



NANTUCKET CONSERVATION COMMISSION
Updated Meeting Notice/Agenda for Wednesday, November 2nd, 2016
4:00 P.M. in the 2nd Floor of the Public Safety Facility 4 Fairgrounds Rd.

*Matter has not been heard

I. PUBLIC MEETING
A. Public Comment

II. PUBLIC HEARING

A. Notice of Intent

1. Edwin Snider RT – 1 Brock's Court (42.3.4-84) SE48-2834
2. *Sunset House, LLC – 15 Hallowell Lane (30-10) SE48-2924
3. Alan A. Shuch Trustee – 45 Quidnet Road (21-21) SE48-2928
4. Reyes – 19 East Creek Road (55-60) SE48-2929
5. Thirty-Six Pocomo Road N.T- 36 Pocomo Road (14-79) SE48-
6. *Burke- 37 Gardener Road (43-85) SE48-

B. Request for Determination

1. *Irene Parent – 139 Polpis Road (44-7.2)

PUBLIC MEETING

A. Certificate of Compliance

1. Vento – 87 Eel Point Rd (32-11) SE48-2328
2. Reiskin- 34 Codfish Park Road (73.1.3-53) SE48-2697
3. Reiskin – 34 Codfish Park Road (73.1.3-53) SE48-2512

B. Orders of Conditions (If the public hearing is closed – for discussion and/or issuance)
Discussion of other closed Notices of Intent

1. Edwin Snider RT – 1 Brock's Court (42.3.4-84) SE48-2834
2. *Sunset House, LLC – 15 Hallowell Lane (30-10) SE48-2924
3. Alan A. Shuch Trustee – 45 Quidnet Road (21-21) SE48-2928
4. Reyes – 19 East Creek Road (55-60) SE48-2929
5. Thirty-Six Pocomo Road N.T- 36 Pocomo Road (14-79) SE48-
6. *Burke- 37 Gardener Road (43-85) SE48-

C. Monitoring Reports

1. *Nantucket Barn, LLC- 3 North Ave (42.4.4-17) SE48-2710
2. *Nantucket Conservation Foundation – Dike Road/ Polpis Harbor (20-25) SE48-2156

D. Other Business

1. Approval of Minutes 10/19/2016
2. Enforcement Action
3. Reports: CPC, NP&EDC, Mosquito Control Committee, Other
4. Commissioner's Comment
5. Administrator/ Staff Report

PUBLIC MEETINGS AND PUBLIC HEARING

(from pp. 5-7 of the Nantucket Conservation Commission's Information and Procedures)

Public Meetings and Public Hearings are not the same. Public Meetings are conducted so that the Commission may discuss matters affecting the interests of the public and the rights of individuals in an open forum. To act on a matter, a quorum of the Commission (four of the seven members) must be present. Public Hearings are conducted for the same overall reasons as the Public Meeting – to protect both the public interest and the rights of individuals – with the additional purpose of gathering relevant information from the applicant, interested parties, and the public at large, and providing the Commission with the means of gathering the information necessary to developing an informed opinion and to issuing Orders that are fully supported by the appropriate facts, laws, and science.

Public Meetings, and Public Hearings held within Public Meetings, are held in conformance with the Massachusetts Open Meetings Law, M.G.L. Ch. 39 §§23A-C, and the Code of the Town of Nantucket §§1-7, 2-1, et seq., 136-4, where applicable. Pursuant to Section 1-7 of the Code of the Town of Nantucket, the Commission conducts business in accordance with parliamentary procedure as set out by Roberts Rules. The tenth edition is the most recent and presently effective version of Robert Rules. Additionally, where appropriate, the Commission follows the guidelines for Conservation Commission Meetings and Hearings set out by the Massachusetts Association of Conservation Commissions (MACC), the state umbrella organization of Conservation Commissions that works for strong, workable, science-based laws and regulations.

The Chairman or Chairwoman (hereinafter “Chair”) presides at Public Meetings and Public Hearings. In the absence of the Chair, the Vice Chair, or another Commissioner designated by the Chair presides. Public Hearings are conducted with an appropriate degree of formality, in accordance with Roberts Rules of Order, and with reference to state and local laws and regulations. During the Public Hearing portion of the Public Meeting, the Commission follows the following procedures:

- A. The Hearing is called by the applicant's name and the address of the proposed activity. The applicant may or may not be the owner of the property.
- B. The applicant, or the applicant's representative, presents the proposal to the Commission by describing the activity or project, its environmental impact, and its location relative to resource areas and buffer zones.
- C. The Commissioners or the Commission staff may at this point have questions for the applicant or the applicant's representative relating to clarity of the application.
- D. Interested parties, whether abutters, representatives of other entities, or the public, are invited to provide evidence or propose questions relevant to the project, to the resource area, to the protected interests arising by statute or regulation in relation to the resource area, and/or to the performance standards for such activities in such resource areas. Any questions must be directed to and through the Chair, not to the applicant or another person at the hearing. The time available for such public input may be limited by the Chair, especially where a large number of people seek to address the Commission. Public input should be limited to new information—if someone already has provided the same information to the Commission it is unnecessary for it to be restated by another speaker. For the above reasons, it is helpful to the Commission, and often will have more impact, if comments or questions are submitted in writing, in advance if at all possible.
- E. The Commission staff and/or technical consultants retained by the Commission will provide any additional information they may deem relevant to the application, may answer questions from the Commission, and may provide a recommendation to the Commission.
- F. The Commissioners may have additional questions from either the applicant or from persons who have provided evidence or other input to the Hearing.
- G. The Chairman will ask if the applicant has any additional information based on the questions and input outlined above.
- H. The Commission then will deliberate and decide a course of action. The Commission should not be interrupted during its deliberations.

Comments and questions are welcomed at the appropriate time in the hearing. Those most helpful to assisting the Commission in fulfilling its legal mandate are those comments or questions that pertain to the proposal or resource areas that are the subject of the Public Hearing. Issues beyond the Commission's jurisdiction are not legally relevant and should be avoided.

Because of the acoustics of the room in which the Commissions conducts Public Meetings, it can be difficult for Commissioners to hear those appearing before the Commission, or each other for that matter, if people are engaging in conversation elsewhere in the room. Please take all private conversations to the hallway outside.

Please note that the Commission keeps minutes of its proceedings in accordance with state law. The person keeping the minutes must record the names of persons addressing the Commission, and those addressing the Commission may need to spell their names if the spelling is not obvious. The files related to applications are available for public review at the Commission's office during normal business hours in advance of, and following the Public Meeting. They are not available for such review during the meeting, when such review would be distracting to Commissioners and staff, and would interfere with the orderly conduct of the Public Meeting.

Typically, the persons appearing before the Commission are professionals, that is, persons who are paid to attend the hearings on behalf of their client or employer. Such persons are expected to understand the rules and procedures of the Commission, and the relevancy of evidence, commentary, or questions submitted to the Commission.

It is not unusual for members of the public to appear before the Commission, especially in response to a notice that an activity is proposed on an abutting or nearby property. The Commission's staff is available to assist the public in understanding the applications under consideration by the

Commission relative to resource areas and protected interests. The public may visit the Commission's office and examine the application, the plans that are part of the application, and other materials that may be related to the proposal. Recognizing that non-professionals are not as familiar with the rules and procedures, the Chair is likely to allow them a little more leeway than might be permitted professionals practicing before the Commission.

Nevertheless, this guide to Information & Procedures is designed to inform everyone of the practices and procedures. The Chair may redirect anyone at any point if they go beyond what is appropriate under the Commission's rules of procedure.

NOTICES OF INTENT



SITE DESIGN ENGINEERING, LLC.

11 Cushman Street, Middleboro, MA 02346

P: 508-967-0673 F: 508-967-0674

NOTICE OF INTENT APPLICATION

Relocation of an Existing Single Family residence and Construction of an Addition Partially Within Wetland Resource Area Buffer Zones

**1 Brock's Court
Portions of Map 42.3.4 Parcel 84
Nantucket, Massachusetts**

Prepared for:

**Edwin Snider Realty Trust
C/O Cohen and Cohen Law PC
34 Main Street
Second Floor
Nantucket, MA 02554**

Prepared By:

**Site Design Engineering, LLC
11 Cushman Street
Middleboro, MA 02346**

October 30, 2015

SDE No.: 12035



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

Nantucket
City/Town

A. General Information (continued)

6. General Project Description:

Relocation of an existing Single Family Residence and construction of an addition located partially within the 100-foot buffer zone to a Bordering Vegetated Wetland.

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)

c. Book

d. Page Number

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

1 Brock's Court NANTUCKET, MASSACHUSETTS

October 30, 2015

INTRODUCTION

The purpose of this Notice of Intent (NOI) application is to request approval from the Nantucket Conservation Commission (Commission) under the Massachusetts Wetlands Protection Act (WPA) and its implementing regulations 310 CMR (CMR) and the Town of Nantucket Wetlands Protection Bylaw (Bylaw) and its implementing regulations (Local Regs) for work within 100 feet of a Bordering Vegetated Wetland (BVW) resource area on property located at 1 Brock's Court in Nantucket (Subject Property). The work includes the previously performed relocation of an existing single family residence (SFR) and the construction of an addition, wooden deck, and pervious patio. The work was performed by a previous property owner and was not subject to an Order of Conditions (OOC). The previously performed work was located within the 100-foot buffer zone to a BVW resource area but was entirely outside of the 50-foot BVW buffer zone.

This Notice of Intent application is presented by the following Property Owner/Applicant:

1 Brock's Court
(Map 42.3.4 Lot 84)

Edwin Snider Realty trust
C/O Cohen and Cohen Law PC
34 Man Street
Second Floor
Nantucket, MA. 02554

SITE OVERVIEW & EXISTING CONDITIONS

The Subject Property consists of an approximately 18,675 square foot (0.43 acre) lot located on the south side of Brock's Court and west of Liberty Street (see Figures 1 through 3 and Site Plan). To the north, the Subject Property is bordered by developed residential property. To the east, the Subject Property is bordered by Liberty Street, a paved public way, and developed residential properties. To the south, the Subject Property is bordered by developed residential properties. To the west, the Subject Property is bordered by undeveloped property (see Figures 1 through 3 and Site Plan). The Subject Property has been historically developed and is the site of an SFR, deck, pervious driveway, and associated landscaping/grading. A BVW resource area is located on the adjacent property to the west and extends onto the western portion of the Subject Property. The extent of the wetland resource area has been previously delineated as part of a separate NOI application for work performed on an adjacent property and was used as a basis for an OOC for property located at 3 Brock's Court.

The extent of wetland resource areas on the Subject Property and adjacent properties has been previously confirmed as part of filings on adjacent properties. However, all previous delineations have since expired. In order to confirm that all work on the Subject Property was performed outside of the 50-foot BVW buffer zone, Laura A. Schofield of Schofield Brothers of Cape Cod (Schofield) performed a wetland delineation on the Subject Property on June 25, 2015. The location of all wetland boundaries on the Subject Property and associated buffer zones are indicated on the Site Plan. A delineation report and DEP BVW Delineation Forms are included as an attachment to this NOI Application. Based on the delineation performed by

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Schofield, a large portion of the Subject Property is located within the 50-foot BVW buffer zone. This portion of the Subject Property has been historically maintained as a lawn area nearly to the edge of the BVW. All previously performed activities are located well outside of the 50-foot BVW buffer zone and the previously performed work does not require any waivers under the Bylaw.

The Subject Property is located entirely outside of the 100-year flood zone as determined from the Digital FEMA Flood Maps available from MassGIS and site specific topographic survey information (see Figure 6 and Site Plan) and is therefore outside of Land Subject to Coastal Storm Flowage (LSCSF).

PROJECT ACTIVITIES

Work on the Subject Property was performed by a previous property owner and included the relocation of the existing SFR from within the 100-foot BVW buffer zone to a portion of the Subject Property outside of the 100-foot BVW buffer zone. The previously performed work also included the construction of an addition partially within the 100-foot BVW buffer zone. The constructed addition, including the wooden deck, has a smaller footprint within the 100-foot BVW buffer zone than the previously existing SFR and occupies nearly the same footprint. Finally, previously performed work also included the construction of a pervious patio and planting of a privet hedge along the eastern side of the previously existing pervious driveway and parking area. All previously performed work, was located entirely outside of the 50-foot BVW buffer zone with the exception of a small portion of the hedge which is located partially within the 50-foot BVW buffer (see Site Plan). The existing SFR is connected to town sewer and water.

NHESP / MESA

The Subject Property is located entirely outside of both Estimated and Priority Habitat of Rare or Endangered Species as indicated on the 2008 NHESP Atlas available through MassGIS (see Figure 5).

EROSION / SEDIMENTATION CONTROL & CONSTRUCTION PROTOCOL

No erosion or sedimentation control is proposed as part of this NOI. All described work and activities have already been completed.

WETLAND RESOURCE AREAS

The previously performed project was a buffer zone project. No activities within any wetland resource areas are proposed as part of this project. All work associated with the Proposed Project will be performed within the following wetland resource area buffer zones subject to the jurisdiction of the Nantucket Conservation Commission under the State Wetlands Protection Act (WPA) and 310 CMR (CMR), the Nantucket Wetlands Protection Bylaw (Bylaw) and the Nantucket Wetland Protection Regulations (Local Regs):

- 100-foot Buffer Zone to a BVW (Figure 4 and Site Plan)

COMPLIANCE WITH STATE AND LOCAL PERFORMANCE STANDARDS

The previously performed project was a residential redevelopment project and included the relocation of an existing SFR and the construction of an addition, a wooden deck, a pervious patio, and associated landscaping within the 100-foot buffer zone to a BVW.

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State Wetlands Performance Standards

Bordering Vegetated Wetlands

The previously performed project occurred within the 100-foot buffer zone to a BVW. No work is proposed within any State or local BVW Resource Areas. The Proposed Project includes the construction of a secondary dwelling, pool, shed, pervious patio, pervious driveway, and associated landscaping/grading which will be located within the 100-foot buffer zone to a BVW. The Act and CMR do not include any specific performance standards for work within the 100-foot buffer zone to a BVW. Instead, local jurisdictions are permitted to regulate the buffer zone areas as deemed appropriate under local Bylaws. A detailed discussion of local permitting requirements within the 100-foot BVW buffer zone is included in the Local Wetlands Performance Standards Section below.

Local Wetlands Performance Standards

Vegetated Wetlands

"Vegetated Wetlands or land within 100 feet of Vegetated Wetlands shall be presumed significant to the Interests Protected by the Bylaw as referenced in Section A, therefore the following regulations shall apply:"

3.02B(1)

"Proposed projects which are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to the vegetated wetlands. All structures which are not water dependent shall be at least 50 feet from a vegetated wetland, and all structures shall maintain an undisturbed two-foot separation to high groundwater. Fifty percent (50%) of the area between the 25-foot buffer and the 50-foot buffer shall not be altered. Additional soils and groundwater information may be required for applications in areas of high groundwater."

The previously performed project, including relocation of the existing SFR and construction of an addition, wooden deck, and pervious patio. All structural components were constructed entirely outside of the 50-foot BVW buffer zone. All new structures including the addition and wooden deck were located almost entirely within the footprint of the previously existing SFR. No new structures were built within the 50-foot BVW buffer zone and no new alterations occurred within the 25-foot BVW buffer zone. The portion of the Subject Property located within the 25-foot and 50-foot BVW buffer zones has been historically maintained as a lawn area. This portion of the Subject Property was not significantly altered as a result of the previously performed site work and will be maintained.

3.02B(2)

"Proposed projects shall not use procedures that the Commission determines changes the flood protection function (leveling out of storm surges by storing and slowly releasing water) of vegetated wetlands by significantly changing the rate of water flow through the wetlands (by channelization or other means)."

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The Proposed Project included the relocation of an existing SFR and the construction of an addition, wooden deck, and pervious patio. No significant grading or filling was performed within the 50-foot BVW buffer zone. The previously performed project did not have any adverse impact on the ability of the BVW to provide flood protection.

3.02B(3)

"No permit shall be issued which authorizes the destruction of forested swamps. The Commission may authorize the excavation of other vegetated wetlands to create ponds or clear the edge of a pond if the project is designed to increase wildlife habitat diversity and to minimize groundwater or surface water loss."

This standard is not applicable. The Proposed Project does not include the excavation of any wetland resource areas.

3.02B(4)

"The septic leach facility of a septic system shall be at least 100 feet from the vegetated wetland."

This standard is not applicable. The Propose Project will be connected to town water and sewer.

3.02B(5)

"Piers shall be constructed and maintained using procedures determined by the Commission to be the best available measures to minimize adverse effects on Interests protected by the Bylaw."

This standard is not applicable. The Proposed Project does not include the construction of any piers.

3.02B(6)

"Elevated walkways determined to be water dependent designed not to affect existing vegetation shall be required for pedestrian passage over vegetated wetlands."

This standard is not applicable. The Proposed Project does not include the construction of any elevated walkways.

3.02B(7)

"The Commission may impose such additional requirements as necessary to protect the Interests Protected under the Bylaw."

The Applicant acknowledges the right of the Commission to apply additional requirements to protect the Interests of the Bylaw.

CONCLUSION

The Subject Property is a historically developed property which included an SFR, pervious driveway, and associated landscaping and grading. The majority of the 25-foot and 50-foot BVW buffer zone has been historically maintained as a lawn area. Work performed on the Subject Property by a previous owner included the relocation of the existing SFR and the

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construction of an addition, wooden deck, pervious patio, and associated landscaping. The previously existing SFR was entirely outside of the 50-foot BVW buffer zone. The majority of the newly constructed structures including the addition and wooden deck are within the footprint previously occupied by the existing SFR. No new structures are located within the 50-foot BVW buffer zone and no new alterations occurred within the 25-foot BVW buffer zone. All work performed is in compliance with State and local regulations and does not require any waivers under the Bylaw. The Applicant is seeking an OOC approving the previously performed site work. The Applicant feels that all previously performed activities did not result in any significant new or additional adverse impacts to the BVW or associated buffer zones and that the work was performed in compliance with all State and local performance standards. Therefore, the Applicant respectfully requests that the Commission grant an OOC approving the previously performed site alterations.

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1 Brock's Court - Nantucket, Massachusetts
Map 42.3.4 Lot 84
SDE Project No. 12035

Figure 3 - Detailed Site Overview
October 30, 2015





1 Brock's Court - Nantucket, Massachusetts
Map 42.3.4 Lot 84
SDE Project No. 12035

Figure 4 - Wetland Boundaries
October 30, 2015



WETLAND DELINEATION INFORMATION

SITE DESIGN ENGINEERING, LLC.

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SCHOFIELD BROTHERS OF CAPE COD

Engineering - 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@verizon.net

July 16, 2015

Site Design Engineering, LLC
11 Cushman Street
Middleboro, MA 02346
Attn: Daniel Mulloy, PE
Principal

RE: 44 Liberty Street
Nantucket, Massachusetts

Dear Mr. Mulloy;

At your request, on June 25, 2015 I visited the above referenced address to identify and delineate wetlands at or immediately adjacent to the subject property. It is my understanding that the buffer zone of a nearby wooded swamp may extend over the work limit for an existing dwelling that was recently renovated without a permit.

Project Location/Description

The subject property is located at 44 Liberty Street, west of downtown Nantucket. The existing and recently renovated dwelling is located on the easterly portion of the site. There is an existing lawn area in between the dwelling and the wooded swamp. The lawn area is surrounded by a well-established privet hedge.

According to Flood Insurance Rate Map #25019C0086G effective date June 9, 2014 the subject parcel is not within land subject to flooding.

There are two wetland resource areas affecting the subject property; a wooded swamp/isolated wetland to the west and a small pond to the southwest.

Wetland Resource Area Descriptions

Isolated Wooded Swamp/Vegetated Wetland

There is a wooded swamp that borders the westerly property line. The swamp is isolated, as it is surrounded by development. Topography within the wetland is rather hummocky and appear to have been altered in the past.

Consecutively numbered blue survey ribbon was used to delineate the wetland boundaries in the field. The wetland line was established utilizing topographic and hydrologic indicators. A small bank was observed in the topography running parallel to and behind the existing privet hedge separating the woods from the lawn. During the site visit made on June 25, 2015 there were areas of standing water observed within the wetland and in some places the soil was damp at the surface. It should be noted that in the northwesterly corner of the property, standing water was observed. However, upon further investigation, that particular area of standing water appears to be the result of a sump pump discharge and not standing groundwater.

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Engineering - Land Surveying
Environmental Permitting

The vegetation at the site was evaluated in accordance with the methods described in the Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act Handbook dated 1995 by the MA Department of Environmental Protection Division of Wetlands and Waterways. A significant amount of vegetation at this site is invasive. Japanese knotweed has overwhelmed the herbaceous and shrub layers of the wooded swamp. Other invasive plants observed within the wooded area immediately adjacent to the isolated wetland include garlic mustard and barberry. The vegetation in the area is predominantly invasive, non-wetland indicator plants. White poplar and red maple are the predominant trees within the wooded area. White poplar is not a wetland indicator plant, but the white poplars at the site showed signs of high groundwater indicators, such as shallowly rooted individual trees that have blown over. Red maple is a wetland indicator plant.

Small Pond/Inland Water Body

There is a small pond (shown on the attached locus map) located on an adjacent parcel southerly of the locus parcel. The pond's 100 foot buffer zone, and possibly portions of the 50 foot buffer zone, overlap the subject property. The edges of the pond should be accurately located to establish the buffer zones.

Massachusetts Wetland Protection Act/Nantucket Wetlands Regulations

Massachusetts Wetland Protection Act

The pond does not exceed a surface area 10,000 square feet and therefore would be considered *Isolated Land Subject to Flooding* (and not a pond) under the Massachusetts Wetlands Protection Act. The wooded swamp area appears to border on a marshy area to the west, but it does not border on a stream, river, creek, pond or lake and therefore the wooded swamp is also considered *Isolated Land Subject to Flooding* under the Massachusetts Wetlands Protection Act. *Isolated Land Subject to Flooding* does not have a protective buffer zone pursuant to the state act.

Nantucket Wetlands Regulations

Land within 100 feet of Vegetated Wetlands and Small Ponds are presumed to be significant to the interests of the Nantucket Bylaw and therefore both the small pond and the isolated vegetated wetland have protective buffer zones under the local regulations.

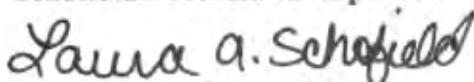
Natural Heritage and Endangered Species

Based on a review of the Massachusetts GIS online mapping Natural Heritage Data Layer, the site does not exist within any area designated as Estimated Habitat or Priority Habitat of Rare Wetlands Wildlife. There are also no certified vernal pools or potential vernal pools on this site or the adjacent parcels to the subject property.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

Schofield Brothers of Cape Cod



Laura A. Schofield, RS, SE
Principal

enc.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ Prepared by: L. Schofield Project location: 44 Liberty St DEP File #: _____

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

8± west of WF#4

Section I. Vegetation

Observation Plot Number: 1W Transect Number: 1 Date of Delineation: 6/25/15

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
<u>Herbaceous Layer</u>				
<u>Japanese Knotweed/Polygonum cuspidatum</u>	<u>75%</u>	<u>100</u>	<u>yes</u>	<u>FACU-</u>
<u>Shrub Layer</u>				
<u>Japanese Knotweed/Polygonum cuspidatum</u>	<u>80%</u>	<u>80%</u>	<u>yes</u>	<u>FACU-</u>
<u>Privet/Ligustrum vulgare</u>	<u>20%</u>	<u>20%</u>	<u>yes</u>	<u>FACU</u>
<u>Tree Layer</u>				
<u>Red maple, Acer rubrum</u>	<u>20</u>	<u>19%</u>	<u>no</u>	<u>FAC*</u>
<u>White poplar, Populus alba</u>	<u>85%</u>	<u>81%</u>	<u>yes</u>	<u>NI* shallow roots</u>

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 1 Number of dominant non-wetland indicator plants: 3Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? yes no
 title/date:
 map number:
 soil type mapped:
 hydric soil inclusions:

Are field observations consistent with soil survey? yes no
 Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
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Remarks:

3. Other:

Conclusion: Is soil hydric? yes no

Site has been overwhelmed by →
 invasives. Dominant tree shows adaptations
 to high groundwater elevation.
 (shallow root system)

Other Indicators of Hydrology: (check all that apply and describe)

- Site inundated: standing water in places
- Depth to free water in observation hole: _____
- ~~Depth to soil saturation in observation hole:~~ at surface in places
- Water marks: _____
- Drift lines: _____
- Sediment deposits: _____
- Drainage patterns in BVW: _____
- Oxidized rhizospheres: _____
- Water-stained leaves: _____
- Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- Other: _____

Vegetation and Hydrology Conclusion		
	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wetland hydrology present:		
hydric soil present	<input type="checkbox"/>	<input type="checkbox"/>
other indicators of hydrology present	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample location is in a BVW	<input type="checkbox"/>	<input type="checkbox"/>

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ Prepared by: L. Schofield Project location: 44 Liberty St. DEP File #: _____

Check all that apply:

- Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- Method other than dominance test used (attach additional information)

within lawn east of
WF#4
Boring was performed ~ soil damp
at 33"

Section I. Vegetation

Observation Plot Number: 10pl. Transect Number: 1 Date of Delineation: 6/25/15

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Herbaceous Layer: Lawn grass	100%	100%	yes	NO
Shrub Layer: Privet/Ligustrum vulgare	25%	71%	yes	FACU
Japanese Knotweed/ Polygonum cuspidatum	10%	28%	yes	FACU-

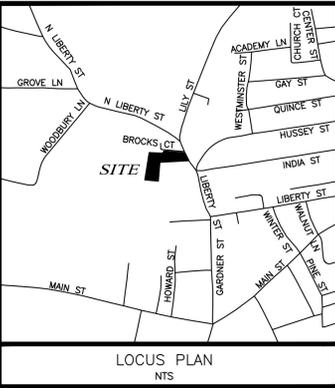
* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants:

Number of dominant non-wetland indicator plants: 3Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.



J. MARCKLINGER & ASSOCIATES, INC.
 PROFESSIONAL LAND SURVEYORS
 P.O. BOX 896
 NANTUCKET, MA. 02554
 (310) 945-7054

**SITE DESIGN
 ENGINEERING, LLC.**
 11 CUSHMAN STREET
 MIDDLEBORO, MA 02346
 T: 508-967-0673 F: 508-967-0674
 WWW.SITEDSIGNENG.COM

LEGEND

	PROPERTY LINE
	SPOT ELEVATION
	FENCE
	HEDGE LINE
	LANDSCAPING
	LIMIT OF WETLAND
	WETLAND FLAG
	25 FT. BUFFER ZONE
	50 FT. BUFFER ZONE
	100 FT. BUFFER ZONE

ZONING CLASSIFICATION: R-1

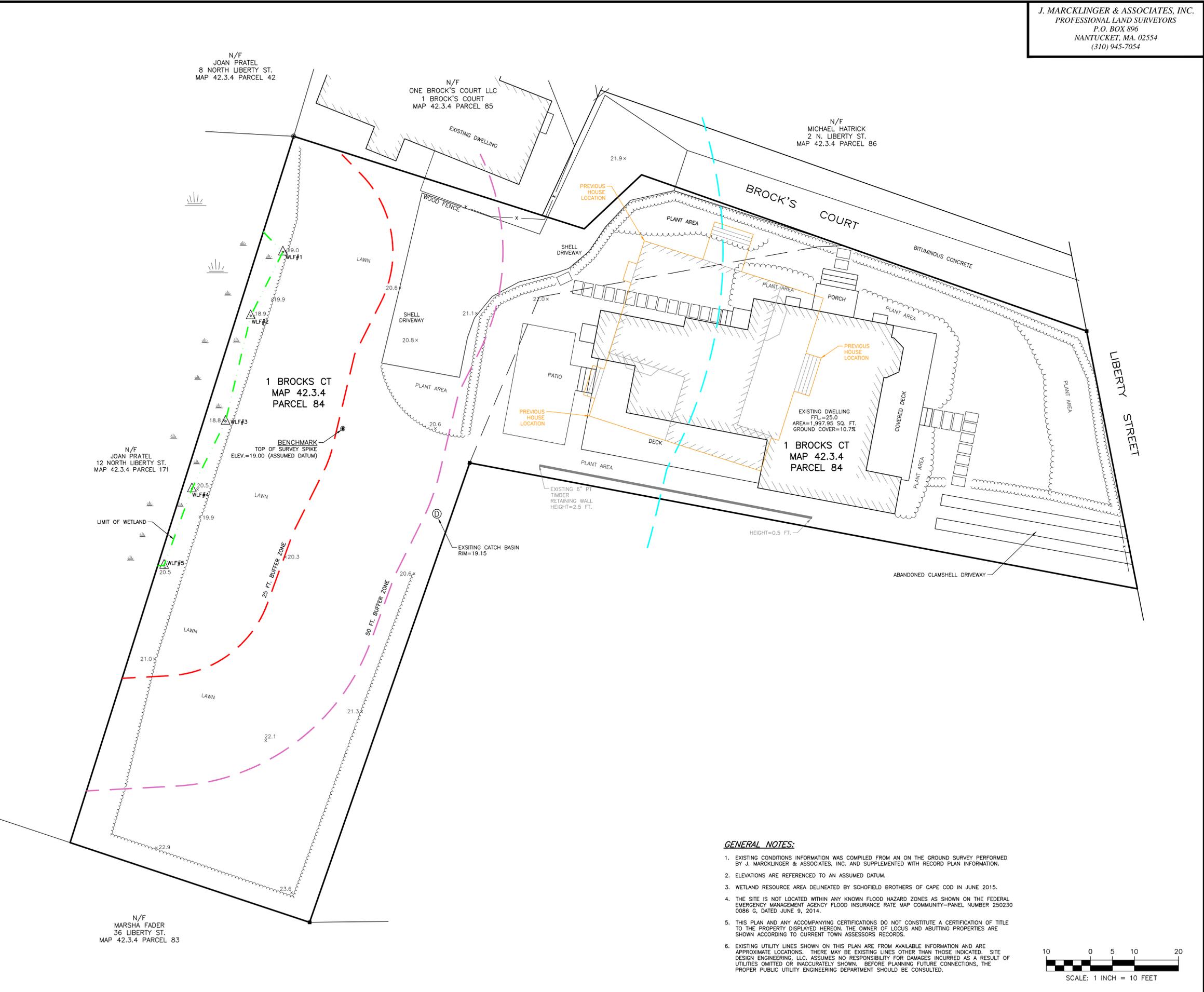
MINIMUM LOT SIZE 5,000 SQ. FT.
 MINIMUM FRONTAGE 50 FT.
 FRONT YARD SETBACK 10 FT.
 REAR YARD SETBACK 5 FT.
 SIDE YARD SETBACK 5 FT.*
 GROUND COVER RATIO 30%±

* SIDE YARD SETBACK IS 10 FT. ADJACENT TO ANY STREET OR WAY.

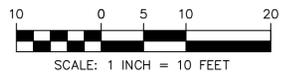
PROPERTY SUBJECT TO SPECIAL PERMIT FROM BOARD OF APPEALS (BOOK 1359 PAGE 248) GRANTING RELIEF OF SIDELINE SETBACK TO BROCK'S COURT FROM 10 FEET TO 4.6± FEET.

OVERLAY DISTRICT APPLICABILITY

DORMITORY	--
EMPLOYEE HOUSING	--
FLOOD HAZARD	--
HARBOR WATERSHED PROTECTION ZONE	YES-B
HDC OLD HISTORIC	YES
MADAKET HARBOR WATERSHED PROTECTION	--
MID-ISLAND PLANNED	--
MULTI-FAMILY	--
SIASCONSET SEWER	--
TOWN	YES
TOWN SEWER	YES
WATERCRAFT	--
WELLHEAD PROTECTION	--
MA DEP ZONE II	--
FORMULA BUSINESS EXCLUSION DISTRICT	--



- GENERAL NOTES:**
- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ON THE GROUND SURVEY PERFORMED BY J. MARCKLINGER & ASSOCIATES, INC. AND SUPPLEMENTED WITH RECORD PLAN INFORMATION.
 - ELEVATIONS ARE REFERENCED TO AN ASSUMED DATUM.
 - WETLAND RESOURCE AREA DELINEATED BY SCHOFIELD BROTHERS OF CAPE COD IN JUNE 2015.
 - THE SITE IS NOT LOCATED WITHIN ANY KNOWN FLOOD HAZARD ZONES AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 250230 0086 G, DATED JUNE 9, 2014.
 - THIS PLAN AND ANY ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ABUTTING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.
 - EXISTING UTILITY LINES SHOWN ON THIS PLAN ARE FROM AVAILABLE INFORMATION AND ARE APPROXIMATE LOCATIONS. THERE MAY BE EXISTING LINES OTHER THAN THOSE INDICATED. SITE DESIGN ENGINEERING, LLC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER PUBLIC UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED.



NO.	DATE	DESCRIPTION	APPROVED

PLAN REVISIONS

DATE: OCTOBER 29, 2015

DRAWN BY: SKD DESIGN BY: DCM CHECK BY: DCM/JM

PROJECT NO. 12035

ISSUED FOR: APPROVAL

EXISTING CONDITIONS PLAN

1 BROCK'S COURT
 ASSESSOR'S MAP 42.3.4, PARCEL 84
 NANTUCKET, MASSACHUSETTS

PREPARED FOR EDWIN SNIDER REALTY TRUST

DRAWING TITLE:
**EXISTING
 CONDITIONS PLAN**

SCALE: **1"=10'**

SHEET NO.
1 of 1



SITE DESIGN ENGINEERING, LLC.

11 Cushman Street, Middleboro, MA 02346
P: 508-967-0673 F: 508-967-0674

November 27, 2015

SDE No. 12035

Ernest Steinauer
Chairman – Nantucket Conservation Commission
Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

**Subject: Supplemental Information for Notice of Intent SE48-2834
1 Brock's Court
Nantucket, Massachusetts
Tax Map 42.3.4, Parcel 84**

Dear Mr. Steinauer:

The purpose of this letter is to provide supplemental information addressing issues which were discussed by the Commission during the November 18, 2015 Public Hearing for the above referenced NOI application. Specifically, the Commission requested additional groundwater information, foundation information, and structural footprint information within the 100-foot BVW buffer zones.

Groundwater Information

Five (5) auger holes were performed on the Subject Property. The depth to groundwater at each auger location has been provided on the revised Site Plan.

Foundation Information

It has been confirmed that the entire existing structure is constructed on a slab and frost wall foundation. The existing structure does not have a full basement.

Structural Footprint

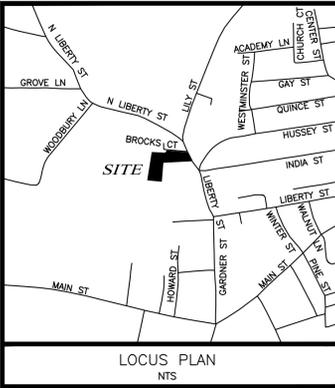
The previously existing structure had a footprint of approximately 1,150 square feet within the 100-foot BVW buffer zone. The existing structure has a foot print of approximately 475 square feet within the 100-foot BVW buffer zone. The existing wooden deck has a footprint of approximately 310 square feet within the 100-foot BVW buffer zone.

If you have any questions please feel free to contact me via email at mrirts@sitedesigneng.com or at 508-802-5832.

Respectfully,
Site Design Engineering, LLC.

A handwritten signature in black ink, appearing to read 'Mark Rits'.

Mark Rits
Project Manager/Permitting Specialist



J. MARCKLINGER & ASSOCIATES, INC.
 PROFESSIONAL LAND SURVEYORS
 P.O. BOX 896
 NANTUCKET, MA. 02554
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LEGEND

- PROPERTY LINE
- 20.3 x SPOT ELEVATION
- x FENCE
- HEDGE LINE
- LANDSCAPING
- LIMIT OF WETLAND
- △ WETLAND FLAG
- 25 FT. BUFFER ZONE
- 50 FT. BUFFER ZONE
- 100 FT. BUFFER ZONE
- GW DEPTH TO GROUNDWATER

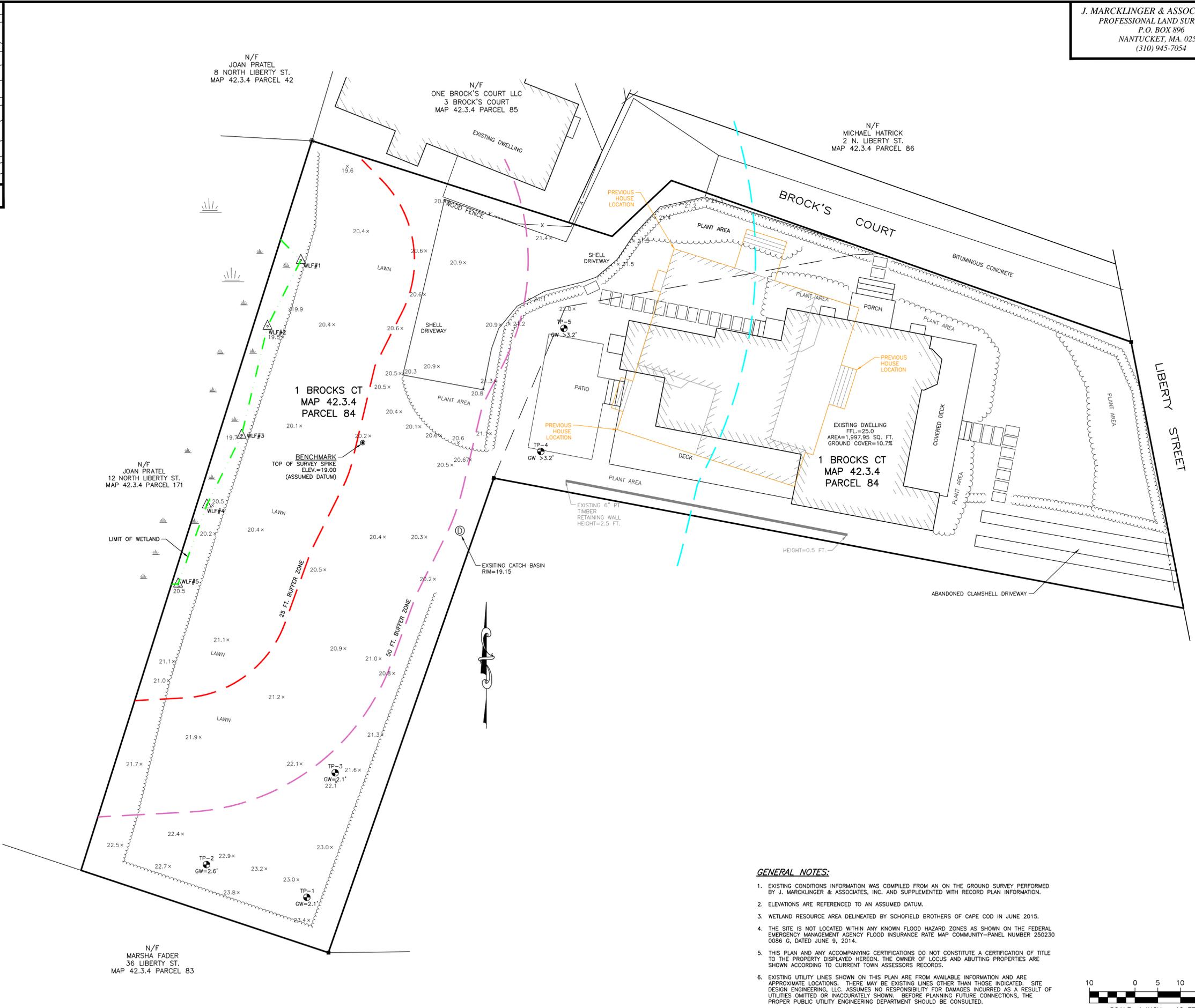
ZONING CLASSIFICATION: R-1

MINIMUM LOT SIZE 5,000 SQ. FT.
 MINIMUM FRONTAGE 50 FT.
 FRONT YARD SETBACK 10 FT.
 REAR YARD SETBACK 5 FT.
 SIDE YARD SETBACK 5 FT.*
 GROUND COVER RATIO 30%±

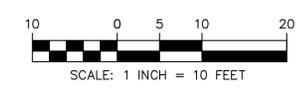
* SIDE YARD SETBACK IS 10 FT. ADJACENT TO ANY STREET OR WAY.

