CITY OF DOVER

DOVER CONSERVATION COMMISSION – AGENDA

Meeting Type: Regular Meeting
Meeting Location: City Council Conference Room - 288 Central Avenue Dover NH
Meeting Date: Monday, April 8, 2024
Meeting Time: **5:30 pm**

1. **CALL TO ORDER AND ROLL CALL**

2. **CITIZEN'S FORUM**

3. **APPROVAL OF THE PRIOR MEETING MINUTES** – March 11, 2024

4. **OLD BUSINESS**

5. **NEW BUSINESS**
   - **A.** City of Dover Conditional Use Permit and NHDES Expedited Minimum Impact Wetlands Permit for Future Automation, Inc. (Owners: DBIDA), Assessor's Map D, Lot 11-8, zoned IT, located at Quality Way. Proposal is to construct a 24,856 square foot building and a 10,000 square foot building creating 39,820 square feet of wetland buffer impact and 1,631 square feet of wetland impact.
   - **B.** Natural Resources Inventory Project Update
   - **C.** Conservation and Open Space Chapter Update

6. **REPORT FROM THE CHAIR**
   - **A.** Review of Correspondence Received From NH Department of Environmental Services

7. **OTHER BUSINESS**
   - **A.** Update from Forest Management Subcommittee

8. **ADJOURNMENT**

CITY OF DOVER

DOVER CONSERVATION COMMISSION – MINUTES

Meeting Type:	Regular Meeting
Meeting Location:	City Council Conference Room - 288 Central Avenue, Dover, NH
Meeting Date:	Monday, March 11, 2024
Meeting Time:	**5:30 pm**

MEMBERS PRESENT: Bill Hunt (Chair), Steve Fellows (Vice Chair), Kristen Murphy, Abigail Lyon, Robert Atwood (Secretary), Jay Aube
Absent (Excused): Jake Geddes, Amy Kramer Perry
Absent (Unexcused): Bruce Batchelder (Alternate)
STAFF PRESENT: Jackson Kaspari – Resilience Manager
OTHERS PRESENT: Autumn Scott, Russ Warnock, Councilor Williams

1. CALL TO ORDER AND ROLL CALL
The meeting was convened at 5:30 PM.

2. CITIZENS' FORUM
None

3. APPROVAL OF THE PRIOR MEETING MINUTES- FEBRUARY 12, 2024
S. Fellows moved to approve the minutes of February 12th as submitted. K. Murphy seconded.
Vote: 3 yes with Lyon, Atwood and Aube abstaining

4. OLD BUSINESS:
None

5. NEW BUSINESS:

A. First Five Minutes for Dover's Conservation and Open Space Priorities

J. Kaspari noted one of the elements to the vision chapter update is to take five minutes at public meetings to discuss the chapter. He read the goal of the chapter and ways the public can engage and next steps.

B. Natural Resources Inventory Project Update

The goal of the project is to develop an inventory of Dover's natural resources to be used as a tool for land use boards, staff and public to utilize.
Autumn Scott, Strafford Regional Planning Commission updated and discussed the following with the Commission:

- Review of how the workshop went
  - Questions asked of the public and feedback given
  - Commission members comments and discussion regarding the feedback
  - Autumn will provide an engagement summary
- Survey
  - Review of the survey questions and suggested edits
  - J. Kaspari reviewed the master plan survey questions for comparison
    - Discussion on merging questions, rewording, merging surveys, multiple ways to give feedback
    - Discussion on City social media processes

DRAFT

- Timeline review
  - Contract update
  - Come back to Commission to discuss what type of study is desired
  - First draft of NRI should be available for the April meeting
  - Combined Survey mockup and shown to Resilience Planning next week at staff meeting to determine if combined survey is desired. Survey to be sent out in March

C. 2024 Urban Street Tree Project - $20,000 funding request

J. Kaspari stated last year there was a goal to do 10 street trees which was successful. The Forest Management subcommittee wishes to continue this effort. 10 trees a year would just be keeping up. If we're able to do more, that would be better. Community Services Director reported his staff can handle 15 per planting season. The $20,000 request is to bid out for the 15 trees and get them installed by staff – likely in batches of five in April/May.
Forest Management subcommittee made the formal request at their last meeting for the Commission to support this. Proposed location was discussed.

J. Kaspari noted a study was done for pedestrian and vehicular traffic improvements and streetscape design improvements on the main corridor of Central Ave which are slated in the CIP to be done in 2030. Therefore, it is best to focus street trees in other areas since the roads in that area may get reconfigured.

J. Kaspari updated the Commission on the amount of money in the funds:
Approximately $670,000 is remaining following the use of $770,000 for two approved projects.

S. Fellows moved to approve up to $20,000 from the Conservation Fund for the purchase and planting of up to 15 street trees in 2024. A. Lyon seconded. Vote: U/A.

Discussion occurred about details of the trees.

D. Willand Pond Milfoil Treatment

J. Kaspari informed the Commission on the background of this issue. NHDES says they can treat it and have offered to fund half if the City will fund the other half. Staff requests the Commission support spending funds on this effort which will be about $20,000.
J. Kaspari gave details about the pond and the treatment. Discussion ensued about more details about the treatment, options, preventative steps.

S. Fellows moved that the Commission support the milfoil treatment effort with the understanding that untreated milfoil would have a more adverse impact on Willand Pond than the herbicide application and that a long-term integrated pest management plan be developed for the Pond. A. Lyon seconded.
Vote: U/A.

DRAFT

6. REPORT FROM THE CHAIR

A. Review of Correspondence Received from NH Department of Environmental Services

Already addressed

7. OTHER BUSINESS

A. Update from Forest Management Subcommittee

S. Fellows reported on the latest discussion topics

- Street trees and future downtown redesign already addressed
- Potential new site for pocket forest instead of Garrison School
- Forest Management parcel site walk
- Request from Joe Parks Garden for tree replacement. Seven to be replaced, request of the Commission to adopt one tree for replacement.

A. Lyon moved to approve $1,500 from the Conservation Fund for donating a tree to the Joe Parks Garden – Adopt A Tree Initiative. S. Fellows seconded. Vote: U/A

B. This is Jay's last meeting on the Commission.

C. Discussion about dues. Revisit this at a future meeting.

8. ADJOURNMENT

A. Lyon moved to adjourn. S. Fellows seconded. Vote: U/A
The meeting was adjourned at 7:20 PM.

DRAFT

CIVILWORKS NEW ENGLAND

181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

April 1, 2024

City of Dover
288 Central Ave
Dover, NH 03820

Attn: Jackson Kaspari - Conservation Commission

Subject: Conditional Use Permit Application
Quality Way - Tax Map D, Lot 11-8
Civilworks New England Reference No. 22075

Mr. Kaspari:

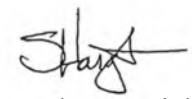
On behalf of our client, Future Automation, Inc., we are pleased to submit the above referenced Conditional Use Permit application, and materials associated with a Site Plan Review application, for review by the Dover Conservation Commission. Attached is one (1) reduced size (11x17) set of plans, the Conditional Use Permit application and Narrative, and a copy of the NH DES Wetland Permit Application being submitted to the State. These items are also being provided digitally (via Dropbox) to the Planning Department office.

Additionally, for your referral, the following items have been revised per the March 14th TRC comments and will be provided electronically (PDF) to the Planning Board for Site Review:

0. Cover Letter
1. Response to TRC #2 Comments (email to Ken M.)
2. Site Plan Review Application & Checklist
3. Application Fee Schedule
4. Conditional Use Permit Application
5. Applicant's Authorizations & City of Dover Agreement (email)
6. Project Narrative, IT District Narrative, Conditional Use Permit Narrative, Stormwater Narrative
7. Letters to Serve (emails from City, Eversource, Until)
8. Pump Station Calculations
9. Traffic Assessment Memorandum
10. Landscape Operation & Maintenance Plan
11. Waiver Requests (3): Perimeter Landscaping, Parking Lot Location, Solar Ready Building
12. Stormwater Inspection and Maintenance Plan
13. Site Plan Set, including Landscape Plan, Architect Plans (2 full size sets, 4 reduced size sets)
14. Drainage Report w/Supporting Documents & Plans

We look forward to representing this application at the Conservation Commission meeting on April 8th, 2024. Please do not hesitate to contact our office should you have any questions.

Sincerely,



Stephen J Haight, PE

CIVILWORKS NEW ENGLAND

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: Future Automation, Inc. Telephone # N/A

Address of Applicant: 127 Venture Drive Dover, NH 03820

E-Mail Address: alun.williams@futureautomation.co.uk

Name of Property Owner (if different from applicant): Dover Business & Industrial Development Authority Telephone # N/A

Address of Property Owner: 288 Central Avenue Dover, NH 03820

PROPERTY INFORMATION

Assessor's Map # D Lot(s) # 11-8

Address of Property: Quality Way

Zoning District(s) IT - Innovation Technology Overlay District(s) N/A

Existing Use of Property: Vacant

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:

The project proposes two (2) buildings with a total floor area of 34,856, accessed via a single shared drive with each having separate parking and loading areas. A box culvert is required at the entrance of the access drive resulting in a wetland impact of 1,631± sf.

In addition to the proposed buildings, access drive, parking and loading areas are associated utility and drainage improvements. Portions of the proposed grading, drainage, pavement, and buildings are within 50 feet of a wetland resulting in a wetland buffer impact of 39,820± sf.

List Any Associated State or Federal Permits That Have Been or Will Be Applied For and Indicate Their Status:

1) NHDES Wetland Permit - not yet submitted
2) NHDES Alteration of Terrain Permit - not yet submitted

Name of Professional That Prepared Plans: Stephen J. Haight, PE - Civilworks New England

Address P.O. Box 1166 Dover, NH 03821 Telephone #: 603-7429-0443

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~~ Applicant: _____ Date: 16 Jan 24

Signature of ~~Applicant~~ Owner (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~~ Applicant: _____ Date: 16 Jan 24

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
D	11-8	Dover Business & Industrial Dev Authority	288 Central Avenue Dover, NH 03820

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
	Future Automation, Inc.	127 Venture Drive Dover, NH 03820

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Stehpen 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

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE/INVOICE

SEE SITE REVIEW APPLICATION

(Revised July 24, 2023)

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

A. Plan Review Fees

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

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

SUBTOTAL PLAN REVIEW FEE = $_____

AND

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

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

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

SUBTOTAL = $_____

TOTAL INVOICE AMOUNT = $_____

PLAN REVIEW FEE COLLECTED/PAID = $ _____

BALANCE DUE = $ _____

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

future automation
Enterprise Park
127 Venture Drive
Dover, NH 03820

December 27, 2023

City of Dover
Planning Board
288 Central Avenue
Dover, NH 03820

Re: Future Automation Site Plan
Tax Map D, Lot 11-8
Quality Way - Dover, NH

LETTER OF AUTHORIZATION

Future Automation, Inc. as Applicant for the referenced project, hereby authorizes Civilworks New England to represent the firm to the State of New Hampshire, the City of Dover Planning Board and any other Dover Boards or Committees relative to the pursuit of permits for the development of the subject parcel.

Respectfully,

Alun P. Williams, President
Future Automation, Inc.

Cheryl Andreason

From: Parker, Christopher <C.Parker@dover.nh.gov>
Sent: Thursday, December 28, 2023 9:48 AM
To: Steve Haight
Cc: Cheryl Andreason
Subject: RE: Future Automation DIBDA authorization

Good morning Steve

This is confirmation that on August 9, 2022, DBIDA approved a purchase and sales agreement for Future Automation for an approximately for a 8.1 acre lot on Quality Way in Enterprise Park, and two accompanying TDR sending lots.

As part of the PnS DBIDA acknowledged the expectation that Future Automaton will seek site plan approval from the City of Dover Planning Board.

The applicant should sign the application as the applicant and the City Manager will sign as the owner.

Chris

Christopher G. Parker, AICP
Deputy City Manager: Development and Strategic Initiatives
City of Dover, NH
288 Central Avenue
Dover, NH 03820-4169
e: c.parker@dover.nh.gov
p: 603.516.6024 f: 603.516.6049

Dover: First in New Hampshire, First with you!
www.dover.nh.gov

Join me for the Dover Download Podcast, a weekly look at what's happening in the City. The Dover Download podcast can be found on Apple Podcasts, Spotify, Amazon, or wherever you get your podcasts.

From: Steve Haight <shaight@civilworksne.com>
Sent: Wednesday, December 27, 2023 3:42 PM
To: Parker, Christopher <C.Parker@dover.nh.gov>
Cc: Cheryl Andreason <cheryl@surveynh.com>
Subject: Future Automation DIBDA authorization

Security Notice: External sender. Use caution with hyperlinks or attachments.

Good afternoon Chris

We are preparing the application for Future Automation …since the property is owned by DIBDA we will need an authorization memo or email from the City to represent Future Auto in front of the PB.

You had provided this for Weave

Thanks

Steve

Stephen J. Haight, P.E.
President
Civilworks New England/Haight Engineering, PLLC
181 Watson Road
P.O. Box 1166
Dover, New Hampshire 03821
O: 603.749-0443
C: 603.817.6651
F: 603.749.7348
shaight@civilworksne.com
www.civilworksne.com

Please consider conserving our natural resources before printing this e-mail and/or any attachments.

This electronic message and any attachments may contain information that is confidential and/or legally privileged in accordance with NH RSA 91-A and other applicable laws or regulations. It is intended only for the use of the person and/or entity identified as recipient(s) in the message. If you are not an intended recipient of this message, please notify the sender immediately and delete the material. Do not print, deliver, distribute or copy this message, and do not disclose its contents or take any action in reliance on the information it contains unless authorized to do so. Thank you.

CONDITIONAL USE NARRATIVE
§170-27.1
WETLAND PROTECTION DISTRICT
for
FUTURE AUTOMATION
Quality Way
Tax Map D, Lot 11-8

F. Conditional use approval.

(1) Conditional use approval may be granted by the PLANNING BOARD (RSA 674:21II) after proper public notice and public hearing, for construction within the Wetland Protection District or buffer. Said construction may include but is not limited to a road or other accessway, utility right-of-way, communication lines, power lines and pipelines, STRUCTUREs, and parking LOTs provided that the proposed construction complies with the following standards:

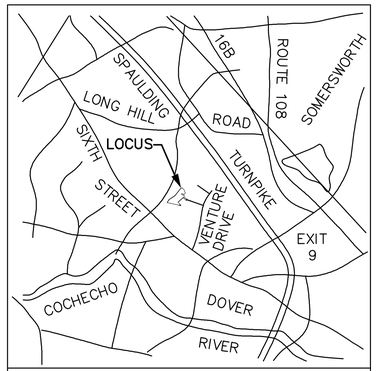
(a) Practicable Alternative: There is no practicable alternative that would have a less adverse impact on the area. **The proposed driveways, buildings, side slopes, and bio-retention basin location were chosen to avoid wetland impacts and to minimize wetland buffer impacts. The areas of impervious impact to the wetland buffer were minimized by utilizing the site characteristics including existing slope and ledge probe information to minimize additional side slope impacts.**

(b) Avoidance: The potential impacts have been avoided to the maximum extent practicable. The APPLICANT will demonstrate by plan and example that the proposed construction represents the least impacting alternative. **With the exception of the 1,631 sf of wetland impact for the access drive, wetland impacts have been avoided. There are 39,820 sf of wetland buffer impacts associated with the grading and drainage and the access drive and emergency vehicle maneuvering for the project. The design incorporated the unique site characteristics including existing slope, depth to ledge, and soil type to minimize wetland buffer impacts. The buildings have been situated to provide for the drive aisle and parking areas to further reduce wetland buffer impacts.**

(c) Minimization: Any unavoidable impacts have been minimized. No reasonable Alternative to the proposed construction exists which does not impact a wetland, or which has less detrimental impact on a wetland. Design, construction, and maintenance methods will be prepared by a registered engineer to minimize detrimental impacts to the wetlands and will include restoration of the site as nearly as possible to its original grade. **There are 1,631 sf of wetland impacts for the access drive and utilities and 39,820 sf of wetland buffer impacts. All impacts have been minimized to the greatest extent practicable. The design utilizes retaining walls, headwalls, and 2:1 side slope to further minimize grading in the wetland buffer. Increasing the slopes from 3:1 to 2:1 in the area of the bio-retention basin is not allowed per Env-Wq 1508.08(m) (5).**

(d) Mitigation: If the APPLICANT is required by State rules to prepare a compensatory mitigation plan, the APPLICANT shall provide the Conservation Commission and PLANNING BOARD with one copy each of said plan for their review. **Mitigation is not required.**

(e) Approval for the wetlands impact has been received from the NHDES Wetlands Bureau pursuant to Section G (3), below. **A NHDES wetland permit application will be filed.**



LOCATION PLAN
(NO SCALE)

SITE PLAN
FOR
FUTURE AUTOMATION

TAX MAP D, LOT 11-8

QUALITY WAY
DOVER, NH
JANUARY 2024
FEBRUARY 2024
APRIL 2024

OWNER

DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY
f/k/a DOVER INDUSTRIAL DEVELOPMENT AUTHORITY (D.I.D.A)
288 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820

_____ DATE

APPLICANT

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

_____ 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

JOHN M. TUTTLE, ARCHITECT
TW DESIGNS, LLC
254 DRAKE HILL ROAD
STRAFFORD, NH 03884
(603) 664-2181

WETLAND SCIENTIST

MICHEAL R. CUOMO
6 YORK POND ROAD
YORK, ME 03909
(207) 363-4532

LANDSCAPE ARCHITECT

TERRAIN PLANNING & DESIGN, LLC
311 KAST HILL ROAD
HOPKINTON, NH 03229
(603) 491-2322

WILDLIFE PROTECTION NOTES:

- ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: NHB23-3353, FUTURE AUTOMATION INC., WILDLIFE SPECIES OBSERVATION.
- PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHF&G IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION AS FEASIBLE.
- IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL NOT BE DISTURBED, HANDLED, OR HARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHF&G AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHF&G, IF ANY, TO ASSURE THE PROJECT DOES NOT APPRECIABLY JEOPARDIZE THE CONTINUED EXISTENCE OF THREATENED AND ENDANGERED SPECIES AS DEFINED IN FIS 1002.04.
- THE NHF&G, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

SHEET INDEX	SHEET
COVER SHEET	1
NEIGHBORHOOD PLAN	2
EXISTING CONDITIONS PLAN (BY MCENEANEY SURVEY)	3
NOTE SHEET	4
DEMOLITION PLAN	5
SITE PLAN	6
GRADING, DRAINAGE & EROSION CONTROL PLAN	7
WETLAND / WETLAND BUFFER IMPACT PLAN	8
UTILITY PLAN	9
EROSION CONTROL NOTES	10
DETAIL SHEETS	11-20
LIGHTING PLAN	21
LIGHTING DETAILS	22
DOVER LADDER TRUCK MOVEMENT PLAN	23-24
SITE SPECIFIC SOILS PLAN	25
TEST PIT LOGS	26
ARCHITECTURAL PLANS	
MAIN BUILDING 25,000 SF	
PROJECT COVER SHEET	PCS
FLOOR PLAN	A1.1
EXTERIOR ELEVATIONS	A3.1-A3.2
MAIN BUILDING STREET VIEW RENDERING	R1.1
MAIN BUILDING FRNT VIEW RENDERING	R1.2
STREET VIEW RENDERING	R1.3
CAMPUS AERIAL VIEW RENDERING	R1.4
AUX BUILDING 10,000 SF	
PROJECT COVER SHEET	PCS
FLOOR PLAN	A1.1
EXTERIOR ELEVATIONS	A3.1
AUX BUILDING STREET VIEW RENDERING	R1.1
LANDSCAPE PLANS	
LANDSCAPE PLAN	L1.0
LANDSCAPE DETAILS	L2.0

PLANNING FILE NO.: SITE-2024-0002

ABUTTERS LIST
(WITHIN 200 FT)

TAX MAP	LOT NO.	NAME & ADDRESS
D	11-1-0	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D	11-9-SND	HEINE USA 10 INNOVATION WAY 288 CENTRAL AVE DOVER, NH 03820
D	11-8-SN3	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D	11-8-SN2	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
A	47-12-0	MCCONNELL GEOFFERY R & DEBORAH TRUSTEE MCCONNELL REVOCABLE LIVING TRUST 15 REYNERS BROOK DRIVE DOVER, NH 03820
A	47-10-0	ARVENITIS KERRY A 11 REYNERS BROOK DRIVE DOVER, NH 03820
A	48-B-0	MENDENHALL JON L & MENDENHALL KAREN E 475 SIXTH STREET DOVER, NH 03820
A	49-11-0	TRICONI CHRISTOPHER E & ELIZABETH C TRUS TRICONI FAMILY LIVING TRUST 2021 28 QUAIL DRIVE DOVER, NH 03820
A	49-12-0	MOREAU SCOTT & CURTIS MARCY 32 QUAIL DRIVE DOVER, NH 03820
A	49-13-0	PORTER DOUGLAS W & PORTER YUKARI 29 QUAIL DRIVE DOVER, NH 03820
D	12-1-0	TSB PROPERTIES LLC 385 SIXTH STREET DOVER, NH 03820
D	12-2-0	TSB PROPERTIES LLC 385 SIXTH STREET DOVER, NH 03820
D	11-7-SN2	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820
D	11-7-0	WEAVE FILTRATION QUALITY WAY DOVER, NH 03820
D	11-4-0	QUALITY WAY LLC 55 MAIN STREET, UNIT 407 NEWMARKET, NH 03857
D	11-6-0	DOVER BUSINESS & IND DEV AUTHORITY, F/K/A DOVER IND DEV AUTHORITY 288 CENTRAL AVE DOVER, NH 03820

SYMBOL LEGEND

D / 11 — TAX MAP / LOT NUMBER

NH STATE PLANE NAD 83 - GPS DES:

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)

PLANNING FILE NO.: SITE-2024-0002

NEIGHBORHOOD PLAN

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

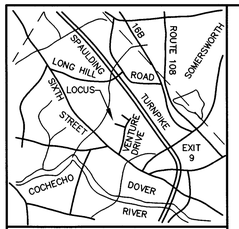
2

NO.	REVISION	APP'D	DATE
1	REV PER TRC COMMENTS #1	SJH	2-29-24
2	REV PER TRC COMMENTS #2	SJH	4-1-24

APPROVED BY:SJH
PROJECT NO:22075
FILE: SITE.DWG
DESIGN BY: JFG
DRAWN BY: SRD
SCALE: 1"=200'
DATE: 1-18-24

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443



LOCATION PLAN
(NO SCALE)

REFERENCE PLANS:

1.) AMENDED SUBDIVISION AND LOT LINE ADJUSTMENT PLAN PREPARED FOR GEORGE J. FOSTER & Co., INC. AND DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY, TAX MAP D, LOT Nos. 9A & 11–1, VENTURE DRIVE AND QUALITY WAY, DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE. SCALE: 1" = 100'; DATED: FEBRUARY 14, 2006, REVISED THROUGH 5/3/06; BY THIS OFFICE. RECORDED S.C.R.D. PLANS 85–99 & 85–100.

2.) ROADWAY AS–BUILT PLAN & PROFILE PREPARED FOR DOVER INDUSTRIAL DEVELOPMENT AUTHORITY, QUALITY WAY AT VENTURE DRIVE, DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE. SCALE: 1" = 40'; DATED: JANUARY 16, 2006, REVISED THROUGH 3/16/06; BY: McENEANEY SURVEY ASSOCIATES, INC. ON FILE WITH CITY OF DOVER ENGINEERING DEPARTMENT.

NOTES:

1.) OWNERS OF RECORD:

DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY
f/k/a DOVER INDUSTRIAL DEVELOPMENT AUTHORITY (D.I.D.A.)
288 CENTRAL AVENUE
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOL. 1559 / 394
TITLE REF. SEE SCRD 1738 / 130, 1027 / 790, 773 / 481

2.) D / 11–8 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) PLAN INTENT: TO SHOW THE SITE EXISTING CONDITIONS.

4.) PARCEL AREA = 375,192 S.F. / 8.61 Ac.

5.) ZONING DISTRICT IS INNOVATIVE TECHNOLOGY (IT)

DIMENSIONAL REQUIREMENTS:

MINIMUM LOT SIZE	= 2 ACRES
MINIMUM LOT COVERAGE	= 33 PERCENT
MINIMUM FRONTAGE	= 200 FEET
BUILDING SETBACK REQUIREMENTS:	
FRONT SETBACK	= 50 FEET
SIDE SETBACK	= 50 FEET
REAR SETBACK	= 50 FEET
MAXIMUM BUILDING HEIGHT	= 55 FEET MAXIMUM

6.) THE SUBJECT PARCEL IS LOCATED OUTSIDE OF THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0310; SUFFIX E; MAP NUMBER 33017C0310E; EFFECTIVE DATE SEPTEMBER 30, 2015.

7.) BASIS OF BEARING IS THE CITY OF DOVER / GEOD CORP. GRID PER REFERENCE PLAN No. 1. (G.I.S. STATIONS TR 390 AND TR 391A) VERTICAL DATUM IS CITY OF DOVER / GEOD CORP. PER CITY G.I.S. STATIONS TR 390 AND TR 391A.

8.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND WITH AN ERROR NOT GREATER THAN 1 IN 10,000

9.) WETLANDS SHOWN WERE IDENTIFIED BY DAMON E. BURT, N.H.C.W.S. #163 OF FRAGGLE ROCK ENVIRONMENTAL SERVICES ON SEPTEMBER 2, 2022 IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION MANUAL AND LOCATED BY McENEANEY SURVEY ASSOCIATES OF NEW ENGLAND.

10.) THE PARCEL IS SERVED BY MUNICIPAL SEWER AND WATER.

11.) TOPOGRAPHY DEPICTED IS BASED ON FIELD OBSERVATIONS BY THIS OFFICE.

12.) LOT D/11–8 WAS CREATED USING THE CITY OF DOVER TDR ORDINANCE.

LEGEND

S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
S.C.R.D. – STRAFFORD COUNTY REGISTRY OF DEEDS
– STONE WALL
– EDGE OF WET
f/k/a – FORMERLY KNOWN AS
D.H.(fnd) – DRILL HOLE FOUND
S.S.(fnd) – STEEL STAKE FOUND
I.R.(fnd) – IRON ROD FOUND
TBM – TEMPORARY BENCH MARK
– FIRE HYDRANT
– SEWER MANHOLE
8"S – SEWER MAIN PIPE AND SIZE
S – SEWER SERVICE
W – WATER MAIN PIPE AND SIZE
W – WATER SERVICE
– WATER GATE VALVE
G – GAS MAIN
U/G E,T,C – UNDERGROUND ELECTRIC, TELEPHONE AND CABLE BROADBAND
174 – EXISTING CONTOUR (2 FOOT INTERVAL)

No.	Bearing	Distance
L1	N30°30'05"W	55.67'
L2	N30°29'16"W	80.58'
L3	S38°23'21"E	61.89'
L4	S81°38'07"E	66.39'
L5	S77°08'15"W	52.06'
L6	S35°56'47"E	78.76'
L7	S09°40'20"W	72.30'
L8	S30°30'05"E	76.90'
L9	S30°30'05"E	59.35'

No.	Central Angle	Radius	Arc Length	Chord Length	Chord Bearing
C1	24°49'33"	253.78	109.96	109.10	N42°54'51"W
C2	22°24'32"	193.79	75.80	75.31	S41°42'21"E
C3	47°44'43"	75.00	62.50	60.71	S26°56'10"W

NO.	DATE	DESCRIPTION	BY	CHK
		REVISIONS		

22–2463	EC	22–10	53–64
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."

EXISTING CONDITIONS PLAN OF LAND
PREPARED FOR
FUTURE AUTOMATION
TAX MAP D, LOT No. 11–8
QUALITY WAY
CITY of DOVER
COUNTY of STRAFFORD
STATE of NEW HAMPSHIRE

DRAWN BY: KJF	FILE: MSA\2463\D\22–2463
SCALE: 1" = 50'	DATE: NOVEMBER 2, 2022

50 25 0 25 50 100 150 200

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 661 KEVIN M. McENEANEY SEAL SIGNATURE

McEneaney Survey Associates of NEW ENGLAND
P.O. Box 681 – 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742–0911

SURVEYING – PLANNING – CONSULTING

File: \\cnteserver1\MSA Projects\2463\Drawings\22-2463.dwg Layout 22x34
11/3/2022 15:45:55

DOVER NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE PROPOSED CONSTRUCTION OF A 25,000 S.F. AND A 10,000 S.F. BUILDING WITH ASSOCIATED SITE IMPROVEMENTS.
2. OWNER(S) OF RECORD:
   DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY
   f/k/a DOVER INDUSTRIAL DEVELOPMENT AUTHORITY (D.I.D.A.)
   288 CENTRAL AVENUE
   DOVER, NEW HAMPSHIRE 03820
3. D/11-8 – DENOTES TAX MAP AND PARCEL NUMBER.
4. PARCEL AREA: 375,192 S.F. / 8.61 Ac.
5. TITLE REFERENCE: SEE SCRD 1559/394, 1738/130, 1027/790, 773/481
6. REFERENCE PLANS:
   A. AMENDED SUBDIVISION AND LOT LINE ADJUSTMENT PLAN PREPARED FOR GEORGE J. FOSTER & Co., INC. AND DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY, TAX MAP D, LOT Nos. 9A & 11–1, VENTURE DRIVE AND QUALITY WAY, CITY OF DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE. SCALE: 1" = 100'; DATED: FEBRUARY 14, 2006, REVISED THROUGH 5/3/06; BY THIS OFFICE. RECORDED S.C.R.D. PLAN NOS. 85–99 & 85–100
   B. ROADWAY AS–BUILT PLAN & PROFILE PREPARED FOR DOVER INDUSTRIAL DEVELOPMENT AUTHORITY, QUALITY WAY AT VENTURE DRIVE, DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE. SCALE: 1" = 40'; DATED: JANUARY 16, 2006, REVISED THROUGH 3/16/06; BY: McENEANEY SURVEY ASSOCIATES, INC. ON FILE WITH CITY OF THE DOVER ENGINEERING DEPARTMENT.
7. PROJECT DOES NOT PROPOSE ANY RIGHT–OF–WAY, CONSERVATION, SLOPE, CONSTRUCTION, POWER LINE, CROSS TRAVEL, OR OTHER EASEMENTS.
8. ZONING DISTRICT: INNOVATIVE TECHNOLOGY (IT)
   DIMENSIONAL REQUIREMENTS:

	REQUIRED	PROPOSED
MINIMUM LOT SIZE:	2 AC	8.61 AC
MAXIMUM LOT COVERAGE (BUILDING):	33%	±9.3%
MINIMUM FRONTAGE:	*200'	62.5'
MINIMUM OPEN SPACE:	33%	±72.8%
BUILDING SETBACK REQUIREMENTS:		
FRONT SETBACK:	*50'	±280'
SIDE SETBACK:	*50'	11.32'
REAR SETBACK:	50'	>145'
ABUT A STREET:	50'	N/A
MAXIMUM BUILDING HEIGHT:	55'	35'
PARKING SETBACK REQUIREMENTS:		
PARKING AREA SETBACK:	*25'	23.71'

   *SENDING AREAS ALLOWED FOR REDUCED LOT FRONTAGE, FRONT SETBACK, SIDE SETBACK, AND PARKING AREA SETBACKS. RELIEF WAS GRANTED PER THE FOLLOWING: LOT D/11–8 WAS CREATED USING THE CITY OF DOVER TDR ORDINANCE THROUGH THE AMENDED SUBDIVISION AND LOT LINE ADJUSTMENT PLAN PREPARED FOR GEORGE J. FOSTER & CO., INC. AND DOVER BUSINESS AND INDUSTRIAL DEVELOPMENT AUTHORITY, TAX MAP D, LOT NOS 9A & 11–1, VENTURE DRIVE AND QUALITY WAY, DOVER, STRAFFORD COUNTY, NEW HAMPSHIRE. SCALE: 1"= 100'; DATED: FEBRUARY 14, 2006, REVISED THROUGH 5–3–06; BY MCENEANEY SURVEY ASSOCIATES, INC.; RECORDED S.C.R.D. PLANS 85–99 & 85–100.
   LOT D/11–8 SENDING AREAS ARE IDENTIFIED IN THE EXISTING CONDITIONS PLAN PROVIDED BY MCENEANEY SURVEY ASSOCIATES.
9. LIST ANY VARIANCE OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT OR 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. (SEE PROJECT VARIANCE/PERMIT SECTION)
10. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATES, NOVEMBER 2022, WITH AN ERROR NOT GREATER THAN 1 IN 10,000.
11. THE SUBJECT PARCEL IS NOT LOCATED WITHIN THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANEL 0310; SUFFIX E; MAP NUMBER 33017C0310E; EFFECTIVE DATE SEPTEMBER 30, 2015.
12. WETLANDS WERE DELINEATED BY DAMON E. BURT, CERTIFIED WETLANDS SCIENTIST, CERTIFICATION NUMBER 163, IN ACCORDANCE WITH CHAPTER 170–27.1 OF THE ZONING ORDINANCE, ON SEPTEMBER 2, 2022.
13. AS–BUILT PLANS OF THE SUBDIVISION SHALL BE SUBMITTED ON PAPER AND IN DIGITAL FORMAT AUTOCAD DWG, AUTOCAD DXF OR ESRI FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT IF A STREET IS PROPOSED FOR CITY ACCEPTANCE. AS–BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO–REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.
14. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE 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 PROPOSED USE FOR THE SITE IS LIGHT MANUFACTURING.
25. THE FOLLOWING FEDERAL AND STATE PERMINTS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY: (SEE PROJECT VARIANCE/PERMIT SECTION)

DOVER NOTES CONTINUED:

26. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
27. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
28. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
29. 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/
30. 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.
31. 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.
32. THE MAXIMUM PARKING SPACE CALCULATION IS 59, INCLUDING 3 ACCESSIBLE SPACES, AND 45, INCLUDING 4 ACCESSIBLE SPACES, ARE PROVIDED.
33. EXTERIOR LIGHTING SHALL BE CUT–OFF TYPE FIXTURES PER CHAPTER 153–14–E AND SHALL PROVIDE LIGHTING DIRECTED ON–SITE ONLY.
34. TOPOGRAPHIC SURVEY PERFORMED BY MCENEANEY SURVEY ASSOCIATE, OCTOBER 2022.
35. ELEVATIONS DEPICTED ARE BASED ON INFORMATION OBTAINED FROM THE CITY ENGINEER'S OFFICE AND WAS DERIVED FROM COORDINATES FOR CONTROL STATIONS TR390 AND TR391A. THESE COORDINATES HAVE NOT BEEN ADJUSTED TO 1983 DATUM.
36. 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)
37. APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
38. 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.
39. 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.
40. 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.
41. 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.
42. DESIGN ENGINEER SHALL PROVIDE SIGNED LETTER TO CITY ENGINEER CERTIFYING THAT THE STORMWATER MANAGEMENT SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS.
43. ALL MANHOLE COVERS SHALL BE LIFTMATE R–1743–LM OR APPROVED EQUAL WITH 90 DEGREE HINGE.
44. 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.
45. THE WATER MAIN SHALL BE POLY WRAPPED IN ACCORDANCE WITH THE CITY OF DOVER STANDARDS.
46. ALL SEWER MAINS AND MANHOLES SHALL BE TESTED IN ACCORDANCE WITH NHDES ENV–WQ 700 REQUIREMENTS. COPIES OF TEST RESULTS SHALL BE PROVIDED TO THECITY OF DOVER ENGINEERING DEPARTMENT.
47. WETLAND PLACARDS SHOULD IDENTIFY THE NO CUT WETLAND BUFFER AND SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION AND AFTER.
48. ALL FITTINGS MUST BE CLASS 140 WATER FITTINGS.
49. 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.

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. ANY DEED RELATED ITEMS TO THE TRANSFER OF THE PROPERTY WILL BE REVIEWED BY THE CITY ATTORNEY WHILE STILL OWNED BY DIBDA.

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. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED FOR THIS PROJECT. THE SWPPP MUST INCLUDE THE APPROPRIATE BEST MANAGEMENT PRACTICES (BMP'S) TO MINIMIZE THE DISCHARGE OF POLLUTANTS FROM THE SITE. PARTIES RESPONSIBLE FOR DEVELOPING THE SWPPP SHOULD REFER TO THE EPA NPDES CONSTRUCTION GENERAL PERMITS NOTICE OF INTENT FOR A COMPLETE OUTLINE OF REQUIRED ELEMENTS. THESE PLANS AND THE STORMWATER MANAGEMENT SYSTEM INSPECTION & MAINTENANCE PLAN PREPARED FOR THIS PROJECT MAY BE UTILIZED IN FULFILLING THE REQUIREMENTS.
12. LIMIT TREE CLEARING TO ONLY THE EXTENT NECESSARY FOR CONSTRUCTION.
13. 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.
14. DENSITY REQUIREMENTS:

LOCATION	MINIMUM DENSITY
BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL BELOW LOAM AND SEED AREA	95% 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.

PROJECT VARIANCE / PERMIT SUMMARY:

1. THE FOLLOWING FEDERAL AND STATE PERMITS HAVE BEEN ISSUED FOR THE SUBJECT PROPERTY:

   NHDES ALTERATION OF TERRAIN: PENDING

   NHDES WETLANDS: PENDING

2. LIST ANY VARIANCES OR SPECIAL EXCEPTIONS GRANTED BY THE ZONING BOARD OF ADJUSTMENT OR 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.

   SITE PLAN: SITE–2024–0002 – PENDING

   CONDITIONAL USE PERMIT: P24–XX

   WAVERS REQUESTED: 153–15–C(2) – PENDING

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 1:
    - OFFICE = 2,864 SF x 5 GPD/100 SF = 144 GPD
    - LIGHT MANUF. (FACTORY)=25 EMPLOYEES x 10 GPD/ EMPL = 250 GPD
    - TOTAL = 394 GPD

    BUILDING 2:
    - OFFICE = 3,330 SF x 5 GPD/100 SF = 166.5 = 167 GPD
    - LIGHT MANUF. (FACTORY) = 20 EMPLOYEES x 10 GPD/EMP = 200 GPD
    - TOTAL = 367 PGD
28. PUMP CHAMBERS ARE UNCLASSIFIED.
29. AN EASEMENT WILL BE GRANTED TO THE CITY ALONG THE WATER LINES TO ALLOW ACCESS FOR OPERATION OF THE WATER INFRASTRUCTURE TO MAINTAIN WATER QUALITY.

UTILITY CONTACTS

NATURAL GAS: –
CONTACT: UNITIL CORPORATION
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: KEN MAVROGEORGE, PE
271 MAST ROAD
DOVER, NH 03820
TEL: (603)–516–6450
EMAIL: K.MAVROGEORGE@DOVER.NH.GOV

ELECTRIC: – EVERSOURCE
CONTACT: TREVER EMMONS
4 OLD DOVER ROAD
ROCHESTER, NH 03867
TEL: (603)–332–7515
EMAIL: TREVER.EMMONS@EVERSOURCE.COM

PLANNING FILE NO.: SITE–2024–0002

NOTE SHEET

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

NO.	REVISION	APP'D	DATE
2	REV PER TRC COMMENTS #2	SJH	4–1–24
1	REV PER TRC COMMENTS #1	SJH	2–29–24

DATE: 1–18–24
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

GNE CIVILWORKS NEW ENGLAND
CIVIL & MUNICIPAL ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

LEGEND

S.F.	SQUARE FEET
Ac.	ACRE
±	MORE OR LESS
(TYP)	TYPICAL
TBR	TO BE REMOVED
R.O.W.	RIGHT OF WAY
	EXISTING UTILITY POLE
	EXISTING WATER SHUT-OFF
	EXISTING WATER VALVE
	EXISTING GAS VALVE
	EXISTING HYDRANT
	EXISTING SEWER MANHOLE
U/G T.E.	EXISTING ELECTRIC
W	EXISTING WATER LINE
S	EXISTING SEWER LINE
D	EXISTING DRAINAGE LINE
G	EXISTING GAS LINE
	EDGE OF WET
	50' WETLAND BUFFER

50' WETLAND BUFFER

PROPOSED TREELINE

PROPOSED TREELINE

PROPOSED TREELINE

PROPOSED TREELINE

PARCEL AREA
375,192 S.F.
8.61 Ac.

50' WETLAND BUFFER

TREELINE TO BE REMOVED

REMOVE SEWER STUB FOR PROPOSED SEWER CONNECTION AT TIME OF FORCE MAIN CONSTRUCTION

SMH
RIM=170.48
INV.IN(STUB)=161.28 (T.B.R.)
INV.IN(PFM)=161.50
INV.OUT=161.28

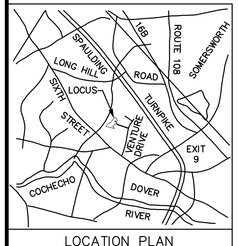
ELECTRIC CABINET
5C/SC9
TBM NORTHEAST
CORNER CONCRETE
ELEVATION = 170.75'

SAW CUT FOR WATER SERVICE CONNECTION

QUALITY WAY

END GAS LINE

NH STATE PLANE
NAD 83 CPS OBS.



LOCATION PLAN
(NO SCALE)

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

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CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
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DESIGN BY: JFG
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APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG
DATE: 1-18-24
SCALE: 1"=40'

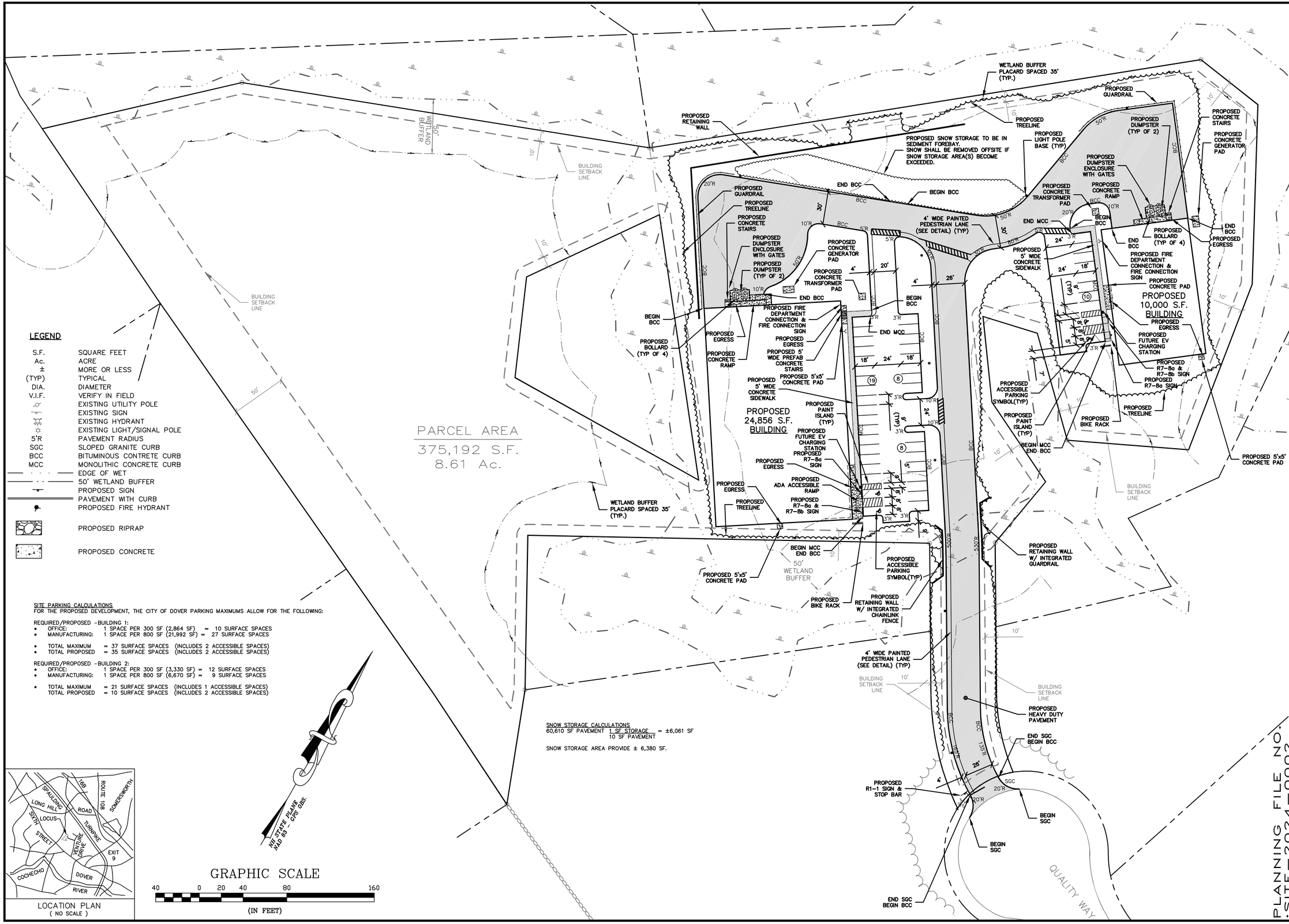
PLANNING FILE NO.
:SITE-2024-0002

DEMOLITION PLAN

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

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603.749.0443

NO.	REVISION	APP'D	DATE
1	REV PER TRC COMMENTS #1	SJH	2-29-24
2	REV PER TRC COMMENTS #2	SJH	4-1-24

PROJECT NO: 22075
DESIGN BY: JFG
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SCALE: 1"=40'
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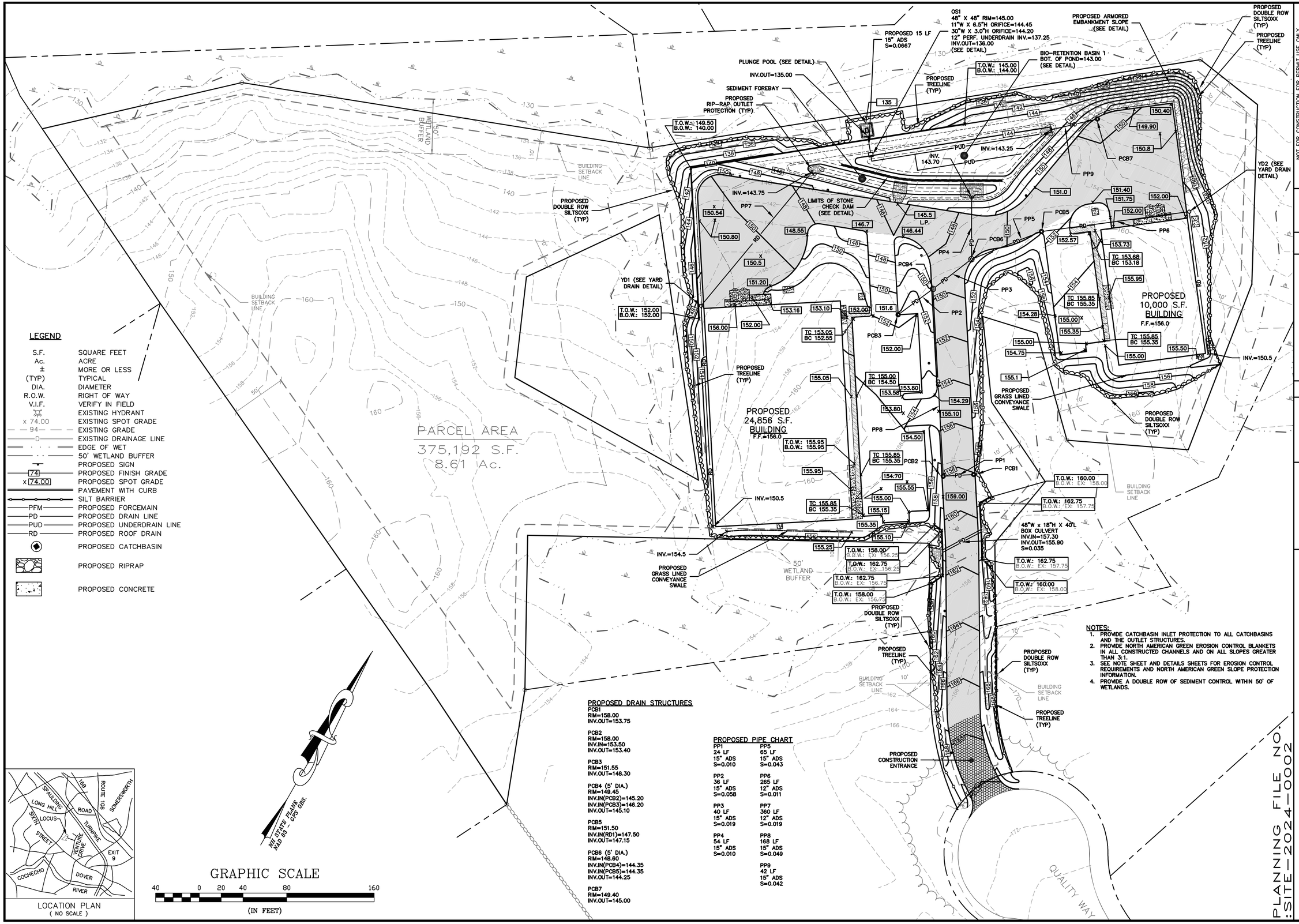
PLANNING FILE NO. :SITE-2024-0002

SITE PLAN

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

6



LEGEND

S.F.	SQUARE FEET
Ac.	ACRE
±	MORE OR LESS
(TYP)	TYPICAL
DIA.	DIAMETER
R.O.W.	RIGHT OF WAY
V.I.F.	VERIFY IN FIELD
	EXISTING HYDRANT
x 74.00	EXISTING SPOT GRADE
94	EXISTING GRADE
D	EXISTING DRAINAGE LINE
	EDGE OF WET
	50' WETLAND BUFFER
	PROPOSED SIGN
74	PROPOSED FINISH GRADE
x 74.00	PROPOSED SPOT GRADE
	PAVEMENT WITH CURB
	SILT BARRIER
PFM	PROPOSED FORCEMAIN
PD	PROPOSED DRAIN LINE
PUD	PROPOSED UNDERDRAIN LINE
RD	PROPOSED ROOF DRAIN
	PROPOSED CATCHBASIN
	PROPOSED RIPRAP
	PROPOSED CONCRETE

LOCATION PLAN
(NO SCALE)

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)

PROPOSED DRAIN STRUCTURES

PCB1
RIM=158.00
INV.OUT=153.75

PCB2
RIM=158.00
INV.IN=153.50
INV.OUT=153.40

PCB3
RIM=151.55
INV.OUT=148.30

PCB4 (5' DIA.)
RIM=149.45
INV.IN(PCB2)=145.20
INV.IN(PCB3)=146.20
INV.OUT=145.10

PCB5
RIM=151.50
INV.IN(RD1)=147.50
INV.OUT=147.15

PCB6 (5' DIA.)
RIM=148.60
INV.IN(PCB4)=144.35
INV.IN(PCB5)=144.35
INV.OUT=144.25

PCB7
RIM=149.40
INV.OUT=145.00

PROPOSED PIPE CHART

PP1	24 LF	15" ADS	S=0.010
PP2	36 LF	15" ADS	S=0.058
PP3	40 LF	15" ADS	S=0.019
PP4	54 LF	15" ADS	S=0.010
PP5	65 LF	15" ADS	S=0.043
PP6	265 LF	12" ADS	S=0.011
PP7	360 LF	12" ADS	S=0.019
PP8	168 LF	15" ADS	S=0.049
PP9	42 LF	15" ADS	S=0.042

NOTES:

1. PROVIDE CATCHBASIN INLET PROTECTION TO ALL CATCHBASINS AND THE OUTLET STRUCTURES.
2. PROVIDE NORTH AMERICAN GREEN EROSION CONTROL BLANKETS IN ALL CONSTRUCTED CHANNELS AND ON ALL SLOPES GREATER THAN 3:1.
3. SEE NOTE SHEET AND DETAILS SHEETS FOR EROSION CONTROL REQUIREMENTS AND NORTH AMERICAN GREEN SLOPE PROTECTION INFORMATION.
4. PROVIDE A DOUBLE ROW OF SEDIMENT CONTROL WITHIN 50' OF WETLANDS.

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603.749.0443

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PROJECT NO: 22075
FILE: SITE.DWG
DATE: 1-18-24
SCALE: 1"=40'

PLANNING FILE NO. :SITE-2024-0002

GRADING, DRAINAGE & EROSION CONTROL PLAN

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

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LEGEND

S.F.	SQUARE FEET
Ac.	ACRE
±	MORE OR LESS
(TYP)	TYPICAL
DIA.	DIAMETER
R.O.W.	RIGHT OF WAY
V.I.F.	VERIFY IN FIELD
94	EXISTING GRADE
	EDGE OF WET
	50' WETLAND BUFFER
74	PROPOSED FINISH GRADE
	PAVEMENT WITH CURB
	SILT BARRIER
	PROPOSED CONCRETE

PARCEL AREA
375,192 S.F.
8.61 Ac.

PROPOSED 10,000 S.F. BUILDING

PROPOSED 24,856 S.F. BUILDING

WETLAND BUFFER IMPACT (1)

WETLAND BUFFER IMPACT (2)

WETLAND BUFFER IMPACT (3)

WETLAND BUFFER IMPACT (4)

WETLAND BUFFER IMPACT (5)

WETLAND BUFFER IMPACT (6)

WETLAND BUFFER IMPACT (7)

WETLAND IMPACT

WETLAND BUFFER PLACARD SPACED 35' (TYP.)

50' WETLAND BUFFER

BUILDING SETBACK LINE

WETLAND & BUFFER DISTURBANCES:

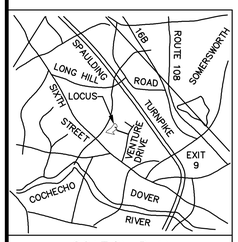
- WETLAND IMPACT: 1,631 SF
- WETLAND BUFFER IMPACT: 39,820 SF

WETLAND BUFFER AREA (1): 20,367 SF
WETLAND BUFFER AREA (2): 4,486 SF
WETLAND BUFFER AREA (3): 931 SF
WETLAND BUFFER AREA (4): 3,022 SF
WETLAND BUFFER AREA (5): 555 SF
WETLAND BUFFER AREA (6): 6,699 SF
WETLAND BUFFER AREA (7): 3,760 SF

QUALITY WAY

NH STATE PLANE, NAD 83 - GPS OBS.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)



LOCATION PLAN
(NO SCALE)

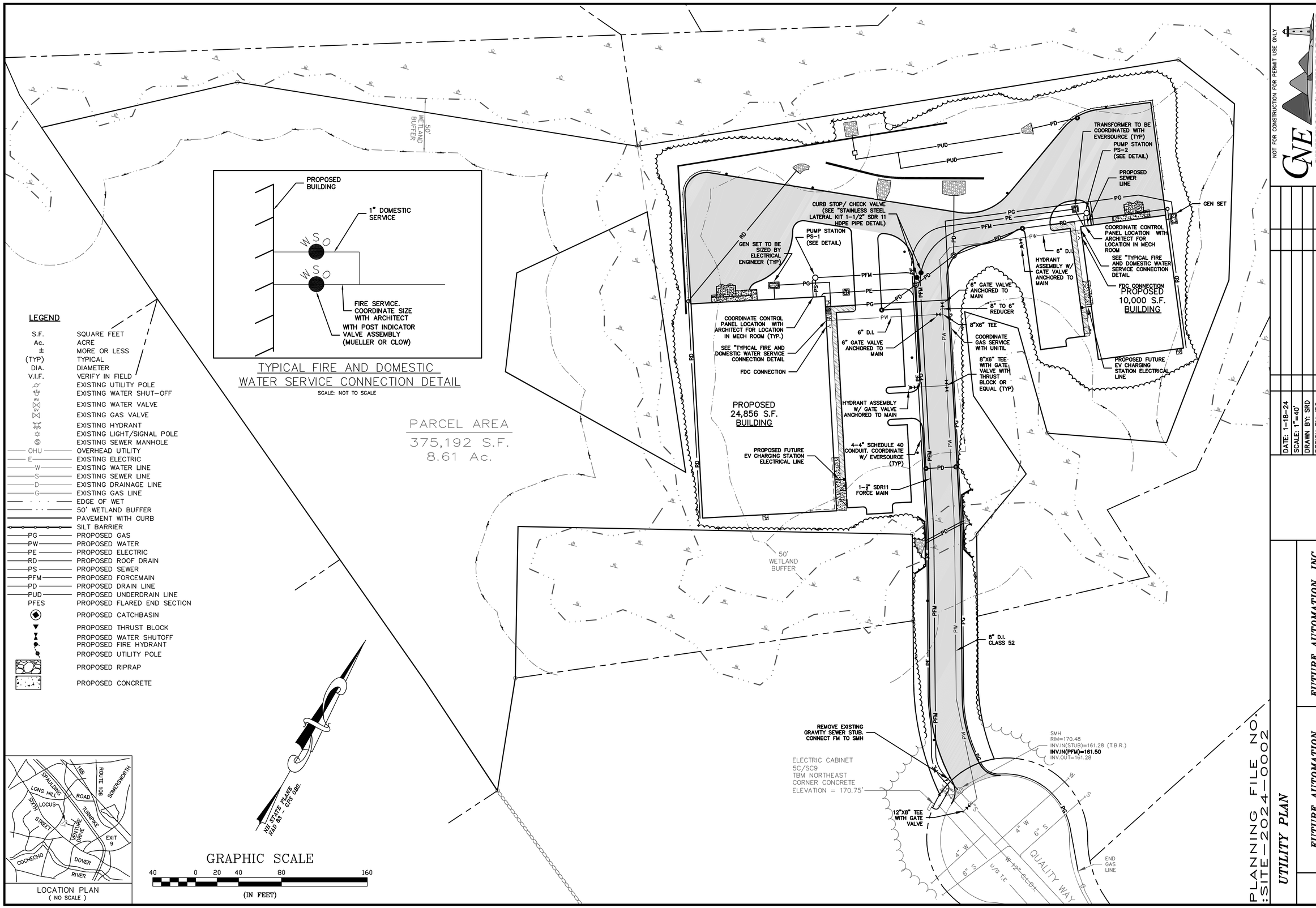
PLANNING FILE NO.
:SITE-2024-0002

WETLAND / WETLAND BUFFER IMPACT PLAN

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

8



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PLANNING FILE NO. :SITE-2024-0002

UTILITY PLAN

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

9

DESCRIPTION

1. THE INTENT OF THIS PLAN IS TO SHOW SITE IMPROVEMENTS ASSOCIATED WITH THE CONSTRUCTION OF A 25,000 S.F. BUILDING AND A 10,000 S.F. BUILDING AS WELL AS DRAINAGE AND UTILITY IMPROVEMENTS, AND SITE ACCESS.

