TOWN OF TRURO
Conservation Commission

Office of Town Clerk
10:05 AM
SEP 07 2023
Received TOWN OF TRURO
By DS

PUBLIC MEETING AGENDA
Monday, September 11, 2023
Meeting start time 5:00
* Amended *

Remote Meeting Access Instructions

This will be a remote meeting. Citizens can view the meeting on Channel 18 in Truro and on the Town's web site on the "Truro TV Channel 18" button under "Helpful Links" on the homepage. Once the meeting has started, click on the green "Watch" button in the upper right of the page. **To provide comment during the meeting, please call-in toll free at** 1 877 309 2073 **and enter the following access code when prompted:** 464-567-165# To join this meeting from your computer, tablet or smartphone: https://global.gotomeeting.com/join/464567165 Please note that there may be a slight delay (15-30 seconds) between the meeting and the live-stream (and television broadcast). If you are watching the meeting and calling in, please lower the volume on your computer or television during public comment so that you may be heard clearly. We ask that you identify yourself when calling in; citizens may also provide public comment for this meeting by emailing the Conservation Agent at ebeebe@truro-ma.gov with your comments.

I. PUBLIC HEARINGS: The Truro Conservation Commission holds the following public hearings in accordance with the provisions of MGL Ch. 131, s. 40, the Wetlands Protection Act and the Truro Conservation Bylaw, Chapter 8:

1. **Notice of Intent: 0 Pamet Harbor, Town of Truro (SE#75-1178):** erosion control; Barrier Beach, Coastal Dunes, Coastal Beaches, Land Subject to Coastal Storm Flowage (Map 49, Parcel 16) *continued from 8/7/2023*
2. **Notice of Intent: 525 Shore Road Unit 7, Paul & Cheryl Silvernail (SE#75-1180):** After-the-fact filling; construction of retaining wall & creation of lawn: Barrier Beach, Coastal Dune, Land Subject to Coastal Storm Flowage (Map 6, Parcel 5.7) *continued from 8/7/2023*
3. **Notice of Intent: 544 Shore Road, Beach Townhomes Condominium Trust (SE#75-1171):** install bulkhead; Barrier Beach, Coastal Beach, Coastal Dune, Land Subject to Coastal Strom Flowage (Map 7, Parcel 5) *continued from 8/7/2023*
4. **Notice of Intent: 40 Fisher Road, Janet L. Capasso (SE#75-1185):** cesspool upgrade to I/A; Buffer Zone to a Coastal Bank, Buffer Zone to a Salt Marsh, Land Subject to Coastal Storm Flowage (Map 53, Parcel 34)
5. **Notice of Intent: 12 Pilgrims Path, Laura Anello (SE#75-1188):** reconfiguration & expansion of single-family residence & walkway replacement; Coastal Bank (Map 35, Parcel 111)
6. **Request For Determination of Applicability: 38 Toms Hill Road, Tina Ryman:** septic system upgrade; Coastal Bank (Map 49, Parcel 14) *continued from 8/7/2023*
7. **Request For Determination of Applicability: 5 Valentina's Way, Estate of Marguerite Yannetty:** Septic system upgrade: Buffer Zone to Ryder Pond (Map 60, Parcel 23) *continued from 8/7/2023*
8. **Request For Determination of Applicability: 7 Amity Lane, Irene Selver:** Septic system upgrade with I/A: Riverfront Area, Bordering Vegetated Wetland, Coastal Bank & Land Subject to Coastal Storm Flowage (Map 46, Parcel 18) *continued from 8/7/2023*
9. **Notice of Intent: 522 Shore Road, Sutton Place Condominium (SE#75-1187):** coastal stabilization; Barrier Beach, Coastal Dune, and Land Subject to Coastal Storm Flowage. (Map 7, Parcel 8)
10. **Notice of Intent: 566 Shore Road Ocean Breeze Condominium (SE#75-1186):** shoreline stabilization; Barrier Beach, Coastal Dune, and Land Subject to Coastal Storm Flowage. (Map 5, Parcel 29)
11. **Request for an Extension to an Order of Conditions: 0 Old Colony Road (SE# 75-1101)**

II. ADMINISTRATIVE MATTERS

12. **Certificates of Compliance**:
(1) 49 Fisher Road (SE#75-1093); (2) Head of the Meadow Bike Trail (SE#75-1039); (3) 627 Shore Rd (SE#75-1155)

13. **Administrative Reviews:** (1) **263 Shore Road:** fence replacement extension request; (2) **556 Shore Rd**: beach grass/shrub plantings

14. **Minutes**: May 2023, June 2023, July 2023

Site visits: Commissioners will meet at Town Hall on Monday, September 11, 2023, at 10:00 AM and proceed to:

1.) 5 Valentina's Way;
2.) 40 Fisher Road;
3.) 38 Toms Hill Road;
4.) 7 Amity Lane;
5.) 12 Pilgrims Path;
6.) 522 Shore Road
7.) 525 Shore Road, Unit 7
8.) 566 Shore Road

Office of Town Clerk
10:05 AM
SEP 07 2023
Received TOWN OF TRURO
By

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Engineers
Environmental Scientists
Software Developers
Landscape Architects
Planners
Surveyors

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August 22, 2023

Massachusetts Division of Fisheries and Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
Attn: Regulatory Review

RE: Additional Project Information Memo for Jetty Extension with Coir Envelope System, Combined MESA Checklist and Notice of Intent Application
Pamet Harbor Entrance Channel, Truro, MA

Dear Reviewer,

BSC Group, Inc. (BSC) offers the following comments in response to the August 4th, 2023, email from Massachusetts National Heritage. **Additional comments are in red.**

1. **Alternatives Analysis**: *"The Applicant must submit an evaluation of alternative methods for stabilization of the barrier beach and dune system that utilize methods for stabilization that reduce or do not result in additional degradation of state-listed species habitats. The alternatives must also include beach and dune nourishment designs that achieve protection and should include modeling or design standards that compare anticipated lifespan for each alternative."*

   Reference is made to the BSC 7/13/23 letter that summarized the project alternatives. It is important to stress that the life span of the alternatives is unpredictable and unknown. Only an educated guess can be made regarding the longevity of the coir envelope system, as well as the frequency of nourishment placement or beachgrass planting that will be needed to sustain functions of the system as an extension of the coastal dune and connection to the jetty. The proposed repair is considered an initial step to stabilize the northern side of the Pamet Harbor groin against continued erosion and is not considered a permanent solution without additional design, study, and permitting. Conversely, a "no action" approach would allow this area to breach, that approach will indeed reduce habitat by allowing the area to flood and continue to erode.

   At this time, it is assumed some level of sand cover will be needed each year to maintain the cover over the proposed system. This will be determined annually, likely in February at the latest, and conducted in March at the latest (assuming nourishment is not placed earlier in the winter in coordination with the Barnstable County dredge operations), as needed. The proposed dune restoration and sand nourishment will not result in additional loss or degradation of state listed habitats. By maintaining nourishment over the system, the nourished coir system will continue to provide a sediment source for the surrounding beach. In addition, the Town has a beach nourishment permit which utilizes dredge material to rebuild the beach adjacent to the system, which will also benefit the coir enveloped supported dune system.

From the 7/13/23 letter, the following alternatives were considered.

- Take No Action and Allow Pamet Harbor Channel and Harbor Bar Barrier Beach to Deteriorate: This alternative is not considered viable due to the significance of the channel to the harbor for commercial and recreational purposes. Maintaining the channel is also seen as critical for the longevity of the Pamet Marsh salt marsh complex and Pamet River which extend roughly 3 miles inland. In addition, placement of sand nourishment does not appear to be sufficient to maintain the coastal beach and the coastal dune system, which is in danger of continued erosion.

The "no action" alternative is expected to result in the most rapid degradation of NHESP Priority Habitat, as the coastal beach/coastal dune adjacent end of the jetty and barrier beach has experienced (as of 1995, or potentially earlier) and continues to experience regular flooding from high tides, prior the construction of the jetty. Continued erosion of the barrier beach and the dunes on the southern end of the beach is anticipated.

- Extend the Northern Portion of the Pamet Harbor Stone Jetty: In this scenario, the northeastern end of the Pamet Harbor jetty would be extended to the existing end of the dune. This would involve installing approximately 72 linear feet (lf) of stone jetty across the coastal beach. This alternative would be considered a "Hard Solution "that in BSC's experience would:

    - Be unlikely to obtain necessary approvals;
    - Require far greater funds than the proposed scenario for both the permitting process and the construction;
    - Significantly delay the construction and implementation of any solution;
    - May result in structural damage of the existing jetty and increased erosion of the coastal beach and dune at the end of Harbor Bar during the extended permitting period and after the jetty is installed;
    - Would have a more significant impact on wildlife habitat, as the jetty would occupy space that is currently coastal beach and formerly coastal dune.

  The "extended jetty" alternative is expected to result in the slowest degradation of habitat as it is most protective of the coastal dune/coastal beach, but would result in the immediate loss of dune/beach habitat to expand the jetty. However, continued erosion at the base of the expanded jetty and the end of the coastal dune is possible due to the interruption of sediment deposition and projected increase in frequency/severity of storm events in the future.

- Beach Nourishment Only: This alternative has been attempted recently and is not considered viable as over-wash events and erosion between the existing jetty and the coastal dune have continued with regular tide cycles and without any significant storm events since the nourishment was placed.

  1,600 cubic yards (cy) of emergency nourishment sand was added in March of 2023 in association with Ch 91 Permit #14815, WQC Authorization 22-WW27-0007-AMD (Transmittal X277007), and DEP File# SE75-1015 within the eroded area between the end of the jetty and the dune during the winter of 2022/23. The sand was placed at a similar grade to the existing beach/dune profile for this area. It is estimated that about 400 yards of sand has eroded over a 4-month period since the nourishment was placed.

  The CZM GIS map below shows the closest shoreline change transects in the area to be about 2 feet per year.

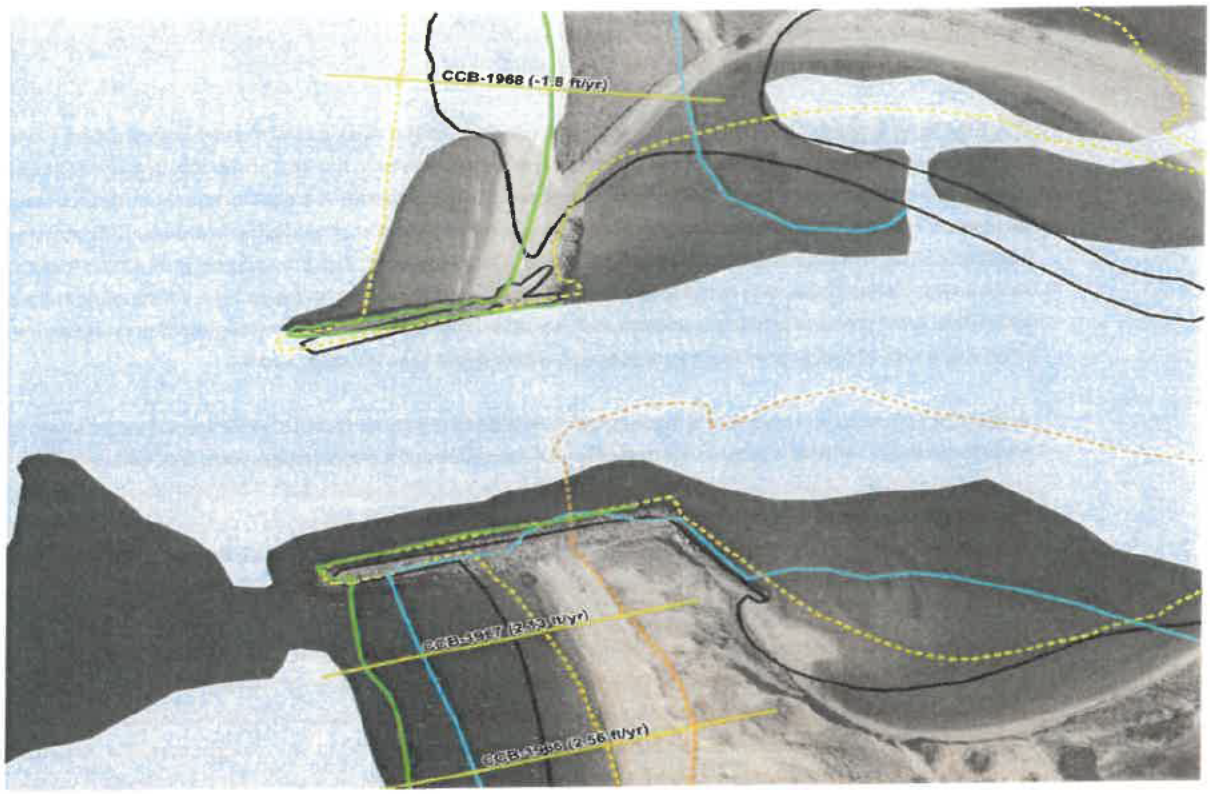

Photo 1: Screen shot of CZM shoreline change map

Due to the clear, documented regional shoreline migration and the inability to effectively nourish the entire shoreline of Harbor Bar/Pamet Beach to keep pace with the current rates of erosion, this alternative is not proposed.

The "nourishment only" alternative is expected to result in an unpredictable, but less rapid degradation of habitat than that of the "no action" alternative. This is because the area has, as noted above, reached elevations that could result in the complete conversion of the southern end of the Harbor Bar barrier beach into land under ocean due to the regular flooding during high tides, as well as during storm events (evidence of which was noted in 1995, prior the construction of the jetty extension). The Town has attempted to utilize dredge spoils from the maintenance dredging of Pamet harbor to maintain the beach in the past. Unfortunately, the Barnstable County dredge schedule is fluctuating, and this area is sometimes skipped (as it was in fall/winter of 2022/2023) leaving a deficit of sand nourishment.

To create a dune from beach nourishment (with no coir envelope base) that was substantial enough to prevent the need for more frequent (annual or multiple times annually) beach nourishment, while maintaining a 10:1 slope, would exceed the available space at the Project Site significantly. Overall, it would require an area of impact approximately 62,645 square feet (sqft) (or 1.5 acres) and require over 7,600 cy of sand just for the initial construction. Such a significant impact to coastal beach, coastal dune, land containing shellfish, land under ocean, and NHESP PH is not part of the proposed plan nor is it financially attainable to build and maintain.

The purpose of the Project is to minimize the impact to jurisdictional resource areas, while addressing the erosion from overwash events and maintaining the integrity of the Pamet Harbor jetty. This nourishment only alternative at a 10:1 slope in comparison to the preferred alternative would to too costly to build (approximately $100,000 more for the initial build) and maintain, would require far more extensive permitting, and would be far more impactful to a number of jurisdictional resource areas. In addition, it would most likely require more frequent repairs and require a massive increase in trucked in sand, as the Barnstable County dredge would not

have enough sand to nourish this area and other areas on the beach that are included in the dredge permit, thus increasing the number of trips needed along the beach to build and then maintain.

- Coir Envelope System (Proposed Solution): In this scenario, the coir envelope system would act as the base of a rebuilt dune to help anchor the end of the Harbor Bar dune system to the end of the existing jetty, while the proposed beachgrass to be planted atop the system will provide additional stabilization and reduce the need for sand cove over the system. The beachgrass planted atop the system should allow the dune to withstand non-catastrophic storm events without completely losing its sand cover. The proposed coir alternative was the chosen alternative because it is the lowest impact system that meets the project goal of rebuilding the barrier beach/dune system and providing enough stabilization to get vegetative growth on the dune. It also helps to anchor the end of the jetty which has repeatedly washed-out during storm events.

  In addition, because the area washes over so easily, it does not provide beneficial Piping Plover (*Charadrius melodus*) habitat. The rebuilt dune system along with nourishment from dredge work will help to rebuild the beach and protect adjacent Piping Plover habitat from continual erosion due to washover events. The proposed coir envelope system, topped with 1,520 cy (12,559 sf) of sand nourishment which will be graded over the beach within the eroded area, and planted with beachgrass will provide superior wildlife habitat for shorebirds, while also restoring the natural functions and values of the coastal dune and barrier beach system.

  The "coir log solution" alternative is expected to result in unpredictable, but less rapid degradation of NHESP PH and jurisdictional resource areas within the Harbor Bar barrier beach when compared to the "nourishment only" alternative, as noted above. This is because the staked coir envelope base, topped with sand and planted with beach grass acts as an extension of the coastal dune, which provides protection against wave action, end scour from the jetty and flood events, as well as a betterment of wildlife habitat once the coir envelope dunes are established. It will improve habitat by adding sediment into the system from dredging annually. If there is not enough sand provided on a given year from the dredging operations, then nourishment will be trucked in once a year (if needed) in the spring, prior to April 1st. This nourishment will act a sediment source for the beach and enhance Plover habitat in eroded areas on the seaward and Pamet Harbor sides of the coastal dune/coastal beach adjacent to the coir system.

2. **Coir System Design**: *The application does not include information necessary to evaluate the potential impact of the proposed project to state-listed species and their habitats. Information regarding design life for the system, modeling analysis for performance in typical storm scenarios (e.g., 1yr, 5yr, 10yr storms), nourishment volume, nourishment frequency, maintenance frequency, design specifics (stakes/posts), source for nourishment, construction duration and timeline, etc. Please note this information should not be provided until an evaluation of alternative methods of stabilization is complete. If other methods of stabilization are not feasible, then the design of the proposed coir system and nourishment template should be designed with slopes appropriate to provide habitat for state-listed species.*

   No such modeling is known to exist to predict the design life of coir logs. The life expectancy of such a system is completely dependent on the intensity of storms, wind direction of storms, tide levels during storms, etc. Coir envelope systems or all varieties are used only as a "soft" solution due to regulatory requirements and are less "reliable" than hard solutions due to their construction, the materials used, and the integration of natural functions of the surrounding area/habitat. The July 13th letter indicated the top of the coir logs were to be set with the tops at elevation 11. Overtopping from storm events with wave run-up, has the greatest chance of damaging the coir logs. Based on the calculated flood level mentioned in the July 13, 2023 letter, the coir logs could be overtopped by flood waters from a 5-year event.

   If not subject to storm and tidal conditions, coir logs can have a lengthy useful life. The coir envelope system proposed will be constructed in accordance with all relevant standards for similar systems in high velocity coastal areas to ensure the system will function as designed as long as possible. Furthermore, repair of the coir envelope system can be done in segments, meaning that any damaged coir envelopes can be replaced without the need to replace or even excavate the entire system. Truro Department of Public Works (DPW) will be responsible for the maintenance of the coir envelope system, with beach nourishment assistance from the

Barnstable County dredge when possible.

The system will be staked at the toe of the slope with 10' long green oak stakes, spaced approximately 3' apart, extending approximately 7' below the coir envelopes/below grade. The system will be topped with at least 12" of sand to cover the 862 sqft area of the coir logs themselves, with some additional nourishment on either side of the system to create a gradual 3:1 slope across roughly 12,529 sqft. A total of 1,520 cy of nourishment will be needed at the time of installation. Grading elevations are shown on the project plans "Plan to Accompany a Notice of Intent" dated May 24, 2023. The Town of Truro currently has an approved beach nourishment permit associated with the existing Pamet Harbor dredge permit. Beach sand nourishment is expected to come from dredging of Pamet Harbor by the Barnstable County dredge scheduled for October 2023, but if another source is needed, the town will coordinate with other towns on Cape to find compatible sand from other dredge/beach nourishment projects. All nourishment placed at the site either from dredge spoils or an upland source will contain a minimum of 90% sand.

For construction sequencing, it is anticipated that the work will proceed as follows: Access to the Site will be gained using the Corn Hill Beach parking lot by driving equipment such as an excavator, skid steer, dump trucks, and other construction vehicles with equipment, down the beach to the jetty. The coir envelope system will be laid out in accordance with the plan, filled with sand and sown together, staked into place, and then topped with sand nourishment, graded, and incorporated into the surrounding beach at a (10:1) slope as per the dredge permit. Beach nourishment will be placed on the beach by hydraulic dredge from the Barnstable County dredge and moved into place by the construction crew, which will be overseen by Truro DPW. The construction of the coir system will take approximately one month to build. The dredging and beach nourishment work alone should occur over the course of a week or less, barring any unforeseen weather events.

The planting of beachgrass may have to wait until spring of 2024, depending on weather conditions, however an attempt will be made to plant beachgrass in October/November of 2023. Beachgrass planting on the system will be spaced at 2 culms per 18", as required by NHESP guidance. If additional planting is needed in the spring it will be completed prior to April 1st of 2024, the Town of Truro will coordinate with the Audubon shore bird monitors to ensure Piping Plover nesting season has not started to prevent disturbing the population at Harbor Bar. No work will occur on or immediately adjacent to the system if Piping Plovers are noted conducting breeding activity in the area by Audubon monitors.

Annual repair work (if needed) will likely take no longer than a week, depending on the nature of the repairs and the availability of the Barnstable County dredge during a given winter season. Given the erosion rates shown on the CZM shoreline change map (included on page 3), the nearby established coastal dunes have an erosion rate of -1.8 lf annually. As the section of barrier beach adjacent to the southern end of the coastal dune and the northern edge of the jetty is lower in elevation and does not have the benefit of vegetation to stabilize the sand, it can be estimated the erosion rate experienced within the Project Area would be higher, perhaps double or more than the annual rate of erosion experienced in area where the coastal dune is vegetated and not subject to the same conditions. Although, this estimate of erosion is highly subject to the frequency, intensity, and direction of wind/wave action from storms. Additionally, it should be noted for areas where MHW is within 15 feet of the system (such as the Project Site), that more frequent nourishment may be needed to maintain the proposed grade of the beach and prevent rapid erosion.

3. **Maintenance, Nourishment/Replenishment Plan**: *It may be appropriate for this project to develop a nourishment and/or replenishment plan utilizing the most current available information (e.g., CZM transect information, LIDAR, survey, or study data, etc.) to determine the annual amount of sand that would be eroded from the coastal system. If a coir system is installed at the site, maintenance and sand replenishment will be critical. In addition to this calculation, the plan should include methods to monitor beach elevation, erosion, and establish trigger points for additional nourishment events and/or specify an appropriate frequency for renourishment.*

Topo of the site was conducted on 10/17/2022, which was a few months prior to the washover events that prompted the emergency beach nourishment placed between the end of the jetty and the coastal dune, following

the winter of 2022/2023. The July 13th letter indicated that based on visual estimation, the sand lost from the recent 2023 nourishment was 400 cy in four months' time (25% of what was placed).

The system should ideally be covered with 12-18" of sand nourishment, but the coir envelopes can be maintained in working conditions with less coverage. As a trigger point, it is suggested that additional nourishment be added when 25% or more of the system is exposed. Monitoring of the coir envelope system and adjacent beach could be completed by visual and/or by conventional survey or aerial (drone) mapping at low tide on a regular schedule by the Truro DPW, such as inspections conducted in February and repairs conducted in March. These inspections may occur following a major storm event to assess damage to the system as well. Any repairs to the coir envelopes and beach nourishment will be conducted outside of Piping Plover breeding season or any other TOY restrictions imposed by NHESP.

Based on this information and the information submitted previously under the July 13th letter, it is requested that Natural Heritage approve the proposed project with the understanding that the project activities aim to prevent the loss of the southern end of Harbor Bar barrier beach and coastal dune system, while having the least impact on jurisdictional resource areas. As noted in Comment #1 above, *"The Applicant must submit an evaluation of alternative methods for stabilization of the barrier beach and dune system that utilize methods for stabilization* ***that reduce or do not result in additional degradation*** *of state-listed species habitats."* The Project Site's current condition includes a steep coastal beach face and experiences frequent washover events, which prevents the establishment of quality breeding habitat and foraging habitat for Piping Plovers. Further, there is a high likelihood of the full loss of coastal beach within the eroded area between the jetty and the end of the coastal dune, due to end scour and continued washover events. Therefore, we are confident that the project as proposed has been designed to improve and prevent further degradation of coastal habitat, while also having the least impact on Piping Plover habitat as practicable.

Please reach out to our office at 508-778-8919 if you have any additional questions.

Sincerely,

BSC Group, Inc.

Matthew Creighton, PWS, Sr. Associate
Manager of Ecological Services – West Yarmouth

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1

JULY 13, 2023

Massachusetts Division of Fisheries and Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
Attn: Regulatory Review

RE: Additional Project Information Memo for Jetty Extension with Coir Envelope System, Combined MESA Checklist and Notice of Intent Application
Pamet Harbor Entrance Channel, Truro, MA

Dear Reviewer:

BSC Group, Inc. (BSC) is pleased to submit this memo to provide supplemental information for the combined MESA Checklist and Notice of Intent (NOI) application on behalf of The Town of Truro (the Applicant), for the property located along Harbor Bar and adjacent to the northern Pamet Harbor jetty in Truro (the Site).

Site History: The Site is subject to highly dynamic coastal events on a regular basis. According to aerial imagery from 1995 it is evident that the entire Site had been washed away and there was no dune remaining in the area of the proposed coir envelope installation. From this brief history, it is evident that the proposed project activities will act to protect both the wildlife habitat and the continuation of the barrier beach and dune system.

Pamet Harbor 1995 (note the water between the groin and the dune)

Pamet Harbor 2010 (after work on the groin and the dune/beach)

Pamet Harbor April 2023
(Current condition indicates a changing shoreline and ineffectiveness of beach nourishment only)

The proposed project at the Site involves the installation of three (3) anchored coir envelopes between the northeastern end of the existing stone jetty (that along with the jetty south of the channel) acts to preserve the channel into Pamet Harbor) and the eroding southern face of coastal dune. The purpose of this project is to protect the channel to the extent possible and establish a portion of the dune within an area which now experiences regular flooding and inundation during

storm events, resulting in the erosion of coastal beach/coastal dune, and threatening the channel to the harbor and the structural integrity of the end of the jetty. The proposed coir envelope system will be topped with at least 12" of sand, matching the grain size of the existing beach, and graded at the base of the coir envelope system to integrate within the grade of the beach in that area. The sand nourishment atop the coir envelope system will be planted with American Beachgrass (Ammophila breviligulata) follow the nourishment and grading.

The following sections are in response to the memo dated June 28th, 2023, signed by Everose Schluter, Ph.D., Assistant Director, submitted to the Truro Conservation Commission and Town of Truro, for the purpose of requesting additional project information on project alternatives, design and maintenance.

1. **Alternative Analysis:**

The following alternatives are considered.

- Take No Action and Allow Pamet Harbor Channel and Harbor Bar Barrier Beach to Deteriorate: This alternative is not considered viable due to the significance of the channel to the harbor for commercial and recreational purposes. Maintaining the channel is also seen as critical for the longevity of the Pamet Marsh salt marsh complex and Pamet River which extend roughly 3 miles inland. In addition, placement of sand nourishment does not appear to be sufficient to maintain the coastal beach and the coastal dune system, which is in danger of continued erosion.

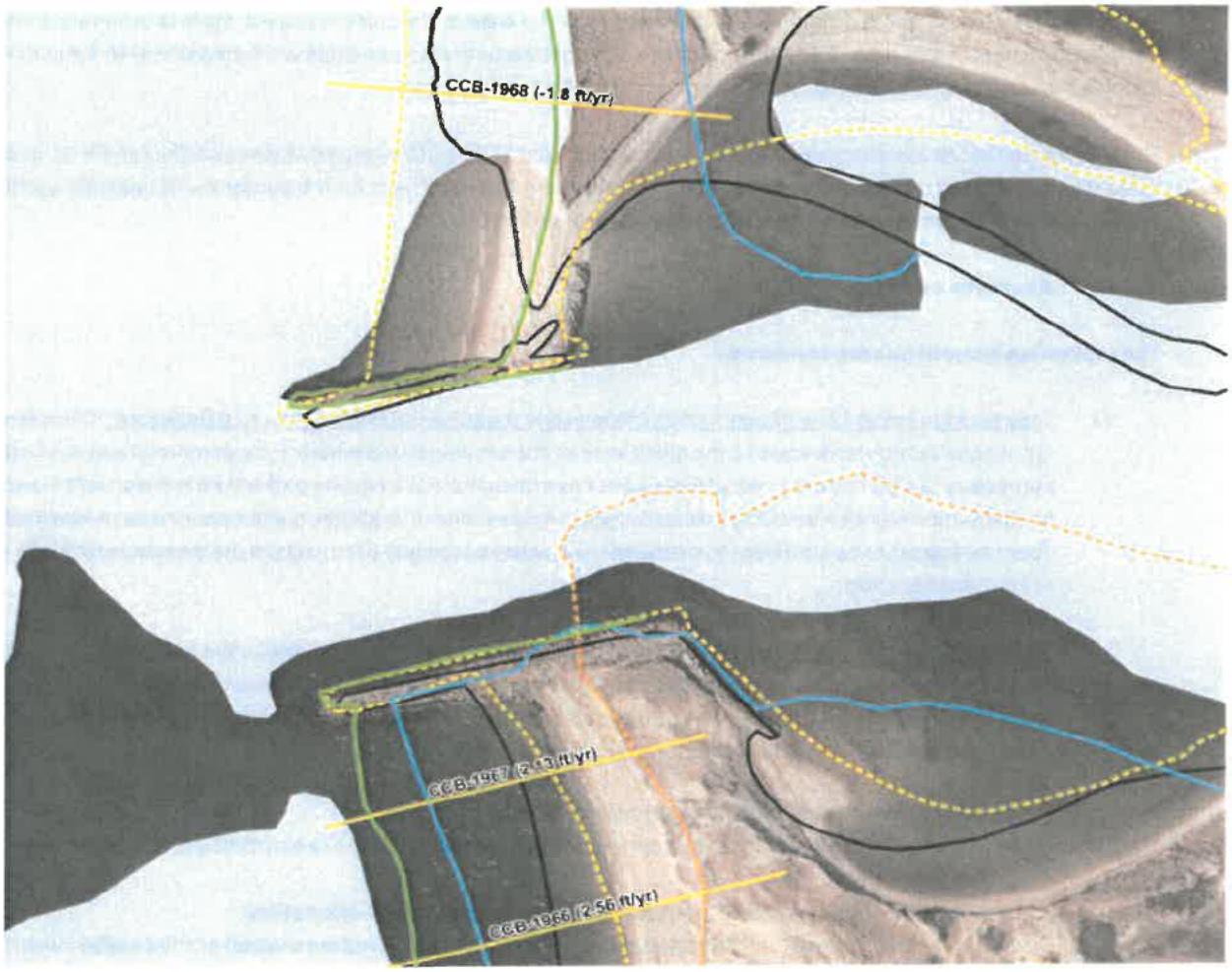
- Extend the Northern Portion of the Pamet Harbor Stone Jetty: In this scenario, the northeastern end of the Pamet Harbor jetty would be extended to the existing end of the dune. This would involve installing approximately 72 linear feet (lf) of stone jetty across the coastal beach. This alternative would be considered a "Hard Solution" that in BSC's experience would:

    - Be unlikely to obtain necessary approvals;
    - Require far greater funds than the proposed scenario for both the permitting process and the construction;
    - Significantly delay the construction and implementation of any solution;
    - May result in structural damage of the existing jetty and increased erosion of the coastal beach and dune at the end of Harbor Bar during the extended permitting period and after the jetty is installed;
    - Would have a more significant impact on wildlife habitat, as the jetty would occupy space that is currently coastal beach and formerly coastal dune.

- Beach Nourishment Only: This alternative has been attempted recently and is not considered viable as over-wash events and erosion between the existing jetty and the coastal dune have continued with regular tide cycles and without any significant storm events since the nourishment was placed.

  1,600 cubic yards of emergency nourishment sand was added in March of 2023 in association with Ch 91 Permit #14815, WQC Authorization 22-WW27-0007-AMD (Transmittal X277007), and DEP File# SE75-1015 within the eroded area on the seaward (western) side of the beach in response to significant erosion during the winter of 2022/23. The sand was placed at a similar grade to the existing beach/dune profile for this area. It is estimated that about 400 yards of coastal beach has eroded over a 4-month period since the nourishment was placed.

The CZM GIS map below shows the closest shoreline change transects in the area to be about 2 feet per year.



Screen shot of CZM shoreline change map

Due to the clear, documented regional shoreline migration and the inability to effectively nourish the entire shoreline of Harbor Bar/Pamet Beach to keep pace with the current rates of erosion, this alternative is not proposed.

- Coir Envelope System (Proposed Solution): In this scenario, the coir envelope system would act as the base of a rebuilt dune to help anchor the end of the Harbor Bar dune system, while the proposed beachgrass to be planted atop the system will provide additional stabilization. The beachgrass planted atop the system should allow the dune to withstand non-catastrophic storm events without completely losing its sand cover. The proposed coir alternative was the chosen alternative because it is the lowest impact system that meets the project goal of rebuilding the barrier beach/dune system and providing enough stabilization to get vegetative growth on the dune. It also helps to anchor the end of the jetty which has repeatedly washed-out during storm events.

  In addition, because the area washes over so easily, it does not provide beneficial piping plover (*Charadrius melodus*) habitat. The rebuilt dune system along with nourishment from dredge work will help to rebuild the beach and will reestablish the 1:10 slope needed to increase and improve piping plover habitat. A coir envelope system topped with sand nourishment and planted with beachgrass would provide superior wildlife habitat for

other shorebirds, while also restoring the natural functions and values of the coastal dune, barrier beach, and coastal beach.

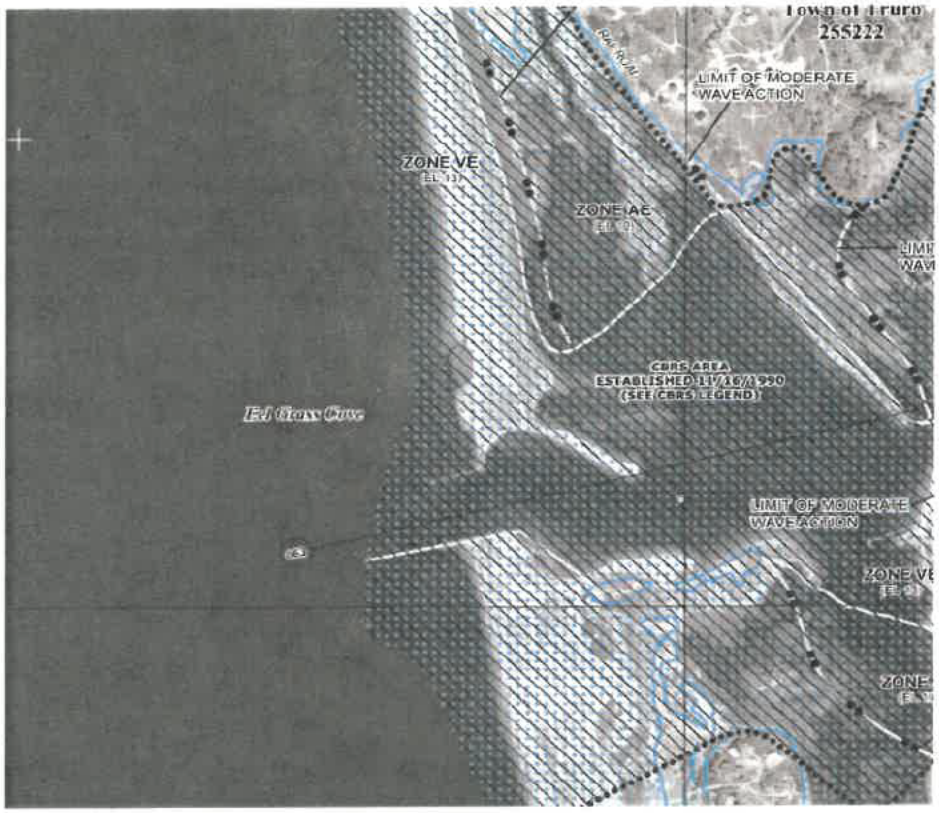
2. Coir System Design:

The life of a coir system is difficult to predict as it is intended to be only a temporary solution. The system is exposed to winds from the west and is within a FEMA predicted 100-year flood elevation zone. Based on the nearest report on Interactive Tidal Datum Viewer – Buzzards Bay National Estuary Program, the High Tide Line (the highest tide annually) is reported at elevation 6.68. This elevation is above the breach point north of the stone groin, meaning that the proposed coir logs will be subject to "wave attack" regularly.

2637

2637	
Longitude	-70 082877
Latitude	41 999149
MHW_FT	4.15
MLW_FT	-5 22
MN_FT	9.37
LMSL_FT	-0 47
MHHW_FT	4.6
MLLW_FT	-5 54
MTL_FT	-0.53
HTL_FT	6.68
MARSH_RNG	7.15
NGVD29	-0 86
NAVD88	0

FEMA FIRM Map (location point is set on southern jetty)



The site Is located In a FEMA VE flood zone elevation 13
(note cross section #63 at site)

Table 16: Coastal Transect Parameters

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H_s (ft)	Peak Wave Period T_p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Cape Cod Bay	61	*	*	8.9	*	9.7	10.2	11.0
Cape Cod Bay	62	*	*	7.9	*	8.7	9.1	10.7
Cape Cod Bay	63	*	*	8.2	*	9.0	9.4	10.7

The following spreadsheet estimates elevation of the still water surge (from FEMA) and the "wave attack" heights at various return period storms. Based on these estimates and the top of the coir logs being elevation 10 (the same as the revetment), it can be estimated that the coir logs (like the jetty) will be overtopped during 10-year storm events, presuming the wind direction is from the west and occurs during a high tide. Based on this limited assessment, the placement of the coir logs is considered a temporary repair which are likely to require periodic improvements to reduce the amount of nourishment that is needed to protect the channel and maintain the dune and beach.

Return storm		Still Water Surge Elev	Estimated Wave crest ht		Total Wave elev
1		6.68	2		8.68
10		8.2	2.5		10.7
50		9	3		12
100		9.4	3.6		13
500		10.7	5		15.7

Spread Sheet of Wave Action

Nourishment Volume, Maintenance, Frequency, and Source: BSC anticipates annual nourishment along the beach along using the dredge sediment to maintain the current profile of the beach and/or rebuild the beach. The existing dredge and beach nourishment profile is a 1:10 slope. The proposed project involves rebuilding the dune and integrating the sand nourishment into the approved nourishment profile on the seaward side of the coastal beach. The Town of Truro plans to dredge annually and to supply the beach with nourishment from dredge sands. When a storm event uncovers the coir system, it would then be re-covered with 8-12" of sand to protect the system. When seasonally appropriate, the coir envelope system will also be replanted with beachgrass again promote a stabilized dune system.

If needed, the beach could also be nourished to maintain the current profile to prevent any additional impacts to the beach from the system. Most of the annual sand nourishment for this project will be from routine channel dredging. If the amount of nourishment from the dredge isn't enough to cover the coir envelope system and the surrounding beach, the outer Cape towns are working towards establishing a "sand bank" with dredge sand when there is an abundance of sand from other dredge projects. Another alternative sand source would be an approved upland site. Sand nourishment from both the "sand bank" and the upland site would be compatible grain size to the existing beach sand and placed at the existing 1:10 slope on the seaward side of the beach.

Construction Duration/Timeline: The proposed project is expected to take 1-2 months depending on weather conditions. The goal is to be complete all aspects of the project (aside from beachgrass planting, which will need to be assessed following the completion of the coir Installation) in the fall of 2023 following endangered shorebird season (after September 1st). All work to maintain the system would be completed before April 1st of any year (when needed).

Design to Meet Standards for State-Listed Species: The purpose of the proposed project is to rebuild the beach and dune system to preserve the channel entrance. Currently, due to regular flooding over the coastal beach areas within the final ~200 feet of Harbor Bar barrier beach that leads to the northern end of the jetty, piping plover nesting habitat is very low quality. This is due to the risk of washover events during high tides which would imperil nests and chicks.

The proposed rebuilt section of beach on the seaward side of the jetty and coir envelope system is likely to increase the value of piping plover nesting and foraging habitat due to the protection of the rebuilt dune. The rebuilt dune will also help anchor the beach and minimize erosion into the channel from around the end of the jetty. This will allow the beach to be more effectively rebuilt with dredge spoils, as is proposed in the approved maintenance dredging permit (cited previously). The proposed project was designed to "attach" to the dredge nourishment area, which was approved at a 1:10 slope as needed for piping plovers, therefore all aspects of the proposed project will provide a significant betterment in habitat quality when compared to the existing conditions at the project Site.

Mark Faherty, a Science Coordinator at Mass Audubon, recently confirmed on July 4th via email that monitoring crews have found minimal evidence of piping plover nesting and foraging activities in this area and in his opinion the installation of the coir envelope system and beach nourishment will not directly impact piping plovers. This further indicates that the existing habitat value at the site is low.

Further, the successful installation of the proposed coir envelope system will restore a portion of dune which was previously lost, and although this dune habitat is not of high value to piping plovers, according to the Massachusetts Tern and Piping Plover Handbook (first edition, May 1996, Bardford G. Blodget and Scott M. Melvin) dune habitat and sparsely vegetated coastal beaches can prove valuable nesting habitat for other shorebirds. Namely common terns (*Sterna hirundo*) which often nest in dunes at remote tips of barrier beaches with "moderate strands of beachgrass and other dune vegetation." Although less likely, least terns (*Sterna antillarum)*"sometimes nest in sparse beachgrass, beachpea, and other dune vegetation", although they prefer sandy or cobble beaches above the high tide line to nest. Given that the project site does not currently provide high quality habitat and the proposed conditions of the site following the installation of the coir envelope system, it can be assumed that the restoration of dune, beachgrass planting and beach nourishment will provide additional nesting habitat while also protecting and preserving foraging habitat on the seaward side of the beach.