PROPERTY SUBJECT TO SPECIAL PERMIT FROM BOARD OF APPEALS (BOOK 1359 PAGE 248) GRANTING RELIEF OF SIDELINE SETBACK TO BROCK'S COURT FROM 10 FEET TO 4.6± FEET.

OVERLAY DISTRICT APPLICABILITY	
DORMITORY	—
EMPLOYEE HOUSING	—
FLOOD HAZARD	—
HARBOR WATERSHED PROTECTION ZONE	YES-B
HDC OLD HISTORIC	YES
MADAKET HARBOR WATERSHED PROTECTION	—
MID-ISLAND PLANNED	—
MULTI-FAMILY	—
SIASCONSET SEWER	—
TOWN	YES
TOWN SEWER	YES
WATERCRAFT	—
WELLHEAD PROTECTION	—
MA DEP ZONE II	—
FORMULA BUSINESS EXCLUSION DISTRICT	—



- GENERAL NOTES:**
- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ON THE GROUND SURVEY PERFORMED BY J. MARCKLINGER & ASSOCIATES, INC. AND SUPPLEMENTED WITH RECORD PLAN INFORMATION.
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NO.	DATE	DESCRIPTION	DCM	APPROVED
1	11/25/15	ADDED BORING LOCATIONS: REMOVE SHED		

PLAN REVISIONS

DATE: OCTOBER 29, 2015
 DRAWN BY: SKD DESIGN BY: DCM CHECK BY: DCM/JM
 PROJECT NO. 12035

ISSUED FOR: APPROVAL



EXISTING CONDITIONS PLAN

1 BROCK'S COURT
 ASSESSOR'S MAP 42.3.4, PARCEL 84
 NANTUCKET, MASSACHUSETTS

PREPARED FOR EDWIN SNIDER REALTY TRUST

DRAWING TITLE:
EXISTING CONDITIONS PLAN

SCALE: **1"=10'**
 SHEET NO. **1 OF 1**



SITE DESIGN ENGINEERING, LLC.

11 Cushman Street, Middleboro, MA 02346
P: 508-967-0673 F: 508-967-0674

January 5, 2016

SDE No. 12035

Ernest Steinauer
Chairman – Nantucket Conservation Commission
Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

**Subject: Supplemental Information for Notice of Intent SE48-2834
1 Brock's Court
Nantucket, Massachusetts
Tax Map 42.3.4, Parcel 84**

Dear Mr. Steinauer:

The purpose of this letter is to provide supplemental information addressing issues which were discussed by the Commission during the Public Hearing for the above referenced NOI application. Specifically, the Commission requested additional groundwater and soils information for the Subject Property.

Additional site evaluation was performed on December 9, 2015 by Daniel C. Mulloy, PE and on December 16, 2015 By Laura Schofield. The December 9, 2015 evaluation included the excavation of three deep test pits (TP-6 through TP-8) along the eastern portion of the Subject Property (see attached plan). The December 16, 2015 evaluation included the excavation of three shallow test pits adjacent to the BVW on the western portion of the Subject Property.

Rainfall totals from the Nantucket Airport were obtained from the Weather Underground website (www.weatherunderground.com) for the 7 days prior to each site visit (dates highlighted in blue) and are provided in Table 1 below.

Table 1: Total rainfall data for the Nantucket Airport from www.weatherunderground.com for the 7-day period prior to each site visit. Site visits highlighted in blue.

Date	Precipitation (in)	Events
12/2/2015	0.1	Fog-Rain
12/3/2015	0.03	Fog-Rain
12/4/2015	0	
12/5/2015	0	
12/6/2015	0	Fog
12/7/2015	0	
12/8/2015	0.3	Rain
12/9/2015	0	
12/10/2015	0.02	Rain
12/11/2015	0	Fog
12/12/2015	0	
12/13/2015	0	
12/14/2015	0.33	Fog-Rain
12/15/2015	0.36	Fog-Rain
12/16/2015	0	

Nantucket received approximately 0.3 inches of rainfall in the 48 hours prior to the December 9, 2015 site visit and approximately 0.69 inches of rainfall in the 48 hours prior to the December 15, 2015 site visit.

Deep Observation Hole Groundwater Information

Three (3) deep observation holes were excavated using a small track mounted excavator along the eastern side of the Subject Property on December 9, 2015. TP-6 was located near the southeast corner of the Subject Property closest to the Fader Pond. TP-7 was located along the central portion of the Subject Property near the existing catch basin. TP-8 Was located in the existing shell driveway adjacent to the existing stone patio. Complete logs of each test pit location are provided below.

TP-6 showed weeping at the top of the C-1 layer (36") and mottling at 32". No weeping was observed within the C-1 layer. After the observation hole had been allowed to stay open for a time standing water was observed at a depth of 108 inches.

TP-7 showed weeping at 24-48" (within the C-1 layer). No mottles were observed in TP-7. After the observation hole had been allowed to stay open for a time standing water was observed at a depth of 88 inches.

TP-8 showed weeping just above the C-1 layer (26-32") and mottling was observed at 70". After the observation hole had been allowed to stay open for a time standing water was observed at a depth of 75 inches.

Shallow Test Pit Groundwater Information

Three (3) shallow test pits were excavated by Laura Schofield along the western portion of the Subject Property on December 16, 2015. These test pits were excavated by hand. Test Pit #1 was located along the southwestern portion of the Subject Property closest to the Fader Pond. Test Pit #2 was located along the central portion of the Subject Property. Test Pit #3 was located along the northwestern portion of the Subject Property. Complete logs for each Test Pit are included in the Attached Schofield Brothers report.

Test Pit #1 showed isolated weeping in one pocket at a depth of 12 inches. No mottles were observed in the test pit. A boring was done in the center of the Test Pit and groundwater was encountered at 43". After the Test Pit had been allowed to remain open for a time ground water rose to 31".

Test Pit #2 showed no weeping. No mottles were observed in the test pit. A boring was done in the center of the Test Pit and groundwater was encountered at 33". Remnants of an old organic horizon was encountered at 39 inches.

Test Pit #3 showed no weeping. No mottles were observed in the test pit. No ground water was observed in the test pit.

Summary

The supplemental soils and groundwater information indicates that there is a transient perched water table at a depth of 2-3 feet below the surface with an actual water table at a greater depth. Soils

information collected by Laura Schofield in the area immediately upland of the BVW boundary indicates that hydric soils are not present and confirms the previously delineated extent of the BVW.

If you have any questions please feel free to contact me via email at mrits@sitedesigneng.com or at 508-802-5832.

Respectfully,
Site Design Engineering, LLC.

A handwritten signature in black ink, appearing to read "Mark Rits", with a stylized flourish at the end.

Mark Rits
Project Manager/Permitting Specialist

Deep Observation Hole Number: 6

Depth (in.)	Soil Horizon/ Layer	Soil Matrix: Color- Moist (Munsell)	Redoximorphic Features			Soil Texture (USDA)	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-12	A	10 YR 2/2				Sandy Loam					
12-36	B	10 YR 5/8	-	-	0	Loamy Sand					
36-100	C1	5 Y 6/3	-	-		Silt Loam, Clay			massive		firm
100-120	C2	5 Y 5/1				Sand			loose	wet	

Additional Notes:

Weeping at 36", mottling at 32", no weeping within C1 layer, perched water table on top of C1 restrictive layer, standing water 108"

Deep Observation Hole Number: 7

Depth (in.)	Soil Horizon/ Layer	Soil Matrix: Color- Moist (Munsell)	Redoximorphic Features			Soil Texture (USDA)	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-12	A	10 YR 2/2				Sandy Loam					
12-84	C1	10 YR 3/1	-	-	0	Sandy Loam			blocky	moist	
84-120	C2	5 Y 5/1	-	-		Sand			loose	wet	

Additional Notes:

Weeping at 24"-48" perched, no mottling observed, standing water 88"

Deep Observation Hole Number: 8

Depth (in.)	Soil Horizon/ Layer	Soil Matrix: Color- Moist (Munsell)	Redoximorphic Features			Soil Texture (USDA)	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-32	Fill										
32-68	C1	10 YR 3/1	-	-	0	Sandy Loam			blocky	moist	
68-108	C2	5 Y 5/1	-	-		Sand			loose	wet	

Additional Notes:

Weeping at 26"-32" perched, standing water 75", mottling at 70"

SCHOFIELD BROTHERS OF CAPE COD

Engineering - 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@verizon.net

December 21, 2015

Site Design Engineering, LLC
11 Cushman Street
Middleboro, MA 02346
Attn: Mark Ritts

RE: 1 Brock's Court
Nantucket, MA

Dear Mr. Ritts;

As you requested, I conducted a site visit on December 16, 2015 for the purpose of evaluating the soil conditions within the lawn adjacent to the privet hedge along the westerly property line at 1 Brock's Court to provide additional information to the Conservation Commission.

Three test pits were performed parallel to the westerly privet hedge. The results are as follows:

Test Pit #1

Horizon	Depth	Matrix Color	Mottles Color
Fill	0-18"	10 YR 2/2	No mottles observed but some oxidized rhizospheres noted at 8-14".

Fill is a sandy loam. Bits of brick were observed. At 12" some weeping in the pit was noted, but it was observed only in one pocket and there had been rain in the prior 24 hours. A boring was done in the bottom of the test pit. Groundwater was encountered at 43". Eventually the groundwater rose to 31" after the boring was left to stand open for a period of time.

Test Pit #2

Horizon	Depth	Matrix Color	Mottles Color
Fill	0-18"	10 YR 2/2	No – but some oxidized rhizospheres noted

Fill is a sandy loam. At 12" there were some small pockets of sand (10 YR5/3) noted. Fill contains few pieces of brick.

A boring was done in the bottom of the test pit. Remnants of an old organic horizon was noted at 39"
Groundwater observed at 33"

SCHOFIELD BROTHERS OF CAPE COD

Engineering - Land Surveying

Environmental Permitting

Test Pit #3

Horizon	Depth	Matrix Color	Mottles Color
Fill	0-12"	10 YR 2/2	No mottles observed but some oxidized rhizospheres noted

Fill is a sandy loam. Brick pieces observed in the fill.

Fill (sand)	12-18"	10 YR 5/4	No mottles observed. No groundwater observed.
-------------	--------	-----------	--

In a report dated July 16, 2015 summarizing my initial field visit, I noted that "a small bank was observed in the topography running parallel to and behind the existing privet hedge separating the wooded swamp from the lawn". The depth of the observed water table below the test pits seems consistent with the elevation of the adjacent wetland. The presence of the fill in the test pits and the traces of an old organic horizon at approximately the same elevation suggest that the lawn area was altered at some point in the past.

While some oxidized rhizospheres were observed in the test pits, and these are an indicator of saturated soil conditions, the fill material in the test pits is a very dark brown material and any mottles, if present, were not observed within 18" of the ground surface.

Catch basin/drainage swale at the inside corner of the L-shape property corner

There is a catch basin located at the inside corner of the L-shape in the subject property. There is what appears to be man-made drainage swale in conjunction with the catch basin that extends along the property line in a southerly direction for several feet until it dwindles away into the privet hedge. Running or standing water was not observed in the swale during my December 16, 2015 field visit. As the swale does not connect to another wetland resource area upgradient of the catch basin, it appears that the swale was perhaps intended to collect and direct surface water runoff towards the catch basin.

Very truly yours,

Schofield Brothers of Cape Cod

Laura A. Schofield

Laura A. Schofield, RS, SE
Project Manager



January 12, 2016

Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

**RE: Review, Notices of Intent
 Brock's Court, Nantucket, MA
 DEP Files SE 48-2834, 2835
 NEE File 13-4266**

Dear Commission members,

New England Environmental, Inc. (NEE) met Jeff Carlson, representing the Nantucket Conservation Commission, and consultants to the Notice of Intent applicants at Brock's Court on January 7, 2015. NEE was representing the interests of concerned abutters to the property. During the site visit all parties were able to observe aspects of current hydrology and soil conditions at the 1 Brock's Court and 36 Liberty Street properties. This letter summarizes certain findings from that site visit and ongoing concerns about the proposed work.

Soils and wetland boundaries

NEE, representing the abutters, and Laura Schofield, representing the applicant, had noted that a small pond and potential bordering wetlands were present on the 36 Liberty Street property, well within 100 feet of a proposed new house on the Brock's Court property. During the site assessment on January 7, several soil borings and pits were made in the mown lawn on the northern side of the pond. It was agreed that hydric soil profiles were present in most of these locations. The soil profiles were similar to the soil profile described in the NEE report of September 9, 2013, and were consistent with NRCS Hydric Soil Indicators A11 (Depleted Below Dark Surface) and/or F6 (Depleted Dark Surface). Due to fading daylight and limited time, it was agreed to mark the edge of soil profiles agreed by all parties to be hydric. Three orange stick flags numbered A1-A3 were placed adjacent to soil borings. This was not a wetland boundary delineation, as soils were not sampled in all locations north of these flags, but it marks the limit of wetland conditions agreed during the available time on January 7. The flags were to be surveyed and placed on the project plans by Site Design Engineering. Revised plans have not been made available as of this submission on January 12.

A separate soil pit was excavated on the Brock's Court property, approximately 15 feet south-southeast of flag WF5, in mown lawn east of the privet hedge which occupies the western edge of this lot. This soil profile was consistent with NRCS Hydric Soil Indicator F6 (Depleted Dark Surface). A description of this soil, with photographs, is attached to this report. Again, time limitations made it impossible to conduct further examination of soils within the Brock's Court lawn. However, this soil did have oxidized

rhizospheres within the upper 12”, as well as other high-chroma pore linings. Oxidized rhizospheres were noted in the three soil profiles submitted by Schofield Brothers in a letter to Site Design Engineering, dated December 21, 2015. These are high-chroma redoximorphic features which form under saturated soil conditions. Observation of 2% or more oxidized rhizospheres within the top 12” of the soil is considered a primary indicator of wetland hydrology (Corps of Engineers Hydrology Indicator C3). The Schofield letter noted “no mottles” within the three profiles, but this contradicts the finding of oxidized rhizospheres.

These soil observations support the finding that the delineation of wetlands depicted on the Proposed Site Plan dated October 29, 2015 by Site Design Engineering is incomplete or incorrect, and that additional wetlands within the Brock’s Court lawn and associated with the 36 Liberty Street pond will extend their 50-foot no-structures buffer zones onto the footprint of the proposed new house at Brock’s Court.

Site and neighborhood hydrology

Three additional deep observation holes were dug by Site Design Engineering on the Brock’s Court site on December 9, 2015, and labeled TP-6, TP-7, and TP-8 on the Field Diagram which accompanies the letter to the Nantucket Commission dated January 5, 2016. Water was recorded as weeping from the sides of these pits at 26”, 24”, and 36”, respectively, with “mottling” noted in TP-8 at 32”. Groundwater in three soil borings around TP-8 (TP-1, 2, and 3) was noted to be at 2.1’, 2.6’, and 2.1’, respectively, on the revised Existing Conditions Plan by Site Design Engineering, revision date 11/25/15. Water was noted weeping from one of the Schofield shallow pits at 12”, standing water in another at 33”, and no water in the third pit which extended only down to 18”. Standing water in the NEE pit southeast of flag WF5 was seen at 18”. All of these observations between November 18, 2015 and January 7, 2016 place the groundwater level between 12” and 36”. However, this is not the high water level on this site. 2015 was a dry year (30.38” precipitation, over 7” under the annual average of 37.53”), and even in a normal year, groundwater levels are highest in the early spring. The following table shows water levels below ground surface in the two USGS groundwater monitoring wells closest to Brock’s Court, which are located to the east near Old South Road (411609070050701) and Rugged Road (411535070051002).

well number	spring average*	11/25/2015	12/22/2015
411535070051002	20.07 feet	22.47 feet	22.25 feet
411609070050701	7.70 feet	9.86 feet	9.75 feet

* 10-year average 2006-2015, inclusive, of readings on April 24-29, except 2012, when the reading was on March 29.

This data shows that groundwater levels in these two wells in November and December of 2015 was more than two feet below the average high water levels recorded in the early spring. If groundwater on the Brock’s Court site showed a similar pattern, we could expect that high water levels in a normal spring would be within a foot of the surface, and possibly at the surface in low spots. If these water levels were to persist for a week or more during the growing season, then wetland hydrology would be present.

Observations made during the site visit on January 7 confirmed that the pond on the Liberty Street property is at a higher elevation than the Brock’s Court lawn. Both surface water and groundwater can be expected to move north, following the surface topography. Groundwater moving north from Brock’s Court may flow through sandy soils under North Liberty Street, toward the topographical depression known as Lily Pond. The unpermitted fill already placed around the existing home, and the proposed new structures, will alter the neighborhood hydrology. Neighbors have already observed increased

surface flooding on adjacent properties. The construction of a pool and house, with increased impervious surface and structures sure to be within groundwater, will further displace groundwater and affect the flow of surface water. There is currently a lack of information about existing hydrology, in particular whether the grate in the privet hedge on the eastern side of the lawn is connected to a working drainage system, and the fate of surface water running off the property. Further, the applicant has not, to this point, modeled the hydrological changes which will result from the project. Both groundwater and surface water leaving the site may end up in Lily Pond. The effects upon water levels and water quality are unknown.

We hope these observations are helpful. Please contact NEE if you have any questions regarding these findings. We are available to discuss these projects and their implications with the Conservation Commission at the public hearing.

Sincerely,
New England Environmental, Inc.



Bruce Griffin
Certified Professional Soil Scientist

cc: Jeff Carlson, Natural Resources Coordinator, Town of Nantucket
Mark Rits, P.E., Site Design Engineering, LLC
Laura Schofield, R.S., Schofield Brothers of Cape Cod
Kendra Kinscherf, Esq., Davis, Malm & D'Agostine, P.C.
Joanna Lewis, Gregory Elder, and Marsha Fader, abutters

enc. Soil datasheets

SOIL

Sampling Point: 15' SE of WF5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3"	2.5Y2.5/1	100%	none				sandy loam	some stripped grains
3-14"	10YR3/1	88%	7.5YR4/4,4/6	2%	C	PL	sandy loam	incl. oxidized rhizospheres
			10YR4/1,5/1	10%	D	M		
14-18"	10YR4/1	90%	10YR7/1	10%	D	M	sandy loam	
18-24"	10YR4/1	60%	10YR7/1	20%	D	M	sandy loam	
	10YR3/1	20%						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16)(LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Redox concentrations, including but not limited to oxidized rhizospheres, begin at about 6" from surface.



SOIL - additional photos and remarks from Brocks Court soil pit

Sampling Point: 15' SE of WF5



Remarks: Photographs of redox concentrations and depletions within second layer of soil profile. Evidence of historic fill and disturbance, including a chip of coal, were seen. Standing water at 18" was observed in the pit. This soil profile also matches the criteria for Indicator VIII, Dark Mineral Soils, in Field Indicators for Identifying Hydric Soils in New England (Version 3, 2004).

Kendra Kinscherf

January 13, 2016

VIA EMAIL

Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

Re: One Brock's Court Notices of Intent (SE48-2834 & SE48-2835)

Dear Members of the Conservation Commission:

This office represents Marsha Fader, who is an abutter to the proposed project at One Brock's Court. I submit this letter in opposition to the proposed development of the property. The proposed development does not comply with the Nantucket Wetlands Bylaw and Wetland Protection Regulations and will have a significant impact on wetlands resources in the neighborhood.

My client's and the Applicant's properties are located adjacent to Bordering Vegetative Wetlands (BVW), which are protected under Nantucket's bylaw and regulations. The following provisions are relevant to the applications before you:

- All structures that are not water dependent must be at least 50 feet from the vegetated wetland;
- No more than 50% of the area located within the 25- and 50-foot buffer shall be altered; and
- All structures must maintain an undisturbed two-foot separation to high groundwater.

In order to grant waivers from these requirements, the Applicant has the burden of demonstrating:

that, given existing conditions, the proposed project will not adversely impact the interests identified in the Bylaw and there are no reasonable conditions or alternatives that would allow that project to proceed in compliance with the regulations... The burden of proof to show no

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reasonable alternative shall be the responsibility of the owner/applicant and shall consist of a written alternatives analysis detailing why the proposed project can not [*sic*] otherwise proceed in compliance with the performance standards in these regulations with an explanation of why each is not feasible.

Regulations § 1.03F.3(a). The Applicant has not met any of these requirements.

The Proposal Does Not Meet the Performance Standards Set Forth in the Regulations

The Applicant proposes to construct a second home on the Property and install a pervious patio, pervious driveway, and an in-ground pool. Although the Applicant has not yet provided all of the previously requested information, it is clear that the proposal will not comply with the applicable performance standards.

As addressed during the first hearing, the Applicant's delineation of the BVW is not accurate. Additional soil samples taken by Schofield Brothers of Cape Cod and New England Environmental, Inc. have identified hydric soils at least twenty feet from the pond on Ms. Fader's property and also in the lawn area of the Applicant's property, as well as oxidized rhizospheres along the privet hedge on the Applicant's property. According to the DEP's Delineating Bordering Wetlands Manual, hydric soil indicators take many years to develop and are therefore good indicators of wetland hydrology. Also as noted in that Manual, where the vegetation was previously altered (as here with the filled and lawn areas of the properties), the use of soil characteristics is necessary to delineate BVW due to the lack of native vegetation. The presence of the hydric soils and oxidized rhizospheres are indicators of wetland hydrological conditions and confirm saturated soil conditions just below the surface. In addition, the presence of hydric soils meets the definition of freshwater wetlands in the Nantucket Wetlands Regulations.

Schofield Brothers of Cape Cod has also noted that the Applicant's property has areas of fill. It is our understanding that the location of the pool, if not a greater area, is an area previously filled. According to DEP's Manual, in order to accurately characterize filled areas, it is necessary to dig below the fill and take samples of the original soil. It does not appear this practice was followed by Schofield at all test locations. However, in its December 21, 2015 report, Schofield indicated that the groundwater was at a shallower depth than the original soil (groundwater at 33"; old organic soil at 39").

Based on this data, the Applicant's delineation of the BVW is not accurate and the boundary of the BVW is located farther within the boundaries of the Applicant's property. In addition, the pond on Ms. Fader's property meets the Nantucket Wetlands Regulations' definition of a pond, subjecting it and the surrounding vegetated wetland (meadow) to protection.

As a result of a proper delineation, the locations of the 25-foot, 50-foot, and 100-foot buffer setbacks will change from those shown on the plans submitted and have a significant impact on the proposed

project. The 50-foot buffer should be shifted to the east, and thus, the proposed second home and in-ground pool will be in between the 25-foot and 50-foot buffer. Since structures are not permitted within that buffer zone, the proposed project will violate the performance standards under the local regulations. *See* Regulations §§ 3.02B.1 & 3.03B.1.

Even if the Applicant's wetlands delineation and buffer setbacks are not changed, the proposed project does not comply with the performance standards. Based upon the plans, it appears that more than 50% of the area between the 25- and 50-foot buffers will be altered and become a pervious driveway and patio. Although these areas will be pervious, they will become compacted over time, reducing the capability of water infiltration and drainage. This raises concerns of flooding in an area already prone to flooding due to the high water table.

Based upon the Applicant's waiver request, the proposed project does not meet the requirement of maintaining the 2-foot separation between structures (the second home and the pool) and groundwater. Regarding the in-ground pool, the Applicant indicates that groundwater is at a depth greater than 3.2 feet. No information on the precise depth is provided. Because the pool will be at a depth greater than 3.2 feet and because it is well documented that the water table is high in this area, a 2-foot separation will not occur.

In addition, as described by NEEI in its most recent submission, it is likely that the groundwater will be within a foot of the surface during normal spring conditions. Therefore a 2-foot separation between the foundation of the new building and groundwater will not be maintained.

Overall, the large amount of compacted pervious and impervious surfaces proposed to be added to the Applicant's property likely will cause a significant alteration to the hydrology of the area and result in adverse impacts to the resources protected by Nantucket's Wetlands Bylaw and Regulations.

The Applicant Has Not Demonstrated Waivers Are Appropriate

As conceded by the Applicant, waivers are necessary for the proposed project even if the wetlands delineation remains the same. The Applicant is required to provide an analysis of alternatives and an explanation why such alternatives are not feasible. The Applicant also must demonstrate that the proposed project will not adversely affect the wetlands resources.

The Applicant utterly failed to provide any analysis of alternatives that would not result in violations of the regulations. In considering possible alternatives, the Conservation Commission should analyze the proposal as a single project because the Applicant should not benefit from the previous unapproved work by arbitrarily separating it into two Notices of Intent. This is not a case in which the Applicant is left with no possibility of developing its property. When viewed as a whole, the Applicant already has a single-family home on the property. There is absolutely no need for a secondary dwelling or in-ground swimming pool. Simply put, the Applicant's first Notice of Intent seeking approval for work already done to improve the single-family home can be approved with no

January 13, 2016
Page 4

DAVIS MALM &
D'AGOSTINE P.C.
ATTORNEYS AT LAW

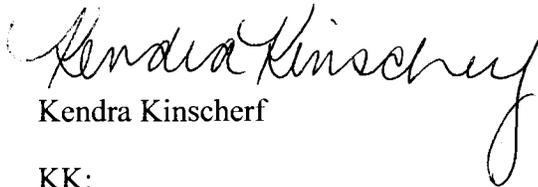
significant violations of the regulations. The requested waivers for the additional work therefore are unjustified.

In addition, it cannot seriously be contended that the project will not have adverse impacts on the interests protected by Nantucket's Wetlands Bylaw. The Bylaw protects wetlands values in Nantucket, including groundwater and flood control. The proposed project likely will alter groundwater and the infiltration and drainage capacity of the soils in the area by increasing the amount of compacted and impervious surfaces, and by displacement due to the below-surface structures.

Since the Applicant cannot meet its burden of demonstrating compliance with Section 1.03F.3(a), the Conservation Commission should deny the request for the waivers.

The proposed project does not meet the requirements of the local wetlands regulations, and Ms. Fader respectfully requests that the Conservation Commission deny an Order of Conditions.

Sincerely,



Kendra Kinscherf

KK:

cc: Client
Jeff Carlson
Steven Cohen
Mark Rits

The contest of the application for 44 Liberty Street is not about a "not in my backyard" complaint. The proposed development at 44 Liberty Street is about the abuse of a resource--a resource that once was a wooded wetland, home to pheasant and water-loving plants. In the late 1990's this wooded area was cut down, grassed over and filled with soil in an attempt to add yet another piece of property for development. These are facts. In the months that followed, my parents and I watched the remaining trees that bordered this property begin to decline from diversion of a natural water flow. Water, which now had no resting place from its downward path began to pool in the surrounding yards. Gradually, our backyard trees declined and died as the water pooled. Ironically, but obviously to local residents who knew how wet the area already was, no house or structure was ever built on this property despite the unscrupulous efforts of real estate agents to advertise the land as 'developable'. In fact, even mowing the grassed lawn was almost impossible at times because of the naturally high water table. Landscapers can verify this.

This wetland condition is intimately known to us as we have observed it over the many years we have lived at 36 and 42 Liberty Street. The water table has always been close to the surface. To see yet another attempt to sidestep what Mother Nature has naturally intended is frustrating and essentially abusive to what was once a pristine wetland swamp. While the applicant may not know this history as we do, we strongly feel that the science speaks for itself. The science will demonstrate the history of the land and show that the proposed development is ultimately wrong from a regulatory and resource protection standpoint.

Lastly, the final insult to this condition is the disregard for the grading against code which the applicant uses, and the retaining wall which further impedes the flow of water. This exacerbates the already pooling condition of our yard and is clearly over a foot above the lowest section of our yard. We are frankly at a loss as to how this re-grading was allowed by local authorities, and feel further victimized by the damage from the natural water flow. We not only urge decisions on this application to deny further insult to this resource and take absolute steps to enforce local and national wetland law, but propose an absolute remediation of the harm that has already been done.

Greg and Caryl Elder
42 Liberty Street



February 4, 2016

Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

**RE: Review, Notices of Intent
 Brock's Court, Nantucket, MA
 DEP Files SE 48-2834, 2835
 NEE File 13-4266**

Dear Commission members,

New England Environmental, Inc. (NEE) again met Jeff Carlson, representing the Commission, and Mark Rits of Site Design Engineering, LLC at Brock's Court and the adjacent property at 36 Liberty Street on January 21, 2016. During the site visit NEE was able to further investigate soil conditions on and around the Brock's Court site, delineate the edge of wetlands at 36 Liberty Street closest to Brock's Court, and assess neighborhood hydrology and the wetlands complex that occupies the northern slopes of Quarter Mile Hill. This letter summarizes certain findings from that site visit and ongoing concerns about the proposed work.

NEE dug soil pits in two new locations on the Brock's Court lot, and performed soil borings on the adjacent lot to the east, at 42 Liberty Street. Soil profiles are described on attached Corps of Engineers data forms, and were designated H2, H3, and H4. The location of the soil pit dug on January 7, for which a profile was submitted to the Commission previously, was designated H1. The approximate locations of these soils are shown on the attached figure labeled "soil pit sketch". All four locations were also surveyed by Mr. Rits. These soil profiles were all consistent with NRCS Hydric Soil Indicators A11 (Depleted Below Dark Surface) and/or F6 (Depleted Dark Surface). Mr. Rits also surveyed the location of three orange stick flags numbered A1-A3 on the 36 Liberty Street property, which were placed adjacent to soil borings agreed by all parties to be hydric during the January 7 assessment. Revised plans showing these hydric soil locations have not been made available as of this submission.

These soil observations provide additional evidence that the delineation of wetlands depicted on the Proposed Site Plan dated October 29, 2015 by Site Design Engineering is incorrect, with additional wetlands within the Brock's Court lawn and extending onto 36 and 42 Liberty Street.

In our letter of January 12, NEE provided evidence that seasonal high groundwater elevations might be higher than those previously submitted by Site Design Engineering. Their observations between November 18, 2015 and January 7, 2016 place the groundwater level between 12" and 36" below the surface. Data from two USGS groundwater monitoring wells on Nantucket shows that groundwater

levels in these wells in November and December of 2015 was more than two feet below the average high water levels recorded in the early spring.

On January 16 a rain storm deposited over an inch of rain on Nantucket. The pond at 36 Liberty Street was overflowing, with sheet flow toward Brock's Court. Surface water was visible in the Brock's Court lawn and on the lawn at 42 Liberty Street. Photographs of these locations taken at 10 a.m., as the rain was ending, are attached to this letter. Photographs of the same areas a day later, January 17 at 10 a.m., show that water was still visible at the surface. This is further evidence that groundwater levels at the proposed house site on Brock's Court are much higher than previously reported, and that the proposed structure not only cannot be built with the mandated two feet of separation from groundwater, but would actually be within the groundwater during a portion of the year.

We hope these observations are helpful. Please contact NEE if you have any questions regarding these findings. We are available to discuss these projects and their implications with the Conservation Commission at the public hearing.

Sincerely,
New England Environmental, Inc.



Bruce Griffin
Certified Professional Soil Scientist

cc: Jeff Carlson, Natural Resources Coordinator, Town of Nantucket
Gregory DeCesare, Massachusetts Department of Environmental Protection
Mark Rits, P.E., Site Design Engineering, LLC
Laura Schofield, R.S., Schofield Brothers of Cape Cod
Paul Feldman, Esq., Davis, Malm & D'Agostine, P.C.
Joanna Lewis, Gregory Elder, and Marsha Fader, abutters

enc. Soil datasheets, soil pit sketch, site photographs

SOIL

Sampling Point: H2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4"	10YR2/1	100%	none				sandy loam	some stripped grains
4-10"	10YR3/1	75%	7.5YR3/3,3/4	5%	C	PL	sandy loam	5/1 mixed, not depletions
	2.5Y5/1	20%						
10-20"	2.5Y5/1	65%	2.5Y6/1	15%	D	M	sandy loam	
			7.5YR3/3,3/4	20%	C	PL		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16)(LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: This hydric soil also matches New England indicator VII, Depleted Below Dark Surface.





Remarks: Photograph of redox concentrations and depletions within third layer of soil profile. Mixing in second layer may be evidence of historic disturbance. Standing water at 16" was observed in the pit. New England indicators found in "Field Indicators for Identifying Hydric Soils in New England" (Version 3, 2004).

SOIL - additional photo and remarks from Brocks Court soil pit H3

Sampling Point:

H3



Remarks: Photograph of redox concentrations and depletions within second layer of soil profile.
Evidence of historic disturbance included chunks of coal or coke, patches of 10YR4/3 loamy sand around pit walls .
Standing water not observed within this 16" pit.
New England indicators found in "Field Indicators for Identifying Hydric Soils in New England" (Version 3, 2004).

SOIL - additional photo and remarks from H4 soil boring

Sampling Point:

H4



Remarks: Photograph of redox concentrations from the first bite of the auger.
Soil probably contains at least some fill.
Standing water at 4" was observed in the hole.
This soil profile also matches the criteria for Indicator VIII, Dark Mineral Soils, in Field Indicators for Identifying Hydric Soils in New England (Version 3, 2004).

Photo 1:

Looking northeast at the 1 Brocks Court lawn, at the end of a rainstorm. Groundwater is at the surface.

Photograph taken January 16 at 10 a.m.

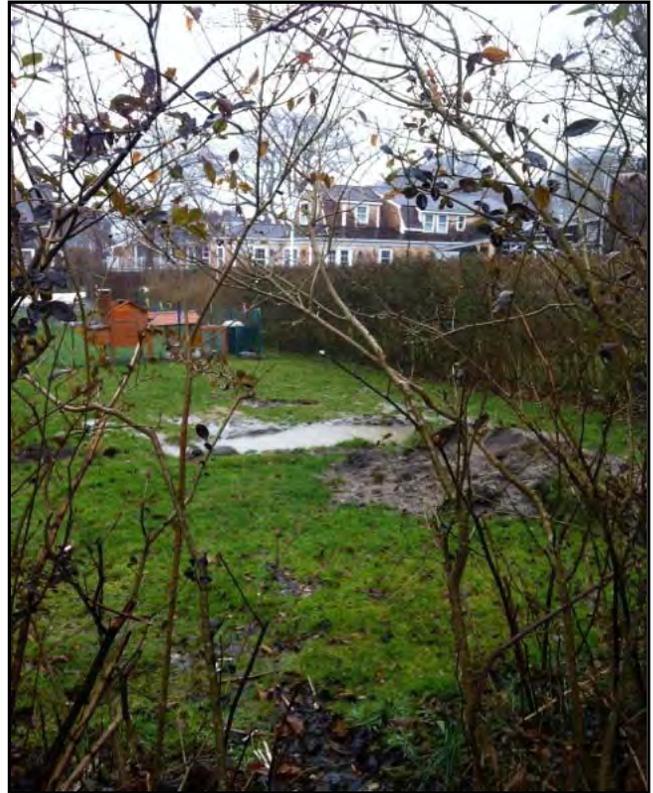


Photo 2:

The same location 24 hours later, with groundwater down only slightly.

Photograph taken January 17 at 10 a.m.





Photo 3: The northern property line at 42 Liberty Street, which is subject to frequent flooding. Photograph taken January 16 at 10 a.m.



Photo 4: The same location on January 17 at 10 a.m.



SITE DESIGN ENGINEERING, LLC.

11 Cushman Street, Middleboro, MA 02346
P: 508-967-0673 F: 508-967-0674

February 4, 2016

SDE No. 12035

Ernest Steinauer
Chairman – Nantucket Conservation Commission
Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

**Subject: Supplemental Information for Notice of Intent SE48-2834 and SE48-2835
1 Brock's Court
Nantucket, Massachusetts
Tax Map 42.3.4, Parcel 84**

Dear Mr. Steinauer:

The purpose of this letter is to provide supplemental information addressing issues which were discussed by the Commission during multiple Public Hearings for the above referenced NOI application for work proposed on the 1 Brock's Court property (Subject Property). Specifically, issues associated with a potential wetland resource area on property located at 36 Liberty Street (Map 42.3.4 Lot 83) hereafter referred to as the "Fader Property", questions about the wetland resource delineation on the Subject Property, and questions about groundwater elevations on the Subject Property.

A site visit was performed on both the Subject Property and the Fader Property on January 7, 2016. The site visit was attended by Jeff Carlson (Conservation Commission), Bruce Griffin (New England Environmental), Mark Rits (Site Design), Laura Schofield (Schofield Brothers), Marsha Fader (abutting property owner), and Lucy Dillon (abutter).

The purpose of the site visit was to evaluate potential resource areas on the Fader Property and to provide Mr. Griffin an opportunity to perform a field evaluation of the soils information which was submitted to the Commission on January 5, 2016.

Subject Property Development History

Figure 1 shows a 1940 aerial photograph (Nantucket GIS) of the Subject Property and the surrounding area. It is clear from this photograph that the western portion of the Subject Property was landscaped and that a substantial building was present on the northern portion of the Subject Property approximately where the existing pervious driveway is currently located. It is also clear that there was an enclosure on the southern portion of the Subject Property (likely an animal pen) in the approximate location of the proposed secondary dwelling. Additionally, the property to the west of the Subject Property was in agricultural use and was the site of a large building in an area which is currently delineated as a wetland. It is clear from this photograph that the Subject Property and the surrounding properties have been historically developed and heavily modified and have been in both residential and agricultural use for an extended period of time.

Project Modifications

The Applicant is submitting a two revised site plans dated February 3, 2016 for the NOI application for the previously performed house relocation (SE48-2834). The first revised plan is titled "Existing Conditions Site Plan A" and shows the wetland resource areas and associated buffer zones on the Subject Property, the surveyed location of the man-made pond on the Fader Property, and the buffer zones to the man-made pond. The second revised plan is titled "Existing Conditions Site Plan B" and includes the location of the edge of the Hydric Soil Zone and associated buffer zones on the Fader Property as determined during the January 7, 2016 site visit (see discussion below). The Applicant is also submitting two revised site plans dated February 3, 2016 for the NOI application for the secondary dwelling and swimming pool (SE48-2835). These plans also include minor modifications to the Proposed Project. The first revised plan is titled "Proposed Conditions Site Plan A" and shows the wetland resource areas and associated buffer zones on the Subject Property, the surveyed location of the man-made pond on the Fader Property, and the buffer zones to the man-made pond. The second revised plan is titled "Proposed Conditions Site Plan B" and includes the location of the edge of the Hydric Soil Zone and associated buffer zones on the Fader Property as determined during the January 7, 2016 site visit (see discussion below). The project modifications in both Proposed Conditions plans are the same and include enhanced buffer zone plantings and a modified driveway configuration going to the proposed secondary dwelling. The previously proposed pervious driveway will now include a central grass strip as indicated on both sets of revised site plans.

Fader Property Site Overview

The entirety of the Fader Property including the portion adjacent to the Subject Property has been previously altered, developed, and landscaped. Historical alterations of the Fader Property include extensive terracing of the western portion of the property (see Photos 1 through 4), construction of a partially lined man-made pond on the property (see Photos 5 through 8), use of a circulation pump in portions of the pond (see Photos 9 and 10), construction of a wooden bridge over a portion of the pond (see Photo 7). According to the current property owner, the original terracing of the Fader Property and the excavation of the original man-made pond were performed sometime between 1910 and 1920. The original configuration of the man-made pond was different from the current configuration. Aerial photographs from 1940 (Nantucket GIS) show a pond which is substantially different from the current configuration (see Figure 1 and Figure 2). It is unclear exactly when the pond configuration was altered or when the bridge was constructed, a portion of the pond was lined, and pumping equipment was installed. The terracing altered the existing grade on the Fader Property such that the area adjacent to the man-made pond is now relatively flat (see Photo 5 and Photo 6) instead of following what was likely originally a gentle slope similar to the one which extends onto the Subject Property and the natural wetland to the northwest. The resulting flat portion of the Fader Property is inconsistent with the slope on the southern portion of the Fader Property and the slope which is found on the Subject Property and the adjacent natural wetland area. It is our understanding that the area surrounding the man-made pond has been continuously maintained as a landscaped lawn area since it was constructed. This area does not currently include, nor is there any evidence that it has historically included, any significant native wetland vegetation which was not continuously mowed. The area around the man-made pond as well as the remainder of the western portion of the Fader Property consists of a well maintained manicured lawn (see Photos 11 and 12). Additionally, there are several large stumps located on the northern portion of the Fader

SITE DESIGN ENGINEERING, LLC.