PROJECT NAME AND LOCATION

FUTURE AUTOMATION — *LATITUDE N43° 13' 26"*
TAX MAP D, LOT 11-8 — *LONGITUDE W70° 54' 46"*
QUALITY WAY
DOVER, NH

DISTURBED AREA

±164,238 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 ACHIEVING 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 PREVOUS 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 INCLUDED 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. PRECAUTIONS 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 REQUIREMENTS 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.

ENV-WQ 1510: BEST MANAGEMENT PRACTICES FOR BLASTING

1) ALL ACTIVITIES ASSOCIATED WITH BLASTING NEED TO BE OPTIMIZED TO PREVENT THE RELEASE OF CHEMICALS ASSOCIATED WITH BLASTING ACTIVITIES TO THE ENVIRONMENT.
2) IF MORE THAN 5,000 CY OF ROCK REMOVAL IS REQUIRED DRINKING WATER WELLS MUST BE IDENTIFIED AND LOCATED WITHIN 2000 FEET OF THE PROPOSED BLASTING ACTIVITIES. DEVELOP A GROUNDWATER QUALITY SAMPLING PROGRAM TO MONITOR FOR NITRATE AND NITRITE EITHER IN THE DRINKING WATER SUPPLY WELLS OR IN OTHER WELLS THAT ARE REPRESENTATIVE OF THE DRINKING WATER SUPPLY WELLS IN THE AREA. THE PLAN MUST INCLUDE PRE AND POST BLAST WATER QUALITY MONITORING AND BE APPROVED BY NHDES PRIOR TO INITIATING BLASTING. THE GROUNDWATER SAMPLING PROGRAM MUST BE IMPLEMENTED ONCE APPROVED BY NHDES.
3) THE FOLLOWING BEST MANAGEMENT PROCEDURES FOR BLASTING SHALL BE COMPLIED WITH:
   (1) LOADING PRACTICES. THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:
      (A) DRILLING LOGS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOGS SHALL IND

SEEKING REPORTS OF RARE TURTLES

The NH Fish & Game Department is collecting observations of four turtle species:



Blanding's turtle (state endangered)

- Large, dark/black domed shell with lighter speckles
- Distinct yellow throat/chin
- Aquatic but often moves on land



Wood turtle (special concern)

- Sculpted, pyramidal brownish shell
- Orange around neck and limbs
- River/stream turtle spending many months on land



Eastern box turtle (state endangered)

- Small terrestrial turtle with highly domed shell
- Irregular yellow or orange markings over brown/black base

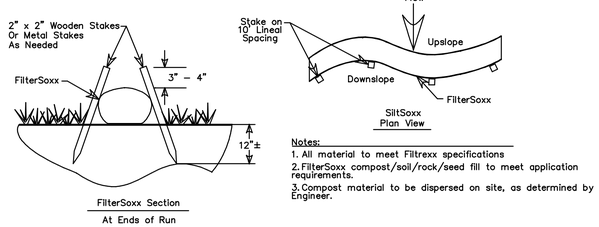


Spotted turtle (state threatened)

- Small, mostly aquatic with black or dark brown with yellow spots.
- Fairly flat shell compared to Blanding's turtle

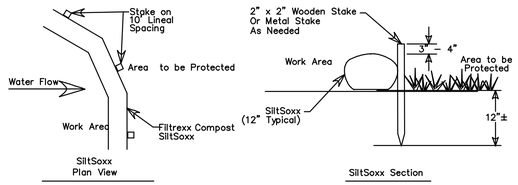
Report sightings to RAARP@wildlife.nh.gov or 603-271-2461 *Please report promptly, noting specific location and date – Photographs strongly encouraged*

NOTES:
1. ALL OUTSIDE CONSTRUCTION PERSONNEL SHALL RECEIVE TRAINING IN THE IDENTIFICATION OF RARE TURTLE SPECIES AND MADE AWARE OF THEIR PROTECTED STATUS.
2. THE USE OF WELDED PLASTIC OR 'BIODEGRADABLE PLASTIC' NETTING OR THREAD IN EROSION CONTROL MATTING IS PROHIBITED
3. THE USE OF EROSION CONTROL BERM, WHITE FILTREXX DEGRADABLE WOVEN SILT SOCK, OR 'WILDLIFE FRIENDLY' WOVEN ORGANIC MATERIAL (E.G. COCO OR JUTE MATTING SUCH AS NORTH AMERICAN GREEN SC150BN OR EQUIVALENT) ARE ACCEPTABLE FOR USE
4. IF WOOD, SPOTTED, OR BLANDING'S TURTLES ARE FOUND LAYING EGGS IN THE WORK AREA, PLEASE CONTACT MELISSA DOPERALSKI AT 271-1738 or JOSH MEGYESY AT 271-1125 FOR FURTHER INSTRUCTIONS.



FilterSoxx Section
At Ends of Run
Cross Stakes

FilterSoxx Staking Details



Notes:
1. All material to meet Filtrexx specifications
2. SiltSoxx compost/soil/rock/seed fill to meet application requirements.
3. SiltSoxx depicted is for minimum slopes. Greater slopes may require larger socks per the Engineer.
4. Compost material to be dispersed on site, as determined by Engineer.

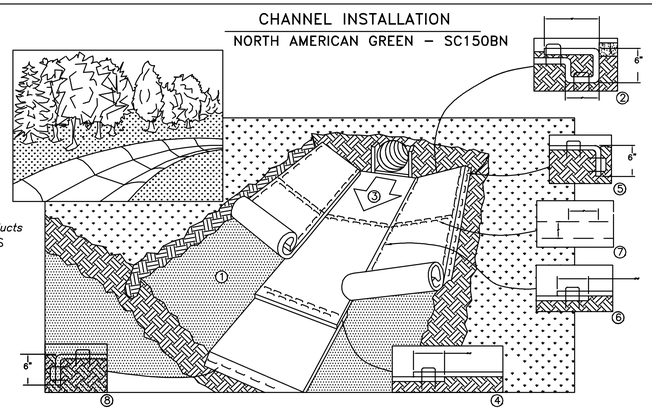
SiltSoxx Details

NOT TO SCALE

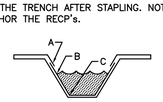
CHANNEL INSTALLATION

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

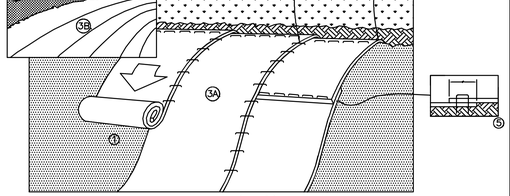
NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

SLOPE INSTALLATION

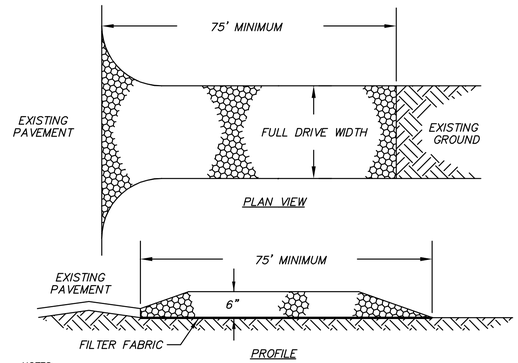
NORTH AMERICAN GREEN – SC150BN

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.



NOTES:

1. *SEE EROSION CONTROL NOTES BELOW FOR MATERIAL, INSTALLATION AND MAINTENANCE REQUIREMENTS.*
2. *TO BE INSTALLED AT EACH POINT OF EGRESS FROM THE WORK AREA.*

STABILIZED CONSTRUCTION ENTRANCE

1. SPECIFICATIONS
   A. AGGREGATE SIZE: USE THREE (3) INCHES STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
   B. AGGREGATE THICKNESS: NOT LESS THAN SIX (6) INCHES.
   C. WIDTH TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS.
   D. LENGTH: AS REQUIRED, BUT NOT LESS THAN SEVENTY-FIVE (75) FEET. PIPING OF SURFACE WATER UNDER ENTRANCE SHALL BE PROVIDED AS REQUIRED.
   E. GEOTEXTILE: TO BE PLACED OVER THE ENTIRE AREA TO BE COVERED WITH AGGREGATE.
   F. CRITERIA FOR GEOTEXTILE: THE FABRICS SHALL BE TREVIA SPUNBOND 1135, MIRAFI 600X OR EQUAL.

2. MAINTENANCE
   THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
2	REV PER TRC COMMENTS #2	SJH	4-1-24
1	REV PER TRC COMMENTS #1	SJH	2-29-24

DATE: 1-18-24
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG

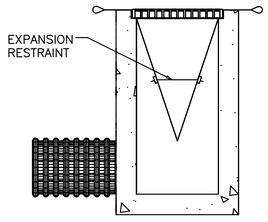
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DETAIL SHEET

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

11



INSTALLATION DETAIL

SILTSACK®
SPECIFICATIONS

NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS. AS SUPPLIED BY AH HARRIS OF PORTSMOUTH OR APPROVED EQUAL

REGULAR FLOW SILTSACK®
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

HI-FLOW SILTSACK®
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

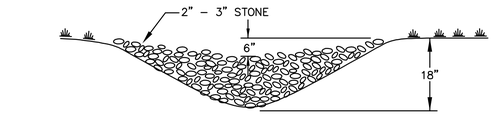
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

OIL-ABSORBANT SILTSACK®
(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)

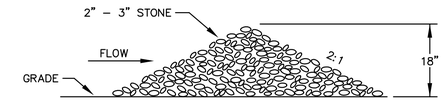
DEPENDING ON YOUR PARTICULAR APPLICATION, THE SILTSACK® CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBANT PILLOW INSERT OR, MADE COMPLETELY FROM AN OIL-ABSORBANT SILTSACK®, WITH A WOVEN PILLOW INSERT.

DETAIL OF INLET SEDIMENT CONTROL DEVICE
NOT TO SCALE

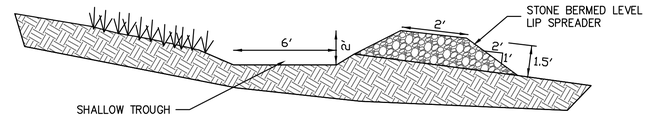
BERM STONE SIZE		
SIEVE DESIGNATION (METRIC)	SIEVE DESIGNATION (US CUSTOMARY)	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES
300 mm	12 in	100
150 mm	6 in	84-100
75 mm	3 in	68-83
25.4 mm	1 in	42-55
4.75 mm	No. 4	8-12



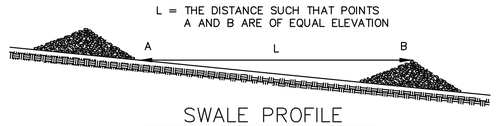
SWALE SECTION



SWALE PROFILE

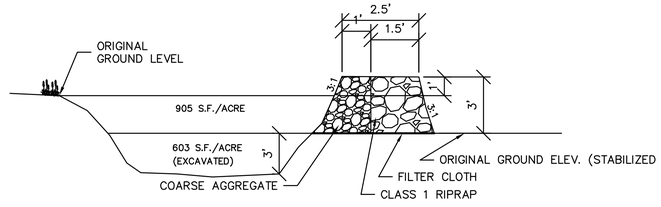


STONE BERMED LEVEL LIP SPREADER DETAIL
NOT TO SCALE

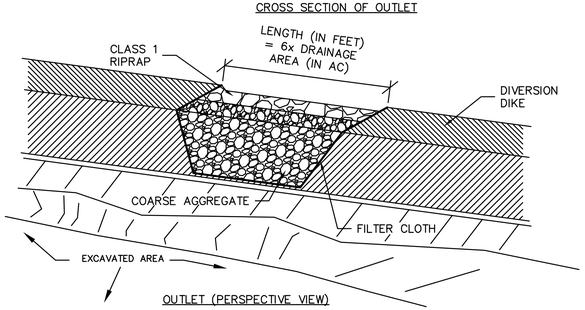


SWALE PROFILE

STONE GRADE STABILIZATION STRUCTURE DETAIL (CHECK DAMS)
NOT TO SCALE



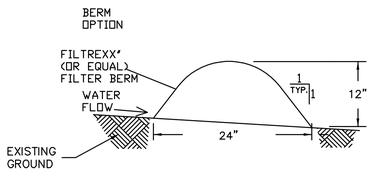
CROSS SECTION OF OUTLET



OUTLET (PERSPECTIVE VIEW)

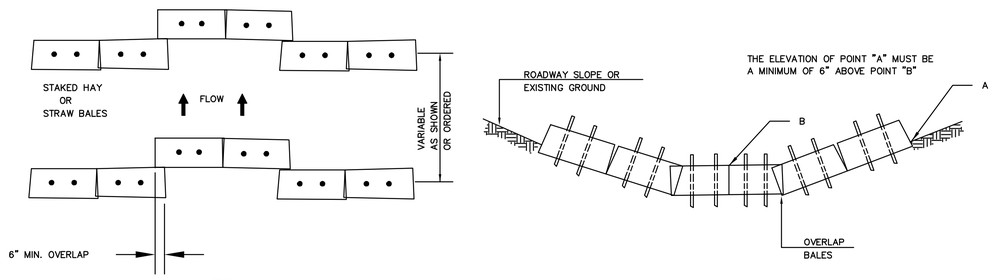
NOTES:
1. COARSE AGGREGATE SHALL MEET NHDOT 304.5 SPECIFICATIONS AND SHALL NOT CONTAIN MORE THAN 5% FINES PASSING THE #200 SIEVE.
2. FILTER CLOTH SHALL BE MIRAFI 700X OR APPROVED EQUAL.
3. CLASS I RIPRAP SHALL MEET NHDOT 583 SS SPECIFICATIONS.
4. THE MAXIMUM CONTRIBUTING AREA TO THE TRAP SHALL BE LESS THAN 5 AC.
5. THE TRAP SHALL BE CLEANED WHEN 50% OF THE ORIGINAL VOLUME IS FILLED.
6. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.

TEMPORARY SEDIMENT TRAP
NOT TO SCALE



MULCH BERM DETAIL
NOTE: CONTRACTOR SHALL DISCUSS THE APPLICATION OF THIS PRODUCT WITH MANUFACTURE TO ENSURE PROPER PRODUCT SPECIFICATIONS.
NOT TO SCALE

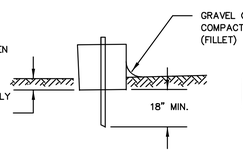
NOTES:
1. CONTRACTOR SHALL DISCUSS THE APPLICATION OF THIS PRODUCT WITH MANUFACTURE TO ENSURE PROPER PRODUCT SPECIFICATIONS.
2. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS OR EQUAL.
3. THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTER BERM IN A FUNCTIONAL CONDITION AT ALL TIMES AND IT SHALL BE ROUTINELY INSPECTED.
4. WHERE THE BERM REQUIRES REPAIR, IT WILL BE ROUTINELY REPAIRED.
5. 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.
6. THE COMPOST FILTER BERM WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED, AS DETERMINED BY THE ENGINEER.



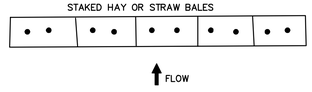
HAYBALE GRADE STABILIZATION STRUCTURE

CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY 2" x 2" STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
6. REMOVE AND PROPERLY DISPOSE OF ALL SEDIMENT PRIOR TO REMOVING HAYBALES.



EMBEDDING DETAIL



HAYBALE BARRIER AT TOE OF SLOPE

HAYBALE NOTES AND DETAILS
NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	DATE	APP'D
1	REV PER TRC COMMENTS #1	2-29-24	SJH
2	REV PER TRC COMMENTS #2	4-1-24	SJH

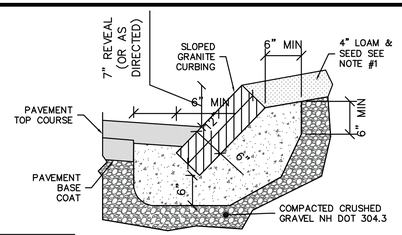
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DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO:22075
FILE: SITE.DWG

PLANNING FILE NO.: SITE-2024-0002

DETAIL SHEET

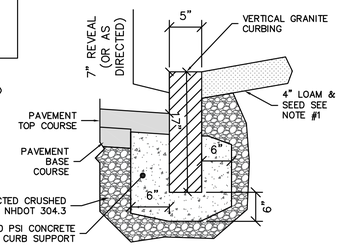
FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820



SLOPED GRANITE CURB

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'

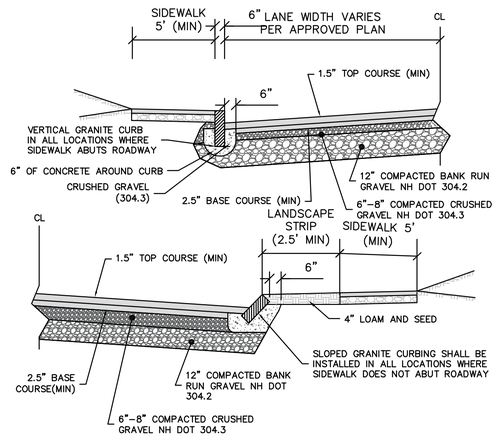


VERTICAL GRANITE CURB

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

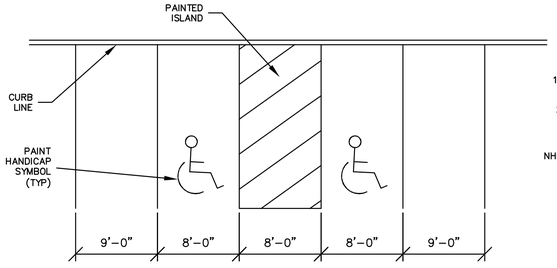
NOT TO SCALE



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.

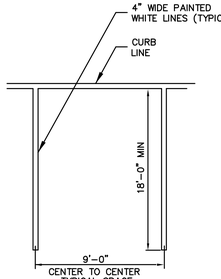
CITY OF DOVER D–5 ROADWAY CROSS SECTION DETAIL

NOT TO SCALE



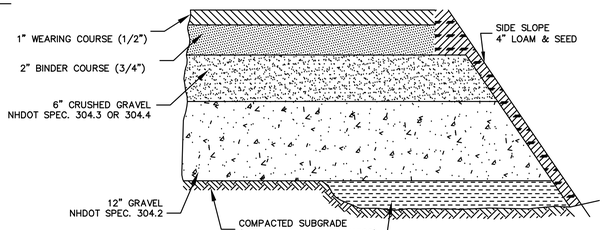
ACCESSIBLE PARKING LAYOUT

NOT TO SCALE



STANDARD PARKING STALL

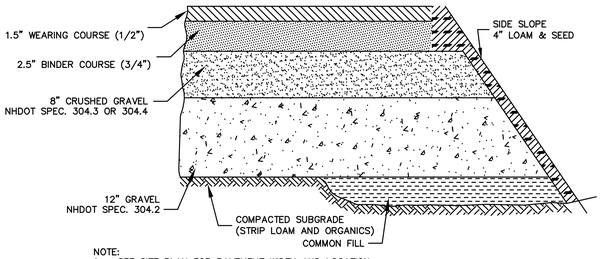
NOT TO SCALE



NOTE:
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 PAVEMENT SECTION

NOT TO SCALE

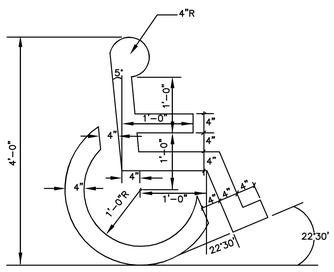


NOTE:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS–SLOPE.
3. GEOTEXTILE FABRIC MAYBE REQUIRED UNDER THE ROADWAY AND /OR THE PARKING AREAS AS REQUIRED BY THE ENGINEER BASED UPON SITE CONDITIONS.

HEAVY DUTY TYPICAL PAVEMENT SECTION

NOT TO SCALE

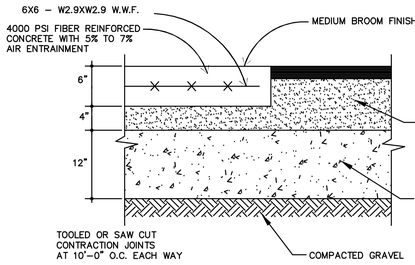
NOTE: SYMBOL TO BE PAINTED IN ALL HANDICAPPED SPACES



PAINTED

ACCESSIBLE PARKING SYMBOL

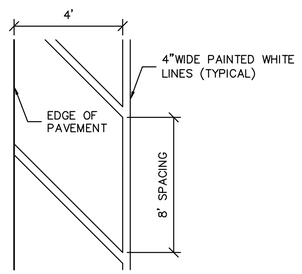
NOT TO SCALE



NOTE: PITCH CONCRETE PAD GRADING TO CENTER

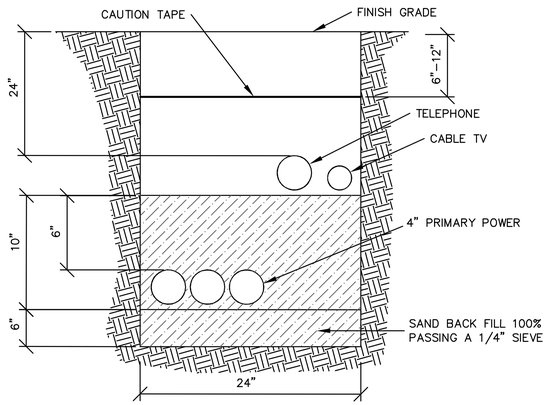
DUMPSTER PAD DETAIL

NOT TO SCALE



4' WIDE PAINTED PEDESTRIAN LANE

NOT TO SCALE



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

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
2	REV PER TRC COMMENTS #2	SJH	4–1–24
1	REV PER TRC COMMENTS #1	SJH	2–29–24

DATE: 1–18–24
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG

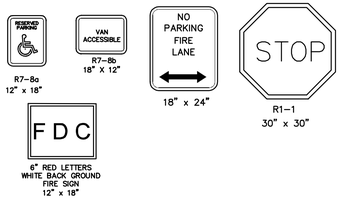
PLANNING FILE NO.: SITE–2024–0002

DETAIL SHEET

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

13

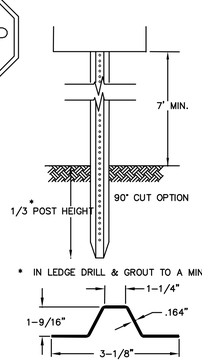


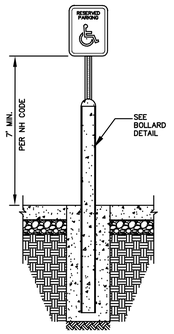
NOTE:
1. ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

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

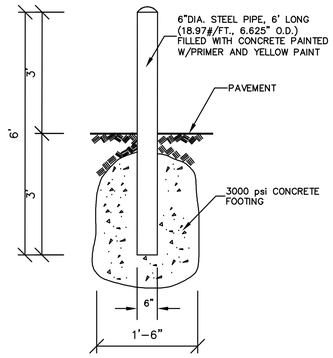
BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

SIGN LEGEND & SIGN POST
NOT TO SCALE

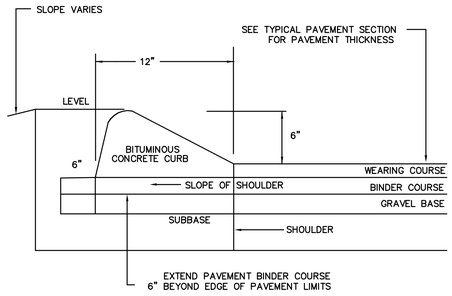




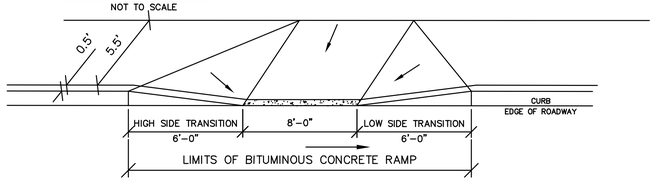
SIGN IN BOLLARD
NOT TO SCALE



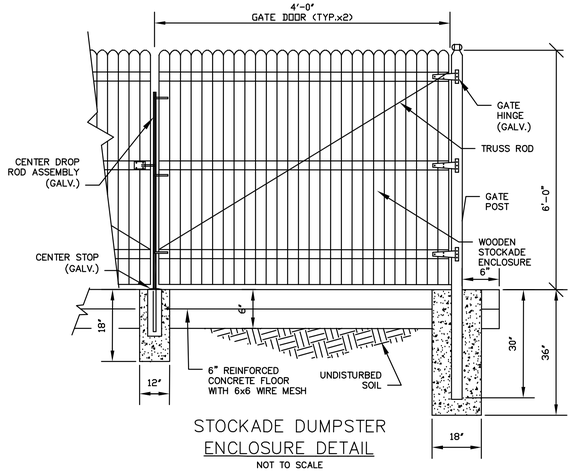
BOLLARD DETAIL
NOT TO SCALE



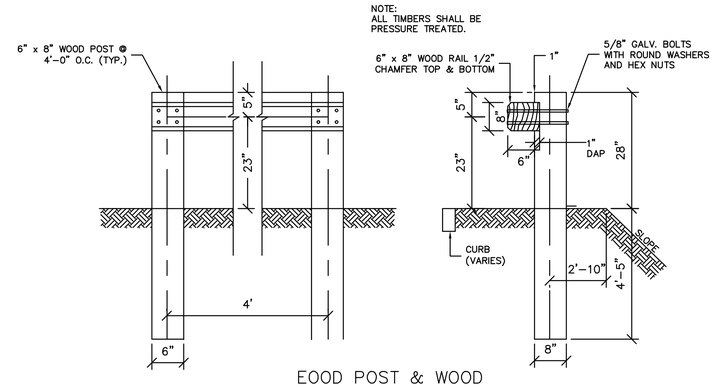
BITUMINOUS SLOPED CURB
NOT TO SCALE



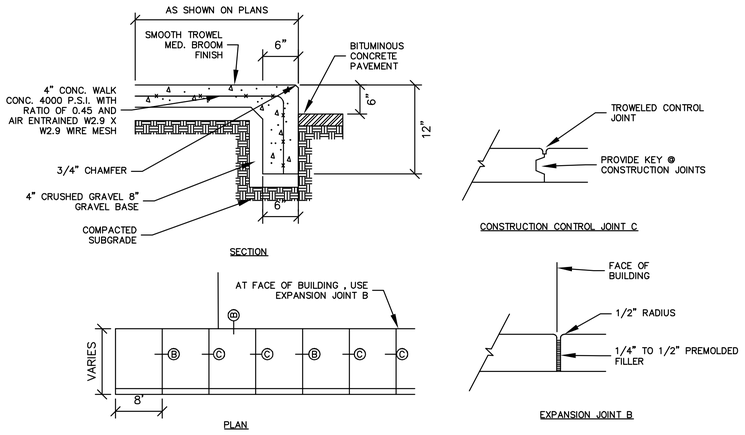
SIDEWALK APRON
NOT TO SCALE



STOCKADE DUMPSTER ENCLOSURE DETAIL
NOT TO SCALE



EOOD POST & WOOD BEAM GUARDRAIL DETAIL
NOT TO SCALE



CONCRETE WALKWAY WITH MONOLITHIC CONCRETE CURB
NOT TO SCALE

chargepoint+

CT4000 Family

ChargePoint® Level 2 Commercial Charging Stations

The CT4000 family is the latest generation of ChargePoint commercial charging stations. Refined yet rugged, these stations set the industry standard for functionality and aesthetics.

The CT4000 full motion color LCD display instructs drivers and supports dynamic updates of custom branded videos and advertisements.

Intelligent power management options double the number of parking spaces served by allowing two charging ports to share a single circuit. Sites with single port EV stations can upgrade to dual port stations without requiring additional electrical services.

The CT4000 is the first ENERGY STAR® certified EV charger because it charges efficiently and conserves power when not charging. As an ENERGY STAR certified EV charger, the CT4000 uses significantly less energy than a standard EV charger when in standby mode to help you save money on your utility bill.

All CT4000 models offer one or two standard SAE J1772™ Level 2 charging ports with locking holsters, each port supplying up to 7.2kW. With this standard connector, ChargePoint level 2 stations can charge any EV.

Stations are available in bollard and wall mount configurations for easy installation anywhere. All stations are fully software upgradeable remotely over the air.

Stations come in both 6' and 8' tall models with 18' and 23' cords, respectively. With multiple options for size and cord reach, your station can service up to four parking spaces, reach all car models regardless of parking style or car sizes and increase the usability of your EV spots.

Driver Friendly User Interface

- Instructional video shows how to use the station
- Multi-language: English, French, Spanish
- Touch button interface; works in rain, ice and with gloves
- Backed by ChargePoint's world class 24/7 driver phone support

Easily Communicate with Your Drivers

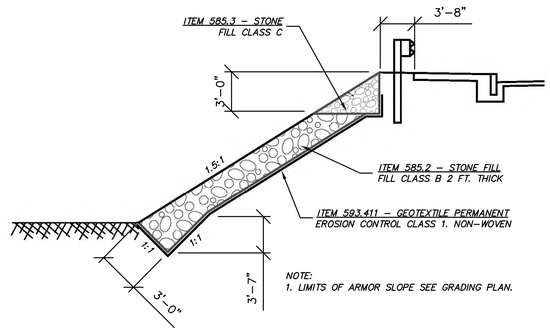
Whether you're a retail establishment wanting to advertise your latest product, a workplace looking to communicate with employees or a municipality wanting to welcome visitors, ChargePoint's prominent LCD screen makes it easy to reach EV drivers:

- Daylight readable, with auto brightness control
- 640 X 480 resolution active matrix
- Full motion 30fps video support
- Upload up to 60 seconds of high quality video on a color LCD screen to individual stations as often as desired
- Brand your charging stations to communicate with drivers
- Instructional video in English, Spanish or French

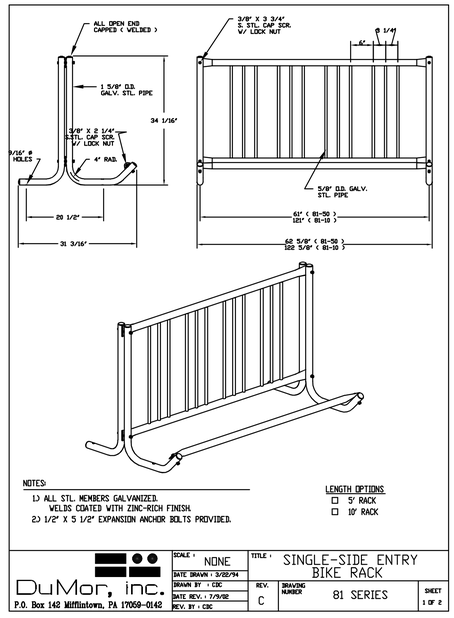


The First ENERGY STAR® Certified EV Charger

EV CHARGING STATION DETAIL
NOT TO SCALE



ARMORED EMBANKMENT SLOPE
NOT TO SCALE



DuMor, inc.
P.O. Box 142 Mifflintown, PA 17059-0142

SCALE :	NONE
DATE DRAWN :	3/22/94
DRAWN BY :	CDC
DATE REV. :	7/5/02
REV. BY :	CDC
TITLE :	SINGLE-SIDE ENTRY BIKE RACK
REV.	C
DRAWING NUMBER	81 SERIES
SHEET	1 OF 2

BIKE RACK DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

GNE CIVILWORKS NEW ENGLAND
CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

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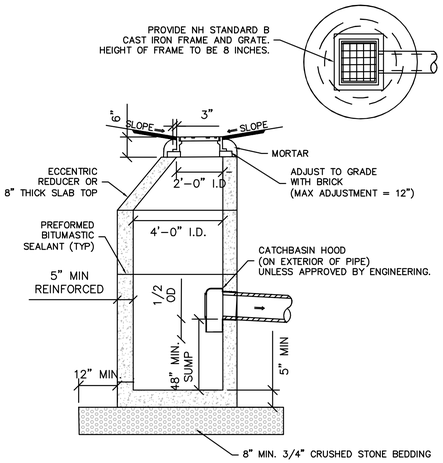
DATE: 1-18-24
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DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG

PLANNING FILE NO.: SITE-2024-0002

DETAIL SHEET

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

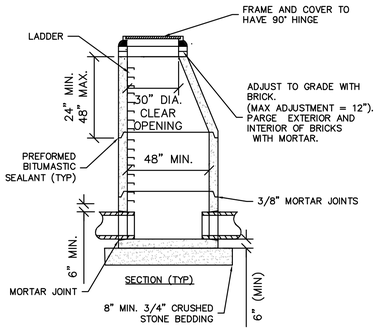
FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820



NOTES:
1. ENTIRE STRUCTURE SHALL BE H-20 LOAD RATED. PROVIDE MANUFACTURER REINFORCEMENT DETAILS TO THE CITY ENGINEER UPON REQUEST.

CITY OF DOVER D-19
CATCHBASIN DETAIL

NOT TO SCALE



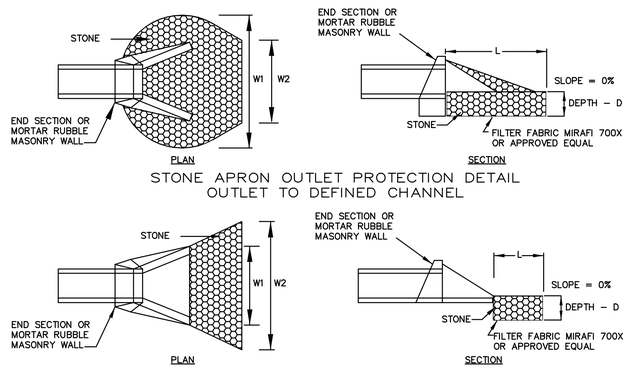
NOTES:
1. CORINGS TO BE SEPARATED BY 6" (MINIMUM) OF MONOLITHIC SECTION

CITY OF DOVER D-20
DRAIN MANHOLE DETAIL

NOT TO SCALE

SPECIFICATIONS

1. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT), "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS".
2. STORM DRAINS SHALL BE ADS N12 OR APPROVED EQUAL, AND SHALL BE JOINTED WITH NEOPRENE "O" RINGS.
3. CATCH BASINS AND MANHOLES SHALL BE PRE-CAST REINFORCED CONCRETE DESIGNED BY AN ENGINEER REGISTERED IN NEW HAMPSHIRE, AND ABLE TO WITHSTAND LOADINGS OF 8 TONS (H20 LOADING).
4. MANHOLES SHALL HAVE CAST IRON FRAMES AND COVERS WITH 30" INSIDE DIAMETER OPENINGS. A 3-INCH (MINIMUM) LETTER "D" FOR DRAIN SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
5. CATCH BASINS AND MANHOLES SHALL BE ADJUSTED TO GRADE WITH COURSES OF BRICK. MAXIMUM ADJUSTMENT TO GRADE SHALL BE 12 INCHES. FRAMES SHALL BE SET ON A FULL BED OF MORTAR, TRUE TO GRADE AND CONCENTRIC WITH THE MASONRY. ALL VOIDS BETWEEN THE TOP OF THE STRUCTURE AND THE BOTTOM FLANGE OF THE FRAME SHALL BE COMPLETELY FILLED TO MAKE A WATERTIGHT FIT. A RING OF MORTAR AT LEAST ONE INCH THICK AND PITCHED TO SHED WATER AWAY FROM THE FRAME, SHALL BE PLACED OVER AND AROUND THE OUTSIDE OF THE BOTTOM FLANGE. THE MORTAR SHALL EXTEND TO THE OUTER EDGE OF THE MASONRY ALL AROUND ITS CIRCUMFERENCE AND SHALL BE FINISHED SMOOTH. NO VISIBLE LEAKAGE WILL BE PERMITTED.
6. INVERT CHANNELS OF SEWER MANHOLES SHALL BE FORMED SMOOTHLY TO THE LARGEST PIPE RADIUS. CHANGES IN GRADE SHALL BE FORMED SMOOTHLY AND EVENLY. THE FLOOR OF THE STRUCTURE OUTSIDE THE CHANNELS SHALL BE SLOPED TOWARDS THE CHANNELS AT APPROXIMATELY 1/2 INCH PER FOOT. THE FLOOR AT THE CHANNEL SHALL MATCH THE CROWN OF THE LARGEST PIPE.
7. TRENCH CONSTRUCTION WILL CONFORM WITH SECTION 603.3.1 OF THE STANDARD SPECIFICATIONS (1974).
8. WOOD SHEETING OR A SUITABLE TRENCH BOX SHALL BE USED TO SUPPORT THE TRENCH AS NECESSARY. IF WOOD SHEETING IS USED, IT SHALL BE DRIVEN AT A DISTANCE OF 1 FOOT FROM THE OUTSIDE DIAMETER OF THE PIPE TO A DEPTH 6 INCHES BELOW THE INVERT OF THE PIPE. WOOD SHEETING SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE, BUT NOT GREATER THAN 3 FEET BELOW THE FINISHED GRADE.
9. BEDDING SHALL CONFORM WITH SECTION 603.3.2 OF THE STANDARD SPECIFICATIONS (1974).
10. BACKFILL MATERIAL WILL CONFORM WITH SECTION 603.3.5 OF THE STANDARD SPECIFICATIONS (1974) AND, IN ADDITION, SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, FROZEN MATERIAL, ALL ROCKS OVER 6 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. BACKFILL SHALL NOT BE PLACED ON FROZEN OR PREVIOUSLY FROZEN MATERIAL.
11. ALL BACKFILL AND BEDDING COMPACTION SHALL MEET THE REQUIREMENTS OF AASHO T 99 METHOD C. DENSITY SHALL BE 95 PERCENT. COMPACTION SHALL BE 6 INCH LIFTS FOR BEDDING AND BACKFILL TO A PLANE 1 FOOT ABOVE THE PIPE AND IN 12 INCH LIFTS THEREAFTER BY AN APPROVED MECHANICAL COMPACTOR.
12. SHOULD FROZEN MATERIAL BE ENCOUNTERED, IT SHALL NOT BE PLACED IN THE BACKFILL NOR SHALL BACKFILL BE PLACED UPON FROZEN MATERIAL PREVIOUSLY FROZEN MATERIAL SHALL BE REMOVED AS REQUIRED BEFORE NEW BACKFILL IS PLACED.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO FRAMES AND GRATES DURING AND FROM THE TIME OF REMOVAL FROM THE EXISTING STRUCTURE TO AND DURING THE TIME OF RESETTING, AND SHALL REPLACE IN KIND ANY DAMAGED FRAMES OR GRATES AT NO ADDITIONAL COMPENSATION.
14. ALL TRENCHES WILL BE COVERED AND DEBRIS, INCLUDING ANY REJECTED MATERIALS, SHALL BE REMOVED DAILY. STRICT SAFETY PRECAUTIONS SHALL BE MAINTAINED AT ALL TIMES.
15. LOCATION OF UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE.
    A) THE CONTRACTOR SHALL, 48 HOURS PRIOR TO CONSTRUCTION, NOTIFY THE UTILITY COMPANIES AND HAVE ALL UTILITIES IN THE VICINITY OF THE CONSTRUCTION MARKED IN THE FIELD.
    B) AFTER THE UTILITIES HAVE BEEN LOCATED AND PRIOR TO CONSTRUCTION, THE CONTRACTOR WITH THE ENGINEER, SHALL LAYOUT THE PROPOSED DRAINAGE SYSTEM IN THE FIELD AND RECTIFY ANY UTILITY CONFLICTS WHICH MAY BE FOUND.
    C) ANY CONFLICTS WITH UTILITIES FOUND DURING CONSTRUCTION BY THE CONTRACTOR SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER AND THE UTILITY COMPANY AND PROPERLY RECTIFIED.
    D) THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF REPAIR FOR ANY UTILITIES DAMAGED DURING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANY TO REPAIR ANY DAMAGES, HOWEVER, THE CONTRACTOR MAY MAKE APPROPRIATE REPAIRS WITH THE UTILITY COMPANY'S PERMISSION.
16. COMPLETE SHOP DRAWINGS FOR PIPE, MANHOLES, CATCH BASINS, FRAMES, GRATES AND COVERS SHALL BE SUBMITTED IN TRIPLICATE FOR APPROVAL BY THE ENGINEER PRIOR TO THE START OF CONSTRUCTION. EACH SHOP DRAWING SHALL BE CHECKED AND INITIALIZED BY THE CONTRACTOR TO INDICATE APPROVAL BEFORE IT IS SUBMITTED TO THE ENGINEER.
17. SHOP DRAWINGS FOR FLAT CONCRETE COVERS SHALL BE STAMPED PRIOR TO SUBMISSION FOR APPROVAL BY A NEW HAMPSHIRE REGISTERED PROFESSIONAL ENGINEER.
18. BRICK MASONRY FOR SETTING FRAMES AND BRICK AND MORTAR PLUGS SHALL CONFORM TO THE STANDARD SPECIFICATION SECTION 604.2.4.



STONE APRON OUTLET PROTECTION DETAIL
OUTLET TO DEFINED CHANNEL

STONE APRON OUTLET PROTECTION DETAIL
OUTLET TO FLAT AREA, NON DEFINED CHANNEL

MAINTENANCE

THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

STONE GRADATION

% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100	1.5 TO 2.0 D50
85	1.3 TO 1.8 D50
50	1.0 TO 1.5 D50
15	0.3 TO 0.5 D50

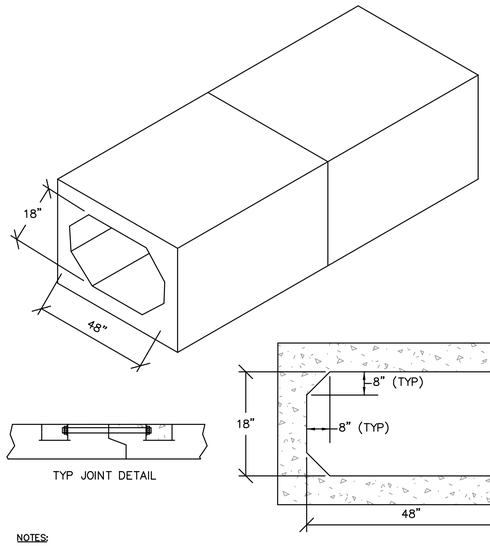
CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIPRAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE ROCK OR GRAVEL USED FOR FILTER OR RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

OUTLET FROM	W1(ft)	W2(ft)	L(ft)	D (ft)	D50(IN)	CHANNEL TYPE
PCB6	11	3	17	1	6	DEFINED
PCB7	11	3	12	1	6	DEFINED
RD2	9	3	13	1	6	DEFINED
BOX CULVERT (IN)	6	10	5	1	6	UNDEFINED
BOX CULVERT (OUT)	6	18	10	1	6	UNDEFINED

RIP RAP OUTLET PROTECTION

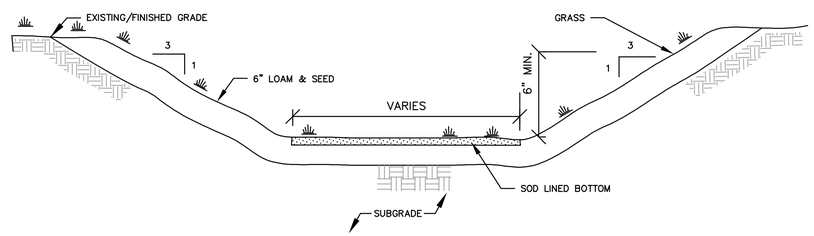
NOT TO SCALE



NOTES:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS
2. DESIGN PER ASTM C1433 BOX CULVERT
3. ALL REINFORCEMENT PER ASTM A615
4. DESIGNED DOE AASHTO HS-20 LOADING
5. SHEA CONCRETE OR APPROVED EQUAL.
6. SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER WILL BE PROVIDED PRIOR TO CONSTRUCTION.

BOX CULVERT

NOT TO SCALE



MAINTENANCE

TIMELY MAINTENANCE IS IMPORTANT TO KEEP THE VEGETATION IN THE SWALE IN GOOD CONDITION. MOWING SHOULD BE DONE FREQUENTLY ENOUGH TO KEEP THE VEGETATION IN VIGOROUS CONDITION AND TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION, HOWEVER IT SHOULD NOT BE MOWED TOO CLOSELY, MAINTAIN A MINIMUM 4" STAND OF VEGETATION. FERTILIZE ON AN "AS NEEDED" BASIS TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION CAN RESULT IN THE SWALE BECOMING A SOURCE OF POLLUTION.

THE SWALE SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE THE CONDITION OF THE SWALE. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND REVEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

GRASS LINED CONVEYANCE SWALE DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

GNE
CIVILWORKS NEW ENGLAND
CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
2	REV PER TRC COMMENTS #2	SJH	4-1-24
1	REV PER TRC COMMENTS #1	SJH	2-29-24

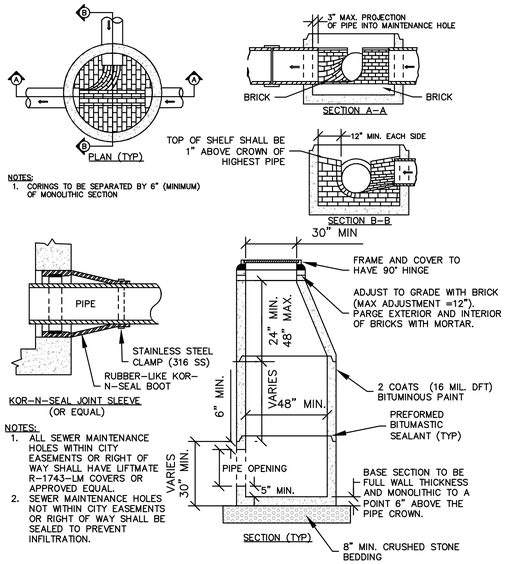
DATE: 1-18-24
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG

PLANNING FILE NO.: SITE-2024-0002

DETAIL SHEET

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

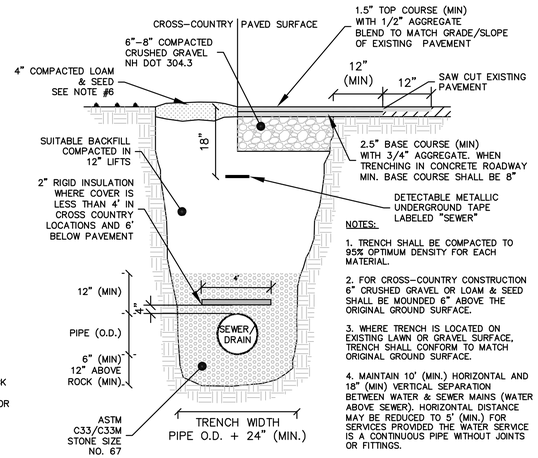


NOTES:
1. CORINGS TO BE SEPARATED BY 6" (MINIMUM) OF MONOLITHIC SECTION

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.

CITY OF DOVER D-16
SEWER MANHOLE DETAIL

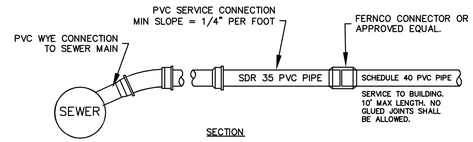
NOT TO SCALE



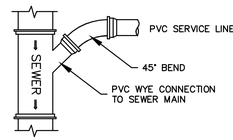
NOTES:
1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY FOR EACH MATERIAL.
2. FOR CROSS-COUNTRY CONSTRUCTION 6" CRUSHED GRAVEL OR LOAM & SEED SHALL BE MOUNDED 6" ABOVE THE ORIGINAL GROUND SURFACE.
3. WHERE TRENCH IS LOCATED ON EXISTING LAWN OR GRAVEL SURFACE, TRENCH SHALL CONFORM TO MATCH ORIGINAL 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.

CITY OF DOVER D-3
SEWER TRENCH DETAIL

NOT TO SCALE



SECTION

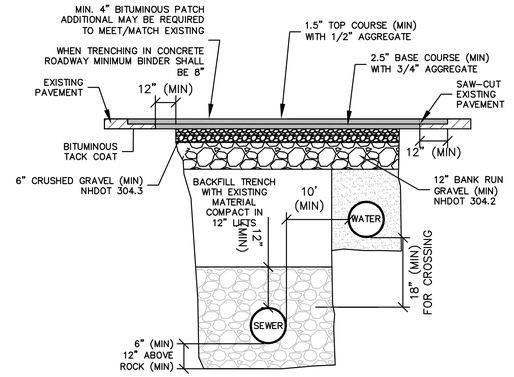


PLAN

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

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

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.

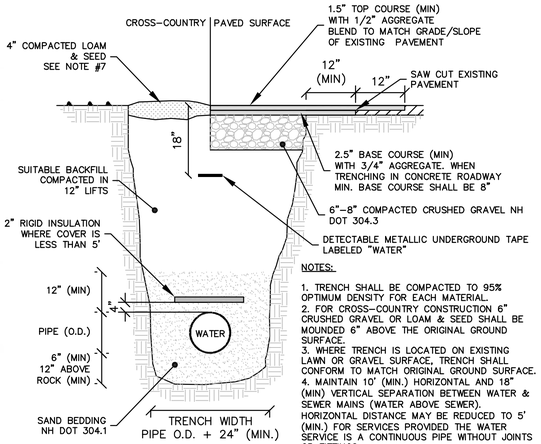
All pipe stubs must be restrained.

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.

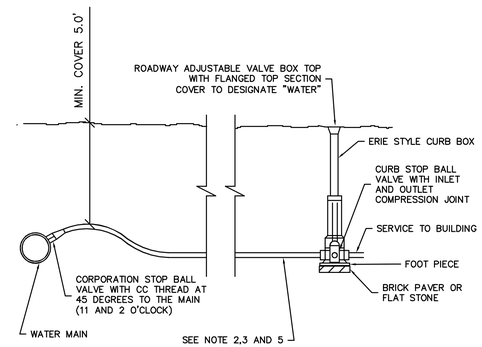
Call 800-626-2180 for information.



NOTES:
1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY FOR EACH MATERIAL.
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.
8. CLASS 52 DUCTILE IRON PIPE

CITY OF DOVER D-4
WATER TRENCH DETAIL

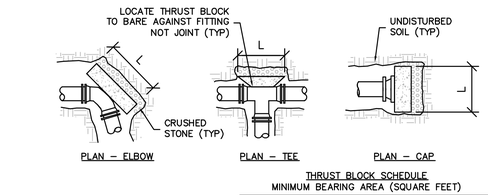
NOT TO SCALE



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. 3/4"- COPPER, CTS
   1"- COPPER, CTS
   2"- CTS, HDPE, IPS

CITY OF DOVER D-13
WATER SERVICE CONNECTION 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

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

GNE CIVILWORKS NEW ENGLAND
CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

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PLANNING FILE NO.: SITE-2024-0002

DETAIL SHEET

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

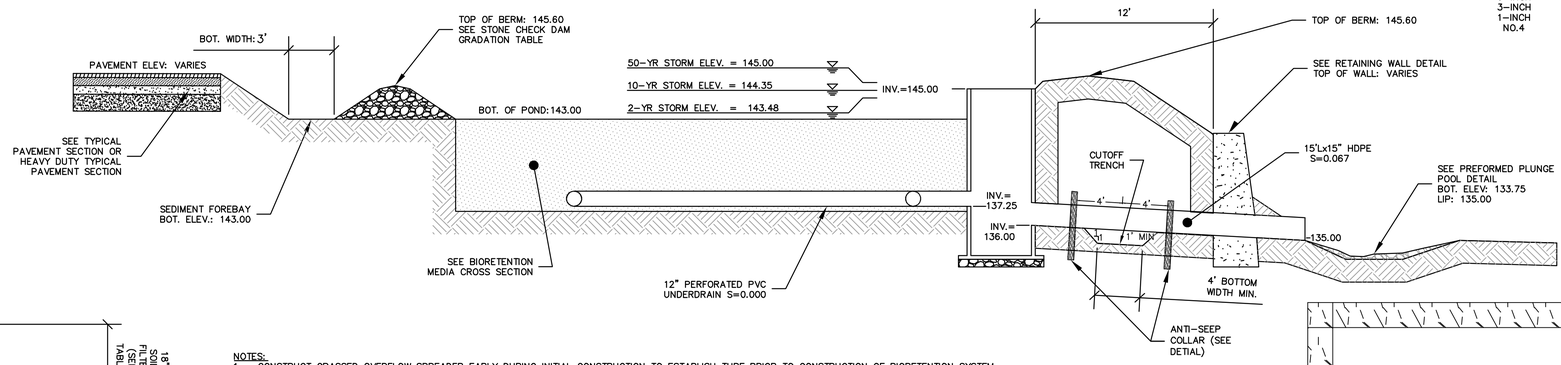
FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

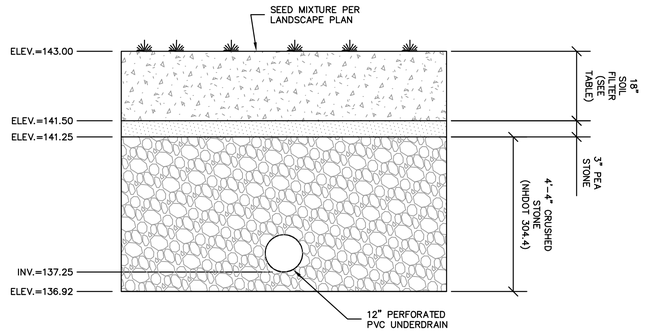
16

BIORETENTION FILTER MEDIA SPECIFICATIONS			
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL	
		SIEVE NO.	PERCENT BY WEIGHT PASSING STANDARD SIEVE
FILTER MEDIA OPTION A			
ASTM C-33 CONCRETE SAND	50 TO 55		
LOAMY SAND TOPSOIL, WITH FINES AS INDICATED	20 TO 30	200	15 TO 25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	< 5
FILTER MEDIA OPTION B			
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	< 5
LOAMY COARSE SAND	70 TO 80	10	85 TO 100
		20	70 TO 100
		60	15 TO 40
		200	8 TO 15

STONE CHECK DAM GRADATION

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVE
12-INCH	100%
6-INCH	84%-100%
3-INCH	68%-83%
1-INCH	42%-55%
NO.4	8%-12%





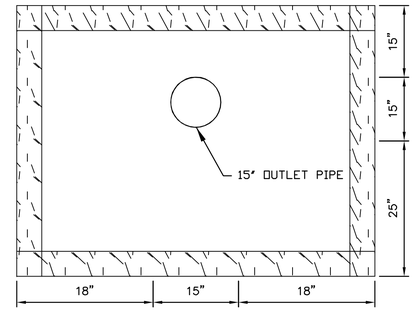
BIORETENTION MEDIA CROSS SECTION

NOT TO SCALE

NOTES:
1. CONSTRUCT GRASSED OVERFLOW SPREADER EARLY DURING INITIAL CONSTRUCTION TO ESTABLISH TURF PRIOR TO CONSTRUCTION OF BIORETENTION SYSTEM.
2. DO NOT BEGIN CONSTRUCTION OF THE BIORETENTION AREA UNTIL LAWN AREA ON THE ENTIRE SITE AREA ESTABLISHED WITH AT LEAST 80 PERCENT TURF. FILTER ALL DRAIN INLETS IN THE SEDIMENT FOREBAYS TO PREVENT SILTATION INTO THE BIORETENTION AREA.
3. DO NOT DRIVE CONSTRUCTION EQUIPMENT THE FILTER MATERIAL. INSTALL FILTER MATERIAL BY MEANS OF AN EXCAVATOR LOCATED ADJACENT TO THE FILTER AREA.
4. MATERIALS: CRUSHED STONE LAYER SHALL MEET NHDOT 304.4. STONE SHALL CONTAIN NO MORE THAN 5% FINES PASSING THE #200 SIEVE. TOPSOIL SHALL CONTAIN 15 TO 25% FINES PASSING THE #200 SIEVE.
5. REFER TO LANDSCAPING DRAWINGS FOR GRASS SEED MIXES. FERTILIZATION OF THE FILTER AREA SHALL BE AVOIDED UNLESS ABSOLUTELY NECESSARY TO ESTABLISH VEGETATION.
6. INITIAL ESTABLISHMENT: DURING THE FIRST 2-3 MONTHS OF ESTABLISHMENT WATER THE GARDEN ON A WEEKLY BASIS (TO SUPPLEMENT RAINFALL FOR TOTAL OF 1 INCH PER WEEK).
7. ANNUAL MAINTENANCE: IN THE SPRING OF EACH YEAR, ANY DEAD VEGETATION SHALL BE REMOVED TO ALLOW FOR NEW GROWTH, AND ANY ACCUMULATED SEDIMENT (NORMALLY AT THE ENTRANCE TO THE GARDEN) SHALL ALSO BE REMOVED. TURF AT FILTER SHALL BE MOWED NO MORE THAN 3 TIMES PER GROWING SEASON. IF WATER PONDS ON THE SURFACE FOR MORE THAN 24 HOURS DURING THE FIRST YEAR OR 72 HOURS THEREAFTER, THE FILTER SURFACE SHALL BE AERATED WITH DEEP TINES OR THE SURFACE REPLACED.

