

CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

Meeting Type: Regular Meeting
Meeting Location: Council Conference Room, City Hall, 288 Central Ave, Dover NH 03820
Meeting Date: **Thursday, May 8, 2025**
Meeting Time: **10:30 AM**

1. Site Plan for Hoyle, Tanner and Associates, Inc., (Owner: Del Sol Dover, LLC), Assessor's Map G, Lot 2-1B, zoned CM, located off Crosby Road. (Proposal is to construct a ground-mounted solar facility with a gravel access drive.) (SITE-2025-0004)
2. Amendment to Site Plan for the City of Dover, Map 22, Lot 1-7, zoned CWD, located at 40 River Street. (Proposal is for revisions to the previously approved 5-story multi-family structure, identified as Building F, as part of Phase 2 for the waterfront development. Revisions include an increased building footprint (from 16,025 s.f. to 17,504 s.f.), one additional residential unit (43 total), 20 more off-street parking spaces (80 total), architectural façade changes, and a new communal roof deck.) (WAIV-2025-0005)



PLAN SNAPSHOT REPORT SITE-2025-0004 FOR CITY OF DOVER, N.H.

Plan Type: Site Plan - Major
Work Class: New Construction
Status: In Review
Valuation: \$0.00

Project:
District: None
Square Feet: 0.00
Assigned To: Blonigen, Rachel

App Date: 04/15/2025
Exp Date: 06/19/2025
Completed: NOT COMPLETED
Approval Expire Date:

Description: Proposed Ground Mounted Solar Facility at Crosby Rd

Parcel: G0002-001000	Main	Address: Littleworth Rd Dover, 03820	Main	Zone: R-40(Residential - Rural) IT(Non-Residential - Innovative Technology) CM(Non-Residential - Commercial Manuf.)
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Engineer Shawn Tobey Home: (603) 413-2923 Business: (603) 413-2904	Owner Summit Land Development Chad Kageleiry 340 Central Avenue 202 Dover, NH 03820 Business: (603) 749-2800	Applicant Josh Howard 183 International Drive Suite 200 Suite 200 Portsmouth, NH 03801 Business: (603) 413-2923
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Plan Custom Fields

Total	0	Total2	0	Total3	11700
Total4	0	Total5	0	Total6	0
Total7	0	Total8	0	Total9	0
Street Classification	Municipal	Net Change in # Parking ² Spaces (+/-)		Water Service	Not Applicable
Recording Number	200002182	Sewer Service	Not Applicable	Total Acres (GIS)	20.8
Deed Book	5075	Total SQFT	906048	Deed Page	142
Deed Date	20221031	Proposed Property Use	Ground Mounted Solar Facility	Area of Parcel to be Developed (SQFT)	301095
Number of Parking Spaces Existing	0	Number of Parking Spaces Proposed	2	Number of Employees Total	2
Number of Employees in Max Shift	2	Type of Building to be Built	N/A (Ground Mounted Solar Panels)	Estimated Construction Value	1000000.00
Refuse Removal	Private	Is there an existing Conservation Easement?	No	Existing Conservation Easement Details	
TotalImpactFeeSDTOD	0.00	TotalImpactFeeTHTOD	0.00	TotalImpactFee23FTOD	0.00
TotalImpactFeeA4TOD	0.00	TotalImpactFeeMHTOD	0.00	TotalImpactFeeADUTO	0.00
TotalImpactFeeAONRT	0.00	TotalImpactFeeAR55TC	0.00	TotalImpactFeeAR62TC	0.00
OD		D		D	
Sub Total Residential	0.00	TotalImpactFeeRIRCTO	0.00	TotalImpactFeeOCSTO	0.00
		D		D	
TotalImpactFeeITWCTO	0.00	TotalImpactFeeNHALT	0.00	TotalImpactFeeOIUTOD	0.00
D		D			
TotalImpactFeeAFAOT	0.00	Sub Total	0.00	Total of Impact Fees to be Assessed	0.00
OD		Non-Residential			

Attachment File Name	Added On	Added By	Attachment Group	Notes
Signature_Josh_Howard_4/15/2025.jpg	04/15/2025 13:59	Howard, Josh		Uploaded via CSS

Invoice No.	Fee	Fee Amount	Amount Paid
INV-2025012003	Planning General Application Fee	\$200.00	\$0.00
Total for Invoice INV-2025012003		\$200.00	\$0.00
NOT INVOICED	Planning Impervious Paved Area Fee	\$819.00	\$0.00
Total for Invoice NOT INVOICED		\$819.00	\$0.00

PLAN SNAPSHOT REPORT (SITE-2025-0004)

		Grand Total for Plan	\$1,019.00	\$0.00
Workflow Step / Action Name	Action Type	Start Date	End Date	
Review v.1		04/15/2025 16:03		
Confirm application complete v.1	Generic Action		04/15/2025 16:03	
Technical Review Committee Meeting Agenda v.1	Task	04/15/2025 16:03		
Land Use Plan Technical Review v.1	Receive Submittal			
Technical Review Committee Meeting v.1	Hold Meeting			
Planning Board v.1				
Planning Board Agenda v.1	Task			
Invoice for Notices v.1	Task			
Send Notices v.1	Task			
Planner Creates Staff Recommendations v.1	Plan Activity			
Distribute Planning Board Materials v.1	Task			
Planning Board Hearing v.1	Hold Hearing			
Planning Board Decision v.1	Plan Activity			
NOD Sent to Applicant v.1	Create Report			
Final Plan v.1				
Land Use Plan Stamped and Signed v.1	Generic Action			
Recording v.1	Task			
Document Archival v.1	Generic Action			
Internal Notification of Plan Completion v.1	Generic Action			
Building Official Notifies Address v.1	Generic Action			
Pre-Con Meeting v.1	Hold Meeting			
Create/Link to Records v.1				
Create / Link to Permit - Building Major v.1	Create Sub Permit			
Create / Link to Permit - Site Work, Construction v.1	Create Sub Permit			

April 15, 2025

Technical Review Committee
288 Central Avenue
Dover, New Hampshire 03820

**Re: Dover Site Review Application
Proposed Ground Mounted Solar Facility
0 Crosby Road
Dover, NH 03820**

Dear Technical Review Committee,

On behalf Del Sol Dover, LLC, Hoyle, Tanner and Associates, Inc. (Hoyle Tanner), is pleased to submit this project memo along with the attached Site Review Application for the Proposed Ground Mounted Solar Facility Project located at Crosby Road. This memo provides a general project overview, detailed summaries of key project features, and describes any potential impacts the development may have on the City.

Project Overview

The proposed development will be located at 0 Crosby Road, an 8.32-acre parcel found at Map Lot G 2-1B. The lot was recently created through a subdivision of the former Map Lot G 2-1, a 20.8-acre parcel. The subdivision of land is not currently reflected on the City GIS at the time of this application. The project includes the construction of a 1.539 MWdc ground mounted solar facility with a gravel access drive. The proposed development disturbs about 6.91 acres and includes about 11,700 sq. ft of on-site impervious area. As proposed, the development abides by all city setbacks and no variances are being sought. The design includes no dedicated vehicle parking spaces as access to the site is infrequent and only one vehicle is expected during a maximum shift, but there is ample room on the access drive to park at least two vehicles. There will be a gravel access drive with a turnaround at the entrance. The entire development will be enclosed by 7' security fencing with a gate located at the entrance.

Wetlands

Onsite wetlands were delineated by BAG Land Consultants in January and February 2024. Dover regulations stipulate a 50-foot buffer be used for all wetlands, however through a City Council approved amendment to the Development Agreement the City and the Applicant entered in 2022, development on the site will not be required to meet the wetland buffer requirements. No direct wetland impacts are proposed for this project.

Stormwater

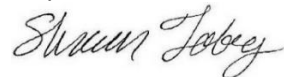
The site has been approved for a NHDES Alteration of Terrain permit, which required a hydraulic analysis and a stormwater management design to reduce peak-flows and protect watercourses in the area. Stormwater runoff from the site will be collected by two stormwater ponds and discharged through concrete weir structures that have been designed to slow the release of stormwater below levels that the site previously experienced. While the site is currently cleared of trees, the hydraulic analysis performed for the NHDES Alteration of Terrain application considered the site as primarily wooded due to it being cleared within the last 10 years. Due to proposed slopes being less than 5% and facilitating sheet flow from the solar panels, the NHDES guidance on solar farms allows the solar panels to not be considered impervious for the purposes of hydraulic analysis. The access drive and above ground electrical equipment is considered impervious cover in the analysis. Relevant materials from the Alteration of Terrain Application have been attached to this submission to demonstrate that the project meets stormwater management requirements. Please note that the original submission for an AoT permit was provided to Dover in August 2023 and has since been revised due to changes in the site layout. The attached stormwater plans which were approved by NHDES do not reflect the same site layout as is being submitted, however the current layout is more conservative from a stormwater management perspective and exceeds the requirements that were previously approved.

Development Impacts

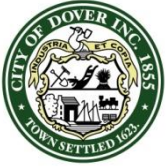
The area of the project is well-suited for solar development due to the extremely flat topography, lack of tall trees to shade panels, and the location within the industrial park. The proposed solar facility will have no impact on the City's water or sewage system as those services are not required for operation of the facility. The site will be accessed infrequently, and trips are expected to be taken by one vehicle at a time, so there are no traffic impacts expected after the completion of the project. When an employee does access the site, there is ample space on the access drive for the employee's vehicle to park. The proposed solar facility will connect with the electric system on Crosby Road and provide the grid with clean, renewable energy. Please refer to the electrical designer for impacts to the electrical system. The site will be surrounded by a 7' high chain-link fence and a locked gate at the entrance. This gate is typically accessible to emergency services through a Knox Box or equivalent.

We trust this memo has provided a detailed description of the project and look forward to presenting the project to the City. Should you require additional information, please contact me at (603) 413-2904 or via email at stobey@hoyletanner.com.

Sincerely,
Hoyle, Tanner & Associates, Inc.



Shawn M. Tobey, P.E.
Vice President / Team Lead – Land Development & Survey



City of Dover, New Hampshire SITE REVIEW APPLICATION

[Revision Date: July 1, 2021]

Office Use Only

Project #: _____

Date Received: _____

Amount Paid: _____

Time Received: _____

APPLICANT AND OWNER INFORMATION

Name of Applicant: Del Sol Dover, LLC Telephone # (603) 749-2800

Address of Applicant: 340 Central Ave, Suite 202, Dover, NH 03820

E-Mail Address: chad@summitlanddev.com

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

Address of Property Owner: _____

PROPERTY INFORMATION

Address of Property: 0 Crosby Road

Assessor's Map # G Lot(s) # 2-1B

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

Size of Parcel: 362,325 sq. ft. 8.32 ac. Property Deed: Book unk. Page: unk.

Existing Use of Property: Undeveloped

SITE PLAN INFORMATION

Describe Proposed Use: Proposed solar facility

Area of Parcel to be Developed: 301,095 sq. ft.

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

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

Number of Parking Spaces: Existing 0 Proposed 2 (provided on access drive)

Highway Access (check where applicable): _____ City Street _____ State Highway

Number of Employees Total: 2 In Maximum Shift: 2 Note: The site is primarily unoccupied with no employees. Routine site inspections typically occur biweekly.

Disposition of Parcel:

Building Setbacks:

Building Footprint 0 sq. ft.

Front Yard 43 ft.

Total Building Area 0 sq. ft.

Rear Yard 350 ft.

Paved Area 0 sq. ft.

Side Yard: Right 82 ft. Left 25 ft.

11,550 sq ft. gravel drive

City Water? ____ Yes X No How far is city water from the property? _____

City Sewer? ____ Yes X No How far is city sewer from the property? _____

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

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

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

Relief sought (Check All That Apply):

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

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

BUILDING INFORMATION

Type of Building to be Built: No buildings. Project proposes solar modules attached to ground mounted racking

Height of Building: Max panel height = 7'-7" +/- Finished Floor Elevation: _____

Number of Seats (where applicable) _____

Estimated value of construction: \$1,000,000 +/- Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: 149-13 (15, 16, 17, 20)

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

149-13 (15) - No architectural plans were created for proposed use.

149-13 (16) - Project is located within an industrial park and matches surroundings.

149-13 (17) - No streetscaping/work in public ROW is proposed.

149-13 (20) - The proposed site is going to be visited infrequently and by a single vehicle. We request that the traffic analysis requirement is waived.

Waiving the 50' wetland buffer requirement for development of the parcel, letter from city attached.

SURVEYOR INFORMATION

Name of Surveyor and Company (Licensed in N.H.) Kevin McEneaney; McEneaney Survey Associates of New England
Address 24 Chestnut St, Dover, NH 03820 Telephone #: (603) 742-0911
Professional License #: 661 E-mail address: _____

ENGINEER INFORMATION

Name of Engineer and Company (Licensed in N.H.) Shawn Tobey; Hoyle, Tanner & Associates, Inc.
Address 183 International Drive, Ste. 200, Portsmouth, NH 03801 Telephone #: (603) 413-2904
Professional License #: 14121 E-mail address: stobey@hoyletanner.com

ARCHITECT INFORMATION

Name of Architect and Company (Licensed in N.H.) _____
Address _____ Telephone #: _____
Professional License #: _____ E-mail address: _____

LANDSCAPE ARCHITECT INFORMATION

Name of Landscape Architect and Company (Licensed in N.H.) _____
Address _____ Telephone #: _____
Professional License #: _____ E-mail address: _____

SOIL SCIENTIST INFORMATION

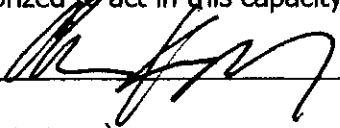
Name of Soil Scientist and Company (Licensed in N.H.) Bruce A. Gilday; BAG Land Consultants
Address 43 Rockingham St, Concord, NH 03301 Telephone #: (603) 228-5775
Professional License #: CSS 12 E-mail address: bagilday@comcast.net

CONSERVATION EASEMENT HOLDER

Name of Easement Holder: _____ Telephone # _____
Address Easement Holder: _____

SIGNATURES

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

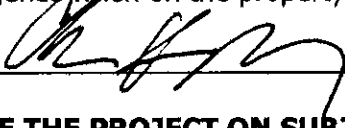
Signature of Property Owner:  Date: 4/15/25

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

Signature of Agent: Sharon Tobey Date: 4/15/25

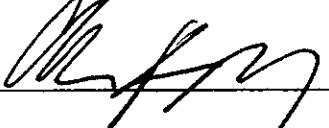
AUTHORIZATION TO ENTER SUBJECT PROPERTY

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

Signature of Property Owner:  Date: 4/15/25

AUTHORIZATION TO COMPLETE THE PROJECT ON SUBJECT PROPERTY

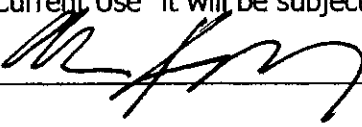
I, and my successors, hereby the City of Dover or its assigns to enter my property for the purpose of completing the site work as required by the approved plan should the letter or credit or other surety be called. It is understood that these individuals must use all reasonable care, courtesy, and diligence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

Signature of Property Owner:  Date: 4/15/25

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

CERTIFICATION OF FEES

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

Signature of Property Owner:  Date: 4/15/25

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

***CITY OF DOVER SITE REVIEW
LIST OF ABUTTERS***

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

Owner:

TAX MAP	LOT #	PROPERTY OWNER	MAILING ADDRESS
G	2-1	Del Sol Dover, LLC	340 Central Ave, Ste. 202, Dover, NH 03820

Applicant (if different from owner):

APPLICANT NAME	APPLICANT COMPANY	MAILING ADDRESS
Chad Kageleiry	Del Sol Dover, LLC	340 Central Ave, Ste. 202, Dover, NH 03820

Surveyor and/or Engineer/Professional Agent:

NAME	COMPANY	MAILING ADDRESS
Shawn Tobey	Hoyle, Tanner & Associates, Inc.	100 International Drive, Ste. 360, Portsmouth, NH 03801
Kevin McEneaney	McEneaney Survey Associates of New England	24 Chestnut St, Dover, NH 03820
Bruce A. Gilday	BAG Land Consultants	43 Rockingham St, Concord, NH 03301

Conservation Easement Holder:

TAX MAP	LOT #	NAME OF EASEMENT HOLDER	MAILING ADDRESS

PLANNING BOARD FEE SCHEDULE/INVOICE

(Revised July 24, 2023)

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

A. Plan Review Fees

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

- ☐ SUBDIVISION Application fee \$200.00 + \$150.00 x # _____ new lots created = \$ _____
- ☐ LOT LINE ADJUSTMENT Application fee \$200.00 + \$100.00 X # _____ of lots involved = \$ _____
- ☐ TRANSFER OF DEVELOPMENT RIGHTS Application fee \$200.00 = \$ _____
- ☐ SITE REVIEW – RESIDENTIAL Application fee \$200.00+ \$100.00 x # _____ per dwelling unit = \$ _____
- ☐ SITE REVIEW – NON-RESIDENTIAL Application fee \$200.00 + (not to exceed \$10,000)
 - ☐ New construction \$.15 sq. ft. x # _____ sq. ft. = \$ 200
 - ☐ 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 # 11,700 sq. ft. = \$ 1,019

SUBTOTAL PLAN REVIEW FEE = \$ 1,219

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 # 4 of x \$10.00 = \$ 40
- ☐ Certified letters fee: # of abutters 8 X \$10.00 = \$ 80
- ☐ 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 1 x \$10.00 = \$ 10

C. Foster's newspaper public notice fee \$120.00 x # 1 applications = \$ 120

SUBTOTAL = \$ _____

TOTAL INVOICE AMOUNT = \$ _____

PLAN REVIEW FEE COLLECTED/PAID = \$ 1,459

BALANCE DUE = \$ _____

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

DEL SOL DOVER, LLC

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City of Dover

4/15/2025

Date	Type	Reference	Original Amt.	Balance Due	Discount	Payment
4/15/2025	Bill	Planning board fee	1,459.00	1,459.00		1,459.00
				Check Amount		1,459.00
Operating - TD						TOTAL: 1,459.00

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City of Dover, New Hampshire

SITE PLAN REVIEW SUBMISSION CHECKLIST

[Revision Date: June 4, 2019]

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

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

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

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

APPLICANT: Del Sol Dover, LLC File Number: _____

PROJECT TITLE: Proposed Solar Facility

PROPERTY LOCATION: 0 Crosby Rd Tax Map: G Lot: 2-1B

	Where/How Provided	Reviewed
1. Completed and signed Application form	Provided	
2. Plan Review Fees are provided	Provided	
3. Electronic copy of the engineered/surveyed plan layout	Provided	
4. Electronic copy of supplementary materials and application	Provided	
5. Traffic Impact Assessment and Analysis (Standard or Advanced)	Waiver Requested	
6. Waiver requests to the Site Plan Review Regulations, with written justification	Site Review Application	
7. Conditional Use Permit applications	N/A	
8. A colored rendering of the streetscape that will be created along the existing public right-of-way	Waiver Requested	
9. A colored architectural plan showing all sides of buildings	Waiver Requested	
10. Folded copies of site plan w/scale of not less than 1"=50' or 1"=100' for larger site plans, for TRC. Plans shall contain the following items as appropriate:	Provided	
Location map at appropriate scale	Provided on Site Plans - C1	
Proposed Project name and title and Planning File #	Project Name - C1	
Date, north arrow and scale	Provided on Site Plans	
Names of all abutting property owners	Provided on Site Plans - C2	
Name and address of owners and/or applicants	Provided on Site Plans - C1	
Signature & stamp of NH licensed land surveyor and/or engineer	Provided on Site Plans	
Zoning District boundaries, including any special or overlay districts	No boundaries present- C2#5	
Location of Conservation District areas	N/A - No conservation district on site	
Location, names and widths of existing and proposed streets, including pavement widths, grades, curbs and crosswalks	Provided on Site Plans - C2	
Location and widths of existing & proposed easements & right of ways	Provided on Site Plans - C3	
Location and width of existing and proposed access/egress ways	Provided on Site Plans - C3	

	Explain How Provided	Reviewed
Depict pedestrian walkways and accessible access	N/A - Pedestrian access not proposed	
Existing and proposed property lines with dimensions and bearings tied into Dover's Geographic Information System coordinate system	Survey - C2 & Proposed on C3	
Existing and proposed topographic information at two foot intervals	Provided - C2 & C3	
Existing and proposed buildings and structure locations	Provided - C3	
Minimum building setbacks or build to lines on all lots	Provided- C2 & C3	
Location and size of existing and proposed electric, telephone, gas cable and other underground utilities	Provided - C2/C3. all underground electric on site not shown for clarity	
Existing and proposed water lines and fire hydrants, including materials and capacity needed	N/A - No proposed water lines	
Location and materials of sanitary sewage facilities within project site and projected additional peak hour sewer load	N/A - No proposed sewer	
Existing and proposed stormwater lines and facilities	Provided - C3. Stormwater ponds	
Lighting plan depicting all existing and proposed exterior light fixtures and a lighting level analysis for parking lots	N/A - No lighting proposed	
Location of Flood Hazard Zone	Provided - C2	
Location of all bodies of water and watercourses	Provided - C2	
Location of wetlands and buffers	Provided - C2&C3 (no buffers-see letter)	
Neighborhood plan with aerial underlay showing how project relates to abutting uses within the plan set	N/A - Location is within industrial park.	
Existing natural features and/or significant vegetation on property	Provided - C2	
Depict existing contours up to 100 ft. beyond project limits	Partially provided - private land abutting prop.	
Landscape plan depicting existing and proposed landscaping, prepared by a licensed Professional Landscape Architect	N/A - No landscape plan provided.	
Location of parking layout delineating spaces and arrangement; note addressing maximum required spaces	Provided - Parking on access drive	
Location, material and size of existing and proposed pavement area	N/A - No pavement. Gravel shown	
Location of proposed fire lanes	Provided	
Specify finished floor elevations of buildings	N/A - No buildings proposed	
Location of solid waste disposal facilities (dumpster, pad and screening, etc.), including required screening	N/A - No solid waste disposal prop.	
Depict all service, storage, loading bays and utility areas	Utility areas provided C3	
All applicable Dover Common Site Plan notes	C3	
11. Additional Information if appropriate		
Stormwater Management Plan depicting the existing & proposed storm drainage system and engineered drainage analysis	Approved AoT Drainage Plan	
Stormwater Management System Operation and Maintenance Plan	Provided - I&M Plan	
Letter to Serve from Public and Private Utilities		
Erosion and Sedimentation Control Plan	Provided - C3 & Details	
Landscape Operation and Maintenance Plan	I&M Plan	
Proposed restrictive covenants or homeowners association documents		
Dates and permit numbers of all required state and federal permits	NHDES AoT Approved - attached	
If wetland buffer, indicate placards locations, as applicable		
Depict test boring locations, groundwater elevations and soil profiles and/or soils types call-outs	Provided	
Location of proposed drive-in facilities		
Provide additional exhibits/technical data determined appropriate by the Planning Board or its staff as required		

REVIEWED BY: _____ DATE _____ TRC DATE _____



The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner



July 31, 2024

Mr. Chad Kageleiry
Del Sol Dover, LLC
340 Central Ave., Suite 202
Dover, NH 03820
(sent via email to: chad@summitlanddev.com)

Re: Proposed Solar Facility
0 Crosby Road - Dover
Tax Map G Lot 2-1

Permit: AoT-2638

Dear Applicant:

Based upon the plans and application, approved on July 31, 2024, we are hereby issuing after-the-fact RSA 485-A:17 Alteration of Terrain Permit AoT-2638. The permit is subject to the following conditions:

PROJECT SPECIFIC CONDITIONS:

1. The plans titled *Site Development Plans for a Proposed Solar Facility*, by Hoyle Tanner & Associates, Inc., last revision date July 10, 2024, and supporting documentation in the permit file are a part of this approval. The project must be constructed as shown on the approved plans.
2. **This permit expires on July 31, 2029.** No earth moving activities shall occur on the project after this expiration date unless the permit has been extended by the Department. If requesting an extension, the request must be received by the department before the permit expires. The Amendment Request form is available at: <https://www.des.nh.gov/land/land-development>.
3. In accordance with Env-Wq 1503.21 (c)(1), a written notice signed by the permit holder and a qualified engineer shall be submitted to DES stating that the project was completed in accordance with the approved plans and specifications. If deviations were made, the permit holder shall review the requirements in Env-Wq 1503.21(c)(2).
4. The permittee shall comply with all recommendations by the New Hampshire Fish and Game Department, received July 9, 2024, related to state or federally listed threatened or endangered species, as incorporated into the project plans as *NHB22-3398 New Hampshire Fish and Game Recommended AoT Permit Conditions*.
5. The project is to be phased as shown on the plans. Each phase shall be stabilized pursuant to Env-Wq 1505.04 before disturbance of subsequent phases.
6. The project site shall establish and maintain a minimum of 85% vegetation cover for stabilization against erosion, throughout the project life.

GENERAL CONDITIONS:

1. Activities shall not cause or contribute to any violations of the surface water quality standards established in Administrative Rule Env-Wq 1700.

2. You must submit revised plans for permit amendment prior to any changes in construction details or sequences. You must notify the Department in writing within ten days of a change in ownership.
3. You must notify the Department in writing prior to the start of construction and upon completion of construction. Forms can be submitted electronically at: <https://www.des.nh.gov/land/land-development>. Paper forms are available at that same web page.
4. **All stormwater practices shall be inspected and maintained in accordance with Env-Wq 1507.07 and the project Inspection and Maintenance (I&M) Manual.** All record keeping required by the I&M Manual shall be maintained by the identified responsible party and be made available to the department upon request. Photographs of the site and BMPs must accompany the I&M submittals.
5. This permit does not relieve the applicant from the obligation to obtain other local, state or federal permits that may be required (e.g., from US EPA, US Army Corps of Engineers, etc.). Projects disturbing over 1 acre may require a federal stormwater permit from EPA. Information regarding this permitting process can be obtained at: <https://www.epa.gov/npdes/2022-construction-general-permit-cgp>.
6. If applicable, no activity shall occur in wetland areas until a Wetlands Permit is obtained from the Department. Issuance of this permit does not obligate the Department to approve a Wetlands Permit for this project.
7. This project has been screened for potential impact to known occurrences of protected species and exemplary natural communities in the immediate area. Since many areas have never been surveyed, or have not been surveyed in detail, unidentified sensitive species or communities may be present. This permit does not absolve the permittee from due diligence in regard to state, local or federal laws regarding such communities or species. This permit does not authorize in any way the take of threatened or endangered species, as defined by RSA 212-A:2, or of any protected species or exemplary natural communities, as defined in RSA 217-A:3.

Sincerely,



Michael Schlosser, PE
Alteration of Terrain Bureau

cc: Dover Planning Board (h.harmon@doover.nh.gov)
Shawn Tobey, Hoyle, Tanner & Associates, Inc.
Kevin Sullivan, NHFG

CHRISTOPHER G. PARKER, AICP
Deputy City Manager
c.parker@dover.nh.gov



288 Central Avenue
Dover, New Hampshire 03820-4169
(603) 516-6024
Fax: (603) 516-6049
www.dover.nh.gov

City of Dover, New Hampshire

OFFICE OF THE CITY MANAGER

April 4, 2024

Chad Kageleiry
Westfield, LLC
340 Central Ave., # 202
Dover, NH 03820

Re: Transfer of Development Rights

Dear Chad,

This letter is a follow up to our earlier discussion regarding your ongoing development of Tax Assessor's Map G lot 2, located off Littleworth Road, Crosby Road and Industrial Park Road (via an easement).

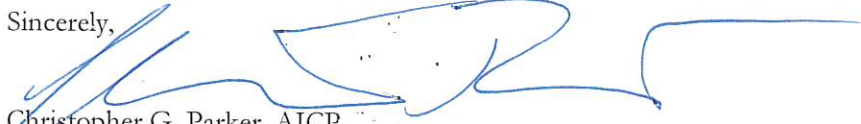
We discussed that the City Council approved an amendment to the Development Agreement the City and your entities entered into in 2022. This amendment, approved February 14th, allows the City to partner with you in applying relief from the wetlands setbacks on Map G lot 2, and any lots created via subdivision from it (hereafter collectively known as the Westfield Property).

As noted in the Development Agreement amendment, the City will provide either fee simple conveyance or agree to an easement upon Map G lots 32C or 35D. These lots total 55 acres of land in the same watershed as the Westfield Property. The City's intention is to remove the development rights from the parcels so that those rights may be transferred to your Westfield Property. In doing so, the intent is that the local 50 foot wetlands setbacks will be nullified, and you may more intensely develop the upland upon the Westfield Property. At the same time, the City will remove the right to develop its parcels and create permanent protections for the wetlands and uplands present on those parcels.

As you finalize site plans for the commercial/industrial uses upon the Westfield Property, please set up an appointment with myself and Planning staff and we can review the steps for final approval of the relief and document the deed restrictions and relief provided.

If you have any questions, please don't hesitate to contact me with any questions.

Sincerely,

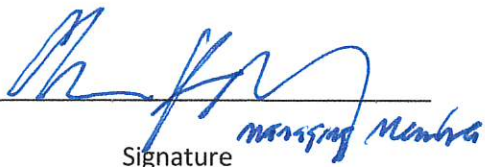


Christopher G. Parker, AICP
Deputy City Manager

EC D.Benton, AICP Director of Planning and Community Development

Owner Authorization Form

I, Chad Kageleiry, of Del Sol Dover, LLC, authorize Hoyle, Tanner & Associates, Inc. (Hoyle, Tanner) to act as an agent on behalf of Del Sol Dover, LLC. I authorize Hoyle, Tanner to sign any permit related documents and speak on my behalf regarding the proposed Ground Mounted Solar Project located at 0 Crosby Road in Dover, New Hampshire.


Signature *managing member*

3/21/23
Date

April 15, 2025

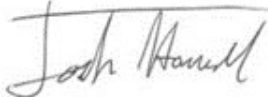
Planning Board
288 Central Avenue
Dover, New Hampshire 03820

**Re: Conditional Use Permit
Proposed Ground Mounted Solar Facility
0 Crosby Road
Dover, NH 03820**

Dear Planning Board,

On behalf of Del Sol Dover, LLC, Hoyle, Tanner and Associates, Inc. (Hoyle Tanner), is submitting this memo to demonstrate that there is no Conditional Use Permit being sought for the Proposed Ground Mounted Solar Facility Project located at Crosby Road. This memo provides a description of the proposed activity. Dover regulations stipulate a 50-foot buffer be used for all wetlands, however through a City Council approved amendment to the Development Agreement the City and the Applicant entered in 2022, development on the site will not be required to meet the wetland buffer requirements. No direct wetland impacts are proposed. A letter from the City dated April 4, 2024, detailing the agreement is included with this application.

Sincerely,
Hoyle, Tanner & Associates, Inc.



Josh Howard, EIT
Civil Engineer

City Water? ____ Yes X No How far is city water from the property? _____

City Sewer? ____ Yes X No How far is city sewer from the property? _____

TRANSFER OF DEVELOPMENT RIGHTS INFORMATION

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

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

Relief sought (Check All That Apply):

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

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

BUILDING INFORMATION

Type of Building to be Built: No buildings. Project proposes solar modules attached to ground mounted racking

Height of Building: Max panel height = 7'-7" +/- Finished Floor Elevation: _____

Number of Seats (where applicable) _____

Estimated value of construction: \$1,000,000 +/- Refuse removal: Public/Private (circle one)

WAIVER REQUESTS

Site Review Regulations section(s) to be waived: 149-13 (15, 16, 17, 20)

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

149-13 (15) - No architectural plans were created for proposed use.

149-13 (16) - Project is located within an industrial park and matches surroundings.

149-13 (17) - No streetscaping/work in public ROW is proposed.

149-13 (20) - The proposed site is going to be visited infrequently and by a single vehicle. We request that the traffic analysis requirement is waived.

Waiving the 50' wetland buffer requirement for development of the parcel, letter from city attached.

City Water? ____ Yes X No How far is city water from the property? _____

City Sewer? ____ Yes X No How far is city sewer from the property? _____

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City Sewer? ____ Yes X No How far is city sewer from the property? _____

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

Relief sought (Check All That Apply):

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

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Estimated value of construction: \$1,000,000 +/- _Refuse removal: Public/Private (circle one)

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Waiving the 50' wetland buffer requirement for development of the parcel, letter from city attached.

NRCC Rainfall Data



Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.911 degrees West
Latitude	43.180 degrees North
Elevation	0 feet
Date/Time	Tue, 03 Jan 2023 16:18:53 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.03	1yr	0.70	0.98	1.20	1.54	1.99	2.60	2.85	1yr	2.30	2.74	3.14	3.87	4.44	1yr
2yr	0.32	0.49	0.61	0.81	1.01	1.28	2yr	0.87	1.17	1.50	1.91	2.44	3.13	3.48	2yr	2.77	3.35	3.84	4.57	5.21	2yr
5yr	0.37	0.57	0.72	0.96	1.23	1.58	5yr	1.06	1.44	1.85	2.38	3.06	3.96	4.46	5yr	3.50	4.29	4.90	5.78	6.54	5yr
10yr	0.40	0.63	0.80	1.09	1.41	1.84	10yr	1.22	1.69	2.17	2.82	3.65	4.73	5.38	10yr	4.19	5.17	5.90	6.90	7.77	10yr
25yr	0.46	0.73	0.94	1.29	1.72	2.26	25yr	1.48	2.09	2.69	3.51	4.59	5.98	6.90	25yr	5.30	6.64	7.54	8.73	9.76	25yr
50yr	0.51	0.82	1.06	1.48	1.99	2.65	50yr	1.72	2.45	3.17	4.17	5.47	7.16	8.33	50yr	6.33	8.01	9.08	10.43	11.61	50yr
100yr	0.58	0.93	1.20	1.70	2.31	3.11	100yr	1.99	2.88	3.73	4.94	6.51	8.56	10.07	100yr	7.57	9.68	10.94	12.47	13.81	100yr
200yr	0.64	1.04	1.35	1.94	2.69	3.65	200yr	2.32	3.39	4.41	5.87	7.77	10.24	12.17	200yr	9.06	11.70	13.18	14.91	16.44	200yr
500yr	0.75	1.24	1.61	2.34	3.28	4.51	500yr	2.83	4.20	5.47	7.34	9.79	12.98	15.64	500yr	11.49	15.04	16.87	18.91	20.72	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.60	0.74	0.90	1yr	0.64	0.88	0.91	1.25	1.55	2.04	2.48	1yr	1.81	2.38	2.92	3.35	4.05	1yr
2yr	0.31	0.49	0.60	0.81	1.00	1.18	2yr	0.86	1.16	1.36	1.83	2.36	3.04	3.38	2yr	2.69	3.25	3.73	4.45	5.06	2yr
5yr	0.35	0.54	0.67	0.91	1.16	1.40	5yr	1.00	1.37	1.61	2.15	2.78	3.70	4.11	5yr	3.27	3.96	4.58	5.40	6.10	5yr
10yr	0.38	0.59	0.73	1.02	1.32	1.60	10yr	1.14	1.57	1.82	2.45	3.14	4.26	4.78	10yr	3.77	4.59	5.31	6.24	7.01	10yr
25yr	0.44	0.67	0.83	1.18	1.55	1.91	25yr	1.34	1.87	2.11	2.85	3.67	5.04	5.79	25yr	4.46	5.57	6.48	7.56	8.43	25yr
50yr	0.48	0.73	0.91	1.31	1.77	2.19	50yr	1.53	2.14	2.36	3.21	4.12	5.78	6.69	50yr	5.11	6.44	7.53	8.74	9.68	50yr
100yr	0.54	0.81	1.02	1.47	2.02	2.51	100yr	1.74	2.46	2.64	3.59	4.61	6.61	7.73	100yr	5.85	7.43	8.76	10.09	11.08	100yr
200yr	0.60	0.90	1.14	1.65	2.30	2.88	200yr	1.99	2.81	2.93	4.02	5.16	7.57	8.93	200yr	6.70	8.58	10.19	11.67	12.72	200yr
500yr	0.70	1.04	1.34	1.94	2.77	3.47	500yr	2.39	3.39	3.40	4.67	6.01	9.01	10.78	500yr	7.97	10.37	12.44	14.15	15.20	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.71	0.87	1.08	1yr	0.75	1.05	1.23	1.74	2.21	2.83	3.05	1yr	2.50	2.93	3.37	4.17	4.76	1yr
2yr	0.33	0.51	0.62	0.84	1.04	1.24	2yr	0.90	1.22	1.48	1.95	2.50	3.25	3.59	2yr	2.87	3.45	3.96	4.72	5.39	2yr
5yr	0.39	0.60	0.75	1.03	1.31	1.58	5yr	1.13	1.54	1.85	2.49	3.19	4.22	4.80	5yr	3.73	4.61	5.23	6.17	6.94	5yr
10yr	0.46	0.70	0.87	1.21	1.57	1.92	10yr	1.35	1.87	2.23	3.04	3.84	5.19	5.98	10yr	4.59	5.75	6.55	7.58	8.46	10yr
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50yr	0.64	0.97	1.21	1.74	2.34	2.98	50yr	2.02	2.91	3.48	4.80	5.97	8.55	10.03	50yr	7.57	9.64	10.87	12.25	13.47	50yr
100yr	0.74	1.12	1.40	2.03	2.78	3.59	100yr	2.40	3.51	4.21	5.87	7.24	10.55	12.55	100yr	9.34	12.07	13.52	15.08	16.47	100yr
200yr	0.86	1.29	1.63	2.37	3.30	4.35	200yr	2.85	4.26	5.12	7.18	8.78	13.06	15.72	200yr	11.56	15.11	16.83	18.54	20.18	200yr
500yr	1.05	1.56	2.00	2.91	4.13	5.59	500yr	3.57	5.46	6.61	9.39	11.34	17.35	21.17	500yr	15.36	20.36	22.49	24.42	26.41	500yr

Groundwater Recharge Volume Calculations



GROUNDWATER RECHARGE VOLULME (GRV) CALCULATION (Env-Wq 1507.04)

	ac	Area of HSG A soil that was replaced by impervious cover	0.40"
	ac	Area of HSG B soil that was replaced by impervious cover	0.25"
	ac	Area of HSG C soil that was replaced by impervious cover	0.10"
0.26	ac	Area of HSG D soil or impervious cover that was replaced by impervious cover	0.0"
0.00	inches	Rd = Weighted groundwater recharge depth	
0	ac-in	GRV = AI * Rd	
-	cf	GRV conversion (ac-in x 43,560 sf/ac x 1ft/12")	

Provide calculations below showing that the project meets the groundwater recharge requirements (Env-Wq 1507.04):

No GRV is required because only HSG D soil is being replaced with Impervious Cover.

BMP Worksheets





BUFFER DESIGN CRITERIA (Env-Wq 1508.09)

Type

Vegetated Buffer for Access Road

Enter the type of buffer (e.g., residential buffer) and the node name in the drainage analysis, if applicable.

yes	Yes/No	Is the buffer adjacent to the area that you are treating?	← yes
yes	Yes/No	Does the runoff enter the buffer as sheet flow (naturally or with a level spreader?)	
no	Yes/No	Has a level spreader been provided?	
-	%F	% Forest (F) cover in the buffer (remaining assumed to be meadow (M))	
100.0	%M	% Meadow cover in the buffer	
-	%A	Hydrologic soil group (HSG) <u>in buffer</u> (%A, %B, %C). Remaining assumed to be D soil	
-	%B		
-	%C		
100.0	%D		
2.0	%	Buffer slope	≤ 15%

If a Residential or Small Pervious Area Buffer is Proposed:

no	Yes/No	Is the runoff from a single family or duplex residential lot?	← yes
-		L_{FP} = Maximum flow path to the buffer	
0.30	ac	A = Area draining to the buffer	
0.26	ac	A_{IMP} = Impervious area draining to the buffer	
86.7	%	I = Percent impervious area draining to the buffer	≤ 10%
FALSE		Option A check: $A_{IMP} \leq 1 \text{ ac}$ & $L_{FP} \leq 100'$	← yes for
FALSE		Option B check: $I \leq 10\%$ & $L_{FP} \leq 150'$	A or B
no		Level Spreader proposed? (Sheet flow without the aid of a LS)	← no
Good		Slope check	≤ 15%
142	feet	Buffer base length due to soil type (weighted based on HSG)	
4	feet	Buffer length adjustment due to steepness of buffer	
30	feet	Buffer length adjustment due to percent of meadow in buffer	
176	feet	Minimum buffer length required ¹	

If a Developed Area Buffer with a Level Spreader is Proposed:

no		Is a level spreader proposed?	← yes
	ac	A = Area draining to the buffer ²	
	ac	A_I = Impervious area draining to the buffer ²	
-	%	Percent impervious of the area that is draining to the buffer	
Good		Slope check	≤ 15%
-	sf	Buffer base area due to soil type in the buffer (weighted based on HSG)	
-	sf	Buffer area adjustment due to impervious cover draining to buffer	
-	sf	Buffer area adjustment due to steepness of buffer	
-	sf	Buffer area adjustment due to percent of meadow in buffer	
-	sf	A_{MIN} = Minimum buffer area required	
	ft	L_{LS} = Total length of level spreader(s) provided ³	
	ft	L_B = Buffer length ⁴	
-	sf	A_B = Buffer area provided	≥ A_{MIN}

If a Roadway Buffer is Proposed:

no	Yes/No	LS proposed? Roadway/shoulder must sheet directly to the buffer.	← no
	Yes/No	Do any other areas drain to the buffer (other than roadway & shoulder)?	← no
	Yes/No	Is the road parallel to the contours of the buffer slope?	← yes
Good		Natural slope check ⁵	≤ 20%
	feet	How much embankment slope counts toward the buffer? ⁶	0 - 20 feet
	Lane(s)	Number of travel lanes draining to the buffer	
20.0		Minimum buffer flow path (L_{MIN})	
	feet	Buffer flow path	≥ L_{MIN}

If a Ditch Turn Out Buffer is Proposed:

no		Level spreader proposed?	← yes
	feet	Level spreader length ⁷	
	Yes/No	Do any other areas drain to the buffer (other than roadway & shoulder)?	← no
	sf	Drainage area to the ditch	≤ 6000 sf
Good		Slope check	≤ 15%
-	feet	Buffer base length due to soil type (weighted based on HSG)	
4	feet	Buffer length adjustment due to steepness of buffer	
30	feet	Buffer length adjustment due to percent of meadow in buffer	
50	feet	Minimum buffer length required ⁸	

1. Minimum buffer length is the total of the above three cells OR 45', whichever is greater.
2. If a detention structure is used upstream of the level spreader, the drainage area draining to the buffer shall considered equal to 1 acre of impervious area for every 1 cfs of peak 2-year, 24-hr outflow from the detention structure.
3. Minimum level spreader length is 20 feet and maximum is 50 feet. You may use multiple level spreaders if the stormwater is evenly distributed to them.
Example: $A_{MIN} = 6,000$ sf with a 100' buffer available. Therefore the LS lengths must total 60 feet (6,000 sf/ 100'); however LS lengths must be between 20' and 50' so one 60' long level spreader is not permitted. The design would have two LS, each 30'. As long as a collection basin is provided to evenly distribute the flow to the two level spreaders.
4. Minimum buffer length 50 feet.
5. If the slope is man-made, it must be 15% or flatter.
6. 20' (max) of the roadway embankment slope may count towards the buffer length if it is 3:1 or flatter.
7. Minimum level spreader length is 20 feet and maximum is 50 feet. You may use multiple level spreaders if the stormwater is evenly distributed to them. For example, you may have a total length of 100 feet for the level spreaders as long as you have two 50' level spreaders.
8. Minimum buffer length is the total of the above three cells OR 50', whichever is greater.

Designer's Notes:

Grass is mowed typically twice a year and no herbicides or pesticides are used. The only thing requiring treatment on this development is the access drive.

Rip-Rap Apron Calculations





PROJECT NO. 22.141302.00 SHEET 1 OF 2
PROJECT DESCRIPTION Proposed Dover Solar Facility
TASK Rip-Rap Apron Design
CALCULATED BY JCH DATE 5/13/2024
CHECKED BY SMT DATE 5/14/2024

Pond 1

POST DEVELOPMENT 25-YR FLOW = 11.21 cfs
DISCHARGE PIPE SIZE = 54 inches

A. OUTLET PROTECTION APRON SIZING

1. Width of the apron at the outlet of the pipe shall be 3 times the diameter of the pipe

$$W = 3 D_0$$

Where:

W = Width of apron (feet)
D₀ = Maximum inside width of outlet pipe or channel (feet)
W = 13.5 feet

2. The length of the apron shall be the following formula:

$$L_a = \frac{1.8 Q}{D_0^{1.5}} + 7 D_0 \quad (\text{when } TW < D_0/2) \quad \text{or} \quad L_a = \frac{3.0 Q}{D_0^{1.5}} + 7 D_0 \quad (\text{when } TW > D_0/2)$$

Where:

L_a = length of apron (feet)
D₀ = maximum inside width of outlet pipe or channel (feet)
Q = outlet discharge from pipe (cfs)
TW = tailwater elevation (feet) = 1.2 feet (Maximum tailwater @ culvert during 25 year storm)
L_a = 33.6 feet

3. The minimum width of the channel downstream of the outlet for maximum tailwater conditions shall be determined by the following formula

$$W = 3 D_0 + L_a \quad (\text{when } TW < D_0/2) \quad \text{or} \quad W = 3 D_0 + 0.4 L_a \quad (\text{when } TW > D_0/2)$$

Where:

W = Width of apron (feet)
D₀ = Maximum inside width of outlet pipe or channel (feet)
L_a = length of apron (feet)
W = 47.1 feet

B. Determine rip-rap diameter for given outlet pipe or channel

$$D_{50} = \frac{0.02Q^{1.3}}{TW \times D_0}$$

D₅₀ = median stone diameter (feet) **Minimum stone diameter shall be 6" for D₅₀**
Q = outlet discharge from pipe (cfs)
TW = tailwater elevation (feet) = 1.2 feet (Maximum tailwater @ HW#1 during 25 year storm)
D₀ = maximum inside width of outlet pipe or channel (feet)

$$D_{50} = 0.09 \text{ feet or } 1.00 \text{ inch} \quad \text{Use } D_{50} = 6 \text{ inch}$$

50% of stone by weight should be smaller than D₅₀. The largest stone size should be 1.5 times D₅₀.

$$D_{MAX} = 9 \text{ inch}$$

Summary of Design		
Post-Development flow	11.21	cfs
Discharge pipe size	54	inches
Width of apron at pipe	13.5	feet
Length of apron	34	feet
Width of apron downstream of pipe	47.1	feet
Rip-Rap Size	6	inches
Thickness of Rip-rap layer	12	inches
Volume of Rip-rap needed	37.73	C.Y.



PROJECT NO. 22.141302.00 SHEET 2 OF 2
PROJECT DESCRIPTION Proposed Dover Solar Facility
TASK Rip-Rap Apron Design
CALCULATED BY JCH DATE 5/13/2024
CHECKED BY SMT DATE 5/14/2024

Pond 2

POST DEVELOPMENT 25-YR FLOW = 3.81 cfs
DISCHARGE PIPE SIZE = 36 inches

A. OUTLET PROTECTION APRON SIZING

1. Width of the apron at the outlet of the pipe shall be 3 times the diameter of the pipe

$$W = 3 D_0$$

Where:

W = Width of apron (feet)
D₀ = Maximum inside width of outlet pipe or channel (feet)
W = 9 feet

2. The length of the apron shall be the following formula:

$$L_a = \frac{1.8 Q}{D_0^{1.5}} + 7 D_0 \quad (\text{when } TW < D_0/2) \quad \text{or} \quad L_a = \frac{3.0 Q}{D_0^{1.5}} + 7 D_0 \quad (\text{when } TW > D_0/2)$$

Where:

L_a = length of apron (feet)
D₀ = maximum inside width of outlet pipe or channel (feet)
Q = outlet discharge from pipe (cfs)
TW = tailwater elevation (feet) = 0.92 feet (Maximum tailwater @ culvert during 25 year storm)
L_a = 22.3 feet

3. The minimum width of the channel downstream of the outlet for maximum tailwater conditions shall be determined by the following formula

$$W = 3 D_0 + L_a \quad (\text{when } TW < D_0/2) \quad \text{or} \quad W = 3 D_0 + 0.4 L_a \quad (\text{when } TW > D_0/2)$$

Where:

W = Width of apron (feet)
D₀ = Maximum inside width of outlet pipe or channel (feet)
L_a = length of apron (feet)
W = 31.3 feet

B. Determine rip-rap diameter for given outlet pipe or channel

$$D_{50} = \frac{0.02Q^{1.3}}{TW \times D_0}$$

D₅₀ = median stone diameter (feet) **Minimum stone diameter shall be 6" for D₅₀**
Q = outlet discharge from pipe (cfs)
TW = tailwater elevation (feet) = 0.92 feet (Maximum tailwater @ HW#1 during 25 year storm)
D₀ = maximum inside width of outlet pipe or channel (feet)

$$D_{50} = 0.04 \text{ feet or } 0.50 \text{ inch} \quad \text{Use } D_{50} = 6 \text{ inch}$$

50% of stone by weight should be smaller than D₅₀. The largest stone size should be 1.5 times D₅₀.

$$D_{MAX} = 9 \text{ inch}$$

Summary of Design		
Post-Development flow	3.81	cfs
Discharge pipe size	36	inches
Width of apron at pipe	9	feet
Length of apron	22	feet
Width of apron downstream of pipe	31.3	feet
Rip-Rap Size	6	inches
Thickness of Rip-rap layer	12	inches
Volume of Rip-rap needed	16.67	C.Y.