11 Cushman Street, Middleboro, MA 02346
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Property immediately south of the Subject Property boundary (see Photos 13 through 14). Recent aerial photography (Google Earth imagery) indicate that several large trees or shrubs were present on this portion of the property and that they may have been removed from the Fader Property within the last couple of years. Additionally, the Property Owner indicated that there were issues with invasive species encroaching onto the property from the adjacent parcel to the northwest. As there are currently no invasive species along the northern portion of the Fader Property the assumption is that these have been removed. The man-pond on the Fader Property and the area surrounding the man-pond have been significantly altered and have been continuously maintained for an extended period of time and do not exhibit the characteristics of a natural system.

A review of Conservation Commission files for the Fader Property as well as for all abutting properties did not include any filings which delineate the existing man-made pond or any other portions of the Fader Property as a wetland resource area. Additionally, there have been no filings on the Fader Property for any activities including the removal of trees, lining of a portion of the pond, installation of pumping equipment, construction of a bridge, installation of split-rail fencing, or invasive species management along the northern portion of the Fader Property which is located within the buffer zone to an off-site BVW.

Fader Property Site Evaluation (January 7, 2016)

During the January 7, 2016 site visit, a number of auger holes and shallow test pits were excavated on the Fader Property. The test pits and auger holes were excavated between the existing man-made pond and the Subject Property boundary. The presence and/or extent of hydric soils around other portions of the man-made pond was not determined as part of the January 7, 2016 site evaluation. Test pits and auger holes were excavated into fill material which was comprised primarily of topsoil near the surface with medium to fine sands below. The test pits and auger holes indicated that hydric soils were present in an area adjacent to the man-made pond. These hydric soils extend for a distance of approximately 15-20 feet from the edge of the man-made pond in a northerly direction towards the Subject Property boundary. Mr. Griffin indicated that the underlying sands exhibited hydric characteristics because they were very pale in color. It is important to note that on Nantucket the presence of light colored sands may not necessarily be a hydric indicator as light colored sands are widespread throughout the island. A series of three pin flags were placed by Mr. Griffin to delineate the approximate boundary of the near surface hydric soils in the area located between the existing man-made pond and the Subject Property boundary. The location of the pin flags has been survey located and is shown on the revised Site Plan. The observed hydric indicators were present in loam and fill which was placed on the property as part of original historic site alterations and/or more recent landscaping and maintenance work.

A large natural wetland system is found on the property located to the west of the Subject Property and to the north of the western portion of the Fader Property. This wetland is located in a low spot on the landscape at the bottom of the slope which extends northward away from the terraced Fader Property. A series of test pits and auger holes were excavated near the boundary of the Fader Property adjacent to this wetland system in order to determine if there was a connection between the hydric soils on the Fader Property and the natural vegetated wetland. Hydric soils and other ground water indicators were not present within 18 inches of the surface indicating that the hydric soils around the man-made pond on the Fader Property do not connect directly to the vegetated wetland on the abutting property and that these are two discrete systems.

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Fader Property Site Analysis

The hydric soils which are present around the existing man-made pond are the direct result of water leaching from the man-made pond. This water is then impounded by the terrace fill which results in a longer than usual residence time in the soils adjacent to the pond and leads to the development of hydric features within the near surface soils. Because of ongoing maintenance of this area, no wetland vegetation has been established within these hydric soils. It is also likely that if any other landscaping scenario had been utilized around the man-pond, such as landscaping which included trees, shrubs, or vegetation other than lawn, a significant portion of the excess water in the soils around the man-made pond would have been utilized by the vegetation and the development of hydric features in the surrounding soils would have been significantly less likely to occur. It is also likely that use of a more robust vegetative community around the existing man-made pond would alleviate some of the groundwater issues which are a significant concern to abutters in this portion of the neighborhood. Additionally, the relatively recent removal of trees and/or large shrubs along the property boundary has further reduced the amount of water uptake from this area increasing the amount of time water leaching from the man-made pond stays in the surrounding soils. The presence of hydric soils within the terraced fill material adjacent to the man-made pond is directly the result of terracing of the property, excavation of the man-pond, and both historic and ongoing vegetation management practices on this portion of the Fader Property. Without the man-pond, terracing, or maintenance of a lawn it is unlikely that a substantial natural wetland would exist on this portion of the Fader Property.

Typically, wetland resource areas are delineated based on the presence of both hydric soils and the presence of a dominance of facultative and obligate wetland vegetation. In the event that an established existing wetland resource area has been altered, such as when vegetation has been removed from a wetland resource area, the Department of Environmental Protection (DEP) policy is to fall back to a delineation based solely on soil conditions. Again, this methodology is used when a pre-existing wetland resource area has been recently stripped of indicator wetland vegetation. In the case of the area surrounding the man-made pond on the Fader Property, there is no reliable contemporary record that a natural wetland system existed in this area since the area was altered approximately a century ago. It would not be appropriate to determine that this portion of the Fader Property is a wetland resource area when it does not currently, nor has it historically contained any wetland vegetation. Additionally, the existence of hydric soil conditions on this portion of the Fader Property is the direct result of historic site alteration and ongoing landscape maintenance.

Alteration and maintenance of this portion of the Fader Property is so extensive that no natural wetland vegetation is evident. Mowing occurs to the edge of the existing man-made pond and removal of trees or large shrubs has occurred in the area adjacent to the hydric soils.

Subject Property Historical Overview

A review of historical aerial photographs indicates that portions of the Subject Property have been in residential and agricultural use dating back to at least 1938 (see Figure 1) and that this use has varied over time. Extensive historic agricultural and residential use the Subject Property and the surrounding properties has resulted in an area which has likely been excavated and filled over time. Test pits and shallow soil borings indicate the presence of extensive fill which includes fragments of

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brick, clay tile, and other debris. As a result of these alterations which date back at least 75 years, there are no well-developed natural soil conditions on the Subject Property.

Project Justification

The Applicant is proposing a pervious driveway located partially within the 50-foot BVW buffer zone. The proposed pervious driveway will be located entirely within previously altered and landscaped portions of the Subject Property. Under the Bylaw, pervious driveways are permitted up to the 25-foot BVW buffer zone. The Commission has approved numerous pervious driveways and parking areas outside of the 25-foot BVW buffer zone on a variety of other projects on Nantucket.

The Applicant feels that the man-made pond on the Fader Property meets the Bylaw definition of a Pond as it connects to perched groundwater but does not have a hydrologic connection to any adjacent water bodies. Therefore, the Applicant feels that the extent of the wetland resource area on the Fader Property is the edge of the existing man-made pond and that the appropriate 25-foot, 50-foot, and 100-foot wetland buffer zones must be measured from the edge of the man-made pond. Proposed Conditions Site Plan A (03-Feb-2016) depicts this extent of jurisdictional wetland resource areas and associated buffer zones as they relate to the Proposed Project. The proposed 774 square foot secondary dwelling on the Subject Property is located outside of the 50-foot wetland buffer zone as calculated from the edge of the man-made pond on the Fader Property. It is standard practice for the Commission to allow applicants to construct structures outside of the 50-foot buffer zone to a wetland resource area.

In the event that the Commission decides that the heavily altered area of hydric soils (hereafter referred to as the Hydric Soil Zone) around the man-made pond on the Fader Property somehow qualify as a jurisdictional wetland resource area under the Bylaw. Proposed Conditions Site Plan B (03-Feb-2016) depicts the extent of wetland resource areas and associated buffer zones in the event that the Commission determines that the Hydric Soil Zone is a jurisdictional resource area under the Bylaw. It is important to keep in mind that all of this Hydric Soil Zone is currently mowed and maintained as lawn area. Additionally, the 25-foot buffer zone to this Hydric Soil Zone is also currently mowed and maintained as lawn area and that all of the area between the 25-foot and 50-foot buffer zones to this Hydric Soil Zone which is located on the Fader Property is also maintained as lawn area. Finally, there is evidence to suggest that several large trees have been recently removed from a portion of the Fader Property which is located within the 25-foot and 50-foot buffer zone to this Hydric Soil Zone.

The man-made pond is a jurisdictional wetland resource area under the Bylaw. Currently all of the 25-foot and 50-foot buffer zone to this jurisdictional wetland are altered and maintained as a lawn area. Additionally, if the Hydric Soil Zone surrounding the man-made pond is determined to be a jurisdictional wetland resource area, the entire resource area as well as the associated 25-foot and 50-foot buffer zones are currently maintained as a lawn and do not include any native wetland vegetation. Current use and maintenance of the Fader Property has resulted in significant impacts to the 25-foot and 50-foot buffer zones to the jurisdictional man-made pond. This ongoing use and maintenance has also resulted in significant impacts to the Zone of Hydric Soils and the associated 25-foot and 50-foot buffer zones if this portion of the Fader Property is determined to be a jurisdictional resource area.

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If the Commission determines that the extent of the wetland resource area on the Fader Property includes the Hydric Soil Zone and determines that 25-foot and 50-foot buffer zones must be cast from the limit of the Hydric Soil Zone, the Applicant feels that the proposed 774 square foot secondary dwelling on the Subject Property meets the requirements for a waiver for a structure within the 50-foot wetland buffer zone. Approximately 500 square feet of the proposed secondary dwelling will be located within the 50-foot buffer to the Hydric Soil Zone. The proposed off-locus secondary dwelling will be located on a portion of the Subject Property which is located several feet downgradient of the haltered Hydric Soil Zone on the Fader Property. Any groundwater flow would occur from the Fader Property towards the proposed secondary dwelling. The proposed secondary dwelling would be outside of the 50-foot buffer zone to the man-made pond and would have no adverse impacts on the Hydric Soil Zone or the associated 25-foot and 50-foot buffer zones on the Fader Property as it would be downstream from these features. Additionally, the proposed secondary dwelling will be located on a previously altered and landscaped portion of an abutting property and would not result in the loss of any native buffer zone vegetation. Currently, the Fader Property is mowed and maintained up to the edge of the man-made pond. The entire Hydric Soil Zone and associated 25-foot and 50-foot buffer zones are currently mowed. It is not known if any portions of this maintained lawn area are fertilized or otherwise treated. The Applicant is also proposing approximately 800 square feet of native buffer zone plantings along the western edge of the Subject Property. The proposed plantings will provide a significant net benefit to the resource areas and associated buffer zones. The Applicant feels that the impacts to the man-made pond, Hydric Soil Zone, and the 25-foot and 50-foot buffer zones to these resource areas resulting from ongoing use and maintenance of this portion of the Fader Property are significantly greater than any potential impacts resulting from the construction of a frost wall foundation for the proposed off-locus secondary dwelling located on a previously altered and downgradient portion of an abutting property and that the proposed native plantings will result in an overall net benefit to the resource area and associated buffer zones.

Alternatives Analysis

Proposed Pool

The proposed pool has been located outside of the 50-foot buffer zone to the BVW resource area on the adjacent property to the east and is also outside of the 50-foot buffer zone to the man-made pond on the Fader Property. Additionally, if the Commission determines that the Hydric Soil zone on the Fader Property is a jurisdictional wetland resource area, the proposed pool is located entirely outside of the 50-foot buffer zone to this potential resource area. The proposed pool is located on the portion of the Subject Property which has groundwater at the lowest elevation. There is no alternative location for the proposed pool which would place it farther from the wetland resource areas or would allow for an increased separation to high groundwater.

Proposed Secondary Dwelling

The proposed secondary dwelling has been located on the portion of the Subject Property which is outside of the 50-foot buffer zone to the natural well established BVW on the abutting property to the west and is also outside of the 50-foot buffer zone to the man-made pond on the Fader Property. If the Commission determines that the Hydric Soil Zone on the Fader property is a jurisdictional wetland resource area, portions of the proposed secondary dwelling will be located within the 50-foot buffer zone to this heavily altered and maintained resource area. There is no alternative location for the

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proposed secondary dwelling on the Subject Property. Relocating the proposed secondary dwelling anywhere else on the Subject Property would place it within the 50-foot buffer zone to the well-established natural BVW on the abutting property to the west. The proposed location is the best available location for the proposed secondary dwelling.

Project Waivers

Required Ground Water Separation Waiver

The Applicant feels that the wetland resource delineation on the abutting property to the west is accurate and that all structural components of the Proposed Project will be located outside of the 50-foot BVW buffer zone. Additionally, the Applicant feels that the extent of the wetland resource area on the Fader Property is the edge of the existing man-made pond and that the Proposed Project will be located entirely outside of the 50-foot buffer zone to this resource area.

It is our understanding that the intent of the two-foot groundwater separation requirement in Section 3.02B(1) of the Bylaw Regulations is to reduce impacts to adjacent wetland resource areas which may result from the construction of foundations or other buried structures which may be sufficiently large so as to act as a dam preventing subsurface groundwater flow from moving naturally towards a downgradient wetland system. Such structures, if sufficiently large, could potentially result in the disruption of groundwater flow to the wetland resource area thereby significantly reducing the amount of water entering the wetland and adversely impacting the ability of the system to support wetland flora and fauna. It is important to note that such an adverse impact would only occur if the buried structure was blocking groundwater flow and was large enough to have a regional impact on the adjacent wetland system.

The proposed secondary dwelling foundation and proposed pool may require a waiver under the Bylaw because high groundwater will be located within 2 feet of the base of the footings for the proposed foundation and base of pool. In a letter to the Commission dated January 5, 2016 detailed information showing groundwater elevations from a deep hole test pit excavated in the proposed foundation location and adjacent to the proposed pool location was submitted to the Commission. In the proposed foundation location weeping was observed at a depth of approximately 36 inches and mottling was observed at a depth of approximately 32 inches placing high ground water at approximately elevation 20. The proposed base of footing for the secondary dwelling foundation will be constructed at elevation 20. The proposed base of footing will be at the top of high groundwater. Adjacent to the proposed pool location weeping was observed at a depth of approximately 26-32 inches, standing water was observed at a depth of approximately 75 inches and, and mottling was observed at a depth of approximately 70 inches placing high ground water at approximately elevation 15. The proposed pool will be located at a surface elevation of approximately 22. The proposed pool will have of a depth of 6 feet placing the bottom of the pool at approximately elevation 16. The bottom of the proposed pool excavation will be at an elevation of approximately 15 which is at or slightly above high groundwater. Neither the proposed foundation footings or the proposed pool will be in high groundwater. Both proposed structures will be at or slightly above high groundwater and will not result in any damming of groundwater flow and therefor will not result in any adverse impacts to the BVW on the adjacent property to the west. A detailed waiver request for this required waiver is provided in the Waiver Request section below.

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In the event that the Commission determines that the Hydric Soil Zone surrounding the man-made pond on the Fader Property is in fact a jurisdictional resource area, the proposed pool will be located outside of the 100-foot buffer zone to this resource area. Additionally, the proposed secondary dwelling foundation footings will be downgradient of the resource area and will not have any adverse impact on groundwater flow into this resource area.

Optional 50-Foot Structural Setback Waiver

It is our understanding that the intent of the 50-foot structural setback to a wetland resource requirement in section 3.02B(1) of the Bylaw Regulations is to reduce impacts to unaltered jurisdictional wetland resource areas which may result from the construction of a structure within 50 feet of a downgradient wetland. These adverse impacts may include disruption of groundwater or surface flow to the resource area, alteration of natural infiltration adjacent to the resource area, leaching of contaminants or other contaminated runoff associated with the structure entering the resource area, impacts to native buffer zone vegetation adjacent to the resource area, or impacts to wildlife which may be using the resource area.

In addition to the required waiver for separation to high groundwater discussed above, the Proposed Project may require a second waiver in the event that the Commission determines that the Hydric Soil Zone on the Fader Property is in fact a jurisdictional wetland resource area. If the Commission makes such a determination, approximately 500 square feet of the proposed secondary dwelling will be located within the 50-foot buffer zone to this resource area. The Applicant feels that the proposed secondary dwelling will not have an adverse impact on this resource area as it will be located off-locus and downgradient of the resource area and will be on a previously altered and landscaped portion of the Subject Property. The Applicant also feels that the proposed planting of 800 square feet of native buffer zone vegetation will result in an overall net benefit to the resource area and associated buffer zones. Additionally, the Applicant feels that the ongoing maintenance and mowing of this resource area, the 25-foot buffer zone to this resource area and fifty percent (50%) of the area between the 25-foot and 50-foot buffers to this resource area constitute a significant and ongoing impact to the resource area and associated buffer zones. The proposed off-locus downgradient structure will not result in any additional impacts to this heavily altered and maintained resource area. A detailed waiver request for this optional secondary waiver is provided in the Waiver Request section below.

Summary

The Applicant feels that the wetland resource area on the Fader Property is defined by the limit of the existing man-made pond and that this casts a 50-foot wetland buffer zone which falls short of the proposed secondary dwelling on the Subject Property. The Applicant also feels that the Hydric Soil Zone present on portions of the Fader Property adjacent to the man-made pond are the direct result of historic and ongoing site alterations and landscape maintenance activities and that this area does not qualify as a jurisdictional wetland resource area. Further, the Applicant feels that the man-made pond and Hydric Soil Zone do not connect to any water body or the nearby natural wetland resource area to the northwest of the Fader Property. In the event that the Commission feels that the Hydric Soil Zone somehow qualifies as a jurisdictional wetland resource area, The Applicant feels that the proposed secondary dwelling qualifies for a 50-foot no structure setback waiver under the Bylaw as it will have no additional adverse impact on the man-made pond and heavily altered and maintained

Hydric Soil Zone especially when compared to existing use and ongoing maintenance of this portion of the Fader Property. The Applicant also feels that the proposed native buffer zone plantings will result in a significant net benefit to the resource areas and associated buffer zones.

WAIVER REQUEST

Secondary Dwelling – Required Groundwater Separation Waiver

The Applicant is proposing to construct a secondary dwelling and pool on the Subject Property. The Applicant feels that the limit of the wetland resource area on the abutting Fader Property is coincident with the edge of the existing man-made pond. Based on that, the proposed secondary dwelling and pool will be located entirely outside of the 50-foot wetland buffer zone to both the man-made pond on the Fader Property wetland and the BVW located to the west of the Subject Property. The base of the footings for the proposed secondary dwelling foundation and the base of the excavation for the proposed pool will be located at approximately the top, or slightly above, the high ground water elevation as detailed above. The proposed foundation footings and pool will not meet the two-foot high groundwater separation requirement. Under the Bylaw this activity would require a waiver and therefore, the Applicant is respectfully requesting a waiver from the following section of the Nantucket Wetlands Protection Bylaw:

3.02B(1)

“Proposed projects which are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to the vegetated wetlands. All structures which are not water dependent shall be at least 50 feet from a vegetated wetland, and all structures shall maintain an undisturbed two-foot separation to high groundwater. Fifty percent (50%) of the area between the 25-foot buffer and the 50-foot buffer shall not be altered. Additional soils and groundwater information may be required for applications in areas of high groundwater.”

The proposed foundation and pool will not adversely impact the BVW or associated buffer zones. The proposed foundation and pool will be outside of the 50-foot BVW buffer zone and 50-foot buffer zone to the man-made pond and will be consistent with foundations and other structures approved for numerous projects located outside of the 50-foot wetland buffer zone. The proposed foundation will be located down gradient from the wetland located on the Fader Property and will not have any adverse impact on groundwater flowing towards this wetland as all groundwater flow towards this wetland occurs from upgradient portions of the Fader Property. Because the proposed foundation footings and pool will be located at the top of the high groundwater elevation they will not impede or alter the flow of groundwater towards the wetland located to the west of the Subject Property and will not result in any adverse impacts to this resource area. These structures are consistent with other structures which have been permitted by the Commission within two feet of high groundwater on numerous other properties on Nantucket. Therefore, the Applicant is requesting a waiver for the crawl space foundation two-foot separation to high groundwater under section 1.03F(3)(A) of the Bylaw which state the following:

Section 1.03F(3)(A):

“The Commission may grant a waiver from these regulations when the Commission finds that, given existing conditions, the proposed project will not adversely impact the interests identified in the Bylaw and there are no reasonable conditions or alternatives that would allow

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that project to proceed in compliance with the regulations. The burden of proof to show no adverse impact to the interests identified in the Bylaw, Chapter 136 Section 2, shall be the responsibility of the owner/applicant. The burden of proof to show no reasonable alternative shall be the responsibility of the owner/applicant and shall consist of a written alternatives analysis detailing why the proposed project can not otherwise proceed in compliance with the performance standards in these regulations with an explanation of why each is not feasible.

It shall be the responsibility of the applicant to provide the Commission with any information, which the Commission may request in order to enable the Commission to ascertain such adverse effects. The failure of the applicant to furnish any information which has been so requested may result in the denial of a request for a waiver pursuant to this subsection."

The proposed secondary dwelling will not include a basement and the base of the proposed footings will be located at the top of high groundwater. The base of the excavation for the proposed pool will be located at or slightly above high groundwater. The proposed foundation and pool are consistent with numerous other projects within 2 feet of high groundwater which have been approved by the Commission for areas outside of the 50-foot BVW buffer zone. The proposed foundation and pool have been designed to minimize or eliminate any adverse impacts to the BVW and associated buffer zones. Additionally, the Applicant is proposing to restore approximately 800 square feet of the 25-foot and 50-foot BVW buffer zones on the Subject Property with native buffer zone vegetation resulting in a significant overall net benefit to the existing BVW and associated buffer zones. Therefore, the Applicant feels that constructing the foundation and pool within two feet of high groundwater will not result in any adverse impacts to the BVW or associated buffer zones and that the overall project will result in a net benefit to the adjacent jurisdictional resource areas.

Secondary Dwelling – Optional 50-Foot Structural Setback Waiver

The Applicant is proposing to construct a secondary dwelling on the Subject Property. In the event that the Commission determines that the Hydric Soil Zone adjacent to the man-made pond on the Fader Property somehow constitutes a jurisdictional wetland resource area, portions of the proposed secondary dwelling will be located within the 50-foot buffer zone to this resource area. Under the Bylaw this activity would require a waiver and therefore, the Applicant is respectfully requesting a waiver from the following section of the Nantucket Wetlands Protection Bylaw:

3.02B(1)

"Proposed projects which are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to the vegetated wetlands. All structures which are not water dependent shall be at least 50 feet from a vegetated wetland, and all structures shall maintain an undisturbed two-foot separation to high groundwater. Fifty percent (50%) of the area between the 25-foot buffer and the 50-foot buffer shall not be altered. Additional soils and groundwater information may be required for applications in areas of high groundwater."

Although the proposed secondary dwelling will be located partially within the 50-foot buffer zone to the Hydric Soil Zone on the Fader Property it will be located significantly downgradient from this resource area and will not alter or impact groundwater flow into or towards this resource area as all

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groundwater flow to this area originates from upgradient portions of the Fader Property. If the Hydric Soil Zone of Fader Property is in fact a jurisdictional wetland resource area, the entire resource area is currently mowed, altered, and maintained. Additionally, the entire 25-foot buffer zone to this resource area is mowed, altered, and maintained as well as 50% percent of the area between the 25-foot and 50-foot buffer zones to this resource area. The Applicant feels that the existing alteration, maintenance, and use of this resource area and associated buffer zones is a significantly impact to this resource area. The proposed off-locus downgradient structure located on a previously altered and landscaped portion of the Subject Property will not have any impacts the already heavily altered and maintained Hydric Soil Zone and associated buffer zones, especially when compared to the existing impacts resulting from ongoing use and maintenance of this area. Therefore, the Applicant is requesting a waiver for the proposed shed which will be located within the 50-foot buffer zone to a wetland resource area under section 1.03F(3)(A) of the Bylaw which states the following:

Section 1.03F(3)(A):

"The Commission may grant a waiver from these regulations when the Commission finds that, given existing conditions, the proposed project will not adversely impact the interests identified in the Bylaw and there are no reasonable conditions or alternatives that would allow that project to proceed in compliance with the regulations. The burden of proof to show no adverse impact to the interests identified in the Bylaw, Chapter 136 Section 2, shall be the responsibility of the owner/applicant. The burden of proof to show no reasonable alternative shall be the responsibility of the owner/applicant and shall consist of a written alternatives analysis detailing why the proposed project can not otherwise proceed in compliance with the performance standards in these regulations with an explanation of why each is not feasible.

It shall be the responsibility of the applicant to provide the Commission with any information, which the Commission may request in order to enable the Commission to ascertain such adverse effects. The failure of the applicant to furnish any information which has been so requested may result in the denial of a request for a waiver pursuant to this subsection."

The proposed secondary dwelling will be located within a previously altered and landscaped portion of the Subject Property and will be located off-locus and downgradient from a completely altered, maintained, and mowed resource area on the Fader Property. The proposed secondary dwelling will not result in any adverse impacts to this wetland resource area or associated buffer zones. Additionally, the Applicant is proposing to restore approximately 800 square feet of the 25-foot and 50-foot BVW buffer zones on the Subject Property with native buffer zone vegetation resulting in a significant overall net benefit to the existing BVW and associated buffer zones. Therefore, the Applicant feels that constructing the secondary dwelling partially within the 50-foot buffer zone to an off-locus resource area will not result in any adverse impacts to this significantly altered and maintained resource area or associated buffer zones and that the overall project will result in a net benefit to the adjacent jurisdictional resource areas.

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February 4, 2016

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If you have any questions, please feel free to contact me via email at mrirts@sitedesigneng.com or at 508-802-5832.

Respectfully,
Site Design Engineering, LLC.

A handwritten signature in black ink, appearing to read "Mark Rits". The signature is fluid and cursive, with a long horizontal stroke at the end.

Mark Rits
Project Manager/Permitting Specialist

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Photo 1: View Southwestward Showing Terracing on Southern Portion of Fader Property.



Photo 2: View Southward Showing Terracing on Fader Property.

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Photo 3: View Southeastward Showing Terracing on Fader Property.



Photo 4: View Eastward Showing Terracing on Fader Property.

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Photo 5: View Southwestward Showing Partially Lined Man-Made Pond on Fader Property.



Photo 6: View Southwestward Showing Partially Lined Man-Made Pond on Fader Property.

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Photo 7: View Northward Showing Partially Lined Man-Made Pond on Fader Property with Subject Property in Background.



Photo 8: View Westward Showing Partially Lined Man-Made Pond on Fader Property.

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Photo 9: Photo Showing Pumping Equipment in Partially Lined Man-Made Pond on Fader Property.



Photo 10: Photo Showing Pumping Equipment in Partially Lined Man-Made Pond on Fader Property.

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Photo 11: View Westward Showing Extensive Lawn on Western Portion of Fader Property.



Photo 12: View Northwestward Showing Extensive Lawn on Western Portion of the Fader Property.

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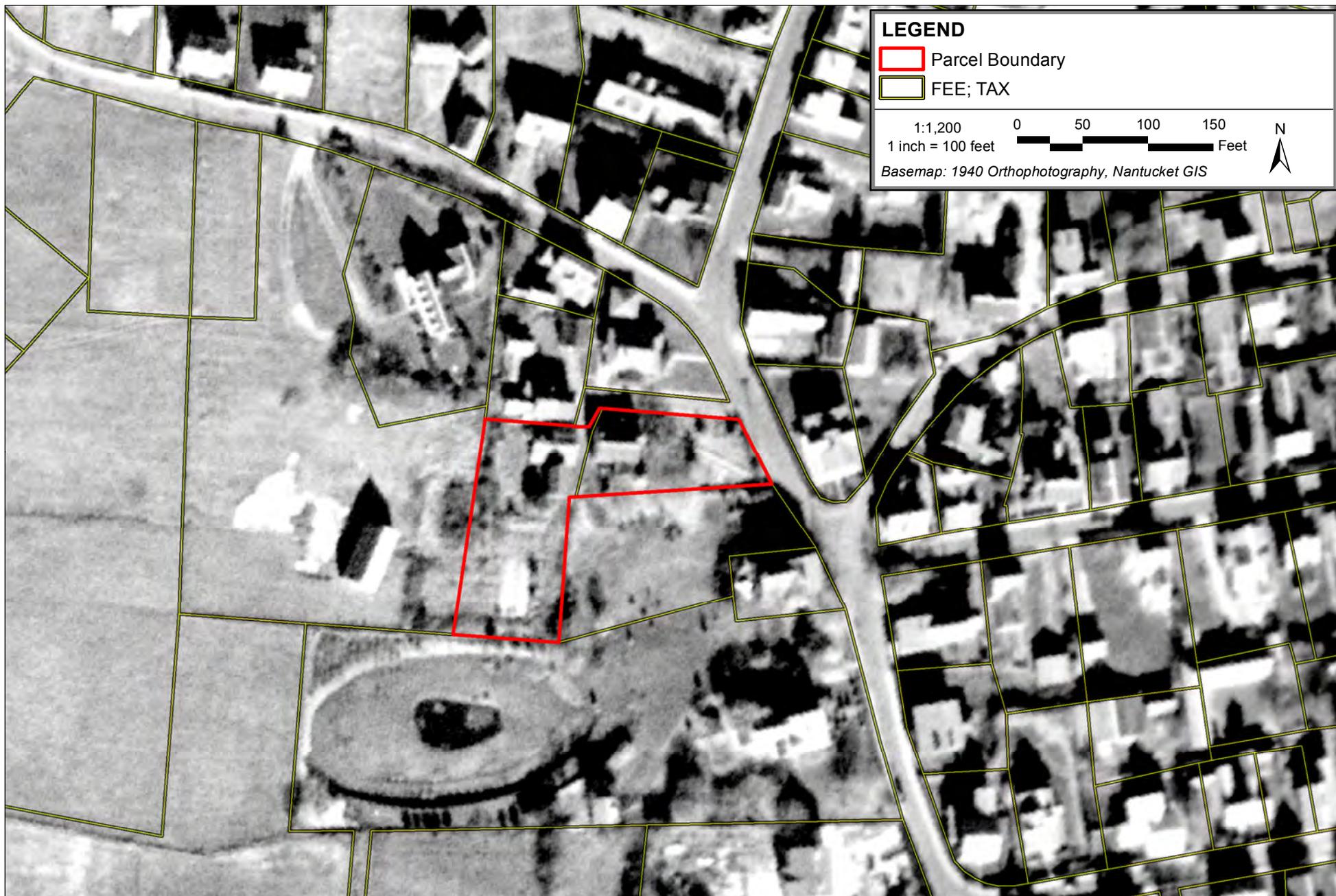
Photo 13: View Eastward Showing Large Stump on Fader Property.



Photo 14: View Northward Showing Large Stumps on Fader Property with Subject Property in the Background.

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1 Brock's Court - Nantucket, Massachusetts
Map 42.3.4 Lot 84
SDE Project No. 12035

Figure 1 - Detailed Site Overview - 1940
February 3, 2016





1 Brock's Court - Nantucket, Massachusetts
Map 42.3.4 Lot 84
SDE Project No. 12035

Figure 2 - Detailed Site Overview - 2014
February 3, 2016





LEGEND

- PROPERTY LINE
- SPOT ELEVATION
- FENCE
- HEDGE LINE
- LANDSCAPING
- LIMIT OF WETLAND
- WETLAND FLAG
- 25 FT. BUFFER ZONE
- 50 FT. BUFFER ZONE
- 100 FT. BUFFER ZONE
- DEPTH TO GROUNDWATER
- TEST PIT
- DEPTH TO GROUNDWATER
- SOIL BORING

ZONING CLASSIFICATION: R-1

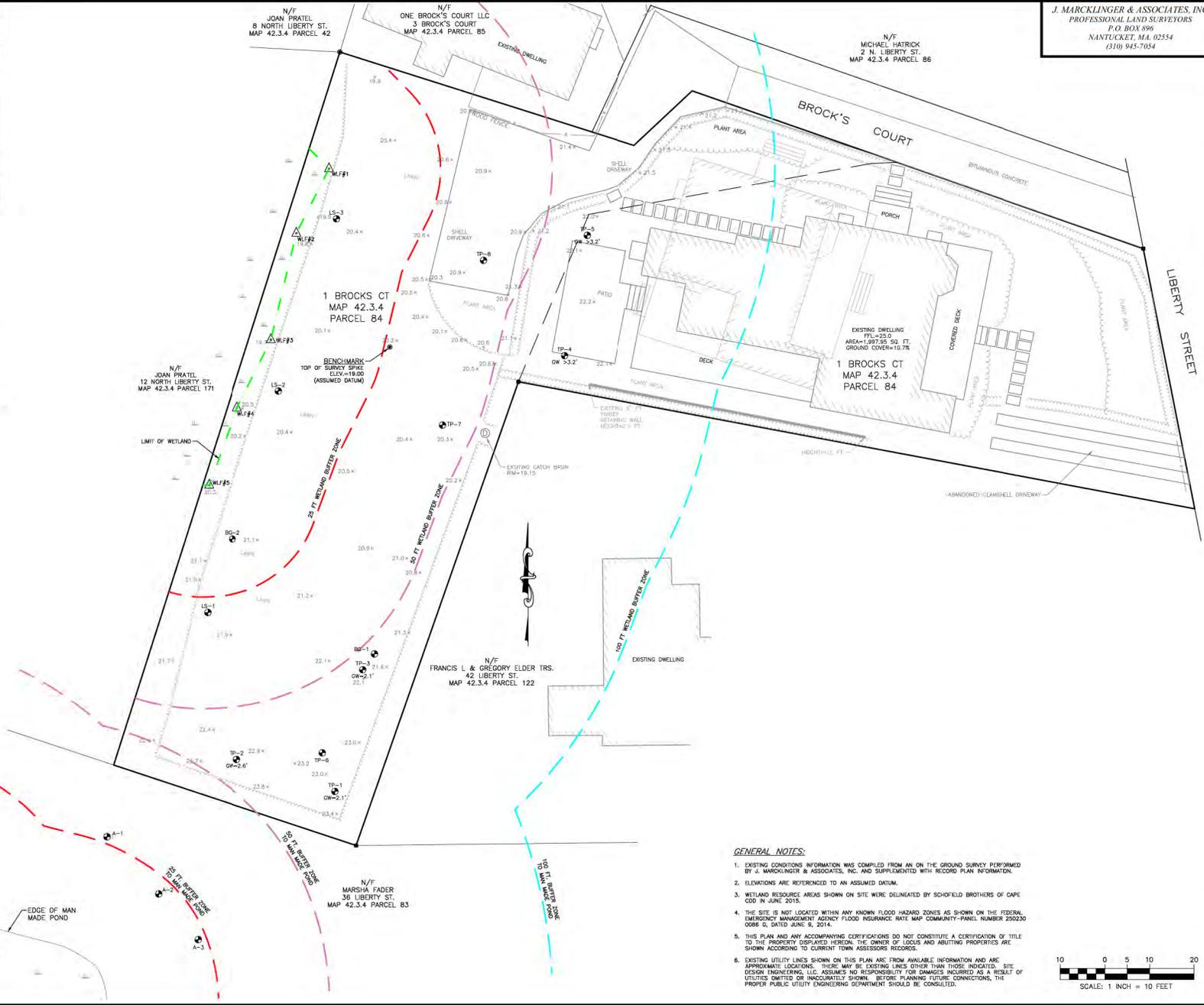
MINIMUM LOT SIZE 5,000 SQ. FT.
 MINIMUM FRONTAGE 20 FT.
 FRONT YARD SETBACK 10 FT.
 REAR YARD SETBACK 5 FT.
 SIDE YARD SETBACK 5 FT.
 GROUND COVER RATE 30%.

* SIDE YARD SETBACK IS 10 FT. ADJACENT TO ANY STREET OR WAY.

PROPERTY SUBJECT TO SPECIAL PERMIT FROM BOARD OF APPLICABLES (BOOK 1336 PAGE 244) GRANTING RELIEF OF SIDE LINE SETBACK TO BROCK'S COURT FROM 10 FEET TO 4.62 FEET.

OVERLAY DISTRICT APPLICABILITY

DOMINANT	-
EMPLOYEES HOUSING	-
FLOOD HAZARD	-
HARBOR WATERSHED PROTECTION ZONE	YES-B
HOOD OLD HISTORIC	YES
MAZAKET HARBOR WATERSHED PROTECTION	-
MID-ISLAND PLANNED	-
MULTI-FAMILY	-
SIXCONNET SEWER	-
TOWN	YES
TOWN SEWER	YES
WATERCRAFT	-
WETLAND PROTECTION	-
MA SCP ZONE II	-
FORMULA BUSINESS EXCLUSION DISTRICT	-



J. MARCKLINGER & ASSOCIATES, INC.
 PROFESSIONAL LAND SURVEYORS
 P.O. BOX 896
 NANTUCKET, MA. 02554
 (310) 945-7054

SITE DESIGN ENGINEERING, LLC.

11 CUSHMAN STREET
 MIDDLEBORO, MA 02346
 T: 508-967-0673 F: 508-967-0674
 WWW.SITEDESIGNENG.COM

PLAN REVISIONS

NO.	DATE	DESCRIPTION
1	2015	ADDED POND AND BORING LOCATIONS

DATE: OCTOBER 29, 2015
 DRAWN BY: SKD DESIGN BY: DCM CHECK BY: DCM/JLM
 PROJECT NO: 12035
 ISSUED FOR:



EXISTING CONDITIONS PLAN

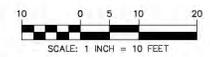
1 BROCK'S COURT
 ASSESSOR'S PARCEL 84
 NANTUCKET, MASSACHUSETTS

PREPARED FOR EDWIN SWIDER REALTY TRUST

DRAWING TITLE:
EXISTING CONDITIONS PLAN 'A'

SCALE: **1"=10'**
 SHEET NO:
1 of 1

- GENERAL NOTES:**
- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ON THE GROUND SURVEY PERFORMED BY J. MARCKLINGER & ASSOCIATES, INC. AND SUPPLEMENTED WITH RECORD PLAN INFORMATION.
 - ELEVATIONS ARE REFERENCED TO AN ASSUMED DATUM.
 - WETLAND RESOURCE AREAS SHOWN ON SITE WERE DELINEATED BY SCHOFIELD BROTHERS OF CAPE COD IN JUNE 2015.
 - THE SITE IS NOT LOCATED WITHIN ANY KNOWN FLOOD HAZARD ZONES AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 250220 CORRECTION DATED APRIL 9, 2014.
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LEGEND

- PROPERTY LINE
- 20.3' SPOT ELEVATION
- FENCE
- HEDGE LINE
- LANDSCAPING
- LIMIT OF WETLAND
- WETLAND FLAG
- 25 FT. BUFFER ZONE
- 50 FT. BUFFER ZONE
- 100 FT. BUFFER ZONE
- GW DEPTH TO GROUNDWATER
- TP-# TEST PIT
- A-#/B-#/C-#/LS-# DEPTH TO GROUNDWATER SOIL BORING

ZONING CLASSIFICATION: R-1

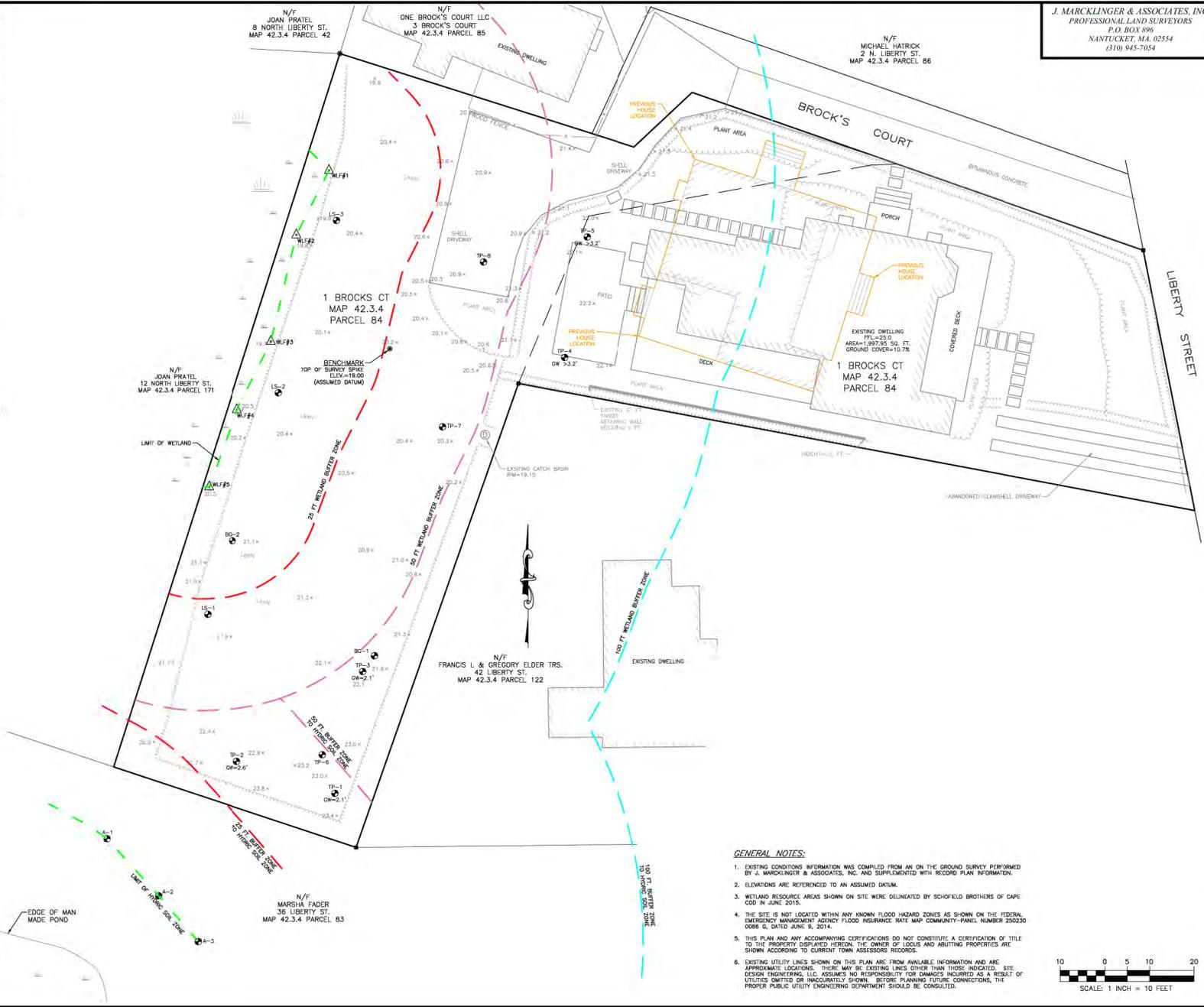
- MINIMUM LOT SIZE 5,000 SQ. FT.
- MINIMUM FRONTAGE 20 FT.
- FRONT YARD SETBACK 10 FT.
- REAR YARD SETBACK 5 FT.
- SIDE YARD SETBACK 5 FT.
- GROUND COVER RATE 30%

* SIDE YARD SETBACK IS 10 FT. ADJACENT TO ANY STREET OR WAY.