BIORETENTION BASIN 1

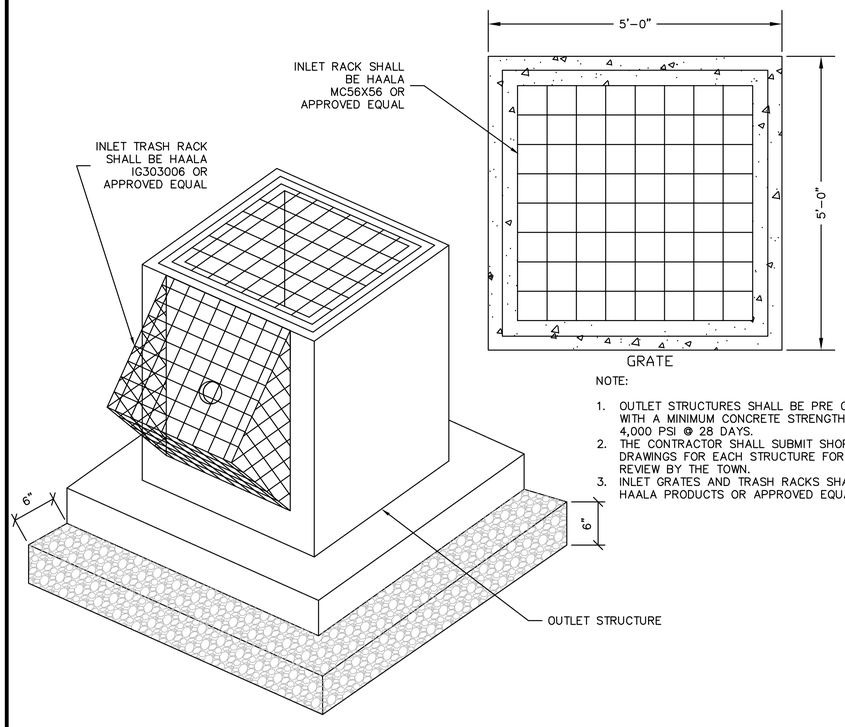
NOT TO SCALE



NOTES:
1. ANTI-SEEP COLLARS SHALL BE WATERPROOF AND HAVE A WATERPROOF CONNECTION TO THE PIPE.
2. ANTI-SEEP COLLARS TO BE AGRI DRAIN OR APPROVED EQUAL.

ANTI-SEEP COLLAR DETAIL

NOT TO SCALE

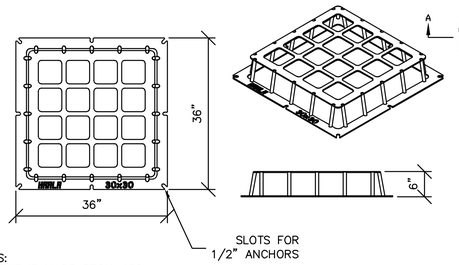


GRATE

NOTE:
1. OUTLET STRUCTURES SHALL BE PRE CAST WITH A MINIMUM CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EACH STRUCTURE FOR REVIEW BY THE TOWN.
3. INLET GRATES AND TRASH RACKS SHALL BE HAALA PRODUCTS OR APPROVED EQUAL.

TYPICAL INLET TRASH RACKS

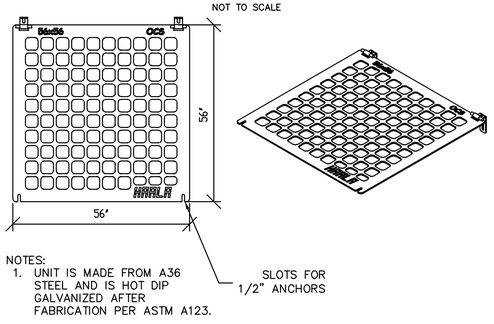
NOT TO SCALE



NOTES:
1. UNIT IS MADE FROM A36 STEEL AND IS HOT DIP GALVANIZED AFTER FABRICATION PER ASTM A123.

HAALA IG303006

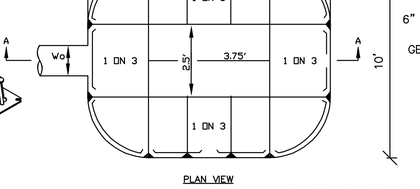
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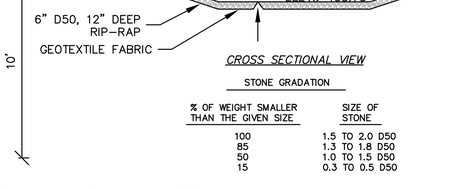
NOTES:
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HAALA MC56X56

NOT TO SCALE



PLAN VIEW



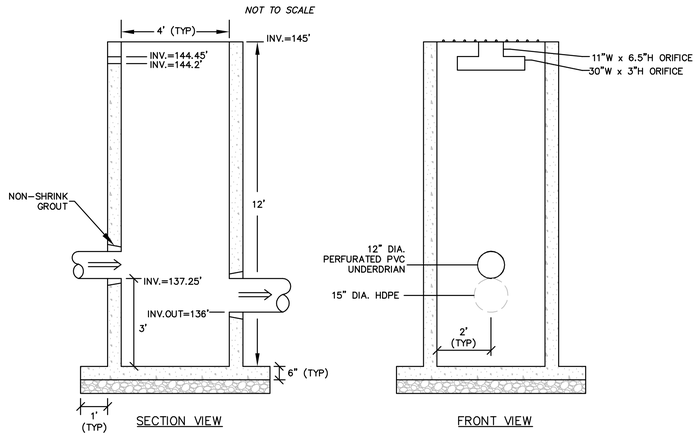
CROSS SECTIONAL VIEW

STONE GRADATION

% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE
100	1.5 TO 2.0 D50
85	1.3 TO 1.8 D50
50	1.0 TO 1.5 D50
15	0.3 TO 0.5 D50

PREFORMED PLUNGE POOL DETAIL

NOT TO SCALE



NOTE:
1) ALL OUTLET STRUCTURES SHALL BE PRE CAST WITH A MINIMUM CONCRETE STRENGTH OF 4,000 PSI @ 28 DAYS.
2) THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EACH STRUCTURE FOR REVIEW BY THE TOWN.
3) SUMPS SHALL NOT BE GREATER THAN 8 INCHES.

OUTLET STRUCTURE 1 (OS1) DETAIL

NOT TO SCALE

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

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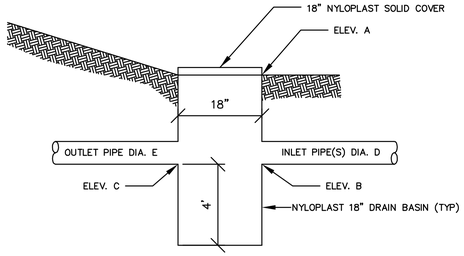
DATE: 1-18-24
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG

PLANNING FILE NO.: SITE-2024-0002

DETAIL SHEET

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DOVER, NH 03820

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QUALITY WAY LOT
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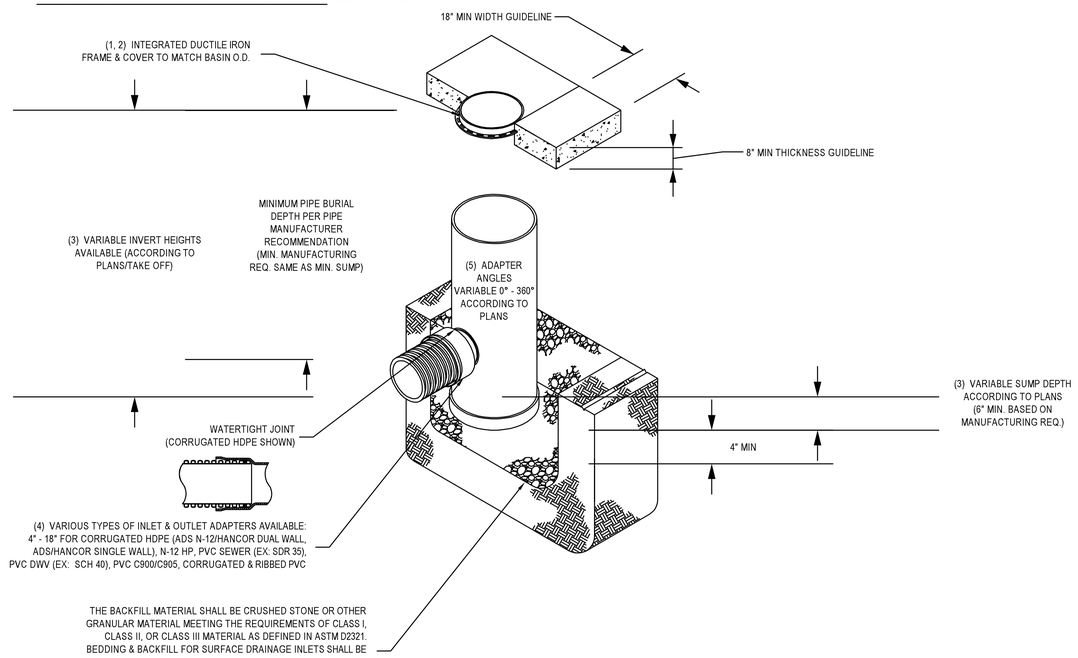


OS	ELEV. A (FT)	ELEV. B (FT)	ELEV. C (FT)	DIA. D (IN)	DIA. E (IN)
YD1	152.25	148.50	148.50	12"	12"
YD2	152.50	148.50	148.50	12"	12"

NOTE:
1) THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EACH STRUCTURE FOR REVIEW BY THE CITY.
2) SEE NYLOPLAST 18" DRAIN BASIN DETAIL.

YARD DRAIN DETAIL
NOT TO SCALE

NYLOPLAST 18" DRAIN BASIN: 2818AG



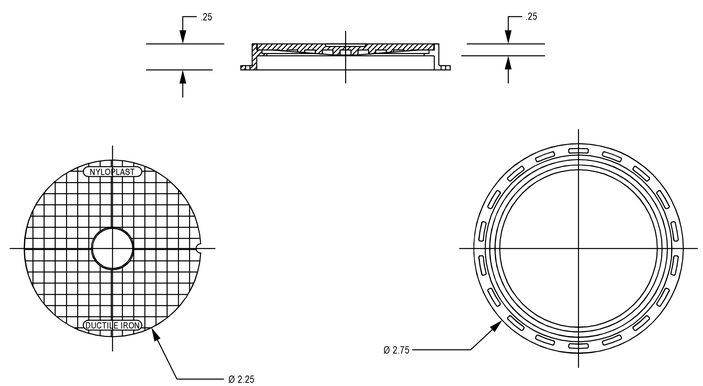
1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
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.

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DRAWN BY EBC	MATERIAL	ADS Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 03-29-06			
REVISED BY NMH	PROJECT NO./NAME	TITLE	12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL
DATE 03-11-16			
DWG SIZE A	SCALE NTS SHEET 1 OF 1	DWG NO. 7001-110-189	REV E

1899CGC

APPROX. WEIGHT WITH FRAME = 68.50 LBS



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-027

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DRAWN BY EBC	MATERIAL	ADS Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 03-08-06	DUCTILE IRON		
REVISED BY CCA	PROJECT NO./NAME	TITLE	18 IN SOLID COVER ASSEMBLY - TYPE C
DATE 08-30-13			
DWG SIZE A	SCALE 1:10 SHEET 1 OF 1	DWG NO. 7001-110-214	REV D

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CIVILWORKS NEW ENGLAND
CIVIL & WASTEWATER ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
2	REV PER TRC COMMENTS #2	SJH	4-1-24
1	REV PER TRC COMMENTS #1	SJH	2-29-24

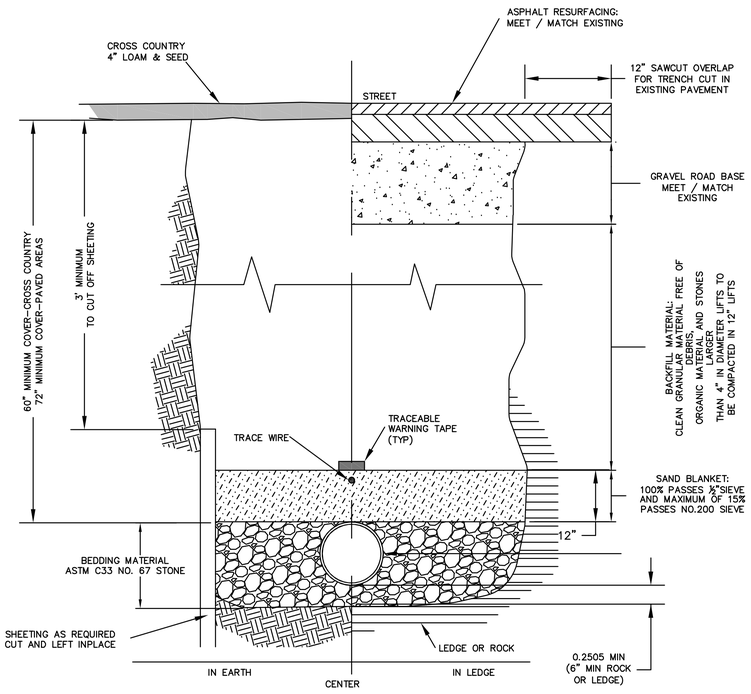
DATE: 1-18-24
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG

PLANNING FILE NO.: SITE-2024-0002

DETAIL SHEET

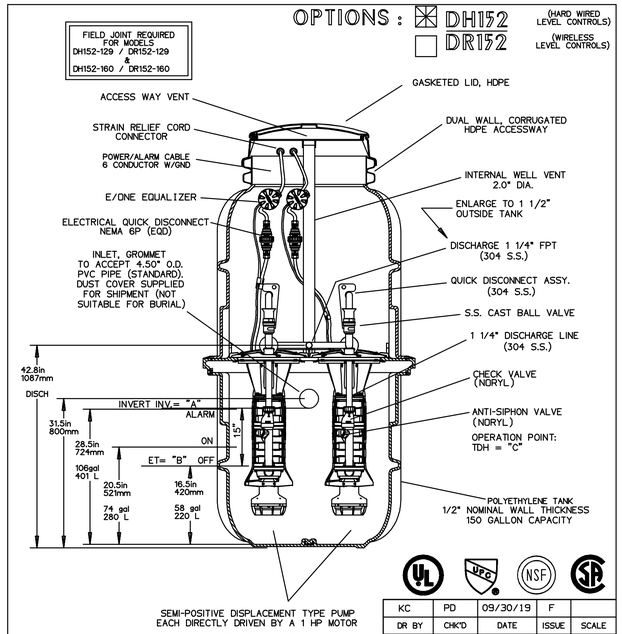
FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820



SEWER FORCEMAIN TRENCH

NOT TO SCALE



KC	PD	09/30/19	F	
DR BY	CHK'D	DATE	ISSUE	SCALE

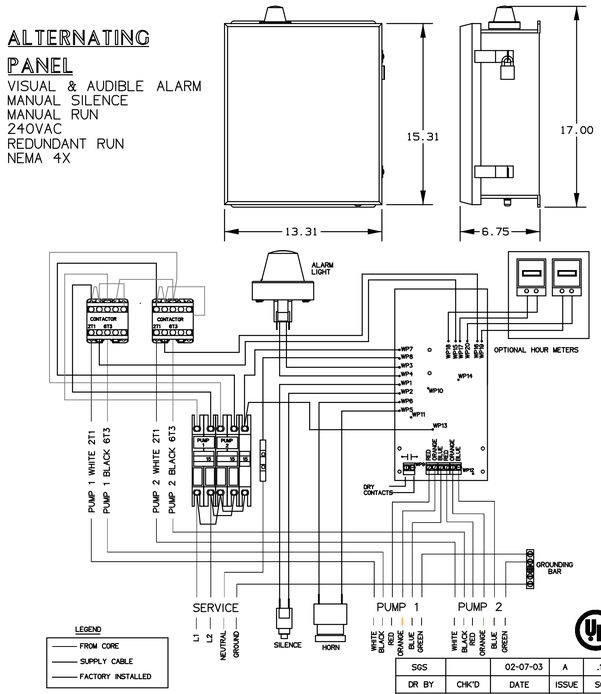
e/one SEWER SYSTEMS

MODEL DH152 / DR152 DETAIL SHEET

NA0052P02

ALTERNATING PANEL

VISUAL & AUDIBLE ALARM
MANUAL SILENCE
MANUAL RUN
240VAC
REDUNDANT RUN
NEMA 4X



SGS		02-07-03	A	.156
DR BY	CHK'D	DATE	ISSUE	SCALE

e/one SEWER SYSTEMS

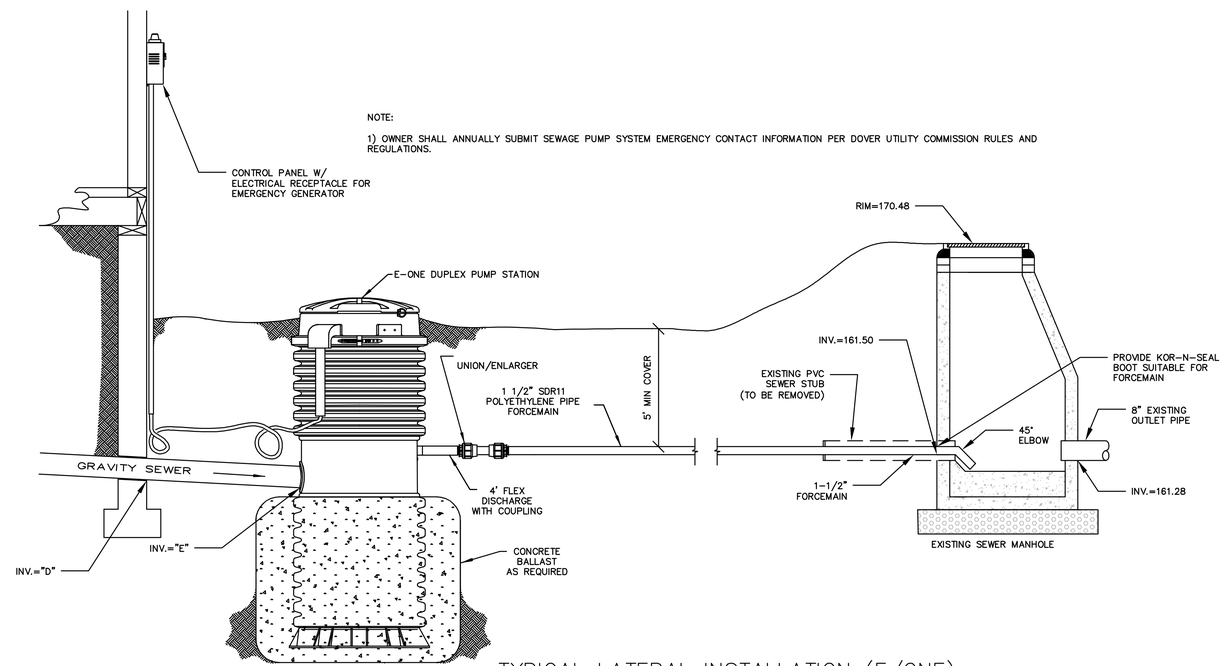
DUPLEX SPLIT TIME ALTERNATING PANEL

LM000270

BURIED NON-METALLIC UTILITIES SHALL RECEIVE A TRACER WIRE.

1. THE TRACER WIRE SHALL BE INSTALLED ON TOP OF THE BURIED UTILITY CROWN.
2. THE TRACER WIRE SHALL BE POSITIVELY ATTACHED TO THE NON-METALLIC BURIED UTILITIES BY PLASTIC WIRE TIES OF SIMILAR TYPE OF ATTACHMENT EVERY 6 FEET FOR STRAIGHT RUN OF UTILITY AND AT ALL CHANGES OF DIRECTION. TAPE SHALL BE POLYKEN "930-35," PROTECTO-WRAP "310", OR EQUAL.
3. THE ENDS OF THE TRACER WIRE SHALL BE EXPOSED ABOVE THE FINISHED GRADE.
4. INSTALL APPROVED CAST IRON VALVE BOXES AT ALL LOCATIONS WHERE THE ENDS OF THE TRACER WIRE ARE EXPOSED ABOVE THE FINISHED GRADE. THE BOXES SHALL NOT BE MORE THAN 200 FEET APART AND SHALL CONTAIN A 24" COIL OF WIRE FROM EACH END OF THE TRACER WIRE.
5. TRACER WIRE SHALL BE CONTINUOUS BETWEEN BOXES AND SHALL BE TESTED FOR CONTINUITY IN THE PRESENCE OF THE INSPECTOR.
6. TRACER WIRE SHALL BE NO. 10 AWG, COPPER WIRE WITH TW INSULATION (BLUE IN COLOR FOR USE WITH POTABLE WATER, GREEN FOR USE WITH SEWER). CONNECTORS SHALL BE DRY-CON TYPE CONNECTORS FOR SPECIFIED WIRE GAGE AND SUITABLE FOR USE WITH BURIED TRACER WIRE.
7. TRACER WIRE SHALL BE EXPOSED ABOVE FINISHED GRADE IN THE CAST IRON BOXES AT THE TRANSITION WHERE THE NON-METALLIC BURIED UTILITY CONNECTS TO THE EXISTING METALLIC UTILITY.
8. EXTEND WIRE INTO VALVE BOXES AND TERMINATE WITH A WIRE CONNECTOR. TERMINATE WIRE FROM LINES EXTENDING FROM MAINS TO FIRE RISERS OR BUILDING SERVICES 12" (300MM) ABOVE GRADE AND CAP WITH A WIRE CONNECTOR.

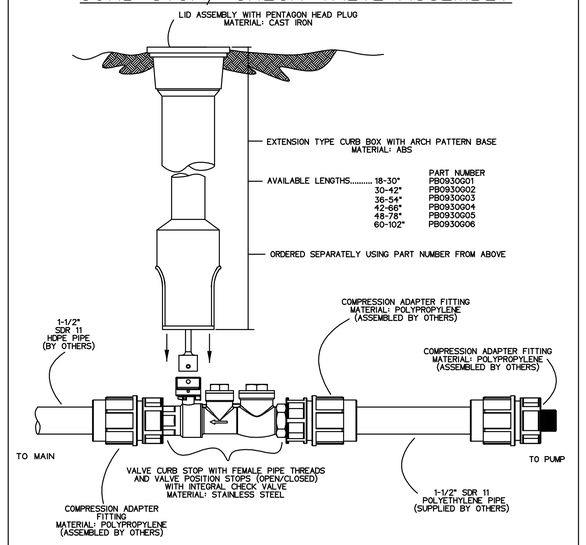
INVERT	PUMP STATION P.S.-1	PUMP STATION P.S.-2
A	148.00	147.50
B	146.90	146.40
C	22 FT @ 12.7 GPM	23.5 FT @ 12.6 GPM
D	148.50	148.0
E	148.00	147.50



TYPICAL LATERAL INSTALLATION (E/ONE)

NOT TO SCALE

CURB STOP/ CHECK VALVE ASSEMBLY



NOTES:

1. SS CURB STOP/CHECK VALVE AND FITTINGS ARE PROVIDED SEPARATELY, TO BE ASSEMBLED BY OTHERS
2. TO ASSEMBLE, APPLY A DOUBLE LAYER OF TEFLON TAPE, AND A LAYER OF PIPE DOPE (SUPPLIED BY OTHERS) TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER THE MANUFACTURER'S INSTRUCTIONS
   *FOR SS FITTING INTO SS THREAD, USE EITHER PIPE DOPE OR TEFLON TAPE, NOT BOTH
3. ASSEMBLY IS TO BE PRESSURE TESTED (BY OTHERS)
4. ASSEMBLY IS TO BE USED WITH SDR11 HDPE PIPE
5. TO ORDER SS LATERAL KIT, USE PART NUMBER NC0193G02
6. CURB BOX IS TO BE ORDERED SEPARATELY, SEE ABOVE

KIT PARTS ARE NOT ASSEMBLED

SGS	DN	11/02/11	B	3/16
DR BY	CHK'D	DATE	ISSUE	SCALE

e/one SEWER SYSTEMS

STAINLESS STEEL LATERAL KIT 1-1/2" SDR 11 HDPE PIPE

NA0330P03

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CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
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1	REV PER TRC COMMENTS #1	SJH	2-29-24

DATE: 1-18-24
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO:22075
FILE: SITE.DWG

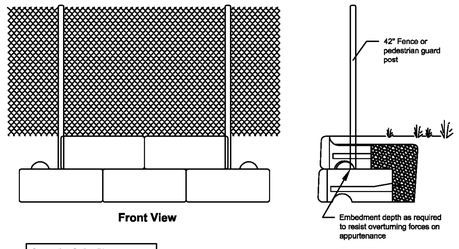
PLANNING FILE NO.: SITE-2024-0002

DETAIL SHEET

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

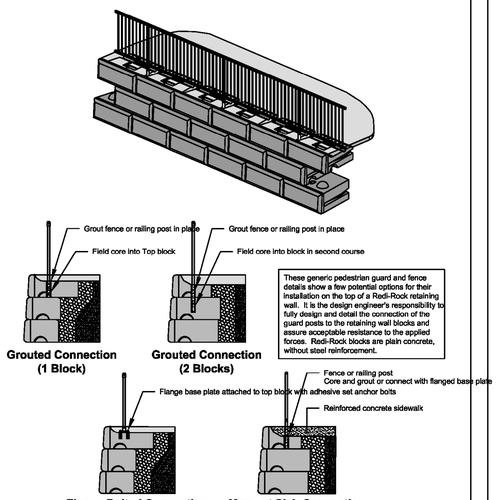
Fence or Pedestrian Guard Connection Locations



This drawing is for reference only. Determination of the suitability and/or manner of use of any details contained in this document is the sole responsibility of the design engineer of record. Final project designs, including all construction details, shall be prepared by a licensed professional engineer using the actual conditions of the proposed site.

DRAWN BY:	JRJ
APPROVED BY:	JRJ
DATE:	06-22-2015
SHEET:	1 of 1
TITLE:	Fence or Pedestrian Guard Connection Locations
FILE:	6 Fence or Pedestrian Guard Connection Locations 062215.dwg

Fence or Pedestrian Guard Connection Options

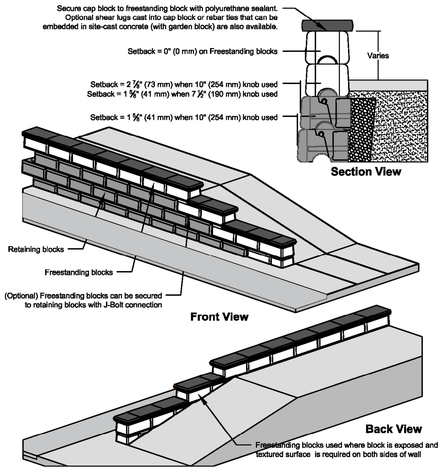


These generic pedestrian guard and fence details show a few potential options for their installation on the top of a Redi-Rock retaining wall. It is the design engineer's responsibility to fully design and detail the connection of the guard posts to the retaining wall blocks and assure acceptable resistance to the applied forces. Redi-Rock blocks are plain concrete, without steel reinforcement.

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DRAWN BY:	JRJ
APPROVED BY:	JRJ
DATE:	06-22-2015
SHEET:	1 of 1
TITLE:	Fence or Pedestrian Guard Connection Options
FILE:	5 Fence or Pedestrian Guard Connection Options 062215.dwg

Freestanding Blocks with Cap at Top of Wall



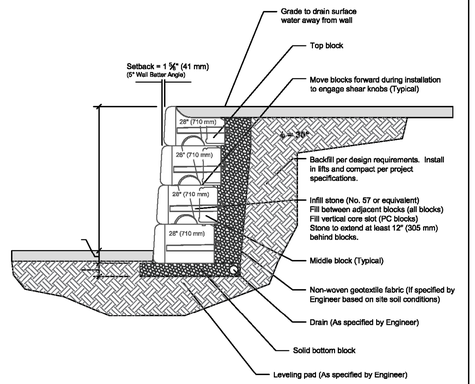
One-component, highly flexible, non-priming, gun grade, high performance elastomeric polyurethane sealant shall have movement of plus or minus 25% per ASTM C719, tensile strength greater than 200 psi (1.4 MPa) per ASTM D412, and adhesion to peel on concrete greater than 20 PLI per ASTM C794. Apply sealant in one and one half-inch (1.5") (38 mm) diameter round "hersey kiss" shaped dollops located in two rows at the top of the Freestanding blocks at 8" (203 mm) on center.

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DRAWN BY:	JRJ
APPROVED BY:	JRJ
DATE:	06-22-2015
SHEET:	1 of 1
TITLE:	Freestanding Blocks with Cap at Top of Wall
FILE:	3 Freestanding Blocks with Cap at Top of Wall 062215.dwg

ϕ = 30°	FINE TO MEDIUM SAND (SILTY SAND)
LOAD CONDITION A	NO LIVE LOAD SURCHARGE, NO BACK SLOPE, NO TOE SLOPE

4 BLOCK HIGH SECTION
(4) 28" (710 mm) Blocks



This drawing is for reference only. Determination of the suitability and/or manner of use of any details contained in this document is the sole responsibility of the design engineer of record. Final project designs, including all construction details, shall be prepared by a licensed professional engineer using the actual conditions of the proposed site. Final wall design must address both internal and external drainage and all modes of wall stability.

DRAWN BY:	C. Kruger
APPROVED BY:	J. Johnson
DATE:	June 8, 2015
SHEET:	1 of 1
TITLE:	Preliminary Wall Section Fine to Medium Sand or Silty Sand, ϕ = 30° No Live Load Surcharge, No Back Slope, No Toe Slope
FILE:	A_30_B_28_72_csd.dwg

CONTRACTOR TO COORDINATE WITH OWNER FOR FENCE STYLE

GENERAL NOTES

1. SEGMENTAL CONCRETE UNIT RETAINING WALL SHALL BE PROVIDED BY redi-rock ? OR SHEA WALL SYSTEMS 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. AS STIPULATED BY THE MANUFACTURER.
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 3 TESTS PER WALL AND/OR AS DETERMINED BY THE SITE SOILS ENGINEER.
14. COMPACTION WITHIN 3 FT. OF WALL SHALL BE LIMITED TO HAND OPERATED EQUIPMENT.
15. IF REQUIRED SEE ELEVATION DRAWINGS FOR GEOSYNTHETIC TYPE, LENGTH AND LOCATION.
16. IF REQUIRED GEOSYNTHETIC SHALL BE PLACED WITH STRONGEST DIRECTION PERPENDICULAR TO WALL. FOLLOW GEOSYNTHETIC MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS.
17. CONTRACTOR SHALL DIRECT SURFACE RUNOFF TO AVOID DAMAGING WALL WHILE UNDER CONSTRUCTION.
18. ANY SURFACE DRAINAGE FEATURES, FINISH GRADING, PAVEMENT, OR TURF SHALL BE INSTALLED IMMEDIATELY AFTER WALL IS COMPLETED.
19. FOLLOW APPLICABLE PROVISIONS AS DICTATED BY THE MANUFACTURER.

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.
5. FENCE HEIGHT TO BE 42".
6. FENCE SHALL BE DESIGNED FOR APPROPRIATE CRASH RATING BY A NEW NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER.

RETAINING WALL SYSTEM

PART 1.0 – GENERAL

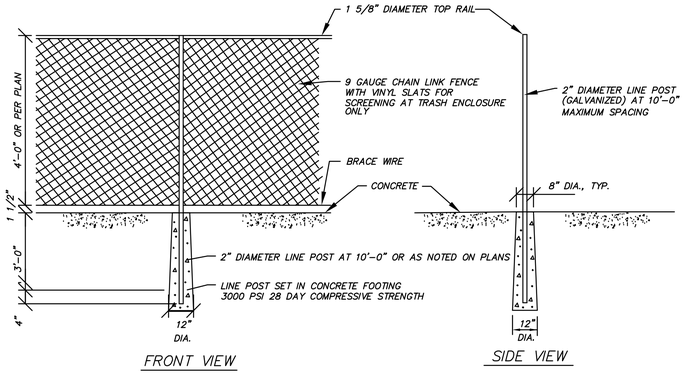
1.1 THIS WORK SHALL CONSIST OF FURNISHING ALL COMPONENTS AND ERECTING A RETAINING WALL SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN AND DIMENSIONS SHOWN ON THE PLANS OR AS ORDERED.

1.2 THIS FOLLOWING TYPE OF RETAINING WALL SYSTEMS ARE ACCEPTABLE TO BE USED ON THIS PROJECT:

REDI-ROCK	(603) 428-3218
SHEA WALL SYSTEMS	(800) 696-7432

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:
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.



CHAIN LINK FENCE DETAIL

NOT TO SCALE

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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	REV PER TRC COMMENTS #1	SJH	2-29-24
2	REV PER TRC COMMENTS #2	SJH	4-1-24

DESIGN BY: XX
DRAWN BY: XX
SCALE: XX
DATE: XXX
APPROVED BY:XX
PROJECT NO:.XX
FILE: XXX

PLANNING FILE NO.: SITE-2024-0002

DETAIL SHEET

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

Luminaire Schedule					
Symbol	Qty	Label	Arrangement	Description	[MANUFAC]
	1	S3	Single	MRS-LED-06L-SIL-3-UNV-DIM-30-70CRI-CXX / 4SQ B3 S11G20 S GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	2	S3-HS	Single	MRS-LED-06L-SIL-3-UNV-DIM-30-70CRI-IL-CXX / 4SQ B3 S11G20 S GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	3	S4-HS	Single	MRS-LED-06L-SIL-4-UNV-DIM-30-70CRI-IH-CXX / 4SQ B3 S11G20 S GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	3	S5-2	Back-Back	MRS-LED-06L-SIL-5W-UNV-DIM-30-70CRI-CXX / 4SQ B3 S11G20 SD180 GA 4BC (20' AFG)	LSI INDUSTRIES, INC.
	8	W	Single	EOF1MV3KBZ / WALL MTD 12' AFG	NICOR, Inc.
	2	W3	Single	XWM-3-LED-06L-30-UE-CXX / WALL MTD 18' AFG	LSI INDUSTRIES, INC.
	4	W4	Single	XWM-4-LED-06L-30-UE-CXX / WALL MTD 18' AFG	LSI INDUSTRIES, INC.

50' WETLAND BUFFER

PROPOSED 24,856 S.F. BUILDING

PROPOSED 10,000 S.F. BUILDING

50' WETLAND BUFFER

QUALITY WAY

PARCEL AREA
375,192 S.F.
8.61 Ac.

PARKING LOT AT 25K SF BLDG

Illuminance (Fc)
Average = 1.39
Maximum = 2.8
Minimum = 0.5
Avg/Min Ratio = 2.78
Max/Min Ratio = 5.60

TRUCK YARD-DOCK AREA 25K BLDG

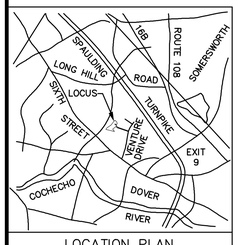
Illuminance (Fc)
Average = 0.87
Maximum = 2.4
Minimum = 0.3
Avg/Min Ratio = 2.90
Max/Min Ratio = 8.00

PARKING LOT AT 10K SF BLDG

Illuminance (Fc)
Average = 1.18
Maximum = 2.3
Minimum = 0.4
Avg/Min Ratio = 2.95
Max/Min Ratio = 5.75

TRUCK YARD-DOCK AREA 10K BLDG_1

Illuminance (Fc)
Average = 0.98
Maximum = 2.3
Minimum = 0.4
Avg/Min Ratio = 2.45
Max/Min Ratio = 5.75



LOCATION PLAN
(NO SCALE)

NH STATE PLANE
NAD 83 _ CRS DBS.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

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CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
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603.749.0443

NO.	REVISION	APP'D	DATE
2	REV PER TRC COMMENTS #2	SJH	4-1-24
1	REV PER TRC COMMENTS #1	SJH	2-29-24

FILE: SITE.DWG
PROJECT NO: 22075
APPROVED BY: SJH
DESIGN BY: JFG
DRAWN BY: SRD
SCALE: 1"=40'
DATE: 1-18-24

PLANNING FILE NO.
:SITE-2024-0002

LIGHTING PLAN

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

21

Catalog # _____ Project _____
Prepared By _____ Date _____

Mirada Small Area (MRS)

Outdoor LED Area Light



IP66 IK08

OVERVIEW	
Lumen Package	6,000 - 30,000
Wattage Range	39 - 209
Efficacy Range (LPW)	112 - 163
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 unit. Cast aluminum wiring access door located underneath.
- 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: 27 lbs in carton.

Optical System
- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in distribution types 2, 3, 4, 5W, FT, and LC/RC.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- Available in 5000K, 4000K, and 3000K color temperatures per ANSI C78.377.
- Minimum CRI of 70.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical
- High-performance driver features over-voltage, under-voltage, short-circuit and over temperature protection.
- 0-10V dimming (10% - 100%) standard.
- 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: -40ºC to +50ºC (-40ºF to +122ºF). 30L lumen packages rated to +40ºC.
- 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
- Designed to mount to square or round poles.
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
- Included terminal block accepts up to 12 ga. wire.
- Utilizes LSI's traditional B3 drill pattern.

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.
- IDA compliant; with 3000K color temperature selection.
- 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.
- IK08 rated luminiare per IEC 66262 mechanical impact code
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Catalog # _____ Project _____ Type _____
Prepared By _____ Date _____

Mirada Medium Wall Sconce (XWM)

Outdoor Wall Sconce



IP65 IK08

OVERVIEW	
Lumen Package	3,000 - 21,000
Wattage Range	23 - 175
Efficacy Range (LPW)	125 - 158
Weight lbs(kg)	27 (12.2)
Control Options	IMSBT, ALB, ALS, PCI

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Hinged die-cast aluminum wiring access door located underneath.
- Galvanized-steel universal wall mount bracket comes standard with hinging mechanism to easily access the junction box wire connections without removing the luminaire.
- Optional pole-mounting bracket (XPMA) permits mounting to standard poles.
- 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.
- Max shipping weight: 30lbs in carton.

Optical System
- State-of-the-Art one piece silicone optic provides industry leading optical control while also acting as an integrated gasket reducing system complexity and improving fixture reliability.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in Types 2, 3, 4, and FT distributions.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- Available in 5000K, 4000K and 3000K color temperatures per ANSI C78.377. Also Available in Phosphor Converted Amber with Peak intensity at 610nm.
- Minimum CRI of 70.

Electrical
- High-performance programmable driver features over-voltage, under-voltage, short-circuit and over temperature protection. Custom lumen and wattage packages available.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).
- L80 Calculated Life: >100k Hours
- Total harmonic distortion (THD): <20%
- 3L to 12L operating temperature: -40ºC to +50ºC (-40ºF to +122ºF).
- 15L operating temperature: -40ºC to +45ºC (-40ºF to +113ºF).
- 18L operating temperature: -40ºC to +40ºC (-40ºF to +104ºF).
- 21L operating temperature: -40ºC to +35ºC (-40ºF to + 95ºF).
- Power factor (PF): >.90
- Input power stays constant over life.
- Optional 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.
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed via hinged door.
- Optional integral emergency battery pack provides 90-minutes of constant power to the LED system, ensuring code compliance. A test switch/indicator button is installed on the housing for ease of maintenance. The fixture delivers 1500 lumens during emergency mode.

Controls
- Integral passive infrared Bluetooth™ motion sensor options. Fixtures operate independently and can be commissioned via an iOS or Android configuration app. Updates and modifications to the control strategy are easily implemented via an intuitive app.
- LSI's AirLink™ Blue lighting control system is a simple feature rich wireless Bluetooth mesh network. The integrated fixture sensor module provides wireless control of grouped fixtures based on motion sensors, daylight or a fully customizable schedule.

Installation
- Universal wall mounting plate easily mounts directly to 4" octagonal or square junction box.
- 2 fasteners secure the hinged door underneath the housing and provide quick & easy access to the electrical compartment for installing/servicing.
- Optional terminal block accepts up to 12 ga wire.

Warranty
- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.
- 1 Year warranty on Battery Back-up option.

Listings
- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- IDA compliant; with 3000K or lower color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet Locations.
- IP65 rated luminaire per IEC 60598.
- 3G rated for ANSI C136.31 high vibration applications when pole mounted (using optional XPMA bracket) or wall mounted.
- IK08 rated luminiare per IEC 66262 mechanical impact code
- DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Catalog # _____ Project _____
Prepared By _____ Date _____

Steel Poles

Square Straight



QUICK LINKS

Ordering Guide | Configurations | Dimensions | EPA

FEATURES & SPECIFICATIONS

Pole Shaft
- Straight poles are 4", 5", or 6" square.
- Pole shaft is electro-welded ASTM-A500 Grade C steel tubing with a minimum yield strength of 50,000 psi.
- On Tenon Mount steel poles, tenon is 2-3/8" O.D. high-strength pipe. Tenon is 4-3/4" in length.

Hand-Hole
- Standard hand-hole location is 12" above pole base.
- Poles 22' and above have a 3" x 6" reinforced hand-hole. Shorter poles have a 2" x 4" non-reinforced hand-hole.

Base
- Pole base is ASTM-A36 hot-rolled steel plate with a minimum yield strength of 36,000 psi.
- Two-piece square base cover is optional.

Anchor Bolts
- Poles are furnished with anchor bolts featuring zinc-plated double nuts and washers. Galvanized anchor bolts are optional.
- Anchor Bolts conform to ASTM F 1554-07a Grade 55 with a minimum yield strength of 55,000 PSI.

Ground Lug
- Ground lug is standard.

Duplex Receptacle
- Weatherproof duplex receptacle is optional.

Ground Fault Circuit Interrupter
- Self-testing Ground fault circuit interrupter is optional.

Finishes
- Every pole is provided with the DuraGrip Protection System and a 5-year limited warranty.
- When the top-of-the line DuraGrip Plus Protection System is selected, in addition to the DuraGrip Protection System, a non-porous, automotive-grade corrosion coating is applied to the lower portion of the pole interior sealing and further protecting it from corrosion. This option extends the limited warranty to 7 years.

Determining The Luminaire/Pole Combination For Your Application:
- Select luminaire from luminaire ordering information.
- Select bracket configuration if required
- Determine EPA value from luminaire/bracket EPA chart
- Select Pole Height
- Select MPH to match wind speed in the application area (See windspeed maps).
- Confirm pole EPA equal to or exceeding value of luminaire/bracket EPA
- Consult factory for special wind load requirements and banner brackets.

Pole Vibration Damper
- A pole vibration damper is recommended in open terrain areas of the country where low steady state winds are common.
- Non-tapered poles and lightly loaded poles are more susceptible to destructive vibration if a damper is not installed.

Listings
- UL Listed
- BAA/TAA Compliant

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 Temperatures:
  - 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)

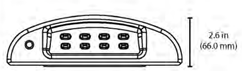
Mounting and Installation
- Fixture mounts directly to J-Boxes and walls with screws
- Wiring possible through backplate or 1/2" conduit knockout
- For installations where power surge may be possible, NICOR recommends installing additional surge protection at the electrical distribution panel

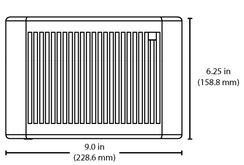
Finish
- Fine-textured, UV-stabilized powder coat bronze finish

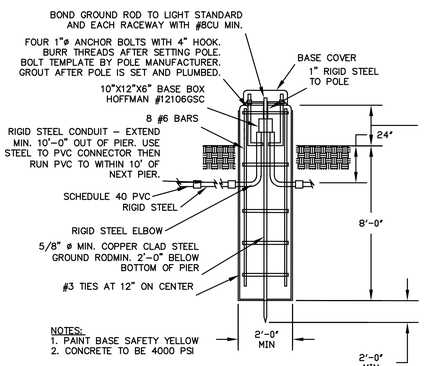
Listings
- LM-79, LM-80 testing performed in accordance with IESNA standards.
- UL 8 c/UL 924 Listed
- Meets or exceeds requirements of NFPA 70 & NFPA 101
- Meets FCC Part 15, Subpart B, Class B standards for conducted and radiated emissions
- TM-21 Projected L70(9k) life >72,000 hours

Warranty
- 1-year limited system warranty standard
- Warranty does not cover product failure due to an overvoltage event (power surge.)

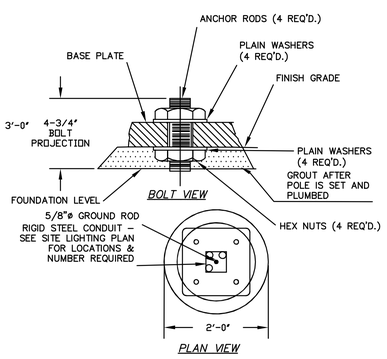








LIGHT POLE BASE
NOT TO SCALE



PLAN VIEW

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

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	REV PER TRC COMMENTS #1	SJH	2-29-24
2	REV PER TRC COMMENTS #2	SJH	4-1-24

DATE: 1-18-24
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG

PLANNING FILE NO.: SITE-2024-0002

LIHGTING DETAILS

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

22

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
2	REV PER TRC COMMENTS #2	SJH	4-1-24
1	REV PER TRC COMMENTS #1	SJH	2-29-24

DATE: 1-18-24
SCALE: 1"=40'
DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG

50' WETLAND BUFFER

PARCEL AREA
375,192 S.F.
8.61 Ac.

PROPOSED 24,856 S.F. BUILDING

PROPOSED 10,000 S.F. BUILDING

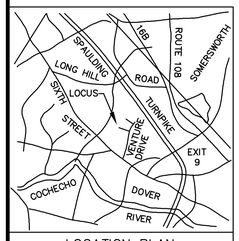
50' WETLAND BUFFER

QUALITY WAY

45.50
8.50 20.00

Dover ladder feet

Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 44.0



LOCATION PLAN
(NO SCALE)

NO STATE PLANE MAD 83 - GPS OBS.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)

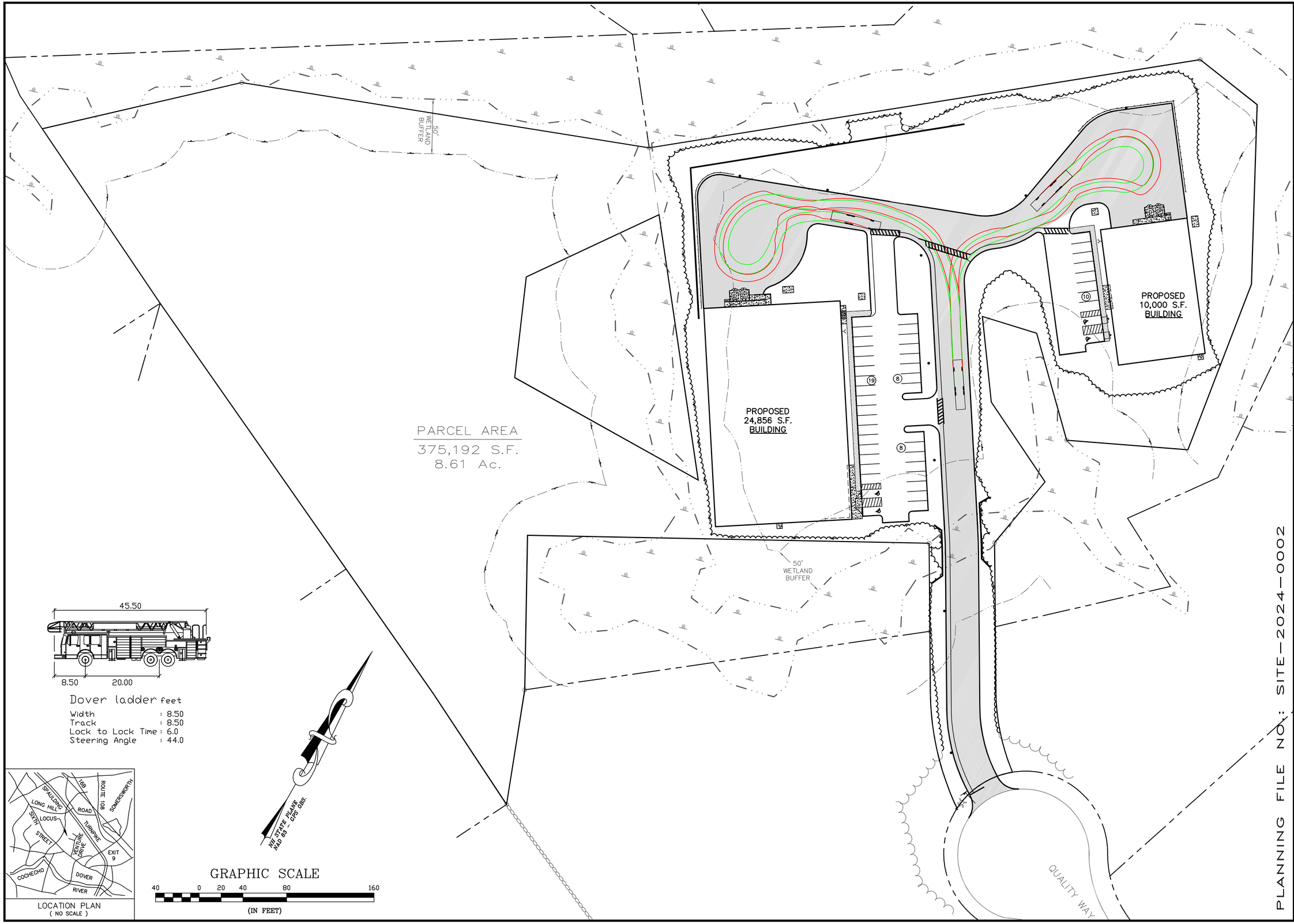
PLANNING FILE NO: SITE-2024-0002

DOVER LADDER TRUCK MOVEMENT PLAN

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

23



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GNE CIVILWORKS NEW ENGLAND
CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
2	REV PER TRC COMMENTS #2	SJH	4-1-24
1	REV PER TRC COMMENTS #1	SJH	2-29-24

DATE: 1-18-24
SCALE: 1"=40'
DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG

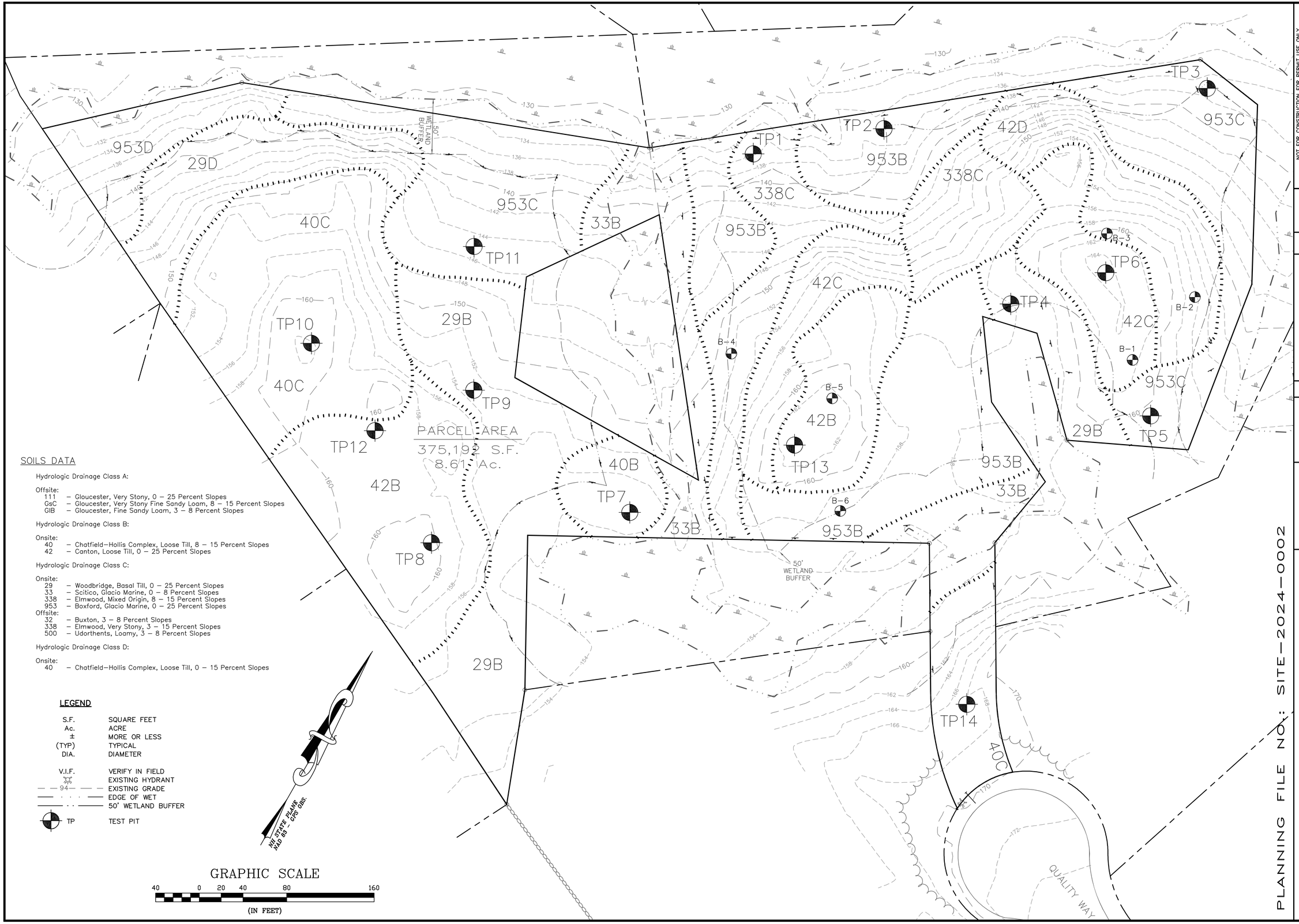
PLANNING FILE NO: SITE-2024-0002

DOVER LADDER TRUCK MOVEMENT PLAN

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

24



SOILS DATA

Hydrologic Drainage Class A:

Offsite:
- 111 – Gloucester, Very Stony, 0 – 25 Percent Slopes
- GsC – Gloucester, Very Stony Fine Sandy Loam, 8 – 15 Percent Slopes
- GlB – Gloucester, Fine Sandy Loam, 3 – 8 Percent Slopes

Hydrologic Drainage Class B:

Onsite:
- 40 – Chatfield–Hollis Complex, Loose Till, 8 – 15 Percent Slopes
- 42 – Canton, Loose Till, 0 – 25 Percent Slopes

Hydrologic Drainage Class C:

Onsite:
- 29 – Woodbridge, Basal Till, 0 – 25 Percent Slopes
- 33 – Scitico, Glacio Marine, 0 – 8 Percent Slopes
- 338 – Elmwood, Mixed Origin, 8 – 15 Percent Slopes
- 953 – Boxford, Glacio Marine, 0 – 25 Percent Slopes

Offsite:
- 32 – Buxton, 3 – 8 Percent Slopes
- 338 – Elmwood, Very Stony, 3 – 15 Percent Slopes
- 500 – Udorthents, Loamy, 3 – 8 Percent Slopes

Hydrologic Drainage Class D:

Onsite:
- 40 – Chatfield–Hollis Complex, Loose Till, 0 – 15 Percent Slopes

LEGEND

S.F.	SQUARE FEET
Ac.	ACRE
±	MORE OR LESS
(TYP)	TYPICAL
DIA.	DIAMETER
V.I.F.	VERIFY IN FIELD
	EXISTING HYDRANT
94	EXISTING GRADE
	EDGE OF WET
	50' WETLAND BUFFER
TP	TEST PIT

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

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
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1	REV PER TRC COMMENTS #1	SJH	2-29-24

DATE: 1-18-24
SCALE: 1"=40'
DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG

PLANNING FILE NO.: SITE-2024-0002

SITE SPECIFIC SOILS PLAN

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

25

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
207 363 4532
mcuomosoil@gmail.com

TEST PIT DATA

Client: Civilworks
Location: Quality Way, Dover, NH
Date: 1 December 2022

Test Pit Number: One

Depth	Description
1"	Leaf litter.
0-8"	Very dark grayish brown (10YR 3/2) stony fine sandy loam, granular, friable.
8-15"	Dark yellowish brown (10YR 4/6) stony fine sandy loam, blocky, friable.
15-24"	Light olive brown (2.5Y 5/3) silt loam, blocky, friable, redox.
24-36"	Olive gray (5Y 5/2) silt loam, blocky, firm, redox.
36-63"	Olive brown (2.5Y 4/4) stony fine sandy loam, blocky, firm, redox.
63"+	Bedrock.

