW HAMPSHIRE — DEIDRA L. BENJAMIN — No. 295 — CERTIFIED WETLAND SCIENTIST

WETLAND NOTES:

WETLANDS WERE DELINEATED BY DEIDRA BENJAMIN. IN AUGUST OF 2025 UTILIZING THE FOLLOWING STANDARDS:

1. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2016).
3. NATIONAL WETLAND PLANT LIST (CURRENT VERSION).

NO WETLANDS WERE FOUND ON SITE.

SOILS:

BzB – BUXTON SILT LOAM, 3–8% SLOPES

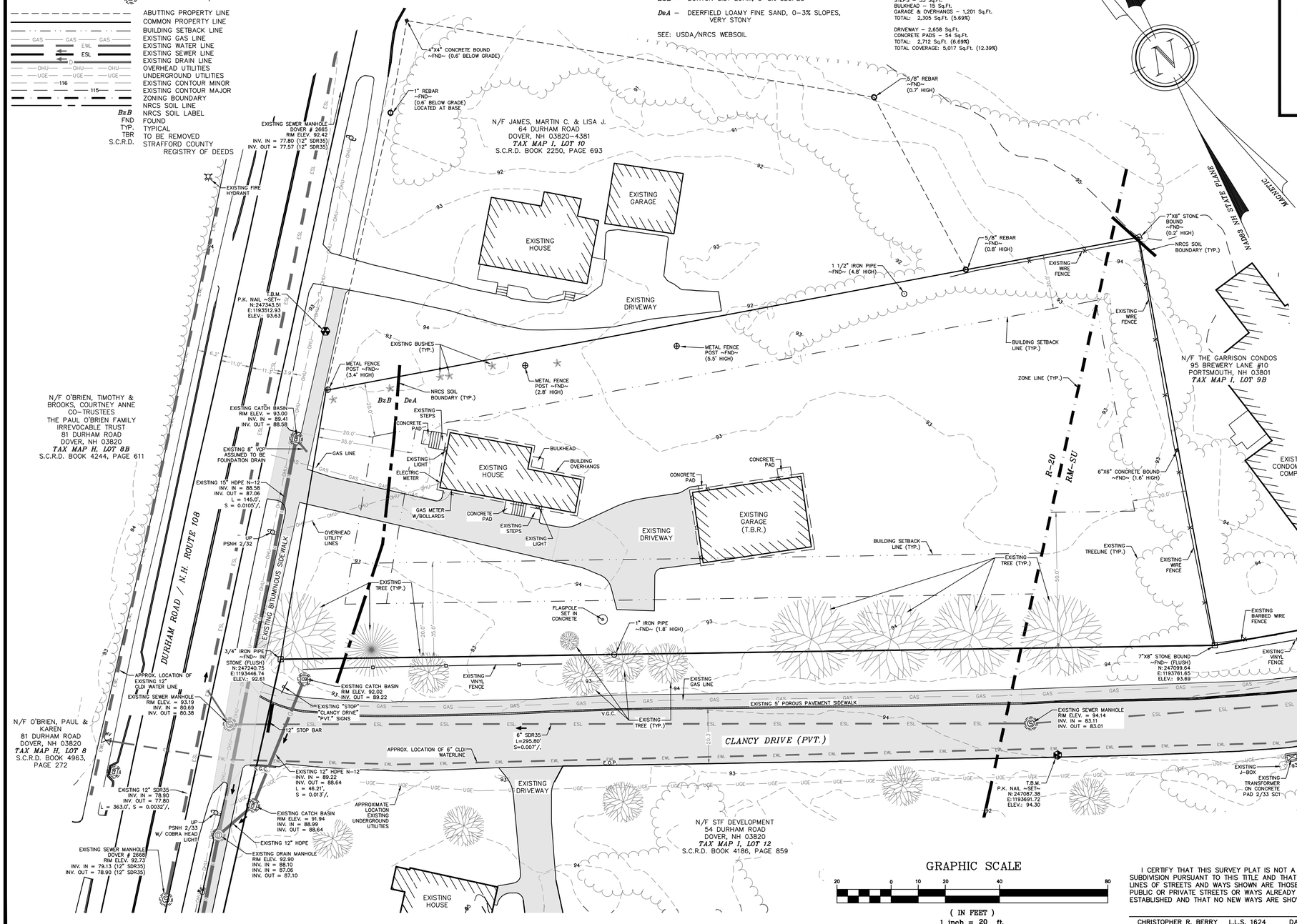
DeA – DEERFIELD LOAMY FINE SAND, 0–3% SLOPES, VERY STONY

SEE: USDA/NRCS WEBSOIL

LOT & IMPERVIOUS COVEREAGE:

EXISTING:
HOUSE & OVERHANGS – 1,034 Sq.Ft.
STEPS – 55 Sq.Ft.
BULKHEAD – 15 Sq.Ft.
GARAGE & OVERHANGS – 1,201 Sq.Ft.
TOTAL: 2,305 Sq.Ft. (5.69%)

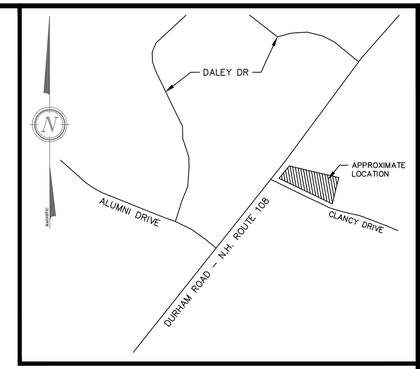
DRIVEWAY – 2,658 Sq.Ft.
CONCRETE PADS – 54 Sq.Ft.
TOTAL: 2,712 Sq.Ft. (6.69%)
TOTAL COVERAGE: 5,017 Sq.Ft. (12.39%)



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.



NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

2.) TAX MAP I, LOT 11

3.) S.C.R.D. BOOK 5263, PAGE 820

4.) LOT AREA PRE LLR: 40,508 SQ.FT., 0.93 AC.
LOT AREA POST LLR: 44,660 SQ.FT., 1.03 AC.

5.) ZONING: R–20, LOW DENSITY RESIDENTIAL

DENSITY: 15,000 Sq. Ft. / DWELLING UNIT
SETBACKS:
FRONT BUILD TO ~ 20' MIN. – 35' MAX.
SIDE ~ 20'
REAR ~ 30'
MIN. LOT SIZE: 20,000 Sq.Ft.
MAX. LOT COVERAGE: 30%
MIN. FRONTAGE: 125 Ft.
MAX. BUILDING HEIGHT: 35 Ft. MAX.

ZONING: RM–SU, SUBURBAN DENSITY RESIDENTIAL

DENSITY: 10,000 Sq. Ft. / DWELLING UNIT
SETBACKS:
FRONT ~ 50'
SIDE ~ 20'
REAR ~ 20'
MIN. LOT SIZE: 20,000 Sq.Ft.
MAX. LOT COVERAGE: 40%
MIN. FRONTAGE: 100 Ft.
MAX. BUILDING HEIGHT: 40 Ft. MAX.

6.) THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING BOUNDARIES AND CONDITIONS OF TAX MAP I, LOT 11 LOCATED IN DOVER, N.H., AS OF THE FIELD SURVEY IN AUGUST, 2025.

7.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN. FLOOD HAZARD REF: FEMA, COMMUNITY #330145, MAP #33017C0320E, DATED: SEPTEMBER 30, 2015.

8.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.

9.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN AUGUST, 2025. WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.

10.) ON–SITE TOPOGRAPHY PROVIDED IS DEMARCATED AT 1' INTERVALS, AND IS THE RESULT OF A FIELD SURVEY PERFORMED IN AUGUST, 2025.

11.) THIS SITE IS SERVICED BY MUNICIPAL SEWER AND WATER.

12.) WETLANDS WERE DELINEATED BY DEIDRA BENJAMIN, CERTIFIED WETLANDS SCIENTIST, IN ACCORDANCE WITH CHAPTER 170–27.1 OF THE ZONING ORDINANCE, IN AUGUST, 2025. NO WETLANDS WERE FOUND ON SITE.

PLAN REFERENCES:

1.) UNTITLED PLAN OFF ROUTE 108, DOVER, NH
BY: RICHARD BOULANGER
DATED: APRIL 1976
S.C.R.D.: PLAN #16A–73

2.) "PLAN OF LAND FOR DONALD J. MCNAMARA & ARMAND J. DIMAMBRO, DURHAM ROAD – ROUTE 108, DOVER, NEW HAMPSHIRE"
BY: CIVIL CONSULTANTS
DATED: SEPTEMBER 1979
S.C.R.D. PLAN #19A–67

3.) "SITE PLAN – RECORD DRAWING, THE GARRISON IN DOVER, DURHAM ROAD – ROUTE 108, DOVER, NEW HAMPSHIRE FOR WOODMASTER, INC. KEENE, N.H."
BY: CIVIL CONSULTANTS
DATED: NOVEMBER 26, 1985
S.C.R.D. PLAN #27A–051

4.) "LOT LINE ADJUSTMENT PLAN PREPARED FOR JANE CATALFO & ALFRED CATALFO, TAX MAP I, LOT NO.S 13 & 13A, 78 & 82 DURHAM ROAD (NH RTE 108) CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE"
BY: McENEANEY SURVEY ASSOCIATES INC.
DATED: JANUARY 2005
S.C.R.D.: PLAN # 78–73

5.) "DURHAM PLACE, SITE PLAN FOR STF DEVELOPMENT, 72 DURHAM ROAD, DOVER, N.H., TAX MAP I, LOT 12"
BY: BERRY SURVEYING & ENGINEERING
DATED: AUGUST 11, 2013
FILE NO.: DB 2013–039
APPROVED BY CITY OF DOVER, NH PLANNING BOARD JANUARY 9, 2014
NOT RECORDED, ON FILE AT THIS OFFICE

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

CHRISTOPHER R. BERRY L.L.S. 1624 DATE

DOVER FILE #SITE 26–XXX DOVER FILE #TRAN 26–XXX

REVISION	DATE	DESCRIPTION

EXISTING CONDITIONS PLAN
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

STATE OF NEW HAMPSHIRE — No. 1624 — LICENSED LAND SURVEYOR — CHRISTOPHER R. BERRY — SIGNATURE

NOT FOR CONSTRUCTION

LEGEND:

- IRON BOUND/REBAR (FND)
- IRON PIPE (FND)
- STONE BOUND (FND)
- CONCRETE BOUND (FND)
- UTILITY POLE / GUY WIRE
- SINGLE POST SIGN
- TEMPORARY BENCHMARK
- CATCH BASIN W/ STRUCTURE
- DRAIN MANHOLE W/ STRUCTURE
- ABUTTING PROPERTY LINE
- COMMON PROPERTY LINE
- OHU — OHU — OHU — OVERHEAD UTILITIES
- 116 — EXISTING CONTOUR MINOR
- 115 — EXISTING CONTOUR MAJOR
- SOIL LINE
- LIMIT OF SOIL SURVEY
- 448A — SOIL SERIES
- FND — FOUND
- TYP. — TYPICAL
- S.C.R.D. — STRAFFORD COUNTY REGISTRY OF DEEDS

STATE OF NEW HAMPSHIRE — JOHN P. HAYES III — No. 087 — CERTIFIED SOILS SCIENTIST

JOHN P. HAYES, III CSS #87

STATE OF NEW HAMPSHIRE — DEIDRA L. BENJAMIN — No. 295 — CERTIFIED WETLAND SCIENTIST

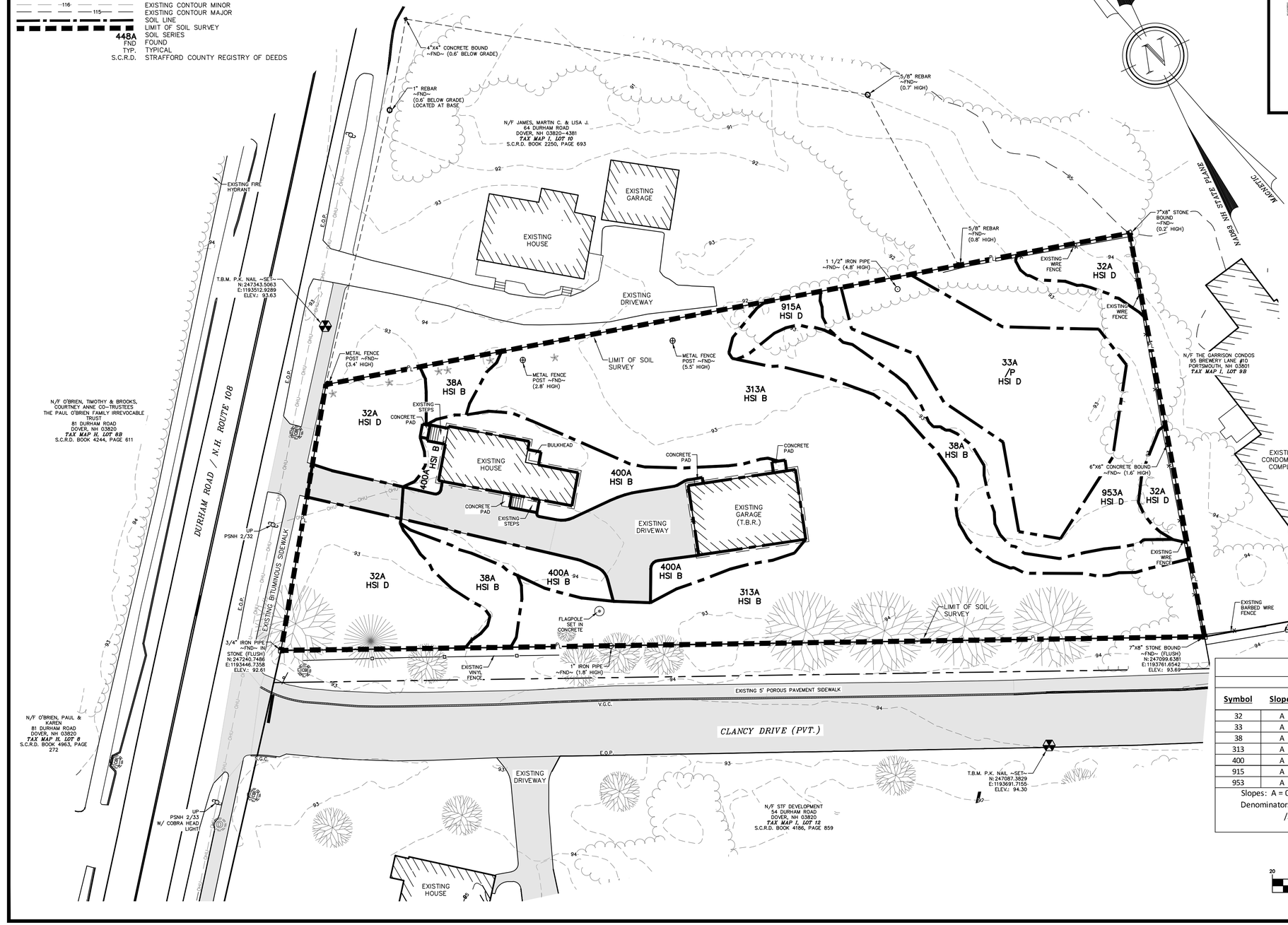
DEIDRA BENJAMIN, CWS #295

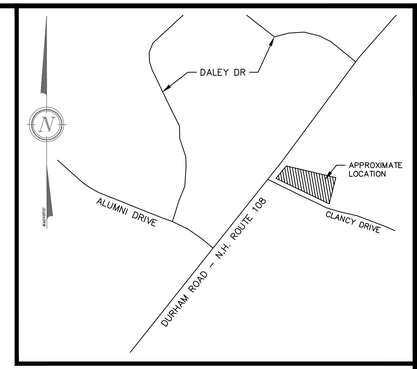
WETLAND NOTES:

WETLANDS WERE DELINEATED BY DEIDRA BENJAMIN. IN AUGUST OF 2025 UTILIZING THE FOLLOWING STANDARDS:

1. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2016).
3. NATIONAL WETLAND PLANT LIST (CURRENT VERSION).

NO WETLANDS WERE FOUND ON SITE.





NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

2.) TAX MAP 1, LOT 11

3.) S.C.R.D. BOOK 5263, PAGE 820

4.) LOT AREA PRE LLR: 40,508 SQ.FT., 0.93 AC.
LOT AREA POST LLR: 44,660 SQ.FT., 1.03 AC.

5.) I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS PROPERTY DOES NOT FALL WITHIN THE FLOOD PLAIN. FLOOD HAZARD REF: FEMA, COMMUNITY #330145, MAP #33017C0320E, DATED: SEPTEMBER 30, 2015.

6) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.

7.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN AUGUST, 2025. WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.

8.) ON-SITE TOPOGRAPHY PROVIDED IS DEMARCATED AT 1' INTERVALS, AND IS THE RESULT OF A FIELD SURVEY PERFORMED IN AUGUST, 2025.

9.) THE INTENT OF THIS PLAN IS TO SHOW THE SITE SPECIFIC SOIL SURVEY OF TAX MAP 1, LOT 11 AS OF THE DATE OF THE SURVEY.

SOILS LEGEND

Site Specific Soils

Symbol	Slopes	Taxonomic Soil Name	Hydrologic Soil Index
32	A	Boxford	D
33	A	Scitico	D
38	A	Eldridge	B
313	A	Deerfield	B
400	A	Udorthents (Sandy) (dbadb)	B
915	A	Deerfield Variant	D
953	A	Boxford	D

Slopes: A = 0-3% B = 3-8% C = 8-15% D = 15-25% E = 25- 50% F = 50%+
Denominators: /ED = Excessively Drained /MWD = Moderately Well Drained
/SPD = Somewhat Poorly Drained /P = Poorly Drained
/VP = Very Poorly Drained /Rk = Rocky

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

SITE SPECIFIC SOILS MAP
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE — No. 1624 — LICENSED LAND SURVEYOR — CHRISTOPHER R. BERRY — SIGNATURE

NOT FOR CONSTRUCTION

LEGEND:

- ● 3/4" REBAR W/ID CAP ~TBS~
- ● 1/2" REBAR W/EASEMENT CAP ~TBS~
- IRON BOUND/REBAR (FND)
- IRON PIPE (FND)
- STONE BOUND (FND)
- CONCRETE BOUND (FND)
- UTILITY POLE / GUY WIRE
- APPROXIMATE ABUTTING PROPERTY LINE
- COMMON PROPERTY LINE
- ZONING BOUNDARY
- PROPOSED LOT LINE
- LOT LINE TO BE ABANDONED
- PROPOSED EASEMENT LINE

FND FOUND
TYP. TYPICAL
S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS

NOTES:

1.) OWNER: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

A.) TAX MAP I, LOT 11

B.) S.C.R.D. BOOK 5263, PAGE 820

C.) LOT AREA PRE LLR: 40,508 SQ.FT., 0.93 AC.
LOT AREA POST LLR: 44,660 SQ.FT., 1.03 AC..

2.) OWNER: STF DEVELOPMENT LLC
54 DOVER POINT ROAD
DOVER, NH 03820

A.) TAX MAP I, LOT 12

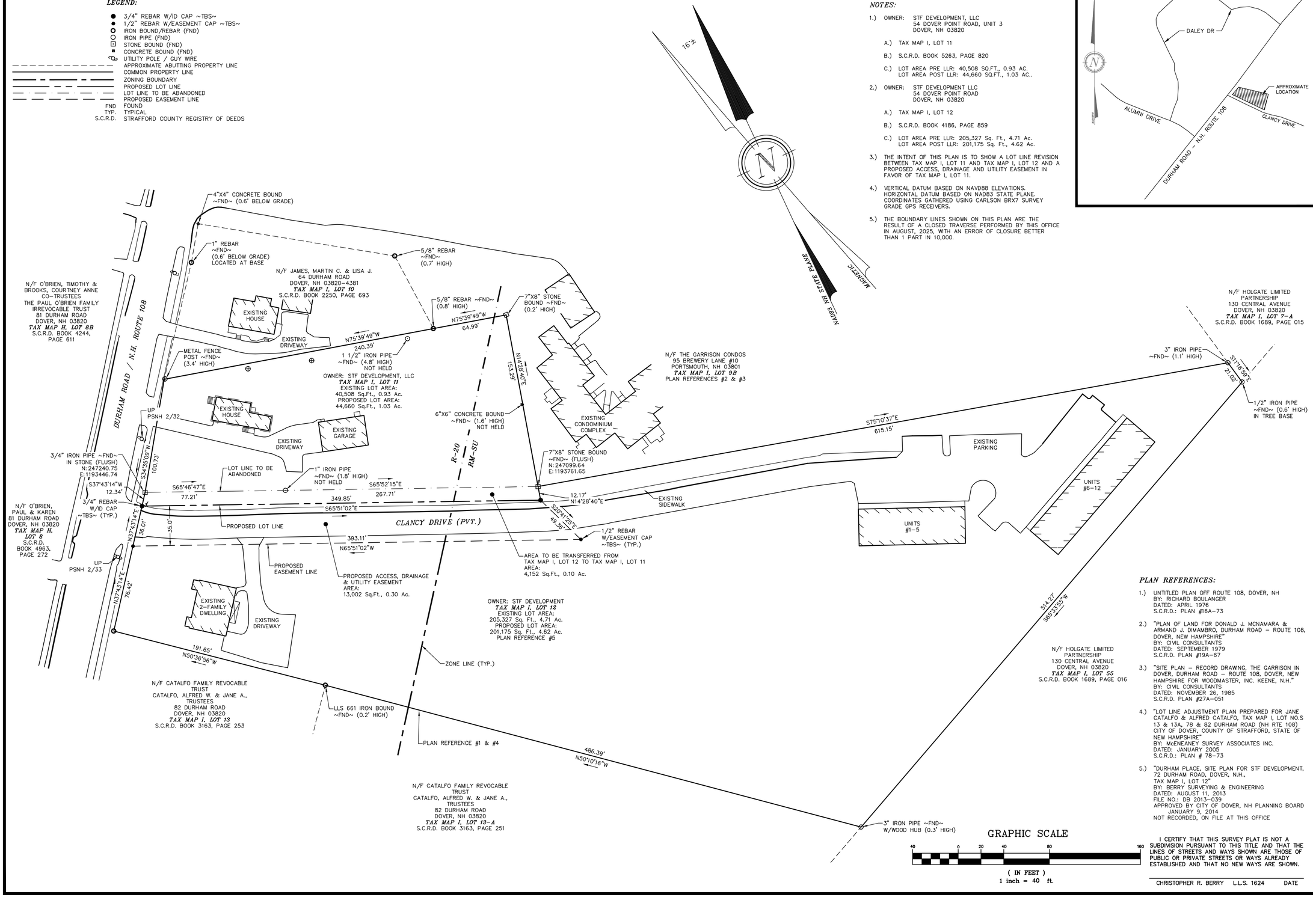
B.) S.C.R.D. BOOK 4186, PAGE 859

C.) LOT AREA PRE LLR: 205,327 Sq. Ft., 4.71 Ac.
LOT AREA POST LLR: 201,175 Sq. Ft., 4.62 Ac.

3.) THE INTENT OF THIS PLAN IS TO SHOW A LOT LINE REVISION BETWEEN TAX MAP I, LOT 11 AND TAX MAP I, LOT 12 AND A PROPOSED ACCESS, DRAINAGE AND UTILITY EASEMENT IN FAVOR OF TAX MAP I, LOT 11.

4.) VERTICAL DATUM BASED ON NAVD88 ELEVATIONS. HORIZONTAL DATUM BASED ON NAD83 STATE PLANE. COORDINATES GATHERED USING CARLSON BRX7 SURVEY GRADE GPS RECEIVERS.

5.) THE BOUNDARY LINES SHOWN ON THIS PLAN ARE THE RESULT OF A CLOSED TRAVERSE PERFORMED BY THIS OFFICE IN AUGUST, 2025, WITH AN ERROR OF CLOSURE BETTER THAN 1 PART IN 10,000.



PLAN REFERENCES:

1.) UNTITLED PLAN OFF ROUTE 108, DOVER, NH
BY: RICHARD BOULANGER
DATED: APRIL 1976
S.C.R.D.: PLAN #16A–73

2.) "PLAN OF LAND FOR DONALD J. MCNAMARA & ARMAND J. DIMAMBRO, DURHAM ROAD – ROUTE 108, DOVER, NEW HAMPSHIRE"
BY: CIVIL CONSULTANTS
DATED: SEPTEMBER 1979
S.C.R.D. PLAN #19A–67

3.) "SITE PLAN – RECORD DRAWING, THE GARRISON IN DOVER, DURHAM ROAD – ROUTE 108, DOVER, NEW HAMPSHIRE FOR WOODMASTER, INC. KEENE, N.H."
BY: CIVIL CONSULTANTS
DATED: NOVEMBER 26, 1985
S.C.R.D. PLAN #27A–051

4.) "LOT LINE ADJUSTMENT PLAN PREPARED FOR JANE CATALFO & ALFRED CATALFO, TAX MAP I, LOT NO.S 13 & 13A, 78 & 82 DURHAM ROAD (NH RTE 108) CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE"
BY: McENEANEY SURVEY ASSOCIATES INC.
DATED: JANUARY 2005
S.C.R.D.: PLAN # 78–73

5.) "DURHAM PLACE, SITE PLAN FOR STF DEVELOPMENT, 72 DURHAM ROAD, DOVER, N.H., TAX MAP I, LOT 12"
BY: BERRY SURVEYING & ENGINEERING
DATED: AUGUST 11, 2013
FILE NO.: DB 2013–039
APPROVED BY CITY OF DOVER, NH PLANNING BOARD JANUARY 9, 2014
NOT RECORDED, ON FILE AT THIS OFFICE

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

CHRISTOPHER R. BERRY L.L.S. 1624 DATE

DOVER FILE #SITE 26–XXX DOVER FILE #TRAN 26–XXX

REVISION	DATE	DESCRIPTION

LOT LINE REVISION & EASEMENT PLAN
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : 1 IN. EQUALS 40 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

STATE OF NEW HAMPSHIRE No. 1624 LICENSED LAND SURVEYOR
CHRISTOPHER R. BERRY
SIGNATURE

NOT FOR CONSTRUCTION

LOT & IMPERVIOUS COVERAGE:

EXISTING:
HOUSE & OVERHANGS – 1,034 Sq.Ft.
STEPS – 55 Sq.Ft.
BULKHEAD – 15 Sq.Ft.
GARAGE & OVERHANGS – 1,201 Sq.Ft.
TOTAL COVERAGE: 2,305 Sq.Ft. (5.7%) (PRE–LLR)

DRIVEWAY – 2,658 Sq.Ft.
CONCRETE PADS – 54 Sq.Ft.
TOTAL IMPERVIOUS: 2,712 Sq.Ft. (6.7%)
TOTAL EXISTING IMPERVIOUS AREA: 5,017 Sq.Ft. (12.4%) (PRE–LLR)

PROPOSED:
INCLUDES BUILDING, OVERHANG, PORCH, DECK & STEPS
EXISTING SINGLE FAMILY DWELLING = 1,104 Sq.Ft.
UNITS #1 – #4 = 3,840 Sq.Ft.
UNITS #5 – #8 = 3,396 Sq.Ft.
TOTAL LOT COVERAGE: 8,340 Sq.Ft. (18.7%) (POST–LLR)

EXISTING DRIVEWAY TO REMAIN = 1,241 Sq.Ft.
PROPOSED DRIVEWAY/PARKING = 6,005 Sq.Ft.
PROPOSED CURB = 138 Sq.Ft.
PROPOSED SIDEWALKS (CONC. & BIT.) = 971 Sq.Ft.
EXISTING CONCRETE PADS = 35 Sq.Ft.
PROPOSED CONCRETE PADS = 59 Sq.Ft.
TOTAL IMPERVIOUS (NON–BUILDING): 6,648 Sq.Ft. (14.9%) (POST–LLR)
TOTAL PROPOSED IMPERVIOUS AREA: 14,988 Sq.Ft. (33.6%) (POST–LLR)
(1,801 Sq. Ft. POROUS PAVEMENT NOT INCLUDED AS IMPERVIOUS SURFACE)

UNIT DENSITY CALCULATION:

- TOTAL AREA R–20 ZONE: 43,891 Sq.Ft.
  - 43,891 x .15 = 6,584
  - 43,891 – 6,584 = 37,307
  - 37,307 x 0.85 = 31,711
  - 31,711 / 15,000 = 2.11 UNITS ALLOWED
- TOTAL AREA RM–SU ZONE: 769 Sq.Ft.
  - DENSITY OF:
  - 10,000 Sq. Ft. PER DWELLING UNIT
  - 769 Sq. Ft. / 10,000 Sq. Ft. = 0.08 UNITS
  - 2.11 + 0.08 = 2.19 UNITS ALLOWED ON SITE
- EXISTING ON–SITE DENSITY = 1 UNIT (SINGLE FAMILY DWELLING)
- PROPOSED ADDITIONAL DENSITY = 8 UNITS
- TOTAL DENSITY ALLOWED = 2 UNITS
- TDR REQUEST OF 7 UNITS
- TOTAL DENSITY PROPOSED = 9 UNITS

TDR REQUEST:
PURCHASE OF 7 UNITS
APPROVED BY DOVER PLANNING BOARD (PENDING)

EXISTING UNIT DENSITY CALCULATION LOT 12:

RM–SU ZONE FROM 2013 (DOVER PLANNING #13–37)

- TOTAL AREA RM–SU ZONE: 205,327 Sq.Ft.
  WETLAND AREA: 58,986 Sq.Ft.
  TOTAL UPLAND AREA: 146,341 Sq.Ft.
  TOTAL UPLAND – LOT LINE REVISION AREA:
  146,341 Sq.Ft. – 4,152 Sq.Ft. = 142,189 Sq.Ft.
  DENSITY OF: 10,000 Sq. Ft. PER DWELLING UNIT
  142,189 Sq. Ft. / 10,000 Sq. Ft. = 14.22 UNITS
  THERE ARE 14 EXISTING UNITS ON LOT 12

PARKING REQUIREMENTS:

CHAPTER 153–14D PARKING TABLE
- RESIDENTIAL
  RESIDENTIAL – 1.4 SPACES PER UNIT
  VISITOR – 0.5 SPACES PER UNIT
  9 UNITS x 1.9 = 17.1 SPACES

TOTAL MAXIMUM = 17 SPACES

EXISTING HOUSE – 1 SPACE
BUILDING #1 – 10 SPACES
BUILDING #2 – 8 SPACES

TOTAL PROPOSED = 19 SPACES

ACCESSIBLE PARKING = 1 REQUIRED, 1 PROPOSED
5% EV REQUIREMENT = 1.10 SPACES, 2 PROPOSED
5% BIKE PARKING = 1.10 SPACES, 4 PROVIDED

DIRECTOR OF PLANNING TO DETERMINE IF A CUP IS REQUIRED FOR 2 PARKING SPACES OVER THE MAXIMUM ALLOWED.

SNOW STORAGE CALCULATION:

- STORAGE CALCULATION (6:1 RATIO USED)
  - PLOWABLE AREA = 7,519 Sq.Ft. / 6 = 1,253 Sq.Ft.
  - > 1,254 Sq.Ft. PROVIDED
  - SNOW SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS ONCE IDENTIFIED AREAS ARE FULL.

WAIVER REQUESTS:
SUBDIVISION REGULATION ARTICLE 157–40–B(5): MINIMUM PIPE COVER (PENDING)
SUBDIVISION REGULATION ARTICLE 157–31–F: MINIMUM BLOCK LENGTH OF 500' (PENDING)
SUBDIVISION REGULATION ARTICLE 157–32–G: MAXIMUM GRADE WITHIN 75' OF INTERSECTION (PENDING)

WETLAND NOTES:

WETLANDS WERE DELINEATED BY DEIDRA BENJAMIN. IN AUGUST OF 2025 UTILIZING THE FOLLOWING STANDARDS:

1. REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2.0) JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.
2. FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, A GUIDE FOR IDENTIFYING AND DELINEATING HYDRIC SOILS, VERSION 8.0. UNITED STATES DEPARTMENT OF AGRICULTURE (2016).
3. NATIONAL WETLAND PLANT LIST (CURRENT VERSION).

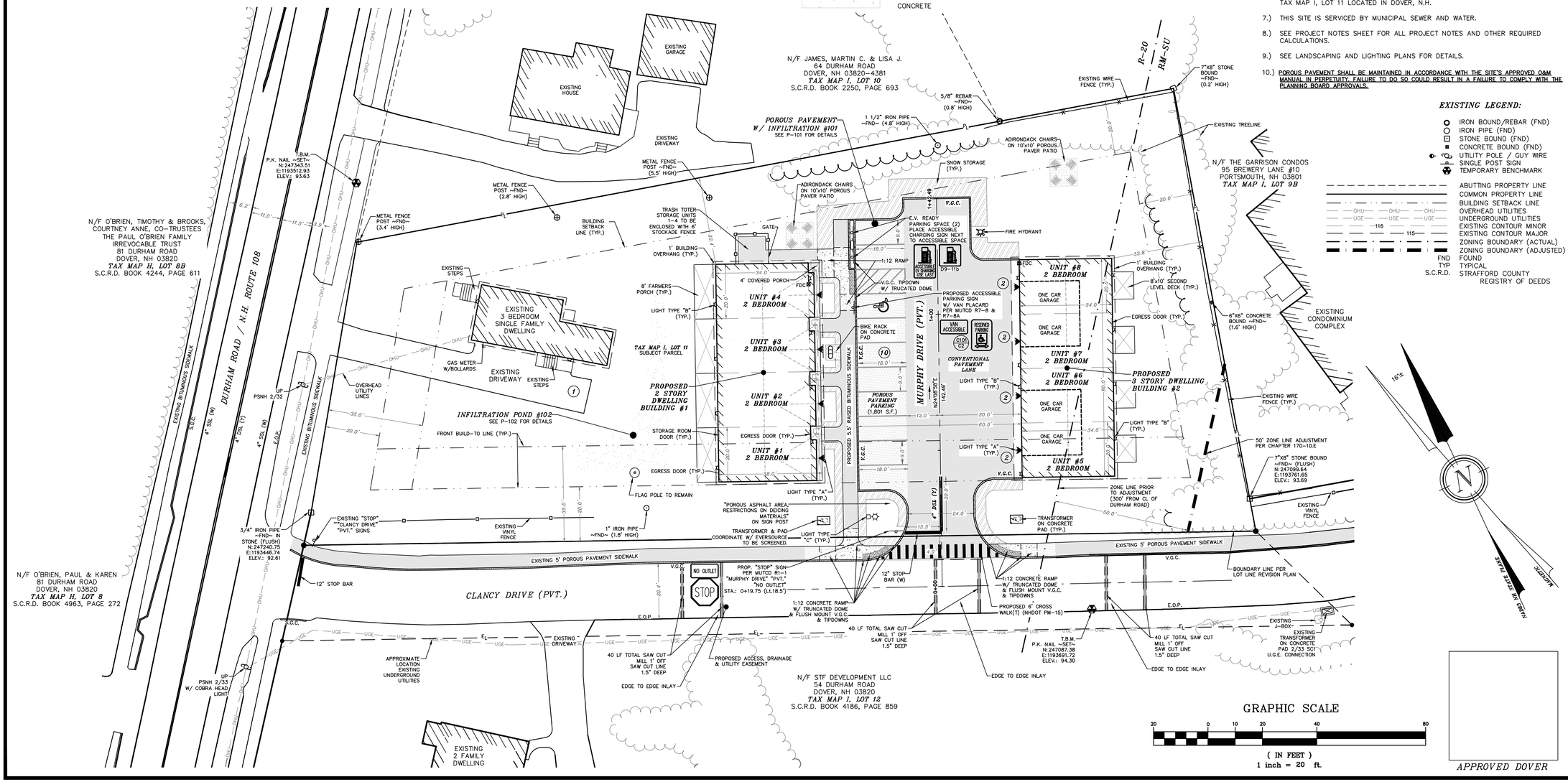
NO WETLANDS WERE FOUND ON SITE.

DEIDRA BENJAMIN, CWS #295

STATE OF NEW HAMPSHIRE
DEIDRA L. BENJAMIN
No. 295
CERTIFIED WETLAND SCIENTIST

PROPOSED LEGEND:

- LIGHT TYPE "A" MOUNTED ON BUILDING
- LIGHT TYPE "B" MOUNTED ON BUILDING
- LIGHT TYPE "C" MOUNTED ON A POLE
- FIRE HYDRANT
- SIGNAGE
- CENTER LINE
- TRANSFORMER
- STORMWATER CONTROL MEASURE (SCM)
- SNOW STORAGE AREA
- BITUMINOUS CONCRETE
- POROUS PAVEMENT
- CONCRETE



EXISTING LEGEND:

- IRON BOUND/REBAR (FND)
- IRON PIPE (FND)
- STONE BOUND (FND)
- CONCRETE BOUND (FND)
- UTILITY POLE / GUY WIRE
- SINGLE POST SIGN
- TEMPORARY BENCHMARK
- ABUTTING PROPERTY LINE
- COMMON PROPERTY LINE
- BUILDING SETBACK LINE
- OVERHEAD UTILITIES
- UNDERGROUND UTILITIES
- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- ZONING BOUNDARY (ACTUAL)
- ZONING BOUNDARY (ADJUSTED)
- FND FOUND
- TYP TYPICAL
- S.C.R.D. STRAFFORD COUNTY REGISTRY OF DEEDS

NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

2.) TAX MAP I, LOT 11

3.) S.C.R.D. BOOK 5263, PAGE 820

4.) LOT AREA PRE LLR: 40,508 SQ.FT., 0.93 AC.
LOT AREA POST LLR: 44,660 SQ.FT., 1.03 AC.

5.) ZONING: R–20, LOW DENSITY RESIDENTIAL (43,891 Sq. Ft., 1.01 Ac., POST–LLR & 50' ZONE LINE ADJ.)

DENSITY: 15,000 Sq. Ft. / DWELLING UNIT (SEE TDR REQUEST)	
SETBACKS:	
FRONT BUILD TO ~ 20' MIN. – 35' MAX.	(20'–35' PROVIDED)
SIDE ~ 20'	(>20' PROVIDED)
REAR ~ 30'	(>30' PROVIDED)
MIN. LOT SIZE: 20,000 Sq.Ft.	(44,660 Sq. Ft. PROVIDED)
MAX. LOT COVERAGE: 30%	(18.7% PROVIDED)
MIN. FRONTAGE: 125 Ft.	(462.92' PROVIDED)
MAX. BUILDING HEIGHT: 35 Ft.	(<35' PROVIDED)

ZONING: RM–SU, SUBURBAN DENSITY RESIDENTIAL (769 Sq. Ft., 0.02 Ac., POST–LLR & 50' ZONE LINE ADJ.)

DENSITY: 10,000 Sq. Ft. / DWELLING UNIT	
SETBACKS:	
FRONT ~ 50'	
SIDE ~ 20'	
REAR ~ 20'	
MIN. LOT SIZE: 20,000 Sq.Ft.	
MAX. LOT COVERAGE: 40%	
MIN. FRONTAGE: 100 Ft.	
MAX. BUILDING HEIGHT: 40 Ft.	

6.) THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED SITE DESIGN OF TAX MAP I, LOT 11 LOCATED IN DOVER, N.H.

7.) THIS SITE IS SERVICED BY MUNICIPAL SEWER AND WATER.

8.) SEE PROJECT NOTES SHEET FOR ALL PROJECT NOTES AND OTHER REQUIRED CALCULATIONS.

9.) SEE LANDSCAPING AND LIGHTING PLANS FOR DETAILS.