PROPERTY SUBJECT TO SPECIAL PERMIT FROM BOARD OF APPLICABLES (BOOK 1336 PAGE 294) GRANTING RELIEF OF SIDELINE SETBACK TO BROCK'S COURT FROM 10 FEET TO 4.62 FEET.

OVERLAY DISTRICT APPLICABILITY

DOMINANT	-
EMPLOYEES HOUSING	-
FLOOD HAZARD	-
HARBOR WATERSHED PROTECTION ZONE	YES-B
HOV OLD HISTORIC	YES
MAZAKET HARBOR WATERSHED PROTECTION	-
MID-ISLAND PLANNED	-
MULTI-FAMILY	-
SIXCONNET SEWER	-
TOWN	YES
TOWN SEWER	YES
WATERDRAFT	-
WETLAND PROTECTION	-
MA DEP ZONE II	-
FORMULA BUSINESS EXCLUSION DISTRICT	-



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 T: 508-967-0673 F: 508-967-0674
 WWW.SITEDESIGNENG.COM

NO.	DATE	DESCRIPTION
1	2015	ADDED POND AND BORING LOCATIONS

DATE: OCTOBER 29, 2015

DRAWN BY: SKD DESIGN BY: DCM CHECK BY: DCM/JJM

PROJECT NO: 12035

ISSUED FOR: APPROVAL



EXISTING CONDITIONS PLAN
 1 BROCK'S COURT
 ASSESSOR'S MAP 42.3.4 PARCEL 84
 NANTUCKET, MASSACHUSETTS
 PREPARED FOR EDWIN SWIDER REALTY TRUST

DRAWING TITLE:

EXISTING CONDITIONS PLAN 'B'

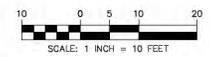
SCALE: 1"=10'

SHEET NO:

1 of 1

GENERAL NOTES:

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LEGEND

—	PROPERTY LINE
○	SPOT ELEVATION
—	FENCE
—	HEDGE LINE
—	LANDSCAPING
—	LIMIT OF WETLAND
—	WETLAND FLAG
—	25 FT. BUFFER ZONE
—	50 FT. BUFFER ZONE
—	100 FT. BUFFER ZONE
○	TEST PIT
○	DEPTH TO GROUNDWATER
○	SOIL BORING

ZONING CLASSIFICATION: R-1

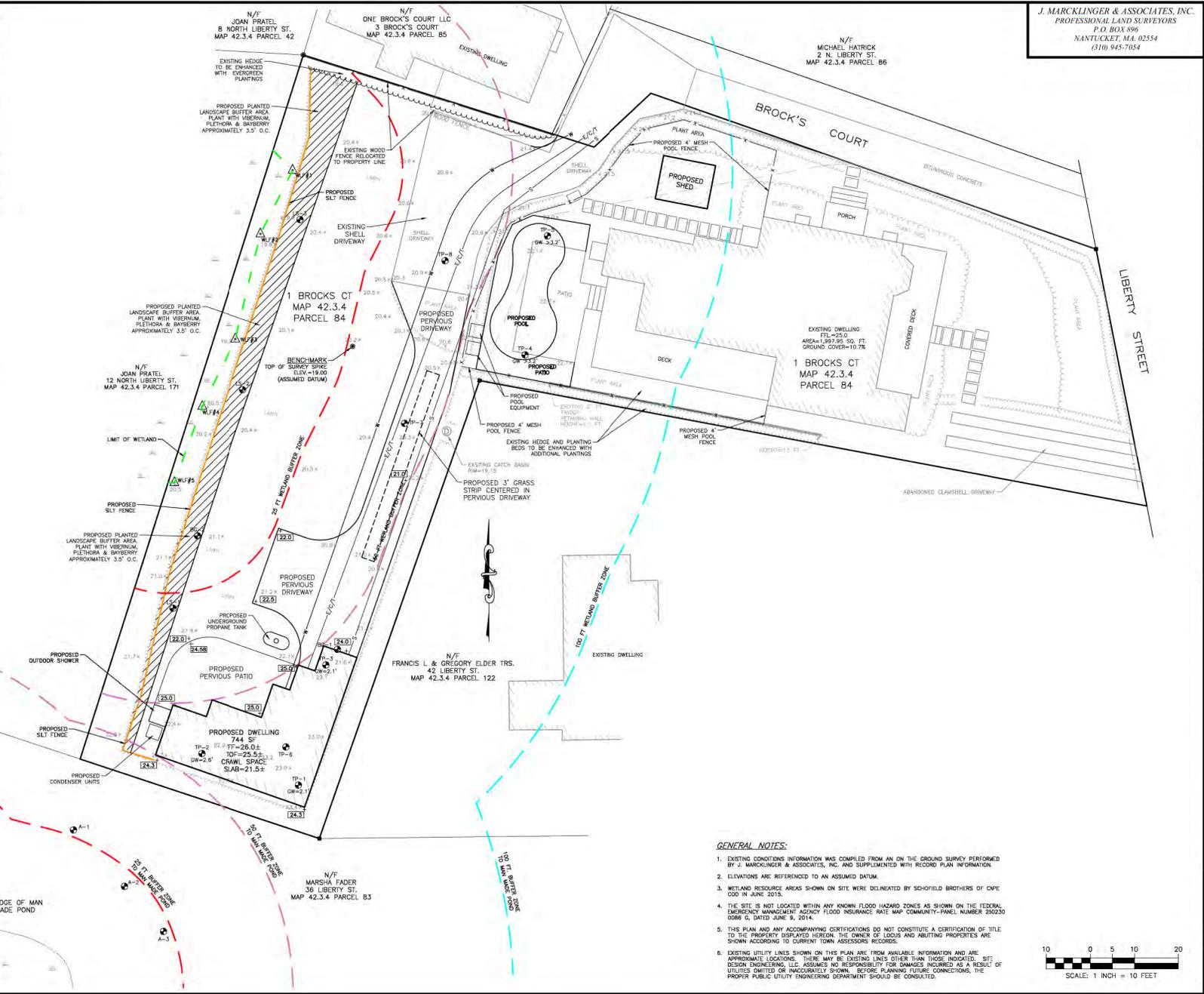
MINIMUM LOT SIZE: 5,000 SQ. FT.
 MINIMUM FRONTAGE: 50 FT.
 FRONT YARD SETBACK: 10 FT.
 REAR YARD SETBACK: 5 FT.
 SIDE YARD SETBACK: 5 FT.
 GROUND COVER RATIO: 30%.

* SIDE YARD SETBACK IS 10 FT. ADJACENT TO ANY STREET OR WAY.

PROPERTY SUBJECT TO SPECIAL PERMIT FROM BOARD OF APPEALS (BOOK 1359 PAGE 248) GRANTING RELIEF OF SETBACK SETBACK TO BROCK'S COURT FROM 10 FEET TO 4.65 FEET.

OVERLAY DISTRICT APPLICABILITY

DORMITORY	—
EMPLOYEE HOUSING	—
FLOOD HAZARD	—
HARBOR WATERSHED PROTECTION ZONE	YES-B
HDC OLD HISTORIC	—
MADAKET HARBOR WATERSHED PROTECTION	—
MID-ISLAND PLANNED	—
MILL'S FAMILY	—
SASCONSET SEWER	—
TOWN	YES
TOWN SEWER	YES
WATERSHAFT	—
WELLHEAD PROTECTION	—
MA DEP ZONE II	—
FORMULA BUSINESS EXCLUSION DISTRICT	—



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 WWW.SITEDESIGNENG.COM

PLAN REVISIONS

NO.	DATE	DESCRIPTION
1	11/20/15	ADDED BORING LOCATIONS, REMOVE SHED
2	10/16/15	ADDED POND AND BORING LOCATIONS

DATE: OCTOBER 29, 2015
 DRAWN BY: SKD DESIGN BY: DCM CHECK BY: DCM
 PROJECT NO: 12035
 ISSUED FOR: APPROVAL



PROPOSED SITE PLAN

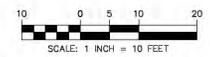
1 BROCK'S COURT
 PARCEL 84
 NANTUCKET, MASSACHUSETTS

PREPARED FOR EDWIN SWIDER REALTY TRUST

DRAWING TITLE:
PROPOSED SITE PLAN 'A'

SCALE: **1"=10'**
 SHEET NO:
1 of 1

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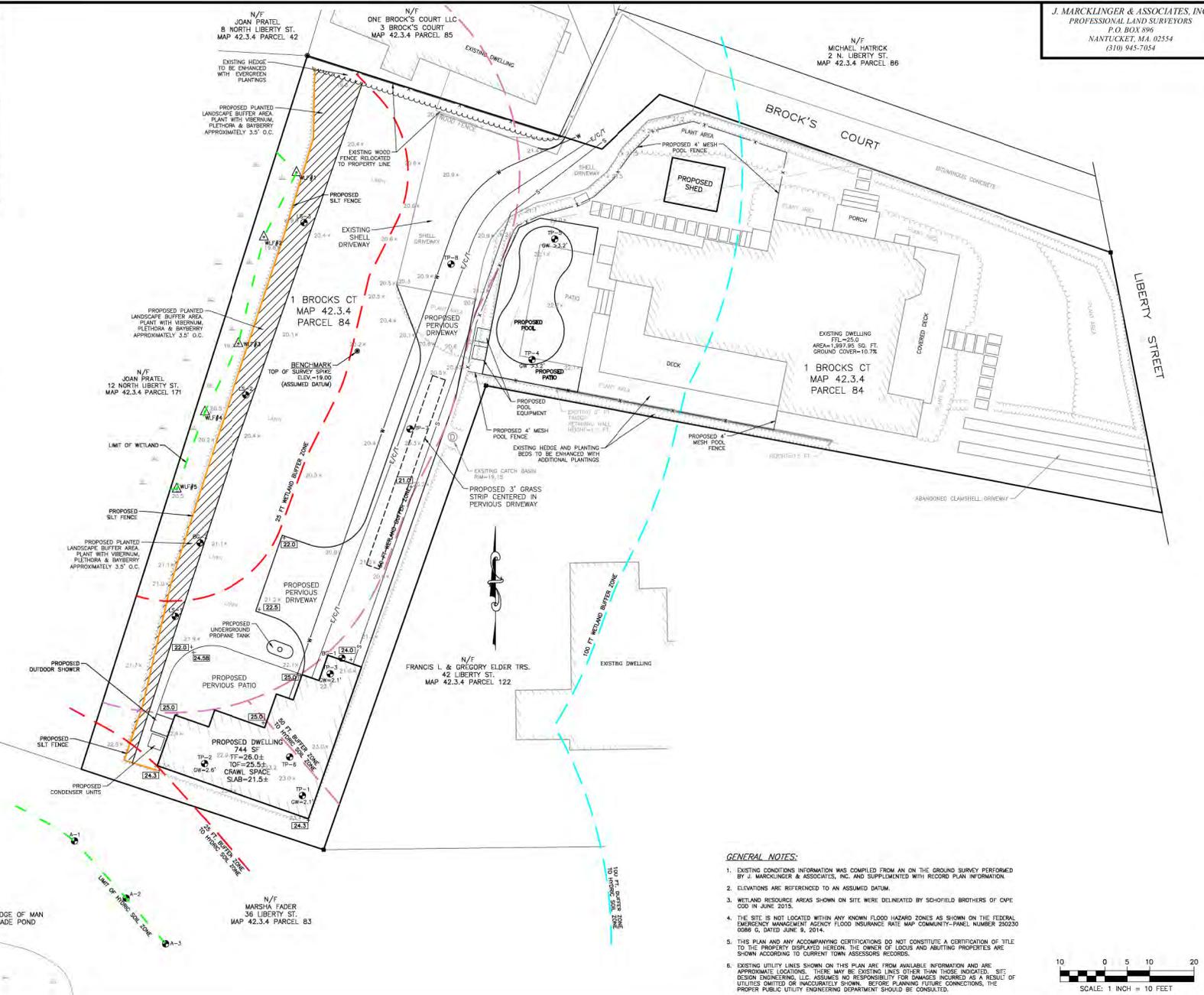
ZONING CLASSIFICATION: R-1

MINIMUM LOT SIZE: 5,000 SQ. FT.
 MINIMUM FRONTAGE: 50 FT.
 FRONT YARD SETBACK: 10 FT.
 REAR YARD SETBACK: 5 FT.
 SIDE YARD SETBACK: 5 FT.
 GROUND COVER RATIO: 30%

* SIDE YARD SETBACK IS 10 FT. ADJACENT TO ANY STREET OR WAY.

PROPERTY SUBJECT TO SPECIAL PERMIT FROM BOARD OF APPEALS (BOOK 1359 PAGE 248) GRANTING RELIEF OF SETBACK SETBACK TO BROCK'S COURT FROM 10 FEET TO 4.65 FEET.

OVERLAY DISTRICT APPLICABILITY	
DORMITORY	--
EMPLOYEE HOUSING	--
FLOOD HAZARD	--
HARBOR WATERSHED PROTECTION ZONE	YES-B
IDC OLD HISTORIC	YES
MADAKET HARBOR WATERSHED PROTECTION	--
MID-ISLAND PLANNED	--
MILL'S FAMILY	--
SASCONSET SEWER	--
TOWN	YES
TOWN SEWER	YES
WATERSHAFT	--
WELLHEAD PROTECTION	--
MA DEP ZONE II	--
FORMULA BUSINESS EXCLUSION DISTRICT	--



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11 CUSHMAN STREET
 MIDDLEBORO, MA 02346
 T: 508-967-0673 F: 508-967-0674
 WWW.SITEDESIGNENG.COM

NO.	DATE	DESCRIPTION
1	11/20/15	ADDED BORING LOCATIONS, REMOVE SHED
2	2/20/16	ADDED POND AND BORING LOCATIONS

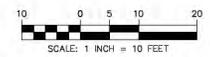
DATE: OCTOBER 29, 2015
 DRAWN BY: SKD DESIGN BY: DCM CHECK BY: DCM
 PROJECT NO: 12035
 ISSUED FOR: APPROVAL



PROPOSED SITE PLAN
 1 BROCK'S COURT
 PARCELS 84 & 85
 NANTUCKET, MASSACHUSETTS

PREPARED FOR EDWIN SWIDER REALTY TRUST

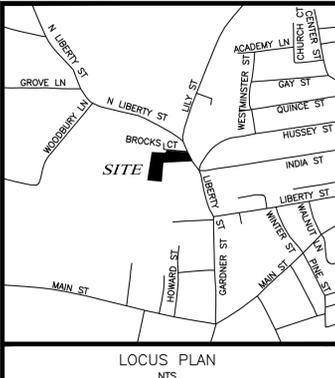
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DRAWING TITLE:
PROPOSED SITE PLAN 'B'

SCALE: **1"=10'**

SHEET NO:
1 of 1



J. MARCKLINGER & ASSOCIATES, INC.
 PROFESSIONAL LAND SURVEYORS
 P.O. BOX 896
 NANTUCKET, MA. 02554
 (310) 945-7054

SITE DESIGN ENGINEERING, LLC.
 11 CUSHMAN STREET
 MIDDLEBORO, MA 02346
 T: 508-967-0673 F: 508-967-0674
 WWW.SITEDESIGNENG.COM

LEGEND

	PROPERTY LINE
	SPOT ELEVATION
	FENCE
	HEDGE LINE
	LANDSCAPING
	LIMIT OF WETLAND
	WETLAND FLAG
	25 FT. BUFFER ZONE
	50 FT. BUFFER ZONE
	100 FT. BUFFER ZONE
	DEPTH TO GROUNDWATER
	TEST PIT
	DEPTH TO GROUNDWATER
	SOIL BORING

ZONING CLASSIFICATION: R-1

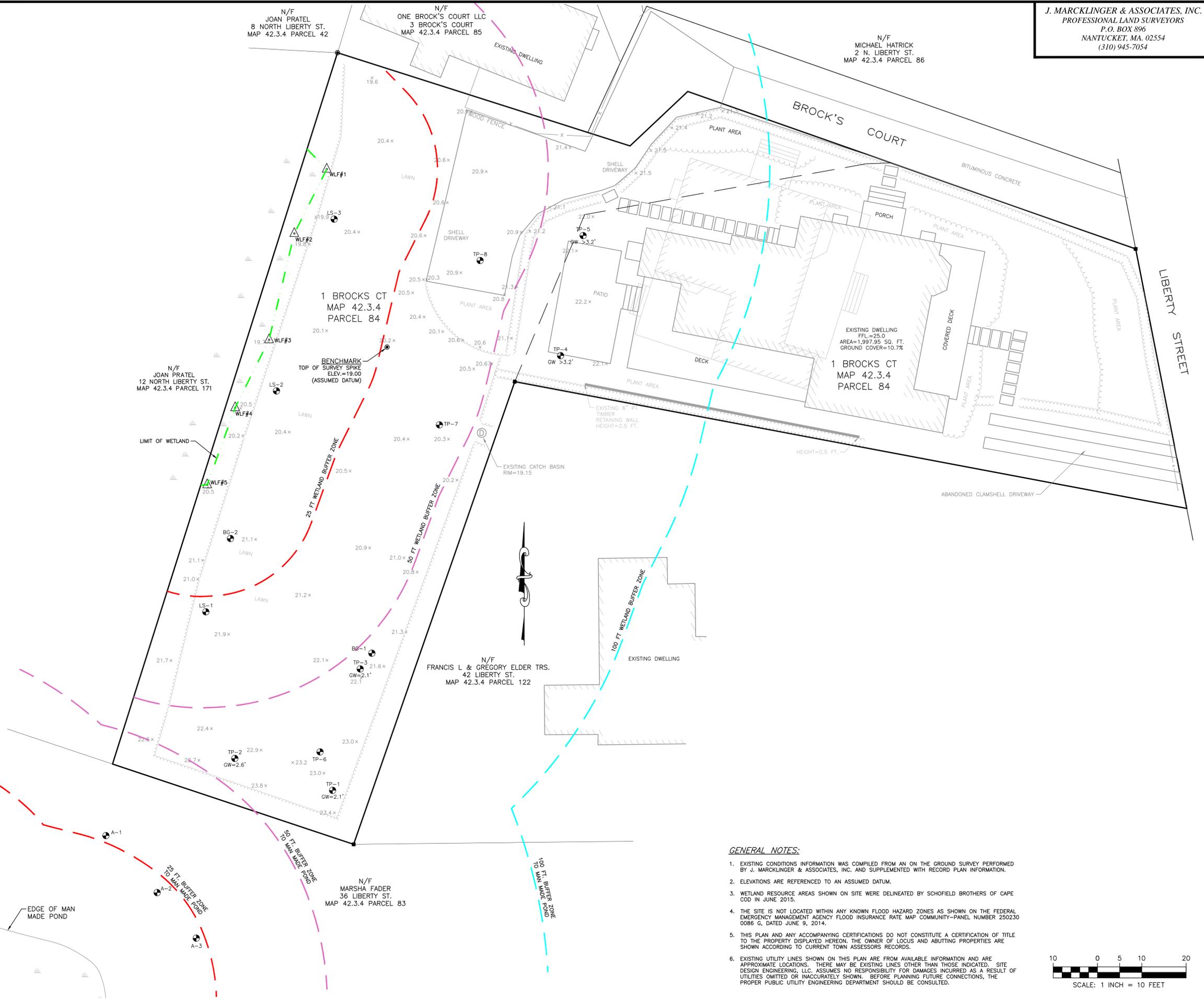
MINIMUM LOT SIZE 5,000 SQ. FT.
 MINIMUM FRONTAGE 50 FT.
 FRONT YARD SETBACK 10 FT.
 REAR YARD SETBACK 5 FT.
 SIDE YARD SETBACK 5 FT.*
 GROUND COVER RATIO 30%±

* SIDE YARD SETBACK IS 10 FT. ADJACENT TO ANY STREET OR WAY.

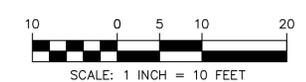
PROPERTY SUBJECT TO SPECIAL PERMIT FROM BOARD OF APPEALS (BOOK 1359 PAGE 246) GRANTING RELIEF OF SIDELINE SETBACK TO BROCK'S COURT FROM 10 FEET TO 4.6± FEET.

OVERLAY DISTRICT APPLICABILITY

DORMITORY	-
EMPLOYEE HOUSING	-
FLOOD HAZARD	-
HARBOR WATERSHED PROTECTION ZONE	YES-B
HDC OLD HISTORIC	YES
MADAKET HARBOR WATERSHED PROTECTION	-
MID-ISLAND PLANNED	-
MULTI-FAMILY	-
SIASCONSET SEWER	-
TOWN	YES
TOWN SEWER	YES
WATERCRAFT	-
WELLHEAD PROTECTION	-
MA DEP ZONE II	-
FORMULA BUSINESS EXCLUSION DISTRICT	-



- GENERAL NOTES:**
- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ON THE GROUND SURVEY PERFORMED BY J. MARCKLINGER & ASSOCIATES, INC. AND SUPPLEMENTED WITH RECORD PLAN INFORMATION.
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PLAN REVISIONS

NO.	DATE	DESCRIPTION	DCM	APPROVED
1	2/3/16	ADDED POND AND BORING LOCATIONS		

DATE: OCTOBER 29, 2015
 DRAWN BY: SKD DESIGN BY: DCM CHECK BY: DCM/JM
 PROJECT NO. 12035



EXISTING CONDITIONS PLAN

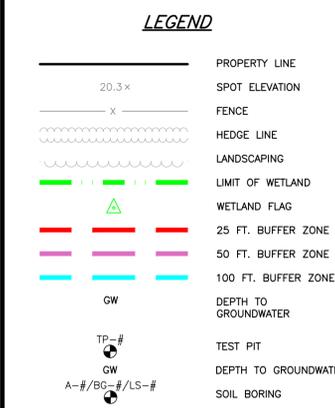
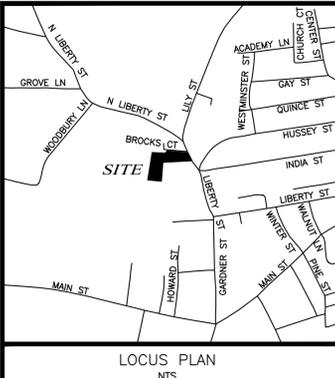
1 BROCK'S COURT
 ASSESSOR'S MAP 42.3.4, PARCEL 84
 NANTUCKET, MASSACHUSETTS

PREPARED FOR EDWIN SNIDER REALTY TRUST

DRAWING TITLE:
EXISTING CONDITIONS PLAN 'A'

SCALE: **1"=10'**

SHEET NO.
1 OF 1



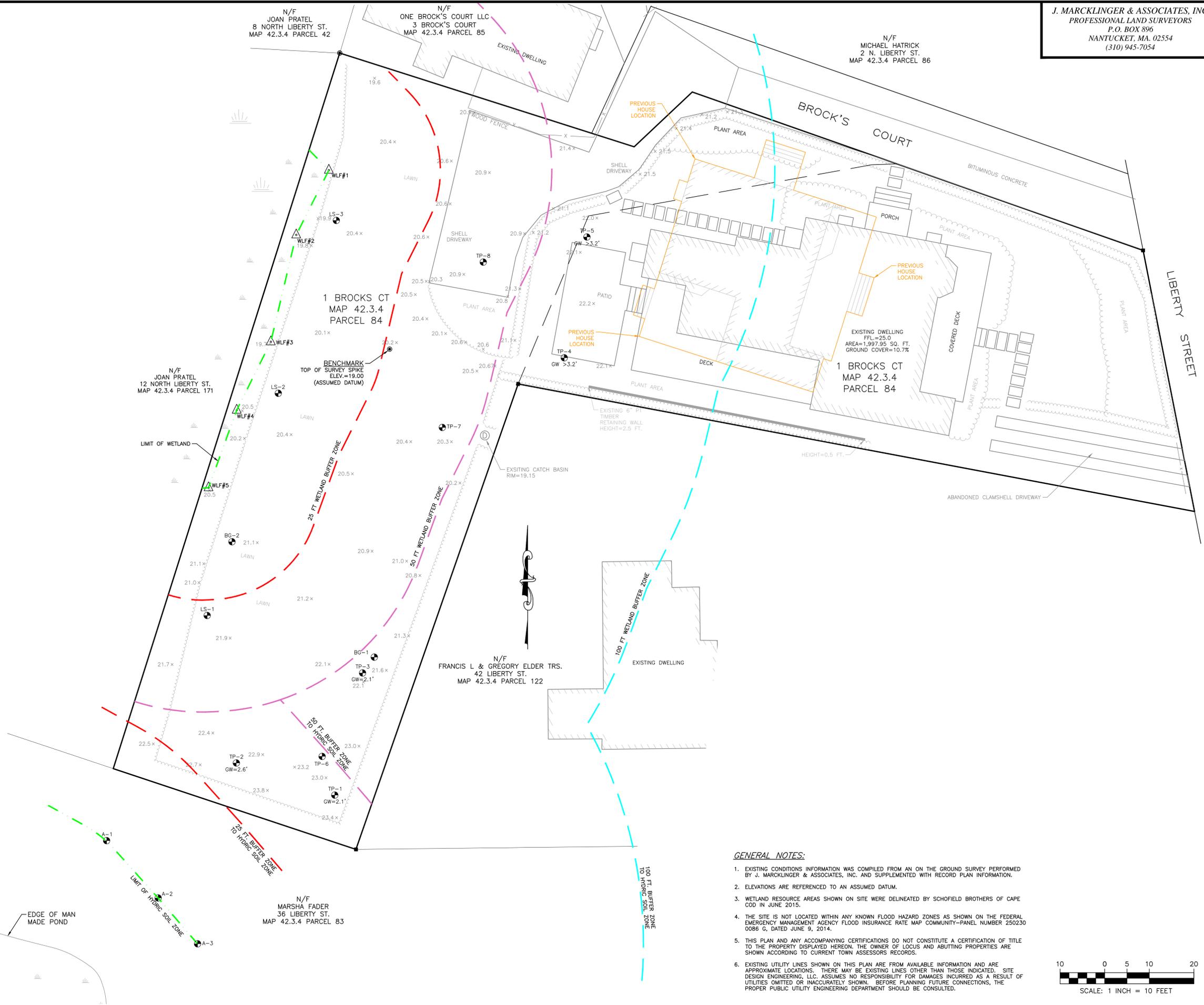
ZONING CLASSIFICATION: R-1

MINIMUM LOT SIZE 5,000 SQ. FT.
 MINIMUM FRONTAGE 50 FT.
 FRONT YARD SETBACK 10 FT.
 REAR YARD SETBACK 5 FT.
 SIDE YARD SETBACK 5 FT.*
 GROUND COVER RATIO 30%±

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OVERLAY DISTRICT APPLICABILITY	
DORMITORY	-
EMPLOYEE HOUSING	-
FLOOD HAZARD	-
HARBOR WATERSHED PROTECTION ZONE	YES-B
HDC OLD HISTORIC	YES
MADAKET HARBOR WATERSHED PROTECTION	-
MID-ISLAND PLANNED	-
MULTI-FAMILY	-
SIASCONSET SEWER	-
TOWN	YES
TOWN SEWER	YES
WATERCRAFT	-
WELLHEAD PROTECTION	-
MA DEP ZONE II	-
FORMULA BUSINESS EXCLUSION DISTRICT	-



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NO.	DATE	DESCRIPTION	APPROVED
1	2/3/16	ADDED POND AND BORING LOCATIONS	DCM

PLAN REVISIONS

DATE: OCTOBER 29, 2015

DRAWN BY: SKD DESIGN BY: DCM CHECK BY: DCM/JM

PROJECT NO. 12035

ISSUED FOR: APPROVAL



EXISTING CONDITIONS PLAN

1 BROCK'S COURT
 ASSESSOR'S MAP 42.3.4, PARCEL 84
 NANTUCKET, MASSACHUSETTS

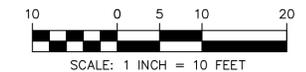
PREPARED FOR EDWIN SNIDER REALTY TRUST

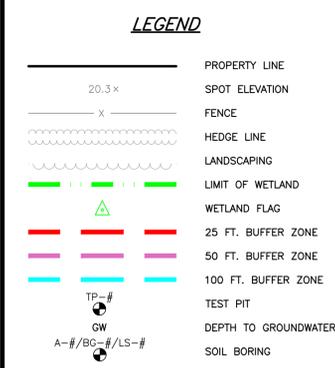
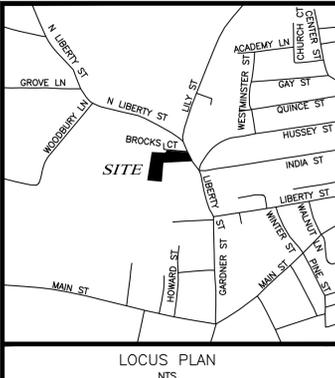
DRAWING TITLE: EXISTING CONDITIONS PLAN 'B'

SCALE: 1"=10'

SHEET NO. 1 OF 1

- GENERAL NOTES:**
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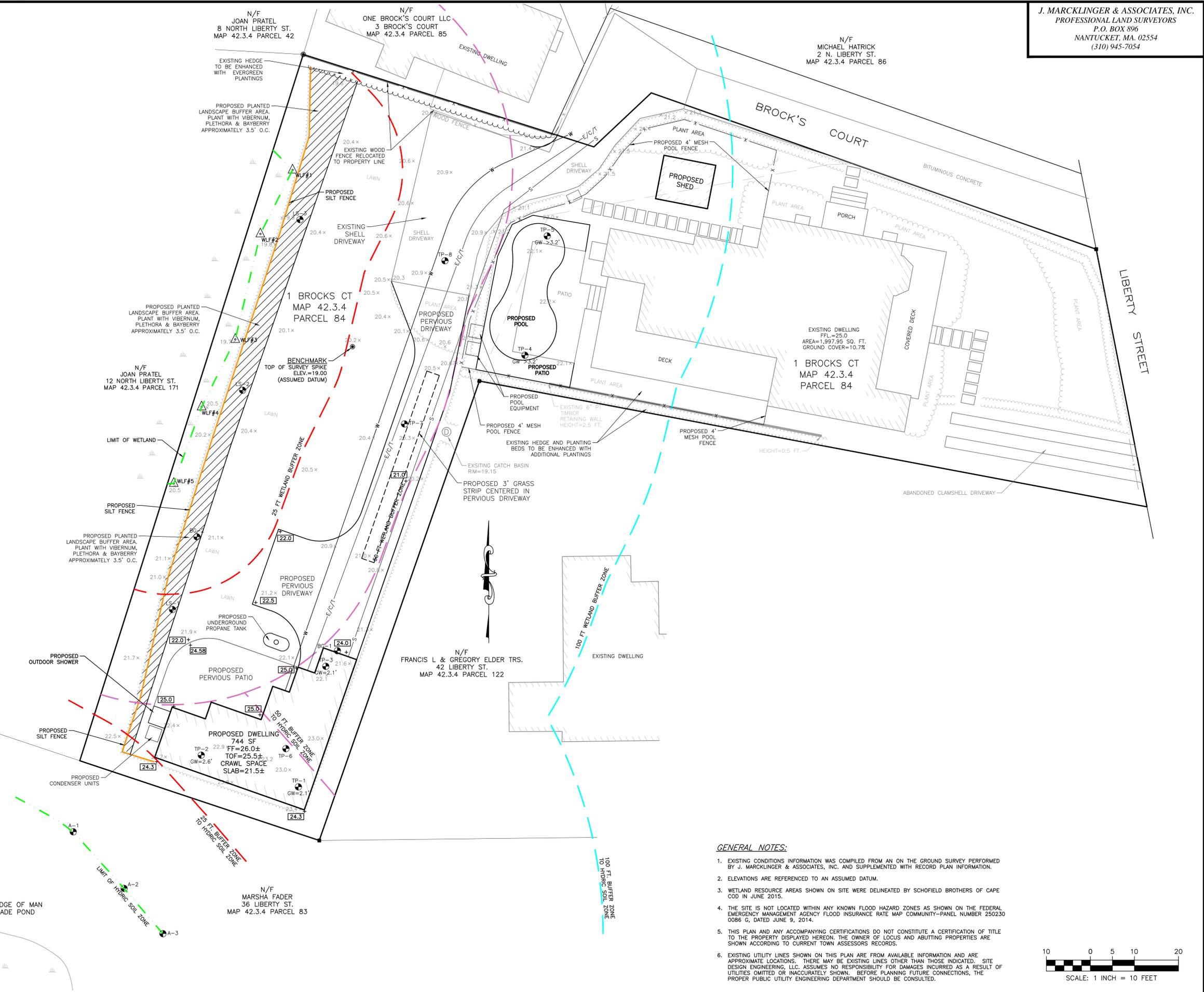
ZONING CLASSIFICATION: R-1

MINIMUM LOT SIZE 5,000 SQ. FT.
 MINIMUM FRONTAGE 50 FT.
 FRONT YARD SETBACK 10 FT.
 REAR YARD SETBACK 5 FT.
 SIDE YARD SETBACK 5 FT.*
 GROUND COVER RATIO 30%±

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OVERLAY DISTRICT APPLICABILITY	
DORMITORY	-
EMPLOYEE HOUSING	-
FLOOD HAZARD	-
HARBOR WATERSHED PROTECTION ZONE	YES-B
HDC OLD HISTORIC	YES
MADAKET HARBOR WATERSHED PROTECTION	-
MID-ISLAND PLANNED	-
MULTI-FAMILY	-
SIASCONSET SEWER	-
TOWN	YES
TOWN SEWER	YES
WATERCRAFT	-
WELLHEAD PROTECTION	-
MA DEP ZONE II	-
FORMULA BUSINESS EXCLUSION DISTRICT	-



J. MARCKLINGER & ASSOCIATES, INC.
 PROFESSIONAL LAND SURVEYORS
 P.O. BOX 896
 NANTUCKET, MA. 02554
 (310) 945-7054

SITE DESIGN ENGINEERING, LLC.
 11 CUSHMAN STREET
 MIDDLEBORO, MA 02346
 T: 508-967-0673 F: 508-967-0674
 WWW.SITEDESIGNENG.COM

NO.	DATE	DESCRIPTION
1	11/25/15	ADDED BORING LOCATIONS REMOVE SHED
2	2/3/16	ADDED POND AND BORING LOCATIONS

PLAN REVISIONS

DATE: OCTOBER 29, 2015

DRAWN BY: SKD DESIGN BY: DCM CHECK BY: DCM

PROJECT NO. 12035

ISSUED FOR: APPROVAL



PROPOSED SITE PLAN
 1 BROCK'S COURT
 ASSESSOR'S MAP 42.3.4, PARCEL 84
 NANTUCKET, MASSACHUSETTS
 PREPARED FOR EDWIN SNIDER REALTY TRUST

DRAWING TITLE:

PROPOSED SITE PLAN 'B'

SCALE: 1"=10'

SHEET NO. 1 OF 1

- GENERAL NOTES:**
- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ON THE GROUND SURVEY PERFORMED BY J. MARCKLINGER & ASSOCIATES, INC. AND SUPPLEMENTED WITH RECORD PLAN INFORMATION.
 - ELEVATIONS ARE REFERENCED TO AN ASSUMED DATUM.
 - WETLAND RESOURCE AREAS SHOWN ON SITE WERE DELINEATED BY SCHOFIELD BROTHERS OF CAPE COD IN JUNE 2015.
 - THE SITE IS NOT LOCATED WITHIN ANY KNOWN FLOOD HAZARD ZONES AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 250230 0086 G, DATED JUNE 9, 2014.
 - THIS PLAN AND ANY ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ABUTTING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.
 - EXISTING UTILITY LINES SHOWN ON THIS PLAN ARE FROM AVAILABLE INFORMATION AND ARE APPROXIMATE LOCATIONS. THERE MAY BE EXISTING LINES OTHER THAN THOSE INDICATED. SITE DESIGN ENGINEERING, LLC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER PUBLIC UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED.



Rec. @ 2/10/16
Hearing by
Davis, Malm & D'Agostine

DAVIS MALM &
D'AGOSTINE P.C.
ATTORNEYS AT LAW

Paul L. Feldman

February 10, 2016

Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

Re: One Brock's Court Notices of Intent (SE48-2834 & SE48-2835)

Dear Members of the Conservation Commission:

This office represents Marsha Fader, who is an abutter to the proposed project at One Brock's Court. We submit this letter to provide additional information regarding and the wetland resources on both Ms. Fader's and the Applicant's properties and the further bases to deny the requested Order of Conditions for construction of a second home (NOI SE48-2835) on the Applicant's property.

Failure to Properly Delineate Wetland Resources

After the January 13, 2016 hearing, additional soil borings and soil pits were performed on the Applicant's property and Ms. Fader's property. Those results document the existence of hydric soils on both properties and confirm the delineation of wetlands depicted on the proposed Site Plan dated October 29, 2015 is incorrect. Moreover, after review of the supplemental information submitted by the Applicant's engineer on February 4, 2016 it is apparent the Applicant continues to ignore these results when depicting the resource areas on the Applicant's property. The existing conditions plans and proposed site plans submitted by Site Design Engineering, LLC in its latest filing continue to incorrectly depict wetland resources. This failure is significant because the second house is not to be built in buffer at all, but in the resource area itself.

As noted in a previous letter from our colleague to the Commission dated January 13, 2016, the DEP Delineating Bordering Wetlands Manual acknowledges that determining the boundaries of BVW in areas that have been altered may be challenging, but the BVW can still be located and protected. In fact, the manual indicates that a review of the soils will be important to determine if wetlands hydrology still exists in those areas and to delineate the wetlands. And, more importantly, the DEP Regulations define the boundary line for BVW in an area that has been disturbed ("e.g. by cutting, filling, or cultivation") as "the line within which there are indicators of saturated or inundated conditions sufficient to support a predominance of wetland indicator plants, or credible evidence from

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email pfeldman@davismalm.com

a competent source that the area supported or would support under undisturbed conditions a predominance of wetland indicator plants prior to the disturbance.” 310 CMR 10.55(2)(c)3. Nantucket’s Regulations do not define BVW, but state that if a term is not defined, it shall have the definition contained in the WPA and regulations promulgated thereunder. *See* Section 1.02. Therefore, the definition in 310 CMR 10.55(2)(c)3 applies to the wetland resources on Ms. Fader’s and the Applicant’s properties.

