

CITY OF DOVER

PLANNING TECHNICAL REVIEW COMMITTEE –AGENDA

Meeting Type: Regular Meeting
Meeting Location: Council Conference Room, City Hall, 288 Central Ave, Dover NH 03820
Meeting Date: **Thursday, July 25, 2024**
Meeting Time: **10:30 AM**

1. 10:30 AM – 11:15 AM: Site Review for Our Place, Inc., Assessor's Map H, Lot 6-4, zoned R-20, located at 105 Durham Road. (Proposal is to provide a 9-unit group housing facility for adults with Intellectual Developmental Disabilities (IDD) with associated parking, drainage and landscaping.) (SITE-2024-0004) *This item was previously heard on Thursday, May 30, 2024.*



PLAN SNAPSHOT REPORT SITE-2024-0004 FOR CITY OF DOVER, N.H.

Plan Type: Site Plan - Major	Project:	App Date: 05/06/2024
Work Class: New Construction	District: None	Exp Date: 07/10/2024
Status: In Review	Square Feet: 0.00	Completed: NOT COMPLETED
Valuation: \$0.00	Assigned To: Blonigen, Rachel	Approval Expire Date:

Description: The Applicant, Our Place, Inc. is proposing to provide a 9-unit group housing facility for adults with Intellectual Developmental Disabilities (IDD). Zoning relief was granted for the nine-unit multi-family building on December 21, 2023. Accordingly, the Planning Board granted the Transfer of Development Rights (TDR) for the additional units on January 23, 2024.

Parcel: H0006-004000	Main	Address: 105 Durham Rd Dover, NH	Main	Zone: R-20(Residential - Low Density)
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Surveyor Northam Survey LLC 239 LONG HILL RD DOVER, 03820 Business: (603) 953-3164 Mobile: (603) 819-1092	Applicant Anna Boudreau Business: (603) 697-1011	Applicant Cory Belden 133 Court St. Portsmouth, NH, NH 03801 Business: (603) 433-2335	Architect Jay Mason Home: (978) 459-2004
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Plan Custom Fields

Total	0	Total2	0	Total3	0
Total4	0	Total5	0	Total6	0
Total7	0	Total8	0	Total9	0
Street Classification Type	Municipal	Net Change in # Parking Spaces (+/-)	15	Water Service	Municipal
Recording Number	P-90-68	Sewer Service	Municipal	Total Acres (GIS)	2.18
Deed Book	5100	Total SQFT	94960.8	Deed Page	273
Deed Date	03/22/2023	Proposed Property Use	Residential multi-unit group housing for adults with Intellectual Developmental Disabilities (IDD).	Area of Parcel to be Developed (SQFT)	25000
Number of Parking Spaces Existing	30	Number of Parking Spaces Proposed	15	Number of Employees Total	6
Number of Employees in Max Shift	3	Distance to City Water	0	Distance to City Sewer	0
Type of Building to be Built	Conventional wood frame single story construction.	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	Sub Total Residential	0.00
TotalImpactFeeRIRCTO	0.00	TotalImpactFeeOCSTO	0.00	TotalImpactFeeITWCTO	0.00
TotalImpactFeeNHALT	0.00	TotalImpactFeeOIUTOD	0.00	TotalImpactFeeAFAOT	0.00
Sub Total	0.00	Total of Impact Fees to be Assessed	0.00		
Non-Residential					

Attachment File Name	Added On	Added By	Attachment Group	Notes
Signature_Cory_Belden_5/6/2024.jpg	05/06/2024 15:01	Belden, Cory		Uploaded via CSS
1. SITE-2024-0004 Snapshot Report.pdf	05/07/2024 12:22	Blonigen, Rachel		

PLAN SNAPSHOT REPORT (SITE-2024-0004)

2024.05.30_PlanningTechnicalReviewC ommittee.Agenda.pdf	05/07/2024 12:22	Blonigen, Rachel	TRC Agenda
2024.05.30_PlanningTechnicalReviewC ommittee.105Durham_SITE-2024-0004. df	06/24/2024 10:50	Blonigen, Rachel	Final Approved TRC Minutes

Invoice No.	Fee	Fee Amount	Amount Paid
INV-00007792	Planning General Application Fee	\$200.00	\$200.00
Total for Invoice INV-00007792		\$200.00	\$200.00
Grand Total for Plan		\$200.00	\$200.00

Meeting Type	Location	Scheduled Date	Subject
Technical Review Committee Meeting v.1	City Hall, Second Floor Conference Room	07/18/2024	Technical Review Committee Meeting
TRC Meeting Next Steps	Resubmit for 2nd TRC		

Submittal Name	Status	Received Date	Due Date	Complete Date	Resubmit	Completed
Land Use Plan Technical Review v.1	Requires Re-submit	05/07/2024	06/04/2024	07/03/2024	Yes	Yes

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Business Development	Business Development	Burdin, James	Requires Re-submit	05/07/2024	06/04/2024	07/03/2024
Comments: The proposed use seems appropriate for the site and surrounding area, and the addition is attractive and consistent with the rest of the building.						

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
City Engineer	Community Services - Engineering	Mavrogeorge, Kenneth	Requires Re-submit	05/07/2024	06/04/2024	07/03/2024

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
IS Building Official	Fire / Inspection Services	Maxfield, Jim	Requires Re-submit	05/07/2024	06/04/2024	05/17/2024
Comments: 1) Provide site plan in compliance with chapter 18 of NFPA 1 for site access. 2) Provide a turning template for fire dept. apparatus						

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Planning	Planning	Bassegio, Erin	Requires Re-submit	05/07/2024	06/04/2024	07/03/2024

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Zoning Administrator	Planning	Crouser, Paul	Requires Re-submit	05/07/2024	06/04/2024	07/03/2024

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Traffic Bureau	Police	Speidel, Marn	Requires Re-submit	05/07/2024	06/04/2024	07/03/2024

Submittal Name	Status	Received Date	Due Date	Complete Date	Resubmit	Completed
Land Use Plan Technical Review v.2	In Review	07/03/2024	07/16/2024		No	No

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Business Development	Business Development	Meyers, Kathleen	In Review	07/03/2024	07/31/2024	

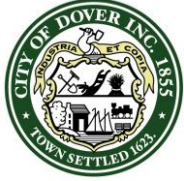
Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
City Engineer	Community Services - Engineering	Mavrogeorge, Kenneth	In Review	07/03/2024	07/16/2024	

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
IS Building Official	Fire / Inspection Services	Maxfield, Jim	In Review	07/03/2024	07/16/2024	

PLAN SNAPSHOT REPORT (SITE-2024-0004)

Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Planning	Planning	Bassegio, Erin	In Review	07/03/2024	07/31/2024	
Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Zoning Administrator	Planning	Crouser, Paul	In Review	07/03/2024	07/16/2024	
Item Review Name	Department	Assigned User	Status	Assigned Date	Due Date	Completed Date
Traffic Bureau	Police	Speidel, Marn	In Review	07/03/2024	07/16/2024	

Workflow Step / Action Name			Action Type	Start Date	End Date
Review v.1				05/07/2024 12:13	
Confirm application complete v.1			Generic Action		05/07/2024 12:14
Technical Review Committee Meeting Agenda v.1			Task	05/07/2024 12:13	05/07/2024 12:14
Land Use Plan Technical Review v.1			Receive Submittal	05/07/2024 0:00	07/03/2024 14:31
Land Use Plan Technical Review v.2			Receive Submittal	07/03/2024 0:00	
Technical Review Committee Meeting v.1			Hold Meeting	07/03/2024 14:33	
Technical Review Committee Meeting v.1			Hold Meeting	05/07/2024 12:14	07/03/2024 14:33
Planning Board v.1					
Planning Board Agenda v.1			Task		
Invoice for Notices v.1			Task		
Send Notices v.1			Task		
Planner Creates Staff Recommendations v.1			Plan Activity		
Distribute Planning Board Materials v.1			Task		
Planning Board Hearing v.1			Hold Hearing		
Planning Board Decision v.1			Plan Activity		
NOD Sent to Applicant v.1			Create Report		
Final Plan v.1					
Land Use Plan Stamped and Signed v.1			Generic Action		
Recording v.1			Task		
Document Archival v.1			Generic Action		
Internal Notification of Plan Completion v.1			Generic Action		
Building Official Notifies Address v.1			Generic Action		
Pre-Con Meeting v.1			Hold Meeting		
Create/Link to Records v.1					
Create / Link to Permit - Building Major v.1			Create Sub Permit		
Create / Link to Permit - Site Work, Construction v.1			Create Sub Permit		



CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – SITE-2024-0004

Application Type: Site Review
Applicant(s): Our Place, Inc.
Owner(s): Paul Seaver
Location: 105 Durham Rd. (Assessor's Map H, Lot 6-4)
Date: May 30, 2024

INTENT: Proposal is to construct a 9-unit group housing facility for adults with Intellectual Developmental Disabilities (IDD) with associated parking, drainage, and landscaping.

UNITS PROPOSED: 9 units (granted via TDR on January 18, 2024)

AGENDA ITEM #: 1

ACREAGE: 2.19± ac.

ZONING DISTRICT: R-20

EXISTING LAND USE: Residential, previously also a daycare/office use

PROPOSED LAND USE: Residential

SURROUNDING LAND USE: Residential, School

ZBA ACTION: ZONE-2023-0050, Variance from Section 170-12.(A), to allow for multi-family use

PERMITS REQUIRED:

- CUP for wetland buffer impacts

WAIVERS REQUESTED:

- §153-14(A.3.f) - Stormwater management
- §153-14 (D.1.c.2) Bicycle Racks
- §153-14 (A.12) - Landscape Plan

ATTENDANCE:

Donna Benton, Planning
Paul Crouser, Zoning
Jim Maxfield, Inspection Services
Marn Speidel, Police Department
Ken Mavrogeorge, Engineering
James Burdin, Business Development

Others:

Erin Bassegio, Assistant City Planner
Anna Boudreau, Our Place, Inc.
Laurie McIntosh, Our Place, Inc.
Ron Walton, Our Place, Inc.
Cory Belden, Altus Engineering

Approval of minutes from April 25, 2024:

K. Mavrogeorge moved to approve the April 25, 2024 minutes.
Seconded by J. Burdin. Vote: U/A.

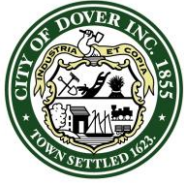
PLAN REVIEW:

Planning:

- Reminder: Impact fees, Water and sewer investment fees
- Explain landscape plan waiver request
 - Note on plan detailing landscape features along the facility's façade
- Lighting detail for parking lot?
- Keeping existing fence? Remove from inside future building.
- Screening for generator?
- Note indicating sidewalk and stop curbing along front of facility
- Revise plans:
 - Include planning file number: SITE-2024-0004
 - Owner signature
 - Include more aerial image (less of the zoning layer) on neighborhood plan
 - Note Wetland buffer signs every 35'
 - Add note stating that no additional dwelling units may be added to the property without Planning Board approval.
 - Revise "handicap" to "accessible" maps
 - Provide fence detail or photo
 - Add landscaping plan (even with waiver) to provide more detail than current plan
 - Correct unit breakdown on plan (currently labeled as 8 residential units, 1 staff unit)
- 5% of parking spaces must be EV ready or a waiver must be submitted.

Engineering:

- General Comment:
 - Applicant and Contractor shall review the Dover Construction Guidelines prior to scheduling a Preconstruction meeting with City staff. The guidelines can be found on the City of Dover Website on the Engineering page.
<https://www.dover.nh.gov/Assets/government/city-operations/1form/community-services/engineering/engineering-documents/Construction%20Guidelines.pdf>

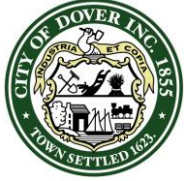


CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – SITE-2024-0004

Application Type: Site Review
Applicant(s): Our Place, Inc.
Owner(s): Paul Seaver
Location: 105 Durham Rd. (Assessor's Map H, Lot 6-4)
Date: May 30, 2024

- Confirm that the current Dover Notes are used (Coordinate with Planning Department).
- Coordinate with Community Services (Engineering Department) for latest City Standard Details.
- **Add note that Design Engineer shall provide signed letter to City Engineer certifying that the site has been constructed in accordance with approved plans.**
- Recommend providing 1 sf of snow storage per 10 sf of pavement to be cleared. Verify snow storage meets or exceeds this recommendation or provide note to remove excess snow when storage areas are filled.
- Provide a construction sign detail and location on plan.
- No landscape plan provided for review. Engineering defers to Planning regarding waiver request.
- What is the ESHWT where the proposed rain garden will be located?
- Please provide sewer, water, electric, and communication layouts as it is assumed that this facility will have different demands than the day care. Show and confirm the condition of existing facilities if not proposing changes.
- Recommend storing snow in areas where landscaping won't get in the way.
- Recommend individual water shut offs for fire and domestic services be provided and located outside of paved surfaces and in grass. All shut offs in City ROWs must be in grass at the edge of the ROW. If shut offs on the private road remain in the paved surface, a road box should be provided.
- Recommend lighting plan be provided.
- Existing Conditions Plan:
 - Show existing utilities on the plan.
 - 103 Durham Rd shares utilities with this site. Is there an HOA spelling out how this private utility is managed?
- Sheet GN-1
 - Sewer manhole not shown on the legend. Are there any on the property?
- Sheet C-2:
 - What is the condition of the 24-inch culvert running below the new paved parking lot? Recommend videoing the line to determine if it needs to be replaced or repaired.
 - Is there a raised sidewalk between the building and the parking lot? What is to stop cars from locking the accessible route? Clarify if wheel stops or curb would be needed.
 - Where would future EV spaces be located?
- Sheet C-3:
 - The parking lot appears to drain directly to the rain garden without any pretreatment (forebay or other). Please provide pretreatment.
 - Provide additional spot grades to clarify how water will make it to Area Drain #1. Is there a swale behind the dumpster?
 - The table and the callout for the rain garden state different areas (300 sf versus 200 sf). Please clarify which is correct.
 - Erosion control should be outside the proposed grading.
- CUP-1:
 - Add note to clarify how much loam should be applied to restored buffer areas on this plan. Recommend a minimum of 6" of loam.
- D-1:
 - This sheet states that a NPDES GP is not required then states that an NOT is required from the EPA. Please clarify which is correct.
- D-2:
 - Where is the bituminous sidewalk proposed?
 - Recommend using the City of Dover standard details for drainage trenches. Storm Drain Utility Trench Section – crushed stone shall extend 12" above top of pipe.
- D-3:
 - Change references from "handicap" to "accessible".



CITY OF DOVER

TECHNICAL REVIEW COMMITTEE MINUTES – SITE-2024-0004

Application Type: Site Review
Applicant(s): Our Place, Inc.
Owner(s): Paul Seaver
Location: 105 Durham Rd. (Assessor's Map H, Lot 6-4)
Date: May 30, 2024

- Drainage Study:
 - The drainage study references the construction of a three story medical office building that is 14,480 sf. It also notes there are 210 parking spaces proposed. Please clarify what this is in reference to.
 - There are references to drainage flowing directly to the Bellamy River. Please clarify what this is in reference to?
 - The BMP worksheet indicates that the ESHWT is not present or down at 85. Please clarify how this was determined.
 - Please provide a test pit in the proposed infiltration basin location as the ESHWT varies across the proposed project site.
 - An infiltration rate of 2 inches per hour is assumed but infiltration testing does not appear to have been performed. Provide results of testing to confirm assumptions as 2 inches per hour in C soils seems high.

- Sheet 6 Indicate the means provided to maintain the accessible route along the sidewalk with parking spaces
- Confirm scale of provided plan

Fire Department:

- No comments.

Business Development:

- The proposed use seems appropriate for the site and surrounding area, and the addition is attractive and consistent with the rest of the building.

Planning Board:

- No comments.

Next Steps: Revise plans per comments above and submit for a second TRC.

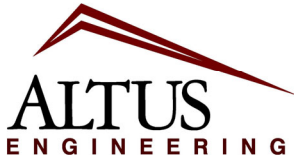
Adjournment: K. Mavrogeorge moved to adjourn the meeting at 11:11 a.m. Seconded by M. Speidel. Vote: U/A

Police:

- Sheet 5: 103 Durham Road shares this driveway and is in very close proximity to the redeveloped site. The building and driveway at #103 should be shown more prominently on the overall site plan (rather than merely as a referenced abutter note) even if it is not proposed to be disturbed.

Inspection Services:

- Sheet 6 Indicate the size, fuel source and classification of the generator
- Sheet 6 Provide the capacity of the underground propane tank and distance from property line.
- Indicate the distance to the nearest fire hydrant
- Sheet 6 Plans shall indicate the location of the FDC.
- Clarify the type of sprinkler system to be installed
- Discuss vehicular access to dumpster location
- Sheet 6 Indicate accessible features of dumpster and access.



**Civil
Site Planning
Environmental
Engineering**

133 Court Street
Portsmouth, NH
03801-4413

July 3, 2024

City of Dover
Planning Department
288 Central Ave
Dover, NH 03820

**Re: Application for Site Plan Review – Technical Review
Our Place – Adult Supportive Living Facility
105 Durham Road, Dover
Tax Map H, Lot 6-4
P5496**

Dear Commission,

On behalf of Our Place, Inc., Altus Engineering, LLC (Altus) is pleased to submit the attached Application for Site Plan Review to construct the proposed adult supportive living facility at 105 Durham Road. The proposed project will provide a building addition of approximately 3,140 square feet and renovate the existing day care center to provide a nine unit facility. Zoning approval and Transfer of Development Rights (TDR) were approved in December 2023, and January 2024, respectively. The applicant met with the Technical Review Committee on May 30, 2024. The following comments were received and responses provided:

Planning:

- Reminder: Impact fees, Water and sewer investment fees

Response: It is understood that the impact fees will reflect a similar fee schedule to an assisted living facility, and not market rate residential apartments.

- Explain landscape plan waiver request

- Note on plan detailing landscape features along the facility's façade

Response: The existing site is developed and there is an existing evergreen screen on the east side of the building that will be remain. The building is not visible from Durham Road. Landscaping has been added to the site plan to show the planned areas for low groundcover adjacent to the building.

- Lighting detail for parking lot?

Response: No lighting will be provided for the parking lot. All exterior lighting will be building mounted lights that will illuminate the walkways around the building and be on motion sensors.

- Keeping existing fence? Remove from inside future building.

Response: The existing fence on the back side of the building will remain where it is outside the footprint of the building. Plans have been revised to remove fence.

- Screening for generator?

Response: A stockade fence screen has been added.

- Note indicating sidewalk and stop curbing along front of facility

Response: Vehicle curb stops have been added to the plans.

- Revise plans:
 - Include planning file number: SITE-2024-0004
Response: File numbers have been added to cover sheet and title block.
 - Owner signature
Response: Our Place is in the process of closing on the property. When the sale is final, the owner of record will be revised and Our Place will sign the final plans.
 - Include more aerial image (less of the zoning layer) on neighborhood plan
Response: Neighborhood Plan has been revised using aerial imagery.
 - Note Wetland buffer signs every 35'
Response: Note has been added for wetland buffer signs.
 - Add note stating that no additional dwelling units may be added to the property without Planning Board approval.
Response: Note 17, sheet 6 has been added.
 - Revise "handicap" to "accessible" maps
Response: Plan notes have been revised.
 - Provide fence detail or photo
Response: Stockade fence detail is shown on sheet 12.
 - Add landscaping plan (even with waiver) to provide more detail than current plan
Response: Landscaping has been added to the Site Plan.
 - Correct unit breakdown on plan (currently labeled as 8 residential units, 1 staff unit)
Response: Note revised to 9 units.
- 5% of parking spaces must be EV ready or a waiver must be submitted.
Response: An EV ready stall has been added to the plans.

Engineering:

- General Comment:
 - Applicant and Contractor shall review the Dover Construction Guidelines prior to scheduling a Preconstruction meeting with City staff. The guidelines can be found on the City of Dover Website on the Engineering page.
<https://www.dover.nh.gov/Assets/government/city-operations/1form/community-services/engineering/engineering-documents/Construction%20Guidelines.pdf>
Response: Comment noted
 - Confirm that the current Dover Notes are used (Coordinate with Planning Department).
Response: The current notes were used for this project.
 - Coordinate with Community Services (Engineering Department) for latest City Standard Details.
Response: Alus has confirmed that the current details are used.
 - Add note that Design Engineer shall provide signed letter to City Engineer certifying that the site has been constructed in accordance with approved plans.
Response: Note 18 added to Site Plan.
 - Recommend providing 1 sf of snow storage per 10 sf of pavement to be cleared. Verify snow storage meets or exceeds this recommendation or provide note to remove excess snow when storage areas are filled.
Response: Over 1 sf/10 sf of parking is provided for snow storage.
 - Provide a construction sign detail and location on plan.
Response: Detail added to Sht D-3, Dtl 6, and at driveway entrance to site.
 - No landscape plan provided for review. Engineering defers to Planning regarding waiver request.
Response: Proposed landscaping has been added to the site plan.

- What is the ESHWT where the proposed rain garden will be located?

Response: . A test pit was not performed in the area of the raingarden, so an underdrain has been added. A note has been added that testing can be performed during construction and the raingarden design revised, as coordinated with City Engineer. The site is surrounded on 3 sides by deep drainage ditches and wetlands

- Please provide sewer, water, electric, and communication layouts as it is assumed that this facility will have different demands than the day care. Show and confirm the condition of existing facilities if not proposing changes.

Response: A Utilities Plan has been provided. The new 9 unit building (12 residents) will have a lower demand for sewer and water than the child day care facility. The condition of existing services have not been confirmed. It is recommended that this is done during construction when equipment is available on site. A note indicating this requirement has been added to the utility plan.

- The sewer and drain lines are plastic and appear in good condition.
- The water line is not visible. The existing fire suppression system was installed withing the last 3 years.
- The elec/telecom service is underground.

- Recommend storing snow in areas where landscaping won't get in the way.

Response: No landscaping is provide in snow storage areas.

- Recommend individual water shut offs for fire and domestic services be provided and located outside of paved surfaces and in grass. All shut offs in City ROWs must be in grass at the edge of the ROW. If shut offs on the private road remain in the paved surface, a road box should be provided.

Response: The existing building is serviced by a 1" domestic water and a 4" fire suppression line. It is anticipated that the

- Recommend lighting plan be provided.

Response: No light poles are proposed for the parking area. Only building mounted lighting is provided on motion sensors.

- Existing Conditions Plan:

- Show existing utilities on the plan.

Response: Existing utilities are shown on the Utilities Plan based on research and field data.

- 103 Durham Rd shares utilities with this site. Is there an HOA spelling out how this private utility is managed?

Response: There is not an HOA. There is a driveway maintenance agreement. The owner is not aware of a utilities agreement that was executed when the lots were subdivided.

- Sheet GN-1

- Sewer manhole not shown on the legend. Are there any on the property?

Response: A buried sewer manhole was found at the first bend in the road and is shown on Sheet 5.

- Sheet C-2:

- What is the condition of the 24-inch culvert running below the new paved parking lot? Recommend videoing the line to determine if it needs to be replaced or repaired.

Response: The line is plastic and appears in good condition.

- Is there a raised sidewalk between the building and the parking lot? What is to stop cars from locking the accessible route? Clarify if wheel stops or curb would be needed.

Response: Vehicle curb stops and details have been added to the plans.

- Where would future EV spaces be located?

Response: Future EV stall has been added near the electrical service connection.

- Sheet C-3:
 - The parking lot appears to drain directly to the rain garden without any pretreatment (forebay or other). Please provide pretreatment.
Response: A deep sump catch basin has been added for pre-treatment.
 - Provide additional spot grades to clarify how water will make it to Area Drain #1. Is there a swale behind the dumpster?
Response: Grades have been shown and the intent is for the area behind the dumpster to drain to CB1.
 - The table and the callout for the rain garden state different areas (300 sf versus 200 sf). Please clarify which is correct.
Response: The raingarden is 300 sf and notes have been revised.
 - Erosion control should be outside the proposed grading.
Response: Temporary erosion control barrier lines have been adjusted.
- CUP-1:
 - Add note to clarify how much loam should be applied to restored buffer areas on this plan. Recommend a minimum of 6" of loam.
Response: 6" loam and seed added to note.
- D-1:
 - This sheet states that a NPDES GP is not required then states that an 'NOT' is required from the EPA. Please clarify which is correct.
Response: Note 14 for sequence of events (filing NOT) is removed.
- D-2:
 - Where is the bituminous sidewalk proposed?
Response: The walkway to the north door is bituminous.
 - Recommend using the City of Dover standard details for drainage trenches. Storm Drain Utility Trench Section – crushed stone shall extend 12" above top of pipe.
Response: City of Dover Standard drain trench added for drain and sewer trench.
- D-3:
 - Change references from "handicap" to "accessible".
Response: Notes revised.
- Drainage Study:
 - The drainage study references the construction of a three story medical office building that is 14,480 sf. It also notes there are 210 parking spaces proposed. Please clarify what this is in reference to.
Response: Drainage Study has been revised.
 - There are references to drainage flowing directly to the Bellamy River. Please clarify what this is in reference to?
Response: Drainage Study has been revised.
 - The BMP worksheet indicates that the ESHWT is not present or down at 85. Please clarify how this was determined.
Response: A test pit was not performed at the RG1 location. Infiltration has been removed and an underdrain added. A note has been added that testing can be performed during construction and the raingarden design revised, as coordinated with City Engineer.
 - Please provide a test pit in the proposed infiltration basin location as the ESHWT varies across the proposed project site.
Response: See note above.

- An infiltration rate of 2 inches per hour is assumed but infiltration testing does not appear to have been performed. Provide results of testing to confirm assumptions as 2 inches per hour in C soils seems high.

Response: Infiltration has been removed and an underdrain added.

Police:

- Sheet 5: 103 Durham Road shares this driveway and is in very close proximity to the redeveloped site. The building and driveway at #103 should be shown more prominently on the overall site plan (rather than merely as a referenced abutter note) even if it is not proposed to be disturbed.

Response: The survey only picked up approx. 10 ft across the property line. The building has been added based on aerial imagery.

Inspection Services:

- Sheet 6 Indicate the size, fuel source and classification of the generator
Response: The generator information is not yet available. This will be available for the building permit application.
- Sheet 6 Provide the capacity of the underground propane tank and distance from property line.
Response: 1000 gal Propane Tank located 12 ft from P/L.
- Indicate the distance to the nearest fire hydrant
Response: Nearest Hydrant 250' from driveway east on Durham Road.
- Sheet 6 Plans shall indicate the location of the FDC.
Response: FDC located at existing steps. Added to Sheet 6 and Utilities plan.
- Clarify the type of sprinkler system to be installed
Response: Sprinkler system not yet designed.
- Discuss vehicular access to dumpster location
Response: Front load trash truck will pull in to parking area and do a "T" turnaround to access dumpster.
- Sheet 6 Indicate accessible features of dumpster and access.
Response: The dumpster is only accessed by staff.
- Sheet 6 Indicate the means provided to maintain the accessible route along the sidewalk with parking spaces
Response: Curb stops will provide the a barrier between the walkway and parking and have been added to the plans.
- Confirm scale of provided plan
Response: Overall Site Plan is 40 Scale. Detailed Plans are 20 Scale. Updated.

Fire Department:

- No comments.

Business Development:

- The proposed use seems appropriate for the site and surrounding area, and the addition is attractive and consistent with the rest of the building.
Response: We greatly appreciate your support and comments.

Planning Board:

- No comments.

The Following are included for this submittal:

Site Plan Application (4 copies for TRC)

1. Revised Drainage Report, dated July 3, 2024
2. Project Plans dated July 3, 2024
(2 half size/ 2 Full Size)

We respectfully request to be placed on the next available agenda for the Technical Review Committee and to discuss this project. Please contact me directly if you have any questions or require any additional information.

Sincerely,
ALTUS ENGINEERING, INC.

A handwritten signature in blue ink, appearing to read 'C. Belden', with a stylized flourish at the end.

Cory D. Belden, PE

ECopy:

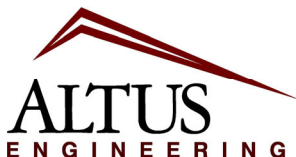
Enclosure
Altus Prj: 5496

DRAINAGE STUDY

OUR PLACE, INC. ADULT SUPPORTIVE HOUSING FACILITY

**105 Durham Road
Dover, NH
Tax Map H, Lot 6-4**

Prepared July 3, 2024



**Civil
Site Planning
Environmental
Engineering**

133 Court Street
Portsmouth, NH
03801-4413

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OUR PLACE

105 Durham Road
Dover, NH
Tax Map H, Lot 6-4

- 1) Project Narrative
- 2) Web Soils Survey Map
- 3) Aerial Photographs
- 4) BMP Worksheets
- 5) Drainage Analysis
 - Extreme Precipitation Tables
 - Pre-Development Analysis
 - Post Development Analysis
- 6) Inspection and Maintenance Manual

Appendix:

Plans: Pre-Development Watershed Plan
Post-Development Watershed Plan

PROJECT NARRATIVE

OUR PLACE ADULT GROUP LIVING FACILITY

**105 Durham Road, Dover, NH
Tax Map H, Lot 6-4**

Site Overview

The Applicant, Our Place, Inc. is proposing to construct an adult group living facility at 105 Durham Road in Dover, NH located on Tax Map H, Lot 6-4. The proposed site development will provide an approximate 3,140 square foot addition to the existing building on site, that was the former home of Garrison City Early Childhood Center, which had a 107 child capacity. The proposed development will provide nine residential units, eight of which will be for adults with Intellectual Developmental Disabilities (IDD) and a single unit for the on-site resident staff. The existing lot is approximately 2.18 acres in size and abuts the Dover High School to the north. The existing site was developed prior to current stormwater regulations and does not provide treatment for the approximately 33,425 square feet of impervious area on the parcel. The proposed site has been designed with a raingarden and vegetated swale to provide stormwater treatment and will reduce the overall site impervious by 4,200 square feet.

Drainage Summary

The following table compares pre- and post-development peak rates of runoff for all analyzed storm events at the two Points of Analysis for the project:

**Stormwater Modeling Summary Table
Peak Q (cfs) for Type III 24-Hour Storm Events**

	2-Yr Storm (3.62 inch)	10-Yr Storm (5.46inch)	25-Yr Storm (6.91 inch)	50-Yr Storm (8.27 inch)
POA #1				
Pre	2.23	4.38	6.21	7.91
Post	2.04	4.18	5.85	7.47
Net Change POA #1	-0.19	-0.20	-0.36	-0.44
POA #2				
Pre	0.24	0.43	0.58	0.73
Post	0.05	0.08	0.11	0.13
Net Change POA #2	-0.19	-0.35	-0.47	-0.60

Note: Includes 15% increase for NH Seacoast communities, per NHDES guidelines.

Pre-Development (Existing Conditions)

The pre-development site conditions reflect the current conditions of the site, as depicted on the Existing Conditions Plan prepared by Northam Survey, PLLC. The existing site is primarily a developed lot and discharges to the wetlands to the north by surface runoff. The study area for this drainage analysis is primarily the 1.4 acre area where the current day care and parking areas are located. The existing driveway to the site is not included and is not proposed to change from the current conditions. The existing watershed reflects the existing site conditions. The majority of the surface water discharges to the wetlands located to the north. A small portion of the site drains easterly towards Durham Road along the driveway. Therefore two Points of Analysis (POA) were used for comparison of pre to post development conditions.

The Pre-Development analysis models the existing conditions from the site. The soil data from the NRCS Web Soil Survey was used to determine the hydrologic soil conditions for the site. The existing conditions survey and soil conditions were used to develop a model of the existing conditions to compare to the post-development conditions.

Site topography, existing features, proposed site improvements, proposed grading, drainage and erosion control measures are shown on the accompanying plans. Recommended erosion control measures are based upon the December 2008 edition of the "New Hampshire Stormwater Manual Volumes I through 3" prepared by NHDES and Comprehensive Environmental, Inc. as amended.

Post-Development (Proposed Site Design)

The proposed site development will provide an approximate 3,140 square foot addition to the existing building on site. The existing gravel parking lot and paved parking area the previously served the day care will be replaced with a new paved parking area for fifteen vehicles. The proposed site improvements will result in a decrease in the site impervious area by approximately 4,200 square feet. The proposed site has been designed with deep sump catch basins for pre-treatment and a 300 square foot raingarden to provide stormwater treatment

The Stormwater Modeling Summary Table on Page 1 illustrates that the peak flows are managed for all storm events per Env-Wq 1507.05. The project will provide treatment to over 10,000 square feet of impervious area. The post-construction peak rates of runoff from the site will be reduced for the 2, 10, 25, and 50 year storms. Additionally, appropriate steps will be taken to properly mitigate erosion and sedimentation through construction with the use of temporary and permanent Best Management Practices for sediment and erosion control.

The "Post-Development Watershed Plan" illustrates the proposed stormwater management system. The original sub-catchments have been divided into smaller areas to emulate the proposed grading and stormwater management system proposed for construction. The post-development conditions were analyzed at the same primary discharge point examined in the pre-development modeling.

Site Soils

Because the site is a developed site, a Site Specific Soils Survey was not performed for the project. A Web Soils Survey was completed through the Natural Resource Conservation Service to determine the soils conditions. The primary soil was identified as Saugatuck loamy sand. Therefore a Hydrologic Soil Group C was used for the site analysis.

Pollutant Removal

Based on the New Hampshire Stormwater Manual – Appendix E, the following pollutant removal rates would be expected from the implementation of the infiltration practices:

<u>Pollutant</u>	<u>Bioretention Raingarden Removal %</u>
Total Suspended Solids (TSS)	90%
Total Nitrogen (TN)	65%
Total Phosphorus (TP)	65%

CONCLUSION

The proposed development for Our Place at 105 Durham Road in Dover, NH will not have an adverse effect on abutting properties and infrastructure as a result of stormwater runoff. The project will provide treatment to over 10,000 square feet of impervious area and reduce the total impervious area on the site by over 4,200 square feet. The post-construction peak rates of runoff from the site will be managed for the 2, 10, 25, and 50 year storms and prove reductions for all of the storms. Additionally, appropriate steps will be taken to properly mitigate erosion and sedimentation through construction with the use of temporary and permanent Best Management Practices for sediment and erosion control.

CALCULATION METHODS

The drainage study was completed using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. Reservoir routing was performed with the Dynamic Storage Indication method which automates the calculation of Tailwater conditions. A Type III 24-hour rainfall distribution was utilized in analyzing the data for the 2, 10, 25, and 50 yr 24-hour storm events using rainfall data obtained from the Northeast Regional Climate Center (NRCC) Extreme Precipitation Tables.

Disclaimer

Altus Engineering, Inc. notes that stormwater modeling is limited in its capacity to precisely predict peak rates of runoff and flood elevations. Results should not be considered to represent actual storm events due to the number of variables and assumptions involved in the modeling effort. Surface roughness coefficients (n), entrance loss coefficients (k_e), velocity factors (k_v) and times of concentration (T_c) are based on subjective field observations and engineering judgment using available data. For design purposes, curve numbers (C_n) describe the average conditions. However, curve numbers will vary from storm to storm depending on the antecedent runoff conditions (ARC) including saturation and frozen ground. Also, higher water elevations than predicted by modeling could occur if drainage channels, closed drain systems or culverts are not maintained and/or become blocked by debris before and/or during a storm event as this will impact flow capacity of the structures. Structures should be re-evaluated if future changes occur within relevant drainage areas in order to assess any required design modifications.

Soil Map—Strafford County, New Hampshire (Our Place)



Map Scale: 1:1,340 if printed on A landscape (11" x 8.5") sheet.

0 15 30 60 90 Meters

0 50 100 200 300 Feet

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



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

4/18/2024
Page 1 of 3

Soil Map—Strafford County, New Hampshire
(Our Place)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Strafford County, New Hampshire

Survey Area Data: Version 24, Aug 22, 2023

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BzB	Buxton silt loam, 3 to 8 percent slopes	0.1	5.2%
Sb	Saugatuck loamy sand	2.5	89.6%
ScA	Scantic silt loam, 0 to 3 percent slopes	0.1	5.2%
Totals for Area of Interest		2.8	100.0%

Soil Series	legend number	Ksat low - B in/hr	Ksat high - B in/hr	Ksat low - C in/hr	Ksat high - C in/hr	Hyd. Grp.	Group	Land Form	Temp.	Soil Textures	Spodosol ?	Other
Mundal	610	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	yes	gravely sandy loam in Cd
Natchaug	496			0.20	2.0	D	6	Organic Materials - Freshwater	mesic	loamy	no	organic over loam
Naumburg	214	6.0	20.0	6.00	20.0	C	5	Outwash and Stream Terraces	frigid	sandy	yes	
Newfields	444	0.6	2.0	0.60	2.0	B	3	Loose till, sandy textures	mesic	loamy over sandy	no	sandy or sandy-skeletal
Nicholville	632	0.6	2.0	0.60	2.0	C	3	Terraces and glacial lake plains	frigid	silty	yes	very fine sandy loam
Ninigret	513	0.6	6.0	6.00	20.0	B	3	Outwash and Stream Terraces	mesic	loamy over sandy	no	sandy or sandy-skeletal
Occum	1	0.6	2.0	6.00	20.0	B	2	Flood Plain (Bottom Land)	mesic	loamy	no	loamy over loamy sand
Ondawa	101	0.6	6.0	6.00	20.0	B	2	Flood Plain (Bottom Land)	frigid	loamy	no	loamy over loamy sand
Ondawa	201	0.6	6.0	6.00	20.0	B	2	Flood Plain (Bottom Land)	frigid	loamy	no	occ flood, loamy over l. sand
Ossipee	495			0.20	2.0	D	6	Organic Materials - Freshwater	frigid	loamy	no	organic over loam
Pawcatuck	497			20.00	100.0	D	6	Tidal Flat	mesic	sandy or sandy-skeletal	no	organic over sand
Paxton	66	0.6	2.0	0.00	0.2	C	3	Firm, platy, loamy till	mesic	loamy	no	
Peacham	549	0.6	2.0	0.00	0.2	D	6	Firm, platy, silty till, schist & phyllite	frigid	loamy	no	organic over loam
Pemi	633	0.6	2.0	0.06	0.6	C	5	Terraces and glacial lake plains	frigid	silty	no	
Pennichuck	460	0.6	2.0	0.60	2.0	B	4	Friable till, silty, schist & phyllite	mesic	loamy-skeletal	no	20 to 40 in. deep
Peru	78	0.6	2.0	0.06	0.6	C	3	Firm, platy, loamy till	frigid	loamy	yes	
Pillsbury	646	0.6	2.0	0.06	0.2	C	5	Firm, platy, loamy till	frigid	silty	no	
Pipestone	314					B	5	Outwash and Stream Terraces	mesic	sandy	yes	
Pittstown	334	0.6	2.0	0.06	0.2	C	3	Firm, platy, silty till, schist & phyllite	mesic	loamy	no	channery silt loam in Cd
Plaisted	563	0.6	2.0	0.06	0.6	C	3	Firm, platy, silty till, schist & phyllite	frigid	loamy	yes	channery silt loam in Cd
Podunk	104	0.6	6.0	6.00	20.0	B	3	Flood Plain (Bottom Land)	frigid	loamy	no	loamy to coarse sand in C
Pondicherry	992			6.00	20.0	D	6	Organic Materials - Freshwater	frigid	sandy or sandy-skeletal	no	organic over sand
Poocham	230	0.6	2.0	0.20	2.0	B	3	Terraces and glacial lake plains	mesic	silty	no	silt loam in C
Pootatuck	4	0.6	6.0	6.00	20.0	B	3	Flood Plain (Bottom Land)	mesic	loamy	no	single grain in C
Quonset	310	2.0	20.0	20.00	100.0	A	1	Outwash and Stream Terraces	mesic	sandy-skeletal	no	shale
Rawsonville	98	0.6	6.0	0.60	6.0	C	4	Loose till, bedrock	frigid	loamy	yes	20 to 40 in. deep
Raynham	533	0.2	2.0	0.06	0.2	C	5	Terraces and glacial lake plains	mesic	silty	no	
Raypol	540	0.6	2.0	6.00	100.0	D	5	Outwash and Stream Terraces	mesic	co. loamy over sandy (skeletal)	no	
Redstone	665	2.0	6.0	6.00	20.0	A	1	Weathered Bedrock Till	frigid	fragmental	yes	loamy cap
Ricker	674	2.0	6.0	2.00	6.0	A	4	Organic over bedrock (up to 4" of mineral)	crylic	fibric to hemic	no	well drained, less than 20 in. deep
Ridgebury	656	0.6	6.0	0.00	0.2	C	5	Firm, platy, loamy till	mesic	loamy	no	
Rippowam	5	0.6	6.0	6.00	20.0	C	5	Flood Plain (Bottom Land)	mesic	loamy	no	
Roundabout	333	0.2	2.0	0.06	0.6	C	5	Terraces and glacial lake plains	frigid	silty	no	silt loam in the C
Rumney	105	0.6	6.0	6.00	20.0	C	5	Flood Plain (Bottom Land)	frigid	loamy	no	
Saco	6	0.6	2.0	6.00	20.0	D	6	Flood Plain (Bottom Land)	mesic	silty	no	strata
Saddleback	673	0.6	2.0	0.60	2.0	C/D	4	Loose till, bedrock	crylic	loamy	yes	less than 20 in. deep
Salmon	666	0.6	2.0	0.60	2.0	B	2	Terraces and glacial lake plains	frigid	silty	yes	very fine sandy loam
Saugatuck	16	0.06	0.2	6.00	20.0	C	5	Outwash and Stream Terraces	mesic	sandy	yes	ortstein
Scatic	233	0.6	0.2	0.00	0.2	D	3	Silt and Clay Deposits	frigid	fine	no	
Scarboro	115	6.0	20.0	6.00	20.0	D	6	Outwash and Stream Terraces	mesic	sandy	no	organic over sand, non stony
Scio	531	0.6	2.0	0.60	2.0	B	3	Terraces and glacial lake plains	mesic	silty	no	gravely sand in 2C
Scitico	33	0.0	0.2	0.00	0.2	C	5	Silt and Clay Deposits	mesic	fine	no	
Scituate	448	0.6	2.0	0.06	0.2	C	3	Firm, platy, sandy till	mesic	loamy	no	loamy sand in Cd
Searsport	15	6.0	20.0	6.00	20.0	D	6	Outwash and Stream Terraces	frigid	sandy	no	organic over sand
Shaker	439	2.0	6.0	0.00	0.2	C	5	Sandy/loamy over silt/clay	mesic	co. loamy over clayey	no	
Shapleigh	136					C/D	4	Sandy Till	mesic	sandy	yes	less than 20 in. deep
Sheepscot	14	6.0	20.0	6.00	20.0	B	3	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	gravely coarse sand
Sisk	667	0.6	2.0	0.00	0.6	C	3	Firm, platy, loamy till	crylic	loamy	yes	sandy loam in Cd
Skerry	558	0.6	2.0	0.06	0.6	C	3	Firm, platy, sandy till	frigid	loamy	yes	loamy sand in Cd
Squamscott	538	6.0	20.0	0.06	0.6	C	5	Sandy/loamy over silt/clay	mesic	sandy over loamy	yes	
Stetson	523	0.6	6.0	6.00	20.0	B	2	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	loamy over gravelly
Stissing	340	0.6	2.0	0.06	0.2	C	5	Firm, platy, silty till, schist & phyllite	mesic	loamy	no	
Success	154	2.0	6.0	6.00	20.0	A	1	Sandy Till	frigid	sandy-skeletal	yes	cemented
Sudbury	118	2.0	6.0	2.00	20.0	B	3	Outwash and Stream Terraces	mesic	sandy	no	loam over gravelly sand

Our Place NH

**Property Information**

Property ID H0006-004000
Location 105 DURHAM RD
Owner SEAYER PAUL J
Land Use 140
Zoning Code R-20

**MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT**

City of Dover, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 7/10/2023
Data updated Daily

Print map scale is approximate.
Critical layout or measurement
activities should not be done using
this resource.



FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name:

Bioretention (Raingarden) HydroCAD Node RG1

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

yes		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a).	
0.34	ac	A = Area draining to the practice	
0.23	ac	A _I = Impervious area draining to the practice	
0.68	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.66	unitless	R _v = Runoff coefficient = 0.05 + (0.9 x I)	
0.22	ac-in	WQV = 1" x R _v x A	
809	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
202	cf	25% x WQV (check calc for sediment forebay volume)	
607	cf	75% x WQV (check calc for surface sand filter volume)	
forebay		Method of Pretreatment? (not required for clean or roof runoff)	
cf		V _{SED} = Sediment forebay volume, if used for pretreatment	≥ 25%WQV
Calculate time to drain if system IS NOT underdrained:			
300	sf	A _{SA} = Surface area of the practice	
-	iph	K _{sat} _{DESIGN} = Design infiltration rate ¹	
		If K _{sat} (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
yes	Yes/No	(Use the calculations below)	
-	hours	T _{DRAIN} = Drain time = V / (A _{SA} * I _{DESIGN})	≤ 72-hrs
Calculate time to drain if system IS underdrained:			
94.32	ft	E _{WQV} = Elevation of WQV (attach stage-storage table)	
0.15	cfs	Q _{WQV} = Discharge at the E _{WQV} (attach stage-discharge table)	
3.00	hours	T _{DRAIN} = Drain time = 2WQV/Q _{WQV}	≤ 72-hrs
91.50	feet	E _{FC} = Elevation of the bottom of the filter course material ²	
na	feet	E _{UD} = Invert elevation of the underdrain (UD), if applicable	
90.50	feet	E _{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
90.50	feet	E _{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
#VALUE!	feet	D _{FC to UD} = Depth to UD from the bottom of the filter course	≥ 1'
1.00	feet	D _{FC to ROCK} = Depth to bedrock from the bottom of the filter course	≥ 1'
1.00	feet	D _{FC to SHWT} = Depth to SHWT from the bottom of the filter course	≥ 1'
94.71	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
95.00	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	← yes
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	< 10 ac
	cf	V = Volume of storage ³ (attach a stage-storage table)	≥ 75%WQV
	inches	D _{FC} = Filter course thickness	18", or 24" if within GPA
Sheet		Note what sheet in the plan set contains the filter course specification.	
Yes/No		Access grate provided?	← yes

YES	ac	Drainage Area no larger than 5 ac?	← yes
829	cf	V = Volume of storage ³ (attach a stage-storage table)	≥ WQV
18.0	inches	D _{FC} = Filter course thickness	18", or 24" if within GPA
Sheet	D-4	Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	≥ 3:1
Sheet	C-2	Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
	acres	Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.) A _{SA} = Surface area of the pervious pavement	
	:1	Ratio of the contributing area to the pervious surface area	≤ 5:1
	inches	D _{FC} = Filter course thickness	12", or 18" if within GPA
Sheet		Note what sheet in the plan set contains the filter course spec.	mod. 304.1 (see spec)

- [illegible]

5496 Post_070124*Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off*

Prepared by Altus Engineering, Inc.

Printed 7/1/2024

HydroCAD® 10.00-22 s/n 01222 © 2018 HydroCAD Software Solutions LLC

Stage-Area-Storage for Pond RG1: RG1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
89.75	300	0
89.85	300	12
89.95	300	24
90.05	300	36
90.15	300	48
90.25	300	60
90.35	300	72
90.45	300	84
90.55	300	96
90.65	300	108
90.75	300	120
90.85	300	132
90.95	300	144
91.05	300	156
91.15	300	168
91.25	300	180
91.35	300	190
91.45	300	200
91.55	300	207
91.65	300	212
91.75	300	216
91.85	300	220
91.95	300	225
92.05	300	229
92.15	300	234
92.25	300	239
92.35	300	243
92.45	300	248
92.55	300	252
92.65	300	257
92.75	300	261
92.85	300	265
92.95	300	270
93.05	310	292
93.15	330	332
93.25	350	371
93.35	370	411
93.45	390	450
93.55	410	490
93.65	430	529
93.75	450	569
93.85	470	609
93.95	490	648
94.05	515	700
94.15	545	765
94.25	575	829
94.35	605	893
94.45	635	958
94.55	665	1,022
94.65	695	1,087
94.75	725	1,151
94.85	755	1,216
94.95	785	1,280

5496 Post_041824*Type III 24-hr 50-yr Rainfall=8.27", Smoothing=Off*

Prepared by Altus Engineering, Inc.

Printed 5/3/2024

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Stage-Discharge for Pond RG1: RG1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
89.75	0.00	91.87	0.01	93.99	0.02
89.79	0.01	91.91	0.01	94.03	0.02
89.83	0.01	91.95	0.01	94.07	0.02
89.87	0.01	91.99	0.01	94.11	0.02
89.91	0.01	92.03	0.01	94.15	0.02
89.95	0.01	92.07	0.01	94.19	0.02
89.99	0.01	92.11	0.01	94.23	0.02
90.03	0.01	92.15	0.01	94.27	0.05
90.07	0.01	92.19	0.01	94.31	0.13
90.11	0.01	92.23	0.01	94.35	0.26
90.15	0.01	92.27	0.01	94.39	0.41
90.19	0.01	92.31	0.01	94.43	0.59
90.23	0.01	92.35	0.01	94.47	0.79
90.27	0.01	92.39	0.01	94.51	1.02
90.31	0.01	92.43	0.01	94.55	1.27
90.35	0.01	92.47	0.01	94.59	1.54
90.39	0.01	92.51	0.01	94.63	1.83
90.43	0.01	92.55	0.01	94.67	2.15
90.47	0.01	92.59	0.01	94.71	2.47
90.51	0.01	92.63	0.01	94.75	2.82
90.55	0.01	92.67	0.01	94.79	3.19
90.59	0.01	92.71	0.01	94.83	3.57
90.63	0.01	92.75	0.01	94.87	3.96
90.67	0.01	92.79	0.01	94.91	4.34
90.71	0.01	92.83	0.01	94.95	4.73
90.75	0.01	92.87	0.01	94.99	5.14
90.79	0.01	92.91	0.01		
90.83	0.01	92.95	0.01		
90.87	0.01	92.99	0.01		
90.91	0.01	93.03	0.01		
90.95	0.01	93.07	0.01		
90.99	0.01	93.11	0.01		
91.03	0.01	93.15	0.01		
91.07	0.01	93.19	0.02		
91.11	0.01	93.23	0.02		
91.15	0.01	93.27	0.02		
91.19	0.01	93.31	0.02		
91.23	0.01	93.35	0.02		
91.27	0.01	93.39	0.02		
91.31	0.01	93.43	0.02		
91.35	0.01	93.47	0.02		
91.39	0.01	93.51	0.02		
91.43	0.01	93.55	0.02		
91.47	0.01	93.59	0.02		
91.51	0.01	93.63	0.02		
91.55	0.01	93.67	0.02		
91.59	0.01	93.71	0.02		
91.63	0.01	93.75	0.02		
91.67	0.01	93.79	0.02		
91.71	0.01	93.83	0.02		
91.75	0.01	93.87	0.02		
91.79	0.01	93.91	0.02		
91.83	0.01	93.95	0.02		

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Metadata for Point	
Smoothing State	Yes
Location	
Latitude	43.174 degrees North
Longitude	70.886 degrees West
Elevation	20 feet
Date/Time	Thu Apr 18 2024 22:56:23 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

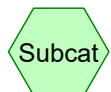
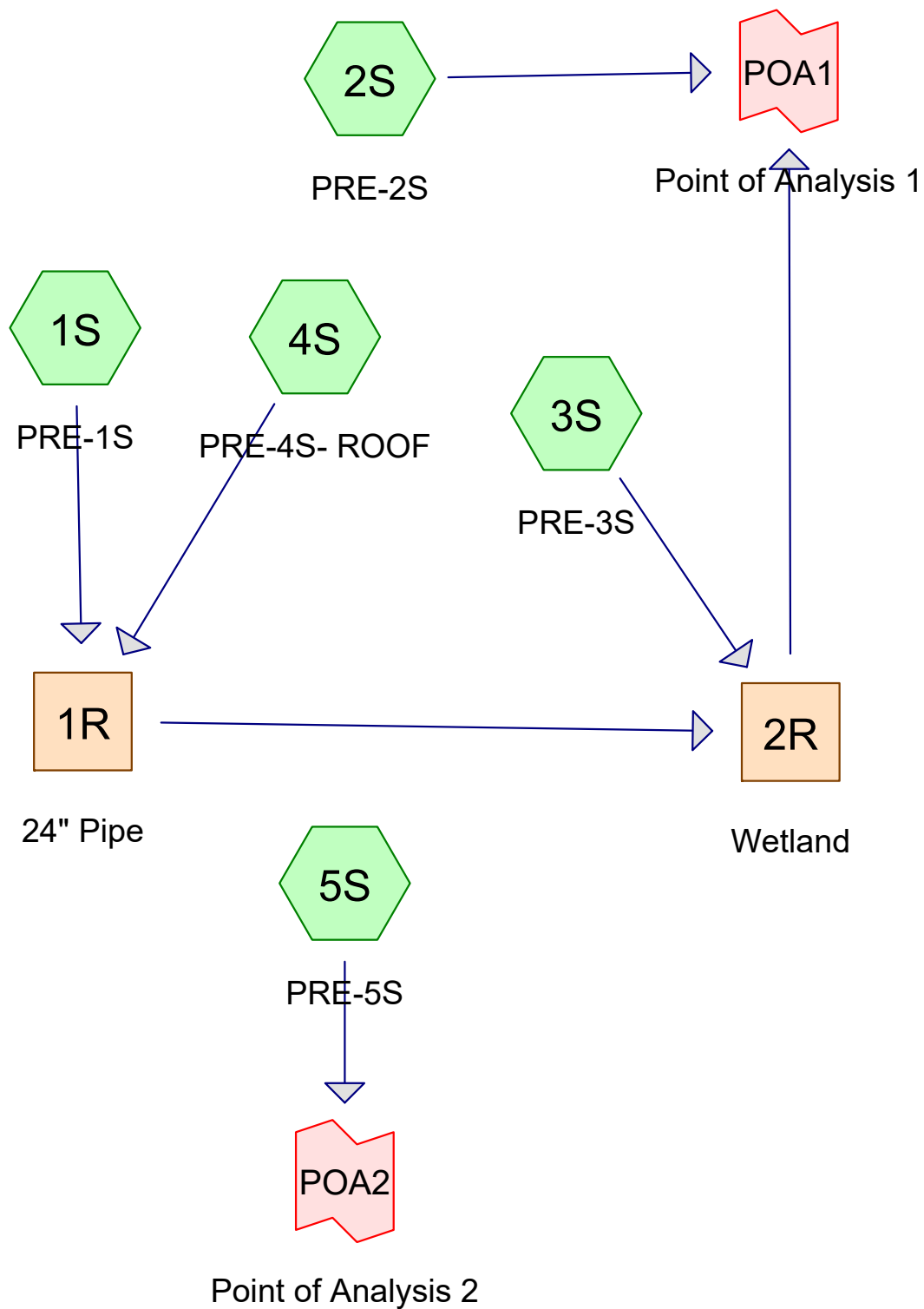
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.03	1yr	0.70	0.98	1.20	1.55	2.00	2.61	2.86	1yr	2.31	2.75	3.15	3.87	4.45	1yr
2yr	0.32	0.49	0.61	0.81	1.01	1.29	2yr	0.88	1.17	1.50	1.91	2.45	3.15	3.49	2yr	2.78	3.36	3.86	4.59	5.22	2yr
5yr	0.37	0.57	0.72	0.96	1.23	1.58	5yr	1.06	1.44	1.85	2.38	3.08	3.98	4.48	5yr	3.52	4.31	4.92	5.80	6.56	5yr
10yr	0.40	0.63	0.80	1.09	1.42	1.85	10yr	1.22	1.69	2.18	2.82	3.66	4.75	5.40	10yr	4.20	5.20	5.93	6.93	7.80	10yr
25yr	0.46	0.74	0.94	1.29	1.72	2.27	25yr	1.48	2.09	2.69	3.53	4.61	6.01	6.93	25yr	5.32	6.67	7.58	8.77	9.80	25yr
50yr	0.51	0.83	1.06	1.48	2.00	2.66	50yr	1.72	2.46	3.18	4.18	5.49	7.19	8.38	50yr	6.36	8.06	9.13	10.48	11.66	50yr
100yr	0.58	0.94	1.20	1.70	2.32	3.12	100yr	2.00	2.89	3.74	4.96	6.54	8.60	10.12	100yr	7.61	9.74	11.00	12.53	13.88	100yr
200yr	0.64	1.04	1.36	1.95	2.69	3.66	200yr	2.32	3.40	4.42	5.89	7.80	10.29	12.24	200yr	9.11	11.77	13.26	15.00	16.53	200yr
500yr	0.75	1.24	1.62	2.35	3.29	4.52	500yr	2.84	4.21	5.49	7.37	9.83	13.05	15.73	500yr	11.55	15.13	16.99	19.02	20.84	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	1.26	1.58	2.10	2.47	1yr	1.86	2.38	2.89	3.32	4.01	1yr
2yr	0.31	0.49	0.60	0.81	1.00	1.18	2yr	0.86	1.16	1.36	1.83	2.36	3.04	3.39	2yr	2.69	3.26	3.74	4.46	5.05	2yr
5yr	0.35	0.54	0.67	0.91	1.16	1.40	5yr	1.00	1.37	1.61	2.15	2.78	3.71	4.12	5yr	3.29	3.96	4.60	5.41	6.12	5yr
10yr	0.38	0.59	0.73	1.02	1.31	1.60	10yr	1.13	1.56	1.82	2.44	3.13	4.28	4.79	10yr	3.78	4.60	5.32	6.25	7.03	10yr
25yr	0.44	0.66	0.82	1.18	1.55	1.91	25yr	1.34	1.87	2.11	2.84	3.65	4.95	5.80	25yr	4.38	5.58	6.49	7.58	8.45	25yr
50yr	0.48	0.73	0.91	1.31	1.76	2.18	50yr	1.52	2.14	2.35	3.20	4.10	5.66	6.70	50yr	5.01	6.44	7.54	8.76	9.71	50yr
100yr	0.54	0.81	1.01	1.46	2.01	2.50	100yr	1.73	2.45	2.63	3.58	4.58	6.45	7.73	100yr	5.71	7.43	8.76	10.12	11.14	100yr
200yr	0.59	0.89	1.13	1.64	2.28	2.86	200yr	1.97	2.80	2.94	4.01	5.11	7.34	8.92	200yr	6.50	8.58	10.17	11.70	12.80	200yr
500yr	0.69	1.03	1.32	1.92	2.74	3.44	500yr	2.36	3.36	3.40	4.64	5.93	8.70	10.77	500yr	7.70	10.36	12.40	14.20	15.32	500yr

Upper Confidence Limits

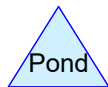
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.43	0.53	0.71	0.87	1.08	1yr	0.75	1.05	1.24	1.74	2.22	2.87	3.07	1yr	2.54	2.95	3.42	4.21	4.81	1yr
2yr	0.33	0.51	0.62	0.85	1.04	1.25	2yr	0.90	1.22	1.47	1.96	2.51	3.28	3.61	2yr	2.91	3.47	3.98	4.73	5.43	2yr
5yr	0.39	0.60	0.75	1.03	1.31	1.58	5yr	1.13	1.55	1.86	2.50	3.20	4.24	4.83	5yr	3.75	4.64	5.26	6.21	6.98	5yr
10yr	0.46	0.70	0.87	1.21	1.57	1.92	10yr	1.35	1.88	2.23	3.05	3.86	5.21	6.02	10yr	4.61	5.79	6.60	7.62	8.51	10yr
25yr	0.55	0.84	1.05	1.50	1.97	2.48	25yr	1.70	2.42	2.88	3.97	4.96	7.08	8.08	25yr	6.27	7.77	8.82	10.03	11.09	25yr
50yr	0.64	0.97	1.21	1.74	2.35	2.99	50yr	2.03	2.93	3.49	4.84	6.03	8.76	10.12	50yr	7.75	9.73	10.99	12.33	13.56	50yr
100yr	0.75	1.13	1.41	2.04	2.80	3.62	100yr	2.41	3.54	4.24	5.93	7.33	10.84	12.67	100yr	9.59	12.19	13.69	15.19	16.59	100yr
200yr	0.86	1.30	1.65	2.38	3.33	4.39	200yr	2.87	4.29	5.16	7.25	8.90	13.44	15.89	200yr	11.90	15.28	17.07	18.69	20.33	200yr
500yr	1.06	1.57	2.02	2.94	4.18	5.64	500yr	3.60	5.51	6.66	9.50	11.53	17.90	21.42	500yr	15.84	20.59	22.87	24.63	26.61	500yr



Subcat



Reach



Pond



Link

Routing Diagram for 5496 Pre_041824

Prepared by Altus Engineering, Inc., Printed 5/3/2024
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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.476	74	>75% Grass cover, Good, HSG C (1S, 2S, 3S, 5S)
0.234	96	Gravel surface, HSG C (2S, 3S)
0.111	98	Paved parking, HSG C (3S, 5S)
0.095	98	Roofs, HSG C (3S, 4S)
0.048	98	Unconnected pavement, HSG C (1S, 2S, 3S)
0.461	70	Woods, Good, HSG C (1S, 2S, 3S)
1.425	81	TOTAL AREA

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
1.425	HSG C	1S, 2S, 3S, 4S, 5S
0.000	HSG D	
0.000	Other	
1.425		TOTAL AREA

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.476	0.000	0.000	0.476	>75% Grass cover, Good	1S, 2S, 3S, 5S
0.000	0.000	0.234	0.000	0.000	0.234	Gravel surface	2S, 3S
0.000	0.000	0.111	0.000	0.000	0.111	Paved parking	3S, 5S
0.000	0.000	0.095	0.000	0.000	0.095	Roofs	3S, 4S
0.000	0.000	0.048	0.000	0.000	0.048	Unconnected pavement	1S, 2S, 3S
0.000	0.000	0.461	0.000	0.000	0.461	Woods, Good	1S, 2S, 3S
0.000	0.000	1.425	0.000	0.000	1.425	TOTAL AREA	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Reach 1R: 24" Pipe Avg. Flow Depth=0.20' Max Vel=3.96 fps Inflow=0.66 cfs 0.050 af
 24.0" Round Pipe n=0.011 L=224.0' S=0.0134 '/ Capacity=30.94 cfs Outflow=0.66 cfs 0.050 af

Subcatchment1S: PRE-1S Runoff Area=11,127 sf 6.74% Impervious Runoff Depth>1.21"
 Flow Length=150' Slope=0.0200 '/ Tc=7.7 min UI Adjusted CN=74 Runoff=0.36 cfs 0.026 af

Reach 2R: Wetland Avg. Flow Depth=0.07' Max Vel=0.69 fps Inflow=1.13 cfs 0.083 af
 n=0.035 L=270.0' S=0.0085 '/ Capacity=1,365.56 cfs Outflow=0.95 cfs 0.083 af

Subcatchment2S: PRE-2S Runoff Area=34,387 sf 3.34% Impervious Runoff Depth>1.47"
 Flow Length=225' Tc=6.7 min UI Adjusted CN=78 Runoff=1.40 cfs 0.097 af

Subcatchment3S: PRE-3S Runoff Area=7,987 sf 43.13% Impervious Runoff Depth>2.15"
 Tc=6.0 min CN=87 Runoff=0.48 cfs 0.033 af

Subcatchment4S: PRE-4S- ROOF Runoff Area=4,016 sf 100.00% Impervious Runoff Depth>3.16"
 Tc=6.0 min CN=98 Runoff=0.32 cfs 0.024 af

Subcatchment5S: PRE-5S Runoff Area=4,567 sf 37.49% Impervious Runoff Depth>1.83"
 Flow Length=130' Tc=6.0 min CN=83 Runoff=0.24 cfs 0.016 af

Link POA1: Point of Analysis 1 Inflow=2.23 cfs 0.179 af
 Primary=2.23 cfs 0.179 af

Link POA2: Point of Analysis 2 Inflow=0.24 cfs 0.016 af
 Primary=0.24 cfs 0.016 af

Total Runoff Area = 1.425 ac Runoff Volume = 0.195 af Average Runoff Depth = 1.65"
82.17% Pervious = 1.171 ac 17.83% Impervious = 0.254 ac

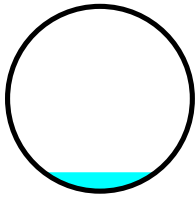
Summary for Reach 1R: 24" Pipe

Inflow Area = 0.348 ac, 31.47% Impervious, Inflow Depth > 1.73" for 2-yr event
 Inflow = 0.66 cfs @ 12.10 hrs, Volume= 0.050 af
 Outflow = 0.66 cfs @ 12.11 hrs, Volume= 0.050 af, Atten= 1%, Lag= 0.7 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 3.96 fps, Min. Travel Time= 0.9 min
 Avg. Velocity= 1.47 fps, Avg. Travel Time= 2.5 min

Peak Storage= 37 cf @ 12.11 hrs
 Average Depth at Peak Storage= 0.20'
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 30.94 cfs

24.0" Round Pipe
 n= 0.011
 Length= 224.0' Slope= 0.0134 '/'
 Inlet Invert= 90.30', Outlet Invert= 87.30'

**Summary for Subcatchment 1S: PRE-1S**

Runoff = 0.36 cfs @ 12.12 hrs, Volume= 0.026 af, Depth> 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.62", Smoothing=Off

Area (sf)	CN	Adj	Description
0	98		Roofs, HSG C
0	98		Paved parking, HSG C
750	98		Unconnected pavement, HSG C
0	89		Gravel roads, HSG C
8,230	74		>75% Grass cover, Good, HSG C
2,147	70		Woods, Good, HSG C
11,127	75	74	Weighted Average, UI Adjusted
10,377			93.26% Pervious Area
750			6.74% Impervious Area
750			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0200	0.16		Sheet Flow, sheet Grass: Short n= 0.150 P2= 3.62"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.7	150	Total			

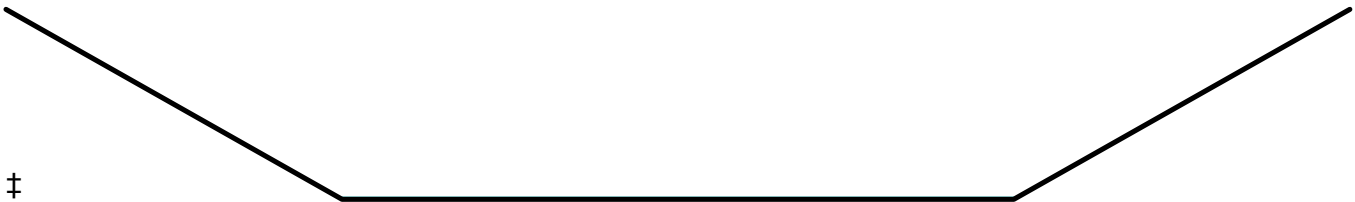
Summary for Reach 2R: Wetland

Inflow Area = 0.531 ac, 35.50% Impervious, Inflow Depth > 1.87" for 2-yr event
 Inflow = 1.13 cfs @ 12.10 hrs, Volume= 0.083 af
 Outflow = 0.95 cfs @ 12.17 hrs, Volume= 0.083 af, Atten= 16%, Lag= 3.8 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.69 fps, Min. Travel Time= 6.5 min
 Avg. Velocity = 0.53 fps, Avg. Travel Time= 8.5 min

Peak Storage= 369 cf @ 12.17 hrs
 Average Depth at Peak Storage= 0.07'
 Bank-Full Depth= 5.00' Flow Area= 150.0 sf, Capacity= 1,365.56 cfs

20.00' x 5.00' deep channel, n= 0.035 Earth, dense weeds
 Side Slope Z-value= 2.0 ' ' Top Width= 40.00'
 Length= 270.0' Slope= 0.0085 ' '
 Inlet Invert= 87.30', Outlet Invert= 85.00'



Summary for Subcatchment 2S: PRE-2S

Runoff = 1.40 cfs @ 12.10 hrs, Volume= 0.097 af, Depth> 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2-yr Rainfall=3.62", Smoothing=Off

Area (sf)	CN	Adj	Description
0	98		Roofs, HSG C
0	98		Paved parking, HSG C
1,148	98		Unconnected pavement, HSG C
9,014	96		Gravel surface, HSG C
6,990	74		>75% Grass cover, Good, HSG C
17,235	70		Woods, Good, HSG C
34,387	79	78	Weighted Average, UI Adjusted
33,239			96.66% Pervious Area
1,148			3.34% Impervious Area
1,148			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	75	0.0200	0.72		Sheet Flow, Gravel n= 0.025 P2= 3.62"
5.0	150	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.7	225	Total			

Summary for Subcatchment 3S: PRE-3S

Runoff = 0.48 cfs @ 12.09 hrs, Volume= 0.033 af, Depth> 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.62", Smoothing=Off

Area (sf)	CN	Description
140	98	Roofs, HSG C
3,105	98	Paved parking, HSG C
200	98	Unconnected pavement, HSG C
1,182	96	Gravel surface, HSG C
2,665	74	>75% Grass cover, Good, HSG C
695	70	Woods, Good, HSG C
7,987	87	Weighted Average
4,542		56.87% Pervious Area
3,445		43.13% Impervious Area
200		5.81% Unconnected

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

Summary for Subcatchment 4S: PRE-4S- ROOF

Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af, Depth> 3.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.62", Smoothing=Off

Area (sf)	CN	Description
4,016	98	Roofs, HSG C
0	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
0	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
4,016	98	Weighted Average
4,016		100.00% Impervious Area

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

Summary for Subcatchment 5S: PRE-5S

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.016 af, Depth> 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.62", Smoothing=Off

Area (sf)	CN	Description
0	98	Roofs, HSG C
1,712	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
2,855	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
4,567	83	Weighted Average
2,855		62.51% Pervious Area
1,712		37.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0200	0.16		Sheet Flow, sheet Grass: Short n= 0.150 P2= 3.62"
0.2	30	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	50	0.0500	1.57		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
6.0	130	Total			

Summary for Link POA1: Point of Analysis 1

Inflow Area = 1.320 ac, 16.27% Impervious, Inflow Depth > 1.63" for 2-yr event
Inflow = 2.23 cfs @ 12.12 hrs, Volume= 0.179 af
Primary = 2.23 cfs @ 12.12 hrs, Volume= 0.179 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: Point of Analysis 2

Inflow Area = 0.105 ac, 37.49% Impervious, Inflow Depth > 1.83" for 2-yr event
Inflow = 0.24 cfs @ 12.09 hrs, Volume= 0.016 af
Primary = 0.24 cfs @ 12.09 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Reach 1R: 24" Pipe Avg. Flow Depth=0.27' Max Vel=4.78 fps Inflow=1.23 cfs 0.091 af
 24.0" Round Pipe n=0.011 L=224.0' S=0.0134 '/' Capacity=30.94 cfs Outflow=1.22 cfs 0.091 af

Subcatchment1S: PRE-1S Runoff Area=11,127 sf 6.74% Impervious Runoff Depth>2.54"
 Flow Length=150' Slope=0.0200 '/' Tc=7.7 min UI Adjusted CN=74 Runoff=0.76 cfs 0.054 af

Reach 2R: Wetland Avg. Flow Depth=0.10' Max Vel=0.85 fps Inflow=2.03 cfs 0.149 af
 n=0.035 L=270.0' S=0.0085 '/' Capacity=1,365.56 cfs Outflow=1.77 cfs 0.148 af

Subcatchment2S: PRE-2S Runoff Area=34,387 sf 3.34% Impervious Runoff Depth>2.90"
 Flow Length=225' Tc=6.7 min UI Adjusted CN=78 Runoff=2.77 cfs 0.191 af

Subcatchment3S: PRE-3S Runoff Area=7,987 sf 43.13% Impervious Runoff Depth>3.78"
 Tc=6.0 min CN=87 Runoff=0.82 cfs 0.058 af

Subcatchment4S: PRE-4S- ROOF Runoff Area=4,016 sf 100.00% Impervious Runoff Depth>4.84"
 Tc=6.0 min CN=98 Runoff=0.48 cfs 0.037 af

Subcatchment5S: PRE-5S Runoff Area=4,567 sf 37.49% Impervious Runoff Depth>3.37"
 Flow Length=130' Tc=6.0 min CN=83 Runoff=0.43 cfs 0.029 af

Link POA1: Point of Analysis 1 Inflow=4.38 cfs 0.339 af
 Primary=4.38 cfs 0.339 af

Link POA2: Point of Analysis 2 Inflow=0.43 cfs 0.029 af
 Primary=0.43 cfs 0.029 af

Total Runoff Area = 1.425 ac Runoff Volume = 0.369 af Average Runoff Depth = 3.11"
82.17% Pervious = 1.171 ac 17.83% Impervious = 0.254 ac

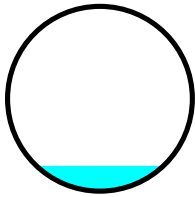
Summary for Reach 1R: 24" Pipe

Inflow Area = 0.348 ac, 31.47% Impervious, Inflow Depth > 3.15" for 10-yr event
 Inflow = 1.23 cfs @ 12.10 hrs, Volume= 0.091 af
 Outflow = 1.22 cfs @ 12.11 hrs, Volume= 0.091 af, Atten= 1%, Lag= 0.6 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.78 fps, Min. Travel Time= 0.8 min
 Avg. Velocity= 1.74 fps, Avg. Travel Time= 2.1 min

Peak Storage= 57 cf @ 12.11 hrs
 Average Depth at Peak Storage= 0.27'
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 30.94 cfs

24.0" Round Pipe
 n= 0.011
 Length= 224.0' Slope= 0.0134 '/
 Inlet Invert= 90.30', Outlet Invert= 87.30'

**Summary for Subcatchment 1S: PRE-1S**

Runoff = 0.76 cfs @ 12.11 hrs, Volume= 0.054 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

Area (sf)	CN	Adj	Description
0	98		Roofs, HSG C
0	98		Paved parking, HSG C
750	98		Unconnected pavement, HSG C
0	89		Gravel roads, HSG C
8,230	74		>75% Grass cover, Good, HSG C
2,147	70		Woods, Good, HSG C
11,127	75	74	Weighted Average, UI Adjusted
10,377			93.26% Pervious Area
750			6.74% Impervious Area
750			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0200	0.16		Sheet Flow, sheet Grass: Short n= 0.150 P2= 3.62"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.7	150	Total			

Summary for Reach 2R: Wetland

Inflow Area = 0.531 ac, 35.50% Impervious, Inflow Depth > 3.36" for 10-yr event
 Inflow = 2.03 cfs @ 12.10 hrs, Volume= 0.149 af
 Outflow = 1.77 cfs @ 12.16 hrs, Volume= 0.148 af, Atten= 13%, Lag= 3.2 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.85 fps, Min. Travel Time= 5.3 min
 Avg. Velocity = 0.54 fps, Avg. Travel Time= 8.4 min

Peak Storage= 559 cf @ 12.16 hrs
 Average Depth at Peak Storage= 0.10'
 Bank-Full Depth= 5.00' Flow Area= 150.0 sf, Capacity= 1,365.56 cfs

20.00' x 5.00' deep channel, n= 0.035 Earth, dense weeds
 Side Slope Z-value= 2.0 ' ' Top Width= 40.00'
 Length= 270.0' Slope= 0.0085 ' '
 Inlet Invert= 87.30', Outlet Invert= 85.00'



Summary for Subcatchment 2S: PRE-2S

Runoff = 2.77 cfs @ 12.10 hrs, Volume= 0.191 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

Area (sf)	CN	Adj	Description
0	98		Roofs, HSG C
0	98		Paved parking, HSG C
1,148	98		Unconnected pavement, HSG C
9,014	96		Gravel surface, HSG C
6,990	74		>75% Grass cover, Good, HSG C
17,235	70		Woods, Good, HSG C
34,387	79	78	Weighted Average, UI Adjusted
33,239			96.66% Pervious Area
1,148			3.34% Impervious Area
1,148			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	75	0.0200	0.72		Sheet Flow, Gravel n= 0.025 P2= 3.62"
5.0	150	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.7	225	Total			

Summary for Subcatchment 3S: PRE-3S

Runoff = 0.82 cfs @ 12.09 hrs, Volume= 0.058 af, Depth> 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

Area (sf)	CN	Description
140	98	Roofs, HSG C
3,105	98	Paved parking, HSG C
200	98	Unconnected pavement, HSG C
1,182	96	Gravel surface, HSG C
2,665	74	>75% Grass cover, Good, HSG C
695	70	Woods, Good, HSG C
7,987	87	Weighted Average
4,542		56.87% Pervious Area
3,445		43.13% Impervious Area
200		5.81% Unconnected

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

Summary for Subcatchment 4S: PRE-4S- ROOF

Runoff = 0.48 cfs @ 12.09 hrs, Volume= 0.037 af, Depth> 4.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

Area (sf)	CN	Description
4,016	98	Roofs, HSG C
0	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
0	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
4,016	98	Weighted Average
4,016		100.00% Impervious Area

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

Summary for Subcatchment 5S: PRE-5S

Runoff = 0.43 cfs @ 12.09 hrs, Volume= 0.029 af, Depth> 3.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

Area (sf)	CN	Description
0	98	Roofs, HSG C
1,712	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
2,855	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
4,567	83	Weighted Average
2,855		62.51% Pervious Area
1,712		37.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0200	0.16		Sheet Flow, sheet Grass: Short n= 0.150 P2= 3.62"
0.2	30	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	50	0.0500	1.57		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
6.0	130	Total			

Summary for Link POA1: Point of Analysis 1

Inflow Area = 1.320 ac, 16.27% Impervious, Inflow Depth > 3.08" for 10-yr event
Inflow = 4.38 cfs @ 12.12 hrs, Volume= 0.339 af
Primary = 4.38 cfs @ 12.12 hrs, Volume= 0.339 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: Point of Analysis 2

Inflow Area = 0.105 ac, 37.49% Impervious, Inflow Depth > 3.37" for 10-yr event
Inflow = 0.43 cfs @ 12.09 hrs, Volume= 0.029 af
Primary = 0.43 cfs @ 12.09 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Reach 1R: 24" Pipe Avg. Flow Depth=0.32' Max Vel=5.26 fps Inflow=1.70 cfs 0.126 af
24.0" Round Pipe n=0.011 L=224.0' S=0.0134 '/' Capacity=30.94 cfs Outflow=1.69 cfs 0.126 af

Subcatchment 1S: PRE-1S Runoff Area=11,127 sf 6.74% Impervious Runoff Depth>3.70"
Flow Length=150' Slope=0.0200 '/' Tc=7.7 min UI Adjusted CN=74 Runoff=1.11 cfs 0.079 af

Reach 2R: Wetland Avg. Flow Depth=0.12' Max Vel=0.99 fps Inflow=2.77 cfs 0.204 af
n=0.035 L=270.0' S=0.0085 '/' Capacity=1,365.56 cfs Outflow=2.49 cfs 0.203 af

Subcatchment 2S: PRE-2S Runoff Area=34,387 sf 3.34% Impervious Runoff Depth>4.12"
Flow Length=225' Tc=6.7 min UI Adjusted CN=78 Runoff=3.89 cfs 0.271 af

Subcatchment 3S: PRE-3S Runoff Area=7,987 sf 43.13% Impervious Runoff Depth>5.10"
Tc=6.0 min CN=87 Runoff=1.09 cfs 0.078 af

Subcatchment 4S: PRE-4S- ROOF Runoff Area=4,016 sf 100.00% Impervious Runoff Depth>6.16"
Tc=6.0 min CN=98 Runoff=0.61 cfs 0.047 af

Subcatchment 5S: PRE-5S Runoff Area=4,567 sf 37.49% Impervious Runoff Depth>4.66"
Flow Length=130' Tc=6.0 min CN=83 Runoff=0.58 cfs 0.041 af

Link POA1: Point of Analysis 1 Inflow=6.21 cfs 0.474 af
Primary=6.21 cfs 0.474 af

Link POA2: Point of Analysis 2 Inflow=0.58 cfs 0.041 af
Primary=0.58 cfs 0.041 af

Total Runoff Area = 1.425 ac Runoff Volume = 0.516 af Average Runoff Depth = 4.34"
82.17% Pervious = 1.171 ac 17.83% Impervious = 0.254 ac

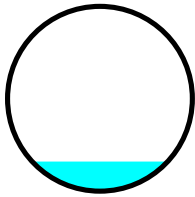
Summary for Reach 1R: 24" Pipe

Inflow Area = 0.348 ac, 31.47% Impervious, Inflow Depth > 4.35" for 25-yr event
 Inflow = 1.70 cfs @ 12.10 hrs, Volume= 0.126 af
 Outflow = 1.69 cfs @ 12.11 hrs, Volume= 0.126 af, Atten= 0%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 5.26 fps, Min. Travel Time= 0.7 min
 Avg. Velocity= 1.92 fps, Avg. Travel Time= 1.9 min

Peak Storage= 72 cf @ 12.11 hrs
 Average Depth at Peak Storage= 0.32'
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 30.94 cfs

24.0" Round Pipe
 n= 0.011
 Length= 224.0' Slope= 0.0134 '/
 Inlet Invert= 90.30', Outlet Invert= 87.30'

**Summary for Subcatchment 1S: PRE-1S**

Runoff = 1.11 cfs @ 12.11 hrs, Volume= 0.079 af, Depth> 3.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=6.91", Smoothing=Off

Area (sf)	CN	Adj	Description
0	98		Roofs, HSG C
0	98		Paved parking, HSG C
750	98		Unconnected pavement, HSG C
0	89		Gravel roads, HSG C
8,230	74		>75% Grass cover, Good, HSG C
2,147	70		Woods, Good, HSG C
11,127	75	74	Weighted Average, UI Adjusted
10,377			93.26% Pervious Area
750			6.74% Impervious Area
750			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0200	0.16		Sheet Flow, sheet Grass: Short n= 0.150 P2= 3.62"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.7	150	Total			

Summary for Reach 2R: Wetland

Inflow Area = 0.531 ac, 35.50% Impervious, Inflow Depth > 4.61" for 25-yr event
 Inflow = 2.77 cfs @ 12.10 hrs, Volume= 0.204 af
 Outflow = 2.49 cfs @ 12.15 hrs, Volume= 0.203 af, Atten= 10%, Lag= 2.8 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.99 fps, Min. Travel Time= 4.6 min
 Avg. Velocity = 0.54 fps, Avg. Travel Time= 8.3 min

Peak Storage= 681 cf @ 12.15 hrs
 Average Depth at Peak Storage= 0.12'
 Bank-Full Depth= 5.00' Flow Area= 150.0 sf, Capacity= 1,365.56 cfs

20.00' x 5.00' deep channel, n= 0.035 Earth, dense weeds
 Side Slope Z-value= 2.0 ' ' Top Width= 40.00'
 Length= 270.0' Slope= 0.0085 ' '
 Inlet Invert= 87.30', Outlet Invert= 85.00'



Summary for Subcatchment 2S: PRE-2S

Runoff = 3.89 cfs @ 12.10 hrs, Volume= 0.271 af, Depth> 4.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=6.91", Smoothing=Off

Area (sf)	CN	Adj	Description
0	98		Roofs, HSG C
0	98		Paved parking, HSG C
1,148	98		Unconnected pavement, HSG C
9,014	96		Gravel surface, HSG C
6,990	74		>75% Grass cover, Good, HSG C
17,235	70		Woods, Good, HSG C
34,387	79	78	Weighted Average, UI Adjusted
33,239			96.66% Pervious Area
1,148			3.34% Impervious Area
1,148			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	75	0.0200	0.72		Sheet Flow, Gravel n= 0.025 P2= 3.62"
5.0	150	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.7	225	Total			

Summary for Subcatchment 3S: PRE-3S

Runoff = 1.09 cfs @ 12.09 hrs, Volume= 0.078 af, Depth> 5.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91", Smoothing=Off

Area (sf)	CN	Description
140	98	Roofs, HSG C
3,105	98	Paved parking, HSG C
200	98	Unconnected pavement, HSG C
1,182	96	Gravel surface, HSG C
2,665	74	>75% Grass cover, Good, HSG C
695	70	Woods, Good, HSG C
7,987	87	Weighted Average
4,542		56.87% Pervious Area
3,445		43.13% Impervious Area
200		5.81% Unconnected

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

Summary for Subcatchment 4S: PRE-4S- ROOF

Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.047 af, Depth> 6.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91", Smoothing=Off

Area (sf)	CN	Description
4,016	98	Roofs, HSG C
0	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
0	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
4,016	98	Weighted Average
4,016		100.00% Impervious Area

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

Summary for Subcatchment 5S: PRE-5S

Runoff = 0.58 cfs @ 12.09 hrs, Volume= 0.041 af, Depth> 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91", Smoothing=Off

Area (sf)	CN	Description
0	98	Roofs, HSG C
1,712	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
2,855	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
4,567	83	Weighted Average
2,855		62.51% Pervious Area
1,712		37.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0200	0.16		Sheet Flow, sheet Grass: Short n= 0.150 P2= 3.62"
0.2	30	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	50	0.0500	1.57		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
6.0	130	Total			