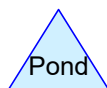
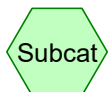
Pre- and Post-Development Drainage Analysis





Ex. Woods & Meadow

Offsite Flow



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Project Notes

Revised by Hoyle Tanner & Associates in response to an RFMI from NHDES regarding the AoT Permit application for the Proposed Solar Facility in Dover, NH

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
147,355	78	Meadow, non-grazed, HSG D (1A)
17,950	55	Woods, Good, HSG B (1A)
130,465	77	Woods, Good, HSG D (1A)
295,770	76	TOTAL AREA

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
17,950	HSG B	1A
0	HSG C	
277,820	HSG D	1A
0	Other	
295,770		TOTAL AREA

1413-Pre

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcat Number
0	0	0	147,355	0	147,355	Meadow, non-grazed	
0	17,950	0	130,465	0	148,415	Woods, Good	
0	17,950	0	277,820	0	295,770	TOTAL AREA	

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Type III 24-hr 1-Yr Rainfall=2.99"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1A: Ex. Woods & Meadow Runoff Area=295,770 sf 0.00% Impervious Runoff Depth>1.00"
Flow Length=950' Slope=0.0250 '/' Tc=21.8 min CN=76 Runoff=4.94 cfs 24,718 cf

Reach DP1: Offsite Flow

Inflow=4.94 cfs 24,718 cf

Outflow=4.94 cfs 24,718 cf

Total Runoff Area = 295,770 sf Runoff Volume = 24,718 cf Average Runoff Depth = 1.00"
100.00% Pervious = 295,770 sf 0.00% Impervious = 0 sf

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Type III 24-hr 2-Yr Rainfall=3.60"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1A: Ex. Woods & Meadow Runoff Area=295,770 sf 0.00% Impervious Runoff Depth>1.43"
Flow Length=950' Slope=0.0250 '/' Tc=21.8 min CN=76 Runoff=7.25 cfs 35,274 cf

Reach DP1: Offsite Flow

Inflow=7.25 cfs 35,274 cf

Outflow=7.25 cfs 35,274 cf

Total Runoff Area = 295,770 sf Runoff Volume = 35,274 cf Average Runoff Depth = 1.43"
100.00% Pervious = 295,770 sf 0.00% Impervious = 0 sf

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Type III 24-hr 10-Yr Rainfall=5.43"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1A: Ex. Woods & Meadow Runoff Area=295,770 sf 0.00% Impervious Runoff Depth>2.88"
Flow Length=950' Slope=0.0250 '/' Tc=21.8 min CN=76 Runoff=14.93 cfs 71,021 cf

Reach DP1: Offsite Flow

Inflow=14.93 cfs 71,021 cf

Outflow=14.93 cfs 71,021 cf

Total Runoff Area = 295,770 sf Runoff Volume = 71,021 cf Average Runoff Depth = 2.88"
100.00% Pervious = 295,770 sf 0.00% Impervious = 0 sf

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Type III 24-hr 10-Yr Rainfall=5.43"

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Summary for Subcatchment 1A: Ex. Woods & Meadow

Runoff = 14.93 cfs @ 12.31 hrs, Volume= 71,021 cf, Depth> 2.88"
 Routed to Reach DP1 : Offsite Flow

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-Yr Rainfall=5.43"

Area (sf)	CN	Description
17,950	55	Woods, Good, HSG B
130,465	77	Woods, Good, HSG D
147,355	78	Meadow, non-grazed, HSG D
295,770	76	Weighted Average
295,770		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	950	0.0250	0.73		Lag/CN Method,

Summary for Reach DP1: Offsite Flow

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

Inflow Area = 295,770 sf, 0.00% Impervious, Inflow Depth > 2.88" for 10-Yr event
 Inflow = 14.93 cfs @ 12.31 hrs, Volume= 71,021 cf
 Outflow = 14.93 cfs @ 12.31 hrs, Volume= 71,021 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

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Type III 24-hr 50-Yr Rainfall=8.23"

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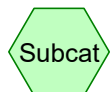
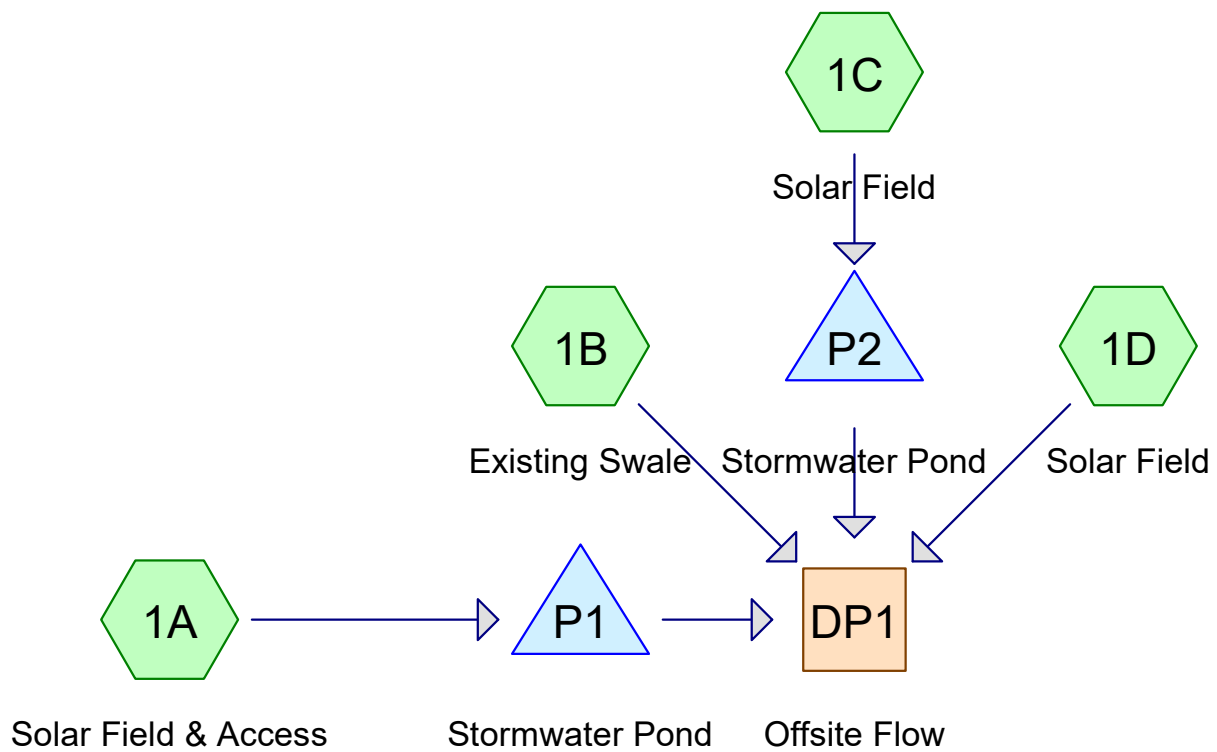
Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1A: Ex. Woods & Meadow Runoff Area=295,770 sf 0.00% Impervious Runoff Depth>5.35"
Flow Length=950' Slope=0.0250 '/' Tc=21.8 min CN=76 Runoff=27.60 cfs 131,795 cf

Reach DP1: Offsite Flow

Inflow=27.60 cfs 131,795 cf
Outflow=27.60 cfs 131,795 cf

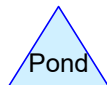
Total Runoff Area = 295,770 sf Runoff Volume = 131,795 cf Average Runoff Depth = 5.35"
100.00% Pervious = 295,770 sf 0.00% Impervious = 0 sf



Subcat



Reach



Pond



Link

Routing Diagram for 1413-Post, Revised 05/14/2024

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
17,950	61	Pasture/grassland/range, Good, HSG B (1A)
266,120	80	Pasture/grassland/range, Good, HSG D (1A, 1B, 1C, 1D)
11,700	98	Paved parking, HSG D (1A)
295,770	80	TOTAL AREA

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
17,950	HSG B	1A
0	HSG C	
277,820	HSG D	1A, 1B, 1C, 1D
0	Other	
295,770		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	17,950	0	266,120	0	284,070	Pasture/grassland/range, Good
0	0	0	11,700	0	11,700	Paved parking
0	17,950	0	277,820	0	295,770	TOTAL AREA

1413-Post

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Type III 24-hr 2-Yr Rainfall=3.60"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1A: Solar Field & Access Runoff Area=157,630 sf 7.42% Impervious Runoff Depth>1.64"
Flow Length=860' Slope=0.0250 '/' Tc=18.4 min CN=79 Runoff=4.80 cfs 21,512 cf

Subcatchment 1B: Existing Swale Runoff Area=18,400 sf 0.00% Impervious Runoff Depth>1.71"
Flow Length=450' Slope=0.0250 '/' Tc=10.6 min CN=80 Runoff=0.72 cfs 2,626 cf

Subcatchment 1C: Solar Field Runoff Area=82,760 sf 0.00% Impervious Runoff Depth>1.71"
Flow Length=391' Slope=0.0200 '/' Tc=10.6 min CN=80 Runoff=3.23 cfs 11,811 cf

Subcatchment 1D: Solar Field Runoff Area=36,980 sf 0.00% Impervious Runoff Depth>1.71"
Flow Length=280' Slope=0.0200 '/' Tc=8.1 min CN=80 Runoff=1.56 cfs 5,281 cf

Reach DP1: Offsite Flow Inflow=3.76 cfs 38,406 cf
Outflow=3.76 cfs 38,406 cf

Pond P1: Stormwater Pond Peak Elev=92.73' Storage=6,792 cf Inflow=4.80 cfs 21,512 cf
Outflow=2.60 cfs 20,109 cf

Pond P2: Stormwater Pond Peak Elev=92.64' Storage=5,267 cf Inflow=3.23 cfs 11,811 cf
Outflow=0.54 cfs 10,390 cf

Total Runoff Area = 295,770 sf Runoff Volume = 41,231 cf Average Runoff Depth = 1.67"
96.04% Pervious = 284,070 sf 3.96% Impervious = 11,700 sf

1413-Post

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Type III 24-hr 10-Yr Rainfall=5.43"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1A: Solar Field & Access Runoff Area=157,630 sf 7.42% Impervious Runoff Depth>3.16"
Flow Length=860' Slope=0.0250 '/' Tc=18.4 min CN=79 Runoff=9.37 cfs 41,568 cf

Subcatchment 1B: Existing Swale Runoff Area=18,400 sf 0.00% Impervious Runoff Depth>3.27"
Flow Length=450' Slope=0.0250 '/' Tc=10.6 min CN=80 Runoff=1.38 cfs 5,007 cf

Subcatchment 1C: Solar Field Runoff Area=82,760 sf 0.00% Impervious Runoff Depth>3.27"
Flow Length=391' Slope=0.0200 '/' Tc=10.6 min CN=80 Runoff=6.19 cfs 22,521 cf

Subcatchment 1D: Solar Field Runoff Area=36,980 sf 0.00% Impervious Runoff Depth>3.27"
Flow Length=280' Slope=0.0200 '/' Tc=8.1 min CN=80 Runoff=2.99 cfs 10,068 cf

Reach DP1: Offsite Flow Inflow=10.91 cfs 75,329 cf
Outflow=10.91 cfs 75,329 cf

Pond P1: Stormwater Pond Peak Elev=93.04' Storage=9,879 cf Inflow=9.37 cfs 41,568 cf
Outflow=7.12 cfs 39,629 cf

Pond P2: Stormwater Pond Peak Elev=92.94' Storage=9,056 cf Inflow=6.19 cfs 22,521 cf
Outflow=2.11 cfs 20,625 cf

Total Runoff Area = 295,770 sf Runoff Volume = 79,164 cf Average Runoff Depth = 3.21"
96.04% Pervious = 284,070 sf 3.96% Impervious = 11,700 sf

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Type III 24-hr 10-Yr Rainfall=5.43"

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Summary for Subcatchment 1A: Solar Field & Access

Runoff = 9.37 cfs @ 12.26 hrs, Volume= 41,568 cf, Depth> 3.16"
 Routed to Pond P1 : Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-Yr Rainfall=5.43"

Area (sf)	CN	Description
17,950	61	Pasture/grassland/range, Good, HSG B
11,700	98	Paved parking, HSG D
127,980	80	Pasture/grassland/range, Good, HSG D
157,630	79	Weighted Average
145,930		92.58% Pervious Area
11,700		7.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	860	0.0250	0.78		Lag/CN Method,

Summary for Subcatchment 1B: Existing Swale

Runoff = 1.38 cfs @ 12.15 hrs, Volume= 5,007 cf, Depth> 3.27"
 Routed to Reach DP1 : Offsite Flow

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-Yr Rainfall=5.43"

Area (sf)	CN	Description
18,400	80	Pasture/grassland/range, Good, HSG D
18,400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	450	0.0250	0.71		Lag/CN Method,

Summary for Subcatchment 1C: Solar Field

Runoff = 6.19 cfs @ 12.15 hrs, Volume= 22,521 cf, Depth> 3.27"
 Routed to Pond P2 : Stormwater Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-Yr Rainfall=5.43"

Area (sf)	CN	Description
82,760	80	Pasture/grassland/range, Good, HSG D
82,760		100.00% Pervious Area

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Type III 24-hr 10-Yr Rainfall=5.43"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	391	0.0200	0.61		Lag/CN Method,

Summary for Subcatchment 1D: Solar Field

Runoff = 2.99 cfs @ 12.12 hrs, Volume= 10,068 cf, Depth> 3.27"
 Routed to Reach DP1 : Offsite Flow

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-Yr Rainfall=5.43"

Area (sf)	CN	Description
36,980	80	Pasture/grassland/range, Good, HSG D
36,980		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	280	0.0200	0.58		Lag/CN Method,

Summary for Reach DP1: Offsite Flow

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

Inflow Area = 295,770 sf, 3.96% Impervious, Inflow Depth > 3.06" for 10-Yr event
 Inflow = 10.91 cfs @ 12.40 hrs, Volume= 75,329 cf
 Outflow = 10.91 cfs @ 12.40 hrs, Volume= 75,329 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Pond P1: Stormwater Pond

Inflow Area = 157,630 sf, 7.42% Impervious, Inflow Depth > 3.16" for 10-Yr event
 Inflow = 9.37 cfs @ 12.26 hrs, Volume= 41,568 cf
 Outflow = 7.12 cfs @ 12.42 hrs, Volume= 39,629 cf, Atten= 24%, Lag= 10.1 min
 Primary = 7.12 cfs @ 12.42 hrs, Volume= 39,629 cf
 Routed to Reach DP1 : Offsite Flow

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 93.04' @ 12.42 hrs Surf.Area= 10,283 sf Storage= 9,879 cf
 Flood Elev= 93.60' Surf.Area= 11,180 sf Storage= 15,872 cf

Plug-Flow detention time= 71.8 min calculated for 39,547 cf (95% of inflow)
 Center-of-Mass det. time= 46.8 min (877.1 - 830.3)

Volume	Invert	Avail.Storage	Storage Description
#1	92.00'	15,872 cf	Custom Stage Data (Irregular) Listed below (Recalc)

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Type III 24-hr 10-Yr Rainfall=5.43"

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Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.00	8,711	500.0	0	0	8,711
93.60	11,180	529.0	15,872	15,872	11,224

Device	Routing	Invert	Outlet Devices
#1	Primary	92.00'	7.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	92.50'	54.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	93.00'	161.0 deg x 9.0' long x 0.60' rise Sharp-Crested Vee/Trap Weir Cv= 2.47 (C= 3.09)

Primary OutFlow Max=7.07 cfs @ 12.42 hrs HW=93.04' (Free Discharge)

1=Orifice/Grate (Orifice Controls 1.24 cfs @ 4.26 fps)

2=Orifice/Grate (Orifice Controls 5.61 cfs @ 2.49 fps)

3=Sharp-Crested Vee/Trap Weir (Weir Controls 0.22 cfs @ 0.61 fps)

Summary for Pond P2: Stormwater Pond

Inflow Area = 82,760 sf, 0.00% Impervious, Inflow Depth > 3.27" for 10-Yr event
 Inflow = 6.19 cfs @ 12.15 hrs, Volume= 22,521 cf
 Outflow = 2.11 cfs @ 12.52 hrs, Volume= 20,625 cf, Atten= 66%, Lag= 21.9 min
 Primary = 2.11 cfs @ 12.52 hrs, Volume= 20,625 cf
 Routed to Reach DP1 : Offsite Flow

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 92.94' @ 12.52 hrs Surf.Area= 12,736 sf Storage= 9,056 cf
 Flood Elev= 93.80' Surf.Area= 13,962 sf Storage= 20,523 cf

Plug-Flow detention time= 136.5 min calculated for 20,582 cf (91% of inflow)
 Center-of-Mass det. time= 94.8 min (916.2 - 821.4)

Volume	Invert	Avail.Storage	Storage Description
#1	92.20'	20,523 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
92.20	11,724	451.0	0	0	11,724
93.80	13,962	481.0	20,523	20,523	14,071

Device	Routing	Invert	Outlet Devices
#1	Primary	92.20'	7.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	92.70'	36.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Primary	93.20'	161.6 deg x 9.0' long x 0.60' rise Sharp-Crested Vee/Trap Weir Cv= 2.47 (C= 3.09)

1413-Post

Prepared by Hoyle, Tanner & Associates

HydroCAD® 10.20-5a s/n 00471 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-Yr Rainfall=5.43"

Revised 05/14/2024 Printed 5/14/2024

Page 20

Primary OutFlow Max=2.10 cfs @ 12.52 hrs HW=92.94' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.97 cfs @ 3.33 fps)

— **2=Orifice/Grate** (Orifice Controls 1.13 cfs @ 1.57 fps)

— **3=Sharp-Crested Vee/Trap Weir** (Controls 0.00 cfs)

1413-Post

Prepared by Hoyle, Tanner & Associates

HydroCAD® 10.20-5a s/n 00471 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 50-Yr Rainfall=8.23"

Revised 05/14/2024 Printed 5/14/2024

Page 21

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1A: Solar Field & Access Runoff Area=157,630 sf 7.42% Impervious Runoff Depth>5.71"
Flow Length=860' Slope=0.0250 '/' Tc=18.4 min CN=79 Runoff=16.71 cfs 74,941 cf

Subcatchment 1B: Existing Swale Runoff Area=18,400 sf 0.00% Impervious Runoff Depth>5.83"
Flow Length=450' Slope=0.0250 '/' Tc=10.6 min CN=80 Runoff=2.42 cfs 8,942 cf

Subcatchment 1C: Solar Field Runoff Area=82,760 sf 0.00% Impervious Runoff Depth>5.83"
Flow Length=391' Slope=0.0200 '/' Tc=10.6 min CN=80 Runoff=10.88 cfs 40,219 cf

Subcatchment 1D: Solar Field Runoff Area=36,980 sf 0.00% Impervious Runoff Depth>5.83"
Flow Length=280' Slope=0.0200 '/' Tc=8.1 min CN=80 Runoff=5.25 cfs 17,979 cf

Reach DP1: Offsite Flow Inflow=24.51 cfs 136,968 cf
Outflow=24.51 cfs 136,968 cf

Pond P1: Stormwater Pond Peak Elev=93.31' Storage=12,663 cf Inflow=16.71 cfs 74,941 cf
Outflow=14.94 cfs 72,313 cf

Pond P2: Stormwater Pond Peak Elev=93.27' Storage=13,335 cf Inflow=10.88 cfs 40,219 cf
Outflow=5.78 cfs 37,734 cf

Total Runoff Area = 295,770 sf Runoff Volume = 142,082 cf Average Runoff Depth = 5.76"
96.04% Pervious = 284,070 sf 3.96% Impervious = 11,700 sf

Site Specific Soil Survey Report





LAND CONSULTANTS

March 8, 2024

David Price, Compliance Supervisor
NHDES Wetlands Bureau
29 Hazen Drive
Concord, NH 03301

RE: Wetland Delineation Report - Del Sol Project [AoT#230828]
Crosby Road, Dover, NH

Dear David:

As a follow-up to our January 4, 2024, site walk, this report supersedes any previous wetland and soil map that was associated with the above referenced permit application.

The identification and delineation of jurisdictional wetlands on this project were determined utilizing - Section F of the *1987 US Army Corps of Engineers Wetlands Delineation Manual*. This methodology was selected due to recent human activities (clear cutting, skidder ruts, stump removal, and smooth over regrading) conducted on the southern two-thirds portion of the property. There was no evidence of any excavating of soil material from this site. There appeared to be no off-site soil material used to fill any wetland depressions or stump holes on this property. The northern 1/3 portion of this property was only disturbed by hay pasture mowing (twice annually) activities.

Atypical Situations are disturbances to soils, vegetation, or hydrology. Existing on this man-induced wetlands site, human activities that consisted of clear-cut logging, heavy skidder rutting, finish grading of topography and incidental wetland depressions, created in the stump holes. Currently, these remaining depressions stay inundated for longer durations in the spring and after major rain events. These human activities have increased the hydrology factor, and when the depressions showed evidence of dominant hydrophytic vegetation, we delineated these areas as new jurisdictional wetlands [see attached, yellow-colored areas on attached 'Soils and Jurisdictional Wetland Map'].

Aerial photography shows the human site disturbances created by the previous landowner's logging activities in December 2019 and January 2020. The tree cutting was conducted on a mature (> 60-year-old) white pine, white oak, red maple forest. Aerial photos prior to 2019 indicate that the mature forest tree area extended to the south side of the Boston & Maine railroad tracks. BAG Land Consultants inspected the south side natural wooded forest in January 2024.

Onsite inspection demonstrated evidence of numerous white pine mulch chips onsite and a few remaining white pine sapling stumps. Residual stockpiles of stump grinding debris showed additional evidence of oak and maple species existing onsite. It also was clear that eastern hemlock species were present in small coverage.

Prior to the disturbance, I visited the forested area briefly in October 2019. At that time, the trees were intact, shrubs were sparse along the forest edges, and the herbaceous species were nonexistent due to the heavy shaded tree canopy. I did not observe any wetlands or leave any wetland flags at the time. A second visit to this project job site in late August 2020 showed the land to be devoid of any vegetation, the stump hole depressions were dry, and the land had been smoothed flat with the bucket of a payloader.

Adjacent vegetation on the south side of the tracks was documented in an existing self-storage facility area. This adjacent studied area was undisturbed with mature trees the same age as the removed trees on the project site. An undisturbed study spot was selected having the same topography position, similar soil textures and equivalent drainage classes. In addition, a pit depression area in the adjacent study zone was utilized to simulate the altered clear-cut area topography.

SCS Records indicate that the Atypical study area was comprised of Deerfield series soils that consist of very deep, moderately well drained, glaciofluvial deposits, with no subsoil restrictive features. Forested areas in the Deerfield soils commonly have the following tree & sapling species: pitch pine, white pine, gray birch, red maple, white oak, red oak and sugar maples. Most of the study area soils were mapped to be Scantic series which is a poorly drained silt loam texture over a slit loam clay subsoil. This c-horizon can be massive in structure and firm to very firm in consistency.

Permit applicant, Bucky Riley, was the previous landowner of the property and he was the one that coordinated the permit to cut the trees. He hired a logging firm from Eliot, ME. The former owner filed an intent-to-cut permit with the City of Dover. The permit in the fall of 2019 listing in order of dominance the following tree species to be cut: white pine, white oak, and red maple.

Public input included our discussions with a neighbor to the immediate southwest who grew up and played throughout this naturally forested land. The abutter could not remember ever catching any frogs, turtles, amphibians, or snakes in said woods.

NWI wetland maps do not indicate any areas needing classification. From our field observations, we would classify the onsite jurisdictional wetlands as PEM1E. Presently, the site is stable and secure and there is no potential for soil erosion. These are the new normal circumstances.

Fieldwork

In January and February 2024, we traversed the entire project over five (5) days and flagged & measured the centerline of farmers man-made ditches (see 'Soils and Jurisdictional Wetland Map' for specific dates). These ditches & swales are in the northern third of the property. In the disturbed area we flagged the center of onsite micro-relief depressions and then measured the north, south, east, west distances to depression limits. All 60+ flag locations were located by GPS coordinates and plotted on the 'Soils and Jurisdictional Wetland Map'. BAG Land Consultants identified and mapped jurisdictional wetland areas that showed evidence of intermittent flow. The attached *Soils and Jurisdictional Wetland Map* details grouped together wetland areas that are comprised of

multiple depressions near each other. The above mapped ditches, depressions and intermittent flow areas are labeled Jurisdictional Wetland Areas.

We dug into the depressed areas and did not ever find any fill soil material. The branch debris (wood slash) never measured more than 2" depth in the depression areas. There was no evidence of any filling of wetlands on this project. We observed many newly created depressions having puddled waters after major rain events. These puddled areas also exhibited the dominance of common rush (FacW) species.

We set out to traverse the flat landscape to record the soils, vegetation, and hydrology factors onsite. There are three (3) data plots in-the-field we labeled DP#10, DP#11 and DP#12. This collected data information is displayed on an ACE Routine Onsite Determination form (see attached). The data plots are strategically spaced along the jurisdictional wetland transect line that is staked in the field.

Conclusion

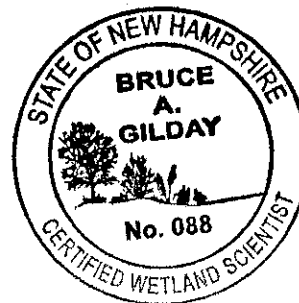
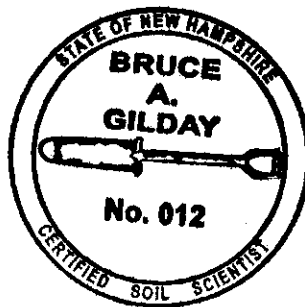
Having utilized Section F to make a determination, I am confident on the accuracy of the hydric soils and the jurisdictional wetland areas that are depicted on the attached 'Soil and Jurisdictional Wetland Map' which has been stamped, signed, and dated 2-23-24.

Please do not hesitate to contact me if you have any questions. Otherwise, I look forward to your prompt reply indicating that NHDES requirements have been met.

Sincerely,



Bruce A. Gilday
Certified Soil Scientist
Certified Wetland Scientist



Ec: Chad Kageleiry
Darlene Forst, NHDES Wetlands Bureau
Michael Schlosser, NHDES AoT Bureau
Mary Ann Tilton, NHDES Wetlands Bureau
Jeffrey Blecharczyk, NHDES LRM Bureau
Kristin Duclos, NHDES Wetlands Bureau

Attachment #1 – Soils and Jurisdictional Wetland Map'
Attachment #2 - 3 ACE Data Forms

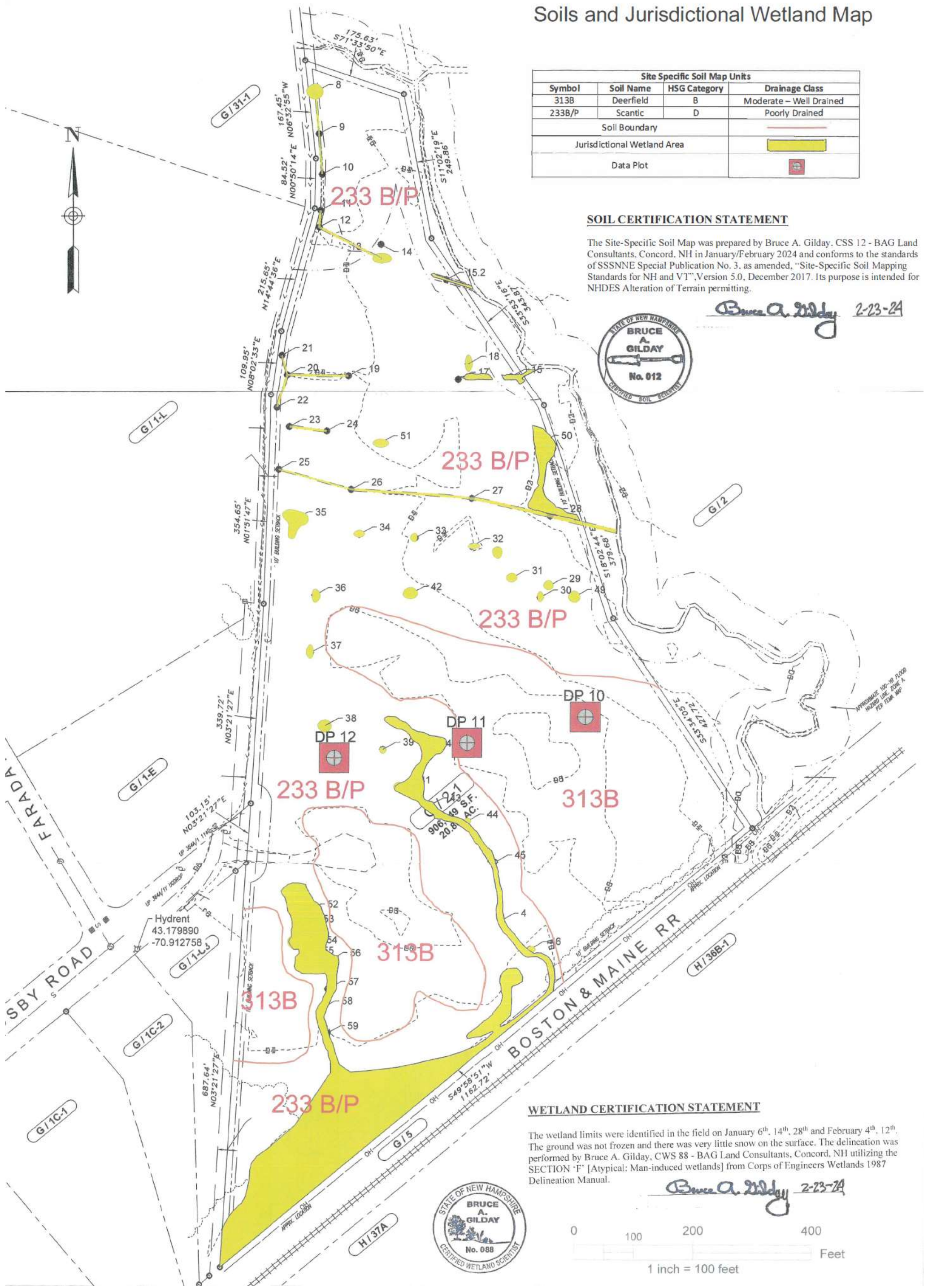
Soils and Jurisdictional Wetland Map

Site Specific Soil Map Units			
Symbol	Soil Name	HSG Category	Drainage Class
313B	Deerfield	B	Moderate – Well Drained
233B/P	Scantic	D	Poorly Drained
Soil Boundary			
Jurisdictional Wetland Area			
Data Plot			

SOIL CERTIFICATION STATEMENT

The Site-Specific Soil Map was prepared by Bruce A. Gilday, CSS 12 - BAG Land Consultants, Concord, NH in January/February 2024 and conforms to the standards of SSSNNE Special Publication No. 3, as amended, "Site-Specific Soil Mapping Standards for NH and VT", Version 5.0, December 2017. Its purpose is intended for NHDES Alteration of Terrain permitting.

Bruce A. Gilday 2-23-24



WETLAND CERTIFICATION STATEMENT

The wetland limits were identified in the field on January 6th, 14th, 28th and February 4th, 12th. The ground was not frozen and there was very little snow on the surface. The delineation was performed by Bruce A. Gilday, CWS 88 - BAG Land Consultants, Concord, NH utilizing the SECTION 'F' [Atypical: Man-induced wetlands] from Corps of Engineers Wetlands 1987 Delineation Manual.

Bruce A. Gilday 2-23-24





March 18, 2024

Chad Kageleiry
Del Sol Westfield, LLC
340 Central Avenue (Suite 202)
Dover, NH 03820

RE: Del Sol Project [16.0 Ac. +/-]
Crosby Road; Dover, NH

Dear Chad:

Site Specific Soil Survey Technical Letter Report

At your request, we visited the above-referenced project in January / February 2024 for the purpose to document onsite conditions in the preparation of a Site-Specific Soil Map (SMSS) that would assist you in the planning / design of any proposed property land improvements. Below is a summary that details the standards utilized, soil descriptions, and any unique / limiting soil features encountered on the property.

Standards

The criteria under which the soil map was prepared is the *Site-Specific Soil Mapping Standards for New Hampshire and Vermont*, Version 4.0, February 2011. The standards apply the very latest knowledge of soils and provide the public with the most advanced soil resource information available today. The standards are based on a universally recognized taxonomic system of soil classification and are supported by national soil mapping standards established by the USDA National Cooperative Soil Survey. They allow for the development of multi-purpose soil map products that are carefully controlled and monitored through a state, regional and national quality assessment program. The SSSM's have been developed by the Society of Soil Scientists of Northern New England (SSSNNE) in cooperation with the USDA Natural Resources Conservation Service (NRCS). Their development responded to the need to provide regulatory agencies, local officials, and land use planners with consistent high-quality large scale soil resource information.

The Site-specific Soil Map Units identified on this property come from the *New Hampshire State-wide Numerical Soils Legend*, Issue #10, January 2011. This document represents the latest release of the permanent New Hampshire State-Wide Numerical Soils Legend since originally developed and adopted by the NRCS of NH in 1985.

Base Map

The soil map was developed on a base map of 1' = 100', with contour intervals of two (2') feet, and elevations ranging from a high point of 98' in the southcentral region of the parcel to a low elevation of 92' near the banks of Knox Marsh Brook. Ground control was provided with gps survey location of wetland swales and depressions, some existing property line monumentation, and an outline of the abandoned Hansen Road layout that traverses north to south and makes up the western property boundary of the subject lands. Current perimeter and topographic survey information was provided by your land surveyor: McEneaney Survey Associates, Dover, NH.

Location

The site is located on the east side of abandoned Hansen Road and the west side of Knox Marsh Brook in the City of Dover, NH. Soil mapping study area is also found at the exact end of the existing paved Crosby Road. The subject study area is approximately 16 Ac. +/- in size and the majority of the site is re-vegetated with herbaceous plant species (grasses, sedges, and rushes) after logging took place about 4 years ago.

Geomorphology

The site is located in an area of predominant poorly drained soils with marine or lacustrine parent material with silt loam topsoil textures and subsoil horizons that contain silt clay loam textures. There are no large boulders on the surface and the subsoil horizons are lacking the presence of any cobbles, stones, or boulders. We did not encounter any significant soil areas where the depth to ledge (rock outcrops) were present on this site.

Legend

The following is the soil identification legend for the site-specific soil map symbols used in the preparation of the map.

SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	SOIL UNIT NAME	DRAINAGE CLASS	HSG
313	Deerfield	Moderately Well Drained	B
233/P	Scantic	Poorly Drained	D

Slope

The following slope phases are used to designate the percent slope of the individual soil map units. Map units not having a slope designation typically are assumed to be nearly level over the majority of the map unit.

<u>Slope Designation</u>	<u>Percent Slope</u>
B	0 to 8%
C	8 to 15%

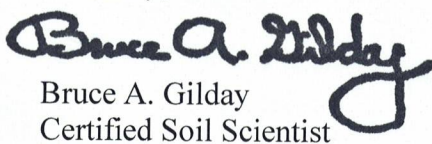
Limiting Soil Features

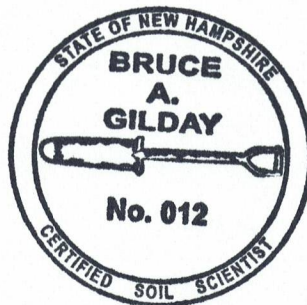
The majority of the upland soils on this property are very well suited for earth moving activities with an estimated season high water table greater than 15" and a water table greater than three (3') feet. We mapped these soils as [313] Deerfield soils.

In the lower elevations, there were small isolated micro-depressions scattered throughout the flat topographic landscape. These soils are poorly drained hydric [233/P] Scantic soils. There are no vernal pool breeding habitats present in the poorly drained soils or wetland depressions.

Most all these soils onsite have no stones on the surface and fewer stones in the subsoil and parent material. We do not see any limitations to making land improvements for any type of development of this land. The upland soils onsite have slight to moderate slopes that could pose minor problems with erosion sediment runoff if left in bare ground state for long durations. Proper check dams, wattles, silt fences, and treatment swales should be installed prior to earth moving operations. The combination of having good draining soils and with a contractors use of erosion control best management practices the finished grades should be stable and secure.

Sincerely,


Bruce A. Gilday
Certified Soil Scientist



BAG:3506
Attachment: NCSS Soil Map

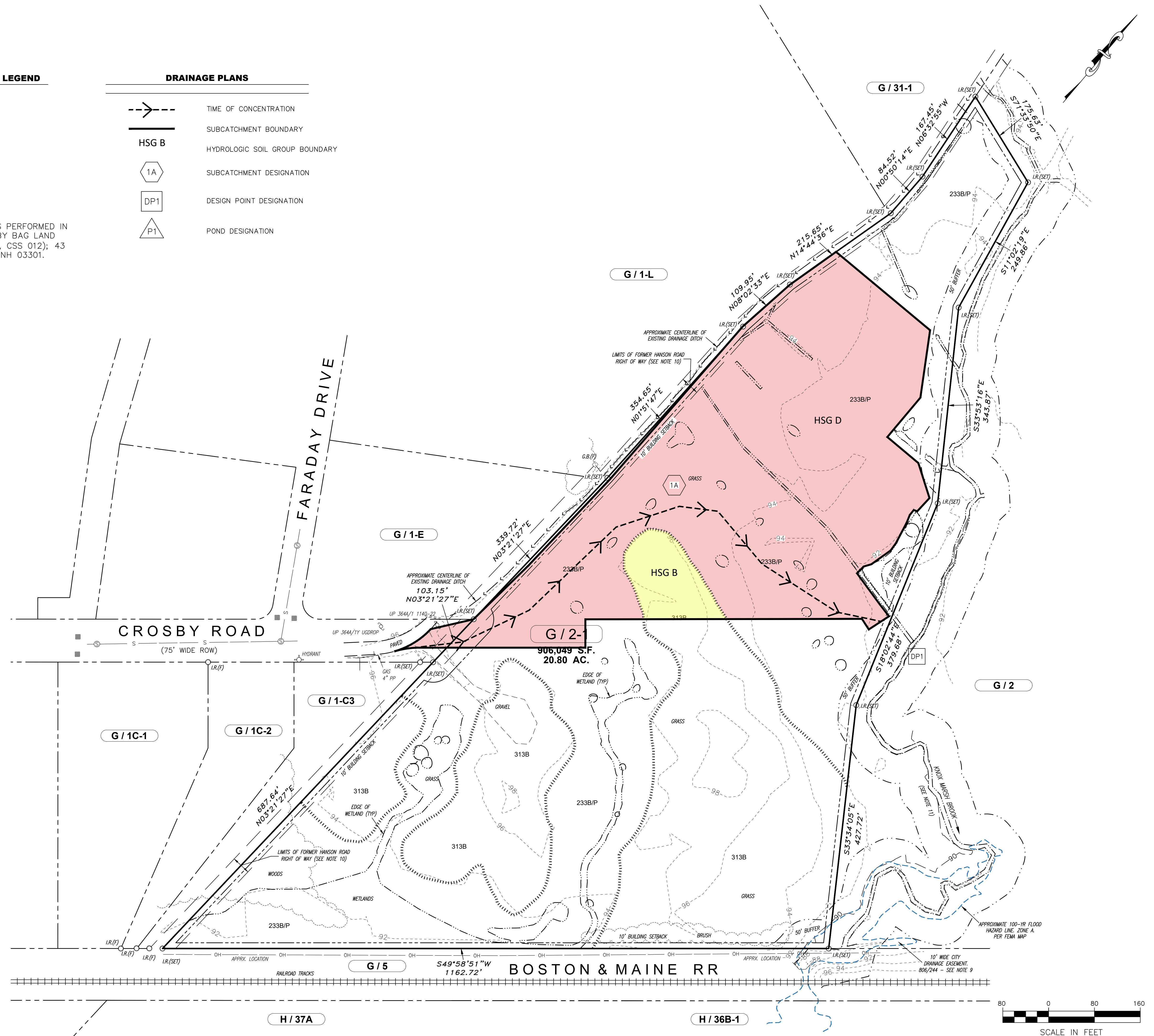
Color Coded Soil Plans



	HSG B
	HSG D
	IMPERVIOUS

	TIME OF CONCENTRATION
	SUBCATCHMENT BOUNDARY
HSG B	HYDROLOGIC SOIL GROUP BOUNDARY
	SUBCATCHMENT DESIGNATION
	DESIGN POINT DESIGNATION
	POND DESIGNATION

SITE SPECIFIC SOIL MAPPING WAS PERFORMED IN JANUARY AND FEBRUARY 2024 BY BAG LAND CONSULTANTS (BRUCE A. GILDAY, CSS 012); 43 ROCKINGHAM STREET, CONCORD, NH 03301.



3	REVISED LAYOUT PER UPDATED WETLAND & COORDINATION WITH NHFG	07/10/24
2	REVISED PER NHDES ALTERATION OF TERRAIN COMMENTS	11/17/23
1	ISSUED FOR NHDES ALTERATION OF TERRAIN PERMIT	08/22/23
REV.	REVISION DESCRIPTION	DATE

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 HOYLE TANNER	SCALE: AS SHOWN	ORIGINAL AUGUST
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DEL SOL DOVER, LLC
340 CENTRAL AVENUE, SUITE 202
DOVER, NH 03820

PROPOSED SOLAR FACILITY
0 CROSBY ROAD
DOVER, NH 03820

APPLICANT	PROJECT
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PRE-DEVELOPMENT
COLOR CODED SOIL
PLAN

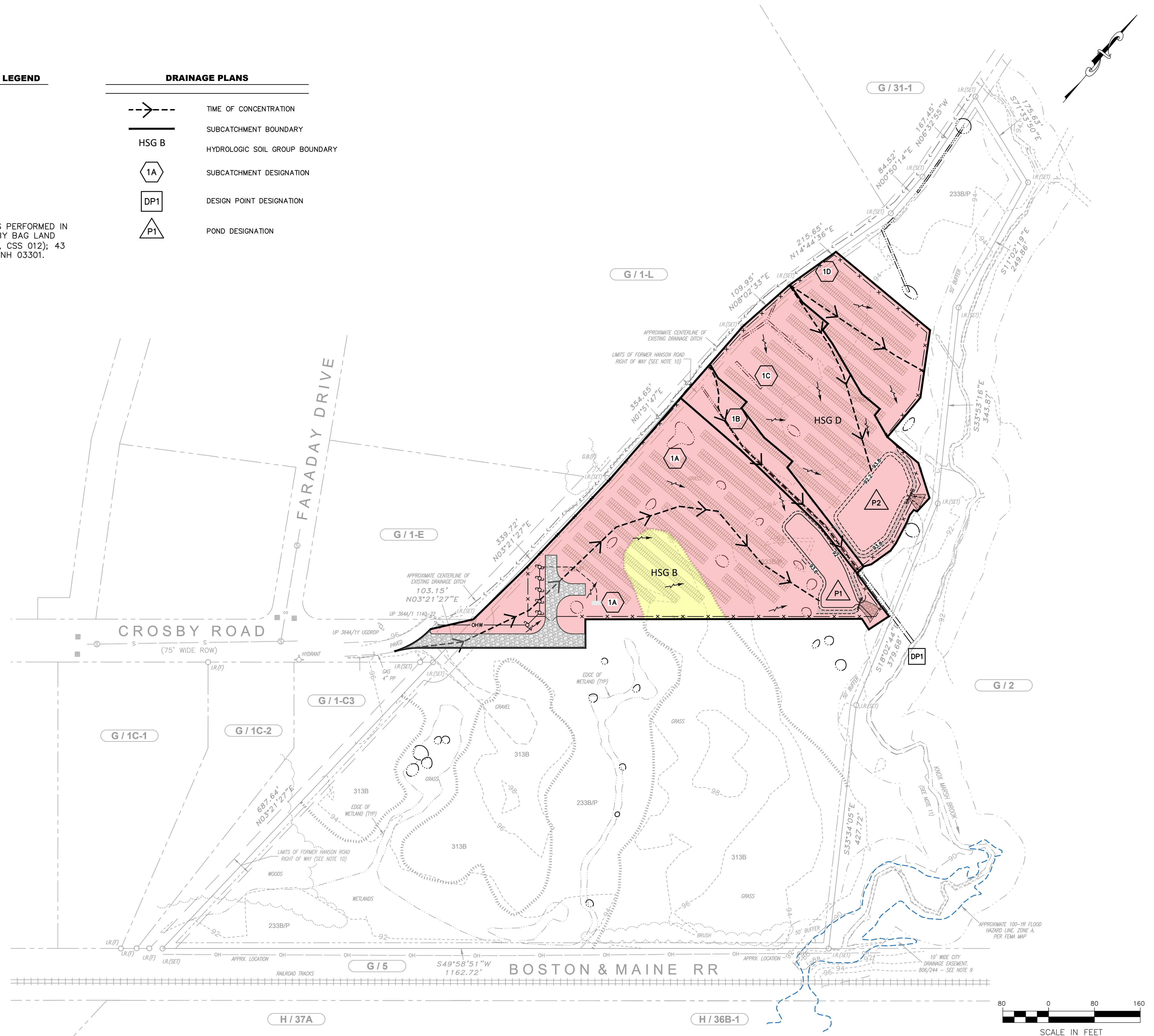
SP1

PROJECT NO. 22.141302.00			
SHEET	1	OF	2

	HSG B
	HSG D
	IMPERVIOUS

	TIME OF CONCENTRATION
	SUBCATCHMENT BOUNDARY
HSG B	HYDROLOGIC SOIL GROUP BOUNDARY
	SUBCATCHMENT DESIGNATION
	DESIGN POINT DESIGNATION
	POND DESIGNATION

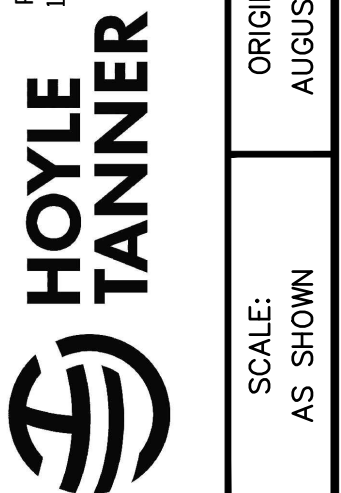
SITE SPECIFIC SOIL MAPPING WAS PERFORMED IN JANUARY AND FEBRUARY 2024 BY BAG LAND CONSULTANTS (BRUCE A. GILDAY, CSS 012); 43 ROCKINGHAM STREET, CONCORD, NH 03301.



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REV	REVISION DESCRIPTION	DATE

Y	DRAWN BY JCH/SMT	CHECKED BY WRD
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340 CENTRAL AVENUE, SUITE 202
DOVER, NH 03820

PROPOSED SOLAR FACILITY
0 CROSBY ROAD
DOVER, NH 03820

POST-DEVELOPMENT
COLOR CODED SOIL
PLAN
SP2
PROJECT NO. 22.141302.00
SHEET 2 OF 2

Pre- and Post-Development Drainage Plans



Inspection and Maintenance Manual



Inspection and Maintenance Plan

March 2023 (Revised October 20, 2023)

The intent of this manual is to establish a mechanism to provide on-going inspections and maintenance (I&M) to ensure the long-term effectiveness of approved stormwater practices.

Introduction

1. Responsible party who will implement the required reporting, inspection and maintenance activities identified in the I&M manual:

Del Sol Dover, LLC
340 Central Ave, Suite 202
Dover, NH 03820
ATTN: Chad Kageleiry
Email: chad@summitlanddev.com
Phone: 603-749-2800

All record keeping required shall be maintained by the responsible party and be made available to the department upon request. I&M activities shall begin at the completion of site features that direct stormwater to the stormwater management devices. The responsible party may contract with one or more third parties to conduct the I&M activities but shall remain responsible for ensuring the long-term effectiveness of the stormwater practices. If ownership of the property is transferred, the new owner shall become the responsible party. Any inspection and maintenance records must be provided to NHDES upon request.

2. Frequency of Inspections:

Semi-Annually (Spring & Fall)

3. The attached inspection log checklist shall be updated after every inspection in the spring and fall. The following I&M areas are as follows:
 - Overall Site
4. Sample I&M logs have been provided. Similar logs shall be completed for each I&M activity annually.
5. The attached deicing log shall be updated to document the type and amount of deicing material applied to the site. The contractor for winter snow and ice management activities must be Green SnowPro certified by the UNH Technology Transfer Center and also be a New Hampshire Certified

Inspection and Maintenance Plan

Salt Applicator.

6. See attached Grading, Drainage & Erosion Control Plan for the location of each I&M activity.
7. Any invasive species found within the project area shall be bagged and disposed of properly. The project shall be managed in a manner that meets the requirements and intent of NH RSA 430:53 and Chapter AGR 3000 relative to invasive species. Refer to the attached University of New Hampshire Cooperative Extension “Methods for Disposing Non-Native Invasive Plants” document for additional information.

A sample maintenance log is included at the end of this manual. Records of all inspections and maintenance work accomplished must be kept on file and retained. The maintenance logbook and stormwater management systems shall be made available to NHDES upon request. The following standards must be met.

During Construction

The following standards must be met during construction.

Inspection and Corrective Action

Inspect disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. Inspect these areas at least once a week as well as before and within 24 hours after a storm event, and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections. The attached logs/checklists should be used to record each inspection.

Maintenance

If best management practices (BMPs) need to be repaired, the repair work should be initiated upon discovery of the problem but no later than the end of the next workday. If additional BMPs or significant repair of BMPs are necessary, implementation must be completed within 7 calendar days and/or prior to any storm event. All measures must be maintained in effective operating condition until areas are permanently stabilized. The attached logs/checklists should be used to record each inspection.

Inspection and Maintenance Plan

Post Construction

The intent of this manual is to establish a mechanism to provide on-going inspections and maintenance (I&M) to ensure the long-term effectiveness of approved stormwater practices.

Inspection and Maintenance Plan

The following I&M activities shall be inspected semi-annually. Corrective actions shall be taken to fix any deficiencies and to restore the stormwater practice to the original condition. Refer to attached plan for each BMP location.

1. Overall Site
 - Inspect headwalls and rip-rap for any accumulated sediment or debris.
 - Inspect slopes for rutting and erosion.
 - Inspect stormwater ponds for large debris or blockages in
 - Photographs of BMPs should be taken during each inspection.

Long Term Pollution Prevention Maintenance

The Responsible Party will incorporate a routine maintenance program to ensure the continued effectiveness of the structural water quality controls. Maintenance will be performed based on the results of inspections in accordance with the schedules identified below. The program will include the following maintenance activities:

Maintenance of Vegetated Areas

Proper maintenance of vegetated areas can prevent the pollution of stormwater runoff by controlling the source of pollutants such as suspended sediments, excess nutrients, and chemicals from landscape care products. Practices that should be followed under the regular maintenance of the vegetated landscape include:

- Inspect planted areas on a semi-annual basis and remove any litter.
- Maintain planted areas adjacent to pavement to prevent soil washout.
- Re-seed bare areas: install appropriate erosion control measures when native soil is exposed, or erosion channels are forming.
- Plant alternative mixture of grass species in the event of unsuccessful establishment.
- Grass vegetation should not be cut to a height less than four inches.
- Pesticide/Herbicide Usage – No pesticides are to be used unless a single spot treatment is required for a specific control application.
- Fertilizer usage should be avoided. If deemed necessary, slow-release fertilizer should be used. Fertilizer may be used to begin the establishment of vegetation in bare or damaged areas but should not be applied on a regular basis unless necessary.
- Removal of any invasive species that are observed to be growing in vegetated areas.
- Grass vegetation under the panels is only to be cut twice a year.
- The entire vegetated area, including the areas under panels, must consist of vegetation covering at least 85% of the area (evenly distributed, with no large bare areas).

Inspection and Maintenance Plan

Management of Snow and Ice

All snow and ice management activities shall be done in accordance with New Hampshire DES guidelines. The following narrative sections outline the steps that the responsible party or hired third party need to take when conducting snow and ice management activities.

Introduction

The purpose of this plan is to effectively reduce the amount of salt that is used in winter maintenance operations, including the de-icing of roadways, sidewalks, and other impervious surfaces that require salt to de-ice an area. Reduction in the use of salt does not mean a reduction in level of service or public safety.

Operational Guidelines

The responsible party for maintenance activities and minimum specifications for de-icing, anti-icing and pretreatment practices and equipment will be the Applicant, Del Sol Dover, LLC. The following guidelines shall be enforced to ensure that salt use is minimized throughout the winter and during winter maintenance activities.

Winter Operator Certification Requirements

The party responsible shall employ contractors to remove snow and ice during the winter when needed. It is required that the party responsible employ a New Hampshire Green SnowPro certified contractor for winter snow and ice management activities. The employment of a Green SnowPro certified contractor will effectively reduce salt applications to driveways, sidewalks, and parking lots.

Weather Monitoring

Weather and impending storm events shall be monitored using the local National Weather Service monitoring station. The station provides the current weather conditions as well as the forecasted weather conditions for the area. Weather monitoring will provide useful information about when salt should be applied to roads and walkways to maintain the level of service and ensure that any user will be safe. Weather information will also help to ensure that the contractor will be making informed decisions about winter maintenance activities. A communication plan shall be developed by the hired contractor to ensure good communication between key personnel responsible for weather monitoring and maintenance activities.

Equipment Calibration Requirements

All equipment used for salt spreading in the winter shall be calibrated before use each winter season to help minimize the amount of salt applied to roads and walkways. The hired contractor or maintenance crew shall follow the guidelines set forth by the New Hampshire Best Management Practices for Winter Road, Parking Lot, and Sidewalk Maintenance. Typically, a 25% reduction in salt usage can be achieved

Inspection and Maintenance Plan

just by proper calibration. Equipment calibration guidelines are attached to this manual and can be found on the New Hampshire Department of Environmental Services website or on the University of New Hampshire Technology Transfer Center website.

Mechanical Removal

Snow will be removed from driveways, parking lots, and sidewalks and stored within the project area at the designated locations as shown on the attached site plans. Snow storage areas shall have no direct untreated discharges to receiving waters from the storage location. Salt storage areas shall be covered or located such that no direct untreated discharges are possible to receiving waters from the storage location. Salt and sand shall be used to the minimum extent practical (refer to the New Hampshire Stormwater Management Manual, Volume 2, for de-icing application rate guidelines). Winter snow and ice management operations are recommended prior to the storm, at least once during the storm, and again after the storm. Subsequent plowing may be required to effectively clear all snow from driveways, parking lots, and sidewalks. Mechanical removal shall be used to minimize the snow and ice-pack on site and to reduce the need for salt or other abrasive material applications to aid in driver or pedestrian safety.

Salt Usage Evaluation and Monitoring

Salt usage shall be documented, and documentation should be made available to the New Hampshire Department of Environmental Services (NHDES) should they require information. After each winter season, salt usage data shall be evaluated to estimate how much salt will be needed for next season and if the salt minimization goals are being met; if not, how can salt use be reduced for the next winter season. In conjunction to this, it is also recommended that an annual report be made following each season for documentation purposes. An annual report will aid in the decision of what abrasive materials help the most on the site during the winter.

Resources

Best Management Practices and Salt-Use Minimization Efforts in Chloride-Impaired Watersheds of New Hampshire, “A Guidance Document for Private Developers and Contractors”, New Hampshire Department of Environmental Services, 2016:

<https://www.des.nh.gov/organization/divisions/water/wmb/was/salt-reduction-initiative/documents/wmb-26.pdf>

University of New Hampshire Technology Transfer Center:

<https://t2.unh.edu/salt-reduction-documents>

Training Materials for Best Management Practices for Winter Road, Parking Lot, and Sidewalk Maintenance:

https://t2.unh.edu/sites/default/files/media/GSP/bmp_manual_and_training_program_2014.2018.pdf

Inspection and Maintenance Plan

Employee Training

Training of personnel is essential to achieving proper operation and maintenance of the stormwater management system. Therefore, those Facility personnel who are responsible for operation and maintenance will be trained on the following subjects:

- Environmental laws and regulations relating to stormwater,
- The components and goals of the current Erosion and Sediment Control Plan,
- Site specific permit conditions and requirements,
- General good housekeeping procedures, and
- General material management procedures.

Refresher training sessions shall be held once a year following the completion of the Site Compliance Evaluation.

Record Keeping

Records of inspections and maintenance shall be up to date and available for review and inspection, if requested by the NHDES.

ATTACHMENT A
Deicing Regulation Materials





Hydraulic-Run Spreader Calibration

NH Best Management Practices

WHY CALIBRATE?

You can't reduce your salt use if you don't know how much salt you actually use! The goal of calibrating is to know how much material you are putting down on a roadway or parking lot for every setting on your truck that you use. This is why calibrating your equipment is the first step to reducing salt use and saving money!

REMEMBER:

Each truck must be independently calibrated for each material it will be used to spread (the salt calibration chart *will* be different than the sand calibration chart).

Calibrations should be pre-formed annually, or after a spreader is serviced.

