CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

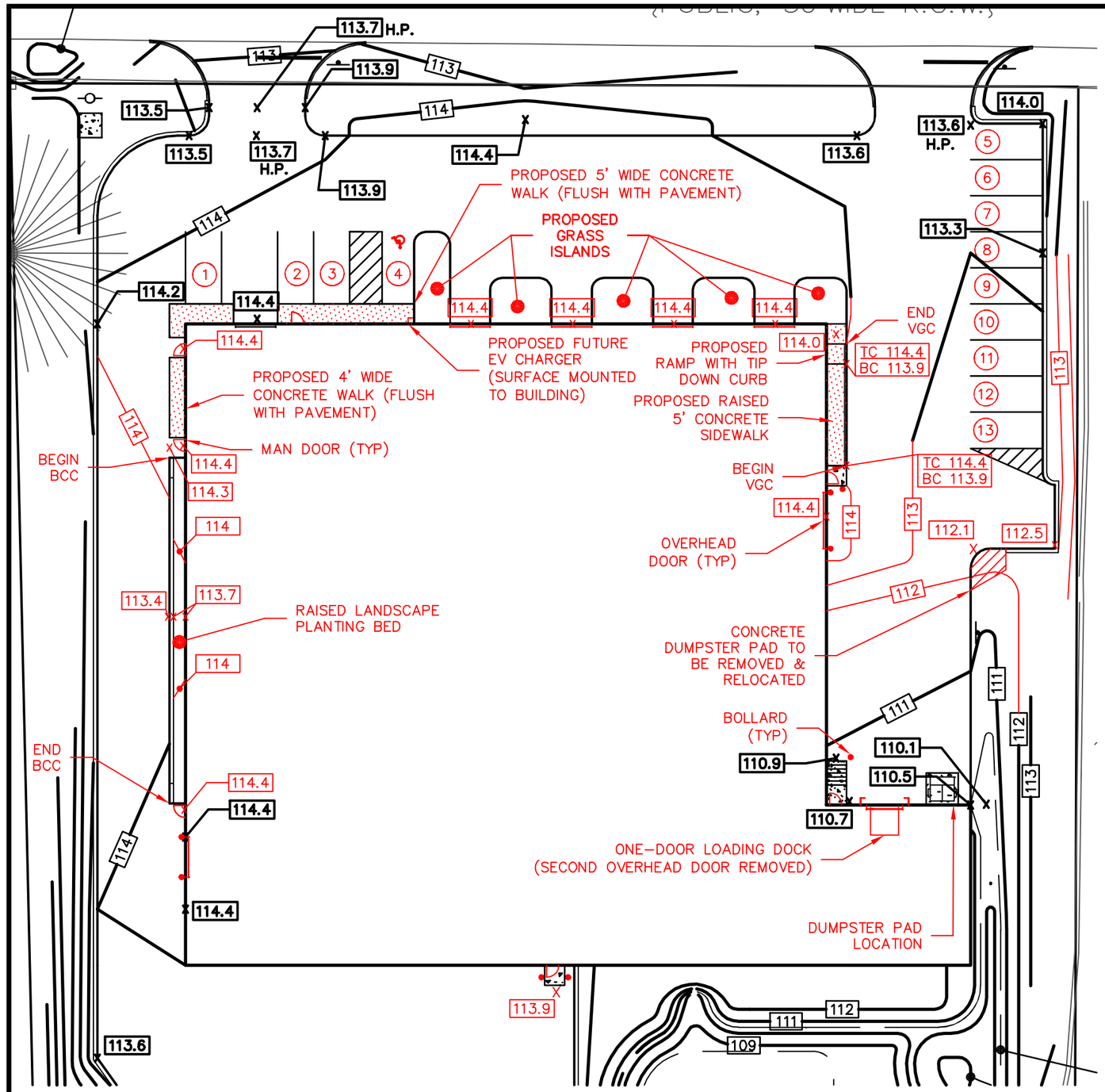
REVISED

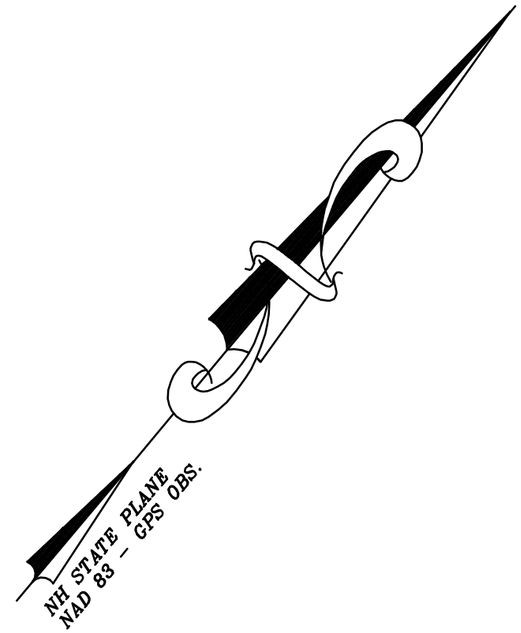
Meeting Type: Regular Meeting
Meeting Location: Council Conference Room, City Hall, 288 Central Ave, Dover NH 03820
Meeting Date: **Thursday, June 11, 2026**
Meeting Time: **10:30 AM**

1. Site Plan for 16 Industrial Park, LLC, Assessor's Map G, Lot 4-1, zoned CM, located at Industrial Park Road. (Proposal is for administrative changes to previously approved landscaping and parking layout.) (SITE-2025-0001)

2. Site Plan for Corey MacKoul, Assessor's Map 17, lot 38, zoned R-12, located at 89 Stark Avenue. (Proposal is to construct two (2) single-family homes.) (SITE-2026-0008)

3. Site Plan for First Rate Real Estate Group, LLC, Assessor's Map 26, Lot 3-1, zoned G and RM-U, located at 75 Oak Street. (Proposal is to renovate and redevelop the existing building into twenty-two (22) residential units with site improvements.) (SITE-2026-0009)





REVISED SITE PARKING CALCULATIONS
COMMERCIAL/MANUFACTURING DISTRICT

USES:	MAXIMUM	PROPOSED
OFFICE AREA: 1 SPACE/300 S.F. 800 S.F. x 1 / 300 S.F.=2.67	3	3
WAREHOUSE AREA: 11 SPACE/800 S.F. 26,240 S.F. x 1/800 S.F.=32.8	33	10
TOTAL	36	13
ACCESSIBLE PARKING	1 (VAN)	1 (VAN)

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

No.	Appd	Date

REVISIONS

SEASONAL AUTOMOTIVE STORAGE/MAINTENANCE DOVER, NH 03820

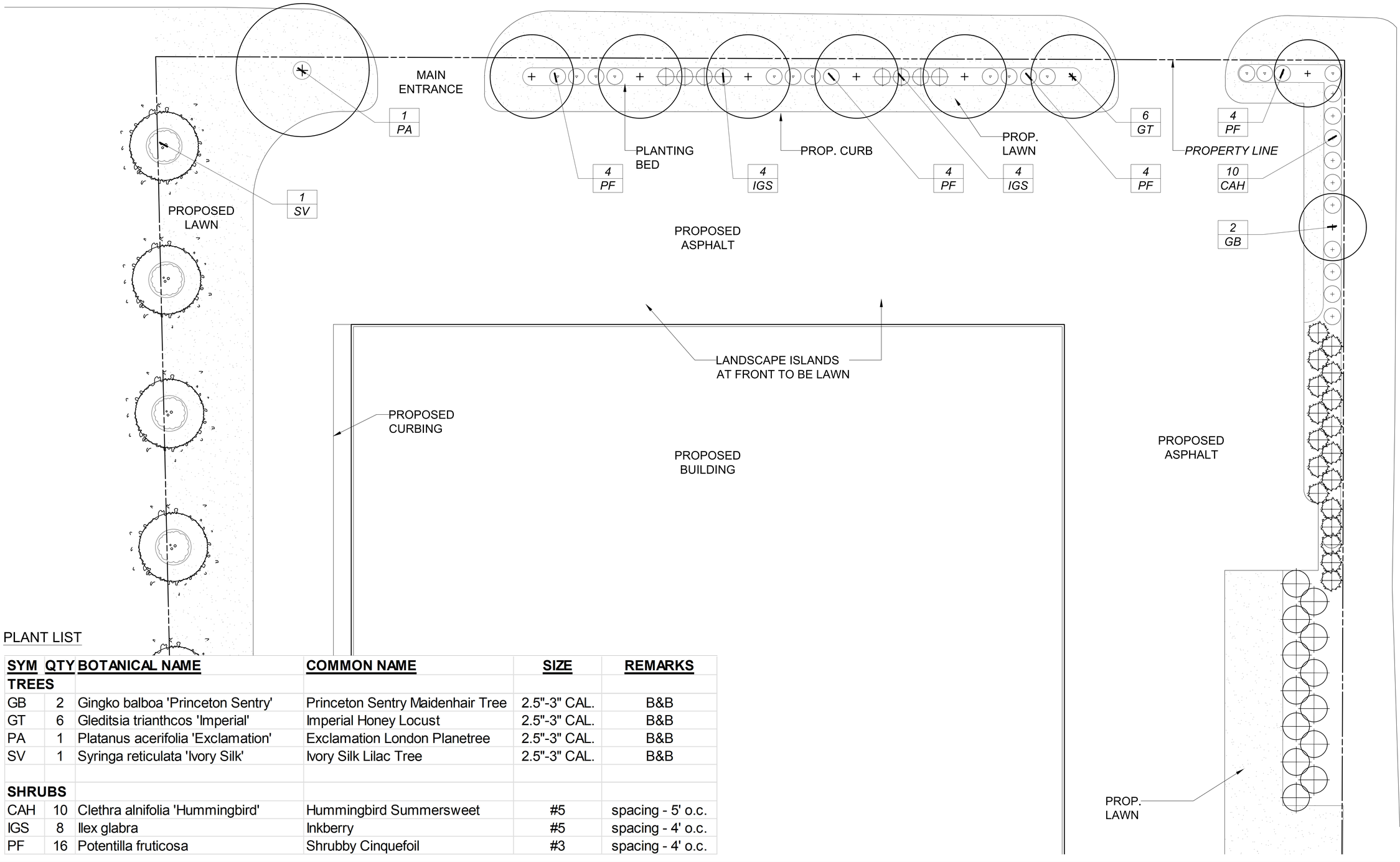
DATE: 05/11/26
SCALE: AS SHOWN
DESIGNED BY: JRG
DRAWN BY: JRG
APPROVED BY: SJH
PROJECT NO.: 25110
FILE: CONSTRUCTION

CIVILWORKS NEW ENGLAND
Civil, Site & Environmental Engineering
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

SK-5

SK-20260511-005 REVISED SITE & GRADING SKETCH

INDUSTRIAL PARK ROAD



PLANT LIST

SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES					
GB	2	Gingko balboa 'Princeton Sentry'	Princeton Sentry Maidenhair Tree	2.5"-3" CAL.	B&B
GT	6	Gleditsia trianthcos 'Imperial'	Imperial Honey Locust	2.5"-3" CAL.	B&B
PA	1	Platanus acerifolia 'Exclamation'	Exclamation London Planetree	2.5"-3" CAL.	B&B
SV	1	Syringa reticulata 'Ivory Silk'	Ivory Silk Lilac Tree	2.5"-3" CAL.	B&B
SHRUBS					
CAH	10	Clethra alnifolia 'Hummingbird'	Hummingbird Summersweet	#5	spacing - 5' o.c.
IGS	8	Ilex glabra	Inkberry	#5	spacing - 4' o.c.
PF	16	Potentilla fruticosa	Shrubby Cinquefoil	#3	spacing - 4' o.c.

FRONT
LANDSCAPE PLAN

16 INDUSTRIAL PARK
DOVER, NH

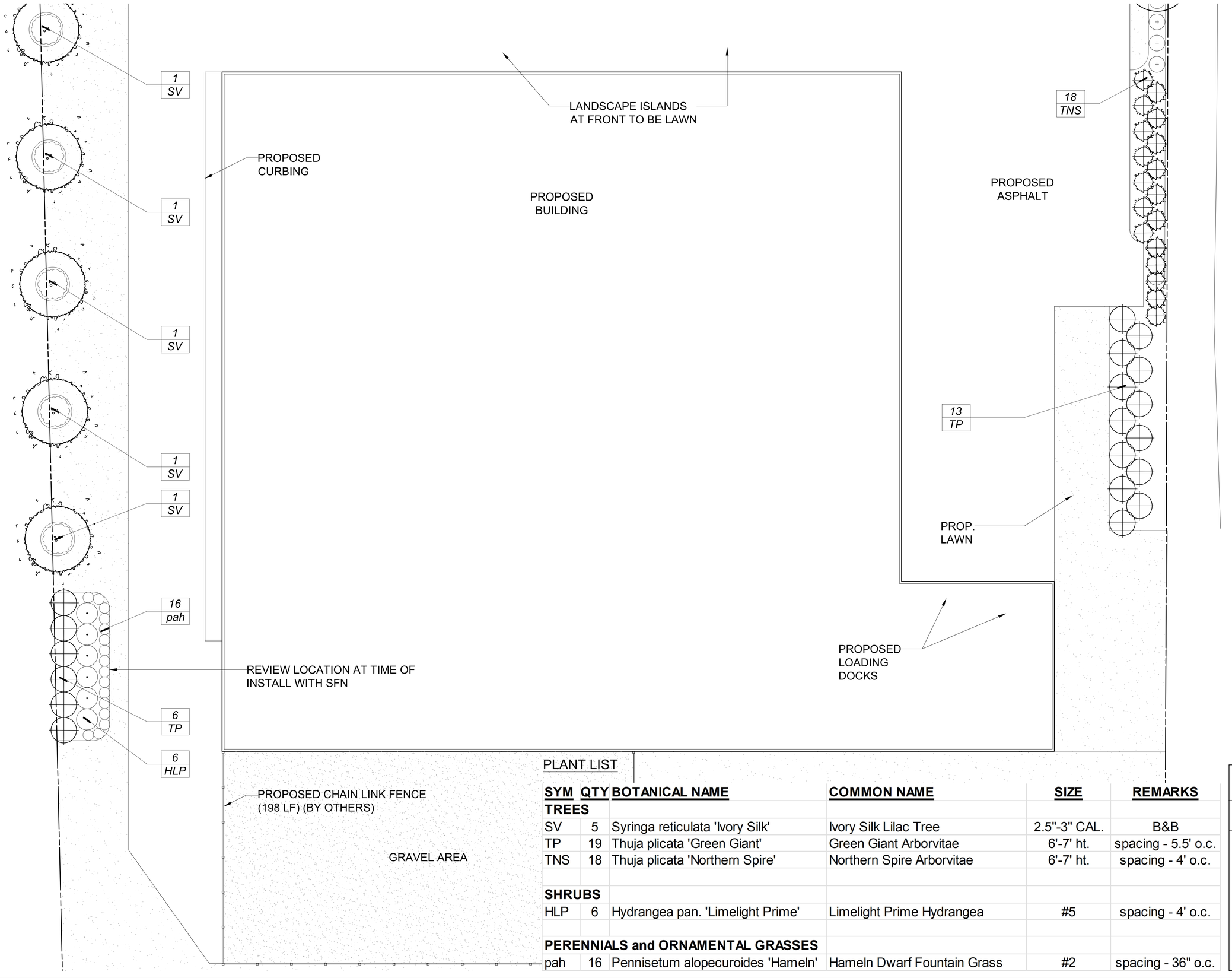
Salmon Falls Nursery & Landscaping

DATE: FEB. 05, 2026
REV: FEB. 17, 2026
REV: APR. 11, 2026
REV: APR. 30, 2026
REV: MAY 28, 2026

SCALE: 1" = 10'-0"

PROJECT NO. 2082

0' 10' 20'



PLANT LIST

SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES					
SV	5	Syringa reticulata 'Ivory Silk'	Ivory Silk Lilac Tree	2.5"-3" CAL.	B&B
TP	19	Thuja plicata 'Green Giant'	Green Giant Arborvitae	6'-7' ht.	spacing - 5.5' o.c.
TNS	18	Thuja plicata 'Northern Spire'	Northern Spire Arborvitae	6'-7' ht.	spacing - 4' o.c.
SHRUBS					
HLP	6	Hydrangea pan. 'Limelight Prime'	Limelight Prime Hydrangea	#5	spacing - 4' o.c.
PERENNIALS and ORNAMENTAL GRASSES					
pah	16	Pennisetum alopecuroides 'Hameln'	Hameln Dwarf Fountain Grass	#2	spacing - 36" o.c.

REAR
LANDSCAPE PLAN

16 INDUSTRIAL PARK
DOVER, NH

Salmon Falls Nursery & Landscaping

DATE: FEB. 05, 2026
REV: FEB. 17, 2026
REV: APR. 11, 2026
REV: APR. 30, 2026
REV: MAY 28, 2026

SCALE: 1" = 10'-0"

PROJECT NO. 2082

0' 10' 16'

PLAN SNAPSHOT REPORT SITE-2026-0008
FOR CITY OF DOVER, N.H.

Plan Type:	Site Plan - Major	**Project:**		**App Date:**	05/14/2026
Work Class:	New Construction	**District:**	None	**Exp Date:**	07/18/2026
Status:	In Review	**Square Feet:**	0.00	**Completed:**	NOT COMPLETED
Valuation:	$0.00	**Assigned To:**	Blonigen, Rachel	**Approval Expire Date:**	

Description: The applicant proposed to construction of 2 single family homes and associated site improvements to 89 Stark Avenue which has an existing home.

Parcel:	17038-000000 Main	**Address:**	89 Stark Av Dover, NH Main	**Zone:**

Applicant
Tritech Engineering Corp.
755 Central Avenue
Dover, NH 03820
Business: (603) 742-8107

Owner
Koul Contracting LLC
Corey MacKoul
8 HULL AV
DOVER, 03820
Mobile: (603) 630-4113

Plan Custom Fields

Total2	0	Total3	0	Total	0
Total5	0	Total4	0	Total6	0
Total7	0	Total9	0	Total8	0
Street Classification Type	Municipal	Recording Number		Net Change in # Parking Spaces (+/-)	4
Water Service	Municipal	Sewer Service	Municipal	Deed Book	5248
Total Acres (GIS)	0.833	Deed Page	342	Total SQFT	36285.5
Deed Date	03-07-2025	Proposed Property Use	3 Single Family Homes	Area of Parcel to be Developed (SQFT)	0.833
Number of Parking Spaces Existing	2	Number of Parking Spaces Proposed	6	Distance to City Water	0
Distance to City Sewer	0	Type of Building to be Built	2 Wood frame Single Family Homes	Estimated Construction Value	850000.00
Refuse Removal	Public	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
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_Robert_Stowell_5/14/2026.jpg	05/14/2026 11:34	Stowell, Robert		Uploaded via CSS

Invoice No.	Fee	Fee Amount	Amount Paid
INV-2026001666	Planning General Application Fee	$200.00	$0.00
	Total for Invoice INV-2026001666	$200.00	$0.00
	Grand Total for Plan	**$200.00**	**$0.00**

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1		05/15/2026 13:01	

PLAN SNAPSHOT REPORT (SITE-2026-0008)

Confirm application complete v.1	Generic Action		05/15/2026 13:01
Technical Review Committee Meeting Agenda v.1	Task	05/15/2026 13:01	
Land Use Plan Technical Review v.1	Receive Submittal		
Technical Review Committee Meeting v.1	Hold Meeting		
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: Corey MacKoul Telephone # 603-630-4113

Address of Applicant: 8 Hull Avenue, Dover, NH

E-Mail Address: corey@koulcontracting.com

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

Address of Property Owner: _____

PROPERTY INFORMATION

Address of Property: 89 Stark Ave

Assessor's Map # 17 Lot(s) # 38

Zoning District(s) R-12 Overlay District(s) _____

Size of Parcel: 38,452 sq. ft. 0.833 ac. Property Deed: Book 5248 Page: 342

Existing Use of Property: Single family residential

SITE PLAN INFORMATION

Describe Proposed Use: construct an additional 2 single family units.

Area of Parcel to be Developed: 30,185 sq. ft.

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

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

Number of Parking Spaces: Existing 2 Proposed 6

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

Number of Employees Total: _____ In Maximum Shift: _____

Disposition of Parcel:

Building Footprint Varies sq. ft.

Total Building Area 3,945 sq. ft.

Paved Area 4,000 sq. ft.

Building Setbacks:

Front Yard 12.3 ft.

Rear Yard 114 ft.

Side Yard: Right 19.5 ft. Left 26.7 ft.

City Water? X Yes ___ No How far is city water from the property? At property line

City Sewer? X Yes ___ No How far is city sewer from the property? At property line

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 1 units

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

The applicant proposes the construction of 2 single family homes. The base density is 2 units, therefore, the applicant proposes to purchase one additional unit through the TDR ordinance.

BUILDING INFORMATION

Type of Building to be Built: Wood frame

Height of Building: Varies Finished Floor Elevation: Varies

Number of Seats (where applicable) N/A

Estimated value of construction: $850,000 Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: 153-14.D.6(a) & (c)

Justification for waiver request(s) (*attach additional sheets as needed*):

See attachment.

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Robert Stowell; Tritech Engineering Corp.

Address 755 Central Ave. Dover, NH Telephone #: 603 742 8107

Professional License #: 884 E-mail address: rjs@tritecheng.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Robert Stowell; Tritech Engineering Corp.

Address 755 Central Ave. Dover, NH Telephone #: 603 742 8107

Professional License #: 884 E-mail address: rjs@tritecheng.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.) Romy N. Maurer; Terrain Planning & Design

Address 311 Kost Hill Rd. Hopkinton, NH 03229 Telephone #: 603 746 3512

Professional License #: 086 E-mail address: romy@terrainplanning.com

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) Michael Mariano; Highland Soil Services

Address 75 Prospect St. Somersworth, NH Telephone #: 609 692 4457

Professional License #: 76 E-mail address: highlandsoilservices@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: 5/12/26

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

Signature of Agent: _____, PRESIDENT Date: 05/12/26

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: 5/12/26

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: 5/12/26

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: 5/12/26

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
17	38	Corey MacKoul	8 Hull Avenue, Dover, NH

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Robert J. Stowell	Tritech Engineering Corp.	755 Central Ave, Dover NH 03820
Michael Mariano	Highland Soil Services	75 Prospect St. Somersworth NH 03878
Romy N. Maurer	Terrain Planning & Design	311 Kost Hill Road, Hopkinton NH 03229

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 # 2 per dwelling unit = $ 400.00
- ☐ 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 = $ 400.00

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: Corey MacKoul File Number: _____

PROJECT TITLE: Corey MacKoul

PROPERTY LOCATION: 89 Stark Ave Tax Map: 17 Lot: 38

	Where/How Provided	Reviewed
1. Completed and signed Application form	Attached	
2. Plan Review Fees are provided	Hand delivered	
3. Electronic copy of the engineered/surveyed plan layout	Via portal	
4. Electronic copy of supplementary materials and application	Via portal	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	Attached	
6. Waiver requests to the Site Plan Review Regulations, with written justification	Attached	
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	Architectural plans	
9. A colored architectural plan showing all sides of buildings	Architectural plans	
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:	Attached	
Location map at appropriate scale	Sheet EX-1 Locus Map	
Proposed Project name and title and Planning File #	Title Block	
Date, north arrow and scale	All applicable sheets	
Names of all abutting property owners	Sheet EX-1	
Name and address of owners and/or applicants	Sheet EX-1	
Signature & stamp of NH licensed land surveyor and/or engineer	All applicable sheets	
Zoning District boundaries, including any special or overlay districts	Sheet SP-1	
Location of Conservation District areas	N/A	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	Sheet SP-1	
Location and widths of existing & proposed easements & right of ways	Sheet SP-1	
Location and width of existing and proposed access/egress ways	Sheet SP-1	

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	Sheet SP-1	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	Sheet EX-1	
Existing and proposed topographic information at two foot intervals	Sheet SP-4	
Existing and proposed buildings and structure locations	Sheet SP-1	
Minimum building setbacks or build to lines on all lots	Sheet SP-1	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	Sheet SP-3	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	Sheet SP-3	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	Sheet SP-3	
Existing and proposed stormwater lines and facilities	Sheet SP-5	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	N/A	
Location of Flood Hazard Zone	Sheet SP-1	
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	Sheet T-2	
Existing natural features and/or significant vegetation on property	Sheet EX-1	
Depict existing contours up to 100 ft. beyond project limits	Sheet EX-1	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	Sheet LA-1	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	Sheet SP-2	
Location, material and size of existing and proposed pavement area	Sheet SP-2	
Location of proposed fire lanes	Sheet SP-2	
Specify finished floor elevations of buildings	Sheet SP-2	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	Sheet LA-1	
Depict all service, storage, loading bays and utility areas	N/A	
All applicable Dover Common Site Plan notes	Sheet SN-1	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	Drainage Report	
Stormwater Management System Operation and Maintenance Plan	Stormwater Mgmt., Maintenance & Insp. Plan	
Letter to Serve from Public and Private Utilities	Pending	
Erosion and Sedimentation Control Plan	Drainage Report	
Landscape Operation and Maintenance Plan	Landscape O&M Plan	
Proposed restrictive covenants or homeowners association documents	Pending	
Dates and permit numbers of all required state and federal permits	N/A	
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	Sheet SSS-1	
Location of proposed drive-in facilities	N/A	
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required	N/A	

REVIEWED BY: _____ DATE_____ TRC DATE_____

WAIVER REQUEST

Site Review Regulations §153-14.D.6(a) &(c)
Parking Lot Design Standards

for

COREY MACKOUL

89 Stark Ave
Dover, New Hampshire
May 2025

In accordance with Site Review Regulations Article 153.21.A, Waiver, the applicant formally requests a waiver from Section 153-14.D.6 (a) & (c) regarding the parking lot design standards for aisle width.

The 89 Stark Ave development project consists of a driveway for access & parking for the proposed 2-unit development. We have proposed 20-foot-wide travel ways / aisle ways where 153-14.D.6(a) requires an aisle width of 22 feet and 153-14.D.6(b) requires an aisle width of 24 feet.

153.21 Waivers

A. The PLANNING BOARD may waive specific provisions of this Chapter. The PLANNING BOARD may only grant a waiver if the PLANNING BOARD finds, by majority vote, that:

(1) Strict conformity would pose an unnecessary hardship to the APPLICANT and the waiver would not be contrary to the spirit and intent of the regulations; or

The spirit and intent of the regulation is to provide safe access the residents and guest of the proposed project. We respectfully submit that the 20-foot-wide pavement width will achieve this intent.
Our Traffic-Assessment Memorandum calculated weekday vehicle-trips due to the project as:

- ***daily, 18 (total of in and out)***
- ***AM-street-peak hour, 1 (1 in and 0 out)***
- ***PM-street-peak hour, 2 (1 in and 1 out)***

A 20-foot-wide travel way is more than adequate for the 2 peak hour trip generated by the proposed development. American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Street, 7th Edition (Washington, DC, 2018) allows for Urban Local Street to have a lane width of Nine (9) feet.

(2) Specific circumstances relative to the subdivision, or conditions of the land in such site plan, indicate that the waiver will properly carry out the spirit and intent of the regulations.

The spirit and intent of the regulation is to provide safe access the residents and guest of the proposed project. We respectfully submit that the 20-foot-wide pavement width will achieve this intent. A 20-foot-wide travel way is more than adequate for the 2 peak hour trip generated by the proposed development. American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Street, 7th Edition (Washington, DC, 2018) allows for Urban Local Street to have a lane width of Nine (9) feet.

TEPP LLC TRANSPORTATION ENGINEERING, PLANNING, AND POLICY

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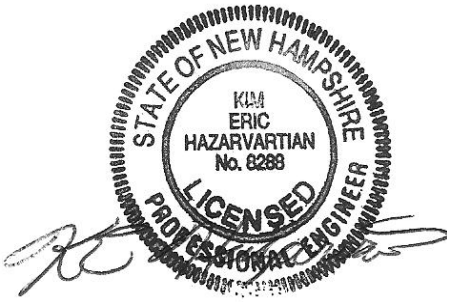
MEMORANDUM

Ref: 1784

Subject: Traffic-Assessment Memorandum
89 Stark Avenue
Dover, New Hampshire

From: Kim Eric Hazarvartian, Ph.D., P.E., PTOE
Principal
keh@teppllc.com

Date: May 14, 2026



INTRODUCTION

Tritech Engineering Corporation has retained TEPP LLC to prepare this traffic-assessment memorandum (TAM). This TAM regards the proposed redevelopment at 89 Stark Avenue in the City of Dover, New Hampshire.

This TAM includes:

- existing site description
- proposed project description
- road description
- public transit
- sight distances
- trip generation
- trip distribution/assignment
- potential traffic impacts

This TAM concludes that:

- relevant sight distances at the Stark Avenue/proposed access intersection are appropriate
- the proposed project is not anticipated to add significant new traffic to the area

EXISTING SITE DESCRIPTION

The existing site:

- is along the west side of Stark Avenue
- has an area of about 0.883 acres
- includes one single-family-detached house
- has one driveway along the west side of Stark Avenue
- is bounded on the east by Stark Avenue
- is otherwise bounded by residential development

PROPOSED PROJECT DESCRIPTION

The project will:

- retain the existing dwelling unit
- add two proposed single-family-detached dwelling units
- remove the existing driveway
- provide a proposed access, south of the existing driveway location, for the three dwelling units

ROAD DESCRIPTION

Stark Avenue:

- is a north-south minor-arterial street under the jurisdiction of the City of Dover
- provides connections, to and from the north, with Central Avenue, a minor-arterial street, and with central Dover
- provides connections, to and from the south, with Dover Point Road, a minor-arterial street, and with southern Dover
- has a horizontal alignment with minor-to-moderate curvature
- has a vertical alignment with minor grades
- has a speed limit of 30 miles per hour (mph)
- has asphalt-cement-concrete pavement in overall good condition
- has one travel lane per direction
- has pavement markings including double-yellow lines, separating traffic directions, and single-white edge lines
- near the site, has a sidewalk on the west side
- near the site, has utility poles on the west side, including one pole with a luminaire along the site frontage

PUBLIC TRANSIT

Cooperative Alliance for Seacoast Transportation bus-transit system Route 13 runs along Stark Avenue near the site. A southbound stop is near 67 Stark Avenue, and a northbound stop is north of 34 Stark Avenue.

The route connects with:

- to the north, central Dover and the Dover Transportation Center
- to the south, the City of Portsmouth and Hanover Station

SIGHT DISTANCES

Table 1 presents a sight-distance summary for the Stark Avenue/proposed access intersection. Table 1 shows that available sight distances provide for approach speeds on Stark Avenue that are greater than the speed limit.

Table 1. Sight-distance summary.

	Geometry[a]		Speeds (mph)	
Intersection and View	Approach Grade (%)	Available Sight Distance (ft)	Limit	SSD[b]
Stark Avenue/Proposed Access Intersection				
Stark Avenue to/from North	Down 3±	325±	30	40+
Stark Avenue to/from South	Up 4 ±	400±	30	40+

[a] Provided by Tritech Engineering Corporation.

[b] SSD design speed that available sight distance provides. AASHTO, pages 3-2 to 3-6.

TRIP GENERATION

The Institute of Transportation Engineers (ITE) publishes trip-generation information in the authoritative *Trip Generation Manual*.[1] This information is based on empirical data for a variety of land uses, including land use 210, single-family-detached housing, based on dwelling units.[2]

Table 2 shows changes in calculated weekday vehicle-trips due to the project as:

- daily, 18 (total of in and out)
- AM-street-peak hour, 1 (1 in and 0 out)

[1] ITE, *Trip Generation Manual*, 12th Edition (Washington DC, August 2025).

[2] ITE, *Trip Generation Manual*, Volume 3, pages 230 to 248.

	Weekday Vehicle-Trips[a]						
		AM-Street-Peak Hour			PM-Street-Peak Hour		
	Daily	Total	In	Out	Total	In	Out
Existing One Dwelling Unit	9	1	0	1	1	1	0
Proposed Three Total Dwelling Units	27	2	1	1	3	2	1
Differences Due to Project	18	1	1	0	2	1	1

[a] Based on ITE, *Trip Generation Manual*, land use 210, single-family-detached housing.

- PM-street-peak hour, 2 (1 in and 1 out)

TRIP DISTRIBUTION/ASSIGNMENT

Calculated trip generation is so low that area traffic operations will not be sensitive to trip distribution/assignment. Trips will be split along Stark Avenue to/from the north and south and further split beyond the immediate project area.

POTENTIAL TRAFFIC IMPACTS

ITE suggests that land developments generating at least 100 peak-hour vehicle trips, in the busier direction, are candidates for consideration of traffic impact analysis.[3] Tabulated peak-hour trip generation of the project is well below this national ITE level. The project is not anticipated to add significant new traffic to the area.

CONCLUSION

This TAM concludes that.

- relevant sight distances at the Stark Avenue/proposed access intersection are appropriate
- the proposed project is not anticipated to add significant new traffic to the area

[3] ITE, *Manual of Transportation Engineering Studies* (Prentice Hall: Englewood Cliffs, New Jersey, 2000), page 144.

STORMWATER ANALYSIS

and

Erosion & Sediment Control Plan

NARRATIVE

for

COREY MACKOUL

89 Stark Ave
Dover, New Hampshire
May 2026

PREPARED FOR

COREY MACKOUL

8 HULL AVE
DOVER, NH 03820

PREPARED BY

TRITECH ENGINEERING CORPORATION

755 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820

STORMWATER ANALYSIS

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for

COREY MACKOUL

8 Hull Ave
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SECTION I

NARRATIVE

STORMWATER ANALYSIS

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COREY MACKOUL

8 Hull Ave
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1. PROJECT DESCRIPTION

The attached Site Plans are for Corey MacKoul and show the development of an approximately 0.883-acre parcel with an existing single family house. This site is located on the Southwestern side of Stark Ave in Dover, New Hampshire. The site is identified on Dover Property as Map 17 Lot 38.

The project consists of renovation of the existing single family house and the construction of two single family houses. The project will be constructed under Dover's Transfer of Development Rights Ordinance. The development will include associated infrastructure such as an access road, all utilities, and stormwater management.

Included in the stormwater management system is the construction of a Bioretention Area. The Bioretention Area is shown on the construction plans and provide permanent stormwater quality and quantity treatment, prior to the stormwater exiting the site.

Proposed site development details are shown on the Site Development Plans for Corey MacKoul as prepared by Tritech Engineering Corporation. Site and Construction plans are based upon an actual on-ground survey performed by Tritech Engineering Corporation, and on-site Wetland & Site Specific Soil delineation performed by Highland Soil Services.

2. METHODOLOGY

This stormwater runoff analysis and drainage design was accomplished using SCS TR-20 Methodology a third party computer software program was used in the facilitation of this analysis. This software is HydroCAD Stormwater Modeling System Version 10.20-8a, by Applied Microcomputer Systems. Analysis and design were performed for the Two-Year, Ten-Year, Twenty-Five Year and Fifty Year Storm Events.

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3. STORMWATER HYDROLOGIC REVIEW

EXISTING CONDITIONS

Table A – Existing Conditions (2, 10, 25, and 50-year storm events)

Watershed	**Pre Development Volume (af)**	**Pre-Development Peak Flows (cfs)**			
Analysis Point	**2-yr**	**2-yr**	**10-yr**	**25-yr**	**50-yr**
1	0.000	0.00	0.02	0.16	0.45
2	0.000	0.00	0.00	0.00	0.00

DEVELOPED CONDITIONS

Table B – Developed Conditions (2, 10, 25, and 50-year storm events)

Watershed	**Post Development Volume (af)**	**Post Development Peak Flows (cfs)**			
Analysis Point	**2-yr**	**2-yr**	**10-yr**	**25-yr**	**50-yr**
1	0.000	0.00	0.00	0.00	0.25
2	0.000	0.00	0.00	0.00	0.01

HYDROLOGIC COMPARISON

Table C – Pre/Post Development Comparison (2, 10, 25, and 50-year storm events)

Watershed	**Pre/Post Development Volume (af)**	**Pre/Post Development Peak Flows (cfs)**			
Analysis Point	**2-yr**	**2-yr**	**10-yr**	**25-yr**	**50-yr**
1	0.000/**0.000**	0.00/**0.00**	0.02/**0.00**	0.16/**0.00**	0.45/**0.25**
2	0.000/**0.000**	0.00/**0.00**	0.00/**0.00**	0.00/**0.00**	0.00/**0.01**

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4. STORMWATER RUNOFF QUALITY

Stormwater runoff from the site is collected in a system of open drainage swales, and catch basins, pretreated via deep sump catch basins and treated, detained, and infiltrated via the Bioretention area.

5. CONCLUSIONS

Treatment of drainage occurs in deep sump catch basins and a Bioretention practice. This Stormwater Management System effectively treats and detains the runoff from the Site Development, while maintaining the down gradient water quality through treatment.The development of this project will result in no adverse impacts to downstream properties.

6. SOIL TYPES

On site Test Pits indicate the entirety of the site contains Windsor soil.

7. RAINFALL DATA

As part of the 2007 Alteration of Terrain rules update, New Hampshire began using “extreme precipitation” in lieu of the previously accepted standard UDSA SCS rainfall distribution.

We have used the interactive web tool for extreme precipitation analysis published by Cornell University. On April 7, 2026, we submitted our site location (longitude 70.870° West, Latitude 43.179° North). A table with the resulting rainfall data is provided in the appendix.

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8. WETLANDS & SITE SPECIFIC SOILS MAP

Highland Soil Services, Michael Mariano, Certified Wetland #183 and Soil Scientist #76, conducted an on site wetlands deliniation investigation of the subject parcel. There are no wetlands located on the site. Highland Soil Services also completed a site-specific soil survey, the results of which are depicted on sheet SSS-1, D-1, & D-2

9. ADJACENT AREA

The site is zoned R-12. The site is bounded to the north by Stark Ave and to the east, south and west by residential properties.

10. CRITICAL AREAS

Anywhere on the site that existing vegetation is to be removed will require immediate erosion control treatment.

11. EXISTING CONDITIONS

The site is currently a single family residential property.

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12. EROSION AND SEDIMENT CONTROL PRACTICES

Erosion and sediment control practices will include the use of permanent grass ditches, vegetated filter strips, & Silt Soxx. All erosion control practices will be constructed and maintained according to the minimum standards and specifications contained in the "Erosion and Sediment Control Design Handbook for Developing Areas of New Hampshire".

A. Erosion and Sediment Control Measures

1. The erosion control procedures shall conform to Section 645 of the "Standard Specifications for Road and Bridge Construction" of the NH DOT, and the "Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire.
2. During Construction and thereafter, erosion control measures are to be implemented as noted. The smallest practical area of land should be exposed at any one time during development.
3. During grading operations, install hay bale barriers at 50 foot intervals in drainage swales and at drain inlets where shown. Barriers are to be maintained and cleaned until disturbed areas are stabilized.
4. Any disturbed areas which are to be left temporarily, and which will be regarded later during construction shall be machine hay mulched and seeded with rye grass to prevent erosion.
5. Silt Soxx shall be periodically inspected during the life of the project and after each storm. All damaged Silt Soxx shall be repaired. Sediment deposits shall periodically be removed.
6. Avoid the use of future open spaces (loam and seed areas) wherever possible during the construction. Construction traffic shall use the roadbeds of future roads and parking areas.
7. Topsoil required for the establishment of vegetation shall be stock piled in amounts necessary to complete finished grading of all exposed areas.
8. Areas to be filled shall be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots or other objectionable material. Stumps shall be disposed by grinding or fill in an approved facility.
9. All fills shall be placed and compacted to reduce erosion, slippage settlement, subsidence or other related problems.
10. All fill shall be placed and compacted in layers not to exceed 8 inches in thickness.

11. Frozen material or soft, mucky or highly compressible material shall not be incorporated into fills.
12. Fill material shall not be placed on a frozen foundation subgrade.
13. Disturbed areas shall be seeded immediately following finished grading.
14. At no time shall any disturbed area remain unstabilized for longer than thirty days. All areas where construction is not completed within thirty days of the initial disturbance shall be machine hay mulched and seeded with rye grass to prevent erosion.
15. Dewatering: Where groundwater is encountered during excavation, the contractor shall use a mechanical pump, pumping the water to a Dirt Bag™ or equivalent prior to discharge. Alternate systems must meet applicable sections of the 2017 CGP and NHDES requirements, and be approved by Tritech. Avoid allowing water to flow over disturbed or newly vegetated areas.

B. Vegetative Practice

1. All disturbed areas shall be loamed (4") and limed. Lime shall be thoroughly incorporated into the loam layer at a rate of 2 tons per acre.
2. Fertilizer shall be spread on the top layer of loam and worked into the surface. Fertilizer application rate shall be 500 pounds per acre of 10-20-20 fertilizers.
3. Seed shall be 48 lbs. per acre, SCS mixture "C".
   Immediately before seeding, the soil shall be lightly raked. One half the seed shall be sown in one direction and the other half at right angles to the original direction. It shall be lightly raked into the soil to a depth not over 1/4 inch and rolled with a hand roller weighing not over 100 pounds per linear foot of width.
4. Hay mulch shall be applied immediately after seeding at a rate of 1.5 to 2 tons per acre and shall be held in place using appropriate techniques from the Erosion and Sediment Control Handbook.
5. The surface shall be watered and kept moist with a fine spray as required, without washing away the soil, until the grass is well established. Any areas which are not satisfactorily covered with grass shall be reseeded, and all noxious weeds removed.

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13. CONSTRUCTION SEQUENCE

A. Do not begin construction until all local, state and federal permits have been applied for and received.

B. Install Silt Soxx and hay bale barriers necessary to control erosion and prevent sediment contamination of wetlands prior to any earth moving activities.

C. Cut and remove all trees, shrubs, saplings, brush, vines and other debris and rubbish as required. Remove unsuitable materials as required.

D. Care shall be taken to preserve the infiltration capacity of the infiltrating soil. Seet the New Hampshire Stormwater Manual for additional information.

E. Construct Stormwater Bioretention Basin #1. Do not direct runoff to the practice until the practice and contributing areas are fully stabilized.

F. Constuct of buildings, driveways, parking, & utilities.

G. Loam and seed disturbed areas in accordance with vegetative practice and general construction notes. Cut and fill slopes shall be seeded immediately after their construction.

H. Land leveling operations for buildings and other structures shall be completed along with off road storm sewer systems and utilities.

I. Maintain disturbed areas as necessary.

14. MAINTENANCE

During the period of construction and/or until long term vegetation is established:

A. Seeded areas will be fertilized and reseeded as necessary to insure vegetative establishment.

B. The ditches will be checked after each significant rainfall and cleaned of sediment as needed to retain flow capacity.

C. The ditches will be checked weekly and repaired when necessary until adequate vegetation is established.

D. The silt fence barriers will be checked regularly. Necessary repairs will be made to correct undermining or deterioration of the structures.

CITY OF DOVER

SITE DEVELOPMENT DESIGN CRITERIA

Site Review Regulations §153-14A – Stormwater Management

NARRATIVE

for

COREY MACKOUL

89 Stark Ave

Dover, New Hampshire

May 2026

A. Stormwater management, erosion control and flood hazards.

(1) Purpose and objective. These regulations establish standards to manage the discharge of runoff to the City of Dover's municipal storm sewer system and water bodies, in a manner compliant with the requirements of state and federal law, including provisions of the federal stormwater management legislation for municipal separate storm sewer systems (MS4), as amended. These provisions and standards are implemented for the purpose of:

(a) Managing stormwater runoff to protect water quality and quantity.

The projects stormwater analysis, design, plans and supporting documentation have been prepared in accordance with The City of Dover Site Review Regulations and the NH Stormwater Manual (December 2008).

The project design provides for storm attenuation, stormwater treatment and groundwater recharge in accordance with these regulations and standards.

(b) Minimizing the contribution of a pollutant for which a water body is impaired to the maximum extent practicable (MEP).

The project utilizes the appropriate BMP's to compensate for the pollutants that may be generated by new development to the maximum extent practicable.

(c) Causing no discharge of runoff to an adjacent property in excess of runoff discharge in the existing developed or undeveloped condition.

The proposed development post construction runoff does not exceed pre construction conditions. There will be no increase in runoff to the City's drainage system.

(d) Encouraging the use of low-impact development (LID) strategies.

The project utilizes a bioretention practice for stormwater treatment and infiltration for groundwater recharge.

(2) Applicability of the stormwater standards.

(a) All projects requiring site plan or major subdivision approval shall be subject to the following set of stormwater standards according to the amount and type of disturbance. Applicability is as follows:

[1] The minimum protections and management standards shall apply to all projects.

This narrative is prepared in conjunction with a Site Plan Review application for which the "new development standards" apply to the stormwater management and site design of the proposed development.

[2] The stormwater management for new development standards shall apply to any project that results in a contiguous land disturbance of more than 20,000 square feet or creates more than 4,000 square feet of new impervious area.

This narrative is prepared in conjunction with a Site Plan Review application for which the "new development standards" apply to the stormwater management and site design of the proposed development.

[3] The stormwater management for redevelopment standards shall apply to any project that results in a contiguous land disturbance of more than 20,000 square feet or creates more than 4,000 square feet of new impervious area where the existing land use has been previously developed as commercial, industrial, institutional, governmental, recreational, or multifamily.

The proposed project does not meet the standards for a "redevelopment" project.

(b) All projects of such magnitude as to require a permit from the National Pollutant Discharge Elimination System (NPDES) Program or the New Hampshire Department of Environmental Services (NHDES) Alteration of Terrain (AoT) Program shall also comply with the standards of the Environmental Protection Agency (EPA) and/or NHDES permits and this section, whereas the stricter standards shall apply.

As this project proposes disturbance of less than 100,000 square feet and less than one (1) acre it does not require a NH DES Alteration of Terrain (AoT) permit or the submittal of a Notice of Intent (NOI) application with the EPA as required by National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP).

(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.

The project complies with the City's design and stormwater requirements.

[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 best management practices (BMPs) shall be located outside the specified buffer zone unless otherwise approved by the Planning Board.

The subject property does not contain surface waters, wetlands or associated buffer setback.

[3] Low-impact development (LID) site planning and design strategies shall be used to the 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.

LID strategies were implemented to the maximum extent practicable. The project utilizes a bioretention practice for stormwater treatment as well as infiltration for groundwater recharge.

[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 Volume 2 (December 2008 or current revision) a copy of which can be found on The NHDES website.

The project stormwater BMPs are designed in accordance with New Hampshire Stormwater Manual Volume 2 current version (December 2008 revision 1.0).

[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 best management practices for groundwater protection (Part Env Wq 401).

The project does not propose the storage of the referenced materials onsite.

[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.

The project does not provide for the storage of deicing materials onsite.

[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.

The project Stormwater Management, Maintenance & Inspection Plan requires the implementation of a salt minimization plan that also requires the owner or operator to track salt usage onsite through a quantity usage log.

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

The project design has minimized the impervious areas to the maximum extent possible. The number of parking spaces, travel way widths and vehicle maneuvering areas have been minimized for this specific project/use.

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

The project design utilizes a bioretention practice for stormwater treatment & flow mitigation as well as infiltration for groundwater recharge & flow mitigation.

(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 Volume 1, Appendix E (December 2008 or current revision), a copy of which is available from the NHDES website.

The project design utilizes a bioretention practice for treatment of impervious areas. This bioretention practice system provides 90% removal of TSS and 65% removal of total nitrogen and phosphorous per the NH Stormwater Manual.

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

The project stormwater analysis and design utilizes the NRCC extreme precipitation.

[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.

The proposed design mitigates post development peak rate runoff of the two-year, ten-year, twenty-five-year and the fifty-year in a 24-Hour storm event.

[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.

On April 29th, 2026 Tritech performed on-site infiltration testing using Geulph Permeameter in accordance with NHDES Analysis Method. The analysis of this data determined the K_{sat} value to be used in the HydroCAD Stormwater Model.

We performed this testing at one location on the property. The testing location was located next to Test Pit #1. The results of the test determined a 13.75 in/hr. K_{sat} value to be used in the HydroCAD stormwater model.

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

On April 29th, 2026 Tritech performed on-site infiltration testing using Geulph Permeameter in accordance with NHDES Analysis Method. The analysis of this data determined the K_{sat} value to be used in the HydroCAD Stormwater Model.

We performed this testing at one location on the property. The testing location was located next to Test Pit #1. The results of the test determined a 13.75 in/hr. K_{sat} value to be used in the HydroCAD stormwater model.

[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.

The project's Stormwater infrastructure is designed to convey a 50-year, 24-hour storm event without overtopping and does not cause flooding on the property. See Stormwater Analysis.

[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.

The project does not add 10 acres or greater of impervious cover and is not located in a federally designated floodplain.

[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.

The project involves very little upstream or upgradient runoff, however, the project stormwater calculations, stormwater infrastructure design and site grading all accounted for this runoff.

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

A Site-Specific Soil Plan, Sheet SSS-1, is included in our Site Development Plan Set and Stormwater Analysis. This plan was prepared by Michael Mariano of Highland Soil Service. In conjunction with this plan preparation Mr. Mariano logged two (2) test pits on the subject property. The ESHWT and overall soil types factor into the placement and design of the project BMPs.

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

Stormwater facilities are included on site and the site will be solely owned by the applicant. Stormwater access easements are not required for this project.

[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.

Sheet La-1 was prepared by Romy Maurer a licensed Landscape Architect with Terrain Planning & Design, LLC. We have also provided a Landscape Operation & Maintenance Plan to ensure the functionality of the BMPs.

(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.

The project does not meet requirements to be classified as redevelopment project, therefore this section in not applicable.

[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 BMPs have been implemented on site to the MEP.

[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:

[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.

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

[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 pervious 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:

The plan set includes temporary and permanent sediment and erosion control practice notes and details in support of meeting the erosion control standards.

[1] All proposed measures shall meet, at a minimum, the design standards for best management practices set forth in the New Hampshire Stormwater Management Manual Volume 3 (December 2008 or current revision), a copy of which is available from the NHDES website.

The sediment and erosion control details provided in the plan set are all designed in accordance with the NH Stormwater Manual.

[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.

As this project proposes disturbance of less than 100,000 square feet and less than one (1) acre it does not require a NH DES Alteration of Terrain (AoT) permit or the submittal of a Notice of Intent (NOI) application with the EPA as required by National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP).

SWPPP inspections are not required for this development.

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

The Erosion & Sediment Control Notes, Detail 12 on Sheet SP-7 in the project plan set indicates that the smallest practical area shall be disturbed during construction.

[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.

The Erosion & Sediment Control Notes, Detail 12 on Sheet SP-7 in the project plan set indicates that the smallest practical area shall be disturbed during construction.

[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. The integrity of downstream drainage systems shall be maintained.

The Erosion & Sediment Control Notes, Detail 12 on Sheet SP-7 in the project plan set indicates that stormwater conveyance practices shall be stabilized prior to receiving stormwater runoff.

[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.

The Erosion & Sediment Control Notes, Detail 12 on Sheet SP-7 in the project plan set details the Construction Sequencing. Dover scheduling and inspections will be discussed with Community Services prior to the start of construction.

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

This project does not propose any work in a wetland or a wetland buffer.

[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.

The Erosion & Sediment Control Notes, Detail 12 on Sheet SP-7 in the project plan set identifies this requirement.

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

As this project proposes disturbance of less than 100,000 square feet and less than one (1) acre it does not require a NH DES Alteration of Terrain (AoT) permit or the submittal of a Notice of Intent (NOI) application with the EPA as required by National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP). SWPPP inspections are not required for this development.

[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.

The NHDES AoT winter construction notes are identified in The Erosion & Sediment Control Notes, Detail 12 on Sheet SP-7 in the project plan set.

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

Slopes greater than 3:1 require erosion control matting and/or armoring. Sheet SP-7 notes are provided in the project plan set.

[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.

The Erosion & Sediment Control Notes, Detail 12 on Sheet SP-7 in the project plan set identifies this requirement.

[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.

The project does not propose the disturbance of greater than 10 acres of area. A Sediment Trap is not proposed.

[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.

A Sediment Trap is not proposed.

(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 owner/applicant is aware of this requirement.

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

The owner/applicant is aware of the Community Services Department inspection scheduling requirements.

[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.

The owner/applicant is aware of this requirement.

[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.

SWPPP inspections are not required for this project.

[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.

The owner/applicant is aware of this requirement.

(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.

CITY OF DOVER

SITE DEVELOPMENT DESIGN CRITERIA

Site Review Regulations §153-14A – Stormwater Management

NARRATIVE

for

COREY MACKOUL

89 Stark Ave

Dover, New Hampshire

May 2026

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[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.

The Erosion & Sediment Control Notes, Detail 12 on Sheet SP-7 in the project plan set describes this information.

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

The proposed development post construction runoff does not exceed pre construction conditions. The proposed development does not directs any stormwater runoff to the City of Dover closed stormwater system.

[c] Description of LID proposed measures.

The project utilizes a bioretention practice for stormwater treatment as well as an infiltration practice for groundwater recharge.

[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.

The Erosion & Sediment Control Notes, Detail 12 on Sheet SP-7 in the project plan set describes this information.

[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.

The Stormwater Analysis includes the above requirements.

[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.

A Site-Specific Soil Plan, Sheet SSS-1, is included in our Site Development Plan Set and Stormwater Analysis. This plan was prepared by Michael Mariano of Highland Soil Service. In conjunction with this plan preparation Mr. Mariano logged three (3) test pits on the subject property. The ESHWT and overall soil types factor into the placement and design of the project BMPs.

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

The Stormwater Analysis includes the above requirements.

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

The Stormwater Analysis includes the above requirements.

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

The Stormwater Analysis includes the above requirements.

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

The Stormwater Analysis includes the above requirements.

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

The Stormwater Analysis includes the above requirements.

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

The project utilizes a bioretention practice for stormwater treatment as well as an infiltration practice for groundwater recharge.

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

LID measures have been incorporated in the design of the project.

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

The Stormwater Analysis includes the above requirements.

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

The Stormwater Analysis includes the above requirements.

[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.

The stormwater analysis indicates there will no increase in the post-development runoff volumes.

[n] Descriptions, details, and design criteria and calculations for all structural, nonstructural, permanent, and temporary erosion and sedimentation control measures and BMPs. 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.

The Site Development plan set includes the above 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.

No changes are anticipated.

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

The Erosion & Sediment Control Notes, Detail 12 on Sheet SP-7 in the project plan set identifies this requirement.

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

The Erosion & Sediment Control Notes, Detail 12 on Sheet SP-7 in the project plan set identifies this requirement.

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

Additional information shall be provided as requested and may include traffic studies, structural designs, sewer designs, geotechnical reports, etc.

[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.

The Stormwater Management, Maintenance and Inspection Plan requires the implementation of a salt minimization plan that also requires the owner or operator to track salt usage onsite through a quantity usage log.

[t] Provide a maintenance and inspection plan for post-construction monitoring of stormwater BMPs 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.

A Stormwater Management, Maintenance and Inspection Plan (I&M) is included in the Stormwater Analysis provided as part of this submittal.

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

Copies of permits will be provided to the City of Dover, as applicable.

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

A Stormwater Management, Maintenance and Inspection Plan (M&I) is included in the Stormwater Analysis provided as part of this submittal.

[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.

The Owner, Responsible Party, and the Management Company are identified in the Stormwater Management, Maintenance and Inspection Plan.

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

Inspection requirements and maintenance thresholds are identified in the Stormwater Management, Maintenance and Inspection Plan.

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

The Stormwater Management, Maintenance and Inspection Plan requires the use of a Green SnoPro contractor.

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

The Stormwater Management, Maintenance and Inspection Plan requires the implementation of a salt minimization plan that also requires the owner or operator to track salt usage onsite through a quantity usage log.

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

The Site Development Plan Set is included as part of the Stormwater Management, Maintenance and Inspection Plan.

[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.

The Stormwater Management, Maintenance and Inspection Plan identifies this requirement.

[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.

The applicant is aware of this requirement.

STORMWATER ANALYSIS

and

Erosion & Sediment Control Plan

NARRATIVE

for

COREY MACKOUL

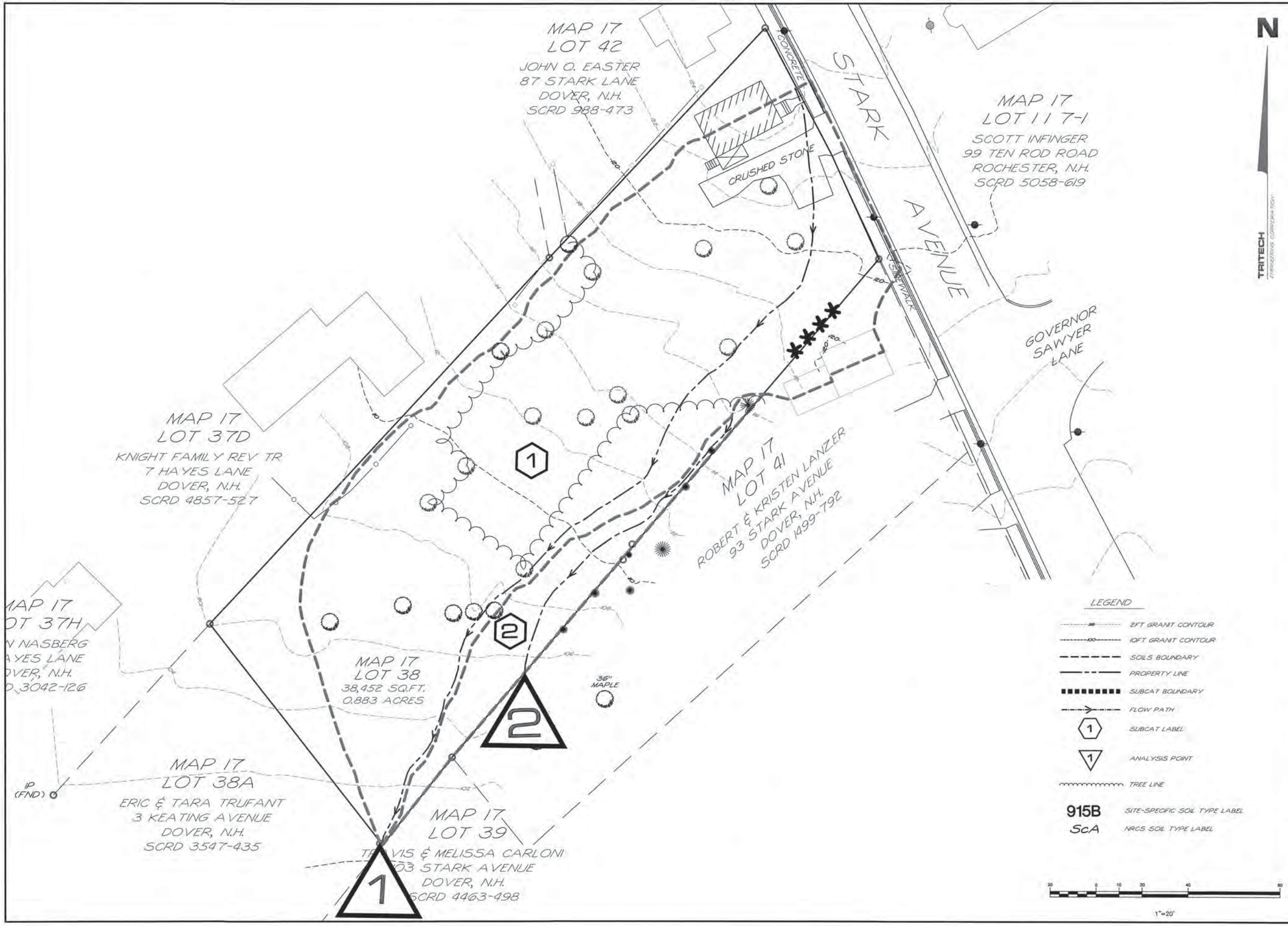
8 Hull Ave

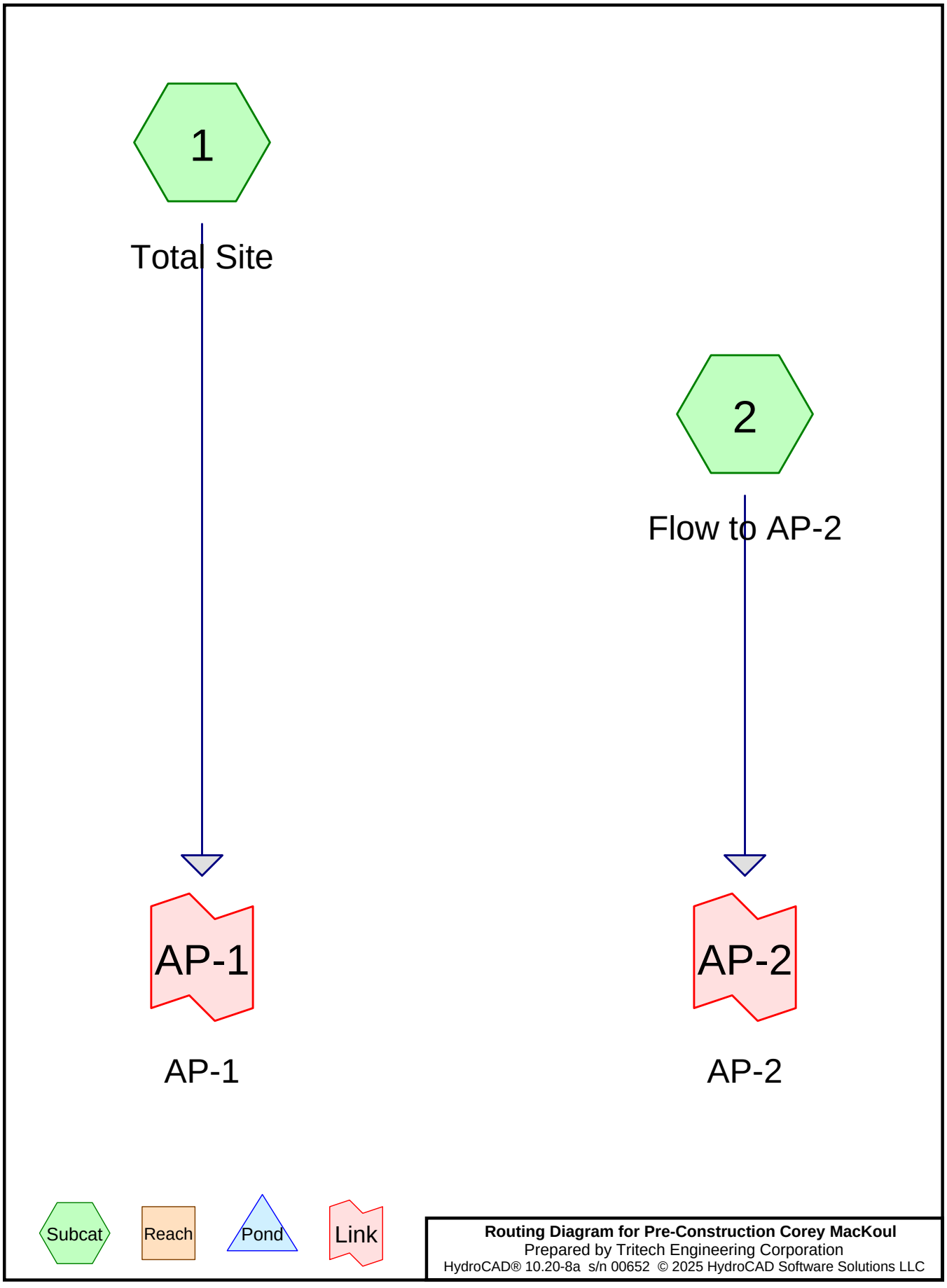
Dover, New Hampshire

May 2026

SECTION II

COMPUTATIONS


MAP 17
LOT 42
JOHN O. EASTER
87 STARK LANE
DOVER, N.H.
SCRD 988-473
CONCRETE
CRUSHED STONE
STARK AVENUE
SIDEWALK
MAP 17
LOT 111-1
SCOTT INFINGER
99 TEN ROD ROAD
ROCHESTER, N.H.
SCRD 5058-619
GOVERNOR SAWYER LANE
MAP 17
LOT 37D
KNIGHT FAMILY REV TR
7 HAYES LANE
DOVER, N.H.
SCRD 4857-527
MAP 17
LOT 41
ROBERT & KRISTEN LANZER
93 STARK AVENUE
DOVER, N.H.
SCRD 1499-792
MAP 17
LOT 37H
N NASBERG
AYES LANE
OVER, N.H.
D 3042-126
MAP 17
LOT 38
38,452 SQ.FT.
0.883 ACRES
36" MAPLE
MAP 17
LOT 38A
ERIC & TARA TRUFANT
3 KEATING AVENUE
DOVER, N.H.
SCRD 3547-435
IP (FND)
MAP 17
LOT 39
TRAVIS & MELISSA CARLONI
503 STARK AVENUE
DOVER, N.H.
SCRD 4463-498
1
2
LEGEND
2FT GRANT CONTOUR
10FT GRANT CONTOUR
SOILS BOUNDARY
PROPERTY LINE
SUBCAT BOUNDARY
FLOW PATH
SUBCAT LABEL
ANALYSIS POINT
TREE LINE
915B SITE-SPECIFIC SOIL TYPE LABEL
ScA NRCS SOIL TYPE LABEL
20 0 10 20 40 80
1"=20'
N
TRITECH
ENGINEERING CORPORATION
755 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 6107
FAX 603 742 3830
REVISIONS
DATE: DESCRIPTION:
STATE OF NEW HAMPSHIRE - ROBERT J. STICKNEY - 10703 - PROFESSIONAL ENGINEER
PRE-CONSTRUCTION DRAINAGE PLAN
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 25136
SCALE: 1" = 20'
SHEET No.
D-1


1
Total Site
2
Flow to AP-2
AP-1
AP-2
AP-1
AP-2
Subcat
Reach
Pond
Link
Routing Diagram for Pre-Construction Corey MacKoul
Prepared by Tritech Engineering Corporation
HydroCAD® 10.20-8a s/n 00652 © 2025 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.361	39	>75% Grass cover, Good, HSG A (1)
0.021	96	Gravel surface, HSG A (1)
0.015	98	Paved parking, HSG A (1)
0.019	98	Roofs, HSG A (1)
0.387	30	Woods, Good, HSG A (1, 2)
0.804	**39**	**TOTAL AREA**

Soil Listing (all nodes)

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

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: Total Site Runoff Area=31,645 sf 4.70% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=40 Runoff=0.00 cfs 0.000 af

Subcatchment 2: Flow to AP-2 Runoff Area=3,374 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=150' Tc=23.5 min CN=30 Runoff=0.00 cfs 0.000 af

Link AP-1: AP-1 Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP-2: AP-2 Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.00"
95.75% Pervious = 0.770 ac 4.25% Impervious = 0.034 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: Total Site Runoff Area=31,645 sf 4.70% Impervious Runoff Depth=0.18"
Tc=6.0 min CN=40 Runoff=0.02 cfs 0.011 af

Subcatchment 2: Flow to AP-2 Runoff Area=3,374 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=150' Tc=23.5 min CN=30 Runoff=0.00 cfs 0.000 af

Link AP-1: AP-1 Inflow=0.02 cfs 0.011 af
Primary=0.02 cfs 0.011 af

Link AP-2: AP-2 Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.011 af Average Runoff Depth = 0.17"
95.75% Pervious = 0.770 ac 4.25% Impervious = 0.034 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: Total Site Runoff Area=31,645 sf 4.70% Impervious Runoff Depth=0.51"
Tc=6.0 min CN=40 Runoff=0.16 cfs 0.031 af

Subcatchment 2: Flow to AP-2 Runoff Area=3,374 sf 0.00% Impervious Runoff Depth=0.07"
Flow Length=150' Tc=23.5 min CN=30 Runoff=0.00 cfs 0.000 af

Link AP-1: AP-1 Inflow=0.16 cfs 0.031 af
Primary=0.16 cfs 0.031 af

Link AP-2: AP-2 Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.031 af Average Runoff Depth = 0.46"
95.75% Pervious = 0.770 ac 4.25% Impervious = 0.034 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: Total Site Runoff Area=31,645 sf 4.70% Impervious Runoff Depth=0.91"
Tc=6.0 min CN=40 Runoff=0.45 cfs 0.055 af

Subcatchment 2: Flow to AP-2 Runoff Area=3,374 sf 0.00% Impervious Runoff Depth=0.25"
Flow Length=150' Tc=23.5 min CN=30 Runoff=0.00 cfs 0.002 af

Link AP-1: AP-1 Inflow=0.45 cfs 0.055 af
Primary=0.45 cfs 0.055 af

Link AP-2: AP-2 Inflow=0.00 cfs 0.002 af
Primary=0.00 cfs 0.002 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.057 af Average Runoff Depth = 0.85"
95.75% Pervious = 0.770 ac 4.25% Impervious = 0.034 ac

Summary for Subcatchment 1: Total Site

Runoff = 0.02 cfs @ 12.48 hrs, Volume= 0.011 af, Depth= 0.18"
Routed to Link AP-1 : AP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Extreme Rainfall=4.76"

Area (sf)	CN	Description
843	98	Roofs, HSG A
13,487	30	Woods, Good, HSG A
15,735	39	>75% Grass cover, Good, HSG A
935	96	Gravel surface, HSG A
645	98	Paved parking, HSG A
31,645	40	Weighted Average
30,157		95.30% Pervious Area
1,488		4.70% Impervious Area

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

Summary for Subcatchment 2: Flow to AP-2

Runoff = 0.00 cfs @ 24.09 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Link AP-2 : AP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Extreme Rainfall=4.76"

Area (sf)	CN	Description
3,374	30	Woods, Good, HSG A
3,374		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.8	100	0.0700	0.07		**Sheet Flow, Sheet Flow Woods** Woods: Dense underbrush n= 0.800 P2= 3.15"
0.7	50	0.0600	1.22		**Shallow Concentrated Flow, SC Woods** Woodland Kv= 5.0 fps
23.5	150	Total			

Summary for Link AP-1: AP-1

Inflow Area = 0.726 ac, 4.70% Impervious, Inflow Depth = 0.18" for 10-YR Extreme event
Inflow = 0.02 cfs @ 12.48 hrs, Volume= 0.011 af
Primary = 0.02 cfs @ 12.48 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link AP-2: AP-2

Inflow Area = 0.077 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-YR Extreme event
Inflow = 0.00 cfs @ 24.09 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 24.09 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

MAP 17
LOT 42
JOHN O. EASTER
87 STARK LANE
DOVER, N.H.
SCRD 988-473

STARK AVENUE

MAP 17
LOT 117-1
SCOTT INFINGER
99 TEN ROD ROAD
ROCHESTER, N.H.
SCRD 5058-619

GOVERNOR SAWYER LANE

HAYES LANE

MAP 17
LOT 37D
KNIGHT FAMILY REV TR
7 HAYES LANE
DOVER, N.H.
SCRD 4857-527

MAP 17
LOT 41
ROBERT & KRISTEN LANZER
93 STARK AVENUE
DOVER, N.H.
SCRD 1499-792

MAP 17
LOT 38
38,452 SQ.FT.
0.883 ACRES

MAP 17
LOT 38A
ERIC & TARA TRUFANT
3 KEASTING AVENUE
DOVER, N.H.
SCRD 3547-435

MAP 17

UNIT #1 EXISTING HOUSE
UNIT #2
UNIT #3
GARAGE
DRIVE
101
102
103
104
201
1
2
CB #1
DMH #1
BIO #1
P-1
P-2
P-3
P-4
OS
37 SPACE
22 SPACE
12 SPACE
11 MAPLE
24 MAPLE
30 MAPLE
30 MOKORY
22" PINE
22" SPRUCE
FES 102
CONCRETE

N

TRITECH ENGINEERING CORPORATION

LEGEND

- 25 — 25FT GRANIT CONTOUR
- 100 — 100FT GRANIT CONTOUR
- SOILS BOUNDARY
- PROPERTY LINE
- SUBCAT BOUNDARY
- FLOW PATH
- (1) SUBCAT LABEL
- 1 ANALYSIS POINT
- TREE LINE
- 915B SITE-SPECIFIC SOIL TYPE LABEL
- ScA NRCS SOIL TYPE LABEL

20 0 10 20 40 80
1"=20'

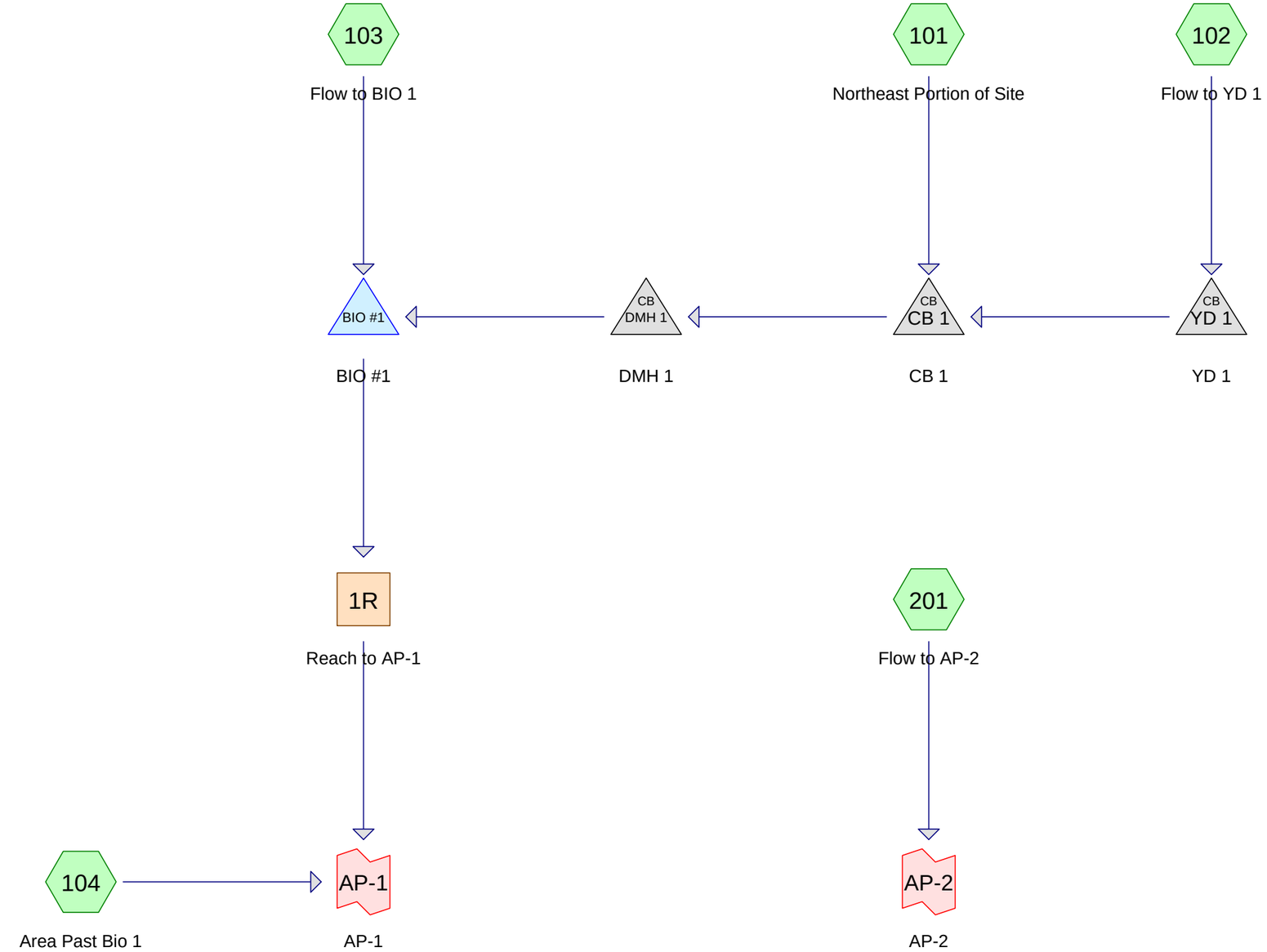
TRITECH
ENGINEERING CORPORATION
785 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 8107
FAX 603 742 3830

REVISIONS
DATE: DESCRIPTION:

NEW HAMPSHIRE - STATE OF - ROBERT STOWELL MARTIN - PROFESSIONAL ENGINEER

POST-CONSTRUCTION DRAINAGE PLAN
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 25136
SCALE: 1" = 20'

SHEET NO.
D-2



Subcat Reach Pond Link

Routing Diagram for Post-Construction Corey MacKoul

Prepared by Tritech Engineering Corporation

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.454	39	>75% Grass cover, Good, HSG A (101, 102, 103, 104, 201)
0.113	98	Paved parking, HSG A (101, 102, 103)
0.097	98	Roofs, HSG A (101, 102, 103)
0.139	30	Woods, Good, HSG A (104, 201)
0.804	**53**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.804	HSG A	101, 102, 103, 104, 201
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.804		**TOTAL AREA**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 101: Northeast Portion of Site Runoff Area=8,415 sf 62.31% Impervious Runoff Depth=1.12"
Tc=6.0 min CN=76 Runoff=0.24 cfs 0.018 af

Subcatchment 102: Flow to YD 1 Runoff Area=6,018 sf 30.62% Impervious Runoff Depth=0.29"
Flow Length=128' Tc=7.4 min CN=57 Runoff=0.02 cfs 0.003 af

Subcatchment 103: Flow to BIO 1 Runoff Area=11,179 sf 18.67% Impervious Runoff Depth=0.12"
Flow Length=190' Tc=6.1 min CN=50 Runoff=0.00 cfs 0.003 af

Subcatchment 104: Area Past Bio 1 Runoff Area=6,033 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=185' Tc=19.1 min CN=33 Runoff=0.00 cfs 0.000 af

Subcatchment 201: Flow to AP-2 Runoff Area=3,375 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=100' Slope=0.0700 '/' Tc=22.8 min CN=34 Runoff=0.00 cfs 0.000 af

Reach 1R: Reach to AP-1 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.800 L=75.0' S=0.0667 '/' Capacity=0.42 cfs Outflow=0.00 cfs 0.000 af

Pond BIO #1: BIO #1 Peak Elev=106.04' Storage=103 cf Inflow=0.25 cfs 0.024 af
Discarded=0.12 cfs 0.024 af Primary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.024 af

Pond CB 1: CB 1 Peak Elev=109.85' Inflow=0.25 cfs 0.021 af
12.0" Round Culvert n=0.012 L=38.0' S=0.0105 '/' Outflow=0.25 cfs 0.021 af

Pond DMH 1: DMH 1 Peak Elev=109.35' Inflow=0.25 cfs 0.021 af
12.0" Round Culvert n=0.012 L=63.0' S=0.0175 '/' Outflow=0.25 cfs 0.021 af

Pond YD 1: YD 1 Peak Elev=109.87' Inflow=0.02 cfs 0.003 af
12.0" Round Culvert n=0.012 L=6.0' S=0.0167 '/' Outflow=0.02 cfs 0.003 af

Link AP-1: AP-1 Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP-2: AP-2 Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.024 af Average Runoff Depth = 0.36"
73.81% Pervious = 0.593 ac 26.19% Impervious = 0.211 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 101: Northeast Portion of Site Runoff Area=8,415 sf 62.31% Impervious Runoff Depth=2.34"
Tc=6.0 min CN=76 Runoff=0.53 cfs 0.038 af

Subcatchment 102: Flow to YD 1 Runoff Area=6,018 sf 30.62% Impervious Runoff Depth=0.98"
Flow Length=128' Tc=7.4 min CN=57 Runoff=0.12 cfs 0.011 af

Subcatchment 103: Flow to BIO 1 Runoff Area=11,179 sf 18.67% Impervious Runoff Depth=0.60"
Flow Length=190' Tc=6.1 min CN=50 Runoff=0.10 cfs 0.013 af

Subcatchment 104: Area Past Bio 1 Runoff Area=6,033 sf 0.00% Impervious Runoff Depth=0.02"
Flow Length=185' Tc=19.1 min CN=33 Runoff=0.00 cfs 0.000 af

Subcatchment 201: Flow to AP-2 Runoff Area=3,375 sf 0.00% Impervious Runoff Depth=0.04"
Flow Length=100' Slope=0.0700 '/' Tc=22.8 min CN=34 Runoff=0.00 cfs 0.000 af

Reach 1R: Reach to AP-1 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.800 L=75.0' S=0.0667 '/' Capacity=0.42 cfs Outflow=0.00 cfs 0.000 af

Pond BIO #1: BIO #1 Peak Elev=107.01' Storage=537 cf Inflow=0.74 cfs 0.062 af
Discarded=0.24 cfs 0.062 af Primary=0.00 cfs 0.000 af Outflow=0.24 cfs 0.062 af

Pond CB 1: CB 1 Peak Elev=110.00' Inflow=0.64 cfs 0.049 af
12.0" Round Culvert n=0.012 L=38.0' S=0.0105 '/' Outflow=0.64 cfs 0.049 af

Pond DMH 1: DMH 1 Peak Elev=109.50' Inflow=0.64 cfs 0.049 af
12.0" Round Culvert n=0.012 L=63.0' S=0.0175 '/' Outflow=0.64 cfs 0.049 af

Pond YD 1: YD 1 Peak Elev=110.05' Inflow=0.12 cfs 0.011 af
12.0" Round Culvert n=0.012 L=6.0' S=0.0167 '/' Outflow=0.12 cfs 0.011 af

Link AP-1: AP-1 Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP-2: AP-2 Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.062 af Average Runoff Depth = 0.93"
73.81% Pervious = 0.593 ac 26.19% Impervious = 0.211 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 101: Northeast Portion of Site Runoff Area=8,415 sf 62.31% Impervious Runoff Depth=3.40"
Tc=6.0 min CN=76 Runoff=0.77 cfs 0.055 af

Subcatchment 102: Flow to YD 1 Runoff Area=6,018 sf 30.62% Impervious Runoff Depth=1.69"
Flow Length=128' Tc=7.4 min CN=57 Runoff=0.24 cfs 0.019 af

Subcatchment 103: Flow to BIO 1 Runoff Area=11,179 sf 18.67% Impervious Runoff Depth=1.15"
Flow Length=190' Tc=6.1 min CN=50 Runoff=0.27 cfs 0.025 af

Subcatchment 104: Area Past Bio 1 Runoff Area=6,033 sf 0.00% Impervious Runoff Depth=0.17"
Flow Length=185' Tc=19.1 min CN=33 Runoff=0.00 cfs 0.002 af

Subcatchment 201: Flow to AP-2 Runoff Area=3,375 sf 0.00% Impervious Runoff Depth=0.21"
Flow Length=100' Slope=0.0700 '/' Tc=22.8 min CN=34 Runoff=0.00 cfs 0.001 af