3. **Maintenance, Nourishment/Replenishment Plan**: The nourishment of the proposed coir envelope system is intended to occur on an as needed basis, such as following storm events which may expose some or all of the coir envelope system. It is anticipated that the beach area where the coir envelope system is proposed will conservatively experience between 1' and 6' of long-term erosion per year and 3.6' of short-term erosion per year, with a short-term uncertainty of 12.1' per year (based on the closest CZM transect). Given that the system is above MHW, it is expected that only larger storm events will reach and uncover the system. At least 8 - 12" of sand is required to top the system to prevent damaged from sun, wind, and tidal influence. The status of the sand covering over the coir envelope system will be regularly monitored by employees of the Town of Truro either on a monthly basis and/or after significant storms. This nourishment would be temporarily postponed during the shorebird Time of Year (TOY) restriction.

4. **Determination of Annual Erosion:** The specific annual rate of erosion for this site is unknown. BSC's 2022 ground survey of the project site and the 2021 Lidar data cannot reveal significant information on retreat rate at the site. However, given that the terminus of the coastal dune at the end of Harbor Bar was non-existent in 1995 (see 1995 aerial imagery above), was rebuilt (see 2010 aerial imagery above), and has now eroded almost completely (see 2023 aerial imagery above), the volatile nature of the coastal influence on this site cannot be denied. At some point in time, the erosion may result in reconfiguring the inlet of the harbor, but for now the purpose of the proposed project is to maintain the conditions to provide safe access into Pamet Harbor, as quickly and as efficiently as possible, while also having the least amount of impact to protected resource areas and shorebird habitat.

If you have any questions or require additional information, please contact out office at (508) 778 - 8919.

Truly yours,

BSC GROUP, INC.

Matthew Creighton, PWS
Senior Project Manager / Senior Associate
Manager of Ecological Services - West Yarmouth

cc: Massachusetts Department of Environmental Protection, Southeast Regional Office
Town of Truro
Truro Conservation Commission

2

INDEPENDENT ENVIRONMENTAL CONSULTANTS, INC.
162 West Long Pond Road, Plymouth, MA 02360
508-274-0310

Conservation Commission
TOWN OF TRURO
SEP 01 2023

August 30, 2023

Truro Conservation Commission
Truro Town Hall
24 Town Hall Road
Truro, MA 02666

Re: Enforcement Order – 525 Shore Road, Unit 7, (Map 6, Parcel 5.7), Truro, MA (Silvernail)

Commission Members,
This letter concerns the above-mentioned residential property located at 525 Shore Road, Unit 7, in Truro. The Truro Conservation Commission has issued a Notice of Violation/Cease and Desist letter to the property owners, Cheryl & Paul Silvernail, for unauthorized site alterations located within a Barrier Beach, Coastal Dune, and Land Subject to Coastal Storm Flowage (FEMA Flood Zones). The entire property is located within the jurisdiction of the Truro Conservation Commission. On 5-17-2023, the Truro Conservation Commission issued a cease-and-desist order for the construction of the retaining walls, placement and/or distribution of fill, cutting or planting of vegetation, establishment of any further build space, grading, or making any future changes within the property, without a permit from the Conservation Commission.

This subject property located within a Barrier Beach, within Land Subject to Coastal Storm Flowage (FEMA Flood Zone) is subject to periodic coastal flows and flooding from the marine waters of Cape Cod Bay, during coastal storm events, and contains sections of a Coastal Dune.

There were past site alterations located within the back yard (facing Route 6) of this residential property. The back yard area had many disturbed soil areas and depression areas that were created by dogs digging holes and running within the back yard area. To resolve the problems within the back yard area, the property owners did the following, without knowing that they needed approval from the Truro Conservation Commission.

1. The property owners brought in approximately 40 cubic yards of clean sand to fill the depression areas and disturbed soil areas, in order to create a more level back yard area for their family. A thin layer of loam, approximately 20 cubic yards, was then added over the new sand areas located within the left and right back yard corners, for the planting of vegetation.
2. The property owners cut back some of the existing vegetation and shrubs (Black Cherry and Beach Plum) growing within the back yard area. No vegetation was uprooted within the site. Several poison oak saplings/bushes were cut back, and the cut vegetation was removed from the back yard. Family members are allergic to certain vegetative species currently growing within the back yard area.

3. A timber landscape retaining wall was constructed within the back yard. The property owners would like to get an approval from the Truro Conservation Commission to keep the existing timber landscape retaining wall at this site.
4. The property owners would also like to install a new five-foot wooden fence with alternating slats to allow for the passage of wind, and to also allow for vegetation to grow around the wooden slats. This new wooden fence will be located within the backyard area, within areas of land altered in the past (specifically about one foot inward from the wall area).

A Notice of Intent application has been filed with the Conservation Commission for the subject unauthorized site alterations. Under the Notice of Intent application, the property owners seek approval from the Conservation Commission to keep the existing timber landscape retaining wall which was constructed. They would also like to keep the previous sandy and loam soils that were brought into the property, in order to level out existing depression areas and disturbed soil areas. The property owners would like to add native salt tolerant plant species to the areas containing the deposited sand and loam soils within the property. The property owners would like to propose planting the new sand and loam soils areas (as well as the areas up to the back, left and right of the house) with the following salt tolerant native coastal plant species: Harmony mix grass (a mix native to Cape Cod), Highbush Blueberry, Beach Plum, Carolina Rose and Northern Arrowwood. These native salt tolerant plant species will help stabilize the existing sandy/loam soils, and these new native plants will provide new root systems to help hold the loose soils in place, during times of any coastal flooding, moving water, or inundation. The new native plants will also provide new wildlife habitat areas, protective cover, and food sources for a variety of resident & migratory wildlife species, including many coastal bird species. Since the proposed new plantings will be planted in the far back of the yard leading up to the house, as well as the sides of the home, there will be a minimum of a 2:1 ratio for the plants that were cut back and altered within the back yard area of this property.

The proposed Natural Perfection grass seed mix (native Cape Cod collection, low maintenance, drought tolerant, low to no watering need) will be planted at the appropriate growing season for this specific coastal grass species (August to October15 and/or April to June 15). The various bushes will be planted according to guidelines for optimal growth. The Beach Plum shrubs will be planted at least 6' on center. These native plants will be planted during the fall growing season. The Highbush Blueberry and Northern Arrowwood will be planted in early spring. The Carolina Rose will be planted in the late spring. These newly planted shrubs should be watered for a few weeks after planting and during the growing season.

These newly planted native plant species should be monitored for at least two full growing seasons after planting. Any new plant species which do not survive two full growing seasons must be replaced in-kind by the property owners.

Paul J. Shea, PWS
President

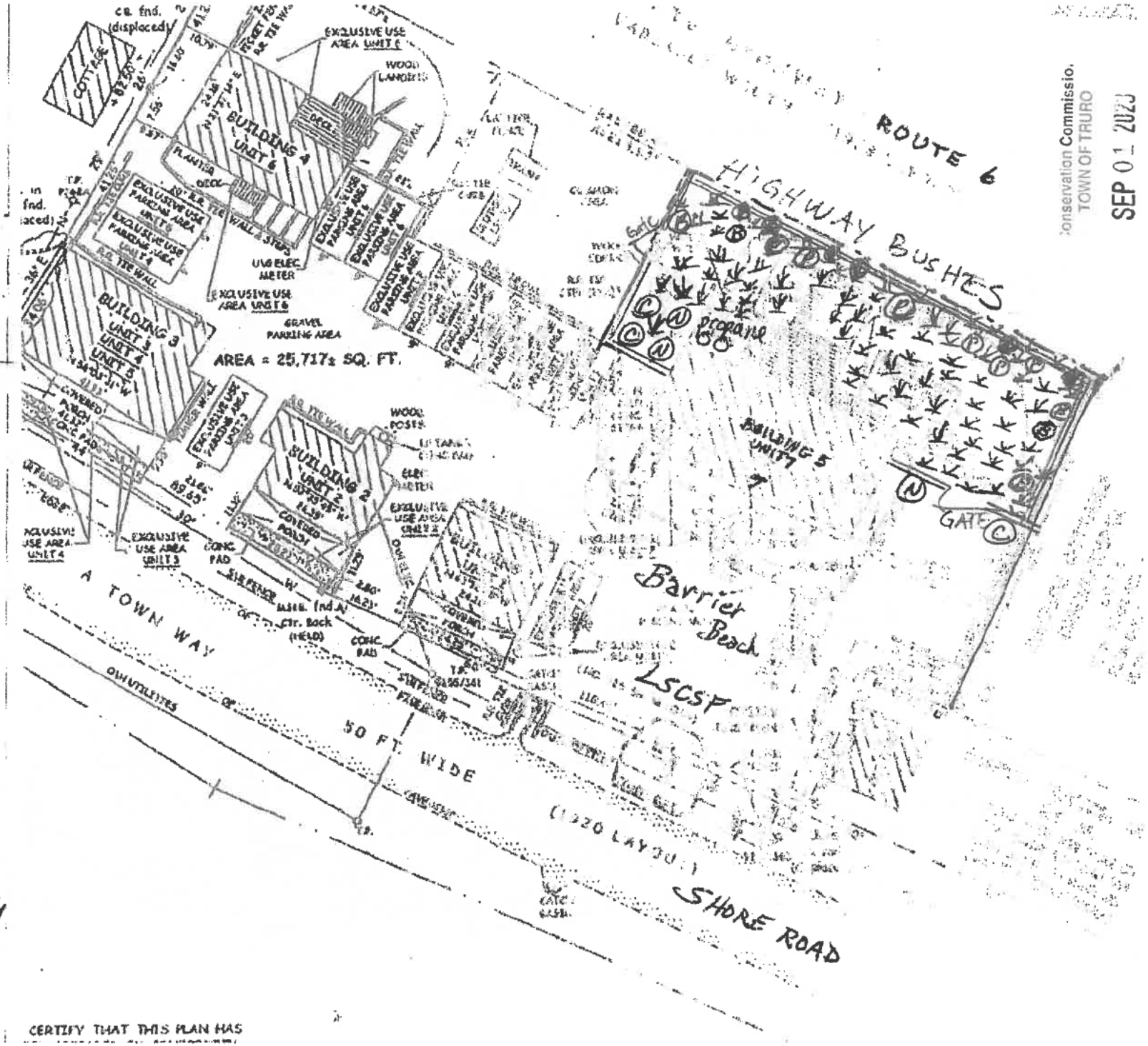
Unit 7
525 Shore Road
Truro, MA

Planting Plan

Natural Perfection (Cape Cod grass) ↓
Highbush Blueberry (B)
Carolina Rose (C)
Beach Plum (F)
Northern Arrowood (N)

Restoration Area
Replant

Fence Area



Conservation Commission
TOWN OF TRURO
SEP 01 2023

Silvermail property

* Planting Plan
August 2023

CERTIFY THAT THIS PLAN HAS

August 31, 2023

Truro Conservation Commission

Truro Town Hall

24 Town Hall Road

Truro, MA 02666

Conservation Commission
TOWN OF TRURO
SEP 01 2023

Dear Commission Members,

My family became year-round residents of Truro two years ago. We decided to move from Western Massachusetts to take advantage of the opportunities offered for our sons, now ages 13 and 16. We are thrilled beyond our wildest expectations and have all been very happy to live here. Our children have quickly adapted to life on the Cape.

The house we live in, 525 Shore Road, Unit 7, has become a home and the area we live in has been a wonderful playground for our children. We have worked hard to make sure the house and the yard is a safe place for them and the puppy they've adopted since moving here. One area we had been very concerned about is the growth of poison oak growing in the yard from the back bushes (adjacent to route 6). My husband, Paul, and my sons, James and Peter, are highly allergic to poison ivy and poison oak. Every time they went out to play in the yard – lacrosse, football, etc.- they broke out in blisters. Both last year and this year they had to go to the health center multiple times to receive treatment.

The intent of the backyard project (cutting back bushes and building the retaining wall) was due to this health concern, as well as repairing damage done to the property by the previous dog owners. There were very large swaths of ground that had been eroded by the dogs running and digging. The yard around the house was mostly made up of sand with little to no growth of grass. This made it very difficult for us to use the yard safely.

With our knowledge gained from living on a farm in Western Massachusetts we began the work. We were not aware of the strict guidelines of living on Beach Point. We apologize for the trouble it has caused and are hoping to remedy the situation by creating a yard that will contribute to the natural environment we live in.

After many hours of research and working with Paul Shea, president of Independent Environmental Consultants, Inc. and Mark Lavoie, owner of Lavoie Horticulture Inc. (previously known as Colonial Seed Co.) we are requesting to replant the back and side yard area with Natural Perfection native grass mix and a variety of bushes including Beach Plum, Highbush Blueberry, Carolina Rose, and Northern Arrowwood.

The owner of the property (prior to the most recent owner) had planted a wide variety of plants, many of which are not native (i.e. cactus). Over the years the areas in the front and sides of the house have become overgrown and unmanageable. Completing this restoration plan will address this problem and cover a much broader problem than just the strip of land in the far back.

The desire to install a fence is due to the fact that we live between two very busy roads, Shore Road and Route 6. As I said, in addition to having children who want to play in the back yard, we have a dog. We had a very scary incident when our puppy unexpectedly got off-leash and was very nearly hit by a car. The type of fence we would like to use (alternating slats of wood) is based on our experience with the same fence at 660 Shore Road. It has space between each piece of wood to allow wind, plants and wildlife to move through.

I have learned a lot throughout this process about our unique environment, plant life, regulations protecting the Cape and specific nature-based infrastructures. I am very excited to continue with this plan and work on growing these native plants, including doing a little Cape "farming" and harvesting some Beach Plums and blueberries.

Thank you for you guidance and the work you do.

Sincerely,

Cheryl Silvernail

Conservation Commission
TOWN OF TRURO
SEP 01 2023

Cheryl Silvernail

(4)

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

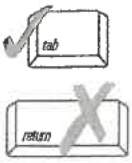
Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Truro
City/Town

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



Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

40 Fisher Road — a. Street Address
Truro — b. City/Town
02666 — c. Zip Code

Latitude and Longitude:
d. Latitude
e. Longitude

53 — f. Assessors Map/Plat Number
34 — g. Parcel /Lot Number

2. Applicant:

Janet L. — a. First Name
Capasso — b. Last Name
c. Organization
P.O. Box 143, 1 Grouse Run — d. Street Address
Truro — e. City/Town
MA — f. State
02666 — g. Zip Code
613-763-3416 — h. Phone Number
i. Fax Number
janetcapasso@gmail.com — j. Email Address

3. Property owner (required if different from applicant): ☐ Check if more than one owner

a. First Name
b. Last Name
Janet L. Capasso Family Trust & Capasso Elliot P & Fontana Chris c/o Chris Fontana — c. Organization
9380 Gulf Shore Dr, Apt 306 — d. Street Address
Naples — e. City/Town
FL — f. State
34108 — g. Zip Code
613-763-3416 — h. Phone Number
i. Fax Number
j. Email address

Conservation Commission
TOWN OF TRURO
JUL 27 2023

4. Representative (if any):

Paul — a. First Name
Shea — b. Last Name
IEC — c. Company
162 West Long Pond Road — d. Street Address
Plymouth — e. City/Town
MA — f. State
02360 — g. Zip Code
508-274-0310 — h. Phone Number
i. Fax Number
paulshea162@gmail.com — j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

$110.00 — a. Total Fee Paid
42.50 — b. State Fee Paid
$67.50 — c. City/Town Fee Paid

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Truro
City/Town

A. General Information (continued)

6. General Project Description:

Proposed Title 5 upgrade to existing septic system to replace a cesspool, 40 Fisher Road, Truro, MA. Proposed site alterations will occur within the 100' buffer zone of a coastal bank and salt marsh located on the other side of Fisher Road. Alterations will be in an upland area located outside of the 100 year flood zone, FEMA Zone AE El.12.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

1. ☐ Single Family Home
2. ☐ Residential Subdivision
3. ☐ Commercial/Industrial
4. ☐ Dock/Pier
5. ☐ Utilities
6. ☐ Coastal engineering Structure
7. ☐ Agriculture (e.g., cranberries, forestry)
8. ☐ Transportation
9. ☒ Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. ☐ Yes ☒ No

If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

a. County	b. Certificate # (if registered land)
Barnstable	
c. Book	d. Page Number
21927	76

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

1. ☒ Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
2. ☐ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

PROJECT DESCRIPTION – 40 Fisher Road, Map 53, Lot 34, Truro, MA

The proposed project by the applicant includes a septic system upgrade with the installation of a new Title 5 septic system (Alternative Technology – Advantex system) to replace the antiquated cesspool located within the property. This new Title 5 septic system will be a significant improvement for the collection and treatment of wastewater within the subject property, the local groundwater system, and the adjacent wetland resource areas located on the other side of Fisher Road (paved road). The existing cesspool will be removed from the property.

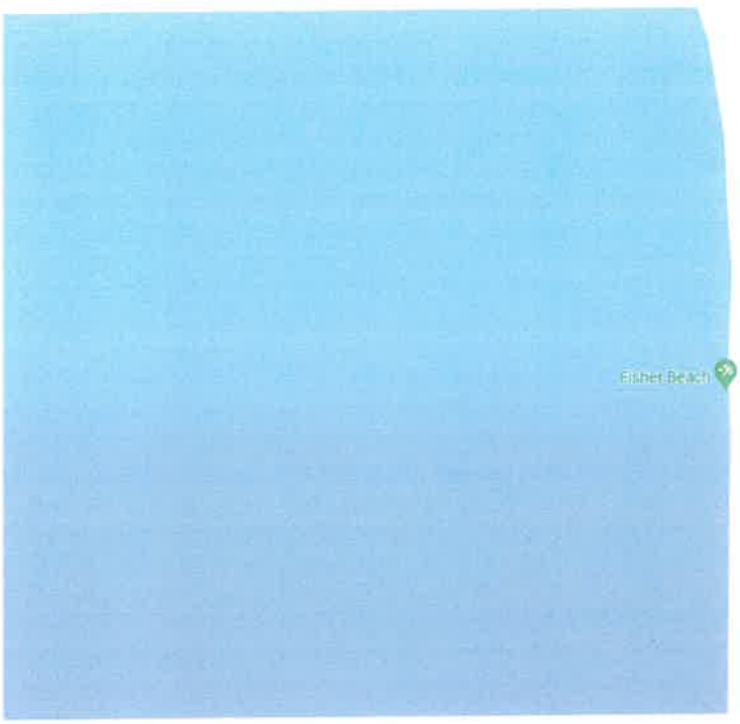
The subject property is located adjacent to coastal wetland resource areas. There is a coastal bank, and a salt marsh located off-property, located on the other side or eastern side of Fisher Road from the subject property. The 100' buffer zone from the boundary of the salt marsh, and from the top of coastal bank extends across Fisher Road to the subject property. There is a FEMA 100 year flood zone (AE El. 12), Land Subject to Coastal Storm Flowage, which extends onto the subject property at 40 Fisher Road. No site alterations are proposed within the FEMA 100 year flood zone area. No alterations are proposed within the 50' buffer zone of the wetland resource areas, which includes the location of Fisher Road, which is located within the 50' buffer zone of the coastal bank and salt marsh. Alterations will occur within upland areas of land, within the eastern section of the property, adjacent to the existing house.

The proposed project will not alter any areas of the FEMA 100 year flood zone (El. 12) located within the far eastern section of the subject property. The proposed project and subject property is separated from the top of coastal bank and the boundary of the salt marsh (Flags A3 – A6) by Fisher Road. The off-property coastal bank and the salt marsh are located to the east of Fisher Road. Proposed site alterations will occur within the 50 to 100' buffer zone of the top of coastal bank and the edge of the salt marsh located on the other side of Fisher Road. Again, Fisher Road (paved road) is located within the 50' buffer zone of the coastal bank and salt marsh (off-property) located just to the east of Fisher Road. The proposed Title 5 Advantex alternative technology septic system will be a significant improvement to the local groundwater system, and the subject wetland resource areas (coastal bank, salt marsh) located downgradient on the other side or eastern side of Fisher Road, from the subject property at 38 Fisher Road. Adequate erosion/sedimentation controls will be utilized at the limit of work lines to protect the downgradient salt marsh from any sedimentation impacts during the construction phase of this project.

The proposed project meets the performance standards of the Wetlands Protection Act. The removal of the old cesspool, and the installation of a new Advanced Technology (Advantex) septic system to replace the old cesspool within this property is a positive environmental impact to the water quality of the local groundwater system, and to the downgradient wetland resource areas (coastal bank and salt marsh) located on the other side or eastern side of Fisher Road in Truro.

Conservation Commission
TOWN OF TRURO
JUL 27 2023

Google Maps 40 Fisher Rd



Conservation Commission
TOWN OF TRURO
JUL 27 2023

40 Fisher Rd

Building

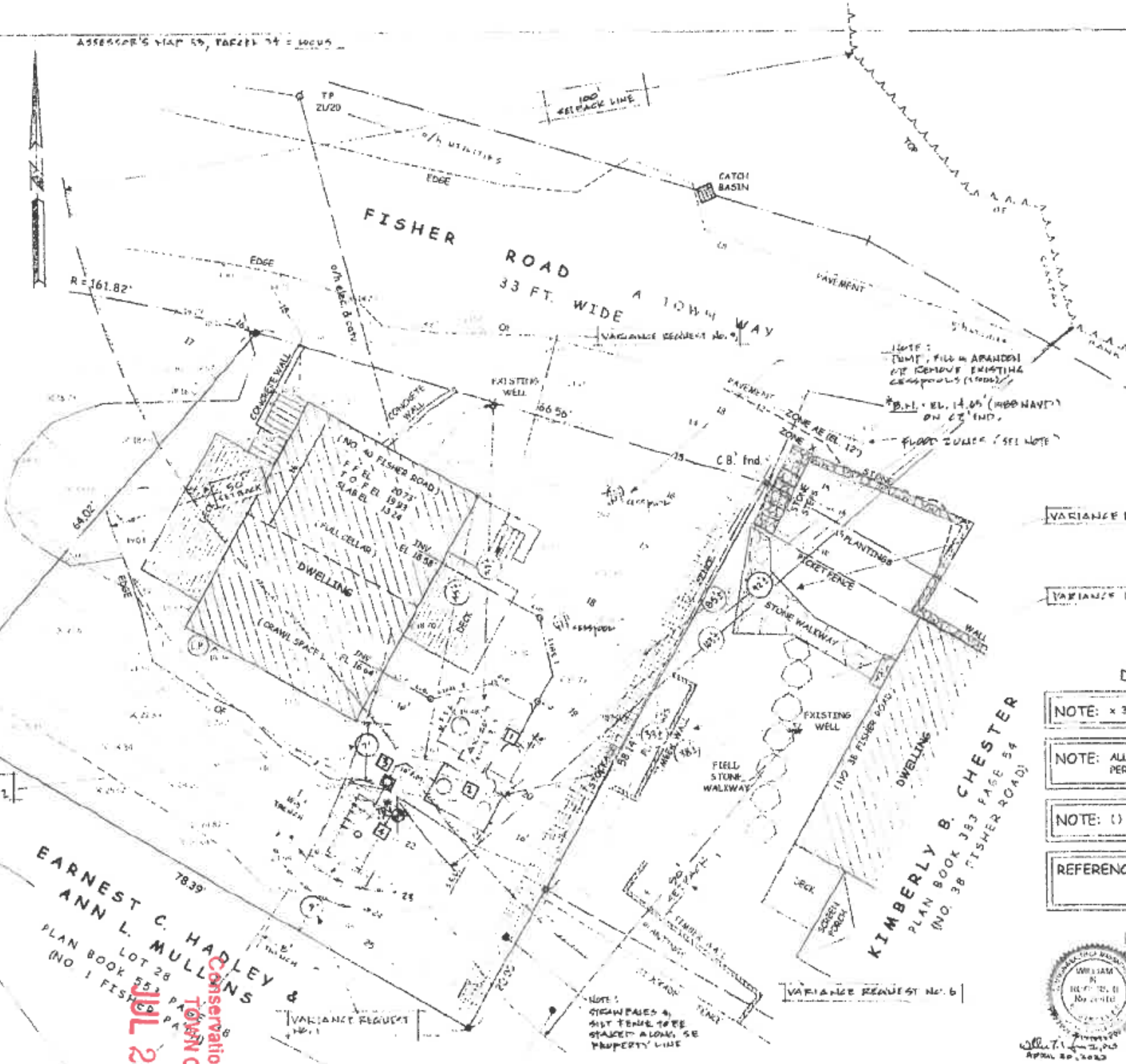
Directions Save Nearby Send to phone Share

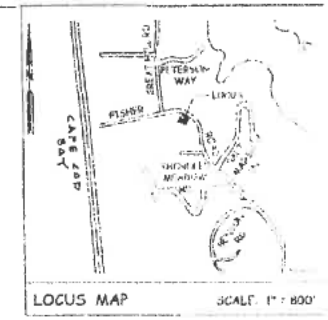
40 Fisher Rd, Truro, MA 02666

Photos

Variance Requests:

1. From 310 CMR 15.211(1) to allow proposed S.A.S. to be located less than ten (10') feet from the SW property line.
   10 ft. Required - 9 ft. Provided.
2. From 310 CMR 15.211(1) to allow proposed S.A.S to be located less than twenty (20') feet from Crawl Space at Locus.
   20 ft. Required - 7 ft. Provided.
3. From 310 CMR 15.211(1) to allow proposed Septic Tank & Pump Chamber to be located less than (50') feet from the Existing Well at Locus.
   50 ft Required . Septic Tank - 37 ft. Provided.
   Pump Chamber - 45 ft. Provided.
4. From 310 CMR 15.211(1) to allow proposed Septic Tank & Pump Chamber to be located less than (50') feet from the Existing Well at 38 Fisher Road.
   50 ft. Required : Septic Tank - 33 ft. Provided.
   Pump Chamber - 38 ft. Provided.
5. From 310 CMR 15.211(1) to allow proposed S.A.S to be located less than one hundred (100') feet from the Existing Well at Locus.
   100 ft. Required - 50 ft. Provided.
6. From 310 CMR 15.211(1) to allow proposed S.A.S to be located less than one hundred (100') feet from the Existing Well at 38 Fisher Road
   100 ft. Required - 50 ft. Provided.
7. Per Section 6, Article 9 of Local Board of Health Regulations to allow the proposed Septic Tank, and S.A.S. to be located less than one hundred (100') feet & one hundred and fifty (150'), respectively, from the existing Resource Area Wetland (Coastal Bank):
   Septic Tank - 100 ft. Required - 85 ft. Provided.
   Pump Chamber - 100 ft. Required - 92 ft. Provided.
   S.A.S. - 103 ft. Provided.





JUL 27 2023
Conservation Commission
TOWN OF TRURO

NOTE: FLOOD ZONES AS SHOWN ON FLOOD INSURANCE RATE MAP NO. 25001C0227J FOR THE TOWN OF TRURO COMMUNITY NO 255222 DATED JULY 16, 2014

LEGEND:
- S.S.L. = SEPTIC SYSTEM LINE
- C.O. = CLEAN OUT
- D.M.H. = DRAINAGE MANHOLE
- M.H. = MANHOLE
- S.M.H. = SEWER MANHOLE
- Ⓦ = WATER GATE
- T.P. = UTILITY POLE
- U/G = UNDERGROUND
- L.P. = LIQUID PROPANE
- o/h = OVERHEAD
- 16.44x = EXISTING SPOT ELEVATION
- (14) = PROPOSED CONTOUR
- (10) = EXISTING CONTOUR
- WF = WETLAND FLAG
- 15.5 = PROPOSED SPOT ELEVATION
- S.A.S. = SOIL ABSORPTION SYSTEM

NOTE: BOUNDARY OF THE WETLAND RESOURCE AREAS WERE DETERMINED IN THE FIELD WITH THE ASSISTANCE OF PAUL J. SHEA, P.W.S., INDEPENDENT ENVIRONMENTAL CONSULTANTS ON APRIL 20, 2021.

NOTE: STRAW BALES & SILT FENCE TO BE STAKED ALONG SE PROPERTY LINE

SEPTIC COMPONENTS:

1. PROPOSED 1500 GAL (H-10) (MONO) ADVANTEX PROCESS TANK WITH AX-20 FILTER UNIT IN MODE 3 CONFIGURATION.
2. PROPOSED 1000 GAL. (H-10) (MONO) PUMP CHAMBER.
3. PROPOSED DBS (H-10) "D" BOX
4. PROPOSED SOIL ABSORPTION SYSTEM (S.A.S.) (1) CULTEC RECHARGER 330 XLHD IN 10.5' x 8' x 2' D LEACHING TRENCH

DATUM: 1988 N.A.V.D.

NOTE: x 34.55' DENOTES SPOT ELEVATION

NOTE: ALL BUILDING OFFSETS ARE MEASURED PERPENDICULAR TO THE PROPERTY LINES

NOTE: ( ) DENOTES RECORD INFORMATION

REFERENCE: PLAN BOOK 553 PAGE 38
PLAN BOOK 439 PAGE 43
DEED BOOK 21927 PAGE 76

SCALE OF FEET
5 10

WILLIAM N. ROGERS II
April 20, 2023

PLAN OF LAND
IN
TRURO
DEPICTING A
SANITARY SUBSURFACE SEWAGE DISPOSAL SYSTEM UPGRADE
AS PREPARED FOR
JANET L. CAPASSO & DAVID L. PARKER
(No. 40 FISHER ROAD)

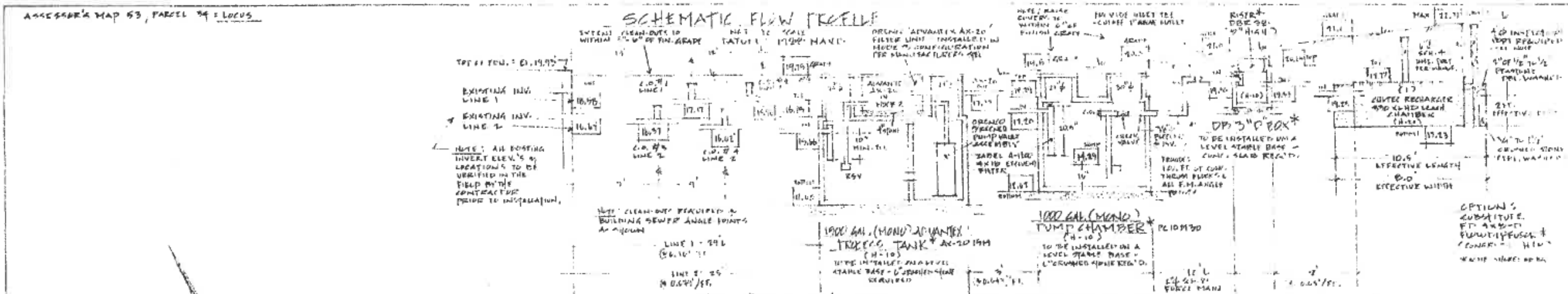
SCALE: 1" = 10'-0"   APRIL, 2023

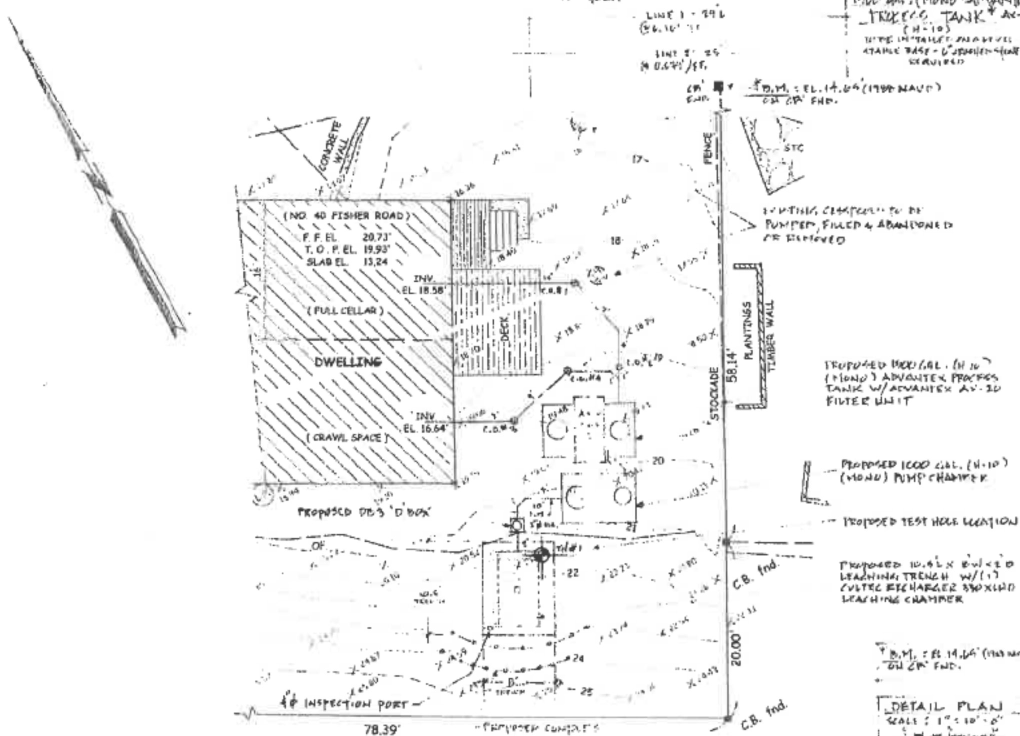
WILLIAM N. ROGERS
PROFESSIONAL
CIVIL ENGINEERS & LAND SURVEYORS
41 OFF CEMETERY ROAD, PROVINCETOWN, MASS

S.1

T-23-2188

ASSESSOR'S MAP 53, PARCEL 39 = LOCUS





PRECAST TANK GENERAL NOTES

1. SEPTIC TANK TO BE SEALED COMPLETELY w/ SYNTHETIC POLYMER SEALER.
2. SEAL ALL SEAMS w/ PRECO PATCH HYDRAULIC CEMENT OR APPROVED EQUAL (SHOREY E-2 WRAP).
3. ALL PRECAST COMPONENTS TO BE ACME SHOREY PRECAST.

D' BOX TO BE VENTED THRU SPECIAL VENT OR BLDG SEWER

NOTE: MAINTAIN EFFLUENT FILTER BY RINSING W/ WATER MIN. ONCE/ YEAR. OPTION PROVIDE CABEL "SMARTFILTER" ALARM FOR MAINTAINANCE NOTIFICATION.

NOTE PROVIDE EFFLUENT FILTER @ PUMP CHAMBER INLET. ZABEL A-1800 WITH SMART FILTER ALARM

Inspection Port Required:

Minimum (1) 4"Ø Sch. 40 PVC perforated pipe shall be placed vertically down into the stone to the naturally occurring soil or sand fill below the stone. Pipe/s shall be capped with a screw type cap, and accessible to within 3" of Finish Grade

LOCUS MAP — SCALE: 1" =

LEGEND:

- S.A.S. = SOIL ABSORPTION SYSTEM
- — W — = WATER SERVICE
- — E — E — = UNDERGROUND
- (W) = WATER GATE
- = EXIST'G CONTOUR
- = PROPOSED CONTOUR
- TH #1 = TEST HOLE LOCATION
- X = EXISTING SPOT ELEV.
- B.S.L. = BUILDING SETBACK LINE
- S.S.L. = SEPTIC SETBACK LINE
- U.P. = UTILITY POLE
- CO = CLEANOUT
- 20.25 = PROPOSED SPOT ELEV.

DETAIL PLAN
SCALE: 1" = 10'-0"

GENERAL NOTES:

1.) ALL SYSTEM COMPONENTS SHALL BE INSTALLED IN ACCORDANCE W/ TITLE 5 OF THE SANITARY CODE & ANY APPLICABLE REGULATIONS.
2.) PRIOR TO BACKFILLING THE INSTALLATION, THE ENGINEER & HEALTH AGENT SHALL BE NOTIFIED FOR INSPECTION.
3.) ANY ALTERATIONS TO THIS DESIGN MUST BE APPROVED BY THE ENGINEER & BOARD OF HEALTH, IN WRITING.
4.) ALL LINES SHALL BE 4" DIA. SCH. 40 PVC PIPE PITCHED 0.010'/FT. MINIMUM, EXCEPT AS NOTED.
5.) ANY/ALL UNDERGROUND UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO SYSTEM INSTALLATION. (CONTACT DIG SAFE)
6.) ALL UNSUITABLE MATERIAL WITHIN 5 FT. IN ALL DIRECTIONS FROM THE SOIL ABSORPTION SYSTEM SHALL BE REMOVED & REPLACED W/CLEAN, COARSE WASHED SAND.
7.) ALL FILL MATERIAL UTILIZED FOR THE SOIL ABSORPTION SYSTEM SHALL BE CLEAN, COARSE, WASHED SAND FREE FROM DELETERIOUS MATERIAL & SHALL HAVE A PERC. RATE OF LESS THAN 2 MIN/IN. BEFORE & AFTER PLACEMENT.
8.) ALL FILL SERVICING THE SOIL ABSORPTION SYSTEM SHALL BE PROPERLY PLACED & COMPACTED TO MINIMIZE SETTLEMENT.
9.) FINISH GRADES SHALL COMPLY W/MINIMUM COVER & SLOPE SETBACK REQUIREMENTS OF TITLE 5.
10.) DURING INSTALLATION, THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ADEQUATE PROTECTION TO ABUTTING PROPERTIES & TO MAINTAIN A SAFE EXCAVATION AREA.
11.) DATUM = 1988 NAVD
12.) PROVIDE SHOP DWGS. OF ALL PRECAST COMPONENTS FOR ENGINEERS APPROVAL - PER ENGINEERS REQUEST.
13.) IN CASE OF FAILURE - LEACHING TRENCH SHOULD BE REMOVED. REHABILITATED & REPLACED.

- TEST DATE APRIL 20, 2023
- TEST BY: L. SCHOFIELD - CERTIFIED SOIL EVALUATOR #SE 2173; C. WARREN - AGENT FOR BOARD OF HEALTH
- PERC. RATE: IN HORIZON C (-120") - SAND - < 2 MIN./IN.
- NO GROUNDWATER ENCOUNTERED.
- IT IS THE OPINION OF THE ENGINEER THAT THE SOIL PROFILE DOES NOT VARY THROUGHOUT THE LOT.

EL. 21.72' — TH #1

DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	COMMENTS
0 - 9"	FILL	VARIABLE	VARIABLE	NONE	
9" - 19"	A	LOAMY SAND	10YR 4/4		
19" - 42"	Bw		10YR 4/6		LOOSE
42" - 120"	C	SAND	10YR 5/6		

DEEP OBSERVATION HOLE LOGS

PUMP CHAMBER DETAIL

1000 GAL. PUMP CHAMBER

ALARM ON
PUMP ON
PUMP OFF

NOTES:

1. PUMP SHALL BE SUBMERSIBLE SEWAGE PUMP [illegible]
2. CONTROLS [illegible] HIGH WATER ALARM [illegible]
3. FORCE MAIN SHALL BE [illegible] SCH. 80 PVC [illegible]
4. PUMPS SHALL BE PLACED DIRECTLY UNDER ACCESS MANHOLE [illegible] INSTALLED PER MANUFACTURER'S SPECS.

DESIGN DATA:

1.) REQUIRED FLOW: 1 BEDROOMS* x 110 GPD/BEDROOM = 110 GPD. (EXISTING)

* DEED RESTRICTION REQUIRED.

2.) SEPTIC TANK CAPACITY 110 GPD x 2 = 220 GPD.

- USE (1) 1500 GAL. (MONO) ADVANTEX PROCESS TANK** (H-10) W/ ADVANTEX AX-20 [illegible] ON TOP OF TANK.

3. PUMP CHAMBER CAPACITY: 110 x 2 = 220 GAL.

- USE (1) 1000 GAL. (MONO) (H-10) PUMP CHAMBER**

4. LEACHING FACILITY:

[illegible]

USE (1) CULTEC RECHARGER 330XLHD LEACH CHAMBER IN 10.5' x 6' LEACHING TRENCH.