CALCULATIONS:

There are a few simple calculations you must perform in order to complete the calibration.

Once all of the necessary data is recorded, head back inside and warm up! Refer to the reverse side of this fact sheet for calculation instructions.



Step 1: Load the Truck

Partially load the truck. Half of a full load should be more than adequate for calibration purposes.

Step 2: Set Your Controls

Gate Height: Set the gate height to its lowest practical setting (~ 2"). This should be kept constant throughout the calibration process. If you find that not enough material is dispensed with this setting, try 2.5" to 3".

Engine Speed: Warm the truck up and run the engine at the typical rate seen during spreading (approximately 2000 rpm).



Step 3: Measure Spread Width

Measure the width that the material covers during spreading. Do this for each conveyor/auger setting you are calibrating. Round your numbers to the nearest half foot and record them in column "W" of the calibration chart (see reverse side).

Step 4: Collect & Weigh Material

You will need either a sheet of canvas, a tarp, or a bucket to collect the material that is dispensed from the spreader, as well as a scale. Weigh the object you are using to collect the material in, and record that value in the purple box above the discharge rate column. Collect material for 1 minute. Weigh the collected material and subtract the weight of the tarp/canvas/bucket. Record this value in the first purple column of the calibration chart. Do this 3 times for each conveyor/auger setting that is typically used. Average these three values together and record in the orange column in the calibration chart.



Step 5: Perform Calculations

Go inside and calculate your discharge rate using the calibration chart for each truck speed and conveyor/auger setting you normally use. Refer to the reverse side of this fact sheet for calculation instructions. The formula you will be using is shown below:

$$D = \frac{B \times C}{A}$$

Step 6: Distribute Completed Calibration Cards!

Put a copy of the calibration chart in the truck you just calibrated. Also, leave a copy of the calibration chart in the office so you have a copy incase the original is damaged.

Produced in partnership with:



Calibration Chart (Hydraulic Type)

Material: _____ Truck/Spreader ID: _____

Date: _____ Performed by: _____

Tarp/Canvas/Bucket Weight: _____

Conveyor or Auger Setting	W Spread Width (ft.)	A 5.28 x W 73.92	Discharge Rate (lb/min.)			B Average Discharge Rate ((Run1 + Run2 + Run3)/3)	D Pounds of Material Discharged per 1000 square ft. (D = B x C ÷ A)					
			Run 1	Run 2	Run 3		5 mph (C = 12)	10 mph (C = 6)	15 mph (C = 4)	20 mph (C = 3)	25 mph (C = 2.4)	30 mph (C = 2)
1												
2												
3												
4												
5												
EX	14	5.28 x 14 = 73.92	87	92	93	(87+92+93)÷3= 90.67	12 x 90.67 ÷ 73.92 = 14.72	6 x 90.67 ÷ 73.92 = 7.36	4 x 90.67 ÷ 73.92 = 4.91	3 x 90.67 ÷ 73.92 = 3.68	2.4 x 90.67 ÷ 73.92 = 2.94	2 x 90.67 ÷ 73.92 = 2.45

Calculation Instructions: Multiply the spread width from column **W** by **5.28** and record the answer in column **A**. For each conveyor/auger setting, add **Run 1**, **Run 2**, and **Run 3** together. Divide the result by **3** and record in column **B** to get the average discharge rate. To find the pounds of material discharge per 1000 square feet, you must know the number of minutes it takes to travel one mile at every truck speed you intend to calibrate for. These numbers are designated as variable “C”. The “C” value for each travel speed is shown in red under that given speed. Multiply column **B** by the “C” value for that speed and divide by the **A** column to find the number of pounds of material discharged per 1000 square feet for the given speed. Record these numbers in the **D** columns. The full equation is shown here:

$$D = \frac{B \times C}{A}$$



Pony Motor-Run Spreader Calibration

NH Best Management Practices

WHY CALIBRATE?

You can't reduce your salt use if you don't know how much salt you actually use! The goal of calibrating is to know how much material you are putting down on a roadway or parking lot for every setting on your truck that you use. This is why calibrating your equipment is the first step to reducing salt use and saving money!

REMEMBER:

Each truck must be independently calibrated for each material it will be used to spread (the salt calibration card *will* be different than the sand calibration card).

Calibrations should be performed annually, or after a spreader is serviced.

CALCULATIONS:

There are a few simple calculations you must perform in order to complete the calibration.

Once all of the necessary data is recorded, head back inside and warm up! Refer to the reverse side of this fact sheet for calculation instructions.



Step 1: Load the Truck

Partially load the truck. Half of a full load should be more than adequate for calibration purposes.

Step 2: Set Your Controls

Gate Height: Set the gate height to its lowest practical setting to start (approximately 1" to 1.5"). After the truck is calibrated for the lowest gate setting, calibrate for each 1/2" increment greater than the lowest setting. Continue until all gate settings you use are calibrated.

Engine Speed: Set the pony motor speed to the maximum setting, or to the setting you would normally use.



Step 3: Measure Spread Width

Measure the width that the material covers during spreading. Do this for each gate setting you are calibrating. Round your numbers to the nearest half foot and record them in column "W" of the calibration chart (see reverse side).

Step 4: Collect & Weigh Material

You will need either a sheet of canvas, a tarp, or a bucket to collect the material that is dispensed from the spreader, as well as a scale. Weight the object you are using to collect the material in, and record that value in the purple box above the discharge rate column. Collect material for 1 minute. Weigh the collected material and subtract the weight of the tarp/canvas/bucket. Record this value in the first purple column of the calibration chart. Do this 3 times for each gate opening that is typically used. Average these three values together and record in the orange column in the calibration chart.



Step 5: Perform Calculations

Go inside and calculate your discharge rate using the calibration chart for each truck speed and gate setting you normally use. Refer to the reverse side of this fact sheet for calculation instructions. The formula you will be using is shown below:

$$D = \frac{B \times C}{A}$$

Step 6: Distribute Completed Calibration Cards

Put a copy of the calibration card in the truck you just calibrated. Also, leave a copy of the calibration card in the office so you have a copy in case the original is damaged.

Produced in partnership with:



Calibration Chart (Pony Motor Type)

Material: _____ Truck/Spreader ID: _____

Date: _____ Performed by: _____

Tarp/Canvas/Bucket Weight: _____

Gate Opening	W	A	Discharge Rate (lb/min.)			B Average Discharge Rate ((Run1 + Run2 + Run3)/3)	D Pounds of Material Discharged per 1000 square ft. (D = B × C ÷ A)						
			Run 1	Run 2	Run 3		5 mph (C = 12)	10 mph (C = 6)	15 mph (C = 4)	20 mph (C = 3)	25 mph (C = 2.4)	30 mph (C = 2)	
1"													
1.5"													
2"													
2.5"													
3"													
EX	14	5.28 × 14= 73.92	87	92	93	(87+92+93)÷3= 90.67	12 × 90.67 ÷ 73.92= 14.72	6 × 90.67 ÷ 73.92= 7.36	4 × 90.67 ÷ 73.92= 4.91	3 × 90.67 ÷ 73.92= 3.68	2.4 × 90.67 ÷ 73.92= 2.94	2 × 90.67 ÷ 73.92= 2.45	

Calculation Instructions: Multiply the spread width from column **W** by **5.28** and record the answer in column **A**. For each gate setting, add **Run 1**, **Run 2**, and **Run 3** together. Divide the result by **3** and record in column **B** to get the average discharge rate. To find the pounds of material discharge per 1000 square feet, you must know the number of minutes it takes to travel one mile at every truck speed you intend to calibrate for. These numbers are designated as variable "**C**". The "**C**" value for each travel speed is shown in red under that given speed. Multiply column **B** by the "**C**" value for that speed and divide by the **A** column to find the number of pounds of material discharged per 1000 square feet for the given speed. Record these numbers in the **D** columns. The full equation is shown here:

$$D = \frac{B \times C}{A}$$

Deicing Application Rate Guidelines

24' of pavement (typical two-lane road)

These rates are not fixed values, but rather the middle of a range to be selected and adjusted by an agency according to its local conditions and experience.

			Pounds per two-lane mile			
Pavement Temp. (°F) and Trend (↑↓)	Weather Condition	Maintenance Actions	Salt Prewetted / Pretreated with Salt Brine	Salt Prewetted / Pretreated with Other Blends	Dry Salt*	Winter Sand (abrasives)
> 30° ↑	Snow	Plow, treat intersections only	80	70	100*	Not recommended
	Freezing Rain	Apply Chemical	80 - 160	70 - 140	100 - 200*	Not recommended
30° ↓	Snow	Plow and apply chemical	80 - 160	70 - 140	100 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↑	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	150 - 200	130 - 180	180 - 240*	Not recommended
25° - 30° ↓	Snow	Plow and apply chemical	120 - 160	100 - 140	150 - 200*	Not recommended
	Freezing Rain	Apply Chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↑	Snow or Freezing Rain	Plow and apply chemical	160 - 240	140 - 210	200 - 300*	400
20° - 25° ↓	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↑	Snow	Plow and apply chemical	200 - 280	175 - 250	250 - 350*	Not recommended
	Freezing Rain	Apply Chemical	240 - 320	210 - 280	300 - 400*	400
15° - 20° ↓	Snow or Freezing Rain	Plow and apply chemical	240 - 320	210 - 280	300 - 400*	500 for freezing rain
0° - 15° ↑↓	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	300 - 400	Not recommended	500 - 750 spot treatment as needed
< 0°	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	400 - 600**	Not recommended	500 - 750 spot treatment as needed

* Dry salt is not recommended. It is likely to blow off the road before it melts ice.

** A blend of 6 - 8 gal/ton $MgCl_2$ or $CaCl_2$ added to NaCl can melt ice as low as -10°.

Figure 4-1. Deicing Application Rate Guidelines

ATTACHMENT B
UNH COOP Extension
Methods for Disposing Non-Native Invasive Plants



CONTROL OF INVASIVE PLANTS

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

Background:

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

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



Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle

Lonicera tatarica

USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvases.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag “head first” at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can’t be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn’t be burned as the seeds may disperse by the hot air created by the fire.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarpping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don’t reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn’t used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don’t compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database /
Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Be diligent looking for seedlings for years in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

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

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

Non-Woody Plants	Method of Reproducing	Methods of Disposal
garlic mustard (<i>Alliaria petiolata</i>) spotted knapweed (<i>Centaurea maculosa</i>) ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. black swallow-wort (<i>Cynanchum nigrum</i>) ▪ May cause skin rash. Wear gloves and long sleeves when handling. pale swallow-wort (<i>Cynanchum rossicum</i>) giant hogweed (<i>Heracleum mantegazzianum</i>) ▪ Can cause major skin rash. Wear gloves and long sleeves when handling. dame's rocket (<i>Hesperis matronalis</i>) perennial pepperweed (<i>Lepidium latifolium</i>) purple loosestrife (<i>Lythrum salicaria</i>) Japanese stilt grass (<i>Microstegium vimineum</i>) mile-a-minute weed (<i>Polygonum perfoliatum</i>)	Fruits and Seeds 	Prior to flowering Depends on scale of infestation Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material. During and following flowering Do nothing until the following year or remove flowering heads and bag and let rot. Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material.
common reed (<i>Phragmites australis</i>) Japanese knotweed (<i>Polygonum cuspidatum</i>) Bohemian knotweed (<i>Polygonum x bohemicum</i>)	Fruits, Seeds, Plant Fragments Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.	Small infestation ▪ Bag all plant material and let rot. ▪ Never pile and use resulting material as compost. ▪ Burn. Large infestation ▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile. ▪ Monitor and remove any sprouting material. ▪ Pile, let dry, and burn.

January 2010

ATTACHMENT C

Sample Inspection Checklists



Inspection Report No. _____

Inspection Date: _____

Inspector: _____

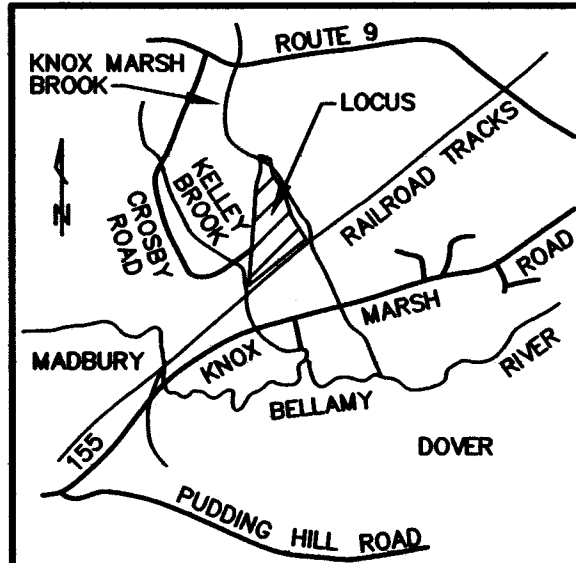
Construction Period Overall Site Inspection Log

	BMP/Activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked on properly stabilized?	☐ Yes ☐ No	☐ Yes ☐ No	
2	Are perimeter controls and sediment barriers adequately installed (keyed into substrate and maintained)?	☐ Yes ☐ No	☐ Yes ☐ No	
3	Are discharge points and receiving waters free of any sediment deposits?	☐ Yes ☐ No	☐ Yes ☐ No	
5	Is the construction exit preventing sediment from being tracked into the street?	☐ Yes ☐ No	☐ Yes ☐ No	
6	Is trash/litter from work areas collected and placed in covered dumpsters?	☐ Yes ☐ No	☐ Yes ☐ No	
7	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	☐ Yes ☐ No	☐ Yes ☐ No	

SALT EVALUATION AND MONITORING SHEET									
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[illegible]

9/20/2022 10:57:46 File: \\MCNEANEY\MSA\Projects\210\Drawings\G-2-1 EC.dwg Layout: 210 G-2-1 EC 2022-08-19



LOCATION PLAN
(NO SCALE)

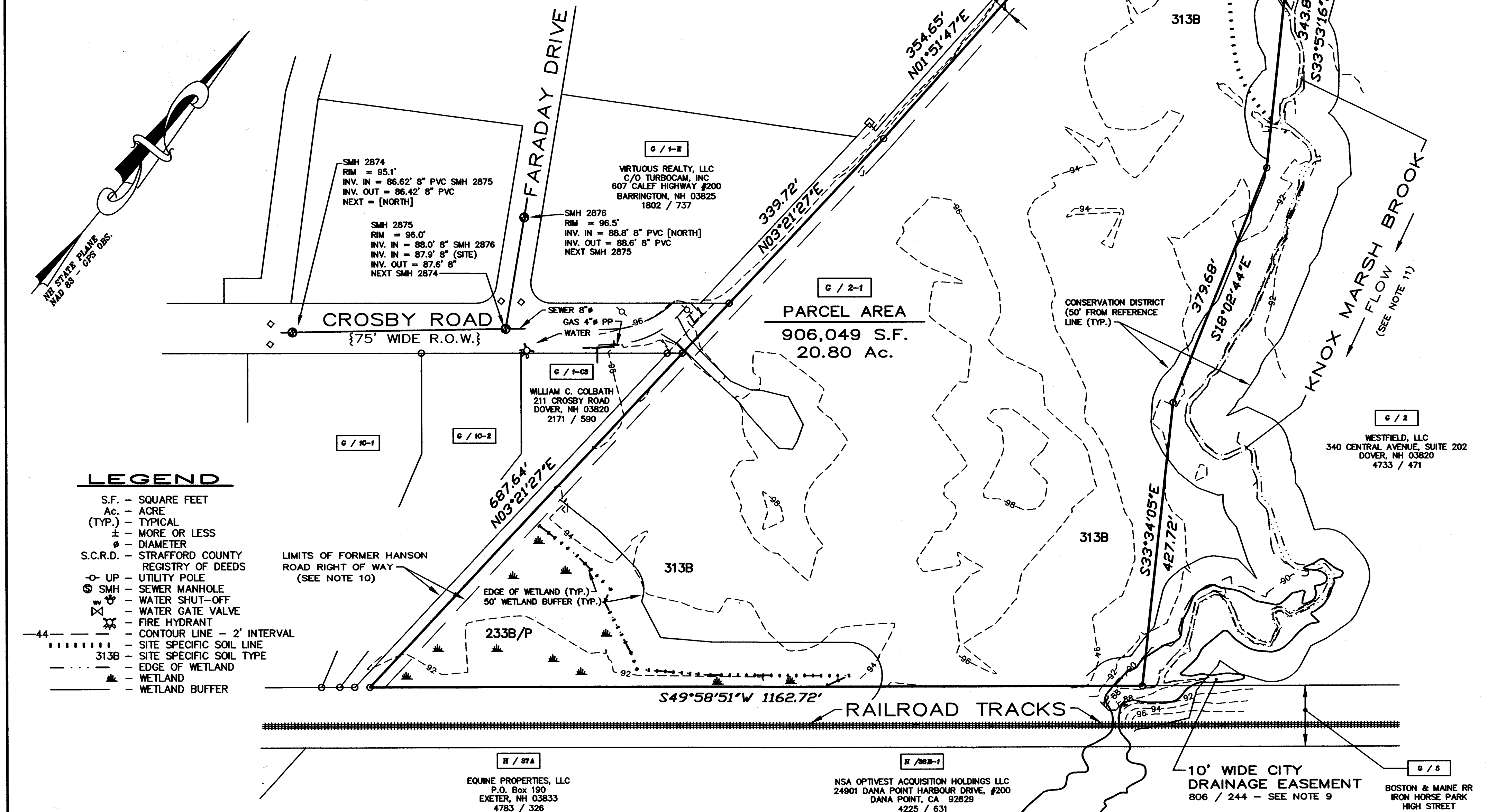
REFERENCE PLANS:

- 1.) SUBDIVISION PLAN OF LAND PREPARED FOR WESTFIELD, LLC TAX MAP G, LOT No. 2 LITTLEWORTH ROAD & CROSBY ROAD CITY OF DOVER COUNTY OF STRAFFORD STATE OF NEW HAMPSHIRE. SCALE: 1" = 200' / 400'; DATED: FEBRUARY 9, 2021, REVISED THROUGH 3/24/21; BY THIS OFFICE. DOVER PLANNING FILE 21-07. RECORDED S.C.R.D. PLANS 12388, 12389, 12390.
- 2.) SUBDIVISION PLAN LOTS 1, 2, 3 AND COMPOSITE PLAN OF CROSBY ROAD INDUSTRIAL PARK, DOVER, NEW HAMPSHIRE. SCALE: 1" = 100'; DATED: JUNE 30, 1985, REVISED THROUGH 8/12/85; BY: LECLERC STOWELL ASSOCIATES. RECORDED S.C.R.D. PLAN 27A-2.
- 3.) LOT LINE ADJUSTMENT PLAN PREPARED FOR BUSINESS PARTNERS, INC. AND CHAUVIN ARNOUX, INC., CROSBY ROAD & FARADAY DRIVE, TAX MAP G, LOTS 1L & 31-1, DOVER, NEW HAMPSHIRE, COUNTY OF STRAFFORD. SCALE: 1" = 100'; DATED: NOVEMBER 5, 1999. BY: MCNEANEY SURVEY ASSOCIATES, INC. RECORDED S.C.R.D. PLAN 57-65.
- 4.) ALTA -ACSM LAND TITLE SURVEY - COCHECO LAND MANAGEMENT, INC. - FARADAY DRIVE, DOVER, NEW HAMPSHIRE. SCALE: 1" = 30'; DATED: MARCH 25, 1998; BY: TRITECH ENGINEERING CORPORATION. RECORDED S.C.R.D. PLAN 51-69.
- 5.) SUBDIVISION OF LAND FOR THE DOVER INDUSTRIAL DEVELOPMENT AUTHORITY IN DOVER, N.H. SCALE: 1" = 50'; DATED: JUNE 21, 1991; BY: BRUCE L. POHOPEK. RECORDED S.C.R.D. PLAN 39-39.
- 6.) RIGHT-OF-WAY AND TRACK MAP - BOSTON AND MAINE R.R. OPERATED BY THE BOSTON AND MAINE R.R. - STATION 3390+17 TO STATION 3442+97. SCALE: 1" = 100'; DATED: JUNE 30, 1914, REVISED THROUGH MARCH 1982. BY: OFFICE OF VALUATION ENGINEER, BOSTON, MASS. PLAN V2N.H./63.
- 7.) CITY OF DOVER, PUBLIC WORKS DEPT., PROPOSED DRAINAGE DITCH FROM DOVER INDUSTRIAL PARK THROUGH RILEY LAND TO BROOK. SCALE: 1" = 100'; DATED: MARCH 23, 1965; BY: CITY OF DOVER ENGINEERING, FILE No. 12-49.

SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	SOIL TAXONOMIC NAME	HSG CLASS	DRAINAGE CLASS
232B	BUXTON	C	MODERATELY-WELL DRAINED
233B/P	SCANTIC	D	POORLY DRAINED (P)
313B	DEERFIELD	B	MODERATELY-WELL DRAINED

SLOPE	SLOPE DESIGNATION	PERCENT SLOPE
B		0 TO 8 PERCENT
C		8 TO 15 PERCENT



LEGEND

- S.F. - SQUARE FEET
- Ac. - ACRE
- (TYP.) - TYPICAL
- ± - MORE OR LESS
- Ø - DIAMETER
- S.C.R.D. - STRAFFORD COUNTY REGISTRY OF DEEDS
- UP - UTILITY POLE
- SMH - SEWER MANHOLE
- WATER SHUT-OFF
- WATER GATE VALVE
- FIRE HYDRANT
- CONTOUR LINE - 2' INTERVAL
- 313B - SITE SPECIFIC SOIL LINE
- 313B - SITE SPECIFIC SOIL TYPE
- EDGE OF WETLAND
- WETLAND
- WETLAND BUFFER

LIMITS OF FORMER HANSON ROAD RIGHT OF WAY (SEE NOTE 10)

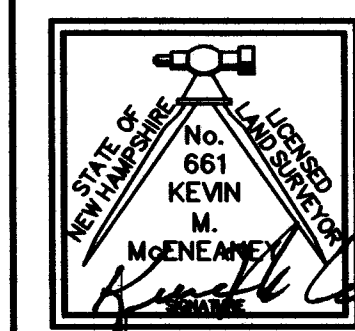
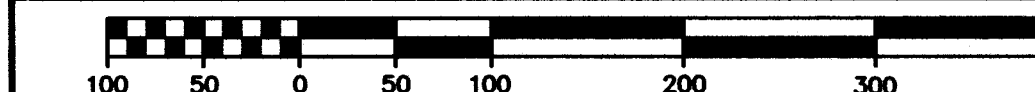
No.	Bearing	Distance
L1	N03°21'27"E	103.15'
L2	N08°02'33"E	109.95'
L3	N00°50'14"E	84.52'

NOTES:

- 1.) OWNERS OF RECORD:
WESTFIELD, LLC
340 CENTRAL AVENUE, SUITE 202
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOL. 4733, PAGE 471 (200002182)
- 2.) **G / 2-1** - DENOTES TAX MAP AND PARCEL NUMBER.
- 3.) PLAN INTENT: TO SHOW THE EXISTING SITE CONDITIONS. PARCEL IS SERVED BY MUNICIPAL SEWER AND WATER SERVICE.
- 4.) PARCEL AREA: 906,049 S.F. / 20.80 Ac.
- 5.) ZONING DISTRICT: COMMERCIAL MANUFACTURING (CM) DISTRICT:
MINIMUM LOT SIZE = 20,000 S.F.
LOT COVERAGE = 50 PERCENT
MINIMUM FRONTAGE = 100 FEET
FRONT SETBACK = 35 FEET
SIDE SETBACK = 10 FEET MIN.
REAR SETBACK = 10 FEET MIN.
BUILDING HEIGHT = 50 FEET MAX.
- 6.) A PORTION OF THE SUBJECT PARCEL IS LOCATED IN THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANELS 0310 & 0320; SUFFIX E; MAP NUMBERS 33017C0310E & 33017C0320E; EFFECTIVE DATE SEPTEMBER 30, 2015, THAT AREA DIRECTLY ADJACENT TO THE RAILROAD TRACKS AT KNOX MARSH BROOK.
- 7.) BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED JANUARY 22, 2021.
- 8.) PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCNEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING JANUARY 2021 WITH AN ERROR NOT GREATER THAN 1 IN 10,000
- 9.) THE PARCEL IS SUBJECT TO A TEN (10) FOOT WIDE DRAINAGE EASEMENT GRANTED TO THE CITY OF DOVER, AS DESCRIBED IN S.C.R.D. VOLUME 806, PAGE 244. (SEE REFERENCE PLAN No. 7).
- 10.) HANSON ROAD (A/K/A HANSON WAY) IS AN UNIMPROVED 33' WIDE ROAD. THE CITY OF DOVER DISCONTINUED HANSON ROAD AS A PUBLIC WAY WITH THE 2008 RESOLUTION, R-2008.05-14-80. PER ACCEPTED PRACTICE, TITLE TO THE UNDERLYING LAND OF THE ROAD EXTENDS TO THE CENTERLINE FOR ABUTTING PARCELS. THE USE RIGHTS OF THE ENTIRE WIDTH OF HANSON ROAD MAY EXIST FOR ABUTTING OWNERS.
- 11.) THE PARCEL IS SUBJECT TO A DOVER CONSERVATION OVERRIDING DISTRICT, 170-278.(2), AREAS WITHIN FIFTY (50) FEET OF A FRESHWATER BROOK, KNOX MARSH BROOK.
- 12.) IRON ROD WITH IDENTIFICATION CAP HAVE BEEN SET AT ALL LOT CORNERS AND ANGLE POINTS.
- 13.) WETLANDS ONSITE WERE IDENTIFIED UTILIZING THE 1987 FEDERAL TECHNICAL REPORT. THE DELINEATION WAS PERFORMED DURING FEBRUARY, 2021 BY BAG LAND CONSULTANTS (BRUCE A. GILDAY, CWS 018); 43 ROCKINGHAM STREET, CONCORD, NH 03301.
- 14.) SITE SPECIFIC SOIL MAPPING WAS PERFORMED DURING FEBRUARY, 2021 BY BAG LAND CONSULTANTS (BRUCE A. GILDAY, CSS 012); 43 ROCKINGHAM STREET, CONCORD, NH 03301.

EXISTING CONDITIONS PLAN
PREPARED FOR
WESTFIELD, LLC
TAX MAP G, LOT No. 2-1
CROSBY ROAD
CITY OF DOVER
COUNTY OF STRAFFORD
STATE OF NEW HAMPSHIRE

DRAWN BY: **RJM** FILE: 2210\DWGS\G-2-1 EC
SCALE: 1" = 100' DATE: SEPT. 20, 2022

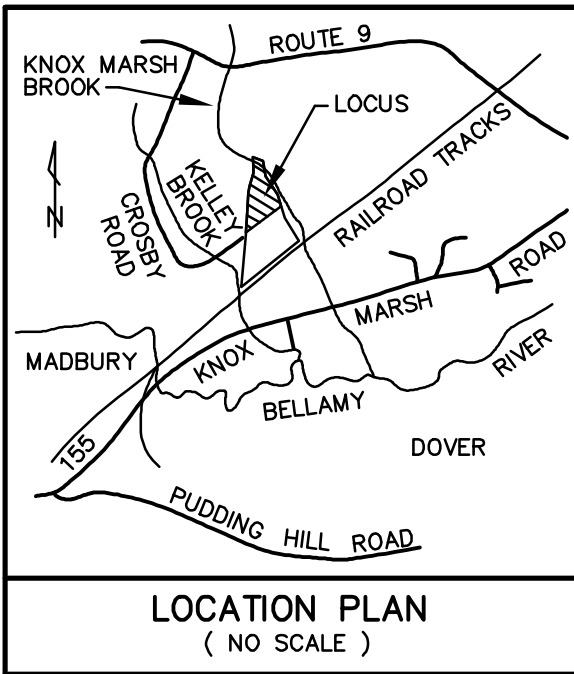


McNeaney
Survey
Associates
of NEW ENGLAND

P.O. Box 681 - 24 CHESTNUT STREET
DOVER, NH 03820 (603) 742-0911

SURVEYING - PLANNING - CONSULTING

12/19/2024 12:55:39 File: M1210DawingsG-2-1-LOT ROAD 40sc.dwg Layout: C2-1B EC 2024



SITE SPECIFIC SOIL MAP UNIT KEY			
SYMBOL	SOIL TAXONOMIC NAME	HSG CLASS	DRAINAGE CLASS
233B/P	SCANTIC	D	POORLY DRAINED (P)
313B	DEERFIELD	B	MODERATELY-WELL DRAINED
915B	DEERFIELD VARIANT	B	SOMEWHAT POORLY DRAINED
SLOPE			
SLOPE DESIGNATION	PERCENT SLOPE		
B	0 TO 8 PERCENT		

No.	Central Angle	Radius	Arc Length	Chord Length	Chord Bearing
C1	12°56'58"	262.50	59.33	59.20	S56°28'36"W
C2	26°19'07"	337.50	155.03	153.67	S49°47'31"W
C3	13°22'09"	262.50	61.25	61.11	S43°19'02"W

NOTES:

- OWNERS OF RECORD:

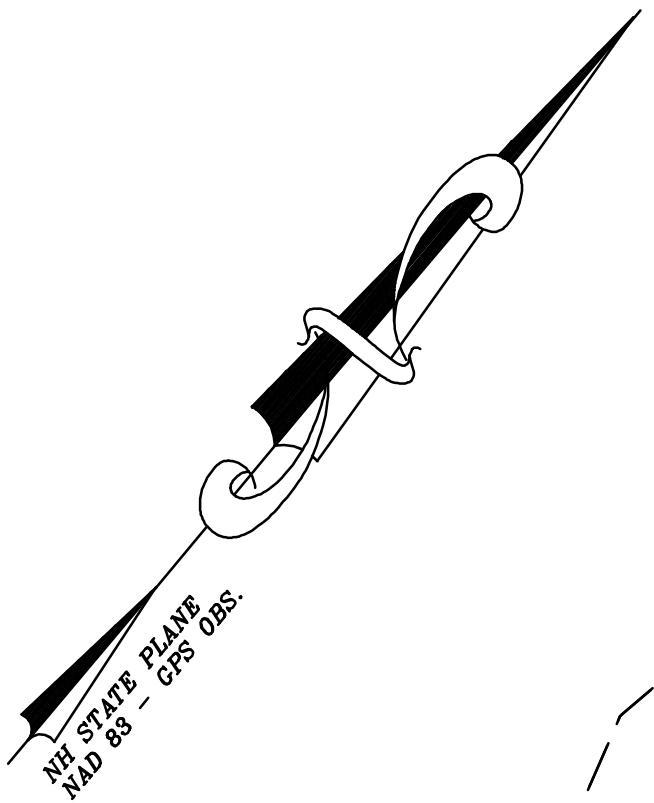
DEL SOL DOVER, LLC
340 CENTRAL AVENUE, SUITE 202
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOL. 5075, PAGE 142
- C / 2-1B** - DENOTES TAX MAP AND PARCEL NUMBER.
- PLAN INTENT: TO DEPICT THE PARCEL EXISTING CONDITIONS.
- PARCEL AREA = 362,325 S.F. / 8.32 Ac.
- ZONING DISTRICT: COMMERCIAL MANUFACTURING (CM) DISTRICT:
MINIMUM LOT SIZE = 20,000 S.F.
LOT COVERAGE = 50 PERCENT
MINIMUM FRONTAGE = 100 FEET
FRONT SETBACK = 35 FEET
SIDE SETBACK = 10 FEET MIN.
REAR SETBACK = 10 FEET MIN.
BUILDING HEIGHT = 50 FEET MAX.
- THE SUBJECT PARCEL IS LOCATED OUTSIDE OF THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANELS 0310 & 0320; SUFFIX E; MAP NUMBERS 33017C0310E & 33017C0320E; EFFECTIVE DATE SEPTEMBER 30, 2015.
- BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED JANUARY 22, 2021.
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- HANSON ROAD (A/K/A HANSON WAY) IS AN UNIMPROVED 33' WIDE ROAD. THE CITY OF DOVER DISCONTINUED HANSON ROAD AS A PUBLIC WAY WITH THE 2008 RESOLUTION, R-2008.05.14-80. PER ACCEPTED PRACTICE, TITLE TO THE UNDERLYING LAND OF THE ROAD EXTENDS TO THE CENTERLINE FOR ABUTTING PARCELS. THE USE RIGHTS OF THE ENTIRE WIDTH OF HANSON ROAD MAY EXIST FOR ABUTTING OWNERS.
- SITE SPECIFIC SOIL MAPPING WAS PERFORMED BY BAG LAND CONSULTANTS (BRUCE A. GILDAY, CSS 012); 43 ROCKINGHAM STREET, CONCORD, NH 03301. SEE REPORT DATED MAY 29, 2024.

WETLAND CERTIFICATION STATEMENT

The wetland boundaries on this plan were identified and delineated during the growing season (May / June / July 2024) by Bruce A. Gilday, CWS - BAG Land Consultants, Concord, NH. This onsite wetland determination utilized Chapter 5; Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region.



Bruce A. Gilday 12-9-24
Bruce A. Gilday Date



C / 1-L
CHAUVIN ARNOUX, INC
15 FARADAY DRIVE
DOVER, NH 03820
2169 / 3

C / 2-1B
PARCEL AREA
362,325 S.F.
8.32 Ac.

LEGEND

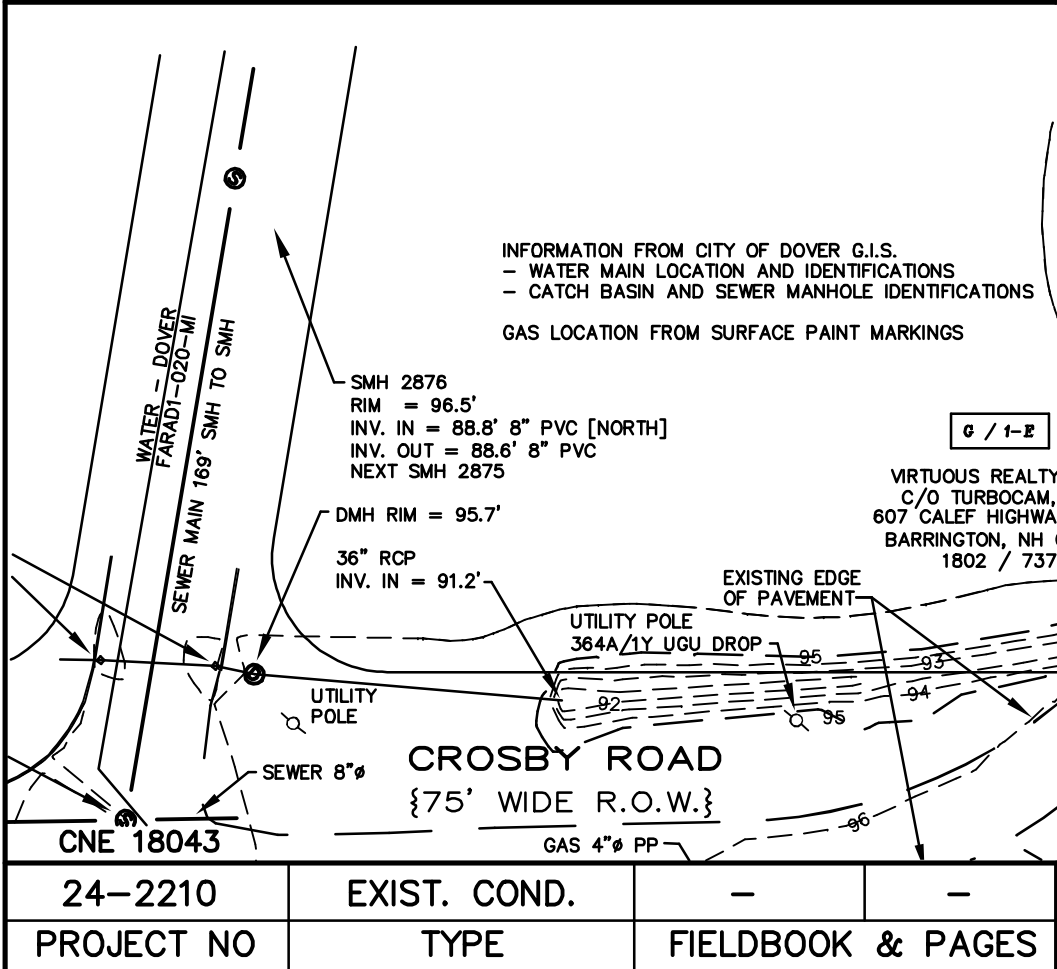
- S.F. - SQUARE FEET
- Ac. - ACRE
- (TYP.) - TYPICAL
- ± - MORE OR LESS
- Ø - DIAMETER
- S.C.R.D. - STRAFFORD COUNTY REGISTRY OF DEEDS
- - UP - UTILITY POLE
- ⊙ - SMH - SEWER MANHOLE
- ⊘ - WATER SHUT-OFF
- ⊗ - WATER GATE VALVE
- ⊙ - FIRE HYDRANT
- - CONTOUR LINE - 1' INTERVAL
- - - - - SITE SPECIFIC SOIL LINE
- - - - - 313B - SITE SPECIFIC SOIL TYPE
- - - - - EDGE OF WETLAND
- - - - - WETLAND
- - - - - WETLAND BUFFER

REFERENCE PLANS:

- SUBDIVISION PLAN OF LAND PREPARED FOR DEL SOL DOVER, LLC TAX MAP G, LOT No. 2-1, CROSBY ROAD, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE. SCALE: 1" = 100'; DATED: AUGUST 5, 2024; BY THIS OFFICE.

C / 2
WESTFIELD, LLC
340 CENTRAL AVENUE, SUITE 202
DOVER, NH 03820
4733 / 471

NO.	DATE	DESCRIPTION	BY	CHK
2	12/2/24	REVISE PER UPDATED WETLAND REPORT BAG	RJM	KMM
1	10/30/24	REVISE PER UPDATED WETLAND REPORT BAG	RJM	KMM
REVISIONS				

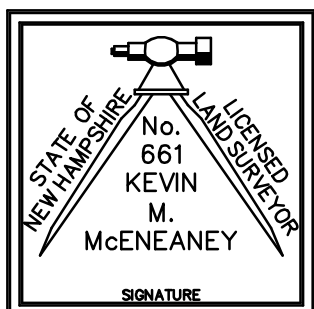


EXISTING CONDITIONS PLAN

PREPARED FOR
DEL SOL DOVER, LLC
TAX MAP G, LOT No. 2-1B
CROSBY ROAD
CITY OF DOVER
COUNTY OF STRAFFORD
STATE OF NEW HAMPSHIRE

DOVER PLANNING FILE No. SITE 2024

DRAWN BY: **RJM** FILE: 2210\DWG-2-13\LOTROAD40sc
SCALE: 1" = 50' DATE: AUGUST 15, 2024



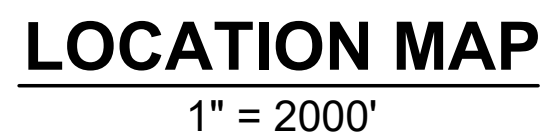
McEneaney
Survey
Associates
of NEW ENGLAND

P.O. Box 1166 - 181 WATSON ROAD
DOVER, NH 03820 (603) 742-0911

SURVEYING - PLANNING - CONSULTING

- THE PERMIT RECOMMENDATIONS DETAILED BELOW ARE CONTINGENT ON ADOPTION OF THE CONSERVATION EASEMENT/DEED RESTRICTIONS TO BE RECORDED IN THE STAFFORD COUNTY REGISTRY OF DEEDS. DRAFT EASEMENT LANGUAGE HAS BEEN RECEIVED AND BY NHFG, RECEIVED ON 6/27/2024. THIS DRAFT REFERENCES THE APPROXIMATE 3.94 ACRE DEED RESTRICTED AREAS WITHIN PERTAINING TO EACH AS SHOWN ON SHEET C3 (SHEET 3 OF 7) OF SITE PLANS DATED AUGUST 22, 2023, LAST REVISED MAY 29, 2024, AND WILL BE UPDATED WITH THE AOT PERMIT NUMBER UPON RECORDING. THE APPLICANT/APPLICANT REPRESENTATIVE HAS COMMITTED TO – AND NHFG IS IN AGREEMENT WITH – FINALIZING THE TERMS OF THE CONSERVATION EASEMENT/DEED RESTRICTION BETWEEN THE DATE OF THIS EMAIL CORRESPONDENCE AND PRIOR TO BEGINNING ANY WORK ON SITE RELATED TO THE ISSUED NHDES ALTERATION OF TERRAIN PERMIT. THE FINAL CONSERVATION EASEMENT OR DEED RESTRICTION DOCUMENT AGREED UPON BY ALL PARTIES SHALL BE RECORDED IN THE STAFFORD COUNTY REGISTRY OF DEEDS PRIOR TO THE BEGINNING OF ANY WORK ON THE SITE RELATED TO THE ISSUED NHDES ALTERATION OF TERRAIN PERMIT. IF ANY ADJUSTMENTS ARE MADE PRIOR TO THE RECORDING OF THE DOCUMENT IN THE STAFFORD COUNTY REGISTRY OF DEEDS, IT MAY AFFECT NHFG RECOMMENDATIONS AND WOULD REQUIRE FURTHER CONSULTATION WHICH MAY AFFECT PERMIT STATUS. UPON FINALIZATION OF THE CONSERVATION DEED RESTRICTION, THE BOUNDARY OF THE CONSERVATION AREA SHALL BE SURVEYED AND RECORDED. THE SURVEY AND FINAL RECORDED DOCUMENT SHALL BE PROVIDED TO NHFG WITHIN 30 DAYS OF RECORDING. ALONG WITH THAT SUBMITTAL, KMZ AND/OR SHAPEFILES OF THE SURVEY BOUNDARY SHALL BE PROVIDED WITH UPDATED SITE PLANS THAT DEPICT THE BOUNDARY. PLACARDS SHALL BE PLACED EVERY 75 FEET ALONG THE BOUNDARY OF THE CONSERVATION AREAS IDENTIFYING THEM AS SUCH. TERMS THAT SHALL BE INCORPORATED INTO THE FINAL CONSERVATION DEED RESTRICTION SHALL INCLUDE, BUT NOT BE LIMITED TO THOSE DETAILED IN THE NHFG REVIEW EMAIL TRANSMITTAL DATED JUNE 11, 2024 FROM KEVIN SULLIVAN TO SHAWN TOBEY, HOYLE TANNER ET AL. THE AGREEMENT DOES NOT ALLOW FOR AN ALTERNATE MITIGATION OPTION OR COMPLETION TIMEFRAME.
2. BLANDING'S TURTLE (STATE ENDANGERED), SPOTTED TURTLE (STATE THREATENED), AND NEW ENGLAND COTTONTAIL (STATE ENDANGERED) OCCUR WITHIN THE VICINITY OF THE PROJECT AREA. ALL OPERATORS AND PERSONNEL WORKING ON OR ENTERING THE SITE SHALL BE MADE AWARE OF THE POTENTIAL PRESENCE OF THESE SPECIES AND SHALL BE PROVIDED FLYERS THAT HELP TO IDENTIFY THESE SPECIES, ALONG WITH NHFG CONTACT INFORMATION. SEE PLAN SHEET C1.
3. RARE SPECIES INFORMATION (E.G. IDENTIFICATION, OBSERVATION AND REPORTING OF OBSERVATIONS, WHEN TO CONTACT NHFG IMMEDIATELY AND NHFG CONTACT INFORMATION) SHALL BE COMMUNICATED DURING MORNING TALIGATE MEETINGS PRIOR TO WORK COMMENCEMENT DURING THE CONSTRUCTION PHASE OF THE PROJECT.
4. NHFG RECOMMENDS MAINTAINING AS MUCH SHRUB COVER ON THE SITE AS POSSIBLE TO HELP SERVE AS CORRIDORS AND CONNECTIVITY IN THE LANDSCAPE FOR RARE WILDLIFE SPECIES.
5. 50 FT WETLAND BUFFER AROUND KNOX MARSH BROOK, AS IDENTIFIED ON SHEET C3 (SHEET 3 OF 7) OF SITE PLANS DATED AUGUST 22, 2023, LAST REVISED MAY 29, 2024, SHALL BE MAINTAINED AS NO-CUT, NO-DISTURB.
6. THE FENCE SURROUNDING THE SOLAR FARM SHALL BE RAISED 6" OFF THE GROUND TO ALLOW FOR WILDLIFE PASSAGE. SEE PLAN SHEET C5.
7. A NATIVE SEED MIX SHALL BE USED AROUND THE SOLAR ARRAY AREA. SEED MIXES SHOULD BE LOW-GROWING SPECIES IN ORDER TO MINIMIZE THE NEED FOR MOWING.
8. SALT SHALL NOT BE USED ON ROADS WITHIN THE SOLAR FARM TO PREVENT RUNOFF INTO ADJACENT WETLANDS.
9. MOWING SHALL BE AVOIDED TO THE MAXIMUM EXTENT PRACTICABLE BETWEEN APRIL 1ST AND OCTOBER 15TH IN EACH CALENDAR YEAR, AS TURTLES ARE HIGHLY SUSCEPTIBLE TO INJURY/MORTALITY FROM MOWING EVENTS. EXCEPT THAT, UP TO TWO MOWING EVENTS MAY OCCUR BETWEEN APRIL 1st/ AND OCTOBER 15th/, UNDER THE FOLLOWING CONDITIONS:
 - a. MOWING SHALL BE AVOIDED IN JUNE AT THE HEIGHT OF THE NESTING SEASON.
 - b. MOWER BLADES SHALL BE RAISED AT LEAST 6" ABOVE THE GROUND, BUT PREFERABLY 8".
 - c. A STRING TRIMMER WILL BE USED AROUND THE RACKING AND EQUIPMENT.
10. NO HERBICIDES OR PESTICIDES WILL BE USED FOR THE DURATION OF THE PROJECT
11. TURTLES AND SNAKES MAY BE ATTRACTED TO DISTURBED GROUND DURING NESTING SEASON (MAY 15TH – JUNE 30TH). ALL TURTLE SPECIES NESTS ARE PROTECTED BY NH LAWS. IF A NEST IS OBSERVED OR SUSPECTED, OPERATORS SHALL CONTACT MELISSA WINTERS OR JOSH MCGEYAT AT NHFG IMMEDIATELY FOR FURTHER CONSULTATION. SEE SPECIES FLYERS ON PLAN SHEET C1 FOR NHFG CONTACT INFORMATION.
 - a. THE NEST OR SUSPECTED NEST SHALL BE MARKED (SURROUNDING ROPED OFF OR CONE BUFFER BUILT) AND INFORMATION SHALL BE COMMUNICATED TO ALL PERSONNEL ON-SITE.
 - b. SITE ACTIVITIES SHALL NOT OCCUR IN THE AREA SURROUNDING THE NEST OR SUSPECTED NEST UNTIL FURTHER GUIDANCE IS PROVIDED BY NHFG.
12. IF WORK IS TO OCCUR BETWEEN APRIL 1ST AND OCTOBER 15TH, A WILDLIFE SILT FENCE BARRIER SHALL BE INSTALLED PRIOR TO BEGINNING WORK IN ACCORDANCE WITH THE FOLLOWING:
 - a. A WILDLIFE SILT FENCE BARRIER SHALL BE INSTALLED AROUND THE PERIMETER OF THE SITE AND SHALL BE BUILT TO A MINIMUM OF NO LESS THAN 18" ABOVE EXISTING GRADE. THE WILDLIFE SILT FENCE BARRIER SHALL BE INSTALLED WITH THE WOOD STAKES EXPOSED ON THE INTERIOR SIDE OF THE WORK ZONE. SEE PLAN SHEET C6.
 - b. WILDLIFE ESCAPE MOUNDS ("RAMPS") SHALL BE INSTALLED ON THE INTERIOR OF THE WILDLIFE SILT FENCE BARRIER ALLOWING FOR POTENTIALLY ENTRAPPED WILDLIFE TO ESCAPE FROM THE ENCLOSED PROJECT AREA. RAMPS SHALL BE CONSTRUCTED ON THE WORK-ZONE SIDE OF THE TURTLE AND SNAKE WILDLIFE SILT FENCE BARRIER. THE RAMPS SHALL BE CONSTRUCTED OUT OF NATIVE MATERIAL (SAND/SOIL) FROM THE SITE AND SHALL BE AT A MINIMUM OF 3 FEET IN WIDTH. ADDITIONAL TALL STAKES SHALL BE INSTALLED IN THE LOCATION OF THESE RAMPS TO HELP SUPPORT THE SILT FENCING AS NEEDED. MATERIALS SUCH AS HAY OR MULCH MAY BE USED TO OFFSET WEIGHT AS LONG AS MATERIALS DO NOT ASSIST ANIMALS IN ENTERING WORK ZONE. WILDLIFE ESCAPE MOUNDS SHALL BE INSTALLED AT LEAST EVERY 100 FEET ALONG THE WILDLIFE SILT FENCE BARRIER. ALTERNATIVE DESIGNS MAY BE ALLOWED WITH PRIOR WRITTEN APPROVAL BY NHFG. SEE PLAN SHEET C6.
 - c. WILDLIFE SON DETECTION AND INSPECTION SHALL BE CONDUCTED DAILY PRIOR TO SITE CONSTRUCTION ACTIVITIES. ANY DEFECTS SHALL BE REPAIRED IMMEDIATELY AND SHALL BE REPORTED TO NHFG WITHIN 24 HOURS OF DISCOVERY. THE SITE OPERATOR SHALL MAINTAIN A LOG OF ALL INSPECTIONS THAT INCLUDES DATE/TIME/OBSERVATIONS/DEFECTS/REPAIRS/COORDINATION EFFORTS/PHOTOGRAPHS DURING THE LIFE OF THE PERMIT OR UNTIL PROJECT COMPLETION, WHICHEVER OCCURS FIRST. THE LOGS SHALL BE MADE AVAILABLE IMMEDIATELY TO NHFG AND NHDES UPON WRITTEN REQUEST.
 - d. NHFG SHALL BE INFORMED IN WRITING WHEN WILDLIFE SILT FENCE BARRIER INSTALLATION HAS BEEN COMPLETED.
 - e. ONCE INSTALLED, THE WILDLIFE SILT FENCE BARRIER MUST BE MAINTAINED BETWEEN APRIL 1ST AND OCTOBER 15TH DURING THE LIFE OF THE PROJECT TO REDUCE THE POTENTIAL FOR RARE WILDLIFE ENTERING THE PROJECT SITE.
13. ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, WITH THE EXCEPTION OF TURF REINFORCEMENT MATS, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE STABILIZATION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN PLASTIC OR MULTIFILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8 INCHES. SEE PLAN SHEET C4.
14. ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES ON THE PROJECT SITE SHALL BE REPORTED IMMEDIATELY TO THE NHFG NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHGREVIEW@WILDLIFE.NH.GOV, WITH THE EMAIL SUBJECT LINE: NH22-3398, CROSBY RD DOVER – PROPOSED SOLAR FACILITY, WILDLIFE SPECIES OBSERVATION.
 - a. PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHFG IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION, AS FEASIBLE.
15. IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL BE IMMEDIATELY HANDLED OR FARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHFG AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHFG.
 - a. SITE OPERATORS SHALL BE ALLOWED TO RELOCATE WILDLIFE ENCOUNTERED IF DISCOVERED WITHIN THE ACTIVE WORK ZONE IF IN DIRECT HARM FROM PROJECT ACTIVITIES.
 - b. WILDLIFE SHALL BE RELOCATED IN CLOSE PROXIMITY TO THE CAPTURE LOCATION BUT OUTSIDE OF THE WORK ZONE AND IN THE DIRECTION THE INDIVIDUAL WAS HEADING.
 - c. NHFG SHALL BE CONTACTED IMMEDIATELY IF THIS ACTION OCCURS.
16. NHFG, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

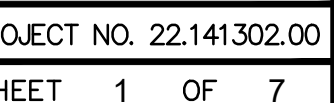
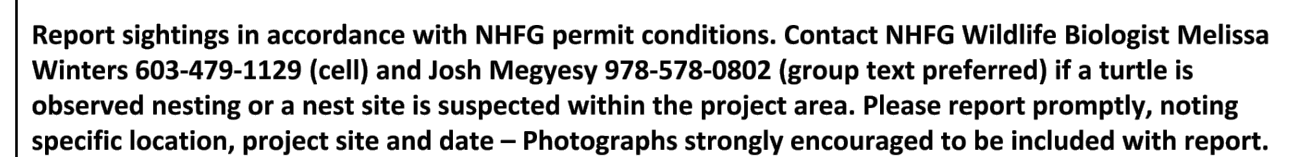
LAST REVISED: APRIL 7, 2025



DEL SOL DOVER, LLC
340 CENTRAL AVENUE, SUITE 202
DOVER, NH 03820

ISSUED FOR PERMITTING

DWG #	SHEET#	DWG NAME
C1	1	COVER SHEET
C2	2	EXISTING CONDITIONS PLAN
C3	3	SITE PLAN & EROSION CONTROL PLAN
C4	4	EROSION CONTROL NOTES & DETAILS
C5	5	CONSTRUCTION DETAILS 1
C6	6	CONSTRUCTION DETAILS 2
C7	7	CONSTRUCTION PHASING PLAN



THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS ON
TAX MAP G LOT 2-1B. ALL FEATURES SHOWN ARE BASED ON CAD
FILES OF REFERENCE PLAN 1 AND 2 PROVIDED BY CIVILWORKS NEW
ENGLAND/HAIGHT ENGINEERING, PLLC. NO SURVEY WORK WAS
PERFORMED BY HOYLE TANNER.