Reach 1R: Reach to AP-1 Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.800 L=75.0' S=0.0667 '/' Capacity=0.42 cfs Outflow=0.00 cfs 0.000 af

Pond BIO #1: BIO #1 Peak Elev=107.63' Storage=1,058 cf Inflow=1.27 cfs 0.099 af
Discarded=0.36 cfs 0.099 af Primary=0.00 cfs 0.000 af Outflow=0.36 cfs 0.099 af

Pond CB 1: CB 1 Peak Elev=110.13' Inflow=1.00 cfs 0.074 af
12.0" Round Culvert n=0.012 L=38.0' S=0.0105 '/' Outflow=1.00 cfs 0.074 af

Pond DMH 1: DMH 1 Peak Elev=109.62' Inflow=1.00 cfs 0.074 af
12.0" Round Culvert n=0.012 L=63.0' S=0.0175 '/' Outflow=1.00 cfs 0.074 af

Pond YD 1: YD 1 Peak Elev=110.17' Inflow=0.24 cfs 0.019 af
12.0" Round Culvert n=0.012 L=6.0' S=0.0167 '/' Outflow=0.24 cfs 0.019 af

Link AP-1: AP-1 Inflow=0.00 cfs 0.002 af
Primary=0.00 cfs 0.002 af

Link AP-2: AP-2 Inflow=0.00 cfs 0.001 af
Primary=0.00 cfs 0.001 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.102 af Average Runoff Depth = 1.52"
73.81% Pervious = 0.593 ac 26.19% Impervious = 0.211 ac

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 101: Northeast Portion of Site Runoff Area=8,415 sf 62.31% Impervious Runoff Depth=4.43"
Tc=6.0 min CN=76 Runoff=1.00 cfs 0.071 af

Subcatchment 102: Flow to YD 1 Runoff Area=6,018 sf 30.62% Impervious Runoff Depth=2.44"
Flow Length=128' Tc=7.4 min CN=57 Runoff=0.36 cfs 0.028 af

Subcatchment 103: Flow to BIO 1 Runoff Area=11,179 sf 18.67% Impervious Runoff Depth=1.77"
Flow Length=190' Tc=6.1 min CN=50 Runoff=0.47 cfs 0.038 af

Subcatchment 104: Area Past Bio 1 Runoff Area=6,033 sf 0.00% Impervious Runoff Depth=0.42"
Flow Length=185' Tc=19.1 min CN=33 Runoff=0.02 cfs 0.005 af

Subcatchment 201: Flow to AP-2 Runoff Area=3,375 sf 0.00% Impervious Runoff Depth=0.48"
Flow Length=100' Slope=0.0700 '/' Tc=22.8 min CN=34 Runoff=0.01 cfs 0.003 af

Reach 1R: Reach to AP-1 Avg. Flow Depth=0.27' Max Vel=0.15 fps Inflow=0.45 cfs 0.006 af
n=0.800 L=75.0' S=0.0667 '/' Capacity=0.42 cfs Outflow=0.24 cfs 0.006 af

Pond BIO #1: BIO #1 Peak Elev=107.97' Storage=1,435 cf Inflow=1.81 cfs 0.137 af
Discarded=0.43 cfs 0.131 af Primary=0.45 cfs 0.006 af Outflow=0.88 cfs 0.137 af

Pond CB 1: CB 1 Peak Elev=110.24' Inflow=1.35 cfs 0.099 af
12.0" Round Culvert n=0.012 L=38.0' S=0.0105 '/' Outflow=1.35 cfs 0.099 af

Pond DMH 1: DMH 1 Peak Elev=109.71' Inflow=1.35 cfs 0.099 af
12.0" Round Culvert n=0.012 L=63.0' S=0.0175 '/' Outflow=1.35 cfs 0.099 af

Pond YD 1: YD 1 Peak Elev=110.29' Inflow=0.36 cfs 0.028 af
12.0" Round Culvert n=0.012 L=6.0' S=0.0167 '/' Outflow=0.36 cfs 0.028 af

Link AP-1: AP-1 Inflow=0.25 cfs 0.011 af
Primary=0.25 cfs 0.011 af

Link AP-2: AP-2 Inflow=0.01 cfs 0.003 af
Primary=0.01 cfs 0.003 af

Total Runoff Area = 0.804 ac Runoff Volume = 0.145 af Average Runoff Depth = 2.17"
73.81% Pervious = 0.593 ac 26.19% Impervious = 0.211 ac

Summary for Subcatchment 101: Northeast Portion of Site

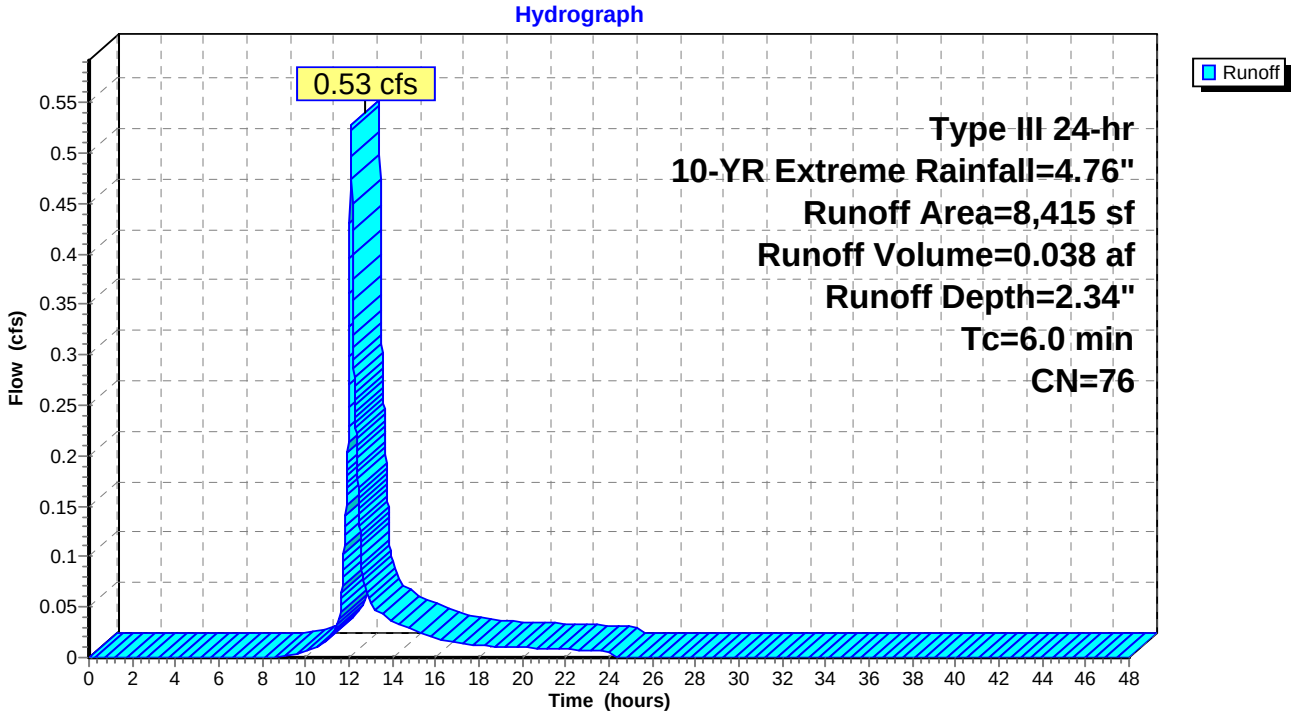
Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.038 af, Depth= 2.34"
Routed to Pond CB 1 : CB 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Extreme Rainfall=4.76"

Area (sf)	CN	Description
1,323	98	Roofs, HSG A
3,172	39	>75% Grass cover, Good, HSG A
3,920	98	Paved parking, HSG A
8,415	76	Weighted Average
3,172		37.69% Pervious Area
5,243		62.31% Impervious Area

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

Subcatchment 101: Northeast Portion of Site



Summary for Subcatchment 102: Flow to YD 1

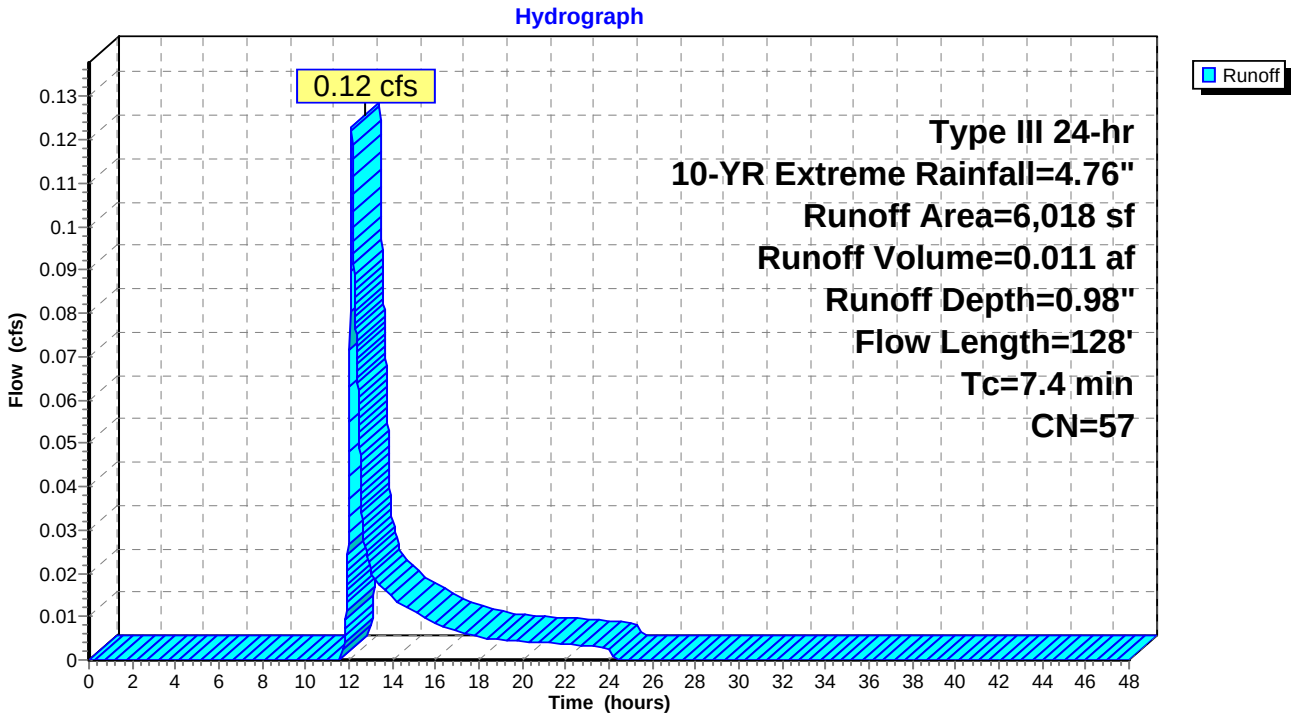
Runoff = 0.12 cfs @ 12.13 hrs, Volume= 0.011 af, Depth= 0.98"
Routed to Pond YD 1 : YD 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Extreme Rainfall=4.76"

Area (sf)	CN	Description
938	98	Roofs, HSG A
905	98	Paved parking, HSG A
4,175	39	>75% Grass cover, Good, HSG A
6,018	57	Weighted Average
4,175		69.38% Pervious Area
1,843		30.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0450	0.23		**Sheet Flow, Sheet Grass** Grass: Short n= 0.150 P2= 3.15"
0.3	28	0.0600	1.71		**Shallow Concentrated Flow, SC Grass** Short Grass Pasture Kv= 7.0 fps
7.4	128	Total			

Subcatchment 102: Flow to YD 1



Summary for Subcatchment 103: Flow to BIO 1

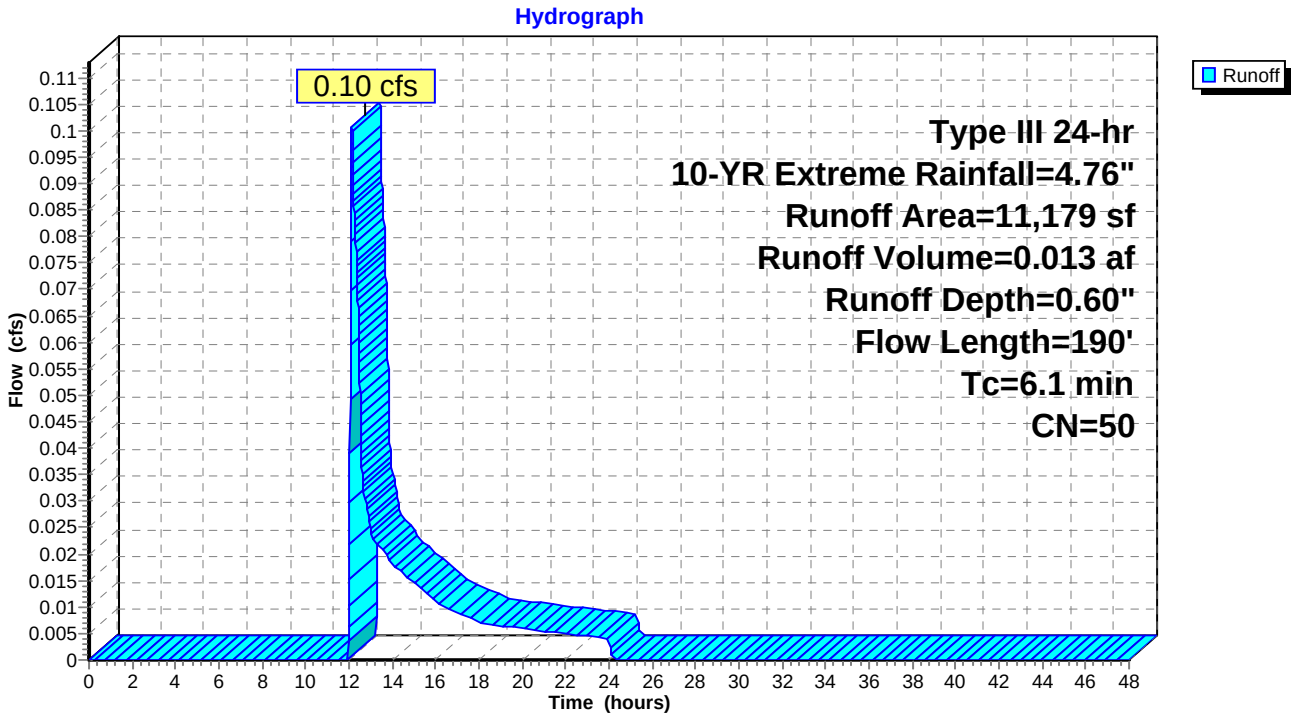
Runoff = 0.10 cfs @ 12.13 hrs, Volume= 0.013 af, Depth= 0.60"
Routed to Pond BIO #1 : BIO #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Extreme Rainfall=4.76"

Area (sf)	CN	Description
1,970	98	Roofs, HSG A
9,092	39	>75% Grass cover, Good, HSG A
117	98	Paved parking, HSG A
11,179	50	Weighted Average
9,092		81.33% Pervious Area
2,087		18.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0800	1.98		**Shallow Concentrated Flow, SC Grass** Short Grass Pasture Kv= 7.0 fps
5.3	90	0.0780	0.28		**Sheet Flow, Sheet Grass** Grass: Short n= 0.150 P2= 3.15"
6.1	190	Total			

Subcatchment 103: Flow to BIO 1



Summary for Subcatchment 104: Area Past Bio 1

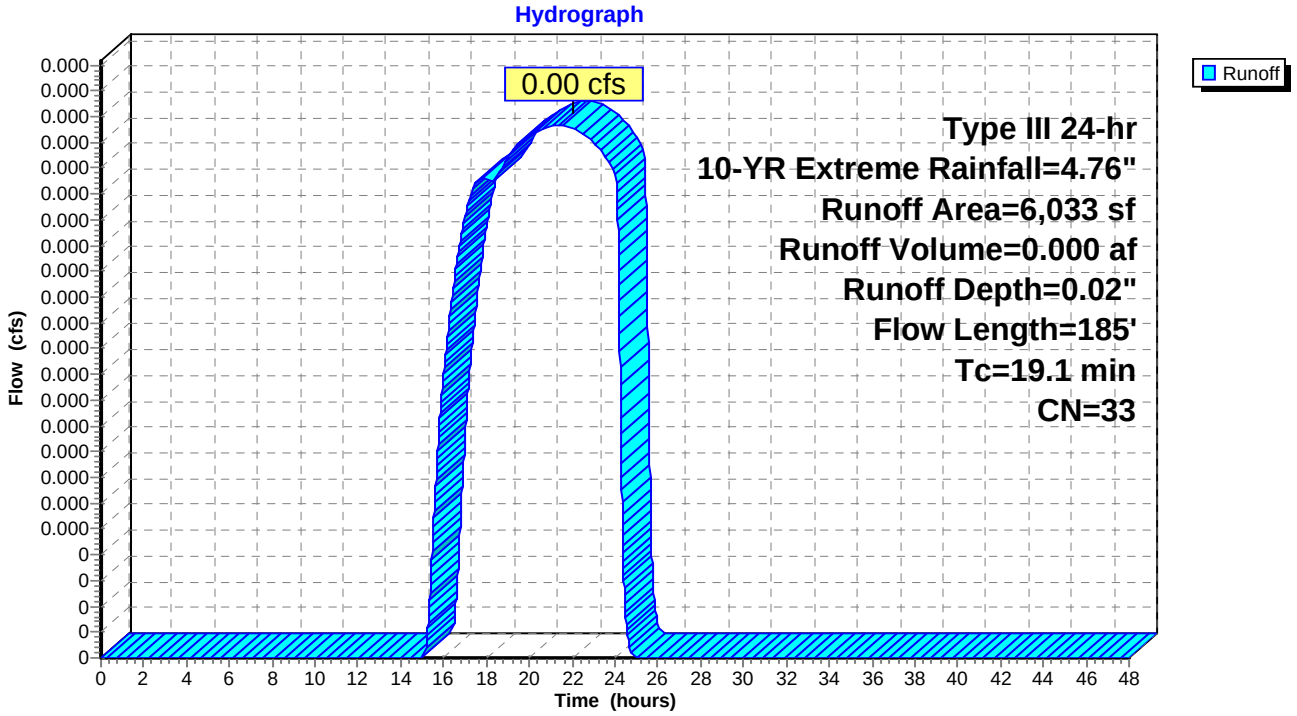
Runoff = 0.00 cfs @ 21.37 hrs, Volume= 0.000 af, Depth= 0.02"
Routed to Link AP-1 : AP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Extreme Rainfall=4.76"

Area (sf)	CN	Description
1,690	39	>75% Grass cover, Good, HSG A
4,343	30	Woods, Good, HSG A
6,033	33	Weighted Average
6,033		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0300	1.21		**Shallow Concentrated Flow, SC Grass** Short Grass Pasture Kv= 7.0 fps
18.4	135	0.0550	0.12		**Sheet Flow, Sheet Woods** Woods: Light underbrush n= 0.400 P2= 3.15"
19.1	185	Total			

Subcatchment 104: Area Past Bio 1



Summary for Subcatchment 201: Flow to AP-2

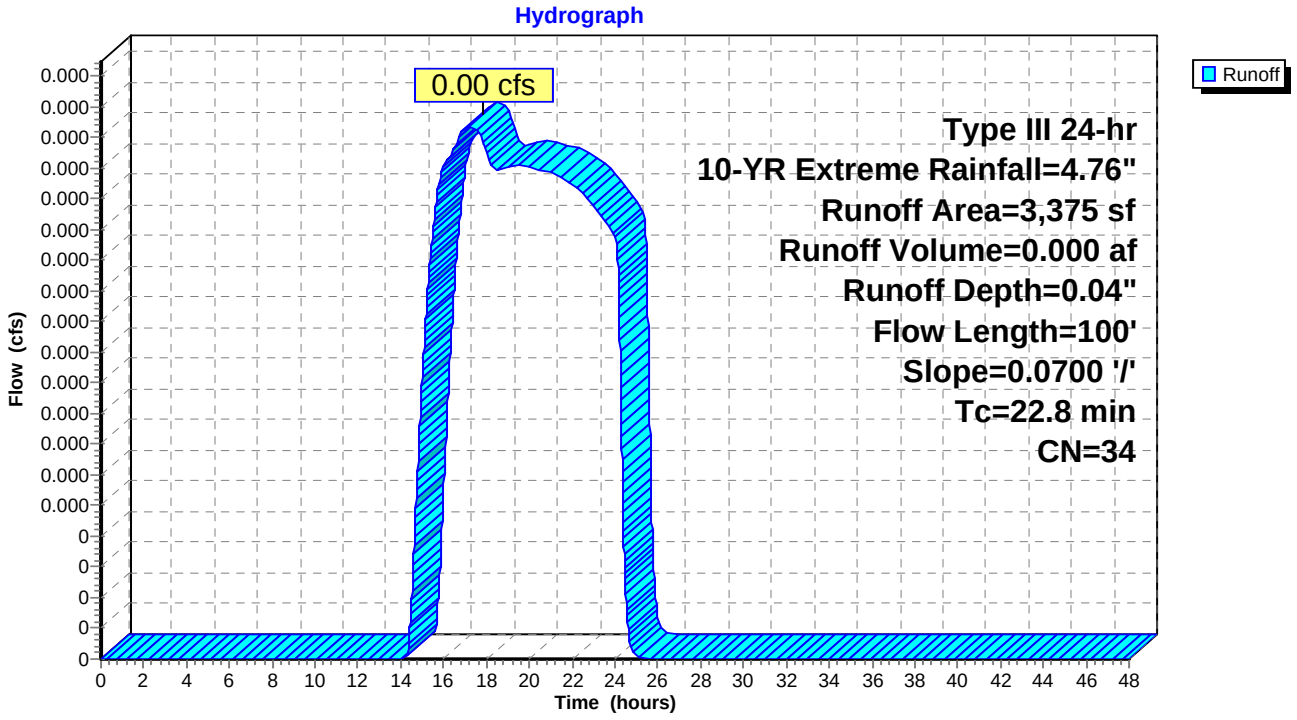
Runoff = 0.00 cfs @ 17.20 hrs, Volume= 0.000 af, Depth= 0.04"
Routed to Link AP-2 : AP-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Extreme Rainfall=4.76"

Area (sf)	CN	Description
1,655	39	>75% Grass cover, Good, HSG A
1,720	30	Woods, Good, HSG A
3,375	34	Weighted Average
3,375		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.8	100	0.0700	0.07		**Sheet Flow, Sheet Woods** Woods: Dense underbrush n= 0.800 P2= 3.15"

Subcatchment 201: Flow to AP-2



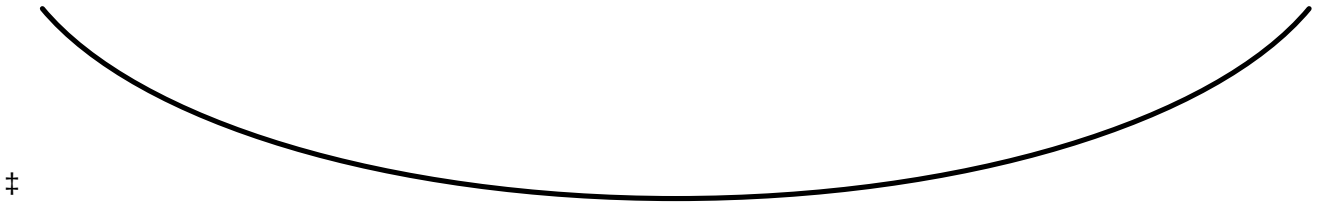
Summary for Reach 1R: Reach to AP-1

Inflow Area = 0.588 ac, 35.82% Impervious, Inflow Depth = 0.00" for 10-YR Extreme 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 Link AP-1 : AP-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

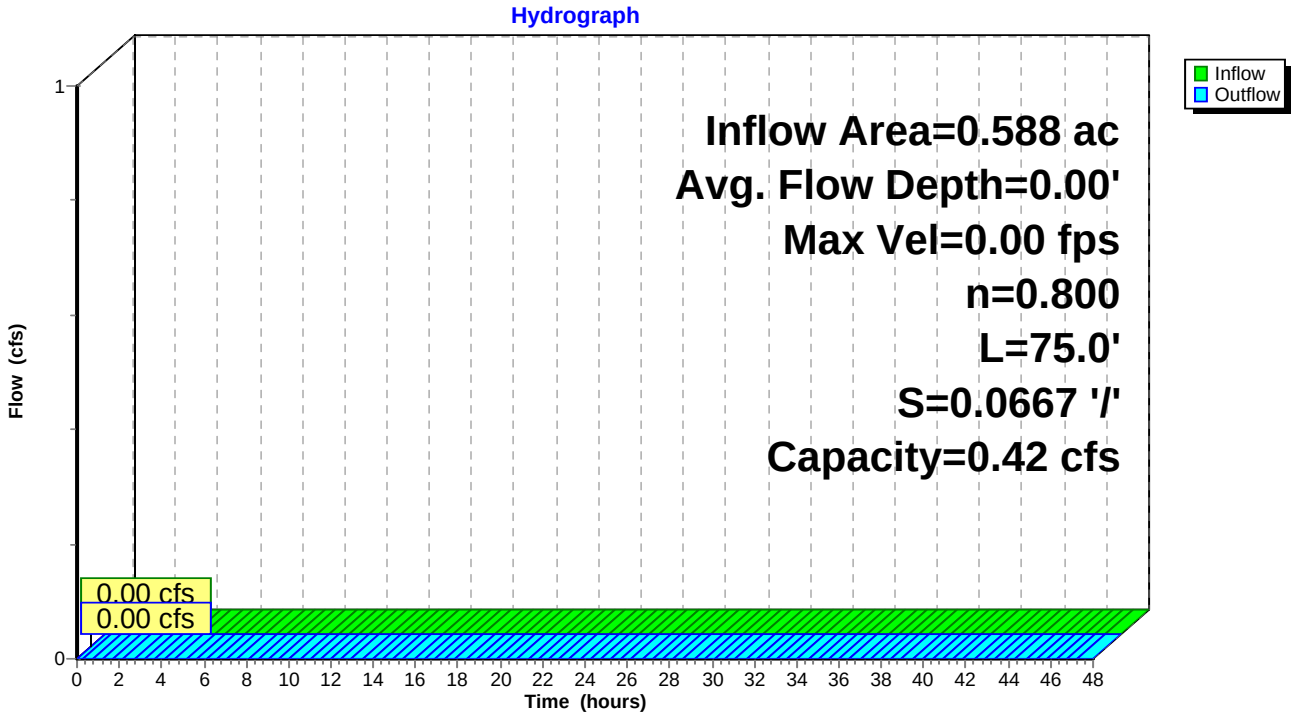
Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.35' Flow Area= 2.3 sf, Capacity= 0.42 cfs

10.00' x 0.35' deep Parabolic Channel, n= 0.800 Sheet flow: Woods+dense brush
Length= 75.0' Slope= 0.0667 '/'
Inlet Invert= 105.50', Outlet Invert= 100.50'



‡

Reach 1R: Reach to AP-1



Summary for Pond BIO #1: BIO #1

Inflow Area = 0.588 ac, 35.82% Impervious, Inflow Depth = 1.26" for 10-YR Extreme event
Inflow = 0.74 cfs @ 12.10 hrs, Volume= 0.062 af
Outflow = 0.24 cfs @ 12.49 hrs, Volume= 0.062 af, Atten= 67%, Lag= 23.1 min
Discarded = 0.24 cfs @ 12.49 hrs, Volume= 0.062 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 1R : Reach to AP-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 107.01' @ 12.49 hrs Surf.Area= 662 sf Storage= 537 cf
Flood Elev= 108.00' Surf.Area= 1,250 sf Storage= 1,471 cf

Plug-Flow detention time= 15.5 min calculated for 0.062 af (100% of inflow)
Center-of-Mass det. time= 15.5 min (878.5 - 862.9)

Volume	Invert	Avail.Storage	Storage Description
#1	104.25'	1,471 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

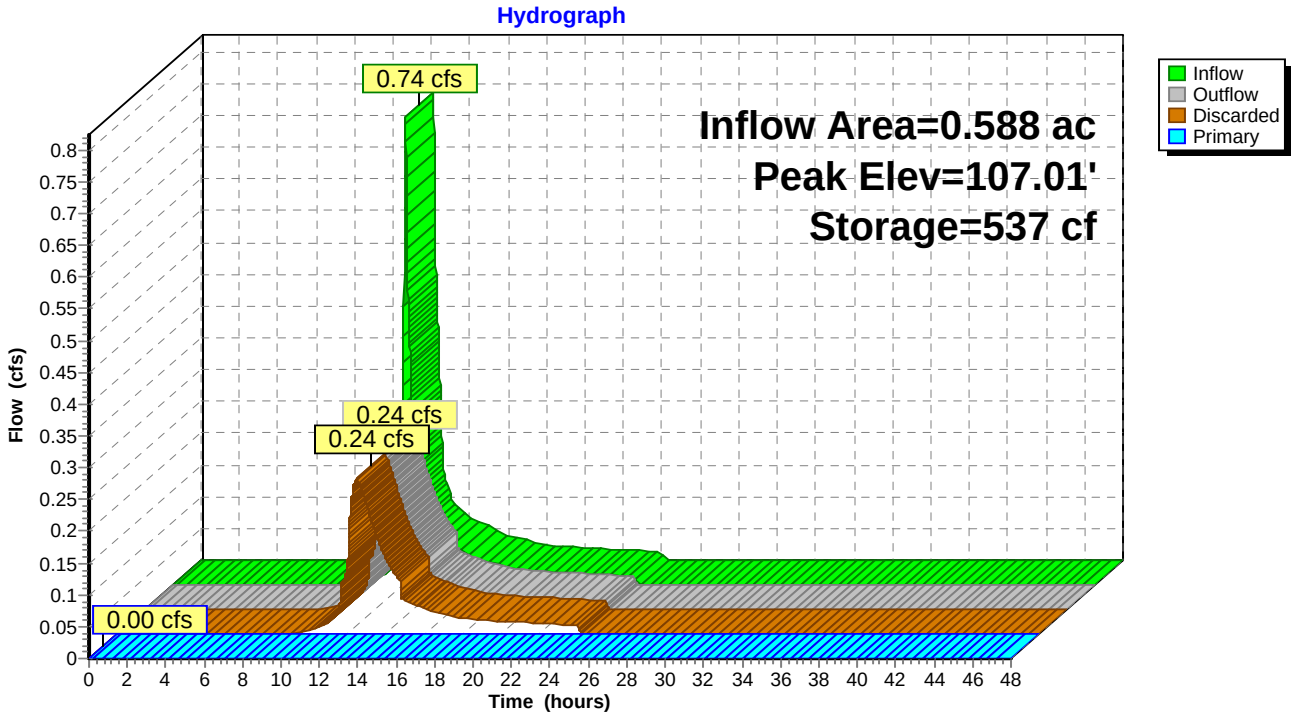
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.25	255	0.0	0	0	255
104.26	255	20.0	1	1	256
104.50	255	20.0	12	13	269
105.99	255	20.0	76	89	353
106.00	255	100.0	3	91	354
108.00	1,250	100.0	1,380	1,471	1,366

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.25'	**13.750 in/hr Exfiltration over Wetted area** Phase-In= 0.01'
#2	Device 3	107.95'	**0.5" x 4.5" Horiz. Orifice/ Grate Overflow X 14.00 columns** X 4 rows C= 0.600 Limited to weir flow at low heads
#3	Primary	106.00'	**6.0" Round 12" HDPE (P-4)** L= 10.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 106.00' / 105.90' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.24 cfs @ 12.49 hrs HW=107.01' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.24 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=104.25' TW=105.50' (Dynamic Tailwater)
└**3=12" HDPE (P-4)** (Controls 0.00 cfs)
└**2=Orifice/ Grate Overflow** (Controls 0.00 cfs)

Pond BIO #1: BIO #1



Summary for Pond CB 1: CB 1

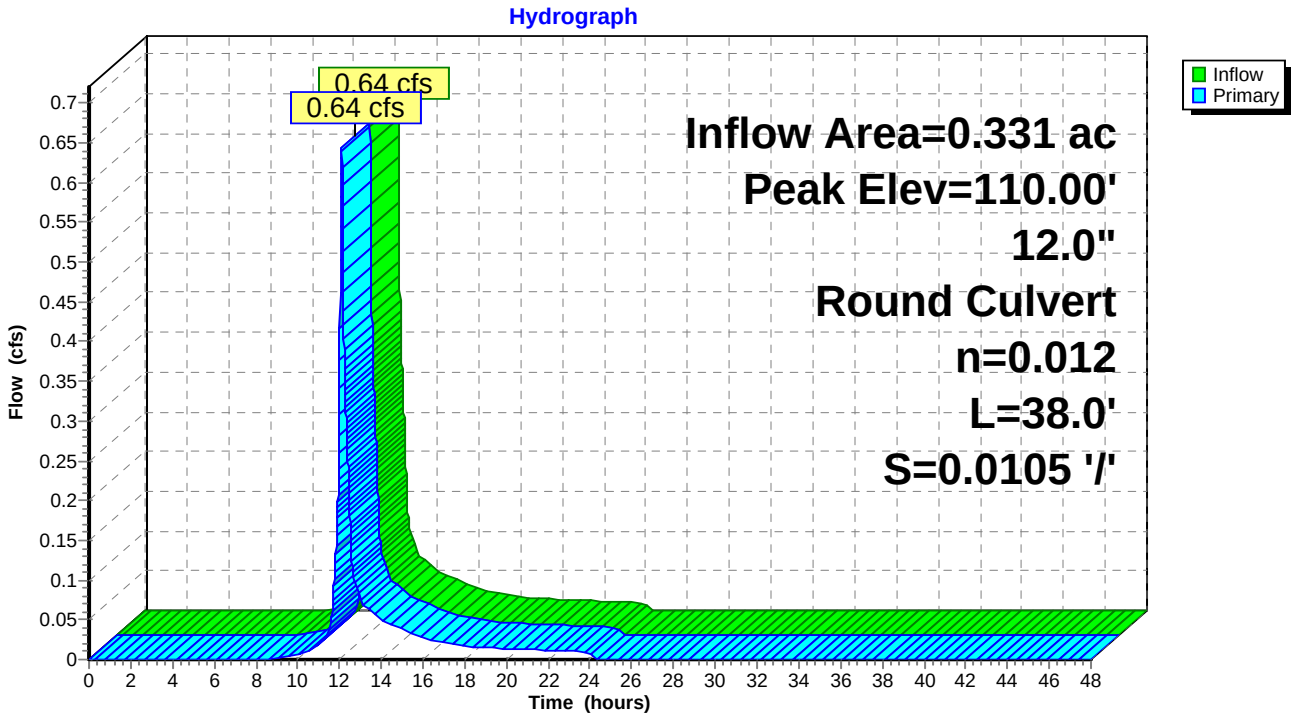
Inflow Area = 0.331 ac, 49.10% Impervious, Inflow Depth = 1.77" for 10-YR Extreme event
Inflow = 0.64 cfs @ 12.10 hrs, Volume= 0.049 af
Outflow = 0.64 cfs @ 12.10 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min
Primary = 0.64 cfs @ 12.10 hrs, Volume= 0.049 af
Routed to Pond DMH 1 : DMH 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 110.00' @ 12.10 hrs
Flood Elev= 115.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	109.60'	**12.0" Round P-2** L= 38.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 109.60' / 109.20' S= 0.0105 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.64 cfs @ 12.10 hrs HW=110.00' TW=109.50' (Dynamic Tailwater)
1=P-2 (Outlet Controls 0.64 cfs @ 3.19 fps)

Pond CB 1: CB 1



Summary for Pond DMH 1: DMH 1

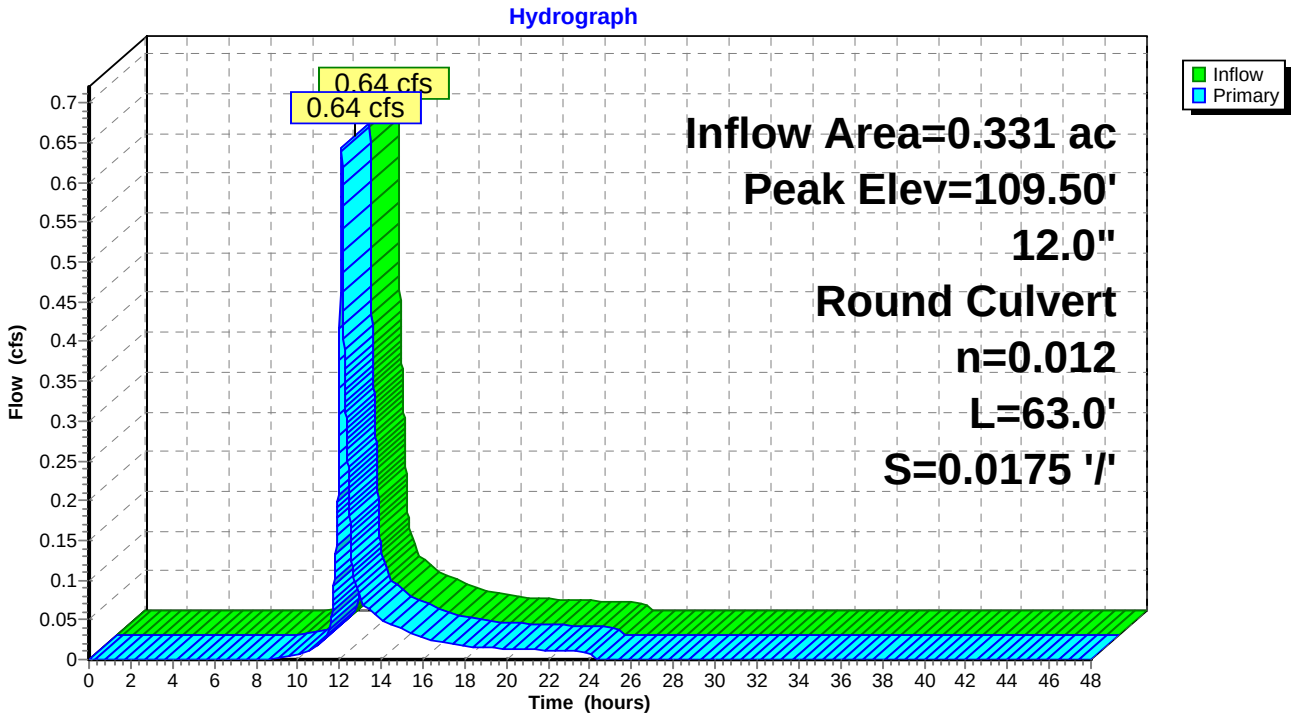
Inflow Area = 0.331 ac, 49.10% Impervious, Inflow Depth = 1.77" for 10-YR Extreme event
Inflow = 0.64 cfs @ 12.10 hrs, Volume= 0.049 af
Outflow = 0.64 cfs @ 12.10 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min
Primary = 0.64 cfs @ 12.10 hrs, Volume= 0.049 af
Routed to Pond BIO #1 : BIO #1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 109.50' @ 12.10 hrs
Flood Elev= 113.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	109.10'	**12.0" Round P-3** L= 63.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 109.10' / 108.00' S= 0.0175 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.64 cfs @ 12.10 hrs HW=109.50' TW=106.43' (Dynamic Tailwater)
1=P-3 (Inlet Controls 0.64 cfs @ 2.16 fps)

Pond DMH 1: DMH 1



Summary for Pond YD 1: YD 1

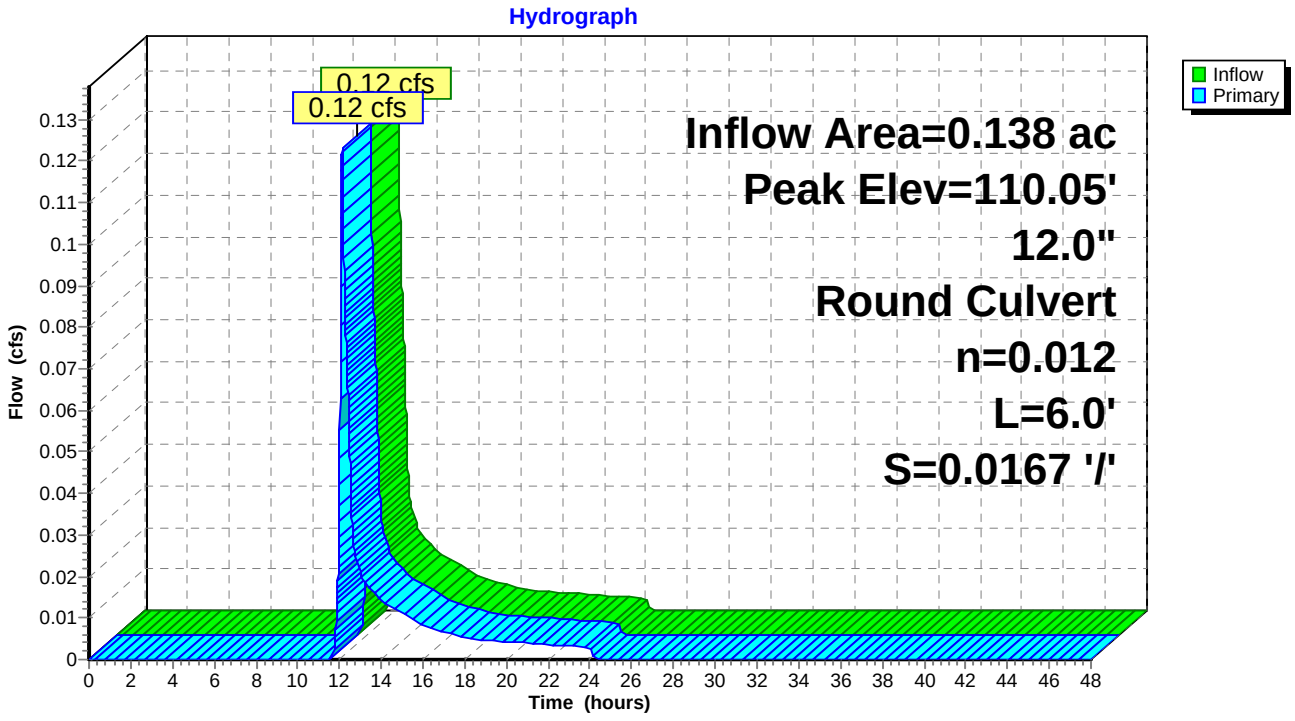
Inflow Area = 0.138 ac, 30.62% Impervious, Inflow Depth = 0.98" for 10-YR Extreme event
Inflow = 0.12 cfs @ 12.13 hrs, Volume= 0.011 af
Outflow = 0.12 cfs @ 12.13 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.0 min
Primary = 0.12 cfs @ 12.13 hrs, Volume= 0.011 af
Routed to Pond CB 1 : CB 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 110.05' @ 12.10 hrs
Flood Elev= 113.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	109.80'	**12.0" Round P-1** L= 6.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 109.80' / 109.70' S= 0.0167 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.12 cfs @ 12.13 hrs HW=110.04' TW=109.99' (Dynamic Tailwater)
1=P-1 (Outlet Controls 0.12 cfs @ 1.27 fps)

Pond YD 1: YD 1

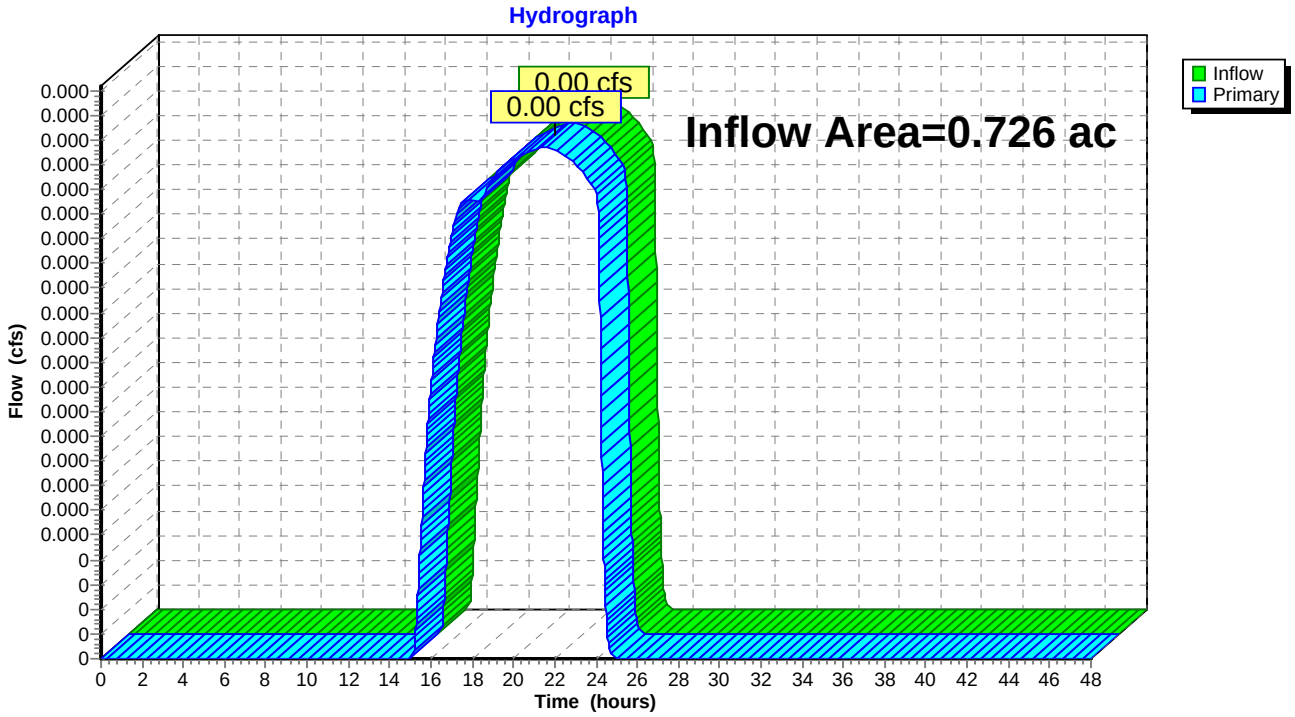


Summary for Link AP-1: AP-1

Inflow Area = 0.726 ac, 28.99% Impervious, Inflow Depth = 0.00" for 10-YR Extreme event
Inflow = 0.00 cfs @ 21.37 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 21.37 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link AP-1: AP-1

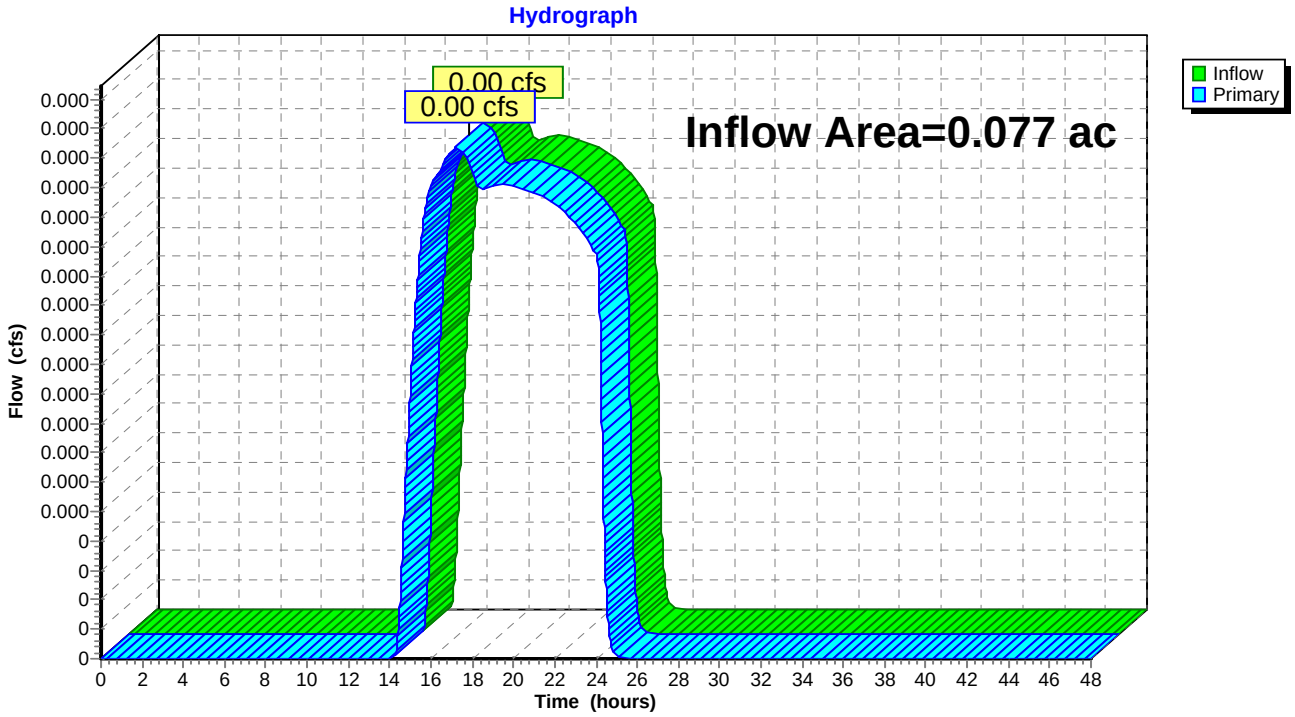


Summary for Link AP-2: AP-2

Inflow Area = 0.077 ac, 0.00% Impervious, Inflow Depth = 0.04" for 10-YR Extreme event
Inflow = 0.00 cfs @ 17.20 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 17.20 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link AP-2: AP-2



STORMWATER ANALYSIS

and

Erosion & Sediment Control Plan

NARRATIVE

for

COREY MACKOUL

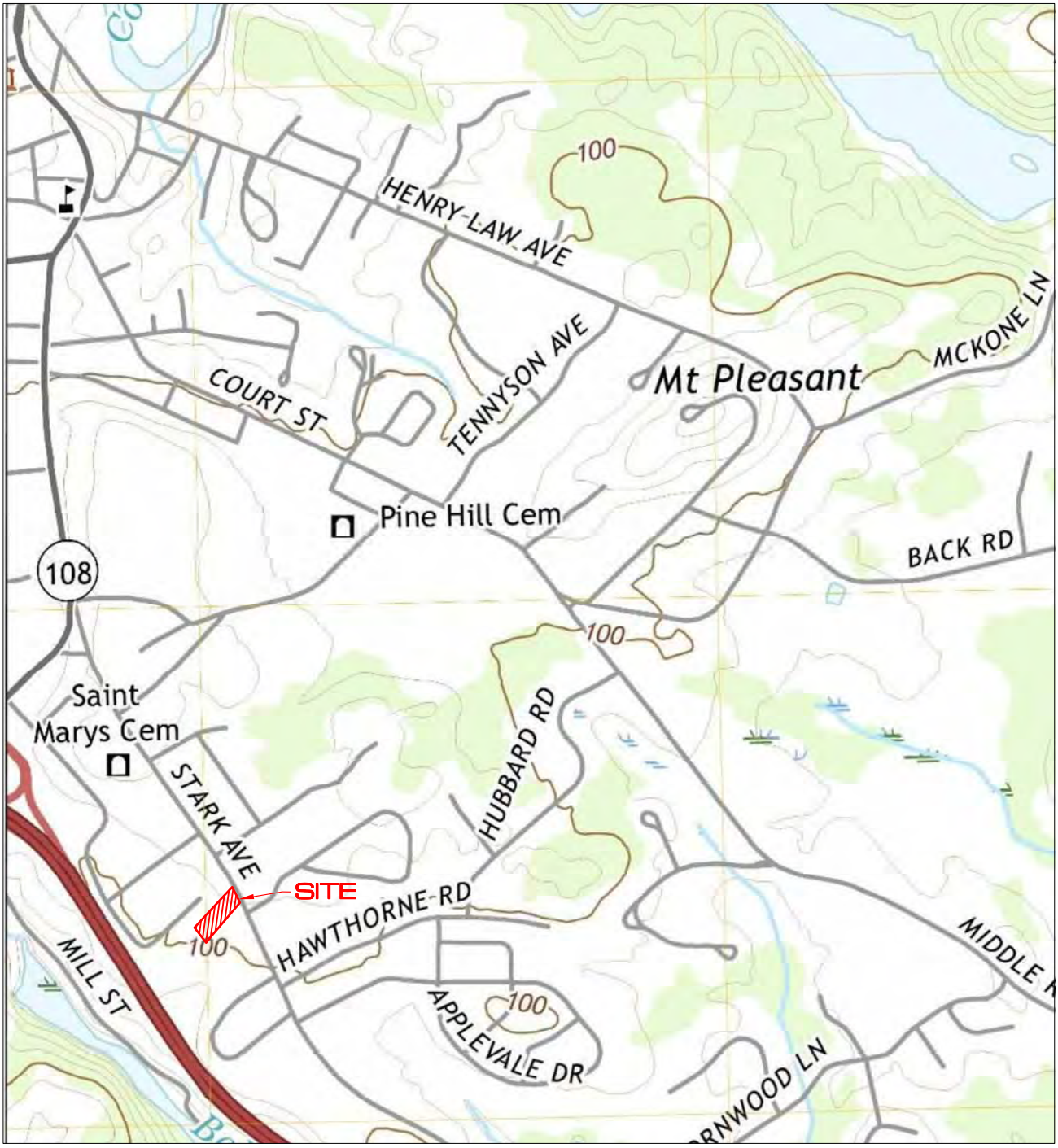
8 Hull Ave
Dover, New Hampshire
May 2026

SECTION III

EXHIBITS

NOTE:

THIS PLAN SHOWS PORTIONS OF THE U.S.G.S.: DOVER QUADRANGLE, NEW HAMPSHIRE 7.5 MINUTE SERIES 2021 MAP. SITE LOCATION IS APPROXIMATE.



SHEET NO.

LOCUS-1

USGS PLAN

COREY MACKOUL

89 STARK AVE

TAX MAP 17, LOT 38

DOVER, NEW HAMPSHIRE

APRIL 13, 2026 JOB No. 25136

SCALE: 1" : 1,000'

TRITECH

ENGINEERING CORPORATION

755 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820

TELEPHONE 603 742 8107
FAX 603 742 3330

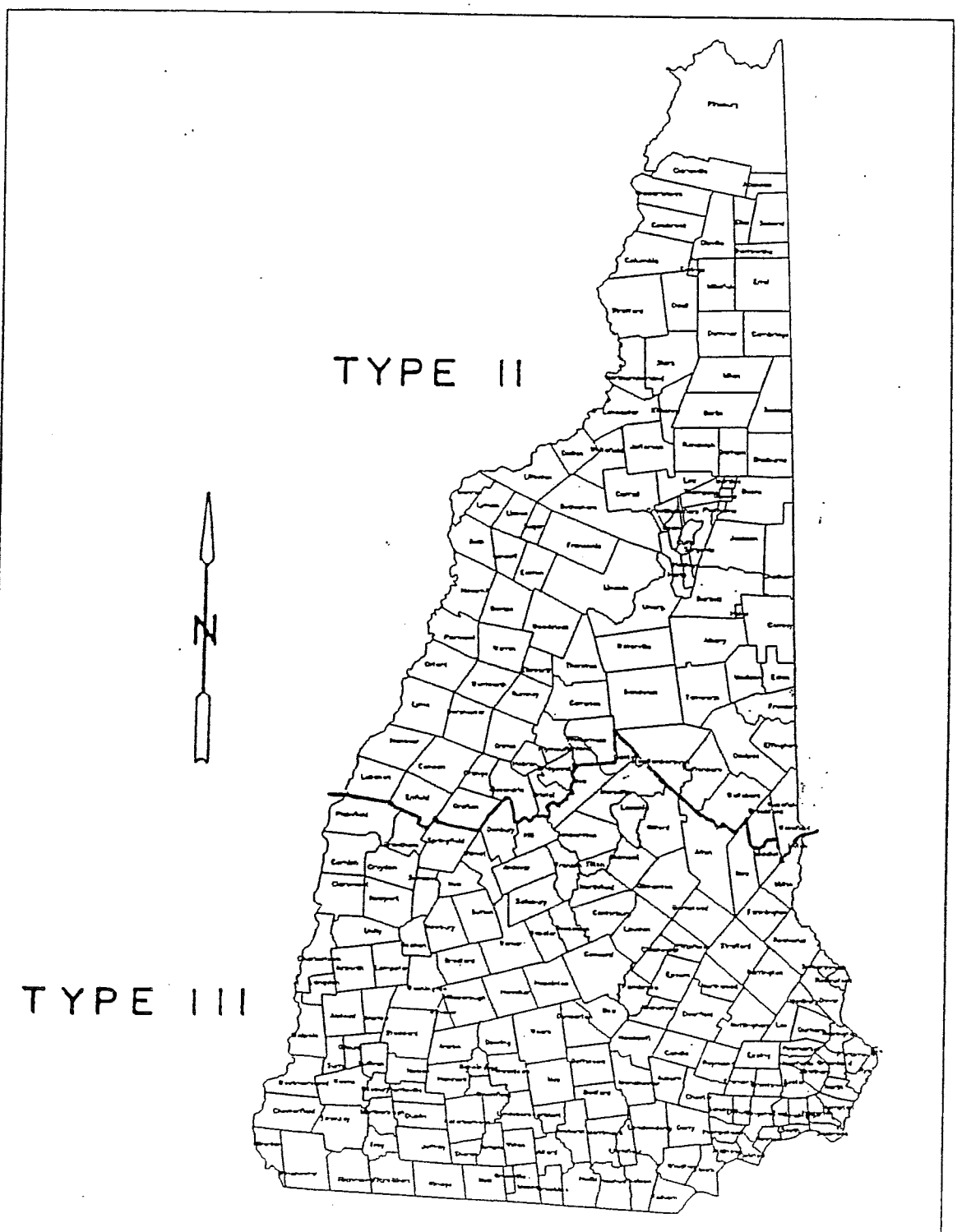


FIGURE 6-5 -- BOUNDARY FOR SCS RAINFALL DISTRIBUTION

Source: USDA Soil Conservation Service

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	New Hampshire
Location	New Hampshire, United States
Latitude	43.179 degrees North
Longitude	70.87 degrees West
Elevation	30 feet
Date/Time	Tue Apr 07 2026 14:52:11 GMT-0400 (Eastern Daylight 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	2.87	**1yr**	2.31	2.76	3.16	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	3.51	**2yr**	2.79	3.37	3.87	4.60	5.24	**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**	3.53	4.32	4.94	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	3.67	4.76	5.42	**10yr**	4.21	5.21	5.95	6.94	7.81	**10yr**
25yr	0.46	0.74	0.94	1.30	1.72	2.27	**25yr**	1.49	2.09	2.70	3.53	4.62	6.02	6.96	**25yr**	5.33	6.69	7.61	8.78	9.82	**25yr**
50yr	0.52	0.83	1.06	1.49	2.00	2.67	**50yr**	1.73	2.46	3.18	4.19	5.50	7.19	8.40	**50yr**	6.37	8.08	9.18	10.50	11.67	**50yr**
100yr	0.58	0.94	1.21	1.71	2.32	3.13	**100yr**	2.00	2.89	3.75	4.96	6.54	8.60	10.16	**100yr**	7.61	9.77	11.07	12.55	13.89	**100yr**
200yr	0.64	1.05	1.36	1.95	2.70	3.67	**200yr**	2.33	3.40	4.43	5.90	7.81	10.29	12.28	**200yr**	9.11	11.80	13.35	15.02	16.53	**200yr**
500yr	0.76	1.24	1.62	2.36	3.30	4.54	**500yr**	2.85	4.22	5.50	7.39	9.84	13.05	15.78	**500yr**	11.55	15.17	17.11	19.04	20.83	**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	1.59	2.14	2.46	**1yr**	1.90	2.36	2.87	3.33	4.01	**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	5.04	**2yr**
5yr	0.35	0.54	0.67	0.91	1.16	1.40	**5yr**	1.00	1.37	1.61	2.15	2.77	3.72	4.13	**5yr**	3.29	3.97	4.61	5.42	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	3.12	4.28	4.79	**10yr**	3.79	4.60	5.32	6.25	7.03	**10yr**
25yr	0.44	0.66	0.82	1.18	1.55	1.91	**25yr**	1.34	1.86	2.11	2.84	3.64	4.91	5.79	**25yr**	4.34	5.57	6.49	7.57	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	5.59	6.68	**50yr**	4.95	6.42	7.53	8.73	9.69	**50yr**
100yr	0.53	0.81	1.01	1.46	2.00	2.50	**100yr**	1.73	2.44	2.63	3.57	4.56	6.36	7.70	**100yr**	5.62	7.41	8.74	10.08	11.11	**100yr**
200yr	0.59	0.89	1.13	1.63	2.28	2.86	**200yr**	1.97	2.79	2.93	3.99	5.08	7.22	8.88	**200yr**	6.39	8.54	10.14	11.65	12.75	**200yr**
500yr	0.69	1.03	1.32	1.92	2.73	3.44	**500yr**	2.35	3.36	3.40	4.62	5.89	8.52	10.70	**500yr**	7.54	10.29	12.33	14.12	15.26	**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	2.89	3.09	**1yr**	2.56	2.97	3.44	4.24	4.83	**1yr**
2yr	0.33	0.51	0.62	0.85	1.04	1.25	**2yr**	0.90	1.22	1.48	1.96	2.51	3.30	3.63	**2yr**	2.92	3.49	4.00	4.75	5.46	**2yr**
5yr	0.39	0.61	0.75	1.03	1.31	1.59	**5yr**	1.13	1.55	1.86	2.50	3.21	4.25	4.86	**5yr**	3.76	4.67	5.28	6.24	7.00	**5yr**
10yr	0.46	0.70	0.87	1.22	1.57	1.92	**10yr**	1.36	1.88	2.24	3.05	3.87	5.22	6.07	**10yr**	4.62	5.83	6.66	7.66	8.54	**10yr**
25yr	0.56	0.85	1.05	1.50	1.98	2.48	**25yr**	1.71	2.43	2.89	3.98	4.98	7.14	8.15	**25yr**	6.32	7.84	8.91	10.08	11.14	**25yr**
50yr	0.64	0.98	1.22	1.75	2.36	3.00	**50yr**	2.03	2.93	3.50	4.85	6.05	8.83	10.21	**50yr**	7.82	9.82	11.13	12.40	13.62	**50yr**
100yr	0.75	1.13	1.42	2.05	2.81	3.63	**100yr**	2.42	3.55	4.25	5.94	7.36	10.93	12.80	**100yr**	9.68	12.30	13.90	15.28	16.67	**100yr**
200yr	0.87	1.31	1.66	2.40	3.34	4.40	**200yr**	2.89	4.30	5.17	7.27	8.95	13.57	16.05	**200yr**	12.01	15.44	17.37	18.82	20.42	**200yr**
500yr	1.06	1.58	2.04	2.96	4.21	5.66	**500yr**	3.63	5.54	6.68	9.52	11.61	18.07	21.67	**500yr**	15.99	20.84	23.34	24.81	26.73	**500yr**

Powered by ACIS Northeast Regional Climate Center

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **Corey MacKoul Bio #1**

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**
0.59	ac	A = Area draining to the practice	
0.21	ac	A_I = Impervious area draining to the practice	
0.36	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.37	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.22	ac-in	WQV= 1" x Rv x A	
793	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
198	cf	25% x WQV (check calc for sediment forebay volume)	
Deep Sump CB's		Method of pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	≥ **25%WQV**
1,409	cf	V = Volume[1] (attach a stage-storage table)	≥ **WQV**
255	sf	A_{SA} = Surface area of the bottom of the pond	
13.75	iph	$Ksat_{DESIGN}$ = Design infiltration rate[2]	
2.7	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	≤ **72-hrs**
106.00	feet	E_{BTM} = Elevation of the bottom of the basin	
103.80	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
103.00	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
2.20	feet	D_{SHWT} = Separation from SHWT	≥ *[3]
3.0	feet	D_{ROCK} = Separation from bedrock	≥ *[3]
1.5	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**
no	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**
3.0	:1	If a basin is proposed, pond side slopes.	≥**3:1**
107.01	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
107.97	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
108.00	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:

Summary for Pond BIO #1: BIO #1

Inflow Area = 0.588 ac, 35.82% Impervious, Inflow Depth = 1.26" for 10-YR Extreme event
Inflow = 0.74 cfs @ 12.10 hrs, Volume= 0.062 af
Outflow = 0.24 cfs @ 12.49 hrs, Volume= 0.062 af, Atten= 67%, Lag= 23.1 min
Discarded = 0.24 cfs @ 12.49 hrs, Volume= 0.062 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 1R : Reach to AP-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 107.01' @ 12.49 hrs Surf.Area= 662 sf Storage= 537 cf
Flood Elev= 108.00' Surf.Area= 1,250 sf Storage= 1,471 cf

Plug-Flow detention time= 15.5 min calculated for 0.062 af (100% of inflow)
Center-of-Mass det. time= 15.5 min (878.5 - 862.9)

Volume	Invert	Avail.Storage	Storage Description
#1	104.25'	1,471 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.25	255	0.0	0	0	255
104.26	255	20.0	1	1	256
104.50	255	20.0	12	13	269
105.99	255	20.0	76	89	353
106.00	255	100.0	3	91	354
108.00	1,250	100.0	1,380	1,471	1,366

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.25'	**13.750 in/hr Exfiltration over Wetted area** Phase-In= 0.01'
#2	Device 3	107.95'	**0.5" x 4.5" Horiz. Orifice/ Grate Overflow X 14.00 columns** X 4 rows C= 0.600 Limited to weir flow at low heads
#3	Primary	106.00'	**6.0" Round 12" HDPE (P-4)** L= 10.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 106.00' / 105.90' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.24 cfs @ 12.49 hrs HW=107.01' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.24 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=104.25' TW=105.50' (Dynamic Tailwater)
└**3=12" HDPE (P-4)** (Controls 0.00 cfs)
└**2=Orifice/ Grate Overflow** (Controls 0.00 cfs)

Summary for Pond BIO #1: BIO #1

Inflow Area = 0.588 ac, 35.82% Impervious, Inflow Depth = 2.80" for 50-YR Extreme event
Inflow = 1.81 cfs @ 12.10 hrs, Volume= 0.137 af
Outflow = 0.88 cfs @ 12.30 hrs, Volume= 0.137 af, Atten= 52%, Lag= 12.5 min
Discarded = 0.43 cfs @ 12.30 hrs, Volume= 0.131 af
Primary = 0.45 cfs @ 12.30 hrs, Volume= 0.006 af
Routed to Reach 1R : Reach to AP-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 107.97' @ 12.30 hrs Surf.Area= 1,230 sf Storage= 1,435 cf
Flood Elev= 108.00' Surf.Area= 1,250 sf Storage= 1,471 cf

Plug-Flow detention time= 28.6 min calculated for 0.137 af (100% of inflow)
Center-of-Mass det. time= 28.6 min (871.2 - 842.6)

Volume	Invert	Avail.Storage	Storage Description
#1	104.25'	1,471 cf	**Custom Stage Data (Conic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
104.25	255	0.0	0	0	255
104.26	255	20.0	1	1	256
104.50	255	20.0	12	13	269
105.99	255	20.0	76	89	353
106.00	255	100.0	3	91	354
108.00	1,250	100.0	1,380	1,471	1,366

Device	Routing	Invert	Outlet Devices
#1	Discarded	104.25'	**13.750 in/hr Exfiltration over Wetted area** Phase-In= 0.01'
#2	Device 3	107.95'	**0.5" x 4.5" Horiz. Orifice/ Grate Overflow X 14.00 columns** X 4 rows C= 0.600 Limited to weir flow at low heads
#3	Primary	106.00'	**6.0" Round 12" HDPE (P-4)** L= 10.0' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 106.00' / 105.90' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.43 cfs @ 12.30 hrs HW=107.97' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=0.45 cfs @ 12.30 hrs HW=107.97' TW=105.63' (Dynamic Tailwater)
└**3=12" HDPE (P-4)** (Passes 0.45 cfs of 1.24 cfs potential flow)
└**2=Orifice/ Grate Overflow** (Weir Controls 0.45 cfs @ 0.47 fps)

Stage-Area-Storage for Pond BIO #1: BIO #1 (continued)

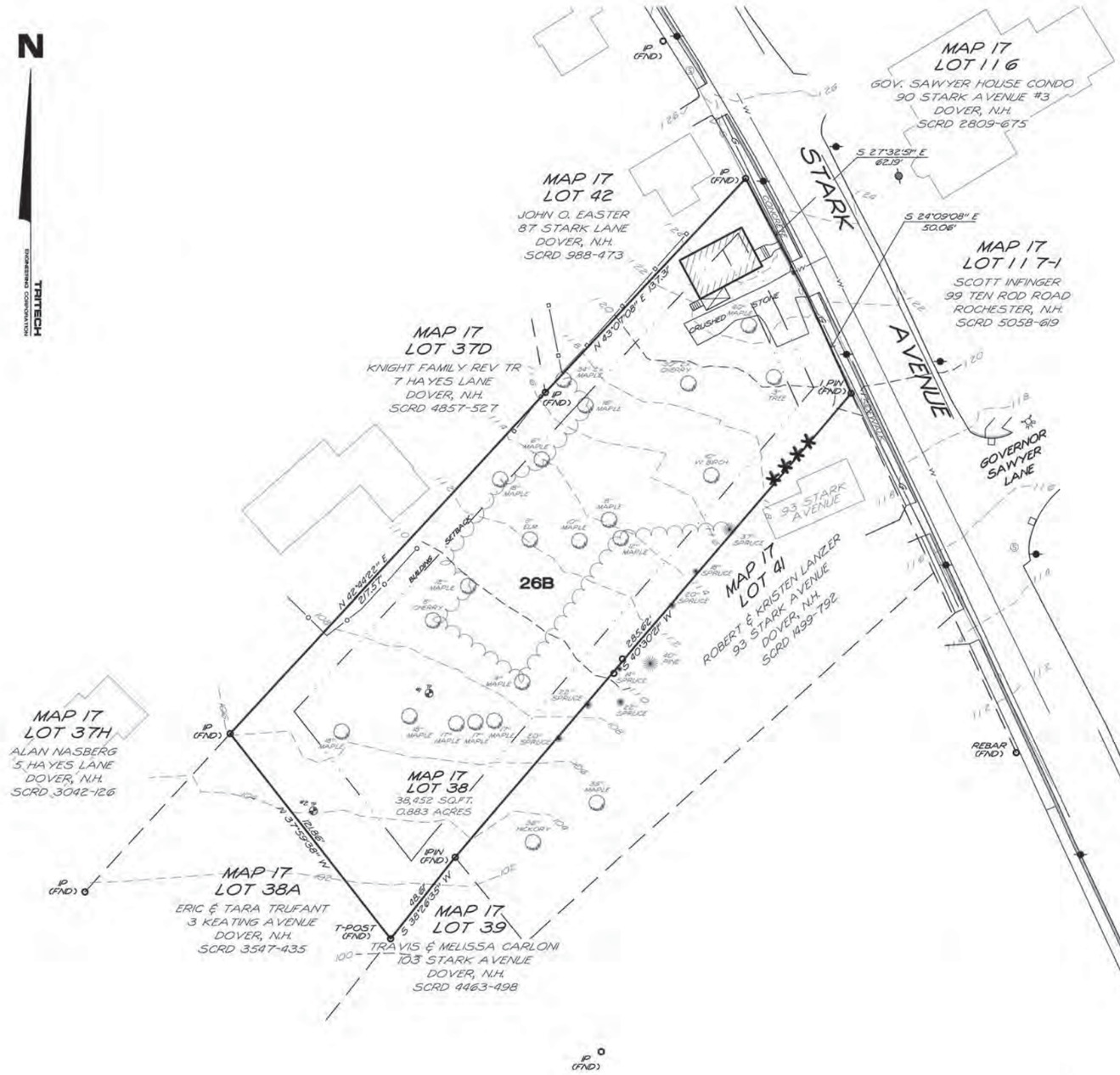
Elevation (feet)	Surface (sq-ft)	Wetted (sq-ft)	Storage (cubic-feet)
107.43	890	999	864
107.44	896	1,005	873
107.45	901	1,011	882
107.46	907	1,017	891
107.47	913	1,023	900
107.48	919	1,029	909
107.49	925	1,035	918
107.50	931	1,041	928
107.51	937	1,047	937
107.52	943	1,053	947
107.53	949	1,059	956
107.54	955	1,065	965
107.55	961	1,071	975
107.56	967	1,077	985
107.57	973	1,084	994
107.58	979	1,090	1,004
107.59	985	1,096	1,014
107.60	991	1,102	1,024
107.61	997	1,108	1,034
107.62	1,003	1,115	1,044
107.63	1,009	1,121	1,054
107.64	1,015	1,127	1,064
107.65	1,022	1,133	1,074
107.66	1,028	1,140	1,084
107.67	1,034	1,146	1,095
107.68	1,040	1,152	1,105
107.69	1,047	1,159	1,116
107.70	1,053	1,165	1,126
107.71	1,059	1,172	1,137
107.72	1,065	1,178	1,147
107.73	1,072	1,184	1,158
107.74	1,078	1,191	1,169
107.75	1,085	1,197	1,179
107.76	1,091	1,204	1,190
107.77	1,097	1,210	1,201
107.78	1,104	1,217	1,212
107.79	1,110	1,223	1,223
107.80	1,117	1,230	1,234
107.81	1,123	1,237	1,246
107.82	1,130	1,243	1,257
107.83	1,136	1,250	1,268
107.84	1,143	1,257	1,280
107.85	1,149	1,263	1,291
107.86	1,156	1,270	1,303
107.87	1,162	1,277	1,314
107.88	1,169	1,283	1,326
107.89	1,176	1,290	1,338
107.90	1,182	1,297	1,349
107.91	1,189	1,304	1,361
107.92	1,196	1,310	1,373
107.93	1,202	1,317	1,385
107.94	1,209	1,324	1,397
107.95	1,216	1,331	1,409

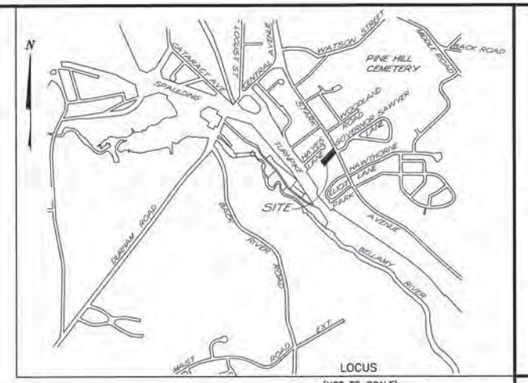
GROUNDWATER RECHARGE VOLUME (GRV)
(Env-Wq 1504.12)

0.16	ac	Area of HSG A soil that was replaced by impervious cover	0.40"
-	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"
-	ac	Area of HSG D soil or impervious cover that was replaced by impervious cover	0.0"
0.40	inches	Rd = Weighted groundwater recharge depth	
0.062	ac-in	GRV = AI * Rd	
225	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):

Infiltration from Bio #1 = 1,409 cubic feet





SOILS NOTES

1.) SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT. SSSNNE SPECIAL PUBLICATION NO. 3, VERSION 7.0, JULY 2021. THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PRODUCT, INTENDED FOR THE SUBMISSION TO NH DES ALTERATION OF TERRAIN. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE.

2.) WETLANDS WERE INVESTIGATED IN JANUARY 2026 BY MICHAEL MARIANO, NH CERTIFIED WETLAND SCIENTIST #183 IN ACCORDANCE WITH THE 1987 U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE 2012 REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0. HYDRIC SOILS WERE IDENTIFIED BY FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, MAY 2017. A ROUTINE DETERMINATION, AS DESCRIBED IN THE MANUAL, WAS FOLLOWED. NO WETLAND WERE FOUND.

3.) TEST PITS WERE OBSERVED AND DESCRIBED IN APRIL OF 2026.

LEGEND

26 WINDSOR

SLOPE CLASS

A	0 - 3%
B	3 - 8%
C	8 - 15%

LEGEND

- REBAR WITH IO CAP TO BE SET
- UTILITY POLE
- SEWER MANHOLE
- DRAIN MANHOLE
- CATCH BASIN
- D — DRAIN LINE
- G — GAS LINE
- W — WATER LINE
- VINYL STOCKADE FENCE
- WOOD RAIL FENCE
- CHAIN LINK FENCE
- METAL RAIL FENCE
- SPECIMEN TREE
- ARBORVITAE

TRITECH
ENGINEERING CORPORATION
795 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 8107
FAX 603 742 3890

REVISIONS
DATE: DESCRIPTION:

STATE OF NEW HAMPSHIRE - SOIL SCIENTIST - MICHAEL MARIANO No. 76 - CERTIFIED

SITE SPECIFIC SOILS PLAN

COREY MACKOUL

89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 2513.6
SCALE: 1" = 30'

SHEET No. **SSS-1**

(P26-0000)

SOIL REPORT

April 23, 2026

89 Stark Ave
Dover NH
Map 17 Lot 38
0.88 acres

Landscape: Nearly uniform NE to SW slope of approximately 6 percent Mostly lawn and lightly wooded.

Wetlands: There are no wetlands on the property or within 50' of any property line. The area was observed in March 2026 by Michael Mariano, NH Certified Wetland Scientist #183.

Soils: Windsor soils are the only soil on the property

Purpose: The site-specific soil map was prepared for a proposed residential construction with city water and sewer.

Methodology: The soil map was prepared in accordance with the Site-Specific Soil Mapping Standards for New Hampshire and Vermont, July 2021 by the Society of Soil Scientists of Northern New England and standards established by the National Cooperative Soil Survey. The soil survey was prepared by Michael Mariano, NH Certified Soil Scientist #076.

A plan provided by Tritech Engineering, Dover NH at 1" = 30' with 2' contours was used as a base map. Existing monumentation, survey transects, and topographic features were used as control. Two pits were dug by an excavator to classify soils at the series level. Pits were located Tritech Engineering.

The identification of soils is based on the New Hampshire State-Wide Numerical Soils Legend.

Map Unit Purity:

Consociations: Map units will contain 75 percent or more of pedons that fit within the range of the taxon that provides the name for the map unit or are in a similar taxon. No one similar soil is greater than the named reference taxa. The total amount of dissimilar inclusions will not exceed 25 percent. No single dissimilar soil will make up more than 10 percent of the map unit. Limiting inclusions do not exceed 15 percent of the map unit. More intensive separation of dissimilar inclusions within a map unit can be made at the discretion of the Soil Scientist.

Complexes: There are no soil complexes on the property

Drainage Classes: Soil series names added for soils on this property.

***Very Poorly Drained*:** There are no very poorly drained soils mapped on this property.

Poorly Drained: **There** are no poorly drained soils mapped on this property.

***Somewhat Poorly Drained**:* There are no somewhat poorly drained soils on this property.

Moderately Well Drained: There are no moderately well drained soils on the property

Well Drained: There are no well drained soils on the property.

***Excessively Drained*:** Windsor. Water is removed very rapidly. The occurrence of internal free water commonly is very rare or very deep. The soils are commonly coarse textured and have very high hydrologic conductivity.

Soils with textures of very fine sand or coarser in all horizons within the control section

Soil Map Legend

26 Windsor

Slope Classes

A 0-3%
B 3-8%
C 8-15%

This map product is within the technical standards of the National Cooperative Soil Survey and produced in accordance with the Society of Soil Scientists of Northern New England Publication Site-Specific Soil Mapping Standards for New Hampshire and Vermont, July 2021 It was produced by a professional soil scientist, and is not a product of the USDA Natural Resources Conservation Service. There is a map that accompanies this report.



Highland Soil Services
75 Prospect St., Somersworth NH 03878

Windsor

NH Numerical Soil Legend: 26

Setting

Parent Material:	Glacial outwash
Landform:	Outwash plains
Position on Landscape:	Highest elevations
Slope Range:	3 to 8 percent

Composition and Soil Characteristics

Drainage Class:	Somewhat excessively drained; seasonal high water table at >40 inches
Hydrologic Group:	A
Surface Runoff	Moderate
Permeability	Rapid
Depth to Bedrock	> 40 inches
Hydric conditions	No

Inclusions Within Mapping Unit

Similar:	None
Contrasting:	None

Use and Management

This soil is well suited to development. Droughtiness is the limiting factor. See Test Pit 3 for a typical description.

Test Pit Descriptions

89 Stark Ave
Dover NH
Map 17 Lot 38
Described: 03-31-2026

Test Pit 1:

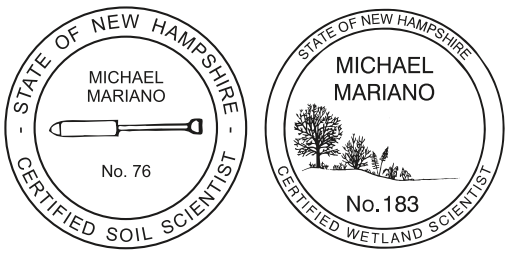
00 - 10”	Dark brown (10YR4/3) sandy loam; weak fine granular structure; moist, friable
10 - 23”	Strong brown (7.5YR5/8) sand; single grain, moist, loose
23 - 45”	Yellowish brown (10YR5/6) sand; single grain; moist, loose
45 - 66”	Light olive brown (2.5Y5/4) & strong brown (7.5YR5/8) sand; few redox features in 10YR6/1; single grain; moist, loose.

Series: Windsor
Estimated seasonal high water table: 45”
Observed water: none
Restrictive layer: none
Soil Hydrologic Group A

Test Pit 2:

00 - 08”	Dark brown (10YR4/3) sandy loam; weak fine granular structure; moist, friable
08 - 25”	Strong brown (7.5YR5/8) sand; single grain, moist, loose
25 - 50”	Yellowish brown (10YR5/6) sand; single grain; moist, loose
50 - 66”	Light olive brown (2.5Y5/4) & strong brown (7.5YR5/8) sand; few redox features in 10YR6/1; single grain; moist, loose.

Series: Windsor
Estimated seasonal high water table: 50”
Observed water: none
Restrictive layer: none
Soil Hydrologic Group A



Infiltration Feasibility Analysis

Site Plan Application

Corey MacKoul

89 Stark Ave

Tax Map 17 Lot 38

Dover, New Hampshire

Job No.:25136

This infiltration test is being performed in conjunction with the development of 89 Stark Ave. This on-site testing was completed to determine the rate of infiltration to be used in the stormwater system design.

Tritech performed this testing using a Geulph Permeameter in accordance with NHDES Analysis Method. In addition to the summary below, we have provided the raw data and the spreadsheet used in analysis of the raw data and determine the K_{sat} value to be used in the HydroCAD Stormwater Model.

We performed this testing at one location on the property. The location of the test was performed at Test Pit #1 in the Windsor soil to determine the K_{sat} value to be used in the HydroCAD stormwater model.