10.) **POROUS PAVEMENT SHALL BE MAINTAINED IN ACCORDANCE WITH THE SITE'S APPROVED O&M MANUAL IN PERPETUITY. FAILURE TO DO SO COULD RESULT IN A FAILURE TO COMPLY WITH THE PLANNING BOARD APPROVALS.**

REVISION	DATE	DESCRIPTION
DOVER FILE #SITE 26–XXX		DOVER FILE #TRAN 26–XXX

SITE PLAN
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

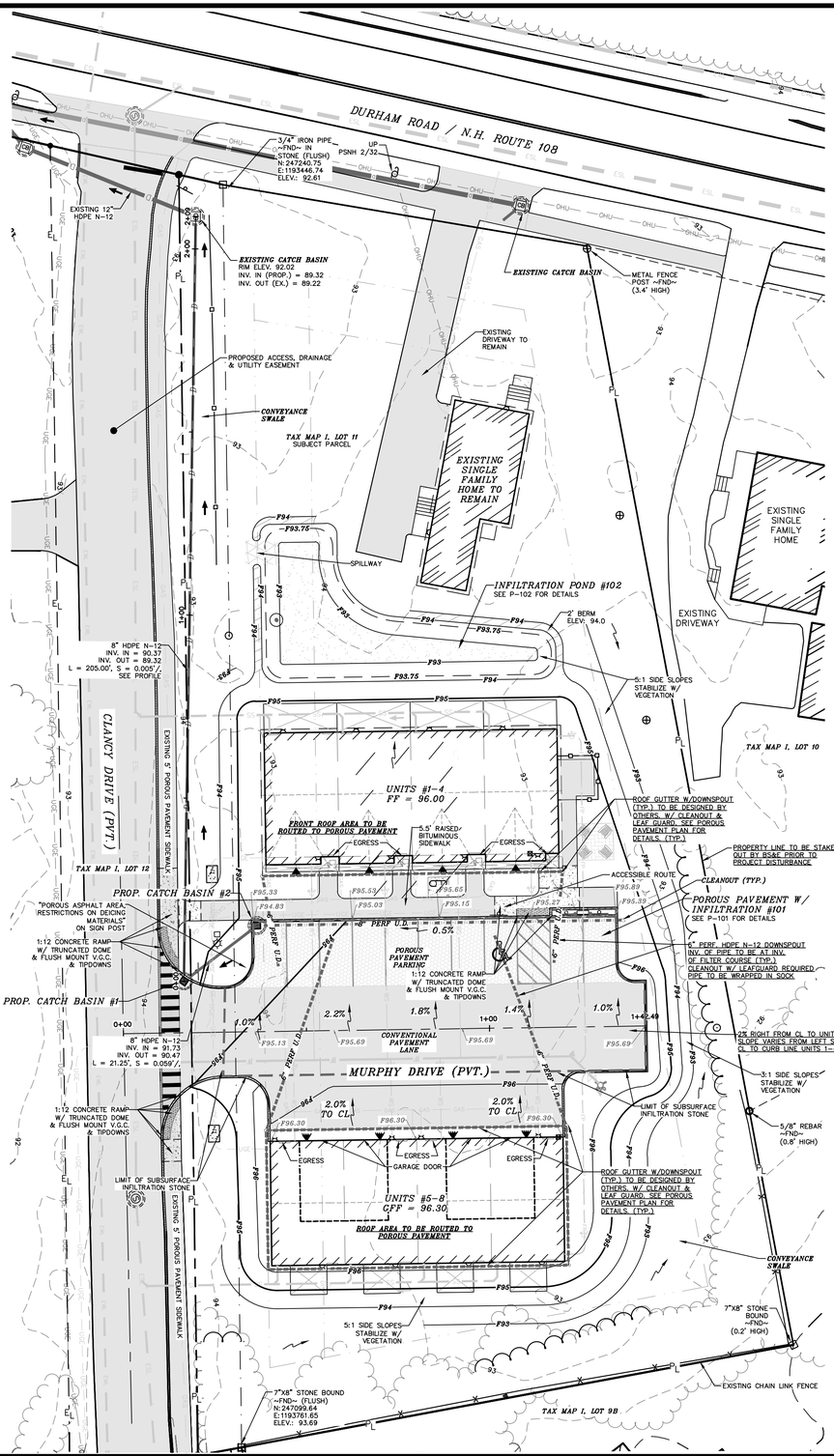
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

SHEET 6 OF 23

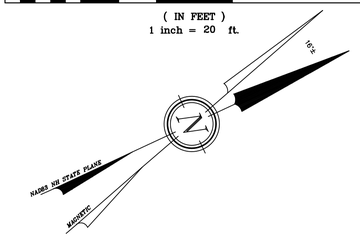
NOT FOR CONSTRUCTION



GRAPHIC SCALE

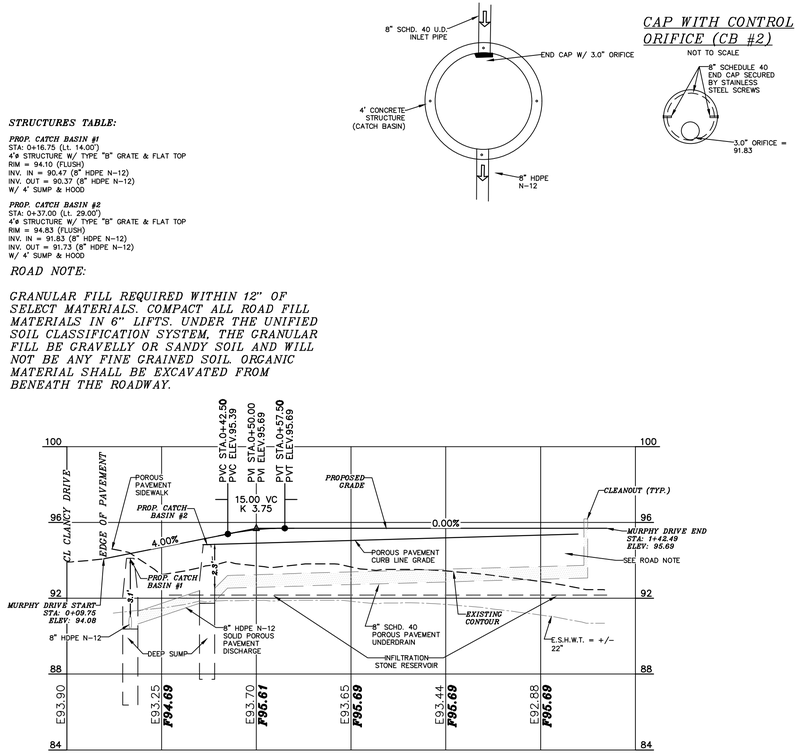
20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

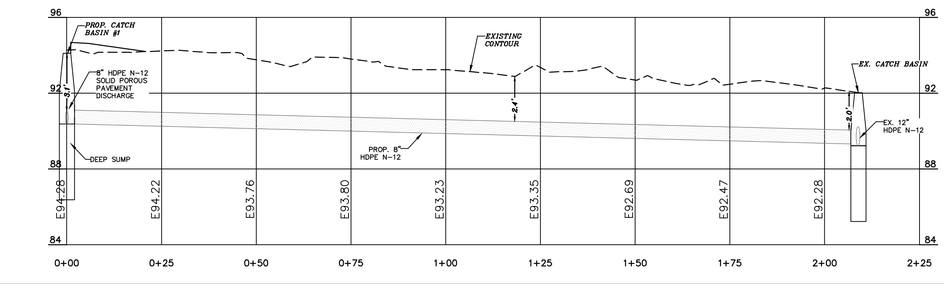


PLAN VIEW MURPHY DRIVE 0+00 TO END

PROFILE VIEW MURPHY DRIVE 0+00 TO END



PROFILE VIEW DRAIN LINE



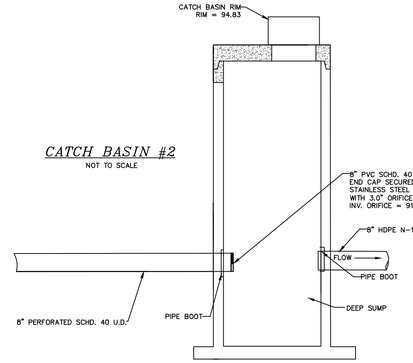
STRUCTURES TABLE:

PROP. CATCH BASIN #1
STA: 0+16.75 (Lt. 14.00')
4'ø STRUCTURE W/ TYPE "B" GRATE & FLAT TOP
RIM = 94.10 (FLUSH)
INV. IN = 90.47 (6" HDPE N-12)
INV. OUT = 90.37 (8" HDPE N-12)
W/ 4' SUMP & HOOD

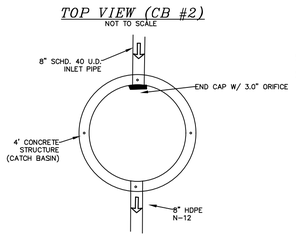
PROP. CATCH BASIN #2
STA: 0+37.00 (Lt. 29.00')
4'ø STRUCTURE W/ TYPE "B" GRATE & FLAT TOP
RIM = 94.83 (FLUSH)
INV. IN = 91.83 (6" HDPE N-12)
INV. OUT = 91.73 (8" HDPE N-12)
W/ 4' SUMP & HOOD

ROAD NOTE:

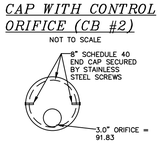
GRANULAR FILL REQUIRED WITHIN 12" OF SELECT MATERIALS. COMPACT ALL ROAD FILL MATERIALS IN 6" LIFTS. UNDER THE UNIFIED SOIL CLASSIFICATION SYSTEM, THE GRANULAR FILL BE GRAVELLY OR SANDY SOIL AND WILL NOT BE ANY FINE GRAINED SOIL. ORGANIC MATERIAL SHALL BE EXCAVATED FROM BENEATH THE ROADWAY.



CATCH BASIN #2
NOT TO SCALE



TOP VIEW (CB #2)
NOT TO SCALE



CAP WITH CONTROL ORIFICE (CB #2)
NOT TO SCALE

PROJECT NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

2.) TAX MAP I, LOT 11

3.) THE INTENT OF THIS PLAN IS TO PROVIDE DETAIL OF GRADING AND ENGINEERING ACTIVITIES TO SUPPORT THE PROPOSED SITE PLAN.

4.) SEE EROSION & SEDIMENT CONTROL PLANS FOR DETAILS ON PERIMETER CONTROL (MULCH BERM / FENCE / SILT SOXX).

5.) BS&E IS TO PROVIDE ADDITIONAL BENCHMARKS PRIOR TO CONSTRUCTION.

6.) EXISTING AND PROPOSED CONTOURS ARE PROVIDED AT 1' INTERVALS WITH DRAINAGE FEATURES AT MORE PRECISE INTERVALS.

7.) SEE PROJECT NOTES SHEET FOR REMAINING GRADING NOTES. SEE EROSION & SEDIMENT CONTROL PLAN FOR LIMIT OF PROJECT DISTURBANCE.

8.)CATCH BASINS ARE TO HAVE NH STANDARD FRAMES AND GRATES MADE IN NORTH AMERICA. GRATES ARE TO BE INSTALLED BINDER FLUSH PRIOR TO BASE PAVE. UPON PROJECT COMPLETION FRAMES AND GRATES ARE TO BE CUT AND RIM RAISED TO FINAL PAVEMENT SURFACE. THIS IS TO ENSURE STORMWATER ENTERS THE SYSTEM AS DESIGNED DURING THE INTERIM CONSTRUCTION PERIOD.

9.) NEW BUILDING CONSTRUCTION WILL CONTAIN GUTTERS WITH DOWNSPOUTS THAT ARE TO BE DISCHARGED TO THE POROUS PAVEMENT AS SHOWN.

LEGEND:

- PROPOSED CATCH BASIN W/ STRUCTURE
- TEMPORARY BENCHMARK (T.B.M.)
- E101 / E6 — DETAIL SHEET / DETAIL
- BUILDING SETBACK LINE
- 176 — CONTOUR MINOR, EXISTING
- 175 — CONTOUR MAJOR, EXISTING
- F176 — CONTOUR MINOR, PROPOSED
- F175 — CONTOUR MAJOR, PROPOSED
- CENTER LINE
- EXISTING WATER MAIN
- EXISTING SEWER LINE
- EXISTING DRAINAGE LINE
- EXISTING OVERHEAD UTILITY
- EXISTING GAS LINE
- PROPOSED WATER MAIN
- PROPOSED WATER SERVICE
- PROPOSED FIRE PROTECTION
- PROPOSED SEWER LINE
- PROPOSED DRAINAGE LINE
- PROPOSED UNDERDRAIN
- UNDERGROUND UTILITY
- PROPOSED GAS LINE
- E175.31 — EXISTING SPOT GRADE
- F175.31 — PROPOSED SPOT GRADE
- FLOW ARROW
- LIMIT OF INFILTRATION STONE RESERVOIR
- PROPOSED POROUS PAVEMENT
- PROPOSED BITUMINOUS CONCRETE
- PROPOSED CONCRETE SIDEWALK OR PAD

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.
VERTICAL SCALE: 1" = 4'

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

GRADING PLAN AND PROFILE MURPHY DRIVE 0+00 TO END
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY ROULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

P1

STABILIZATION NOTE:
SEE NOTE #6, SHEET E-102, DETAIL E-18
SIDE SLOPES ARE TO BE STABILIZED WITHIN THREE WORKING DAYS UPON COMPLETION OF FINAL GRADE.

INFILTRATION SURFACE PROTECTION NOTE:
SEE EROSION AND SEDIMENT CONTROL PLAN
IT IS RECOMMENDED THAT THE CONTRACTOR TAKE MEASURES TO PROTECT THE INFILTRATION SURFACE FROM SEDIMENTATION CAUSED BY EROSION ON THE SIDE SLOPES.

TRACKING IS NOT PERMITTED ON THE INFILTRATION SURFACE. EXCAVATIONS SHOULD TAKE PLACE ON THE OUTSIDE LIMITS OF THE INFILTRATION SYSTEM WHERE FEASIBLE. IF TRACKING DOES TAKE PLACE, SCARIFICATION IS REQUIRED PRIOR TO BE BACKFILL OF LOAM AND SEED.

AFTER THE INFILTRATION SYSTEM AREA IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHOULD BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.

DO NOT PLACE INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.

CONSTRUCTION SEQUENCE NOTE:
EROSION, SEDIMENT AND DETENTION CONTROL FACILITIES SHALL BE INSTALLED & STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM. TEMPORARY DIVERSIONS MAY BE REQUIRED. POST CONSTRUCTION STORM WATER MANAGEMENT PRACTICES MUST BE INITIATED AND STABILIZED EARLY IN THE PROCESS. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL SCMs ARE STABILIZED. SWALES CONVEYING RUNOFF TO SCMs WILL BE CONSTRUCTED AND PUT INTO SERVICE ONCE THE RECEIVING SCM IS STABILIZED. SEE DETAIL E17, SHEET E-102 FOR FULL CONSTRUCTION SEQUENCE.

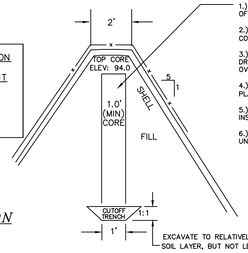
CONSTRUCTION NOTE: THE DESIGN ENGINEER IS TO BE ON SITE TO INSPECT THE BOTTOM OF THE POND BEFORE THE PLACEMENT OF THE FINE AGGREGATE. PLEASE PROVIDE 48 HOURS NOTICE PRIOR TO REQUESTED INSPECTION.

DESIGN REFERENCES

1 UNH STORMWATER CENTER.
2 NEW HAMPSHIRE STORMWATER MANUAL, FEBRUARY 2025 AS AMENDED.

P2

LOW PERMEABILITY MATERIAL GRADATION	
SIEVE SIZE	% PASSING BY WEIGHT
#4	95 – 100
#40	60 – 95
#100	40 – 60
#200	25 – 45



1.) 1.0' CORE IS TO BE CONSTRUCTED OF COMPACTED LOAM MATERIAL.

2.) CORE IS TO BE INSTALLED & COMPACTED IN 12" LIFTS.

3.) INSTALLATION OF ENTIRE DRAINAGE STRUCTURE IS TO BE OVERSEEN BY DESIGN ENGINEER.

4.) GENERAL FILL MATERIALS ARE TO PLACED & COMPACTED IN 12" LIFTS.

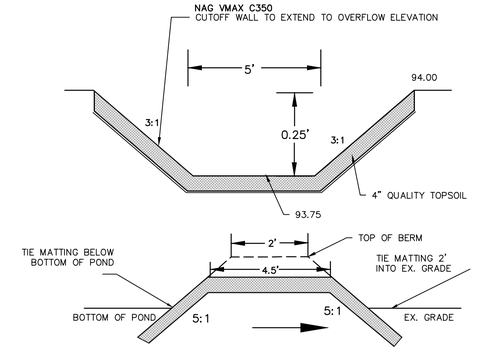
5.) GENERAL FILL MATERIAL MAY BE INSTALLED USING ONSITE MATERIALS.

6.) CORE IS TO BE CONSTRUCTED UNDERNEATH THE PROPOSED SPILLWAY.

EXCAVATE TO RELATIVELY IMPERVIOUS SOIL LAYER, BUT NOT LESS THAN 3'

BERM CONSTRUCTION
NOT TO SCALE

P3



EMERGENCY SPILLWAY PROFILE
NOT TO SCALE

P4

PLANTING SPECIFICATION

Retention Basin Floor Mix - Low Maintenance - ERNMX-126

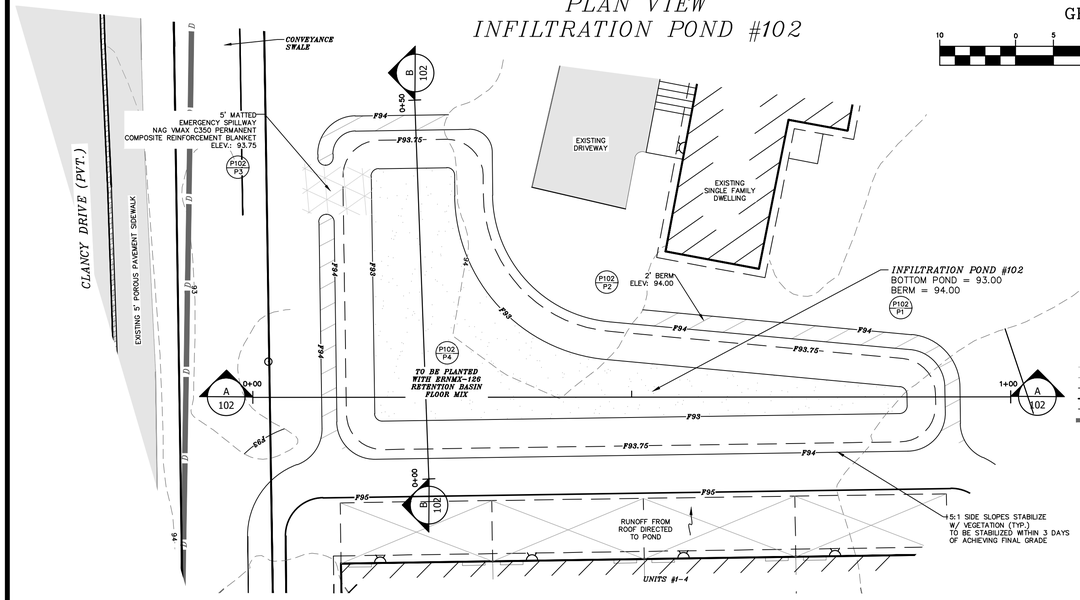
	Botanical Name	Common Name	Price/Lb
20.00 %	*Panicum clandestinum, Tioga*	Deertongue, Tioga	23.08
20.00 %	*Puccinellia distans, Fults*	Alkaligrass, Fults	4.56
18.00 %	*Elymus virginicus, Madison-NY Ecotype*	Virginia Wildrye, Madison-NY Ecotype	9.96
15.00 %	*Agrostis stolonifera, 'Pennacross'*	Creeping Bentgrass, 'Pennacross'	14.40
15.00 %	*Poa palustris*	Fowl Bluegrass	16.80
10.00 %	*Carex vulpinoidea, PA Ecotype*	Fox Sedge, PA Ecotype	28.80
1.00 %	*Carex scoparia, PA Ecotype*	Blunt Broom Sedge, PA Ecotype	81.60
1.00 %	*Juncus effusus*	Soft Rush	48.00
100.00 %		**Mix Price/Lb Bulk:**	**$15.98**

Seeding Rate: 20-40 lbs per acre, or 0.5-1 lb/1,000 sq ft with a cover crop. For a cover crop use one of the following: grain rye (1 Sep to 30 Apr; 30 lbs/acre), Japanese millet (1 May to 31 Aug; 10 lbs/acre), or barnyard grass (1 May to 31 Aug; 10 lbs/acre).

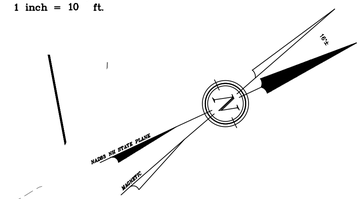
Grasses & Grass-like Species - Herbaceous Perennial; Stormwater Management

The hardy inexpensive grass and grass-like species are ideal for retention basins that may have high salt inflows and where mowing may be required. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

PLAN VIEW
INFILTRATION POND #102

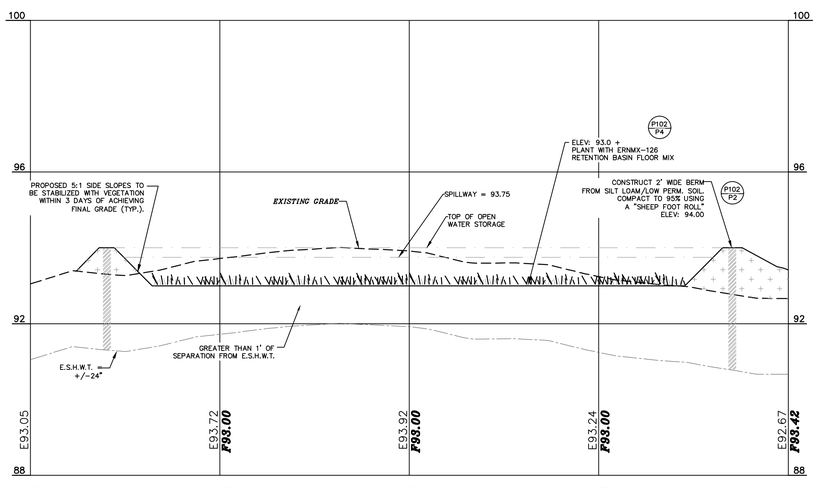


GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.



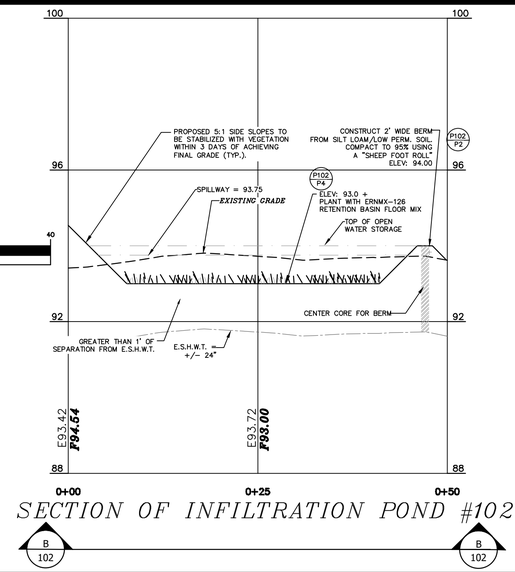
LEGEND:

E101 E6 — DETAIL SHEET / DETAIL
CONTOUR MINOR, EXISTING
CONTOUR MAJOR, EXISTING
CONTOUR MINOR, PROPOSED
CONTOUR MAJOR, PROPOSED
CENTER LINE
DRAIN LINE, PROPOSED
FLOW ARROW
STORMWATER CONTROL MEASURE (SCM)
BERM
MATTED SPILLWAY
BITUMINOUS CONCRETE



SECTION OF INFILTRATION POND #102

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.
VERTICAL SCALE: 1" = 2'



SECTION OF INFILTRATION POND #102

P-102

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

INFILTRATION POND #102
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

BERRY & SURVEYING ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 10 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

SOILS & DEWATERING:

32	*BOXFORD*	*SILT LOAM*	*K= 0.49*
33	*SCITICO*	*SILTY CLAY*	*UNRATED*
38	*ELDRIDGE*	*VERY FINE SAND W/ SILT*	*K= 0.43*
313	*DEERFIELD*	*LOAMY SANDY*	*K= 0.17*
400	*UDORTHENTS (SANDY)*	*LOAMY SANDY*	*K= 0.17*
915	*DEERFIELD VARIANT*	*LOAMY SANDY*	*K= 0.17*
953	*BOXFORD (SOMEWHAT POORLY DRAINED)*	*SILT LOAM*	*K= 0.49*

SEE SITE SPECIFIC SOILS MAP (SSSM)
SEE WEBSOIL USDA–NRCS
ERODIBILITY FACTOR – K, CPESC MANUAL, ENVIROCERT INTERNATIONAL INC. &
ROCKINGHAM COUNTTY SOIL SURVEY, ROCKWEB SOIL ATTRIBUTES.

CONTRACTOR TO BE AWARE OF THE SOIL PROFILES AND ENSURE THAT PROPER EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE TAKEN AT ALL TIMES. ANY DEWATERING REQUIREMENTS IN NEW HAMPSHIRE REQUIRE SPECIAL PROVISIONS IN ACCORDANCE WITH THE "CLARIFICATION OF SECTION 9.1.2 (STATE OF NEW HAMPSHIRE CONDITIONS) AND OTHER NH SPECIFIC INFORMATION FOR THE U.S. EPA 2022 NPDES CONSTRUCTION GENERAL PERMIT (CGP)" DATED FEBRUARY 17, 2022 INCLUDED IN THE SWPPP.

COVER MANAGEMENT DURING CONSTRUCTION FOR EXPOSED SOIL WILL INCLUDE HAY / STRAW APPLIED AT A RATE OF 2.0 TONS PER ACRE, TEMPORARY SEEDING OF ANNUAL RYE GRASS, AND PERMANENT SEEDING AT THE EARLIES OPPORTUNITY. SEE ADDITIONAL REQUIREMENT FOR STABILIZATION ON THE EROSION AND SEDIMENT CONTROL DETAIL SHEETS, E–101 AND E–102.

THE CONSTRUCTION SCHEDULE WILL BE MANAGED SO THAT ALL STORMWATER STRUCTURES WILL BE BUILT AND STABILIZED PRIOR TO RECEIVING SURFACE WATER RUNOFF. CONTRACTOR TO BE RESPONSIBLE FOR ALL DIVERSIONS DURING CONSTRUCTION AND FOR INTERIM SEDIMENT AND EROSION CONTROL MEASURES. SEE E&SC NOTES SHEET E–102

EROSION & EROSION CONTROL NOTES:

1.) CONTRACTOR IS TO INSTALL A CONSTRUCTION ENTRANCE PRIOR TO EARTH DISTURBING ACTIVITIES, UTILIZING 3" ANGULAR STONE UNDERLAID WITH ENGINEER FABRIC.

2.) CONTRACTOR IS RESPONSIBLE FOR SWEEPING THE PARKING LOT, SIDEWALKS AND ROADWAY, TO ENSURE THAT NO SEDIMENT IS BEING TRACKED ONTO CLANCY DRIVE OR THE SURROUNDING ROADWAYS.

3.) CONTRACTOR IS RESPONSIBLE FOR CLEANING AND MAINTAINING THE INLET PROTECTION ONCE INSTALLED.

4.) FUGITIVE DUST IS TO BE CONTROLLED THROUGHOUT THE CONSTRUCTION PROCESS IN ACCORDANCE WITH ENV–A 1000.

5.) CONTRACTOR IS TO MEET THE REQUIREMENTS SPECIFIED IN RSA 430:51–57 AND AGR 3800, RELATING TO INVASIVE SPECIES.

6.) CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE WATER QUALITY FROM ANY RUN OFF DURING THE CONSTRUCTION PROCESS, IN ACCORDANCE WITH ENV–WQ 1507, IN ORDER TO PREVENT VIOLATIONS OF THE STORM WATER QUALITY STANDARDS.

7.) CONTRACTOR MAY USE SILT FENCE, SILT SOXX OR MULCH BERM FOR PERIMETER CONTROL. SPECIFIC PRACTICES MAY BE SPECIFIED, SEE PLAN. THE CONTRACTOR IS NOT THE EXPAND CONSTRUCTION BEYOND THE STAKED OUT LIMITS. PERIMETER CONTROL: THE OPERATOR/CONTRACTOR HAS THE OPTION OF EROSION CONTROL MULCH BERM, SILT FENCE, OR FILTER SOCKS. NOTE E.C.M.B. SCOPE RESTRICTIONS.

8.) ALL STORAGE FACILITIES FOR FUEL, CHEMICALS, CHEMICAL OR INDUSTRIAL WASTES, AND BIODEGRADABLE RAW MATERIALS SHALL MEET THE REGULATIONS OF THE NHDES, INCLUDING BUT NOT LIMITED TO THOSE INVOLVING UNDERGROUND STORAGE TANKS, ABOVE GROUND STORAGE TANKS, HAZARDOUS WASTE AND BEST MANAGEMENT PRACTICES FOR GROUND WATER PROTECTION (PART ENV–WQ 401).

9.) ALL DEVELOPMENT MUST COMPLY WITH THE EPA PHASE II STORMWATER RULES AND THE CITY'S MS4 PERMIT, AS AMENDED.

STORMWATER BMP PROTECTION NOTE:
IT IS RECOMMENDED THAT THE CONTRACTOR TAKE MEASURES TO PROTECT THE BIOMEDIA SURFACE OR WETLAND SOIL SURFACE FROM SEDIMENTATION CAUSED BY EROSION ON THE SIDE SLOPES. SEE P–102 FOR PROJECT SPECIFIC SCM REQUIREMENTS AND SCM PLANTING SPECIFICATIONS.

CONSTRUCTION SEQUENCE NOTE:
EROSION, SEDIMENT AND DETENTION CONTROL FACILITIES SHALL BE INSTALLED & STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM. TEMPORARY DIVERSIONS MAY BE REQUIRED. POST CONSTRUCTION STORM WATER MANAGEMENT PRACTICES MUST BE INITIATED AND STABILIZED EARLY IN THE PROCESS. RUNOFF MUST BE DIRECTED TO TEMPORARY PRACTICES UNTIL SCMs ARE STABILIZED. SWALES CONVEYING RUNOFF TO SCMs WILL BE CONSTRUCTED AND PUT INTO SERVICE ONCE THE RECEIVING SCM IS STABILIZED. SEE DETAIL E17, SHEET E–102 FOR FULL CONSTRUCTION SEQUENCE.

10.) CITY OF DOVER: IN ACCORDANCE WITH SITE PLAN REVIEW REGULATIONS (153–14) THE FOLLOWING STORMWATER MEASURES ARE REQUIRED.

A.) ALL PROPOSED SCMs WILL CONFORM TO THE NH STORMWATER MANUAL (FEBRUARY 2025).

B.) EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL LAND DISTURBANCE AND MUST BE REVIEWED AND APPROVED BY COMMUNITY SERVICE.

C.) TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN SEVEN CALENDAR DAYS FOR EXPOSED SOILS AREAS THAT ARE WITHIN ONE HUNDRED FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.

D.) ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL STABILIZATION IS ACCOMPLISHED. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 CALENDAR DAYS UNLESS CONDITIONS DICTATE OTHERWISE.

E.) COMMUNITY SERVICES DEPARTMENT OR THEIR DESIGNATED AGENT SHALL HAVE ACCESS TO THE SITE TO COMPLETE ROUTINE INSPECTIONS AND SHALL BE NOTIFIED 24–HOURS PRIOR TO INSTALLATION OF A STORMWATER BMP IN ORDER TO SCHEDULE AN INSPECTION, DURING NORMAL WORKING HOURS.

F.) THE PLANNING BOARD OR COMMUNITY SERVICES MAY REQUIRE THE DESIGN ENGINEER AND/OR AN INDEPENDENT, THIRD–PARTY INSPECTION AND OVERSIGHT OF THE CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES AND EROSION AND SEDIMENT CONTROL AT THEIR DISCRETION. THE OWNER / APPLICANT IS RESPONSIBLE FOR ALL FEES ASSOCIATED WITH INSPECTIONS.

G.) ALL SWMP INSPECTIONS MUST BE CONDUCTED BY A QUALIFIED PROFESSIONAL SUCH AS A PROFESSIONAL ENGINEER (PE), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORMWATER INSPECTOR (CESSWI), OR A CERTIFIED PROFESSIONAL IN STORMWATER QUALITY (CPSWQ). INSPECTION REPORTS WILL BE SUBMITTED TO THE COMMUNITY SERVICES DEPARTMENT.

H.) THE OWNER IS ULTIMATELY RESPONSIBLE FOR THE INSTALLATION, CONSTRUCTION, INSPECTION, AND DISPOSITION OF ALL STORMWATER MANAGEMENT AND EROSION CONTROL MEASURES REQUIRED BY THE PROVISIONS OF THESE REGULATIONS.

I.) STORMWATER MANAGEMENT PLAN (SWMP) SUBMITTAL REQUIREMENTS. AT THE DISCRETION OF THE PLANNING BOARD OR COMMUNITY SERVICES DEPARTMENT, A TECHNICAL REVIEW BY AN INDEPENDENT THIRD PARTY MAY BE REQUIRED OF ANY SWMP PREPARED UNDER THESE REGULATIONS. SUCH A REVIEW SHALL BE PERFORMED BY A QUALIFIED PROFESSIONAL CONSULTANT AND THE EXPENSE OF WHICH SHALL BE THE FULL RESPONSIBILITY OF THE OWNER/APPLICANT.

NOTES:

1.)OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

2.) TAX MAP I, LOT 11

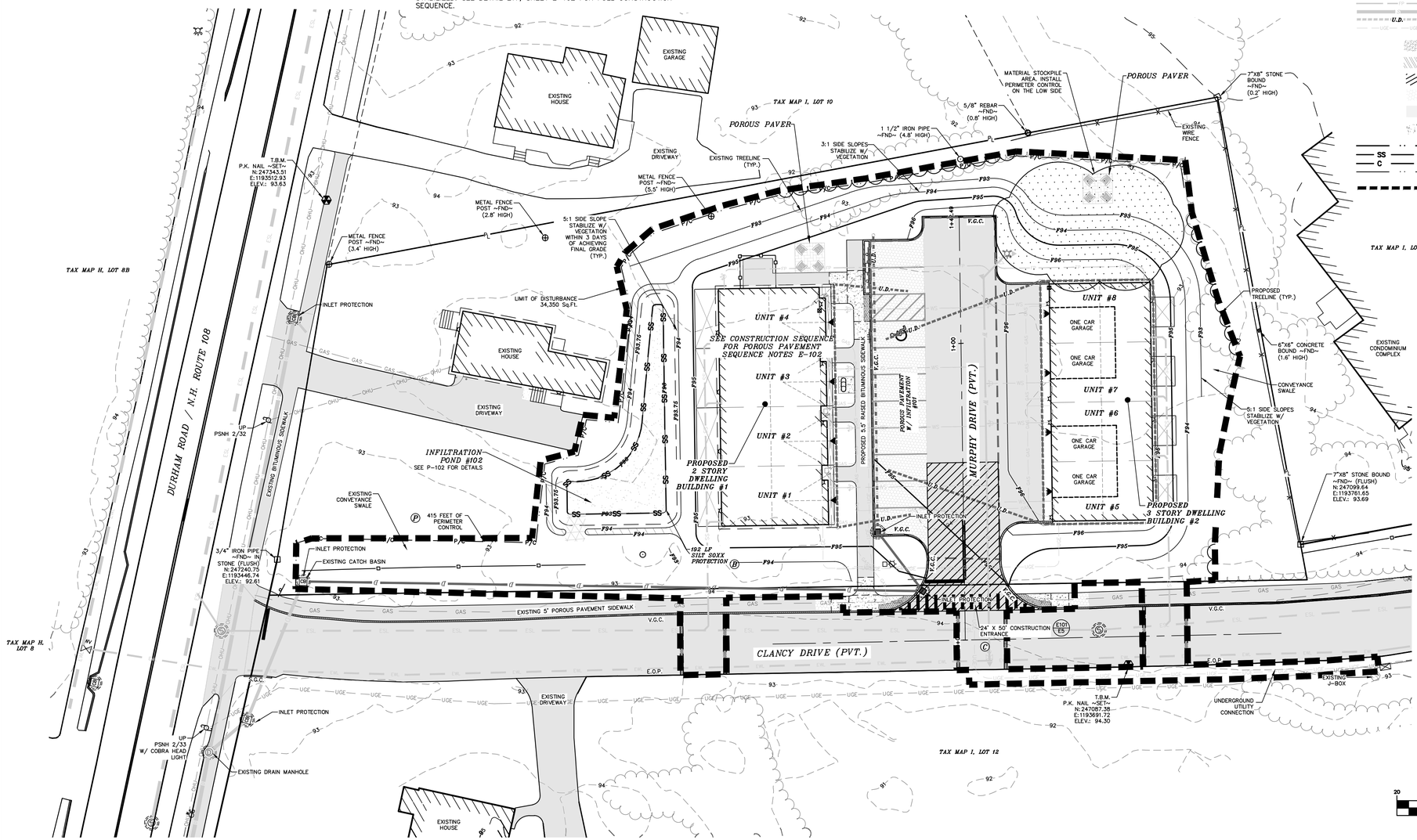
3.) S.C.R.D. BOOK 5263, PAGE 820

4.) LOT AREA POST LLR: 44,660 SQ.FT., 1.03 AC..

5.) THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES FOR SITE DESIGN OF TAX MAP I, LOT 11 LOCATED IN DOVER, N.H.