PLAN OF LAND

IN

TRURO

DEPICTING A

SANITARY SUBSURFACE SEWAGE DISPOSAL SYSTEM UPGRADE

AS PREPARED FOR

JANET L. CATASCA & DAVID L. PARKER

(NO. 40 FISHER ROAD)

SCALE: AS SHOWN — APRIL 2023

WILLIAM N. ROGERS, P.E., P.L.S. — APRIL 20, 2023

WILLIAM N. ROGERS
PROFESSIONAL
CIVIL ENGINEERS & LAND SURVEYORS
41 OFF CEMETERY ROAD, PROVINCETOWN, MASS

S.1

Conservation Commission
TOWN OF TRURO
AUG 21 2023

5

SAFE HARBOR
ENVIRONMENTAL MANAGEMENT
HABITAT RESTORATION

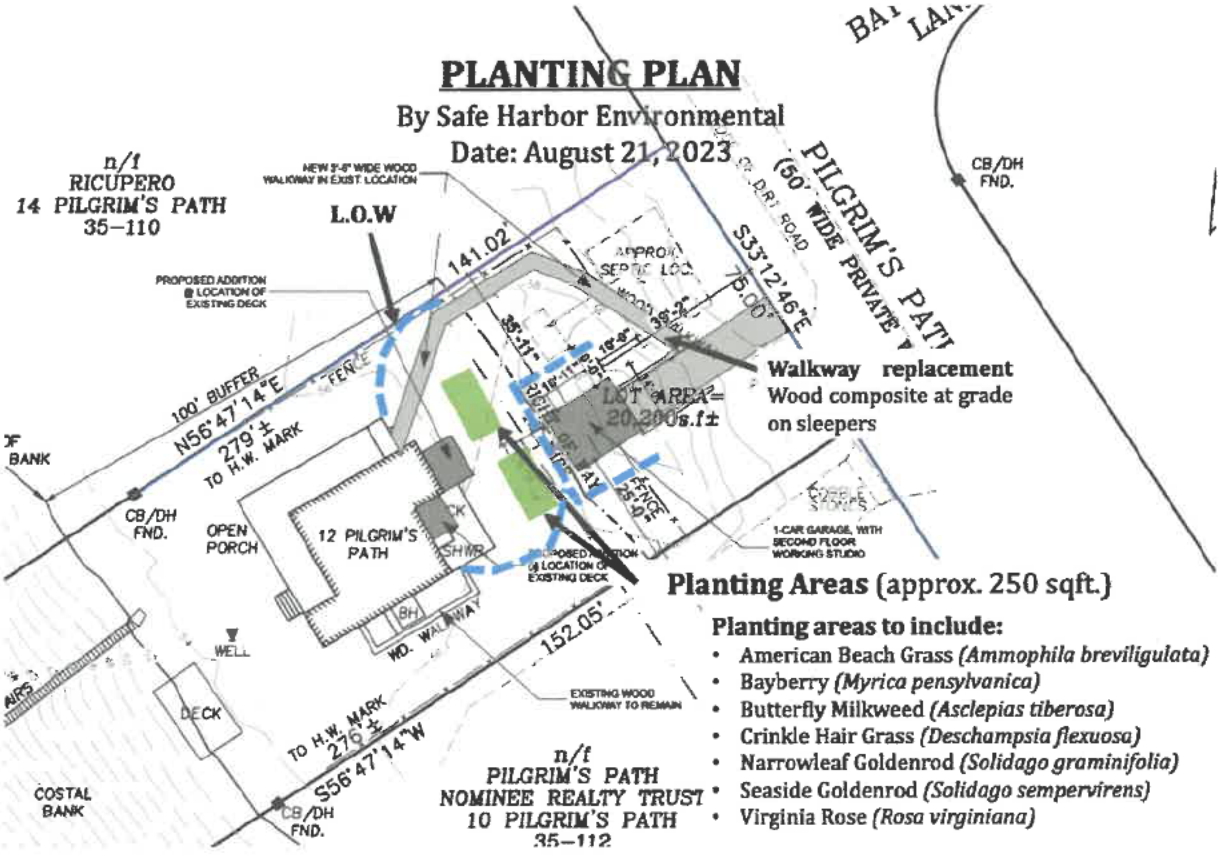
Date: August 21, 2023
To: Town of Truro Conservation Commission
Attn: Emily Beebe, Conservation Agent
Cc: Arozana Davis
From: Gordon Peabody, Safe Harbor Environmental
Office: 95 Commercial St. Room 211, Wellfleet, MA, 02667
Mail: P.O. Box 880, Wellfleet, MA, 02667
Contact: email gordonpeabody@gmail.com Phone: 508-237-3724
RE: NOI ANELLO, 12 PILGRIMS PATH, Truro – Map 35 – Parcel 111

The property owner wants to repurpose the streetside of their home, relocating a bathroom and kitchen over an existing deck and small increase of existing office space/mud room over existing deck. New bedroom space would fill in over and above the existing deck and larger office/mud room. A damaged wooden walkway leading up to the home would be removed and replaced with wood composite at grade on sleepers. A section of existing deck would remain. The existing footprint of the house and deck would not be changed. Erosion control system would be installed along the Limit of Work. Helical anchors (7) are proposed, instead of a concrete foundation, so there would be no excavation. A robust planting plan includes diverse native plantings in 2 areas. A Bylaw Variance is required.

PLANTING PLAN

By Safe Harbor Environmental

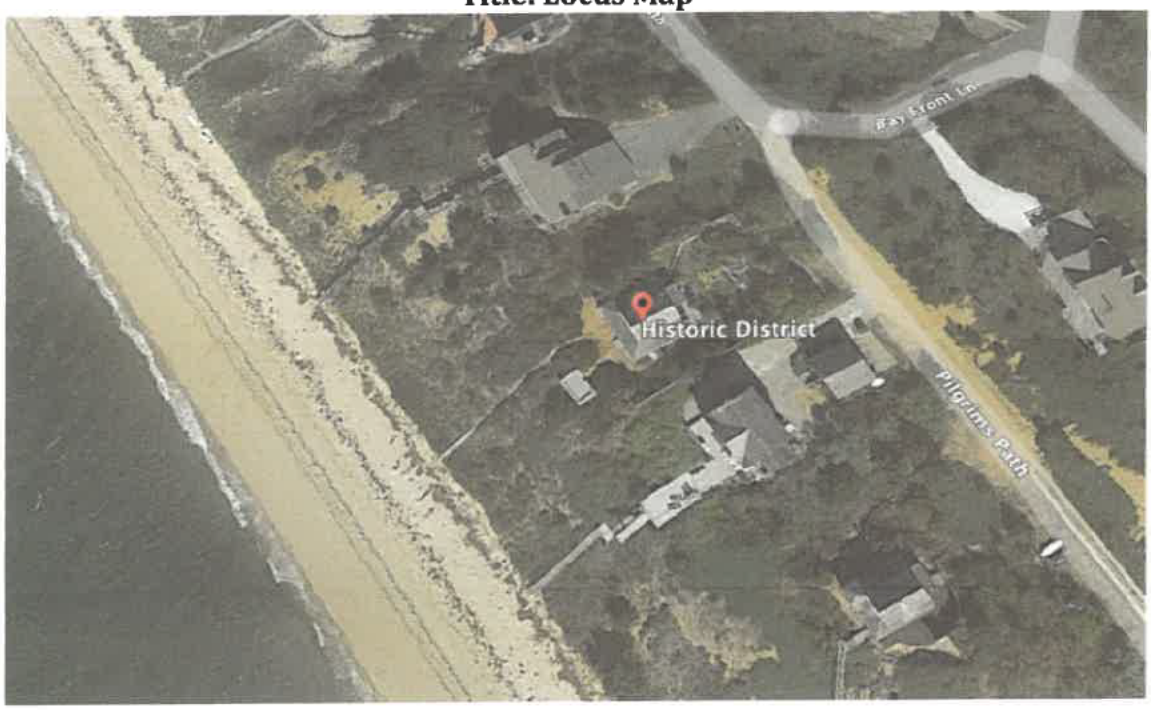
Date: August 21, 2023



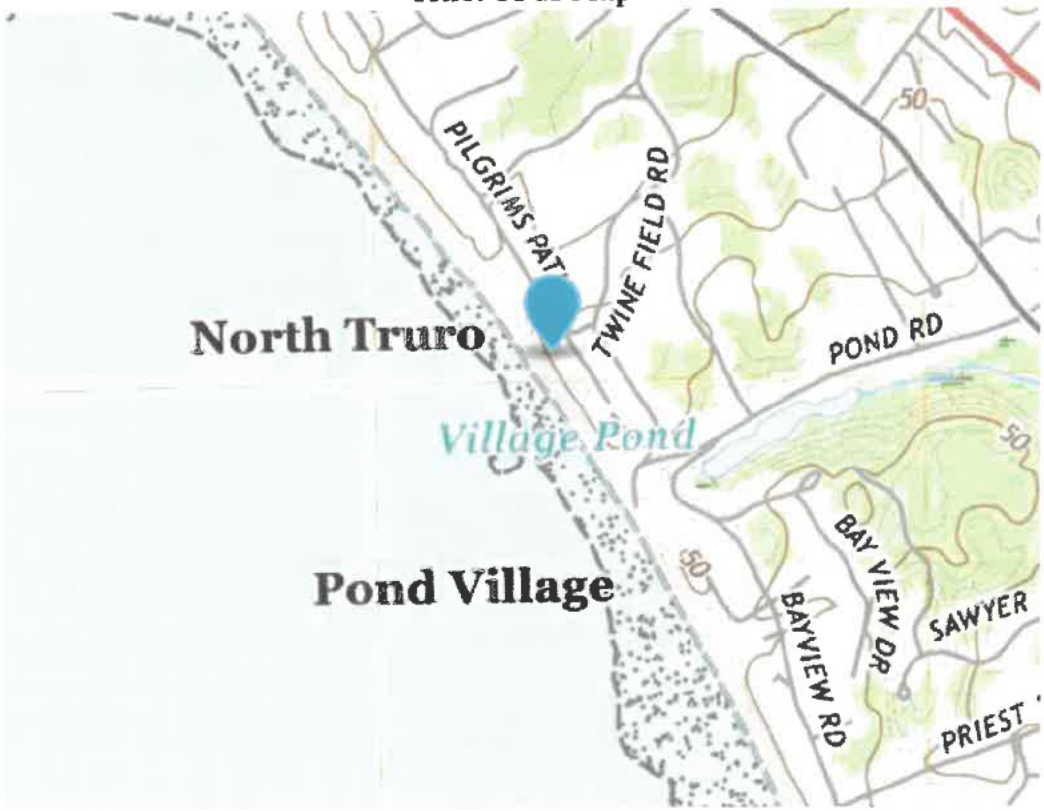
Planting areas to include:

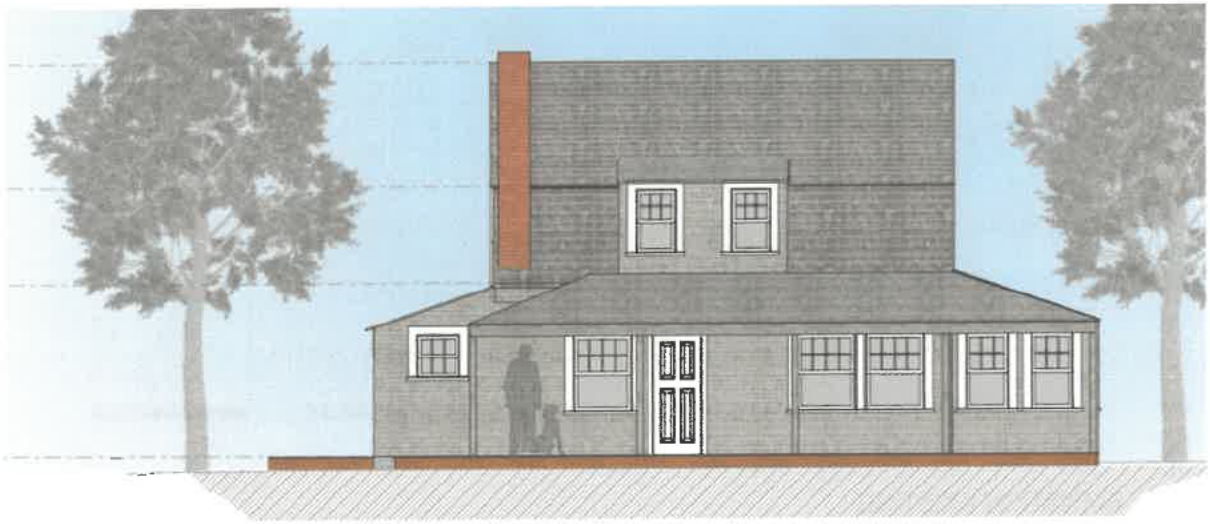
- American Beach Grass *(Ammophila breviligulata)*
- Bayberry *(Myrica pensylvanica)*
- Butterfly Milkweed *(Asclepias tiberosa)*
- Crinkle Hair Grass *(Deschampsia flexuosa)*
- Narrowleaf Goldenrod *(Solidago graminifolia)*
- Seaside Goldenrod *(Solidago sempervirens)*
- Virginia Rose *(Rosa virginiana)*

Title: Locus Map



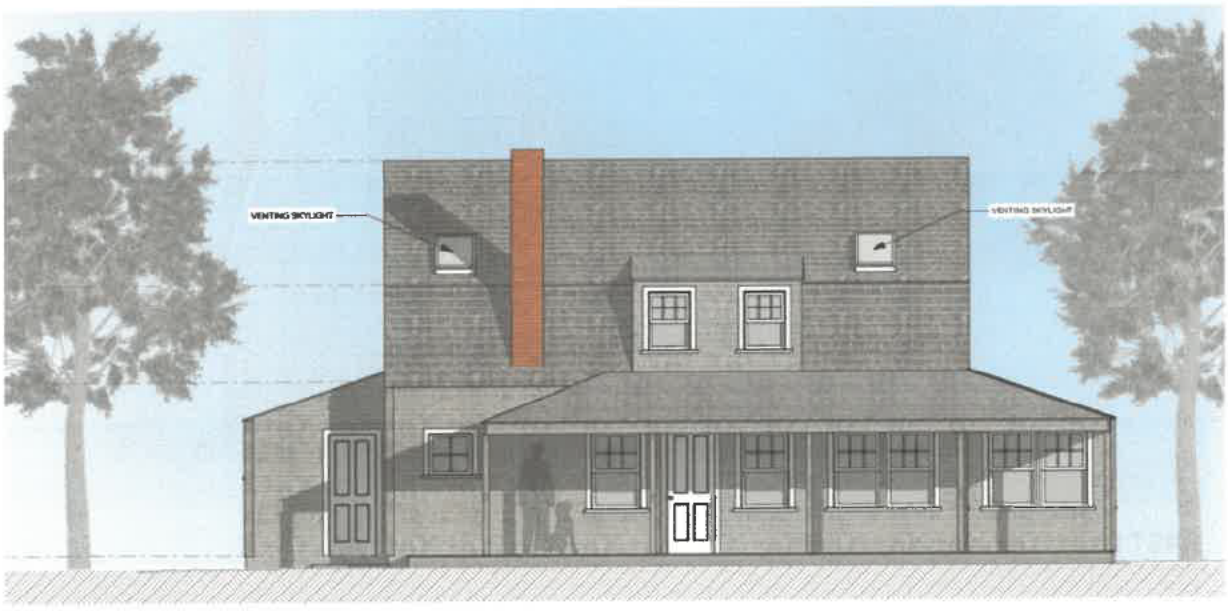
Title: USGS Map





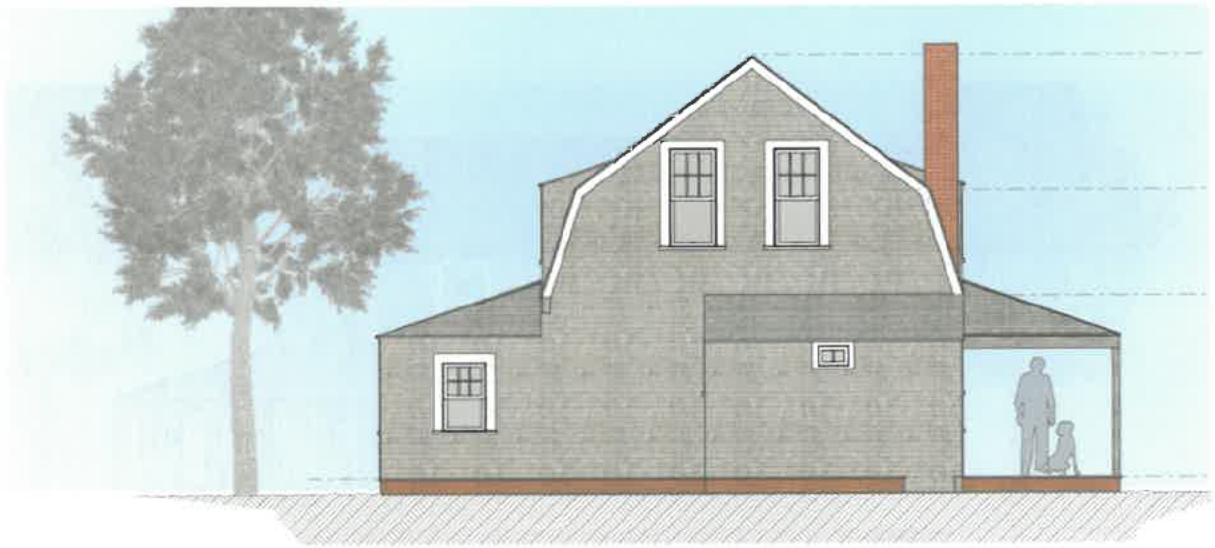
NORTH ELEVATION EXISTING

SCALE



NORTH ELEVATION PROPOSED B2

SCALE



EAST ELEVATION EXISTING

EAST ELEVATION PROPOSED B2

SAFE HARBOR
ENVIRONMENTAL MANAGEMENT
HABITAT RESTORATION

ANELLO NOI ENVIRONMENTAL MANAGEMENT PLAN AND ALTERNATIVES ANALYSIS

Date: August 21, 2023
To: Town of Truro Conservation Commission
Attn: Emily Beebe, Conservation Agent
Cc: Arozana Davis
From: Gordon Peabody, Safe Harbor Environmental
Office: 95 Commercial St. Room 211, Wellfleet, MA, 02667
Mail: P.O. Box 880, Wellfleet, MA, 02667
Contact: email gordonpeabody@gmail.com Phone: 508-237-3724
RE: NOI ANELLO, 12 PILGRIMS PATH, Truro – Map 35 – Parcel 111

SYNOPSIS:

The property owner is requesting to repurpose the streetside deck of their home by reconfiguring parts of a kitchen, bathroom, and mud room over some of the existing streetside deck and reconfiguring the second-floor bedroom above the same area. An existing, dangerously imperfect wooden walkway would be replaced with a safer (3'-6"wide), wood composite, at grade on sleepers. Erosion control system would be installed along the Limit of Work. Helical anchors (7) are proposed, instead of a concrete foundation, so there would be no excavation. A robust planting plan includes diverse native plantings in 250 sq ft area per submitted Planting Plan.
A Town of Truro Wetlands Protection Bylaw Variance is required (details shown below).

ALTERNATIVES ANALYSIS:

"A". Locate parts of addition spaces (bathroom/bedroom/mudroom) next to proposed garage, outside the 100' BZ on concrete foundations. 200 sq ft native planting area.
"B". Locate parts of addition spaces (bathroom/bedroom/mudroom) on waterside deck of existing house (50'BZ), excavation for concrete foundations. 200 sq ft native planting area.
"C". Locate parts of addition spaces (bathroom/bedroom/mudroom) on waterside deck of existing house, (50'BZ), on helical piles, with no excavation. 200 sq ft native planting area.
"D". Locate parts of additional spaces (bathroom/bedroom/mudroom) on northwestern side deck (60' BZ), excavation for concrete foundations. 200 sq ft native planting area.
"E". Locate parts of additional spaces (bathroom/bedroom/mudroom) on northwestern side deck (60' BZ), on helical piles, with no excavation. 200 sq ft native planting area.
"F". Locate parts of new spaces (bathroom/bedroom/mudroom) adjacent to pre-existing compatible use spaces (75'BZ), concrete foundations. 250 sq ft native planting area.
"G". Locate parts of new spaces (bathroom/bedroom/mudroom) next to pre-existing compatible use spaces (75'BZ) helical piles, no excavation. 250 sq ft native planting area.
PREFERRED ALTERNATIVE WITH LOWEST IMPACT TO RESOURCE AREA: "G"

NARRATIVE

DOCUMENT VALIDATION

1. The Commission issued Order of Conditions shall be recorded at Barnstable County Registry of Deeds.
2. Proof of said recording shall be provided to the Commission.
3. Site shall be professionally staked per approved site plan of Record (**SPOR**).
4. The DEP #, along with Safe Harbor contact information, shall be posted at the street and on the beach.

LIMIT OF WORK

1. Shall be staked as shown on site plan

EROSION CONTROL

1. Shall be installed as shown on site plan
2. Erosion control wattle and 24" silt fence, as shown on proposed site plan.
3. EC system shall also address adjacent activity area outside of BZ

PRE-CONSTRUCTION SITE MEETING

1. Safe Harbor will coordinate site meeting prior to exterior work commencing.
2. Safe Harbor shall provide regular project updates to the Commission.

DE-CONSTRUCTION

1. Per Safe Harbor publication "***DECONSTRUCTION***" G. Peabody 2020, 4 pgs.

FOUNDATION WORK

1. 7 helical anchors installed with backhoe, no excavation

MATERIALS MANAGEMENT

1. Worker parking and toilet will be outside BZ
2. Materials and demo storage will be outside BZ.

CONSTRUCTION

1. Per Architect's detailed plans, work done by hand

PERFORMANCE STANDARDS; SITE INSPECTIONS

1. Site shall be inspected by contractor at end of each work day to protect against unintentional migration of non indigenous materials into BZ.
2. EC shall be monitored weekly to maintain zero discharge performance standards
3. Shall be monitored following storm pulse events

PLANTING PLAN

1. Plantings will be made and monitored by trained Safe Harbor workers.
2. No fertilizers, pesticides or herbicides used.

UNSAFE WALKWAY

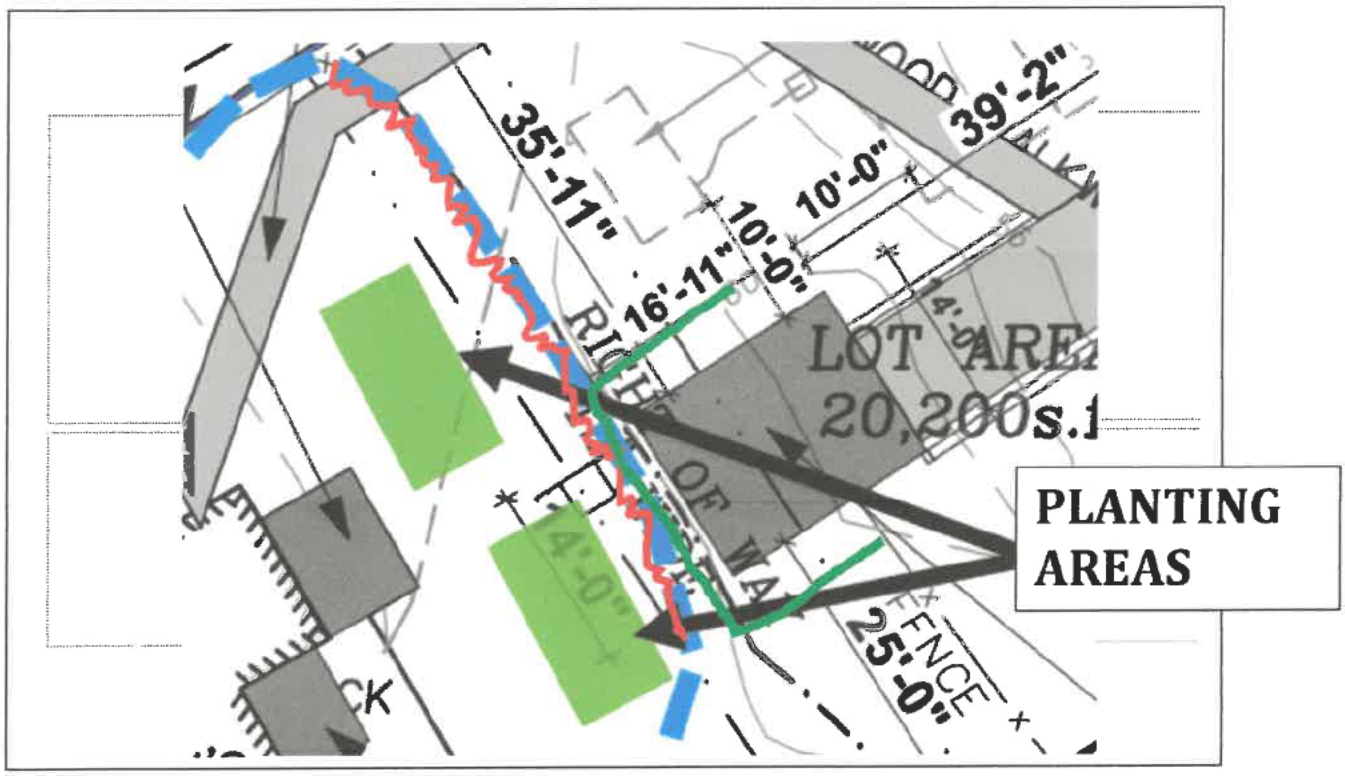
1. Removed by hand.
2. Replaced with composite wood (3'6" wide) on sleepers at grade.

EXISTING RINSE STATION IMPROVED

1. Soap less, outdoor rinse station will utilize Safe Harbor layered drywell.

PLANTING PLAN 12 Pilgrims Path

Plantings will be made by hand
Vegetation monitored by trained Safe Harbor workers.
End of growing season report sent to Commission
No fertilizers, pesticides or herbicides used.



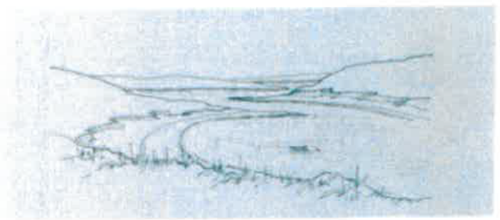
Planting areas to include:

- American Beach Grass *(Ammophila breviligulata)*
- Bayberry *(Myrica pensylvanica)*
- Butterfly Milkweed *(Asclepias tiberosa)*
- Crinkle Hair Grass *(Deschampsia flexuosa)*
- Narrowleaf Goldenrod *(Solidago graminifolia)*
- Seaside Goldenrod *(Solidago sempervirens)*
- Virginia Rose *(Rosa virginiana)*

270 CULMS 3/ PLANTING
10-3 GAL, 5'OC
50 PLUGS 3' OC
50 PLUGS 3' OC
50 PLUGS 3' OC
50 PLUGS 3' OC
4-2 GAL, RANDOM

Conservation Commissio
TOWN OF TRURO
AUG 29 2023

SAFE HARBOR
ENVIRONMENTAL MANAGEMENT
HABITAT RESTORATION



ANELLO NOI ENVIRONMENTAL MANAGEMENT PLAN AND ALTERNATIVES ANALYSIS

ADDENDUM: ALTERNATIVES ALALYSES FOR FOR UNSAFE WALKWAY REPLACEMENT

Date: August 21, 2023
To: Town of Truro Conservation Commission
Attn: Emily Beebe, Conservation Agent
Cc: Arozana Davis
From: Gordon Peabody, Safe Harbor Environmental
Office: 95 Commercial St. Room 211, Wellfleet, MA, 02667
Mail: P.O. Box 880, Wellfleet, MA, 02667
Contact: email gordonpeabody@gmail.com Phone: 508-237-3724
RE: NOI ANELLO, 12 PILGRIMS PATH, Truro – Map 35 – Parcel 111

SYNOPSIS: (EXERPTED FROM NOI)

The property owner is requesting to repurpose the streetside deck of their home by reconfiguring parts of a kitchen, bathroom and mud room over some of the existing streetside deck and reconfiguring the second-floor bedroom above the same area. **An existing, dangerously narrow, wooden walkway would be replaced with a safer (3'-6"wide), wood composite, at grade on sleepers.** Erosion control system would be installed along the Limit of Work. Helical anchors (7) are proposed, instead of a concrete foundation, so there would be no excavation. A robust planting plan includes diverse native plantings in 250 sq ft area per submitted Planting Plan.

A Town of Truro Wetlands Protection Bylaw Variance is required (details below).

1. **LEAVE DAMAGED, NARROW, RAISED WALKWAY IN PLACE** Unsafe as is for use
2. **REPLACE WITH MOBYMAT** intended for straight line, seasonal beach use
3. **REPLACE SAME FOOTPRINT (18") RAISED WALKWAY** Unsafe width, excavation
4. **REPLACE WIDER (3'6") RAISED WALKWAY** excess structure, excavation
5. **REPLACE SAME FOOTPRINT(18")CONCRETE WALKWAY** excavation, sheet flow
6. **REPLACE WIDER (3'6") CONCRETE WALKWAY** excavation, excess sheet flow
7. **REPLACE SAME FOOTPRINT18"CLAY HARDNER/NATIVE SHELLS** sheet flow
8. **REPLACE WIDER (3'6") CLAY HARDNER/NATIVE SHELLS** excess sheet flow
9. **REPLACE SAME FOOTPRINT (18") WOOD COMPOSITE ON SLEEPERS AT GRADE**
   Unsafe width, prefab sections, spaced treads accommodate stormwater, no excavation.
10. **REPLACE WIDER (3'6") WOOD COMPOSITE ON SLEEPERS AT GRADE**
    Safe width, prefab sections, no excavation, spaced treads accommodate stormwater

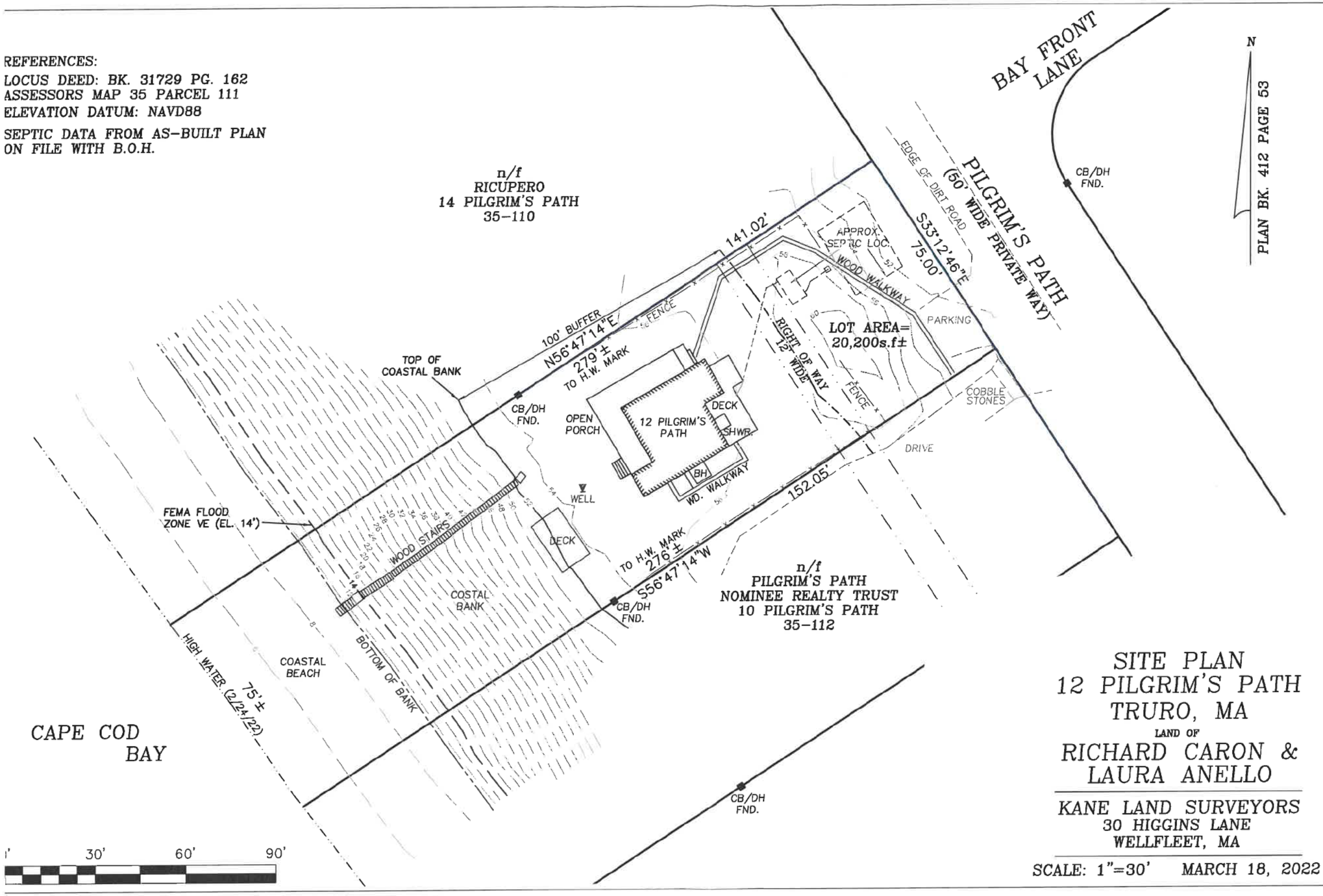
#10 PREFERRED ALTERNATIVE:

Safe width, recycled product, walkway sections can be pre made outside BZ, no excavation required, spaced treads at grade will facilitate stormwater percolation.

REFERENCES:

LOCUS DEED: BK. 31729 PG. 162
ASSESSORS MAP 35 PARCEL 111
ELEVATION DATUM: NAVD88

SEPTIC DATA FROM AS-BUILT PLAN
ON FILE WITH B.O.H.



SITE PLAN
12 PILGRIM'S PATH
TRURO, MA

LAND OF

RICHARD CARON & LAURA ANELLO

KANE LAND SURVEYORS
30 HIGGINS LANE
WELLFLEET, MA

SCALE: 1"=30' MARCH 18, 2022

1 SITE PLAN EXISTING
SCALE: 1" = 20'

Hammer Architects
19 Bishop Allen Drive
Cambridge, MA 02139
617.876.5121

Title: SITE PLAN EXISTING
Scale: As Noted
Date: 08.15.23 NOT FOR CONSTRUCTION

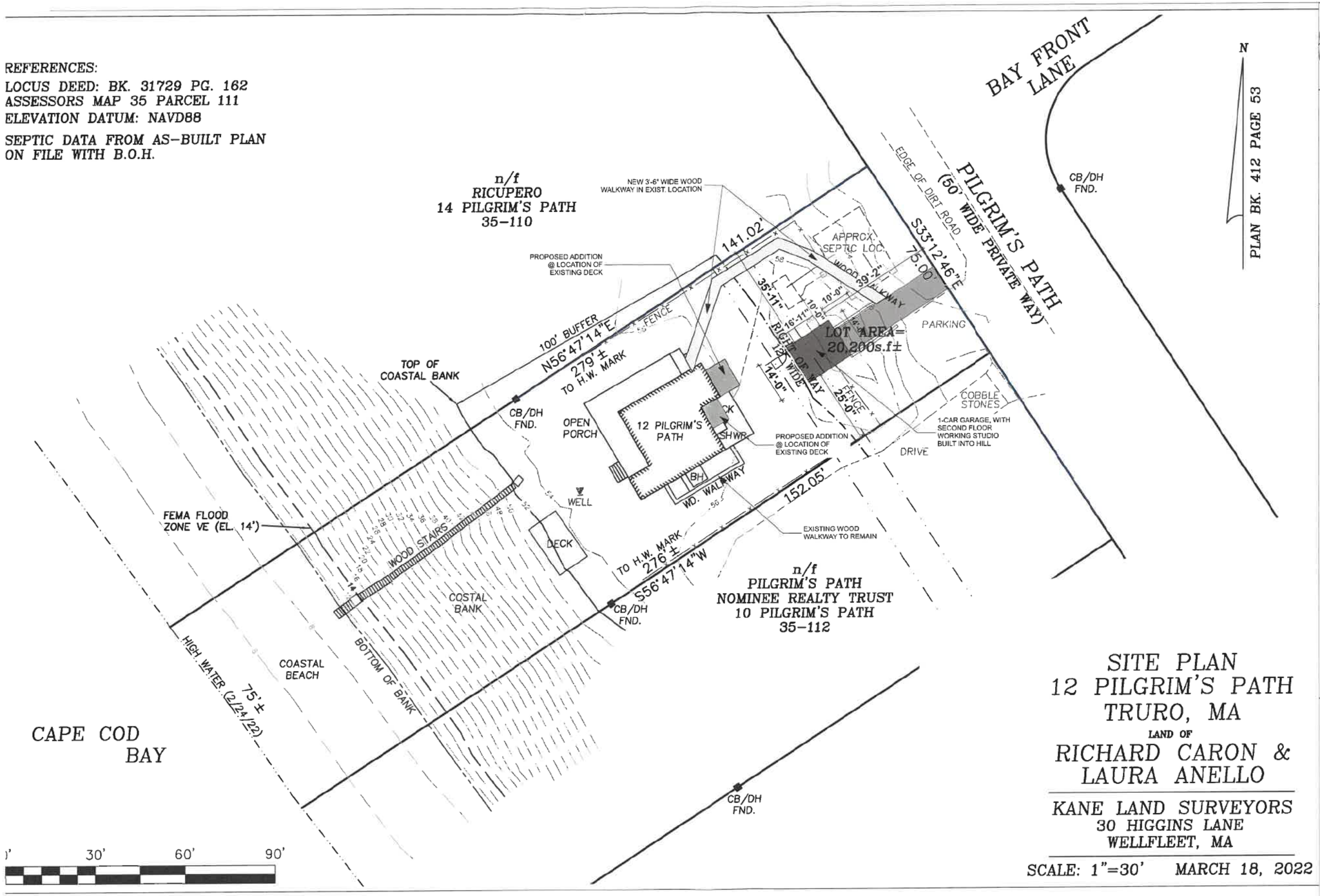
Anello Residence
12 Pilrim's Path
Truro, MA

L-1

REFERENCES:

LOCUS DEED: BK. 31729 PG. 162
ASSESSORS MAP 35 PARCEL 111
ELEVATION DATUM: NAVD88

SEPTIC DATA FROM AS-BUILT PLAN
ON FILE WITH B.O.H.



SITE PLAN
12 PILGRIM'S PATH
TRURO, MA

LAND OF

RICHARD CARON & LAURA ANELLO

KANE LAND SURVEYORS
30 HIGGINS LANE
WELLFLEET, MA

SCALE: 1"=30' MARCH 18, 2022

1 SITE PLAN PROPOSED
SCALE: 1" = 20'

Hammer Architects
19 Bishop Allen Drive
Cambridge, MA 02139
617.876.5121

Title: SITE PLAN PROPOSED
Scale: As Noted
Date: 08.15.23 NOT FOR CONSTRUCTION

Anello Residence
12 Pilrim's Path
Truro, MA

L-2

Conservation Commission
TOWN OF TRURO
AUG 21 2023

(6)

SCHOFIELD BROTHERS OF CAPE COD
Land Surveying and Environmental Permitting
161 Cranberry Highway
P.O. Box 101
Orleans, MA 02653-0101
508-255-2098 - 508-240-1215 (fax)
E-mail: schobro@capecod.net

Narrative to Accompany
a Request for Determination of Applicability
at 38 Toms Hill Road in Truro, Massachusetts

Area and Project Description

The subject property is a 31,363± square foot lot overlooking Cape Cod Bay to the west and Pamet Harbor to the south. An existing 4 bedroom cottage built in 1955 exists on the site with associated appurtenances. The cottage is served by a single cesspool and a private well. A coastal bank associated with the Little Pamet River estuary exists along the westerly portion of the site, it's buffer zone overlaps the entire property.

Work Description

The project is the upgrade of the septic system serving the dwelling. A 1,500 gallon septic tank is provided along with a soil absorption system comprised of Cultec chambers in a stepped trench configuration to maximize the distance to the top of the coastal bank. The leaching area design takes advantage of the reduction of leaching area allowed pursuant to a local upgrade approval and in anticipation of a future innovative/alternative technology being installed at a later date.

The existing dwelling is a seasonal dwelling that is not winterized and therefore not possible to utilize for most of the year. The property owners would like to phase in the requirement for providing an innovative/alternative technology to such a time that the house is winterized or the house is sold.

There is minimal available upland area on the lot for subsurface sewage disposal due to the presence of the coastal bank and its overlapping buffer zone. The lot has numerous site constraints impacting the septic system design including the location of the existing private water supply well and the location of the existing building sewer location and elevation.

Erosion control shall be installed prior to any disturbance on the site and shall remain in good working order until disturbed areas have been stabilized. A revegetation plan for disturbed areas within the work limit is attached to this narrative. Details of the septic system are shown on the attached site plan.

Provisions from the Massachusetts Wetlands Protection Act which may exempt the applicant from having to file a Notice of Intent:

The proposed project is the upgrade of an existing cesspool to a Title 5 septic system. The project itself is a benefit to many of the interest of the MA Wetlands Protection Act. The project is limited and temporary in nature. Erosion control has been provided on the plan to prevent adverse impact to any resource area during installation of the new septic system. Upon completion of the project disturbed areas are to be revegetated with native species.