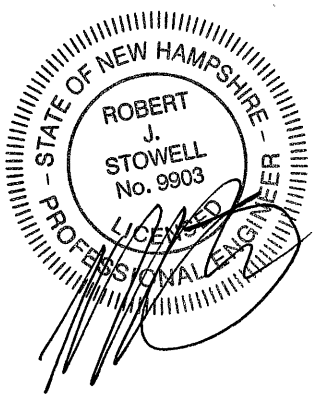
The borehole was prepared into the receiving soil & above the water table using a 6 cm Dutch Sand Auger. The bore hole was then sized and squared using a 6 cm Bayonet Auger, then the bore hole was brushed with a 6 cm prep brush to remove any smearing from the sides of the hole that may have been left by the Bayonet Auger.

Attached please find the raw data summaries for the tests performed. The raw data was entered into the spreadsheet supplied by Soilmoisture Equipment Corp., the permeameter supplier.

Test Pit #1 Results:
K_{sat} 0.459 in./min. or 27.52 in./hour

Field Infiltration Testing Results			
Location	Material	Depth (in.)	K_{sat} Rate (in./hr)
Test Pit #1	Strong brown sand; single grain, moist, loose	17"	27.52

The results above are the direct value from the field testing and a safety factor of 2 has been added resulting in a K_{sat} value of 13.75 in./hr. used in the design.



Infiltration Testing
Site Plan Application

Corey MacKoul

89 Stark Ave
Tax Map 17, Lot 38
Dover, New Hampshire
Job No.: 25136

Project Name:	Corey MacKoul	Test Performed By: Andrew J. Stowell	
Project Location:	89 Stark Ave, Dover	Test Date: April 29, 2026	
Test Location:	At Test Pit #1	Test Weather: 55 Degrees	
Reservoir Constants			
Combined Reservoirs (x)	35.22 cm²	Well Depth = 15 cm	Depth of Well from Existing Grade: 17"
Inner Reservoir (y) =	2.15 cm²	Well Radius = 3 cm	Soil Type: Windsor

Test #1

Water Level in Well = 5 cm

Time (Min)	**Time Interval Δt (min)**	**Water Level In Resevoir h (cm)**	**Water Level Change Δh (cm)**	**Rate of Water Change R1 (cm/min)**
0	0	0.5	-	-
1	1.0	18.0	17.5	17.5
2	1.0	29.0	11.0	11.0
3	1.0	40.0	11.0	11.0
4	1.0	51.0	11.0	11.0
5	1.0	62.0	11.0	11.0
6	1.0	73.0	11.0	11.0
Steady State Rate; Average 11.0 cm/min				

Guelph Permeameter Calculations

Input

Result

Support: ali@soilmoisture.com

89 Stark Ave- Infiltration Test at Test Pit #1

Reservoir Type (enter "1" for Combined and "2" for Inner reservoir):	1
Enter water Head Height ("H" in cm):	5
Enter the Borehole Radius ("a" in cm):	3
Enter the soil texture-structure category (enter one of the below numbers):	4

1. Compacted, Structure-less, clayey or silty materials such as landfill caps and liners, lacustrine or marine sediments, etc.
2. Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.
3. Most structured soils from clays through loams; also includes unstructured medium and fine sands. The category most frequently applicable for agricultural soils.
4. Coarse and gravely sands; may also include some highly structured soils with large and/or numerous cracks, macropors, etc

Steady State Rate of Water Level Change ("R" in cm/min): 11.0000

Res Type	35.22
H	5
a	3
H/a	1.667
a*	0.36
C0.01	0.809
C0.04	0.842
C0.12	0.803
C0.36	0.803
C	0.803
R	11.000
Q	6.457
pi	3.142

$\alpha^* =$ 0.36 (cm^{-1})

$C =$ 0.803154

$Q =$ 6.457

$K_{fs} =$	1.94E-02	cm/sec
	1.17E+00	cm/min
	1.94E-04	m/sec
	4.59E-01	inch/min
	7.65E-03	inch/sec

27.52396788 In./Hr.

$\Phi_m =$ 5.39E-02 (cm^2/min)

Calculation formulas related to shape factor (C). Where H_1 is the first water head height (cm), H_2 is the second water head height (cm), a is borehole radius (cm) and α^* is microscopic capillary length factor which is decided according to the soil texture-structure category. For one-head method, only C_1 needs to be calculated while for two-head method, C_1 and C_2 are calculated (Zang et al., 1998).

Soil Texture-Structure Category	$\alpha^*(cm^{-1})$	Shape Factor
Compacted, Structure-less, clayey or silty materials such as landfill caps and liners, lacustrine or marine sediments, etc.	0.01	$C_1 = \left(\frac{H_1/a}{2.102 + 0.118(H_1/a)}\right)^{0.655}$ $C_2 = \left(\frac{H_2/a}{2.102 + 0.118(H_2/a)}\right)^{0.655}$
Soils which are both fine textured (clayey or silty) and unstructured; may also include some fine sands.	0.04	$C_1 = \left(\frac{H_1/a}{1.992 + 0.091(H_1/a)}\right)^{0.683}$ $C_2 = \left(\frac{H_2/a}{1.992 + 0.091(H_2/a)}\right)^{0.683}$
Most structured soils from clays through loams; also includes unstructured medium and fine sands. The category most frequently applicable for agricultural soils.	0.12	$C_1 = \left(\frac{H_1/a}{2.074 + 0.093(H_1/a)}\right)^{0.754}$ $C_2 = \left(\frac{H_2/a}{2.074 + 0.093(H_2/a)}\right)^{0.754}$
Coarse and gravely sands; may also include some highly structured soils with large and/or numerous cracks, macro pores, etc.	0.36	$C_1 = \left(\frac{H_1/a}{2.074 + 0.093(H_1/a)}\right)^{0.754}$ $C_2 = \left(\frac{H_2/a}{2.074 + 0.093(H_2/a)}\right)^{0.754}$

Calculation formulas related to one-head and two-head methods. Where R is steady-state rate of fall of water in reservoir (cm/s), K_{fs} is Soil saturated hydraulic conductivity (cm/s), Φ_m is Soil matric flux potential (cm^2/s), α^* is Macroscopic capillary length parameter (from Table 2), a is Borehole radius (cm), H_1 is the first head of water established in borehole (cm) , H_2 is the second head of water established in borehole (cm) and C is Shape factor (from Table 2).

One Head, Combined Reservoir	$Q_1 = \bar{R}_1 \times 35.22$	$K_{fs} = \frac{C_1 \times Q_1}{2\pi H_1^2 + \pi a^2 C_1 + 2\pi\left(\frac{H_1}{\alpha^*}\right)}$ $\Phi_m = \frac{C_1 \times Q_1}{(2\pi H_1^2 + \pi a^2 C_1)\alpha^* + 2\pi H_1}$
One Head, Inner Reservoir	$Q_1 = \bar{R}_1 \times 2.16$	
Two Head, Combined Reservoir	$Q_1 = \bar{R}_1 \times 35.22$ $Q_2 = \bar{R}_2 \times 35.22$	$G_1 = \frac{H_2 C_1}{\pi(2H_1H_2(H_2 - H_1) + a^2(H_1C_2 - H_2C_1))}$ $G_2 = \frac{H_1 C_2}{\pi(2H_1H_2(H_2 - H_1) + a^2(H_1C_2 - H_2C_1))}$ $K_{fs} = G_2Q_2 - G_1Q_1$ $G_3 = \frac{(2H_2^2 + a^2C_2)C_1}{2\pi(2H_1H_2(H_2 - H_1) + a^2(H_1C_2 - H_2C_1))}$ $G_4 = \frac{(2H_1^2 + a^2C_1)C_2}{2\pi(2H_1H_2(H_2 - H_1) + a^2(H_1C_2 - H_2C_1))}$ $\Phi_m = G_3Q_1 - G_4Q_2$
Two Head, Inner Reservoir	$Q_1 = \bar{R}_1 \times 2.16$ $Q_2 = \bar{R}_2 \times 2.16$	

Pollutant Removal Efficiencies for Best Management Practices for Use in Pollutant Loading Analysis				Values Accepted for Loading Analyses		
BMP Type	**BMP**	**Notes**	**Lit. Ref.**	**TSS**	**TN**	**TP**
Stormwater Ponds	Wet Pond		B, F	70%	35%	45%
	Wet Extended Detention Pond		A, B	80%	55%	68%
	Micropool Extended Detention Pond	TBA				
	Multiple Pond System	TBA				
	Pocket Pond	TBA				
Stormwater Wetlands	Shallow Wetland		A, B, F, I	80%	55%	45%
	Extended Detention Wetland		A, B, F, I	80%	55%	45%
	Pond/Wetland System	TBA				
	Gravel Wetland		H	95%	85%	64%
Infiltration Practices	Infiltration Trench (≥75 ft from surface water)		B, D, I	90%	55%	60%
	Infiltration Trench (<75 ft from surface water)		B, D, I	90%	10%	60%
	Infiltration Basin (≥75 ft from surface water)		A, F, B, D, I	90%	60%	65%
	Infiltration Basin (<75 ft from surface water)		A, F, B, D, I	90%	10%	65%
	Dry Wells			90%	55%	60%
	Drip Edges			90%	55%	60%
Filtering Practices	Aboveground or Underground Sand Filter that infiltrates WQV (≥75 ft from surface water)		A, F, B, D, I	90%	60%	65%
	Aboveground or Underground Sand Filter that infiltrates WQV (<75 ft from surface water)		A, F, B, D, I	90%	10%	65%
	Aboveground or Underground Sand Filter with underdrain		A, I, F, G, H	85%	10%	45%
	Tree Box Filter	TBA				
	Bioretention System		I, G, H	90%	65%	65%
	Permeable Pavement that infiltrates WQV (≥75 ft from surface water)		A, F, B, D, I	90%	60%	65%
	Permeable Pavement that infiltrates WQV (<75 ft from surface water)		A, F, B, D, I	90%	10%	65%
	Permeable Pavement with underdrain		Use TN and TP values for sand filter w/ underdrain and outlet pipe	90%	10%	45%

TABLE B

SOIL SERIES

Soil Series	legend number	Ksat low - B in/hr	Ksat high - B in/hr	Ksat low - C in/hr	Ksat high - C in/hr	Hyd. Grp.	Group	Land Form	Temp.	Soil Textures	Spodosol ?	Other
Abenaki	501	0.6	2.0	6.00	99.0	B	2	Outwash and Stream Terraces	frigid	loamy over sandy-skeletal	no	loamy over gravelly
Acton	146	2.0	20.0	2.00	20.0	B	3	Loose till, sandy textures	mesic	sandy-skeletal	no	cobbly loamy sand
Adams	36	6.0	20.0	20.00	99.0	A	1	Outwash and Stream Terraces	frigid	sandy	yes	
Agawam	24	6.0	20.0	20.00	100.0	B	2	Outwash and Stream Terraces	mesic	loamy over sandy	no	loamy over sand/gravel
Allagash	127	0.6	2.0	6.00	20.0	B	2	Outwash and Stream Terraces	frigid	loamy over sandy	yes	loamy over sandy
Au Gres	516					B	5	Outwash and Stream Terraces	frigid	sandy	yes	single grain, loose
Bangor	572	0.6	2.0	0.60	2.0	B	2	Friable till, silty, schist & phyllite	frigid	loamy	yes	silt loam
Becket	56	0.6	2.0	0.06	0.6	C	3	Firm, platy, sandy till	frigid	loamy	yes	gravelly sandy loam in Cd
Belgrade	532	0.6	2.0	0.06	2.0	B	3	Terraces and glacial lake plains	mesic	silty	no	strata of fine sand
Bemis	224	0.6	0.2	0.00	0.2	C	5	Firm, platy, loamy till	cryic	loamy	no	
Berkshire	72	0.6	6.0	0.60	6.0	B	2	Loose till, loamy textures	frigid	loamy	yes	fine sandy loam
Bernardston	330	0.6	2.0	0.06	0.2	C	3	Firm, platy, silty till, schist & phyllite	mesic	loamy	no	channery silt loam in Cd
Bice	226	0.6	6.0	0.60	6.0	B	2	Loose till, loamy textures	frigid	loamy	no	sandy loam
Biddeford	234	0.0	0.2	0.00	0.2	D	6	Silt and Clay Deposits	frigid	fine	no	organic over clay
Binghamville	534	0.2	2.0	0.06	0.2	D	5	Terraces and glacial lake plains	mesic	silty	no	
Boscawen	220	6.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	frigid	sandy-skeletal	no	loamy cap
Boxford	32	0.1	0.2	0.00	0.2	C	3	Silt and Clay Deposits	mesic	fine	no	silty clay loam
Brayton	240	0.6	2.0	0.06	0.6	C	5	Firm, platy, silty till, schist & phyllite	frigid	loamy	no	
Buckland	237	0.6	2.0	0.06	0.2	C	3	Firm, platy, loamy till	frigid	loamy	no	loam in Cd
Bucksport	895					D	6	Organic Materials - Freshwater	frigid	sapric	no	deep organic
Burnham	131	0.2	6.0	0.02	0.2	D	6	Firm, platy, silty till, schist & phylitte	frigid	loamy	no	organic over silt
Buxton	232	0.1	0.6	0.00	0.2	C	3	Silt and Clay Deposits	frigid	fine	no	silty clay
Cabot	589	0.6	2.0	0.06	0.2	D	5	Firm, platy, silty till, schist & phyllite	frigid	loamy	no	
Caesar	526	20.0	100.0	20.00	100.0	A	1	Outwash and Stream Terraces	mesic	coarse sand	no	
Canaan	663	2.0	20.0	2.00	20.0	C	4	Weathered Bedrock Till	frigid	loamy-skeletal	yes	less than 20 in. deep
Canterbury	166	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	no	loam in Cd
Canton	42	2.0	6.0	6.00	20.0	B	2	Loose till, sandy textures	mesic	loamy over sandy	no	loamy over loamy sand
Cardigan	357	0.6	2.0	0.60	2.0	B	4	Friable till, silty, schist & phyllite	mesic	loamy	no	20 to 40 in. deep
Catden	296					A/D	6	Organic Materials - Freshwater	mesic	sapric	no	deep organic
Champlain	35	6.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	frigid	gravelly sand	no	
Charles	209	0.6	100.0	0.60	100.0	C	5	Flood Plain (Bottom Land)	frigid	silty	no	
Charlton	62	0.6	6.0	0.60	6.0	B	2	Loose till, loamy textures	mesic	loamy	no	fine sandy loam
Chatfield	89	0.6	6.0	0.60	6.0	B	4	Loose till, bedrock	mesic	loamy	no	20 to 40 in. deep
Chatfield Var.	289	0.6	6.0	0.60	6.0	B	3	Loose till, bedrock	mesic	loamy	no	mwd to swpd
Chesuncook	126	0.6	2.0	0.02	0.2	C	3	Firm, platy, silty till, schist & phyllite	frigid	loamy	yes	channery silt loam in Cd
Chichester	442	0.6	2.0	2.00	6.0	B		Loose till, sandy textures	frigid	loamy over sandy	no	loamy over loamy sand
Chocorua	395			6.00	20.0	D	6	Organic Materials - Freshwater	frigid	sandy or sandy-skeletal	no	organic over sand
Cohas	505	0.6	2.0	0.60	100.0	C	5	Flood Plain (Bottom Land)	frigid	co. loamy over sandy (skeletal)	no	
Colonel	927	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	yes	loam in Cd
Colton	22	6.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	
Colton, gravelly	21	6.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	gravelly surface
Croghan	613	20.0	100.0	20.00	100.0	B	3	Outwash and Stream Terraces	frigid	sandy	yes	single grain in C
Dartmouth	132	0.6	2.0	0.06	0.6	B	3	Terraces and glacial lake plains	mesic	silty	no	thin strata silty clay loam
Deerfield	313	6.0	20.0	20.00	100.0	B	3	Outwash and Stream Terraces	mesic	sandy	no	single grain in C
Dixfield	378	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	yes	fine sandy loam in Cd
Dixmont	578	0.6	2.0	0.60	2.0	C	3	Friable till, silty, schist & phyllite	frigid	loamy	yes	silt loam, platy in C
Duane	413	6.0	20.0	6.00	20.0	B	3	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	cemented (ortstein)
Dutchess	366	0.6	2.0	0.60	2.0	B	2	Friable till, silty, schist & phyllite	mesic	loamy	no	very channery
Eldridge	38	6.0	20.0	0.06	0.6	C	3	Sandy/loamy over silt/clay	mesic	sandy over loamy	no	
Elliottsville	128	0.6	2.0	0.60	2.0	B	4	Friable till, silty, schist & phyllite	frigid	loamy	yes	20 to 40 in. deep
Elmridge	238	2.0	6.0	0.00	0.2	C	3	Sandy/loamy over silt/clay	mesic	loamy over clayey	no	
Elmwood	338	2.0	6.0	0.00	0.2	C	3	Sandy/loamy over silt/clay	frigid	loamy over clayey	no	
Finch	116					C	3	Outwash and Stream Terraces	frigid	sandy	yes	cemented (ortstein)

Soil Series	legend number	Ksat low - B in/hr	Ksat high - B in/hr	Ksat low - C in/hr	Ksat high - C in/hr	Hyd. Grp.	Group	Land Form	Temp.	Soil Textures	Spodosol ?	Other
Fryeburg	208	0.6	2.0	2.00	6.0	B	2	Flood Plain (Bottom Land)	frigid	silty	no	very fine sandy loam
Gilmanton	478	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	no	fine sandy loam in Cd
Glebe	671	2.0	6.0	2.00	6.0	C	4	Loose till, bedrock	cryic	loamy	yes	20 to 40 in. deep
Gloucester	11	6.0	20.0	6.00	20.0	A	1	Sandy Till	mesic	sandy-skeletal	no	loamy cap
Glover	NA	0.6	2.0	0.60	2	D	4	Friable till, silty, schist & phyllite	frigid	loamy	no	less than 20 in. deep
Grange	433	0.6	2.0	0.60	2.0	C	5	Outwash and Stream Terraces	frigid	co. loamy over sandy (skeletal)	no	
Greenwood	295					A/D	6	Organic Materials - Freshwater	frigid	hemic	no	deep organic
Groveton	27	0.6	2.0	0.60	6.0	B	2	Outwash and Stream Terraces	frigid	loamy	yes	loamy over sandy
Hadley	8	0.6	2.0	0.60	6.0	B	2	Flood Plain (Bottom Land)	mesic	silty	no	strata of fine sand
Hadley	108	0.6	2.0	0.60	6.0	B	2	Flood Plain (Bottom Land)	mesic	silty	no	strata of fine sand, occ flooded
Hartland	31	0.6	2.0	0.20	2.0	B	2	Terraces and glacial lake plains	mesic	silty	no	very fine sandy loam
Haven	410	0.6	2.0	20.00	100.0	B	2	Outwash and Stream Terraces	mesic	loamy over sandy	no	loamy over sand/gravel
Henniker	46	0.6	2.0	0.06	0.6	C	3	Firm, platy, sandy till	frigid	loamy	no	loamy sand in Cd
Hermon	55	2.0	20.0	6.00	20.0	A	1	Sandy Till	frigid	sandy-skeletal	yes	loamy cap
Hinckley	12	6.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	mesic	sandy-skeletal	no	
Hitchcock	130	0.6	2.0	0.06	0.6	B	3	Terraces and glacial lake plains	mesic	silty	no	silt loam to silt in C
Hogback	91	2.0	6.0	2.00	6.0	C	4	Loose till, bedrock	frigid	loamy	yes	less than 20 in. deep
Hollis	86	0.6	6.0	0.60	6.0	C/D	4	Loose till, bedrock	mesic	loamy	no	less than 20 in. deep
Hoosic	510	2.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	mesic	sandy-skeletal	no	slate, loamy cap
Houghtonville	795	0.6	6.0	0.60	6.0	B	2	Loose till, loamy textures	frigid	loamy	yes	cobbly fine sandy loam
Howland	566	0.6	2.0	0.06	0.2	C	3	Firm, platy, silty till, schist & phyllite	frigid	loamy	yes	silt loam, platy in Cd
Ipswich	397					D	6	Tidal Flat	mesic	hemic/sapric	no	deep organic
Kearsarge	359	0.6	2.0	0.60	2.0	B	4	Friable till, silty, schist & phyllite	mesic	loamy	no	less than 20 in. deep
Kinsman	614	6.0	20.0	6.00	20.0	C	5	Outwash and Stream Terraces	frigid	sandy	yes	
Lanesboro	228	0.6	2.0	0.06	0.2	C	3	Firm, platy, silty till, schist & phyllite	frigid	loamy	no	channery silt loam in Cd
Leicester	514	0.6	6.0	0.60	20.0	C	5	Loose till, loamy textures	mesic	loamy	no	
Lim	3	0.6	2.0	6.00	20.0	C	5	Flood Plain (Bottom Land)	mesic	loamy	no	
Limerick	109	0.6	2.0	0.60	2.0	C	5	Flood Plain (Bottom Land)	mesic	silty	no	
Lombard	259	0.6	6.0	2.00	20.0	C/D	2	Weathered bedrock, phyllite	frigid	loamy	no	very channery
Lovewell	307	0.6	2.0	0.60	2.0	B	3	Flood Plain (Bottom Land)	frigid	silty	no	very fine sandy loam
Lyman	92	2.0	6.0	2.00	6.0	A/D	4	Loose till, bedrock	frigid	loamy	yes	less than 20 in. deep
Lyme	246	0.6	6.0	0.60	6.0	C	5	Loose till, sandy textures	frigid	loamy	no	
Machias	520	2.0	6.0	6.00	20.0	B	3	Outwash and Stream Terraces	frigid	sandy or sandy-skeletal	yes	strata sand/gravel in C
Macomber	252	0.6	2.0	0.60	2.0	C	4	Friable till, silty, schist & phyllite	frigid	loamy-skeletal	yes	20 to 40 in. deep
Madawaska	28	0.6	2.0	6.00	20.0	B	3	Outwash and Stream Terraces	frigid	loamy over sandy	yes	sandy or sandy-skeletal
Madawaska, aquer	48	0.6	2.0	6.00	20.0	B	3	Outwash and Stream Terraces	frigid	loamy over sandy	yes	sandy or sandy-skeletal
Marlow	76	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	yes	fine sandy loam in Cd
Masardis	23	6.0	20.0	6.00	20.0	A	1	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	slate, loamy cap
Mashpee	315	6.0	20.0	6.00	20.0	B	5	Outwash and Stream Terraces	mesic	sandy	yes	
Matunuck	797			20.00	100.0	D	6	Tidal Flat	mesic	sandy	no	organic over sand
Maybid	134	0.0	0.2	0.00	0.2	D	6	Silt and Clay Deposits	mesic	fine	no	silt over clay
Meadowsedge	894					D	6	Organic Materials - Freshwater	frigid	peat	no	deep organic
Medomak	406	0.6	2.0	0.60	2.0	D	6	Flood Plain (Bottom Land)	frigid	silty	no	organic over silt
Melrose	37	2.0	6.0	0.00	0.2	C	3	Sandy/loamy over silt/clay	frigid	loamy over clayey	no	silty clay loam in C
Merrimac	10	2.0	20.0	6.00	20.0	A	1	Outwash and Stream Terraces	mesic	gravelly sand	no	loamy cap
Metacomet	458	0.6	2.0	0.06	0.6	C	3	Firm, platy, sandy till	frigid	loamy	no	loamy sand in Cd
Metallak	404	6.0	100.0	6.00	100.0	B	3	Flood Plain (Bottom Land)	frigid	loamy over sandy	no	sandy or sandy-skeletal
Millis	39					C	3	Firm, platy, sandy till	frigid	loamy	yes	loamy sand in Cd
Millsite	251	0.6	6.0	0.60	6.0	C	4	Loose till, bedrock	frigid	loamy	no	20 to 40 in. deep
Monadnock	142	0.6	2.0	2.00	6.0	B	2	Loose till, sandy textures	frigid	oamy over sandy, sandy-skeleta	yes	gravelly loamy sand in C
Monarda	569	0.2	2.0	0.02	0.2	D	5	Firm, platy, silty till, schist & phyllite	frigid	loamy	no	
Monson	133	0.6	2.0	0.60	2.0	D	4	Friable till, silty, schist & phyllite	frigid	loamy	yes	less than 20 in. deep
Montauk	44	0.6	6.0	0.06	0.6	C	3	Firm, platy, sandy till	mesic	loamy	no	loamy sand in Cd
Moosilauke	414	6.0	20.0	6.00	20.0	C	5	Loose till, sandy textures	frigid	sandy	no	

Soil Series	legend number	Ksat low - B in/hr	Ksat high - B in/hr	Ksat low - C in/hr	Ksat high - C in/hr	Hyd. Grp.	Group	Land Form	Temp.	Soil Textures	Spodosol ?	Other
Mundal	610	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	yes	gravelly sandy loam in Cd
Natchaug	496			0.20	2.0	D	6	Organic Materials - Freshwater	mesic	loamy	no	organic over loam
Naumburg	214	6.0	20.0	6.00	20.0	C	5	Outwash and Stream Terraces	frigid	sandy	yes	
Newfields	444	0.6	2.0	0.60	2.0	B	3	Loose till, sandy textures	mesic	loamy over sandy	no	sandy or sandy-skeletal
Nicholville	632	0.6	2.0	0.60	2.0	C	3	Terraces and glacial lake plains	frigid	silty	yes	very fine sandy loam
Ninigret	513	0.6	6.0	6.00	20.0	B	3	Outwash and Stream Terraces	mesic	loamy over sandy	no	sandy or sandy-skeletal
Occum	1	0.6	2.0	6.00	20.0	B	2	Flood Plain (Bottom Land)	mesic	loamy	no	loamy over loamy sand
Ondawa	101	0.6	6.0	6.00	20.0	B	2	Flood Plain (Bottom Land)	frigid	loamy	no	loamy over loamy sand
Ondawa	201	0.6	6.0	6.00	20.0	B	2	Flood Plain (Bottom Land)	frigid	loamy	no	occ flood, loamy over l. sand
Ossipee	495			0.20	2.0	D	6	Organic Materials - Freshwater	frigid	loamy	no	organic over loam
Pawcatuck	497			20.00	100.0	D	6	Tidal Flat	mesic	sandy or sandy-skeletal	no	organic over sand
Paxton	66	0.6	2.0	0.00	0.2	C	3	Firm, platy, loamy till	mesic	loamy	no	
Peacham	549	0.6	2.0	0.00	0.2	D	6	Firm, platy, silty till, schist & phylitte	frigid	loamy	no	organic over loam
Pemi	633	0.6	2.0	0.06	0.6	C	5	Terraces and glacial lake plains	frigid	silty	no	
Pennichuck	460	0.6	2.0	0.60	2.0	B	4	Friable till, silty, schist & phyllite	mesic	loamy-skeletal	no	20 to 40 in. deep
Peru	78	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	yes	
Pillsbury	646	0.6	2.0	0.06	0.2	C	5	Firm, platy, loamy till	frigid	silty	no	
Pipestone	314					B	5	Outwash and Stream Terraces	mesic	sandy	yes	
Pittstown	334	0.6	2.0	0.06	0.2	C	3	Firm, platy, silty till, schist & phyllite	mesic	loamy	no	channery silt loam in Cd
Plaisted	563	0.6	2.0	0.06	0.6	C	3	Firm, platy, silty till, schist & phyllite	frigid	loamy	yes	channery silt loam in Cd
Podunk	104	0.6	6.0	6.00	20.0	B	3	Flood Plain (Bottom Land)	frigid	loamy	no	loamy to coarse sand in C
Pondicherry	992			6.00	20.0	D	6	Organic Materials - Freshwater	frigid	sandy or sandy-skeletal	no	organic over sand
Poocham	230	0.6	2.0	0.20	2.0	B	3	Terraces and glacial lake plains	mesic	silty	no	silt loam in C
Pootatuck	4	0.6	6.0	6.00	20.0	B	3	Flood Plain (Bottom Land)	mesic	loamy	no	single grain in C
Quonset	310	2.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	mesic	sandy-skeletal	no	shale
Rawsonville	98	0.6	6.0	0.60	6.0	C	4	Loose till, bedrock	frigid	loamy	yes	20 to 40 in. deep
Raynham	533	0.2	2.0	0.06	0.2	C	5	Terraces and glacial lake plains	mesic	silty	no	
Raypol	540	0.6	2.0	6.00	100.0	D	5	Outwash and Stream Terraces	mesic	co. loamy over sandy (skeletal)	no	
Redstone	665	2.0	6.0	6.00	20.0	A	1	Weathered Bedrock Till	frigid	fragmental	yes	loamy cap
Ricker	674	2.0	6.0	2.00	6.0	A	4	rganic over bedrock (up to 4" of minera	cryic	fibric to hemic	no	well drained, less than 20 in. deep
Ridgebury	656	0.6	6.0	0.00	0.2	C	5	Firm, platy, loamy till	mesic	loamy	no	
Rippowam	5	0.6	6.0	6.00	20.0	C	5	Flood Plain (Bottom Land)	mesic	loamy	no	
Roundabout	333	0.2	2.0	0.06	0.6	C	5	Terraces and glacial lake plains	frigid	silty	no	silt loam in the C
Rumney	105	0.6	6.0	6.00	20.0	C	5	Flood Plain (Bottom Land)	frigid	loamy	no	
Saco	6	0.6	2.0	6.00	20.0	D	6	Flood Plain (Bottom Land)	mesic	silty	no	strata
Saddleback	673	0.6	2.0	0.60	2.0	C/D	4	Loose till, bedrock	cryic	loamy	yes	less than 20 in. deep
Salmon	630	0.6	2.0	0.60	2.0	B	2	Terraces and glacial lake plains	frigid	silty	yes	very fine sandy loam
Saugatuck	16	0.06	0.2	6.00	20.0	C	5	Outwash and Stream Terraces	mesic	sandy	yes	ortstein
Scantic	233	0.0	0.2	0.00	0.2	D	5	Silt and Clay Deposits	frigid	fine	no	
Scarboro	115	6.0	20.0	6.00	20.0	D	6	Outwash and Stream Terraces	mesic	sandy	no	organic over sand, non stony
Scio	531	0.6	2.0	0.60	2.0	B	3	Terraces and glacial lake plains	mesic	silty	no	gravelly sand in 2C
Scitico	33	0.0	0.2	0.00	0.2	C	5	Silt and Clay Deposits	mesic	fine	no	
Scituate	448	0.6	2.0	0.06	0.2	C	3	Firm, platy, sandy till	mesic	loamy	no	loamy sand in Cd
Searsport	15	6.0	20.0	6.00	20.0	D	6	Outwash and Stream Terraces	frigid	sandy	no	organic over sand
Shaker	439	2.0	6.0	0.00	0.2	C	5	Sandy/loamy over silt/clay	mesic	co. loamy over clayey	no	
Shapleigh	136					C/D	4	Sandy Till	mesic	sandy	yes	less than 20 in. deep
Sheepscot	14	6.0	20.0	6.00	20.0	B	3	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	gravelly coarse sand
Sisk	667	0.6	2.0	0.00	0.6	C	3	Firm, platy, loamy till	cryic	loamy	yes	sandy loam in Cd
Skerry	558	0.6	2.0	0.06	0.6	C	3	Firm, platy, sandy till	frigid	loamy	yes	loamy sand in Cd
Squamscott	538	6.0	20.0	0.06	0.6	C	5	Sandy/loamy over silt/clay	mesic	sandy over loamy	yes	
Stetson	523	0.6	6.0	6.00	20.0	B	2	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	loamy over gravelly
Stissing	340	0.6	2.0	0.06	0.2	C	5	Firm, platy, silty till, schist & phyllite	mesic	loamy	no	
Success	154	2.0	6.0	6.00	20.0	A	1	Sandy Till	frigid	sandy-skeletal	yes	cemented
Sudbury	118	2.0	6.0	2.00	20.0	B	3	Outwash and Stream Terraces	mesic	sandy	no	loam over gravelly sand

Soil Series	legend number	Ksat low - B in/hr	Ksat high - B in/hr	Ksat low - C in/hr	Ksat high - C in/hr	Hyd. Grp.	Group	Land Form	Temp.	Soil Textures	Spodosol ?	Other
Suffield	536	0.6	2.0	0.00	0.2	C	3	Sandy/loamy over silt/clay	mesic	silty over clayey	no	deep to clay C
Sunapee	168	0.6	2.0	0.60	6.0	B	3	Loose till, loamy textures	frigid	loamy	yes	
Sunapee var	269	0.6	2.0	0.60	6.0	B	3	Loose till, loamy textures	frigid	loamy	yes	frigid dystrudept
Suncook	2	6.0	20.0	6.00	20.0	A	1	Flood Plain (Bottomland)	mesic	sandy	no	occasionally flooded
Suncook	402	6.0	20.0	6.00	20.0	A	1	Flood Plain (Bottomland)	mesic	sandy	no	frequent flooding
Sunday	102	6.0	20.0	6.00	20.0	A	1	Flood Plain (Bottomland)	frigid	sandy	no	occasionally flooded
Sunday	202	6.0	20.0	6.00	20.0	A	1	Flood Plain (Bottomland)	frigid	sandy	no	frequently flooded
Surplus	669	0.6	2.0	0.00	0.6	C	3	Firm, platy, loamy till	cryic	loamy	yes	mwd, sandy loam in Cd
Sutton	68	0.6	6.0	0.60	6.0	B	3	Loose till, loamy textures	mesic	loamy	no	
Swanton	438	2.0	6.0	0.00	0.2	C	5	Sandy/loamy over silt/clay	frigid	co. loamy over clayey	no	
Telos	123	0.6	2.0	0.02	0.2	C	3	Firm, platy, silty till, schist & phyllite	frigid	loamy	yes	channery silt loam in Cd
Thorndike	84	0.6	2.0	0.60	2.0	C/D	4	Friable till, silty, schist & phyllite	frigid	loamy-skeletal	yes	less than 20 in. deep
Timakwa	393			6.00	100.0	D	6	Organic Materials - Freshwater	mesic	sandy or sandy-skeletal	no	organic over sand
Tunbridge	99	0.6	6.0	0.60	6.0	C	4	Loose till, bedrock	frigid	loamy	yes	20 to 40 in. deep
Unadilla	30	0.6	2.0	2.00	20.0	B	2	Terraces and glacial lake plains	mesic	silty	no	silty over gravelly
Vassalboro	150					D	6	Organic Materials - Freshwater	frigid	peat	no	deep organic
Walpole	546	2.0	6.0	6.00	20.0	C	5	Outwash and Stream Terraces	mesic	sandy	no	
Wareham	34	6.0	20.0	6.00	20.0	C	5	Outwash and Stream Terraces	mesic	sandy	no	
Warwick	210	2.0	6.0	20.00	100.0	A	1	Outwash and Stream Terraces	mesic	loamy-skeletal	no	loamy over slate gravel
Waskish	195					D	6	Organic Materials - Freshwater	frigid	peat	no	deep organic
Waumbeck	58	2.0	20.0	6.00	20.0	B	3	Loose till, sandy textures	frigid	sandy-skeletal	yes	very cobbly loamy sand
Westbrook	597			0.00	2.0	D	6	Tidal Flat	mesic	loamy	no	organic over loam
Whitman	49	0.0	0.2	0.00	0.2	D	6	Firm, platy, loamy till	mesic	loamy	no	mucky loam
Windsor	26	6.0	20.0	6.00	20.0	A	1	Outwash and Stream Terraces	mesic	sandy	no	
Winnecook	88	0.6	2.0	0.60	2.0	C	4	Friable till, silty, schist & phyllite	frigid	loamy-skeletal	yes	20 to 40 in. deep
Winooski	9	0.6	6.0	0.60	6.0	B		Flood Plain (Bottom Land)	mesic	silty over loamy	no	
Winooski	103	0.6	6.0	0.60	6.0	B	3	Flood Plain (Bottom Land)	mesic	silty	no	very fine sandy loam
Wonsqueak	995			0.20	2.0	D	6	Organic Materials - Freshwater	frigid	loamy	no	organic over loam
Woodbridge	29	0.6	2.0	0.00	0.6	C	3	Firm, platy, loamy till	mesic	loamy	no	sandy loam in Cd
Woodstock	93	2.0	6.0	2.00	6.0	C/D	4	Loose till, bedrock	frigid	loamy	no	less than 20 in. deep

no longer recognized
organic materials

TABLE 6-4.1 -- RUNOFF CURVE NUMBERS (Average Watershed Condition)

COVER DESCRIPTION Cover type and hydrologic condition	Average percent impervious area[2]	CURVE NUMBERS FOR HYDROLOGIC SOIL GROUP A	B	C	D
FULLY DEVELOPED URBAN AREAS[1] (Vegetation Established)					
Lawns, open spaces, parks, golf courses, cemeteries, etc.					
good condition; grass cover on 75% or more of the area		39	61	74	80
fair condition; grass cover on 50% to 75% of the area		49	69	79	84
poor condition; grass cover on 50% or less of the area		68	79	86	89
Paved parking lots, roofs, driveways, etc.		98	98	98	98
Streets and roads;					
paved with curbs and storm sewers		98	98	98	98
gravel		76	85	89	91
dirt		72	82	87	89
paved with open ditches		83	89	92	93
Commercial and business areas	85	89	92	94	95
Industrial districts	72	81	88	91	93
Row houses, town houses, and residential					
with lot sizes 1/8 acre or less	65	77	85	90	92
Residential					
Average lot size					
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acre	12	46	65	77	82
DEVELOPING URBAN AREAS[3] (No vegetation Established)					
Newly graded area		77	86	91	94

1. For land uses with impervious areas, curve numbers are computed assuming that 100% of runoff from impervious areas is directly connected to the drainage system. Pervious areas (lawn) are considered to be equivalent to lawns in good condition and the impervious areas have an RCN of 98.

2. Includes paved streets.

3. Use for the design of temporary measures during grading and construction. Impervious area percent for urban areas under development vary considerably. The user will determine the percent impervious. Then using the newly graded area RCN and Table 6-4, the composite RCN can be computed for any degree of development.

Source: USDA Soil Conservation Service

TABLE 6-4.2 -- RUNOFF CURVE NUMBERS (Average Watershed Condition)

COVER DESCRIPTION			CURVE NUMBERS FOR HYDROLOGIC SOIL GROUP			
Cover type and hydrologic condition		Hydrologic condition[4]	A	B	C	D
CULTIVATED AGRICULTURAL LAND						
Fallow	Bare soil		77	86	91	94
	Crop residue cover (CR)	poor	76	85	90	93
	CR	good	74	83	88	90
Row crops	Straight row (SR)	poor	72	81	88	91
	SR	good	67	78	85	89
	SR & CR	poor	71	80	87	90
	SR & CR	good	64	75	82	85
	Contoured (C)	poor	70	79	84	88
	C	good	65	75	82	86
	C & CR	poor	69	78	83	87
	C & CR	good	64	74	81	85
	Contoured & Terraces (C&T)	poor	66	74	80	82
	C&T	good	62	71	78	81
	C&T & CR	poor	65	73	79	81
	C&T & CR	good	61	70	77	80
Small grain	SR	poor	65	76	84	88
	SR	good	63	75	83	87
	SR & CR	poor	64	75	83	86
	SR & CR	good	60	72	80	84
	C	poor	63	74	82	85
	C	good	61	73	81	84
	C & CR	poor	62	73	81	84
	C & CR	good	60	72	80	83
	C&T	poor	61	72	79	82
	C&T	good	59	70	78	81
	C&T & CR	poor	60	71	78	81
	C&T & CR	good	58	69	77	80
Close-seeded Legumes or Rotation Meadow[5]	SR	poor	66	77	85	89
	SR	good	58	72	81	85
	C	poor	64	75	83	85
	C	good	55	69	78	83
	C&T	poor	63	73	80	83
	C&T	good	51	67	76	80

4. For conservation tillage poor hydrologic condition, 5 to 20 percent of the surface is covered with residue (less than 750 #/acre row crops or 300#/acre small grain).
   For conservation tillage good hydrologic condition, more than 20 percent of the surface is covered with residue (greater than 750 #/acre row crops or 300 #/acre small grain).
5. Close-drilled or broadcast.

Source: USDA Soil Conservation Service

TABLE 6-4.3 -- RUNOFF CURVE NUMBERS (Average Watershed Condition)

COVER DESCRIPTION Cover type and hydrologic condition	Hydrologic condition[6]	CURVE NUMBERS FOR HYDROLOGIC SOIL GROUP A	B	C	D
NON-CULTIVATED AGRICULTURAL LAND					
Pasture, grassland, or range - continuous forage for grazing	poor	68	79	86	89
	fair	49	69	79	84
	good	39	61	74	80
Meadow - continuous grass, protected from grazing and generally mowed for hay	---	30	58	71	78
Woods-grass combination (orchard or tree farm)	poor	57	73	82	86
	fair	43	65	76	82
	good	32	58	72	79
Brush - brush-weed-grass mixture with brush the major element	poor	48	67	77	83
	fair	35	56	70	77
	good	30	48	65	73
Woods	poor	45	66	77	83
	fair	36	60	73	79
	good	30	55	70	77
Farmsteads - buildings, lanes, driveways, and surrounding lots	---	59	74	82	86

6. Poor hydrologic condition has less than 50 percent ground cover density.
Fair hydrologic condition has between 50 and 75 percent ground cover density.
Good hydrologic condition has more than 75 percent ground cover density.

Source: USDA Soil Conservation Service

VALUES OF THE ROUGHNESS COEFFICIENT n
(Boldface figures are values generally recommended in design)

Type of channel and description	Minimum	Normal	Maximum
A. CLOSED CONDUITS FLOWING PARTLY FULL			
A-1. Metal			
a. Brass, smooth	0.009	**0.010**	0.013
b. Steel			
1. Lockbar and welded	0.010	0.012	0.014
2. Riveted and spiral	0.013	0.016	0.017
c. Cast iron			
1. Coated	0.010	0.013	0.014
2. Uncoated	0.011	0.014	0.016
d. Wrought iron			
1. Black	0.012	0.014	0.015
2. Galvanized	0.013	0.016	0.017
e. Corrugated metal			
1. Subdrain	0.017	0.019	0.021
2. Storm drain	0.021	**0.024**	0.030
A-2. Nonmetal			
a. Lucite	0.008	0.009	0.010
b. Glass	0.009	**0.010**	0.013
c. Cement			
1. Neat, surface	0.010	0.011	0.013
2. Mortar	0.011	0.013	0.015
d. Concrete			
1. Culvert, straight and free of debris	0.010	0.011	0.013
2. Culvert with bends, connections, and some debris	0.011	**0.013**	0.014
3. Finished	0.011	0.012	0.014
4. Sewer with manholes, inlet, etc., straight	0.013	0.015	0.017
5. Unfinished, steel form	0.012	0.013	0.014
6. Unfinished, smooth wood form	0.012	**0.014**	0.016
7. Unfinished, rough wood form	0.015	0.017	0.020
e. Wood			
1. Stave	0.010	0.012	0.014
2. Laminated, treated	0.015	0.017	0.020
f. Clay			
1. Common drainage tile	0.011	**0.013**	0.017
2. Vitrified sewer	0.011	0.014	0.017
3. Vitrified sewer with manholes, inlet, etc.	0.013	0.015	0.017
4. Vitrified subdrain with open joint	0.014	0.016	**0.018**
g. Brickwork			
1. Glazed	0.011	**0.013**	**0.015**
2. Lined with cement mortar	0.012	0.015	0.017
h. Sanitary sewers coated with sewage slimes, with bends and connections	0.012	0.013	0.016
i. Paved invert, sewer, smooth bottom	0.016	0.019	0.020
j. Rubble masonry, cemented	0.018	0.025	0.030

VALUES OF THE ROUGHNESS COEFFICIENT n (*continued*)

Type of channel and description	Minimum	Normal	Maximum
B. LINED OR BUILT-UP CHANNELS			
B-1. Metal			
a. Smooth steel surface			
1. Unpainted	0.011	**0.012**	0.014
2. Painted	0.012	0.013	0.017
b. Corrugated	0.021	0.025	0.030
B-2. Nonmetal			
a. Cement			
1. Neat, surface	0.010	0.011	0.013
2. Mortar	0.011	0.013	0.015
b. Wood			
1. Planed, untreated	0.010	0.012	0.014
2. Planed, creosoted	0.011	0.012	0.015
3. Unplaned	0.011	0.013	0.015
4. Plank with battens	0.012	0.015	0.018
5. Lined with roofing paper	0.010	0.014	0.017
c. Concrete			
1. Trowel finish	0.011	**0.013**	0.015
2. Float finish	0.013	0.015	0.016
3. Finished, with gravel on bottom	0.015	0.017	0.020
4. Unfinished	0.014	0.017	0.020
5. Gunite, good section	0.016	0.019	0.023
6. Gunite, wavy section	0.018	0.022	0.025
7. On good excavated rock	0.017	0.020	
8. On irregular excavated rock	0.022	0.027	
d. Concrete bottom float finished with sides of			
1. Dressed stone in mortar	0.015	0.017	0.020
2. Random stone in mortar	0.017	0.020	0.024
3. Cement rubble masonry, plastered	0.016	0.020	0.024
4. Cement rubble masonry	0.020	0.025	0.030
5. Dry rubble or riprap	0.020	0.030	0.035
e. Gravel bottom with sides of			
1. Formed concrete	0.017	0.020	0.025
2. Random stone in mortar	0.020	0.023	0.026
3. Dry rubble or riprap	0.023	0.033	0.036
f. Brick			
1. Glazed	0.011	**0.013**	0.015
2. In cement mortar	0.012	**0.015**	0.018
g. Masonry			
1. Cemented rubble	0.017	**0.025**	0.030
2. Dry rubble	0.023	0.032	0.035
h. Dressed ashlar	0.013	0.015	0.017
i. Asphalt			
1. Smooth	0.013	0.013	
2. Rough	0.016	0.016	
j. Vegetal lining	0.030	.....	0.500

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VALUES OF THE ROUGHNESS COEFFICIENT n (continued)

Type of channel and description	Minimum	Normal	Maximum
C. EXCAVATED OR DREDGED			
a. Earth, straight and uniform			
1. Clean, recently completed	0.016	0.018	0.020
2. Clean, after weathering	0.018	0.022	0.025
3. Gravel, uniform section, clean	0.022	0.025	0.030
4. With short grass, few weeds	0.022	0.027	0.033
b. Earth, winding and sluggish			
1. No vegetation	0.023	0.025	0.030
2. Grass, some weeds	0.025	0.030	0.033
3. Dense weeds or aquatic plants in deep channels	0.030	0.035	0.040
4. Earth bottom and rubble sides	0.028	0.030	0.035
5. Stony bottom and weedy banks	0.025	0.035	0.040
6. Cobble bottom and clean sides	0.030	0.040	0.050
c. Dragline-excavated or dredged			
1. No vegetation	0.025	0.028	0.033
2. Light brush on banks	0.035	0.050	0.060
d. Rock cuts			
1. Smooth and uniform	0.025	0.035	0.040
2. Jagged and irregular	0.035	0.040	0.050
e. Channels not maintained, weeds and brush uncut			
1. Dense weeds, high as flow depth	0.050	0.080	0.120
2. Clean bottom, brush on sides	0.040	0.050	0.080
3. Same, highest stage of flow	0.045	0.070	0.110
4. Dense brush, high stage	0.080	0.100	0.140
D. NATURAL STREAMS			
D-1. Minor streams (top width at flood stage <100 ft)			
a. Streams on plain			
1. Clean, straight, full stage, no rifts or deep pools	0.025	0.030	0.033
2. Same as above, but more stones and weeds	0.030	0.035	0.040
3. Clean, winding, some pools and shoals	0.033	0.040	0.045
4. Same as above, but some weeds and stones	0.035	0.045	0.050
5. Same as above, lower stages, more ineffective slopes and sections	0.040	0.048	0.055
6. Same as 4, but more stones	0.045	0.050	0.060
7. Sluggish reaches, weedy, deep pools	0.050	0.070	0.080
8. Very weedy reaches, deep pools, or floodways with heavy stand of timber and underbrush	0.075	0.100	0.150
b. Mountain streams, no vegetation in channel, banks usually steep, trees and brush along banks submerged at high stages			
1. Bottom: gravels, cobbles, and few boulders	0.030	0.040	0.050
2. Bottom: cobbles with large boulders	0.040	0.050	0.070
D-2. Flood plains			
a. Pasture, no brush			
1. Short grass	0.025	0.030	0.035
2. High grass	0.030	0.035	0.050
b. Cultivated areas			
1. No crop	0.020	0.030	0.040
2. Mature row crops	0.025	0.035	0.045
3. Mature field crops	0.030	0.040	0.050
c. Brush			
1. Scattered brush, heavy weeds	0.035	0.050	0.070
2. Light brush and trees, in winter	0.035	0.050	0.060
3. Light brush and trees, in summer	0.040	0.060	0.080
4. Medium to dense brush, in winter	0.045	0.070	0.110
5. Medium to dense brush, in summer	0.070	0.100	0.160
d. Trees			
1. Dense willows, summer, straight	0.110	0.150	0.200
2. Cleared land with tree stumps, no sprouts	0.030	0.040	0.050
3. Same as above, but with heavy growth of sprouts	0.050	0.060	0.080
4. Heavy stand of timber, a few down trees, little undergrowth, flood stage below branches	0.080	0.100	0.120
5. Same as above, but with flood stage reaching branches	0.100	0.120	0.160
D-3. Major streams (top width at flood stage >100 ft). The n value is less than that for minor streams of similar description, because banks offer less effective resistance.			
a. Regular section with no boulders or brush	0.025	.....	0.060
b. Irregular and rough section	0.035	.....	0.100

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Appendix D1: Broad-Crested Weir Coefficients for Sharp-Edged Crests

The following table lists *English* weir coefficients for broad crested weirs with a sharp-edged crest of various breadths. These coefficients are automatically entered into the lookup table for a broad crested weir whenever a crest breadth is entered as described on page 89. If breadth falls between two listed values, interpolated coefficients are automatically used. Breadths outside the listed range will use the first or last coefficient values without extrapolation. Values are automatically converted to the current input units as described on page 43.

	Weir Breadth--(ft)										
Head	0.50	0.75	1.00	1.50	2.00	2.50	3.00	4.00	5.00	10.0	15.0
0.2	2.80	2.75	2.69	2.62	2.54	2.48	2.44	2.38	2.34	2.49	2.68
0.4	2.92	2.80	2.72	2.64	2.61	2.60	2.58	2.54	2.50	2.56	2.70
0.6	3.08	2.89	2.75	2.64	2.61	2.60	2.68	2.69	2.70	2.70	2.70
0.8	3.30	3.04	2.85	2.68	2.60	2.60	2.67	2.68	2.68	2.69	2.64
1.0	3.32	3.14	2.98	2.75	2.66	2.64	2.65	2.67	2.68	2.68	2.63
1.2	3.32	3.20	3.08	2.86	2.70	2.65	2.64	2.67	2.66	2.69	2.64
1.4	3.32	3.26	3.20	2.92	2.77	2.68	2.64	2.65	2.65	2.67	2.64
1.6	3.32	3.29	3.28	3.07	2.89	2.75	2.68	2.66	2.65	2.64	2.63
1.8	3.32	3.32	3.31	3.07	2.88	2.74	2.68	2.66	2.65	2.64	2.63
2.0	3.32	3.31	3.30	3.03	2.85	2.76	2.72	2.68	2.65	2.64	2.63
2.5	3.32	3.32	3.31	3.28	3.07	2.89	2.81	2.72	2.67	2.64	2.63
3.0	3.32	3.32	3.32	3.32	3.20	3.05	2.92	2.73	2.66	2.64	2.63
3.5	3.32	3.32	3.32	3.32	3.32	3.19	2.97	2.76	2.68	2.64	2.63
4.0	3.32	3.32	3.32	3.32	3.32	3.32	3.07	2.79	2.70	2.64	2.63
4.5	3.32	3.32	3.32	3.32	3.32	3.32	3.32	2.88	2.74	2.64	2.63
5.0	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.07	2.79	2.64	2.63
5.5	3.32	3.32	3.32	3.32	3.32	3.32	3.32	3.32	2.88	2.64	2.63

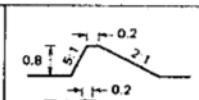
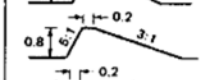
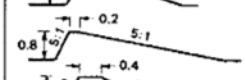
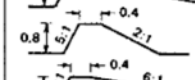
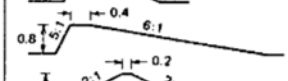
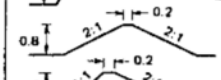
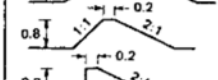
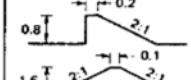
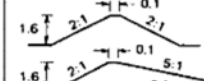
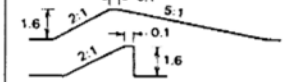
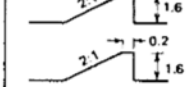
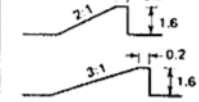
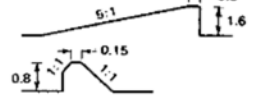
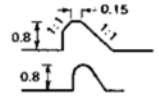
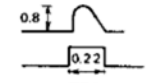
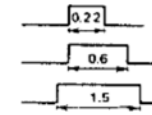
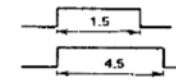
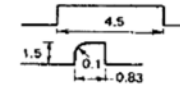
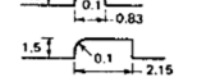
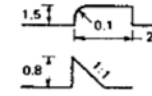
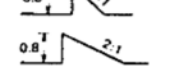
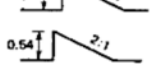
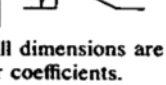
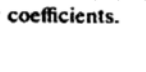
This table was derived from information in HANDBOOK OF HYDRAULICS by Brater and King, 1976.

Appendix D2: Broad-Crested Weir Coefficients for Assorted Profiles

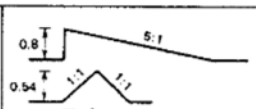
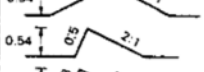
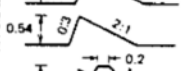
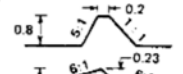
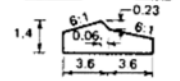
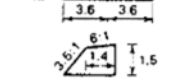
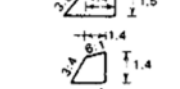
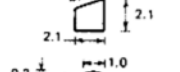
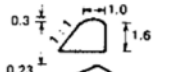
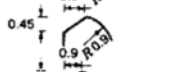
Coefficients for the following weirs may be entered automatically by specifying the appropriate Profile ID number on the HydroCAD weir screen.

Note: This table contains *metric* weir coefficients. To obtain English coefficients **multiply the values in this table by 1.811** as described on page 43.

Discharge Coefficients for Broad-Crested Weirs

	Cross section	Upstream head *h* [m]							
		0.15	0.30	0.45	0.60	0.75	0.90	1.20	1.50
1		1.61	1.86	1.98					
2		1.60	1.80	1.90					
3		1.58	1.75	1.79					
4		1.53	1.64	1.77					
5		1.54	1.62	1.69					
6		1.72	1.88	1.98					
7		1.65	1.88	2.00					
8		1.53	1.80	1.93					
9					1.96	1.96	1.97	1.99	2.02
10					1.94	1.92	1.89	1.92	1.97
11			2.12	2.10	2.08	2.08	2.06	2.04	2.00
12			1.88	1.96	2.01	2.04	2.05	2.05	2.05
13					1.96	1.96	1.96	1.96	1.96
14					1.86	1.86	1.86	1.86	1.86
15		1.81	2.00						
16		2.10	2.35						
17		1.57	1.73	1.80	1.82	1.83	1.83		
18		1.44	1.46	1.55	1.56	1.69	1.76	1.84	
19		1.43	1.47	1.45	1.46	1.47	1.46	1.48	1.59
20		1.48	1.45	1.44	1.44				
21			1.56	1.60	1.65	1.70	1.74	1.84	1.92
22			1.56	1.56	1.55	1.55	1.55	1.55	1.54
23		2.13	2.13	2.13					
24		1.93	1.94	1.94					
25		1.94	1.98	1.97					

*All dimensions are in meters. Tabulated values represent metric weir coefficients.

	Cross section	Upstream head *h* [m]							
		0.15	0.30	0.45	0.60	0.75	0.90	1.20	1.50
26		1.69	1.73	1.73					
27		2.28	2.25	2.06					
28		2.08	2.12	2.12					
29		1.92	1.93	1.92					
30		2.10	2.13	2.13					
31		2.03	2.03	2.01					
32		2.03	2.03	2.01					
33		1.65	1.94	2.10					
34			1.72	1.76	1.76	1.76	1.76	1.76	1.76
35				1.87	1.84	1.81	1.82	1.82	1.85
36			1.91	1.90	1.87	1.84	1.83	1.86	1.90
37						1.89	1.87	1.87	1.88
38			1.81	1.81	1.82	1.86	1.90	1.97	2.01
39		1.13	1.82 1.89	1.83 1.90	1.85 1.88	1.87 1.88	1.88 1.90	1.95	2.06
40		1.76	1.86 1.92	1.90 1.98	1.93 2.06	1.96 2.04	1.97 2.04	2.03	2.11
41		1.72	1.90	2.00	2.06	2.10	2.13		
42		1.78	1.84	1.89	1.93	1.97	2.00		
43		1.75	1.81	1.85	1.88	1.90	1.92	1.95	
44		1.80	1.92	1.95	1.94	1.85	1.82		
45		1.94	1.94	1.95	1.92	1.85	1.81	1.79	
46		1.72	1.72	1.70	1.72	1.76	1.79	1.85	
47		1.70	1.71	1.82					
48			2.09						

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Appendix E: Culvert Entrance Loss Coefficients

The following table lists entrance loss coefficients for concrete, corrugated metal, and box culverts. These values are automatically provided by HydroCAD when the corresponding entrance description is selected for a given culvert.

Although comparable data is not available for corrugated plastic pipe, it is believed to be similar to corrugated metal, and the same entries are listed for "CPP" in the internal lookup table.

Entrance Loss Coefficients.

Type of Structure and Design of Entrance	Coefficient, k_e
Pipe, Concrete	
Projecting from fill, groove end	0.2
Projecting from fill, sq. cut end	0.5
Headwall or headwall and wingwalls	
Groove end of pipe	0.2
Square-edge	0.5
Rounded (radius = 1/12D)	0.1
Mitered to conform to fill slope	0.7
End-Section conforming to fill slope*	0.5
Pipe, or Pipe-Arch, Corrugated Metal	
Projecting from fill (no headwall)	0.9
Headwall or headwall end wingwalls	
Square-edge	0.5
Mitered to conform to fill slope	0.7
End-Section conforming to fill slope*	0.5
Box, Reinforced Concrete	
Headwall parallel to embankment (no wingwalls)	
Square-edged on 3 edges	0.5
Rounded on 3 edges to radius of 1/12 barrel dimension	0.2
Wingwalls at 30° to 75° to barrel	
Square-edged at crown	0.4
Crown edge rounded to radius of 1/12 barrel dimension	0.2
Wingwalls at 10° to 30° to barrel	
Square-edged at crown	0.5
Wingwalls parallel (extension of sides)	
Square-edged at crown	0.7

*Note: "End Section conforming to fill slope", made of either metal or concrete, are the sections commonly available from manufacturers. From limited hydraulic tests they are equivalent in operation to a headwall in both inlet and outlet control. Some end sections, incorporating a closed taper have a superior hydraulic performance.

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Appendix F: Sheet Flow Roughness Coefficients

HydroCAD provides the following table of roughness coefficients for use with the Sheet Flow procedure (see page 54). This information is taken directly from NEH Table 15-1, with slight abbreviation of the descriptions. If you decide to substitute other roughness coefficients, note that these values are specifically for sheet flow, and are generally larger than the regular Manning's numbers for comparable surfaces.

Surface Description	n
Smooth surfaces	.011
Fallow	.05
Cultivated: Residue<=20%	.06
Cultivated: Residue>20%	.17
Grass: Short	.15
Grass: Dense	.24
Grass: Bermuda	.41
Range	.13
Woods: Light underbrush	.40
Woods: Dense underbrush	.80

Note: These coefficients may also be appropriate when using a reach to model artificially created sheet flow (as from a level spreader) as long as the depth of flow is limited to approximately 1/10 foot.

Appendix G: Velocity Factors

The Shallow Concentrated Flow procedure (a.k.a. Upland Method) uses a *velocity factor*, K_V, as listed below. The first two surfaces (paved and unpaved) are the basis for TR-55 Figure 3-1, and the factors were originally obtained from TR-55 Appendix F. The remaining surfaces were taken from NEH-4 Figure 15.2, with the factors derived from that chart. Subsequent revisions to NEH Part 630 provide *numerical* K_V values which are in good agreement with the original chart, except for "Grassed Waterways", which appears to have changed from 15.0 to 16.13, making it the same as the TR-55 "Unpaved" condition. For compatibility with previous calculations, the HydroCAD lookup table continues to supply the original K_V values as listed below. If different values are required for any reason, HydroCAD allows direct K_V entry instead of using the lookup table. See page 55 for further details on Shallow Concentrated Flow.

Surface Description	K_V [ft/sec]	K_V [m/sec]
Paved	20.33	6.2
Unpaved	16.13	4.92
Grassed Waterway	15.0	4.57
Nearly Bare & Untilled	10.0	3.05
Cultivated Straight Rows	9.0	2.74
Short Grass Pasture	7.0	2.13
Woodland	5.0	1.52
Forest w/Heavy Litter	2.5	0.76

Some descriptions have been abbreviated. Velocity factors have the same units as a velocity, and may be converted between English and metric as described on page 43.

H y d r o C A D ®

Stormwater Modeling System

Version 10

Owner's Manual

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COREY MACKOUL

Stormwater Management, Maintenance & Inspection Plan

89 Stark Ave
Dover, New Hampshire

May 2026

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Introduction

Tritech Engineering Corporation has prepared the following Stormwater Management System Inspection & Maintenance Plan for 89 Stark Ave, located on southern side of Stark Ave, Dover, New Hampshire. The intent of this plan is to provide Corey MacKoul with a list of procedures that document the inspection and maintenance requirements of the Stormwater Management System for this development.

The following inspection and maintenance program is necessary in order to keep the Stormwater Management System functioning properly. By following the enclosed procedures, Corey MacKoul, will be able to maintain the functional design of the Stormwater Management System and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

Corey MacKoul, or its successors, heirs and assigns, will be responsible for implementing the required inspections and reporting over the expected life of the system.

Stormwater Management System Components

The 89 Stark Ave Stormwater Management System is designed to mitigate both the quantity and quality of site-generated stormwater runoff. As a result, its design includes the following elements:

Non-Structural BMP's

Non-Structural best management practices (BMP's) are designed to minimize and/or remove contaminants before they enter the stormwater collection system. Several of these BMP's have been incorporated into the Stormwater Management System including pavement sweeping, reduced use of road salt, and litter/trash removal. These types of BMP's are a highly effective initial treatment measure for reducing stormwater pollutant loading.

Closed Drainage Collection and Piping System

The closed drainage system is designed to collect and convey stormwater runoff from the roof paved areas and infiltrate stormwater back into the water table. Stormwater is collected in deep sump hooded catch basins for pre-treatment before being routed to the Bioretention area for treatment and infiltration.

Drainage Swales

The drainage swales are designed to collect and convey stormwater runoff from the roof paved areas and infiltrate stormwater back into the water table. Stormwater is collected in drainage swales before being routed to the Bioretention area for treatment and infiltration.

Bioretention Basins

Bioretention Basins collect stormwater from ground runoff, as well as roadway runoff after pretreatment in deep sump hooded catch basins, and allow contaminants and sedimentation to be contained. Bio Retention Pond allows rainwater to be infiltrated and recharge groundwater on the side, and treated excess water is allowed to exit pond through rectangular weir spillway.

Inspection & Maintenance Plan

By implementing the following procedures, Corey MacKoul will be able to maintain the functional design of the Stormwater Management System and maximize the system's ability to remove sediment and other contaminants from site generated stormwater runoff.

Pavement Sweeping:	Sweep Pavement Area at least three times per year or more as necessary. Spring pavement sweeping shall be performed as early as possible.
Litter/Trash Removal:	Routinely inspect all dumpster locations for spillage and clean as necessary.
Deicing Agents:	Use sand as the primary agent for parking lot safety during ice and snow conditions. Minimize the use of road salt (sodium chloride) during the winter. Use de-icing or anti-caking agents, added to enhance performance and application characteristics of sand mixtures, only as necessary and at minimum application rates. A deicing log (attached) must be maintained throughout the winter season.
Closed Drainage	Inspect all catch basins monthly for floatable objects and remove as required.
Drainage Swales:	Mow grass to maintain a height of 3 to 4 inches as needed. Remove sediment buildup from bottom of swale if accumulation reaches 25% of original design volume. Remove accumulated trash and debris as needed.
Bioretention Basins	Inspect detention basins twice annually for floatables and remove as required. Inspect detention basins, outlet structure, and outlet weir twice annually and remove accumulated sand and sediment. At least once annually, the system should be inspected for drawdown time. If the bioretention 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 filtration function, including but not limited to removal of sediments, or reconstruction of the filter media. At least once annually, vegetation should be inspected and maintained in a healthy condition, including pruning, removal and replacement of dead or diseased vegetation, and removal of invasive species.
Invasive Species:	During maintenance and inspection activities, check for the presence of invasive species and dispose of in accordance with the procedures contained herein.

Annual Report: Submit an annual Inspection & Maintenance Report to the City of Dover's Planning Department by July 1st of each year. The report should include a summary of the system's maintenance requirements and repairs, and copies of the Inspection & Maintenance Log Sheets as well as the Deicing Log Sheets.

Each inspection shall include photographs of each the BMP being inspected

Additionally, Inspection and Maintenance Records must be provided to NHDES upon request.

Inspection & Maintenance Checklist/Log

The following pages contain an Inspection & Maintenance Checklist and blank copy of the Stormwater Management System's Inspection & Maintenance Log. These forms are provided to Corey MacKoul with the inspection and maintenance of the 89 Stark Ave Stormwater Management System.

Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants is not addressed.

<table>
<tr><th>Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">Norway maple
(Acer platanoides)
European barberry
(Berberis vulgaris)
Japanese barberry
(Berberis thunbergii)
autumn olive
(Elaeagnus umbellata)
burning bush
(Euonymus alatus)
Morrow's honeysuckle
(Lonicera morrowii)
Tatarian honeysuckle
(Lonicera tatarica)
showy bush honeysuckle
(Lonicera x bella)
common buckthorn
(Rhamnus cathartica)
glossy buckthorn
(Frangula alnus)</td><td rowspan="2">Fruit and Seeds
</td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Use as firewood.
▪ Make a brush pile.
▪ Chip.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip once all fruit has dropped from branches.
▪ Leave resulting chips on site and monitor.</td></tr>
<tr><td rowspan="2">oriental bittersweet
(Celastrus orbiculatus)
multiflora rose
(Rosa multiflora)</td><td rowspan="2">Fruits, Seeds, Plant Fragments</td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Make a brush pile.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.</td></tr>
</table>

<table>
<tr><th>Non-Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">garlic mustard
(Alliaria petiolata)
spotted knapweed
(Centaurea maculosa)
▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling.
black swallow-wort
(Cynanchum nigrum)
▪ May cause skin rash. Wear gloves and long sleeves when handling.
pale swallow-wort
(Cynanchum rossicum)
giant hogweed
(Heracleum mantegazzianum)
▪ Can cause major skin rash. Wear gloves and long sleeves when handling.
dame’s rocket
(Hesperis matronalis)
perennial pepperweed
(Lepidium latifolium)
purple loosestrife
(Lythrum salicaria)
Japanese stilt grass
(Microstegium vimineum)
mile-a-minute weed
(Polygonum perfoliatum)</td><td rowspan="2">Fruits and Seeds
</td><td>Prior to flowering
Depends on scale of infestation
Small infestation
▪ Pull or cut plant and leave on site with roots exposed.

Large infestation
▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting).
▪ Monitor. Remove any re-sprouting material.</td></tr>
<tr><td>During and following flowering
Do nothing until the following year or remove flowering heads and bag and let rot.

Small infestation
▪ Pull or cut plant and leave on site with roots exposed.

Large infestation
▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting).
▪ Monitor. Remove any re-sprouting material.</td></tr>
<tr><td>common reed
(Phragmites australis)
Japanese knotweed
(Polygonum cuspidatum)
Bohemian knotweed
(Polygonum x bohemicum)</td><td>Fruits, Seeds, Plant Fragments
Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn’t materially influence disposal activities.</td><td>Small infestation
▪ Bag all plant material and let rot.
▪ Never pile and use resulting material as compost.
▪ Burn.

Large infestation
▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile.
▪ Monitor and remove any sprouting material.
▪ Pile, let dry, and burn.</td></tr>
</table>

Stormwater Management System

Inspection & Maintenance Checklist

89 Stark Ave

BMP/System Component	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance/Cleanout Threshold
Pavement Sweeping	3 times per year	N/A	N/A
Litter/Trash Removal	Routinely	Inspect outdoor waste receptacles areas for spillage.	Clean as required.
Deicing Agents	N/A	N/A	Use sand as primary agent for parking lot safety during winter.
Closed Drainage System			
Catch Basins	2 times per year 1 time per month	Check for sediment accumulation in sump and on sock. Check for floatable contaminants.	≥ 2 ft. sediment depth. ≥ 3 in. floatable depth.
Drainage Pipes	1 time per 2 years	Check for sediment accumulation/clogging.	≥ 2 in. sediment depth.
Drainage Swales	Per mowing	Maintain grass height of 3-4 inches. Remove sediment accumulation from bottom of swale. Remove accumulated trash and debris as needed.	Sediment accumulation reaches 25% of design volume. Grass height exceeds 4 inches.
Bioretention System	2 times per year	Check for sediment accumulation Check for floatables If system does not drain within 72 hours, actions must be taken to restore infiltration capabilities.	≥ 2 ft. sediment depth in forebay. ≥ 3 in. floatable depth in forebay.
Annual Report	1 time per year	Submit Annual Report, including all Inspection & Maintenance Logs, to the Somersworth Planning Department.	N/A

Stormwater Management System

Inspection & Maintenance Log

89 Stark Ave

BMP/System Component	Date Inspected	Inspector	Cleaning/Repair Needed (*List Items/Comments)*	Date of Cleaning/Repair	Performed By

Stormwater Management System

Deicing Log

Corey MacKoul

Date	Amount Applied	Performed By	Date	Amount Applied	Performed By

CERTIFICATE OF UNDERSTANDING

Stormwater Management, Maintenance & Inspection Plan

Project: 89 Stark Ave
Dover, New Hampshire
April 2026

Owner: Corey MacKoul
8 Hull Ave
Dover, New Hampshire 03820

Engineer: Tritech Engineering Corporation
755 Central Avenue
Dover, New Hampshire 03820

Project Reference Plans:

Site Development Plans for:
Corey MacKoul
89 Stark Ave
Dover, New Hampshire
Dated May 14, 2026

Specifically:
T-1, T-2, EX-1, SSS-1, SN-1, C-1, SP-1 through SP-10, LA-1 & TR-1.

Project Drainage Analysis References:

Drainage Analysis, Erosion and Sedimentation Control, & Site Development Plan for:
Corey MacKoul
89 Stark Ave
Dover, New Hampshire
Dated May 2026

Site Plan Review Approval was granted by the Dover Planning Board Pending

I, Corey MacKoul , the property owner, am familiar with the references above and understand this Stormwater Management, Maintenance, and Inspection Plan, and my responsibilities identified herein. If ownership of the property is transferred, the new property owner(s) shall become the responsible party(ies).

_____ _____

Corey MacKoul, Owner Date

Water and Sewer Demand &
Pipe Analysis Summary

for

Corey MacKoul

89 Stark Ave
Dover, New Hampshire
May 2026

Water and Sewer Demand for 89 Stark Ave Dover, NH

2 Proposed 3 Bedroom Houses:

2 Houses X 3 Bedrooms each x 150 gal/day per BDR =

900 gal/day

Estimated Design Flow = **900 gal/day**

**This design flow rate is based on NHDES Env.Wq 1008.03 Table 1008-1 Unit Design Flow Figures*

LANDSCAPE
OPERATION & MAINTENANCE PLAN

for

COREY MACKOUL

89 Stark Ave
Dover, New Hampshire
May 2025

Weekly Tasks

1. Mow and edge lawns if needed. Lawns to be cut to 3.5" height.
2. Prune back any shrubs overhanging curbs or sidewalks.
3. Prune back any groundcover overhanging curbs or sidewalks.
4. Remove litter and leaves from plants, planters, and parking lots.
5. Remove any broken or fallen branches from trees. Remove sucker growth from tree trunks.
6. Remove any weeds larger than 2 inches (5 cm) high or wide from planters. Weeds 2 inches (5 cm) and larger must be removed, not just killed.
7. Replace bark mulch which has been knocked or washed out of planters. Smooth mulch layer if it has been disturbed.
8. Replace decorative rock which has been knocked or washed out of drip strips. Smooth decorative rock surface if it has been disturbed.
9. Check plants for signs of stress, pests or disease. Request authorization to replace other dead or missing plants. Note: Maintenance contractor must request authorization to make replacements within one week of the damage becoming evident.
10. Sweep or blow clean all walkways, curbs, and gutters.
11. Treat for any signs of disease or pest infestation.
12. Complete any items required on the Monthly Checklist.
13. Hand water any plants that are dry and stressed.
14. Check the irrigation system (if there is a system). Make emergency repairs as needed or request authorization to make major repairs. Note: Maintenance contractor must request authorization for repairs within one week of the damage becoming evident.
15. Adjust the irrigation controllers for current water needs of plants.
16. **Gently prune shrubs at appropriate time of year based on species, for shape and form. DO NOT shear.**

Yearly Tasks

Early Spring

1. Prune any tree branches that interfere with public safety. Prune all parking lot and street trees yearly to encourage strong growth.
2. Apply granular fertilizer to shrubs beds and lawns. Be sure to make application prior to a moderate rainfall in drip-irrigated planters so the rain will wash the fertilizer in.
3. Submit receipts to owner's authorized representative as proof of fertilizer purchase.
4. Trim any perennial foliage left in the fall for winter interest to within six inches of the ground.

---

5. Add new mulch to planters where the mulch depth has been reduced to less than 2 inches (5 cm) thick. Mulch depth shall not exceed 2". Additional mulch not required where shrubs or groundcover completely hide the soil surface from view.
6. Where there is irrigation and after threat of frost is gone, flush out irrigation systems as needed and check for proper operation of each valve zone. Clean or replace plugged sprinkler nozzles. Replace plugged drip emitters.
7. Replace irrigation controller program back-up batteries.

June:

No additional items

July:

No additional items

August:

No additional items

September:

1. Inventory all plant materials. Inventory shall include an exact count of all shrubs and trees, itemized by planter. Replace any dead or missing plants.

October:

1. Prepare irrigation system for winter. Make sure backflow preventer is well insulated or drained prior to first freeze. Blow out pipes using compressed air in areas where freezing could result in breakage.
2. Mow field areas.

November:

1. "WILT-PRUF" broadleaf evergreens when temperature permits.

December:

1. Prune any tree branches that interfere with public safety. Prune all parking lot and street trees yearly to encourage strong growth.

SITE DEVELOPMENT PLANS

COREY MACKOUL

89 STARK AVENUE
DOVER, NEW HAMPSHIRE

LIST OF PLANS

T-1 - TITLE SHEET
T-2 - NEIGHBORHOOD PLAN
EX-1 - EXISTING CONDITIONS PLAN (1"=30')
SSS-1 - SITE SPECIFIC SOILS PLAN (1"=30')
SN-1 - STANDARD NOTES PLAN
C-1 - ROADWAY PLAN AND PROFILE (1"=20')
SP-1 - GENERAL SITE PLAN (1"=20')
SP-2 - SITE CONSTRUCTION PLAN (1"=20')
SP-3 - UTILITY PLAN (1"=10')
SP-4 - GRADING AND DRAINAGE PLAN (1"=20')
SP-5 - BIORETENSION DETAILS
SP-6 - CONSTRUCTION DETAILS
SP-7 - CONSTRUCTION DETAILS
SP-8 - CONSTRUCTION DETAILS
SP-9 - SEWER DETAILS
SP-10 - SEWER DETAILS
SD-1 - SIGHT DISTANCE PLAN & PROFILE LOOKING NORTH (1"=20')
SD-2 - SIGHT DISTANCE PLAN & PROFILE LOOKING SOUTH (1"=20')
La-1 - LANDSCAPE PLAN
TR-1 - FIRE TRUCK TURNING PLAN

OWNER / APPLICANT
COREY MACKOUL
8 HULL AVENUE
DOVER, NEW HAMPSHIRE

CIVIL ENGINEER - SURVEYOR
TRITECH ENGINEERING CORPORATION
755 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE

WETLAND & SOIL SCIENTIST
HIGHLAND SOILS SERVICES
75 PROSPECT STREET
SOMERSWORTH, NEW HAMPSHIRE

LANDSCAPE ARCHITECT
TERRAIN
PLANNING & DESIGN LLC
31 KAST HILL ROAD
HOPKINTON, NEW HAMPSHIRE

TRAFFIC ENGINEER
TEPP, LLC.
93 STILES ROAD, SUITE 201
SALEM, NEW HAMPSHIRE

TRITECH
ENGINEERING CORPORATION
755 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 8107
FAX 603 742 3830

ISSUED FOR TRC REVIEW
May 14, 2026

REVISIONS
DATE: DESCRIPTION:

STATE OF NEW HAMPSHIRE - PROFESSIONAL ENGINEER - ROBERT STOCKWELL No. 9803

LICENSED LAND SURVEYOR NO. 884 ROBERT STOCKWELL STATE OF NEW HAMPSHIRE

TITLE SHEET
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 25136

SHEET No.
T-1

(P26-0000)

TRITECH
ENGINEERING CORPORATION
785 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 8107
FAX 603 742 3630

ISSUED FOR TRC REVIEW
May 14, 2026

REVISIONS
DATE: DESCRIPTION:

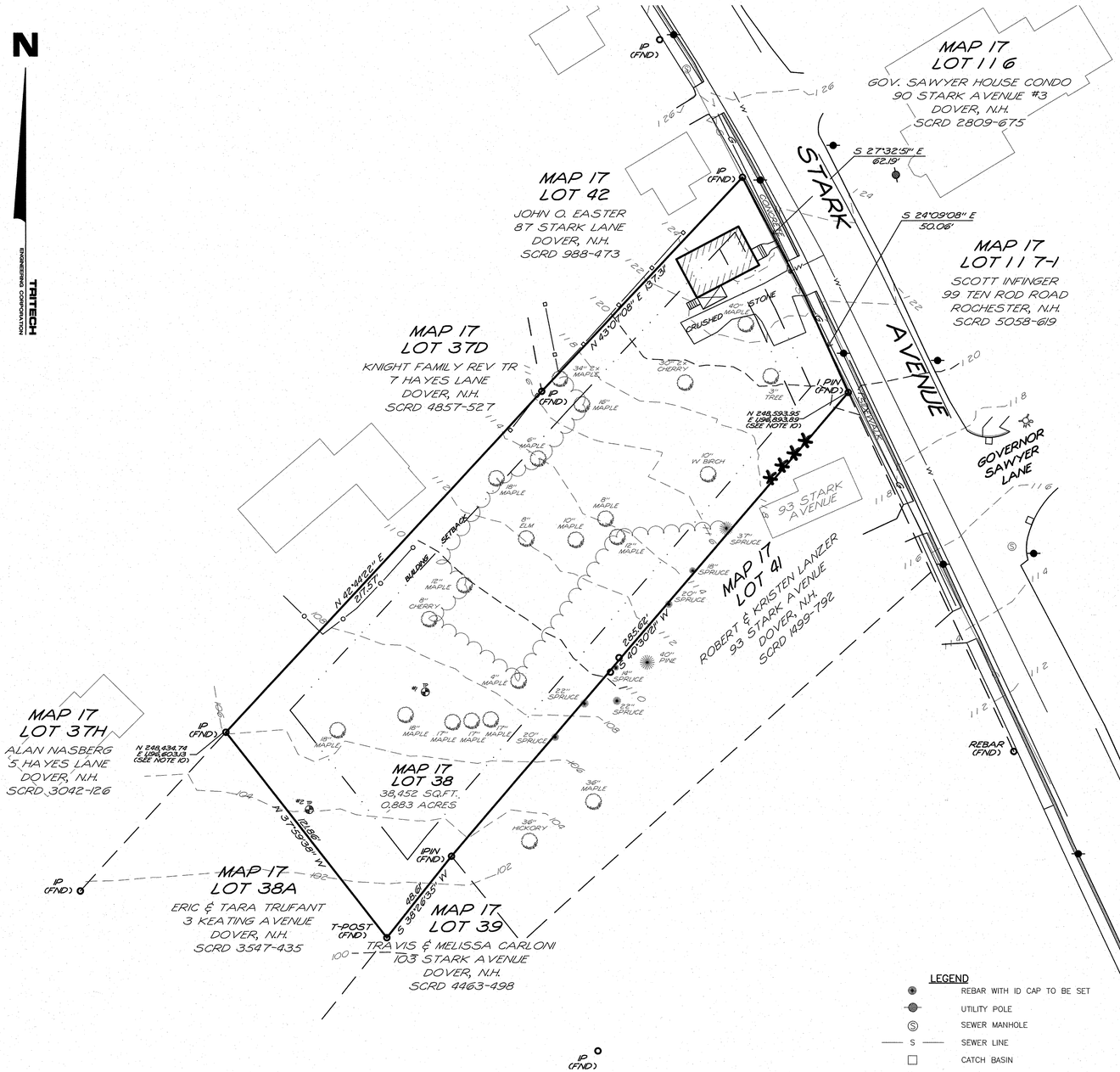
NEIGHBORHOOD PLAN

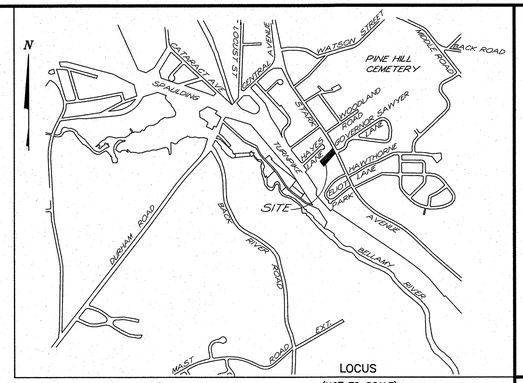
COREY MACKOUL

89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026 JOB No. 25136
SCALE: 1" = 60'

SHEET No. T-2

(P26-0000)





LOCUS
(NOT TO SCALE)

NOTES

1.) INTENT: TO SHOW THE EXISTING CONDITIONS OF DOVER MAP 17 LOT 38.