LEGEND:

- IRON BOUND ~FND~
- EXISTING/PROPOSED CATCH BASIN W/ STRUCTURE
- TEMPORARY BENCHMARK (T.B.M.)
- E101 / E6 — DETAIL SHEET / DETAIL
- CONTOUR MINOR, EXISTING
- CONTOUR MAJOR, EXISTING
- CONTOUR MINOR, PROPOSED
- CONTOUR MAJOR, PROPOSED
- CENTER LINE
- EXISTING DRAINAGE LINE
- PROPOSED DRAINAGE LINE
- PROPOSED WATER MAIN
- PROPOSED WATER SERVICE
- PROPOSED FIRE PROTECTION
- PROPOSED SEWER LINE
- PROPOSED UNDERDRAIN
- UNDERGROUND UTILITY
- STORMWATER CONTROL MEASURE (SCM)
- BERM
- CONSTRUCTION ENTRANCE
- PROPOSED POROUS PAVEMENT
- PROPOSED BITUMINOUS CONCRETE
- PROPOSED CONCRETE SIDEWALK OR PAD
- SILT FENCE / EROSION MIX BERM
- FILTREXX 8" – 12" SILT SOXX AS SPECIFIED
- ORANGE CONSTRUCTION PERIMETER FENCE
- PERIMETER CONTROL
- LIMIT OF PROJECT DISTURBANCE
- (B) SCM PROTECTION
- (P) PERIMETER CONTROL
- (C) ROADWAY CONSTRUCTION



DOVER FILE #SITE 26–XXX DOVER FILE #TRAN 26–XXX

REVISION	DATE	DESCRIPTION

EROSION AND SEDIMENT CONTROL PLAN
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

PROJECT NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

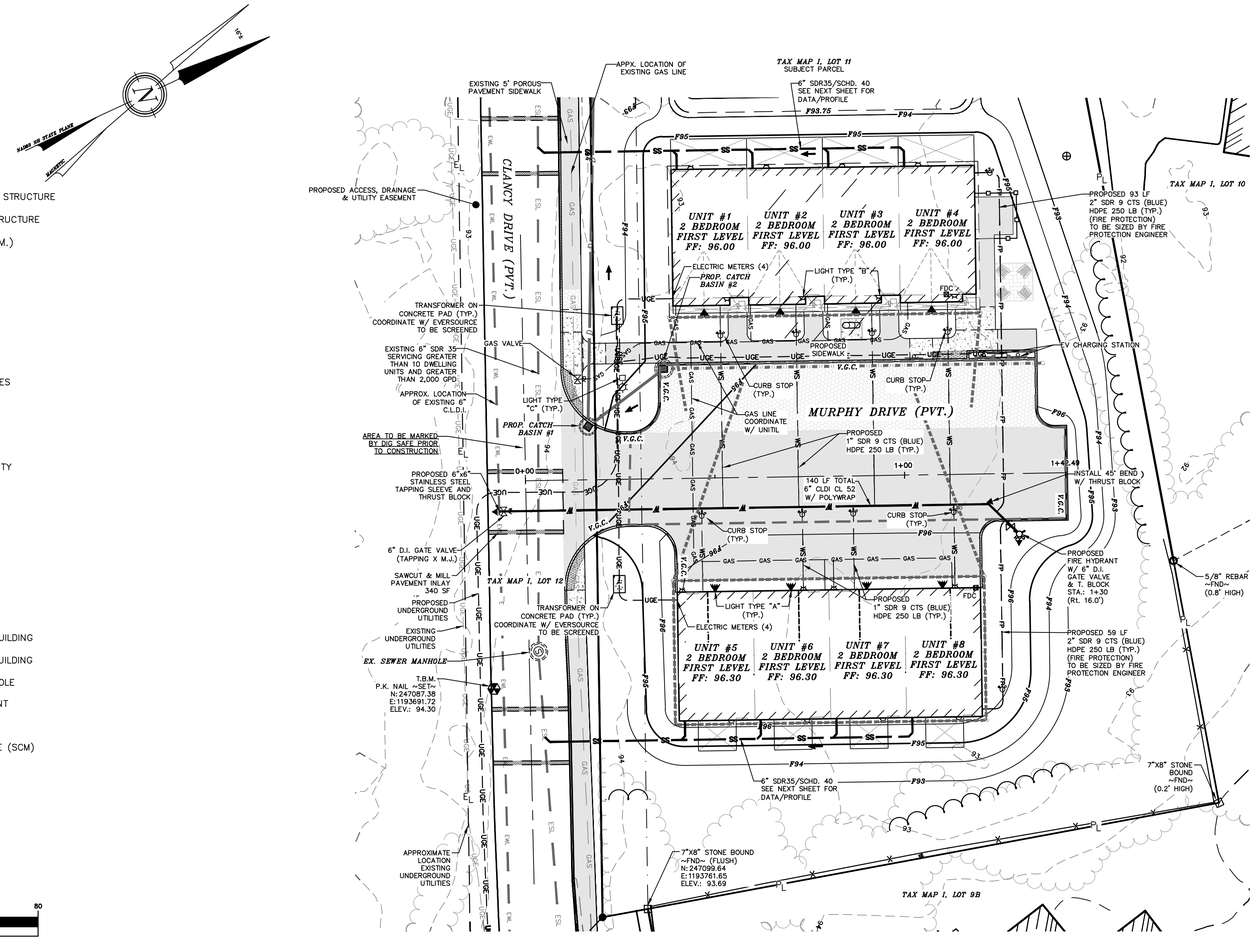
2.) TAX MAP I, LOT 11

3.) THE INTENT OF THIS PLAN IS TO PROVIDE DETAIL OF THE WATER LINE AND ENGINEERING ACTIVITIES TO SUPPORT THE PROPOSED SITE PLAN.

4.) SEE PROJECT NOTES SHEET FOR FULL UTILITY NOTES.

LEGEND:

- PROPOSED SEWER MANHOLE W/ STRUCTURE
- PROPOSED CATCH BASIN W/ STRUCTURE
- TEMPORARY BENCHMARK (T.B.M.)
- E101 / E6 — DETAIL SHEET / DETAIL
- 76 — CONTOUR MINOR, EXISTING
- 75 — CONTOUR MAJOR, EXISTING
- F76 — CONTOUR MINOR, PROPOSED
- F75 — CONTOUR MAJOR, PROPOSED
- EWL / ESL — EXISTING WATER LINE / EXISTING SEWER LINE
- EDL — EXISTING DRAINAGE LINE
- OHU — EXISTING OVERHEAD UTILITY
- UGE — EXISTING UNDER GROUND UTILITIES
- GAS — EXISTING GAS LINE
- PW / PP / WS / S / SS / UGE / U.D. / GAS — PROPOSED WATER MAIN / PROPOSED FIRE PROTECTION / PROPOSED WATER SERVICE / PROPOSED SEWER LINE / PROPOSED SEWER SERVICE / PROPOSED DRAINAGE LINE / PROPOSED UNDER GROUND UTILITY / PROPOSED UNDERDRAIN / PROPOSED GAS LINE
- TRANSFORMER
- GV — GATE VALVE
- CURB STOP
- FIRE HYDRANT
- THRUST BLOCKS
- GV — GAS VALVE
- LIGHT TYPE "A" MOUNTED ON BUILDING
- LIGHT TYPE "B" MOUNTED ON BUILDING
- LIGHT TYPE "C" MOUNTED ON POLE
- PROPOSED BITUMINOUS PAVEMENT
- PROPOSED POROUS PAVEMENT
- STORMWATER CONTROL MEASURE (SCM)



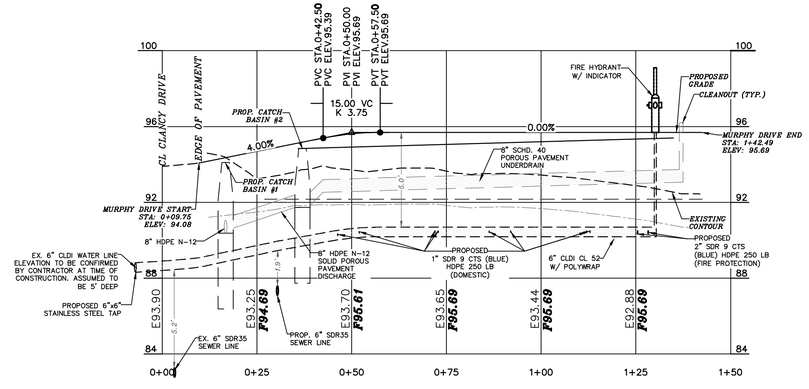
PLAN VIEW PROPOSED WATER LINE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

PROFILE VIEW PROPOSED WATER LINE



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.
VERTICAL SCALE: 1" = 4'

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

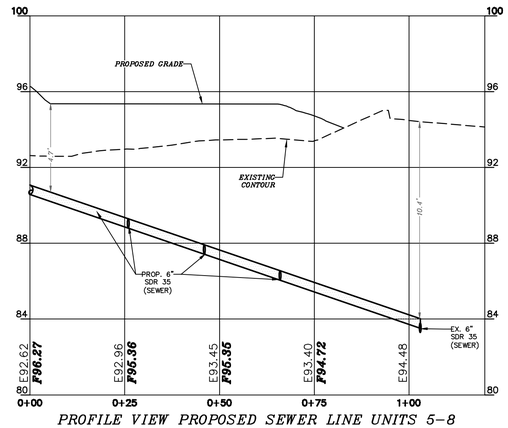
UTILITY PLAN & PROFILE WATER LINE
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

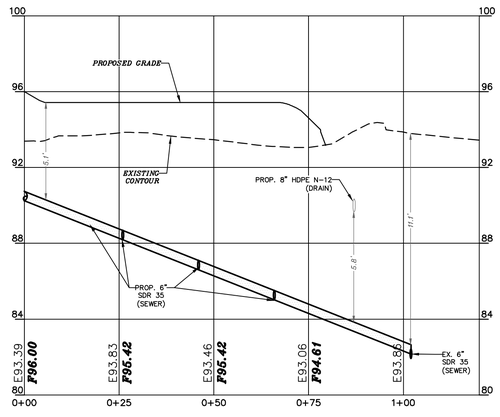
SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION



PROFILE VIEW PROPOSED SEWER LINE UNITS 5–8



PROFILE VIEW PROPOSED SEWER LINE UNITS 1–4

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.
VERTICAL SCALE: 1" = 4'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.
VERTICAL SCALE: 1" = 4'

LEGEND:

- EXISTING SEWER MANHOLE W/ STRUCTURE
- PROPOSED CATCH BASIN W/ STRUCTURE
- TEMPORARY BENCHMARK (T.B.M.)
- DETAIL SHEET / DETAIL (E101 / E6)
- CONTOUR MINOR, EXISTING (76)
- CONTOUR MAJOR, EXISTING (75)
- CONTOUR MINOR, PROPOSED (F76)
- CONTOUR MAJOR, PROPOSED (F75)
- EXISTING WATER LINE (EWL)
- EXISTING SEWER LINE (ESL)
- EXISTING DRAINAGE LINE
- EXISTING OVERHEAD UTILITY (OHU)
- EXISTING UNDER GROUND UTILITIES (UGE)
- EXISTING GAS LINE (GAS)
- PROPOSED WATER MAIN (W)
- PROPOSED FIRE PROTECTION (FP)
- PROPOSED WATER SERVICE (WS)
- PROPOSED SEWER SERVICE (SS)
- PROPOSED DRAINAGE LINE
- PROPOSED UNDER GROUND UTILITY (UGE)
- PROPOSED UNDERDRAIN (U.D.)
- PROPOSED GAS LINE (GAS)
- TRANSFORMER
- GATE VALVE (WV)
- CURB STOP
- FIRE HYDRANT
- THRUST BLOCKS
- GAS VALVE (GV)
- LIGHT TYPE "A" MOUNTED ON BUILDING
- LIGHT TYPE "B" MOUNTED ON BUILDING
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- PROPOSED BITUMINOUS PAVEMENT
- PROPOSED POROUS PAVEMENT
- STORMWATER CONTROL MEASURE (SCM)

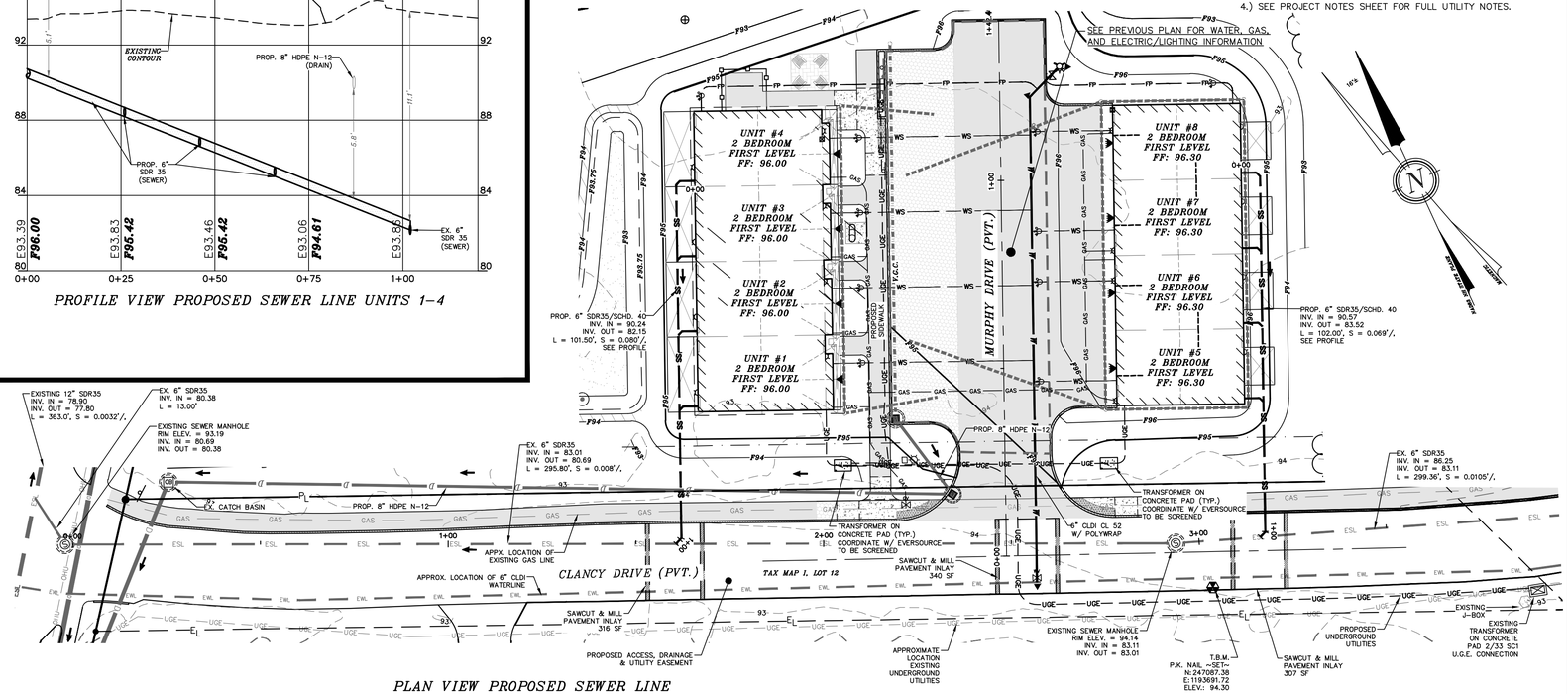
PROJECT NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

2.) TAX MAP 1, LOT 11

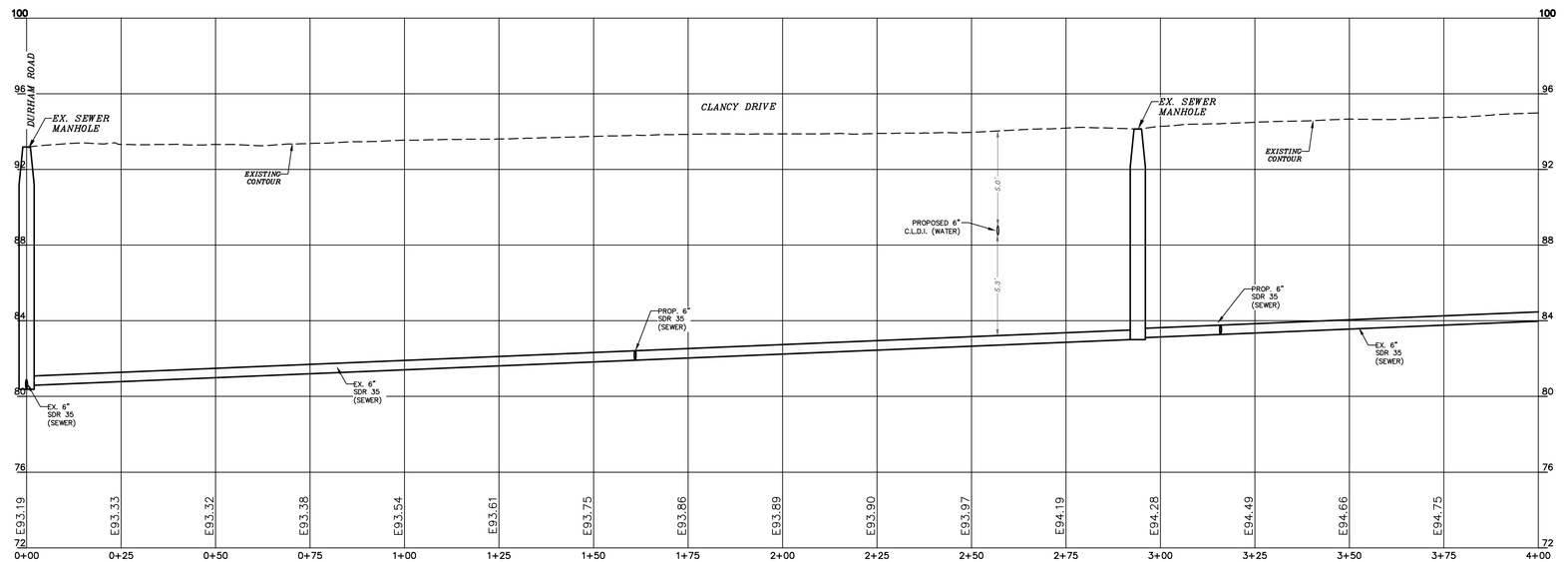
3.) THE INTENT OF THIS PLAN IS TO PROVIDE DETAIL OF THE SEWER LINE AND ENGINEERING ACTIVITIES TO SUPPORT THE PROPOSED SITE PLAN.

4.) SEE PROJECT NOTES SHEET FOR FULL UTILITY NOTES.



PLAN VIEW PROPOSED SEWER LINE

PROFILE VIEW PROPOSED SEWER LINE



DOVER FILE #SITE 26–XXX DOVER FILE #TRAN 26–XXX

REVISION	DATE	DESCRIPTION

UTILITY PLAN & PROFILE SEWER LINE
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
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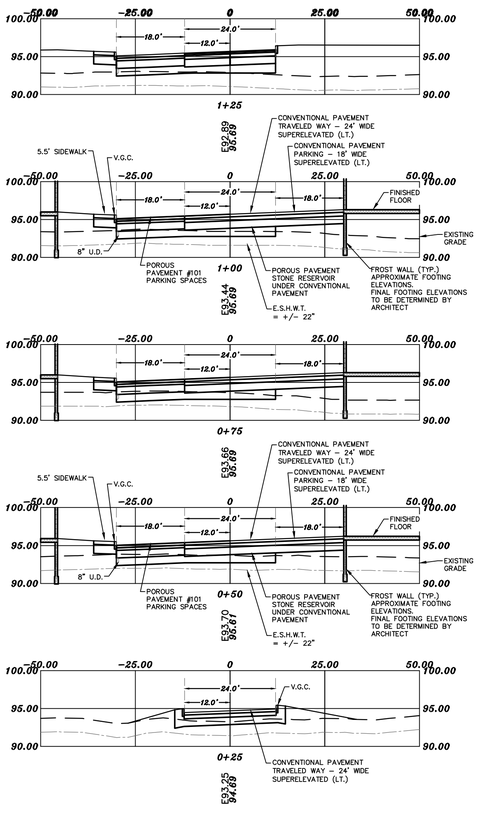
STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

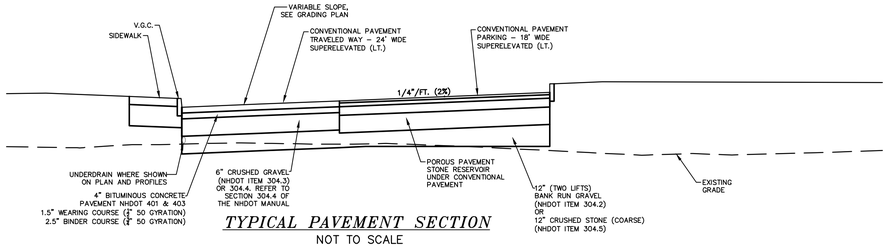
NOT FOR CONSTRUCTION

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.
Vertical Scale 1 INCH = 10 FT.





TYPICAL PAVEMENT SECTION
NOT TO SCALE

P1

DESIGN NOTES:

1.) POROUS ASPHALT PAVEMENT WILL CONFORM TO UNHSC (2007b) SPECIFICATIONS AS UPDATED BY UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS (DATED: SEPTEMBER 2016).

2.) THE FILTER COURSE WILL BE INSTALLED AT A MINIMUM DEPTH OF 12 INCHES AND CONSIST OF NHDOT (2016) SAND, ITEM 304.1 PER THE NH STORMWATER MANUAL.

3.) SEE CROSS SECTIONS FOR DETAILS.

4.) SEE STORMWATER SYSTEM MANAGEMENT: INSPECTION AND MAINTENANCE MANUAL AND PLAN, DATED MAY 7, 2026 FOR MAINTENANCE REQUIREMENTS.

REFERENCE:

1.) NH STORMWATER MANUAL (FEBRUARY 2025) APPENDIX A, A-60 – A-64.

2.) UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS, FEBRUARY 2014, REVISED SEPTEMBER 2016, UNIVERSITY OF NEW HAMPSHIRE STORWATER CENTER, DURHAM, NH 03824-3534.

3.) POROUS ASPHALT PAVEMENT FOR STORMWATER MANAGEMENT, THE UNH STORMWATER CENTER.

POROUS PAVEMENT
TOTAL SECTION DEPTH = 32"
TOTAL SECTION REQUIRED = 31.2"
(65% OF FROST DEPTH)
FROST DEPTH = 48" (UNHSC)
12" FILTER MEDIA PROVIDED

SEE GRADING PLANS & PROFILES FOR SPOT ELEVATIONS

ROAD NOTE:

GRANULAR FILL REQUIRED WITHIN 12" OF SELECT MATERIALS. COMPACT ALL ROAD FILL MATERIALS IN 6" LIFTS. UNDER THE UNIFIED SOIL CLASSIFICATION SYSTEM, THE GRANULAR FILL BE GRAVELLY OR SANDY SOIL AND WILL NOT BE ANY FINE GRAINED SOIL. ORGANIC MATERIAL SHALL BE EXCAVATED FROM BENEATH THE ROADWAY.

CONSTRUCTION NOTE: THE DESIGN ENGINEER IS TO BE ON SITE PRIOR TO AND DURING THE PLACEMENT OF THE RESERVOIR STONE, AND TO WITNESS THE INSTALLATION OF THE UNDER-DRAIN. PLEASE PROVIDE 24 HOURS NOTICE PRIOR TO REQUESTED INSPECTION.

CHOKER COURSE *

SIEVE SIZE	% PASSING BY WEIGHT
1 1/2"	100
1"	95 – 100
1/2"	25 – 60
# 4	0 – 10
# 8	0 – 5

* EQUIVALENT TO STANDARD STONE SIZE #57 – AASHTO

FILTER COURSE *

SIEVE SIZE	% PASSING BY WEIGHT
6"	100
# 4	70 – 100
# 200	0 – 6**

* EQUIVALENT TO MODIFIED NHDOT 304.1 – SECTION 304 OF NHDOT NHDOT STANDARD SPECIFICATIONS

** LESS THAN 4% FINES

POROUS ASPHALT MIX DESIGN CRITERIA

SIEVE SIZE	% PASSING BY WEIGHT
3/4"	100
1/2"	85 – 100
3/8"	55 – 75
# 4	10 – 25
# 8	5 – 12
# 200	2 – 4
BINDER CONTENT (AASHTO T164)	5.8 – 6.5%
AIR VOID CONTENT (AASHTO D6752)	16 – 22%
DRAINDOWN (AASHTO D6390)	≤ 0.3%
RETAINED TENSILE STRENGTH (AASHTO D6390)	≥ 80%
CANTABRO ABRASION TEST (UNAGED)	≤ 20%
CANTABRO ABRASION TEST (7 DAYS)	≤ 30%

FILTER BLANKET COURSE *

SIEVE SIZE	% PASSING BY WEIGHT
1/2"	100
3/8"	95 – 100
# 4	22 – 55
# 8	0 – 10

* EQUIVALENT TO STANDARD WASHED STONE – SECTION 702 OF NHDOT NHDOT STANDARD SPECIFICATIONS

RESERVOIR COURSE *

SIEVE SIZE	% PASSING BY WEIGHT
2 1/2"	100
2"	90 – 100
1 1/2"	35 – 70
1"	0 – 15
1/2"	0 – 5

* EQUIVALENT TO STANDARD STONE SIZE #3 – AASHTO

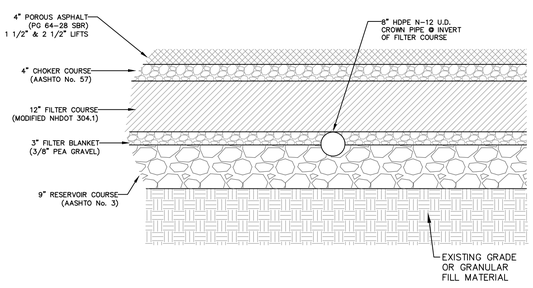
POROUS ASPHALT PAVEMENT
NOT TO SCALE

12" CAST IRON COVER
NOT TO SCALE

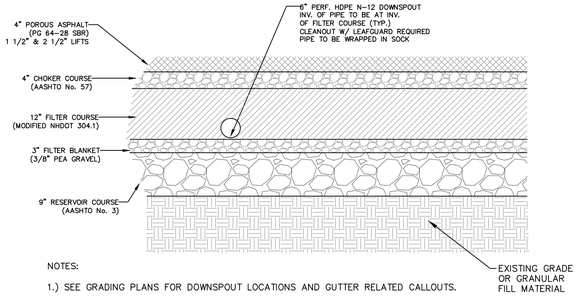
CASTINGS ARE RATED FOR H20 WHEEL LOAD TRAFFIC

PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT

ADS N-12, INLINE DRAIN/CLEANOUT
NOT TO SCALE USED FOR ALL CLEANOUTS



POROUS ASPHALT PAVEMENT SECTION
NOT TO SCALE



NOTES:

1.) SEE GRADING PLANS FOR DOWNSPOUT LOCATIONS AND GUTTER RELATED CALLOUTS.

2.) A CLEANOUT IS REQUIRED FOR EACH DOWNSPOUT NEAR THE BUILDING.

DOWNSPOUT DISCHARGE POROUS PAVEMENT DETAIL
NOT TO SCALE

NOTE:

THE FRONT OF UNITS 1-4 AND ALL OF UNITS 5-8 WILL HAVE GUTTERS AND DRAINS INTO THE POROUS PAVEMENT.

P-101

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

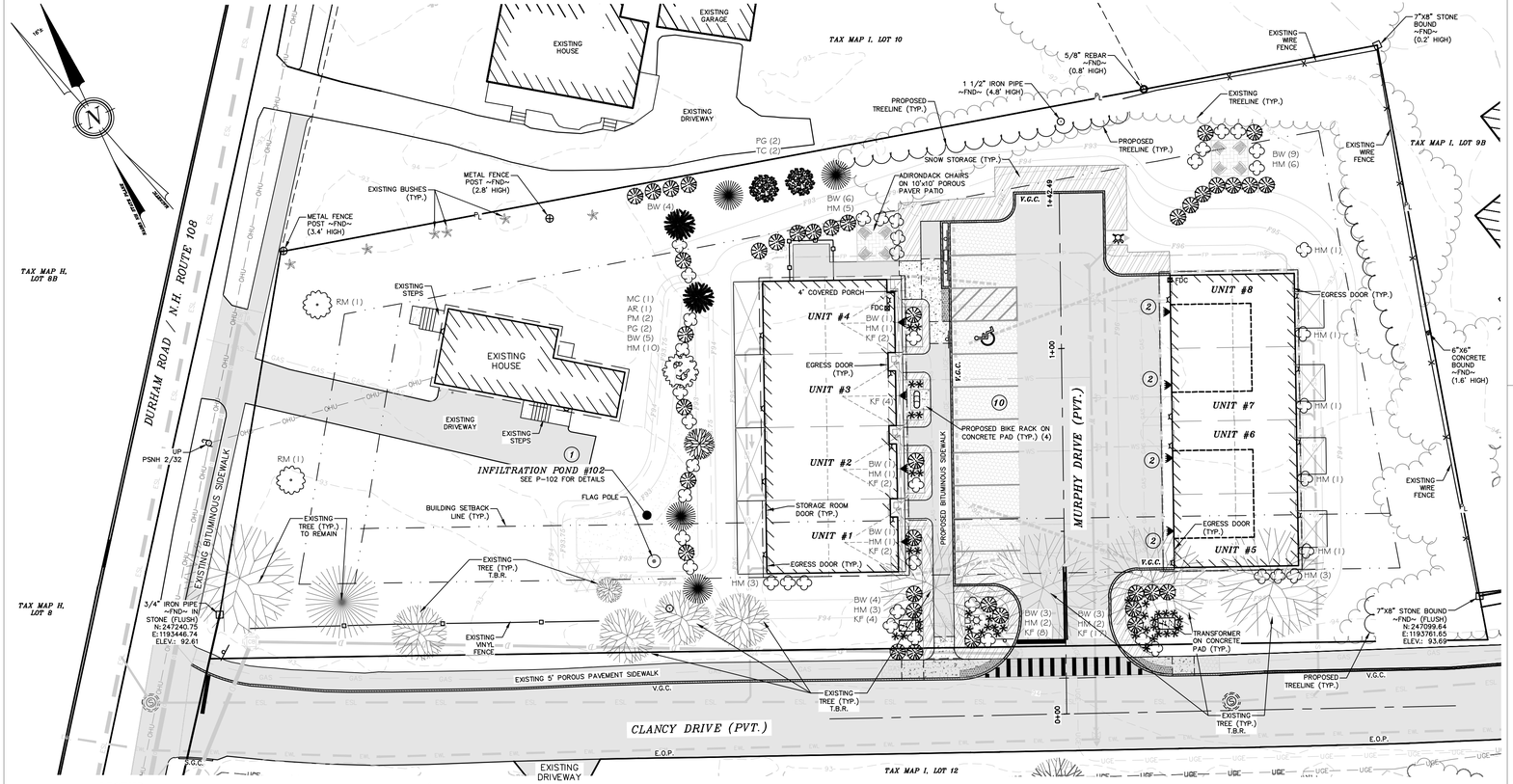
CROSS SECTIONS & POROUS PRODUCT SPECIFICATIONS
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION



LEGEND:

TREES:

AR – 'OCTOBER GLORY' MAPLE

RM – RED MAPLE

MC – EXCLAMATION PLANETREE

PM – DOUGLAS FIR

LEGEND CONT'D.:

TREES:

PG – WHITE SPRUCE

TC – EASTERN HEMLOCK

LEGEND CONT'D.:

BUSHES:

BW – BOXWOOD

HM – HYDRANGEA

GRASS:

KF – FEATHER REED GRASS

PROPOSED BITUMINOUS CONCRETE

PROPOSED POROUS PAVEMENT

SEE NEIGHBORHOOD SHEET (SHEET #1) FOR DRAINAGE & UTILITY SYMBOLS

INTERIOR LANDSCAPING PERCENTAGES:

REQUIRED: 0 TO 20 SPACES = 0% LANDSCAPING
PROPOSED: 18 SPACES
PARKING SPACES = 3,222 Sq.Ft.
INTERIOR LANDSCAPE AREA = 370 Sq.Ft.
INTERIOR LANDSCAPING = 11.48%

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NOTES:

1. CALL DIG SAFE PRIOR TO BEGINNING WORK. (1–888–344–7233). THE LANDSCAPE CONTRACTOR IS ADVISED OF THE PRESENCE OF UNDERGROUND UTILITIES AND SHALL VERIFY THE EXISTENCE AND LOCATION OF THE SAME BEFORE COMMENCING AND DIGGING OPERATIONS. THE LANDSCAPE CONTRACTOR SHALL REPLACE OR REPAIR UTILITIES, PAVING, WALKS, CURBING, ETC DAMAGED IN PERFORMANCE OF THIS JOB AT NO ADDITIONAL COST TO THE OWNER OR GENERAL CONTRACTOR.
2. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL SITE CONDITIONS PRIOR TO CONSTRUCTION BIDDING.
3. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS. VARIATIONS IN QUANTITIES ARE TO BE APPROVED BY THE DESIGN ENGINEER.
4. PROVIDED SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING CONDITIONS.
5. ALL PLANT MATERIAL INSTALLED SHALL MEET THE SPECIFICATIONS OF "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN
6. ALL PLANT MATERIALS SHALL BE FREE FROM INSECTS AND DISEASE.
7. ALL PLANTINGS SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES. THIS IS TO INCLUDE PROPER PLANTING MIX, PLANT BED AND TREE PIT PREPARATION, PRUNING STAKING OR GUYING, WRAPPING, SPRAYING, FERTILIZATION, PLANTING AND ADEQUATE MAINTENANCE UNTIL ACCEPTANCE FROM OWNER.
8. ALL GRASS, OTHER VEGETATION AND DEBRIS SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO PLANTING.
9. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING AND NEWLY PLANTED TREES AND SHRUBS DURING THE CONSTRUCTION PROCESS. WHERE REQUIRED, THE CONTRACTOR SHALL INSTALL TEMPORARY FENCING (SNOW OR EQUAL) AROUND EXISTING TREES AND SHRUBS THAT COULD BE IMPACTED BY THE CONSTRUCTION PROCESS. STORAGE OF CONSTRUCTION EQUIPMENT, CONSTRUCTION MATERIALS, SNOW STORAGE AND OR VEHICLE PARKING SHALL NOT BE PERMITTED WITHIN THE DRIP LINE OF TREES OR TWENTY FEET WHICH EVER IS GREATER.
10. NEW PLANTINGS SHALL BE INSTALLED PER PROJECT DRAWINGS AND SPECIFICATION THAT INCLUDE FERTILIZATION AND MULCHING AS REQUIRED.
11. ALL SHRUB BEDS AND TREE PITS SHALL BE MULCHED WITH 3" CLEAN SHREDDED BLACK MULCH
12. WHERE INDICATED ON PLAN, PLANTING SOIL MIXTURE FOR GROUND COVER AND PERENNIAL BED AREAS SHALL CONSIST OF FOUR PARTS TOPSOIL, TWO PARTS SPHAGNUM PEAT MOSS, AND ONE PART HORTICULTURAL PERLITE BY VOLUME. PEAT MOSS MAY BE SUBSTITUTED WITH WELL–ROTTED OR DEHYDRATED MANURE OR COMPOST. ROTOTILL BEDS TO A DEPTH OF 8 INCHES.
13. MAINTENANCE OF NEW PLANTINGS AND LAWNS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND OR LANDSCAPE SUBCONTRACTOR UNTIL ACCEPTANCE BY THE OWNER. RESPONSIBILITIES SHALL INCLUDE WATERING WEEDING AND MOWING AS NECESSARY. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE, REPLACEMENT MATERIAL SHALL BE GUARANTEED FOR AND ADDITIONAL YEAR FROM TIME OF INSTALLATION.
14. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY EROSION CONTROL MEASURES DURING THE CONSTRUCTION PHASE AND UNTIL ALL AREAS HAVE BEEN STABILIZED AND ACCEPTED BY THE OWNER. THE GENERAL CONTRACTOR SHALL PROVIDE WEEKLY INSPECTIONS OF EROSION MEASURE AND IMMEDIATELY AFTER STORM EVENTS AND REPAIR AS NECESSARY.
15. THE GENERAL CONTRACTOR AND OR THE LANDSCAPE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL THREE GUYING MATERIAL ONCE PLANT MATERIAL HAS BEEN ESTABLISHED. (MINIMUM OF ONE GROWING SEASON). ALL TEMPORARY EROSION CONTROL MEASURE SHALL BE REMOVED ONCE STABILIZATION OF DISTURBANCE HAS BEEN ACCEPTED BY OWNER.
16. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR A MINIMUM OF TWO MOWINGS FOR ALL TURF AREAS OR UNTIL ACCEPTANCE BY THE OWNER. A MINIMUM UNIFORM 75% CATCH OF TURF IS REQUIRED FOR ACCEPTANCE.
17. ALL PLANTINGS SHALL BE WATERED REGULARLY DURING THEIR FIRST YEAR AND MAINTAINED PERMANENTLY IN GOOD GROWING CONDITION AS AN EFFECTIVE VISUAL SCREEN.
18. SHRUBS OR TREES WHICH DIE SHALL BE REPLACED WITHIN ONE GROWING SEASON WITH NEW SHRUBS OR TREES TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE LANDSCAPING REQUIREMENTS.
19. ALL REQUIRED LANDSCAPING SHALL BE INSTALLED BEFORE OCCUPANCY, OR WITHIN SIX MONTHS IF OCCUPANCY OCCURS DURING WINTER CONDITIONS.
20. TREES ARE TO BE 6' TALL AT PLANTING.
21. ALL PLANT STOCK SHALL CONFORM TO ANSI Z260.1 – NURSERY STOCK, LATEST EDITIONS (AMERICAN ASSOCIATION OF NURSERYMEN, INC.)
22. 4" AGED PINEBARK MULCH AND A WEED BARRIER (TY–PAR FABRIC OR APPROVED EQUAL) SHALL BE APPLIED TO ALL SHRUB AND GROUND COVER BEDS. INSTALL WEED BARRIER AS PER MANUFACTURERS RECOMMENDATIONS.
23. PLANT–PIT BACK–FILL SHALL BE MIXED AT A RATE OF 7 PARTS OF TOPSOIL TO 2 PARTS OF DEHYDRATED COW MANURE. SLOW RELEASE FERTILIZER SHALL BE APPLIED AS PER MANUFACTURERS RECOMMENDATIONS. USE EXISTING ON–SITE TOPSOIL AS PART OF BACK FILL WHEN AVAILABLE.
24. ALL LANDSCAPED AREAS NOT PLANTED WITH TREES, SHRUBS OR GROUNDCOVER SHALL BE RESTORED WITH SEED OR SOD AS INDICATED ON PLANS.
25. TOPSOIL WILL BE TESTED FOR FERTILIZATION REQUIREMENTS, AND SLOW RELEASE ENVIRONMENTALLY FRIENDLY FERTILIZER WILL BE APPLIED AT THE RECOMMENDED RATES.
26. ALL DISTURBED WETLAND BUFFER AREAS, EXCEPT FOR AREAS THAT ARE PART OF THE DRAINAGE SYSTEM, ARE TO BE RESEEDED WITH A CONSERVATION SEED MIX AND ONLY MOWED TWICE PER YEAR.
27. ALL PLANT SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER.
28. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY OR AT THE JOB SITE WHILE WORK IS ONGOING TO CONFORMITY TO SPECIFIED QUALITY, SIZE AND VARIETY.
29. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE AT LEAST ONE (1) GROWING SEASON. ROOT–BOUND PLANTS OR INADEQUATELY SIZED CONTAINERS TO SUPPORT THE PLANT MAY BE DEEMED UNACCEPTABLE.
30. ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR NO LESS THAN ONE FULL YEAR FROM THE TIME OF INSTALLATION. DURING THIS TIME, THE OWNER SHALL MAINTAIN ALL PLANT MATERIALS IN THE ABOVE MANNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE PLANTS TO ENSURE PROPER CARE. IF THE CONTRACTOR IS DISSATISFIED WITH THE CARE GIVEN, HE SHALL IMMEDIATELY, AND IN SUFFICIENT TIME TO PERMIT THE CONDITION TO BE RECTIFIED, NOTIFY THE OWNER IN WRITING OR OTHERWISE FORFEIT HIS CLAIM.
31. BY THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAS DIED, THAT HAS LOST NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESS PRUNING OR INADEQUATE OR IMPROPER CARE, OR IS, IN THE OPINION OF THE OWNER, IN UNHEALTHY OR UNSIGHTLY CONDITION.
32. THE CONTRACTOR IS TO USE TEMPORARY MEASURES FOR WATERING PLANTS DURING THE ESTABLISHMENT PERIOD. INCLUDING CONNECTING TEMPORARY HOSES TO THE STRUCTURE WATER SUPPLY LINE AND UTILIZING SPRINKLERS UNTIL 85% GROWTH OCCURS.

PLANTING NOTES

1. CONTRACTOR SHALL OBTAIN APPROVAL FROM L.A. PRIOR TO PURCHASING &/OR INSTALLING SUBSTITUTE PLANT MATERIAL PRIOR TO PURCHASE OF ANY SUBSTITUTE MATERIALS.
2. CONSTRUCTION ACCESS WILL BE AS DIRECTED BY L.A. CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ACCESS ROUTE AND ALL AREAS DISTURBED BY PLANTING OPERATIONS UPON COMPLETION OF CONSTRUCTION OPERATIONS, AT NO ADDITIONAL COST TO THE OWNER.
3. LAYOUT OF ALL PLANTING BEDS AND LOCATION OF PLANTS TO BE APPROVED BY L.A. ON SITE PRIOR TO CONSTRUCTION AND INSTALLATION.
4. CONTRACTOR TO REMOVE ALL DEBRIS GENERATED BY PLANT INSTALLATION. DEBRIS TO BE DISPOSED OF IN A LEGAL MANNER.
5. ALL PLANT MATERIAL SHALL BE GUARANTEED TO BE IN GOOD, HEALTHY & FLOURISHING CONDITION FOR ONE YEAR FROM THE DATE OF FINAL INSTALLATION APPROVAL BY L.A. CONTRACTOR SHALL REPLACE, WITHOUT COST TO OWNER, AND AS SOON AS WEATHER CONDITIONS PERMIT, ALL DEAD AND NON–FLOURISHING PLANTS AS DETERMINED BY THE L.A. REPLACEMENT PLANTS SHALL BE BE GUARANTEED IDENTICALLY TO ORIGINAL PLANTS, TIME PERIOD COMMENCING FROM DATE OF REPLACEMENT PLANTING APPROVAL BY L.A.
6. ALL BEDS TO BE MULCHED WITH 3" DEPTH SHREDDED BARK MULCH UNLESS NOTED OTHERWISE.
7. CONTRACTOR TO PROVIDE NECESSARY TEMPORARY IRRIGATION IF NEEDED BASED ON TIME OF YEAR THE PROJECT IS IMPLEMENTED.