Soil Series: Elmwood
Depth to Seasonal High Water Table: 15"
Depth to Restrictive Layer: 24"
Observed Water: 60"
Depth to Bedrock: 63"

Test Pit Number: Two

Depth	Description
2"	Leaf litter.
0-4"	Dark grayish brown (2.5Y 4/2) silt loam, granular, friable, redox.
4-10"	Light brownish gray (2.5Y 6/2) silt loam, blocky, friable, redox.
10-20"	Olive brown (2.5Y 4/4) silt loam, blocky, friable, redox.
20-30"	Gray (5Y 5/1) silt loam, blocky, firm, redox.
30-72"	Olive gray (5Y 4/2) silty clay loam, blocky, firm, redox.

Soil Series: Scitico
Depth to Seasonal High Water Table: Surface
Depth to Restrictive Layer: 20"
Observed Water: 6"
Depth to Bedrock: None

Test Pit Number: Three

Depth	Description
1"	Leaf litter.
0-8"	Dark brown (10YR 3/3) silt loam, granular, friable.
8-12"	Olive yellow (2.5Y 6/6) silt loam, blocky, friable.
12-16"	Dark grayish brown (2.5Y 4/2) silt loam, blocky, friable, redox.
16-28"	Olive brown (2.5Y 4/4) silt loam, blocky, firm, redox.
28-72"	Olive (5Y 5/3) silty clay loam, blocky, firm, redox.

Soil Series: Boxford
Depth to Seasonal High Water Table: 12"
Depth to Restrictive Layer: 16"
Observed Water: 12"
Depth to Bedrock: None

Test Pit Number: Four

Depth	Description
1"	Leaf litter.
0-6"	Dark brown (10YR 3/3) very fine sandy loam, granular, friable.
6-15"	Dark yellowish brown (10YR 4/6) very fine sandy loam, blocky, friable.
15-28"	Olive brown (2.5Y 4/4) silt loam, blocky, friable, redox.
28-80"	Light olive brown (2.5Y 5/4) stony fine sandy loam, blocky, firm, redox.
80-96"	Light yellowish brown (2.5Y 6/4) fine sand, massive, friable, redox.

Soil Series: Woodbridge variant
Depth to Seasonal High Water Table: 15"
Depth to Restrictive Layer: 28"
Observed Water: 15"
Depth to Bedrock: None

Test Pit Number: Five

Depth	Description
1"	Leaf litter.
0-8"	Very dark gray (2.5Y 3/1) silt loam, granular, friable.
8-10"	Light olive brown (2.5Y 5/3) silt loam, blocky, friable.
10-15"	Olive (5Y 5/3) silt loam, blocky, friable, redox.
15-38"	Olive (5Y 5/3) silt loam, blocky, firm, redox.
38-60"	Olive brown (2.5Y 4/3) stony fine sandy loam, blocky, firm, redox.
60-84"	Olive gray (5Y 5/2) silt loam, blocky, firm, redox.

Soil Series: Boxford variant
Depth to Seasonal High Water Table: 10"
Depth to Restrictive Layer: 15"
Observed Water: 15"
Depth to Bedrock: None

Test Pit Number: Six

Depth	Description
1"	Leaf litter.
0-6"	Very dark grayish brown (10YR 3/2) fine sandy loam, granular, friable.
6-24"	Yellowish brown (10YR 5/6) stony fine sandy loam, blocky, friable.
24-60"	Light yellowish brown (2.5Y 6/3) stony loamy sand, massive, friable.
60"+	Bedrock

Soil Series: Canton
Depth to Seasonal High Water Table: None
Depth to Restrictive Layer: None
Observed Water: None
Depth to Bedrock: 60"

Test Pit Number: Seven

Depth	Description
2"	Leaf litter.
0-6"	Very dark brown (10YR 2/2) stony fine sandy loam, granular, friable.
6-12"	Dark yellowish brown (10YR 4/6) stony fine sandy loam, blocky, friable.
12"+	Bedrock.

Soil Series: Hollis
Depth to Seasonal High Water Table: None
Depth to Restrictive Layer: None
Observed Water: None
Depth to Bedrock: 12"

Test Pit Number: Eight

Depth	Description
2"	Leaf litter.
0-6"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
6-12"	Dark yellowish brown (10YR 4/6) stony fine sandy loam, blocky, friable.
12-33"	Brownish yellow (10YR 6/6) stony fine sandy loam, blocky, friable.
33-60"	Light yellowish brown (2.5Y 6/3) stony loamy sand, massive, friable.

Soil Series: Canton
Depth to Seasonal High Water Table: None
Depth to Restrictive Layer: None
Observed Water: None
Depth to Bedrock: None

Test Pit Number: Nine

Depth	Description
3"	Leaf litter.
0-7"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
7-20"	Yellowish brown (10YR 5/6) stony fine sandy loam, blocky, friable.
20-25"	Light olive brown (2.5Y 5/4) stony fine sandy loam, blocky, friable, redox.
25-57"	Olive brown (2.5Y 4/4) stony fine sandy loam, massive, firm, redox.
57"+	Bedrock

Soil Series: Woodbridge
Depth to Seasonal High Water Table: 20"
Depth to Restrictive Layer: 25"
Observed Water: None
Depth to Bedrock: 57"

Test Pit Number: Ten

Depth	Description
2"	Leaf litter.
0-7"	Dark yellowish brown (10YR 3/6) fine sandy loam, granular, friable.
7-12"	Dark yellowish brown (10YR 4/6) fine sandy loam, blocky, friable.
12"+	Bedrock.

Soil Series: Hollis
Depth to Seasonal High Water Table: None
Depth to Restrictive Layer: None
Observed Water: None
Depth to Bedrock: 12"

Test Pit Number: Eleven

Depth	Description
1"	Leaf litter.
0-6"	Very dark grayish brown (2.5Y 3/2) silt loam, granular, friable.
6-12"	Olive brown (2.5Y 4/4) silt loam, blocky, friable.
12-22"	Light olive brown (2.5Y 5/4) silt loam, blocky, friable, redox.
22-32"	Olive gray (5Y 4/2) silt loam, blocky, firm, redox.
32-63"	Olive brown (2.5Y 4/4) stony fine sandy loam, blocky, firm, redox.

Soil Series: Boxford variant
Depth to Seasonal High Water Table: 12"
Depth to Restrictive Layer: 22"
Observed Water: 15"
Depth to Bedrock: None

Test Pit Number: Twelve

Depth	Description
3"	Leaf litter.
0-7"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
7-17"	Dark yellowish brown (10YR 4/6) stony fine sandy loam, blocky, friable.
17-30"	Brownish yellow (10YR 6/6) stony fine sandy loam, blocky, friable.
30-48"	Light yellowish brown (2.5Y 6/3) stony loamy sand, massive, friable.
48"+	Bedrock

Soil Series: Canton
Depth to Seasonal High Water Table: None
Depth to Restrictive Layer: None
Observed Water: None
Depth to Bedrock: 48"

Test Pit Number: Thirteen

Depth	Description
2"	Leaf litter.
0-6"	Very dark grayish brown (10YR 3/2) fine sandy loam, granular, friable.
6-16"	Dark yellowish brown (10YR 4/6) fine sandy loam, blocky, friable.
16-26"	Brownish yellow (10YR 6/6) fine sandy loam, blocky, friable.
26-64"	Light yellowish brown (2.5Y 6/3) stony loamy sand, massive, friable.

Soil Series: Canton
Depth to Seasonal High Water Table: None
Depth to Restrictive Layer: None
Observed Water: None
Depth to Bedrock: None

Test Pit Number: Fourteen

Depth	Description
3"	Leaf litter.
0-5"	Dark brown (10YR 3/3) fine sandy loam, granular, friable.
5-16"	Dark yellowish brown (10YR 4/6) fine sandy loam, blocky, friable.
16-23"	Yellowish brown (10YR 5/6) fine sandy loam, blocky, friable.
23"+	Bedrock.

Soil Series: Chatfield
Depth to Seasonal High Water Table: None
Depth to Restrictive Layer: None
Observed Water: None
Depth to Bedrock: 23"

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & WATERSHED ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE
2	REV PER TRC COMMENTS #2	SJH	4-1-24
1	REV PER TRC COMMENTS #1	SJH	2-29-24

DATE: 1-18-24
SCALE: AS SHOWN
DRAWN BY: SRD
DESIGN BY: JFG
APPROVED BY:SJH
PROJECT NO: 22075
FILE: SITE.DWG

PLANNING FILE NO.: SITE-2024-0002

TEST PIT LOGS

FUTURE AUTOMATION, INC.
127 VENTURE DRIVE
DOVER, NH 03820

FUTURE AUTOMATION
QUALITY WAY LOT
DOVER, NH 03820

26

Future Automation

Dover, NH

Planning Board
N.F.C. - 011024

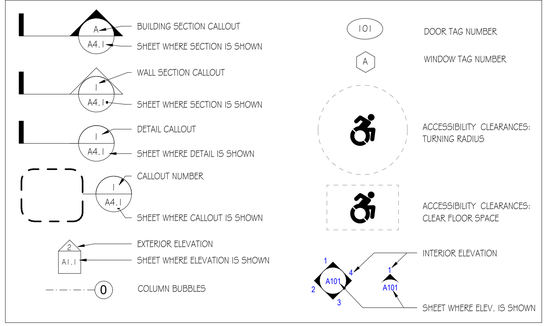
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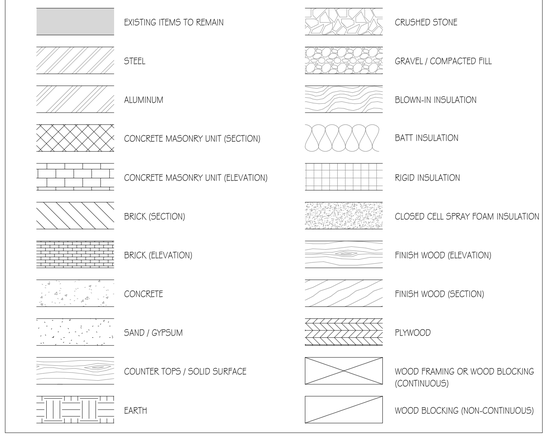
MASTER ABBREVIATION KEY:

AB	ANCHOR BOLT			LAM	LAMINATE	S	SOUTH
AC	AIR CONDITIONER	E	EAST	LAV	LAVATORY	S-TRAP	SEDIMENT TRAP
ACI	AMERICAN CONCRETE INSTITUTE	EJ	EXPANSION JOINT			SC	SOLID CORE
		EJC	EXPANSION JOINT COVER	MAS	MASONRY	SCED	SCHEDULE
ACOUST	ACOUSTIC	EL	ELEVATION	MAT	MATERIAL	SD	STORM DRAIN
AFF	ABOVE FINISH FLOOR	ELEC	ELECTRICAL	MAX	MAXIMUM	SF	SQUARE FOOT
ALT	ALTERNATE	ELEV	ELEVATOR	MECH	MECHANICAL	SH	SHOWER
ALUM	ALUMINUM	EQ	EQUAL	MEM	MEMBRANE	SHT	SHEET
ANCH	ANCHOR	EQUIP	EQUIPMENT	MEP	MECHANICAL, ELECTRICAL, PLUMBING	SIM	SIMILAR
ANOD	ANODIZED	ER	EMERGENCY ROOM			SL	SLIDING
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	EST	ESTIMATE	METTP	METAL TOILET PARTITION	SMR	SINGLE PLY MEMBRANE ROOF
		EWC	ELECTRICAL WATER COOLER	MFR	MANUFACTURER	SP/PT/FIN	SPECIAL PAINT FINISH
BD	BOARD	EXH	EXHAUST	MH	MANHOLE	SPEC	SPECIFICATION
BIT	BITUMINOUS	EXIST	EXISTING	MIN	MINIMUM	SPKR	SPEAKER
BL	BUILDING LINE	EXP	EXPANSION	MISC	MISCELLANEOUS	SQ	SQUARE
BLDG	BUILDING	EXPD	EXPANDED	MO	MASONRY OPENING	SS	STAINLESS STEEL
BLK	BLOCK	EXT	EXTERIOR	MTL	METAL	STA	STATION
BLKG	BLOCKING			MULL	MULLION	STD	STANDARD
BM	BEAM	F/F	FACE OF FOUNDATION WALL			STL	STEEL
BOC	BOTTOM OF CURB			N	NORTH	STOR	STORAGE
BOF	BOTTOM OF FOOTING ELEVATION	FA	FRESH AIR	NAT	NATURAL	STRG	STRINGER
		FAP	FIRE ALARM PANEL	NEC	NECESSARY	STRUCT	STRUCTURAL
BOT	BOTTOM	FD	FLOOR DRAIN	NIC	NOT IN CONTRACT	SU	SITE UTILITY
BRG	BEARING	FE	FIRE EXTINGUISHER	NOM	NOMINAL	SUSP	SUSPEND (SUSPENDED)
BRK	BRICK	FEC	FIRE EXTINGUISHER CABINET	NRC	NOISE REDUCTION COEFFICIENT	SYMM	SYMMETRICAL
BSMT	BASEMENT					SYS	SYSTEM
BTW	BETWEEN	FIN	FINISH	NTS	NOT TO SCALE		
BUR	BUILT-UP ROOF	FL	FLOW LINE	OC	ON CENTER	T	TREAD
		FLR	FLOOR	OD	OUTSIDE DIAMETER	T&G	TONGUE & GROOVED
CAB	CABINET	FND	FOUNDATION	OF/C	OUTSIDE FACE OF CONCRETE	T/FRM	TOP OF FRAME
CB	CATCH BASIN	FOF	FACE OF FINISH			T/SLB	TOP OF SLAB
CER	CERAMIC	FOM	FACE OF MASONRY	OH	OVERHEAD	TB	TACKBOARD
CF	CUBIC FOOT	FOS	FACE OF STUD	OPG	OPENING	TEL	TELEPHONE
CI	CAST IRON	FR	FIRE RATED	OPP	OPPOSITE	TEMP	TEMPORARY
CJ	CONTROL JOINT	FS	FULL SIZE	OR	OPERATING ROOM	TERR	TERRAZZO
CL	CLOSET	FT	FOOT			THK	THICK
CLCB	CURBLESS CATCH BASIN	FTG	FOOTING	PBD	PARTICLE BOARD	THLD	THRESHOLD
CLG	CEILING	FUR	FURRED (FURRING)	PCF	POUNDS PER CUBIC FOOT	TOC	TOP OF CURB
CM	CONTRACT MANAGER	FVC	FIRE VALVE CABINET			TOF	TOP OF FOUNDATION
CMU	CONCRETE MASONRY UNIT			PL	PROPERTY LINE	TOS	TOP OF SLAB
		GA	GAUGE	PLAM	PLASTIC LAMINATE	TOW	TOP OF WALL ELEVATION
CO	CLEAN OUT	GALV	GALVANIZED	PLAS	PLASTER	TR	TO REMAIN
COL	COLUMN	GC	GENERAL CONTRACTOR	PLYWD	PLYWOOD	TYP	TYPICAL
COMP	COMPACTED (COMPOSITION)	GEN	GENERAL	PNL	PANEL		
		GL	GLASS	PSF	POUNDS PER SQUARE FOOT	UH	UNIT HEATER
CONC	CONCRETE	GLZ	GLAZING			UL	UNDERWRITERS LABORATORIES, INC.
CONST	CONSTRUCTION	GRD	GRADE	PSI	POUNDS PER SQUARE INCH	UOD	UNDERSIDE OF DECK
CONT	CONTINUOUS	GYP	GYPSUM			UON	UNLESS OTHERWISE NOTED
CONTR	CONTRACTOR	H\V	HEATING & VENTILATING	PT	PAINT		
CORR	CORRUGATED	HC	HANDICAP	PTD	PAINTED	UR	URINAL
CP	CONTROL PANEL	HDWD	HARDWOOD	PTN	PARTITION	UV	UNIT VENTILATOR
CSG	CASING	HGT	HEIGHT	PVC	POLYVINYL CHLORIDE		
CSMT	CASEMENT	HM	HOLLOW METAL			VAR	VARIES OR VARIABLE
CT	CERAMIC TILE	HP	HIGH POINT	QT	QUARRY TILE	VB	VINYL BASE
CTR	CENTER	HVAC	HEATING, VENTILATION, AIR CONDITIONING			VCT	VINYL COMPOSITION TILE
CY	CUBIC YARD			R	RADIUS	VERT	VERTICAL
		HWH	HOT WATER HEATER	R/A	RETURN AIR	VEST	VESTIBULE
DF	DRINKING FOUNTAIN			RC	REINFORCED CONCRETE	VIF	VERIFY IN FIELD
DIA	DIAMETER	ID	INSIDE DIAMETER	RD	ROOF DRAIN	VNR	VENEER
DIAG	DIAGONAL	IN	INCH	REF	REFERENCE	VOL	VOLUME
DIM	DIMENSION	INSUL	INSULATION	REFR	REFRIGERATOR		
DL	DEAD LOAD	INT	INTERIOR	REINF	REINFORCE	W	WEST
DN	DOWN	INV	INVERT	REQD	REQUIRED	W/	WITH
DR	DOOR			RGH	ROUGH	WC	WATER CLOSET
DS	DOWNSPOUT			RL	RAIN LEADER	WD	WOOD
DS/C	DRIVE SIDE OF CURB	JC	JANITOR'S CLOSET	RM	ROOM	WDW	WINDOW
DTL	DETAIL	JST	JOIST	RO	ROUGH OPENING	WGL	WIRE GLASS
DWG	DRAWING	JT	JOINT	ROW	RIGHT OF WAY	WP	WEATHERPROOF (WATERPROOFING)
				RQMT	REQUIREMENT		
						WWF	WELDED WIRE FABRIC

GRAPHIC SYMBOLS LEGEND



MATERIAL LEGEND



DRAWING SHEET INDEX:

Sheet	Sheet Name	Issued	Revision	Revision Date
PCS	*PROJECT COVER SHEET*	*N.F.C.*		
A1.1	*FLOOR PLAN*	*N.F.C.*		
A3.1	*EXTERIOR ELEVATIONS*	*N.F.C.*		
A3.2	*EXTERIOR ELEVATIONS*	*N.F.C.*		
R1.1	*Main Building Street View Rendering*	*N.F.C.*		
R1.2	*Main Building Front View Rendering*	*N.F.C.*		
R1.3	*Street View Rendering*	*N.F.C.*		
R1.4	*Campus Aerial View Rendering*	*N.F.C.*		

GENERAL NOTES:

1. DO NOT SCALE DRAWING OR DIMENSIONS. FOR MISSING DIMENSIONS OR DIMENSIONS IN CONFLICT, CONTACT THE CONTRACTOR IMMEDIATELY BEFORE CONTINUING WITH WORK.
2. ANY DISCREPANCIES IN THESE PLANS WILL BE BROUGHT TO THE CONTRACTOR'S ATTENTION IN WRITING IMMEDIATELY
3. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DESIGN-BUILD PLANS AND SPECIFICATION FOR LOCATIONS OF ALL BLOCK OUTS, INSERTS, OPENINGS, CURBS, BASES, & PADS THAT ARE NOT DIMENSIONED OR SHOWN ON CONTRACTOR'S DWG'S. OR STRUCTURAL DWG'S.
4. STRUCTURAL STEEL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION PLANS AND SPECIFICATION SHALL BE PROVIDED AND ARE THE RESPONSIBILITY OF THERE RESPECTIVE SUBCONTRACTORS IF NOT CARRIED IN ARCHITECTURAL SERVICES
5. ALL CONSTRUCTION SHALL CONFORM TO AND BE IN ACCORDANCE WITH THE REGULATOR REQUIREMENTS MANDATED BY ALL FEDERAL, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION IN ACCORDANCE TO THE STATE IN WHICH THE WORK IS PERFORMED (STATE BUILDING CODE, STATE LIFE SAFETY & FIRE CODE ETC.)
6. THE CONTRACTOR SHALL REVIEW ALL DOCUMENTS AND VERIFY ALL DIMENSIONS AND FIELD CONDITIONS, AND SHALL CONFIRM WORK IS BUILDABLE AS SHOWN. ANY CONFLICTS OR OMISSIONS, ETC. SHALL BE IMMEDIATELY REPORTED IN WRITING TO THE ARCHITECT FOR CLARIFICATION
7. DIMENSIONS ARE FROM EXTERIOR FACE OF FOUNDATION, VENEER, OR WALL STUD AND TO CENTER OF ALL INTERIOR STUD WALLS OR FACE OF INTERIOR MASONRY. UNLESS NOTED OTHERWISE.
8. CLEAR DIMENSIONS ARE FROM FACE TO FACE OF WALL FINISH. UNLESS NOTED OTHERWISE
9. REFER TO MECHANICAL DRAWINGS / SPEC. FOR ALL SIZES AND LOCATIONS OF MECHANICAL DUCT WORK.
10. UNLESS OBVIOUSLY SHOWN OTHERWISE, DOOR LOCATIONS NOT DESIGNATED BY WRITTEN DIMENSION SHALL BE CENTERED IN THE WALL OR SHALL BE LOCATED FOUR (4) INCHES FROM FINISH WALL TO EDGE OF DOOR JAMB. PER PLAN.
11. PROVIDE METAL CORNER BEAD AT ALL OUTSIDE CORNERS OF PLASTERED OR DRYWALL SURFACES, UNLESS NOTED OTHERWISE.
12. PENETRATIONS OF ALL FIRE RATED ASSEMBLIES SHALL BE PROTECTED BY LIKE RATED CONSTRUCTION DAMPERS, SEALANTS, COLLARS, ETC., TYPICAL.
13. CONTRACTOR SHALL FURNISH, LOCATE AND INSTALL ALL ACCESS PANELS AS REQUIRED AFTER INSTALLATION OF MECHANICAL DUCTS, PLUMBING AND ELECTRICAL WORK, FIRE RATED AS REQUIRED.
14. FURNISH AND INSTALL SOLID BLOCKING BEHIND ALL WALL HUNG MILLWORK ITEMS, RAILS, FIXTURES,GRAB BARS, ETC., WHERE INDICATED OR REQUIRED.
15. CONTRACTOR SHALL LAYOUT OR MARK, ALL EQUIPMENT, SYSTEMS AND MILLWORK ON THE FLOOR FOR ARCHITECT OR OWNER'S APPROVAL PRIOR TO BEGINNING CEILING / OVER HEAD WORK.
16. ALL SPRINKLER HEAD LOCATIONS, MAINS, BRANCHES AND RISER PIPE LOCATIONS MUST BE COORDINATED WITH THE DESIGN / BUILD CONTRACTOR PRIOR TO WORK.
17. FURNISH AND INSTALL FIRE EXTINGUISHERS IN TYPE, QUANTITY, AND LOCATION PER LOCAL FIRE DEPARTMENT. TYPICAL
18. CONTRACTOR SHALL VERIFY, COORDINATE LOCATION WITH THE ARCHITECT ANY SMOKE, CARBON MONOXIDE DETECTOR OR FIRE ALARM DEVICE AS REQUIRED BY THE LOCAL FIRE DEPARTMENT.
19. FURNISH & INSTALL FIRE DAMPERS WITH FUSIBLE LOUVER WHEREVER DUCT WORK PENETRATES ONE OR TWO HOUR CEILINGS OR WALLS. TYPICAL UNLESS NOTED OTHERWISE.
20. PROVIDE PLASTER AND GYPSUM WALL BOARD CONTROL JOINTS AT 30'-0" ON CENTER FROM FLOOR TO CEILING, OR AS NOTED ON THE CONSTRUCTION DOCUMENTS. VERIFY IN FEILD WITH ARCHITECT PRIOR TO WORK.

T | W DESIGNS
254 Drake Hill Rd. Strafford, NH
TW-Designs.com | 603.664.2181

Revision Schedule

No.	Description	Date

Project Info:
23027
Future Automation
Dover, NH
Planning Board

Architect of Record:
T | W Designs, LLC
254 Drake Hill Rd.
Strafford, NH 03884
603-664-2181

Civil Engineer:
XXX

Structural Engineer:
XXX

Electrical Engineer:
XXX

Mechanical Engineer:
XXX

Plumbing Engineer:
XXX

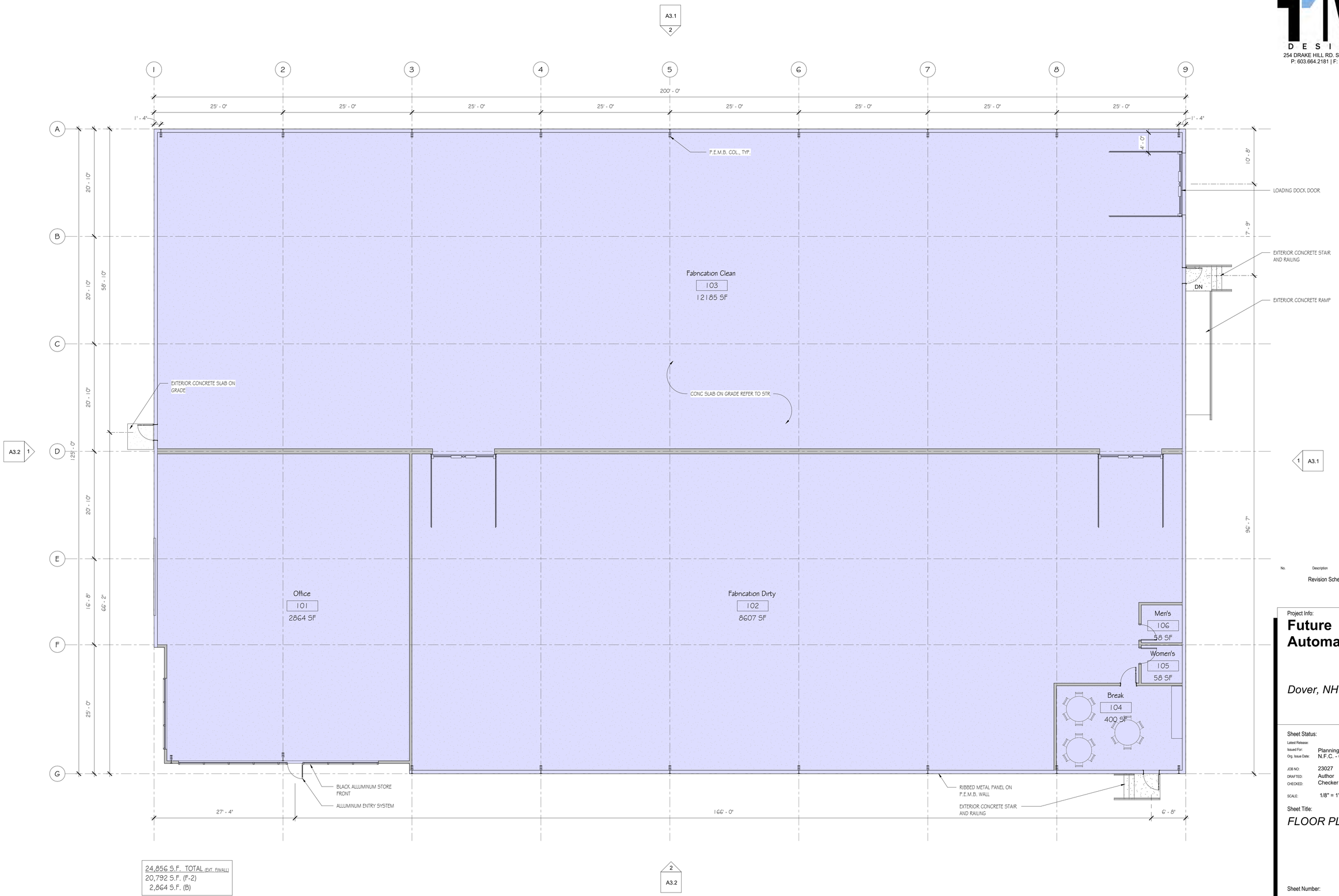
Fire Protection Eng.:
DESIGN / BUILD RESPONSIBILITY OF SPRINKLER CONTRACTOR

Contractor of Record:
XXX

23027
PROJECT COVER SHEET

SHEET NUMBER
PCS

TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508



24,856 S.F. TOTAL (EXT. F/WALL)
20,792 S.F. (F-2)
2,864 S.F. (B)

1 FIRST FLOOR PLAN
1/8" = 1'-0"

No.	Description	Date

Revision Schedule

Project Info:

Future Automation

Dover, NH

Sheet Status:

Latest Release:
Issued For: Planning Board
Org. Issue Date: N.F.C. - 011024

JOB NO: 23027
DRAFTED: Author
CHECKED: Checker
SCALE: 1/8" = 1'-0"

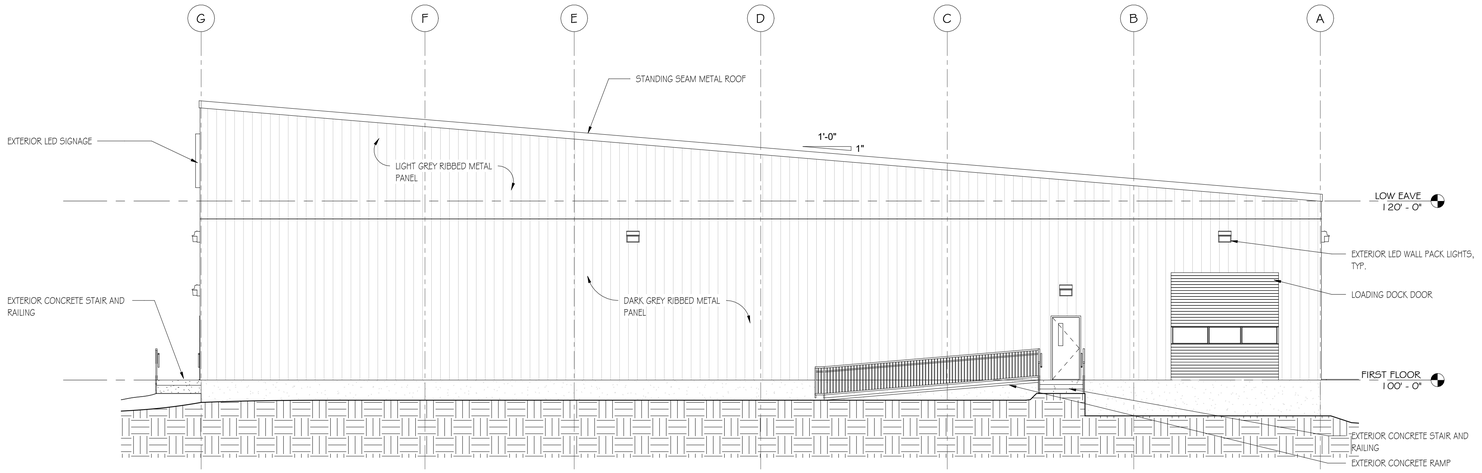
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FLOOR PLAN

Sheet Number:
A1.1

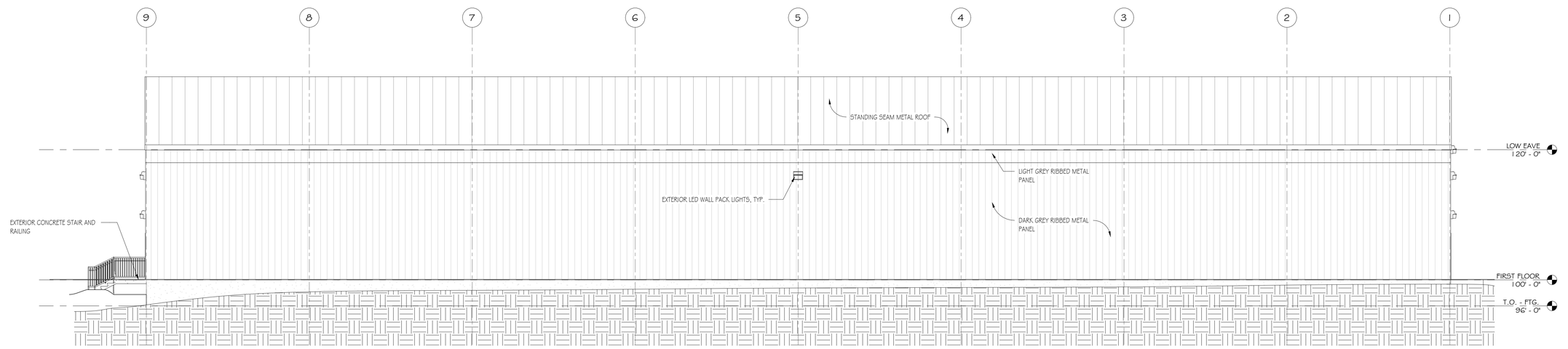
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TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508



1 EAST EXTERIOR ELEVATION
1/8" = 1'-0"



2 NORTH EXTERIOR ELEVATION
1/8" = 1'-0"

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No.	Description	Date

Revision Schedule

Project Info:

Future Automation

Dover, NH

Sheet Status:

Latest Release:	
Issued For:	Planning Board
Org. Issue Date:	N.F.C. - 011024
JOB NO:	23027
DRAFTED:	JMT
CHECKED:	Checker
SCALE:	1/8" = 1'-0"

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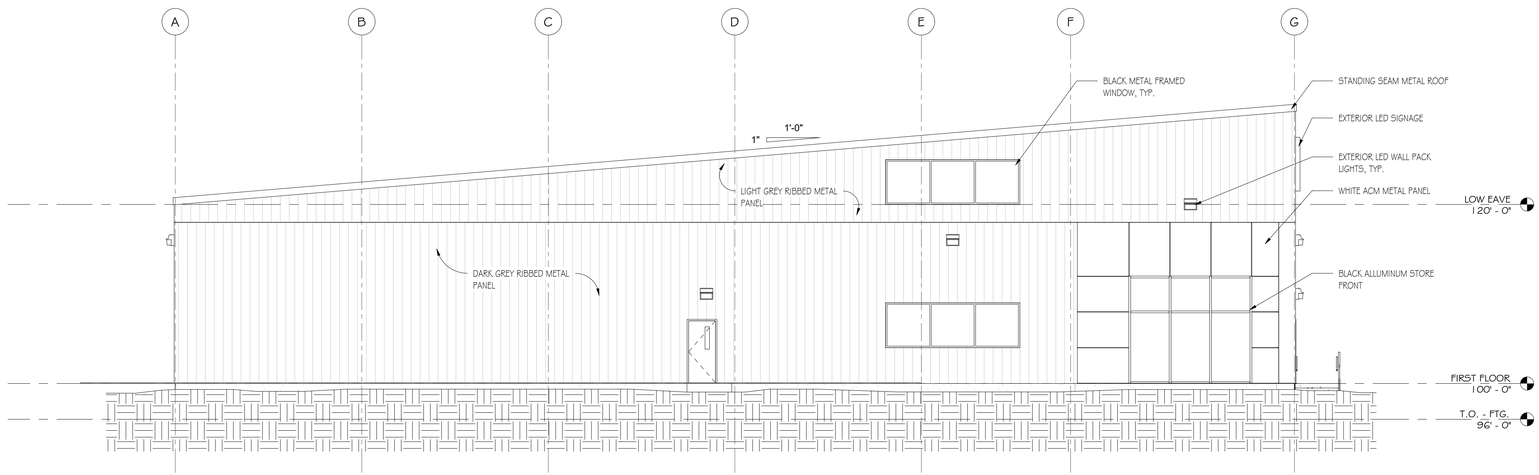
EXTERIOR ELEVATIONS

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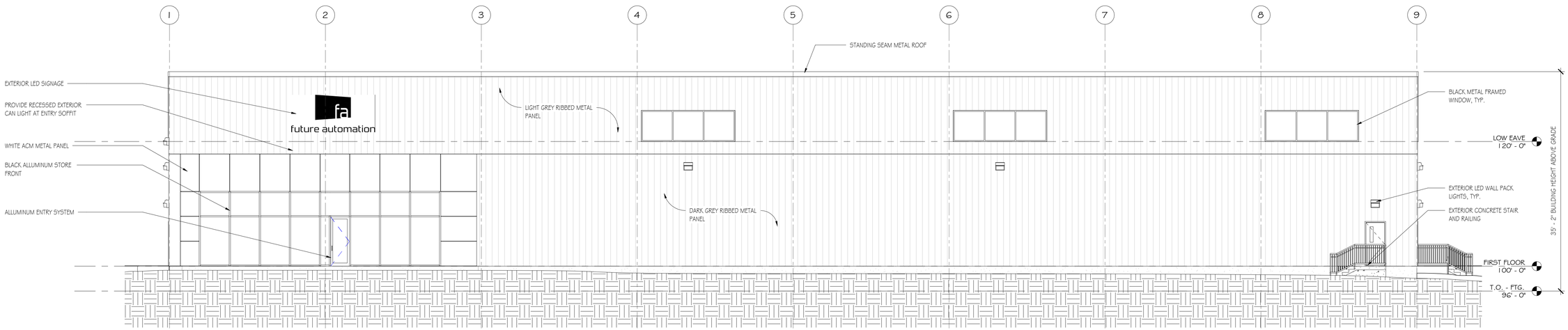
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TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508



1 WEST EXTERIOR ELEVATION
1/8" = 1'-0"



2 SOUTH EXTERIOR ELEVATION
1/8" = 1'-0"

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No.	Description	Date

Revision Schedule

Project Info:

Future Automation

Dover, NH

Sheet Status:

Latest Release:
Issued For: Planning Board
Org. Issue Date: N.F.C. - 011024

JOB NO: 23027
DRAFTED: Author
CHECKED: Checker

SCALE: 1/8" = 1'-0"

Sheet Title:

EXTERIOR ELEVATIONS

Sheet Number:

A3.2

Printed on: 1/10/2024 3:17:28 PM



TW DESIGNS

Main Building Street View Rendering
Future Automation

R1.1

N.F.C.



TW DESIGNS

Main Building Front View Rendering
Future Automation

R1.2

N.F.C.

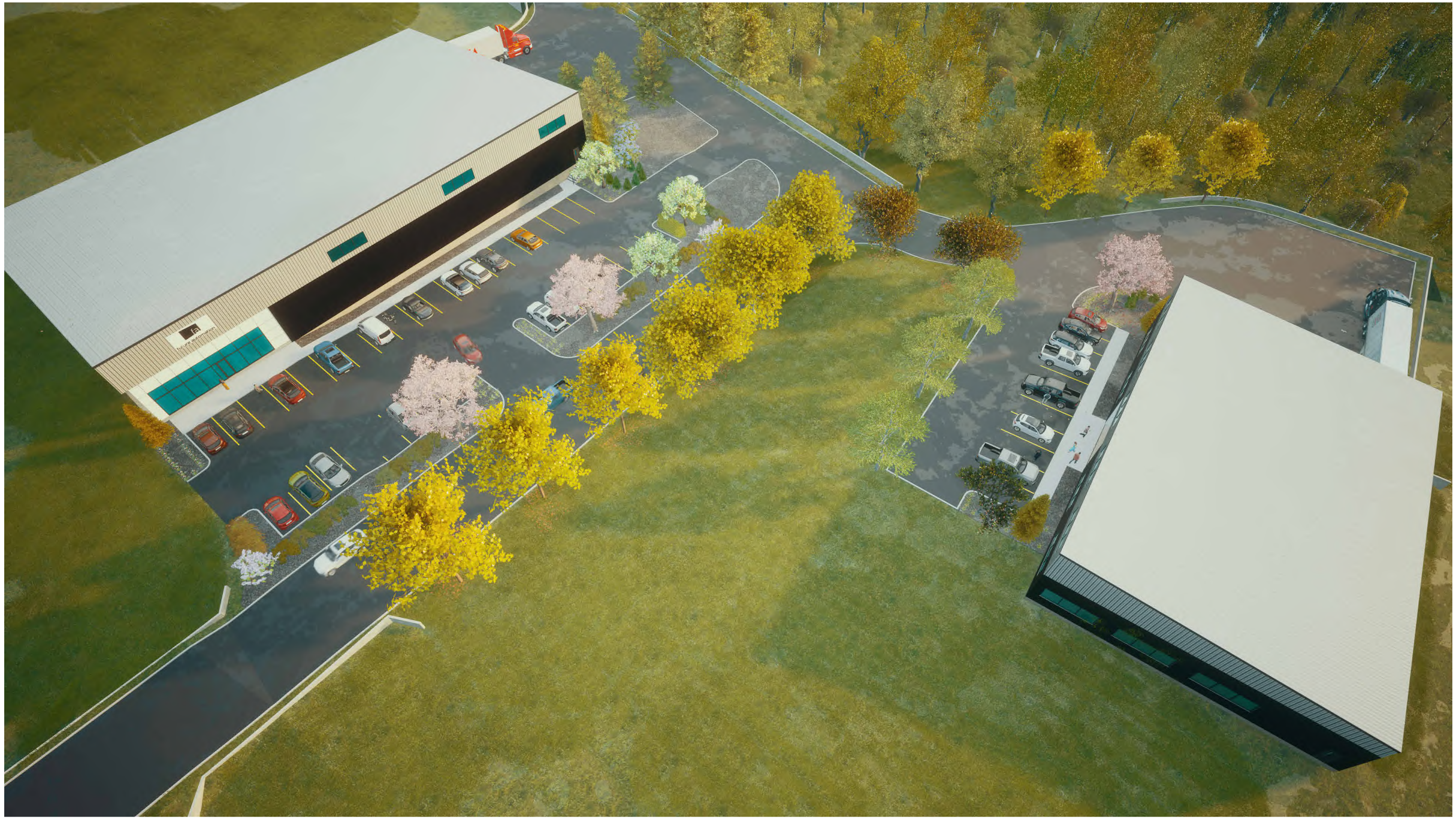


TW DESIGNS

Street View Rendering
Future Automation

R1.3

N.F.C.



TW DESIGNS

Campus Aerial View Rendering
Future Automation

R1.4

N.F.C.

Future Automation - AUX

Dover, NH

Planning Board

N.F.C. - 011024

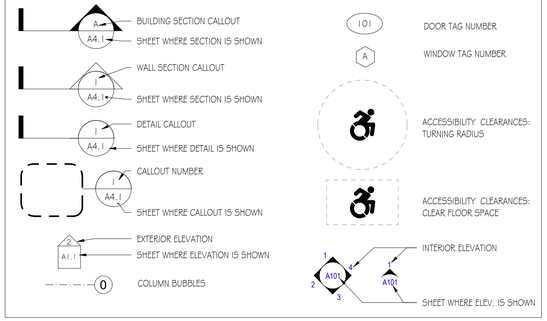
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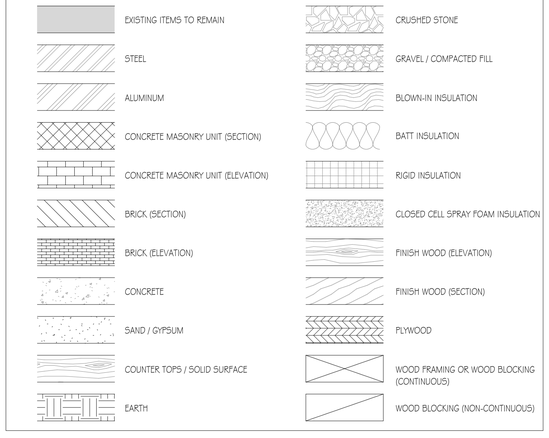
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BOT	BOTTOM	FD	FLOOR DRAIN	NOM	NOMINAL	SU	SITE UTILITY
BRG	BEARING	FE	FIRE EXTINGUISHER	NRC	NOISE REDUCTION COEFFICIENT	SUSP	SUSPEND (SUSPENDED)
BRK	BRICK	FEC	FIRE EXTINGUISHER CABINET			SYMM	SYMMETRICAL
BSMT	BASEMENT			NTS	NOT TO SCALE	SYS	SYSTEM
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BUR	BUILT-UP ROOF	FL	FLOW LINE	OC	ON CENTER	T	TREAD
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CAB	CABINET	FND	FOUNDATION	OF/C	OUTSIDE FACE OF CONCRETE	T/FRM	TOP OF FRAME
CB	CATCH BASIN	FOF	FACE OF FINISH			T/SLB	TOP OF SLAB
CER	CERAMIC	FOM	FACE OF MASONRY	OH	OVERHEAD	TB	TACKBOARD
CF	CUBIC FOOT	FOS	FACE OF STUD	OPG	OPENING	TEL	TELEPHONE
CI	CAST IRON	FR	FIRE RATED	OPP	OPPOSITE	TEMP	TEMPORARY
CJ	CONTROL JOINT	FS	FULL SIZE	OR	OPERATING ROOM	TERR	TERRAZZO
CL	CLOSET	FT	FOOT			THK	THICK
CLCB	CURBLESS CATCH BASIN	FTG	FOOTING	PBD	PARTICLE BOARD	THLD	THRESHOLD
CLG	CEILING	FUR	FURRED (FURRING)	PCF	POUNDS PER CUBIC FOOT	TOC	TOP OF CURB
CM	CONTRACT MANAGER	FVC	FIRE VALVE CABINET			TOF	TOP OF FOUNDATION
CMU	CONCRETE MASONRY UNIT			PL	PROPERTY LINE	TOS	TOP OF SLAB
		GA	GAUGE	PLAM	PLASTIC LAMINATE	TOW	TOP OF WALL ELEVATION
CO	CLEAN OUT	GALV	GALVANIZED	PLAS	PLASTER	TR	TO REMAIN
COL	COLUMN	GC	GENERAL CONTRACTOR	PLYWD	PLYWOOD	TYP	TYPICAL
COMP	COMPACTED (COMPOSITION)	GEN	GENERAL	PNL	PANEL		
		GL	GLASS	PSF	POUNDS PER SQUARE FOOT	UH	UNIT HEATER
CONC	CONCRETE	GLZ	GLAZING			UL	UNDERWRITERS LABORATORIES, INC.
CONST	CONSTRUCTION	GRD	GRADE	PSI	POUNDS PER SQUARE INCH	UOD	UNDERSIDE OF DECK
CONT	CONTINUOUS	GYP	GYPSUM			UON	UNLESS OTHERWISE NOTED
CONTR	CONTRACTOR			PT	PAINT		
CORR	CORRUGATED	H&V	HEATING & VENTILATING	PTD	PAINTED	UR	URINAL
CP	CONTROL PANEL	HC	HANDICAP	PTN	PARTITION	UV	UNIT VENTILATOR
CSG	CASING	HDWD	HARDWOOD	PVC	POLYVINYL CHLORIDE		
CSMT	CASEMENT	HGT	HEIGHT			VAR	VARIES OR VARIABLE
CT	CERAMIC TILE	HM	HOLLOW METAL	QT	QUARRY TILE	VB	VINYL BASE
CTR	CENTER	HP	HIGH POINT			VCT	VINYL COMPOSITION TILE
CY	CUBIC YARD	HVAC	HEATING, VENTILATION, AIR CONDITIONING	R	RADIUS	VERT	VERTICAL
				R/A	RETURN AIR	VEST	VESTIBULE
		HWH	HOT WATER HEATER	RC	REINFORCED CONCRETE	VIF	VERIFY IN FIELD
DF	DRINKING FOUNTAIN			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
DS/C	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*	*N.F.C.*		
A1.1	*FLOOR PLAN*	*N.F.C.*		
A3.1	*EXTERIOR ELEVATIONS*	*N.F.C.*		
R1.1	*AUX Buidling Street View Rendering*	*N.F.C.*		

GENERAL NOTES:

1. DO NOT SCALE DRAWING OR DIMENSIONS. FOR MISSING DIMENSIONS OR DIMENSIONS IN CONFLICT, CONTACT THE CONTRACTOR IMMEDIATELY BEFORE CONTINUING WITH WORK.
2. ANY DISCREPANCIES IN THESE PLANS WILL BE BROUGHT TO THE CONTRACTOR'S ATTENTION IN WRITING IMMEDIATELY
3. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DESIGN-BUILD PLANS AND SPECIFICATION FOR LOCATIONS OF ALL BLOCK OUTS, INSERTS, OPENINGS, CURBS, BASES, & PADS THAT ARE NOT DIMENSIONED OR SHOWN ON CONTRACTOR'S DWG'S. OR STRUCTURAL DWG'S.
4. STRUCTURAL STEEL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION PLANS AND SPECIFICATION SHALL BE PROVIDED AND ARE THE RESPONSIBILITY OF THERE RESPECTIVE SUBCONTRACTORS IF NOT CARRIED IN ARCHITECTURAL SERVICES
5. ALL CONSTRUCTION SHALL CONFORM TO AND BE IN ACCORDANCE WITH THE REGULATOR REQUIREMENTS MANDATED BY ALL FEDERAL, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION IN ACCORDANCE TO THE STATE IN WHICH THE WORK IS PERFORMED (STATE BUILDING CODE, STATE LIFE SAFETY & FIRE CODE ETC.)
6. THE CONTRACTOR SHALL REVIEW ALL DOCUMENTS AND VERIFY ALL DIMENSIONS AND FIELD CONDITIONS, AND SHALL CONFIRM WORK IS BUILDABLE AS SHOWN. ANY CONFLICTS OR OMISSIONS, ETC. SHALL BE IMMEDIATELY REPORTED IN WRITING TO THE ARCHITECT FOR CLARIFICATION
7. DIMENSIONS ARE FROM EXTERIOR FACE OF FOUNDATION, VENEER, OR WALL STUD AND TO CENTER OF ALL INTERIOR STUD WALLS OR FACE OF INTERIOR MASONRY. UNLESS NOTED OTHERWISE.
8. CLEAR DIMENSIONS ARE FROM FACE TO FACE OF WALL FINISH. UNLESS NOTED OTHERWISE
9. REFER TO MECHANICAL DRAWINGS / SPEC. FOR ALL SIZES AND LOCATIONS OF MECHANICAL DUCT WORK.
10. UNLESS OBVIOUSLY SHOWN OTHERWISE, DOOR LOCATIONS NOT DESIGNATED BY WRITTEN DIMENSION SHALL BE CENTERED IN THE WALL OR SHALL BE LOCATED FOUR (4) INCHES FROM FINISH WALL TO EDGE OF DOOR JAMB. PER PLAN.
11. PROVIDE METAL CORNER BEAD AT ALL OUTSIDE CORNERS OF PLASTERED OR DRYWALL SURFACES, UNLESS NOTED OTHERWISE.
12. PENETRATIONS OF ALL FIRE RATED ASSEMBLIES SHALL BE PROTECTED BY LIKE RATED CONSTRUCTION DAMPERS, SEALANTS, COLLARS, ETC., TYPICAL.
13. CONTRACTOR SHALL FURNISH, LOCATE AND INSTALL ALL ACCESS PANELS AS REQUIRED AFTER INSTALLATION OF MECHANICAL DUCTS, PLUMBING AND ELECTRICAL WORK, FIRE RATED AS REQUIRED.
14. FURNISH AND INSTALL SOLID BLOCKING BEHIND ALL WALL HUNG MILLWORK ITEMS, RAILS, FIXTURES,GRAB BARS, ETC. WHERE INDICATED OR REQUIRED.
15. CONTRACTOR SHALL LAYOUT OR MARK, ALL EQUIPMENT, SYSTEMS AND MILLWORK ON THE FLOOR FOR ARCHITECT OR OWNER'S APPROVAL PRIOR TO BEGINNING CEILING / OVER HEAD WORK.
16. ALL SPRINKLER HEAD LOCATIONS, MAINS, BRANCHES AND RISER PIPE LOCATIONS MUST BE COORDINATED WITH THE DESIGN / BUILD CONTRACTOR PRIOR TO WORK.
17. FURNISH AND INSTALL FIRE EXTINGUISHERS IN TYPE, QUANTITY, AND LOCATION PER LOCAL FIRE DEPARTMENT. TYPICAL
18. CONTRACTOR SHALL VERIFY, COORDINATE LOCATION WITH THE ARCHITECT ANY SMOKE, CARBON MONOXIDE DETECTOR OR FIRE ALARM DEVICE AS REQUIRED BY THE LOCAL FIRE DEPARTMENT.
19. FURNISH & INSTALL FIRE DAMPERS WITH FUSIBLE LOUVER WHEREVER DUCT WORK PENETRATES ONE OR TWO HOUR CEILINGS OR WALLS. TYPICAL UNLESS NOTED OTHERWISE.
20. PROVIDE PLASTER AND GYPSUM WALL BOARD CONTROL JOINTS AT 30'-0" ON CENTER FROM FLOOR TO CEILING, OR AS NOTED ON THE CONSTRUCTION DOCUMENTS. VERIFY IN FEILD WITH ARCHITECT PRIOR TO WORK.