Summary for Link POA1: Point of Analysis 1

Inflow Area = 1.320 ac, 16.27% Impervious, Inflow Depth > 4.31" for 25-yr event

Inflow = 6.21 cfs @ 12.11 hrs, Volume= 0.474 af

Primary = 6.21 cfs @ 12.11 hrs, Volume= 0.474 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: Point of Analysis 2

Inflow Area = 0.105 ac, 37.49% Impervious, Inflow Depth > 4.66" for 25-yr event
Inflow = 0.58 cfs @ 12.09 hrs, Volume= 0.041 af
Primary = 0.58 cfs @ 12.09 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Reach 1R: 24" Pipe Avg. Flow Depth=0.36' Max Vel=5.65 fps Inflow=2.15 cfs 0.160 af
24.0" Round Pipe n=0.011 L=224.0' S=0.0134 '/' Capacity=30.94 cfs Outflow=2.14 cfs 0.160 af

Subcatchment1S: PRE-1S Runoff Area=11,127 sf 6.74% Impervious Runoff Depth>4.84"
Flow Length=150' Slope=0.0200 '/' Tc=7.7 min UI Adjusted CN=74 Runoff=1.44 cfs 0.103 af

Reach 2R: Wetland Avg. Flow Depth=0.14' Max Vel=1.07 fps Inflow=3.46 cfs 0.257 af
n=0.035 L=270.0' S=0.0085 '/' Capacity=1,365.56 cfs Outflow=3.14 cfs 0.256 af

Subcatchment2S: PRE-2S Runoff Area=34,387 sf 3.34% Impervious Runoff Depth>5.30"
Flow Length=225' Tc=6.7 min UI Adjusted CN=78 Runoff=4.96 cfs 0.349 af

Subcatchment3S: PRE-3S Runoff Area=7,987 sf 43.13% Impervious Runoff Depth>6.34"
Tc=6.0 min CN=87 Runoff=1.34 cfs 0.097 af

Subcatchment4S: PRE-4S- ROOF Runoff Area=4,016 sf 100.00% Impervious Runoff Depth>7.39"
Tc=6.0 min CN=98 Runoff=0.73 cfs 0.057 af

Subcatchment5S: PRE-5S Runoff Area=4,567 sf 37.49% Impervious Runoff Depth>5.89"
Flow Length=130' Tc=6.0 min CN=83 Runoff=0.73 cfs 0.051 af

Link POA1: Point of Analysis 1 Inflow=7.91 cfs 0.605 af
Primary=7.91 cfs 0.605 af

Link POA2: Point of Analysis 2 Inflow=0.73 cfs 0.051 af
Primary=0.73 cfs 0.051 af

Total Runoff Area = 1.425 ac Runoff Volume = 0.657 af Average Runoff Depth = 5.53"
82.17% Pervious = 1.171 ac 17.83% Impervious = 0.254 ac

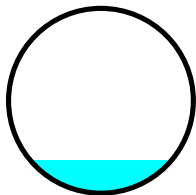
Summary for Reach 1R: 24" Pipe

Inflow Area = 0.348 ac, 31.47% Impervious, Inflow Depth > 5.52" for 50-yr event
 Inflow = 2.15 cfs @ 12.10 hrs, Volume= 0.160 af
 Outflow = 2.14 cfs @ 12.11 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.5 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 5.65 fps, Min. Travel Time= 0.7 min
 Avg. Velocity= 2.06 fps, Avg. Travel Time= 1.8 min

Peak Storage= 85 cf @ 12.11 hrs
 Average Depth at Peak Storage= 0.36'
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 30.94 cfs

24.0" Round Pipe
 n= 0.011
 Length= 224.0' Slope= 0.0134 '/
 Inlet Invert= 90.30', Outlet Invert= 87.30'

**Summary for Subcatchment 1S: PRE-1S**

Runoff = 1.44 cfs @ 12.11 hrs, Volume= 0.103 af, Depth> 4.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 50-yr Rainfall=8.27", Smoothing=Off

Area (sf)	CN	Adj	Description
0	98		Roofs, HSG C
0	98		Paved parking, HSG C
750	98		Unconnected pavement, HSG C
0	89		Gravel roads, HSG C
8,230	74		>75% Grass cover, Good, HSG C
2,147	70		Woods, Good, HSG C
11,127	75	74	Weighted Average, UI Adjusted
10,377			93.26% Pervious Area
750			6.74% Impervious Area
750			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0200	0.16		Sheet Flow, sheet Grass: Short n= 0.150 P2= 3.62"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.7	150	Total			

Summary for Reach 2R: Wetland

Inflow Area = 0.531 ac, 35.50% Impervious, Inflow Depth > 5.80" for 50-yr event
 Inflow = 3.46 cfs @ 12.10 hrs, Volume= 0.257 af
 Outflow = 3.14 cfs @ 12.15 hrs, Volume= 0.256 af, Atten= 9%, Lag= 2.7 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.07 fps, Min. Travel Time= 4.2 min
 Avg. Velocity = 0.55 fps, Avg. Travel Time= 8.2 min

Peak Storage= 790 cf @ 12.15 hrs
 Average Depth at Peak Storage= 0.14'
 Bank-Full Depth= 5.00' Flow Area= 150.0 sf, Capacity= 1,365.56 cfs

20.00' x 5.00' deep channel, n= 0.035 Earth, dense weeds
 Side Slope Z-value= 2.0 ' ' Top Width= 40.00'
 Length= 270.0' Slope= 0.0085 ' '
 Inlet Invert= 87.30', Outlet Invert= 85.00'



Summary for Subcatchment 2S: PRE-2S

Runoff = 4.96 cfs @ 12.10 hrs, Volume= 0.349 af, Depth> 5.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 50-yr Rainfall=8.27", Smoothing=Off

Area (sf)	CN	Adj	Description
0	98		Roofs, HSG C
0	98		Paved parking, HSG C
1,148	98		Unconnected pavement, HSG C
9,014	96		Gravel surface, HSG C
6,990	74		>75% Grass cover, Good, HSG C
17,235	70		Woods, Good, HSG C
34,387	79	78	Weighted Average, UI Adjusted
33,239			96.66% Pervious Area
1,148			3.34% Impervious Area
1,148			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	75	0.0200	0.72		Sheet Flow, Gravel n= 0.025 P2= 3.62"
5.0	150	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.7	225	Total			

Summary for Subcatchment 3S: PRE-3S

Runoff = 1.34 cfs @ 12.09 hrs, Volume= 0.097 af, Depth> 6.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=8.27", Smoothing=Off

Area (sf)	CN	Description
140	98	Roofs, HSG C
3,105	98	Paved parking, HSG C
200	98	Unconnected pavement, HSG C
1,182	96	Gravel surface, HSG C
2,665	74	>75% Grass cover, Good, HSG C
695	70	Woods, Good, HSG C
7,987	87	Weighted Average
4,542		56.87% Pervious Area
3,445		43.13% Impervious Area
200		5.81% Unconnected

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

Summary for Subcatchment 4S: PRE-4S- ROOF

Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.057 af, Depth> 7.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=8.27", Smoothing=Off

Area (sf)	CN	Description
4,016	98	Roofs, HSG C
0	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
0	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
4,016	98	Weighted Average
4,016		100.00% Impervious Area

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

Summary for Subcatchment 5S: PRE-5S

Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.051 af, Depth> 5.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=8.27", Smoothing=Off

Area (sf)	CN	Description
0	98	Roofs, HSG C
1,712	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
2,855	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
4,567	83	Weighted Average
2,855		62.51% Pervious Area
1,712		37.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0200	0.16		Sheet Flow, sheet Grass: Short n= 0.150 P2= 3.62"
0.2	30	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	50	0.0500	1.57		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
6.0	130	Total			

Summary for Link POA1: Point of Analysis 1

Inflow Area = 1.320 ac, 16.27% Impervious, Inflow Depth > 5.50" for 50-yr event

Inflow = 7.91 cfs @ 12.11 hrs, Volume= 0.605 af

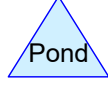
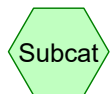
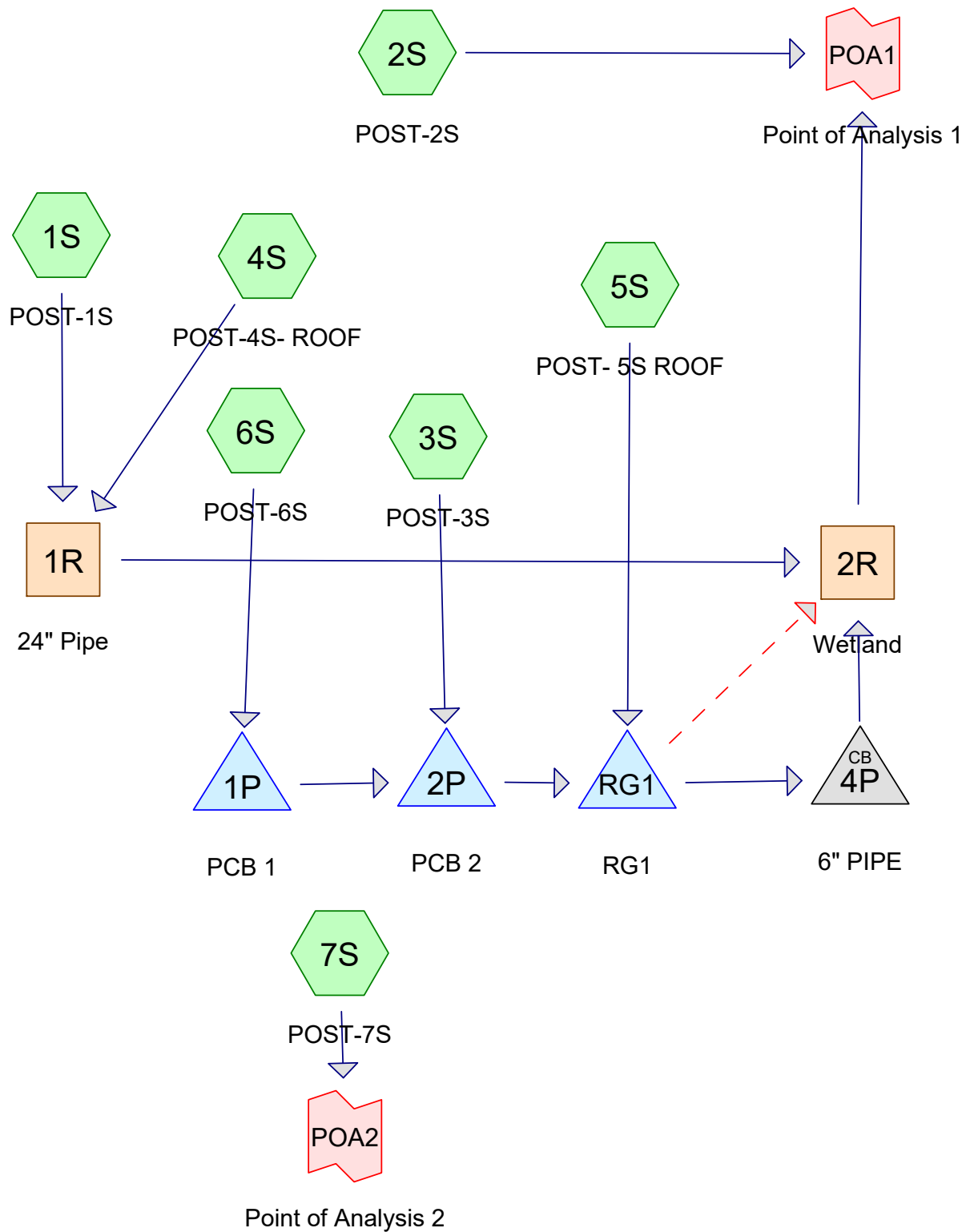
Primary = 7.91 cfs @ 12.11 hrs, Volume= 0.605 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: Point of Analysis 2

Inflow Area = 0.105 ac, 37.49% Impervious, Inflow Depth > 5.89" for 50-yr event
Inflow = 0.73 cfs @ 12.09 hrs, Volume= 0.051 af
Primary = 0.73 cfs @ 12.09 hrs, Volume= 0.051 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.589	74	>75% Grass cover, Good, HSG C (1S, 2S, 3S, 5S, 6S, 7S)
0.194	98	Paved parking, HSG C (1S, 2S, 3S, 6S, 7S)
0.164	98	Roofs, HSG C (4S, 5S)
0.034	98	Unconnected pavement, HSG C (1S, 2S)
0.445	70	Woods, Good, HSG C (1S, 2S)
1.425	79	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
1.425	HSG C	1S, 2S, 3S, 4S, 5S, 6S, 7S
0.000	HSG D	
0.000	Other	
1.425		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.589	0.000	0.000	0.589	>75% Grass cover, Good	1S, 2S, 3S, 5S, 6S, 7S
0.000	0.000	0.194	0.000	0.000	0.194	Paved parking	1S, 2S, 3S, 6S, 7S
0.000	0.000	0.164	0.000	0.000	0.164	Roofs	4S, 5S
0.000	0.000	0.034	0.000	0.000	0.034	Unconnected pavement	1S, 2S
0.000	0.000	0.445	0.000	0.000	0.445	Woods, Good	1S, 2S
0.000	0.000	1.425	0.000	0.000	1.425	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	93.60	93.40	35.0	0.0057	0.012	12.0	0.0	0.0
2	1R	90.30	87.30	224.0	0.0134	0.011	24.0	0.0	0.0
3	2P	93.30	93.20	40.0	0.0025	0.012	12.0	0.0	0.0
4	4P	90.25	90.15	10.0	0.0100	0.012	6.0	0.0	0.0

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond 1P: PCB 1

Peak Elev=94.66' Storage=0.000 af Inflow=0.53 cfs 0.038 af
 12.0" Round Culvert n=0.012 L=35.0' S=0.0057 '/' Outflow=0.52 cfs 0.038 af

Reach 1R: 24" Pipe

Avg. Flow Depth=0.28' Max Vel=4.82 fps Inflow=1.27 cfs 0.094 af
 24.0" Round Pipe n=0.011 L=224.0' S=0.0134 '/' Capacity=30.94 cfs Outflow=1.26 cfs 0.094 af

Subcatchment 1S: POST-1S

Runoff Area=11,242 sf 10.27% Impervious Runoff Depth>2.63"
 Flow Length=150' Slope=0.0200 '/' Tc=7.7 min UI Adjusted CN=75 Runoff=0.80 cfs 0.057 af

Pond 2P: PCB 2

Peak Elev=94.65' Storage=0.000 af Inflow=1.14 cfs 0.082 af
 12.0" Round Culvert n=0.012 L=40.0' S=0.0025 '/' Outflow=1.14 cfs 0.081 af

Reach 2R: Wetland

Avg. Flow Depth=0.13' Max Vel=0.99 fps Inflow=2.79 cfs 0.190 af
 n=0.035 L=270.0' S=0.0085 '/' Capacity=1,365.56 cfs Outflow=2.53 cfs 0.189 af

Subcatchment 2S: POST-2S

Runoff Area=31,388 sf 4.21% Impervious Runoff Depth>2.45"
 Flow Length=200' Tc=14.2 min CN=73 Runoff=1.71 cfs 0.147 af

Subcatchment 3S: POST-3S

Runoff Area=5,930 sf 59.95% Impervious Runoff Depth>3.88"
 Tc=6.0 min CN=88 Runoff=0.62 cfs 0.044 af

Pond 4P: 6" PIPE

Peak Elev=90.36' Inflow=0.03 cfs 0.021 af
 6.0" Round Culvert n=0.012 L=10.0' S=0.0100 '/' Outflow=0.03 cfs 0.021 af

Subcatchment 4S: POST-4S- ROOF

Runoff Area=4,016 sf 100.00% Impervious Runoff Depth>4.84"
 Tc=6.0 min CN=98 Runoff=0.48 cfs 0.037 af

Subcatchment 5S: POST- 5S ROOF

Runoff Area=3,940 sf 79.70% Impervious Runoff Depth>4.39"
 Tc=6.0 min CN=93 Runoff=0.45 cfs 0.033 af

Subcatchment 6S: POST-6S

Runoff Area=4,840 sf 67.56% Impervious Runoff Depth>4.08"
 Tc=6.0 min CN=90 Runoff=0.53 cfs 0.038 af

Subcatchment 7S: POST-7S

Runoff Area=725 sf 82.76% Impervious Runoff Depth>4.49"
 Tc=6.0 min CN=94 Runoff=0.08 cfs 0.006 af

Link POA1: Point of Analysis 1

Inflow=4.18 cfs 0.336 af
 Primary=4.18 cfs 0.336 af

Link POA2: Point of Analysis 2

Inflow=0.08 cfs 0.006 af
 Primary=0.08 cfs 0.006 af

Pond RG1: RG1

Peak Elev=94.59' Storage=995 cf Inflow=1.59 cfs 0.114 af
 Primary=0.03 cfs 0.021 af Secondary=1.51 cfs 0.075 af Outflow=1.53 cfs 0.096 af

Total Runoff Area = 1.425 ac Runoff Volume = 0.362 af Average Runoff Depth = 3.05"
72.52% Pervious = 1.034 ac 27.48% Impervious = 0.392 ac

Summary for Pond 1P: PCB 1

Inflow Area = 0.111 ac, 67.56% Impervious, Inflow Depth > 4.08" for 10-yr event
 Inflow = 0.53 cfs @ 12.09 hrs, Volume= 0.038 af
 Outflow = 0.52 cfs @ 12.09 hrs, Volume= 0.038 af, Atten= 1%, Lag= 0.0 min
 Primary = 0.52 cfs @ 12.09 hrs, Volume= 0.038 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 94.66' @ 12.18 hrs Surf.Area= 0.000 ac Storage= 0.000 af

Plug-Flow detention time= 3.6 min calculated for 0.038 af (99% of inflow)
 Center-of-Mass det. time= 1.1 min (759.6 - 758.5)

Volume	Invert	Avail.Storage	Storage Description
#1	93.50'	0.001 af	4.00'D x 2.00'H Vertical Cone/Cylinder

Device	Routing	Invert	Outlet Devices
#1	Primary	93.60'	12.0" Round Culvert L= 35.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 93.60' / 93.40' S= 0.0057 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=94.56' TW=94.61' (Dynamic Tailwater)
 ↑1=Culvert (Controls 0.00 cfs)

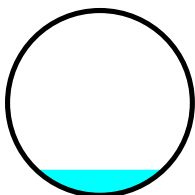
Summary for Reach 1R: 24" Pipe

Inflow Area = 0.350 ac, 33.89% Impervious, Inflow Depth > 3.21" for 10-yr event
 Inflow = 1.27 cfs @ 12.10 hrs, Volume= 0.094 af
 Outflow = 1.26 cfs @ 12.11 hrs, Volume= 0.094 af, Atten= 1%, Lag= 0.6 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.82 fps, Min. Travel Time= 0.8 min
 Avg. Velocity= 1.76 fps, Avg. Travel Time= 2.1 min

Peak Storage= 58 cf @ 12.11 hrs
 Average Depth at Peak Storage= 0.28'
 Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 30.94 cfs

24.0" Round Pipe
 n= 0.011
 Length= 224.0' Slope= 0.0134 '/'
 Inlet Invert= 90.30', Outlet Invert= 87.30'



Summary for Subcatchment 1S: POST-1S

Runoff = 0.80 cfs @ 12.11 hrs, Volume= 0.057 af, Depth> 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

Area (sf)	CN	Adj	Description
0	98		Roofs, HSG C
405	98		Paved parking, HSG C
750	98		Unconnected pavement, HSG C
0	89		Gravel roads, HSG C
7,940	74		>75% Grass cover, Good, HSG C
2,147	70		Woods, Good, HSG C
11,242	76	75	Weighted Average, UI Adjusted
10,087			89.73% Pervious Area
1,155			10.27% Impervious Area
750			64.94% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	50	0.0200	0.16		Sheet Flow, sheet Grass: Short n= 0.150 P2= 3.62"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.7	150	Total			

Summary for Pond 2P: PCB 2

Inflow Area = 0.247 ac, 63.37% Impervious, Inflow Depth > 3.96" for 10-yr event
 Inflow = 1.14 cfs @ 12.09 hrs, Volume= 0.082 af
 Outflow = 1.14 cfs @ 12.09 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.14 cfs @ 12.09 hrs, Volume= 0.081 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 94.65' @ 12.14 hrs Surf.Area= 0.000 ac Storage= 0.000 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 0.3 min (762.3 - 762.0)

Volume	Invert	Avail.Storage	Storage Description
#1	93.50'	0.001 af	4.00'D x 2.20'H Vertical Cone/Cylinder

Device	Routing	Invert	Outlet Devices
#1	Primary	93.30'	12.0" Round Culvert L= 40.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 93.30' / 93.20' S= 0.0025 ' / ' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.73 cfs @ 12.09 hrs HW=94.62' TW=94.58' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 0.73 cfs @ 0.94 fps)

Summary for Reach 2R: Wetland

Inflow Area = 0.688 ac, 50.51% Impervious, Inflow Depth > 3.31" for 10-yr event
 Inflow = 2.79 cfs @ 12.11 hrs, Volume= 0.190 af
 Outflow = 2.53 cfs @ 12.16 hrs, Volume= 0.189 af, Atten= 9%, Lag= 2.9 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.99 fps, Min. Travel Time= 4.5 min
 Avg. Velocity= 0.54 fps, Avg. Travel Time= 8.3 min

Peak Storage= 687 cf @ 12.16 hrs
 Average Depth at Peak Storage= 0.13'
 Bank-Full Depth= 5.00' Flow Area= 150.0 sf, Capacity= 1,365.56 cfs

20.00' x 5.00' deep channel, n= 0.035 Earth, dense weeds
 Side Slope Z-value= 2.0 '/' Top Width= 40.00'
 Length= 270.0' Slope= 0.0085 '/'
 Inlet Invert= 87.30', Outlet Invert= 85.00'

**Summary for Subcatchment 2S: POST-2S**

Runoff = 1.71 cfs @ 12.20 hrs, Volume= 0.147 af, Depth> 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

Area (sf)	CN	Description
0	98	Roofs, HSG C
610	98	Paved parking, HSG C
713	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
12,830	74	>75% Grass cover, Good, HSG C
17,235	70	Woods, Good, HSG C
31,388	73	Weighted Average
30,065		95.79% Pervious Area
1,323		4.21% Impervious Area
713		53.89% Unconnected

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Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	50	0.0050	0.09		Sheet Flow, lawn Grass: Short n= 0.150 P2= 3.62"
5.0	150	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
14.2	200	Total			

Summary for Subcatchment 3S: POST-3S

Runoff = 0.62 cfs @ 12.09 hrs, Volume= 0.044 af, Depth> 3.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

Area (sf)	CN	Description
0	98	Roofs, HSG C
3,555	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
2,375	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
5,930	88	Weighted Average
2,375		40.05% Pervious Area
3,555		59.95% Impervious Area

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

Summary for Pond 4P: 6" PIPE

Inflow Area = 0.338 ac, 67.74% Impervious, Inflow Depth > 0.76" for 10-yr event
 Inflow = 0.03 cfs @ 12.11 hrs, Volume= 0.021 af
 Outflow = 0.03 cfs @ 12.11 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.03 cfs @ 12.11 hrs, Volume= 0.021 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 90.36' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	90.25'	6.0" Round Culvert L= 10.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 90.25' / 90.15' S= 0.0100 1' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=0.03 cfs @ 12.11 hrs HW=90.36' TW=87.42' (Dynamic Tailwater)

1=Culvert (Barrel Controls 0.03 cfs @ 1.45 fps)

Summary for Subcatchment 4S: POST-4S- ROOF

Runoff = 0.48 cfs @ 12.09 hrs, Volume= 0.037 af, Depth> 4.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

Area (sf)	CN	Description
4,016	98	Roofs, HSG C
0	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
0	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
4,016	98	Weighted Average
4,016		100.00% Impervious Area

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

Summary for Subcatchment 5S: POST- 5S ROOF

Runoff = 0.45 cfs @ 12.09 hrs, Volume= 0.033 af, Depth> 4.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

Area (sf)	CN	Description
3,140	98	Roofs, HSG C
0	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
800	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
3,940	93	Weighted Average
800		20.30% Pervious Area
3,140		79.70% Impervious Area

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

Summary for Subcatchment 6S: POST-6S

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.038 af, Depth> 4.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

5496 Post_070124

Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

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Area (sf)	CN	Description
0	98	Roofs, HSG C
3,270	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
1,570	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
4,840	90	Weighted Average
1,570		32.44% Pervious Area
3,270		67.56% Impervious Area

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

Summary for Subcatchment 7S: POST-7S

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth> 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.46", Smoothing=Off

Area (sf)	CN	Description
0	98	Roofs, HSG C
600	98	Paved parking, HSG C
0	98	Unconnected pavement, HSG C
0	89	Gravel roads, HSG C
125	74	>75% Grass cover, Good, HSG C
0	70	Woods, Good, HSG C
725	94	Weighted Average
125		17.24% Pervious Area
600		82.76% Impervious Area

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

Summary for Link POA1: Point of Analysis 1

Inflow Area = 1.409 ac, 26.83% Impervious, Inflow Depth > 2.86" for 10-yr event

Inflow = 4.18 cfs @ 12.17 hrs, Volume= 0.336 af

Primary = 4.18 cfs @ 12.17 hrs, Volume= 0.336 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Link POA2: Point of Analysis 2

Inflow Area = 0.017 ac, 82.76% Impervious, Inflow Depth > 4.49" for 10-yr event
 Inflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af
 Primary = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond RG1: RG1

Inflow Area = 0.338 ac, 67.74% Impervious, Inflow Depth > 4.07" for 10-yr event
 Inflow = 1.59 cfs @ 12.09 hrs, Volume= 0.114 af
 Outflow = 1.53 cfs @ 12.11 hrs, Volume= 0.096 af, Atten= 3%, Lag= 1.4 min
 Primary = 0.03 cfs @ 12.11 hrs, Volume= 0.021 af
 Secondary = 1.51 cfs @ 12.11 hrs, Volume= 0.075 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 94.59' @ 12.11 hrs Surf.Area= 627 sf Storage= 995 cf

Plug-Flow detention time= 81.0 min calculated for 0.096 af (84% of inflow)

Center-of-Mass det. time= 34.6 min (793.3 - 758.7)

Volume	Invert	Avail.Storage	Storage Description		
#1	89.75'	1,238 cf	Custom Stage Data (Conic) Listed below		
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
89.75	300	0.0	0	0	300
91.25	300	40.0	180	180	392
91.50	300	33.0	25	205	407
93.00	300	15.0	68	272	500
94.00	450	100.0	372	645	664
95.00	750	100.0	594	1,238	976

Device	Routing	Invert	Outlet Devices
#1	Primary	91.25'	6.0" Vert. Orifice/Grate C= 0.600
#2	Secondary	94.25'	3.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#3	Device 1	89.75'	2.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.03 cfs @ 12.11 hrs HW=94.58' TW=90.36' (Dynamic Tailwater)

↑ **1=Orifice/Grate** (Passes 0.03 cfs of 1.66 cfs potential flow)

↑ **3=Exfiltration** (Exfiltration Controls 0.03 cfs)

Secondary OutFlow Max=1.47 cfs @ 12.11 hrs HW=94.58' TW=87.42' (Dynamic Tailwater)

↑ **2=Broad-Crested Rectangular Weir** (Weir Controls 1.47 cfs @ 1.46 fps)

5496 Post_070124*Type III 24-hr 2-yr Rainfall=3.62", Smoothing=Off*

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond 1P: PCB 1

Peak Elev=94.49' Storage=0.000 af Inflow=0.32 cfs 0.022 af
12.0" Round Culvert n=0.012 L=35.0' S=0.0057 '/' Outflow=0.31 cfs 0.022 af

Reach 1R: 24" Pipe

Avg. Flow Depth=0.21' Max Vel=4.01 fps Inflow=0.69 cfs 0.052 af
24.0" Round Pipe n=0.011 L=224.0' S=0.0134 '/' Capacity=30.94 cfs Outflow=0.68 cfs 0.052 af

Subcatchment 1S: POST-1S

Runoff Area=11,242 sf 10.27% Impervious Runoff Depth>1.27"
Flow Length=150' Slope=0.0200 '/' Tc=7.7 min UI Adjusted CN=75 Runoff=0.38 cfs 0.027 af

Pond 2P: PCB 2

Peak Elev=94.49' Storage=0.000 af Inflow=0.68 cfs 0.047 af
12.0" Round Culvert n=0.012 L=40.0' S=0.0025 '/' Outflow=0.67 cfs 0.047 af

Reach 2R: Wetland

Avg. Flow Depth=0.08' Max Vel=0.76 fps Inflow=1.48 cfs 0.102 af
n=0.035 L=270.0' S=0.0085 '/' Capacity=1,365.56 cfs Outflow=1.21 cfs 0.102 af

Subcatchment 2S: POST-2S

Runoff Area=31,388 sf 4.21% Impervious Runoff Depth>1.15"
Flow Length=200' Tc=14.2 min CN=73 Runoff=0.78 cfs 0.069 af

Subcatchment 3S: POST-3S

Runoff Area=5,930 sf 59.95% Impervious Runoff Depth>2.23"
Tc=6.0 min CN=88 Runoff=0.37 cfs 0.025 af

Pond 4P: 6" PIPE

Peak Elev=90.36' Inflow=0.03 cfs 0.020 af
6.0" Round Culvert n=0.012 L=10.0' S=0.0100 '/' Outflow=0.03 cfs 0.020 af

Subcatchment 4S: POST-4S-ROOF

Runoff Area=4,016 sf 100.00% Impervious Runoff Depth>3.16"
Tc=6.0 min CN=98 Runoff=0.32 cfs 0.024 af

Subcatchment 5S: POST-5S ROOF

Runoff Area=3,940 sf 79.70% Impervious Runoff Depth>2.69"
Tc=6.0 min CN=93 Runoff=0.28 cfs 0.020 af

Subcatchment 6S: POST-6S

Runoff Area=4,840 sf 67.56% Impervious Runoff Depth>2.41"
Tc=6.0 min CN=90 Runoff=0.32 cfs 0.022 af

Subcatchment 7S: POST-7S

Runoff Area=725 sf 82.76% Impervious Runoff Depth>2.79"
Tc=6.0 min CN=94 Runoff=0.05 cfs 0.004 af

Link POA1: Point of Analysis 1

Inflow=1.99 cfs 0.171 af
Primary=1.99 cfs 0.171 af

Link POA2: Point of Analysis 2

Inflow=0.05 cfs 0.004 af
Primary=0.05 cfs 0.004 af

Pond RG1: RG1

Peak Elev=94.48' Storage=976 cf Inflow=0.95 cfs 0.068 af
Primary=0.03 cfs 0.020 af Secondary=0.80 cfs 0.030 af Outflow=0.83 cfs 0.050 af

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond 1P: PCB 1

Peak Elev=94.78' Storage=0.000 af Inflow=0.69 cfs 0.050 af
 12.0" Round Culvert n=0.012 L=35.0' S=0.0057 '/' Outflow=0.68 cfs 0.050 af

Reach 1R: 24" Pipe

Avg. Flow Depth=0.32' Max Vel=5.30 fps Inflow=1.74 cfs 0.129 af
 24.0" Round Pipe n=0.011 L=224.0' S=0.0134 '/' Capacity=30.94 cfs Outflow=1.73 cfs 0.129 af

Subcatchment 1S: POST-1S

Runoff Area=11,242 sf 10.27% Impervious Runoff Depth>3.80"
 Flow Length=150' Slope=0.0200 '/' Tc=7.7 min UI Adjusted CN=75 Runoff=1.15 cfs 0.082 af

Pond 2P: PCB 2

Peak Elev=94.76' Storage=0.000 af Inflow=1.50 cfs 0.109 af
 12.0" Round Culvert n=0.012 L=40.0' S=0.0025 '/' Outflow=1.50 cfs 0.109 af

Reach 2R: Wetland

Avg. Flow Depth=0.15' Max Vel=1.11 fps Inflow=3.74 cfs 0.262 af
 n=0.035 L=270.0' S=0.0085 '/' Capacity=1,365.56 cfs Outflow=3.42 cfs 0.261 af

Subcatchment 2S: POST-2S

Runoff Area=31,388 sf 4.21% Impervious Runoff Depth>3.59"
 Flow Length=200' Tc=14.2 min CN=73 Runoff=2.50 cfs 0.215 af

Subcatchment 3S: POST-3S

Runoff Area=5,930 sf 59.95% Impervious Runoff Depth>5.20"
 Tc=6.0 min CN=88 Runoff=0.82 cfs 0.059 af

Pond 4P: 6" PIPE

Peak Elev=90.36' Inflow=0.03 cfs 0.025 af
 6.0" Round Culvert n=0.012 L=10.0' S=0.0100 '/' Outflow=0.03 cfs 0.025 af

Subcatchment 4S: POST-4S- ROOF

Runoff Area=4,016 sf 100.00% Impervious Runoff Depth>6.16"
 Tc=6.0 min CN=98 Runoff=0.61 cfs 0.047 af

Subcatchment 5S: POST- 5S ROOF

Runoff Area=3,940 sf 79.70% Impervious Runoff Depth>5.73"
 Tc=6.0 min CN=93 Runoff=0.58 cfs 0.043 af

Subcatchment 6S: POST-6S

Runoff Area=4,840 sf 67.56% Impervious Runoff Depth>5.42"
 Tc=6.0 min CN=90 Runoff=0.69 cfs 0.050 af

Subcatchment 7S: POST-7S

Runoff Area=725 sf 82.76% Impervious Runoff Depth>5.83"
 Tc=6.0 min CN=94 Runoff=0.11 cfs 0.008 af

Link POA1: Point of Analysis 1

Inflow=5.84 cfs 0.477 af
 Primary=5.84 cfs 0.477 af

Link POA2: Point of Analysis 2

Inflow=0.11 cfs 0.008 af
 Primary=0.11 cfs 0.008 af

Pond RG1: RG1

Peak Elev=94.65' Storage=1,088 cf Inflow=2.08 cfs 0.152 af
 Primary=0.03 cfs 0.025 af Secondary=1.98 cfs 0.108 af Outflow=2.01 cfs 0.133 af

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond 1P: PCB 1

Peak Elev=94.91' Storage=0.000 af Inflow=0.84 cfs 0.062 af
 12.0" Round Culvert n=0.012 L=35.0' S=0.0057 '/' Outflow=0.83 cfs 0.062 af

Reach 1R: 24" Pipe

Avg. Flow Depth=0.36' Max Vel=5.68 fps Inflow=2.20 cfs 0.163 af
 24.0" Round Pipe n=0.011 L=224.0' S=0.0134 '/' Capacity=30.94 cfs Outflow=2.19 cfs 0.163 af

Subcatchment 1S: POST-1S

Runoff Area=11,242 sf 10.27% Impervious Runoff Depth>4.96"
 Flow Length=150' Slope=0.0200 '/' Tc=7.7 min UI Adjusted CN=75 Runoff=1.48 cfs 0.107 af

Pond 2P: PCB 2

Peak Elev=94.89' Storage=0.000 af Inflow=1.83 cfs 0.135 af
 12.0" Round Culvert n=0.012 L=40.0' S=0.0025 '/' Outflow=1.83 cfs 0.135 af

Reach 2R: Wetland

Avg. Flow Depth=0.17' Max Vel=1.22 fps Inflow=4.65 cfs 0.331 af
 n=0.035 L=270.0' S=0.0085 '/' Capacity=1,365.56 cfs Outflow=4.31 cfs 0.330 af

Subcatchment 2S: POST-2S

Runoff Area=31,388 sf 4.21% Impervious Runoff Depth>4.72"
 Flow Length=200' Tc=14.2 min CN=73 Runoff=3.27 cfs 0.283 af

Subcatchment 3S: POST-3S

Runoff Area=5,930 sf 59.95% Impervious Runoff Depth>6.46"
 Tc=6.0 min CN=88 Runoff=1.01 cfs 0.073 af

Pond 4P: 6" PIPE

Peak Elev=90.36' Inflow=0.03 cfs 0.026 af
 6.0" Round Culvert n=0.012 L=10.0' S=0.0100 '/' Outflow=0.03 cfs 0.026 af

Subcatchment 4S: POST-4S-ROOF

Runoff Area=4,016 sf 100.00% Impervious Runoff Depth>7.39"
 Tc=6.0 min CN=98 Runoff=0.73 cfs 0.057 af

Subcatchment 5S: POST- 5S ROOF

Runoff Area=3,940 sf 79.70% Impervious Runoff Depth>6.98"
 Tc=6.0 min CN=93 Runoff=0.70 cfs 0.053 af

Subcatchment 6S: POST-6S

Runoff Area=4,840 sf 67.56% Impervious Runoff Depth>6.67"
 Tc=6.0 min CN=90 Runoff=0.84 cfs 0.062 af

Subcatchment 7S: POST-7S

Runoff Area=725 sf 82.76% Impervious Runoff Depth>7.08"
 Tc=6.0 min CN=94 Runoff=0.13 cfs 0.010 af

Link POA1: Point of Analysis 1

Inflow=7.47 cfs 0.614 af
 Primary=7.47 cfs 0.614 af

Link POA2: Point of Analysis 2

Inflow=0.13 cfs 0.010 af
 Primary=0.13 cfs 0.010 af

Pond RG1: RG1

Peak Elev=94.71' Storage=1,124 cf Inflow=2.53 cfs 0.187 af
 Primary=0.03 cfs 0.026 af Secondary=2.43 cfs 0.142 af Outflow=2.46 cfs 0.168 af

**STORMWATER MANAGEMENT
INSPECTION AND MAINTENANCE MANUAL
FOR
OUR PLACE
ADULT GROUP HOUSING FACILITY**

105 Durham Road

Dover, NH

Tax Map H, Lot 6-4

Proper inspection, maintenance, and repair are key elements in maintaining a successful stormwater management program on a developed property. Routine inspections ensure permit compliance and reduce the potential for deterioration of infrastructure or reduced water quality. The following responsible parties shall be in charge of managing the stormwater facilities:

RESPONSIBLE PARTIES:

Owner/Applicant: Paul Seaver / Our Place, Inc.
Name Company Phone

Inspection and Maintenance : TBD
Name Phone

NOTE: Inspection and maintenance responsibilities transfer to future property owners.

Included in this Inspection and Maintenance Manual are the following components:

- Drainage Features and Site BMP Functions and Maintenance Descriptions
- Guidelines for Control of Invasive Species
- Regular Inspection and Maintenance Guidance for Bioretention Systems
- Checklists for Inspection of Bioretention Systems
- Inspection and Maintenance Checklist
- Stormwater System Operations and Maintenance Report Form
- Site Drainage Plan

RAINGARDENS AND FILTRATION BASINS

Function – Raingardens and filtration ponds provide treatment to runoff prior to directing it to stormwater systems by filtering sediment and suspended solids, trapping them in the bottom of the garden and in the filter media itself. Additional treatment is provided by the native water-tolerant vegetation which removes nutrients and other pollutants through bio-uptake. Stormwater detention and infiltration can also be provided as the filtering process slows runoff, decreases the peak rate of discharge and promotes groundwater recharge.

Detention ponds temporarily store runoff and allow for its controlled release during and after a storm event, decreasing peak rates of runoff and minimizing flooding.

Raingardens, infiltration ponds, and detention ponds shall be managed (Per AGR 3800 and RSA 430:53) to: prevent and control the spread of invasive plant, insect, and fungal species; minimize the adverse environmental and economic effects invasive species cause to agriculture, forests, wetlands, wildlife, and other natural resources of the state; and protect the public from potential health problems attributed to certain invasive species.

Maintenance

- Inspect annually and after significant rainfall event.
- If a raingarden does not completely drain within 72-hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore its filtration and/or infiltration function(s), including but not limited to removal of accumulated sediments and/or replacement or reconstruction of the filter media.
- Replace any riprap dislodged from spillways, inlets and outlets.
- Remove any obstructions, litter and accumulated sediment or debris as warranted but no less than once a year.
- Mowing of any grassed area in or adjacent to a raingarden shall be performed on a monthly basis (when areas are not inundated) to keep the vegetation in vigorous condition. The cut grass shall be removed to prevent the decaying organic litter from clogging the filter media or choking other vegetation.
- Select vegetation should be maintained in healthy condition. This may include pruning, removal and replacement of dead or diseased vegetation.
- Remove any invasive species, Per AGR 3800 and RSA 430:53.
(See Control of Invasive Plants)

CULVERTS AND DRAINAGE PIPES

Function – Culverts and drainage pipes convey stormwater away from buildings, walkways, and parking areas and to surface waters or closed drainage systems.

Maintenance

- Culverts and drainage pipes shall be inspected semi-annually, or more often as needed, for accumulation of debris and structural integrity. Leaves and other debris shall be removed from the inlet and outlet to insure the functionality of drainage structures. Debris shall be disposed of on site where it will not concentrate back at the drainage structures or at a solid waste disposal facility.
- Riprap Areas - Culvert outlets and inlets shall be inspected during annual maintenance and operations for erosion and scour. If scour or creek erosion is identified, the outlet owner shall take appropriate means to prevent further erosion. Increased lengths of riprap may require a NHDES Wetlands Permit modification.

DRAINAGE STRUCTURES

Function – Catch basins, manholes, yard drains, and other stormwater structures collect stormwater, primarily from paved surfaces and roofs. Stormwater from paved areas often contains sediment and contaminants. Catch basin sumps serve to trap sediment, trace metals, nutrients and debris. Hooded catch basins trap hydrocarbons and floating debris.

Maintenance

- Remove leaves and debris from structure grates on an as-needed basis.
- Sumps shall be inspected and cleaned (as needed) on an annual basis to protect water quality and infiltration capacity. Catch basin debris shall be disposed of at a solid waste disposal facility.

DE-ICING CHEMICAL USE AND STORAGE

Function – Sand and salt are used for de-icing of drives.

Salt use shall be minimized for de-icing activities.

The responsible party shall employ a New Hampshire Certified Salt Applicator for winter snow and ice management activities.

Maintenance

- **Salt use shall be minimized.** Sand shall be used for de-icing activities when possible. Salt is highly water-soluble. Contamination of fresh water wetlands and other sensitive areas can occur when salt is stored in open areas. Owner shall not store salt piles on site.

VEGETATIVE SWALES

Function – Vegetative swales filter sediment from stormwater, promote infiltration, and the uptake of contaminants. They are designed to treat runoff and dispose of it safely into the natural drainage system.