TEMPORARY WATERING NOTES

1. CONTRACTOR IS RESPONSIBLE FOR MAKING SURE ALL PLANT MATERIAL HAS ADEQUATE WATER DURING THE ESTABLISHMENT PERIOD.
2. THE USE OF GATOR BAGS, SOAKER HOSE, HAND WATERING AND OTHER TECHNIQUES SHOULD BE USED TO ASSURE PROPER HYDRATION OF THE PLANTINGS IS MAINTAINED.
3. TEMPORARY IRRIGATION SYSTEMS CAN BE SET UP TO ASSIST IN WATERING ACTIVITIES.

PLANTING SCHEDULE
2025-053 - 68 Durham Road
Botanical Name/ Common Name

	Size	Qty	Label
Trees			
Plantanus x acerifolia 'Morton Circle' / Exclamation Planetree	4" Cal.	1	MC
Acer rubrum / "October Glory' Maple	4" Cal.	1	AR
Acer rubrum / Red Maple	4" Cal.	2	RM
Pseudotsuga menziesii / Douglas Fir	4" Cal.	2	PM
Picea glauca / White Spruce	4" Cal.	4	PG
Tsuga candensis / Eastern Hemlock	4" Cal.	2	TC
Shrubs			
Buxus / Boxwood	3 Gal.	38	BW
Hydrangea macrophylla/ Hydrangea	#1	42	HM
Grasses			
Calamagrostis acutifolia 'Karl Foerster' / Feather Reed Grass	#2	41	KF

terrain
planning & design llc

General Plant Maintenance Guide

General Plant Bed Maintenance:

- All plant maintenance should be performed by a qualified horticulturalist or licensed arborist. Cleaning the dead material out of the planting bed in the fall helps keep litter from building up around the plants and in some cases killing the plants. Watering the first year during dry periods will help get the plants established. Mulching every year is not necessary. Raking the old mulch and turning it over is all that is needed. When necessary only install one inch of mulch and do not place the mulch closer than 3" to the trunks or stems of woody plants.

Trees

- The first year watering during dry periods will be necessary.
- 3" inches of mulch maybe used. The mulch should be kept 3 inches from the trunk.
- Fertilizing is not necessary for the first year. Fertilizing in subsequent years only when and if the foliage is looking weak.
- Fertilization should occur prior to Mat 31st or after trees have dropped their leaves for the year.
- Prune dead wood once a year.
- Depending on the amount of compaction the bed area receives, deep root aeration may be needed over time

Woody Shrubs

- The first year watering during dry periods will be necessary.
- 3" inches of mulch maybe used. The mulch should be kept 3 inches from the stems.
- Fertilizing is not necessary for the first year. Fertilizing in subsequent years only when and if the foliage is looking weak.
- Fertilization should occur prior to Mat 31st or after shrubs have dropped their leaves or gone dormant for the year.
- Prune dead wood once a year.

Grasses

- Grasses only need to be clipped back at the end of the growing season and all the clippings removed from the area.
- Do not over mulch. Too much mulch will prohibit the grass from developing into a strong clump.

Perennials

- All perennials need to be pruned back after the first or second hard frost. A two-step method; first dead head all the flower heads and let drop to the ground for re-seeding. Second cut the stems back to 3" above the ground and remove the stem and leaf litter and place in compost. Do not over mulch. Too much mulch will prohibit the growth and development
- Fertilizing perennials once in the spring with a low phosphate fertilizer will help the plants to get started in the spring.

terrain
planning & design llc
311 kast hill road
hopkinton, nh 03229
603. 491. 2322
terrainplanning.com

68 DURHAM ROAD

Site Location:
68 DURHAM ROAD
Dover, NH
Tax Map I, Lot 11

Prepared For:
Berry Surveying & Engineering
335 Second Crown Point Rd
Barrington, NH 03825

LANDSCAPE PLAN

DATE:
MAY 7, 2026

SCALE: 1" = 20'

PROJECT #: 25-053

Drawn By: JDB

Checked By: ERB

REVISIONS: DATE:
Issued for Client Review

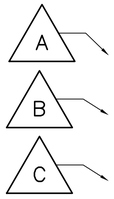
This plan is the property of Terrain Planning & Design LLC. Use or reproduction of this plan by any means without permission or purchase from Terrain Planning & Design LLC is prohibited.

L - 01

NOT FOR CONSTRUCTION

LEGEND:

- IRON BOUND/REBAR (FND)
- IRON PIPE (FND)
- STONE BOUND (FND)
- CONCRETE BOUND (FND)
- UTILITY POLE / GUY WIRE
- SINGLE POST SIGN
- ABUTTING PROPERTY LINE
- OHU — OVERHEAD UTILITIES
- UGE — UNDERGROUND UTILITIES
- FND — FOUND
- TYP. — TYPICAL
- S.C.R.D. — STRAFFORD COUNTY REGISTRY OF DEEDS
- LIGHT TYPE "A" MOUNTED ON BUILDING
- LIGHT TYPE "B" MOUNTED ON BUILDING
- LIGHT TYPE "C" MOUNTED ON A POLE
- BITUMINOUS CONCRETE
- POROUS PAVEMENT
- CONCRETE



Schedule

Symbol	Label	QTY	Manufacturer	Catalog	Description	Number Lamps	Lamp Output	LLF	Input Power
◀	A	8	Lithonia Lighting	WDGE2 LED P1 30K 70CRI TFTM	WDGE2 LED WITH P1 – PERFORMANCE PACKAGE, 3000K, 70CRI, TYPE FORWARD THROW MEDIUM OPTIC	1	1305	1	11.1658
⊼	B	16	Lithonia Lighting	ODSL10 SRC	CRAFTSTON WALL MOUNTED SMALL DECORATIVE LANTERN, ONE LAMP 13W SPIRAL COMPACT FLUORESCENT, WHITE GLASS DIFFUSER 4.25" DIA. X 6.65" HIGH, ELECTRONIC BALLAST	1	900	1	12.6
⊡☼	C	1	Lithonia Lighting	DSX0 LED P1 30K 70CRI T4M, SOLAR	D-Series Size 0 Area Luminaire P1 Performance Package 3000K CCT 70 CRI Type 4 Medium, Solar	1	4666	1	33.21

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Stat Zone #1	+	1.2 fc	2.2 fc	0.3 fc	7.3:1	4.0:1

NOTES:

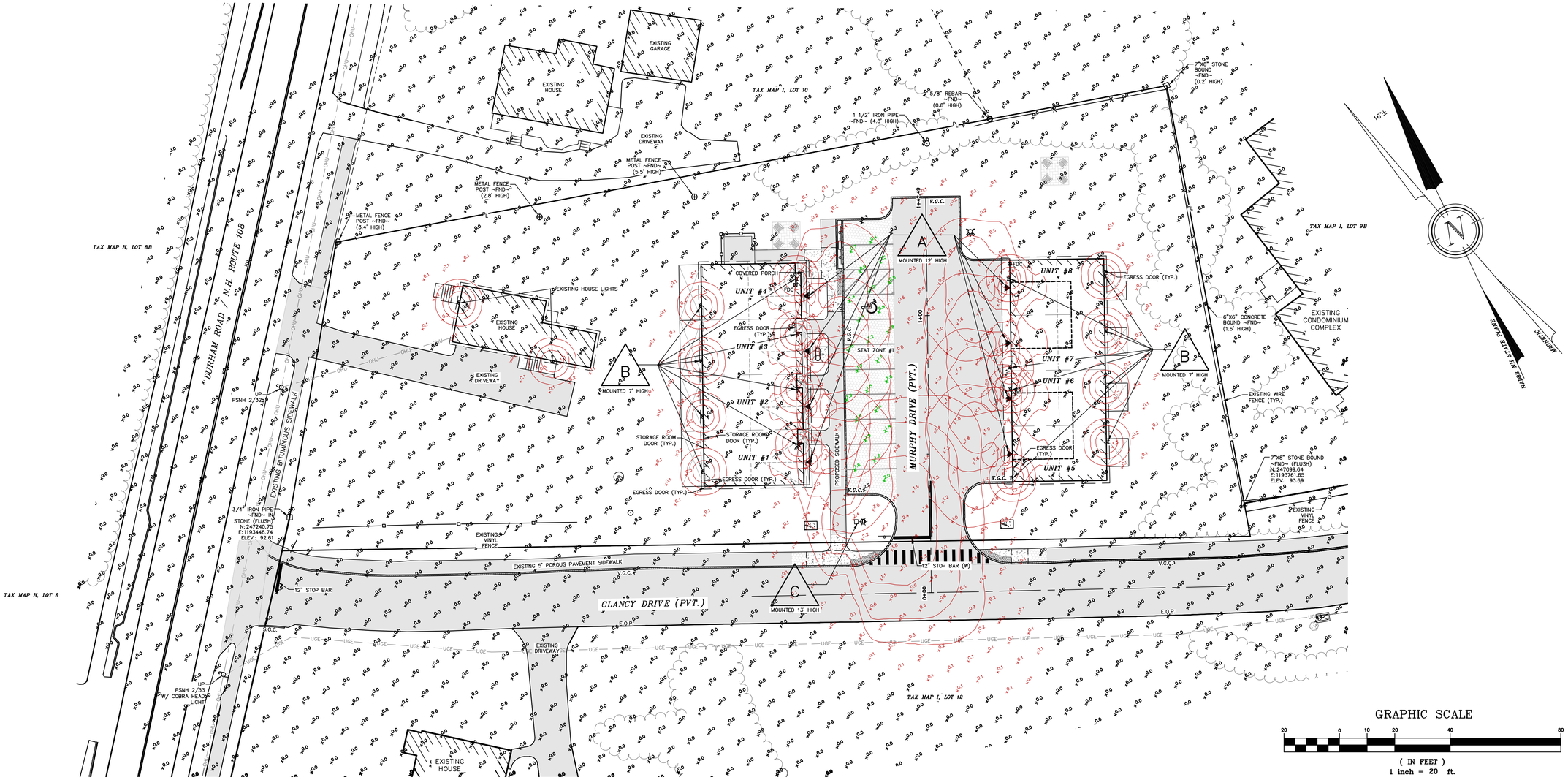
1.) OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

2.) TAX MAP I, LOT 11

3.) S.C.R.D. BOOK 5263, PAGE 820

4.) LOT AREA PRE LLR: 40,508 SQ.FT., 0.93 AC.
LOT AREA POST LLR: 44,660 SQ.FT., 1.03 AC.

5.) THE INTENT OF THIS PLAN IS TO SHOW THE LIGHTING OF THE PROPOSED SITE DESIGN OF TAX MAP I, LOT 11 LOCATED IN DOVER, N.H.



NOT FOR CONSTRUCTION

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

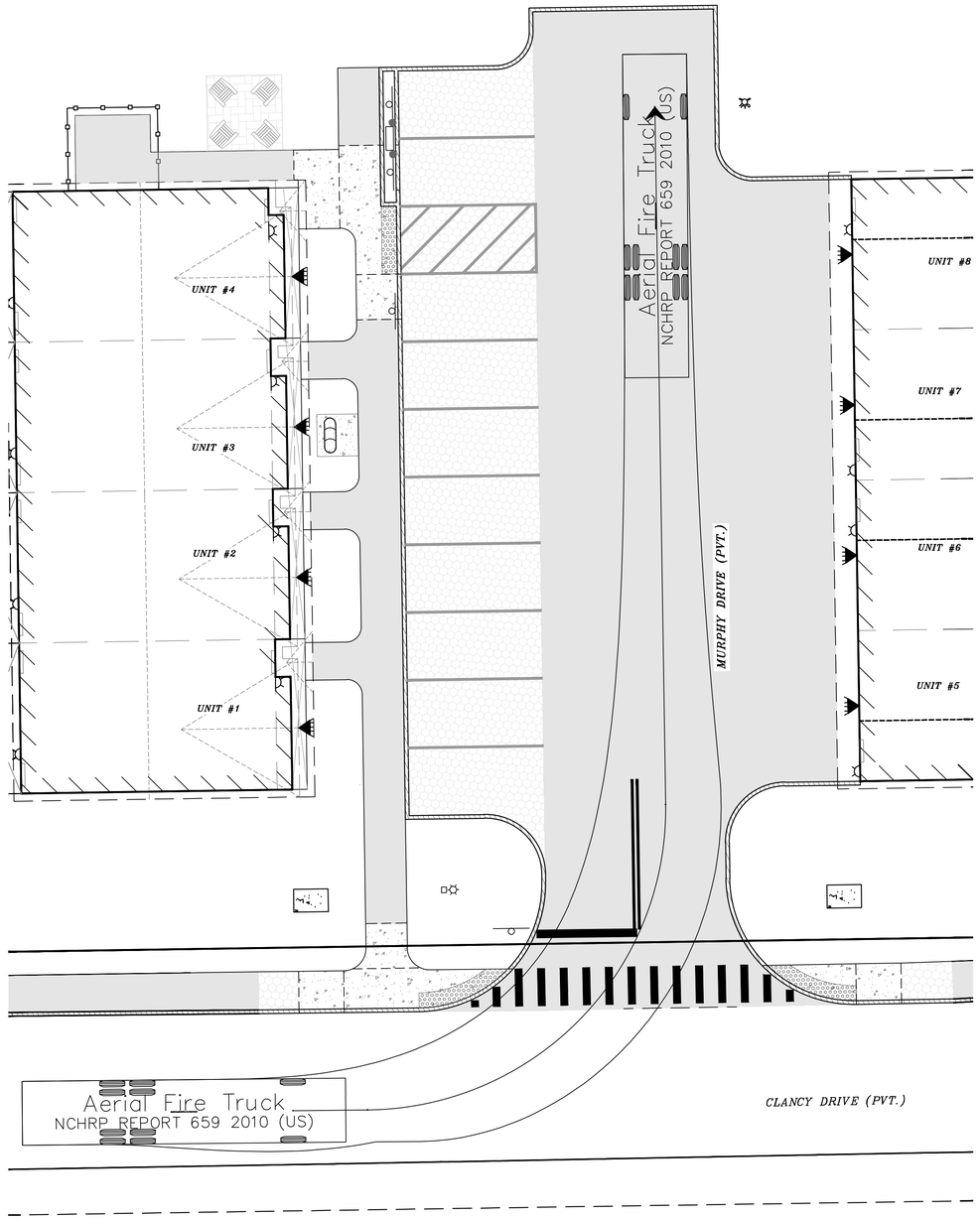
REVISION	DATE	DESCRIPTION

LIGHTING PLAN
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

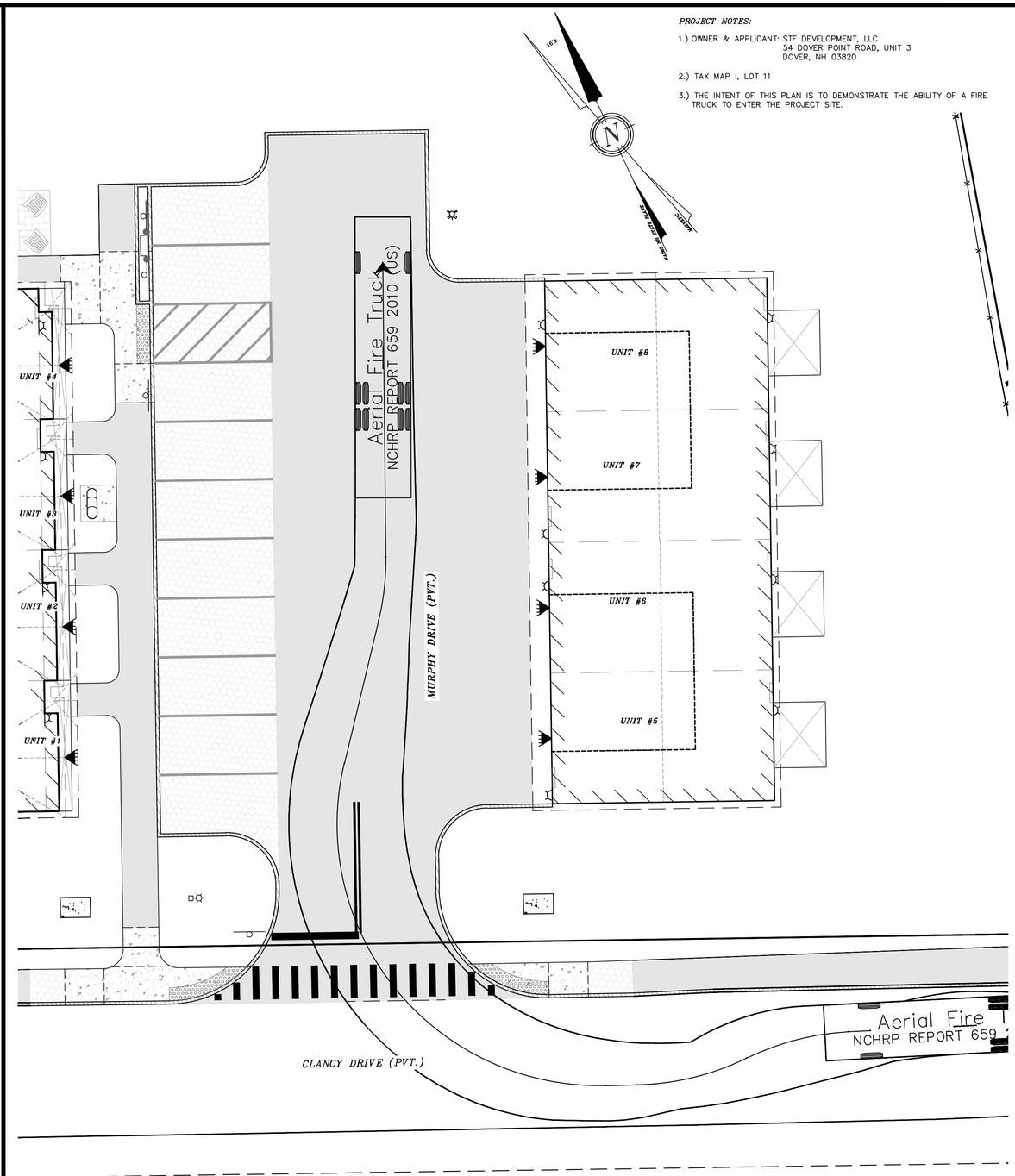
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE — KEVIN ROCKY POULIN No. 17824 LICENSED PROFESSIONAL ENGINEER



FIRE TRUCK MOVEMENT LEFT ENTER



FIRE TRUCK MOVEMENT RIGHT ENTER

GRAPHIC SCALE

20 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

PROJECT NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

2.) TAX MAP I, LOT 11

3.) THE INTENT OF THIS PLAN IS TO DEMONSTRATE THE ABILITY OF A FIRE TRUCK TO ENTER THE PROJECT SITE.

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

FIRE TRUCK TURNING MOVEMENTS
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

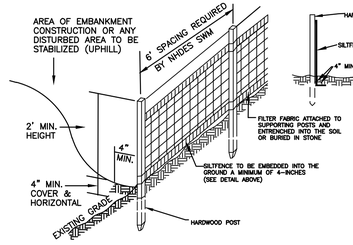
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : 1 IN. EQUALS 10 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

E1



SILT FENCE CONSTRUCTION SPECIFICATIONS

1. SILT FENCES ARE TEMPORARY SEDIMENT BARRIERS CONSISTING OF FILTER FABRIC ATTACHED TO SUPPORTING POSTS AND ENTRENCHED INTO THE SOIL. THE FABRIC SHOULD BE EMBEDDED A MINIMUM OF 4–INCHES IN DEPTH AND 4–INCHES IN WIDTH IN A TRENCH EXCAVATED INTO THE GROUND AND COMPACTED OR BACKFILLED WITH 8–INCHES OF 3/4–INCH STONE. THE HEIGHT OF THE FENCE SHOULD NOT EXCEED 36–INCHES. POST SPACING SHOULD NOT EXCEED 6–FEET.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED BY 6– INCHES (24–INCHES PREFERRED), FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY–PASSING. SILT FENCE SHOULD BE INSTALLED WITH J–HOOKS TO REDUCE DRAINAGE AREAS AND PREVENT BY–PASS AND ARE PLACED ALONG THE CONTOUR. THE MAXIMUM AREA UP–SLOPE OF A SILT FENCE WILL BE 100–FEET.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE AND PROPERLY DISPOSED OF. SEE MAINTENANCE NOTE BELOW, REMOVAL OF SEDIMENT REQUIRED AT A DEPTH OF 6–INCHES.
4. PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
5. SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER.
6. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND RE–VEGETATED.
7. TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES, SILT FENCE, B–58 – B–64. SEE ALSO EROSION AND SEDIMENT CONTROL PLAN.

SILT FENCE MAINTENANCE

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH SIX–INCHES IN DEPTH.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SILT FENCE DETAIL

NOT TO SCALE

E2

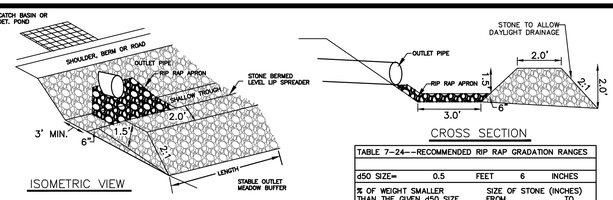


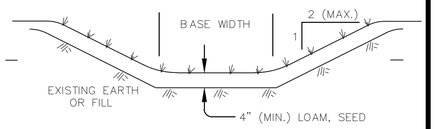
TABLE 7–24––RECOMMENDED RIP RAP GRADATION RANGES				
d50 SIZE=	0.5	FEET	6	INCHES
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE		SIZE OF STONE (INCHES) FROM		TO
100%		9		12
85%		8		11
50%		6		9
15%		2		3

1. CONSTRUCT THE LEVEL SPREADER LIP ON A 0% GRADE TO INSURE UNIFORM SPREADING OF RUNOFF.
2. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL AND NOT ON FILL.
3. THE ENTIRE LEVEL LIP AREA SHALL BE PROTECTED BY PLACING EXCELSIOR ENFORCER MATTING BENEATH THE STONE. EACH STRIP SHALL OVERLAP BY AT LEAST SIX INCHES.
4. THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET ONTO STABILIZED AREAS. WATER SHOULD NOT RE–CONCENTRATE IMMEDIATELY BELOW THE SPREADER.
5. MAINTENANCE: THE LEVEL SPREADER SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE IF THE LIP HAS BEEN DAMAGED AND THE DESIGN CONDITIONS HAVE NOT CHANGED. ANY DETRIMENTAL SEDIMENT ACCUMULATION SHOULD BE REMOVED. IF STONE REMOVAL HAS TAKEN PLACE ON THE LIP, THEN THE DAMAGE SHOULD BE REPAIRED.
6. TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX A, STRUCTURAL CONVEYANCE, STONE BERM LEVEL SPREADER, A–132 – A–134.

STONE BERM LEVEL SPREADER

NOT TO SCALE

E3



GRASS SWALE

NOT TO SCALE

INSPECT ANNUALLY FOR EROSION, SEDIMENT ACCUMULATIONS, VEGETATION LOSS, & INVASIVE SPECIES. REPAIR AS NECESSARY.

MOW GRASS ANNUALLY TO A DEPTH OF 4".

INSTALL STABILIZATION MATTING DURING CONSTRUCATION

TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX A, STRUCTURAL CONVEYANCE, CONVEYANCE SWALE, A–115 – A–117.

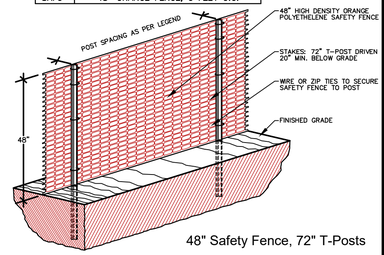
E4

CONSTRUCTION SAFETY FENCE

NOT TO SCALE

LEGEND

SAF12	48" ORANGE FENCE, 12 FEET O.C.
SAF11	48" ORANGE FENCE, 11 FEET O.C.
SAF10	48" ORANGE FENCE, 10 FEET O.C.
SAF9	48" ORANGE FENCE, 9 FEET O.C.
SAF8	48" ORANGE FENCE, 8 FEET O.C..
SAF7	48" ORANGE FENCE, 7 FEET O.C.
SAF6	48" ORANGE FENCE, 6 FEET O.C.



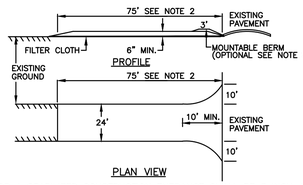
48" Safety Fence, 72" T-Posts

1. ALL SENSITIVE AREAS SHALL BE PROTECTED AS PER PLAN.
2. ALL TREES IN THE CONSTRUCTION AREA NOT SPECIFICALLY DESIGNATED FOR REMOVAL SHALL BE PRESERVED AND PROTECTED WITH HIGH VISIBILITY FENCE AS PER PLAN.
3. WHEN PRACTICABLE, INSTALL HIGH VISIBILITY 3 FEET OUTSIDE OF THE DRIP LINE OF THE TREE.
4. SAFETY FENCE SHOULD BE FASTENED SECURELY TO THE T–POSTS.
5. THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION; ANY CHANGE OF THE PROTECTIVE FENCING MUST BE APPROVED.

E5

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



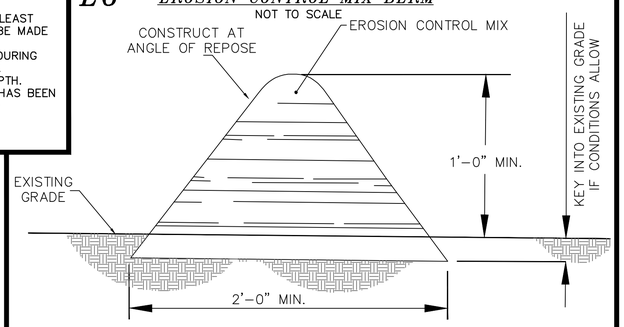
PLAN VIEW

1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH ANGULAR STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT WITH ENGINEERED FABRIC.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3–INCH TO 6–INCH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT–OF–WAY MUST BE REMOVED PROMPTLY.
8. TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES, TEMPORARY CONSTRUCTION EXIT, B–73 – B–75.

E6

EROSION CONTROL MIX BERM

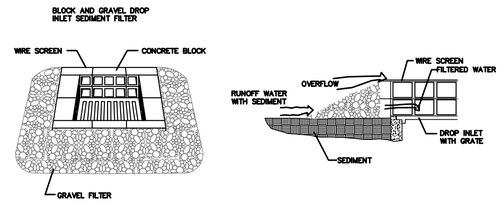
NOT TO SCALE



EROSION CONTROL MIX BERMS SHALL BE USED ONLY AS FOLLOWS:

1. BERMS SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY ABOVE THE BERM.
2. THE BERMS SHALL BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE.
3. THE BERMS SHALL BE INSTALLED ON SLOPES LESS THAN 5%
4. SUBJECT TO (E), BELOW, THE MIX SHALL HAVE AN ORGANIC PORTION BETWEEN 80 AND 100%, DRY WEIGHT BASIS, AND BE FIBROUS AND ELONGATED SUCH AS FROM SHREDDED BARK, STUMP GRINDINGS, COMPOSED BARK, OR EQUIVALENT MANUFACTURED PRODUCTS.
5. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS, OR REPROCESSED WOOD PRODUCTS SHALL NOT BE USED AS ORGANIC MATERIAL.
6. THE MIX SHALL NOT CONTAIN SILTS, CLAY, OR FINE SANDS.
7. THE MIX SHALL HAVE A PARTICLE SIZE BY WEIGHT OF 70 TO 85% PASSING A 6–INCH SCREEN AND A MAXIMUM OF 85% PASSING THE 0.75–INCH SCREEN.
8. THE MIX PH SHALL BE BETWEEN 5.0 AND 8.0.
9. THE BERM SHALL BE AT LEAST 12 INCHES HIGH AND AT LEAST 2 FEET WIDE.
10. TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES, EROSION CONTROL MIX BERM, B–46 – B–50.

E7



MAINTENANCE

ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAIN STORM AND REPAIRS MADE AS NECESSARY. SEDIMENT SHOULD BE REMOVED FROM TRAPPING DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE HALF THE DEPTH OF THE TRAP. THE SEDIMENT SHOULD BE DISPOSED OF IN A SUITABLE AREA AND PROTECTED FROM EROSION BY EITHER STRUCTURE OR VEGETATIVE MEANS. THE TEMPORARY TRAPS SHOULD BE REMOVED AND THE AREA REPAIRED AS SOON AS THE CONTRIBUTING DRAINAGE AREA TO THE INLET HAS BEEN COMPLETELY STABILIZED.

BLOCK & GRAVEL DROP INLET SEDIMENT FILTER

NOT TO SCALE

TO BE USED IN ALL AREAS WHERE THERE WILL BE NO TRAFFIC.

TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES, TEMPORARY STORM DRAIN INLET PROTECTION, B–89 – B–93.

E8

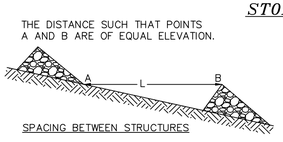
TEMPORARY EROSION CONTROL MEASURES

1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED, DIRECTED BY THE ENGINEER.
3. ALL DISTURBED AREAS SHALL BE RETURNED TO ORIGINAL GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 4" OF LOAM AND SEEDED WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA. (SEE SEED SPECIFICATIONS THIS SHEET)
4. ALL DISTURBED AREAS WILL BE RESTABILIZED WITHIN 45 DAYS. AT ANY ONE TIME, NO MORE THAN 5 ACRES, (217,800 Sq. Ft.) WILL BE DISTURBED.
5. SILT FENCES AND PERIMETER BARRIERS SHALL BE INSPECTED PERIODICALLY AND AFTER EVERY RAIN DURING THE LIFE OF THE PROJECT. ALL DAMAGED AREAS SHALL BE REPAIRED, SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
6. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE–VEGETATED.
7. PER THE EPA CGP REQUIREMENTS THERE WILL BE REPORTS OF THE EROSION CONTROL INSPECTIONS IAW SWPPP PREPARED BY BS&E. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OR GREATER RAIN EVENT.
8. DITCHES, SWALES, AND BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
9. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION SYSTEM.
10. DRIVEWAYS AND CUT AND FILL SPLOPES MUST BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINAL GRADE.
11. STABILIZATION MEANS:
    - 11.1. A MINIMUM OF 85% OF VEGETATIVE COVER HAS BEEN ESTABLISHED.
    - 11.2. A MINIMUM OF 3 INCHES OF NON–EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED, OR
    - 11.3. EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
12. THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.
13. THE NHDES STORMWATER MANUAL, DATED FEBRUARY 2025, IS A PART OF THIS PLAN SET AND THE MORE RESTRICTIVE WILL GOVERN. (NH SWM)

E9

STONE CHECK DAM

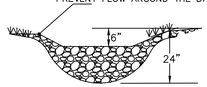
NOT TO SCALE

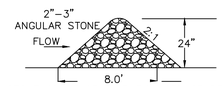


SPACING BETWEEN STRUCTURES

1.) CHECK DAMS SHOULD BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE OR DRAINAGE DITCH.
2.) THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE DAM SHOULD BE LESS THEN ONE ACRE.
3.) THE MAXIMUM HEIGHT OF THE DAM SHOULD BE TWO FEET.
4.) THE CENTER OF THE DAM SHOULD BE AT LEAST SIX INCHES LOWER THAN THE OUTER EDGES.
5.) THE MAXIMUM SPACING IS AS SHOWN ON THE PROJECT SITE PLANS.
6.) CHECK DAMS WILL NOT BE USED IN A FLOWING STREAM.
7.) TEMPORARY CHECK DAMS WILL BE REMOVED ONCE THE SWALE OR DITCH IS DETERMINED STABLE.
8.) TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES, TEMPORARY CHECK DAM, B–69 – B–72.

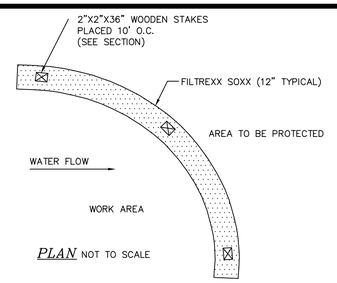
NOTE: KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIUM OF 18" TO PREVENT FLOW AROUND THE DAM.





STONE GRADE STABILIZATION STRUCTURE

E10



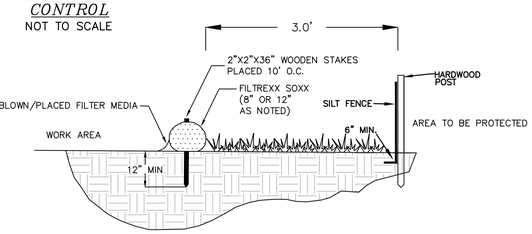
PLAN NOT TO SCALE

NOTES

1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILTER MEDIA FILL TO MEET APPLICATION REQUIRMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.
4. SILTSOXX MAY BE USED IN PLACE OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
5. SILTSOXX COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIRMENTS OF THE SPECIFIC APPLICATION.
6. FILTREXX SOXX IS A REGISTERED TRADEMARK OF FILTREXXIN TERNATIONAL, LLC.
7. SILT FENCE IS NOT A SUBSTITUTION FOR SILT SOXX AND ANY EQUAL SUBSTITUTION TO BE APPROVED.
8. TO BE CONSTRUCTED IAW FILTREXX, SECTION 1:EROSION & SEDIMENT CONTROL (PAGE 323) – CONSTRUCTION ACTIVITIES, SWPPP CUT SHEET: FILTREXX SEDIMENT CONTROL

FILTREXX SEDIMENT CONTROL

NOT TO SCALE



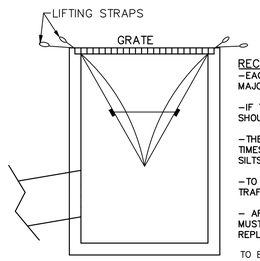
Filtrexx International, LLC
35481 Grafton Eastern Rd | Grafton, Oh 44044
440–926–2607 | fax: 440–926–4021
WWW.FILTREXX.COM
OR APPROVED EQUAL

NOTE: FOR AREAS REQUIRING DOUBLE PERIMETER CONTROL WITHIN 50' OF JURISDICTIONAL WETLANDS AND NOT FOR ALL SILT SOXX APPLICATIONS.

DOUBLE PERIMETER PROTECTION CAN BE ANY COMBINATION OF THE PRACTICES OF SILT FENCE, SILT SOXX, OR EROSION CONTROL MULCH BERM.

SECTION NOT TO SCALE

E11



RECOMMENDED MAINTENANCE SCHEDULE

–EACH SILTSACK SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT, AND MUST BE MAINTAINED.

–IF THERE HAVE BEEN NO MAJOR EVENTS, SILTSACK SHOULD BE INSPECTED EVERY 2–3 WEEKS.

–THE RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF CORD IS COVERED WITH SEDIMENT, THE SILTSACK SHOULD BE EMPTIED.

–TO BE USED IN ALL AREAS WHERE THERE WILL BE TRAFFIC.

– ARE SUBJECT TO DAMAGE BY SNOW PLOWS, AND MUST BE INSPECTED AFTER ANY SNOW EVENT AND REPLACED AS REQUIRED.

TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES, TEMPORARY STORM DRAIN INLET PROTECTION, B–89 – B–93.

SILTSACK DETAIL

NOT TO SCALE

E–101

REVISION	DATE	DESCRIPTION
DOVER FILE #SITE 26–XXX	DOVER FILE #TRAN 26–XXX	

EROSION & SEDIMENT CONTROL DETAILS
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

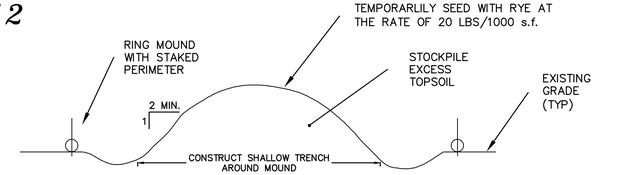
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : AS SHOWN
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

E12



TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES, SOIL STOCKPILE PROTECTION PRACTICES, B-18 – B-19.

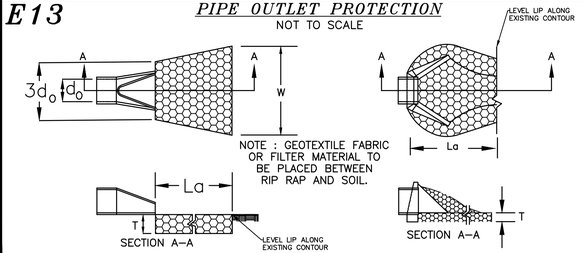
TOPSOIL STOCKPILE MOUND

NOT TO SCALE

E13

PIPE OUTLET PROTECTION

NOT TO SCALE



PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL

PIPE OUTLET TO WELL-DEFINED CHANNEL

PIPE OUTLET PROTECTION CONSTRUCTION SPECIFICATIONS

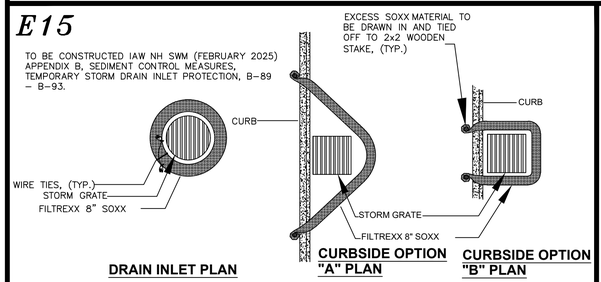
1. THE SUB GRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS. SPECIFIED GRADATION.
2. THE ROCK OR GRAVEL USED FOR FILTER OF RIP RAP SHALL CONFORM TO NHDOT SECTION 583.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP RAP DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
5. TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX A, STRUCTURAL CONVEYANCE, PERMANENT OUTLET PROTECTION, A-127 – A-131.

E14

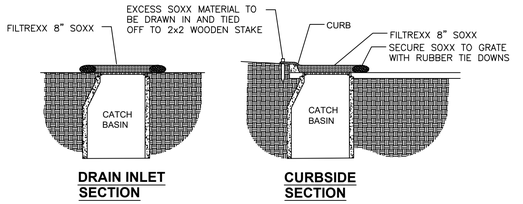
TABLE 7-24--RECOMMENDED RIP RAP GRADATION RANGES		
d50 SIZE= 0.5	FEET 6	INCHES
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE	SIZE OF STONE (INCHES) FROM	TO
100%	9	12
85%	8	11
50%	6	9
15%	2	3

E15

TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES, TEMPORARY STORM DRAIN INLET PROTECTION, B-89 – B-93.



DRAIN INLET PLAN | **CURBSIDE OPTION "A" PLAN** | **CURBSIDE OPTION "B" PLAN**



DRAIN INLET SECTION | **CURBSIDE SECTION**

NOTES:
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

FILTREXX INLET PROTECTION

NOT TO SCALE

E16

NOTE: Temporary seed mix for stabilization of turf shall be winter rye or oats at a rate of 2.5 lbs. per 1000 s.f. and shall be placed prior to OCT. 15, if permanent seeding not yet complete.