SCHOFIELD BROTHERS OF CAPE COD
Land Surveying & Environmental Permitting
161 Cranberry Highway
P.O. Box 101
Orleans, MA 02653-0101
508-255-2098 - 508-240-1215 (fax)
E-mail: schobro@capecod.net

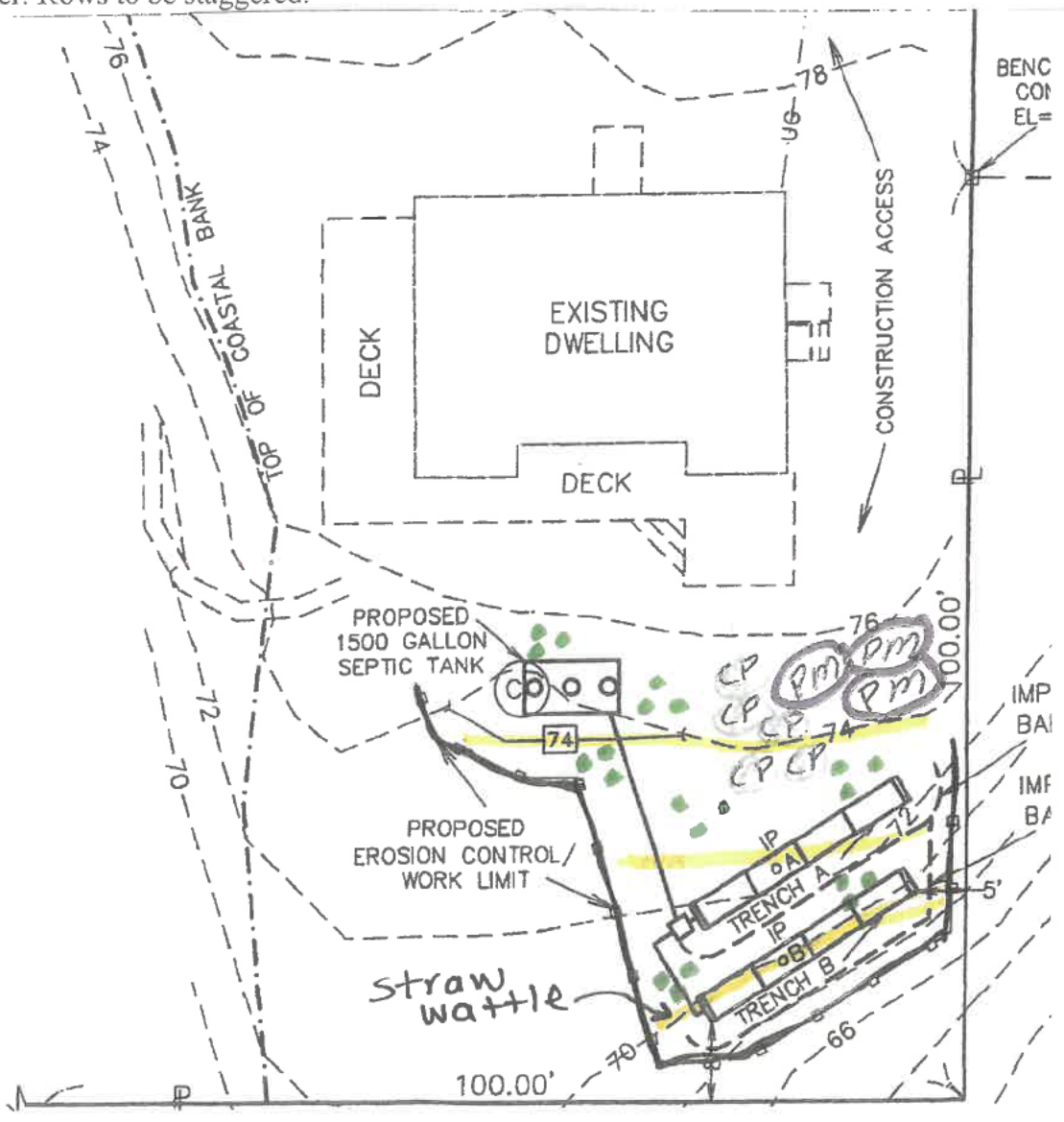
Erosion Control and Planting Plan
Upon installation of septic system at 38 Toms Hill Road:

Upon backfilling the septic system three tiers of staked straw wattle shall be placed within the existing work limit as shown on the attached revegetation plan.

The following native species shall be planted within disturbed areas as shown on the revegetation plan:

Number	Species	Size	Spacing	Symbol
21	Arctostaphylos uva-ursi/Bearberry	4"	Spaced 3-4 feet apart in groups of 3	
5	Comptonia peregrina/Sweet fern	1 gallon	Spaced 2-3 feet apart	
3	Prunus maritina/ Beach Plum	3 gallon	Spaced 5 feet apart	

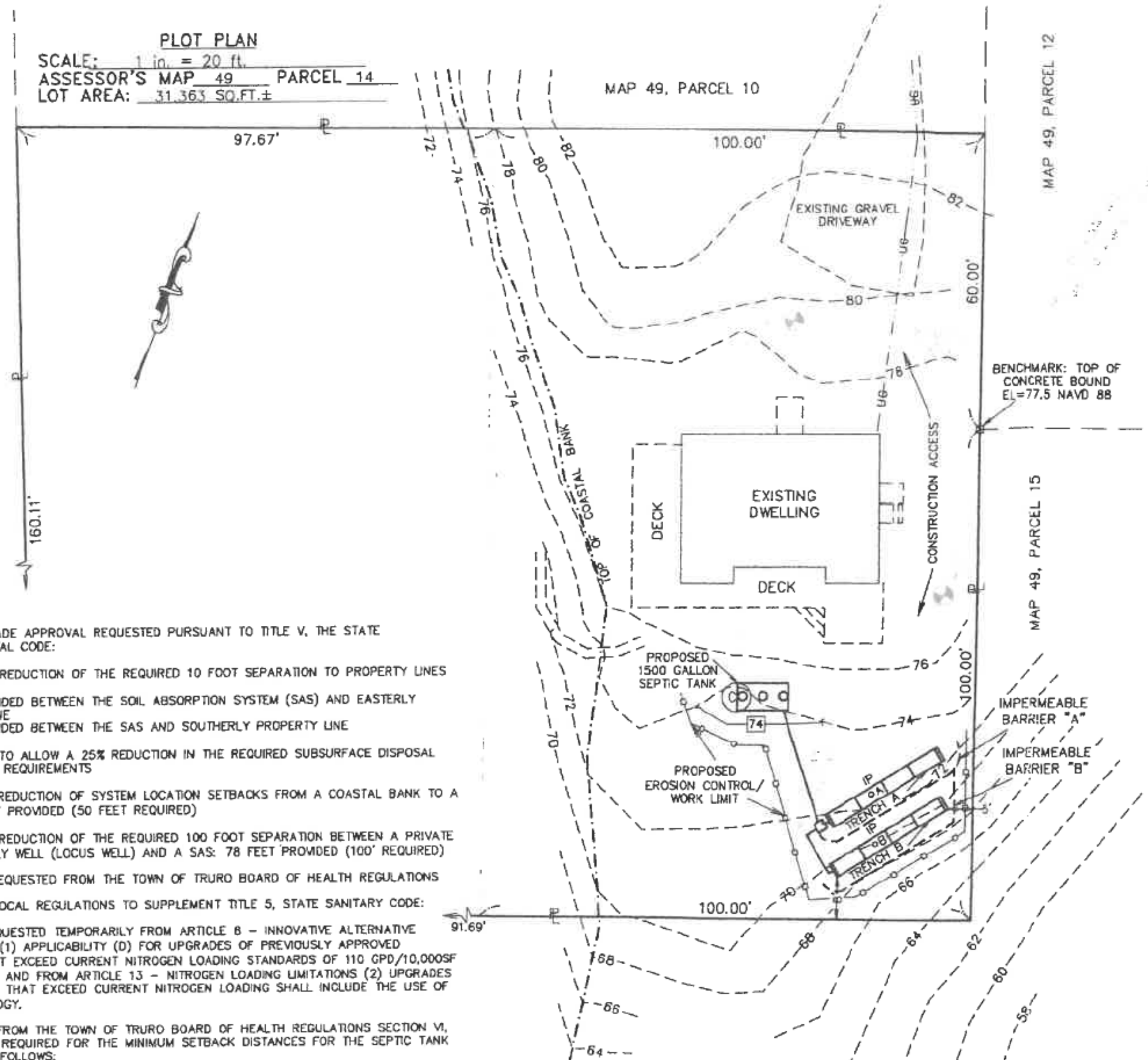
The remaining disturbed areas within the work limit will be planted with plugs of American Beach Grass planted 12 inches on center. Rows to be staggered.



Conservation Commission
TOWN OF TRURO
JUL 17 2023

PLOT PLAN

SCALE: 1 in. = 20 ft.
ASSESSOR'S MAP 49 PARCEL 14
LOT AREA: 31,363 SQ.FT.±



LOCAL UPGRADE APPROVAL REQUESTED PURSUANT TO TITLE V, THE STATE ENVIRONMENTAL CODE:

15.405(1)(A) REDUCTION OF THE REQUIRED 10 FOOT SEPARATION TO PROPERTY LINES AS FOLLOWS:
5 FEET PROVIDED BETWEEN THE SOIL ABSORPTION SYSTEM (SAS) AND EASTERLY PROPERTY LINE
8 FEET PROVIDED BETWEEN THE SAS AND SOUTHERLY PROPERTY LINE

15.405(1)(C) TO ALLOW A 25% REDUCTION IN THE REQUIRED SUBSURFACE DISPOSAL AREA DESIGN REQUIREMENTS

15.405(1)(F) REDUCTION OF SYSTEM LOCATION SETBACKS FROM A COASTAL BANK TO A SAS, 48 FEET PROVIDED (50 FEET REQUIRED)

15.405(1)(G) REDUCTION OF THE REQUIRED 100 FOOT SEPARATION BETWEEN A PRIVATE WATER SUPPLY WELL (LOCUS WELL) AND A SAS: 78 FEET PROVIDED (100' REQUIRED)

VARIANCES REQUESTED FROM THE TOWN OF TRURO BOARD OF HEALTH REGULATIONS

SECTION VI-LOCAL REGULATIONS TO SUPPLEMENT TITLE 5, STATE SANITARY CODE:

RELIEF IS REQUESTED TEMPORARILY FROM ARTICLE 8 – INNOVATIVE ALTERNATIVE TECHNOLOGY (1) APPLICABILITY (D) FOR UPGRADES OF PREVIOUSLY APPROVED SYSTEMS THAT EXCEED CURRENT NITROGEN LOADING STANDARDS OF 110 GPD/10,000SF OF LOT AREA AND FROM ARTICLE 13 – NITROGEN LOADING LIMITATIONS (2) UPGRADES FOR SYSTEMS THAT EXCEED CURRENT NITROGEN LOADING SHALL INCLUDE THE USE OF I/A TECHNOLOGY.

A VARIANCE FROM THE TOWN OF TRURO BOARD OF HEALTH REGULATIONS SECTION VI, ARTICLE 9 IS REQUIRED FOR THE MINIMUM SETBACK DISTANCES FOR THE SEPTIC TANK AND SAS AS FOLLOWS:

MINIMUM SETBACK DISTANCE BETWEEN A SEPTIC TANK AND WETLANDS: 100' REQUIRED
28' PROVIDED FROM THE TOP OF THE COASTAL BANK TO THE PROPOSED SEPTIC TANK.

MINIMUM SETBACK DISTANCE BETWEEN A SAS AND A WETLANDS: 150 FEET REQUIRED
78' PROVIDED BETWEEN THE PROPOSED SAS AND TOP OF COASTAL BANK.

SECTION VII – WATER PROTECTION REGULATIONS
ARTICLE 2(A) – REGULATIONS IN THE PAMET RIVER PROTECTION DISTRICT...ALL SYSTEMS...SHALL BE LOCATED AND INSTALLED AT LEAST ONE HUNDRED AND FIFTY (150') FEET FROM ALL WETLANDS AS DEFINED HEREIN...
RELIEF IS REQUESTED FROM THIS REGULATION TO ALLOW THE SEPTIC TANK AND SAS TO BE WITHIN 150 FEET OF THE TOP OF A COASTAL BANK.

DEEP TEST HOLE OBSERVATION LOG #1

DATE: MAY 8, 2022 — JOB: 0-12568
PERFORMED BY: LAURA SCHOFIELD, RS, SE — WITNESSED BY: AROZANA DAVIS, TRURO BOH

ELEVATION (FT)	DEPTH FROM SURFACE (IN)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER
77.0–75.9	0–13	A/FILL	VARIABLE	VARIABLE		
75.9–71.5	13–66	FILL	SAND	10YR6/4	–	
71.5–70.6	66–77	OLD A	SANDY LOAM	10YR3/4	–	
70.6–69.3	77–92	BW	SANDY LOAM	10YR4/6	–	
69.3–65.2	92–142	C	SAND	10YR6/8		

PARENT GEOLOGICAL MATERIAL: GLACIAL OUTWASH — STANDING WATER IN HOLE: NO
WEEPING FROM FACE: NO — DEPTH TO BEDROCK:
ESTIMATED SEASONAL HIGH GROUNDWATER BELOW EL 65.2
PERCOLATION TEST:

DEEP TEST HOLE OBSERVATION LOG #2

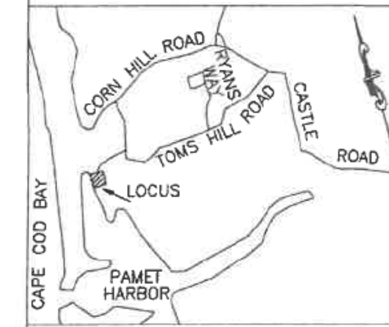
DATE: MAY 8, 2022 — JOB: 0-12568
PERFORMED BY: LAURA SCHOFIELD, RS, SE — WITNESSED BY: AROZANA DAVIS, TRURO BOH

ELEVATION (FT)	DEPTH FROM SURFACE (IN)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER
79.1–78.1	0–12	A	LOAMY SAND	10YR4/3	–	
78.1–77.0	12–25	BW	LOAMY SAND	10YR4/6	–	
77.0–67.1	25–144	C	SAND, COARSE	10YR6/6	–	

PARENT GEOLOGICAL MATERIAL: GLACIAL OUTWASH — STANDING WATER IN HOLE: NO
WEEPING FROM FACE: NO — DEPTH TO BEDROCK:
ESTIMATED SEASONAL HIGH GROUNDWATER BELOW EL 67.1
PERCOLATION TEST: TOP OF PERC. AT 30", 24 GAL. ABSORBED IN 4:15 MIN., PERC. RATE < 2 MPI

A CONFIRMATORY TESTHOLE SHALL BE PERFORMED PRIOR TO INSTALLATION OF TRENCHS

LOCUS MAP



SCALE: 1 IN. = 2000 FT.

GENERAL NOTES

1. ELEVATIONS REFER TO NAVD 88 DATUM. SEE BENCHMARK ON PLAN.
2. ALL CONSTRUCTION AND MATERIALS TO CONFORM TO TITLE 5 OF THE MASSACHUSETTS STATE ENVIRONMENTAL CODE AND THE BOARD OF HEALTH REQUIREMENTS FOR THE TOWN OF TRURO.
3. ANY CHANGES TO THIS PLAN MUST BE APPROVED BY THE BOARD OF HEALTH AND SCHOFIELD BROTHERS OF CAPE COD.
4. FOR PROPER PERFORMANCE, THE SEPTIC TANK SHOULD BE INSPECTED AT LEAST ONCE PER YEAR. THE TANK SHOULD BE PUMPED WHEN THE TOTAL DEPTH OF SCUM AND SOLIDS EXCEEDS 1/3 OF ITS LIQUID DEPTH.
5. SCHOFIELD BROTHERS OF CAPE COD DOES NOT ASSUME RESPONSIBILITY FOR MATERIALS ENCOUNTERED DURING EXCAVATION.
6. ANY UNSUITABLE OR DELETERIOUS MATERIAL ENCOUNTERED MUST BE EXCAVATED AND REMOVED TO A DISTANCE OF 5 FEET FROM ALL SIDES OF THE SOIL ABSORPTION SYSTEM (S.A.S) AND TO A DEPTH AT WHICH THE C HORIZON IS ENCOUNTERED. BACKFILL WITH CLEAN SAND MATERIAL MEETING TITLE 5 SPECIFICATIONS TO APPROX. TOP OF CHAMBER ELEVATION. CONTACT SCHOFIELD BROTHERS IF ANY DOUBT OR QUESTIONS ARISE REGARDING SOIL QUALITY.
7. INSTALLATION CONTRACTOR SHALL CONTACT SCHOFIELD BROTHERS FOR A CONFIRMATORY TEST HOLE AND PRIOR TO BACKFILLING FOR SYSTEM CERTIFICATION.
8. EXISTING CESSPOOL IS TO BE PUMPED, ABANDONED AND REMOVED.
9. EXISTING BUILDING SEWER INVERT(S) SHALL BE VERIFIED IN FIELD PRIOR TO COMPONENT INSTALLATION. CONTACT SCHOFIELD BROTHERS IF SIGNIFICANT DISCREPANCIES EXIST.
10. SITE RESTORATION REQUIRES ALL STRIPPED TOPSOIL AND SUBSOIL TO BE STOCKPILED AND REUSED AT OWNERS OPTION. RE-SPREAD OVER DISTURBED AREAS TO PROMOTE OPTIMAL GROWTH.
11. ALL SEPTIC SYSTEM COMPONENTS ARE DESIGNED FOR A MINIMUM H-10 LOADING. ANY COMPONENT THAT WILL BE SUBJECT TO VEHICLE OR OTHER HEAVY EQUIPMENT TRAFFIC SHALL BE INSTALLED WITH H-20 LOADING CAPACITY.
12. UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.
13. NO KNOWN WELLS EXIST WITHIN 200' OF THE PROPOSED LEACHING AREA EXCEPT THOSE THAT ARE SHOWN.

GENERAL NOTES (CONT.)

14. PLASTIC MEMBRANE IMPERMEABLE BARRIER SHALL BE:
    - –OF SUFFICIENT TENSILE STRENGTH TO WITHSTAND PERFORATION, INCLUDING CRACKING, TEARING, AND BREAKING;
    - –AT LEAST 40 MILS IN THICKNESS, AND HAVE SIGNIFICANT DURABILITY AND RESISTANCE TO THE TEMPERATURE AND MOISTURE CONDITIONS EXPECTED IN THE SUBSURFACE ENVIRONMENT; AND
    - –INSTALLED WITHOUT GAPS OR HOLES AND SO THAT PERFORATIONS DO NOT DEVELOP AFTER INSTALLATION.

    FOR TRENCH A:
    TOP OF IMPERMEABLE BARRIER ELEV = 69.5
    BOTTOM OF IMPERMEABLE BARRIER = 66.0

    FOR TRENCH B:
    TOP OF IMPERMEABLE BARRIER ELEV = 67.5
    BOTTOM OF IMPERMEABLE BARRIER = 63.0
15. CULTEC DESIGN PURSUANT TO MODIFIED CERTIFICATION FOR GENERAL USE PERMIT.

LEGEND

—[XX]—	PROPOSED CONTOUR LINE
– – XX – –	EXISTING CONTOUR
(C)	EXISTING CESSPOOL
—W—	WATER LINE
[OOO]	PROPOSED 1500 GALLON SEPTIC TANK
▫	PROPOSED DISTRIBUTION BOX
[| | |]	PROPOSED LEACHING TRENCH
## x #	EXISTING SPOT ELEVATIONS
⊕	TEST HOLE LOCATIONS
P	PROPERTY LINE
[## x #]	PROPOSED SPOT ELEVATION
—OH—	OVERHEAD UTILITIES
—UG—	UNDERGROUND UTILITIES
FG	FINISHED GRADE
IP	INSPECTION PORT

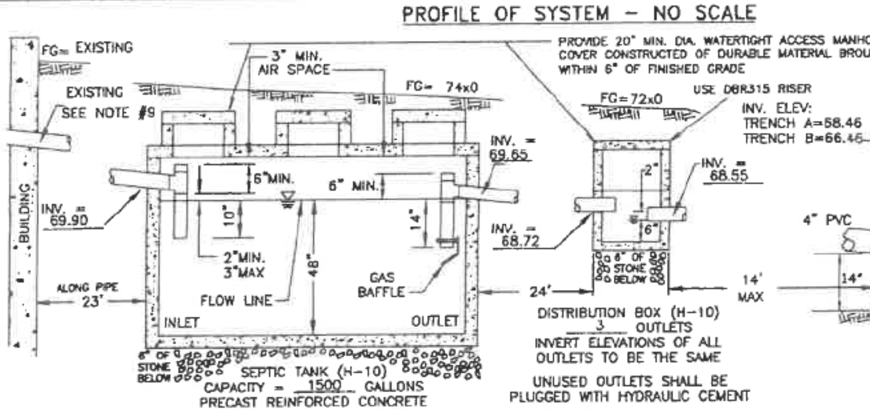
DESIGN CALCULATIONS

1. ESTIMATED HYDRAULIC LOADING:
   4 BEDROOMS AT 110 GPD PER BEDROOM = 440 GPD
   GARBAGE GRINDER IS NOT ALLOWED WITH THIS DESIGN
2. SEPTIC TANK SIZE:
   AVERAGE DAILY FLOW = 440 GPD X 2 DAYS = 880 GALLONS
   SEPTIC TANK PROVIDED = 1500 GALLONS
3. DESIGN PERCOLATION RATE = <2 MINUTES PER INCH
   SOIL TEXTURE SANDS, CLASS I
   310 CMR 15.242 EFFLUENT LOADING RATE = 0.74 GPD/SF
4. LEACHING AREA REQUIRED:
   TOTAL SQUARE FOOTAGE REQUIRED BY TITLE 5 =
   440 GPD÷.74 GPD/SF=595 SF REQUIRED MINIMUM

LEACHING AREA PROVIDED:
CULTEC SYSTEM: RECHARGER 180 (8) CHAMBERS PROVIDED)
MASSACHUSETTS ALLOWABLE EFFECTIVE LEACHING AREA = 8.9 SF/LF
(FOR TRENCH CONFIGURATION)
8 CHAMBERS x 6.3 LF/CHAMBER x 8.9 SF/LF = 448 SF PROVIDED*

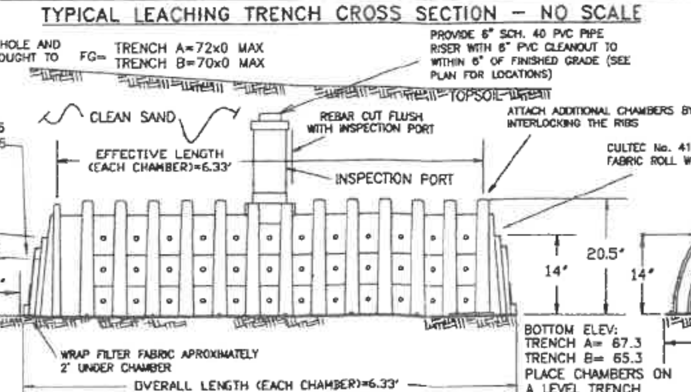
* 25% REDUCTION IN SAS REQUESTED

PROFILE OF SYSTEM – NO SCALE

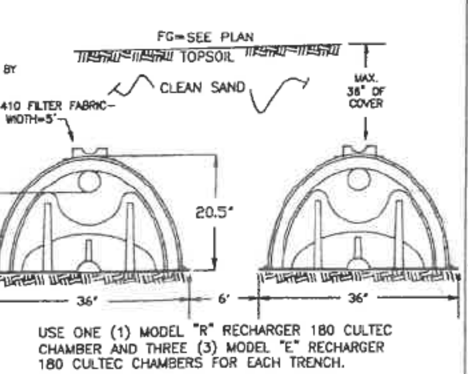


NOTE: ALL PIPE TO BE 4" DIAM. PVC TIGHT JOINT SCH. 40

TYPICAL LEACHING TRENCH CROSS SECTION – NO SCALE



PROFILE OF TRENCHES – NO SCALE



COMMONWEALTH OF MASSACHUSETTS
ROBERT JOHN FREEMAN
No. 32655
PROFESSIONAL LAND SURVEYOR

PROPOSED SEWAGE DISPOSAL SYSTEM

FOR: AN EXISTING 4 BEDROOM DWELLING
AT: 38 TOMS HILL ROAD
TRURO, MA

ASSESSOR'S MAP: 49 PARCEL: 14

APPLICANT: TINA RYMAN
8 BUTTON ROAD
EASTHAMPTON, MA 01027
TEL. NO.: (973)216-8782

JOB #: 0-12568

DATE: JULY 5, 2023

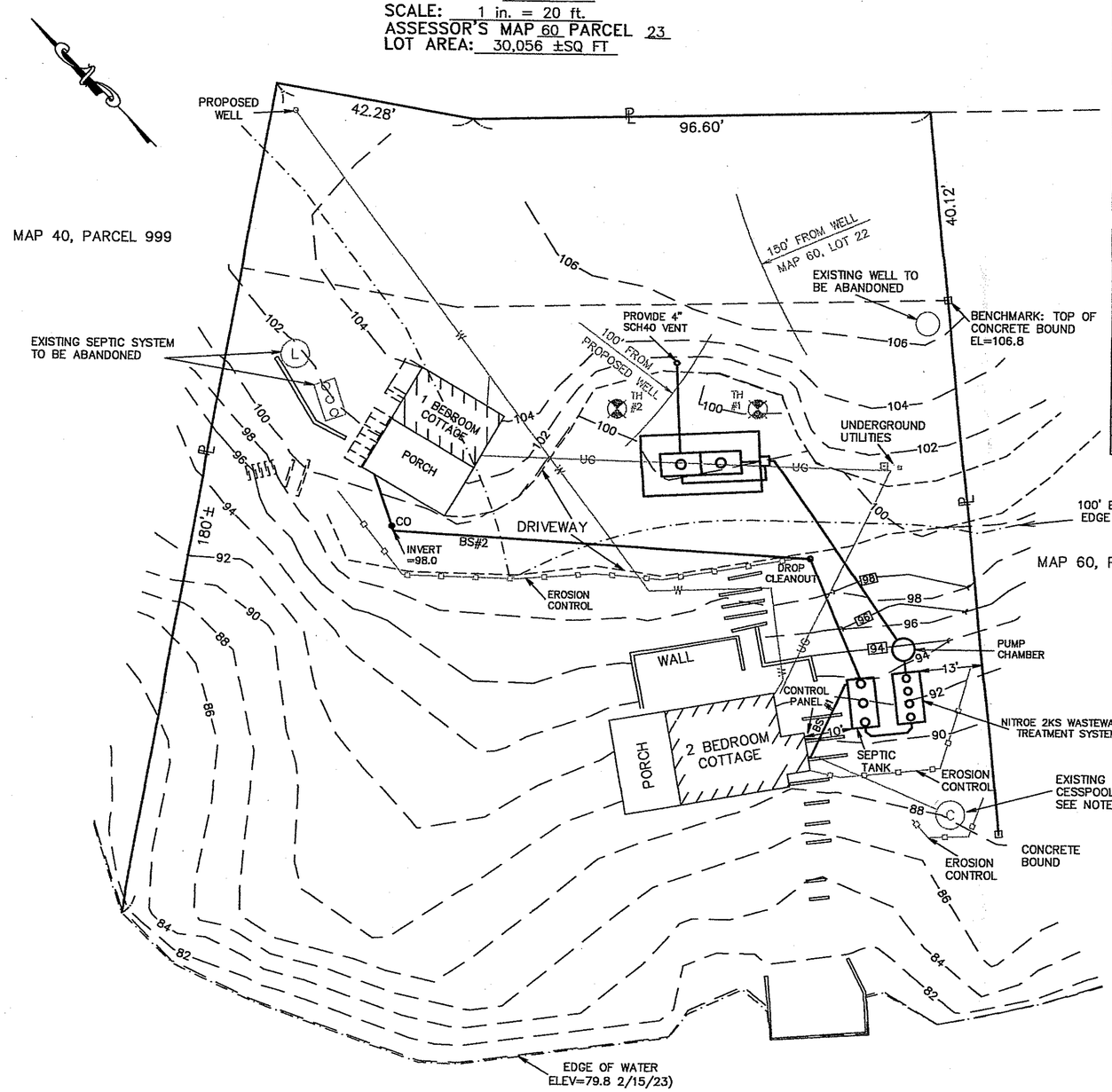
DESIGNED BY: LAS
DRAWN BY: LAS
CHECKED BY: LAS

COMMONWEALTH OF MASSACHUSETTS
LAURA A. SCHOFIELD
SANITARIAN

SCHOFIELD BROTHERS OF CAPE COD
LAND SURVEYING – ENVIRONMENTAL PERMITTING
P.O. BOX 101, 161 CRANBERRY HIGHWAY ORLEANS, MA
(508) 255-2098

PLOT PLAN

SCALE: 1 in. = 20 ft.
ASSESSOR'S MAP 60 PARCEL 23
LOT AREA: 30,056 ±SQ FT



RYDER POND

DEEP TEST HOLE OBSERVATION LOG #1						
DATE: NOVEMBER 18, 2022				JOB: 0-12614		
PERFORMED BY: LAURA A. SCHOFIELD, RS, SE				WITNESSED BY: COURTNEY WARREN, TRURO BOH		
ELEVATION (FT)	DEPTH FROM SURFACE (IN)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER
100.0-90.0	0-120	C	SAND	10YR4/6	NO	MED-COARSE TEST HOLE PERFORMED IN A PREVIOUSLY DISTURBED AREA. A& B HORIZON WERE ABSENT
PARENT GEOLOGICAL MATERIAL: GLACIAL OUTWASH				STANDING WATER IN HOLE: NO		
WEEPING FROM FACE: NO				DEPTH TO BEDROCK:		
ESTIMATED SEASONAL HIGH GROUNDWATER AT EL. = AT ELEV. 80±						
PERCOLATION TEST: TOP OF PERC. AT 30", 24 GAL. ABSORBED IN 4:33 MIN., PERC. RATE < 2 MPI						

DEEP TEST HOLE OBSERVATION LOG #2						
DATE: NOVEMBER 18, 2022				JOB: 0-12614		
PERFORMED BY: LAURA A. SCHOFIELD, RS, SE				WITNESSED BY: COURTNEY WARREN, TRURO BOH		
ELEVATION (FT)	DEPTH FROM SURFACE (IN)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER
100.4-90.4	0-120	C	SAND	10YR4/6	NO	MED-COARSE TEST HOLE PERFORMED IN A PREVIOUSLY DISTURBED AREA. A& B HORIZON WERE ABSENT
PARENT GEOLOGICAL MATERIAL: GLACIAL OUTWASH				STANDING WATER IN HOLE: NO		
WEEPING FROM FACE: NO				DEPTH TO BEDROCK:		
ESTIMATED SEASONAL HIGH GROUNDWATER AT EL. = AT ELEV. 80±						
PERCOLATION TEST:						

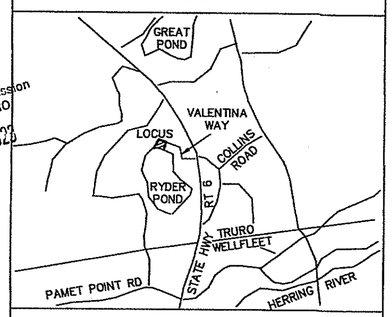
GENERAL NOTES (CONTINUED)

15. WHEREVER A SEPTIC SYSTEM LINE CROSSES A WATER SERVICE LINE, BOTH PIPES SHALL BE CONSTRUCTED OF CLASS 150 PRESSURE PIPE AND SHALL BE PRESSURE TESTED TO ASSURE WATERTIGHTNESS OR SLEEVED WITH A 20' PIPE SECTION CENTERED ON THE CROSSING.

LEGEND

XX	PROPOSED CONTOUR LINE
XX	EXISTING CONTOUR
W	WATER LINE
	PROPOSED 1500 GALLON, ADVANTEX SEPTIC TANK
	PROPOSED DISTRIBUTION BOX
	PROPOSED LEACHING AREA
## x #	EXISTING SPOT ELEVATIONS
	TEST HOLE LOCATIONS
PL	PROPERTY LINE
## x #	PROPOSED SPOT ELEVATION
OH	OVERHEAD UTILITIES
UG	UNDERGROUND UTILITIES
FG	FINISHED GRADE
UP	UTILITY POLE
TOF	TOP OF FOUNDATION ELEVATION
BS	BUILDING SEWER
CO	CLEAN OUT
	NITROE TREATMENT SYSTEM
	4' I.D. PUMP CHAMBER

LOCUS MAP



SCALE: 1 IN. = 2000 FT.

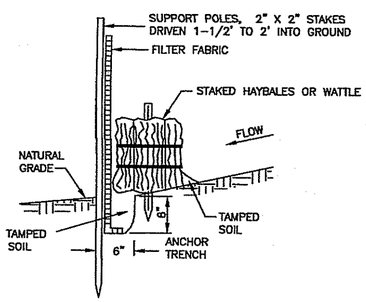
Conservation Commission
TOWN OF TRURO
SEP 01 2023

GENERAL NOTES

1. ELEVATIONS REFER TO AN ASSUMED DATUM. SEE BENCHMARK ON PLAN
2. ALL CONSTRUCTION AND MATERIALS TO CONFORM TO TITLE 5 OF THE MASSACHUSETTS STATE ENVIRONMENTAL CODE AND THE BOARD OF HEALTH REQUIREMENTS FOR THE TOWN OF TRURO.
3. ANY CHANGES TO THIS PLAN MUST BE APPROVED BY THE BOARD OF HEALTH AND SCHOFIELD BROTHERS OF CAPE COD.
4. FOR PROPER PERFORMANCE, THE SEPTIC TANK SHOULD BE INSPECTED AT LEAST ONCE PER YEAR. THE TANK SHOULD BE PUMPED WHEN THE TOTAL DEPTH OF SCUM AND SOLIDS EXCEEDS 1/3 OF ITS LIQUID DEPTH.
5. SCHOFIELD BROTHERS OF CAPE COD DOES NOT ASSUME RESPONSIBILITY FOR MATERIALS ENCOUNTERED DURING EXCAVATION.
6. ALL UNSUITABLE OR DELETERIOUS MATERIAL ENCOUNTERED MUST BE EXCAVATED AND REMOVED TO A DISTANCE OF 5 FEET FROM ALL SIDES OF THE SOIL ABSORPTION SYSTEM (S.A.S) AND TO A DEPTH AT WHICH THE C HORIZON IS ENCOUNTERED. BACKFILL WITH CLEAN SAND MATERIAL MEETING TITLE 5 SPECIFICATIONS TO APPROX. ELEVATION 96.5. CONTACT SCHOFIELD BROTHERS IF ANY DOUBT OR QUESTIONS ARISE REGARDING SOIL QUALITY.
7. INSTALLATION CONTRACTOR SHALL CONTACT SCHOFIELD BROTHERS PRIOR TO BACKFILLING FOR SYSTEM CERTIFICATION.
8. THE EXISTING CESSPOOL AND LEACH PIT ARE TO BE PUMPED, ABANDONED AND COLLAPSED OR FILLED WITH CLEAN SAND. THE EXISTING SEPTIC TANK SHALL BE PUMPED, RUPTURED AND FILLED.
9. EXISTING BUILDING SEWER INVERTS SHALL BE VERIFIED IN FIELD PRIOR TO COMPONENT INSTALLATION. CONTACT SCHOFIELD BROTHERS IF SIGNIFICANT DISCREPANCIES EXIST.
10. SITE RESTORATION REQUIRES ALL STRIPPED TOPSOIL AND SUBSOIL TO BE STOCKPILED AND REUSED AT OWNERS OPTION. RE-SPREAD OVER DISTURBED AREAS TO PROMOTE OPTIMAL GROWTH.
11. ANY SEPTIC SYSTEM COMPONENT THAT WILL BE SUBJECT TO VEHICLE OR OTHER HEAVY EQUIPMENT TRAFFIC SHALL BE INSTALLED WITH H-20 LOADING CAPACITY.
12. UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.
13. NO KNOWN WELLS EXIST WITHIN 200' OF THE PROPOSED LEACHING AREA EXCEPT THOSE THAT ARE SHOWN.
14. LEACHING AREA STONE SHALL BE OVERLAIN WITH MIRAFI 500x FILTER FABRIC. THE FILTER FABRIC SHALL EXTEND 12" BEYOND THE STONE.

DESIGN CALCULATIONS

1. ESTIMATED HYDRAULIC LOADING:
   3 BEDROOMS AT 110 GPD PER BEDROOM = 330 GPD
   GARBAGE GRINDER IS NOT ALLOWED WITH THIS DESIGN
2. SEPTIC TANK SIZE:
   SEPTIC TANK PROVIDED = 1500 GALLON, 2 COMPARTMENTS
   FIRST COMPARTMENT=330 GPD x 200% = 660 GAL. MIN. REQUIRED
   1000 GAL. PROVIDED
   SECOND COMPARTMENT=330 GPD x100% = 330 GAL. MIN. REQUIRED
   500 GAL. PROVIDED
3. DESIGN PERCOLATION RATE = <2 MINUTES PER INCH
   SOIL TEXTURE SANDS, CLASS I
   310 CMR 15.242 EFFLUENT LOADING RATE = 0.74 GPD/SF
4. LEACHING AREA:
   TOTAL SIDEWALL AREA PROVIDED = 151.2 SF X 0.74 GPD/SF = 111.9 GPD
   TOTAL BOTTOM AREA PROVIDED = 320 SF X 0.74 GPD/SF = 236.8 GPD
   MAXIMUM ALLOWABLE LOADING UNDER TITLE 5 = 348 GPD
   ACTUAL HYDRAULIC LOADING = 330 GPD (SEE 1.)
   DESIGNED LEACHING AREA EXCEEDS LEACHING AREA REQUIRED UNDER BOTH TITLE 5 AND THE TOWN OF TRURO BOARD OF HEALTH REGULATIONS
5. NITROGEN SENSITIVE AREA LOADING CALCULATION:
   LOT SIZE REQUIRED = 330 GPD X 10,000 SF/110 GPD = 30,000 SF
   LOT SIZE PROVIDED = 30,056 SF



SILT FENCE WITH STAKED HAYBALES OR WATTLE

SILT FENCE WITH STAKED HAYBALES OR WATTLES SEDIMENT BARRIER DETAIL

(NO SCALE)

CONSTRUCTION & EROSION CONTROL NOTES

1. PRIOR TO ANY DISTURBANCE OF THE SITE, A STAKED SILT FENCE / LIMIT OF WORK SHALL BE INSTALLED IN THE LOCATION SHOWN. THE SILT FENCE SHALL REMAIN IN PLACE UNTIL ALL AREAS UPGRADIENT FROM THE BARRIER HAVE BEEN STABILIZED.
2. ALL DISTURBED AREAS NOT OTHERWISE DEVELOPED OR WHERE SPECIAL STABILIZATION MEASURES OR LANDSCAPE PLANTINGS ARE NOT PROPOSED SHALL HAVE 4"-6" OF LOAM ADDED AND SEEDED WITH A RYE FESCUE MIX.
3. ALL AREAS OUTSIDE OF THE LIMIT OF WORK ARE TO BE LEFT UNDISTURBED. DURING THE SITE WORK, ALL PERSONS AND EQUIPMENT SHALL STAY OUT OF THESE AREAS AND PRESERVE EXISTING VEGETATION.

VARIANCES REQUESTED FROM THE TOWN OF TRURO BOARD OF HEALTH REGULATIONS ARE AS FOLLOWS:

ARTICLE 9 – REQUIRED SETBACKS FOR SYSTEM COMPONENTS
RELIEF FROM THE FOLLOWING MINIMUM SETBACK DISTANCES ARE REQUESTED FOR THE SEPTIC TANK, NITROE TANK AND THE LEACHING AREA AS FOLLOWS:

	SETBACK TO WETLAND PROVIDED	SETBACK REQUIRED
SEPTIC TANK	56 FEET	100 FEET
NITROE WASTEWATER TREATMENT SYSTEM	57 FEET	100 FEET
LEACHING AREA	106 FEET	150 FEET
PUMP CHAMBER	70 FEET	100 FEET

COMMONWEALTH OF MASSACHUSETTS
ROBERT JOHN FREEMAN
No. 32655
PROFESSIONAL LAND SURVEYOR

PROPOSED SEWAGE DISPOSAL SYSTEM

FOR: TWO EXISTING COTTAGES, 3 BEDROOMS TOTAL
AT: 5 VALENTINA WAY
TRURO, MA

ASSESSOR'S MAP: 60 PARCEL: 23

APPLICANT: ESTATE OF MARGUERITE YANNETTY
5 VALENTINA WAY
TRURO, MA

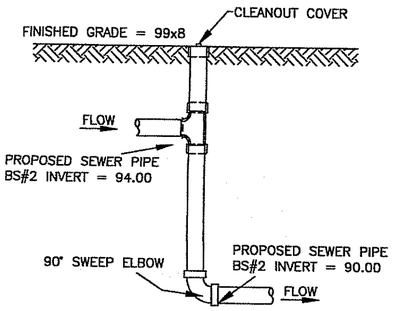
JOB #: 0-12614

DATE: AUGUST 30, 2023

DESIGNED BY: LAS
DRAWN BY: LAS
CHECKED BY: LAS

COMMONWEALTH OF MASSACHUSETTS
LAURA A SCHOFIELD
No. 1158
REGISTERED SANITARIAN

SCHOFIELD BROTHERS OF CAPE COD
LAND SURVEYING – ENVIRONMENTAL PERMITTING
P.O. BOX 101, 161 CRANBERRY HIGHWAY ORLEANS, MA
(508) 255-2098

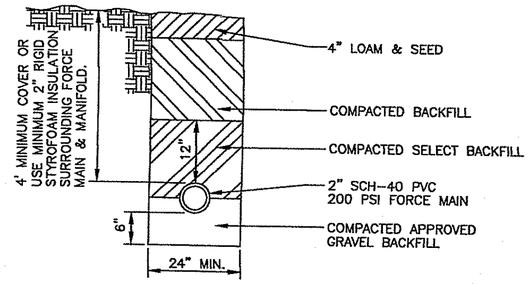


SEWER LINE DROP WITH CLEANOUT DETAIL

(NO SCALE)

*BUILDING SEWERS WITH A SLOPE GREATER THAN OR EQUAL TO 12% SHALL BE PROVIDED WITH A DROP CLEANOUT.

