



Town of Brewster Planning Board

2198 Main St., Brewster, MA 02631

brewplan@brewster-ma.gov

(508) 896-3701 x1133

MEETING AGENDA

2198 Main Street

February 28, 2024 at 6:30 PM

Planning Board

Amanda Bebrin, Chair

Alexander Wentworth
Vice Chair

Robert Michaels
Clerk

Charlotte Degen

Madalyn Hillis-Dineen

Antone Freitas

Elizabeth Taylor

Town Planner

Jonathon Idman

Senior Department Assistant

Lynn St. Cyr

This meeting will be conducted in person at the time and location identified above. This means that at least a quorum of the members of the public body will attend the meeting in person and members of the public are welcome to attend in person as well. **As a courtesy only, access to the meeting is also being provided via remote means in accordance with applicable law. Please note that while an option for remote attendance and/or participation is being provided as a courtesy to the public, the meeting/hearing will not be suspended or terminated if technological problems interrupt the virtual broadcast or affect remote attendance or participation, unless otherwise required by law.** Members of the public with particular interest in any specific item on this agenda, which includes an applicant and its representatives, should make plans for in-person vs. virtual attendance accordingly.

Members of the public who wish to access the meeting may do so in the following manner:

Phone: Call (312) 626-6799 or (301) 715-8592. Webinar ID: 841 0778 1002. Passcode: 612505.

To request to speak: Press *9 and wait to be recognized.

Zoom Webinar: <https://us02web.zoom.us/j/84107781002?pwd=VTVSV1ExaUNCL253NmNZV21Gdmo4dz09>

Passcode: 612505. To request to speak: Tap Zoom "Raise Hand", then wait to be recognized.

When required by law or allowed by the Chair, persons wishing to provide public comment or otherwise participate in the meeting, may do so by accessing the meeting remotely, as noted above. Additionally, the meeting will be broadcast live, in real time, via **Live broadcast** (Brewster Government TV Channel 18), **Livestream** (livestream.brewster-ma.gov), or **Video recording** (tv.brewster-ma.gov).

The Planning Board packet can be found on the Calendar on the Town of Brewster website (www.brewster-ma.gov). Please note that the Planning Board may take official action, including votes, on any item on this agenda.

Agenda revised to correct case numbers.

1. Call to Order.
2. Declaration of a Quorum.
3. Meeting Participation Statement.
4. Recording Statement. As required by the Open Meeting Law we are informing you that the Town will be video and audio taping as well as broadcasting this public meeting. In addition, if anyone else intends to either video or audio tape this meeting they are required to inform the Chair.
5. Public Announcements and Comment. Members of the public may address the Planning Board on matters not on the meeting's agenda for a maximum of 3-5 minutes at the Chair's discretion. The Planning Board will not reply to statements made or answer questions raised during public comment but may add items presented to a future agenda.
6. **Major Stormwater Management Permit, Case No. SWMP2024-02:** Applicant/Owner: My Three Sons Realty, LLC, Timothy Holmes, Manager, has submitted a major stormwater permit application for property located at 0 Crowells Bog Road and shown on Tax Map 61, Parcel 11, pursuant to Brewster Town Code Chapter 272 and its accompanying Regulations. The Planning Board will consider and potentially vote whether to approve the major stormwater permit, as well as any waivers from said Regulations deemed necessary and applicable.
7. **Major Stormwater Management Permit, Case No. SWMP2024-03:** Applicant/Owner: The Free Sea Turtle, LLC, Paul Wallace, Manager, has submitted a major stormwater permit application for property located at 162 Underpass Road and shown on Tax Map 77, Parcel 9,



Planning Board

Amanda Bebrin, Chair

Alexander Wentworth
Vice Chair

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Jonathon Idman

**Senior Department
Assistant**
Lynn St. Cyr

pursuant to Brewster Town Code Chapter 272 and its accompanying Regulations. The Planning Board will consider and potentially vote whether to approve the major stormwater permit, as well as any waivers from said Regulations deemed necessary and applicable.

8. **Major Stormwater Management Permit, Case No. SWMP2024-04:** Applicant/Owner: 162 Underpass LLC, Charles Whitcomb III, Manager, has submitted a major stormwater permit application for property located at Underpass Road and shown on Tax Map 77, Parcel 10 and 60, pursuant to Brewster Town Code Chapter 272 and its accompanying Regulations. The Planning Board will consider and potentially vote whether to approve the major stormwater permit, as well as any waivers from said Regulations deemed necessary and applicable.
9. Approval of Meeting Minutes: January 24, 2024.
10. Committee Reports.
11. For Your Information.
12. Matters Not Reasonably Anticipated by the Chair.
13. Next Meetings: March 13, 2024 and March 27, 2024.
14. Adjournment.

Date Posted:
02/21/24

Date Revised:
02/23/24

Received by Town Clerk:

BREWSTER TOWN CLERK
24 FEB 27 9:15 AM

MAJOR STORMWATER MANAGEMENT PERMIT
CASE NO. SWMP2024-02

**APPLICANT: MY THREE SONS REALTY, LLC,
TIMOTHY HOLMES, MANAGER
PROPERTY: 0 CROWELLS BOG ROAD**



Town of Brewster

2198 Main Street
Brewster, MA 02631-1898
Phone: (508) 896-3701 x. 1133

Office of:
Planning Board
Planning Dept.

STAFF REPORT

TO: Planning Board
FROM: Town Planner
RE: Major Stormwater Permit SWMP24-02
Crowell's Bog Road (Map 61 Parcel 11)
Owner/Applicant: My Three Sons Realty LLC, Timothy Holmes, Manager
c/o Down Cape Engineering, Inc.
DATE: February 7, 2024

Recommendation

The stormwater permit application meets the applicable performance standards and submission requirements set out in the town's Stormwater Management Regulations for issuance and approval of a Major Stormwater Permit.

Approval should be granted subject to the continuing obligations set out in said Regulations, including Sections 5.7, 5.8, 5.9 (Certificates of Compliance), 6.1B (Construction practices), Section 7.2 (Inspections), 8.3 (Recording of stormwater permit and O&M plan) and 8.5 therein.

Further, as a condition of approval, I'd recommend that the Board require the applicant to provide details about the proposed method and materials for restoring the construction-period temporary infiltration basin north of the southerly wetland buffer area, as shown on the plans.

Major Stormwater Management Permit

The underlying project is the development of a currently undeveloped/ wooded lot for single family residential use: a new single-family home and paved driveway. The site is large- 10+ acres- and the site plans show frontage/ direct access to the property from Crowell's Bog Road.

Note, that from a zoning perspective, the applicant will need to provide the building department a recorded 'perimeter plan' of the property prepared by a PLS which, among other things, confirms the property's required frontage and access to Crowell's Bog Road to evidence buildability.

The project triggers a Major Stormwater Permit according to Chapter 272 of the Brewster Code (Stormwater Management Bylaw) and Section 4 of the Bylaw's supporting regulations, as the project involves net new impervious surface of 2500 sq ft or greater and total site disturbance 20,000 sq ft or greater. Major Stormwater Permits are subject to review at a public meeting, including for any waivers requested. No waivers have been requested in the application. No portion of the project is located in a special flood hazard area. The property is not located in a Zone II or the DCPC.

Though there are wetland resource areas on the property, no proposed development is located in the wetland resource areas per the site plans. Accordingly, because the proposed development as depicted in the application materials is not located in a wetland resource area, the Planning Board is the stormwater permitting authority. Apropos to the Brewster Conservation Agent's written comments submitted to the Board on this application, to the extent that site work encroaches over the 100' wetland buffer boundary, and wetlands protection jurisdiction is triggered, then the applicant must undergo such wetlands review and obtain the necessary approval for the work. The Conservation Agent has spoken with the applicant,

who seems amendable to adjusting the limit of work line to eliminate the possibility of intrusion or impact within the 100' wetlands buffer area.

The Applicant has provided the required application materials for a Major Stormwater Permit as set out in Appendix B of the Stormwater Management Regulations, including a site plan set consisting of four sheets (dated 1/30/24) and Stormwater Management/ Drainage Report, including HydroCad analysis of pre- and post-development conditions (dated 1/30/24).

The Applicant has provided construction-period BMPs consistent with the performance standards for Major Stormwater Permits set out in Section 6.1B of the Stormwater Management Regulations. The site plan set contains the specific details of the proposed erosion and sedimentation controls, including temporary infiltration basins, stone driveway construction apron, defined stockpiling areas and silt fencing.

The post-construction stormwater management system is consistent with the Major Stormwater Permit performance standards for new construction set out in Section 6.2B of the Stormwater Management Regulations, addressing BMPs and management for both stormwater quantity and quality:

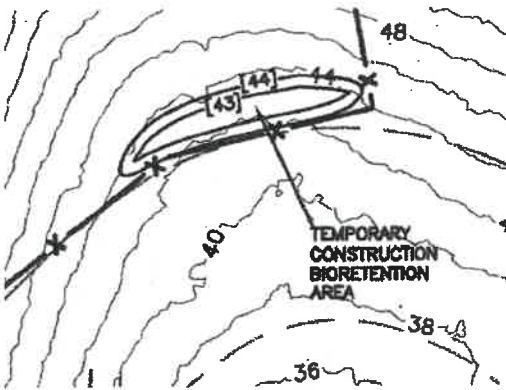
- The system meets the applicable standards in the Massachusetts Stormwater Handbook.
- The system will not increase off-site flooding and does not increase peak run-off rates over existing conditions including for the 100 yr. storm.
- The system will recharge all run-off from the development on-site, preserving existing recharge volume/ capacity on-site required for development of the project.
- The Applicant has provided a corresponding Operations and Maintenance Plan, which adequately addresses the long-term maintenance of the post-construction BMPs.
- The Applicant has provided a Pollution Prevention Plan, which adequately addresses source controls of contaminants into the stormwater system.
- The Applicant considered Low Impact Development-type (LID) stormwater design elements and incorporated them into the system design. The site system includes rain gardens in existing low points on the site and employs existing natural depressions on the site for treatment and infiltration basins. Planting details and methods for the rain gardens have been provided in the plan set. Pretreatment is provided for the rain gardens with sediment forebays and rip rap channels. Run-off from roof areas will be conveyed directly through gutters, downspouts and piping to subsurface infiltration basins.
- In addition to the MA handbook stormwater standards, the system meets the TSS treatment requirements (TSS) set out in the Brewster Regulations, through pretreatment and the water quality volume/ holding capacity of the infiltration facilities. There is associated Nitrogen treatment assumed with system performance. We are awaiting details from the applicant about estimated Total Phosphorus treatment.
- We are awaiting water quality volume calculations from the applicant related to treating the first inch of stormwater in a 100-year rain event, as well as draw-down times for the rain gardens.
- The Applicant's soil tests on the property, and NRCS mapping, have revealed well-draining soils.
- Test pits suggest that there is significant separation between stormwater infiltration facilities and the groundwater table.

Lynn St. Cyr

From: William Grafton
Sent: Monday, February 5, 2024 9:08 AM
To: Jonathon Idman; Lynn St. Cyr
Subject: RE: 0 Crowells Bog Road Stormwater Application

Jon and Lyn, I have spoken with Tim Holmes about his submitted Stormwater Application with the Planning Board.

Tim had not looked at the Civil Plans before they were submitted and is planning on submitting changes to the erosion control barrier to the east of the house to provide more room and will also address the area which has the erosion control partially overlapping the 100-foot buffer and Temporary Construction Bioretention Area which could have later impacts to the 100-foot buffer. I suggested that it would be a proactive step that he might want to consider. He seemed amenable.



He mentioned hay bales and silt fence; I suggested no hay as it can introduce invasive species.

If you need anything more, please do not hesitate to reach me.

Respectfully,

Bill Grafton
Brewster Conservation Administrator
1657 Main Street
Brewster, MA 02631
Phone (508) 896-4546 ext. 4242

Brewster Town Offices are open to the public Monday through Thursday from 8:30 to 4:00pm, and by appointment on Fridays. For the latest updates on Town services, please visit www.brewster-ma.gov

From: Jonathon Idman <jldman@brewster-ma.gov>
Sent: Saturday, February 3, 2024 5:45 PM
To: William Grafton <wgrafton@brewster-ma.gov>; Lynn St. Cyr <lstcyr@brewster-ma.gov>
Subject: RE: 0 Crowells Bog Road Stormwater Application

Hi Bill,

If you could speak with the applicant and you're successful in having them move the LOW, and prepare/ submit revised plans accordingly for stormwater permit review, that would be great.

However, the PI Bd has no authority to require the applicant, under local stormwater permit jurisdiction, to move development activities out of or further from the 100' buffer boundary. The PI Bd could require the applicant to mitigate associated stormwater impacts, which might require intrusion (or per your comments, further intrusion) into the 100' buffer.

The plans show that all development work and proposed (direct) alteration is outside the 100' buffer. It isn't unreasonable to assume that there might be some impacts in the 100'. If the applicant is not willing to revise the plans/ proposal, and unless you want CC to review this stormwater permit, I think the most the PI Bd can say is, to the extent work triggers wetlands protection jurisdiction, then the applicant shall obtain approval for the same.

Under stormwater review, the PI Bd can request details about and condition the project to require restoration around the temporary bioretention area after it is decommissioned. I haven't reviewed the application yet but the O&M plan may very well detail and require this anyway.

Jon

Jonathon D. Idman
Brewster Town Planner
(508) 896-3701 x. 1150

From: William Grafton <wgrafton@brewster-ma.gov>
Sent: Friday, February 2, 2024 4:32 PM
To: Lynn St. Cyr <lstcyr@brewster-ma.gov>
Cc: Jonathon Idman <jldman@brewster-ma.gov>
Subject: RE: O Crowells Bog Road Stormwater Application

No, I am just noticing that they are mighty close so they should adjust this back a bit to minimize impacts as I mentioned below. The idea being to not push it so close to the 100-foot buffer by potentially creating unnecessary impacts within the 100-foot. If you would like me to speak with Mr. Holmes, I can share my thoughts on this and see he will adjust accordingly.

I await your feedback.

Respectfully,

Bill Grafton
Brewster Conservation Administrator
1657 Main Street
Brewster, MA 02631
Phone (508) 896-4546 ext. 4242

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From: Lynn St. Cyr <lstcyr@brewster-ma.gov>
Sent: Friday, February 2, 2024 11:27 AM

To: William Grafton <wgrafton@brewster-ma.gov>
Cc: Jonathon Idman <jldman@brewster-ma.gov>
Subject: RE: 0 Crowells Bog Road Stormwater Application

Good morning Bill,

Thank you for these comments. I'm wondering, given your comments, should this project be before the Conservation Commission for review? It seems like the Applicant will need to go to Conscom for review anyway if they proceed with this project as proposed specifically for the erosion control barrier and temporary construction bioretention area as you referenced in your email. I would appreciate your thoughts on this. I'm looping Jon in too.

Thanks again,
Lynn

Lynn St. Cyr
Senior Department Assistant, Planning Department
Town of Brewster
2198 Main Street, Brewster, MA 02631
T: 508-896-3701 x1233

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From: William Grafton <wgrafton@brewster-ma.gov>
Sent: Thursday, February 1, 2024 6:56 PM
To: Lynn St. Cyr <lstcyr@brewster-ma.gov>
Subject: RE: 0 Crowells Bog Road Stormwater Application

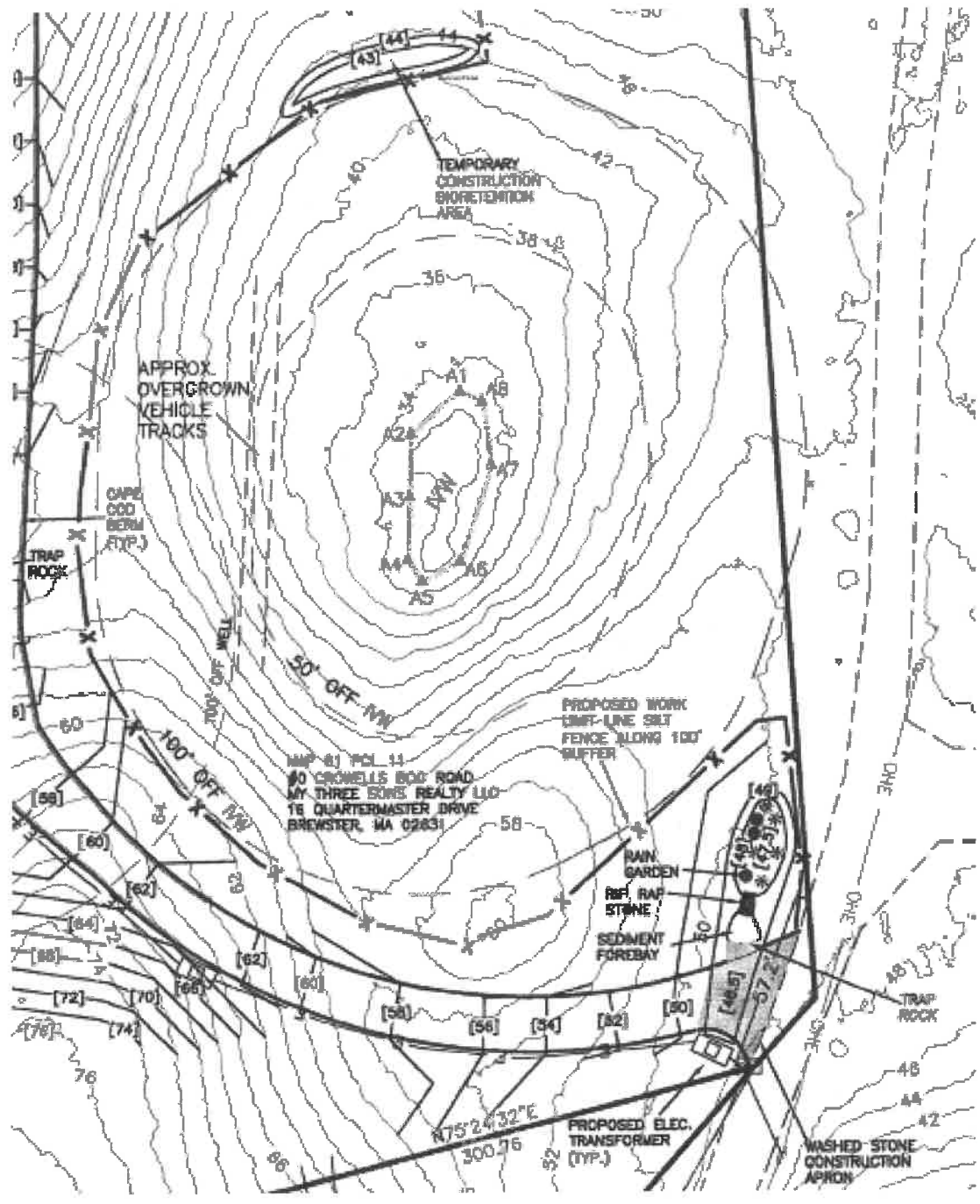
Lyn, good day.

As to the Conservation approval this past Fall, yes, the wetlands delineation depicted on the submitted site plans match the Conservation Commission approved wetland line on the attached October 11, 2023 Site Plan. The attached Determination of Applicability approved by the Conservation Commission approved the wetland delineation and the work/activity and traversing through the 100-foot buffer to the isolated vegetated wetland only. There was a question about access across Town owned land that was never answered that would be key to the project and it appears that the property boundary as surveyed are different from the Brewster Public MapsOnline. See screenshots below. Something to be considered.

As to the Planning Board submittal, it looks like they are making an effort to stay out of the 100-foot buffer to the two wetlands. However, in the screen shot below, you may notice that the erosion control barrier and presumably some level of removal and alteration of vegetation to clear room for the erosion control barrier is taking place right on the 100-foot buffer (below and to the left of the Temporary Construction Bioretention Area). I would suggest that they move the portions of the erosion control barrier that are encroaching the 100-foot buffer upgradient to ensure that there is no root or limb damage that could affect any existing trees, woody shrubs or herbaceous vegetation which would require a Conservation permit.

As to the Temporary Construction Bioretention Area, its construction so close to the 100-foot may cause root or limb damage that could affect any existing trees, woody shrubs or herbaceous vegetation within the 100-foot buffer zone which would require a Conservation permit. It might be a good idea for the Temporary Construction Bioretention Area to be moved further upgradient of the 100-foot buffer. Also, there appears to be no revegetation proposed such as

a seed mix to ensure that erosion and sedimentation do not enter the 100-foot buffer once the construction is completed.



Quick Zooms

Find Properties

Owner:

Parcel ID:

Address: Clear

Results Summary

Parcels for Identify - Public

CAMA ID	Owner
61-11	MY THREE SONS REALTY LLC

Detail Information Zoom To

CAMA ID	61-11
Key	7013
Year	2025
Property Type	R
Owner	MY THREE SONS REALTY LLC
Owner 2	
Mailing Street	16 QUARTERMASTER DRIVE
Mailing Street 2	
Mailing City	BREWSTER
Mailing State	MA
Mailing Zip Code	02631
Mailing Country	
State Class	1300
State Class Description	DEV LAND
Old Map	
Old Parcel	
PrimaryPCTBldg	100.00
PrimaryPCTLand	100.00
Deed	26-Apr-2023 00:00:00
Book	35751
Page	21
Note	
Zone Description	RESD. LOW
GIS ID	M_318177_832050
HVAC	
Year Built	
Quality	
Style	
Grantor	SMITH KATHY & KAZANJIAN
Grantee	MY THREE SONS REALTY LLC
Book / Page Last	35751 / 21
Acres	9.50
Loc No	0

Respectfully,

Bill Grafton
 Brewster Conservation Administrator
 1657 Main Street
 Brewster, MA 02631
 Phone (508) 896-4546 ext. 4242

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From: Lynn St. Cyr <lstcyr@brewster-ma.gov>
 Sent: Thursday, February 1, 2024 10:05 AM

To: William Grafton <wgrafton@brewster-ma.gov>
Subject: FW: 0 Crowells Bog Road Stormwater Application

Good morning Bill,

The attached stormwater management permit application was received in the Planning Department. Before sending the application to the Planning Board for review, I wondered if you could review to confirm that the wetlands depicted match your records. I want to make sure the application makes it to the right board/commission for review.

Thank you,
Lynn

Lynn St. Cyr
Senior Department Assistant, Planning Department
Town of Brewster
2198 Main Street, Brewster, MA 02631
T: 508-896-3701 x1233

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From: Heather Marie Cornell <hcornell@downcape.com>
Sent: Wednesday, January 31, 2024 12:57 PM
To: Jonathon Idman <jldman@brewster-ma.gov>; Lynn St. Cyr <lstcyr@brewster-ma.gov>
Cc: Heatherlee Vermette <heatherlee@downcape.com>; Priscilla Leclerc <priscilla@downcape.com>; Craig Ferrari <craig@downcape.com>; Danny Gonsalves <dgonsalves@downcape.com>; Daniel A. Ojala, PE PLS <downcape@downcape.com>
Subject: 0 Crowells Bog Road Stormwater Application

Good afternoon,

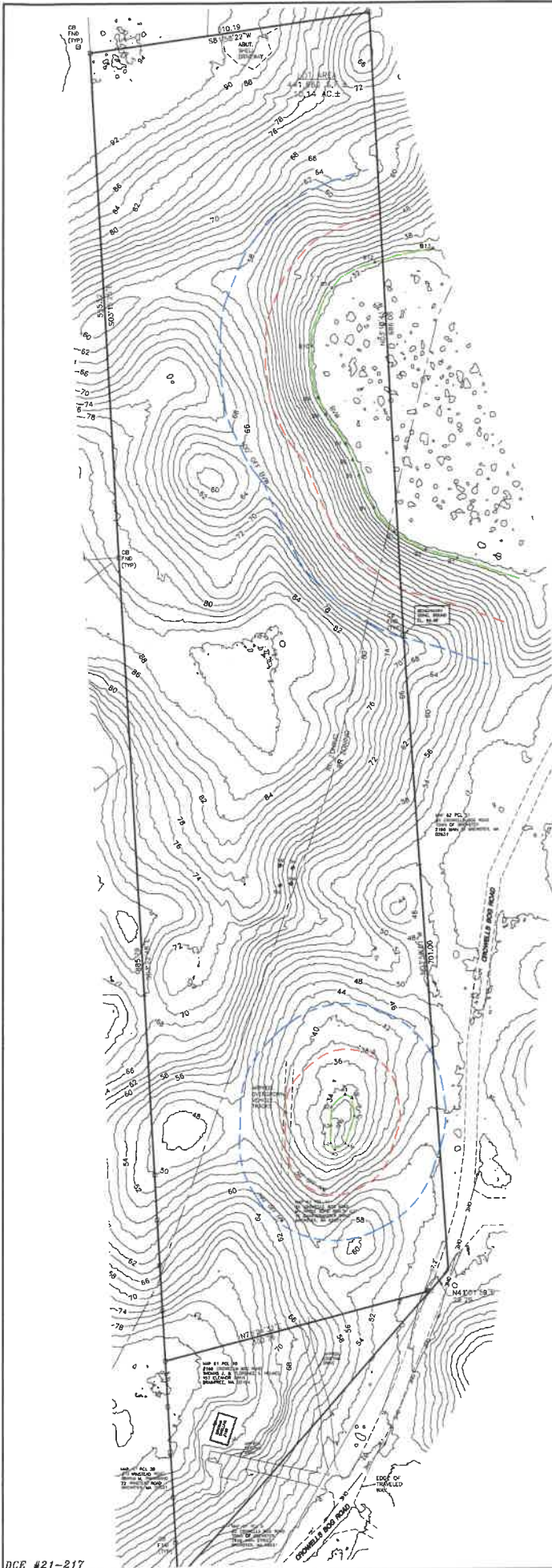
Please find attached documents to support a Stormwater Application for 0 Crowells Bog Road, including:

- Stormwater application
- Stormwater Management Plan
- Operations & Maintenance Plan
- Long Term Pollution Prevention Plan
- Site Plan/Civil Set dated 1-30-24
- Existing Drainage Sketch 1-30-24
- Proposed Drainage Sketch 1-30-24

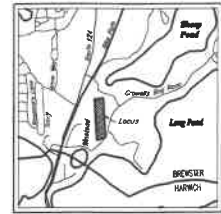
We will drop 12 packets of the above and the filing fee at your office this afternoon. Under a separate email we will send the drainage calculations to include with the application.

Once you have had a chance to review please let us know if you need anything further. Thank you.

Heather Marie Cornell
DOWN CAPE ENGINEERING, INC.
939 ROUTE 6A – SUITE C
YARMOUTH PORT MA 02675
508.362.4541



- NOTES**
1. DATUM IS NAD83
 2. THIS PLAN IS FOR PROPOSED WORK ONLY AND NOT TO BE USED FOR LOT LINE STAKING OR ANY OTHER PURPOSE.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING DISSAFE (813) AND VERIFYING THE LOCATION OF ALL UNDERGROUND & OVERHEAD UTILITIES PRIOR TO COMMENCEMENT OF WORK.
 4. WETLANDS FLAGGED BY PAUL SHEA OF INDEPENDENT ENVIRONMENTAL CONSULTANTS ON 6/13/2023 & 6/28/2023 AND MATTHEW CREIGHTON OF ESC GROUP ON 7/31/2023.

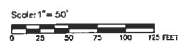


LOCUS MAP
 SCALE 1"=2000'±
 ASSESSORS MAP 61 PARCEL 11
 LOCUS IS WITHIN A MassDEP NITROGEN SENSITIVE AREA (NSA)

ZONING SUMMARY
 ZONING DISTRICT:
 *LOT CREATED PRIOR TO ZONING ADOPTION IN 1960
 MIN. FRONT SETBACK 20'
 MIN. SIDE SETBACK 10'
 MIN. REAR SETBACK 10'
 PROPOSED BUILDING COVERAGE = 0.84%

**EXISTING CONDITIONS
 SITE PLAN**
 OF
CROWELL'S BOG ROAD
BREWSTER, MA
 PREPARED FOR
TIM HOLMES

DATE: AUGUST 28, 2023
 REV: OCTOBER 11, 2023 (FLAGGING NOTES)



10-11-2023
 DATE DANIEL A. OJALA, P.E., P.L.S.

01 508-322-4541
 01 508-292-8500
 downcapeng.com
down caps engineering, inc.
 civil engineers
 land surveyors
 939 Main Street (Rte. 6A)
 YARMOUTHPORT, MA 02075
 SURVEY: N40
 DRAFTED BY: D.F.
 CHECKED BY: D.F.
 21-217



TOWN OF BREWSTER
1657 MAIN STREET
BREWSTER, MA 02631
PHONE: (508) 896-4546 EXT 4243
wgraffon@brewster-ma.gov

OFFICE OF
CONSERVATION COMMISSION

Date: October 13, 2023
Delivered by: Hand

Tim Holmes
P.O. Box 700
Brewster, MA 02631

RE: Determination of Applicability (DOA)/WPA Form 2 #23-18
Project Location: 0 Crowell's Bog Road
Assessors Map 61, Parcel 11

Dear Mr. Holmes:

The Determination of Applicability (DOA) for the above property, issued by the Brewster Conservation Commission is attached, along with a copy for your records. This conservation permit is valid for three (3) years from the date of issuance. For work beyond the approved three-year period, please submit a new Request For Determination of Applicability to continue to perform the approved work or new work.

Please note this Determination of Applicability has Special Conditions as follows:

1. The property owner and contractor shall complete and submit a Work Notification Form five (5) business days in advance of commencing the work and request a precon meeting with the Conservation Administrator to discuss details of the project to ensure the approved work is understood and provide permit guidance.
2. Ensure Best Management Practices and building codes are followed.
3. Before commencing the work, obtain all subsequent permits.
4. Contact the Conservation Administrator for guidance on Conservation Permits for work beyond the approved work activities.

If you have any questions or need additional assistance, please contact me at (508) 896-4546 ext. 4242 or via email.

Respectfully,

Bill Grafton
Conservation Administrator



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
WPA Form 2 – Determination of Applicability
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

#23-18
Holmes

A. General Information

From:

Brewster
 Conservation Commission

To: Applicant

Tim Holmes
 Name
P.O. Box 700
 Mailing Address
Brewster
 City/Town

Property Owner (if different from applicant):

 Name

 Mailing Address

 City/Town _____
 State _____
 Zip Code

1. Title and Date (or Revised Date if applicable) of Final Plans and Other Documents:

<u>Existing Conditions Site Plan of 0 Crowell's Bog Rd prepared by Down Cape Engineering, Inc, signed and stamped by Daniel Ojala, RPE, PLS</u>	<u>10/11/2023</u>
Title	Date
_____	_____
Title	Date
_____	_____

2. Date Request Filed:

09/21/2023

B. Determination

Pursuant to the authority of M.G.L. c. 131, § 40, the Conservation Commission considered your Request for Determination of Applicability, with its supporting documentation, and made the following Determination.

Project Description (if applicable):

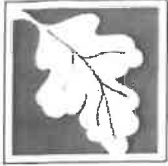
Access through the 100' buffer of an isolated vegetated wetland for soil testing.

Access through the 100' buffer of an isolated vegetated wetland for soil testing.

Project Location:

0 Crowell's Bog Road
 Street Address
61
 Assessors Map/Plat Number

Brewster
 City/Town
11
 Parcel/Lot Number



**Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands**

WPA Form 2 – Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**#23-18
Holmes**

B. Determination (cont.)

The following Determination(s) is/are applicable to the proposed site and/or project relative to the Wetlands Protection Act and regulations:

Positive Determination

Note: No work within the jurisdiction of the Wetlands Protection Act may proceed until a final Order of Conditions (issued following submittal of a Notice of Intent or Abbreviated Notice of Intent) or Order of Resource Area Delineation (issued following submittal of Simplified Review ANRAD) has been received from the issuing authority (i.e., Conservation Commission or the Department of Environmental Protection).

1. The area described on the referenced plan(s) is an area subject to protection under the Act. Removing, filling, dredging, or altering of the area requires the filing of a Notice of Intent.

2a. The boundary delineations of the following resource areas described on the referenced plan(s) are confirmed as accurate. Therefore, the resource area boundaries confirmed in this Determination are binding as to all decisions rendered pursuant to the Wetlands Protection Act and its regulations regarding such boundaries for as long as this Determination is valid.

The boundaries of both the isolated vegetated wetland and bordering vegetated wetland are approved.

2b. The boundaries of resource areas listed below are not confirmed by this Determination, regardless of whether such boundaries are contained on the plans attached to this Determination or to the Request for Determination.

3. The work described on referenced plan(s) and document(s) is within an area subject to protection under the Act and will remove, fill, dredge, or alter that area. Therefore, said work requires the filing of a Notice of Intent.

4. The work described on referenced plan(s) and document(s) is within the Buffer Zone and will alter an Area subject to protection under the Act. Therefore, said work requires the filing of a Notice of Intent or ANRAD Simplified Review (if work is limited to the Buffer Zone).

5. The area and/or work described on referenced plan(s) and document(s) is subject to review and approval by:

Brewster Conservation Commission

Name of Municipality

Pursuant to the following municipal wetland ordinance or bylaw:

Code of the Town of Brewster Wetlands Bylaw

Name

Chapter 172

Ordinance or Bylaw Citation



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 2 – Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**#23-18
Holmes**

B. Determination (cont.)

6. The following area and/or work, if any, is subject to a municipal ordinance or bylaw but not subject to the Massachusetts Wetlands Protection Act:

7. If a Notice of Intent is filed for the work in the Riverfront Area described on referenced plan(s) and document(s), which includes all or part of the work described in the Request, the applicant must consider the following alternatives. (Refer to the wetland regulations at 10.58(4)c. for more information about the scope of alternatives requirements):

- Alternatives limited to the lot on which the project is located.
- Alternatives limited to the lot on which the project is located, the subdivided lots, and any adjacent lots formerly or presently owned by the same owner.
- Alternatives limited to the original parcel on which the project is located, the subdivided parcels, any adjacent parcels, and any other land which can reasonably be obtained within the municipality.
- Alternatives extend to any sites which can reasonably be obtained within the appropriate region of the state.

Negative Determination

Note: No further action under the Wetlands Protection Act is required by the applicant. However, if the Department is requested to issue a Superseding Determination of Applicability, work may not proceed on this project unless the Department fails to act on such request within 35 days of the date the request is post-marked for certified mail or hand delivered to the Department. Work may then proceed at the owner's risk only upon notice to the Department and to the Conservation Commission. Requirements for requests for Superseding Determinations are listed at the end of this document.

1. The area described in the Request is not an area subject to protection under the Act or the Buffer Zone.
2. The work described in the Request is within an area subject to protection under the Act, but will not remove, fill, dredge, or alter that area. Therefore, said work does not require the filing of a Notice of Intent.
3. The work described in the Request is within the Buffer Zone, as defined in the regulations, but will not alter an Area subject to protection under the Act. Therefore, said work does not require the filing of a Notice of Intent, subject to the following conditions (if any).
1. The property owner and contractor shall complete and submit a Work Notification Form five (5) business days in advance of commencing the work and request a pre-con meeting with the Conservation Administrator to discuss details of the project to ensure the approved work is understood and provide permit guidance.
 2. Ensure Best Management Practices and building codes are followed.
 3. Before commencing the work, obtain all subsequent permits.
 4. Contact the Conservation Administrator for guidance on Conservation Permits for work beyond the approved work activities.
4. The work described in the Request is not within an Area subject to protection under the Act (including the Buffer Zone). Therefore, said work does not require the filing of a Notice of Intent, unless and until said work alters an Area subject to protection under the Act.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 2 – Determination of Applicability
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**#23-18
Holmes**

B. Determination (cont.)

- 5. The area described in the Request is subject to protection under the Act. Since the work described therein meets the requirements for the following exemption, as specified in the Act and the regulations, no Notice of Intent is required:

Exempt Activity (site applicable statutory/regulatory provisions)

- 6. The area and/or work described in the Request is not subject to review and approval by:

Name of Municipality

Pursuant to a municipal wetlands ordinance or bylaw.

Name

Ordinance or Bylaw Citation

C. Authorization

This Determination is issued to the applicant and delivered as follows:

- by hand delivery on by certified mail, return receipt requested on

10/13/2023

Date

Date

This Determination is valid for **three years** from the date of issuance (except Determinations for Vegetation Management Plans which are valid for the duration of the Plan). This Determination does not relieve the applicant from complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.

This Determination must be signed by a majority of the Conservation Commission. A copy must be sent to the appropriate DEP Regional Office (see <https://www.mass.gov/service-details/massdep-regional-offices-by-community>) and the property owner (if different from the applicant).



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 2 – Determination of Applicability
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**#23-18
Holmes**

C. Authorization (cont.)

Brewster Conservation Commission

Signatures:

Signature

Signature

Signature

Signature

Signature

Signature

Signature

Signature

Mike Tobin, Chair

Printed Name

Casey Chatelain, Vice Chair

Printed Name

Bruce Evans

Printed Name

Gary Kaser

Printed Name

Kimberly Crocker Pearson

Printed Name

Ron Slowek

Printed Name

Steve McKenna

Printed Name

Printed Name

D. Appeals

The applicant, owner, any person aggrieved by this Determination, any owner of land abutting the land upon which the proposed work is to be done, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate Department of Environmental Protection Regional Office (see <https://www.mass.gov/service-details/massdep-regional-offices-by-community>) to issue a Superseding Determination of Applicability. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and Fee Transmittal Form (see Request for Departmental Action Fee Transmittal Form) as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Determination. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant if he/she is not the appellant. The request shall state clearly and concisely the objections to the Determination which is being appealed. To the extent that the Determination is based on a municipal ordinance or bylaw and not on the Massachusetts Wetlands Protection Act or regulations, the Department of Environmental Protection has no appellate jurisdiction.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
Request for Departmental Action Fee
Transmittal Form

DEP File Number:

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Request Information

1. Location of Project

a. Street Address _____ b. City/Town, Zip _____
 c. Check number _____ d. Fee amount _____

2. Person or party making request (if appropriate, name the citizen group's representative):

Name _____
 Mailing Address _____
 City/Town _____ State _____ Zip Code _____
 Phone Number _____ Fax Number (if applicable) _____

3. Applicant (as shown on Determination of Applicability (Form 2), Order of Resource Area Delineation (Form 4B), Order of Conditions (Form 5), Restoration Order of Conditions (Form 5A), or Notice of Non-Significance (Form 6)):

Name _____
 Mailing Address _____
 City/Town _____ State _____ Zip Code _____
 Phone Number _____ Fax Number (if applicable) _____

4. DEP File Number:

Important:
 When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



B. Instructions

1. When the Departmental action request is for (check one):

- Superseding Order of Conditions – Fee: \$120.00 (single family house projects) or \$245 (all other projects)
- Superseding Determination of Applicability – Fee: \$120
- Superseding Order of Resource Area Delineation – Fee: \$120

Send this form and check or money order, payable to the *Commonwealth of Massachusetts*, to:

Department of Environmental Protection
 Box 4062
 Boston, MA 02211



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
Request for Departmental Action Fee
Transmittal Form

DEP File Number:

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Instructions (cont.)

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.
3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office (see <https://www.mass.gov/service-details/massdep-regional-offices-by-community>).
4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.



Town of Brewster
Code Chapter 272
Stormwater Management Permit
Application Form

FOR TOWN OFFICIAL USE ONLY

TOWN CLERK RECEIVED:

24 FEB 2024 8:49 AM
BREWSTER TOWN CLERK

SWM PERMIT NUMBER ASSIGNED:

Sump 2024-07

1. Project Location:

0 Crowells Bog Road, Brewster

Street Address

61/11

Assessors Map and Parcel(s)

BOOK 35751 PAGE 21

Deed Reference

2. Applicant:

TIMOTHY HOLMES

Name

16 QUARTER MASTER DRIVE, BREWSTER, MA 02631

Legal Mailing Address

508-246-6350

Phone Number

tholmes@sunwindllc.com

Email Address

3. Property Owner (if different than Applicant):

MY THREE SONS REALTY, LLC

Name

16 QUARTER MASTER DRIVE, BREWSTER, MA 02631

Legal Mailing Address

508-246-6350

Phone Number

info@sunwindllc.com

Email Address

4. Professional Representative:

DOWN CAPE ENGINEERING, INC

Name

939 ROUTE 6A, YARMOUTHPORT, MA 02675

Legal Mailing Address

508-362-4541

Phone Number

INFO@DOWNCAPE.COM

Email Address

5. Type of Application (Check as applicable):

Minor Stormwater Permit- Any combination or series of construction or land disturbance activities that, over a two-year period, will result in a net increase in impervious area of 500 sq.ft. to 2,500 sq.ft. and/or will result in land disturbances of 10,000 sq.ft. to 20,000 sq.ft.



Major Stormwater Permit- Any alteration, disturbance, development, or redevelopment that does not meet the eligibility criteria for a Minor Stormwater Permit.

SWM Permit Amendment-
List existing Stormwater Management permit number/ type _____.

Stormwater Management Certificate of Compliance (SMCC) Request-
List relevant Stormwater Management permit number _____.

6. Brief Project Description, including any waiver requests:

proposed single family house

7. Signatures:

Timothy Holmes Jan 29, 2024
Applicant Date

 " " _____
Property Owner (if different than Applicant) Date

Daniel O'Sullivan 1-30-24
Professional Representative (as applicable) Date
DANIEL O'SULLIVAN PE, PLS DCE, INC.

NOTES:

- Please refer to Appendix B of the Stormwater Management Regulations for detailed application submittal and supporting material requirements for Minor and Major Stormwater Management Permits, respectively.
- The application fee schedule is contained in Appendix C of the Regulations.
- Certain activities are exempt from review and permitting (See §272-6 of the Stormwater Management Bylaw).
- If the project is located, in whole or part, within an area subject to state or local wetlands protection law, the review and permitting authority is the Brewster Conservation Commission/ Conservation Department.
- No permit review shall occur nor shall review periods commence until the application is deemed complete.



down cape engineering, inc.

CIVIL ENGINEERS & LAND SURVEYORS

939 MAIN ST / ROUTE 6A YARMOUTHPORT, MA 02675

(508) 362-4541 FAX (508) 362-9880

DRAINAGE CALCULATIONS:

0 Crowells Bog Road
Proposed Dwelling
Brewster, MA

DATE: 1-30-2024

PREPARED FOR: Tim Holmes



D. Ojala, - 1-30-24

Prepared for: 0 Crowells Bog Road, Brewster

1-30-24 DRAINAGE SUMMARY-

DESIGN EVENT: 25/100 YEAR STORM EVENT

The proposed residence on Crowells Bog Road is on a very large 10 acre wooded lot with rolling terrain and typical sandy carver coarse outwash plan pervious soils.

The drainage systems specified for the proposed residential home with a paved driveway at the above referenced site has been designed in accordance with Town of Brewster Subdivision Rules and Regulations based on the Subdivision Rules and Regulations TR55/HydroCAD method drainage analysis, and fully complies with the local regulations and State Stormwater Management Guidelines.

The drive has cape cod berms and pitch which moves runoff to a catch basin leading to a leaching pit and a sediment forebay leading to a rain garden with overflow to a 1,000 gallon leaching pit set in clean sand found by the soil testing. The building roof is connected to drywells located adjacent the building. The underlying material is sand, hydraulic group A, see test holes on the site plan.

The rainfall events were a 2, 10, 25 & 100 year return frequency Type III Storm with precipitation depths based on 90% of the NOAA Atlas 14 upper confidence interval for the project location.

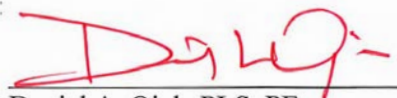
The HydroCAD drainage calculations and drainage area sketch plans are attached for reference. The highest levels reached during the storm are below the top infiltration structures and rain gardens, indicating an adequate design for the design storms.

Based on the attached drainage calculations the proposed system is adequate for the proposed use on the site. Note the majority of a 100 year storm flowing over the pervious areas of the site will be infiltrated onsite, and all impervious surfaces will be infiltrated onsite exceeding the state standards of no more offsite flow under developed conditions than existing conditions. Undeveloped areas of the site are shown to not change pre to post construction. The natural kettle holes retain water onsite, while other areas continue to contribute to the wetland kettle holes with the same or less inflow. Overall the site has a very low impervious percentage, and the driveway and roof areas are fully infiltrated on site.

SUMMARY:

USE THE PROPOSED SEDIMENT FOREBAY AND RAIN GARDEN WHICH OVERFLOWS TO SUBSURFACE INFILTRATION SYSTEM, AS SHOWN ON THE SITE PLANS BY DOWN CAPE ENGINEERING, INC.

Prepared by:



Daniel A. Ojala PLS, PE
Down Cape Engineering, Inc.

1-30-24

date



HYDRO-CAD DRAINAGE ANALYSIS INFORMATION
 STAGE-DISCHARGE AND STAGE STORAGE TABLE DA1

6' DIA PRECAST CATCH BASINS, 6'-8" HIGH
 3/4" - 1-1/2" WASHED STONE FOR EFF. DIA SELECTED

INPUT VARIABLES:

NUMBER OF LEACHPITS:	1 (NO. PITS)
LENGTH OF TRENCHES:	0 (FT.)
WIDTH OF TRENCHES:	3 (FT.)
INVERT OF STRUCTURES:	42.5 (EL. ABOVE DATUM)
EFFECTIVE DIAMETER PITS:	14 (STONE + LPIT O.A. DIA)
STONE VOID RATIO, E:	0.4 (FT3/FT3)
TOWN LEACH RATE:	0.7 (GPM/SF)

CALCULATED VALUES:

TOP OF PRECAST STRUCTURES ELEV.:	44.50	BOTTOM LPIT ELEV.	37.83
		BOTTOM TRENCH EL.	40.50

ELEVATION (FT)	STORAGE (CU.FT.)	DISCHARGE (CFS)
37.73	0	0
37.83	0	0.24
38.50	52.6	0.26
39.50	131.2	0.35
40.43	204.2	0.42
40.50	209.7	0.42
41.50	288.2	0.49
42.50	366.8	0.56
43.50	445.3	0.63
44.50	523.8	0.70

HYDRO-CAD DRAINAGE ANALYSIS INFORMATION
 STAGE-DISCHARGE AND STAGE STORAGE TABLE DA10

6' DIA PRECAST CATCH BASINS, 6'-8" HIGH
 3/4" - 1-1/2" WASHED STONE FOR EFF. DIA SELECTED

INPUT VARIABLES:
 NUMBER OF LEACHPITS: 2 (NO. PITS)
 LENGTH OF TRENCHES: 0 (FT.)
 WIDTH OF TRENCHES: 3 (FT.)
 INVERT OF STRUCTURES: 86 (EL. ABOVE DATUM)
 EFFECTIVE DIAMETER PITS: 14 (STONE + LPIT O.A. DIA)
 STONE VOID RATIO, E: 0.4 (FT3/FT3)
 TOWN LEACH RATE: 0.7 (GPM/SF)

CALCULATED VALUES:
 TOP OF PRECAST STRUCTURES ELEV.: 88.00 BOTTOM LPIT ELEV. 81.33
 BOTTOM TRENCH EL. 84.00

ELEVATION (FT)	STORAGE (CU.FT.)	DISCHARGE (CFS)
81.23	0	0
81.33	0	0.48
82.00	105.2	0.53
83.00	262.3	0.71
83.93	408.4	0.84
84.00	419.4	0.85
85.00	576.5	0.98
86.00	733.5	1.12
87.00	890.6	1.26
88.00	1047.7	1.40

STORMWATER MANAGEMENT PERMIT APPLICATION

0 Crowells Bog Road, Brewster, MA

PROJECT OVERVIEW:

The applicant is pleased to submit a stormwater application to develop an existing residential property. The 441,662 s.f. (10.14 acre) property is currently vacant. A single family dwelling with a driveway and associated utilities are proposed. The total number of bedrooms on the site will be seven. The new leaching field will be located greater than 100' to the wetlands in the area and no Board of Health variances are required as the septic system meets local and state requirements. The site needs a Major Stormwater Permit as it disturbs over 20,000 s.f.

The Site is bordered on the east by a bordering vegetated wetland and surrounded by residences to the north, south and west. The site does not lie within Priority and Estimated Habitats in accordance with the NHESP Map dated August 2021. A Request for Determination of Applicability was filed and approved by the Conservation Commission in 2023 which confirmed the resource area locations. All work will take place outside of the 100' buffer to the BVW and to the small IVW on the southerly section of the lot.

The site has rolling terrain, and the proposed dwelling has been sighted at the high point of the lot. The proposed grading will allow for a relatively gentle driveway slope up to the proposed dwelling. Roof drywells are proposed to capture the roof runoff and cape cod berms will direct the driveway runoff to the proposed rain garden drainage systems.

Compliance with the Brewster Stormwater Bylaw Regulations:

To comply with the Brewster Stormwater Regulations, a work limit line of staked silt fence backed by coir logs is proposed downgradient of all proposed work and around the sides of the site. All work limit lines shall remain in place until all construction is completed and areas are planted and stable. Preconstruction activities will include the installation of erosion control fences as shown on the site plans and forming of the temporary bioretention areas to intercept and infiltrate stormwater from the construction site. The site is large and consists of twenty plus feet of pervious material above the estimated high ground water elevation, so onsite infiltration is readily available. The underlying material is sand, hydrologic group A with a perc rate of less than two minutes per inch. See soil logs on the detail sheet.

The temporary dumpster location and stockpile areas to be utilized during construction are shown on the Erosion and Sedimentation Control Plan attached. The site plans also show existing topography, hydrology, and proposed grading. The driveway berms will direct the stormwater runoff to the low point of the driveway where it will flow into a sediment forebay that leads to a bioretention area with an overflow leaching pit. All roof runoff is directed to large drywells for direct infiltration and to reduce flow off the site. A section of drainage is captured by a deep sump hooded catch basin and infiltrated into the roof drywell system.

The proposed construction activities will not have a deleterious effect upon any wetland resource area. The silt fence will contain all construction activities. Roof drainage will be mitigated utilizing downspouts to drywells. A 100' buffer to the resource areas will be maintained.

All machinery will access the areas of proposed construction through the proposed driveway. A stone construction apron will be installed to reduce silt from leaving the site. A silt fence will be installed downgradient of any proposed work.

The Low Impact Design bioretention area is utilized to reduce the Phosphorous and Nitrogen loads of the impervious surfaces on the site. No additional stormwater is expected to leave the site based on the grading and swales indicated on the drawings.

Compliance with the 10 State Stormwater Standards (in order in bold with explanation in lighter font following the numbered Standards) is as follows:

- 1. No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.**

No new untreated stormwater discharges are proposed.

- 2. Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.**

The sandy soils permit onsite infiltration, as shown by the attached calculations. The development was analyzed under the 100 year, 24 hour storm and the drainage systems as designed, will not increase off-site flooding over existing conditions.

- 3. Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.**

The proposed infiltration systems are sized to adequately infiltrate the required recharge volume and low impact drainage solutions were implemented.

- 4. Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:**
 - a. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;**
 - b. Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and**
 - c. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.**

A long term pollution prevention plan is attached, in excess of the correct volumes are captured, and pretreatment is provided per the Handbook, so compliance with #4 is assured.

5. For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

The standard residential development and driveway are not applicable to higher potential pollutant loads per the Handbook, so this standard is "Not Applicable" for this site.

6. Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

The site is not within a Zone I, Zone A, or Zone II

7. A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

This project fully complies with the standards.

8. A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

The plans are to be provided under separate cover.

9. A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.

The plan is attached.

10. All illicit discharges to the stormwater management system are prohibited.

No illicit discharges are allowed or planned related to this site. An illicit discharge statement signed by the property owner is attached.

As shown above and in the following calculations, the proposed site will be compliant with the State Stormwater Management Guidelines.

STORMWATER OPERATIONS AND MAINTENANCE PLAN:

#0 Crowells Bog Road, Brewster, MA

DATE: 1-30-2024

Prepared by: down cape engineering, inc.

939 Route 6a Yarmouthport, MA 02675

Ph. 1-508-362-4541

Fax 1-508-362-9880

STORMWATER OPERATIONS AND MAINTENANCE PLAN:

#0 Crowells Bog Road, Brewster, MA

TABLE OF CONTENTS

1. Owner of Stormwater System and Responsible Party for Operation and Maintenance
2. Overview of Stormwater Management System
3. Source Control Best Management Practices
4. Schedule of Inspection and Maintenance of System
5. Plan of Stormwater BMPs location for maintenance (see attached Site Plans)
6. Estimated operations and maintenance budget
7. Operations and maintenance Log Form
8. Emergency Spill Contingency Plan

STORMWATER OPERATIONS AND MAINTENANCE PLAN:

#0 Crowells Bog Road, Brewster, MA

OWNER OF STORMWATER SYSTEM AND RESPONSIBLE PARTY FOR OPERATIONS AND MAINTENANCE:

OWNER/RESPONSIBLE PARTY:

My Three Sons Realty, LLC
Tim Holmes
16 Quartermaster Drive
Brewster, MA
508-246-6350

The responsible party shall:

Operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook, and local Town of Brewster Stormwater Management Regulations, maintain an operation and maintenance log continuously and retain for the latest three (3) consecutive calendar years, of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location), make the maintenance log available to Brewster Stormwater Authority or its designated agents upon request, and allow members and agents of the Brewster Stormwater Authority to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.

STORMWATER OPERATIONS AND MAINTENANCE PLAN:

#0 Crowells Bog Road, Brewster, MA

OVERVIEW OF STORMWATER MANAGEMENT SYSTEM:

The drainage systems specified for the proposed development area have been designed in accordance with Town of Brewster Stormwater Management Regulation. The system has been designed to fully comply with the Stormwater Management Guidelines.

The system utilizes a sediment forebay which flows to a rain garden with an overflow leaching pit. The roof area and upper parking area is directed to subsurface infiltration pits. The proposed use is a typical residential driveway lot and is not a "Land Use with Higher Potential Pollutant Load" per the State Stormwater Management Guidelines, and onsite infiltration of the full design storm is utilized for the proposed hardscaped areas. The underlying material is sand, hydrologic group A under the guidelines.

During construction the installation of silt controls near the down gradient border will provide protection. The erosion control fence is to be inspected after every rain event and is to be maintained until the site is stabilized. The systems are designed to contain and infiltrate the design storm event onsite.

Best Management Practices incorporated in the project are as follows:

- Infiltration Trenches/Pit (80% TSS Removal)
- Sediment forebay (25% TSS Removal)
- Rain Gardens / Bioinfiltration areas (90% TSS Removal)
- Street Sweeping as required (required BMP)

STORMWATER OPERATIONS AND MAINTENANCE PLAN:

#0 Crowells Bog Road, Brewster, MA

SCHEDULE OF INSPECTION AND MAINTENANCE OF STORMWATER MANAGEMENT SYSTEM:

SCHEDULE OF INSPECTION AND MAINTENANCE:

The stormwater management system proposed for the site requires regular inspection and maintenance to ensure proper operation and effectiveness.

1. It is recommended that the stormwater system proposed for the site be inspected annually, and sediment removed from the sediment forebay, catch basin, and gutters as required, generally once per year for the gutters & catch basin and four times per year for the forebays. The inspection should involve physical inspection of the gutters, catch basin, and forebays for sediment buildup and inspecting the leaching pits for solids carryover. If significant solids are found in the gutters, basin, forebays, or infiltration pits, they shall be cleaned, and the sediment disposed of offsite in compliance with all local, state, and federal regulations. If slow infiltration is noted during storm events, the infiltration pits should be repaired or rebuilt as necessary to restore function. If standing water is observed in the bottom of the bioinfiltration areas, any sediment shall be removed, and the bottom scarified to increase infiltration as needed to prevent standing water more than 72 hours after a rain event.
2. Grass in infiltration areas should be mowed once annually, aerate/till and re-seed if water is standing more than 72 hours after a rain event.
3. The driveway areas shall be swept free of sand when necessary and kept free of any debris.

STORMWATER OPERATIONS AND MAINTENANCE PLAN:

#0 Crowells Bog Road, Brewster, MA

SOURCE CONTROL BEST MANAGEMENT PRACTICES:

1. The pavement should be swept when necessary to remove accumulated debris.
2. No illicit discharges of any type are allowed into the storm water drainage system or septic system. Owners of the dwellings should be instructed in proper disposal of any cleaning materials, paints, chemicals, or other potentially harmful substances utilized on or about the property.
3. Good housekeeping procedures shall be used to reduce sources of sediment, phosphorus, nitrogen and other contaminants in stormwater runoff. These shall include:
 - (a) Wash vehicles at offsite commercial car washes or on lawns or pervious areas using biodegradable and phosphate free detergent (washing of vehicles onsite is discouraged in general, however).
 - (b) Removal of sediment, leaf litter and other organic debris from impervious surfaces a minimum of twice a year in the spring (after snowmelt) and fall (after leaf fall)
 - (c) Removal of sediment/debris from gutters a minimum of once a year
 - (d) Restrictions on the application of fertilizers, including:
 - i. Fertilizer shall not be applied during or immediately prior to heavy rainfall, such as but not limited to thunderstorms, hurricanes, or northeastern storms, or when the soil is saturated due to intense or extended rainfall;
 - ii. Fertilizer shall not be applied between November 12 and the following March 31;
 - iii. Fertilizer shall not be applied, spilled or deposited on impervious surfaces or in a manner that allows it to enter into storm drains;
 - iv. Fertilizer shall not be applied within 100 feet of any surface water or within the Zone I of a public drinking water well;
 - v. Fertilizer containing phosphorus shall not be applied unless a soil test taken not more than three years before the proposed fertilizer application indicates that additional phosphorus is needed for growth of that turf, or unless establishing new turf or reestablishing or repairing turf after substantial damage or land disturbance;

- vi. A single application of fertilizer that contains nitrogen shall not exceed 1.0 pound of nitrogen per 1,000 square feet, shall consist of at least 20% slow-release nitrogen (SRN) fertilizer (NOTE: This represents the minimum percentage: use of higher SRN content is generally preferable, especially on sandy root zones, during stress and pre-stress periods, and when there are fewer annual applications of nitrogen made to a lawn) and the annual rate shall not exceed 3.2 pounds of actual nitrogen per thousand square feet. Single applications shall be done at intervals of no less than four weeks until the annual maximum is reached;
- vii. Grass clippings, leaves, or any other vegetative debris shall not be deposited into or within 50 feet of water bodies, retention and detention areas, drainage ditches or stormwater drains, or onto impervious surfaces, such as, but not limited to, roadways and sidewalks, except during scheduled clean- up programs.