NOTE: THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

SEEDING SPECIFICATIONS

SEEDING GUIDE

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	FAIR	FAIR	GOOD	GOOD
	E	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	D	FAIR	GOOD	GOOD	EXCELLENT
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	F	FAIR	EXCELLENT	EXCELLENT	2/
	G	FAIR	EXCELLENT	EXCELLENT	2/

RECOMMENDED

GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.

1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE 7-36.
2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

SEEDING RATES

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR		
FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	24	0.55
CREEPING RED FESCUE	24	0.55
BIRDS FOOT TREFOIL	REMOVED	REMOVED
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREEPING RED FESCUE 1/	50	1.15
KENTUCKY BLUEGRASS 1/	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

Retention Basin Floor Mix - Low Maintenance - ERNMX-126

	Botanical Name	Common Name	Price/Lb
20.00 %	*Panicum clandestinum, Tioga*	Deertongue, Tioga	22.08
20.00 %	*Puccinellia distans, Fults*	Alkaligrass, Fults	4.56
18.00 %	*Elymus virginicus, Madison-NY Ecotype*	Virginia Wildrye, Madison-NY Ecotype	9.96
15.00 %	*Agrostis stolonifera, 'Penncross'*	Creeping Bentgrass, 'Penncross'	14.40
15.00 %	*Poa palustris*	Fowl Bluegrass	16.80
10.00 %	*Carex vulpinoidea, PA Ecotype*	Fox Sedge, PA Ecotype	28.80
1.00 %	*Carex scoparia, PA Ecotype*	Blunt Broom Sedge, PA Ecotype	81.60
1.00 %	*Juncus effusus*	Soft Rush	48.00
100.00 %		**Mix Price/Lb Bulk:**	**$15.98**

Seeding Rate: 20-40 lbs per acre, or 0.5-1 lb/1,000 sq ft with a cover crop. For a cover crop use one of the following: grain rye (1 Sep to 30 Apr; 30 lbs/acre), Japanese millet (1 May to 31 Aug; 10 lbs/acre), or barnyard grass (1 May to 31 Aug; 10 lbs/acre).

NOTE: TO BE USED FOR INFILTRATION POND

Grasses & Grass-like Species - Herbaceous Perennial; Stormwater Management

The hardy inexpensive grass and grass-like species are ideal for retention basins that may have high salt inflows and where mowing may be required. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
C. REFER TO TABLE(G-E1 THIS SHEET) FOR APPROPRIATE SEED MIXTURES AND TABLE(H-E1 THIS SHEET) FOR RATES OF SEEDING. ALL LEGUMES (CROWNVETCH, BIRDSFOOT TREFOIL, AND FLATPEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT.
D. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.

4. MULCH
A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90LBS PER 1000 S.F.
5. MAINTENANCE TO ESTABLISH A STAND
A. PLANTED AREA SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIAL STAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.
6. TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES: TEMPORARY AND PERMANENT VEGETATION. B-26 – B-32.

E17 *CONSTRUCTION SEQUENCE:*

1.) CUT AND REMOVE TREES IN CONSTRUCTION AREA ONLY AS REQUIRED, RELOCATE ANY PROJECT T.B.M.

2.) CONSTRUCT AND/OR INSTALL TEMPORARY AND PERMANENT SEDIMENT EROSION AND DETENTION CONTROL FACILITIES AS SPECIFIED. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL LAND DISTURBANCE AND MUST BE REVIEWED AND APPROVED BY THE COMMUNITY SERVICES DEPARTMENT.

3.) EROSION, SEDIMENT AND DETENTION CONTROL FACILITY SHALL BE INSTALLED & STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM. TEMPORARY DIVERSIONS MAY BE REQUIRED. POST CONSTRUCTION STORM WATER MANAGEMENT PRACTICES MUST BE INITIATED AND STABILIZED EARLY IN THE PROCESS.

4.) CLEAR, CUT AND DISPOSE OF DEBRIS IN APPROVED FACILITY

5.) CONSTRUCT TEMPORARY CULVERTS AS REQUIRED, OR DIRECTED

6.) CONSTRUCT ROADWAYS FOR ACCESS TO DESIRED CONSTRUCTION AREAS. ALL ROADS SHALL BE STABILIZED IMMEDIATELY. DO NOT PLACE POROUS PAVEMENT WEARING COURSE INTO SERVICE UNTIL EXTERIOR BUILDING CONSTRUCTION IN COMPLETE. REMOVE ANY DIRT FROM CONVENTIONAL PAVEMENT BASE COURSE AND POROUS PAVEMENT BASE COURSE BEFORE APPLICATION OF POROUS PAVEMENT WEARING COURSE. DUMPSTERS SHALL NOT BE LOCATED ON POROUS PAVEMENT. REMOVE ANY EXCESS OVERFLOW PAVEMENT FROM THE PAVING OF THE CONVENTION PAVEMENT AND BITUMINOUS SIDEWALKS FROM THE POROUS SURFACE IF OVERFLOW OCCURS.

7.) START BUILDING CONSTRUCTION AND INSTALL PERIMETER FENCE WHERE SHOWN.

8.) INSTALL PIPE AND CONSTRUCTION ASSOCIATED APPURTENANCES AS REQUIRED OR DIRECTED. ALL DISTURBED AREAS SHALL STABILIZED IMMEDIATELY AFTER GRADING.

9.) BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES AND DISTURBED AREAS SHALL BE SEEDED OR MULCHED AS REQUIRED, OR DIRECTED. NO AREA IS ALLOWED TO BE DISTURBED FOR A LENGTH OF TIME THAT EXCEEDS 45 DAYS BEFORE BEING STABILIZED. DAILY, OR AS REQUIRED. ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADES. ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADES.

10.) CONSTRUCT TEMPORARY BERMS, DRAINS DITCHES, SILT FENCES, SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED.

11.) INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. ALL SWMP INSPECTIONS MUST BE CONDUCTED BY A QUALIFIED PROFESSIONAL SUCH AS A PROFESSIONAL ENGINEER (PE), A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), A CERTIFIED EROSION SEDIMENT AND STORM WATER INSPECTOR (CESSW), OR A CERTIFIED PROFESSIONAL IN STORM WATER QUALITY (CPSWQ). INSPECTION REPORTS SHALL BE SUBMITTED TO THE COMMUNITY SERVICES DEPARTMENT.

12.) COMPLETE PERMANENT SEEDING AND LANDSCAPING.

13.) REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE ESTABLISHED THEMSELVES AND SITE IMPROVEMENTS ARE COMPLETE.

14.) SMOOTH AND REVEGETATE ALL DISTURBED AREAS.

15.) FINISH PAVING ALL ROADWAYS.

E18 *DEFINITION OF STABLE:*

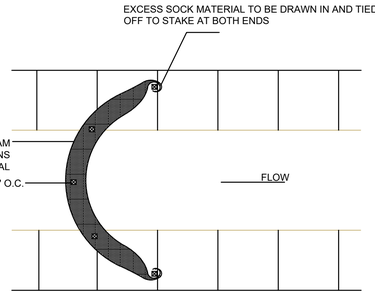
PER ENV-WQ 1500 ALTERATION OF TERRAIN

1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
2. A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED..
3. A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED.
4. OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

ADDITION STABILIZATION NOTES:

5. HAY MULCH OR OTHER APPROVED METHODS SHALL BE USED TO CONTROL EROSION OF NEWLY GRADED AREAS. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS AFTER THEIR CONSTRUCTION.
6. DISTURBED SOIL AREAS SHALL BE EITHER TEMPORARILY OR PERMANENTLY STABILIZED. IN AREAS WHERE FINAL GRADING HAS NOT OCCURRED, TEMPORARY STABILIZATION MEASURES SHOULD BE IN PLACE WITHIN SEVEN (7) CALENDAR DAYS FOR EXPOSED SOIL AREAS THAT ARE WITHIN ONE HUNDRED (100) FEET OF A SURFACE WATER BODY OR A WETLAND AND NO MORE THAN 14 CALENDAR DAYS FOR ALL OTHER AREAS. PERMANENT STABILIZATION SHOULD BE IN PLACE WITHIN THREE (3) CALENDAR DAYS FOLLOWING COMPLETION OF FINAL GRADING OF EXPOSED SOIL AREAS.

E19



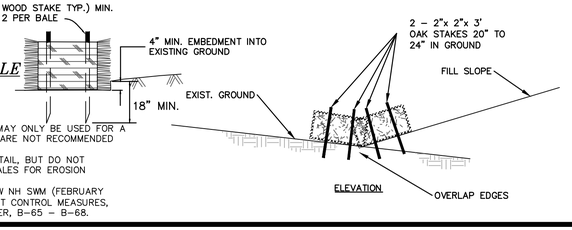
FILTREXX CHECK DAM

NOT TO SCALE

NOTES:
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. CHECK DAM SHOULD BE USED IN AREAS THAT DRAIN 1 ACRE OR LESS.
3. SEDIMENT SHOULD BE REMOVED FROM BEHIND CHECK DAM ONCE THE ACCUMULATED HEIGHT HAS REACHED ½ THE HEIGHT OF THE CHECK DAM.
4. CHECK DAM CAN BE DIRECT SEEDED AT THE TIME OF INSTALLATION.
5. CONTRACTOR IS REQUIRED TO BE A FILTREXX CERTIFIED INSTALLER.

TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES, TEMPORARY CHECK DAM, B-69 – B-72.

E20

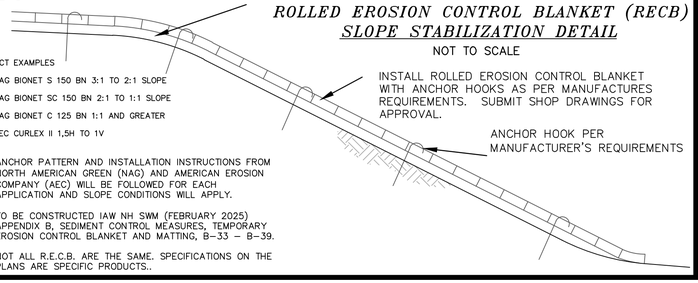


STAKED HAYBALE DETAIL

NOT TO SCALE

1.) HAY BALES BARRIERS MAY ONLY BE USED FOR A MAXIMUM OF 60 DAYS AND ARE NOT RECOMMENDED FOR PERIMETER CONTROL.
2.) REQUIRED TO SHOW DETAIL, BUT DO NOT RECOMMEND USE OF HAY BALES FOR EROSION CONTROL.
3.) TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES, STRAW OR HAY BALE BARRIER, B-65 – B-68.

E21



ROLLED EROSION CONTROL BLANKET (RECB) SLOPE STABILIZATION DETAIL

NOT TO SCALE

1.) NAG BIONET S 150 BN 3:1 TO 2:1 SLOPE
2.) NAG BIONET SC 150 BN 2:1 TO 1:1 SLOPE
3.) NAG BIONET C 125 BN 1:1 AND GREATER
4.) AEC CURLEX II 1,5H TO 1V

1. ANCHOR PATTERN AND INSTALLATION INSTRUCTIONS FROM NORTH AMERICAN GREEN (NAG) AND AMERICAN EROSION COMPANY (AEC) WILL BE FOLLOWED FOR EACH APPLICATION AND SLOPE CONDITIONS WILL APPLY.
2. TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES, TEMPORARY EROSION CONTROL BLANKET AND MATTING, B-33 – B-39.
3. NOT ALL R.E.C.B. ARE THE SAME. SPECIFICATIONS ON THE PLANS ARE SPECIFIC PRODUCTS..

E22 *WINTER STABILIZATION NOTES*

1. ALL DISTURBED AREAS THAT DO NOT HAVE AT LEAST 85% VEGETATIVE COVERAGE PRIOR TO OCTOBER 15TH SHALL BE STABILIZED BY APPLYING MULCH AT A RATE OF 3-4 TONS PER ACRE. ALL SIDE SLOPES, STEEPER THAN 4:1, THAT ARE NOT DIRECTED TO SWALES OR DETENTION BASINS, SHALL BE LINED WITH BIODEGRADABLE/PHOTODEGRADABLE "JUTE MATTING" (EXCELSIOR'S CURLEX II OR EQUAL). ALL OTHER SLOPES SHALL BE MULCHED AND TACKED AT A RATE OF 3-4 TONS PER ACRE. THE APPLICATION OF MULCH AND/OR JUTE MATTING SHALL NOT OCCUR OVER EXISTING SNOW COVER. IF THE SITE IS ACTIVE AFTER OCTOBER 15TH, ANY SNOW THAT ACCUMULATES ON DISTURBED AREAS SHALL BE REMOVED. PRIOR TO SPRING THAW ALL AREAS WILL BE STABILIZED, AS DIRECTED ABOVE.

2. ALL SWALES THAT DO NOT HAVE FULLY ESTABLISHED VEGETATION SHALL BE EITHER LINED WITH TEMPORARY JUTE MATTING OR TEMPORARY STONE CHECK DAMS (APPROPRIATELY SPACED). STONE CHECK DAMS WILL BE MAINTAINED THROUGHOUT THE WINTER MONTHS. IF THE SWALES ARE TO BE MATTED WITH PERMANENT LINERS OR RIPRAP WITH ENGINEERING FABRIC, THIS SHALL BE COMPLETED PRIOR TO WINTER SHUTDOWN OR AS SOON AS THEY ARE PROPERLY GRADED AND SHAPED.

3. PRIOR TO OCT. 1st ALL ROADWAY AND PARKING AREAS SHALL BE BROUGHT UP TO AND THROUGH THE BANK RUN GRAVEL APPLICATION. IF THESE AREAS' ELEVATIONS ARE PROPOSED TO REMAIN BELOW THE PROPOSED SUBGRADE ELEVATION, THE SUBGRADE MATERIAL SHALL BE ROUGHLY CROWNED AND A 3" LAYER OF CRUSHED GRAVEL SHALL BE PLACED AND COMPACTED. THIS WILL ALLOW THE SUBGRADE TO SHED RUNOFF AND WILL REDUCE ROADWAY EROSION. THIS CRUSHED GRAVEL DOES NOT HAVE TO CONFORM TO NH DOT 304.3, BUT SHALL HAVE BETWEEN 15-25% PASSING THE #200 SIEVE AND THE LARGEST STONE SIZE SHALL BE 2". IF THE SITE IS ACTIVE AFTER OCTOBER 1st, ANY ACCUMULATED SNOW SHALL BE REMOVED FROM ALL ROADWAY AND PARKING AREAS.

4. AFTER OCTOBER 1st, THE END OF NEW HAMPSHIRE'S AVERAGE GROWING SEASON, NO ADDITIONAL LOAM SHALL BE SPREAD ON SIDE SLOPES AND SWALES. THE STOCKPILES THAT WILL BE LEFT UNDISTURBED UNTIL SPRING SHALL BE SEEDED BY THIS DATE. AFTER OCTOBER 15TH, ANY NEW OR DISTURBED PILES SHALL BE MULCHED AT A RATE OF 3-4 TONS PER ACRE. ALL STOCKPILES THAT WILL REMAIN THROUGHOUT THE WINTER SHALL BE SURROUNDED WITH SILT FENCING.

E-102

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

EROSION & SEDIMENT CONTROL DETAILS
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

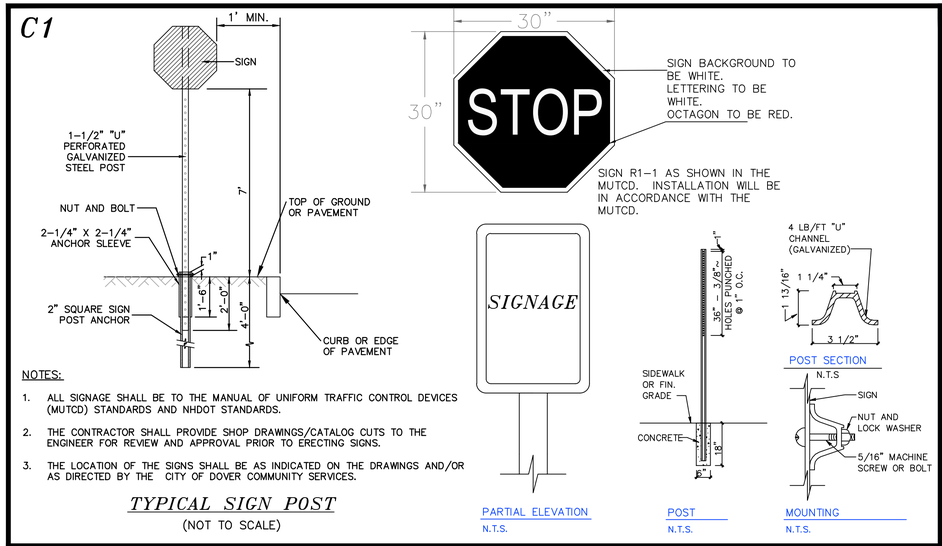
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS SHOWN
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

STATE OF NEW HAMPSHIRE – KEVIN ROCKY POULIN No. 17824 LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

C1



NOTES:

1. ALL SIGNAGE SHALL BE TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS AND NHDOT STANDARDS.
2. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS/CATALOG CUTS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ERECTING SIGNS.
3. THE LOCATION OF THE SIGNS SHALL BE AS INDICATED ON THE DRAWINGS AND/OR AS DIRECTED BY THE CITY OF DOVER COMMUNITY SERVICES.

TYPICAL SIGN POST
(NOT TO SCALE)

SIGN BACKGROUND TO BE WHITE. LETTERING TO BE WHITE. OCTAGON TO BE RED.

SIGN R1-1 AS SHOWN IN THE MUTCD. INSTALLATION WILL BE IN ACCORDANCE WITH THE MUTCD.

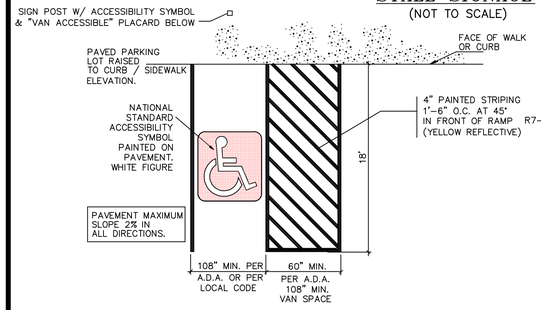
PARTIAL ELEVATION
N.T.S.

POST
N.T.S.

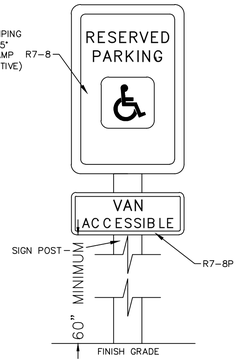
MOUNTING
N.T.S.

C2

ACCESSIBLE PARKING STALL SIGNAGE
(NOT TO SCALE)

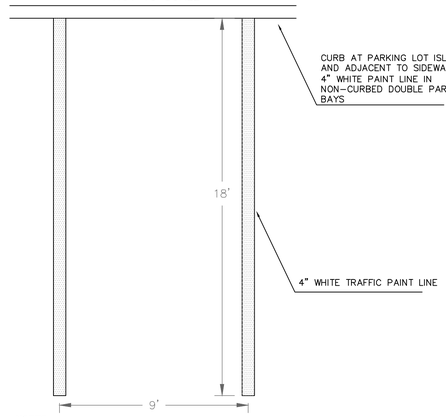


PARTIAL ELEVATION
N.T.S.



C3

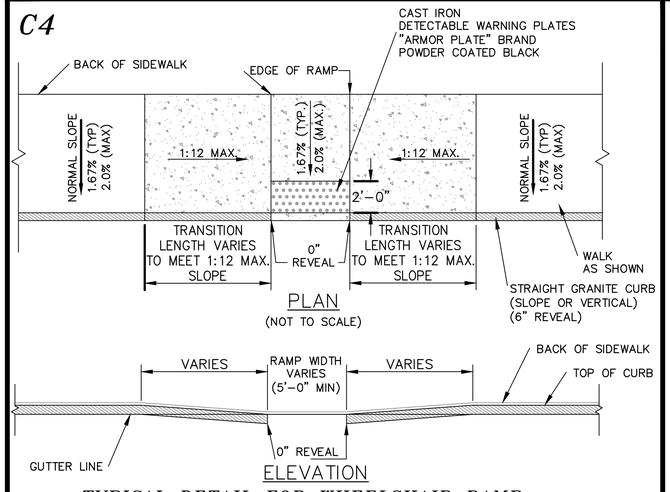
PARKING SPACE DETAIL
NOT TO SCALE



NOTES:

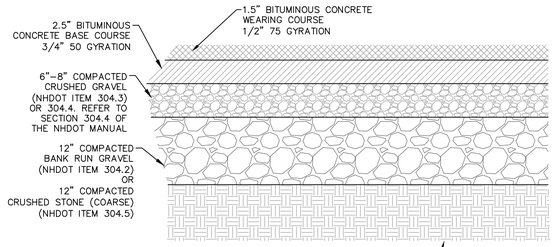
1.) PROVIDE TWO COATS OF PAINT ON ALL PARKING LINES.
2.) SEE PROPOSED SITE PLANS FOR LOCATION OF PARKING SPACES.
3.) PAINTED SPACES ONLY WHERE MARKED ON SITE PLAN

C4



TYPICAL DETAIL FOR WHEELCHAIR RAMP
NOT TO SCALE

C5



NOTES:

1.) BITUMINOUS MATERIALS SHALL CONFORM TO NHDOT SPECIFICATION SUBSECTION 401.3.6.

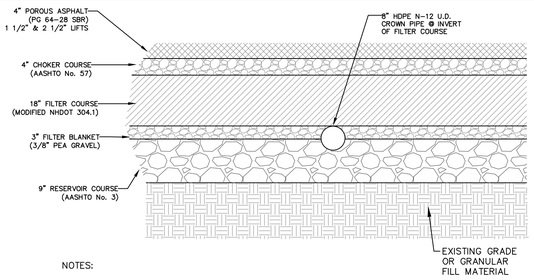
2.) PAVEMENT BASE COURSE AGGEGATE SHALL CONFORM TO NHDOT SPECIFICATION SECTION 304, ITEM 304.3 AND COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY.

3.) PAVEMENT SUBBASE COURSE AGGREGATE AND AGGREGATE FOR SUBGRADE REPAIR AREAS SHALL BE SUITABLE FOR USE AS STRUCTURAL FILL AND BE PROOFROLLED AND COMPABED TO 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY. FOR NEW CONSTRUCTION AREAS ONLY. IN EXISTING PAVEMENT AREAS THE CONTRACTOR IS TO ENSURE THE BASE MATERIAL IS SUITABLE TO THE OWNER FOR RE-PAVING.

4.) SEE CROSS SECTIONS (P-101) FOR LOCATIONS WHERE THE POROUS PAVEMENT STONE RESERVOIR EXTENDS UNDER THE CONVENTIONAL PAVEMENT SECTIONS.

BITUMINOUS CONCRETE PAVEMENT SECTION
NOT TO SCALE

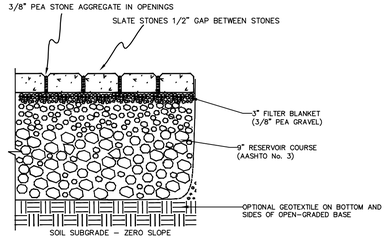
C6



NOTES:

1.) SEE SPECIFICATIONS, GRADATIONS, DESIGN REFERENCES, AND DOWN SPOUT CONNECTIONS ON SHEET P-101.

POROUS ASPHALT PAVEMENT SECTION
NOT TO SCALE



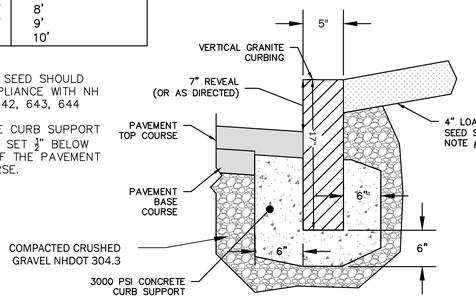
POROUS PAVERS DETAIL
NOT TO SCALE

C7

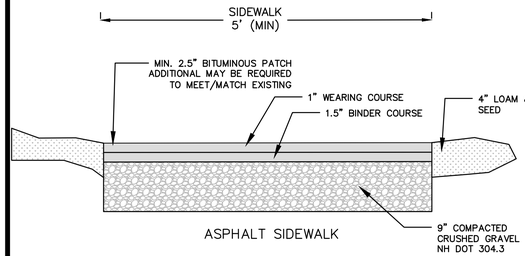
RADIUS	MAX LENGTH
< 21'	USE CURVED CURB
12'	3'
22' – 28'	4'
29' – 35'	5'
36' – 42'	6'
43' – 49'	7'
50' – 56'	8'
57' – 60'	9'
OVER 60'	10'

NOTES:
1.LOAM AND SEED SHOULD BE IN COMPLIANCE WITH NH DOT 641, 642, 643, 644 AND 645.
2. CONCRETE CURB SUPPORT SHOULD BE SET ½" BELOW THE TOP OF THE PAVEMENT BASE COURSE.

VERTICAL GRANITE CURB DETAIL
NOT TO SCALE



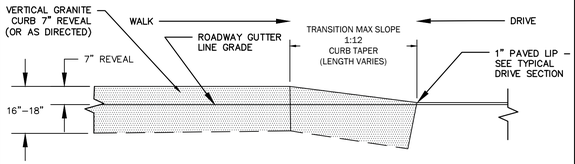
C8



ASPHALT SIDEWALK

NOTES:
1. MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF DOVER STANDARDS SPECIFICATIONS.
2. SIDEWALK AND DRIVEWAY WIDTHS SHALL BE EQUAL TO EXISTING WIDTHS OR AS APPROVED AND SHALL SLOPE TO MATCH EXISTING ELEVATIONS.
3. BASE FOR THE SIDEWALKS AND DRIVEWAYS SHALL BE 9-INCHES OF CRUSHED GRAVEL.

C9

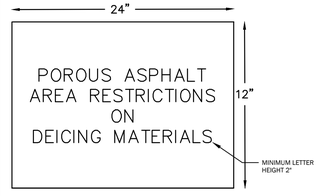


GRANITE CURB TRANSITION AT TIP DOWN DETAIL
NOT TO SCALE

TO BE USED FOR TRANSITION FROM GRANITE CURB TO EDGE OF PAVEMENT

C10

POROUS PAVEMENT SIGN
NOT TO SCALE



NOTES:
1. SIGN SHALL HAVE BLACK LETTERS ON A WHITE BACKGROUND
2. SIGN SHALL BE WEATHER RESISTANT AND SECURED TO THE GROUND
3. TO BE MOUNTED AT A HEIGHT OF 3'

C-101

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

CONSTRUCTION DETAILS
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

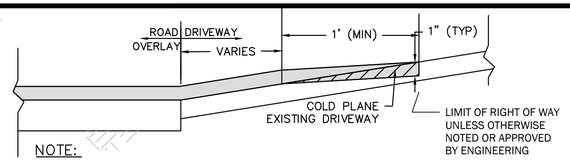
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS SHOWN
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

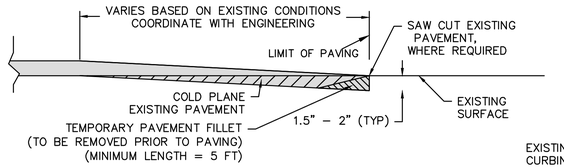
NOT FOR CONSTRUCTION

C11

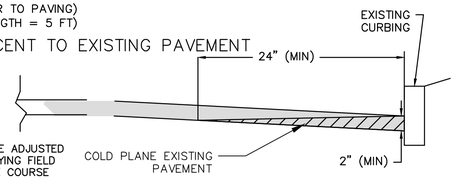


NOTE:
CONTRACTOR MAY SAWCUT DRIVEWAY TRANSITION AT HIS OPTION. PAVEMENT SHALL BE REMOVED AND REPLACED TO MATCH EXISTING.

ADJACENT TO EXISTING DRIVEWAY



ADJACENT TO EXISTING PAVEMENT

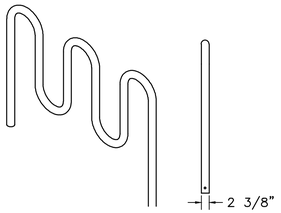


ADJACENT TO EXISTING CURB

NOTES:
1. THE LENGTH OF THE TAPER MAY BE ADJUSTED AS ORDERED TO PROVIDE FOR VARYING FIELD CONDITIONS OR CHANGES IN SINGLE COURSE DEPTH.

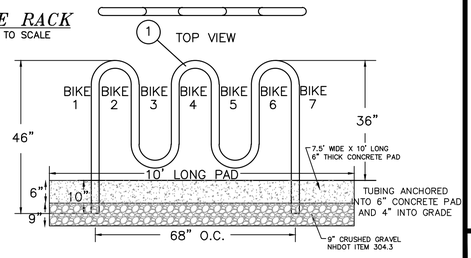
PAVEMENT OVERLAY
NOT TO SCALE

C12



MATERIALS LIST
(1) TUBING, – ø 2 3/8" x .154" Wall Steel Tubing

BIKE RACK
NOT TO SCALE



C13

Polywood® Adirondack Chair - Brown



POLYWOOD®

Sit back, relax and enjoy the view.

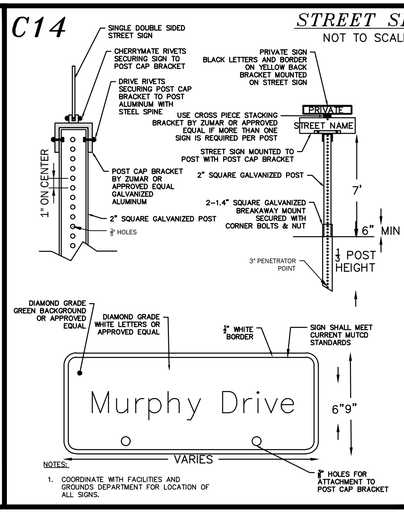
- Recommended for hotels, beachside resorts, vineyards and corporate patios.
- 100% UV-protected recycled plastic won't fade, rot or crack.
- Maintenance free. Never needs painting, sanding or sealing

SPECIFY COLOR:

MODEL NO.	DESCRIPTION	SIZE L x W x H	CAPACITY (LBS.)	WT. (LBS.)	PRICE EACH 1	PRICE EACH 2+	COLOR	IN STOCK SHIPS TODAY
H-10778BR	Chair	33 x 30 x 36"	325	34	OVERSTOCK SALE! $266 Regular Price $295		Brown	1 ADD

C14

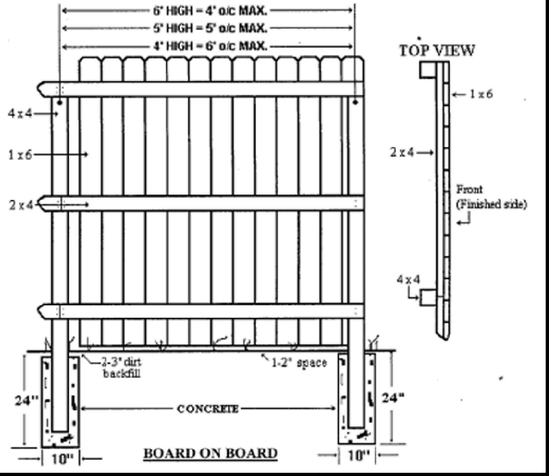
STREET SIGN
NOT TO SCALE



NOTES:
1. COORDINATE WITH FACILITIES AND GROUNDS DEPARTMENT FOR LOCATION OF ALL SIGNS.

C15

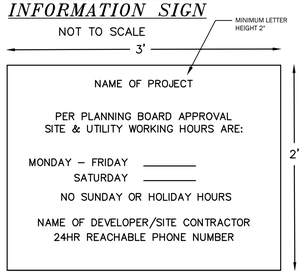
STOCKADE FENCE DETAIL
NOT TO SCALE



BOARD ON BOARD

C16

REQUIRED PROJECT INFORMATION SIGN
NOT TO SCALE



NOTES:
1. SIGN SHALL HAVE BLACK LETTERS ON A WHITE BACKGROUND
2. SIGN SHALL BE WEATHER RESISTANT AND SECURED TO THE GROUND
3. HOURS ON THE SIGN SHALL COMPLY WITH ALL PLANNING BOARD CONDITIONS OF APPROVAL.
4. TO BE PLACED AT THE INTERSECTION OF CLANCY DRIVE/MURPHY DRIVE.

C17



D-Series Size 0 Solar
Legacy LED Area Luminaire

Catalog Number
Notes
Type
Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA: 0.95 ft² (.09 m²)
Length: 26" (66.0 cm)
Width: 13" (33.0 cm)
Height₁: 7" (17.8 cm)
Height₂: 3" (95.6 cm)
Weight (max): 16 lbs (7.25 kg)

Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment.

The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density.

Ordering Information

EXAMPLE: DSX0 LED P2 40K T3M SOLAR SPA DDBXD G1

DSX0 LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting	Other options	Finish (required)	Generation (required)
DSX0 LED	**Forward optics** P1 6,000 lumens P2 12,000 lumens	30K 3000K 40K 4000K 50K 5000K	T1S Type I short T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short T5S Type V short T5M Type V medium T5W Type V wide BLC Backlight control [1] LCCO Left corner cutoff [1] RCCO Right corner cutoff [1]	SOLAR Only Compatible with Sol By Sunna Design's Solar Lighting Solutions [2]	**Shipped included** SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor [3] RPUMBA Round pole universal mounting adaptor [3]	**Shipped installed** HS House-side shield [4] BAA Buy America(n) Act Compliant	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white	G1 Generation 1

NOTES
1 Not available with HS.
2 **No Driver included. Input power managed via Sol By Sunna's EverGen Solar Lighting Engine. Wattage depends on project location and Solar Engine size.**
3 Available as a separate combination accessory; PUMBA (finish) U. For retrofit cmtp metal poles not drilled with Template #8.
4 Also available as a separate accessory; see Accessories information.
5 Not available with BLC, LCCO or RCCO.

LITHONIA LIGHTING. COMMERCIAL OUTDOOR One Lithonia Way • Conyers, Georgia 30012 • Phone: 800-705-SERV (7378) • www.lithonia.com
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DSX0-LED Special Solar G1 Rev. 03/26/24 Page 1 of 3

TYPICAL LAMP "C"
POLE MOUNTED AT 13' AS SHOWN
NOT TO SCALE

C18



WDGE2 LED
Architectural Wall Sconce
Precision Refractive Optic

Catalog Number
Notes
Type
Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Depth (D1): 7"
Depth (D2): 1.5"
Height: 9"
Width: 11.5"
Weight (without options): 13.5 lbs

Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE2 with industry leading precision refractive optics provides great uniform distribution and optical control. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

design select Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect. *See ordering tree for details

WDGE LED Family Overview

Luminaire	Optics	Standard EM, 0°C	Cold EM, -20°C	Service	Approximate lumens (4000K, 80CRI) P0	P1	P2	P3	P4	P5	P6
WDGE1 LED	Visual Comfort	4W		--	750	1,200	2,000	--	--	--	--
WDGE2 LED	Visual Comfort	10W	18W	Standalone / nLight	--	1,200	2,000	3,000	4,500	6,000	--
WDGE2 LED	Precision Refractive	10W	18W	Standalone / nLight	700	1,200	2,000	3,200	4,200	--	--
WDGE3 LED	Precision Refractive	15W	18W	Standalone / nLight	--	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	Precision Refractive			Standalone / nLight	--	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE2 LED P3 40K 80CRI T3M MVOLT SRM DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting	Shipped separately
WDGE2 LED	P0 [1] P1 [2] P2 [3] P3 [3] P4 [3]	27K 2700K 30K 3000K 40K 4000K 50K 5000K AMB* Amber	70CRI* 80CRI LW* Limited Wavelength	T1S Type I Short T2M Type II Medium T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium	MVOLT 347* 480*	**Shipped included** SRM Surface mounting bracket ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only)*	AWS 3/8inch Architectural wall spacer PBBW Surface-mounted back box (top, left, right conduit entry). Use when there is no junction box available

Options		Finish
E10WH Emergency battery backup, Certified in CA Title 20 MAED8s (10W, 5°C min)	**Standalone Sensors/Controls** PIR Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external dusk to dawn switching.	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSTXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone
E20WC Emergency battery backup, Certified in CA Title 20 MAED8s (10W, -20°C min)	PIRH Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for use on switched circuits with external dusk to dawn switching	
PE* Photocell, Button Type	PIR1FC3V Bi-level (100/35%) motion sensor for 8-15' mounting heights with photocell pre-programmed for dusk to dawn operation.	
DMG* 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)	PIRH1FC1V Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation.	
BCE Bottom conduit entry for back box (PBBW). Total of 4 entry points.	**Networked Sensors/Controls** NLTAIR2 PIR Embedded wireless controls by nLight with Passive Infrared Occ sensor and on/off photocell for 8-15' mounting heights.	
CCE Coastal Construction	NLTAIR2 PIRH Embedded wireless controls by nLight with Passive Infrared Occ sensor and on/off photocell for 15-30' mounting heights.	
	NLTAIREM2 Embedded wireless controls by nLight with UL924 listed emergency operation, Passive Infrared Occ sensor and on/off photocell for 15-30' mounting heights	
	PIRH See page 4 for out of box functionality	

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WDGE2 LED Rev. 05/30/24

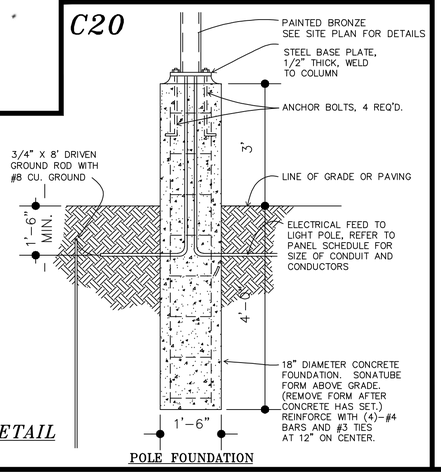
TYPICAL LAMP "A"
MOUNTED ON BUILDING AT 12' AS SHOWN
NOT TO SCALE

C19



TYPICAL RESIDENTIAL LAMP "B"
MOUNTED AT 7' +/– AS SHOWN
NOT TO SCALE

C20



LIGHT BASE DETAIL
NOT TO SCALE

DOVER FILE #SITE 26–XXX DOVER FILE #TRAN 26–XXX

REVISION	DATE	DESCRIPTION

CONSTRUCTION DETAILS
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

BERRY & SURVEYING ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

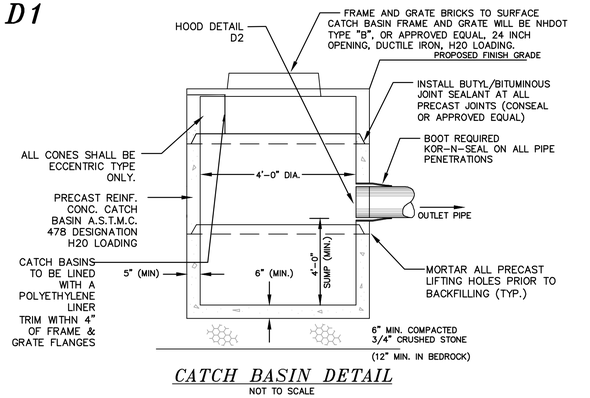
SCALE : AS SHOWN
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

C–102

NOT FOR CONSTRUCTION

D1

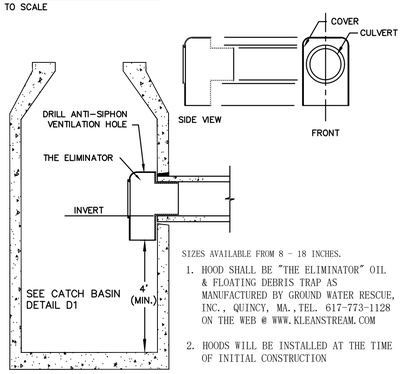


CATCH BASIN DETAIL

NOT TO SCALE

D2 CATCH BASIN HOOD DETAIL

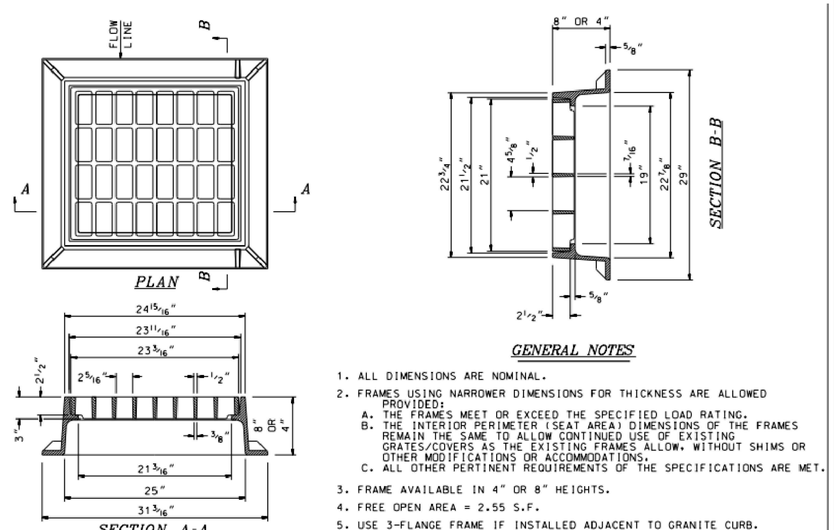
NOT TO SCALE



SIZES AVAILABLE FROM 8 - 18 INCHES.