The results of soil samples taken on both properties on January 21, 2016 were submitted to the Commission by letter dated February 4, 2016 from Bruce Griffin of New England Environmental, Inc. (“NEEI”). Those results and the results of the previous assessment by all parties on January 7 demonstrate that there are saturated conditions on both properties for an extended period during the growing season, as indicated by the presence of hydric soils and oxidized rhizospheres. NEEI has indicated that such conditions would support a predominance of wetland indicator plants if current lawn areas on both properties were left unmown.

The Applicant has not fully delineated the resource areas that are the subject of the second NOI (SE48-2835). The area where the NOI proposes to locate a house as well as adjacent areas are BVW and should be delineated as such.

Area of Proposed Second Home Location was Unlawfully Altered

The Applicant’s property in the area of the proposed house was altered in the late 1990s and there is no record of a Notice of Intent Filing or issuance of an Order of Conditions for such alteration. Aerial photographs show the property having significant vegetation and what appears to be water features similar to the adjacent wetlands at least from until 1993 through 1995. Neighbors recall fill being added and the lawn developing on the Applicant’s property in this area in the late 1990s.

There is no dispute that such area was previously within the Commission’s jurisdiction and a likely resource area. The Wetlands Protection Act provides that “[n]o person shall remove, fill, dredge or alter any area subject to protection under this section without the required authorization, or cause, suffer or allow such activity, or leave in place unauthorized fill, or otherwise fail to restore illegally altered land to its original condition...” G.L. c. 131, § 40. The Act further provides that “[a]ny person who purchases, inherits, or otherwise acquires real estate upon which work has been done in violation of the provisions of this section ... shall forthwith comply with any such order or restore such real estate to its condition prior to any such violation.” Case law provides that upon acquiring ownership of land in violation of the Act, the purchaser is obligated to comply with its provisions. *In the Matter of Margot Xarras*, 2010 WL 3427465, at *19 n.3 (DEP 2010); *Junior v. Town of Marshfield Conservation Com’n*, 2014 WL 4364845, at *4 (Mass. Land Ct. 2014) (successor landowners are responsible for either compliance with order of conditions issued to prior owner or restoration of the land to its prior condition). While we are not advocating that the Applicant as the current owner of improperly filled land restore such land, we do submit the Applicant should not be benefitted by this fill. As addressed below, this same area is properly classified as Bordering Vegetated Wetlands (BVW) even today given its hydric soils. Even if the Commission did not agree

February 6, 2016
Page 3

DAVIS MALM &
D'AGOSTINE P.C.
ATTORNEYS AT LAW

with this finding and considers this area to be buffer today, an Order of Conditions should not issue. This area was improperly filled and, at the very least, should be protected.

For these reasons as well as those set forth in this office's earlier letter, the Conservation Commission should deny the Order of Conditions requested in the second NOI.

Very truly yours,



Paul L. Feldman

PLF:

Rec. @ 2/10/16
Hearing by NEE

New England Environmental, Inc.
Environmental Consulting
15 Research Drive
Amherst, MA 01002
(p) 413.256.0202
(f) 413.256.1092
www.neeinc.com



February 9, 2016

Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

**RE: Review, Notices of Intent
 Brock's Court, Nantucket, MA
 DEP Files SE 48-2834, 2835
 NEE File 13-4266**

Dear Commission members,

New England Environmental, Inc. (NEE) has read through a copy of the supplemental information documents from Site Design Engineering, LLC (SDE) dated February 4, 2016, concerning two Notices of Intent for development at Brock's Court. While a full discussion of all the issues raised in the SDE letter is not possible on short notice, we would like to briefly address a few of the deficiencies within this and preceding submissions concerning these projects.

1. The February 4 letter devotes 2½ pages to discussing wetland resources on the abutting property at 36 Liberty Street, and a single short paragraph to the subject property, stating "there are no well-developed natural soil conditions on the Subject Property." This statement is contradicted by hydric soil profiles documented on the site by NEE, soil profiles the Applicant simply chooses to ignore. These hydric soil profiles developed naturally within the fill, in response to wetland hydrology. None of the SDE Existing Conditions Plans shows a complete delineation of the wetland resources on the subject property.
2. The hydric soil pits observed on January 5 (designated A1, A2, & A3) are not a complete delineation of the wetland edge on the 36 Liberty Street property. NEE delineated the edge of the BVW on the portion of this property closest to the subject property with flags B1-B6 on January 21. These flag locations are depicted upon the attached plan. This is only a partial delineation of the BVW on this property, but it projects a buffer zone onto the subject property which is different from both the A and B plans submitted by SDE. However, we still submit that the proposed house site on the subject property is not just in the buffer zone, it is within a wetland.
3. At least some of the fill under the Brock's Court lawn was placed during or after 1995, and well after passage of the Wetlands Protection Act, with no record of a permit. The applicants should not benefit from this illegal activity.
4. The aerial photo from 1940 shows agricultural use within the area proposed for additional structures. This is not inconsistent with wetland conditions. Farmers often placed animal paddocks and pastures in locations which were too wet for crop production. In any event the series of photos from subsequent decades show this area of the subject property to be a wetland resource.



SITE DESIGN ENGINEERING, LLC.

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September 2, 2016

SDE No. 12035

Andrew Bennett
Chairman – Nantucket Conservation Commission
Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

**Subject: Amended Notice of Intent SE48-2834
1 Brock's Court
Nantucket, Massachusetts
Tax Map 42.3.4, Parcel 84**

Dear Mr. Bennett:

The purpose of this letter is to respond to the Enforcement Order (EO) issued for the above referenced property on August 10, 2016. The items listed in the EO include the construction of a fence enclosure (chicken coop), installation of a well, and relocation of an existing dwelling with associated grading, landscaping, hardscaping, and utilities. Currently the Applicant has a Notice of Intent Application (SE48-2834) under review for the previously performed house relocation and associated grading, landscaping, hardscaping and utilities. The Applicant is proposing to amend the existing application (SE48-2834) to address the additional items listed in the enforcement order (fence enclosure and well). The Applicant understands that the existing application has been under review for an extended period of time and that the proposed revision would require re-notification to abutters.

ORIGINAL APPLICATION

Relocation of the SFR

SE48-2834 included a request to approve the relocation of the existing single family residence (SFR), the construction of a pervious patio, associated grading, and landscaping. The relocation of the SFR, the construction of the pervious patio, associated landscaping and grading were performed by a previous property owner. At the time the work was performed the historically approved wetland boundary on the Subject Property was approximately coincident with the western property boundary. The previously existing SFR was located entirely outside of the 50-foot BVW buffer zone. The SFR was moved closer to the street with the majority of the structure being located outside of the 100-foot BVW buffer zone. An addition was constructed that occupied a portion of the previous SFR footprint which was located within the 100-foot BVW buffer zone. As a result of the relocation of the previously existing SFR and the construction of the addition and wooden deck, the total structural footprint within jurisdictional areas was reduced by approximately 31%. The previously existing structure had a footprint of approximately 1,150 square feet within the 100-foot BVW buffer zone. The relocated structure has a footprint of approximately 475 square feet within the 100-foot BVW buffer zone and the existing wooden deck has a footprint of approximately 310 square feet within the 100-foot BVW buffer zone for a total structural footprint of approximately 785 square feet within the historically approved BVW buffer zone.

In addition to the relocation of the SFR, the previous owner constructed a deck, wooden retaining wall, and pervious stone patio. All of these features were constructed outside of the historical 50-foot BVW buffer zone. All work was performed within previously altered and landscaped portions of the Subject Property and was outside of the historically approved 50-foot BVW buffer zone.

The work performed by the previous property owner has resulted in less structure within the historically approved BVW buffer zone and has not resulted in any additional adverse impacts to the BVW or associated buffer zones. Therefore, the Applicant respectfully requests that the Commission approve the relocation of the SFR, the construction of the SFR addition, the construction of the pervious patio, wooden retaining wall, and associated landscaping/grading.

PROPOSED REVISIONS

Fence Enclosure (Chicken Coop)

The Applicant constructed a wood and mesh fence enclosure (chicken coop) on a portion of the Subject Property which is partially within the historically approved 50-foot BVW buffer zone. The Applicant is proposing to remove this structure from any jurisdictional portion of the Subject Property.

Well

The observed pipe located adjacent to the existing pervious driveway is not a well. This structure is a small leaching pit/infiltration device that was installed on the Subject Property to help infiltrate water from the existing crawl space foundation. Water is pumped via a sump pump to the top of this leaching chamber where it then infiltrates back into the groundwater. No roof runoff, or any other water sources are directed to this leaching chamber it simply returns groundwater which seeps into the crawlspace back into the soil.

This leaching device was not previously proposed as part of the NOI application. The existing leaching device is located outside of the historically approved 25-foot BVW buffer zone and is simply intended to infiltrate water from the crawl space foundation. The Applicant feels that this leaching system is providing an overall benefit to the area as it helps infiltrate high groundwater and that it will not result in any adverse impacts to the BVW or associated buffer zones. Therefore, the Applicant respectfully requests that the Commission approve this leaching chamber.

CONCLUSION

The Applicant is revising the existing NOI application to address the items listed in the EO. The Applicant has previously requested approval for the previously performed relocation of the SFR, construction of the wooden deck, wooden retaining wall, pervious patio, and associated landscaping/grading. Under the revised NOI, the Applicant is requesting approval for the previously installed leaching system designed to infiltrate water from the crawlspace foundation. Finally, the Applicant is proposing to remove the existing wood and mesh fence enclosure from jurisdictional portions of the Subject Property.

SDE No. 12035
1 Brock's Court
SE48-2834 revised NOI Application
September 2, 2016

Page 3 of 3

If you have any questions, please feel free to contact me via email at or at 508-802-5832.

Respectfully,
Site Design Engineering, LLC.

A handwritten signature in black ink, appearing to read "Mark Rits", written in a cursive style.

Mark Rits
Project Manager/Permitting Specialist

SITE DESIGN ENGINEERING, LLC.

11 Cushman Street, Middleboro, MA 02346
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New England Environmental, Inc.

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A DIVISION OF
SWCA
ENVIRONMENTAL CONSULTANTS

September 7, 2016

Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

**RE: Enforcement Order
Brock's Court, Nantucket, MA
DEP Files SE 48-2834, 2835
NEE File 13-4266**

Dear Commission members,

Upon review of the Enforcement Order issued by the Commission to Edwin Snider Realty Trust on 8/10/2016 and a copy of the response to the enforcement from Site Design Engineering, LLC (SDE) dated September 2, 2016, concerning continuing unpermitted development at Brock's Court, we would like to make the following comments.

The SDE letter continues a pattern of minimizing and mischaracterizing the activity which has taken place on this property. In asserting that the house relocation and associated landscaping "has resulted in less structure within the historically approved BVW buffer zone and has not resulted in any additional adverse impacts to the BVW or associated buffer zones", and that "total structural footprint within jurisdictional areas was reduced by approximately 31%", it appears that SDE is calculating structures to include the house, an addition, and a deck, but not a retaining wall and the fill behind it. This filled area and the other alterations of the property have displaced surface water and have resulted in increased drainage problems on adjacent properties. Moreover, the reference to an "historically approved BVW buffer zone" is also not correct. As we understand it, the land to the west of the subject property was delineated in connection with a conservation restriction or conveyance and that delineation only looked at the property that was the subject of that transaction and not the subject property. Edwin Snider Realty Trust has inappropriately treated that wetland boundary as if it delineated the subject property. As has been demonstrated by prior submissions to the Conservation Commission, the subject property contains substantially more resource area than the Edwin Snider Realty Trust has ever identified to the Commission.

Regarding the structure which was installed on this property starting on March 31, 2016 and referred to as a "small leaching pit/infiltration device" in the SDE response letter, we would like to refer the Commission back to the photographs of the activity provided with our letter of August 9, which show what appears to be a 25' tall drill rig and a small dumptruck load of soil being hauled away. When the Natural Resources Coordinator was asked to take a look, he responded on April 5: "I was informed of some soil borings that were being done to conduct some deeper soil analysis." That information was misleading at best. We now have something installed underground on this property, again without a permit, and no plans showing the design or location of what was installed. The closest neighbor now reports increased water coming into their basement, which is consistent with water being pumped out of the new crawlspace and sent to an "infiltration device."

The Enforcement Order states that "A restoration plan shall be filed with the issuing authority on or before 9/7/2016." The SDE letter is not a plan, and does not begin to address restoration of this site beyond removal



A DIVISION OF SWCA

of the chicken coop. In order to assess the unpermitted work which has been done, the Commission needs detailed plans showing the full extent of the work, before it can determine the appropriate restoration.

The Enforcement Order further states: "This shall serve as a warning that if the property is not brought into compliance or progress made on open applications that a ticket shall be issued upon authorization by the Conservation Commission." The property remains out of compliance, due to unpermitted alterations which have not been restored. The property owner brazenly undertook alterations of the subject property knowing from their own submissions that the work was in the buffer zone and knowing from our submissions that the work was, in fact, in resource area. Furthermore, there has been no significant progress made on the two NOI applications originally submitted in October of 2015, and no new information on those applications since the Enforcement Order was issued. For these reasons, we believe that it is appropriate to issue a ticket and begin to apply fines for the unpermitted activity.

On behalf of the abutters to this property, thank you for your attention to this long process.

Sincerely,
New England Environmental


Bruce Griffin
Senior Scientist

cc: Jeff Carlson, Natural Resources Coordinator, Town of Nantucket
Gregory DeCesare, MassDEP
Mark Rits, P.E., Site Design Engineering, LLC
Paul Feldman, Esq., Davis, Malm & D'Agostine, P.C.
Joanna Lewis, Gregory Elder, and Marsha Fader, abutters



SITE DESIGN ENGINEERING, LLC.

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September 16, 2016

SDE No. 12035

Andrew Bennett
Chairman – Nantucket Conservation Commission
Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

**Subject: Supplemental Information Notice of Intent SE48-2834
2 Brock's Court (Formerly 1 Brock's Court)
Nantucket, Massachusetts
Tax Map 42.3.4, Parcel 84**

Dear Mr. Bennett:

The purpose of this letter is to provide supplemental information for the above referenced Notice of Intent (NOI) Application based on the Enforcement Order (EO) discussion during the September 7, 2016 Public Hearing. Please note that since the submittal of the original NOI the address of the Subject Property has been changed from 1 Brock's Court to 2 Brock's Court.

Fence Enclosure

The Applicant has agreed to remove the fence enclosure from within jurisdictional portions of the Subject Property. The fenced enclosure was located within a lawn area. Upon removal the area will be reseeded.

Infiltration Device

The Applicant is proposing to remove the previously installed infiltration device. The casing will be pulled and the hole will be backfilled, loamed, and seeded as lawn.

Relocation of the SFR

Information previously submitted to the Commission quantified the previously existing structural footprint within historically jurisdictional areas and the new structural footprint within these same areas and stated the following:

“As a result of the relocation of the previously existing SFR and the construction of the addition and wooden deck, the total structural footprint within jurisdictional areas was reduced by approximately 31%. The previously existing structure had a footprint of approximately 1,150 square feet within the 100-foot BVW buffer zone. The relocated structure has a foot print of approximately 475 square feet within the 100-foot BVW buffer zone and the existing wooden deck has a footprint of approximately 310 square feet within the 100-foot BVW buffer zone for a total structural footprint of approximately 785 square feet within the historically approved BVW buffer zone.”

These calculations were based on the wetland delineation performed by Laura Schofield in 2015. This delineation showed the wetland boundary approximately an average of 4-6 feet landward of the historically approved wetland boundary (see Site Plan). Therefore, the calculated footprint within jurisdictional areas based on the Schofield line is greater than the jurisdictional footprint based on the historically approved wetland boundary. For the purposes of this discussion we will continue to use the areas based on the 2015 Schofield line. Additionally, the areal calculations did not include the 6" timber retaining wall which was constructed partially within historically jurisdictional areas. Approximately 28 feet of timber retaining wall with a width of approximately 1 foot is located within historically jurisdictional areas for a total footprint of approximately 28 square feet. The existing retaining wall is located approximately 8-12 feet closer to the property boundary than the historic house. Revised calculations for areal impacts are as follows:

As a result of the relocation of the previously existing SFR and the construction of the addition, wooden deck, and timber retaining wall, the total structural footprint within jurisdictional areas was reduced by approximately 29%. The previously existing structure had a footprint of approximately 1,150 square feet within the 100-foot BVW buffer zone. The relocated structure has a footprint of approximately 475 square feet within the 100-foot BVW buffer zone, the existing wooden deck has a footprint of approximately 310 square feet within the 100-foot BVW buffer zone, and the retaining wall has a footprint of approximately 28 square feet within the 100-foot BVW buffer zone for a total structural footprint of approximately 813 square feet within the historically approved BVW buffer zone.

The existing pervious patio and fill do not meet the regulatory definition of a structure under the Wetlands Protection Act or the Bylaw for work within a buffer zone.

Historical Drainage

The abutter at 42 Liberty Street, Gregory Elder has indicated that work on the Subject Property, specifically construction of the 2.5-foot high timber retaining wall, has resulted in drainage problems on the northwest portion of the 42 Liberty property. Mr. Elder has also indicated that work on the Subject Property has resulted in the death of privet hedges along the property boundary. These two issues are addressed below.

Retaining Wall

The existing retaining wall is located approximately 70 feet from the historically approved wetland boundary. The timber retaining wall runs perpendicular to the wetland boundary and does not interfere with water flow towards the wetland. The 42 Liberty property has open downspouts which are directed towards the northwest portion of the property. The 42 Liberty property slopes towards the low spot in the northwest corner and all runoff will naturally flow in this direction. Additionally, a June 15, 2014 aerial photo available from Google Earth (Photo 1) shows that Mr. Elder performed work on the north west portion of the 42 Liberty property sometime in early 2014. This work appears to include the removal of a tree, spreading of loam, and the subsequent planting of a lawn. Portions of the performed work are located in the historically approved BVW buffer zone. It appears that this work may have been performed without the benefit of a permit. It is also possible that this work resulted in alterations of the grade on the northwest portion of the 42 Liberty property and has subsequently resulted in drainage problems. It is important to note that the northwestern portion of

the 42 Liberty property is currently at a lower elevation than the catch basin located on the property boundary. Because this portion of the 42 Liberty property is located below the catch basin it is prone to flooding. While Mr. Elder may wish that his runoff could flow onto the Subject Property, it is not the responsibility of the Applicant to accommodate his runoff.

Privet Hedge

Mr. Elder indicated that the privet hedge which demarcates the boundary between the western portion of 42 Liberty and the open lawn area of the Subject Property is dying as a result of work on the Subject Property. A May 20, 2010 aerial photo available from Google Earth (Photo 2) shows that portions of the privet hedge adjacent to the existing catch basin on the Property boundary appear to be dying long before any work on the Subject Property was undertaken. Any additional problems with the privet along this portion of the property boundary may have resulted from the 2014 work performed by M. Elder on the 42 Liberty property.

CONCLUSION

The Applicant has revised the total areal impacts of the existing structure as compared with the historical structure on the Subject Property. A reduction in structural footprint of approximately 337 square feet of structure (29%) within historically jurisdictional areas has been achieved as the result of the previously performed house move. The Applicant has agreed to remove the fenced enclosure and the infiltration device and will restore these areas to their previous condition. Finally, the Applicant feels that drainage issues on the northwest portion of the 42 Liberty property may be the result of unpermitted work performed by Mr. Elder on the 42 Liberty Property.

If you have any questions, please feel free to contact me via email at or at 508-802-5832.

Respectfully,
Site Design Engineering, LLC.



Mark Rits
Project Manager/Permitting Specialist



Daniel C. Mulloy, PE.
President/Manager

SITE DESIGN ENGINEERING, LLC.

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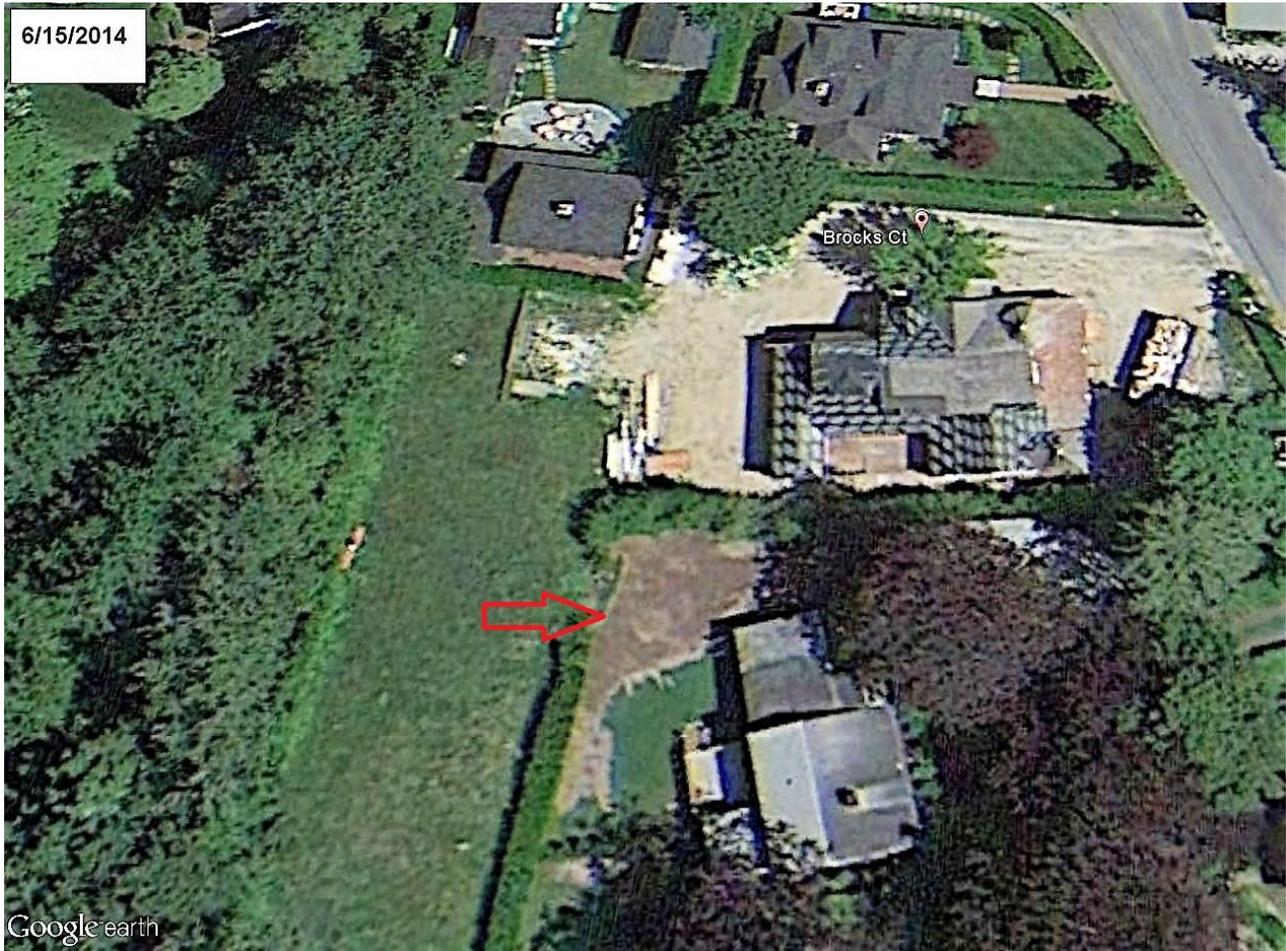


Photo 1: Google Earth Imagery from June 15, 2014 showing unpermitted removal of tree, spreading of loam, and subsequent seeding of lawn within historically jurisdictional BVW buffer zone on 42 Liberty Property.

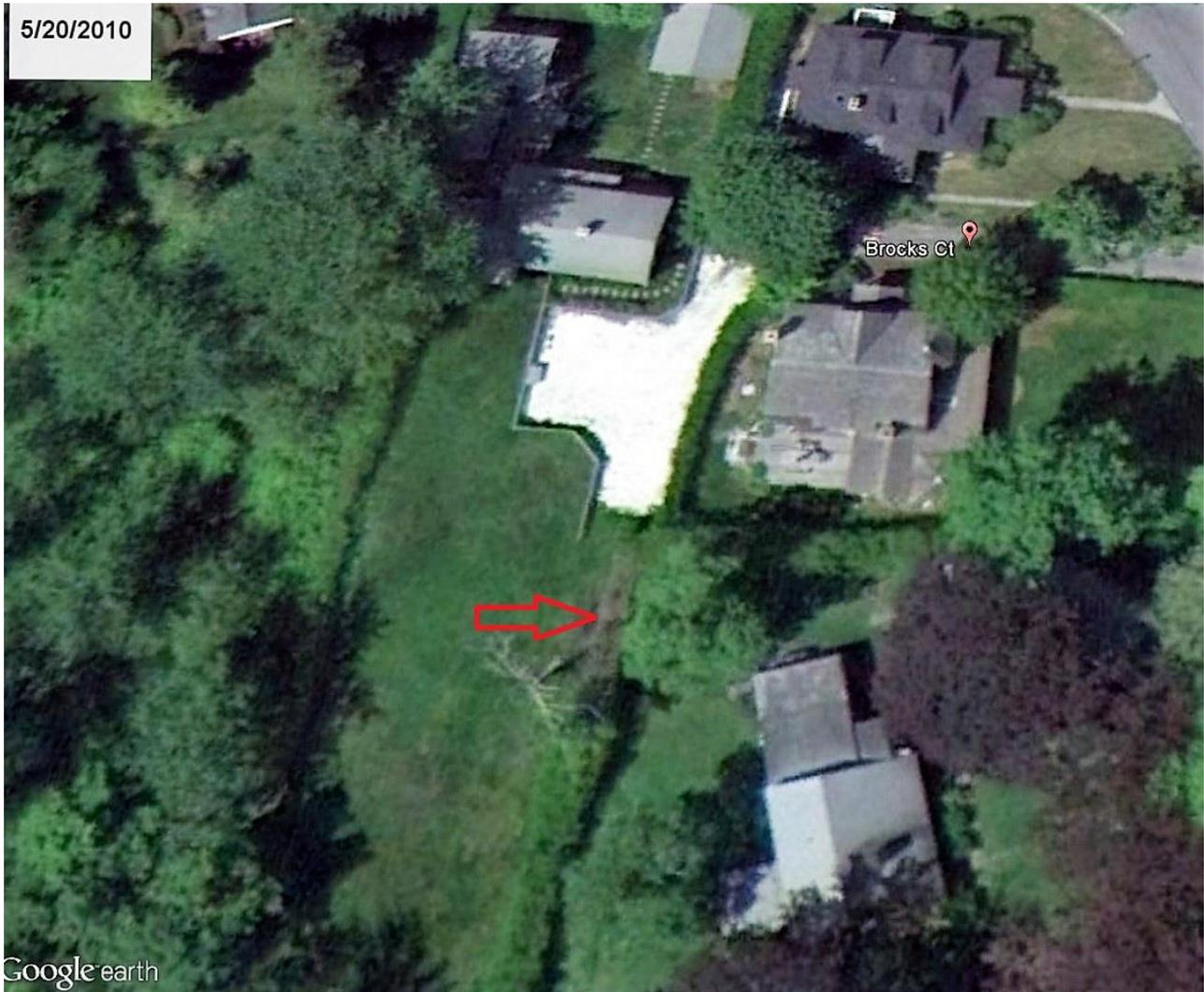


Photo 2: Google Earth Imagery from May 20, 2010 showing dying privet along property boundary between 42 Liberty and 2 Brock's Court.

SITE DESIGN ENGINEERING, LLC.

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**NEW
INFORMATION
FOR CURRENT
HEARING**

Sunset House, LLC

15 Hallowell Lane

(30-10)



NOTICE OF INTENT APPLICATION

To Increase the Height of an
Existing Timber Bulkhead

At

15 Hallowell Lane
Nantucket, MA

September 2016

Prepared For

SUNSET HOUSE, LLC



September 2, 2016

Mr. Andrew Bennet, Chair
Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

Re: Notice of Intent for Increased Bulkhead Height
15 Hallowell Lane
Map 30 Parcel 10

Dear Mr. Bennett:

On behalf of the property owner Sunset House, LLC, Nantucket Engineering & Survey, P.C. is submitting this Notice of Intent (NOI) to the Nantucket Conservation Commission for increase in the height of an existing timber bulkhead at the referenced property (the "Site") in Nantucket, Massachusetts.

Proposed activities consist of adding timbers along, and planting of American Beach Grass along the length of Coastal Bank located at the Site. Resource areas at the Site include Coastal Bank, Coastal Beach, Coastal Dune, Land Subject to Coastal Storm Flowage and Land Under the Ocean. Attached are permit drawings, including plans showing a site locus, existing conditions including resource area locations, and proposed construction areas.

A completed WPA Form 3 – Notice of Intent is attached along with the NOI Wetland Fee Transmittal Form including checks for \$252.50, \$25 and \$200 to cover the WPA filing fee, Nantucket Wetland by-law fee and the Nantucket Expert Review fee. Also included is a check for \$266.90 to the Inquirer & Mirror for publication of the notice of the public hearing. A Waiver from Section 2.05.B.3 of the Town of Nantucket Bylaw Chapter 136 has not been requested as the work is associated with a water dependent use.

Notification of this NOI filing was provided to all abutting property owners by certified mail. This property owner listing was obtained from the Town of Nantucket Assessor's office. Documentation of the notification is provided including a copy of the notification letter, the property owner listing and certified mail receipts.

Site Description

The subject property is approximately three-quarters of an acre in size and is located on the north shore of Nantucket. The property is bounded to the north by Nantucket Sound, and abutted by existing residential-use properties also served by on-site septic systems. The property and surrounding properties are provided drinking water from the municipal supply.

A review of the October 1, 2008 "Massachusetts Natural Heritage Atlas", prepared by the Natural Heritage and Endangered Species Program (NHESP), indicates that the site is within the known range of state listed rare wildlife species. A relevant portion of the Atlas has been included with this filing, and a copy provided to NHESP.

20 Mary Ann Drive • Nantucket, MA 02554
508-825-5053 • www.NantucketEngineer.com

Resource Areas on the Site consist of Coastal Bank, Coastal Dune and Coastal Beach and associated buffer zones, Land Subject to Coastal Storm Flowage and Land under the Ocean (Nantucket Sound). No work is proposed in Nantucket Sound (Land Subject to Coastal Storm Flowage), or below Mean High Water.

The Coastal Beach is located between the Sound and the existing Coastal Bank (Timber Bulkhead). Work proposed in this resource area includes only temporary laborer activity associated with the project.

The Coastal Bank is an existing timber bulkhead located between the Coastal Beach and the Coastal Dune. Work in this area consists of installation of posts behind the timber bulkhead. The disturbed areas will be covered with sand and planted with American Beach Grass.

Land Subject to Coastal Storm Flowage extends to the 100-year flood elevation of 9 (NAVD88). The performance standards within this area are met as the ability of the land to contain flood waters is not impacted.

A portion of the project area is located within National Heritage and Endangered Species Program (NHESP) Priority Habitats of Rare Species or Estimated Habitats of Rare Wildlife. A copy of this application has been provided to NHESP for review and comment.

Project & Work Description

Sunset House, LLC will retain an experienced contractor to perform the proposed work. The plans show the proposed construction details, including timber and planting details. The Applicant proposes to add up to three horizontal timber members across the top of an existing timber bulkhead. Construction access will be from the existing driveway areas to the top of the bank. Posts will be installed along the backside of the bulkhead, with a majority of the work done by hand labor, and no machinery is proposed to work from the beach. Workers may use a step ladder on the beach while securing the timbers with bolts. Any disturbed areas on the bank will be filled with clean compatible sand and planted with American Beach Grass.

The construction access for the project will be from the upland portion of the property along the west side of the house. This access will be used for once daily trips to get a small track excavator to the bulkhead. No equipment will be left on the bank overnight or during severe storms. The access will be restored to match the existing conditions. Before and after construction photographs will be provided to the Commission to document appropriate restoration of the access area.

Sand and materials for the project will be delivered to the upland portion of the property for staging and transported to the beach as needed via small hoppers or skid steer.

Existing sand will be used as available and tested for grain size as part of this work. Supplemental sand brought in from offsite will be tested to confirm similar grain size characteristics to the existing sand.

Upon completion of the project, any disturbed areas within the Coastal Bank & Dune will be vegetated with American Beach Grass.

Monitoring & Maintenance

The applicant proposes to conduct the following observation and maintenance program for the installed timbers and vegetation:

- Visit the site twice per year in early spring and late fall to observe condition of the slope and assess need for maintenance.
- Visit the site after each significant storm to assess conditions and provide as needed repairs.
- When significant storm damage is observed, the Conservation Commission will be notified to implement corrective measures.

Conclusion

The work is being proposed as part of the applicant's obligation to protect the integrity of the coastal engineering structure. Further, the proposed work will improve the stability of the coastal bank, and viability of vegetation, in alignment with the protected interests. The work as proposed will not affect the ability of the resource areas to function as they currently do, and will result in an improvement to the stability and vegetative community of the coastal bank system. The project will not result in an adverse impact on the areas or the interests protected by the Commission including flood control, erosion control, storm damage prevention, prevention of pollution, wildlife, and scenic views.

Sincerely,

A handwritten signature in blue ink that reads "Arthur D. Gasbarro". The signature is written in a cursive style and is positioned above the printed name.

Arthur D. Gasbarro, PE, PLS, LEED AP



WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
And the Town of Nantucket Wetlands Bylaw Chapter 136

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
NANTUCKET
City/Town

A. General Information (continued)

6. General Project Description:

The Applicant proposes to increase the height of a portion of an existing timber bulkhead that is being over topped during storm events. Horizontal timbers will be added to the top within the footprint of the existing structure. Timber posts are proposed behind the bulkhead to provide support. Disturbed areas behind the bulkhead will be filled with clean, compatible sand then planted with American Beach Grass. Please refer to the attached Project Narrative and Site Plan for additional information.

7a. Project Type Checklist:

- | | |
|--|---|
| 1. <input type="checkbox"/> Single Family Home | 2. <input type="checkbox"/> Residential Subdivision |
| 3. <input type="checkbox"/> Limited Project Driveway Crossing | 4. <input type="checkbox"/> Commercial/Industrial |
| 5. <input type="checkbox"/> Dock/Pier | 6. <input type="checkbox"/> Utilities |
| 7. <input checked="" type="checkbox"/> Coastal Engineering Structure | 8. <input type="checkbox"/> Agriculture (e.g., cranberries, forestry) |
| 9. <input type="checkbox"/> Transportation | 10. <input type="checkbox"/> Other |

7b. Is any portion of the proposed activity eligible to be treated as a 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:

2. Limited Project

8. Property recorded at the Registry of Deeds for:

NANTUCKET	24,340
a. County	b. Certificate # (if registered land)
_____	_____
c. Book	d. Page Number

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

- 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.
- 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.

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	_____	_____
	1. linear feet	2. linear feet
b. <input type="checkbox"/> Bordering Vegetated Wetland	_____	_____
	1. square feet	2. square feet
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	_____	_____
	1. square feet	2. square feet
	_____	_____
	3. cubic yards dredged	



MASSWILDLIFE

DIVISION OF FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

Jack Buckley, *Director*

October 12, 2016

Sunset House LLC
535 Chestnut Street, #210
Chattanooga TN 37402

Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket MA 02554

Project Location: 15 Hallowell Lane
Town: Nantucket
Project Description: Increase height of timber bulkhead (± 2 ft)
Wetlands File No.: 048-2924
NHESP Tracking No.: 09-26559

**RE: Notice that your application for review pursuant to the
WPA (321 CMR 10.37) and MESA (321 CMR 10.18) is incomplete.**

Dear Commissioners and Applicant:

On **September 12, 2016** the Natural Heritage and Endangered Species Program (NHESP) of the Division of Fisheries and Wildlife (Division) received a Notice of Intent and other information from the Applicant pursuant to the rare wildlife species provision of the Massachusetts Wetlands Protection Act (WPA) and its implementing regulations **310 CMR 10.37**, and the Massachusetts Endangered Species Act (MESA) (M.G.L. c. 131A) and its implementing regulations (321 CMR 10.18).

The Division has determined that the proposed project is located within the mapped *Priority and Estimated Habitat* of Piping Plover (*Charadrius melodus*) a species state-listed as Threatened pursuant to the MESA. This species and its habitats are protected pursuant to the WPA and the MESA. Fact sheets for state-listed species can be found at www.mass.gov/nhesp. The Piping Plover is also federally protected as a Threatened species pursuant to the U.S. Endangered Species Act (ESA, 50 CFR 17.11).

The purpose of the Division's review of the proposed project under the WPA regulations is to determine whether the project will have any adverse effects on the Resource Areas Habitats of state-listed species. The purpose of the Division's review under the MESA regulations is to determine whether a Take of state-listed species will result from the proposed project. Under 321 CMR 10.18(1), the Division is required to notify the Record Owner of the property where the project is proposed within 30 days whether the submitted application contains the information required to be submitted to the Division pursuant to 321 CMR 10.20, including the applicable review fee.

The proposed height increase (2 ft) of the timber bulkhead has the potential to affect the available nesting habitat by reducing the amount of sediment within the system (down-drift beaches and dunes)

MASSWILDLIFE

available to nesting Piping Plovers (*Charadrius melodus*). Soft solutions such as dune nourishment or bioengineering help to reduce wave energy and potentially reduce erosion through the use of natural fiber blankets or rolls and plantings with deep root systems which aid in stabilization. These methods allow sand to remain within the littoral system and available to down-drift nesting habitat.

This letter is to inform you that the Division has reviewed the materials submitted with your combined application under the WPA and MESA regulations and has determined that your application is **incomplete** because it does not contain all of the minimum information required in order for the Division to complete its review pursuant thereto. Consequently, the following information must be submitted to the Division in order to take further action on your application:

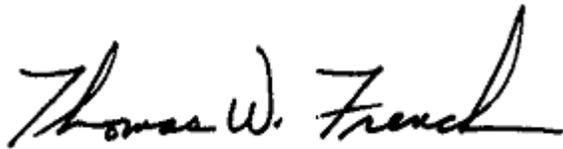
- 1) Project plan – Please submit a site plan for the entire project site showing existing and proposed conditions and clearly demarcated limits of work. Said plan should provide tidal datum for this site. Please show the appropriate locations of Mean Higher High Water (MHHW) and Mean Lower Low Water (MLLW).
- 2) Alternatives Analysis – Provide an alternatives analysis that includes either bioengineering (e.g. natural fiber blankets or coir rolls with plantings that assist in coastal bank stabilization) or other soft solutions to absorb the wave energy that may overtop the bulkhead.

After receiving the above information, the Division will continue its review of the proposed project for compliance with the state-listed species provisions of the WPA and MESA regulations. The Division reserves the right to request additional information to understand the potential impacts of the proposed project on state-listed species and their habitats.

No work or other activities related to your filing may be conducted anywhere on the project site until the Division completes its review.

If you have any questions concerning this notice, please contact Amy Hoenig, Endangered Species Review Biologist, at (508) 389-6364.

Sincerely,

A handwritten signature in black ink that reads "Thomas W. French". The signature is written in a cursive, flowing style.