2. OWNERS OF RECORD:

DEL SOL DOVER, LLC
340 CENTRAL AVENUE, SUITE 202
DOVER, NEW HAMPSHIRE 03820
S.C.R.D. VOL. 4733, PAGE 471 (200002182)

3. TAX MAP - PARCEL NUMBER: G / 2-1B

4. PARCEL AREA: 362,365 S.F. / 8.32 ACRES

5. ZONING DISTRICT: COMMERCIAL MANUFACTURING (CM) DISTRICT:

MINIMUM LOT SIZE	= 20,000 S.F.
LOT COVERAGE	= 50 PERCENT
MINIMUM FRONTAGE	= 100 FEET
FRONT SETBACK	= 35 FEET
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6. A PORTION OF THE SUBJECT PARCEL IS LOCATED IN THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP COMMUNITY NUMBER 330145; PANELS 0310 & 0320; SUFFIX E; MAP NUMBERS 33017C0310E & 33017C0320E; EFFECTIVE DATE SEPTEMBER 30, 2015, THAT AREA DIRECTLY ADJACENT TO THE RAILROAD TRACKS AT KNOX MARSH BROOK.

7. BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED JANUARY 22, 2021.

8. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY MCNEANEY SURVEY ASSOCIATES OF NEW ENGLAND DURING JANUARY 2021 WITH AN ERROR NOT GREATER THAN 1 IN 10,000.

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11. THE PARCEL IS SUBJECT TO A DOVER CONSERVATION OVERRIDING DISTRICT, 170-27B(2), AREAS WITHIN FIFTY (50) FEET OF A FRESHWATER BROOK, KNOX MARSH BROOK.

12. IRON ROD WITH IDENTIFICATION CAP HAVE BEEN SET AT ALL LOT CORNERS AND ANGLE POINTS.

13. THE LOCAL 50 FOOT WETLANDS SETBACKS IMPOSED BY THE CITY OF DOVER ARE NULLIFIED FOR DEVELOPMENT ON MAP G LOT 2-1. BASED ON A LETTER FROM THE CITY OF DOVER DATED APRIL 4, 2024.

14. WETLANDS ONSITE WERE IDENTIFIED UTILIZING THE 1987 FEDERAL TECHNICAL REPORT. THE DELINEATION WAS PERFORMED DURING THE GROWING SEASON (MAY/JUNE/JULY 2024) BY BAG LAND CONSULTANTS (BRUCE A. GILDAY, CWS 088); 43 ROCKINGHAM STREET, CONCORD, NH 03301.

15. SITE SPECIFIC SOIL SAMPLING WAS PERFORMED IN JANUARY AND FEBRUARY 2024 BY BAG LAND CONSULTANTS (BRUCE A. GILDAY, CSS 012); 43 ROCKINGHAM STREET, CONCORD, NH 03301.

16. LIMITS OF WOODS AND BRUSH IS BASED ON AERIAL IMAGERY.

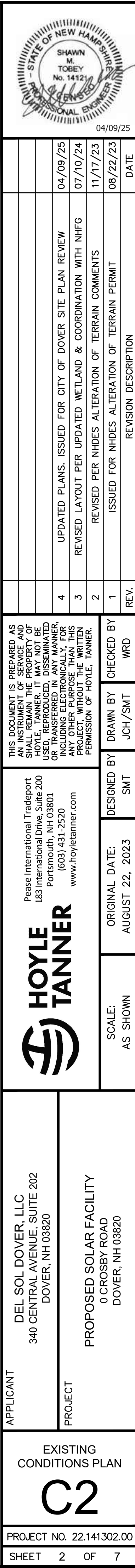
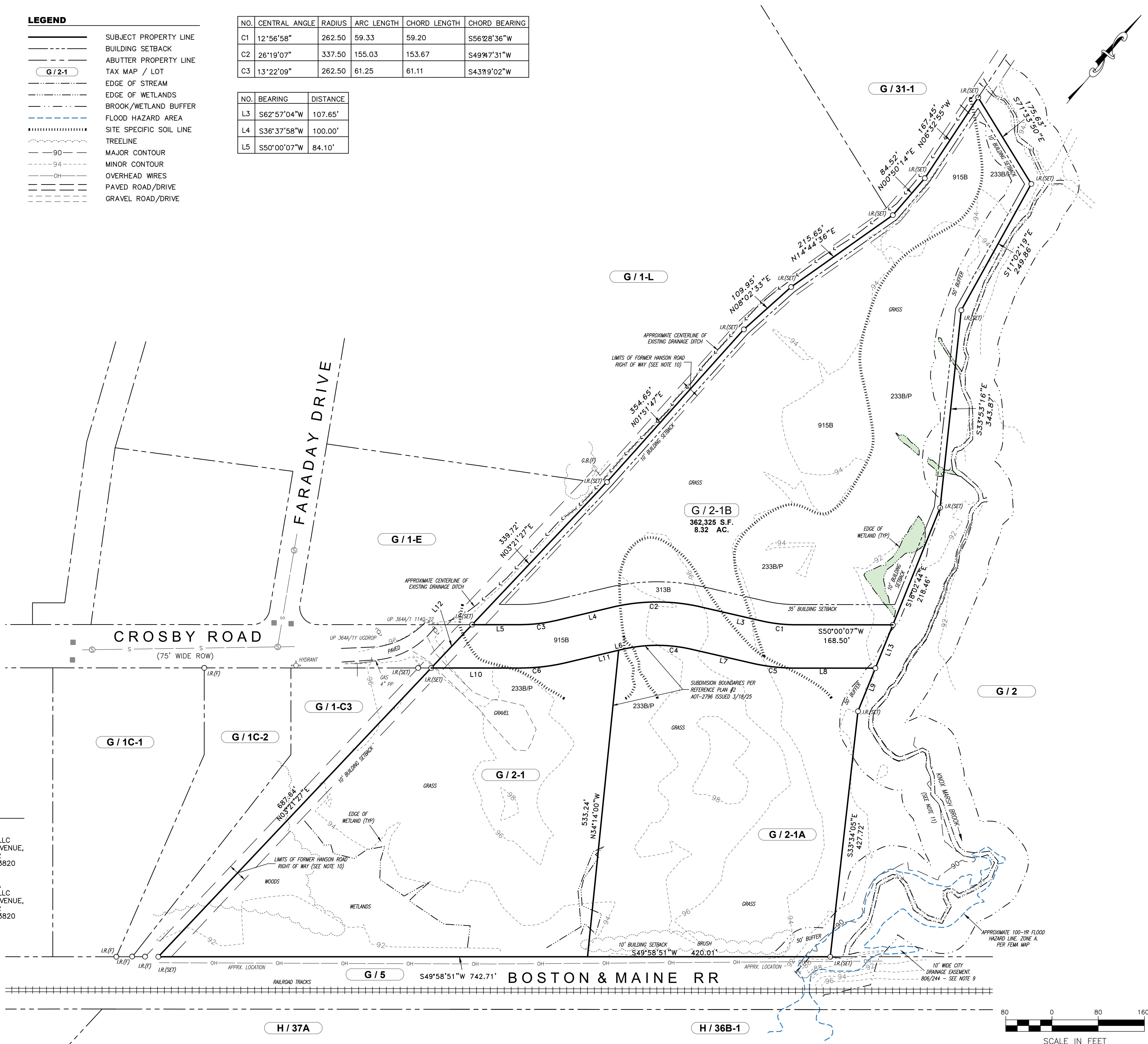
1. "EXISTING CONDITIONS PLAN PREPARED FOR WESTFIELD, LLC – TAX MAP G, LOT NO. 2-1 – CROSBY ROAD, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE" SCALE "1"=100', DATED SEPTEMBER 20, 2022, BY MCMEANEY SURVEY ASSOCIATES OF NEW ENGLAND.
2. "SUBDIVISION PLAN OF LAND PREPARED FOR DEL SOL DOVER, LLC – TAX MAP G, LOT NO. 2-1, CROSBY ROAD, CITY OF DOVER, COUNTY OF STRAFFORD, STATE OF NEW HAMPSHIRE" SCALE "1"=100', DATED AUGUST 6, 2024, BY MCMEANEY SURVEY ASSOCIATES OF NEW ENGLAND.

SYMBOL	SOIL TAXONOMIC NAME	HSG CLASS	DRAINAGE CLASS
233B/P	SCANTIC	D	POORLY DRAINED (P)
313B	DEERFIELD	B	MODERATELY-WELL DRAINED
915B	DEERFIELD VARIANT	B	SOMEWHAT POORLY DRAINED
SLOPE			
SLOPE DESIGNATION	PERCENT SLOPE		
B	0 TO 8 PERCENT		

G / 1-C3	G / 5	G / 2-1A
WILLIAM C. COLBATH	BOSTON & MAINE RR	WESTFIELD, LLC
211 CROSBY ROAD	IRON HORSE PARK	340 CENTRAL AVENUE,
DOVER, NH 03820	HIGH STREET	SUITE 202
2171/590	NORTH BILLERICA, MA 01862	DOVER, NH 03820
G / 1-E	H / 31-1	G / 2-1A
VIRTUOUS REALTY, LLC	MCQUIRE GROUP LLC	WESTFIELD, LLC
C/O TURBOCAM, LLC	P.O. BOX 988	340 CENTRAL AVENUE,
607 CALEF HIGHWAY #200	DOVER, NH 03821	SUITE 202
BARRINGTON, NH 03825	4782/706	DOVER, NH 03820
1802/737		
G / 1-L	H / 368-1	
CHAUVIN ARNOUX, INC.	NSA OPTIVEST ACQUISITION	—
15 FARADAY DRIVE	HOLDINGS LLC	
DOVER, NH 03820	24901 DANA POINT HARBOUR	
2169/3	DRIVE, #200	
	DANA POINT, CA 92629	
	4225/631	++
G / 2	H / 36A	
WESTFIELD, LLC	EQUINE PROPERTIES, LLC	—
340 CENTRAL AVENUE,	P.O. BOX 190	
SUITE 202	EXETER, NH 03833	
DOVER, NH 03820	4783/326	
4733/471		

	SUBJECT PROPERTY LINE
	BUILDING SETBACK
	ABUTTER PROPERTY LINE
	TAX MAP / LOT
	EDGE OF STREAM
	EDGE OF WETLANDS
	BROOK/WETLAND BUFFER
	FLOOD HAZARD AREA
	SITE SPECIFIC SOIL LINE
	TREELINE
	MAJOR CONTOUR
	MINOR CONTOUR
	OVERHEAD WIRES
	PAVED ROAD/DRIVE
	GRAVEL ROAD/DRIVE

NO.	BEARING	DISTANCE
L3	S62°57'04"W	107.65'
L4	S36°37'58"W	100.00'
L5	S50°00'07"W	84.10'



- THE PURPOSE OF THESE PLANS ARE TO DEPICT THE SITE DESIGN FOR A PROPOSED SOLAR FACILITY LOCATED AT 0 CROSBY ROAD (LOT G / 2-1B) IN DOVER, NH.
- THERE ARE NO WETLAND OR BROOK IMPACTS PROPOSED.
- THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA REQUIREMENTS WITH RESPECT TO STORMWATER DISCHARGE.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS, FEES, TEMPORARY UTILITIES AND COORDINATION WITH ALL AGENCIES IN OBTAINING ACCESS TO THE SITE AND PERFORMING ALL WORK REQUIRED FOR THIS PROJECT.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL OBSTRUCTIONS INCLUDING ALL UNDERGROUND UTILITIES. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE OWNER OR ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL CONTACT "DIGSAFE" (DIAL 811) AT LEAST 72 HOURS BEFORE DIGGING.
- WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
- THE CONTRACTOR SHALL PERFORM ALL THE CLEARING, GRUBBING & STUMP REMOVAL WITHIN THE LIMITS OF WORK. ALL STUMPS SHALL BE DISPOSED OF ACCORDINGLY.
- ANY MANMADE SURFACE STRUCTURES WITHIN THE LIMITS OF WORK SHALL BE REMOVED AND DISPOSED OF PROPERLY IN ACCORDANCE WITH ALL GOVERNING AGENCIES.
- NO HERBICIDES OR PESTICIDES SHALL BE USED ONSITE.
- THE CONTRACTOR SHALL PROTECT AND MAINTAIN EXISTING BENCHMARKS, BOUNDS AND PROPERTY CORNERS. ALL SURVEY MONUMENTS DESTROYED DURING CONSTRUCTION SHALL BE RESET BY A NEW HAMPSHIRE REGISTERED LAND SURVEYOR AT NO EXPENSE TO THE OWNER.
- ANY AREAS OUTSIDE THE LIMITS OF WORK THAT ARE DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE OWNER.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL WORK IS COMPLETED IN ACCORDANCE WITH OSHA REQUIREMENTS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ANY EXCAVATION SAFEGUARDS, NECESSARY BARRICADES, POLICE DETAILS, ETC., FOR TRAFFIC CONTROL AND SITE SAFETY. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE CONDITIONS OF THE SITE.
- CONTRACTOR TO PREPARE THE SWPPP, FILE A NPDES CONSTRUCTION GENERAL PERMIT NOI PRIOR TO CONSTRUCTION AND PROVIDE MONITORING FOR THE SWPPP DURING CONSTRUCTION.
- THE CONTRACTOR SHALL STABILIZE ANY AND ALL DITCHES, SWALES AND PONDS PRIOR TO DIRECTING STORMWATER RUN-OFF TO THEM.
- ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AFTER THE SITE HAS BEEN STABILIZED.
- EARTH SLOPES SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL UNLESS SHOWN OTHERWISE.
- IN AREAS OF REGRADING, THE SUBGRADE SHALL BE LOOSENEED BY SCARIFYING TO A DEPTH OF AT LEAST 2" TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.
- FILL OR TOPSOIL SHALL NEITHER BE PLACED NOR COMPACTED WHILE IN A FROZEN OR MUDDY CONDITION OR WHILE SUBGRADE IS FROZEN.
- ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS THAT DO NOT HAVE A SURFACE TREATMENT SPECIFICALLY SPECIFIED SHALL BE RESTORED TO A MINIMUM OF 4" OF SEEDED TOPSOIL, FERTILIZER, AND MULCH.
- THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE WITH THE UTILITY COMPANIES FOR RELOCATING AND/OR SUPPORTING THEIR UTILITIES, IF REQUIRED, IN ACCORDANCE WITH THEIR SPECIFICATIONS.
- THE CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO EXISTING FACILITIES AT ALL TIMES. IF ANY DISRUPTION MUST OCCUR, CONTRACTOR SHALL NOTIFY AND COORDINATE WITH UTILITY OWNER AT LEAST 72 HOURS IN ADVANCE.
- THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- ALL PROPOSED SITE FEATURES SHALL BE LAID OUT IN THE FIELD USING SURVEY EQUIPMENT. AN AUTOCAD FILE OF THE EXISTING AND PROPOSED FEATURES WITH CONTROL POINTS WILL BE PROVIDED TO THE CONTRACTOR FOR CONSTRUCTION LAYOUT. THE LIMIT OF WORK SHALL BE CLEARLY MARKED IN THE FIELD BEFORE ANY WORK IS TO BEGIN ONSITE.
- SYMBOLS AND LINETYPES MAY BE EXAGGERATED FOR CLARITY ON THESE DRAWINGS DUE TO THE SCALE. THE CONTRACTOR SHALL ADJUST ACCORDINGLY DURING CONSTRUCTION LAYOUT.
- ADDITIONAL UNDERGROUND ELECTRICAL CONDUITS BETWEEN PANELS, TRANSFORMERS, CENTRAL INVERTERS AND UTILITY POLES ARE NOT SHOWN ON THESE DRAWINGS FOR CLARITY. FINAL PANEL CONFIGURATION AND ELECTRICAL ROUTING MAY VARY FROM THESE PLANS. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

- AS-BUILT PLANS OF THE DEVELOPMENT 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.
31. THE PROPOSED PROJECT WILL NOT REQUIRE MUNICIPAL WATER OR SEWER.
32. 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.
33. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN 50 FEET OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBING ACTIVITY.
34. A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON SITE SHALL BE SUBMITTED, AND THE APPROVED CONSTRUCTION SIGN INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURRING.
35. 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.
36. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7AM-6PM, SATURDAY AND SUNDAY 9AM-4PM. 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 ASSISTANT CITY MANAGER.
37. THE SITE ADDRESS SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
38. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
39. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL.
40. 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.
41. FIRE DEPARTMENT ACCESS ROAD SHALL BE INSTALLED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS IN ALL WEATHER CONDITIONS AT ALL TIMES.
42. UNSTABILIZED AREAS SHALL BE TEMPORARILY STABILIZED WITHIN 72 HOURS OF FINAL GRADING, OR PRIOR TO A 0.25" STORM OCCURRING AFTER THE DISTURBANCE, WHICHEVER OCCURS SOONER.
43. TEMPORARY STABILIZATION MEASURES MUST REMAIN IN PLACE THROUGH ALL CONSTRUCTION PHASES, UNTIL THE SITE IS PERMANENTLY STABILIZED.
44. WHEN EARTH DISTURBANCE WILL OCCUR WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND WETLANDS AS DEFINED IN RSA 482-- A DOUBLE ROW OF PERIMETER CONTROLS MUST BE INSTALLED ALONG THE LIMITS OF THE EARTH DISTURBANCE.
45. THE SITE SHALL BE STABILIZED BY ESTABLISHING AT LEAST 85% VEGETATIVE COVER UNIFORMLY DISTRIBUTED, INCLUDING UNDER THE PAVEMENTS.

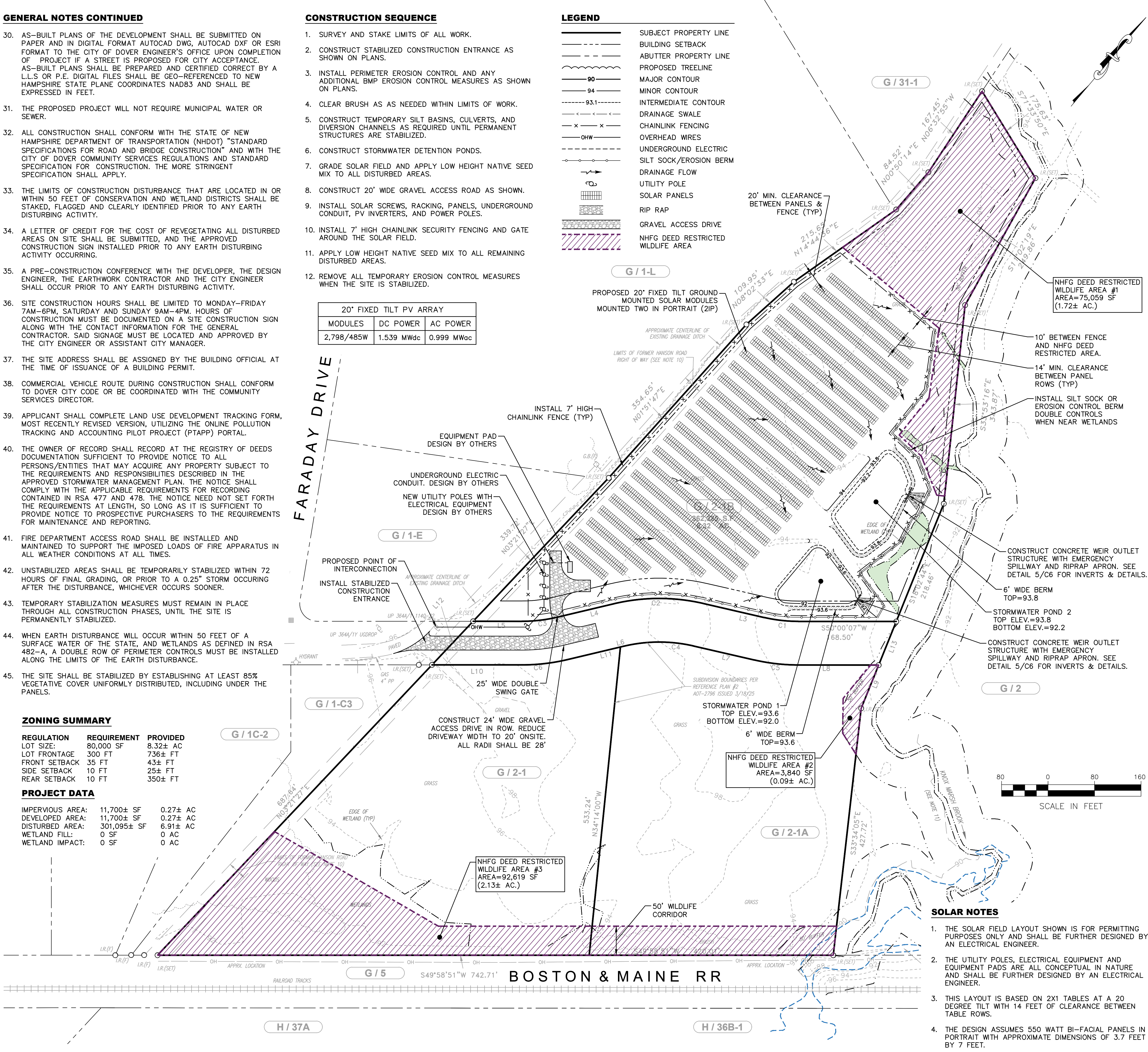
REGULATION	REQUIREMENT	PROVIDED
LOT SIZE:	80,000 SF	8.32± AC
LOT FRONTAGE	300 FT	736± FT
FRONT SETBACK	35 FT	43± FT
SIDE SETBACK	10 FT	25± FT
REAR SETBACK	10 FT	350± FT

IMPERVIOUS AREA:	11,700± SF	0.27± AC
DEVELOPED AREA:	11,700± SF	0.27± AC
DISTURBED AREA:	301,095± SF	6.91± AC
WETLAND FILL:	0 SF	0 AC
WETLAND IMPACT:	0 SF	0 AC

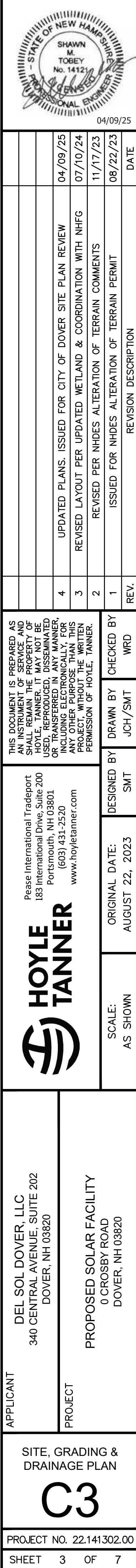
1. SURVEY AND STAKE LIMITS OF ALL WORK.
2. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AS SHOWN ON PLANS.
3. INSTALL PERIMETER EROSION CONTROL AND ANY ADDITIONAL BMP EROSION CONTROL MEASURES AS SHOWN ON PLANS.
4. CLEAR BRUSH AS AS NEEDED WITHIN LIMITS OF WORK.
5. CONSTRUCT TEMPORARY SILT BASINS, CULVERTS, AND DIVERSION CHANNELS AS REQUIRED UNTIL PERMANENT STRUCTURES ARE STABILIZED.
6. CONSTRUCT STORMWATER DETENTION PONDS.
7. GRADE SOLAR FIELD AND APPLY LOW HEIGHT NATIVE SEED MIX TO ALL DISTURBED AREAS.
8. CONSTRUCT 20' WIDE GRAVEL ACCESS ROAD AS SHOWN.
9. INSTALL SOLAR SCREWS, RACKING, PANELS, UNDERGROUND CONDUIT, PV INVERTERS, AND POWER POLES.
10. INSTALL 7' HIGH CHAINLINK SECURITY FENCING AND GATE AROUND THE SOLAR FIELD.
11. APPLY LOW HEIGHT NATIVE SEED MIX TO ALL REMAINING DISTURBED AREAS.
12. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES WHEN THE SITE IS STABILIZED.

	SUBJECT PROPERTY LINE
	BUILDING SETBACK
	ABUTTER PROPERTY LINE
	PROPOSED TREELINE
	MAJOR CONTOUR
	MINOR CONTOUR
	INTERMEDIATE CONTOUR
	DRAINAGE SWALE
	CHAINLINK FENCING
	OVERHEAD WIRES
	UNDERGROUND ELECTRIC
	SILT SOCK/EROSION BERM
	DRAINAGE FLOW
	UTILITY POLE
	SOLAR PANELS
	RIP RAP
	GRAVEL ACCESS DRIVE
	NHFD DEED RESTRICTED WILDLIFE AREA

20° FIXED TILT PV ARRAY		
MODULES	DC POWER	AC POWER
2,798/485W	1.539 MW _{dc}	0.999 MW _{ac}



1. THE SOLAR FIELD LAYOUT SHOWN IS FOR PERMITTING PURPOSES ONLY AND SHALL BE FURTHER DESIGNED BY AN ELECTRICAL ENGINEER.
2. THE UTILITY POLES, ELECTRICAL EQUIPMENT AND EQUIPMENT PADS ARE ALL CONCEPTUAL IN NATURE AND SHALL BE FURTHER DESIGNED BY AN ELECTRICAL ENGINEER.
3. THIS LAYOUT IS BASED ON 2X1 TABLES AT A 20 DEGREE TILT WITH 14 FEET OF CLEARANCE BETWEEN TABLE ROWS.
4. THE DESIGN ASSUMES 550 WATT BI-FACIAL PANELS IN PORTRAIT WITH APPROXIMATE DIMENSIONS OF 3.7 FEET BY 7 FEET.



EROSION CONTROL NOTES:

A. GENERAL NOTES

- DURING CONSTRUCTION, AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND (5 ACRES MAXIMUM) SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO A MAXIMUM OF 72 HOURS BEFORE APPLYING TEMPORARY OR PERMANENT EROSION CONTROL MEASURES. ALL DITCHES AND SWALES ARE REQUIRED TO BE STABILIZED PRIOR TO DIRECT RECEIPT OF ANY FLOW. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- INSTALL SILT SOCKS WHERE SHOWN PRIOR TO CONSTRUCTION START. INSTALL INLET PROTECTION AT ALL EXISTING DRAINAGE STRUCTURES ADJACENT TO PROJECT. DO NOT REMOVE SILT BARRIERS UNTIL DISTURBED AREAS ARE FULLY COVERED WITH TURF OR OTHER APPLICABLE SURFACE MATERIAL. ALL PONDS ARE TO BE CONSTRUCTED AND STABILIZED PRIOR TO ANY OTHER DRAINAGE SYSTEM WORK, INCLUDING DITCH AND SWALE EXCAVATION.
- EROSION AND SEDIMENT CONTROL PRACTICES INCLUDE THE USE OF THE FOLLOWING SILT FENCE BARRIERS, PERMANENT DETENTION/SEDIMENTATION POND BASIN, GRASS AND/OR ROCK LINED SWALES, DIVERSIONS WITH LEVEL SPREADERS. ALL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS CONTAINED IN THE "NH STORMWATER MANUAL", VOLUME 3, DECEMBER 2008.
- ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, EXCEPT FOR SILT FENCE, INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.04, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN WELDED PLASTIC, PLASTIC, OR MULTI-FILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH. SEE NOTE 13 ON SHEET C1 FOR ADDITIONAL INFORMATION.
- SEE PLANS FOR ADDITIONAL EROSION CONTROL MEASURES WHICH MAY BE REQUIRED.
- CONSTRUCTION AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED
 - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED
 - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

B. VEGETATIVE MEASURES

- TOPSOIL STOCKPILING: TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR LATER USE ON CRITICAL AREAS AND ALL OTHER AREAS TO BE SEEDED. THE STOCKPILE WILL NOT BE COMPACTED AND SHALL BE STABILIZED AGAINST EROSION WITH TEMPORARY SEEDING.
- TEMPORARY SEEDING:
 - BEDDING – REMOVE STONES AND TRASH THAT WILL INTERFERE WITH SEEDING THE AREA. WHERE FEASIBLE, TILL THE SOIL TO A DEPTH OF ABOUT 3" TO PREPARE SEED BED AND MIX THE FERTILIZER INTO THE SOIL.
 - FERTILIZER – FERTILIZER SHOULD BE UNIFORMLY SPREAD OVER THE AREA PRIOR TO BEING TILLED INTO THE SOIL. A 10–10–10 MIX OF FERTILIZER SHOULD BE APPLIED AT A RATE OF 300 POUNDS PER ACRE (OR 7 POUNDS PER 1,000 S.F.).
 - SEED MIXTURE – USE ANY OF THE FOLLOWING IN UPLAND AREAS:
 - SEEDING RATE:

SPECIES	ACRE	1,000 S.F.	PER ACRE RATES	DEPTH
WINTER RYE	112 LBS	2.5 LBS.	8/15–9/5	1 IN.
OATS	80 LBS.	2.0 LBS.	SPRING–5/15	1 IN.
ANNUAL RYE GRASS	40 LBS.	1.0 LBS.	4/15–9/15	0.25IN.

W/MULCH
 - MULCHING – WHERE IT IS IMPRACTICAL TO INCORPORATE FERTILIZER AND SEED INTO MOIST SOIL, THE SEEDED AREA SHALL BE MULCHED TO FACILITATE GERMINATION. MULCH IN THE FORM OF STRAW SHOULD BE APPLIED AT A RATE OF 70 TO 90 LBS. PER 1,000 S.F.
- PERMANENT SEEDING:
 - BEDDING – STONES LARGER THAN 4", TRASH, ROOTS, AND OTHER DEBRIS THAT WILL INTERFERE 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.
 - FERTILIZER – LIME AND FERTILIZER SHOULD BE APPLIED EVENLY OVER THE AREA PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. 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	100 LBS. PER 1,000 S.F.
10–20–20 FERTILIZER	12 LBS. PER 1,000 S.F.
 - SEEDING MIXTURE (RECOMMENDED)

SLOPE WORK	PER ACRE	PER 1,000 S.F.	USE
CROWNVECH	15	0.34	
PERENNIAL RYE GRASS	30	0.69	
CREeping RED FESCUE	35	0.80	ALL SLOPE WORK
RED TOP	5	0.11	
ALSIKE CLOVER	5	0.11	
BIRDSFOOT TREFLOIL	5	0.11	
TOTAL	95	2.18	

- MULCHING – MULCH SHOULD BE USED ON HIGHLY ERODIBLE SOILS, ON CRITICALLY ERODING AREAS, AND ON AREAS WHERE CONSERVATION OF MOISTURE WILL FACILITATE PLANT ESTABLISHMENT.

TYPE	RATE PER 1,000 S.F.	USE AND COMMENTS
STRAW	70 TO 90 LBS.	MUST BE DRY AND FREE FROM MOLD. MAY BE USED WITH PLANTINGS
WOOD CHIPS OR BARK MULCH	460 TO 920 LBS.	USED MOSTLY WITH TREES AND SHRUB PLANTINGS
JUTE AND FIBROUS MATTING	AS PER MANUFACTURER SPECIFICATIONS	USED IN SLOPE AREAS, WATER COURSES AND OTHER AREAS
CRUSHED STONE		SPREAD MORE ¼" TO 1½" DIA THAN ½" THICK. EFFECTIVE IN CONTROLLING WIND AND WATER EROSION.
- SODDING – SODDING IS DONE WHERE IT IS DESIRABLE TO RAPIDLY ESTABLISH COVER ON A DISTURBED AREA. SODDING AN AREA MAY BE SUBSTITUTED FOR PERMANENT SEEDING PROCEDURES ANYWHERE ON SITE. BED PREPARATION, FERTILIZING, AND PLACEMENT OF SOD SHALL BE PERFORMED ACCORDING TO THE S.C.S. HANDBOOK.

C. STRUCTURAL MEASURES

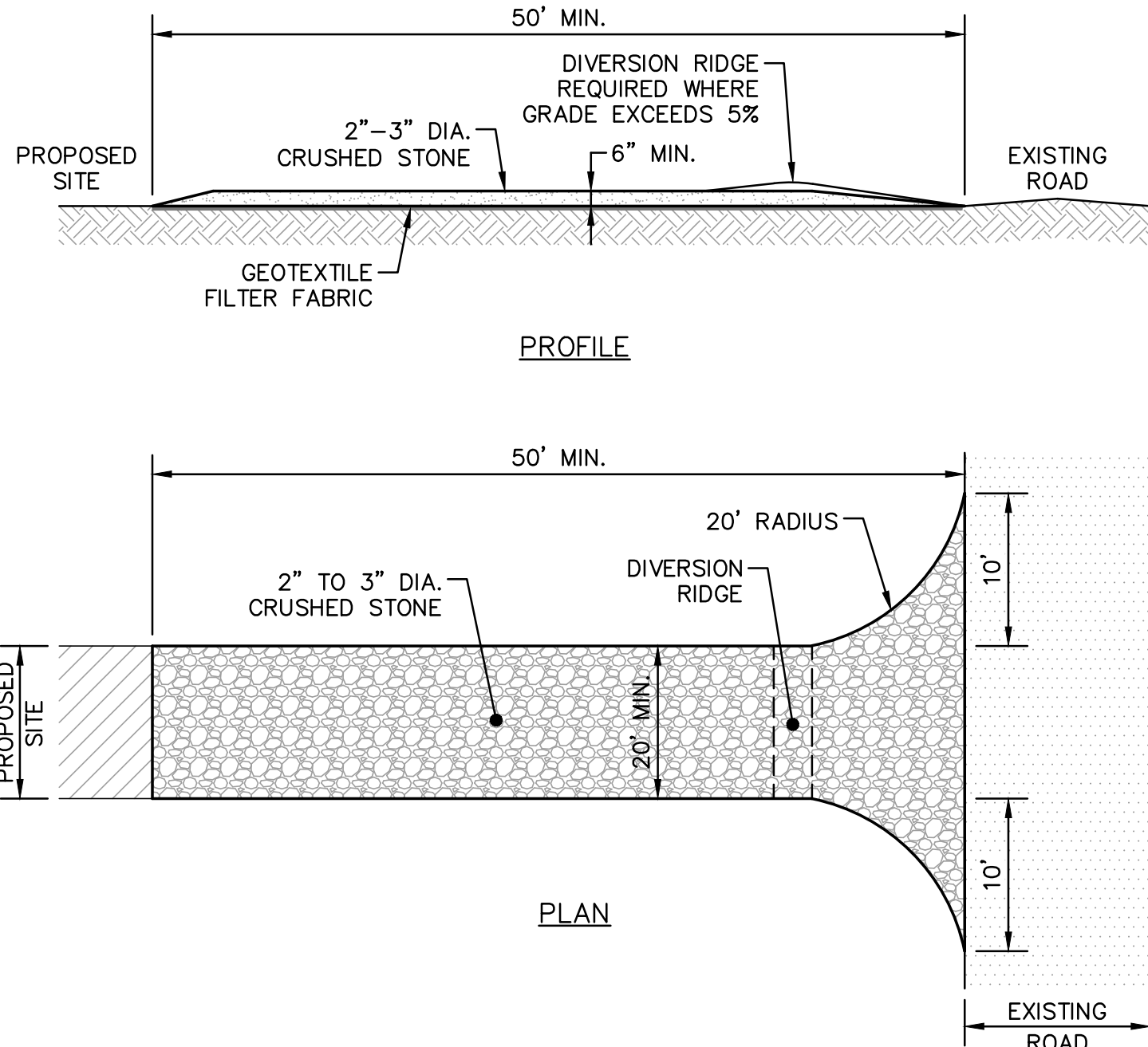
- STRAW BALE BARRIERS/SILT SCREEN FENCES: STRAW BALE BARRIERS AND/OR SILT SCREEN FENCES ARE TO BE INSTALLED IN THE AREAS SHOWN ON THE PLAN. THEY ARE INTENDED PRIMARILY TO INTERCEPT AND FILTER SMALL VOLUMES OF "SHEET FLOWING" RUNOFF, OR AS SEDIMENT TRAPS IN SMALL SWALES. STRAW BALES HAVE A USEFUL LIFE OF 3 MONTHS WHEN WET, AND THEREFORE, MUST BE INSPECTED AND REPAIRED OR REPLACED PERIODICALLY. SILT SCREEN FENCES WILL FUNCTION 6 MONTHS OR LONGER IF KEPT FREE OF SEDIMENT ACCUMULATIONS (SEE DETAILS FOR ADDITIONAL INFORMATION).
- SWALES: TEMPORARY AND/OR PERMANENT SWALES ARE TO BE INSTALLED AS SHOWN ON THE PLAN. SWALES ARE USED TO CONVERT SHEET FLOW TO CHANNEL FLOW AND CONVEY THE RUNOFF TO A PERMANENT CHANNEL, STORM DRAIN, OR DETENTION/SEDIMENT STRUCTURE. SWALES ARE INTENDED TO INTERCEPT RUNOFF AND DIVERT IT FROM AN EXPOSED NEWLY SEEDED SLOPE TOWARD AN ACCEPTABLE OUTLET OR TO REDUCE THE VELOCITY OF RUNOFF FLOWING DOWN FROM A DRAINAGE AREA.
- A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED OF 3 INCH STONE ACROSS THE FULL WIDTH OF THE VEHICLE INGRESS EGRESS AREA. THE STONE PAD SHOULD BE AT LEAST 50 FEET LONG, 25 FEET WIDE AND AT LEAST 6 INCHES THICK. ADDITIONAL STONE MAY HAVE TO BE ADDED PERIODICALLY TO MAINTAIN THE PROPER FUNCTIONING OF THE PAD.
- CATCH BASIN SEDIMENT FILTER: STONE CATCH BASIN SEDIMENT FILTERS ARE TO BE INSTALLED IN THE AREAS SHOWN ON THE PLAN. THEY ARE INTENDED PRIMARILY FILTER SMALL VOLUMES OF "SHEET FLOWING" RUNOFF. CATCH BASIN SEDIMENT FILTERS SHALL BE CONSTRUCTED OF FILTER FABRIC BEING INSTALLED OVER INLET GRATE, AND 3/4" WASHED CRUSHED STONE, 12 INCHES THICK. CATCH BASIN SEDIMENT FILTERS WILL LAST LONGER IF KEPT FREE OF SEDIMENT ACCUMULATIONS (SEE DETAILS FOR ADDITIONAL INFORMATION).

D. MAINTENANCE

- DURING THE PERIOD OF CONSTRUCTION AND/OR UNTIL LONG TERM VEGETATION IS ESTABLISHED:
 - SEEDED AREAS WILL BE FERTILIZED AND WILL BE SEEDED AS NECESSARY TO INSURE VEGETATIVE ESTABLISHMENT.
 - ADDITIONAL STONE MAY HAVE TO BE ADDED TO THE CONSTRUCTION ENTRANCE, ROCK LINED SWALES, ETC., PERIODICALLY TO MAINTAIN THE PROPER FUNCTIONING OF THE EROSION CONTROL STRUCTURE.
 - ALL DIVERSION CHANNELS AND SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY UNTIL ADEQUATE VEGETATION IS ESTABLISHED.
 - ALL SILT SCREEN FENCES WILL BE CHECKED WEEKLY. NECESSARY REPAIRS WILL BE MADE TO CORRECT UNDERMINING OR DETERIORATION OF THE BARRIER.
 - EROSION CONTROL MEASURES TO BE INSPECTED WEEKLY AND AFTER EVERY 0.5" OF RAINFALL.

E. WINTER CONSTRUCTION

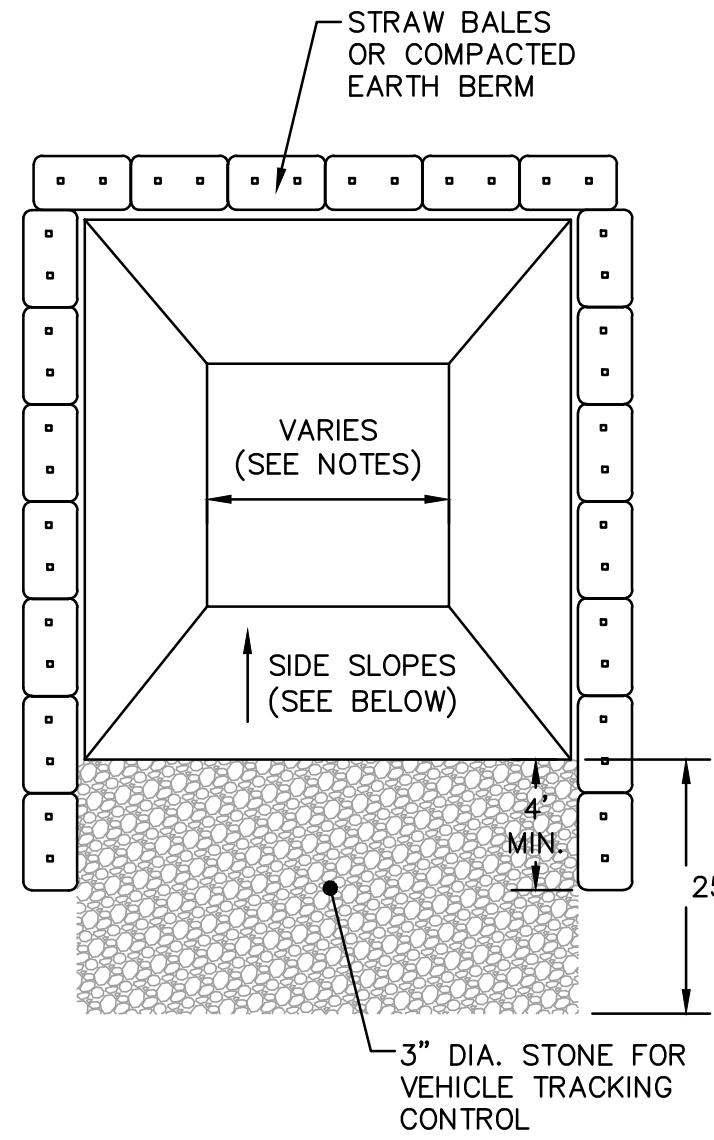
- ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.



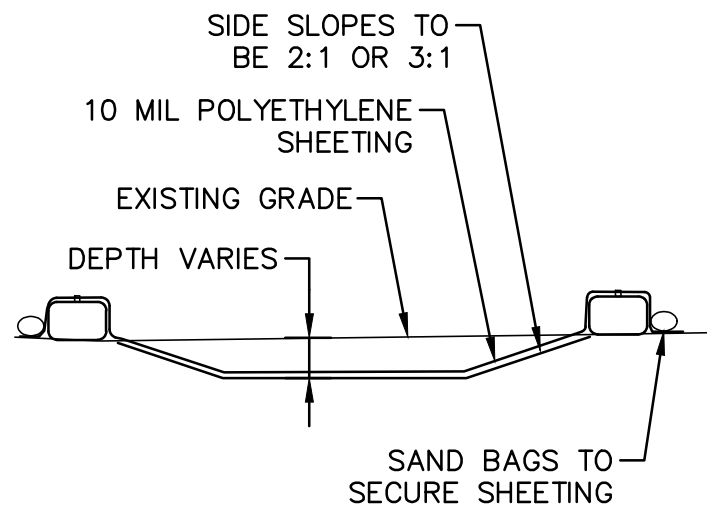
STABILIZED CONSTRUCTION ENTRANCE/EXIT NOTES:

- CONSTRUCT PAD AT THE SITE ENTRANCE.
- THE ENTRANCE/EXIT PAD SHALL BE A MINIMUM OF 50 FEET LONG AND 20 FT WIDE.
- THE PAD SHALL BE A MINIMUM OF 6 INCHES THICK WITH 2–3 INCH ANGULAR AGGREGATE.
- THE AGGREGATE SHALL BE PLACED OVER A GEOTEXTILE FABRIC TO PREVENT STONES FROM PUSHING INTO NATIVE SOIL.
- THE PAD SHALL BE INSPECTED WEEKLY AND BEFORE AND AFTER EACH STORM. THE PAD SHALL BE REPLACED IF THE VOIDS BECOME FILLED WITH SEDIMENT.

1 C4 STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL SCALE: NONE

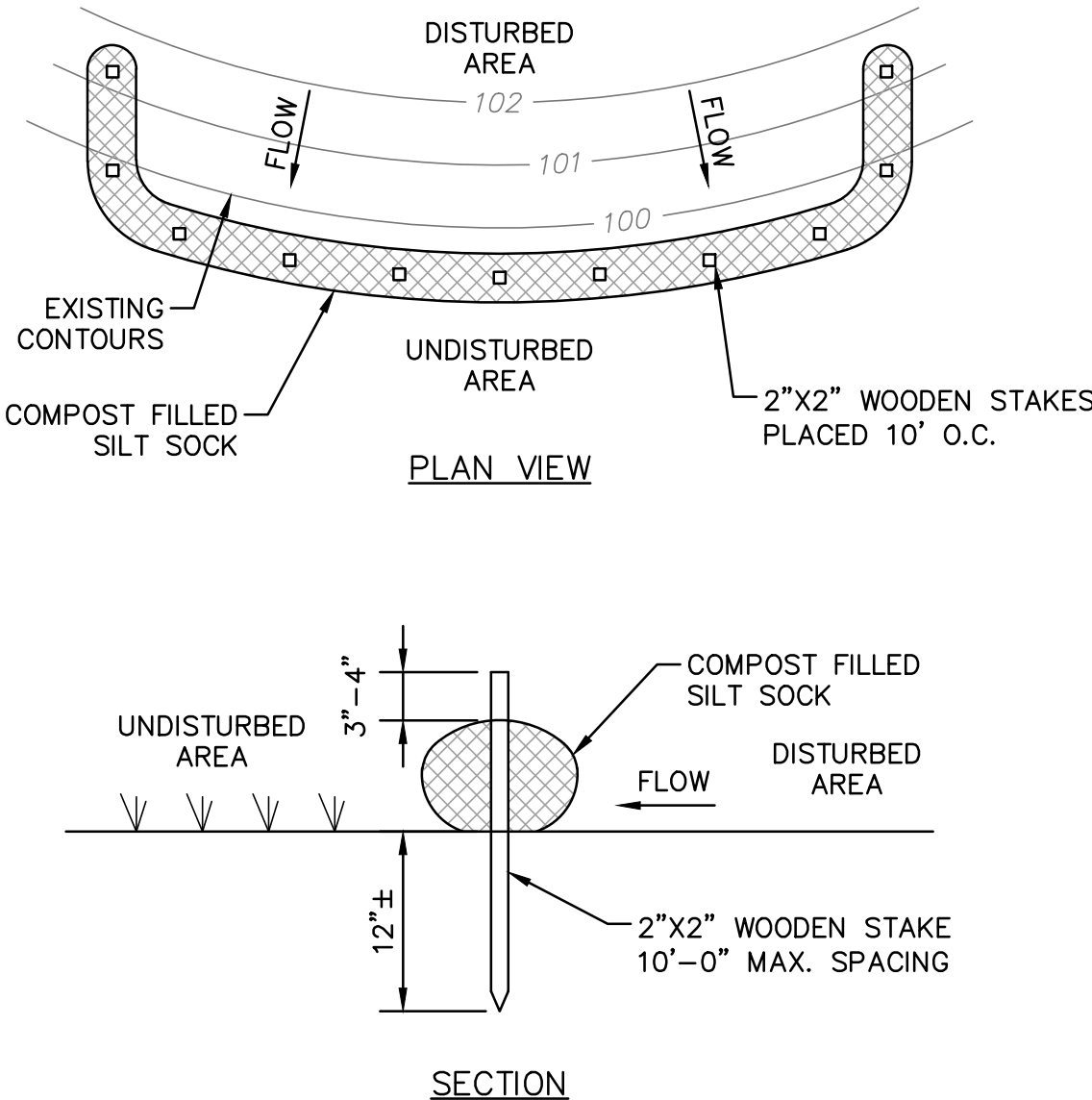


PLAN VIEW



SECTION

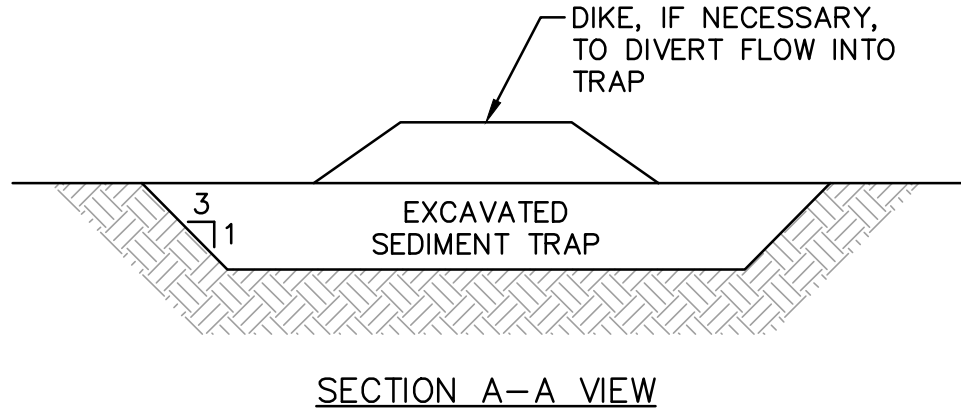
3 C4 CONCRETE WASHOUT AREA DETAIL SCALE: NONE



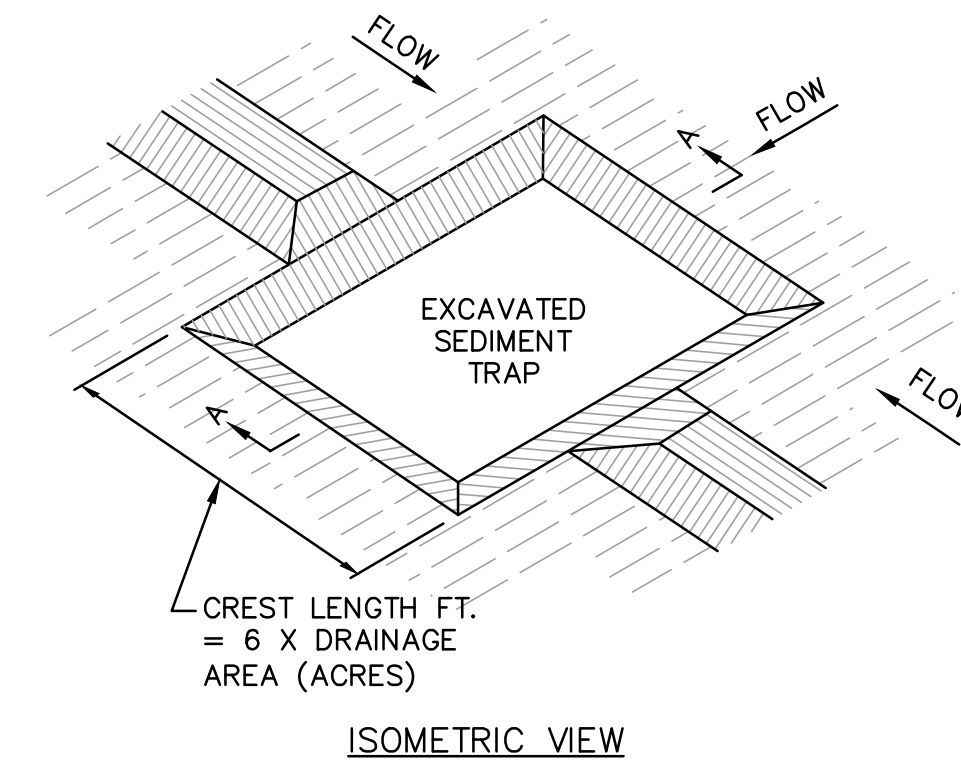
SILT SOCK NOTES:

- SILT SOCK SHALL BE INSTALLED BEFORE ANY EARTH REMOVAL OR EXCAVATION TAKES PLACE.
- INSTALL SILT SOCK AROUND ALL MATERIAL STOCKPILES.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED, AND THE MATERIAL REMOVED WHEN "BULGES" DEVELOP. DO NOT DEPOSIT THE MATERIAL NEAR WETLANDS OR WATERCOURSES.

2 C4 SILT SOCK EROSION CONTROL DETAIL SCALE: NONE



SECTION A-A VIEW



ISOMETRIC VIEW

SEDIMENT TRAP NOTES:

- THE TEMPORARY SEDIMENT TRAP, IS TO BE DESIGNED BY A QUALIFIED PROFESSIONAL
- THE SEDIMENT BASIN SHALL BE REMOVED AT THE END OF CONSTRUCTION.

4 C4 TEMPORARY SEDIMENT BASIN DETAIL (AS NEEDED) SCALE: NONE

SHAWN M. TOBEY
No. 14152
Professional Engineer

04/09/25

04/09/25

07/10/24

11/17/23

09/22/23

DATE

REVISION

DESCRIPTION

4

3

2

1

REV.