1. HOOD SHALL BE "THE ELIMINATOR" OIL & FLOATING DEBRIS TRAP AS MANUFACTURED BY GROUND WATER RESCUE, INC., QUINCY, MA., TEL. 617-773-1128 ON THE WEB @ WWW.KLEANSTREAM.COM
2. HOODS WILL BE INSTALLED AT THE TIME OF INITIAL CONSTRUCTION

D3



GENERAL NOTES

1. ALL DIMENSIONS ARE NOMINAL.
2. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   A. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
   B. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW. WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
   C. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
3. FRAME AVAILABLE IN 4" OR 8" HEIGHTS.
4. FREE OPEN AREA = 2.55 S.F.
5. USE 3-FLANGE FRAME IF INSTALLED ADJACENT TO GRANITE CURB.

NHDOT STANDARD PLANS	REV. DATE		PLATE
TYPE "B" GRATE & FRAME	06-16-2010		2
	08-14-2015		STANDARD DR-1

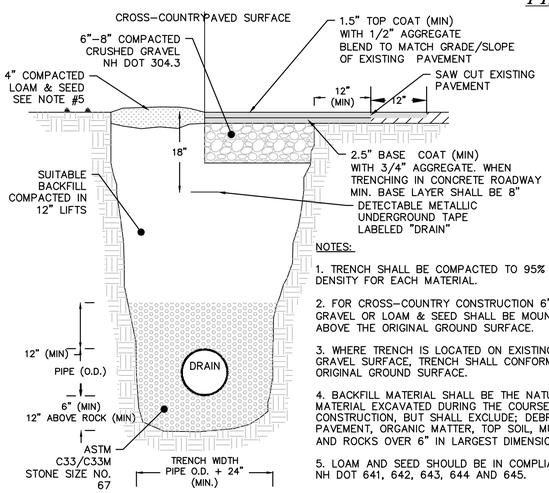
CATCH BASIN GRATE (TYPE "B")

NOT TO SCALE

D4

TYPICAL DRAIN PIPE TRENCH

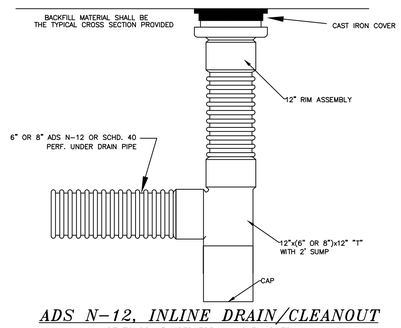
NOT TO SCALE



NOTES:

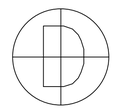
1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY FOR EACH MATERIAL.
2. FOR CROSS-COUNTRY CONSTRUCTION 6" CRUSHED GRAVEL OR LOAM & SEED SHALL BE MOUNDED 6" ABOVE THE ORIGINAL GROUND SURFACE.
3. WHERE TRENCH IS LOCATED ON EXISTING LAWN OR GRAVEL SURFACE, TRENCH SHALL CONFORM TO MATCH ORIGINAL GROUND SURFACE.
4. BACKFILL MATERIAL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE; DEBRIS, PAVEMENT, ORGANIC MATTER, TOP SOIL, MUCK, PEAT AND ROCKS OVER 6" IN LARGEST DIMENSION
5. LOAM AND SEED SHOULD BE IN COMPLIANCE WITH NH DOT 641, 642, 643, 644 AND 645.

D5



ADS N-12, INLINE DRAIN/CLEANOUT

NOT TO SCALE USED FOR ALL CLEANOUTS



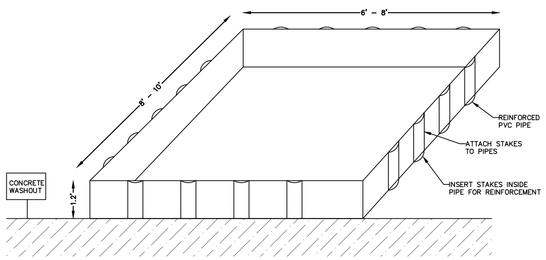
12" CAST IRON COVER

NOT TO SCALE

CASTINGS ARE RATED FOR H20 WHEEL LOAD TRAFFIC

PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT

D6



NOTES:

1.) CONCRETE WASHOUT SHALL BE INSTALLED PRIOR TO ANY CONCRETE POURS.

2.) SIGNS SHALL BE INSTILLED TO CLEARLY INDICATE WHERE THE LOCATION OF THE WASHOUT AREA IS.

3.) CONTRACTOR IS RESPONSIBLE TO MAINTAIN AND REPLACE WASHOUT AREA AS NEEDED.

4.) RESIDUE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.

5.) DO NOT WASH CONCRETE TRUCKS OUT INTO DRAINAGE AREAS, SWALES, STREETS OR UNDISTURBED AREAS.

6.) WASHOUT AREA SHALL BE PLACED AWAY FROM DRAINAGE FEATURES AND OUTSIDE AND WETLAND BUFFERS.

CONCRETE WASHOUT

NOT TO SCALE

D7

DESIGN CONSIDERATIONS:

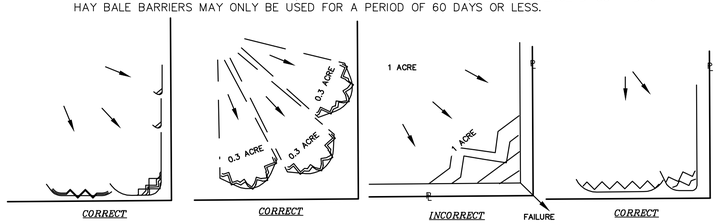
PERIMETER CONTROL

NOT TO SCALE

1. THE MAXIMUM LENGTH OF SLOPE ABOVE PERIMETER CONTROL IS 100 FEET.
2. CONTRACTOR CAN USE SILT FENCE, SILT SOXX OR MULCH BERM FOR PERIMETER CONTROL. SPECIFIC PRACTICES MAY BE SPECIFIED, SEE PLAN. SILT FENCE OR SILT SOXX REQUIRED WHEN UPGRADIENT DISTURBED SOIL IS GREATER THAN 5%. MULCH BERM CAN BE USED WHEN THE UPGRADIENT DISTURBED SOIL IS 5% OR LESS.
3. THE MAXIMUM CONTRIBUTING DRAINAGE AREA OF ONE-QUARTER ACRE PER 100-FEET OF PRACTICE LENGTH.
4. PERIMETER CONTROL IS TO BE INSTALLED PRIOR TO EARTH MOVING ACTIVITIES, INCLUDING GRUBBING AND CLEARING.

NOTES

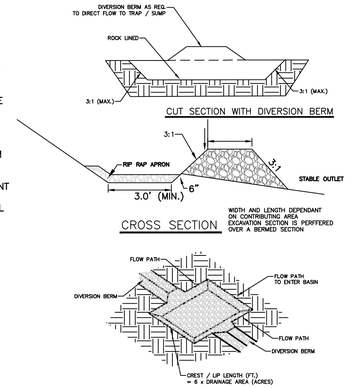
1. DO NOT LAYOUT PERIMETER CONTROL ALONG SLOPING PROPERTY PERIMETER WITHOUT INSTALLING "J HOOKS" AT HIGH CONCENTRATION AREAS. RUNOFF WILL CONCENTRATE AND CAUSE FAILURES ALONG THE PERIMETER.
2. "J HOOKS" CAN BE USED TO HELP LIMIT THE CONCENTRATION OF RUNOFF AND PROVIDE MORE STABILITY TO THE PERIMETER.
3. SILT FENCE AND EROSION CONTROL MULCH BERM MAY BE USED INTERCHANGEABLY. IN SPECIFIED AREA, SILT FENCE MAY NOT BE SUBSTITUTED FOR FILTREXX SILT SOXX OR APPROVED ALTERNATIVE.
5. TO BE CONSTRUCTED IAW NH SWM (FEBRUARY 2025) APPENDIX B, SEDIMENT CONTROL MEASURES: EROSION CONTROL MIX B-46 - B-50, FILTER SOCK B-51 - B-55, AND SILT FENCE B-58 - B-64. HAY BALE BARRIERS MAY ONLY BE USED FOR A PERIOD OF 60 DAYS OR LESS.



D8

1. TRAP TO BE INSTALLED AS CLOSE TO THE DISTURBED AREA OR SOURCE OF SEDIMENT AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. THE SIDE SLOPES OF THE TRAP SHALL BE 3:1 OR FLATTER AND SHALL BE STABILIZED IMMEDIATELY AFTER THEIR CONSTRUCTION.
5. THE OUTLET OF THE TRAP SHALL BE A MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP AND SHALL DISCHARGE TO A STABILIZED AREA.
6. THE TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. THE MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.

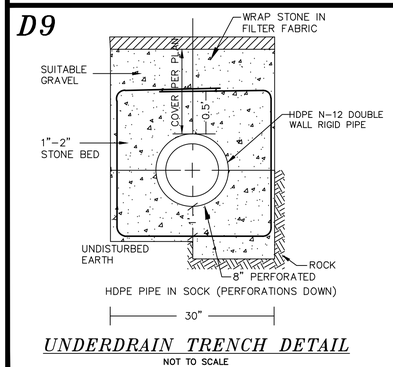
SIEVE DESIGNATION	SIZE OF STONE (INCHES)
100%	12
84-100%	6
68-83%	3
42-55%	1
8-12%	NO. 4



STONE LINED SEDIMENT TRAP

NOT TO SCALE

D9



UNDERDRAIN TRENCH DETAIL

NOT TO SCALE

REFERENCE IS MADE TO A LONG TERM MAINTENANCE MANUAL PREPARED BY BERRY SURVEYING & ENGINEERING, WHICH IS ON FILE AT THE CITY OF DOVER PLANNING DEPARTMENT, AND CAN BE FOUND AT THE OFFICE OF BERRY SURVEYING & ENGINEERING. (603) 332-2863

D-101

REVISION	DATE	DESCRIPTION

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

DRAINAGE CONSTRUCTION DETAILS
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

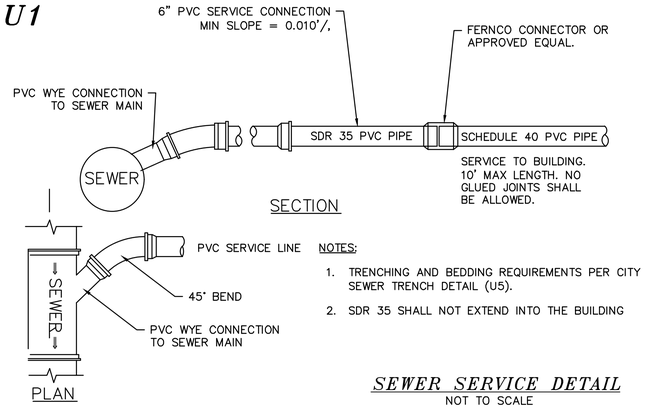
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS SHOWN
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

U1

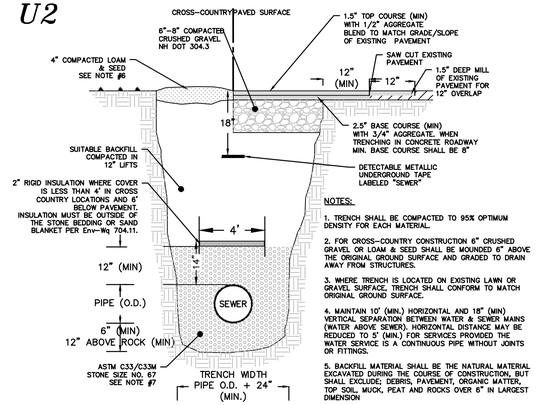


NOTES:

1. TRENCHING AND BEDDING REQUIREMENTS PER CITY SEWER TRENCH DETAIL (U5).
2. SDR 35 SHALL NOT EXTEND INTO THE BUILDING

SEWER SERVICE DETAIL
NOT TO SCALE

U2

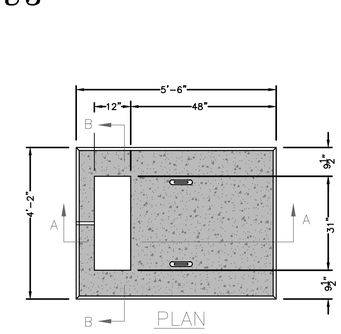


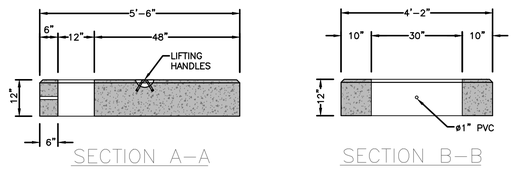
NOTES:

1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY FOR EACH MATERIAL.
2. FOR CROSS-COUNTRY CONSTRUCTION 6" CRUSHED GRAVEL OR LOAM & SEED SHALL BE MOUNDED 6" ABOVE THE ORIGINAL GROUND SURFACE AND GRADED TO DRAIN AWAY FROM STRUCTURES.
3. WHERE TRENCH IS LOCATED ON EXISTING LAWN OR GRAVEL SURFACE, TRENCH SHALL CONFORM TO MATCH ORIGINAL GROUND SURFACE.
4. MAINTAIN 10' (MIN.) HORIZONTAL AND 18" (MIN) VERTICAL SEPARATION BETWEEN WATER & SEWER MAINS (WATER ABOVE SEWER). HORIZONTAL DISTANCE MAY BE REDUCED TO 5' (MIN.) FOR SERVICES PROVIDED THE WATER SERVICE IS A CONTINUOUS PIPE WITHOUT JOINTS OR FITTINGS.
5. BACKFILL MATERIAL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE; DEBRIS, PAVEMENT, ORGANIC MATTER, TOP SOIL, MUCK, PEAT AND ROCKS OVER 6" IN LARGEST DIMENSION
6. LOAM AND SEED SHOULD BE IN COMPLIANCE WITH NH DOT 641, 642, 643, 644 AND 645.
7. SEWER TRENCH CONSTRUCTION SHALL CONFORM WITH ENV-WQ 704.11. THE PIPE SAND SAND BLANKET MATERIAL SHALL BE GRADED SAND FREE FROM ORGANIC MATERIALS, GRADED SUCH THAT 100 PERCENT PASSES A 1/2-INCH SIEVE AND MAXIMUM OF 15 PERCENT PASSES A #200 SIEVE.

TYPICAL SEWER PIPE TRENCH
NOT TO SCALE

U3

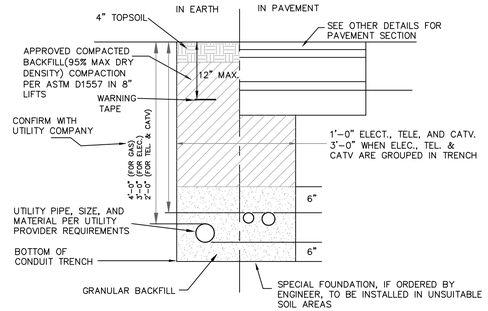




NOTES:
1. CONCRETE MINIMUM STRENGTH 4,000 PSI AFTER 28 DAYS
2. REINFORCEMENT STEEL CONFORMS TO ASTM A615 GRADE 60 #6 REBAR.
3. MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS.
4. MUST BE A SHEA CONCRETE PRODUCT OR EQUAL.

TRANSFORMER AND PAD DETAIL
NOT TO SCALE

U4

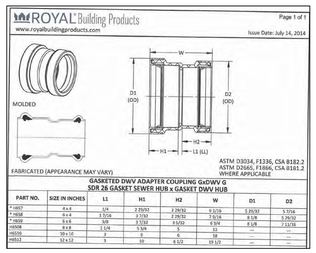


CONTRACTOR IS REQUIRED TO INSTALL ALL CONDUIT PER THE UTILITY COMPANY SPECIFICATIONS INCLUDING METAL SWEEPS, SERVICES AND BLANKS

CONTRACTOR TO COORDINATE WITH UTILITY COMPANY AND PROVIDE EXCAVATION AND BACKFILL FOR PIPE INSTALLATION

ELECTRICAL, TELEPHONE, CATV & GAS TRENCH
NOT TO SCALE

U5



GASKETED DWV ADAPTER COUPLING 6xDWV G
SDR 26 GASKET SEWER HUB x GASKET DWV HUB

PART NO.	SIZE IN INCHES	L1	H1	H2	W	D1	D2
* H857	4 x 4	5/8	2 29/32	2 29/32	9 3/16	5 29/32	5 7/16
* H858	6 x 4	3 7/16	2 7/32	2 29/32	7 9/16	6 1/8	5 29/32
* H859	6 x 6	5/8	3 7/32	3 1/32	9 3/4	6 1/8	7 13/16
H8596	8 x 8	1 1/4	3 5/8	3 5/8	12	8 1/8	7 13/16
H8200	10 x 10	2	9	5	18	—	—
H8512	12 x 12	5	10	6 1/2	19 1/2	—	—

COUPLING DETAIL
NOT TO SCALE

REVISION	DATE	DESCRIPTION

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

UTILITY CONSTRUCTION DETAILS
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

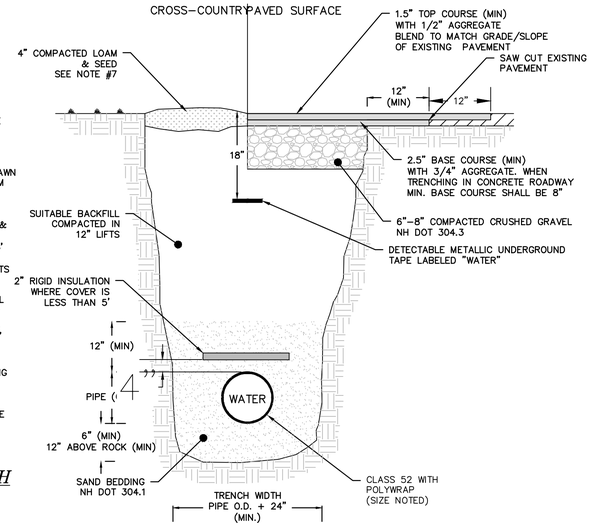
SCALE : AS SHOWN
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

U-101

NOT FOR CONSTRUCTION

U6



NOTES:

1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY FOR EACH MATERIAL.

2. FOR CROSS-COUNTRY CONSTRUCTION 6" CRUSHED GRAVEL OR LOAM & SEED SHALL BE MOUNDED 6" ABOVE THE ORIGINAL GROUND SURFACE AND GRADED TO DRAIN AWAY FROM STRUCTURES.

3. WHERE TRENCH IS LOCATED ON EXISTING LAWN OR GRAVEL SURFACE, TRENCH SHALL CONFORM TO MATCH ORIGINAL GROUND SURFACE.

4. MAINTAIN 10' (MIN.) HORIZONTAL AND 18" (MIN) VERTICAL SEPARATION BETWEEN WATER & SEWER MAINS (WATER ABOVE SEWER). HORIZONTAL DISTANCE MAY BE REDUCED TO 5' (MIN.) FOR SERVICES PROVIDED THE WATER SERVICE IS A CONTINUOUS PIPE WITHOUT JOINTS OR FITTINGS.

5. BACKFILL MATERIAL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE; DEBRIS, PAVEMENT, ORGANIC MATTER, TOP SOIL, MUCK, PEAT, AND ROCKS OVER 6" IN LARGEST DIMENSION

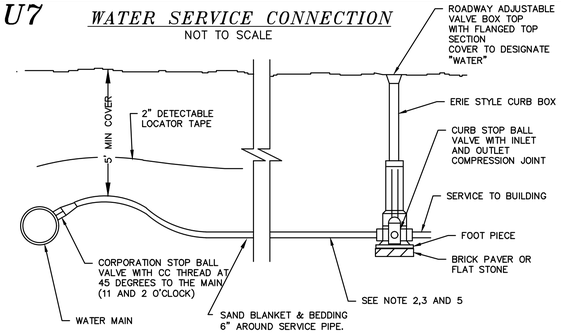
6. PROVIDE MINIMUM 5' OF COVER. ENGINEERING APPROVAL REQUIRED FOR LESS THAN 5' OF COVER.

7. LOAM AND SEED SHOULD BE IN COMPLIANCE WITH NH DOT 641, 642, 643, 644 AND 645.

WATER PIPE TRENCH
NOT TO SCALE

U7

WATER SERVICE CONNECTION
NOT TO SCALE



NOTES:
1. ALL WATER LINES 4" OR GREATER SHALL BE DUCTILE IRON WITH A ZINC COATED 8 MIL POLYETHYLENE WRAP, INCLUDING TEE AND OTHER CONNECTIONS.

2. WATER SERVICE LINES SHALL BE COPPER TUBING (TYPE K) BETWEEN MAIN AND CURB STOP.

3. SERVICE BETWEEN CURB STOP AND BUILDING MAY BE (BLUE OR BLACK) CTS SDR 9 PLASTIC POLYETHYLENE RATED FOR 250 psi.

4. CAM-LOCK REQUIRED FOR CTS OR IPS, MJ ADAPTER REQUIRED FOR HDPE

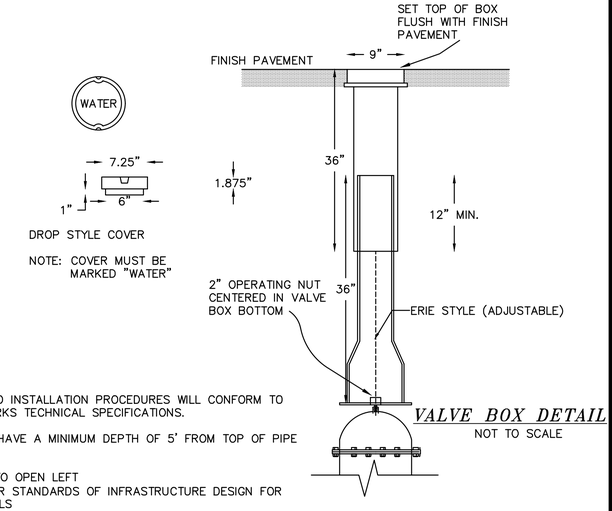
5. ALL SERVICES SHALL BE 1". PROVIDE 1" TO 3/4" REDUCER COUPLING WHERE EXISTING SERVICES ARE 3/4", SUBSIDIARY.

6. APPROVED WATER SERVICE MATERIALS INCLUDE:
   1"- COPPER, CTS
   2"- CTS, HDPE, IPS

7. ALL SADDLES USED AS SPECIFIED SHALL HAVE DOUBLE STAINLESS STEEL STRAPS.

8. TAPS TO BE MADE AT APPROX. 2:00 AND 10:00.

U8



VALVE BOX DETAIL
NOT TO SCALE

NOTES:

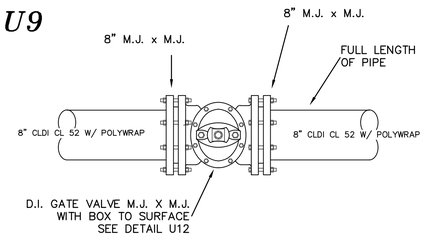
1.) ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO LOCAL WATER WORKS TECHNICAL SPECIFICATIONS.

2.) ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.

3.) ALL VALVES ARE TO OPEN LEFT

4.) SEE CITY OF DOVER STANDARDS OF INFRASTRUCTURE DESIGN FOR POTABLE WATER DETAILS

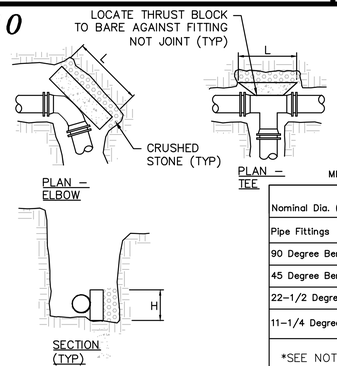
U9

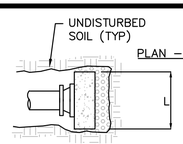


SHUTOFF VALVE DETAIL
NOT TO SCALE

1.) ALL VALVES ARE TO OPEN LEFT
2.) SEE CITY OF DOVER STANDARDS OF INFRASTRUCTURE DESIGN FOR POTABLE WATER DETAILS

U10





THRUST BLOCK SCHEDULE
MINIMUM BEARING AREA (SQUARE FEET)

Nominal Dia. (in)	PIPE SIZE 4	6	8	10	12	16
Pipe Fittings	*	*	5.18	7.96	11.43	20.29
90 Degree Bends	*	4.11	7.33	11.26	16.17	28.69
45 Degree Bends	*	*	*	6.10	8.75	15.53
22-1/2 Degree Bends	*	*	*	*	4.46	7.92
11-1/4 Degree Bends	*	*	*	*	*	*

*SEE NOTE 2
SYSTEM PRESSURE: 125 PSI
SAFETY FACTOR: 1.5
SOIL BEARING CAPACITY: 2,000 PSF

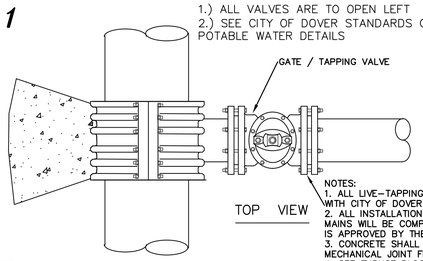
NOTES:

1. ALL THRUST BLOCKS SHALL BE PRE-CAST CONCRETE UNLESS APPROVED BY THE CITY ENGINEER.
2. 2'X2'X2' MINIMUM THRUST BLOCK REQUIRED, ANY BEARING AREA OVER 4SF REQUIRES THRUST BLOCKS, RESTRAINED JOINTS AND CALCULATIONS ASSOCIATED WITH THE JOINT.
3. THE MINIMUM BEARING AREAS SHOWN IN THE THRUST BLOCK SCHEDULE ARE BASED ON A SYSTEM PRESSURE OF 125 PSI. IF THE SYSTEM PRESSURE IS ABOVE 125 PSI, INCREASE THE NOTED AREAS PROPORTIONALLY TO THE ACTUAL SYSTEM PRESSURE.
4. FOR MINIMUM BEARING AREAS OVER 4 SF, THE LENGTH (L) OF THE BLOCK IS APPROXIMATELY TWICE AS LONG AS THE HEIGHT (H).
5. PLACE CRUSHED STONE BEHIND THRUST BLOCK AGAINST UNDISTURBED SOIL.
6. PLACE THRUST BLOCK ALONG MAXIMUM LENGTH OF THE FITTING TO MAXIMIZE BEARING AREA.
7. CONCRETE COMPRESSIVE STRENGTH: 2,000 PSI MINIMUM.
8. USE OF THRUST BLOCKS DOES NOT ELIMINATE THE REQUIREMENT OF OTHER RESTRAINTS OR VICE VERSA.

THRUST BLOCKS

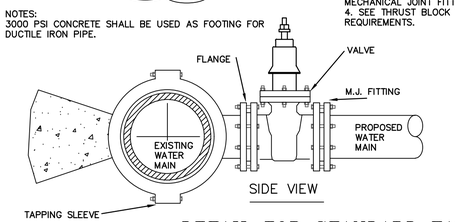
U11

1.) ALL VALVES ARE TO OPEN LEFT
2.) SEE CITY OF DOVER STANDARDS OF INFRASTRUCTURE DESIGN FOR POTABLE WATER DETAILS



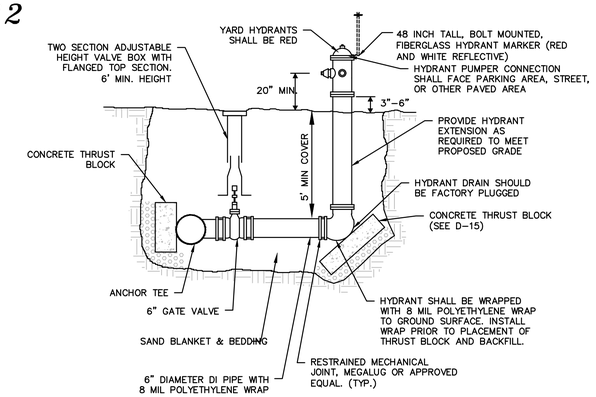
NOTES:
1. ALL LIVE-TAPPING WILL BE COMPLETED IN ACCORDANCE WITH CITY OF DOVER WATER DEPARTMENT REGULATIONS.
2. ALL INSTALLATION AND TAPPING OF EXISTING WATER MAINS WILL BE COMPLETED BY AN INDIVIDUAL OR FIRM THAT IS APPROVED BY THE CITY OF DOVER ENGINEERING
3. CONCRETE SHALL NOT CONTACT BOLTS OR END OF MECHANICAL JOINT FITTINGS.
4. SEE THRUST BLOCK TABLES FOR AREA OF CONCRETE REQUIREMENTS.

NOTES:
3000 PSI CONCRETE SHALL BE USED AS FOOTING FOR DUCTILE IRON PIPE.



DETAIL FOR STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY
NOT TO SCALE

U12



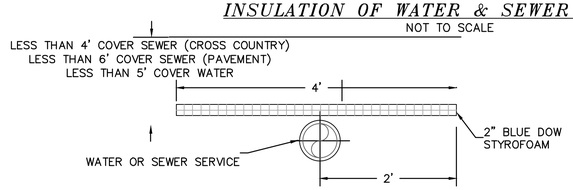
NOTES:

1. FIRE HYDRANTS SHALL BE FACTORY SEALED EDDY STYLE 2641.
2. HYDRANT SHALL BE PAINTED RED WITH EPOXY PAINT AS RECOMMENDED BY THE HYDRANT MANUFACTURER.
3. HYDRANT SHALL OPEN LEFT.
4. HYDRANT MARKER TO BE 3/8" FIBERGLASS RODS BY E-ZGUIDE PRODUCTS OR APPROVED EQUAL.
5. PIPE BEDDING AND BLANKET SHALL MEET THE STANDARD WATER TRENCH DETAIL U-10.

FIRE HYDRANT
NOT TO SCALE

U13

INSULATION OF WATER & SEWER SERVICES
NOT TO SCALE



U-102

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

UTILITY CONSTRUCTION DETAILS
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

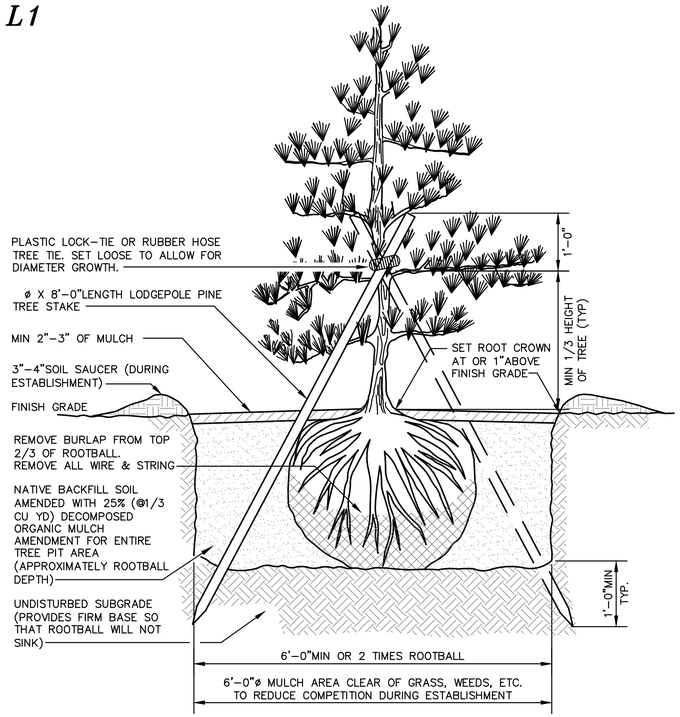
BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS SHOWN
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE - KEVIN ROCKY POULIN No. 17824 LICENSED PROFESSIONAL ENGINEER

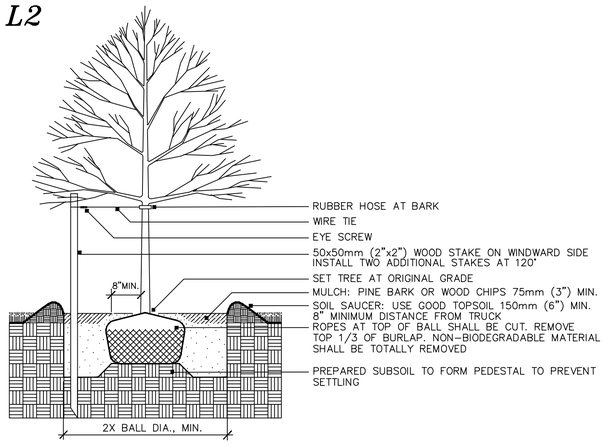
NOT FOR CONSTRUCTION

L1



CONIFEROUS TREE PLANTING

L2



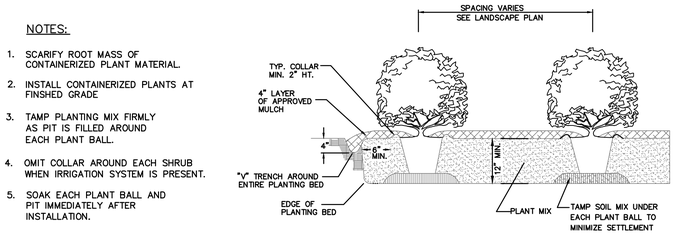
DECIDUOUS TREE PLANTING

NOTE: STAKING TO BE USED IN PARKING ISLANDS AND OTHER CONFINED AREAS AS NECESSARY TO AVOID CONFLICTS WITH PEDESTRIANS

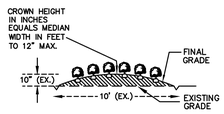
L3

NOTES:

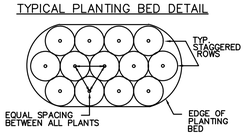
1. SCARIFY ROOT MASS OF CONTAINERIZED PLANT MATERIAL.
2. INSTALL CONTAINERIZED PLANTS AT FINSHED GRADE
3. TAMP PLANTING MIX FIRMLY AS PIT IS FILLED AROUND EACH PLANT BALL.
4. OMIT COLLAR AROUND EACH SHRUB WHEN IRRIGATION SYSTEM IS PRESENT.
5. SOAK EACH PLANT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.



TYPICAL PLANTING BED DETAIL



TYPICAL BED CROWNING

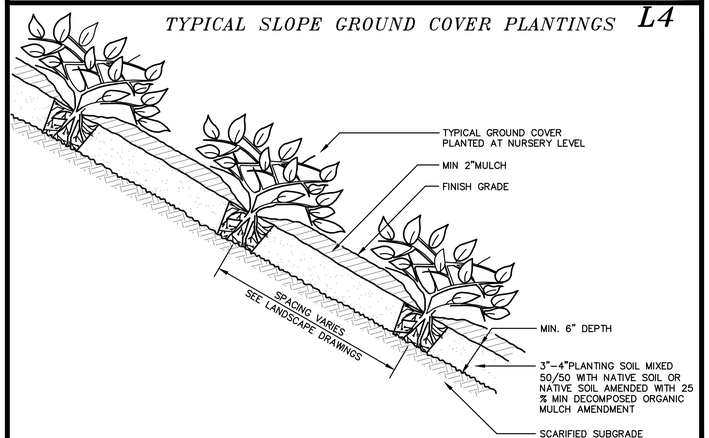


TYPICAL PLANTING BED PLAN

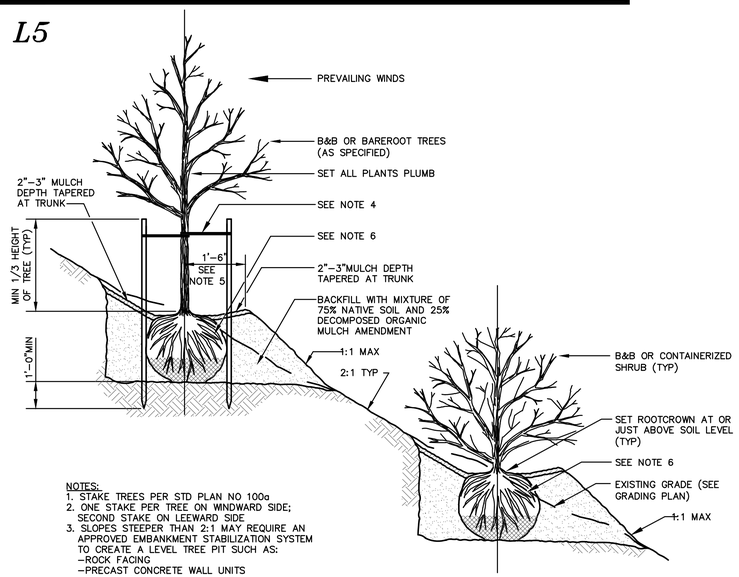
SHRUB & HEDGE PLANTING

L4

TYPICAL SLOPE GROUND COVER PLANTINGS



L5



NOTES:
1. STAKE TREES PER STD PLAN NO 100a
2. ONE STAKE PER TREE ON WINDWARD SIDE; SECOND STAKE ON LEEWARD SIDE
3. SLOPES STEEPER THAN 2:1 MAY REQUIRE AN APPROVED EMBANKMENT STABILIZATION SYSTEM TO CREATE A LEVEL TREE PIT SUCH AS:
   - ROCK FACING
   - PRECAST CONCRETE WALL UNITS
   - TIMBER WALL
   - MANUFACTURED SLOPE RETENTION UNITS
4. CHAINLOCK TREE TIE. LOOP EACH TIE AROUND TREE LOOSELY TO PROVIDE 1" SLACK FOR DIAMETER GROWTH.
5. SHAPE SOIL TO PROVIDE 3' DIAMETER OR ROOTBALL DIAMETER, WHICHEVER IS GREATER, WATERING RING.
6. REMOVE ALL WIRE AND STRING. REMOVE TOP 2/3 OF BURLAP.

TREE PLANTING ON SLOPES

L6

NOTES:

1.) CALL DIG SAFE PRIOR TO BEGINNING WORK. (1-888-344-7233). THE LANDSCAPE CONTRACTOR IS ADVISED OF THE PRESENCE OF UNDERGROUND UTILITIES AND SHALL VERIFY THE EXISTENCE AND LOCATION OF THE SAME BEFORE COMMENCING AND DIGGING OPERATIONS. THE LANDSCAPE CONTRACTOR SHALL REPLACE OR REPAIR UTILITIES, PAVING, WALKS, CURBING, ETC DAMAGED IN PERFORMANCE OF THIS JOB AT NO ADDITIONAL COST TO THE OWNER OR GENERAL CONTRACTOR.