STORMWATER OPERATIONS AND MAINTENANCE PLAN:

#0 Crowells Bog Road, Brewster, MA

EMERGENCY SPILL CONTIGENCY PLAN:

1. The owner of the facility shall have a designated person with overall responsibility for spill response.
2. A summary of this plan shall be posted in a prominent location in the building. The Summary shall identify the phone numbers of regulatory agencies and individuals to be contacted in the event of a spill.
3. In the event of a spill, the following shall be notified: (emergencies dial 911)
 - a) Brewster Fire Department 1-508-896-7018
(For a gasoline or hazardous materials spill)
 - b) Department of Environmental Protection
Emergency Response 1-508-946-2850
 - c) Brewster Water Department 1-508-896-5454
 - d) Brewster Board of Health 1-508-896-3701
4. Notification of authorities for the cleanup of spills shall be done immediately upon discovery of a spill, except for minor spills inside the building which can be managed by onsite personnel. Any release to the environment must be reported immediately.

STORMWATER OPERATIONS AND MAINTENANCE PLAN:

#0 Crowells Bog Road, Brewster, MA

**ESTIMATED OPERATIONS AND MAINTENANCE
BUDGET:**

Inspections: Inspection of drainage system 2 times per year:

**Visual inspection, probe sediment depth, review for signs of drainage issues, ...Est.
\$150/visit = \$300/year.**

**Gutter & catch basin cleaning: 1 time per year or when sediment buildup is
apparent - \$150/year.**

Forebay cleaning: four times per year - \$400/year

Street Sweeping: as needed - Est. \$600/visit.

INSPECTION AND MAINTENANCE LOG FORM-
Long Term Pollution Prevention and Erosion and Sedimentation
Control

Project Name: #0 Crowells Bog Road, Brewster, MA

Owner: My Three Sons Realty, LLC

Contractor:

Date Description of Inspection or Maintenance Person Comments
(Sweep road, apron maintenance, silt fence, etc.)

Date	Description of Inspection or Maintenance Person (Sweep road, apron maintenance, silt fence, etc.)		Comments

LONG TERM POLLUTION PREVENTION PLAN

#0 Crowells Bog Road, Brewster, MA

DATE: 1/30/2024

Prepared by: down cape engineering, inc.

939 Route 6a Yarmouthport, MA 02675

Ph. 1-508-362-4541

Fax 1-508-362-9880

LONG TERM POLLUTION PREVENTION PLAN:

#0 Crowells Bog Road, Brewster, MA

- 1. Street Sweeping of the driveway shall be performed as needed.**
- 2. Ongoing maintenance of stormwater drainage systems shall be per O&M plan.**
- 3. Spill response plan shall be posted per Stormwater O&M plan.**
- 4. Excessive use of fertilizers, herbicides, and pesticides shall be avoided.**
- 5. Illicit discharges to the stormwater management system or waters of the Commonwealth are prohibited, and personnel shall be instructed that no such discharges are allowed. An illicit discharge statement is attached and is to be signed by the owner prior to occupancy.**

LONG TERM POLLUTION PREVENTION PLAN:

RESPONSIBLE PARTY FOR LTPPP COMPLIANCE:

OWNER/RESPONSIBLE PARTY:

My Three Sons Realty, LLC
Tim Holmes
16 Quartermaster Drive
Brewster, MA
508-246-6350

Note: Responsibility may be transferred using legally binding contract.

ILLICIT DISCHARGE COMPLIANCE STATEMENT

SITE ADDRESS: 0 CROWELLS BOG ROAD, BREWSTER, MASSACHUSETTS
OWNER: MY THREE SONS REALTY, LLC
PLAN REFERENCE: SITE PLAN SET PREPARED BY DOWN CAPE ENGINEERING, INC.
DATE: DECEMBER 29, 2023

As required by Standard 10 of the Massachusetts Stormwater Standards, I, the undersigned, being the authorized owner/responsible party of the above referenced property do hereby certify that no illicit discharges exist on the site and that the stormwater management system, as shown on the above referenced plan, does not contain or permit any illicit discharges to enter the stormwater management system. Furthermore discharges from interior building drains or plumbing within the buildings are prohibited. Illicit discharges do not include discharges from the following activities or facilities: firefighting, water line flushing, landscape irrigation, uncontaminated groundwater, potable water sources, foundation drains, air conditioning condensation, footing drains, individual resident car washing, flows from riparian habitats and wetlands, dechlorinated water from swimming pools, water used for street washing and water used to clean residential buildings without detergents.

The pollution prevention plan measures to implements in this project to prevent illicit discharges to the stormwater management system, including wastewater discharges and discharges of stormwater contaminated by contact with process wastes, raw materials, toxic pollutants, hazardous substances, oil, or grease, include:

1. Identifying the responsible personnel for the implementation of an effective Illicit Discharge Detection and Elimination [IDDE] program.
2. Identify potential sources of Illicit Discharges.
3. Implement the Spill Prevention and Control Plan contained in the property Stormwater Pollution Prevention Plan [SWPPP].

Further, I certify that the stormwater management system ass shown on the referenced plan will be maintained in accordance with the conditions of the Long Term Pollution Prevention Plan.

NAME: Tim Holmes
SIGNED: *Timothy Holmes*
DATE: January /6/2024

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed..

Version 1, Automated: Mar. 4, 2008

Location:

	B	C	D	E	F
	BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
TSS Removal Calculation Worksheet	Sediment Forebay	0.25	1.00	0.25	0.75
	Rain Garden	0.90	0.75	0.68	0.08
	Infiltration Basin	0.80	0.08	0.06	0.02
		0.00	0.02	0.00	0.02
		0.00	0.02	0.00	0.02

Total TSS Removal =

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project:
 Prepared By:
 Date:

*Equals remaining load from previous BMP (E) which enters the BMP

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location:

TSS Removal Calculation Worksheet

B BMP ¹	C TSS Removal Rate ¹	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Sediment Forebay	0.25	1.00	0.25	0.75
Rain Garden	0.90	0.75	0.68	0.08
	0.00	0.08	0.00	0.08
	0.00	0.08	0.00	0.08
	0.00	0.08	0.00	0.08

Total TSS Removal =

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project:
 Prepared By:
 Date:

*Equals remaining load from previous BMP (E) which enters the BMP

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location:

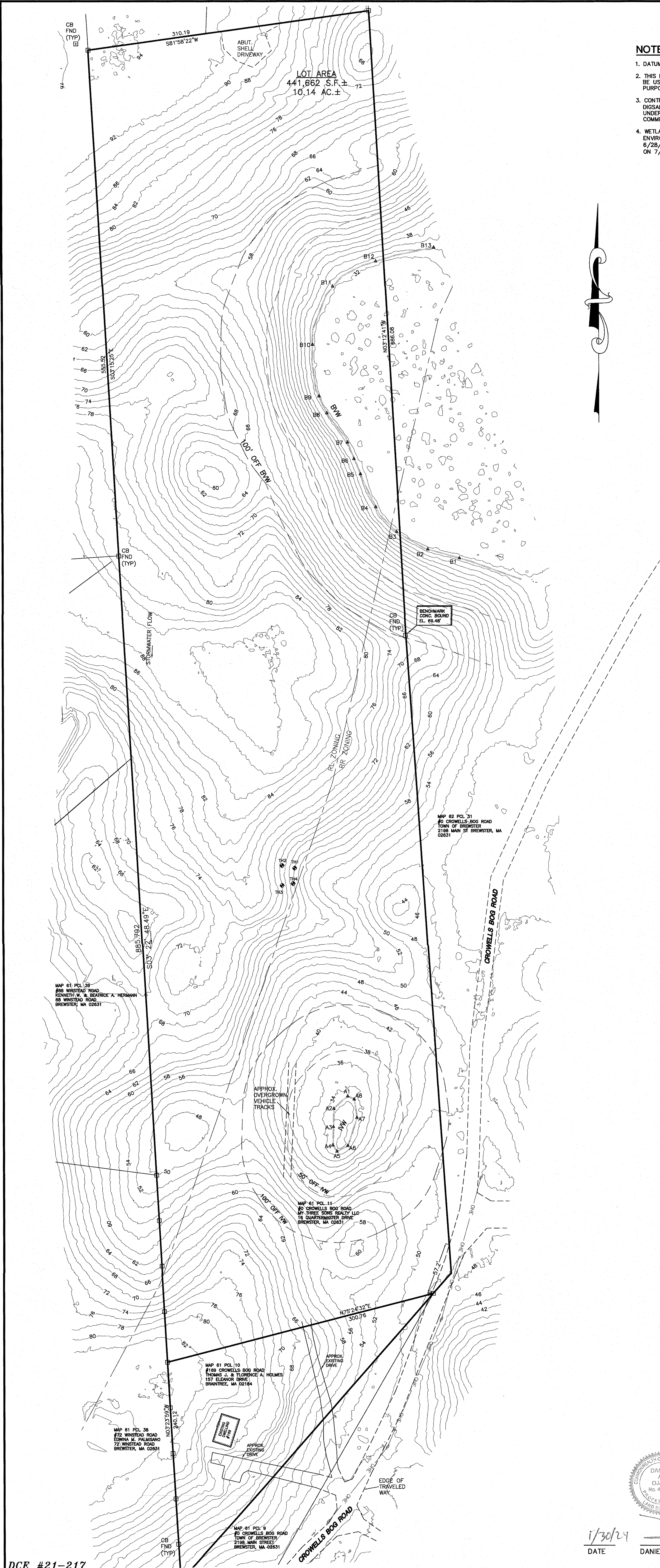
TSS Removal Calculation Worksheet	B	C	D	E	F
	BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
	Deep Sump and Hooded Catch Basin	0.25	1.00	0.25	0.75
	Leaching Catch Basin	0.80	0.75	0.60	0.15
		0.00	0.15	0.00	0.15
		0.00	0.15	0.00	0.15
		0.00	0.15	0.00	0.15

Total TSS Removal =

Separate Form Needs to be Completed for Each Outlet or BMP Train

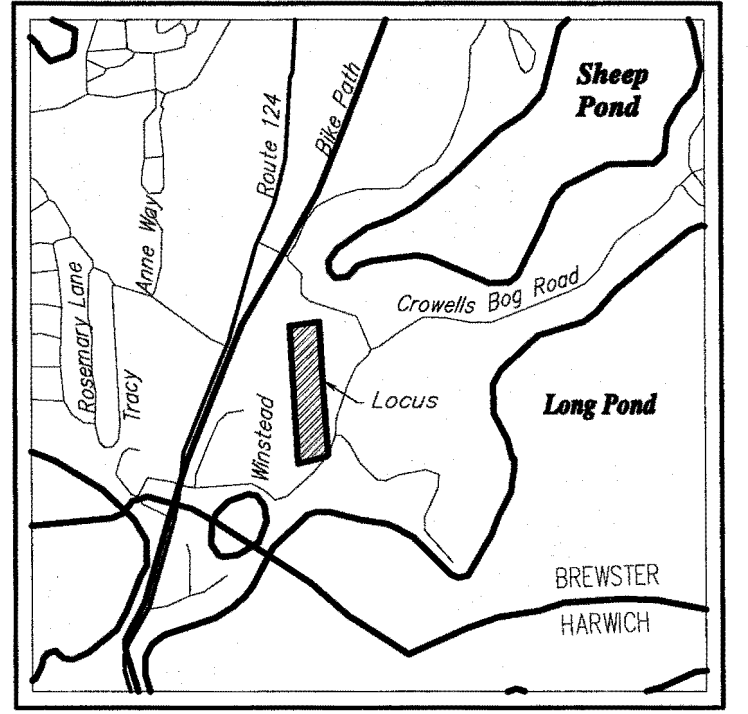
Project:
 Prepared By:
 Date:

*Equals remaining load from previous BMP (E) which enters the BMP



NOTES

1. DATUM IS NAVD88
2. THIS PLAN IS FOR PROPOSED WORK ONLY AND NOT TO BE USED FOR LOT LINE STAKING OR ANY OTHER PURPOSE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING DIGSAFE (811) AND VERIFYING THE LOCATION OF ALL UNDERGROUND & OVERHEAD UTILITIES PRIOR TO COMMENCEMENT OF WORK.
4. WETLANDS FLAGGED BY PAUL SHEA OF INDEPENDENT ENVIRONMENTAL CONSULTANTS ON 6/13/2023 & 6/28/2023 AND MATTHEW CREIGHTON OF BSC GROUP ON 7/31/2023.



LOCUS MAP

SCALE 1"=2000'±

ASSESSORS MAP 61 PARCEL 11

LOCUS IS WITHIN A MassDEP NITROGEN SENSITIVE AREA (NSA)

ZONING SUMMARY

ZONING DISTRICT:
*LOT CREATED PRIOR TO ZONING ADOPTION IN 1960

MIN. FRONT SETBACK 20'
MIN. SIDE SETBACK 10'
MIN. REAR SETBACK 10'

PROPOSED BUILDING COVERAGE = 0.84%

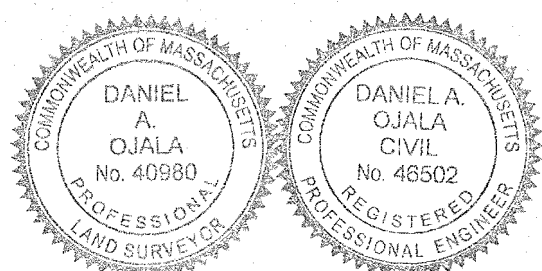
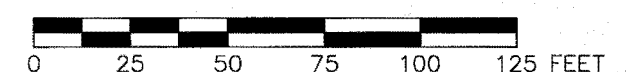
**EXISTING CONDITIONS
SITE PLAN
OF
CROWELLS BOG ROAD
BREWSTER, MA**

PREPARED FOR

TIM HOLMES

DATE: JANUARY 30, 2024

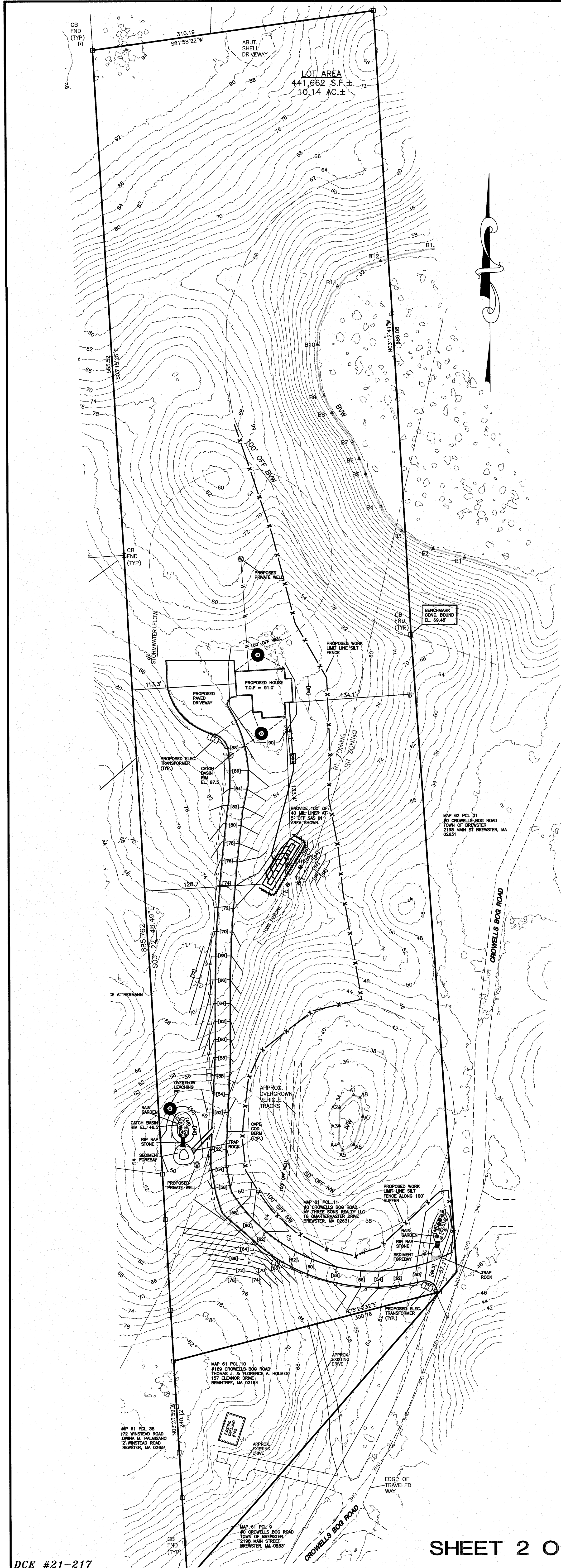
Scale: 1"= 50'



down cape engineering, inc.
civil engineers
land surveyors
939 Main Street (Rte 6A)
YARMOUTHPORT MA 02675

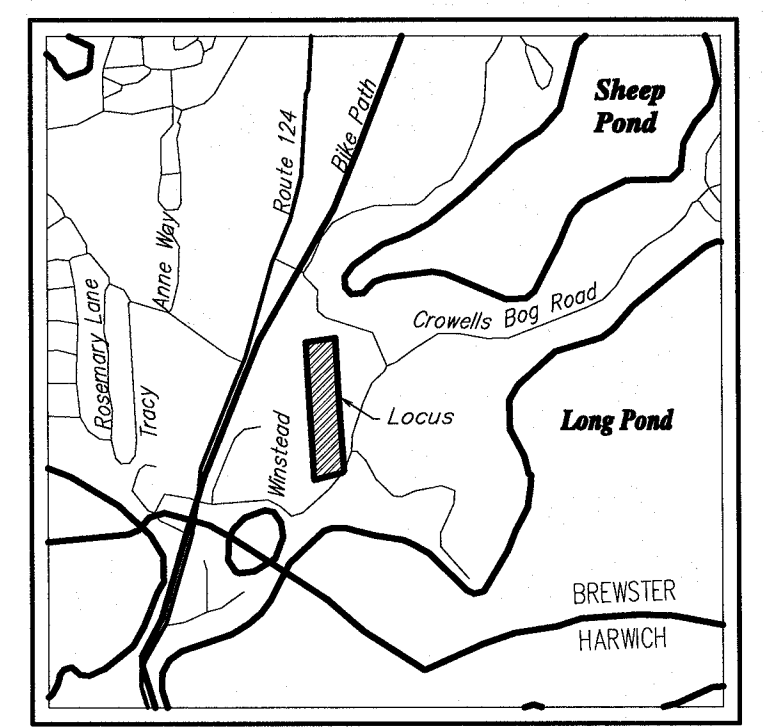
DATE 1/30/24
DRAFTED BY: D. Ojala
CHECKED BY: D. Ojala
DANIEL A. OJALA, P.E., P.L.S.

SURVEY: NHO
DRAFTED BY: CJF
CHECKED BY: DJO



NOTES

1. DATUM IS NAVD 88
2. MUNICIPAL WATER IS NOT AVAILABLE
3. MINIMUM PIPE PITCH TO BE 1/8" PER FOOT.
4. DESIGN LOADING FOR ALL PROPOSED PRECAST UNITS TO BE AASHO H-10
5. PIPE JOINTS TO BE MADE WATERTIGHT.
6. CONSTRUCTION DETAILS TO BE IN ACCORDANCE WITH 310 CMR 15.000 (TITLE 5.)
7. THIS PLAN IS FOR PROPOSED WORK ONLY AND NOT TO BE USED FOR LOT LINE STAKING OR ANY OTHER PURPOSE.
8. PIPE FOR SEPTIC SYSTEM TO SCH. 40-4" PVC.
9. COMPONENTS NOT TO BE BACKFILLED OR CONCEALED WITHOUT INSPECTION BY BOARD OF HEALTH AND PERMISSION OBTAINED FROM BOARD OF HEALTH.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING DIGSAFE (1-888-344-7233) AND VERIFYING THE LOCATION OF ALL UNDERGROUND & OVERHEAD UTILITIES PRIOR TO COMMENCEMENT OF WORK.
11. ANY UNSUITABLE MATERIAL ENCOUNTERED SHALL BE REMOVED 5' BENEATH AND AROUND THE PROPOSED LEACHING FACILITY.
12. CONTRACTOR TO PROVIDE SILT FENCE AT LIMIT OF CLEARING AND STRAW BALES/SWALES AS REQUIRED TO KEEP STORMWATER RUNOFF CONTAINED ON LOT. EROSION CONTROL MEASURES TO REMAIN IN PLACE UNTIL SITE IS STABILIZED.
13. CONTRACTOR TO COORDINATE UTILITY INSTALLATIONS WITH APPROPRIATE VENDORS.
13. WETLANDS FLAGGED BY INDEPENDENT ENVIRONMENTAL CONSULTANTS, INC. ON 6/14/2023 & 6/27/2023



LOCUS MAP
 SCALE 1"=2000'±
 ASSESSORS MAP 61 PARCEL 11
 LOCUS IS WITHIN A MassDEP NITROGEN SENSITIVE AREA (NSA)

ZONING SUMMARY

ZONING DISTRICT:
 *LOT CREATED PRIOR TO ZONING ADOPTION IN 1960
 MIN. FRONT SETBACK 20'
 MIN. SIDE SETBACK 10'
 MIN. REAR SETBACK 10'
 PROPOSED BUILDING COVERAGE = 1.24%

OWNER OF RECORD

NAME: MY THREE SONS REALTY, LLC.
 ADDRESS: 16 QUARTERMASTER DRIVE
 TOWN: BREWSTER, MA 02631

REFERENCES

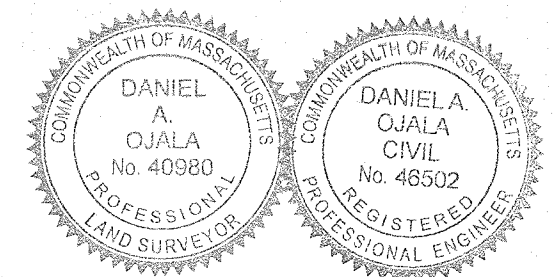
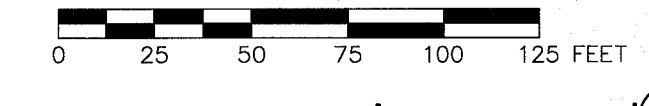
DEED BOOK 35751 PAGE 21

RAIN GARDEN PLANTING SCHEDULE			
SYMBOL	PLANT NAME	SIZE	QUANT.
	WINTERBERRY ILEX VERTICILLATA	#3	7
	NORTHERN BAYBERRY MYRICA PENNSYLVANICA	#3	5

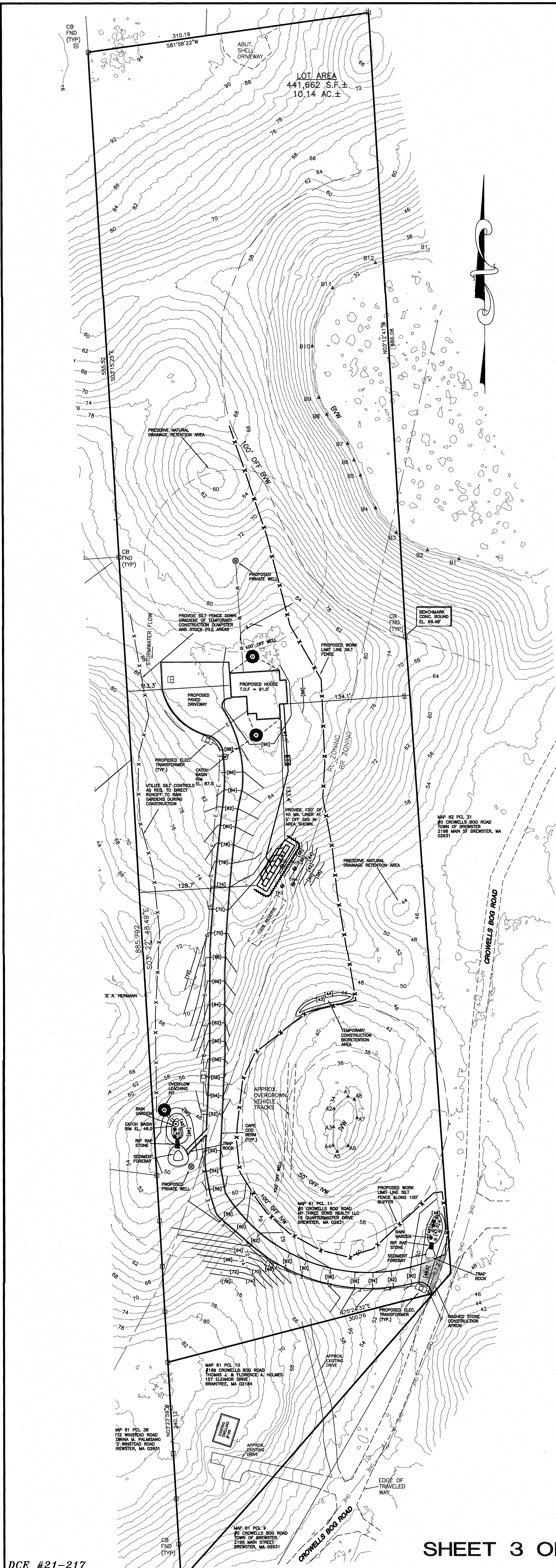
SITE PLAN
 OF
CROWELLS BOG ROAD
BREWSTER, MA

PREPARED FOR
TIM HOLMES

DATE: JANUARY 30, 2024
 Scale: 1"= 50'

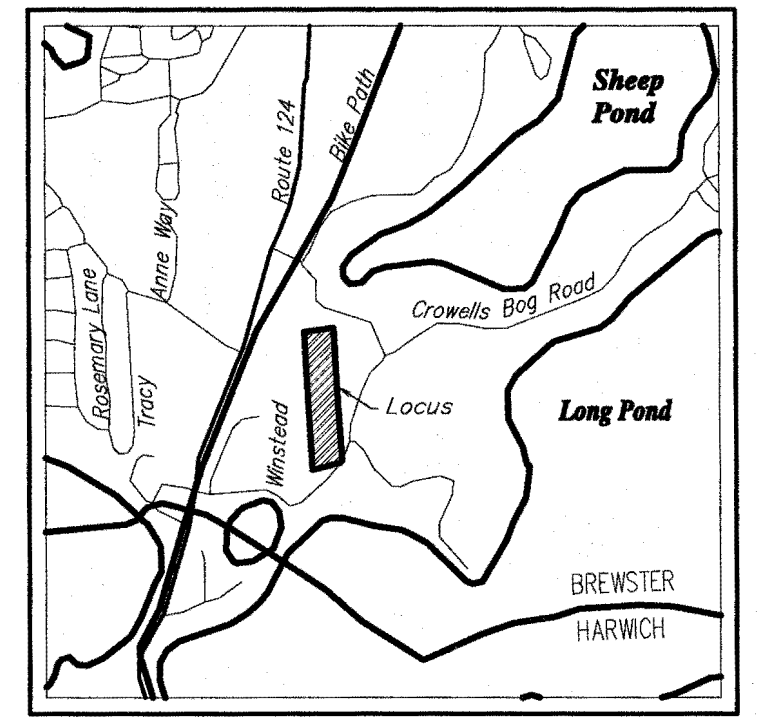


off 508-362-4541
 fax 508-362-9880
 downcape.com
down cape engineering, inc.
 civil engineers
 land surveyors
 939 Main Street (Rte 6A)
 YARMOUTHPORT MA 02675



NOTES

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2. THIS PLAN IS FOR PROPOSED WORK ONLY AND NOT TO BE USED FOR LOT LINE STAKING OR ANY OTHER PURPOSE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING DIGSAFE (1-888-344-7233) AND VERIFYING THE LOCATION OF ALL UNDERGROUND & OVERHEAD UTILITIES PRIOR TO COMMENCEMENT OF WORK.
4. WETLAND FLAGS PER RYDER AND MILCOX, INC.
5. SURVEY COMPLETED BY DOWN CAPE ENGINEERING INC. ON 12/8/2022.
6. RAIN GARDEN AREAS TO BE USED AS TEMPORARY CONSTRUCTION PERIOD INFILTRATION BASINS. REMOVE SILT AS REQUIRED. REBUILD AND PLANT ONCE CONSTRUCTION IS COMPLETE. AVOID COMPACTION IN THESE AREAS.
7. DRIVEWAYS TO BE UTILIZED FOR CONSTRUCTION STAGING AND STOCKPILING. PROVIDE SILT FENCE DOWN GRADIENT OF ALL STOCKPILE AREAS.
8. SILT FENCES TO BE INSPECTED WEEKLY AND AFTER EVERY MAJOR RAIN EVEN. REBUILD AS REQUIRED.
9. REFER TO THE STORMWATER OPERATIONS AND MAINTENANCE PLAN.
10. EROSION CONTROL FABRIC (N.A. GREEN OR EQ.) STAPLED TO ALL EXPOSED SLOPES GREATER THAN 10% REQUIRED.



LOCUS MAP

SCALE 1"=2000'±

ASSESSORS MAP 61 PARCEL 11

LOCUS IS WITHIN A MassDEP NITROGEN SENSITIVE AREA (NSA)

ZONING SUMMARY

ZONING DISTRICT:
*LOT CREATED PRIOR TO ZONING ADOPTION IN 1960

MIN. FRONT SETBACK 20'
MIN. SIDE SETBACK 10'
MIN. REAR SETBACK 10'

PROPOSED BUILDING COVERAGE = 1.24%

OWNER OF RECORD

NAME: MY THREE SONS REALTY, LLC.
ADDRESS: 16 QUARTERMASTER DRIVE
TOWN: BREWSTER, MA 02631

REFERENCES

DEED BOOK 35751 PAGE 21

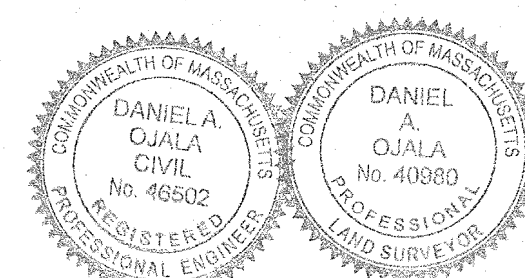
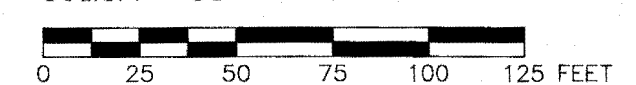
**EROSION & SEDIMENT CONTROL
SITE PLAN**
OF
**CROWELLS BOG ROAD
BREWSTER, MA**

PREPARED FOR

TIM HOLMES

DATE: JANUARY 30, 2024

Scale: 1"= 50'

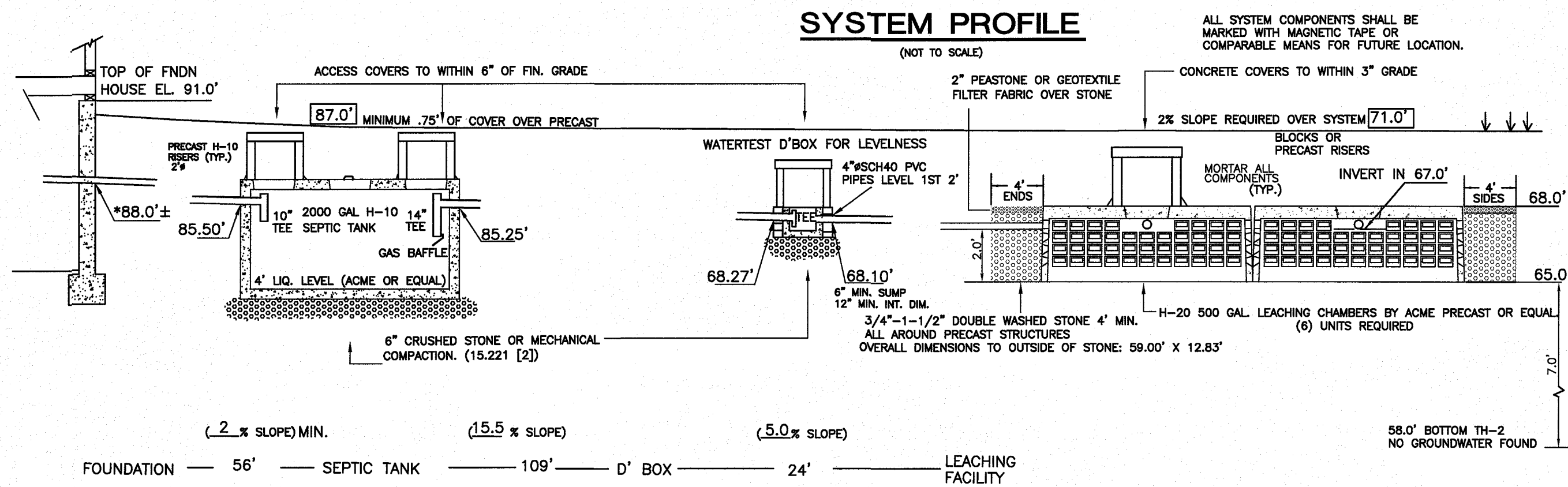


down cape engineering, inc.
civil engineers
land surveyors
939 Main Street (Rte 6A)
YARMOUTHPORT MA 02675

SURVEY: NHO
DRAFTED BY: PTT
CHECKED BY: JVT
21-217 HOLMES.DWG

SYSTEM DESIGN:

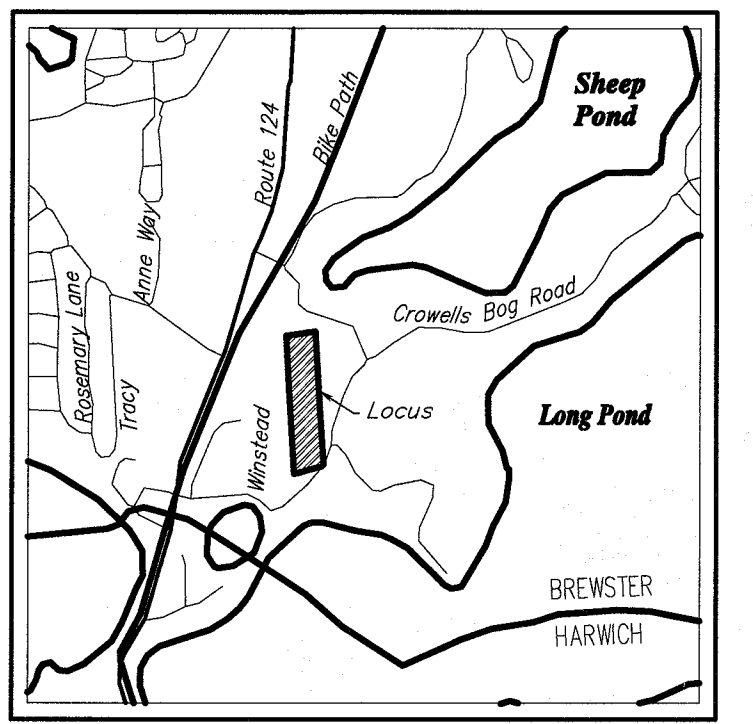
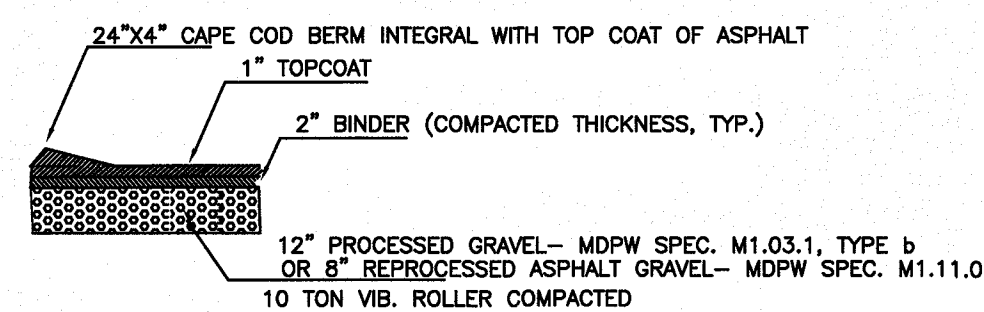
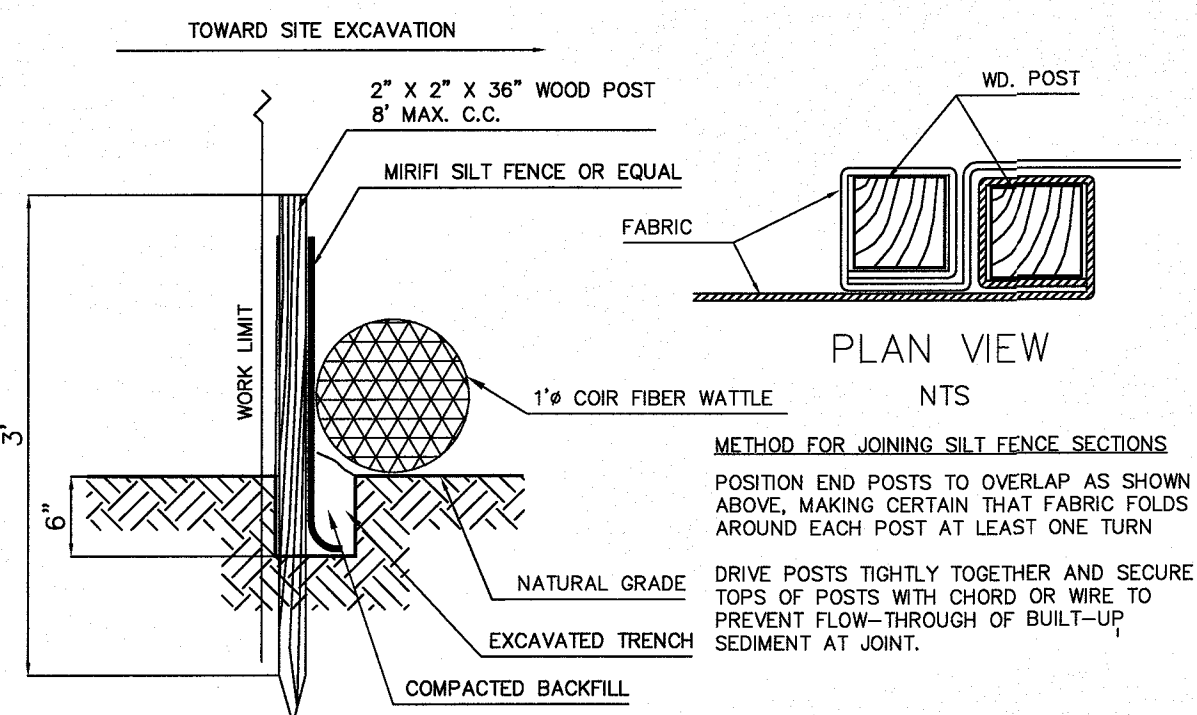
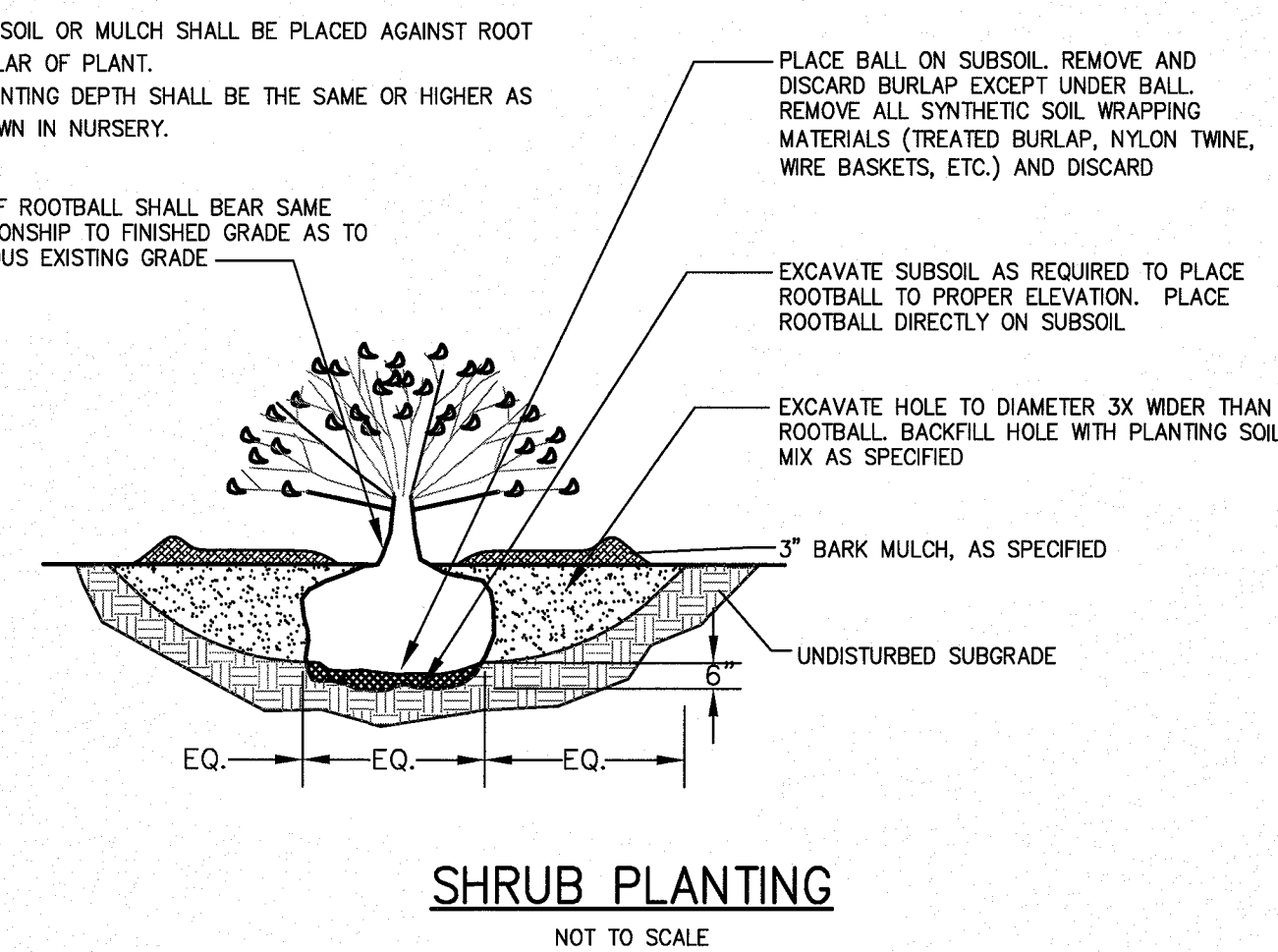
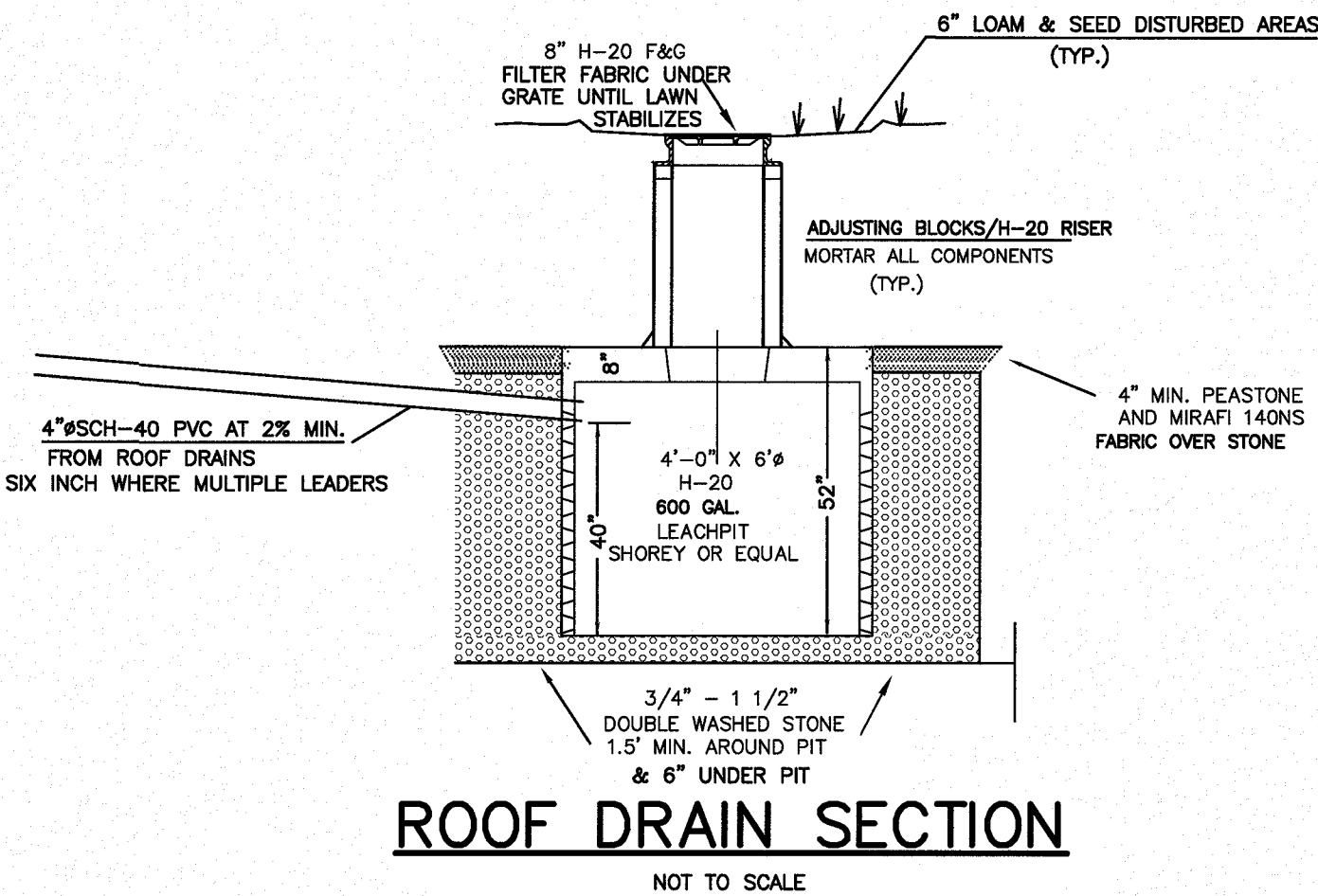
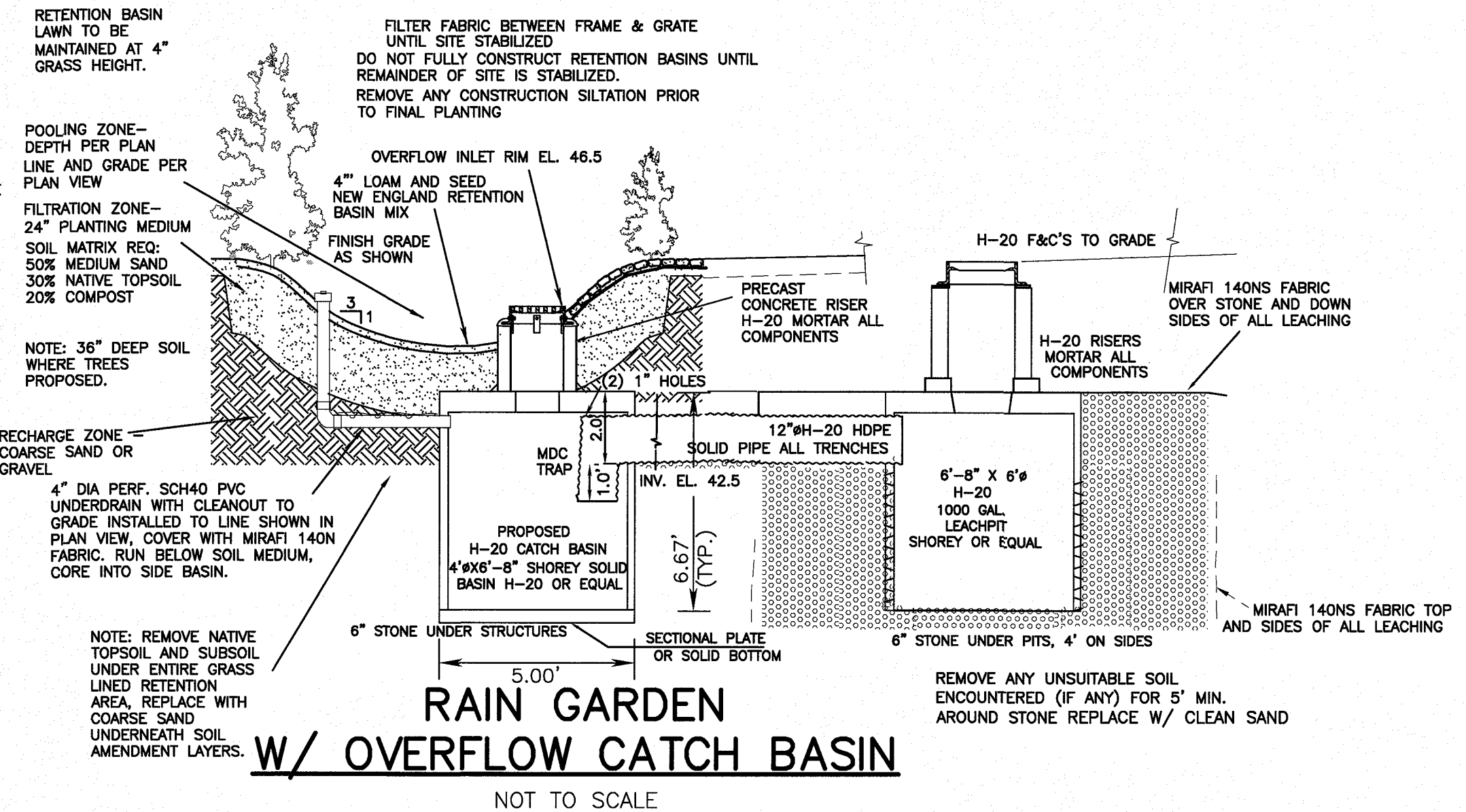
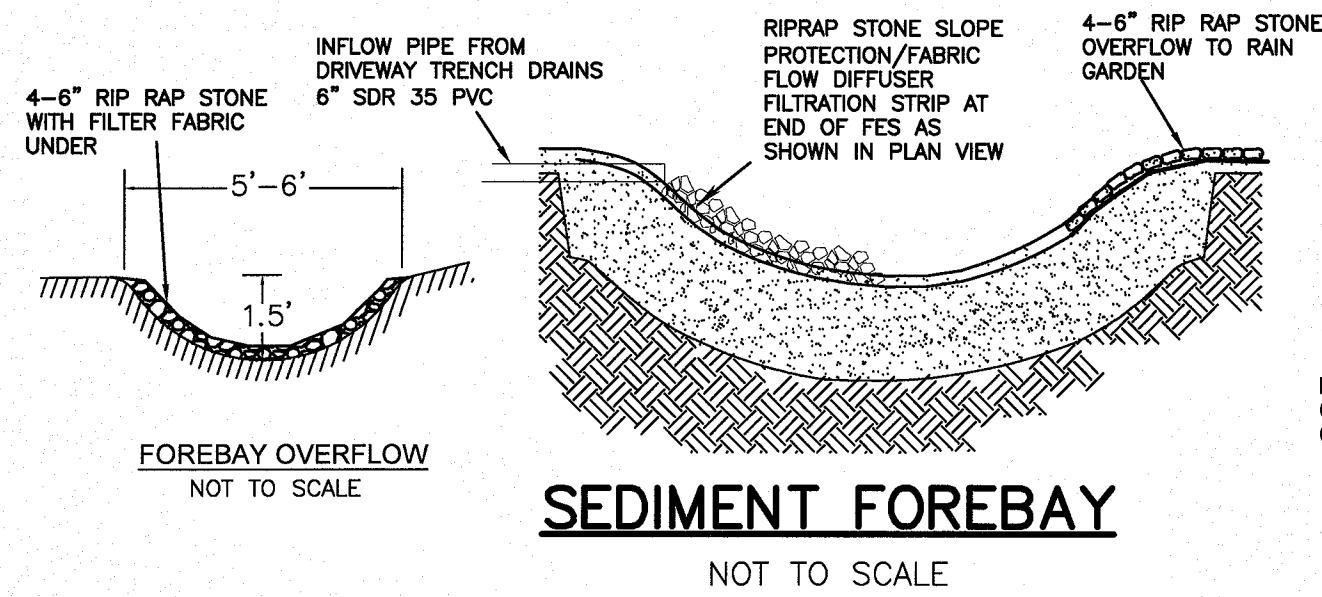
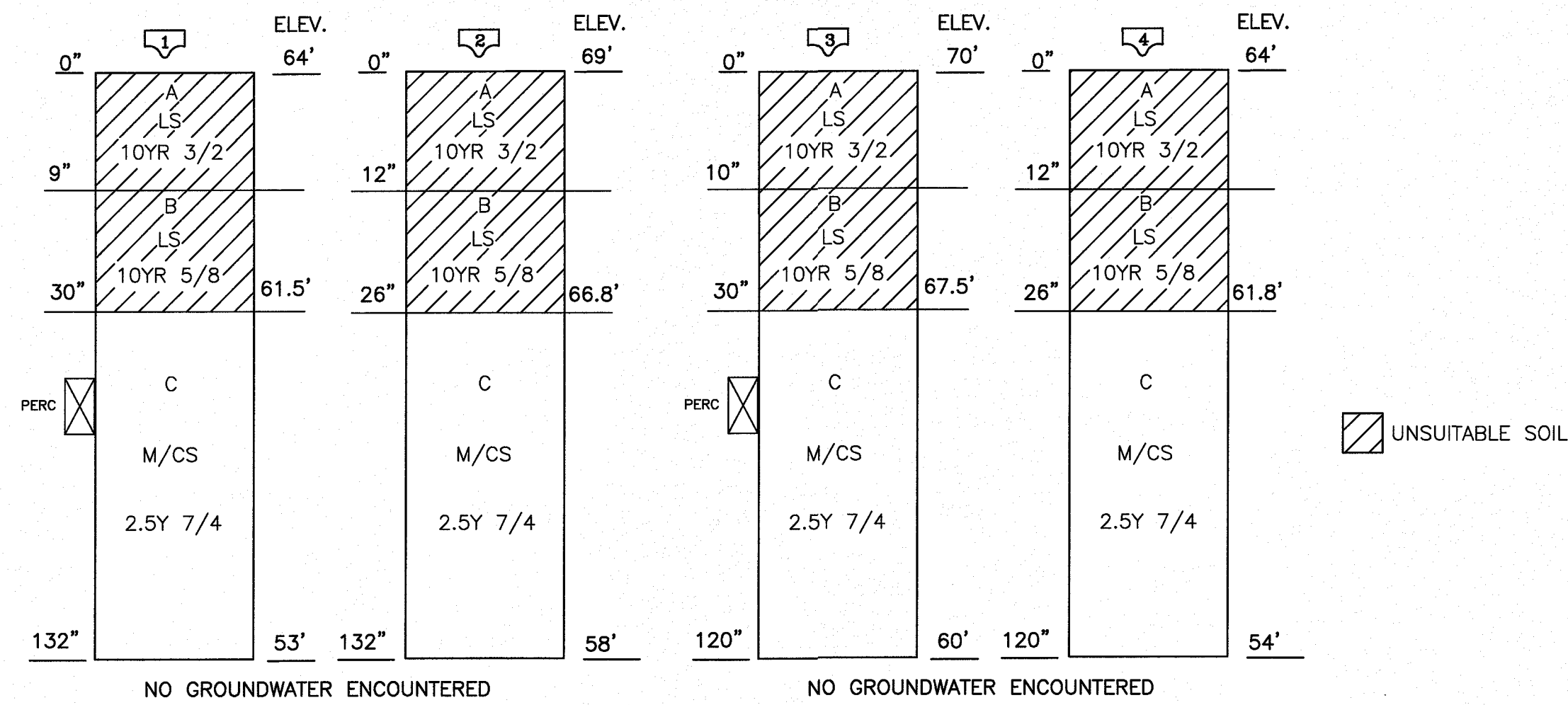
GARBAGE DISPOSER IS NOT ALLOWED
 DESIGN FLOW: 7 BEDROOMS @ 110 GPD = 770 GPD
 USE A 770 GPD DESIGN FLOW
 SEPTIC TANK: 770 GPD (2) = 1540
 USE A 2000 GAL. H-10 SEPTIC TANK
 LEACHING:
 SIDES: $2 (59 + 12.83) \times (.74) = 212$ GPD
 BOTTOM: $59 \times 12.83 (.74) = 560$ GPD
 TOTAL: 1044 S.F. 772 GPD
 USE (6) 500 GAL. H-20 LEACHING CHAMBERS (ACME OR EQUAL) WITH 4' STONE ALL AROUND



APPROVED _____ DATE _____ BOARD OF HEALTH _____ MA

TEST HOLE LOGS

ENGINEER: CRAIG J. FERRARI, SE #13871
 WITNESS: SHERRIE MCCULLOUGH
 DATE: 5/2/23
 PERC. RATE = < 2 MIN/INCH
 CLASS _____ SOILS

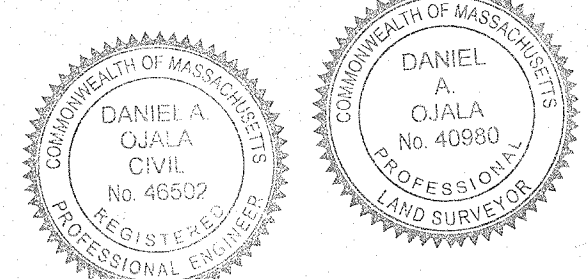
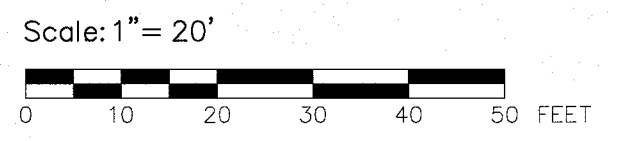


LOCUS MAP
 SCALE 1"=2000'±
 ASSESSORS MAP 61 PARCEL 11
 LOCUS IS WITHIN A MassDEP NITROGEN SENSITIVE AREA (NSA)

DETAIL SHEET TO ACCOMPANY SITE PLAN

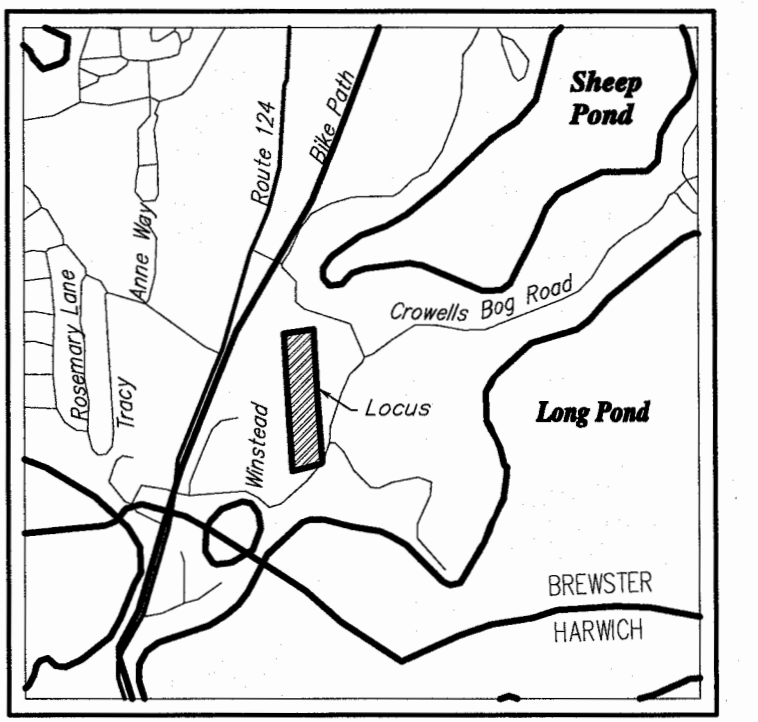
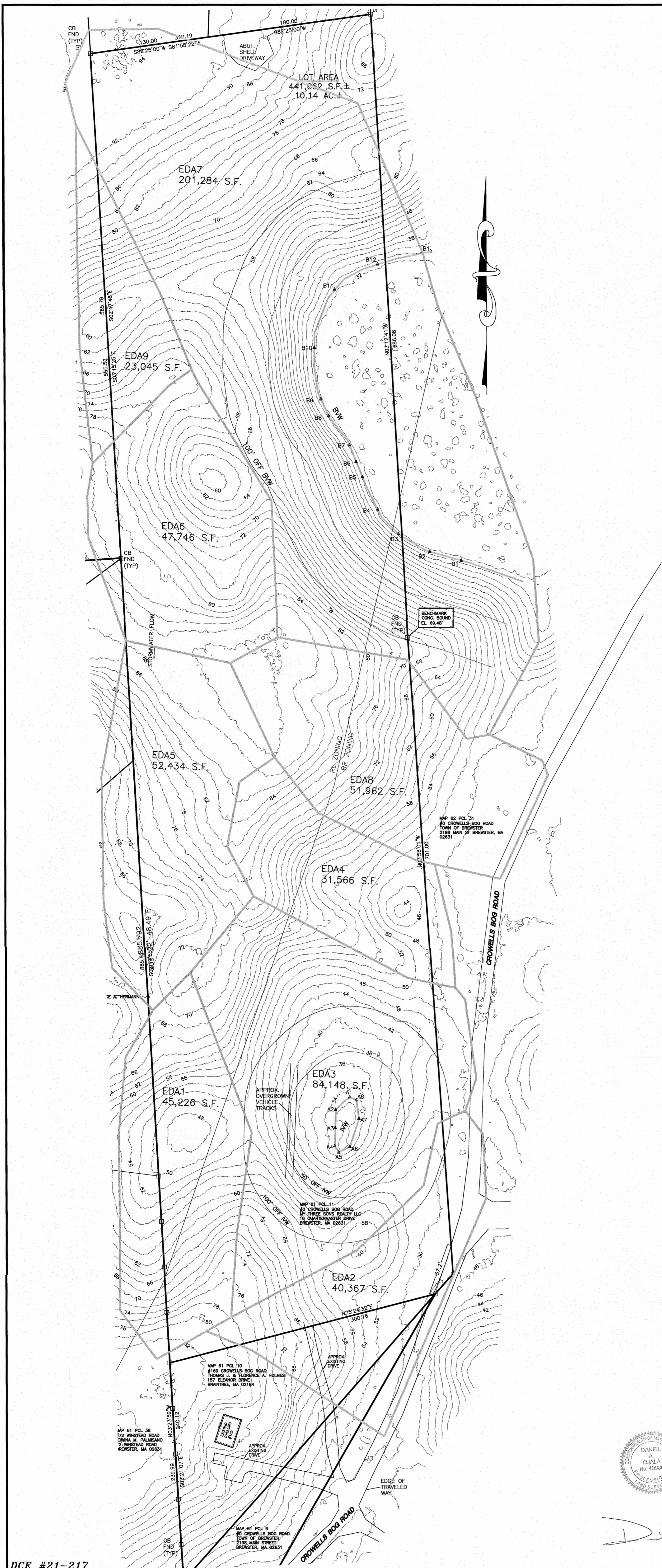
CROWELLS BOG ROAD BREWSTER, MA

PREPARED FOR
TIM HOLMES
 DATE: JANUARY 30, 2024



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 fax 508-362-9880
 downcape.com
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DATE 1/30/24
 DANIEL A. OJALA, P.E., P.L.S.