ALL PIPING SHALL BE 4" SCH-40 PVC TIGHT JOINT PIPE UNLESS OTHERWISE NOTED.



TYPICAL FORCE MAIN BEDDING DETAIL

(NO SCALE)

FORCE MAIN SHALL BE LAID IN A "CLASS B" TRENCH BEDDING .

ALL PIPING OUTSIDE THE PUMP CHAMBER WHICH IS LESS THAN FOUR (4) FEET BELOW FINAL FINISHED GRADE SHALL BE SURROUNDED WITH A MINIMUM OF TWO (2) INCHES OF RIGID STYROFOAM INSULATION, OR SHALL DRAIN BACK TO PUMP/DISCHARGE CHAMBER.

PROVIDE CONCRETE THRUST BLOCKING AT ALL FORCE MAIN BENDS WITH MINIMUM SOIL BEARING SURFACE AREA OF ONE SQUARE FOOT.

1. GENERAL

FURNISH AND INSTALL ONE COMPLETE PUMPING SYSTEM CONSISTING OF ONE SUBMERSIBLE EFFLUENT PUMP AND MOTOR, DISCHARGE PIPING AND VALVES, FLOAT SWITCHES, LEVEL CONTROLS, HIGH WATER ALARM AND SIMPLEX CONTROL PANEL.

ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND WARRANTED FOR A PERIOD OF AT LEAST ONE YEAR.
UPON COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL PROVIDE A SUFFICIENT QUANTITY OF CLEAN WATER TO CONDUCT PUMP OPERATION TESTS.

2. DOSING CHAMBER (PUMP STATION)

THE PUMP CHAMBER SHALL BE A ACME-SHOREY 4' ID, 500 GALLON PUMP CHAMBER ITEM #PCR45 OR APPROVED EQUAL WITH INVERTS SET TO THE INDICATED ELEVATIONS.
PUMP CHAMBER SHALL BE MADE WATERTIGHT THROUGH MANUFACTURER'S SPECIFICATIONS.
PUMP CHAMBER SHALL BE SET ON A MECHANICALLY COMPACTED, LEVEL, STABLE 6" BASE STONE AGGREGATE.

3. PUMP AND MOTOR

PUMP AND MOTOR SHALL BE HEAVY DUTY EFFLUENT-TYPE EJECTOR WITH A 2 INCH DISCHARGE. PUMP AND MOTOR SHALL BE FULLY SUBMERSIBLE AND SHALL OPERATE WITH A 115V, 12 AMP SINGLE PHASE AC POWER SOURCE. THE ELECTRICAL CONTRACTOR SHALL VERIFY THAT PROPER VOLTAGE IS AVAILABLE AT THE CONTROL PANEL AND THAT THE PANEL IS INSTALLED ACCORDING TO THE MANUFACTURERS SPECIFICATIONS.

USE A LIBERTY LE 41A 4/10 HP EFFLUENT PUMP OR APPROVED EQUAL. THE PUMP SHALL BE RATED AS FOLLOWS:
A) 4/10 HP
B) 43 GALLONS PER MINUTE
C) 17 FEET TOTAL DYNAMIC HEAD

4. LEVEL CONTROLS

SEALED FLOAT-TYPE SWITCHES SHALL BE SUPPLIED TO CONTROL THE SUMP LEVEL AND ALARM SIGNAL. TWO FLOAT SWITCHES SHALL BE USED TO CONTROL THE SUMP LEVEL; ONE FOR FOR PUMP "OFF" AND ONE FOR PUMP "ON". A THIRD SWITCH SHALL BE PROVIDED WITH A POWER SOURCE SEPERATE FROM THE PUMP POWER AND SHALL BE FOR THE ALARM UNIT.

THE FLOAT LEVEL CONTROLS SHALL BE SET TO OPERATE AT THE ELEVATIONS INDICATED ON THE PLANS.

5. CONTROL PANEL

THE NEMA 4 OUTDOOR SIMPLEX CONTROL PANEL SHALL BE LOCATED IN A SUITABLE LOCATION APPROVED BY THE HOMEOWNER

6. ALARM

A HIGH WATER ALARM SHALL BE SUPPLIED WITH BOTH AN AUDIBLE AND VISUAL ALARM WITH A SEPARATE POWER SUPPLY FROM THE PUMP.

AN ALARM SILENCER BUTTON SHALL BE PROVIDED TO SILENCE THE AUDIBLE ALARM WHILE THE VISUAL ALARM REMAINS LIT UNTIL MANUALLY RESET. THE PANEL SHALL BE LOCATED AT A LOCATION APPROVED BY THE HOMEOWNER.

7. PIPING

THE PUMP STATION DISCHARGE PIPING, FITTINGS AND SEWAGE FORCE MAIN SHALL BE 2-INCH SCH-40 PVC. WITHIN THE PUMP CHAMBER, THE DISCHARGE PIPING SHALL INCLUDE THE FOLLOWING: 1) IN THE VERTICAL POSITION: A 2-INCH BALL-TYPE, CHECK VALVE; AND 2) IN THE HORIZONTAL POSITION: A 2-INCH BALL VALVE, AND A 2" QUICK DISCONNECT UNION. PIPING AND VALVES SHALL BE ARRANGED SO THAT THEY ARE EASILY ACCESSIBLE FROM THE PUMP CHAMBER MANHOLE COVER. FORCE MAIN SHALL BE LAID IN A "CLASS B" TRENCH BEDDING.

ALL PIPING OUTSIDE THE PUMP CHAMBER WHICH IS LESS THAN FOUR (4) FEET BELOW FINAL FINISHED GRADE SHALL BE SURROUNDED WITH A MINIMUM OF TWO (2) INCHES OF RIGID STYROFOAM INSULATION OR SHALL DRAIN BACK TO THE PUMP CHAMBER.

PROVIDE CONCRETE THRUST BLOCKING AT ALL FORCE MAIN BENDS WITH MINIMUM SOIL BEARING SURFACE AREA OF ONE SQUARE FOOT.

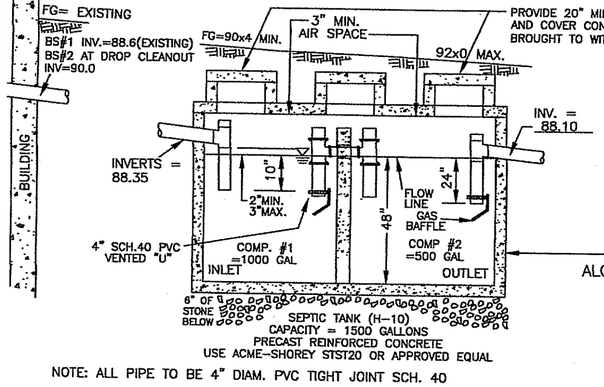
SPECIAL CARE TO ASSURE WATER TIGHTNESS SHALL BE TAKEN AT ALL FORCE MAIN CONNECTIONS. PIPE JOINTS WILL BE THOROUGHLY CLEANED PRIOR TO CEMENTING.

8. DOSING REQUIREMENTS

PURSUANT TO 310 CMR 15.254: DOSING:
THE SYSTEM HAS BEEN DESIGNED TO PROVIDE 10 DOSES PER DAY EQUAL TO 41 GALLONS PER DOSE. THIS VOLUME IS BASED ON A DESIGN FLOW OF 330 GALLONS PER DAY DIVIDED BY 10, AND A FORCE MAIN FLOW-BACK VOLUME OF 8 GALLONS PER DOSE.

ADDITIONAL STORAGE PROVIDED IN THE PUMP CHAMBER, ABOVE THE HIGH WATER LEVEL IS APPROXIMATELY 374 GALLONS. IN THE EVENT OF A POWER FAILURE, THIS IS SUFFICIENT CAPACITY TO PROVIDE FOR APPROXIMATELY 27 HOURS OF STORAGE, BASED ON ESTIMATED PEAK DAILY FLOW.

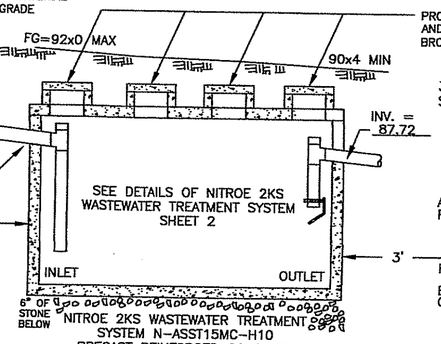
PROFILE OF SYSTEM - NO SCALE

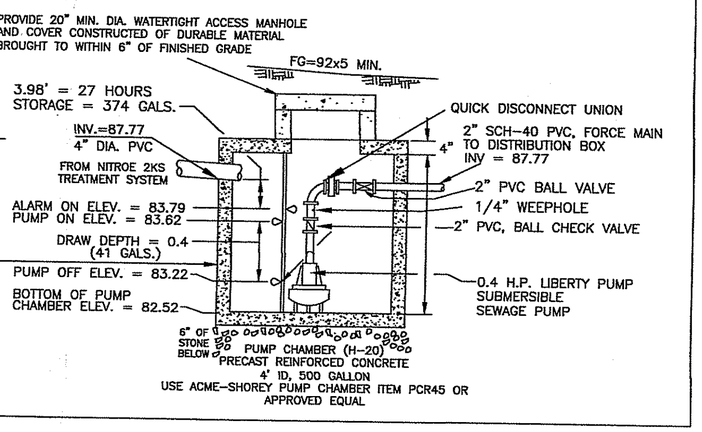


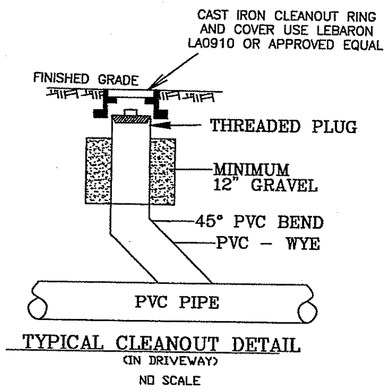
NOTE: ALL PIPE TO BE 4" DIAM. PVC TIGHT JOINT SCH. 40

12' ALONG PIPE

NOTE: USE OF THE NITROE WASTEWATER TREATMENT SYSTEM IS PURSUANT TO DEP'S PROVISIONAL USE APPROVAL PERMIT





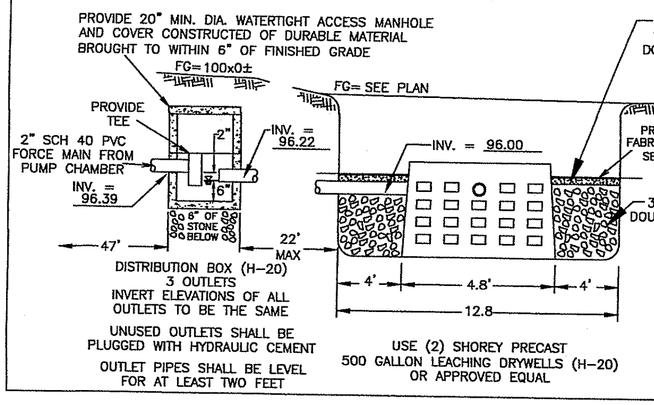


TYPICAL CLEANOUT DETAIL

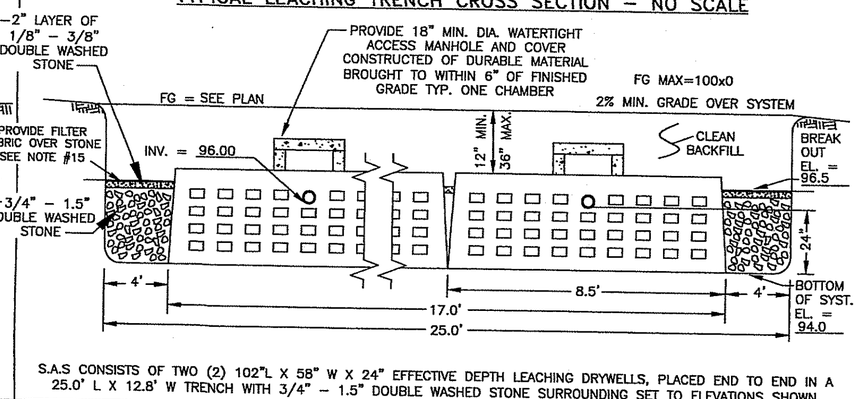
(IN DRIVEWAY)

NO SCALE

PROFILE OF SYSTEM - NO SCALE



TYPICAL LEACHING TRENCH CROSS SECTION - NO SCALE



S.A.S CONSISTS OF TWO (2) 102"L X 58" W X 24" EFFECTIVE DEPTH LEACHING DRYWELLS, PLACED END TO END IN A 25.0' L X 12.8' W TRENCH WITH 3/4" - 1.5" DOUBLE WASHED STONE SURROUNDING SET TO ELEVATIONS SHOWN.

PROPOSED SEWAGE DISPOSAL SYSTEM

FOR: TWO EXISTING COTTAGES, 3 BEDROOMS TOTAL
AT: 5 VALENTINA WAY
TRURO, MA

ASSESSOR'S MAP: 60 PARCEL: 23

APPLICANT: ESTATE OF MARGUERITE YANNETTY
5 VALENTINA WAY
TRURO, MA

JOB #: 0-12614

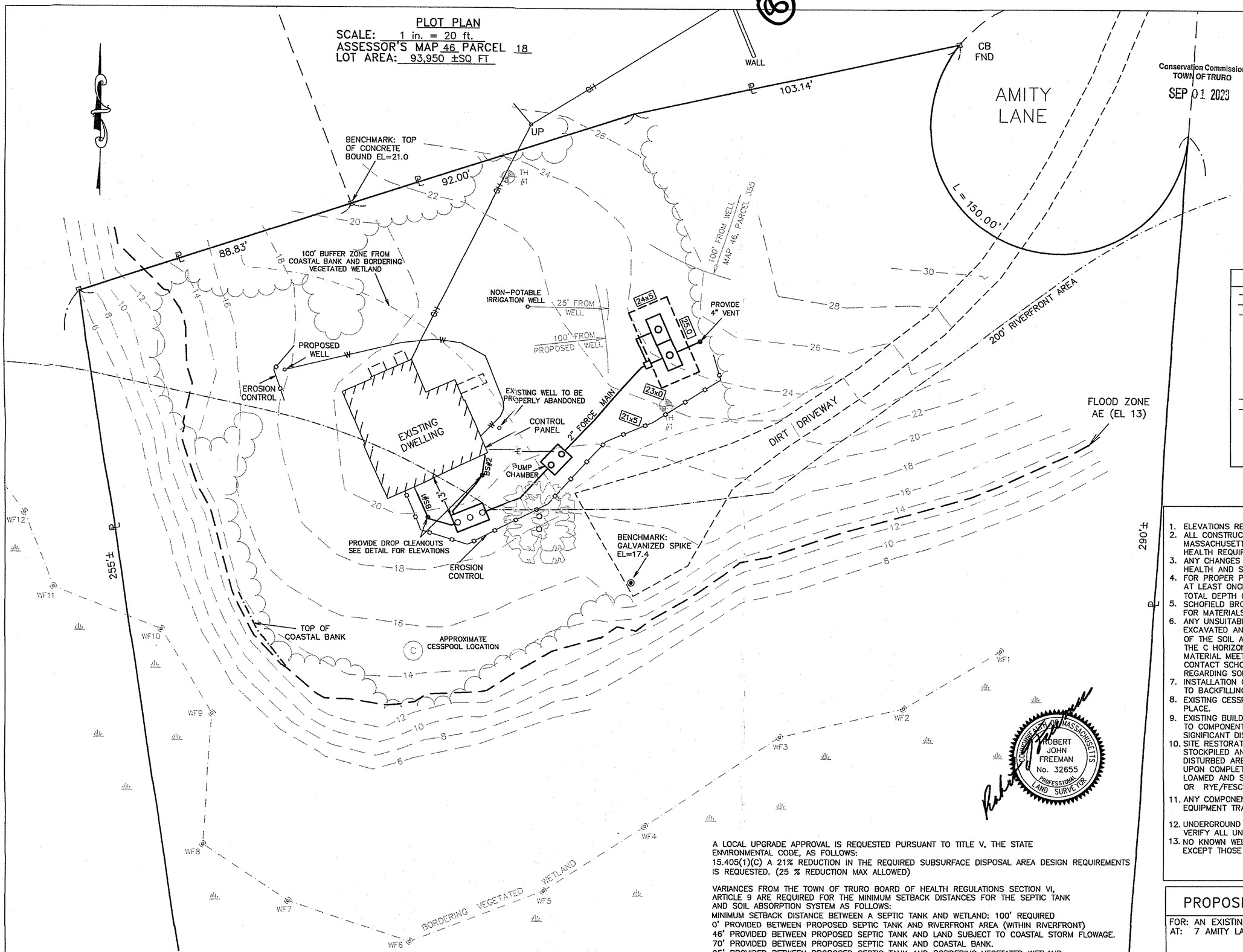
DATE: AUGUST 30, 2023

DESIGNED BY: LAS
DRAWN BY: LAS
CHECKED BY: LAS

SCHOFIELD BROTHERS OF CAPE COD
LAND SURVEYING - ENVIRONMENTAL PERMITTING
P.O. BOX 101, 161 CRANBERRY HIGHWAY ORLEANS, MA
(508) 255-2098

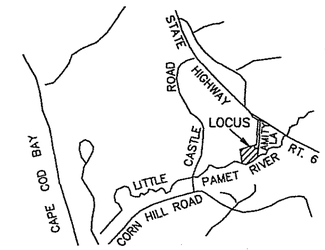
PLOT PLAN

SCALE: 1 in. = 20 ft.
ASSESSOR'S MAP 46 PARCEL 18
LOT AREA: 93,950 ±SQ FT



Conservation Commission
TOWN OF TRURO
SEP 01 2023

LOCUS MAP



SCALE: 1 IN. = 2000 FT.

LEGEND

XX	PROPOSED CONTOUR LINE
XX	EXISTING CONTOUR
W	WATER LINE
	PROPOSED 1500 GALLON SEPTIC TANK
	PROPOSED DISTRIBUTION BOX
	PROPOSED LEACHING AREA
# x #	EXISTING SPOT ELEVATIONS
	TEST HOLE LOCATIONS
	PROPERTY LINE
# x #	PROPOSED SPOT ELEVATION
OH	OVERHEAD UTILITIES
UG	UNDERGROUND UTILITIES
FG	FINISHED GRADE
UP	UTILITY POLE
TOF	TOP OF FOUNDATION ELEVATION
BS	BUILDING SEWER
CO	CLEAN OUT

GENERAL NOTES

1. ELEVATIONS REFER TO NAVD 88 DATUM. SEE BENCHMARK ON PLAN.
2. ALL CONSTRUCTION AND MATERIALS TO CONFORM TO TITLE 5 OF THE MASSACHUSETTS STATE ENVIRONMENTAL CODE AND THE BOARD OF HEALTH REQUIREMENTS FOR THE TOWN OF TRURO.
3. ANY CHANGES TO THIS PLAN MUST BE APPROVED BY THE BOARD OF HEALTH AND SCHOFIELD BROTHERS OF CAPE COD.
4. FOR PROPER PERFORMANCE, THE SEPTIC TANK SHOULD BE INSPECTED AT LEAST ONCE PER YEAR. THE TANK SHOULD BE PUMPED WHEN THE TOTAL DEPTH OF SCUM AND SOLIDS EXCEEDS 1/3 OF ITS LIQUID DEPTH.
5. SCHOFIELD BROTHERS OF CAPE COD DOES NOT ASSUME RESPONSIBILITY FOR MATERIALS ENCOUNTERED DURING EXCAVATION.
6. ANY UNSUITABLE OR DELETERIOUS MATERIAL ENCOUNTERED MUST BE EXCAVATED AND REMOVED TO A DISTANCE OF 5 FEET FROM ALL SIDES OF THE SOIL ABSORPTION SYSTEM (S.A.S) AND TO A DEPTH AT WHICH THE C HORIZON IS ENCOUNTERED. BACKFILL WITH CLEAN SAND MATERIAL MEETING TITLE 5 SPECIFICATIONS TO APPROX. ELEVATION 21.5. CONTACT SCHOFIELD BROTHERS IF ANY DOUBT OR QUESTIONS ARISE REGARDING SOIL QUALITY.
7. INSTALLATION CONTRACTOR SHALL CONTACT SCHOFIELD BROTHERS PRIOR TO BACKFILLING FOR SYSTEM CERTIFICATION.
8. EXISTING CESSPOOL(S) ARE TO BE LOCATED, PUMPED AND FILLED IN PLACE.
9. EXISTING BUILDING SEWER INVERT(S) SHALL BE VERIFIED IN FIELD PRIOR TO COMPONENT INSTALLATION. CONTACT SCHOFIELD BROTHERS IF SIGNIFICANT DISCREPANCIES EXIST.
10. SITE RESTORATION REQUIRES ALL STRIPPED TOPSOIL AND SUBSOIL TO BE STOCKPILED AND REUSED AT OWNERS OPTION. RE-SPREAD OVER DISTURBED AREAS TO PROMOTE OPTIMAL GROWTH. UPON COMPLETION OF CONSTRUCTION DISTURBED AREAS SHALL BE LOAMED AND SEEDED OR OTHERWISE STABILIZED WITH A CONSERVATION OR RYE/FESCUE MIX.
11. ANY COMPONENT THAT WILL BE SUBJECT TO VEHICLE OR OTHER HEAVY EQUIPMENT TRAFFIC SHALL BE INSTALLED WITH H-20 LOADING CAPACITY.
12. UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.
13. NO KNOWN WELLS EXIST WITHIN 200' OF THE PROPOSED LEACHING AREA EXCEPT THOSE THAT ARE SHOWN.

COMMONWEALTH OF MASSACHUSETTS
ROBERT JOHN FREEMAN
No. 32655
PROFESSIONAL LAND SURVEYOR

A LOCAL UPGRADE APPROVAL IS REQUESTED PURSUANT TO TITLE V, THE STATE ENVIRONMENTAL CODE, AS FOLLOWS:
15.405(1)(C) A 21% REDUCTION IN THE REQUIRED SUBSURFACE DISPOSAL AREA DESIGN REQUIREMENTS IS REQUESTED. (25 % REDUCTION MAX ALLOWED)

VARIANCES FROM THE TOWN OF TRURO BOARD OF HEALTH REGULATIONS SECTION VI, ARTICLE 9 ARE REQUIRED FOR THE MINIMUM SETBACK DISTANCES FOR THE SEPTIC TANK AND SOIL ABSORPTION SYSTEM AS FOLLOWS:
MINIMUM SETBACK DISTANCE BETWEEN A SEPTIC TANK AND WETLAND: 100' REQUIRED
0' PROVIDED BETWEEN PROPOSED SEPTIC TANK AND RIVERFRONT AREA (WITHIN RIVERFRONT)
46' PROVIDED BETWEEN PROPOSED SEPTIC TANK AND LAND SUBJECT TO COASTAL STORM FLOWAGE.
70' PROVIDED BETWEEN PROPOSED SEPTIC TANK AND COASTAL BANK.
95' PROVIDED BETWEEN PROPOSED SEPTIC TANK AND BORDERING VEGETATED WETLAND.
MINIMUM SETBACK BETWEEN PROPOSED PUMP CHAMBER AND WETLAND: 100' REQUIRED
10' PROVIDED BETWEEN PROPOSED PUMP CHAMBER AND RIVERFRONT AREA
50' PROVIDED BETWEEN PROPOSED PUMP CHAMBER AND LAND SUBJECT TO COASTAL STORM FLOWAGE.
99' PROVIDED BETWEEN PROPOSED PUMP CHAMBER AND COASTAL BANK.
MINIMUM SETBACK DISTANCE BETWEEN A SOIL ABSORPTION SYSTEM AND A WETLAND: 150' REQUIRED
36' PROVIDED BETWEEN PROPOSED SAS AND RIVERFRONT AREA
59' PROVIDED BETWEEN PROPOSED SAS AND LAND SUBJECT TO COASTAL STORM FLOWAGE
114' PROVIDED BETWEEN PROPOSED SAS AND BORDERING VEGETATED WETLAND
146' PROVIDED BETWEEN PROPOSED SAS AND COASTAL BANK.

ARTICLE 8: TEMPORARY RELIEF FROM THE REQUIREMENT FOR INNOVATIVE ALTERNATIVE TECHNOLOGY.

DEEP TEST HOLE OBSERVATION LOG #1

DATE: FEBRUARY 10, 2023 — JOB: 0-12625
PERFORMED BY: LAURA A. SCHOFIELD RS, SE — WITNESSED BY: COURTNEY WARREN, TRURO BOH

ELEVATION (FT)	DEPTH FROM SURFACE (IN)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER
22.0-20.3	0-20	AP	SANDY LOAM	10YR4/3		
20.3-19.3	20-32	BW	LOAMY SAND	10YR4/6		
19.3-10.2	32-142	C	SAND	10YR5/6		COARSE

PARENT GEOLOGICAL MATERIAL: GLACIAL OUTWASH — STANDING WATER IN HOLE: NONE
WEEPING FROM FACE: NO — DEPTH TO BEDROCK:
ESTIMATED SEASONAL HIGH GROUNDWATER AT EL. = 3.5
PERCOLATION TEST: TOP OF PERC. AT 38", 24 GAL. ABSORBED IN 3:52 MIN., PERC. RATE < 2 MPI

DEEP TEST HOLE OBSERVATION LOG #2

DATE: FEBRUARY 10, 2023 — JOB: 0-12625
PERFORMED BY: LAURA A. SCHOFIELD RS, SE — WITNESSED BY: COURTNEY WARREN, TRURO BOH

ELEVATION (FT)	DEPTH FROM SURFACE (IN)	SOIL HORIZON	SOIL TEXTURE (USDA)	SOIL COLOR (MUNSELL)	SOIL MOTTLING	OTHER
23.1-22.8	3-0	ORGANIC				
22.8-21.8	0-12	A	SANDY LOAM	10YR4/4		
21.8-20.7	12-25	BW	SANDY LOAM	10YR5/8		
20.7-11.5	25-136	C	SAND	10YR5/6		COARSE

PARENT GEOLOGICAL MATERIAL: GLACIAL OUTWASH — STANDING WATER IN HOLE: NONE
WEEPING FROM FACE: NO — DEPTH TO BEDROCK:
ESTIMATED SEASONAL HIGH GROUNDWATER AT EL. = 3.5
PERCOLATION TEST:

PROPOSED SEWAGE DISPOSAL SYSTEM

FOR: AN EXISTING 4 BEDROOM DWELLING
AT: 7 AMITY LANE, TRURO, MA

ASSESSOR'S MAP: 46 PARCEL: 18

APPLICANT: IRENE SELVER
390 RIVERSIDE DRIVE, APT. 2F
NEW YORK, NY 10025

JOB #: 0-12625

COMMONWEALTH OF MASSACHUSETTS
LAURA A. SCHOFIELD
No. 2169
REGISTERED SANITARIAN

DATE: JULY 5, 2023
REVISED: AUGUST 30, 2023

DESIGNED BY: LAS
DRAWN BY: LAS / RJF
CHECKED BY: LAS / RJF

SCHOFIELD BROTHERS OF CAPE COD
LAND SURVEYING - ENVIRONMENTAL PERMITTING
P.O. BOX 101, 161 CRANBERRY HIGHWAY ORLEANS, MA
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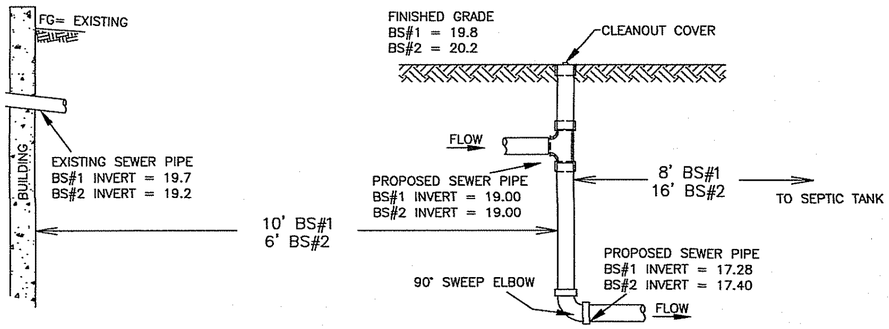


SEWER LINE DROP WITH CLEANOUT DETAIL

(NO SCALE)

*BUILDING SEWERS WITH A SLOPE GREATER THAN OR EQUAL TO 12% SHALL BE PROVIDED WITH A DROP CLEANOUT.

ALL PIPING SHALL BE 4" SCH-40 PVC UNLESS OTHERWISE NOTED.

1. GENERAL

FURNISH AND INSTALL ONE COMPLETE PUMPING SYSTEM CONSISTING OF ONE SUBMERSIBLE EFFLUENT PUMP AND MOTOR, DISCHARGE PIPING AND VALVES, FLOAT SWITCHES, LEVEL CONTROLS, HIGH WATER ALARM AND SIMPLEX CONTROL PANEL.

ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND WARRANTED FOR A PERIOD OF AT LEAST ONE YEAR.
UPON COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL PROVIDE A SUFFICIENT QUANTITY OF CLEAN WATER TO CONDUCT PUMP OPERATION TESTS.

2. DOSING CHAMBER (PUMP STATION)

THE PUMP CHAMBER SHALL BE A ACME-SHOREY 1000 GALLON H-20 SEPTIC TANK ITEM #ST 102M OR APPROVED EQUAL WITH INVERTS SET TO THE INDICATED ELEVATIONS.
PUMP CHAMBER SHALL BE MADE WATERTIGHT THROUGH MANUFACTURER'S SPECIFICATIONS.
PUMP CHAMBER SHALL BE SET ON A MECHANICALLY COMPACTED, LEVEL, STABLE 6" BASE STONE AGGREGATE.

3. PUMP AND MOTOR

PUMP AND MOTOR SHALL BE HEAVY DUTY EFFLUENT-TYPE EJECTOR WITH A 2 INCH DISCHARGE. PUMP AND MOTOR SHALL BE FULLY SUBMERSIBLE AND SHALL OPERATE WITH A 115V, 12 AMP SINGLE PHASE AC POWER SOURCE. THE ELECTRICAL CONTRACTOR SHALL VERIFY THAT PROPER VOLTAGE IS AVAILABLE AT THE CONTROL PANEL AND THAT THE PANEL IS INSTALLED ACCORDING TO THE MANUFACTURERS SPECIFICATIONS.

USE A LIBERTY LE 41A SERIES 4/10 HP EFFLUENT PUMP OR APPROVED EQUAL. THE PUMP SHALL BE RATED AS FOLLOWS:
A) 4/10 HP
B) 58 GALLONS PER MINUTE
C) 15.8 FEET TOTAL DYNAMIC HEAD

4. LEVEL CONTROLS

SEALED FLOAT-TYPE SWITCHES SHALL BE SUPPLIED TO CONTROL THE SUMP LEVEL AND ALARM SIGNAL. TWO FLOAT SWITCHES SHALL BE USED TO CONTROL THE SUMP LEVEL; ONE FOR FOR PUMP "OFF" AND ONE FOR PUMP "ON". A THIRD SWITCH SHALL BE PROVIDED WITH A POWER SOURCE SEPERATE FROM THE PUMP POWER AND SHALL BE FOR THE ALARM UNIT.

THE FLOAT LEVEL CONTROLS SHALL BE SET TO OPERATE AT THE ELEVATIONS INDICATED ON THE PLANS.

5. CONTROL PANEL

THE NEMA 4 OUTDOOR SIMPLEX CONTROL PANEL SHALL BE LOCATED IN A SUITABLE LOCATION APPROVED BY THE HOMEOWNER

6. ALARM

A HIGH WATER ALARM SHALL BE SUPPLIED WITH BOTH AN AUDIBLE AND VISUAL ALARM WITH A SEPARATE POWER SUPPLY FROM THE PUMP.

AN ALARM SILENCER BUTTON SHALL BE PROVIDED TO SILENCE THE AUDIBLE ALARM WHILE THE VISUAL ALARM REMAINS LIT UNTIL MANUALLY RESET. THE PANEL SHALL BE LOCATED AT A LOCATION APPROVED BY THE HOMEOWNER.

7. PIPING

THE PUMP STATION DISCHARGE PIPING, FITTINGS AND SEWAGE FORCE MAIN SHALL BE 2-INCH SCH-40 PVC. WITHIN THE PUMP CHAMBER, THE DISCHARGE PIPING SHALL INCLUDE THE FOLLOWING: 1) IN THE VERTICAL POSITION: A 2-INCH BALL-TYPE, CHECK VALVE; AND 2) IN THE HORIZONTAL POSITION: A 2-INCH BALL VALVE, AND A 2" QUICK DISCONNECT UNION. PIPING AND VALVES SHALL BE ARRANGED SO THAT THEY ARE EASILY ACCESSIBLE FROM THE PUMP CHAMBER MANHOLE COVER. FORCE MAIN SHALL BE LAID IN A "CLASS B" TRENCH BEDDING.

ALL PIPING OUTSIDE THE PUMP CHAMBER WHICH IS LESS THAN FOUR (4) FEET BELOW FINAL FINISHED GRADE SHALL BE SURROUNDED WITH A MINIMUM OF TWO (2) INCHES OF RIGID STYROFOAM INSULATION OR SHALL DRAIN BACK TO THE PUMP CHAMBER.

PROVIDE CONCRETE THRUST BLOCKING AT ALL FORCE MAIN BENDS WITH MINIMUM SOIL BEARING SURFACE AREA OF ONE SQUARE FOOT.

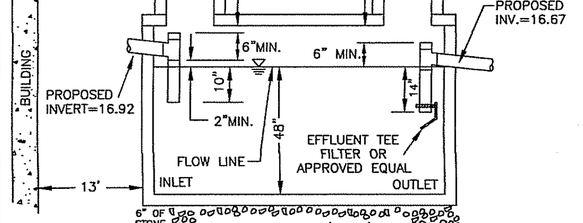
SPECIAL CARE TO ASSURE WATER TIGHTNESS SHALL BE TAKEN AT ALL FORCE MAIN CONNECTIONS. PIPE JOINTS WILL BE THOROUGHLY CLEANED PRIOR TO CEMENTING.

8. DOSING REQUIREMENTS

PURSUANT TO 310 CMR 15.254: DOSING:
THE SYSTEM HAS BEEN DESIGNED TO PROVIDE 10 DOSES PER DAY EQUAL TO 50 GALLONS PER DOSE. THIS VOLUME IS BASED ON A DESIGN FLOW OF 440 GALLONS PER DAY DIVIDED BY 10, AND A FORCE MAIN FLOW-BACK VOLUME OF 6 GALLONS PER DOSE.

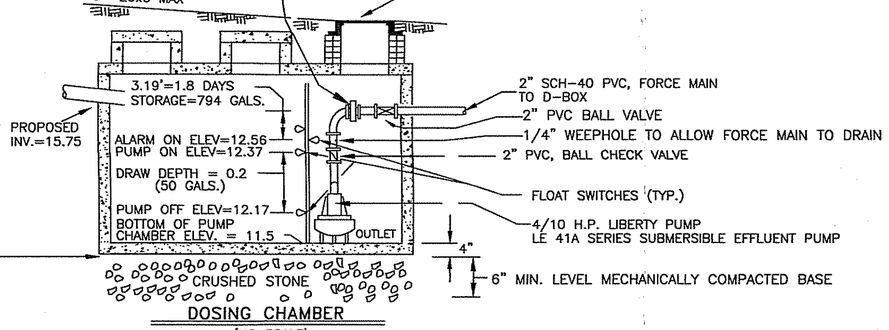
ADDITIONAL STORAGE PROVIDED IN THE PUMP CHAMBER, ABOVE THE HIGH WATER LEVEL IS APPROXIMATELY 794 GALLONS. IN THE EVENT OF A POWER FAILURE, THIS IS SUFFICIENT CAPACITY TO PROVIDE FOR APPROXIMATELY 1.8 DAYS OF STORAGE, BASED ON ESTIMATED PEAK DAILY FLOW.

PROFILE OF SYSTEM - NO SCALE



NOTE: UNLESS OTHERWISE NOTED, ALL PIPE TO BE 4" DIAM. PVC TIGHT JOINT SCH. 40

EFFLUENT TEE IN THE SEPTIC TANK SHALL BE INSPECTED AND CLEANED AT LEAST ON AN ANNUAL BASIS



DOSING CHAMBER

(NO SCALE)
PRECAST REINFORCED CONCRETE
1000 GALLON SEPTIC TANK
H-20 MINIMUM DESIGN LOADING

USE ACME-SHOREY 1000 GALLON SEPTIC TANK ITEM #ST 102M OR APPROVED EQUAL

DESIGN CALCULATIONS

1. ESTIMATED HYDRAULIC LOADING:
4 BEDROOMS AT 110 GPD PER BEDROOM = 440 GPD
GARBAGE GRINDER IS NOT ALLOWED WITH THIS DESIGN

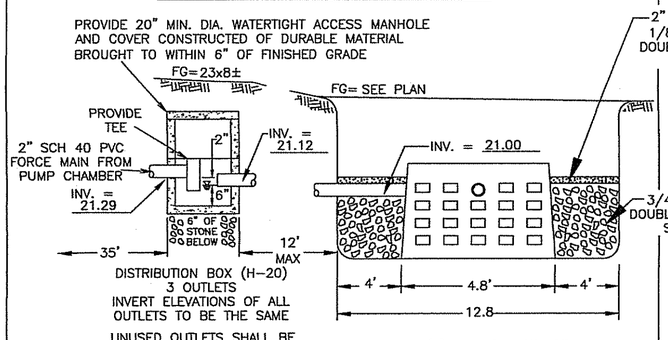
2. SEPTIC TANK SIZE:
AVERAGE DAILY FLOW = 440 GPD X 2 DAYS = 880 GALLONS
SEPTIC TANK PROVIDED = 1500 GALLONS

3. DESIGN PERCOLATION RATE = < 2 MINUTES PER INCH
SOIL TEXTURE LOAMY SANDS, CLASS 1
310 CMR 15.242 EFFLUENT LOADING RATE = 0.74 GPD/SF

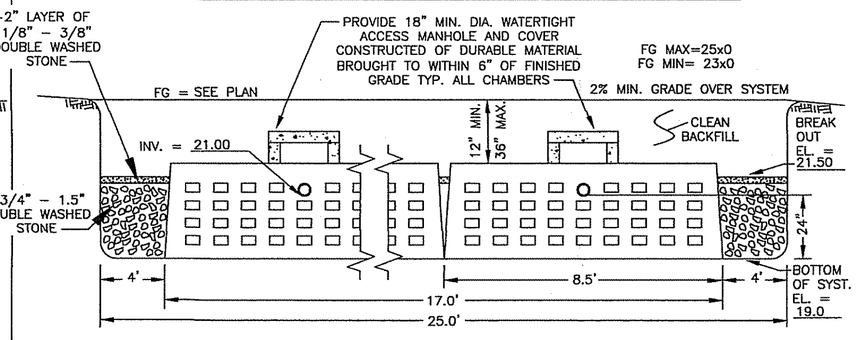
4. SOIL ABSORPTION SYSTEM:
TOTAL SIDEWALL AREA PROVIDED = 151.2 SF X .74 GPD/SF = 111.8 GPD
TOTAL BOTTOM AREA PROVIDED = 320 SF X .74 GPD/SF = 236.8 GPD
MAXIMUM ALLOWABLE LOADING UNDER TITLE 5 348 * GPD
ACTUAL HYDRAULIC LOADING = 440 GPD (SEE 1.)