Maintenance

- Timely maintenance is important to keep a swale in good working condition. Mowing of grassed swales shall be monthly to keep the vegetation in vigorous condition. The cut vegetation shall be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale.
- Fertilizing shall be bi-annual or as recommended from soil testing.
- Inspect swales following significant rainfall events.
- Woody vegetation shall not be allowed to become established in the swales or rock riprap outlet protection and if present shall be removed.
- Accumulated debris disrupts flow and leads to clogging and erosion. Remove debris and litter as necessary.
- Inspect for eroded areas. Determine cause of erosion and correct deficiency as required. Monitor repaired areas.

LEVEL SPREADERS AND PLUNGE POOLS

Function – Level spreaders and plunge pools convert concentrated stormwater flows into less-erosive sheet flow, minimizing erosion and maximizing the treatment capabilities of associated buffers. Vegetated buffers, either forested or meadow, slow runoff which promotes and reduced peak rates of runoff. The reduced velocities and the presence of vegetation encourage the filtration of sediment and the limited bio-uptake of nutrients.

Maintenance

- Inspect level spreaders and buffers at least annually for signs of erosion, sediment buildup, or vegetation loss.
- If a meadow buffer, provide periodic mowing as needed to maintain a healthy stand of herbaceous vegetation.
- If a forested buffer, then the buffer should be maintained in an undisturbed condition, unless erosion occurs.
- If erosion of the buffer (forested or meadow) occurs, eroded areas should be repaired and replanted with vegetation similar to the remaining buffer. Corrective action should include eliminating the source of the erosion problem and may require retrofit or reconstruction of the level spreader.
- Remove debris and accumulated sediment and dispose of properly.

LANDSCAPED AREAS - FERTILIZER MANAGEMENT

Function – Fertilizer management involves controlling the rate, timing and method of fertilizer application so that the nutrients are taken up by the plants thereby reducing the chance of polluting the surface and ground waters. Fertilizer management can be effective in reducing the amounts of phosphorus and nitrogen in runoff from landscaped areas, particularly lawns.

Maintenance

- Have the soil tested by your landscaper or local Soil Conservation Service for nutrient requirements and follow the recommendations.
- Do not apply fertilizer to frozen ground.
- Clean up any fertilizer spills.
- Do not allow fertilizer to be broadcast into water bodies.
- When fertilizing a lawn, water thoroughly, but do not create a situation where water runs off the surface of the lawn.

LANDSCAPED AREAS - LITTER CONTROL

Function – Landscaped areas tend to filter debris and contaminants that may block drainage systems and pollute the surface and ground waters.

Maintenance

- Litter Control and lawn maintenance involves removing litter such as trash, leaves, lawn clippings, pet wastes, oil and chemicals from streets, parking lots, and lawns before materials are transported into surface waters.
- Litter control shall be implemented as part of the grounds maintenance program.

APPENDIX

- A. Drainage Features and Site BMP Functions and Maintenance Descriptions
- B. Guidelines for Control of Invasive Species
- C. Regular Inspection and Maintenance Guidance for Bioretention Systems
- D. Checklists for Inspection of Bioretention Systems
- E. Inspection and Maintenance Checklist
- F. Stormwater System Operations and Maintenance Report Form
- G. Site Drainage Plan

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.

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

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

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

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

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



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

Regular Inspection and Maintenance Guidance for Bioretention Systems / Tree Filters

Maintenance of bioretention systems and tree filters can typically be performed as part of standard landscaping. Regular inspection and maintenance is critical to the effective operation of bioretention systems and tree filters to insure they remain clear of leaves and debris and free draining. This page provides guidance on maintenance activities that are typically required for these systems, along with the suggested frequency for each activity. Individual systems may have more, or less frequent maintenance needs depending on a variety of factors including but not limited to: the occurrence of large storm events, overly wet or dry periods, regional hydrologic conditions, and the upstream land use.

ACTIVITIES

The most common maintenance activity is the removal of sediment and organic debris from the system and bypass structures. Visual inspections are routine for system maintenance. This includes looking for standing water, accumulated leaves, holes in the soil media, signs of plant distress, and debris and sediment accumulation in the system. Vegetation coverage is integral to the performance of the system, including infiltration rate and nutrient uptake. Vegetation care is important to system productivity and health.

ACTIVITY

FREQUENCY

CLOGGING AND SYSTEM PERFORMANCE

A record should be kept of the time to drain for the system completely after a storm event. The system should drain completely within 72 hours.

Check to insure the filter surface remains well draining after storm events.

Remedy: If filter bed is clogged, draining poorly, or standing water covers more than 50% of the surface 48 hours after a precipitation event, then remove top few inches of discolored material. Till, or rake remaining material as needed.

After every major storm in the first few months, then annually at minimum.

Check inlets and outlets for leaves and debris.

Remedy: Rake in and around the system to clear it of debris. Also, clear the inlet and overflow if obstructed.

Check for animal burrows and short-circuiting in the system.

Remedy: Soil erosion from short circuiting or animal borrows should be repaired when they occur. The holes should be filled and lightly compacted

Inspect inlets and outlets to ensure good condition and no evidence of deterioration. Check to see if high-flow bypass is functioning.

Remedy: Repair or replace any damaged structural parts, inlets, outlets, sidewalls.

Quarterly initially, annually as a minimum thereafter.

VEGETATION

Check for robust vegetation coverage throughout the system and dead or dying plants.

Remedy: Vegetation should cover > 75% of the system and should be cared for as needed.

Annually or as needed

CHECKLIST FOR INSPECTION OF BIORETENTION SYSTEM / TREE FILTERS

Location:

Inspector:

Date:

Time:

Site Conditions:

Days Since Last Rain Event:

Inspection Items	Satisfactory (S) or Unsatisfactory (U)	Comments/Corrective Action
1. Initial Inspection After Planting and Mulching		
Plants are stable, roots not exposed	S U	
Surface is at design level, no evidence of preferential flow/shoving	S U	
Inlet and outlet/bypass are functional	S U	
2. Debris Cleanup (1 time/year minimum, Spring/Fall)		
Litter, leaves, and dead vegetation removed from the system	S U	
Prune/mow vegetation	S U	
3. Standing Water (1 time/year and/or after large storm events)		
No evidence of standing water after 24-48 hours since rainfall	S U	
4. Vegetation Condition and Coverage		
Vegetation condition good with good coverage (typically > 75%)	S U	
5. Other Issues		
Note any additional issues not previously covered.	S U	
Corrective Action Needed		Due Date
1.		
2.		
3.		
Inspector Signature		Date

Inspection & Maintenance Checklist

BMP / System	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance/Cleanout Threshold
Paved surfaces:			
Pavement Sweeping	Routinely	N/A	N/A
Litter & Trash Removal	Routinely	N/A	Parcel will be free of litter/trash.
Deicing Agents	N/A	Keep De-Icing Log	<u>Low Salt</u>
Closed Drainage System:			
Drainage Pipes	1 time per 2 years	Check for sediment accumulation & clogging.	Less than 2" sediment depth
Catch Basins	Annually	Check for sediment accumulation (Less than 24" sediment), blocked hood, and floating debris.	Clean Sumps. Remove all floating debris.
Drain Manhole	Annually	Check for sediment, debris, and obstructions.	Remove all Obstructions.

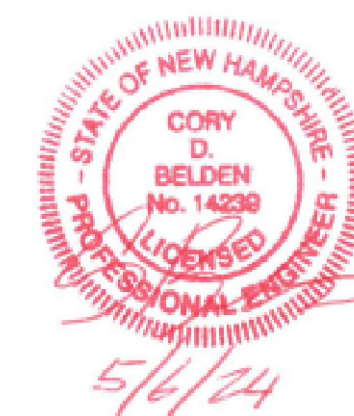
BMP / System	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance / Cleanout Threshold
BMPs:			
Raingardens or Infiltration Pond	Annually	• Check infiltration rates and filter media. • Check for trash & debris. • Check for sediment buildup. • Check for vegetation stability. • Check for excess woody vegetation growth. • Check for invasive species.	Remove trash & debris, sediment, woody vegetation, and invasive species. Side slopes and berm are to be mowed. Replant vegetation if required.
Vegetated Swale	Annually	Check for sediment buildup, vegetation loss and invasive species, debris, and damage.	Remove sediment, debris and invasive species, repair damage, and mow grass monthly to a depth of 4 inches.
Riprap Outlet Protection	Annually	Check for sediment buildup and structure damage.	Remove excess sediment and repair damage.
Stone Berm Level Spreader	Annually	Check for sediment buildup, debris and signs of erosion.	Remove sediment and debris. Immediately repair.

STORM WATER SYSTEM OPERATION AND MAINTENANCE REPORT

General Information		
Project Name		
Owner		
Inspector's Name(s)		
Inspector's Contact Information		
Date of Inspection	Start Time:	End Time:
Type of Inspection: ☐ Annual Report ☐ Post-storm event ☐ Due to a discharge of significant amounts of sediment		
Notes:		

General Site Questions and Discharges of Significant Amounts of Sediment			
Subject	Status	Notes	
<i>A discharge of significant amounts of sediment may be indicated by (but is not limited to) observations of the following. Note whether any are observed during this inspection:</i>			
<i>Notes/ Action taken:</i>			
1	Do the current site conditions reflect the attached site plan?	☐ Yes ☐ No	
2	Is the site permanently stabilized, temporary erosion and sediment controls are removed, and stormwater discharges from construction activity are eliminated?	☐ Yes ☐ No	
3	Is there evidence of the discharge of significant amounts of sediment to surface waters, or conveyance systems leading to surface waters?	☐ Yes ☐ No	
4	Is there evidence of concentrated flows of stormwater such as rills or channels that cause erosion when such flows are not filtered, settled or otherwise treated to remove sediment?	☐ Yes ☐ No	
5	Is there evidence of deposits of sediment from the site on any adjacent property or stormwater system.	☐ Yes ☐ No	
6	Is there evidence of discharges from the site to streams running through or along the site where visual observations indicate significant amounts of sediment present in them.	☐ Yes ☐ No	
7	Is there evidence of invasive species within the stormwater treatment areas?	☐ Yes ☐ No	

[illegible]



ISSUED FOR: DRAINAGE REPORT

ISSUE DATE: MAY 6, 2024

REVISIONS		
NO.	DESCRIPTION	BY DATE
0	PB SUBMITTAL	CDB 05/06/2024

DRAWN BY: _____ CDB
APPROVED BY: _____ EDW
DRAWING FILE: 5496-SITE.DWG

SCALE:

$22'' \times 34'' \quad 1'' = 40'$
 $11'' \times 17'' \quad 1'' = 80'$

OWNER:
Paul J. Seaver
105 Durham Road
Dover, NH 03820

APPLICANT:

*Our Place, Inc.
P.O. Box 65
Dover, NH 03821-0065*

PROJECT:

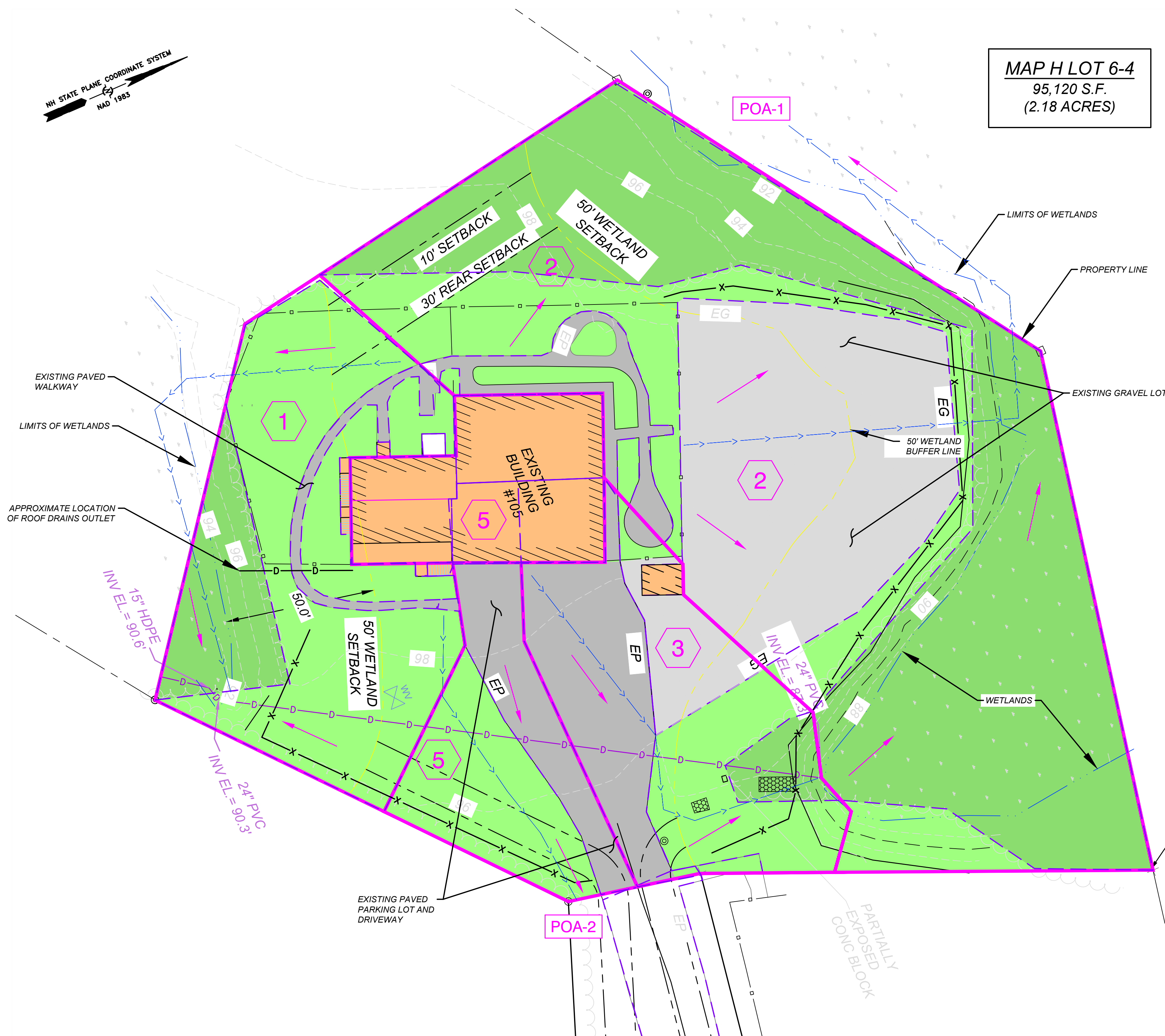
*OUR PLACE
SITE DEVELOPMENT*

*TAX MAP H, LOT 6-4
105 DURHAM ROAD
DOVER, NH 03820*

TITLE:

PRE-DEVELOPMENT
WATERSHED PLAN

SHEET NUMBER:
WS-1



GRAPHIC SCALE





NOT FOR CONSTRUCTION

ISSUED FOR:
DRAINAGE REPORT

ISSUE DATE:
JULY 3, 2024

REVISIONS	NO.	DESCRIPTION	BY	DATE
0	PB SUBMITTAL		CDB	05/06/2024
1	TRC COMMENTS		CDB	07/03/24

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5496-SITE.DWG

SCALE:
22"x34" 1" = 40'
11"x17" 1" = 80'

OWNER:
Paul J. Seaver
105 Durham Road
Dover, NH 03820

APPLICANT:
Our Place, Inc.
P.O. Box 65
Dover, NH 03821-0065

PROJECT:
OUR PLACE
SITE DEVELOPMENT
TAX MAP H, LOT 6-4
105 DURHAM ROAD
DOVER, NH 03820

SITE PLAN REVIEW (P24-0004) &
CONDITIONAL USE PERMIT (P24-0007)

TITLE:

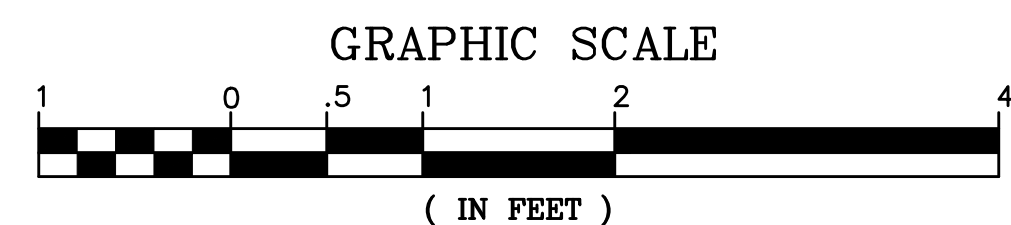
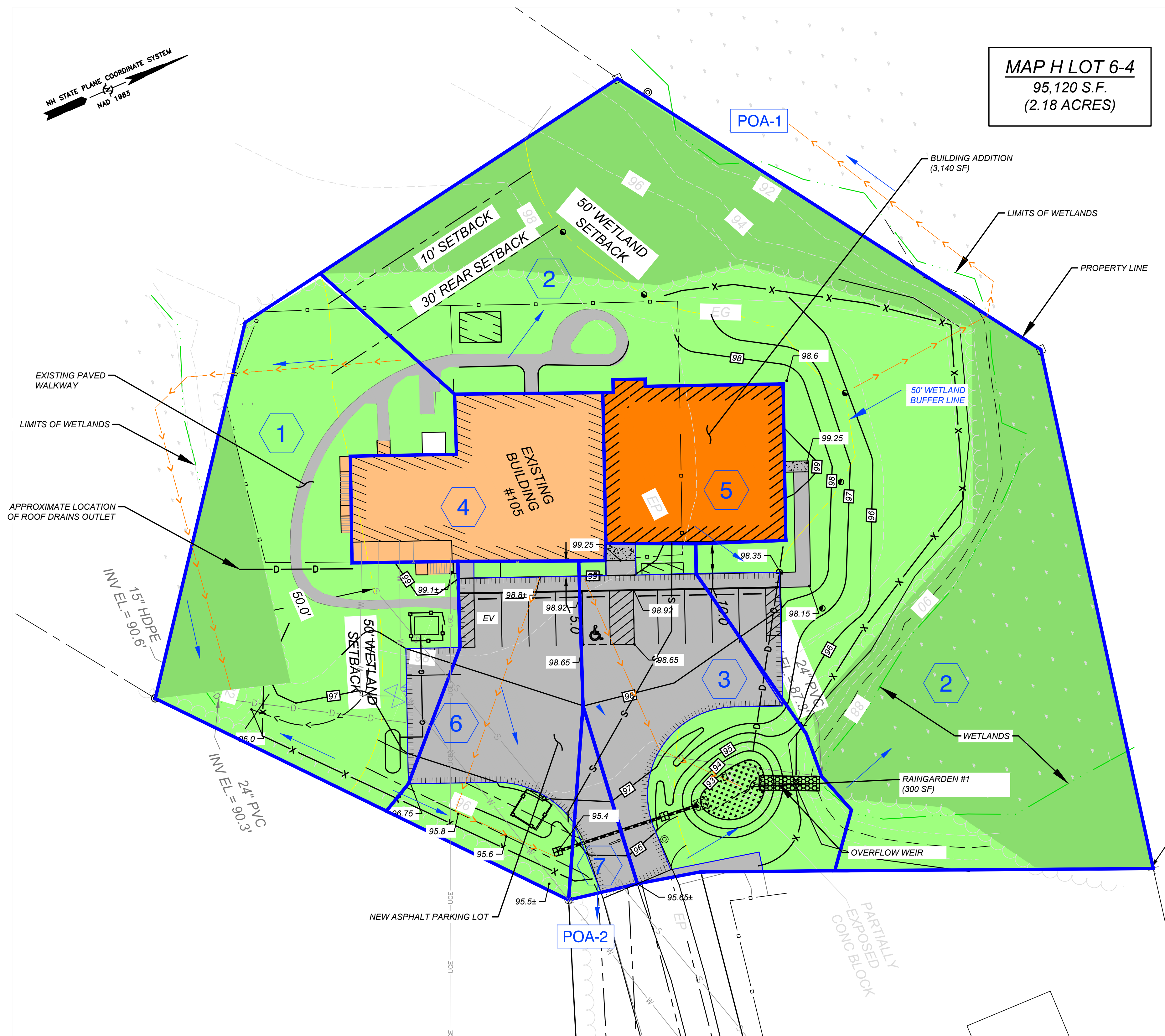
POST-DEVELOPMENT
WATERSHED PLAN

SHEET NUMBER:

WS-2

LEGEND

- PROPERTY LINE
- WETLAND/SOILS BOUNDARY
- EXISTING CONTOUR
- EXISTING PAVEMENT/CURB
- EXISTING TREELINE
- WATERSHED BOUNDARY
- Tc PATH
- SURFACE FLOW DIRECTION
- SUBCATCHMENT/POND/REACH
- POINT OF ANALYSIS



CITY OF DOVER DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
SITE PLAN REVIEW (P24-0004) &
CONDITIONAL USE PERMIT (P24-0007)

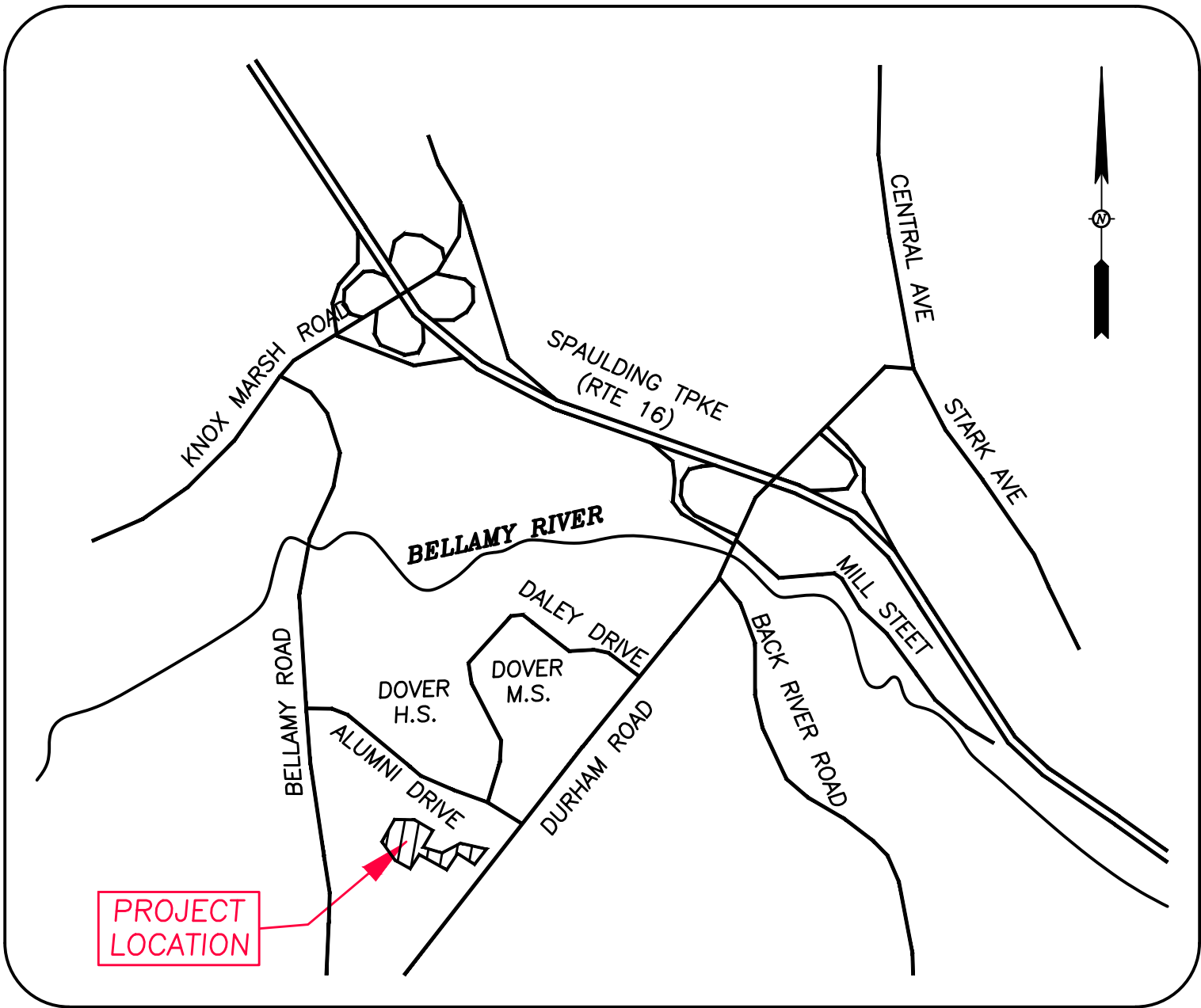
OUR PLACE SITE DEVELOPMENT
(ADULT SUPPORTIVE LIVING FACILITY)

Tax Map H, Lot 6-4

DOVER, NEW HAMPSHIRE

ISSUED FOR PLANNING BOARD APPROVAL

Plan Issue Date:
July 2, 2024



LOCUS MAP
Scale: 1" = 1000'±

Sheet Index Title	Sheet No.:	Rev.	Date
* Cover Sheet	1	1 of 1	1 07/03/24
* Existing Conditions Plan (by Northam Survey)	2	1 of 1	1 04/22/22
* General Notes	3	GN-1	1 07/03/24
Neighborhood Plan	4	N-1	1 07/03/24
* Overall Site Plan	5	C-1	1 07/03/24
* Site and Landscaping Detail Plan	6	C-2	1 07/03/24
* Grading, Drainage and Erosion and Sediment Control Plan	7	C-3	1 07/03/24
* Utilities Plan	8	C-4	0 07/03/24
Truck Turning Layout (Dover T-1)	9	T-1	1 07/03/24
* Details	10	D-1	1 07/03/24
* Details	11	D-2	1 07/03/24
* Details	12	D-3	1 07/03/24
* Details	13	D-4	1 07/03/24
* Details	14	D-5	1 07/03/24
Wetlands Conditional Use Plan	15	CUP-1	1 07/03/24
Architectural Plans (by Market Square Architects)			
First Floor Plan – Dimension Plan	16	A1.1	0 05/06/24
First Floor Plan – Keynote Plan	17	A1.2	0 05/06/24
Exterior Elevations	18	A3.0	0 05/06/24
Exterior Elevations	19	A3.1	0 05/06/24
Building Renderings	20–22	3 Sheets	0 05/06/24
* Included in Partial Plan Set for Wetlands Conditional Use Permit			

Permit Summary

Contractor shall be responsible for compliance with all conditions of approvals:
Zoning Board of Adjustment – Granted Variance to allow nine unit building on December 21, 2023.
Planning Board – Granted Transfer of Development Rights (TDR) to allow nine residential units on property on January 18, 2024.
Building Permits – Building Permits to be obtained from the City of Dover

Conditional Use Permits:

P24–0007 – Section 170–27.1 – Wetlands Protection District

Applicant:

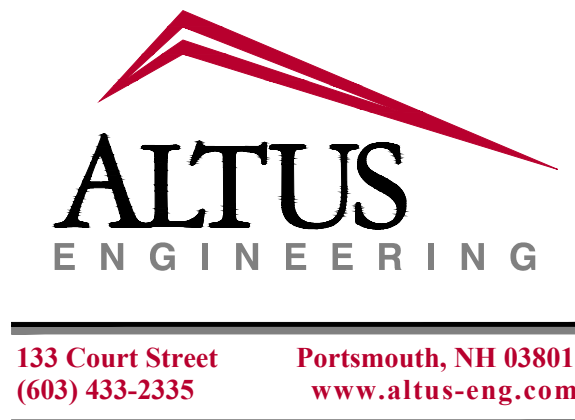


Our Place, Inc.
P.O. Box 65
Dover, NH 03821–0065

Owner:

Paul J. Seaver
105 Durham Road
Dover, NH 03820

Civil Engineer:



Architect:



Surveyor:



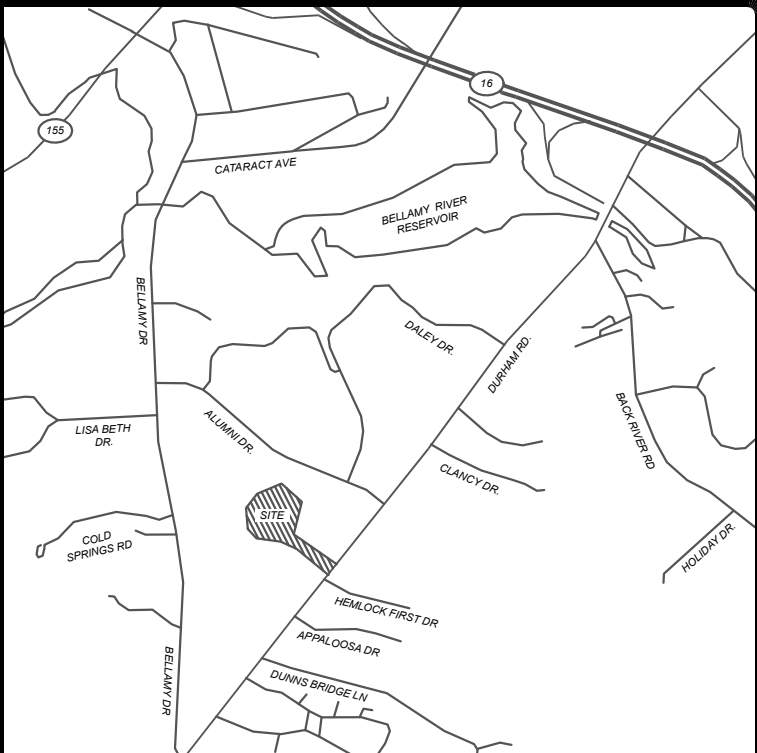
Wetland/Soil Scientist:

West Environmental
48 Stevens Hill Road
Nottingham, NH 03290
(603) 734–4298



PLAN REFERENCES:

- "LOT LINE ADJUSTMENT PLAN FOR LANDS OWNED BY PAUL & PENNY SEAVER" PREPARED BY POHOPEK LAND SURVEYORS & SEPTIC SYSTEM DESIGN, LLC. DATED FEBRUARY 1, 2007. RECORDED AT S.C.R.D. AS PLAN P-90-68.
- "LOT LINE ADJUSTMENTS FOR LOTS 6, 6-3 & 6-4, TAX MAP H DURHAM, DOVER RD. IN DOVER, N.H." PREPARED BY BRUCE L. POHOPEK, LAND SURVEYOR BARRINGTON, N.H. DATED DECEMBER 7, 1994. RECORDED AT S.C.R.D. AS PLAN 41A-58.
- "SUBDIVISION PLAN 'ESTES ESTATES' DURHAM ROAD, DOVER, N.H. PREPARED FOR WAYNE & DIERDRE ESTES." PREPARED BY CIVIL CONSULTANTS ENGINEERING & PLANNING. DATED APRIL 29, 1989. RECORDED AT S.C.R.D. AS PLAN 37-88
- "PROPERTY LINE ADJUSTMENTS OF LAND OF WAYNE & DIERDRE ESTES, DOVER, N.H." PREPARED BY RICHARD P. TOWLE. LAND SURVEYOR. DATED OCTOBER, 1986. RECORDED AT S.C.R.D. AS PLAN 30-141.



LOCUS

NOTES:

- SUBJECT PARCEL: TAX MAP H6 LOT 4
105 DURHAM ROAD
DOVER, NH 03820
NS PROJECT #986
- OWNER OF RECORD: PAUL J & PENNEY L SEAVER
105 DURHAM ROAD
DOVER, NH 03820
S.C.R.D. BOOK 5100, PAGE 273
- PARCEL AREA: 95,120 S.F. OR 2.18 AC.
- THE PURPOSE OF THIS PLAN IS TO SHOW EXISTING CONDITIONS OF THE SUBJECT PARCEL.

5. DIMENSIONAL REQUIREMENTS:	ZONE: R-20
MIN LOT AREA:	20,000 S.F.
MIN LOT FRONTAGE:	125'
MIN FRONT SETBACK:	20'
MIN SIDE SETBACK:	20'
MIN REAR SETBACK:	30'
MAX BUILDING HEIGHT:	35'
MAX LOT COVERAGE:	30%
OUTBUILDING/ACCESSORY:	
FRONT SETBACK:	35'
REAR/SIDE SETBACK:	10'

OVERLAY DISTRICT: WETLAND PROTECTION DISTRICT

WETLAND SETBACK: 50'

- ZONING INFORMATION SHOWN HEREON IS PER THE TOWN OF DOVER ZONING ORDINANCE DATED SEPTEMBER 9, 2022. ADDITIONAL REGULATIONS APPLY. THE LAND OWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE TOWN, STATE, AND FEDERAL REGULATIONS.
- FLOOD HAZARD ZONE: "X" WITH FUTURE CONDITIONS 1% ANNUAL CHANCE FLOOD HAZARD, PER FIRM MAP #33017C0320E, DATED 9/30/2005.
 - FIELD SURVEY COMPLETED BY NORTHAM SURVEY IN FEBRUARY, 2024 USING A TRIMBLE S5 TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR, A TRIMBLE R12 GPS RECEIVER AND A SOKKIA B31 AUTO LEVEL.
 - HORIZONTAL DATUM IS NAD83(2011) NEW HAMPSHIRE STATE PLANE COORDINATES PER STATIC GPS OBSERVATIONS.
 - THE VERTICAL DATUM IS NAVD88 PER STATIC GPS OBSERVATIONS. THE CONTOUR INTERVAL IS 2 FEET.
 - EASEMENTS, RIGHTS, AND RESTRICTIONS SHOWN OR IDENTIFIED ARE THOSE WHICH WERE FOUND DURING RESEARCH PERFORMED AT THE STRAFFORD COUNTY REGISTRY OF DEEDS. OTHER RIGHTS, EASEMENTS, OR RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF SUBJECT PARCEL(S) WOULD DETERMINE.
 - THE LOCATION OF UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. NORTHAM SURVEY LLC MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UNDERGROUND UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE.
 - LOT CORNER ABANDONED PER REFERENCE PLAN #1.
 - THE LIMITS OF JURISDICTIONAL WETLANDS WERE DELINEATED BY MARK WEST, CWS #10 ON FEBRUARY 12, 2024. THE WETLANDS WERE DELINEATED ACCORDING TO THE FOLLOWING STANDARDS:
 - US ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 (JANUARY 1987).
 - REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION (OCTOBER 2012).
 - FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND VERSION 4 (NEHSC MAY 2017)
 - NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST (REGION 1). U.S. FISH AND WILDLIFE SERVICE. 2013
 - CODE OF ADMINISTRATIVE RULES. WETLANDS BOARD, STATE OF NEW HAMPSHIRE (CURRENT).



EXISTING CONDITIONS PLAN
FOR
PAUL J & PENNEY L SEAVER
OF
TAX MAP H LOT 6-4
105 DURHAM ROAD
DOVER, NH
COUNTY OF STRAFFORD

SCALE: 1"=40' (22x34) 1"=80' (11x17)

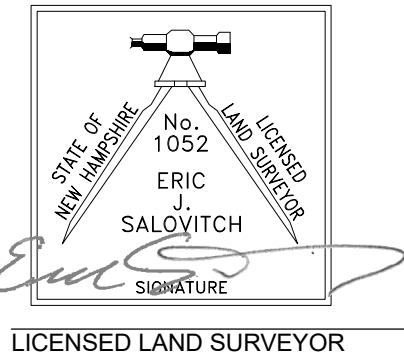
JOB NO.	986	DATE:	2024-03-25
DRAWN BY:	PJN	DRAWING:	986 SURVEY.DWG
CHECKED BY:	EJS	SHEET:	1 OF 1

NO.	DATE	DESCRIPTION	BY

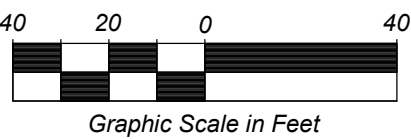


NORTHAM
SURVEY LLC
686 Central Ave, Ste 100, Dover, NH 03820 | (603) 953-3164 | www.northamsurvey.com

APRIL 18, 2024
DATE



LICENSED LAND SURVEYOR



Graphic Scale in Feet

MAP H6 LOT 4	ASSESSORS MAP AND LOT NUMBER
BH	BUILDING HEIGHT
BK. PG.	BOOK / PAGE
EP	EDGE OF PAVEMENT
FF	FINISHED FLOOR
INV.	INVERT
N/F	NOW OR FORMERLY
SCRD	STRAFFORD COUNTY REGISTRY OF DEEDS
S.F.	SQUARE FEET
TBM	TEMPORARY BENCHMARK
○	IRON PIPE/ROD FOUND
□	BOUND FOUND
—	GUY WIRE
—	UTILITY POLE
—	MAILBOX
—	WATER GATE VALVE
—	SIGN
—	TBM
—	OVERHEAD WIRE
—	CHAINLINK FENCE
—	STOCKADE FENCE
—	BOUNDARY LINE
—	SETBACK LINE
—	WETLAND SETBACK
—	TREE LINE
—	SHRUB LINE
—	DRAIN LINE
—	EXISTING CONTOUR
—	WOODEN DECK
—	WETLANDS

LEGEND:

MAP H6 LOT 2
N/F
JUANITA A + JAMES WEEDEN + KIMBERLY LYNDES
TRUSTEES OF 145 DURHAM ROAD REVOCABLE TRUST
DOVER, NH 03820
SCRD BK.#4852 PG.#652

MAP H LOT 6-4
95,120 S.F.
(2.18 ACRES)

MAP H12 LOT 0
N/F
CITY OF DOVER
288 CENTRAL AVE
DOVER, NH 03820

MAP H6 LOT 0
N/F
YORKSHIRE PROPERTIES LLC
36 DOVER ROAD
DURHAM, NH 03820
SCRD BK.#4847 PG.#588

MAP H4 LOT H
N/F
HEIDI B WHITE
113 DURHAM ROAD
DOVER, NH 03820
SCRD BK.#4470 PG.#700

MAP H6 LOT 3
N/F
ALVAR LII & JAMIE BERGGREN
123 DURHAM ROAD
DOVER, NH 03820
SCRD BK.#4490 PG.#499

MAP H6 LOT X
N/F
LUKE MORENZ
119 DURHAM ROAD
DOVER, NH 03820
SCRD BK.#4681 PG.#499

LEGEND

	PROPERTY LINE
	PROPOSED EASEMENT
	WETLAND BOUNDARY
	BUILDING SETBACK
	50' LIMITED CUT ZONE
	EXISTING PAVEMENT/CURB PROP. PAVEMENT/VERTICAL OR SLOPED GRANITE CURB
	SAWCUT LINE/MATCH EXISTING
	EXISTING/PROPOSED GUARDRAIL
	PROPOSED FENCE
	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPOSED SPOT GRADE
	EXISTING WELL/WATER LINE/CURBSTOP/VALVE/HYDRANT
	EXISTING SEWER/MANHOLE
	EXISTING GAS/VALVE
	EXIST. OVER/UNDERGROUND UTILITIES/POLE
	EXISTING DRAINAGE/CB/DMH
	PROPOSED THRUST BLOCK/WATER/CURB STOP/VALVE/HYDRANT
	PROPOSED SEWER/MANHOLE/CLEANOUT
	PROPOSED SEWER FORCEMAIN
	PROPOSED GAS
	PROPOSED OVERHEAD UTILITIES/UTILITY POLE
	PROPOSED UNDERGROUND ELECTRIC/PHONE/TV
	PROPOSED DRAINAGE (HARD PIPE)/CB/DCB/DMH/FES
	PROPOSED CATCH BASIN INLET PROTECTION
	PROPOSED DRAINAGE (FNDTN. DRAIN/PERF. PIPE)/CLEANOUT
	PROPOSED GROUND SLOPE DIRECTION
	SILT FENCE/SEDIMENT BARRIER/CONST. FENCE/CLEARING LIMITS
	STABILIZED CONSTRUCTION EXIT
	LIMIT OF DISTURBANCE/CLEARING
	EXISTING TREE/DRIP LINE
	PROPOSED TREELINE
	EXISTING/PROPOSED SHRUB LINE
	PROPOSED CONCRETE
	PROPOSED DRIPEDGE
	PROPOSED PAVEMENT REMOVAL
	PROPOSED GRAVEL REMOVAL
	PROPOSED RAINGARDEN w/ 3/4" STONE
	PROPOSED STONE VELOCITY REDUCTION APRON
	PROPOSED 50' CITY WETLAND BUFFER IMPACT

GENERAL SITE NOTES:

- THE INTENT OF THIS PLAN SUBMITTAL IS TO PROVIDE THE NECESSARY INFORMATION FOR THE DESIGN AND REVIEW OF A COMMERCIAL DEVELOPMENT SITE ON ASSESSOR'S PARCEL H, LOT 6-4 FOR CITY AND STATE PERMIT APPLICATIONS. THIS PLAN SET PROVIDES DETAILED INFORMATION FOR THE GENERAL LAYOUT, GRADING, AND UTILITY LOCATIONS. ADDITIONAL DETAILED ENGINEERING DESIGN WILL BE REQUIRED TO IMPLEMENT CONSTRUCTION.
- OWNER OF RECORD: Paul J. Seaver
105 Durham Road
Dover, NH 03820
- THE PROJECT PARCEL IS SHOWN AS LOT NO. 6-4, MAP H OF THE CITY OF DOVER TAX ASSESSOR'S MAPS.
- THE PROJECT PARCEL CONTAINS 2.18 ACRES OR 95,120± SQUARE FEET AREA OF LAND.
- TITLE REFERENCE FOR THE PROJECT PARCEL IS THE STRAFFORD COUNTY REGISTRY OF DEEDS, BOOK NO. 5100, PAGE NO. 273.
- PROJECT PLAN REFERENCES:
 - "LOT LINE ADJUSTMENT PLAN FOR LANDS OWNED BY PAUL & PENNY SEAVER" PREPARED BY POHOPEK LAND SURVEYORS & SEPTIC SYSTEM DESIGN, LLC. DATED FEBRUARY 1, 2007. RECORDED AT S.C.R.D. AS PLAN P-90-68.
 - "LOT LINE ADJUSTMENTS FOR LOTS 6, 6-3 & 6-4, TAX MAP H DURHAM, DOVER RD. IN DOVER, N.H." PREPARED BY BRUCE L. POHOPEK, LAND SURVEYOR BARRINGTON, N.H. DATED DECEMBER 7, 1994. RECORDED AT AS PLAN 41A-58.
 - "SUBDIVISION PLAN 'ESTES ESTATES' DURHAM ROAD, DOVER, N.H. PREPARED FOR WAYNE & DIERDRE ESTES." PREPARED BY CIVIL CONSULTANTS ENGINEERING & PLANNING. DATED APRIL 29, 1989. RECORDED AT S.C.R.D. AS PLAN 37-88
 - "PROPERTY LINE ADJUSTMENTS OF LAND OF WAYNE & DIERDRE ESTES, DOVER, N.H." PREPARED BY RICHARD P. TOWLE. LAND SURVEYOR. DATED OCTOBER, 1986. RECORDED AT S.C.R.D. AS PLAN 30-141.
- THE SUBJECT PROPERTY IS ENCUMBERED BY THE FOLLOWING EASEMENTS:
NO KNOWN EASEMENTS
- ZONING DIMENSIONAL AND DENSITY REQUIREMENTS ARE SHOWN IN TABLE LOCATED ON THE SITE PLAN, SHEET C-1.
- OFF STREET PARKING:
EXISTING = 32 SPACES
PROPOSED = 15 SPACES

ALLOWED = 17 SPACES (1.4 SPACES PER UNIT + 0.5 VISITOR SPACE/UNIT)
- WAIVERS: THE FOLLOWING WAIVERS ARE REQUESTED FOR THE PROJECT:
 - BIKE RACK - NO BIKE RACK PROVIDE FOR THE INTELECTUAL DEVELOPMENTALLY DISABLED
 - SITE SPECIFIC SOILS PLAN - THE EXISTING SITE IS DEVELOPED AND THE MAJORITY OF NEW DEVELOPMENT IS LOCATED OVER EXISTING PAVEMENT AND GRAVEL.
 - LANDSCAPE PLAN - THE EXISTING SITE ENTRANCE IS VEGETATED WITH TREES. THE SITE DEVELOPMENT AREA IS APPROXIMATELY 400 FEET FROM DURHAM ROAD. EXISTING TREE BUFFERS WILL REMAIN.
- VARIANCE OR SPECIAL EXCEPTIONS - THE FOLLOWING RELIEF WAS GRANTED.