WRD

JCH/SMT

SMT

DESIGNED BY

ORIGINAL DATE:

SCALE:

AS SHOWN

AUGUST 22, 2023

AS SHOWN

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HOYLE TANNER

APPLICANT

DEL SOL DOVER, LLC
340 CENTRAL AVENUE, SUITE 202
DOVER, NH 03820

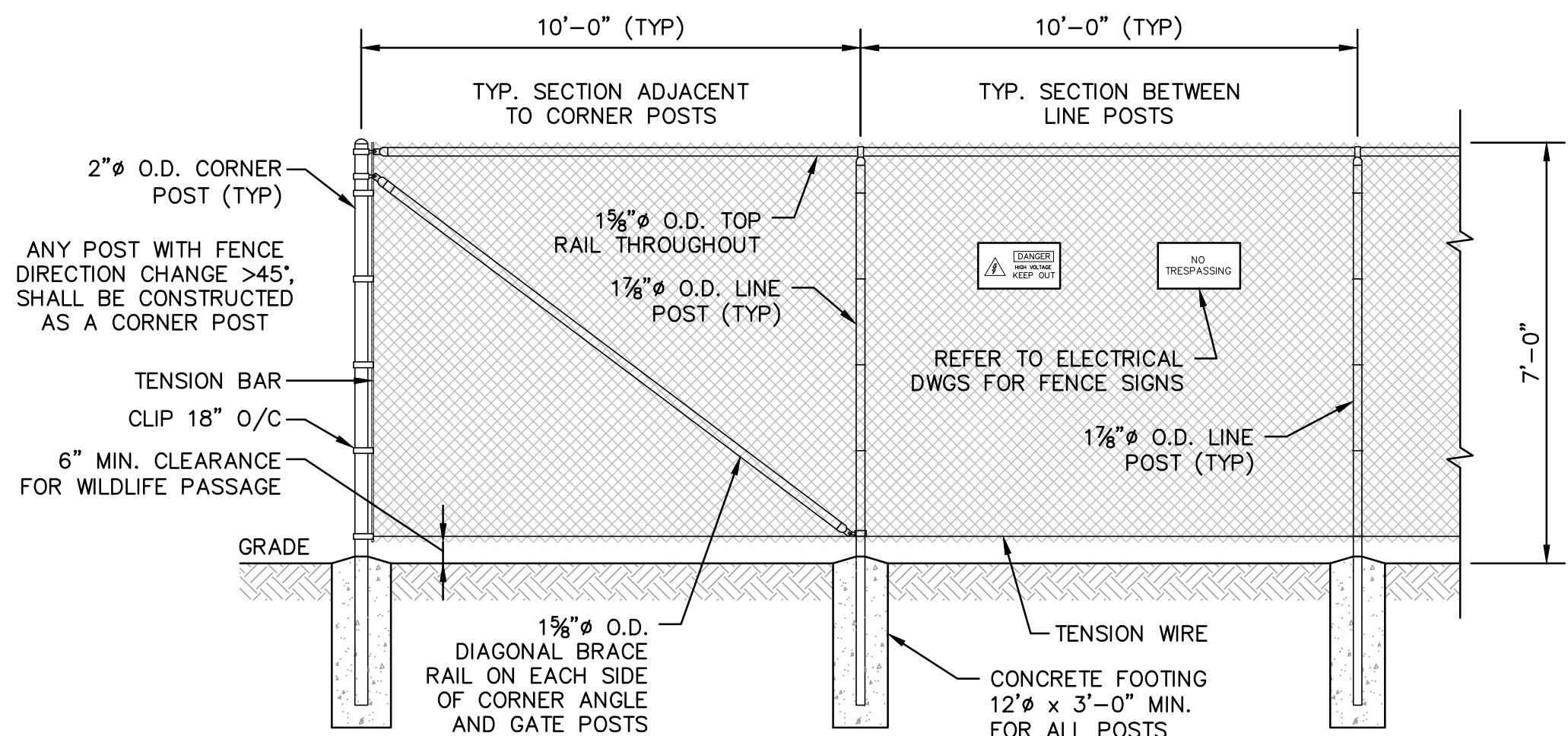
PROJECT

PROPOSED SOLAR FACILITY
0 CROSBY ROAD
DOVER, NH 03820

EROSION CONTROL NOTES & DETAILS

C4

PROJECT NO. 22.141302.00
SHEET 4 OF 7

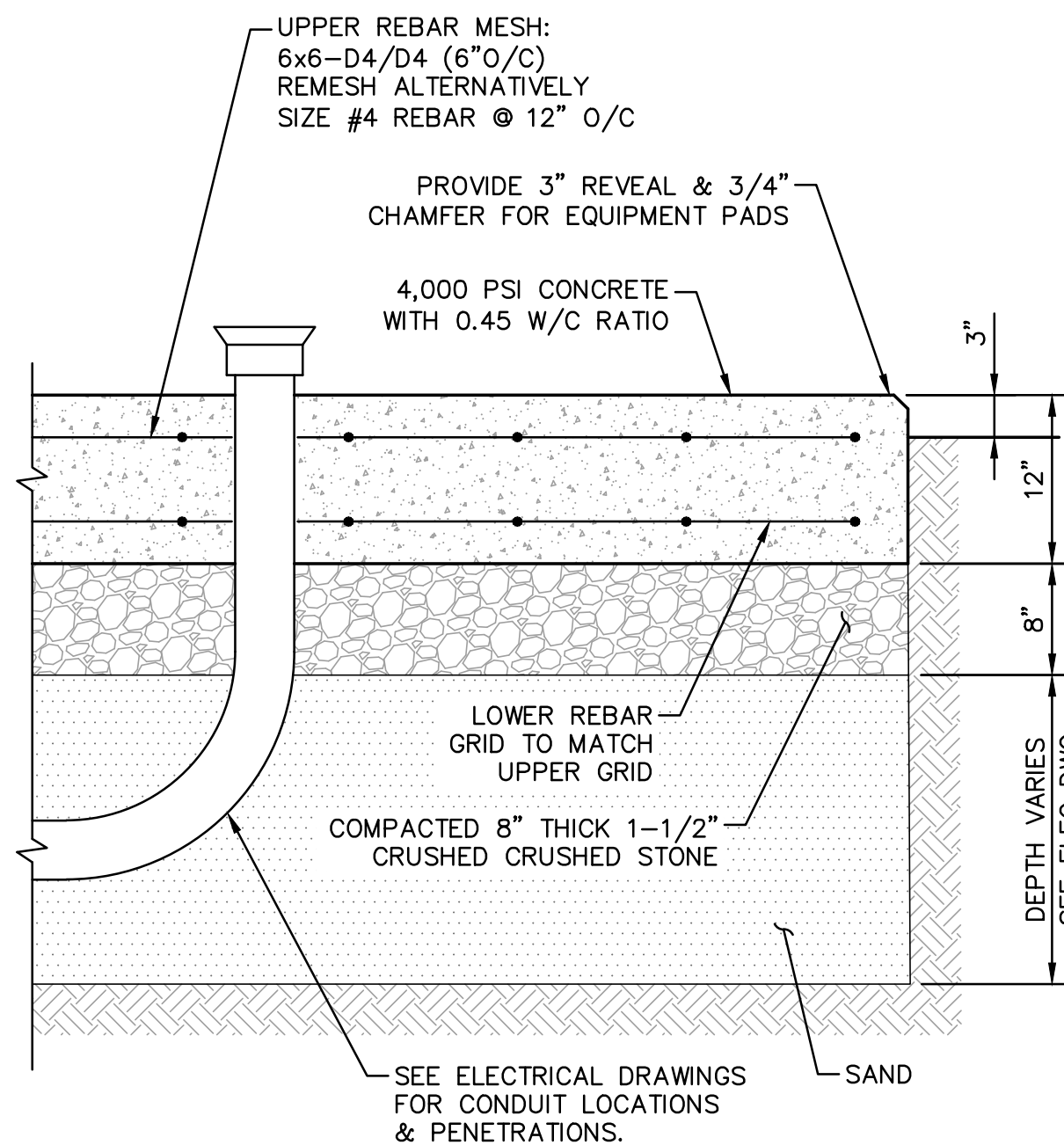


1 PERIMETER SECURITY FENCE DETAIL

SCALE: NONE

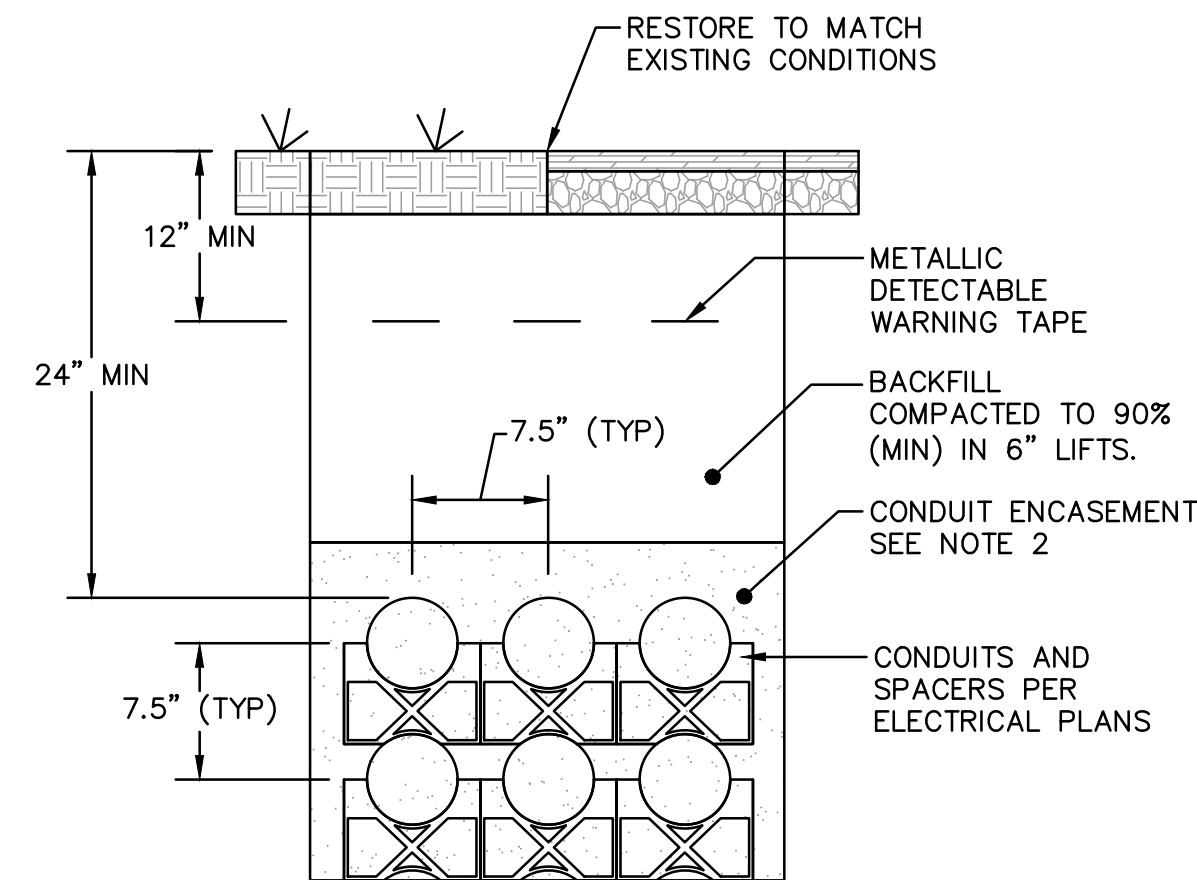
FENCE NOTES:

1. ALL FENCE POSTS SHALL BE 10' AND EMBEDDED A MIN. 3' INTO THE CONCRETE FOOTING.
2. FENCE SIGNAGE MUST BE LOCATED AT EYE LEVEL. SIGNS MUST BE LOCATED ON ALL GATES AND ALL SIDES, NO GREATER THAN 50' BETWEEN SIGNS. REFER TO ELECTRICAL DWGS FOR ADDITIONAL INFORMATION
3. AFFIX APPROPRIATE SYSTEM OWNER NAME AND CONTACT INFO DECAL TO ALL FENCE SIGNAGE.
4. BOND GATES TO GATE POST WITH FLEXIBLE BRAIDED GROUNDING STRAP.
5. FENCE TO BE MIN. 15' AWAY FROM SOLAR ARRAY, TO AVOID NEC GROUNDING REQUIREMENT. GATES MUST BE GROUNDED PER NESC RULE 092E. REFER TO ELECTRICAL DWGS FOR ADDITIONAL INFORMATION.



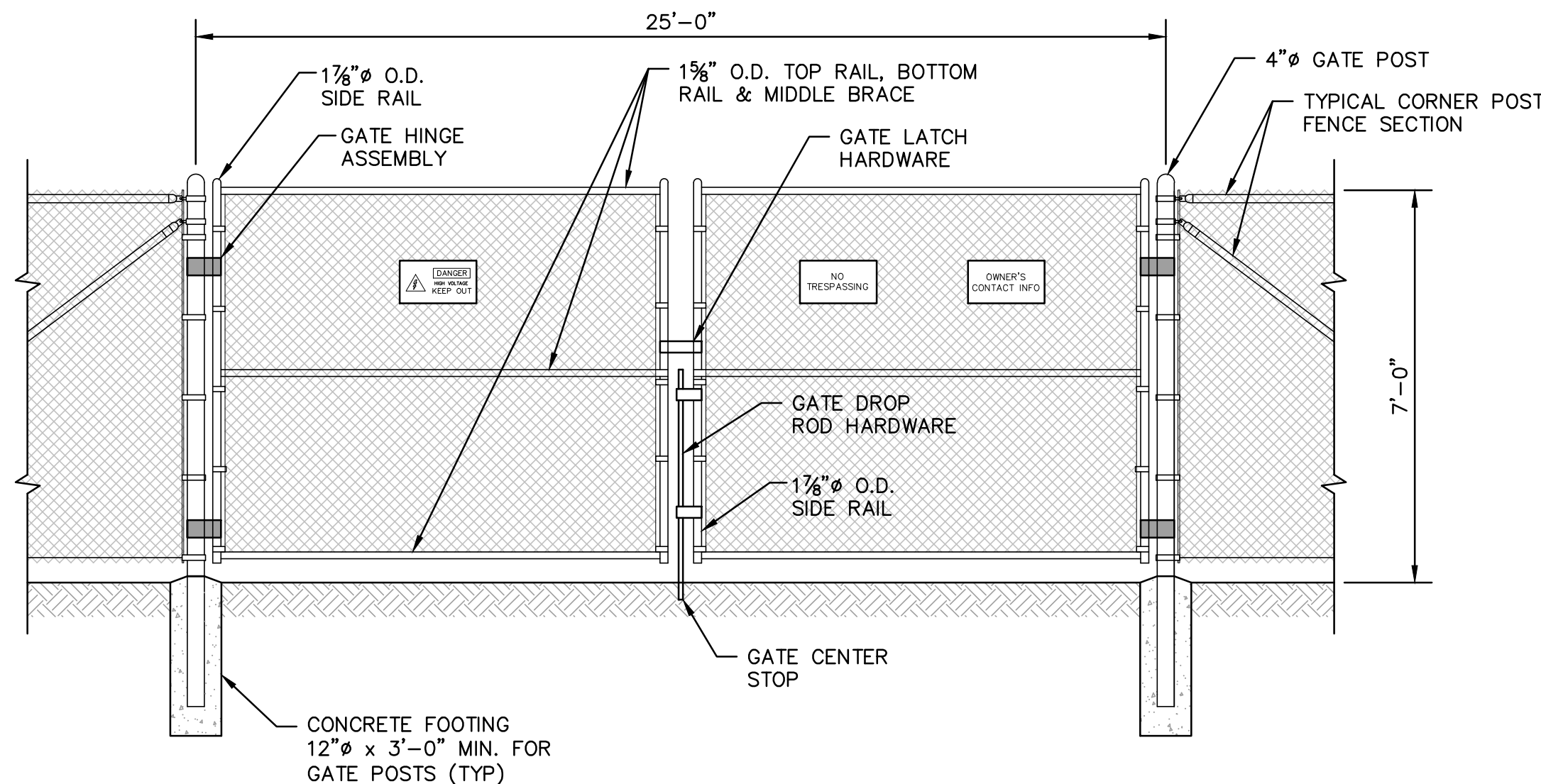
PAD NOTE:

1. REFER TO FINAL ELECTRICAL PLANS FOR EQUIPMENT PAD DIMENSIONS.



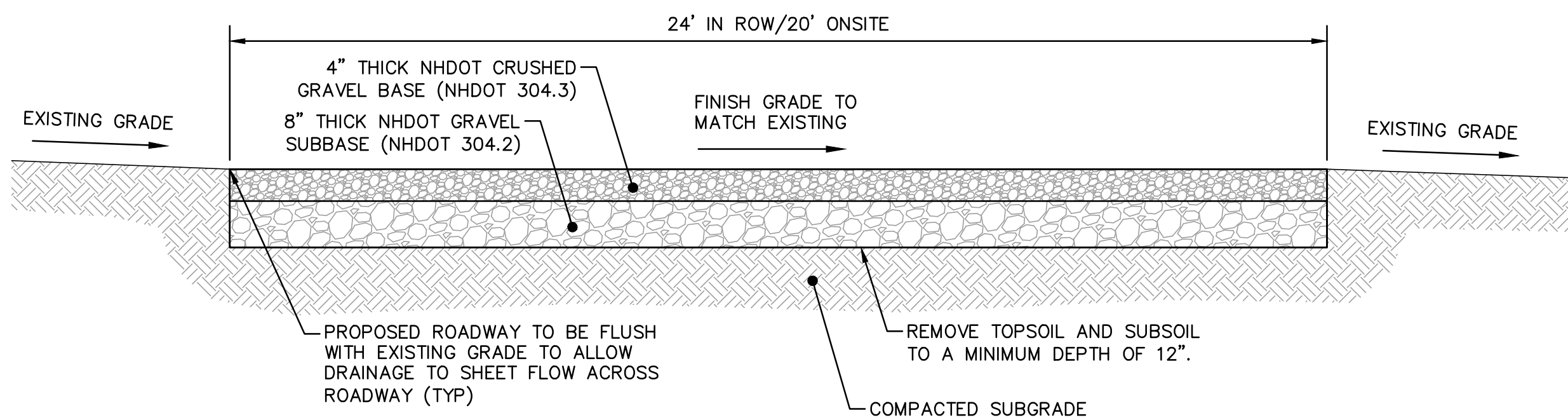
TRENCH NOTES:

1. THIS DETAIL IS FOR REFERENCE ONLY, REFER TO FINAL ELECTRICAL DRAWINGS FOR ALL CONDUIT ROUTING, SIZE, CONFIGURATIONS, NUMBER OF CONDUITS, SPACING, TRENCH WIDTH AND SPECIFICATIONS.
2. UNDER ROADS AND PARKING AREAS ENCASEMENT SHALL BE 2500 PSI CONCRETE. UNDER GRASSY AREAS NOT SUBJECT TO VEHICULAR TRAFFIC ENCASEMENT SHALL BE SAND.
3. BACKFILL OF TRENCHES SHALL BE MADE WITH CLEAN SCREENED MATERIAL FREE OF ROCKS AND DEBRIS NOT EXCEEDING 3/8" SIZE IN DIAMETER OR ENGINEERED FILL WHICH SHALL NOT DAMAGE CABLE ROUTING INSTALLATION.
4. CONDUIT ROUTING SHALL BE A MINIMUM OF 2 FEET AWAY FROM ALL RACKING SYSTEM POSTS.



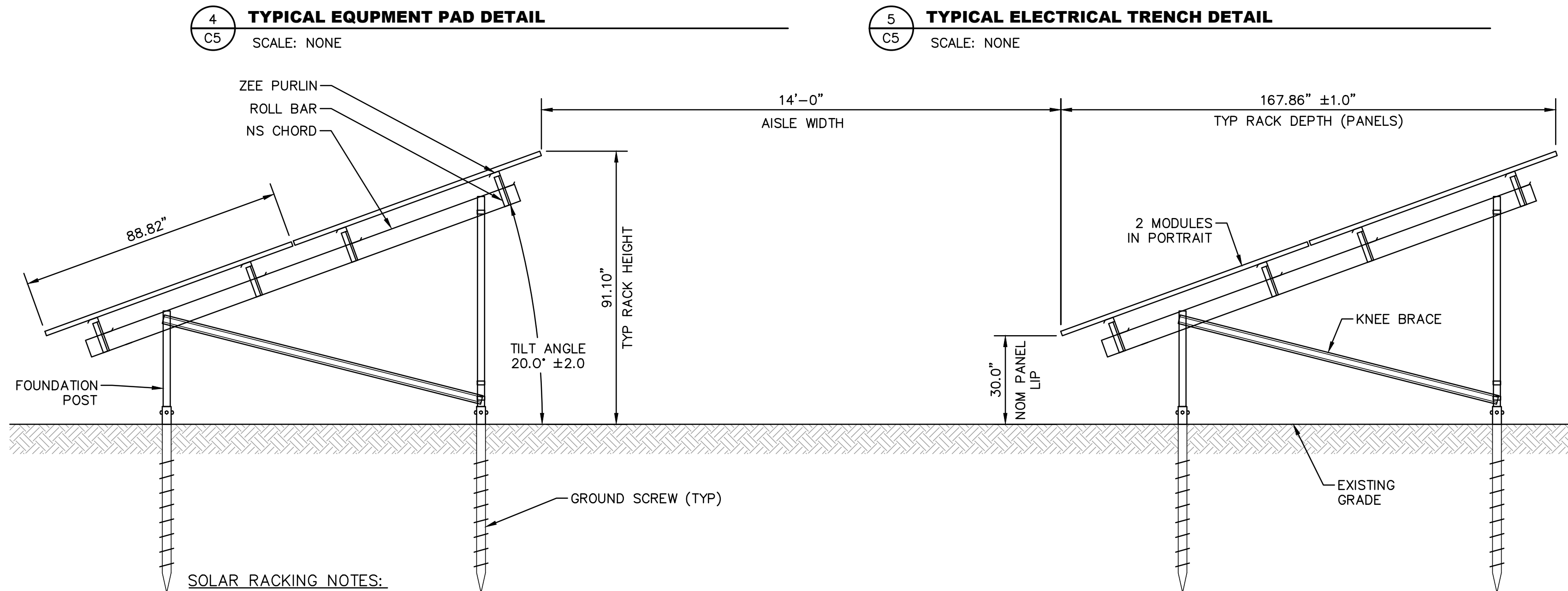
2 25' WIDE ACCESS GATE DETAIL

SCALE: NONE



3 TYPICAL ACCESS ROAD SECTION

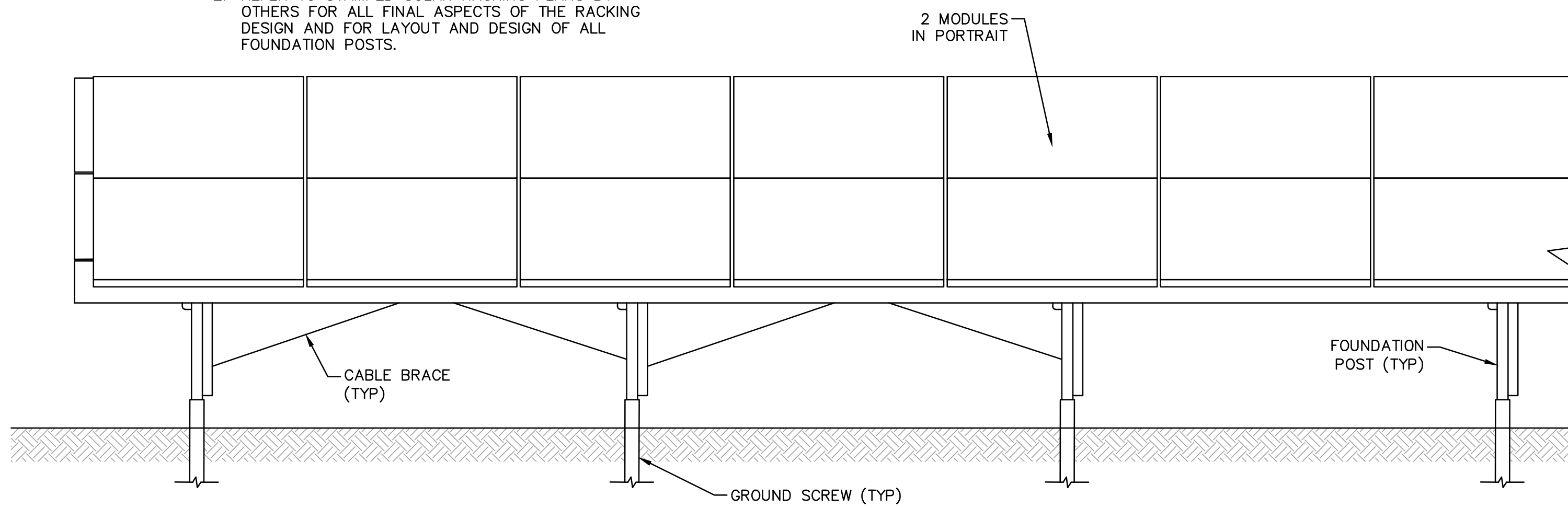
SCALE: NONE



SOLAR RACKING NOTES:

1. THESE DETAILS ARE INTENDED FOR SITE PERMITTING ONLY AND ARE CONCEPTUAL IN NATURE.
2. REFER TO STAMPED SOLAR RACKING PLANS BY OTHERS FOR ALL FINAL ASPECTS OF THE RACKING DESIGN AND FOR LAYOUT AND DESIGN OF ALL FOUNDATION POSTS.

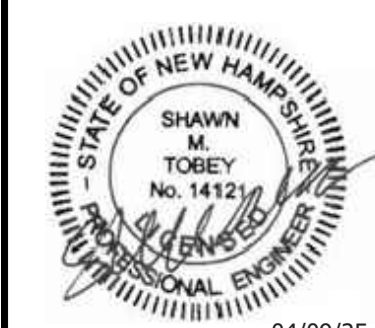
TYPICAL PROFILE VIEW



TYPICAL ELEVATION VIEW FROM FRONT (NORTH-FACING)

6 TYPICAL SOLAR TABLE ASSEMBLY DETAIL

SCALE: NONE



04/09/25

REV.	DATE	DESCRIPTION
1	04/09/25	ISSUED FOR NHDES ALTERATION OF TERRAIN PERMIT
2	07/10/24	REVISED PER NHDES ALTERATION OF TERRAIN COMMENTS
3	11/17/23	REVISED LAYOUT PER UPDATED WETLAND & COORDINATION WITH NHFG
4	04/09/25	UPDATED PLANS. ISSUED FOR CITY OF DOVER SITE PLAN REVIEW

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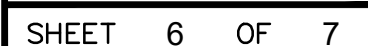
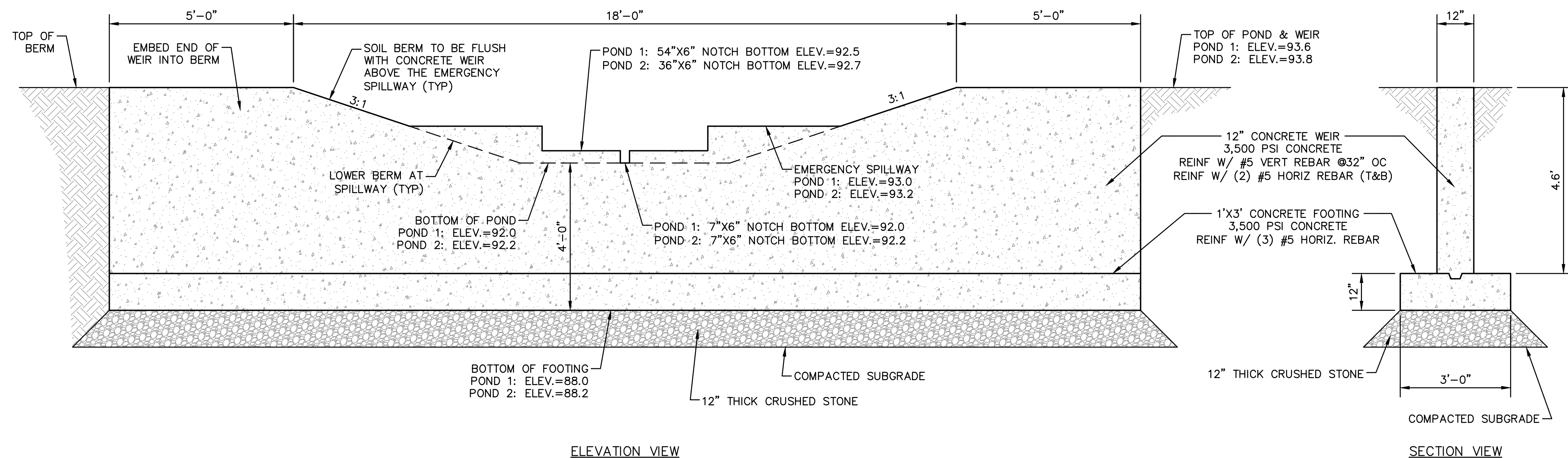
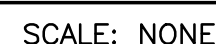
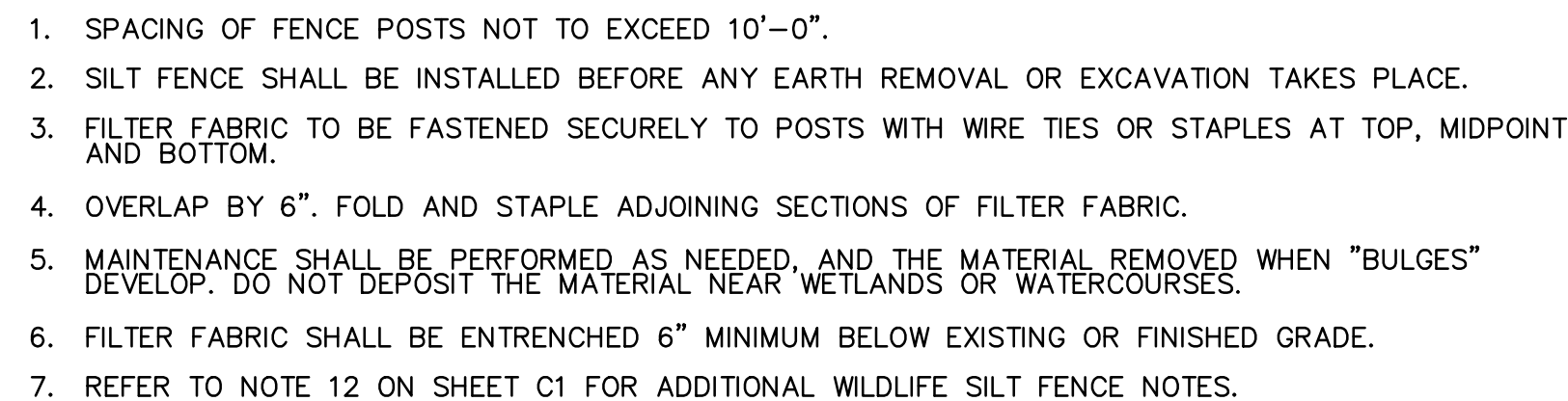
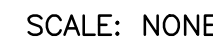
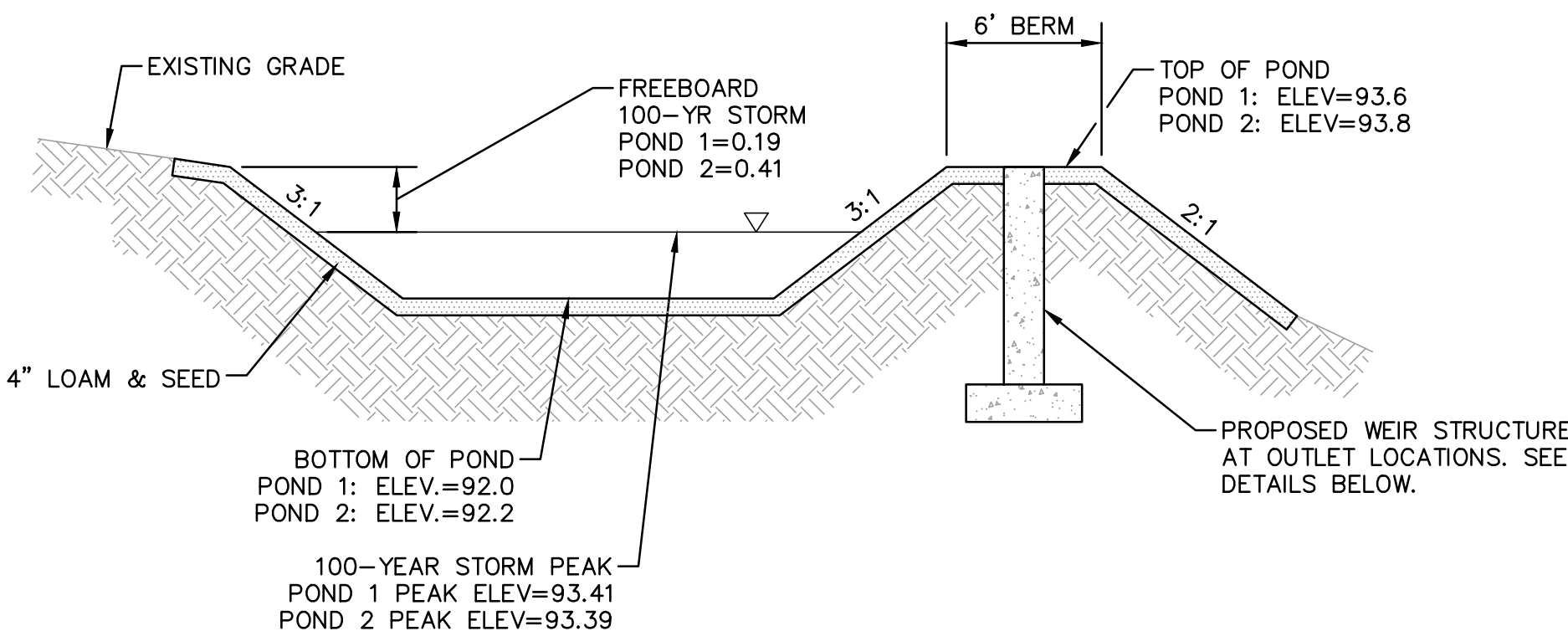
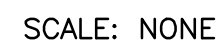
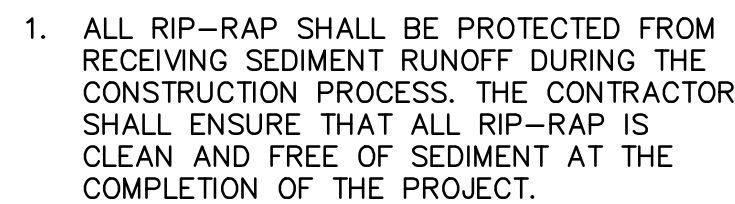
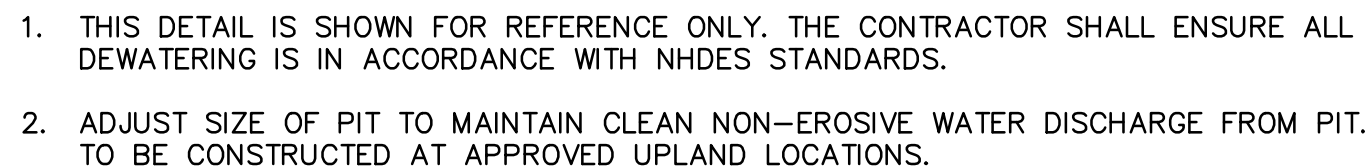
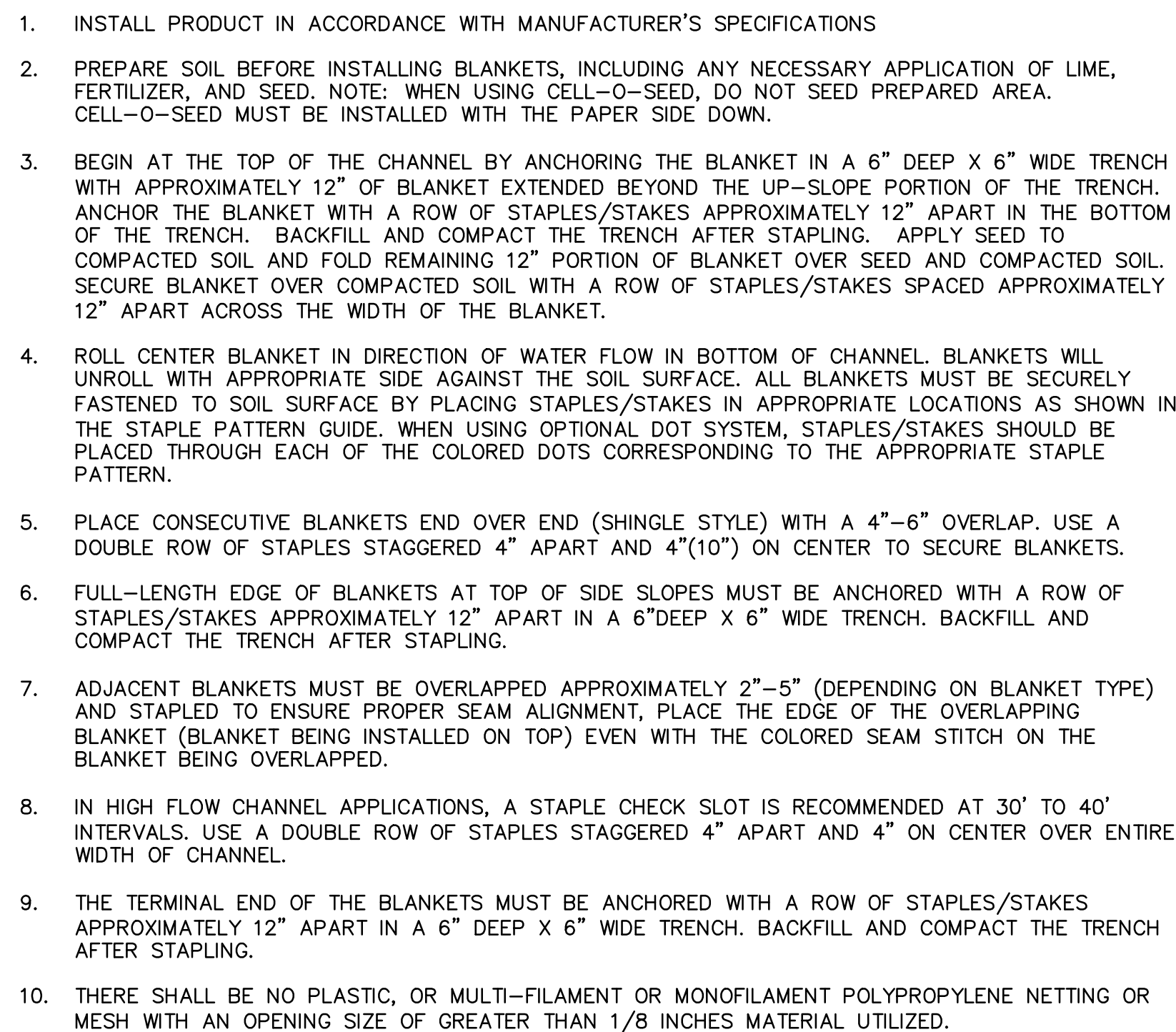
PROJECT: PROPOSED SOLAR FACILITY
0 CROSBY ROAD
DOVER, NH 03820

CONSTRUCTION DETAILS 1

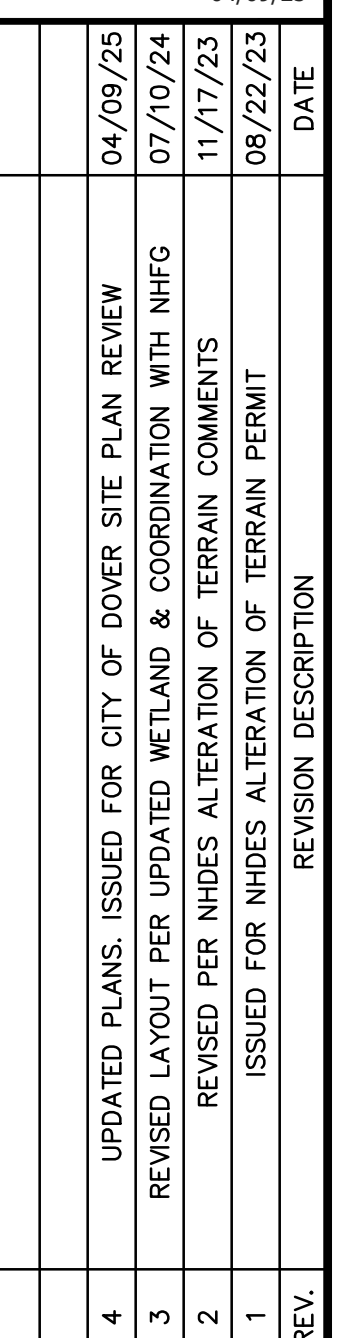
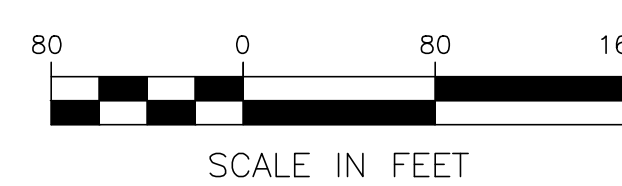
C5

PROJECT NO. 22.141302.00

SHEET 5 OF 7



1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PHASING OF CONSTRUCTION FOR THE SITE.
2. NO MORE THAN 5 ACRES SHALL BE DISTURBED AT ONE TIME. EACH AREA MUST BE STABILIZED BEFORE ADVANCING TO A SUCCESSIVE PHASE.



Y	DRAWN BY JCH/SMT	CHECKED BY WRD
---	---------------------	-------------------

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 HOYLE TANNER	SCALE: AS SHOWN	ORIGINAL AUGUST
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PROJECT	340 CENTRAL AVENUE, SUITE 202 DOVER, NH 03820 PROPOSED SOLAR FACILITY 0 CROSBY ROAD DOVER, NH 03820
---------	---

A rectangular stamp with a black border. The text inside reads: "CONSTRUCTION PHASING PLAN" in a sans-serif font, followed by a large "C7" in a bold sans-serif font. Below this, it says "PROJECT NO. 22.141302.00" and at the bottom, "SHEET 7 OF 7".



PLAN SNAPSHOT REPORT WAIV-2025-0005 FOR CITY OF DOVER, N.H.

Plan Type: Waiver / Extension / Amendment **Project:** **App Date:** 04/30/2025
Work Class: Plan **District:** None **Exp Date:** 07/04/2025
Status: In Review **Square Feet:** 0.00 **Completed:** NOT COMPLETED
Valuation: \$0.00 **Assigned To:** Blonigen, Rachel **Approval Expire Date:**
Description: Administrative Approval Request for Phase 2 of the Cochecho Waterfront Development Project

Parcel: 22001-007000	Main	Address: 40 River St Dover, NH	Main	Zone: CWD(Cochecho Waterfront District)
-----------------------------	------	--	------	--

Applicant Rob Simmons 11 Portwalk Place, Portsmouth NH 03801 Portsmouth,, NH 03801 Business: (617) 840-4778	Engineer Neil Hansen Business: (603) 294-9213	Applicant Colter Krzcuik 177 Corporate Drive Portsmouth, NH 03801 Business: (603) 294-9233 Mobile: (413) 686-0499	Owner City of Dover, NH
--	---	--	----------------------------

Plan Custom Fields

Project Location	River Street	Waiver Request Type	Amendment	Project Name	Cochecho Waterfront Development - Building F
Owner Phone	617-840-4778	Owner Name	CPI Management, LLC (Applicant)	Original Plan Approval Date	Jun 14 2022 12:00AM
Owner Address	11 Beacon St #1120, Boston, MA 02108	Owner EMail	robs@cathartes.com	Plan ID Number	Dover File #P21-69
Plan Type	Site Plan	Extension Request Detail		Condition / Portion of Plan to be Amended	Phase 2 of Construction
Amendment Request Detail	Please see the enclosed cover letter for full detail.	Site / Subdivision Portion of Plan to be Waived		Waiver Request Detail	

Attachment File Name	Added On	Added By	Attachment Group	Notes
Signature_Colter_Krzcuik_4/30/2025.jpg	04/30/2025 10:20	Krzcuik, Colter		Uploaded via CSS

Invoice No.	Fee	Fee Amount	Amount Paid
INV-2025012226	Planning Waiver / Extension /Amend Application Fee	\$200.00	\$200.00
Total for Invoice INV-2025012226		\$200.00	\$200.00
Grand Total for Plan		\$200.00	\$200.00

Workflow Step / Action Name	Action Type	Start Date	End Date
Review v.1		04/30/2025 11:46	
Confirm application complete v.1	Generic Action		04/30/2025 11:46
Technical Review Committee Meeting Agenda v.1	Task	04/30/2025 11:46	
Land Use Plan Technical Review v.1	Receive Submittal		
Technical Review Committee Meeting v.1	Hold Meeting		
Planning Board v.1			
Planning Board Agenda v.1	Task		
Invoice for Notices v.1	Task		
Send Notices v.1	Task		
Planner Creates Staff Recommendations v.1	Plan Activity		
Distribute Planning Board Materials v.1	Task		
Planning Board Hearing v.1	Hold Hearing		
Planning Board Decision v.1	Plan Activity		
NOD Sent to Applicant v.1	Create Report		

PLAN SNAPSHOT REPORT (WAIV-2025-0005)

Final Plan v.1

Land Use Plan Stamped and Signed v.1	Generic Action
Recording v.1	Task
Document Archival v.1	Generic Action
Internal Notification of Plan Completion v.1	Generic Action
Building Official Notifies Address v.1	Generic Action
Pre-Con Meeting v.1	Hold Meeting

Create/Link to Records v.1

Create / Link to Permit - Building Major v.1	Create Sub Permit
Create / Link to Permit - Site Work, Construction v.1	Create Sub Permit



CITY OF DOVER, NEW HAMPSHIRE PLANNING APPLICATION OWNER AUTHORIZATION

OWNER AUTHORIZATION

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

Property Owner Name:

Cocheco T. Owner LLC
City of Dover
DocuSigned by:

Signature(s) of Property Owner(s):

Rob Simmons

Date: 4/30/2025

Signature of Applicant:

if different from owner

Date:

AUTHORIZATION TO ENTER SUBJECT PROPERTY

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

Property Owner Name:

City of Dover

Signature(s) of Property Owner(s):

Date:

Signature of Applicant:

if different from owner

Date:

IF SIGN PERMIT, SIGN PERMIT APPLICATION INFORMATION

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

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

Address of Sign Location:

Sign Permit Application Type:
(check one)

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

C0960-007
April 23, 2025

Ms. Donna Benton, AICP
Director of Planning and Community Development
City of Dover Planning and Community Development
288 Central Avenue
Dover, New Hampshire 03820

Re: **Planning Board Conformed Set – Administrative Approval Request
Cochecho Waterfront Development
Mixed-Use Development – River Street, Dover, NH**

Dear Donna,

On behalf of CPI Management, LLC, we are pleased to submit an electronic file (.pdf) of Phase 2 Admin Approval Site Plan Set, dated April 23, 2025, for record of the Final Planning Board Approved Set and to request an administrative approval for Phase 2 of Construction for the above referenced project. Please note that the PB Approvals for Phase 2 of construction included the construction of Buildings A and B and their associated parking lots, drainage, utility, and landscaping improvements. The updated Phase 2 documents enclosed include the construction of Building F only. The following is a summary of changes to the TRC Submission plans compared to the Phase 4 plans were approved by the Planning Board (*in Italics*).

General Notes Sheets

Sheet G-100 (*G-100*)

- Utility Note #25 was added stating, "UTILITY SERVICE CONNECTION LOCATIONS SHOWN HEREIN ARE BASED ON REFERENCE PLAN #3. UTILITY SERVICE CONNECTIONS SHALL BE VERIFIED PRIOR TO CONSTRUCTION AND COORDINATED WITH FINAL CITY OF DOVER ROADWAY IMPROVEMENTS PLANS AND CITY OF DOVER INSPECTION SERVICES DEPARTMENT."
- Utility Note #26 was added stating, "ALL ELECTRICAL CONDUIT DUCT BANKS CONSTRUCTED WITHIN THE CITY RIGHT OF WAY SHALL BE ENCASED IN CONCRETE. ANY ELECTRICAL DUCT BANKS OUTSIDE OF THE CITY RIGHT OF WAY SHALL NOT BE ENCASED IN CONCRETE."
- Utility Note #27 was added stating "CONTRACTOR SHALL MATCH THE SLOPE OF THE EXISTING SEWER SERVICE LINE STUB. CONTRACTOR TO CONFIRM SLOPE WITH THE AS-BUILTS OF THE ROADWAY IMPROVEMENTS PROJECT PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DEVIATIONS FROM THE PLANS."

Sheet G-100 (*N/A*)

- Sheet G-102 has been added per the recommendation of New Hampshire Fish and Game.

Existing Conditions and Demolition Plans

In the Planning Board approval set, Existing Conditions and Demolition Plans were not prepared for the individual phases of construction. Changes to the 50% Construction Document sheets were compared to the master site plan set existing conditions and demolition plans.

Sheet C-301 (*Sheet C-101.3*)

- Depicted the latest city ROW design linework and as built information of utility work within the ROW.
- Depicted the Phase 1 design linework.
- Depicted the updated existing conditions contours per various reference plans with an Existing Topography notes section identifying the reference plans used on each lot.
- Depicted location and size of stabilized construction exit per NHDES comment.
- Added a plan note stating "IF EXCAVATING BELOW THE EXISTING RAP FABRIC LAYER IN THE DESIGNATED CAP AREA, A NEW FABRIC SHALL BE PLACED AT THE BOTTOM OF THE EXCAVATION (SEE CONTAMINATED SOILS MANAGEMENT PLAN)"

Site Plans

Sheet C-302 (*Sheet C-203.1*)

- The building footprint has increased to 17,504 SF from the approved 16,025 SF and relocated the building footprint further away from the property line.
- The building has increased to 43 units from 42 units. The proposed unit density of 42.15 units/acre is less than the zoning maximum unit density of 43 units/acre.
- Increased the total off-street parking to 80 spaces from 60 spaces. The proposed parking count is less than the zoning maximum of 1.9 spaces per unit (82 spaces).
- Added a staircase from the rear of the building to the upper surface parking area.
- Added a 3'x8' concrete generator pad near River Street Right of Way.
- Aligned various sidewalk entrances to the building per the updated building door locations.
- Depicted the Light Pole locations on the Site Plan.
- Updated Transformer locations per utility coordination with Eversource and as built information of the ROW utility work.
- Added AVI sensors and gates to the site entrances.
- Three bike racks have been added to the north of the lower level egress door.

Grading and Drainage Plans

Due to the increased level of detail of the proposed grading and drainage design, individual sheets were created for both grading and drainage separately.

Sheet C-303 (*C-203.2*)

- Added individual door elevations and adjacent sidewalks spot grades for all door locations.
- Increased the First Floor elevation from 28.50' to 29.16'.
- Added spot grades to the new exterior stairs to the rear of the building.
- Updated the surface parking lot grades and slopes per the updated building layout.

Sheet C-304 (C-203.2)

- Relocated various catch basins and drain manhole locations per the updated grading.
- Removed PDMH 19 and added PYD201 & PYD202 to keep drainage structures on the development parcel.
- Added foundation underdrain to the southwest and southeast of the building.
- Depicted location and size of stabilized construction exit per NHDES comment.

Utility Plans

Sheet C-205.1 (C-201.3)

- Relocated gas services for Buildings C & D to the northeast side of the building.
- Updated the sanitary service connection per the latest city ROW as built location.
- Updated the water service and lines per the latest city ROW as built location.
- Updated transformer locations, electrical, and communications conduits per utility coordination with Eversource and ROW as built location.

Details Sheets

For the purposes of this letter, details that have changed sheets or locations have not been called out. Only details that have been modified since the Planning Board Approval Set are annotated.

Sheet C-502 (C-502)

- The Parking Stall/Painted Island Striping Detail has been updated to better reflect the site conditions.

Sheet C-503 (C-503)

- Bolt View and Plan View details have been added to the Light Pole Base Detail.
- The Concrete Sidewalk Tip Down Ramp Detail has been updated to better reflect the ADA tip-down ramp requirements.

Sheet C-504 (C-504)

- The Yard Drain Detail has been updated to depict a concrete yard drain.
- The Contech Cascade Pretreatment Unit detail has been modified to call out the latest size as provided by the manufacturer and NHDES comments.

Sheet C-505 (C-505)

- The Contech Jellyfish Filter detail has been modified to call out the latest size as provided by the manufacturer and NHDES comments.
- The Entrance Gate Base Detail has been added.

Sheet C-506 (C-506)

- The sewer trench detail has been modified per NHDES requirements.
- The Thrust Blocking Detail has been updated to precast thrust blocks per the City of Dover Community Service Department standards.

Architectural

Construction drawings have progressed, with key updates to interior layouts and exterior elevations. Notably, demising walls between residential units have been finalized and updates have been made to façade for both functionality and design purposes.

Elevation Enhancements (Sheets A1 – A3):

- Updated material palette including woodtones and fiber cement siding treatments.
- Increased fenestration along the River Street elevation for enhanced street presence.
- Added architectural canopies at entry points.
- Refined corner treatments and window groupings for visual interest and massing articulation.

Building Footprint and Parking (Sheet A4):

- Adjusted building footprint to allow for more property line setbacks and better unit layouts above
- Updated surface parking configuration to allow for more garage parking for residents
- Coordinated entrance stoops and ramps with the site grading plan.