TW DESIGNS
254 Drake Hill Rd. Strafford, NH
TW-Designs.com | 603.664.2181

Revision Schedule

No.	Description	Date

Project Info:

23027
Future Automation - AUX
Dover, NH
Planning Board

Architect of Record:

T | W Designs, LLC
254 Drake Hill Rd.
Strafford, NH 03884
603-664-2181

Civil Engineer:

XXX

Structural Engineer:

XXX

Electrical Engineer:

XXX

Mechanical Engineer:

XXX

Plumbing Engineer:

XXX

Fire Protection Eng.:

DESIGN / BUILD RESPONSIBILITY OF SPRINKLER CONTRACTOR

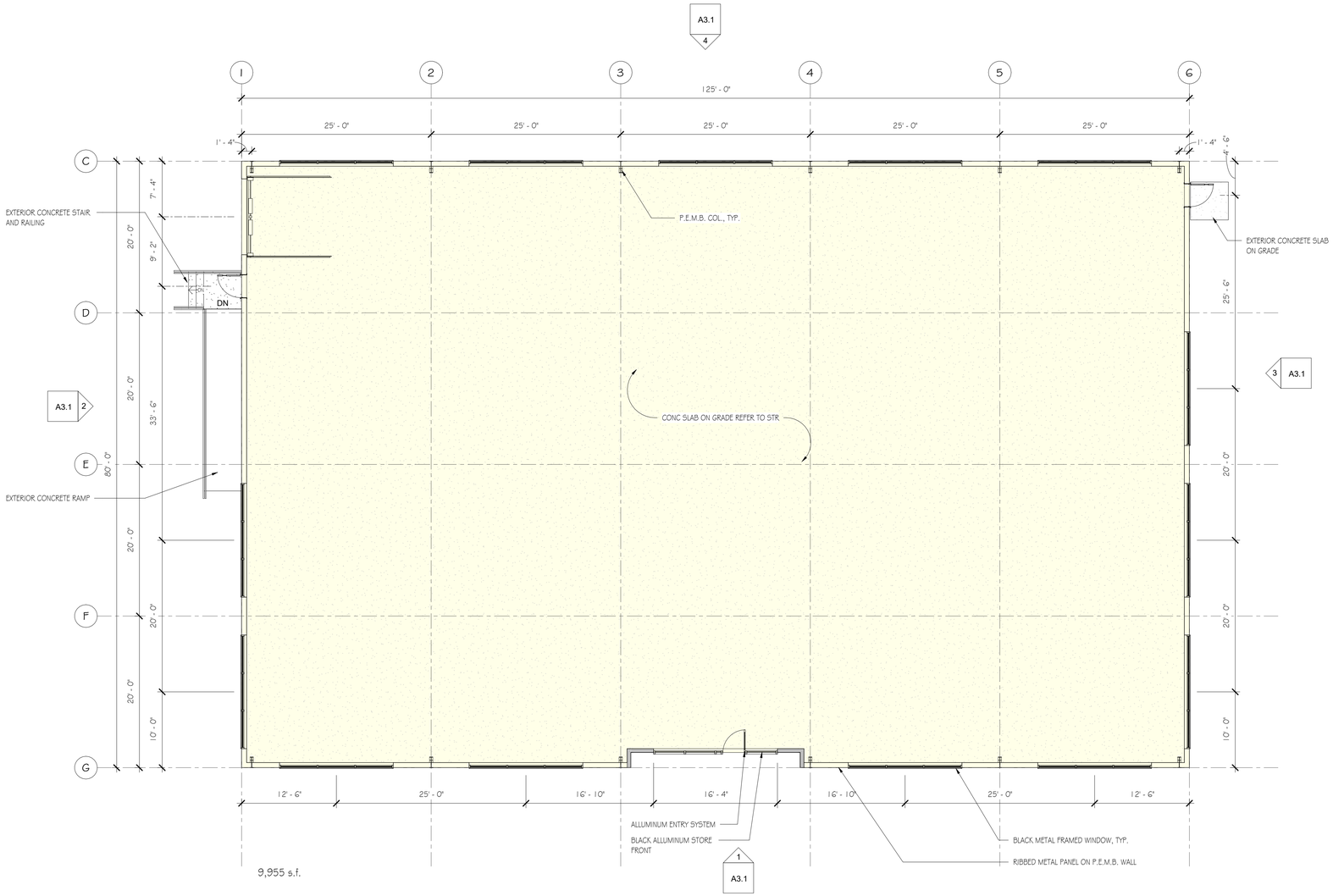
Contractor of Record:

XXX

23027
PROJECT COVER SHEET

SHEET NUMBER
PCS

TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508



1 FIRST FLOOR
1/8" = 1'-0"

No. Description Date

Revision Schedule

Project Info:

Future Automation - AUX

Dover, NH

Sheet Status:

Latest Release:
Issued For: Planning Board
Orig. Issue Date: N.F.C. - 011024

JOB NO: 23027
DRAFTED: Author
CHECKED: Checker

SCALE: 1/8" = 1'-0"

Sheet Title:

FLOOR PLAN

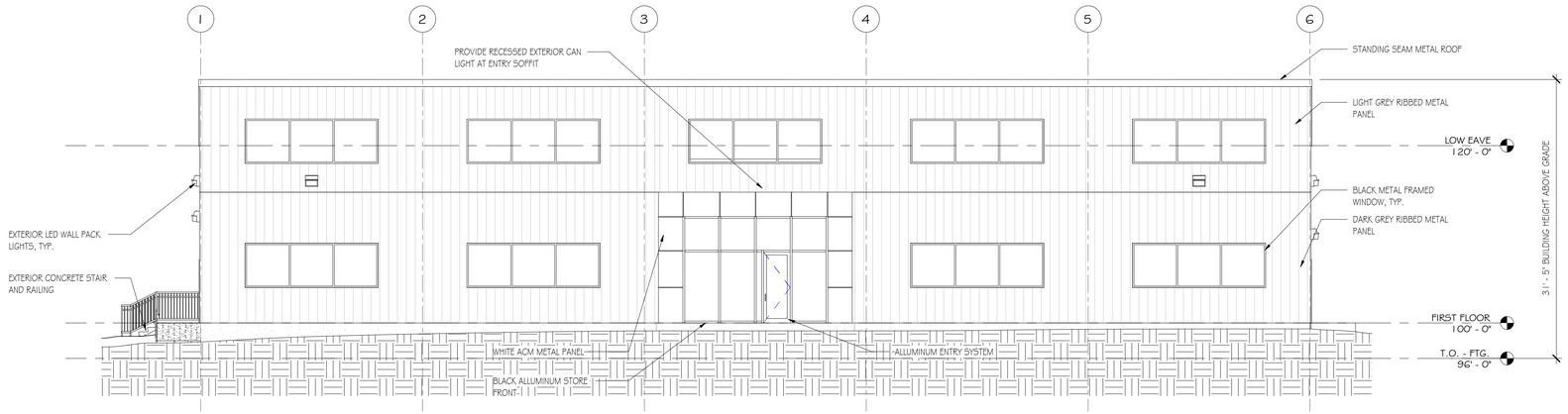
Sheet Number:

A1.1

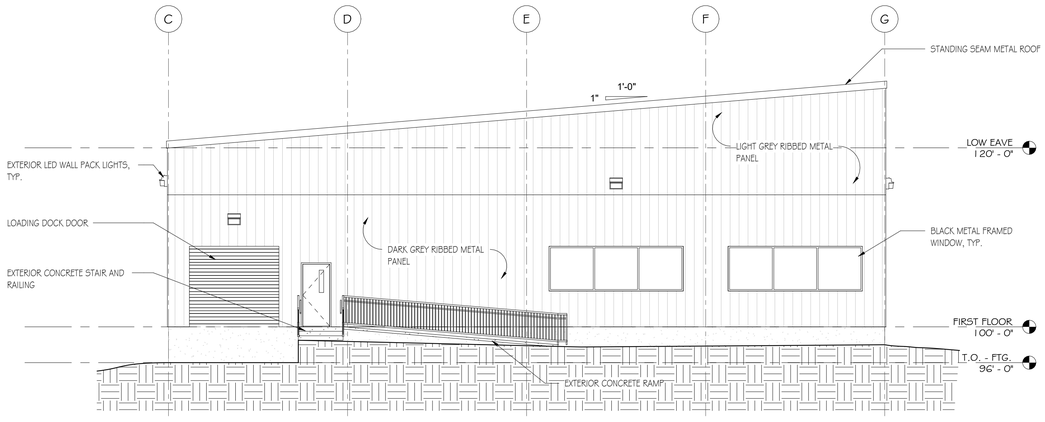
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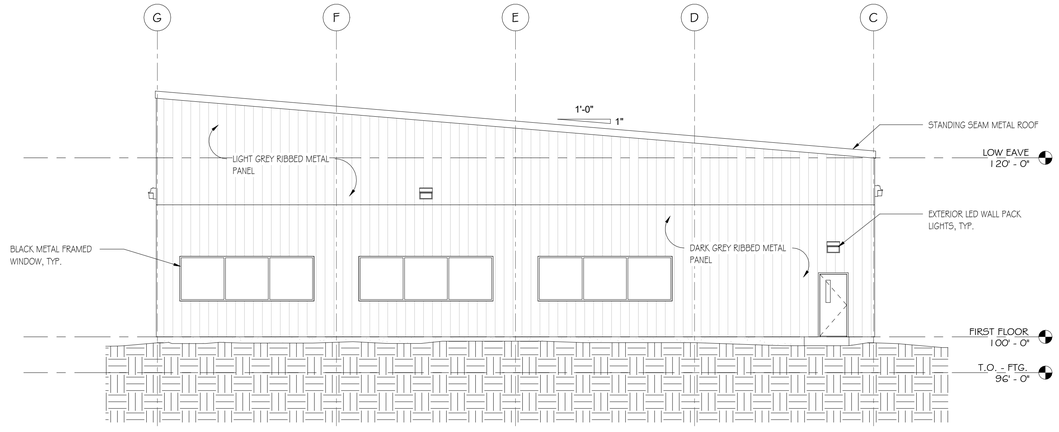
TW DESIGNS LLC
254 DRAKE HILL RD. STRAFFORD, NH
P: 603.664.2181 | F: 603.664.9508



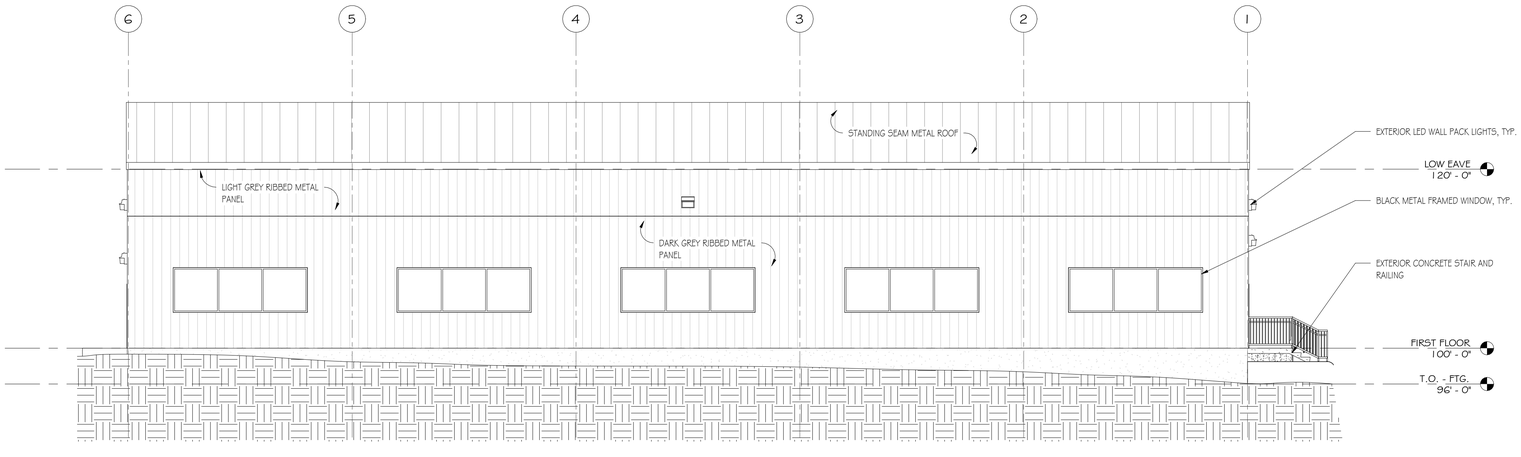
1 SOUTH EXTERIOR ELEVATION
1/8" = 1'-0"



2 WEST EXTERIOR ELEVATION
1/8" = 1'-0"



3 EAST EXTERIOR ELEVATION
1/8" = 1'-0"



4 NORTH EXTERIOR ELEVATION
1/8" = 1'-0"

No.	Description	Date

Revision Schedule

Project Info:

Future Automation - AUX

Dover, NH

Sheet Status:

Latest Release:
Issued For: Planning Board
Org. Issue Date: N.F.C. - 011024

JOB NO: 23027
DRAFTED: JMT
CHECKED: Checker
SCALE: 1/8" = 1'-0"

Sheet Title:

EXTERIOR ELEVATIONS

Sheet Number:

A3.1

Printed on: 1/10/2024 3:08:58 PM

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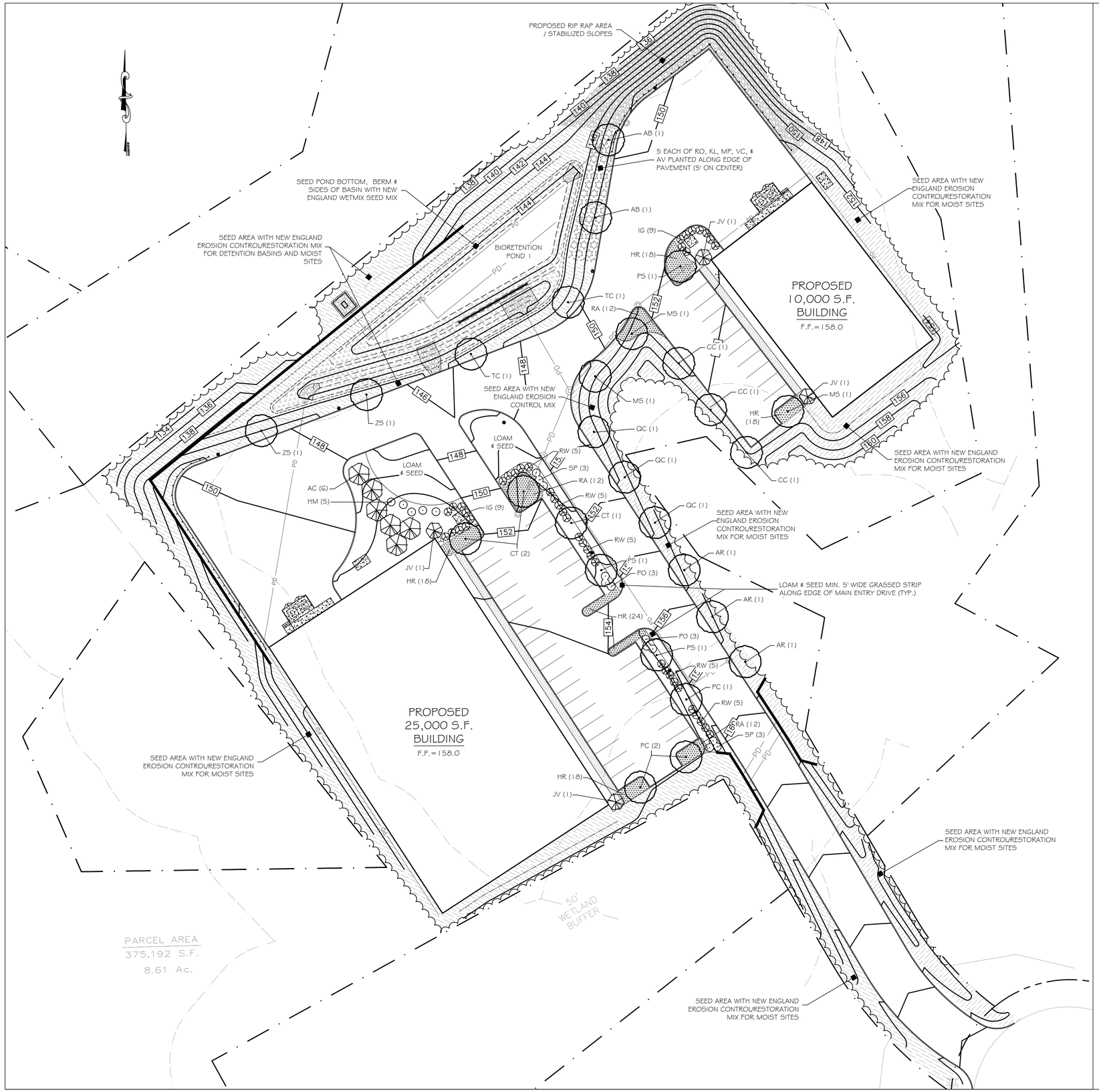


TW DESIGNS

AUX Buidling Street View Rendering
Future Automation - AUX

R1.1

N.F.C.



PLANTING SCHEDULE

Botanical Name / Common Name	Size*	Label	Quantity
TREES			
Abies concolor / White Fir	6-7' B&B	AC	6
Acer rubrum 'Bowhall' / Bowhall Red Maple	2.5-3" Cal	AB	2
Acer rubrum 'October Glory' / October Glory Red Maple	2.5-3" CAL.	AR	3
Carpinus betulus 'Frans Fontaine' / Frans Fontaine European Hornbeam	2.5-3" CAL.	CC	3
Crataegus crusgalli inermis 'Crusader' / Crusader Thornless Hawthorne	2.5-3" CAL.	CT	3
Juniperus virginiana 'Hillspire' / Hillspire Eastern Red Cedar	5-6' B&B	JV	4
Malus 'Spring Snow' / Spring Snow Crabapple	2.5-3" CAL.	MS	3
Prunus serrulata 'Kwanzan' / Kwanzan Flowering Cherry	2.5-3" CAL.	PS	3
Pyrus calleryanna 'Aristocrat' / Aristocrat Flowering Pear	2.5-3" CAL.	PC	3
Quercus coccinea / Scartlet Oak	2.5-3" CAL.	QC	3
Tilia cordata 'Greenspire' / Greenspire Littleleaf Linden	2.5-3" CAL.	TC	2
Zelkova serrata 'Village Green' / Village Green Zelkova	2.5-3" Cal	ZS	2
SHRUBS			
Hydrangea macrophylla 'Endless Summer' / Endless Summer Bigleaf Hydrangea	2-2.5'	HM	5
Ilex glabra 'Compacta' / Compact Inkberry Holly	2-2.5'	IG	18
Physocarpus opulifolius 'Little Devil' / Little Devil Ninebark	2-2.5'	PO	6
Rhododendron 'Wilsoni' / Wilson Rhododendron	2-2.5'	RW	25
Syringa x hyacinthiflora 'Pocahontas' / Pocahontas Lilac	2-2.5'	SP	6
PERENNIALS			
Hemerocallis 'Happy Returns'/ Happy Returns Daylily	#1	HR	96
GROUNDCOVER			
Rhus aromatica 'Grow Low' / Grow Low Sumac	18-24"	RA	36
BIORETENTION POND #1			
Cornus sericea / Red-Osier Dogwood	#1	RO	5
Kalmia latifolia / Mountain Laurel	#1	KL	5
Myrica pensylvanica / Northern Bayberry	#1	MP	5
Vaccinium corymbosum / Highbush Blueberry	#1	VC	5
Viburnum dentatum / Arrowwood Viburnum	#1	AV	5
SEED MIX			
Grass Seed Mix			3,000 S.F.
New England Wetmix			10,000 S.F.
New England Erosion Control / Restoration Mix for Detention Basins & Moist Sites			35,000 S.F.

* TREES WITH A 2-2.5" CALIPER GENERALLY ESTABLISH THEMSELVES MORE QUICKLY AND BEGIN TO PRODUCE NEW GROWTH SOONER AND WITH LESS MAINTENANCE THAN THOSE OF THE REQUIRED 3.5-4" CALIPER.

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 TWO (2) YEARS 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.
8. ALL LANDSCAPED AREAS SHALL RECEIVE REGULAR MAINTENANCE AND UPKEEP. SEVERELY INJURED, DISEASED, OR DEAD PLANT MATERIAL SHALL BE REPLACED IN KIND IN PERPETUITY (AVOID REPLACING LANDSCAPE MATERIALS IN THE PERIOD FROM NOVEMBER TO MARCH.)
9. BEST PRACTICES TO MINIMIZE ENVIRONMENTAL IMPACTS SUCH AS THE USE OF LOW PHOSPHOROUS FERTILIZER AND SLOW RELEASE NITROGEN, SHALL BE IMPLEMENTED.
10. IF OWNERSHIP OF A SITE IS CONVEYED TO A NEW PROPERTY OWNER, THE NEW OWNER SHALL BE RESPONSIBLE FOR MAINTAINING ALL LANDSCAPING IN ACCORDANCE WITH THE APPROVED FINAL LANDSCAPING PLAN.

LANDSCAPE CALCULATIONS:

INTERIOR PARKING LOT LANDSCAPING:
5% MIN. INTERIOR LANDSCAPING REQUIRED FOR LOTS WITH BETWEEN 21-125 PARKING SPACES
47 PARKING SPACES PROPOSED - 37,000 SF PARKING LOT AREA X .05 = 1,850 SF INTERIOR LANDSCAPING REQUIRED
PROVIDED: 5,800 SF INTERIOR PARKING LOT LANDSCAPING

PERIMETER LANDSCAPING:
REQUIRED: 1 DECIDUOUS SHADE TREE / 35' OF PARKING LOT PERIMETER
533 L.F.OF PARKING LOT PERIMETER / 35 = 15.2 = 15 TREES REQUIRED
PROVIDED: 27 TREES PROPOSED

0 15' 30' 60' 90' 150'

terrain
planning & design llc
311 kast hill road
hopkinton nh 03229
603. 491. 2322
terrainplanning.com

QUALITY WAY

Site Location:
Quality Way
Dover, NH 03820

Prepared For:
Civilworks New England
181 Watson Road
PO Box 1166
Dover, NH 03821

LANDSCAPE PLAN

DATE: 11 - 30 - 23

SCALE: 1"=30'

PROJECT #: 23090

Drawn By: ID

Checked By: RM

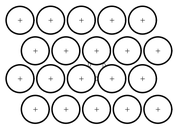
REVISIONS: DATE:
Issued for Review 11-30-23
Revised per City comments 02-29-24

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2/29/24

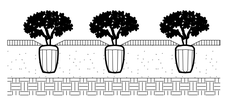


TYPICAL BED PLANT SPACING

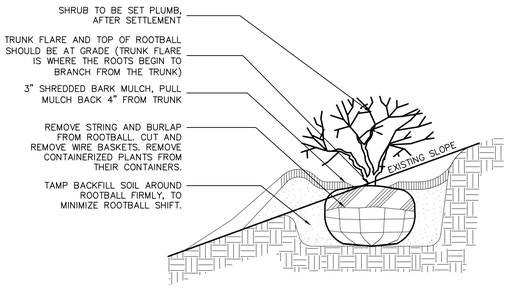
NOTE:
D = DIMENSION OF PLANT SPACING (SHRUB OR GROUNDCOVER AS INDICATED ON PLANS)

12" LOAM BACKFILL (CONTINUOUS THROUGHOUTBED AREA)

3" DEEP SHREDDED BARK MULCH

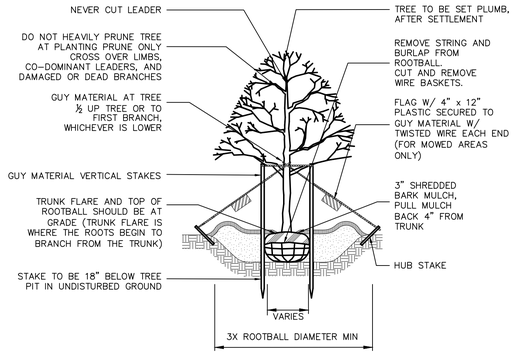


1 TYPICAL PERENNIAL PLANTING
NO SCALE



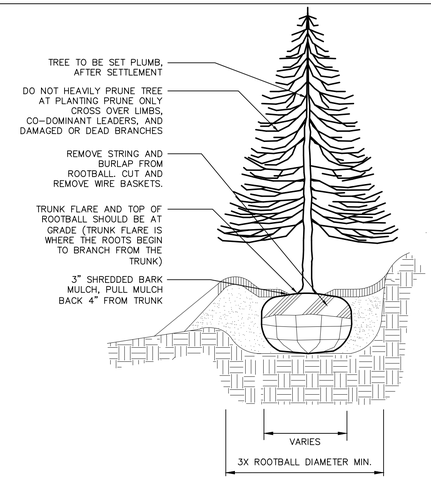
NOTE:
1. DO NOT HEAVILY PRUNE SHRUB AT PLANTING, PRUNE ONLY CROSSOVER LIMBS AND DAMAGED OR DEAD BRANCHES.
2. BACKFILL WITH LOAM, AMEND AS REQUIRED BY LANDSCAPE ARCHITECT.
3. SHRUBS & GROUNDCOVER PLANTED ADJACENT TO CITY SIDEWALKS NEED TO BE PLACED SO THE PLANTS, AT THEIR MATURE HEIGHT & WIDTH, WILL NOT ENCROACH INTO THE CITY'S SIDEWALK.

2 TYPICAL SHRUB 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 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.

3 DECIDIOUS TREE PLANTING
NO SCALE



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.

4 EVERGREEN TREE PLANTING
NO SCALE

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311 kast hill road
hopkinton nh 03229
603. 491. 2322
terrainplanning.com

QUALITY WAY

Site Location:
Quality Way
Dover, NH 03820

Prepared For:
Civilworks New England
181 Watson Road
PO Box 1166
Dover, NH 03821

LANDSCAPE DETAILS

DATE: 11 - 30 - 23

SCALE: AS NOTED

PROJECT #: 23090

Drawn By: ID

Checked By: RM

REVISIONS:	DATE:
Issued for Review	11-30-23
Revised per City comments	02-29-24

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L - 2



MINIMUM EXPEDITED WETLANDS PERMIT APPLICATION

For

FUTURE AUTOMATION, INC.
MAP D, LOT 11-8
Quality Way
Dover, NH
Strafford County

April 2024

Prepared For:

FUTURE AUTOMATION, INC
127 Venture Drive
Dover, NH 03820

Prepared By:

CIVILWORKS NE
P.O. Box 1166
181 Watson Road
Dover, New Hampshire 03820

CIVILWORKS NEW ENGLAND

181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

April 1, 2024

Re: Wetland Bureau – Minimum Expedited Permit
Wetland Permit Application

Subject: Wetland Permit Application – Minimum Expedited Review
Tax Map D, Lot 11-8
Quality Way
Dover, NH 03821

Our Reference No. 22075

Dear NHDES Wetlands Bureau:

On behalf of Future Automation Inc., we are pleased to submit (1) full size set of the attached Expedited Wetlands Permit plans and materials for wetland bureau consideration.

If you have any questions that we might be able to answer, please do not hesitate to contact our office.

Sincerely,

CIVILWORKS NEW ENGLAND



Stephen J Haight, PE

Project Narrative

PROJECT NARRATIVE
ACCOMPANYING MINIMUM EXPEDITED WETLANDS PERMIT
For:
Future Automation
Quality Way, Dover, NH
Tax Map D, Lot 11-8

PROJECT OVERVIEW & SITE CHARACTERISTICS

The project parcel is shown on Tax Map D as Lot 11-8, is located within the IT District and consists of 8.61± acres, currently undeveloped.

The project, as proposed by Future Automation, will provide two buildings with a total floor area of about 34,856 square feet (sf) as follows:

- one 24,856± sf building having a floor area consisting of 21,992± sf of light manufacturing and 2,864 sf of office space, and
- one 10,000 sf build-to-suit building presumed to have a floor area consisting of 6,670 sf of light manufacturing and 3,330 sf of office space.

The two buildings will be accessed via a single shared access driveway but will be served by separate parking and loading areas. The parcel is currently owned by the Dover Business & Industrial Development Authority (DBIDA). The Applicant has met with DBIDA and received an endorsement to proceed.

The proposed site will include public water and sewer connections, underground electric service, natural gas service, and associated drainage improvements. The proposed access driveway will require a culverted wetland crossing resulting in 1,631± sf of wetland impacts. Additionally, a portion of the proposed grading, drainage, pavement, and buildings are proposed within the 50' wetland buffer. The resulting buffer impacts a total of 39,820± sf.

The project site consists of the following general improvements:

- Erosion and sediment control
- Log and clear the site for construction.
- Construction of one new entrance on Quality Way.
- Construction of on-site stormwater detention and treatment system, grading, and other drainage requirements.
- Site utility construction.
- Construction of the two buildings with associated parking, passenger vehicle and truck access, and loading docks.
- Stabilize remaining areas with loam and seed.

WETLAND CROSSING

The project's entrance driveway and associated utilities requires wetland crossing, the project proposes an 18"H x 48" W x 40'L Box Culvert to accommodate flow and wildlife passage. This culvert can accommodate the 215,000± sf upslope watershed without

ponding or damming. Rip rap aprons are included to prevent erosion at the inlet and outlet, although from the soils on site and the resulting flows, energy dissipation structures are not required. Minimal sizes for the rip rap aprons were used to minimize impacts. Approximately 1,631± sf of wetlands will be impacted along with 39,820± sf of wetland buffer. The project does not impact bogs, marshes, sand dunes, tidal wetlands, cedar swamps, undisturbed tidal buffer zone, or involve any work within 50 feet of a salt marsh. The project is not located within 100 feet of prime wetlands.

MINIMUM IMPACT TYPE

The project involves alteration of less than 3,000 square feet in the wetlands located on the east side of the site. As verified using the Wetlands Permit Planning Tool (WPPT), the wetlands to be disturbed are not classified as Prime Wetlands or in a PRA. A NHB was filed that resulted in no record of any habitats or endangered wildlife. Therefore, this project is in conformance to the “Minimum Impact Projects” as described under Env-Wt 303.04, subject “(f)”. Damon E. Burt N.H.C.W.S #163 delineated the wetlands on, September 2, 2022. The proposed disturbance to the wetland will be 1,631± sf for the installation of culverts. This application will require the acceptance of the Town of Dover’s Conservation Commission and a conditional use permit from the Town of Dover’s Planning Board.

Wetlands Permit Application

EXPEDITED MINIMUM IMPACT (EXP) WETLANDS PERMIT APPLICATION

Water Division / Land Resources Management

Check the Status of your Application

RSA/Rule: RSA 482-A/Env-Wt 100-900 (Env-Wt 310.01)

APPLICANT'S NAME: Future Automation, Inc. **TOWN NAME:** Dover

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; Env-Wt 603.03; Env-Wt 603.05)

Please use the Wetland Permit Planning Tool (WPPT), the Natural Heritage Bureau (NHB) DataCheck Tool, the Aquatic Restoration Mapper, or other sources to assist in identifying key features such as: Priority Resource Areas (PRAs), protected species or habitats, coastal areas, designated rivers, or designated prime wetlands.

Does the property contain a PRA? If yes, provide the following information:	○ Yes ◉ No
• Does the project qualify for an Impact Classification Adjustment (such as an NH Fish and Game Department (NHFG) and NHB agreement for a classification downgrade) or a Project-Type Exception (such as a Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04).	○ Yes ◉ No
• Protected species or habitat? ○ If yes, species or habitat name(s): ○ NHB Project ID #: NHB23-3353	○ Yes ◉ No
• Bog?	○ Yes ◉ No
• Floodplain wetland contiguous to a tier 3 or higher watercourse?	○ Yes ◉ No
• Designated prime wetland or duly-established 100-foot buffer?	○ Yes ◉ No
• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	○ Yes ◉ No
Is the property within a Designated River corridor? If yes, provide the following information: • Name of Local River Management Advisory Committee (LAC): • A copy of the application was sent to the LAC on Month: ☐ Day ☐ Year:	○ Yes ◉ No
For dredging projects, is the subject property contaminated? • If yes, list contaminant(s):	○ Yes ◉ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	○ Yes ◉ No
For stream crossing projects, provide watershed size (see Wetland Permit Planning Tool or Stream Stats): N/A	

SECTION 2 - ELIGIBILITY (Env-Wt 306.03; Env-Wt 310.01; Env-Wt 310.03)

You must confirm that your project meets *all* of the following statements to qualify for the EXP process:

- The project qualifies as minimum impact project (Env-Wt 306.03).
- The project does not include activities that are prohibited under RSA 482-A (Env-Wt 306.03(a)).
- The project does not include any work in a jurisdictional area that was started without first obtaining the applicable approval (Env-Wt 306.03(b)).
- No work has been done on the subject property pursuant to another EXP or a Statutory Permit-by-Notification (SPN) within 12 months of the date this EXP will be issued. Alternatively, if any work has been done on the subject property pursuant to another EXP or a SPN within 12 months of the date this EXP will be issued, then you are submitting information, including a plan, with this application demonstrating that:
  - The work proposed in this EXP application is wholly unrelated to and separate from the work already done under the EXP or SPN; and
  - The work proposed in this EXP application, when combined with work that has been done under previously issued EXPs or SPNs within the last 12 months, does not constitute a project for which a Standard Permit is required (Env-Wt 310.03(a)).
- If the project is located in a PRA, it also qualifies for an impact classification adjustment under Env-Wt 407.02 or a project-type exception (PTE) under Env-Wt 407.04 (Env-Wt 310.01(d)(6)).

☒ My project meets all statements above. Proceed to Section 3.

☐ My project does not meet all of the statements above. **Your project does not qualify for the EXP process. Your project either is not permittable or requires a Standard Permit.**

SECTION 3 - INFORMATION ON THE PROPOSED PROJECT (Env-Wt 310.01(c))

Identify the rule(s)/provision(s) which make the project a minimum impact project. Refer to the project list below and the Expedited Minimum Impact (EXP) Project Classification Guidance Document.

☐ Aquatic Vegetation Control Projects (Env-Wt 510.08(a))
☐ Water Access Structure Construction Projects (Env-Wt 511.06(a))
☐ Beach Replenishment Projects (Env-Wt 511.07(a))
☐ Deck or Patio Repair Projects (Env-Wt 511.08(a))
☐ Breakwater Maintenance and Repair Projects (Env-Wt 512.07(b))
☐ Docking and Accessory Docking Structure Construction, Repair, and Replacement Projects (Env-Wt 513.24(a))
☐ Docking Structure Modification Projects (Env-Wt 513.25(a))
☐ Accessory Docking Structure Installation, Construction, Modification, Repair, and Replacement Projects (Env-Wt 513.26(a))
☐ Canopy Projects (Env-Wt 513.27(a))
☐ Bank/Shoreline Stabilization Construction Projects (Env-Wt 514.07(a))
☐ Dug-in Basins and Boathouse Construction or Modification Projects (Env-Wt 515.06(a), (b))
☐ Dug-in Basins and Boathouse Maintenance and Repair Projects (Env-Wt 515.07(a))
☐ Intake and Outflow Structure Construction, Maintenance and Repair Projects (Env-Wt 516.05; Env-Wt 516.06(b))
☐ Trail or Pathway Projects (Env-Wt 517.06(a); Env-Wt 517.06(d))
☐ Boardwalk Projects (Env-Wt 517.07(a); (Env-Wt 517.09)
☐ Dry Hydrants and Other Non-Docking Structure Projects (Env-Wt 518.07(a)(1), (b))
☐ Pond Construction, Maintenance, and Repair Projects (Env-Wt 519.08(a), (b); Env-Wt 519.09(a))
☐ Residential Utility Installation Projects (Env-Wt 521.06(a)(7))

- ☐ Non-tidal Dredging Projects (Env-Wt 523.04(a))
- ■ Residential, Commercial, and Industrial Development Projects (Env-Wt 524.06(b))
- ☐ Restoration/Enhancement Projects (Env-Wt 525.05)
- ☐ Dam Construction, Reconstruction, or Replacement Projects (Env-Wt 526.06(a))
- ☐ Dam Modification, Repair, or Maintenance Projects (Env-Wt 526.07(a))
- ☐ Pubic Highway Projects (Env-Wt 527.06; Env-Wt 527.07)
- ☐ Coastal Projects (Env-Wt 600)
- ☐ Stream Crossing Projects (Env-Wt 903.01(e))
- ☐ All Other Projects (Env-Wt 407.03)

Provide the project-specific information required by the rule(s)/provision(s). Refer to Chapters Env-Wt 400, Env-Wt 500, Env-Wt 600, and/or Env-Wt 900, as applicable, for project-specific application and design requirements. *Please see applicable standard Project Specific Worksheets for guidance.*

Env-Wt 400: Wetland Delineated by Certified Wetland Scientist (ENV-Wt 406.02); Jurisdictional area delineated (Env-Wt 406.05); Each wetland is classified in accordance with the federal classification method (Env-Wt 406.06); The project does not impact a PRA (Env-Wt 407.02); Propose impact is less that 3,000 sf, therefore "minimum" classification (Env-Wt 408.03).
Env-Wt: 500: Project avoids and minimizes impacts to wetlands (Env-Wt 524.02); The project provides setbacks and water quality protection measure to protect priovate and public drinking water supplies, source water protection areas, and fisheries (Env-Wt 524.04); A construction notice will be filed at least 48 hours prior to commencing work (Env-Wt 524.05)
Env-Wt 600 and Env-Wt 900: N/A

For projects located on waterbodies, provide the linear feet of shoreline frontage on the property: linear feet

(■ Not applicable)

Provide a brief description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent. *Do not* reply “See attached".

This project proposes the construction of two (2) industrial buildings, 24,856 sf and 10,000 sf, with associated site improvements including; parking, driveway, loading docks, and stormwater management. For the site to gain access to Quality Way a 490 ft drive isle is proposed, with the aforementioned wetland crossing. Headwalls will be utilized to minimize impacts.

Identify the type of jurisdictional resources to be impacted and the area of impact in square feet and/or linear feet:

1,631 s.f. of disturbance is being proposed in the wetland. A W48" x H18" Box culvert is being proposed with associated headwalls, and minimal outlet protection. Outlet protection is not required due to the velocity and underlying soil, but riprap is being proposed to prevent soil scouring.

(☐ Not applicable)

SECTION 4 - PROJECT LOCATION (Env-Wt 310.01(b))

ADDRESS: Quality Way

TOWN/CITY: Dover

TAX MAP/LOT NUMBER: Tax Map D, Lot 11-8

US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: Reyners Brook
☐ N/A

LATITUDE/LONGITUDE in decimal degrees (to five decimal places): 43.22420° North
-70.91300° West

SECTION 5 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 310.01(a))

If the applicant is a trust or a company, then the name of the trust or company should be written as the applicant's name.

NAME: Future Automation, Inc.

MAILING ADDRESS: 127 Venture Drive

TOWN/CITY: Dover | STATE: NH | ZIP CODE: 03820

PHONE: 07973 505409 (UK) | EMAIL ADDRESS (OPTIONAL): alun.williams@futureautomation.co.uk

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 6 - AUTHORIZED AGENT INFORMATION (Env-Wt 310.01(a))

If the agent is a company, then the name of the company should be written as the agent's name.

NAME: Civilworks NE (Steve Haight)

MAILING ADDRESS: P.O. Box 1166

TOWN/CITY: Dover | STATE: NH | ZIP CODE: 03820

PHONE: 603-749-0443 | EMAIL ADDRESS (OPTIONAL): shaight@civilworksne.com

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 7 - PROPERTY OWNER INFORMATION, IF DIFFERENT FROM APPLICANT (Env-Wt 310.01(a)) If the owner is a trust or a company, then the name of the trust or company should be written as the owner's name.		
NAME: Dover Business & Industrial Development Authority (DBIDA)		
MAILING ADDRESS: 288 Central Ave		
TOWN/CITY: Dover	STATE: NH	ZIP CODE: 03820
PHONE: 603-516-6008	EMAIL ADDRESS (OPTIONAL):	
ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically.		

SECTION 8 - APPLICATION FEE (RSA 482-A:3, I)

■ $400 for minimum impact projects. Please make your check or money order payable to: "Treasurer - State of NH".

SECTION 9 - REQUIRED CERTIFICATIONS (Env-Wt 310.01(d))

Initial each box below to certify:

Initials:	
AW	The proposed project meets the conditions and limits of the applicable minimum impact project rule.
AW	All abutters have been notified.
AW	If the project is to repair or replace a docking structure, the docking structure is an existing legal structure. (■ N/A)
AW	The proposal is the alternative with the least adverse impact to jurisdictional areas, as required by Env-Wt 310.01(d)(4).
AW	The project is not an after-the-fact application.
AW	The project is: • Not located in a PRA, or • Is located in a PRA but is subject to a classification adjustment under Env-Wt 407.02 or a project-type exception under Env-Wt 407.04.
AW	The applicant is aware of the limits of the EXP and understands and will comply with all conditions in the EXP and all applicable conditions in Env-Wt 307.

Initials: AW	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: AW	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
Initials: AW	The signer understands that: • The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1.
Initials: AW	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 10 - REQUIRED SIGNATURES (Env-Wt 310.01(d))

SIGNATURE (OWNER)*:	PRINT NAME LEGIBLY: DBIDA (Chris Parker)	DATE:

*Note: If the applicant is not the owner of the property, each property owner also shall sign and date the application provided that property owner signatures shall not be required for transportation projects adjacent to existing rights-of-way where an easement will be obtained prior to the start of construction (Env-Wt 311.11(d)). Check the following box if your project meets this exception: ☐.

SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY: Future Automation (Alun Williams)	DATE: 3-4-24
SIGNATURE (AGENT, IF APPLICABLE):	PRINT NAME LEGIBLY: Civilworks NE (Steve Haight)	DATE: 3/4/24

SECTION 11 - CONSERVATION COMMISSION SIGNATURE (Env-Wt 310.01(h))**

The signed statement from the Conservation Commission may be submitted electronically.

The signature below certifies that the municipal Conservation Commission or, if there is no conservation commission, the local governing body, has reviewed this application and the municipality waives its right to intervene on the project, per RSA 482-A:11.

AUTHORIZED COMMISSION SIGNATURE:	PRINT NAME LEGIBLY:	DATE:

SECTION 12 - LOCAL RIVER MANAGEMENT ADVISORY COMMITTEE SIGNATURE (Env-Wt 310.01(i))**		
The signature below certifies that the LAC waives its right to intervene per RSA 482-A:11: (■ N/A This project is **not** within a Designated River Corridor)		
AUTHORIZED LAC REPRESENTATIVE SIGNATURE:	PRINT NAME LEGIBLY:	DATE:

**Note: If the application is administratively complete, except for the signed statement from the Conservation Commission and/or LAC, the application will be processed under the application processing times established in RSA 482-A:3, XIV (Env-Wt 310.02(h)). The applicant may also indicate that they are applying for a minimum impact application under standard processing timelines.

SECTION 14 - TOWN / CITY CLERK SIGNATURE (Env-Wt 310.01(f))	
As required by RSA 482-A:3, I(a)(1), I hereby certify that the municipality has received four copies of the application, including all attachments.	
TOWN/CITY CLERK SIGNATURE:	PRINT NAME LEGIBLY:
TOWN/CITY: Dover NH	DATE:

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3, I(a)(1)

1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:
Submit the single, original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page.

Signed Check



53-179/113

3241

FUTURE AUTOMATION INC.
127 VENTURE DR.
DOVER, NH 03820-5915

DATE 3/4/2024.

TREASURER - STATE OF NH

$ 400.0/100

PAY TO THE ORDER OF

FOUR HUNDRED 0/100 DOLLARS

Security Features Included. Details on Back.

Eastern Bank
Boston, MA 02110
easternbank.com
1-800-EASTERN

MEMO WETLANDS

MP

⑈011301798⑈ 1010126377⑈ 3241

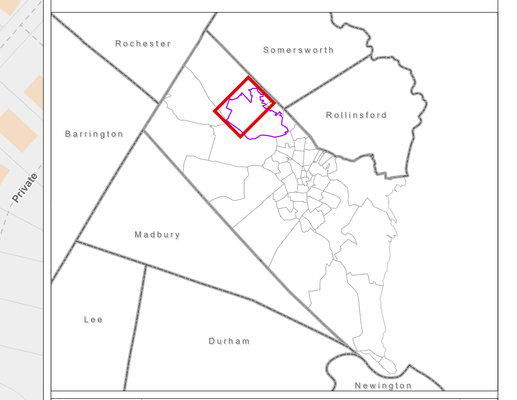
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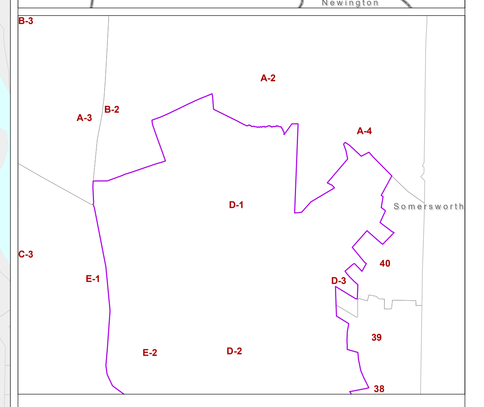
Tax Map

CITY OF DOVER
STAFFORD COUNTY NH
TAX ASSESSORS MAP

Map Page: D-1

Parcels
Parcel on Adjacent Maps
Buildings
Rail Road
Water Body
Swamp/Marsh
Streams
A-20-0-0 Parcel Number
0.24 AC Parcel Acreage
240 Address Number





400 200 0 400 Feet

1:2,400
1 " = 200 '

This map is for assessment and planning purposes only. It is not intended to be used for description, conveyance, authoritative definition of any legal boundary, or property title. This is not a survey product. Users are encouraged to examine the documentation associated with the data on which this map is based for information related to its accuracy, currentness and limitations.

Map Generated: Wednesday, March 21, 2018

AppGeo

Abutters List & Notifications

Abutters List – March 29, 2024
Future Automation, Inc.
Property Location
Quality Way
Dover, NH 03820
Tax Map D, Lot 11-8

Map/Lot	Owner Name & Address
D/11-8 (Owner)	Dover Business & Industrial Development Authority, F/K/A Dover Industrial Development Authority 288 Central Ave Dover, NH 03820
D/11-8SN1	Dover Business & Industrial Development Authority, F/K/A Dover Industrial Development Authority 288 Central Ave Dover, NH 03820
D/11-8SN2	Dover Business & Industrial Development Authority, F/K/A Dover Industrial Development Authority 288 Central Ave Dover, NH 03820
D/11-1	Dover Business & Industrial Development Authority 288 Central Ave Dover, NH 03820
D/11-7	Weave Filtration LLC. 100 Tri City Road Unit 117 Somersworth, NH 03878
D/11-7SN2	Weave Filtration LLC. 100 Tri City Road Unit 117 Somersworth, NH 03878
A/48-B	Mendenhall Jon L & Mendenhall Karen E 475 Sixth Street Dover, NH 03820

A/49-11	Triconi Christopher E & Elizabeth C Trust, Triconi Family Living Trust 2021 28 Quail Drive Dover, NH 03820
A/49-12	Moreau Scott & Curtis Marcy 32 Quail Drive Dover, NH 03820
A/49-13	Porter Douglas W & Porter Yukari 29 Quail Drive Dover, NH 03820
D/12-1	TSB Properties LLC. 385 Sixth Street Dover, NH 03820
Engineer:	Civilworks New England P.O. Box 1166, 181 Watson Road Dover, NH 03821
Surveyor:	McEneaney Survey Associates of New England P.O. Box 681 Dover, NH 03820

CIVILWORKS NEW ENGLAND
181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

April 1, 2024

To: Dover Business & Industrial Development Authority,
F/K/A Dover industrial Development Authority
Tax Map D Lot 11-8SN1
Tax Map D Lot 11-8SN2
Tax Map D Lot 11-1
288 Central Ave
Dover, NH 03820

Ref: Minimum Expedited Wetlands Permit
Future Automation, Inc.
Tax Map D, Lot 8
Quality Way, Dover, NH 03820

CNE Reference No. 22075

Dear Abutter:

The purpose of this letter is to inform you that a permit application will be filed with the N.H. Department of Environmental Services for a Minimum Expedited Wetlands Permit associated with the above referenced project. Under state law RSA 483-B:5-b, iv-a, I am required to notify you about the application.

A copy of the application, including plans, will be made available for your review at the Dover town offices and at the NH Department of Environmental Services Wetlands Bureau, 29 Hazen Drive, in Concord.

If you have any questions that we might be able to answer, please do not hesitate to contact our office.

Sincerely,



Stephen J. Haight, P.E.,
CIVILWORKS NEW ENGLAND
P.O. Box 1166, Dover, NH 03821
603.749.0443

CIVILWORKS NEW ENGLAND
181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

April 1, 2024

To: Mendenhall Jon L & Mendenhall Karen E
Tax Map A Lot 48-B
475 Sixth Street
Dover, NH 03820

Ref: Minimum Expedited Wetlands Permit
Future Automation, Inc.
Tax Map D, Lot 8
Quality Way, Dover, NH 03820

CNE Reference No. 22075

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P.O. Box 1166, Dover, NH 03821
603.749.0443

CIVILWORKS NEW ENGLAND
181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

April 1, 2024

To: Moreau Scott & Curtis Marcy
Tax Map A Lot 49-12
32 Quail Drive
Dover, NH 03820

Ref: Minimum Expedited Wetlands Permit
Future Automation, Inc.
Tax Map D, Lot 8
Quality Way, Dover, NH 03820

CNE Reference No. 22075

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Sincerely,



Stephen J. Haight, P.E.,
CIVILWORKS NEW ENGLAND
P.O. Box 1166, Dover, NH 03821
603.749.0443

CIVILWORKS NEW ENGLAND
181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

April 1, 2024

To: Porter Douglas W & Porter Yukari
Tax Map A Lot 49-13
32 Quail Drive
Dover, NH 03820

Ref: Minimum Expedited Wetlands Permit
Future Automation, Inc.
Tax Map D, Lot 8
Quality Way, Dover, NH 03820

CNE Reference No. 22075

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Sincerely,



Stephen J. Haight, P.E.,
CIVILWORKS NEW ENGLAND
P.O. Box 1166, Dover, NH 03821
603.749.0443

CIVILWORKS NEW ENGLAND
181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

April 1, 2024

To: Triconi Christopher E & Elizabeth C Trust,
Triconi Family Living Trust 2021
Tax Map A Lot 49-11
28 Quail Drive
Dover, NH 03820

Ref: Minimum Expedited Wetlands Permit
Future Automation, Inc.
Tax Map D, Lot 8
Quality Way, Dover, NH 03820

CNE Reference No. 22075

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If you have any questions that we might be able to answer, please do not hesitate to contact our office.

Sincerely,



Stephen J. Haight, P.E.,
CIVILWORKS NEW ENGLAND
P.O. Box 1166, Dover, NH 03821
603.749.0443

CIVILWORKS NEW ENGLAND
181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

April 1, 2024

To: TSB Properties LLC.
Tax Map D Lot 12-1
385 Sixth Street
Dover, NH 03820

Ref: Minimum Expedited Wetlands Permit
Future Automation, Inc.
Tax Map D, Lot 8
Quality Way, Dover, NH 03820

CNE Reference No. 22075

Dear Abutter:

The purpose of this letter is to inform you that a permit application will be filed with the N.H. Department of Environmental Services for a Minimum Expedited Wetlands Permit associated with the above referenced project. Under state law RSA 483-B:5-b, iv-a, I am required to notify you about the application.

A copy of the application, including plans, will be made available for your review at the Dover town offices and at the NH Department of Environmental Services Wetlands Bureau, 29 Hazen Drive, in Concord.

If you have any questions that we might be able to answer, please do not hesitate to contact our office.

Sincerely,



Stephen J. Haight, P.E.,
CIVILWORKS NEW ENGLAND
P.O. Box 1166, Dover, NH 03821
603.749.0443

CIVILWORKS NEW ENGLAND
181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

April 1, 2024

To: Weave Filtration LLC.
Tax Map D Lot 11-7
Tax Map D Lot 11-7SN2
100 Tri City Road Unit 117
Somersworth, NH 03878

Ref: Minimum Expedited Wetlands Permit
Future Automation, Inc.
Tax Map D, Lot 8
Quality Way, Dover, NH 03820

CNE Reference No. 22075

Dear Abutter:

The purpose of this letter is to inform you that a permit application will be filed with the N.H. Department of Environmental Services for a Minimum Expedited Wetlands Permit associated with the above referenced project. Under state law RSA 483-B:5-b, iv-a, I am required to notify you about the application.

A copy of the application, including plans, will be made available for your review at the Dover town offices and at the NH Department of Environmental Services Wetlands Bureau, 29 Hazen Drive, in Concord.

If you have any questions that we might be able to answer, please do not hesitate to contact our office.

Sincerely,



Stephen J. Haight, P.E.,
CIVILWORKS NEW ENGLAND
P.O. Box 1166, Dover, NH 03821
603.749.0443

STATE NOTIFICATION FOR MINIMUM EXPEDITED WETLANDS PERMIT APPLICATION

VIA CERTIFIED MAIL

April 1, 2024

STATE OF NEW HAMPSHIRE
P.O. BOX 483
CONCORD, NH 03302-0483

Re: Minimum Expedited Wetlands Permit Application
Future Automation, Inc.
Tax Map D, Lot 11-8
Quality Way, Dover, NH 03820

Our Reference No. 22075

Dear Sir or Madam:

This letter is to inform you that a permit application will be filed with the N.H. Department of Environmental Services for a Minimum Expedited Wetlands Permit associated with the above referenced project. Under state law RSA 483-B:5-b, iv-a, I am required to notify you about the application.

Once it is filed, the permit application, including plans that show the proposed project, will be available for viewing at the City of Dover Clerk's office.

Sincerely,



Stephen J. Haight, P.E.,
CIVILWORKS NEW ENGLAND
P.O. Box 1166, Dover, NH 03821
603.749.0443

CIVILWORKS NEW ENGLAND
181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443 FAX: 603.749.7348

April 1, 2024

To: City of Dover
288 Central Avenue
Dover, NH 03820

Ref: Minimum Expedited Wetlands Permit
Future Automation, Inc.
Tax Map D, Lot 11-8
Quality Way, Dover, NH 03820

CNE Reference No. 22075

Dear City of Dover:

The purpose of this letter is to inform you that a permit application will be filed with the N.H. Department of Environmental Services for a Minimum Expedited Wetlands Permit associated with the above referenced project. Under state law RSA 483-B:5-b, iv-a, I am required to notify you about the application.