ZONING VARIANCE - AT THE DECEMBER 21, 2023 HEARING, THE DOVER ZONING BOARD OF ADJUSTMENT GRANTED A VARIANCE TO ALLOW A NINE (9) UNIT BUILDING ON THE PROPERTY LOCATED IN THE R-20 ZONING DISTRICT.

TRANSFER OF DEVELOPMENT RIGHTS (TDR) - AT THE JANUARY 18, 2024 MEETING, THE DOVER PLANNING BOARD GRANTED, WITH CONDITIONS, THE TDR TO ALLOW NINE (9) RESIDENTIAL UNITS ON THE SITE.
- CONDITIONAL USE PERMIT: A CONDITIONAL USE PERMIT FOR IMPACTS WITHIN THE WETLANDS BUFFER IS REQUIRED.

THE PROPOSED DEVELOPMENT WILL IMPACT 7,800 SQUARE FEET WITHIN THE WETLANDS BUFFER. THE IMPERVIOUS AREA WITHIN THE BUFFER WILL BE REDUCED BY 4,130 SQUARE FEET.
- PROPERTY LINE INFORMATION HAS BEEN OBTAINED FROM A SURVEY PERFORMED BY NORTHAM SURVEY, LLC AS REFERENCED IN THE ATTACHED "EXISTING CONDITIONS PLAN", DATED MARCH 25, 2024.
- AS-BUILT PLANS OF THE SITE SHALL BE SUBMITTED ON PAPER AND IN A DIGITAL FORMAT IN PDF AND AUTOCAD DWG, AUTOCAD DXF OR AN ESRI FORMAT TO THE CITY OF DOVER ENGINEER'S OFFICE UPON COMPLETION OF PROJECT. AS-BUILT PLANS SHALL BE PREPARED AND CERTIFIED CORRECT BY A L.L.S. OR P.E. DIGITAL FILES SHALL BE GEO-REFERENCED TO NEW HAMPSHIRE STATE PLANE COORDINATES NAD83 AND SHALL BE EXPRESSED IN FEET.
- SUBJECT PARCEL IS NOT LOCATED WITHIN A FLOOD HAZARD ZONE.
- TOPOGRAPHIC SURVEY PERFORMED BY BY NORTHAM SURVEY, LLC AS REFERENCED IN THE ATTACHED "EXISTING CONDITIONS PLAN", DATED MARCH 25, 2024.
- ELEVATIONS ARE BASED ON U.S.G.S NVD 1988 DATUM.
- WETLANDS WERE FLAGGED BY MARK WEST, CERTIFIED WETLANDS SCIENTIST #10, ON FEBRUARY 12, 2024 IN ACCORDANCE WITH CHAPTER 170-27:1 OF THE ZONING ORDINANCE AND SURVEYED BY NORTHAM SURVEY.
- THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.
- THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
- ALL CONSTRUCTION SHALL CONFORM WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION "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.
- CONTRACTOR SHALL FOLLOW THE CONSTRUCTION SEQUENCING IDENTIFIED IN THE PLANNING BOARD APPROVAL PLAN SET. ANY DEVIATION FROM THAT SEQUENCING SHALL BE APPROVED BY THE CITY ENGINEER.
- EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBANCE AND BE PROVIDED FOR CONSTRUCTION SEQUENCING INCLUDING TEMPORARY MEASURES.

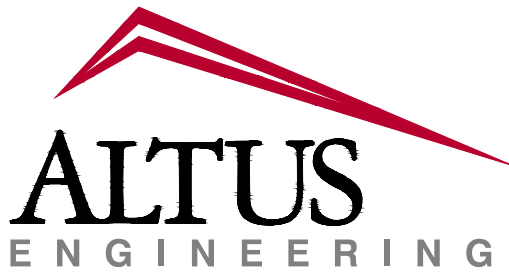
AUTHORIZED SIGNATURE

- CONTRACTOR SHALL FOLLOW PERMANENT STABILIZATION MEASURES SUCH AS LOAM SPREAD RATE FOR DISTURBED AREAS, RATES OF LIME, TYPE AND RATES FOR FERTILIZER, AND SEED AND MULCH MIXTURE WITH RATES OF APPLICATION, AS NOTED WITHIN THE PLANNING BOARD APPROVAL PLANS. ANY DEVIATION FROM THAT SEQUENCING SHALL BE APPROVED BY THE CITY ENGINEER.
- THE LIMITS OF CONSTRUCTION DISTURBANCE THAT ARE LOCATED IN OR WITHIN THE 50 FT. OF CONSERVATION AND WETLAND DISTRICTS SHALL BE STAKED, FLAGGED AND CLEARLY IDENTIFIED PRIOR ANY EARTH DISTURBING ACTIVITY OCCURS.
- ANY PERMANENT TREATMENT SWALES SHALL HAVE SOD BOTTOMS.
- A LETTER OF CREDIT FOR THE COST OF REVEGETATING ALL DISTURBED AREAS ON THE SITE SHALL BE SUBMITTED PRIOR TO ANY EARTH DISTURBING ACTIVITY OCCURS.
- A CITY ENGINEER APPROVED CONSTRUCTION SIGN SHALL BE INSTALLED PRIOR TO COMMENCING EARTH DISTURBANCE. SAID SIGNAGE MUST BE LOCATED AND APPROVED BY THE CITY ENGINEER OR PLANNING DIRECTOR.
- 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.
- 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. SITE CONSTRUCTION HOURS SHALL BE LIMITED TO:

MONDAY-FRIDAY 7 AM-6 PM,
SATURDAY 9 AM-4 PM,
SUNDAY - NO WORK ALLOWED WITHOUT APPROVAL FROM CITY
NO WORK ON FEDERAL HOLIDAYS
- BUILDING ADDRESS FOR THE SITE IS 105 DURHAM ROAD AND WILL REMAIN.
- THE PROPOSED USE FOR THE SITE IS AN ADULT GROUP LIVING FACILITY FOR ADULTS WITH INTELLECTUAL DEVELOPMENTAL DISABILITIES (IDD). THERE WILL BE EIGHT UNITS FOR THE IDD ADULTS AND ONE UNIT FOR ON-SITE STAFF.
- NO STATE OR FEDERAL PERMITS ARE REQUIRED FOR THE SUBJECT PROPERTY.
- COMMERCIAL VEHICLE ROUTE DURING CONSTRUCTION SHALL CONFORM WITH DOVER CITY CODE OR BE COORDINATED WITH THE COMMUNITY SERVICES DIRECTOR OR THEIR DESIGNEE.
- ANY RETAINING WALL TALLER THAN FOUR FEET (4') REQUIRES ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES AND SHALL BE STAMPED BY A STRUCTURAL ENGINEER.
- ANY FENCE TALLER THAN SEVEN FEET (7') REQUIRES THE ISSUANCE OF A BUILDING PERMIT FROM INSPECTION SERVICES.
- APPLICANT SHALL COMPLETE LAND USE DEVELOPMENT TRACKING FORM, MOST RECENTLY REVISED VERSION, UTILIZING THE ONLINE POLLUTION TRACKING AND ACCOUNTING PILOT PROJECT (PTAPP) PORTAL. <https://www.unh.edu/unhsc/ptapp>
- THE OWNER OF RECORD SHALL RECORD AT THE REGISTRY OF DEEDS DOCUMENTATION SUFFICIENT TO PROVIDE NOTICE TO ALL PERSONS THAT MAY ACQUIRE ANY PROPERTY SUBJECT TO THE REQUIREMENTS AND RESPONSIBILITIES DESCRIBED IN THE APPROVED STORMWATER MANAGEMENT PLAN. THE NOTICE SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS FOR RECORDING CONTAINED IN RSA 477 AND 478. THE NOTICE NEED NOT SET FORTH THE REQUIREMENTS AT LENGTH, SO LONG AS IT IS SUFFICIENT TO PROVIDE NOTICE TO PROSPECTIVE PURCHASERS TO THE REQUIREMENTS FOR MAINTENANCE AND REPORTING.
- 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.
- EXTERIOR LIGHTING SHALL BE CUT-OFF TYPE FIXTURES PER CHAPTER 153-14-E AND SHALL PROVIDE LIGHTING DIRECTED ON-SITE ONLY.
- IF A BUSINESS ESTABLISHMENT OR MULTI-FAMILY DWELLING CONTAINED IN A NEW, ALTERED OR REPAIRED STRUCTURE, A SECURITY SYSTEM SHALL BE INSTALLED AS REQUIRED BY CHAPTER 45, ARTICLE I, SECTION 45-2 OF THE CODE OF THE CITY OF DOVER.
- APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
- THE PROPOSED STRUCTURE SHALL BE SERVED BY A SPRINKLER SYSTEM AS REQUIRED BY CHAPTER 81-30 OF THE CODE OF THE CITY OF DOVER AND THE ADOPTED STATE OF NH BUILDING AND FIRE CODES.
- SPRINKLER CONNECTIONS MUST BE FLUSHED IN ACCORDANCE WITH NFPA 24 AND A CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM MUST BE COMPLETED AND APPROVED BY INSPECTION SERVICES PRIOR TO CONNECTION OF THE BACKFLOW DEVICE.
- FIRE DEPARTMENT CONNECTION(S) SHALL BE LOCATED ON THE STREET SIDE OF THE BUILDING PER NFPA 13. ACCESS TO THE FDC SHALL MAINTAIN A CLEAR AND UNOBSTRUCTED PATH AT ALL TIMES.
- THE SITE LAYOUT IS DESIGNED IN COMPLIANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS. THE PROPOSED STRUCTURE WILL ALSO BE DESIGNED IN ACCORDANCE WITH APPLICABLE ACCESSIBILITY REGULATIONS, (IE. IBC, ANSI-117-1) AND NH RSA 155-A:5.
- APPLICANT SHALL SUBMIT A LETTER CERTIFYING THE TIE IN LOCATIONS OR DISCHARGE POINTS FOR ALL SUMP PUMPS AND ROOF LEADERS FOR EXISTING STRUCTURES ON THE PROPERTY PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- DESIGN ENGINEER OF RECORD OR SHALL PROVIDE SIGNED LETTER TO CITY ENGINEER CERTIFYING THAT THE STORMWATER MANAGEMENT SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH APPROVED PLANS.
- THE APPLICANT SHALL PROVIDE THE CITY OF DOVER AN EASEMENT TO ACCESS WATERLINE AND HYDRANTS TO MAINTAIN WATER QUALITY PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

CONDITIONS OF APPROVAL

PENDING CONDITIONAL APPROVAL BY THE CITY OF DOVER PLANNING BOARD, THE CONDITIONS TO BE MET PRIOR TO CONSTRUCTION, ISSUANCE OF A BUILDING PERMIT, AND FOR OCCUPANCY WILL BE LISTED:



133 Court Street
(603) 433-2335
Portsmouth, NH 03801
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR:

PLANNING BOARD

ISSUE DATE:

JULY 3, 2024

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	PB SUBMITTAL	CDB	05/06/24
1	TRC COMMENTS	CDB	07/03/24

DRAWN BY:

CDB

APPROVED BY:

EDW

DRAWING FILE:

5496-SITE.DWG

SCALE:

22"x34" 1" = 40'
11"x17" 1" = 80'

OWNER:

Paul J. Seaver
105 Durham Road
Dover, NH 03820

APPLICANT:

Our Place, Inc.
P.O. Box 65
Dover, NH 03821-0065

PROJECT:

OUR PLACE
SITE DEVELOPMENT

TAX MAP H, LOT 6-4
105 DURHAM ROAD
DOVER, NH 03820

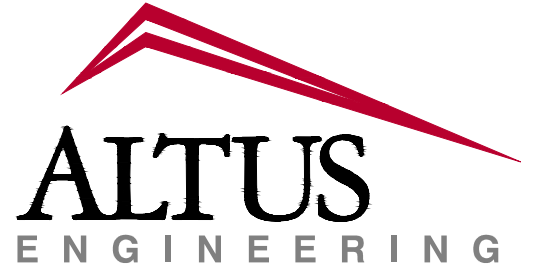
SITE PLAN REVIEW (P24-0004) &
CONDITIONAL USE PERMIT (P24-0007)

TITLE:

GENERAL NOTES

SHEET NUMBER:

3 / GN-1



133 Court Street
(603) 433-2335
Portsmouth, NH 03801
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: JULY 3, 2024

REVISIONS	
NO.	DESCRIPTION
0	PB SUBMITTAL
1	TRC COMMENTS

BY	DATE
CDB	05/06/24
CDB	07/03/24

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5496-SITE.DWG

SCALE:
22"x34" 1" = 40'
11"x17" 1" = 80'

OWNER:
Paul J. Seaver
105 Durham Road
Dover, NH 03820

APPLICANT:
Our Place, Inc.
P.O. Box 65
Dover, NH 03821-0065

PROJECT:
OUR PLACE
SITE DEVELOPMENT
TAX MAP H, LOT 6-4
105 DURHAM ROAD
DOVER, NH 03820

SITE PLAN REVIEW (P24-0004) &
CONDITIONAL USE PERMIT (P24-0007)

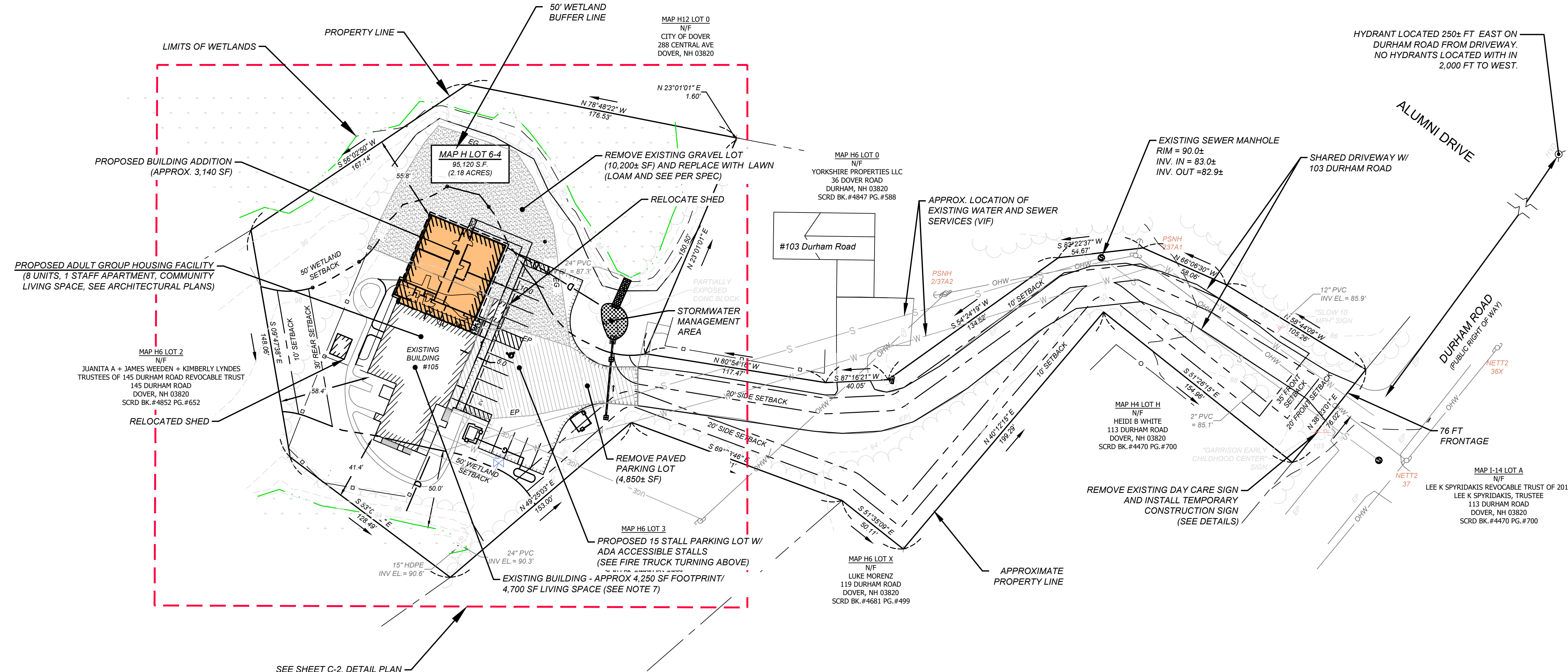
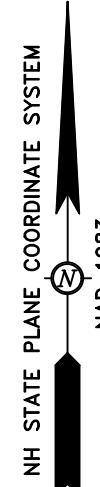
TITLE:

NEIGHBORHOOD
PLAN

SHEET NUMBER:

4 / N-1

PS496



NOTES

1. BASE PLAN IS FROM TOWN GIS AND AERIAL IMAGERY. DIMENSIONS SHOWN ON PLAN MAY VARY BASED ON ACTUAL FIELD SURVEYS.

2. PROJECT PARCEL:
TAX MAP H, LOT 6-4
95,120± S.F. (2.18 AC.)

3. ZONE: R-20 (LOW DENSITY RESIDENTIAL)

4. DIMENSIONAL REQUIREMENTS:

	REQUIREMENT	PROVIDED
MINIMUM LOT SIZE	20,000 SF	95,120 SF
MAXIMUM LOT COVERAGE	30%	25%±
MINIMUM FRONTAGE	125 FT	75 FT*

* EXISTING NON-CONFORMING LOT

5. BUILDING

FRONT BUILD TO LINE	20 FT MIN 35 FT MAX	450± FT
SIDE SETBACK	20 FT	41.4 FT
REAR SETBACK	30 FT	55.8 FT
HEIGHT OF BUILDING	35 FT	< 35 FT

6. WETLANDS:
WETLANDS WERE MAPPED BY MARK WEST, CERTIFIED NH WETLANDS SCIENTIST #010, ON FEBRUARY 12, 2024 AND SURVEYED BY NORTHAM SURVEY.

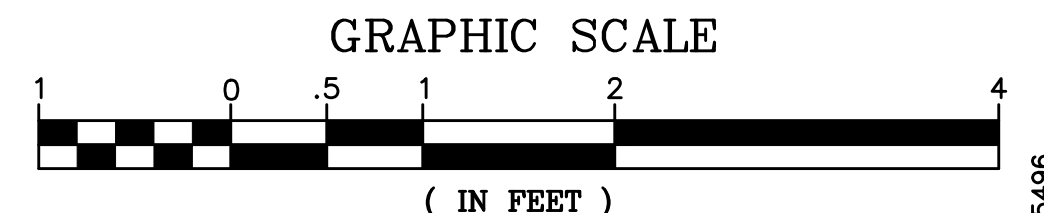
7. USE:
CURRENT: CHILD DAY CARE
PROPOSED: ADULT GROUP HOUSING **

THE PROPOSED PROJECT WILL CONSTRUCT A BUILDING ADDITION AND CONVERT THE EXISTING DAY CARE AND APARTMENT TO PROVIDE EIGHT (8) DWELLING UNITS IN A GROUP HOUSING FACILITY, WITH COMMUNITY SPACES, AND AN APARTMENT FOR A AN ON-SITE CARE STAFF MEMBER.

** VARIANCE APPROVED FOR NINE UNIT ADULT GROUP HOUSING AND TRANSFER OF DEVELOPMENT RIGHTS (TDR) FOR ADDITIONAL UNITS.

8. PARKING
EXISTING = 32 SPACES
PROPOSED = 15 SPACES
ALLOWED = 1.4 SPACES./ UNIT + 0.5 VISITOR SPACES/ UNIT = 17.1 SPACES

* A WAIVER IS REQUESTED FROM THE REQUIREMENT TO PROVIDE BICYCLE PARKING.



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: JULY 3, 2024

REVISIONS	
NO.	DESCRIPTION
0	PB SUBMITTAL
1	TRC COMMENTS

BY	DATE
CDB	05/06/24
CDB	07/03/24

DRAWN BY: CDB

APPROVED BY: EDW

DRAWING FILE: 5496-SITE.DWG

SCALE:

22"x34" 1" = 40'

11"x17" 1" = 80'

OWNER:

Paul J. Seaver
105 Durham Road
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APPLICANT:

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OUR PLACE
SITE DEVELOPMENT

TAX MAP H, LOT 6-4
105 DURHAM ROAD
DOVER, NH 03820

SITE PLAN REVIEW (P24-0004) &
CONDITIONAL USE PERMIT (P24-0007)

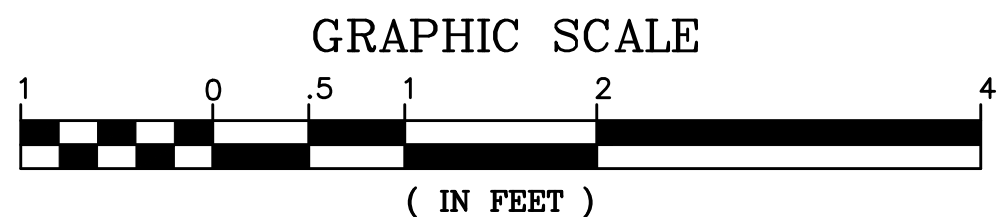
TITLE:

OVERALL
SITE PLAN

SHEET NUMBER:

5 / C-1

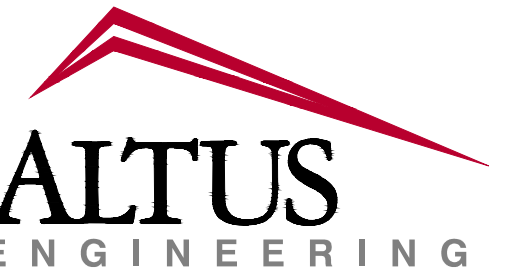
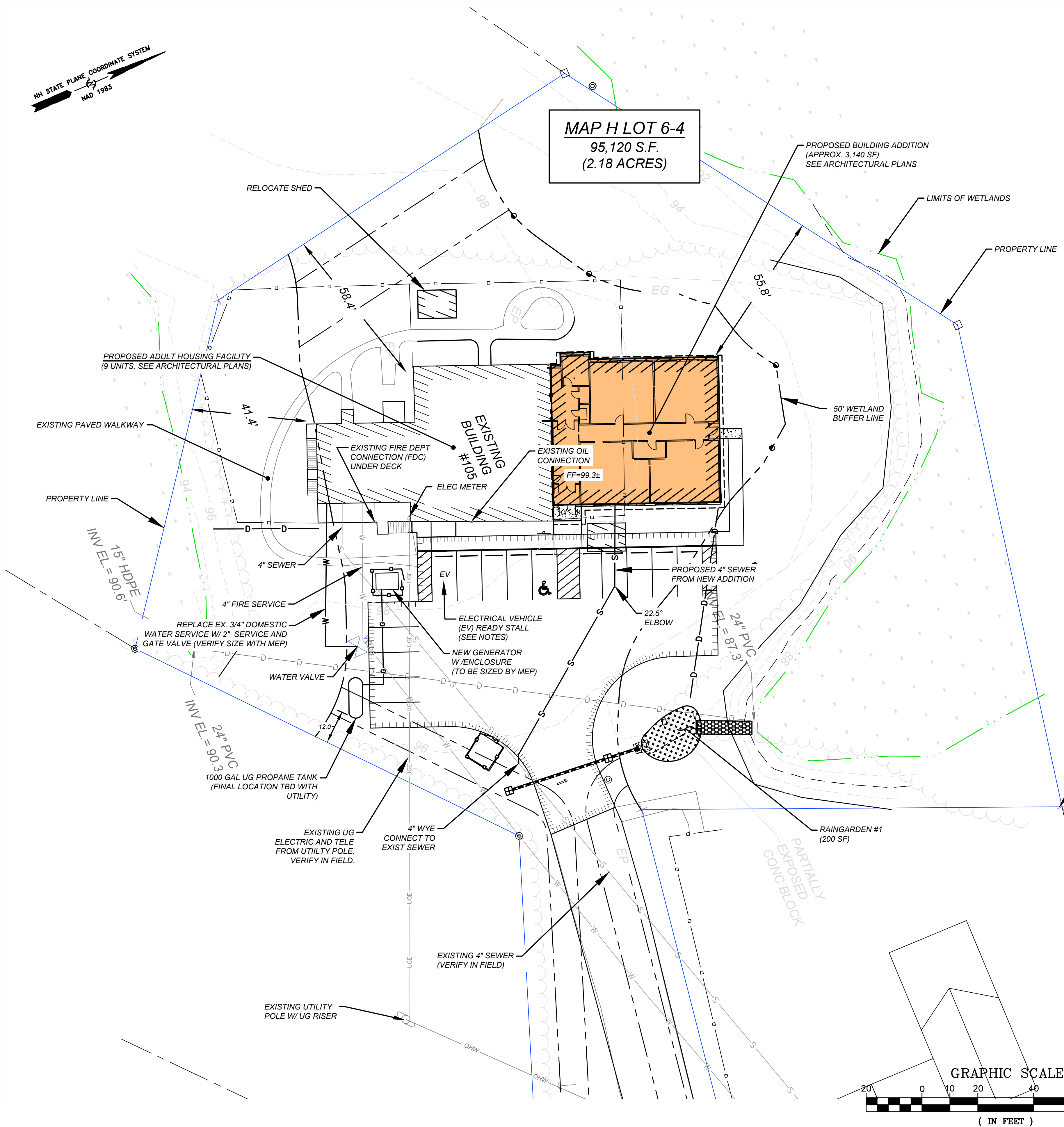
1. THE PROPOSED SITE PLAN REQUIRES APPROVAL FROM THE DOVER PLANNING BOARD.
2. ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
3. ALL CONDITIONS OF THIS APPROVAL SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
4. ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE CITY OF DOVER & NHDOT'S STANDARD SPECIFICATIONS FOR ROAD & BRIDGE, LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
5. THE CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND TOPOGRAPHY IN THE FIELD PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR RESOLUTION.
7. IF THE AREA OF DISTURBANCE IS OVER 43,560 SF, COVERAGE UNDER EPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT IS REQUIRED. CONTRACTOR TO COMPLY WITH LOCAL REQUIREMENTS FOR STORMWATER MANAGEMENT DURING CONSTRUCTION.
8. IF ADEQUATE ON-SITE SNOW STORAGE IS NOT AVAILABLE, THE SNOW SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED.
9. SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES," "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE AMERICANS WITH DISABILITIES ACT (ADA), LATEST EDITIONS.
10. SITEWORK CONTRACTOR SHALL PREPARE A LICENSED LAND SURVEYOR (LLS) STAMPED AS-BUILT SITE PLAN & PROVIDE A DIGITAL (CAD FORMAT) COPY FOR THE CITY G.I.S. DATA BASE.
11. IF PROJECT DISTURBANCE AREA EXCEEDS ONE (1) ACRE, A STORMWATER POLLUTION PROTECTION PLAN (SWPPP) AND NPDES GENERAL CONSTRUCTION PERMIT ARE REQUIRED. CONTRACTOR SHALL FILE A NOTICE OF INTENT (NOI) WITH THE U.S.E.P.A. UNDER THE NPDES CONSTRUCTION GENERAL PERMIT.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND VERIFY ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR ANY DAMAGE DONE TO EXISTING UTILITIES AT NO EXTRA COST TO THE OWNER. UTILITY CONFLICTS SHALL BE RESOLVED WITH THE INVOLVEMENT OF THE ENGINEER, OWNER, AND APPROPRIATE UTILITY COMPANIES.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SAFE WORK SITE AND SAFELY SECURING THE SITE DURING CONSTRUCTION.
14. CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES TO REMAIN.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMELY NOTIFICATION OF ALL PARTIES, CORPORATIONS, COMPANIES, INDIVIDUALS AND STATE AND LOCAL AUTHORITIES OWNING AND/OR HAVING JURISDICTION OVER ANY UTILITIES RUNNING TO, THROUGH OR ACROSS AREAS TO BE DISTURBED BY DEMOLITION AND/OR CONSTRUCTION ACTIVITIES WHETHER OR NOT SAID UTILITIES ARE SUBJECT TO DEMOLITION, RELOCATION, MODIFICATION AND/OR CONSTRUCTION.
16. HAZARDOUS MATERIALS ENCOUNTERED DURING DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL BE ABATED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS.
17. NO ADDITIONAL DWELLING UNITS MAY BE ADDED TO THE PROPERTY WITHOUT PLANNING BOARD APPROVAL. NINE UNITS ARE APPROVED.
18. THE DESIGN ENGINEER SHALL PROVIDE A LETTER TO THE CITY ENGINEER AT THE COMPLETION OF THE PROJECT CERTIFYING THAT THE SITE HAS BEEN CONSTRUCTED IN ACCORDANCE WITH APPROVED PLANS.



SHEET NUMBER:
6 / C-2

UTILITY NOTES

- DO NOT BEGIN CONSTRUCTION UNTIL ALL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL PERMIT CONDITIONS AND REQUIREMENTS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND VERIFY ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR ANY DAMAGE DONE TO EXISTING UTILITIES AT NO EXTRA COST TO THE OWNER. UTILITY CONFLICTS SHALL BE RESOLVED WITH THE INVOLVEMENT OF THE ENGINEER, OWNER, AND APPROPRIATE UTILITY COMPANIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR POSTING OF ALL BONDS AND PAYMENT OF ALL TAP, TIE-IN AND CONNECTION FEES.
- ALL WATER MAIN INSTALLATIONS AND SERVICE CONNECTIONS SHALL CONFORM TO DOVER WATER DEPARTMENT STANDARDS.
- ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL CONFORM TO FEDERAL OSHA AND CITY REGULATIONS.
- SITEWORK CONTRACTOR SHALL COORDINATE ALL WORK WITH MECHANICAL DRAWINGS.
- SEE ARCHITECTURAL/MECHANICAL DRAWINGS FOR EXACT LOCATIONS & ELEVATIONS OF UTILITY CONNECTIONS AT BUILDINGS. COORDINATE ALL WORK WITHIN FIVE (5) FEET OF BUILDINGS WITH BUILDING CONTRACTOR AND ARCHITECTURAL/MECHANICAL DRAWINGS. ALL CONFLICTS AND DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY AND PRIOR TO COMMENCING RELATED WORK.
- FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES AND THE ARCHITECT.
- CONTRACTOR SHALL COORDINATE ALL TELE-COMMUNICATIONS INSTALLATIONS WITH CONSOLIDATED COMMUNICATIONS.
- CONTRACTOR SHALL COORDINATE ALL CABLE INSTALLATIONS WITH COMCAST.
- CONTRACTOR SHALL COORDINATE ALL ELECTRICAL INSTALLATIONS WITH EVERSOURCE. ALL ELECTRIC CONDUIT INSTALLATION SHALL BE INSPECTED BY EVERSOURCE PRIOR TO BACKFILL, 48-HOUR MINIMUM NOTICE REQUIRED.
- DETECTABLE WARNING TAPE SHALL BE PLACED OVER THE ENTIRE LENGTH OF ALL BURIED UTILITIES, COLORS PER THE RESPECTIVE UTILITY PROVIDERS.
- OWNER SHALL PROVIDE ELECTRICAL CONDUIT FOR POTENTIAL FUTURE ELECTRICAL VEHICLE CHARGING STATION.
- EXISTING UTILITIES SHALL BE VERIFIED FOR LOCATION AND CONDITION PRIOR TO CONSTRUCTION.



133 Court Street Portsmouth, NH 03801
(603) 433-2335 www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: JULY 3, 2024

REVISIONS		
NO.	DESCRIPTION	BY DATE
0	TRC COMMENTS	CDB 07/03/24

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5496-SITE.DWG

SCALE:
22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER:
Paul J. Seaver
105 Durham Road
Dover, NH 03820

APPLICANT:
Our Place, Inc.
P.O. Box 65
Dover, NH 03821-0065

PROJECT:
OUR PLACE
SITE DEVELOPMENT
TAX MAP H, LOT 6-4
105 DURHAM ROAD
DOVER, NH 03820

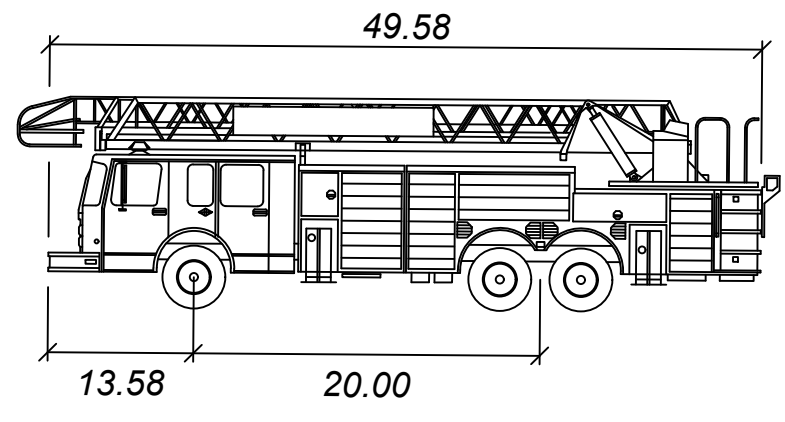
SITE PLAN REVIEW (P24-0004) &
CONDITIONAL USE PERMIT (P24-0007)

TITLE:

UTILITY PLAN

SHEET NUMBER:

8 / C-4



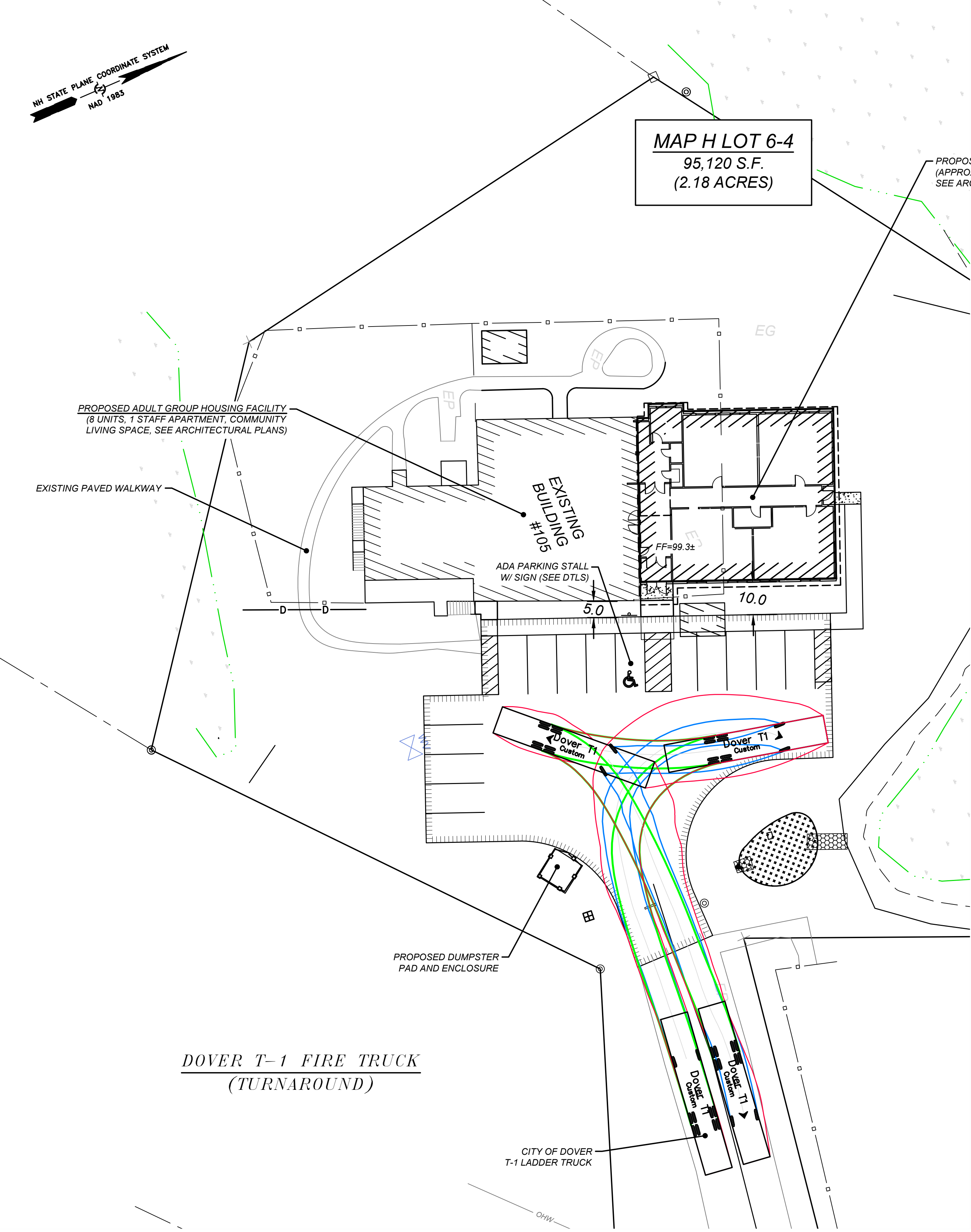
Dover T-1 FIRE

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

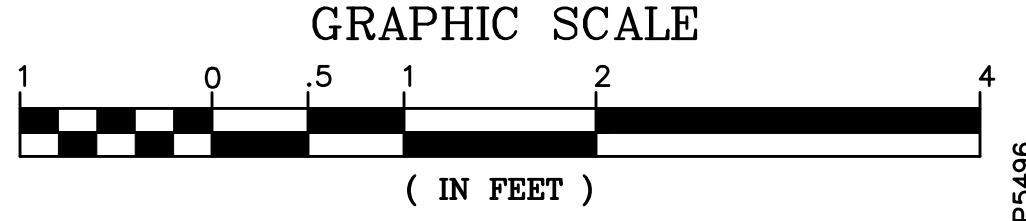
VEHICLE MODELED – DOVER T-1 FIRE TRUCK

LEGEND

- FRONT WHEEL PATH
- REAR WHEEL PATH
- VEHICLE BODY

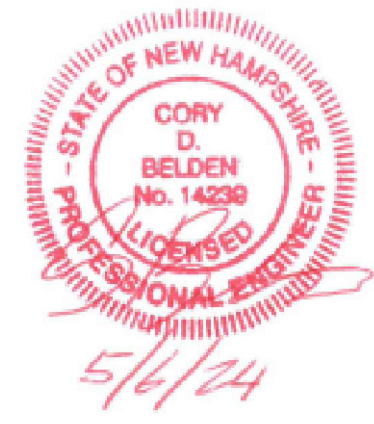


DOVER T-1 FIRE TRUCK
(TURNAROUND)



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: MAY 6, 2024

REVISIONS	
NO.	DESCRIPTION
0	PB SUBMITTAL

DRAWN BY: CDB

APPROVED BY: EDW

DRAWING FILE: 5496-SITE.DWG

SCALE:

22"x34" 1" = 40'

11"x17" 1" = 80'

OWNER:

Paul J. Seaver
105 Durham Road
Dover, NH 03820

APPLICANT:

Our Place, Inc.
P.O. Box 65
Dover, NH 03821-0065

PROJECT:

OUR PLACE
SITE DEVELOPMENT

TAX MAP H, LOT 6-4
105 DURHAM ROAD
DOVER, NH 03820

TITLE:

TRUCK TURNING
LAYOUT (DOVER T-1)

SHEET NUMBER:

9 / T-1

SEDIMENT AND EROSION CONTROL NOTES

PROJECT NAME AND LOCATION

OUR PLACE – ADULT GROUP HOUSING DEVELOPMENT
105 DURHAM ROAD
DOVER, NEW HAMPSHIRE

LONGITUDE: 70.8797 W
LATITUDE: 43.1790 N
TAX MAP H LOT 11

OWNER:
Paul Seaver
105 Durham Road
Dover, NH 03820

APPLICANT:
OUR PLACE, INC.
P.O. BOX 65
DOVER, NH 03821-0065

DESCRIPTION

The project consists of constructing a 3,140 square foot addition for the proposed adult group living facility. The existing day care center building will be renovated and the new building will have nine (9) residential units, eight will be for adults with Intellectual Developmental Disabilities (IDD) and one unit will be for support staff. The site will provide associated site improvements including parking, walkways, utilities, stormwater management and landscaping improvements. The project is located on a 2.18 acre lot identified as Assessor's parcel Tax Map H6, Lot 04 in the City of Dover, NH.

DISTURBED AREA

The total area to be disturbed for the site development improvements is approximately ±26,000 SF (±0.6 acres).

NAME OF RECEIVING WATER

The site drains to the Bellamy River.

NPDES CONSTRUCTION GENERAL PERMIT

The project site disturbance is less than 1 acre (43,560 square feet) so the project is not regulated under the EPA Construction General Permit. The Contractor is responsible for complying with all local requirements for stormwater management and reporting during construction. A Stormwater Maintenance manual has been prepared for this project.