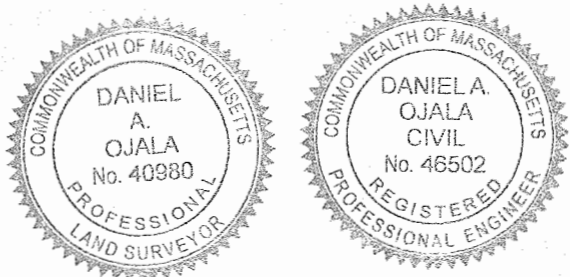
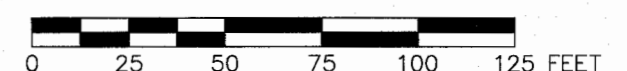


**EXISTING
DRAINAGE AREA
SKETCH PLAN**
OF
**CROWELLS BOG ROAD
BREWSTER, MA**

PREPARED FOR
TIM HOLMES

DATE: JANUARY 30, 2024

Scale: 1" = 50'



down cape engineering, inc.
civil engineers
land surveyors
939 Main Street (Rte 6A)
YARMOUTHPORT MA 02675

D. W. J. 1/30/24

MAJOR STORMWATER MANAGEMENT PERMIT
CASE NO. SWMP2024-03 AND SWMP2024-04

**APPLICANT: THE FREE SEA TURTLE, LLC,
PAUL WALLACE, MANAGER
PROPERTY: 162 UNDERPASS ROAD**

AND

**APPLICANT: 162 UNDERPASS LLC,
CHARLES WHITCOMB III, MANAGER
PROPERTY: UNDERPASS ROAD**



Town of Brewster

2198 Main Street
Brewster, MA 02631-1898
Phone: (508) 896-3701 x. 1133

Office of:
Planning Board
Planning Dept.

STAFF REPORT

TO: Planning Board
FROM: Town Planner
RE: Major Stormwater Permits
c/o John M. O'Reilly, PE, PLS, J.M. O'Reilly & Associates, Inc.

- SWMP24-03, 162 Underpass Road (Map 77 Parcel 9) ("Southern Property")
The Free Sea Turtle LLC, Paul Wallace, Manager
- SWMP24-04, 0 Underpass Road (Map 77 Parcels 10 & 60) ("Northern Property")
162 Underpass LLC, Charles Whitcomb III, Manager

DATE: February 22, 2024

Recommendation

The stormwater permit applications meet the applicable performance standards and submission requirements set out in the town's Stormwater Management Regulations for issuance and approval of a Major Stormwater Permit.

Approval should be granted subject to the continuing obligations set out in said Regulations, including Sections 5.7, 5.8, 5.9 (Certificates of Compliance), 6.1B (Construction practices), Section 7.2 (Inspections), 8.3 (Recording of stormwater permit and O&M plan) and 8.5 therein.

Further suggested conditions of approval:

- A. Lots 2&3 shall be combined through a so-called "81X" perimeter plan and that a recorded copy of the plan be provided to the Planning Office;
- B. Cross-easements to allow the shared stormwater system be executed and recorded, and a recorded copy of the instrument be provided to the Planning Office.
- C. Copies of the Federal NPDES Permit and SWPPP shall be provided to the Planning Office.
- D. The Applicants shall coordinate site construction access with Brewster DPW prior to the commencement of the projects.

Background

The underlying projects are two, separate commercial developments on undeveloped abutting properties. The developments include and propose to use and maintain common stormwater management infrastructure. Accordingly, this staff report is prepared jointly for both permit requests/ properties.

The properties both have frontage on and access to Underpass Road. The properties were a single property before recently being divided by a plan endorsed by the Planning Board. The historical and immediately preceding use of the properties was for a long-time excavating business. The properties had been substantially altered over the years and had been almost entirely disturbed by site-work.

The Applicants have also filed site plan review and special permit applications to authorize the proposed use and development of the properties, which will be reviewed and heard by the Planning Board in the near future.

The northern property is within wetlands jurisdiction. The proposed development has already been reviewed and approved by the Conservation Commission through an Order of Conditions. Before that, the Conservation Commission had granted wetlands and stormwater approval to allow the grading of the sites in advance of these development proposals. As part of the Conservation Commission approval, the owner/ applicant of the Northern property is required to revegetate wetlands buffer areas with native plant species as specified by the Commission.

Major Stormwater Management Permit Requests

Each project triggers a Major Stormwater Permit according to Chapter 272 of the Brewster Code (Stormwater Management Bylaw) and Section 4 of the Bylaw's supporting regulations, as the project involves net new impervious surface of 2500 sq ft or greater. Major Stormwater Permits are subject to review at a public meeting, including for any waivers requested. No waivers have been requested in the application or deemed necessary. No portion of the project is located in a special flood hazard area. The property is not located in a Zone II or the DCPC.

Though there are wetland resource areas on the Northern Property, the shared stormwater management system is located entirely outside wetland resource areas per the site plans. Accordingly, after consultation with the Conservation Agent, the Planning Board has been determined the stormwater permitting authority.

The Applicants have provided the required application materials for a Major Stormwater Permit as set out in Appendix B of the Stormwater Management Regulations, including a site plan set consisting of five sheets (dated 2/2/24) and Stormwater Management Report (dated 2/2/24 revised 2/20/24), including HydroCad analysis of pre- and post-development conditions (dated 2/2/24) and TSS Calculations (dated 11/22/23).

The proposed construction-period BMPs are consistent with the performance standards for Major Stormwater Permits set out in Section 6.1B of the Stormwater Management Regulations. The site plan set and Stormwater Management Report contain the specific details of the proposed erosion and sedimentation controls, including driveway construction apron and staked straw wattles.

The post-construction stormwater management system is consistent with the Major Stormwater Permit performance standards for new construction set out in Section 6.2B of the Stormwater Management Regulations, addressing BMPs and management for both stormwater quantity and quality. The system meets the applicable standards in the Massachusetts Stormwater Handbook:

- The system consists of deep sump catch basins, gutters and downspouts and a vegetated swale with underground drain conveying to a subsurface leaching facility. Additional pre-treatment is provided by an oil/ water grit separator in the gravel parking area. (Industrial tight tanks for building floor drains will be subject to health department review and approval).
- The system will not create off-site flooding and reduces peak run-off rates over existing conditions including for the 100 yr. storm event.
- The system will recharge all run-off from the development on-site, preserving existing recharge volume/ capacity on-site required for development of the project.
- The Applicants have provided a corresponding shared Operations and Maintenance Plan (dated 2/2/24 revised 2/20/24), which adequately addresses the long-term maintenance of the post-construction BMPs. The O&M plan also proposes non-structural BMP's appropriate for commercial development such as managing snow piles and driveway sweeping. These provisions constitute a Pollution Prevention Plan, which adequately addresses source controls of contaminants into the stormwater system.
- The Applicant incorporated Low Impact Development-type (LID) stormwater design elements into the system, notably a planted water quality swale. Run-off from roof areas will be conveyed

directly through gutters, downspouts and piping to subsurface infiltration basins. Existing vegetation has been avoided and wetlands buffer restoration with native plants is proposed. A landscape plan for each site has been provided with the zoning applications and will be subject to Planning Board site plan and special permit reviews.

- The system meets TSS and Total Phosphorus Treatment and pre-treatment requirements for new development (both under Brewster regulation and the Massachusetts Standards).
- Certain of the proposed commercial uses constitute 'Land Uses with Higher Potential Pollutant Loads (LUHPPL),' such as the repair and contractor uses. The stormwater system and O&M plan adequately address these uses, per the relevant Massachusetts Standards.
- Water quality volume calculations are provided and evidence that the system treats the required first inch of stormwater in a 100-year rain event.
- The Applicant's soil tests on the property, and NRCS mapping, have revealed well-draining soils.
- Test pits suggest that there is significant separation between stormwater infiltration facilities and the groundwater table.
- Draw-down for the infiltration facilities will be less than 72 hours, as required under the Massachusetts Standards.



Town of Brewster
Stormwater Management Permit Form
Code Chapter 272

Permit Number	SWMC2023-01
Property Address	162 Underpass Road
Map/ Parcel Information	77-9 (former 70-9)
Deed Reference	Book: 35100; Page: 13 * (see approved site plan/ownership)
Applicant	Paul Wallace
Property Owner	The Free Sea Turtle, LLC and 162 Underpass Road, LLC
Applicant c/o or mailing address	21 Crosby Lane ,Brewster, MA 02631 and 76 Aunt Sophies Road, Brewster, MA 02631

Application Deemed Complete Date: **March 21, 2023**
Close of Public Meeting Date (re: Major Permits): **March 28, 2023**
Permit Issuance Date: **April 18, 2023**

Type of Permit:

- Minor Stormwater Permit
- Major Stormwater Permit
- Stormwater Permit Amendment

Decision:

- Approved
- Approved with Conditions, Limitations or Restrictions
- Disapproved with Prejudice
- Disapproved without Prejudice
- Withdrawn without Prejudice

Project Description:

Site preparation including grading, fill, erosion control measures in buffer zone to bordering vegetated wetland and upgradient on three lots (* Ownership: Lot 1 Book: 35532; Page: 98. Lot 2 Book 35532; Page 93. Lot 3 & 5 Jointly owned)

Waivers granted (as applicable)	Conditions, Limitations or Restrictions (as applicable)

Approved Plans List (attach copy of or reference O&M Plan, as applicable):

1. Erosion & Sediment Control Site Plan dated March 31, 2023 prepared by J.M. O'Reilly & Associates, Inc. signed and stamped by John M. O'Reilly, RPE & PLS


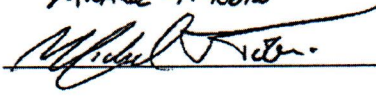
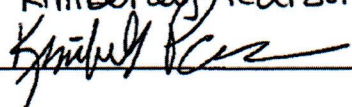
2. Stormwater Report and Operation & Maintenance Requirements and Stormwater Report dated March 20, 2023 prepared by J.M. O'Reilly & Associates, Inc. signed and stamped by John M. O'Reilly, RPE & PLS
3. Stormwater Report Revisions dated March 31, 2023 prepared by J.M. O'Reilly & Associates, Inc.

SIGNATURES

Executed this 18 day of April, 2023

Stormwater Authority or Designated Agent _____

By:

<u>RONALD SLOWEK</u>  _____ BRUCE C. EVANS	<u>MICHAEL T. TOBIN</u>  _____ KIMBERLEY PEARSON  _____
--	---

Per Chapter 272 of the Brewster Code, Major Stormwater Permits, or Amendments thereto, shall be recorded with the Barnstable Registry of Deeds, or as the case may be, filed with the Barnstable Registry District.



**Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands**

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1962
MassDEP File #

eDEP Transaction #
Brewster
City/Town

A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):
Barnstable

a. County	b. Certificate Number (if registered land)
35532 (Lot 2) & 35100 (Lot 3)	93 (Lot 2) & 13 (Lot 3)
c. Book	d. Page

7. Dates:	11/22/2023	12/12/2023	1/02/2024
a. Date Notice of Intent Filed	b. Date Public Hearing Closed	c. Date of Issuance	

8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):

Proposed Site & Sewage Disposal Plan (Lot 2 & 3 at 0 Underpass Road, Brewster, MA)

a. Plan Title	J.M. O'Reilly & Associates, Inc.	John O'Reilly, PLS & RPE
b. Prepared By	11/22/2023	c. Signed and Stamped by
d. Final Revision Date	Landscape/Mitigation 162 Underpass, LLC Lot 2 @ 162 Underpass Road, Brewster prepared by Philip L. Cheney	e. Scale
		11/202/2023
		g. Date

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:

- | | | |
|---|--|---|
| a. <input type="checkbox"/> Public Water Supply | b. <input type="checkbox"/> Land Containing Shellfish | c. <input checked="" type="checkbox"/> Prevention of Pollution |
| d. <input type="checkbox"/> Private Water Supply | e. <input type="checkbox"/> Fisheries | f. <input checked="" type="checkbox"/> Protection of Wildlife Habitat |
| g. <input checked="" type="checkbox"/> Groundwater Supply | h. <input checked="" type="checkbox"/> Storm Damage Prevention | i. <input checked="" type="checkbox"/> Flood Control |

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

- a. the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.



**Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands**

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1962
MassDEP File #

eDEP Transaction #
Brewster
City/Town

B. Findings (cont.)

Denied because:

- b. the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
- 3. Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) 36
a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. <input type="checkbox"/> Bank	a. linear feet	b. linear feet	c. linear feet	d. linear feet
5. <input type="checkbox"/> Bordering Vegetated Wetland	a. square feet	b. square feet	c. square feet	d. square feet
6. <input type="checkbox"/> Land Under Waterbodies and Waterways	a. square feet e. c/y dredged	b. square feet f. c/y dredged	c. square feet	d. square feet
7. <input type="checkbox"/> Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. <input type="checkbox"/> Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. <input type="checkbox"/> Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet



**Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands**

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE9-1962

MassDEP File #

eDEP Transaction #

Brewster

City/Town

B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. <input type="checkbox"/> Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. <input type="checkbox"/> Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. <input type="checkbox"/> Coastal Beaches	a. square feet	b. square feet	c. $\frac{\text{cu yd}}{\text{nourishment}}$	d. $\frac{\text{cu yd}}{\text{nourishment}}$
14. <input type="checkbox"/> Coastal Dunes	a. square feet	b. square feet	c. $\frac{\text{cu yd}}{\text{nourishment}}$	d. $\frac{\text{cu yd}}{\text{nourishment}}$
15. <input type="checkbox"/> Coastal Banks	a. linear feet	b. linear feet		
16. <input type="checkbox"/> Rocky Intertidal Shores	a. square feet	b. square feet		
17. <input type="checkbox"/> Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. <input type="checkbox"/> Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. <input type="checkbox"/> Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	a. c/y dredged	b. c/y dredged		
21. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		
22. <input type="checkbox"/> Riverfront Area	a. total sq. feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet



**Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands**

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1962
MassDEP File #

eDEP Transaction #
Brewster
City/Town

B. Findings (cont.)

* #23. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. Restoration/Enhancement *:

a. square feet of BVW

b. square feet of salt marsh

24. Stream Crossing(s):

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on 1/02/2027 unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.



**Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands**

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE9-1962

MassDEP File #

eDEP Transaction #

Brewster

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]
"File Number SE9-1962 "
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE9-1962

MassDEP File #

eDEP Transaction #

Brewster

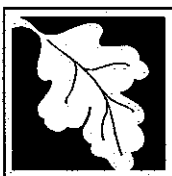
City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- 17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
- 18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
- 19. The work associated with this Order (the "Project")
 - (1) is subject to the Massachusetts Stormwater Standards
 - (2) is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
 - i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE9-1962

MassDEP File #

eDEP Transaction #

Brewster

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



**Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands**

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE9-1962

MassDEP File #

eDEP Transaction #

Brewster

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

See Special Conditions

20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1962
MassDEP File #
eDEP Transaction #
Brewster
City/Town

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? Yes No
2. The Brewster Conservation Commission hereby finds (check one that applies):

a. that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

Code of the Town of Brewster 172
1. Municipal Ordinance or Bylaw 2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

b. that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

Code of the Town of Brewster 172
1. Municipal Ordinance or Bylaw 2. Citation

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

See Special Conditions



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1962
MassDEP File #

eDEP Transaction #
Brewster
City/Town

E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

Please indicate the number of members who will sign this form.

This Order must be signed by a majority of the Conservation Commission.

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

1/02/2024
1. Date of Issuance
4
2. Number of Signers

Brewster Conservation Commission

Signature [Handwritten Signature]

Mike Tobin, Chair
Printed Name

Signature _____

Casey Chatelain, Vice Chair

Signature [Handwritten Signature]

Bruce Evans
Printed Name

Signature _____

Gary Kaser
Printed Name

Signature [Handwritten Signature]

Kimberley Crocker Pearson
Printed Name

Signature [Handwritten Signature]

Ron Slowek
Printed Name

Signature _____

Steve McKenna
Printed Name

Signature _____

Printed Name

Signature _____

by hand delivery on
JANUARY 2, 2024
Date

by certified mail, return receipt requested, on
Date



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE9-1962

MassDEP File #

eDEP Transaction #

Brewster

City/Town

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
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G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Brewster
Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Brewster
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

0 Underpass Road (Lots 2 & 3), Brewster, MA
Project Location

SE9-1962
MassDEP File Number

Has been recorded at the Registry of Deeds of:

Barnstable
County

Book

Page

for: Property Owner

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

Addendum to WPA Form 5 – Order of Conditions

162 Underpass, LLC, 0 Underpass Road; Order of Conditions SE9-1962, Assessor's Map Map 77, Parcels 10 & 60

Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act (M.G.L. C.131 S. 40)

And

Code of the Town of Brewster Chapter 172**Brewster Wetlands Protection By-law (BWP By-law)****Project Description:**

The approved work includes the construction of a commercial building and stormwater features as well mitigation plantings associated with SE9-1920. The project includes areas on and within 50 and 100 feet of inland wetland resources.

Applicable Notes:

1. Please note that SE9-1920 Order of Conditions & SE9-1920 Amended Order of Conditions are in effect until a Certificate of Compliance for SE9-1920 and SE9-1920 Amended is approved, issued, recorded at the Barnstable County Registry of Deeds and evidence of the recording is provided to the Conservation Administrator. This approved work includes increasing the scope of the work on the premises in coverage and stabilizing the southerly boundary associated with a 20' wide utility easement and utilizing on site materials to ensure sediment does not enter the wetlands associated with wetlands flags A6 thru A8.
2. Prior to the Commencement of the work, the applicant or the applicant's representative shall provide to the Conservation Administrator (2) two hard copies and (1) one digital copy of the Stormwater Pollution Prevention Plan, a signed Illicit Discharge Compliance Statement in conformance with Stormwater Standard 10: Prohibition of Illicit Discharge and the Brewster Planning Board Approved Major Stormwater Permit including the approved site plans, reports and documentation.

Resource Area Identification

The affected resource area under the Massachusetts Wetlands Protection Act (M.G.L. Ch.131 §. 40) is Bordering Vegetated Wetland (310 CMR 10.55).

The affected resource areas under the Brewster Wetlands Protection By-law (Chapter 172) is Vegetated Wetland (Brewster Wetland Regulations 3.02).

Interests Protected Under the Brewster Wetlands Protection By-law

Wildlife

Public and Private Water Supply

Groundwater Supply

Flood Control

Storm Damage Prevention

Prevention of Pollution

Protection of Fisheries

Historic Values

Aesthetics

Performance Standards Implicated by Proposed Project under Mass. Wetlands Protection Act and Wetland Regulations:

Bordering Vegetated Wetland, 310 CMR 10.55 (4)

Local Performance Standards Implicated by Proposed Project under Brewster Wetlands Protection By-law and Wetlands Regulations:

Vegetated Wetland, 3.02 (3) (4)

Findings under Massachusetts Wetlands Protection Act and Wetland Regulations:

The Brewster Conservation Commission finds that the project can be conditioned to meet the performance standards set forth in the wetland regulations. See Special Conditions below.

Bordering Vegetated Wetlands, 310 CMR 10.55 (4): Portions of the proposed project occur within 50 and 100 feet of bordering vegetated wetlands. The Brewster Conservation Commission finds that the bordering vegetated wetland is significant to the protection of public or private water supply, to ground water supply, to flood control, to storm damage prevention, to prevention of pollution, and to the protection of fisheries and to wildlife habitat. The Commission finds that the proposed work can be conditioned so it will not alter or otherwise impair any portion of Bordering Vegetated Wetlands. The Commission finds that the proposed work can be conditioned so will not result in a loss of a portion of Bordering Vegetated Wetland.

Findings under Brewster Wetlands Protection Bylaw and Wetlands Regulations:

The Brewster Conservation Commission finds that the project can be conditioned to comply with the Brewster Wetlands Protection Bylaw and Regulations. See Special Conditions below.

Portions of the proposed work are within 50 feet of a Vegetated Wetland.

Sections 3.02(3) of the Brewster Wetlands Protection Regulations all require a variance from the regulations granted pursuant to Section 5.01 of the regulations.

A variance may be granted only for the following reasons and upon the following conditions:

- a)
 - 1) *mitigating measures are proposed that will allow the project to be conditioned so that it contributes to the protection of the resource values identified in the Wetlands Bylaw; and*
 - 2) *the Conservation Commission finds no reasonable alternative for such a project within the proposed site; and*
 - 3) *there will be no adverse impact from the proposed project; or*
- b) *that the project is necessary to accommodate an overriding public interest or that it is necessary to avoid a decision that so restricts the use of property that it constitutes an unconstitutional taking without compensation.*

The Brewster Conservation Commission finds that mitigating measures have been proposed that will allow the project to be conditioned so that it contributes to the protection of the resource values identified in the Wetlands By-law. The mitigating measures include (38) thirty-eight mitigation native tree and shrub plantings with native species and maintenance of flood storage on-site.

The Conservation Commission finds that the proposed project is a reasonable alternative.

The Brewster Conservation Commission finds that the project can be conditioned so there are no adverse impacts from the proposed project to the interests protected by the Brewster Wetlands Protection By-law.

The Brewster Conservation Commission finds that variance criteria b), *"that the project is necessary to accommodate an overriding public interest or that it is necessary to avoid a decision*

that so restricts the use of property that it constitutes an unconstitutional taking without compensation." does not apply to this project.

For the above stated reasons, the Conservation Commission grants a variance to Sections 3.02(3) of the Brewster Wetlands Protection Bylaw Regulations.

Vegetated Wetlands, 3.02 (3) (4): Portions of the proposed work are located within 50 and 100 feet of Vegetated Wetlands. The Conservation Commission finds that the project can be conditioned so it will not impair the vegetated wetlands' ability to perform any of the functions set forth in Section 3.02(1).

Special Conditions under the Mass. Wetlands Protection Act and Wetlands Regulations and under the Brewster Wetlands Protection Bylaw and Wetlands Regulations:

The Brewster Conservation Commission hereby finds that the following additional conditions are necessary to comply with performance standards set forth in the Massachusetts Wetlands Protection Act and Wetland Regulations and the Brewster Wetlands Protection By-law.

The Conservation Commission orders that all work shall be performed in accordance with said additional conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

A1. All local, state and federal approvals shall be obtained before work can commence on the project. Copies of all approvals shall be forwarded to the Brewster Conservation Commission.

A2. This permit is granted under Section 172-7 of the Brewster Wetlands Protection By-law, subject to the conditions imposed, for a period of three years from the issuance date of the original Order of Conditions. The Conservation Commission may issue extensions, each for a period of time up to three years, based on review of the site and other criteria. Requests for each extension shall be submitted in writing, no less than 30 days prior to the expiration date.

A3. This Order of Conditions shall expire on January 2, 2027.

A4. The Agent or other employee, members of the Conservation Commission and officials of the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order, at reasonable hours, to evaluate compliance with the conditions stated in this Order. Said persons may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation. This right of entry shall remain until such time as a Certificate of Compliance has been issued, recorded in the Registry of Deeds or Land Court, Barnstable County, and returned to the Conservation Department.

A5. This order shall apply to any successors and assigns in interest or control and any other person engaging in activity on the property identified in the Notice of Intent.

A6. Violation of any of these Conditions shall subject the violator and the landowner to a fine (of not more than \$300.00 per day) pursuant to Section 172-11 of the Town of Brewster Wetlands Protection By-law, until all violations have been corrected to the satisfaction of the Brewster Conservation Commission.

A7. All work shall be in accordance with the approved site plan and documents referenced in A. General Information Item 8 associated with this Order of Conditions (WPA Form 5 SE9-1962). If any changes are made in the above-described plans which may or will alter an area subject to protection under the Wetlands Protection Act and the Town of Brewster Wetlands Protection By-law, or any changes in activity subject to regulations under G.L. c. 131 §40, or the Town of

Brewster local regulations occurs, the applicant shall inquire from this Commission in writing, prior to implementation in the field, whether the change(s) is significant enough to require an Amended Order of Conditions or the filing of a new Notice of Intent. Any errors in the plans or information submitted by the applicant shall be considered changes and the above procedures shall be followed.

A8. A copy of this Order of Conditions/Permit shall be kept on site at all times during project activities. **This is the owner's responsibility.** The owner shall see that all contractors and subcontractors retained during project activities receive a copy of this Order. Workers shall be prepared to produce the Order and all plans and supporting documents referenced in the Order, upon request of the Conservation Agent or any member of the Conservation Commission.

A9. Prior to project activities an erosion control barrier/limit of work (siltation fence with staked haybales/straw wattles or a double-line of staked haybales/straw wattles) shall be properly installed, as close to the area of work as possible and as noted in the plan of record. This barrier shall constitute the limit of work. The siltation barrier shall be removed only after any threat of erosion no longer exists, and all disturbed areas are stabilized by vegetation or other means. Any siltation buildup on the upland side shall be removed. Any commencement of work activities prior to the proper installation of erosion controls and an inspection and approval by the Conservation Commission may result in a cease and desist action, and possible fines of up to \$300.00 per day for each day of violation.

A10. A supply of extra siltation barriers shall be stored on site for emergency use.

A11. After the siltation barrier/limit of work has been set and a minimum of five (5) days before commencement of work, the owner shall notify the Conservation Department using the **Owner affirmation of responsibility for work/request for site inspection...** form, which shall be signed by the owner of the property as well as the contractor in charge of the work. The Commission's Agent will schedule an on-site meeting of the contractor(s) responsible, to ensure that the requirements of this Order are understood. No work shall begin until after the on-site meeting.

At the on-site meeting, the contractor and the Conservation Agent will review access and protocol for project activities.

During this on-site consultation, the Conservation Agent or Commissioner may require minor modifications to the approved site plan (relating to work/construction methodology) to the Order of Conditions. If so, said conditions will be provided in writing at the time of said on-site meeting.

A12. Also prior to the commencement of work, a series of dated color photographs shall be taken of the entire resource area and buffer area. A set of photographs shall be submitted to the Conservation Department for the applicant's permit file, with the notification form. These photos shall be labeled with the Assessor's Map and Parcel, and street address, date and general view description.

Another series of dated color photographs shall be taken of the resource area and buffer area when the work is completed, and fully revegetated and stable. These photographs shall be submitted to the Conservation office at the time a Certificate of Compliance is requested, and shall remain in the applicant's permit file. The photos shall be labeled with the Assessor's Map and Parcel, and street address, date and general view description.

A13. Heavy equipment is permitted for use in the placement of fill and landscape grading. Vegetation management shall be completed by hand or with hand tools. No machinery shall be operated on the wetland side of the limit of work.

A14. Any debris, fill or excavated material on site shall be stockpiled away from designated

wetlands. Unsuitable or excess excavated material shall be properly stabilized or removed from the site.

A15. All structures, facilities and equipment, as part of this project, shall be continually operated and maintained so as to comply with this permit. This provision applies specifically to all equipment used on this project. Any leakage of oil, hydraulic fluid, fuel, or any other pollutant shall be cleaned up immediately, and the defective equipment responsible for said leakage shall be immediately repaired or taken off site.

A16. Mulch shall not be a substitute for groundcover or shrubs in jurisdictional areas.

A17. Installation of in-ground irrigation systems shall be prohibited within 100 feet of any wetland resource areas. Temporary above ground irrigation systems may be used to establish mitigation plantings.

A18. Exterior lights on any structure shall be directed downward and shielded so the light does not illuminate wildlife habitat in jurisdictional areas. Spotlights and floodlights shall not be installed within the 100 foot buffer zone of a resource area; nor shall any spotlight or floodlight penetrate a resource area or 100 foot buffer zone. Any existing spotlight or floodlight shall be removed.

A19. Any fertilizers used within 100 feet of any wetland resources shall be listed by or comprised of organic ingredients consistent with the United States Department of Agriculture National Organic Program (NOP). Organic fertilizers shall be used in an appropriate manner for the conditions of the subject property, and applied in accordance to the manufacturer's specifications.

A20. Pesticides, herbicides and fungicides shall be prohibited within 100 feet of any wetlands.

A21. Any disturbed areas on site shall be revegetated with appropriately sized and spaced approved plant species* and stabilized with 100% biodegradable erosion control netting, which shall stay in place after final grading. Other disturbed areas shall be covered with four to six inches of organic topsoil which is free of weed seeds and debris, and planted with appropriately sized and spaced approved plant species* **or in accordance with the site/planting plan**. All disturbed areas shall be completely revegetated during the first growing season after the permitted work is complete. *Approved plant species, size and spacing are those on the list of acceptable plantings for **inland wetland resource areas/buffer zones** of the Cape Cod Cooperative Extension (www.capecodextension.org). Turf lawn is prohibited within the 100 foot buffer zone to wetlands.

Fill and Grading

A22. Any fill materials used for project activities shall be clean. Fill shall not contain any trash, refuse, rubbish, or debris. The source, volume, and characterization of these materials shall be submitted prior to placement.

A23. After grading activities are completed, the areas of open soil shall be seeded with native grasses/plantings and stabilized. See the Vegetation Notes on the approved site plan dated 3/31/2023 referenced in A. General Information Item 8 of this Order of Conditions/WPA Form 5 SE9-1920 Amended for guidance.

Mitigation Plantings

A24. Mitigation plantings shall be in accordance with the approved mitigation planting plan and protocols referenced in A. General Information, Item 8 of these Order of Conditions (WPA Form 5/SE9-1962). The (38) thirty-eight native trees and shrubs shall be planted the first planting season following the completion of the commercial building within Conservation jurisdictional boundaries.

A25. Substitutions from the approved plants shall be subject to review and approval by the Conservation Administrator with all disputes to be reviewed by the Conservation Commission as either a Request for Minor Change To Plan or Request for Amended Order of Conditions.

A26. All new plantings shall be tagged in the field for monitoring purposes. The tags shall remain on the planted species for easy inspection by the Conservation Administrator and/or Conservation Commission, through the required monitoring period(s).

A27. All new plantings shall survive (3) three full growing seasons or be replaced in kind by the applicant and/or property owner.

A28. Ongoing Maintenance at the end of the (3) three year monitoring period is approved. To maintain this work/activity as approved, submit an Extension Order of Conditions/WPA Form 7 (30) days in advance of the expiration of these Order of Conditions (WPA Form 5 SE9-1962) or any subsequent Amended Order of Conditions/WPA Form 5 or Extension Order of Conditions/WPA Form 7.

Monitoring/Reporting

A29. The new mitigation plantings and subsequent replacement mitigation plantings shall be monitored for (3) three years after the time of the planting implementation. An implementation planting report shall be submitted by June 1st for Spring implementation plantings or December 1st for Fall implementation plantings. The annual monitoring reports for the new mitigation plants shall commence to coincide with the next December 1st after the implementation planting report is completed and submitted to the Conservation Administrator. The tags shall remain attached to the planted mitigation plants until the Conservation Commission has approved the new mitigation planting survivability.

A30. Annual monitoring reports of the approved vegetative management (native plantings) or approved revised vegetative management via a Commission ratified Minor Change to Plan or Amended Order of Conditions. Annual monitoring reports and photographs of the mitigation plantings shall be completed by an approved environmental consultant and submitted to the Conservation Commission prior to December 1st on an annual basis.

A31. The annual monitoring reports shall comply with the Commission's requirements containing Map and Parcel, the permit validity, project description as detailed in the Special Conditions of SE9-1962, any approved Minor Change to Plan or Amended Order of Conditions, a description of any vegetative management activities, any other impacts to the wetland resources resulting from the work on this project and any recommended future actions. A cumulative table of the approved plant species, the implementation plant species and any subsequent deviations/updates during the subsequent annual monitoring events shall be included in all reports submitted to the Conservation Administrator. Contact the Conservation Administrator for guidance if there are any anticipated delays meeting any deadlines or regarding the Commission's requirements for the annual monitoring reports.

Project Completion/Certificate of Compliance

A32. A final report, which shall include any effect on the wetland resources shall be submitted following completion of the project and prior to a Request for Certificate of Compliance (RCOC)/WPA Form 8A. A final series of dated color photographs shall be taken of the resource and buffer areas when the work is completed. These photographs shall be submitted to the Conservation office at the time a Certificate of Compliance (COC)/WPA Form 8B is requested, and shall remain in the applicant's permit file. These photos shall be labeled with the Assessor's Map and Parcel, and street address, date and general view description.

A33. Before issuing a Certificate of Compliance, the Conservation Commission requires that (3) three growing seasons for mitigation plantings and (3) three annual monitoring reports after the

implementation of the plantings is completed based on the Commission's requirements.

A34. On completion of the entire project, the applicant or representative shall submit a written request for a Certificate of Compliance on WPA Form 8A - Request for Certificate of Compliance. The approved plans and protocols are referenced in A. General Information, Item 8 of these Order of Conditions (WPA Form 5 SE9-1962). An As-Built Plan including As-Planted conditions is required along with a written statement by a RPE or PLS certifying substantial compliance with the Order of Conditions (WPA Form 5 SE9-1962). If the As-Built Plan including As-Planted conditions shows any deviation from the approved plans and protocols referenced in A. General Information, Item 8, the RPE or PLS shall describe said deviation in the written statement. This WPA Form 8A shall be accompanied by payment of a non-refundable filing fee to the Town of Brewster. Without a Certificate of Compliance which has been recorded (at the Registry of Deeds or Land Court, whichever applies), an encumbrance shall remain on the property, and your filing will not be closed. Evidence of the recorded Certificate of Compliance shall be submitted to the Conservation Administrator.

BARNSTABLE REGISTRY OF DEEDS
John F. Meade, Register

Bk 35762 Pg 64 #16868
05-01-2023 @ 03:24p



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

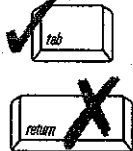
Provided by MassDEP:
SE9-1920 Amended
MassDEP File #
eDEP Transaction #
Brewster
City/Town

A. General Information

Please note:
this form has
been modified
with added
space to
accommodate
the Registry
of Deeds
Requirements

BK. 35093 Pg. 317

Important:
When filling
out forms on
the
computer,
use only the
tab key to
move your
cursor - do
not use the
return key.



1. From: Brewster
Conservation Commission

2. This issuance is for (check one):
a. Order of Conditions b. Amended Order of Conditions

3. To: Applicant:

<u>Paul</u>	<u>Wallace</u>	
a. First Name	b. Last Name	
<u>The Free Sea Turtle, LLC & Charles Whitcomb, 162 Underpass Road, LLC</u>		
c. Organization		
<u>P.O. Box 444 & 76 Aunt Sophies Road</u>		
d. Mailing Address		
<u>Brewster</u>	<u>MA</u>	<u>02631</u>
e. City/Town	f. State	g. Zip Code

4. Property Owner (if different from applicant):

<u>The Free Sea Turtle, LLC & 162 Underpass Road, LLC</u>		
a. First Name	b. Last Name	
c. Organization		
<u>21 Crosby Lane & 76 Aunt Sophies Rd</u>		
d. Mailing Address		
<u>Brewster</u>	<u>MA</u>	<u>02631</u>
e. City/Town	f. State	g. Zip Code

5. Project Location:

<u>162 Underpass Road</u>	<u>Brewster</u>
a. Street Address	b. City/Town
<u>77</u>	<u>9 (formerly 26/10)</u>
c. Assessors Map/Plat Number	d. Parcel/Lot Number
Latitude and Longitude, if known:	
<u>41d 45m 30.624s</u>	<u>70d 3m 58.43s</u>
d. Latitude	e. Longitude



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A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):
 Barnstable

a. County	b. Certificate Number (if registered land)
12356	273
c. Book	d. Page

7. Dates:

2/23/2023 *RAOOC	3/28/2023	4/18/2023 *AOOC
a. Date Notice of Intent Filed	b. Date Public Hearing Closed	c. Date of Issuance

8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):
 Erosion & Sediment Control Site Plan

a. Plan Title	
J.M. O'Reilly & Associates, Inc.	John M. O'Reilly, RPE & PLS
b. Prepared By	c. Signed and Stamped by
March 31, 2023	As Noted
d. Final Revision Date	e. Scale
SWMC2023-01 Stormwater Report and Operation & Maintenance Requirements and Stormwater Report Revision	March 20, 2023 March 31, 2023

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:

a. <input type="checkbox"/> Public Water Supply	b. <input type="checkbox"/> Land Containing Shellfish	c. <input checked="" type="checkbox"/> Prevention of Pollution
d. <input type="checkbox"/> Private Water Supply	e. <input type="checkbox"/> Fisheries	f. <input checked="" type="checkbox"/> Protection of Wildlife Habitat
g. <input checked="" type="checkbox"/> Groundwater Supply	h. <input checked="" type="checkbox"/> Storm Damage Prevention	i. <input checked="" type="checkbox"/> Flood Control

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

a. the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

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B. Findings (cont.)

Denied because:

- b. the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
- 3. Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) 1
a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. <input type="checkbox"/> Bank	a. linear feet	b. linear feet	c. linear feet	d. linear feet
5. <input type="checkbox"/> Bordering Vegetated Wetland	a. square feet	b. square feet	c. square feet	d. square feet
6. <input type="checkbox"/> Land Under Waterbodies and Waterways	a. square feet e. c/y dredged	b. square feet f. c/y dredged	c. square feet	d. square feet
7. <input type="checkbox"/> Bordering Land Subject to Flooding	a. square feet	b. square feet	c. square feet	d. square feet
Cubic Feet Flood Storage	e. cubic feet	f. cubic feet	g. cubic feet	h. cubic feet
8. <input type="checkbox"/> Isolated Land Subject to Flooding	a. square feet	b. square feet		
Cubic Feet Flood Storage	c. cubic feet	d. cubic feet	e. cubic feet	f. cubic feet
9. <input type="checkbox"/> Riverfront Area	a. total sq feet	b. total sq feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet



**Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands**

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1920 Amended
MassDEP File #

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Brewster

City/Town

B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. <input type="checkbox"/> Land Under the Ocean	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
12. <input type="checkbox"/> Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. <input type="checkbox"/> Coastal Beaches	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
14. <input type="checkbox"/> Coastal Dunes	a. square feet	b. square feet	c. nourishment cu yd	d. nourishment cu yd
15. <input type="checkbox"/> Coastal Banks	a. linear feet	b. linear feet		
16. <input type="checkbox"/> Rocky Intertidal Shores	a. square feet	b. square feet		
17. <input type="checkbox"/> Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18. <input type="checkbox"/> Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19. <input type="checkbox"/> Land Containing Shellfish	a. square feet	b. square feet	c. square feet	d. square feet
20. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	a. c/y dredged	b. c/y dredged		
21. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		
22. <input type="checkbox"/> Riverfront Area	a. total sq feet	b. total sq. feet		
Sq ft within 100 ft	c. square feet	d. square feet	e. square feet	f. square feet
Sq ft between 100-200 ft	g. square feet	h. square feet	i. square feet	j. square feet



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
 SE9-1920 Amended
 MassDEP File #

eDEP Transaction #
 Brewster
 City/Town

B. Findings (cont.)

* #23. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. Restoration/Enhancement *:
- a. square feet of BVW _____ b. square feet of salt marsh _____
24. Stream Crossing(s):
- a. number of new stream crossings _____ b. number of replacement stream crossings _____

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on 4/28/2025 unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1920 Amended
MassDEP File # _____
eDEP Transaction # _____
Brewster
City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act

- 8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
- 9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
- 10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]

"File Number	SE9-1920	"
	Amended	
- 11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
- 12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
- 13. The work shall conform to the plans and special conditions referenced in this order.
- 14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
- 15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
- 16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1920 Amended
MassDEP File #

eDEP Transaction #

Brewster

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
19. The work associated with this Order (the "Project")
- (1) is subject to the Massachusetts Stormwater Standards
- (2) is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
- i.* all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii.* as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii.* any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
 SE9-1920 Amended
 MassDEP File #

eDEP Transaction #

Brewster

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1920 Amended
MassDEP File #

eDEP Transaction #

Brewster

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

See Special Conditions.

20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1920 Amended
MassDEP File #

eDEP Transaction #

Brewster

City/Town

D. Findings Under Municipal Wetlands Bylaw or Ordinance

- 1. Is a municipal wetlands bylaw or ordinance applicable? Yes No
- 2. The Brewster Conservation Commission hereby finds (check one that applies):

- a. that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

<u>Code of the Town of Brewster</u>	<u>172</u>
1. Municipal Ordinance or Bylaw	2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

<u>Code of the Town of Brewster</u>	<u>172</u>
1. Municipal Ordinance or Bylaw	2. Citation

- 3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

See Special Conditions.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1920 Amended
MassDEP File #

eDEP Transaction #
Brewster
City/Town

E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

Please indicate the number of members who will sign this form.

This Order must be signed by a majority of the Conservation Commission.

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

4/18/2023
1. Date of Issuance

5
2. Number of Signers

Brewster Conservation Commission

Mike Tobin
Signature

Mike Tobin, Chair

Printed Name

Casey Chatelain
Signature

Casey Chatelain, Vice Chair

Printed Name

Bruce C. Evans
Signature

Bruce Evans

Printed Name

Steve McKenna
Signature

Steve McKenna

Printed Name

Kimberly B. Crocker Pearson
Signature

Kimberly Crocker Pearson

Printed Name

Ron Slowek
Signature

Ron Slowek

Printed Name

Signature

Printed Name

Signature

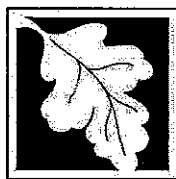
Printed Name

by hand delivery on

by certified mail, return receipt requested, on

4/18/2023
Date

Date



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1920 Amended
MassDEP File #

eDEP Transaction #

Brewster

City/Town

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE9-1920 Amended
MassDEP File #

eDEP Transaction #
Brewster
City/Town

G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Brewster

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Brewster
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

162 Underpass Road, Brewster, MA
Project Location

SE9-1920 Amended
MassDEP File Number

Has been recorded at the Registry of Deeds of:

Barnstable
County

Book

Page

for: Property Owner

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

Addendum to WPA Form 5 – Amended Order of Conditions

Paul Wallace, 162 Underpass Road; Order of Conditions SE 9-1920, Assessor's Map 77, Parcel 9 (formerly Map 26, Parcel 10)

Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act (M.G.L. C.131 S. 40)

And

Code of the Town of Brewster Chapter 172

Brewster Wetlands Protection By-law (BWP By-law)

Project Description: The approved work includes de minimis deviations to the approved work (placement of fill, grading activities, and vegetation management). The scope of the work on the premises is increased in coverage and includes stabilizing the southerly boundary associated with a 20' wide utility easement and utilizing on site materials to ensure sediment does not enter the wetlands associated with wetlands A6 thru A8. The project includes areas on and within 50 and 100 feet of inland wetland resources.

Resource Area Identification

The affected resource area under the Massachusetts Wetlands Protection Act (M.G.L. Ch.131 §. 40) is Bordering Vegetated Wetland (310 CMR 10.55).

The affected resource areas under the Brewster Wetlands Protection By-law (Chapter 172) are Vegetated Wetland (Brewster Wetland Regulations 3.02) and Land Subject to Flooding (Brewster Wetlands Regulations 3.04).

Interests Protected Under the Brewster Wetlands Protection By-law

Wildlife

Public and Private Water Supply

Groundwater Supply

Flood Control

Storm Damage Prevention

Prevention of Pollution

Protection of Fisheries

Historic Values

Aesthetics

Performance Standards Implicated by Proposed Project under Mass. Wetlands Protection Act and Wetland Regulations:

Bordering Vegetated Wetland, 310 CMR 10.55 (4)

Local Performance Standards Implicated by Proposed Project under Brewster Wetlands Protection By-law and Wetlands Regulations:

Vegetated Wetland, 3.02 (3) (4)

Land Subject to Flooding, 3.04 (3) (4)

Findings under Massachusetts Wetlands Protection Act and Wetland Regulations:

The Brewster Conservation Commission finds that the project can be conditioned to meet the performance standards set forth in the wetland regulations. See Special Conditions below.

Bordering Vegetated Wetlands, 310 CMR 10.55 (4): Portions of the proposed project occur within 50 and 100 feet of bordering vegetated wetlands. The Brewster Conservation Commission finds

that the bordering vegetated wetland is significant to the protection of public or private water supply, to ground water supply, to flood control, to storm damage prevention, to prevention of pollution, and to the protection of fisheries and to wildlife habitat. The Commission finds that the proposed work can be conditioned so it will not alter or otherwise impair any portion of Bordering Vegetated Wetlands. The Commission finds that the proposed work can be conditioned so will not result in a loss of a portion of Bordering Vegetated Wetland.

Findings under Brewster Wetlands Protection Bylaw and Wetlands Regulations:

The Brewster Conservation Commission finds that the project can be conditioned to comply with the Brewster Wetlands Protection Bylaw and Regulations. See Special Conditions below.

Portions of the proposed work are within 50 feet of a Vegetated Wetland. Portions of the proposed work are within Land Subject to Flooding.

Sections 3.02(3) and 3.04(3) of the Brewster Wetlands Protection Regulations all require a variance from the regulations granted pursuant to Section 5.01 of the regulations.

A variance may be granted only for the following reasons and upon the following conditions:

- a)
 - 1) *mitigating measures are proposed that will allow the project to be conditioned so that it contributes to the protection of the resource values identified in the Wetlands Bylaw; and*
 - 2) *the Conservation Commission finds no reasonable alternative for such a project within the proposed site; and*
 - 3) *there will be no adverse impact from the proposed project; or*
- b) *that the project is necessary to accommodate an overriding public interest or that it is necessary to avoid a decision that so restricts the use of property that it constitutes an unconstitutional taking without compensation.*

The Brewster Conservation Commission finds that mitigating measures have been proposed that will allow the project to be conditioned so that it contributes to the protection of the resource values identified in the Wetlands By-law. The mitigating measures include enhancement plantings with native species and maintenance of flood storage on-site.

Alternatives were addressed by Independent Environmental Consultants, Inc. The Conservation Commission finds that the proposed project is a reasonable alternative.

The Brewster Conservation Commission finds that the project can be conditioned so there are no adverse impacts from the proposed project to the interests protected by the Brewster Wetlands Protection By-law.

The Brewster Conservation Commission finds that variance criteria b), *"that the project is necessary to accommodate an overriding public interest or that it is necessary to avoid a decision that so restricts the use of property that it constitutes an unconstitutional taking without compensation."* does not apply to this project.

For the above stated reasons, the Conservation Commission grants a variance to Sections 3.02(3) and 3.04(3) of the Brewster Wetlands Protection Bylaw Regulations.

Vegetated Wetlands, 3.02 (3) (4): Portions of the proposed work are located within 50 and 100 feet of Vegetated Wetlands. The Conservation Commission finds that the project can be

conditioned so it will not impair the vegetated wetlands' ability to perform any of the functions set forth in Section 3.02(1).

Land Subject to Flooding, 3.04 (3) (4): Portions of the proposed work are located within Land Subject to Flooding. The Brewster Conservation Commission finds that the project will not result in flood damage due to filling which causes lateral displacement of water that would otherwise be confined within the project area. The Conservation Commission finds that the project will not result in an adverse effect on public and private water supply or ground water supply. The Conservation Commission finds that the project will not result in an adverse effect on the capacity of the area to prevent pollution of the groundwater.

Special Conditions under the Mass. Wetlands Protection Act and Wetlands Regulations and under the Brewster Wetlands Protection Bylaw and Wetlands Regulations:

The Brewster Conservation Commission hereby finds that the following additional conditions are necessary to comply with performance standards set forth in the Massachusetts Wetlands Protection Act and Wetland Regulations and the Brewster Wetlands Protection By-law.

The Conservation Commission orders that all work shall be performed in accordance with said additional conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

A1. All local, state and federal approvals shall be obtained before work can commence on the project. Copies of all approvals shall be forwarded to the Brewster Conservation Commission.

A2. This permit is granted under Section 172-7 of the Brewster Wetlands Protection By-law, subject to the conditions imposed, for a period of three years from the issuance date of the original Order of Conditions. The Conservation Commission may issue extensions, each for a period of time up to three years, based on review of the site and other criteria. Requests for each extension shall be submitted in writing, no less than 30 days prior to the expiration date.

A3. This Order of Conditions shall expire on April 28, 2025.

A4. The Agent or other employee, members of the Conservation Commission and officials of the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order, at reasonable hours, to evaluate compliance with the conditions stated in this Order. Said persons may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation. This right of entry shall remain until such time as a Certificate of Compliance has been issued, recorded in the Registry of Deeds or Land Court, Barnstable County, and returned to the Conservation Department.

A5. This order shall apply to any successors and assigns in interest or control and any other person engaging in activity on the property identified in the Notice of Intent.

A6. Violation of any of these Conditions shall subject the violator and the landowner to a fine (of not more than \$300.00 per day) pursuant to Section 172-11 of the Town of Brewster Wetlands Protection By-law, until all violations have been corrected to the satisfaction of the Brewster Conservation Commission.

A7. All work shall be in accordance with the approved site plan and documents referenced in A. General Information Item 8 associated with this Order of Conditions/WPA Form 5. If any changes are made in the above-described plans which may or will alter an area subject to protection under the Wetlands Protection Act and the Town of Brewster Wetlands Protection By-law, or any changes in activity subject to regulations under G.L. c. 131 §40, or the Town of Brewster local

regulations occurs, the applicant shall inquire from this Commission in writing, prior to implementation in the field, whether the change(s) is significant enough to require an Amended Order of Conditions or the filing of a new Notice of Intent. Any errors in the plans or information submitted by the applicant shall be considered changes and the above procedures shall be followed.

A8. A copy of this Order of Conditions/Permit shall be kept on site at all times during project activities. **This is the owner's responsibility.** The owner shall see that all contractors and subcontractors retained during project activities receive a copy of this Order. Workers shall be prepared to produce the Order and all plans and supporting documents referenced in the Order, upon request of the Conservation Agent or any member of the Conservation Commission.

A9. Prior to project activities an erosion control barrier/limit of work (siltation fence with staked haybales/straw wattles or a double-line of staked haybales/straw wattles) shall be properly installed, as close to the area of work as possible and as noted in the plan of record. This barrier shall constitute the limit of work. The siltation barrier shall be removed only after any threat of erosion no longer exists, and all disturbed areas are stabilized by vegetation or other means. Any siltation buildup on the upland side shall be removed. Any commencement of work activities prior to the proper installation of erosion controls and an inspection and approval by the Conservation Commission may result in a cease and desist action, and possible fines of up to \$300.00 per day for each day of violation.

A10. A supply of extra siltation barriers shall be stored on site for emergency use.

A11. After the siltation barrier/limit of work has been set and a minimum of five (5) days before commencement of work, the owner shall notify the Conservation Department using the **Owner affirmation of responsibility for work/request for site inspection...** form, which shall be signed by the owner of the property as well as the contractor in charge of the work. The Commission's Agent will schedule an on-site meeting of the contractor(s) responsible, to ensure that the requirements of this Order are understood. No work shall begin until after the on-site meeting.

At the on-site meeting, the contractor and the Conservation Agent will review access and protocol for project activities.

During this on-site consultation, the Conservation Agent or Commissioner may require minor modifications to the approved site plan (relating to work/construction methodology) to the Order of Conditions. If so, said conditions will be provided in writing at the time of said on-site meeting.

A12. Also prior to the commencement of work, a series of dated color photographs shall be taken of the entire resource area and buffer area. A set of photographs shall be submitted to the Conservation Department for the applicant's permit file, with the notification form. These photos shall be labeled with the Assessor's Map and Parcel, and street address, date and general view description.

Another series of dated color photographs shall be taken of the resource area and buffer area when the work is completed, and fully revegetated and stable. These photographs shall be submitted to the Conservation office at the time a Certificate of Compliance is requested, and shall remain in the applicant's permit file. The photos shall be labeled with the Assessor's Map and Parcel, and street address, date and general view description.

A13. Heavy equipment is permitted for use in the placement of fill and landscape grading. Vegetation management shall be completed by hand or with hand tools. No machinery shall be operated on the wetland side of the limit of work.

A14. Any debris, fill or excavated material on site shall be stockpiled away from designated

wetlands. Unsuitable or excess excavated material shall be properly stabilized or removed from the site.

A15. All structures, facilities and equipment, as part of this project, shall be continually operated and maintained so as to comply with this permit. This provision applies specifically to all equipment used on this project. Any leakage of oil, hydraulic fluid, fuel, or any other pollutant shall be cleaned up immediately, and the defective equipment responsible for said leakage shall be immediately repaired or taken off site.

A16. Mulch shall not be a substitute for groundcover or shrubs in jurisdictional areas.

A17. Installation of in-ground irrigation systems shall be prohibited within 100 feet of any wetland resource areas. Temporary above ground irrigation systems may be used to establish mitigation plantings.

A18. Exterior lights on any structure shall be directed downward and shielded so the light does not illuminate wildlife habitat in jurisdictional areas. Spotlights and floodlights shall not be installed within the 100 foot buffer zone of a resource area; nor shall any spotlight or floodlight penetrate a resource area or 100 foot buffer zone. Any existing spotlight or floodlight shall be removed.

A19. Any fertilizers used within 100 feet of any wetland resources shall be listed by or comprised of organic ingredients consistent with the United States Department of Agriculture National Organic Program (NOP). Organic fertilizers shall be used in an appropriate manner for the conditions of the subject property, and applied in accordance to the manufacturer's specifications.

A20. Pesticides, herbicides and fungicides shall be prohibited within 100 feet of any wetlands.

A21. Any disturbed areas on site shall be revegetated with appropriately sized and spaced approved plant species* and stabilized with 100% biodegradable erosion control netting, which shall stay in place after final grading. Other disturbed areas shall be covered with four to six inches of organic topsoil which is free of weed seeds and debris, and planted with appropriately sized and spaced approved plant species* **or in accordance with the site/planting plan.** All disturbed areas shall be completely revegetated during the first growing season after the permitted work is complete. *Approved plant species, size and spacing are those on the list of acceptable plantings for **inland wetland resource areas/buffer zones** of the Cape Cod Cooperative Extension (www.capecodextension.org). Turf lawn is prohibited within the 100 foot buffer zone to wetlands.

Fill and Grading

A22. Any fill materials used for project activities shall be clean. Fill shall not contain any trash, refuse, rubbish, or debris. The source, volume, and characterization of these materials shall be submitted prior to placement.

A23. After grading activities are completed, the areas of open soil shall be seeded with native grasses/plantings and stabilized. See the Vegetation Notes on the approved site plan referenced in A. General Information Item 8 of this Order of Conditions/WPA Form 5.