Roof Deck Addition (Sheet A6):

- A new communal roof deck amenity space has been added to allow all residents access to the river.
- Guardrails, access stairways, and egress pathways have been detailed in compliance with building code requirements.

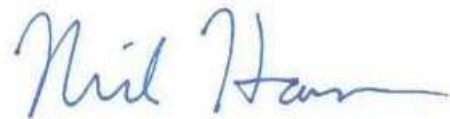
If you have any questions or need any additional information, please contact me by phone at (603) 433-8818 or by email at NAHansen@tighebond.com.

Sincerely,

TIGHE & BOND, INC.



Patrick M. Crimmins, PE
Vice President



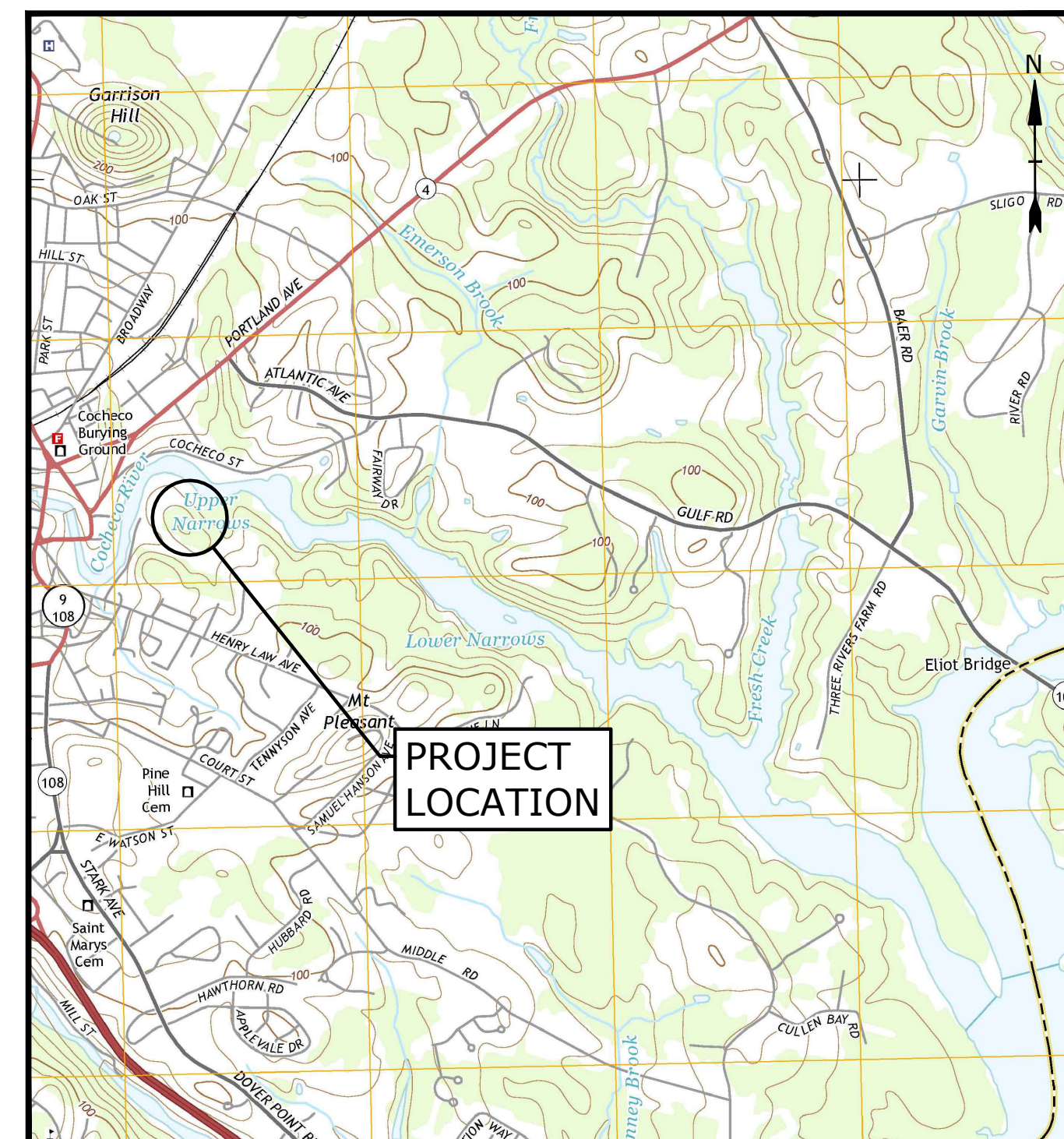
Neil A. Hansen, PE
Project Manager

Copy: CPI Management, LLC (via E-mail)

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DOVER FILE#: P21-69
MARCH 21, 2025
LAST REVISED APRIL 23, 2025

PLAN SET INDEX		
	SHEET TITLE	LAST REVISED
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LOCATION MAP
SCALE: 1" = 2,000'

LIST OF PERMITS & APPROVALS		
LOCAL	STATUS	DATE
SITE PLAN REVIEW PERMIT (P21-69)	APPROVED	6/14/2022
STATE		
NHDES - ALTERATION OF TERRAIN (AoT-2572)	APPROVED	4/11/2024
NHDES - SEWER CONNECTION PERMIT	NOT SUBMITTED	
FEDERAL		
NPDES - CONSTRUCTION GENERAL PERMIT (NHR1001YK)	APPROVED	3/26/2024
NPDES - CONSTRUCTION GENERAL PERMIT (NHR1001YZ)	APPROVED	4/4/2024

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL NOT RELY ON SCALED DIMENSIONS AND SHALL CONTACT THE ENGINEER FOR CLARIFICATION IF A REQUIRED DIMENSION IS NOT PROVIDED ON THE PLANS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS, AND FOR SITE CONDITIONS THROUGHOUT CONSTRUCTION. NEITHER THE PLANS NOR THE SEAL OF THE ENGINEER AFFIXED HEREON EXTEND TO OR INCLUDE SYSTEMS REQUIRED FOR THE SAFETY OF THE CONTRACTOR, THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND IMPLEMENTING SAFETY PROCEDURES AND SYSTEMS AS REQUIRED BY THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND ANY STATE OR LOCAL SAFETY REGULATIONS.
3. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION OF TIGHE & BOND.

PREPARED BY:

Tighe&Bond

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OWNER:

CITY OF DOVER
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DOVER, NH 03820

ARCHITECT:

CJ ARCHITECTS
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PORTSMOUTH, NH 03801
603-431-2808

SURVEYOR:



**ADMIN APPROVAL SET
COMPLETE SET 21 SHEETS**

Last Save Date: April 23, 2025 9:52 AM By: CKRZCUIK
Plot Date: Wednesday, April 23, 2025 Plotted By: Colter Krzulk
288 File Location: J:\C0950 Cataraugus\C0950-007 Cochecho Waterfront\Drawings\Sheet\C0950-007-DSGN-CD-P2.dwg Layout Tab: G-100-P2

GENERAL NOTES:

1. THE PROPOSED USE FOR THE SITE INCLUDES THREE (3) MIXED USE BUILDINGS, TWO (2) MULTI-FAMILY BUILDINGS AND THREE (3) SETS OF TOWNHOUSES.
2. OWNER OF RECORD IS: CITY OF DOVER
288 CENTRAL AVE.
DOVER, NH 03820
3. THE PROPOSED PROJECT PARCELS ARE SHOWN AS PARCELS 1-2, 1-4, 1-5, 1-6, AND 1-7 ON MAP 22 & PARCEL 15 ON MAP 23 OF THE CITY OF DOVER TAX ASSESSOR'S MAP.
4. THE PROPOSED TOTAL SUBJECT PARCELS CONTAINS 10.47 ACRES OR 456,282 SQ. FT. AREA OF LAND.
5. TITLE REFERENCE FOR THE PROJECT PARCELS IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, BOOK NO.225, PAGE NO. 493.
6. PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM "COCHECHO DEVELOPMENT SUBDIVISION PLAN", PREPARED BY DOUCET SURVEY, INC.
7. THE SUBJECT PARCEL IS LOCATED WITHIN A FEDERALLY DESIGNATED FLOOD HAZARD AREA (FIRM PANEL NUMBER 33017C0310E, EFFECTIVE DATE: SEPTEMBER 30, 2015).
8. 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 ACTIVITIES.
9. BUILDING ADDRESSES (INCLUDING APT/UNIT NUMBERS) SHALL BE ASSIGNED BY THE BUILDING OFFICIAL AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
10. COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM TO DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR.
11. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE 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.
12. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF DOVER.
13. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
14. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
15. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES AND COMPLY WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
16. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
17. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES AND SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
18. ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT) "STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION", AND WITH THE CITY OF DOVER COMMUNITY SERVICES REGULATION AND STANDARD SPECIFICATION FOR CONSTRUCTION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
19. 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 ID 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.
20. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
21. SEE EXISTING CONDITIONS PLANS (REFERENCE PLAN #1) FOR BENCH MARK INFORMATION.
22. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO MONDAY-FRIDAY 7 AM-6 PM AND 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 ASSISTANT CITY MANAGER.
23. 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 AND BEFORE ISSUING A DEMOLITION PERMIT.
24. SITE SHALL BE ACCESSIBLE IN ALL WEATHER CONDITIONS AND AT ALL TIMES DURING CONSTRUCTION PER CITY OF DOVER COMMUNITY SERVICES DIRECTOR AND THE CITY OF DOVER FIRE DEPARTMENT REQUIREMENTS.
25. APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL. [HTTPS://WWW.UHN.EDU/UNHSC/PTAPP](https://www.uhn.edu/UNHSC/PTAPP)
26. 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.
27. PROPOSED PROPERTY LINES SHOWN ON PLANS ARE APPROXIMATE. FINAL SUBDIVISION PLANS TO BE PREPARED BY CITY OF DOVER.
28. THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50FT OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
29. ALL TREATMENT SWALES TO BE CONSTRUCTED SHALL HAVE SOD BOTTOMS.
30. THE PROPOSED SITE SHALL REMAIN ACCESSIBLE IN ALL WEATHER CONDITIONS YEAR ROUND.
31. SEE PLAN NOTE #3 ON SHEET C-2 OF REFERENCE PLAN NUMBER 3.

EXISTING CONDITIONS NOTES:

1. TOPOGRAPHIC SURVEY PERFORMED BY DOUCET SURVEY, INC. DURING SEPTEMBER 2016, APRIL, MAY, & JUNE 2017. ELEVATIONS ARE BASED ON NAD88 PER NHDOT DISK "D 50 RESET 1977" WITH A PUBLISHED ELEVATION OF 22.60'.
2. WETLANDS WERE DELINEATED BY GZA GEONENVIRONMENTAL, INC. DURING AUGUST 2016 IN ACCORDANCE WITH THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, U.S. ARMY CORPS OF ENGINEERS.THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. CONSERVATION AND WETLANDS DISTRICTS SHALL BE STAKED, FLAGGED, AND CLEARLY IDENTIFIED PRIOR TO ANY EARTH DISTURBING ACTIVITY.
3. TEST PITS TO REFUSAL PERFORMED BY SEVERINO TRUCKING IN JUNE OF 2019.
4. EXISTING CONDITIONS WITHIN THE PROJECTS LIMITS MAY DIFFER FROM WHAT IS SHOWN ON THE PLANS.
5. EXISTING CONDITIONS SHALL BE UPDATED TO REFLECT THE MOST CURRENT VERSION OF THE CITY OF DOVER'S WATERFRONT PROJECT DESIGN, REFERENCE PLAN #3.

DEMOLITION NOTES:

1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
2. 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.
3. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
4. 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.
5. SAW CUT AND REMOVE PAVEMENT TWO (2) FEET OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
6. 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.
7. UTILITIES AND SERVICES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY AND CITY OF DOVER STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK UNLESS OTHERWISE NOTED. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
8. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
9. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED OR INTENDED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, LIGHTING, MANHOLES, CATCH BASINS, UNDER GROUND PIPING, POLES, STAIRS, SIGNS, FENCES, RAMPS, WALLS, BOLLARDS, BUILDING SLABS, FOUNDATION, TREES AND LANDSCAPING.
10. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
11. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
12. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT MAY RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.50 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
13. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
14. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
15. THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT FOR THE REMOVAL OR SALVAGE AND REUSE OF EXISTING GRANITE CURB WITHIN THE CITY RIGHT OF WAY.

SITE NOTES:

1. PAVEMENT MARKINGS SHALL BE INSTALLED AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, FIRE LINES, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES. ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE PAVEMENT MARKINGS. ALL THERMOPLASTIC PAVEMENT MARKINGS INCLUDING LEGENDS, ARROWS, CROSSWALKS AND STOP BARS SHALL MEET THE REQUIREMENTS OF AASHTO M249. ALL PAINTED PAVEMENT MARKINGS INCLUDING CENTERLINES, LANE LINES AND PAINTED MEDIANS SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F".
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PAVEMENT MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE, WHITE THERMOPLASTIC AND CONFORM TO CURRENT MUTCD STANDARDS.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. SEE ARCHITECTURAL/BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING. COORDINATE WITH OFF-SITE IMPROVEMENT PLANS PREPARED BY THE CITY OF DOVER.
9. COORDINATE ALL OFF-SITE SITE WORK WITH OFF-SITE IMPROVEMENT PLANS PREPARED BY THE CITY OF DOVER. SEE REFERENCE PLAN #3.
10. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
11. ALL LIGHT POLE BASES NOT PROTECTED BY A RAISED CURB SHALL BE PAINTED YELLOW.
12. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING CONTRACTOR.
13. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
14. ALL WORK SHALL MEET THE ACCESSIBILITY STANDARDS PER RSA 155-A AND THE INTERNATIONAL BUILDING CODE (IBC), LATEST EDITION.
15. ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
16. ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
17. 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.
18. A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE 1, SECTION 45-2 OF THE CODE OF THE CITY OF DOVER.
19. 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.
20. COCHECHO WATERFRONT DEVELOPMENT ROADWAY IMPROVEMENTS TO BE CONSTRUCTED BY CITY OF DOVER. SITE DEVELOPMENT SHALL BE COORDINATED WITH THE FINAL CITY ROADWAY IMPROVEMENT PLANS PRIOR TO CONSTRUCTION.
21. SITE TRASH WILL BE INTERNAL TO THE BUILDINGS AND BE PRIVATELY MANAGED.
22. PROPERTY MANAGEMENT WILL BE RESPONSIBLE FOR TIMELY SNOW REMOVAL FROM ALL PRIVATE SIDEWALKS, DRIVEWAYS, AND PARKING AREAS. SNOW REMOVAL WILL BE

- HAULED OFF-SITE AND LEGALLY DISPOSED OF WHEN SNOW BANKS EXCEED 3 FEET IN HEIGHT.
23. COORDINATE WITH OWNER FOR ENTRANCE GATE TYPE.
 24. FINAL LOCATION AND TYPE OF KEY PAD TO BE COORDINATE WITH THE CITY OF DOVER FIRE DEPARTMENT.
 25. BUILDINGS B, C & D TRASH PICKUP SHALL BE INTERNAL TO THE PROJECT SITE. BUILDING A TRASH PICKUP SHALL BE ON RIVER STREET LOADING ZONE. DUMPSTERS FOR BUILDING A SHALL NOT BE LEFT OUTSIDE OVERNIGHT AND AFTER THEY ARE EMPTIED IN THE MORNING, THEY SHALL BE REMOVED FROM THE STREET PROMPTLY. BUILDINGS E & F SHALL ACCOMMODATE TRASH WITH TYPICAL TRASH TOTES AND BE PICKED UP ONCE A WEEK PER THE CITY'S SCHEDULE.

GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:

BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREAS	90%

*ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL), UNLESS OTHERWISE SPECIFIED.
3. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
4. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
5. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
6. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
7. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
8. STORMWATER CONNECTIONS TO THE MUNICIPAL DRAINAGE SYSTEM SHALL BE VERIFIED PRIOR TO CONSTRUCTION AND COORDINATED WITH THE FINAL CITY OF DOVER ROADWAY IMPROVEMENT PLANS.

EROSION CONTROL NOTES:

1. SEE SHEET C-501 FOR GENERAL EROSION CONTROL NOTES AND DETAILS.

UTILITY NOTES:

1. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY AND CITY OF DOVER INSPECTION SERVICES DEPARTMENT.
 - NATURAL GAS - UNITIL
 - WATER - CITY OF DOVER COMMUNITY SERVICES DEPARTMENT
 - SEWER - CITY OF DOVER COMMUNITY SERVICES DEPARTMENT
 - ELECTRIC - EVERSOURCE
 - COMMUNICATIONS - CONSOLIDATED COMMUNICATIONS, BREEZELINE & COMCAST
2. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
3. 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 COMMUNITY SERVICES DEPARTMENT.
4. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
5. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF DOVER STANDARDS.
6. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE COMMUNITY SERVICES DEPARTMENT STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
7. THE INSTALLATION OF ANY ELECTRIC POWER, CABLE TELEVISION, AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.
8. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
9. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
10. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
11. 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.
12. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
13. 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 WITH WATER ABOVE SEWER SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
14. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
15. HYDRANTS, GATE VALVES, FITTINGS), ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF DOVER.
16. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF DOVER.
17. ALL SEWER PIPE WITH LESS THAN 6' OF COVER WITHIN ROADWAY LOCATIONS OR LESS THAN 4' OF COVER IN ALL CROSS-COUNTRY LOCATIONS SHALL BE INSULATED.
18. 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.
19. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER. EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
20. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
21. CITY OF DOVER COMMUNITY SERVICES APPROVED BACKFLOW PREVENTERS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
22. THE PROPOSED STRUCTURES SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED UNDER CHAPTER 81-27 OF THE CODE OF THE CITY OF DOVER AND THE 2015 STATE BUILDING CODES.
23. 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.
24. FIRE DEPARTMENT CONNECTIONS 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.
25. UTILITY SERVICE CONNECTION LOCATIONS SHOWN HEREIN ARE BASED ON REFERENCE PLAN #3. UTILITY SERVICE CONNECTIONS SHALL BE VERIFIED PRIOR TO CONSTRUCTION AND COORDINATED WITH FINAL CITY OF DOVER ROADWAY IMPROVEMENTS PLANS AND CITY OF DOVER INSPECTION SERVICES DEPARTMENT.

26. ALL ELECTRICAL CONDUIT DUCT BANKS CONSTRUCTED WITHIN THE CITY RIGHT OF WAY SHALL BE ENCASED IN CONCRETE. ANY ELECTRICAL DUCT BANKS OUTSIDE OF THE CITY RIGHT OF WAY SHALL NOT BE ENCASED IN CONCRETE.
27. CONTRACTOR SHALL MATCH THE SLOPE OF THE EXISTING SEWER SERVICE LINE STUB. CONTRACTOR TO CONFIRM SLOPE WITH THE AS-BUILTS OF THE ROADWAY IMPROVEMENTS PROJECT PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DEVIATIONS FROM THE PLANS.

PEST CONTROL NOTES

1. THE CONTRACTOR SHALL ENGAGE A LICENSED EXTERMINATOR WHO PRACTICES INTEGRATED PEST MANAGEMENT (IPM) TO INSPECT THE PROJECT SITE AND PREPARE A PEST MANAGEMENT PLAN TO ELIMINATE RODENTS, NOXIOUS INSECTS AND ALL OTHER PESTS PRIOR TO DEMOLITION ACTIVITIES.
2. THE PEST MANAGEMENT PLAN SHALL BE COORDINATED WITH THE OWNER WHOSE WRITTEN APPROVAL SHALL BE REQUIRED PRIOR TO THE APPLICATION OF ANY PEST CONTROL MEASURE. CONTROL THE PROPOSED PLAN SHALL BE SUBMITTED TO THE OWNER AND ARCHITECT FOR REVIEW AND SHALL CLEARLY INDICATE THE FOLLOWING:
 - AREAS TO BE TREATED.
 - MANUFACTURER'S PRINTED INSTRUCTIONS AND MSDS FOR EACH CHEMICAL TO BE USED.
 - POLLUTION PREVENTATIVE MEASURES TO BE EMPLOYED.

REFERENCE PLANS:

1. "EXISTING CONDITIONS PLAN FOR HORSLEY WITTEN GROUP OF TAX MAP 22 LOT 1," PREPARED BY DOUCET SURVEY, INC., DATED AUGUST 2017.
2. "8573F (BLDG F TOPO) SHIPPED" PREPARED BY DOUCET SURVEY, INC., DATED JANUARY 2025.
3. "COCHECHO WATERFRONT 90% CONSTRUCTION DRAWINGS", PREPARED BY HORSLEY WITTEN GROUP, INC., DATED MAY 27, 2022.
4. "COCHECHO WATERFRONT DEVELOPMENT - PHASE 1," PREPARED BY TIGHE AND BOND, INC., LAST REVISED JANUARY 2, 2025.
5. "COCHECHO DEVELOPMENT SUBDIVISION PLAN" PREPARED BY DOUCET SURVEY, INC, DATED SEPTEMBER 2020.
6. "AS-BUILT RAP SUBGRADE PLAN" PREPARED BY DOUCET SURVEY, INC., LAST REVISED FEBRUARY 20, 2025.



Cochecho Waterfront Development

Applicant:
CPI Management, LLC
c/o Cathartes

Owner:
City of Dover

Dover File #: P21-69

Dover, New Hampshire

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MARK	DATE	DESCRIPTION
PROJECT NO:		C-0950-007
DATE:		March 21, 2025
FILE:		C0960-007-DSGN-CD-P2.DWG
DRAWN BY:		CKJ
CHECKED:		NAH
APPROVED:		PMC

GENERAL NOTES SHEET

SCALE: AS SHOWN

G-100

Last Save Date: April 23, 2025 9:52 AM By: ChrZCUK
Plot Date: Wednesday, April 23, 2025 Plotted By: Colter Krzouk
P&E File Location: J:\C0960 Catartas\C-0960-007 Cochecho Waterfront\Drawings\Figures\AutoCAD\ Construction Drawings\Sheet\C0960-007-DSGN-CD-P2.dwg Layout Tab: G-101-P2

EXISTING PROPERTY LINE

PROPOSED PROPERTY LINE

DESIGNATED CAP AREA

EXISTING VERNAL POOL

PROPOSED LIMIT OF WORK

EXISTING FENCE

PROPOSED FENCE

EXISTING CONCRETE SIDEWALK

PROPOSED CONCRETE SIDEWALK

PROPOSED PAVEMENT SECTION

PROPOSED SNOW STORAGE AREAS

EXISTING TREE LINE

PROPOSED BUILDING

PROPOSED GRANITE CURBING

PROPOSED ENTRANCE GATE

PROPOSED SIGN

PROPOSED BOLLARD MOUNTED SIGN

PROPOSED LIGHT POLE BASE

EXISTING MAJOR CONTOUR

EXISTING MINOR CONTOUR

PHASE 1 DESIGN MAJOR CONTOUR

PHASE 1 DESIGN MINOR CONTOUR

PROPOSED MAJOR CONTOUR

PROPOSED MINOR CONTOUR

PROPOSED FLOW DIRECTION

PROPOSED SLOPE ARROW

PROPOSED SPOT GRADE

EXISTING DRAIN MANHOLE

EXISTING CATCH BASIN

EXISTING YARD DRAIN

EXISTING DRAIN LINE

AS BUILT EXISTING DRAIN LINE

PROPOSED DRAIN MANHOLE

PROPOSED CATCH BASIN

PROPOSED YARD DRAIN

PROPOSED DRAIN LINE

PROPOSED INLET PROTECTION BARRIER

PROPOSED PERIMETER EROSION CONTROL

EXISTING SEWER MANHOLE

AS BUILT EXISTING SEWER LINE

EXISTING SEWER LINE

PROPOSED SEWER MANHOLE

PROPOSED SEWER LINE

AS BUILT EXISTING ELECTRIC LINE

AS BUILT EXISTING COMMUNICATIONS LINE

EXISTING ELECTRIC LINE

PROPOSED TRANSFORMER

PROPOSED ELECTRIC LINE

PROPOSED COMMUNICATIONS LINE

AS BUILT EXISTING GAS LINE

EXISTING GAS LINE

PROPOSED GAS LINE

AS BUILT EXISTING WATER LINE

AS BUILT EXISTING FIRE HYDRANT

PROPOSED WATER LINE

PROPOSED FDC LOCATION

PROPOSED GATE VALVE

PROPOSED THRUST BLOCK

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS	MIN	MINIMUM
AC	ACRES	OC	ON CENTER
ADA	AMERICANS WITH DISABILITIES ACT	PAD	PROPOSED AREA DRAIN
AGGR	AGGREGATE	PCB	PROPOSED CATCH BASIN
BLDG	BUILDING	PDMH	PROPOSED DRAINAGE MANHOLE
BC	BOTTOM OF CURB	PFI	PROPOSED FIELD INLET
BW	BOTTOM OF WALL	POS	PROPOSED OUTLET STRUCTURE
CB	CATCH BASIN	PROP	PROPOSED
CONST	CONSTRUCT	PSMH	PROPOSED SEWER MANHOLE
COORD	COORDINATE	PVC	POLYVINYL CHLORIDE
DIA	DIAMETER	PVMT	PAVEMENT
DIP	DUCTILE IRON PIPE	PYD	PROPOSED YARD DRAIN
DMH	DRAINAGE MANHOLE	R	RADIUS
DWG	DRAWING	RL	ROOF LEADER
ELEV	ELEVATION	ROW	RIGHT OF WAY
EP	EDGE OF PAVEMENT	SGC	SLOPED GRANITE CURB
EV	ELECTRIC VEHICLE	SF	SQUARE FEET
FF	FINISHED FLOOR	STD	STANDARD
FGC	FLUSH GRANITE CURB	TBR	TO BE REMOVED
HDPE	HIGH DENSITY POLYETHYLENE	TC	TOP OF CURB
HMA	HOT MIX ASPHALT	TW	TOP OF WALL
HYD	HYDRANT	TYP	TYPICAL
ID	INSIDE DIAMETER	UD	UNDERDRAIN
INV	INVERT	VGC	VERTICAL GRANITE CURB
L	LENGTH	W	WIDTH
LF	LINEAR FEET	W/	WITH
MAX	MAXIMUM	YD	YARD DRAIN

Tighe&Bond

Cochecho Waterfront Development

Applicant:
CPI Management, LLC
c/o Cathartes

Owner:
City of Dover

Dover File #: P21-69

Dover, New Hampshire

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PROJECT NO:		C-0960-007
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DRAWN BY:		CJK
CHECKED:		NAH
APPROVED:		PMC

LEGEND & ABBREVIATIONS SHEET

SCALE: AS SHOWN

G-101

Last Save Date: April 23, 2025 9:52 AM By: CKRZCUK
Plot Date: Wednesday, April 23, 2025 Plotted By: Colter Krzulk
File Location: J:\C0960 Cartaxes\C-960-07 Cochecho Waterfront Drawings\Figures\AutCAD\ Construction Drawings\Sheet\C0960-007-DSGN-CD-P2.dwg Layout Tab: G-102-P2

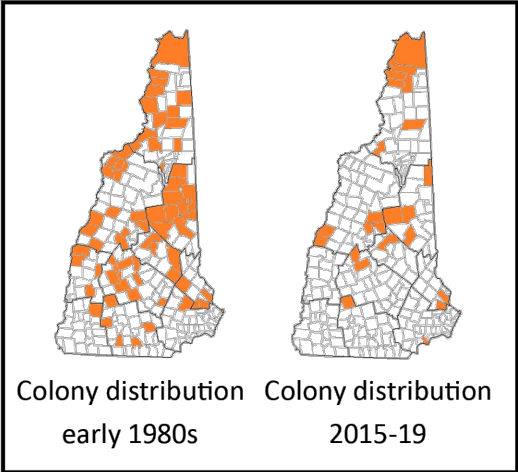
RECOMMENDED PERMIT CONDITIONS:

1. CLIFF SWALLOW (STATE THREATENED) OCCUR WITHIN THE VICINITY OF THE PROJECT AREA. ALL OPERATORS AND PERSONNEL WORKING ON OR ENTERING THE SITE SHALL BE MADE AWARE OF THE POTENTIAL PRESENCE OF THIS SPECIES AND SHALL BE PROVIDED FLYERS THAT HELP TO IDENTIFY THESE SPECIES, ALONG WITH NHFG CONTACT INFORMATION. CLIFF SWALLOWS AND THEIR NESTS ARE PROTECTED UNDER STATE AND FEDERAL LAWS.
2. RARE SPECIES INFORMATION (E.G. IDENTIFICATION, OBSERVATION AND REPORTING OF OBSERVATIONS, WHEN TO CONTACT NHFG IMMEDIATELY AND NHFG CONTACT INFORMATION) SHALL BE COMMUNICATED DURING MORNING TAILGATE MEETINGS PRIOR TO WORK COMMENCEMENT.
3. ALL MANUFACTURED EROSION AND SEDIMENT CONTROL PRODUCTS, WITH THE EXCEPTION OF TURF REINFORCEMENT MATS, UTILIZED FOR, BUT NOT LIMITED TO, SLOPE PROTECTION, RUNOFF DIVERSION, SLOPE INTERRUPTION, PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, AND SEDIMENT TRAPS SHALL NOT CONTAIN PLASTIC, OR MULTIFILAMENT OR MONOFILAMENT POLYPROPYLENE NETTING OR MESH WITH AN OPENING SIZE OF GREATER THAN 1/8 INCHES. SEE PLAN SHEET C-502.
4. ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES OR THEIR NESTS ON THE PROJECT SITE SHALL BE REPORTED IMMEDIATELY TO THE NHFG NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV, WITH THE EMAIL SUBJECT LINE CONTAINING THE NHB DATACHECK TOOL RESULTS LETTER ASSIGNED NUMBER, THE PROJECT NAME, AND THE TERM WILDLIFE SPECIES OBSERVATION.
5. PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHFG IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION, AS FEASIBLE.
6. 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 NHFG AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHFG.
7. THE NHFG, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

Cliff Swallows in New Hampshire: Fast Facts

Distribution and trends (see maps):
Early 1980s: over 80 colonies
Early 2000s: fewer than 40 colonies
2015-2019: 20-25 colonies

Existing colonies are primarily located in north-ern Coos County, with a second cluster in the Lakes Region. Most are on houses or barns, with two known sites on bridges. They range in size from single pairs to over 30, with most in the 5-10 range.



Migration:

- Arrive in early May and depart in August
- Rarely linger into September

Breeding:

- Lay eggs by end of May (sometimes later in the north)
- Incubation for two weeks
- Young leave nest in three weeks
- Most breeding completed by end of July

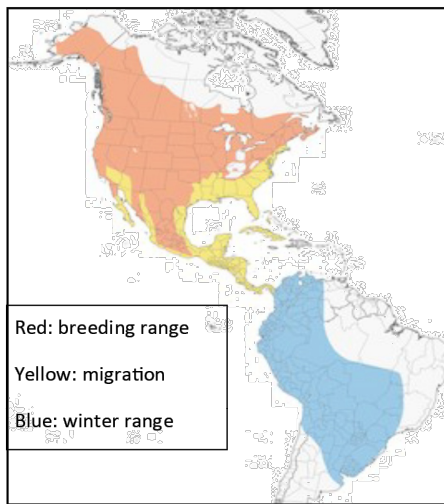
Species Overview

Cliff Swallows may be confused with the related Barn Swallow, which is far more common in NH. Barn Swallows are easily recognized by their long forked tails, while those of Cliff Swallows are short and square. They also have a buffy rump and white forehead.

Cliff Swallows breed across most of North America and spend the winter in South America.



Photo by Dick Dionne



Historically, they nested on vertical natural cliffs in western North America, but were rare in the largely forested east. Agricultural clearing in the late 1800s created the open habitat needed for foraging, and allowed the species to expand its range into New England. The birds that colonized the east tended to nest on buildings, since natural cliffs were rare. More recently the species also took to nesting on bridges.

Threats to Cliff Swallows

Disturbance

Cliff Swallows and active nests are protected under state and federal law but nests are some-times removed by homeowners who do not want mud or droppings on the sides of their houses. Nests are also vulnerable to removal during bridge-cleaning.

Competition

Non-native House Sparrows often occur in the same agricultural settings as Cliff Swallows, and may take up residence in old swallow nests be-fore swallows arrive in the spring. Even if swal-lows build new nests, the sparrows may take them over, and are also known to remove eggs or kill nestling swallows in the process.

Pesticides

Pesticide use in heavily agricultural landscapes may result in declines in Cliff Swallows’ insect prey. Data linking agricultural intensification to swallow reproductive success are inconclu-sive, and more research is needed.

Climate change

Cold wet weather in late spring suppresses fly-ing insects, and thus reduces food availability for swallows. If weather patterns become in-creasingly variable in this manner, swallows may fail to reproduce or suffer direct mortality.

Habitat loss

As farms are abandoned, the availability of barns for nesting and associated fields for for-aging may become lower. Many formerly-occupied sites in NH do not appear to have changed so this threat is presumed low.

- Common Nighthawk (endangered)
Purple Martin (threatened)
Bank Swallow
Chimney Swift
Eastern Whip-poor-will
Olive-sided Flycatcher

For more information on these species, please see the NH Wildlife Action Plan
<https://www.wildlife.state.nh.us/wildlife/wap.html>

For more detail on NH Cliff Swallows or to report sightings, contact Pam Hunt at NH Audubon (phunt@nhaudubon.org, 603-224-9909 x328). Additional information available at: <https://www.cliffswallow.org/>

Acknowledgments

Brochure developed by NH Audubon and the NH Fish and Game Department’s Nongame Program with funding from a USFWS State Wildlife Grant and private donations.



NH’s Threatened

Cliff Swallows



Photo by Alan Schmierer

The Cliff Swallow (*Petrochelidon pyrrhonota*) is a colonial swallow that builds mud nests on vertical surfaces across most of North America. The number of colonies in New Hampshire has declined from over 80 in the 1980s to less than 25 today, and as a result it was added to the state’s list of threatened species in 2017.



Cliff Swallow in a nest in Pittsburg (Pam Hunt)

The nest is gourd-shaped, made of mud, and attached to a vertical surface under an overhang (e.g., building eave). Nests are often very close together, even overlapping.

How You Can Help Cliff Swallows

Please don’t knock down their nests!

With so few colonies in NH, we need to help Cliff Swallows as much as we can. If nests are resulting in a mess on the outside of your house, please wait until August to remove them and contact NH Audubon or NHFG for further guidance. Cliff Swallows and active nests are protected under state and federal law.

Provide artificial nests

Sometimes Cliff Swallows will build their nests on clay replicas attached to eaves of buildings, and this may be a way to get them to move loca-tions. Nests should be placed at the top of a wall and directly under the eaves, and taken down for cleaning over the winter.

Provide a source of mud

If you do have nesting Cliff Swallows, you can help them out by maintaining a mud puddle nearby. They’ll use this throughout the season to refurbish their nests. Make sure the mud is sticky (e.g., a good clay content).



Cliff Swallows gathering mud in Missouri (Pam Hunt)

Minimize use of insecticides

Report colonies to NH Audubon

If you see Cliff Swallows on your property during the summer, report them, even if you don’t see nests.

Cochecho Waterfront Development

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CPI Management, LLC
c/o Cathartes

Owner:
City of Dover

Dover File #: P21-69

Dover, New Hampshire

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DRAWN BY:		CJK
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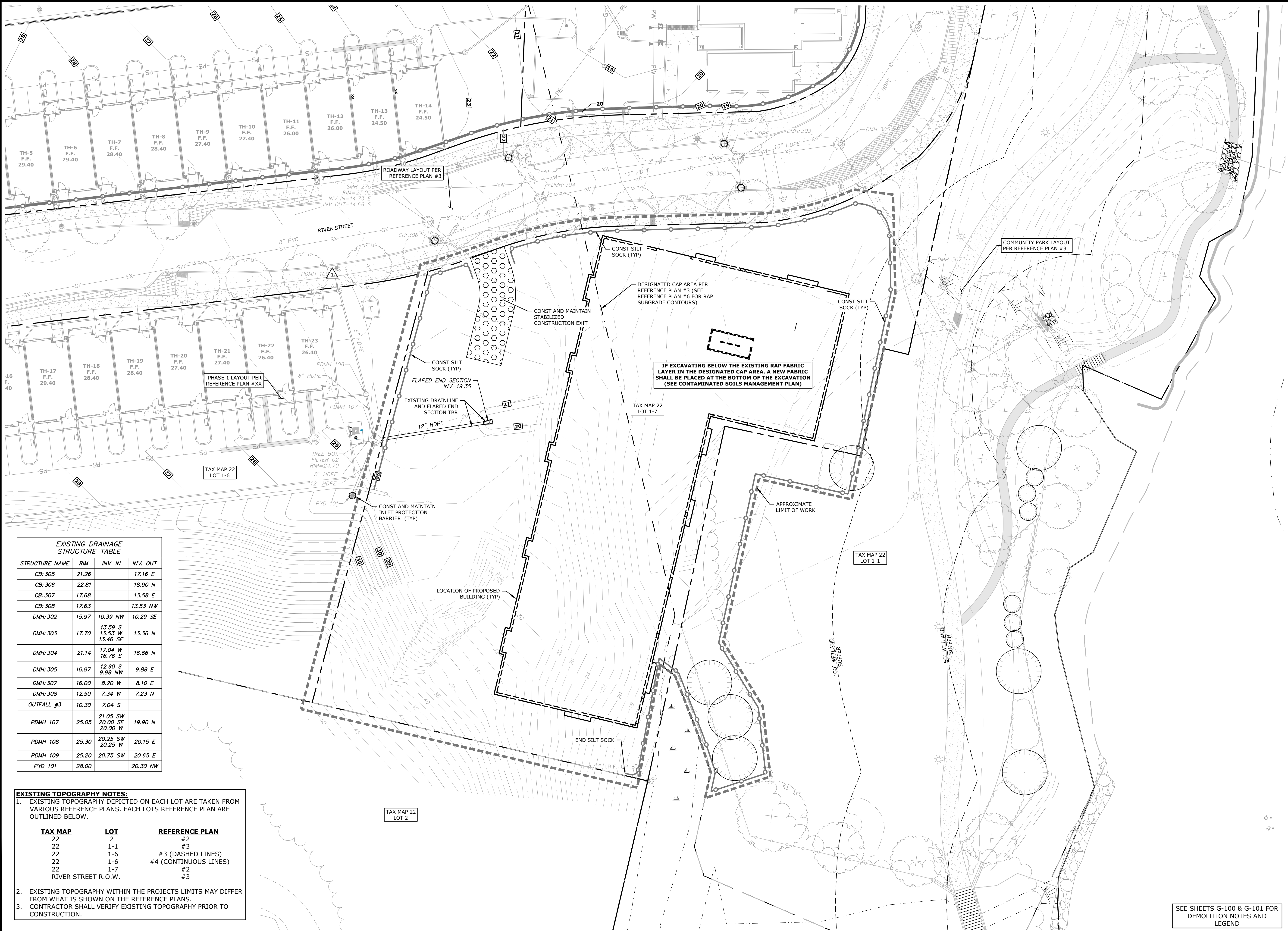
FISH & GAME
NOTES

SCALE: AS SHOWN

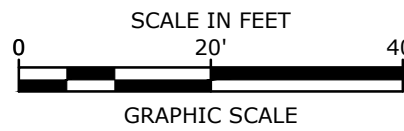
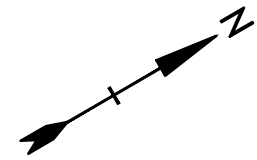
Last Save Date: April 23, 2025 9:52 AM By: CKRZCUIK
Plot Date: Wednesday, April 23, 2025 Plotted By: Colter Krzulk
268 File Location: Z:\C0960-Cathartes\C-0960-07 Cochecho Waterfront Drawings\Sheets\C0960-007-DSGN-CD-P2.dwg Layout Tab: C-301

EXISTING DRAINAGE STRUCTURE TABLE			
STRUCTURE NAME	RIM	INV. IN	INV. OUT
CB-305	21.26		17.16 E
CB-306	22.81		18.90 N
CB-307	17.68		13.58 E
CB-308	17.63		13.53 NW
DMH: 302	15.97	10.39 NW	10.29 SE
DMH: 303	17.70	13.59 S 13.53 W 13.46 SE	13.36 N
DMH: 304	21.14	17.04 W 16.76 S	16.66 N
DMH: 305	16.97	12.90 S 9.98 NW	9.88 E
DMH: 307	16.00	8.20 W	8.10 E
DMH: 308	12.50	7.34 W	7.23 N
OUTFALL #3	10.30	7.04 S	
PDMH 107	25.05	21.05 SW 20.00 SE 20.00 W	19.90 N
PDMH 108	25.30	20.25 SW 20.25 W	20.15 E
PDMH 109	25.20	20.75 SW	20.65 E
PYD 101	28.00		20.30 NW

- EXISTING TOPOGRAPHY NOTES:**
- EXISTING TOPOGRAPHY DEPICTED ON EACH LOT ARE TAKEN FROM VARIOUS REFERENCE PLANS. EACH LOTS REFERENCE PLAN ARE OUTLINED BELOW.
- | TAX MAP | LOT | REFERENCE PLAN |
|---------------------|-----|-----------------------|
| 22 | 2 | #2 |
| 22 | 1-1 | #3 |
| 22 | 1-6 | #3 (DASHED LINES) |
| 22 | 1-6 | #4 (CONTINUOUS LINES) |
| 22 | 1-7 | #2 |
| RIVER STREET R.O.W. | | #3 |
- EXISTING TOPOGRAPHY WITHIN THE PROJECTS LIMITS MAY DIFFER FROM WHAT IS SHOWN ON THE REFERENCE PLANS.
 - CONTRACTOR SHALL VERIFY EXISTING TOPOGRAPHY PRIOR TO CONSTRUCTION.



Tighe&Bond



Cochecho Waterfront Development

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c/o Cathartes

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Dover, New Hampshire

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DRAWN BY:	CJK
CHECKED:	NAH
APPROVED:	PMC

**PHASE 2
EXISTING CONDITIONS &
DEMOLITION PLAN**

SCALE: AS SHOWN

C-301

SEE SHEETS G-100 & G-101 FOR
DEMOLITION NOTES AND
LEGEND

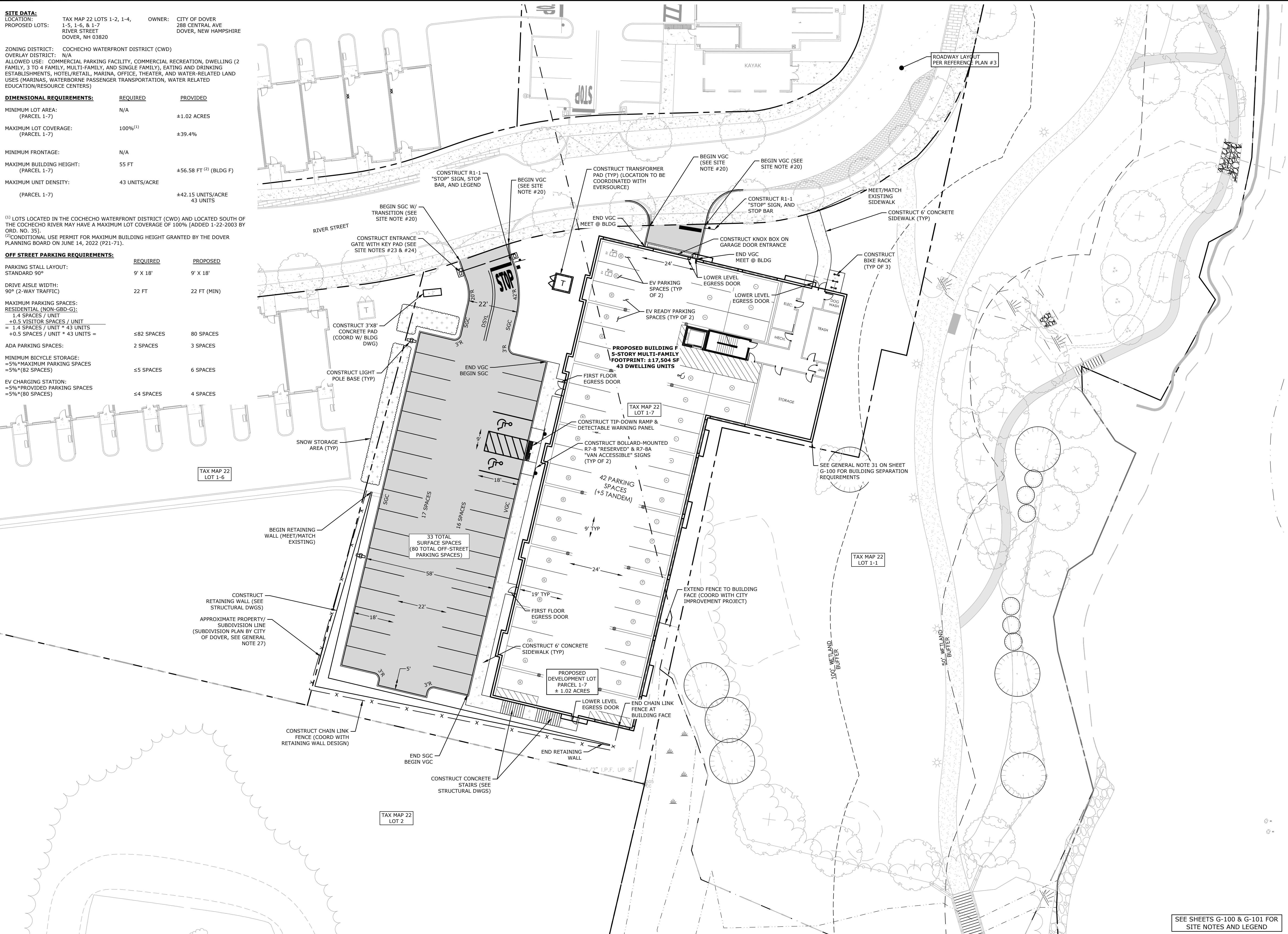
ZONING DISTRICT: COACHEO WATERFRONT DISTRICT (CWD)
 OVERLAY DISTRICT: N/A
 ALLOWED USE: COMMERCIAL PARKING FACILITY, COMMERCIAL RECREATION, DWELLING (2 FAMILY, 3 TO 4 FAMILY, MULTI-FAMILY, AND SINGLE FAMILY), EATING AND DRINKING ESTABLISHMENTS, HOTEL/RETAIL, MARINA, OFFICE, THEATER, AND WATER-RELATED LAND USES (MARINAS, WATERBORNE PASSENGER TRANSPORTATION, WATER RELATED EDUCATION/RESOURCE CENTERS)

<u>DIMENSIONAL REQUIREMENTS:</u>	<u>REQUIRED</u>	<u>PROVIDED</u>
MINIMUM LOT AREA: (PARCEL 1-7)	N/A	±1.02 ACRES
MAXIMUM LOT COVERAGE: (PARCEL 1-7)	100% ⁽¹⁾	±39.4%
MINIMUM FRONTAGE:	N/A	
MAXIMUM BUILDING HEIGHT: (PARCEL 1-7)	55 FT	±56.58 FT ⁽²⁾ (BLDG F)
MAXIMUM UNIT DENSITY: (PARCEL 1-7)	43 UNITS/ACRE	±42.15 UNITS/ACRE 43 UNITS

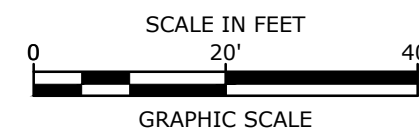
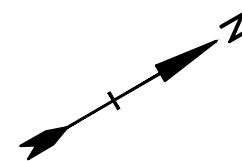
(2) CONDITIONAL USE PERMIT FOR MAXIMUM BUILDING HEIGHT GRANTED BY THE DOVER PLANNING BOARD ON JUNE 14, 2022 (P21-71).

OFF STREET PARKING REQUIREMENTS:

<u>717 STREET PARKING REQUIREMENTS:</u>	<u>REQUIRED</u>	<u>PROPOSED</u>
PARKING STALL LAYOUT: STANDARD 90°	9' X 18'	9' X 18'
DRIVE AISLE WIDTH: 90° (2-WAY TRAFFIC)	22 FT	22 FT (MIN)
MAXIMUM PARKING SPACES: <u>RESIDENTIAL (NON-GBD-G):</u> 1.4 SPACES / UNIT +0.5 VISITOR SPACES / UNIT = 1.4 SPACES / UNIT * 43 UNITS +0.5 SPACES / UNIT * 43 UNITS =	≤82 SPACES	80 SPACES
ADA PARKING SPACES:	2 SPACES	3 SPACES
MINIMUM BICYCLE STORAGE: =5%*MAXIMUM PARKING SPACES =5%*(82 SPACES)	≤5 SPACES	6 SPACES
EV CHARGING STATION: =5%*PROVIDED PARKING SPACES =5%*(80 SPACES)	≤4 SPACES	4 SPACES



Tighe&Bond



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Dover, New Hampshire

NOT FOR CONSTRUCTION

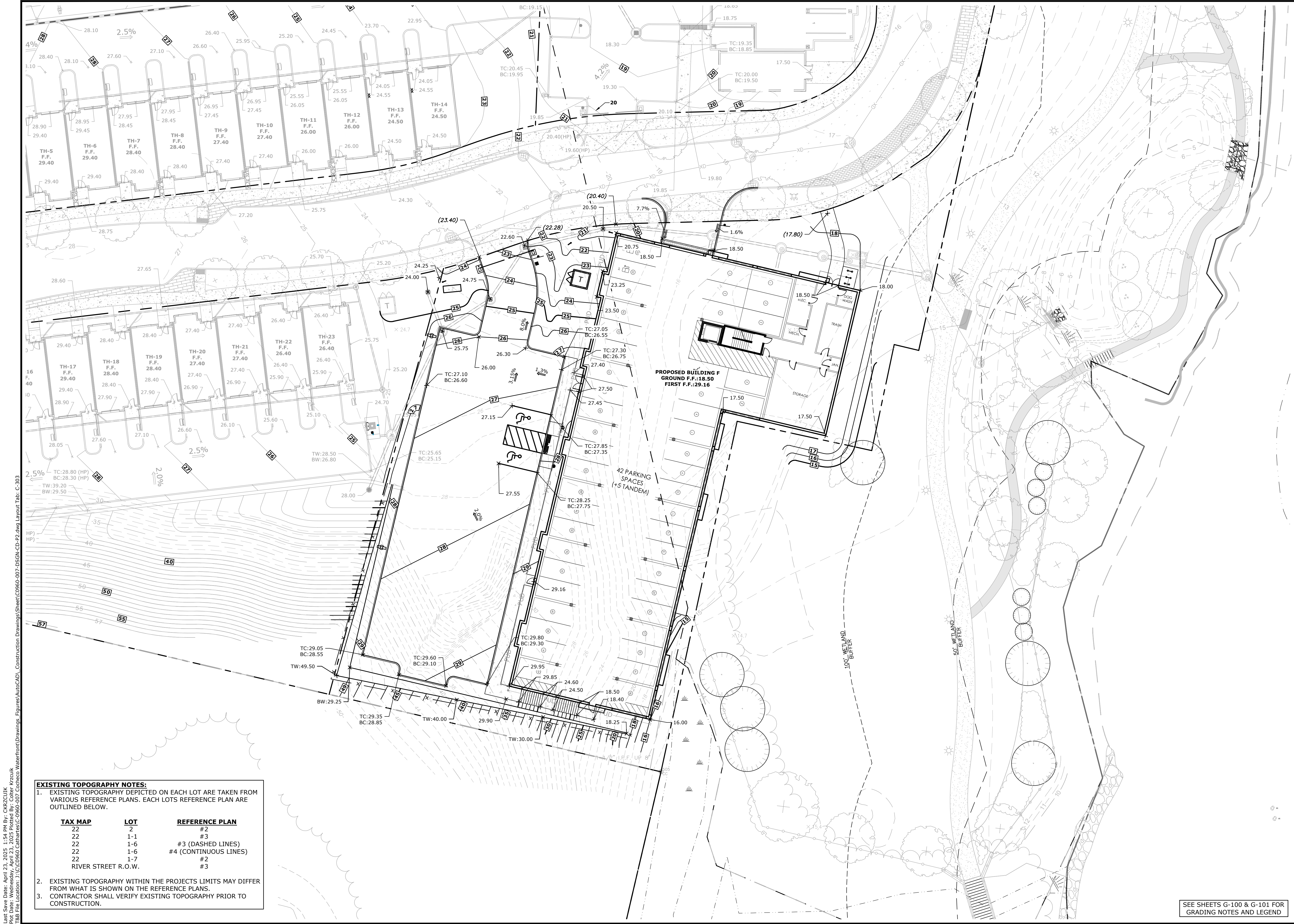
B	4/23/2025	Admin Approval Set
A	3/21/2025	50% Construction Drawings
MARK	DATE	DESCRIPTION
PROJECT NO:		C-0960-007
DATE:		March 5, 2025
FILE:		C0960-007-DSGN-CD-P2.DWG
DRAWN BY:		CJK
CHECKED:		NAH
APPROVED:		PMC

PHASE 2
SITE PLAN

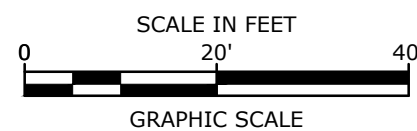
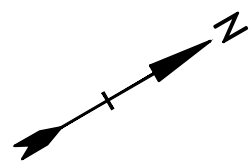
SCALE: AS SHOWN

C-302

SEE SHEETS G-100 & G-101 FOR
SITE NOTES AND LEGEND



Tighe&Bond



Cochecho
Waterfront
Development

Applicant:
CPI Management, LLC
c/o Cathartes

Owner:
City of Dover

Dover File #: P21-69

Dover, New Hampshire

NOT FOR CONSTRUCTION

B	4/23/2025	Admin Approval Set
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PROJECT NO:	C-0960-007
DATE:	March 21, 2025
FILE:	C0960-007-DSGN-CD-P2.DWG
DRAWN BY:	CJK
CHECKED:	NAH
APPROVED:	PMC

PHASE 2
GRADING PLAN

SCALE: AS SHOWN

C-303

EXISTING TOPOGRAPHY NOTES:

1. EXISTING TOPOGRAPHY DEPICTED ON EACH LOT ARE TAKEN FROM VARIOUS REFERENCE PLANS. EACH LOT'S REFERENCE PLAN ARE OUTLINED BELOW.