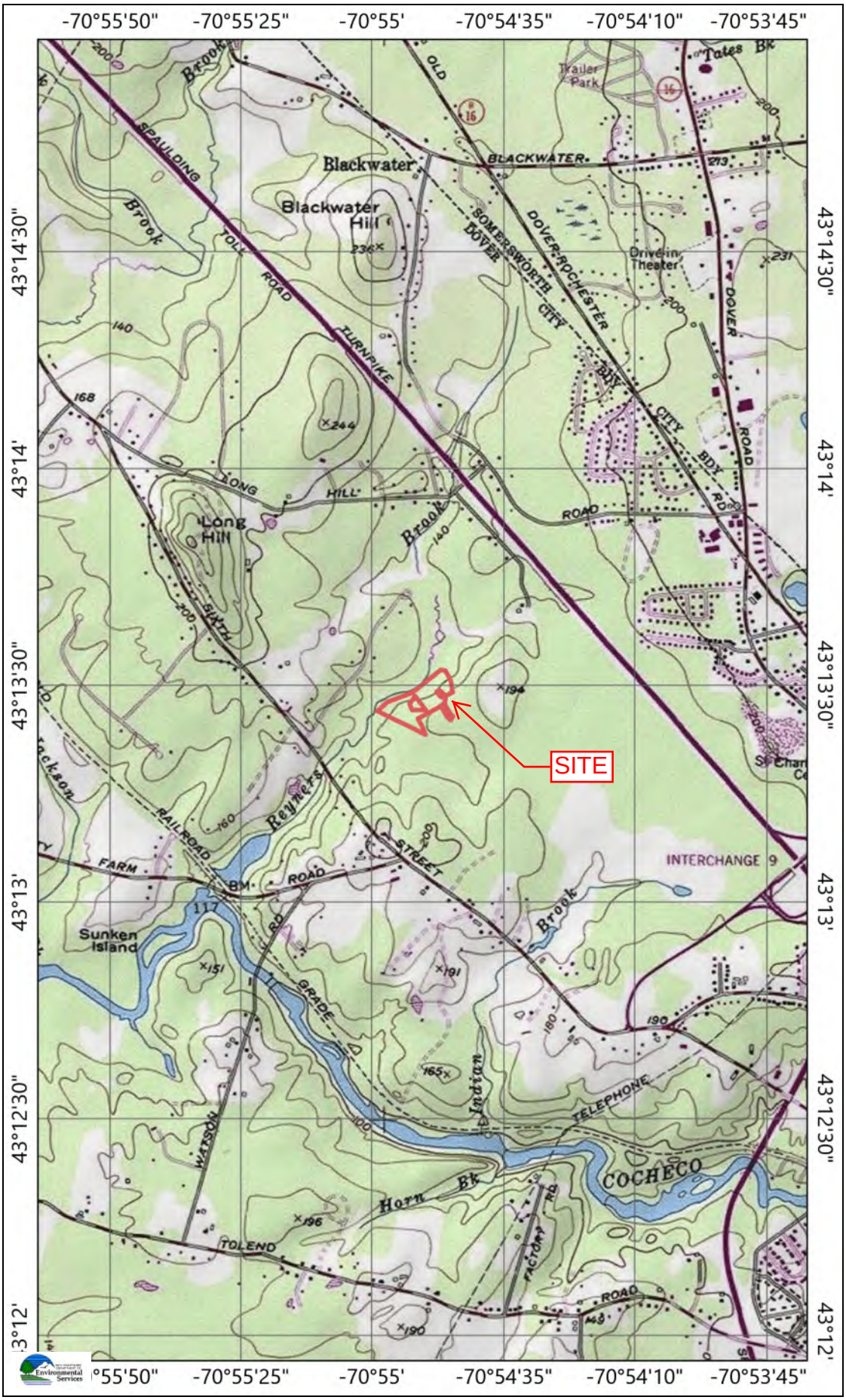
Sincerely,



Stephen J. Haight, P.E.,
CIVILWORKS NEW ENGLAND
P.O. Box 1166, Dover, NH 03821
603.749.0443

USGS Map

22075 - Future Automation - USGS



Legend

Map Scale

1: 24,000

© NH DES, http://des.nh.gov

Map Generated: 1/16/2023

Notes

Prepared by: Civilworks New England

Site Photographs



PHOTO 1



PHOTO 2



PHOTO 3



PHOTO 4



PHOTO 5



PHOTO 6



PHOTO 7



PHOTO 8



PHOTO 9



PHOTO 10



PHOTO 11



PHOTO 12



PHOTO 13



PHOTO 14



PHOTO 15



PHOTO 16



PHOTO 17



PHOTO 18



PHOTO 19



PHOTO 20



PHOTO 21

PROPOSED
25,000 S.F.
BUILDING
F.F.=158.0

PROPOSED
10,000 S.F.
BUILDING
F.F.=158.0

PARCEL AREA
375,192 S.F.
8.61 Ac.

50' WETLAND BUFFER

50' WETLAND BUFFER

QUALITY WAY

NH STATE PLANE
NAD 83 - CRSS DBS.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)

LOCATION PLAN
(NO SCALE)

SPAULDING TURNPIKE
LONG HILL ROAD
SIXTH STREET
LOCUS
ROUTE 108
SOMERSWORTH
CROSS ROAD
EXIT 9
COCHECHO
DOVER
RIVER

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

CIVILWORKS NEW ENGLAND
CIVIL & SURVEYING ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE

DATE: XXX
SCALE: XX
DRAWN BY: XX
DESIGN BY: XX
APPROVED BY:XX
PROJECT NO:XX
FILE: XXX

GRADING, DRAINAGE & EROSION CONTROL PLAN

XXX
CLIENT
NAME
ADDRESS

PROJECT
NAME
LOCATION
DATA

C-X

NHB Datacheck

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

To: Michael Menary
181 Watson Road
Dover, NH 03820

From: NH Natural Heritage Bureau

Date: 11/20/2023 (This letter is valid through 11/20/2024)

Re: Review by NH Natural Heritage Bureau of request dated 11/20/2023

Permit Types: Alteration of Terrain Permit
Stormwater Pollution Prevention
Wetland Standard Dredge & Fill - Minimum

NHB ID: NHB23-3353

Applicant: Michael Menary

Location: Dover
Tax Map: D, Tax Lot: 11-8
Address: Quality Way

Proj. Description: a 25,000 sq. ft manufacturing building with associated parking, loading area, drainage, and utility.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Based on the information submitted, no further consultation with the NH Fish and Game Department pursuant to Fis 1004 is required.

Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord NH 03301

MAP OF PROJECT BOUNDARIES FOR: NHB23-3353



Department of Natural and Cultural Resources
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DNCR/NHB
172 Pembroke Rd.
Concord NH 03301

Supporting Documents

AVOIDANCE AND MINIMIZATION CHECKLIST

Water Division/Land Resources Management

Wetlands Bureau

Check the Status of your Application

RSA/Rule: RSA 482-A/ Env-Wt 311.07(c)

This checklist can be used in lieu of the written narrative required by Env-Wt 311.07(a) to demonstrate compliance with requirements for Avoidance and Minimization (A/M), pursuant to RSA 482-A:1 and Env-Wt 311.07(c).

For the construction or modification of non-tidal shoreline structures over areas of surface waters without wetland vegetation, complete only Sections 1, 2, and 4 (or the applicable sections in Attachment A: Minor and Major Projects (NHDES-W-06-013).

The following definitions and abbreviations apply to this worksheet:

- "A/M BMPs" stands for Wetlands Best Management Practice Techniques for Avoidance and Minimization dated 2019, published by the New England Interstate Water Pollution Control Commission (Env-Wt 102.18).
- "Practicable" means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes (Env-Wt 103.62).

SECTION 1 - CONTACT/LOCATION INFORMATION	
APPLICANT LAST NAME, FIRST NAME, M.I.: Future Automation, Inc.	
PROJECT STREET ADDRESS: Quality Way	PROJECT TOWN: Dover
TAX MAP/LOT NUMBER: D/11-8	

SECTION 2 - PRIMARY PURPOSE OF THE PROJECT		
Env-Wt 311.07(b)(1)	Indicate whether the primary purpose of the project is to construct a water-access structure or requires access through wetlands to reach a buildable lot or the buildable portion thereof.	☒ Yes ☐ No

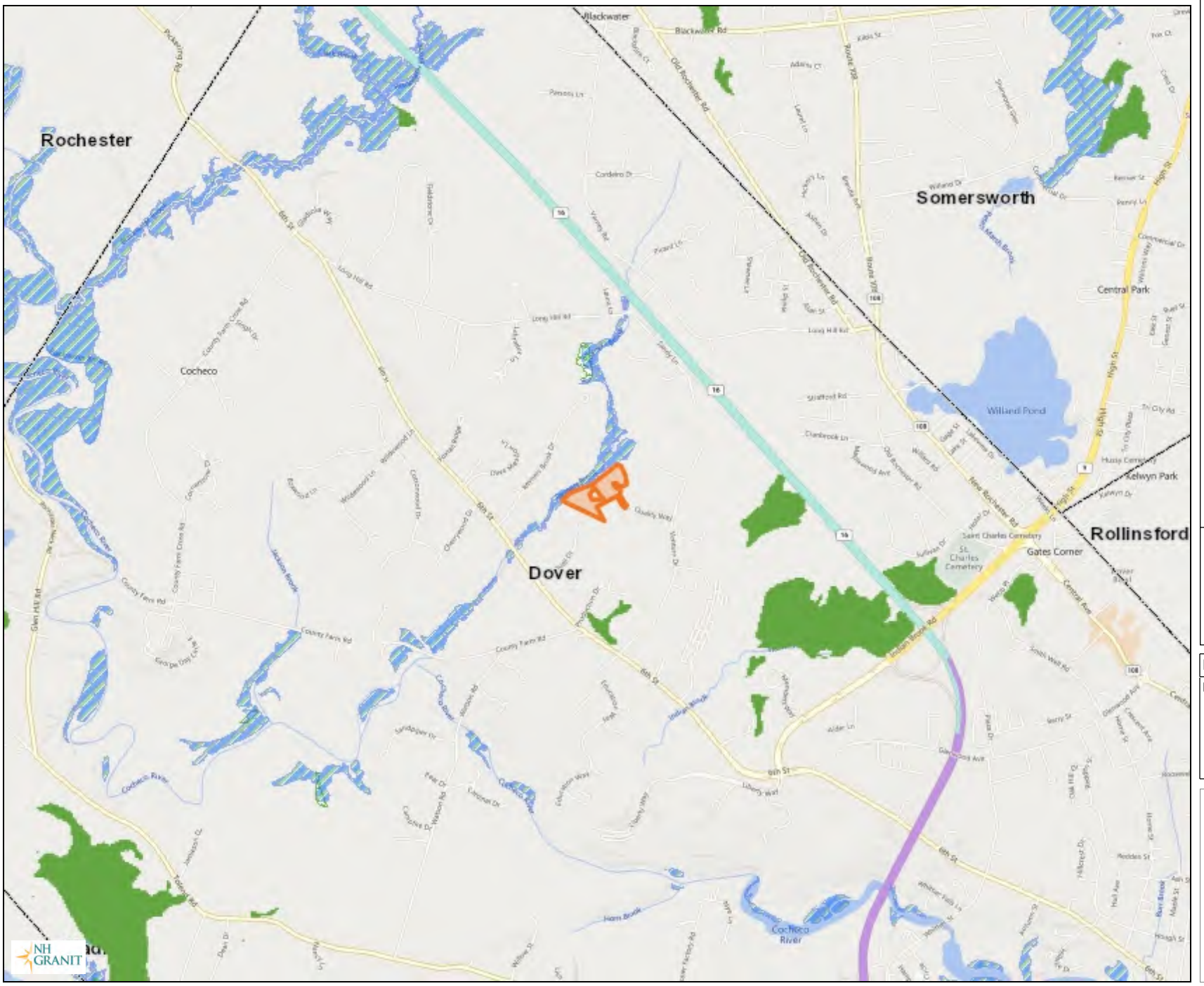
If you answered "no" to this question, describe the purpose of the "non-access" project type you have proposed:

The primary purpose of this permit is to reach a buildable portion of the propoerty.

SECTION 3 - A/M PROJECT DESIGN TECHNIQUES Check the appropriate boxes below in order to demonstrate that these items have been considered in the planning of the project. Use N/A (not applicable) for each technique that is not applicable to your project.		
Env-Wt 311.07(b)(2)	For any project that proposes new permanent impacts of more than one acre or that proposes new permanent impacts to a Priority Resource Area (PRA), or both, whether any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, could be used to achieve the project's purpose without altering the functions and values of any jurisdictional area, in particular wetlands, streams, and PRAs.	☐ Check ☒ N/A
Env-Wt 311.07(b)(3)	Whether alternative designs or techniques, such as different layouts, construction sequencing, or alternative technologies could be used to avoid impacts to jurisdictional areas or their functions and values.	☒ Check ☐ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(1) Env-Wt 311.10(c)(2)	The results of the functional assessment required by Env-Wt 311.03(b)(10) were used to select the location and design for the proposed project that has the least impact to wetland functions.	☐ Check ☒ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(3)	Where impacts to wetland functions are unavoidable, the proposed impacts are limited to the wetlands with the least valuable functions on the site while avoiding and minimizing impacts to the wetlands with the highest and most valuable functions.	☒ Check ☐ N/A
Env-Wt 313.01(c)(1) Env-Wt 313.01(c)(2) Env-Wt 313.03(b)(1)	No practicable alternative would reduce adverse impact on the area and environments under the department's jurisdiction and the project will not cause random or unnecessary destruction of wetlands.	☒ Check ☐ N/A
Env-Wt 313.01(c)(3)	The project would not cause or contribute to the significant degradation of waters of the state or the loss of any PRAs.	☒ Check ☐ N/A
Env-Wt 313.03(b)(3) Env-Wt 904.07(c)(8)	The project maintains hydrologic connectivity between adjacent wetlands or stream systems.	☒ Check ☐ N/A
Env-Wt 311.10 A/M BMPs	Buildings and/or access are positioned away from high function wetlands or surface waters to avoid impact.	☒ Check ☐ N/A
Env-Wt 311.10 A/M BMPs	The project clusters structures to avoid wetland impacts.	☒ Check ☐ N/A
Env-Wt 311.10 A/M BMPs	The placement of roads and utility corridors avoids wetlands and their associated streams.	☐ Check ☒ N/A
A/M BMPs	The width of access roads or driveways is reduced to avoid and minimize impacts. Pullouts are incorporated in the design as needed.	☒ Check ☐ N/A
A/M BMPs	The project proposes bridges or spans instead of roads/driveways/trails with culverts.	☐ Check ☒ N/A

A/M BMPs	The project is designed to minimize the number and size of crossings, and crossings cross wetlands and/or streams at the narrowest point.	☒ Check ☐ N/A
Env-Wt 500 Env-Wt 600 Env-Wt 900	Wetland and stream crossings include features that accommodate aquatic organism and wildlife passage.	☒ Check ☐ N/A
Env-Wt 900	Stream crossings are sized to address hydraulic capacity and geomorphic compatibility.	☒ Check ☐ N/A
A/M BMPs	Disturbed areas are used for crossings wherever practicable, including existing roadways, paths, or trails upgraded with new culverts or bridges.	☐ Check ☒ N/A
SECTION 4 - NON-TIDAL SHORELINE STRUCTURES		
Env-Wt 313.03(c)(1)	The non-tidal shoreline structure has been designed to use the minimum construction surface area over surfaces waters necessary to meet the stated purpose of the structure.	☐ Check ☒ N/A
Env-Wt 313.03(c)(2)	The type of construction proposed for the non-tidal shoreline structure is the least intrusive upon the public trust that will ensure safe navigation and docking on the frontage.	☐ Check ☒ N/A
Env-Wt 313.03(c)(3)	The non-tidal shoreline structure has been designed to avoid and minimize impacts on the ability of abutting owners to use and enjoy their properties.	☐ Check ☒ N/A
Env-Wt 313.03(c)(4)	The non-tidal shoreline structure has been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.	☐ Check ☒ N/A
Env-Wt 313.03(c)(5)	The non-tidal shoreline structure has been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.	☐ Check ☒ N/A
Env-Wt 313.03(c)(6)	The non-tidal shoreline structure has been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.	☐ Check ☒ N/A

CNE#22075 - Future Automation - WPPT



Legend

- Additional Lines
- City/Town
- Prime Wetlands
- Prime Wetlands with 100
- Peatland
- Tidal Wetland
  - Brackish Marsh
  - High Marsh Mix
  - High Marsh, J. gerardii
  - High Marsh, S.patens / D.sp
  - Low Marsh
  - Mudflat
  - Open Water
  - Panne
  - Phragmites australis
  - Pool
  - Recently Flooded Forest
  - Short form S. alterniflora
  - Terrestrial border
  - Wrack
- Flood Plain Wetlands Adj

Map Scale

1: 25,977

© NH GRANIT, www.granit.unh.edu

Map Generated: 11/21/2023

Notes

Prepared by: Civilworks New England

National Flood Hazard Layer FIRMette

FEMA

70°55'6"W 43°13'41"N



70°54'28"W 43°13'15"N

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

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

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

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

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

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

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

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

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

N

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

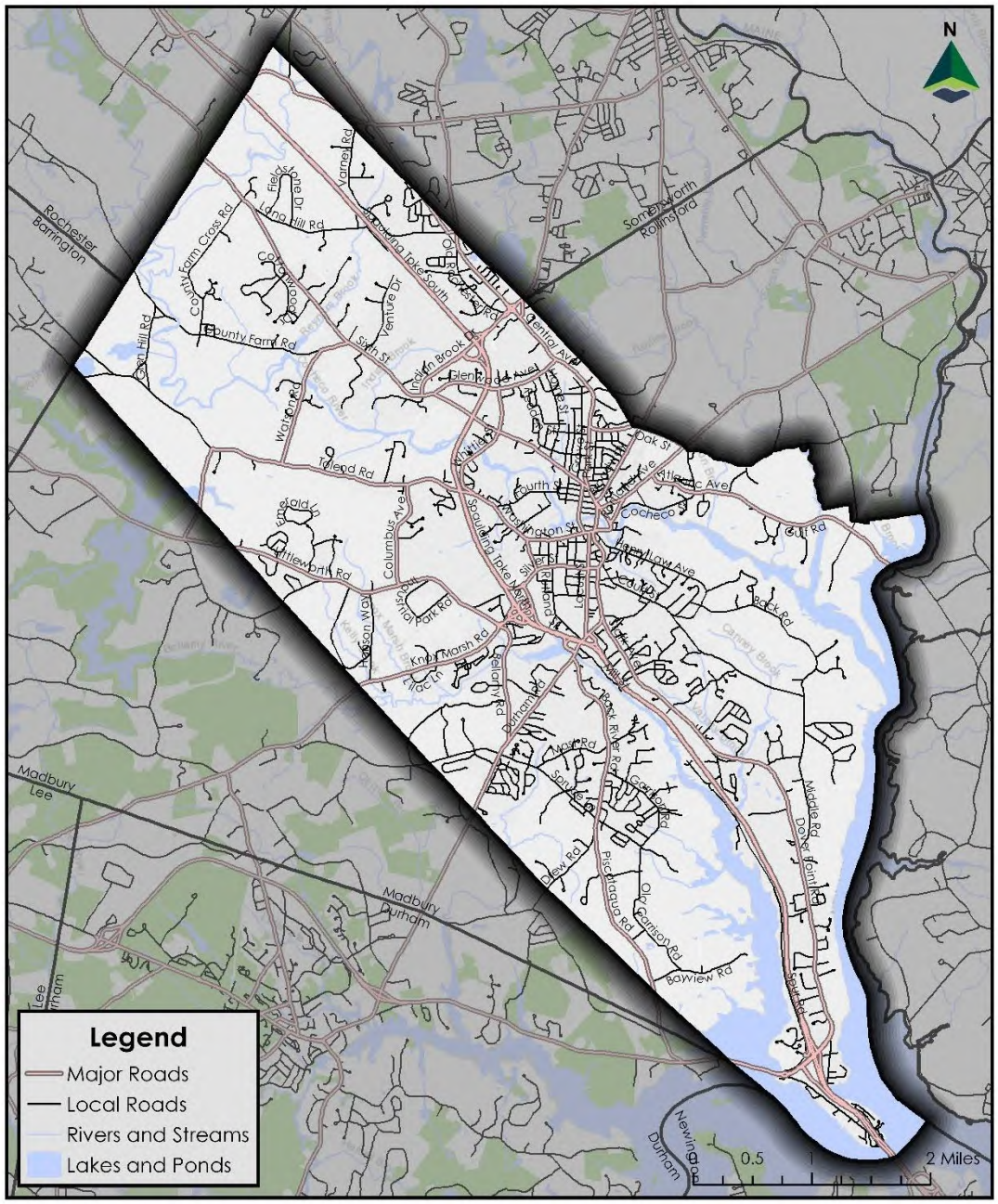
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/21/2023 at 4:43 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Dover, NH

2024 Natural Resources Inventory



Natural Resource Inventory - City of Dover, NH

Locus Map

PREP™ Piscataqua Region Estuaries Partnership

STRAFFORD Regional Planning Commission

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2.5 Sea-level Rise & Storm Surge

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Developed Land

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Hemlock-Hardwood-Pine

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5.2 Ridgelines
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8.2 Recommendations

Section 1: Introduction

1.1 Purpose

Natural Resource Inventories (NRI) are a critical tool for proactive land use planning. An NRI analyzes the natural landscape of a community using current data and best available science, considers local and regional context and goals, and translates this information into an actionable document that highlights natural resource management priorities.

The Dover NRI provides a comprehensive reference to inform decision-making processes for the Conservation Commission, Open Lands Committee, municipal staff, and landowners to create a resilient future in the City of Dover as emphasized in the Citywide Resilience Plan. Additionally, the NRI provides supporting documentation for the City's Conservation and Open Space Master Plan chapter, undergoing an update in 2024..

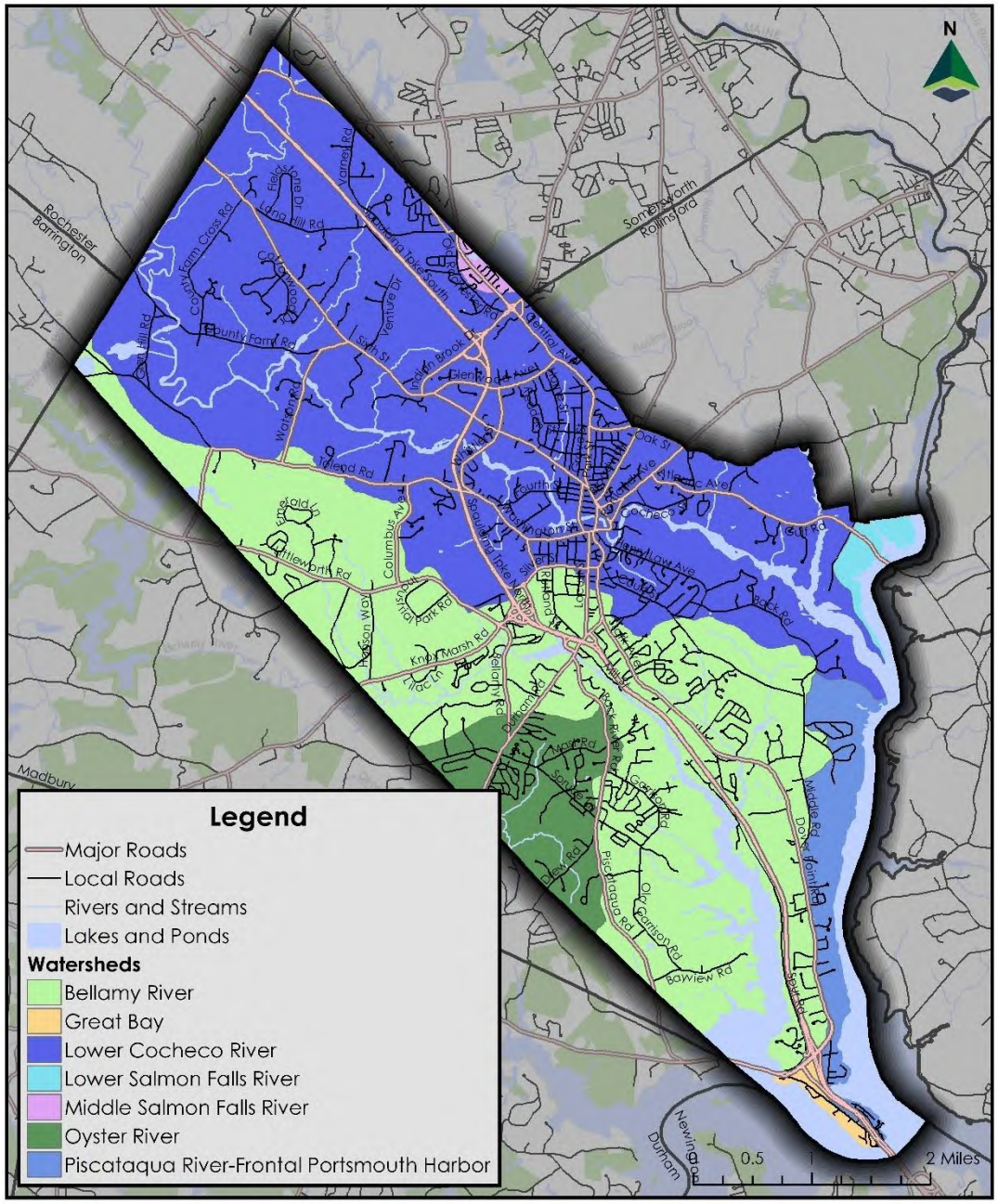
1.2 Climate Adaptation & Resilience

As written in the mission statement of the Citywide Resilience Plan, "Resilience is the City of Dover's ability as an entire community to respond to adversity in the face of environmental, social and economic stressors." As such, the Natural Resource Inventory provides detailed information crucial to decision-making processes that build the community's adaptive capacity and strengthen resilience in the face of the impacts of climate change. This document supplements a decade of projects aimed at strengthening the City's climate resilience.

Section 2: Water Resources

2.1 Watersheds

Watersheds can generally be defined as an area of land where water drains to one common point; precipitation that falls in the defined area will all eventually reach this point.[i] The watershed map pictured on the right delineates sub watersheds in Dover. Watersheds are delineated nationally by the United States Geological Survey using the Hydrologic Unit Code (HUC) system, based on surface hydrologic features. For each level in the hierarchy, two digits are added to the HUC. This system classifies the country into 22 regions, 245 subregions, 405 basins, 2,400 subbasins, 19000 watersheds, and 105,000 sub watersheds. So, the HUC for regions are assigned two digits, subregions are assigned four digits, basins are assigned six digits, subbasins are assigned eight digits, watersheds are assigned 10 digits, and sub watersheds are assigned 12 digits. The sub watershed level can therefore be referred to as HUC-12. The table below names each HUC-12 sub watershed that extends through Dover.

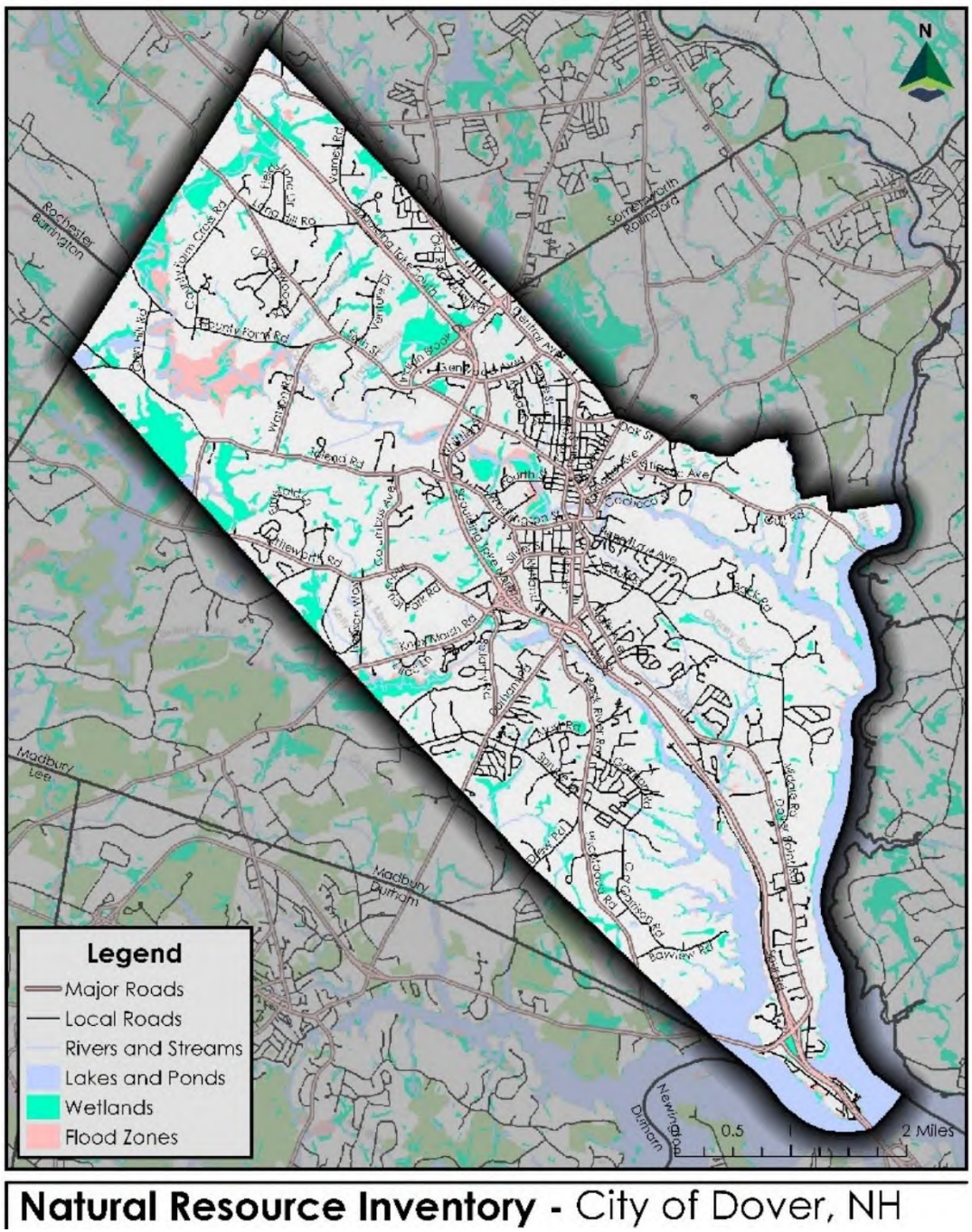


Map 2

Sub watershed	Square Acres	% of City
City of Dover	18,592.13	100.0%
Bellamy River	6,736.38	36.2%
Great Bay	266.57	1.4%
Lower Cocheco River	8,998.82	48.4%
Lower Salmon Falls River	276.85	1.5%
Middle Salmon Falls River	71.83	0.4%
Oyster River	1,074.24	5.8%
Piscataqua River-Front Portsmouth Harbor	1,167.40	6.3%

2.2 Surface Waters

Surface waters are waters which are visible on the Earth's surface, such as wetlands, rivers, streams, ponds, and lakes. The map to the right illustrates these different water bodies in Dover. Surface waters are defined by the state of New Hampshire as, "perennial and seasonal streams, lakes, ponds, and tidal waters within the jurisdiction of the state, including all streams, lakes, or ponds bordering on the state, marshes, water courses, and other bodies of water, natural or artificial." Surface waters in New Hampshire are governed by the New Hampshire Department of Environmental Service Administrative Rules. The following subsections characterize each surface water type and describe the prominent habitat which occur within them. See section 3.1 for in depth habitat profiles.



Map 3

2.2.1 Wetlands & Vernal Pools

Wetlands

Wetlands provide a variety of ecosystem services including flood control, water quality, water storage, and groundwater and surface water recharge. Wetlands also provide food and habitat for both aquatic and upland plants and wildlife. Several wetland types are described on the following pages.

Vernal Pools



Figure 1: Vernal Pool. Photo Credit: Distant Hill Gardens

Vernal pools are seasonal wetlands, and are generally small in size, isolated, and go through period of flooding and drying. Vernal pools that have a wet period of less than two months in the Spring or Summer may be characterized as ephemeral, and are not wet for periods long enough to support the full life cycle of many vernal pool species. Vernal pools with wet periods shorter than four months may not support the full life cycles of some amphibians that rely on vernal pool habitat. Because of their seasonality and disconnectedness from other water bodies, vernal pools rarely support fish species and as such, vernal pool amphibian larvae lack defense mechanisms to protect against fish predators. Vernal pools lack vegetation but those with longer wet periods support some species of sphagnum moss, sedges, rushes, ferns, shrubs, and trees. Shrubs and trees found in vernal pools include buttonbush, highbush blueberry, winterberry, red maple, speckled alder, and eastern hemlock.

2.2.2 Floodplains

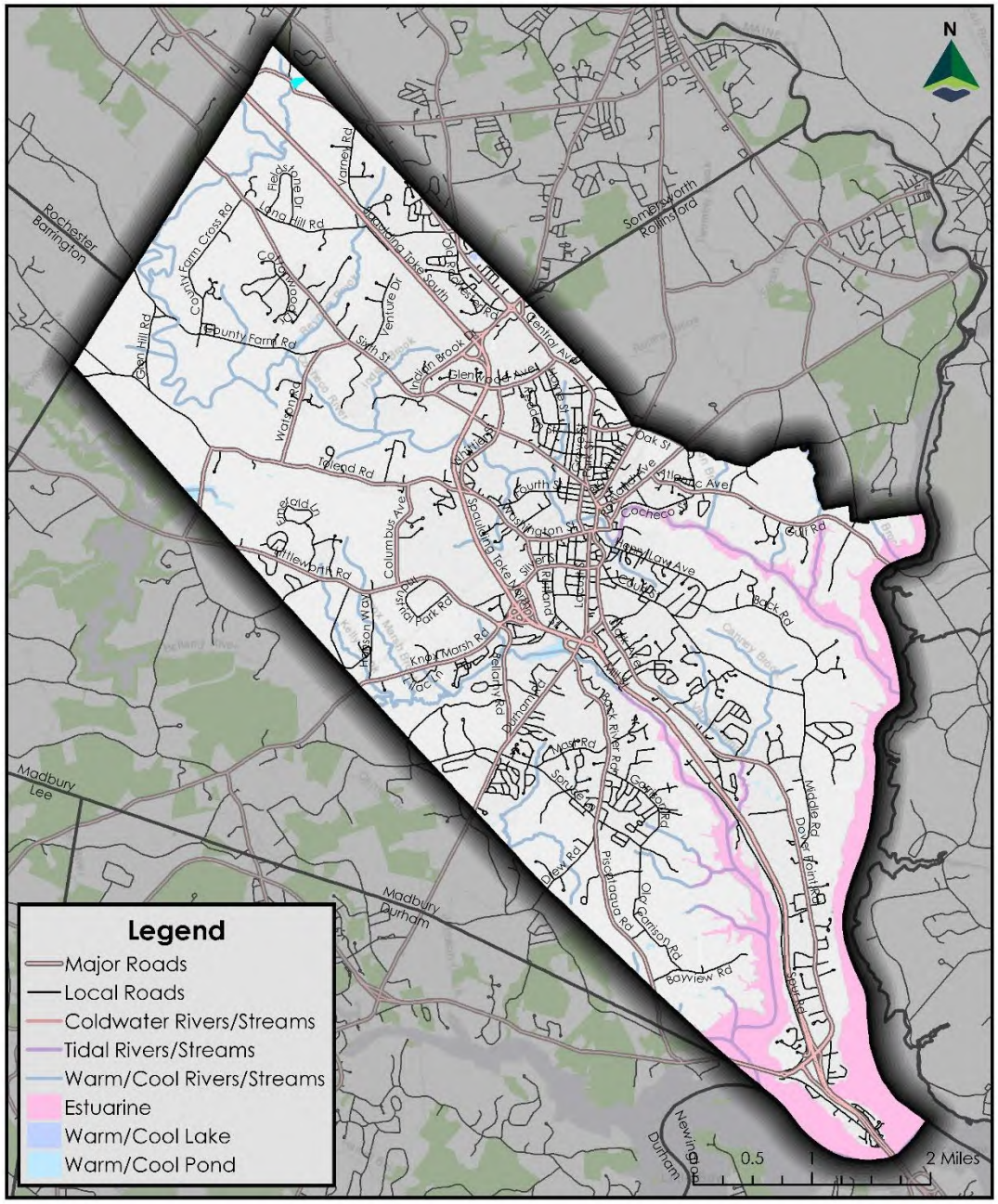
Floodplains are areas adjacent to water bodies, typically rivers or streams, that are prone to flooding during periods of heavy precipitation or water flow. Floodplains serve important ecological and hydrological functions. They act as natural buffers, absorbing excess water during floods and reducing the impact of flooding on nearby property. As such, development in the floodplain can exacerbate flood risks and environmental degradation by disrupting natural floodplain functions. In addition to reducing flood risk and providing floodwater storage, floodplain functions include groundwater recharge, nutrient cycling, and serving as hotspots for biodiversity.



Figure 2: Photo Credit: UNH Extension

2.2.3 Lakes & Ponds

Warmwater lakes and ponds differ from lakes and ponds with coldwater habitat as they do not have cold, well oxygenated water in the summer and therefore do not support coldwater fish species. These lakes and ponds vary in size, shape, and depth and include substrate such as boulder, sand, and mud. Underwater vegetation provides spawning and nursery habitat for several fish species. Invertebrates living in underwater vegetation provide feed for turtles, fish, and amphibian species. Waterfowl and wildlife may use these lakes and ponds as nesting areas where shorelines are undeveloped.



Map 4

2.2.4 Rivers & Streams

Coldwater Rivers & Streams:

Coldwater rivers and streams typically originate from springs, snowmelt, or mountainous regions, resulting in colder temperatures as compared to other types of rivers. These rivers maintain relatively low temperatures throughout the year, even during summer months. Coldwater rivers support a unique ecosystem adapted to colder temperatures, often including species of fish such as brook trout and slimy sculpin, which require cold, well-oxygenated water to thrive. Coldwater streams also support stream salamanders, longnose sucker, and burbot. Spring fed streams support more species, including the state endangered American brook lamprey. Coldwater rivers may exhibit swift flows, especially in areas where they cross steep terrain, and water levels are quickly influenced by rainfall. They often have clear water due to the lack of sediment and nutrients washed in from surrounding landscapes. In southern New Hampshire, coldwater rivers and streams depend on the influence of groundwater to maintain appropriate temperatures.

Warmwater Rivers & Streams:

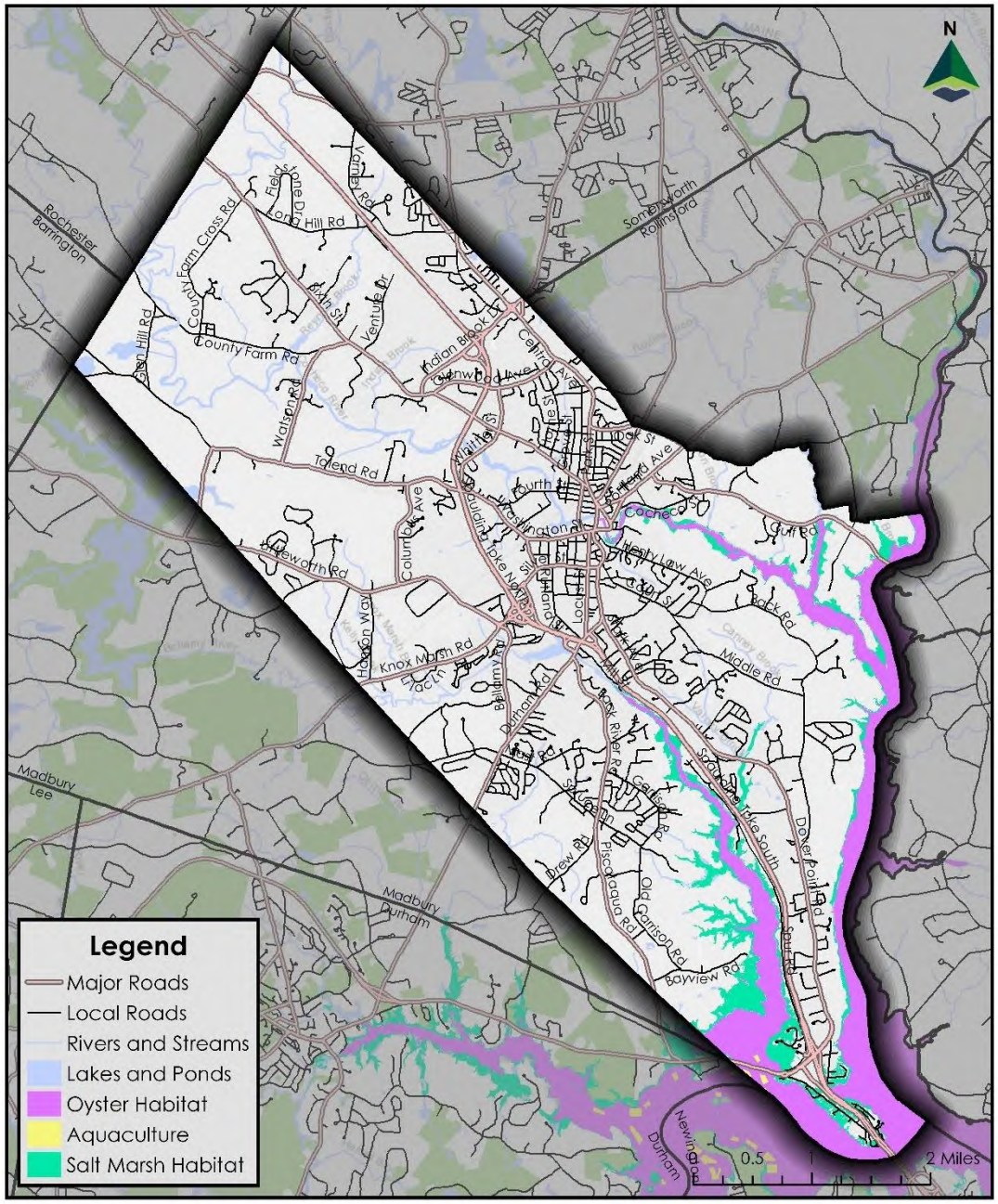
Warmwater rivers in New Hampshire encompass a broad spectrum of temperatures, ranging from above 20 degrees Celsius in the summer to cooler temperatures in the winter. They are not as consistently cold as coldwater rivers, and therefore do not support coldwater species such as brook trout. Warmwater rivers vary in size, gradient, and substrate, but are often found in watersheds with abundant wetland systems. Species composition varies depending on the season and stream flow; slow flowing rivers and streams typically include vegetation similar to that of warmwater lakes and ponds, whereas fast flowing rivers and streams support different fish species such as fallfish, longnose dace, and creek chubs.

Tidal Rivers & Streams:

Tidal rivers in New Hampshire are affected by the ebb and flow of ocean tides due to their proximity to the coast. The tide pushes water upstream, causing noticeable changes in water levels and currents. Tidal rivers experience varying degrees of salinity, with water becoming more saline closer to the coast. This influences the types of organisms that inhabit these rivers, with some species being adapted to brackish or saline conditions. Tidal rivers support diverse ecosystems, including salt marshes, estuaries, and intertidal zones. These habitats provide important breeding and feeding grounds for various species of fish, birds, and other wildlife.

2.2.5 Estuarine

Estuarine systems from where rivers mix with ocean water and include subtidal and intertidal areas characterized by soft sediment. Prominent estuarine systems include eelgrass beds, oyster reefs, and intertidal mudflats. Salt marshes are also considered an estuarine habitat. When rivers mix with ocean water in an estuarine environment, they bring critical nutrients, organic matter and sediment to support estuarine habitat. Estuarine habitats are extensively abundant and productive, often teeming with life, as they provide essential nurseries for juvenile fish and breeding grounds for many marine organisms. Plants and wildlife that call these habitats home are adapted to changing conditions, as estuarine habitat is constantly transitioning. Significant estuarine habitats are depicted on the map to the right.

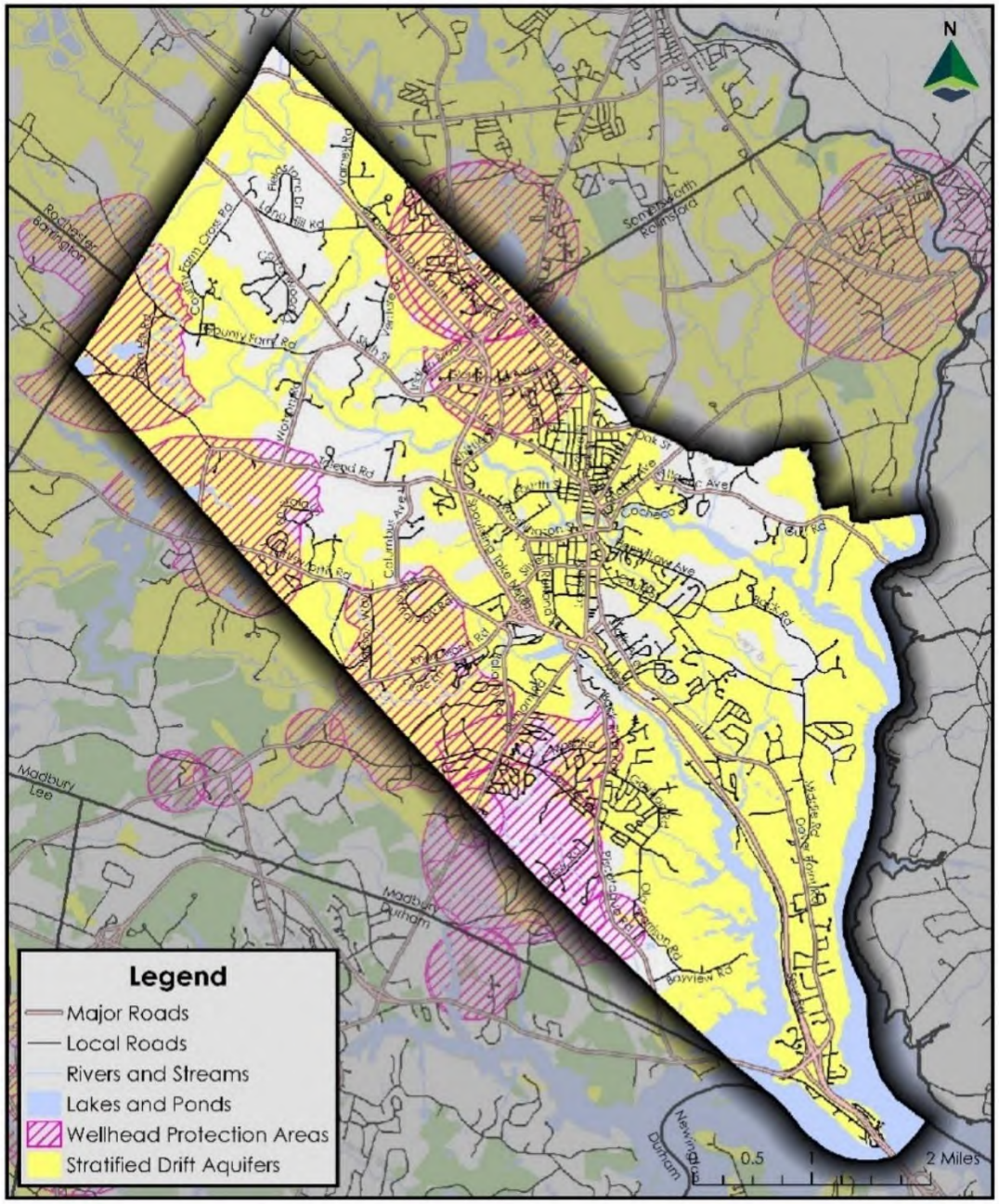


Natural Resource Inventory - City of Dover, NH

Map 5

2.3 Aquifers/Groundwater

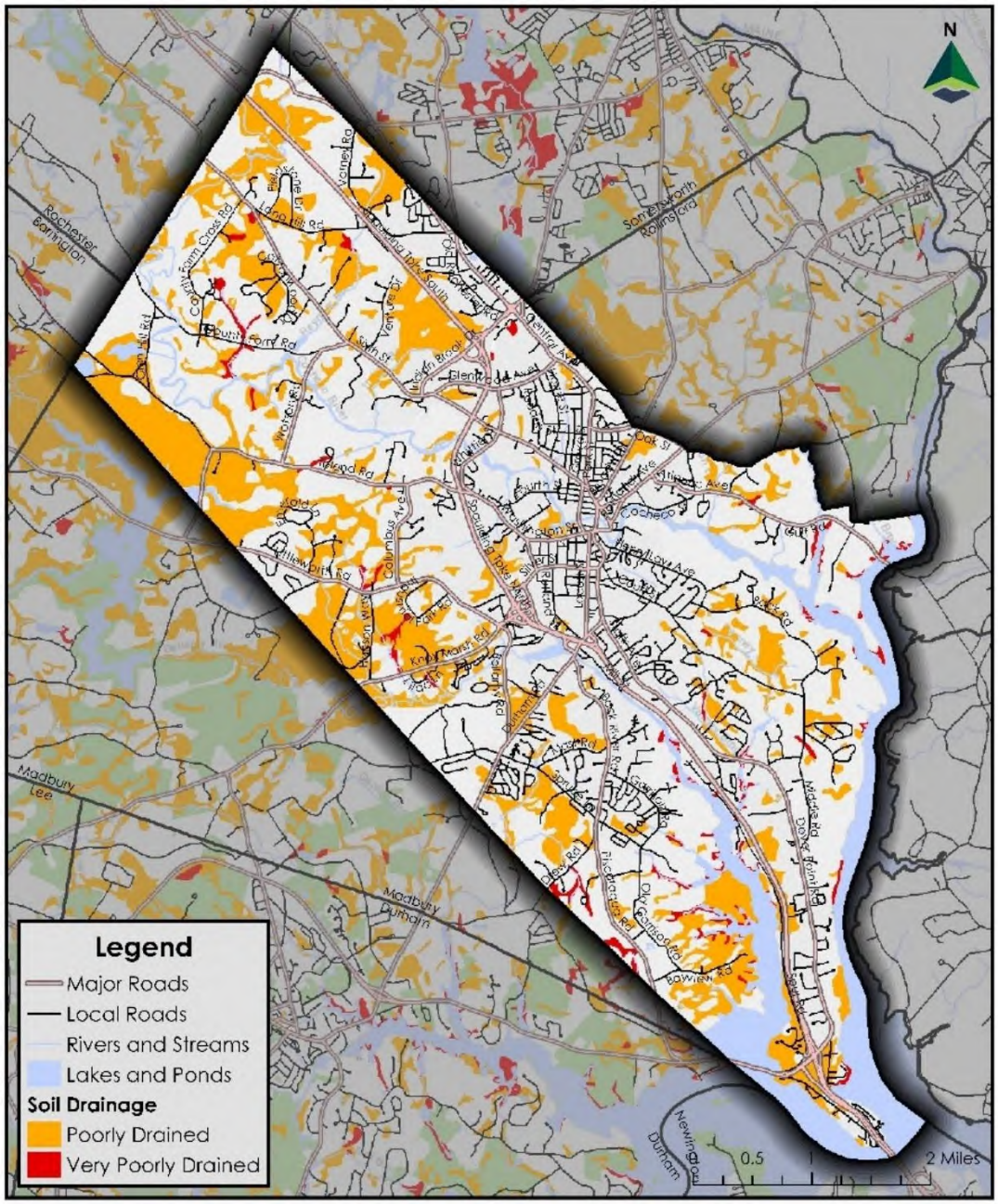
Greater than 50% of New Hampshire's population relies on groundwater for its drinking water supply. As temperatures shift and rainfall patterns become more erratic due to climate change, and the population continues to grow, groundwater is becoming an increasingly important resource to protect to remain resilient to climate impacts. Aquifers are areas saturated by water underground between sediment and rock formations that transmit water to wells and springs. Stratified drift aquifers are geological formations consisting of distinct layers of sediments deposited by glaciers, including sand, gravel, silt, and clay. The stratification of sediment in stratified drift aquifers influences the permeability and porosity of the aquifer, which influences its ability to transmit water. As groundwater is vulnerable to contamination, the state's Wellhead Protection Program enables the city to delineate Wellhead Protection Areas (WHPAs), pictured on the map to the right. These areas are afforded higher protections through local regulation to avoid contamination.[ii]



Map 6

2.4 Soil Drainage

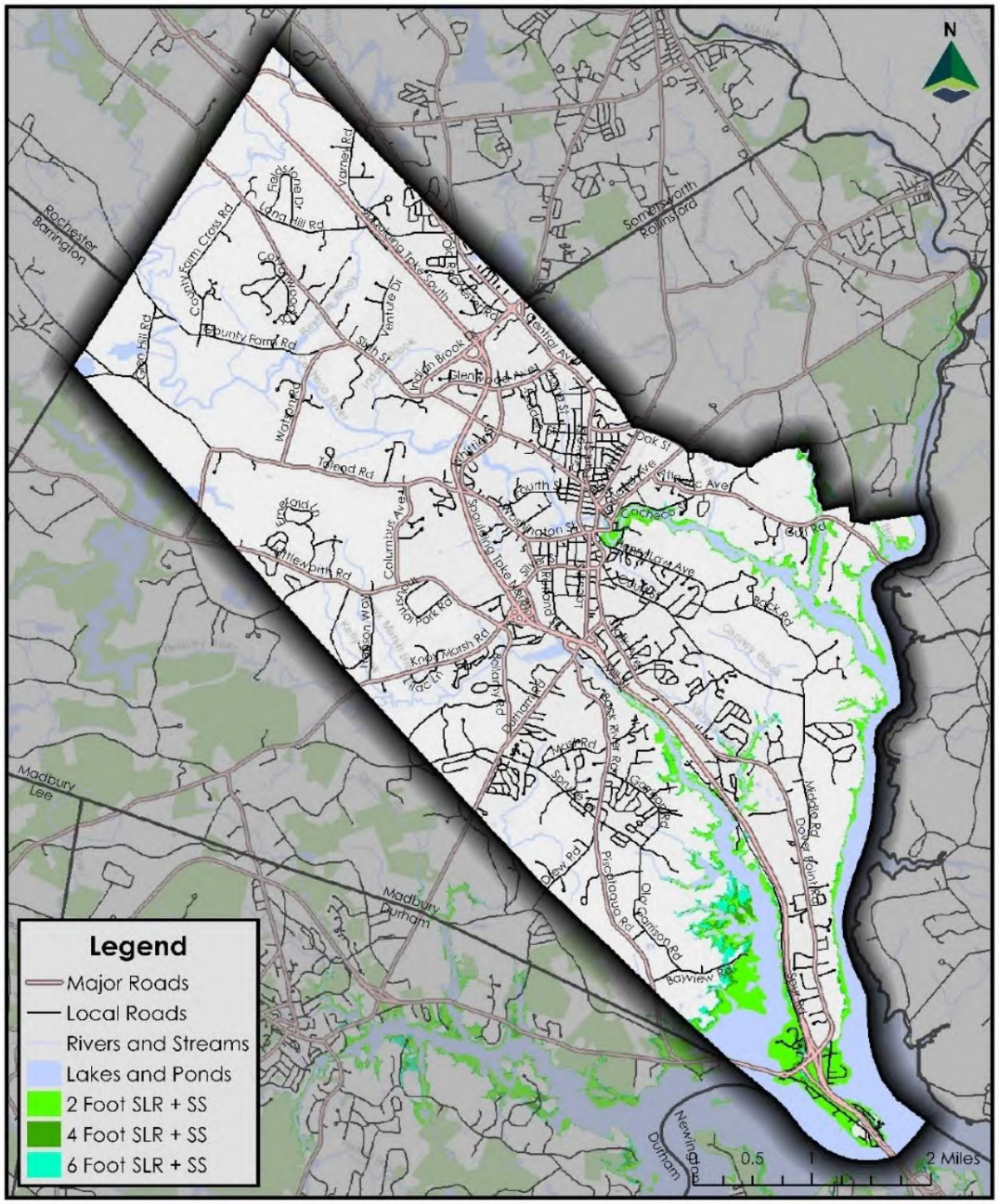
Poorly drained and very poorly drained soils in New Hampshire are characterized by their limited ability to allow water to infiltrate and drain away. Poorly drained soils typically have slow drainage rates due to high water tables or impeded drainage caused by compacted layers, clayey textures, or shallow bedrock. They often retain water for prolonged periods after precipitation events, leading to waterlogging and reduced oxygen availability for plant roots. Very poorly drained soils exhibit even slower drainage rates compared to poorly drained soils, and are often saturated with water for extended periods, leading to prolonged anaerobic conditions. Very poorly drained soils may exhibit high clay content and compacted soil layers that limit water movement. Poorly and very poorly drained soils often support a variety of wetland habitats.