* 21% OF SAS DESIGN REQUIREMENT PROVIDED.
SEE LOCAL UPGRADE APPROVAL REQUEST

PROFILE OF SYSTEM - NO SCALE



TYPICAL LEACHING TRENCH CROSS SECTION - NO SCALE



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PROPOSED SEWAGE DISPOSAL SYSTEM

FOR: AN EXISTING 4 BEDROOM DWELLING
AT: 7 AMITY LANE, TRURO, MA

ASSESSOR'S MAP: 46 PARCEL: 18

APPLICANT: IRENE SELVER
390 RIVERSIDE DRIVE, APT. 2F
NEW YORK, NY 10025

JOB #: O-12625

DATE: JULY 5, 2023
REVISED: AUGUST 30, 2023

DESIGNED BY: LAS
DRAWN BY: LAS / RJF
CHECKED BY: LAS / RJF

SCHOFIELD BROTHERS OF CAPE COD
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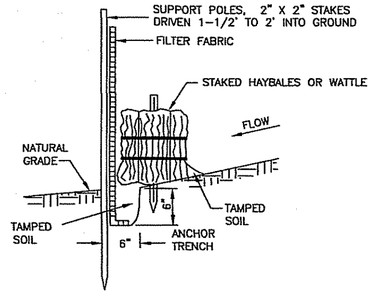


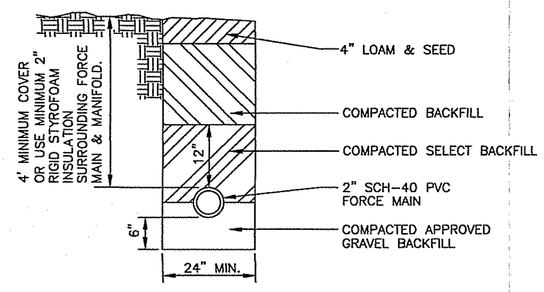
SILT FENCE WITH STAKED HAYBALES OR WATTLE

SILT FENCE WITH STAKED HAYBALES OR WATTLES SEDIMENT BARRIER DETAIL

(NO SCALE)

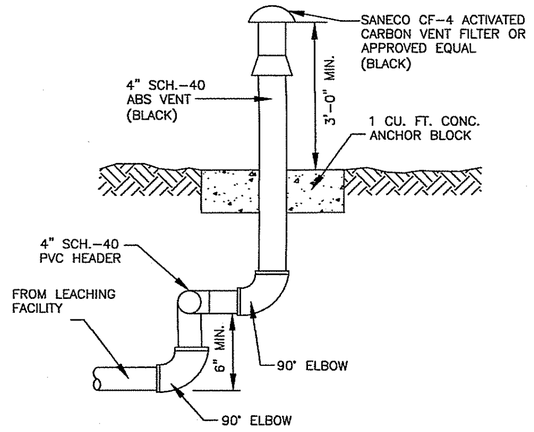
CONSTRUCTION & EROSION CONTROL NOTES

1. PRIOR TO ANY DISTURBANCE OF THE SITE, A STAKED SILT FENCE / LIMIT OF WORK SHALL BE INSTALLED IN THE LOCATION SHOWN. THE SILT FENCE SHALL REMAIN IN PLACE UNTIL ALL AREAS UPGRADIENT FROM THE BARRIER HAVE BEEN STABILIZED.
2. ALL DISTURBED AREAS NOT OTHERWISE DEVELOPED OR WHERE SPECIAL STABILIZATION MEASURES OR LANDSCAPE PLANTINGS ARE NOT PROPOSED SHALL HAVE 4"-6" OF LOAM ADDED AND SEEDED WITH A RYE FESCUE MIX.
3. ALL AREAS OUTSIDE OF THE LIMIT OF WORK ARE TO BE LEFT UNDISTURBED. DURING THE SITE WORK, ALL PERSONS AND EQUIPMENT SHALL STAY OUT OF THESE AREAS AND PRESERVE EXISTING VEGETATION.



TYPICAL FORCE MAIN BEDDING DETAIL

(NO SCALE)



LEACHING SYSTEM VENT

(NO SCALE)

SHEET 3 OF 3

PROPOSED SEWAGE DISPOSAL SYSTEM

FOR: AN EXISTING 4 BEDROOM DWELLING
AT: 7 AMITY LANE, TRURO, MA

ASSESSOR'S MAP: 46 PARCEL: 18

APPLICANT: IRENE SELVER
390 RIVERSIDE DRIVE, APT. 2F
NEW YORK, NY 10025

JOB #: 0-12625

DATE: JULY 5, 2023
REVISED: AUGUST 30, 2023

DESIGNED BY: LAS
DRAWN BY: LAS / RJF
CHECKED BY: LAS / RJF

SCHOFIELD BROTHERS OF CAPE COD
LAND SURVEYING - ENVIRONMENTAL PERMITTING
P.O. BOX 101, 161 CRANBERRY HIGHWAY ORLEANS, MA
(508) 255-2098

Conservation Commission
TOWN OF TRURO
AUG 23 2023

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PROJECT DESCRIPTION

1. Introduction

This Notice of Intent (NOI) application has been submitted for a supplemental shoreline protection project located at 522 Shore Road in Truro (the site). The site consists of nine waterfront residential condominiums, units 10-18. The Town of Truro Assessors Department references the site as Map 7, Lot 8. The proposed project includes the installation of three rows of 20-inch diameter coir logs to provide additional protection to the dunes and structures on the site. The proposed project is located within a Barrier Beach/Coastal Dune and Land Subject to Coastal Storm Flowage (FEMA Flood Zone VE & AE). This application is being submitted in accordance with the Massachusetts Wetlands Protection Act and the Town of Truro Wetlands Protection Bylaw.

2. Site Description

The site is located to the south of Shore Road along the narrow strip of Barrier Beach located between Pilgrim Lake to the north and Pilgrim Beach/Cape Cod Bay to the south. The site consists of nine residential condominiums along the waterfront with shared gravel driveways, septic system, associated decks with stairs, underground utilities, etc. A sturdy sand drift fence was installed and is functioning well over the last two years. The entire site is located within a mapped Barrier Beach system and Land Subject to Costal Storm Flowage. A Coastal Beach extends from mean low water up to a Coastal Dune that extends through the site. Environmental Consulting & Restoration, LLC (ECR) completed a review of available environmental databases, ECR is able to confirm that the site contains the following wetland resource areas and areas of Conservation Commission jurisdiction:

- Barrier Beach
- Coastal Dune
- Coastal Beach
- Land Subject to Coastal Storm Flowage (FEMA flood zone AE & VE)

Notes:

1. The site is located within an area mapped as Priority Habitat & Estimated Habitat for Rare Species according to the Massachusetts Natural Heritage & Endangered Species Program (MaNHESP).
2. The site does not contain or is near a Certified Vernal Pool according to the MaNHESP.
3. The site is not located within an Area of Critical Environmental Concern (ACEC).

3. Proposed Activities

The purpose of this application is to authorize the installation of a coir log array to protect the dune and the structures similar to the project approved at 510 Shore Road last year. The site includes residential structures, underground gas, electric and water utility lines as well as septic components. The site has suffered significant erosion historically and is mapped by the Office of Coastal Zone Management to have an annual erosion rate between -0.75 feet/year and -0.82 feet/year. A sturdy sand drift fence, dune nourishment and vegetation were installed in 2021 (SE 075-1106). Although the project endured the flooding and erosion of a December 2022 storm, additional protection is needed on the site. The proposed coir log array will be located behind the sand drift fence and supplement the previously approved and constructed shoreline protection project. This coir log project will involve the following activities:

- Staking of Existing Utilities – Prior to the start of work, all existing underground utilities shall be staked in the field.

- Installation of Coir Logs – The proposed coir log array includes three rows of 20-inch diameter coir logs that will span across the site (east to west) approximately 200 linear feet. The design includes installing a pyramid stacking of logs with three logs on the bottom row, two logs on the second row and single log on the third row (see attached sketch). The work will occur on the landward side of the existing sand drift fence. A combination of mechanical excavation utilizing a small excavator and hand digging will occur to trench in the bottom row below the existing grade. The two rows above grade will be placed and backfilled with the excavated sand. The coir logs will be secured in place using interlocking galvanized cables with 4-foot duckbill anchors. The logs will then be covered with 6- 8 inches of clean, compatible sand. For more information, please refer to the Proposed Conditions Plan.

- Stabilization Activities - All disturbed areas associated with the proposed installation will be restored and stabilized. Any areas of disturbed vegetation will be restored with bare root American Beachgrass plantings, spaced 12-inches on center with two culms per hole. Beachgrass will also be planted along the array itself where shading will not impact the success of the plantings.

4. Regulatory Compliance

Compliance with Massachusetts Wetlands Protection Regulations (310 CMR 10.00)

The following sections analyze the proposed project against the relevant performance standards for Coastal Dune on a Barrier Beach. For Coastal Dune, standard (4) would not apply since it addresses accessory projects related to existing buildings. There are no performance standards for Land Subject to Coastal Storm Flowage. Below, the performance standards are shown in italics to include an analysis of how the proposed project meets those specific standards, directly following not italicized.

> *310 CMR 10.28 Coastal Dune means any natural hill, mound or ridge of sediment landward of a coastal beach deposited by wind action or storm overwash. Coastal dune also means sediment deposited by artificial means and serving the purpose of storm damage prevention or flood control.*
>
> *WHEN A COASTAL DUNE IS DETERMINED TO BE SIGNIFICANT TO STORM DAMAGE PREVENTION, FLOOD CONTROL OR THE PROTECTION OF WILDLIFE HABITAT, 310 10.28(3) THROUGH (6) SHALL APPLY:*
>
> *(3) Any alteration of, or structure on, a coastal dune or within 100 feet of a coastal dune shall not have an adverse effect on the coastal dune by(a) affecting the ability of waves to remove sand from the dune;*
> *(a) affecting the ability of waves to remove sand from the dune;*
> *(b) disturbing the vegetative cover so as to destabilize the dune;*
> *(c) causing any modification of the dune form that would increase the potential for storm or flood damage;*
> *(d) interfering with the landward or lateral movement of the dune;*
> *(e) causing removal of sand from the dune artificially; or*
> *(f) interfering with mapped or otherwise identified bird nesting habitat.*
>
> Waves will have the ability to remove sand from the covered logs at any time. The coir installation will only temporarily disturb the existing vegetative cover, but not permanently destabilize the dune since replanting the grasses is proposed. While the logs are designed

to stabilize the dune, overwash and wind transport of sand will continue to occur and, thus, will not interfere with the landward or lateral movement of the dune. All sand altered by the log installation will remain in the dune. There is no sand to be artificially removed.

(5): The following projects may be permitted, provided that they adhere to the provisions of 310 CMR 10.28(3):

(a) pedestrian walkways, designed to minimize the disturbance to the vegetative cover and traditional bird nesting habitat;
(b) fencing and other devices designed to increase dune development; and
(c) plantings compatible with the natural vegetative cover.

Subsections (b) and (c) specifically apply to this project. The buried or covered logs are "other devices" designed to allow for overwash and windblown sand that will increase dune development. Excessively high tides and storms have eroded the seaward face of the dunes and created a steeper slope which cannot trap and hold the sand. This project may be permitted, provided that they adhere to the provisions of 310 CMR 10.28(3), as discussed above.

(6) Notwithstanding the provisions of 310 CMR 10.28(3) through (5), no project may be permitted which will have any adverse effect on specified habitat sites of Rare Species, as identified by procedures established under 310 CMR 10.37.

A fully completed copy of the Notice of Intent (including all plans, reports, and other materials required under 310 CMR 10.05(4)(a) and (b)) for such project has been sent to the NHESP via the U.S. Postal Service and we expect conditions for permitting the coir log array.

310 CMR 10.29 Barrier Beach means a narrow low-lying strip of land generally consisting of coastal beaches and coastal dunes extending roughly parallel to the trend of the coast. It is separated from the mainland by a narrow body of fresh, brackish or saline water or a marsh system. A barrier beach may be joined to the mainland at one or both ends.

(3) When a Barrier Beach Is Determined to Be Significant to Storm Damage Prevention, Flood Control, Marine Fisheries or Protection of Wildlife Habitat. 310 CMR 10.27(3) through (6) (coastal beaches) and 10.28(3) through (5) (coastal dunes) shall apply to the coastal beaches and to all coastal dunes which make up a barrier beach.

Compliance with the performance standards 10.28(3) through (6) (coastal dunes) are discussed above.

Compliance with Truro Conservation Regulations (Section II, Chapters 1.0 – 7.0)
The following sections analyze the proposed project against the relevant performance standards for Land Subject to Coastal Storm Flowage (LSCSF). For LSCSF, standards in Chapter 2.05 (c) apply to the proposed activity. Below, the performance standards are shown in italics to include an analysis of how the proposed project meets those specific standards, directly following not italicized.

Chapter 2.05 (c) Land Subject to Coastal Storm Flowage in the definition states LSCSF: the *abbreviation for land subject to coastal storm flowage. Also described as "Land subject to flooding" and the "flood plain". LSCSF is a resource area without a buffer zone and*

correlates with the mapped flood plain defined by FEMA mapping… Flood zones are geographic areas that FEMA has defined according to levels of flood risk…VE is where the flood elevation includes wave heights equal to or greater than 3 feet…

Presumption of Significance: *Where a proposed activity involves work within LSCSF, the Conservation Commission shall presume that such an area is significant to the interests and values of the Bylaw…*

Any activity subject to jurisdiction and proposed on LSCSF shall not:

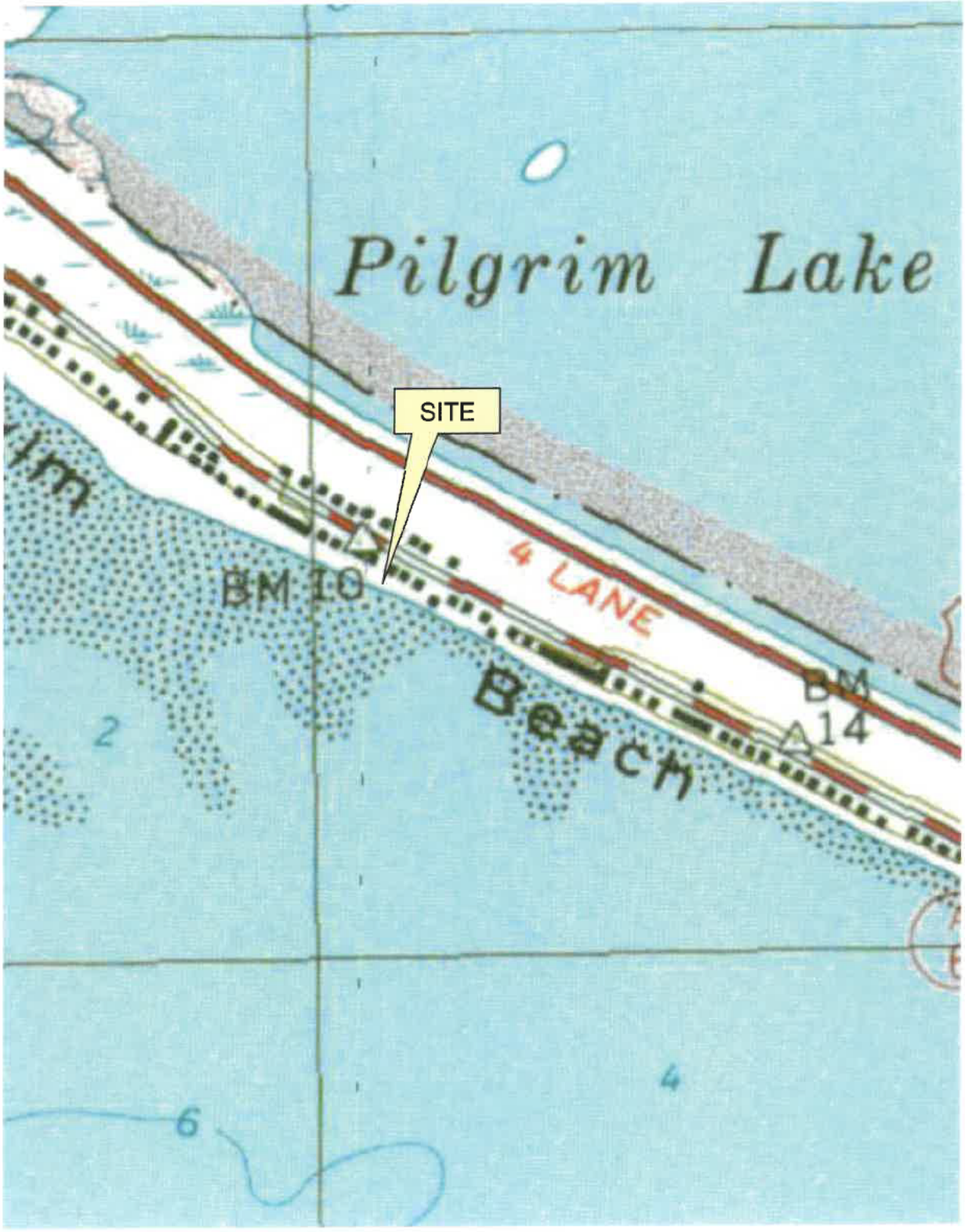
i. *Reduce the ability of the resource to absorb and contain flood waters;*
ii. *Reduce the ability of the resource to buffer more inland areas from flooding and wave damage;*
iii. *Displace or divert flood waters to other areas;*
iv. *Cause or create the likelihood of damage by debris to other structures on land within the flood plain (collateral damage); built structures such as stairs or walkways*
shall be seasonally removable;
v. *Cause ground or surface pollution triggered by coastal storm flowage; and*
vi. *Reduce the ability of the resource to serve as a wildlife habitat and migration corridor through activities such as, but not limited to the removal of vegetative cover and/or installation of fencing and other similar structures;*
vii. *Any activity proposed in the floodplain may require mitigation to enhance or restore natural functions of the floodplain.*

The buried and covered coir logs will allow flood waters to pass over them and, therefore will not reduce the ability of the Coastal Dune (dune) to absorb contain such waters. The beach and dune will continue to buffer more inland areas from flooding and wave damage because of the low height of the logs. The more sand that the dune can trap will actually increase the buffer capacity of the dune. The biodegradable logs will not act like a solid fill structure which may displace or divert flood waters to other areas. Flood waters in this Zone VE (el. 15) will continue to move landward. The proposed anchoring system with the coir log array will be durable and long lasting so that the likelihood for collateral damage is not caused or created by the project. No pollutants are proposed with the activity. No vegetative cover will be permanently removed since beachgrass will be planted as mitigation.

To comply with Section 7.05(11) of the By-Law regulations, the project will include dune nourishment consisting of clean, medium to coarse sand obtained from an inland source. For the initial construction, 40 cubic yards is estimated for placement over the dune face and crest. For the following years, the amount of nourishment provided will be a function of the amount removed during storms.

5. Summary

The proposed shoreline protection project includes the installation of three rows of 20-inch diameter coir logs to provide protection to the existing dune and structures on the site. The intent of the project is to mitigate the chances of a future catastrophic failure of the cottage foundations and underground utilities from coastal erosion. Once installed, all disturbed areas will be restored and stabilized upon the completion of work. Stockpiling of materials will be located beyond as far landward as practically possible within an area void of vegetation. Access to the work area shall utilize the existing gravel driveway and existing pathways between the condominiums.



USGS SITE LOCUS MAP
522 Shore Road
North Truro, Massachusetts

Source: MassGIS | MassMapper

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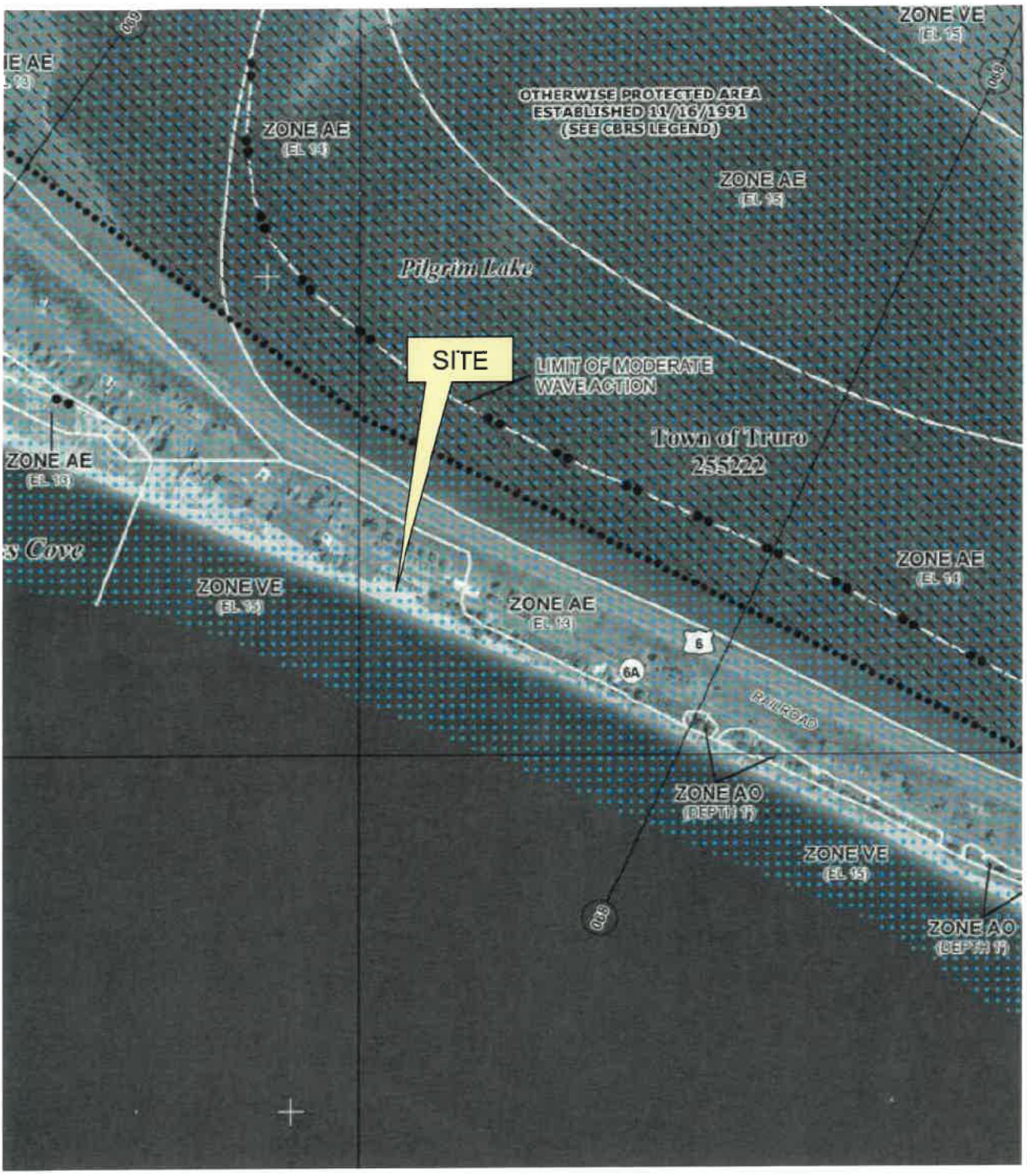

FEMA F.I.R.M
522 Shore Road
North Truro, Massachusetts

Source: FEMA Map 25001C0117J: Eff: 07/16/2014

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Priority Habitats of Rare Species, Estimated Habitat of Rare Wildlife & Certified Vernal Pools Map
522 Shore Road
North Truro, Massachusetts

Source: MassGIS | Mass Mapper

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TOWN OF TRURO
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PROJECT DESCRIPTION

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- Barrier Beach
- Coastal Dune
- Coastal Beach
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- Staking of Existing Utilities – Prior to the start of work, all existing underground utilities shall be staked in the field.

- Installation of Coir Logs – The proposed coir log array includes three rows of 20-inch diameter coir logs that will span across the site (east to west) approximately 200 linear feet. The design includes installing a pyramid stacking of logs with three logs on the bottom row, two logs on the second row and single log on the third row (see attached sketch). The work will occur on the landward side of the existing sand drift fence. A combination of mechanical excavation utilizing a small excavator and hand digging will occur to trench in the bottom row below the existing grade. The two rows above grade will be placed and backfilled with the excavated sand. The coir logs will be secured in place using interlocking galvanized cables with 4-foot duckbill anchors. The logs will then be covered with 6- 8 inches of clean, compatible sand. For more information, please refer to the Proposed Conditions Plan.

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>
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> *(a) affecting the ability of waves to remove sand from the dune;*
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> *(c) causing any modification of the dune form that would increase the potential for storm or flood damage;*
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Subsections (b) and (c) specifically apply to this project. The buried or covered logs are "other devices" designed to allow for overwash and windblown sand that will increase dune development. Excessively high tides and storms have eroded the seaward face of the dunes and created a steeper slope which cannot trap and hold the sand. This project may be permitted, provided that they adhere to the provisions of 310 CMR 10.28(3), as discussed above.

(6) Notwithstanding the provisions of 310 CMR 10.28(3) through (5), no project may be permitted which will have any adverse effect on specified habitat sites of Rare Species, as identified by procedures established under 310 CMR 10.37.

A fully completed copy of the Notice of Intent (including all plans, reports, and other materials required under 310 CMR 10.05(4)(a) and (b)) for such project has been sent to the NHESP via the U.S. Postal Service and we expect conditions for permitting the coir log array.

310 CMR 10.29 Barrier Beach means a narrow low-lying strip of land generally consisting of coastal beaches and coastal dunes extending roughly parallel to the trend of the coast. It is separated from the mainland by a narrow body of fresh, brackish or saline water or a marsh system. A barrier beach may be joined to the mainland at one or both ends.

(3) When a Barrier Beach Is Determined to Be Significant to Storm Damage Prevention, Flood Control, Marine Fisheries or Protection of Wildlife Habitat. 310 CMR 10.27(3) through (6) (coastal beaches) and 10.28(3) through (5) (coastal dunes) shall apply to the coastal beaches and to all coastal dunes which make up a barrier beach.

Compliance with the performance standards 10.28(3) through (6) (coastal dunes) are discussed above.

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correlates with the mapped flood plain defined by FEMA mapping… Flood zones are geographic areas that FEMA has defined according to levels of flood risk…VE is where the flood elevation includes wave heights equal to or greater than 3 feet…

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i. *Reduce the ability of the resource to absorb and contain flood waters;*
ii. *Reduce the ability of the resource to buffer more inland areas from flooding and wave damage;*
iii. *Displace or divert flood waters to other areas;*
iv. *Cause or create the likelihood of damage by debris to other structures on land within the flood plain (collateral damage); built structures such as stairs or walkways shall be seasonally removable;*
v. *Cause ground or surface pollution triggered by coastal storm flowage; and*
vi. *Reduce the ability of the resource to serve as a wildlife habitat and migration corridor through activities such as, but not limited to the removal of vegetative cover and/or installation of fencing and other similar structures;*
vii. *Any activity proposed in the floodplain may require mitigation to enhance or restore natural functions of the floodplain.*

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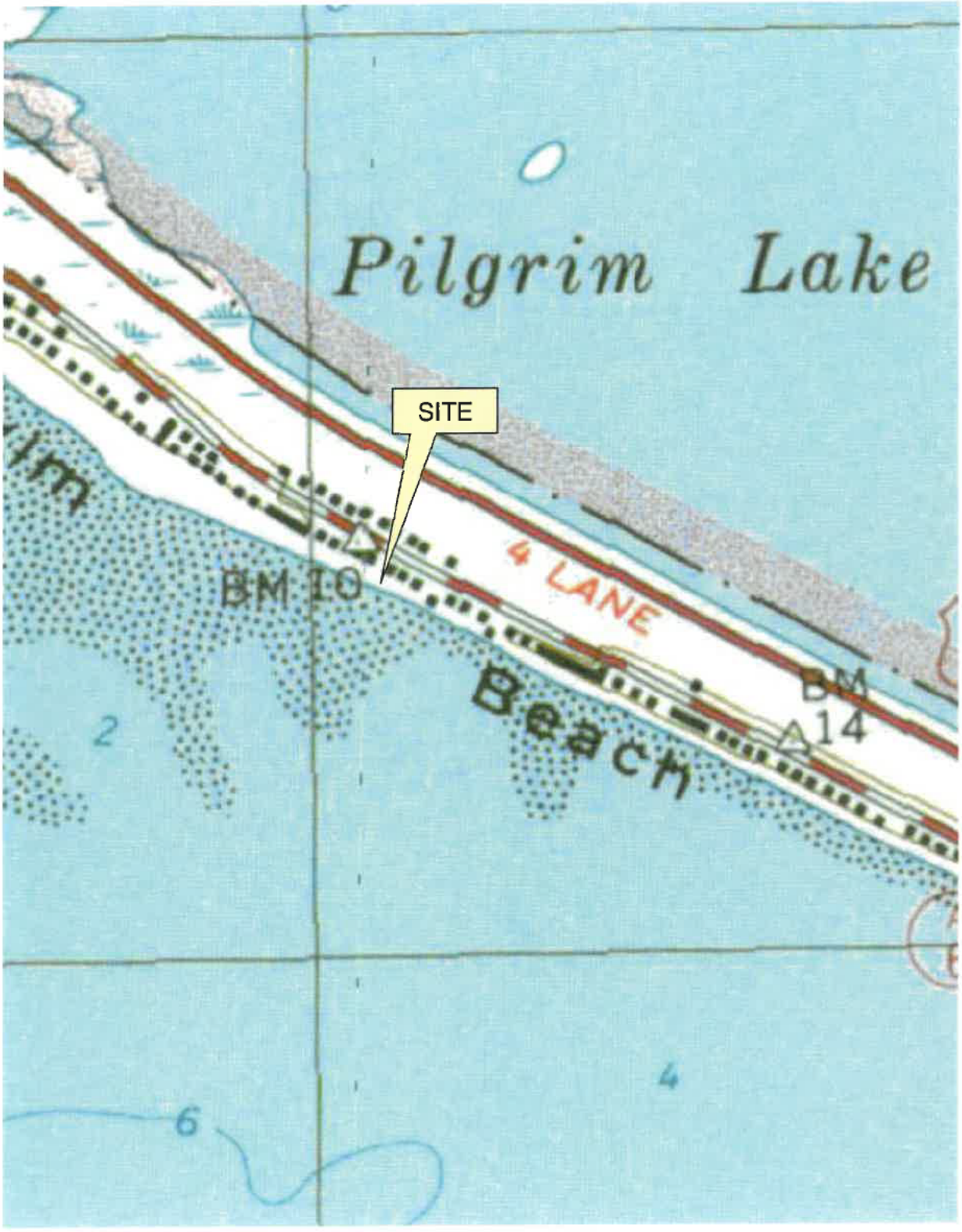
To comply with Section 7.05(11) of the By-Law regulations, the project will include dune nourishment consisting of clean, medium to coarse sand obtained from an inland source. For the initial construction, 40 cubic yards is estimated for placement over the dune face and crest. For the following years, the amount of nourishment provided will be a function of the amount removed during storms.

5. Summary

The proposed shoreline protection project includes the installation of three rows of 20-inch diameter coir logs to provide protection to the existing dune and structures on the site. The intent of the project is to mitigate the chances of a future catastrophic failure of the cottage foundations and underground utilities from coastal erosion. Once installed, all disturbed areas will be restored and stabilized upon the completion of work. Stockpiling of materials will be located beyond as far landward as practically possible within an area void of vegetation. Access to the work area shall utilize the existing gravel driveway and existing pathways between the condominiums.



USGS SITE LOCUS MAP
522 Shore Road
North Truro, Massachusetts

Source: MassGIS | MassMapper

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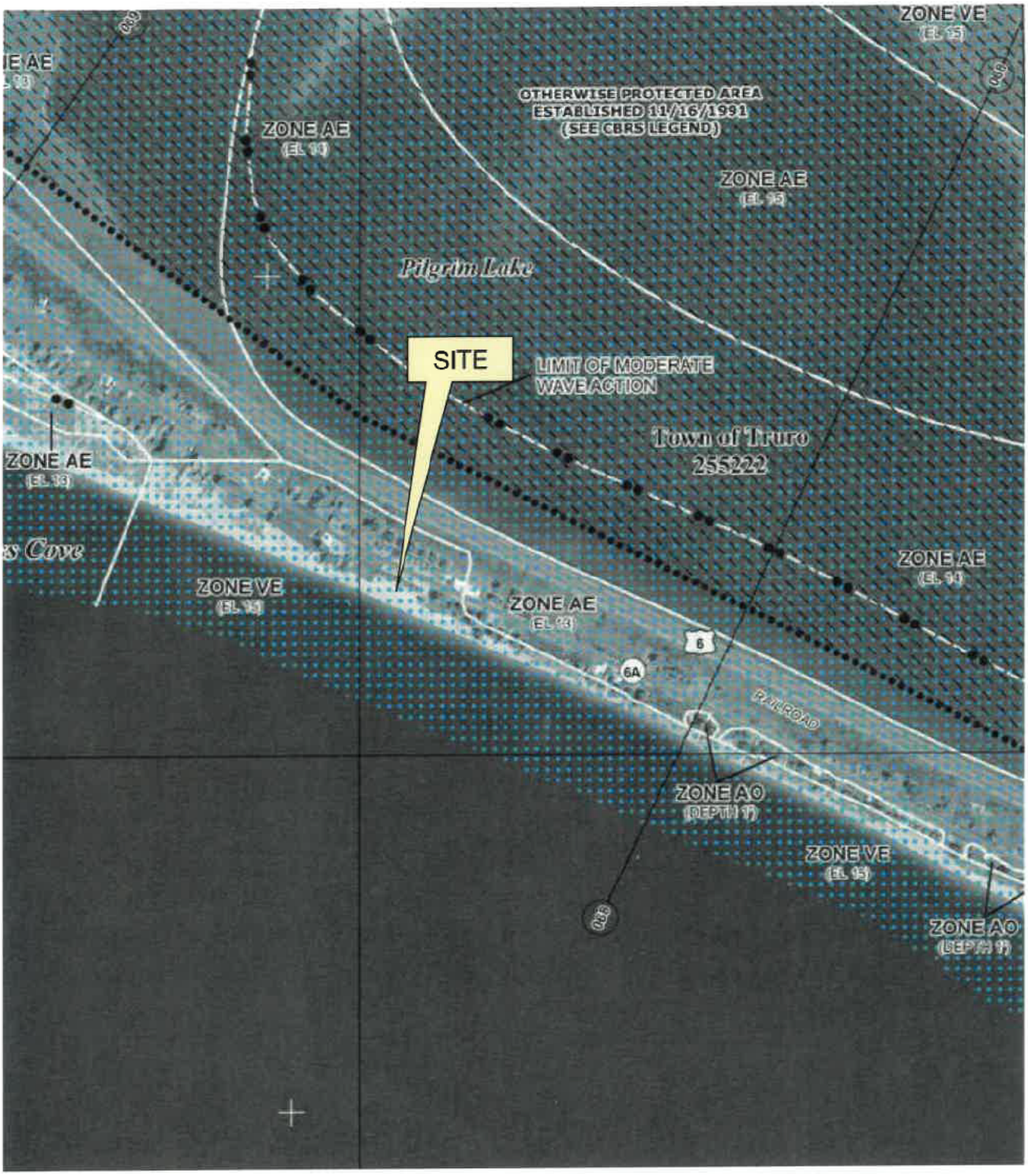

FEMA F.I.R.M
522 Shore Road
North Truro, Massachusetts

Source: FEMA Map 25001C0117J: Eff: 07/16/2014

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Priority Habitats of Rare Species, Estimated Habitat of Rare Wildlife & Certified Vernal Pools Map
522 Shore Road
North Truro, Massachusetts

Source: MassGIS | Mass Mapper

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Conservation Commission.
TOWN OF TRURO
AUG 23 2023

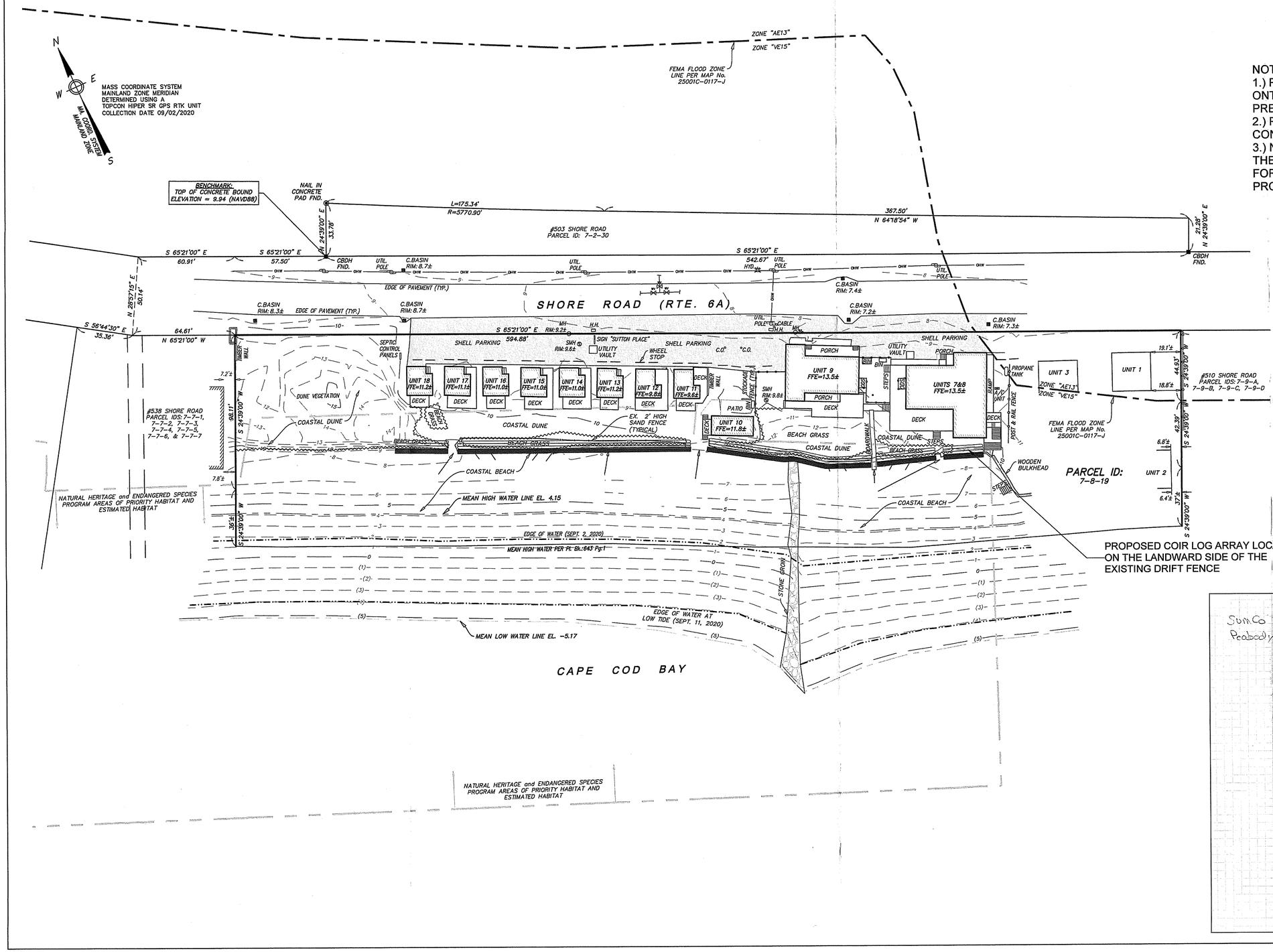
PROPOSED COIR LOG ARRAY SCHEMATIC

522 SHORE ROAD, TRURO

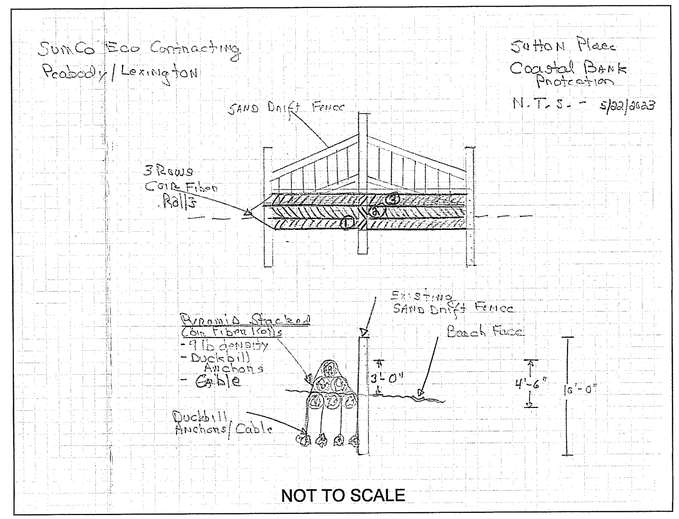
DATE: AUGUST 21, 2023 SHEET: 1 OF 1

Prepared By: Environmental Consulting & Restoration, LLC

NOTE:
1.) PROPOSED COIR LOG ARRAY DETAILS OVERLAID BY ECR, LLC ONTO THE PLAN TITLED: EXISTING & PROPOSED CONDITIONS PLAN, PREPARED BY BRACKEN ENGINEERING, DATED: OCT. 13, 2020.
2.) PROPOSED COIR LOF DETAILS PREPARED BY ENVIRONMENTAL CONSULTING & RESTORATION, LLC. AND SUMCO ECO CONTRACTING.
3.) NOTES FROM THE BRACKEN ENGINEERING PLAN PERTAINING TO THE PREVIOUSLY APPROVED SAND DRIFT FENCE WERE REMOVED FOR THE SAKE OF CLAIRITY AS THEY DO NOT PERTAIN TO THE PROPOSED COIR LOG ARRAY.