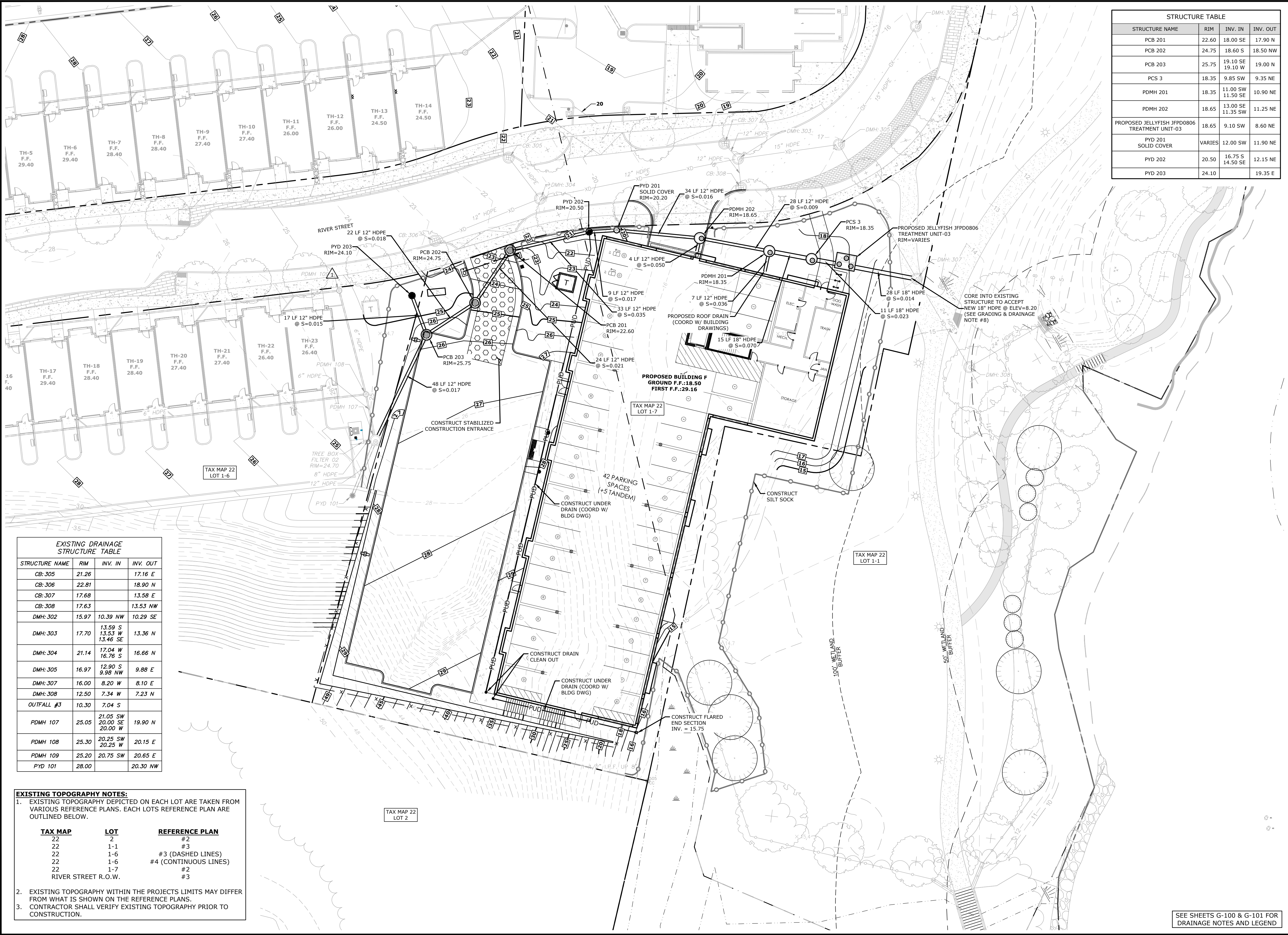
TAX MAP	LOT	REFERENCE PLAN
22	2	#2
22	1-1	#3
22	1-6	#3 (DASHED LINES)
22	1-6	#4 (CONTINUOUS LINES)
22	1-7	#2
RIVER STREET R.O.W.		#3

2. EXISTING TOPOGRAPHY WITHIN THE PROJECT'S LIMITS MAY DIFFER FROM WHAT IS SHOWN ON THE REFERENCE PLANS.

3. CONTRACTOR SHALL VERIFY EXISTING TOPOGRAPHY PRIOR TO CONSTRUCTION.

SEE SHEETS G-100 & G-101 FOR
GRADING NOTES AND LEGEND

Last Save Date: April 23, 2025 1:54 PM By: CKZCUIK
Plot Date: Wednesday, April 23, 2025 Plotted By: Colter Krzulik
248 File Location: J:\C0960 Catartex\CD-0960-007 Cochecho Waterfront Drawings\Sheets\CD-0960-007-DSGN-CD-P2.dwg Layout Tab: C-304



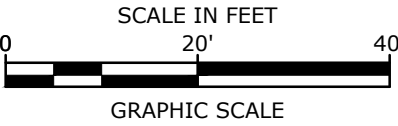
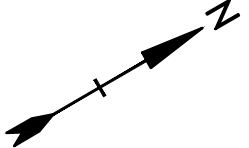
EXISTING DRAINAGE STRUCTURE TABLE			
STRUCTURE NAME	RIM	INV. IN	INV. OUT
CB-305	21.26		17.16 E
CB-306	22.81		18.90 N
CB-307	17.68		13.58 E
CB-308	17.63		13.53 NW
DMH: 302	15.97	10.39 NW	10.29 SE
DMH: 303	17.70	13.59 S 13.53 W 13.46 SE	13.36 N
DMH: 304	21.14	17.04 W 16.76 S	16.66 N
DMH: 305	16.97	12.90 S 9.98 NW	9.88 E
DMH: 307	16.00	8.20 W	8.10 E
DMH: 308	12.50	7.34 W	7.23 N
OUTFALL #3	10.30	7.04 S	
PDMH 107	25.05	21.05 SW 20.00 SE 20.00 W	19.90 N
PDMH 108	25.30	20.25 SW 20.25 W	20.15 E
PDMH 109	25.20	20.75 SW	20.65 E
PYD 101	28.00		20.30 NW

- EXISTING TOPOGRAPHY NOTES:**
- EXISTING TOPOGRAPHY DEPICTED ON EACH LOT ARE TAKEN FROM VARIOUS REFERENCE PLANS. EACH LOTS REFERENCE PLAN ARE OUTLINED BELOW.

TAX MAP	LOT	REFERENCE PLAN
22	2	#2
22	1-1	#3
22	1-6	#3 (DASHED LINES)
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RIVER STREET R.O.W.		#3
 - EXISTING TOPOGRAPHY WITHIN THE PROJECTS LIMITS MAY DIFFER FROM WHAT IS SHOWN ON THE REFERENCE PLANS.
 - CONTRACTOR SHALL VERIFY EXISTING TOPOGRAPHY PRIOR TO CONSTRUCTION.

STRUCTURE TABLE			
STRUCTURE NAME	RIM	INV. IN	INV. OUT
PCB 201	22.60	18.00 SE	17.90 N
PCB 202	24.75	18.60 S	18.50 NW
PCB 203	25.75	19.10 SE 19.10 W	19.00 N
PCS 3	18.35	9.85 SW	9.35 NE
PDMH 201	18.35	11.00 SW 11.50 SE	10.90 NE
PDMH 202	18.65	13.00 SE 11.35 SW	11.25 NE
PROPOSED JELLYFISH JFPD0806 TREATMENT UNIT-03	18.65	9.10 SW	8.60 NE
PYD 201 SOLID COVER	VARIES	12.00 SW	11.90 NE
PYD 202	20.50	16.75 S 14.50 SE	12.15 NE
PYD 203	24.10		19.35 E

Tighe&Bond



Cochecho Waterfront Development

Applicant:
CPI Management, LLC
c/o Cathartes

Owner:
City of Dover

Dover File #: P21-69

Dover, New Hampshire

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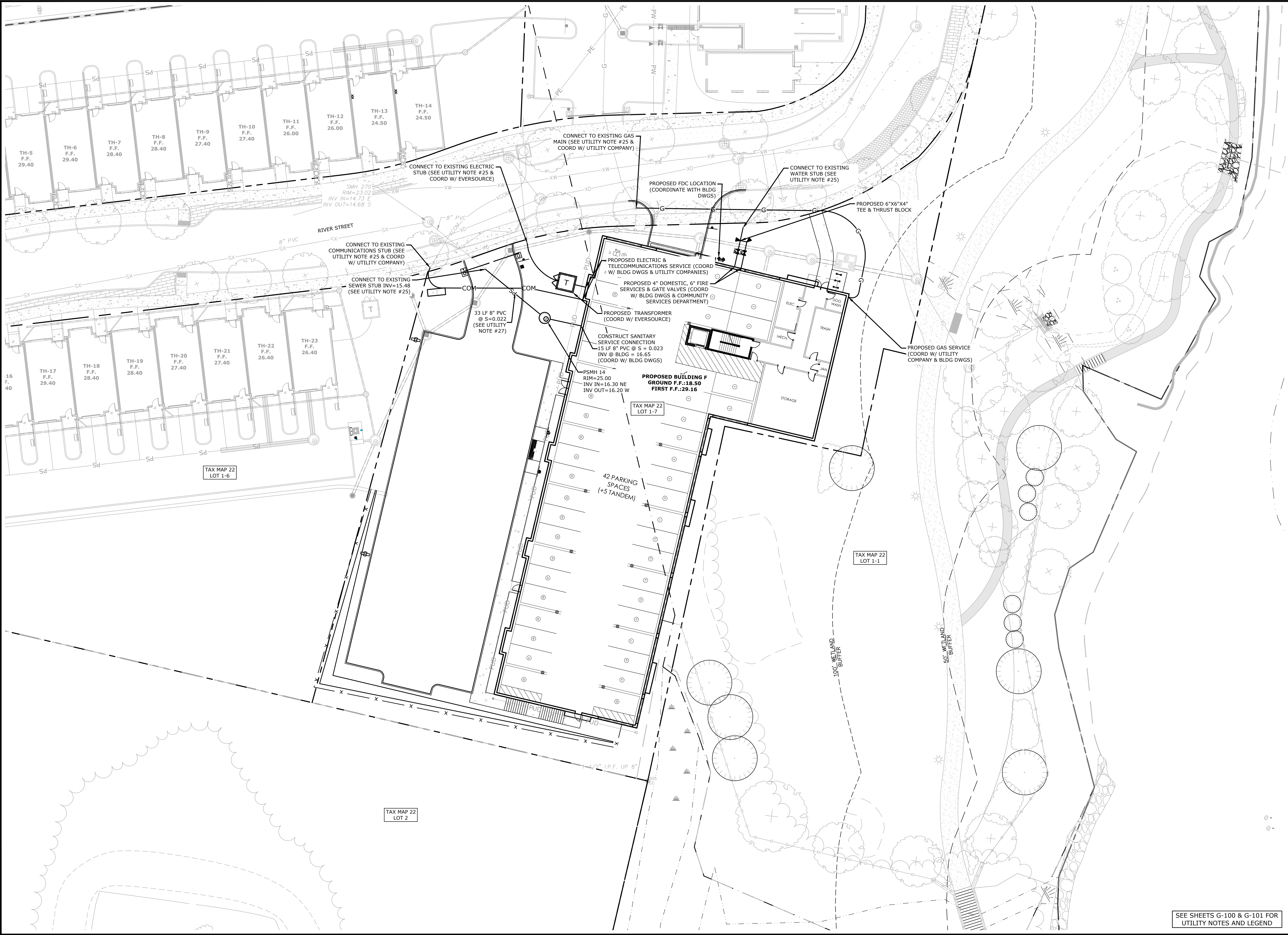
PHASE 2 DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-304

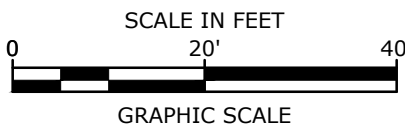
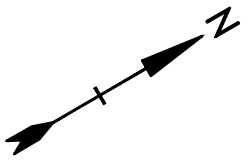
SEE SHEETS G-100 & G-101 FOR DRAINAGE NOTES AND LEGEND

Last Save Date: April 23, 2025 1:54 PM By: CKRZCUK
Plot Date: Wednesday, April 23, 2025 Plotted By: Collier Krzulk
File Location: J:\C0960 Catartas\C-0960-007 Cochecho Waterfront Drawings Figures\AutoCAD Construction Drawings\Sheet\0960-007-DSGN-CD-P2.dwg Layout Tab: C-305



SEE SHEETS G-100 & G-101 FOR
UTILITY NOTES AND LEGEND

Tighe&Bond



Cochecho Waterfront Development

Applicant:
CPI Management, LLC
c/o Cathartes

Owner:
City of Dover

Dover File #: P21-69

Dover, New Hampshire

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DRAWN BY:	CJK
CHECKED:	NAH
APPROVED:	PMC

PHASE 2
UTILITY PLAN

SCALE: AS SHOWN

C-305

GENERAL PROJECT INFORMATION

PROJECT OWNER: CITY OF DOVER
288 CENTRAL AVE
DOVER, NEW HAMPSHIRE 03820
PROJECT NAME: COCHECHO WATERFRONT DEVELOPMENT
PROJECT ADDRESS: RIVER STREET
DOVER, NEW HAMPSHIRE 03820
PROJECT MAP / LOT: MAP 22 / LOT 1-2, 1-4, 1-5, 1-6, & 1-7
PROJECT LATITUDE: 43°11'41.4"N
PROJECT LONGITUDE: 70°52'09.5"W

PROJECT DESCRIPTION

THE PROPOSED PROJECT CONSISTS OF THREE (3) MIXED USE BUILDINGS, TWO (2) MULTI-FAMILY BUILDINGS AND THREE (3) SETS OF TOWN HOUSES ALONG RIVER STREET AND WASHINGTON STREET, INCLUDING ASSOCIATED SITE IMPROVEMENTS.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 10.47 ACRES.

SOIL CHARACTERISTICS

BASED ON THE NRCS WEB SOIL SURVEY FOR STRAFFORD COUNTY - NEW HAMPSHIRE, THE SOILS ON SITE CONSIST OF BUXTON AND SUFFIELD SILT LOAM SOILS WHICH HAVE A SLOW INFILTRATION RATE WHEN THOROUGHLY WET. THESE SOILS HAVE A HYDROLOGIC SOIL GROUP RATING OF C/D.

NAME OF RECEIVING WATERS

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA OVERLAND FLOW TO A CLOSED DRAINAGE SYSTEM THAT ULTIMATELY FLOWS TO THE COCHECHO RIVER. THE COCHECHO RIVER HAS BEEN LISTED AS IMPAIRED ACCORDING TO NHDES 2012 303(D) LIST, WATERBODY ID: NHEST600030608-01.

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:

- BUILDING DEMOLITION AND SITE FEATURE DEMOLITION.
- CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
 - NEW CONSTRUCTION
 - DISPOSAL OF SEDIMENT SPOIL, STUMP AND OTHER SOLID WASTE
 - CONTROL OF DUST
 - CONSTRUCTION OF ACCESS
 - NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
 - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
- ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
- CLEAR AND DISPOSE OF DEBRIS.
- CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
- GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
- FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
- INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
- COMPLETE PERMANENT SEEDING AND LANDSCAPING.
- REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

SPECIAL CONSTRUCTION NOTES:

- THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE. DISTURBED AREAS SHALL NOT EXCEED 5 ACRES AT ANY ONE TIME BEFORE BEING STABILIZED. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT OR THEIR DESIGNATED AGENT SHALL HAVE ACCESS TO THE SITE TO COMPLETE ROUTINE INSPECTIONS.
 - THE COMMUNITY SERVICES DEPARTMENT SHALL BE NOTIFIED 24-HOURS PRIOR TO INSTALLATION OF A STORMWATER BMP IN ORDER TO SCHEDULE AN INSPECTION. THESE INSPECTIONS SHALL BE COMPLETED DURING NORMAL WORKING HOURS.
- THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

EROSION CONTROL NOTES:

- ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
- PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
- CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALE, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
- SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
- PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
- THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
- ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
- INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
- CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION:

- AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
 - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
- EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- WINTER STABILIZATION PRACTICES:
 - ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
 - ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;
 - AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW

- AFTER EACH STORM EVENT;
- STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
 - TEMPORARY SEEDING;
 - MULCHING;
- WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
- DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT FENCES, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY NOVEMBER 15.

DUST CONTROL:

- THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
- DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
- DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

STOCKPILES:

- LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
- ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
- PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
- PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OFF SITE VEHICLE TRACKING:

- THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

VEGETATION:

- TEMPORARY GRASS COVER:
 - SEEDBED PREPARATION:
 - APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE;
 - SEEDING:
 - UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE;
 - WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED;
 - APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING;
 - MAINTENANCE:
 - TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% 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 BARRIERS, CHECK DAMS, ETC.).
- VEGETATIVE PRACTICE:
 - FOR PERMANENT MEASURES AND PLANTINGS:
 - LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF THREE (3) TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5;
 - FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER;
 - SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH;
 - SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH;
 - HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE; THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDDED, AND ALL NOXIOUS WEEDS REMOVED;
 - THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDDED AREAS UNTIL ACCEPTED;
 - A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:

SEED MIX	APPLICATION RATE
TALL FESCUE	15 LBS/ACRE
CREeping RED FESCUE	10 LBS/ACRE
BIRDSFOOT TREFoil	8 LBS/ACRE

IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.
 - DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
 - FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

CONCRETE WASHOUT AREA:

- THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
 - THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
 - IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
 - CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
 - INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES:

- FIRE-FIGHTING ACTIVITIES;

- FIRE HYDRANT FLUSHING;
- WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
- WATER USED TO CONTROL DUST;
- POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
- ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
- PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
- UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
- UNCONTAMINATED GROUND WATER OR SPRING WATER;
- FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
- UNCONTAMINATED EXCAVATION DEWATERING;
- LANDSCAPE IRRIGATION.

WASTE DISPOSAL:

- WASTE MATERIAL:
 - ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
 - NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
 - ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
- HAZARDOUS WASTE:
 - ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
 - SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
- SANITARY WASTE:
 - ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION:

- CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
- THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
 - GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
 - ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
 - ALL MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE;
 - MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
 - THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
 - SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
 - WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
 - HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
 - PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
 - ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
 - SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
 - PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
 - PETROLEUM PRODUCTS:
 - ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
 - PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
 - FERTILIZERS:
 - FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
 - ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
 - STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
 - PAINTS:
 - ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
 - EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
 - EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
 - SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
 - MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
 - MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL 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;
 - ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
 - THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
 - SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
 - THE SITE SUPERINTENDENT SHALL BE RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
 - VEHICLE FUELING AND MAINTENANCE PRACTICE:
 - CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPMENT/VEHICAL FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
 - CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
 - IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
 - CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
 - CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
 - CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP. THE SWPPP SHALL BE PREPARED BY THE [CONTRACTOR]. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ONSITE AT ALL TIMES.

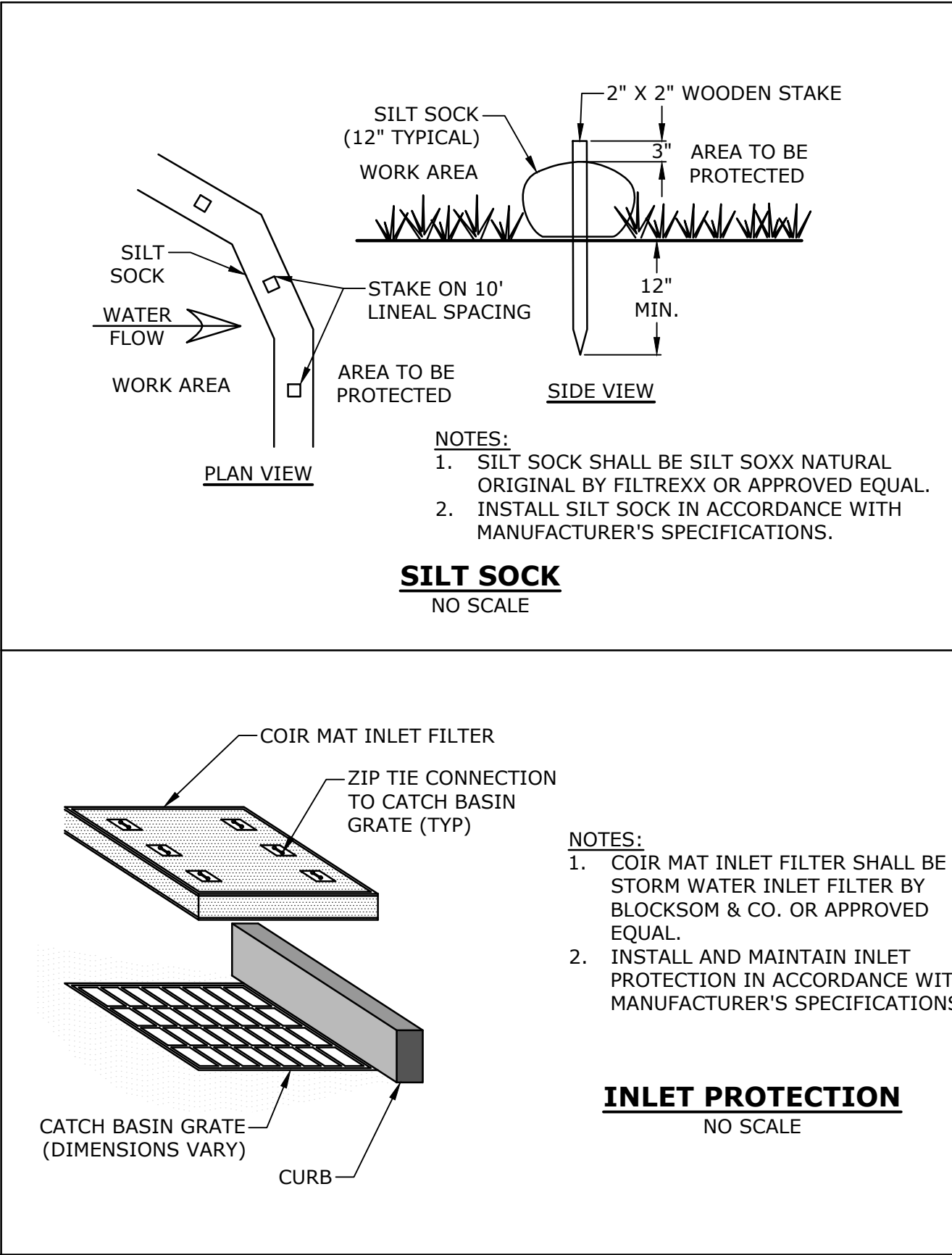
THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:

- OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY THE [CONTRACTOR] AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER;
- AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, THE CONTRACTOR, AND THE CITY OF DOVER COMMUNITY SERVICES DEPARTMENT;

- A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
- IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.

BLASTING NOTES:

- CONTRACTOR SHALL CONTACT THE NHDES PRIOR TO COMMENCING ANY BLASTING ACTIVITIES
- FOR ANY PROJECT FOR WHICH BLASTING OF BEDROCK IS ANTICIPATED, THE APPLICANT SHALL SUBMIT:
 - A BLASTING PLAN THAT IDENTIFIES:
 - WHERE THE BLASTING ACTIVITIES ARE ANTICIPATED TO OCCUR;
 - THE ESTIMATED QUANTITY OF BLAST ROCK IN CUBIC YARDS; AND
 - SITE-SPECIFIC BLASTING BEST MANAGEMENT PRACTICES.
- IF MORE THAN 5000 CUBIC YARDS OF BLAST ROCK WILL BE GENERATED AND THERE ARE ONE OR MORE PUBLIC DRINKING WATER WELLS WITHIN 2000 FEET OF THE BLASTING ACTIVITIES, A PLAN TO MONITOR GROUNDWATER TO DETECT ANY CONTAMINATION IN SUFFICIENT TIME TO PROTECT THE WATER SUPPLY WELLS SHALL BE PROVIDED TO THE NHDES. THE GROUNDWATER MONITORING PLAN SHALL INCLUDE:
 - MONITORING 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 GROUNDWATER SAMPLING PROGRAM MUST BE IMPLEMENTED ONCE APPROVED BY THE NHDES.
 - THE FOLLOWING BEST MANAGEMENT PROCEDURES FOR BLASTING SHALL BE COMPLIED WITH:
 - LOADING PRACTICES - THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:
 - DRILLING LOGS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOGS SHALL INDICATE DEPTHS AND LENGTHS OF VOIDS, CAVITIES, AND FAULT ZONES OR OTHER WEAK ZONES ENCOUNTERED AS WELL AS GROUNDWATER CONDITIONS;
 - EXPLOSIVE PRODUCTS SHALL BE MANAGED ON-SITE SO THAT THEY ARE EITHER USED IN THE BOREHOLE, RETURNED TO THE DELIVERY VEHICLE, OR PLACED IN SECURE CONTAINERS FOR OFF-SITE DISPOSAL;
 - SPILLAGE AROUND THE BOREHOLE SHALL EITHER BE PLACED IN THE BOREHOLE OR CLEANED UP AND RETURNED TO AN APPROPRIATE VEHICLE FOR HANDLING OR PLACEMENT IN SECURED CONTAINERS FOR OFF-SITE DISPOSAL;
 - LOADED EXPLOSIVES SHALL BE DETONATED AS SOON AS POSSIBLE AND SHALL NOT BE LEFT IN THE BLASTHOLES OVERNIGHT, UNLESS WEATHER OR OTHER SAFETY CONCERNS REASONABLY DICTATE THAT DETONATION SHOULD BE POSTPONED;
 - LOADING EQUIPMENT SHALL BE CLEANED IN AN AREA WHERE WASTEWATER CAN BE PROPERLY CONTAINED AND HANDLED IN A MANNER THAT PREVENTS RELEASE OF CONTAMINANTS TO THE ENVIRONMENT;
 - EXPLOSIVES SHALL BE LOADED TO MAINTAIN GOOD CONTINUITY IN THE COLUMN LOAD TO PROMOTE COMPLETE DETONATION. INDUSTRY ACCEPTED LOADING PRACTICES FOR PRIMING, STEMMING, DECKING AND COLUMN RISE NEED TO BE ATTENDED TO.
 - EXPLOSIVE SELECTION - THE FOLLOWING BMPS SHALL BE FOLLOWED TO REDUCE THE POTENTIAL FOR GROUNDWATER CONTAMINATION WHEN EXPLOSIVES ARE USED:
 - EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT ARE APPROPRIATE FOR SITE CONDITIONS AND SAFE BLAST EXECUTION;
 - EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT HAVE THE APPROPRIATE WATER RESISTANCE FOR THE SITE CONDITIONS PRESENT TO MINIMIZE THE POTENTIAL FOR HAZARDOUS EFFECT OF THE PRODUCT UPON GROUNDWATER
 - PREVENTION OF MISFIRES. APPROPRIATE PRACTICES SHALL BE DEVELOPED AND IMPLEMENTED TO PREVENT MISFIRES.
 - MUCK PILES MANAGEMENT - MUCK PILES (THE BLASTED PIECES OF ROCK) AND ROCK PILES SHALL BE MANAGED IN A MANNER TO REDUCE THE POTENTIAL FOR CONTAMINATION BY IMPLEMENTING THE FOLLOWING MEASURES:
 - REMOVE THE MUCK PILE FROM THE BLAST AREA AS SOON AS REASONABLY POSSIBLE;
 - MANAGE THE INTERACTION OF BLASTED ROCK PILES AND STORMWATER TO PREVENT CONTAMINATION OF WATER SUPPLY WELLS OR SURFACE WATER.
 - SPILL PREVENTION AND SPILL MITIGATION MEASURES SHALL BE IMPLEMENTED TO PREVENT THE RELEASE OF FUEL AND OTHER RELATED SUBSTANCES TO THE ENVIRONMENT DURING BLASTING OPERATIONS. THE MEASURES TO PREVENT SUCH RELEASES SHALL BE DETAILED IN THE GROUNDWATER MONITORING REPORT AND COMPLY WITH THE MEASURES AND BEST MANAGEMENT PRACTICES LISTED ON THIS SHEET.



Tighe&Bond

Cochecho
Waterfront
Development

Applicant:
CPI Management, LLC
c/o Cathartes

Owner:
City of Dover

Dover File #: P21-69

Dover, New Hampshire

NOT FOR CONSTRUCTION

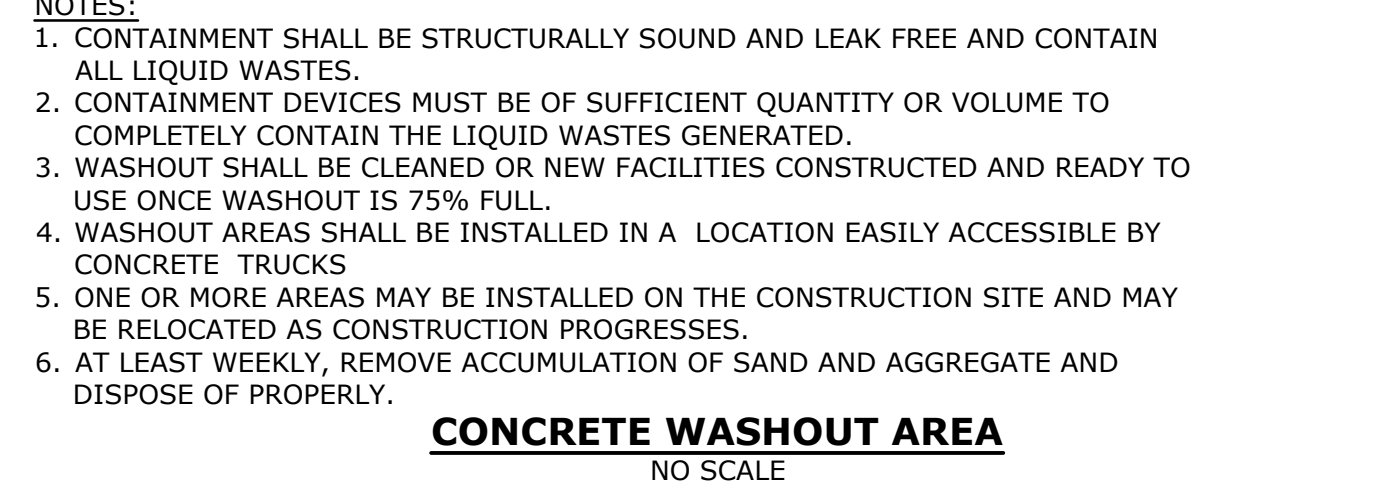
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MARK	DATE	DESCRIPTION

PROJECT NO:	C-0950-007
DATE:	March 21, 2025
FILE:	C0960-007-DTLS-CD-P2.DWG
DRAWN BY:	CIK
CHECKED:	NAH
APPROVED:	PMC

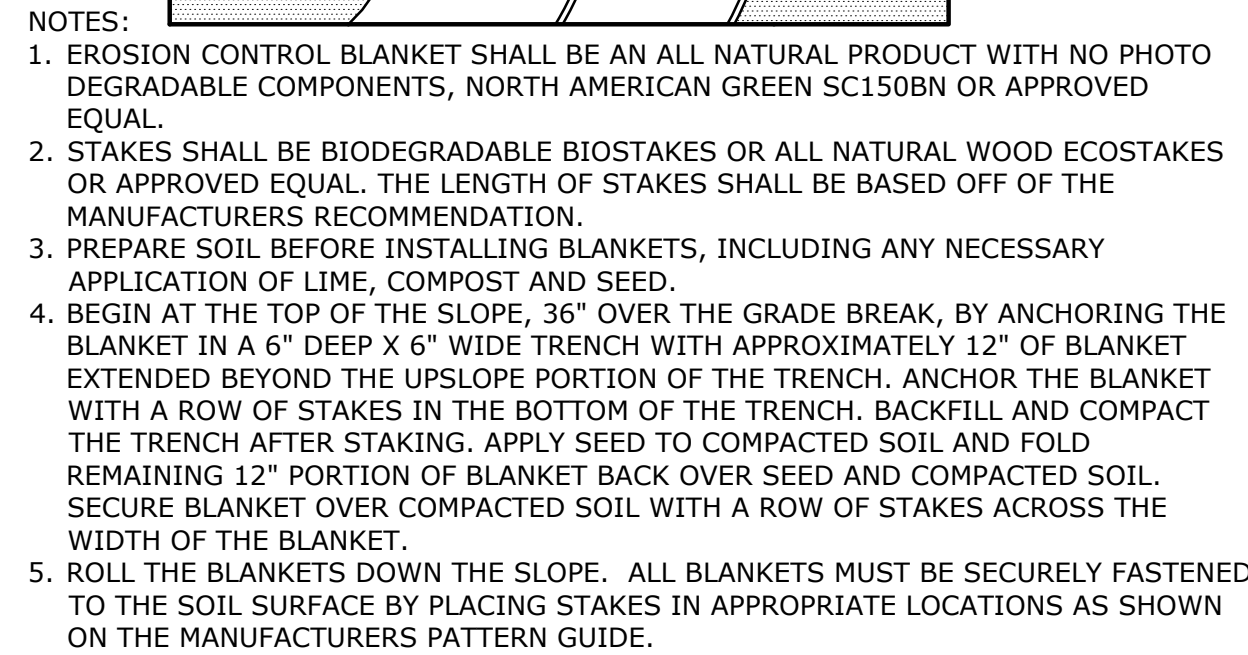
EROSION CONTROL NOTES
& DETAILS SHEET

SCALE: AS SHOWN

C-501



NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS



NOTES:

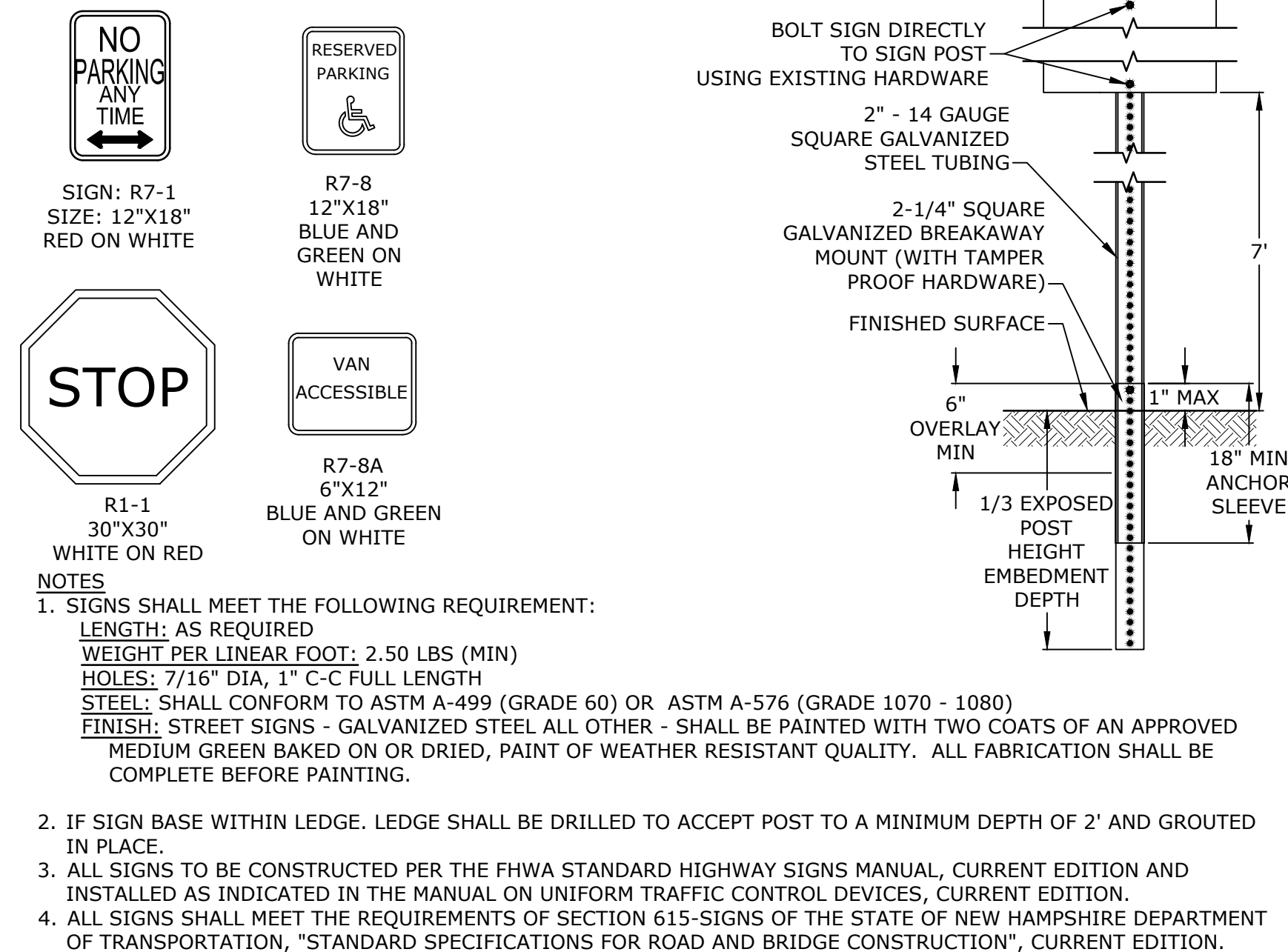
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.

CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
15'-28'	1'-6"
29'-41'	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'

NOTES:

1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

SLOPED GRANITE CURB
NO SCALE



NOTES:

1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

Technical drawing of a sign post assembly. The drawing shows a cross-section of the assembly with the following components and dimensions:

- SIGN**: The top horizontal part of the assembly.
- SIGN POST**: The vertical pipe section.
- 8" DIA. SCH 40 STEEL PIPE, 8.5' LONG FILLED WITH 3000psi CONCRETE**: The main vertical pipe section.
- PRIME AND PAINT 2 COATS OF SAFETY YELLOW**: The finish on the pipe.
- PAVEMENT**: The ground surface.
- 4000psi CONCRETE FOOTING (5' DEEP X 2' DIAMETER)**: The base of the assembly.

Dimensions (vertical and horizontal):

- Vertical dimensions (from top to bottom): 3', 4', 4.5', 6'.
- Horizontal dimensions (at the base): 8" (inner diameter), 2' (outer diameter).

VERTICAL GRANITE CURB WITH 6" CURB REVEAL

BITUMINOUS WEARING COURSE (SEE PAVEMENT DETAIL)

BITUMINOUS BINDER COURSE (SEE PAVEMENT DETAIL)

PAVEMENT SUBBASE (SEE PAVEMENT DETAIL)

PAVEMENT BASE (SEE PAVEMENT DETAIL)

COMPACTED SUBGRADE

3000 PSI CONCRETE BACKFILL FROM BOTTOM OF CURB TO TOP OF BINDER COURSE

3000 PSI CONCRETE BACKFILL FROM BOTTOM OF CURB TO BOTTOM OF FINISHED SURFACE

FINISHED SURFACE (SEE SITE PLANS)

CURB RADIUS TABLE

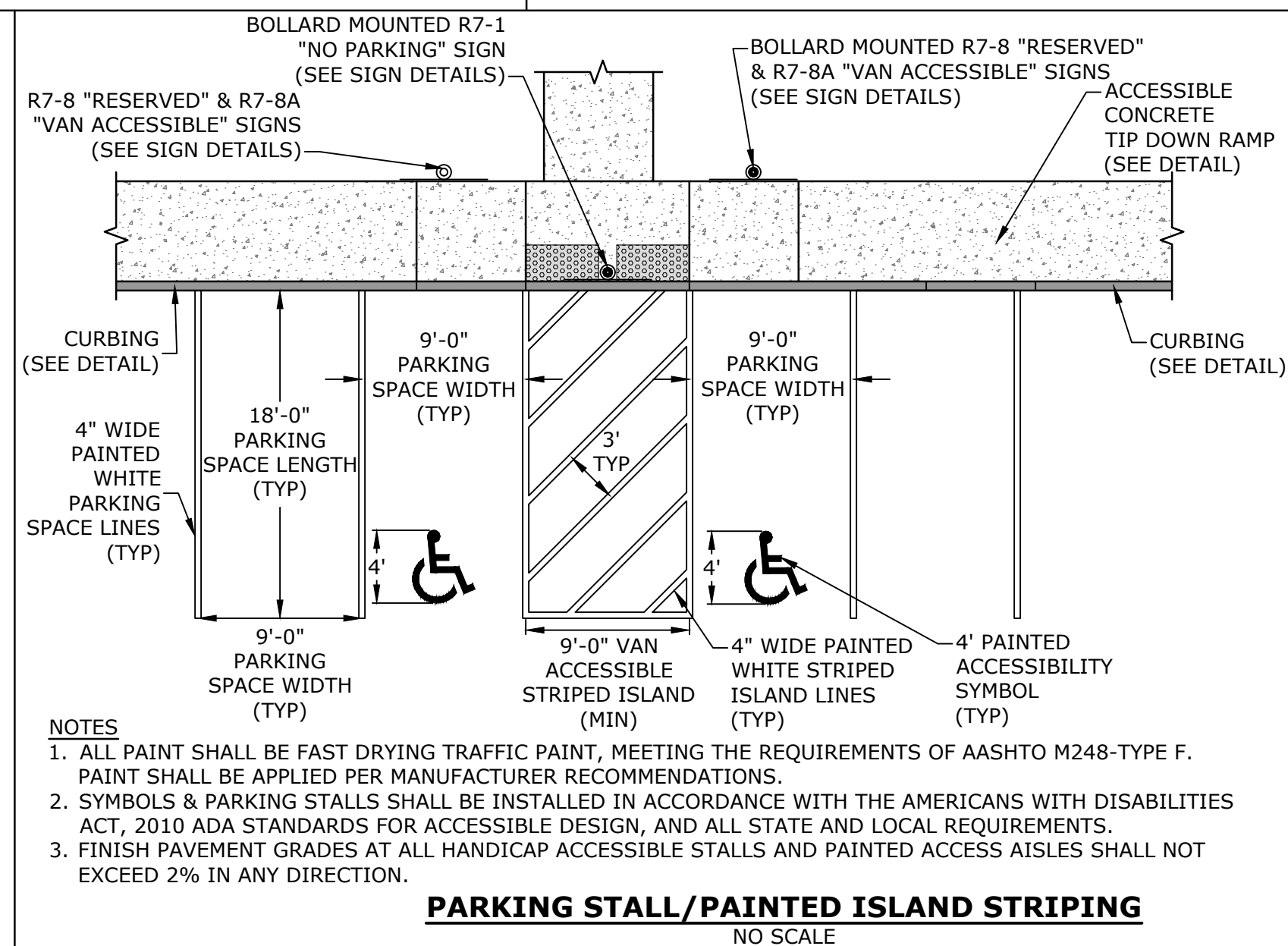
RADIUS	MAX LENGTH
<20"	USE CURVED CURB
21"	3'
22"-28"	4'
29"-35"	5'
36"-42"	6'
43"-49"	7'
50"-56"	8'
57"-60"	9'
>60"	10'

NOTES:

1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

VERTICAL GRANITE CURB

NO SCALE

**Tighe&Bond**

Cochecho Waterfront Development

Applicant:
CPI Management, LLC
c/o Cathartes

Owner:
City of Dover

Dover File #: P21-69

Dover, New Hampshire

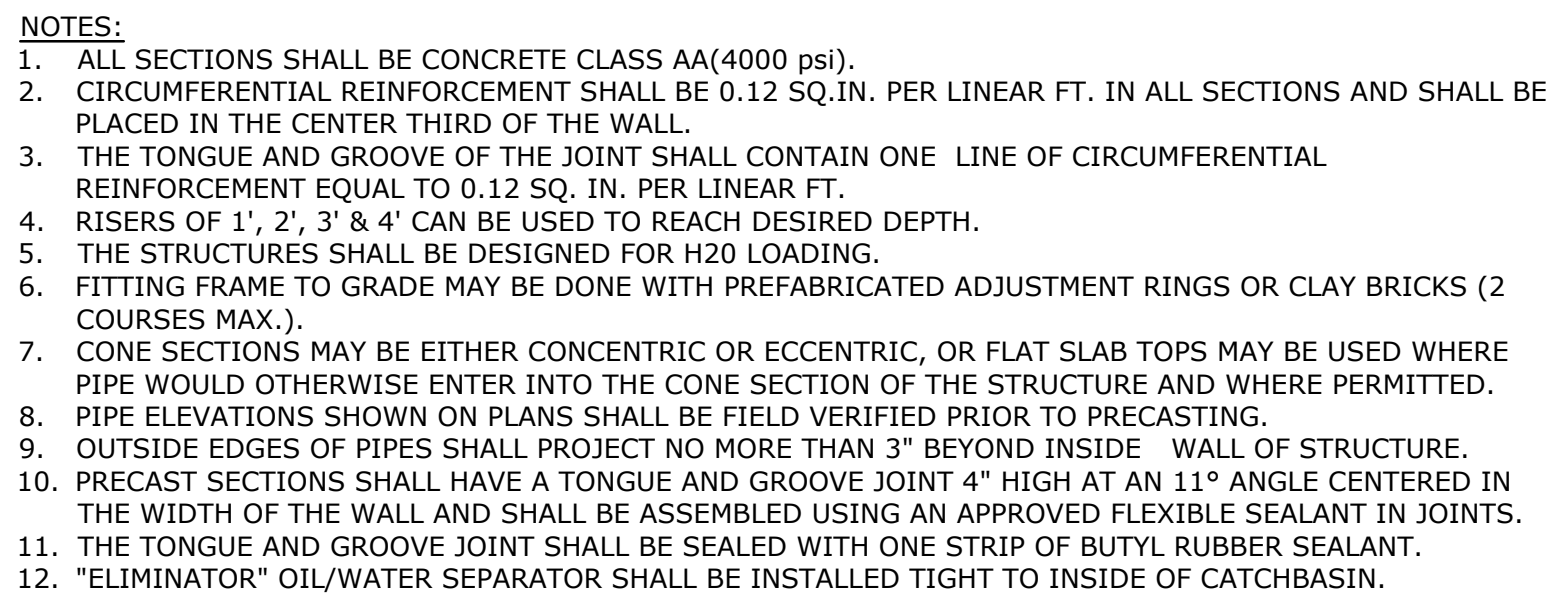
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DRAWN BY:		CJK
CHECKED:		NAH
APPROVED:		PMC

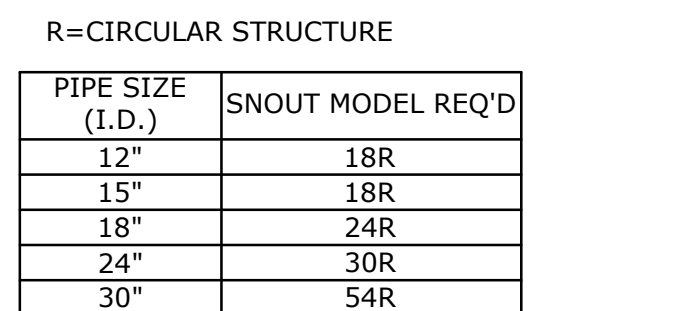
DETAILS SHEET

SCALE: AS SHOWN

C-502



4' DIAMETER CATCHBASIN
NO SCALE

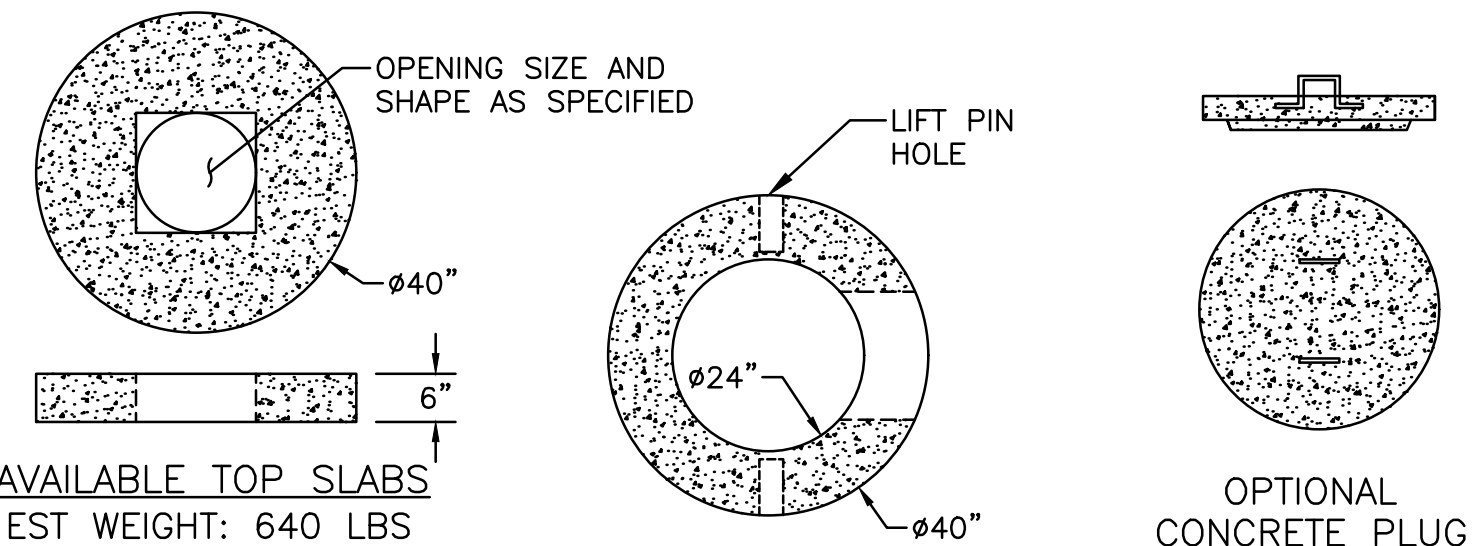


SNOUT OIL-WATER-DEBRIS SEPARATOR
NO SCALE



SITE SPECIFIC DATA REQUIREMENTS	
STRUCTURE ID	3
CASCADE MODEL	CS-4
WATER QUALITY FLOW RATE (cfs [L/s])	0.79
PEAK FLOW RATE (cfs [L/s])	7.98
RETURN PERIOD OF PEAK FLOW (yrs)	25 YR
RIM ELEVATION	18.30

- GENERAL NOTES**
1. CONTACT TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE
 2. FOR SITE-SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CATCH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.CatchES.com
 3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION PROVIDED BY THE CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT
 4. CASCADE SEPARATOR STRUCTURE SHALL MEET ASHSTO H250 LOAD RATING, ASSUMING EARTH COVER OF $\geq 2'$ [610] AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET ASHSTO M300 AND BE CAST WITH THE CATCH LOG.
 5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE conforming TO ASTM C798 AND ASHSTO LOAD FACTOR DESIGN METHOD.
 6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].
- INSTALLATION NOTES**
- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 - B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPABILITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
 - C. CONTRACTOR TO PROVIDE ANCHOR PLANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
 - D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
 - E. CONTRACTOR TO PROVIDE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

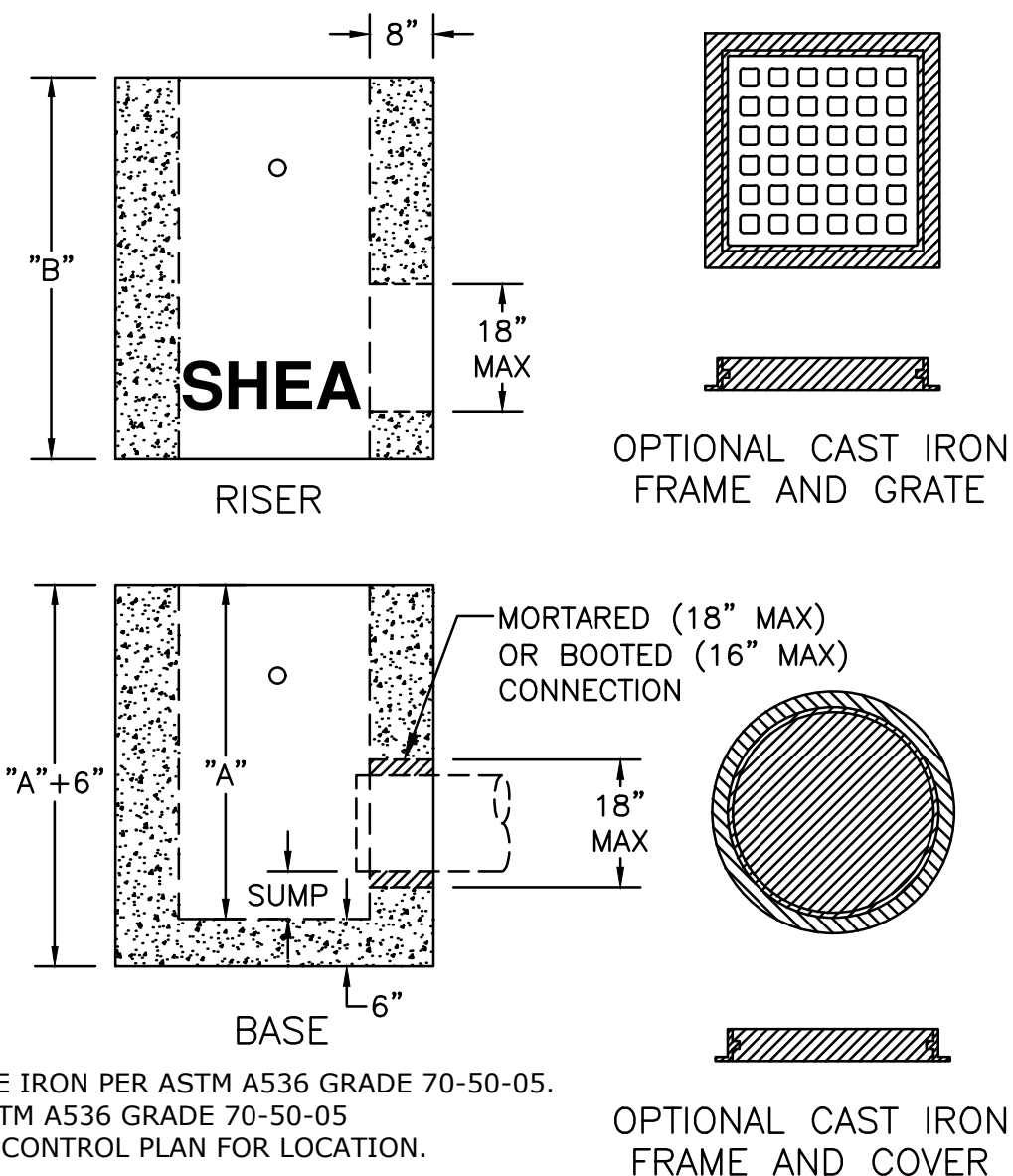


RISER WEIGHTS		
ITEM CODE	DIM "B"	EST. WEIGHT
40X12-24	12"	825#
DIR-24X18	18"	1,235#
DIR-24X24	24"	1,645#
DIR-24X30	30"	2,055#
DIR-24X36	36"	2,470#
DIR-24X42	42"	2,880#
DIR-24X48	48"	3,290#
DIR-24X54	54"	3,700#
DIR-24X60	60"	4,115#

SUMP WEIGHTS		
ITEM CODE	DIM "A"	EST. WEIGHT
18SGI	18"	1,880#
24SGI	24"	2,290#
30SGI	30"	2,700#
36SGI	36"	3,110#
42SGI	42"	3,520#
48SGI	48"	3,930#
54SGI	54"	4,343#

- NOTES:
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. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR LOCATION.