SEQUENCE OF MAJOR ACTIVITIES

- Hold a pre-construction meeting with City & stake holders, as required.
- Install temporary erosion control measures including organic filter berms, stabilized construction exits, inlet sediment filters, and temporary sediment traps as noted on the plan. All temporary erosion control measures shall be maintained in good working condition for the duration of the project.
- DO NOT construct or direct construction flows to proposed raingardens or other stormwater management practices until site is stabilized.
- Rough grade site including ledge removal. Blasting permit to be obtained by Contractor if required.
- Prepare building area per geotechnical engineering recommendations.
- Construct utility services.
- Construct drainage structures, culverts, and swales.
- Construct building foundations, driveways and parking area base course paving & curbing.
- Construct final grading, loam (6" min) and seed all disturbed areas not paved or otherwise stabilized.
- Complete building construction.
- When site is fully stabilized, complete construction of raingardens.
- Install top course paving, pavement markings and signs.
- When all construction activity is complete and as each phase is stabilized, remove all temporary erosion control measures and any sediment that has been trapped by these devices.

CONSTRUCTION SEQUENCE / EROSION CONTROL

- 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.
- PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
- TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC) MUST BE USED AS NECESSARY UNTIL AREAS ARE STABILIZED.
- PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE (BEFORE ROUGH GRADING THE SITE).
- ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
- THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 55,000 SQUARE FEET AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
- AN 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 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED.
 - A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED.
- OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

TEMPORARY EROSION & SEDIMENT CONTROL AND STABILIZATION PRACTICES

All work shall be in accordance with state and local permits. Work shall conform to the practices described in the "New Hampshire Stormwater Manual, Volumes 1 – 3", issued December 2008, as amended. As indicated in the sequence of Major Activities, the silt fences shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Once construction activity ceases permanently in an area, silt fences and any earth/dikes will be removed once permanent measures are established.

During construction, runoff will be diverted around the site with stabilized channels where possible. Sheet runoff from the site shall be filtered through hay bale barriers, stone check dams, and silt fences. All storm drain inlets shall be provided with hay bale filters or stone check dams. Stone rip rap shall be provided at the outlets of drain pipes and culverts where shown on the drawings.

Stabilize all ditches, swales, & level spreaders prior to directing flow to them.

Temporary and permanent vegetation and mulching is an integral component of the erosion and sedimentation control plan. All areas shall be inspected and maintained until vegetative cover is established. These control measures are essential to erosion prevention and also reduce costly rework of graded and shaped areas.

Temporary vegetation shall be maintained in these areas until permanent seeding is applied. Additionally, erosion and sediment control measures shall be maintained until permanent vegetation is established.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

A. GENERAL

These are general inspection and maintenance practices that shall be used to implement the plan:

- The smallest practical portion of the site shall be denuded at one time.
- All control measures shall be inspected at least once each week and following any storm event of 0.5 inches or greater.
- All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours.
- Built-up sediment shall be removed from silt fence or other barriers when it has reached one-third the height of the fence or bale, or when "bulges" occur.
- All diversion dikes shall be inspected and any breaches promptly repaired.
- Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth.
- The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the Plans.
- An area shall be considered stable if one of the following has occurred:
 - Base coarse gravels have been installed in areas to be paved;
 - A minimum of 85% vegetated growth as been established;
 - A minimum of 3 inches of non-erosive material such as stone of riprap has been installed; – or –
 - Erosion control blankets have been properly installed.
- The length of time of exposure of area disturbed during construction shall not exceed 45 days.

B. MULCHING

Mulch shall be used on highly erodible soils, on critically eroding areas, on areas where conservation of moisture will facilitate plant establishment, and where shown on the plans.

- Timing – In order for mulch to be effective, it must be in place prior to major storm events. There are two (2) types of standards which shall be used to assure this:
 - Apply mulch prior to any storm event. This is applicable when working within 100 feet of wetlands. It will be necessary to closely monitor weather predictions, usually by contacting the National Weather Service in Concord, to have adequate warning of significant storms.
 - Required Mulching within a specified time period. The time period can range from 21 to 28 days of inactivity on a area, the length of time varying with site conditions. Professional judgment shall be used to evaluate the interaction of site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources, etc.) and the potential impact of erosion on adjacent areas to choose an appropriate time restriction.

2. Guidelines for Winter Mulch Application –

Type	Rate per 1,000 s.f.	Use and Comments
Hay or 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 (Erosion Blanket)	As per manufacturer Specifications	Used in slope areas, water courses and other Control areas.
Crushed Stone 1/4" to 1-1/2" dia.	Spread more than 1/2" thick	Effective in controlling wind and water erosion.
Erosion Control Mix	2" thick (min)	* The organic matter content is between 80 and 100%, dry weight basis. * Particle size by weight is 100% passing a 6" screen and a minimum of 70 %, maximum of 85% passing a 0.75" screen. * The organic portion needs to be fibrous and elongated. * Large portions of silts, clays or fine sands are not acceptable in the mix. * Soluble salts content is less than 4.0 mmhos/cm. * The pH should fall between 5.0 and 8.0.

- Maintenance – All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied.

C. TEMPORARY GRASS COVER

- Seeded 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 seedings 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.).

D. FILTERS

- Silt Fence
 - Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property	Test	Requirements
Filtering Efficiency	VIM-51	75% minimum
Tensile Strength at 20% Maximum Elongation*	VIM-52	Extra Strength 50 lb/lin in (min) Standard Strength 30 lb/lin in (min)
Flow Rate	VIM-51	0.3 gal/sf/min (min)

* Requirements reduced by 50 percent after six (6) months of installation.

Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizer to provide a minimum of six (6) months of expected usable construction life at a temperature range of 0 degrees F to 120° F.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (CONT)

- Posts shall be spaced a maximum of ten (10) feet apart at the barrier location or as recommended by the manufacturer and driven securely into the ground (minimum of 16 inches).
 - A trench shall be excavated approximately six (6) inches wide and eight (8) inches deep along the line of posts and upslope from the barrier.
 - When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire shall extend no more than 36 inches above the original ground surfaces.
 - The "standard strength" filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
 - When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of item (g) applying.
 - The trench shall be backfilled and the soil compacted over the filter fabric.
 - Silt fences shall be removed when they have served their useful purpose but not before the upslope areas has been permanently stabilized.
- Sequence of Installation – Sediment barriers shall be installed prior to any soil disturbance of the contributing upslope drainage area.
 - Maintenance –
 - Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. They shall be repaired if there are any signs of erosion or sedimentation below them. Any required repairs shall be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water, the sediment barriers shall be replaced with a temporary stone check dam.
 - Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric shall be replaced promptly.
 - Sediment deposits must be removed when deposits reach approximately one-third (1/3) the height of the barrier.
 - Any sediment deposits remaining in place after the silt fence or other barrier is no longer required shall be removed. The area shall be prepared and seeded.
 - Additional stone may have to be added to the construction entrance, rock barrier and riprap lined swales, etc., periodically to maintain proper function of the erosion control structure.

E. PERMANENT SEEDING –

- Bedding – stones larger than 1", 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 5" 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.

3. Seed Mixture (recommended):

Type	Lbs. / Acre	Lbs. / 1,000 sf
Tall Fescue	24	0.55
Creeping Red Fescue	24	0.55
Total	48	1.10

Seed Mixture (For slope embankments):
Grass Seed: Provide fresh, clean, new-crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, as specified:

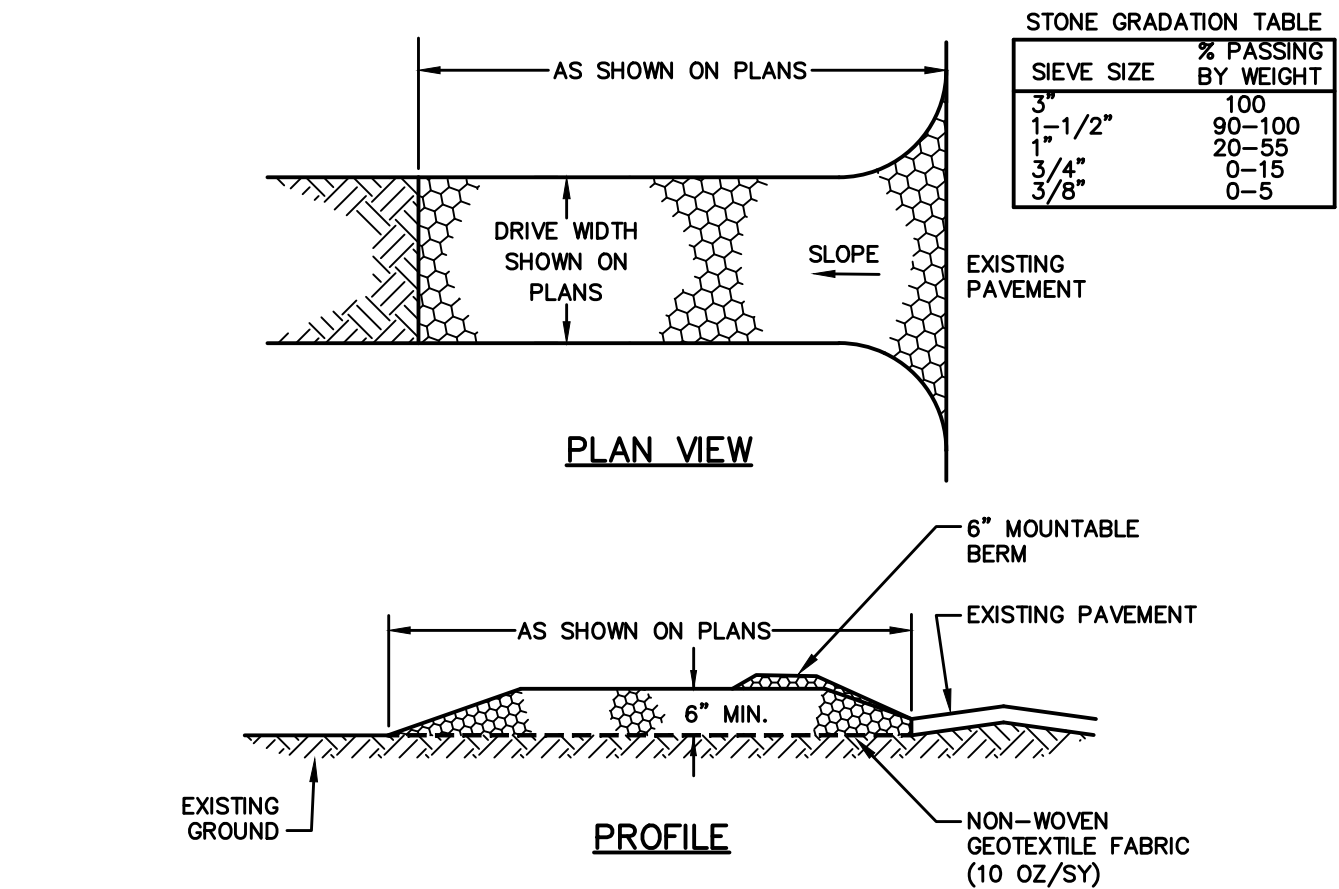
Type	Min. Purity (%)	Min. Germination (%)	Kg./Hectare (Lbs./Acre)
Creeping Red Fescue (b)	96	85	45 (40)
Perennial Rye Grass (a)	98	90	35 (30)
Redtop	95	80	5 (5)
Alsike Clover	97	90	5 (5)
Total			90 (80)

- Ryegrass shall be a certified fine-textured variety such as Pennfine, Fiesta, Yorktown, Diplomat, or equal.
- Fescue varieties shall include – Creeping Red and/or Hard Reliant, Scaldis, Koket, or Jamestown.

- 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. Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water courses, easily erodible soils (fine sand/silt), etc.

WINTER CONSTRUCTION NOTES

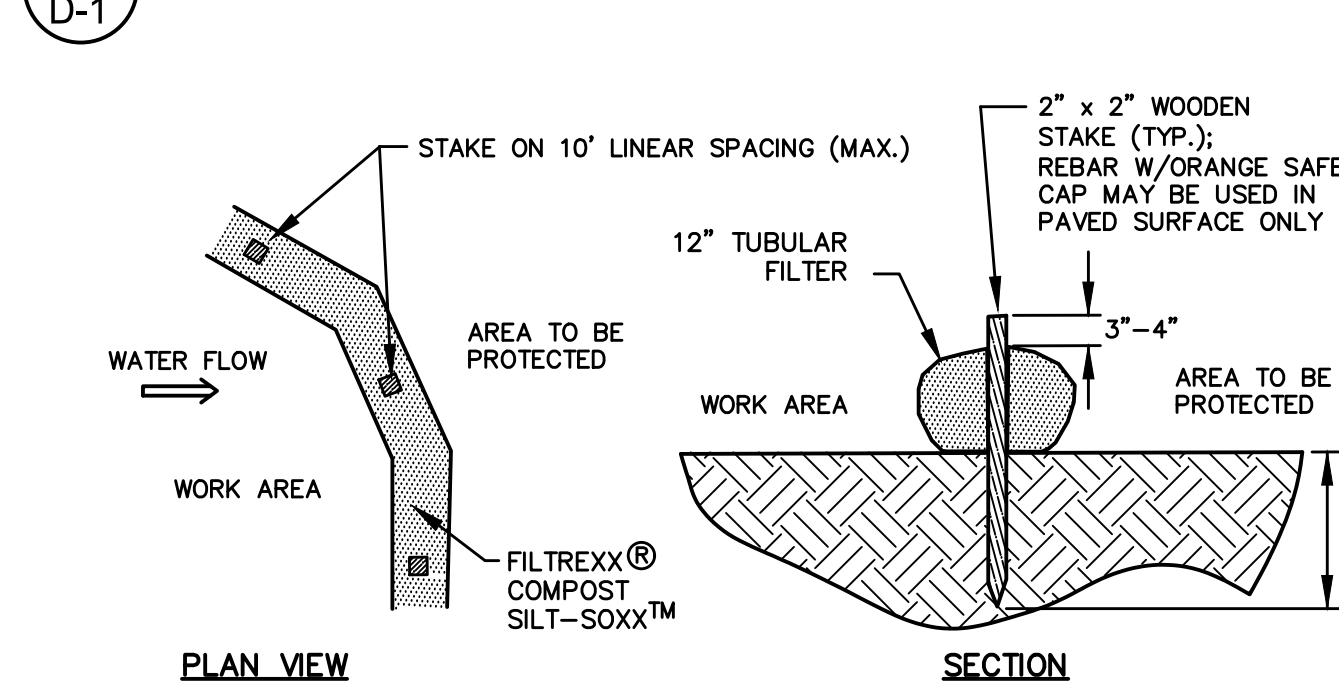
- All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and elsewhere seeding and placing 3 to 4 tons of mulch 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; and
- 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.



CONSTRUCTION SPECIFICATIONS

- STONE SIZE – NHDOT STANDARD STONE SIZE #4 – SECTION 703 OF NHDOT STANDARD.
- LENGTH – DETAILED ON PLANS (50 FOOT MINIMUM).
- THICKNESS – SIX (6) INCHES (MINIMUM).
- WIDTH – FULL DRIVE WIDTH UNLESS OTHERWISE SPECIFIED.
- FILTER FABRIC – MIRAFI 600X OR EQUAL APPROVED BY ENGINEER.
- SURFACE WATER CONTROL – ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE OR THE END OF THE ENTRANCE, IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
- MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AT ALL ENTRANCES TO PUBLIC RIGHTS-OF-WAY, AT LOCATIONS SHOWN ON THE PLANS, AND/OR WHERE AS DIRECTED BY THE ENGINEER.

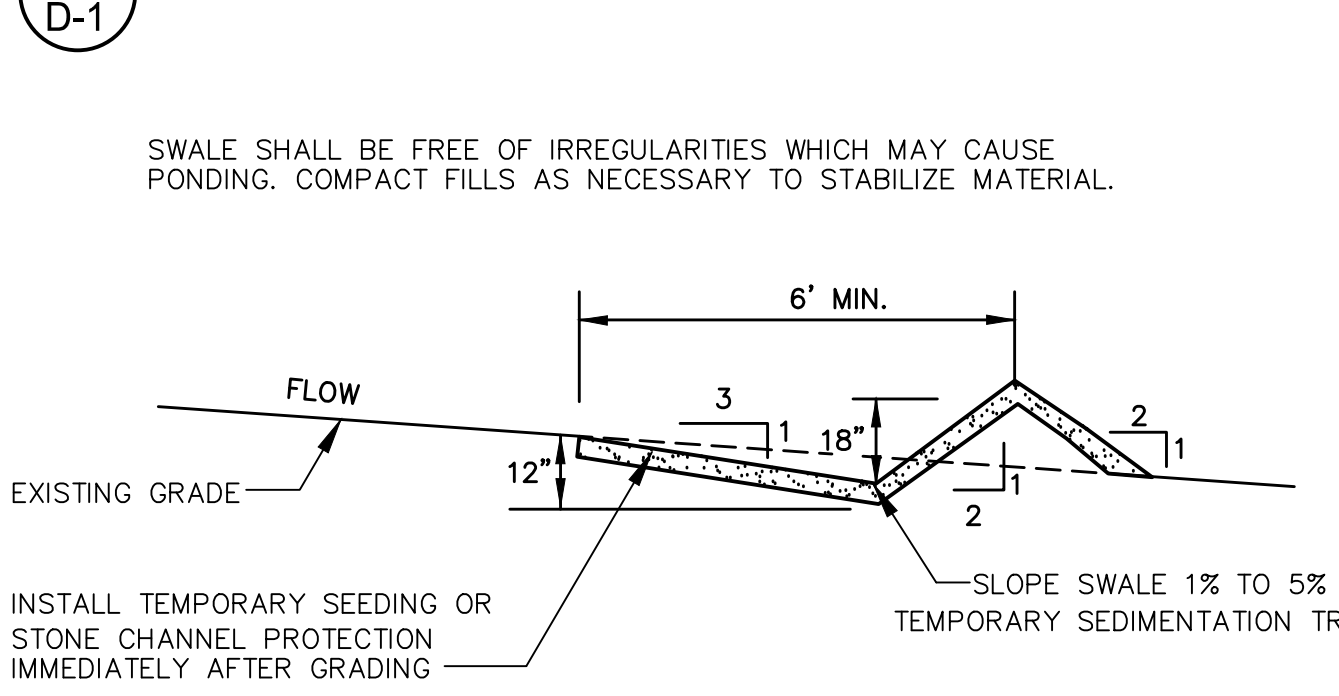
1 STABILIZED CONSTRUCTION EXIT NOT TO SCALE



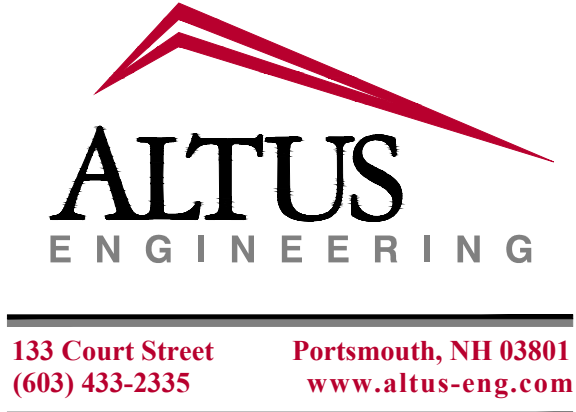
NOTES:

- SILT-SOXX OR APPROVED EQUAL SHALL BE USED FOR TUBULAR SEDIMENT BARRIERS.
- ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
- COMPOST/SOL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
- ALL SEDIMENT TRAPPED BY BARRIER SHALL BE DISPOSED OF PROPERLY.

2 TUBULAR SEDIMENT BARRIER NOT TO SCALE



3 TEMPORARY DIVERSION SWALE NOT TO SCALE



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: JULY 3, 2024

REVISIONS	NO.	DESCRIPTION	BY	DATE
0	PB SUBMITTAL		CDB	05/06/24
1	TRC COMMENTS		CDB	07/03/24

DRAWN BY: CDB

APPROVED BY: EDW

DRAWING FILE: 5496-SITE.DWG

SCALE: 22"x34" 1" = 40'
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TAX MAP H, LOT 6-4
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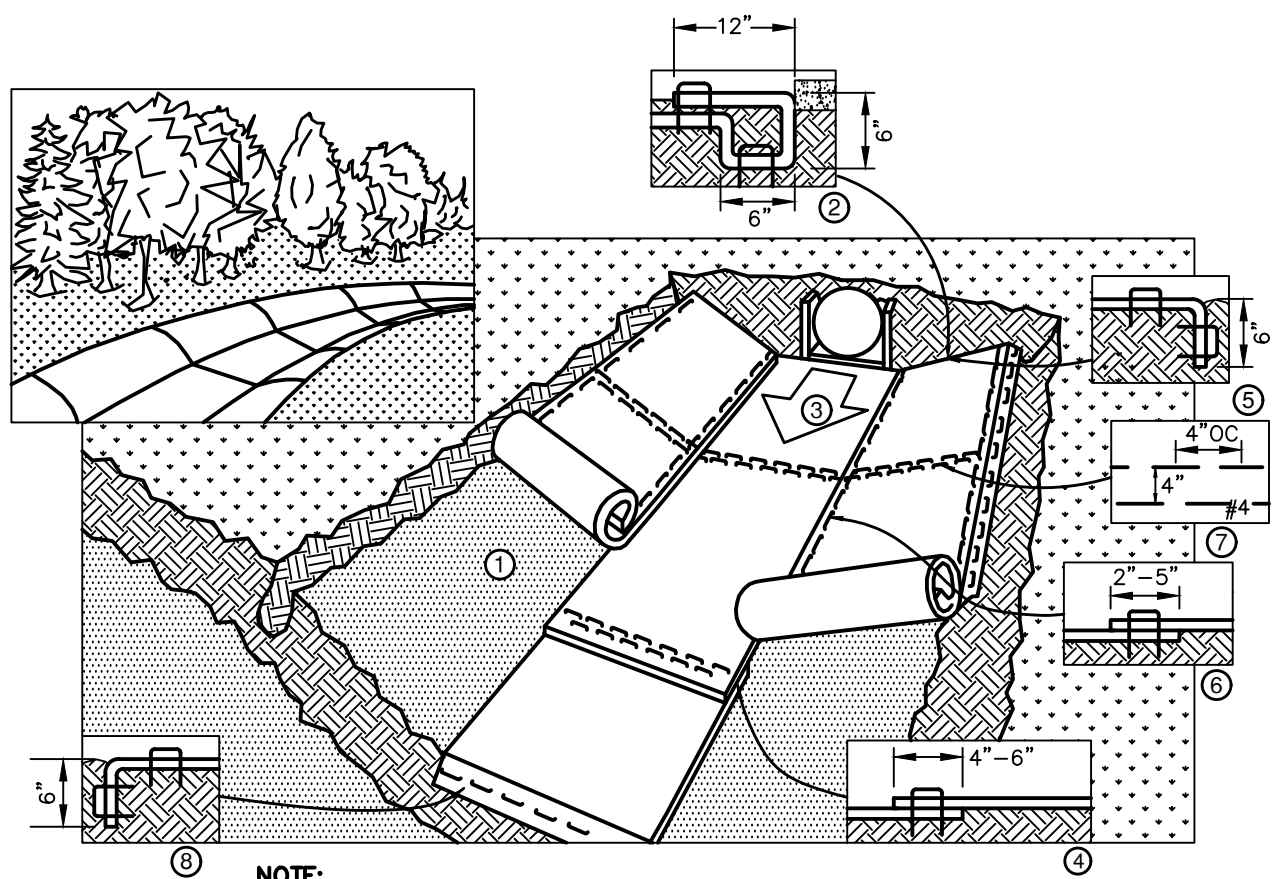
SITE PLAN REVIEW (P24-0004) &
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TITLE:

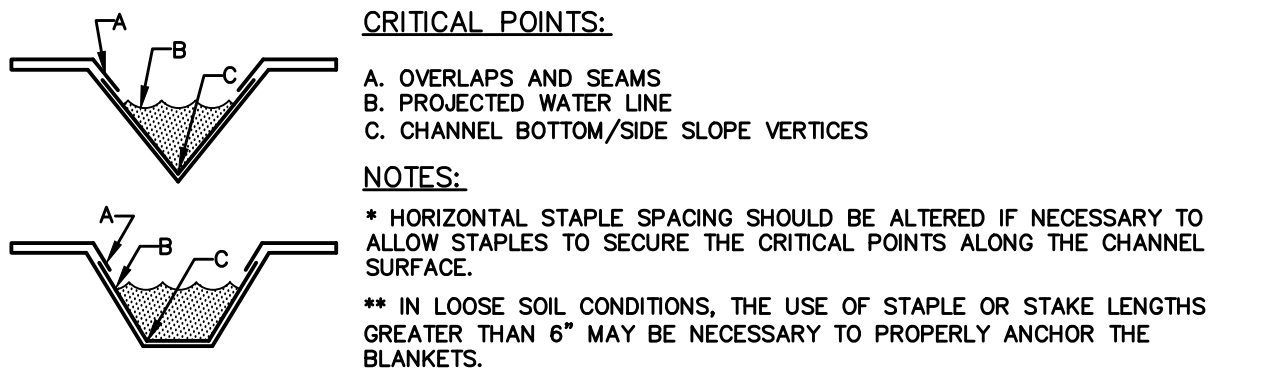
CONSTRUCTION DETAILS

SHEET NUMBER:

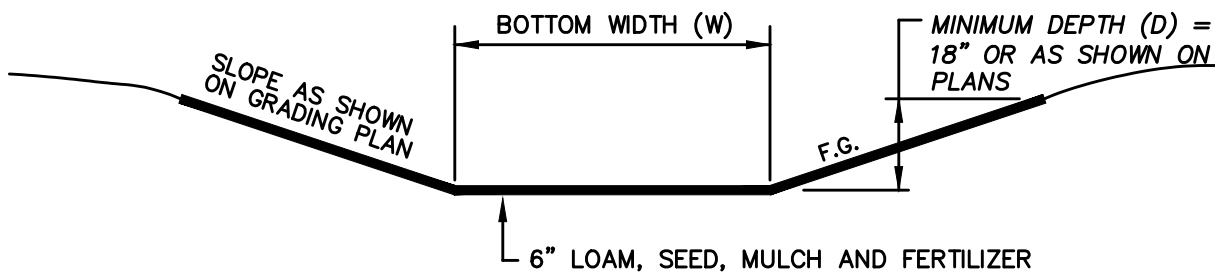
10 / D-1



- NOTE:**
There shall be no plastic, or multi-filament or monofilament polypropylene netting or mesh with an opening size of greater than 1/8 inches material utilized.
- NOTES**
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
 3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
 4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
 5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"-5" (DEPENDING ON BLANKET TYPE) AND STAPLED. TO INSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE BLANKET BEING OVERLAPPED.
 7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
 8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

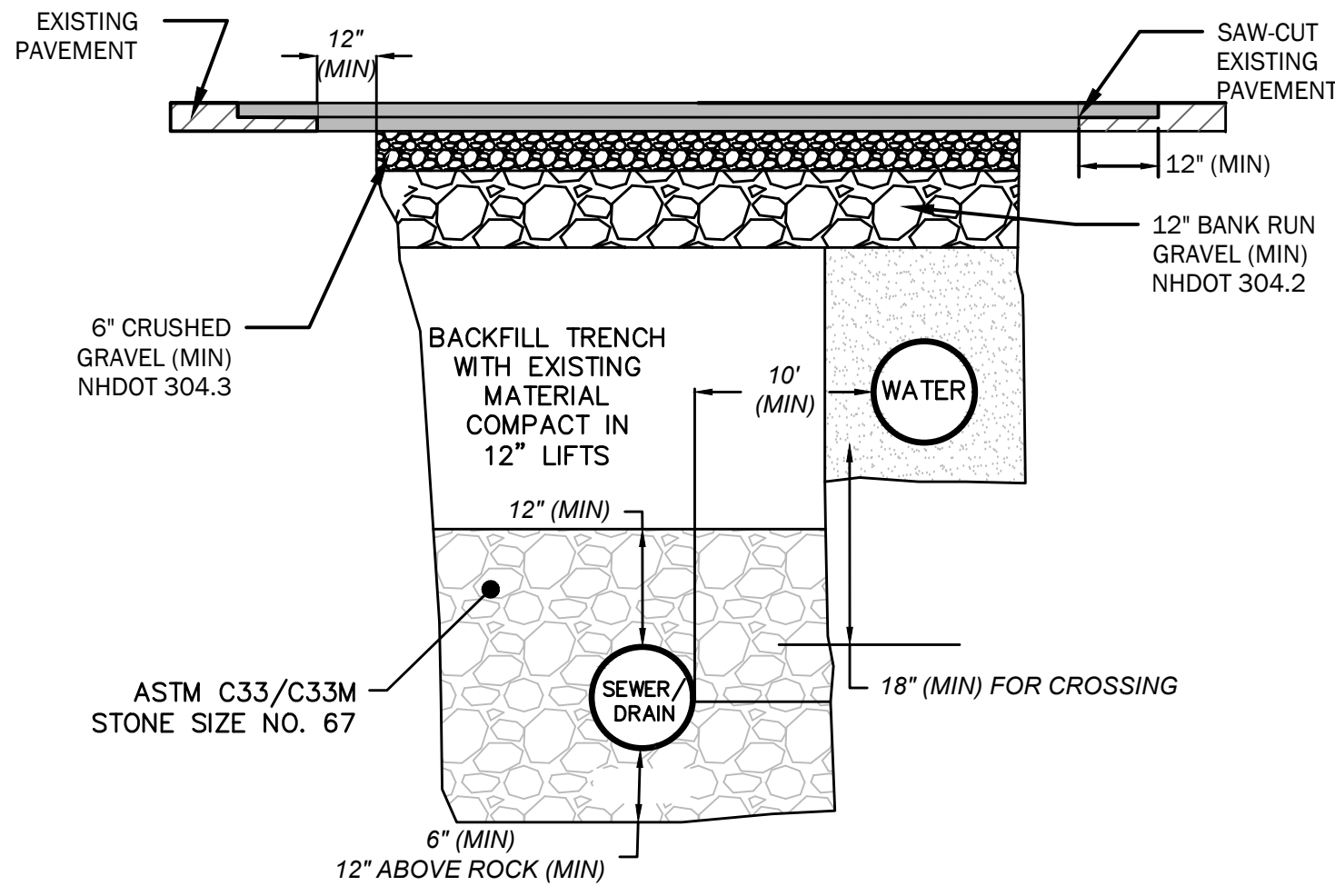


1 EROSION CONTROL BLANKET - SWALE NOT TO SCALE
D-2



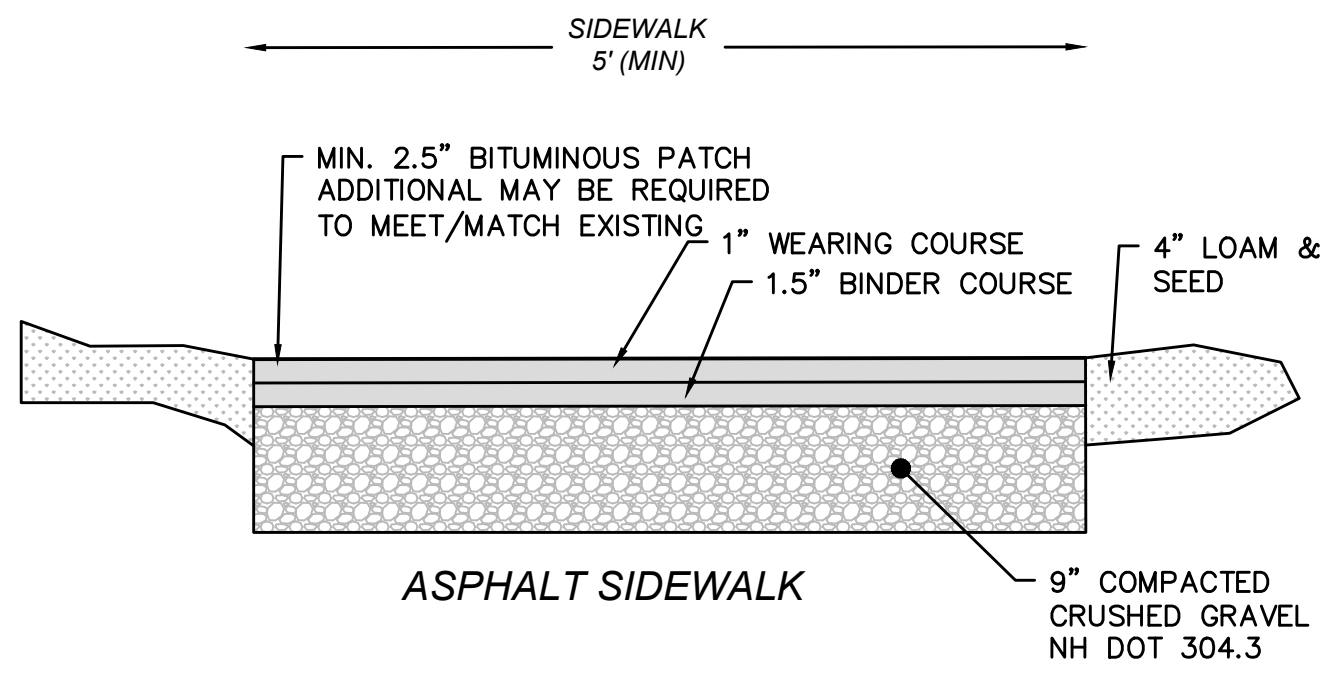
- NOTES**
1. THE FOUNDATION AREA OF THE SWALE SHALL BE CLEARED AND GRUBBED OF ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL.
 2. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE DESIGN CRITERIA AND BE FREE OF IRREGULARITIES.
 3. EARTH FILLS REQUIRED TO MEET SUBGRADE REQUIREMENTS BECAUSE OF OVER EXCAVATION OR TOPOGRAPHY SHALL BE COMPACTED TO THE SAME DENSITY AS THE SURROUNDING SOIL TO PREVENT UNEQUAL SETTLEMENT THAT COULD CAUSE DAMAGE TO THE COMPLETED SWALE.
 4. VEGETATION SHALL BE ESTABLISHED IN THE SWALE OR AN EROSION CONTROL MATTING INSTALLED PRIOR TO DIRECTING STORMWATER TO IT.
 5. MAINTENANCE OF THE VEGETATION IS EXTREMELY IMPORTANT IN ORDER TO PREVENT RILLING, EROSION, AND FAILURE OF THE SWALE. MOWING SHALL BE DONE FREQUENTLY ENOUGH TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION AND TO KEEP GRASSES IN A VIGOROUS CONDITION. THE VEGETATION SHALL NOT BE MOWED TOO CLOSELY SO AS TO REDUCE THE EROSION RESISTANCE IN THE SWALE.
 6. THE SWALE SHOULD BE INSPECTED PERIODICALLY AND AFTER ANY STORM GREATER THAN 0.5" OF RAINFALL IN 24 HOURS TO DETERMINE ITS CONDITION. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND REVEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

2 VEGETATED SWALE NOT TO SCALE
D-2



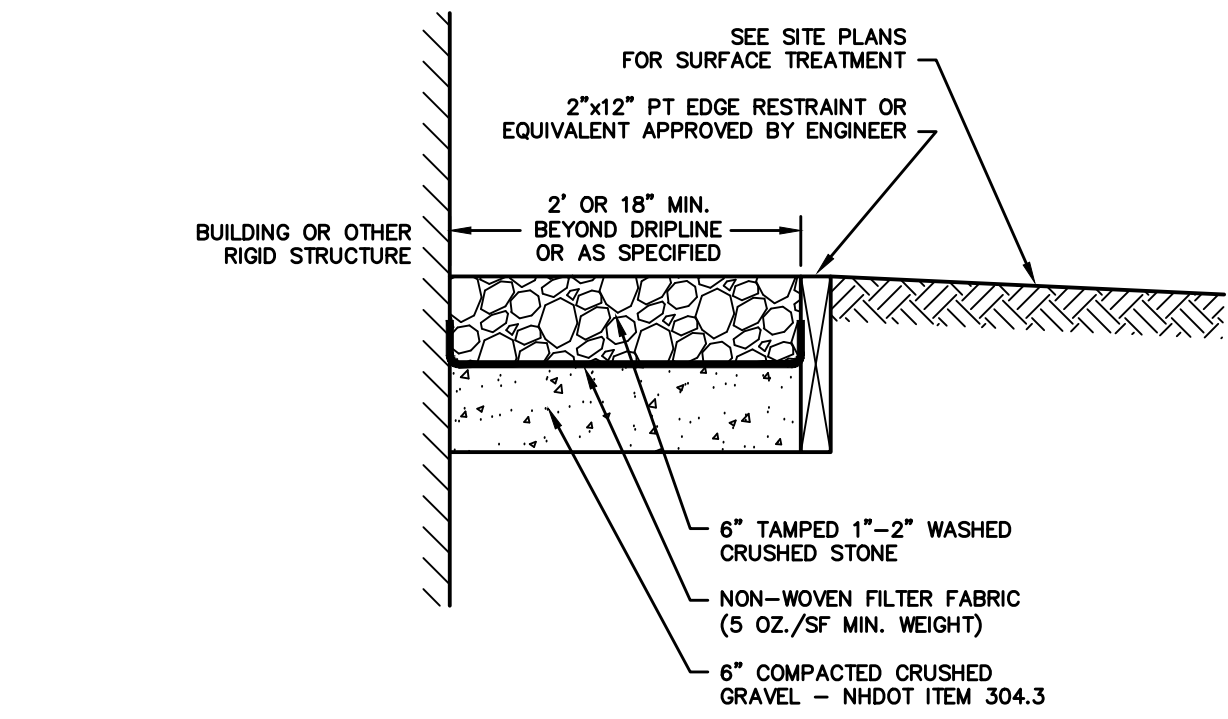
- NOTES:**
1. TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY.
 2. ALL WORK SHALL COMPLY WITH THE CITY OF DOVER CONSTRUCTION GUIDELINES AND PROCEDURES
 3. MAINTAIN 10" (MIN.) HORIZONTAL AND 18" (MIN) VERTICAL SEPARATION BETWEEN WATER & SEWER MAINS (WATER ABOVE SEWER). HORIZONTAL DISTANCE MAY BE REDUCED TO 5" (MIN.) FOR SERVICES PROVIDED THE WATER SERVICE IS A CONTINUOUS PIPE WITHOUT JOINTS OR FITTINGS.

3 STANDARD TRENCH NOT TO SCALE
D-2

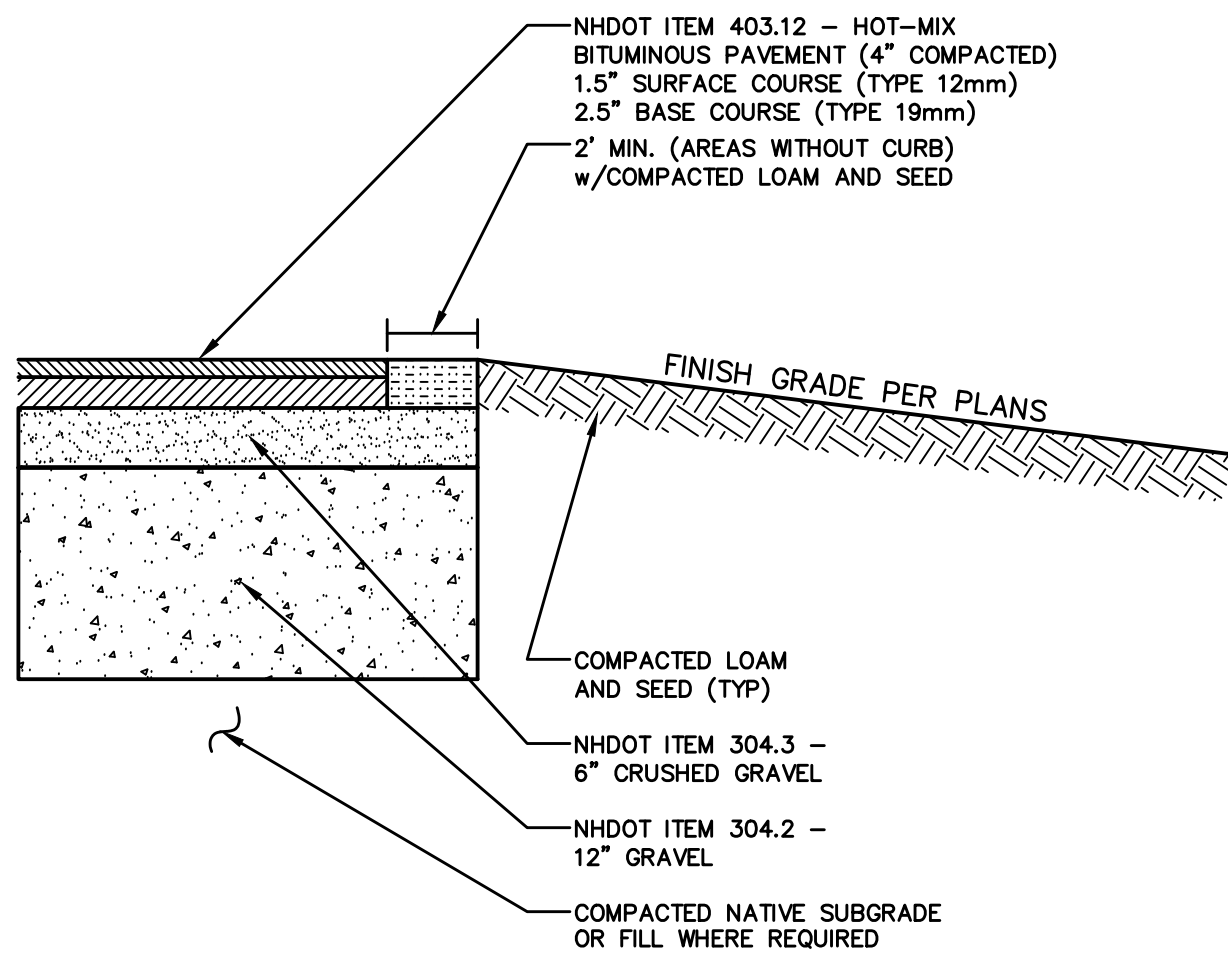


- NOTES:**
1. MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF DOVER STANDARDS SPECIFICATIONS.
 2. SIDEWALK AND DRIVEWAY WIDTHS SHALL BE EQUAL TO EXISTING WIDTHS OR AS APPROVED AND SHALL SLOPE TO MATCH EXISTING ELEVATIONS.
 3. BASE FOR THE SIDEWALKS AND DRIVEWAYS SHALL BE 9-INCHES OF CRUSHED GRAVEL.