COIR LOG ARRAY DETAIL:



NOT TO SCALE

Conservation Commission
TOWN OF TRURO
AUG 23 2023

PROJECT DESCRIPTION

1. Introduction

This Notice of Intent (NOI) application has been submitted to permit the proposed shoreline stabilization project located at 566 Shore Road in North Truro (the site). The Town of Truro Assessors Department references the site as Parcel #5-29. The proposed project includes the installation of a sand drift fence (also called a "serpentine fence") with a coir log array located along the landward side of the fence at the boundary of a Coastal Beach and Coastal Dune and within Land Subject to Coastal Storm Flowage. This application is being submitted in accordance with the Massachusetts Wetlands Protection Act and the Town of Truro Wetlands Protection Bylaw.

2. Site Description

The site is located to the south of Shore Road along the narrow strip of Barrier Beach located between Pilgrim Lake to the north and Pilgrim Beach/Cape Cod Bay to the south. The site consists of seven residential structures with a shared gravel driveway/parking area, patio to the rear, septic system, associated decks with stairs, underground utilities, etc. The entire site is located within a mapped Barrier Beach system and Land Subject to Costal Storm Flowage. A Coastal Beach extends from mean low water up to a Coastal Dune located immediately south of the structures. Environmental Consulting & Restoration, LLC (ECR) has been onsite on several occasions, most recently on January 24, 2023 to review the existing conditions. Based on ECR's site visits and review of available environmental databases, ECR can confirm that the site contains the following wetland resource areas and areas of Conservation Commission jurisdiction:

- Barrier Beach
- Coastal Dune
- Coastal Beach
- 100-Foot Buffer Zone
- Land Subject to Coastal Storm Flowage (FEMA flood zone AE & VE)

Notes:

1. The site is located within an area mapped as Priority Habitat & Estimated Habitat for Rare Species according to the Massachusetts Natural Heritage & Endangered Species Program (MaNHESP).
2. The site does not contain or is near a Certified Vernal Pool according to the MaNHESP.
3. The site is not located within an Area of Critical Environmental Concern (ACEC).
4. The site is not located near a USGS mapped stream.

3. Proposed Activities

The purpose of this application is to authorize the installation of a drift fence and coir log array to protect the existing structure onsite and build up the Coastal Dune located onsite. The site has suffered significant erosion historically, some of this erosion has been documented in the attached photograph pages. The intent of the proposed coir log array is to provide protection to the existing structures onsite and mitigate the chances of a catastrophic failure. The sand drift fence is intended to build up the eroding Coastal Dune by collecting windblown sand. The proposed project will involve the following activities:

- Staking of Existing Utilities – Prior to the start of work, all existing underground utilities shall be staked in the field.

- Installation of Coir Logs – The proposed coir log array includes three rows of 20-inch diameter coir logs that will span across the site (east to west) approximately 115 linear feet.

The design includes installing one of the three coir log rows below the existing grade and the remaining two rows above the existing grade. The logs will be installed one on top of each other in a slope. A combination of mechanical excavation utilizing a small excavator and hand digging will occur to trench in the one row below the existing grade. The two rows above grade will be placed and backfilled with the excavated sand. The coir logs will be secured in place using interlocking galvanized cables with 4-foot duckbill anchors. The logs will then be covered with 6 – 8 inches of clean, compatible sand and planted with American Beachgrass. The bare root beachgrass shall be hand planted from the toe of the array up to the top and spaced 12-inches on center with two culms per hole. For more information, please refer to the Proposed Conditions Plan.

- Installation of the Sand Drift Fence – Drift fencing shall be installed in accordance with the Truro Conservation Regulations, specifically Section 7.05. Drift fencing shall consist of ten-foot timber posts dug at six feet into the sand at grade at the time of installation, connected by 6 to 10-foot spans of fencing comprised of 2x4 spans and 2x3 slats. Space between slats is a minimum of 3". Fence posts are installed alternating 2' on either side of a center line so that a "zig-zag" or serpentine structure results.

- Stabilization Activities - All disturbed areas associated with the proposed installation will be restored and stabilized. Any areas of disturbed vegetation will be restored with bare root American Beachgrass plantings, spaced 12-inches on center with two culms per hole. Beachgrass will also be planted along the array as noted above. Additional beachgrass could be interplanted on the landward side of the fence and array to fill in areas of the unvegetated Coastal Dune as necessary.

4. Regulatory Compliance

Compliance with Massachusetts Wetlands Protection Regulations (310 CMR 10.00)

The following sections analyze the proposed project against the relevant performance standards for Coastal Beach and Coastal Dune on a Barrier Beach. For Coastal Beach, only standard (3) applies to this activity since standard (4) applies to solid fill structures like groins and jetties, standard (5) applies to beach nourishment which is not being proposed, standard (6) refers to activities in Tidal Flats and standard (7) addresses rare species habitat. For Coastal Dune, standard (4) would not apply since it addresses accessory projects related to existing buildings and standard (6) would not apply since it addresses rare species habitat. There are no performance standards for Land Subject to Coastal Storm Flowage. Below, the performance standards are shown in italics to include an analysis of how the proposed project meets those specific standards, directly following not italicized.

310 CMR 10.27 Coastal Beach means unconsolidated sediment subject to wave, tidal and coastal storm action which forms the gently sloping shore of a body of salt water and includes tidal flats. Coastal beaches extend from the mean low water line landward to the dune line, coastal bankline or the seaward edge of existing human-made structures, when these structures replace one of the above lines, whichever is closest to the ocean.

WHEN A COASTAL BEACH IS DETERMINED TO BE SIGNIFICANT TO STORM DAMAGE PREVENTION, FLOOD CONTROL, OR PROTECTION OF WILDLIFE HABITAT, 310 CMR 10.27(3) THROUGH (7) SHALL APPLY:

(3) Any project on a coastal beach, except any project permitted under 310 CMR 10.30(3)(a), shall not have an adverse effect by increasing erosion, decreasing the volume or changing the form of any such coastal beach or an adjacent or downdrift coastal beach.

Installation of the coir logs will involve some excavation along the beach/dune boundary but the sand will be reused to cover the logs and beachgrass will be handplanted on top of the array to provide additional stabilization and improve sand collection. This construction process will not decrease the volume or change the form of the beach. The coir logs are intended to stabilize the beach/dune boundary and they will not increase erosion of the beach or an adjacent or downdrift coastal beach.

310 CMR 10.28 Coastal Dune means any natural hill, mound or ridge of sediment landward of a coastal beach deposited by wind action or storm overwash. Coastal dune also means sediment deposited by artificial means and serving the purpose of storm damage prevention or flood control.

WHEN A COASTAL DUNE IS DETERMINED TO BE SIGNIFICANT TO STORM DAMAGE PREVENTION, FLOOD CONTROL OR THE PROTECTION OF WILDLIFE HABITAT, 310 10.28(3) THROUGH (6) SHALL APPLY:

(3) Any alteration of, or structure on, a coastal dune or within 100 feet of a coastal dune shall not have an adverse effect on the coastal dune by(a) affecting the ability of waves to remove sand from the dune;

(a) affecting the ability of waves to remove sand from the dune;
(b) disturbing the vegetative cover so as to destabilize the dune;
(c) causing any modification of the dune form that would increase the potential for storm or flood damage;
(d) interfering with the landward or lateral movement of the dune;
(e) causing removal of sand from the dune artificially; or
(f) interfering with mapped or otherwise identified bird nesting habitat.

Waves will have the ability to remove sand from the covered logs at any time. The coir installation will only temporarily disturb the existing vegetative cover, but not permanently destabilize the dune since replanting beachgrass in disturbed areas is proposed. While the logs are designed to stabilize the beach/dune boundary and protect the underground utilities and onsite structures, overwash and wind transport of sand will continue to occur and, thus, will not interfere with the landward or lateral movement of the dune. All sand altered by the log installation will remain in the dune or beach. There is no sand to be artificially removed.

(5): The following projects may be permitted, provided that they adhere to the provisions of 310 CMR 10.28(3):

(a) pedestrian walkways, designed to minimize the disturbance to the vegetative cover and traditional bird nesting habitat;
(b) fencing and other devices designed to increase dune development; and
(c) plantings compatible with the natural vegetative cover.

Subsections (b) and (c) specifically apply to this project. The buried or covered logs are designed to allow for overwash and windblown sand that will increase dune development. Excessively high tides and storms have eroded the seaward face of the dunes minimizing the ability for the dune to trap and hold sand. This project may be permitted, provided that they adhere to the provisions of 310 CMR 10.28(3), as discussed above.

310 CMR 10.29 Barrier Beach means a narrow low-lying strip of land generally consisting of coastal beaches and coastal dunes extending roughly parallel to the trend of the coast. It is separated from the mainland by a narrow body of fresh, brackish or saline water or a marsh system. A barrier beach may be joined to the mainland at one or both ends.

(3) When a Barrier Beach Is Determined to Be Significant to Storm Damage Prevention, Flood Control, Marine Fisheries or Protection of Wildlife Habitat. 310 CMR 10.27(3) through (6) (coastal beaches) and 10.28(3) through (5) (coastal dunes) shall apply to the coastal beaches and to all coastal dunes which make up a barrier beach.

Compliance with the performance standards 10.27(3) (coastal beaches) and 10.28(3) through (5) (coastal dunes) are discussed above.

Compliance with Truro Conservation Regulations (Section II, Chapters 1.0 – 7.0)
The following sections analyze the proposed project against the relevant performance standards for Land Subject to Coastal Storm Flowage (LSCSF). For LSCSF, standards in Chapter 2.05 (c) apply to the proposed activity. Below, the performance standards are shown in italics to include an analysis of how the proposed project meets those specific standards, directly following not italicized.

Chapter 2.05 (c) Land Subject to Coastal Storm Flowage in the definition states LSCSF: the *abbreviation for land subject to coastal storm flowage. Also described as "Land subject to flooding" and the "flood plain". LSCSF is a resource area without a buffer zone and correlates with the mapped flood plain defined by FEMA mapping… Flood zones are geographic areas that FEMA has defined according to levels of flood risk…VE is where the flood elevation includes wave heights equal to or greater than 3 feet…*

***Presumption of Significance:** Where a proposed activity involves work within LSCSF, the Conservation Commission shall presume that such an area is significant to the interests and values of the Bylaw…*

Any activity subject to jurisdiction and proposed on LSCSF shall not:

i. *Reduce the ability of the resource to absorb and contain flood waters;*
ii. *Reduce the ability of the resource to buffer more inland areas from flooding and wave damage;*
iii. *Displace or divert flood waters to other areas;*
iv. *Cause or create the likelihood of damage by debris to other structures on land within the flood plain (collateral damage); built structures such as stairs or walkways*
shall be seasonally removable;
v. *Cause ground or surface pollution triggered by coastal storm flowage; and*
vi. *Reduce the ability of the resource to serve as a wildlife habitat and migration corridor through activities such as, but not limited to the removal of vegetative cover and/or installation of fencing and other similar structures;*
vii. *Any activity proposed in the floodplain may require mitigation to enhance or restore natural functions of the floodplain.*

The buried and covered coir logs will allow flood waters to pass over them and, therefore will not reduce the ability of the Coastal Beach (beach) and Coastal Dune (dune) to absorb contain such waters. The beach and dune will continue to buffer more inland areas from flooding and wave damage because of the low height of the logs. The more sand that the

dune can trap will actually increase the buffer capacity of the dune. The biodegradable logs will not act like a solid fill structure which may displace or divert flood waters to other areas. Flood waters in this Zone VE (el. 15) will continue to move landward. The proposed anchoring system with the coir log array will be durable and long lasting so that the likelihood for collateral damage is not caused or created by the project. No pollutants are proposed with the activity. No vegetative cover will be permanently removed since beachgrass will be planted to restore disturbed areas.

To comply with Section 7.05(11) of the By-Law regulations, the project will include dune nourishment consisting of clean, medium to coarse sand obtained from an inland source. For the initial construction, 7 cubic yards is estimated for placement over the coir log array. For the following years, the amount of nourishment provided will be a function of the amount removed during storms.

5. Summary

The proposed shoreline protection project includes the installation of a sand drift fence and three rows of 20-inch diameter coir logs to provide protection to the existing underground utilities and structures on site. The intent of the project is to mitigate the chances of a future catastrophic failure of the underground utilities and/or existing structures from coastal erosion. Once installed, all disturbed areas will be restored and stabilized upon the completion of work. Stockpiling of materials will be located beyond as far landward as practically possible within an area void of vegetation. Access to the work area shall utilize the existing gravel driveway and existing pathways between the residential structures. Upon completion of work, the applicant shall submit a request for a Certificate of Compliance to the Truro Conservation Commission to close out the anticipated Order of Conditions.

Photograph #1 – View south from Shore Road of the existing structures onsite.

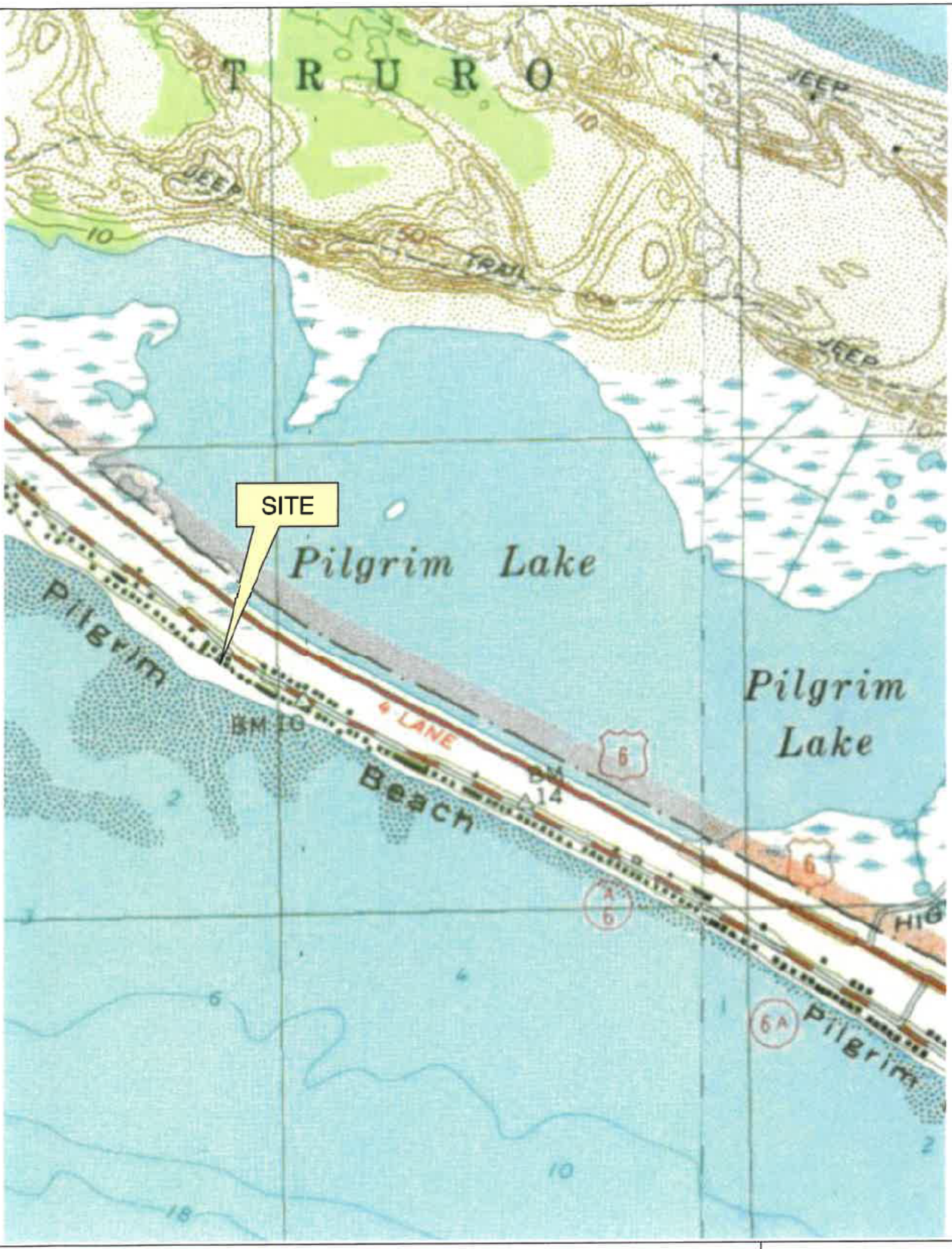
Photograph #2 – View to the rear of the site looking toward Pilgrim Beach.

Photograph #3 – View across the unvegetated Coastal Dune where some dilapidated fencing remains.

Photograph #4 – View of a potion of the vegetated Coastal Dune within the southwestern portion of the site.

Photograph #5 – View east across the southern portion of the site near the Dune/Beach boundary. Recent storm damage has eroded the Dune face at the site.

Photograph #6 – View to the west of the site where a small Dune face still remains.



USGS SITE LOCUS MAP
566 Shore Road
Truro, Massachusetts

Source: Mass Mapper - USGS Topographic Quadrangle Maps

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FEMA F.I.R.M.
566 Shore Road
Truro, Massachusetts

Source: FEMA Map 25001C0117J Effective: 07/16/2014

N
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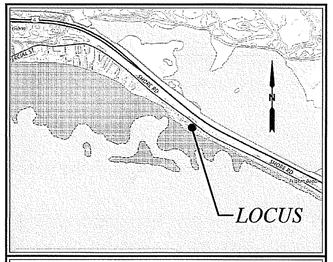
Priority Habitats of Rare Species, Estimated Habitat of Rare Wildlife & Certified Vernal Pools Map
566 Shore Road
Truro, Massachusetts

Source: MassMapper - 15th Edition of the Massachusetts Natural Heritage Atlas

N
Δ



LOCATION MAP NOT TO SCALE

RECORD OWNER:

PARCEL ID 5-29-11
#566 SHORE ROAD

OCEAN BREEZE CONDO TRUST
566 SHORE ROAD
TRURO, MA 02666

DEED BOOK 6896 PAGE 243
PLAN BOOK 463 PAGE 73 (CONDO SITE PLAN)
PLAN BOOK 23 PAGE 37 (LOTS 88, 89, 90)

NOTES:

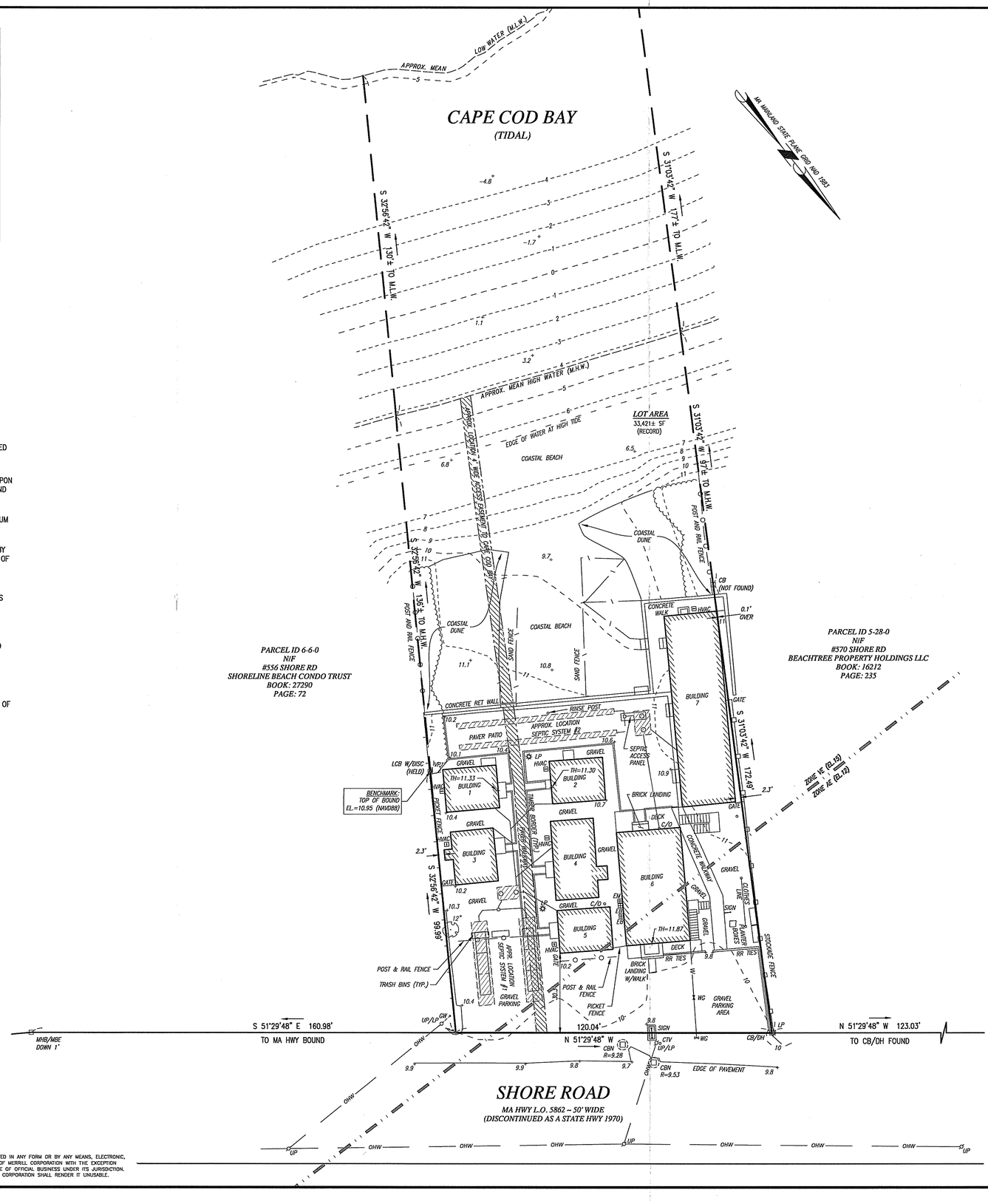
1. PLAN REFERENCES:
   1.1. PLAN ENTITLED "PLAN OF LAND IN (NORTH) TRURO AS SURVEYED FOR ROBERT G. WEISSER DEPICTING THE OCEAN BREEZE CONDOMINIUM" RECORDED IN PLAN BOOK 463, PAGE 73.
2. TOPOGRAPHIC AND DETAIL INFORMATION SHOWN HEREON IS BASED UPON AN ON THE GROUND SURVEY PERFORMED BY MERRILL ENGINEERS AND LAND SURVEYORS DURING MARCH OF 2023.
3. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
4. WETLAND RESOURCE AREAS SHOWN ON THIS PLAN WERE REVIEWED BY ENVIRONMENTAL CONSULTING AND RESTORATION, LLC DURING MARCH OF 2023 AND FIELD LOCATED BY MERRILL ENGINEERS AND LAND SURVEYORS.
5. SUBJECT SITE IS IN THE BEACH POINT LIMITED BUSINESS DISTRICT AS DEPICTED ON THE TOWN OF TRURO ZONING MAP.
6. EXISTING UTILITIES, WHERE SHOWN, HAVE BEEN COMPILED BASED ON OBSERVED ABOVE GROUND EVIDENCE AND AVAILABLE RECORD PLANS AND ARE TO BE CONSIDERED APPROXIMATE. MERRILL ENGINEERS AND LAND SURVEYORS DOES NOT GUARANTEE THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN OR THAT ALL EXISTING UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN.
7. EXISTING SEPTIC SYSTEM COMPONENTS SHOWN HEREON TAKEN FROM RECORD AS-BUILT PLAN ON FILE WITH THE TOWN OF TRURO BOARD OF HEALTH.

FLOOD NOTE:

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS LOCATED IN ZONE VE (EL.15) AND AE (EL.12) OF THE FLOOD INSURANCE RATE MAP, AS SHOWN ON COMMUNITY MAP No. 25001C0117J, WHICH BEARS AN EFFECTIVE DATE OF JULY 16, 2014, AND IS IN A SPECIAL FLOOD HAZARD AREA.

ENVIRONMENTAL NOTES:

1. SITE IS NOT WITHIN AN A.C.E.C. (AREA OF CRITICAL ENVIRONMENTAL CONCERN).
2. A PORTION OF THE SITE IS WITHIN AN AREA OF ESTIMATED HABITAT OF RARE WILDLIFE PER NHESP MAP "ESTIMATED HABITATS OF RARE WILDLIFE" FOR USE WITH THE MA WETLANDS PROTECTION ACT REGULATIONS (310 CMR 10)."
3. SITE DOES NOT CONTAIN A CERTIFIED VERNAL POOL PER NHESP MAP "CERTIFIED VERNAL POOLS."
4. A PORTION OF THE SITE IS WITHIN A PRIORITY HABITAT (PH 892) PER NHESP "PRIORITY HABITATS OF RARE SPECIES" FOR SPECIES UNDER THE MASSACHUSETTS ENDANGERED SPECIES ACT, REGULATIONS (321 CMR10).
5. SITE IS NOT LOCATED WITHIN A STATE APPROVED ZONE II GROUND WATER RECHARGE PROTECTION AREA.



PARCEL ID 6-6-0
NIP
#556 SHORE RD
SHORELINE BEACH CONDO TRUST
BOOK: 27290
PAGE: 72

PARCEL ID 5-28-0
NIP
#570 SHORE RD
BEACHTREE PROPERTY HOLDINGS LLC
BOOK: 16212
PAGE: 235

SHORE ROAD

MA HWY L.O. 5862 - 50' WIDE
(DISCONTINUED AS A STATE HWY 1970)

ZONING REQUIREMENTS
BEACH POINT LIMITED BUSINESS

AREA	33,750 SF
FRONTAGE	150 FEET
MINIMUM YARDS:	
FRONT	25 FEET
SIDE	25 FEET
REAR	25 FEET

LEGEND

CB/DH	CONCRETE BOUND W/DRILL HOLE FOUND
MHB	MASS. HIGHWAY BOUND FOUND
TBM	BENCHMARK
CO	SEPTIC CLEANOUT
CTV	CABLE TV
EB	ELECTRIC BOX
EM	ELECTRIC METER
HVAC	HVAC UNIT
LP	LIGHT POLE (PRIVATE)
POST	WOOD POST
	DOUBLE POST SIGN
TH	THRESHOLD
	DECIDUOUS TREE
UP	UTILITY POLE
VP	SEPTIC VENT PIPE
WG	WATER GATE
	POST AND RAIL FENCE
	SAND FENCE
	PICKET FENCE
	STOCKADE FENCE
	GATE
10	CONTOUR LINE
	EDGE OF WATER
OHW	OVERHEAD WIRES

20 0 20 40 60
SCALE IN FEET

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merrillinc.com

REVISIONS:

DRAWN BY: DWT/TMS

DESIGNED BY:

CHECKED BY: DB

COMMONWEALTH OF MASSACHUSETTS
DEANA BOUMITRI
No. 49075
REGISTERED PROFESSIONAL LAND SURVEYOR

Merrill
Engineers and Land Surveyors
427 Columbia Road
Hanover, MA 02339
781-826-9200
40 Court Street, Ste 2A
Plymouth, MA 02360
508-746-6060
Marine Division:
26 Union Street
Plymouth, MA 02360
508-746-6060
44B N. Falmouth Highway Unit A
North Falmouth, MA 02556
508-563-2183

PROJECT #: 23-098

PROJECT:
EXITING CONDITIONS PLAN
#566 SHORE ROAD
TRURO, MASSACHUSETTS

CLIENT:
OCEAN BREEZE CONDO TRUST
c/o PETERS PROPERTY MANAGEMENT
P.O. BOX 542
PROVINCETOWN, MA 02657

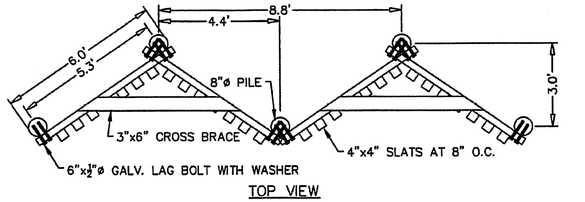
DRAWING TITLE:
23-098 SV.DWG

DATE:
APRIL 15, 2023

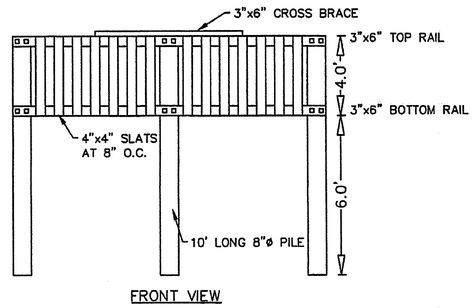
SHEET 1 of 1
-- Merrill Corporation

(10)

SAND DRIFT FENCE DETAIL:

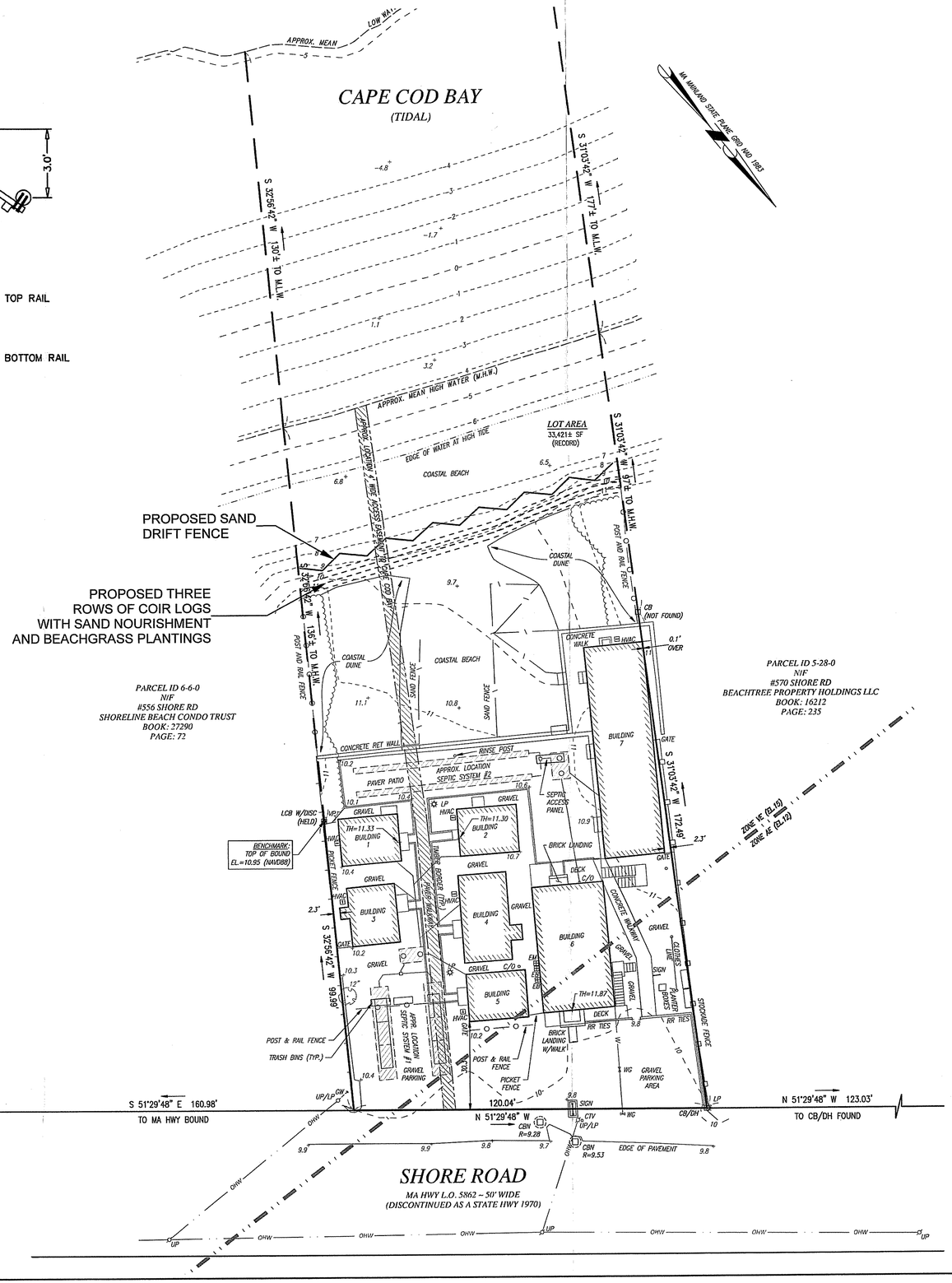


TOP VIEW



FRONT VIEW

NOT TO SCALE



PROPOSED CONDITIONS PLAN

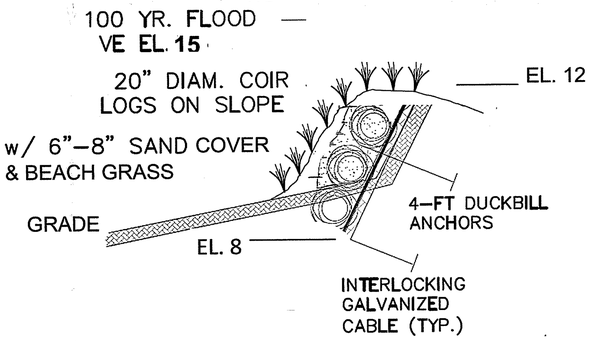
566 SHORE ROAD, TRURO

DATE: AUGUST 14, 2023 SHEET: 1 OF 1

Prepared By: Environmental Consulting & Restoration, LLC

NOTE:
1.) PROPOSED CONDITIONS OVERLAID BY ECR, LLC ONTO THE PLAN TITLED: EXISTING CONDITIONS PLAN, PREPARED BY MERRILL ENGINEERS & LAND SURVEYORS, DATED: APRIL 15, 2023.
2.) PROPOSED CONDITIONS PREPARED BY ENVIRONMENTAL CONSULTING & RESTORATION, LLC.

COIR LOG DETAIL:



NOT TO SCALE

#11

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 7 – Extension Permit for Orders of Conditions

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

DEP File Number: SE 75-1101
Provided by DEP

A. General Information

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

1. Applicant:

TOWN OF TRURO
Name

24 TOWN HALL ROAD
Mailing Address

TRURO, MA 02666
City/Town | State | Zip Code

2. Property Owner (if different):

Name

Mailing Address

City/Town | State | Zip Code

B. Authorization

The Order of Conditions (or Extension Permit) issued to the applicant or property owner listed above on:

NOV 10, 2020 (Date) Issued by: TRURO (Conservation Commission)

for work at: 0 Old County Road (Street Address) 54 (Assessor's Map/Plat Number) 25 (Parcel/Lot Number)

recorded at the Registry of Deeds for:

BARNSTABLE (County) 2835 (Book) 27 (Page)

Certificate (if registered land)

is hereby extended until: Date | Date the Order was last extended (if applicable)

This date can be no more than 3 years from the expiration date of the Order of Conditions or the latest extension. Only unexpired Orders of Conditions or Extension may be extended.

This Extension Permit must be signed by a majority of the Conservation Commission and a copy sent to the applicant and the appropriate DEP Regional Office (https://www.mass.gov/service-details/massdep-regional-offices-by-community).

Conservation Commission
TOWN OF TRURO
JUN 23 2023

PAID

13(1)

PERMIT #2023-17

TOWN OF TRURO

Conservation Commission

24 Town Hall Road
P.O. Box 2030, Truro MA 02666

APPLICATION FOR ADMINISTRATIVE REVIEW PERMIT

PERMIT FEE $20

Applicant Name: Mark Scott Telephone: [redacted]
Email address: [redacted]
Owner Name: [redacted] Telephone: [redacted]
(If the applicant is not the owner of the property, written consent to the work MUST be attached to this Application.)
Address of subject property: 263 Shore Rd #2 Map: 17 Parcel: 1-2
Description of proposed work: Restoration of fencing damaged and removed during foundation construction work.

Proximity to Resource Areas: Barrier Beaches, Land Subject to Coastal Storm Flowage

CRITERIA FOR ADMINISTRATIVE REVIEW (AR) PERMITS

Vegetation Projects:

- No removal of vegetation within any inland or coastal wetland resource.
- No uprooting of vegetation.
- No mowing to the ground or clear cutting.
- Any proposed tree removal is demonstrated to be neces existing structures, public safety, traffic visibility, etc.
- Mitigation may be required, i.e., an area to be planted v or shrubs.
- Trees for removal must be tagged for inspection.
- No excavation by machinery is required or proposed.

Sheds and Other Construction Projects:

- No construction *within* any wetland resource except fo consent of the Conservation Agent.
- Any proposed new construction is more than 50' from
- No excavation by machinery is required or proposed.
- Foundation for structure shall be concrete blocks, sono
- Repairs or replacement of existing structures remain w
- New structures must be less than 160 square feet.
- Only minimal projects such as biomimicry, sand nourishment, beach grass and planting of native species shall be allowed under this permit

30-day extension request.

Procedure:

- The fee shall be submitted with the Administrative Review Application.
- The Agent shall conduct a site visit, at which time the proposed project must be clearly defined in the field with stakes. Trees shall be flagged.

- If the Agent determines that all of the conditions of this Policy are met, the Agent may approve the Application. If the conditions of this policy are not met; the application is incomplete; or the field ID is inadequate the application is denied.
- **If the Agent approves the application, such approval must be ratified by the Truro Conservation Commission prior to the issuance of this permit and *prior to the commencement of any work.***
- Any Property Owner, contractor or other agent of the owner performing any work pursuant to an Administrative Review permit shall have a copy of the permit available at the site at all times during the period that the work is being performed.
- Upon approval and ratification by the Commission, an Administrative Permit shall issue.
- The applicant shall notify the Commission prior to the start of the work, and must complete the work within thirty (30) days of issuance of the permit, unless otherwise permitted by the Commission.
- The Conservation Agent shall inspect the property to verify that the work completed is within the scope of the Approved Application.
- Any work beyond the scope of the approved Administrative Review shall be subject to enforcement action.
- NOTE: Use of town property for beach access or staging of construction materials requires a permit issued by the Board of Selectmen.

By signing this permit application, you are acknowledging that you have read and understand the terms as stated herein. You are also aware that no work shall go forward until the permit has been issued by the Conservation Commission.

[signature] 06/23/23

(Signature of Applicant) (Date)

FOR OFFICE USE ONLY:

Agent's Comments fencing work ok

Site Inspection Date: 7/3 Application Approved: ☑ Yes ☐ No

Conservation Commission Review: Meeting Date: 7/3/2023 Permit Approved: ☑ Yes ☐ No

Conditions:

Signature of Commission Chair or Agent: [signature] Date: 7/3/2023

13 (2)

PAID CC

PERMIT # 2023-21

TOWN OF TRURO

Conservation Commission

24 Town Hall Road
P.O. Box 2030, Truro MA 02666

APPLICATION FOR ADMINISTRATIVE REVIEW PERMIT

PERMIT FEE $20

Applicant Name: Bob Frattaroli on behalf of Shoreline Telephone: 6173067874
Email address: bfrat@comcast.net
Owner Name: _____ Telephone: _____
(If the applicant is not the owner of the property, written consent to the work MUST be attached to this Application.)
Address of subject property: 556 Shore Road Truro MA Map: 6 Parcel: 6
Description of proposed work: Plant American Beach Grass/shrubs on the dune
This is the completion of planting work begun in April under an earlier AR
Proximity to Resource Areas: _____

Conservation Commission
TOWN OF TRURO
SEP 07 2023

CRITERIA FOR ADMINISTRATIVE REVIEW (AR) PERMITS

Vegetation Projects:

- No removal of vegetation within any inland or coastal wetland resource.
- No uprooting of vegetation.
- No mowing to the ground or clear cutting.
- Any proposed tree removal is demonstrated to be necessary, e.g., to protect existing structures, public safety, traffic visibility, etc.
- Mitigation may be required, i.e., an area to be planted with native species of trees or shrubs.
- Trees for removal must be tagged for inspection.
- No excavation by machinery is required or proposed.

Sheds and Other Construction Projects:

- No construction *within* any wetland resource except for minimal projects with the consent of the Conservation Agent.
- Any proposed new construction is more than 50' from the edge of resource area.
- No excavation by machinery is required or proposed.
- Foundation for structure shall be concrete blocks, sono tubes, diamond piers
- Repairs or replacement of existing structures remain within the same footprint.
- New structures must be less than 160 square feet.
- Only minimal projects such as biomimicry, sand nourishment, beach grass and planting of native species shall be allowed under this permit

Procedure:

- The fee shall be submitted with the Administrative Review Application.
- The Agent shall conduct a site visit, at which time the proposed project must be clearly defined in the field with stakes. Trees shall be flagged.

- If the Agent determines that all of the conditions of this Policy are met, the Agent may approve the Application. If the conditions of this policy are not met; the application is incomplete; or the field ID is inadequate the application is denied.
- **If the Agent approves the application, such approval must be ratified by the Truro Conservation Commission prior to the issuance of this permit and *prior to the commencement of any work.***
- Any Property Owner, contractor or other agent of the owner performing any work pursuant to an Administrative Review permit shall have a copy of the permit available at the site at all times during the period that the work is being performed.
- Upon approval and ratification by the Commission, an Administrative Permit shall issue.
- The applicant shall notify the Commission prior to the start of the work, and must complete the work within thirty (30) days of issuance of the permit, unless otherwise permitted by the Commission.
- The Conservation Agent shall inspect the property to verify that the work completed is within the scope of the Approved Application.
- Any work beyond the scope of the approved Administrative Review shall be subject to enforcement action.
- NOTE: Use of town property for beach access or staging of construction materials requires a permit issued by the Board of Selectmen.