Map 7

2.5 Sea-level Rise & Storm Surge

As climate change causes global temperatures to increase, ocean water warms and takes up more volume causing rising sea levels. Glacial melt also contributes to this trend.[iii] Climate change is also causing increasing frequency and intensity of storms, and contributes to heightened storm surges, or the abnormal rise in sea level above predicted levels caused by a storm.[iv] Sea-level rise and storm surge pose threats to natural resources and infrastructure in high flood risk areas. Conserving land and avoiding development in coastal areas with high flood risk is crucial to preserving habitat along the shoreline. Moreover, strengthening shoreline habitat and using nature-based solutions has been proven to more effectively mitigate coastal flooding compared to hard infrastructure approaches.[v]

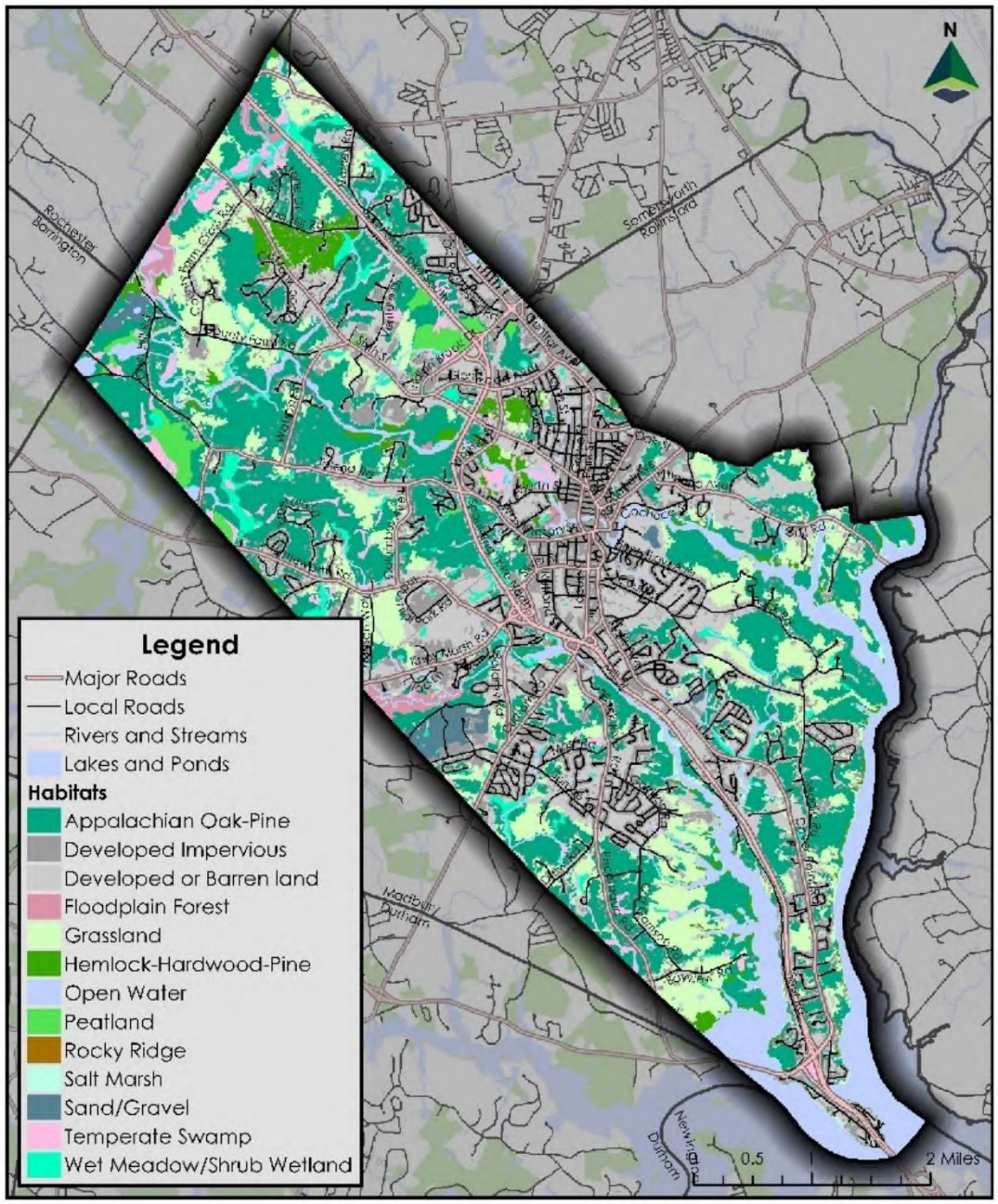


Map 8

Section 3: State & Regional Coordination

3.1 NH Wildlife Action Plan

The 2015 New Hampshire Wildlife Action Plan (WAP) is the state's foundational document for species and habitat conservation. Section 3.1 is based upon the 2015 NH WAP with updated landcover data from 2020, and includes a description for each habitat type, flora and fauna present in that habitat, climate resilience challenges & opportunities, and stewardship actions by habitat type.



Map 9

3.1.1 Wildlife & Habitats

Wildlife Action Plan Habitats	Square Acres	% of City
City of Dover	18,592.13	100.0%
Appalachian Oak-Pine	4,895.89	26.3%
Developed Impervious	4,187.71	22.5%
Developed or Barren Land	3,529.26	19.0%
Floodplain Forest	202.53	1.1%
Grassland	2,239.15	12.0%
Hemlock-Hardwood-Pine	487.04	2.6%
Open Water	1,446.20	7.8%
Peatland	222.51	1.2%
Rocky Ridge	1.67	0.0%
Salt Marsh	204.01	1.1%
Sand/Gravel	166.08	0.9%
Temperate Swamp	465.05	2.5%
Wet Meadow/Shrub Wetland	542.07	2.9%

Appalachian Oak-Pine Forests

Acres: 4895.9
26.3% of Dover's land area

The Appalachian oak - pine forest system in New Hampshire includes several oak species such as black oak, chestnut oak, scarlet oak, and white oak (Quercus alba), as well as hickories (Carya spp.), mountain laurel (Kalmia latifolia), pitch pine (Pinus rigida), and sassafras (Sassafras albidum). These are not wide-spread in New Hampshire because they are typically found in a dry and warm climate in elevations below 900 ft. These forests have substrates that include nutrient-poor soils, sandy glacial tills and shallow-to-bedrock tills. Appalachian Oak-Pine Forests provide habitat to 104 vertebrate species in New Hampshire, including 8 amphibians, 12 reptiles, 67 birds, and 17 mammals.



Figure 3: Photo Credit: The Nature Conservancy

Developed Land

Acres: 7,717
41.5% of Dover's land area

Developed areas are not considered a key wildlife habitat in New Hampshire and are generally considered a risk to wildlife but are still important to consider because some species have demonstrated capacity to adapt to life in certain types of development. Examples of these adaptations are listed below.

- Chimney swifts roost in large chimneys within developed areas.
- Little and big brown bats often use attics and abandoned buildings for raising pups.
- Purple martins nest in man-made nest boxes, often in close proximity to development.
- Common nighthawks use rooftops with small stones for nesting.
- Turtles often lay eggs in residential lawns and gardens.



Figure 4: Photo Credit: Shutterstock

Grasslands

Acres: 2239.2
12.0% of Dover's land area



Figure 5: Photo Credit: Chris Martin

Grasslands are areas dominated by grasses with little shrub or tree cover. These include fields, croplands, pastures, airstrips, landfills and similar areas. Native grassland plant species in New Hampshire include aster, big bluestem, little bluestem, goldenrod and meadowsweet. Rare plant species found in New England grassland include butterfly weed, northern blazing star and wild lupine. Commonly found bird species that utilize grasslands for breeding and nesting include the state-endangered Northern Harrier, Upland Sandpiper, state-threatened Grasshopper Sparrow, Horned Lark, Vesper Sparrow, and Eastern Meadowlark. Many of these species are declining and require large expanses of habitat for nesting, exemplifying the importance of conserving networks of land that improve habitat connectivity. Grasslands also provide habitat to species of conservation concern including the Black Racer, Smooth Green Snake, Northern Leopard Frog, and Wood Turtle, among others. This habitat is especially important in supporting pollinators.

Hemlock-Hardwood-Pine

Acres: 487
2.6% of Dover's land area

Hemlock Hardwood Pine Forests are forests with dry, sandy soils. The hemlock forests are usually found in rocky areas and ravines while the beech forests are found in coarse washed till soils. These forests are common for the American beech, hemlock, red oak and white pine.

Open Water

Acres: 1446.2
7.8% of Dover's land area

Open water habitat is defined by the National Land Cover Database as areas of open water, generally with less than 25% cover of vegetation or soil.[vi] This habitat may include different wetland system types or other surface water classifications.

Floodplain Forests

Acres: 202.5
1.1% of Dover's land area

Floodplain Forests are areas found typically around lakes and streams. They are dry most of the time but serve as an overflow area during heavy rain events and spring thaw. This community provides many additional benefits due to the periodic flooding of these areas including: filtering of pollutants, improving water quality, and erosion control along the river banks.

The plant species most often noted are mostly red maple, along with American elm, black ash, black cherry, eastern cottonwood, ironwood, river birch, swamp white oak, and sycamore.



Figure 6: Photo Credit: Ellen Kenny

The damp conditions create excellent breeding grounds for insects and amphibians, provide nesting areas and food for birds, and corridors for wildlife to move along unfragmented areas. Wildlife species that are commonly found in these areas include Bald Eagle, Big Brown Bat, Blanding's Turtle, Blue-Spotted Salamander Complex, Cerulean, Warbler, Eastern Red Bat, Eastern Ribbonsnake, Hoary Bat, Jefferson Salamander Complex, Moose, Northern Leopard Frog, Purple Finch, Rapids Clubtail, Silver-Haired Bat, Skillet Clubtail, Spotted Turtle, Tricolored Bat, Veery, Wood Thrush, and Wood Turtle.

Peatlands

Acres: 222.5
1.2% of Dover's land area

Peatlands are important habitats from a local and world perspective for carbon removal by storing it away and slowly releasing it into the atmosphere, thereby helping to reduce greenhouse gases. Vegetation found in peatlands includes American larch, leather leaf, northern white cedar, and sphagnum moss. The wildlife species that typically inhabit peatlands include several species of birds, insects, and reptiles including Blanding's Turtle, Blue-Spotted Salamander Complex, Eastern Ribbonsnake, Eastern Towhee, Jefferson Salamander Complex, Kennedy's Emerald, Mink Frog, Northern Harrier, Ocellated Emerald, Olive-Sided Flycatcher, Pied-billed Grebe, Pine Barrens Bluet, Ringed Boghaunter, Rusty Blackbird, Sedge Darner, Smooth Greensnake, and Spotted Turtle.



Figure 7: Photo Credit: Ben Kimball

Marsh & Shrub Wetlands

Acres: 542.1
2.9% of Dover's land area



Figure 8: Photo Credit: UNH Extension

Marsh and shrub wetlands is grouped into the following three categories: meadow marshes, emergent marshes, and shrub-scrub wetlands. Meadow marshes, or wet meadows, are dominated by herbaceous vegetation, most notably sedges, typically less than one meter in height. These systems are wet for most of the growing season but do not experience frequent flooding. Emergent marshes are also dominated by herbaceous vegetation but experience seasonal fluctuations in water levels above typical surface level. Species of note in this system include Blanding's turtle, spotted turtle, pied-billed grebe, American black duck, northern harrier, American bittern, Virginia rail, sora, least bittern, common gallinule, great-blue heron, red-winged blackbird, muskrat, mink, and spring peeper. Shrub-scrub wetlands are dominated by woody vegetation such as saplings and shrubs. These systems flood often in the springtime and may contain areas of standing water. Flora present in this system include highbush blueberry, winterberry shrub thicket, buttonbush shrubland, and alder-dogwood-arrowwood alluvial thicket. Wildlife of note in the shrub-scrub system include Blanding's turtle, spotted turtle, New England cottontail, Canada warbler, American woodcock, gray catbird, moose, and several breeding amphibians. Invertebrate present in marsh and shrub wetland systems include worms, mollusks, crustaceans, mayflies, caddisflies, dragonflies and damselflies, and water beetles, among others.

Temperate Swamps

Acres: 465.1
2.5% of Dover's land area

Temperate swamps are comprised forested wetlands and can be distinguished as three systems including the temperate peat swamp, coastal conifer peat swamp, and temperate minerotrophic swamp system. Temperate peat swamps are typically stagnant basins with saturated, organic soils. Prominent vegetation in this system include red maples, highbush blueberries, and winterberries. Black gum may also be present. The coastal conifer peat swamp system is dominated by the Atlantic white cedar. Temperate minerotrophic swamps are dominated by red maples, but in contract to peat swamps, have less acidic mineral soils, and have more diverse flora with more herbaceous species.



Figure 9: Photo Credit: Ben Kimball

Rocky Ridge

Acres: 1.67
0.008% of Dover's land area

Rocky rides are separated into two groups based on elevation and geographic distribution, montane and temperate. Montane systems occur at elevations above 2,200 feet and are mostly found in the White Mountains. Temperate systems, more specifically Appalachian oak rocky woods systems, occur at much lower elevations and are generally closed-canopy forests on slopes with exposed bedrock or loose boulders. These systems are comprised of white oak, hickories, and flowering dogwood, and some bryophytes (mosses, liverworts, and hornworts.)



Figure 10: Photo Credit: The Nature Conservancy

Sand and Gravel

Acres: 166.08
0.9% of Dover's land area

While sand and gravel pits are not listed as key wildlife habitat in New Hampshire, like developed lands, these areas have been known to provide habitat to some species. Abandoned sand and gravel excavation areas are dry pacles that lack the soil health needed to regrow vegetation, and therefore often support shrubland and graqssland habitats for longer periods of time than areas with healthy soils. Some examples of wildlife adaptations to this type opf land are listed below.



Figure 11: Photo Credit: John Litvaitis

- Common nighthawk nesting
- Bank swallows nesting in steep sand bank
- Blanding's, spotted, and wood turtles nesting in areas of bare soil without large trees
- Black racers, hognose snakes, and smooth green snakes utilizing the diverse vegetative
- structure and laying eggs in bare sandy areas
- Tiger beetles using exposed sandy areas provided by excavation areas.
- New England cottontail using dense regenerating shrubland habitat.
- Nesting and migration habitat for shrubland and grassland birds

Salt Marsh

Acres: 204.01
1.1% of Dover's land area



Figure 12: Photo Credit: NH State Parks

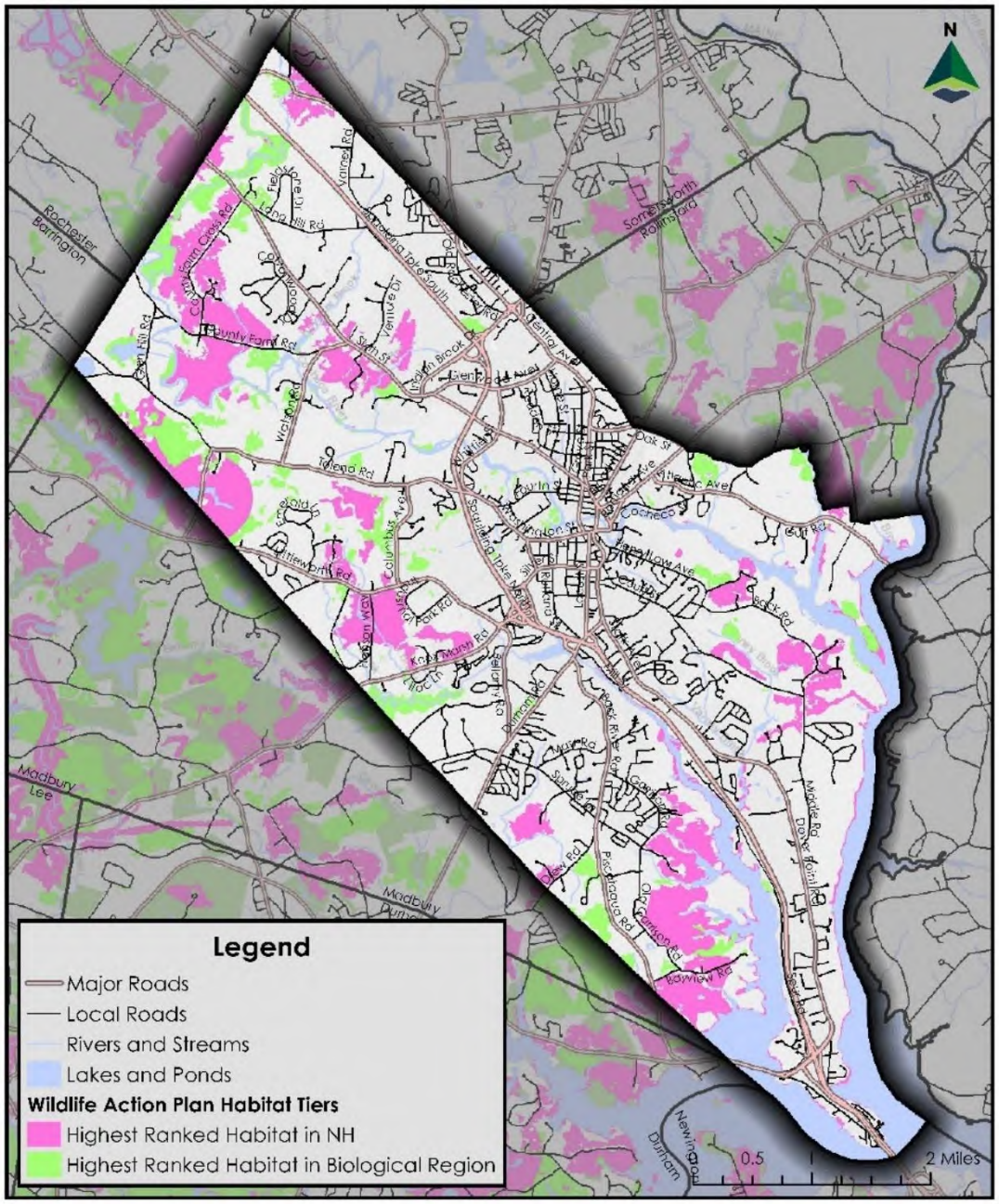
Salt marshes are one of the most valuable habitats in the state, according to the 2015 NH Wildlife Action Plan. By 2060, most high-marsh areas are projected to convert to low-marsh areas due to sea-level rise, unless the marsh can build at a rate greater than 5 mm annually. This is a concern because salt marshes provide critical coastal flood storage, which could be lost if open spaces are not protected to anticipate salt marsh migration. Salt marshes are able to migrate inland and form new marsh in low lying areas of undeveloped land. The 2015 Tides to Storms Report indicates that Dover does have potential for salt marsh migration, a critical nexus in the City's management of natural resources.

3.1.2 Highest Ranked Habitats

The WAP analyzes 169 species of greatest conservation need and 27 habitats which support those species and separates them into three tiers. The tiers are defined as follows:

- Tier 1: Highest Ranked in the State by Ecological Condition
- Tier 2: Highest Ranked in the Biological Region by Ecological Condition
- Tier 3: Supporting Landscapes

	# Acres	# Acres in Conservation	% Tier Conserved
WAP2020 Tier 1	3,200	986	31%
WAP2020 Tier 2	916	373	41%
WAP2020 Tier 3	4,643	1,246	27%



Map 10

3.2 Natural Heritage Bureau

The Natural Heritage Bureau, a bureau of the NH Division of Forests and Lands, maintains municipality specific lists of rare plants and animals and exemplary natural communities. The following table includes those rare plants and animals and exemplary natural communities which exist in Dover.[vii]

Key

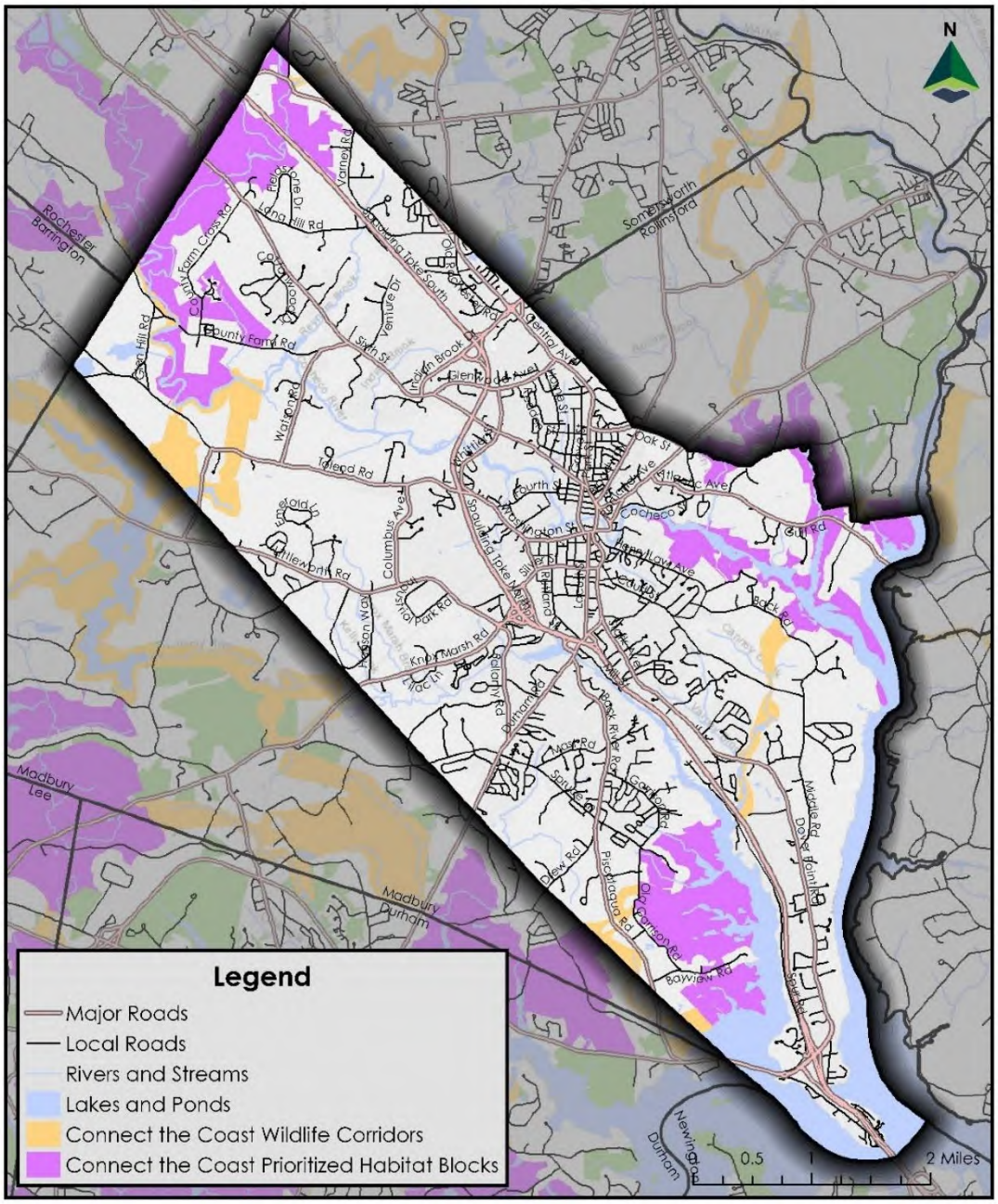
Flags	*** = Extremely high importance	** = Very high importance	* = High importance	~ = Historical Record
Listed?	E = Endangered	T = Threatened		SC = Special Concern

Species or Community Name	Flag	Listed?		~ Reports Last 20 Years	
		US	NH	Town	State
Natural Communities - Palustrine					
Red maple floodplain forest	**	--	--	1	6
Natural Communities - Estuarine					
Brackish marsh	**	--	--	1	12
Eelgrass bed	**	--	--	1	2
High brackish riverbank marsh	*	--	--	1	3
Low brackish riverbank marsh	**	--	--	2	6
Plants					
eastern grasswort - *Lilaeopsis chinensis*	**	--	E	1	4
Engelmann's quillwort - *Isoetes engelmannii*	~	--	E	Historical	15
Georgia bulrush -*Scirpus georgianus*	~	--	E	Historical	3
great bur-reed - *Sparganium eurycarpum*	~	--	T	Historical	21
greater fringed-gentian - *Gentianopsis crinita*	***	--	T	1	30
hairy hudsonia - *Hudsonia tomentosa*	~	--	T	Historical	17
horned-pondweed - *Zannichellia palustris*	~	--	E	Historical	5
long-leaved pondweed - *Potamogeton nodosus*	~	--	T	Historical	24
lopsided rush - *Juncus secundus*	~	--	E	Historical	8
needle-tipped blue-eyed-grass -*Sisyrinchium mucronatum*	~	--	E	Historical	1
northern blazing star - *Liatris novae-angliae* var. *novae-angliae*	~	--	E	Historical	16
northern shore quillwort - *Isoetes septentrionalis*	~	--	E	Historical	16
northern tubercled bog-orchid - *Platanthera flava* var. *herbiola*	**	--	T	1	18
Nuttall's reed grass - *Calamagrostis coarctata*	**	--	E	1	8

pale duckweed - *Lemna valdiviana*	~	--	E	Historical	4
perennial saltmarsh American-aster - *Symphyotrichum tenuifolium* var. *tenuifolium*	**	--	E	1	6
prolific yellow-flowered knotweed - *Polygonum ramosissimum* ssp. *prolificum*	**	--	E	1	11
red-root umbrella sedge - *Cyperus erythrorhizos*	**	--	E	1	4
resupinate bladderwort - *Utricularia resupinata*	~	--	E	Historical	15
rufous bulrush - *Scirpus pendulus*	**	--	E	1	5
saltmarsh agalinis - *Agalinis maritima* ssp. *maritima*	*	--	T	1	12
seaside brookweed - *Samolus valerandi* ssp. *parviflorus*	**	--	E	1	6
smooth black sedge - *Carex nigra*	~	--	E	Historical	11
spongy-leaved arrowhead -*Sagittaria spatulata*	~	--	E	Historical	2
trailing bush-clover - *Lespedeza procumbens*	~	--	E	Historical	3
Virginia three-seeded-Mercury - *Acalypha virginica*	~	--	E	Historical	5
Vertebrates - Mammals					
New England Cottontail - *Sylvilagus transitionalis*	***	--	E	3	24
Vertebrates - Birds					
Bald Eagle - *Haliaeetus leucocephalus*	**	T	SC	3	140
Cliff Swallow - *Petrochelidon pyrrhonota*	**	--	T	2	29
Eastern Meadowlark -*Sturnella magna*	**	--	T	2	28
Upland Sandpiper -*Bartramia longicauda*	~	--	E	Historical	6
Vertebrates - Reptiles					
Blanding's Turtle - *Emydoidea blandingii*	**	--	E	1	1098
Northern Black Racer - *Coluber constrictor constrictor*	**	--	T	1	70
Spotted Turtle - *Clemmys guttata*	**	--	T	4	165
Vertebrates - Fish					
American Eel - *Anguilla rostrata*	**	--	SC	6	177
Invertebrates - Dragonflies & Damselflies					
Ringed Boghaunter -*Williamsonia lintneri*	***	--	E	1	15

3.3 Connect the Coast (2019)

Connect the Coast is a tool that identifies prioritized blocks of habitat and wildlife movement corridors, including high priority road-crossing areas, that aims to create a landscape of unfragmented habitat for wildlife. Habitat connectivity is critical in ensuring wildlife can move across the landscape to suitable areas that support all stages of species' life cycles. Many species exist in multiple types of habitats depending on their life stage or require a large range of landscape that can't be accommodated by smaller, fragmented habitat blocks. Population growth and development pressures emphasize the need to ensure thoughtful community planning where high priority areas are conserved to maintain and enhance habitat connectivity across Dover, the coastal watershed, and beyond.[viii]

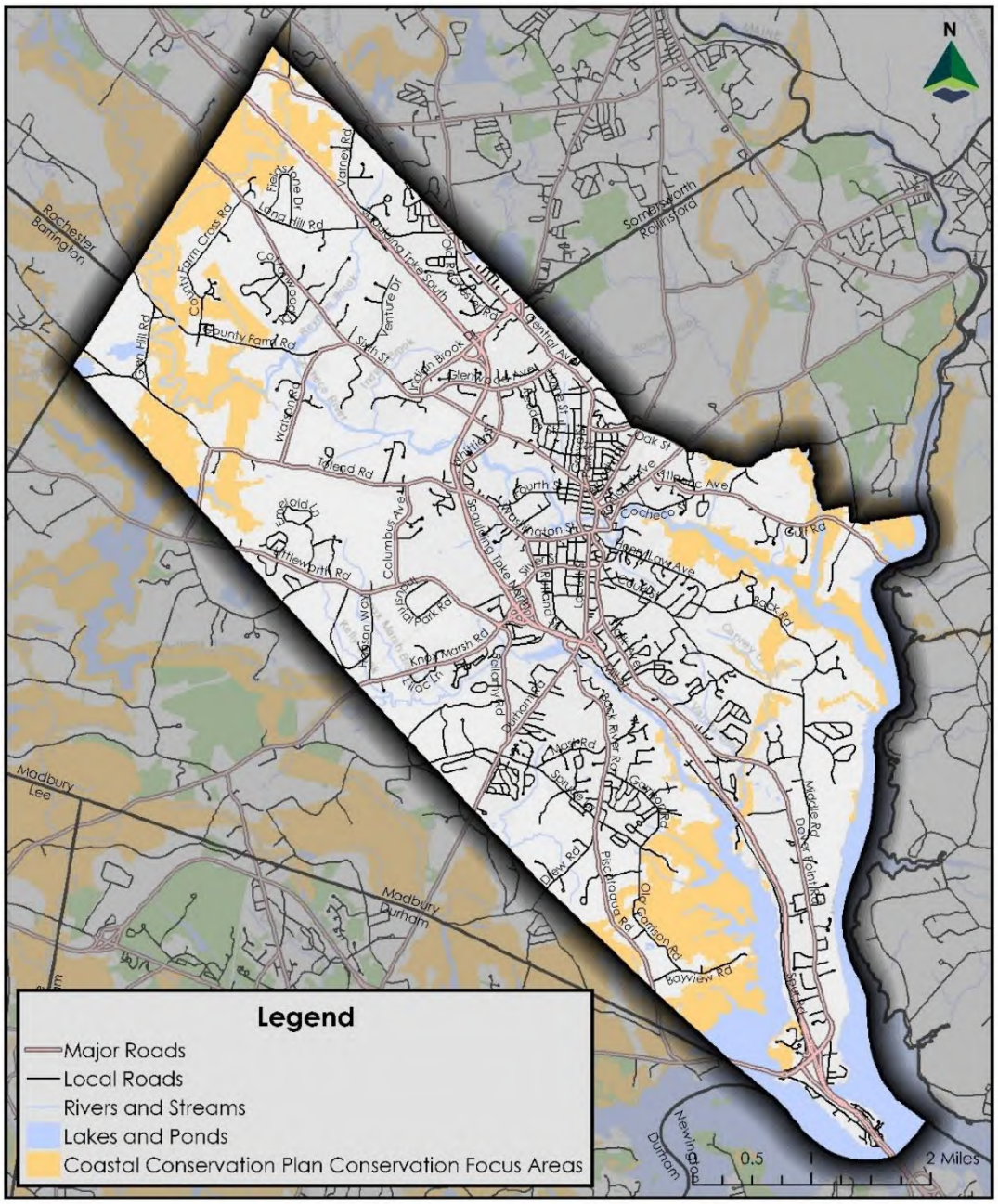


Map 11

3.4 NH Coastal Watershed Conservation Plan (2021)

New Hampshire's 2021 update to the Coastal Watershed Conservation Plan was developed through an extensive community engagement and data synthesis process, using existing regional plans and geospatial datasets to identify conservation focus areas, with the goal of maintaining ecological function and integrity across a landscape that is under threat from habitat loss, habitat degradation, and the impacts of climate change. Input conservation plans used in this analysis are shown in the table below. This plan builds off of the 2006 plan titles, "The Land Conservation Plan For New Hampshire's Coastal Watersheds." Coastal Conservation Focus Areas identified in the 2021 update represent priorities such as wildlife and habitat, water resources, coastal resilience, and opportunities for climate adaptation using nature-based solutions. The Conservation Focus Areas, pictured on the map to the right, account for 38.2 percent (265,368 acres) of New Hampshire's coastal watershed area.[ix]

Input Conservation Plan
2019 Connect the Coast – Prioritized Habitat Block
2019 Connect the Coast – Wildlife Corridors
2020 New Hampshire Wildlife Action Plan – Tier 1
Maine Beginning with Habitat Focus Areas
2016 Water Resources – Pollutant Attenuation
2016 Water Resources – Flood Storage and Risk Mitigation
2020 New Hampshire Wildlife Action Plan – Tier 2
Salt Marsh Resiliency Areas
2020 Resilient and Connected Network
2016 Water Resources – Public Water Supply



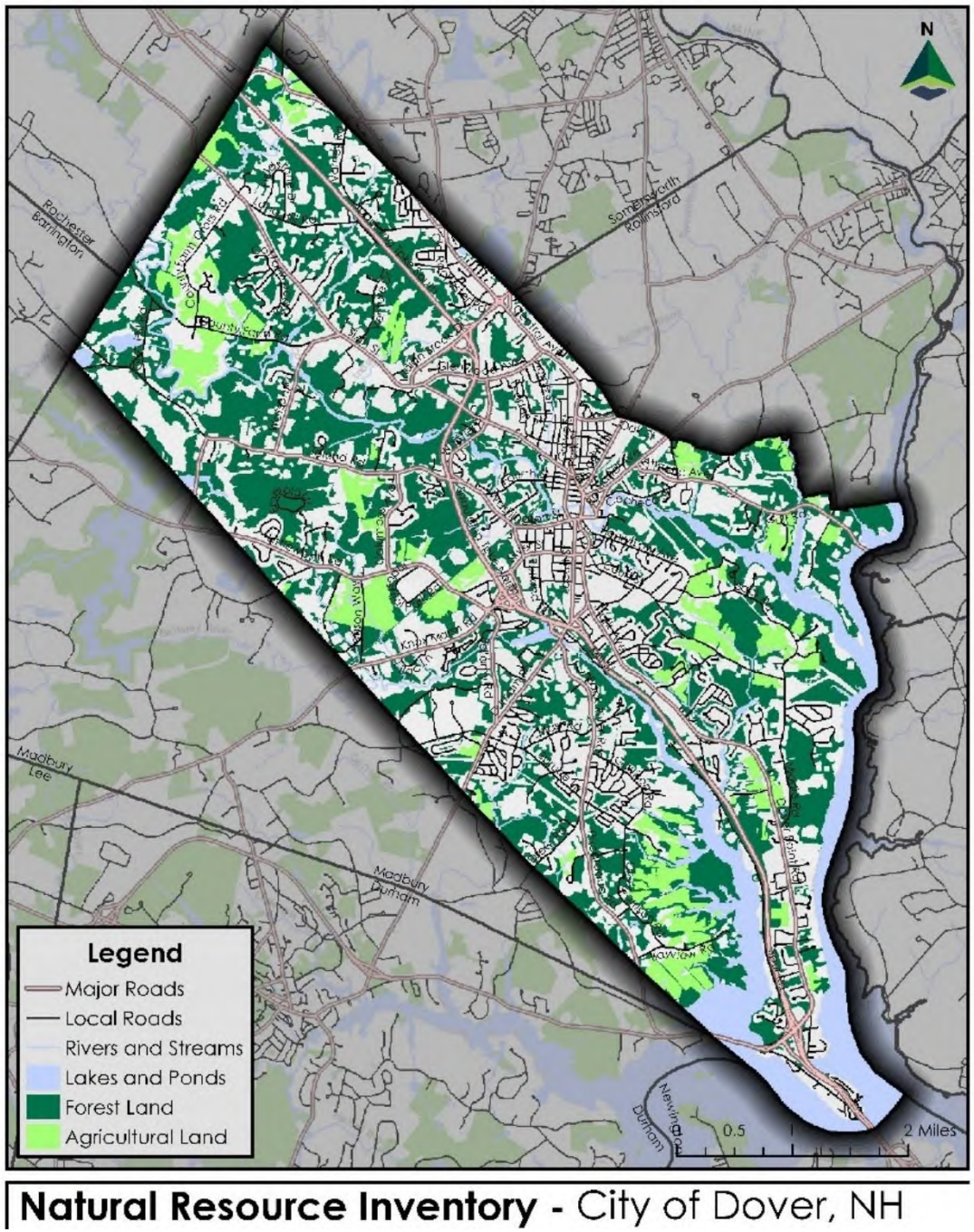
Natural Resource Inventory - City of Dover, NH

Map 12

Section 4: Agriculture and Forestry

The map to the right demonstrates areas in Dover considered agricultural or forest land. Approximately 6,308.35 acres of land in Dover are forested, or 33.9% of the City, and 1,411.75 acres of land are considered agricultural, or 7.6% of the City. Not only do agricultural and forest lands provide important products such as food and timber, but these lands are also valued for their scenic qualities, wildlife habitat, and ability to mitigate the impacts of climate change. The following sections discuss the ideal conditions and areas for forest and agricultural land uses.

Resource	Square Acres	% of City
City of Dover	18,592.13	100.0%
Forest Land	6,308.35	33.9%
Agricultural Land	1,411.75	7.6%



Map 13

4.1 Implications of Climate Change on Agriculture & Forestry Practices



Figure 13: Photo Credit: Society for the Protection of NH Forests

Climate change has profound impacts on agricultural land, affecting various aspects of crop production, soil health, water availability, and the overall agro-ecosystem. Climate change alters temperature and precipitation patterns, leading to changes in growing seasons. Warmer temperatures can advance planting dates, while erratic weather patterns may disrupt crop growth cycles, affecting yields and harvest times. Warmer temperatures and altered precipitation patterns also create favorable conditions for the proliferation of pests and diseases. Crop pests expand their ranges into new territories, while changing weather patterns may disrupt natural pest control mechanisms, leading to increased pesticide use and crop losses. Changes in temperature and precipitation regimes may disrupt pollination cycles, decrease genetic diversity in crop plants, and affect the availability of wild plant species that serve as sources of genetic material for crop improvement. Droughts may become more frequent and severe, reducing crop yields, threatening livestock, and increasing competition for water resources among farmers, urban areas, and ecosystems. Intense rainfall events and prolonged droughts associated with climate change can degrade soil quality through erosion, compaction, and nutrient depletion. Loss of soil organic matter reduces its ability to retain water and nutrients, impairing crop growth and productivity. Rising sea levels may also impact agricultural landscapes.[x]

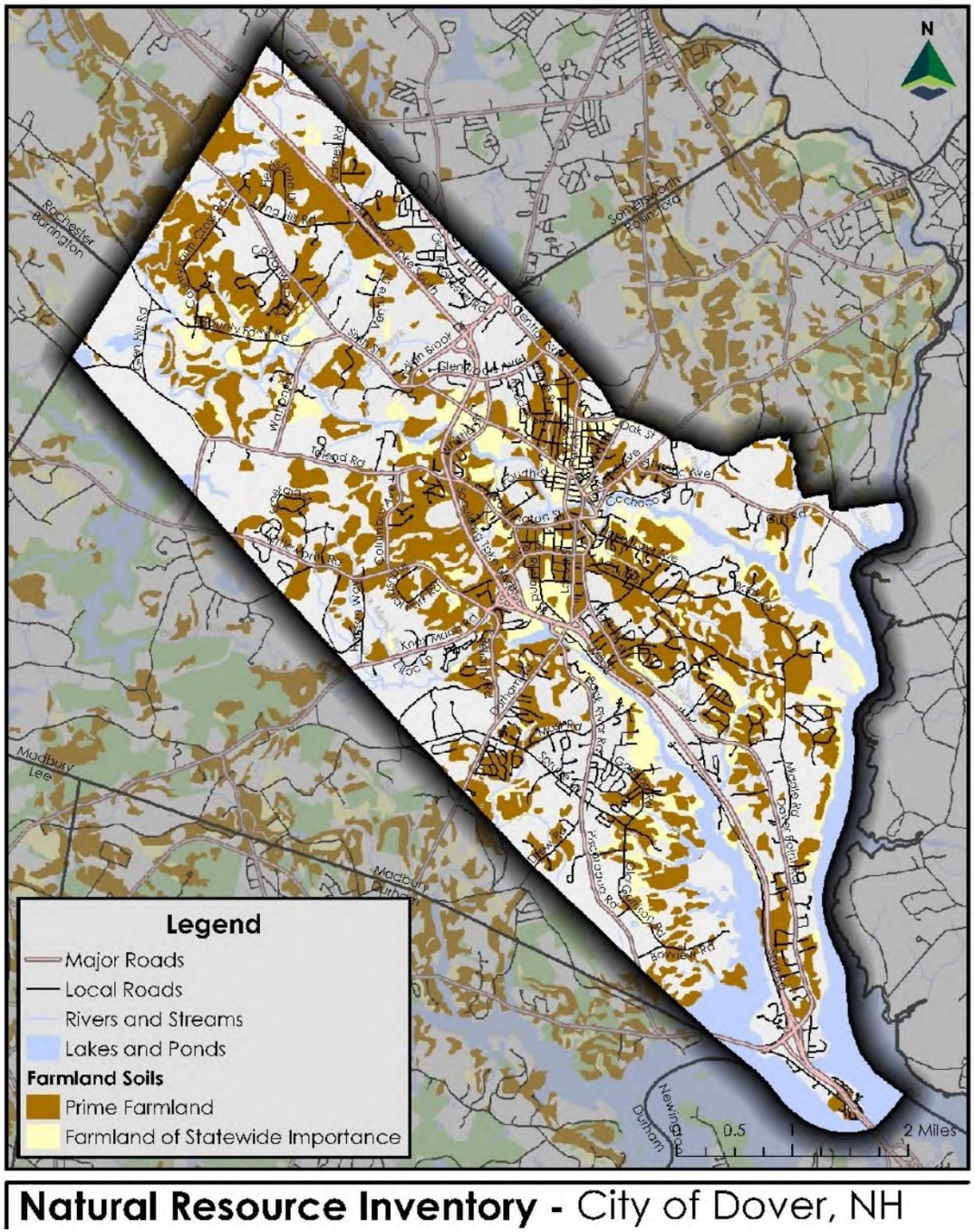
4.2 Agricultural Soils and Active Farmlands

The map pictured on the right illustrates an abundance of both Prime Farmland and Farmland of Statewide Importance in the City of Dover. Approximately 5,399.74 acres of land in Dover are classified as Prime Farmland, or 29% of Dover's land area. About 1,499.98 acres of land are classified as Farmland of Statewide Importance, or 8.1% of Dover's land area. As of 2015, 1,411.75, or 7.6% of land in Dover is in active agricultural use.

Prime Farmland is defined by the Natural Resources Conservation Service (NRCS) as land that has an optimal combination of physical and chemical attributes needed to produce agricultural products. The land's soil properties—acidity versus alkalinity, sodium content, and little to no rocks—growing season, and water supply—either from precipitation or irrigation—are ideal to maintain high yields of crops if managed under agricultural best practices.[xi]

While Farmland of Statewide Importance is not considered prime or unique, it is given this designation due to its importance in producing agricultural products. Attributes of land with this designation include slopes of less than 15%; not stony or bouldery; not somewhat, poorly, or very poorly drained; soil complexes with less than 30% shallow soils and rock outcrops and slopes do not exceed 8%, and are not excessively drained or generally have low water holding capacity.[xii]

Soils	Square Acres	% of City
City of Dover	18,592.13	100.0%
Prime Farmland	5,399.74	29.0%
Farmland of Statewide Importance	1,499.98	8.1%



Map 14

4.3 Forest Soils and Forestry

The following soils are defined by the Natural Resources Conservation Service to aid in planning for productive forest management. These groupings aid in evaluating soil productivity, understanding plant succession patterns, and making informed management decisions for forest resources.

Group IA: These soils are deeper, loamy, moderately well-drained, and well-drained, with high fertility and favorable moisture conditions. They support shade-tolerant hardwoods like sugar maple and beech and are suitable for high-quality hardwood veneer and sawtimber.

Group IB: Moderately well-drained and well-drained soils, slightly less fertile than IA, with adequate moisture for good tree growth. They support similar trees as IA but with beech as a dominant species in climax stands.

Group IC: Soils derived from glacial outwash sand and gravel, coarse-textured, and excessively drained to moderately well-drained. Suitable for softwoods like red spruce and hemlock, with limited potential for hardwoods.

Group IIA: Diverse soils with limitations such as steep slopes, bedrock outcrops, and extreme stoniness. Although productive, management activities are more difficult and costly.

Group IIB: Poorly drained soils with a seasonal high-water table, lower productivity than IA, IB, or IC. Suitable for softwoods like spruce and balsam fir, with less hardwood competition but requiring intensive management.

Not Rated (NC): Some soils are too variable or have limited potential for commercial forest product production, such as very poorly drained soils and those at high elevations.

Primary soil types found in the City of Dover are listed on the next page, and their relative forest soil group is also identified.

4.4 Soil Types

Soils	Square Acres	% of City	Forest Soil Group
City of Dover	18,592.13	100.0%	
Buxton silt loam, 3 to 8 percent slopes	2,945.48	15.8%	IA
Scantic silt loam, 0 to 3 percent slopes	1928.605221	10.4%	IIB
Water	1429.412026	7.7%0	NC
Suffield silt loam, 8 to 15 percent slopes	1123.954712	6.0%	IB
Windsor loamy fine sand, clay subsoil variant, 0 to 8 percent slopes	1014.466943	5.5%	IA
Hollis-Charlton fine sandy loams, 3 to 8 percent slopes	867.324315	4.7%	IB
Windsor loamy sand, 3 to 8 percent slopes	762.681671	4.1%	IA
Hinckley loamy sand, 3 to 8 percent slopes	759.88611	4.1%	IC
Saugatuck loamy sand	727.011571	3.9%	IIB
Windsor loamy sand, 0 to 3 percent slopes	663.944108	3.6%	IA
Charlton fine sandy loam, 3 to 8 percent slopes	573.59	3.1%	IA
Scantic silt loam, 3 to 8 percent slopes	407.194656	2.2%	IIB
Elmwood fine sandy loam, 3 to 8 percent slopes	385.82	2.1%	IA
Swanton fine sandy loam, 0 to 3 percent slopes	308.863551	1.7%	IIB
Swanton fine sandy loam, 3 to 8 percent slopes	287.192857	1.5%	IIB
Windsor loamy sand, 15 to 60 percent slopes	276.260308	1.5%	IA
Hollis-Charlton fine sandy loams, 8 to 15 percent slopes	246.081844	1.3%	IB
Hinckley loamy sand, 8 to 15 percent slopes	243.644165	1.3%	IC
Windsor loamy fine sand, clay subsoil variant, 8 to 15 percent slopes	241.617984	1.3%	IA
Tidal marsh	212.52059	1.1%	NC
Suffield silt loam, 15 to 35 percent slopes	202.975389	1.1%	IIA
Buxton silt loam, 0 to 3 percent slopes	193.48	1.0%	IA
Hinckley gravelly loamy sand, 15 to 60 percent slopes	172.47574	0.9%	IIA

Made land	172.172327	0.9%	NC
Elmwood fine sandy loam, 0 to 3 percent slopes	149.71	0.8%	IA
Biddeford silty clay loam	145.62	0.8%	IA
Gloucester very stony fine sandy loam, 8 to 15 percent slopes	144.169161	0.8%	IB
Gravel and borrow pits	130.376506	0.7%	NC
Hollis-Gloucester very rocky fine sandy loams, 8 to 15 percent slopes	127.001068	0.7%	IB
Windsor loamy sand, 8 to 15 percent slopes	123.337944	0.7%	IA
Hollis-Charlton very rocky fine sandy loams, 8 to 15 percent slopes	118.635992	0.6%	IB
Hollis-Gloucester very rocky fine sandy loams, 3 to 8 percent slopes	114.59489	0.6%	IB
Ondawa fine sandy loam	112.25189	0.6%	IA
Hinckley loamy sand, 0 to 3 percent slopes	97.73791	0.5%	IC
Mixed alluvial land, wet	96.806162	0.5%	NC
Deerfield loamy sand, 0 to 3 percent slopes	89.59	0.5%	IC
Deerfield loamy sand, 3 to 8 percent slopes	88.44	0.5%	IC
Hollis-Charlton very rocky fine sandy loams, 15 to 25 percent slopes	80.880275	0.4%	IB
Hollis-Gloucester fine sandy loams, 3 to 8 percent slopes	76.384109	0.4%	IB
Charlton fine sandy loam, 8 to 15 percent slopes	66.52	0.4%	IA
Gloucester fine sandy loam, 3 to 8 percent slopes	63.39	0.3%	IB
Gloucester very stony fine sandy loam, 3 to 8 percent slopes	59.605985	0.3%	IB
Hollis-Gloucester fine sandy loams, 8 to 15 percent slopes	53.216296	0.3%	IB
Podunk fine sandy loam	39.92033	0.2%	IA
Charlton fine sandy loam, 15 to 25 percent slopes	38.91	0.2%	IA
Charlton very stony fine sandy loam, 15 to 25 percent slopes	36.80	0.2%	IA
Gloucester fine sandy loam, 8 to 15 percent slopes	35.68	0.2%	IB
Charlton very stony fine sandy loam, 8 to 15 percent slopes	33.79	0.2%	IA
Leicester very stony fine sandy loam, 3 to 8 percent slopes	33.531325	0.2%	IIB
Hollis-Charlton fine sandy loams, 15 to 25 percent slopes	30.648921	0.2%	IB
Rumney fine sandy loam	24.974421	0.1%	IIB

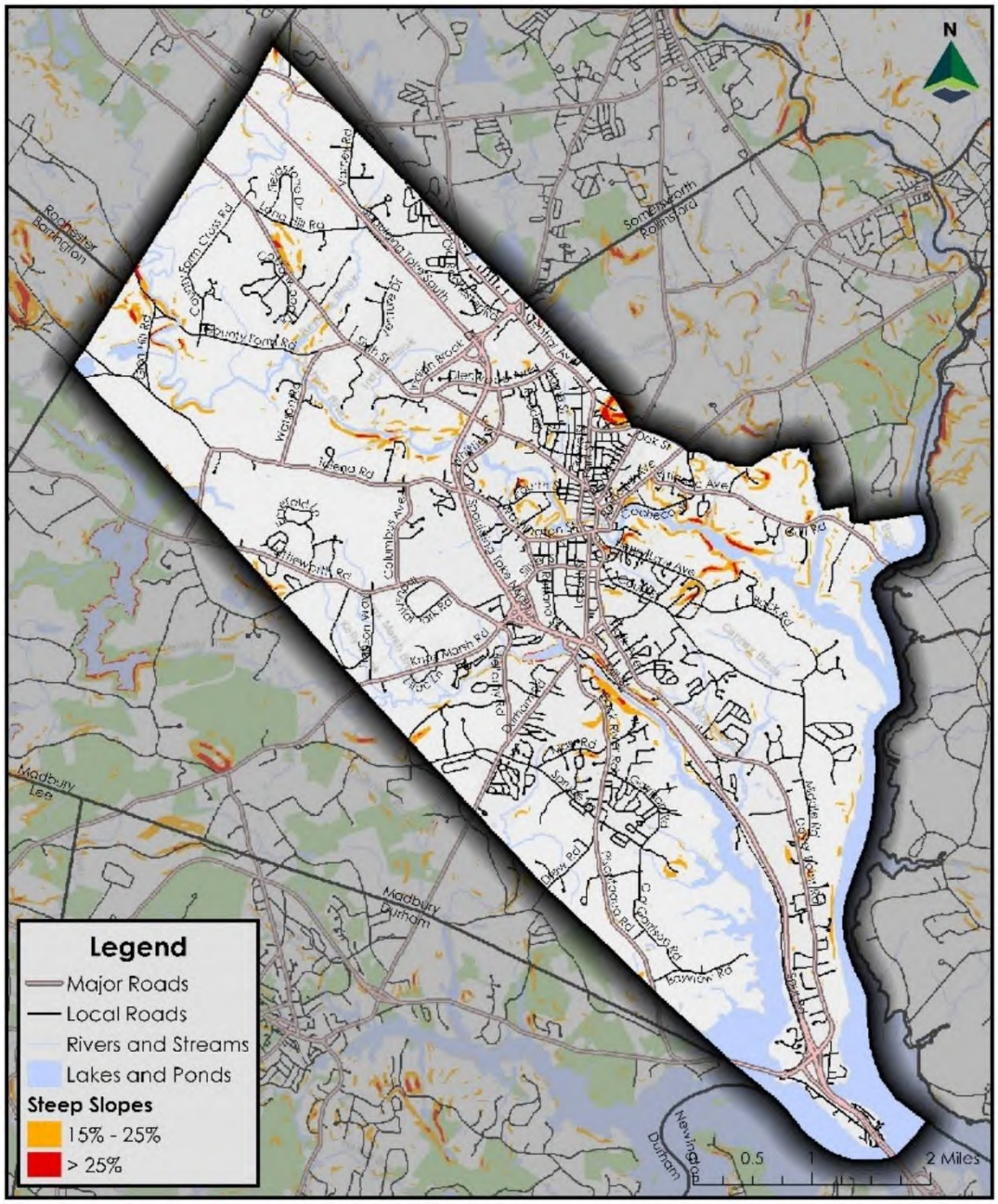
Sutton fine sandy loam, 0 to 8 percent slopes	24.950031	0.1%	IA
Hollis-Charlton extremely rocky fine sandy loams, 25 to 60 percent slopes	24.929633	0.1%	IIA
Sutton very stony fine sandy loam, 0 to 8 percent slopes	22.882706	0.1%	IA
Gloucester very stony fine sandy loam, 15 to 25 percent slopes	20.659505	0.1%	IB
Hollis-Charlton very rocky fine sandy loams, 3 to 8 percent slopes	19.817554	0.1%	IB
Hollis-Gloucester very rocky fine sandy loams, 15 to 25 percent slopes	18.385007	0.1%	IB
Charlton very stony fine sandy loam, 3 to 8 percent slopes	15.93	0.1%	IA
Hollis-Charlton extremely rocky fine sandy loams, 8 to 25 percent slopes	12.997208	0.1%	IIA
Hollis-Gloucester extremely rocky fine sandy loams, 25 to 60 percent slopes	12.955186	0.1%	IIA
Muck and peat	11.995264	0.1%	NC
Acton very stony fine sandy loam, 8 to 15 percent slopes	7.59	0.0%	IB
Gloucester very stony fine sandy loam, 25 to 60 percent slopes	5.443448	0.0%	IIA
Acton fine sandy loam, 0 to 8 percent slopes	4.51	0.0%	IB
Leicester fine sandy loam, 0 to 8 percent slopes	3.141213	0.0%	IIB
Ridgebury fine sandy loam, 0 to 3 percent slopes	2.963105	0.0%	IIB
Leicester-Ridgebury very stony fine sandy loams, 0 to 3 percent slopes	1.86563	0.0%	IIB

Section 5: Steep Slopes and Ridgelines

5.1 Steep Slopes

Waterfalls and gorges along major rivers develop steep slope communities found mostly at lower elevations, as compared to cliff and talus communities which exist above 1700 feet. Steep slope communities typically have richer calcareous soils. Prominent vegetation includes harebell, red columbine, fringed loosestrife, Canada anemone, virgins bower and spreading dogbane.[xiii]

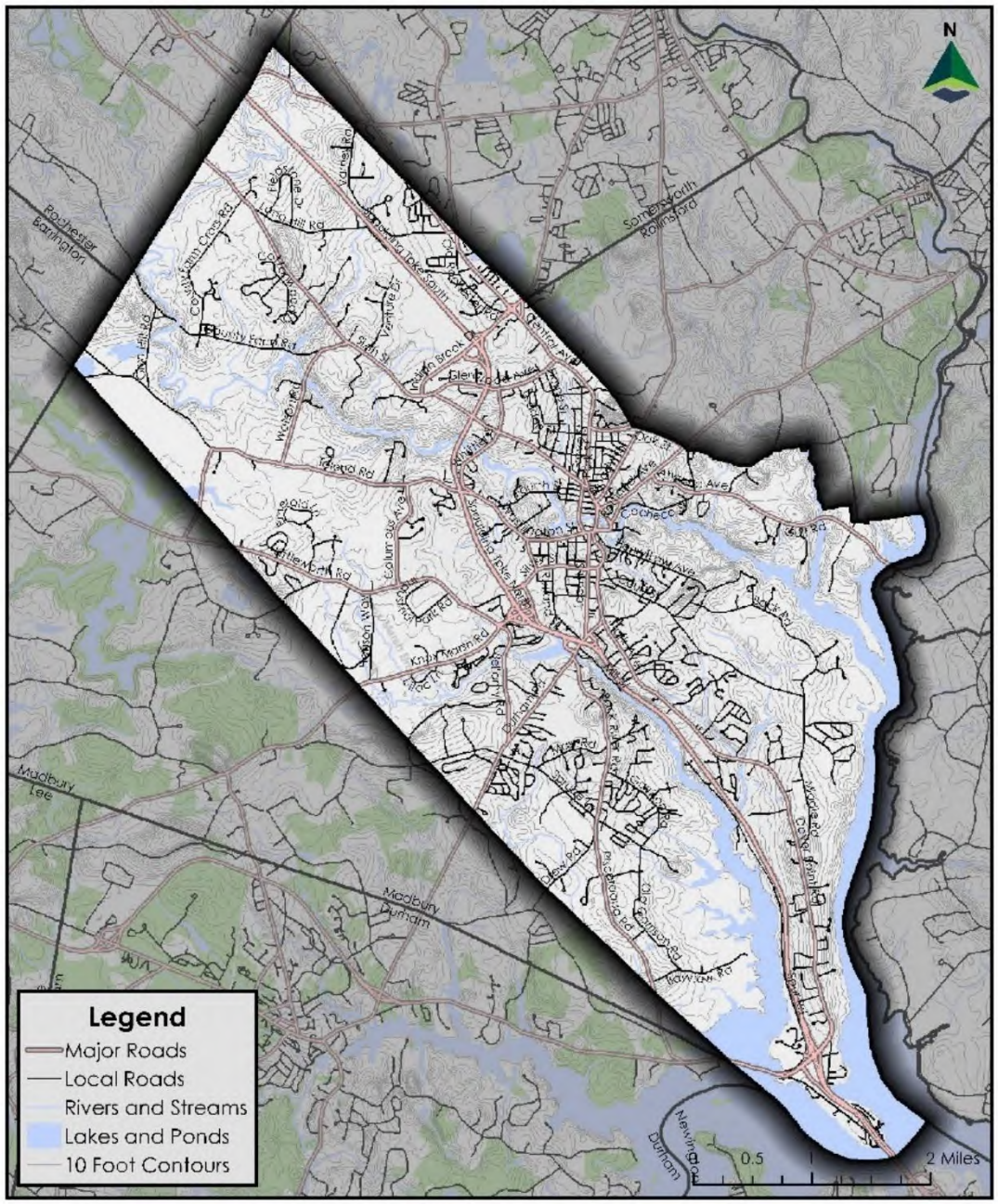
Resource	Square Acres	% of City
City of Dover	18,592.13	100.0%
Slopes 15% - 25%	501.69	2.7%
Slopes > 25%	58.07	0.3%



Map 15

5.2 Ridgelines

While ridgelines are not present in Dover, a topography map pictured on the right demonstrates the City's varying elevation along 10-foot contours. Shifts in elevation can generate variations in climate across small distances, or microclimates. Microclimates indicate where different natural communities may be found in an area.[xiv] Topographic differences contribute to the categorization of ecological conditions, and support prioritization of Highest Ranked Habitat in the Biological Region found on Map 10.