2.) CURRENT OWNER OF RECORD: COREY MACKOUL
8 HULL AVENUE
DOVER, N.H.

3.) SUBJECT PARCEL IS LOCATED IS THE CITY OF DOVER, COUNTY OF STRAFFORD AND THE STATE OF NEW HAMPSHIRE.

4.) TOTAL LOT AREA: 38,452 SQ.FT. – 0.883 ACRES

5.) TAX MAP 17 LOT 38

6.) PROJECT DEED REFERENCE: BOOK 5248 PAGE 342

7.) ZONING: R–12
MIN. LOT SIZE: 12,000 SQ.FT.
MIN. FRONTAGE: 100 FT
MIN. SETBACKS:
FRONT: 15 FT TO 25 FT
SIDE: 15 FT
REAR: 30 FT
MAX. COVERAGE: 30 %
MAX. BUILDING HEIGHT: 35 FT

8.) PROJECT PLAN REFERENCE: PROPOSED SUBDIVISION
LAND OF
TRI–CITY BUILDERS
103 STARK AVENUE
DOVER, NEW HAMPSHIRE
BERRY SURVEYING & ENGINEERING
MAY 6, 2003 SCRD 71–89

SUBDIVISION OF LAND
FOR CLARA FISHER
ON STARK AVENUE & KEATING AVENUE
IN DOVER, N.H.
BRUCE POHOPEK
MAY 30, 1995 SCRD 41A–84A

PLAN OF LOTS
ROBERT LABRIE
DOVER, N.H.
GRANT L DAVIS
AUGUST 1949
POCKET #3, FOLDER #1, PLAN #28

9.) THE RAW UNADJUSTED CLOSURE OF OUR RANDOM POINT TRAVERSE WAS 1 PART IN 35,000, AND WAS ACCOMPLISHED USING A TOPCON GT 503 TOTAL STATION, DURING THE MONTH OF JANUARY, 2026.

10.) BASIS OF BEARING: BEARING SYSTEM BASED ON GPS FIELD OBSERVATIONS ON JANUARY 13, 2026 USING TOPCON HIPER SR RECEIVERS AND OPUS CORRECTED ON JANUARY 15, 2026. DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATES SPC (2800 NH), (VERTICAL DATUM: NAVD 88).

11.) SUBJECT PARCEL IS NOT WITHIN A FEDERALLY DESIGNATED SPECIAL FLOOD HAZARD ZONE (FLOOD HAZARD ZONE A – PANEL 330145, MAP No. 33017C0340E, DATE: 9–30–2015).

12.) ON JANUARY 14, 2026, MICHAEL MARIANO, STATE OF NEW HAMPSHIRE CERTIFIED SOIL SCIENTIST #76, NH CERTIFIED WETLAND SCIENTIST #183, CONDUCTED AN ON–SITE WETLANDS DELINEATION OF THE SUBJECT PARCEL. WETLANDS WERE EVALUATED BASED ON THE CITY OF DOVER ZONING ORDINANCE (170–27.1) AND ON STATE & FEDERAL CRITERIA OUTLINED IN THE "CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL" (DEPT. OF THE ARMY, 1987). ON THIS SITE, WETLANDS BASED ON LOCAL CRITERIA SHARE THE SAME BOUNDARIES WITH THOSE BASED ON STATE AND FEDERAL CRITERIA. NO WETLANDS WERE OBSERVED ON THIS SITE.

LEGEND

- REBAR WITH ID CAP TO BE SET
- UTILITY POLE
- SEWER MANHOLE
- S — SEWER LINE
- CATCH BASIN
- D — DRAIN LINE
- G — GAS LINE
- WATER GATE VALVE
- W — WATER LINE
- STOCKADE FENCE
- CHAIN LINK FENCE
- SPECIMEN TREE
- ARBORVITAE
- TREE LINE

TRITECH
ENGINEERING CORPORATION
785 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 8107
FAX 603 742 3630

ISSUED FOR TRC REVIEW
May 14, 2026

REVISIONS
DATE: DESCRIPTION:

LICENSED LAND SURVEYOR
No. 884
ROBERT J. BERRY
SURVEYOR SEAL
STATE OF NEW HAMPSHIRE

EXISTING CONDITIONS PLAN

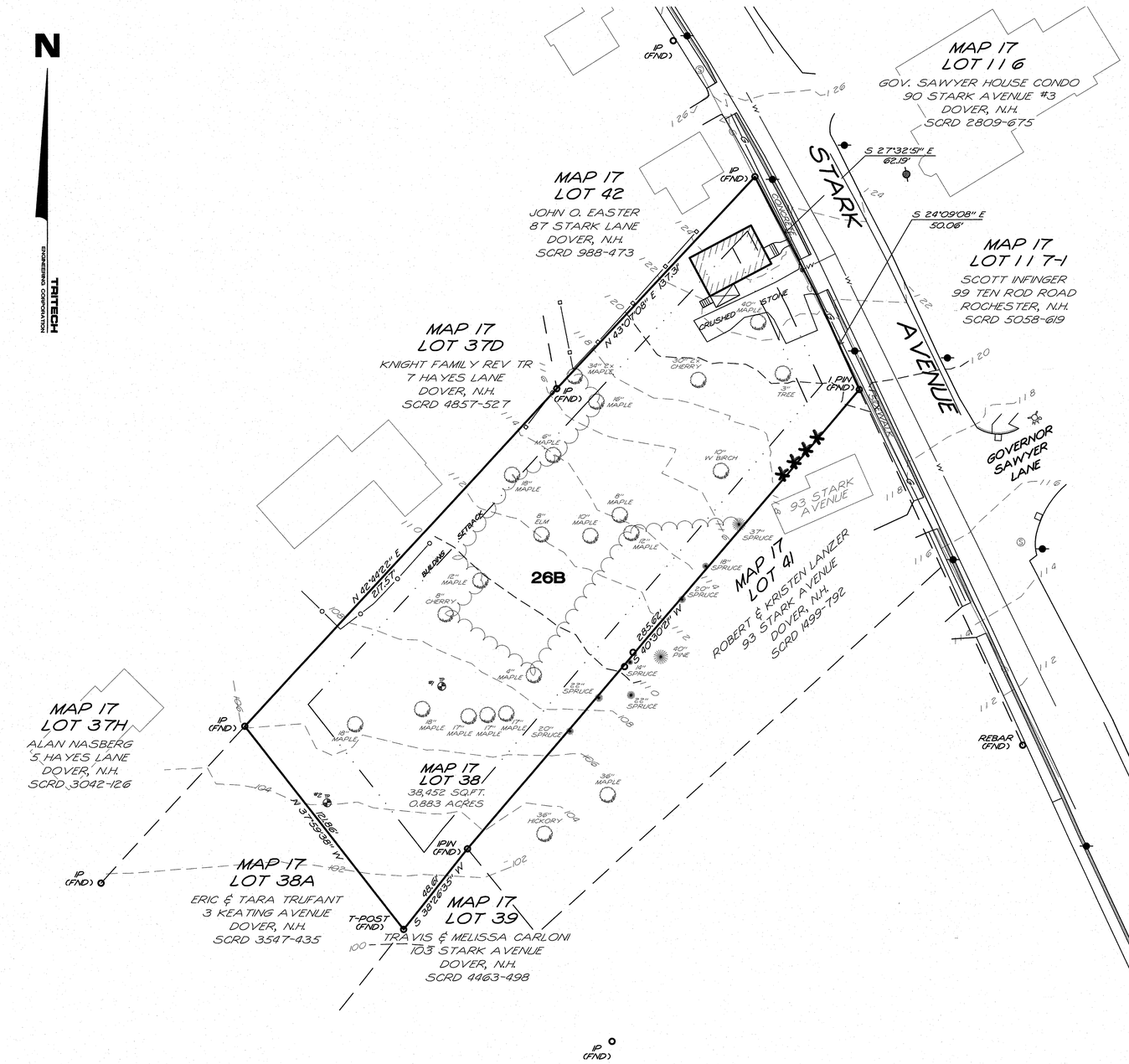
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY

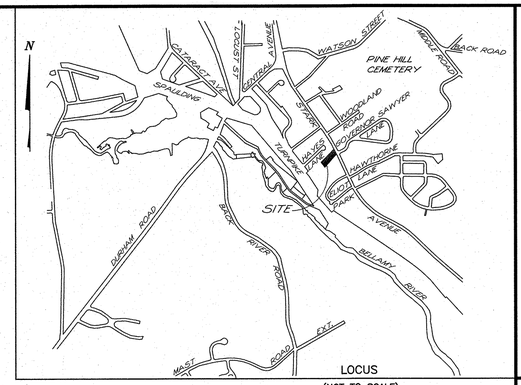
MAY 14, 2026 JOB No. 2513

SCALE: 1" = 30'

SHEET No.
EX-1

(P26-0000)





SOILS NOTES

1.) SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT. SSSNNE SPECIAL PUBLICATION NO. 3, VERSION 7.0, JULY 2021. THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PRODUCT, INTENDED FOR THE SUBMISSION TO NH DES ALTERATION OF TERRAIN. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCE CONSERVATION SERVICE.

2.) WETLANDS WERE INVESTIGATED IN JANUARY 2026 BY MICHAEL MARIANO, NH CERTIFIED WETLAND SCIENTIST #183 IN ACCORDANCE WITH THE 1987 U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE 2012 REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0. HYDRIC SOILS WERE IDENTIFIED BY FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, MAY 2017. A ROUTINE DETERMINATION, AS DESCRIBED IN THE MANUAL, WAS FOLLOWED. NO WETLAND WERE FOUND.

3.) TEST PITS WERE OBSERVED AND DESCRIBED IN APRIL OF 2026.

LEGEND

26	WINDSOR

SLOPE CLASS

A	0 - 3%
B	3 - 8%
C	8 - 15%

LEGEND

- REBAR WITH ID CAP TO BE SET
- UTILITY POLE
- (S) SEWER MANHOLE
- (D) DRAIN MANHOLE
- CATCH BASIN
- D — DRAIN LINE
- G — GAS LINE
- W — WATER LINE
- □ — VINYL STOCKADE FENCE
- X — WOOD RAIL FENCE
- ○ — CHAIN LINK FENCE
- △ — METAL RAIL FENCE
- SPECIMEN TREE
- ARBORVITAE

TRITECH
ENGINEERING CORPORATION
765 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 9107
FAX 603 742 3830

ISSUED FOR TRC REVIEW
May 14, 2026

REVISIONS
DATE: DESCRIPTION:

STATE OF NEW HAMPSHIRE · SOIL SCIENTIST · CERTIFIED
MICHAEL MARIANO
No. 76

SITE SPECIFIC SOILS PLAN
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 25136
SCALE: 1" = 30'

SHEET No.
SSS-1

(P26-0000)

DOVER SITE PLAN REVIEW NOTES:

1. PLAN INTENT: TO FURTHER DEVELOP DOVER TAX MAP 17 LOT 38. THIS DEVELOPMENT WILL INCLUDE THE RENOVATION OF THE EXISTING SINGLE FAMILY HOUSE (1 BASE UNIT). THE DEVELOPMENT WILL ALSO INCLUDE THE CONSTRUCTION OF 2 SINGLE FAMILY HOMES, ONE BASE UNIT AND ONE UNIT PURCHASED UNDER THE TDR ORDINANCE. 2 BASE UNITS AND THE PURCHASE OF ONE UNIT.

2. OWNERS OF RECORD: COREY MACKOUL
8 HULL AVENUE
DOVER, N.H. 03820

3. THE PARCEL IS SHOWN AS:
LOT 38, MAP 17 OF THE CITY OF DOVER TAX ASSESSOR'S MAPS.

4. THE SUBJECT PARCEL CONTAINS 0.883 ACRES (38,452 SQ. FT.) OF LAND. 0 ACRES ARE CURRENTLY IN CURRENT USE.

5. TITLE REFERENCE FOR THE PROJECT PARCEL(S) IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, BOOK NO. 5248, PAGE NO. 342.

6. REFERENCE PLANS:
PROPOSED SUBDIVISION, LAND OF TRI-CITY BUILDERS, 103 STARK AVENUE, DOVER, N.H., BERRY SURVEYING & ENGINEERING, MAY 6, 2003, SCRD 71-89
SUBDIVISION OF LAND, FOR CLARA FISHER, ON STARK AVENUE & KEATING AVENUE, IN DIVER, N.H., BRUCE POHOPEK, MAY 30, 1995, SCRD 41A-84A
PLAN OF LOTS, ROBERT LABRIE, DOVER, N.H., GRANT L DAVIS, AUGUST 1949, PO 3, FO 1, PLAN #28

7. ALL APPLICABLE RIGHT-OF-WAY, CONSERVATION, SLOPE, CONSTRUCTION, POWER LINE, CROSS TRAVEL, OR OTHER EASEMENTS SHALL BE REFERENCED IN A NOTE AND SHOWN ON THE PLAN.

8. CURRENT ZONING DIMENSIONAL AND DENSITY REQUIREMENTS:

ZONING DISTRICT:	R-12	
SUB-DISTRICT:	NONE	
ZONING OVERLAY DISTRICTS:	NONE	
DIMENSIONAL REQUIREMENTS:		
	REQUIRED:	PROVIDED:
MINIMUM LOT SIZE:	12,000 SQ. FT.	12,000 SQ. FT.
MINIMUM LOT FRONTAGE:	100 FT.	100 FT.
MINIMUM YARD SETBACKS/BUILD-TO-LINES:		
FRONT	15 TO 25 FT.	15 TO 25 FT.
SIDE	15 FT.	15 FT.
REAR	30 FT.	30 FT.
ABUT-A-STREET	15 TO 25 FT.	15 TO 25 FT.
MAXIMUM/MINIMUM LOT COVERAGE	30%	30 %
MINIMUM/MAXIMUM BLDG. HEIGHT	35 FT.	35 FT.

9. OFF STREET PARKING REQUIREMENTS:

	MAXIMUM:	PROVIDED:
PARKING DIMENSIONS:	9'x18'	9'x18'
AISLE DIMENSIONS:	24'	20'
MAXIMUM PARKING ALLOWED	6	6
ACCESSIBLE PARKING:	1	0

10. SEE SHEET SP-1 FOR TDR BASE DENSITY CALCULATION THAT DETERMINED A BASE DENSITY OF 2 UNITS. THE PROJECT CONTAINS A TOTAL OF 3 UNITS. THE EXISTING HOUSE (1 UNIT). THE 2 NEW SINGLE FAMILY HOMES. TWO BASE UNITS AND ONE UNIT OBTAINED BY TDR.

11. VARIANCES OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT INCLUDING THE CASE NUMBER AND DATE OF DECISION AND ANY CONDITIONS ARE AS FOLLOWS: NONE GRANTED

12. CONDITIONAL USE PERMITS GRANTED BY THE PLANNING BOARD FOR THE PROPOSED USE OR STRUCTURE, INCLUDING THE CASE NUMBER AND DATE OF DECISION AND ANY CONDITIONS ARE AS FOLLOWS: NONE GRANTED

13. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY TRITECH ENGINEERING CORPORATION IN JANUARY, 2026 WITH AN ERROR NOT GREATER THAN 1 IN 35,000.

14. AS-BUILT PLANS OF THE PROJECT SHALL BE SUBMITTED ON PAPER AND IN DIGITAL FORMAT AUTOCAD DWG, AUTOCAD DXF OR ESRI FORMAT TO THE CITY OF DOVER CITY 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.

15. SUBJECT PARCEL IS (IS NOT) LOCATED WITHIN A FEDERALLY DESIGNATED FLOOD HAZARD AREA (COMMUNITY PANEL NUMBER 33017C 0340E, EFFECTIVE DATE: SEPTEMBER 30, 2015.

16. TOPOGRAPHIC SURVEY PERFORMED BY TRITECH ENGINEERING CORPORATION DURING JANUARY 2026.

17. ELEVATIONS ARE BASED ON U.S.G.S. NVD 1988 DATUM.

18. WETLANDS WERE DELINEATED BY MICHAEL MARIANO, CERTIFIED WETLANDS SCIENTIST, CERTIFICATION NUMBER 183, IN ACCORDANCE WITH CHAPTER 170-27.1 OF THE ZONING ORDINANCE, IN JANUARY, 2026. NO WETLANDS WERE OBSERVED.

19. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.

20. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND MUNICIPAL SEWER.

21. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATION FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.

22. CONTRACTOR SHALL FOLLOW TO THE CONSTRUCTION SEQUENCING IDENTIFIED WITHIN THE PLANNING BOARD APPROVED PLAN SET. ANY DEVIATION FROM THAT SEQUENCING SHALL BE APPROVED BY THE CITY ENGINEER.

23. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBANCE AND BE PROVIDED FOR CONSTRUCTION SEQUENCING INCLUDING TEMPORARY MEASURES.

24. CONTRACTOR SHALL FOLLOW THE PERMANENT STABILIZATION MEASURES 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 AS NOTED WITHIN THE PLANNING BOARD APPROVED PLANS. ANY DEVIATION FROM THAT SEQUENCING SHALL BE APPROVED BY THE CITY ENGINEER.

25. 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.

26. ANY PERMANENT TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.

27. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO COMMENCING EARTH DISTURBANCE.

28. A CITY ENGINEER APPROVED CONSTRUCTION SIGN SHALL BE INSTALLED PRIOR TO COMMENCING EARTH DISTURBANCE. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR PLANNING DIRECTOR.

29. 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.

30. HOURS OF SITE WORK MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM - 6 PM, NO SATURDAY OR SUNDAY. NO SITE WORK SHALL BE DONE ON FEDERAL HOLIDAYS.

31. BUILDING ADDRESSES, INCLUDING APT AND UNIT NUMBERS (IF APPLICABLE), SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.

32. THE PROPOSED USE FOR THE SITE IS SINGLE FAMILY RESIDENTIAL.

33. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY: NONE

34. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO THE DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR OR THEIR DESIGNEE.

35. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM THE CITY OF DOVER INSPECTION SERVICES.

36. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM THE CITY OF DOVER INSPECTION SERVICES.

37. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PROJECT (PTAP) PORTAL PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY. HTTPS://EXTENSION.UNH.EDU/STORMWATER-CENTER/PTAP

38. 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.

39. FIRE DEPARTMENT ACCESS ROAD(S) SHALL BE INSTALLED AND MAINTAINED, IN ACCORDANCE WITH ALL APPLICABLE CODES, TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS IN ALL WEATHER CONDITIONS AT ALL TIMES.

40. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.

41. IF A BUSINESS ESTABLISHMENT OR MULTI-FAMILY DWELLING CONTAINED IN A NEW, ALTERED OR REPAIRED STRUCTURE, A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE I, SECTION 45-2 OF THE CODE OF THE CITY OF DOVER.

42. APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.

43. THE (EXISTING OR PROPOSED) STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM, IF REQUIRED, BY CHAPTER 81- 30 OF THE CODE OF THE CITY OF DOVER AND THE ADOPTED STATE OF NH BUILDING AND FIRE CODES.

44. 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 THE CITY OF DOVER INSPECTION SERVICES PRIOR TO CONNECTION OF THE BACKFLOW DEVICE.

45. FIRE DEPARTMENT CONNECTION(S) 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.

46. THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL BE ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. (I.E. IBC, ANSI-117.1) AND NH RSA 155-A:5.

47. APPLICANT SHALL SUBMIT A LETTER CERTIFYING THE TIE IN LOCATIONS OR DISCHARGE POINTS FOR ALL SUMP PUMPS AND ROOF LEADERS FOR EXISTING STRUCTURES ON THE PROPERTY PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

48. DESIGN ENGINEER OF RECORD OR SHALL PROVIDE SIGNED LETTER TO CITY ENGINEER CERTIFYING THAT THE STORMWATER MANAGEMENT SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH APPROVED PLANS.

49. THE APPLICANT SHALL PROVIDE THE CITY OF DOVER AN EASEMENT TO ACCESS WATERLINE AND HYDRANTS TO MAINTAIN WATER QUALITY PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

PLAN SET LEGEND

- WETLAND
- WETLAND BOUNDARY
- IRON PIPE
- UTILITY POLE
- TP — TEST PIT
- D — EXISTING STREET LIGHT
- G — EXISTING STONEWALL
- EXISTING 2 FT CONTOUR
- EXISTING 10 FT CONTOUR
- G — EXISTING GAS LINE
- W — EXISTING WATER LINE OR SERVICE
- WV — EXISTING WATER SHUTOFF
- EXISTING WATER GATE VALVE
- PROPOSED PROPERTY LINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED EDGE OF GRAVEL
- 80 — PROPOSED CONTOUR
- PROPOSED HYDRANT
- W — PROPOSED END CAP WITH THRUST BLOCK
- WV — PROPOSED WATER GATE VALVE
- PROPOSED WATER SHUTOFF
- W — PROPOSED WATER LINE OR SERVICE
- PROPOSED VINYL STOCKADE FENCE
- U E&T — PROPOSED UNDERGROUND ELECTRIC & TELEPHONE
- // — PROPOSED OVERHEAD ELECTRIC & TELEPHONE
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED ELECTRICAL JUNCTION BOX
- PROPOSED STREET LIGHT
- PROPOSED UTILITY POLE
- D — PROPOSED DRAIN LINE
- PROPOSED CATCH BASIN
- PROPOSED DRAIN MANHOLE
- UD — PROPOSED UNDERDRAIN
- PROPOSED FLARED END SECTION
- PROPOSED RIP RAP
- PROPOSED EASEMENT
- PROPOSED GUARDRAIL
- PROPOSED SILT FENCE OR SILT SOCK
- PROPOSED CONSTRUCTION FENCE
- PROPOSED SILT SOCK WITH ORANGE CONSTRUCTION FENCE OR ORANGE SILT FENCE
- PROPOSED STREET SIGN
- PROPOSED STOP SIGN
- PROPOSED STOP BAR
- PROPOSED STREET TREE
- PROPOSED TREELINE

TRITECH
ENGINEERING CORPORATION
785 CENTRAL AVENUE
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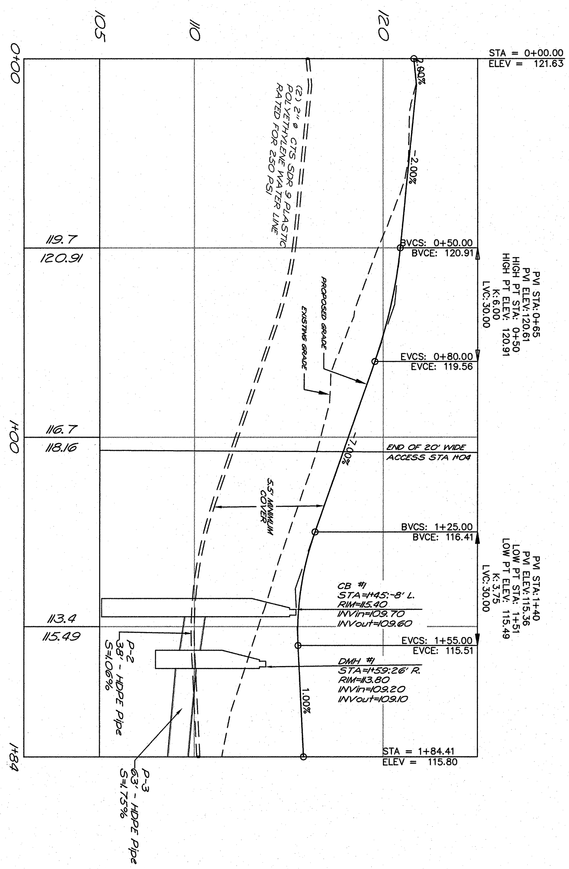
ISSUED FOR TRC REVIEW
May 14, 2026

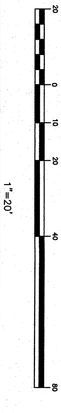
REVISIONS
DATE: DESCRIPTION:

GENERAL NOTES PLAN
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 25136

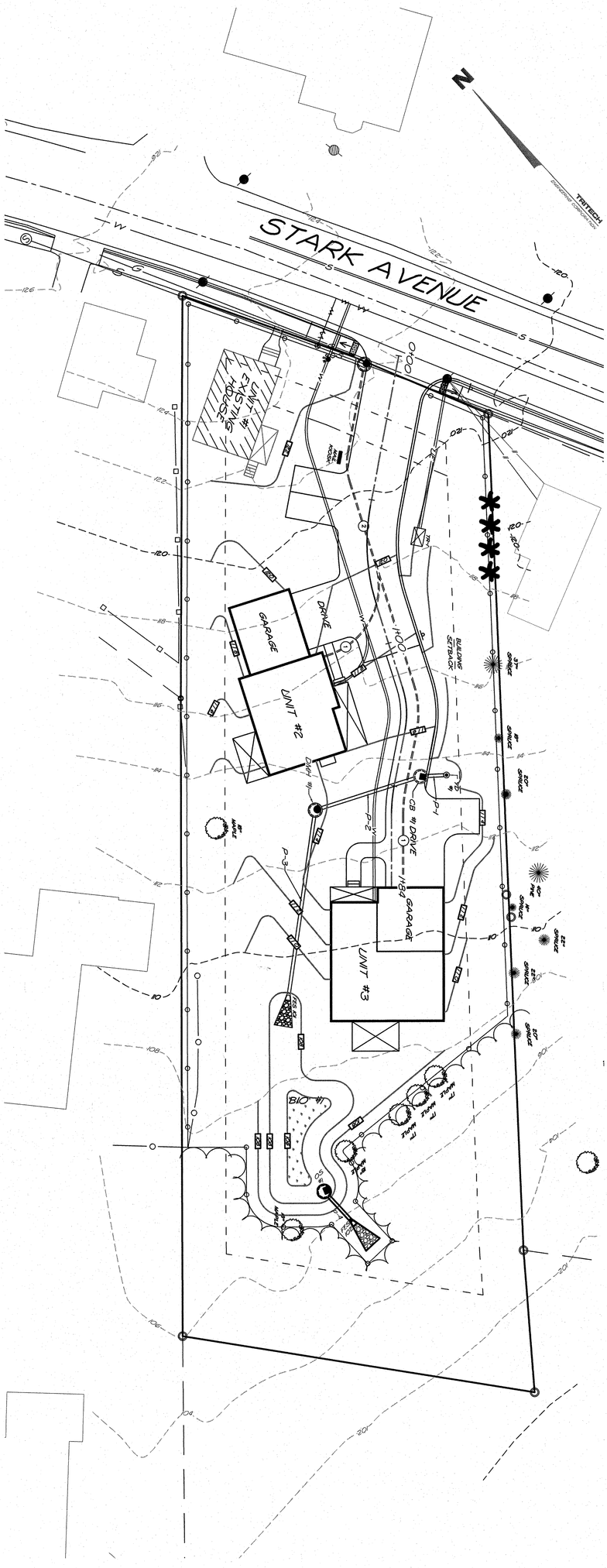
SHEET No.
SN-1

(P26-0000)





HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 4'



SHEET No.

C-1

ROADWAY PLAN & PROFILE

COREY MACKOUL

89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY

MAY 14, 2026 JOB No. 25136

SCALE: 1" = 20'

ISSUED FOR TRC REVIEW
May 14, 2026

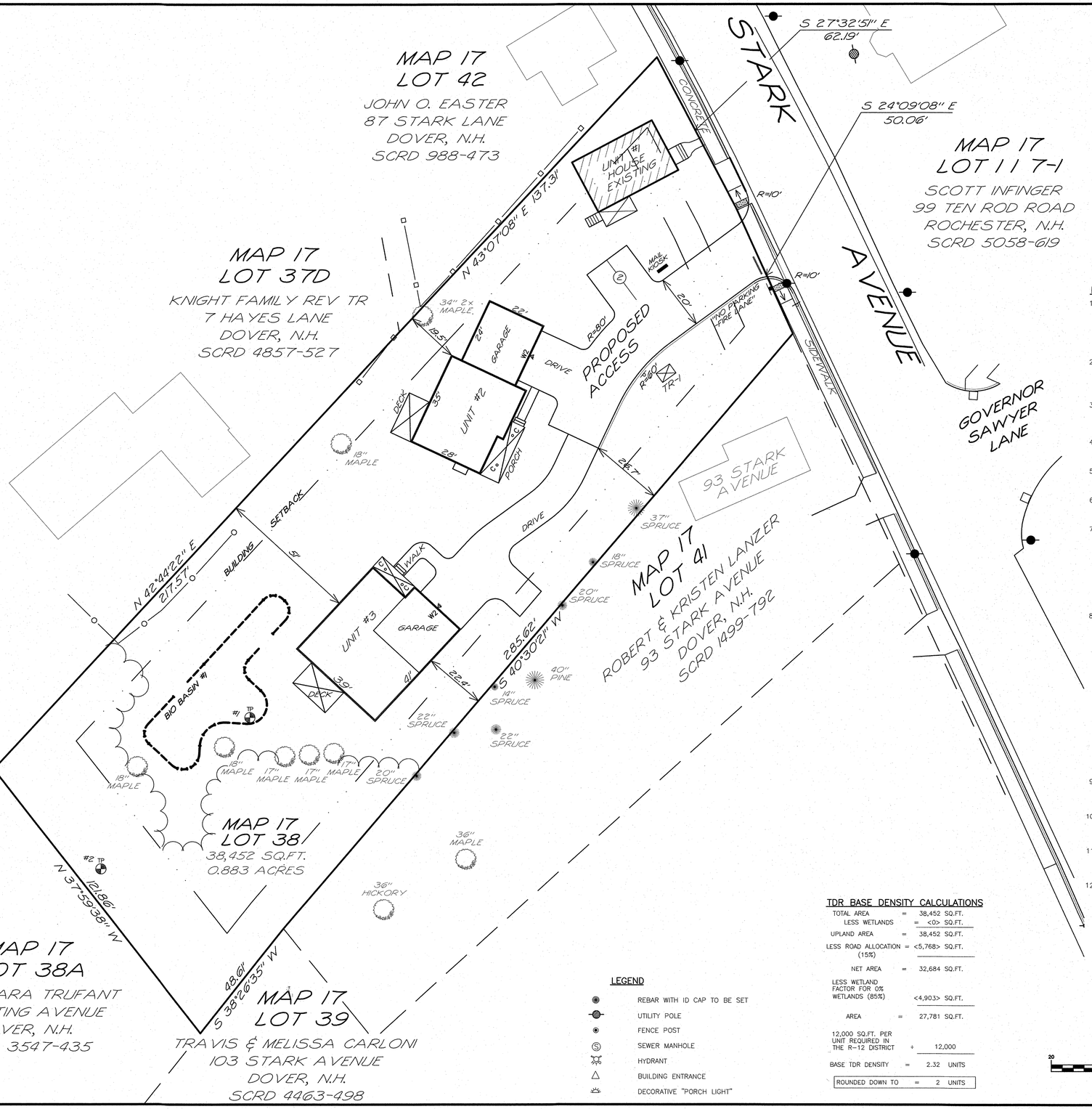
STATE OF NEW HAMPSHIRE
ROBERT J. STOWELL
No. 9903
LICENSED PROFESSIONAL ENGINEER

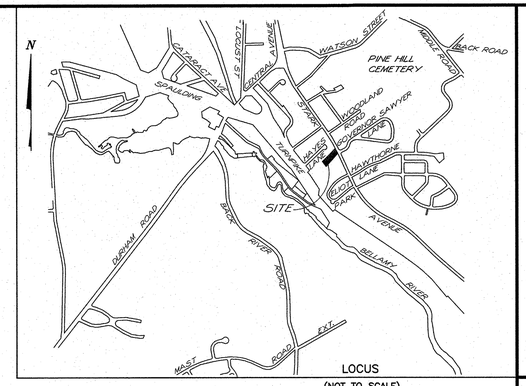
REVISIONS	
DATE:	DESCRIPTION:

TRITECH
ENGINEERING CORPORATION

755 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820

TELEPHONE 603 742 8107
FAX 603 742 3830





LOCUS
(NOT TO SCALE)

NOTES

1.) INTENT: TO FURTHER DEVELOP DOVER TAX MAP 17 LOT 38. THIS DEVELOPMENT WILL INCLUDE THE RENOVATION OF THE EXISTING SINGLE FAMILY HOUSE. THE DEVELOPMENT WILL ALSO INCLUDE THE CONSTRUCTION OF 2 SINGLE FAMILY HOMES. ONE OF THESE HOMES WILL BE CONSTRUCTED UNDER THE TDR ORDINANCE. 2 BASE UNITS AND THE PURCHASE OF ONE UNIT.

2.) CURRENT OWNER OF RECORD: COREY MACKOUL
8 HULL AVENUE
DOVER, N.H.

3.) SUBJECT PARCEL IS LOCATED IS THE CITY OF DOVER, COUNTY OF STRAFFORD AND THE STATE OF NEW HAMPSHIRE.

4.) TOTAL LOT AREA: 38,452 SQ.FT. – 0.883 ACRES

5.) TAX MAP 17 LOT 38

6.) PROJECT DEED REFERENCE: BOOK 5248 PAGE 342

7.) ZONING: R-12
MIN. LOT SIZE: 12,000 SQ.FT.
MIN. FRONTAGE: 100 FT
MIN. SETBACKS:
FRONT: 15 FT TO 25 FT
SIDE: 15 FT
REAR: 30 FT
MAX. COVERAGE: 30 %
MAX. BUILDING HEIGHT: 35 FT

8.) PROJECT PLAN REFERENCE: PROPOSED SUBDIVISION
LAND OF
TRI-CITY BUILDERS
103 STARK AVENUE
DOVER, NEW HAMPSHIRE
BERRY SURVEYING & ENGINEERING
MAY 6, 2003 SCRD 71-89

SUBDIVISION OF LAND
FOR CLARA FISHER
ON STARK AVENUE & KEATING AVENUE
IN DOVER, N.H.
BRUCE POHOPEK
MAY 30, 1995 SCRD 41A-84A

PLAN OF LOTS
ROBERT LABRIE
DOVER, N.H.
GRANT L DAVIS
AUGUST 1949
POCKET #3, FOLDER #1, PLAN #28

9.) THE RAW UNADJUSTED CLOSURE OF OUR RANDOM POINT TRAVERSE WAS 1 PART IN 35,000, AND WAS ACCOMPLISHED USING A TOPCON GT 503 TOTAL STATION, DURING THE MONTH OF JANUARY, 2026.

10.) BASIS OF BEARING: BEARING SYSTEM BASED ON GPS FIELD OBSERVATIONS ON JANUARY 13, 2026 USING TOPCON HIPER SR RECEIVERS AND OPUS CORRECTED ON JANUARY 15, 2026. DATUM BASED ON NEW HAMPSHIRE STATE PLANE COORDINATES SPC (2800 NH), (VERTICAL DATUM: NAVD 88).

11.) SUBJECT PARCEL IS NOT WITHIN A FEDERALLY DESIGNATED SPECIAL FLOOD HAZARD ZONE (FLOOD HAZARD ZONE A – PANEL 330145, MAP No. 33017C0340E, DATE: 9-30-2015).

12.) ON JANUARY 14, 2026, MICHAEL MARIANO, STATE OF NEW HAMPSHIRE CERTIFIED SOIL SCIENTIST #76, NH CERTIFIED WETLAND SCIENTIST #183, CONDUCTED AN ON-SITE WETLANDS DELINEATION OF THE SUBJECT PARCEL. WETLANDS WERE EVALUATED BASED ON THE CITY OF DOVER ZONING ORDINANCE (170-27.1) AND ON STATE & FEDERAL CRITERIA OUTLINED IN THE "CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL" (DEPT. OF THE ARMY, 1987). ON THIS SITE, WETLANDS BASED ON LOCAL CRITERIA SHARE THE SAME BOUNDARIES WITH THOSE BASED ON STATE AND FEDERAL CRITERIA. NO WETLANDS WERE OBSERVED ON THIS SITE.

LEGEND

- REBAR WITH ID CAP TO BE SET
- UTILITY POLE
- FENCE POST
- SEWER MANHOLE
- HYDRANT
- BUILDING ENTRANCE
- DECORATIVE "PORCH LIGHT"

TDR BASE DENSITY CALCULATIONS

TOTAL AREA	=	38,452 SQ.FT.
LESS WETLANDS	=	<0> SQ.FT.
UPLAND AREA	=	38,452 SQ.FT.
LESS ROAD ALLOCATION (15%)	=	<5,768> SQ.FT.
NET AREA	=	32,684 SQ.FT.
LESS WETLAND FACTOR FOR 0% WETLANDS (85%)		<4,903> SQ.FT.
AREA	=	27,781 SQ.FT.
12,000 SQ.FT. PER UNIT REQUIRED IN THE R-12 DISTRICT	÷	12,000
BASE TDR DENSITY	=	2.32 UNITS
ROUNDED DOWN TO	=	2 UNITS

20 0 10 20 40 80

1"=20'

TRITECH
ENGINEERING CORPORATION
785 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 749 8107
FAX 603 742 9330

ISSUED FOR TRC REVIEW
May 14, 2026

REVISIONS
DATE: DESCRIPTION:

ROBERT STOWELL No. 9803 LICENSED LAND SURVEYOR STATE OF NEW HAMPSHIRE – PROFESSIONAL

GENERAL SITE PLAN

COREY MACKOUL

89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY

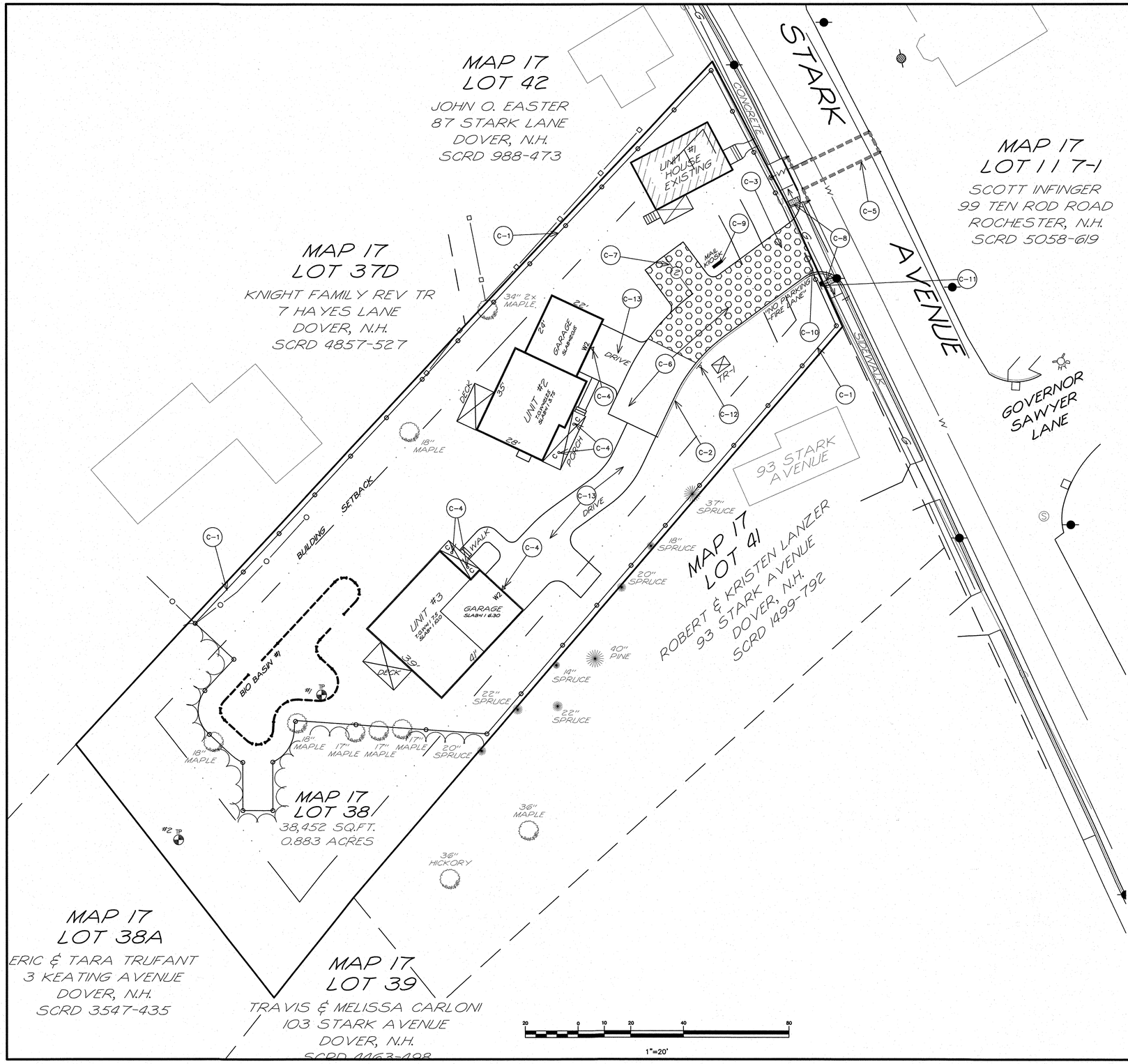
MAY 14, 2026

JOB No. 25136

SCALE: 1" = 20'

SHEET No. SP-1

(P26-0000)



CONSTRUCTION NOTES:

1. INSTALL EROSION CONTROL MEASURE, "SILT FENCE" PER DETAIL 1, SHEET SP-7 OR "SILT SOXX" PER DETAIL 9, SHEET SP-7 OR "EROSION CONTROL BERM" PER DETAIL 11, SHEET SP-7, MAY BE USED AT THE SITE WORK CONTRACTOR DISCRETION. PERIMETER CONTROLS MUST BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
2. INSTALL SLOPED GRANITE CURB PER DETAIL 4, SHEET SP-6.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE PER DETAIL 5, SHEET SP-7.
4. INSTALL BUILDING MOUNTED LIGHT (TYPICAL).
5. SAWCUT PAVEMENT, PATCH AND MATCH EXISTING PAVEMENT PER DETAIL 1, SHEET SP-8.
6. INSTALL ASPHALT PAVEMENT PER DETAIL 1, SHEET SP-6.
7. YELLOW OR WHITE PAVEMENT MARKINGS.
8. INSTALL (2) WHEEL CHAIR RAMPS PER DETAIL 11, SHEET SP-6.
9. INSTALL MAIL KIOSK.
10. INSTALL STOP BAR.
11. INSTALL "STOP" SIGN PER DETAIL 8, SHEET SP-6.
12. INSTALL "NO PARKING – FINE LANE" SIGN PER DETAIL 5, SHEET SP-6.
13. INSTALL ASPHALT PAVEMENT PER DETAIL 2, SHEET SP-8.

N

TRITECH
ENGINEERING CORPORATION

735 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 8107
FAX 603 742 3330

ISSUED FOR TRC REVIEW
May 14, 2026

REVISIONS
DATE: DESCRIPTION:

ROBERT STOWELL 14782 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

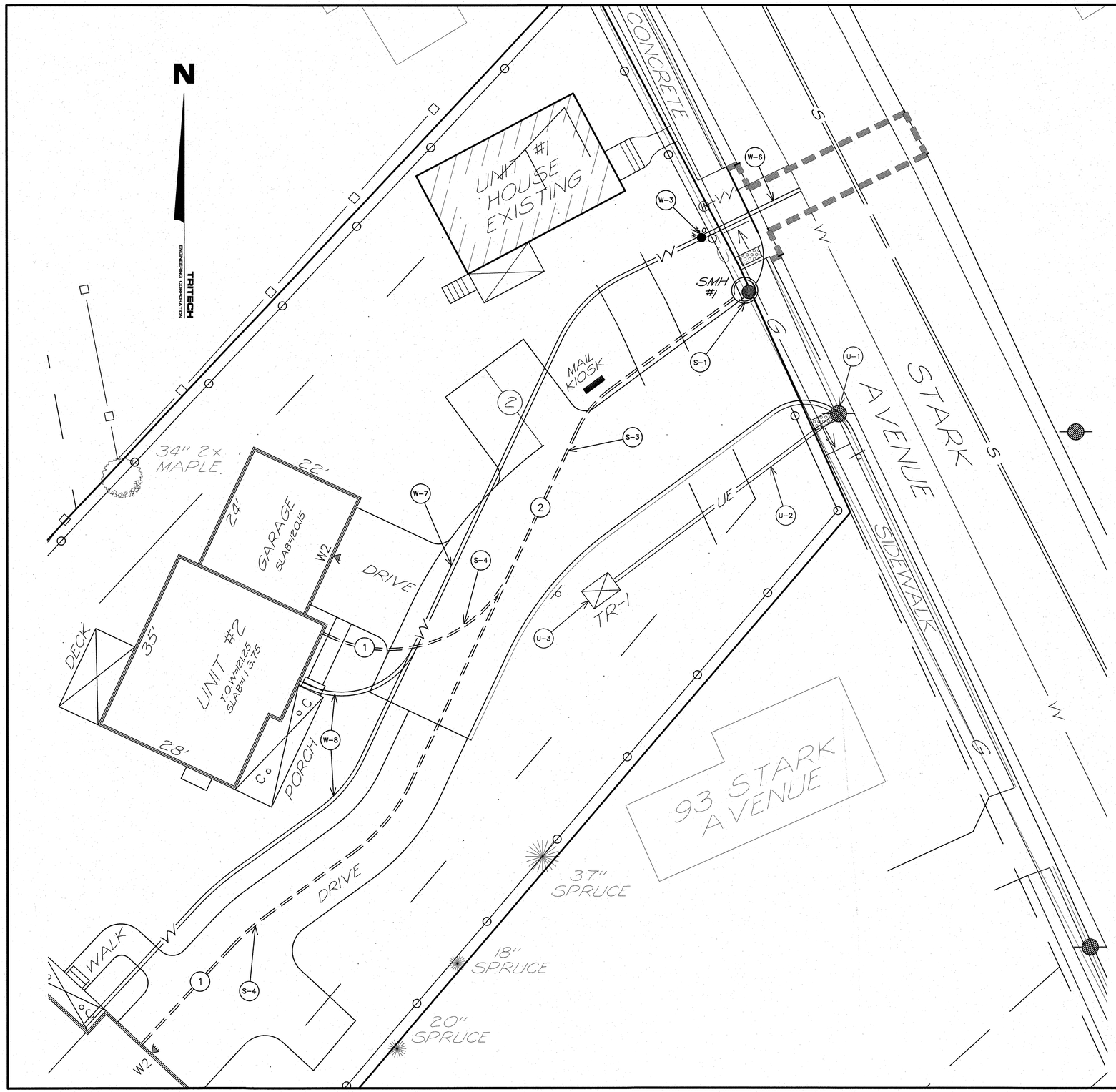
SITE DEVELOPMENT PLAN

COREY MACKOUL

89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 25136
SCALE: 1" = 20'

SHEET No. SP-2

(P26-0000)



WATER NOTES:

1. WATERLINE AND APPENDITURES, INSTALLATION, AND MATERIALS SHALL CONFORM WITH THE CITY OF DOVER, NH AND AMERICAN WATER WORKS STANDARDS. ALL VALVES SHALL REQUIRE RESTRAINED MECHANICAL JOINTS USING EITHER MEGA-LUG, GRIP RINGS, OR OTHER METHODS OF RESTRAIN ACCEPTABLE TO THE CITY OF DOVER WATER DEPARTMENT, IN ADDITION TO USE OF CONCRETE THRUST BLOCKS.
2. PRESSURE AND LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST STANDARDS OF AAWA. CHLORINATING AND FLUSHING SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST STANDARDS OF AAWA, STATE AND LOCAL REGULATIONS.
3. INSTALL (2) 2" WATER SHUT-OFFS PER DETAIL 9, SHEET SP-8.
4. BACKFLOW PREVENTORS SHALL BE PROVIDED FOR ALL WATER LINES.
5. NOT USED.
6. NOT USED.
7. INSTALL (2) 2" PLASTIC WATER SERVICE FROM WATER MAIN SPLIT TO BUILDING. CONNECT PER DETAIL 9, SHEET SP-9.
8. INSTALL (1) 2" PLASTIC WATER SERVICE FROM WATER MAIN SPLIT TO BUILDING. CONNECT PER DETAIL 9, SHEET SP-9.
9. DOMESTIC WATER AND LANDSCAPING WATER SHALL BE METERED SEPARATELY.

SEWER NOTES:

1. INSTALL SMH AT STA. 0+05 11'L INLINE WITH EXISTING SEWER LINE
   RIM ELEV. AT GRADE APPROXIMATELY AT 121.9'
   INVERT IN EL=115.50' (8" VCP)
   INVERT OUT EL=115.60' (8" SDR 35)
2. SEWER MANHOLE COVER SHALL BE NEENAH LIFTMATE R-1743-LM.
3. INSTALL (2) 2" SDR 26 SEWER PIPE FROM SMH #1 TO SPLIT TO BUILDING.
4. INSTALL (1) 2" PVC INDIVIDUAL HOUSE SEWER DISCHARGE PIPES FROM SPLIT TO PROPOSED HOUSES.

UTILITY NOTES:

1. CONNECT TO EXISTING UTILITY POLE IN ACCORDANCE WITH EVERSOURCE STANDARDS & DETAIL 4, (TRENCH "A"), SHEET SP-9. (PRIMARY POWER)
2. INSTALL 50 FT OF UNDERGROUND CONDUIT IN ACCORDANCE WITH EVERSOURCE STANDARDS & DETAIL 4, (TRENCH "A"), SHEET SP-9 FROM EXISTING UTILITY POLE TO PROPOSED TRANSFORMER (TR-1). (PRIMARY POWER)
3. INSTALL TRANSFORMER (TR-1) IN ACCORDANCE WITH EVERSOURCE STANDARDS & DETAIL 4, (TRENCH "B"), SHEET SP-9.

LEGEND

- EXISTING UTILITY POLE
- W — EXISTING WATER LINE
- EXISTING HYDRANT
- EXISTING WATER GATE VALVE
- PROPOSED CATCH BASIN (CB)
- W — PROPOSED 6" CLDI WATER MAIN
- U E — PROPOSED UNDERGROUND ELECTRICAL, TELEPHONE & CATV.
- PROPOSED TRANSFORMER PAD
- D — PROPOSED DRAIN LINE
- PROPOSED WATER GATE VALVE
- PROPOSED THRUST BLOCK
- PROPOSED HYDRANT
- 200 — PROPOSED FINISH CONTOUR
- 200 × PROPOSED FINISH GRADE
- STOP SIGN & STOP BAR
- PROPOSED STONE DRIP EDGE

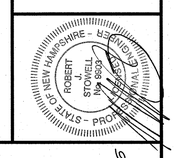
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1"=10'

TRITECH
ENGINEERING CORPORATION
735 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 6107
FAX 603 742 3890

ISSUED FOR TRC REVIEW
May 14, 2026

REVISIONS
DATE: DESCRIPTION:



UTILITIES PLAN

COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY

MAY 14, 2026

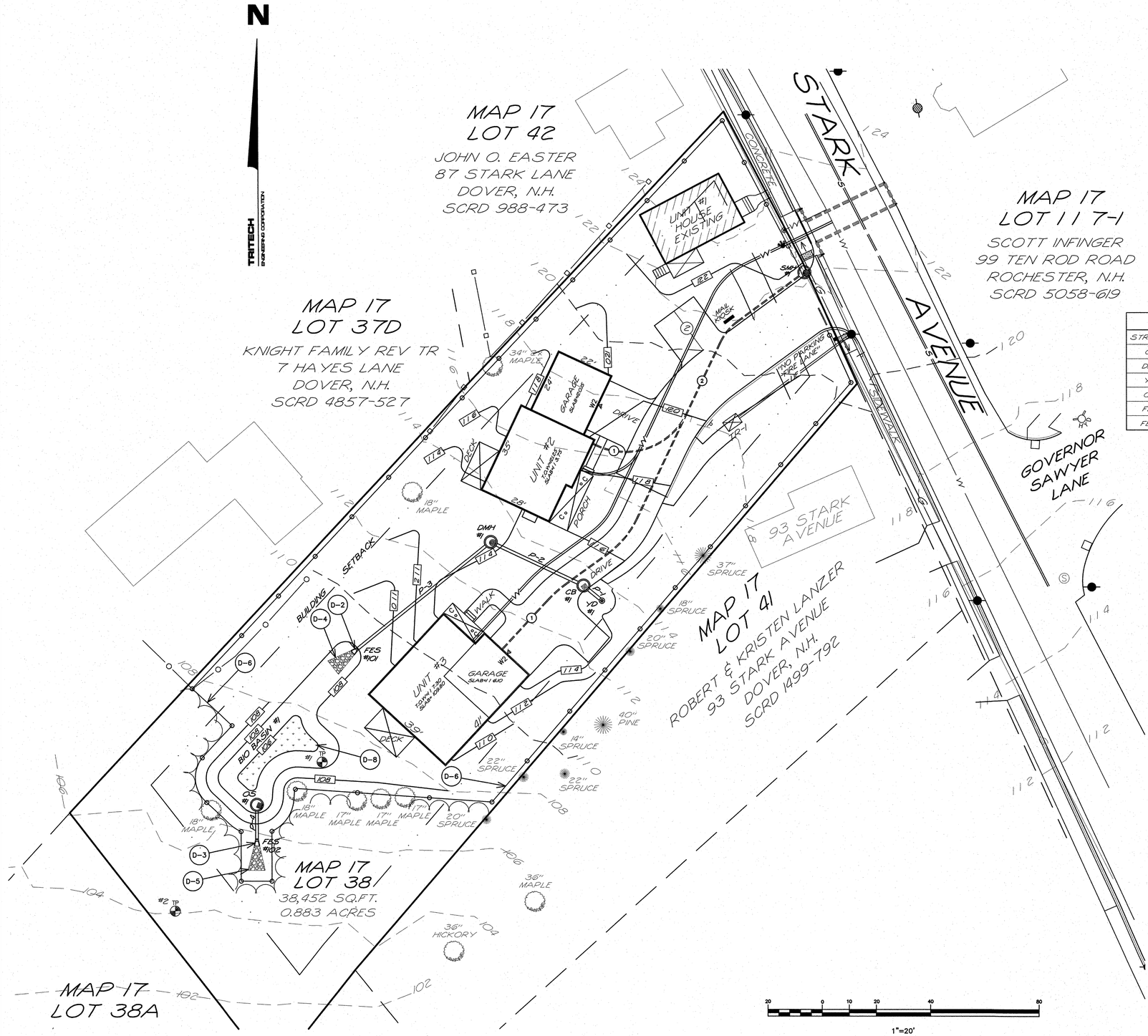
JOB No. 25136

SCALE: 1" = 10'

SHEET NO.

SP-3

(P26-0000)



DRAINAGE STRUCTURE TABLE

STRUCTURE	RIM ELEV.	INVERT IN	INVERT OUT	SUMP	NOTES
CB #1	115.40	109.70 (P-1)	109.60 (P-2)	105.60	HOODED, DEEP SUMP, SEE DETAIL 1, SHEET SP-8
DMH #1	113.80	109.20 (P-2)	109.10 (P-3)		
YD #1	113.80		109.80 (P-1)		NYLOPLAST YARD DRAIN STRUCTURE WITH FRAME AND GRATE
OS #1	107.95		106.00 (P-4)		
FES #101		108.00 (P-3)			
FES #102		105.90 (P-4)			

DRAIN PIPE TABLE

PIPE	START	INV.	END	INV.	SIZE	L.F.	SLOPE
P-1	YD #1	109.80	CB #1	109.70	12"	6'	1.67%
P-2	CB #1	109.60	DMH #1	109.20	12"	38'	1.05%
P-3	DMH #1	109.10	FES #101	108.00	12"	63'	1.75%
P-4	OS #1	106.00	FES #102	105.90	6"	10'	1.00%

LEGEND

- EXISTING UTILITY POLE
- W — EXISTING WATER LINE
- EXISTING HYDRANT
- EXISTING WATER GATE VALVE
- PROPOSED CATCH BASIN (CB)
- W — PROPOSED 8" CLDI WATER MAIN
- U E — PROPOSED UNDERGROUND ELECTRICAL, TELEPHONE & CATV.
- PROPOSED TRANSFORMER PAD
- D — PROPOSED DRAIN LINE
- PROPOSED WATER GATE VALVE
- PROPOSED THRUST BLOCK
- PROPOSED HYDRANT
- 104 — PROPOSED FINISH CONTOUR
- 104 X — PROPOSED FINISH GRADE
- STOP SIGN & STOP BAR
- PROPOSED STONE DRIP EDGE

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785 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 8107
FAX 603 742 3830

ISSUED FOR TRC REVIEW
May 14, 2026

REVISIONS
DATE: DESCRIPTION:

STATE OF NEW HAMPSHIRE - ROBERT J. STOWELL - NO. 9893 - REGISTERED PROFESSIONAL ENGINEER

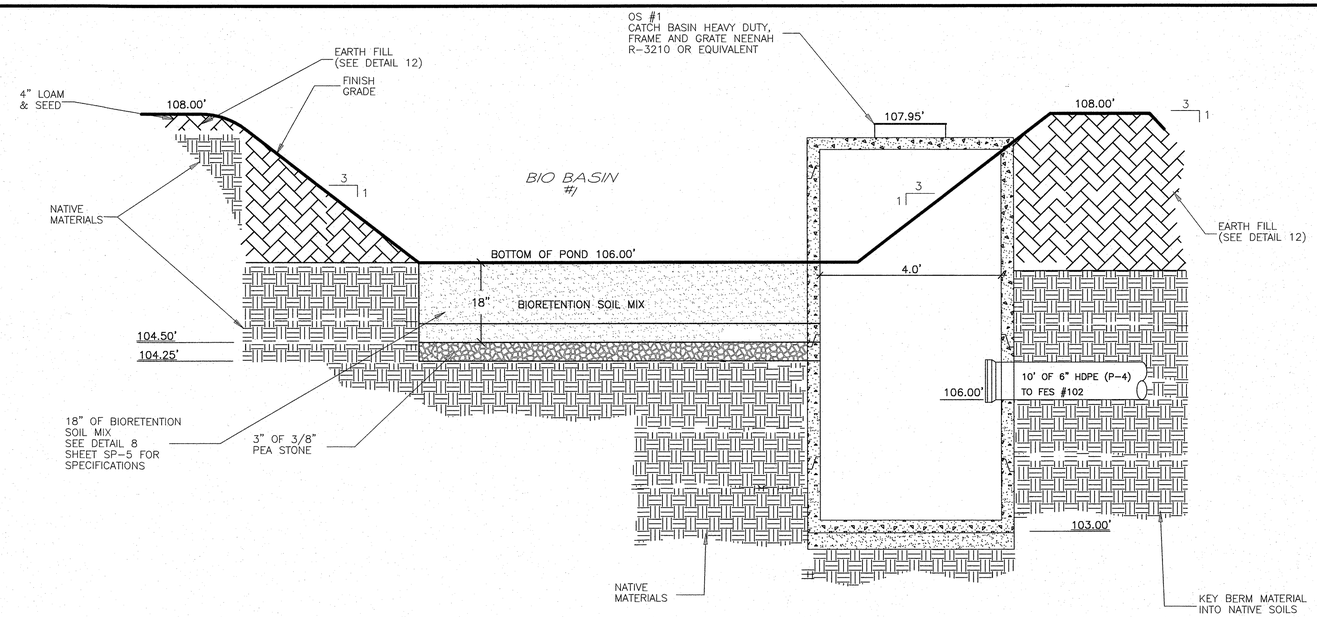
GRADING AND DRAINAGE PLAN

COREY MACKOUL

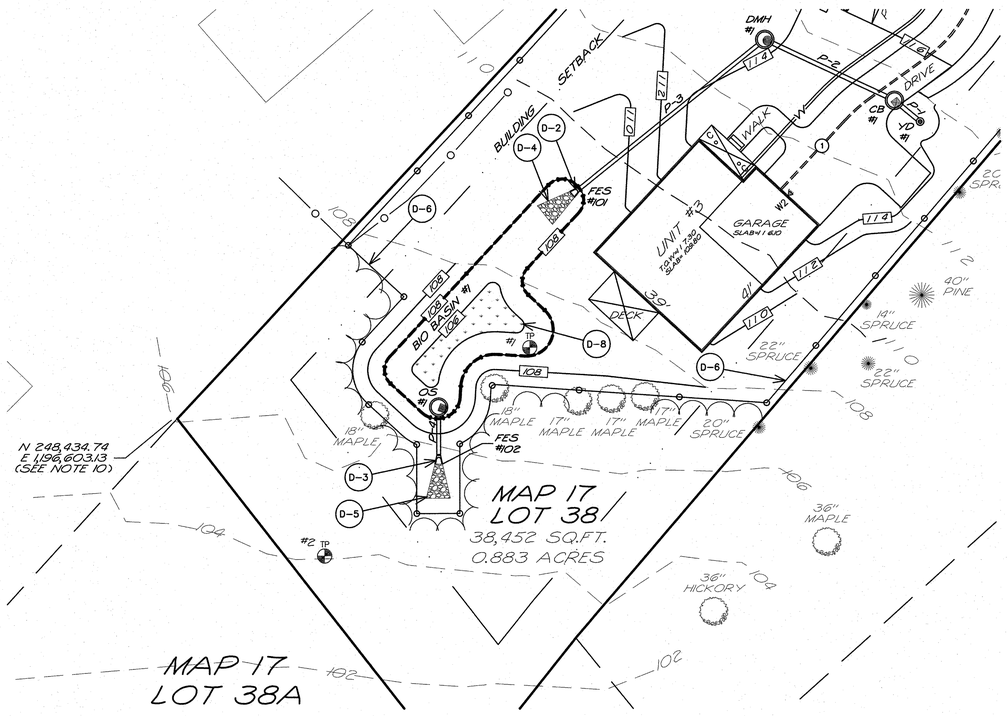
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 2513.6
SCALE: 1" = 20'

SHEET No. SP-4

(P26-0000)



1 BIO-RETENTION #1 CROSS SECTION WITH OUTLET STRUCTURE
NOT TO SCALE



5 BIORETENTION BASIN #1
SCALE: 1" = 20'

DRAINAGE NOTES

1. INSTALL HI VIS HI FLOW SILT SACK PER DETAIL 2, SHEET SP-7 AT ALL PROPOSED CATCH BASINS.
2. INSTALL FLARED END SECTION #1 PER DETAIL 12, SHEET SP-8.
3. INSTALL FLARED END SECTION #2 PER DETAIL 12, SHEET SP-8.
4. INSTALL RIP RAP PER DETAIL 8, SHEET SP-8. Wo=3.0', Ws=8.7', La=12.3', D=12", D(50)=6"
5. INSTALL RIP RAP PER DETAIL 8, SHEET SP-8. Wo=3.0', Ws=86.8', La=9.4', D=12", D(50)=6"
6. INSTALL EROSION CONTROL MEASURE "SILT FENCE" PER DETAIL 1, SHEET SP-7 OR "SILT SOX" PER DETAIL 9, SHEET SP-7 OR "EROSION CONTROL BERM" PER DETAIL 11, SHEET SP-7, MAY BE USED AT THE SITE WORK CONTRACTOR DISCRETION PERIMETER CONTROLS MUST BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
7. ALL PROPOSED STORMWATER PIPE SHALL BE HDPE.
8. LIMITS OF BIO-MEDIA & STONE.

20 0 10 20 40 80
1"=20'

NEW ENGLAND WETLAND PLANTS INC.
NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES

THE MIX MAY BE APPLIED BY HAND, BY MECHANICAL SPREADER, OR BY HYDRO-SEEDER. AFTER SOWING, LIGHTLY RAKE, ROLL, OR CULTIPACK TO INSURE GOOD SEED-TO-SOIL CONTACT. BEST RESULTS ARE OBTAINED WITH A SPRING OR LATE SUMMER SEEDING. LATE FALL AND WINTER DORMANT SEEDING REQUIRES AN INCREASE IN THE APPLICATION RATE. A LIGHT MULCHING OF CLEAN, WEED-FREE STRAW IS RECOMMENDED.

NEW ENGLAND WETLAND PLANTS INC.
NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES

THE NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES MAY BE APPLIED BY HYDRO SEEDING, BY MECHANICAL SPREADER, OR ON SMALL SITES IT CAN BE SPREAD BY HAND. LIGHTLY RAKE, OR ROLL TO ENSURE PROPER SOIL-SEED CONTACT. BEST RESULTS ARE OBTAINED WITH A SPRING OR LATE SUMMER SEEDING. LATE SPRING THROUGH MID-SUMMER SEEDING WILL BENEFIT FROM A LIGHT MULCHING OF WEED-FREE STRAW TO CONSERVE MOISTURE. IF CONDITIONS ARE DRIER THAN USUAL, WATERING WILL BE REQUIRED. FERTILIZATION IS NOT REQUIRED UNLESS THE SOILS ARE PARTICULARLY INFERTILE. PREPARATION OF A CLEAN WEED FREE SEED BASE IS NECESSARY FOR OPTIMAL RESULTS.

ANYWHERE ON THE SITE THAT EXISTING VEGETATION IS TO BE REMOVED WILL REQUIRE IMMEDIATE EROSION CONTROL TREATMENT. SPECIAL CARE SHOULD BE TAKEN WHERE RUNOFF ENTERS WETLANDS. ALL STORM WATER AREAS SHALL BE STABILIZED PRIOR TO DIRECTING STORM WATER TO THEM; SPECIFICALLY ALL BIORETENTION BASINS AND ALL INFILTRATION AREAS.

SEEDING LEGEND

- 50/50 BLEND OF NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES AND NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES.
  BOTH MIXES FROM NEW ENGLAND WETLAND PLANTS INC.
  APPLY: 35 LBS/ACRE : 1250 SQ FT/LB
- LIMITS OF BIORETENTION SOIL MIX

4 BIORETENTION SEEDING
NOT TO SCALE

1. PARTICLE SIZE DISTRIBUTION BY SEPARATES:
   a. EXCLUDE ANY MATERIAL >4.76MM – 0%
   b. VERY COARSE SAND/GRAVEL: GRAVEL (2.0 TO 4.76 mm) 5% MAXIMUM (% BY DRY WEIGHT)
   c. SAND (0.42 TO 2.0 mm) 60% MAX (% BY DRY WEIGHT)
   d. SILT (0.075 TO 0.42 mm) 20% MAXIMUM (% BY DRY WEIGHT)
   e. CLAY (LESS THAN 0.075mm) 5% MAXIMUM (% BY DRY WEIGHT)
   f. BARK MULCH (LESS THAN 5% PASSING #200) 15% MAX (% BY DRY WEIGHT)
   g. LOAM (LESS THAN 5% PASSING #200) 20% TO 40% (% BY DRY WEIGHT)

ACCEPTABLE PARTICLE SIZE DISTRIBUTION OF FINAL BIORETENTION SOIL MIX:

SIEVE	% PASSING
#4	100
#10	95
#40	40 – 15
#200	10 – 20
<#200	0 – 5

2. FRAGMENT SIZE DISTRIBUTION:
   a. STICKS AND ROOTS: SHOULD BE MINIMIZED AND PREFERABLY LIMITED TO NOTHING LARGER THAN 4.76mm
   b. DEBRIS AND OTHER FOREIGN MATERIALS: SHOULD BE MINIMIZED
3. PERCENTAGE ORGANIC MATTER: MINIMUM 3% BY VOLUME AND MAXIMUM 8% BY VOLUME
4. SOIL REACTION: pH OF 6 TO 7
5. CEC OF TOTAL SOIL: MINIMUM 10 meq/100mL AT pH OF 7.0
6. BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS INDICATED ON DRAWINGS
7. BASIC PROPERTIES: MANUFACTURED SOIL SHALL NOT CONTAIN THE FOLLOWING:
   a. UNACCEPTABLE MATERIALS: CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, BUILDING DEBRIS, ASPHALT, BRICKS, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, ACID, SOLID WASTE, AND OTHER EXTRANEOUS MATERIALS THAT ARE HARMFUL TO PLANT GROWTH.
   b. UNSUITABLE MATERIALS: STONES, ROOTS, PLANTS, SOD, CLAY LUMPS, AND POCKETS OF COARSE SAND THAT EXCEED A COMBINED MAXIMUM OF 5% BY DRY WEIGHT OF THE MANUFACTURED SOIL.
   c. LARGE MATERIALS: STONES, CLODS, ROOTS, CLAY LUMPS, AND POCKETS OF COARSE SAND EXCEEDING 0.187 INCHES (4.76mm) IN ANY DIMENSION

ACCEPTABLE SOIL AMENDMENTS
A. NO COMPOST SHOULD BE USED IN THE PLANTING MIX
B. SPHAGNUM PEAT: PARTIALLY DECOMPOSED SPHAGNUM PEAT MOSS, FINELY DIVIDED OR OF GRANULAR TEXTURE WITH 100% PASSING THROUGH THE 1/2-INCH (13mm) SIEVE, A pH OF 3.4 TO 4.8
C. WOOD DERIVATIVES: SHREDDED WOOD, WOOD CHIPS, GROUND BARK, OR WOOD WASTE; OF UNIFORM TEXTURE AND FREE OF STONES, STICKS, SOIL, OR TOXIC MATERIALS.
D. MEDIA AMENDMENTS SUCH AS ZERO-VALENT IRON AND/OR DRINKING WATER TREATMENT RESIDUALS (ALUM) TO ENHANCE PHOSPHORUS SORPTION AS SPECIFIED BY ENGINEER.

8 BIORETENTION SOIL MIX
NOT TO SCALE

FILL MATERIAL SHOULD BE TAKEN FROM AN APPROVED, DESIGNATED BORROW AREA. IT SHOULD BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6 INCHES, AND FROZEN OR OTHER OBJECTIONABLE MATERIALS.

AREAS ON WHICH FILL IS TO BE PLACED SHOULD BE SCARIFIED BEFORE PLACEMENT. FILL MATERIAL SHOULD BE PLACED IN LAYERS A MAXIMUM OF 8 INCHES THICK (BEFORE COMPACTION), WHICH SHOULD BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL.

FILL MATERIAL SHOULD BE COMPACTED WITH APPROPRIATE COMPACTION EQUIPMENT SUCH AS SHEEPSFOOT, RUBBER-TIRED, OR VIBRATORY ROLLER.

A MINIMUM REQUIRED DENSITY IS 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 2% OF THE OPTIMUM. EACH LAYER OF THE FILL SHOULD BE COMPACTED AS NECESSARY TO OBTAIN MINIMUM DENSITY.

12 EARTH FILL
NOT TO SCALE

TRITECH
ENGINEERING CORPORATION
785 CENTRAL AVENUE
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TELEPHONE 603 749 9107
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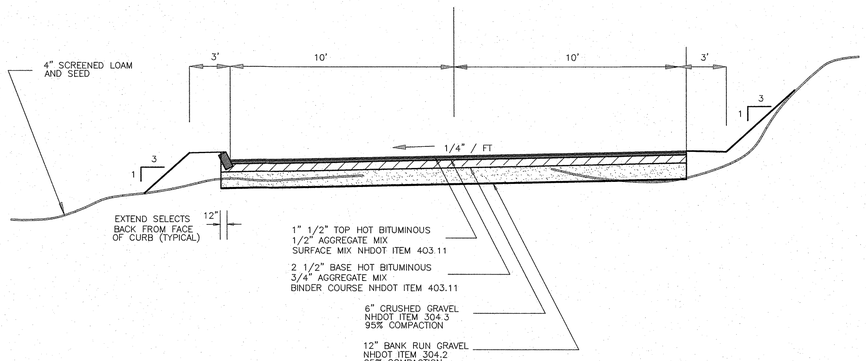
NEW HAMPSHIRE – STATE OF – PROFESSIONAL ENGINEER
ROBERT J. STOWELL No. 9583

BIORETENTION DETAILS

COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026 JOB No. 25136
SCALE: 1" = 10'

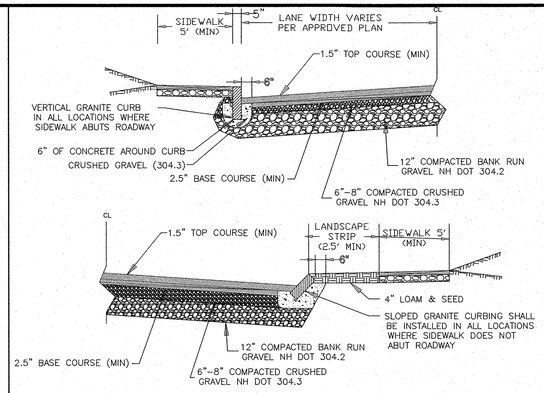
SHEET No. SP-5

(P26-0000)



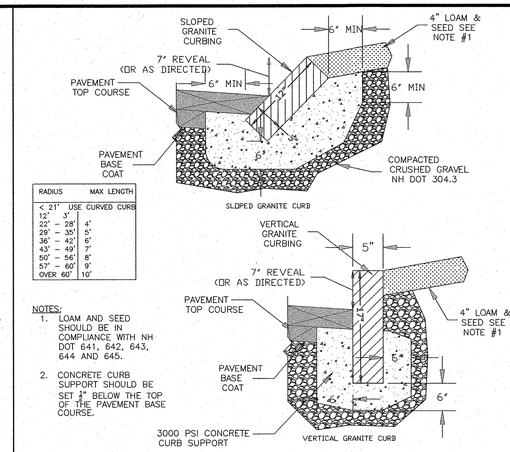
1. TACKIFIER TO BE APPLIED BETWEEN BINDER COURSE AND SURFACE COURSE, (BLACKLIDGE ULTRATACK OR EQUAL).
2. JOINT SEALANT TO BE APPLIED AT LANE JOINTS (SEALANT "C" PAVEMENT JOINT ADHESIVE).
3. SEE DOVER STANDARD DETAILS D-5 FOR ADDITIONAL INFO.
4. SEE DOVER STANDARD DETAILS D-8 FOR ADDITIONAL CURBING INFO.

1 TYPICAL DRIVEWAY-1 CROSS SECTION
NOT TO SCALE



NOTES:
1. THIS DETAIL IS FOR GENERAL REVIEW PURPOSES ONLY. FINAL DESIGN SHALL BE BASED ON SPECIFIC SITE CONDITIONS AND APPROVED PLANS.
2. SIDEWALK LOCATION AND MATERIAL SHALL BE AS APPROVED BY THE CITY OF DOVER.

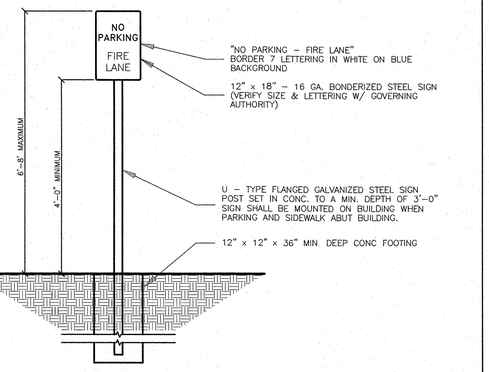
3 DOVER STD. D-5 Roadway Cross Section
NOT TO SCALE



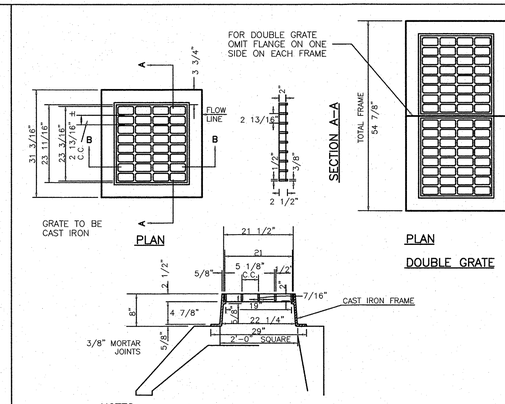
RADIUS	MAX LENGTH
< 21'	USE CURVED CURB
12'	3'
22' - 28'	4'
29' - 35'	5'
36' - 42'	6'
43' - 49'	7'
50' - 56'	8'
57' - 60'	9'
OVER 60'	10'

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 1" BELOW THE TOP OF THE PAVEMENT BASE COURSE.

4 DOVER STD. D-8 Granite Curb
NOT TO SCALE

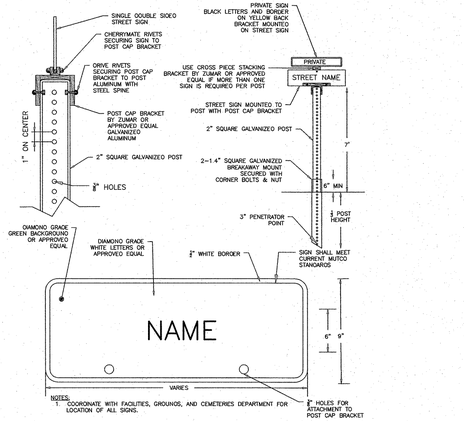


5 NO PARKING - FIRE LANE SIGN
NOT TO SCALE



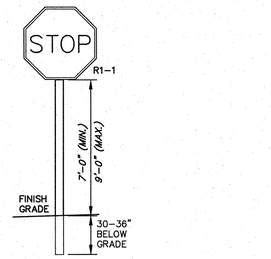
NOTES
1.) USE NEENAH R-3570
2.) FOR SHALLOW INVERTS, USE NEENAH R-3570-A.

9 CATCH BASIN FRAME & GRATE
NOT TO SCALE



NOTES
1. COORDINATE WITH FACILITIES, GROUNDS, AND CEMETERIES DEPARTMENT FOR LOCATION OF ALL SIGNS.

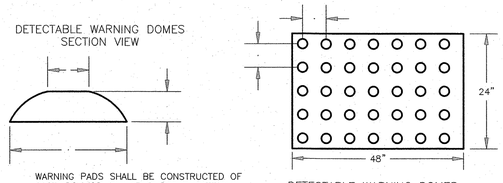
7 DOVER STD. D-1 Street Sign
NOT TO SCALE

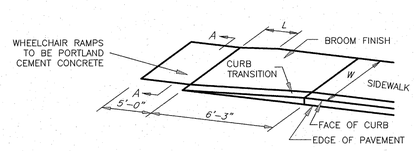


SEE SHEET SP-1 FOR LOCATION OF THIS SIGN.
(SET 2.0' HORIZONTALLY TO FACE OF CURBING OF THE STREET)

TYPICAL SIGNS
NOT TO SCALE

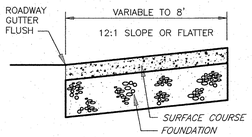
8 STOP SIGN
NOT TO SCALE





4. INSTALL ACCESSIBLE REINFORCED CONCRETE RAMP (MAXIMUM SLOPE = 1" IN 12") FROM PAVEMENT GRADE TO SIDEWALK GRADE IN COMPLIANCE WITH ALL A.D.A. STANDARDS, PER DETAIL 6, SHEET SP-5.

NOTES:
1. THE DIMENSIONS SHOWN AT ROADWAY EDGE ARE FIXED DISTANCES.
2. RAMP CROSS SECTION TO BE SAME AS ADJACENT SIDEWALK; I.E., DEPTH OF SURFACE AND FOUNDATION.
3. PORTLAND CEMENT CONCRETE RAMPS ARE TO BE TEXTURED BY BROOMING IN A DIRECTION PARALLEL TO THE LENGTH OF THE RAMP.
4. SIDEWALKS THAT CROSS DRIVEWAYS SHALL BE RAMPED TO MEET THE GRADE OF DRIVEWAY
5. THESE DIMENSIONS ARE SUBJECT TO CHANGE IN THE FIELD IF EXISTING APPURTENANCES OR CONDITIONS WILL MAKE THE RAMP LOCATIONS IMPRACTICAL OR UNSAFE.
6. DETECTABLE WARNINGS TO BE INSTALLED 6" FROM EDGE OF RAMP
7. DETECTABLE WARNINGS PADS SHALL BE CONSTRUCTED OF CAST IRON OR SIMILAR DURABLE MATERIAL APPROVED BY THE CITY OF DOVER



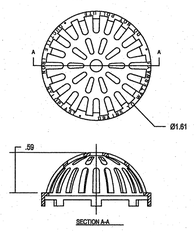
SECTION A-A

W	L	S.Y.
5'-0"	2'-9"±	6.3
6'-0"	2'-0"±	7.2
7'-0"	1'-3"±	8.0
8'-0"	0'-0"	8.1

11 WHEEL CHAIR RAMP
NOT TO SCALE

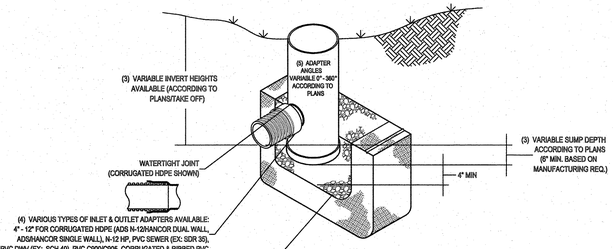
1299CGD

APPROX. DRAIN AREA = 82.87 SQ IN
APPROX. WEIGHT = 18.50 LBS



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST

NYLOPLAST 12" DRAIN BASIN: 2812AG _ _ X



1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-005
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0°TO 360° TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

11 ADS NYLOPLAST DRAIN BASIN & GRATE DETAIL
NOT TO SCALE

TRITECH
ENGINEERING CORPORATION
755 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 8107
FAX 603 742 3830

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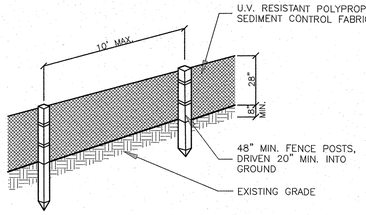
REVISIONS	DESCRIPTION:
DATE:	

ROBERT J. STOWELL 9756 - STATE OF NEW HAMPSHIRE - PROFESSIONAL ENGINEER

CONSTRUCTION DETAILS
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 25136

SHEET NO.
SP-6

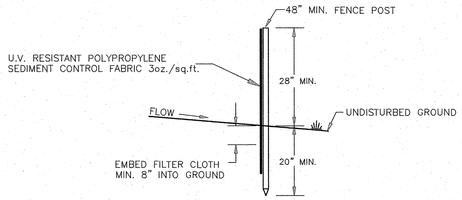
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PERSPECTIVE VIEW

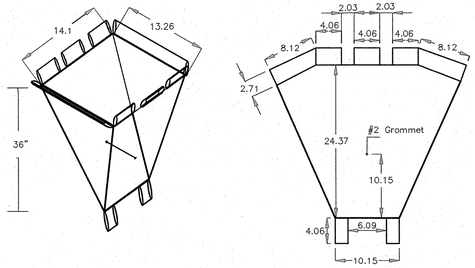
NOTES

1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR BEST MANAGEMENT PRACTICE FOR SILT FENCES, OF THE "STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE" PREPARED BY ROCKINGHAM COUNTY CONSERVATION DISTRICT, DATED AUGUST 1992.
2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
4. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 20 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQ.IN..
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT BULGES IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.
6. REMOVE BY HAND AND PROPERLY DISPOSE OF ALL SEDIMENT PRIOR TO REMOVING FENCE.