4 BITUMINOUS SIDEWALK NOT TO SCALE
D-2



5 STONE DRIP EDGE NOT TO SCALE
D-2



- NOTES**
1. PROJECT GEOTECHNICAL REPORT MAY REQUIRE A DIFFERENT PAVEMENT CROSS SECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND FOLLOWING ALL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT. IN THE EVENT THAT THE REPORT AND CIVIL PLANS DIFFER, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
 2. ALL EXISTING FILL, BURIED ORGANIC MATTER, CLAY, LOAM, MUCK, AND/OR OTHER QUESTIONABLE MATERIAL SHALL BE REMOVED FROM BELOW ALL PAVEMENT, SHOULDERS AND UNDERGROUND PIPING/UTILITIES TO DEPTHS RECOMMENDED IN GEOTECHNICAL REPORT.
 3. SUBGRADE SHALL BE PROOFROLLED A MINIMUM OF 6 PASSES WITH A 10-TON VIBRATORY COMPACTOR OPERATING AT PEAK RATED FREQUENCY OR BY MEANS APPROVED BY THE ENGINEER.
 4. FILL BELOW PAVEMENT GRADES SHALL BE GRANULAR BORROW COMPACTED PER DOT REQUIREMENTS.
 5. SITEWORK CONTRACTOR SHALL COORDINATE GEOTECHNICAL ENGINEERING INSPECTIONS WITH THE CONSTRUCTION MANAGER PRIOR TO PLACING GRAVELS.
 6. TACK COAT SHALL BE APPLIED BETWEEN SUCCESSIVE LIFTS OF ASPHALT.
 7. THE BITUMINOUS PAVEMENT SHALL BE COMPACTED TO 95 PERCENT OF ITS THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D-2041. THE BASE AND SUBBASE MATERIALS SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THEIR MAXIMUM DRY DENSITIES AS DETERMINED BY ASTM D-1557.

6 SITE PAVEMENT CROSS SECTION NOT TO SCALE
D-2



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: JULY 3, 2024

REVISIONS	
NO.	DESCRIPTION
0	PB SUBMITTAL
1	TRC COMMENTS

BY	DATE
CDB	05/06/24
CDB	07/03/24

DRAWN BY: CDB

APPROVED BY: EDW

DRAWING FILE: 5496-SITE.DWG

SCALE:

22"x34" 1" = 40'

11"x17" 1" = 80'

OWNER:

Paul J. Seaver
105 Durham Road
Dover, NH 03820

APPLICANT:

Our Place, Inc.
P.O. Box 65
Dover, NH 03821-0065

PROJECT:

OUR PLACE
SITE DEVELOPMENT

TAX MAP H, LOT 6-4
105 DURHAM ROAD
DOVER, NH 03820

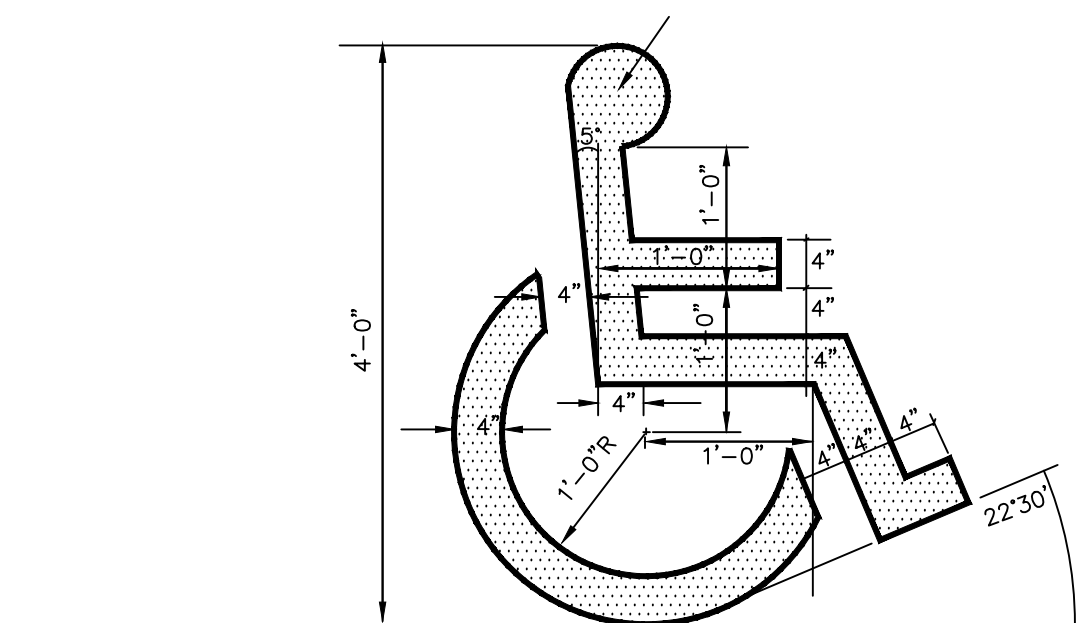
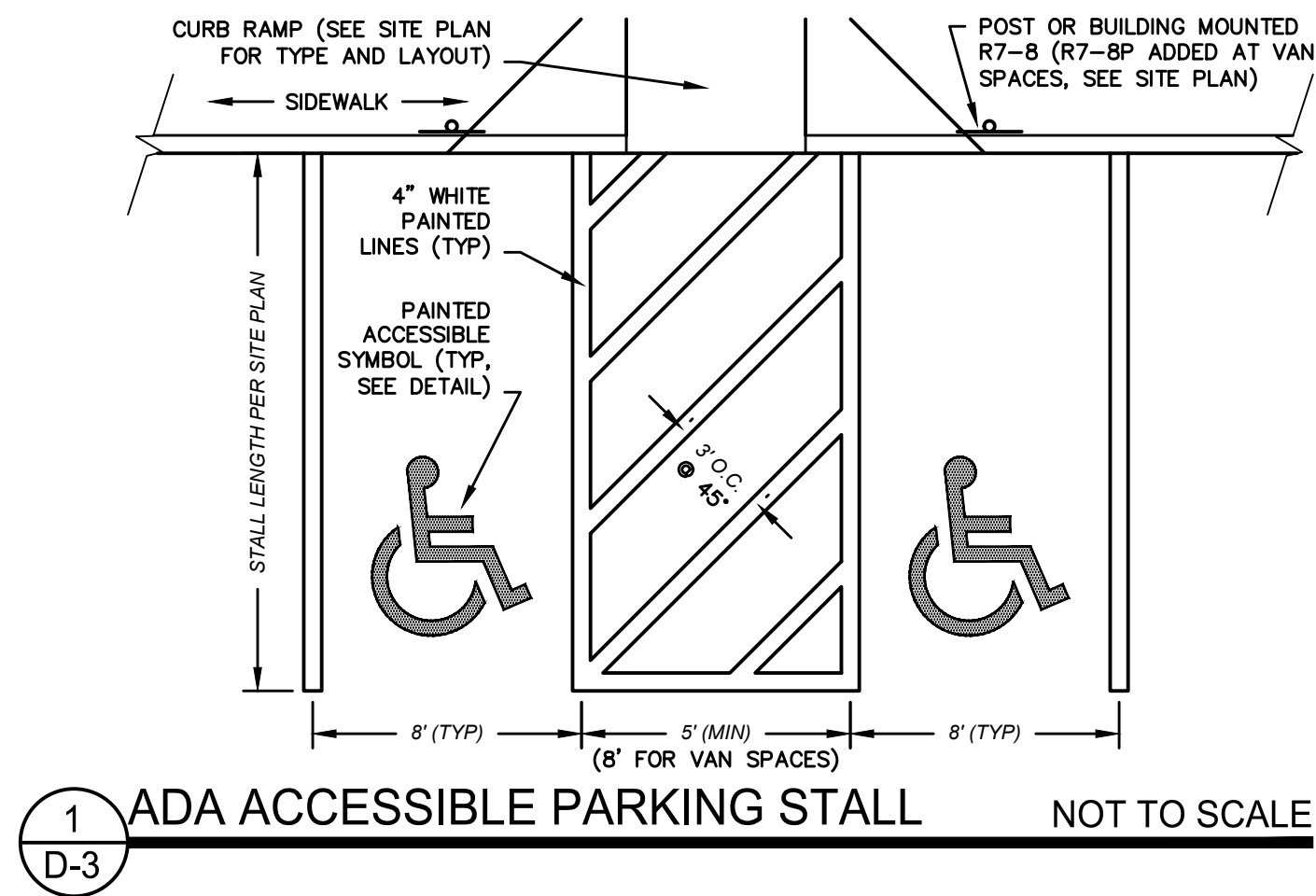
SITE PLAN REVIEW (P24-0004) &
CONDITIONAL USE PERMIT (P24-0007)

TITLE:

CONSTRUCTION
DETAILS

SHEET NUMBER:

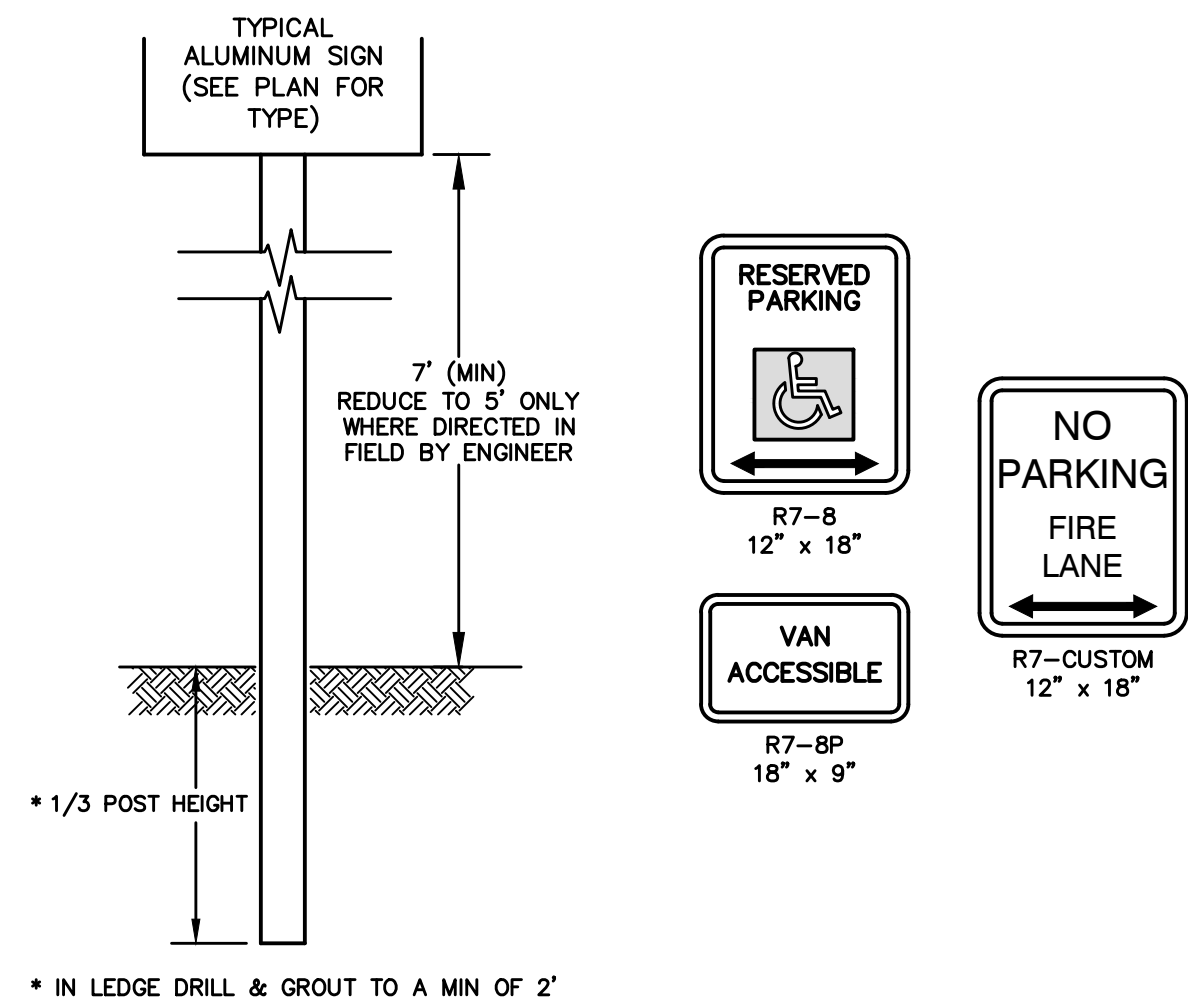
11 / D-2



NOTES

1. SYMBOL TO BE PAINTED IN ALL ADA ACCESSIBLE SPACES IN WHITE PAINT (BLUE-PAINTED SQUARE BACKGROUND AND WHITE BORDER OPTIONAL).

2 PAINTED ACCESSIBLE SYMBOL NOT TO SCALE

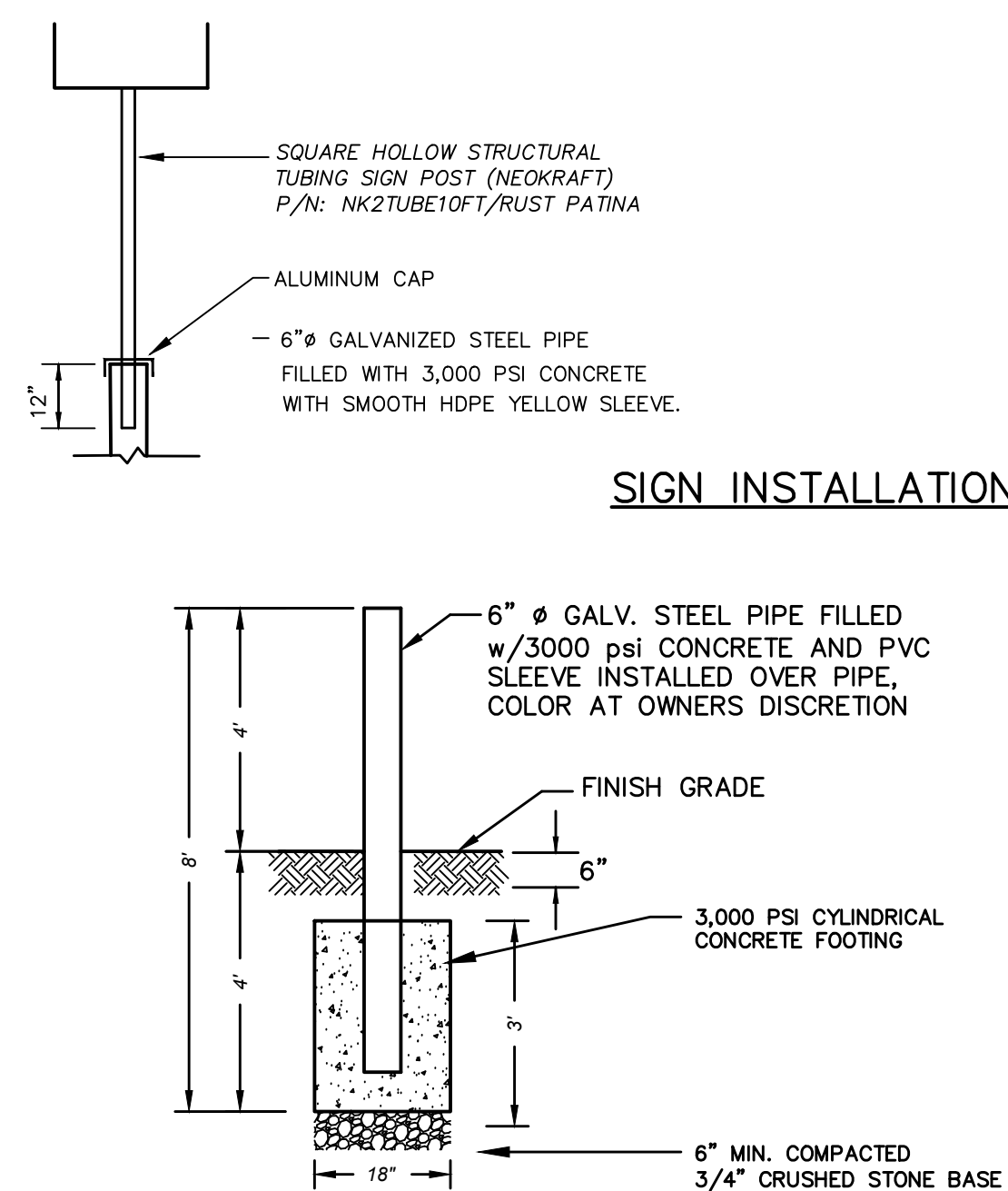


LENGTH: AS REQUIRED

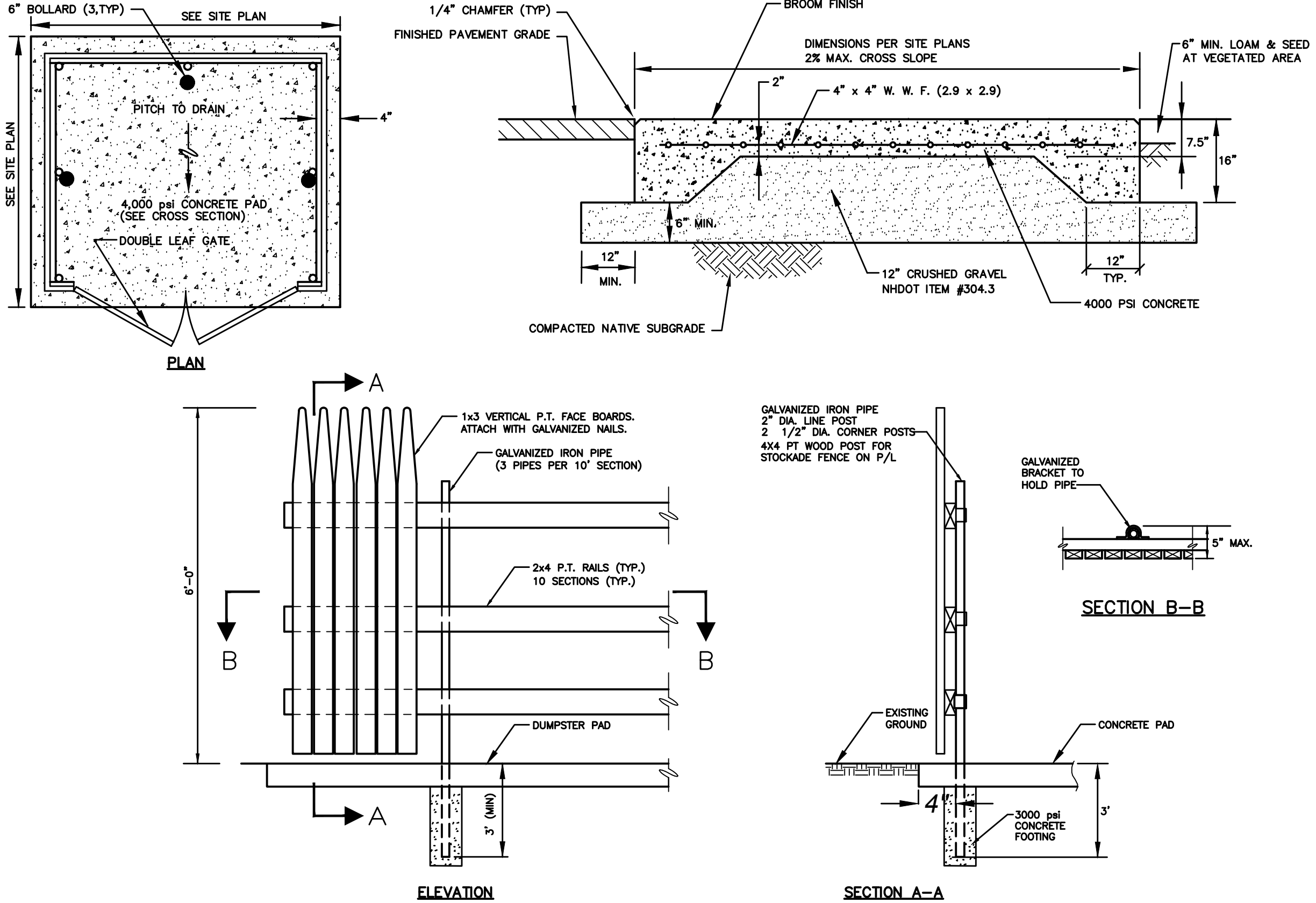
WEIGHT PER LINEAR FOOT: 1.50 LBS (MIN.)

STEEL: 2-3/8\"/>

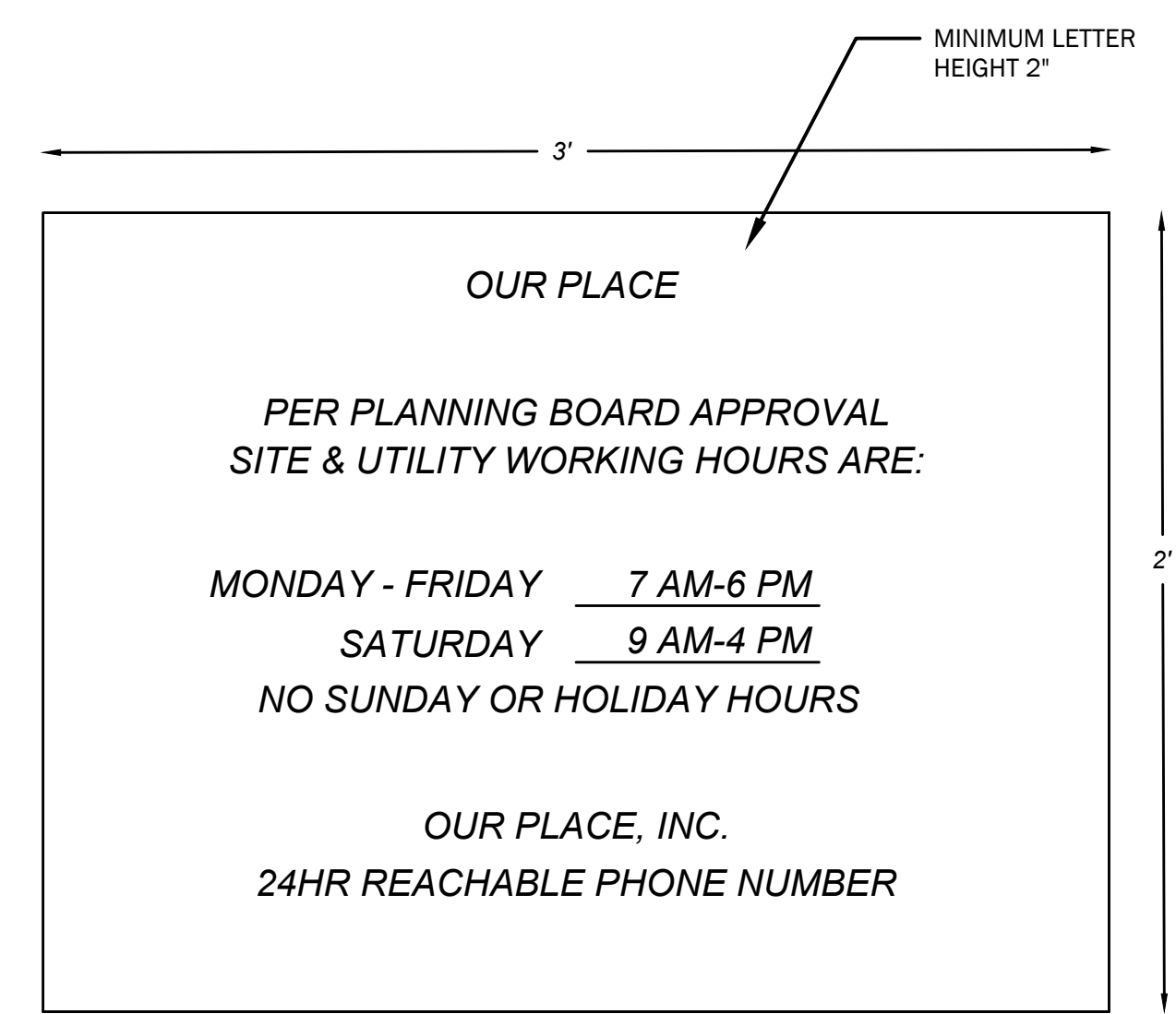
4 SIGN DETAILS NOT TO SCALE



5 BOLLARD NOT TO SCALE



3 DUMPSTER PAD AND ENCLOSURE DETAIL NOT TO SCALE



NOTES:

1. SIGN SHALL HAVE BLACK LETTERS ON A WHITE BACKGROUND

2. SIGN SHALL BE WEATHER RESISTANT AND SECURED TO THE GROUND

6 CONSTRUCTION SIGN NOT TO SCALE



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: JULY 3, 2024

REVISIONS		
NO.	DESCRIPTION	BY DATE
0	PB SUBMITTAL	CDB 05/06/24
1	TRC COMMENTS	CDB 07/03/24

DRAWN BY: CDB

APPROVED BY: EDW

DRAWING FILE: 5496-SITE.DWG

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22"x34" 1" = 40'

11"x17" 1" = 80'

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APPLICANT:

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P.O. Box 65
Dover, NH 03821-0065

PROJECT:

OUR PLACE
SITE DEVELOPMENT

TAX MAP H, LOT 6-4
105 DURHAM ROAD
DOVER, NH 03820

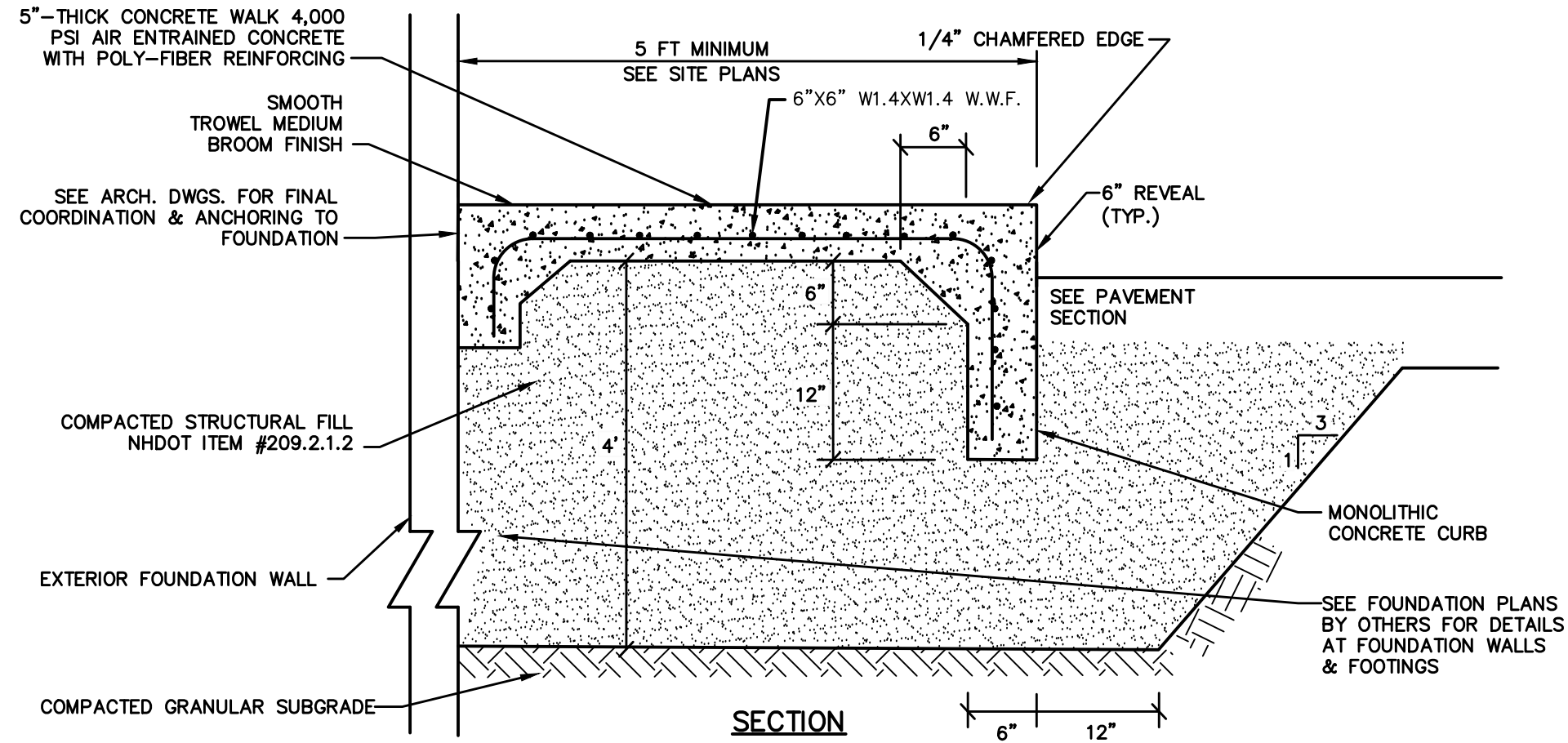
SITE PLAN REVIEW (P24-0004) &
CONDITIONAL USE PERMIT (P24-0007)

TITLE:

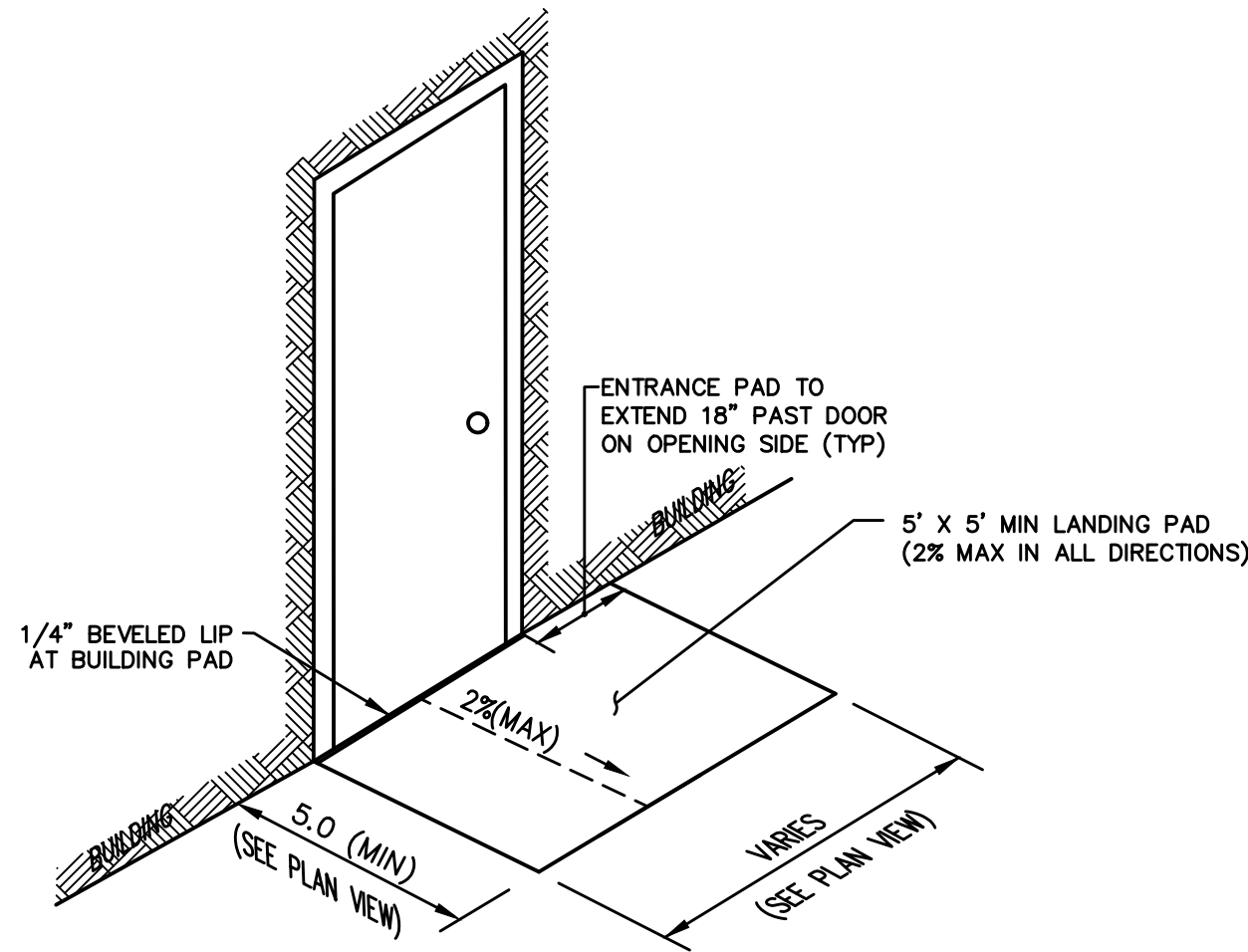
CONSTRUCTION
DETAILS

SHEET NUMBER:

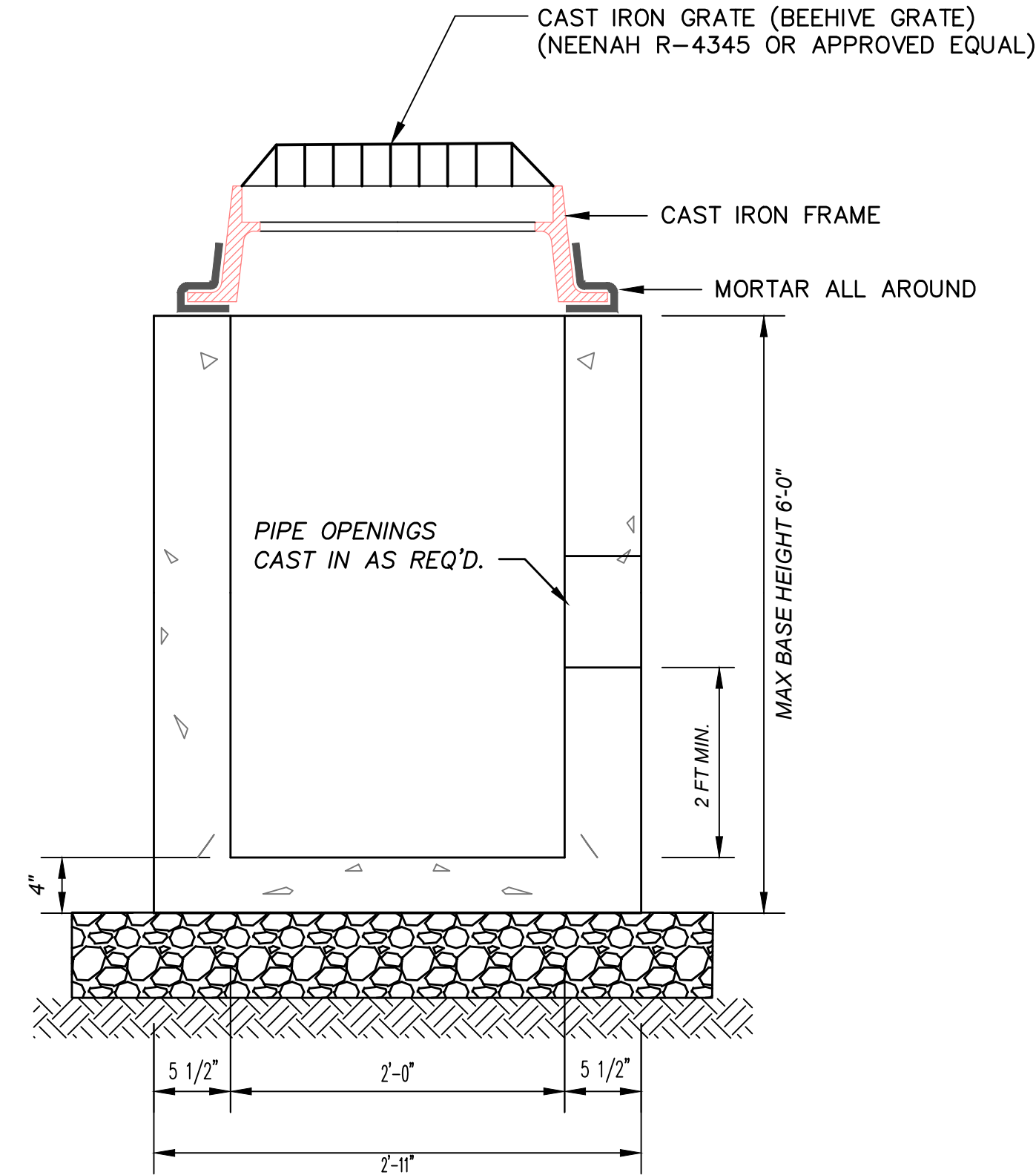
12 / D-3



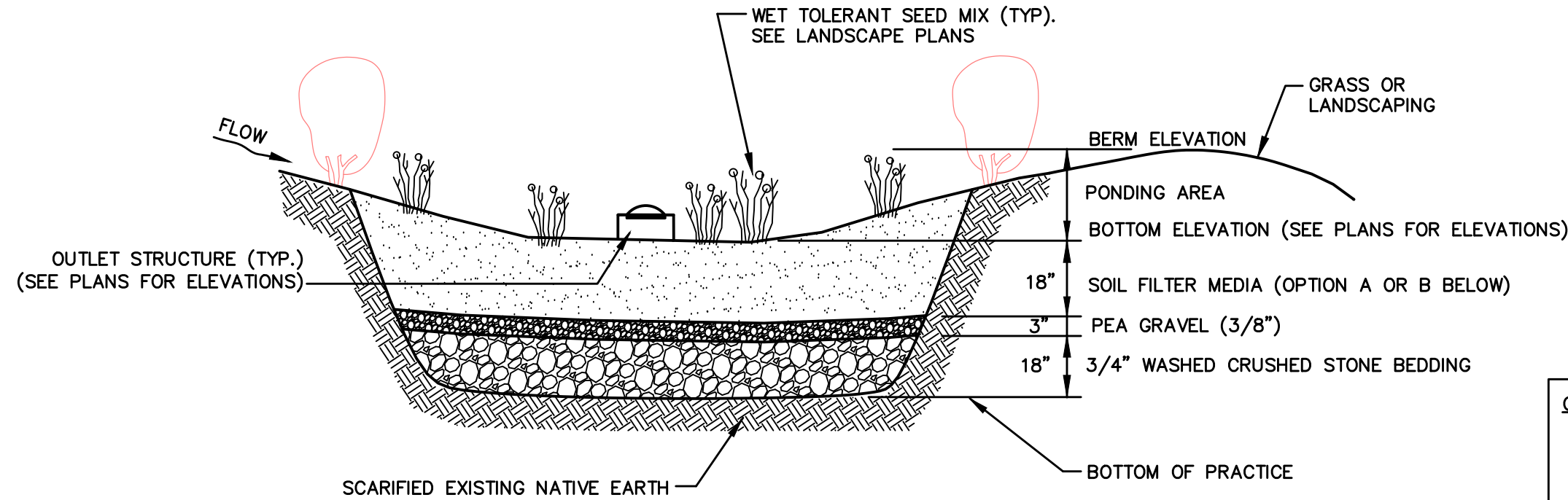
1 CONCRETE SLAB (SIDEWALKS) DETAILS @ BLDG. ENTRANCE NOT TO SCALE
D-4



2 ADA ACCESSIBLE ENTRANCE PAD NOT TO SCALE
D-4



4 CATCH BASIN NOT TO SCALE
D-4



NOTES

- WHEN CONTRACTOR EXCAVATES RAIN GARDEN AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
- SOIL FILTER MEDIA SHALL BE EITHER OPTION A OR OPTION B AT CONTRACTOR'S DISCRETION.
- DO NOT PLACE THE RAIN GARDEN INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
- DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE RAIN GARDEN AREA DURING ANY STAGE OF CONSTRUCTION.
- DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

MAINTENANCE REQUIREMENTS

- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS A WARRANTED BY SUCH INSPECTION.
- PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
- AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
- VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING, PRUNING, REMOVAL, AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.

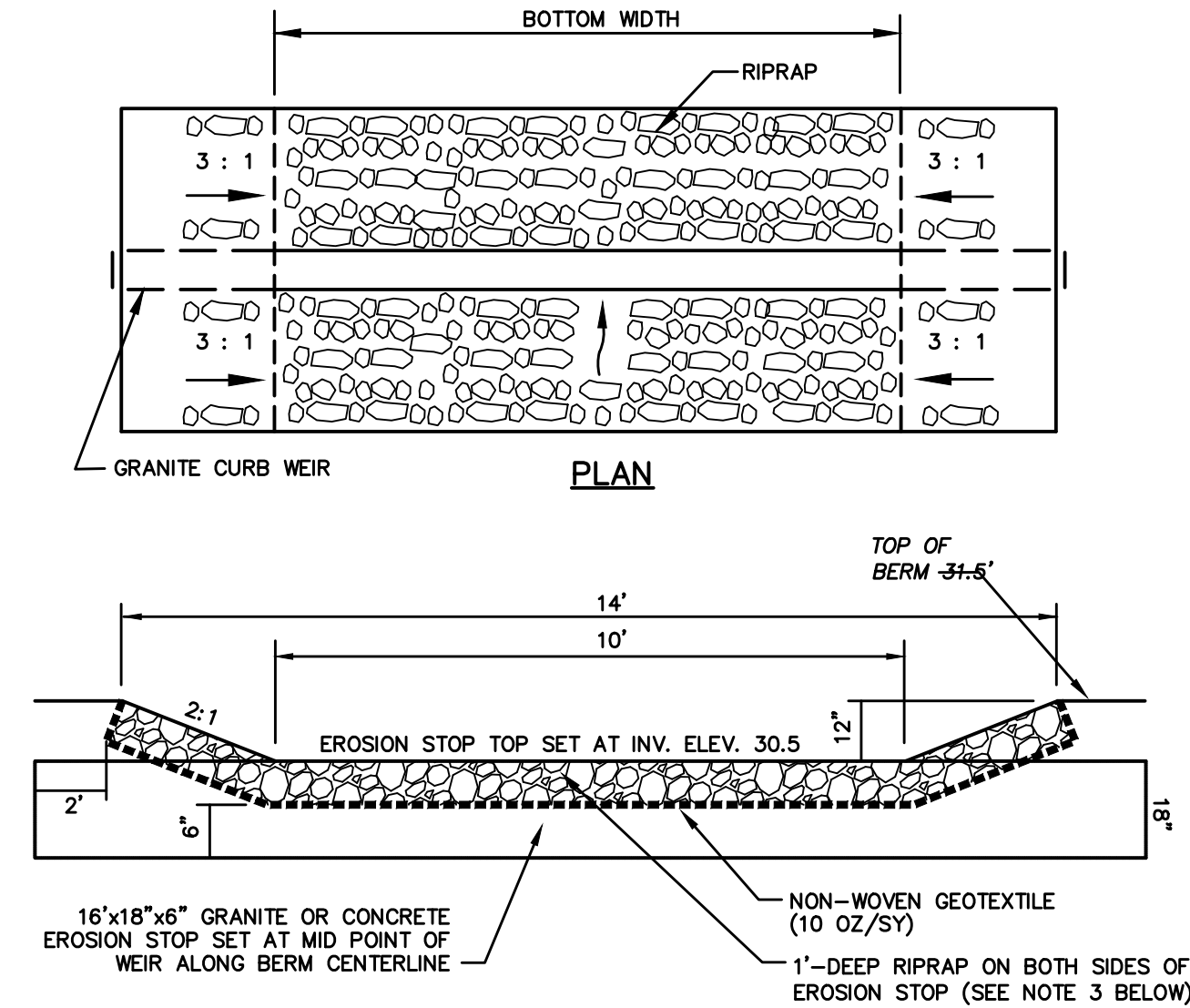
DESIGN REFERENCES

- UNH STORMWATER CENTER
- EPA (1999A)
- NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.