Mitigation Planting

A24. Mitigation plantings shall be installed in accordance with the approved plans of record. Substitutions from the approved plans shall be subject to review and approval by the Conservation Commission.

A25. All new plantings shall be tagged in the field for monitoring purposes. The tags shall remain on the planted species for easy inspection by the Conservation Administrator and/or Conservation Commission, through the required monitoring period.

A26. All new plantings shall survive three full growing seasons or be replaced in kind by the applicant and/or property owner.

Monitoring/Reporting

A27. All new plantings shall be monitored for three years. Progress reports and photographs of the plantings shall be submitted to the Conservation Commission prior to November 1 on an annual basis.

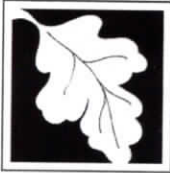
Project Completion/Certificate of Compliance

A28. A final report, which shall include any effect on the wetland resources shall be submitted following completion of the project and prior to a Request for Certificate of Compliance. A final series of dated color photographs shall be taken of the view corridor and buffer area when the work is completed. These photographs shall be submitted to the Conservation office at the time a Certificate of Compliance is requested, and shall remain in the applicant's permit file. These photos shall be labeled with the Assessor's Map and Parcel, and street address, date and general view description.

A29. The Conservation Commission shall require three full growing seasons for any mitigation plantings before issuing a Certificate of Compliance. Any Certificate of Compliance granted before plant viability shall be conditional on prior submittal of a performance bond, to be held until the Conservation Commission/Agent determines plantings are mature enough to ensure survivability.

A30. On completion of the entire project, the applicant or representative shall submit a written request for a Certificate of Compliance on WPA Form 8A - Request for Certificate of Compliance MA WP ACT. The plan of record was completed by a Professional Engineer (PE) and Professional Land Surveyor (PLS). It is further required that a written statement by a PE/PLS certifying substantial compliance with the plan and an "as-planted/as-graded" plan be included. If the plan shows any deviation from the approved plan, the PE/PLS shall describe said deviation in the statement. This form shall be accompanied by payment of a non-refundable fee to the Town of Brewster. Without a Certificate of Compliance which has been recorded (at the Registry of Deeds or Land Court, whichever applies), an encumbrance shall remain on the property, and your filing will not be closed.

BARNSTABLE REGISTRY OF DEEDS
John F. Meade, Register



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE 9-1920
MassDEP File #
eDEP Transaction #
Brewster
City/Town

A. General Information

Please note:
this form has been modified with added space to accommodate the Registry of Deeds Requirements

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



- 1. From: Brewster
Conservation Commission
- 2. This issuance is for (check one):
a. Order of Conditions b. Amended Order of Conditions

- 3. To: Applicant:
 - a. First Name: Paul
 - b. Last Name: Wallace
 - c. Organization: _____
 - d. Mailing Address: P.O. Box 444
 - e. City/Town: Brewster
 - f. State: MA
 - g. Zip Code: 02631

- 4. Property Owner (if different from applicant):
 - a. First Name: John
 - b. Last Name: Peters
 - c. Organization: _____
 - d. Mailing Address: 162 Underpass Road
 - e. City/Town: Brewster
 - f. State: MA
 - g. Zip Code: 02631

- 5. Project Location:
 - a. Street Address: 162 Underpass Road
 - b. City/Town: Brewster
 - c. Assessors Map/Plat Number: 77
 - d. Parcel/Lot Number: 9 (formerly 26/10)
 - Latitude and Longitude, if known:
 - d. Latitude: 41d 45m 30.624s
 - e. Longitude: 70d 3m 58.43s



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE 9-1920

MassDEP File #

eDEP Transaction #

Brewster

City/Town

A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):
Barnstable
- | | |
|-----------|--|
| a. County | b. Certificate Number (if registered land) |
| 12356 | 273 |
| c. Book | d. Page |
7. Dates: 3/3/2022 4/12/2022 4/28/2022
a. Date Notice of Intent Filed b. Date Public Hearing Closed c. Date of Issuance
8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):
Proposed Conditions Site Plan, 162 Underpass Road
- | | |
|--------------------------------------|--|
| a. Plan Title | Michael Ladue, P.L.S & Daniel Croteau,
P.E. |
| b. Prepared By | 1" = 20' |
| c. Final Revision Date | e. Scale |
| 3/1/2022 | |
| d. Final Revision Date | |
| Mitigation Plantings Site Plan | 2/28/2022 |
| f. Additional Plan or Document Title | g. Date |

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:

- | | | |
|---|--|---|
| a. <input checked="" type="checkbox"/> Public Water Supply | b. <input type="checkbox"/> Land Containing Shellfish | c. <input checked="" type="checkbox"/> Prevention of Pollution |
| d. <input checked="" type="checkbox"/> Private Water Supply | e. <input checked="" type="checkbox"/> Fisheries | f. <input checked="" type="checkbox"/> Protection of Wildlife Habitat |
| g. <input checked="" type="checkbox"/> Groundwater Supply | h. <input checked="" type="checkbox"/> Storm Damage Prevention | i. <input checked="" type="checkbox"/> Flood Control |

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

- a. the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE 9-1920

MassDEP File # _____

eDEP Transaction # _____

Brewster

City/Town

B. Findings (cont.)

Denied because:

- b. the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
- 3. Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) 1
a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement	
4. <input type="checkbox"/> Bank	a. linear feet _____	b. linear feet _____	c. linear feet _____	d. linear feet _____	
5. <input type="checkbox"/> Bordering Vegetated Wetland	a. square feet _____	b. square feet _____	c. square feet _____	d. square feet _____	
6. <input type="checkbox"/> Land Under Waterbodies and Waterways	a. square feet _____	b. square feet _____	c. square feet _____	d. square feet _____	
	e. c/y dredged _____	f. c/y dredged _____			
7. <input type="checkbox"/> Bordering Land Subject to Flooding	a. square feet _____	b. square feet _____	c. square feet _____	d. square feet _____	
	Cubic Feet Flood Storage	e. cubic feet _____	f. cubic feet _____	g. cubic feet _____	h. cubic feet _____
8. <input type="checkbox"/> Isolated Land Subject to Flooding	a. square feet _____	b. square feet _____			
	Cubic Feet Flood Storage	c. cubic feet _____	d. cubic feet _____	e. cubic feet _____	f. cubic feet _____
9. <input type="checkbox"/> Riverfront Area	a. total sq. feet _____	b. total sq. feet _____			
	Sq ft within 100 ft	c. square feet _____	d. square feet _____	e. square feet _____	f. square feet _____
	Sq ft between 100-200 ft	g. square feet _____	h. square feet _____	i. square feet _____	j. square feet _____



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE 9-1920

MassDEP File #

eDEP Transaction #

Brewster

City/Town

B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. <input type="checkbox"/> Land Under the Ocean	<u> </u> a. square feet	<u> </u> b. square feet		
	<u> </u> c. c/y dredged	<u> </u> d. c/y dredged		
12. <input type="checkbox"/> Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. <input type="checkbox"/> Coastal Beaches	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. nourishment cu yd	<u> </u> d. nourishment cu yd
14. <input type="checkbox"/> Coastal Dunes	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. nourishment cu yd	<u> </u> d. nourishment cu yd
15. <input type="checkbox"/> Coastal Banks	<u> </u> a. linear feet	<u> </u> b. linear feet		
16. <input type="checkbox"/> Rocky Intertidal Shores	<u> </u> a. square feet	<u> </u> b. square feet		
17. <input type="checkbox"/> Salt Marshes	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
18. <input type="checkbox"/> Land Under Salt Ponds	<u> </u> a. square feet	<u> </u> b. square feet		
	<u> </u> c. c/y dredged	<u> </u> d. c/y dredged		
19. <input type="checkbox"/> Land Containing Shellfish	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
20. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	<u> </u> a. c/y dredged	<u> </u> b. c/y dredged		
21. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	<u> </u> a. square feet	<u> </u> b. square feet		
22. <input type="checkbox"/> Riverfront Area	<u> </u> a. total sq. feet	<u> </u> b. total sq. feet		
Sq ft within 100 ft	<u> </u> c. square feet	<u> </u> d. square feet	<u> </u> e. square feet	<u> </u> f. square feet
Sq ft between 100-200 ft	<u> </u> g. square feet	<u> </u> h. square feet	<u> </u> i. square feet	<u> </u> j. square feet



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE 9-1920

MassDEP File #

eDEP Transaction #

Brewster

City/Town

B. Findings (cont.)

* #23. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. Restoration/Enhancement *:

a. square feet of BVW

b. square feet of salt marsh

24. Stream Crossing(s):

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on _____ unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE 9-1920

MassDEP File #

eDEP Transaction #

Brewster

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]
"File Number SE 9-1920 "
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE 9-1920

MassDEP File #

eDEP Transaction #

Brewster

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
19. The work associated with this Order (the "Project")
- (1) is subject to the Massachusetts Stormwater Standards
- (2) is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
- i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
SE 9-1920
MassDEP File #

eDEP Transaction #
Brewster
City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;
- v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.
- c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:
- i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and
 - ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.
- d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.
- e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.
- f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE 9-1920

MassDEP File #

eDEP Transaction #

Brewster

City/Town

C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

- g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
 2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
 3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE 9-1920

MassDEP File #

eDEP Transaction #

Brewster

City/Town

D. Findings Under Municipal Wetlands Bylaw or Ordinance

- 1. Is a municipal wetlands bylaw or ordinance applicable? Yes No
- 2. The Brewster Conservation Commission hereby finds (check one that applies):

- a. that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:
Code of the Town of Brewster 172
1. Municipal Ordinance or Bylaw 2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:
Code of the Town of Brewster 172
1. Municipal Ordinance or Bylaw 2. Citation

- 3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.
The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

See Addendum



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
 SE 9-1920
 MassDEP File #
 eDEP Transaction #
 Brewster
 City/Town

E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

4/28/22
1. Date of Issuance

Please indicate the number of members who will sign this form.

4
2. Number of Signers

This Order must be signed by a majority of the Conservation Commission.

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signature _____
 Signature [Handwritten Signature]
 Signature [Handwritten Signature]
 Signature [Handwritten Signature]
 Signature [Handwritten Signature]
 Signature _____
 Signature _____
 Signature _____

Printed Name _____
 Printed Name Casey D. Chatelein
 Printed Name BRUCE C. EVANS
 Printed Name _____
 Printed Name _____
 Printed Name _____
 Printed Name _____

by hand delivery on

by certified mail, return receipt requested, on

Date

4/28/22
Date



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

SE 9-1920

MassDEP File #

eDEP Transaction #

Brewster

City/Town

F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
 SE 9-1920
 MassDEP File #
 eDEP Transaction #
 Brewster
 City/Town

G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Brewster
 Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Brewster
 Conservation Commission

Please be advised that the Order of Conditions for the Project at:

162 Underpass Road, 77/9 (26/10)
 Project Location

SE 9-1920
 MassDEP File Number

Has been recorded at the Registry of Deeds of:

Barnstable
 County

35093
 Book

317
 Page

for:

Paul Wallace
 Property Owner

and has been noted in the chain of title of the affected property in:

12356
 Book

273
 Page

In accordance with the Order of Conditions issued on:

4/28/2022
 Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

Addendum to WPA Form 5 – Order of Conditions

Paul Wallace, 162 Underpass Road; Order of Conditions SE 9-1920, Assessor's Map 77, Parcel 9 (formerly Map 26, Parcel 10)

Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act (M.G.L. C.131 S. 40)

And

Code of the Town of Brewster Chapter 172

Brewster Wetlands Protection By-law (BWP By-law)

Project Description: The Notice of Intent proposes placement of fill, grading activities, and vegetation management. The project includes areas on and within 50 and 100 feet of inland wetland resources.

Resource Area Identification

The affected resource area under the Massachusetts Wetlands Protection Act (M.G.L. Ch.131 §. 40) is Bordering Vegetated Wetland (310 CMR 10.55).

The affected resource areas under the Brewster Wetlands Protection By-law (Chapter 172) are Vegetated Wetland (Brewster Wetland Regulations 3.02) and Land Subject to Flooding (Brewster Wetlands Regulations 3.04).

Interests Protected Under the Brewster Wetlands Protection By-law

Wildlife

Public and Private Water Supply

Groundwater Supply

Flood Control

Storm Damage Prevention

Prevention of Pollution

Protection of Fisheries

Historic Values

Aesthetics

Performance Standards Implicated by Proposed Project under Mass. Wetlands Protection Act and Wetland Regulations:

Bordering Vegetated Wetland, 310 CMR 10.55 (4)

Local Performance Standards Implicated by Proposed Project under Brewster Wetlands Protection By-law and Wetlands Regulations:

Vegetated Wetland, 3.02 (3) (4)

Land Subject to Flooding, 3.04 (3) (4)

Findings under Massachusetts Wetlands Protection Act and Wetland Regulations:

The Brewster Conservation Commission finds that the project can be conditioned to meet the performance standards set forth in the wetland regulations. See Special Conditions below.

Bordering Vegetated Wetlands, 310 CMR 10.55 (4): Portions of the proposed project occur within 50 and 100 feet of bordering vegetated wetlands. The Brewster Conservation Commission finds that the bordering vegetated wetland is significant to the protection of public or private water supply, to ground water supply, to flood control, to storm damage prevention, to prevention of pollution, and to the protection of fisheries and to wildlife habitat. The Commission finds that the

proposed work can be conditioned so it will not alter or otherwise impair any portion of Bordering Vegetated Wetlands. The Commission finds that the proposed work can be conditioned so will not result in a loss of a portion of Bordering Vegetated Wetland.

Findings under Brewster Wetlands Protection Bylaw and Wetlands Regulations:

The Brewster Conservation Commission finds that the project can be conditioned to comply with the Brewster Wetlands Protection Bylaw and Regulations. See Special Conditions below.

Portions of the proposed work are within 50 feet of a Vegetated Wetland. Portions of the proposed work are within Land Subject to Flooding.

Sections 3.02(3) and 3.04(3) of the Brewster Wetlands Protection Regulations all require a variance from the regulations granted pursuant to Section 5.01 of the regulations.

A variance may be granted only for the following reasons and upon the following conditions:

- a) *1) mitigating measures are proposed that will allow the project to be conditioned so that it contributes to the protection of the resource values identified in the Wetlands Bylaw; and*
2) the Conservation Commission finds no reasonable alternative for such a project within the proposed site; and
3) there will be no adverse impact from the proposed project; or
- b) *that the project is necessary to accommodate an overriding public interest or that it is necessary to avoid a decision that so restricts the use of property that it constitutes an unconstitutional taking without compensation.*

The Brewster Conservation Commission finds that mitigating measures have been proposed that will allow the project to be conditioned so that it contributes to the protection of the resource values identified in the Wetlands By-law. The mitigating measures include enhancement plantings with native species and maintenance of flood storage on-site.

Alternatives were addressed by Independent Environmental Consultants, Inc. The Conservation Commission finds that the proposed project is a reasonable alternative.

The Brewster Conservation Commission finds that the project can be conditioned so there are no adverse impacts from the proposed project to the interests protected by the Brewster Wetlands Protection By-law.

The Brewster Conservation Commission finds that variance criteria b), *"that the project is necessary to accommodate an overriding public interest or that it is necessary to avoid a decision that so restricts the use of property that it constitutes an unconstitutional taking without compensation."* does not apply to this project.

For the above stated reasons, the Conservation Commission grants a variance to Sections 3.02(3) and 3.04(3) of the Brewster Wetlands Protection Bylaw Regulations.

Vegetated Wetlands, 3.02 (3) (4): Portions of the proposed work are located within 50 and 100 feet of Vegetated Wetlands. The Conservation Commission finds that the project can be conditioned so it will not impair the vegetated wetlands' ability to perform any of the functions set forth in Section 3.02(1).

Land Subject to Flooding, 3.04 (3) (4): Portions of the proposed work are located within Land Subject to Flooding. The Brewster Conservation Commission finds that the project will not result in flood damage due to filling which causes lateral displacement of water that would otherwise be confined within the project area. The Conservation Commission finds that the project will not result in an adverse effect on public and private water supply or ground water supply. The Conservation Commission finds that the project will not result in an adverse effect on the capacity of the area to prevent pollution of the groundwater.

Special Conditions under the Mass. Wetlands Protection Act and Wetlands Regulations and under the Brewster Wetlands Protection Bylaw and Wetlands Regulations:

The Brewster Conservation Commission hereby finds that the following additional conditions are necessary to comply with performance standards set forth in the Massachusetts Wetlands Protection Act and Wetland Regulations and the Brewster Wetlands Protection By-law.

The Conservation Commission orders that all work shall be performed in accordance with said additional conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

A1. All local, state and federal approvals shall be obtained before work can commence on the project. Copies of all approvals shall be forwarded to the Brewster Conservation Commission.

A2. This permit is granted under Section 172-7 of the Brewster Wetlands Protection By-law, subject to the conditions imposed, for a period of three years from the issuance date of the original Order of Conditions. The Conservation Commission may issue extensions, each for a period of time up to three years, based on review of the site and other criteria. Requests for each extension shall be submitted in writing, no less than 30 days prior to the expiration date.

A3. This Order of Conditions shall expire on April 28, 2025.

A4. The Agent or other employee, members of the Conservation Commission and officials of the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order, at reasonable hours, to evaluate compliance with the conditions stated in this Order. Said persons may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation. This right of entry shall remain until such time as a Certificate of Compliance has been issued, recorded in the Registry of Deeds or Land Court, Barnstable County, and returned to the Conservation Department.

A5. This order shall apply to any successors and assigns in interest or control and any other person engaging in activity on the property identified in the Notice of Intent.

A6. Violation of any of these Conditions shall subject the violator and the landowner to a fine (of not more than \$300.00 per day) pursuant to Section 172-11 of the Town of Brewster Wetlands Protection By-law, until all violations have been corrected to the satisfaction of the Brewster Conservation Commission.

A7. All work shall be in accordance with the approved plan of record noted to be Proposed Conditions Site Plan, Prepared for: Paul Wallace, 162 Underpass Road, Brewster, MA, as completed by Moran Engineering Assoc., LLC, and dated 3.1.22 as well as the submitted Mitigation Plantings Site Plan, 162 Underpass Road, Brewster, MA, as completed by the same and dated 2.28.22. If any changes are made in the above-described plans which may or will alter an area subject to protection under the Wetlands Protection Act and the Town of Brewster Wetlands Protection By-law, or any changes in activity subject to regulations under G.L. c. 131 §40, or the Town of Brewster local regulations occurs, the applicant shall inquire from this

Commission in writing, prior to implementation in the field, whether the change(s) is significant enough to require an Amended Order of Conditions or the filing of a new Notice of Intent. Any errors in the plans or information submitted by the applicant shall be considered changes and the above procedures shall be followed.

A8. A copy of this Order of Conditions/Permit shall be kept on site at all times during project activities. **This is the owner's responsibility.** The owner shall see that all contractors and subcontractors retained during project activities receive a copy of this Order. Workers shall be prepared to produce the Order and all plans and supporting documents referenced in the Order, upon request of the Conservation Agent or any member of the Conservation Commission.

A9. Prior to project activities an erosion control barrier/limit of work (siltation fence with staked haybales/straw wattles or a double-line of staked haybales/straw wattles) shall be properly installed, as close to the area of work as possible and as noted in the plan of record. This barrier shall constitute the limit of work. The siltation barrier shall be removed only after any threat of erosion no longer exists, and all disturbed areas are stabilized by vegetation or other means. Any siltation buildup on the upland side shall be removed. Any commencement of work activities prior to the proper installation of erosion controls and an inspection and approval by the Conservation Commission may result in a cease and desist action, and possible fines of up to \$300.00 per day for each day of violation.

A10. A supply of extra siltation barriers shall be stored on site for emergency use.

A11. After the siltation barrier/limit of work has been set and a minimum of five (5) days before commencement of work, the owner shall notify the Conservation Department using the **Owner affirmation of responsibility for work/request for site inspection...** form, which shall be signed by the owner of the property as well as the contractor in charge of the work. The Commission's Agent will schedule an on-site meeting of the contractor(s) responsible, to ensure that the requirements of this Order are understood. No work shall begin until after the on-site meeting.

At the on-site meeting, the contractor and the Conservation Agent will review access and protocol for project activities.

During this on-site consultation, the Conservation Agent or Commissioner may require minor modifications to the approved site plan (relating to work/construction methodology) to the Order of Conditions. If so, said conditions will be provided in writing at the time of said on-site meeting.

A12. Also prior to the commencement of work, a series of dated color photographs shall be taken of the entire resource area and buffer area. A set of photographs shall be submitted to the Conservation Department for the applicant's permit file, with the notification form. These photos shall be labeled with the Assessor's Map and Parcel, and street address, date and general view description.

Another series of dated color photographs shall be taken of the resource area and buffer area when the work is completed, and fully revegetated and stable. These photographs shall be submitted to the Conservation office at the time a Certificate of Compliance is requested, and shall remain in the applicant's permit file. The photos shall be labeled with the Assessor's Map and Parcel, and street address, date and general view description.

A13. Heavy equipment is permitted for use in the placement of fill and landscape grading. Vegetation management shall be completed by hand or with hand tools. No machinery shall be operated on the wetland side of the limit of work.

A14. Any debris, fill or excavated material on site shall be stockpiled away from designated wetlands. Unsuitable or excess excavated material shall be properly stabilized or removed from

the site.

A15. All structures, facilities and equipment, as part of this project, shall be continually operated and maintained so as to comply with this permit. This provision applies specifically to all equipment used on this project. Any leakage of oil, hydraulic fluid, fuel, or any other pollutant shall be cleaned up immediately, and the defective equipment responsible for said leakage shall be immediately repaired or taken off site.

A16. Mulch shall not be a substitute for groundcover or shrubs in jurisdictional areas.

A17. Installation of in-ground irrigation systems shall be prohibited within 100 feet of any wetland resource areas. Temporary above ground irrigation systems may be used to establish mitigation plantings.

A18. Exterior lights on any structure shall be directed downward and shielded so the light does not illuminate wildlife habitat in jurisdictional areas. Spotlights and floodlights shall not be installed within the 100 foot buffer zone of a resource area; nor shall any spotlight or floodlight penetrate a resource area or 100 foot buffer zone. Any existing spotlight or floodlight shall be removed.

A19. Any fertilizers used within 100 feet of any wetland resources shall be listed by or comprised of organic ingredients consistent with the United States Department of Agriculture National Organic Program (NOP). Organic fertilizers shall be used in an appropriate manner for the conditions of the subject property, and applied in accordance to the manufacturer's specifications.

A20. Pesticides, herbicides and fungicides shall be prohibited within 100 feet of any wetlands.

A21. Any disturbed areas on site shall be revegetated with appropriately sized and spaced approved plant species* and stabilized with 100% biodegradable erosion control netting, which shall stay in place after final grading. Other disturbed areas shall be covered with four to six inches of organic topsoil which is free of weed seeds and debris, and planted with appropriately sized and spaced approved plant species* **or in accordance with the site/planting plan.** All disturbed areas shall be completely revegetated during the first growing season after the permitted work is complete. *Approved plant species, size and spacing are those on the list of acceptable plantings for **inland wetland resource areas/buffer zones** of the Cape Cod Cooperative Extension (www.capecodextension.org). Turf lawn is prohibited within the 100 foot buffer zone to wetlands.

Fill and Grading

A22. Any fill materials used for project activities shall be clean. Fill shall not contain any trash, refuse, rubbish, or debris. The source, volume, and characterization of these materials shall be submitted prior to placement.

A23. After grading activities are completed, the areas of open soil shall be seeded with native grasses/plantings and stabilized.

Mitigation Planting

A24. Mitigation plantings shall be installed in accordance with the approved plans of record. Substitutions from the approved plans shall be subject to review and approval by the Conservation Commission.

A25. All new plantings shall be tagged in the field for monitoring purposes. The tags shall remain on the planted species for easy inspection by the Conservation Administrator and/or Conservation Commission, through the required monitoring period.

A26. All new plantings shall survive three full growing seasons or be replaced in kind by the applicant and/or property owner.

Monitoring/Reporting

A27. All new plantings shall be monitored for three years. Progress reports and photographs of the plantings shall be submitted to the Conservation Commission prior to November 1 on an annual basis.

Project Completion/Certificate of Compliance

A28. A final report, which shall include any effect on the wetland resources shall be submitted following completion of the project and prior to a Request for Certificate of Compliance. A final series of dated color photographs shall be taken of the view corridor and buffer area when the work is completed. These photographs shall be submitted to the Conservation office at the time a Certificate of Compliance is requested, and shall remain in the applicant's permit file. These photos shall be labeled with the Assessor's Map and Parcel, and street address, date and general view description.

A29. The Conservation Commission shall require three full growing seasons for any mitigation plantings before issuing a Certificate of Compliance. Any Certificate of Compliance granted before plant viability shall be conditional on prior submittal of a performance bond, to be held until the Conservation Commission/Agent determines plantings are mature enough to ensure survivability.

A30. On completion of the entire project, the applicant or representative shall submit a written request for a Certificate of Compliance on WPA Form 8A - Request for Certificate of Compliance MA WP ACT. The plan of record was completed by a Professional Engineer (PE) and Professional Land Surveyor (PLS). It is further required that a written statement by a PE/PLS certifying substantial compliance with the plan and an "as-planted/as-graded" plan be included. If the plan shows any deviation from the approved plan, the PE/PLS shall describe said deviation in the statement. This form shall be accompanied by payment of a non-refundable fee to the Town of Brewster. Without a Certificate of Compliance which has been recorded (at the Registry of Deeds or Land Court, whichever applies), an encumbrance shall remain on the property, and your filing will not be closed.



Town of Brewster
Code Chapter 272
Stormwater Management Permit
Application Form

FOR TOWN OFFICIAL USE ONLY

TOWN CLERK RECEIVED:

24 FEB 10:56 AM
BREWSTER TOWN CLERK

SWM PERMIT NUMBER ASSIGNED:

SUMP 2024-03

1. Project Location:

162 Underpass Road
Street Address

Map 77, Parcel 9
Assessors Map and Parcel(s)

Book 35532, Page 98
Deed Reference

2. Applicant:

The Free Sea Turtle LLC
Name

21 Crosby Lane, Brewster, MA 02631
Legal Mailing Address

508-246-2892
Phone Number

paulwallace@outerbarco.com
Email Address

3. Property Owner (if different than Applicant):

Same
Name

Legal Mailing Address

Phone Number

Email Address

4. Professional Representative:

JohN O'Reilly, P.E. of J.M. O'REILLY & ASSOCAITES, INC.
Name

P.O. Box 1773, Brewster, MA 02631
Legal Mailing Address

508-896-6601
Phone Number

joreilly@jmoreillyassoc.com
Email Address

5. Type of Application (Check as applicable):

Minor Stormwater Permit- Any combination or series of construction or land disturbance activities that, over a two-year period, will result in a net increase in impervious area of 500 sq.ft. to 2,500 sq.ft. and/or will result in land disturbances of 10,000 sq.ft. to 20,000 sq.ft.

Major Stormwater Permit- Any alteration, disturbance, development, or redevelopment that does not meet the eligibility criteria for a Minor Stormwater Permit.

SWM Permit Amendment-
List existing Stormwater Management permit number/ type _____.

Stormwater Management Certificate of Compliance (SMCC) Request-
List relevant Stormwater Management permit number _____.

6. Brief Project Description, including any waiver requests:


Two Commercial buildings with paved and gravel parking surfaces with hardscape and landscape. Refer to Plans

7. Signatures:

Applicant Date

Same

Property Owner (if different than Applicant) Date

 _____
Professional Representative (as applicable) Date 2.2.24

NOTES:

- Please refer to Appendix B of the Stormwater Management Regulations for detailed application submittal and supporting material requirements for Minor and Major Stormwater Management Permits, respectively.
- The application fee schedule is contained in Appendix C of the Regulations.
- Certain activities are exempt from review and permitting (See §272-6 of the Stormwater Management Bylaw).
- If the project is located, in whole or part, within an area subject to state or local wetlands protection law, the review and permitting authority is the Brewster Conservation Commission/ Conservation Department.
- No permit review shall occur nor shall review periods commence until the application is deemed complete.



Town of Brewster
Code Chapter 272
Stormwater Management Permit
Application Form

FOR TOWN OFFICIAL USE ONLY

TOWN CLERK RECEIVED:

24 FEB 2024 10:57 AM
BREWSTER TOWN CLERK

SWM PERMIT NUMBER ASSIGNED:

SWMP 2024-04

1. Project Location:

0 Underpass Road
Street Address

Map 77, Parcel 10 & 60
Assessors Map and Parcel(s)

Book 35532, Page 93
Deed Reference

2. Applicant:

162 Underpass LLC
Name

76 Aunt Sophies Road, Brewster, MA 02631
Legal Mailing Address

774-413-5659
Phone Number

cwhitcomb80@icloud.com.com
Email Address

3. Property Owner (if different than Applicant):

Same
Name

Legal Mailing Address

Phone Number

Email Address

4. Professional Representative:

John O'Reilly, P.E. of J.M. O'REILLY & ASSOCAITES, INC.
Name

P.O. Box 1773, Brewster, MA 02631
Legal Mailing Address

508-896-6601
Phone Number

joreilly@jmoreillyassoc.com
Email Address

5. Type of Application (Check as applicable):

Minor Stormwater Permit- Any combination or series of construction or land disturbance activities that, over a two-year period, will result in a net increase in impervious area of 500 sq.ft. to 2,500 sq.ft. and/or will result in land disturbances of 10,000 sq.ft. to 20,000 sq.ft.

Major Stormwater Permit- Any alteration, disturbance, development, or redevelopment that does not meet the eligibility criteria for a Minor Stormwater Permit.

SWM Permit Amendment-
List existing Stormwater Management permit number/ type _____.

Stormwater Management Certificate of Compliance (SMCC) Request-
List relevant Stormwater Management permit number _____.

6. Brief Project Description, including any waiver requests:

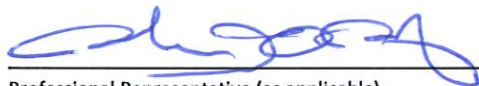
One Commercial building with paved and gravel parking surfaces with hardscape and landscape. Refer to Plans

7. Signatures:

Applicant Date

Same

Property Owner (if different than Applicant) Date



Professional Representative (as applicable) Date 2-2-2024

NOTES:

- Please refer to Appendix B of the Stormwater Management Regulations for detailed application submittal and supporting material requirements for Minor and Major Stormwater Management Permits, respectively.
- The application fee schedule is contained in Appendix C of the Regulations.
- Certain activities are exempt from review and permitting (See §272-6 of the Stormwater Management Bylaw).
- If the project is located, in whole or part, within an area subject to state or local wetlands protection law, the review and permitting authority is the Brewster Conservation Commission/ Conservation Department.
- No permit review shall occur nor shall review periods commence until the application is deemed complete.

STORMWATER MANAGEMENT REPORT

Lot 1 - 162 Underpass Road
Lot 2-3 – 0 Underpass Road
Brewster, MA
Assessors' Map 77, Parcels 9 and 10 & 60
Brewster, MA

February 2, 2024

Revised 2-20-2024

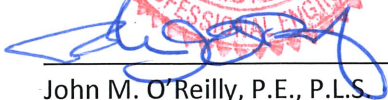
PREPARED FOR:

THE FREE SEA TURTLE, LLC
21 Crosby Lane, Brewster, MA 02631
And
162 Underpass LLC
76 Aunt Sophies Road, Brewster, MA 02631

PREPARED BY:

J.M. O'REILLY & ASSOCIATES, INC.
1573 MAIN STREET
P.O. BOX 1773
BREWSTER, MA 02631
508-896-6601



 2-21-24

John M. O'Reilly, P.E., P.L.S.
J.M. O'REILLY & ASSOCIATES, INC.

TABLE OF CONTENTS

1. Property Description
2. Stormwater Management Plan Overview
3. Erosion Control Plan
4. Massachusetts Stormwater Management Design Standards
5. APPENDICES

APPENDIX A –HydroCAD Report, Partial Report for 25- and 100-year Storm Events

APPENDIX B – TSS Removal Calculation Sheets

APPENDIX C – O & M Manual

1. Property Description

<u>Lot Area:</u>	Lots 1 – 44,200 sf; Lot 2-3 64,989 SF+/-
<u>Parcel Improvements:</u>	The site is to be developed with three commercial buildings, parking and landscape.
<u>Wetlands:</u>	The Lot 2-3 sits adjacent to a Bordering Vegetated Wetland to the north. The lot includes a 55 foot limit of disturbance to the wetland areas as approved by the local conservation.
<u>Soils:</u>	The NRCS Soil Survey places the parcel within the soil unit <u>494C Soil</u> , Barnstable series, which tends to be very deep, well drained soils formed in loamy till over loose, sandy outwash. Onsite soil testing found a medium to coarse sand very close to the surface but also found a firm sandy loam over a deeper layer of medium sands.
<u>Groundwater:</u>	Groundwater elevation is estimated to be about 30 to 35 feet below the existing grade at elevation 26 +/- as shown on the water table map of Brewster and Harwich as on file at the Brewster health Department.
<u>Zone II:</u>	The parcel is not located within a Zone II Groundwater Recharge mapped area.
<u>Topography:</u>	The topography is slope from the south to the north.
<u>Site Conditions:</u>	The existing lot was improved with a single-family dwelling. The dwelling has been removed as part of the site cleanup from the previous owners use as a contractor yard. The site is cleared and graded have the cleanup completed.

2. Stormwater Management Plan Overview

Stormwater management controls are proposed for the portion of the property that is to be developed. The area of land to be developed is about 118,000 sf+/- and fronting on Underpass Road, just north of Sara Ann Lane. The area includes all land from the southern lot line of Lot 1 and the adjacent lot line of Lot 2-3, then north down to the existing limit of work line, previously established. The remaining portion, north of the limit of work, was not considered part of the watershed and it will remain natural.

The proposed post-development stormwater management plan consists of three deep sump catch basins, a Bio-retention Swale, a series of manholes for conveyance and an oil/water grit separator to provide initial treatment of the stormwater runoff from the parking area, the gravel portion and the landscaped areas. These are then connected to a single large subsurface leaching facility, which also provides stormwater leaching for the roof runoff. See the Watershed Plans in Appendix A for delineations of the site's subcatchment areas.

- Subcatchment 1 consists of the landscape areas on the east side of Lot 1 and the entrance off of Underpass Road. This area will be directed into the deep sump catch basin on the north side of the access drive. The catch basin then flows into a series of manholes and then into the subsurface leaching facility.
- Subcatchment 2 consists of the remaining portion of the paved parking area and the patio areas around the buildings on Lot 1. This area will be directed into a large Bio-retention swale with an under drain. The underdrain runs into the same manholes as referenced above and then onto the subsurface leaching facility. The swale contains a series of high-water inlets which will provide relief during large rain events. The water depth within the swale shall not exceed 1-foot. The bottom of swale is proposed at elevation 56 with the high-water inlet rim elevation set at 57.0. The underdrain is sized at 6-inches.
- Subcatchment 3 consists of the rear gravel area on Lot 2-3. The area will be directed into two deep sump catch basins which will connect to an oil-water grit separator. The oil/water separator will then connect to the subsurface leaching facility.
- Subcatchment 4 consists of the roof area of the three buildings. The roof area will be connected directly to the subsurface leaching facility.
- Stormwater runoff from the roof is controlled by gutters and downspouts, with the front half of the building's runoff piped to drainage facility #2 and the rear half piped to drainage facility #1.
- Subcatchments 7, 8 and 9 consist of the lawn and landscaped areas for each of the 3 existing discharge points that are not connected to the stormwater systems. These areas will be vegetated and do not include any hardscapes.

As shown in the HydroCAD Modeling report, the proposed stormwater controls will reduce the site-wide peak discharge rate for the 2-, 10-, 25- and 100-year storms. The site-wide post-development 100-year storm peak discharge rate relative to pre-development conditions has decreased from 5.51 CFS to 3.10 CFS. The discharge rates for each of the three individual discharge points have also decreased relative to pre-development conditions, as shown in Table 1 below.

Table 1: Peak Discharge Comparison

Storm Event (year)	Wetland to the North	
	Pre-Dev. (ft ³ /sec)	Post-Dev. (ft ³ /sec)
2	0.04	0
10	0.73	0
25	2.21	0
100	5.51	3.10

Note: HydroCAD modeling includes time of concentration (Tc) and other factors in determining peak discharge rate. As such, the total site discharge rate may not equal the sum of the discharge rates for each discharge point.

For HydroCAD modeling analysis of the stormwater systems, the following methods and assumptions were used:

- Simple Dynamic
- Rawls Rate of 8.27 in/hr for sands within the subsoil layers for subsurface leaching galleys.
- Rawls Rate of 2.41 in/hr for the loamy sands in the upper soil layers for dry water quality swales.

The proposed stormwater controls also meet the minimum 90% Total Suspended Solids (TSS) removal requirements of the Town of Brewster Stormwater Management Bylaw, as shown in Appendix C: TSS Removal Sheets. Our office estimates an approximate reduction of 70% in phosphorus when applying the removal percentages of a Bio-retention area and the dry sandy soils beneath the leaching facility. The lowest reduction rates of a Bio-retention area and the sand soils (infiltration area) is about 70% (40% for Bio-retention & 30% for infiltration).

3. Erosion Control Plan - Temporary Siltation Barrier & Silt Socks

Prior to start of construction, the following steps shall be taken to address erosion:

- Contractor shall coordinate the driveway access curb cut with the Brewster Department of Public Works.
- The erosion controls shall include a row of staked 9-inch straw wattles surrounding the down gradient areas to be disturbed (limit of work). Erosion controls shall be installed around all areas of disturbance. Refer to Plans for wattle locations and details.
- Once the driveway stormwater systems are installed, a row of staked 9-inch straw wattles shall be set surrounding each of the swales, to prevent silt and debris from clogging and/or damaging the dry water quality swales and subsurface leaching facilities.
- The erosion controls shall be monitored and corrected during the entire construction phase and until the site has been stabilized with ground cover and/or landscape mulch.
- Contractor shall be required to provide extra siltation controls in case a repair is needed to the straw wattles.

The Stormwater Operations and Maintenance Plan is under Appendix B.

4. Massachusetts Stormwater Management Design Standards

The following is a description of how the proposed project meets the Massachusetts Stormwater Handbook design standards.

Standard 1: No new untreated discharges:

This standard is met since there are no new untreated stormwater discharges proposed. See Standards 4-6 calculations.

Standard 2: Maintain Pre-development peak discharge rate:

This standard has been met. As shown in the HydroCAD Modeling report, the proposed stormwater controls will reduce the site-wide peak discharge rate for the 2-, 10-, 25- and 100-year storms. The site-wide post-development 100-year storm peak discharge rate relative to pre-development conditions has decreased from 5.51 CFS to 3.10 CFS. The discharge rates for each of the three individual discharge points have also decreased relative to pre-development conditions, as shown on Table 1 in the Stormwater Management Plan Overview section.

Standard 3: Groundwater Recharge:

This standard is met. The proposed stormwater management systems are sized so that the total recharge volume provided exceeds the minimum groundwater recharge volume specified in the handbook and the proposed stormwater recharge galleys will drawdown within 72 hours of a storm event. In accordance with the MA Stormwater Manual, the required recharge volume factor (F) required across the impervious area (A) is 0.6 inches per hour for hydraulic soil group A soils. Coarse Sand (Rawls Rate: 8.27 inches per hour) has been used in the sizing of the stormwater recharge galleys. Refer to the HydroCAD Stormwater Modeling Report in Appendix. The required recharge volume is calculated based on the total pavement and roof areas on site.

(

- Required Recharge Volume $R_v = F \times A = (0.6 \text{ in})(1 \text{ ft}/12 \text{ in})(72,255 \text{ sf}) = 3612.7 \text{ cf}$ (paved and gravel parking/patio and roofs)
- Recharge Storage Provided (Subsurface leaching facilities) = 8,291 cf > 3,612.7 cf
- The drawdown for the subsurface leaching facilities for the driveway/patio and roof runoff is 24 hours < 72 hour maximum allowance.

Standard 4: Water Quality:

This standard has been met. The roof runoff stormwater system will remove 80% of the annual load of Total Suspended Solids (TSS) via subsurface leaching facilities. Paved parking and the gravel area stormwater controls will remove an average of 92% of TSS with the deep sump catch basins, oil/grit separator, dry water quality swales followed by leaching facilities. The pre-treatment provided by the deep sump catch basins, oil/grit separator and the water quality swale does address the minimum removal of 44% as required by the MA Stormwater Handbook. TSS removal calculation tables for roadway and roof runoff are included in the Appendix C.

The average was calculated by weighted average of the areas between the paved and gravel portions. In accordance with the MA Stormwater Manual, the required water quality depth (D_{wq}) across the impervious area (A) is 1.0 inches per hour in areas containing soils with rapid infiltration rate greater than 2.4 in/hr. The required water quality volume is based on the total pavement area on site.

- Required Water Quality Volume $V_{wq} = D_{wq} \times A = (1.0 \text{ in})(1 \text{ ft}/12 \text{ in})(59,075 \text{ sf}) = 4,923 \text{ cf}$ (drive/hardscapes)
- Water Quality Storage Provided () = 11,335 cf (leaching Facility + Swale Vol) > 4,923 cf

The total Phosphorous (TP) load removal requirement is being met with the proposed 1" of rainfall retention within the water quality swale and the subsurface infiltration of the leaching facility.

Standard 5: Land uses with higher potential pollutant loads:

This standard has been met. The proposed use is a commercial development which has the potential to generate runoff with moderate to higher concentrations of oil and grease. The use of the water quality swale, oil/grit separator and deep sump catch basins provides the level of protection needed for the proposed commercial uses of the property.

The project will require NPDES and SWPPP applications to be filed. The applicant will provide final approvals to the Town, prior to proceeding with the project.

Standard 6: Stormwater discharges within Zone II or Interim Wellhead protection area of a public water supply and stormwater discharges near or to any critical area.

This standard has been met. Not applicable as the site is not within a Zone 2 contributory area.

Standard 7: Redevelopment:

This standard is not applicable, the project is a new development.

Standard 8: Construction Erosion Control Plan:

The project is subject to the proposed Erosion Control Plan as described in this report. Straw wattles and erosion control blankets shall be implemented as required to mitigate soil erosion.

Standard 9: Long Term Operation and Maintenance Plan:

A long-term O&M plan has been submitted with this report, refer to Stormwater Operation and Maintenance Manual. The property owners will operate and maintain the stormwater systems.

Standard 10: Illicit Discharges:

This standard is met since there are no illicit discharges at this site and no illicit discharges proposed.

APPENDICES



Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

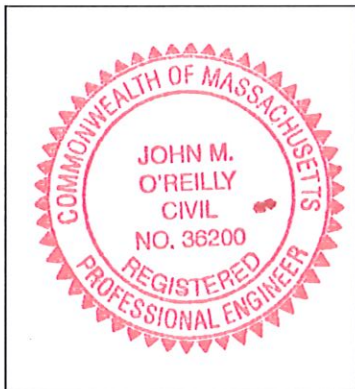
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature




Signature and Date

2-2-2024

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- New development
- Redevelopment
- Mix of New Development and Redevelopment



Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- No disturbance to any Wetland Resource Areas
- Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- Reduced Impervious Area (Redevelopment Only)
- Minimizing disturbance to existing trees and shrubs
- LID Site Design Credit Requested:
 - Credit 1
 - Credit 2
 - Credit 3
- Use of "country drainage" versus curb and gutter conveyance and pipe
- Bioretention Cells (includes Rain Gardens)
- Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- Treebox Filter
- Water Quality Swale
- Grass Channel
- Green Roof
- Other (describe): OIL/GRIT SEPARATOR & DEEP SUM CATCH BASINS

Standard 1: No New Untreated Discharges

- No new untreated discharges
- Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- Soil Analysis provided.
- Required Recharge Volume calculation provided.
- Required Recharge volume reduced through use of the LID site Design Credits.
- Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - Static
 - Simple Dynamic
 - Dynamic Field¹
- Runoff from all impervious areas at the site discharging to the infiltration BMP.
- Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - Site is comprised solely of C and D soils and/or bedrock at the land surface
 - M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - Solid Waste Landfill pursuant to 310 CMR 19.000
 - Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
 - Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
 - is within the Zone II or Interim Wellhead Protection Area
 - is near or to other critical areas
 - is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - involves runoff from land uses with higher potential pollutant loads.
 - The Required Water Quality Volume is reduced through use of the LID site Design Credits.
 - Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- The BMP is sized (and calculations provided) based on:
 - The ½" or 1" Water Quality Volume or
 - The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- The NPDES Multi-Sector General Permit does **not** cover the land use.
- LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- All exposure has been eliminated.
- All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- Critical areas and BMPs are identified in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - Limited Project
 - Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - Bike Path and/or Foot Path
 - Redevelopment Project
 - Redevelopment portion of mix of new and redevelopment.
- Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- The project is **not** covered by a NPDES Construction General Permit.
- The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

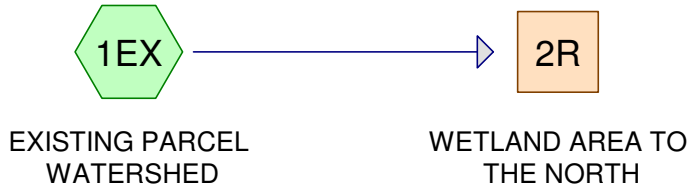
Standard 9: Operation and Maintenance Plan

- The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - Name of the stormwater management system owners;
 - Party responsible for operation and maintenance;
 - Schedule for implementation of routine and non-routine maintenance tasks;
 - Plan showing the location of all stormwater BMPs maintenance access areas;
 - Description and delineation of public safety features;
 - Estimated operation and maintenance budget; and
 - Operation and Maintenance Log Form.
- The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

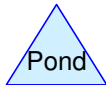
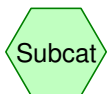
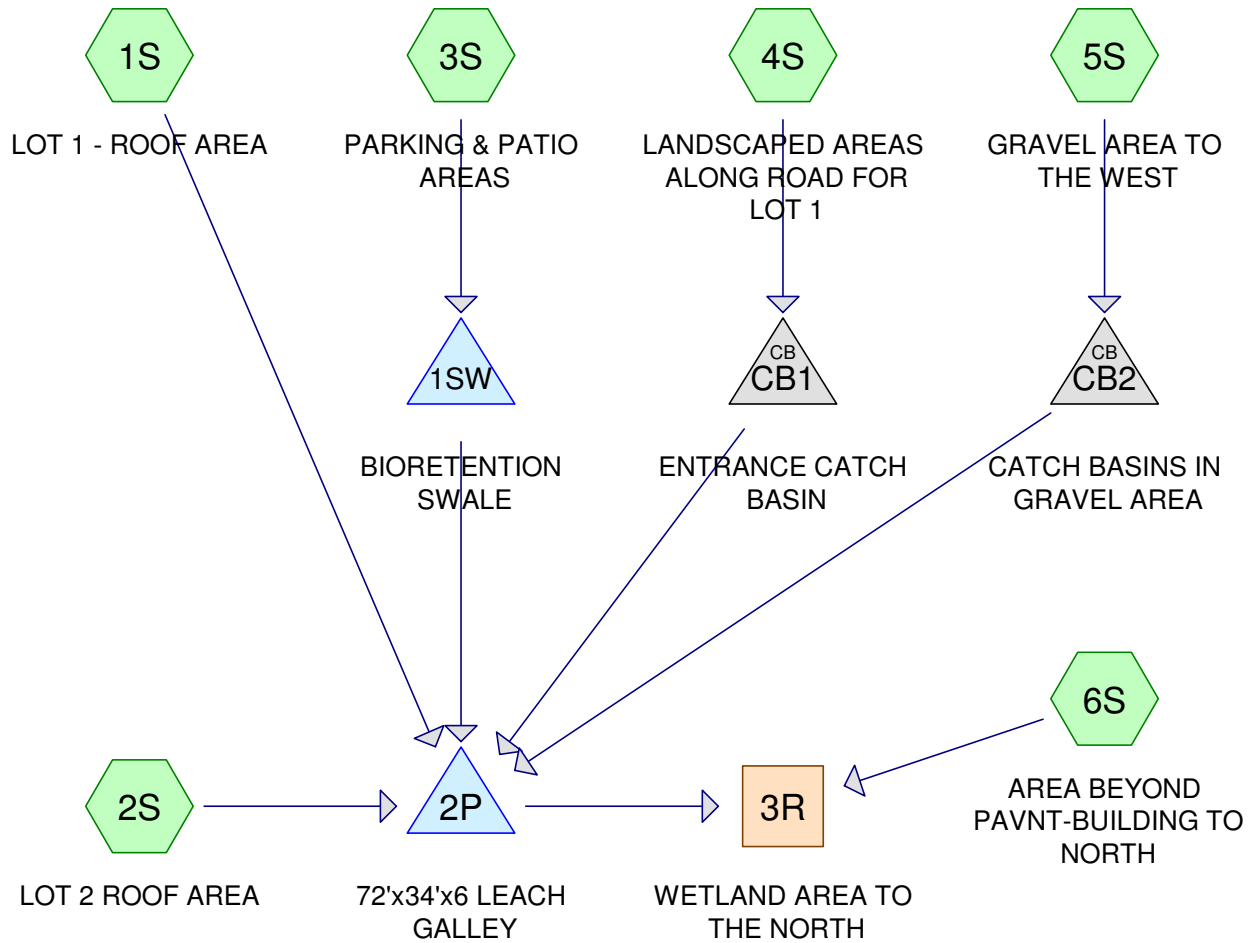
Standard 10: Prohibition of Illicit Discharges

- The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- An Illicit Discharge Compliance Statement is attached;
- NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

PRE-DEVELOPMENT
VACANT CLEARED
PARCEL



POST-DEVELOPMENT



Routing Diagram for 6125A.Turtle & Underpass LLC Project Lots 1-2-3

Prepared by J M O'Reilly & Associates Inc, Printed 2/2/2024

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6125A.Turtle & Underpass LLC Project Lots 1-2-3

Prepared by J M O'Reilly & Associates Inc

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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	25-Year	Type III 24-hr		Default	24.00	1	6.50	2
2	100-Year	Type III 24-hr		Default	24.00	1	8.50	2

6125A.Turtle & Underpass LLC Project Lots 1-2-3

Type III 24-hr 25-Year Rainfall=6.50"

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Page 3

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 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

Subcatchment 1EX: EXISTING PARCEL Runoff Area=117,675 sf 0.00% Impervious Runoff Depth=1.01"
 Tc=6.0 min CN=45 Runoff=2.21 cfs 0.227 af

Subcatchment 1S: LOT 1 - ROOF AREA Runoff Area=7,800 sf 100.00% Impervious Runoff Depth=6.26"
 Tc=6.0 min CN=98 Runoff=1.14 cfs 0.093 af

Pond 1SW: BIORETENTION SWALE Peak Elev=57.17' Storage=1,911 cf Inflow=5.12 cfs 0.419 af
 Discarded=1.42 cfs 0.272 af Primary=1.38 cfs 0.147 af Outflow=2.80 cfs 0.419 af

Pond 2P: 72'x34'x6 LEACH GALLEY Peak Elev=51.50' Storage=7,593 cf Inflow=4.83 cfs 0.426 af
 Discarded=0.69 cfs 0.426 af Primary=0.00 cfs 0.000 af Outflow=0.69 cfs 0.426 af

Reach 2R: WETLAND AREA TO THE NORTH Inflow=2.21 cfs 0.227 af
 Outflow=2.21 cfs 0.227 af

Subcatchment 2S: LOT 2 ROOF AREA Runoff Area=5,440 sf 100.00% Impervious Runoff Depth=6.26"
 Tc=6.0 min CN=98 Runoff=0.80 cfs 0.065 af

Reach 3R: WETLAND AREA TO THE NORTH Inflow=0.03 cfs 0.016 af
 Outflow=0.03 cfs 0.016 af

Subcatchment 3S: PARKING & PATIO Runoff Area=34,980 sf 100.00% Impervious Runoff Depth=6.26"
 Tc=6.0 min CN=98 Runoff=5.12 cfs 0.419 af

Subcatchment 4S: LANDSCAPED AREAS Runoff Area=2,800 sf 0.00% Impervious Runoff Depth=0.60"
 Tc=6.0 min CN=39 Runoff=0.02 cfs 0.003 af

Subcatchment 5S: GRAVEL AREA TO THE Runoff Area=24,095 sf 0.00% Impervious Runoff Depth=2.53"
 Tc=6.0 min CN=63 Runoff=1.61 cfs 0.117 af

Subcatchment 6S: AREA BEYOND Runoff Area=39,325 sf 0.00% Impervious Runoff Depth=0.22"
 Tc=6.0 min CN=32 Runoff=0.03 cfs 0.016 af

Pond CB1: ENTRANCE CATCH BASIN Peak Elev=59.57' Inflow=0.02 cfs 0.003 af
 12.0" Round Culvert n=0.020 L=20.0' S=0.1750 '/' Outflow=0.02 cfs 0.003 af

Pond CB2: CATCH BASINS IN GRAVEL AREA Peak Elev=54.80' Inflow=1.61 cfs 0.117 af
 12.0" Round Culvert n=0.020 L=50.0' S=0.0400 '/' Outflow=1.61 cfs 0.117 af

Total Runoff Area = 5.329 ac Runoff Volume = 0.941 af Average Runoff Depth = 2.12"
79.23% Pervious = 4.222 ac 20.77% Impervious = 1.107 ac

Summary for Subcatchment 1EX: EXISTING PARCEL WATERSHED

Runoff = 2.21 cfs @ 12.12 hrs, Volume= 0.227 af, Depth= 1.01"

Routed to Reach 2R : WETLAND AREA TO THE NORTH

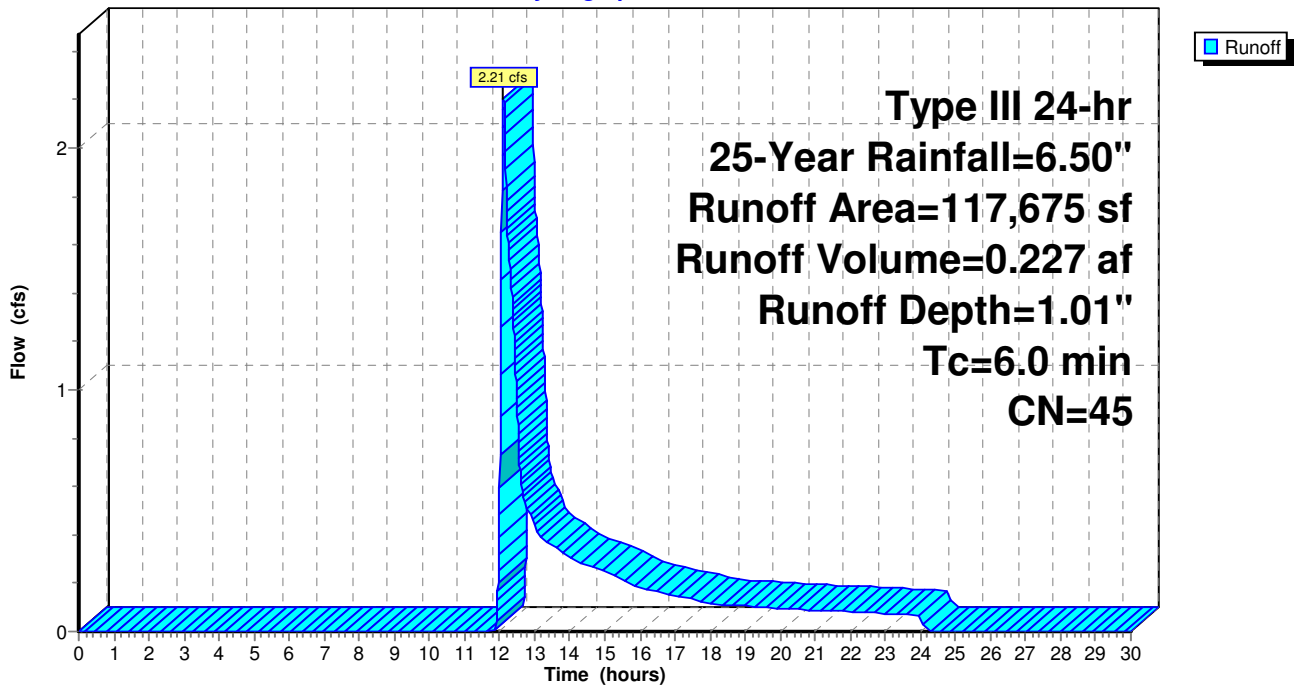
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
65,000	57	Woods/grass comb., Poor, HSG A
52,675	30	Woods, Good, HSG A
117,675	45	Weighted Average
117,675		100.00% Pervious Area

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

Subcatchment 1EX: EXISTING PARCEL WATERSHED

Hydrograph



Summary for Subcatchment 1S: LOT 1 - ROOF AREA

Runoff = 1.14 cfs @ 12.08 hrs, Volume= 0.093 af, Depth= 6.26"
 Routed to Pond 2P : 72'x34'x6 LEACH GALLEY

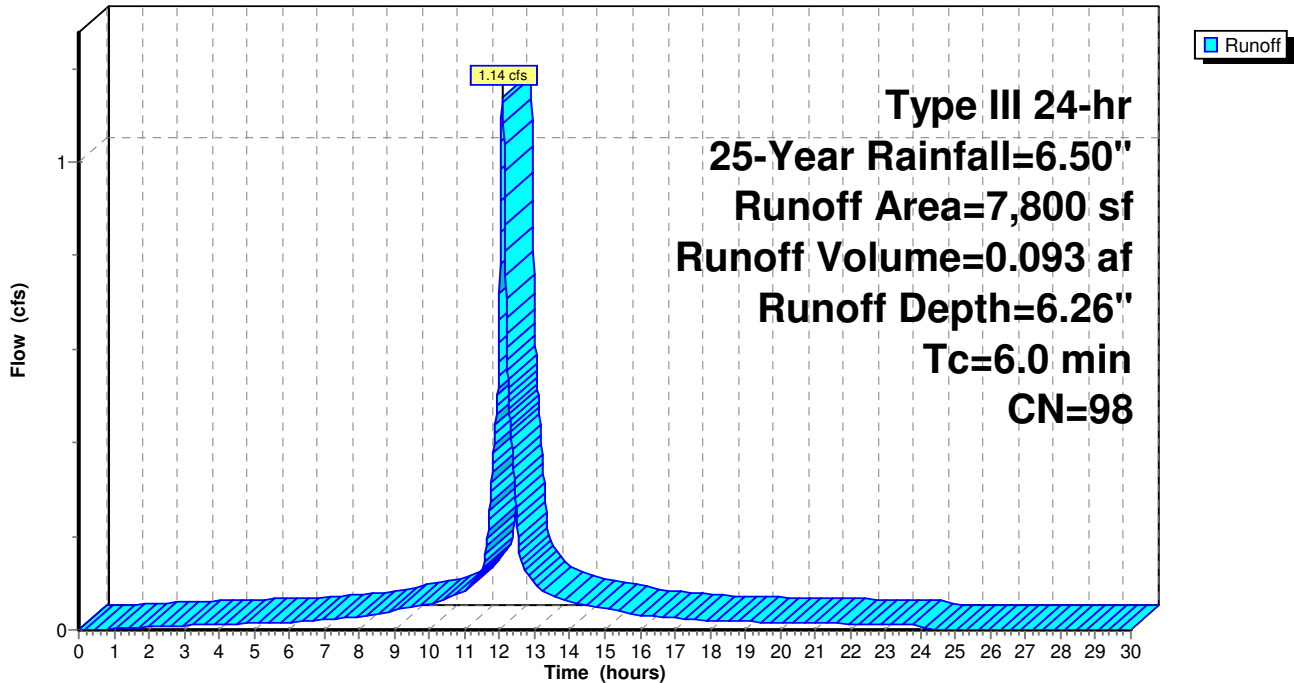
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
* 7,800	98	Parking/Walkway/Slab, HSG A
7,800		100.00% Impervious Area