PROPOSED YARD DRAIN DETAIL
NO SCALE



OPTIONAL CAST IRON
FRAME AND COVER

Tighe&Bond

Cochecho Waterfront Development

Applicant:
CPI Management, LLC
c/o Cathartes

Owner:
City of Dover

Dover File #: P21-69

Dover, New Hampshire

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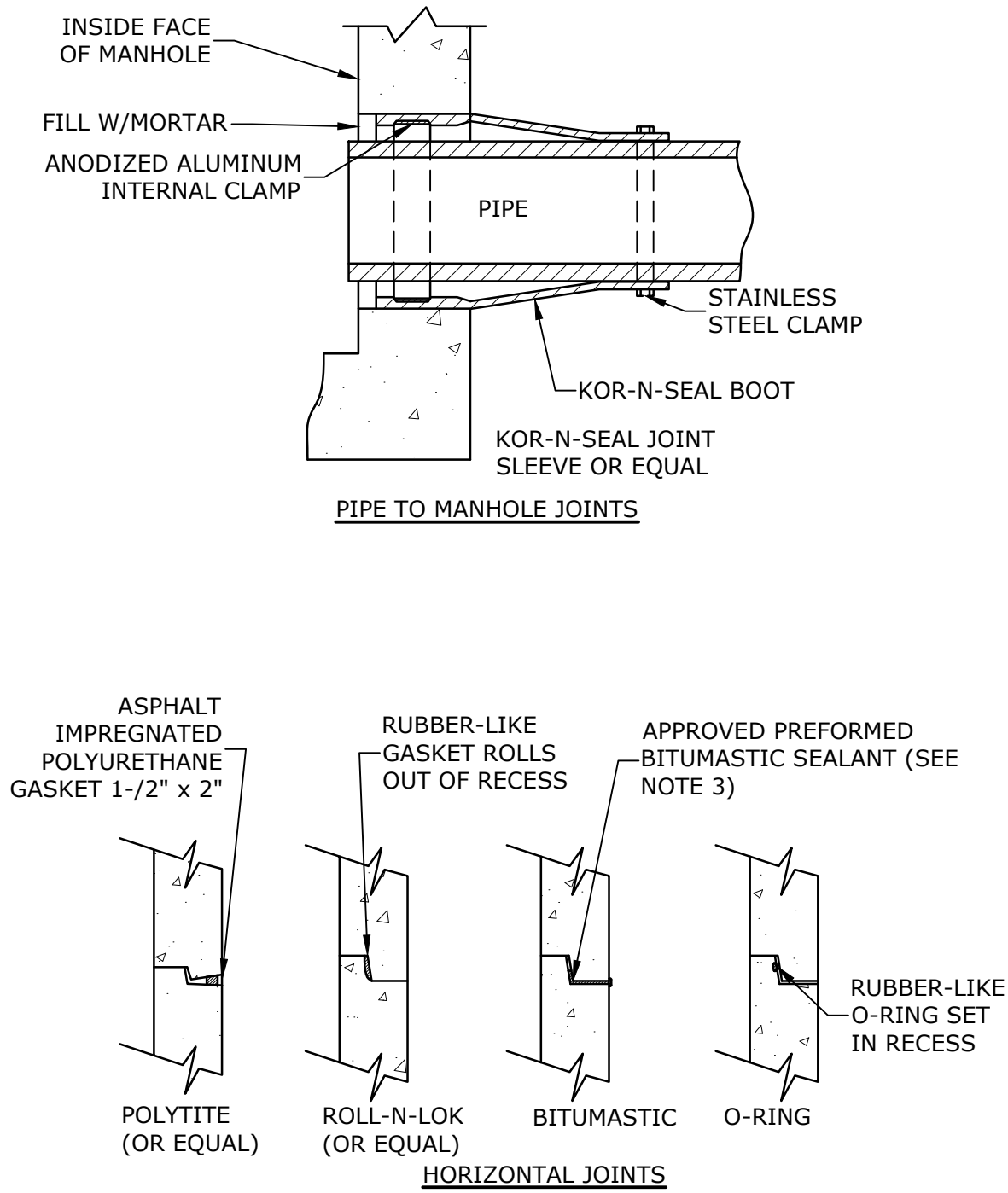
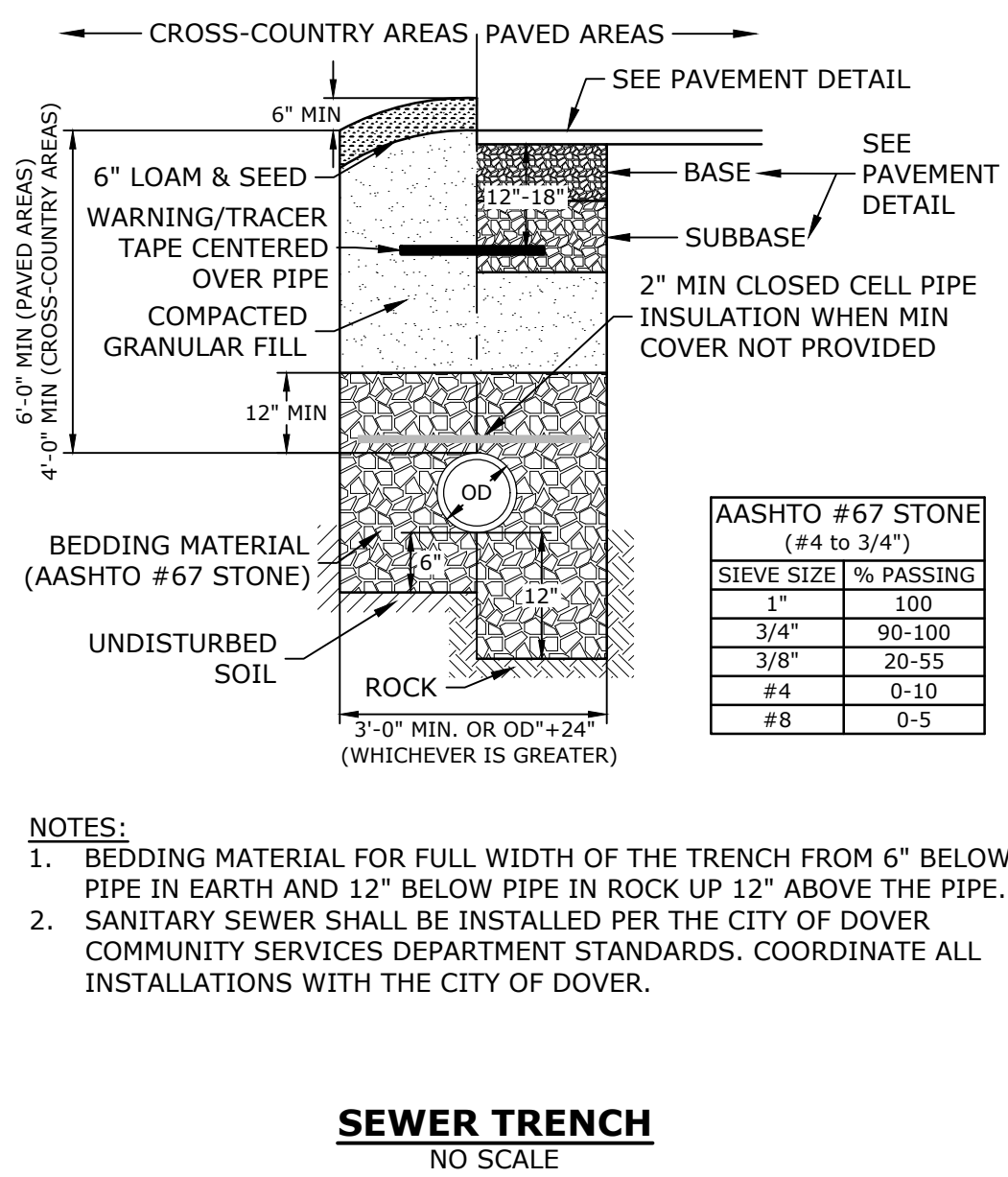
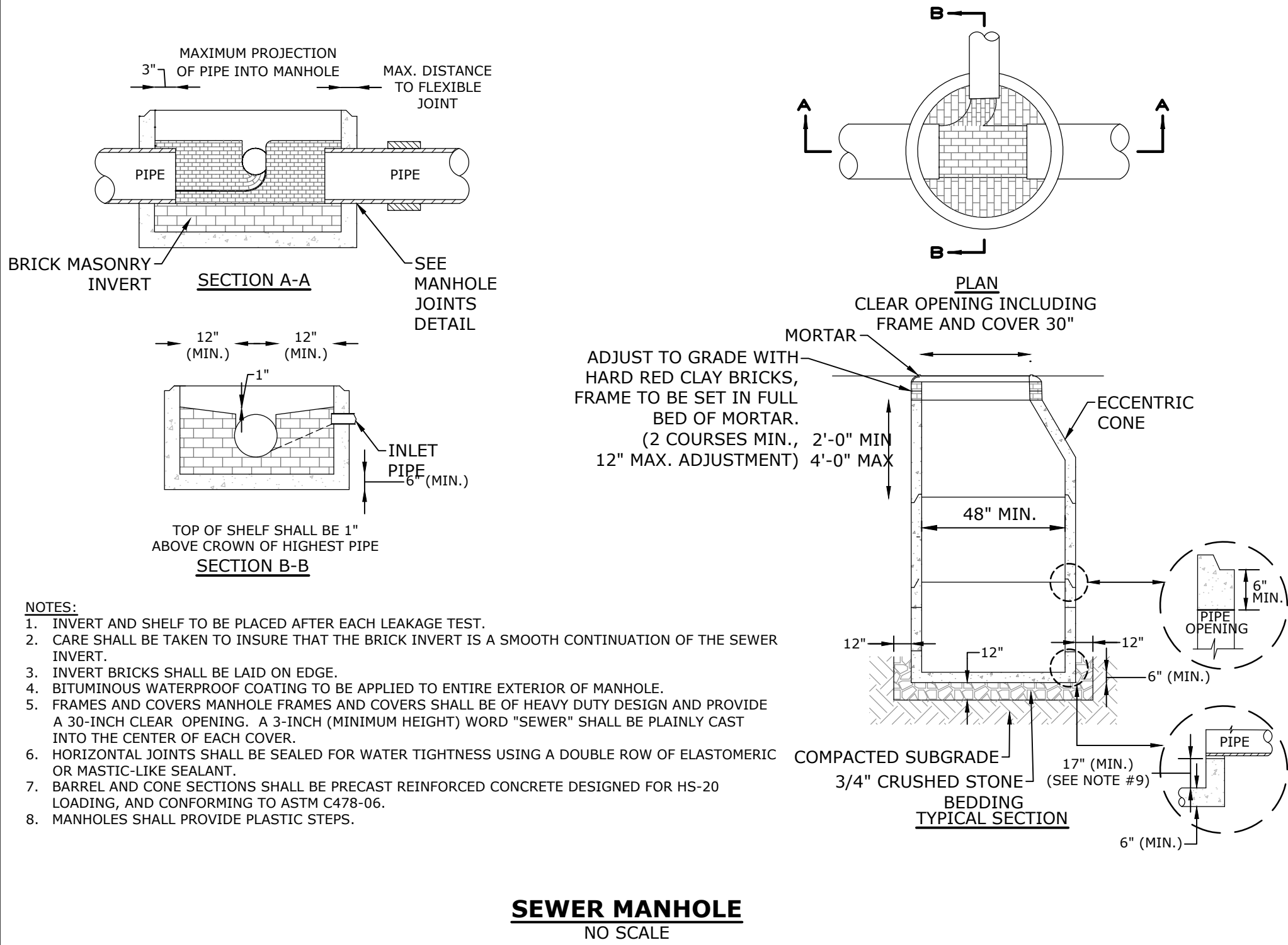
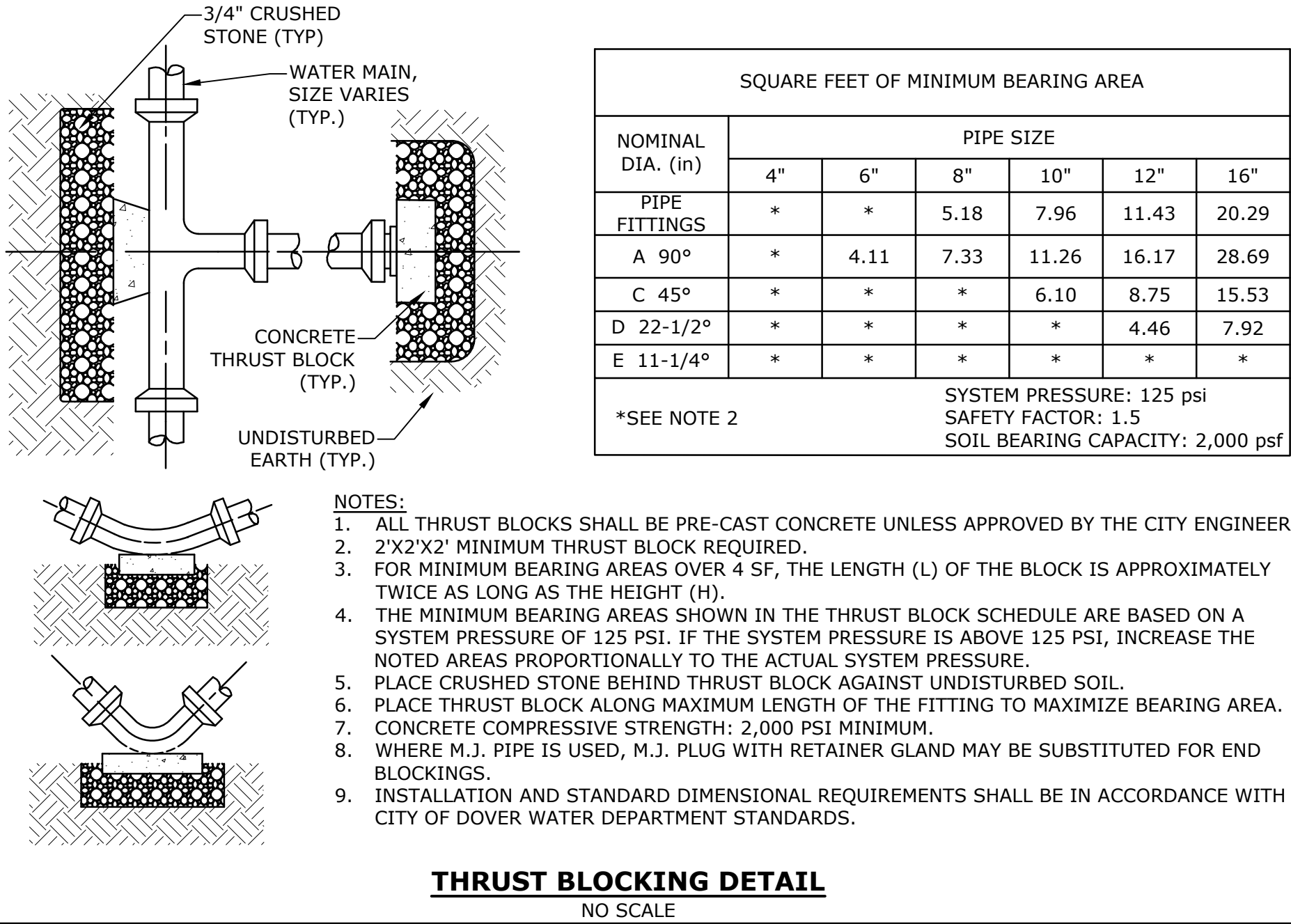
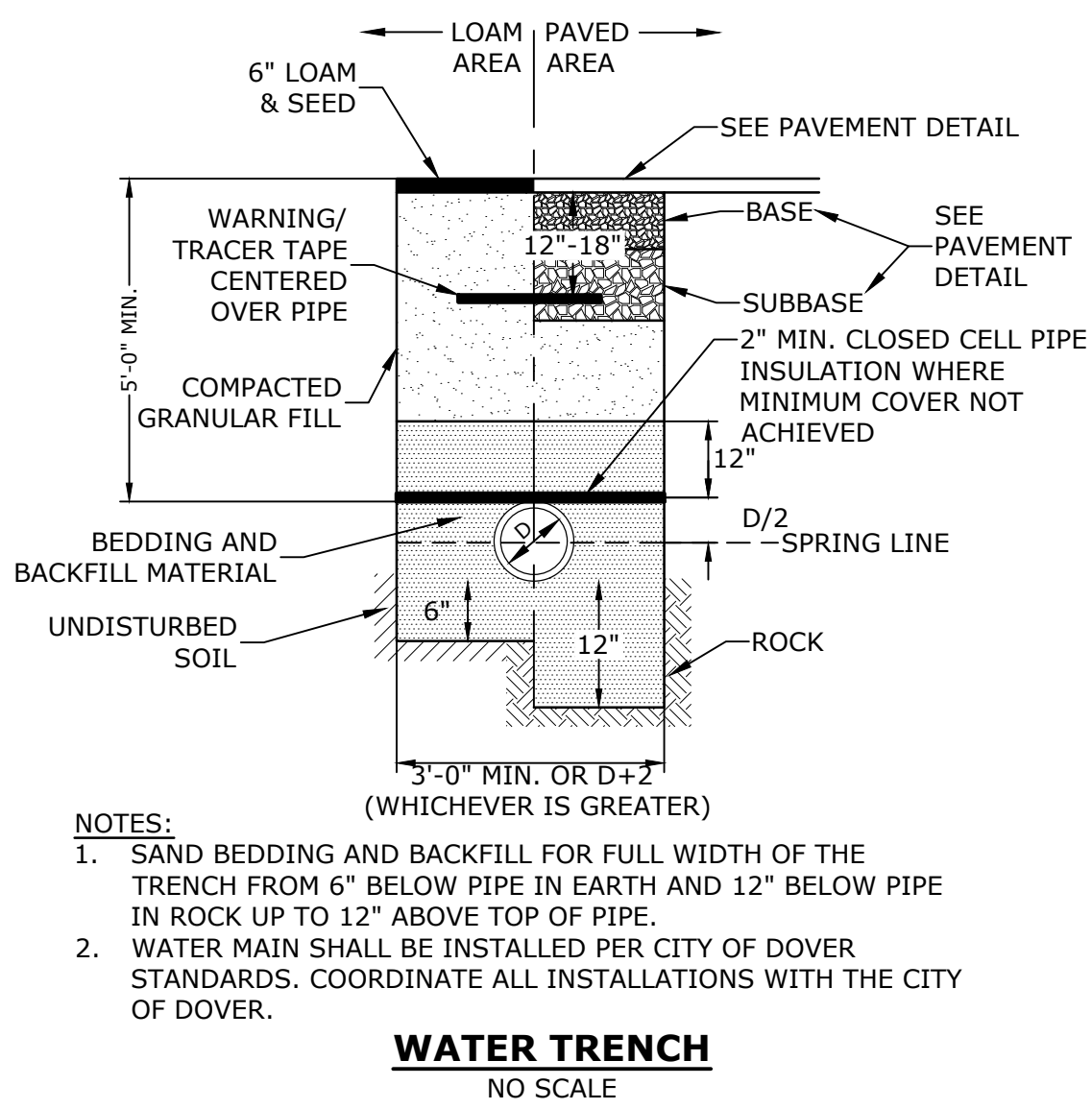
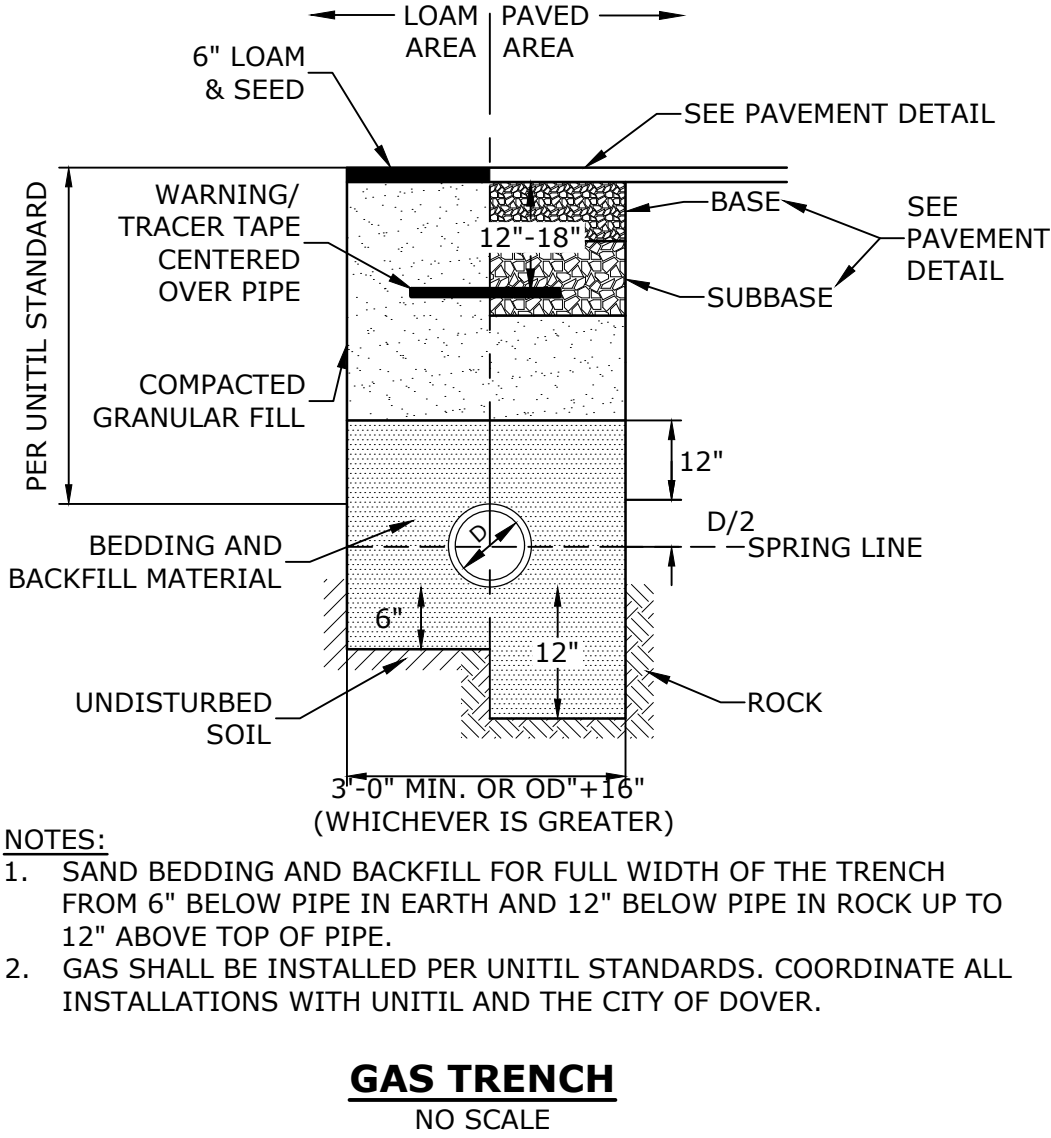
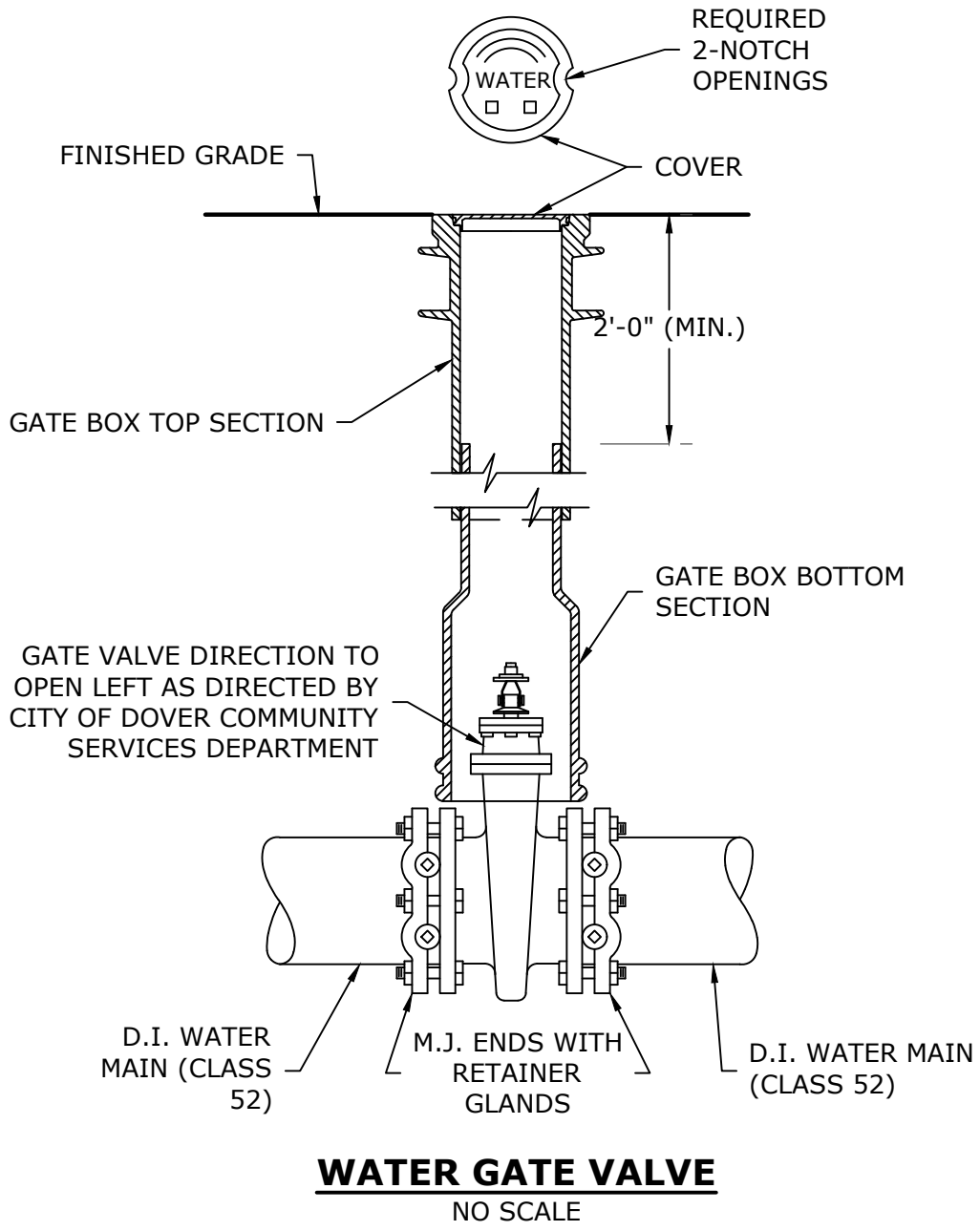
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DRAWN BY:		CJK
CHECKED:		NAH
APPROVED:		PMC

DETAILS SHEET

SCALE: AS SHOWN

C-504

Last Save Date: March 13, 2025 4:50 PM By: CKRZCUIK
Plot Date: Wednesday, April 23, 2025 Plotted By: Colter Krazulik
248 File Location: Z:\C0960 Catartex\C0960-007 Cochecho Waterfront Drawings\Sheet\C0960-007-D1\SCD-P2.dwg Layout Tab: C-506



- NOTES:
- HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF DOVER COMMUNITY DEVELOPMENT DEPARTMENT STANDARDS AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
 - PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF DOVER STANDARDS.
 - FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
 - ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

Tighe&Bond

Cochecho Waterfront Development

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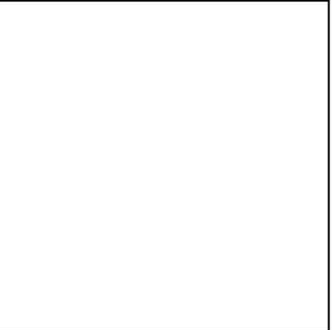
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C-506



REVISIONS:

CATHARTES
74 RIVER STREET
DOVER, NEW HAMPSHIRE



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SUITE 101
PORTSMOUTH, NH 03801
(603) 431-2808
www.cjarchitects.net

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APPROVED BY:	CJG
SCALE:	1/8" = 1'-0"
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A1



WEST ELEVATION - FACING PARKING



EAST ELEVATION - FACING RIVER

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CATHARTES

74 RIVER STREET

DOVER, NEW HAMPSHIRE

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A2



NORTH ELEVATION - FACING STREET

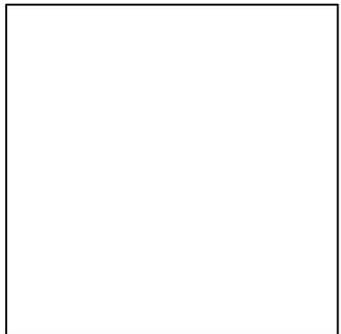


SOUTH ELEVATION

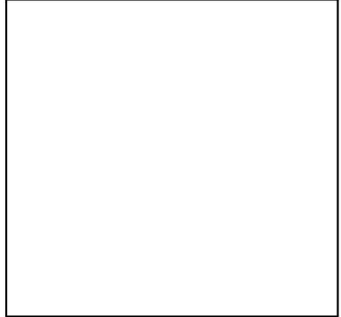
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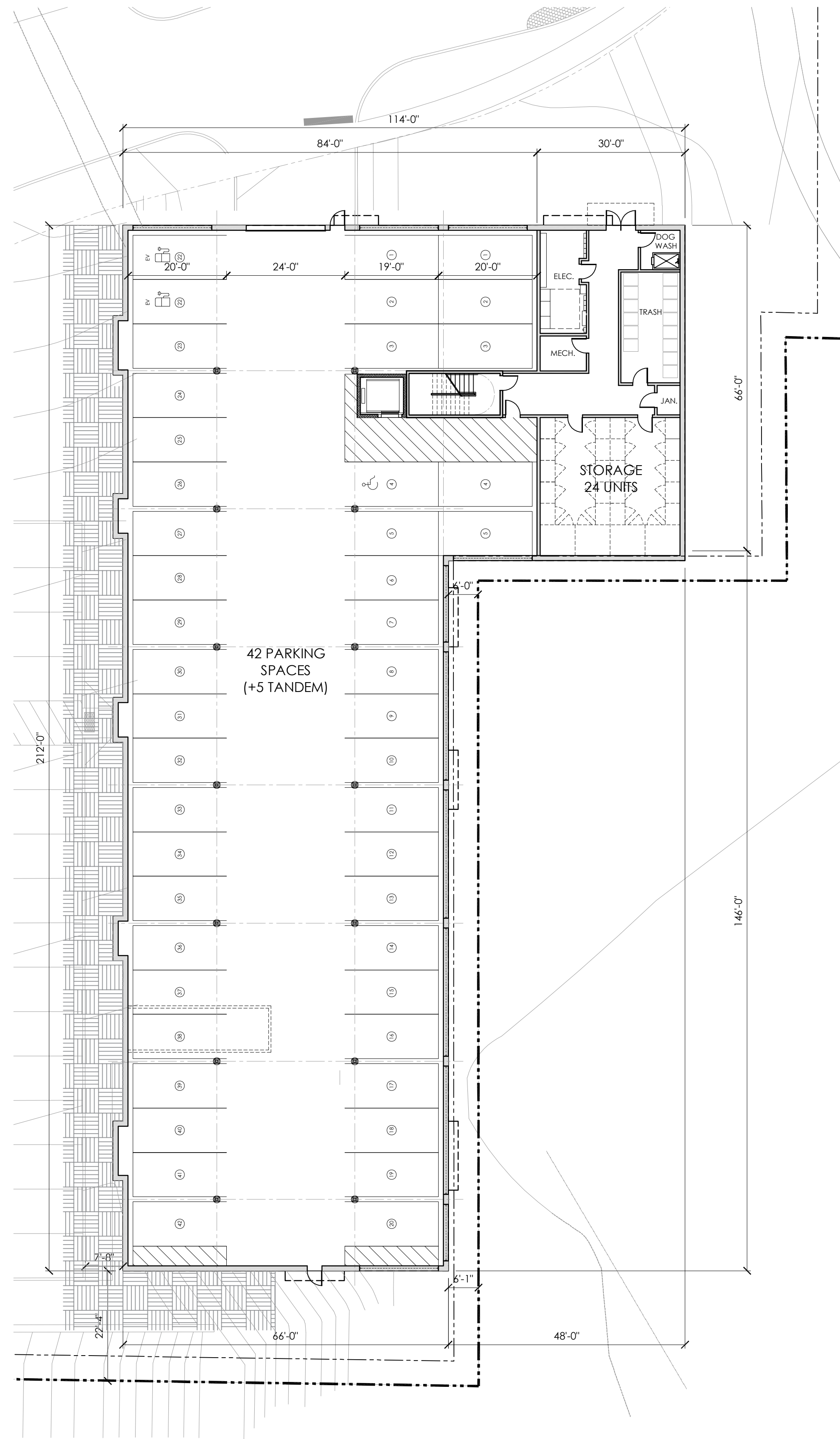


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A3



1 LOWER LEVEL - PARKING LEVEL
1/16" = 1'-0"



2 FIRST FLOOR - ENTRY LEVEL
1/16" = 1'-0"

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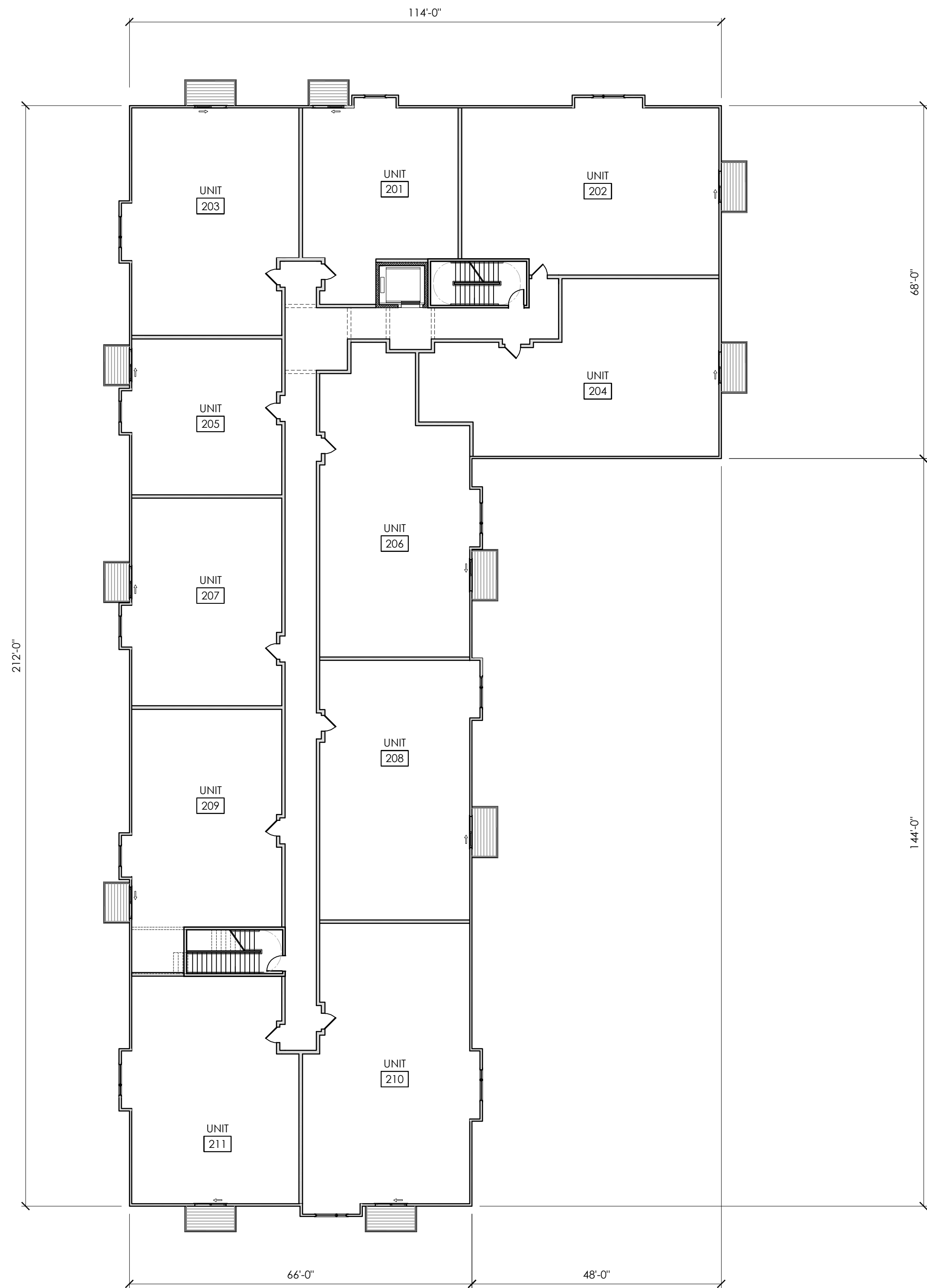
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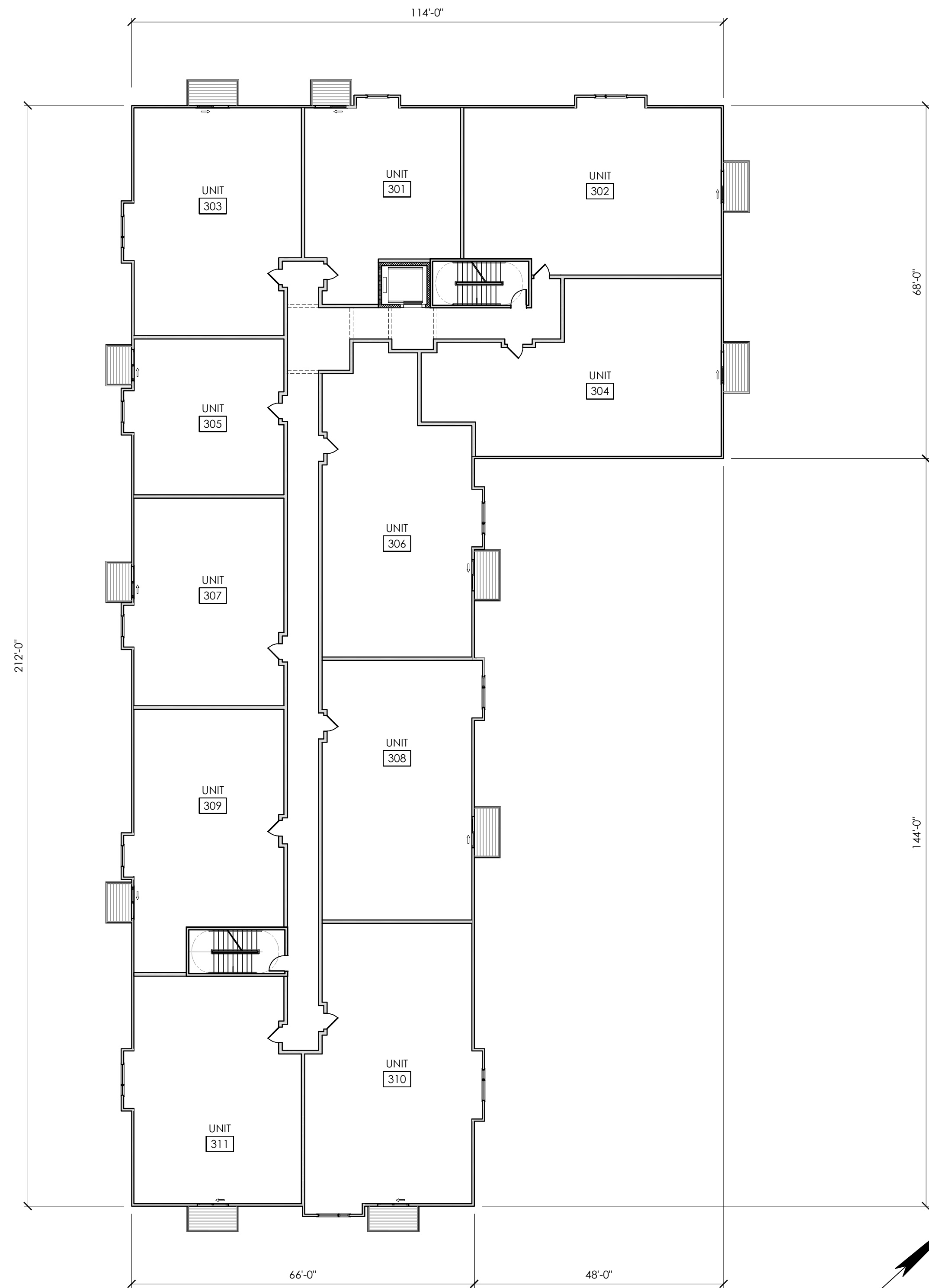
FLOOR PLANS

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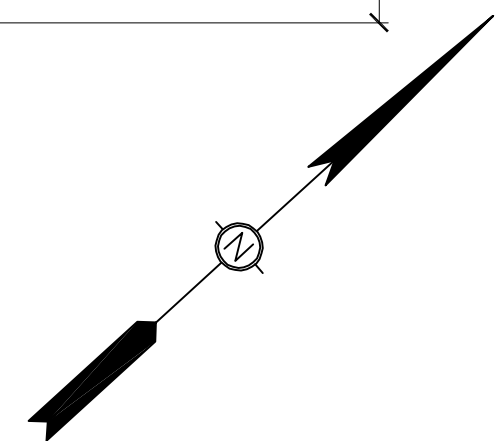
A4



1 SECOND FLOOR PLAN
1/16" = 1'-0"



2 THIRD FLOOR PLAN
1/16" = 1'-0"



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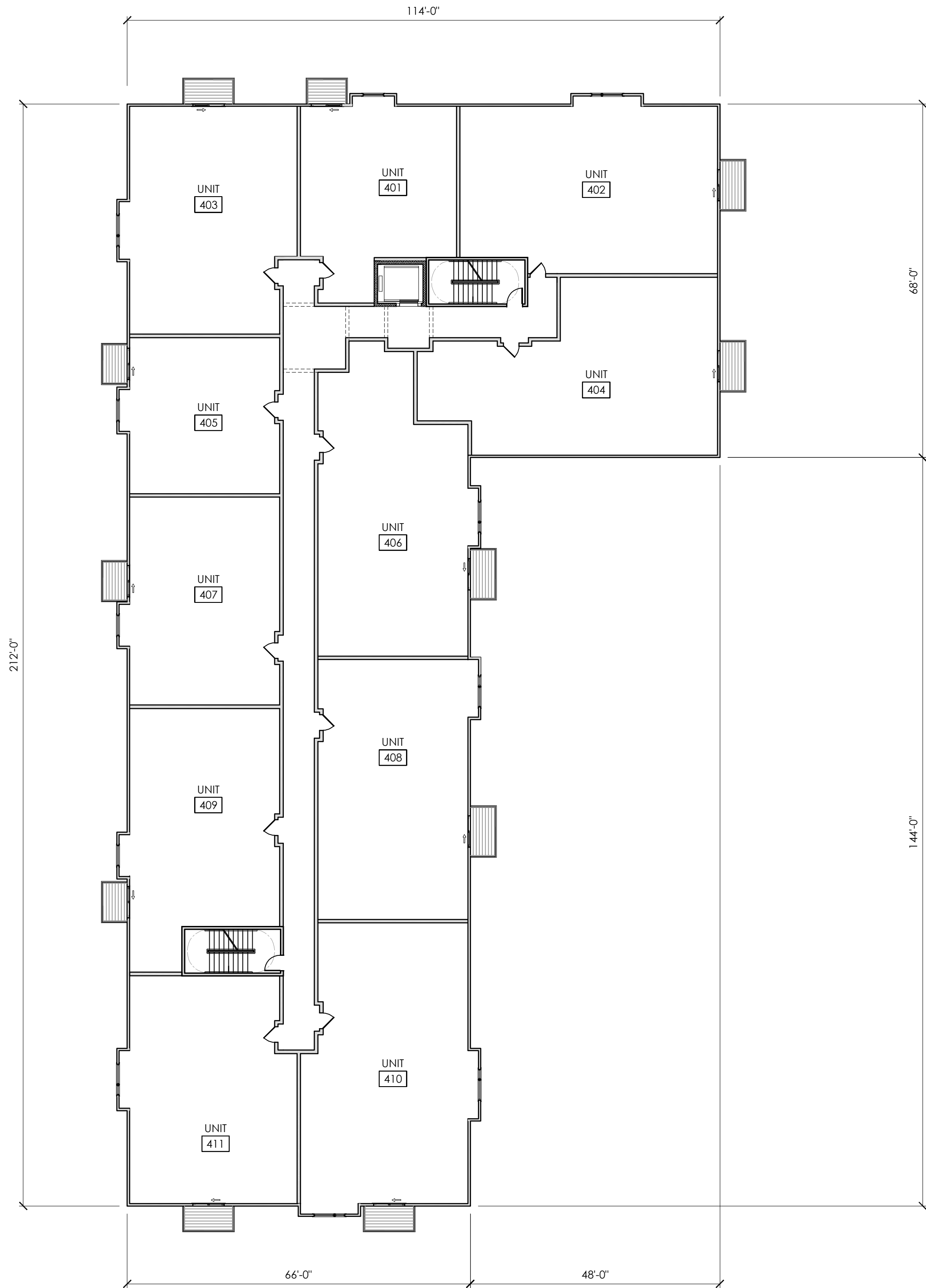


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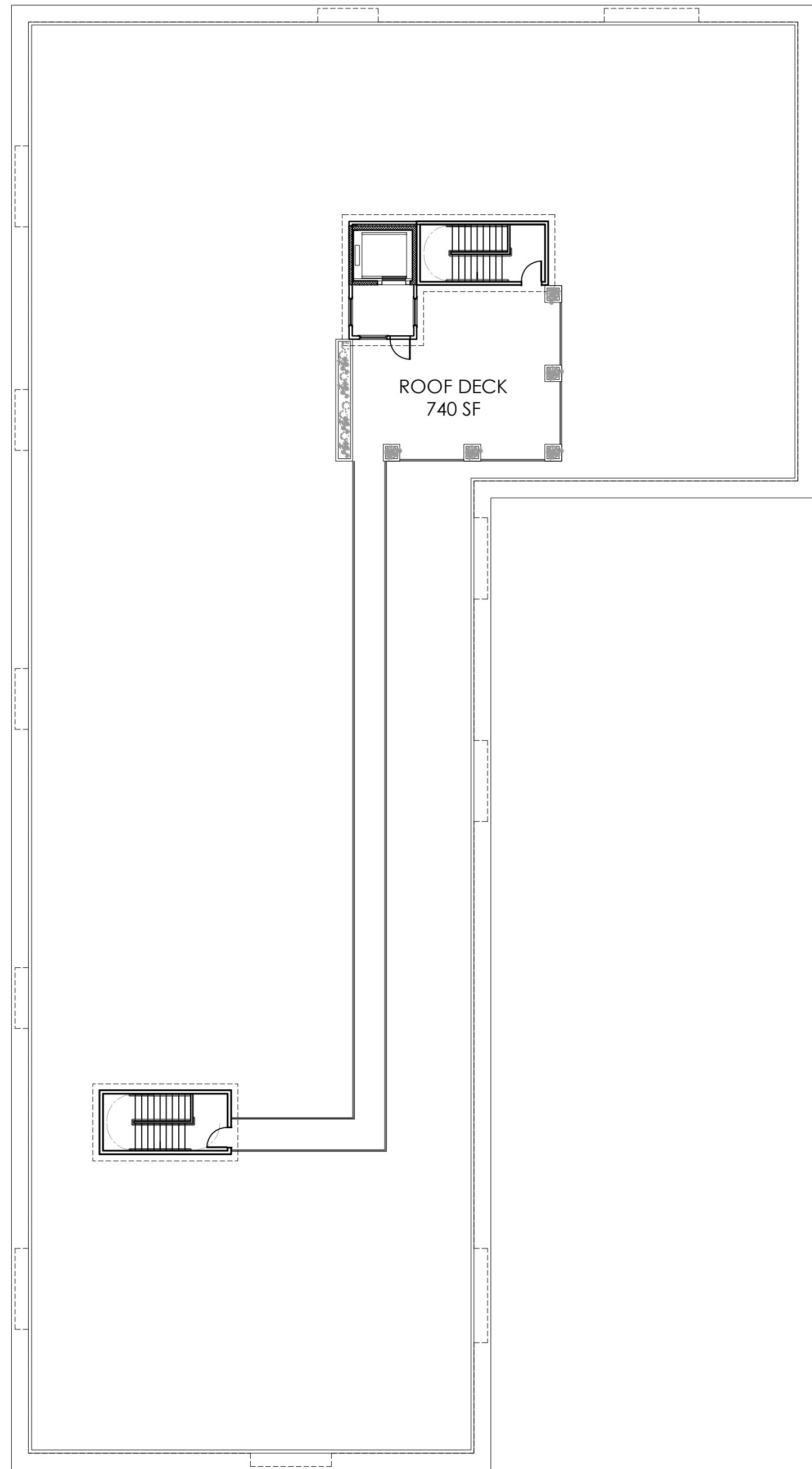
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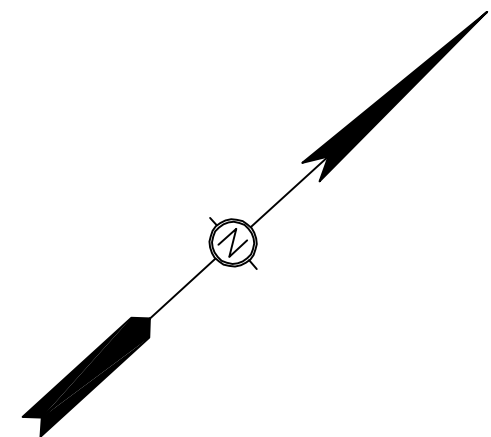
A5



1 FOURTH FLOOR
1/16" = 1'-0"



2 ROOF PLAN
1/16" = 1'-0"



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A6