CRUSHED STONE BEDDING *	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 - 100
3/8"	20 - 55
# 4	0 - 10
# 8	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

FILTER MEDIA MIXTURES			
Component Material	Percent of Mixture by Volume	Gradation of material	
		Sieve No.	Percent by Weight Passing Standard Sieve
Filter Media Option A			
ASTM C-33 concrete sand	50 to 55		
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
Filter Media Option B			
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
Loamy coarse sand	70 to 80	10	85 to 100
		20	70 to 100
		60	15 to 40
		200	8 to 15



- CONSTRUCT EMERGENCY OVERFLOW WEIR TO THE WIDTHS AND LENGTHS SHOWN ON THE PLAN.
- THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIPRAP SHALL BE PREPARED TO LINES AND GRADES SHOWN ON THE PLANS.
- UNLESS OTHERWISE SPECIFIED OR DIRECTED, RIPRAP USED FOR THE EMERGENCY OVERFLOW WEIR SHALL MEET THE FOLLOWING GRADATION:

SIZE	PERCENT PASSING BY WEIGHT
4"	90-100
2"	0-15
- GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE EROSION STONE. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 18 INCHES.
- THE EROSION STONE MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

5 OVERFLOW WEIR NOT TO SCALE
D-4



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: JULY 3, 2024

REVISIONS		BY	DATE
0	PB SUBMITTAL	CDB	05/06/24
1	TRC COMMENTS	CDB	07/03/24

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5496-SITE.DWG

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22"x34" 1" = 40'
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Dover, NH 03821-0065

PROJECT:
OUR PLACE
SITE DEVELOPMENT
TAX MAP H, LOT 6-4
105 DURHAM ROAD
DOVER, NH 03820

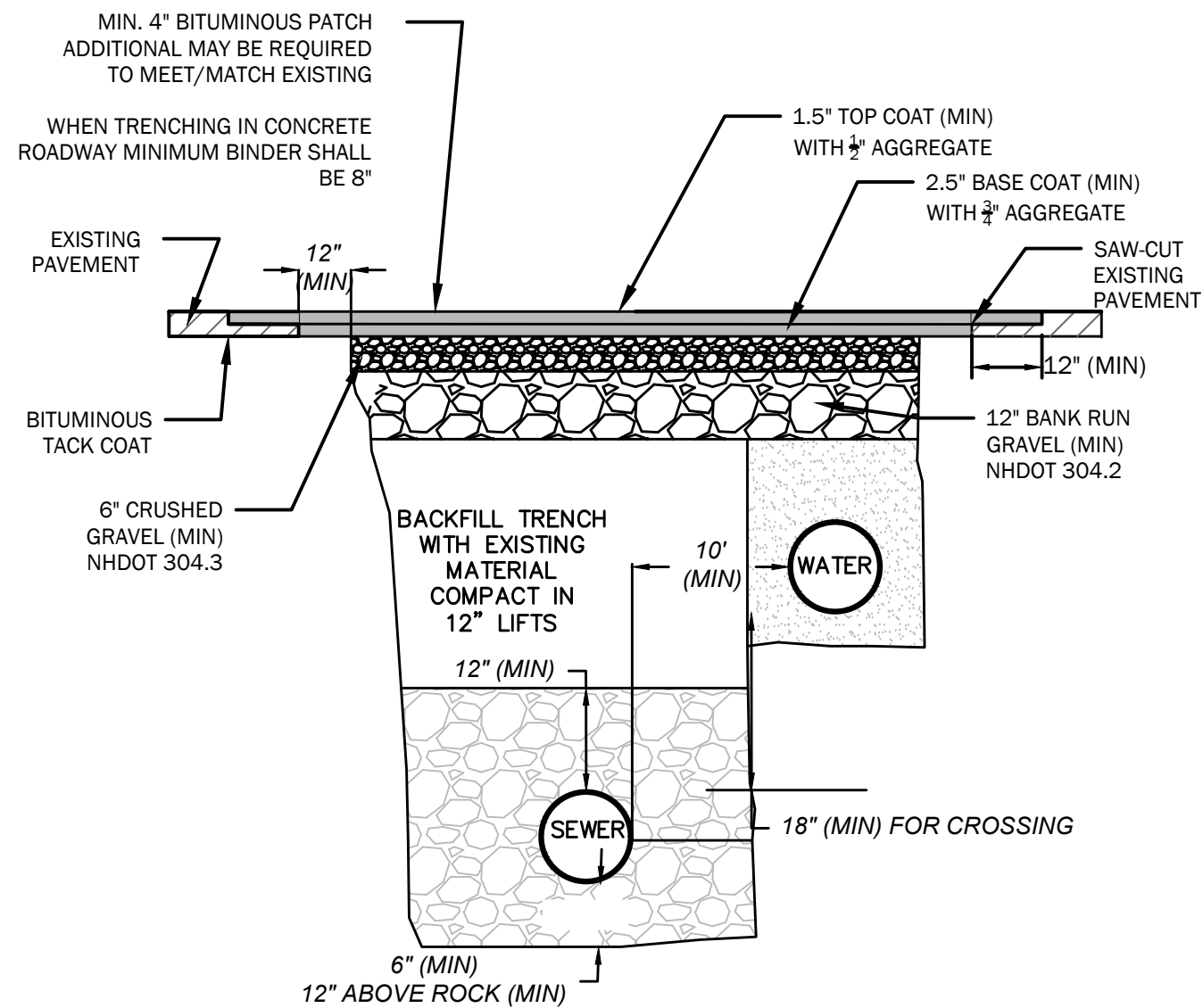
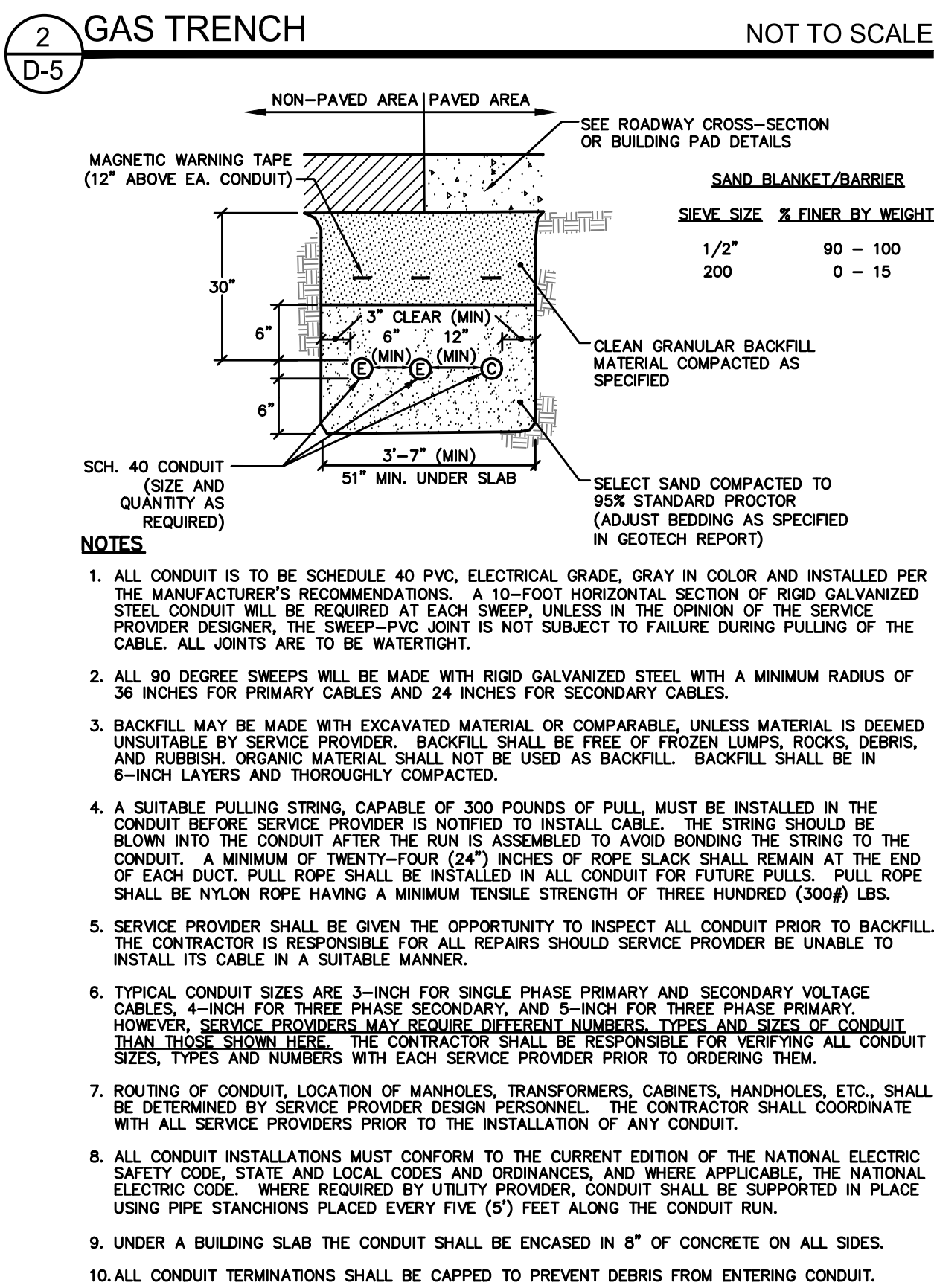
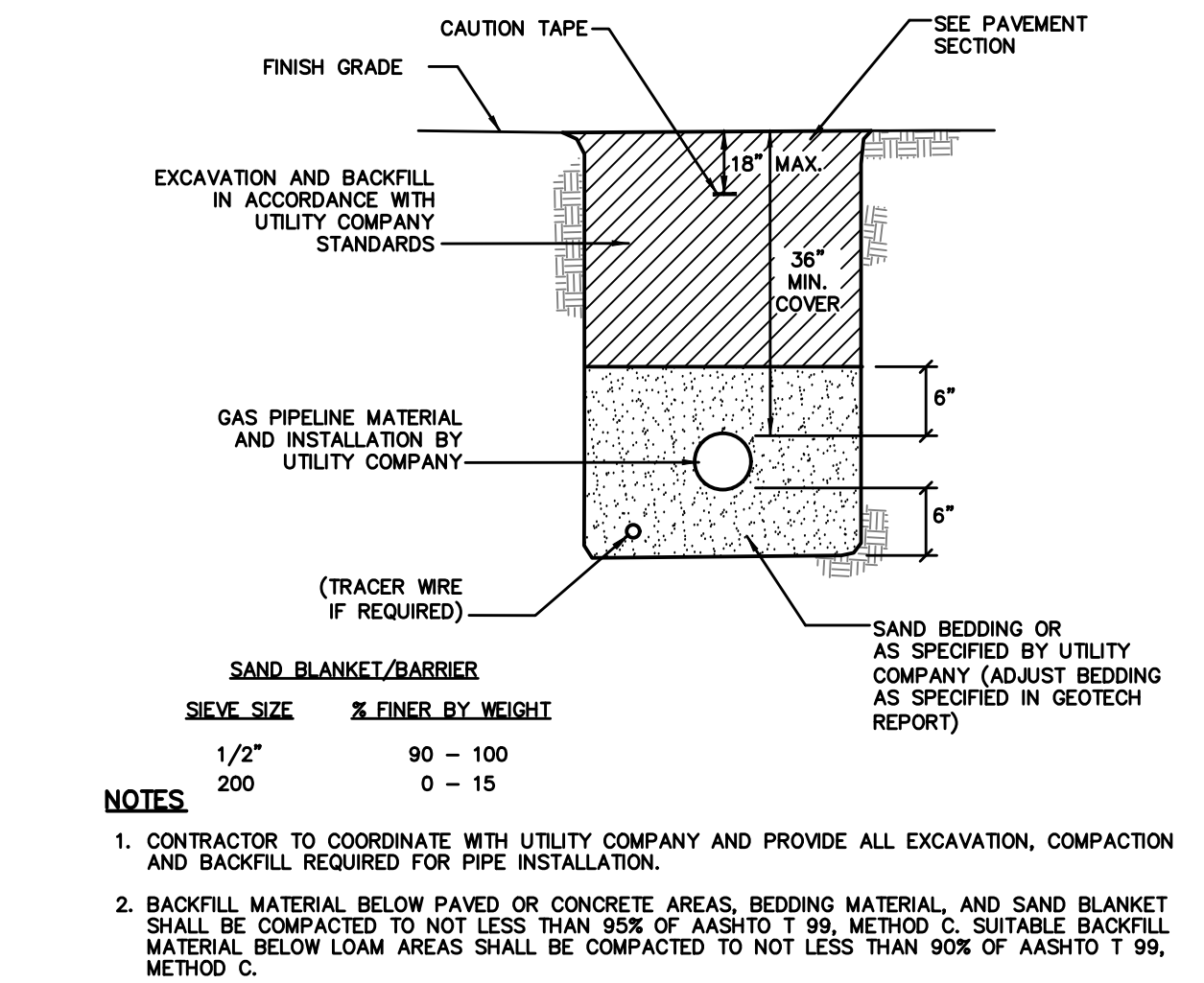
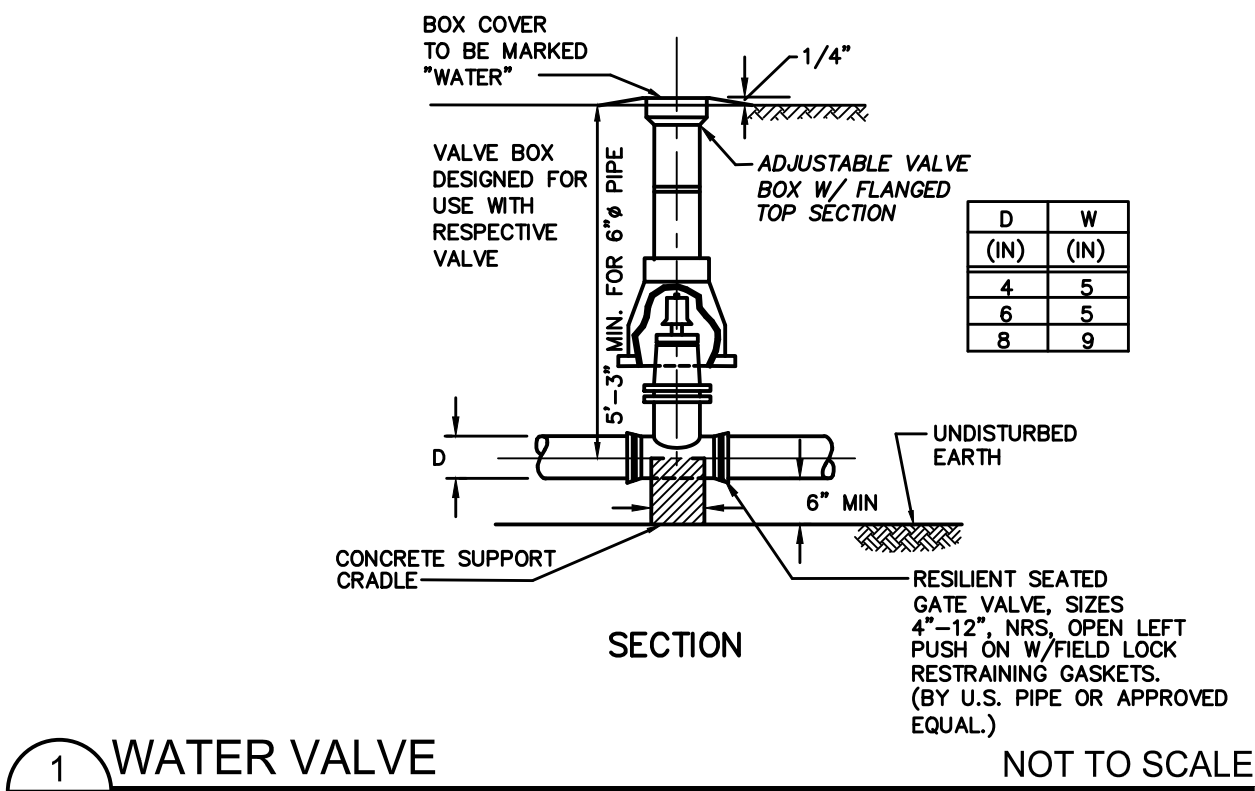
SITE PLAN REVIEW (P24-0004) &
CONDITIONAL USE PERMIT (P24-0007)

TITLE:

CONSTRUCTION
DETAILS

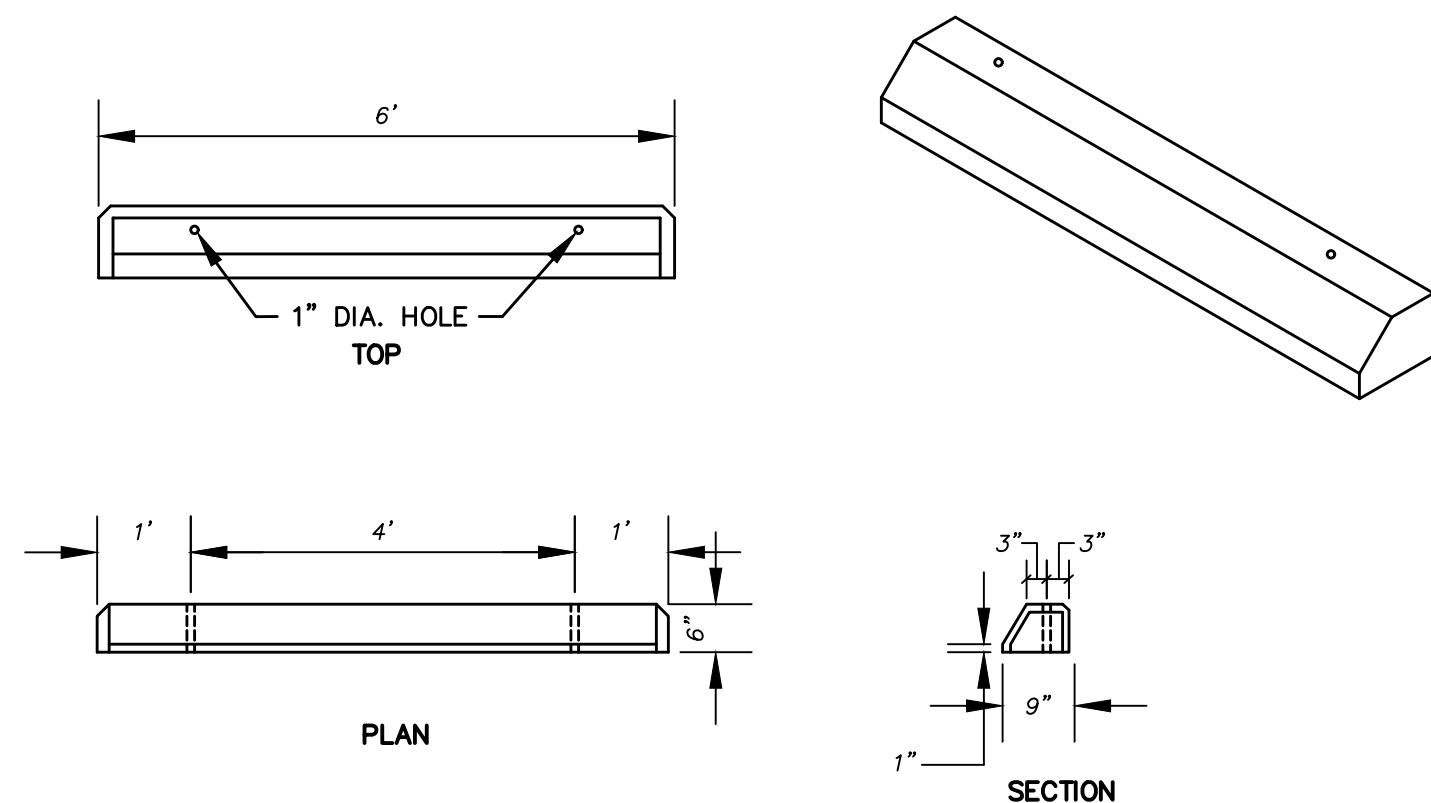
SHEET NUMBER:

13 / D-4



NOTES:

- TRENCH SHALL BE COMPACTED TO 95% OPTIMUM DENSITY.
- ALL WORK SHALL COMPLY WITH THE CITY OF DOVER CONSTRUCTION GUIDELINES AND PROCEDURES
- MAINTAIN 10' (MIN.) HORIZONTAL AND 18" (MIN) VERTICAL SEPARATION BETWEEN WATER & SEWER MAINS (WATER ABOVE SEWER). HORIZONTAL DISTANCE MAY BE REDUCED TO 5' (MIN.) FOR SERVICES PROVIDED THE WATER SERVICE IS A CONTINUOUS PIPE WITHOUT JOINTS OR FITTINGS.



NOTES:

- ALL SURFACES TO HAVE A SPONGE FLOAT FINISH.
- ALL EXPOSED EDGES TO HAVE A 3/4" CHAMFER



NOT FOR CONSTRUCTION

ISSUED FOR:

PLANNING BOARD

ISSUE DATE:

JULY 3, 2024

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	PB SUBMITTAL	CDB	05/06/24
1	TRC COMMENTS	CDB	07/03/24

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PROJECT:

OUR PLACE
SITE DEVELOPMENT

TAX MAP H, LOT 6-4
105 DURHAM ROAD
DOVER, NH 03820

SITE PLAN REVIEW (P24-0004) &
CONDITIONAL USE PERMIT (P24-0007)

TITLE:

CONSTRUCTION
DETAILS

SHEET NUMBER:

14 / D-5

1. NO WORK SHALL BE PERFORMED WITHIN 50 FEET OF THE WETLAND BUFFER WITHOUT AUTHORIZATION THROUGH AN APPROVED CONDITIONAL USE PERMIT.
2. NO WORK OUTSIDE OF THE APPROVED WETLAND BUFFER IMPACTS ARE AUTHORIZED.

Lot H-6-4	<u>DIRECT IMPACTS</u>	<u>BUFFER IMPACTS</u>
Area	0	7,800 SF

[illegible]

LEGEND:

EXISTING
EXISTING TO BE REMOVED
NEW WALL



RESIDENTIAL • COMMERCIAL • INSTITUTIONAL

PROJECT TEAM

ARCHITECT
ARCHITECTURAL CONSULTING SERVICES, LLC
JAY R. MASON, AIA, LEED AP
415 PAWTUCK STREET, UNIT 1
LOWELL, MA 01854
MAIN: 978-459-2004
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EMAIL: JAY@ACSLowell.COM

OWNER

NAME
CONTACT
STREET
CITY, STATE, ZIP
TEL:
FAX:
EMAIL:

CONTRACTOR

STAMP

THIS DRAWING IS A LEGAL INSTRUMENT OF DESIGN SERVICES AND SHALL REMAIN THE SOLE PROPERTY OF ARCHITECTURAL CONSULTING SERVICES, INC. AND MAY NOT BE REPRODUCED, ALTERED, OR COPIED IN WHOLE OR PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF ARCHITECTURAL CONSULTING SERVICES, LLC. © 2024, ALL RIGHTS RESERVED

OWNER

OUR PLACE
ADULT GROUP HOUSING FACILITY
105 DURHAM ROAD
DOVER, NH 03820

STATUS: **PLANNING BOARD
SUBMISSION**

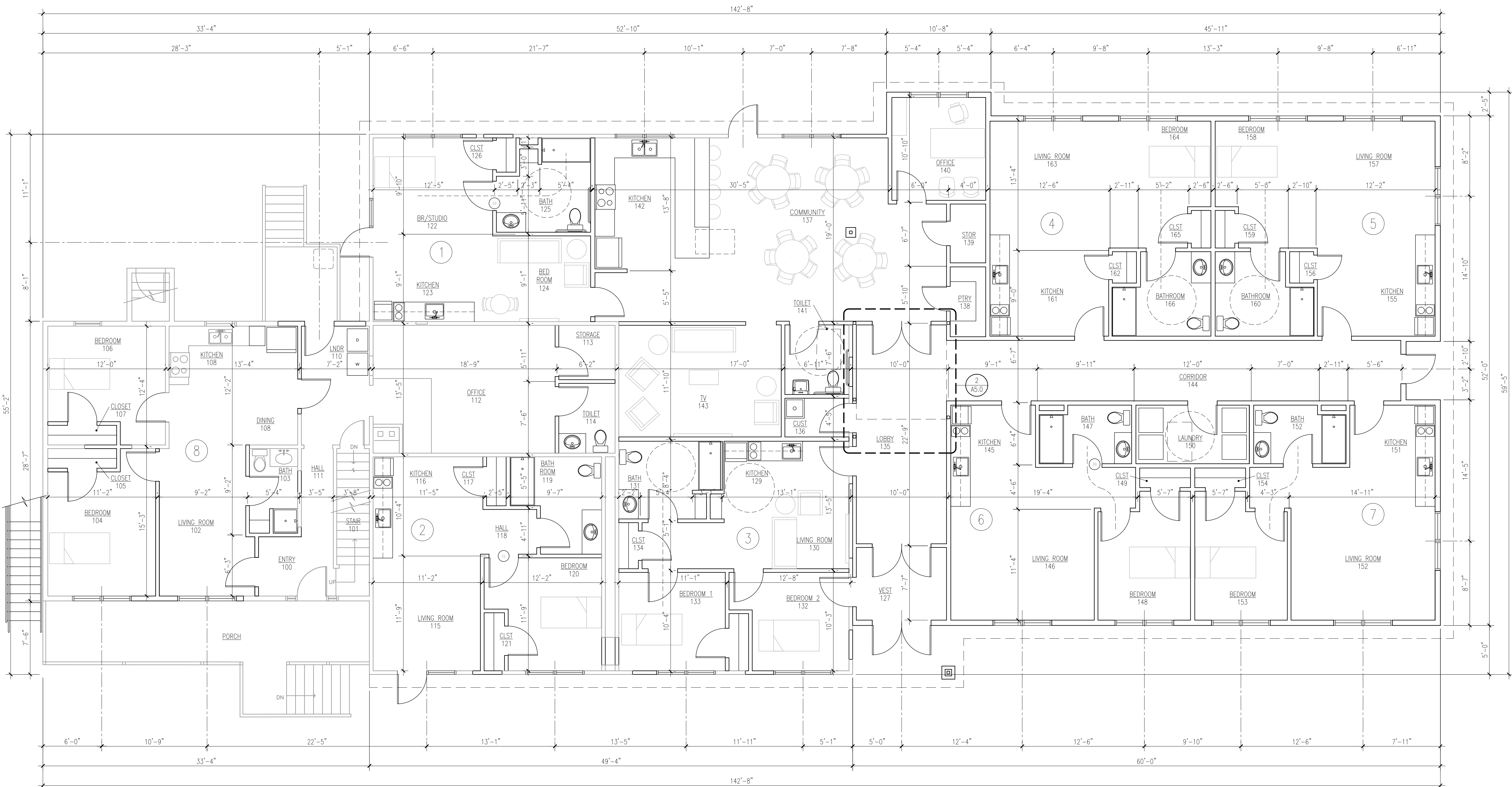
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DRAWN LAST: 05/06/2024
DRAWN BY: MK
CHK'D BY: JM

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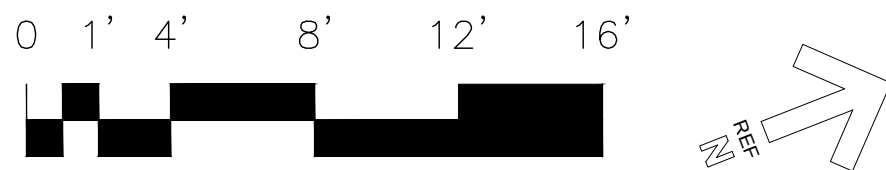
**FIRST FLOOR PLAN
DIMENSION PLAN**

A1.1

SHEET - 15 OF 19



1 FIRST FLOOR DIMENSION PLAN
SCALE 3/16" = 1'-0"



LEGEND:

EXISTING
EXISTING TO BE REMOVED
NEW WALL



RESIDENTIAL • COMMERCIAL • INSTITUTIONAL

PROJECT TEAM

ARCHITECT
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JAY R. MASON, AIA, LEED AP
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OUR PLACE
ADULT GROUP HOUSING FACILITY
105 DURHAM ROAD
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MARK	DATE	DESCRIPTION

STATUS: **PLANNING BOARD SUBMISSION**

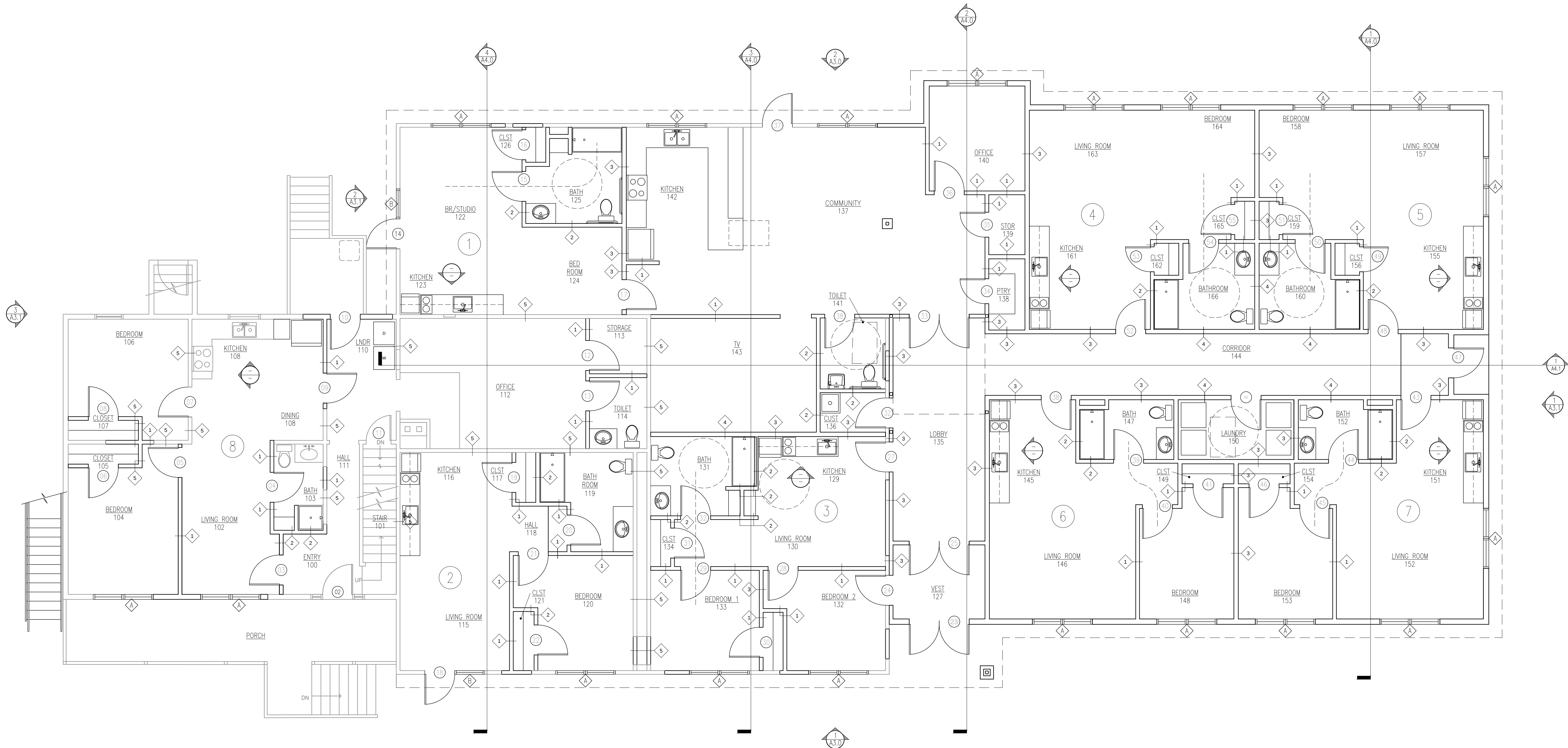
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DRAWN LAST: 05/06/2024
DRAWN BY: MK
CHK'D BY: JM

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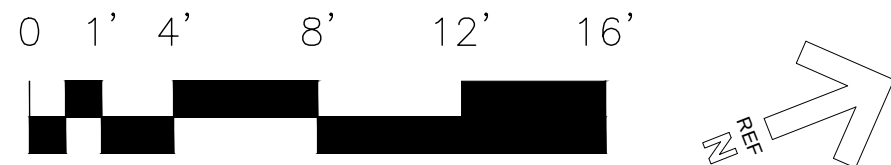
**FIRST FLOOR PLAN
KEYNOTE PLAN**

A1.2

SHEET - 16 OF 19



1 FIRST FLOOR KEYNOTE PLAN
SCALE 3/16" = 1'-0"





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105 DURHAM ROAD
DOVER, NH 03820

MARK DATE DESCRIPTION

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SUBMISSION**

PROJECT NO: 2330
CAD DWG FILE: 2330 OUR PLACE_CD'S.DWG
DRAWN LAST: 05/06/2024
DRAWN BY: MK
CHK'D BY: JM

SHEET TITLE

EXTERIOR ELEVATIONS

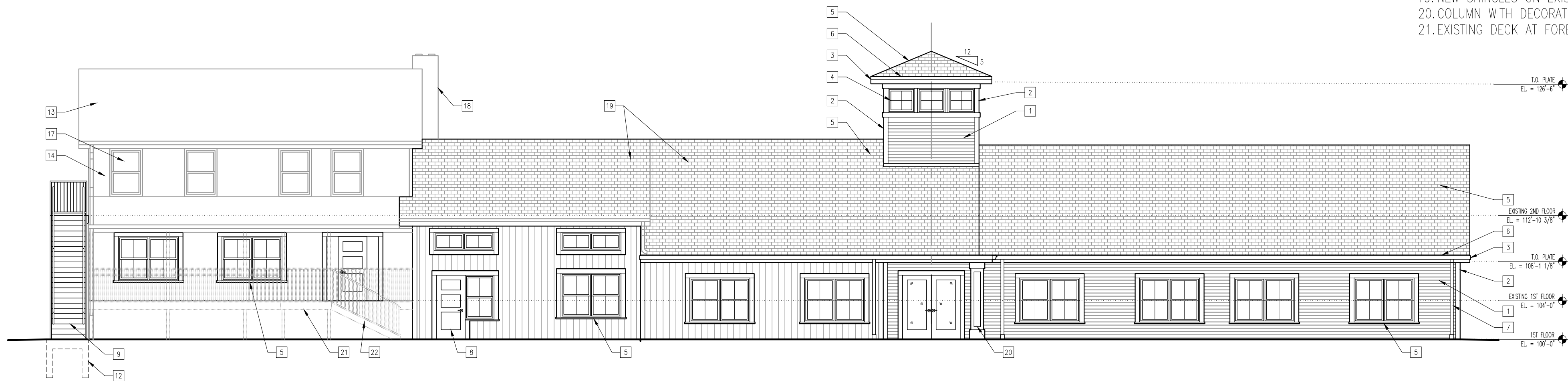
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SHEET - 17

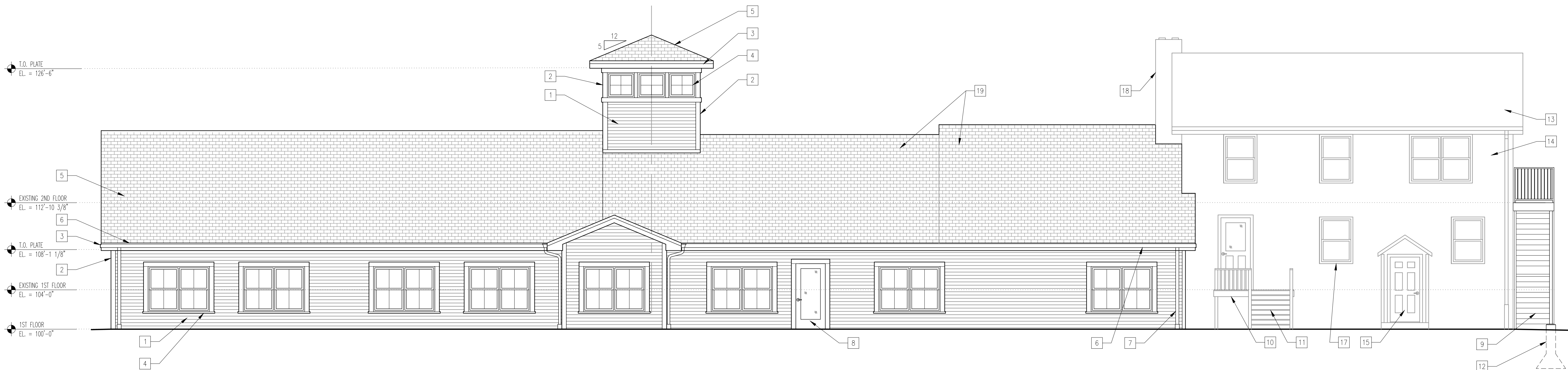
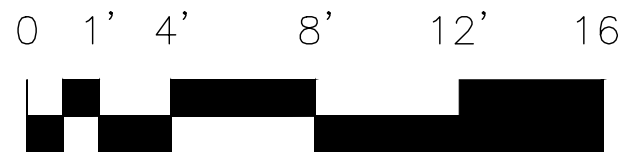
OF 19

KEYNOTES:

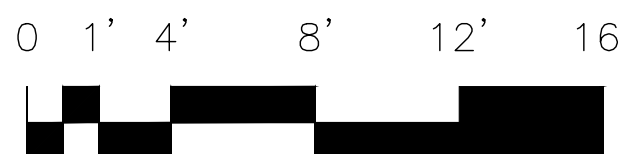
1. FIBER CEMENT SIDING
2. FIBER CEMENT TRIM
3. FIBER CEMENT FASCIA
4. VINYL WINDOW WITH FIBER CEMENT TRIM
5. ASPHALT SHINGLES
6. GUTTER
7. DOWNSPOUT
8. DOOR WITH FIBER CEMENT TRIM
9. METAL STAIR
10. EXISTING DECK
11. EXISTING STAIRS
12. CONCRETE FOUNDATION
13. EXISTING ROOF
14. EXISTING HOUSE
15. EXISTING DOOR
16. EXISTING STRUCTURE BEYOND
17. EXISTING WINDOW
18. EXISTING CHIMNEY
19. NEW SHINGLES ON EXISTING ROOF DECK
20. COLUMN WITH DECORATIVE WRAP
21. EXISTING DECK AT FOREGROUND



1 FRONT ELEVATION
SCALE 1/8" = 1'-0"



2 REAR ELEVATION
SCALE 3/16" = 1'-0"





ARCHITECT
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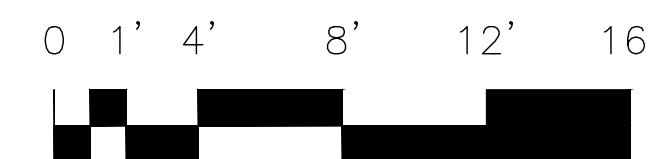
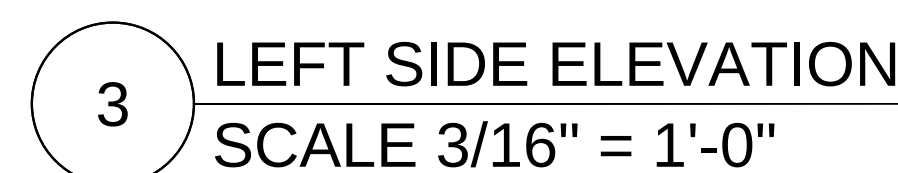
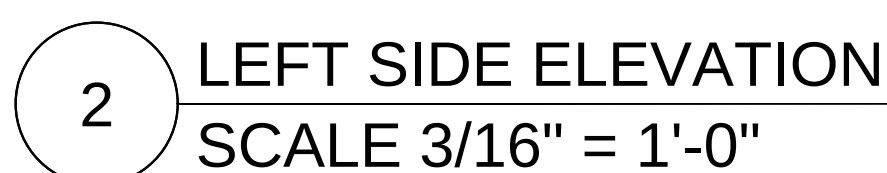
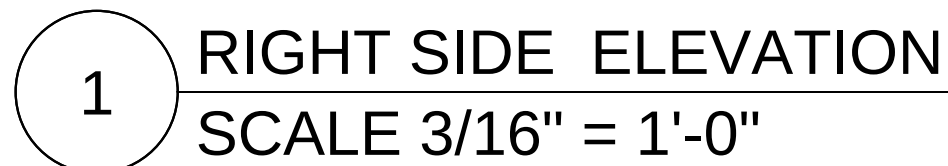
OUR PLACE
ADULT GROUP HOUSING FACILITY
105 DURHAM ROAD
DOVER, NH 03820

STATUS: PLANNING BOARD
SUBMISSION

PROJECT NO:	2330
CAD DWG FILE:	2330 OUR PLACE CD'S.DWG
DRAWN LAST:	05/06/2024
DRAWN BY:	MK
CHK'D BY:	JM

EXTERIOR ELEVATIONS

SHEET - 18 OF 19 -



1. FIBER CEMENT SIDING
2. FIBER CEMENT TRIM
3. FIBER CEMENT FASCIA
4. VINYL WINDOW WITH FIBER CEMENT TRIM
5. ASPHALT SHINGLES
6. GUTTER
7. DOWNSPOUT
8. DOOR WITH FIBER CEMENT TRIM
9. METAL STAIR
10. EXISTING DECK
11. EXISTING STAIRS
12. CONCRETE FOUNDATION
13. EXISTING ROOF
14. EXISTING HOUSE
15. EXISTING DOOR
16. EXISTING STRUCTURE BEYOND
17. EXISTING WINDOW
18. EXISTING CHIMNEY
19. NEW SHINGLES ON EXISTING ROOF DECK
20. COLUMN WITH DECORATIVE WRAP
21. EXISTING DECK AT FOREGROUND
22. EXISTING STAIR AT FOREGROUND



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