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

Subcatchment 1S: LOT 1 - ROOF AREA

Hydrograph



Summary for Pond 1SW: BIORETENTION SWALE

Inflow Area = 0.803 ac, 100.00% Impervious, Inflow Depth = 6.26" for 25-Year event
 Inflow = 5.12 cfs @ 12.08 hrs, Volume= 0.419 af
 Outflow = 2.80 cfs @ 12.20 hrs, Volume= 0.419 af, Atten= 45%, Lag= 7.2 min
 Discarded = 1.42 cfs @ 12.20 hrs, Volume= 0.272 af
 Primary = 1.38 cfs @ 12.20 hrs, Volume= 0.147 af
 Routed to Pond 2P : 72'x34'x6 LEACH GALLEY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 57.17' @ 12.20 hrs Surf.Area= 1,190 sf Storage= 1,911 cf

Plug-Flow detention time= 7.7 min calculated for 0.419 af (100% of inflow)
 Center-of-Mass det. time= 7.7 min (751.7 - 744.0)

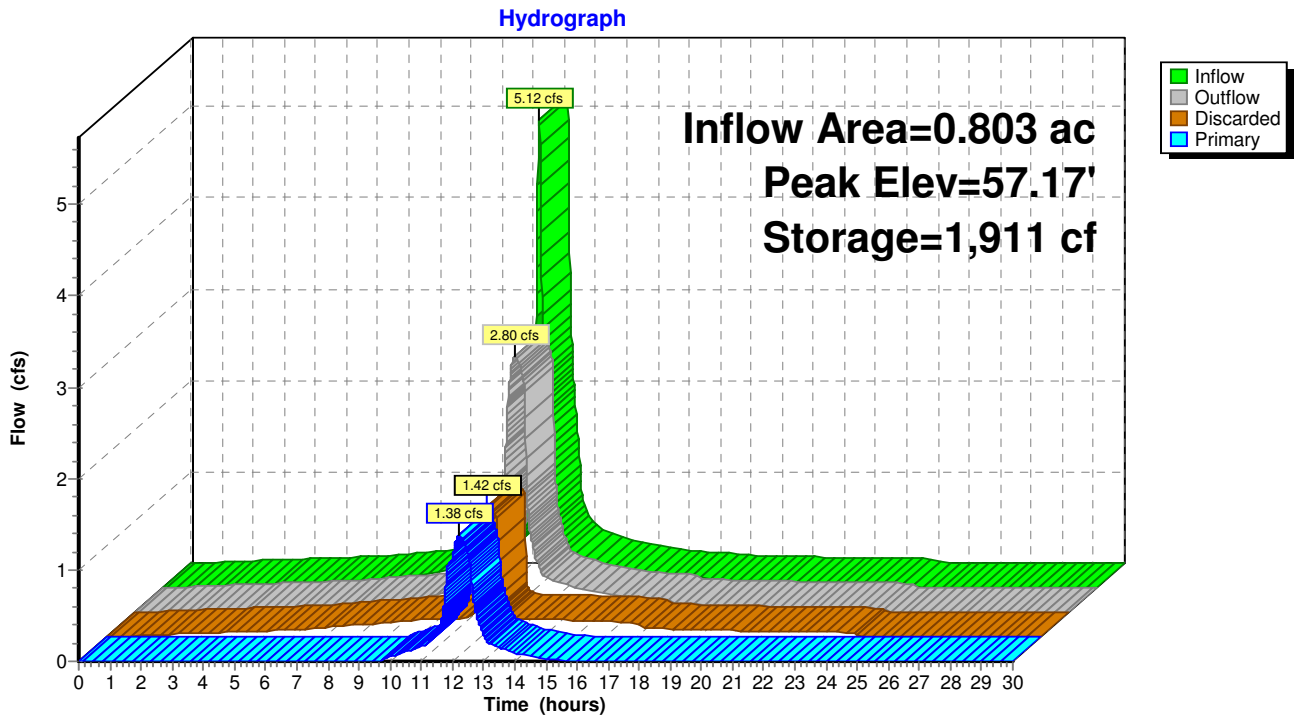
Volume	Invert	Avail.Storage	Storage Description			
#1	53.00'	3,205 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
53.00	720	360.0	0.0	0	0	720
54.50	720	360.0	40.0	432	432	1,260
55.75	720	360.0	20.0	180	612	1,710
56.00	737	255.0	100.0	182	794	6,849
57.00	1,127	265.0	100.0	925	1,719	7,338
58.00	1,532	274.0	100.0	1,324	3,044	7,809
58.10	1,698	278.0	100.0	161	3,205	7,987

Device	Routing	Invert	Outlet Devices	
#1	Discarded	53.00'	8.270 in/hr Exfiltration over Wetted area Phase-In= 0.01'	
#2	Primary	53.50'	6.0" Round 6" Pipe to Catch Basin L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.50' / 53.00' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf	

Discarded OutFlow Max=1.42 cfs @ 12.20 hrs HW=57.16' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 1.42 cfs)

Primary OutFlow Max=1.38 cfs @ 12.20 hrs HW=57.16' TW=49.36' (Dynamic Tailwater)
 ↑2=6" Pipe to Catch Basin (Inlet Controls 1.38 cfs @ 7.02 fps)

Pond 1SW: BIORETENTION SWALE



Summary for Pond 2P: 72'x34'x6 LEACH GALLEY

Inflow Area = 1.724 ac, 64.19% Impervious, Inflow Depth = 2.96" for 25-Year event
 Inflow = 4.83 cfs @ 12.09 hrs, Volume= 0.426 af
 Outflow = 0.69 cfs @ 12.95 hrs, Volume= 0.426 af, Atten= 86%, Lag= 51.7 min
 Discarded = 0.69 cfs @ 12.95 hrs, Volume= 0.426 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 3R : WETLAND AREA TO THE NORTH

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 51.50' @ 12.95 hrs Surf.Area= 2,448 sf Storage= 7,593 cf

Plug-Flow detention time= 92.7 min calculated for 0.426 af (100% of inflow)
 Center-of-Mass det. time= 92.7 min (864.3 - 771.6)

Volume	Invert	Avail.Storage	Storage Description
#1	46.00'	3,563 cf	6.00'D x 6.00'H Vertical Cone/Cylinder x 21 Inside #2 4,181 cf Overall - 3.0" Wall Thickness = 3,563 cf
#2	46.00'	4,728 cf	34.00'W x 72.00'L x 6.00'H Prismatic 14,688 cf Overall - 4,181 cf Embedded = 10,507 cf x 45.0% Voids
		8,291 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	46.00'	8.270 in/hr Exfiltration over Wetted area Phase-In= 0.01'
#2	Primary	51.70'	10.0' long (Profile 6) Broad-Crested Rectangular Weir Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

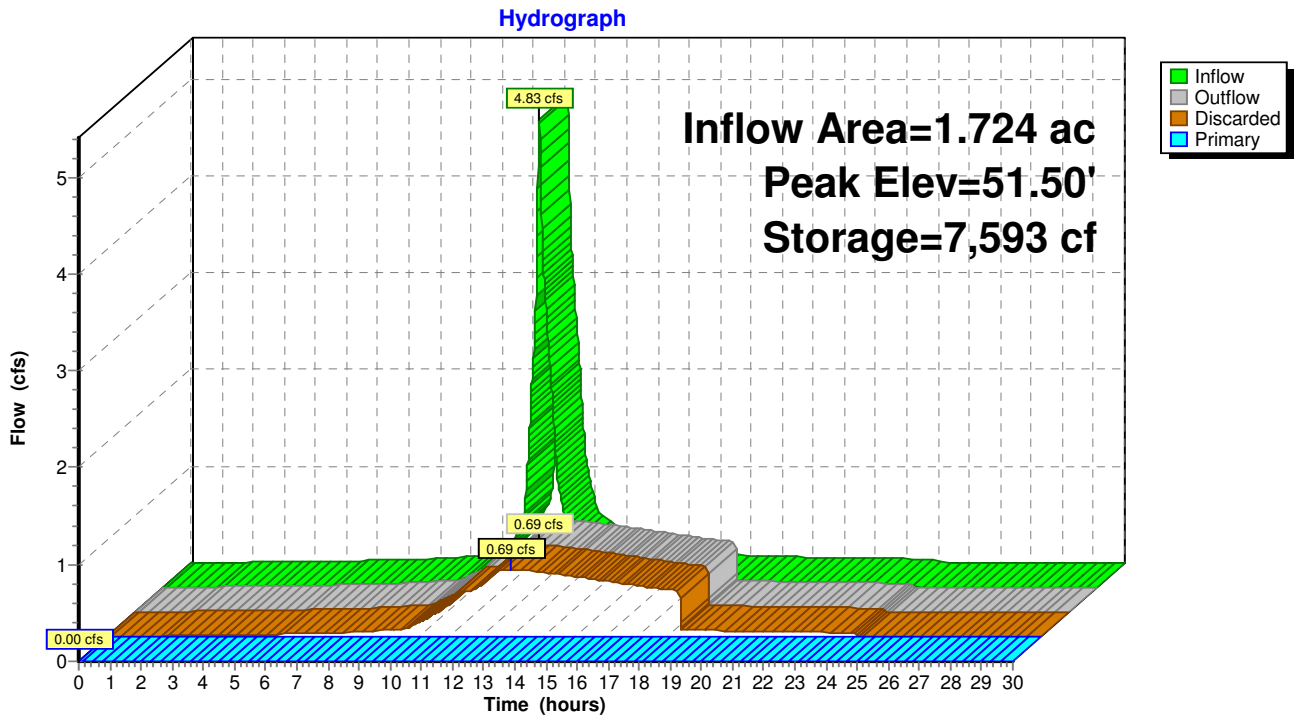
Discarded OutFlow Max=0.69 cfs @ 12.95 hrs HW=51.50' (Free Discharge)

↑1=**Exfiltration** (Exfiltration Controls 0.69 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=46.00' TW=0.00' (Dynamic Tailwater)

↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: 72'x34'x6 LEACH GALLEY

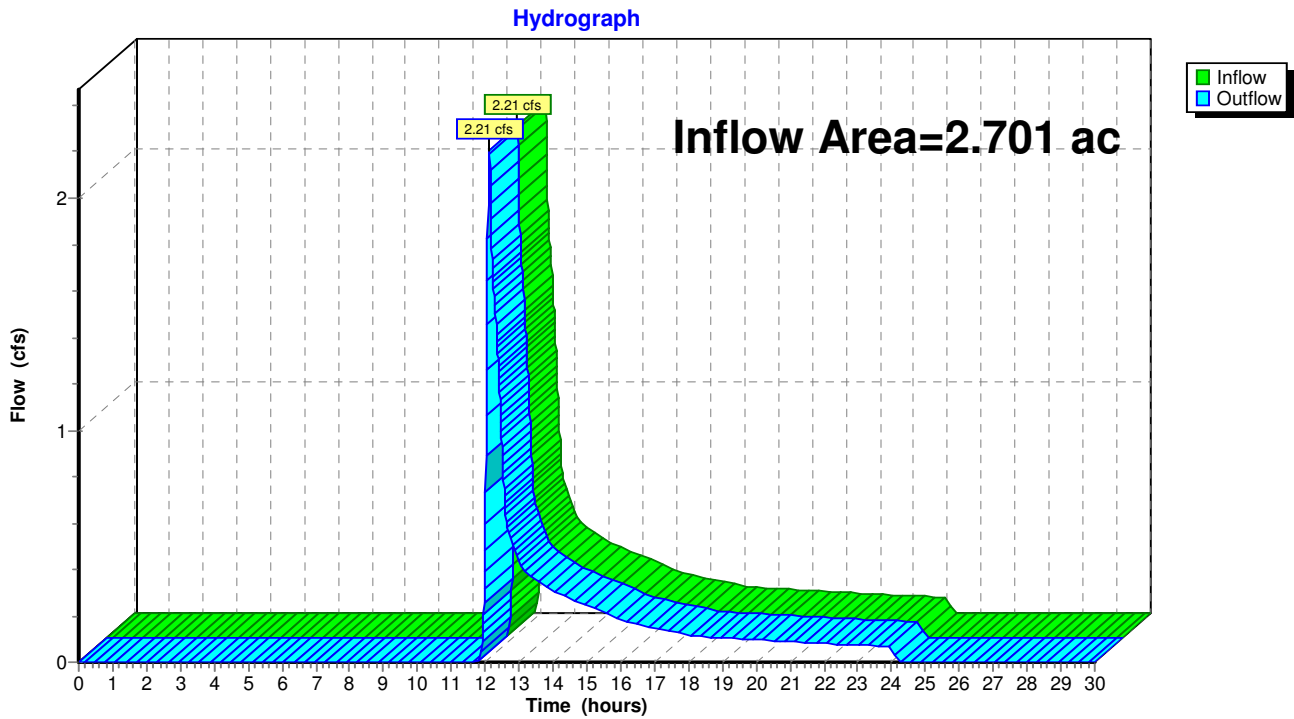


Summary for Reach 2R: WETLAND AREA TO THE NORTH

Inflow Area = 2.701 ac, 0.00% Impervious, Inflow Depth = 1.01" for 25-Year event
Inflow = 2.21 cfs @ 12.12 hrs, Volume= 0.227 af
Outflow = 2.21 cfs @ 12.12 hrs, Volume= 0.227 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Reach 2R: WETLAND AREA TO THE NORTH



Summary for Subcatchment 2S: LOT 2 ROOF AREA

Runoff = 0.80 cfs @ 12.08 hrs, Volume= 0.065 af, Depth= 6.26"
 Routed to Pond 2P : 72'x34'x6 LEACH GALLEY

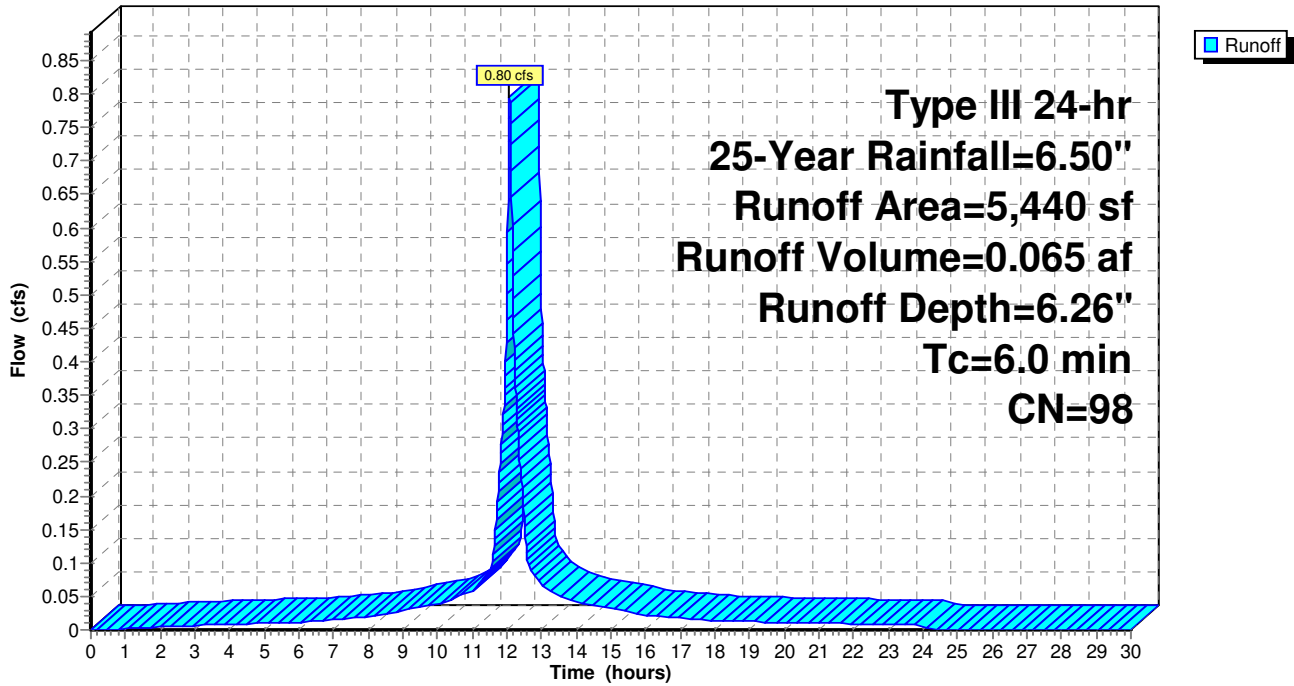
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
* 5,440	98	Parking/Walkway/Slab, HSG A
5,440		100.00% Impervious Area

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

Subcatchment 2S: LOT 2 ROOF AREA

Hydrograph

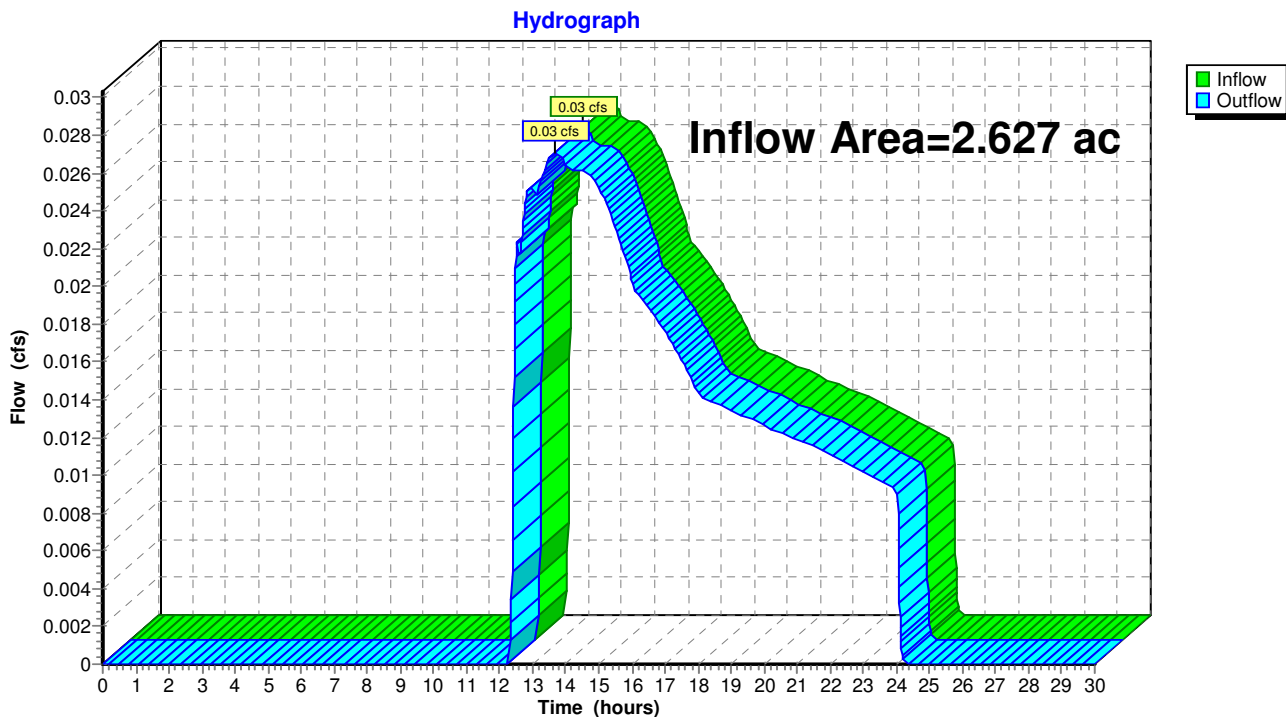


Summary for Reach 3R: WETLAND AREA TO THE NORTH

Inflow Area = 2.627 ac, 42.14% Impervious, Inflow Depth = 0.07" for 25-Year event
Inflow = 0.03 cfs @ 13.70 hrs, Volume= 0.016 af
Outflow = 0.03 cfs @ 13.70 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Reach 3R: WETLAND AREA TO THE NORTH



Summary for Subcatchment 3S: PARKING & PATIO AREAS

Runoff = 5.12 cfs @ 12.08 hrs, Volume= 0.419 af, Depth= 6.26"
 Routed to Pond 1SW : BIORETENTION SWALE

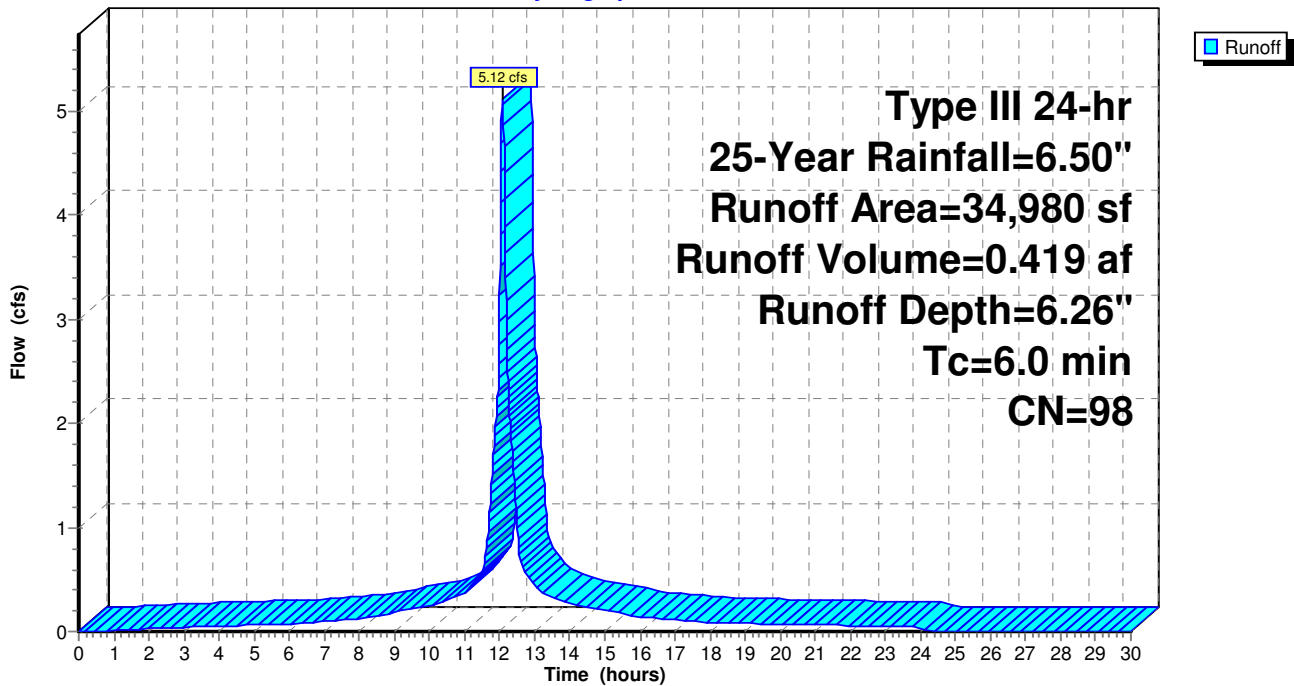
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=6.50"

	Area (sf)	CN	Description
*	25,760	98	Parking/Walkway/Slab, HSG A
*	9,220	98	Patio Area
	34,980	98	Weighted Average
	34,980		100.00% Impervious Area

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

Subcatchment 3S: PARKING & PATIO AREAS

Hydrograph



Summary for Subcatchment 4S: LANDSCAPED AREAS ALONG ROAD FOR LOT 1

Runoff = 0.02 cfs @ 12.30 hrs, Volume= 0.003 af, Depth= 0.60"

Routed to Pond CB1 : ENTRANCE CATCH BASIN

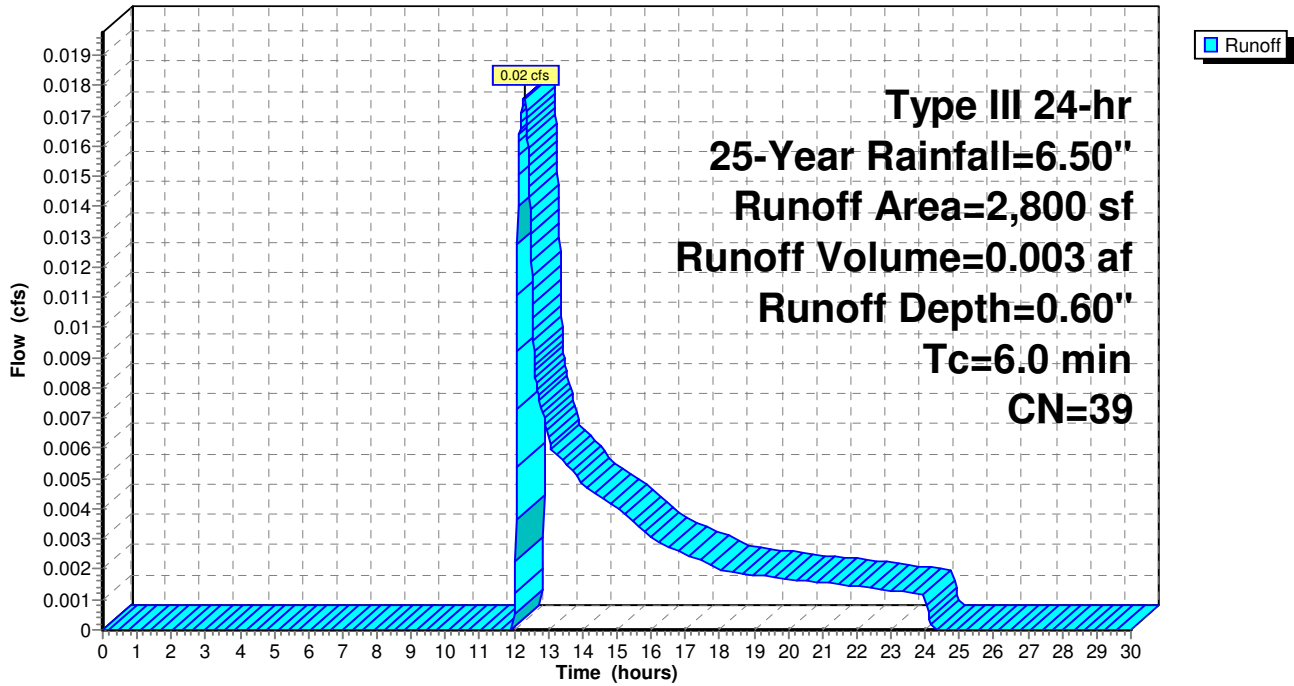
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
2,800	39	>75% Grass cover, Good, HSG A
2,800		100.00% Pervious Area

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

Subcatchment 4S: LANDSCAPED AREAS ALONG ROAD FOR LOT 1

Hydrograph



Summary for Subcatchment 5S: GRAVEL AREA TO THE WEST

Runoff = 1.61 cfs @ 12.09 hrs, Volume= 0.117 af, Depth= 2.53"

Routed to Pond CB2 : CATCH BASINS IN GRAVEL AREA

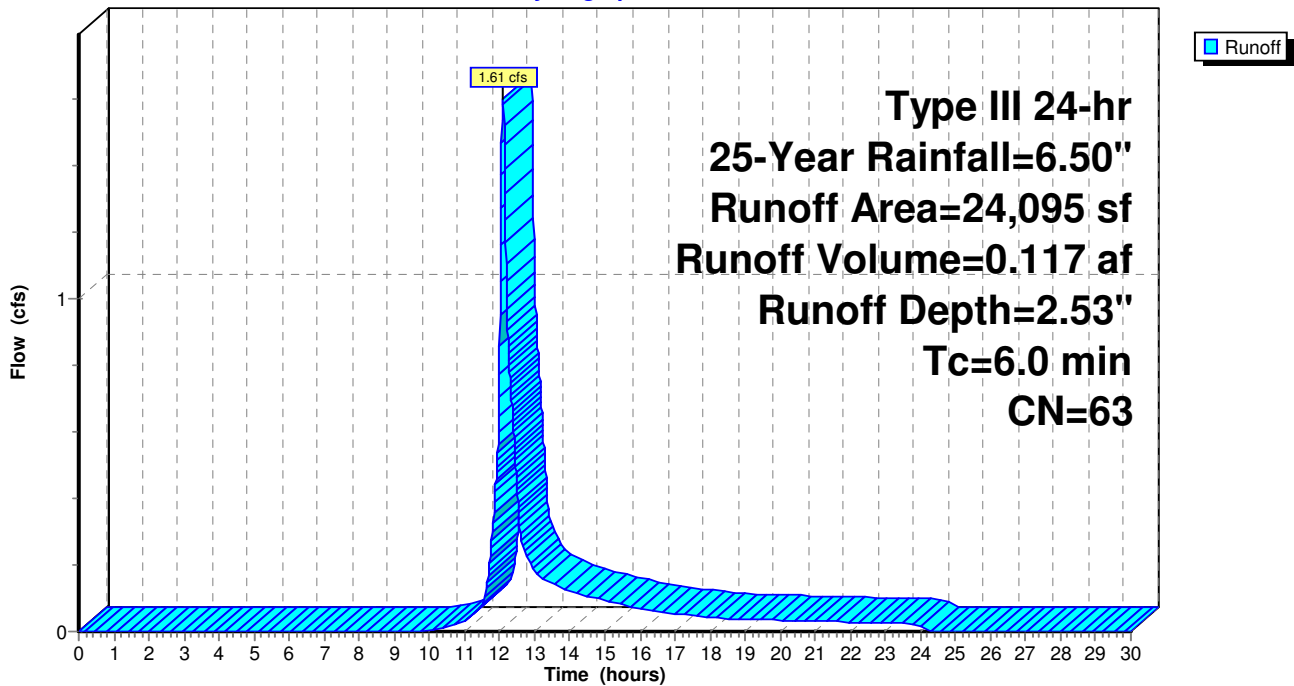
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
15,845	76	Gravel roads, HSG A
8,250	39	>75% Grass cover, Good, HSG A
24,095	63	Weighted Average
24,095		100.00% Pervious Area

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

Subcatchment 5S: GRAVEL AREA TO THE WEST

Hydrograph



Summary for Subcatchment 6S: AREA BEYOND PAVNT-BUILDING TO NORTH

Runoff = 0.03 cfs @ 13.70 hrs, Volume= 0.016 af, Depth= 0.22"

Routed to Reach 3R : WETLAND AREA TO THE NORTH

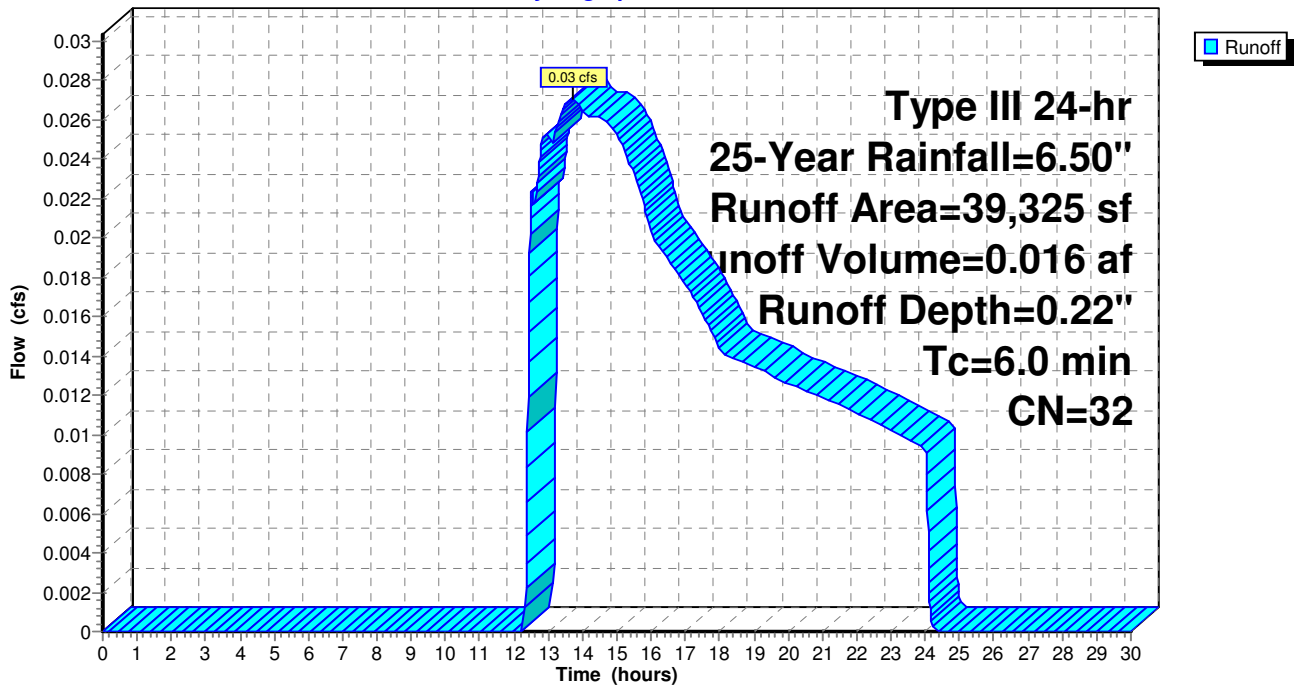
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=6.50"

Area (sf)	CN	Description
26,920	30	Woods, Good, HSG A
12,405	35	Brush, Fair, HSG A
39,325	32	Weighted Average
39,325		100.00% Pervious Area

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

Subcatchment 6S: AREA BEYOND PAVNT-BUILDING TO NORTH

Hydrograph



Summary for Pond CB1: ENTRANCE CATCH BASIN

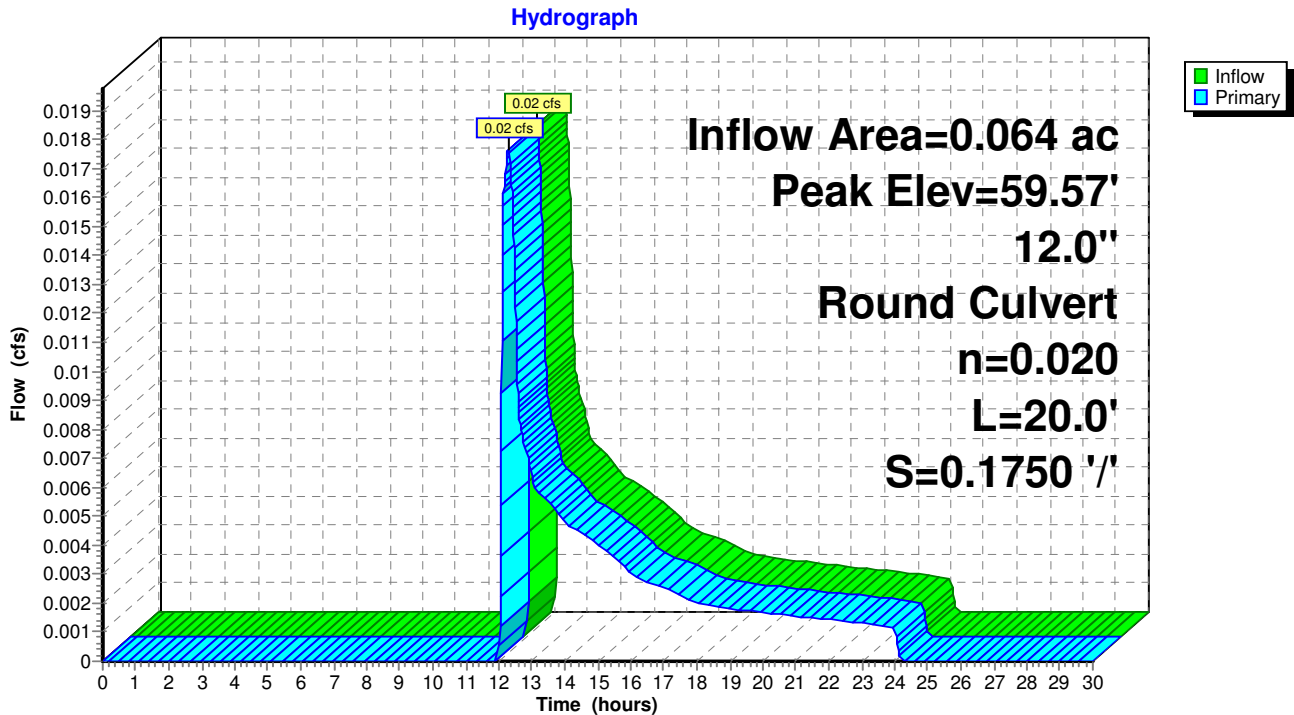
Inflow Area = 0.064 ac, 0.00% Impervious, Inflow Depth = 0.60" for 25-Year event
 Inflow = 0.02 cfs @ 12.30 hrs, Volume= 0.003 af
 Outflow = 0.02 cfs @ 12.30 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.02 cfs @ 12.30 hrs, Volume= 0.003 af
 Routed to Pond 2P : 72'x34'x6 LEACH GALLEY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 59.57' @ 12.30 hrs

Device #	Routing	Invert	Outlet Devices
1	Primary	59.50'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.50' / 56.00' S= 0.1750 '/ Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.02 cfs @ 12.30 hrs HW=59.57' TW=49.97' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 0.02 cfs @ 0.72 fps)

Pond CB1: ENTRANCE CATCH BASIN



Summary for Pond CB2: CATCH BASINS IN GRAVEL AREA

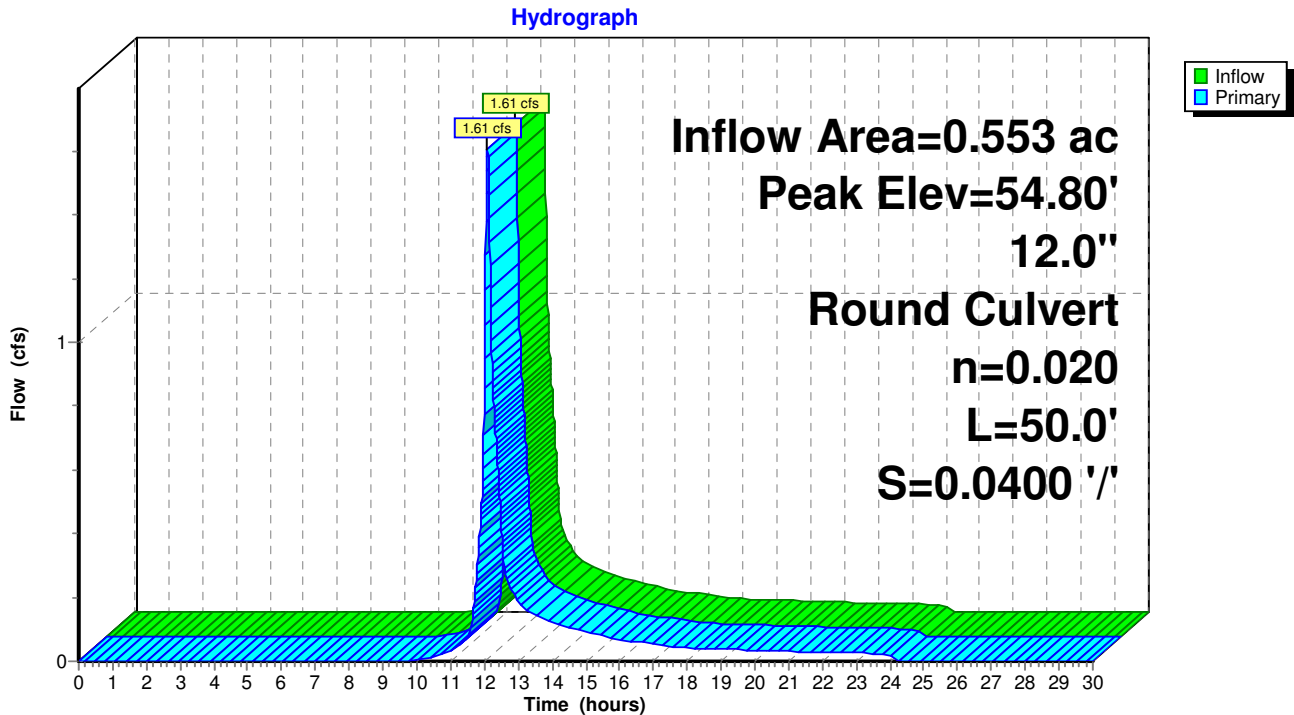
Inflow Area = 0.553 ac, 0.00% Impervious, Inflow Depth = 2.53" for 25-Year event
 Inflow = 1.61 cfs @ 12.09 hrs, Volume= 0.117 af
 Outflow = 1.61 cfs @ 12.09 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.61 cfs @ 12.09 hrs, Volume= 0.117 af
 Routed to Pond 2P : 72'x34'x6 LEACH GALLEY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 54.80' @ 12.09 hrs

Device #	Routing	Invert	Outlet Devices
#1	Primary	54.00'	12.0" Round Culvert L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 52.00' S= 0.0400 '/ Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.60 cfs @ 12.09 hrs HW=54.79' TW=48.33' (Dynamic Tailwater)
 ↳ **1=Culvert** (Inlet Controls 1.60 cfs @ 2.40 fps)

Pond CB2: CATCH BASINS IN GRAVEL AREA



6125A.Turtle & Underpass LLC Project Lots 1-2-3*Type III 24-hr 100-Year Rainfall=8.50"*

Prepared by J M O'Reilly & Associates Inc

Printed 2/2/2024

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Page 19

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 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

Subcatchment 1EX: EXISTING PARCEL Runoff Area=117,675 sf 0.00% Impervious Runoff Depth=2.01"
 Tc=6.0 min CN=45 Runoff=5.51 cfs 0.452 af

Subcatchment 1S: LOT 1 - ROOF AREA Runoff Area=7,800 sf 100.00% Impervious Runoff Depth=8.26"
 Tc=6.0 min CN=98 Runoff=1.49 cfs 0.123 af

Pond 1SW: BIORETENTION SWALE Peak Elev=57.98' Storage=3,017 cf Inflow=6.70 cfs 0.553 af
 Discarded=1.49 cfs 0.339 af Primary=1.54 cfs 0.214 af Outflow=3.03 cfs 0.553 af

Pond 2P: 72'x34'x6 LEACH GALLEY Peak Elev=51.90' Storage=8,155 cf Inflow=6.63 cfs 0.618 af
 Discarded=0.71 cfs 0.524 af Primary=2.82 cfs 0.094 af Outflow=3.53 cfs 0.618 af

Reach 2R: WETLAND AREA TO THE NORTH Inflow=5.51 cfs 0.452 af
 Outflow=5.51 cfs 0.452 af

Subcatchment 2S: LOT 2 ROOF AREA Runoff Area=5,440 sf 100.00% Impervious Runoff Depth=8.26"
 Tc=6.0 min CN=98 Runoff=1.04 cfs 0.086 af

Reach 3R: WETLAND AREA TO THE NORTH Inflow=3.10 cfs 0.147 af
 Outflow=3.10 cfs 0.147 af

Subcatchment 3S: PARKING & PATIO Runoff Area=34,980 sf 100.00% Impervious Runoff Depth=8.26"
 Tc=6.0 min CN=98 Runoff=6.70 cfs 0.553 af

Subcatchment 4S: LANDSCAPED AREAS Runoff Area=2,800 sf 0.00% Impervious Runoff Depth=1.37"
 Tc=6.0 min CN=39 Runoff=0.07 cfs 0.007 af

Subcatchment 5S: GRAVEL AREA TO THE Runoff Area=24,095 sf 0.00% Impervious Runoff Depth=4.07"
 Tc=6.0 min CN=63 Runoff=2.63 cfs 0.187 af

Subcatchment 6S: AREA BEYOND Runoff Area=39,325 sf 0.00% Impervious Runoff Depth=0.71"
 Tc=6.0 min CN=32 Runoff=0.28 cfs 0.053 af

Pond CB1: ENTRANCE CATCH BASIN Peak Elev=59.65' Inflow=0.07 cfs 0.007 af
 12.0" Round Culvert n=0.020 L=20.0' S=0.1750 '/' Outflow=0.07 cfs 0.007 af

Pond CB2: CATCH BASINS IN GRAVEL AREA Peak Elev=55.27' Inflow=2.63 cfs 0.187 af
 12.0" Round Culvert n=0.020 L=50.0' S=0.0400 '/' Outflow=2.63 cfs 0.187 af

Total Runoff Area = 5.329 ac Runoff Volume = 1.462 af Average Runoff Depth = 3.29"
79.23% Pervious = 4.222 ac 20.77% Impervious = 1.107 ac

Summary for Subcatchment 1EX: EXISTING PARCEL WATERSHED

Runoff = 5.51 cfs @ 12.10 hrs, Volume= 0.452 af, Depth= 2.01"

Routed to Reach 2R : WETLAND AREA TO THE NORTH

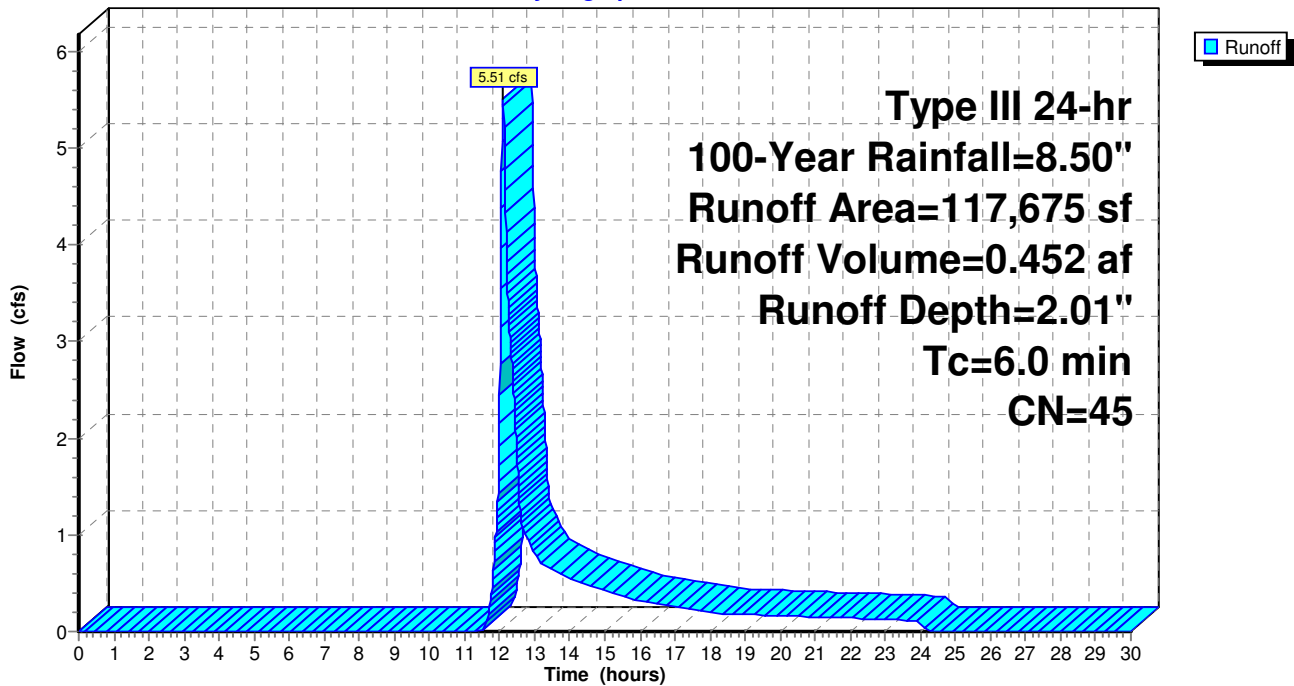
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=8.50"

Area (sf)	CN	Description
65,000	57	Woods/grass comb., Poor, HSG A
52,675	30	Woods, Good, HSG A
117,675	45	Weighted Average
117,675		100.00% Pervious Area

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

Subcatchment 1EX: EXISTING PARCEL WATERSHED

Hydrograph



Summary for Subcatchment 1S: LOT 1 - ROOF AREA

Runoff = 1.49 cfs @ 12.08 hrs, Volume= 0.123 af, Depth= 8.26"
 Routed to Pond 2P : 72'x34'x6 LEACH GALLEY

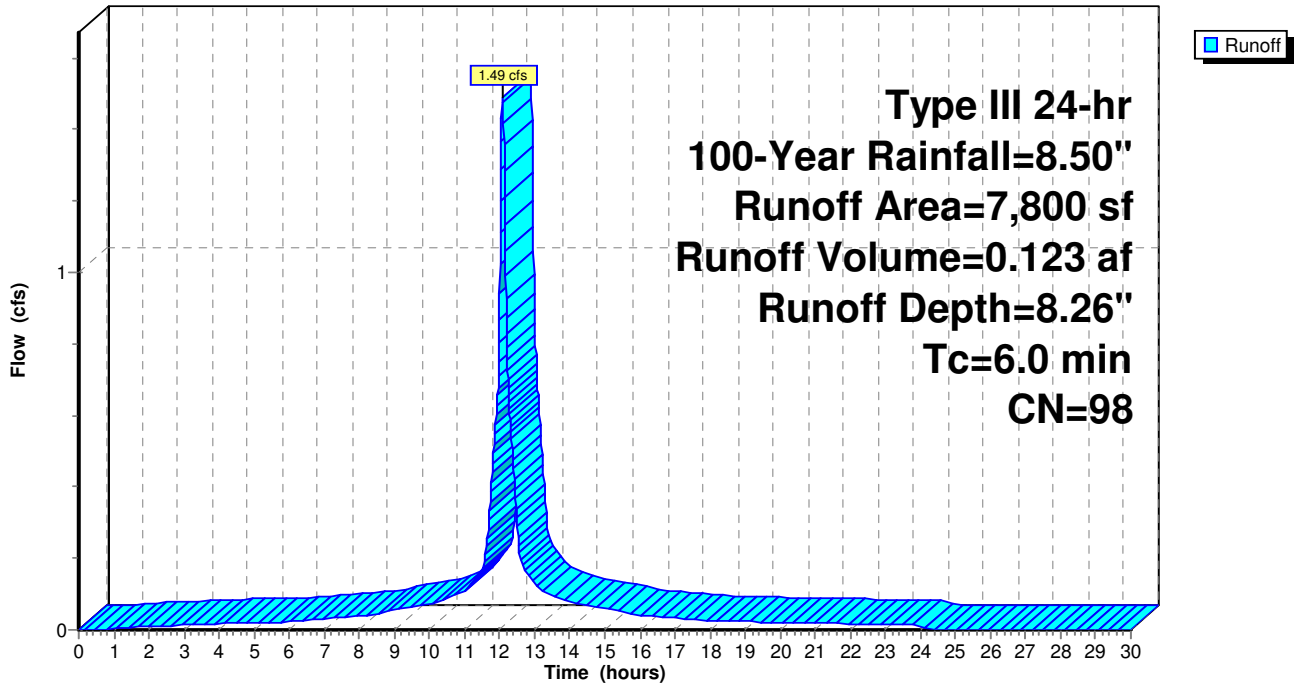
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=8.50"

Area (sf)	CN	Description
* 7,800	98	Parking/Walkway/Slab, HSG A
7,800		100.00% Impervious Area

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

Subcatchment 1S: LOT 1 - ROOF AREA

Hydrograph



Summary for Pond 1SW: BIORETENTION SWALE

Inflow Area = 0.803 ac, 100.00% Impervious, Inflow Depth = 8.26" for 100-Year event
 Inflow = 6.70 cfs @ 12.08 hrs, Volume= 0.553 af
 Outflow = 3.03 cfs @ 12.25 hrs, Volume= 0.553 af, Atten= 55%, Lag= 10.1 min
 Discarded = 1.49 cfs @ 12.25 hrs, Volume= 0.339 af
 Primary = 1.54 cfs @ 12.25 hrs, Volume= 0.214 af
 Routed to Pond 2P : 72'x34'x6 LEACH GALLEY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 57.98' @ 12.25 hrs Surf.Area= 1,524 sf Storage= 3,017 cf

Plug-Flow detention time= 9.1 min calculated for 0.553 af (100% of inflow)
 Center-of-Mass det. time= 9.1 min (749.6 - 740.5)

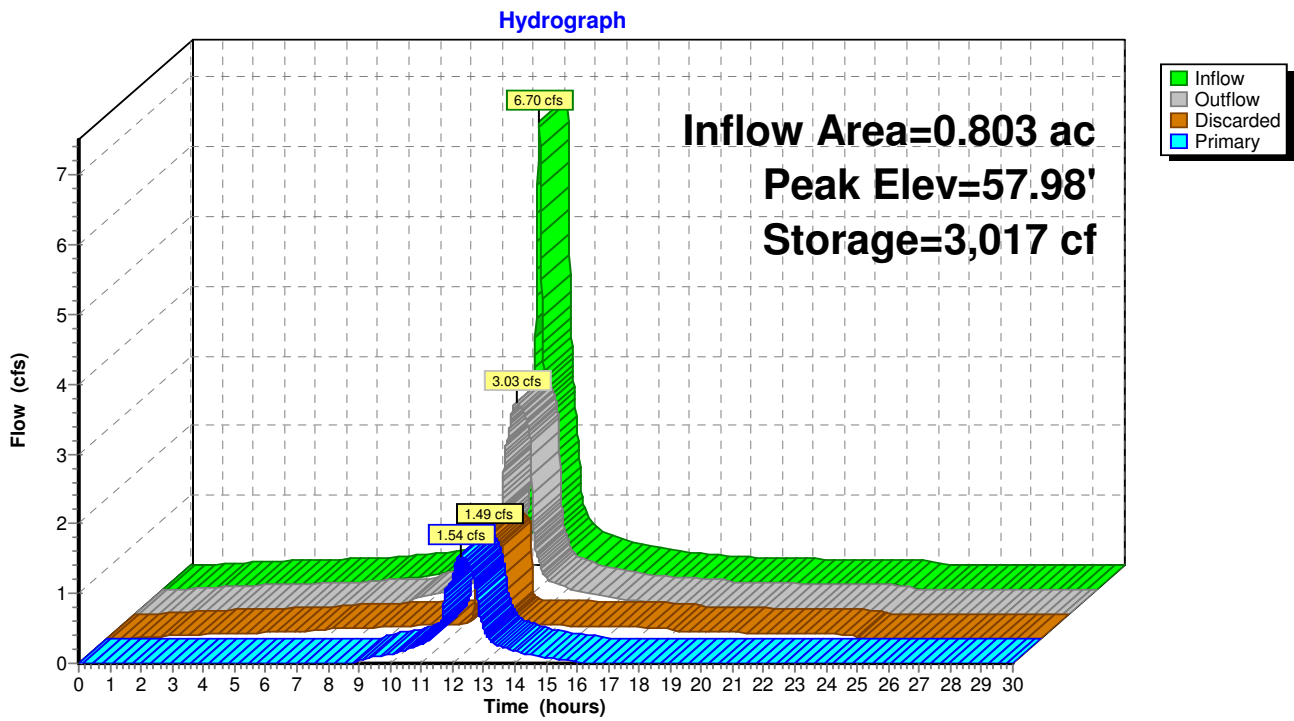
Volume	Invert	Avail.Storage	Storage Description			
#1	53.00'	3,205 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
53.00	720	360.0	0.0	0	0	720
54.50	720	360.0	40.0	432	432	1,260
55.75	720	360.0	20.0	180	612	1,710
56.00	737	255.0	100.0	182	794	6,849
57.00	1,127	265.0	100.0	925	1,719	7,338
58.00	1,532	274.0	100.0	1,324	3,044	7,809
58.10	1,698	278.0	100.0	161	3,205	7,987

Device	Routing	Invert	Outlet Devices	
#1	Discarded	53.00'	8.270 in/hr Exfiltration over Wetted area Phase-In= 0.01'	
#2	Primary	53.50'	6.0" Round 6" Pipe to Catch Basin L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.50' / 53.00' S= 0.0200 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf	

Discarded OutFlow Max=1.49 cfs @ 12.25 hrs HW=57.98' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 1.49 cfs)

Primary OutFlow Max=1.54 cfs @ 12.25 hrs HW=57.98' TW=51.55' (Dynamic Tailwater)
 ↑2=6" Pipe to Catch Basin (Inlet Controls 1.54 cfs @ 7.82 fps)

Pond 1SW: BIORETENTION SWALE



Summary for Pond 2P: 72'x34'x6 LEACH GALLEY

Inflow Area = 1.724 ac, 64.19% Impervious, Inflow Depth = 4.30" for 100-Year event
 Inflow = 6.63 cfs @ 12.09 hrs, Volume= 0.618 af
 Outflow = 3.53 cfs @ 12.34 hrs, Volume= 0.618 af, Atten= 47%, Lag= 15.2 min
 Discarded = 0.71 cfs @ 12.34 hrs, Volume= 0.524 af
 Primary = 2.82 cfs @ 12.34 hrs, Volume= 0.094 af

Routed to Reach 3R : WETLAND AREA TO THE NORTH

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 51.90' @ 12.34 hrs Surf.Area= 2,448 sf Storage= 8,155 cf

Plug-Flow detention time= 85.3 min calculated for 0.618 af (100% of inflow)
 Center-of-Mass det. time= 85.3 min (855.4 - 770.1)

Volume	Invert	Avail.Storage	Storage Description
#1	46.00'	3,563 cf	6.00'D x 6.00'H Vertical Cone/Cylinder x 21 Inside #2 4,181 cf Overall - 3.0" Wall Thickness = 3,563 cf
#2	46.00'	4,728 cf	34.00'W x 72.00'L x 6.00'H Prismatic 14,688 cf Overall - 4,181 cf Embedded = 10,507 cf x 45.0% Voids
		8,291 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	46.00'	8.270 in/hr Exfiltration over Wetted area Phase-In= 0.01'
#2	Primary	51.70'	10.0' long (Profile 6) Broad-Crested Rectangular Weir Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