SECTION

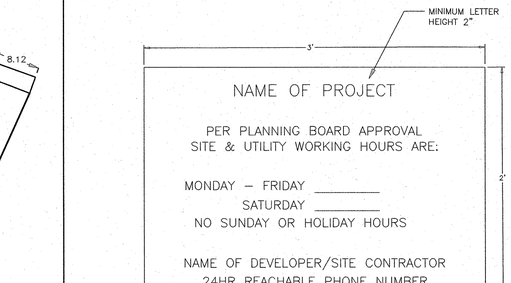
1 SILT FENCE
NOT TO SCALE



Specifications:

a) Fabric used should not be laminated.
b) Silt sack to have two #2 grommets, one on each of the two sides, 15" from the bottom of the silt sack
c) Tie 1/4" wide yellow rope 19" long through the grommets on two sides of the silt sack.

2 Hi Vis Hi Flow Silt Sack
NOT TO SCALE

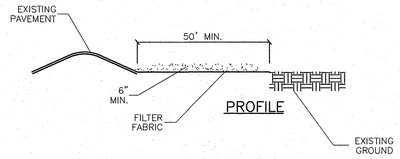


NOTES:

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.

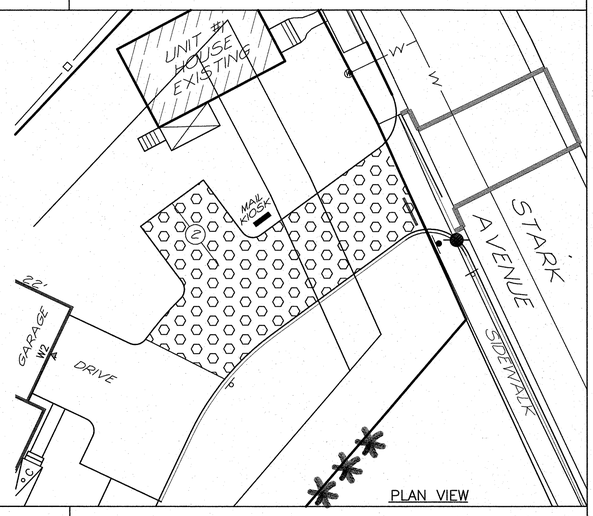
3 DOVER STD. D–2 Construction Sign
NOT TO SCALE

1. GRADE AND COMPACT ACCESS ROAD ENTRANCE AS NECESSARY. PLACE FILTER FABRIC (MIRAFI OR EQUAL) AND PLACE 6" OF 1" – 2" STONE TO MATCH SLOPE OF EXISTING ROAD
2. PROVIDE NECESSARY SWALES OR DIVERSIONS TO MINIMIZE DIRECT FLOW OF WATER ONTO STONE AREA.
3. CONSTRUCTION ENTRANCE SHALL BE MAINTAINED AS NECESSARY TO REMOVE SILT FROM TIRES PRIOR TO ENTERING PUBLIC ROADS. A SMALL SWALE SHALL BE CONSTRUCTED ON THE DOWN GRADIENT SIDE TO TRAP ANY SILT WASHED FROM THE STONE.
4. HAYBALES OR SILT FENCE SHALL BE PLACED ON THE DOWN GRADIENT SIDE AS SHOWN ON THE EROSION CONTROL PLAN.

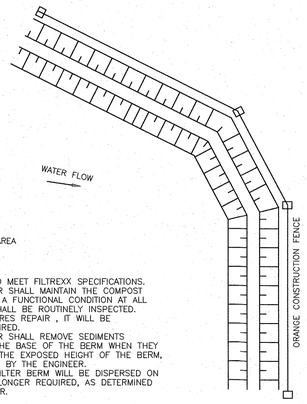


PROFILE

5 STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



PLAN VIEW

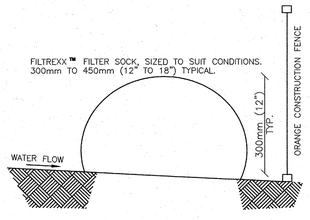


NOTES

1.) ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2.) THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTER BERM IN A FUNCTIONAL CONDITION AT ALL TIMES AND IT SHALL BE ROUTINELY INSPECTED.
3.) WHERE IT REQUIRES REPAIR , IT WILL BE ROUTINELY REPAIRED.
4.) THE CONTRACTOR SHALL REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE BERM WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE BERM, OR AS DIRECTED BY THE ENGINEER.
5.) THE COMPOST FILTER BERM WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED, AS DETERMINED BY THE ENGINEER.

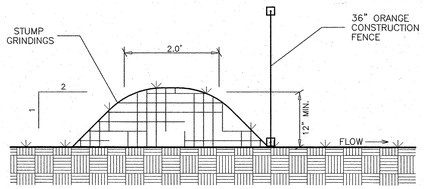
9 FILTREXX SOCK – SILT FENCE
NOT TO SCALE

TYPICAL BERM FOR MINIMAL GRADES SHOWN. FOR STEEPER GRADES, I.E. 2:1 SLOPES INCREASE BERM SIZE AS DETERMINED ON SITE BY ENGINEER.



FILTER COMPOST MATERIAL AS PER SPECIFICATIONS.

1. BERMS SHALL BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE WILL BE 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 CLOSE AS POSSIBLE.
3. THE BERMS SHALL BE INSTALLED ON SLOPES OF LESS THAN 5%.
4. THE MIX SHALL HAVE AN ORGANIC PORTION BETWEEN 80 AND 100%, DRY MASS WEIGHT BASIS, AND BE FIBEROUS 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 MATERIALS.
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.



11 EROSION CONTROL MULCH BERM
NOT TO SCALE

1. THE PROJECT SHALL BE MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
2. FUGITIVE DUST SHALL BE CONTROLLED IN ACCORDANCE WITH ENV–A 1000.

CRITICAL AREAS

Anywhere on the site that existing vegetation is to be removed will require immediate erosion control treatment. Special care should be taken where runoff enters wetlands. All storm water practices areas shall be stabilized prior to directing storm water to them; specifically all bioretntion basins and all infiltration practices.

EROSION AND SEDIMENT CONTROL PRACTICES

Erosion and sediment control practices will include the use of rip–rap, and silt fence check dams. All erosion and sediment control practices will be constructed and maintained according to the minimum standards and specifications contained in the "New Hampshire Stormwater Manual, Volume 2".

A. Erosion and Sediment Control Measures

1. The erosion control procedures shall conform to Section 645 of the "Standard Specifications for Road and Bridge Construction" of the NH DOT, and the "New Hampshire Stormwater Manual."
2. During Construction and thereafter, erosion control measures are to be implemented as noted. The smallest practical area of land should be exposed at any one time during development. The amount of exposed areas which are temporarily stabilized without permanent stabilization shall be limited to 5 acres.
3. During grading operations, install stone check dams at 50 foot intervals in drainage swales and at drain inlets where shown. Barriers are to be maintained and cleaned until disturbed areas are stabilized.
4. Any disturbed areas which are to be left temporarily, and which will be regraded later during construction shall be machine hay mulched and seeded with rye grass to prevent erosion.
5. Silt fences and other erosion control measures shall be inspected weekly and after every 0.25" rainfall event during the life of the project. All damaged silt fences shall be repaired. Sediment deposits shall periodically be removed.
6. Avoid the use of future open spaces (loam and seed areas) wherever possible during the construction. Construction traffic shall use the roadbeds of future roads and parking areas.
7. Topsoil required for the establishment of vegetation shall be stock piled in amounts necessary to complete finished grading of all exposed areas.
8. Areas to be filled shall be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots or other objectionable material. Stumps shall be disposed by grinding or fill in an approved facility.
9. All fills shall be placed and compacted to reduce erosion, slippage settlement, subsidence or other related problems.
10. All fill shall be placed and compacted in layers not to exceed 8 inches in thickness.
11. Frozen material or soft, mucky or highly compressible material shall not be incorporated into fills.
12. Fill material shall not be placed on a frozen foundation subgrade.
13. Disturbed areas shall be seeded immediately following finished grading.
14. Limit of exposed area that is temporarily stabilized without permanent stabilization is 5 acres or less.
15. All areas not stabilized by Nov. 1st must be protected by Erosion Control Blankets or equivalent and mulched/seeded with winter rye or oats.
16. All disturbed areas must be seed and mulched within 3 days of final grading, permanently stabilized within 15 days of final grading or temporarily stabilized within 45 days of initial disturbance.
17. All ditches and swales are to be stabilized prior to directing runoff to these features.
18. All cut and fill slopes shall be seeded immediately.
19. An area shall be considered stable if one of the following has occurred:
    a.) Base course gravels are installed in areas to be paved
    b.) A minimum of 85% vegetated growth has been established
    c.) A minimum of 3" of non–erosive material such as stone or riprap has been installed
    d.) Erosion control blankets have been properly installed.

B. Vegetative Practice

All ground areas opened up for construction will be regraded, loamed, seeded and mulched in the shortest practical time. All Temporary and Permanent Seeding must be applied prior to October 1st. Employ temporary erosion and sedimentation control devices as detailed in this plan as necessary until adequate stabilization has been assured.

A. Temporary Seeding & Hay Mulching

1. At no time shall any disturbed area remain unstabilized for longer than 30 days. All areas where construction is not completed within 30 days of the initial disturbance shall receive temporary seeding measures.
2. Fertilizer shall be spread on the top layer of loam and worked into the surface. Fertilizer application rate shall be 300 pounds per acre of 10–10–10 fertilizer.
3. Seed shall be Winter Rye, 112 LBS. per acre.
4. Remove stones and trash that will interfere with seeding the area. Where feasible, till the soil to a depth of about 3 inches to prepare a seedbed and mix fertilizer into the soil. The seedbed should be left in a firm and smooth condition. The last tillage operation should be performed across the slope whenever practical.
5. If seeding between May 15th and August 15th, hay mulch shall be applied immediately after seeding at a rate of 1.5 to 2 tons per acre and shall be held in place using appropriate techniques from the Erosion and Sediment Control Handbook.
6. The surface shall be watered and kept moist with a fine spray as required without washing away the soil, until the grass is well established. Any areas which are not satisfactorily covered with grass shall be reseeded, and all noxious weeds are removed.

B. Permanent Seeding & Hay Mulching

1. All disturbed areas shall be loamed (4") and limed. Lime shall be thoroughly incorporated into the loam layer at a rate of 2 tons per acre.
2. Fertilizer shall be spread on the top layer of loam and worked into then surface. Fertilizer application rate shall be 500 pounds per acre of 10–20–20 fertilizer.
3. Seed shall be 48 lbs. per acre, SCS mixture "c" (20 lbs tall fescue, 20 lbs. creeping red fescue and 8 lbs. birds foot trefoil = 48 lbs total.) The soil shall be lightly raked immediately before seeding. One half the seed shall be sown in one direction and the other half at right angles to the original direction. It shall be lightly raked in to the soil to a depth not over 1/4 inch and rolled with hand roller weighing not over 100 points per linear foot to width.
4. Hay mulch shall be applied immediately after seeding at a rate of 1.5 to 2 tons per acre and shall be held in place using appropriate techniques from the Erosion and Sediment Control Handbook. The surface shall be watered and kept moist with a fine spray as required, without washing away the soil, until the grass is well established. Any areas which are not satisfactorily covered with grass shall be reseeded, and all noxious weeds removed.

CONSTRUCTION SEQUENCE

1. Do not begin construction until all local, state and federal permits have been applied for and received.
2. Install silt fences filtrex sock as necessary to control erosion and prevent sediment contamination prior to any earth moving activities.
3. Cut and remove trees, shrubs, saplings, brush, vines and other debris and rubbish as specified for construction.
4. Care shall be taken to preserve the infiltration capacity of the infiltrating soil. See the New Hampshire Stormwater Manual far additional information.
5. Construct stormwater Bioretention Practice #1. Do not direct runoff to these practices until the practice and contributing areas are fully stabilized.
6. Building construction may begin.
7. Construct driveways, parking and utilities.
8. Loam and seed disturbed areas in accordance with vegetative practice and general construction notes. Cut and fill slopes shall be seeded immediately after their construction.
9. All areas receiving runoff, including but not limited to the stormwater infiltration shall be stabilized prior to directing runoff to them.
10. All soils that are finish graded must be stabilized within 72 hours of disturbance.
11. Maintain disturbed areas as necessary.

MAINTENANCE

During the period of construction and/or until long term vegetation is established:
1. Seeded areas will be fertilized and reseeded as necessary to insure vegetative establishment.
2. The side slopes will be checked after each significant rainfall.
3. The side slopes will be checked weekly and repaired when necessary until adequate vegetation is established.
4. The silt fence barriers will be checked regularly. Necessary repairs will be made to correct undermining or deterioration of the structures.

WINTER CONSTRUCTION NOTES

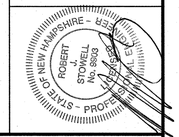
1. All proposed vegetated areas which do not exhibit a minimum of 85% vegetation growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting, elsewhere. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melts.
2. All ditches or swales which do not exhibit a minimum of 85% vegetation growth by October 15th, ar which are disturbed after October 15th, shall be stabilized temporarily with stone ar erosion control blankets appropriate for the design flow conditions.
3. After November 15th, incomplete road or parking surfaces, where work has stopped for the winter season, shall be protected with a minimum of 3 inches of crushed gravel per NHDOT item 304.3.

12 EROSION AND SEDIMENT CONTROL NOTES

TRITECH
ENGINEERING CORPORATION
755 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 8107
FAX 603 742 3830

ISSUED FOR TRC REVIEW
May 14, 2026

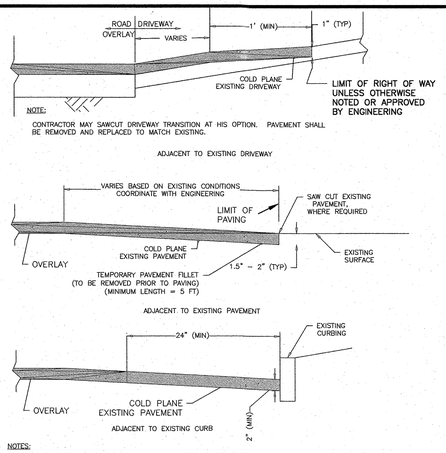
REVISIONS
DATE: DESCRIPTION:



CONSTRUCTION DETAILS
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 25136
SCALE: 1" = 30'

SHEET No.
SP-7

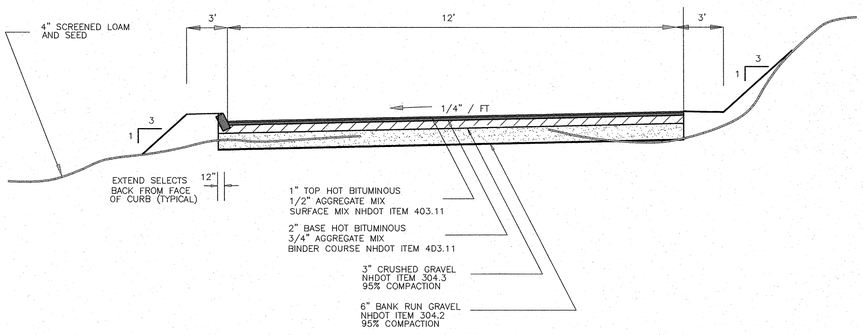
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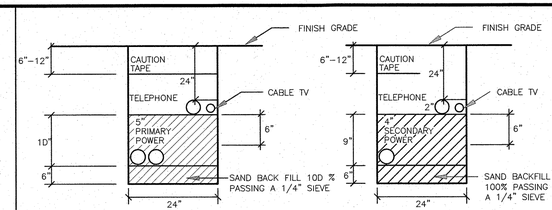
1. THE LENGTH OF THE TAPER MAY BE ADJUSTED AS ORDERED TO PROVIDE FOR VARYING FIELD CONDITIONS OR CHANGES IN SINGLE COURSE DEPTH.

1 DOVER STD. D-12 Pavement Overlay Details
NOT TO SCALE



1. TACKIFIER TO BE APPLIED BETWEEN BINDER COURSE AND SURFACE COURSE, (BLACKLIDGE ULTRATACK OR EQUAL).
2. JOINT SEALANT TO BE APPLIED AT LANE JOINTS (SEALANT "C" PAVEMENT JOINT ADHESIVE).
3. SEE DOVER STANDARD DETAILS D-5 FOR ADDITIONAL INFO.
4. SEE DOVER STANDARD DETAILS D-8 FOR ADDITIONAL CURBING INFO.

2 TYPICAL DRIVEWAY-2 CROSS SECTION
NOT TO SCALE



ELECTRICAL TRENCH "A"
NOT TO SCALE

ELECTRICAL TRENCH "B"
NOT TO SCALE

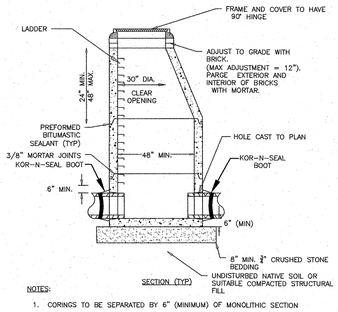
1.) TELEPHONE CONDUIT SHALL BE 3" SCHEDULE 4D PVC, WITH STEEL SWEEPS AT RISER POLE, 90 BENDS AND AT BUILDING.

2.) LEAVE PULL ROPE IN ALL CONDUITS FOR CABLE INSTALLATION.

3.) FOR COMPLETE SPECIFICATION SEE "PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE CONSTRUCTION SPECIFICATIONS FOR UNDERGROUND CONDUIT SYSTEMS".

4.) CONTRACTOR SHOULD VERIFY THE NUMBER & SIZE OF CONDUIT WITH THE APPROPRIATE UTILITIES.

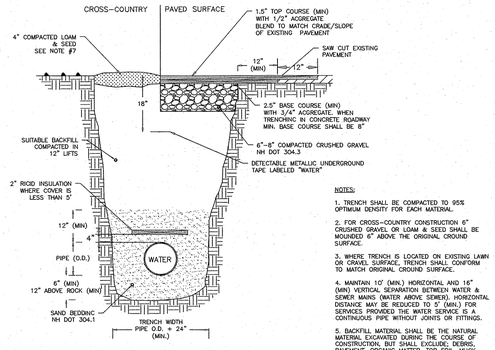
4 ELECTRICAL TRENCH
NOT TO SCALE



NOTES:

1. CORINGS TO BE SEPARATED BY 6" (MINIMUM) OF MONOLITHIC SECTION

5 DOVER STD. D-20 DRAIN MANHOLE
NOT TO SCALE

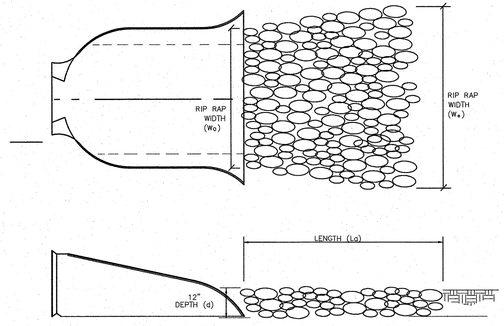


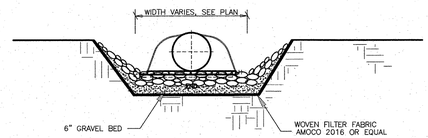
NOTES:

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. 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.

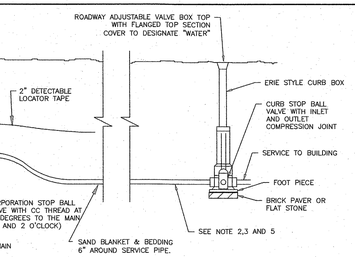
6 DOVER STD. D-4 Water Trench
NOT TO SCALE

7 NOT USED
NOT TO SCALE





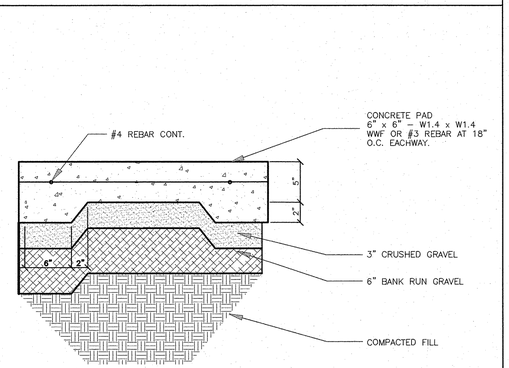
8 RIPRAP DETAIL
NOT TO SCALE



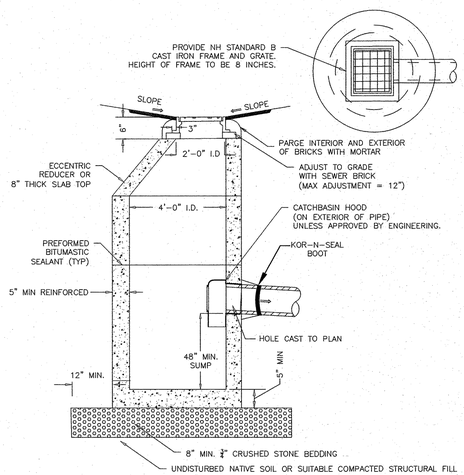
NOTES:

1. ALL WATER LINES 4" OR GREATER SHALL BE DUCTILE IRON WITH AN 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:
   ¾"- COPPER, CTS
   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.

9 DOVER STD. D-13 WATER SERVICE CONNECTION
NOT TO SCALE



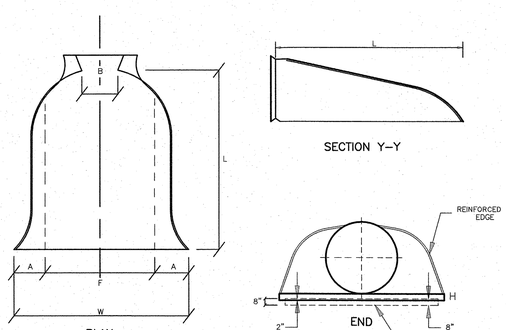
10 CONCRETE PAD DETAIL
NOT TO SCALE



NOTES:

1. ENTIRE STRUCTURE SHALL BE H-20 LOAD RATED. PROVIDE MANUFACTURER REINFORCEMENT DETAILS TO THE CITY ENGINEER UPON REQUEST.
2. CONTRACTOR SHALL HAVE OPTION TO USE 6" OR 8" PRECAST GRADE RINGS TO ADJUST GRADE.

11 DOVER STD. D-19 CATCH BASIN
NOT TO SCALE



DIA	A	B	H	F	L	W
12"	5"	7"	6"	22"	21"	44"

12 CMP FLARED END SECTION
NOT TO SCALE

TRITECH
ENGINEERING CORPORATION
755 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 8107
FAX 603 742 3830

REVISIONS
DATE: DESCRIPTION:

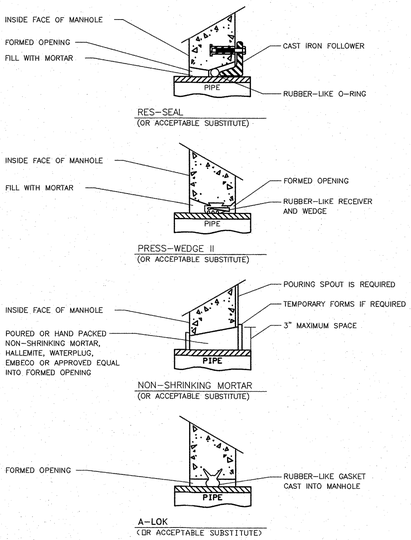
ISSUED FOR TRC REVIEW
May 14, 2026

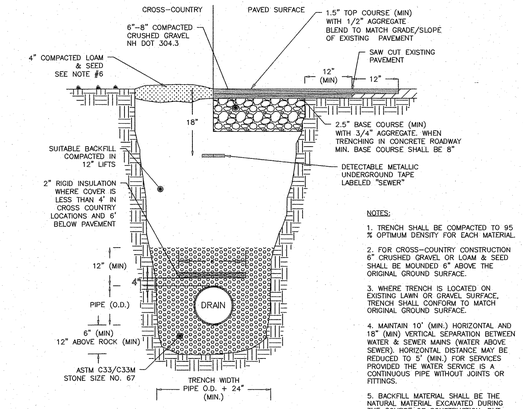
ROBERT J. STOWELL No. 9758 NEW HAMPSHIRE - STATE OF - PROFESSIONAL ENGINEER

CONSTRUCTION DETAILS
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 25136

SHEET No.
SP-8

(P26-0000)





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. 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.

1 DOVER STD. D-3 Drainage Trench

NOT TO SCALE

GENERAL NOTES

1) IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAK PROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS(H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.

2) BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE, OR POURED IN PLACE REINFORCED CONCRETE.

3) PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478.

4) LEAKAGE TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS.

5) INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED OR PRECAST CONCRETE SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. AT CHANGES IN DIRECTIONS, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY OR PRECAST CONCRETE.

6) FRAMES AND COVERS: MANHOLES FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" FOR SEWERS AND "DRAIN" FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER

7) BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33, SIZE NUMBER 67.
100% PASSING 1 INCH SCREEN 0-10% PASSING #4 SIEVE
90-100% PASSING INCH SCREEN 0-5% PASSING #8 SIEVE
20-55% PASSING INCH SCREEN
WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE INCH TO 1 INCH SHALL BE USED.

8) FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDE WITHIN THE FOLLOWING DISTANCES: RCP & CI PIPE - ALL SIZES - 48"

9) SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS.

10) MANHOLE STEPS MAY BE PERMITTED UPON REQUEST BY THE OWNER AS SECONDARY ADDITIONAL SAFETY FEATURE SUPPLEMENTARY TO THE PRIMARY PORTABLE LADDER ENTRY AND WHEN INSTALLED UNDER THE FOLLOWING CONDITIONS:

1. THE STEPS SHALL BE MANUFACTURED OF PLASTIC COVERED STEEL. THEY SHALL BE SHAPED SO THEY CANNOT BE PULLED OUT OF THE CONCRETE WALL IN WHICH THEY ARE EMBEDDED.
2. THE STEPS SHALL BE EMBEDDED IN THE CONCRETE BY THE MANUFACTURER DURING MANUFACTURE OR IMMEDIATELY FOLLOWING REMOVAL OF FORMS. SECURING THE STEPS WITH MORTAR IN DRILLED OR CAST HOLES, WILL NOT BE ACCEPTABLE.
3. THE STEPS SHALL BE OF THE DROP TYPE WITH A DEPRESSED SECTION FOR HANDHOLD. APPROXIMATELY 14"X10" IN DIMENSION.

11) HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE ENGINEER, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATERTIGHTNESS UPON AN ELASTOMERIC OR MASTIC-LIKE GASKET. APPROVED ELASTOMERIC SEALANTS ARE: RAM-NEK
KENT SEAL NO.2
EZ

12) PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND IN GENERAL, WILL DEPEND FOR WATERTIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.

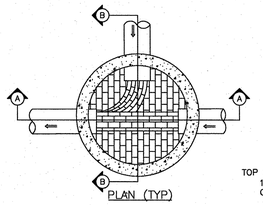
INTERNAL DROP

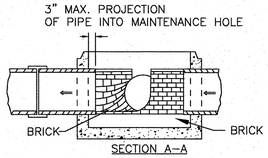
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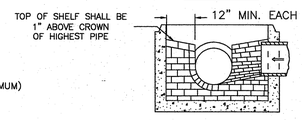
1. INTERNAL DROPS ARE PROHIBITED UNLESS APPROVED BY THE CITY ENGINEER.
2. A MINIMUM 5 FT DIAMETER MANHOLE IS REQUIRED FOR AN INTERNAL DROP.
3. IF A DROP IS PROPOSED FOR AN EXISTING MANHOLE, THE BRICK SHELF SHALL BE REWORKED TO FORM A NEW CHANNEL, FOR NEW DROP CONNECTIONS. IF STRUCTURE IS LESS THAN 5 FT IN DIAMETER, A NEW PRECAST MANHOLE SHALL BE INSTALLED.
4. BRICK INVERT NOT SHOWN ON DETAIL.
5. EXTERNAL DROPS ARE NOT PERMITTED UNLESS AUTHORIZED IN WRITING BY COMMUNITY SERVICES.

DOVER STD. D-18 MH DROP INLET

NOT TO SCALE

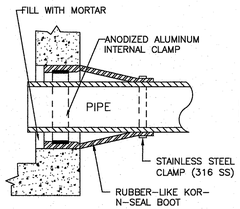




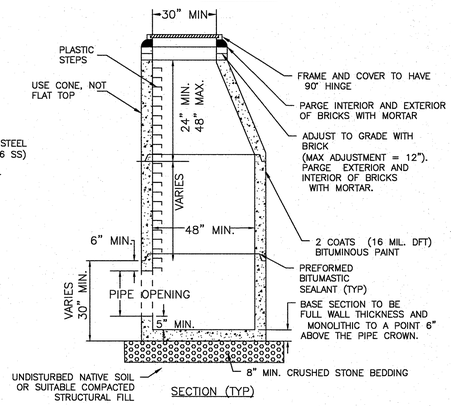


NOTES:

1. CORINGS TO BE SEPARATED BY 6" (MINIMUM) OF MONOLITHIC SECTION



KOR-N-SEAL JOINT SLEEVE
(OR EQUAL)



NOTES:

1. ALL SEWER MAINTENANCE HOLES WITHIN CITY EASEMENTS OR RIGHT OF WAY SHALL HAVE LIFTMATE R-1743-LM COVERS OR APPROVED EQUAL.
2. SEWER MAINTENANCE HOLES NOT WITHIN CITY EASEMENTS OR RIGHT OF WAY SHALL BE SEALED TO PREVENT INFILTRATION.

DOVER STD. D-16 SEWER MAIN

NOT TO SCALE

TRITECH
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REVISIONS
DATE: DESCRIPTION:

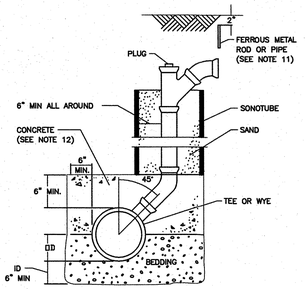
ISSUED FOR TRC REVIEW
May 14, 2026

NEW HAMPSHIRE - STATE OF - LICENSED PROFESSIONAL ENGINEER
ROBERT J. STOWELL
NO. 15958

SEWER DETAILS
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 25136

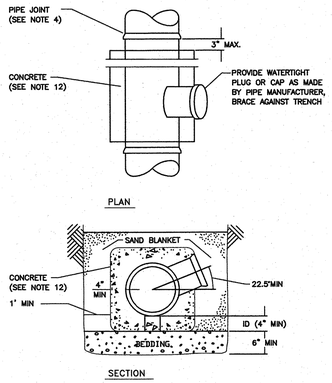
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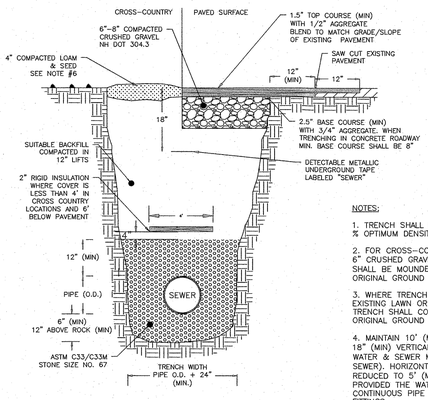


NO BACKFILLING BEFORE CONCRETE HAS TAKEN INITIAL SET (7 HRS. MIN.). BACKFILLING TO BE BROUGHT UP EVENLY ON ALL SIDES.

CHIMNEY (SEE NOTE 13)
NOT TO SCALE



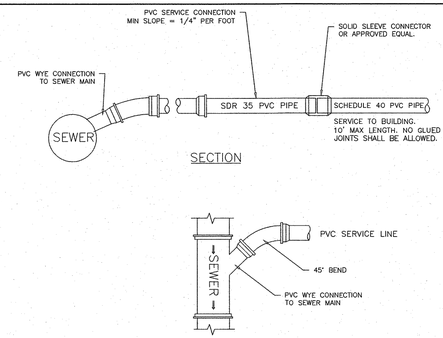
CONCRETE FULL ENCASEMENT
NOT TO SCALE



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. 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.

DOVER STD. D-3 Sewer Trench
NOT TO SCALE



NOTES:

1. TRENCHING AND BEDDING REQUIREMENTS PER CITY SEWER TRENCH DETAIL (D-3).
2. SERVICE LATERAL DIAMETER VARIES PER APPLICATION. REVIEW SIZE WITH CITY ENGINEER PRIOR TO INSTALLATION.
3. SDR 35 SHALL NOT EXTEND INTO THE BUILDING

DOVER STD. D-17 SEWER SERVICE
NOT TO SCALE

GENERAL NOTES

1) MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE FOUR INCHES.

2) PIPE AND JOINT MATERIALS:

A. PLASTIC SEWER PIPE

1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	*PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F789	PVC (SOLID WALL)	4" THROUGH 18" (T-1 TO T-3)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
D2680	*ABS (COMPOSITES WALL)	8" THROUGH 15"

*PVC: POLY VINYL CHLORIDE
*ABS: ACRYLONITRILE-BUTADIENE-STYRENE

2. JOINTS SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212 AND SHALL BE PUSH-ON, BELL AND SPIGOT TYPE.

ABS TRUSS PIPE AND FITTINGS SHALL CONFORM TO ASTM D-2680, POLYMER COMPOUNDING SHALL BE TO ASTM D-1788 (CLASS 322).

JOINTS FOR ABS TRUSS PIPE SHALL BE CHEMICAL WELDED COUPLINGS TYPE SC IN ACCORDANCE WITH ASTM D-2680, FORMING A CHEMICAL WELDED JOINT.

B. DUCTILE-IRON PIPE, FITTINGS AND JOINTS.

1. DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE UNITED STATES OF AMERICA STANDARDS INSTITUTE:
A21.50 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A-536 DUCTILE IRON CASTINGS.
A21.51 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS FOR WATER OR OTHER LIQUIDS.

2. JOINTS SHALL BE OF THE MECHANICAL OR PUSH-ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO:
A21.11 RUBBER GASKETS JOINTS FOR CAST IRON PRESSURE PIPE & FITTINGS

3) DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.

4) JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER-TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.

5) TEES AND WYES: WHERE A TEE OR WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE, FOLLOWING MANUFACTURERS' INSTRUCTIONS USING A BOLTED, CLAMPED OR EPOXY-CEMENTED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING IN THE SEWER. THE PRACTICE OF BREAKING AN OPENING WITH A SLEDGE HAMMER, STUFFING CLOTH OR OTHER SUCH MATERIAL AROUND THE JOINT, OR APPLYING MORTAR TO HOLD THE CONNECTION, AND ANY OTHER SIMILAR CRUDE PRACTICES OR INEPT OR HASTY IMPROVISATIONS WILL NOT BE PERMITTED. THE CONNECTION SHALL BE CONCRETE ENCASED AS SHOWN IN THE DETAIL UP TO AND INCLUDING 15" DIAMETER.

6) HOUSE SEWER INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 10. BEDDING AND RE-FILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.

THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE FOUNDATION AT A GRADE OF NOT LESS THAN INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.

7) TESTING: THE COMPLETED HOUSE SEWER SHALL BE SUBJECTED TO A LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS: (PRIOR TO BACKFILLING)

A. AN OBSERVATION TEE SHALL BE INSTALLED AS SHOWN AND WHEN READY FOR TESTING, AN INFLATABLE BLADDER OR PLUG SHALL BE INSERTED JUST UPSTREAM FROM THE OPENING IN THE TEE. AFTER INFLATION, WATER SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG.

B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER, TO SIMULATE, AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS OR, IF TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEANOUT WITH A FLASHLIGHT.

C. DRY FLUORESCENCED DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED WITH WATER, OR IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST DOWN-STREAM MANHOLE.

LEAKAGE OBSERVED IN ANY ONE OF THE ABOVE ALTERNATE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG-UP IF NECESSARY AND RE-LAID SO AS TO ASSURE WATER TIGHTNESS.

8) ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM HOUSE TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR OTHER SIMILAR CONNECTIONS CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.

9) HOUSE WATER SERVICE SHALL NOT BE LAID IN SAME TRENCH AS SEWER SERVICE.

10) BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33-67.

100% PASSING	1 INCH SCREEN
90%-100% PASSING	3/4 INCH SCREEN
20%- 55% PASSING	3/8 INCH SCREEN
0%- 10% PASSING	#4 SIEVE
0%- 5% PASSING	#8 SIEVE

WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1 1/2 INCH SHALL BE USED.

11) LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPEFINDER.

12) CONCRETE: CONCRETE SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARDS SPECIFICATIONS AS FOLLOWS:

CEMENT: 6.0 BAGS PER CUBIC YARD
WATER: 5.75 GALLONS PER BAG CEMENT
MAXIMUM SIZE OF AGGREGATE: 1 INCH

13) CHIMNEYS: IF VERTICAL DROP INTO SEWER IS GREATER THAN 4 FEET, A CHIMNEY SHALL BE CONSTRUCTED FOR THE HOUSE CONNECTION. CHIMNEY INSTALLATION AS RECOMMENDED BY THE PIPE MANUFACTURER MAY BE USED IF APPROVED BY THE ENGINEER.

14) MAINTAIN A 10' HORIZONTAL SEPARATION BETWEEN SEWER LINES AND WATER LINES, AND AN 18" VERTICAL SEPARATION AT SEWER AND WATER CROSSINGS, WITH WATER OVER SEWER.

15) GRAVITY SEWER PIPE TESTING SPECIFICATIONS PER ENV.WQ 704.06
GRAVITY SEWER PIPE TESTING
(A) ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF LOW-PRESSURE AIR TESTS.
(B) LOW-PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH THE FOLLOWING TESTING STANDARDS IN EFFECT AT THE TIME IS CONDUCTED:
(1) ASTM F1417 "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW-PRESSURE AIR", AVAILABLE AS NOTED IN APPENDIX D; OR
(2) UNI-BELL PVC PIPE ASSOCIATION UNI-B-6, "LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE", AVAILABLE AS NOTED IN APPENDIX D.
(C) ALL NEW GRAVITY SEWERS SHALL BE:
(1) CLEANED AND VISUALLY INSPECTED USING A LAMP TEST AND BY INTRODUCING WATER TO DETERMINE THAT THERE IS NO STANDING WATER IN THE SEWER; AND
(2) TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE.
(D) ALL PLASTIC SEWER PIPE SHALL BE VISUALLY INSPECTED AND DEFLECTION TESTED NOT LESS THAN 30 DAYS NOR MORE THAN 90 DAYS FOLLOWING INSTALLATION.
(E) THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5% PERCENT OF AVERAGE INSIDE DIAMETER. A RIGID BALL OR MANDREL WITH A DIAMETER OF AT LEAST 95% OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED FOR TESTING PIPE DEFLECTION. THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVISES.

GENERAL NOTES

1) ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. REFILL WITH BEDDING MATERIAL. FOR TRENCH WIDTH SEE NOTE 7.

2) BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 STONE SIZE NO. 67.

100% PASSING	1 INCH SCREEN
90%-100% PASSING	3/4 INCH SCREEN
20%- 55% PASSING	3/8 INCH SCREEN
0%- 10% PASSING	#4 SIEVE
0%- 5% PASSING	#8 SIEVE

WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, GRADED SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1 1/2 INCH SHALL BE USED.

3) SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER SO GRADED THAT 90%-100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAT 15% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR DUCTILE IRON AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2 INCHES IS IN CONTACT WITH THE PIPE.

4) SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALK-WAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.

IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY WILL BE PRESERVED.

5) BASE COURSE, IF ORDERED BY THE ENGINEER, SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE:
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION.

6) WOOD SHEETING, IF REQUIRED. WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.

7) W= MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES, FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.

8) FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

9) CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 LB) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS: CEMENT: 6.0 BAGS PER CUBIC YARD
WATER: 5.75 GALLONS PER BAG CEMENT
MAXIMUM SIZE OF AGGREGATE: 1 INCH

10) IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MIN.) BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.

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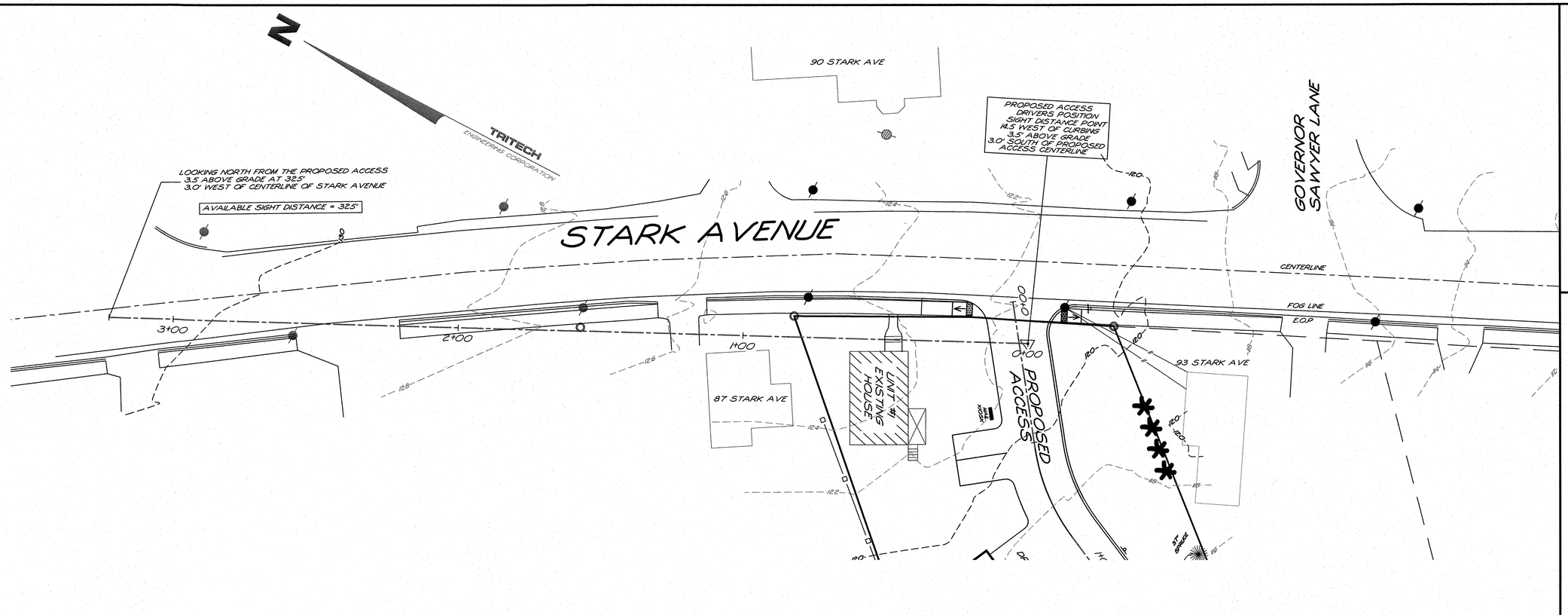
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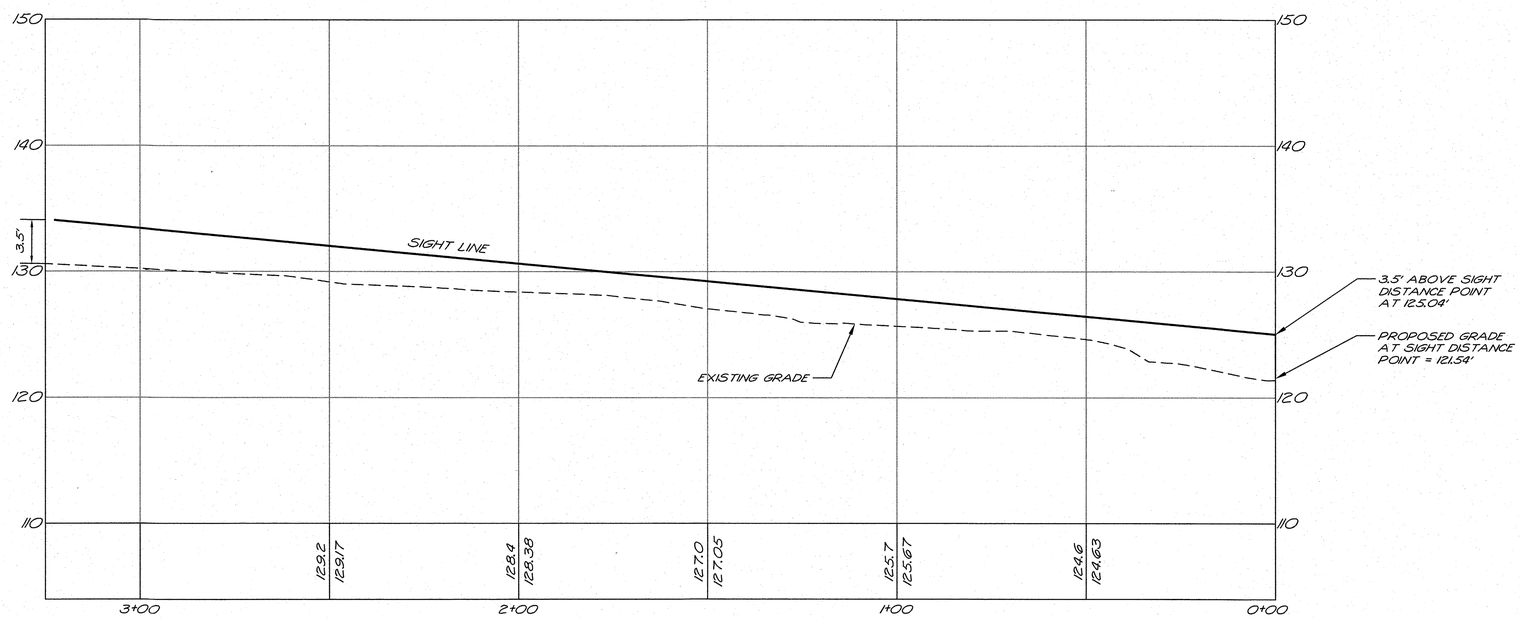
STATE OF NEW HAMPSHIRE ROBERT STOWELL NUMBER 13595 REGISTERED PROFESSIONAL ENGINEER

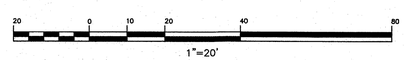
SEWER DETAILS
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 25136

SHEET No.
SP-10

(P26-0000)



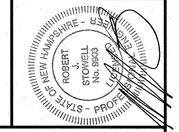




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ISSUED FOR TRC REVIEW
May 14, 2026

REVISIONS
DATE: DESCRIPTION:



SIGHT DISTANCE PLAN & PROFILE
LOOKING NORTH

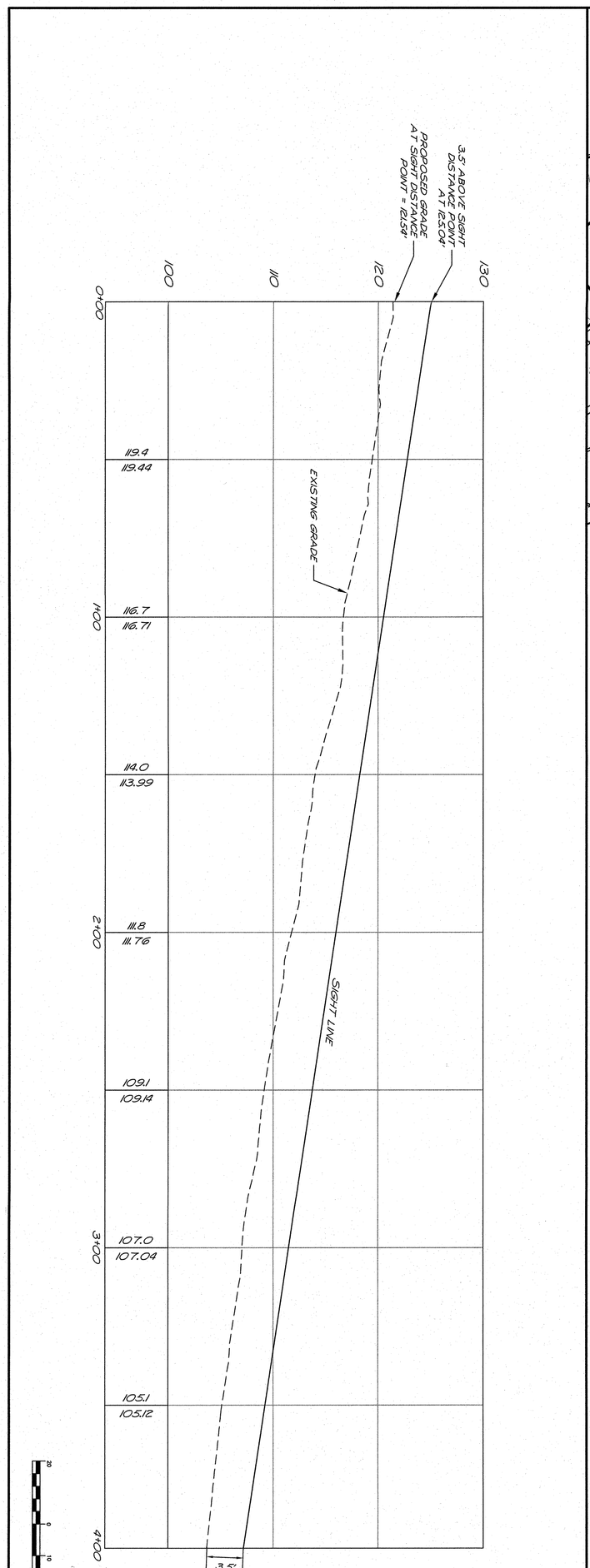
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY

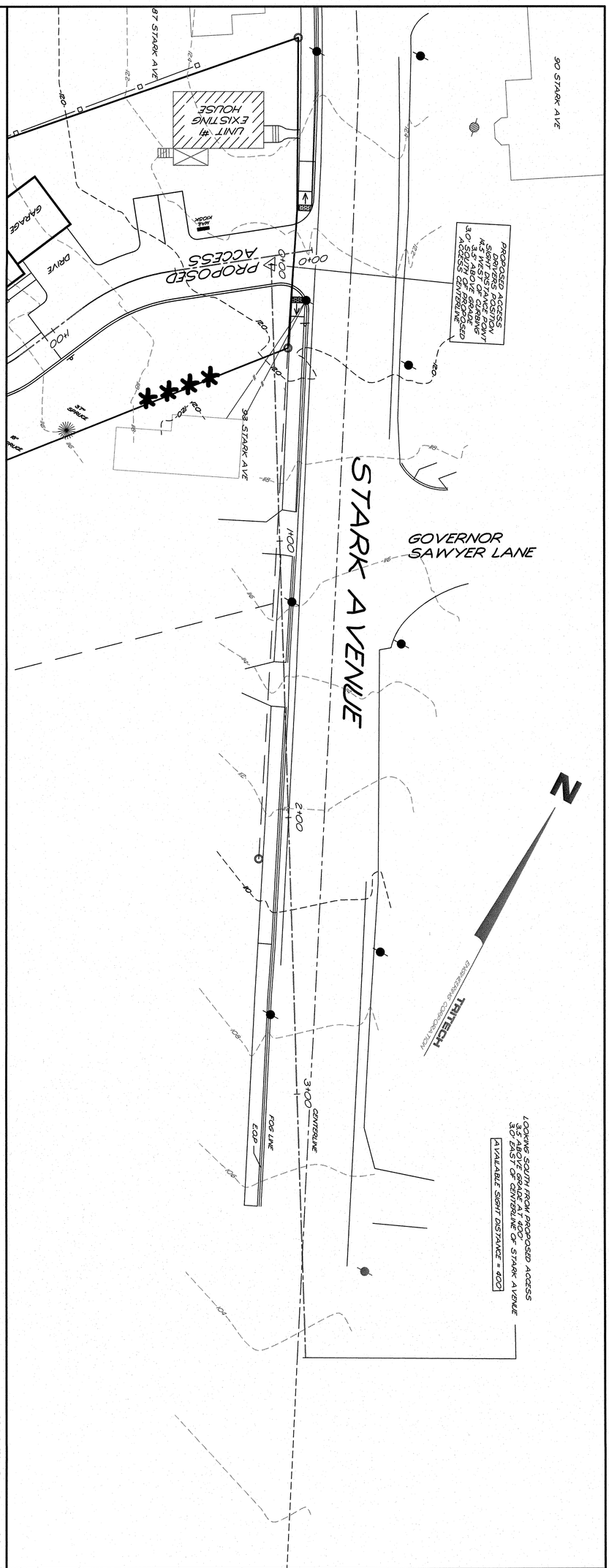
MAY 14, 2026 JOB No. 2513 6

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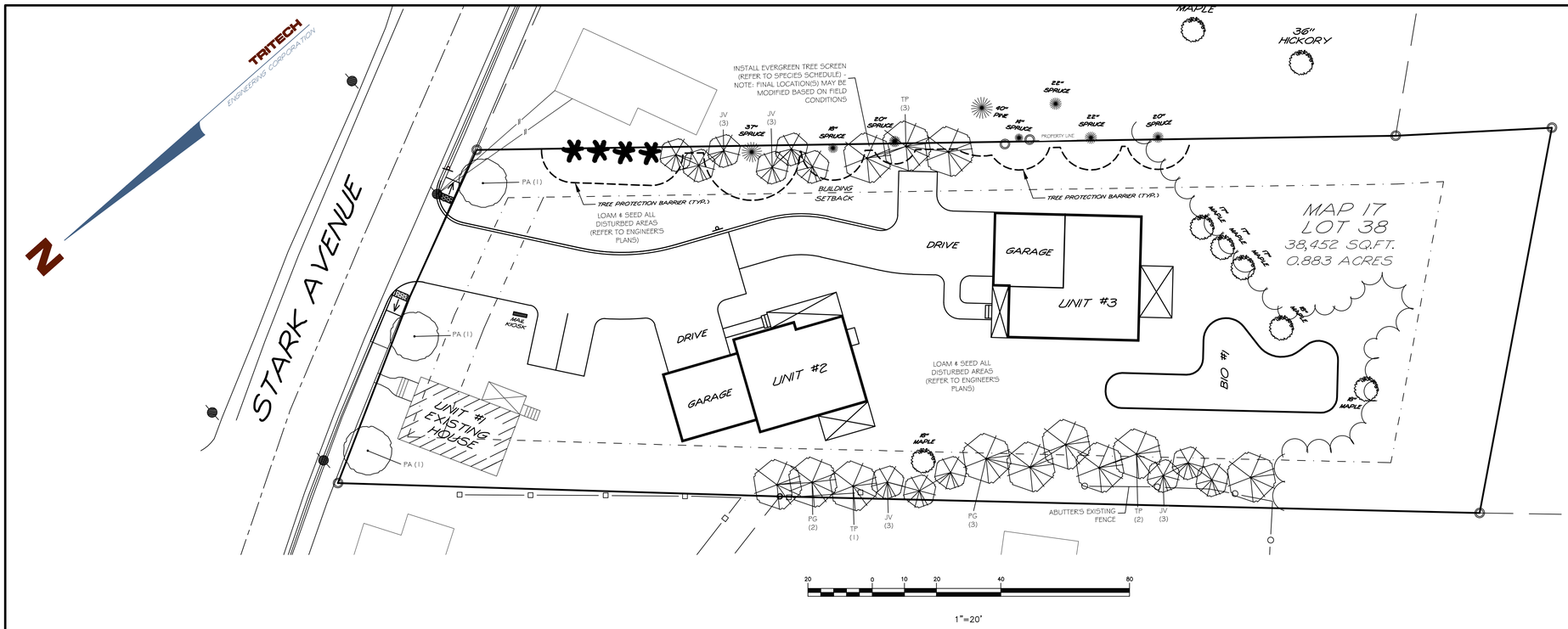
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SD-1





SHEET No.	SIGHT DISTANCE PLAN & PROFILE LOOKING WEST	ISSUED FOR TRC REVIEW May 14, 2026	TRITECH ENGINEERING CORPORATION
SD-2	COREY MACKOUL 89 STARK AVENUE DOVER, NEW HAMPSHIRE STRAFFORD COUNTY MAY 19, 2026 JOB No. 25136 SCALE: 1" = 20'	STATE OF NEW HAMPSHIRE ROBERT J. STOWELL No. 9803 PROFESSIONAL ENGINEER REVISIONS DATE: DESCRIPTION:	755 CENTRAL AVENUE DOVER, NEW HAMPSHIRE 03820 TELEPHONE 603 742 8107 FAX 603 742 3830



TRITECH
ENGINEERING CORPORATION

terrain
planning & design llc
311 kast hill road
hopkinton nh 03229
603. 746. 3512
terrainplanning.com

TRITECH
ENGINEERING CORPORATION
795 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
TELEPHONE 603 742 8107
FAX 603 742 3630

DIG SAFE
CALL BEFORE YOU DIG
CALL 811 OR 1-888-DIG-SAFE
CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION

REVISIONS
DATE: DESCRIPTION:

LANDSCAPE PLAN
COREY MACKOUL
89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY
MAY 14, 2026
JOB No. 25136
SCALE: 1" = 20'

SHEET No.
LA-1

GENERAL NOTES

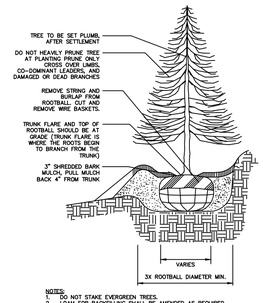
1. BASE PLAN DEVELOPED FROM INFORMATION PROVIDED BY TRITECH ENGINEERING CORPORATION, DRAWING TITLE: "CONCEPTUAL SITE PLAN," DATED: MARCH 31, 2026.
2. VERIFY LOCATIONS, ELEVATIONS, AND DIMENSIONS IN THE FIELD, PRIOR TO CONSTRUCTION. VERIFY FIELD CONDITIONS RELATING TO WORK TO BE INSTALLED. NOTIFY LANDSCAPE ARCHITECT OF ANY UNUSUAL OR DIFFICULT CONDITIONS IN A TIMELY FASHION PRIOR TO CONSTRUCTION CONCERNING THE CONDITION IN QUESTION.
3. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF DOVER AND STATE OF NEW HAMPSHIRE. NOTIFY APPROPRIATE AGENCIES AT LEAST 48 HOURS PRIOR TO PERFORMING THE WORK UNDER THEIR JURISDICTION.
4. CONTRACTOR IS RESPONSIBLE FOR SECURING AND PAYING FOR ALL CONSTRUCTION PERMITS AND LICENSES REQUIRED TO COMPLETE SITE WORK. CONTRACTOR IS RESPONSIBLE FOR ALL APPROPRIATE INSPECTIONS OF HIS/HER WORK.
5. ALL WORK SHALL BE OF WORKMANLIKE QUALITY AND IN CONFORMANCE WITH ALL APPLICABLE CODES. CONTRACTOR SHALL READ ALL ZONING AND ENVIRONMENTAL PERMITS WHICH PERTAIN TO THE PROJECT AND SHALL COMPLY WITH ALL THE CONDITIONS THEREIN.
6. NOTIFY LANDSCAPE ARCHITECT AT LEAST 72 HOURS PRIOR TO ANY ROUTINE REQUIRED FIELD OBSERVATION. OBTAIN LANDSCAPE ARCHITECTS APPROVAL OF THE LAYOUT OF ALL IMPROVEMENTS PRIOR TO CONSTRUCTION.
7. CONTRACTOR IS RESPONSIBLE FOR REPAIR OF DAMAGE OR DISTURBANCE TO OTHER AREAS WHICH MAY OCCUR AS THE RESULT OF HIS/HER WORK WHETHER WITHIN OR OUTSIDE OF THE CONTRACT LIMIT LINES.
8. CONSTRUCTION SHALL FOLLOW THE SEQUENCES AND CONDITIONS ESTABLISHED IN THE SPECIFICATIONS AND PERMITS.
9. IT IS INTENDED THAT THE WORK BE EXECUTED IN ACCORDANCE WITH THE BEST CUSTOMARY BUILDING PRACTICES. IF WORK IS REQUIRED IN A MANNER TO MAKE IT IMPOSSIBLE TO PRODUCE FIRST-CLASS WORK OR IF ERRORS, CONFLICTS OR DISCREPANCIES APPEAR AMONG THE CONTRACT DOCUMENTS, INFORM THE LANDSCAPE ARCHITECT IMMEDIATELY AND REQUEST INTERPRETATION BEFORE PROCEEDING WITH THE WORK.
10. IF CONTRACTOR FAILS TO MAKE SUCH A STATEMENT AND REQUEST, NO EXCUSE WILL THEREAFTER BE ENTERTAINED, NOR ADDITIONAL EXPENSE BE ACCEPTED, FOR FAILURE TO CARRY OUT WORK IN A SATISFACTORY MANNER. SHOULD CONFLICT OCCUR IN OR BETWEEN DRAWINGS AND SPECIFICATIONS, CONTRACTOR IS DEEMED TO HAVE ESTIMATED ON THE MORE EXPENSIVE WAY OF DOING WORK UNLESS HE/SHE SHALL HAVE OBTAINED A WRITTEN DECISION, BEFORE SUBMITTING HIS BID, AS TO WHICH METHOD OR MATERIALS WILL BE REQUIRED.
11. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS AND EQUIPMENT STORED AT SITE.
12. EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY WORK.
13. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE LANDSCAPE ARCHITECT FOR DIRECTION AND RESOLUTION PRIOR TO ANY FURTHER WORK.
14. VISIBLE EXISTING CONDITIONS WHERE FIELD LOCATED, AND UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE. SITE SUBCONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS, DIMENSIONS, AND GRADES PRIOR TO START OF ANY FOUNDATION OR UTILITY WORK.
15. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
16. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY TERRAIN PLANNING & DESIGN LLC, DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR,ENGINEER OR LANDSCAPE ARCHITECT HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
17. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE SITE AND ALL EXISTING CONDITIONS SURROUNDING IT AND THEREON. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF HIS INTENTIONS AT LEAST 48 HOURS IN ADVANCE.
18. THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL LANDSCAPE ARCHITECT. TERRAIN PLANNING & DESIGN LLC ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-CONFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT OF RECORD.
19. TERRAIN PLANNING & DESIGN LLC ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE LANDSCAPE ARCHITECT OF RECORD.
20. SITE CONTRACTOR IS RESPONSIBLE FOR CONTACTING DIG SAFE PRIOR TO ANY EXCAVATION, 1-888-DIG-SAFE.

PLANTING NOTES

1. CONTRACTOR SHALL OBTAIN APPROVAL FROM LANDSCAPE ARCHITECT PRIOR TO PURCHASING AND/OR INSTALLING SUBSTITUTE PLANT MATERIAL PRIOR TO PURCHASE OF ANY SUBSTITUTE MATERIALS.
2. CONSTRUCTION ACCESS WILL BE AS DIRECTED BY LANDSCAPE ARCHITECT. 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 LANDSCAPE ARCHITECT 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 AND FLOURISHING CONDITION FOR ONE YEAR FROM THE DATE OF FINAL INSTALLATION APPROVAL BY LANDSCAPE ARCHITECT. CONTRACTOR SHALL REPLACE, WITHOUT COST TO OWNER, AND AS SOON AS WEATHER CONDITIONS PERMIT, ALL DEAD AND NON-FLOURISHING PLANTS AS DETERMINED BY THE LANDSCAPE ARCHITECT. REPLACEMENT PLANTS SHALL BE BE GUARANTEED IDENTICALLY TO ORIGINAL PLANTS, TIME PERIOD COMMENCING FROM DATE OF REPLACEMENT PLANTING APPROVAL BY LANDSCAPE ARCHITECT.
6. ALL BEDS TO BE MULCHED WITH 4" 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.

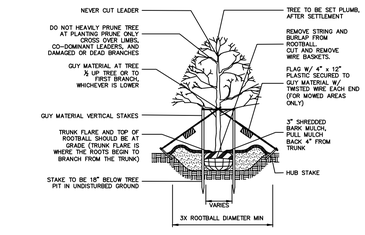
TREE PROTECTION NOTES:

1. TREE PROTECTION SHALL BE INSTALLED TO THE MAXIMUM EXTENT POSSIBLE AS SHOWN ON THE PLAN. MAKE SURE ALL WORKERS KNOW NOT TO DISTURB THE AREA WITHIN THE FENCE AND LEAVE THEM UP UNTIL WORK IS COMPLETE.
2. TEMPORARY 4FT HIGH ORANGE CONSTRUCTION FENCING SHALL BE PLACED AS SHOWN ON THE PLAN AROUND THE TREE(S) TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE THE TREE(S). TO INSTALL FENCE POSTS, AVOID DRIVING POSTS OR STAKES INTO MAJOR ROOTS.
3. DEAD TREES, SCRUB, OR UNDERGROWTH SHALL BE CUT FLUSH WITH ADJACENT GRADE. THERE WILL BE NO SOIL DISTURBANCE UNDER THE DRIP LINE OF TREES TO BE PRESERVED.
4. PLACE 6 INCHES OF BARK MULCH AT AREAS NOT PROTECTED BY BARRIER.
5. TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER ONE INCH IN DIAMETER DAMAGED DURING CONSTRUCTION, MAKE A CLEAN STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHOULD BE TEMPORARILY COVERED WITH DAMP BURLAP AND COVERED WITH SOIL OR MULCH AS SOON AS POSSIBLE TO PREVENT DRYING.
6. NO EQUIPMENT OR MACHINERY SHALL BE USED WITHIN THE PROTECTION FENCE. WORK WITHIN THE PROTECTION ZONE SHALL BE DONE MANUALLY. NO WASHING OF EQUIPMENT OR DUMPING OF CHEMICALS BY THE ROOT ZONE.
7. WATER THE TREE THROUGHOUT CONSTRUCTION WHEN THERE IS LESS THAN 1" OF RAINFALL IN A WEEK, AERATE & FERTILIZE THE TREE IF NECESSARY.
8. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE IS ALLOWED WITHIN THE LIMIT OF FENCING.



NOTES:
1. DO NOT STAKE EVERGREEN TREES.
2. LOAM FOR BACKFILLING SHALL BE AMENDED AS REQUIRED BY LANDSCAPE ARCHITECT.
3. TAMP BACKFILL SOIL AROUND ROOTBALL FIRMLY TO MINIMIZE ROOTBALL SHIFT.

EVERGREEN TREE PLANTING
NO SCALE



NOTES:
1. GUYING AND STAKING TO BE DETERMINED IN THE FIELD BY THE LANDSCAPE ARCHITECT. LOCAL FIELD CONDITIONS AS WELL AS PLANT CHARACTERISTICS WILL DETERMINE THE NECESSITY OF GUYING AND STAKING.
2. TYPICALLY ONLY TREES WITH A 3" OR GREATER CALIPER NEED TO BE STAKED. TREES WITH LESS THAN A 3" CALIPER NEED TO BE STAKED ONLY AS REQUIRED BY LANDSCAPE ARCHITECT.
3. ONLY HEAD TREE TRUNKS AS REQUIRED BY LANDSCAPE ARCHITECT.
4. TREE SHALL BE SET PLUMB, AFTER SETTLEMENT.
5. LOAM FOR BACKFILLING SHALL BE AMENDED AS REQUIRED BY LANDSCAPE ARCHITECT.
6. CITY TREES PLANTED ON PRIVATE PROPERTY, ADJACENT TO A PUBLIC RIGHT-OF-WAY, NEED TO BE PLANTED A MINIMUM OF 5 FEET FROM THE EDGE OF THE CITY SIDEWALK.

DECIDUOUS TREE PLANTING
NO SCALE

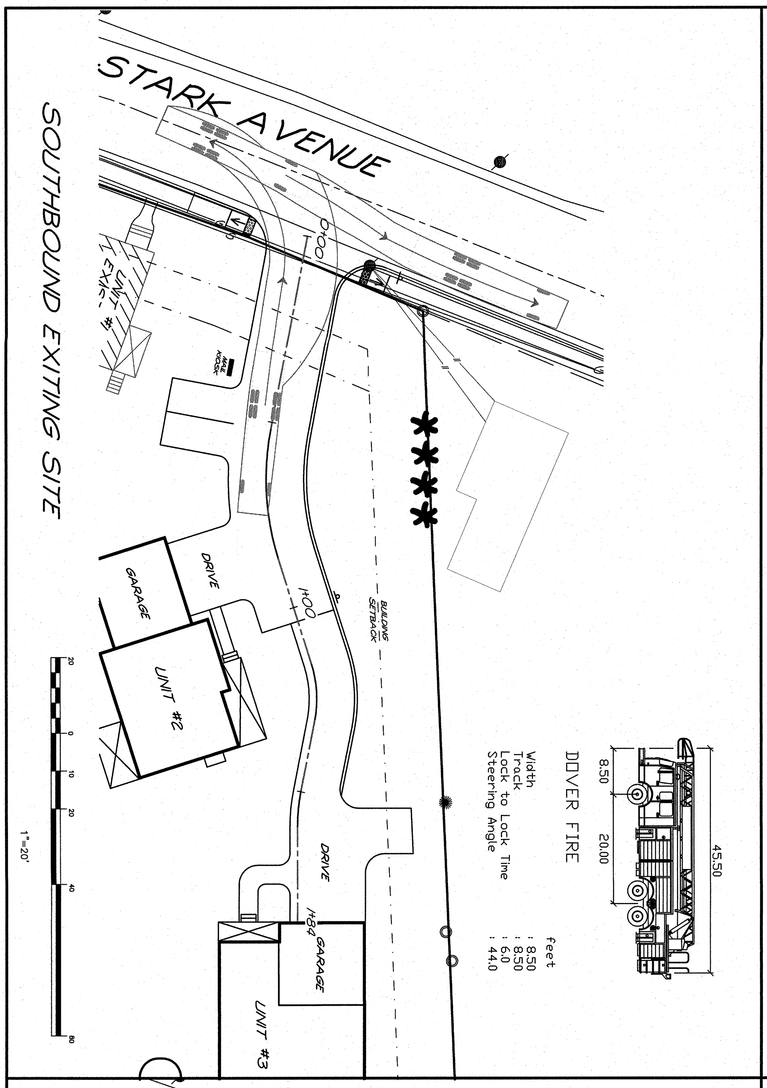
PLANTING SCHEDULE

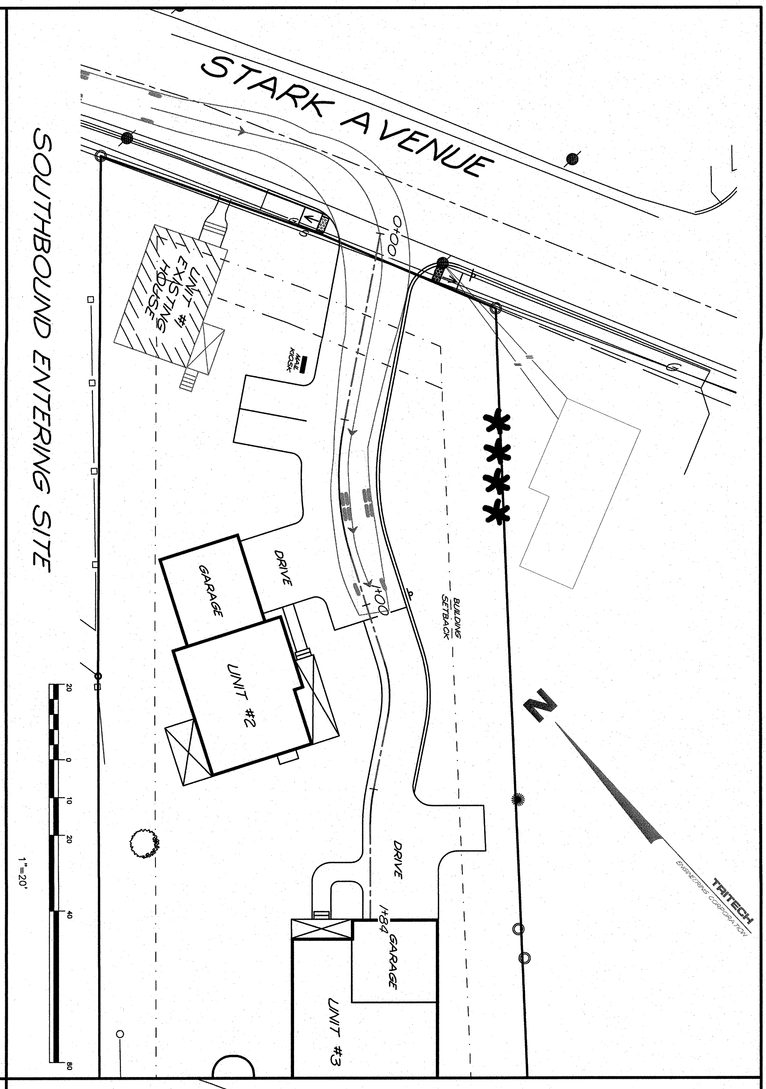
TREES	SIZE	SYMBOL	QTY
Juniperus virginiana 'Emerald Sentinel' / Emerald Sentinal Eastern Red Cedar	6-8' B&B	JV	12
Picea glauca / White Spruce	6-8' B&B	PG	5
Platanus x acerifolia 'Exclamation' / Exclamation Planetree	3-3.5" CAL.	PA	3
Thuja plicata 'Green Giant' / Green Giant Arborvitae	6-8' B&B	TP	6

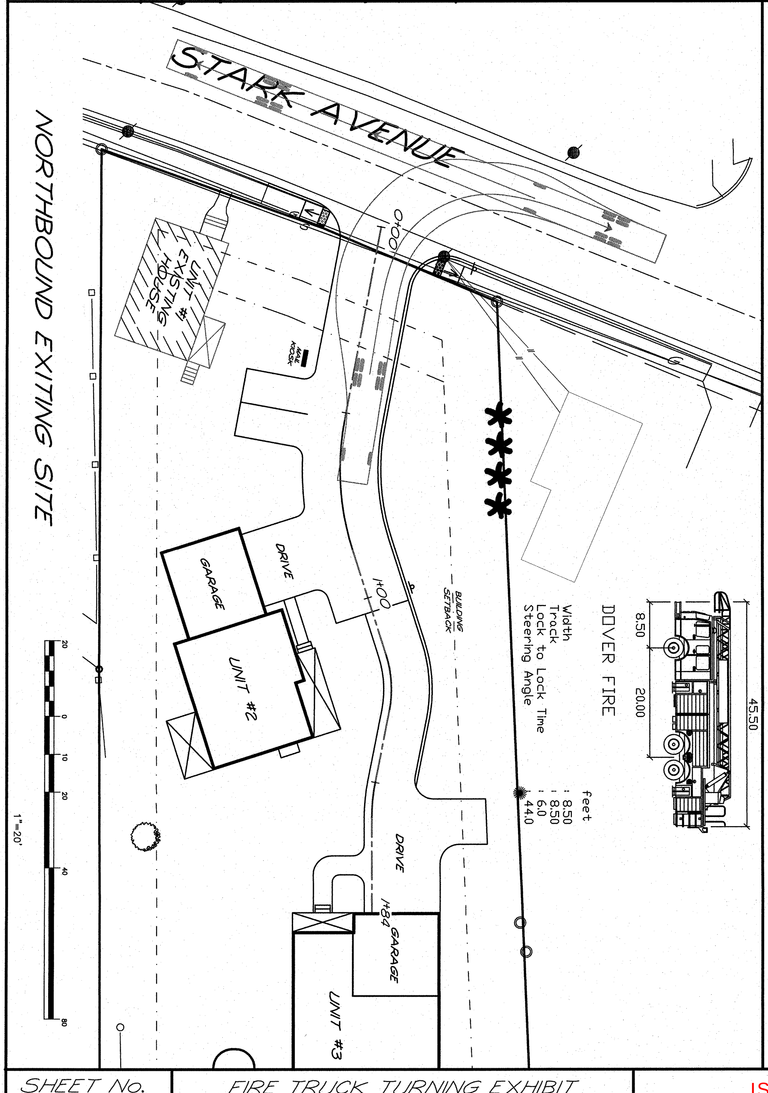
LANDSCAPE CALCULATIONS:

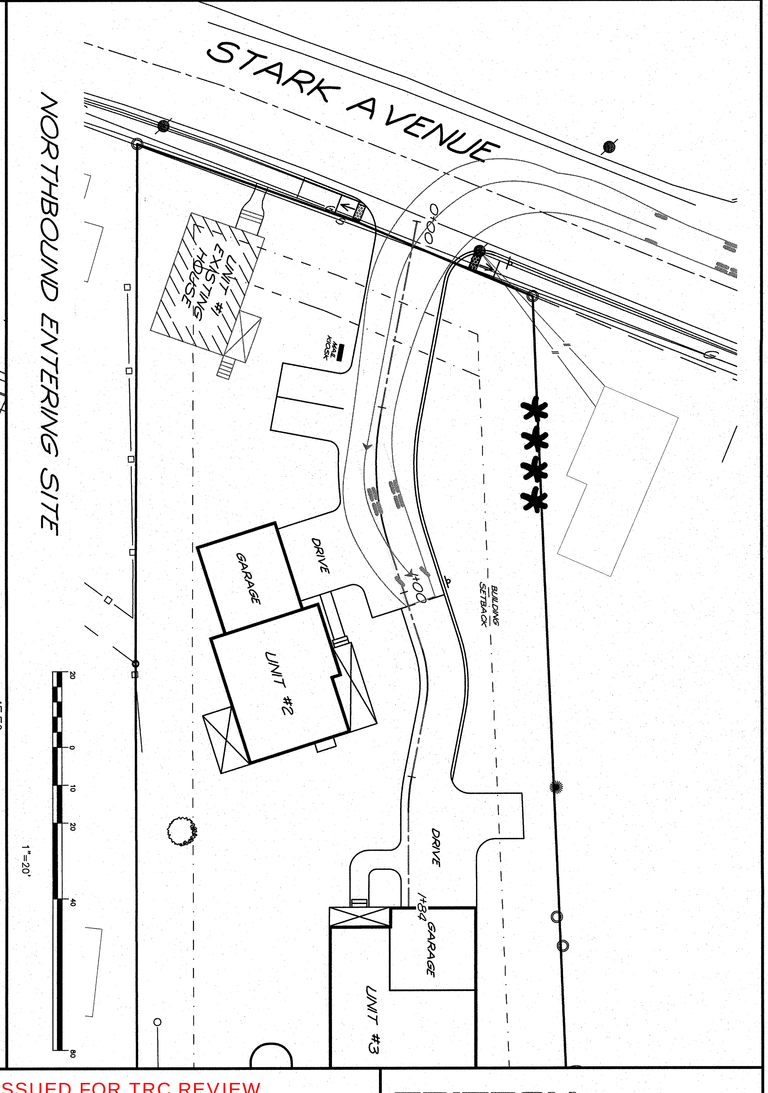
INTERIOR PARKING LOT LANDSCAPING:
NOT REQUIRED FOR PARKING LOTS WITH 0-20 SPACES

STREETSCAPE LANDSCAPING:
REQUIRED: 1 STREET TREE / 35' LINEAR FEET OF ADJACENT ROADWAY
112 L.F.OF ADJACENT ROADWAY (STARK AVENUE) / 35 = 3.2
= 3 STREET TREES REQUIRED
PROVIDED: 3 STREET TREES PROPOSED ALONG STARK AVENUE









SHEET No.

TR-1

FIRE TRUCK TURNING EXHIBIT

COREY MACKOUL

89 STARK AVENUE
DOVER, NEW HAMPSHIRE
STRAFFORD COUNTY

MAY 14, 2026 JOB No. 25136

SCALE: 1" = 20'

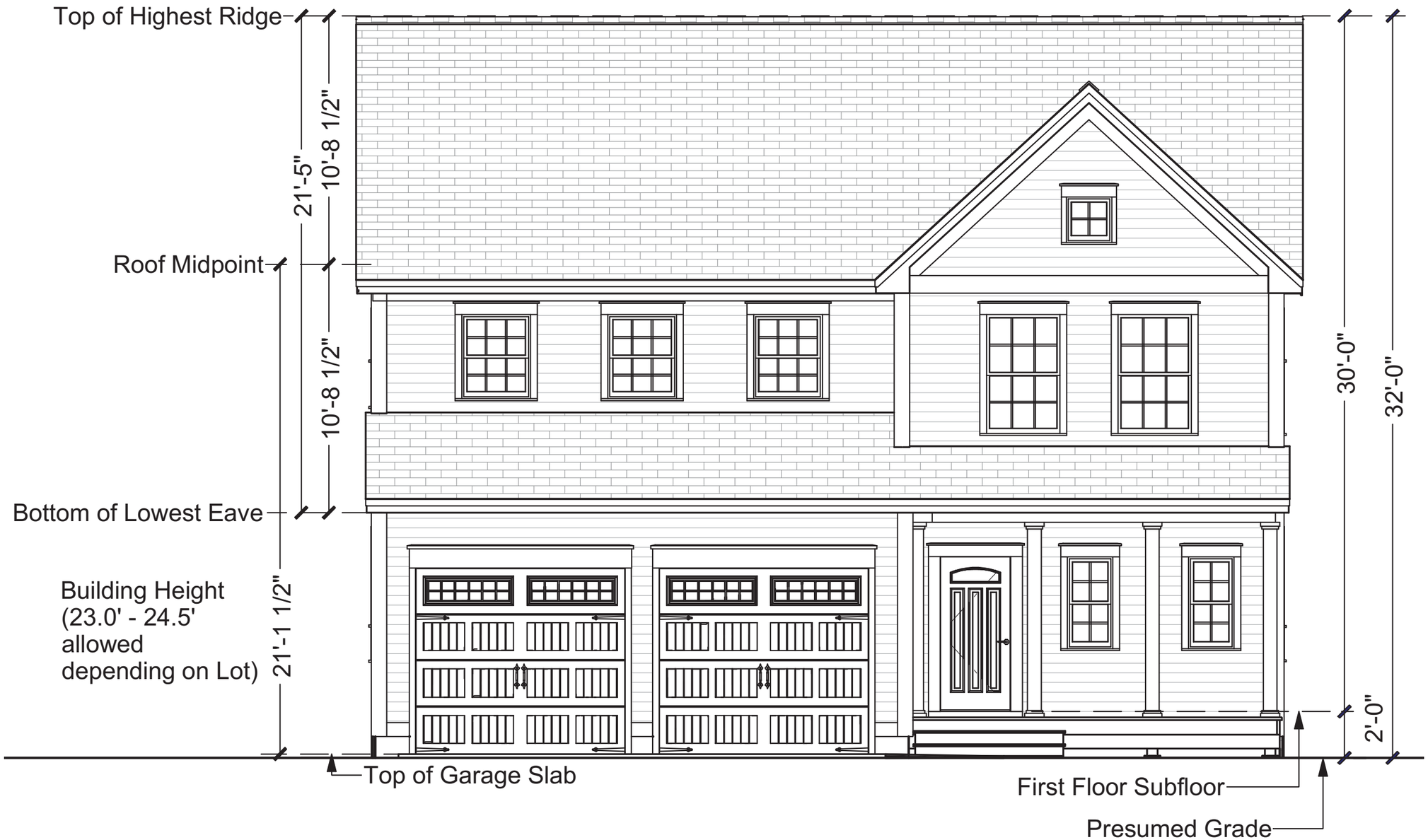
ISSUED FOR TRC REVIEW
May 14, 2026

REVISIONS	
DATE:	DESCRIPTION:

TRITECH
ENGINEERING CORPORATION

755 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820

TELEPHONE 603 742 8107
FAX 603 742 3830


Top of Highest Ridge
Roof Midpoint
Bottom of Lowest Eave
Building Height
(23.0' - 24.5'
allowed
depending on Lot)
21'-5"
10'-8 1/2"
10'-8 1/2"
21'-1 1/2"
30'-0"
32'-0"
2'-0"
Top of Garage Slab
First Floor Subfloor
Presumed Grade


32'-0"
30'-1"
1'-11"
First Floor Subfloor
Presumed Grade

PLAN SNAPSHOT REPORT SITE-2026-0009
FOR CITY OF DOVER, N.H.