2.) CONTRACTOR SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL SITE CONDITIONS PRIOR TO CONSTRUCTION BIDDING.

3.) PROVIDED SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING CONDITIONS.

4.) ALL PLANT MATERIAL INSTALLED SHALL MEET THE SPECIFICATIONS OF "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

5.) ALL PLANT MATERIALS SHALL BE FREE FROM INSECTS AND DISEASE.

6.) ALL PLANTINGS SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES. THIS IS TO INCLUDE PROPER PLANTING MIX, PLANT BED AND TREE PIT PREPARATION, PRUNING STAKING OR GUYING, WRAPPING, SPRAYING, FERTILIZATION, PLANTING AND ADEQUATE MAINTENANCE UNTIL ACCEPTANCE FROM OWNER.

7.) ALL GRASS, OTHER VEGETATION AND DEBRIS SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO PLANTING.

8.) THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING AND NEWLY PLANTED TREES AND SHRUBS DURING THE CONSTRUCTION PROCESS. WHERE REQUIRED, THE CONTRACTOR SHALL INSTALL TEMPORARY FENCING (SNOW OR EQUAL) AROUND EXISTING TREES AND SHRUBS THAT COULD BE IMPACTED BY THE CONSTRUCTION PROCESS. STORAGE OF CONSTRUCTION EQUIPMENT, CONSTRUCTION MATERIALS, SNOW STORAGE AND OR VEHICLE PARKING SHALL NOT BE PERMITTED WITHIN THE DRIP LINE OF TREES OR TWENTY FEET WHICH EVER IS GREATER.

9.) NEW PLANTINGS SHALL BE INSTALLED PER PROJECT DRAWINGS AND SPECIFICATION THAT INCLUDE FERTILIZATION AND MULCHING AS REQUIRED.

10.) ALL SHRUB BEDS AND TREE PITS SHALL BE MULCHED WITH 3" CLEAN SHREDDED BLACK MULCH.

11.) WHERE INDICATED ON PLAN, PLANTING SOIL MIXTURE FOR GROUND COVER AND PERENNIAL BED AREAS SHALL CONSIST OF FOUR PARTS TOPSOIL, TWO PARTS SPHAGNUM PEAT MOSS, AND ONE PART HORTICULTURAL PERLITE BY VOLUME. PEAT MOSS MAY BE SUBSTITUTED WITH WELL-ROTTED OR DEHYDRATED MANURE OR COMPOST. ROTOTILL BEDS TO A DEPTH OF 8 INCHES.

12.) MAINTENANCE OF NEW PLANTINGS AND LAWNS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND OR LANDSCAPE SUBCONTRACTOR UNTIL ACCEPTANCE BY THE OWNER. RESPONSIBILITIES SHALL INCLUDE WATERING WEEDING AND MOWING AS NECESSARY. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE, REPLACEMENT MATERIAL SHALL BE GUARANTEED FOR AND ADDITIONAL YEAR FROM TIME OF INSTALLATION.

13.) THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY EROSION CONTROL MEASURES DURING THE CONSTRUCTION PHASE AND UNTIL ALL AREAS HAVE BEEN STABILIZED AND ACCEPTED BY THE OWNER. THE GENERAL CONTRACTOR SHALL PROVIDE WEEKLY INSPECTIONS OF EROSION MEASURE AND IMMEDIATELY AFTER STORM EVENTS AND REPAIR AS NECESSARY.

14.) THE GENERAL CONTRACTOR AND OR THE LANDSCAPE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL THREE GUYING MATERIAL ONCE PLANT MATERIAL HAS BEEN ESTABLISHED. (MINIMUM OF ONE GROWING SEASON). ALL TEMPORARY EROSION CONTROL MEASURE SHALL BE REMOVED ONCE STABILIZATION OF DISTURBANCE HAS BEEN ACCEPTED BY OWNER.

15.) THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR A MINIMUM OF TWO MOWINGS FOR ALL TURF AREAS OR UNTIL ACCEPTANCE BY THE OWNER. A MINIMUM UNIFORM 75% CATCH OF TURF IS REQUIRED FOR ACCEPTANCE.

16.) ALL PLANTINGS SHALL BE WATERED REGULARLY DURING THEIR FIRST YEAR AND MAINTAINED PERMANENTLY IN GOOD GROWING CONDITION AS AN EFFECTIVE VISUAL SCREEN.

17.) SHRUBS OR TREES WHICH DIE SHALL BE REPLACED WITHIN ONE GROWING SEASON WITH NEW SHRUBS OR TREES TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE LANDSCAPING REQUIREMENTS.

18.) ALL REQUIRED LANDSCAPING SHALL BE INSTALLED BEFORE OCCUPANCY, OR WITHIN SIX MONTHS IF OCCUPANCY OCCURS DURING WINTER CONDITIONS.

19.) TREES ARE TO BE 3.5" CALIPER 6" OFF THE ROOT BALL.

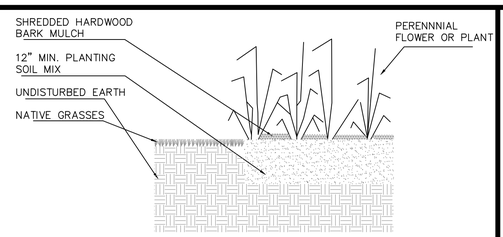
20.) ALL PLANT STOCK SHALL CONFORM TO ANSI Z260.1 – NURSERY STOCK, LATEST EDITIONS (AMERICAN ASSOCIATION OF NURSERYMEN, INC.)

21.) 4" AGED PINEBARK MULCH AND A WEED BARRIER (TY-PAR FABRIC OR APPROVED EQUAL) SHALL BE APPLIED TO ALL SHRUB AND GROUND COVER BEDS. INSTALL WEED BARRIER AS PER MANUFACTURERS RECOMMENDATIONS.

22.) PLANT-PIT BACK-FILL SHALL BE MIXED AT A RATE OF 7 PARTS OF TOPSOIL TO 2 PARTS OF DEHYDRATED COW MANURE. SLOW RELEASE FERTILIZER SHALL BE APPLIED AS PER MANUFACTURERS RECOMMENDATIONS. USE EXISTING ON-SITE TOPSOIL AS PART OF BACK FILL WHEN AVAILABLE.

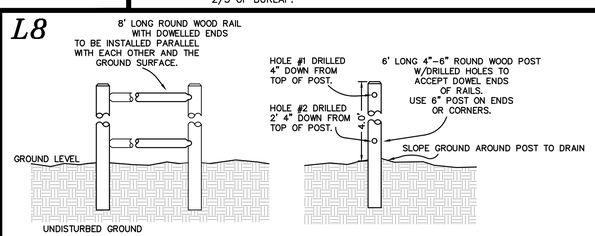
23.) ALL LANDSCAPED AREAS NOT PLANTED WITH TREES, SHRUBS OR GROUNDCOVER SHALL BE RESTORED WITH SEED OR SOD AS INDICATED ON PLANS.

L7



PERENNIAL PLANTING DETAIL

L8



TYPICAL POST & RAIL FENCE DETAIL

NOT TO SCALE

DOVER FILE #SITE 26-XXX DOVER FILE #TRAN 26-XXX

REVISION	DATE	DESCRIPTION

LANDSCAPING CONSTRUCTION DETAILS

LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP 1, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332-2863

SCALE : AS SHOWN
DATE : MAY 7, 2026
FILE NO. : DB 2025 - 053

STATE OF NEW HAMPSHIRE
KEVIN ROCKY POULIN
No. 17824
LICENSED PROFESSIONAL ENGINEER

L-101

NOT FOR CONSTRUCTION

LOT & IMPERVIOUS COVERAGE:

EXISTING:
HOUSE & OVERHANGS – 1,034 Sq.Ft.
STEPS – 55 Sq.Ft.
BULKHEAD – 15 Sq.Ft.
GARAGE & OVERHANGS – 1,201 Sq.Ft.
TOTAL COVERAGE: 2,305 Sq.Ft. (5.7%) (PRE–LLR)

DRIVEWAY – 2,658 Sq.Ft.
CONCRETE PADS – 54 Sq.Ft.
TOTAL IMPERVIOUS: 2,712 Sq.Ft. (6.7%)
TOTAL EXISTING IMPERVIOUS AREA: 5,017 Sq.Ft. (12.4%) (PRE–LLR)

PROPOSED:
INCLUDES BUILDING, OVERHANG, PORCH, DECK & STEPS
EXISTING SINGLE FAMILY DWELLING = 1,104 Sq.Ft.
UNITS #1 – #4 = 3,840 Sq.Ft.
UNITS #5 – #8 = 3,116 Sq.Ft.
TOTAL LOT COVERAGE: 8,340 Sq.Ft. (18.7%) (POST–LLR)

EXISTING DRIVEWAY TO REMAIN = 1,241 Sq.Ft.
PROPOSED DRIVEWAY/PARKING = 6,005 Sq.Ft.
PROPOSED CURB = 138 Sq.Ft.
PROPOSED SIDEWALKS (CONC. & BIT.) = 971 Sq.Ft.
EXISTING CONCRETE PADS = 35 Sq.Ft.
PROPOSED CONCRETE PADS = 59 Sq.Ft.
TOTAL IMPERVIOUS (NON–BUILDING): 6,648 Sq.Ft. (14.9%) (POST–LLR)
TOTAL PROPOSED IMPERVIOUS AREA: 14,988 Sq.Ft. (33.6%) (POST–LLR)
(1,801 Sq. Ft. POROUS PAVEMENT NOT INCLUDED AS IMPERVIOUS SURFACE)

UNIT DENSITY CALCULATION:

- TOTAL AREA R–20 ZONE: 43,891 Sq.Ft.
  - 43,891 x .15 = 6,584
  - 43,891 – 6,584 = 37,307
  - 37,307 x 0.85 = 31,711
  - 31,711 / 15,000 = 2.11 UNITS ALLOWED
- TOTAL AREA RM–SU ZONE: 769 Sq.Ft.
  - DENSITY OF:
  - 10,000 Sq. Ft. PER DWELLING UNIT
  - 769 Sq. Ft. / 10,000 Sq. Ft. = 0.08 UNITS
  - 2.11 + 0.08 = 2.19 UNITS ALLOWED ON SITE
- EXISTING ON–SITE DENSITY = 1 UNIT (SINGLE FAMILY DWELLING)
- PROPOSED ADDITIONAL DENSITY = 8 UNITS
- TOTAL DENSITY ALLOWED = 2 UNITS
- TDR REQUEST OF 7 UNITS
- TOTAL DENSITY PROPOSED = 9 UNITS

TDR REQUEST:
PURCHASE OF 7 UNITS
APPROVED BY DOVER PLANNING BOARD (PENDING)

EXISTING UNIT DENSITY CALCULATION LOT 12:

RM–SU ZONE FROM 2013 (DOVER PLANNING #13–37)

- TOTAL AREA RM–SU ZONE: 205,327 Sq.Ft.
  WETLAND AREA: 58,986 Sq.Ft.
  TOTAL UPLAND AREA: 146,341 Sq.Ft.
  TOTAL UPLAND – LOT LINE REVISION AREA:
  146,341 Sq.Ft. – 4,152 Sq.Ft. = 142,189 Sq.Ft.
  DENSITY OF: 10,000 Sq. Ft. PER DWELLING UNIT
  142,189 Sq. Ft. / 10,000 Sq. Ft. = 14.22 UNITS
  THERE ARE 14 EXISTING UNITS ON LOT 12

PARKING REQUIREMENTS:

CHAPTER 153–140 PARKING TABLE
- RESIDENTIAL
  RESIDENTIAL – 1.4 SPACES PER UNIT
  VISITOR – 0.5 SPACES PER UNIT
  9 UNITS x 1.9 = 17.1 SPACES

TOTAL MAXIMUM = 17 SPACES

EXISTING HOUSE – 1 SPACE
BUILDING #1 – 10 SPACES
BUILDING #2 – 8 SPACES

TOTAL PROPOSED = 19 SPACES

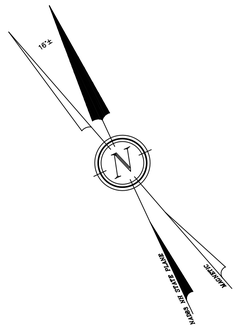
ACCESSIBLE PARKING = 1 REQUIRED, 1 PROPOSED
5% EV REQUIREMENT = 1.10 SPACES, 2 PROPOSED
5% BIKE PARKING = 1.10 SPACES, 4 PROVIDED

DIRECTOR OF PLANNING TO DETERMINE IF A CUP IS REQUIRED FOR 2 PARKING SPACES OVER THE MAXIMUM ALLOWED.

SNOW STORAGE CALCULATION:

- STORAGE CALCULATION (6:1 RATIO USED)
  - PLOWABLE AREA = 7,519 Sq.Ft. / 6 = 1,253 Sq.Ft.
  - > 1,254 Sq.Ft. PROVIDED
  - SNOW SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS ONCE IDENTIFIED AREAS ARE FULL.

WAIVER REQUESTS:
SUBDIVISION REGULATION ARTICLE 157–40–B(5): MINIMUM PIPE COVER (PENDING)
SUBDIVISION REGULATION ARTICLE 157–31–F: MINIMUM BLOCK LENGTH OF 500' (PENDING)
SUBDIVISION REGULATION ARTICLE 157–32–G: MAXIMUM GRADE WITHIN 75' OF INTERSECTION (PENDING)



LEGEND:

- IRON BOUND/IRON ROD (FND)
- IRON PIPE (FND)
- STONE BOUND (FND)
- UTILITY POLE / GUY WIRE
- SIGNAGE
- PROPERTY LINE
- BUILDING SETBACK LINE
- APPROXIMATE ABUTTING PROPERTY LINE
- ZONING BOUNDARY LINE
- GRASS AREA
- WOODED AREA
- BITUMINOUS PAVED AREA
- PROPOSED BUILDING
- PROPOSED BUILDING OVERHANG
- STORMWATER SCM
- VARIOUS TREES
- VARIOUS SHRUBS AND PLANTS

NOTES:

1.) OWNER & APPLICANT: STF DEVELOPMENT, LLC
54 DOVER POINT ROAD, UNIT 3
DOVER, NH 03820

2.) TAX MAP I, LOT 11

3.) S.C.R.D. BOOK 5263, PAGE 820

4.) LOT AREA PRE LLR: 40,508 SQ.FT., 0.93 AC.
LOT AREA POST LLR: 44,660 SQ.FT., 1.03 AC.

5.) ZONING: R–20, LOW DENSITY RESIDENTIAL (43,891 Sq. Ft., 1.01 Ac., POST–LLR & 50' ZONE LINE ADJ.)
DENSITY: 15,000 Sq. Ft. / DWELLING UNIT (SEE TDR REQUEST)
SETBACKS:
FRONT BUILD TO ~ 20' MIN. – 35' MAX. (20'–35' PROVIDED)
SIDE ~ 20' (>20' PROVIDED)
REAR ~ 30' (>30' PROVIDED)
MIN. LOT SIZE: 20,000 Sq.Ft. (44,660 Sq. Ft. PROVIDED)
MAX. LOT COVERAGE: 30% (18.7% PROVIDED)
MIN. FRONTAGE: 125 Ft. (462.92' PROVIDED)
MAX. BUILDING HEIGHT: 35 Ft. (<35' PROVIDED)

ZONING: RM–SU, SUBURBAN DENSITY RESIDENTIAL (769 Sq. Ft., 0.02 Ac., POST–LLR & 50' ZONE LINE ADJ.)
DENSITY: 10,000 Sq. Ft. / DWELLING UNIT
SETBACKS:
FRONT ~ 50'
SIDE ~ 20'
REAR ~ 20'
MIN. LOT SIZE: 20,000 Sq.Ft.
MAX. LOT COVERAGE: 40%
MIN. FRONTAGE: 100 Ft.
MAX. BUILDING HEIGHT: 40 Ft.

6.) THE INTENT OF THIS PLAN IS TO SHOW A COLOR REDERING OF THE PROPOSED SITE DESIGN OF TAX MAP I, LOT 11 LOCATED IN DOVER, N.H.

7.) THIS SITE IS SERVICED BY MUNICIPAL SEWER AND WATER.

8.) SEE PROJECT NOTES SHEET FOR ALL PROJECT NOTES AND OTHER REQUIRED CALCULATIONS.



GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

DOVER FILE #SITE 26–XXX	DOVER FILE #TRAN 26–XXX
REVISION	DESCRIPTION
DATE	

SITE PLAN COLOR RENDERING
LAND OF
STF DEVELOPMENT LLC
68 DURHAM RD
DOVER, N.H.
TAX MAP I, LOT 11

BERRY SURVEYING & ENGINEERING
335 SECOND CROWN POINT ROAD
BARRINGTON, NH 03825 (603)332–2863

SCALE : 1 IN. EQUALS 20 FT.
DATE : MAY 7, 2026
FILE NO. : DB 2025 – 053

NOT FOR CONSTRUCTION



TW DESIGNS

Streetscape
68 DURHAM BLD A + BLD B

A9.1

06/25/26



TW DESIGNS

Streetscape
68 DURHAM BLD A + BLD B

A9.2

06/25/26



TW DESIGNS

Aerial View
68 DURHAM BLD A + BLD B

A9.3

06/25/26

68 DURHAM BLD A

68 DURHAM RD, DOVER, NH

SCHEMATIC DESIGN
N.F.C. 06.10.2026



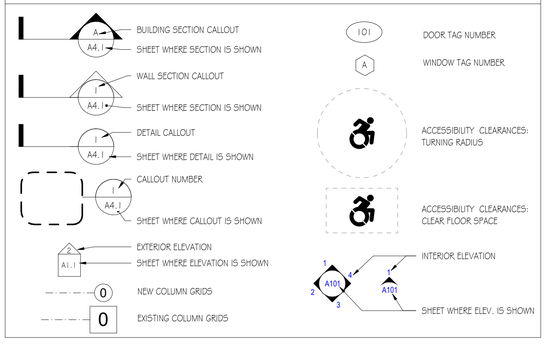
MASTER ABBREVIATION KEY:

AB	ANCHOR BOLT			LAM	LAMINATE	S	SOUTH
AC	AIR CONDITIONER	E	EAST	LAV	LAVATORY	S-TRAP	SEDIMENT TRAP
ACI	AMERICAN CONCRETE INSTITUTE	EJ	EXPANSION JOINT			SC	SOLID CORE
		EJC	EXPANSION JOINT COVER	MAS	MASONRY	SCED	SCHEDULE
ACOUST	ACOUSTIC	EL	ELEVATION	MAT	MATERIAL	SD	STORM DRAIN
AFF	ABOVE FINISH FLOOR	ELEC	ELECTRICAL	MAX	MAXIMUM	SF	SQUARE FOOT
ALT	ALTERNATE	ELEV	ELEVATOR	MECH	MECHANICAL	SH	SHOWER
ALUM	ALUMINUM	EQ	EQUAL	MEM	MEMBRANE	SHT	SHEET
ANCH	ANCHOR	EQUIP	EQUIPMENT	MEP	MECHANICAL, ELECTRICAL, PLUMBING	SIM	SIMILAR
ANOD	ANODIZED	ER	EMERGENCY ROOM			SL	SLIDING
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	EST	ESTIMATE	METTP	METAL TOILET PARTITION	SMR	SINGLE PLY MEMBRANE ROOF
		EWC	ELECTRICAL WATER COOLER	MFR	MANUFACTURER		
				MH	MANHOLE	SP/PT/FIN	SPECIAL PAINT FINISH
BD	BOARD	EXH	EXHAUST	MIN	MINIMUM	SPEC	SPECIFICATION
BIT	BITUMINOUS	EXIST	EXISTING	MISC	MISCELLANEOUS	SPKR	SPEAKER
BL	BUILDING LINE	EXP	EXPANSION	MO	MASONRY OPENING	SQ	SQUARE
BLDG	BUILDING	EXPD	EXPANDED	MTL	METAL	SS	STAINLESS STEEL
BLK	BLOCK	EXT	EXTERIOR	MULL	MULLION	STA	STATION
BLKG	BLOCKING					STD	STANDARD
BM	BEAM	F/F	FACE OF FOUNDATION WALL	N	NORTH	STL	STEEL
BOC	BOTTOM OF CURB			NAT	NATURAL	STOR	STORAGE
BOF	BOTTOM OF FOOTING ELEVATION	FA	FRESH AIR	NEC	NECESSARY	STRG	STRINGER
		FAP	FIRE ALARM PANEL	NIC	NOT IN CONTRACT	STRUCT	STRUCTURAL
BOT	BOTTOM	FD	FLOOR DRAIN	NOM	NOMINAL	SU	SITE UTILITY
BRG	BEARING	FE	FIRE EXTINGUISHER	NRC	NOISE REDUCTION COEFFICIENT	SUSP	SUSPEND (SUSPENDED)
BRK	BRICK	FEC	FIRE EXTINGUISHER CABINET			SYMM	SYMMETRICAL
BSMT	BASEMENT			NTS	NOT TO SCALE	SYS	SYSTEM
BTW	BETWEEN	FIN	FINISH				
BUR	BUILT-UP ROOF	FL	FLOW LINE	OC	ON CENTER	T	TREAD
		FLR	FLOOR	OD	OUTSIDE DIAMETER	T&G	TONGUE & GROOVED
CAB	CABINET	FND	FOUNDATION	OF/C	OUTSIDE FACE OF CONCRETE	T/FRM	TOP OF FRAME
CB	CATCH BASIN	FOF	FACE OF FINISH			T/SLB	TOP OF SLAB
CER	CERAMIC	FOM	FACE OF MASONRY	OH	OVERHEAD	TB	TACKBOARD
CF	CUBIC FOOT	FOS	FACE OF STUD	OPG	OPENING	TEL	TELEPHONE
CI	CAST IRON	FR	FIRE RATED	OPP	OPPOSITE	TEMP	TEMPORARY
CJ	CONTROL JOINT	FS	FULL SIZE	OR	OPERATING ROOM	TERR	TERRAZZO
CL	CLOSET	FT	FOOT			THK	THICK
CLCB	CURBLESS CATCH BASIN	FTG	FOOTING	PBD	PARTICLE BOARD	THLD	THRESHOLD
CLG	CEILING	FUR	FURRED (FURRING)	PCF	POUNDS PER CUBIC FOOT	TOC	TOP OF CURB
CM	CONTRACT MANAGER	FVC	FIRE VALVE CABINET			TOF	TOP OF FOUNDATION
CMU	CONCRETE MASONRY UNIT			PL	PROPERTY LINE	TOS	TOP OF SLAB
		GA	GAUGE	PLAM	PLASTIC LAMINATE	TOW	TOP OF WALL ELEVATION
CO	CLEAN OUT	GALV	GALVANIZED	PLAS	PLASTER	TR	TO REMAIN
COL	COLUMN	GC	GENERAL CONTRACTOR	PLYWD	PLYWOOD	TYP	TYPICAL
COMP	COMPACTED (COMPOSITION)	GEN	GENERAL	PNL	PANEL		
		GL	GLASS	PSF	POUNDS PER SQUARE FOOT	UH	UNIT HEATER
CONC	CONCRETE	GLZ	GLAZING			UL	UNDERWRITERS LABORATORIES, INC.
CONST	CONSTRUCTION	GRD	GRADE	PSI	POUNDS PER SQUARE INCH	UOD	UNDERSIDE OF DECK
CONT	CONTINUOUS	GYP	GYPSUM			UON	UNLESS OTHERWISE NOTED
CONTR	CONTRACTOR			PT	PAINT		
CORR	CORRUGATED	H#V	HEATING & VENTILATING	PTD	PAINTED	UR	URINAL
CP	CONTROL PANEL	HC	HANDICAP	PTN	PARTITION	UV	UNIT VENTILATOR
CSG	CASING	HDWD	HARDWOOD	PVC	POLYVINYL CHLORIDE		
CSMT	CASEMENT	HGT	HEIGHT			VAR	VARIES OR VARIABLE
CT	CERAMIC TILE	HM	HOLLOW METAL	QT	QUARRY TILE	VB	VINYL BASE
CTR	CENTER	HP	HIGH POINT			VCT	VINYL COMPOSITION TILE
CY	CUBIC YARD	HVAC	HEATING, VENTILATION, AIR CONDITIONING	R	RADIUS	VERT	VERTICAL
				RA	RETURN AIR	VEST	VESTIBULE
DF	DRINKING FOUNTAIN	HWH	HOT WATER HEATER	RC	REINFORCED CONCRETE	VIF	VERIFY IN FIELD
DIA	DIAMETER			RD	ROOF DRAIN	VNR	VENEER
DIAG	DIAGONAL	ID	INSIDE DIAMETER	REF	REFERENCE	VOL	VOLUME
DIM	DIMENSION	IN	INCH	REFR	REFRIGERATOR		
DL	DEAD LOAD	INSUL	INSULATION	REINF	REINFORCE	W	WEST
DN	DOWN	INT	INTERIOR	REQD	REQUIRED	W/	WITH
DR	DOOR	INV	INVERT	RGH	ROUGH	WC	WATER CLOSET
DS	DOWNSPOUT			RL	RAIN LEADER	WD	WOOD
DS/C	DRIVE SIDE OF CURB	JC	JANITOR'S CLOSET	RM	ROOM	WDW	WINDOW
DTL	DETAIL	JST	JOIST	RO	ROUGH OPENING	WGL	WIRE GLASS
DWG	DRAWING	JT	JOINT	ROW	RIGHT OF WAY	WP	WEATHERPROOF (WATERPROOFING)
				RQMT	REQUIREMENT		
						WWF	WELDED WIRE FABRIC

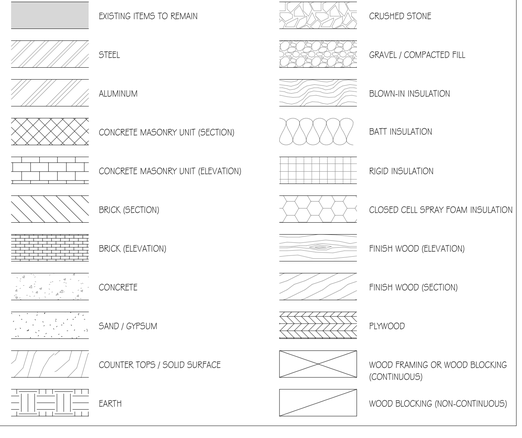
LOCUS MAP: (N.T.S.)



GRAPHIC SYMBOLS LEGEND



MATERIAL LEGEND



DRAWING SHEET INDEX:

Sheet	Sheet Name	Issued	Revision	Revision Date
A9.1	*3D Rendering*	*06/25/26*		
A9.2	*3D Rendering*	*06/25/26*		
A9.3	*3D Rendering*	*06/25/26*		
PCS	*PROJECT COVER SHEET*	*N.F.C.*		
A0.1	*SITE*	*N.F.C.*		
A1.1	*FIRST FLOOR PLAN*	*N.F.C.*		
A1.2	*SECOND FLOOR PLAN*	*N.F.C.*		
A1.3	*ROOF PLAN*	*N.F.C.*		
A3.1	*EXTERIOR ELEVATIONS*	*N.F.C.*		
A3.2	*3D RENDERING*	*N.F.C.*		

GENERAL NOTES:

1. DO NOT SCALE DRAWING OR DIMENSIONS. FOR MISSING DIMENSIONS OR DIMENSIONS IN CONFLICT, CONTACT THE CONTRACTOR IMMEDIATELY BEFORE CONTINUING WITH WORK.
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3. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DESIGN-BUILD PLANS AND SPECIFICATION FOR LOCATIONS OF ALL BLOCK OUTS, INSERTS, OPENINGS, CURBS, BASES, & PADS THAT ARE NOT DIMENSIONED OR SHOWN ON CONTRACTOR'S DWG'S. OR STRUCTURAL DWG'S.
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5. ALL CONSTRUCTION SHALL CONFORM TO AND BE IN ACCORDANCE WITH THE REGULATOR REQUIREMENTS MANDATED BY ALL FEDERAL, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION IN ACCORDANCE TO THE STATE IN WHICH THE WORK IS PERFORMED (STATE BUILDING CODE, STATE LIFE SAFETY & FIRE CODE ETC.)
6. THE CONTRACTOR SHALL REVIEW ALL DOCUMENTS AND VERIFY ALL DIMENSIONS AND FIELD CONDITIONS, AND SHALL CONFIRM WORK IS BUILDABLE AS SHOWN. ANY CONFLICTS OR OMISSIONS, ETC. SHALL BE IMMEDIATELY REPORTED IN WRITING TO THE ARCHITECT FOR CLARIFICATION
7. DIMENSIONS ARE FROM EXTERIOR FACE OF FOUNDATION, VENEER, OR WALL STUD AND TO CENTER OF ALL INTERIOR STUD WALLS OR FACE OF INTERIOR MASONRY. UNLESS NOTED OTHERWISE.
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9. REFER TO MECHANICAL DRAWINGS / SPEC. FOR ALL SIZES AND LOCATIONS OF MECHANICAL DUCT WORK.
10. UNLESS OBVIOUSLY SHOWN OTHERWISE, DOOR LOCATIONS NOT DESIGNATED BY WRITTEN DIMENSION SHALL BE CENTERED IN THE WALL OR SHALL BE LOCATED FOUR (4) INCHES FROM FINISH WALL TO EDGE OF DOOR JAMB. PER PLAN.
11. PROVIDE METAL CORNER BEAD AT ALL OUTSIDE CORNERS OF PLASTERED OR DRYWALL SURFACES, UNLESS NOTED OTHERWISE.
12. PENETRATIONS OF ALL FIRE RATED ASSEMBLIES SHALL BE PROTECTED BY LIKE RATED CONSTRUCTION DAMPERS, SEALANTS, COLLARS, ETC., TYPICAL.
13. CONTRACTOR SHALL FURNISH, LOCATE AND INSTALL ALL ACCESS PANELS AS REQUIRED AFTER INSTALLATION OF MECHANICAL DUCTS, PLUMBING AND ELECTRICAL WORK, FIRE RATED AS REQUIRED.
14. FURNISH AND INSTALL SOLID BLOCKING BEHIND ALL WALL HUNG MILLWORK ITEMS, RAILS, FIXTURES,GRAB BARS, ETC. , WHERE INDICATED OR REQUIRED.
15. CONTRACTOR SHALL LAYOUT OR MARK, ALL EQUIPMENT, SYSTEMS AND MILLWORK ON THE FLOOR FOR ARCHITECT OR OWNER'S APPROVAL PRIOR TO BEGINNING CEILING / OVER HEAD WORK.
16. ALL SPRINKLER HEAD LOCATIONS, MAINS, BRANCHES AND RISER PIPE LOCATIONS MUST BE COORDINATED WITH THE DESIGN / BUILD CONTRACTOR PRIOR TO WORK.
17. FURNISH AND INSTALL FIRE EXTINGUISHERS IN TYPE, QUANTITY, AND LOCATION PER LOCAL FIRE DEPARTMENT. TYPICAL
18. CONTRACTOR SHALL VERIFY, COORDINATE LOCATION WITH THE ARCHITECT ANY SMOKE, CARBON MONOXIDE DETECTOR OR FIRE ALARM DEVICE AS REQUIRED BY THE LOCAL FIRE DEPARTMENT.
19. FURNISH & INSTALL FIRE DAMPERS WITH FUSIBLE LOUVER WHEREVER DUCT WORK PENETRATES ONE OR TWO HOUR CEILINGS OR WALLS. TYPICAL UNLESS NOTED OTHERWISE.
20. PROVIDE PLASTER AND GYPSUM WALL BOARD CONTROL JOINTS AT 30'-0" ON CENTER FROM FLOOR TO CEILING, OR AS NOTED ON THE CONSTRUCTION DOCUMENTS. VERIFY IN FEILD WITH ARCHITECT PRIOR TO WORK.

T | W DESIGNS

Project Info:

26025 A
68 DURHAM BLD A
68 DURHAM RD, DOVER, NH
SCHEMATIC DESIGN

Architect of Record:

T | W Designs, LLC
254 Drake Hill Rd.
Strafford, NH 03884
603-664-2181

Civil Engineer:

BERRY SURVEYING & ENG.
335 SECOND CROWN POINT RD
BARRINGTON, NH 03825
603-332-2863

Structural Engineer:

N/A

Electrical Engineer:

N/A

Mechanical Engineer:

N/A

Plumbing Engineer:

N/A

Fire Protection Eng.:

N/A

Contractor of Record:

N/A

Revision Schedule

No.	Description	Date

26025 A
PROJECT COVER SHEET

SHEET NUMBER
PCS

TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508

SCHEMATIC DESIGN
N.F.C. 06.10.2026



UNIT AREA:
1ST: 680
2ND: 712
TOTAL: 1,392 SQ. FT.

1 FIRST FLOOR BLD A
1/4" = 1'-0"
TOTAL AREA 2,720

PROJECT NORTH
True

No.	Description	Date

Revision Schedule

Project Info:
68 DURHAM BLD A

68 DURHAM RD, DOVER, NH

Sheet Status:

Latest Release:	
Issued For:	SCHEMATIC DESIGN
Org. Issue Date:	N.F.C. 06.10.2026
JOB NO:	26025 A
DRAFTED:	ASG
CHECKED:	JMT
SCALE:	1/4" = 1'-0"

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FIRST FLOOR PLAN

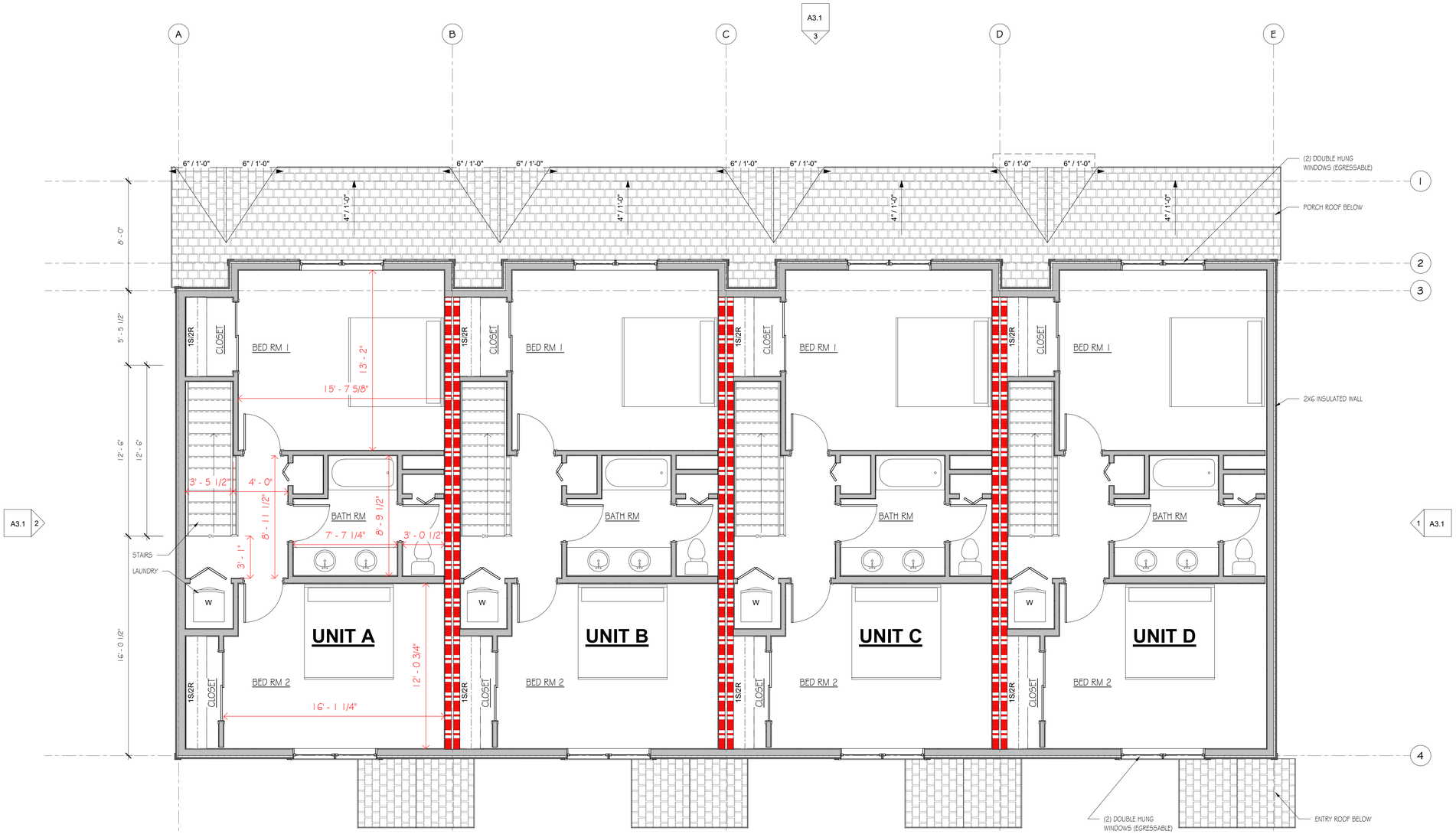
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TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508

SCHEMATIC DESIGN
N.F.C. 06.10.2026



UNIT AREA:
1ST: 680
2ND: 712
TOTAL: 1,392 SQ. FT.