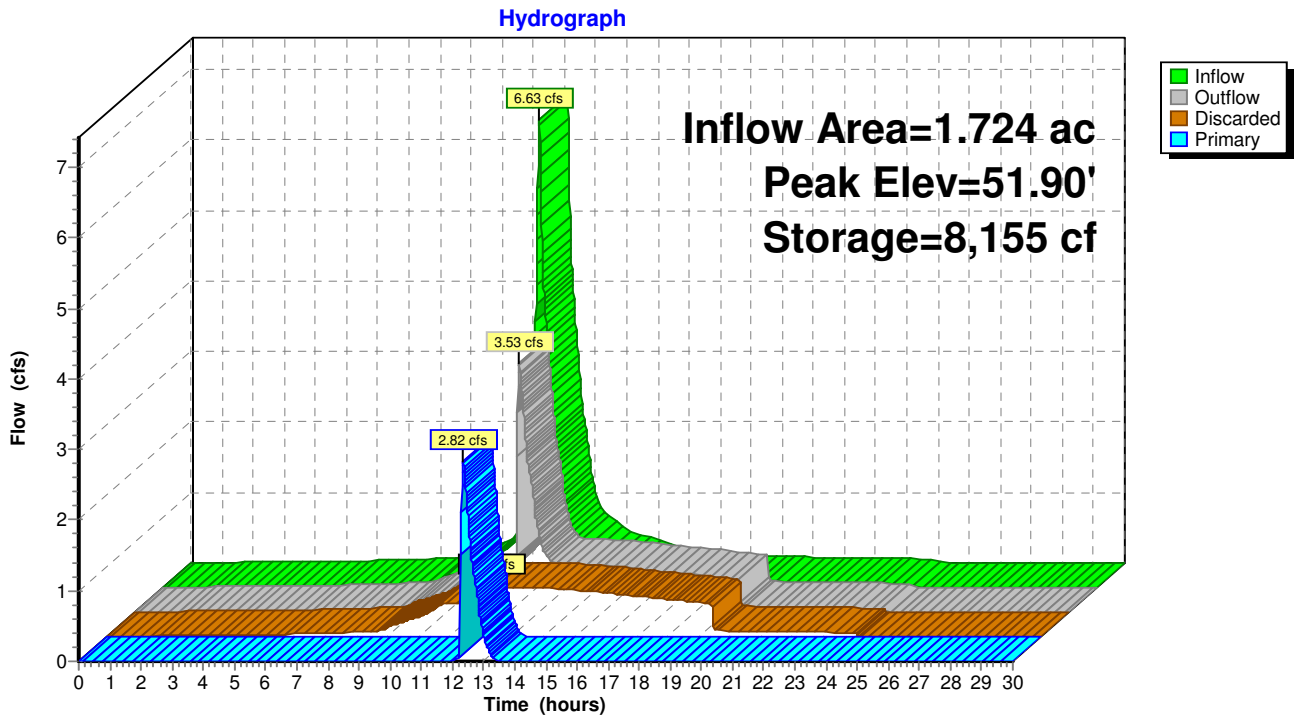
Discarded OutFlow Max=0.71 cfs @ 12.34 hrs HW=51.90' (Free Discharge)

↑1=**Exfiltration** (Exfiltration Controls 0.71 cfs)

Primary OutFlow Max=2.82 cfs @ 12.34 hrs HW=51.90' TW=0.00' (Dynamic Tailwater)

↑2=**Broad-Crested Rectangular Weir** (Weir Controls 2.82 cfs @ 1.40 fps)

Pond 2P: 72'x34'x6 LEACH GALLEY

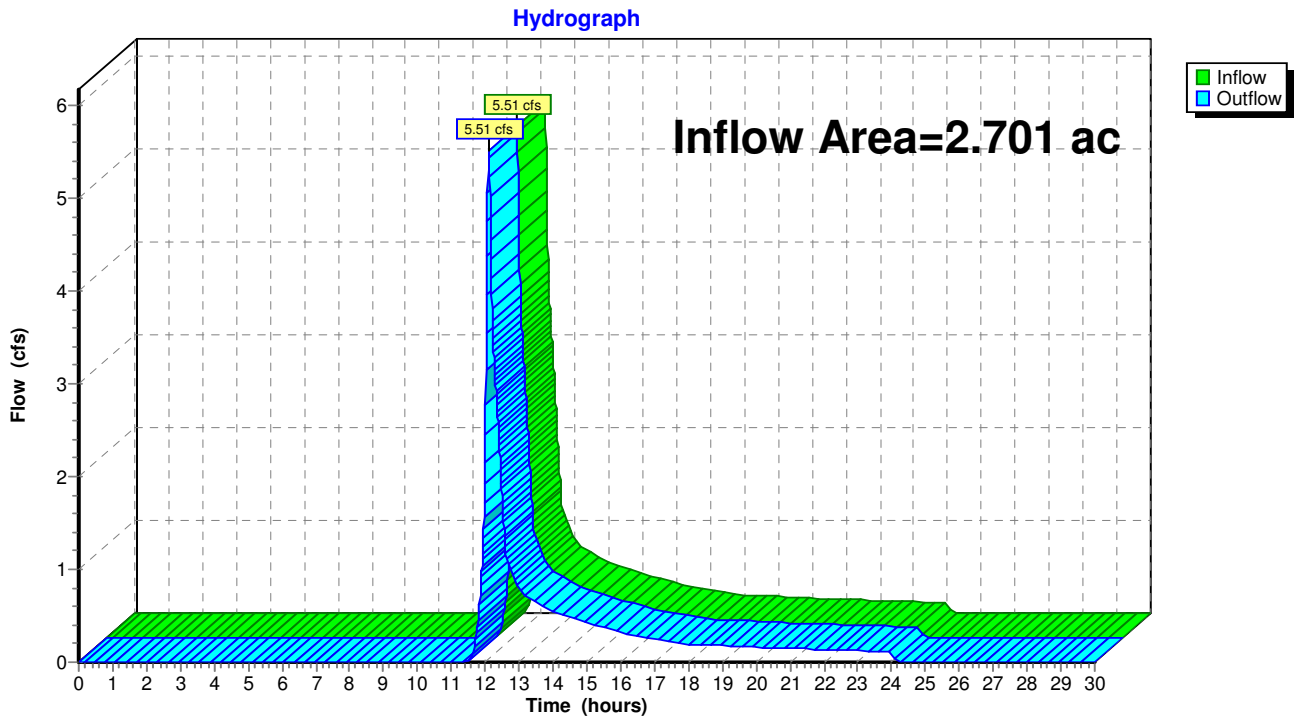


Summary for Reach 2R: WETLAND AREA TO THE NORTH

Inflow Area = 2.701 ac, 0.00% Impervious, Inflow Depth = 2.01" for 100-Year event
Inflow = 5.51 cfs @ 12.10 hrs, Volume= 0.452 af
Outflow = 5.51 cfs @ 12.10 hrs, Volume= 0.452 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Reach 2R: WETLAND AREA TO THE NORTH



Summary for Subcatchment 2S: LOT 2 ROOF AREA

Runoff = 1.04 cfs @ 12.08 hrs, Volume= 0.086 af, Depth= 8.26"
 Routed to Pond 2P : 72'x34'x6 LEACH GALLEY

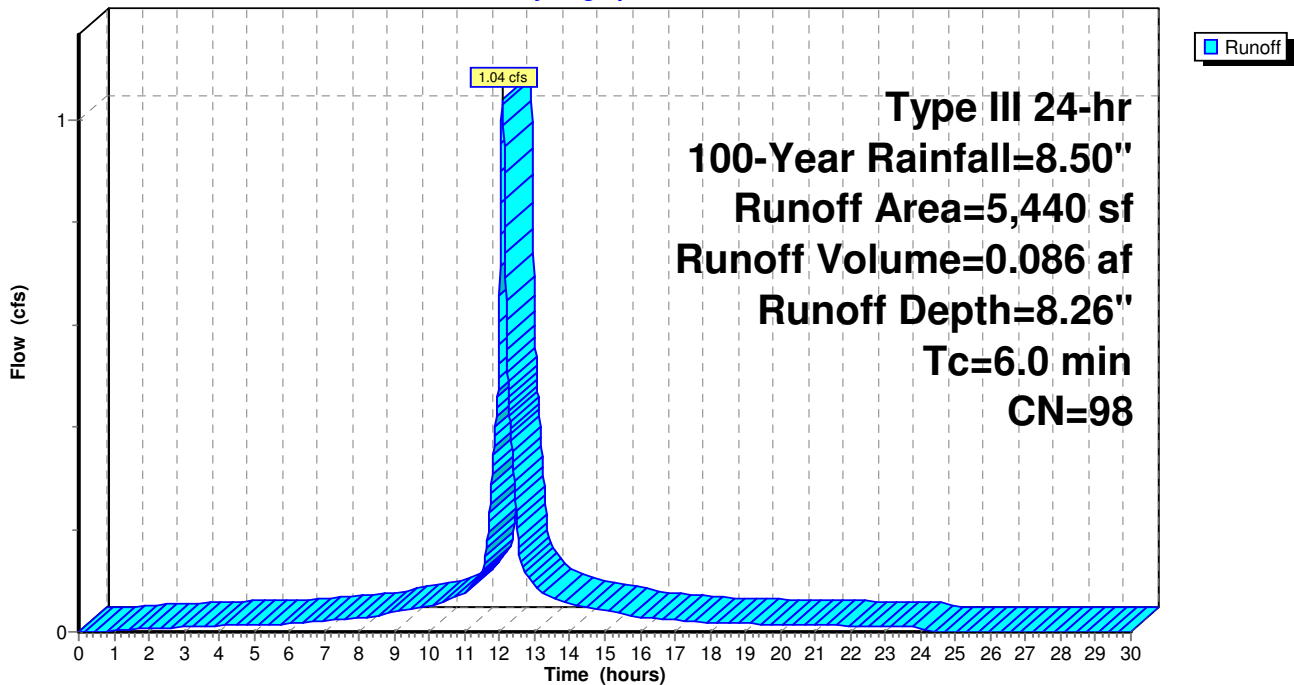
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=8.50"

Area (sf)	CN	Description
* 5,440	98	Parking/Walkway/Slab, HSG A
5,440		100.00% Impervious Area

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

Subcatchment 2S: LOT 2 ROOF AREA

Hydrograph

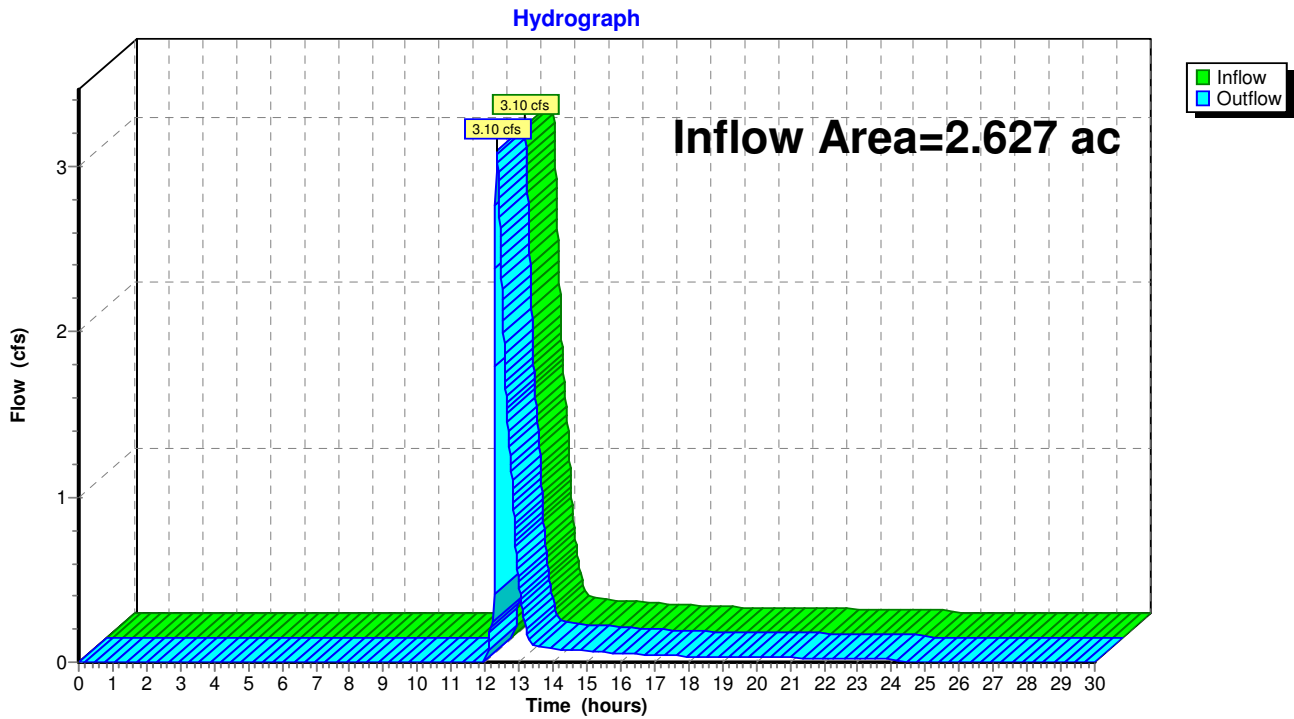


Summary for Reach 3R: WETLAND AREA TO THE NORTH

Inflow Area = 2.627 ac, 42.14% Impervious, Inflow Depth = 0.67" for 100-Year event
Inflow = 3.10 cfs @ 12.34 hrs, Volume= 0.147 af
Outflow = 3.10 cfs @ 12.34 hrs, Volume= 0.147 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Reach 3R: WETLAND AREA TO THE NORTH



Summary for Subcatchment 3S: PARKING & PATIO AREAS

Runoff = 6.70 cfs @ 12.08 hrs, Volume= 0.553 af, Depth= 8.26"
 Routed to Pond 1SW : BIORETENTION SWALE

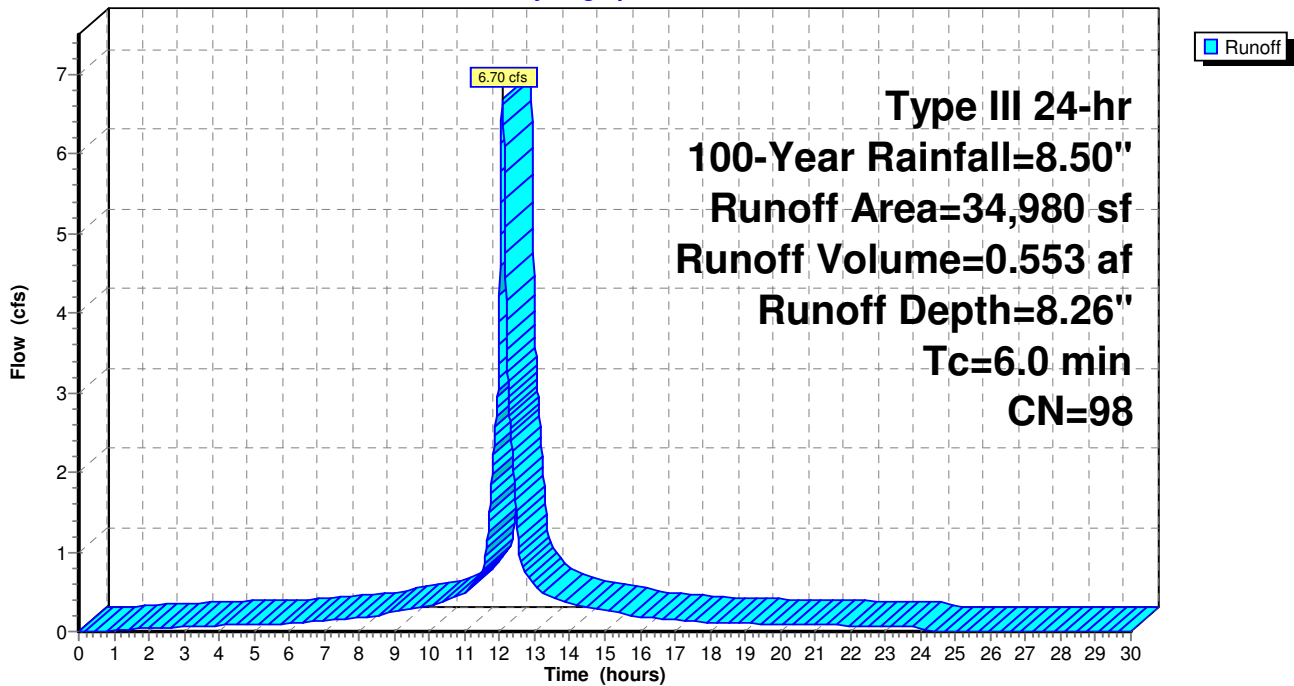
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=8.50"

	Area (sf)	CN	Description
*	25,760	98	Parking/Walkway/Slab, HSG A
*	9,220	98	Patio Area
	34,980	98	Weighted Average
	34,980		100.00% Impervious Area

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

Subcatchment 3S: PARKING & PATIO AREAS

Hydrograph



Summary for Subcatchment 4S: LANDSCAPED AREAS ALONG ROAD FOR LOT 1

Runoff = 0.07 cfs @ 12.11 hrs, Volume= 0.007 af, Depth= 1.37"

Routed to Pond CB1 : ENTRANCE CATCH BASIN

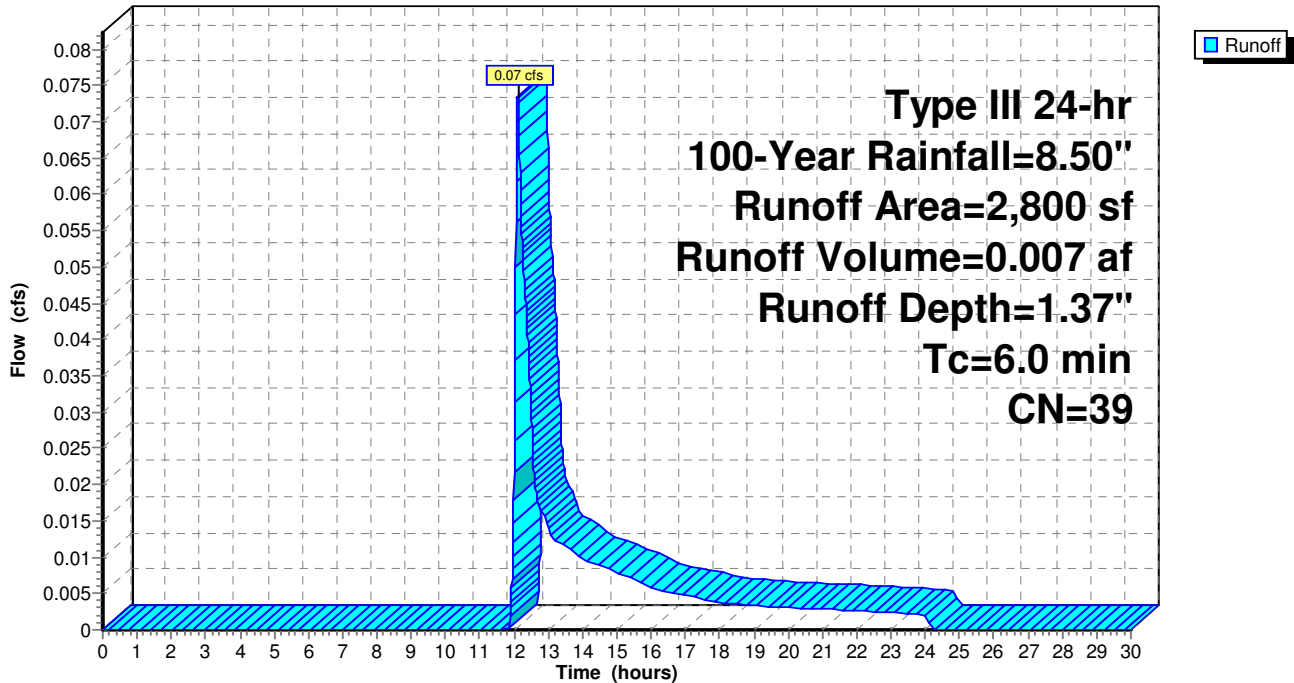
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=8.50"

Area (sf)	CN	Description
2,800	39	>75% Grass cover, Good, HSG A
2,800		100.00% Pervious Area

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

Subcatchment 4S: LANDSCAPED AREAS ALONG ROAD FOR LOT 1

Hydrograph



Summary for Subcatchment 5S: GRAVEL AREA TO THE WEST

Runoff = 2.63 cfs @ 12.09 hrs, Volume= 0.187 af, Depth= 4.07"

Routed to Pond CB2 : CATCH BASINS IN GRAVEL AREA

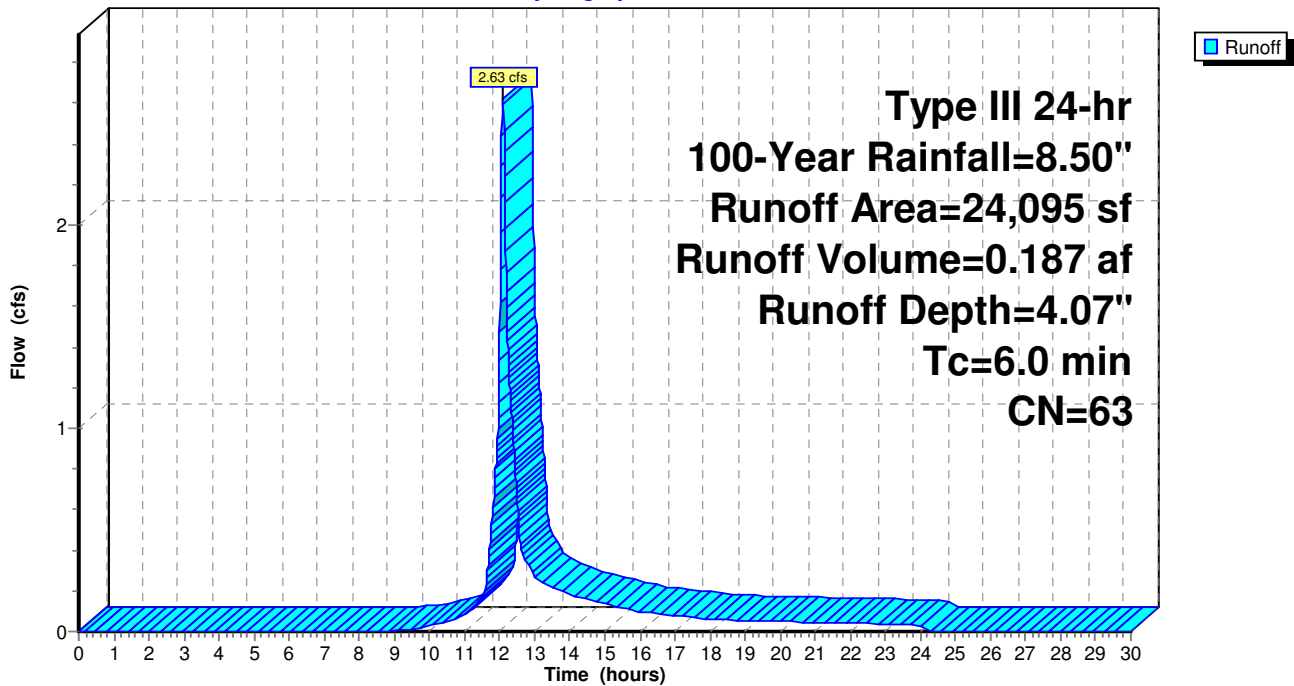
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=8.50"

Area (sf)	CN	Description
15,845	76	Gravel roads, HSG A
8,250	39	>75% Grass cover, Good, HSG A
24,095	63	Weighted Average
24,095		100.00% Pervious Area

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

Subcatchment 5S: GRAVEL AREA TO THE WEST

Hydrograph



Summary for Subcatchment 6S: AREA BEYOND PAVNT-BUILDING TO NORTH

Runoff = 0.28 cfs @ 12.32 hrs, Volume= 0.053 af, Depth= 0.71"

Routed to Reach 3R : WETLAND AREA TO THE NORTH

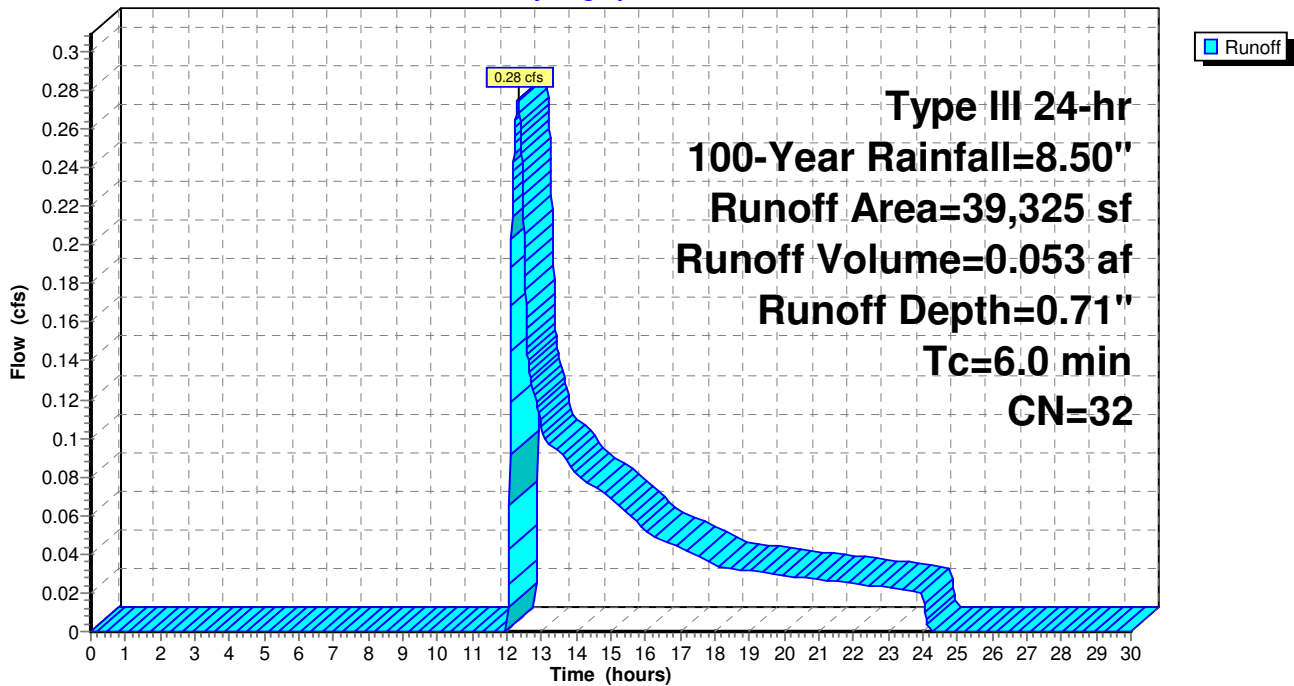
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=8.50"

Area (sf)	CN	Description
26,920	30	Woods, Good, HSG A
12,405	35	Brush, Fair, HSG A
39,325	32	Weighted Average
39,325		100.00% Pervious Area

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

Subcatchment 6S: AREA BEYOND PAVNT-BUILDING TO NORTH

Hydrograph



Summary for Pond CB1: ENTRANCE CATCH BASIN

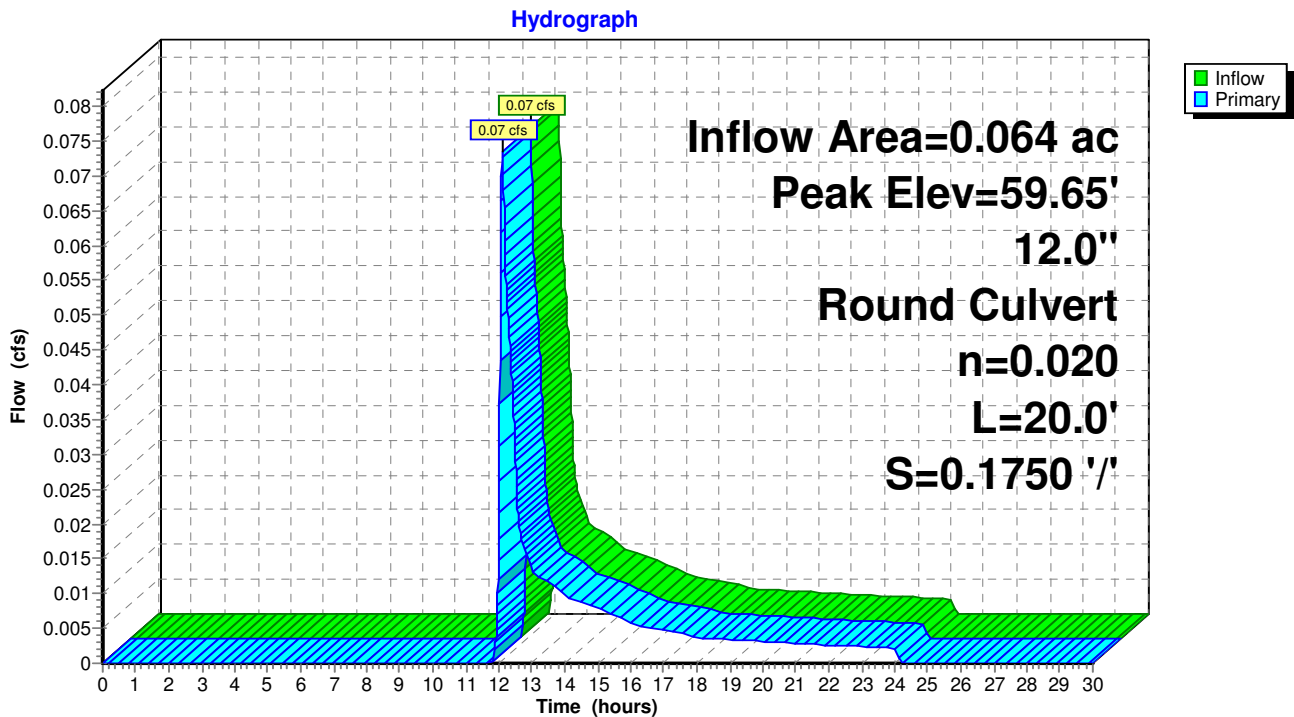
Inflow Area = 0.064 ac, 0.00% Impervious, Inflow Depth = 1.37" for 100-Year event
 Inflow = 0.07 cfs @ 12.11 hrs, Volume= 0.007 af
 Outflow = 0.07 cfs @ 12.11 hrs, Volume= 0.007 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.07 cfs @ 12.11 hrs, Volume= 0.007 af
 Routed to Pond 2P : 72'x34'x6 LEACH GALLEY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 59.65' @ 12.11 hrs

Device #	Routing	Invert	Outlet Devices
#1	Primary	59.50'	12.0" Round Culvert L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 59.50' / 56.00' S= 0.1750 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.07 cfs @ 12.11 hrs HW=59.65' TW=49.98' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 0.07 cfs @ 1.03 fps)

Pond CB1: ENTRANCE CATCH BASIN



Summary for Pond CB2: CATCH BASINS IN GRAVEL AREA

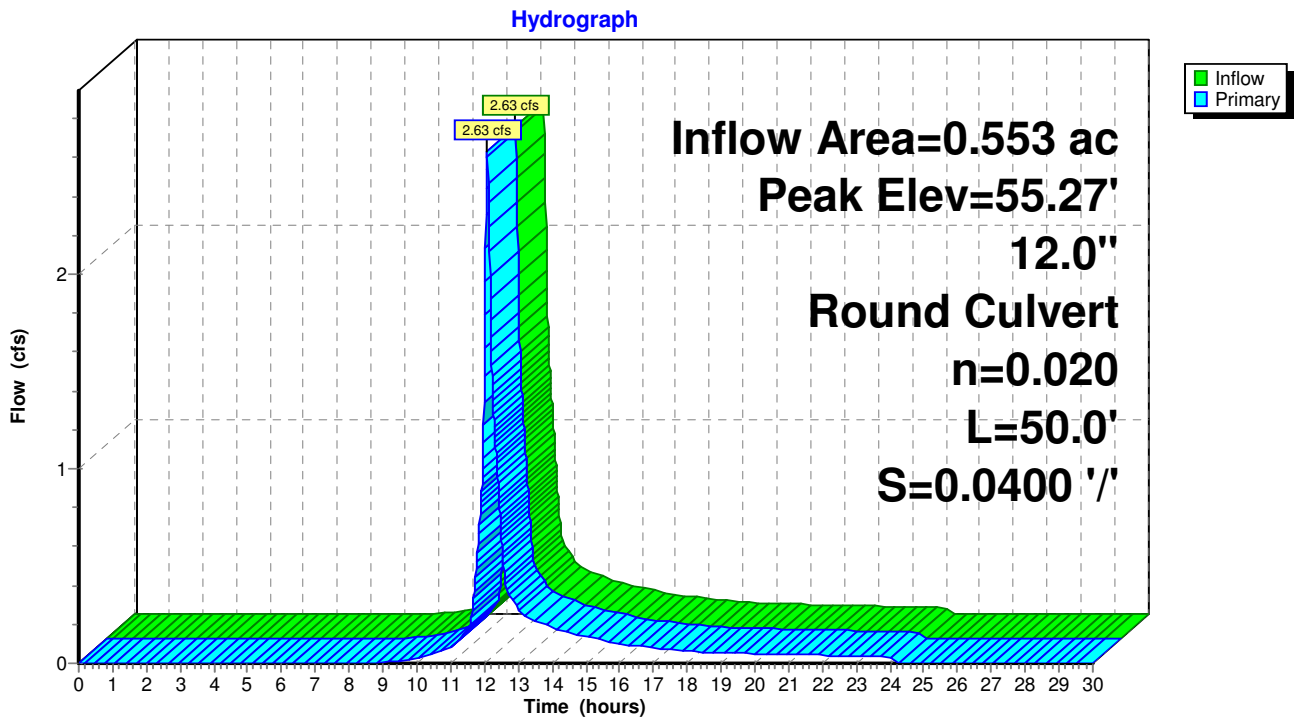
Inflow Area = 0.553 ac, 0.00% Impervious, Inflow Depth = 4.07" for 100-Year event
 Inflow = 2.63 cfs @ 12.09 hrs, Volume= 0.187 af
 Outflow = 2.63 cfs @ 12.09 hrs, Volume= 0.187 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.63 cfs @ 12.09 hrs, Volume= 0.187 af
 Routed to Pond 2P : 72'x34'x6 LEACH GALLEY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 55.27' @ 12.09 hrs

Device #1	Routing	Invert	Outlet Devices
	Primary	54.00'	12.0" Round Culvert L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 54.00' / 52.00' S= 0.0400 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.63 cfs @ 12.09 hrs HW=55.27' TW=49.62' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 2.63 cfs @ 3.34 fps)

Pond CB2: CATCH BASINS IN GRAVEL AREA



INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location:

TSS Removal Calculation Worksheet

B BMP ¹	C TSS Removal Rate ¹	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
<input type="text" value="Water Quality Swale - Dry"/>	0.70	1.00	0.70	0.30
<input type="text" value="Subsurface Infiltration Structure"/>	0.80	0.30	0.24	0.06
<input type="text" value=""/>	0.00	0.06	0.00	0.06
<input type="text" value=""/>	0.00	0.06	0.00	0.06
<input type="text" value=""/>	0.00	0.06	0.00	0.06

Total TSS Removal =

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project:
 Prepared By:
 Date:

*Equals remaining load from previous BMP (E) which enters the BMP

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location:

	B	C	D	E	F
	BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
TSS Removal Calculation Worksheet	Deep Sump and Hooded Catch Basin	0.25	1.00	0.25	0.75
	Oil Grit Separator	0.25	0.75	0.19	0.56
	Subsurface Infiltration Structure	0.80	0.56	0.45	0.11
		0.00	0.11	0.00	0.11
		0.00	0.11	0.00	0.11

Total TSS Removal =

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project:
 Prepared By:
 Date:

*Equals remaining load from previous BMP (E) which enters the BMP

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location:

	B	C	D	E	F
	BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
TSS Removal Calculation Worksheet	Subsurface Infiltration Structure	0.80	1.00	0.80	0.20
		0.00	0.20	0.00	0.20
		0.00	0.20	0.00	0.20
		0.00	0.20	0.00	0.20
		0.00	0.20	0.00	0.20

Total TSS Removal =

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project:
 Prepared By:
 Date:

*Equals remaining load from previous BMP (E) which enters the BMP

STORMWATER OPERATIONS & MAINTENANCE MANUAL

Lot 1 - 162 Underpass Road
Lot 2-3 – 0 Underpass Road
Brewster, MA
Assessors' Map 77, Parcels 9 and 10 & 60
Brewster, MA

February 2, 2024

Revised 2-20-2024

PREPARED FOR:

THE FREE SEA TURTLE, LLC
21 Crosby Lane, Brewster, MA 02631
And
162 Underpass LLC
76 Aunt Sophies Road, Brewster, MA 02631

PREPARED BY:

J.M. O'REILLY & ASSOCIATES, INC.
1573 MAIN STREET
P.O. BOX 1773
BREWSTER, MA 02631
508-896-6601

TABLE OF CONTENTS

1. Property Description
2. Owner and Responsible Party
3. Schedule of Inspection and Maintenance of Stormwater Management Systems
4. Long Term Lawn Care & Pollution Prevention Plan
5. Emergency Spill Cleanup Plan

1. Property Description

Site Conditions:

Properties will be a commercial complex. The conditions will include three buildings, paved and gravel surfaces and patio with landscape areas.

Maintenance:

The Owner and Responsible Party shall be responsible for operation and maintenance of the stormwater controls, as required by this Operation & Maintenance (O&M) Manual.

Stormwater Systems:

Stormwater management controls are proposed for the portion of the property that is to be developed. The area of land to be developed is about 118,000 sf+/- and fronting on Underpass Road, just north of Sara Ann Lane. The area includes all land from the southern lot line of Lot 1 and the adjacent lot line of Lot 2-3, then north down to the existing limit of work line, previously established. The remaining portion, north of the limit of work, was not considered part of the watershed and it will remain natural.

The proposed post-development stormwater management plan consists of three deep sump catch basins, a Bio-retention Swale, a series of manholes for conveyance and an oil/water grit separator to provide initial treatment of the stormwater runoff from the parking area, the gravel portion and the landscaped areas. These are then connected to a single large subsurface leaching facility, which also provide stormwater leaching for the roof runoff.

2. Owner and Responsible Party

The owner and responsible party for all Stormwater Pollution Control tasks detailed in this Stormwater Operation & Maintenance Manual for Lot A – 0 Main St, Assessors' Map 138, Parcels 74-81, Brewster, MA:

Owner & Operator:

THE FREE SEA TURTLE, LLC
21 Crosby Lane
Brewster, MA 02631

And

162 Underpass LLC
76 Aunt Sophies Road
Brewster, MA 02631

3. Schedule of Inspection and Maintenance of Stormwater Management Systems

Dry Water Quality Swale

The dry water quality swales are to be inspected and maintained by the owner. The following responsibilities are included:

- Inspections:
 - Inspect the swales quarterly.
 - Ensure the swales are operating as designed and completely draining in between storm events.
 - Inspect swales for subsidence, erosion, cracking or tree growth on the embankment and sediment accumulation / erosion within the swale.

- Maintenance:
 - Remove accumulated trash, leaves debris at least monthly.
 - Mulch areas once per year.
 - Remove dead vegetation twice per year.
 - Prune once per year.
 - Replace entire soil media and all vegetation as needed.
 - Do not store snow in swale areas.
 - Check for signs of erosion and repair as needed. After removing sediment, replace any vegetation damaged during clean-out by either reseeding or re-sodding.

Deep Sump Catch Basin, Oil/Grit Separator & Gutters:

- Inspections:
 - Inspect the catch basins, grit/oil separator and gutters, for solid & debris build up, twice per year.

- Maintenance:
 - Remove leaves and debris from gutters as needed to eliminate blockage or back up.
 - Remove soil & debris from deep sump catch basin once the level of material is within 12" of the bottom of the tee/hood outlet piping. Cleaning should be completed once a year at a minimum.
 - Remove soil & debris from three chambers within the oil / grit separator once the level of material is within 12" of the bottom of the tee/hood outlet piping OR is blocking the internal screens & grates. Cleaning should be completed once a year at a minimum.

Subsurface Leaching Facility:

The subsurface leaching facility are to be inspected and maintained by the owner. The following responsibilities are included:

- Inspections:
 - Inspect the subsurface leaching facility at least twice per year.

- Maintenance:
 - If inspection of leaching facility shows that it does not dewater completely within 72 hours of a storm event, the owner shall take immediate steps to restore the function of the system and shall consult a qualified stormwater professional.
 - Remove any trash or debris that may clog the system.
 - Cleaning may be done by vacuum truck. All sediment and hydrocarbons shall be properly disposed of in accordance with local, state and federal guidelines and regulations.

4. Long Term Lawn Care & Pollution Prevention Plan

Description of Pollutant Sources:

- Large vehicle construction equipment including Light vehicle traffic.
- Material storage
- Equipment storage

Source Control Best Management Practices

- There shall be no storage of hazardous waste items which will be subject to the weather.
- Good housekeeping measures shall be implemented throughout the site in order to keep the driveways clean of debris. Regularly sweep driveway areas as needed.'
- Keeping equipment in good working order.
- Equipment inspections and repairs to mitigate any discharge.
- The use of winter de-icing sand and salt materials shall be minimized to the maximum extent practicable. The winter de-icing shall only be used, as noted above, within the paved portions of the parking area
- Winter de-icing sand and salt materials shall be stored indoors.
- Snow storage shall be on paved surfaces.
- Immediately clean up any spillage on paved areas and dispose of wastes properly.
- Keep all records of materials as required by the Fire Code.

5. **Emergency Spill Cleanup Plan**

1. The owner of the facility shall have a designated person with overall responsibility for spill response cleanup.
2. In the event of a spill the following shall be notified:
 - A. Brewster Fire Department (508) 896-1708
(for a gasoline or hazardous material spill) 911
 - B. Massachusetts D.E.P. Emergency Response (800) 304-1133
 - C. Brewster Health Department (508) 896-3701 ext. 1120
3. Cleanup of spills shall begin immediately.

ZONING TABLE: LOT 1

ZONING DISTRICT: C-H

BUILDING SETBACKS:

REQUIRED FRONT YARD: 30'; PROPOSED FRONT YARD: 49.8 FEET
 REQUIRED SIDE YARD: 20'; PROPOSED SIDE YARD: 21.0 FEET
 REQUIRED REAR YARD: 20'; PROPOSED REAR YARD: 20.5 FEET

BUILDING COVERAGE:

PROPOSED BUILDING AREA: FRONT BUILDING = 2,400 SF
 REAR BUILDING = 5,400 SF

LOT 1- UPLAND AREA: 44,200 SF

PROPOSED BUILDING COVERAGE: (7,800 / 44200) x 100% = 17.6 %

AVERAGE GRADE & BUILDING HEIGHT:

AVERAGE GRADE:
 EXISTING NORTH GRADES: (60.0 + 70.0) / 2 = 65.0
 EXISTING SOUTH GRADES: (71.0 + 71.5) / 2 = 71.2
 AVERAGE GRADE: (65.0 + 71.2) / 2 = 68.1±
 MAXIMUM BUILDING RIDGE: 68.1 + 30 FEET = 98.1
 PROPOSED RIDGE: 96.5

ZONING TABLE: 2

ZONING DISTRICT: C-H

BUILDING SETBACKS:

REQUIRED FRONT YARD: 30'; PROPOSED FRONT YARD: 70.0 FEET
 REQUIRED SIDE YARD: 20'; PROPOSED SIDE YARD: 49.0 FEET
 REQUIRED REAR YARD: 20'; PROPOSED REAR YARD: 51.0 FEET

BUILDING COVERAGE:

PROPOSED BUILDING AREA: 5,000 SF
 LOT 2- UPLAND AREA: 40,579 SF
 PROPOSED BUILDING COVERAGE: (5000 / 40579) x 100% = 12.3 %

AVERAGE GRADE & BUILDING HEIGHT:

AVERAGE GRADE:
 EXISTING NORTH GRADES: (58.0 + 58.5) / 2 = 58.2
 EXISTING SOUTH GRADES: (59.0 + 58.5) / 2 = 58.7
 AVERAGE GRADE: (58.2 + 58.7) / 2 = 58.5±
 MAXIMUM BUILDING RIDGE: 58.5 + 30 FEET = 88.5
 PROPOSED RIDGE: 60 (SLAB EL) + 28 (BLD HEIGHT) = 88
 BUILDING HEIGHT SHALL BE CONFIRMED PRIOR TO BUILDING PERMIT APPLICATION

NOTES:

PARKING REQUIREMENTS: LOT 1

COMMERCIAL BAYS: 1 SPACE PER EMPLOYEE; 2 EMPLOYEES X 2 BAYS = 4 SPACES
 RESTAURANT: 80 SEATS X 1 SPACE PER 4 SEATS + 1- SPACES FOR STAFF (8 STAFF) = 28 SPACES
 OFFICE/RETAIL/STUDIO: 4584 S.F./250 S.F. PER SPACE = 18 SPACES
 TOTAL PARKING SPACES REQUIRED: 50 SPACES

PARKING REQUIREMENTS: LOT 2-3

COMMERCIAL BAYS: 1 SPACE PER EMPLOYEE; 2 EMPLOYEES X 5 BAYS = 10 SPACES
 APARTMENT: 1 SPACE PER BEDROOM; 2 BEDROOMS = 2 SPACES
 TOTAL PARKING SPACES REQUIRED: 12 SPACES
 TOTAL SPACES REQUIRED FOR BOTH PROPERTIES PER POLICY = 62 SPACES WITH 3 HP SPACES REQUIRED

PARKING PROVIDED:

A TOTAL OF 55 SPACES PROVIDED INCLUDING 3 HP SPACES. WAIVER REQUESTED IF REQUIRED

LIGHTING:

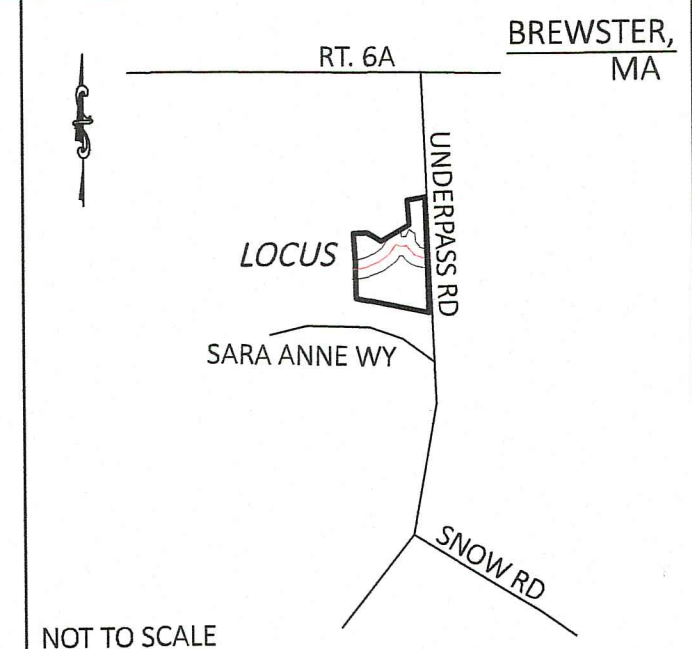
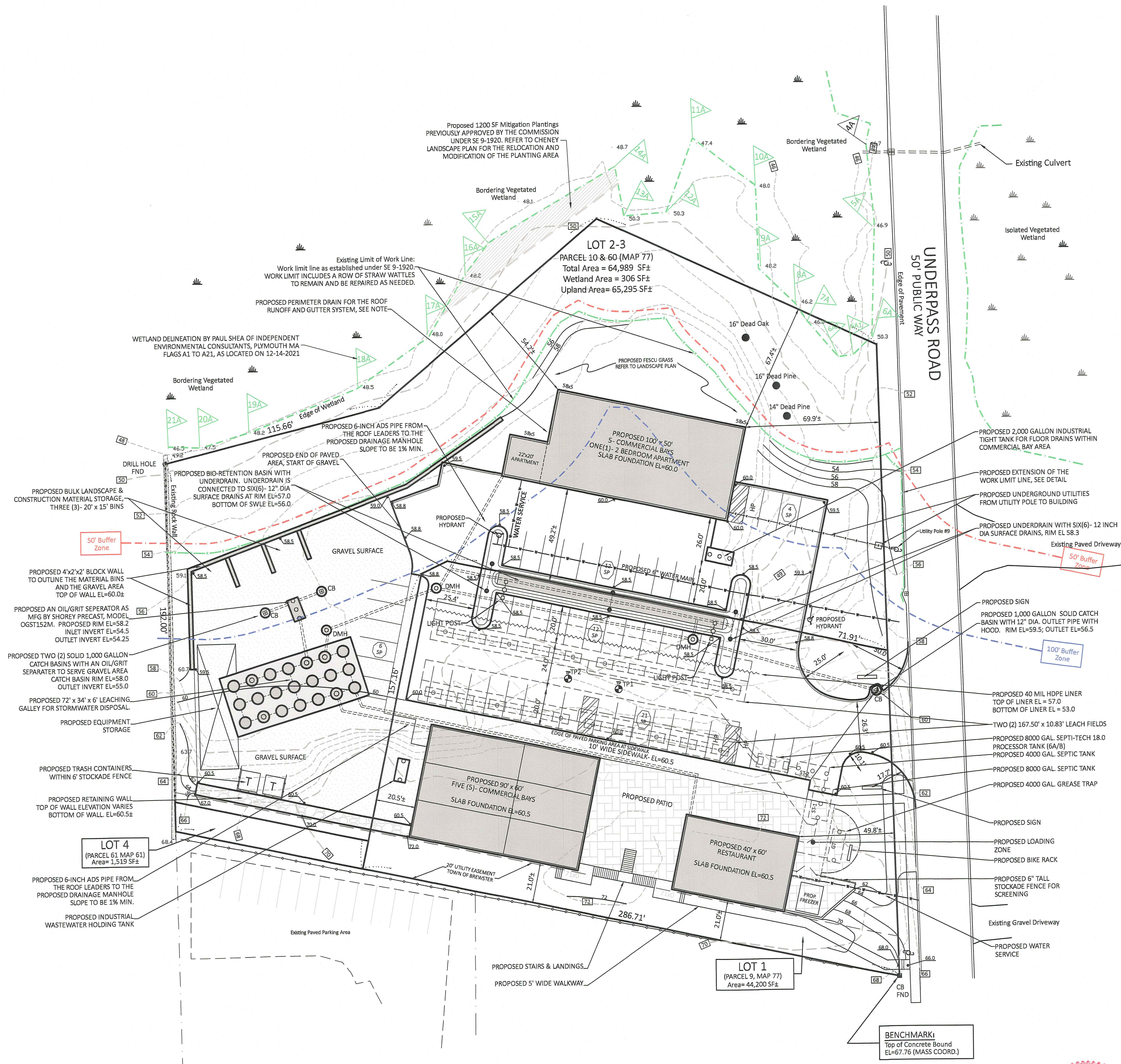
BUILDING LIGHTING:
 GARAGE BAYS: ONE (1)- DARK SKY FIXTURE CENTERED OVER GARAGE BAY DOOR (4 FIXTURES)
 ENTRY DOORS: ONE (1)- DARK SKY FIXTURE ADJACENT TO THE EACH ENTRY DOOR (8 TO 10 FIXTURES)
 SITE LIGHTING:
 PARKING AREAS: TWO SETS OF DARK SKY FIXTURES, TWO LIGHTS PER SET, MOUNTED ON 15 FOOT LIGHT POLES.

LANDSCAPE:

PROPOSED LANDSCAPE WILL BE IN KEEPING WITH THE SURROUNDING AREAS. SEE LANDSCAPE PLAN

INDUSTRIAL WASTEWATER HOLDING TANK:

IF THE BAYS ARE TO BE ACCESSIBLE BY VEHICLE, FLOOR DRAINS WILL BE REQUIRED IN EACH BAY. EACH FLOOR DRAIN WILL NEED TO BE CONNECTED TO AN INDUSTRIAL WASTEWATER HOLDING TANK.



NOT TO SCALE
 PLAN BOOK 350 PAGE 199
 DEED BOOK 28878 PAGE 199
 ASSESSORS' MAP 48 PARCEL 7

LEGEND

	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING SPOT GRADE
	PROPOSED SPOT GRADE
	WATER SERVICE LINE
	OVERHEAD UTILITY SERVICE
	UNDERGROUND UTILITY SERVICE
	GAS SERVICE LINE
	TEST HOLE / BORING LOCATION
	SEPTIC TANK
	DISTRIBUTION BOX
	SOIL ABSORPTION SYSTEM
	RESERVED FOR FUTURE UTILITY POLE
	CATCH BASIN
	FIRE HYDRANT
	WELL
	DRAINAGE MANHOLE
	CONCRETE BOUND, FOUND
	TOP OF BANK
	FENCE
	EDGE OF CLEARING
	BOULDER

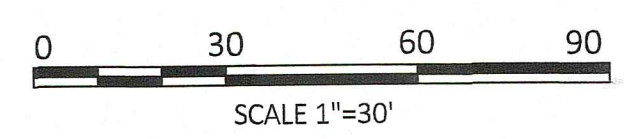
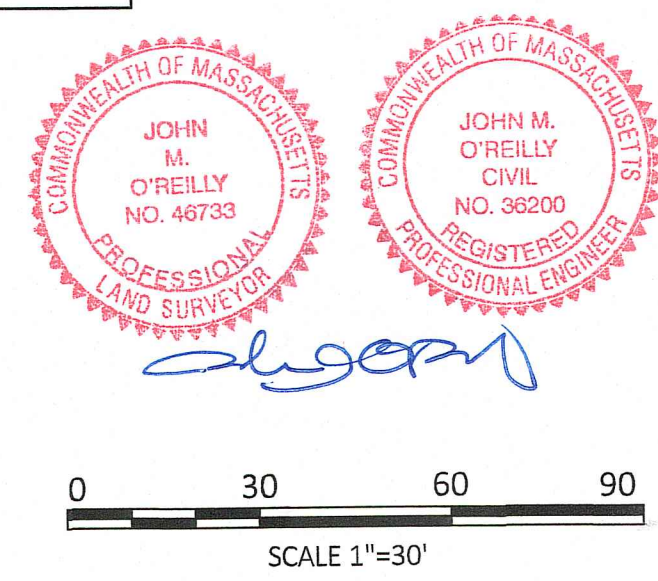
SHEET 1 OF 5

THE FREE SEA TURTLE LLC & 162 UNDERPASS, LLC.
 C/O P.O. BOX 444, BREWSTER MA, 02631

PROPOSED SITE PLAN WITH DRAINAGE
 LOTS 1, 2 AND 3 AT 0 & 162 UNDERPASS ROAD, BREWSTER MA, 02631

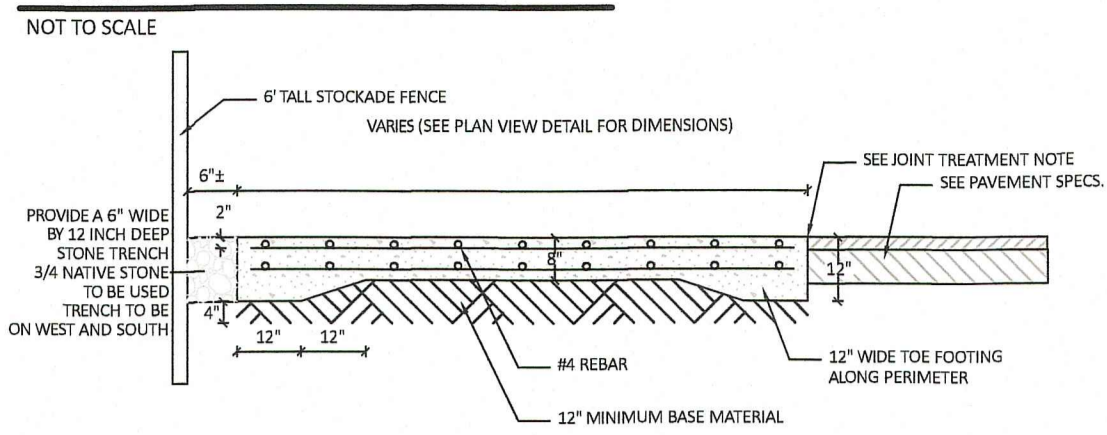
J.M. O'REILLY & ASSOCIATES, INC.
 Professional Engineering & Land Surveying Services

1573 Main Street - Route 6A
 P.O. Box 1779
 Brewster, MA 02631 (508)896-6602 Fax
 (508)896-6601
 DATE: 02/02/2024 SCALE: As Noted BY: JMO/gb CHECK: JMO JOB NUMBER: JMO-6125A

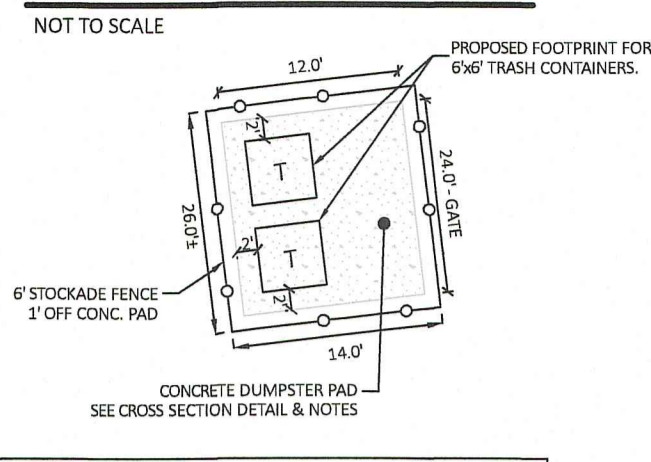


G:\A\lob\Wallac6125A\dwg\6125A- PROPOSED SITE PLAN- DRAINAGE.dwg

CONCRETE PAD CROSS-SECTION:

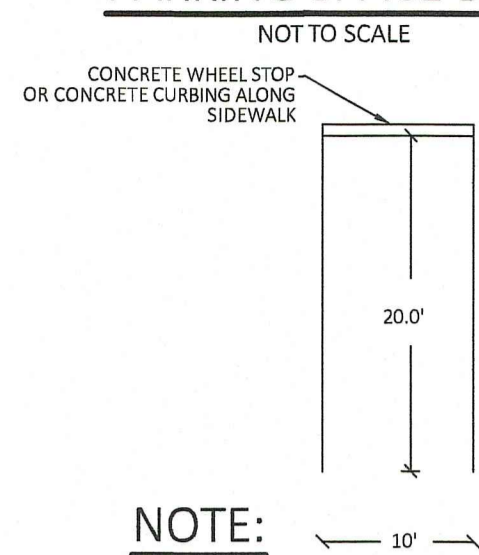


CONCRETE PAD PLAN VIEW:



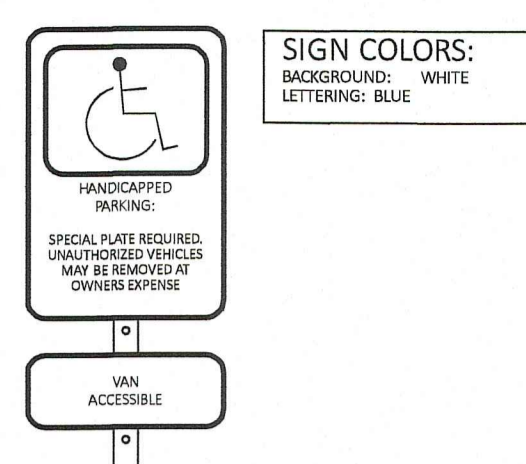
NOTES:
 - CONTRACTOR SHALL USE 4,000 PSI CONCRETE, 8" THICK.
 - CONCRETE PAD SHALL HAVE A 12" WIDE, 12" HIGH TOE FOOTING ALONG THE ENTIRE PERIMETER.
 - INSTALL TWO ROWS OF #4 REBAR SPACED 12" ON-CENTER IN BOTH DIRECTIONS. REBAR SHALL MAINTAIN 2" MINIMUM CLEARANCE FROM TOP AND BOTTOM OF CONCRETE PAD.
 - CONCRETE SHALL BE UNDERLAIN WITH A MINIMUM OF 12" BASE MATERIAL (3/4" MAX PROCESSED STONE OR APPROVED EQUAL).