Plan Type:	Site Plan - Major	**Project:**		**App Date:**	05/14/2026
Work Class:	Alteration / Addition	**District:**	None	**Exp Date:**	07/18/2026
Status:	In Review	**Square Feet:**	0.00	**Completed:**	NOT COMPLETED
Valuation:	$0.00	**Assigned To:**	Blonigen, Rachel	**Approval Expire Date:**	

Description: To renovate the historic engine house building into 22 luxury residential apartment units.

Parcel:	26003-001000	Main	**Address:**	75 Oak St Dover, 03820	Main

Zone: G(Gateway District)
RM-U(Residential - Urban Density)

Landscape Architect
Terrain Planning and Design
Romy N Maurer
311 Kost Hill Road
Hopkington, NH 03229
Business: (603) 764-3512

Architect
TW Designs, LLC
254 Drake Road
Strafford, NH 03884
Business: (603) 664-2181

Applicant
Dana Rainaud
875 Greenland rd. Building- C
Unit-9 Building- C Unit-9
Portsmouth, NH 03801
Business: (603) 235-3871
Mobile: (603) 235-3871

Applicant
Civilworks New England
Steve Haight
181 Watson Road PO Box
1166
Dover, NH 03820
Business: (603) 749-0443
Mobile: (603) 817-6651

Plan Custom Fields

Total2	0	Total3	0	Total	0
Total5	0	Total4	0	Total6	0
Total7	0	Total9	0	Total8	0
Street Classification Type	Municipal	Recording Number		Net Change in # Parking Spaces (+/-)	-54
Water Service	Municipal	Sewer Service	Municipal	Deed Book	1541
Total Acres (GIS)	0	Deed Page	506	Total SQFT	0
Deed Date	19910211	Proposed Property Use	22 residential apartment units	Area of Parcel to be Developed (SQFT)	54727
Number of Parking Spaces Existing	54	Number of Parking Spaces Proposed	0	Distance to City Water	50
Distance to City Sewer	1500	Type of Building to be Built	Renovation of historic timber-framed building w/brick & wood exterior.	Estimated Construction Value	250000.00
Refuse Removal	Private	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
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_Steve_Haight_5/14/2026.jpg	05/14/2026 11:49	Haight, Steve		Uploaded via CSS

Invoice No.	Fee	Fee Amount	Amount Paid
INV-2026001667	Planning General Application Fee	$200.00	$0.00
	Total for Invoice INV-2026001667	$200.00	$0.00
	Grand Total for Plan	**$200.00**	**$0.00**

PLAN SNAPSHOT REPORT (SITE-2026-0009)

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1		05/15/2026 13:08	
Confirm application complete v.1	Generic Action		05/15/2026 13:08
Technical Review Committee Meeting Agenda v.1	Task	05/15/2026 13:08	
Land Use Plan Technical Review v.1	Receive Submittal		
Technical Review Committee Meeting v.1	Hold Meeting		
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		

CIVILWORKS NEW ENGLAND

181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

May 29, 2026

City of Dover
288 Central Ave
Dover, NH 03820

Attn: Donna Benton, Director
Planning & Community Development

Subject: Site Plan Review & Conditional Use Permit Applications
75 Oak Street - Tax Map 26, Lot 3-1
Civilworks New England Reference No. 25224

Dear Ms. Benton:

On behalf of our client, First Rate Real Estate Group, LLC, we are pleased to submit the following application(s) and associated materials for review by the Technical Review Committee (TRC). Attached are three (3) copies of associated material items 1-9 listed below. All materials will be provided electronically (PDF) to the Planning Department:

1) Site Plan Review Application (includes notification list, fee schedule & checklist)
2) Conditional Use Permit Application (includes CUP Narrative)
3) Owner Authorization Letter
4) Site Plan Review Project Narrative
5) Traffic Assessment Memorandum
6) Landscape Operation & Maintenance Plan
7) Stormwater Inspection & Maintenance Plan
8) Stormwater Management Narrative
9) Site Plan Set, including Landscape Plan & Architectural Plans

We look forward to representing these applications at the TRC meeting on June 11, 2026. Please do not hesitate to contact our office should you have any questions.

Sincerely,
CIVILWORKS NEW ENGLAND



Stephen J. Haight, PE

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: First-Rate Real Estate Group, LLC Telephone # (603) 235-3871

Address of Applicant: 290 Heritage Avenue, Suite 1, Portsmouth, NH 03801

E-Mail Address: neilrobbins1971@yahoo.com

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

Address of Property Owner: _____

PROPERTY INFORMATION

Address of Property: 75 Oak Street

Assessor's Map # 26 Lot(s) # 3-1

Zoning District(s) RM-U / G Overlay District(s) _____

Size of Parcel: 89,395 sq. ft. 2.05 ac. Property Deed: Book 5334 Page: 256

Existing Use of Property: Light Manufacturing, Warehouse, Retail/Wholesale Pottery Sales Facility

SITE PLAN INFORMATION

Describe Proposed Use: Renovation of existing building into 22 residential units.

Area of Parcel to be Developed: 54,727± sq. ft.

If Multi-family Residential: Number of Units 22 & Buildings Proposed 1

If lodging: Number of Units N/A & number of Buildings N/A

Number of Parking Spaces: Existing 54 Proposed 54

Highway Access (check where applicable): ☑ City Street ☐ State Highway

Number of Employees Total: N/A In Maximum Shift: N/A

Disposition of Parcel:

Building Footprint 19,770± sq. ft.

Total Building Area 19,770± sq. ft.

Paved Area Existing 33,833 sq. ft.
Proposed 34,957 sq. ft.
Net Increase 1,124 sq.ft.

Building Setbacks:

Front Yard N/A ft.

Rear Yard 10 ft.

Side Yard: Right 10 ft. Left 10 ft.

City Water? ☑ Yes ☐ No How far is city water from the property? On Site / Oak Street

City Sewer? ☑ Yes ☐ No How far is city sewer from the property? 1500± at Portland Ave

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 _____ units

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

N/A

BUILDING INFORMATION

Type of Building to be Built: Historic timber-framed building w/brick and wood exterior.

Height of Building: 31' Finished Floor Elevation: 88.48' / 88.90'

Number of Seats (where applicable) N/A

Estimated value of construction: $250,000 Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: N/A

Justification for waiver request(s) (*attach additional sheets as needed*):

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Kevin McEneaney, LLS- McEneaney Survey Associates

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-742-0911

Professional License #: NH LLS # 661 E-mail address: kevin@surveynh.com

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Stephen J. Haight, PE - Civilworks New England

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-749-0443

Professional License #: NH PE # 7978 E-mail address: shaight@civilworksne.com

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) T.W. Designs, LLC - John M. Tuttle, AIA, LEED AP

Address 254 Drake Hill Road Strafford, NH 03884 Telephone #: 603-664-2181

Professional License #: NH AIA #4015 E-mail address: john@tw-design.com

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) Romy Maurer - Terrain Planning & Design, LLC

Address 311 Kast Hill Road Hopkinton, NH 03229 Telephone #: 603-746-3212

Professional License #: NH LLA # 086 E-mail address: romy@terrainplanning.com

SOIL SCIENTIST INFORMATION

Name of Soil Scientist and Company (Licensed in N.H.) N/A

Address _____ Telephone #: _____

Professional License #: _____ E-mail address: _____

CONSERVATION EASEMENT HOLDER

Name of Easement Holder: N/A 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: _____

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

Signature of Agent: _____ Date: _____

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: _____

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: _____

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: _____

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
26	3-1	First-Rate Real Estate Group LLC	290 Heritage Ave, Ste 1, Portsmouth, NH 03801

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Stephen J. Haight, PE	Civilworks New England	P.O. Box 1166 Dover, NH 03821
Kevin McEneaney, LLS	McEneaney Survey Associates	P.O. Box 1166 Dover, NH 03821
Romy Maurer, LLA	Terrain Planning & Design, LLC	311 Kast Hill Road Hopkinton, NH 03229

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 # 22 per dwelling unit = $ 2,400.00
- ☐ 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 # 1,124 sq. ft. = $ 78.68

SUBTOTAL PLAN REVIEW FEE = $ 2,478.68

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: First-Rate Real Estate Group, LLC File Number: _____

PROJECT TITLE: The Engine House Luxury Apartments

PROPERTY LOCATION: 75 Oak Street Tax Map: 26 Lot: 3-1

	Where/How Provided	Reviewed
1. Completed and signed Application form	☑	
2. Plan Review Fees are provided	☑	
3. Electronic copy of the engineered/surveyed plan layout	☑	
4. Electronic copy of supplementary materials and application	☑	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	☑	
6. Waiver requests to the Site Plan Review Regulations, with written justification	☐ N/A	
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	☑	
9. A colored architectural plan showing all sides of buildings	☑	
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:	☑	
Location map at appropriate scale	☑	
Proposed Project name and title and Planning File #	☑	
Date, north arrow and scale	☑	
Names of all abutting property owners	☑	
Name and address of owners and/or applicants	☑	
Signature & stamp of NH licensed land surveyor and/or engineer	☑	
Zoning District boundaries, including any special or overlay districts	☑	
Location of Conservation District areas	☐ N/A	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	☑	
Location and widths of existing & proposed easements & right of ways	☑	
Location and width of existing and proposed access/egress ways	☑	

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

REVIEWED BY: _____ DATE_____ TRC DATE_____

City of Dover, New Hampshire
CONDITIONAL USE PERMIT APPLICATION

[Revision Date: October 19, 2020]

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

APPLICANT AND OWNER INFORMATION

Name of Applicant: First-Rate Real Estate Group, LLC Telephone # 603-234-7520

Address of Applicant: 290 Heritage Avenue, Suite 1, Portsmouth, NH 03801

E-Mail Address: neilrobbins1971@yahoo.com

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

Address of Property Owner: _____

PROPERTY INFORMATION

Assessor's Map # 26 Lot(s) # 3-1

Address of Property: 75 Oak Street

Zoning District(s) RM-U / G Overlay District(s) _____

Existing Use of Property: Light Manufacturing, Warehouse, Retail/ Wholesale Sales Facility

CONDITIONAL USE PERMIT INFORMATION

Type of Conditional Use Permit (Check All That Apply):

☐ Conservation District	☐ RCM Use Overlay District	☑ Gateway District
☐ Groundwater Protection	☐ Off-Street Parking and Loading	☐ Alternative Treatment Center
☐ Wetland Protection District	☐ Central Business District	☐ Heritage Residential District

Describe Proposed Use or Activity That Requires Conditional Use Permit and Describe Any Impacts:

See attached narrative.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status: N/A

Name of Professional That Prepared Plans: Stephen J. Haight, PE - Civilworks New England

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-749-0443

Professional License #: NH PE # 7978 E-mail address: shaight@civilworksne.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: _____

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

Signature of Agent: _____ Date: _____

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: _____

CITY OF DOVER CONDITIONAL USE
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
26	3-1	First-Rate Real Estate Group, LLC	290 Heritage Avenue, Suite 1

Applicant (if different from owner): Portsmouth, NH 03801

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Stephen J. Haight, PE	Civilworks New England	P.O. Box 1166 Dover, NH 03821
Kevin McEneaney, LLS	McEneaney Survey Associates	P.O. Box 1166 Dover, NH 03821
John M. Tuttle, AIA, LEED AP	T.W. Designs, LLC	254 Drake Hill Road Strafford, NH 03884

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 # 1 per Application = $200.00
- ☐ 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 = $200.00

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.

CONDITIONAL USE PERMIT
Application Narrative
75 Oak Street
Tax Map 26, Lot 3-1

ZONING 170 - Attachment 10
Gateway District

Streetscape Standards
Streetscape standards were crafted to ensure streets in mixed-use areas of the Gateway District have a relationship with adjacent buildings, accommodate pedestrians and bicyclists, and are compatible with the character of Dover's neighborhoods. All street elements must be consistent with Dover Streetscape and Landscape Standards.

- Sidewalks are encouraged to be brick and shall be a minimum of 5 feet wide.
  There are no sidewalks proposed along the street due to the topography of the parcel along Oak Street. This design is consistent with the surrounding properties, as there are currently no sidewalks on Oak Street.

- Street trees shall be planted at an average spacing of 25 to 30 feet on center. Planting method shall allow for maximum root zone space where possible. Existing healthy street trees shall be protected, if possible.
  The site has existing healthy trees along Oak Street, which will remain in place.

- Unpaved ground area along the frontage shall be planted with appropriate ground cover or shrubs, no bare ground permitted. Low-impact development techniques such as rain gardens, bioretention areas, tree boxes and other green infrastructure techniques shall be incorporated into these landscaped areas and maintained to ensure five-foot-wide walkway.
  Adding green infrastructure techniques within the unpaved area along the frontage would conflict with the existing utilities on Oak Street.

- Projects shall be designed to maintain and enhance the quality of vehicular, bicycle and pedestrian circulation and safety on affected public streets.
  This site design maintains the current conditions of circulation and safety on Oak Street by renovating an existing building and minimizing new impacts to the public street.

- Street furniture is encouraged to be provided as follows:
  - 1 bench for every 75 feet of frontage.
  - At least 1 waste bin at each block corner.
  - 1 bike rack per nonresidential project.

  Street furniture is not included in the site design as the area of Oak Street is not pedestrian friendly, and currently has no sidewalks.

- Lighting and mechanical equipment standards per § 170-20E(3)(d).
  All lighting and mechanical equipment standards are being met within this site design.

First-Rate Real Estate Group, LLC
290 Heritage Avenue, Suite 1
Portsmouth, New Hampshire 03801

May 12, 2026

City of Dover
288 Central Avenue
Dover, NH 03820

Attn: Planning Board

Re: LETTER OF APPLICANT/OWNER AUTHORIZATION
Site Plan Review Applications & Approvals
75 Oak Street – Tax Map 26, Lot 3-1, 3-1A

I, Neil Robbins, as Member of First-Rate Real Estate Group, LLC (Owner and Applicant), authorize Civilworks New England and McEneaney Survey Associates to represent all applications made on behalf of me to the City of Dover Planning Board and any other Dover Board or Committee, as well as any State of NH departments, as necessary, relative to the pursuit of approvals and permits for the development of the subject parcel.

Respectfully,

Neil Robbins, Member
First-Rate Real Estate Group, LLC

PROJECT NARRATIVE

for

First-Rate Real Estate Group, LLC

Site Plan Review

Tax Map 26, Lots 3-1

75 Oak Street

PROJECT OVERVIEW & SITE CHARACTERISTICS

The subject parcel consists of 2.05 acres located at 75 Oak Street and is within the Urban Density Multi-Residential (RM-U) and Gateway (G) Districts. The site design proposes the interior renovation of the existing brick building to create twenty-two (22) residential rental units. Boston and Maine Railroad land abuts the subject parcel to the East, South, and West, with Oak Street to the North.

The proposal includes minor site improvements associated with the residential units, such grading & drainage improvements, and underground utility service improvements, recreational area, a dumpster location and site lighting.

The project site consists of the following general improvement plan:

- Demolition of incidental building elements;
- Improvements to existing parking lot;
- Improvements to grading and drainage;
- Upgrade utility connections, as necessary;
- Stabilize remaining areas with loam and seed;
- Landscaping;
- Site lighting.

DRIVEWAY AND PARKING LOT

The proposed development will maintain the existing driveway access from Oak Street as provided via an easement over Railroad land along the Easterly property line of the subject parcel. The existing paved parking lot will be repaved and restriped to provide 54 parking spaces, including 2 ADA spaces.

DRAINAGE

The project proposes the interior renovation of an existing brick building into 22 residential units, which includes associated parking, grading & drainage improvements, and underground utility services. The site design will incorporate the use of existing stormwater drainage structures on site and will be maintained by the project proponent as outlined within the Stormwater Management System Inspection & Maintenance Manual.

TRAFFIC

A traffic assessment was completed for the project and is attached as a report to this submittal. The traffic assessment indicates, and as expected, there would be a minimal increase in traffic as a result of the proposed development and would not significantly impact Oak Street or the surrounding area.

UTILITIES

The proposed project will connect to the existing City of Dover water service located in Oak Street. Existing electric, communication services and gas are also located on Oak Street. Building and utility connections will be made per the City's Community Services Utility Division and Fire Department requirements and standards. Separately, the subject parcel will be served by a sewer force main connecting to the municipal system in Portland Avenue.

CIVILWORKS NEW ENGLAND
181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443

TRAFFIC ASSESSMENT MEMORANDUM May 12, 2026

INTRODUCTION

Civilworks New England has prepared this traffic-assessment memorandum (TAM) regarding the redevelopment project proposed within an Engine House building located at 75 Oak Street, Tax Map 26, Lot 3-1, in Dover, NH. The redevelopment involves the conversion of the former pottery production and sales building into 22 residential units.

This TAM includes:

- existing site description
- proposed project description
- road description
- public transit
- sight distances at the driveway
- trip generation
- trip distribution/assignment
- potential traffic impacts

This TAM concludes that:

- relevant sight distances at the Oak Street / driveway intersection will be adequate.
- The proposed project is not anticipated to add significant new traffic to the area.

EXISTING SITE DESCRIPTION

The project site:

- The existing building, until recently, contained a stoneware pottery business that included on site production of the pottery, retail display and sales shop, and a wholesale warehouse and shipping area for packaging and shipping to other retailers selling their product.
- The building and use were served by an existing driveway access from Oak Street.
- This driveway also shares access to the Boston & Maine Railroad to service railroad facilities located adjacent to the project site.

PROPOSED PROJECT DESCRIPTION

The project proposes the conversion of the existing building into 22 residential units. The existing driveway will remain in its present location to serve the proposed units.

ROAD DESCRIPTION

Oak Street:

- is two-way with marked pavement and one travel lane in each direction.
- has a posted speed limit of 30 MPH.
- has a relatively straight alignment with limited grade change to the bridge to the west and a gradual increase in elevation to the east.
- has no sidewalks in the project site area.
- streetside parking is not apparent.
- has a total average daily traffic (ADT) volume of 8,086 vehicles (total both directions) measured at the bridge just west of the project site as reported by the NHDOT for 2025.

SIGHT DISTANCES

The project site is located on a relatively straight section of roadway that has limited elevation change so sight distance in both directions is enhanced. Several residential driveways exist along the north side of the roadway in the site area.

The American Association of State Highway and Transportation Officials (AASHTO) has established authoritative policy for appropriate sight distances in terms of stopping sight distance (SSD) for vehicles on the main road reacting to existing traffic, and intersection sight distance (ISD) for left turn movements from a stop. For a roadway with vehicles traveling at the 30 MPH speed limit, AASHTO has established the SSD to be 200 feet and ISD to be 335 feet. The available sight distance to the east and west at the project driveway is approximately 350 feet, or more, which is suitable for SSD at 44 miles per hour and for ISD at 31 miles per hour.

Therefore, sight distance would be adequate, certainly for speeds of 30 MPH. Additionally, sight distance from the access drive will not be impeded by streetside parking. This, combined with the relatively unobstructed nature of the roadside, will provide the opportunity to maintain sightlines throughout the year which is evidenced by the successful functionality of the existing driveway over the many years that it has served various uses in the present location.

PUBLIC TRANSIT

Collaborative Alliance for Seacoast Transportation (COAST) Route 12 provides bus service along Central Avenue to the west of the property. A bus stop is located near the intersection of Oak Street and Central Avenue. Service is on Mondays through Saturdays, except holidays. Route 12 connects with several other routes along with the Dover Transportation Center and the Amtrak "Downeaster" train station.

CALCULATED TRIP GENERATION

The Institute of Transportation Engineers (ITE) compiles and publishes trip-generation information for a variety of land uses in *Trip Generation Manual*.[1] This authoritative guide for calculating site traffic includes vehicle trip information for the existing and proposed uses. It is relevant to consider the trips associated with the proposed use on a net basis versus the existing use.

Table 1 shows calculated vehicle trip ends associated with the newly proposed residential units. Table 2 and Table 3 show the trips associated with the two components of the prior use that will be discontinued; an on-site retail pottery "craft" sales and the light "manufacturing" use associated with the on-site production of the pottery, respectively. For purposes of this analysis, these are considered to be the "proposed" and "existing" uses for the project. The vehicle trips associated with the existing CSX railroad service use will remain unchanged and are not calculated herein as it is very limited.

(Trip Generation tables on next page)

[1] ITE, *Trip Generation Manual,* 11th edition (Washington DC, September 2021)

CIVILWORKS NEW ENGLAND
181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443

Table 1: Trip Generation - Multifamily Housing (Low-Rise) - Not Close to Rail Transit (22 Units)

			Vehicle Trips*		
Weekday Period	Avg. Trips	Proposed Units	Total	In	Out
Daily	See Equation	22	216.3	108.2	108.2
AM Peak Hour of Generator	See Equation	22	35.8	8.6	27.2
PM Peak Hour of Generator	See Equation	22	44	27.3	16.7

* ITE, *Trip Generation Manual,* Multifamily Housing (Low-Rise) Not Close to Rail Transit, Land Use Code 220

Weekday Trips = T = 6.41(X) + 75.31 (50% entering, 50% exiting)
AM Trips = T = 0.35(X) + 28.13 (24% entering, 76% exiting)
PM Trips = T = 0.42(X) + 34.78 (62% entering, 38% exiting)

Table 2: Trip Generation - Arts and Crafts Store (1,220 SF)

			Vehicle Trips*		
Weekday Period	Avg. Trips / 1,000 SF	Proposed Units	Total	In	Out
Daily	56.55	1.22	57.8	28.9	28.9
AM Peak Hour of Generator	4.65	1.22	5.7	2.8	2.9
PM Peak Hour of Generator	6.85	1.22	8.4	4.3	4.1

* ITE, *Trip Generation Manual,* Arts and Crafts Store - Land Use Code 879

Weekday Trips = No Equation => Ave. Rate = 56.55 / 1,000 SF (50% entering, 50% exiting)
AM Trips = No Equation => Ave. Rate = 4.65 / 1,000 SF (49% entering, 51% exiting)
PM Trips = No Equation => Ave. Rate = 6.85 / 1,000 SF (51% entering, 49% exiting)

Table 3: Trip Generation - Light Industrial (15,480 SF)

			Vehicle Trips*		
Weekday Period	Avg. Trips / 1,000 SF	Proposed SF (1,000)	Total	In	Out
Daily	4.87	15.48	75.4	37.7	37.7
AM Peak Hour of Generator	0.91	15.48	14.1	12.2	1.9
PM Peak Hour of Generator	0.80	15.48	12.4	2.2	10.2

* ITE, *Trip Generation Manual,* Light Industrial - Land Use Code 110

Weekday Trips = No Equation => Ave. Rate = 4.87 / 1,000 SF (50% entering, 50% exiting)
AM Trips = No Equation => Ave. Rate = 0.91 / 1,000 SF (87% entering, 13% exiting)
PM Trips = No Equation => Ave. Rate = 0.80 / 1,000 SF (18% entering, 82% exiting)

TRIP DISTRIBUTION/ASSIGNMENT

All project-related trips will access and egress the site from and to Oak Street. The calculated vehicle trip generation for the development project relative to the existing number of vehicles that are presently travelling Oak Street, which has ADT relatively equally divided in the eastbound and westbound directions, is such that area traffic operations are not sensitive to trip distribution/assignment of project vehicle trips.

CIVILWORKS NEW ENGLAND
181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443

POTENTIAL TRAFFIC IMPACTS

The calculations show an increase in vehicle trips resulting from the project use conversion as:

- Daily (weekday) = 216.3 total trips (108.2 in and 108.2 out) proposed vs.
  133.2 existing trips (66.6 in and 66.6 out)
  Net Increase = 83.1 trips (41.6 in and 41.6 out)

- AM peak hour (weekday) = 35.8 total trips (8.6 in and 27.2 out) proposed vs.
  19.8 existing trips (15.0 in and 4.8 out)
  Net Increase In = 16 total trips (6.4 in and 22.4 out)

- PM peak hour (weekday) = 44.0 total trips (27.3 in and 16.7 out) proposed vs.
  20.8 existing trips (6.5 in and 14.3 out)
  Net Increase = 23.2 trips (20.8 in and 2.4 out)

The net increase in weekday trips represents only 1.03 percent of the ADT on Oak Street as measured near the project site in 2025. Therefore, the traffic anticipated for the proposed project would not significantly impact the surrounding area.

CONCLUSION

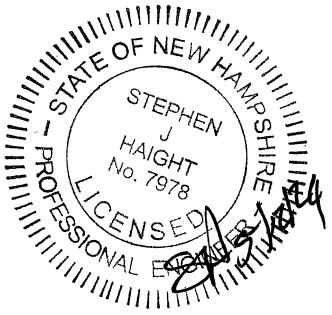
In conclusion, the very small increase in traffic anticipated from the proposed project, in comparison to the previous use of the property, would not negatively impact Oak Street and the surrounding area in any meaningful way.

CIVILWORKS NEW ENGLAND

Sincerely,

Stephen J. Haight, PE

Cc: First-Rate Real Estate Group, LLC



Landscape Best Management Practices
Operations and Maintenance Plan

THE ENGINE HOUSE LUXURY APARTMENTS

75 Oak Street
Dover, New Hampshire 03820

Prepared for:
First-Rate Real Estate Group, LLC
290 Heritage Avenue, Suite 1
Portsmouth, NH 03801

Prepared by:
Terrain Planning & Design, LLC
311 Kast Hill Road
Hopkinton, NH 03229



Landscape Maintenance

Introduction:

The landscape enhancements proposed for the proposed residential development will require modest maintenance at various times throughout the year. For the site plantings, maintenance is most important during the first 1-2 years following installation when plants are becoming established. Anyone involved in the upkeep of the facility should become familiar with the landscape and its features. Identified below are basic, at minimum, maintenance tasks:

Weekly Tasks:

1. Prune back any shrubs overhanging curbs or sidewalks.
2. Remove litter from plants bed.
3. Remove broken or fallen branches from trees.
4. Prune sucker growth from tree trunks.
5. Remove weeds larger than 2 inches high or wide from plant beds. Weeds 2 inches and larger must be removed, not just killed. **The application of herbicides such as Roundup is discouraged.**
6. Any invasive species seedlings observed should be removed and disposed of properly.
7. Replace bark mulch that may have been washed out of planting beds. Smooth mulch layer if it has been disturbed.
8. Check plants for signs of stress, pests, or disease and notify Owner for authorization to replace.
9. If a significant decline in plant health is attributed to an insect pest, **apply an organic product and/or process** to control the pest.
10. Water plants that are dry and stressed.
11. Notify Owner for authorization to replace dead plants at the appropriate time (see annual tasks, September).
12. Identify other tasks listed on the Annual and Monthly checklist of tasks.

Annual Tasks

Early Spring:

1. Prune winter damage such as broken tree branches that interfere with public safety.
2. Trim dead perennial foliage left in the fall for winter interest to within six inches of the ground.
3. Add new mulch to plant beds where the mulch depth has been reduced to less than 2 inches. Mulch depth shall not exceed two inches (top dressed). Mulch is not required where shrubs or groundcover completely hide the soil surface from view.
4. Gently prune shrubs at appropriate time of year based on species, for shape and form. **Do not shear.**
5. Energize the irrigation system, repair damaged components, test the system, adjust heads, and update programing.
6. Conduct a soil test to measure at a minimum, pH, phosphorus, potassium, calcium, and magnesium. Follow the recommendations provided with the soil test results.
7. Apply fertilizer only when required. A single application of fertilizer per year before Memorial Day is encouraged.

Monthly Tasks

June:

No additional items

July:

No additional items

August:

No additional items

September:

1. Inventory all plant materials, including an exact count of all shrubs and trees.
2. Replace any dead or missing plants.
3. Aerate lawn areas.
4. Apply pelletized lime at a rate of 80 lbs/1,000 square feet or as soil test dictates.

October:

1. Winterize irrigation system.

November:

1. Remove leaves from lawn areas and planting beds.
2. Remove perennial vegetation that has died back for the season.
3. Apply "WILT-PRUF" to broadleaf evergreens, according to label instructions, to protect shrubs from winter die back.

December:

1. Prune any tree branches that interfere with public safety.
2. Prune street and parking lot trees yearly to encourage strong growth the following growing season. Trees adjacent to pedestrian sidewalks shall have branches pruned to 6-foot height.

Management Task or Activity	Time or Frequency						
	Weekly	Monthly	Spring	Summer	Fall	Winter	After Major Rain Events
Replace dead or dying plants			X				
Remove weeds	X		X	X	X		
Cut down grasses			X				
Remove accumulated leaves, litter, and plant debris		X					X

Stormwater Detention Facilities

Introduction:

The stormwater facilities are used to attenuate flow and treat stormwater. The stormwater treatment areas consist of a large bioretention pond and linear swales seeded with a variety of native, adaptable, and rugged perennial grasses, and sometimes additional flowering plants. There are maintenance tasks associated with stormwater facilities.

Erosion:

The soil in the facility and in areas draining to the facility shall be inspected for erosion. Eroded areas shall be filled with soil or mulch and seeded with the approved seed mix for the location.

Sediment Accumulation & Clogging:

The accumulation of sediment within the facility may reduce its infiltration capacity and impair performance. The facility shall be inspected for accumulation of sediment and excessive sediment shall be removed with the area re-mulched and replanted as appropriate and necessary.

Outlet Structure Maintenance:

The facility outlet structure requires monitoring. Periodically, the orifice on the outlet pipe may clog with debris. Any found debris should be removed and appropriately disposed of off-site.

Debris & Litter:

Debris and litter should be removed monthly to maintain aesthetic appearance and public acceptance.

Plant Maintenance:

Healthy vegetation contributes to the optimal operation of the stormwater facility. Planting area maintenance tasks include the removal of accumulated leaves, litter, and plant debris as needed. During the first 1-2 years after planting, the facility should be monitored for invasive species and weeded as needed and appropriate. Well-established facility vegetation should be mowed annually in the fall.

Snow Storage:

Snow shall not be dumped directly onto the facility.

Chlorides:

The stormwater facility is not suitable for treating chlorides. Chloride use on source surface areas tributary to the facility should be avoided if possible. In these locations, it would be prudent to eliminate or reduce application of chloride-containing deicing compounds, use alternative deicers, or apply clean sand as needed. Aggressive sweeping in these areas, along with pretreatment sumps and filter strips, will minimize the negative impact of the sand on the facility.

Management Task or Activity	Time or Frequency						
	Weekly	Monthly	Spring	Summer	Fall	Winter	After Major Rain Events
Inspect for erosion. Rake and redistribute/replenish any soil, rap, or mulch that has eroded		X					X
Inspect for standing water							X
Remove accumulated leaves, litter, and plant debris		X					X
Weed plant material		X					
Mow plant material					X		

Stormwater Management System Inspection & Maintenance Plan

Prepared for

RESIDENTIAL APARTMENTS
MAP 26, LOT 3-1

75 Oak Street
Dover, New Hampshire
Strafford County

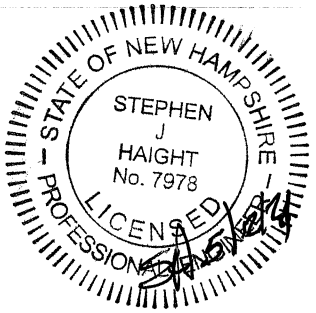
May 2026

Owner of Record:

First-Rate Real Estate Group, LLC
290 Heritage Avenue, Suite 1
Portsmouth, New Hampshire 03801

Prepared By:

CIVILWORKS NEW ENGLAND
P.O. Box 1166
181 Watson Road
Dover, New Hampshire 03820



Introduction

Civilworks NE, has prepared the following Stormwater Management System Inspection & Maintenance Plan for **First-Rate Real Estate Group, LLC**. The intent of this plan is to provide a list of procedures that document the inspection and maintenance requirements of the Stormwater Management System for this site.

The inspection and maintenance requirements outlined in this document are required to be performed in perpetuity. In the event the property is sold, future owners will be responsible for implementing the responsibilities outlined in this document.

The inspection and maintenance program is necessary in order to keep the Stormwater Management System functioning properly. These measures will also help to minimize potential environmental impacts to the areas surrounding the developed site. By following the enclosed procedures, the property owners, and maintenance personnel will be able to maintain the functional design of the Stormwater Management System and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

This plan also requires the Owner/Operator to prepare and implement a salt minimization plan to reduce salt usage on-site and ultimately within the watershed. This plan will allow the owner/operator to monitor and modify how much salt is needed, when it should be applied, and where it needs to be applied, with the ultimate goal of reducing salt-use without compromising safety. It is expected that salt-use reduction will lead to long-term cost-savings as a result of purchasing less salt and reduced impacts on vegetation (e.g., landscaping) and corrosion of infrastructure.

The salt minimization plan should include the retention of a contractor who has completed the Green SnowPro Training course and obtained NHDES Salt Application Certification.

It is anticipated that this be a living document that will be updated at regular intervals (recommend updating annually in advance of the winter season in order to facilitate adjustments).

Owner

First-Rate Real Estate Group, LLC
290 Heritage Avenue, Suite 1
Portsmouth, New Hampshire 03801

In the event of a change in ownership, this Inspection and Maintenance Plan shall be transferred to the new party; transfer shall be documented to NH DES in writing.

Contact / Responsible Party:

First-Rate Real Estate Group, LLC
290 Heritage Avenue, Suite 1
Portsmouth, New Hampshire 03801

The contact information for the Contact / Responsible Party shall be kept current.

Management Company:

First-Rate Real Estate Group, LLC
290 Heritage Avenue, Suite 1
Portsmouth, New Hampshire 03801

The contact information for the Management Party shall be kept current.

Inspection Schedule / Record Retention

Inspection frequency should, at a minimum, be in accordance with New Hampshire Stormwater Manual, Volume 2, latest edition, as updated by NHDES. See the Inspection and Maintenance Plan for frequency requirements. A copy of the completed Stormwater Management System's Inspection & Maintenance Log and Deicing Salt Quantity Use Log shall be maintained, kept on-site, and be made available to local, state, or federal regulators as applicable by law. All Inspection and Maintenance records must be provided to the City of Dover Community Services Department annually before Dec 15th.

Stormwater Management System Components

The Stormwater Management System associated with the project is designed to mitigate both the quantity and quality of site-generated stormwater runoff. As a result, its design includes the following elements:

- Catch Basins
- Pavement
- Litter / Trash Removal

Design elements are identified in the design plans and are depicted on a Stormwater I&M Plan attached to this document. A copy of which shall be maintained with this Inspection and Maintenance Plan.

Control of Invasive Species

During maintenance activities, check for the presence of invasive plants and remove in a safe manner. Invasive plants shall be controlled to prevent them from reproducing, spreading, or re-growing. See the University of New Hampshire – Cooperative Extension's "Method for Disposing Non-Native Invasive Plants", included at the end of this manual, for guidance on the removal and disposal of invasive species.

Inspection and Maintenance Plan

By implementing the following procedures, the owners will be able to maintain the functional design of the Stormwater Management System and maximize the system's ability to remove sediment and other contaminants from site generated stormwater runoff and to effectively recharge the underlying groundwater resources.

CATCH BASIN(S):

- Inspect once per year.
- Inspect for floatables, sediment accumulation, and hydrocarbons (oils and grease).
- Remove all floatables immediately and sediment accumulations ≥ 1 foot.
- Hydrocarbons shall be removed immediately by skimming, absorbent materials, or other methods and should be disposed of in accordance with applicable State and Federal regulations.

PAVEMENT:

- Minimize sanding.
- Minimize application of salt for ice control.
- Clean periodically (1-2 times per year) using a sweeper or vacuum sweeper. Vacuum sweeping is the preferred method.

LITTER / TRASH REMOVAL:

- Routinely patrol site for litter pick up.

DE-ICING AGENTS

- To address the concerns associated with the application of chlorides and other deicing materials, NHDES recommends that the Owner/Operator develop a Road Salt and Deicing Minimization Plan for the parking lots and roadways. The plan should develop the policies that the development will keep in place to minimize salt and other deicer use after the project has been completed. The plan should include tracking the use of salt and other deicers for each storm event and compiling salt use data annually. (See Anti-icing Data Form in the appendix).
- Use sand as primary agent for driveway and access way safety during ice and snow conditions
- Minimize the use of salt during the winter
- Use de-icing or anti-caking agents, added to enhance performance and application characteristics of sand mixtures, only as necessary and at minimum application rates.
- Recommend using a certified Winter Operator (Green SnowPro Trained) for applying de-icing agents.
- Monitor weather and apply de-icing agents based on weather conditions and temperatures.

ANTI-ICING AND SALT MINIMIZATION

- Owner to develop a Road Salt and Deicing Minimization Plan
- Provide a written policy that the “Development” will keep in place to minimize salt and other deicer use after the project has been completed.
- Use the attached form to track the use of salt and other deicers for each storm event and compiling salt use data annually.

Inspection & Maintenance Table

System Component / BMP	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
Catch Basins	Annually	• Check for sediment accumulation • Check for floatable contaminants • Check for hydrocarbons (oils and grease)	≥ 1 ft. sediment depth Remove all floatables Remove immediately
Pavement: • Sanding • Salt Applications • Sweep/Vacuum • Trash/Debris	Limit use As required 1 - 2 x's Year Periodically	• Minimize use to prevent tracking issues • RECORD APPLICATION RATES • Sweep or vacuum to prevent tracking issues • Check for trash/debris	Sweep to prevent issues Minimize (as required) Sweep/Vac as needed Remove when noticed
Litter / Trash Removal	Periodically	• Check for litter and trash	Remove when noticed

Inspection & Maintenance Checklist/Log

The following page contains a blank copy of the Stormwater Management System's Inspection & Maintenance Log and a Deicing Salt Quantity Use Log. These forms are provided to assist the owners with the inspection and maintenance of the aforementioned Stormwater Management System.

Stormwater Management System's Inspection & Maintenance Log

Date of Inspection/Maintenance: _____ Inspector:_____

System Component / BMP	Cleaning / Repair Needed (List Items / Comments)	Date of Cleaning/Repair	Performed By

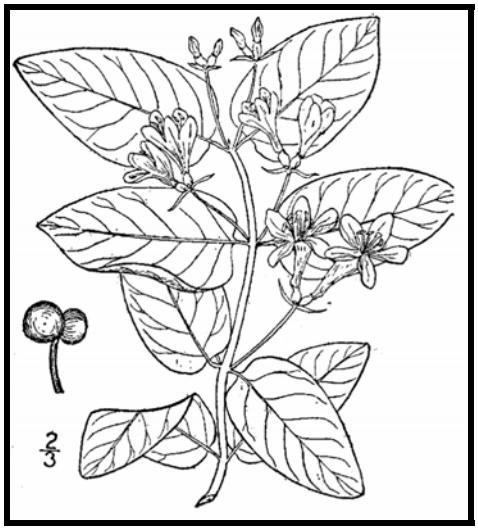
Deicing Salt Quantity Use Log

Date	Amount of Material Applied	Comments

University of New Hampshire Cooperative Extension

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle
Lonicera tatarica
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

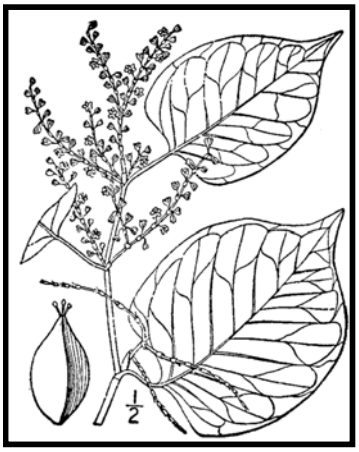
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag "head first" at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can't be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn't be burned as the seeds may disperse by the hot air created by the fire.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don't reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn't used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don't compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.

Be diligent looking for seedlings for *years* in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

<table>
<tr><th>Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">Norway maple
(Acer platanoides)
European barberry
(Berberis vulgaris)
Japanese barberry
(Berberis thunbergii)
autumn olive
(Elaeagnus umbellata)
burning bush
(Euonymus alatus)
Morrow's honeysuckle
(Lonicera morrowii)
Tatarian honeysuckle
(Lonicera tatarica)
showy bush honeysuckle
(Lonicera x bella)
common buckthorn
(Rhamnus cathartica)
glossy buckthorn
(Frangula alnus)</td><td rowspan="2">Fruit and Seeds
</td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Use as firewood.
▪ Make a brush pile.
▪ Chip.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip once all fruit has dropped from branches.
▪ Leave resulting chips on site and monitor.</td></tr>
<tr><td rowspan="2">oriental bittersweet
(Celastrus orbiculatus)
multiflora rose
(Rosa multiflora)</td><td rowspan="2">Fruits, Seeds, Plant Fragments
</td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Make a brush pile.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.</td></tr>
</table>

Non-Woody Plants	Method of Reproducing	Methods of Disposal
garlic mustard *(Alliaria petiolata)* spotted knapweed *(Centaurea maculosa)* ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. black swallow-wort *(Cynanchum nigrum)* ▪ May cause skin rash. Wear gloves and long sleeves when handling. pale swallow-wort *(Cynanchum rossicum)* giant hogweed *(Heracleum mantegazzianum)* ▪ Can cause major skin rash. Wear gloves and long sleeves when handling. dame's rocket *(Hesperis matronalis)* perennial pepperweed *(Lepidium latifolium)* purple loosestrife *(Lythrum salicaria)* Japanese stilt grass *(Microstegium vimineum)* mile-a-minute weed *(Polygonum perfoliatum)*	**Fruits and Seeds** 	**Prior to flowering** Depends on scale of infestation Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material. **During and following flowering** Do nothing until the following year or remove flowering heads and bag and let rot. Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material.
common reed (*Phragmites australis*) Japanese knotweed *(Polygonum cuspidatum)* Bohemian knotweed *(Polygonum x bohemicum)*	**Fruits, Seeds, Plant Fragments** Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.	**Small infestation** ▪ Bag all plant material and let rot. ▪ Never pile and use resulting material as compost. ▪ Burn. **Large infestation** ▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile. ▪ Monitor and remove any sprouting material. ▪ Pile, let dry, and burn.

January 2010

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CIVILWORKS NEW ENGLAND
181 WATSON ROAD
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PHONE: 603.749.0443 FAX: 603.749.7348

Stormwater Management Narrative

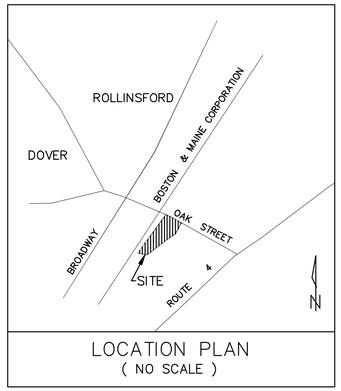
Tax Map 26, Lot 3-1
75 Oak Street

The subject parcel located at 75 Oak Street consisting of 2.05 acres within the Urban Density Multi-Residential (RM-U) and Gateway (G) Districts. The site design proposes the renovation of the existing brick building to create twenty-two (22) residential apartment units.

Improvements to the site are proposed to include landscaped islands in the existing parking lot and along the front of the building. The existing parking area would be repaved. All storm water is currently and will continue to be captured by the existing stormwater system on-site. The proposal adds an access door and an access way along the side of the building.

With the addition of the access drive and the new landscape areas there is a slight increase of (1,120± s.f.) of impervious area to the lot. It is our opinion that this small increase will have no effect on the stormwater on-site.

The existing stormwater drainage structures on site will be maintained by the project proponent as outlined within the Stormwater Management System Inspection & Maintenance Manual. Surrounding green areas will remain and will be stabilized, and additional green areas will be created within the parking lot to add more pervious areas back to the site design.



LOCATION PLAN
(NO SCALE)

SITE PLAN
ENGINE HOUSE APARTMENTS
AT SALMON FALLS

TAX MAP 26, LOT 3-1

75 OAK STREET

DOVER, NH

MAY 14, 2026

REVISED MAY 29, 2026

OWNER/ APPLICANT

FIRST RATE REAL ESTATE GROUP, LLC
290 HERITAGE AVENUE, SUITE 1
PORTSMOUTH NH 03801
S.C.R.D. VOLUME 5334, PAGE 256

_____ DATE

SITE CIVIL ENGINEER

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

LAND SURVEYOR

MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND
P.O. BOX 1166
DOVER, NH 03821
(603) 742-0911

ARCHITECT

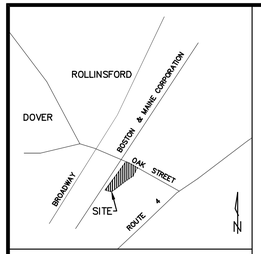
T.W. DESIGNS, LLC
JOHN M. TUTTLE AIA, LEED AP
254 DRAKE HILL ROAD
STRAFFORD, NH 03884
(603) 664-2181

LANDSCAPE ARCHITECT

ROMY MAURER, PLA, ASLA
TERRAIN PLANNING & DESIGN LLC
311 KAST HILL ROAD
HOPKINTON, NH 03229
(603) 746-2023

SHEET INDEX	SHEET
COVER SHEET	1
NEIGHBORHOOD PLAN	2
EXISTING CONDITIONS PLAN (BY MCENEANEY SURVEY)	3.1 - 3.3
NOTE SHEET	4
DEMOLITION PLAN	5
SITE PLAN	6
GRADING, DRAINAGE, & EROSION CONTROL PLAN	7
UTILITY PLAN	8
OVERALL UTILITY PLAN	9
EROSION CONTROL NOTES	10
EROSION CONTROL DETAILS	11
DETAIL SHEETS	12-16
LIGHTING PLAN	17
LIGHTING DETAILS	18
DOVER LADDER TRUCK MOVEMENT PLAN	19
LANDSCAPE ARCHITECT PLAN	
LANDSCAPE PLAN	L-1
ARCHITECTURAL PLANS	
ENGINE HOUSE COVER SHEET	PCS
PROPOSED FLOOR PLANS	A1.1 - A1.2
PROPOSED EXTERIOR VIEWS	A9.1 - A9.2

PLANNING FILE NO.: SITE-2026-XXXX



LOCATION PLAN
(NO SCALE)



DOVER ABUTTERS LIST
(WITHIN 200 FT)

TAX MAP	LOT NO.	NAME & ADDRESS
26 / 3–1–0	26	3–1–0	FIRST–RATE REAL ESTATE GROUP, LLC 90 HERITAGE AVENUE, SUITE 1 PORTSMOUTH NH 03801
26 / 6–0–0	26	6–0–0	121 BROADWAY LLC, 340 CENTRAL AVENUE, SUITE 202 DOVER, NH 03820
24 / 2–A–0	24	2–A–0	BOSTON & MAINE RAILROAD IRON HORSE PARK 500 WATER STREET J–910 JACKSONVILLE, FL 32202
26 / 2–0–0	26	2–0–0	CITY OF DOVER C/O GUPPEY PARK 61 LOCUS STREET SUITE #24 DOVER, NH 03820

ROLLINSFORD ABUTTERS LIST
(WITHIN 200 FT)

TAX MAP	LOT NO.	NAME & ADDRESS
3 / 41–0	3	41–0	PEGGY MCCLENDON 160 OAK STREET ROLLINSFORD, NH 03869
3 / 40–0	3	40–0	ANTHONY MCCLENDON 180 OAK STREET ROLLINSFORD, NH 03869
3 / 41–1	3	41–1	NEATHAWK REVOCABLE LWING TRUST DOUGLAS A. + DENISE D. NEATHAWK, TRUSTEES 136 OAK STREET ROLLINSFORD, NH 03869
3 / 39–0	3	39–0	MICHAEL J. POPLAWSKI 126 OAK STREET ROLLINSFORD, NH 03869
3 / 37–0	3	37–0	STRAFFORD RENTALS, LLC 225 GREEN STREET SOMERSWORTH, NH 03878
11 / 27–1	11	27–1	IAN G. HADLEY ASHLEIGH R. MOORE–HADLEY 116 OAK STREET ROLLINSFORD, NH 03869
3 / 38–0	3	38–0	PRESTON HORTON 126 OAK STREET ROLLINSFORD, NH 03869

GRAPHIC SCALE
80 0 40 80 160 320
(IN FEET)

NAD 83 = NH STATE PLANE 2800

PLANNING FILE NO.: SITE–2026–XXXX

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CNE CIVILWORKS NEW ENGLAND
CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	PER PLANNING DEPARTMENT COMMENTS	SJH	5–29–26

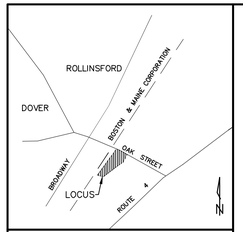
DATE: 5–14–26
SCALE: 1" = 80'
DRAWN BY: WEJ
DESIGN BY: WEJ
APPROVED BY:SJH
PROJECT NO: 25224
FILE: SITE

NEIGHBORHOOD PLAN

FIRST–RATE REAL ESTATE GROUP LLC
290 HERITAGE AVENUE, SUITE 1
PORTSMOUTH, NH 03801

ENGINE HOUSE APARTMENTS AT SALMON FALLS
75 OAK STREET
DOVER, NH

2



LOCATION PLAN
(NO SCALE)

NH STATE PLANE NAD 83 - GPS OBS.

DRAINAGE SCHEDULE

DMH A
RIM = 88.60'
INV. 1 4"CLAY = 84.76' BUILDING
INV. 2 3"CLAY = 81.73' BUILDING
INV. 3 3"CLAY = 84.95' BUILDING
INV. 4 6"CLAY = 83.59' BUILDING
INV. 5 3"CLAY = 81.68' BUILDING
INV. 6 8"CLAY = 81.47' DMH 2
INV. 7 9"CLAY = 81.82' DMH B
SUMP = 80.56'

DMH B
RIM = 88.43'
INV. 1 4"CLAY = 84.96' BUILDING
INV. 2 4"CLAY = 85.15' BUILDING
INV. 3 9"CLAY = 81.78' DMH A
INV. 4 9"CLAY = 82.35' DMH C
SUMP = 80.60'

DMH C
RIM = 88.53'
INV. 1 6"CLAY = 84.48' BUILDING
INV. 2 4"DI = 84.68' BUILDING
INV. 3 9"CLAY = 82.04' DMH B
INV. 4 12"PVC = 82.63' DMH 3
INV. 5 10"CLAY = 82.36' SITE
SUMP = 81.09'

CB 4
RIM = 88.61'
INV. 4"CLAY = 85.71' SITE NORTH
INV. 6"CLAY = 83.36' SITE EAST
INV. 10"CLAY = 82.96' DMH 3
SUMP = 82.00'

CB 3
RIM = 86.58'
INV. 1 = 83.43' DMH 2
SUMP = 82.97'

CB 1
RIM = 89.39'
INV. 1 8"CLAY = 82.84' SITE
INV. 2 8"CLAY = 80.17' CB 2
SUMP = 79.54'

CB 2
RIM = 87.40'
INV. 1 10"CLAY = 79.03' CB 1
INV. 2 4"CLAY = 81.20' SITE
INV. 3 10"CLAY = 78.50' DMH 1
INV. 4 10" CLAY = 78.50' OFFSITE
SUMP = 78.28'

DMH 1
RIM = 88.17'
INV. 1 8"CLAY = 77.97' CB 2
INV. 2 8"CLAY = 76.71' SITE NORTH
INV. 3 12"CLAY = 77.47' DMH 2
INV. 4 8"CLAY = 76.54' OFFSITE SOUTHWEST
SUMP = 75.13'

DMH 2
RIM = 88.74'
INV. 1 10"CLAY = 79.04' DMH A
INV. 2 10"CLAY = 78.34' DMH 1
INV. 3 8"PVC = 83.11' CB 3
INV. 4 6"CLAY = 84.00' SITE
SUMP = 76.65'

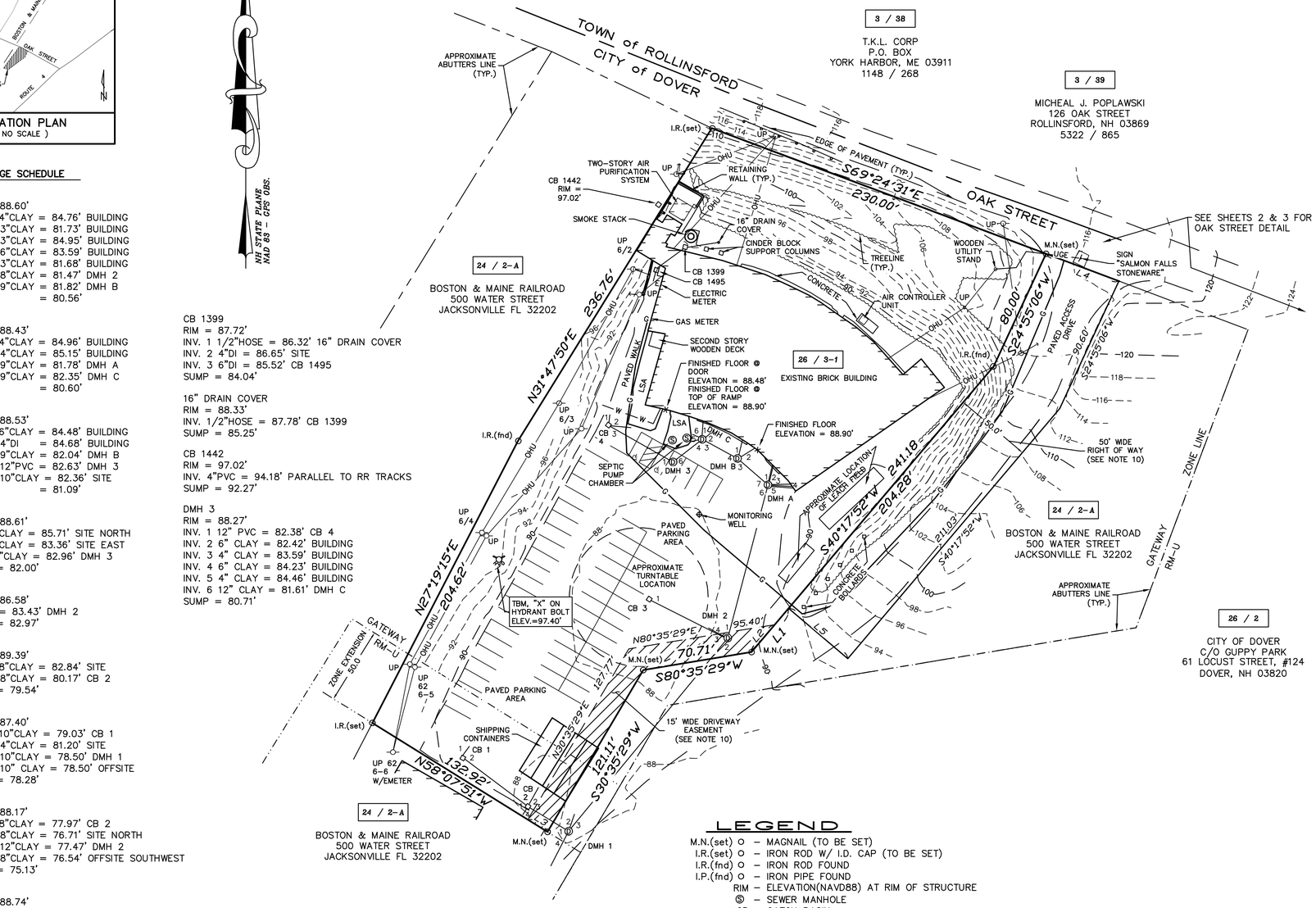
CB 1495
RIM = 87.85'
INV. 6"DI = 84.25' CB 1399
INV. 6"DI = 84.25' SITE SOUTH
SUMP = 83.25'

CB 1399
RIM = 87.72'
INV. 1 1/2"HOSE = 86.32' 16" DRAIN COVER
INV. 2 4"DI = 86.65' SITE
INV. 3 6"DI = 85.52' CB 1495
SUMP = 84.04'

16" DRAIN COVER
RIM = 88.33'
INV. 1/2"HOSE = 87.78' CB 1399
SUMP = 85.25'

CB 1442
RIM = 97.02'
INV. 4"PVC = 94.18' PARALLEL TO RR TRACKS
SUMP = 92.27'

DMH 3
RIM = 88.27'
INV. 1 12" PVC = 82.38' CB 4
INV. 2 6" CLAY = 82.42' BUILDING
INV. 3 4" CLAY = 83.59' BUILDING
INV. 4 6" CLAY = 84.23' BUILDING
INV. 5 4" CLAY = 84.46' BUILDING
INV. 6 12" CLAY = 81.61' DMH C
SUMP = 80.71'



No.	Bearing	Distance
L1	S40°17'52"W	36.90'
L2	S40°17'52"W	23.19'
L3	N58°07'51"W	15.00'
L4	S69°28'59"E	50.14'
L5	N49°42'08"W	50.00'

LEGEND

M.N.(set) O – MAGNAIL (TO BE SET)
I.R.(set) O – IRON ROD W/ I.D. CAP (TO BE SET)
I.R.(fnd) O – IRON ROD FOUND
I.P.(fnd) O – IRON PIPE FOUND
RIM – ELEVATION(NAVD88) AT RIM OF STRUCTURE
Ⓢ – SEWER MANHOLE
□CB – CATCH BASIN
Ⓓ DMH – DRAIN MANHOLE
—OHU— – OVERHEAD UTILITIES
LSA – LANDSCAPED AREA
S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
ø – DIAMETER
TBM – TEMPORARY BENCHMARK
– HANDICAP SYMBOL
– FIRE HYDRANT
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
UP 62 – UTILITY POLE W/ I.D. Nos.
– UTILITY GUY WIRE
--94-- – CONTOUR LINE (2 FOOT INTERVAL)
—UGE— – UNDERGROUND ELECTRIC LINE
—G— – UNDERGROUND GAS LINE

NOTES:

1.) OWNER OF RECORD:
FIRST RATE REAL ESTATE GROUP, LLC
290 HERITAGE AVE, SUITE 1
PORTSMOUTH, NEW HAMPSHIRE 03801
S.C.R.D. VOLUME 5334, PAGE 256

2.) 26 / 3-1 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) PARCEL AREA = 89,395 S.F. / 2.052 Ac.

4.) THE INTENT OF THIS PLAN IS TO DEPICT THE PARCEL BOUNDARY AND EXISTING SITE CONDITIONS AS OF APRIL 8, 2026.

5.) ZONING DISTRICT: URBAN DENSITY MULTI-RESIDENTIAL (RM-U), GATEWAY DISTRICT (G)

DISTRICT (RM-U)
DIMENSIONAL REQUIREMENTS:
MINIMUM LOT SIZE = 10,000 S.F.
MAXIMUM LOT COVERAGE = 40 PERCENT
MINIMUM FRONTAGE = 80 FEET
BUILDING SETBACK REQUIREMENTS:
FRONT SETBACK = **
SIDE SETBACK = 10 FEET
REAR SETBACK = 10 FEET
MAXIMUM PRINCIPLE BUILDING HEIGHT = 40 FEET MAXIMUM
MAXIMUM OUT BUILDING HEIGHT = 40 FEET MAXIMUM

GATEWAY DISTRICT (G)
DIMENSIONAL REQUIREMENTS:
MINIMUM LOT SIZE = N/A
MAXIMUM LOT COVERAGE = 50 PERCENT
FRONTAGE BUILD-OUT = 60 PERCENT MINIMUM
FRONT BUILD TO LINE = 5 FEET MIN. / 20 FEET MAX.
SIDE SETBACK = 10 FEET MINIMUM
REAR SETBACK = 15 FEET MINIMUM
MAXIMUM BUILDING HEIGHT = 4 STORY MAX / 2 STORY MIN.

6.) THE SUBJECT PARCEL IS OUTSIDE OF THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 33017C0330E; EFFECTIVE DATE SEPTEMBER 30, 2015.

7.) BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED DECEMBER 11, 2025. VERTICAL DATUM IS NAVD88 BASED ON GPS OBSERVATION DATED DECEMBER 11, 2025.

8.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND ON DECEMBER 11, 2025, WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

9.) THE IMPROVEMENTS AND UTILITIES SHOWN ARE FROM OBSERVATIONS MADE IN THE FIELD OR REFERENCE PLANS. LOCATIONS OF UNDERGROUND UTILITIES NOT MARKED ON THE SURFACE WERE NOT LOCATED. ALL VISIBLE UTILITIES ARE SHOWN.

10.) PARCEL IS SUBJECT TO A 15' DRIVEWAY EASEMENT AND IN BENEFIT OF A 50' RIGHT OF WAY AS SHOWN ON REFERENCE PLAN #1.

11.) ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATIONS WITH THE RESPECTIVE UTILITY OWNERS PRIOR TO ANY WORK BEING PERFORMED. CALL DIGSAFE AT 1-888-344-7233.

12.) RIGHT OF WAY LINES ARE APPROXIMATE.

NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

25224	EXIST. COND.	25-10	69-71
PROJECT NO	TYPE	FIELDBOOK & PAGES	

"I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL GROUND SURVEY PERFORMED WITH A TOTAL STATION, BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, SAID SURVEY MEETS OR EXCEEDS THE MINIMUM PRECISION REQUIREMENTS FOR SURVEY CLASSIFICATION "U" AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS."

SHEET 3.1

EXISTING CONDITIONS PLAN
PREPARED FOR
FIRST-RATE REAL ESTATE GROUP, LLC
TAX MAP 26, LOT No. 3-1
75 OAK STREET
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DRAWN BY: JJH/KJF/RJM	FILE: P:>\25224\DWG\25224 EC
SCALE: 1" = 40'	DATE: APRIL 16, 2026

40 20 0 20 40 80 120 160

STATE OF NEW HAMPSHIRE – No. 661 – KEVIN M. McENEANEY – LICENSED LAND SURVEYOR – SIGNATURE

McEneaney Survey Associates
of NEW ENGLAND
P.O. Box 1166 – 181 WATSON ROAD
DOVER, NH 03821 (603) 742-0911
SURVEYING – PLANNING – CONSULTING

5/12/2026 16:18:42 File: P:\25224 - 75 Oak St Dover - Robbins\Survey\Drawings\25224 EC1.dwg Layout: EXISTING CONDITIONS

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3 / 38

T.K.L. CORP
P.O. BOX
YORK HARBOR, ME 03911
1148 / 268

3 / 39

MICHEAL J. POPLAWSKI
126 OAK STREET
ROLLINSFORD, NH 03869
5322 / 865

3 / 41

3 / 41-1

3 / 40

TOWN LINE

ASPHALT DRIVE

W 12"DI

DYL

APPROXIMATE RIGHT OF WAY

TOWN of ROLLINSFORD

CITY of DOVER

OAK STREET

CONCRETE

UP 709/154

UP 709/154Y

UP 709/156

UP 709/157

UP 709/158

OHU

G

UGE

L4

S69°24'31"E
230.00'

S24°55'06"W
80.00'

STONE FOUNDATION

MATCH BELOW

26 / 3-1

EXISTING BUILDING

CB
RIM = 87.72'

26 / 2

CITY OF DOVER
C/O GUPPY PARK
61 LOCUST STREET, #124
DOVER, NH 03820

50' WIDE
RIGHT OF WAY
(SEE NOTE 10)

NH STATE PLANE
NAD 83
GPS OBS.

3 / 40

3 / 41

3 / 43

ASPHALT DRIVE

W 12"DI

DYL

TOWN of ROLLINSFORD

CITY of DOVER

OAK STREET

UP 709/159

UP 709/160

UP 709/161

UP 709/162

TBM
MN IN UP
ELEV. = 149.21'

TREELINE (TYP)

MATCH ABOVE

MATCH SHEET 3

26 / 2

CITY OF DOVER
C/O GUPPY PARK
61 LOCUST STREET, #124
DOVER, NH 03820

* SEE SHEET 1 FOR NOTES AND LEGEND

SHEET 3.2

NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

25224	EXIST. COND.	25-10	69-71
PROJECT NO	TYPE	FIELDBOOK & PAGES	

EXISTING CONDITIONS PLAN
PREPARED FOR
FIRST-RATE REAL ESTATE GROUP, LLC
TAX MAP 26, LOT No. 3-1
75 OAK STREET
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DRAWN BY: KJF	FILE: P:\25224\DWG\25224 OAK
SCALE: 1" = 20'	DATE: APRIL 16, 2026

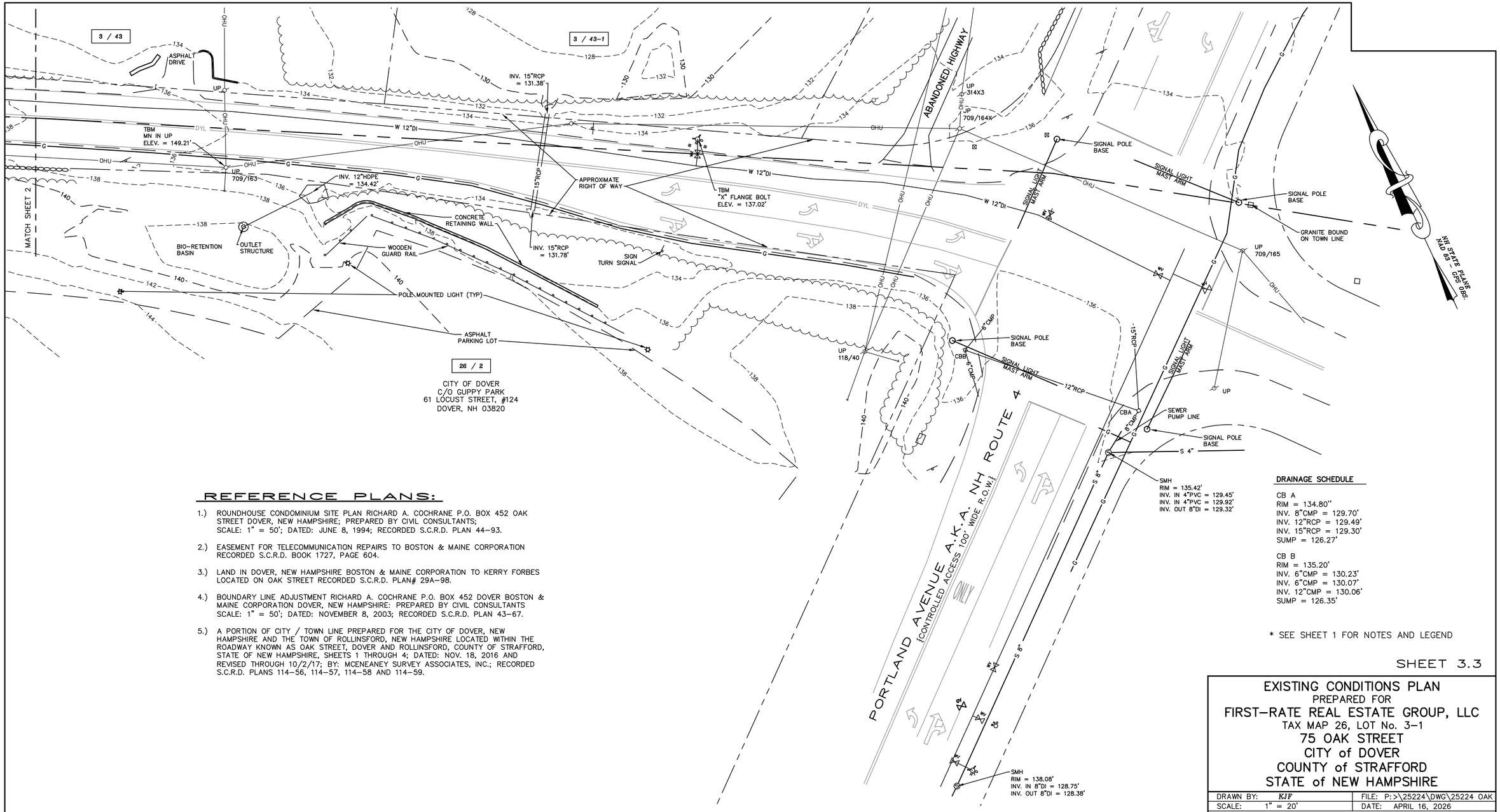
20 10 0 10 20 40 60 80

STATE OF NEW HAMPSHIRE
No. 661
KEVIN M. McENEANEY
LICENSED LAND SURVEYOR
SIGNATURE

McEneaney Survey Associates
of NEW ENGLAND
P.O. Box 1166 – 181 WATSON ROAD
DOVER, NH 03821 (603) 742-0911

SURVEYING – PLANNING – CONSULTING

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REFERENCE PLANS:

1.) ROUNDHOUSE CONDOMINIUM SITE PLAN RICHARD A. COCHRANE P.O. BOX 452 OAK STREET DOVER, NEW HAMPSHIRE; PREPARED BY CIVIL CONSULTANTS; SCALE: 1" = 50'; DATED: JUNE 8, 1994; RECORDED S.C.R.D. PLAN 44–93.

2.) EASEMENT FOR TELECOMMUNICATION REPAIRS TO BOSTON & MAINE CORPORATION RECORDED S.C.R.D. BOOK 1727, PAGE 604.

3.) LAND IN DOVER, NEW HAMPSHIRE BOSTON & MAINE CORPORATION TO KERRY FORBES LOCATED ON OAK STREET RECORDED S.C.R.D. PLAN# 29A–98.

4.) BOUNDARY LINE ADJUSTMENT RICHARD A. COCHRANE P.O. BOX 452 DOVER BOSTON & MAINE CORPORATION DOVER, NEW HAMPSHIRE: PREPARED BY CIVIL CONSULTANTS SCALE: 1" = 50'; DATED: NOVEMBER 8, 2003; RECORDED S.C.R.D. PLAN 43–67.

5.) A PORTION OF CITY / TOWN LINE PREPARED FOR THE CITY OF DOVER, NEW HAMPSHIRE AND THE TOWN OF ROLLINSFORD, NEW HAMPSHIRE LOCATED WITHIN THE ROADWAY KNOWN AS OAK STREET, DOVER AND ROLLINSFORD, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE, SHEETS 1 THROUGH 4; DATED: NOV. 18, 2016 AND REVISED THROUGH 10/2/17; BY: MCENEANEY SURVEY ASSOCIATES, INC.; RECORDED S.C.R.D. PLANS 114–56, 114–57, 114–58 AND 114–59.

DRAINAGE SCHEDULE

CB A
RIM = 134.80''
INV. 8"CMP = 129.70'
INV. 12"RCP = 129.49'
INV. 15"RCP = 129.30'
SUMP = 126.27'

CB B
RIM = 135.20'
INV. 6"CMP = 130.23'
INV. 6"CMP = 130.07'
INV. 12"CMP = 130.06'
SUMP = 126.35'

* SEE SHEET 1 FOR NOTES AND LEGEND

SHEET 3.3

NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

25224	EXIST. COND.	25–10	69–71
PROJECT NO	TYPE	FIELDBOOK & PAGES	

EXISTING CONDITIONS PLAN
PREPARED FOR
FIRST–RATE REAL ESTATE GROUP, LLC
TAX MAP 26, LOT No. 3–1
75 OAK STREET
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DRAWN BY: KJF	FILE: P:>\25224\DWG\25224 OAK
SCALE: 1" = 20'	DATE: APRIL 16, 2026

20 10 0 10 20 40 60 80

STATE OF NEW HAMPSHIRE
No. 661
KEVIN M. McENEANEY
LICENSED LAND SURVEYOR
SIGNATURE

McEneaney Survey Associates
of NEW ENGLAND
P.O. Box 1166 – 181 WATSON ROAD
DOVER, NH 03821 (603) 742–0911
SURVEYING – PLANNING – CONSULTING

DOVER NOTES:

1. OWNER OF RECORD:
   FIRST RATE REAL ESTATE GROUP LLC
   290 HERITAGE AVENUE, SUITE 1
   PORTSMOUTH, NH 03801
2. 26/3-1 – DENOTES TAX MAP AND PARCEL NUMBER.
3. PARCEL AREA = 89,395 S.F. / 2.052 Ac.
4. THE INTENT OF THIS PLAN IS TO SHOW SITE IMPROVEMENTS ASSOCIATED WITH THE RENOVATION OF THE EXISTING BUILDING INTO 22 APARTMENTS. ALONG WITH GRADING AND DRAINAGE IMPROVEMENTS, AND UNDERGROUND UTILITY SERVICE IMPROVEMENTS.
5. ZONING DISTRICT: URBAN DENSITY MULTI-RESIDENTIAL DISTRICT (RM-U)

DIMENSIONAL REQUIREMENTS:	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT SIZE	10,000 S.F	89,394.6 S.F.	89,394.6 S.F.
MAXIMUM LOT COVERAGE	40%	60%	60%
MINIMUM FRONTAGE	80 FEET	230.0 FEET	230.0 FEET
BUILDING SETBACK REQUIREMENTS:			
FRONT SETBACK	35 FEET	29.83 FEET	29.83 FEET
SIDE SETBACK	10 FEET	0 FEET	1.3 FEET
REAR SETBACK	10 FEET	266.8 FEET	266.8 FEET
MAXIMUM BUILDING HEIGHT	40 FEET	<40 FEET	<40 FEET

6. THE SUBJECT PARCEL IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE AS SHOWN ON FLOOD INSURANCE RATE MAP 33017C0320E, EFFECTIVE DATE 9/30/2015.
7. BASIS OF BEARING IS NH STATE PLANE (NAD83) AND VERTICAL DATUM IS NAVD88 BASED ON GPS OBSERVATION DATED OCTOBER 28, 2024.
8. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND ON DECEMBER 11, 2025 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.
9. THE IMPROVEMENTS AND UTILITIES SHOWN ARE FROM OBSERVATIONS MADE IN THE FIELD OR REFERENCE PLANS. LOCATIONS OF UNDERGROUND UTILITIES NOT MARKED ON THE SURFACE WERE NOT LOCATED. ALL VISIBLE UTILITIES ARE SHOWN.
10. ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATIONS WITH THE RESPECTIVE UTILITY OWNERS PRIOR TO ANY WORK BEING PERFORMED. CALL DIGSAFE AT 1-888-344-7233.
11. THIS PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF THE SURVEY. THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THIS PLAN, BUT IN EXISTENCE, IS NOT INTENDED OR IMPLIED.
12. THE SOIL TYPES ON THE SITE ARE:
    BzB BUXTON SILT LOAM, 3 TO 8 PERCENT SLOPES
    CfB CHARLTON FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES.
    CfC CHARLTON FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES.
    ScA SCANTING SILT LOAM, 0 TO 3 PERCENT SLOPES
    THE SOURCE FOR THE SOIL TYPE DATA IS USDA NRCS WEB SOIL SURVEY
    http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx
13. AS-BUILT PLANS OF THE SITE PLAN 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 LLS. 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 FOR WHICH DEVELOPMENT IS PROPOSED.
15. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
16. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATIONS AND STANDARD SPECIFICATION FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
17. EROSION CONTROL NOTES 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.
18. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
19. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
20. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED, AND THE APPROVED CONSTRUCTION SIGN INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
21. 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.
22. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM, SATURDAY 9 AM-4 PM. HOURS OF CONSTRUCTION MUST BE DOCUMENTED ON A SITE CONSTRUCTION SIGN ALONG WITH THE CONTACT INFORMATION FOR THE GENERAL CONTRACTOR. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR PLANNING DIRECTOR. WORK PRECLUDED ON SUNDAYS AND FEDERAL HOLIDAYS.
23. BUILDING ADDRESSES (INCLUDING APT/UNIT NUMBERS, IF APPLICABLE) SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
24. THE FOLLOWING FEDERAL AND STATE PERMINTS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY:
    PERMIT SUMMARY: CITY OF DOVER SITE PLAN

DOVER NOTES CONTINUED:

25. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICE DIRECTOR.
26. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES THE 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. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL.
    HTTPS://PTAPP.UNH.EDU/
29. IF APPLICABLE, 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.
30. FIRE DEPARTMENT ACCESS ROAD(S) SHALL BE INSTALLED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS IN ALL WEATHER CONDITIONS AT ALL TIMES.
31. THE MINIMUM TURN RADIUS CALCULATION FOR THIS USE IS 44 SPACES. THE PROPOSED PROJECT PROVIDES 54 SPACES, INCLUDING 2 VAN ACCESSIBLE SPACES
32. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
33. TOPOGRAPHIC SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATE, DECEMBER 2025.
34. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE I, SECTION 45-2 OF THE CODE OF THE CITY OF DOVER. (AS APPLICABLE)
35. APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
36. THE PROPOSED STRUCTURES SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED BY CHAPTER 81- 30 OF THE CODE OF THE CITY OF DOVER AND THE ADOPTED STATE OF NH BUILDING AND FIRE CODES.
37. 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.
38. FIRE DEPARTMENT CONNECTION(S) 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.
39. 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.
40. DESIGN ENGINEER SHALL PROVIDE SIGNED LETTER TO CITY ENGINEER CERTIFYING THAT THE STORMWATER MANAGEMENT SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS.
41. ALL MANHOLE COVERS SHALL BE LIFTMATE R-1743-LM OR APPROVED EQUAL WITH 90 DEGREE HINGE.
42. REQUIRED BLASTING AND EXCAVATION – DOVER FIRE DEPARTMENT SHALL BE NOTIFIED PRIOR TO ANY BLASTING ACTIVITIES AND A BLASTING PERMIT FROM THE DOVER FIRE DEPARTMENT MUST BE OBTAINED.
43. THE WATER MAIN SHALL BE POLY WRAPPED IN ACCORDANCE WITH THE CITY OF DOVER STANDARDS.
44. ALL SEWER MAINS AND MANHOLES SHALL BE TESTED IN ACCORDANCE WITH NHDES ENV-WQ 700 REQUIREMENTS. COPIES OF TEST RESULTS SHALL BE PROVIDED TO THE CITY OF DOVER ENGINEERING DEPARTMENT.
45. WETLAND PLACARDS SHOULD IDENTIFY THE NO CUT WETLAND BUFFER AND SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION AND AFTER. (AS APPLICABLE)
46. ALL FITTINGS MUST BE CLASS 140 WATER FITTINGS.
47. ALL GATE VALVES MUST BE MANUFACTURED BY MUELLER OR CLOW.

DEMOLITION NOTES:

1. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
2. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL NOTIFY "DIG SAFE" PRIOR TO ANY DEMOLITION/ CONSTRUCTION ACTIVITIES. (811).
4. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, UTILITIES AND PAVEMENT ON THE SITE TO THE LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN.
5. IT IS THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
6. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS NOT ALREADY OBTAINED BY THE OWNER AND ARRANGE AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
8. STONES FROM REMOVED STONEWALLS SHALL REMAIN ON-SITE. STONES SHALL BE REPURPOSED ON-SITE AND SHALL NOT BE USED AS FILL.
9. THE LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATION IS NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
10. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES, AND CODES.
11. LEDGE REMOVAL VOLUMES ARE ENGINEERS ESTIMATES. CONTRACTOR IS RESPONSIBLE FOR CONDUCTING ADDITIONAL SUBSURFACE INVESTIGATIONS IF NECESSARY TO DETERMINE ESTIMATED VOLUMES.

SITE NOTES

1. REVIEW DOVER NOTES FOR ALL APPLICABLE NOTES.
2. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO APPLICABLE CITY AND STATE CODES.
3. ALL CONSTRUCTION LAYOUT SHALL BE DONE BY A LICENSED SURVEYOR UNDER CONTRACT WITH THE CONTRACTOR.
4. SEE DETAILS FOR SIGN LEGENDS.
5. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICAN WITH DISABILITIES ACT, LATEST EDITIONS.
6. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE CONSTRUCTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE FACILITIES AND THEIR COMPONENTS DURING DEMOLITION AND CONSTRUCTION UNLESS OTHERWISE DIRECTED BY THE OWNERS REPRESENTATIVE. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE-DOWNS. SUCH MATERIALS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AT THE COMPLETION OF THE PROJECT.
7. METHODS OF DEMOLITION, CONSTRUCTION AND ERECTION ARE THE CONTRACTOR'S RESPONSIBILITY UNLESS OTHERWISE SPECIFIED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN ENVIRONMENTAL CONTROLS AS REQUIRED BY FEDERAL, STATE AND MUNICIPAL REGULATIONS AND PERMITS. ENVIRONMENTAL CONTROLS SHALL INCLUDE BUT SHALL NOT BE LIMITED TO DUST CONTROL AND SILT BARRIERS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO STRUCTURES OR UTILITIES OR INJURIES TO THE PUBLIC DURING THE CONSTRUCTION PHASE CAUSED BY HIMSELF, HIS EMPLOYEES, HIS SUBCONTRACTORS OR EMPLOYEES OF SAME. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY FACILITIES FOR THE PROTECTION OF THE WORK, WORKERS AND PUBLIC SAFETY.
9. THE SITE SHALL BE MAINTAINED TO PROVIDE ACCESSIBILITY IN ALL WEATHER CONDITIONS.
10. REFUSE PICKUP WILL BE BY PRIVATE CONTRACTOR AND WILL BE VIA DUMPSTER ON-SITE.
11. SNOW STORAGE WILL BE ACCORDING TO THE OPERATION AND MAINTENANCE PLAN AND WITHIN AREAS AS INDICATED. ON-SITE SNOW STORAGE SHALL OCCUR ALONG THE EDGES OF PROPOSED PAVEMENT.
12. ALL EXTERIOR DOORS ARE MANUAL AND OPENED FROM THE INTERIOR BY PANIC HARDWARE. ALL EXTERIOR DOORS SHALL COMPLY WITH ADA AND ALL LOCAL BUILDING CODE REQUIREMENTS.
13. PROPOSED BUILDINGS TO BE SOLAR READY.