By signing this permit application, you are acknowledging that you have read and understand the terms as stated herein. You are also aware that no work shall go forward until the permit has been issued by the Conservation Commission.

Rett Fralick 9-6-23

(Signature of Applicant) (Date)

FOR OFFICE USE ONLY

Agent's Comments continuance of work from spring AR approval.

Site Inspection Date: — Application Approved: ☑ Yes ☐ No

Conservation Commission Review: Meeting Date: _____ Permit Approved: ☐ Yes ☐ No

Conditions: _____

Signature of Commission Chair or Agent: _____ Date: _____

TOWN OF TRURO
CONSERVATION CONSERVATION COMMISSION

P.O. Box 2030
Truro MA 02666-0630

Conservation Conservation Commission Meeting Minutes: May 1, 2023

Conservation Commissioners Present: Vice Chair Linda Noons-Rose; Conservation Commissioners Larry Lown, Diane Messinger & Clint Kershaw. **Absent:** Chair Carol Girard-Irwin & Conservation Commissioner Bob White. **Others Present:** Emily Beebe, Conservation Agent, Courtney Warren, Assistant Conservation Agent.

This was a remote meeting. Vice-chair Linda Noons-Rose called the meeting and public hearings to order at 5:13 and provided the virtual meeting instructions.

Notice of Intent: 706 Shore Road, Maria Kuliopolus (SE#75-1169): electrical trench; Coastal Dune, Barrier Beach, Land Subject to Coastal Storm Flowage (Map 1, Parcel 5) Maria Kuliopolus, the owner of the White Sands Motel, represented her own project. The project consists of bringing in a new electrical service which will be installed by Eversource. The Conservation Agent added that she had reviewed the application and it was a straightforward utility request that could be conditioned. **Motion: Conservation Commissioner Diane Messinger moved to approve the Notice of Intent with the condition that no new lawn areas be created, and all disturbed areas would be replanted.**
Second: Conservation Commissioner Linda Noons-Rose; Vote: 4-0-0; the motion passed.

Request for Determination of Applicability: 19 South Pamet Road, Sebastian Snow: confirmation of delineations; Coastal Bank, Bordering Vegetated Wetland (Map 51, Parcel 95): The applicant requested a continuance to the June 5, 2023 meeting.
Motion: Conservation Commissioner Clint Kershaw moved to continue the matter to June 5, 2023; Second: Diane Messinger; Vote: 4-0-0; the motion passed.

Request for Determination of Applicability: 21 South Pamet Road, Sebastian Snow: confirmation of delineations; Coastal Bank, Bordering Vegetated Wetland (Map 51, Parcel 36) The applicant requested a continuance to the June 5, 2023 meeting.
Motion: Conservation Commissioner Clint Kershaw moved to continue the matter to June 5, 2023; Second: Diane Messinger; Vote: 4-0-0; the motion passed.

Notice of Intent: 38 Fisher Road, Kimberly Chester (SE#75-1168): Title 5 upgrade & addition to dwelling; Coastal Bank, Salt Marsh, Land Subject to Coastal Storm Flowage (Map 53, Parcel 35) Paul Shea from Environmental Consultants was representing the project, and it as the upgrade of a cesspool to a new Title 5 septic system with an Advantex innovative/alternative system. The resource areas include the salt marsh across the road, a Coastal Bank, and Land Subject to Coastal Storm Flowage.

Linda Noons-Rose stated that the cesspool upgrade is a definite improvement. The Conservation Agent noted that this project will require zoning approval and asked where the equipment would access the property. Paul Shea responded that they are planned to use the existing shell driveway as access. The Conservation Agent asked if permission from the abutting property owners had been obtained to use the existing shell driveway since it was on the abutters lot. She added that the Conservation approval will have to be continued until a Zoning Board application has been submitted. Nancy Rubin, an abutter to the property, wanted to add on the record that she is glad the applicants are upgrading their septic system; however, she is concerned about her well which is 35 feet from the property line and her well does not appear on the proposed septic plan. The abutter also wanted to know what the pumping schedule would be for the new septic system and what mitigation plans were being proposed once the project is completed. A continuance was requested until the June 5, 2023, meeting. **Motion: Conservation Commissioner Diane Messinger moved to continue the matter to June 5, 2023; Second: Vice Chair Linda Noons-Rose; Vote: 4-0-0; the motion passed.**

Notice of Intent: 40 Corn Hill Road, Jonathon Curtis & Susan Goldstein (SE#75-1170): Install underground electrical line; Barrier Beach, Coastal Dune, Coastal Banks, Land Subject to Coastal Storm Flowage (Map 45, Parcel 118 & Map 49, Parcel 17 Stan Humphries from Environmental Consulting and Chris Dio from Cape Associates were on the call representing the project. Stan Humphries described the resource areas and described the project as the installation of an underground electrical line from an existing electrical pole. Vice Chair Linda Noons-Rose asked what kind of machine would be used to dig the electrical trench. Chris Dio responded that a small excavator would be used. Stan Humphries added that all disturbed areas will be stabilized and planted with an approved conservation seed mix. The Conservation Agent suggested adding a condition to allow for a temporary irrigation system to support the plantings. **Motion: Conservation Commissioner Diane Messinger moved to approve the Notice of Intent with conditions; Second: Conservation Commissioner Larry Lown; Vote: 4-0-0; the motion passed.**

Notice of Intent: 544 Shore Road, Beach Townhomes Condominium Trust (SE#75-1171): install bulkhead; Barrier Beach, Coastal Beach, Coastal Dune, Land Subject to Coastal Strom Flowage (Map 7, Parcel 5) Brian Madden from Environmental Consultants was on the call and requested a continuance until the June 5, 2023, Conservation meeting. The Conservation Agent read into the record the abutters' concerns, and she also mentioned that the letters would be available on the town's website for the public to review. **Motion: Vice Chair Linda Noons-Rose moved to continue the matter to June 5, 2023; Second: Conservation Commissioner Clint Kershaw; Vote: 4-0-0; the motion passed.**

Notice of Intent: 2 Katherine Road, Andrew & Marian Carboy: small addition, rebuild porch & fencing; Coastal Bank, Land Subject to Coastal Strom Flowage (Map 59, Parcel 52) Angela Tanner represented Crawford Land Design and described their proposal. The existing house and most of the proposed project are within the buffer

zone to a Coastal Bank. The proposed project is within the already developed footprint and landscaping and includes additions and interior renovations and creation of a patio area and reconstructing the retaining walls. The proposal suggests removal of invasive plants and revegetation with native plants. Conservation Commissioner Clint Kershaw commented that the word "optional" was noted numerous times on the plan in connection with the plantings and he suggested that the Conservation Commission needed to know what was proposed- not what might be done. Vice Chair Linda Noons-Rose stated that the amount of optional and proposed mitigation was minimal compared to the proposed development. Jen Crawford from Crawford Land Design was on the call and asked for some guidance for an acceptable mitigation plan. Angela Tanner reviewed the proposed mitigation coverage calculations with the Conservation Commission including the decrease in of impervious surface and increase in pervious surfaces. The Conservation Agent added that the Conservation Commission generally looks to see that mitigation exceeds the amount of new hardscape or structure proposed, and that describing the plantings as optional offered no guarantee. The applicant requested a continuance to the June 5, 2023, meeting. **Motion: Conservation Commissioner Diane Messinger moved to continue the matter to June 5, 2023; Second: Commissioner Clint Kershaw; Vote: 4-0-0; the motion passed.**

Notice of Intent: 494 Shore Road, Sharon Santangelo (SE# 75-1173): "*After the fact*" replacement of deck & shed; Barrier Beach, Coastal Dune, Land Subject to Coastal Strom Flowage (Map 8, Parcel 21) Property owner Sharon Santangelo was on the call to explain that her shed and deck were damaged during a winter storm and became hazards that could not be repaired. Her contractor removed the damaged deck and started to do the framing for the shed before the owner applied for any of the required permits. Conservation Commissioner Clint Kershaw remarked that the new shed and deck that are proposed appear to be larger than the original shed and deck that are being replaced. Sharon Santangelo explained that they would expand the deck and the shed is sized larger, but she would propose mitigation plantings, specifically sea grass to compensate for the expanded areas. Conservation Commissioner Clint Kershaw noted that the plans indicated that the existing shed was 4 x 8 feet, and the new shed is now 16 x 8 feet. Vice Chair Linda Noons-Rose wanted to know what the proposed mitigation planting square footage was and whether the Sono tubes had been recently replaced because they appeared to be new. The Conservation Agent added that the deck was in the velocity zone and therefore expansion of it is not allowed. The owner said that her contractor had reinforced the old Sono tubes that had been damaged during the storm. The Conservation Commissioners agreed that the deck would not be allowed to be expanded because of its location in the velocity zone, and that a solid mitigation plan was required for them to consider the expansion of the shed. Laura and Michael Keegan, abutters to the property, added a comment regarding the deck. Conservation Commissioner Diane Messinger stated that she would feel more comfortable approving a one-for-one replacement of the shed. The Conservation Agent suggested removing some structures on the property for mitigation purposes. Sharon Santangelo suggested that she could remove her pavement walkway from the generator to the house. Sharon Santangelo stated that she would like to work on a redesign of the plan and requested a continuance to the June 5, 2023, meeting. **Motion: Conservation Commissioner Clint Kershaw moved to continue the matter to June 5, 2023; Second: Chair Linda Noons Rose; Vote: 4-0-0; the motion passed.**

Notice of Intent: 3 Corn Hill Path, Gerald & Marlene Talbot (SE#75-1172): beach access staircase; Coastal Beach, Coastal Dune, Land Subject to Coastal Strom Flowage, Coastal Bank, (Map 45, Parcel 24) Ben Zehnder and representatives from Coastal engineering (CEC) and Blue Flax were on the call. He described the project and the stability of the coastal bank in the area and stated that none of the neighboring staircases have been shown to have had any serious impact on the coastal bank. Todd Turcotte from CEC explained that they developed a new plan to eliminate the concerns expressed by the Conservation Commission last year when an different plan for beach access stairs was presented. They propose using 2 cranes to lift the pre-constructed elements of the deck into place and limit impact to the coastal bank. He described the materials that would be used for the stairs and that they would be supported by helical anchors installed with a crane. The daily work schedule would be tide dependent. After the installation they are proposing a dune restoration plan which was presented by Theresa Sprague from Blue Flax Design. The coastal bank is well vegetated and well stabilized with some invasive species that are not widespread. Any disturbed areas will be revegetated, and drip irrigation installed. Japanese Black Pine will be flush cut. Stan Humphries mentioned that the Coastal Bank has not been eroding dramatically and seems to be revegetating itself over the years. The Conservation Agent asked about whether the sand for the toe would be delivered across the beach or over the top of the bank, also, how the helical anchors would be installed, and then suggested a site visit to better understand the impact of the project. Conservation Commissioner Larry Lown asked where access would be obtained to the beach. Vice Chair Linda Noons-Rose suggested continuing the matter until all the Conservation Commissioners were present. The applicant agreed and requested a continuance to the June 5, 2023, meeting. **Motion: Conservation Commissioner Clint Kershaw moved to continue the matter to June 5, 2023; Second: Vice Chair Linda Noons-Rose; Vote: 4-0-0; the motion passed.**

Notice of Intent: 6 Castle Road, Pamela Blair: vegetation management; River Front, Coastal Bank (Map 50, Parcel 146) No file number had been assigned to the project, and the applicant requested a continuance to the June 5, 2023, meeting. **Motion: Conservation Commissioner Clint Kershaw moved to continue the matter to June 5, 2023; Second: Vice Chair Linda Noons-Rose; Vote: 4-0-0; the motion passed.**

Administrative Reviews: (1) 23 Bayview Road: beach stair replacement; extension request; **(2) 372 Shore Road**: beach stair replacement. **(3) 510 Shore Road, U: B**: 1:1 deck replacement; **(4) 482 Shore Road:** sand nourishment; **(5) 209 Shore Road**: annual beach raking; **(6) 655 Shore Road**: 1:1 location replace split rail fence with other
Motion: Vice Chair Linda Noons-Rose moved to approve all the Administrative Reviews except for 209 Shore Road, which needs more information. Second: Conservation Commissioner Diane Messinger Vote: 4-0-0; the motion passed.

Vice Chair Linda Noons-Rose moved to adjourn the meeting.
Second: Conservation Commissioner Clint Kershaw; Vote: 4-0-0.

The meeting was adjourned at 8:17 PM.

Respectfully Submitted by Nina Richey

(14)

TOWN OF TRURO
CONSERVATION COMMISSION

P.O. Box 2030
Truro MA 02666-0630

Conservation Commission Meeting Minutes: June 5, 2023

Commissioners Present: Chair Carol Girard-Irwin; Vice Chair Linda Noons-Rose; Commissioners Bob White, Larry Lown, & Clint Kershaw. Absent: Diane Messinger
Others Present: Emily Beebe, Conservation Agent, Courtney Warren, Assistant Conservation Agent.

This was a remote meeting. Chair Carol Girard-Irwin called the meeting and public hearings to order at 5:03 P.M. and provided the virtual meeting instructions.

Notice of Intent: 544 Shore Road, Beach Townhomes Condominium Trust (SE#75-1171): install bulkhead; Barrier Beach, Coastal Beach, Coastal Dune, LSCSF (Map 7, Parcel 5) ***continued from 5/1/2023*** The applicants requested a continuance.
Motion: Commissioner Linda Noons-Rose moved to continue the matter until the July 3, 2023, meeting; Second: Commissioner Clint Kershaw; Vote: 5-0-0; the motion passed.

Notice of Intent: 6 Castle Road, Pamela Blair (SE#75-1175): vegetation management; River Front, Coastal Bank, LSCSF (Map 50, Parcel 146) Ben Fairbank represented the project and described the history of vegetation management on the property. The first phase of the proposed plan includes pruning an apple tree and an abutter's maple tree which is hanging over the property line, relocation of a vegetable garden, and the removal of trees threatening existing structures on the property. A new tree will be planted for every tree that is removed. Two trees proposed for removal are in the road layout; the Agent will consult with DPW about them. The second phase of the project is maintenance of the coastal bank and a view corridor, and two black cherry will be flush cut. Chair Carol Girard-Irwin asked about mowing on the coastal bank. Ben Fairbank stated that targeted weed whacking is proposed for the coastal bank. Additionally, they would like to use a targeted application of herbicide on the mugwort. Annual monitoring reports will be submitted to the Conservation Department. Commissioner Linda Noons-Rose suggested pulling the mugwort instead of weed-whacking it, but Ben Fairbank said the mugwort was intertwined with native wildflowers. An abutter, Louis Briggs, sent a letter in opposition to the proposed project and it was read into the record. The Commissioners agreed conditional approval could include No mowing on the coastal bank; Annual weed whacking could only occur between late August and October, and annual monitoring reports shall be submitted to the Conservation department by the end of each year.
Motion: Commissioner Linda Noons-Rose moved to approve the Notice of Intent with conditions; Second: Commissioner Bob White; Vote: 5-0-0; the motion passed.

The Commissioner agreed to Vote on 19 South Pamet Road and 21 South Pamet Road

P1

together.

Request for Determination of Applicability: 19 South Pamet Road, Sebastian Snow: confirmation of delineations; Coastal Bank, Bordering Vegetated Wetland, LSCSF (Map 51, Parcel 95) ***continued from 4/3/2023***

Request for Determination of Applicability: 21 South Pamet Road, Sebastian Snow: confirmation of delineations; Coastal Bank, Bordering Vegetated Wetland, LSCSF (Map 51, Parcel 36) ***continued from 4/3/2023*** The Commissioners agreed that the delineations shown on the plan were accurate. **Motion: Commissioner Clint Kershaw moved for a Negative 2 determination for both 19 and 21 South Pamet Road; Second: Commissioner Bob White; Vote: 5-0-0; the motion passed.** Note, the Commissioners agreed with the delineations. This is a positive 2 determination and that is reflected correctly on the determination of applicability forms.

Notice of Intent: 38 Fisher Road, Kimberly Chester (SE#75-1168): Title 5 upgrade & addition to dwelling; Coastal Bank, Salt Marsh, LSCSF (Map 53, Parcel 35) ***continued from 5/1/2023*** Homeowner Kimberly Chester was on the call and introduced the team members participating in the meeting. Chair Carol Girard-Irwin asked whether they had filed with the Zoning Commission of Appeals. Kimberly Chester confirmed that that application had been submitted. Paul Shea was on the call and explained the revisions to the septic plan. The limit of work was tightened, and they obtained permission from the abutters to use their property for access to the work site. The proposed addition will be within the existing footprint and will go up, not out. Coastal Engineering recently evaluated the foundation and submitted a construction protocol. The project will be done during the off-season. Commissioner Linda Noons-Rose had a question about an old oil tank on the property. The Agent pointed out a significant amount of development in the layout of Fisher Rd. She also inquired about the cement wall on the property and its origin. Kimberly Chester stated that the wall was there when she purchased the property in 1983 and the only work she had done was cosmetic. **Motion: Commissioner Clint Kershaw moved to approve the Notice of Intent; Second: Commissioner Linda Noons-Rose; Vote: 4-0-1 with Commissioner Bob White recusing himself; the motion passed.**

Notice of Intent: 2 Katherine Road, Andrew & Marian Carboy: small addition, rebuild porch & fencing; Coastal Bank, LSCSF (Map 59, Parcel 52) ***continued from 5/1/2023*** Angela Tanner was on the call representing the project. She described the revisions made to the landscaping and building plans since the last meeting. The descriptor "optional" was removed and the amount of mitigation was increased. Chair Carol Girard-Irwin asked about the increased mitigation area. Angela Tanner stated that the mitigation now proposed was about twice as much as the original plan. Commissioner Larry Lown noted the large lawn and asked about the care of that lawn. Angela Tanner that it is not a fertilized lawn and will just be mowed. Commissioner Linda Noons-Rose was curious if there was an alternative deck proposal that would be pervious. The Agent suggested open pavers and allowing more room between the joints. The Commission decided to approve the Notice of Intent with the following conditions: The patio shall be laid with large joint openings that shall be filled with gravel and shall be pitched to the South/East side of the property with a drainage catchment installed. The mitigation area shall be allowed to integrate with what is existing without a maintenance path.

Motion: Commissioner Linda Noons-Rose moved to approve the Notice of Intent with conditions; Second: Commissioner Bob White; Vote: 5-0-0; the motion passed.

Notice of Intent: 494 Shore Road, Sharon Santangelo (SE# 75-1173): "*After the fact*" replacement of deck & shed; Barrier Beach, Coastal Dune, LSCSF (Map 8, Parcel 21) ***continued from 5/1/2023*** Owner Sharon Santangelo represented her project and submitted a revised plan showing proposed mitigation. Chair Carol Girard-Irwin explained that the Commission could only approve a 1-for-1 replacement of the deck and shed. Commissioner Clint Kershaw asked about the mitigation plan. The Commissioners agreed that approval should be contingent on the one-for-one replacement of both the deck and the shed. The Conservation Agent shared her screen to show what the owner had proposed to mitigate a previously approved and constructed project, compared to what mitigation the owner proposed for the current situation, and there was significant overlap. Areas already committed for mitigation were being proposed again. Commissioner Bob White suggested adding temporary irrigation to ensure that plantings were successful. The Agent requested that the owner submit her proof of abutter notification. The Commission agreed to approve the Notice of Intent with the condition that the shed be returned to its original 4 x 8' size, the deck be a one-for-one replacement with no expansion, and that temporary non-automated (handheld) irrigation may be utilized to support the new plantings. **Motion: Commissioner Bob White moved to approve the Notice of Intent with conditions; Second: Commissioner Larry Lown; Vote: 5-0-0; the motion passed.**

Notice of Intent: 3 Corn Hill Path, Gerald & Marlene Talbot (SE#75-1172): beach access staircase; Coastal Dunes, Coastal Bank, LSCSF (Map 45, Parcel 24) ***continued from 5/1/2023*** Ben Zehnder represented the project and introduced the team members. Todd Turcotte, an engineer with Coastal Engineering shared a presentation of project proposal with the Commission and highlighted the crane location for the proposed work. He stated that the outriggers for the crane were proposed to be set down in areas where there was either no vegetation or invasive black pine. Theresa Sprague reviewed the vegetation plan and removal of invasives. The Commissioners discussed the path of the stairs at length including ways to make it less invasive and to preserve vegetation. Todd Turcotte explained to the Commission that the number of switchbacks was determined by the slope of the bank and cannot easily be changed. Additionally, there was a concern raised about being prepared for any potential leak of a hydraulic fluid from the crane. The Agent noted that the plan was missing an alternatives analysis and that a project should always look to avoid impacts first rather than just minimize them. She asked that the applicant consider what they might be willing to give up in a negotiation, such as the viewing platform. The discussion then turned to the heathland and the fact that many of those plant species cannot be sourced. The Agent suggested the applicant detail the area of disturbance and inventory the plants that would be impacted. The Commissioners were concerned about the cumulative effect on the resource area and agreed that this was a very difficult proposal. The Agent suggested that the Commission develop a finding that the sandplain grassland habitat was significant, and since some of the plant species could not be sourced, the project would cause permanent damage to that habitat.

Motion: Commissioner Bob White moved to support the finding that the information submitted does not prove that damage to the sandplain heathland can be avoided and this cannot be mitigated. Second: Linda Noons-Rose; Vote: 4-1-0 with Commissioner Clint Kershaw opposed; the motion passed.
Motion: Chair Carol Girard-Irwin moved to not approve the Notice of Intent because the information submitted did not show sufficient evidence that damage to the sandplain heathland could be avoided. Second: Commissioner Larry Lown; Vote: 4-1-0 with Commissioner Clint Kershaw opposed; the motion passed and the NOI was not approved.

Notice of Intent: 398 Shore Road, Judy Powers (SE#75-1177): Title 5 Upgrade; Barrier Beach, Coastal Dune, Land Subject to Coastal Storm Flowage (Map 10, Parcel 23) John O'Reilly represented the project to upgrade an existing cesspool with an innovative/alternative system and stated that due to the lot size and constraints, the system had to be located on the waterside of the cottage. There was discussion about how best to protect the dunes on the property. John O'Reilly stated part of the proposal is to restore any dune area that is damaged by the installation. Commissioner Linda Noons-Rose noted that it may take years to restore the dune. Commissioner Clint Kershaw asked if the homeowners could wait for a potential sewer connection. The Agent stated that an Administrative Consent Order process was being discussed with the Board of Health, but in the meantime the homeowners needed approval for this upgrade. After more discussion, the Agent suggested approval on the condition that a field change be submitted for moving the septic tank and leaching area as close as possible to the dwelling with the addition of a poly barrier and that a dune restoration plan be submitted to the Conservation Department. **Motion: Commissioner Clint Kershaw moved to approve the Notice of Intent with conditions; Second: Chair Carol Girard-Irwin; Vote: 5-0-0; the motion passed.**

Notice of Intent: 50 Collins Road, Roger Yochelson (SE#75-1176): Title 5 Upgrade; Bordering Vegetated Wetland (Map 56, Parcel 23)
John O' Reilly represented the project to upgrade a cesspool to an I/A system. The design attempts to maximize distance from the pond while maintaining setbacks to the various wells in the area. There are no proposed upgrades to the dwelling. **Motion: Commissioner Clint Kershaw moved to approve the Notice of Intent as presented; Second: Commissioner Bob White; Vote: 5-0-0; the motion passed.**

Request for Determination of Applicability: 218, 242 & 248 Shore Road, Jason Silva: beach raking; Coastal Beach, LSCSF (Map 17, Parcel 16, 17, 18)
Jason Silva was on the call to represent the proposed beach raking project. Commissioner Clint Kershaw asked a question about the type of rake that was being utilized. Jason Silva requested a continuance to add 209 Shore Road to the legal ad. **Motion: Commissioner Bob White moved to continue the request until the July 3, 2023 meeting; Second: Commissioner Linda Noons-Rose; Vote: 5-0-0; the motion passed.**

Request for Determination of Applicability: 4 Old Pamet Road, Keith Thurlow: Septic upgrade; Coastal Bank, Riverfront Area (Map 50, Parcel 234) David Bennet represented the project on behalf of CSN Engineering. Commissioner Clint Kershaw

recommended not hearing this request since the property was not staked prior to the site visit. David Bennet requested to be heard since this is an upgrade of failed septic system with no expansion of use, and the required Board of Health variances had been granted. Discussion ensued around the failure and timing. The homeowners experienced a backup and then test holes were done in December, so the failure was prior to December. No pumping records were available at this time. Since it was decided that this was not an imminent health threat, the Commission asked the applicant to request a continuance to the July 3, 2023 meeting to allow for the property to be staked, and Mr. Bennett asked for a continuance. **Motion: Commissioner Clint Kershaw moved to continue the matter to the July 3, 2023 meeting.; Second: Commissioner Larry Lown; Vote: 5-0-0; the motion passed.**

Request for Determination of Applicability: 544 Shore Road, Baybeach Townhomes Condominium Trust/Association: snow fencing, sand nourishment and beachgrass plantings; Coastal Beach, Coastal Dune, LSCF, Barrier Beach (Map 7, Parcel 5) Brian Madden represented the project which is to install snow fencing, add sand nourishment, and plant beach grass to support the growth of the Coastal dune in front of the BayBeach Townhomes condominiums. Commissioner Clint Kershaw asked how the sand would be delivered to the beach. The Agent asked that all the plastic sandbags be removed and suggested the Condo association develop an access plan to keep people off the vegetation, so it has a chance to grow and stabilize. Rick Bashian, an abutter and easement holder, made a comment concerning the placement of the fence and the sand deposits. Sandra Wheeler, a co-owner of the condominium, stated that there are conflicting opinions within the condominium association. Chair Carol Girard-Irwin stated that a plan to address these issues must be submitted before the project could be approved. Brian Madden requested a continuance until the July 3, 2023, meeting. **Motion: Chair Carol Girard-Irwin moved to continue the request until the July 3 Conservation Commission meeting.; Second: Commissioner Linda Noons-Rose; Vote: 5-0-0; the motion passed.**

Request for Determination of Applicability: 8 Falcon Lane, Charles & Donna Ward: proposed installation of 4-foot wooden fence; Buffer zone to a bordering Vegetated Wetland (Map 39, Parcel 245) Angela Tanner was on the call to represent the project to install a fence for a dog enclosure. The area was not staked for the Commissioners site visit. Commissioner Clint Kershaw asked what the fence panels would look like, and Angela Tanner shared a picture of a fence similar to what is proposed. The applicant requested to continue the matter until the July 3, 2023 meeting so that the property could be properly staked. **Motion: Chair Bob White moved to continue the request until the July 3, 2023 meeting.; Second: Commissioner Linda Noons-Rose; Vote: 5-0-0; the motion passed.**

Administrative Reviews: (1) 209 Shore Road: annual beach raking
Motion: Commissioner Bob White moved to approve the Administrative Request; Second: Chair Carol Girard-Irwin; Vote: 5-0-0; the motion passed.

Emergency certifications: (1) 538 Shore Road Unit 1 replace damaged elements of foundation; (2) 538 Shore Road Unit 3 replace damaged elements of foundation.

Motion: Commissioner Linda Noons-Rose moved to ratify the emergency certifications; Second: Commissioner Bob White; Vote: 5-0-0; the motion passed.

The Commissioners agreed to vote on all the Certificates of Compliance together.
Certificates of Compliance:
(1) 8 Kestrel Lane (SE# 75-1040) – work never done;
(2) 66 Depot Road (SE# 75-1034)
(3) 66 Depot Rd (SE# 75-1014)
(4) 538 Shore Road Unit 2 (SE#75-1022)
(5) 0 Tom's Hill Rd (SE# 75-1035)
Motion: Chair Carol Girard-Irwin moved to approve the Certificates of Compliance; Second: Commissioner Bob White; Vote: 5-0-0; the motion passed.

Extension Request: 31 Cormorant Road, SE#75-1066 (extension from Covid Extension Act date) **Motion: Commissioner Larry Lown moved to approve the extension request for 3 years until July 2026; Second: Commissioner Linda Noons-Rose; Vote: 5-0-0; the motion passed.**

Minutes: February 6, 2023: Motion: Commissioner Clint Kershaw moved to approve the minutes as presented; Second: Commissioner Bob White; Vote: 5-0-0; the motion passed.

Commissioner Linda Noons-Rose moved to adjourn the meeting.; Second: Chair Carol Girard-Irwin; Vote: 5-0-0.

The meeting was adjourned at 9:11 PM.

Respectfully Submitted by Nina Richey

(14)

TOWN OF TRURO
CONSERVATION COMMISSION

P.O. Box 2030
Truro MA 02666-0630

Conservation Commission Meeting Minutes: July 3, 2023

Commissioners Present: Chair Carol Girard-Irwin; Commissioners Larry Lown, Clint Kershaw, & Diane Messinger **Absent:** Vice Chair Linda Noons-Rose, Commissioner Bob White **Others Present:** Emily Beebe, Conservation Agent, Courtney Warren, Assistant Conservation Agent.

This was a remote meeting. Chair Carol Girard-Irwin called the meeting and public hearings to order at 5:00 P.M. and provided the virtual meeting instructions.

Discussion on proposed stormwater general bylaw:
The Conservation Agent described the purpose for and intent of the draft general bylaw *"Stormwater Management by drainage, erosion and sediment control*". There were no comments or questions from the Commissioners or the public at this time, and the Chair encouraged Commissioners and members of the public to send any comments or questions by email to the Agent.

Notice of Intent: 0 Pamet Harbor, Town of Truro (SE#75-1178): Barrier Beach, Coastal Dune, Coastal Beach, Land Subject to Coastal Storm Flowage (Map 49, Parcel 16) Chair Carol Girard-Irwin introduced the agenda item and stated that the Commission was waiting for comment from NHESP. Hannah Raddatz, from BSC group represented the project and reported that NHESP had asked for alternatives for the project. BSC group was preparing a response and expected to be ready for the August Conservation Commission meeting. She gave an overview of the proposed coir envelope system as the least invasive, most effective way of minimizing erosion at the toe of the Jetty. The construction process would likely take about a week with access being gained from the Corn Hill parking lot. Commissioner Clint Kershaw asked about the anchor posts. Hannah Raddatz stated that the anchor posts will be 10' oak stakes. Commissioner Lown asked about the location of coir envelopes. They will extend from the base of the dune to the base of the jetty.
Motion: Commissioner Diane Messinger moved to continue the matter until the August 7, 2023, meeting; Second: Commissioner Clint Kershaw; Vote: 4-0-0; the motion passed.

Request for Determination of Applicability: 218, 242 & 248 Shore Road, Jason Silva: beach raking; Coastal Beach, Land Subject to Coastal Storm Flowage (Map 17, Parcel 16, 17, 18) *continued from 6/5/2023.* **Motion: Commissioner Clint Kershaw moved for a negative 3 determination; Second: Commissioner Larry Lown; Vote: 4-0-0; the motion passed.**

Request for Determination of Applicability: 4 Old Pamet Road, Keith Thurlow:

Septic upgrade; Coastal Bank, Riverfront Area (Map 50, Parcel 234) *continued from 6/5/2023* **Motion: Commissioner Clint Kershaw moved for a negative 3 determination: Second: Commissioner Diane Messinger; Vote: 4-0-0; the motion passed.**

Request for Determination of Applicability: 8 Falcon Lane, Charles & Donna Ward: Proposed installation of 4-foot wooden fence; Bordering Vegetated Wetland (Map 39, Parcel 245) ***continued from 6/5/2023.*** The proposal included installing a wooden fence with steel wire panels. The Agent shared her screen to show an image of the proposed fence panels. Nick Crawford was on the call representing the project. The Commissioners asked for an opening under the fence to allow for the passage of wildlife. The applicant agreed to a 6" space. **Motion: Commissioner Clint Kershaw moved to make a negative 3 determination with the condition that the bottom of the fence panels have a 6" gap from the ground. Second: Commissioner Larry Lown; Vote: 4-0-0; the motion passed.**

Notice of Intent: 544 Shore Road, Beach Townhomes Condominium Trust (SE#75-1171): install bulkhead; Barrier Beach, Coastal Beach, Coastal Dune, Land Subject to Coastal Storm Flowage (Map 7, Parcel 5) ***continued from 6/5/2023.*** The applicant requested a continuance until the August 7, 2023, meeting. **Motion: Chair Carol Girard-Irwin moved to continue the matter until the August 7, 2023, meeting; Second: Commissioner Larry Lown; Vote: 4-0-0; the motion passed.**

Request for Determination of Applicability: 544 Shore Road, Baybeach Townhomes Condominium Trust/Association: snow fencing, sand nourishment and beachgrass plantings; Coastal Beach, Coastal Dune, LSCF, Barrier Beach (Map 7, Parcel 5) ***continued from 6/5/2023.*** Brian Madden from LEC represented the project which he said was intended to be a short-term solution that is adaptable to the constantly changing beach conditions while the association pursues a more permanent solution. They are proposing to add snow fencing and sand nourishment followed by revegetation with American Beach grass to restore the dune. An interim management plan was submitted and emphasizes that there shall be no foot traffic or storage in the restored area. Beach access from the units will be limited to one central path with a mobi-mat that will be installed and removed seasonally. He added that they were agreeable to annual monitoring. Commissioner Clint Kershaw thanked the association for their work so far but suggested developing a deliberate plan to prevent people from walking over the newly restored dune. The current proposal was to wrap the fence around the restored area and to add signage. The Commissioners suggested adding fencing that would be perpendicular to the proposed fencing to prevent occupants of individual units from traversing the area to access the beach. Discussion ensued around whether this should be symbolic fencing or the same fence material as the main fencing. Brian Madden was open to the idea. Commissioner Diane Messinger agreed with the other Commissioners, that something needs to be put up to keep people walking over the dune but was not in favor of the perpendicular fencing. Trustees of the Baybeach Townhomes, Nancy Gallo, Peter Spina and Nancy Beiner, were on the call and stated that they believed the fencing between units was reasonable. Alba Lopez, another trustee, had concerns about maintaining each unit's exclusive use area. Abutter Pat Callinan asked about the sand nourishment to which Brian Madden stated that they are proposing 100

cubic yards of sand nourishment primarily on the eastern side of the property. Easement holder and abutter Rick Bashian was on the call and was in favor of re-establishing a dune but is concerned about the exact location of the fencing. Abutter Marie Belding asked if the sandbags would be removed. Brian Madden confirmed that they would be removed. **Motion: Commissioner Clint Kershaw moved for a negative 3 determination with the condition that perpendicular fencing be installed in between exclusive use areas and a pre-construction meeting be held to verify fencing locations. Second: Chair Carol Girard-Irwin; Vote: 3-1-0 with Commissioner Diane Messinger dissenting; the motion carried.**

Request For Determination of Applicability: 462 Shore Rd, Cousins Family Revocable Trust, Carol Knox, Trustee: cesspool upgrade: Barrier Beach, Coastal Dune, Land Subject to Coastal Storm Flowage (Map 8, Parcel 31) Stephanie Sequin from Ryder and Wilcox represented the project and answered questions from the commissioners. **Motion: Commissioner Clint Kershaw moved for a negative 3 determination; Second: Chair Carol Girard-Irwin; Vote: 4-0-0; the motion passed.**

Notice of Intent: 21 South Pamet Road, Dawn & Sebastian Snow (SE#75-1181): installation of saltwater pool; buffer zone to Coastal Bank (Map 51, Parcel 36) Gordon Peabody from Safe Harbor Environmental represented the project. He explained that the proposed pool was outside of the riverfront area, but a small part of the pool decking is in the buffer zone to the coastal bank. The pool is proposed to be fiberglass not concrete, and the only lighting will be underwater. A storm drain will be installed. They propose to mitigate by removing invasives and installing a robust number of native plants. Commissioner Clint Kershaw asked about any other structures such as a pool house. Gordon Peabody replied that no structures were proposed. Commissioner Larry Lown asked about the size of the pool and why a crane was needed for the project. Gordon Peabody answered that the pool is 14 x 30' and that crane is needed to place the pool. **Motion: Chair Carol Girard-Irwin made a motion to approve the Notice of Intent with the condition that the environmental management plan be included in the Order. Second: Commissioner Diane Messinger; Vote: 3-0-1 (Commissioner Lown abstained); the motion passed.**

Request For Determination of Applicability: 16 Great Pond Road, Courtney Oliver & Daryl Cutter: 3' X 14' addition on a deck: Buffer Zone to Great Pond (Map 55, Parcel 24) **Motion: Chair Carol Girard-Irwin moved for a negative 3 determination; Second: Commissioner Clint Kershaw; Vote: 4-0-0; the motion passed.**

Request For Determination of Applicability: 16 Great Pond Road, Courtney Oliver & Daryl Cutter: Fill and abandon cesspool: Buffer Zone to Great Pond (Map 55, Parcel 24) **Motion: Commissioner Clint Kershaw moved for a negative 3 determination; Second: Commissioner Diane Messinger; Vote: 4-0-0; the motion passed.**

Notice of Intent: 392 Shore Road, Richard S. Goldberg (SE#75-1179): Title 5 Upgrade: Barrier Beach, Coastal Beaches (Map 26, Parcel 10) Paul Shea was on the call to represent the project to upgrade a cesspool. The proposed system would be as close to Shore Rd as is possible, and the design has Board of Health approval. **Motion: Chair**

Carol Girard-Irwin moved for a negative 3 determination Second: Commissioner Clint Kershaw; Vote: 4-0-0; the motion passed.

Request For Determination of Applicability: 582 Shore Rd, Susan Connolly: 1:1 replacement of 2 decks: Barrier Beach, Coastal Dune, Land Subject to Coastal Storm Flowage (Map 5, Parcel 23) Mariellen Serena represented the project. Chair Carol Girard-Irwin asked the applicant for clarification since the application was for a one-for-one replacement of two decks but it appeared different in the field. The square footage of the deck will remain the same but will be in a slightly different configuration. Invasive species will be removed. Drainage will be improved by removing brick and adding stone. Additionally, furniture that is in the vegetation will be moved. **Motion: Commissioner Clint Kershaw moved for a negative 3 determination with the condition the deck replacement be a one-for-one replacement. Second: Commissioner Diane Messinger; Vote: 4-0-0; the motion passed.**

Notice of Intent: 525 Shore Rd Unit 7, Paul & Cheryl Silvernail (SE#75-1180): After-the-fact filling for cutting vegetation, constructing a retaining wall & creating a lawn: Barrier Beach, Coastal Dune, Land Subject to Coastal Storm Flowage (Map 6, Parcel 5.7) This is an after-the-fact filing. Owner Cheryl Silvernail represented the project and explained that she felt that the back area where the work was done was unsafe for children to play in and a fence had fallen down. She had a retaining wall constructed and brought in sand and loam as fill. Chair Carol Girard-Irwin explained why the filling of the wetland was a violation of the Wetlands Protection Act. Commissioner Larry Lown asked whether the homeowner had ever received a Conservation notice since they had moved to the location. Cheryl Silvernail stated that she was unaware she was in Conservation jurisdiction. Commissioner Diane Messinger asked how they propose to restore the area. Commissioner Clint Kershaw asked about the need for a site plan. Commissioner Larry Lown wanted to know what kind of retaining wall was constructed. The retaining wall is about 3 feet high and of pressure treated lumber. The Agent explained to the owner that in after-the-fact filings, the Commission attempts to gain an understanding of what the goal of the work was and discusses whether the project *would have* been approved if it was proposed; then they would determine what mitigation was needed. In this case, the goal was to create a safe place for the children with a new fence. The Commission agreed that a proposal for removing the wall and loam as well as a site plan would be required before anything could be approved. The applicant requested a continuance until the August 7, 2023, meeting. **Motion: Chair Carol Girard-Irwin moved to continue the matter until the August 7, 2023 meeting; Second: Commissioner Diane Messinger; Vote: 4-0-0; the motion passed.**

Certificates of Compliance: The Commissioners agreed to vote on all the Certificates of Compliance together.

(1) 33 Cooper Rd, #75-1017;
(2) 389 Shore Rd, #75-1029;
(3) 258 Shore Rd, SE#75-1030;
(4) 405 Shore Rd, SE#75-1062;
(5) 19 Bay View Rd, SE#75-1031

Motion: Commissioner Larry Lown moved to approve all of the Certificates of

Compliance; Second: Chair Carol Girard-Irwin; Vote: 4-0-0; the motion passed.

Administrative Review Applications: (1) 263 Shore Rd Unit 2, fencing
Motion: Commissioner Clint Kershaw moved to approve the Administrative Review Application; Second: Commissioner Diane Messinger; Vote: 3-0-1 with Commissioner Larry Lown abstaining; the motion carried.

Commissioner Larry Lown left the meeting.

Minutes: March 6, 2023
Motion: Chair Carol Girard-Irwin moved to approve the minutes as presented; Second: Commissioner Clint Kershaw; Vote: 3-0-0; the motion carried.

Minutes: April 3, 2023
Motion: Chair Carol Girard-Irwin moved to approve the minutes as presented; Second: Commissioner Clint Kershaw; Vote: 3-0-0; the motion passed.

Commissioner Clint Kershaw moved to adjourn the meeting; Second: Commissioner Diane Messinger; Vote: 3-0-0; the motion passed.

The meeting was adjourned at 6:56 PM.

Respectfully Submitted by Nina Richey