PARKING SPACE DETAIL:



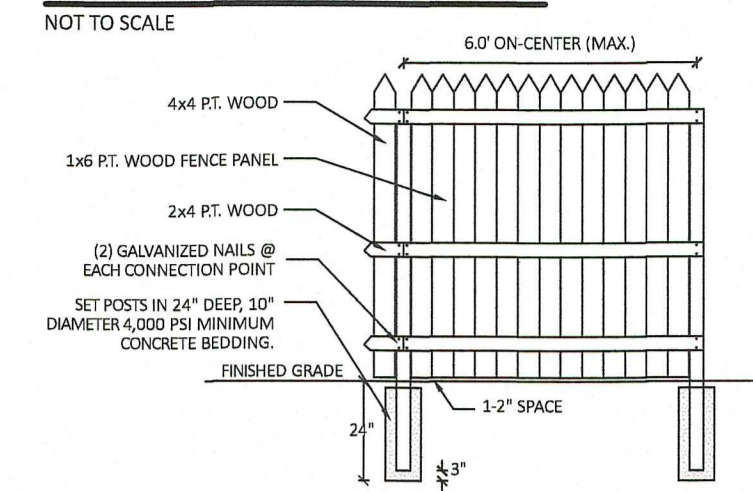
NOTE:
 1.) PARKING SPACE WIDTH (10') SHALL NOT INCLUDE ASPHALT CURBING IN AREAS WHERE THE PARKING SPACE ABUTS CURB. SEE LAYOUT & MATERIALS PLAN FOR ALL PARKING SPACE DIMENSIONS.

HANDICAP VAN PARKING SIGN DETAIL:

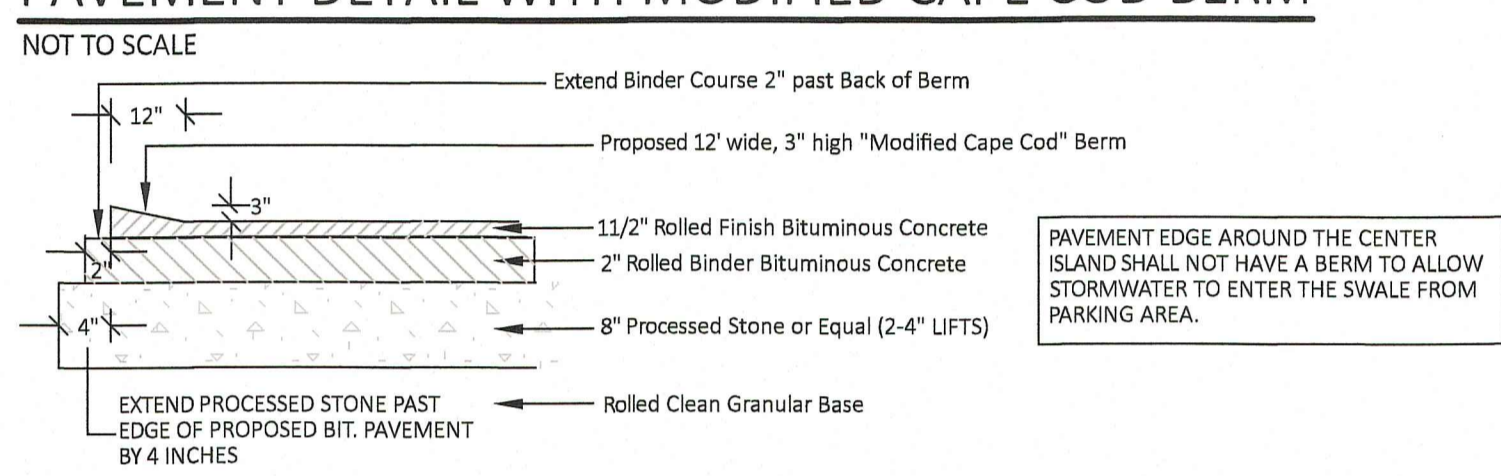


SIGN COLORS:
 BACKGROUND: WHITE
 LETTERING: BLUE

STOCKADE FENCE SECTION:

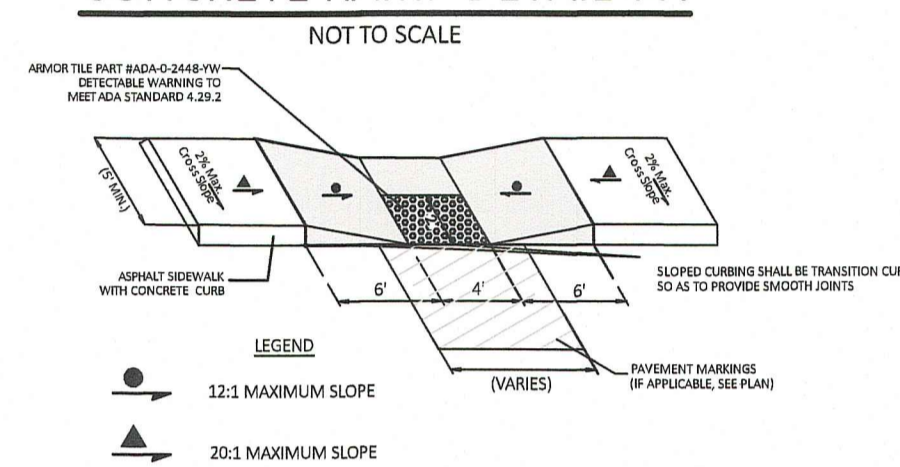


PAVEMENT DETAIL WITH MODIFIED CAPE COD BERM:



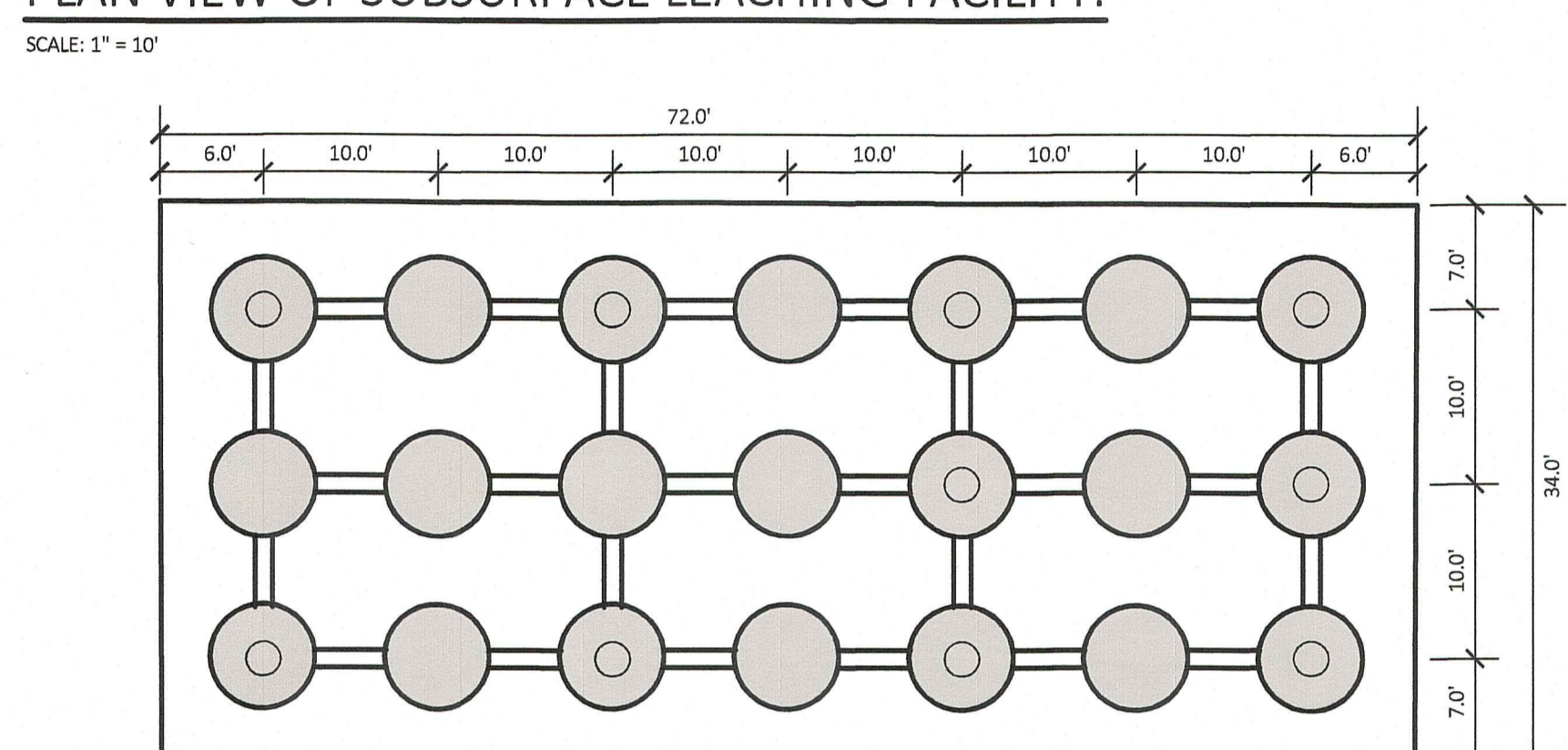
PAVEMENT EDGE AROUND THE CENTER ISLAND SHALL NOT HAVE A BERM TO ALLOW STORMWATER TO ENTER THE SWALE FROM PARKING AREA.

CONCRETE RAMP DETAIL 'A':



NOTE: The proposed concrete ramps shall be constructed using concrete. The concrete shall extend to the end of the ramps and level areas as shown on the detail. Concrete shall be Class B, 4000 psi at 28 days and shall contain 6x6 wire grid, 5 gauge. Concrete walk shall be 6 inches thick.

PLAN VIEW OF SUBSURFACE LEACHING FACILITY:



PAVEMENT NOTES:

SUBBASE MATERIAL:
 THE SUBBASE SHALL CONSIST OF CLEAN SAND, FREE OF ORGANIC MATERIAL AND LOAM.

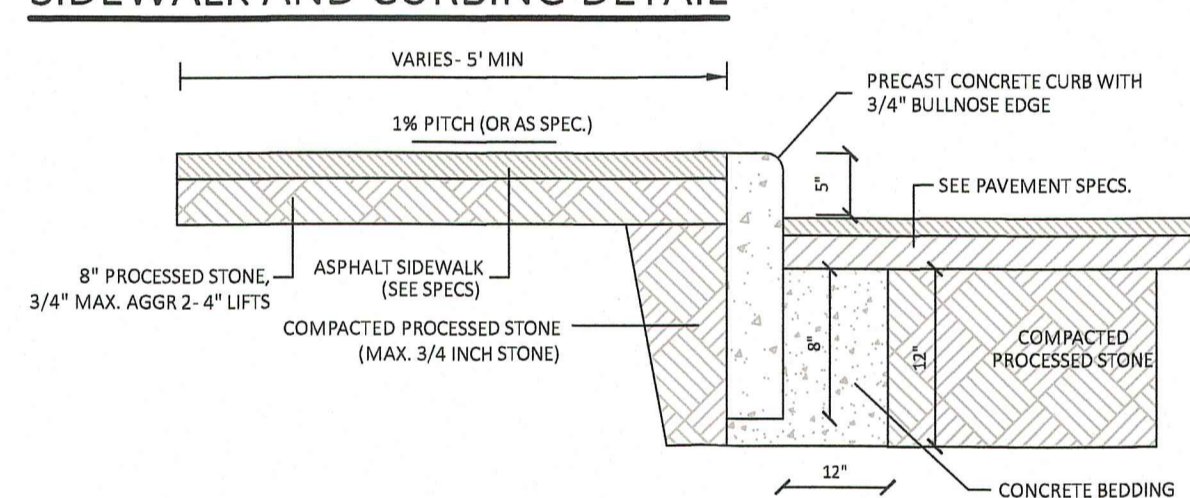
ROAD BASE MATERIAL:
 ALL PAVED AREAS:
 TWELVE INCH (12") LAYER OF DENSE GRADED PROCESSED STONE (MAX AGGR. 3/4") UNDER ALL PAVED AREAS. STONE BASE SHALL BE INSTALLED IN TWO (2) 6 INCH LIFTS.

BITUMINOUS CONCRETE PAVING - ALL PARKING AREAS:
 BINDER COURSE: 2" INCH LAYER (ROLLED) OF CLASS 1-BINDER COURSE
 FINISH COURSE: 1 1/2" LAYER (ROLLED) OF CLASS 1-FINISH COURSE

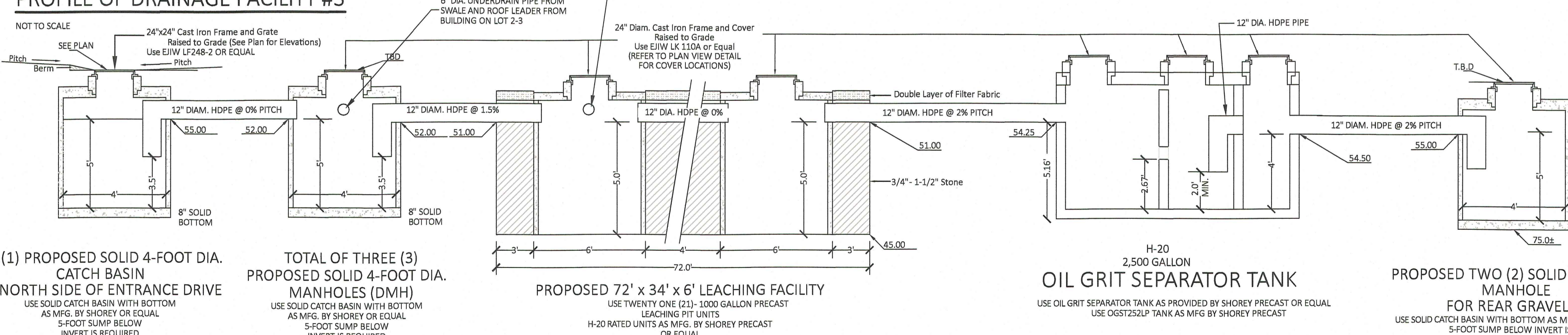
BITUMINOUS CONCRETE PAVING - SIDEWALK AREAS:
 2" MODIFIED DRIVEWAY BIT. CONCRETE MIX OR APPROVED EQUAL

NOTE: THE PAVEMENT AREAS OF THE PARKING AND ACCESS ROADWAYS ONCE CONSTRUCTED WILL SUPPORT FIRE APPARATUS OF 25 TONS.

SIDEWALK AND CURBING DETAIL:



PROFILE OF DRAINAGE FACILITY #3:



ONE (1) PROPOSED SOLID 4-FOOT DIA. CATCH BASIN AT NORTH SIDE OF ENTRANCE DRIVE USE SOLID CATCH BASIN WITH BOTTOM AS MFG. BY SHOREY OR EQUAL 5-FOOT SUMP BELOW INVERT IS REQUIRED

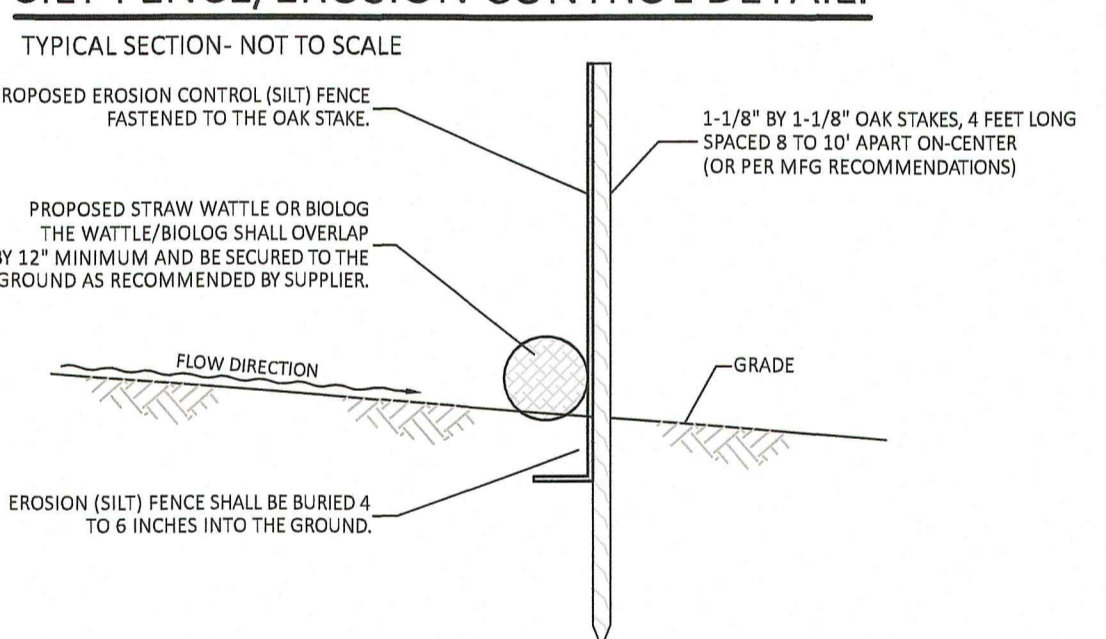
TOTAL OF THREE (3) PROPOSED SOLID 4-FOOT DIA. MANHOLES (DMH) USE SOLID CATCH BASIN WITH BOTTOM AS MFG. BY SHOREY OR EQUAL 5-FOOT SUMP BELOW INVERT IS REQUIRED

PROPOSED 72' x 34' x 6' LEACHING FACILITY USE TWENTY ONE (21)- 1000 GALLON PRECAST LEACHING PIT UNITS H-20 RATED UNITS AS MFG. BY SHOREY PRECAST OR EQUAL

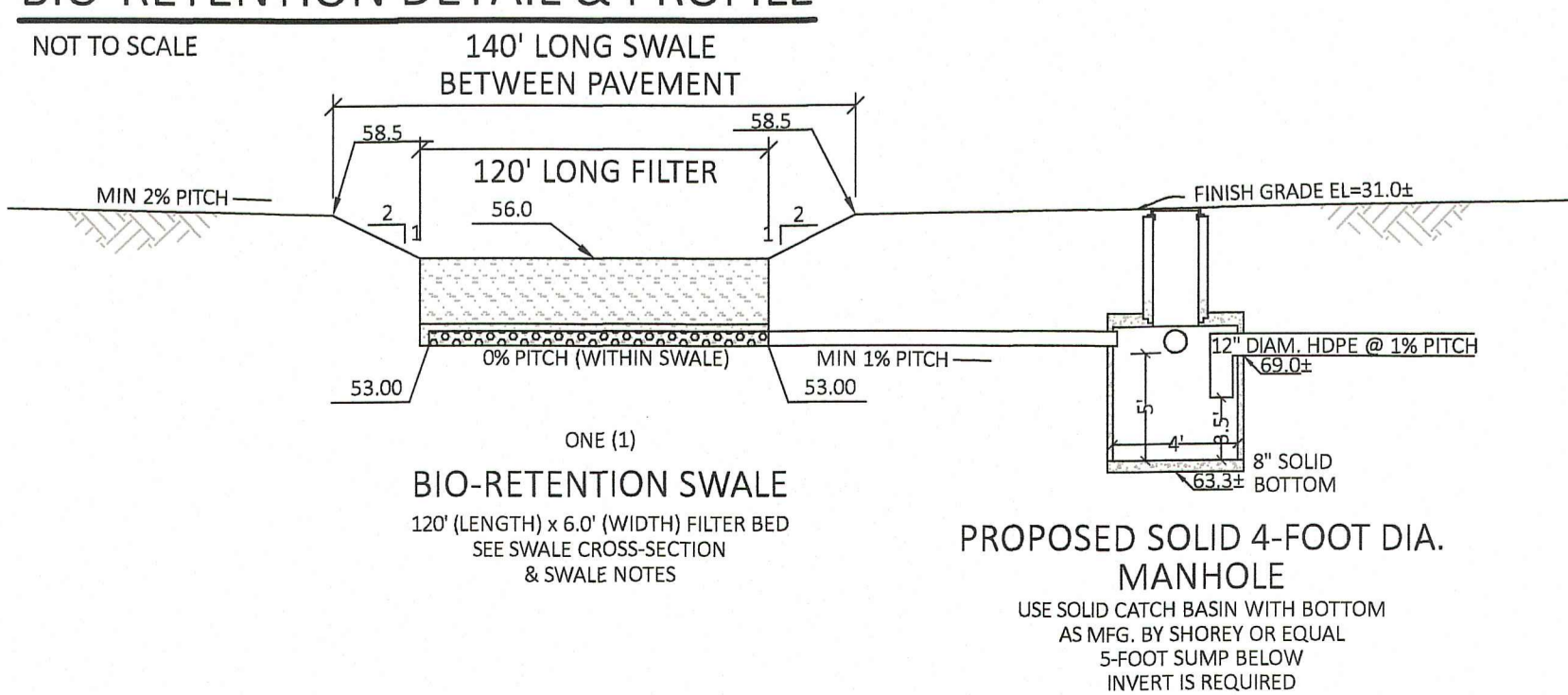
H-20 2,500 GALLON OIL GRIT SEPARATOR TANK USE OIL GRIT SEPARATOR TANK AS PROVIDED BY SHOREY PRECAST OR EQUAL USE OG2725LP TANK AS MFG BY SHOREY PRECAST

PROPOSED TWO (2) SOLID 4-FOOT DIA. MANHOLE FOR REAR GRAVEL AREA USE SOLID CATCH BASIN WITH BOTTOM AS MFG. BY SHOREY OR EQUAL 5-FOOT SUMP BELOW INVERT IS REQUIRED

SILT FENCE/EROSION CONTROL DETAIL:



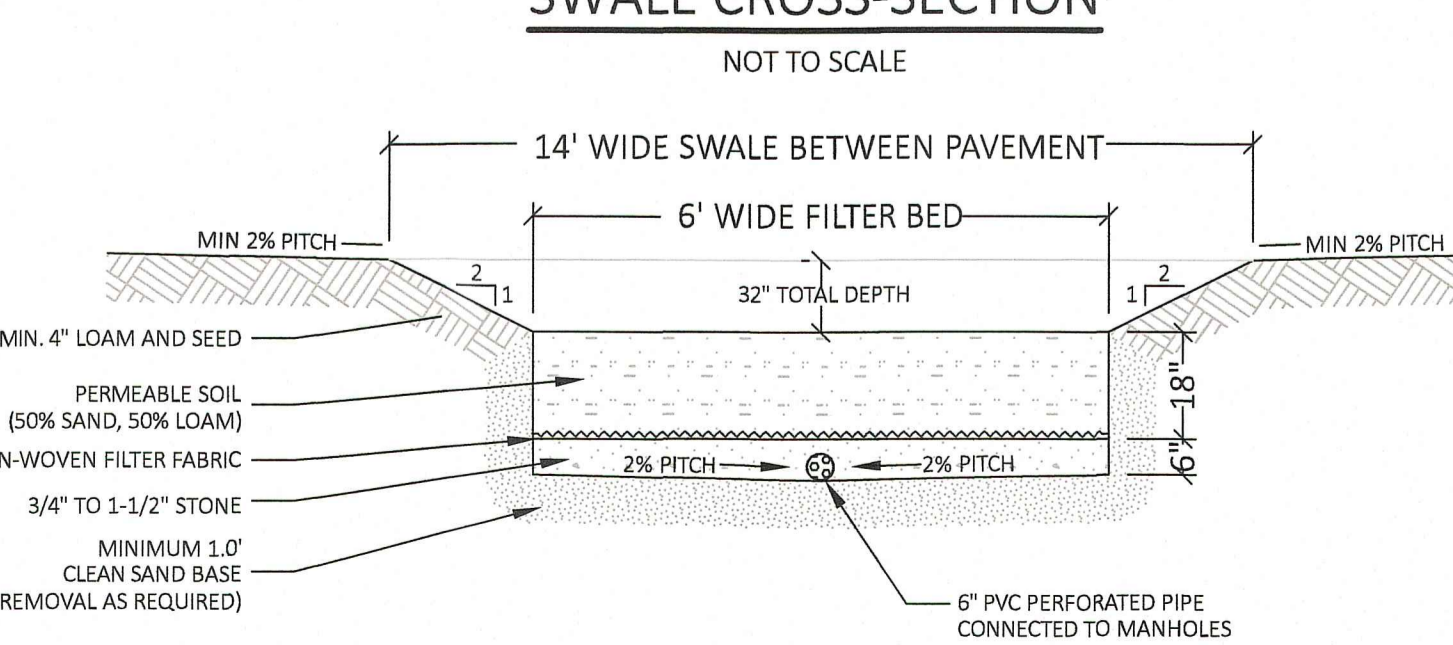
BIO-RETENTION DETAIL & PROFILE:



ONE (1) BIO-RETENTION SWALE 120' (LENGTH) x 6' (WIDTH) FILTER BED SEE SWALE CROSS-SECTION & SWALE NOTES

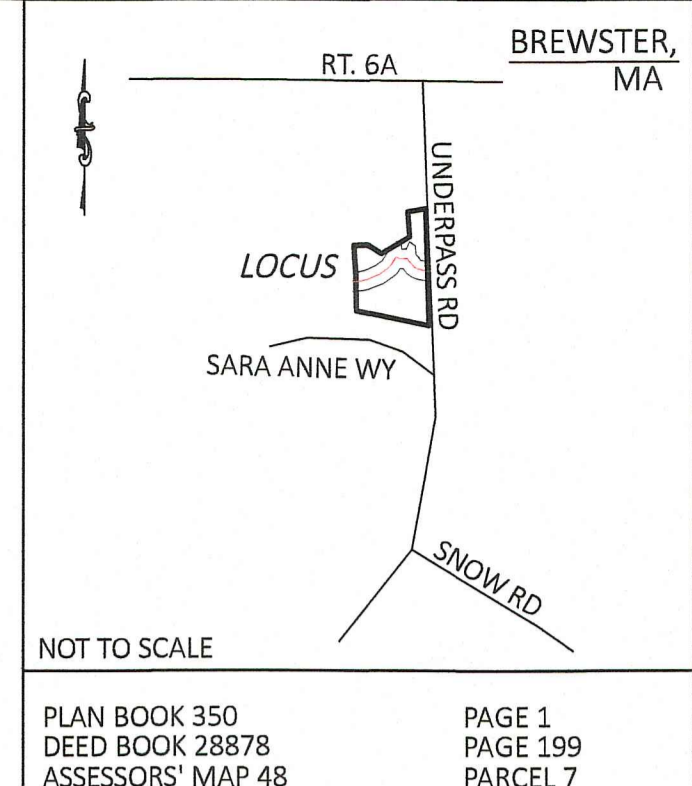
PROPOSED SOLID 4-FOOT DIA. MANHOLE USE SOLID CATCH BASIN WITH BOTTOM AS MFG. BY SHOREY OR EQUAL 5-FOOT SUMP BELOW INVERT IS REQUIRED

SWALE CROSS-SECTION:



SWALE NOTES:

- 1.) ALL (3) SWALE SOIL BEDS AND LOWER SLOPED AREAS SHALL BE A MINIMUM OF 18" DEEP AND COMPOSED OF APPROXIMATELY 50% SAND AND 50% LOAM. UPPER SLOPED SWALE AREAS SHALL BE COVERED WITH A MINIMUM OF 4 INCHES OF LOAM. SEE SWALE DETAIL.
- 2.) ALL SLOPED SWALE AREAS SHALL BE COVERED WITH JUTE NETTING EROSION CLOTH, SECURED IN PLACE. JUTE NETTING SHALL REMAIN IN PLACE UNTIL VEGETATION HAS BEEN ESTABLISHED.
- 3.) NON-WOVEN FILTER FABRIC LAYER SHALL BE INSTALLED IN BETWEEN THE PERMEABLE SOIL AND STONE LAYERS.
- 4.) 6" PVC PERFORATED PIPE SHALL BE INSTALLED ALONG THE CENTERLINE OF THE SWALE AT THE BOTTOM OF THE STONE LAYER. PERFORATED PIPE SHALL CONNECT TO 6" SOLID PVC PIPE THAT OUTLETS INTO THE MANHOLE.



PLAN BOOK 350
 DEED BOOK 28878
 ASSESSORS' MAP 48

PAGE 1
 PAGE 199
 PARCEL 7

LEGEND

- 32 EXISTING CONTOUR
- 32 PROPOSED CONTOUR
- x12.34 EXISTING SPOT GRADE
- 24x5 PROPOSED SPOT GRADE
- WATER SERVICE LINE
- OVERHEAD UTILITY SERVICE
- UNDERGROUND UTILITY SERVICE
- GAS SERVICE LINE
- TEST HOLE / BORING LOCATION
- ST SEPTIC TANK
- DB DISTRIBUTION BOX
- SAS SOIL ABSORPTION SYSTEM
- Reserve RESERVED FOR FUTURE
- UP UTILITY POLE
- CB CATCH BASIN
- FD FIRE HYDRANT
- W WELL
- DM DRAINAGE MANHOLE
- CONCRETE BOUND, FOUND
- TOP OF BANK
- LIMIT OF WORK
- FENCE
- EDGE OF CLEARING
- BOULDER

SHEET 2 OF 5

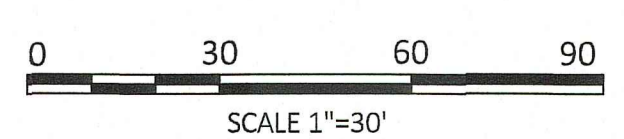
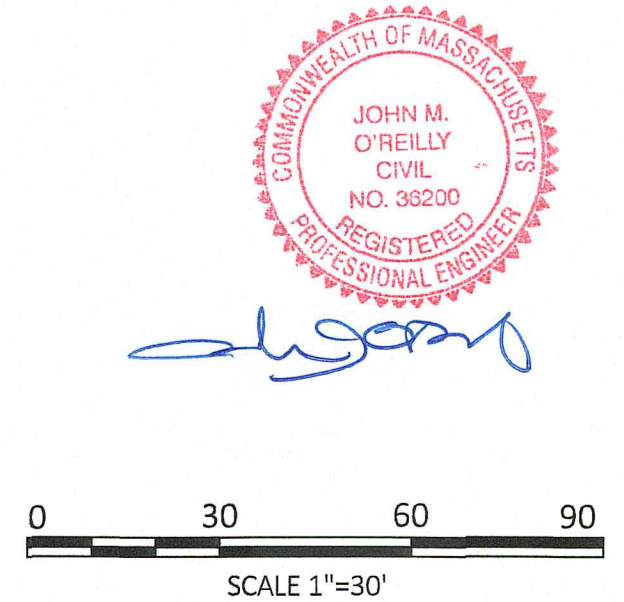
THE FREE SEA TURTLE LLC & 162 UNDERPASS, LLC.
 C/O P.O. BOX 444, BREWSTER MA, 02631

GRADING - DRAINAGE DETAILS
 LOTS 1, 2 AND 3 AT 0 & 162 UNDERPASS ROAD, BREWSTER MA, 02631

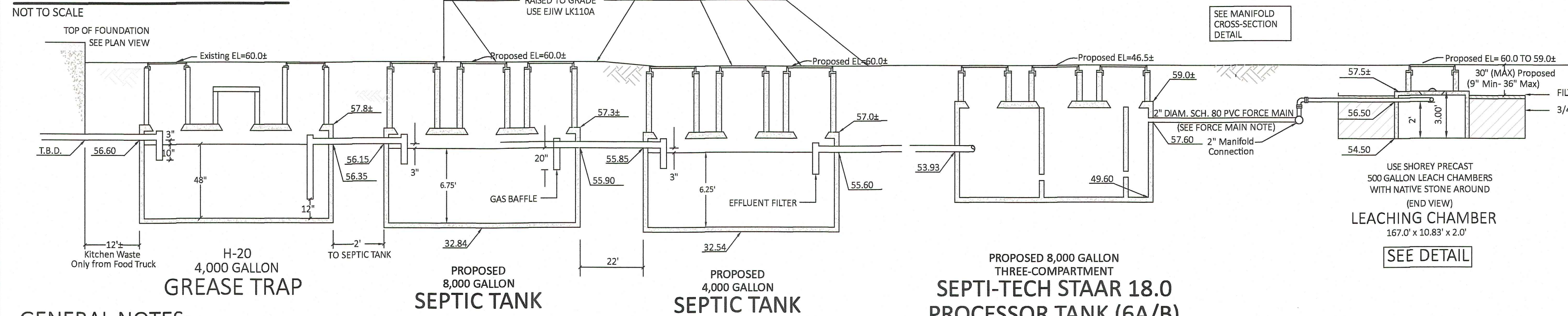
J.M. O'REILLY & ASSOCIATES, INC.
 Professional Engineering & Land Surveying Services

1573 Main Street - Route 6A
 P.O. Box 1773
 Brewster, MA 02631 (508)896-6602 Fax

DATE: 02/02/2024 SCALE: As Noted CHECKER: JMO/gb JOB NUMBER: JMO-6125A



SCHEMATIC FLOW PROFILE:



GENERAL NOTES:

- A) NEITHER DRIVEWAYS NOR PARKING AREAS ARE ALLOWED OVER SEPTIC SYSTEM UNLESS H-20 COMPONENTS ARE USED.
- B) THE DESIGNER WILL NOT BE RESPONSIBLE FOR THE SYSTEM AS DESIGNED UNLESS CONSTRUCTED AS SHOWN. ANY CHANGES SHALL BE APPROVED IN WRITING.
- C) CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCEMENT OF WORK.

CONSTRUCTION NOTES:

- 1) ALL CONSTRUCTION SHALL CONFORM TO THE STATE ENVIRONMENTAL CODE, TITLES 5, AND THE REQUIREMENTS OF THE LOCAL BOARD OF HEALTH.
- 2) SEPTIC TANK(S), GREASE TRAP(S), DOSING CHAMBER(S) AND DISTRIBUTION BOX(S) SHALL BE SET ON A LEVEL, STABLE BASE WHICH HAS BEEN MECHANICALLY COMPACTED, OR ON A 6 INCH CRUSHED STONE BASE.
- 3) SEPTIC TANK(S) SHALL MEET ASTM STANDARD C1127-99 AND SHALL HAVE AT LEAST THREE 20" DIAMETER MANHOLES. THE MINIMUM DEPTH FROM THE BOTTOM OF THE TANK DIRECTLY UNDER THE CLEANOUT MANHOLE.
- 4) SCHEDULE 40 PVC INLET AND OUTLET TEES SHALL EXTEND A MINIMUM OF 6" ABOVE THE FLOW LINE OF THE SEPTIC TANK AND SHALL BE INSTALLED ON THE CENTERLINE OF THE TANK DIRECTLY UNDER THE CLEANOUT MANHOLE.
- 5) RAISE COVERS OF THE SEPTIC TANK AND DISTRIBUTION BOX WITH PRECAST CONCRETE WATER TIGHT RISERS OVER INLET AND OUTLET TEES TO WITHIN 6" OF FINISH GRADE, OR AS APPROVED BY THE LOCAL BOARD OF HEALTH AGENT.
- 6) PIPING SHALL CONSIST OF 4" SCHEDULE 40 PVC OR EQUIVALENT. PIPE SHALL BE LAID ON A MINIMUM CONTINUOUS GRADE OF NOT LESS THAN 1%.
- 7) DISTRIBUTION LINES FOR SOIL ABSORPTION SYSTEM (AS REQUIRED) SHALL BE 4" DIAMETER SCHEDULE 40 PVC LAID AT 0.005 FT/FT. LINE SHALL BE CAPPED AT END OR AS NOTED.
- 8) OUTLET PIPES FROM DISTRIBUTION BOX SHALL REMAIN LEVEL FOR AT LEAST 2' BEFORE PITCHING TO SOIL ABSORPTION SYSTEM. WATER TEST DISTRIBUTION BOX TO ENSURE EVEN DISTRIBUTION.
- 9) DISTRIBUTION BOX SHALL HAVE A MINIMUM SUMP OF 6" MEASURED BELOW THE OUTLET INVERT.
- 10) BASE AGGREGATE FOR THE LEACHING FACILITY SHALL CONSIST OF 3/4" TO 1-1/2" DOUBLE WASHED NATIVE STONE FREE OF IRON, FINES AND DUST AND SHALL BE INSTALLED BELOW THE CROWN OF THE DISTRIBUTION LINE TO THE BOTTOM OF THE SOIL ABSORPTION SYSTEM. BASE AGGREGATE SHALL BE COVERED WITH A LAYER OF FILTER FABRIC OR APPROVED EQUIVALENT.
- 11) VENT SOIL ABSORPTION SYSTEM WHEN DISTRIBUTION LINES EXCEED 50 FEET, WHEN LOCATED EITHER IN WHOLE OR IN PART UNDER DRIVEWAYS, PARKING AREAS, TURNING AREAS OR OTHER IMPERVIOUS MATERIAL, OR WHEN PRESSURE DOSED.
- 12) SOIL ABSORPTION SYSTEM SHALL BE COVERED WITH A MINIMUM OF 9" OF CLEAN MEDIUM SAND (EXCLUDING TOPSOIL).
- 13) FINISH GRADE SHALL BE A MAXIMUM OF 36" OVER THE TOP OF ALL SYSTEM COMPONENTS, INCLUDING THE SEPTIC TANK, DISTRIBUTION BOX, DOSING CHAMBER AND SOIL ABSORPTION SYSTEM. SEPTIC TANKS SHALL HAVE A MINIMUM COVER OF 9".
- 14) FROM THE DATE OF INSTALLATION OF THE SOIL ABSORPTION SYSTEM UNTIL RECEIPT OF A CERTIFICATE OF COMPLIANCE, THE PERIMETER OF THE SOIL ABSORPTION SYSTEM SHALL BE STAKED AND FLAGGED TO PREVENT THE USE OF SUCH AREA FOR ALL ACTIVITIES THAT MIGHT DAMAGE THE SYSTEM.
- 15) SOIL REMOVAL: ALL SANDY LOAM (FRM)- C1 LAYER- SHALL BE REMOVED FOR A DISTANCE OF 3' FROM THE SOIL ABSORPTION SYSTEM DOWN TO THE FINE TO MEDIUM SAND LAYER. AREA TO BE BACKFILLED WITH CLEAN SAND AND COMPACTED TO MINIMIZE SETTLING.
- 16) ENGINEER SHALL INSPECT AND VERIFY SOILS REMOVAL PRIOR TO INSTALLING ANY LEACHING COMPONENTS.
- 17) THE C2 SOIL FOUND IN TEST PIT 28 WAS SIEVED AND FOUND TO BE A CLASS 1 SOIL- SAND. A LOADING RATE OF 0.74 GPD/SF IS APPROPRIATE.

SYSTEM DESIGN CALCULATIONS:

SEWAGE DESIGN FLOW:
 FIRST FLOOR (REAR BUILDING): 5,400 SF x 75 GPD / 1,000 SF (OFFICE USE) = 405 GPD
 SECOND FLOOR (REAR BUILDING): 2,184 SF x 75 GPD / 1,000 SF (OFFICE USE) = 164 GPD
 RESTAURANT (FRONT BUILDING): 80 SEATS x 35 GPD / SEAT = 2,800 GPD
 TOTAL DESIGN FLOW: 3,369 GPD

SEPTIC TANK CAPACITY REQUIRED: FIRST TANK
 DAILY FLOW = 3,369 GPD @ 200% = 6,738 GALLONS REQUIRED

SEPTIC TANK CAPACITY REQUIRED: SECOND TANK
 DAILY FLOW = 3,369 GPD @ 100% = 3,369 GALLONS REQUIRED

SEPTIC TANK CAPACITY PROVIDED:
 FIRST SEPTIC TANK: 8,000 GALLON > 6,738 GALLONS REQUIRED
 SECOND SEPTIC TANK: 4,000 GALLON > 3,369 GALLONS REQUIRED

LEACHING CAPACITY REQUIRED:
 3,369 GPD MINIMUM REQUIRED

LEACHING CAPACITY PROVIDED:
 TWO (2) 173.5' x 10.83' x 2.0' LEACHING CHAMBER CAN LEACH:
 $Vt = 2 \times (173.5 \times 10.83 \times 173.5 \times 2.0) + (10.83 \times 2.0) \times 0.74 \text{ GPD/SF} = 3,873 \text{ GPD}$
 3,872 GPD > 3,369 GPD REQUIRED

NOTE: A GARBAGE DISPOSAL IS NOT PERMITTED WITH THIS DESIGN.

INSTALL:
 ONE (1)- 8,000 GALLON SEPTIC TANK, FIRST TANK
 ONE (1)- 4,000 GALLON SEPTIC TANK, SECOND TANK
 ONE (1)- 4,000 GALLON GREASE TRAP (MIN. TANK SIZE = 80 SEATS x 15 GPD = 1,200 GAL)
 ONE (1)- 8,000 GALLON TREATMENT TANK- 3 COMPARTMENT FOR 4.5 UNIT
 ONE (1)- S.T.A.A.R.- 4.5 TREATMENT UNIT, INCLUDING ALL INTERNAL WORKS
 ONE (1)- S.T.A.A.R.- 4.5 PROCESSOR ALARM PANEL
 THREE (3)- 30" x 48" ALUM. LOCKING HATCHES FOR TREATMENT UNIT
 SIXTEEN (16)- 24" DIA. C.I. FRAME AND ACCOVER TO GRADE
 TWO (2)- 173.5 x 10.83' x 2.0 LEACH GALLEY- PRESSURE DOSED DISTRIBUTION
 TWO (2)- PRESSURE DOSE PIPING SYSTEM
 ONE (1)- FORCE MAIN- 2" DIA. DISTRIBUTION LINE AND MANIFOLD
 ONE (1)- 71-FOOT- 2" DIA DISTRIBUTION LATERAL, 7/16" DIA. PERF. AT 5' O'C

SOIL TEST LOGS:

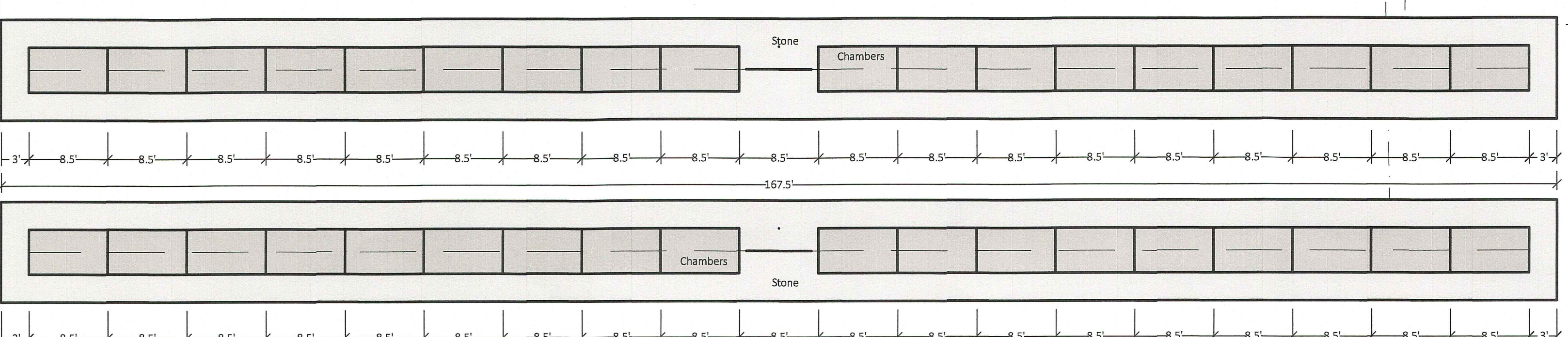
TEST HOLE A1: EL=62.8±					
DEPTH FROM SURFACE (INCHES)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER
0-120	C1	FINE SAND	10YR 6/4	NONE	SOME FINES

TEST HOLE A2: EL=62.0±					
DEPTH FROM SURFACE (INCHES)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER
0-34	C1	LOAMY FINE SAND	10YR 5/6	NONE	
34-132	C2	FINE SAND	10YR 6/4	NONE	NO WATER ENCOUNTERED
					SEE NOTE 17, BELOW

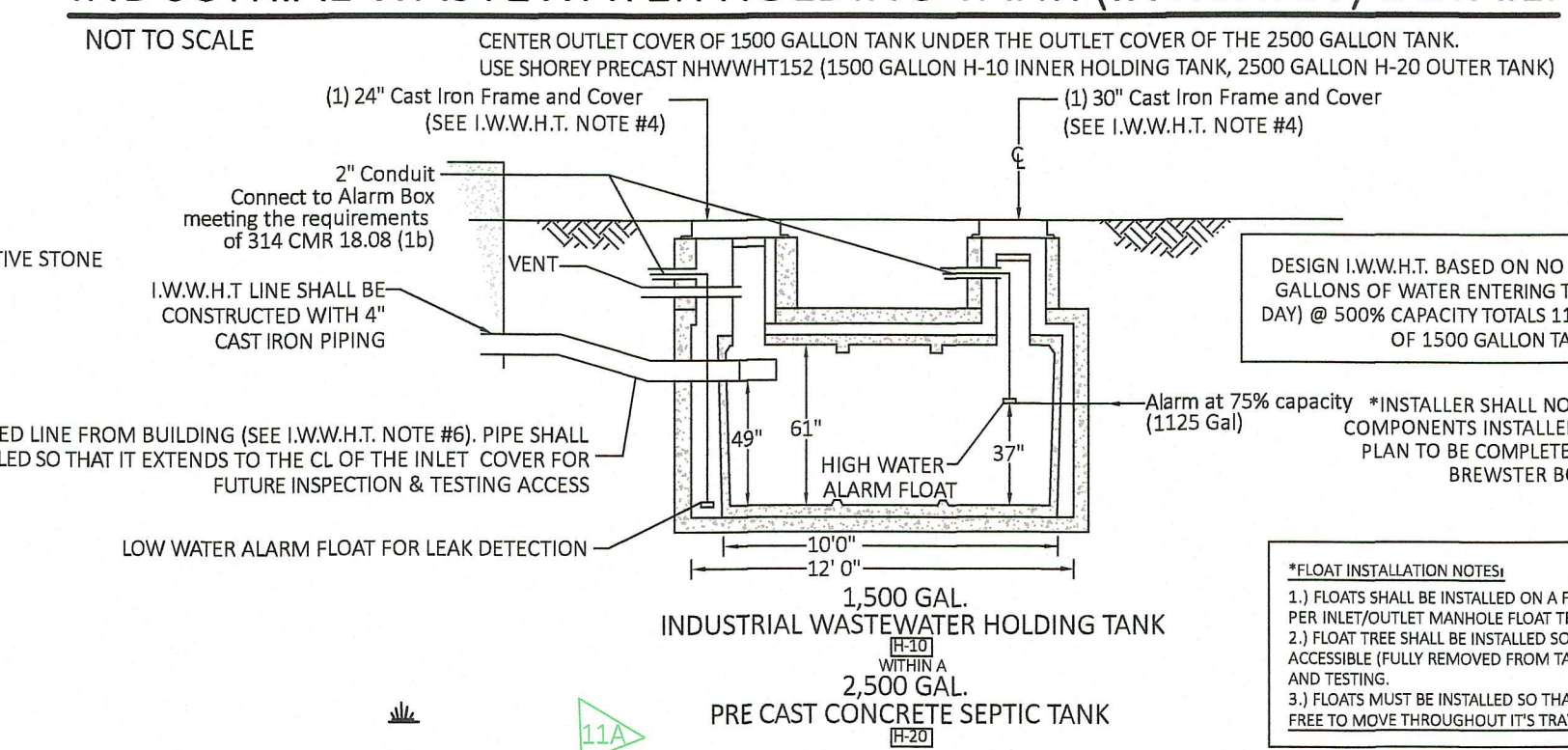
DATE OF TESTING: 9-27-22
PERCOLATION RATE: LESS THAN 5 MIN/INCH IN FINE TO MEDIUM SAND LAYERS.
 WITNESSED BY: J. O'REILLY P.E., J.M. O'REILLY & ASSOCIATES, INC.
 S. McCULLOUGH, AGENT, BREWSTER HEALTH DEPARTMENT
 NO WATER ENCOUNTERED
 USE A LOADING RATE OF 0.74 GPD/SF FOR SIZING OF SOIL ABSORPTION SYSTEM.

SOIL NOTE:
 AT THE TIME OF SOIL TESTING THE EXISTING THE SITE WAS IN THE PROCESS OF BEING CLEARED OF DEBRIS. THE TOPSOIL AND SUBSOILS WERE PREVIOUSLY STRIPPED AND ARE NOT REFLECTED IN THE LOGS ABOVE.

SAS DETAIL:



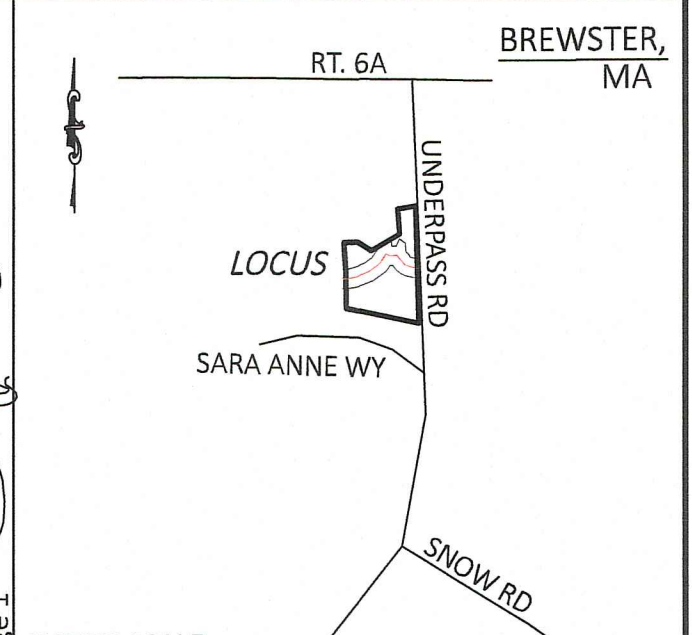
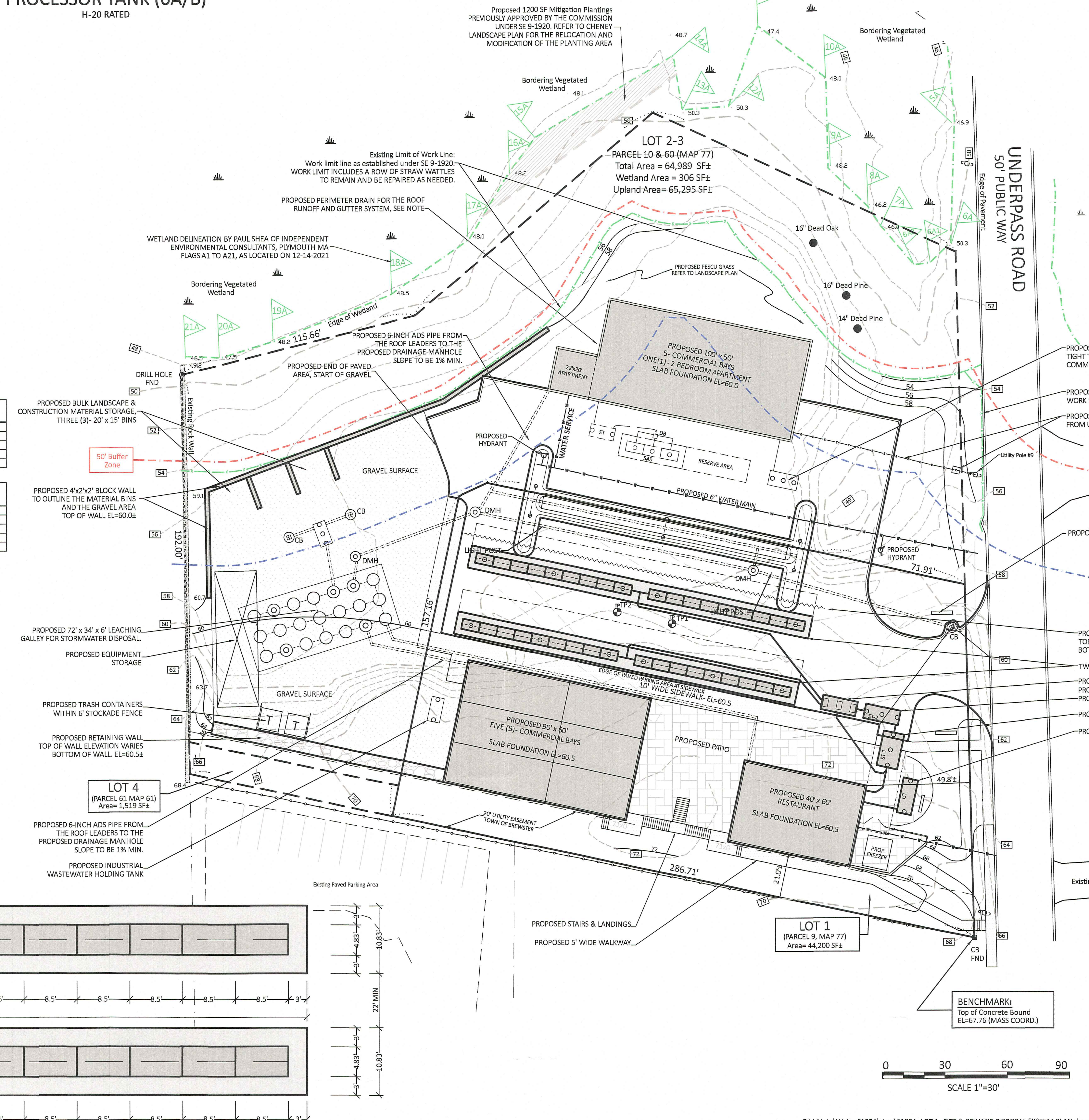
INDUSTRIAL WASTEWATER HOLDING TANK (I.W.W.H.T) DETAIL:



DESIGN I.W.W.H.T. BASED ON NO MORE THAN 225 GALLONS OF WATER ENTERING THE SYSTEM (PER DAY) @ 500% CAPACITY TOTALS 1125 GALLONS (75% OF 1500 GALLON TANK).

***INSTALLER SHALL NOTIFY ENGINEER WHEN ALL COMPONENTS INSTALLED IN ORDER FOR AN AS-BUILT PLAN TO BE COMPLETED AND SUBMITTED TO THE BREWSTER BOARD OF HEALTH**

***FLOAT INSTALLATION NOTES:**
 1) FLOATES SHALL BE INSTALLED ON A FLOAT TRAP PER INLET/OUTLET MANHOLE FLOATE TRAP DETAILS.
 2) FLOAT TRAP SHALL BE INSTALLED SO THAT THEY ARE ACCESSIBLE (PLUS) FROM TANK FOR INSPECTION AND TESTING.
 3) FLOATES MUST BE INSTALLED SO THAT THEY ARE FREE TO MOVE THROUGHOUT IT'S TRAVEL.



PLAN BOOK 350
 DEED BOOK 28878
 ASSESSORS' MAP 48

PAGE 1
 PAGE 199
 PARCEL 7

LEGEND

— 32	EXISTING CONTOUR
— 32	PROPOSED CONTOUR
x1234	EXISTING SPOT GRADE
24x5	PROPOSED SPOT GRADE
—	WATER SERVICE LINE
—	OVERHEAD UTILITY SERVICE
—	UNDERGROUND UTILITY SERVICE
—	GAS SERVICE LINE
—	TEST HOLE / BORING LOCATION
—	SEPTIC TANK
—	DISTRIBUTION BOX
—	SOIL ABSORPTION SYSTEM
—	RESERVED FOR FUTURE
—	UTILITY POLE
—	CATCH BASIN
—	FIRE HYDRANT
—	WELL
—	DRAINAGE MANHOLE
—	CONCRETE BOUND, FOUND
—	TOP OF BANK
—	LIMIT OF WORK
—	FENCE
—	EDGE OF CLEARING
—	BOULDER

DRAFT

SHEET 3 OF 5

THE FREE SEA TURTLE LLC
 P.O. BOX 444, BREWSTER MA, 02631

PROPOSED SEWAGE DISPOSAL SYSTEM PLAN
 LOT 1 AT 162 UNDERPASS ROAD, BREWSTER MA, 02631

J.M. O'REILLY & ASSOCIATES, INC.
 Professional Engineering & Land Surveying Services

1673 Main Street - Route 6A
 P.O. Box 1775
 Brewster, MA 02631 (508)896-8602 Fax

DATE: 02/02/2024
 SCALE: As Noted
 BY: JMO/gb
 CHECK: JMO
 JOB NUMBER: JMO-6125A

GENERAL NOTES:

- A) NEITHER DRIVEWAYS NOR PARKING AREAS ARE ALLOWED OVER SEPTIC SYSTEM UNLESS H-20 COMPONENTS ARE USED.
- B) THE DESIGNER WILL NOT BE RESPONSIBLE FOR THE SYSTEM AS DESIGNED UNLESS CONSTRUCTED AS SHOWN. ANY CHANGES SHALL BE APPROVED IN WRITING.
- C) CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCEMENT OF WORK.