GRADING NOTES:

1. REVIEW DOVER NOTES FOR ALL APPLICABLE NOTES.
2. CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEERING CONSULTANT APPROVED BY THE OWNER, TO CONDUCT COMPACTION TESTING AND FILL GRADATION MONITORING.
3. SEE EROSION CONTROL NOTES & DETAIL SHEET FOR TEMPORARY AND PERMANENT EROSION CONTROL MEASURES.
4. ALL DRAINAGE PIPES SHALL BE HDPE OR APPROVED EQUAL UNLESS OTHERWISE NOTED.
5. ALL DISTURBED AREAS NOT OTHERWISE CALLED FOR SURFACE TREATMENT SHALL RECEIVE 6" OF HIGH QUALITY LOAM AND SHALL BE SEEDED WITH GRASS.
6. ALL SITEWORK CONSTRUCTION SHALL BE ADVANCED USING "BEST MANAGEMENT PRACTICES" SANCTIONED BY THE USDA, SCS AND NHDES.
7. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED, UTILIZED AND MAINTAINED UNTIL BASE MATERIALS ARE CONSTRUCTED.
8. CONTRACTOR SHALL PROVIDE A FINISH GRADED SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE AND UNDER RAISED STRUCTURES.
9. PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS WITHIN THE WORK LIMITS AND AS SHOWN ON PLAN. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED AND UPSTREAM AREAS HAVE BEEN STABILIZED.
10. INSPECT SILT BARRIERS AFTER EACH RAIN STORM OF 1/4 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF THE FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE STRUCTURE HEIGHT.
11. LIMIT TREE CLEARING TO ONLY THE EXTENT NECESSARY FOR CONSTRUCTION.
12. CONTRACTOR SHALL NOTIFY THE CITY OF DOVER AND THE DESIGN ENGINEER 48 HOURS PRIOR TO THE INSTALLATION OF PERMANENT STORMWATER BMP'S TO PROVIDE THE CITY AND THE ENGINEER THE OPPORTUNITY TO WITNESS THE CONSTRUCTION AND MATERIALS. THE DESIGN ENGINEER MUST CERTIFY THAT THE STORMWATER MANAGEMENT SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS.
13. DENSITY REQUIREMENTS:

LOCATION	MINIMUM DENSITY
BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREA	90%

    * ALL PERCENTAGES SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH AASHTO STANDARD 180, METHOD C. FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH AASHTO STANDARD T-191, T-204, OR T-238 AND T-239.

UTILITY CONTACTS

NATURAL GAS: – UNITIL CORPORATION
CONTACT: DAVID MACLEAN
325 WEST ROAD
PORTSMOUTH, NH 03801
TEL: (603)-294-5261
EMAIL: MACLEAND@UNITIL.COM

WATER & SEWER: – CITY OF DOVER COMMUNITY SERVICES DEPARTMENT
PUBLIC WORKS & UTILITIES
CONTACT: JILLIAN SEMPRINI, PE
271 MAST ROAD
DOVER, NH 03820
TEL: (603)-516-6450
EMAIL: K.MAVROGEORGE@DOVER.NH.GOV

ELECTRIC: – EVERSOURCE
CONTACT: TREVOR EMMONS
4 OLD DOVER ROAD
ROCHESTER, NH 03867
TEL: (603)-332-7515
EMAIL: TREVOR.EMMONS@EVERSOURCE.COM

UTILITY NOTES

1. REVIEW DOVER NOTES FOR ALL APPLICABLE NOTES.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
3. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
4. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
5. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
6. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, DOUBLE CEMENT LINED DUCTILE IRON PIPE OR TYPE "K" COPPER, OR CITY APPROVED MATERIAL.
7. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF DOVER WATER DEPARTMENT.
8. ALL GRAVITY SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE NOTED AND CONFORM TO THE REQUIREMENTS OF THE CITY OF DOVER SEWER DEPARTMENT STANDARDS.
9. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
10. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
11. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE UTILITY COMPANIES.
12. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
13. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
14. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
15. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES. COORDINATE WITH GAS COMPANY.
16. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
17. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
18. SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
19. GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF DOVER.
20. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF DOVER.
21. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
22. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
23. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PREPARED BY THE PROJECT ELECTRICAL ENGINEER.
24. THE PROPOSED STRUCTURE SHALL COMPLY WITH CHAPTER 81, ARTICLE IV, SECTION 81-27 AND THE STATE BUILDING CODES OF THE CODE OF THE CITY OF DOVER.
25. FIRE SUPPRESSION PLANS SHALL BE PROVIDED TO THE FIRE/INSPECTION DEPARTMENT PRIOR TO INSTALLATION.
26. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
27. SEWAGE LOADING (PER NHDES ENV-WQ 1008.03)
    BUILDING :
    – APARTMENTS: 39 BEDROOMS X 150 GPD = 5,850 GPD
    – TOTAL = 5,850 GPD
28. PUMP CHAMBERS AS APPLICABLE ARE UNNECESSARY.

LEGEND

S.F.	SQUARE FEET
Ac.	ACRE
±	MORE OR LESS
(TYP.)	TYPICAL
S.C.R.D.	STRAFFORD REGISTRY OF DEEDS
NHHD	NEW HAMPSHIRE HIGHWAY DEPT.
TBR	TO BE REMOVED
ELEV.	ELEVATION
INV.	INVERT
SGC	SLOPED GRANITE CURB
BCC	BITUMINOUS CONCRETE CURB
V.I.F	VERIFY IN FIELD
R.O.W.	RIGHT-OF-WAY
FES	FLARED END SECTION
	EXISTING UTILITY POLE
	EXISTING SIGN
	EXISTING WATER SHUT-OFF
OHW	OVERHEAD UTILITIES
E	EXISTING ELECTRIC
W	EXISTING WATER LINE
S	EXISTING SEWER LINE
D	EXISTING DRAINAGE LINE
UGT	EXISTING UNDERGROUND TELEPHONE
	EXISTING WATER VALVE
	EXISTING GAS VALVE
	EXISTING HYDRANT
	EXISTING LIGHT/SIGNAL POLE
S	EXISTING SEWER MANHOLE
D	EXISTING DRAINAGE MANHOLE
	EXISTING CATCHBASIN
5'R	PAVEMENT RADIUS
x 74.00	EXISTING SPOT GRADE
-94-	EXISTING GRADE
74	PROPOSED FINISH GRADE
x 74.00	PROPOSED SPOT GRADE
	PAVEMENT WITH CURB
	SILT BARRIER
PS	PROPOSED SEWER
PW	PROPOSED WATER
PUGU	PROPOSED UNDERGROUND UTILITIES
PG	PROPOSED GAS

PLANNING FILE NO.: SITE-2026-XXXX

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CNE CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	PER PLANNING DEPARTMENT COMMENTS	SJH	5-29-26

DATE: 5-14-26
SCALE: NO SCALE
DRAWN BY: WEJ
DESIGN BY: WEJ
APPROVED BY:SJH
PROJECT NO: 25224
FILE: SITE

NOTES SHEET

FIRST-RATE
REAL ESTATE GROUP LLC
290 HERITAGE AVENUE,
SUITE 1
PORTSMOUTH, NH 03801

ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

LOCATION PLAN
(NO SCALE)

TOWN of ROLLINSFORD
CITY of DOVER

OAK STREET

TOWN of ROLLINSFORD
CITY of DOVER

DYL

HH STATE PLANE
NAD 83 - GPS 1DSS

2 STORY METAL STRUCTURE TBR

EXISTING WELL

LIMIT OF TREE REMOVAL

EXISTING SMOKE STACK TO REMAIN

EXISTING RETAINING WALL

EXISTING STRUCTURES TBR

EXISTING CONCRETE TBR

EXISTING UTILITY UNIT TBR

EXISTING LANDSCAPED AREAS TBR

EXISTING WATER LINE TBR

LIMIT OF TREE REMOVAL

SAW CUR FOR PROPOSED EDGE OF PAVEMENT

EXISTING SEPTIC TANK TBR

SAW-CUT FOR PROPOSED LANDSCAPED ISLAND

EXISTING LEACH FIELD TBR

EXISTING LANDSCAPE ISLAND WITH SIGN TO BE REMOVED

GATEWAY RM-1

ZONE EXTENSION 50.0'

SAW-CUT FOR PROPOSED LANDSCAPED ISLAND

EXISTING EASEMENT

STORAGE CONTAINERS TBR

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

PLANNING FILE NO.: SITE-2026-XXXX

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CIVIL & WATERFRONT ENGINEERING
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Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	PER PLANNING DEPARTMENT COMMENTS	SJH	5-29-26

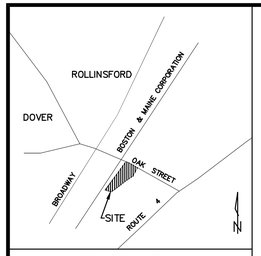
DATE: 5-14-26
SCALE: 1" = 30'
DRAWN BY: WEJ
DESIGN BY: WEJ
APPROVED BY:SJH
PROJECT NO: 25224
FILE: SITE

DEMOLITION PLAN

ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

FIRST-RATE
REAL ESTATE GROUP LLC
290 HERITAGE AVENUE,
SUITE 1
PORTSMOUTH, NH 03801

5



LOCATION PLAN
(NO SCALE)

NOTE:
EXISTING DRIVEWAY & PARKING LOT TO BE REPAVED AND STRIPED AS SHOWN

NOTE:
THESE APARTMENTS ARE ADJACENT TO AN ACTIVE RAILROAD

HH STATE PLANE NAD 83 - GPS OBS

LEGEND

S.F.	SQUARE FEET
Ac.	ACRE
±	MORE OR LESS
(TYP.)	TYPICAL
S.C.R.D.	STRAFFORD REGISTRY OF DEEDS
TBR	TO BE REMOVED
ELEV.	ELEVATION
INV.	INVERT
SGC	SLOPED GRANITE CURB
VGC	VERTICAL GRANITE CURB
V.I.F	VERIFY IN FIELD
R.O.W.	RIGHT-OF-WAY
	EXISTING UTILITY POLE
	EXISTING SIGN
	EXISTING WATER SHUT-OFF
	EXISTING WATER VALVE
	EXISTING GAS VALVE
	EXISTING HYDRANT
	EXISTING LIGHT/SIGNAL POLE
	EXISTING SEWER MANHOLE
	EXISTING DRAINAGE MANHOLE
	EXISTING CATCHBASIN
5'R	PAVEMENT RADIUS
	PROPOSED LIGHT POLE BASE
OHW	OVERHEAD UTILITIES
E	EXISTING ELECTRIC
W	EXISTING WATER LINE
S	EXISTING SEWER LINE
D	EXISTING DRAINAGE LINE
UGT	EXISTING UNDERGROUND TELEPHONE

ZONING DENSITY CHART

		ALLOWED	PROPOSED
GATEWAY:	82,676.8 S.F. / (4,000 S.F./UNIT)	20	
RMU:	6,717.8 S,F, / (10,000 S.F./UNIT)*	2*	
*DUPLEX BY RIGHT	TOTAL	22	22

SITE PARKING CALCULATIONS
URBAN DENSITY MULTI-RESIDENTIAL (RM-U) DISTRICT

USES:	EXISTING	PROPOSED	MINIMUM
APARTMENT BUILDING: 2 SPACE/1 UNIT 2 SPACES x 22 UNITS = 44 SPACES	52	54	44
ACCESSIBLE PARKING	(2)	(2)	
TOTAL	52	54	

SNOW STORAGE CALCULATIONS
50,106 S.F. PAVEMENT $\frac{1 \text{ S.F. STORAGE}}{10 \text{ S.F. PAVEMENT}}$ = ±5,010 S.F.

SNOW STORAGE AREA PROVIDED ±5,021 S.F.

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

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CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	PER PLANNING DEPARTMENT COMMENTS	SJH	5-29-26

DATE: 5-14-26
SCALE: 1" = 30'
DRAWN BY: WEJ
DESIGN BY: WEJ
APPROVED BY:SJH
PROJECT NO: 25224
FILE: SITE

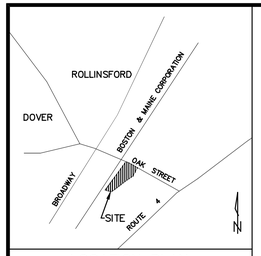
PLANNING FILE NO.: SITE-2026-XXXX

SITE PLAN

FIRST-RATE
REAL ESTATE GROUP LLC
290 HERITAGE AVENUE,
SUITE 1
PORTSMOUTH, NH 03801

ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

6



LOCATION PLAN
(NO SCALE)

HH STATE PLANE NAD 83 - GPS OBS

EXISTING DRAINAGE SCHEDULE

DMH A
RIM = 88.60'
INV. 1 4"CLAY = 84.76' BUILDING
INV. 2 3"CLAY = 81.73' BUILDING
INV. 3 3"CLAY = 84.95' BUILDING
INV. 4 6"CLAY = 83.59' BUILDING
INV. 5 3"CLAY = 81.68' BUILDING
INV. 6 8"CLAY = 81.47' DMH 2
INV. 7 9"CLAY = 81.82' DMH B
SUMP = 80.56'

DMH B
RIM = 88.43'
INV. 1 4"CLAY = 84.96' BUILDING
INV. 2 4"CLAY = 85.15' BUILDING
INV. 3 9"CLAY = 81.78' DMH A
INV. 4 9"CLAY = 82.35' DMH C
SUMP = 80.60'

DMH C
RIM = 88.53'
INV. 1 6"CLAY = 84.48' BUILDING
INV. 2 4"DI = 84.68' BUILDING
INV. 3 9"CLAY = 82.04' DMH B
INV. 4 12"PVC = 82.63' DMH 3
INV. 5 10"CLAY = 82.36' SITE
SUMP = 81.09'

CB 4
RIM = 88.61'
INV. 4"CLAY = 85.71' SITE NORTH
INV. 6"CLAY = 83.36' SITE EAST
INV. 10"CLAY = 82.96' DMH 3
SUMP = 82.00'

CB 3
RIM = 86.58'
INV. 1 = 83.43' DMH 2
SUMP = 82.97'

CB 1
RIM = 89.39'
INV. 1 8"CLAY = 82.84' SITE
INV. 2 8"CLAY = 80.17' CB 2
SUMP = 79.54'

CB 2
RIM = 87.40'
INV. 1 10"CLAY = 79.03' CB 1
INV. 2 4"CLAY = 81.20' SITE
INV. 3 10"CLAY = 78.50' DMH 1
INV. 4 10" CLAY = 78.50' OFFSITE
SUMP = 78.28'

DMH 1
RIM = 88.17'
INV. 1 8"CLAY = 77.97' CB 2
INV. 2 8"CLAY = 76.71' SITE NORTH
INV. 3 12"CLAY = 77.47' DMH 2
INV. 4 8"CLAY = 76.54' OFFSITE SOUTHWEST
SUMP = 75.13'

DMH 2
RIM = 88.74'
INV. 1 10"CLAY = 79.04' DMH A
INV. 2 10"CLAY = 78.34' DMH 1
INV. 3 8"PVC = 83.11' CB 3
INV. 4 6"CLAY = 84.00' SITE
SUMP = 76.65'

CB 1495
RIM = 87.85'
INV. 6"DI = 84.25' CB 1399
INV. 6"DI = 84.25' SITE SOUTH
SUMP = 83.25'

CB 1399
RIM = 87.72'
INV. 1 ½"HOSE = 86.32' 16" DRAIN COVER
INV. 2 4"DI = 86.65' SITE
INV. 3 6"DI = 85.52' CB 1495
SUMP = 84.04'

16" DRAIN COVER
RIM = 88.33'
INV. ½"HOSE = 87.78' CB 1399
SUMP = 85.25'

CB 1442
RIM = 97.02'
INV. 4"PVC = 94.18' PARALLEL TO RR TRACKS
SUMP = 92.27'

DMH 3
RIM = 88.27'
INV. 1 12" PVC = 82.38' CB 4
INV. 2 6" CLAY = 82.42' BUILDING
INV. 3 4" CLAY = 83.59' BUILDING
INV. 4 6" CLAY = 84.23' BUILDING
INV. 5 4" CLAY = 84.46' BUILDING
INV. 6 12" CLAY = 81.61' DMH C
SUMP = 80.71'

PROPOSED DRAINAGE SCHEDULE

PYD1
RIM=88.0
INV.OUT=86.5

PYD2
RIM=88.0
INV IN=86.25
INV.OUT=86.25

PYD3
RIM=88.0
INV.IN=86.0
INV.OUT=86.0

PYD4
RIM=88.0
INV.IN=85.75
INV.OUT=85.75

PYD5
RIM=88.51
INV.OUT=85.0

PYD6
RIM=88.0
INV.IN=84.85
INV.OUT=84.85

PYD7
RIM=88.0
INV.IN=83.80
INV.OUT=83.80

PYD8
RIM=88.0
INV.OUT=85.0

LEGEND

92 — CONTOUR (2 FOOT INTERVAL)
R.O.W. — RIGHT OF WAY
SWL — SINGLE WHITE LINE
DMH — DRAINAGE MANHOLE
SMH — SEWER MANHOLE
O — YARD DRAIN
UP 104/110 — UTILITY POLE W/ I.D. Nos.
HYDRANT
S.F. — SQUARE FEET
Ac. — ACRE
RD — ROOF DRAIN
(TYP.) — TYPICAL
210.46x — PROPOSED FINISH SPOT GRADE
208 — PROPOSED FINISH GRADE

GRAPHIC SCALE

30 0 15 30 60 120
(IN FEET)

PLANNING FILE NO.: SITE-2026-XXXX

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	PER PLANNING DEPARTMENT COMMENTS	SJH	5-29-26

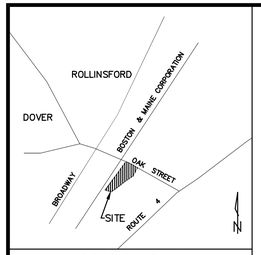
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GRADING, DRAINAGE, & EROSION CONTROL PLAN

FIRST-RATE REAL ESTATE GROUP LLC
290 HERITAGE AVENUE, SUITE 1
PORTSMOUTH, NH 03801

ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

7



LOCATION PLAN
(NO SCALE)

TOWN of ROLLINSFORD
CITY of DOVER

OAK STREET

TRANSITION FROM
2" FORCE MAIN
TO 4" FORCE MAIN

HH STATE PLANE
NAD 83 - GPS OBS

EXISTING RETAINING WALL
EXISTING SMOKE STACK TO REMAIN
EXISTING RETAINING WALL
PROPOSED RETAINING WALL
PROPOSED GENERATOR
PROPOSED TRANSFORMER
DOMESTIC WATER SERVICE 2" POLY
3,500 GAL SEPTIC TANK
6'ø PUMP CHAMBER
FDC
6"ø SDR 21
6" DI FIRE SERVICE
1-2" PVC
3-4" PVC
1" POLY
2" SEWER FORCE MAIN
4" SEWER FORCE MAIN
6" DI
PECAT
GATEWAY RM-U
ZONE EXTENSION 50.0'

LEGEND

- S.F. – SQUARE FEET
- (TYP.) – TYPICAL
- UP 701 4A – UTILITY POLE W/ I.D. Nos.
- – EXISTING UTILITY POLE
- – HYDRANT
- (V.I.F.) – VERIFY IN FIELD
- SMH – EXISTING SEWER MANHOLE
- SWL – SINGLE WHITE LINE
- DYL – DOUBLE YELLOW LINE
- WV – PROPOSED WATER SHUTOFF
- OHU – OVERHEAD UTILITIES
- G – EXISTING GAS LINE
- S – EXISTING SEWER LINE
- W – EXISTING WATER LINE
- PUGU – PROPOSED UNDERGROUND UTILITIES
- POHU – PROPOSED OVERHEAD UTILITIES
- PS – PROPOSED SEWER LINE
- PW – PROPOSED WATER LINE
- PG – PROPOSED GAS LINE

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

PLANNING FILE NO.: SITE-2026-XXXX

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CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

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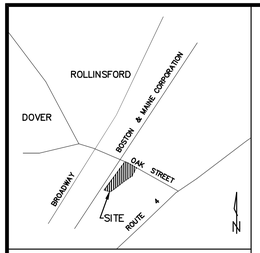
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UTILITY PLAN

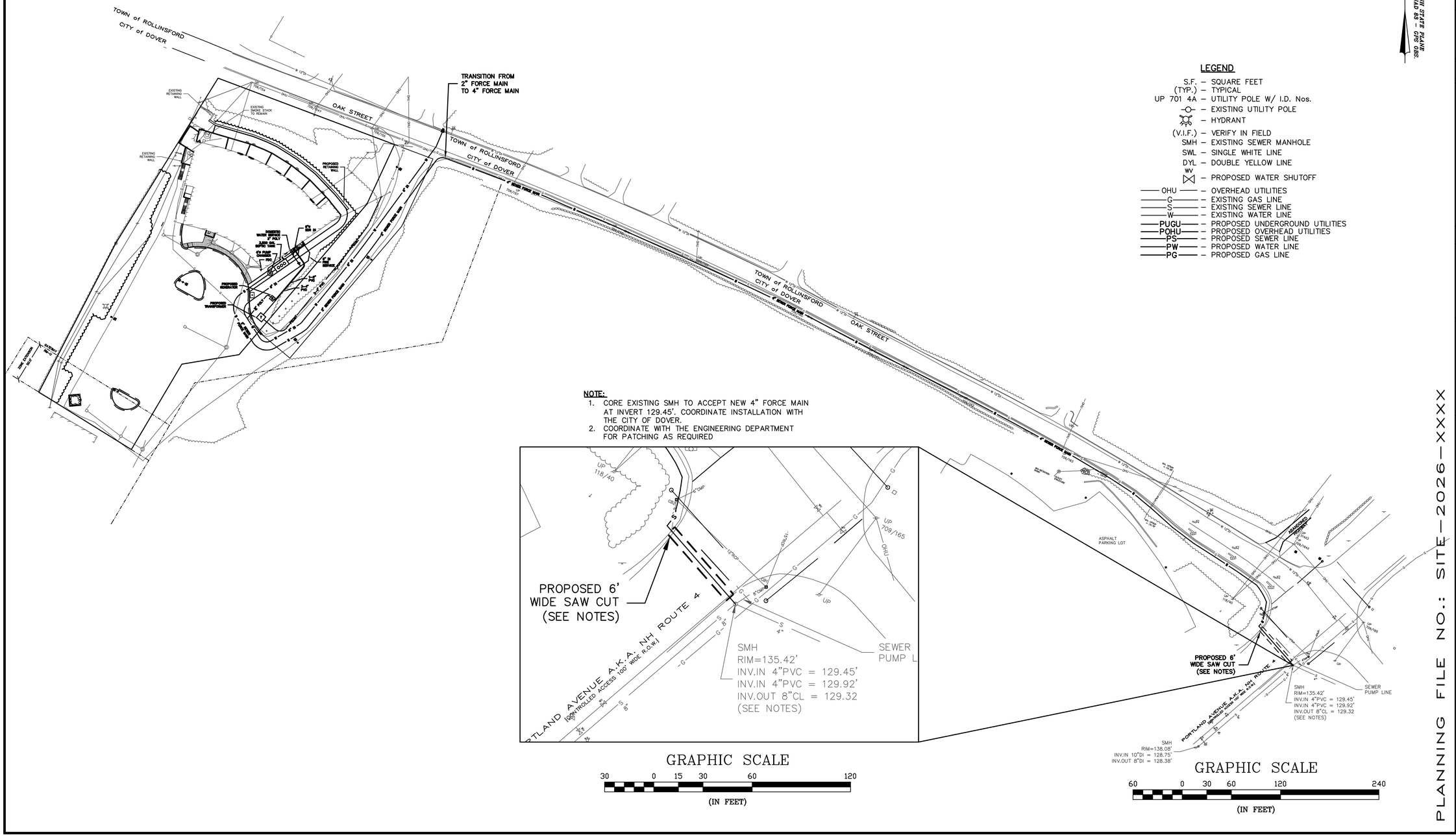
FIRST-RATE REAL ESTATE GROUP LLC
290 HERITAGE AVENUE, SUITE 1
PORTSMOUTH, NH 03801

ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

8



LOCATION PLAN
(NO SCALE)



NOTE:
1. CORE EXISTING SMH TO ACCEPT NEW 4" FORCE MAIN AT INVERT 129.45'. COORDINATE INSTALLATION WITH THE CITY OF DOVER.
2. COORDINATE WITH THE ENGINEERING DEPARTMENT FOR PATCHING AS REQUIRED

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

GRAPHIC SCALE
60 0 30 60 120 240
(IN FEET)

LEGEND

S.F. – SQUARE FEET
(TYP.) – TYPICAL
UP 701 4A – UTILITY POLE W/ I.D. Nos.
– EXISTING UTILITY POLE
– HYDRANT
(V.I.F.) – VERIFY IN FIELD
SMH – EXISTING SEWER MANHOLE
SWL – SINGLE WHITE LINE
DYL – DOUBLE YELLOW LINE
WV – PROPOSED WATER SHUTOFF
OHU – OVERHEAD UTILITIES
G – EXISTING GAS LINE
S – EXISTING SEWER LINE
W – EXISTING WATER LINE
PUGU – PROPOSED UNDERGROUND UTILITIES
POHU – PROPOSED OVERHEAD UTILITIES
PS – PROPOSED SEWER LINE
PW – PROPOSED WATER LINE
PG – PROPOSED GAS LINE

NH STATE PLANE GRID BRGS.

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Dover, New Hampshire 03821
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PLANNING FILE NO.: SITE-2026-XXXX

OVERALL UTILITY PLAN

ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

FIRST-RATE
REAL ESTATE GROUP LLC
290 HERITAGE AVENUE,
SUITE 1
PORTSMOUTH, NH 03801

9

DESCRIPTION

1. THE INTENT OF THIS PLAN IS TO SHOW SITE IMPROVEMENTS ASSOCIATED WITH THE RENOVATION OF AN EXISTING BUILDING INTO 22 LUXURY APARTMENTS. ALONG WITH GRADING & DRAINAGE IMPROVEMENTS, AND UNDERGROUND UTILITY SERVICE IMPROVEMENTS.

PROJECT NAME AND LOCATION

SITE PLAN FOR
THE ENGINE HOUSE
LUXURY APARTMENTS
75 OAK STREET
DOVER, NH

LATITUDE N43° 12' 22"
LONGITUDE W70° 51' 52"

DISTURBED AREA

±54,727 S.F.

NOTES:

1. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY TIME BEFORE DISTURBED AREAS ARE STABILIZED
2. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

SEQUENCE OF MAJOR ACTIVITIES

1. CONTRACTOR SHALL PREPARE THE SWPPP, FILE FOR AND OBTAIN THE NOI A MINIMUM OF 2 WEEKS PRIOR TO COMMENCEMENT OF SITE WORK.
2. PLACE TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S PRIOR TO EARTH MOVING ACTIVITIES.
3. ALL EROSION CONTROL AND PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO COMMENCING EARTH MOVING OPERATIONS.
4. SELECTIVE DEMOLITION.
5. REGRADE SITE TO SUBGRADE.
6. TEMPORARY WATER DIVERSION (SWALES, BASINS) MUST BE USED AS NECCESSARY UNTIL AREAS ARE STABILIZED.
7. SWALES AND PONDS (AS APPLICABLE) SHALL BE CONSTRUCTED EARLY ON IN THE CONSTRUCTION SEQUENCE AND BEFORE ROUGH GRADING OF THE SITE AND ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
8. INSTALL DRAINAGE STRUCTURES AND CONTROLS.
9. INSTALL FOUNDATION FOOTINGS AND WALLS.
10. INSTALL UTILITIES.
11. PLACE GRAVELS AND FINE GRADE.
12. STABILIZE ROADWAYS AND PARKING AREAS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
13. ALL CUT AND FILL SLOPES SHALL BE LOAMED AND SEEDED (AS APPLICABLE) WITHIN 72 HOURS OF ACHIEVNG FINISH GRADE.
14. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY 1/2" OF RAINFALL.
15. IN ALL CASES THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION AND IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
16. WHEN ALL SITE WORK IS COMPLETE AND ALL DISTURBED AREAS ARE STABILIZED REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND FILE THE EPA – N.O.T.

DEFINITIONS

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED.

1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED
2. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
3. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED; OR
4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED

INSTALLATION, MAINTENANCE, AND INSPECTION PROCEDURES OF EROSION AND SEDIMENT CONTROLS

A. SILT BARRIER

1. INSTALLATION
   a. USE SILT BARRIER AS PERIMETER CONTROLS, PARTICULARLY AT THE LOWER OR DOWN SLOPE EDGE OF A DISTURBED AREA.
   b. LEAVE SPACE FOR MAINTENANCE BETWEEN TOE AND SLOPE OF SILT BARRIER.
   c. TRENCH IN THE SILT BARRIER ON THE UPHILL SIDE (6 INCHES DEEP BY 6 INCHES WIDE).
   d. INSTALL STAKES ON THE DOWNHILL SIDE OF THE SILT BARRIER.
   e. CURVE THE END OF THE SILT BARRIER UP-GRADIENT TO HELP IT CONTAIN RUNOFF.
2. SEQUENCE OF INSTALLATION
   a. SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.
3. MAINTENANCE
   a. SILT BARRIERS SHOULD BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
   b. SILT BARRIERS HAVE A USEFUL LIFE OF ONE SEASON. ON LONGER CONSTRUCTION PROJECTS, SILT BARRIERS SHOULD BE REPLACED PERIODICALLY TO MAINTAIN EFFECTIVENESS.
   c. REMOVE SEDIMENT WHEN IT REACHES ONE-THIRD (1/3) THE HEIGHT OF THE SILT BARRIER.
   d. REPLACE THE SILT BARRIERS WHERE THEY ARE TORN, WORN, OR OTHERWISED DAMAGED AND MONITOR PERFORMANCE TO ENSURE EFFECTIVE PERFORMANCE.
   e. RETRENCH OR REPLACE ANY SILT BARRIER THAT IS NOT PROPERLY ANCHORED TO THE GROUND.
   f. 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.
   g. SILT 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 THEM, SILT BARRIERS SHOULD BE REPLACED WITH A TEMPORARY CHECK DAM.

B. MULCHING

1. TIMING
   a. APPLY MULCH PRIOR TO ANY STORM EVENT. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.
   b. IN OTHER AREAS, THE TIME PERIOD CAN RANGE FROM 14 TO 30 DAYS OF INACTIVITY ON A AREA. THE LENGTH OF TIME VARYING WITH SITE CONDITIONS. PROFESSIONAL JUDGEMENT SHALL BE USED TO EVALUATE THE INTERACTION OF SITE CONDITIONS (SOIL ERODIBILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES, ETC.) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS TO CHOOSE AN APPROPRIATE TIME RESTRICTION.
   c. WITHIN 100 FEET OF RIVERS, STREAMS, WETLANDS, AND IN LAKE AND POND WATERSHEDS, THE TIME PERIOD OF WHICH MULCHING SHOULD TAKE OCCUR SHOULD BE NO GREATER THAN SEVEN (7) DAYS. THIS SEVEN DAY LIMIT SHOULD BE REDUCED FURTHER DURING WET WEATHER PERIODS.
2. APPLICATION RATE
   a. MULCH SHALL BE APPLIED AT A RATE OF BETWEEN 1.5 TO 2 TONS PER ACRE, OR 70 TO 90 POUNDS PER 1000 SQUARE FEET.
   b. GUIDELINES FOR WINTER MULCH APPLICATION. WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON) IT SHALL BE AT A RATE OF 150-200 POUNDS OF HAY OR STRAW PER ACRE WITH ABOUT 4 INCHES IN DEPTH. A TACKIFIER MAY BE ADDED TO THE MULCH.
3. MAINTENANCE
   a. ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS. CHECK FOR SIGNS OF EROSION OR DISPLACEMENT OF THE MULCH. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED.
   b. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE AND SHOULD BE REPAIRED AS NECCESSARY.
   c. INSPECTIONS SHOULD TAKE PLACE UNTIL THE SITE IS ESTABLISHED.
   d. EROSION CONTROL MIX MULCH USED FOR TEMPORARY STABILIZATION SHOULD BE LEFT IN PLACE. VEGETATION ADDS STABILITY AND SHOULD BE PROMOTED.

C. TEMPORARY SEEDING

1. SEEDBED PREPARATION
   a. STONES AND TRASH SHOULD BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.
   b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
   c. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS.
      i) APPLY FERTILIZER AT A RATE OF 600 POUNDS PER ACRE OR 13.8 POUNDS PER 1,000 SQUARE FEET OF LOW PHOSPHATE FERTILIZER OR EQUIVALENT.
      ii) APPLY LIMESTONE AT A RATE OF 3 TONS PER ACRE OR 138 POUNDS PER 1,000 SQUARE FEET.
2. SEEDING
   a. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SUMMARY INCLUDING SEED AND FERTILIZER) WITH A SEEDING DEPTH FROM A QUARTER (1/4) TO A HALF (1/2) INCH.
   b. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
   c. TEMPORARY SEEDING BETWEEN MAY 15TH AND AUGUST 15TH SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE.
   d. VEGETATED GROWTH COVERING 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH.
3. MAINTENANCE
   a. TEMPORARY SEEDING SHALL BE INSPECTED PERIODICALLY. AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER FABRICS, CHECK DAMS, ETC.).

D. PERMANENT SEEDING

1. BEDDING – STONES LARGER THAN 2 INCHES, TRASH, ROOTS, AND OTHER DEBRIS INTERFERRING WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA SHOULD BE REMOVED. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF 4" TO PREPARE A SEEDBED AND MIX FERTILIZER INTO THE SOIL.
2. FERTILIZER
   a. LIME AND FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 4 INCHES USING A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT PRIOR TO OR AT THE SAME TIME OF SEEDING.
   b. FERTILIZER SHOULD BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE NITORGEN 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 THE SURFACE WATER.
   c. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
   AGRICULTURAL LIMESTONE @ 138 LBS. PER 1,000 S.F.
   LOW PHOSPHATE (N-P205-K20) FERTILIZER @ 13.8 LBS. PER 1,000 S.F.
3. SEED MIXTURE (RECOMMENDED)
   RATE:

TYPE	LBS. PER ACRE	LBS. PER 1,000 S.F.
TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDSFOOT TREFOIL	8	0.20
TOTAL	48	1.10

4. SEEDING
   a. 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.
   b. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER) WITH A SEEDING DEPTH FROM A QUARTER (1/4) TO A HALF (1/2) INCH.
   c. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.
5. HYDROSEEDING
   a. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF STRAW MULCH ON CRITICAL AREAS IS PREFERRED SINCE IT GRANTS BETTER SLOPE PROTECTION BY USING ADHESIVE MATERIALS.
   b. SLOPES MUST BE NO STEEPER THAN 2 TO 1 (2 FEET HORIZONTALLY TO 1 FOOT VERTICALLY).
   c. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
6. MAINTENANCE
   a. 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.
   b. 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.
   c. BASED ON INSPECTION, AREAS SHOULD BE RESEEDED TO ACHIEVE FULL STABALIZATION OF EXPOSED SOILS.
   d. IF EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS RESEEDED. WITH OTHER TEMPORARY MEASURES USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.
   e. AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.

E. STORM DRAIN INLET PROTECTION

1. SPECIFICATIONS
   a. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE BARRIER SHOULD BE LESS THAN ONE ACRE.
   b. ANY RESULTANT PONDING OF STORMWATER MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.
2. INSTALLATION
   a. INSTALL INLET PROTECTION AS SOON AS STORM DRAIN INLETS ARE INSTALLED AND BEFORE LAND-DISTURBANCE ACTIVITIES BEGIN IN AREAS WITH EXISTING STORM DRAIN SYSTEMS.
   b. PROTECT ALL INLETS THAT COULD RECEIVE STORMWATER FROM YOUR CONSTRUCTION PROJECT.
   c. USE IN CONJUNCTION WITH OTHER EROSION PREVENTION AND SEDIMENT CONTROL BMPS.
   d. DESIGN YOUR INLET PROTECTION TO HANDLE THE VOLUME OF WATER FROM THE AREA BEING DRAINED. ENSURE THAT THE DESIGN IS SIZED APPROPRIATELY.
3. MAINTENANCE
   a. INSPECT INLETS BARRIERS FREQUENTLY, BEFORE AND AFTER EACH RAINFALL EVENT AND REPAIR WHEN NECESSARY.
   b. SEDIMENT SHOULD BE REMOVED AND THE STORM DRAIN SEDIMENT BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE BARRIER.
   c. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
   d. SWEEP STREETS, SIDEWALKS, AND OTHER PAVED AREAS REGULARLY.
   e. ALL CATCH BASINS AND STORM DRAIN INLETS MUST BE CLEANED AT THE END OF CONSTRUCTION AND AFTER THE SITE HAS BEEN FULLY STABILIZED

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES THE SILT BARRIERS SHALL BE INSTALLED PRIOR TO COMMENCING ANY CLEARING OR GRADING OF THE SITE. STRUCTURAL CONTROLS SHALL BE INSTALLED CONCURRENTLY WITH THE APPLICABLE ACTIVITY. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN TWENTY ONE (21) DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN FOURTEEN (14) DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, SILT FENCES AND ANY EARTH/DIKES WILL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.

WASTE DISPOSAL

a. WASTE MATERIALS
   ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN A DUMPSTER. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON SITE. ALL PERSONEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
b. HAZARDOUS WASTE
   ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
c. SANITARY WASTE
   ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

MAINTENACE OF STORMWATER MANAGEMENT FACILITIES

THE PROJECT PROPONENT IS RESPONSIBLE FOR THE MAINTENANCE OF ALL STORMWATER FACILITIES DURING CONSTRUCTION AND THE PROPERTY OWNER IS RESPONSIBLE AFTER CONSTRUCTION IS COMPLETE.

CATCH BASINS & STORMWATER TREATMENT STRUCTURES

1. CATCH BASINS & STORMWATER TREATMENT STRUCTURES SHOULD BE INSPECTED ON A MONTHLY BASIS AND/OR AFTER A MAJOR RAINFALL EVENT TO ASSURE THAT DEBRIS OR SEDIMENTS DO NOT REDUCE THE EFFECTIVENESS OF THE SYSTEM.

SPIL PREVENTION

A. MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RICK OF SPILLS OR OTHER ACCIDENTAL SANITARY EXPOSURE OF MATERIALS AND SUBSTANCE DURING CONSTRUCTION TO STORMWATER RUNOFF:
GOOD HOUSEKEEPING:
THE FOLLOWING GOOD HOUSEKEEPING PRACTICES THAT WILL BE FOLLOWED ON SITE DURING

1. THE CONSTRUCTION PROJECT:
   a. AN EFFORT WILL BE MADE TO STORE ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB.
   b. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
   c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
   d. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.
   e. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
   f. WHENEVER POSSIBLE ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
2. HAZARDOUS PRODUCTS:
   a. THE FOLLOWING PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
   b. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
   c. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.
   d. SURPLUS PRODUCT THAT MUST BE DISPOSED OF WILL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.

B. PRODUCT SPECIFICATION PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:

1. PETROLEUM PRODUCTS:
   a. ALL ON SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENACE TO REDUCE LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
2. FERTILIZERS:
   a. FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
3. PAINTS:
   a. ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE DISPOSED OF PROPERLY ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
4. CONCRETE TRUCKS:
   a. CONCRETE TRUCKS WILL DISCHARGE AND WASH OUT SURPLUS CONCRETE OR DRUM WASH WATER IN A CONTAINED AREA ON SITE.

C. SPILL CONTROL PRACTICES

IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
c. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
d. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OF LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
f. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECURRING AND HOW TO CLEANUP THE SPILL IF IT OCCURS. A DESCRIPTION OF THE SPILL, ITS CAUSE, AND THE CLEANUP MEASURES WILL BE INCLUDED.
g. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.

THE PROJECT PROPONENT IS REQUIRED TO MANAGE CONSTRUCTION TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO CONTROLLING INVASIVE SPECIES AND CONTROLLING FUGITIVE DUST IN ACCORDANCE WITH ENV-A 1002.

AGR 3800 PROHIBITED INVASIVE PLANT SPECIES RULES

THE RULE, AGR 3800, STATES: NO PERSON SHALL COLLECT, TRANSPORT, IMPORT, EXPORT, MOVE, BUY SELL, DISTRIBUTE, PROPAGATE OR TRANSPLANT ANY LIVING AND VIABLE PORTION OF ANY PLANT SPECIES, WHICH INCLUDES ALL OF THEIR CULTIVARS AND VARIETIES, LISTED IN TABLE 3800.1, NEW HAMPSHIRE PROHIBITED INVASIVE SPECIES LIST'. A COMPLETE COPY OF THE RULES CAN BE ACCESSED ON THE INTERNET AT
HTTP://AGRICULTURE.NH.GOV/TOPICS/PLANTS_INSECTS.HTM.

ENV-A 1002 FUGITIVE DUST: PRECAUTIONS TO PREVENT, ABATE, AND CONTROL FUGITIVE DUST

a. ANY PERSON ENGAGED IN ANY ACTIVITY WITHIN THE STATE EMITS FUGITIVE DUST, OTHER THAT THOSE LISTED IN ENV-A 1002.02 (b), SHALL TAKE PRECAUTIONS THROUGHOUT THE DURATION OF THE ACTIVITY IN ORDER TO PREVENT, ABATE, AND CONTROL THE EMISSION OF FUGITIVE DUST.
b. PRECUATIONS REQUIRED BY (a) ABOVE, SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
   i) THE USE OF WATER OR HYDROPHILIC MATERIAL ON OPERATIONS OR SURFACES, OR BOTH;
   ii) THE APPLICATION OF ASPHALT, WATER, OR HYDROPHILIC MATERIAL, OR TARPS OR OTHER SUCH COVERS TO MATERIAL STOCKPILES;
   iii) THE USE OF HOODS, FANS, FABRIC FILTERS, OR OTHER DEVICES TO ENCLOSE AND VENT AREAS WHERE MATERIALS PRONE TO PRODUCING FUGITIVE DUST ARE HANDLED;
   iv) THE USE OF CONTAINMENT METHODS FOR SANDBLASTING OR SIMILAR OPERATIONS; AND
   v) THE USE OF VACUUMS OR OTHER SUCTION DEVICES TO COLLECT AIRBORNE PARTICULATE MATTER.

PER 153-10 F.

ALL SITE IMPROVEMENTS WHICH REQUIRE BLASTING OF LAND SHALL MEET THE FOLLOWING REQUIRMENTS PRIOR TO ANY BLASTING OCCURING.

1. THE APPLICANT SHALL PREPARE A PRE-BLAST SURVEY OF ALL STRUCTURES WITHIN FIVE HUNDRED (500) FEET OF THE EXTERNAL BOUNDARIES OF THE PROPOSED LOT TO BE DEVELOPED. THIS SURVEY, ALONG WITH A MONITORING PLAN, SHALL BE ON FILE WITH THE DOVER FIRE AND RESCUE, UPON RECOMMENDATIONS OF THE CHIEF, THE PLANNING BOARD MAY REQUIRE A PRE-BLAST SURVEY OF ALL STRUCTURES WITHIN ONE THOUSAND (1000) FEET.
2. THE APPLICANT SHALL HOLD A NEIGHBORHOOD MEETING TO REVIEW THE BLASTING PLAN AND PRE-BLAST SURVEY, WITH REPRESENTATIVES OF THE FIRE AND RESCUE AND THE BLASTING COMPANY IN ATTENDANCE, PRIOR TO ANY ON-SITE BLASTING. ABUTTERS WITHIN ONE THOUSAND (1000) FEET OF THE EXTERNAL BOUNDARY OF THE PROJECT PARCEL SHALL BE NOTIFIED BY THE CERTIFIED MAIL (PAID FOR BY THE APPLICANT) OF THE MEETING NO LESS THAN TEN (10) DAYS PRIOR TO THE MEETING AND NO MORE THAN FIFTEEN (15) DAYS PRIOR TO THE MEETING. THE NOTICE SHALL STATE THE TIME AND DATE OF THE BLASTING AND CONTAIN A MAP SHOWING THE BLASTING AREA, THE 1,000-FOOT-RADIUS AREA, AND THE 500-FOOT-RADIUS AREA.
3. PERMIT HOLDERS SHALL BE IN COMPLIANCE WITH NFPA 495, EXPLOSIVE MATERIALS CODE, IN ADDITION TO ALL OTHER ORDINANCES AND CODES SET FORTH IN THE CITY OF DOVER CODE, § 153-14A, STORMWATER MANAGEMENT, EROSION CONTROL AND FLOOD HAZARDS, OF THIS CHAPTER AND THE CITY OF DOVER FIRE PREVENTION CODE, WHICH SPECIFICALLY PROHIBITS THE OVERNIGHT STORAGE OF EXPLOSIVES OR BLASTING AGENTS. FURTHER, ALL STORAGE MAGAZINES SHALL BE LOCKED IN THE OPEN POSITION AT THE END OF THE DAYS OPERATION FOR EASY INSPECTION BY CITY OFFICIALS.
4. BLASTING PERMITS MAY BE OBTAINED BY CALLING THE DOVER FIRE AND RESCUE DURING NORMAL BUSINESS HOURS. THE PERMITS ARE ONLY ACTIVE FOR THE DATES AND TIME SPECIFIED ON THE PERMIT.
5. PERMIT HOLDERS SHALL HOLD INSURANCE AGAINST CLAIMS FOR DAMAGES FOR PERSONAL INJURY AND PROPERTY WHICH MAY ARISE FROM THE PERFORMANCE OF THE WORK.
6. HOURS OF OPERATION FOR THE BLASTING SHALL BE NO EARLIER THAN 8:00AM AND NO LATER THAN 6:00PM, MONDAY THROUGH FRIDAY, EXCLUDING FEDERAL HOLIDAYS.

WINTER CONSTRUCTION NOTES

1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT.
2. ALL DITCHES & SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD AND PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.

PLANNING FILE NO.: SITE-2026-XXXX

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

NO.	REVISION	APP'D	DATE
1	PER PLANNING DEPARTMENT COMMENTS	SJH	5-29-26

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DRAWN BY: WEJ
DESIGN BY: WEJ
APPROVED BY:SJH
PROJECT NO: 25224
FILE: SITE

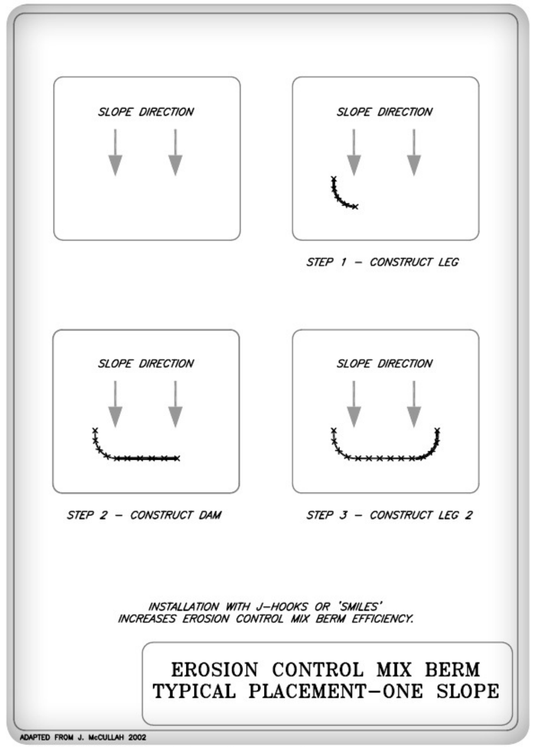
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CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

EROSION CONTROL NOTES

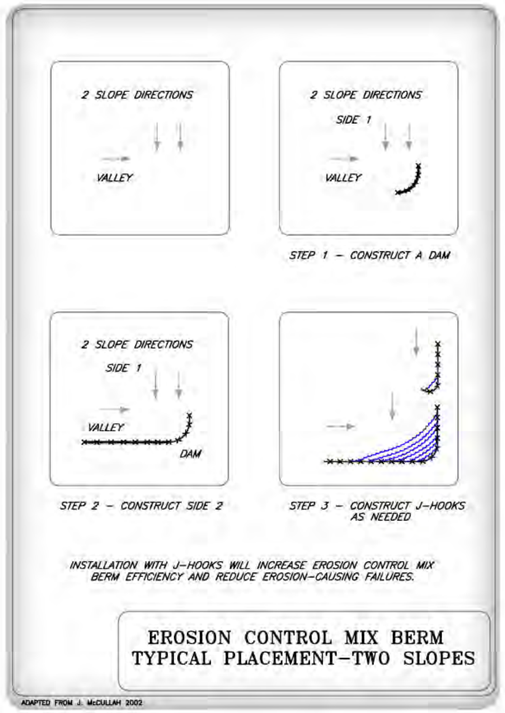
ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

FIRST-RATE
REAL ESTATE GROUP LLC
290 HERITAGE AVENUE,
SUITE 1
PORTSMOUTH, NH 03801

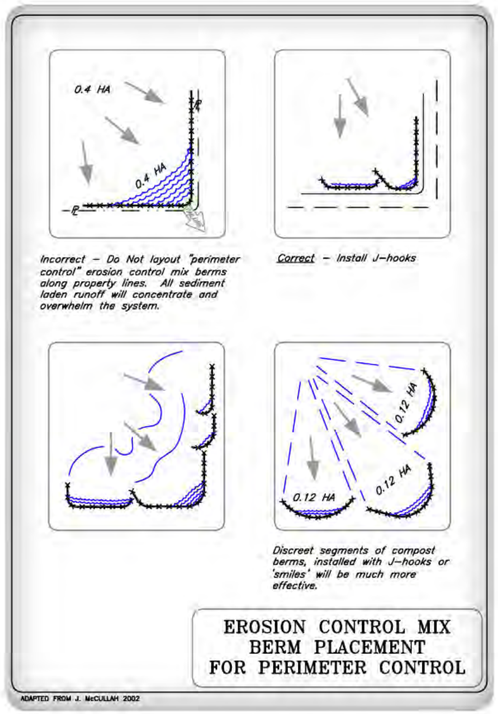
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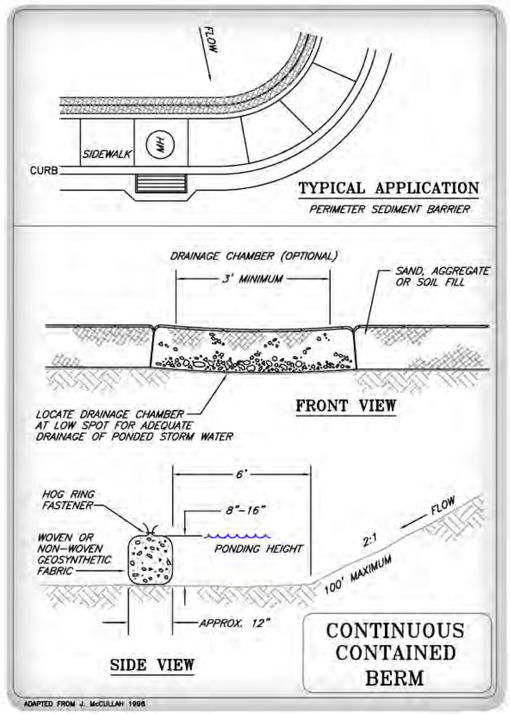
DETAIL FROM NHDES STORMWATER MANUAL VOLUME 3



DETAIL FROM NHDES STORMWATER MANUAL VOLUME 3



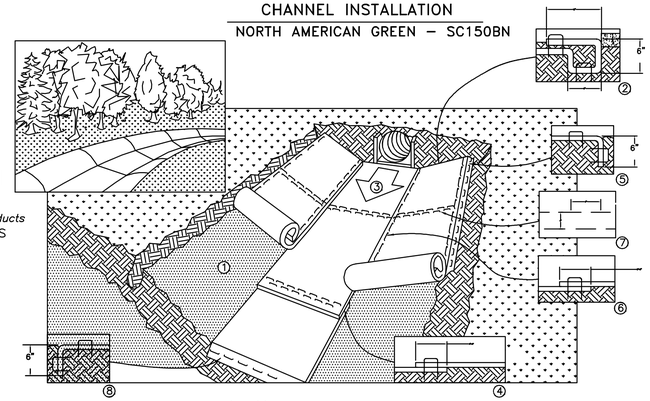
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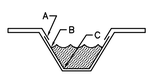
DETAIL FROM NHDES STORMWATER MANUAL VOLUME 3

CHANNEL INSTALLATION
NORTH AMERICAN GREEN – SC150BN

NORTH AMERICAN GREEN
EROSION CONTROL *Products Guaranteed* SOLUTIONS



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" – 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. NOTE: * IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

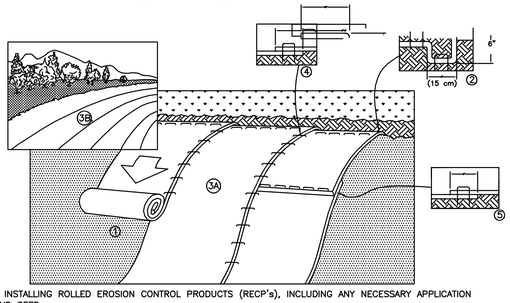
BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY

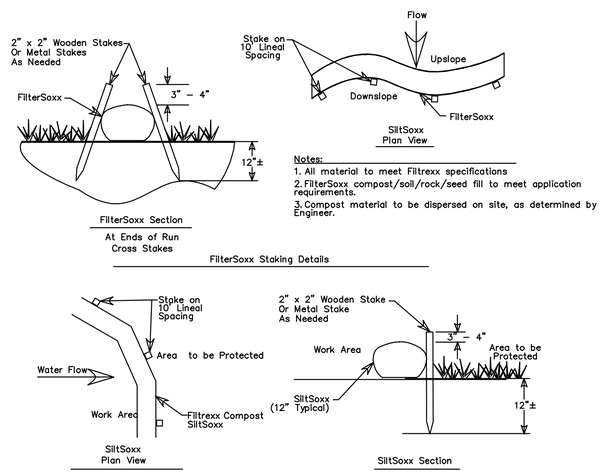
SLOPE INSTALLATION
NORTH AMERICAN GREEN – SC150BN

NORTH AMERICAN GREEN
EROSION CONTROL *Products Guaranteed* SOLUTIONS



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM* , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

NOTE: THE USE OF WELDED PLASTIC OR BIODEGRADABLE PLASTIC NETTING OR THREAD IN EROSION CONTROL MATTING IS PROHIBITED. THE USE OF WILDLIFE FRIENDLY ORGANIC MATERIALS IS RECOMMENDED.



PLANNING FILE NO.: SITE–2026–XXXX

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CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	PER PLANNING DEPARTMENT COMMENTS	SJH	5–29–26

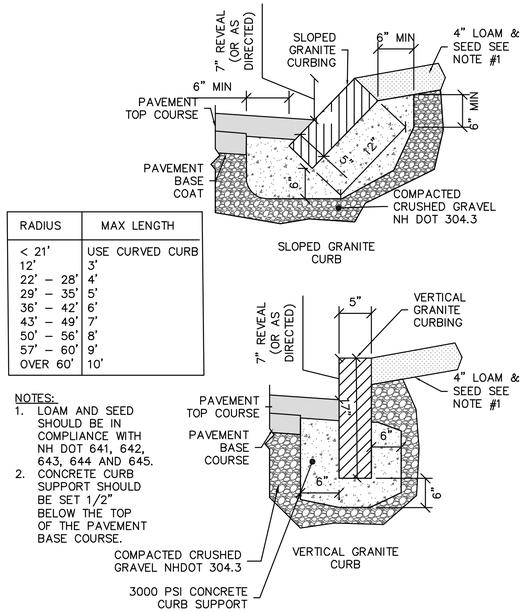
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SCALE: NO SCALE
DRAWN BY: WEJ
DESIGN BY: WEJ
APPROVED BY:SJH
PROJECT NO: 25224
FILE: SITE

EROSION CONTROL DETAILS

FIRST–RATE REAL ESTATE GROUP LLC 290 HERITAGE AVENUE, SUITE 1 PORTSMOUTH, NH 03801

ENGINE HOUSE APARTMENTS AT SALMON FALLS 75 OAK STREET DOVER, NH

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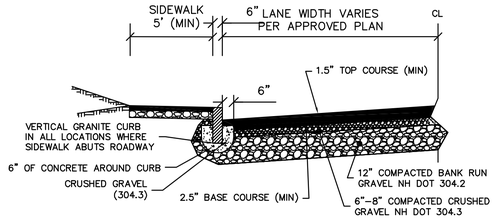


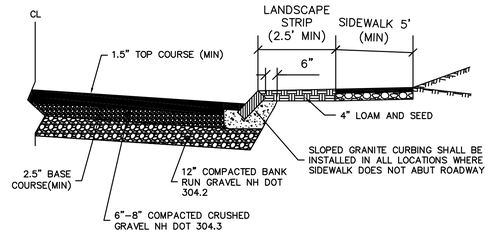
RADIUS	MAX LENGTH
< 21'	USE CURVED CURB
12'	3'
22' – 28'	4'
29' – 35'	5'
36' – 42'	6'
43' – 49'	7'
50' – 56'	8'
57' – 60'	9'
OVER 60'	10'

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 1/2" BELOW THE TOP OF THE PAVEMENT BASE COURSE.

CITY OF DOVER D–8 GRANITE CURB DETAIL

NOT TO SCALE



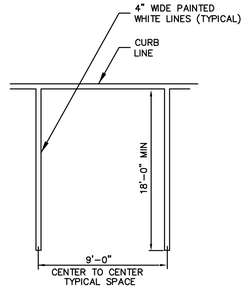


NOTES:
1. THIS DETAIL IS FOR GENERAL REVIEW PURPOSES ONLY, FINAL DESIGN SHALL BE BASED ON SPECIFIC SITE CONDITIONS AND APPROVED PLANS.
2. SIDEWALK LOCATION AND MATERIAL SHALL BE AS APPROVED BY THE CITY OF DOVER.

(FOR WORK IN R.O.W.)

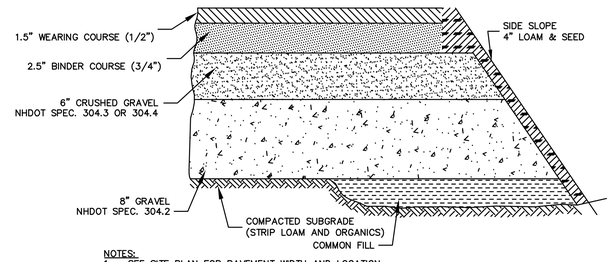
CITY OF DOVER D–5 ROADWAY CROSS SECTION DETAIL

NOT TO SCALE



STANDARD PARKING STALL

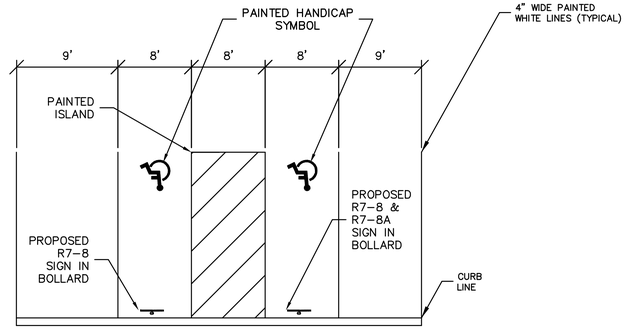
NOT TO SCALE



NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS–SLOPE.
3. GEOTEXTILE FABRIC MAYBE REQUIRED UNDER THE ROADWAY AND /OR THE PARKING AREAS AS REQUIRED BY THE ENGINEER BASED UPON SITE CONDITIONS.

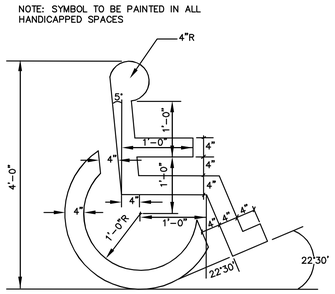
TYPICAL STANDARD PAVEMENT SECTION

NOT TO SCALE



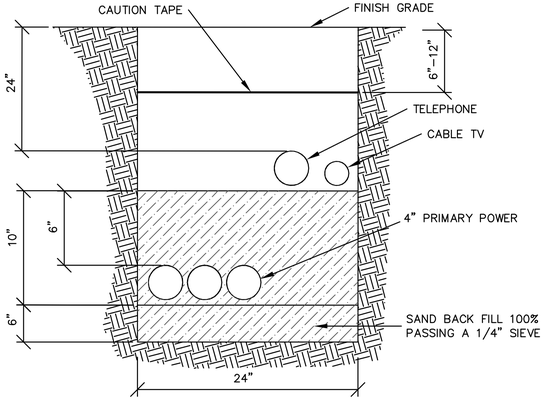
ACCESSIBLE PARKING LAYOUT

NOT TO SCALE



PAINTED ACCESSIBLE PARKING SYMBOL

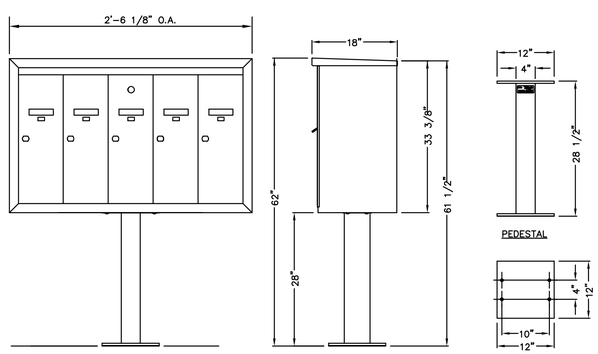
NOT TO SCALE



NOTES:
1. TELEPHONE CONDUIT SHALL BE 3" SCHEDULE 40 PVC, WITH STEEL SWEEPS AT RISER POLE, 90° BENDS AND AT BUILDING.
2. LEAVE PULL ROPE IN ALL CONDUITS FOR CABLE INSTALLATION.
3. FOR COMPLETE SPECIFICATIONS SEE "REQUIREMENTS FOR ELECTRIC SERVICE CONNECTIONS – INFORMATIONS AND REQUIREMENTS FOR ELECTRIC SUPPLY BY EVERSOURCE ENERGY".
4. CONTRACTOR SHOULD VERIFY THE NUMBER & SIZE OF CONDUIT WITH THE APPROPRIATE UTILITIES PROVIDERS.

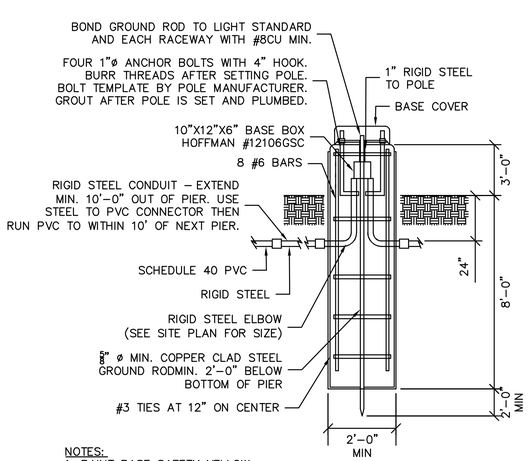
UTILITY TRENCH

NOT TO SCALE



22 UNIT MAIL KIOSK DETAIL

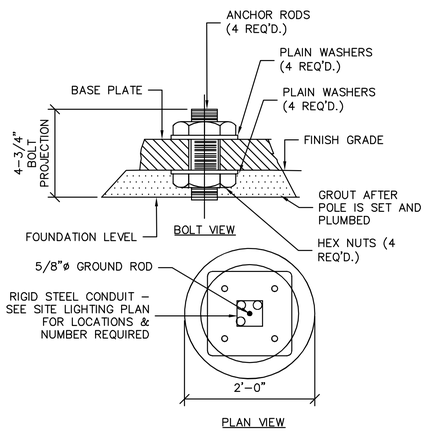
NOT TO SCALE



NOTES:
1. PAINT BASE SAFETY YELLOW
2. CONCRETE TO BE 4000 PSI

LIGHT POLE BASE

NOT TO SCALE



NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CNE CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	PER PLANNING DEPARTMENT COMMENTS	SJH	5–29–26

DATE: 5–14–26
SCALE: NO SCALE
DRAWN BY: WEJ
DESIGN BY: WEJ
APPROVED BY:SJH
PROJECT NO: 25224
FILE: SITE

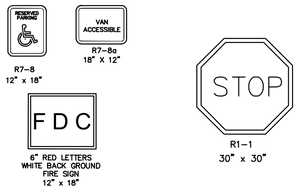
PLANNING FILE NO.: SITE–2026–XXXX

DETAIL SHEET

ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

FIRST–RATE
REAL ESTATE GROUP LLC
290 HERITAGE AVENUE,
SUITE 1
PORTSMOUTH, NH 03801

12

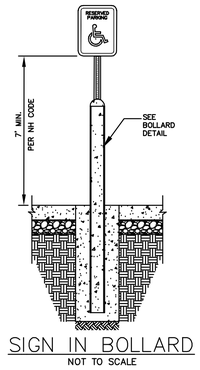


NOTE:
1. ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

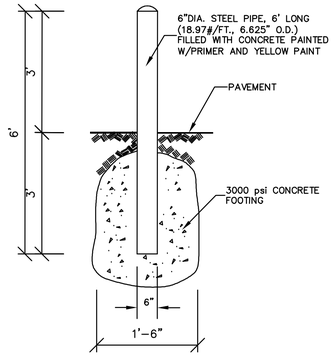
LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN

BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY.
ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

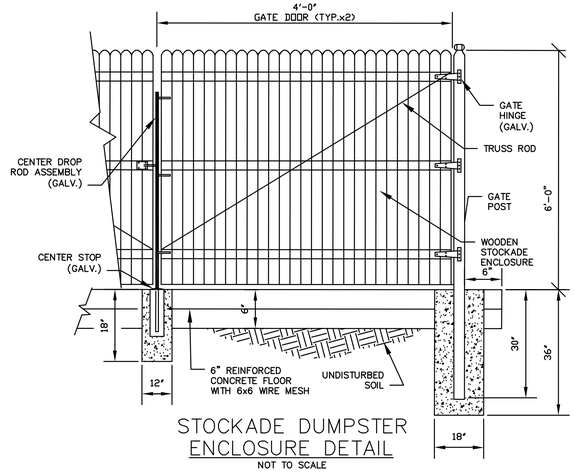
SIGN LEGEND & SIGN POST
NOT TO SCALE



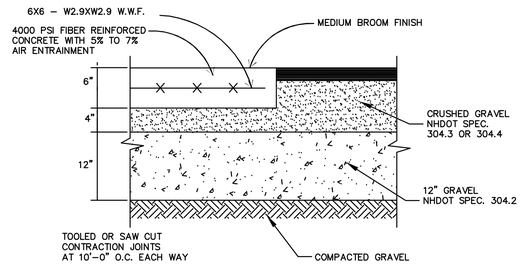
SIGN IN BOLLARD
NOT TO SCALE



BOLLARD DETAIL
NOT TO SCALE

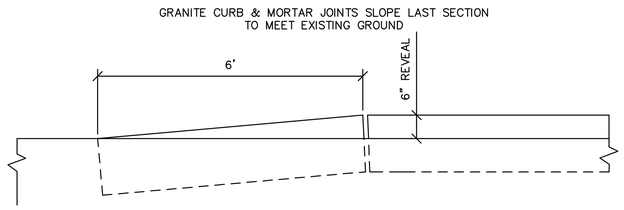


STOCKADE DUMPSTER ENCLOSURE DETAIL
NOT TO SCALE

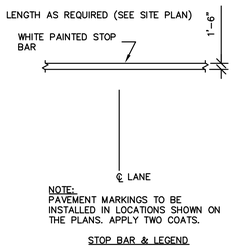


NOTE: PITCH CONCRETE PAD GRADING TO CENTER

DUMPSTER PAD DETAIL
NOT TO SCALE



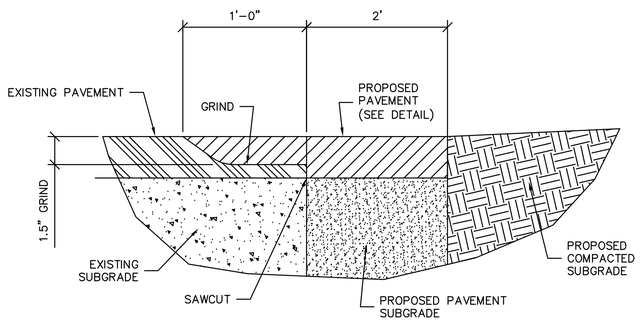
"TIP-DOWN" CURB DETAIL
NOT TO SCALE



NOTE:
PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS SHOWN ON THE PLANS. APPLY TWO COATS.

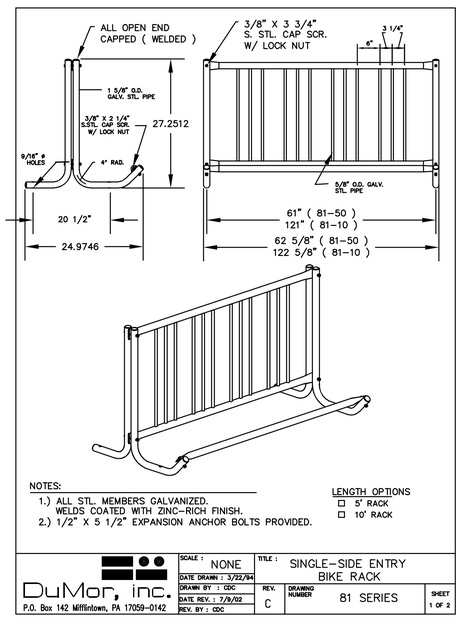
STOP BAR & LEGEND

PAVEMENT MARKINGS
NOT TO SCALE



NOTE: APPLY TACK COAT ON HORIZONTAL AND VERTICAL EDGES

SAWCUT GRINDING WITH SLOPE GRANITE CURBING
NOT TO SCALE



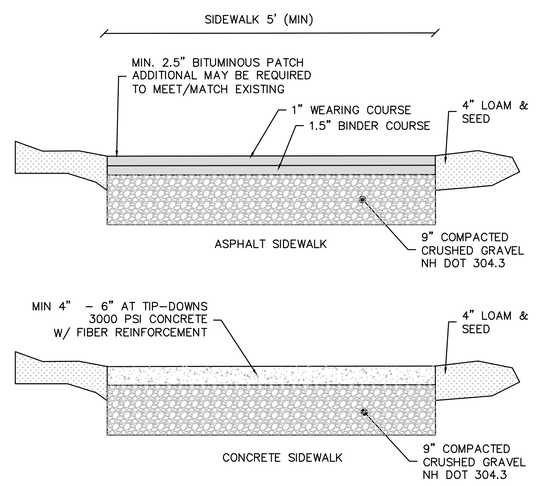
NOTES:
1.) ALL STL. MEMBERS GALVANIZED. WELDS COATED WITH ZINC-RICH FINISH.
2.) 1/2" X 5 1/2" EXPANSION ANCHOR BOLTS PROVIDED.

LENGTH OPTIONS
☐ 5' RACK
☐ 10' RACK

DuMor, inc.
P.O. Box 142 Mifflintown, PA 17059-0142

SCALE : NONE	TITLE : SINGLE-SIDE ENTRY BIKE RACK
DATE DRAWN : 3/22/04	
DRAWN BY : CDC	REV. C
DATE REV. : 7/8/02	DRAWING NUMBER 81 SERIES
REV. BY : CDC	SHEET 1 OF 2

BIKE RACK DETAIL
NOT TO SCALE



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.

CITY OF DOVER D-6
ASPHALT & CONCRETE SIDEWALK
NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CNE CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
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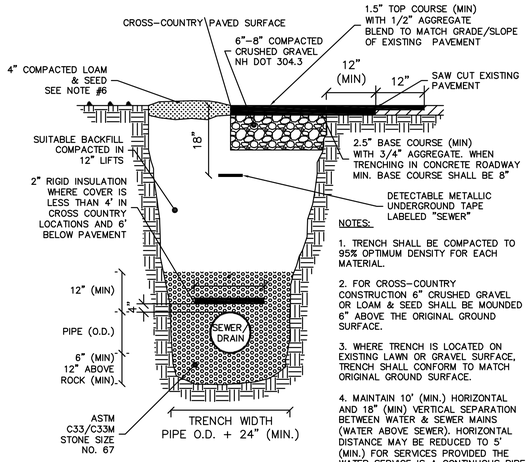
PLANNING FILE NO.: SITE-2026-XXXX

DETAIL SHEET

FIRST-RATE REAL ESTATE GROUP LLC
290 HERITAGE AVENUE, SUITE 1
PORTSMOUTH, NH 03801

ENGINE HOUSE APARTMENTS AT SALMON FALLS
75 OAK STREET
DOVER, NH

13

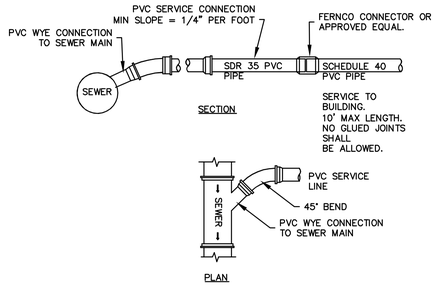


NOTES:

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. 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.

CITY OF DOVER D-3
SEWER TRENCH DETAIL

NOT TO SCALE

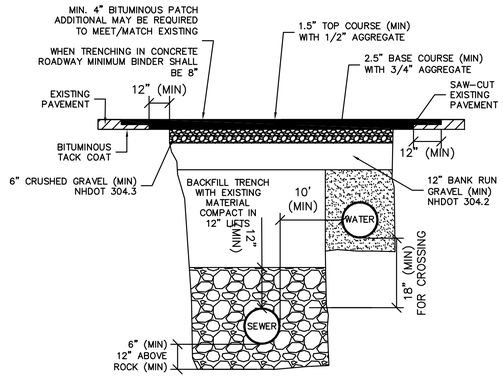


NOTES:

1. TRENCHING AND BEDDING REQUIREMENTS PER CITY SEWER TRENCH DETAIL (D-3).
2. SERVICE LATERAL DIAMETER VARIES PER APPLICATION. REVIEW SIZE WITH CITY ENGINEER PRIOR TO INSTALLATION.
3. SDR 35 SHALL NOT EXTEND INTO THE BUILDING.
4. PIPE BEDDING AND BLANKET SHALL MEET THE STANDARD SEWER TRENCH DETAIL D-3.

CITY OF DOVER D-17
SEWER SERVICE DETAIL

NOT TO SCALE

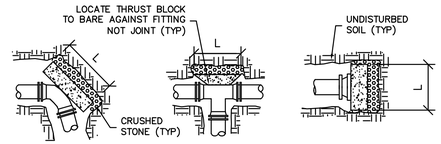


NOTES:

1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY.
2. ALL WORK SHALL COMPLY WITH THE CITY OF DOVER CONSTRUCTION GUIDELINES AND PROCEDURES
3. 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.

CITY OF DOVER
TYPICAL TRENCH DETAIL

NOT TO SCALE



THRUST BLOCK SCHEDULE
MINIMUM BEARING AREA (SQUARE FEET)

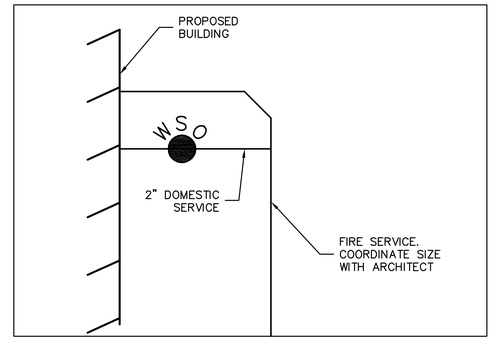
	PIPE SIZE					
Nominal Dia. (in)	4	6	8	10	12	16
Pipe Fittings	*	*	5.18	7.96	11.43	20.29
90 Degree Bends	*	4.11	7.33	11.26	16.17	28.69
45 Degree Bends	*	*	*	6.10	8.75	15.53
22-1/2 Degree Bends	*	*	*	*	4.46	7.92
11-1/4 Degree Bends	*	*	*	*	*	*
*SEE NOTE 2	System Pressure: 125 psi Safety Factor: 1.5 Soil 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.

CITY OF DOVER D-15
THRUST BLOCK DETAIL

NOT TO SCALE



TYPICAL FIRE AND DOMESTIC
WATER SERVICE CONNECTION DETAIL

NOT TO SCALE

NOTE:

SEE UTILITY PLAN FOR LOCATION

TRELLEBORG PIPE SEALS

TRELLEBORG

Kor-N-Seal® I
Stainless Steel Wedge Connector
(WS Series)

Installation Instructions

CONNECTOR INSTALLATION

1. Check to be sure the Stainless Steel Waveband® is properly located in Connector groove.
2. Inspect the inside surface of the cored/formed hole. If there is porosity or wire-to-concrete separation, use patching or hydraulic cement to smooth the surface.
3. Insert Connector Assembly into hole with Wedge Expander at top of hole.
4. Position Connector so it is square to manhole both vertically and horizontally.
5. Tighten Wedge Expander using 1/2" socket wrench to 12 foot pounds.
6. Retorquing prior to shipment is recommended but not required.

Note if Vacuum Testing

Testing should be done prior to backfilling so that leaks can be easily located and repaired.

All lift holes need to be plugged with a nonshrinking mortar.

Plug all pipes entering the manhole, taking care to securely brace the pipes and plugs.

Patented Waveband technology "captures" the rubber between itself and the concrete, creating a more effective seal.



*Covered under US Patent No.: 5,738,359

PIPE INSTALLATION

1. Be sure sealing area of pipe is smooth and free of defects. Repair if needed.
2. Center pipe in Connector opening. (Pipe must not rest on Connector Korband)
3. Position the Pipe Clamp in the Connector's Pipe Clamp groove with the screw at the top.
4. Tighten the Pipe Clamp screw to 60 inch pounds with a T-handle Torque Wrench, P/N 80090

Note:

On minimum pipe O.D. installations, tension the rubber under the pipe clamp by lifting the rubber toward pipe clamp screw housing by hand. This will help prevent the rubber from wrinkling or folding over during tightening of hose clamp. Application of a very small amount pipe lube on the pipe clamp track will allow the pipe clamp to slide on the rubber and improve the performance of the hose clamp. Make sure to torque all screw locations on the pipe clamps.

Caution:

Do not use an impact wrench for installation.

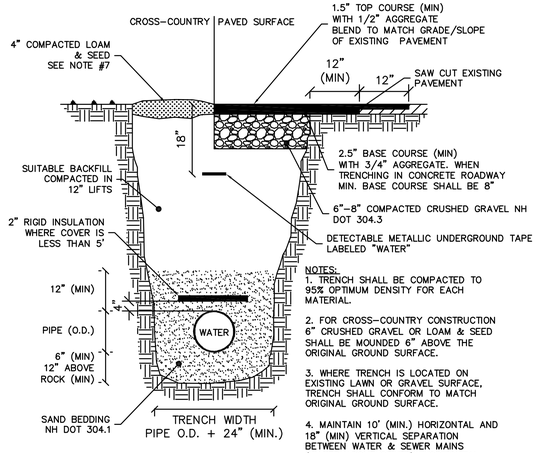
All pipe stubs must be restrained.

Adapters are required when using Corrugated Pipe. Refer to the Corrugated Pipe Adapter Data Sheet for more information.

Check calibration of torque limiters monthly.

Torque limiters are available for connectors that can be used with cordless drills and hand or air ratchets.

Call 800-626-2180 for information.

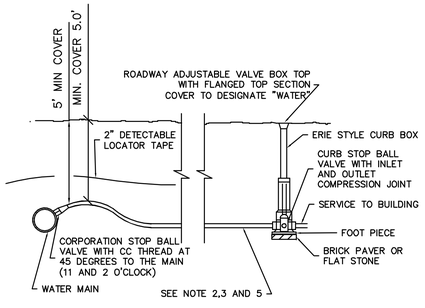


NOTES:

1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY FOR EACH MATERIAL.
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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.

CITY OF DOVER D-4
WATER TRENCH DETAIL

NOT TO SCALE



NOTES:

1. ALL WATER LINES 4" OR GREATER SHALL BE DUCTILE IRON WITH AN 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. 3/4"- COPPER, CTS
   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.

CITY OF DOVER D-13
WATER SERVICE CONNECTION DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

GNE
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	PER PLANNING DEPARTMENT COMMENTS	SJH	5-29-26

DATE: 5-14-26
SCALE: NO SCALE
DRAWN BY: WEJ
DESIGN BY: WEJ
APPROVED BY:SJH
PROJECT NO: 25224
FILE: SITE

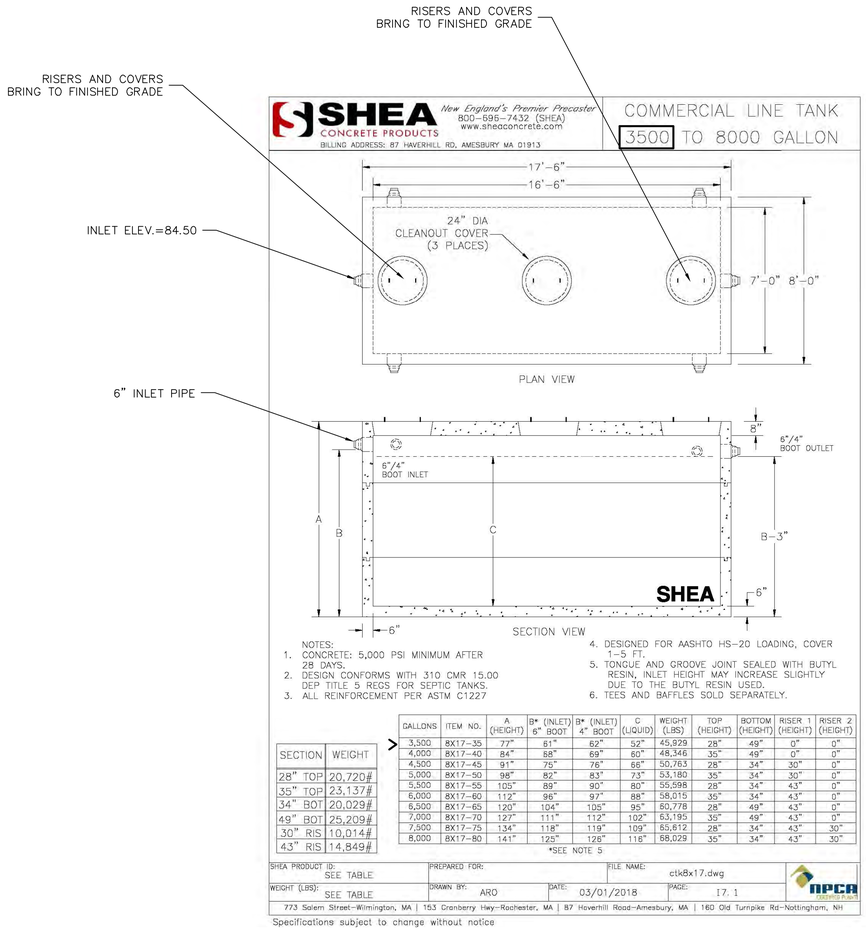
PLANNING FILE NO.: SITE-2026-XXXX

DETAIL SHEET

ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

FIRST-RATE
REAL ESTATE GROUP LLC
290 HERITAGE AVENUE,
SUITE 1
PORTSMOUTH, NH 03801

14



NOTES:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN CONFORMS WITH 310 CMR 15.00 DEP TITLE 5 REGS FOR SEPTIC TANKS.
3. ALL REINFORCEMENT PER ASTM C1227
4. DESIGNED FOR AASHTO HS-20 LOADING, COVER 1-5 FT.
5. TONGUE AND GROOVE JOINT SEALED WITH BUTYL RESIN, INLET HEIGHT MAY INCREASE SLIGHTLY DUE TO THE BUTYL RESIN USED.
6. TEES AND BAFFLES SOLD SEPARATELY.