Thomas W. French, Ph.D.
Assistant Director

cc: MA DEP Southeast Region
Arthur D. Gasbarro, Nantucket Engineering & Survey

Property ^

Address 15 HALLOWELL LN

ID 30 10

Ownership ^

Name SUNSET HOUSE LLC

Address 535 CHESTNUT ST #210,
CHATTANOOGA, TN 37402

Valuation ^

Total \$9,507,900

Land \$8,524,800

Last Sale \$5,200,000 on 2012-08-08

Book/Page /C0024340

Land ^

Area 0.58 AC

Zone R2

2008 NHESP MAPPING





Storm Damage

Google



LOCUS

Google e

Eastern End of the Project

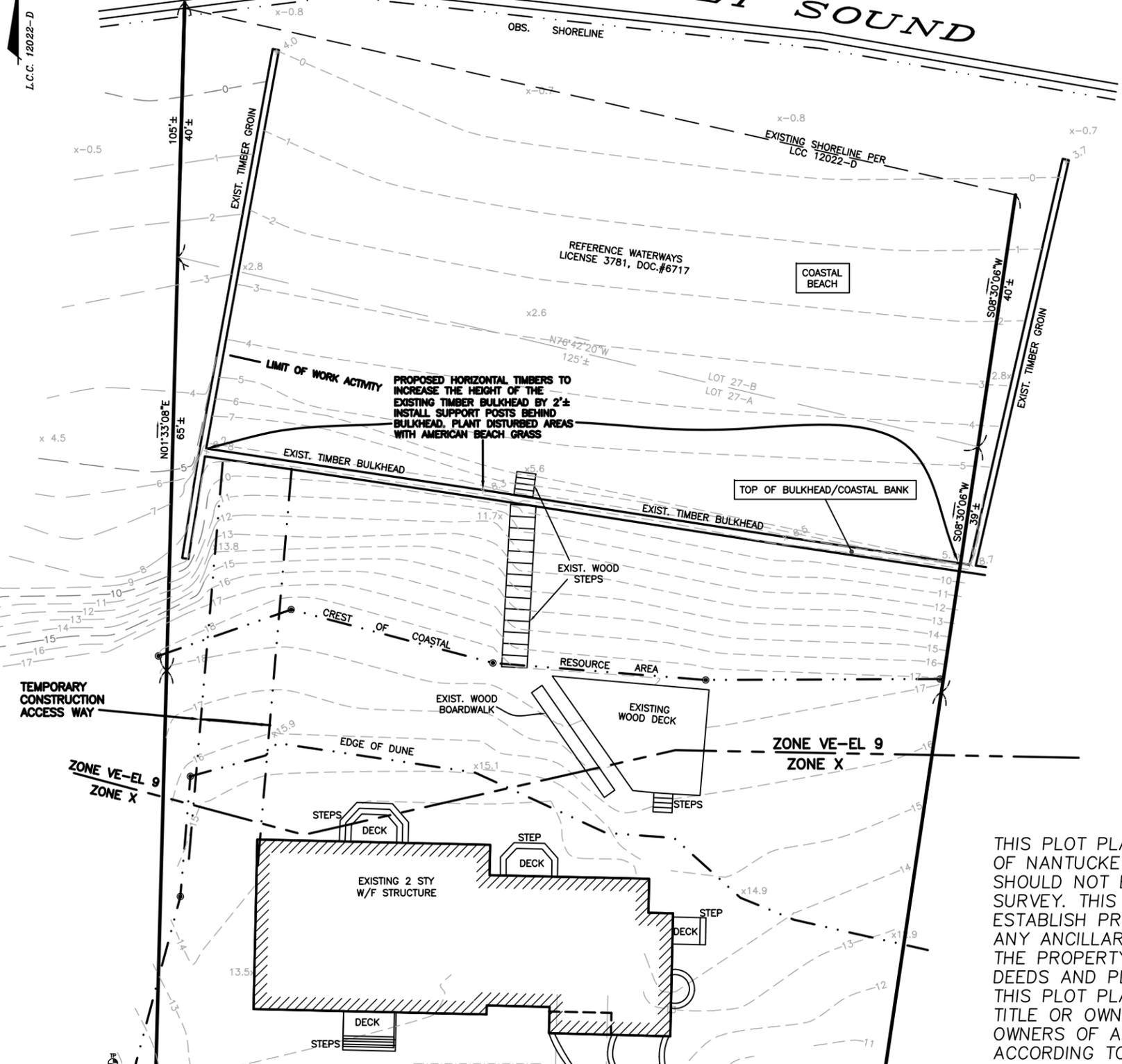


Western End of the Project

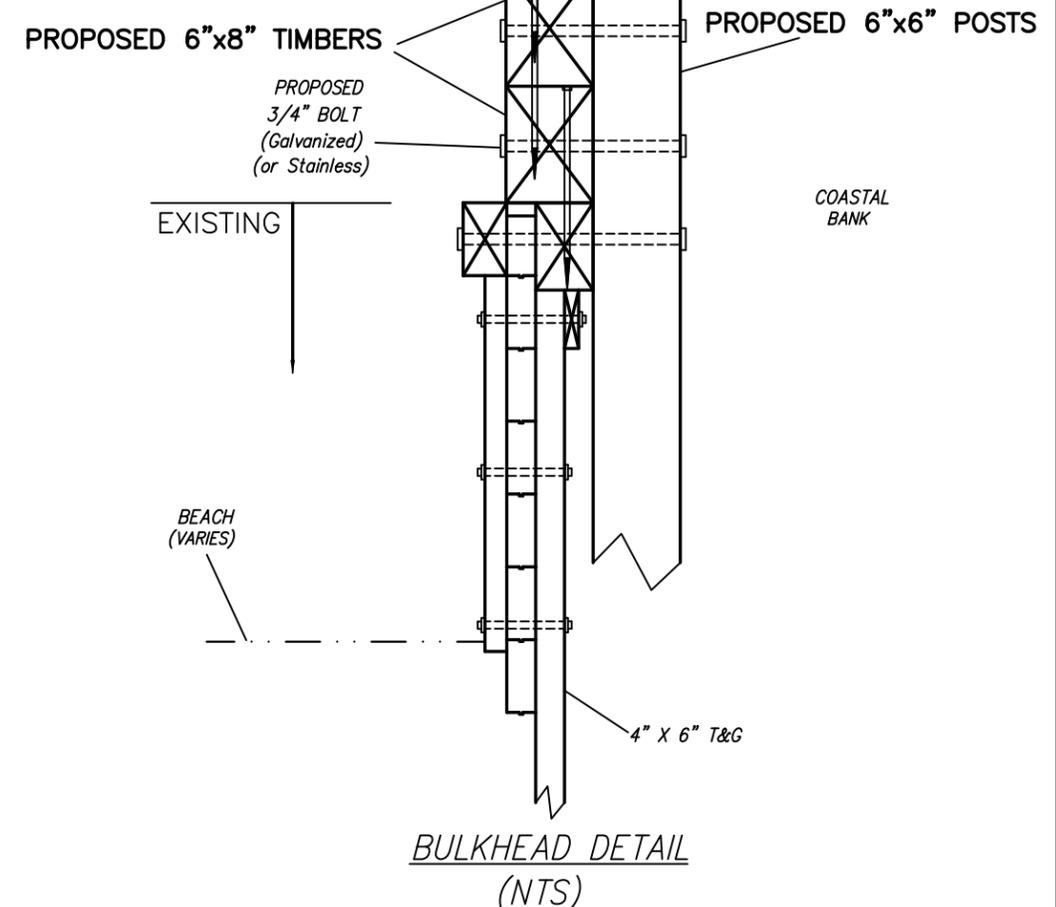


FLOOD ZONES PER FEMA MAP: 25019C0086G
EFFECTIVE 06/09/2014.

NANTUCKET SOUND



PROPOSED HORIZONTAL TIMBERS TO INCREASE THE HEIGHT OF THE EXISTING TIMBER BULKHEAD BY 2'±
INSTALL SUPPORT POSTS BEHIND BULKHEAD. PLANT DISTURBED AREAS WITH AMERICAN BEACH GRASS



BULKHEAD DETAIL
(NTS)

SITE PLAN TO ACCOMPANY A
NOTICE OF INTENT APPLICATION
Prepared For
SUNSET HOUSE LLC
15 Hallowell Lane
Map 30 Parcel 10
Certificate No. 24,340
Land Court Plan 12022D
Scale: 1"=20' September 6, 2016

THIS PLOT PLAN WAS PREPARED FOR THE TOWN OF NANTUCKET CONSERVATION COMMISSION ONLY & SHOULD NOT BE CONSIDERED A PROPERTY LINE SURVEY. THIS PLAN SHOULD NOT BE USED TO ESTABLISH PROPERTY LINES, FENCES, HEDGES OR ANY ANCILLARY STRUCTURES ON THE PREMISES. THE PROPERTY LINES SHOWN RELY ON CURRENT DEEDS AND PLANS OF RECORD. THIS PLOT PLAN IS NOT A CERTIFICATION AS TO TITLE OR OWNERSHIP OF THE PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE SHOWN ACCORDING TO CURRENT ASSESOR RECORDS.



**NEW
INFORMATION
FOR CURRENT
HEARING**



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

Nantucket

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):

<u>45 Quidnet Road</u>	<u>Nantucket</u>	<u>02554</u>
a. Street Address	b. City/Town	c. Zip Code
Latitude and Longitude:		
<u>21</u>	<u>41°18'11.77"</u>	<u>-69°58'51.57"</u>
f. Assessors Map/Plat Number	d. Latitude	e. Longitude
	<u>21</u>	
	g. Parcel /Lot Number	

2. Applicant:

<u>Alan A.</u>	<u>Shuch, Trustee</u>	
a. First Name	b. Last Name	
<u>Ann F. Shuch Qualified Personal Residence Trust</u>		
c. Organization		
<u>15 Central Park West, 26D</u>		
d. Street Address		
<u>New York</u>	<u>NY</u>	<u>10023</u>
e. City/Town	f. State	g. Zip Code
<u>n/a</u>	<u>n/a</u>	<u>n/a</u>
h. Phone Number	i. Fax Number	j. Email Address

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

same

a. First Name	b. Last Name	
c. Organization		
d. Street Address		
e. City/Town	f. State	g. Zip Code
h. Phone Number	i. Fax Number	j. Email address

4. Representative (if any):

<u>Robert</u>	<u>Emack</u>	
a. First Name	b. Last Name	
<u>Emack Surveying, LLC</u>		
c. Company		
<u>2 Washaman Avenue</u>		
d. Street Address		
<u>Nantucket</u>	<u>MA</u>	<u>02554</u>
e. City/Town	f. State	g. Zip Code
<u>508-325-0940</u>	<u>n/a</u>	<u>emackack@comcast.net</u>
h. Phone Number	i. Fax Number	j. Email address

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

<u>\$110</u>	<u>\$42.50</u>	<u>\$67.50</u>
a. Total Fee Paid	b. State Fee Paid	c. City/Town Fee Paid



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

Nantucket

City/Town

A. General Information (continued)

6. General Project Description:

The applicant proposes to lift existing beachhouse studio 3 feet. The building will be jacked up and the foundation will be added to. A new deck and steps will be built to access the two studio doors. Building has been in existence since before the adoption of the Wetlands Protection Act in 1972.

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:

Nantucket

a. County

21927

b. Certificate # (if registered land)

c. Book

d. Page Number

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.

EMACK SURVEYING, LLC

Robert A. Emack
Professional Land Surveyor
2 Washaman Avenue
Nantucket, Massachusetts 02554
Phone (508) 325-0940

September 29, 2016

Project Narrative for Notice of Intent
for Alan Shuch, Trustee
45 Quidnet Road, Nantucket
Assessor's Map 21, Parcel 21

Work included in this project will take place on a coastal beach resource area. The coastal beach borders Sesachacha Pond. The project will take place also in Land Subject to Coastal Storm Flowage, mapped as Zone AE, EL 8. A coastal bank exists immediately landward of the beach and the studio.

The applicant proposes to lift the existing studio on the beach off its present foundation, build up the foundation 3 feet higher, install flood vents, and place the studio on the modified foundation. A new deck and steps will be constructed on piers as shown on the plan in order to provide access to the studio's two doors. All equipment and materials will be hand carried down the existing beach stairs.

None of the proposed work associated with this project will adversely affect the coastal beach. The proposed work is an improvement to the existing condition, where high water in the winter months threaten the structure, and where the current first floor level is below the Zone AE flood elevation. Most of the work will take place within the existing footprint of the existing studio on the beach. The new deck steps are the exception, but are necessary for access.

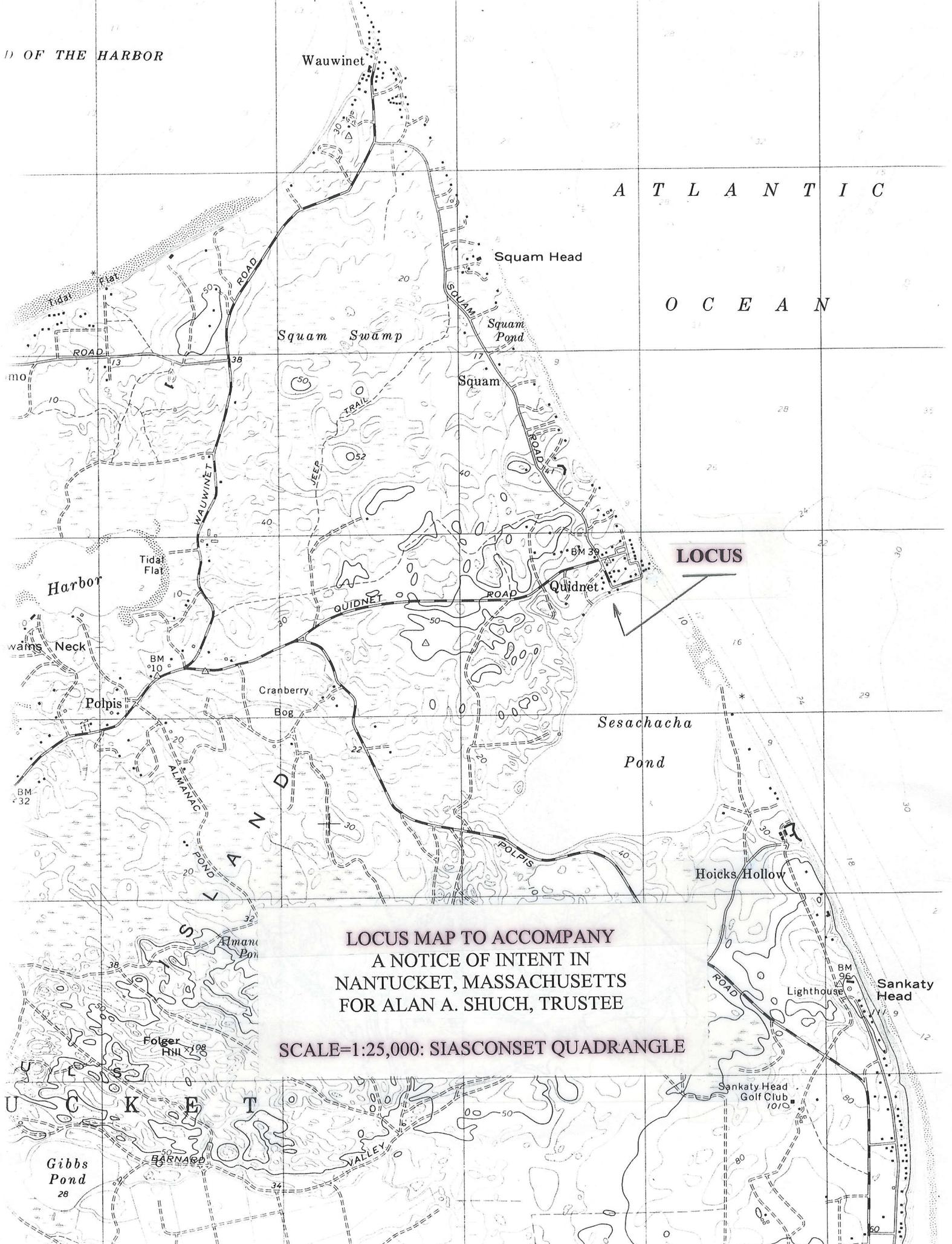
Existing vegetation around the dwelling will remain intact. Any disturbed areas caused by construction processes shall be restored to pre-construction conditions. Siltation fence and snow fence as shown on the accompanying plan will serve as the limit of work.

A waiver from the Nantucket Wetlands Bylaw Regulations, section 2.02B6, which requires that all work on projects which are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to a coastal beach, and that all structures which are not water dependent shall be at least 50 feet from a coastal beach, is hereby requested. The waiver is requested on the basis that there will be no adverse impact to the resource area, and there is no alternative to the work proposed.

D OF THE HARBOR

A T L A N T I C

O C E A N



LOCUS MAP TO ACCOMPANY
 A NOTICE OF INTENT IN
 NANTUCKET, MASSACHUSETTS
 FOR ALAN A. SHUCH, TRUSTEE

SCALE=1:25,000: SIASCONSET QUADRANGLE

NANTUCKET

Gibbs Pond

Folger Hill

BARNAB

VALLEY

Sankaty Head Golf Club

Lighthouse

Sankaty Head

Sesachacha Pond

Hoicks Hollow

Polpis

Cranberry Bog

Harbor

Squam Swamp

Squam Pond

Squam Head

Wauwinet

LOCUS



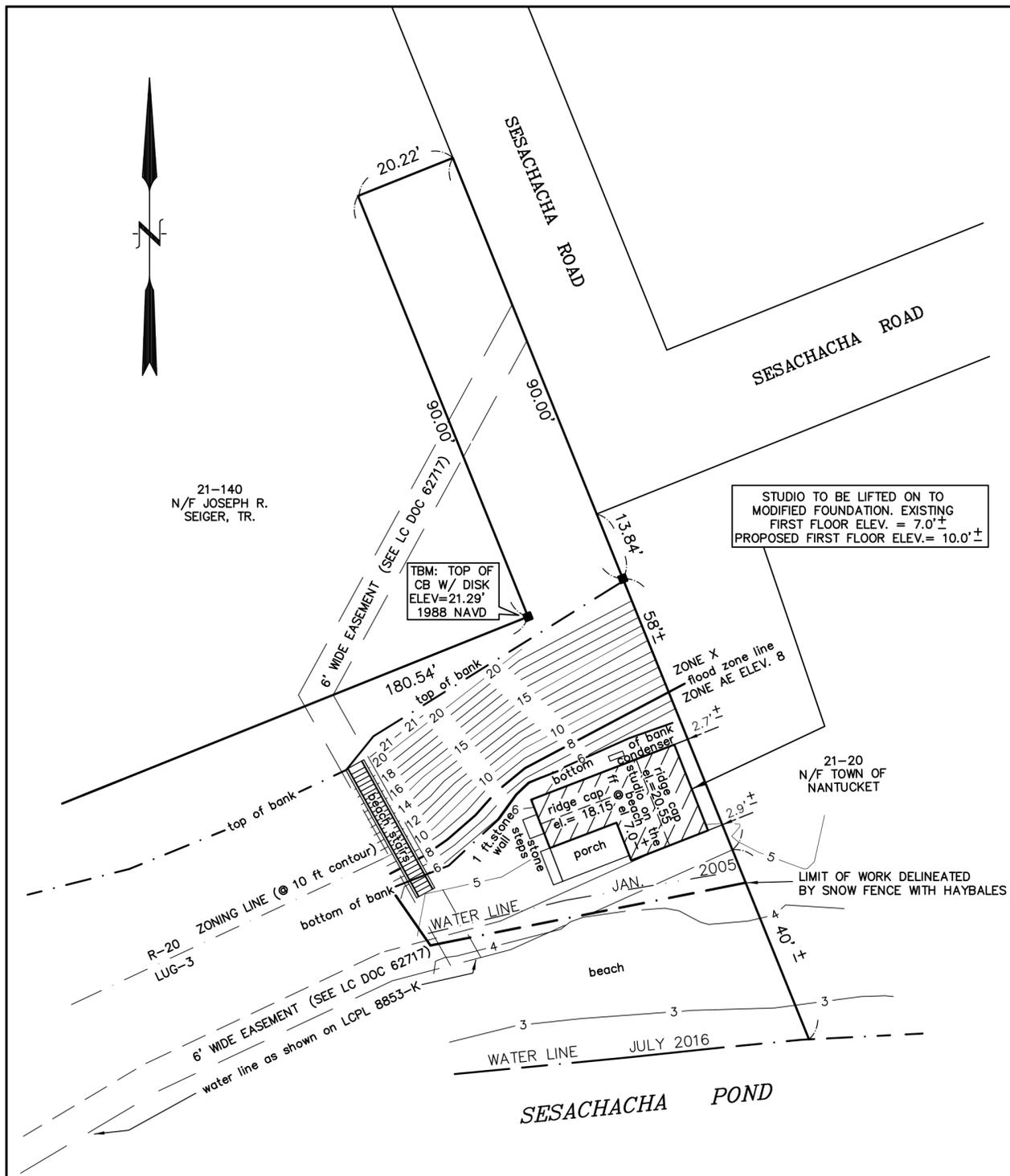
45



45 Quidnet Road Beachhouse Studio, Sept. 1, 2016



45 Quidnet Road Beachhouse Studio, Sept. 1, 2016



STUDIO TO BE LIFTED ON TO MODIFIED FOUNDATION. EXISTING FIRST FLOOR ELEV. = 7.0'±
PROPOSED FIRST FLOOR ELEV. = 10.0'±

TBM: TOP OF CB W/ DISK
ELEV. = 21.29'
1988 NAVD

21-20
N/F TOWN OF NANTUCKET

LIMIT OF WORK DELINEATED BY SNOW FENCE WITH HAYBALES

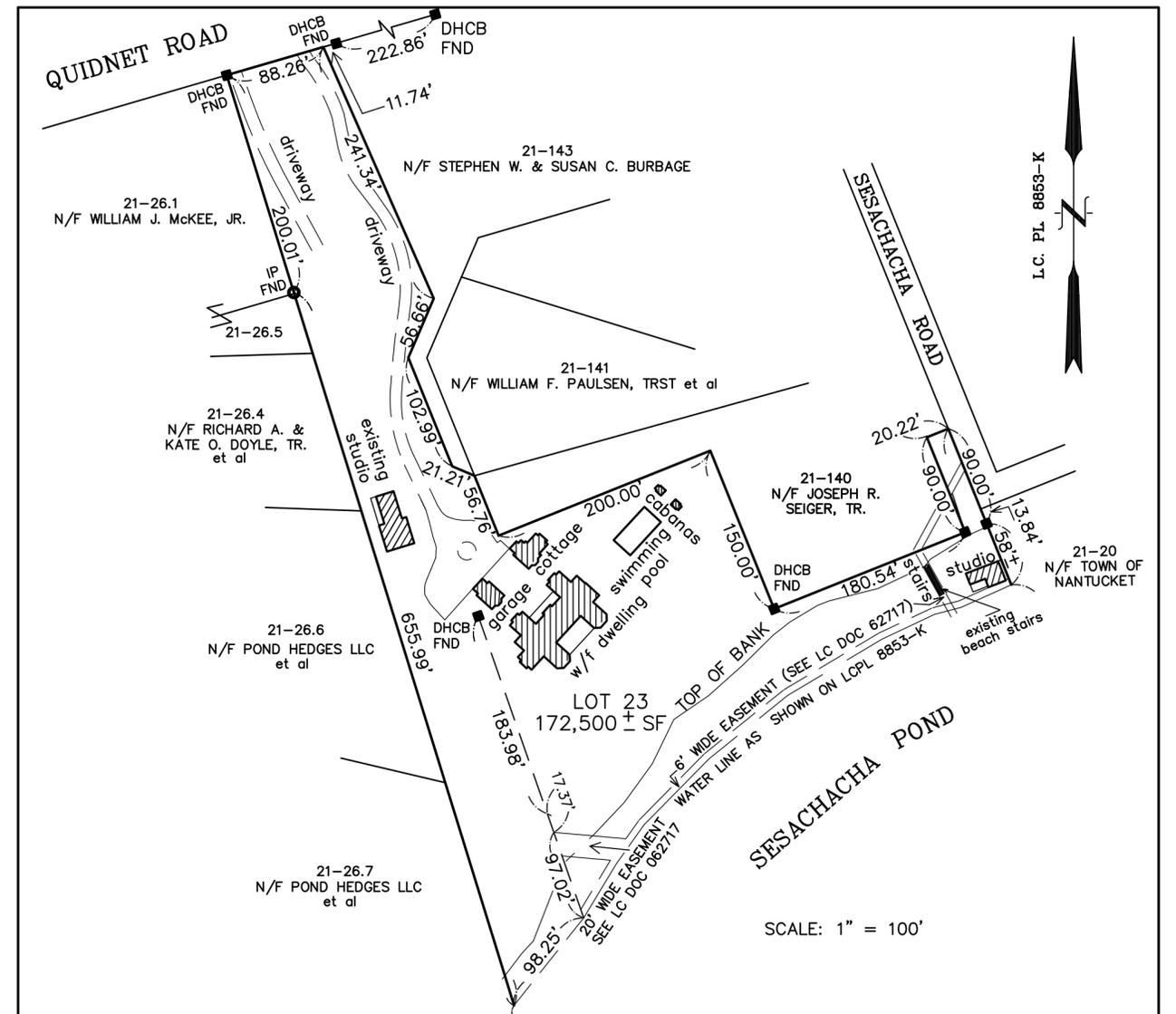
CURRENT ZONING: MIXED: R-2 / LUG-3
MINIMUM LOT SIZE: 20,000 SF / 120,000 SF
MINIMUM FRONTAGE: 75 FT / 200 FT
FRONTYARD SETBACK: 30 FT / 35 FT
SIDE AND REAR SETBACK: 10 FT / 20 FT
ALLOWABLE G.C.R.: 12.5% / 3%

FOR PROPERTY LINE DETERMINATION THIS PLOT PLAN RELIES ON CURRENT DEEDS AND PLANS OF RECORD, VERIFIED BY FIELD MEASUREMENTS AS SHOWN HEREON. THIS PLAN IS NOT REPRESENTED TO BE A TITLE EXAMINATION OR A RECORDABLE SURVEY.

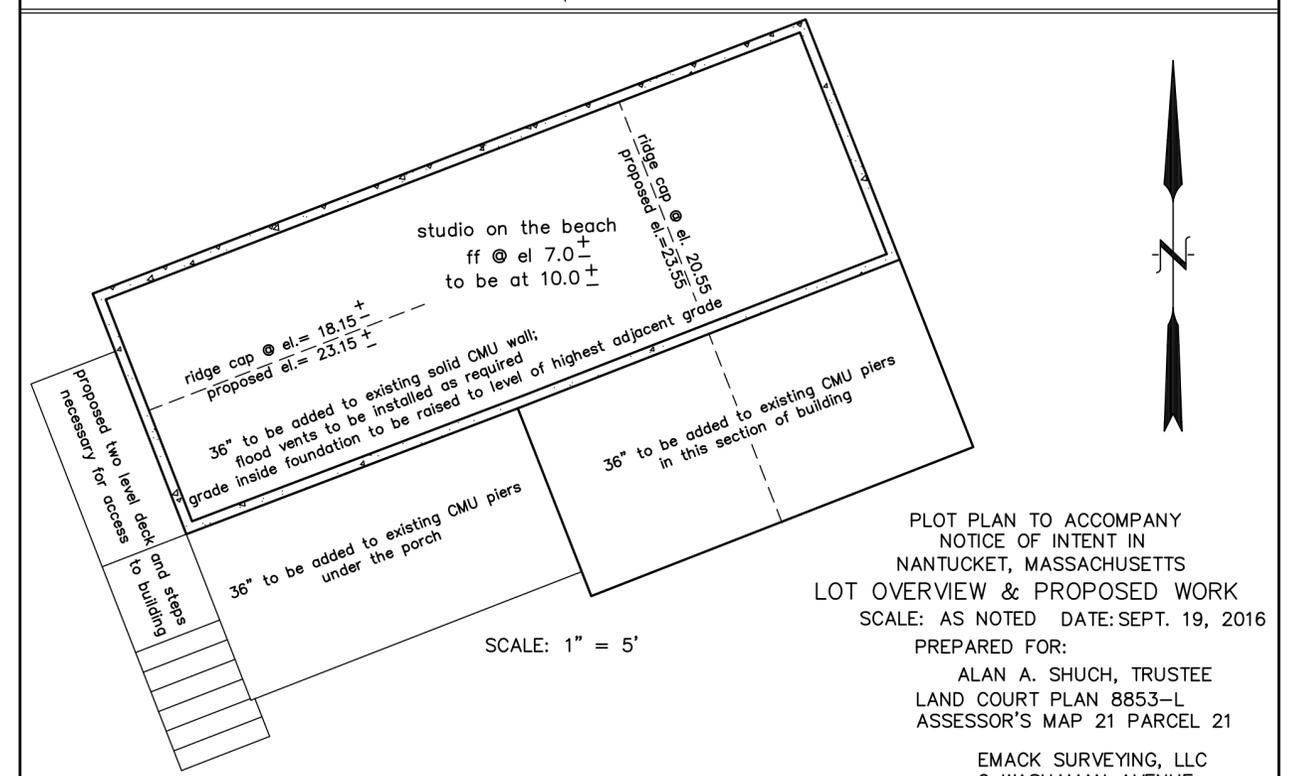
I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE PREMISES SHOWN ON THIS PLAN ARE PARTIALLY LOCATED WITHIN THE AE ZONE, EL. 8 (areas of 1% annual chance of flood) AND PARTIALLY WITHIN THE X ZONE (areas outside 0.2% annual chance flood plain) AS DELINEATED ON THE "FIRM" OF COMMUNITY NO. 250230, MASSACHUSETTS, EFFECTIVE: JUNE 9, 2014, BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

PLOT PLAN TO ACCOMPANY
NOTICE OF INTENT IN
NANTUCKET, MASSACHUSETTS
WORK AREA EXISTING CONDITIONS
SCALE: 1"=20' DATE: SEPT. 19, 2016
PREPARED FOR:
ALAN A. SHUCH, TRUSTEE
CERTIFICATE # 21927
LAND COURT PLAN 8853-L
ASSESSOR'S MAP 21 PARCEL 21

EMACK SURVEYING, LLC
2 WASHAMAN AVENUE
NANTUCKET, MA. 02554
(508) 325-0940



SCALE: 1" = 100'



SCALE: 1" = 5'

PLOT PLAN TO ACCOMPANY
NOTICE OF INTENT IN
NANTUCKET, MASSACHUSETTS
LOT OVERVIEW & PROPOSED WORK
SCALE: AS NOTED DATE: SEPT. 19, 2016
PREPARED FOR:

ALAN A. SHUCH, TRUSTEE
LAND COURT PLAN 8853-L
ASSESSOR'S MAP 21 PARCEL 21

EMACK SURVEYING, LLC
2 WASHAMAN AVENUE
NANTUCKET, MA. 02554

FOR PROPERTY LINE DETERMINATION THIS PLOT PLAN RELIES ON CURRENT DEEDS AND PLANS OF RECORD, VERIFIED BY FIELD MEASUREMENTS AS SHOWN HEREON. THIS PLAN IS NOT REPRESENTED TO BE A TITLE EXAMINATION OR A RECORDABLE SURVEY.



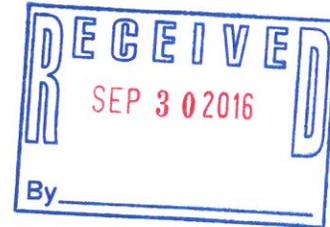
P.O. Box 3627, Nantucket, Massachusetts 02584-3627
Tel. (508) 228-0240 Fax (508) 228-9856
www.nantucketsurveyors.com
nslinfo@nantucketsurveyors.com

N-10797

COPY

September 30, 2016

Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, Massachusetts 02554



Re: Notice of Intent

Applicant: Gregory Reyes, c/o Steven Cohen, Esq.
19 East Creek Road (Map 55 Parcel 60)
Nantucket, MA 02554

Dear Commission Members,

Enclosed please find the following:

- Two (2) copies of a Notice of Intent for the above-referenced project;
- One (1) Filing Fee to the Town of Nantucket - \$25.00 (bylaw);
- One (1) Filing Fee to the Town of Nantucket - \$200.00 (Consultant review fee);
- One (1) Check to the Inquirer & Mirror - \$266.90 (publishing of the Public Notice).
- One (1) Check to the Town of Nantucket - \$262.50 (WPA Fee)
- One (1) Check to the Commonwealth of MA - \$237.50 (WPA Fee) Copy
- One (1) Check to Commonwealth of MA—NHESP -- \$300.00 (Copy)

This application is for the proposed demolition of the existing dwelling and construction of a new dwelling footprint, repair and maintenance of an existing pile supported pier with associated site work, grading, and landscaping within Land Subject to Coastal Storm Flowage and buffers to a Salt Marsh and a Policy Coastal Bank. The proposed work is shown on the included plan, "Site Plan to Accompany a Notice of Intent #19 East Creek Road" prepared by Nantucket Surveyors, LLC, Dated: September 30, 2016. Waivers are required for this application.

Thank you for your attention to this matter. If you have any questions, please do not hesitate to call our office.

Respectfully,
Nantucket Surveyors, LLC

A handwritten signature in blue ink that reads 'Paul J. Santos'.

Paul J. Santos, PLS

Enclosures

cc: DEP Southeast Regional Office
Steven Cohen, Esq.

Office located at 5 Windy Way • Nantucket, MA 02554

Land Surveying • Topographic Surveys • Civil Engineering • Construction • Marine • Environmental Permitting



P.O. Box 3627, Nantucket, Massachusetts 02584-3627
Tel. (508) 228-0240 Fax (508) 228-9856
www.nantucketsurveyors.com
nslinfo@nantucketsurveyors.com

N-10797

September 30, 2016
Amended 10/5/16 Scope of Work

Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, Massachusetts 02554

Re: Notice of Intent
Applicant: Gregory Reyes, c/o Steven Cohen, Esq.
19 East Creek Road (Map 55 Parcel 60)
Nantucket, MA 02554

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- One (1) Check to Commonwealth of MA—NHESP -- \$300.00 (Copy)

This application is for the proposed demolition of the existing dwelling and construction of a new dwelling footprint with associated site work, grading, and landscaping within Land Subject to Coastal Storm Flowage and buffers to a Salt Marsh and a Policy Coastal Bank. The proposed work is shown on the included plan, "Site Plan to Accompany a Notice of Intent #19 East Creek Road" prepared by Nantucket Surveyors, LLC, Dated: September 30, 2016. Waivers are required for this application.

Thank you for your attention to this matter. If you have any questions, please do not hesitate to call our office.

Respectfully,
Nantucket Surveyors, LLC

A handwritten signature in blue ink, appearing to read 'Paul J. Santos', is written over the typed name.

Paul J. Santos, PLS

Enclosures

cc: DEP Southeast Regional Office
Steven Cohen, Esq.

Office located at 5 Windy Way • Nantucket, MA 02554

Land Surveying • Topographic Surveys • Civil Engineering • Construction • Marine • Environmental Permitting



Notice of Intent

Map 55 Parcel 60
19 East Creek Road
Nantucket, Massachusetts

Prepared for: **Gregory Reyes**
c/o Steven Cohen, Esq.
Cohen & Cohen Law PC
34 Main Street, P.O. Box 786
Nantucket, MA 02554

Prepared by: **Nantucket Surveyors, LLC**
5 Windy Way, PO Box 3627
Nantucket, MA 02584

September 30, 2016



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 _____
 Nantucket
 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):

19 East Creek Road
 a. Street Address
 Nantucket
 b. City/Town
 02554
 c. Zip Code
 41.274827
 d. Latitude
 -70.089039
 e. Longitude
 60
 g. Parcel /Lot Number
 55
 f. Assessors Map/Plat Number

2. Applicant:

Gregory
 a. First Name
 Reyes
 b. Last Name
 c/o Steven Cohen, Esq. Cohen & Cohen Law PC
 c. Organization
 34 Main Street
 d. Street Address
 Nantucket
 e. City/Town
 MA
 f. State
 02554
 g. Zip Code
 508-228-0337
 h. Phone Number
 508-228-0970
 i. Fax Number
 steven@cohenlegal.net
 j. Email Address

3. Property owner (required if different from applicant):

Check if more than one owner

Mary D.
 a. First Name
 Starr
 b. Last Name
 c. Organization
 877 Andorra Road
 d. Street Address
 Layfayette Hill
 e. City/Town
 PA
 f. State
 19444
 g. Zip Code
 508-228-0444
 h. Phone Number
 i. Fax Number
 patricia@halstedlaw.com
 j. Email address

4. Representative (if any):

Paul
 a. First Name
 Santos
 b. Last Name
 Nantucket Surveyors, LLC
 c. Company
 P.O. Box 3627
 d. Street Address
 Nantucket
 e. City/Town
 MA
 f. State
 02554
 g. Zip Code
 508-228-0240
 h. Phone Number
 508-228-9856
 i. Fax Number
 psantos@nantucketsurveyors.com
 j. Email address

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

\$500
 a. Total Fee Paid
 \$237.50
 b. State Fee Paid
 \$262.50
 c. City/Town Fee Paid



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

Nantucket

City/Town

A. General Information (continued)

6. General Project Description:

This application is for the proposed demolition of the existing dwelling and construction of a new dwelling footprint with associated site work, grading, and landscaping within Land Subject to Coastal Storm Flowage and buffers to a Salt Marsh and a Policy Coastal Bank.

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

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Single Family Home | 2. <input type="checkbox"/> Residential Subdivision |
| 3. <input type="checkbox"/> Commercial/Industrial | 4. <input type="checkbox"/> Dock/Pier |
| 5. <input type="checkbox"/> Utilities | 6. <input type="checkbox"/> Coastal engineering Structure |
| 7. <input type="checkbox"/> Agriculture (e.g., cranberries, forestry) | 8. <input type="checkbox"/> Transportation |
| 9. <input type="checkbox"/> 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 CMR 10.24(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:

Nantucket

a. County

13552

b. Certificate # (if registered land)

c. Book

d. Page Number

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

- 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.
- 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.



P.O. Box 3627, Nantucket, Massachusetts 02584-3627

Tel. (508) 228-0240 Fax (508) 228-9856

www.nantucketsurveyors.com

nsllcinfo@nantucketsurveyors.com

NS10797

October 14, 2016

Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, Massachusetts 02554

Re: Waiver Request
Applicant: Greg Reyes
19 East Creek Road- Map: 55 Parcel: 60

Dear Commissioners:

On behalf of the applicant, Nantucket Surveyors, LLC, is requesting a waiver from the Nantucket Wetlands Protection Regulations, Section 2.05 (B)(5), Section 2.06 (B)(4) and Section 2.10 (B)(2) for the above referenced project, specifically a waiver for demolition of the existing dwelling and construction of a new dwelling footprint with associated sitework, grading and landscaping within Land Subject to Coastal Storm Flowage and buffers to a Salt Marsh and a Policy Coastal Bank. The applicant wishes to apply for this waiver under the premise that the proposed project will not adversely impact the interest identified in the Bylaw and there are no reasonable conditions or alternatives that would allow the project to proceed in compliance with the regulations, Section 1.03(F)(3)(a).

The applicant proposes redevelopment of the existing site within area previously altered. More specifically the following work requiring a waiver is proposed:

- Building within the 25-foot natural undisturbed setback
- Building within the 50-foot no build setback
- Construct a foundation system within a two-foot separation to high groundwater
- Maintain the existing sewer pump pit within Land Subject to Coastal Storm Flowage

Office located at 5 Windy Way • Nantucket, MA 02554

Land Surveying • Topographic Surveys • Civil Engineering • Construction • Marine • Environmental Permitting

Interests Protected

- **Public and Private Water Supply:** The existing site is supplied by public water. No modification to this is proposed.
- **Groundwater:** Not applicable to this project.
- **Fisheries and Shellfish:** Not applicable to this project.
- **Recreation:** The Coastal Resource is on private property, and it is not available for recreational use by the public.
- **Water Pollution:** All resource area will be surrounded by silt fencing to control any possible water pollution by erosion.
- **Wetland Scenic Views:** The existing views will not be altered. The building will be elevated to conform with applicable Building Code and NFIP regulations.
- **Wildlife:** No changes in landscape will take place that would cause a change in the movement of wildlife. No wildlife obstruction will occur.
- **Flood Control and Storm Damage Prevention:** There is no new change in grading proposed by this project.
- **Erosion Control:** The site will be protected during the construction phase of this project.

Thank you for your time and attention to this matter.

Sincerely,
Nantucket Surveyors, LLC



By Paul J. Santos, PLS
Agent for the Applicant

CC: Greg Reyes
Stephen Cohen, Esq.

APPENDIX A

Project Narrative

APPENDIX A PROJECT NARRATIVE

Introduction

This Notice of Intent is submitted to the Nantucket Conservation Commission (“the Commission”) and the Massachusetts Department of Environmental Protection (MassDEP) pursuant to the Massachusetts Wetlands Protection Act, MGL c.131, s.40, for the proposed demolition of the existing dwelling and construction of a new dwelling footprint with associated site work, grading, and landscaping within Land Subject to Coastal Storm Flowage and buffers to a Salt Marsh and a Policy Coastal Bank.

Existing Site Conditions

The subject property is located at the end of East Creek Road, Nantucket Assessors Map: 55 Parcel: 60. The site is approximately 38,586 S.F., consisting of a 1 story dwelling and developed residential lot. The surrounding land use is a mix of residential and commercial. Site is serviced by public water and sewer.

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for this portion of Nantucket (FIRM Map No. 25019C0089G), dated June 9, 2014, shows that the site is located within Flood Hazard Zone AE (El. 8) and Zone VE (El. 9).

The Massachusetts Natural Heritage Atlas, 12th Edition, dated October 2008 (Appendix C) shows that Priority Habitat and Estimated Habitat is mapped within the site. The proposed work does require a filing with MESA.