CONSTRUCTION NOTES:

- 1) ALL CONSTRUCTION SHALL CONFORM TO THE STATE ENVIRONMENTAL CODE, TITLE 5, AND THE REQUIREMENTS OF THE LOCAL BOARD OF HEALTH.
- 2) SEPTIC TANK(S), GREASE TRAP(S), DOSING CHAMBER(S) AND DISTRIBUTION BOXES SHALL BE SET ON A LEVEL, STABLE BASE WHICH HAS BEEN MECHANICALLY COMPACTED, OR ON A 6 INCH CRUSHED STONE BASE.
- 3) SEPTIC TANK(S) SHALL MEET ASTM STANDARD C1127-93 AND SHALL HAVE AT LEAST THREE 20" DIAMETER MANHOLES. THE MINIMUM DEPTH FROM THE BOTTOM OF THE SEPTIC TANK TO THE FLOW LINE SHALL BE 48".
- 4) SCHEDULE 40 PVC INLET AND OUTLET TEES SHALL EXTEND A MINIMUM OF 6" ABOVE THE FLOW LINE OF THE SEPTIC TANK AND SHALL BE INSTALLED ON THE CENTERLINE OF THE TANK DIRECTLY UNDER THE CLEANOUT MANHOLE.
- 5) RAISE COVERS OF THE SEPTIC TANK AND DISTRIBUTION BOX WITH PRECAST CONCRETE WATER TIGHT RISERS OVER INLET AND OUTLET TEES TO WITHIN 6" OF FINISH GRADE, OR AS APPROVED BY THE LOCAL BOARD OF HEALTH AGENT.
- 6) PIPING SHALL CONSIST OF 4" SCHEDULE 40 PVC OR EQUIVALENT. PIPE SHALL BE LAID ON A MINIMUM CONTINUOUS GRADE OF NOT LESS THAN 1%.
- 7) DISTRIBUTION LINES FOR SOIL ABSORPTION SYSTEM (AS REQUIRED) SHALL BE 4" DIAMETER SCHEDULE 40 PVC LAID AT 0.005 FT/FT. LINE SHALL BE CAPPED AT END OR AS NOTED.
- 8) OUTLET PIPES FROM DISTRIBUTION BOX SHALL REMAIN LEVEL FOR AT LEAST 2' BEFORE PITCHING TO SOIL ABSORPTION SYSTEM. WATER TEST DISTRIBUTION BOX TO ENSURE EVEN DISTRIBUTION.
- 9) DISTRIBUTION BOX SHALL HAVE A MINIMUM SUMP OF 6" MEASURED BELOW THE OUTLET INVERT.
- 10) BASE AGGREGATE FOR THE LEACHING FACILITY SHALL CONSIST OF 3/4" TO 1-1/2" DOUBLE WASHED NATIVE STONE FREE OF IRON, FINES AND DUST AND SHALL BE INSTALLED BELOW THE CROWN OF THE DISTRIBUTION LINE TO THE BOTTOM OF THE SOIL ABSORPTION SYSTEM. BASE AGGREGATE SHALL BE COVERED WITH A LAYER OF FILTER FABRIC OR APPROVED EQUIVALENT.
- 11) VENT SOIL ABSORPTION SYSTEM WHEN DISTRIBUTION LINES EXCEED 50 FEET. WHEN LOCATED EITHER IN WHOLE OR IN PART UNDER DRIVEWAYS, PARKING AREAS, TURNING AREAS OR OTHER IMPERVIOUS MATERIAL, OR WHEN PRESSURE DOSED.
- 12) SOIL ABSORPTION SYSTEM SHALL BE COVERED WITH A MINIMUM OF 9" OF CLEAN MEDIUM SAND (EXCLUDING TOPSOIL).
- 13) FINISH GRADE SHALL BE A MAXIMUM OF 36" OVER THE TOP OF ALL SYSTEM COMPONENTS, INCLUDING THE SEPTIC TANK, DISTRIBUTION BOX, DOSING CHAMBER AND SOIL ABSORPTION SYSTEM. SEPTIC TANKS SHALL HAVE A MINIMUM COVER OF 9".
- 14) FROM THE DATE OF INSTALLATION OF THE SOIL ABSORPTION SYSTEM UNTIL RECEIPT OF A CERTIFICATE OF COMPLIANCE, THE PERIMETER OF THE SOIL ABSORPTION SYSTEM SHALL BE STAKED AND FLAGGED TO PREVENT THE USE OF SUCH AREA FOR ALL ACTIVITIES THAT MIGHT DAMAGE THE SYSTEM.

SOIL TEST LOGS:

DEPTH FROM SURFACE (INCHES)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER
0-108	C1	SANDY LOAM WITH SILT	10YR 5/6	NONE	FIRM
108-156	C2	FINE TO MED SAND WITH FINES	10YR 6/4	NONE	NO WATER ENCOUNTERED

DEPTH FROM SURFACE (INCHES)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER
0-78	C1	SANDY LOAM WITH SILT	10YR 4/3	NONE	FIRM
78-162	C2	FINE TO MED SAND WITH FINES	10YR 7/4	NONE	NO WATER ENCOUNTERED SEE NOTE 17, BELOW

DATE OF TESTING: 9-27-22
PERCOLATION RATE: LESS THAN 5 MIN/INCH IN FINE TO MEDIUM SAND LAYERS.
WITNESSED BY: J. O'REILLY, P.E., J.M. O'REILLY & ASSOCIATES, INC.
S. MCCULLOUGH, AGENT, BREWSTER HEALTH DEPARTMENT
NO WATER ENCOUNTERED
USE A LOADING RATE OF 0.74 GPD/SF FOR SIZING OF SOIL ABSORPTION SYSTEM.

SOIL NOTE:
AT THE TIME OF SOIL TESTING THE EXISTING SITE WAS IN THE PROCESS OF BEING CLEARED OF DEBRIS. THE TOPSOIL AND SUBSOILS WERE PREVIOUSLY STRIPPED AND ARE NOT REFLECTED IN THE LOGS ABOVE.

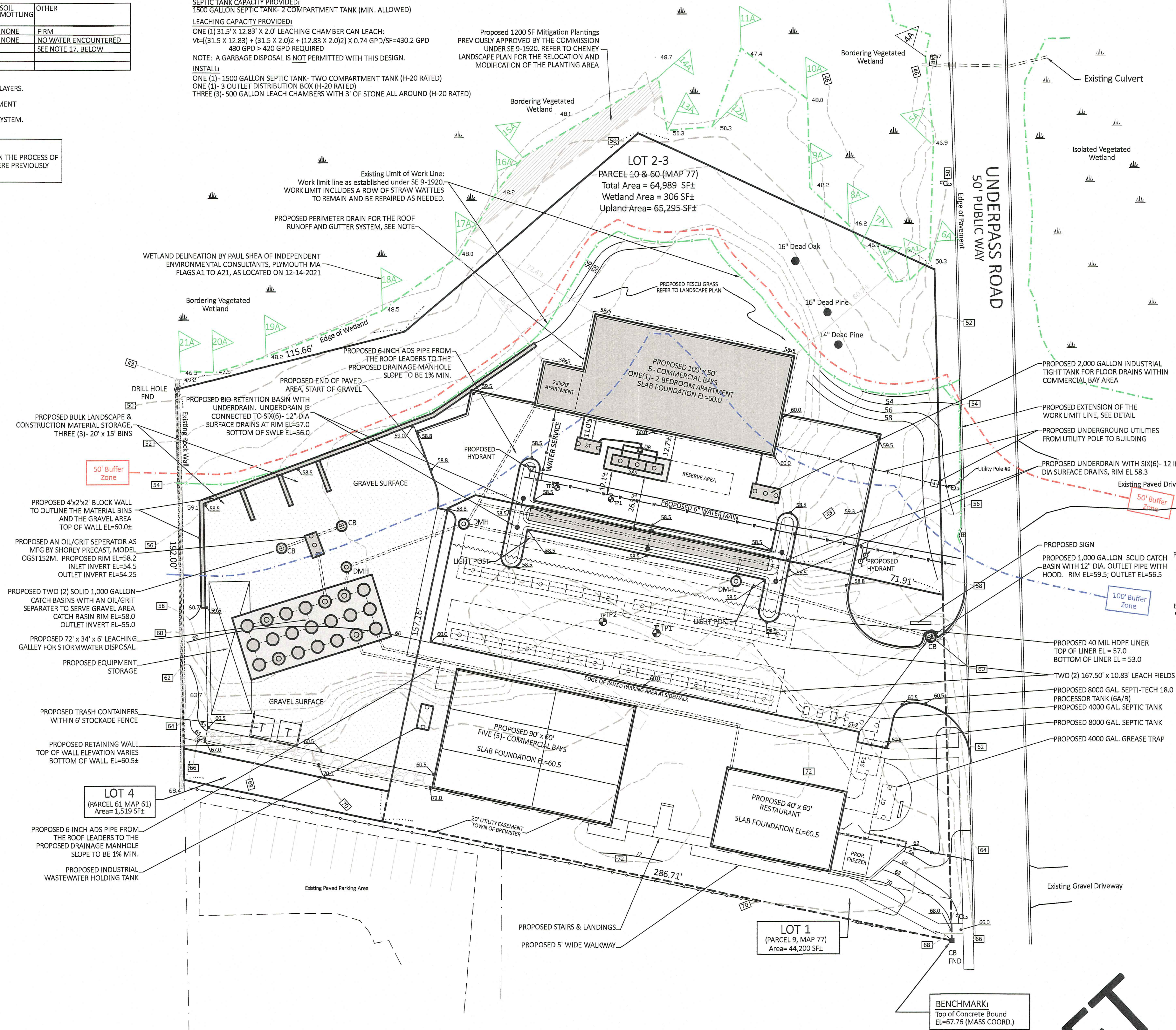
- 15.) SOIL REMOVAL: ALL SANDY LOAM (FIRM)-C1 LAYER- SHALL BE REMOVED FOR A DISTANCE OF 5' FROM THE SOIL ABSORPTION SYSTEM DOWN TO THE FINE TO MEDIUM SAND LAYER. AREA TO BE BACKFILLED WITH CLEAN SAND AND COMPACTED TO MINIMIZE SETTLING.
- 16.) ENGINEER SHALL INSPECT AND VERIFY SOILS REMOVAL PRIOR TO INSTALLING ANY LEACHING COMPONENTS.
- 17.) THE C2 SOIL FOUND IN TEST PIT 28 WAS SIEVED AND FOUND TO BE A CLASS 1 SOIL- SAND. A LOADING RATE OF 0.74 GPD/SF IS APPROPRIATE.

SYSTEM DESIGN CALCULATIONS:

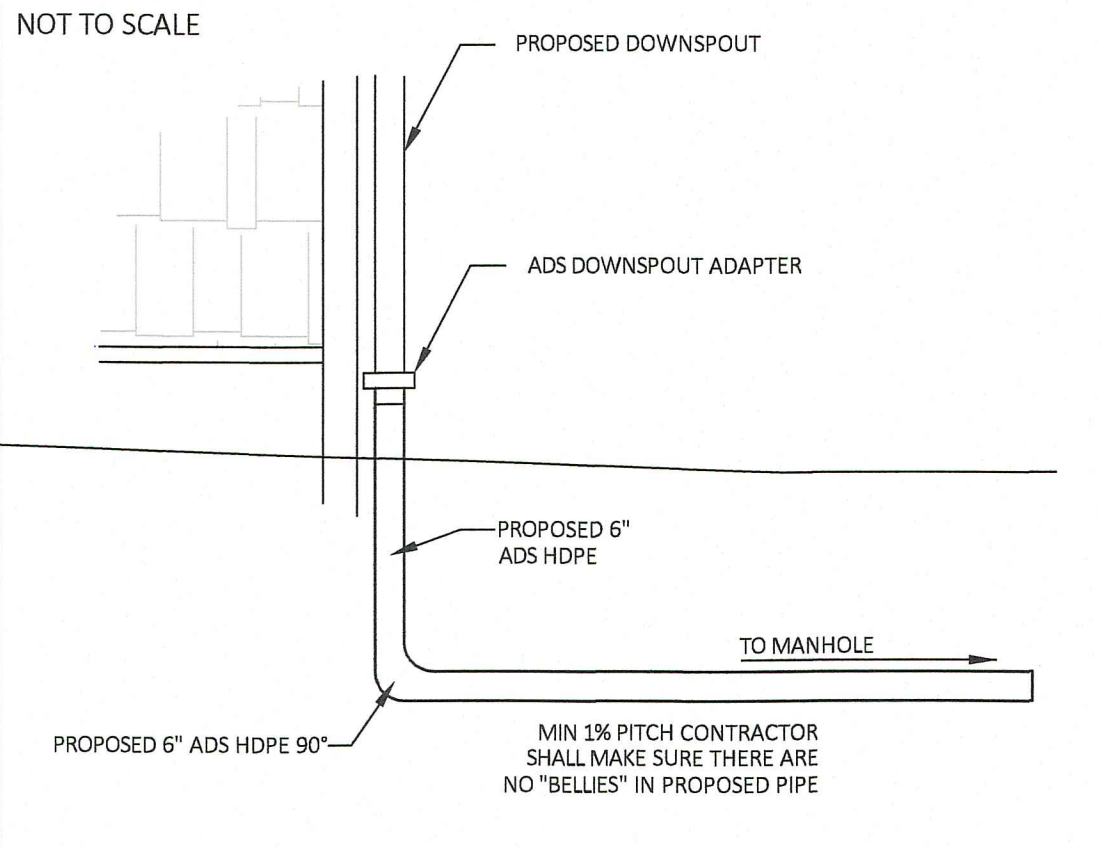
SEWAGE DESIGN FLOW:
APARTMENT: 2 BEDROOM @ 110 GPD = 220 GPD
BAYS: 2 EMPLOYEE PER BAY @ 20 GPD/EMP = 200 GPD
LEACHING CAPACITY REQUIRED:
440 GPD REQUIRED
SEPTIC TANK CAPACITY REQUIRED, FIRST TANK
DAILY FLOW = 420 GPD @ 200% = 840 GAL REQUIRED
SEPTIC TANK CAPACITY REQUIRED, SECOND TANK
DAILY FLOW = 420 GPD @ 100% = 420 GAL REQUIRED
SEPTIC TANK CAPACITY PROVIDED:
1500 GALLON SEPTIC TANK- 2 COMPARTMENT TANK (MIN. ALLOWED)
LEACHING CAPACITY PROVIDED:
ONE (1) 31.5' X 12.83' X 2.0' LEACHING CHAMBER CAN LEACH:
V=(31.5 x 12.83) x (31.5 x 2.0)² x (12.83 x 2.0)² x 0.74 GPD/SF=430.2 GPD
430 GPD > 420 GPD REQUIRED
NOTE: A GARBAGE DISPOSAL IS NOT PERMITTED WITH THIS DESIGN.
INSTALL:
ONE (1)- 1500 GALLON SEPTIC TANK- TWO COMPARTMENT TANK (H-20 RATED)
ONE (1)- 3 OUTLET DISTRIBUTION BOX (H-20 RATED)
THREE (3)- 500 GALLON LEACH CHAMBERS WITH 3' OF STONE ALL AROUND (H-20 RATED)

EXISTING CONDITION NOTE:

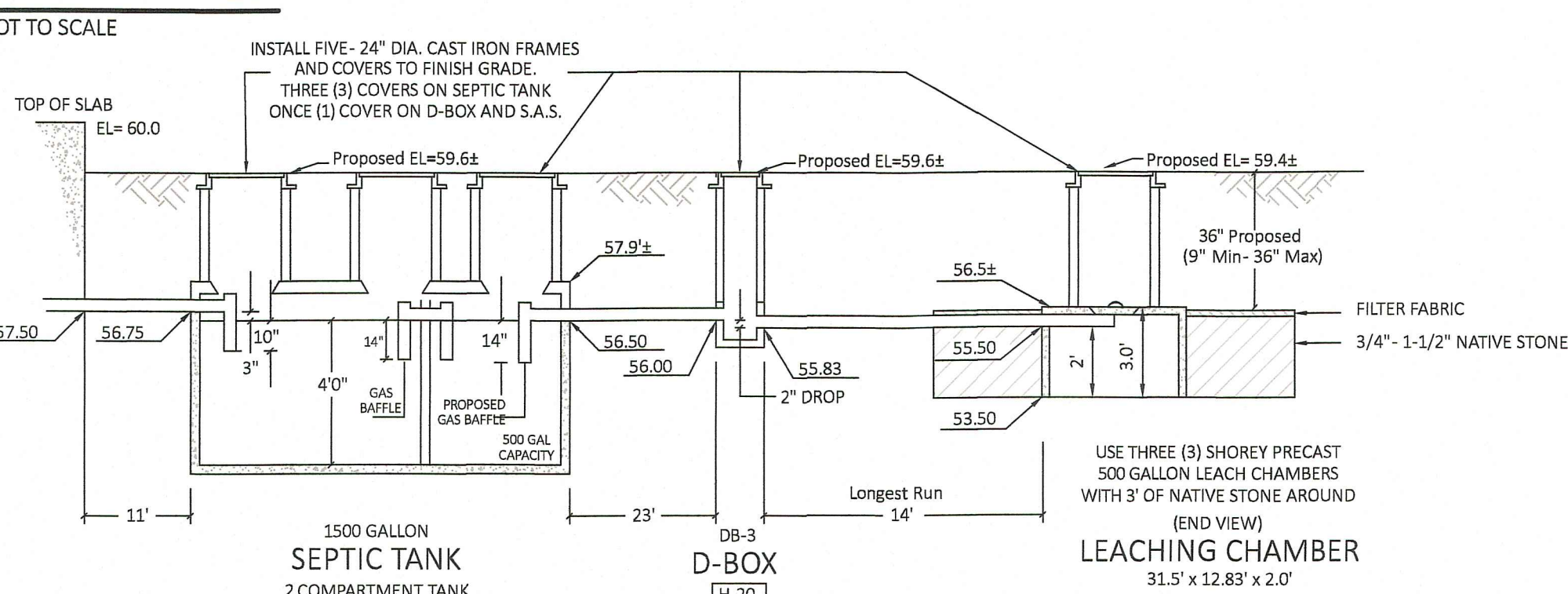
THE EXISTING SITE CONDITIONS SHOWN HEREON WERE TAKEN FROM THE EXISTING CONDITION TOPOGRAPHY PLAN AS PREPARED BY MORAN ENGINEERING, DATED 3-1-2022, IN ASSOCIATION WITH THE ORDER OF CONDITIONS SE 9-1920.



ROOF - CONNECTION DETAIL:



FLOW PROFILE:



CONSERVATION COVERAGE TABLE:

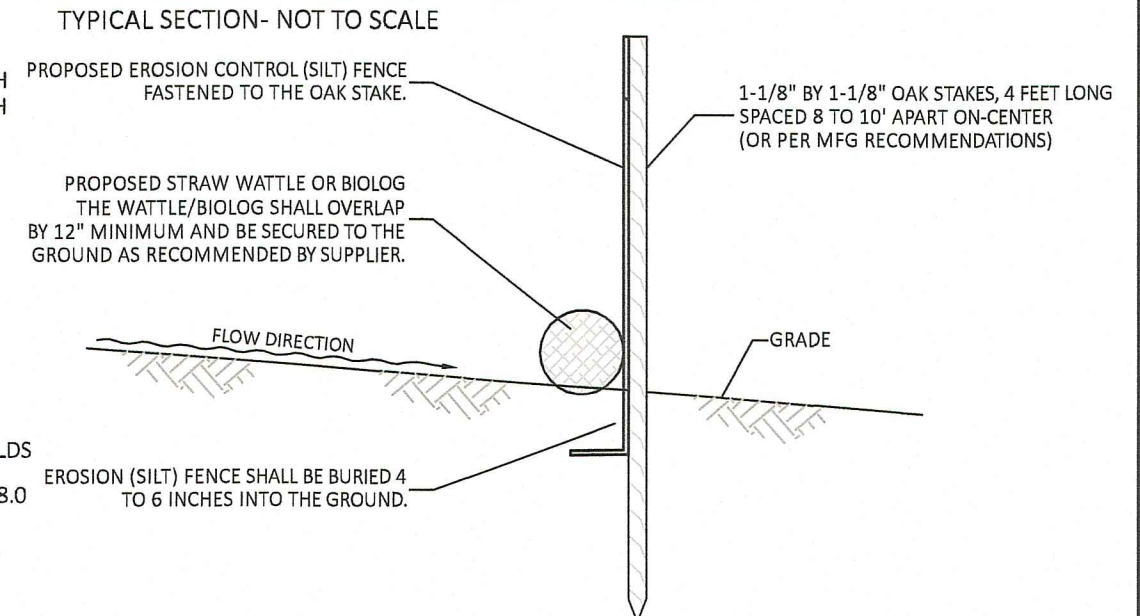
WETLAND RESOURCE:
- NO WORK IS PROPOSED WITHIN THE RESOURCE AREAS (BVW)

0 TO 50 FOOT BUFFER ZONE:
- NO WORK IS PROPOSED WITHIN THE 50-FOOT BUFFER OTHER THAN PLANTING. PLEASE REFER TO LANDSCAPE PLAN

50 TO 100 BUFFER ZONE:

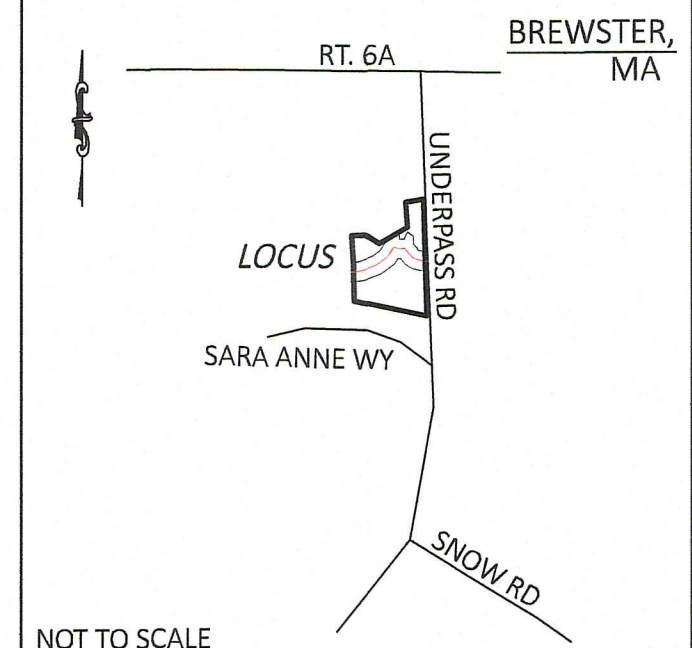
BUILDING	3,000 SF
PAVEMENT	3,475 SF
GRAVEL AREA	5,295 SF
TOTAL:	11,770 SF

SILT FENCE/EROSION CONTROL DETAIL:



EROSION CONTROLS AND SITE MANAGEMENT

- LIMIT OF WORK:**
- 1.) THE EXISTING ROW OF WATTLES SHALL REMAIN AS THE LIMIT OF WORK FOR THE PARCEL.
 - 2.) THE EXISTING WATTLES SHALL BE PERIODICALLY INSPECTED AND REPAIRED AS NEEDED TO MITIGATE ANY EROSION OR WASHOUT. IF THE WATTLES ARE NEEDING REPAIR, PLEASE REFER TO THE EROSION CONTROL DETAIL FOR CORRECTIVE MEASURES.
 - 3.) CONTRACTOR SHALL SUPPLY EXTRA STRAW WATTLES FOR USE DURING GRADING ACTIVITIES. SEE BELOW.
 - 4.) THE PROPOSED EXTENDED LIMIT OF WORK LINE SHALL BE INSTALLED ACCORDING TO THE EROSION CONTROL DETAIL ON PLAN.
- LANDSCAPE:**
- 5.) DISTURBED AREAS, ONCE FINISH GRADES ARE ESTABLISHED, SHALL BE RESTORED ACCORDING TO THE LANDSCAPE PLAN AS PREPARED BY PHILIP CHENEY 11-20-2023.
- SITE GRADING:**
- 6.) THE PROPOSED GRAVEL AREA AND ASPHALT AREAS ARE GRADED TO PITCH THE STORMWATER TO THE SOUTH AND THE PROPOSED STORMWATER SYSTEM.
- STORMWATER:**
- 7.) THE STORMWATER SYSTEM CONSISTS OF A BIO-RETENTION BASIN, DEEP SUMP CATCH BASINS, AN OIL/GREASE SEPARATOR AND A SUBSURFACE INFILTRATION SYSTEM.
 - 8.) THE STORMWATER FROM THE ROOF AREA IS TO BE HANDLED WITH GUTTERS, DOWNSPOUTS AND A 6" DIA ADS PIPE. THE PIPE IS TO BE CONNECTED TO THE MANHOLE AS SHOWN ON THE PLAN VIEW.
 - 9.) THE STORMWATER SYSTEM IS DESIGNED TO ACCOMMODATE THE 100-YEAR STORM EVENT.
- LOCAL STORMWATER PERMIT UNDER CHAPTER 272 IS BEING SUBMITTED TO THE PLANNING BOARD FOR REVIEW AND APPROVAL AS PART OF THE SITE PLAN REVIEW APPLICATION.



NOT TO SCALE
PLAN BOOK 698 DEED BOOK 35532 ASSESSORS' MAP 77
PAGE 25 PAGE 93 PARCELS 10 & 60

LEGEND

[Symbol]	EXISTING CONTOUR
[Symbol]	PROPOSED CONTOUR
[Symbol]	EXISTING SPOT GRADE
[Symbol]	PROPOSED SPOT GRADE
[Symbol]	WATER SERVICE LINE
[Symbol]	ELECTRICAL SERVICE
[Symbol]	UNDERGROUND UTILITY SERVICE
[Symbol]	GAS SERVICE LINE
[Symbol]	TEST HOLE / BORING LOCATION
[Symbol]	SEPTIC TANK
[Symbol]	DISTRIBUTION BOX
[Symbol]	SOIL ABSORPTION SYSTEM
[Symbol]	RESERVED FOR FUTURE
[Symbol]	UTILITY POLE
[Symbol]	CATCH BASIN
[Symbol]	FIRE HYDRANT
[Symbol]	WELL
[Symbol]	DRAINAGE MANHOLE
[Symbol]	CONCRETE BOUND, FOUND
[Symbol]	TOP OF BANK
[Symbol]	LIMIT OF WORK
[Symbol]	FENCE
[Symbol]	EDGE OF CLEARING
[Symbol]	BOULDER

DRAFT

SHEET 4 OF 5

162 UNDERPASS, LLC
C/O CHARLES WHITCOMB - 76 AUNT SOPHIES ROAD, BREWSTER MA, 02631

PROPOSED SITE & SEWAGE DISPOSAL PLAN
LOT 2 & 3 AT UNDERPASS ROAD, BREWSTER MA, 02631

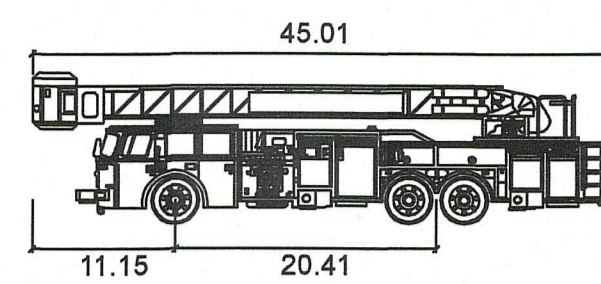
J.M. O'REILLY & ASSOCIATES, INC.
Professional Engineering & Land Surveying Services

1573 Main Street - Route 6A
P.O. Box 1773
Brewster, MA 02631 (508)896-6001 Office (508)896-6002 Fax

DATE: 2-2-2024 SCALE: As Noted BY: JMO/gb CHECK: JMO JOB NUMBER: JMO-6125A

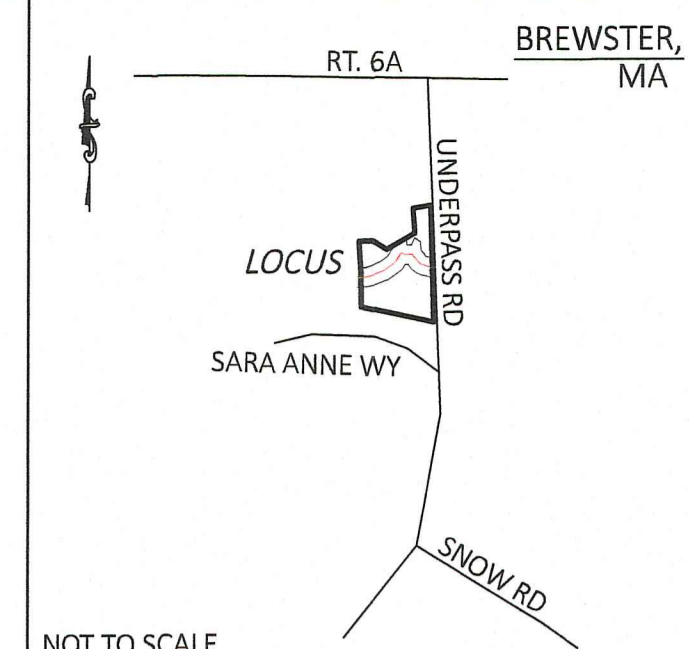
FIRE TRUCK SPECIFICATIONS:

SCALE: 1"=20'



E-One Cyclone II 95 HP

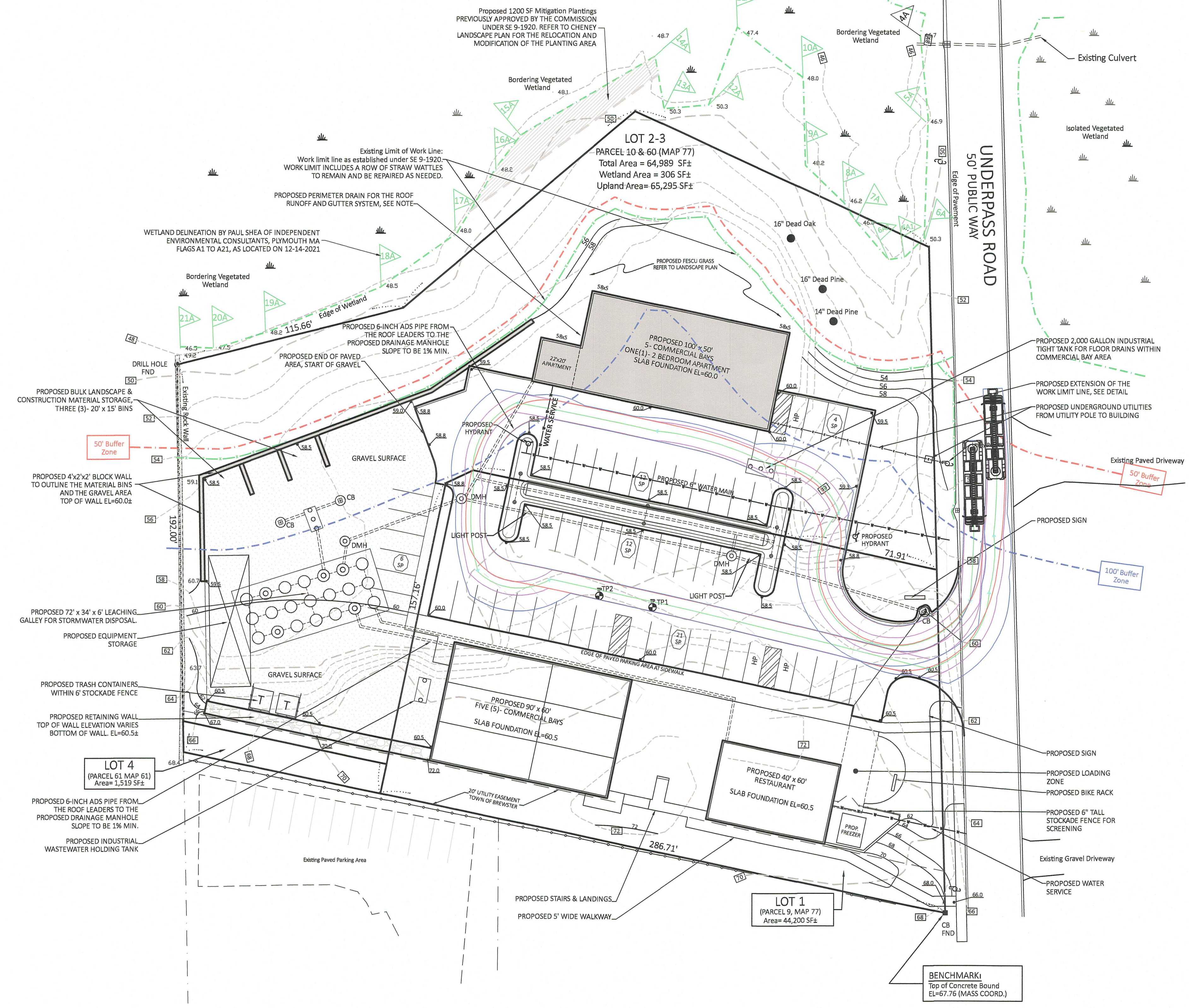
- Feet
- Width : 9.51
- Track : 9.35
- Lock to Lock Time : 6.0 s
- Steering Angle : 43.4 deg



NOT TO SCALE
 PLAN BOOK 350
 DEED BOOK 28878
 ASSESSORS' MAP 48
 PAGE 1
 PAGE 199
 PARCEL 7

LEGEND

	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING SPOT GRADE
	PROPOSED SPOT GRADE
	WATER SERVICE LINE
	OVERHEAD UTILITY SERVICE
	UNDERGROUND UTILITY SERVICE
	GAS SERVICE LINE
	TEST HOLE / BORING LOCATION
	SEPTIC TANK
	DISTRIBUTION BOX
	SOIL ABSORPTION SYSTEM
	RESERVED FOR FUTURE
	UTILITY POLE
	CATCH BASIN
	FIRE HYDRANT
	WELL
	DRAINAGE MANHOLE
	CONCRETE BOUND, FOUND
	TOP OF BANK
	LIMIT OF WORK
	FENCE
	EDGE OF CLEARING
	BOULDER
	VEHICLE CENTERLINE & DIRECTION
	FRONT TIRES PATH
	REAR TIRES PATH
	VEHICLE BODY SWEEP PATH



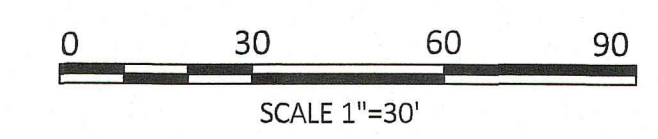
SHEET 5 OF 5

THE FREE SEA TURTLE LLC & 162 UNDERPASS, LLC.
 C/O P.O. BOX 444, BREWSTER MA, 02631

PROPOSED SITE PLAN- FIRE TRUCK PATHWAY
 LOTS 1, 2 AND 3 AT 0 & 162 UNDERPASS ROAD, BREWSTER MA, 02631

J.M. O'REILLY & ASSOCIATES, INC.
 Professional Engineering & Land Surveying Services

1673 Main Street - Route 6A
 P.O. Box 1779
 Brewster, MA 02631 (508)896-6802 Fax
 (508)896-6801
 DATE: 2-2-2024 SCALE: As Noted BY: JMO/gb CHECK: JMO JOB NUMBER: JMO-6125A



G:\A\Jobs\Wallac6125A\dwg\6125A- PROPOSED SITE PLAN- DRAINAGE.dwg

**APPROVAL OF MEETING MINUTES:
JANUARY 24, 2004**



Brewster Planning Board
2198 Main Street
Brewster, MA 02631-1898
(508) 896-3701 x1133
brewplan@brewster-ma.gov

Approved:
Vote:

MEETING MINUTES
Wednesday, January 24, 2024 at 6:30 pm
Brewster Town Office Building

Chair Amanda Bebrin convened a meeting of the Planning Board at 6:30 pm with the following members participating: Charlotte Degen, Tony Freitas, Rob Michaels, Elizabeth Taylor (remotely), and Alex Wentworth. Madalyn Hillis-Dineen was not present. Also participating: Jon Idman, Town Planner, and Lynn St. Cyr, Senior Department Assistant. Bebrin declared that a quorum of the Planning Board was present. The Meeting Participation Statement and Recording Statement were read.

6:32 PM PUBLIC ANNOUNCEMENTS AND COMMENT

None.

6:32 PM JOINT PUBLIC HEARING WITH BREWSTER TREE WARDEN

Case No. 2024-02: Applicant/Owner Town of Brewster proposes selective tree cutting or removal along the approximate 2.5 mile length of Millstone Road, associated with the Town's Millstone Road Improvements Project. As Millstone Road is a town way and designated scenic road, the Planning Board will hold a joint public hearing with the Tree Warden on the proposed tree work pursuant to Massachusetts General Laws Chapter 87, Section 3 and Chapter 40, Section 15C.

Documents:

- 01/04/24 Memorandum from Griffin Ryder, Department of Public Works Director
- 01/05/24 Application with plan set and plant palette

Bebrin recused herself from this application and Wentworth took over as Chair. Tree Warden Josh Sargent and Department of Public Works Director Griffin Ryder were present for the hearing. Steve Rhoads, P.E. of VHB participated remotely.

Motion by Degen to Open the Joint Public Hearing with the Brewster Tree Warden on Case No. 2024-02. Second by Michaels. Vote: 5-0-0.

Ryder directed the Planning Board to his memorandum dated January 4, 2024. He stated that the Millstone Road Improvements Project has been underway for some time and there had been push backs from residents due to anticipated impacts. The Town has focused on reducing these impacts including the amount of tree removal associated with the project. Ryder stated that Millstone Road runs from Route 137 to Route 6A, approximately 2.5 miles, and is a very forested area. Ryder further stated that this road was built and natural vegetation such as pin oaks and pitch pines grew up around the road. Ryder stated that there has been a lot of public input on this project. Ryder noted that certain sections of the road are outside of the road layout. He described the area near Spring Rock and an area near Lund Farm Way which is being pulled back to the right of way and off resident property. This allows for three new trees to be planted. Generally, there is not a lot of space to plant new trees along Millstone Road.

Ryder stated that he has walked the site several times with Sargent and the plans have been revised based on those site visits. He gave specific examples such as elimination of grass strips so that trees could be saved. Safety and resident concerns were considered in the design. Ryder again stated that this is a very forested area. Trees are layered so in some cases removing the first row of trees is beneficial as some have been impacted by salt and trimming. He stated that not every tree proposed for removal has been identified but stand-alone trees of 9 inches or greater have been

identified. Ryder stated that there are not any specimen trees on the road but identified an area towards the end of Millstone Road near Route 6A in which 30-inch maples trees would remain and be maintained. The trees proposed for removal are pines, pitch pines, or oaks. There are several trees that have been damaged due to insects or fungicide as well as trees in poor shape from continuous top offs from utility companies. These trees will be removed but have not been identified as stand-alone trees for removal because they're already impacted. Ryder directed the Planning Board to sheet #10 in the plan set. He stated that there are five trees that were proposed to be removed near Pinewood Drive. The trees are in a resident's front yard and provide screening, so the design has been revised to remove a proposed grass strip in the area and keep four of the five trees originally proposed for removal. The plans will be revised and provided to the Planning Department. Ryder stated that the town has tried to work with residents on various options and has even developed a plant palette for resident's consideration in the replanting phase. A template containing trees and shrubs that work well together is being created. Ryder stated that conversations between the Town and residents will continue. The plans for tree removal will continue to be revised. As of now, there are 12 stand-alone trees proposed for removal.

Wentworth asked Idman to summarize the expectations of the Planning Board for this application. Idman responded that the shade tree statute and scenic roads act allow for a joint public hearing with the Planning Board and Tree Warden. Idman suggested the Planning Board discuss any objections or concerns they have and after that discussion look to make a motion to allow the tree removal work to proceed without objection and provide conditions, if any.

Bill Henchy, 64 Old Meadow Road, stated that he has a long tenure with this project and the project has come a long way. He thanked the DPW team for all their work on the project. Henchy asked that revised plans be provided and that the Planning Board include a condition in their decision that revised plans be provided the project scope changes.

Taylor asked when tree removal will take place. Ryder responded that he is hopeful that construction will begin in the Fall 2024 and the trees would be cleared in the Fall. If there was a delay, the trees most likely would not be removed until the following Spring. Tree trimming would also take place at the same time. Taylor stated that she was hoping that bird nesting season could be avoided. Ryder stated that the DPW is sensitive to bird nesting season and he hopes to avoid it. Michaels stated that he was impressed with the amount of outreach that has been done. He gave an example of meeting a neighbor while on a site visit who was enthused and could not wait for the project to begin. He also appreciated the effort that has gone in to planning the tree removal. Degen appreciated all the work that has been put into the project especially the community outreach and replanting options that have been offered to the residents. She noted that high bush blueberries were proposed and thought there may be an opportunity for community blueberry picking. Freitas stated that he appreciated the public outreach. He stated that the Town has been proactive and accommodating in their approach. Wentworth also expressed appreciation for the community outreach efforts and all the work the Town is putting into the project.

Motion by Degen to Close the Joint Public Hearing with the Brewster Tree Warden on Case No. 2024-02. Second by Michaels. Vote: 5-0-0.

Motion by Michaels to Allow the Work Proposed in Case No. 2024-02 to Proceed without Objections subject to the Conditions that the Town: 1) Continue the public outreach, planning and decision-making process for the tree work as described in the memorandum from Griffin Ryder, DPW Director, dated January 4, 2024; 2) Submit revised plans to the Board seasonably to reflect changes in the tree work as the Project advances; and 3) Undertake the work in consideration of the bird nesting season to the maximum extent practicable. Second by Degen. Roll call vote: Taylor-yes; Michaels-yes; Degen-yes; Freitas-yes; and Wentworth-yes. Vote: 5-0-0.

6:58 PM **PLANNING DISCUSSION**

2023 Planning Board Annual Report.

Documents:

- Draft 2023 Planning Board Annual Report and photos reviewed for inclusion in report

The Planning Board reviewed and discussed the draft 2023 Planning Board Annual Report. **Motion by Degen to Approve Draft 2023 Planning Board Annual Report, as amended. Second by Wentworth. Roll call vote: Wentworth-yes; Michaels-yes; Degen-yes; Freitas-yes; Taylor-yes; and Bebrin-yes. Vote: 6-0-0.**

7:05 PM PLANNING DISCUSSION CONTINUED

The Planning Board will review and generally discuss the number and type of stormwater management permits received in 2023.

Documents:

- Spreadsheet titled “2023 Stormwater Management Permits”

The Planning Board reviewed the number of stormwater permit applications received in 2023 for Planning Board (major) or Planning Department (minor) review. 51 permit applications were received. 48 permits were issued with 2 applications withdrawn and 1 application currently pending. Of the 48 permits issued, 17 were major permits including 1 modification and 31 were minor permits including 1 modification. For comparison in 2022, there were a total of 15 permits issued with 13 being minor and 2 being major.

Michaels noted that of the 17 major permits approved by the Planning Board 4 were approved with a waiver. Waivers were mostly related to phosphorous. Michaels stated that Brewster standards are different from state standards for phosphorous so the Planning Board may want to consider making Brewster standards more like Massachusetts. Michaels also noted that several of the minor permits issued were for pools. There were also many permits issued for ADUs. Idman stated that it is important for the Planning Board to be cognizant of both major and minor permits. Idman stated that he expects the Planning Board will hold a public hearing with stakeholders for feedback on the stormwater management bylaw. Michaels stated that the data will be helpful in discussing the bylaw including the current thresholds and possible changes to those thresholds. Wentworth suggested the information being tracked include proposed square footage for each project so the Planning Board could more easily determine whether thresholds need to be adjusted.

Taylor asked if the Planning Board should be looking at pools and regulations for drainage and treatment. Idman responded that Town Code Chapter 115 deals with illicit discharges and the DPW is the overseeing authority. Idman stated that he has worked on revisions to the bylaw and discussed them with town staff. He will continue to pursue these revisions. There is not a lot of familiarity with this bylaw and the standards are not very clear. A reference to the bylaw is included in stormwater permits issued for pools.

Degen inquired as to costs. She stated that she believed the costs of stormwater management for plans and infrastructure were high. Wentworth stated that he would be happy to provide numbers for costs related to his project. He described the estimates he received thus far as massive. Freitas stated that engineers who have been before the Planning Board for stormwater permit applications have noted that additional costs related to stormwater can range between \$30,000-\$40,000. Idman stated that costs are something that could hopefully be discussed at a public hearing. He also noted that of all the stormwater permit applications submitted only 4-5 were for commercial projects and most permit applications were for single-family residential projects. Idman stated that costs should be considered as they relate to lot type. There are marginal lots which may require more stormwater management. Bebrin stated that further discussion on allowances for topography and use of natural elements with less disturbance as opposed to manmade stormwater infrastructure should be considered.

7:20 PM APPROVAL OF MEETING MINUTES

Approval of Meeting Minutes: January 10, 2024.

The Board reviewed the January 10, 2024 meeting minutes. **Motion by Degen to Approve January 10, 2024 Meeting Minutes, as amended. Second by Michaels. Roll call vote: Michaels-yes; Degen-yes; Freitas-yes; Taylor-yes; Wentworth-yes; and Bebrin yes. Vote: 6-0-0.**

7:22 PM COMMITTEE REPORTS

Degen summarized the January 22nd Select Board meeting which included an executive session related to the purchase/lease of property. The Select Board meeting included discussion on the childcare subsidy pilot program, Brewster Inn licensing, Vesper Road private road betterment, the potential hiring of two additional fire/rescue staff and the use of grant funds for hiring those staff, and the Nauset Regional School Agreement. Bebrin summarized the joint meeting of Bay and Pond Property Planning Committees and the Select Board on January 23rd. The meeting focused on firming up the final masterplans for the pond and bay properties. There was a decision made to include an area designated for a future community center on the bay property plan. The current “secluded zone” was designated for municipal uses. The final forum will be held virtually on February 15th. Taylor stated that the Pond Property Planning Committee voted for the property to be used for housing and a municipal wastewater treatment plant. Bebrin encouraged the public to review the plans and documents on the Town’s website and attend the final forum.

7:28 PM FOR YOUR INFORMATION

The Planning Board received a notice from the Orleans Planning Board for a public hearing on February 13, 2024.

7:30 PM MATTERS NOT REASONABLY ANTICIPATED BY THE CHAIR

None.

There was a discussion on providing a summary of pros and cons for projects before the Planning Board as a tool the public could use to better understand projects. Idman noted that a summary may be seen as pre-judgment on regulatory matters but thought it could be useful for town wide projects.

Idman announced that the Annual CPTC Conference will take place on March 16th.

Motion by Wentworth to Adjourn. Second by Degen. Roll call vote: Wentworth-yes; Michaels-yes; Degen-yes; Freitas-yes; Taylor-yes; and Bebrin-yes. Vote: 6-0-0. The meeting adjourned at 7:35 PM.

Next Planning Board Meeting Date: February 14, 2024.

Respectfully submitted,

Lynn St. Cyr, Senior Department Assistant, Planning

FOR YOUR INFORMATION

From: Citizen Planner Training Collaborative <webmaster-masscptc.org@shared1.ccsend.com>
Sent: Friday, February 23, 2024 7:06 AM
To: brewplan
Subject: CPTC Annual Conference 2024 - AICP credits & MIIA credits

CPTC Annual Conference 2024

AICP CM credit - MIIA Insurance credit

The 20th CPTC Annual Conference for Massachusetts citizen and professional planners will be held in Worcester on Saturday, March 16th. This is your opportunity to earn AICP CM credits or MIIA municipal insurance credits. There are 13 workshops with AICP CM credit and 9 with MIIA municipal insurance credit.

Workshops include core subjects and current topics in Massachusetts municipal planning. Every workshop is presented by an expert in the subject. A continental breakfast and buffet lunch is provided.

The cost is \$95 for the Conference. Registration is required. Deadline for registration is March 12th.

Workshops Offered

Workshop description & registration

- 1. Roles and Responsibilities of Planning and Zoning Board of Appeals (MIIA)**
- 2. Vested Rights and Nonconforming Uses and Structures (MIIA)**
- 3. Building Climate Resilience – Massachusetts’ Plans and Resources for Communities
CM I 1.5**
- 4. The Legal Landscape for Firearms Bylaws and Regulations CM I 1.5**
- 5. Planning with Community Support (MIIA) CM I 1.5**
- 6. Site Plan Review (MIIA) CM I 1.5**
- 7. Special Permits & Variances (MIIA)**
- 8. Introduction to the Subdivision Control Law (MIIA)**
- 9. Laurel and Hardy Go to Planning School CM I 1.5**
- 10. Community One Stop for Growth CM I 1.5**
- 11. Overview of Recent Changes and New Developments in Massachusetts Cannabis Law
CM I 1.5**

- 12. MBTA Communities Zoning: How Communities are Getting it Done! CM I 1.5
- 13. Fair Housing Laws (MIIA) CM I 1.5
- 14. Creating Master Plans (MIIA) CM I 1.5
- 15. Community Planning for Solar – Case Law, Bylaw Approval, and Resources CM I 1.5
- 16. Smart Growth Toolkit: Update and Discussion
- 17. Permitting and Preserving Affordable Units: Resources for Planning Boards (MIIA) CM I 1.5
- 18. Planning for Historic Preservation: Moving from Reactive to Proactive CM I 1.5

Register Today!

**Saturday, March 16, 2024, 8:00 am - 3:30 pm at Holy Cross College,
Worcester**

Citizen Planner Training Collaborative | masscptc.org



Citizen Planner Training Collaborative c/o UHI, UMass Boston | 100 Morrissey Blvd., Boston, MA
02125

[Unsubscribe brewplan@brewster-ma.gov](mailto:brewplan@brewster-ma.gov)

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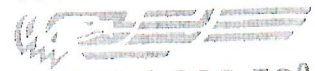
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5 FEB 2024 PM 3 L



US POSTAGE



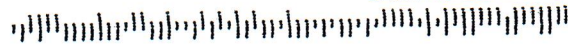
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Town of Brewster
Planning Board
2198 Main St.
Brewster MA 02631

RECEIVED

FEB - 7 2024

BREWSTER PLANNING BOARD
ZONING BOARD OF APPEALS



Town of Harwich Planning Board
732 Main Street, Harwich, MA 02645

Abutter Notice of Filed Decision

You are hereby notified that the Harwich Planning Board has filed its decision with the Town Clerk on February 2, 2024 on the application of:

Case # PB2023-34 Karen & George Oliver, through their agent, Kent Drushell: applied for a Special Permit for a Two-Family Dwelling in order to build a 2nd residential structure connected by a roof or series of roofs. The application is pursuant to the Code of the Town of Harwich c.325-51 N, as directed by MGL c. 40 Section 9. The property is located at 86 Miles St., Assessor's Map 14 Parcel B9. The property is located in the RL Zoning District.

Decision: Granted

Appeals to this decision can be made within 20-days of the date of filing with the Town Clerk in accordance with Massachusetts General Law, c. 40A, §17. Copies of decisions are available at the Town Hall at the Office of the Town Clerk at a nominal cost.

Duncan Berry, Chair

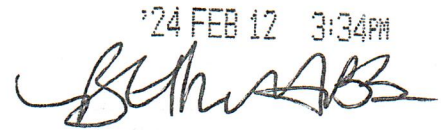
Date: February 2, 2024

RECEIVED

FEB 16 2024

BREWSTER PLANNING BOARD
ZONING BOARD OF APPEALS

PUBLIC HEARING NOTICE
Town of Orleans Planning Board

'24 FEB 12 3:34PM


ORLEANS TOWN CLERK

Pursuant to the provisions of Massachusetts General Laws, Chapter 40A, Section 5, the Orleans Planning Board will hold a public hearing on March 12, 2024 at 4:00 PM at the Orleans Town Hall. The meeting is also available via remote participation, through Zoom.com, using the following login information:

The purpose of the hearing is to accept public comments on the following proposed amendments to the Zoning By-laws. Written comments may be submitted to the Planning Board at 19 School Road, Orleans, MA 02653 or by emailing the Planning Board at gmeservey@town.orleans.ma.us. Anyone having an interest in the hearing is invited to access the remote meeting via Zoom.com using the login information supplied below. Instructions regarding how to access and participate in the remote meeting will be posted in the Planning Board agenda page for this meeting located at <https://www.town.orleans.ma.us/planning-board>. All proposed text can be viewed using the same website link above.

Link to join Webinar: <https://us02web.zoom.us/j/85806277173>

By Phone: (646) 558-8656

Webinar ID: 858 0627 7173

ARTICLE ##. **AMEND ZONING BYLAWS SECTION 164-31 Apartment
Development**

To see if the Town will vote to amend Section 164-31, to add a new subsection G. to read as follows:

(**Bold underline** = new language ~~strikethrough~~ = language removed)

G. Tenure of Rental Units. Units that are rented shall be rented for periods of not less than thirty (30) days.

ARTICLE ##. **AMEND ZONING BYLAWS SECTION 164-13 Schedule of Use
Regulations**

To see if the Town will vote to add a new Section 164-13, to read as follows:

ARTICLE ##. AMEND ZONING BYLAWS SECTION 164-34 Off-Street Parking Regulations

To see if the Town will vote to amend Section 164-34. B., Table of Minimum Requirements as follows:

(**Bold underline** = new language ~~strikethrough~~ = language removed)

Table of Minimum Requirements

RESIDENTIAL	
TYPE OF USE	REQUIRED NUMBER OF SPACES
Dwelling unit having 2 or more bedrooms	2 spaces <u>1 space per dwelling unit</u>
Dwelling unit having fewer than 2 bedrooms	1 space
Home occupation	Additional spaces may be required by the Board of Appeals
Multifamily apartment or condominium 1 bedroom	1.5 spaces per unit (see note)
Multifamily apartment or condominium 2 or 3 bedrooms	2 spaces per unit
All multifamily buildings must provide visitor parking	1 space per 3 units

ARTICLE ##. AMEND ZONING BYLAWS SECTION 164-22 Modifications

To see if the Town will vote to add a new Section 164-22 A (11), to read as follows:

(**Bold underline** = new language ~~strikethrough~~ = language removed)

- (11) **Up to two (2)** ~~One (1) single-family or two-family dwellings~~ may be erected on any lot located in the General Business, Limited Business, or Village Center District, **which lot is connected to public sewer services,** regardless of common ownership with that of adjoining land located in the same district, **and further provided that such lot** ~~which existed on January 1, 2023 and contained at least twenty thousand (20,000) s.f. of buildable upland and had a minimum frontage of one hundred (100) feet.~~

- ~~d. At least 30% of the floor area on the parcel shall be used for commercial purposes.~~
- ~~e. One (1) off-street parking space will be required for each dwelling unit. When units with two (2) or more bedrooms are proposed parking must be provided that meets the requirements of § 164-34 or an affidavit must be supplied to the building commissioner indicating the provision, through a shared parking agreement or other means, of the off-street parking spaces.~~

~~3. Other Business Districts~~

~~No more than two (2) dwelling units may be allowed on a lot within a structure used for commerce through new construction, addition, or conversion. The following criteria must be met:~~

- ~~a. At least 30% of the floor area on the parcel shall be used for commercial purposes.~~
- ~~b. (Reserved)~~
- ~~c. Off-street parking shall be provided for the dwelling units as per requirements of this chapter.~~
- ~~d. For each dwelling unit having in excess of one (1) bedroom, unpaved open space of at least four hundred fifty (450) square feet shall be provided.~~
 - ~~1 Up to four (4) units may be allowed, see Section 164-19.1. E.~~

And further to amend section 164-4 Definitions by amending the following definitions to read as follows:

APARTMENT - A structure, regardless of form of tenure, containing three (3) or more dwelling units, or a mixed-use structure containing three (3) or more dwelling units having a majority of floor area devoted to non-residential use, except that up to four (4) dwelling units may be contained in a commercial structure in the Village Center District without being considered an apartment (See §164-32 and §164-19.1).

COMMERCIAL STRUCTURES WITH DWELLING UNITS - A structure with mixed uses, containing dwelling units, including buildings containing office, retail or other non-residential use together with the dwelling units. Any mixed use containing more than 2 dwelling units, or 4 dwelling units in the Village Center District, shall be regulated as Apartment Development under § 164-31.

ARTICLE ##. **AMEND ZONING BYLAWS SECTION Add new 164-28.1**

Conversion of existing hotel, motel, or motor inn to multiple dwellings.

To see if the Town will vote to add a new Section 164-28.1, to read:

§ 164-28.1 Conversion of existing hotel, motel, or motor inn to multiple dwellings.

A. Hotels, motels, or motor inns existing on January 1, 2023 may be converted to multiple dwellings subject to the provisions herein.

PLANNING BOARD • 732 Main Street, Harwich, MA 02645

ph: 508-430-7511 fax: 508-430-4703



Abutter Notification of a Public Hearing

You have been identified as an abutter and/or an abutter to an abutter within 300 feet, a property across the roadway or a party of interest to the referenced parcel(s). The hearing, as noted, will provide an opportunity for you to review the proposal and offer comments, either in person or in writing addressed to the Planning Board.

Requests for accommodations for any person having a disability can be made by contacting the Town of Harwich Administration office at 508.430.7514.

[See attached]

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JAN 25 2024

BREWSTER PLANNING BOARD
ZONING BOARD OF APPEALS

HARWICH PLANNING BOARD
PUBLIC HEARING NOTICE

The Harwich Planning Board will hold public hearings beginning no earlier than **6:30 PM, Tuesday, February 13, 2024**, in the Donn B. Griffin Room, Town Hall, 732 Main Street, Harwich, MA 02645 to consider the following matters. Any member of the public looking to provide testimony on any of these matters should plan on attending. Written comments may also be submitted to the Board prior to the hearing by mailing them to the Planning Department, Town Hall, 732 Main Street, Harwich, MA 02645 or by emailing them to the Planning Assistant, Shelagh Delaney at sdelaney@harwich-ma.gov

Case # PB2024-08 Christine Menard, Executive Director of the Family Pantry of Cape Cod, Corp, has applied for a Site Plan Review to create 44 parking spaces on an approximately 20,000 sf licensed portion of Town-owned land behind 139 Queen Anne Road, Assessor's Map 57, Parcel G6-2 in the Industrial Light (IL) Zoning District.

Documents and plans related to these applications may be viewed on the Planning Board's home page: www.harwich-ma.gov/planning-board and are on file with the Town Clerk and may be viewed at the Planning Department, Town Hall, 732 Main Street, Harwich, MA 02645 during regular Town Hall hours. For additional information contact the Planning Assistant, Shelagh Delaney at sdelaney@harwich-ma.gov

Duncan Berry, Chair

Cape Cod Chronicle Print Dates: January 25th and February 1, 2024