SECTION	WEIGHT
28" TOP	20,720#
35" TOP	23,137#
34" BOT	20,029#
49" BOT	25,209#
30" RIS	10,014#
43" RIS	14,849#

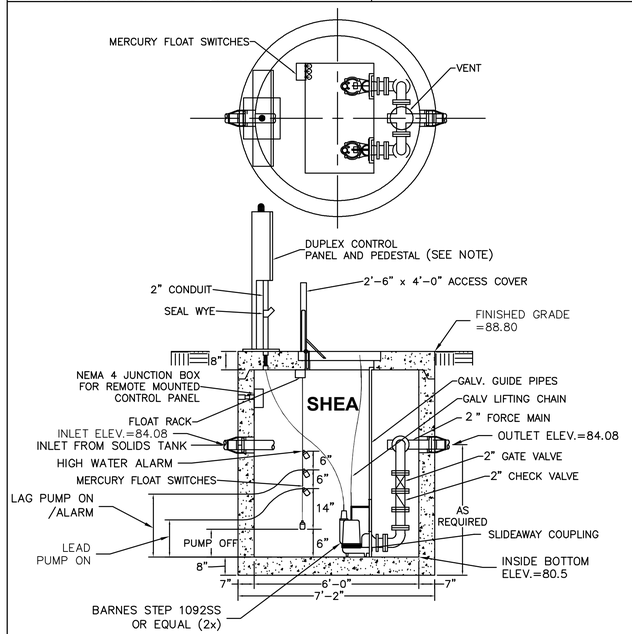
GALLONS	ITEM NO.	A (HEIGHT)	B* (INLET) 6" BOOT	B* (INLET) 4" BOOT	C (LIQUID)	WEIGHT (LBS)	TOP (HEIGHT)	BOTTOM (HEIGHT)	RISER 1 (HEIGHT)	RISER 2 (HEIGHT)
3,500	8X17-35	77"	61"	62"	52"	45,929	28"	49"	0"	0"
4,000	8X17-40	84"	68"	69"	60"	48,346	35"	49"	0"	0"
4,500	8X17-45	91"	75"	76"	66"	50,763	28"	34"	30"	0"
5,000	8X17-50	98"	82"	83"	73"	53,180	35"	34"	30"	0"
5,500	8X17-55	105"	89"	90"	80"	55,598	28"	34"	43"	0"
6,000	8X17-60	112"	96"	97"	88"	58,015	35"	34"	43"	0"
6,500	8X17-65	120"	104"	105"	95"	60,778	28"	49"	43"	0"
7,000	8X17-70	127"	111"	112"	102"	63,195	35"	49"	43"	0"
7,500	8X17-75	134"	118"	119"	109"	65,612	28"	34"	43"	30"
8,000	8X17-80	141"	125"	126"	118"	68,029	35"	34"	43"	30"

*SEE NOTE 5

SHEA PRODUCT ID: SEE TABLE | PREPARED FOR: | FILE NAME: ctk8x17.dwg
WEIGHT (LBS): SEE TABLE | DRAWN BY: ARO | DATE: 03/01/2018 | PAGE: I7. 1

773 Salem Street-Wilmington, MA | 153 Cranberry Hwy-Rochester, MA | 87 Haverhill Road-Amesbury, MA | 160 Old Turnpike Rd-Nottingham, NH

Specifications subject to change without notice



NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. REINFORNCED STEEL CONFORMS TO LATEST ASTM A185
3. BUTYL RESIN SECTION JOINT CONFORMS TO LATEST ASTM C990 SPECIFICATION.

SHEA PRODUCT ID: | PREPARED FOR: | FILE NAME: PS.dwg
WEIGHT (LBS): | DRAWN BY: ARO | DATE: 03/01/2018 | PAGE: C7.1

773 Salem Street-Wilmington, MA | 153 Cranberry Hwy-Rochester, MA | 87 Haverhill Road-Amesbury, MA | 160 Old Turnpike Rd-Nottingham, NH

Specifications subject to change without notice

NOTE:
1. COORDINATE WITH MEP/ELECTRICAL PLANS FOR LOCATION OF CONTROL PANEL
2. COORDINATE WITH MEP FOR ELECTRICAL POWER & FEED. COORDINATE PUMPS WITH ELECTRICAL. POWER BEING PROVIDED.

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
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PROJECT NO: 25224
APPROVED BY: SJH
DESIGN BY: WEJ
DRAWN BY: WEJ
SCALE: NO SCALE
DATE: 5-14-26
FILE: SITE

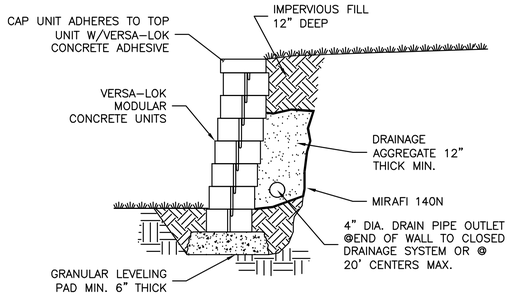
PLANNING FILE NO.: SITE-2026-XXXX

DETAIL SHEET

ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

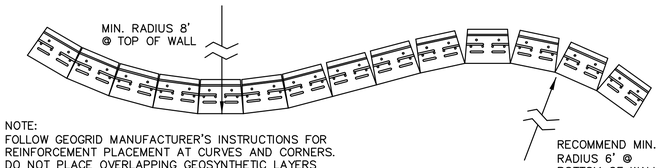
FIRST-RATE
REAL ESTATE GROUP LLC
290 HERITAGE AVENUE,
SUITE 1
PORTSMOUTH, NH 03801

15



TYPICAL SECTION UNREINFORCED RETAINING WALL

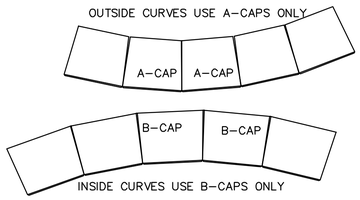
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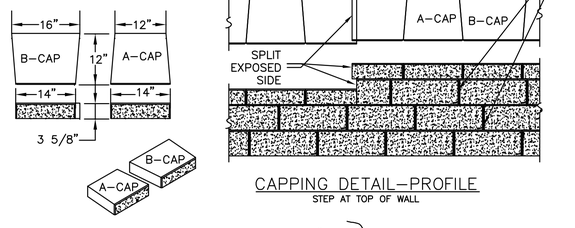
NOTE:
FOLLOW GEOGRID MANUFACTURER'S INSTRUCTIONS FOR REINFORCEMENT PLACEMENT AT CURVES AND CORNERS. DO NOT PLACE OVERLAPPING GEOSYNTHETIC LAYERS DIRECTLY ON TOP OF EACH OTHER. PROVIDE 3" (MIN.) OF SOIL FILL BETWEEN OVERLAPPING LAYERS.

CURVE DETAIL

TYPICAL CURVES

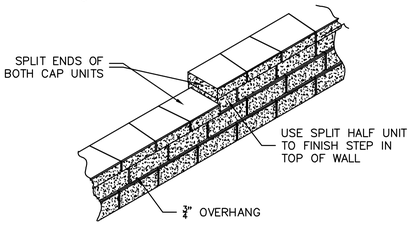


GENERAL NOTES FOR CAPPING:
1. CAPS SHALL BE ADHERED TO WALL USING VERSA-LOK CONCRETE ADHESIVE
2. CAPS MAY BE PLACED WITH A 1/2" TO 3/4" OVERHANG OF TOP COURSE
3. WHEN SPLITTING CAP UNIT FOR WALL END DO NOT USE A CAP SECTION LESS THAN 6" WIDE
4. DO NOT OVERHANG CAP AT END OF COURSE MORE THAN 1"



CAPPING DETAIL–PROFILE

STEP AT TOP OF WALL

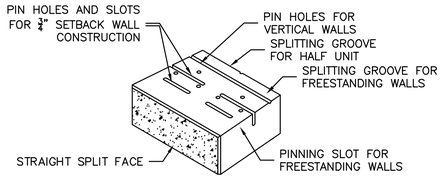


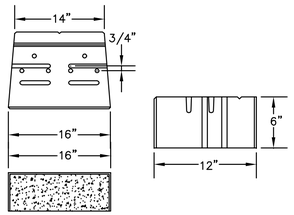
CAPPING DETAIL–PLAN VIEW

CURVES

CAPPING DETAILS

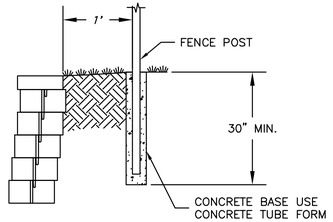
SCALE: NONE





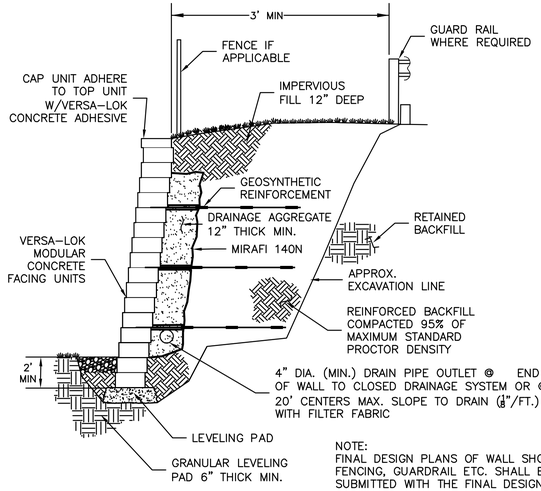
VERSA-LOK UNIT

NOT TO SCALE



SAFETY FENCING DETAIL

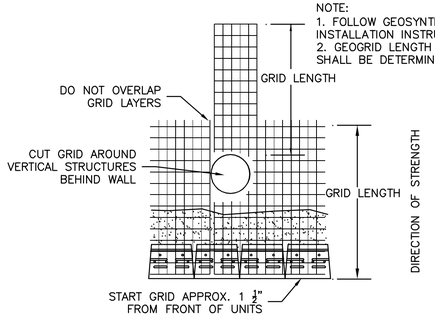
TYPICAL FENCE POST
SCALE: NONE



NOTE:
FINAL DESIGN PLANS OF WALL SHOWING FENCING, GUARDRAIL ETC. SHALL BE SUBMITTED WITH THE FINAL DESIGN PLANS

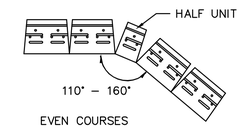
TYPICAL SECTION REINFORCED RETAINING WALL WITH GUARDRAIL

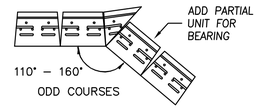
NOT TO SCALE



GEOGRID AT STRUCTURES BEHIND WALL

SCALE: NONE

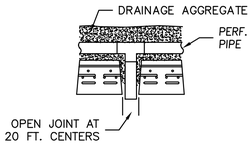




CORNER DETAIL

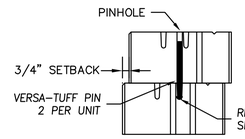
OBLIQUE ANGLE–INSIDE
SCALE: NONE

CROSS SECTION



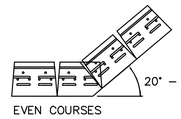
DRAIN DETAIL

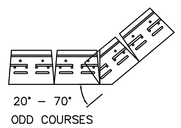
SCALE: NONE



PINNING DETAIL

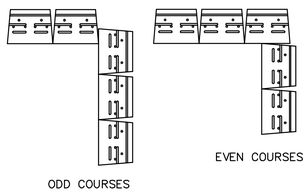
SCALE: NONE





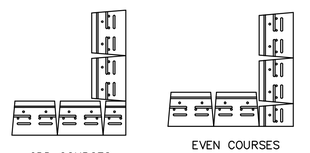
CORNER DETAIL

OBLIQUE ANGLE–OUTSIDE
SCALE: NONE



CORNER DETAIL

90° –INSIDE
SCALE: NONE



CORNER DETAIL

90° –OUTSIDE
SCALE: NONE

GENERAL NOTES

1. SEGMENTAL CONCRETE UNIT RETAINING WALL SHALL BE PROVIDED BY VERSA-LOK OR APPROVED EQUAL.
2. RETAINING WALL DESIGN AND INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S STANDARDS.
3. STRIP VEGETATION AND ORGANIC SOIL FROM WALL AND GEOSYNTHETIC ALIGNMENT.
4. BENCH CUT ALL EXCAVATED SLOPES.
5. DO NOT OVER EXCAVATE UNLESS DIRECTED BY SITE SOIL ENGINEER TO REMOVE UNSUITABLE SOIL.
6. SITE SOILS ENGINEER SHALL VERIFY FOUNDATION SOILS AS BEING COMPETENT PER THE DESIGN STANDARDS AND PARAMETERS.
7. LEVELING PAD SHALL CONSIST OF COMPACTED COARSE SAND OR CRUSHED GRAVEL, 6" THICK MIN.
8. CONTRACTOR MAY OPT FOR A LEAN CONCRETE PAD. CONCRETE PAD SHALL BE UNREINFORCED, 3" THICK MAXIMUM.
9. MINIMUM EMBEDMENT OF WALL BELOW FINISH GRADE SHALL BE 6" FOR WALL HEIGHTS UNDER 4 FT. AND 12" FOR WALLS OVER 4 FT. UNLESS SHOWN DIFFERENTLY.
10. FOR UNITS TO BE EMBEDDED, COMPACT FILL IN FRONT OF UNITS AT THE SAME TIME FILL BEHIND UNITS IS COMPACTED.
11. DRAINAGE AGGREGATE SHALL BE INSTALLED DIRECTLY BEHIND THE WALL WITHIN 12" OF THE TOP OF THE WALL. DRAINAGE AGGREGATE SHALL NOT EXTEND BELOW FINAL GRADE IN FRONT OF WALL.
12. COMPACTION SHALL BE TO 95% OF MAXIMUM STANDARD PROCTOR DENSITY.(ASTM D-698) 13. COMPACTION TESTS SHALL BE TAKEN AS THE WALL IS INSTALLED. THE MINIMUM NUMBER OF TESTS SHALL BE DETERMINED BY THE SITE SOILS ENGINEER.
13. COMPACTION WITHIN 3 FT. OF WALL SHALL BE LIMITED TO HAND OPERATED EQUIPMENT.
14. SEE ELEVATION DRAWINGS FOR GEOSYNTHETIC TYPE, LENGTH AND LOCATION REQUIRED.
15. GEOSYNTHETIC SHALL BE PLACED WITH STRONGEST DIRECTION PERPENDICULAR TO WALL. FOLLOW GEOSYNTHETIC MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS.
16. CONTRACTOR SHALL DIRECT SURFACE RUNOFF TO AVOID DAMAGING WALL WHILE UNDER CONSTRUCTION.
17. ANY SURFACE DRAINAGE FEATURES, FINISH GRADING, PAVEMENT, OR TURF SHALL BE INSTALLED IMMEDIATELY AFTER WALL IS COMPLETED.
18. FOLLOW APPLICABLE PROVISIONS OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS.

RETAINING WALL SYSTEM

PART 1.0 – GENERAL

1.1 This work shall consist of furnishing all components and erecting a retaining wall system in accordance with these specifications and in close conformity with the lines, grades, design and dimensions shown on the plans or as ordered.

1.2 This following type of retaining wall systems are acceptable to be used on this project:

Versa-Lock, Nashua, NH – (603) 883-3042

1.3 STRUCTURAL AND GEOTECHNICAL DESIGN REQUIREMENTS

A. The design of the wall system shall be by the Manufacturer.

B. Minimum safety factors shall be as follows:

1.	Overturning:	2.0
2.	Base Sliding:	1.5
3.	Global Stability:	1.3
4.	Grid Pullout:	1.5

C. Allowable Net Bearing Pressure = 6 kips per square foot
Moist Soil Unit Weight = 125 pounds per cubic foot
Friction Angle = 32 degrees

D. Design loading shall consider seismic loads in accordance with the NEW HAMPSHIRE State Building Code.

1.4 REQUIREMENTS FOR CONTRACTOR PREPARED DESIGN AND PLANS

A. The final design to be submitted prior to award of contract and shall include detailed design computations and all details, dimensions, quantities and cross sections necessary to construct the wall. The design shall conform to all of the requirements outlined in section 1.3 above. The fully detailed plans shall be on permanent, archival quality, 24" x 36" double matte mylar with Project Name, Number and Design Firm. The plans to be submitted shall include, but not be limited to, the following items:

1. A plan and elevation sheet or sheets for each wall, containing the following:
   a. An elevation view of the wall which shall indicate the elevation at the top of the wall, at all horizontal and vertical break points and at least every fifty (50) feet along the wall, elevations at the top of leveling pads, the designation as to the type of unit, and the location of the original and final ground line.
   b. A plan view of the wall which shall indicate the offset from the construction centerline or baseline to the face of the wall at all changes in horizontal alignment and the limit of the widest unit.
   c. Any general notes required for design and construction of the wall.
   d. All horizontal and vertical curve data affecting wall construction.
2. All details for leveling pads, as well as allowable and calculated maximum bearing pressures.
3. Detailed design computations.
4. The plans shall be prepared, stamped and signed by a New Hampshire Licensed Professional Engineer.

NOTE:

ENGINEERED SHOP DRAWING SHALL BE SUBMITTED TO CIVILWORKS, INC. FOR REVIEW AND APPROVAL. THE SHOP DRAWING SHALL INCLUDE STRUCTURAL DESIGN INCLUDING PLANS AND CALCULATIONS PREPARED BY A NEW HAMPSHIRE CERTIFIED PROFESSIONAL ENGINEER. DESIGN ENGINEER SHALL INSPECT THE WALL DURING CONSTRUCTION AND CERTIFY THAT IT HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED SHOP DRAWING.

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	PER PLANNING DEPARTMENT COMMENTS	SJH	5-29-26

DATE: 5-14-26
SCALE: NO SCALE
DRAWN BY: WEJ
DESIGN BY: WEJ
APPROVED BY:SJH
PROJECT NO: 25224
FILE: SITE

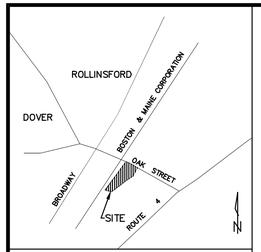
PLANNING FILE NO.: SITE-2026-XXXX

FIRST-RATE REAL ESTATE GROUP LLC 290 HERITAGE AVENUE, SUITE 1 PORTSMOUTH, NH 03801

ENGINE HOUSE APARTMENTS AT SALMON FALLS 75 OAK STREET DOVER, NH

DETAIL SHEET

16



LOCATION PLAN
(NO SCALE)

HH STATE PLANE
NAD 83 - GPS USS

EXPOSURE
LIGHTING — CONTROLS — ELECTRICAL

PHOTOMETRIC PLAN PREPARED BY
KEN SWEENEY
KSWEENEY@EXPOSURE2LIGHTING. COM
FOR PRICING PLEASE CONTRACT OUR OFFICE IN
NEW HAMPSHIRE
603-601-8080
WWW.EXPOSURE2LIGHTING.COM

PARKING SPACES

Illuminance (Fc)
Average = 1.08
Maximum = 1.8
Minimum = 0.3
Avg/Min Ratio = 3.60
Max/Min Ratio = 6.00

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	Tag	[MANUFAC]
	2	S3	Single	VALS-09L-3W-UNV-30K8-CXX-SA / 4SQ B3 S11G20 S CXX AB 4BC	20' POLE	LSI INDUSTRIES, INC.
	2	S4	Single	VALS-09L-4F-UNV-30K8-CXX-SA / 4SQ B3 S11G20 S CXX AB 4BC	20' POLE	LSI
	1	S5-1	Single	VALS-09L-5M-UNV-30K8- CXX-SA / 4SQ B3 S11G20 S CXX AB 4BC	20' POLE	LSI
	1	S5-2	Back-Back	VALS-09L-5QW-UNV-30K8-CXX-SA / 4SQ B3 S11G20 D180 CXX AB 4BC	20' POLE	LSI
	6	W	Single	P5623-2030K9	WALL MOUNTED 8' AFG	PROGRESS
	3	W1	Single	EOF1MV3KCXXPAC	WALL MOUNTED 8' AFG	NICOR, Inc.

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

PLANNING FILE NO.: SITE-2026-XXXX

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

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CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
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603.749.0443

NO.	REVISION	APP'D	DATE
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DATE: 5-14-26
SCALE: 1" = 30'
DRAWN BY: WEJ
DESIGN BY: WEJ
APPROVED BY:SJH
PROJECT NO: 25224
FILE: SITE

LIGHTING PLAN

FIRST-RATE
REAL ESTATE GROUP LLC
290 HERITAGE AVENUE,
SUITE 1
PORTSMOUTH, NH 03801

ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

17

WALL PAC'S

EOF
LED Emergency Outdoor Full Cutoff

Project

Catalog

Type

Date

Product Description

The LED Emergency Outdoor Full Cutoff combines 90-minute emergency lighting with a low-profile, architectural design. The EOF is designed for outdoor use, with an optional cold-weather kit for added reliability in northern climates. The EOF comes standard with a photocell, with an optional motion sensor adding even more energy efficiency. An internal selector switch allows bypassing the photocell to control the unit from a wall switch. A non-emergency unit is available for locations not requiring battery-backup, providing a uniform look for all fixtures.

Construction
- IP65 Rated enclosure
- Durable die-cast Aluminum body
- Separable backplate for easy installation and maintenance

Optical System
- Polycarbonate lens
- Utilizes advanced LED technology with CCT of 3000K and 5000K
- CRI 70+

Electrical
- Input voltage of 120/277VAC
- Maintenance-free NiCad battery provides 90-minute emergency operation
- LED indicator light & test button with self-testing, self-diagnostic option
- Photocell standard with wall switch control
- Motion sensor option for additional energy saving
- Operating Temperature:
  - EM: 32°F to 122°F (0°C to +50°C)
  - Non-EM and EM Cold Weather: -13°F to +122°F (-25°C to +50°C)

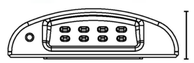
Mounting and installation
- Fixture mounts directly to J Boxes and walls with screws
- Wiring possible through backplate or 1/2" conduit knockout
- For installations where power surge may be possible, NICOR recommends installing additional surge protection at the electrical distribution panel

Finish
- Fine-textured, UV-stabilized powder coat bronze finish

Listings
- LM-79, LM-80 testing performed in accordance with IESNA standards.
- UL & cUL 924 Listed
- Meets or exceeds requirements of NFPA 70 & NFPA 101
- Meets FCC Part 15, Subpart B, Class B standards for conducted and radiated emissions
- TM-21 Projected L70(9k) life >72,000 hours

Warranty
- 1-year limited system warranty standard
- Warranty does not cover product failure due to an overvoltage event (power surge.)





PATIO LIGHTING

PROGRESS LIGHTING™

Project:

Fixture Type:

Location:

Contact:

District LED

Wall Mounted • Wet Location Listed PROGRESS LED

P5623-2030K9

Description:

District Collection LED Large Wall Lantern

Specifications:

- Antique Bronze, Painted White Inside Aluminum Shade
- White Acrylic Diffuser
- Dimmable to 10% brightness (See Dimming Notes)
- Back plate covers a standard 4" recessed outlet box: 5.125 in W., 1.625 in ht., 5.125 in depth
- Mounting strap for outlet box included
- 6 in of wire supplied

Performance:

Number of Modules	1
Input Power	9 W
Input Voltage	120 V
Input Frequency	60 Hz
Lumens/LPW (Source)	623/69.2 (LM-82)
Lumens/LPW (Delivered)	479/61.1 (LM-79)
CCT	3000 K
CRI	90 CRI
Life (hours)	60000 (L70/TM-21)
EMI/RFI	Meets FCC Title 47, Part 15 Class B
Max. Operating Temp	30 °C
Warranty	5-year Limited Warranty
Labels	cCSAus Wet Location Listed



Dimensions:

Width: 12 in
Height: 10-1/2 in
Depth: 13-1/4 in
H/CTR: 5 in

Antique Bronze, Painted White Inside Aluminum Shade
Width: 12 in
Height: 7-15/16 in

White Acrylic Diffuser
Width: 2-7/8 in
Height: 0-13/16 in



SITE LIGHTING

Catalog #: Project: Type:

Prepared By: Note:

V-Locity Small (VALS)
Outdoor LED Area Light



OVERVIEW	
Lumen Package	6,000 - 27,000
Wattage Range	36 - 178
Efficacy Range (LPW)	142 - 171
Weight lbs(kg)	20 (9.1)
Control Options	IMSBT, ALB, ALS, 7-Pin, PCI

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Rugged die-cast aluminum housing contains factory prewired driver and optical units. Cast aluminum wiring access door located underneath.
- Self-contained optic, board and heat sink assembly can be rotated or replaced in the field.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: TBD lbs in carton.

Optical System
- State-of-the-Art acrylic optics delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary refractor optics provide exceptional coverage and uniformity in distribution types 2, 3M, 3W, 4M, 4W, 4F, FTM, SQN, SQM, SQ, SQW, AM, WF and LC/RC.
- Available in 5000K, 4000K, 3500K, 3000K and 2700K color temperatures per ANSI C78.377 as well as phosphor converted amber.
- Minimum CRI of 80 (optional 70 CRI for 5000K and 4000K).
- Factory or field installable integral shielding available for enhanced spill light control.
- Zero Uplight (excludes adjustable arms).

Electrical
- High-performance driver features over-voltage, under voltage, short-circuit and over temperature protection.
- 0-10 volt dimming (10% - 100%) standard, must specify EXT option for dimming leads to be extended to fixture exterior.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L70 Calculated Life: >60k Hours
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F).
- Power factor: >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation.
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls
- Optional integral passive infrared Bluetooth™ motion and photocell sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7.

Installation
- RED iMount pole mount arm allows for a true one person installation.
- Side arm pole mount designed to mount to square or round poles.
- Pole mount arms can accommodate pole drill patterns from 2.4 to 5" on center and utilize LSI's reduced B3 or traditional B5 drill patterns.
- Additional mounting options are available including a mast arm or adjustable slip fitter that allow for luminaire attachment to a 2 3/8" tenon or mast arm.
- Adjustable arms allow for 65º of tilt (-5ºbelow horizontal to +60º above horizontal) in 5º increments.

Warranty
- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- DarkSky approved with 3000K or warmer color temperature selection (side arm pole and mast arm mounting only).
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applications are qualified.

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NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CNE CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	PER PLANNING DEPARTMENT COMMENTS	SJH	5-29-26

DATE: 5-14-26
SCALE: NO SCALE
DRAWN BY: WEJ
DESIGN BY: WEJ
APPROVED BY:SJH
PROJECT NO: 25224
FILE: SITE

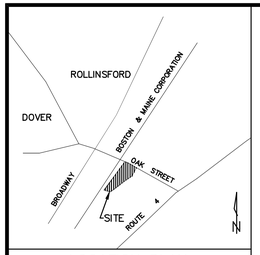
PLANNING FILE NO.: SITE-2026-XXXX

LIGHTING DETAILS

FIRST-RATE
REAL ESTATE GROUP LLC
290 HERITAGE AVENUE,
SUITE 1
PORTSMOUTH, NH 03801

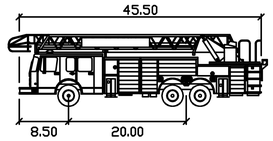
ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

18



LOCATION PLAN
(NO SCALE)





Dover ladder

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 44.0

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)

PLANNING FILE NO.: SITE-2026-XXXX

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

GNE CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
1	PER PLANNING DEPARTMENT COMMENTS	SJH	5-29-26

DATE: 5-14-26
SCALE: 1" = 30'
DRAWN BY: WEJ
DESIGN BY: WEJ
APPROVED BY:SJH
PROJECT NO: 25224
FILE: SITE

DOVER LADDER TRUCK MOVEMENT PLAN

ENGINE HOUSE APARTMENTS
AT SALMON FALLS
75 OAK STREET
DOVER, NH

FIRST-RATE
REAL ESTATE GROUP LLC
290 HERITAGE AVENUE,
SUITE 1
PORTSMOUTH, NH 03801

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PLANTING NOTES

1. CONTRACTOR SHALL OBTAIN APPROVAL FROM LANDSCAPE ARCHITECT PRIOR TO PURCHASING AND/OR INSTALLING SUBSTITUTE PLANT MATERIAL PRIOR TO PURCHASE OF ANY SUBSTITUTE MATERIALS.

2. CONSTRUCTION ACCESS WILL BE AS DIRECTED BY LANDSCAPE ARCHITECT. 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 LANDSCAPE ARCHITECT 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 AND FLOURISHING CONDITION FOR ONE YEAR FROM THE DATE OF FINAL INSTALLATION APPROVAL BY LANDSCAPE ARCHITECT. CONTRACTOR SHALL REPLACE, WITHOUT COST TO OWNER, AND AS SOON AS WEATHER CONDITIONS PERMIT, ALL DEAD AND NON-FLOURISHING PLANTS AS DETERMINED BY THE LANDSCAPE ARCHITECT. REPLACEMENT PLANTS SHALL BE BE GUARANTEED IDENTICALLY TO ORIGINAL PLANTS, TIME PERIOD COMMENCING FROM DATE OF REPLACEMENT PLANTING APPROVAL BY LANDSCAPE ARCHITECT.

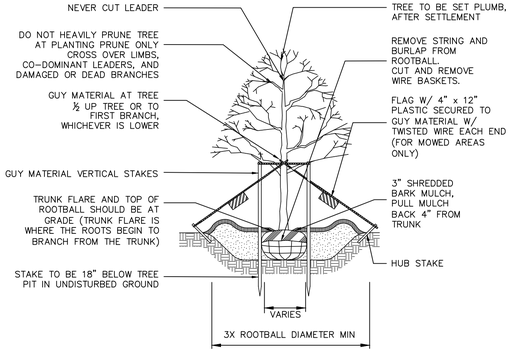
6. ALL BEDS TO BE MULCHED WITH 4" DEPTH SHREDDED BARK MULCH UNLESS NOTED OTHERWISE.

7. CONTRACTOR TO PROVIDE NECESSARY TEMPORARY IRRIGATION IF NEEDED BASED ON TIME OF YEAR THE PROJECT IS IMPLEMENTED.

LANDSCAPE CALCULATIONS:

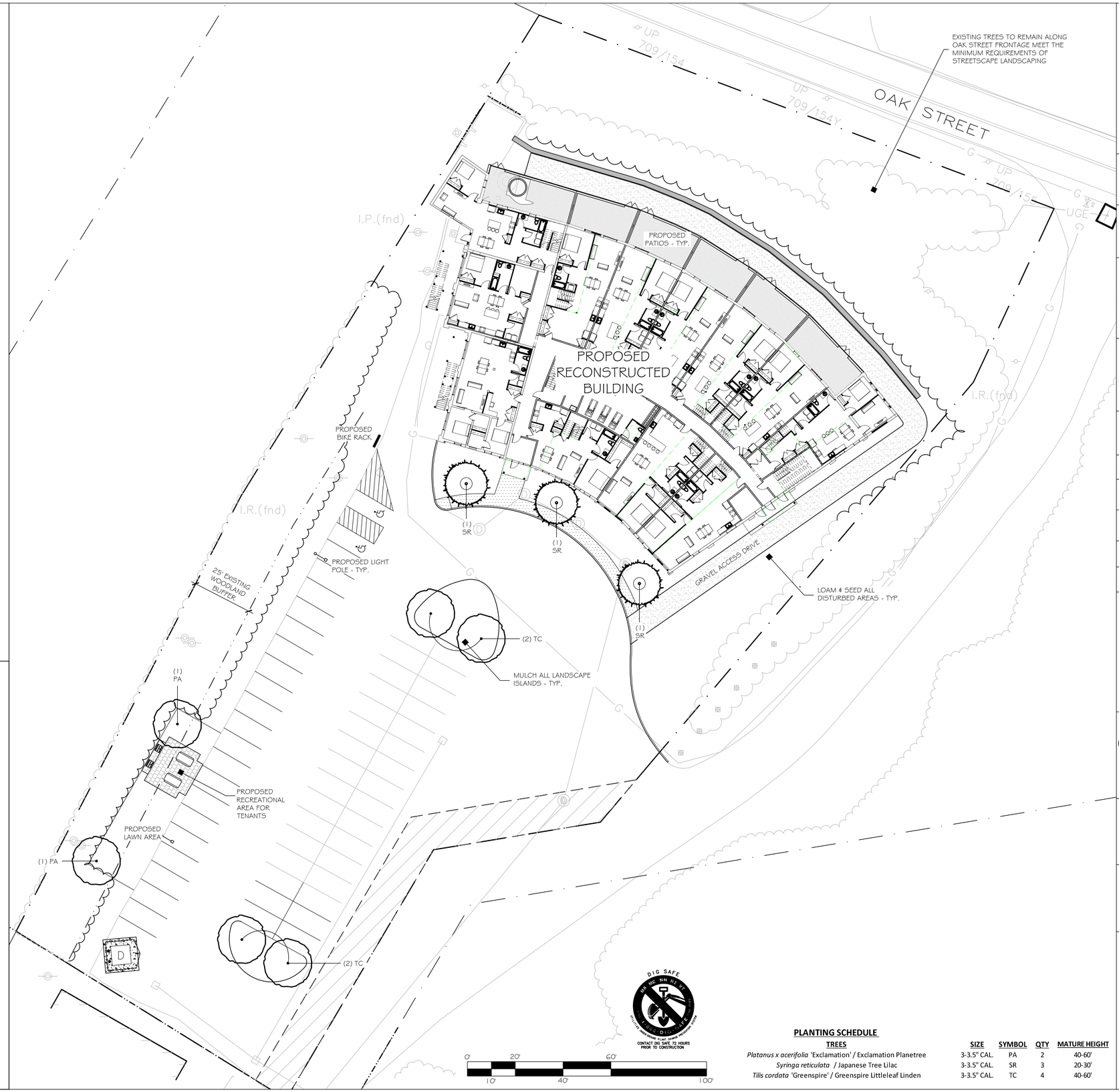
STREETSCAPE LANDSCAPING:
REQUIRED: 1 STREET TREE / 35' LINEAR FEET OF ADJACENT ROADWAY
230 L.F.OF ADJACENT ROADWAY / 35 = 6.6 = 7 TREES

PROVIDED: 7 EXISTING TREES MINIMUM TO REMAIN



NOTES:
1. GUYING AND STAKING TO BE DETERMINED IN THE FIELD BY THE LANDSCAPE ARCHITECT. LOCAL FIELD CONDITIONS AS WELL AS PLANT CHARACTERISTICS WILL DETERMINE THE NECESSITY OF GUYING AND STAKING.
2. TYPICALLY ONLY TREES WITH A 3" OR GREATER CALIPER NEED TO BE STAKED. TREES WITH LESS THAN A 3" CALIPER NEED TO BE STAKED ONLY AS REQUIRED BY LANDSCAPE ARCHITECT.
3. ONLY WRAP TREE TRUNKS AS REQUIRED BY LANDSCAPE ARCHITECT.
4. TREE SHALL BE SET PLUMB, AFTER SETTLEMENT.
5. LOAM FOR BACKFILLING SHALL BE AMENDED AS REQUIRED BY LANDSCAPE ARCHITECT.
6. CITY TREES PLANTED ON PRIVATE PROPERTY, ADJACENT TO A PUBLIC RIGHT-OF-WAY, NEED TO BE PLANTED A MINIMUM OF 5 FEET FROM THE EDGE OF THE CITY SIDEWALK.

DECIDUOUS TREE PLANTING



PLANTING SCHEDULE

TREES	SIZE	SYMBOL	QTY	MATURE HEIGHT
Platanus x acerifolia 'Exclamation' / Exclamation Planetree	3-3.5" CAL.	PA	2	40-60'
Syringa reticulata / Japanese Tree Lilac	3-3.5" CAL.	SR	3	20-30'
Tilis cordata 'Greenspire' / Greenspire Littleleaf Linden	3-3.5" CAL.	TC	4	40-60'

terrain
planning & design llc
311 kast hill road
hopkinton nh 03229
603. 746. 2023
terrainplanning.com

OAK STREET

Site Location:
75 Oak Street
Dover, NH 03820
Tax Map: 26
Lot #: 3-1

Prepared For:
Civilworks New England
181 Watson Road
PO Box 1166
Dover, NH 03821

LANDSCAPE PLAN

DATE: 05 - 12 - 26

SCALE: 1" = 20'

PROJECT #: 26027

Drawn By: RNM

Checked By: ERB

REVISIONS: DATE:
Revised per client comments 05/28/26

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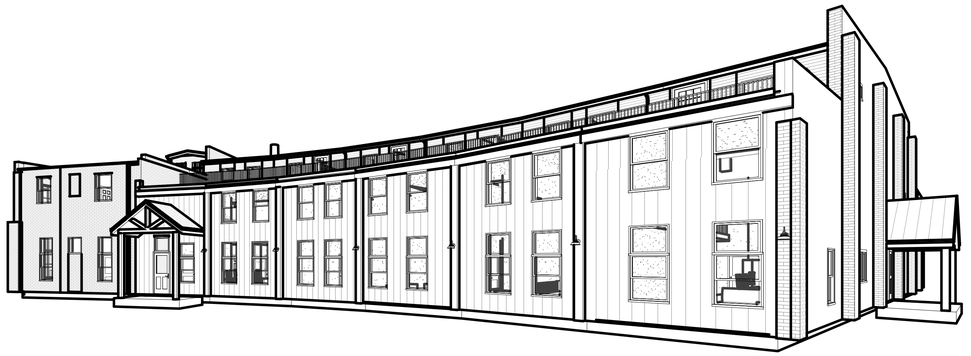
LICENSED LANDSCAPE ARCHITECT
RONALD MAURER
086
STATE OF NEW HAMPSHIRE

Engine House

75 Oak St. Dover, NH

Progress Set
NFC - 052726

LOCUS MAP: (N.T.S.)



T | W DESIGNS

Project Info:

Engine House
75 Oak St. Dover, NH
Progress Set

Architect of Record:

T | W Designs, LLC
254 Drake Hill Rd.
Strafford, NH 03884
603-664-2181

Civil Engineer:

N/A

Structural Engineer:

N/A

Electrical Engineer:

N/A

Mechanical Engineer:

N/A

Plumbing Engineer:

N/A

Fire Protection Eng.:

N/A

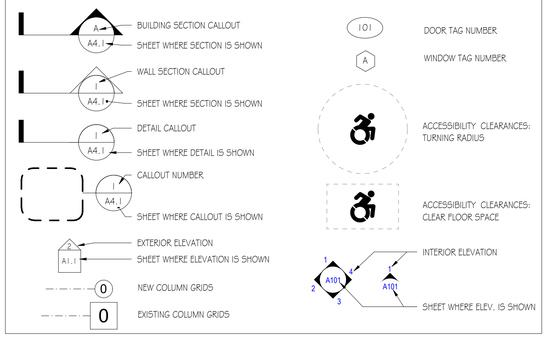
Contractor of Record:

N/A

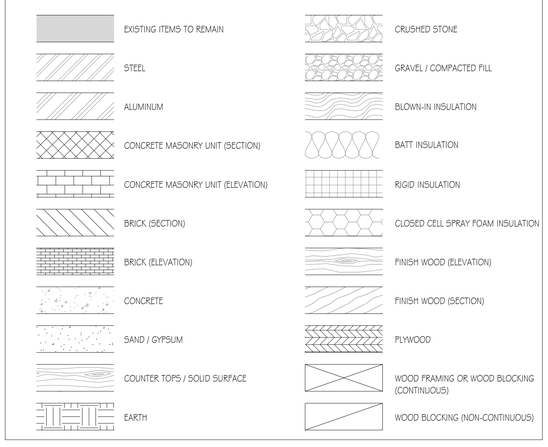
MASTER ABBREVIATION KEY:

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
ACOUST	ACOUSTIC	EJC	EXPANSION JOINT COVER	MAS	MASONRY	SCED	SCHEDULE
AFF	ABOVE FINISH FLOOR	EL	ELEVATION	MAT	MATERIAL	SD	STORM DRAIN
ALT	ALTERNATE	ELEC	ELECTRICAL	MAX	MAXIMUM	SF	SQUARE FOOT
ALUM	ALUMINUM	ELEV	ELEVATOR	MECH	MECHANICAL	SH	SHOWER
ANCH	ANCHOR	EQ	EQUAL	MEM	MEMBRANE	SHT	SHEET
ANOD	ANODIZED	EQUIP	EQUIPMENT	MEP	MECHANICAL, ELECTRICAL, PLUMBING	SIM	SIMILAR
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	ER	EMERGENCY ROOM			SL	SLIDING
		EST	ESTIMATE	METTP	METAL TOILET PARTITION	SMR	SINGLE PLY MEMBRANE ROOF
		EWC	ELECTRICAL WATER COOLER	MFR	MANUFACTURER		
BD	BOARD			MH	MANHOLE	SP/PT/FIN	SPECIAL PAINT FINISH
BIT	BITUMINOUS	EXH	EXHAUST	MIN	MINIMUM	SPEC	SPECIFICATION
BL	BUILDING LINE	EXIST	EXISTING	MISC	MISCELLANEOUS	SPKR	SPEAKER
BLDG	BUILDING	EXP	EXPANSION	MO	MASONRY OPENING	SQ	SQUARE
BLK	BLOCK	EXPD	EXPANDED	MTL	METAL	SS	STAINLESS STEEL
BLKG	BLOCKING	EXT	EXTERIOR	MULL	MULLION	STA	STATION
BM	BEAM					STD	STANDARD
BOC	BOTTOM OF CURB	F/F	FACE OF FOUNDATION WALL	N	NORTH	STL	STEEL
BOF	BOTTOM OF FOOTING ELEVATION	FA	FRESH AIR	NAT	NATURAL	STOR	STORAGE
		FAP	FIRE ALARM PANEL	NEC	NECESSARY	STRG	STRINGER
BOT	BOTTOM	FD	FLOOR DRAIN	NIC	NOT IN CONTRACT	STRUCT	STRUCTURAL
BRG	BEARING	FE	FIRE EXTINGUISHER	NOM	NOMINAL	SU	SITE UTILITY
BRK	BRICK	FEC	FIRE EXTINGUISHER CABINET	NRC	NOISE REDUCTION COEFFICIENT	SUSP	SUSPEND (SUSPENDED)
BSMT	BASEMENT					SYMM	SYMMETRICAL
BTW	BETWEEN	FIN	FINISH	NTS	NOT TO SCALE	SYS	SYSTEM
BUR	BUILT-UP ROOF	FL	FLOW LINE				
		FLR	FLOOR	OC	ON CENTER	T	TREAD
CAB	CABINET	FND	FOUNDATION	OD	OUTSIDE DIAMETER	T&G	TONGUE & GROOVED
CB	CATCH BASIN	FOF	FACE OF FINISH	OF/C	OUTSIDE FACE OF CONCRETE	T/FRM	TOP OF FRAME
CER	CERAMIC	FOM	FACE OF MASONRY			T/SLB	TOP OF SLAB
CF	CUBIC FOOT	FOS	FACE OF STUD	OH	OVERHEAD	TB	TACKBOARD
CI	CAST IRON	FR	FIRE RATED	OPG	OPENING	TEL	TELEPHONE
CJ	CONTROL JOINT	FS	FULL SIZE	OPP	OPPOSITE	TEMP	TEMPORARY
CL	CLOSET	FT	FOOT	OR	OPERATING ROOM	TERR	TERRAZZO
CLCB	CURBLESS CATCH BASIN	FTG	FOOTING	PBD	PARTICLE BOARD	THK	THICK
CLG	CEILING	FUR	FURRED (FURRING)	PCF	POUNDS PER CUBIC FOOT	THLD	THRESHOLD
CM	CONTRACT MANAGER	FVC	FIRE VALVE CABINET			TOC	TOP OF CURB
CMU	CONCRETE MASONRY UNIT			PL	PROPERTY LINE	TOF	TOP OF FOUNDATION
		GA	GAUGE	PLAM	PLASTIC LAMINATE	TOS	TOP OF SLAB
CO	CLEAN OUT	GALV	GALVANIZED	PLAS	PLASTER	TOW	TOP OF WALL ELEVATION
COL	COLUMN	GC	GENERAL CONTRACTOR	PLYWD	PLYWOOD	TR	TO REMAIN
COMP	COMPACTED (COMPOSITION)	GEN	GENERAL	PNL	PANEL	TYP	TYPICAL
		GL	GLASS	PSF	POUNDS PER SQUARE FOOT		
CONC	CONCRETE	GLZ	GLAZING			UH	UNIT HEATER
CONST	CONSTRUCTION	GRD	GRADE	PSI	POUNDS PER SQUARE INCH	UL	UNDERWRITERS LABORATORIES, INC.
CONT	CONTINUOUS	GYP	GYPSUM			UOD	UNDERSIDE OF DECK
CONTR	CONTRACTOR			PT	PAINT	UON	UNLESS OTHERWISE NOTED
CORR	CORRUGATED	H4V	HEATING & VENTILATING	PTD	PAINTED		
CP	CONTROL PANEL	HC	HANDICAP	PTN	PARTITION	UR	URINAL
CSG	CASING	HDWD	HARDWOOD	PVC	POLYVINYL CHLORIDE	UV	UNIT VENTILATOR
CSMT	CASEMENT	HGT	HEIGHT				
CT	CERAMIC TILE	HM	HOLLOW METAL	QT	QUARRY TILE	VAR	VARIES OR VARIABLE
CTR	CENTER	HP	HIGH POINT			VB	VINYL BASE
CY	CUBIC YARD	HVAC	HEATING, VENTILATION, AIR CONDITIONING	R	RADIUS	VCT	VINYL COMPOSITION TILE
				R/A	RETURN AIR	VERT	VERTICAL
DF	DRINKING FOUNTAIN	HWH	HOT WATER HEATER	RC	REINFORCED CONCRETE	VEST	VESTIBULE
DIA	DIAMETER			RD	ROOF DRAIN	VIF	VERIFY IN FIELD
DIAG	DIAGONAL	ID	INSIDE DIAMETER	REF	REFERENCE	VNR	VENEER
DIM	DIMENSION	IN	INCH	REFR	REFRIGERATOR	VOL	VOLUME
DL	DEAD LOAD	INSUL	INSULATION	REINF	REINFORCE		
DN	DOWN	INT	INTERIOR	REQD	REQUIRED	W	WEST
DR	DOOR	INV	INVERT	RGH	ROUGH	W/	WITH
DS	DOWNSPOUT			RL	RAIN LEADER	WC	WATER CLOSET
DS/C	DRIVE SIDE OF CURB	JC	JANITOR'S CLOSET	RM	ROOM	WD	WOOD
DTL	DETAIL	JST	JOIST	RO	ROUGH OPENING	WDW	WINDOW
DWG	DRAWING	JT	JOINT	ROW	RIGHT OF WAY	WGL	WIRE GLASS
				RQMT	REQUIREMENT	WP	WEATHERPROOF (WATERPROOFING)
						WWF	WELDED WIRE FABRIC

GRAPHIC SYMBOLS LEGEND



MATERIAL LEGEND



DRAWING SHEET INDEX:

Sheet	Sheet Name	Issued	Revision	Revision Date
PCS	*PROJECT COVER SHEET*	*NFC- 052726*		
A1.1	*PROPOSED FIRST FLOOR PLAN*	*NFC- 052726*		
A1.2	*PROPOSED LOFT PLAN*	*NFC- 052726*		
A1.3	*PARTIAL FLOOR PLAN (EXISTING)*	*NFC- 052726*		
A1.4	*PROPOSED SECOND FLOOR PLAN*	*NFC- 052726*		
A1.5	*PROPOSED 2 BEDROOM - UNIT - 101*	*NFC- 052726*		
A1.6	*PROPOSED 2 BEDROOM - UNIT - 102 ADA*	*NFC- 052726*		
A1.7A	*PROPOSED 2 BEDROOM - UNIT - 103*	*NFC- 052726*		
A1.7B	*PROPOSED 2 BEDROOM - UNIT - 103*	*NFC- 052726*		
A1.8A	*PROPOSED 2 BEDROOM - UNIT - 104*	*NFC- 052726*		
A1.8B	*PROPOSED 2 BEDROOM - UNIT - 104*	*NFC- 052726*		
A1.9A	*PROPOSED 2 BEDROOM - UNIT - 105*	*NFC- 052726*		
A1.9B	*PROPOSED 2 BEDROOM - UNIT - 105*	*NFC- 052726*		
A1.10A	*PROPOSED 2 BEDROOM - UNIT - 106 & 110*	*NFC- 052726*		
A1.10B	*PROPOSED 2 BEDROOM - UNIT - 106 & 110*	*NFC- 052726*		
A1.11A	*PROPOSED 2 BEDROOM - UNIT - 107*	*NFC- 052726*		
A1.11B	*PROPOSED 2 BEDROOM - UNIT - 107*	*NFC- 052726*		
A1.12A	*PROPOSED 2 BEDROOM - UNIT - 108 & 111*	*NFC- 052726*		
A1.12B	*PROPOSED 2 BEDROOM - UNIT - 108 & 111*	*NFC- 052726*		
A1.13A	*PROPOSED 2 BEDROOM - UNIT - 109*	*NFC- 052726*		
A1.13B	*PROPOSED 2 BEDROOM - UNIT - 109*	*NFC- 052726*		
A1.14A	*PROPOSED 2 BEDROOM - UNIT - 112*	*NFC- 052726*		
A1.14B	*PROPOSED 2 BEDROOM - UNIT - 112*	*NFC- 052726*		
A1.16	*PROPOSED 2 BEDROOM - UNIT - 213*	*NFC- 052726*		
A1.17	*PROPOSED 2 BEDROOM - UNIT - 214*	*NFC- 052726*		
A1.18	*PROPOSED 2 BEDROOM - UNIT - 215*	*NFC- 052726*		
A1.19	*PROPOSED 2 BEDROOM - UNIT - 216*	*NFC- 052726*		
A1.20	*PROPOSED 2 BEDROOM - UNIT - 217*	*NFC- 052726*		
A1.21	*PROPOSED 2 BEDROOM - UNIT - 218*	*NFC- 052726*		
A3.1	*EXTERIOR ELEVATION*	*NFC- 052726*		
A3.2	*EXTERIOR ELEVATION*	*NFC- 052726*		
A4.0	*WALL, ROOF AND FLOOR ASSEMBLY TYPE*	*NFC- 052726*		
A4.1	*BUILDING SECTION*	*NFC- 052726*		
A4.2	*BUILDING SECTION*	*NFC- 052726*		
A6.1	*DOOR SCHEDULE*	*NFC- 052726*		
A6.2	*DOOR SCHEDULE*	*NFC- 052726*		
A6.3	*WINDOW SCHEDULE*	*NFC- 052726*		
A9.1	*EXTERIOR VIEWS*	*NFC- 052726*		
A9.2	*EXTERIOR VIEWS*	*NFC- 052726*		
A9.3	*EXTERIOR RENDER*	*NFC- 052726*		

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No.	Description	Date

PROJECT COVER SHEET

SHEET NUMBER

PCS



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FIRST FLOOR PLAN

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CIRCULATION - 1789 SQ.FT
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TOTAL - 16519 SQ.FT

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COLOR	OCCUPANCY
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TOTAL	17	4	1	22

TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508

PROGRESS SET
NFC - 052726

No. Description Date

Revision Schedule

Project Info:

Engine House

75 Oak St. Dover, NH

Sheet Status:

Latest Release:
Issued For: Progress Set
Org. Issue Date: NFC - 052726

JOB NO:
DRAFTED: SH
CHECKED: JMT
SCALE: 1/8" = 1'-0"

Sheet Title:

PROPOSED FIRST FLOOR PLAN

Sheet Number:

A1.1

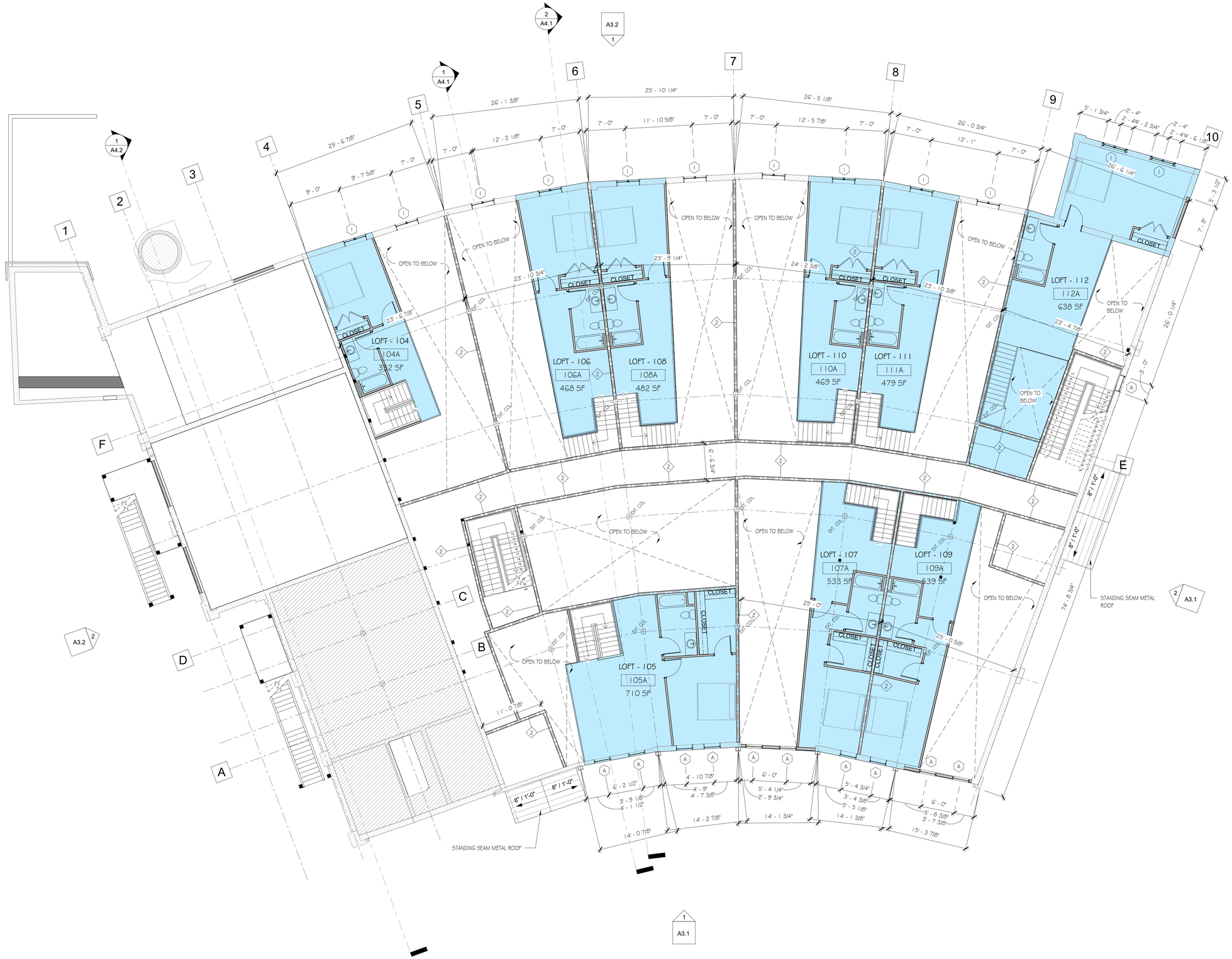
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True
PROJECT NORTH

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PROGRESS SET
NFC - 052726



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

No. Description Date

Revision Schedule

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Engine House

75 Oak St. Dover, NH

Sheet Status:

Latest Release:
Issued For: Progress Set
Org. Issue Date: NFC - 052726

JOB NO:
DRAFTED: SH
CHECKED: JMT

SCALE: 1/8" = 1'-0"

Sheet Title:

PROPOSED LOFT PLAN

Sheet Number:

A1.2

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1 FRONT VIEW



2 FRONT VIEW

TW DESIGNS LLC
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PROGRESS SET
NFC - 052726

No.	Description	Date

Revision Schedule

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75 Oak St. Dover, NH

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SCALE:

Sheet Title:

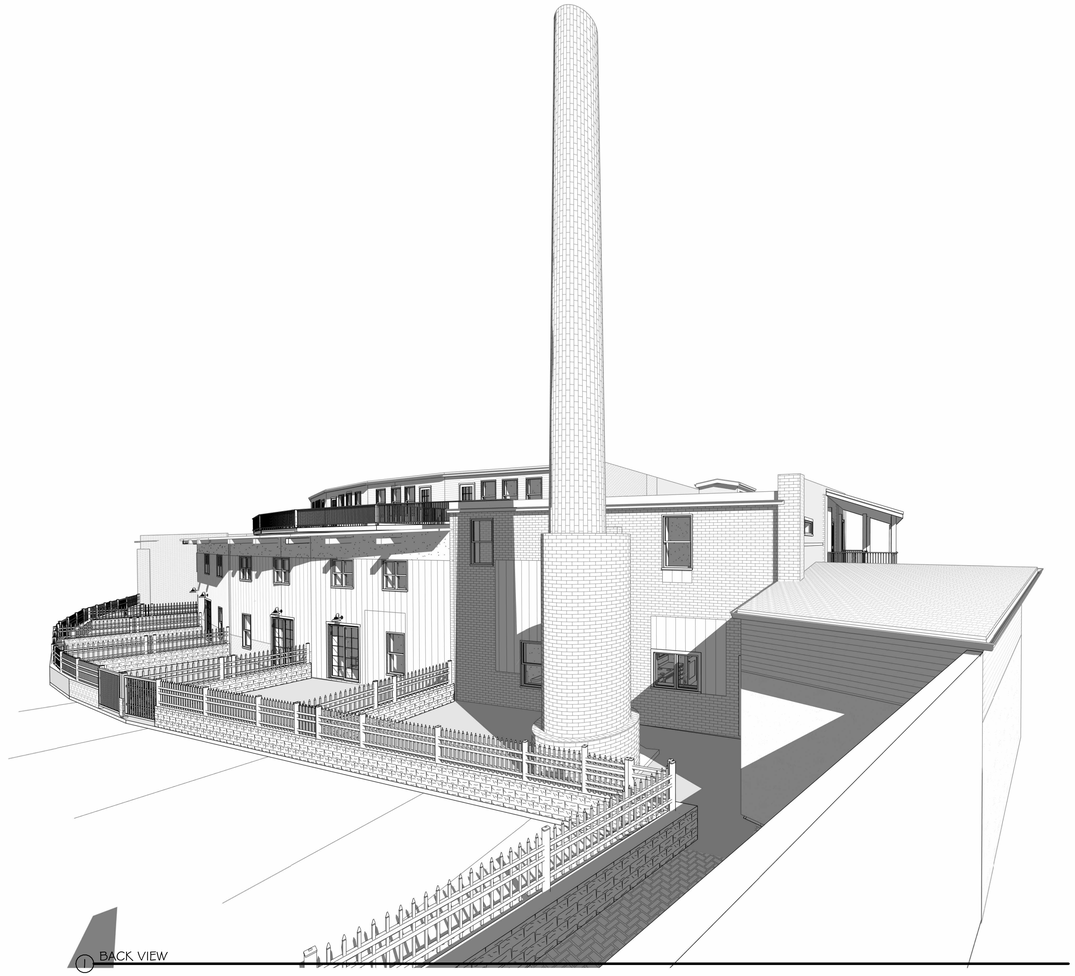
EXTERIOR VIEWS

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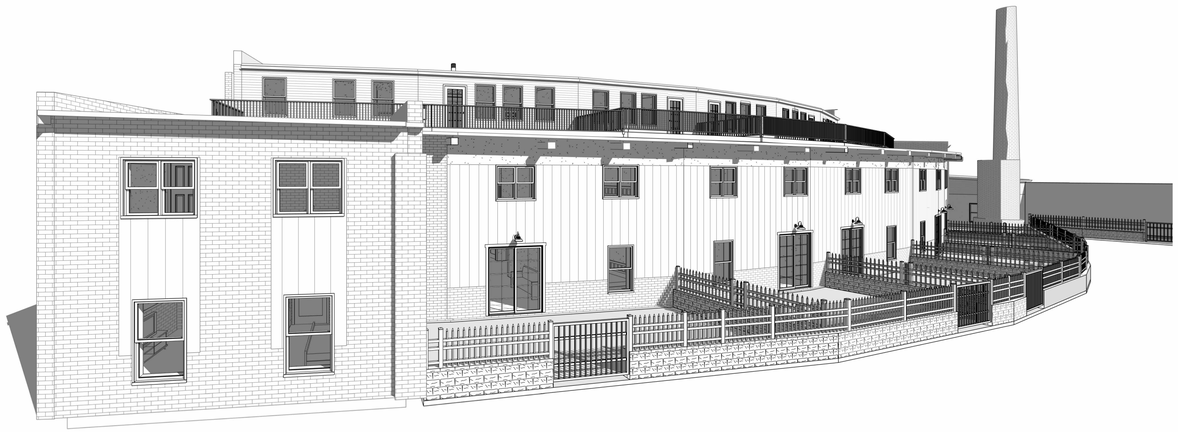
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1 BACK VIEW



2 BACK VIEW

TW DESIGNS LLC
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P: 603.664.2181 | F: 603.664.9508

PROGRESS SET
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Latest Release:
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JOB NO:
DRAFTED: SH
CHECKED: JMT

SCALE:

Sheet Title:

EXTERIOR VIEWS

Sheet Number:

A9.2

Printed on: 5/27/2026 3:25:46 PM

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Engine House

75 Oak St. Dover, NH

Progress Set
NFC - 052726

LOCUS MAP: (N.T.S.)

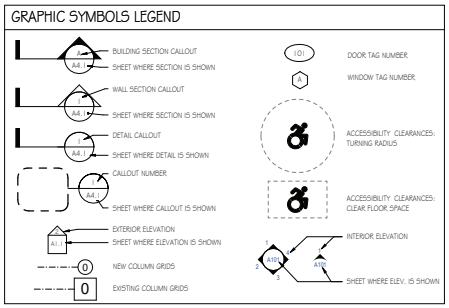


T | W DESIGNS

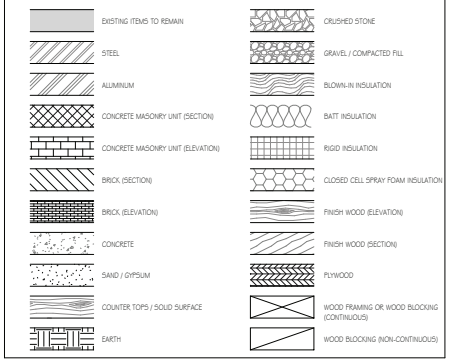
MASTER ABBREVIATION KEY:

AB	ANCHOR BOLT	E	EAST	LAM	LAMINATE	S	SOUTH
AC	AIR CONDITIONER	EJ	EXPANSION JOINT	LAV	LAVATORY	S-TRAP	SEDIMENT TRAP
ACI	AMERICAN CONCRETE INSTITUTE	EJC	EXPANSION JOINT COVER	MAS	MASONRY	SC	SOLID CORE
ACOUST	ACOUSTIC	EL	ELEVATION	MAT	MATERIAL	SCED	SCHEDULE
AFF	ABOVE FINISH FLOOR	ELEC	ELECTRICAL	MAX	MAXIMUM	SD	STORM DRAIN
ALT	ALTERNATE	ELEV	ELEVATOR	MECH	MECHANICAL	SF	SQUARE FOOT
ALUM	ALUMINUM	EQ	EQUAL	MEM	MEMBRANE	SH	SHOWER
ANCH	ANCHOR	EQUIP	EQUIPMENT	MEP	MECHANICAL, ELECTRICAL, PLUMBING	SHT	SHEET
ANOD	ANODIZED	ER	EMERGENCY ROOM			SIM	SIMILAR
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	EST	ESTIMATE	METTP	METAL TOILET PARTITION	SL	SLIDING
		EWC	ELECTRICAL WATER COOLER	MFR	MANUFACTURER	SMR	SINGLE PLY MEMBRANE ROOF
BD	BOARD	EXH	EXHAUST	MH	MANHOLE	SP/PT/FIN	SPECIAL PAINT FINISH
BIT	BITUMINOUS	EXIST	EXISTING	MIN	MINIMUM	SPEC	SPECIFICATION
BL	BUILDING LINE	EXP	EXPANSION	MISC	MISCELLANEOUS	SPKR	SPEAKER
BLDG	BUILDING	EXPD	EXPANDED	MO	MASONRY OPENING	SQ	SQUARE
BLK	BLOCK	EXT	EXTERIOR	MTL	METAL	SS	STAINLESS STEEL
BLKG	BLOCKING			MULL	MULLION	STA	STATION
BM	BEAM	F/F	FACE OF FOUNDATION WALL			STD	STANDARD
BOC	BOTTOM OF CURB			N	NORTH	STL	STEEL
BOF	BOTTOM OF FOOTING ELEVATION	FA	FRESH AIR	NAT	NATURAL	STOR	STORAGE
		FAP	FIRE ALARM PANEL	NEC	NECESSARY	STRG	STRINGER
BOT	BOTTOM	FD	FLOOR DRAIN	NIC	NOT IN CONTRACT	STRUCT	STRUCTURAL
BRG	BEARING	FE	FIRE EXTINGUISHER	NOM	NOMINAL	SU	SITE UTILITY
BRK	BRICK	FEC	FIRE EXTINGUISHER CABINET	NRC	NOISE REDUCTION COEFFICIENT	SUSP	SUSPEND (SUSPENDED)
BSMT	BASEMENT			NTS	NOT TO SCALE	SYMM	SYMMETRICAL
BTW	BETWEEN	FIN	FINISH			SYS	SYSTEM
BUR	BUILT-UP ROOF	FL	FLOW LINE	OC	ON CENTER	T	TREAD
		FLR	FLOOR	OD	OUTSIDE DIAMETER	TAG	TONGUE & GROOVED
CAB	CABINET	FND	FOUNDATION	OFIC	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	PT	PAINT	UON	UNLESS OTHERWISE NOTED
CONTR	CONTRACTOR			PTD	PAINTED		
CORR	CORRUGATED	HVAC	HEATING & VENTILATING	PTN	PARTITION	UR	URINAL
CP	CONTROL PANEL	HC	HANDICAP	PVC	POLYVINYL CHLORIDE	UV	UNIT VENTILATOR
CSG	CASING	HDWD	HARDWOOD			VAR	VARIES OR VARIABLE
CSMT	CASEMENT	HGT	HEIGHT	QT	QUARRY TILE	VB	VINYL BASE
CT	CERAMIC TILE	HM	HOLLOW METAL			VCT	VINYL COMPOSITION TILE
CTR	CENTER	HP	HIGH POINT	R	RADIUS	VERT	VERTICAL
CY	CUBIC YARD	HVAC	HEATING, VENTILATION, AIR CONDITIONING	R/A	RETURN AIR	VEST	VESTIBULE
				RC	REINFORCED CONCRETE	VIF	VERIFY IN FIELD
DF	DRINKING FOUNTAIN	HWH	HOT WATER HEATER	RD	ROOF DRAIN	VNR	VENEER
DIA	DIAMETER			REF	REFERENCE	VOL	VOLUME
DIAG	DIAGONAL	ID	INSIDE DIAMETER	REFR	REFRIGERATOR		
DIM	DIMENSION	IN	INCH	REINF	REINFORCE	W	WEST
DL	DEAD LOAD	INSUL	INSULATION	REQD	REQUIRED	W/	WITH
DN	DOWN	INT	INTERIOR	RGH	ROUGH	WC	WATER CLOSET
DR	DOOR	INV	INVERT	RL	RAIN LEADER	WD	WOOD
DS	DOWNSPOUT			RM	ROOM	WDW	WINDOW
DSC	DRIVE SIDE OF CURB	JC	JANITOR'S CLOSET	RO	ROUGH OPENING	WGL	WIRE GLASS
DTL	DETAIL	JST	JOIST	ROW	RIGHT OF WAY	WP	WEATHERPROOF (WATERPROOFING)
DWG	DRAWING	JT	JOINT	RQMT	REQUIREMENT	WWF	WELDED WIRE FABRIC

GRAPHIC SYMBOLS LEGEND



MATERIAL LEGEND



DRAWING SHEET INDEX:

Sheet	Sheet Name	Issued	Revision	Revision Date
PCS	PROJECT COVER SHEET	NFC- 052726		
A1.1	PROPOSED FIRST FLOOR PLAN	NFC- 052726		
A1.2	PROPOSED LOFT PLAN	NFC- 052726		
A1.3	PARTIAL FLOOR PLAN (EXISTING)	NFC- 052726		
A1.4	PROPOSED SECOND FLOOR PLAN	NFC- 052726		
A1.5	PROPOSED 2 BEDROOM - UNIT - 101	NFC- 052726		
A1.6	PROPOSED 2 BEDROOM - UNIT - 102 ADA	NFC- 052726		
A1.7A	PROPOSED 2 BEDROOM - UNIT - 103	NFC- 052726		
A1.7B	PROPOSED 2 BEDROOM - UNIT - 103	NFC- 052726		
A1.8A	PROPOSED 2 BEDROOM - UNIT - 104	NFC- 052726		
A1.8B	PROPOSED 2 BEDROOM - UNIT - 104	NFC- 052726		
A1.9A	PROPOSED 2 BEDROOM - UNIT - 105	NFC- 052726		
A1.9B	PROPOSED 2 BEDROOM - UNIT - 105	NFC- 052726		
A1.10A	PROPOSED 2 BEDROOM - UNIT - 106 & 110	NFC- 052726		
A1.10B	PROPOSED 2 BEDROOM - UNIT - 106 & 110	NFC- 052726		
A1.11A	PROPOSED 2 BEDROOM - UNIT - 107	NFC- 052726		
A1.11B	PROPOSED 2 BEDROOM - UNIT - 107	NFC- 052726		
A1.12A	PROPOSED 2 BEDROOM - UNIT - 108 & 111	NFC- 052726		
A1.12B	PROPOSED 2 BEDROOM - UNIT - 108 & 111	NFC- 052726		
A1.13A	PROPOSED 2 BEDROOM - UNIT - 109	NFC- 052726		
A1.13B	PROPOSED 2 BEDROOM - UNIT - 109	NFC- 052726		
A1.14A	PROPOSED 2 BEDROOM - UNIT - 112	NFC- 052726		
A1.14B	PROPOSED 2 BEDROOM - UNIT - 112	NFC- 052726		
A1.16	PROPOSED 2 BEDROOM - UNIT - 213	NFC- 052726		
A1.17	PROPOSED 2 BEDROOM - UNIT - 214	NFC- 052726		
A1.18	PROPOSED 2 BEDROOM - UNIT - 215	NFC- 052726		
A1.19	PROPOSED 2 BEDROOM - UNIT - 216	NFC- 052726		
A1.20	PROPOSED 2 BEDROOM - UNIT - 217	NFC- 052726		
A1.21	PROPOSED 2 BEDROOM - UNIT - 218	NFC- 052726		
A3.1	EXTERIOR ELEVATION	NFC- 052726		
A3.2	EXTERIOR ELEVATION	NFC- 052726		
A4.0	WALL, ROOF AND FLOOR ASSEMBLY TYPE	NFC- 052726		
A4.1	BUILDING SECTION	NFC- 052726		
A4.2	BUILDING SECTION	NFC- 052726		
A6.1	DOOR SCHEDULE	NFC- 052726		
A6.2	DOOR SCHEDULE	NFC- 052726		
A6.3	WINDOW SCHEDULE	NFC- 052726		
A9.1	EXTERIOR VIEWS	NFC- 052726		
A9.2	EXTERIOR VIEWS	NFC- 052726		
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Project Info:

Engine House
75 Oak St. Dover, NH
Progress Set

Architect of Record:

T | W Designs, LLC
254 Drake Hill Rd.
Strafford, NH 03884
603-664-2181

Civil Engineer:

N/A

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

PROJECT COVER SHEET

SHEET NUMBER

PCS



FIRST FLOOR
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COLOR	OCCUPANCY
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	GYM AND UTILITIES
	CIRCULATION

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FL.	2 BD.	1 BD.	STUDIO	#
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TW DESIGNS
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508

PROGRESS SET
NFC - 052726

No. Description Date

Revision Schedule

Project Info:

Engine House

75 Oak St. Dover, NH

Sheet Status:
Latest Release:
Issued For: Progress Set
Org. Issue Date: NFC - 052726

JOB NO.
DRAFTED: SH
CHECKED: JMT

SCALE: 1/8" = 1'-0"

Sheet Title:

PROPOSED FIRST FLOOR PLAN

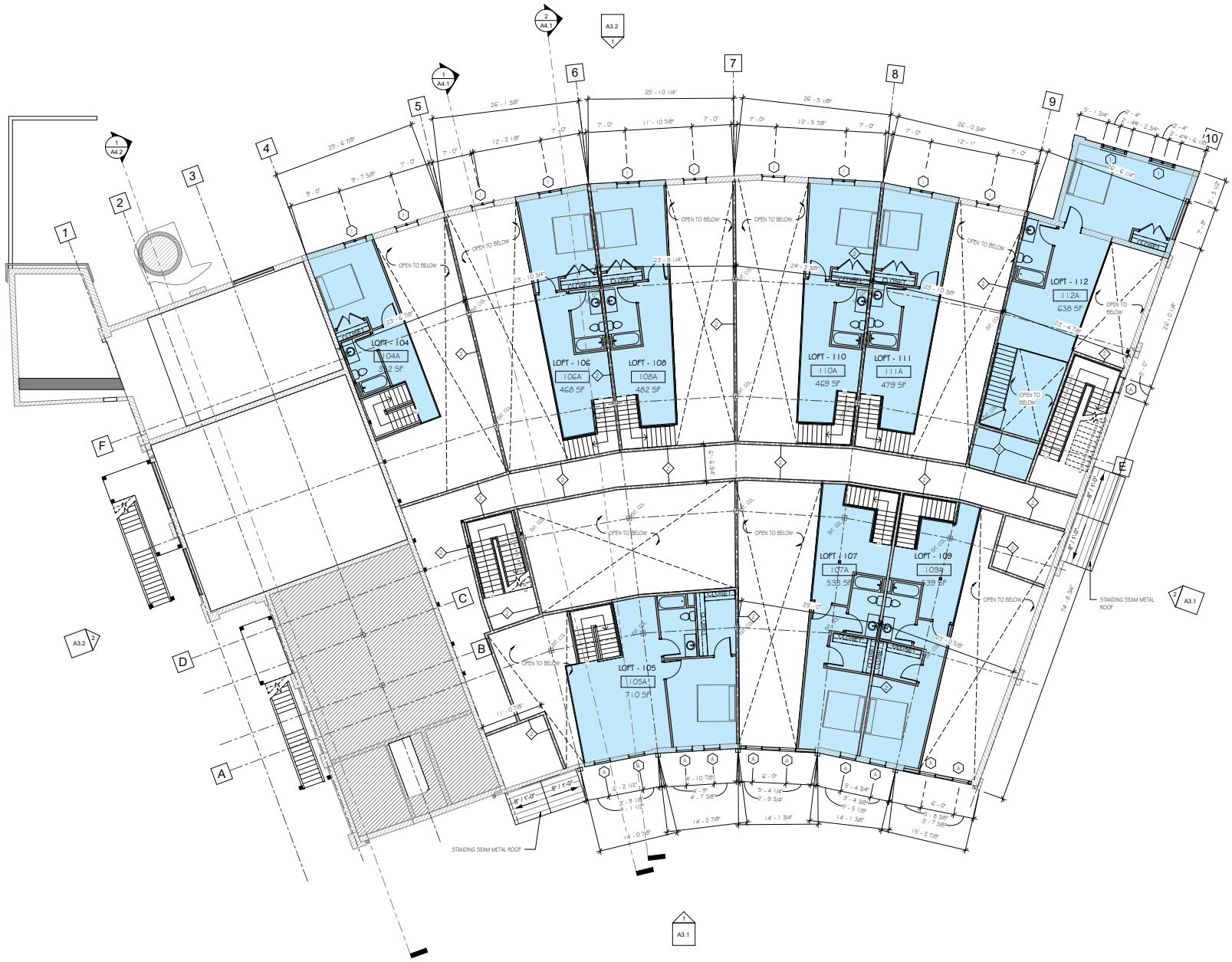
Sheet Number:

A1.1

Printed on: 5/27/2026 3:23:16 PM

True
PROJECT NORTH

C:\Users\John\TW-Designs\TW Designs - Documents\3.Projects\25064 - Engine House Apartments\25064 - SD_A.rvt



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Org. Issue Date: NFC - 052726

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SCALE: 1/8" = 1'-0"

Sheet Title:

PROPOSED LOFT PLAN

Sheet Number:

A1.2

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1 PARTIAL SECOND FLOOR EXISTING
1/8" = 1'-0"

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No. Description Date

Revision Schedule

Project Info:
Engine House

75 Oak St. Dover, NH

Sheet Status:
Latest Release:
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Org. Issue Date: NFC - 052726

JOB NO.
DRAFTED: SH
CHECKED: JMT

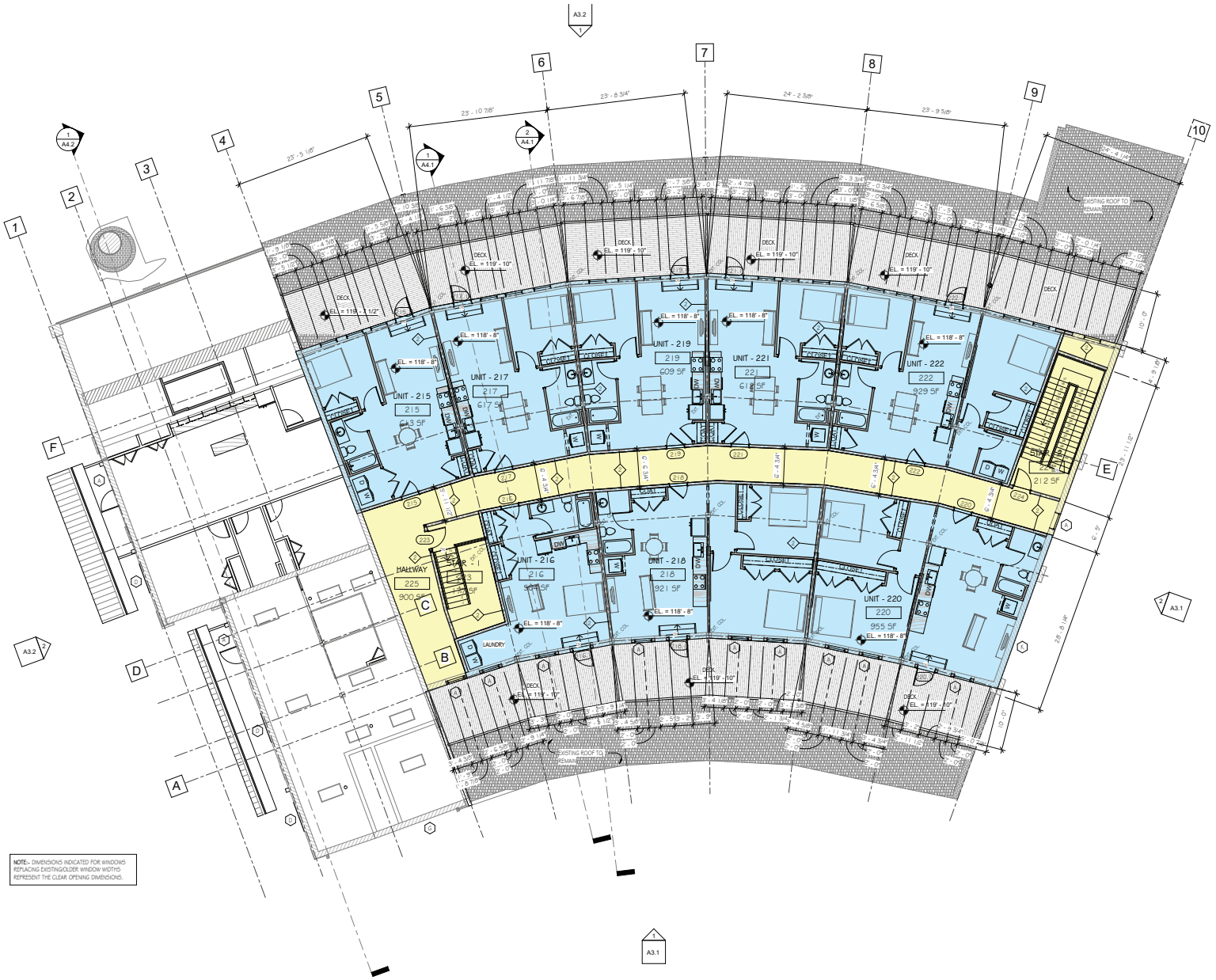
SCALE: 1/8" = 1'-0"

Sheet Title:
PARTIAL FLOOR PLAN (EXISTING)

Sheet Number:
A1.3

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NOTE:- DIMENSIONS INDICATED FOR WINDOWS REPLACING EXISTING/OLDER WINDOW WIDTHS REPRESENT THE CLEAR OPENING DIMENSIONS.

1 NEW 2ND FLOOR
1/8" = 1'-0"

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Project Info:

Engine House

75 Oak St. Dover, NH

Sheet Status:

Latest Release:
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Org. Issue Date: NFC - 052726

JOB NO.
DRAFTED: SH
CHECKED: JMT
SCALE: 1/8" = 1'-0"

Sheet Title:

PROPOSED SECOND FLOOR PLAN

Sheet Number:

A1.4

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