Erosion Control

Silt fence erosion control will be installed along the limit of the work as depicted on the site plan filed herewith.

Site History

October 29, 1981	Order of Conditions issued by the Nantucket Conservation Commission SE48-168. COC issued 12/4/87, reissued 10/24/03.
April 27, 1989	Order of Conditions issued by the Nantucket Conservation Commission SE48-540 for a “Pile Supported Pier” License Plan No. 2324. COC issued 6/23/94.

Laurentide Environmental, LLC
14 South Shore Road
Nantucket, MA 02554

e-mail: laurentideenvironmental@comcast.net

(508) – 332 – 9722

Field Inspection Report

Date: October 15, 2016

Applicant / Owner: Gregory Reyes

Location: 19 East Creek Road

Agent: Nantucket Surveyors - Paul Santos

Comments: Developed lot below the coastal bank on Monomoy Creeks salt marsh area. The NOI requests to demolish the existing structure and replace it with a new one. The property is almost entirely below the Coastal Bank and contains a Saltmarsh. The property is serviced by Town water and sewer.

The proposed work area is **within** resource areas (Coastal Bank and Land Subject to Coastal Storm Flowage) and inches away from another resource area (Salt Marsh).

It is my understanding that work on the existing pier has been withdrawn from this NOI.

The submitted project narrative is lacking details on the demolition process, limiting work, building design.

The new building envelope (outlined in blue in the revised plans) appears to go below the wetland boundary and is too vague for the sensitive nature of this property.

The waiver request incorrectly states that the project has no impacts on recreation and wetland scenic views. The Monomoy Creek salt marsh system and creeks themselves are used regularly by the Public for at least walking, kayaking and boating.

The current building ridge is mostly hidden from the view of the Creeks from the Town's property. Any increase in the building's height that makes it more visible would have an adverse impact on the Public's wetland scenic views.

Questions and Recommendations:

Additional information on the demolition and construction process is needed. First floor and total building elevations are critical to protect the Commission's interests.

More detail is needed.

Inspector: B. Perry



October 14, 2016

EMAIL (psantos@nantucketsurveyors.com)

Paul Santos
Nantucket Surveyors, LLC
P.O. Box 3627
Nantucket, MA 02584

**Re: Wetland Resource Area Analysis
19 East Creek Road
Map 55, Parcel 60
Nantucket, Massachusetts**

[LEC File #NSLLC\16-331.01]

Dear Paul:

As requested, LEC Environmental Consultants, Inc., (LEC) conducted a site evaluation at the above-referenced subject parcel to demarcate Wetland Resource Area boundaries protected under the *Massachusetts Wetlands Protection Act* (WPA, M.G.L., c. 131, s. 40), its implementing *Regulations* (310 CMR 10.00), and/or the *Town of Nantucket Bylaw* (Chapter 136) and *Wetlands Protection Regulations (Bylaw)*. The following report provides a description of general site conditions and Wetland Resource Areas.

General Site Description

The 1.0± acre subject parcel is located at the terminus of East Creek Road affording frontage along “The Creeks”, a series of tidal creeks associated with a larger Salt Marsh system south of Nantucket Harbor. “Our Island Home”, a nursing facility owned by the Town, abuts the property to the southwest. Additional residential homes occur to the west and southeast.

The subject parcel is currently improved by a single-family dwelling accessed via a shell driveway, both extending parallel to the Salt Marsh. Salt spray rose (*Rosa rugosa*) occurs between the driveway/home and the Salt Marsh. A pile supported dock exists within the northern portion of the property (License #50163/Plan #2324). A deck is attached to the northern portion of the dwelling, elevated on piles. A sewer pump pit is located immediately southeast of the dwelling and the sewer line extends southeasterly through upland areas dominated by invasive bush honeysuckle (*Lonicera* spp.). A vegetated slope (Coastal Bank, see below) is present immediately southwest of the dwelling.

According to the June 9, 2014, Federal Emergency Management Agency Flood Insurance Rate Map for the Town of Nantucket (25019C0089G), developed portions of the property are located within Flood

LEC Environmental Consultants, Inc.

www.lecenvironmental.com

12 Resnik Road
Suite 1
Plymouth, MA 02360
508-746-9491
508-746-9492 (Fax)

PLYMOUTH, MA

380 Lowell Street
Suite 101
Wakefield, MA 01880
781-245-2500
781-245-6677 (Fax)

WAKEFIELD, MA

100 Grove Street
Suite 302
Worcester, MA 01605
508-753-3077
508-753-3177 (Fax)

WORCESTER, MA

P. O. Box 590
Rindge, NH 03461

603-899-6726
603-899-6726 (Fax)

RINDGE, NH



Zone AE (El 8). Portions of the Salt Marsh are located within Zone VE (El 9).

The northern portion of the property, nearly contiguous with the Salt Marsh boundary, is located within a Priority Habitat of Rare Species according to the 13th edition of the Massachusetts *Natural Heritage Atlas* (effective October 1, 2008) published by the Natural Heritage & Endangered Species Program (NHESP). Excluding the dock, existing developed portions of the site are not mapped as Priority Habitat.

Wetland Resource Areas

Wetland Resource Areas located on-site include Salt Marsh, Coastal Bank, and Land Subject to Coastal Storm Flowage (LSCSF). While no *Bylaw*-protected Riverfront Area exists on island, there is no WPA-protected Riverfront Area associated with “The Creeks”. A brief description of each Wetland Resource Area is provided below.

Salt Marsh

As defined under 310 CMR 10.32(2), *Salt Marsh means a coastal wetland that extends landward up to the highest high tide line, that is, the highest spring tide of the year, and is characterized by plants that are well adapted to or prefer living in, saline soils. Dominant plants within salt marshes typically include salt meadow cord grass (Spartina patens) and/or salt marsh cord grass (Spartina alterniflora), but may also include, without limitation, spike grass (Distichlis spicata), high-tide bush (Iva frutescens), black grass (Juncus gerardii), and common reedgrass (Phragmites). A salt marsh may contain tidal creeks, ditches and pools.*

The Salt Marsh boundary is demarcated with sequentially numbered blaze orange surveyor’s tape with the words “LEC Resource Area Boundary” embossed in bold, black print, #'s 1-17. The boundary represents a typical transitional upper Salt Marsh with *S. patens* dominating downgradient portions of the Salt Marsh and *S. alterniflora* prevalent along edges of the tidal creeks. Wrack deposits also occur downgradient of the boundary. High-tide bush, groundsel tree (*Baccharis halimifolia*), seaside goldenrod (*Solidago sempervirens*), black grass, and three-square rush (*Schoenoplectus* spp.) are common along the Salt Marsh boundary with *Phragmites* dominating the upper Salt Marsh southeast of the dwelling.

The demarcated Salt Marsh boundary appears to be coincident with the expected highest spring tide based on Nantucket Harbor tidal datum.

Coastal Bank

Coastal Bank is defined at (310 CMR 10.30 (2)) as *the seaward face or side of any elevated landform, other than a Coastal Dune, which lies at the landward edge of a Coastal Beach, land subject to tidal action, or other wetland.*

Coastal Bank is defined in the *Bylaw* (Section 1.02) as *the seaward face or side of any elevated landform, other than a Coastal Dune, which lies at the landward edge of a Coastal Beach, Coastal Dune, land subject to tidal action or coastal storm flowage, or other coastal wetland. Any minor discontinuity of the slope notwithstanding, the top of the bank shall be the first significant break in slope as defined by site specific topographic plan information, site inspection, wetland habitat evaluation, geologic origin, and/or relationship to coastal storm flowage. A bank may be partially or totally vegetated, or it may be comprised of exposed soil, gravel, stone, or sand. A bank may be created by man and/or made of man-made materials. A bank may or may not contribute sediment to coastal dunes, beaches and/or to the littoral drift system. A bank may be significant as a major source of sediment, as a vertical buffer, for wildlife habitat and for wetland scenic views.*

Flood Zone AE (EI 8) extends across developed portions of the property and intercepts the slope south of the dwelling, which is therefore considered to be Coastal Bank by definition. Portions of the slope appear to be greater than 4:1, while others are greater than 10:1 but less than 4:1. Per DEP's *Wetlands Program Policy 92-1: Coastal Banks*, the top of the Coastal Bank is:

B) For a coastal bank with a slope greater than or equal to 4:1 the "top of coastal bank" is that point above the 100-year flood elevation where the slope becomes less than 4:1. (see [Figure 2](#)).

C) For a coastal bank with a slope greater than or equal to 10:1 but less than 4:1, the top of coastal bank is the 100-year flood elevation. (see [Figure 3](#)).

The top of the Coastal Bank appears to be nearly coincident with the southwesterly property boundary, tapering to the northwest as topography flattens within lawn areas on the Our Island Home property.

The on-site Coastal Bank is stable and well-vegetated by black cherry (*Prunus serotina*) and eastern red cedar (*Juniperus virginiana*) saplings, bush honeysuckle and privet (*Ligustrum* spp.) shrubs, and fox grape (*Vitis labrusca*) and Asiatic bittersweet (*Celastrus orbiculata*) vine entanglements.

Land Subject to Coastal Storm Flowage

LSCSF is defined at 310 CMR 10.04 as *land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of record, whichever is greater.*

Flood Zone VE (EI 9) extends nearly coincident with the Salt Marsh boundary, while Flood Zone AE (EI 8) extends across the remaining majority of the subject parcel, intercepting the Coastal Bank.

Summary

Wetland Resource Areas located on-site include Land Subject to Coastal Storm Flowage (LSCSF), Coastal Bank, and Salt Marsh as defined by flag #'s 1-17. These Wetland Resource Areas and their



associated 100-foot Buffer Zones are subject to protection under the *Massachusetts Wetlands Protection Act* (M.G.L., c. 131, s. 40), its implementing *Regulations* (310 CMR 10.00), and/or the *Town of Nantucket Bylaw* (Chapter 136) and *Wetlands Protection Regulations*.

Should you have any questions or require additional information, please do not hesitate to contact me at 508-746-9491 or at bmadden@lecenvironmental.com.

Sincerely,

LEC Environmental Consultants, Inc.

A handwritten signature in black ink that reads "Brian T. Madden". The signature is written in a cursive style.

Brian T. Madden
Wildlife Scientist

19 East Creek Road, Nantucket, MA
Applicant: Gregory Reyes, c/o Steven Cohen



Front of existing dwelling



View of existing dwelling



Side view of existing dwelling



Rear view of existing dwelling



View of existing dock

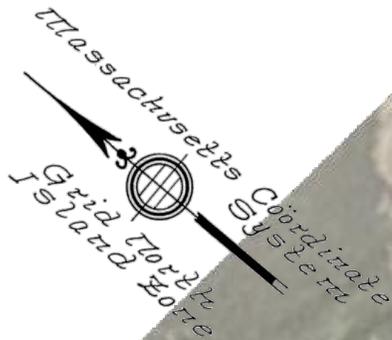


View of existing dock

APPENDIX G

“Site Plan to Accompany a Notice of Intent #19 East Creek Road”
Prepared by Nantucket Surveyors LLC
Dated: September 30, 2016

CURRENT ZONING: LUG-1
 MINIMUM LOT SIZE: 40,000 S.F.
 MINIMUM FRONTAGE: 100'
 FRONTYARD SETBACK: 35'
 SIDE AND REAR SETBACK: 10'
 ALLOWABLE G.C.R.: 7%
 EXISTING G.C.R.: 4%±



NOTES:

- SEE COMMONWEALTH OF MASSACHUSETTS WETLAND RESTRICTIONS LC DOC.#25766 WETLAND#260R
- COASTAL RESOURCE AREAS
 - LAND SUBJECT TO COASTAL STORM FLOWAGE
 - COASTAL BANK
 - SALT MARSH
 - NHESP PRIORITY HABITAT OF RARE SPECIES
 - FLOOD HAZARD ZONES VE. 9 & AE 8 (1988 DATUM)
- DEP ZONE II (WELLHEAD PROTECTION DISTRICT)
- FIRST FLOOR EL. 9.7±(1988 DATUM)
 ZONE VE EL.9, ZONE AE EL. 8

WETLAND LINE AS FLAGGED BY LEC ENVIRONMENTAL CONSULTANTS, INC.

UTILITY EASEMENT SEE L.C. DOC#24618

AREA = 38,586± S.F.
 (OR 0.89± ACRE)

PILE SUPPORTED PIER SEE LICENSE AND PLAN LC DOC# 50163 LICENSE PLAN NO. 2324

EXISTING DWELLING ON PILE FOUNDATION G.C.1600±S.F. C.O. 2183-83

FF.EL.11.07
 SEE NOTE 4

SEWER PUMP PIT

SEE VARIANCE (SIDELINE SETBACK 8.9' WITH CONDITIONS) L.C. DOC#43031

Note:

Elevations refer to Half Tide Level, U.S.C. & G.S., 1934 Base.

Bench Marks:

- BM.#1) Northwest corner of Concrete Bound at Southwest corner of locus - Elev -4.96ft.
- BM.#2) U.S.S. Station 31D at intersection of Orange St. & Milestone Road - Elev -22.13ft.

Legend:

■ ----- Denotes a concrete bound with a drill hole (found) (unless otherwise noted)

Topographical Plan of Land in
NANTUCKET, MASS.
 Scale: 1" = 20' November 8, 1971.
 Schofield Brothers, Inc., Professional Engineers & Reg. Land Surveyors.
 18B Federal Street, Nantucket, Mass.
 Offices in Framingham, Milford & Nantucket.
 Property of Susan G. Cashman



Research by: J.J.S. Drafted by: J.A.M.
 Field Chief: M.S.B. Checked by: J.J.S.
 Topographer: M.S.B. Approved by: J.T.S.
 Computed by: J.J.S. RLS, P.E.

SITE PLAN TO ACCOMPANY
 A NOTICE OF INTENT
 #19 EAST CREEK ROAD
 IN
 NANTUCKET, MASSACHUSETTS
 SCALE: 1"=20' DATE: 9/30/16

DEED REFERENCE: LCC 13552
 PLAN REFERENCE: LCP 37342-A

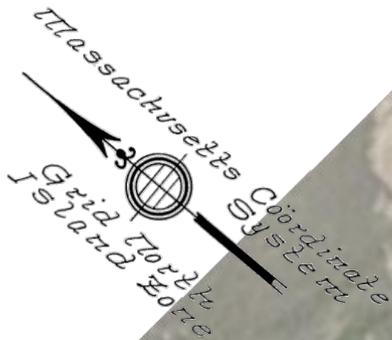
ASSESSOR'S REFERENCE:
 MAP: 55 PARCEL: 60

PREPARED FOR:
 GREG REYES C/O STEVEN COHEN, ESQ.

NANTUCKET SURVEYORS LLC
 5 WINDY WAY
 NANTUCKET, MA. 02554

N-10797

CURRENT ZONING: LUG-1
 MINIMUM LOT SIZE: 40,000 S.F.
 MINIMUM FRONTAGE: 100'
 FRONTYARD SETBACK: 35'
 SIDE AND REAR SETBACK: 10'
 ALLOWABLE G.C.R.: 7%
 EXISTING G.C.R.: 4%±



NOTES:

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- COASTAL RESOURCE AREAS
 - LAND SUBJECT TO COASTAL STORM FLOWAGE
 - COASTAL BANK
 - SALT MARSH
 - NHESP PRIORITY HABITAT OF RARE SPECIES
 - FLOOD HAZARD ZONES VE. 9 & AE 8 (1988 DATUM)
- DEP ZONE II (WELLHEAD PROTECTION DISTRICT)
- FIRST FLOOR EL. 9.7±(1988 DATUM)
 ZONE VE EL.9, ZONE AE EL. 8

WETLAND LINE AS FLAGGED BY LEC ENVIRONMENTAL CONSULTANTS, INC.

PROPOSED BUILDING ENVELOPE

UTILITY EASEMENT SEE L.C. DOC#24618

AREA = 38,586± S.F.
 (OR 0.89± ACRE)

PILE SUPPORTED PIER SEE LICENSE AND PLAN LC DOC# 50163 LICENSE PLAN NO. 2324

EXISTING DWELLING ON PILE FOUNDATION G.C.1600±S.F. C.O. 2183-83

FF.EL.11.07
 SEE NOTE 4

SEWER PUMP PIT

SEE VARIANCE (SIDELINE SETBACK 8.9' WITH CONDITIONS) L.C. DOC#43031

Note:
 Elevations refer to Half Tide Level, U.S.C. & G.S., 1934 Base.

Bench Marks:

- B.M.#1 Northwest corner of Concrete Bound at Southwest corner of locus - Elev -4.96ft.
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■ Denotes a concrete bound with a drill hole (found) (unless otherwise noted)

Topographical Plan of Land in
NANTUCKET, MASS.
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 Schofield Brothers, Inc., Professional Engineers & Reg. Land Surveyors.
 188 Federal Street, Nantucket, Mass.
 Offices in Framingham, Milford & Nantucket.
 Property of Susan G. Cashman



Research by: J.J.S. Drafted by: J.A.M.
 Field Chief: M.S.B. Checked by: J.J.S.
 Topographer: M.S.B. Approved by: J.T.S.
 Computed by: J.J.S. RLS & P.E.

SITE PLAN TO ACCOMPANY
 A NOTICE OF INTENT
 #19 EAST CREEK ROAD
 IN
 NANTUCKET, MASSACHUSETTS
 SCALE: 1"=20' DATE: 9/30/16

DEED REFERENCE: LCC 13552
 PLAN REFERENCE: LCP 37342-A

ASSESSOR'S REFERENCE:
 MAP: 55 PARCEL: 60

PREPARED FOR:
 GREG REYES C/O STEVEN COHEN, ESQ.

NANTUCKET SURVEYORS LLC
 5 WINDY WAY
 NANTUCKET, MA. 02554

N-10797



Notice of Intent Application

September 29, 2016

Subject Property
36 Pocomo Road
Map 14, Parcel 79
Nantucket, Massachusetts

Applicant/Property Owner
Thirty-Six Pocomo Road Nominee Trust
Scott L. & Andrea G. Martin, Trustees
245 Benedict Hill Road
New Canaan, CT 06840

LEC Environmental Consultants, Inc.

12 Resnik Road
Suite 1
Plymouth, MA 02360
508-746-9491
508-746-9492 fax

www.lecenvironmental.com

September 29, 2016

Email (Original via Overnight Mail)

Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

**Re: Notice of Intent Application
 36 Pocomo Road
 Map 14, Parcel 79
 Nantucket, Massachusetts**

[LEC File #: SneK\16-292.01]

Dear Members of the Commission:

On behalf of the Applicant, Thirty-Six Pocomo Road Nominee Trust, LEC Environmental Consultants, Inc., (LEC) is submitting this Notice of Intent (NOI) Application for a vegetative restoration plan on the above-referenced subject parcel. Proposed vegetative restoration/management activities will occur within Isolated Vegetated Wetlands and associated Buffer Zones protected under the *Town of Nantucket Bylaw* (Chapter 136) and *Wetlands Protection Regulations*. The "Proposed Restoration Area" is depicted on the *Proposed Restoration Site Plan of Land* prepared by Blackwell & Associates, Inc., dated September 27, 2016.

Enclosed please find three checks made payable to the Town of Nantucket: Sixty-Seven Dollars and Fifty Cents (\$67.50) for the town portion of the WPA filing fee; Two Hundred Dollars (\$200.00) for the Town Consultant fee; and Twenty-Five Dollars (\$25.00) for the *Bylaw* fee. A check made payable to the *Inquirer and Mirror* (\$266.90) has also been submitted for the legal advertising fee.

Thank you for your consideration of this Application. We look forward to formally meeting with you at the October 19, 2016 Public Hearing to discuss the project further. Should you have any questions or require additional information, please do not hesitate to contact me at 508-746-9491 or bmadden@lecenvironmental.com.

Sincerely,

LEC Environmental Consultants, Inc.



Brian T. Madden
Wildlife Scientist

cc: Thirty-Six Pocomo Road Nominee Trust; Blackwell & Associates, Inc.

- i. WPA Form 3 – Notice of Intent
- ii. WPA Appendix B – Wetland Fee Transmittal Form
- iii. Copy of Filing Fees
- iv. Affidavit of Service
- v. Letter to Abutters
- vi. Abutter Notification Form
- vii. Certified List of Abutters

Wetland Resource Area Analysis and Report

1.	Introduction	1
2.	General Site Description	1
2.1	Floodplain Designation	2
2.2	Natural Heritage and Endangered Species Program Designation	2
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Proposed Restoration Site Plan of Land prepared by Blackwell & Associates, Inc., dated September 27, 2016

1. Introduction

On behalf of the Applicant, Thirty-Six Pocomo Road Nominee Trust, LEC Environmental Consultants, Inc., (LEC) is submitting this Notice of Intent (NOI) Application for a vegetative restoration plan at 36 Pocomo Road. The Nantucket Conservation Commission issued an Enforcement Order on June 2, 2016, for *unpermitted clearing of vegetation within the buffer zone to vegetated wetlands* protected under the *Town of Nantucket Bylaw* (Chapter 136) and *Wetlands Protection Regulations*. LEC was retained by the Applicant to establish protectable Vegetated Wetland boundaries and develop the proposed restoration plan.

The following NOI Application provides a description of the existing site conditions, wetland boundary methodology, and the proposed restoration measures, including proposed monitoring. The “Proposed Restoration Area” is depicted on the *Proposed Restoration Site Plan of Land* prepared by Blackwell & Associates, Inc., dated September 27, 2016. (Appendix D).

2. General Site Description

The 2.8± acre subject parcel is located south of Pocomo Road with residential development abutting to the east, west, and south (Appendix A, Figures 1 & 2). The site itself is currently improved by a single-family dwelling and detached garage, accessed via a shell driveway within the northern portion of the parcel. Prior to the unpermitted clearing, lawn surrounded the structures and extended approximately 130-150± feet south of the dwelling. Lawn areas were recently expanded and meadow conditions were established within the southern portion of the site. Grubbing took place, but topsoil did not appear to be stripped. Brush piles are currently stockpiled around the property. The clearing took place in one Isolated Vegetated Wetland (IVW), the outer perimeter to two separate IVW’s, and the Buffer Zone to a fourth IVW (described further below).

LEC has observed sassafras (*Sassafras albidum*) seedlings germinating within cleared areas in addition to bracken fern (*Pteridium aquilinum*), pilewort (*Erechtites hieracifolia*), and staghorn sumac (*Rhus typhina*).

Forested upland abutting the existing cleared areas is dominated by sassafras with scattered black oak (*Quercus velutina*), black cherry (*Prunus serotina*), pignut hickory (*Carya glabra*), eastern red cedar (*Juniperus virginiana*), and tupelo (*Nyssa sylvatica*) trees. The moderately dense understory is primarily composed of arrowwood (*Viburnum dentatum*), bayberry (*Myrica pensylvanica*), and American hazelnut (*Corylus americana*) shrubs. Fox grape (*Vitis labrusca*) entanglements are prevalent throughout. Dewberry (*Rubus flagellaris*), Japanese honeysuckle (*Lonicera japonica*), poison ivy (*Toxicodendron radicans*), Virginia creeper (*Parthenocissus quinquefolia*), pilewort, and various goldenrods (*Solidago* spp.) occupy portions of the groundcover.

2.1 **Floodplain Designation**

According to the June 9, 2014, Federal Emergency Management Agency Flood Insurance Rate Map for the Town of Nantucket (25019C0084G), the entire project site is located within Zone X, *Areas determined to be outside the 0.2% annual chance flood* (Appendix A, Figure 3).

2.2 **Natural Heritage and Endangered Species Program Designation**

According to the 13th edition of the Massachusetts *Natural Heritage Atlas* (effective October 1, 2008) published by the Natural Heritage & Endangered Species Program (NHESP), the subject parcel does not occur within an Estimated Habitat of Rare Wildlife or Priority Habitat of Rare Species (Appendix A, Figure 4).

3. **Wetland Boundary Determination Methodology**

On August 11, 2016, LEC conducted a site evaluation to identify and characterize existing protectable Wetland Resource Areas located on or immediately adjacent to the subject parcel. The extent of Vegetated (Freshwater) Wetlands was primarily determined through the interpretation of soil characteristics and other indicators of hydrology, in accordance with the principles of DEP’s handbook, *Delineating Bordering Vegetated Wetlands under the Massachusetts Wetlands Protection Act* (March 1995), the *Field Indicators for Identifying Hydric Soils in New England* (April 2004), and the criteria set forth in 310 CMR 10.55(2) and the *Bylaw*, specifically analyzing the depth of high groundwater within 18 inches of the ground surface. Considering the disturbed nature of the site, identification of upland vs. wetland vegetation was utilized as a secondary corroborating indicator to determine Vegetated Wetland boundaries.

Based on these methods, the boundaries of four (4) separate IVW's within or immediately abutting cleared areas were demarcated with sequentially numbered blaze orange surveyor's tape with the words "LEC Resource Area Boundary" embossed in bold, black print and/or "LEC" blaze orange stick-in flags; specifically 1A-6A, 1B-10B, 1C-4C, and 1D-4D. As survey-located by Blackwell & Associates, Inc., the wetland flags are depicted on the *Proposed Restoration Site Plan of Land* (Appendix D). The A and C-series wetland boundaries were extended beyond cleared areas on the *Proposed Restoration Site Plan of Land* based off prior plans of record.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Forms are also included to support the wetland delineation (Appendix C).

4. Wetland Resource Area Descriptions

The following provides additional detail on the on-site Wetland Resource Areas.

4.1 Vegetated (Freshwater) Wetland

A vegetated Freshwater Wetland is defined within Section 1.02 of the Nantucket *Wetlands Protection Regulations* as a *wet meadow, freshwater marsh, swamp, bog, pond, lake, creek, or stream; an area of low topography where ground water, flowing water, standing surface water, or ice provides a significant part of the supporting substrate for a plant community for at least five months a year; characterized by emergent and submergent plant communities in inland waters; and/or where depth to high groundwater is within 18 inches of the ground surface, and/or exhibits hydric soil characteristics and includes that portion of any inland bank which touches any inland waters. Freshwater wetlands are not defined to include drainage facilities constructed to include wetland vegetation as treatment for stormwater runoff.*

The A-series wetland represents the eastern end of a larger IVW mostly located on the westerly abutting property, which was subject to a 2015 Order of Conditions (NAN-120). The interior of the wetland is occupied by a moderately dense canopy of tupelo and red maple (*Acer rubrum*) trees with highbush blueberry (*Vaccinium cororombosum*), sweet pepperbush (*Clethra alnifolia*), and arrowwood shrubs. Common greenbrier (*Smilax rotundifolia*) is prevalent along the wetland boundary. Sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmunda cinnamomea*), and seedlings from the above-listed species compose the groundcover. The interior of this Vegetated Wetland has also been

previously classified as an Isolated Land Subject to Flooding (ILSF) and vernal pool habitat for the documented presence of fairy shrimp (*Eubranchipus vernalis*). LEC demarcated the downgradient maximum extent of flooding to the ILSF/vernal pool habitat with blue surveyor's flags MHW 1-5 based on evidence of leaf staining and other indicators of hydrology in accordance with the Natural Heritage and Endangered Species Program's *Guidelines for Certification of Vernal Pool Habitat* (March 2009), 310 CMR 10.57(2)b, and the *Bylaw* definition. No clearing took place within the ILSF or vernal pool habitat. Clearing extended a maximum of 15 feet into the IVW (5-8± feet on avg.). Sensitive fern and cinnamon fern occur just beyond the cleared edge.

The B-series IVW is located within the southern/southeastern portion of the subject parcel. This IVW was cleared of all pre-existing vegetation. Approximately 4-8" of fill may have been introduced within the western portion of the IVW, immediately downgradient of flag 4B. Meadow grasses (seed mix), smartweed (*Polygonum* spp.), and sedges (*Carex* spp.) currently occur within its interior. The northerly edge is contained within the lawn.

The C-series wetland represents the western end of a larger IVW largely located on the easterly abutting property. Red maple trees occur within the wetland interior (off-site) along with winterberry (*Ilex verticillata*), highbush blueberry, sweet pepperbush, and arrowwood shrubs. Clearing only extended a few feet into the C-series wetland; however, a moderate brush pile occurs along the treeline edge.

The D-series IVW is located within the northwestern portion of the subject parcel, confined to a topographic low point. A handful of highbush blueberry and arrowwood shrubs are encased by fox grape and surrounded by sporadic American hazelnut and bayberry shrubs, in addition to sassafras and tupelo seedlings, pilewort, dewberry, and Virginia creeper within the groundcover. Indicators of high groundwater (redoximorphic features) were documented within 18" of the soil profile (wetland interior). Clearing abuts immediately to the east.

5. Proposed Restoration & Monitoring

The Applicant is proposing to restore the disturbed IVW's and Buffer Zones as depicted on the *Proposed Restoration Site Plan of Land*. The "Proposed Restoration Area" totals 23,574± sf, including the 7,225± sf wetland restoration footprint. While LEC is preparing a specific planting plan, the following reviews the proposed restoration effort.

Existing lawn, meadow grasses, and/or fill within the B-series IVW will be removed and properly disposed of off-site. The area will be reseeded with a wetland seed mix. Red maple saplings (4-6') will be installed 10-15 feet on-center amongst highbush blueberry, winterberry, and sweet pepperbush shrubs (2-3' min.) planted in clusters of 3-4 individuals, 3-5 feet on center.

Red maple saplings, and highbush blueberry, winterberry, and sweet pepperbush shrubs will be planted along disturbed portions of the A-series IVW, while a cluster of highbush blueberry shrubs will be planted within the westerly tip of the disturbed C-series IVW.

The "Proposed Restoration Area" within the Buffer Zone will be planted with pignut hickory and black oak saplings (4-6') 15-25 feet on-center amongst arrowwood, bayberry, and American hazelnut shrubs (2-3' min.) planted in clusters of 3-4 individuals, 3-5 feet on center. Existing lawn areas within the restoration footprint will be reseeded with a native fescue (*Festuca* spp.) seed mix.

Soil amendments and temporary drip line irrigation will be used as necessary. Existing meadow conditions within the southwestern portions of the site will be maintained and mowed no more than once a year.

Additional restoration measures include:

- Removing all in-ground irrigation within the "Proposed Restoration Area";
- Removing all brush piles, grass clippings, or stockpiled railroad ties within IVW's or associated Buffer Zones, to be properly removed of off-site or outside of the 100-foot Buffer Zone;

LEC proposes to monitor the restoration planting effort and conduct a site inspection immediately following planting in the fall of 2016. A summary report will be submitted to the Commission before December 1, 2016. At a minimum, monitoring site evaluations will be conducted during and at the end of the first and second growing seasons to observe vegetative health and cover (2017 & 2018). Monitoring reports will be submitted at the end of the first two growing seasons. The reports will include an assessment of the overall status of the restoration area and recommendations (e.g., management or additional plant material if necessary). The report will also document the presence of any invasive species present within the Restoration Area and implemented or recommended management methods. Should herbicide treatment be necessary, the Natural Resources Coordinator will be consulted in advance.

To facilitate the proper restoration of the disturbed IVW's and Buffer Zones, the Applicant is respectfully requesting a Waiver in accordance with Section 1.03 F. 3.a) and c) of the *Nantucket Wetlands Protection Regulations*. The restoration will provide greater than 50% of the area between the 25 and 50-foot Buffer Zones to be naturally vegetated. Furthermore, the Applicant is proposing to fully restore (revegetate) areas within 50 feet of the ILSF/vernal pool habitat.

6. Summary

On behalf of the Applicant, Thirty-Six Pocomo Road Nominee Trust, LEC is submitting this NOI Application for a vegetative restoration plan within isolated Vegetated Wetlands and Buffer Zones protected under the *Town of Nantucket Bylaw* (Chapter 136) and *Wetlands Protection Regulations*. The proposed restoration plan and monitoring has been designed to facilitate the successful re-establishment of naturally vegetated IVW's and Buffer Zones on-site.

Federal Emergency Management Agency Flood Insurance Rate Map, Town of Nantucket (25019C0084G) effective June 9, 2014.

Massachusetts Natural Heritage Atlas, 13th Edition. Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries and Wildlife, Route 135, Westborough, MA 01581, http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

Massachusetts Wetlands Protection Act (M.G.L. c. 131, §. 40) and its implementing *Regulations* (310 CMR 10.00), www.state.ma.us/dep.

Guidelines for Certification of Vernal Pool Habitat. March 2009. Massachusetts Natural Heritage and Endangered Species Program.

Sorrie, B. and Dunwiddie, P. 1996. *The Vascular and Non-Vascular Flora of Nantucket, Tuckernuck, and Muskeget Islands*. Massachusetts Audubon Society, Massachusetts Natural Heritage and Endangered Species Program, Nantucket Maria Mitchell Association, and The Natural Conservancy.

Town of Nantucket Bylaw (Chapter 136) and *Wetlands Protection Regulations*.

United States Department of Agriculture, Soil Conservation Service, in cooperation with Massachusetts Agricultural Experiment Station, Soil Survey for Nantucket County, Massachusetts, issued June 1979.

Laurentide Environmental, LLC
14 South Shore Road
Nantucket, MA 02554

e-mail: laurentideenvironmental@comcast.net

(508) – 332 – 9722

Field Inspection Report

Date: October 15, 2016

Applicant / Owner: Thirty-six Pocomo Nominee Trust

Location: 36 Pocomo Road

Agent: LEC Environmental Consultants - Brian Madden

Comments: Developed lot off Pocomo Road. The NOI was filed as a result of an Enforcement Order issued by the Conservation Commission. The unpermitted work was conducted during the summer of 2016. The property was purchased by the current owners in October of 2006.

The unpermitted work included brushcutting, clearing, grade changes, and planting of grasses inside and in the buffer zones to Isolated Vegetated Wetlands and Vegetate Wetlands on the property. The woody debris was scraped off the cut areas and piled near the southern property line.

The NOI application provides a description of the unpermitted work and calculated that approximately 7,225 square feet of actual wetlands was altered.

The larger altered wetland was likely to have been a vernal pool and at the very least vernal pool habitat.

A proposed restoration and monitoring plan was submitted as part of the NOI.

The proposed restoration plan is inadequate in at least the following areas:

1. No re-planting has been submitted, although the NOI states that it is being worked on.
2. The proposed plantings are insufficient to restore the altered wetlands and buffers to their prior condition within the foreseeable future.
3. Additional information as to the prior contours compared to the existing ones needs to be submitted in order to evaluate the watershed(s) to the altered wetlands.

4. The prior condition of the site was overgrown and shaded. How are these conditions going to be replicated as part of the restoration plan?
5. The two year monitoring plan is inadequate to evaluate the success/failure of the restoration efforts.
6. A plan overlaying the prior conditions to the wetland boundaries should be submitted. This will help in evaluating the conditions prior to the unpermitted work.
7. The use of herbicides within the Commission's jurisdiction in the future to control invasives should require the applicant to come back to the Commission with a more detailed plan not just consultation with the Natural Resources Coordinator.
8. The revised plan should delineate how the undisturbed buffer is going to be demarcated into the future to prevent additional unpermitted disturbances.

The wetland boundary between flags 3B and 2B is higher than shown in the field. There was a finger of standing water and soggy ground found during the inspection.

Questions and Recommendations:

Restoring the vernal pool and its habitat to the largest altered wetland should be a focus of this NOI. Critically important to this restoration is the amount and depth of water and shading that will allow it to last longer.

A further review of the submitted materials is recommended.

Inspector: B. Perry



LEC

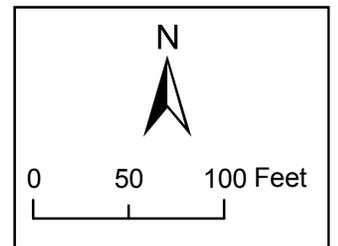
Environmental Consultants, Inc.

Plymouth, MA
508.746.9491

www.lecenvironmental.com

Figure 2: MassGIS Orthophoto
36 Pocomo Road
Nantucket, MA

September 29, 2016





Photograph 1: Southerly view of clearing to easterly end of A-series IVW (8/11/16).



Photograph 2: Easterly view of B-series IVW (8/11/16).

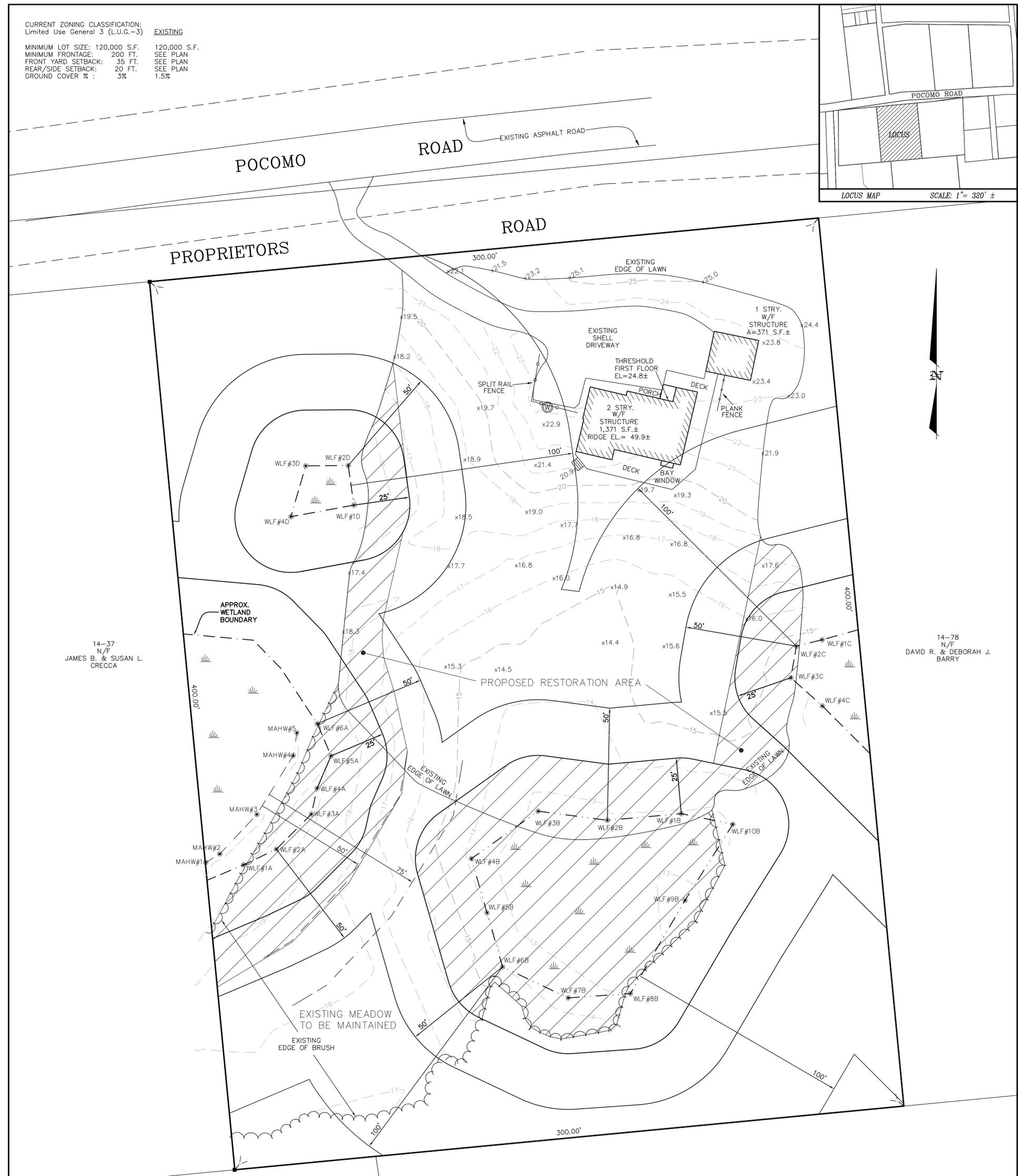
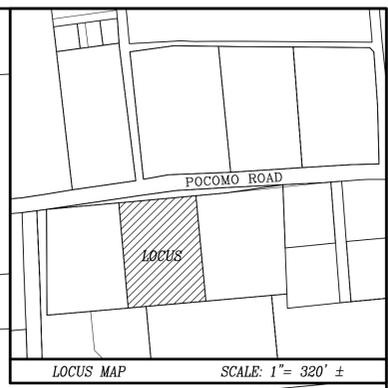


Photograph 3: Easterly view of westerly end of C-series IVW (8/11/16).



Photograph 4: D-series IVW (8/11/16).