1 SECOND FLOOR BLD A
1/4" = 1'-0"
TOTAL AREA 2,848

4 A3.1

1 A3.1

PROJECT NORTH
True

No. Description Date
Revision Schedule

Project Info:
68 DURHAM BLD A

68 DURHAM RD, DOVER, NH

Sheet Status:
Latest Release:
Issued For: SCHEMATIC DESIGN
Org. Issue Date: N.F.C. 06.10.2026

JOB NO. 26025 A
DRAFTED: ASG
CHECKED: JMT
SCALE: 1/4" = 1'-0"

Sheet Title:
SECOND FLOOR PLAN

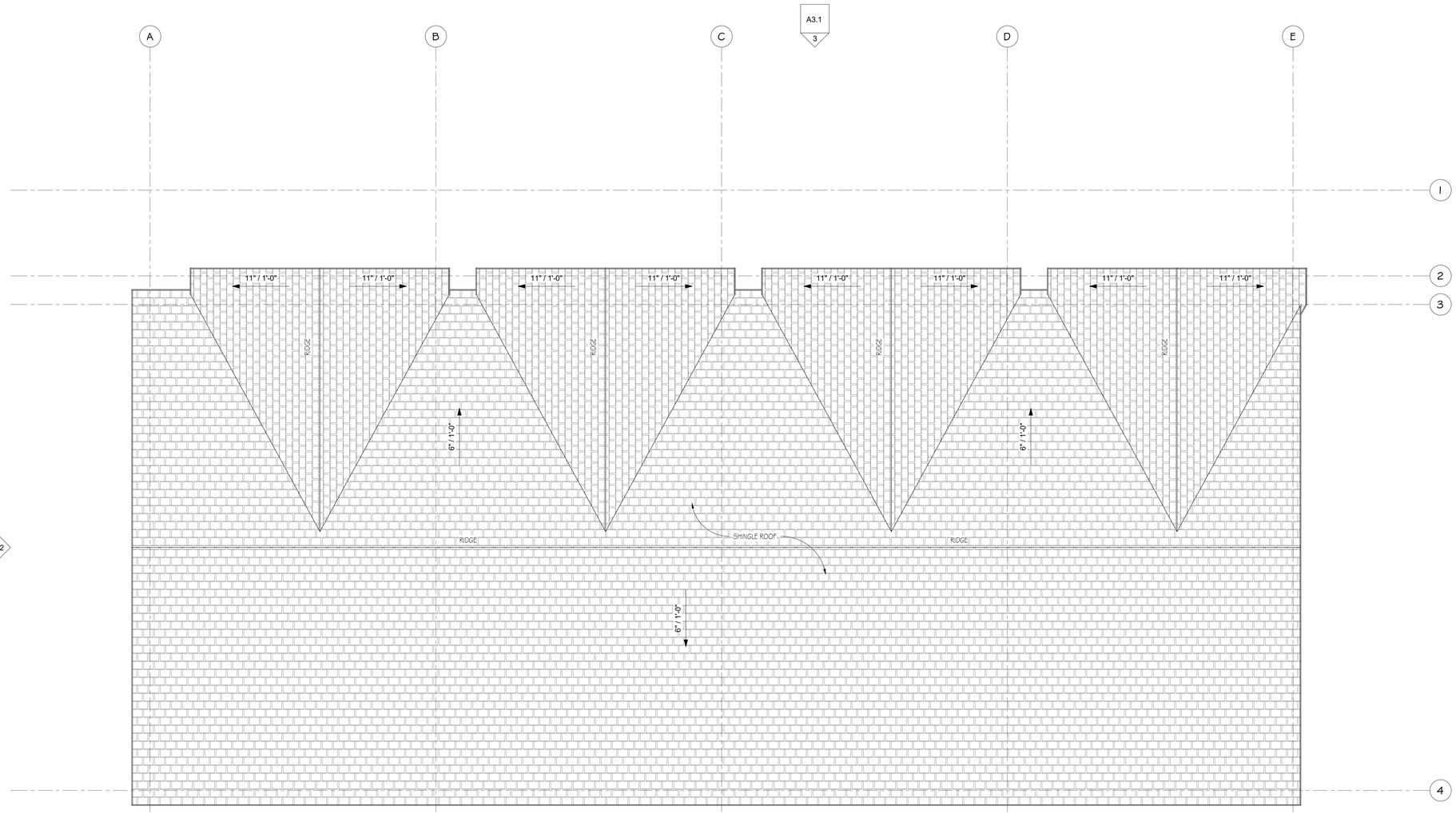
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TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508

SCHEMATIC DESIGN
N.F.C. 06.10.2026



1 ROOF PLAN BLD A
1/4" = 1'-0"

True
PROJECT NORTH

No. Description Date

Revision Schedule

Project Info:

68 DURHAM BLD A

68 DURHAM RD, DOVER, NH

Sheet Status:

Latest Release:
Issued For: SCHEMATIC DESIGN
Org. Issue Date: N.F.C. 06.10.2026

JOB NO: 26025 A
DRAFTED: ASG
CHECKED: JMT

SCALE: 1/4" = 1'-0"

Sheet Title:

ROOF PLAN

Sheet Number:

A1.3

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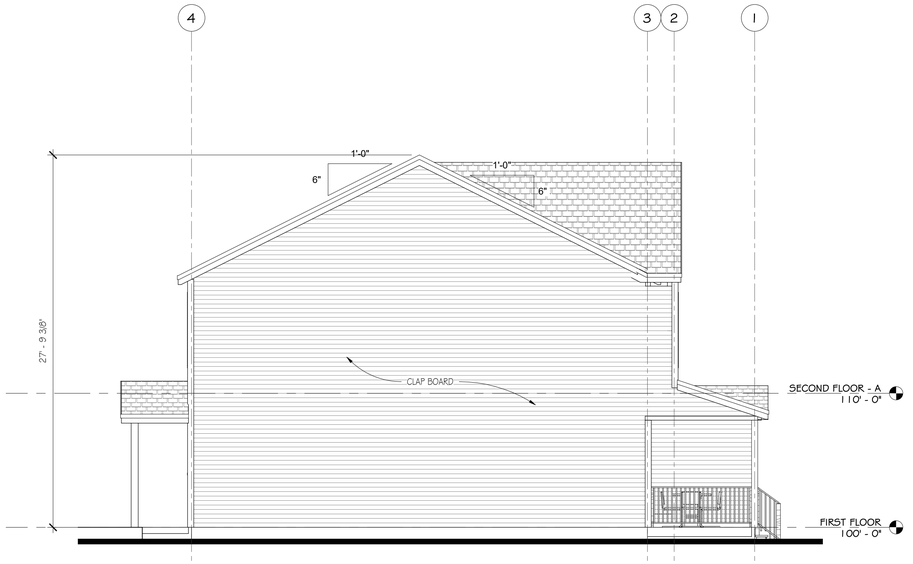
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TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508

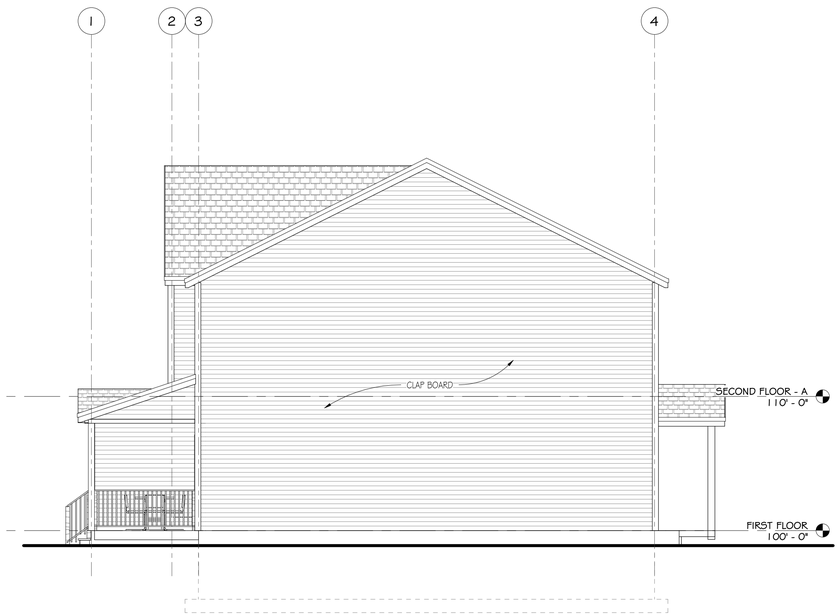
SCHEMATIC DESIGN
N.F.C. 06.10.2026



4 EAST
3/16" = 1'-0"



1 North
3/16" = 1'-0"



2 SOUTH
3/16" = 1'-0"



3 West
3/16" = 1'-0"

No.	Description	Date

Revision Schedule

Project Info:

68 DURHAM BLD A

68 DURHAM RD, DOVER, NH

Sheet Status:

Latest Release:
Issued For: SCHEMATIC DESIGN
Org. Issue Date: N.F.C. 06.10.2026

JOB NO: 26025 A
DRAFTED: ASG
CHECKED: JMT
SCALE: 3/16" = 1'-0"

Sheet Title:

EXTERIOR ELEVATIONS

Sheet Number:

A3.1

Printed on: 6/25/2026 11:31:13 AM

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TW DESIGNS

3D RENDERING
68 DURHAM BLD A

A3.2

N.F.C.

68 DURHAM BLD B

68 DURHAM RD, DOVER, NH

SCHEMATIC DESIGN
N.F.C. 06.10.2026



T | W DESIGNS

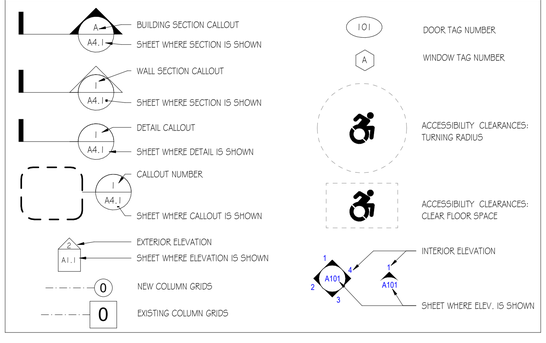
MASTER ABBREVIATION KEY:

AB	ANCHOR BOLT			LAM	LAMINATE	S	SOUTH
AC	AIR CONDITIONER	E	EAST	LAV	LAVATORY	S-TRAP	SEDIMENT TRAP
ACI	AMERICAN CONCRETE INSTITUTE	EJ	EXPANSION JOINT			SC	SOLID CORE
		EJC	EXPANSION JOINT COVER	MAS	MASONRY	SCED	SCHEDULE
ACOUST	ACOUSTIC	EL	ELEVATION	MAT	MATERIAL	SD	STORM DRAIN
AFF	ABOVE FINISH FLOOR	ELEC	ELECTRICAL	MAX	MAXIMUM	SF	SQUARE FOOT
ALT	ALTERNATE	ELEV	ELEVATOR	MECH	MECHANICAL	SH	SHOWER
ALUM	ALUMINUM	EQ	EQUAL	MEM	MEMBRANE	SHT	SHEET
ANCH	ANCHOR	EQUIP	EQUIPMENT	MEP	MECHANICAL, ELECTRICAL, PLUMBING	SIM	SIMILAR
ANOD	ANODIZED	ER	EMERGENCY ROOM			SL	SLIDING
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	EST	ESTIMATE	METTP	METAL TOILET PARTITION	SMR	SINGLE PLY MEMBRANE ROOF
		EWC	ELECTRICAL WATER COOLER	MFR	MANUFACTURER	SP/PT/FIN	SPECIAL PAINT FINISH
BD	BOARD	EXH	EXHAUST	MH	MANHOLE	SPEC	SPECIFICATION
BIT	BITUMINOUS	EXIST	EXISTING	MIN	MINIMUM	SPKR	SPEAKER
BL	BUILDING LINE	EXP	EXPANSION	MISC	MISCELLANEOUS	SQ	SQUARE
BLDG	BUILDING	EXPD	EXPANDED	MO	MASONRY OPENING	SS	STAINLESS STEEL
BLK	BLOCK	EXT	EXTERIOR	MTL	METAL	STA	STATION
BLKG	BLOCKING			MULL	MULLION	STD	STANDARD
BM	BEAM	F/F	FACE OF FOUNDATION WALL	N	NORTH	STL	STEEL
BOC	BOTTOM OF CURB			NAT	NATURAL	STOR	STORAGE
BOF	BOTTOM OF FOOTING ELEVATION	FA	FRESH AIR	NEC	NECESSARY	STRG	STRINGER
		FAP	FIRE ALARM PANEL	NIC	NOT IN CONTRACT	STRUCT	STRUCTURAL
BOT	BOTTOM	FD	FLOOR DRAIN	NOM	NOMINAL	SU	SITE UTILITY
BRG	BEARING	FE	FIRE EXTINGUISHER	NRC	NOISE REDUCTION COEFFICIENT	SUSP	SUSPEND (SUSPENDED)
BRK	BRICK	FEC	FIRE EXTINGUISHER CABINET			SYMM	SYMMETRICAL
BSMT	BASEMENT			NTS	NOT TO SCALE	SYS	SYSTEM
BTW	BETWEEN	FIN	FINISH				
BUR	BUILT-UP ROOF	FL	FLOW LINE	OC	ON CENTER	T	TREAD
		FLR	FLOOR	OD	OUTSIDE DIAMETER	T&G	TONGUE & GROOVED
CAB	CABINET	FND	FOUNDATION	OF/C	OUTSIDE FACE OF CONCRETE	T/FRM	TOP OF FRAME
CB	CATCH BASIN	FOF	FACE OF FINISH			T/SLB	TOP OF SLAB
CER	CERAMIC	FOM	FACE OF MASONRY	OH	OVERHEAD	TB	TACKBOARD
CF	CUBIC FOOT	FOS	FACE OF STUD	OPG	OPENING	TEL	TELEPHONE
CI	CAST IRON	FR	FIRE RATED	OPP	OPPOSITE	TEMP	TEMPORARY
CJ	CONTROL JOINT	FS	FULL SIZE	OR	OPERATING ROOM	TERR	TERRAZZO
CL	CLOSET	FT	FOOT			THK	THICK
CLCB	CURBLESS CATCH BASIN	FTG	FOOTING	PBD	PARTICLE BOARD	THLD	THRESHOLD
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COMP	COMPACTED (COMPOSITION)	GEN	GENERAL	PNL	PANEL		
		GL	GLASS	PSF	POUNDS PER SQUARE FOOT	UH	UNIT HEATER
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DF	DRINKING FOUNTAIN			RD	ROOF DRAIN	VIF	VERIFY IN FIELD
DIA	DIAMETER			REF	REFERENCE	VNR	VENEER
DIAG	DIAGONAL	ID	INSIDE DIAMETER	REFR	REFRIGERATOR	VOL	VOLUME
DIM	DIMENSION	IN	INCH	REINF	REINFORCE		
DL	DEAD LOAD	INSUL	INSULATION	REQD	REQUIRED	W	WEST
DN	DOWN	INT	INTERIOR	RGH	ROUGH	W/	WITH
DR	DOOR	INV	INVERT	RL	RAIN LEADER	WC	WATER CLOSET
DS	DOWNSPOUT			RM	ROOM	WD	WOOD
DS/C	DRIVE SIDE OF CURB	JC	JANITOR'S CLOSET	RO	ROUGH OPENING	WDW	WINDOW
DTL	DETAIL	J/ST	JOIST	ROW	RIGHT OF WAY	WGL	WIRE GLASS
DWG	DRAWING	JT	JOINT	RQMT	REQUIREMENT	WP	WEATHERPROOF (WATERPROOFING)
						WWF	WELDED WIRE FABRIC

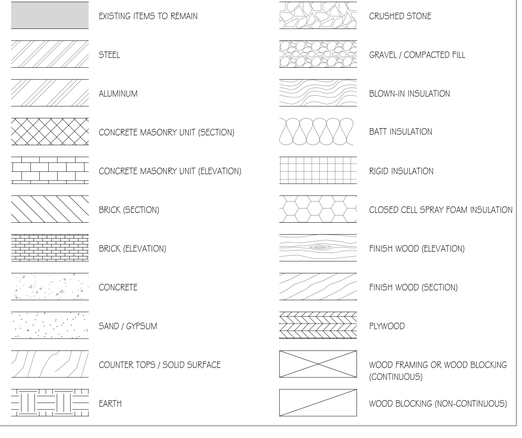
LOCUS MAP: (N.T.S.)



GRAPHIC SYMBOLS LEGEND



MATERIAL LEGEND



DRAWING SHEET INDEX:

Sheet	Sheet Name	Issued	Revision	Revision Date
PCS	*PROJECT COVER SHEET*	*N.F.C.*		
A0.1	*SITE*	*N.F.C.*		
A1.1	*FLOOR PLAN*	*N.F.C.*		
A1.2	*FLOOR PLAN*	*N.F.C.*		
A1.3	*FLOOR PLAN*	*N.F.C.*		
A1.4	*ROOF PLAN*	*N.F.C.*		
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12. PENETRATIONS OF ALL FIRE RATED ASSEMBLIES SHALL BE PROTECTED BY LIKE RATED CONSTRUCTION DAMPERS, SEALANTS, COLLARS, ETC., TYPICAL.
13. CONTRACTOR SHALL FURNISH, LOCATE AND INSTALL ALL ACCESS PANELS AS REQUIRED AFTER INSTALLATION OF MECHANICAL DUCTS, PLUMBING AND ELECTRICAL WORK, FIRE RATED AS REQUIRED.
14. FURNISH AND INSTALL SOLID BLOCKING BEHIND ALL WALL HUNG MILLWORK ITEMS, RAILS, FIXTURES,GRAB BARS, ETC. , WHERE INDICATED OR REQUIRED.
15. CONTRACTOR SHALL LAYOUT OR MARK, ALL EQUIPMENT, SYSTEMS AND MILLWORK ON THE FLOOR FOR ARCHITECT OR OWNER'S APPROVAL PRIOR TO BEGINNING CEILING / OVER HEAD WORK.
16. ALL SPRINKLER HEAD LOCATIONS, MAINS, BRANCHES AND RISER PIPE LOCATIONS MUST BE COORDINATED WITH THE DESIGN / BUILD CONTRACTOR PRIOR TO WORK.
17. FURNISH AND INSTALL FIRE EXTINGUISHERS IN TYPE, QUANTITY, AND LOCATION PER LOCAL FIRE DEPARTMENT. TYPICAL
18. CONTRACTOR SHALL VERIFY, COORDINATE LOCATION WITH THE ARCHITECT ANY SMOKE, CARBON MONOXIDE DETECTOR OR FIRE ALARM DEVICE AS REQUIRED BY THE LOCAL FIRE DEPARTMENT.
19. FURNISH & INSTALL FIRE DAMPERS WITH FUSIBLE LOUVER WHEREVER DUCT WORK PENETRATES ONE OR TWO HOUR CEILINGS OR WALLS. TYPICAL UNLESS NOTED OTHERWISE.
20. PROVIDE PLASTER AND GYPSUM WALL BOARD CONTROL JOINTS AT 30'-0" ON CENTER FROM FLOOR TO CEILING, OR AS NOTED ON THE CONSTRUCTION DOCUMENTS. VERIFY IN FEILD WITH ARCHITECT PRIOR TO WORK.

Project Info:

26025 B
68 DURHAM BLD B
68 DURHAM RD, DOVER, NH
SCHEMATIC DESIGN

Architect of Record:

T | W Designs, LLC
254 Drake Hill Rd.
Strafford, NH 03884
603-664-2181

Civil Engineer:

BERRY SURVEYING & ENG.
335 SECOND CROWN POINT RD
BARRINGTON, NH 03825
603-332-2863

Structural Engineer:

N/A

Electrical Engineer:

N/A

Mechanical Engineer:

N/A

Plumbing Engineer:

N/A

Fire Protection Eng.:

N/A

Contractor of Record:

N/A

Revision Schedule

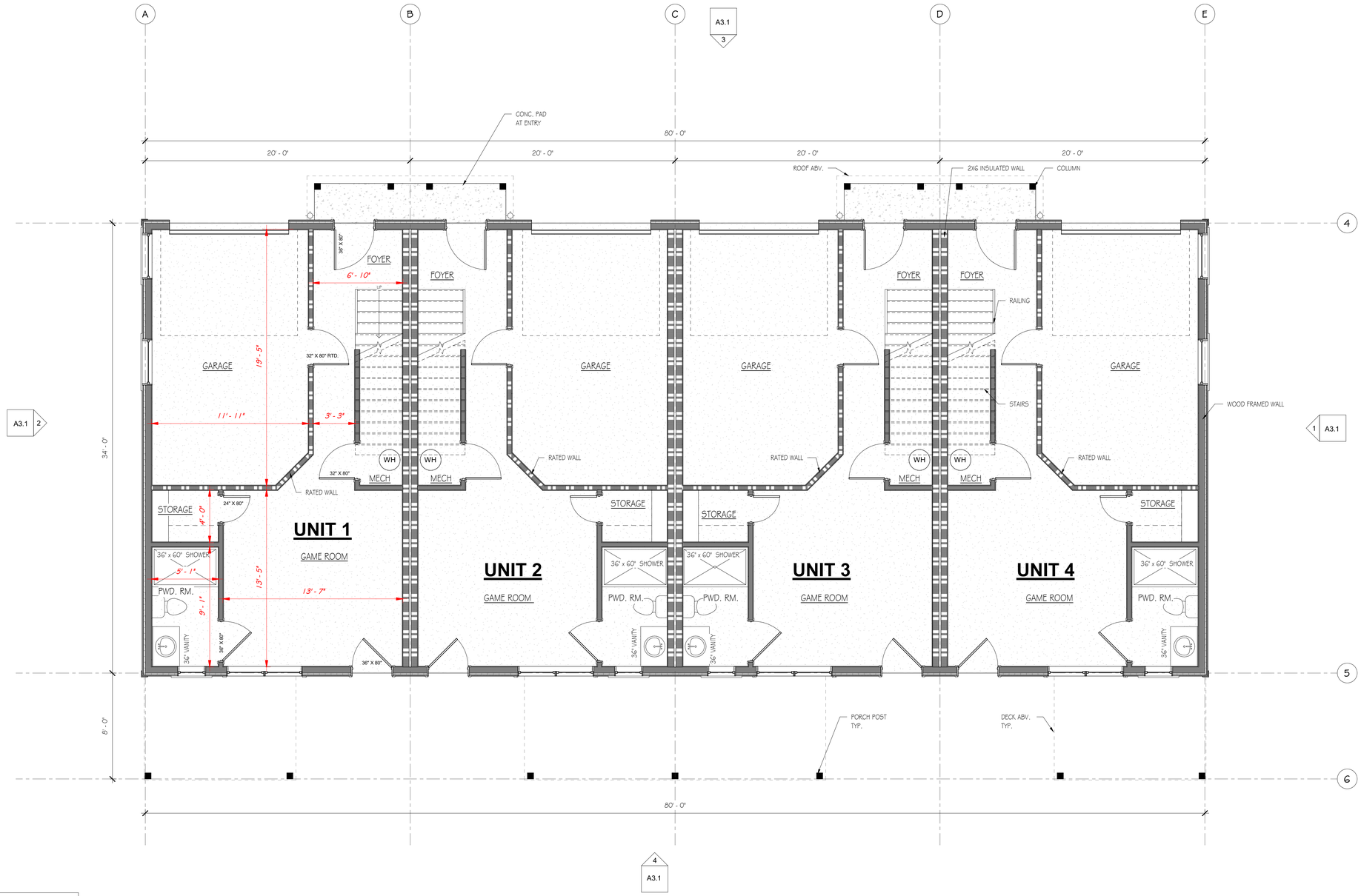
No.	Description	Date

26025 B
PROJECT
COVER SHEET

SHEET NUMBER
PCS

TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508

SCHEMATIC DESIGN
N.F.C. 06.10.2026



UNIT AREA:	A	B	C	D
1ST:	680	680	680	680
2ND:	707	693.5	693.5	707
3RD:	680	693.5	680	693.5
TOTAL:	2,067	2067	2053.5	2080.55Q. FT.

1 FIRST FLOOR BLD B
1/4" = 1'-0"
TOTAL AREA 2,720

PROJECT NORTH
True

Revision Schedule

No.	Description	Date

Project Info:

68 DURHAM BLD B

68 DURHAM RD, DOVER, NH

Sheet Status:

Latest Release:
Issued For: SCHEMATIC DESIGN
Org. Issue Date: N.F.C. 06.10.2026

JOB NO: 26025 B
DRAFTED: ASG/HL
CHECKED: JMT

SCALE: 1/4" = 1'-0"

Sheet Title:

FLOOR PLAN

Sheet Number:

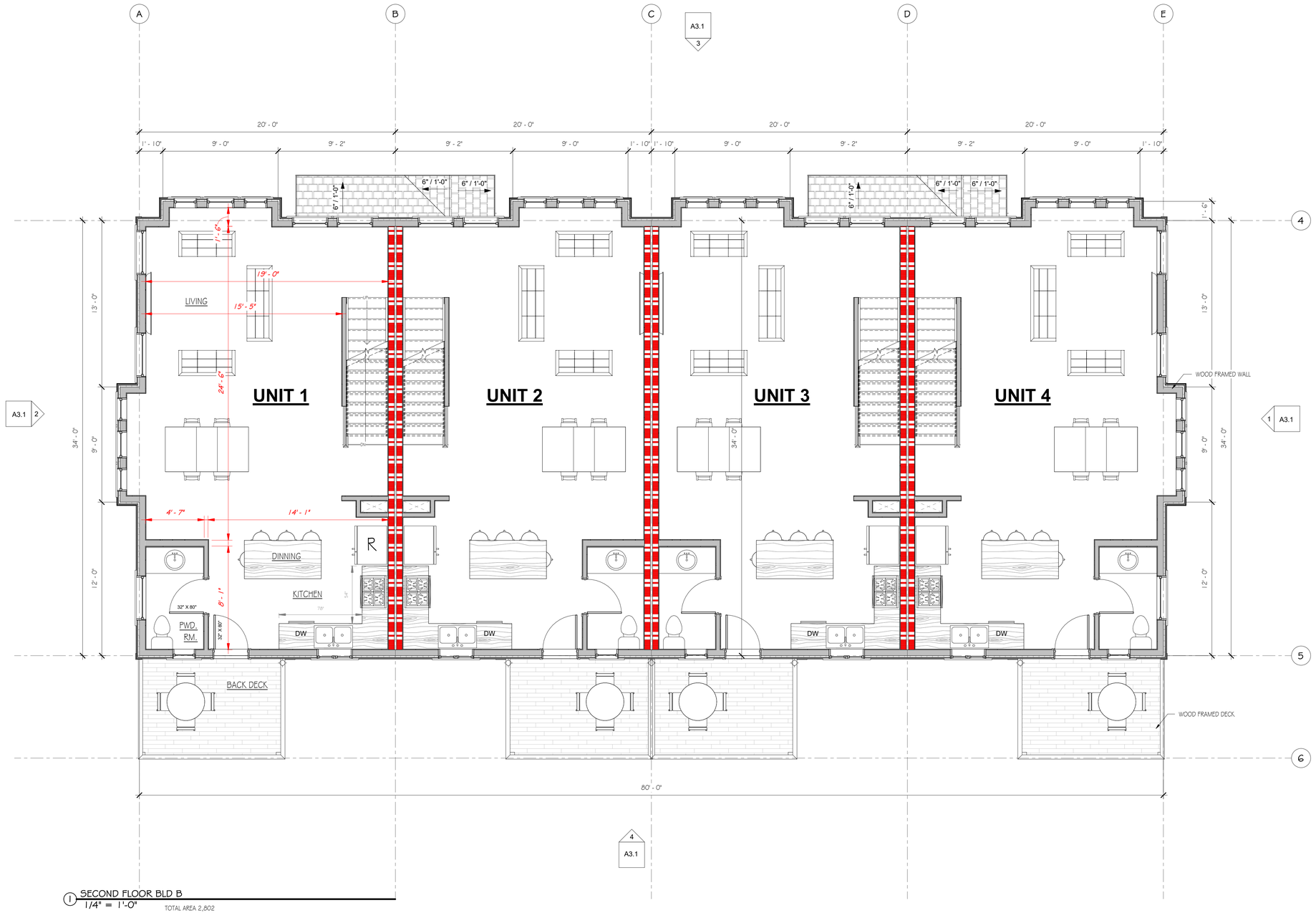
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SCHEMATIC DESIGN
N.F.C. 06.10.2026



1 SECOND FLOOR BLD B
1/4" = 1'-0"

TOTAL AREA 2,802

UNIT AREA:	A	B	C	D
1ST:	680	680	680	680
2ND:	707	693.5	693.5	707
3RD:	680	693.5	680	693.5
TOTAL:	2,067	2067	2053.5	2080.55Q. FT.

PROJECT NORTH
True

No. Description Date

Revision Schedule

Project Info:

68 DURHAM BLD B

68 DURHAM RD, DOVER, NH

Sheet Status:

Latest Release:
Issued For: SCHEMATIC DESIGN
Org. Issue Date: N.F.C. 06.10.2026

JOB NO: 26025 B
DRAFTED: ASG/HL
CHECKED: JMT

SCALE: 1/4" = 1'-0"

Sheet Title:

FLOOR PLAN

Sheet Number:

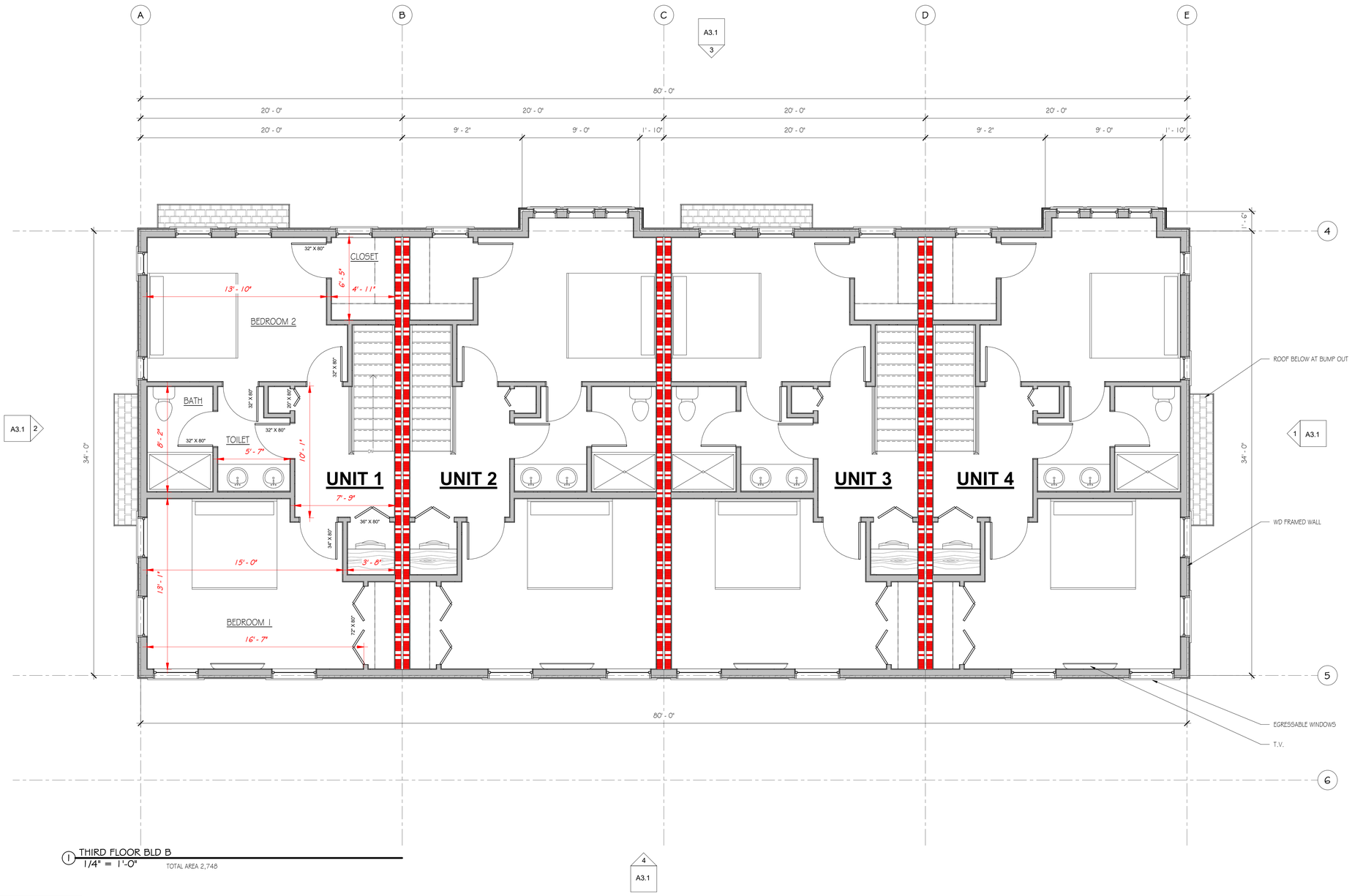
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TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508

SCHEMATIC DESIGN
N.F.C. 06.10.2026



1 THIRD FLOOR BLD B
1/4" = 1'-0"

TOTAL AREA 2,748

4 A3.1

UNIT AREA:	1	2	3	4
1ST:	680	680	680	680
2ND:	707	694	694	707
3RD:	680	694	680	694
TOTAL:	2,067	2,068	2,054	2,081SQ. FT.

PROJECT NORTH
True

No. Description Date

Revision Schedule

Project Info:

68 DURHAM BLD B

68 DURHAM RD, DOVER, NH

Sheet Status:

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Issued For: SCHEMATIC DESIGN
Org. Issue Date: N.F.C. 06.10.2026

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CHECKED: JMT
SCALE: 1/4" = 1'-0"

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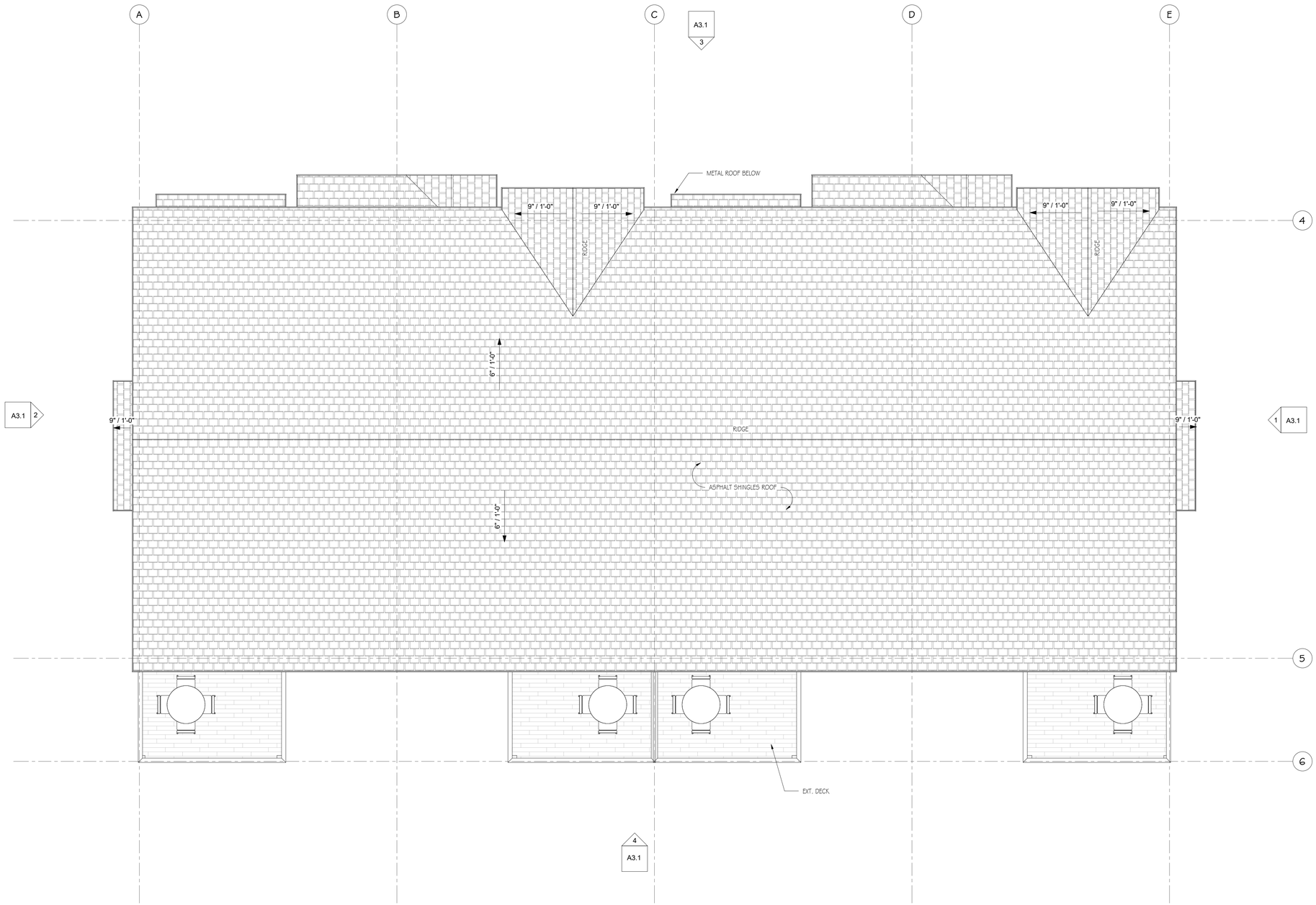
FLOOR PLAN

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1 ROOF PLAN BLD B
1/4" = 1'-0"

TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508

SCHEMATIC DESIGN
N.F.C. 06.10.2026

No. Description Date

Revision Schedule

Project Info:

68 DURHAM BLD B

68 DURHAM RD, DOVER, NH

Sheet Status:

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Org. Issue Date: N.F.C. 06.10.2026

JOB NO: 26025 B
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CHECKED: JMT

SCALE: 1/4" = 1'-0"

Sheet Title:

ROOF PLAN

Sheet Number:

A1.4

True

PROJECT NORTH

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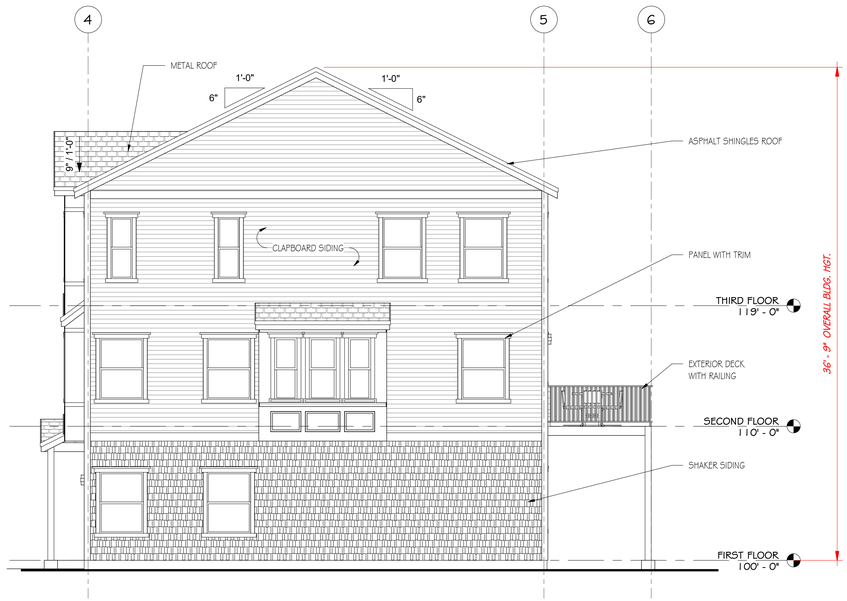
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TIW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508

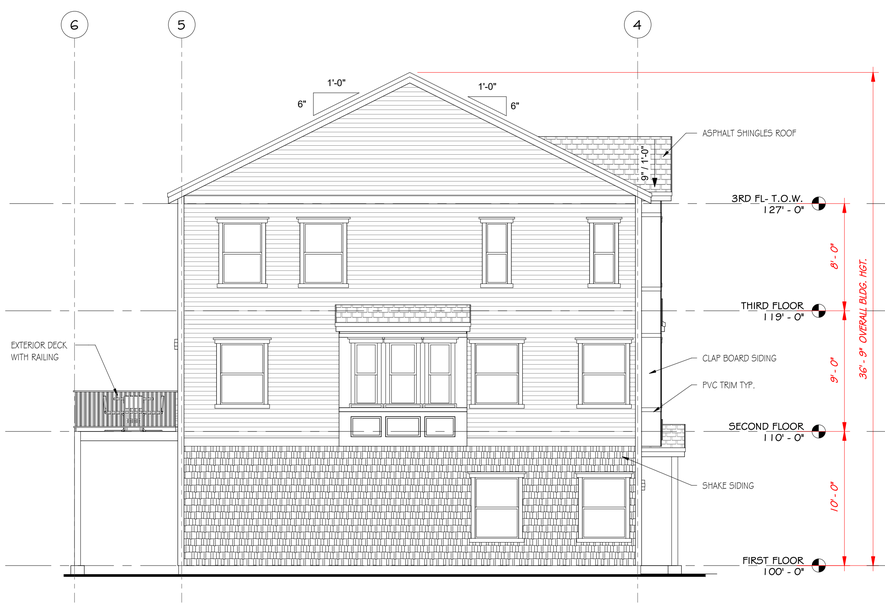
SCHEMATIC DESIGN
N.F.C. 06.10.2026



3 WEST SIDE ELEVATION
3/16" = 1'-0"



2 SOUTH SIDE ELEVATION
3/16" = 1'-0"



1 NORTH SIDE ELEVATION
3/16" = 1'-0"



4 EAST SIDE ELEVATION
3/16" = 1'-0"

No. Description Date

Revision Schedule

Project Info:

68 DURHAM BLD B

68 DURHAM RD, DOVER, NH

Sheet Status:

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Org. Issue Date: N.F.C. 06.10.2026

JOB NO: 26025 B
DRAFTED: ASG/HL
CHECKED: JMT

SCALE: 3/16" = 1'-0"

Sheet Title:

EXTERIOR ELEVATIONS

Sheet Number:

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TW DESIGNS

3D RENDERING
68 DURHAM BLD B

A3.2

N.F.C.