Map 16

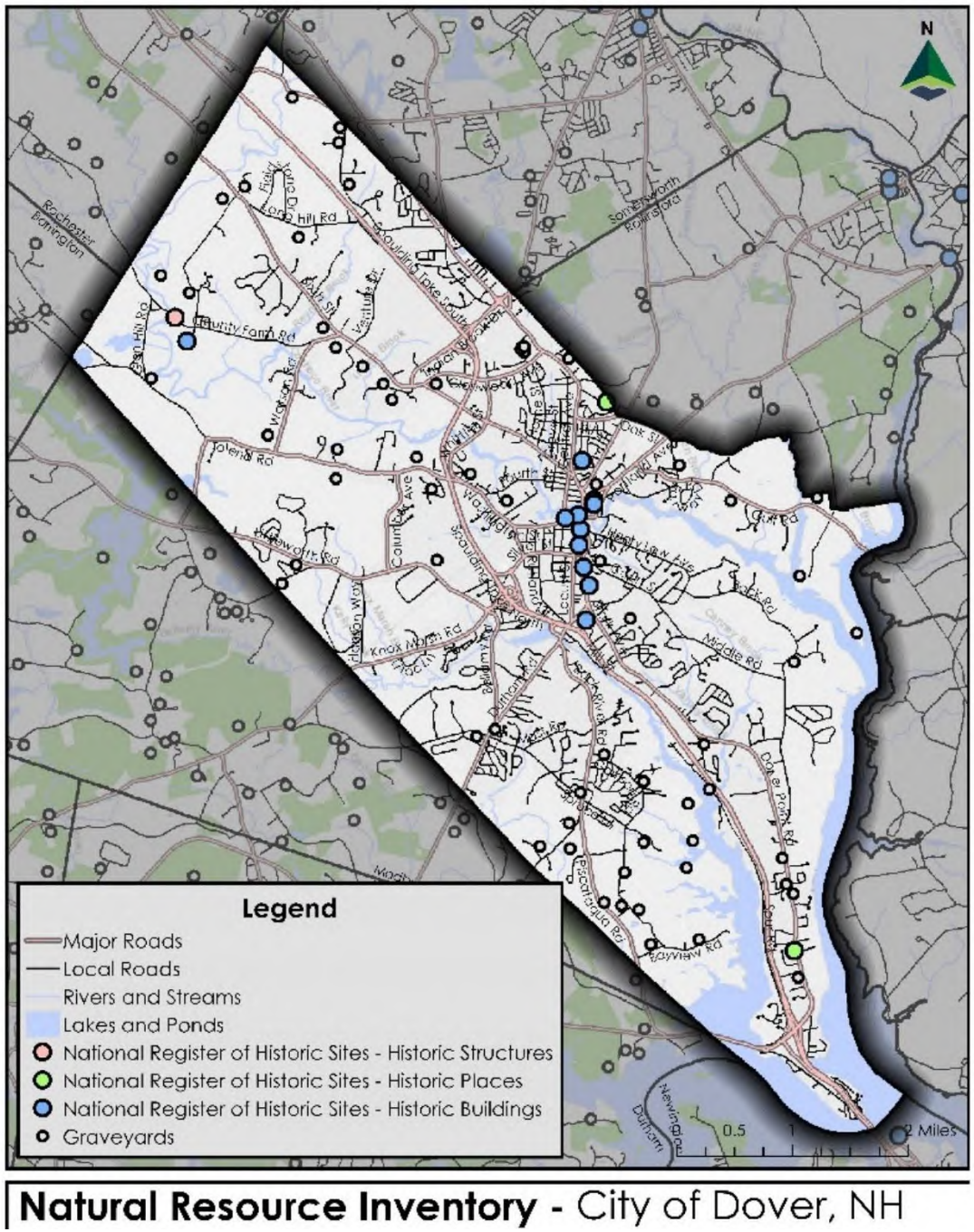
Section 6: Historic and Cultural Resources

6.1 Historic Resources

Local history is ultimately linked to a community's natural heritage. Documentation of historic resources can broaden understanding of how a community developed and demonstrate how land-use patterns today reflect patterns of growth in the past. One of the best sources of this information is the National Register of Historic Places.

The National Register of Historic Places (NRHP) is a list of districts, sites, buildings, structures, and objects deemed worthy of preservation for their historical significance by the National Park Service (NPS) and the New Hampshire Division of Historical Resources. Generally, properties are evaluated based on their significance in American history, architecture, archaeology, engineering, or culture. There are several considerations and guidelines for evaluating potential places including:

- **Age and Integrity:** Properties should generally be at least 50 years old and retain their historic integrity, meaning they still convey their significance through physical characteristics, location, and setting.
- **Significance:** Properties should have significance at the local, state, or national level in their respective categories (architecture, history, culture, etc.).
- **Documentation:** Properties must be documented thoroughly with historical research, photographs, maps, and other relevant materials.



Map 17

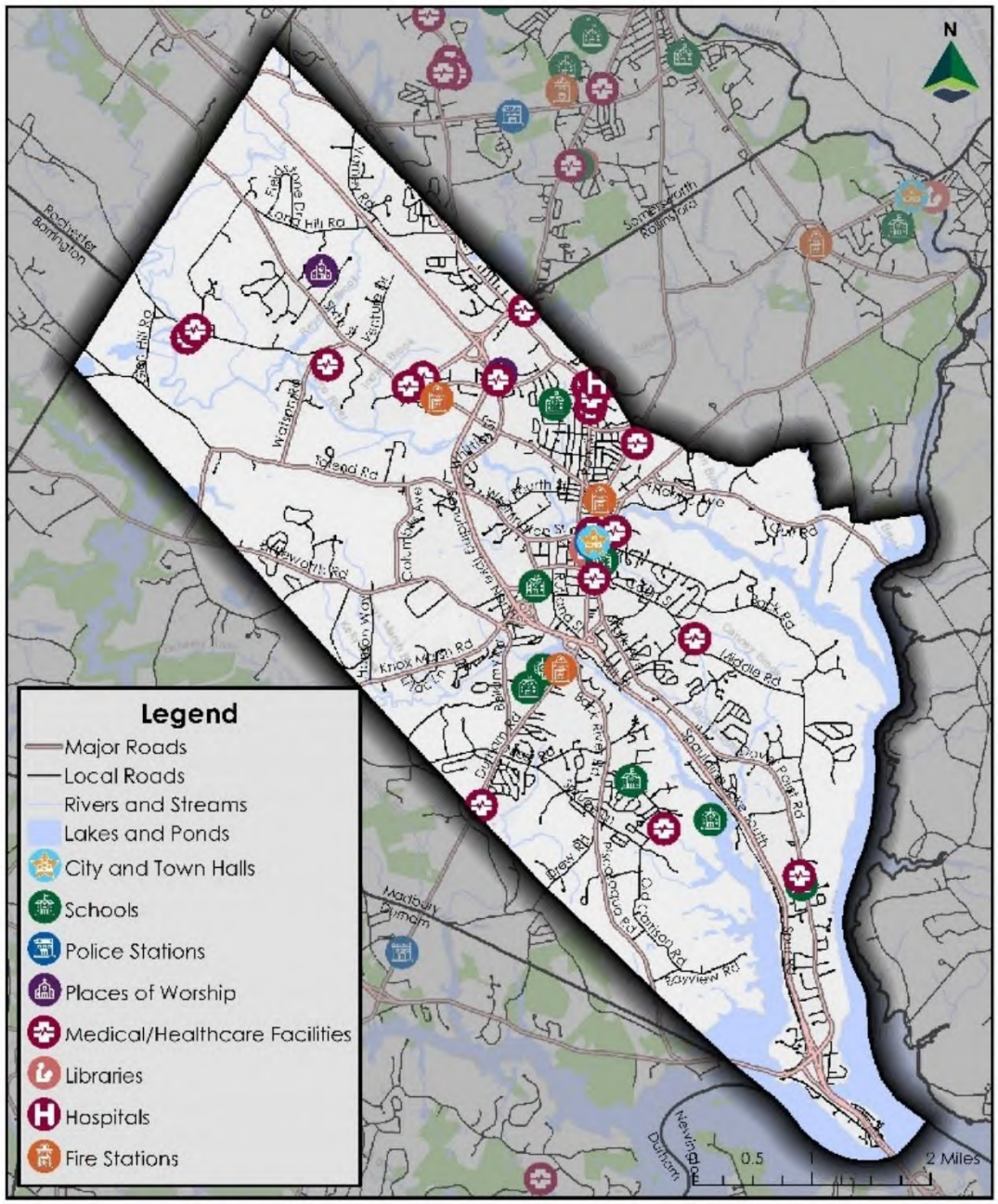
- **Owner Consent:** Property owners must consent to the nomination for listing on the National Register.

The table below lists sites registered to the NRHP in dover as of January 2024.[xv]

Inventory #	Property Name	Address	NR Listing Date
DOV0171	Public Market	93 Washington Street	3/7/1985
DOV0211	Cocheco Mills	Main & Washington Streets	3/24/2014
DOV0212	County Farm Covered Bridge	County Farm Road	5/21/1975
DOV0213	Back River Farm	99 111 Bay View Rd	6/22/1984
DOV0214	First Parish Church	218 Central Avenue	3/11/1982
DOV0215	Garrison Hill Park and Tower	Abbie Sawyer Memorial Drive	9/11/1987
DOV0216	William Hale House	5 Hale Street	11/18/1908
DOV0217	US Post Office - Dover Main	133-137 Washington Street	7/17/1986
DOV0218	Michael Reade House	43 Main Street	2/12/1980
DOV0219	Religious Society of Friends Meetinghouse	141 Central Avenue	2/29/1980
DOV0220	St. Thomas' Episcopal Church	5 Hale Street	6/7/1994
DOV0222	Sawyer Woolen Mills	1 Mill Street	9/13/1989
DOV0223	Strafford County Farm	County Farm Road	2/25/1981
DOV0224	Woodbury Mill	1 Dover Street	3/25/2013
DOV0225	Woodman Institute	182 Central Avenue	7/24/1980
DOV0226	Samuel Wyatt House	7 Church Street	12/2/1982

6.2 Cultural Resources

Cultural resources reflect some of the values that we place on our natural resources, such as scenic quality, historic significance, recreational opportunity, and general quality of life. The data shown on the map to the right is sourced from the community anchor institutions data layer from NH GRANIT and includes seven categories of institutions as defined by the National Telecommunications and Information Administration.[xvi]



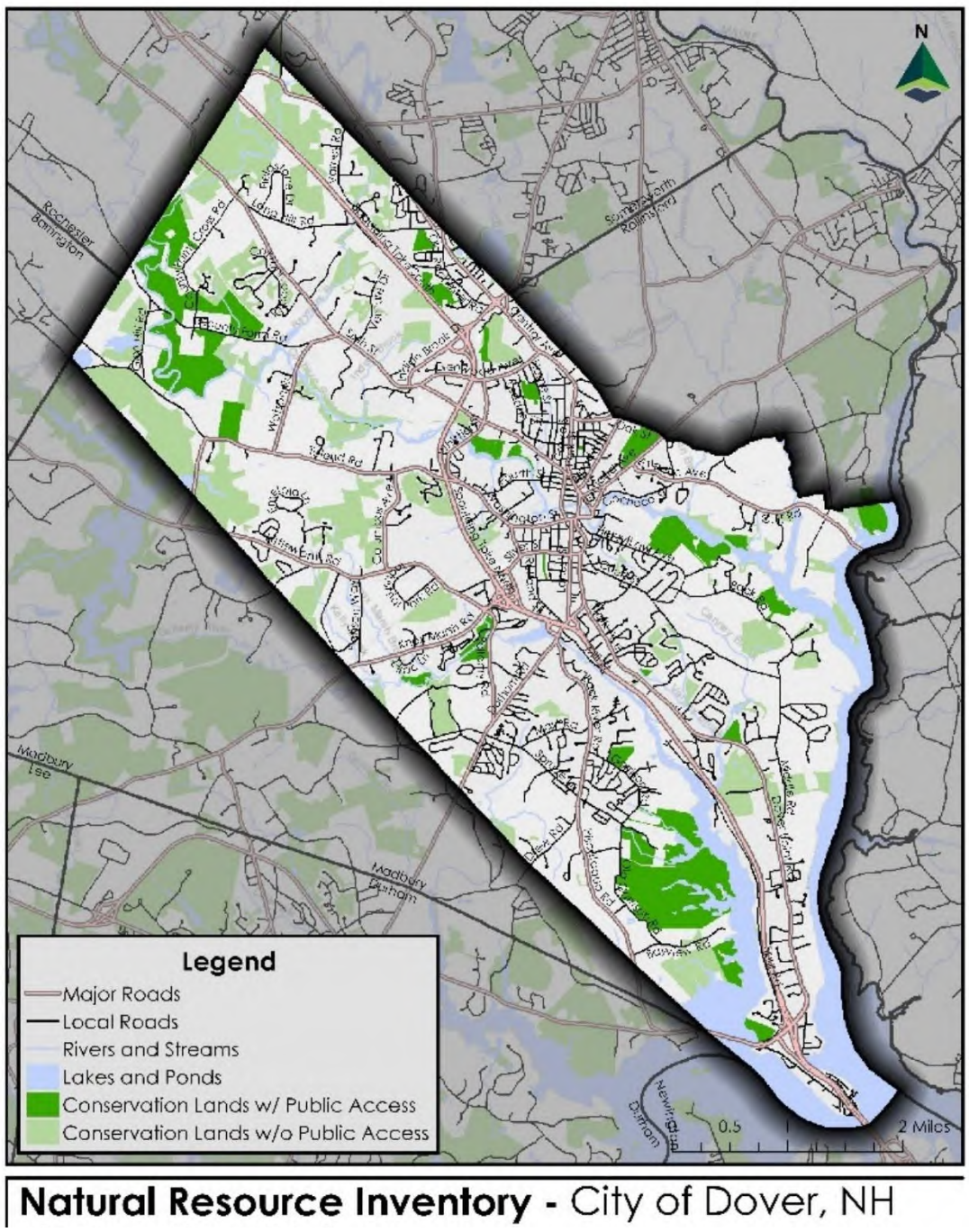
Map 18

Section 7: Conserved and Recreational Lands

7.1 Conservation Lands

The map to the right identifies areas in Dover permanently protected through conservation. The map also indicates which areas are accessible to the public. Conservation lands benefit humans and wildlife by preserving critical habitat and providing open space for recreation. Notable conservation lands in Dover include:

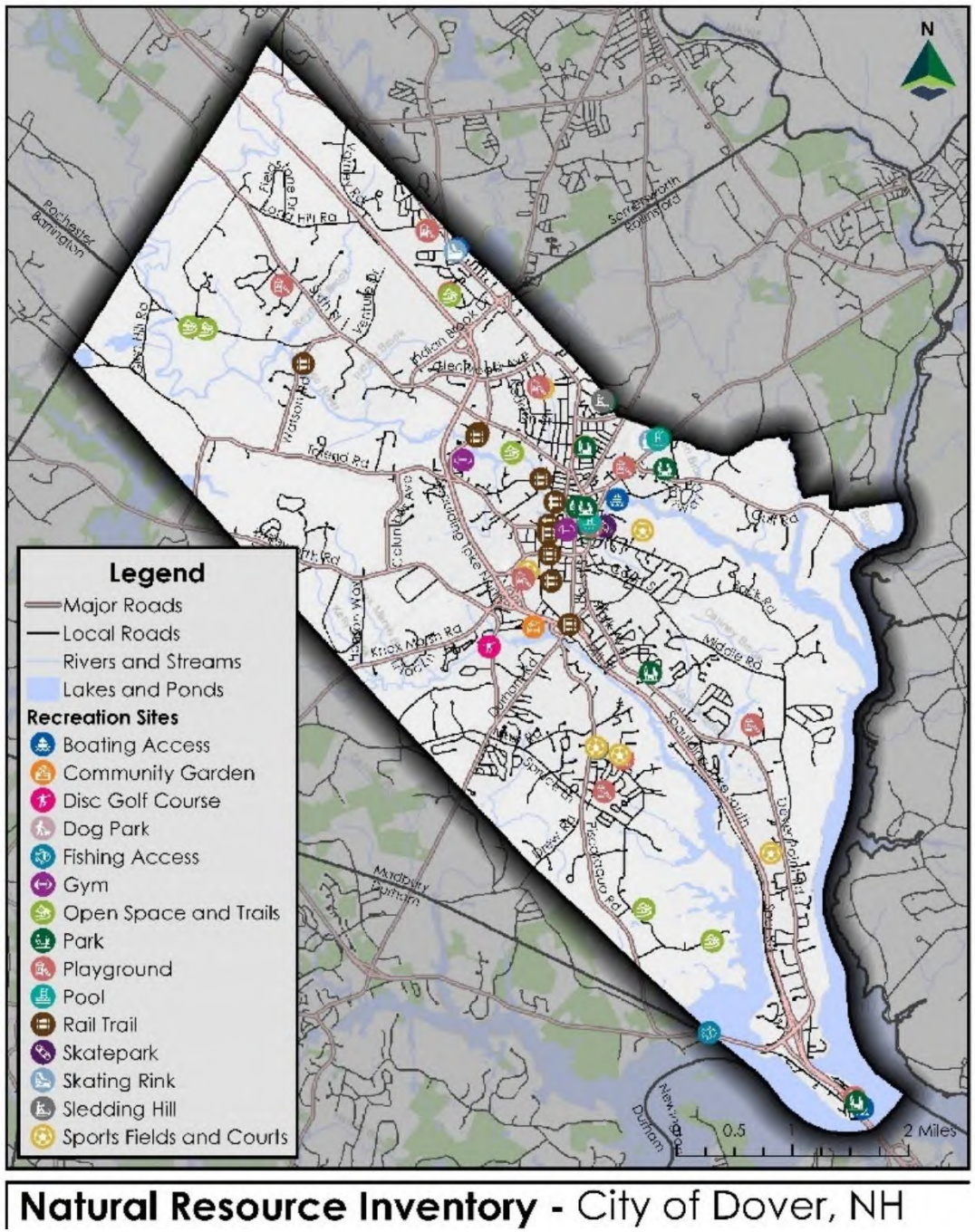
- Willand Pond
- Dover Community Trail, paved section: Rutland Street/Central Avenue to Fourth Street
- Dover Community Trail, natural section: Fourth Street to Watson Road
- Bellamy River Wildlife Management Area
- County Farm Road Conservation Land
- Cocheco River Canoe Launch
- Sullivan Drive Nature Trail



Map 19

7.2 Recreational Lands

Parks and recreation sites are important elements of the community that can build social ties and foster a sense of belonging and connection to a person's community. Additionally, recreation sites that add green space to the City provide environmental benefits such as improved air quality, reduced temperatures, and water infiltration.[xvii] Considering the multiple benefits of recreation sites, if planned thoughtfully these spaces can be used to improve habitat connectivity and provide community benefits. Recreation sites shown on the map to the right were identified through the Strafford Regional Planning Commission's Promoting Outdoor Play project and is up to date as of 2023. This project aimed to consolidate and compare various data and resources on recreation sites in the SRPC region. The data layer was validated by SRPC staff through site visits and interviews with municipal staff. All of these locations are accessible to the public.



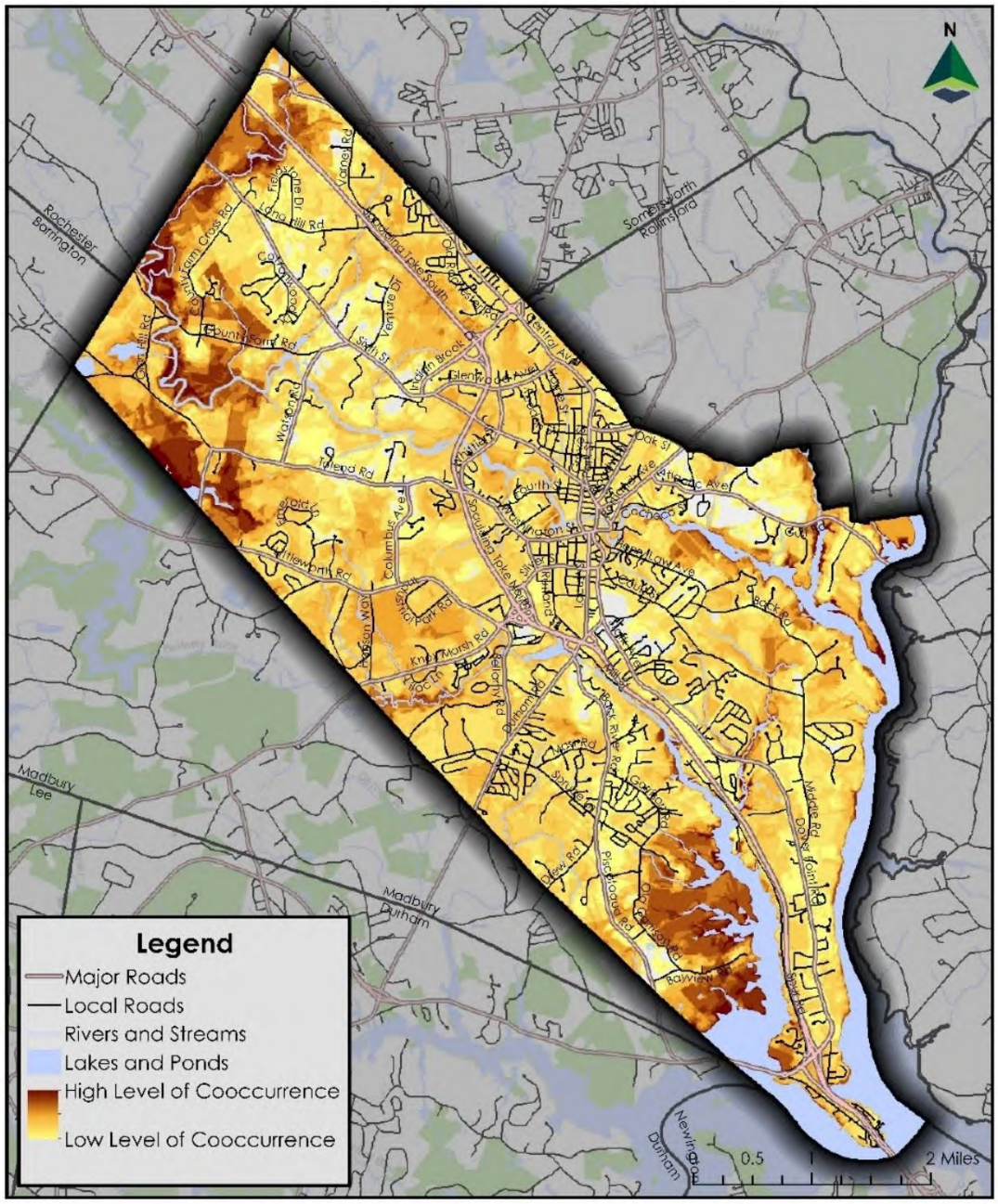
Map 20

Section 8: Conservation Focus Areas & Recommendations

8.1 Conservation Focus Areas

The co-occurrence map to the right and on the following page take multiple data layers and stack them on top of each other, such that the darkest areas on the map indicate the highest number of each layer's features occurring in that area. Map 22 overlays existing conservation land in the City to demonstrate the areas of high cooccurrence that are already protected. In a natural resources cooccurrence analysis, areas of high cooccurrence often appear near water bodies, as waterbodies and their surrounding habitats provide multifaceted benefits to humans and wildlife. Conversely, more developed areas of the City show low cooccurrence, as there are fewer high-quality natural spaces in these areas. Layers included in this analysis are as follows:

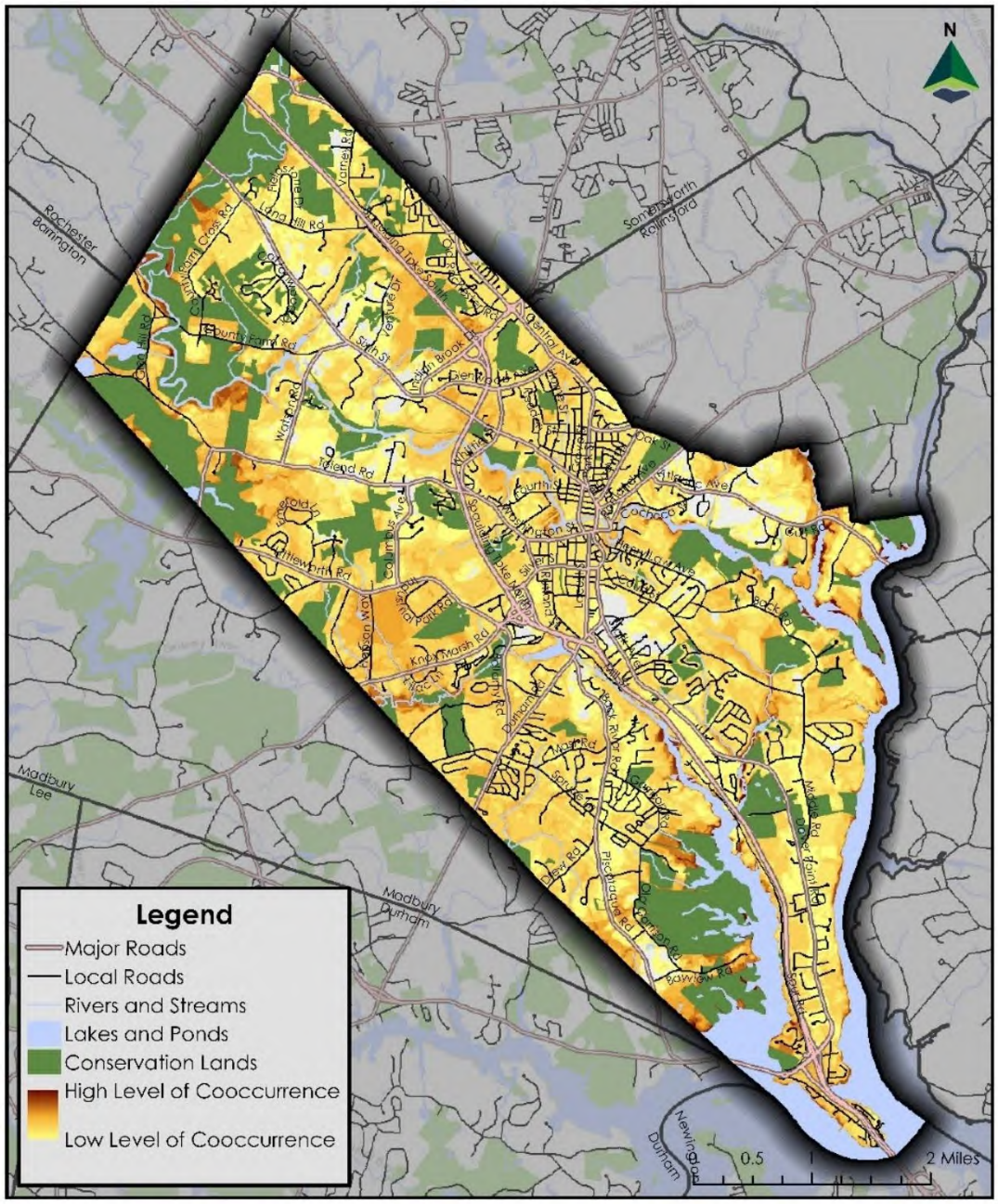
- Rivers and Streams
- Lakes and Ponds
- Wildlife Action Plan:
  - Highest Ranked Habitats
  - Highest Ranked Habitat in Biological Region
- Habitats
  - Appalachian Oak Pine
  - Developed Impervious
  - Developed or Barren Land
  - Floodplain Forest
  - Grassland
  - Hemlock Hardwood Pine
  - Open Water
  - Peatland
  - Rocky Ridge



Natural Resource Inventory - City of Dover, NH

Map 21

    - Salt Marsh
    - Sand/Gravel
    - Temperate Swamp
    - Wet Meadow/Shrub Wetland
- Wildlife Action Plan Aquatic Habitats
    - Coldwater Rivers/Streams
    - Tidal Rivers/Streams
    - Warm/Cool Rivers/Streams
    - Estuarine
    - Warm/Cool Lake
    - Warm/Cool Pond
- Watersheds
- Wetlands
- Flood Zones
- Steep Slopes
- Soil Drainage
- Sea Level Rise
- Oyster Habitat
- Aquaculture
- Salt Marsh Habitat
- Forest Land
- Agricultural Land
- Farmland Soils
- Prime Farmland
- Farmland of Statewide Importance
- Stratified Drift Aquifers
- Wellhead Protection Areas
- Conservation Lands
- Conservation Focus Areas (Coastal Conservation Plan)
- Wildlife Corridors (Connect the Coast)
- Prioritized Habitat Blocks (Connect the Coast)



Natural Resource Inventory - City of Dover, NH

Map 22

8.2 Recommendations

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[i] https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/wmb-19.pdf
[ii] https://extension.unh.edu/nhnriguide/nri-components/water-resources/ground-water-aquifers
[iii] https://www.wildlife.nh.gov/wildlife-and-habitat/climate-change-and-wildlife/rising-sea-levels
[iv] https://oceanservice.noaa.gov/facts/stormsurge-stormtide.html
[v] https://scholars.unh.edu/cgi/viewcontent.cgi?article=1210&context=ersc
[vi] https://www.mrlc.gov/data/legends/national-land-cover-database-class-legend-and-description
[vii] https://www.nh.gov/nhdfl/documents/town-lists.pdf
[viii] https://www.nature.org/content/dam/tnc/nature/en/documents/nh-connect-the-coast-report.pdf
[ix] https://connect-protect.org/wp-content/uploads/2022/07/NH-Coastal-Watershed-Conservation-Plan-20210630.pdf
[x] https://nca2023.globalchange.gov/chapter/21/
[xi] https://efotg.sc.egov.usda.gov/references/public/CO/5a_Prime_Farmland_Definition.pdf
[xii] https://www.nrcs.usda.gov/sites/default/files/2022-11/NH%20Soil%20Data%20Dictionary-2013.pdf
[xiii] https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/EcoregionalPlans/NAP/Steep.pdf
[xiv] https://explorenaturalcommunities.org/ecology-basics/physical-setting/topography
[xv] https://mm.nh.gov/files/uploads/dhr/documents/national-register-listing.pdf
[xvi] https://hub.arcgis.com/datasets/0e72c823edc848789b60b15326980f58_0/about
[xvii] https://tomorrow.norwalkct.org/news/importance-open-spaces-city/

FRIENDS OF DOVER: OUR NATURAL RESOURCES NEED YOUR VOICE!

DO YOU LIVE/WORK/PLAY IN DOVER?

The Strafford Regional Planning Commission, in association with the City of Dover, is conducting a Natural Resources Inventory (NRI)! We want to hear your opinions on Dover's natural resources. Do you **recreate** on City **trails**, or **enjoy** Dover's **conservation lands**? Do you want to **protect threatened species**? Sharing your thoughts will ensure our natural resources are managed in a way that aligns with the needs and desires of the community for years to come. ***The survey below will run through April.***

SURVEY

SCAN ME

Help the City **identify needs** and **priorities** for **conservation** and **natural resource protection** through a short survey. **Paper copies** are available at **City Hall**.

Follow the link or scan the code to respond.

https://www.surveymonkey.com/r/DOVNRI

MORE ABOUT THE PROJECT:

The **City of Dover** is working with the **Strafford Regional Planning Commission (SRPC)** to develop a comprehensive **Natural Resource Inventory (NRI)** for resource management and land use that balances community interests, integrates local and regional goals, and is based on the most up to date and best available science. The end result will be a report that reflects current data and high value land use management priorities. This document will support **proactive land use planning & decision-making** in Dover.

The project seeks to **identify** Dover's critical natural resources, **build consensus** among community members around management approaches, and **create** an implementation plan.

STRAFFORD
Regional Planning Commission

CONTACT INFORMATION:

Project Manager: Autumn Scott
Regional Planner,
Strafford Regional Planning Commission
ascott@strafford.org

NATURAL RESOURCES INVENTORY | LIST OF SERVICES

TO: Lisa Murphy and Autumn Scott, Strafford Regional Planning Commission
FROM: Sarah Large, FB Environmental Associates (FBE)
CC: Forrest Bell, Kevin Ryan, and Christine Bunyon FBE
SUBJECT: Dover and Lee Natural Resources Inventory (NRI) Support - List of Services
DATE: February 6, 2024

STATEMENT OF INTEREST

FBE would be happy to assist the Strafford Regional Planning Commission (SRPC), in partnership with the City of Dover and the Town of Lee, with field surveys or desktop based environmental studies in support of each municipality's townwide Natural Resources Inventory (NRI). Our team's deep familiarity with these communities enhances our understanding of their natural resources. FBE strives to assist communities in the stewardship of natural resources through sound field investigations, targeted assessments, and by communicating findings through comprehensive reporting. The projects opportunities to assist SRPC, the City of Dover, and the Town of Lee, align seamlessly with FBE's mission of 'Where Science Meets Civics' and our company's dedication to natural resource stewardship and conservation, through collaboration with local communities to enhance resiliency, biodiversity, and sustainable environmental practices.

Where Science Meets Civics

FB Environmental is dedicated to practical stewardship of our natural world. We work to restore and protect ecosystems through science and community collaboration. We focus on clean water and biodiversity conservation, serving both public and private clients. We strive for sustainable solutions, resilience, and environmental justice in every project.

SCOPE OF WORK

FBE outlined the following scope of work based on SRPC's project task outlines for Dover and Lee. This letter of interest and scope of work pertains to both the Dover and Lee NRI assistance projects. A list of surveys and environmental assessment services that compliment a town wide NRI are provided below within Task C. A description of each service is provided for selection consideration as well as an aide to each community for identifying an area, resource, or property of interest/focus. The project team is well positioned to perform this analysis as our staff members are intimately familiar with the City of Dover, the Town of Lee, and the greater Seacoast area. FBE has prepared natural resource inventories for the towns of Rye (2021) and Hampton (in progress), is developing a watershed management plan for Kingston Lake (Great Pond) in Kingston, and conducts environmental monitoring and/or MS4 work in Portsmouth, Rye, North Hampton, and Stratham. FBE staff also live and/or work in Dover and Lee.

Task A: Review of Coastal Watershed Conservation Plan and Mapping Materials

FBE has utilized and is familiar with the Coastal Watershed Conservation Plan (2021); but will revisit the report and review the mapping materials provided by the Commission to gain background and insight into key focus areas within each respective municipality.

Task B: Project Administration and Management

FBE will work with the SRPC, as well as the City of Dover and the Town of Lee, to complete the Tasks listed in this scope of work for each respective project. Project administration and management includes invoicing and internal administration, project scheduling, project communication, and tracking. We recommend that the SRPC and the Conservation Commissions discuss and identify properties or locations of particular interest either by reviewing existing GIS data that indicates high priority areas or high valued habitat, properties under consideration for conservation, or a focus/priority natural resource in the town/city prior to meeting with FBE. FBE will then virtually meet with the respective project teams to identify which potential study listed in Task C will be conducted for each municipality, and at which specific location(s) within the City or Town.

Task C: Fieldwork or Environmental Study

FBE will conduct one day of field surveys or desktop environmental studies per municipality tailored to the City of Dover's and Town of Lee's NRI goals at the identified study area referenced in Task B, or areas if time and size of the properties allows. A variety of assessments, adapted to the desired focus area(s), can be used to supplement and complement a town wide NRI. A list of services, and brief description, encompassing field surveys and environmental studies is provided below. Each service listed meets the budgeted value stated in Table 1 (Dover) and Table 2 (Lee) for Task C.

A *Rapid Ecological Assessment* provides insight into the biodiversity of a property and aids in pinpointing crucial areas for conservation and management. FBE's approach includes cover type mapping, or delineation of natural communities, coupled with the identification and description of natural resources such as wetlands and streams, wildlife, and wildlife habitat. Other points of interest include recreational amenities (trails, facilities, etc.) or historic anthropogenic features (stone walls, etc.). The assessment also involves inventorying non-native invasive plant species, noticeable erosion and potential causes of water

quality degradation, and other signs of potential ecological threats in a parcel or specified area. This service is commonly conducted for property based natural resource inventory projects, since it's a nearly all-encompassing cursory assessment.

Wetland and Watercourse Reconnaissance & Wetland Functions and Values Assessment. Wetland and watercourse reconnaissance entails identifying and collecting an approximate boundary for these natural resources and is commonly used for preliminary planning purposes. Depending on the size of the focus area(s), FBE is capable of conducting formal wetland delineations instead, which can be used for permitting and/or establishing Prime Wetland designation with the State or a vernal pool survey within a predetermined area. In addition to wetland reconnaissance or a formal delineation, FBE can complete wetland functions and values assessments. Depending on the goal and purpose of the study, FBE will utilize either the US Army Corp of Engineers Highway Methodology or the NH Method for evaluating functions and values. The fine-tuned assessment of wetland functions and values can be used to identify wetlands that meet the criteria to be classified as Prime Wetlands under RSA 482-A:15 and Env-Wt 700. Prime Wetlands are high-value wetlands that are typically large, pristine, and support rare or threatened plants and animals and are afforded further protection regulated by the NH Department of Environmental Service (NH DES). Following identification, the municipality and community can vote on the designation and 100-foot protective buffer surrounding the wetland(s) and submit official materials to NH DES.

A *stream crossing and/or stream habitat assessment* aims to collect qualitative and quantitative data for the physical traits and habitat characteristics along a section of stream and/or at a stream crossing. These field investigations assess the geomorphic and biological condition of a stream, aquatic organism passage suitability, aquatic and terrestrial habitat condition, culvert/bridge condition, bank erosion and stabilization, as well as identify threats to water quality. If the municipality desires to replace a stream crossing structure, FBE can complete a stream crossing assessment in accordance with NHDES' stream crossing rules (Env-Wt 900) and provide data required for a state wetlands permit application.

Botanical habitat and plant species surveys include inventorying and mapping the locations of invasive plant species, and/or surveying for a rare, threatened, or endangered (RTE) botanical species and their suitable habitat. The identification of invasive species is the first step towards remediation and containment. Once the locations of invasive species are identified, the community can conduct bio-blitz events or organize volunteer groups to help remove the invasive species from public lands and revegetate with native species all while learning what to look for on their private property. An inventory for RTE plant species and their suitable habitat can aid in a community's protection and stewardship of these unique species and ecosystems they grow within.

A *historic water quality analysis for the deep spot of Wheelwright Pond in Lee* is a desktop analysis that will assess and summarize available water quality data for this site in the state database. An analysis will include a summary of available water quality data (water temperature, dissolved oxygen, turbidity, chlorophyll-a and chloride/ specific conductivity as available) an assimilative capacity analysis, and the identification of data gaps with recommendations for continued monitoring. *Note: This service is specifically noted for the Town of Lee. *

The identification of surface water buffers is a type of detailed inventory and study that utilizes available online data and desktop analysis to identify the spatial location of surface water buffers in GIS. This service will aid communities who seek to adopt waterbody/wetland setbacks. This process would also highlight areas affected by an established setback. Buffers would be identified for a specific waterbody or river rather than all waters within the City/Town. The UNH Cooperative Extension lists this service as a potential assessment that would enhance a town-wide NRI.

A *lake, pond, river, or stream shoreline survey* may be conducted on a waterbody greater than 10 acres or a stream/river of fourth order or larger to align with the regulations set forth by the Shoreland Water Quality Protection Act. It is important to note that FBE will need the assistance of a community volunteer with a boat if a canoe is deemed inefficient to complete this proposed fieldwork. A shoreline survey uses a simple scoring method to highlight shoreline properties around the waterbody or watercourse that exhibit significant erosion. This is a rapid technique to assess the overall condition of properties within the shoreland zone and prioritize properties for technical assistance or outreach. Scores are a culmination of shoreland buffers, visible erosion and bare soil, setback distances of primary structures, and the slope of the land. Due to budgetary constraints, up to 100 shoreline parcels may be assessed on one waterbody or waterway.

Verifying and updating available desktop GIS data may be an invaluable tool for the City of Dover or Town of Lee. Many state or national datasets, such as the land cover datasets, or National Hydrography Dataset are out of date (NH land cover 2001) or developed at scales to cover much larger areas than a single municipality. FBE can update these data layers using the most available satellite imagery to develop a more accurate and precise representation of the municipality. Data layers to update may include land cover, wetland and watercourse data, and/or agricultural area delineations. Questionable or areas of particular interest areas may be checked in the field.

Task D: Data Processing, Summary Report, and Final Meeting

A summary report for each municipality will follow the work completed in Task C. The summary report will include a narrative on field methods, findings, photographs, and associated maps (and data layers) depicting geo-located features, to be incorporated into each NRI. Depending on the work selected for Task C, graphics depicting methods and/or findings may be included in a summary report. FBE anticipates up to one round of edits from SRPC on the final deliverable(s). Following the completion of Task C, FBE will participate in a virtual presentation, with each conservation commission and SRPC to present findings and answer questions.

PROJECT TIMELINE AND BUDGET

It is expected that Tasks A through D will be completed by June 30, 2024, for each of the municipalities. Refer to Table 1 (Dover) and Table 2 (Lee) for an outline of the budget and timeline of each project task for each municipality.

Table 1. Project tasks, budget, and timeline for the scope of services conducted for the City of Dover. An "x" indicates when a meeting will occur.

Project Task	**Budget**	**Timeline**				
		Feb	**Mar**	**Apr**	**May**	**June**
Task A: Review of Coastal Watershed Conservation Plan and Mapping Materials	$250					
Task B: Project Administration and Management	$1,000		x			
Task C: Fieldwork or Environmental Study	$2,850					
Task D: Data Processing, Summary Report, and Final Meeting	$1,900					x
Total	**$6,000**					

Table 2. Project tasks, budget, and timeline for the scope of services conducted for the Town of Lee. An "x" indicates when a meeting will occur.

Project Task	**Budget**	**Timeline**				
		Feb	**Mar**	**Apr**	**May**	**June**
Task A: Review of Coastal Watershed Conservation Plan and Mapping Materials	$250					
Task B: Project Administration and Management	$1,000		x			
Task C: Fieldwork or Environmental Study	$2,850					
Task D: Data Processing, Summary Report, and Final Meeting	$1,900					x
Total	**$6,000**					

PROJECT TEAM

PROJECT MANAGEMENT



SARAH LARGE
FB Environmental Associates
Permitting Lead/Wetland Scientist

ADMINISTRATIVE SUPPORT



FORREST BELL
FB Environmental Associates
Principal-In-Charge



LINDSEY COLLARI
FB Environmental Associates
Administrative and Business Manager

TECHNICAL SUPPORT



KEVIN RYAN, PHD
FB Environmental Associates
Wetlands and Wildlife Ecologist/Ecological Services Lead



CHRISTINE BUNYON
FB Environmental Associates
Project Manager/GIS Specialist



ELLIOTT BOARDMAN
FB Environmental Associates
Ecologist/GIS Specialist II



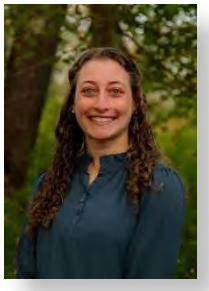
Sarah Large – FBE Permitting Lead/ Wetland Scientist

Sarah joined FBE in July of 2021 with five years of experience at the NH Department of Transportation's Bureau of Environment, as the Wetlands Program Analyst where she conducted wetland delineations, wetland permitting, as well as desktop and in-field natural resources inventories of state-owned properties. She holds a bachelor's degree in Environmental Studies with a focus on Ecology from Colby College, where she double majored in Physics. At FBE she serves as the firm's Permitting Lead and a Wetland Scientist and. Sarah's expertise includes project management, wetland delineations, natural resources inventories, as well as technical and permit writing. Sarah will serve as the project manager for this project.



Kevin Ryan, Ph.D. – Ecological Services Lead and Project Manager

Kevin has been with FB Environmental since 2013. He currently leads the Ecological Services Division and conducts natural resources inventories, wetland delineations, reptile and amphibian surveys, municipal build-out analyses, and permitting. Kevin excels in synthesizing complex information for diverse clients, including governmental agencies, nonprofits, and the public. He also provides expert witness testimony regarding reptiles and amphibians and assists with water quality monitoring projects, watershed/open space planning, technical writing, and GIS mapping. Kevin holds a Ph.D. in Wildlife Ecology from the University of Maine (2014), with a focus on New England's rarest amphibians: the blue spotted salamander (*Ambystoma laterale*) and the eastern spadefoot toad (*Scaphiopus holbrookii*). He also earned degrees from SUNY Cobleskill in Fisheries and Wildlife Technology (1999) and Wildlife Management (2001).



Christine Bunyon – Project Manager/GIS Specialist

Christine rejoined FBE in 2023 following her graduation from the University of New Hampshire with a M.S. Christine works with many at FBE to carryout project management, geospatial analyses, data organization and analyses, land-use modeling, fieldwork, and technical writing. She is a Certified Remote Pilot (FAA Part 107)-drones. Christine will provide project support for fieldwork, data analysis, GIS mapping, and community engagement. Christine has a M.S. in Natural Resources and the Environment, concentrating in remote sensing of freshwater ecosystems. Her research focused on using remote sensing technology capturing imagery from an unmanned aerial system (UAS) to study and monitor cyanobacteria blooms in New Hampshire waterbodies.



Elliott Boardman – Ecologist/GIS Specialist II

Elliott joined FB Environmental Associates in May of 2021, after graduating from the University of New England (UNE) with a B.S. in Environmental Science. During his time at UNE, Elliott conducted field research relating to the effects of climate change on soil microbial communities and photosynthesis. He also has experience with avian mist-netting and banding, monitoring vernal pools, and aquatic invasive plant removal. At FBE, Elliott contributes to a wide variety of projects with fieldwork, technical writing, data analysis, and GIS mapping and analysis. Elliott is a skilled climber in the mountains of New Hampshire and Maine. Elliott will provide project support for fieldwork, data analysis, GIS mapping, and community engagement.

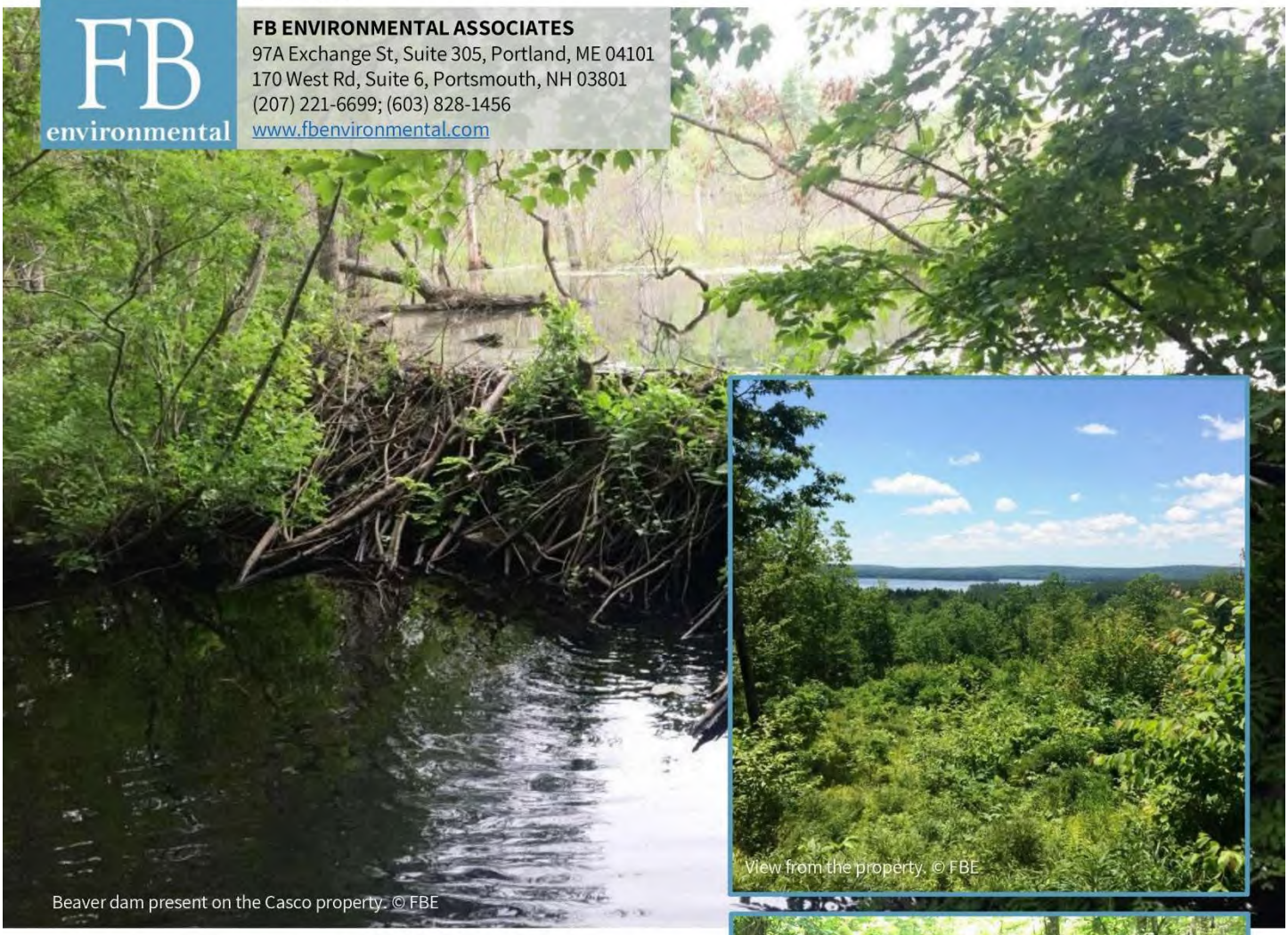
PROJECT EXAMPLES

Please refer to the following pages for a selection of three similar projects for FBE.

ECOLOGICAL ASSESSMENT

Key Services: Terrestrial and wetland community mapping; natural community type classification; habitat assessment

FB ENVIRONMENTAL ASSOCIATES
97A Exchange St, Suite 305, Portland, ME 04101
170 West Rd, Suite 6, Portsmouth, NH 03801
(207) 221-6699; (603) 828-1456
www.fbenvironmental.com



Beaver dam present on the Casco property. © FBE

View from the property. © FBE

WETLAND DELINEATION AND RAPID ECOLOGICAL ASSESSMENT

TOWN OF CASCO, MAINE

FBE conducted a wetland delineation and rapid ecological assessment of an approximately 46-acre privately-owned property in Casco, Maine. The ecological assessment consisted of the identification and documentation of natural resource features, classification and mapping of natural community types, and assessment of potential wildlife habitat. FBE's findings are being used to guide limited development of the property in a fashion that does not negatively affect the existing ecology of the site.



Watercourse on the property. © FBE

NATURAL RESOURCES INVENTORY

Key Services: Natural resources inventory; terrestrial and wetland community mapping; non-native, invasive plant species identification and mapping

FB ENVIRONMENTAL ASSOCIATES
97A Exchange St, Suite 305, Portland, ME 04101
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Scotchman's Brook traverses Hope Woods. © FBE

HOPE WOODS NATURAL RESOURCES INVENTORY

TOWN OF KENNEBUNK, MAINE

FBE assisted the Kennebunk Land Trust with the development of a natural resources inventory for Hope Woods in the Town of Kennebunk, Maine. The inventory included desktop analysis and GIS mapping of natural resource features, including wetlands, geology/soils, land use/land cover, and significant plant and animal habitat. FBE also conducted field assessments to (1) identify and document natural resource features, (2) identify and map wetlands, (3) classify and map natural community types, and (4) assess potential wildlife habitat.

CLIENT INFORMATION
Gordon Collins (former president), Kennebunk Land Trust, Kennebunk, ME, (207) 985-8734



A hiking trail on the property. © FBE

NATURAL RESOURCE INVENTORIES

Key Services: Natural Resources Inventory, wetland and watercourse field reconnaissance, education and outreach

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Howe Town Forest viewpoint. © FBE



A hemlock-beech-oak-pine forest in winter. © FBE

HOLDERNESS FOREST NATURAL RESOURCE INVENTORIES

TOWN OF HOLDERNESS, NEW HAMPSHIRE

FBE conducted natural resource inventories (NRIs) for the 105-acre Pilote Forest and the 25-acre Howe Town Forest properties in Holderness, NH. The inventories included desktop analysis and GIS mapping of natural resource features including wetlands, geology/soils, land use/land cover, and significant plant and animal habitat. FBE also conducted field assessments to identify and document natural resource features including wetlands and watercourses, natural community types, and wildlife habitat. FBE's resulting NRI report provided the Town with baseline information regarding the properties' natural attributes and will be useful in developing natural resource-focused management plans for the forest sites.

CLIENT INFORMATION

Larry Spencer, Holderness Conservation Commission, PO Box 203, Holderness, NH 03245



A stream in the Howe Town Forest© FBE