CURRENT ZONING CLASSIFICATION:
 Limited Use General 3 (L.U.G.-3) EXISTING
 MINIMUM LOT SIZE: 120,000 S.F. 120,000 S.F.
 MINIMUM FRONTAGE: 200 FT. SEE PLAN
 FRONT YARD SETBACK: 35 FT. SEE PLAN
 REAR/SIDE SETBACK: 20 FT. SEE PLAN
 GROUND COVER % : 3% 1.5%



14-37
 N/F
 JAMES B. & SUSAN L.
 CRECCA

14-78
 N/F
 DAVID R. & DEBORAH J.
 BARRY

14-36.1
 N/F
 ROBERT C. & SUZANNE
 WRIGHT

14-35
 N/F
 ROBERT C. & SUZANNE
 WRIGHT

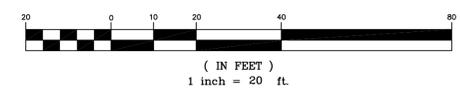
PROPOSED RESTORATION AREA: 23,574 S.F.
 PROPOSED WETLAND RESTORATION AREA: 7,225 S.F.

Proposed Restoration
 Site Plan of Land
 in
 Nantucket, Mass.
 Prepared for
**THIRTY-SIX POCOMO ROAD
 NOMINEE TRUST**

Scale: 1" = 20' SEPTEMBER 28, 2016

BLACKWELL & ASSOCIATES, Inc.
 Professional Land Surveyors
 20 TEASDALE CIRCLE
 NANTUCKET, MASS. 02554
 (508) 228-9026

GRAPHIC SCALE



LEGEND

- dhCB ■ DENOTES CONCRETE BOUND WITH DRILLHOLE FOUND
- ⊙ DENOTES EXIST. WELL
- ⋈ DENOTES EXIST. EDGE OF BRUSH
- 25 --- DENOTES EXIST. GRADE CONTOUR
- 22.3 DENOTES EXIST. GRADE SPOT ELEVATION
- WLF #4 ⊙ DENOTES EXIST. WETLAND FLAG
- ⋈ DENOTES EXIST. WETLAND DELINEATION

OWNER INFORMATION

THIRTY SIX POCOMO ROAD NOMINEE TRUST
 Cert. #23066, L.C.
 L.C. PLAN 6283-H LOT #11
 #36 POCOMO ROAD

Proposed Wetland and Buffer Zone Restoration Planting Plan

36 Pocomo Road
Nantucket, MA

October 14, 2016

PREPARED BY:

LEC
Environmental Consultants, Inc.
12 Resnik Road
Suite 1
Plymouth, MA 02360
508.746.9491
508.746.9492 fax
email: southlec@lecenvironmental.com
www.lecenvironmental.com



SCALE: 1" = 20'
(11 x 17" Print Size)

LEC File: SneK\16-292

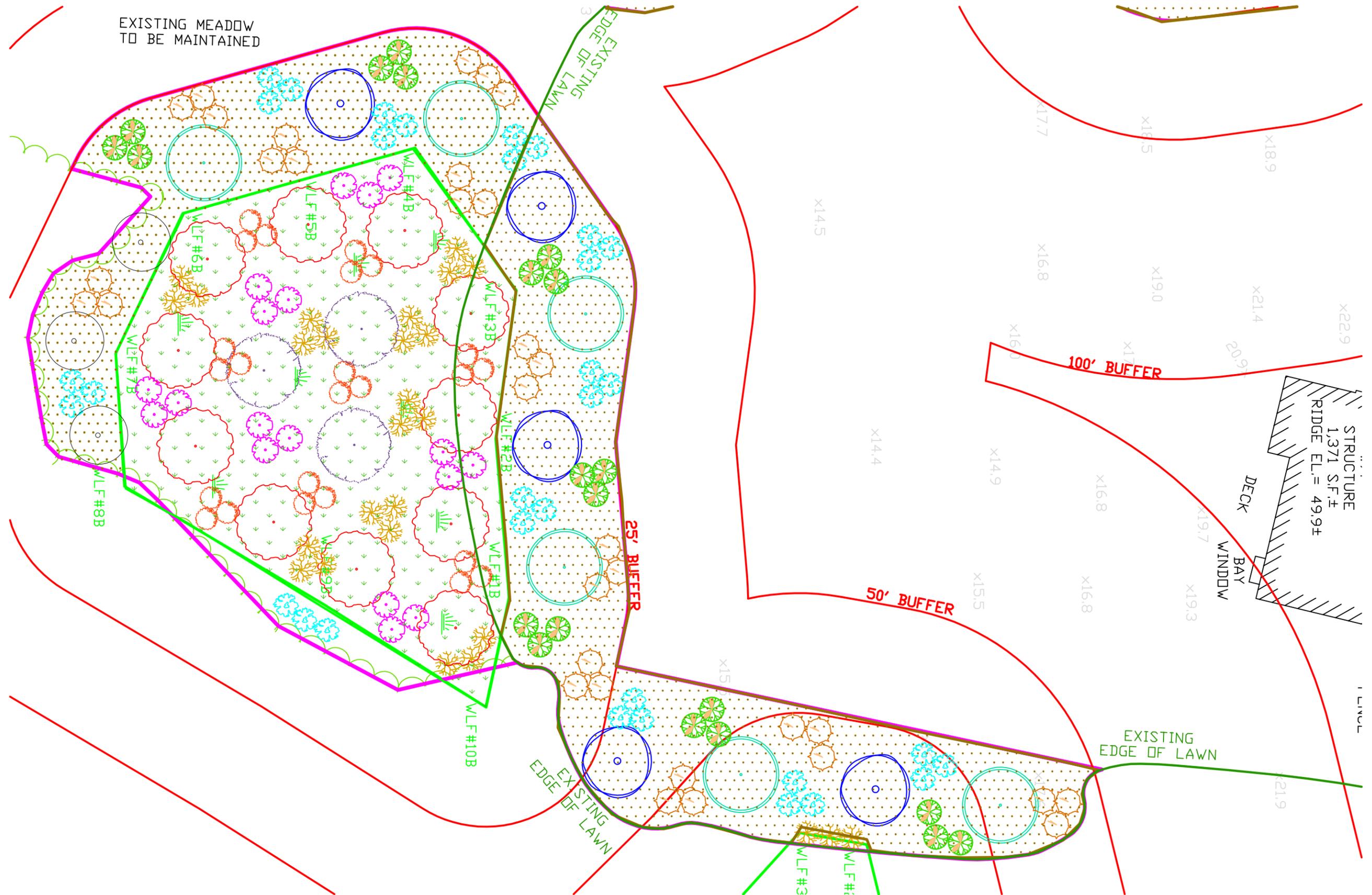
SHEET 2 of 2



Plan adapted by:
LEC Environmental Consultants, Inc.
from plan entitled;

Proposed Restoration Site plan of Land
Dated: 9/28/16

Prepared by:
BLACKWELL & ASSOCIATES, Inc.
Professional Land Surveyors
20 TEASDALE CIRCLE
NANTUCKET, MASS. 02554
(508) 228-9026



Proposed Wetland and Buffer Zone Restoration Planting Plan

36 Pocomo Road
Nantucket, MA

October 14, 2016

PREPARED BY:

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SCALE: 1" = 20'
(11 x 17" Print Size)

LEC File: SneK16-292

SHEET 1 of 2



Plan adapted by:
LEC Environmental Consultants, Inc.
from plan entitled;

Proposed Restoration Site plan of Land
Dated: 9/28/16

Prepared by:
BLACKWELL & ASSOCIATES, Inc.
Professional Land Surveyors
20 TEASDALE CIRCLE
NANTUCKET, MASS. 02554
(508) 228-9026

Common Name	Genus/Species	Size	Planting Specifications	No.
Trees				
red maple	<i>Acer rubrum</i>	4 - 6' min.	singles, 10-15 feet o.c.	11
pignut hickory	<i>Carya glabra</i>	4 - 6' min.	singles, 10-25 feet o.c.	9
white oak	<i>Quercus alba</i>	4 - 6' min.	singles, 10-25 feet o.c.	11
swamp white oak	<i>Quercus bicolor</i>	4 - 6' min.	singles, 10-25 feet o.c.	5
eastern red cedar	<i>Juniperus virginiana</i>	4 - 6' min.	singles, 10-25 feet o.c.	5
Shrubs				
highbush blueberry	<i>Vaccinium corymbosum</i>	2 - 3' min.	in clusters of 3 to 4, 3-5 feet o.c.	27
arrowwood	<i>Viburnum dentatum</i>	2 - 3' min.	in clusters of 3 to 4, 3-5 feet o.c.	51
bayberry	<i>Morella pensylvanica</i>	1 gal.	in clusters of 3 to 4, 3-5 feet o.c.	57
American hazelnut	<i>Corylus americana</i>	2 - 3' min.	in clusters of 3 to 4, 3-5 feet o.c.	39
winterberry	<i>Ilex verticillata</i>	2 - 3' min.	in clusters of 3 to 4, 3-5 feet o.c.	21
sweet pepperbush	<i>Clethra alnifolia</i>	18-24" min.	in clusters of 3 to 4, 3-5 feet o.c.	27

Total: 263

Notes:

All plantings shall be native varieties with no landscape cultivars proposed.

Specific placement of shrubs within the planting area are approximate and may be adjusted in the field.

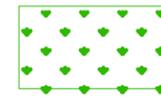
If necessary, any required substitute native shrubs shall be reviewed by the Nantucket Conservation Agent prior to installation.

Existing lawn in the Restoration Areas shall be tilled as needed prior to installing plantings and spreading seedmix.



Buffer Zone Restoration Groundcover

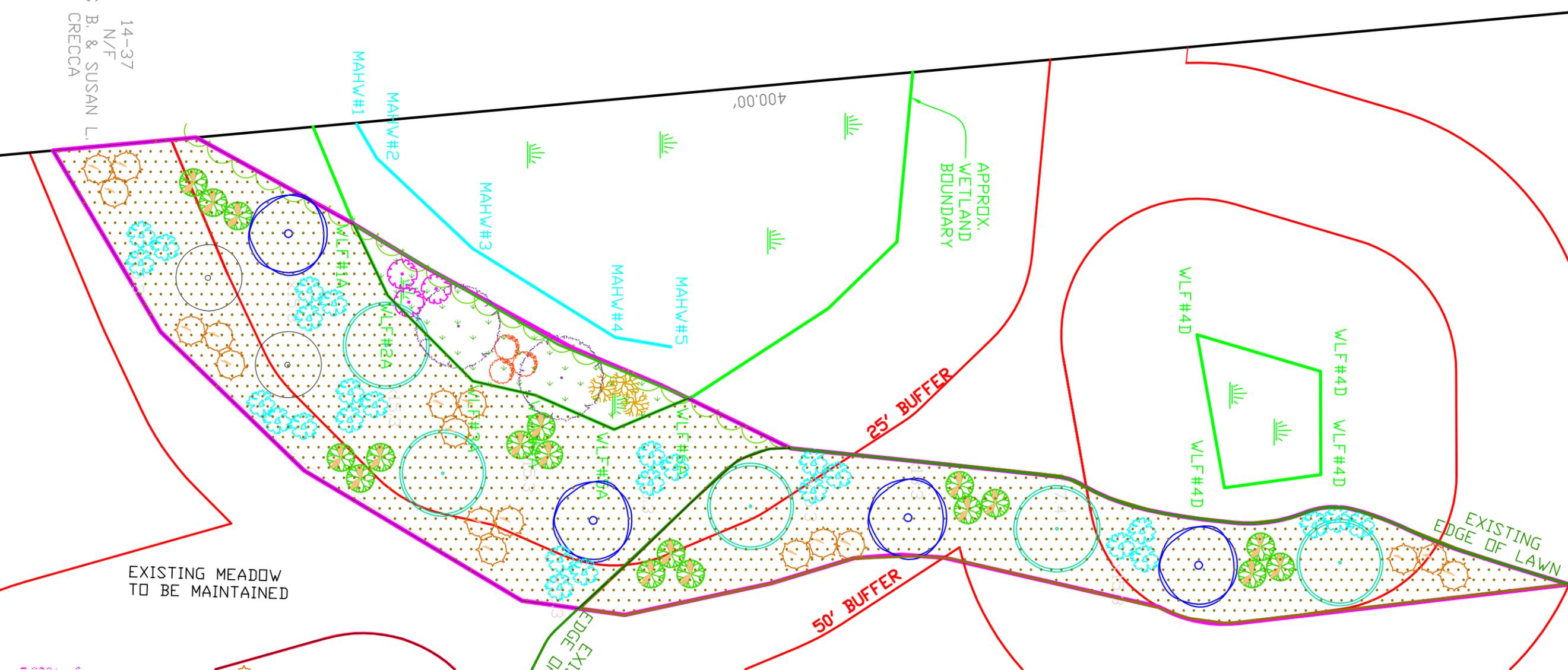
The Buffer Zone Restoration Area shall be seeded with little bluestem (*Schizachyrium scoparium*), pennsylvania sedge (*Carex pensylvanica*), switch grass (*Panicum virgatum*) and native fescue (*Festuca* spp.) seed mix.



Wetland Restoration Groundcover

Native Wetland Seed Mix: Including, but not limited to native sedges, rushes, wool grass, Joe-pye weed, sensitive fern, cinnamon fern, marsh fern, etc..

14-37
N/F
S B. & SUSAN L.
CRECCA





Notice of Intent Report

October 14, 2016

Subject Property

37 Gardner Road
Assessor's Map 43, Parcel 85
Nantucket, Massachusetts

Applicant

Coleman P. Burke
224 12th Avenue, 7th Floor
New York, NY 10001

LEC Environmental Consultants, Inc.

12 Resnik Road, Suite 1
Plymouth, MA 02360
508-746-9491
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October 14, 2016

Federal Express

Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

**Re: Notice of Intent Report
37 Gardner Road
Assessor's Map 43, Parcel 85
Nantucket, Massachusetts**

[LEC File #: BurC\08-346.01]

Dear Members of the Commission:

On behalf of the Applicant, Coleman P. Burke, LEC Environmental Consultants, Inc., (LEC) is submitting this Notice of Intent (NOI) Application to construct biodegradable shore protection measures along the Coastal Bank on the above-referenced property. The purpose of this report is to include a general site description, Wetland Resource Area Analysis, a description of proposed activities, proposed mitigation measures, and regulatory compliance. The proposed measures will occur within a resource area protected under the *Massachusetts Wetlands Protection Act* (M.G.L., c. 131, s. 40), its implementing *Regulations* (310 CMR 10.00), and/or the *Town of Nantucket Bylaw* (Chapter 136) and *Wetlands Protection Regulations (Bylaw)*. Details of the proposed project are depicted on the *Site Plan to Accompany a Notice of Intent* prepared by Nantucket Engineering & Survey, PC., dated October 14, 2016.

Enclosed please find three checks made payable to the Town of Nantucket: Seven Hundred, Seventy-Eight Dollars and Fifty Cents (\$778.50) for the town portion of the WPA filing fee; Two Hundred Dollars (\$200.00) for the Town Consultant fee; and Twenty-Five Dollars (\$25.00) for the *Bylaw* fee. A check made payable to the *Inquirer and Mirror* (\$266.90) has also been submitted for the legal advertising fee. The state portion of the WPA filing fee (\$753.50) has been forwarded to the DEP Lockbox.

Thank you for your consideration of this Application. We look forward to meeting with you at the November 2, 2016 Public Hearing to discuss the project further. Should you have any questions or require additional information, please do not hesitate to contact me (shumphries@lecenvironmental.com) at 508-746-9491.

Sincerely,

LEC Environmental Consultants, Inc.

Stanley M. Humphries
Senior Coastal Geologist

cc: C. P. Burke, Arthur Gasbarro, Seth Wilkinson, DEP SERO

LEC Environmental Consultants, Inc.

www.lecenvironmental.com

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508-753-3177 (Fax)

WORCESTER, MA

P. O. Box 590
Rindge, NH 03461
603-899-6726
603-899-6726 (Fax)

RINDGE, NH

- i. WPA Form 3 – Notice of Intent
- ii. Copy of Filing Fees
- iii. Affidavit of Service
- iv. Letter to Abutters
- v. Abutter Notification Form
- vi. Certified List of Abutters

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Literature Referenced

Appendices

Appendix A

Locus Maps

Figure 1: USGS Topographic Map

Figure 2: NHESP Map

Figure 3: FEMA Flood Insurance Rate Map

Appendix B

Site Plan to Accompany a Notice of Intent, prepared by Nantucket Engineering & Survey, PC, dated October 14, 2016.

Attachments

Work Protocols for Fiber Roll Installation, dated October 14, 2016, prepared by Wilkinson Ecological Design

Planting Specifications, dated October 14, 2016, prepared by Wilkinson Ecological Design



WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
and The Town of Nantucket Wetlands Bylaw Chapter 136

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.



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

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

<u>37 Gardner Road</u>	<u>Nantucket</u>	<u>02554</u>
a. Street Address	b. City/Town	c. Zip Code
Latitude and Longitude:		
<u>Map 43</u>	<u>41°17'18.47" N</u>	<u>70°04'23.16"W</u>
f. Assessors Map/Plat Number	d. Latitude	e. Longitude
	<u>85</u>	
	g. Parcel /Lot Number	

2. Applicant:

<u>Coleman P.</u>	<u>Burke</u>	
a. First Name	b. Last Name	
c. Organization		
<u>224 12th Ave., 7th Floor</u>		
d. Street Address		
<u>New York</u>	<u>NY</u>	<u>10001</u>
e. City/Town	f. State	g. Zip Code
<u>212-696-8090</u>	<u>cpb@wfny.com</u>	
h. Phone Number	i. Fax Number	j. Email Address

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

_____	_____	
a. First Name	b. Last Name	
c. Organization		
d. Street Address		
_____	_____	_____
e. City/Town	f. State	g. Zip Code
_____	_____	_____
h. Phone Number	i. Fax Number	j. Email address

4. Representative (if any):

<u>Stanley M.</u>	<u>Humphries</u>	
a. First Name	b. Last Name	
<u>LEC Environmental Consultants, Inc.</u>		
c. Company		
<u>12 Resnik Road, Suite 1</u>		
d. Street Address		
<u>Plymouth</u>	<u>MA</u>	<u>02360</u>
e. City/Town	f. State	g. Zip Code
<u>508-746-9491</u>	<u>508-746-9492</u>	<u>shumphries@lecenvironmental.com</u>
h. Phone Number	i. Fax Number	j. Email address

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

<u>\$1,532.00</u>	<u>\$753.50</u>	<u>\$778.50</u>
a. Total Fee Paid	b. State Fee Paid	c. City/Town Fee Paid

1. Introduction

On behalf of the Applicant, Coleman P. Burke, LEC Environmental Consultants, Inc., (LEC) is submitting this Notice of Intent (NOI) Report to construct biodegradable shore protection measures along the Coastal Bank at 37 Gardner Road fronting on Nantucket Harbor near Pimny's Point. The protection measures will be placed along the face of the Coastal Bank and within Land Subject to Coastal Storm Flowage, coastal resource areas protected under the *Massachusetts Wetlands Protection Act* (M.G.L., c. 131, s. 40, WPA), its implementing *Regulations* (310 CMR 10.00), and/or the *Town of Nantucket Bylaw* (Chapter 136) and *Wetlands Protection Regulations (Bylaw)*. Details of the proposed project are depicted on the *Site Plan to Accompany a Notice of Intent*, prepared by Nantucket Engineering & Survey, PC, dated October 14, 2016.

The following NOI Report provides a description of the existing site conditions and proposed work activities designed to protect the interests and values of the Wetland Resource Areas enumerated within the above-referenced statutes.

2. General Site Description

The 10.66± acre site is located southwest of Pimny's Point on Nantucket Harbor. The property is accessed via the last driveway prior to the end of Gardner Road at the Point. An extensive Salt Marsh system exists south/southeast of the driveway. Additional residential properties exist to the southwest and one dwelling is located on Pimny's Point.

The site is improved by a single-family dwelling and garage located greater than 50 feet landward of a Coastal Bank. A set of beach stairs is located in the southwest portion of the property approximately 50 feet north of an existing bulkhead which extends from the neighbor's property. Buried sand-filled geotextile bags protect the adjacent Coastal Bank. Native salt tolerant shrubs, a small grassed lawn and some ornamental shrubs surround the developed portion of the property. The topography slopes gently from elevation 9 along the north or harbor side of the property down to elevation 7 along the south or marsh side where Gardner Road passes through the property. The upland portion of the property lies upon Nantucket moraine deposits and the soils are Evesboro sand. The narrow strip of land is not a barrier beach deposit. Three long, narrow strips

of Coastal Beach, Salt Marsh, and Coastal Bank separate the developed portion of the property from the Harbor.

2.1 **Floodplain Designation**

According to the June 9, 2014, Federal Emergency Management Agency *Flood Insurance Rate Maps* for the Town of Nantucket (*Community Panel 25019C0087G*), the majority of the developed site is located within Zone X, *Areas determined to be outside 500-year floodplain*. Areas along the harbor and marsh sides of the property are located within Zone AE (Elevation 9), *Special Flood Hazard Areas inundated by 100-year flood, base flood elevations determined*.

2.2 **Natural Heritage and Endangered Species Program Designation**

According to the 13th edition of the Massachusetts *Natural Heritage Atlas* (effective October 1, 2008) published by the Natural Heritage & Endangered Species Program (NHESP), the southwestern portion of the proposed project is not located within an Estimated Habitat of Rare Wildlife. However, the northeastern portion of the project does occur within a Priority Habitat of Rare Species and consequently requires NHESP review under the *Massachusetts Endangered Species Act* (MESA, M.G.L. c. 131A) and its implementing *Regulations* (321 CMR 10.00).

A prior NOI for 1 Pimny’s Point and 37 Gardner Road (NHESP Tracking No. 10-28012) was previously sent to NHESP for “repair and maintenance of a slope seaward of existing driveway”. In their April 12, 2010 letter, NHESP stated that the project ***will not adversely affect the actual Resource Area Habitat of state-protected rare wildlife species and will not result in a prohibited “take” of state-listed rare species.***

In order to maintain consistency, LEC is forwarding a copy of the NOI to NHESP to confirm the “no adverse affect” and “no take” determinations for this project.

3. **Wetland Resource Areas**

There are several Wetland Resource Areas that occur within or adjacent to the proposed work area, including Salt Marsh, Coastal Beach, Coastal Bank, and Land Subject to Coastal Storm Flowage as described below.

3.1 **Salt Marsh**

According to 310 CMR 10.32 (2), *Salt Marsh means a coastal wetland that extends landward up the highest high tide line, that is, the highest spring tide of the year, and is characterized by plants that are well adapted to or prefer living in, saline soils. Dominant plants within salt marsh are salt meadow cord grass (Spartina patens) and/or salt marsh cord grass (Spartina alterniflora). A salt marsh may contain tidal creeks, ditches and pools.*

A long, narrow (less than 15' wide) strip of high Salt Marsh is located between a Coastal Beach and a Coastal Bank as shown on the plan. The Salt Marsh vegetation is primarily salt-meadow cord grass (*Spartina patens*) that is bordered by beach grass (*Ammophila brevigulata*) on the upland side.

3.2 **Coastal Beach**

Coastal Beach and Tidal Flat are defined at 310 CMR 10.27(2) as *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 bank line or the seaward edge of existing man-made structures, when these structures replace one of the above lines, whichever is closest to the ocean.*

Tidal Flat means any nearly level part of a coastal beach which usually extends from the mean low water line landward to the more steeply sloping face of the coastal beach or which may be separated from the beach by land under the ocean.

Coastal Beach extends landward from Mean Low Water (MLW) of the Harbor to the Salt Marsh and is less than 100 feet wide. The sediments range from fine sand to small gravel in size.

The Massachusetts Coastal Zone Management (MCZM) shoreline change data indicate this area has a long-term erosion rate of approximately 0.72 feet per year (1887–2009) and a short-term rate of 1.84 feet per year (1994 – 2009).

3.3 **Coastal Bank**

Coastal Bank is defined at (310 CMR 10.30 (2)) as *the seaward face or side of any elevated landform, other than a Coastal Dune, which lies at the landward edge of a Coastal Beach, land subject to tidal action, or other wetland.*

Coastal Bank is defined in the *Bylaw* (Section 1.02) as *the seaward face or side of any elevated landform, other than a Coastal Dune, which lies at the landward edge of a Coastal Beach, Coastal Dune, land subject to tidal action or coastal storm flowage, or other coastal wetland. Any minor discontinuity of the slope notwithstanding, the top of the bank shall be the first significant break in slope as defined by site specific topographic plan information, site inspection, wetland habitat evaluation, geologic origin, and/or relationship to coastal storm flowage. A bank may be partially or totally vegetated, or it may be comprised of exposed soil, gravel, stone, or sand. A bank may be created by man and/or made of man-made materials. A bank may or may not contribute sediment to coastal dunes, beaches and/or to the littoral drift system. A bank may be significant as a major source of sediment, as a vertical buffer, for wildlife habitat and for wetland scenic views.*

The Coastal Bank is approximately 4-10 feet in height across the property and parallel to Nantucket Harbor. Shallow water waves, less than 2-feet high, and ice rafting have undercut the toe of the bank resulting in lost vegetation. The bank located north of the beach stairs is naturally vegetated with salt-spray rose (*Rosa rugosa*), northern bayberry (*Myrica pensylvanica*), and beach plum (*Prunus maritima*) with some groundsel tree (*Baccharis halimifolia*) and bush honeysuckle (*Lonicera* sp.). The exposed soil consists of loamy sand and gravel. This section of the bank may contribute sediment to the adjacent Salt Marsh but does not contribute sediment directly to the Coastal Beach. Therefore, this section of the bank is significant as a vertical buffer, for wildlife habitat and for wetland scenic views.

However, the section of bank located south of the beach stairs is a more actively eroding area adjacent to a bulkhead, is protected by buried sand-filled geotextile bags and has been maintained with cover sediment and native vegetation planted every one to two years. Since this section of bank abuts a Coastal Beach, it does contribute sediment as well as providing a vertical buffer to storm waters. This section of the bank is also significant for wildlife habitat and wetland scenic views.

3.4 **Land Subject to Coastal Storm Flowage**

LSCSF is defined at 310 CMR 10.04 as *land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of record, whichever is greater.*

According to the FEMA Flood Insurance Rate Map (FIRM), the site is located in a Zone AE (el. 9) and, therefore, is also defined as Land Subject to Coastal Storm Flowage (LSCSF). With this designation, wave heights are expected to be less than 3' during the 100-year storm. This area is not a high energy environment like that existing along the Atlantic Ocean or even Nantucket Sound.

4. Proposed Project

Proposed work activities involve the construction of coconut fiber logs which are biodegradable (Woods Hole Sea Grant, 2011). The logs consist of entirely coconut fiber material and are not to be confused with sand-filled coir envelopes or tubes. The logs are 20 inches in diameter and up to seven rows of the logs are proposed to be anchored with duck-bills every 2.5 feet. They will extend from the bulkhead eastward to the end of the property for a distance of approximately 383 feet. The buried sand-filled geotextile bags that underlie the Coastal Bank south of the stairs will be removed from the site and replaced with the fiber log array.

Construction access is proposed through an existing, unvegetated beach access at the northeastern portion of the property and from the beach stairs located at the southwestern portion of the property. Temporary plywood sheets will be placed along the landward side of the Salt Marsh to protect it from the small machinery that may be used to deliver the materials to the site. Wilkinson Ecological Design (WED) has proposed *Work Protocols for Fiber Roll Installation* and *Planting Specifications*, both dated October 14, 2016 which describe, in detail, the project construction methodologies. If a contractor proposes any other alternative, the Applicant will confer with staff to determine the necessary approval process.

5. Performance Standards

The following addresses pertinent Performance Standards for work on a Salt Marsh, Coastal Bank and Land Subject to Coastal Storm Flowage.

5.1 **Massachusetts Wetlands Protection Act Regulations**

5.1.1 *Salt Marsh*

As stated in 310 CMR 10.32(2), *When a Salt Marsh is determined to be significant to the protection of marine fisheries, the prevention of pollution, storm damage prevention or groundwater supply, 310 CMR 10.32 (3) through (6) shall apply:*

Standard 10.32 (3) states that *A proposed project in a salt marsh, on lands within 100 feet of a salt marsh, or in a body of water adjacent to a salt marsh shall not destroy any portion of the salt marsh and shall not have an adverse effect on the productivity of the salt marsh. Alterations in growth, distribution and composition of salt marsh vegetation shall be considered in evaluating adverse effects on productivity. This section shall not be construed to prohibit the harvesting of salt hay.* Temporary sheets of plywood will be used so not to allow the machinery or workers traversing the area to destroy any portion of the salt marsh, alter the growth, distribution and composition of the vegetation. The logs can be expected to biodegrade over 15-20 years and have a negligible long-term impact on the marsh.

Standards 10.32 (4) and (5) are not applicable since the project does not involve any *small project* and is not one that will *restore or rehabilitate or create* a salt marsh located on the tidal flat part of the beach.

Standard 10.32 (6) states that *notwithstanding the provisions of 310 CMR 10.32(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.* NHESP previously determined that a prior approved bank protection project on this and the adjacent lot would not adversely affect the actual Resource Area Habitat of state-protected rare wildlife species. While the same determination is anticipated for this filing, a copy of the NOI was submitted to NHESP.

5.1.2 *Coastal Bank*

The section of Coastal Bank that borders on a Salt Marsh is approximately 333 feet in length and the section of bank that borders on a Coastal Beach is approximately 50 feet in length. As stated in 310 CMR 10.30(2), when a coastal bank is determined to be significant to storm damage prevention or flood control because it supplies sediment to coastal beaches, coastal dunes or barrier beaches, 310 CMR 10.30(3) through (5) shall apply and when a coastal bank is determined to be significant to storm damage

prevention or flood control because it is a vertical buffer to storm waters, 310 CMR 10.30(6) through (8) shall apply.

Standards 10.30 (3) and (5) are not applicable since the project does not involve a coastal engineering structure and there is no opportunity to construct a new building within 100 feet landward of the top of a coastal bank.

As stated in 310 CMR 10.30(4), *Any project on a coastal bank or within 100 feet landward of the top of a coastal bank, other than a structure permitted by 310 CMR 10.30(3), shall not have an adverse effect due to wave action on the movement of sediment from the coastal bank to coastal beaches or land subject to tidal action.* Sand nourishment will be provided as cover material for the section of fiber logs that will be installed at the west end of the property so that sediment will continue to be provided to the Coastal Beach. The long-term erosion rate is 0.72 ft./yr.; the length of the fiber log installation is 50 feet; and, the bank height is 10 feet; therefore, a nourishment volume of 13 cubic yards is proposed once a year.

According to 310 CMR 10.30 (6), *Any project on a coastal bank or within 100 feet landward of the top of a coastal bank shall have no adverse effects on the stability of the coastal bank.* The existing sand-filled geotextile bags will be removed and use of anchored coconut fiber logs will improve the long-term stability of the bank. As noted above, WED has prescribed *Work Protocols for Fiber Roll Installation*, dated October 14, 2016 that address both the stability of the bank during and after construction. WED also proposes *Planting Specifications*, dated October 14, 2016 that addresses vegetation and protection of the root systems, resulting in improved stability of the bank.

Standard 10.30 (7) is not applicable since the project does not involve a *coastal engineering structure*.

According to 310 CMR 10.30 (8), *notwithstanding the provisions of 310 CMR 10.30 (3) through (7), no project may be permitted which will have any adverse effect on specified habitat sites or rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.37.* NHESP previously determined that a prior approved bank protection project on this and the adjacent lot would not adversely affect the actual Resource Area Habitat of state-protected rare wildlife species. While the same determination is anticipated for this filing, a copy of the NOI was submitted to NHESP.

5.2 Nantucket Wetlands Protection Regulations

5.2.1 *Salt Marsh*

As listed in Section 2.06B, there are eight regulations. The proposed project type is not listed or addressed in Section 2.06B (1, 2, and 5-8), so these performance standards do not apply. However, the standards listed in Section 2.06B (3 and 4) do apply.

According to Section 2.01B(3), *no proposed project in a salt marsh, or within the lands within 100 feet of a salt marsh, shall destroy any portion of the salt marsh, change species composition of the marsh, have any adverse effect on salt marsh productivity, pollute the salt marsh, or adversely affect water supply.* Installation of the logs will occur within 100 feet of the salt marsh, but temporary sheets of plywood will be used to avoid the destruction of the marsh by equipment and the work crew. The logs can be expected to biodegrade over 15-20 years and have a negligible long-term impact on the marsh.

According to Section 2.06B (4), *all projects which are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to a salt marsh. All structures which are not water dependent shall be no closer than 50-feet from a salt marsh, and all structures shall maintain an undisturbed two-foot separation to high groundwater. Fifty percent (50%) of the area between the 25-foot buffer and the 50-foot buffer shall not be altered. Additional soils and groundwater information may be required for applications in areas of high groundwater.* As a shore protection project that is required solely because of damages to the Coastal Bank caused by flooding, the project should be considered water dependent. Furthermore, coconut fiber logs are biodegradable and are not considered to be structures. It is our understanding that a waiver would not be required.

5.2.2 *Coastal Bank*

This project type is not listed or addressed in Section 2.05B (1, 2, 4 and 6-9), so these performance standards do not apply. However, the standards listed in Section 2.05B (3 and 5) do apply.

According to Section 2.05B (3), *all projects shall be restricted to activity as determined by the Commission to have no adverse effect on the bank height, bank stability, wildlife habitat, vegetation, wetland scenic view, or the use of a bank as a sediment source.*

Coconut fiber logs are a new means of protecting the stability of a Coastal Bank. Soils

and vegetation landward of the logs will be protected from further undermining and instability. Newly planted vegetation will continue to grow and root into the logs below. As a result, wildlife habitat will be protected and there will not be a long-term impact on wetland scenic views.

According to Section 2.05B (5), *all projects which are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to a coastal bank. All structures which are not water dependent shall be no closer than 50-feet from a coastal bank.* As a shore protection project that is required solely because of damages to the Coastal Bank caused by flooding, the project should be considered water dependent. Furthermore, coconut fiber logs are biodegradable and are not considered to be structures. It is our understanding that a waiver would not be required.

5.2.3 *Land Subject to Coastal Storm Flowage*

This project type is not listed or addressed in Section 2.10B (2 -5), so these performance standards do not apply. However, the standard listed in Section 2.10B (1) does apply.

The provisions of Section 2.10B (1) state *the work shall not reduce the ability of the land to absorb and contain flood waters, or to buffer inland areas from flooding and wave damage.* The project will increase or improve the ability of the Coastal Bank slope to absorb and contain coastal flood waters.

6. **Summary**

On behalf of the Applicant, Coleman P. Burke, LEC Environmental Consultants, Inc., (LEC) is submitting this NOI Report to construct biodegradable shore protection measures along the Coastal Bank at 37 Gardner Road fronting on Nantucket Harbor near Pimny's Point. The protection measures will be placed on the face of the Coastal Bank and within Land Subject to Coastal Storm Flowage, coastal resource areas protected under the WPA and *Bylaw*. Details of the proposed project are depicted on the *Site Plan to Accompany a Notice of Intent*, prepared by Nantucket Engineering & Survey, PC, dated October 14, 2016. This project has been proposed to comply with the above-referenced statutes and regulations.

Federal Emergency Management Agency Flood Insurance Rate Maps, Town of Nantucket (Community Panel 25019C0087G), June 9, 2014.

Massachusetts Office of Coastal Zone Management (CZM) Shoreline Change Project, 2012.

Massachusetts Natural Heritage Atlas, 13th Edition. Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries and Wildlife, Route 135, Westborough, MA 01581, www.state.ma.us/dfwele/dfw/nhesp.

Massachusetts Wetlands Protection Act (M.G.L. c. 131, §. 40) and its implementing *Regulations* (310 CMR 10.00), www.state.ma.us/dep.

Oldale, Robert N., 1985. *Geologic Map of Nantucket and Nearby Islands, Massachusetts*, Map I-1580 Department of the Interior, U.S. Geological Survey.

Town of Nantucket Bylaw (Chapter 136) and *Wetlands Protection Regulations*.

United States Department of Agriculture, Soil Conservation Service, in cooperation with Massachusetts Agricultural Experiment Station, Soil Survey for Nantucket County, Massachusetts, issued June 1979.

Woods Hole Sea Grant, 2011. Biodegradable Erosion Control *in Marine Extension Bulletin*. 4pp. www.whoi.edu/seagrant

SITE PLAN OF LAND TO ACCOMPANY A NOTICE OF INTENT

IN NANTUCKET MA.

PREPARED FOR:

COLEMAN P. BURKE

#37 GARDNER ROAD

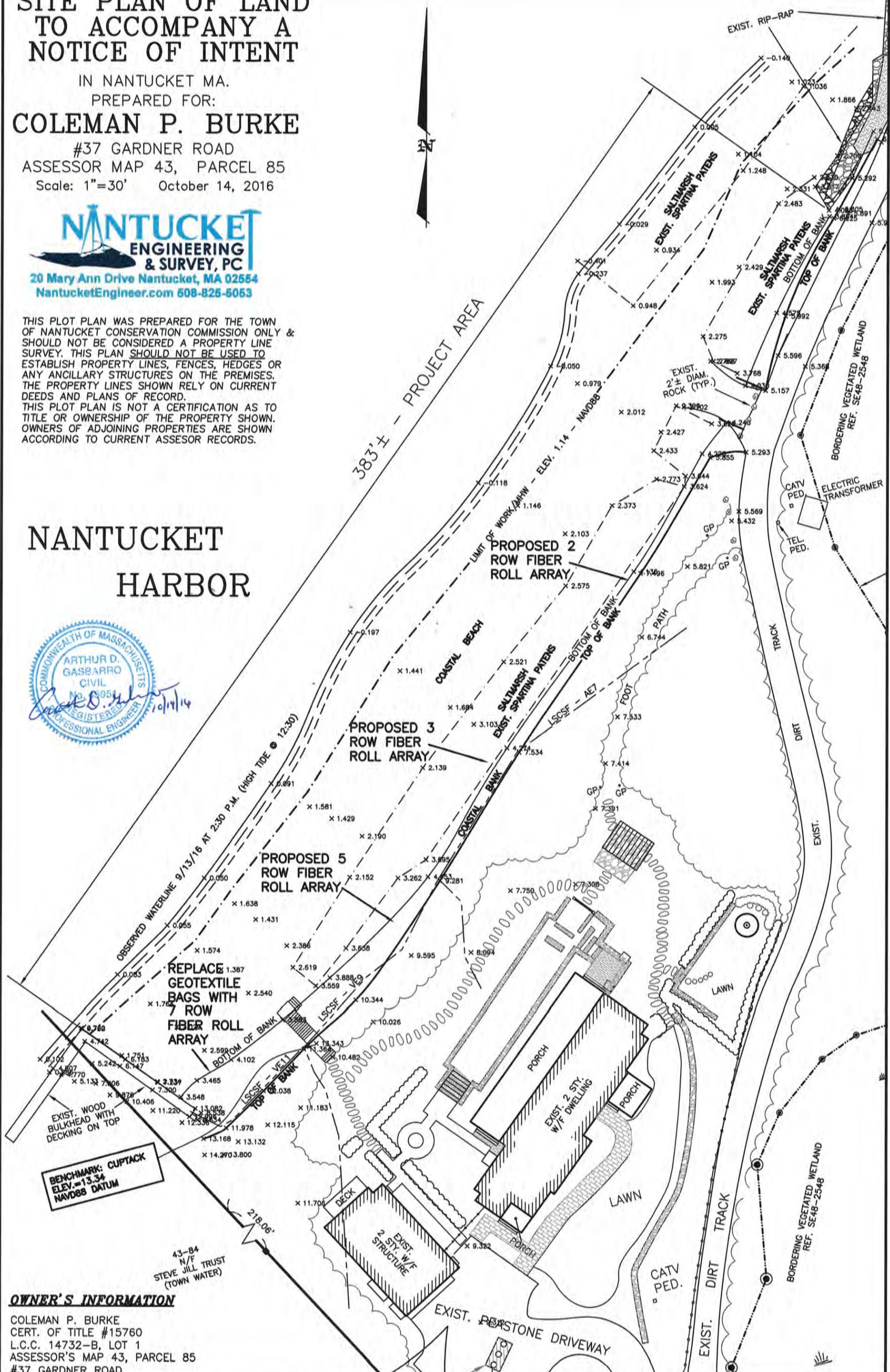
ASSESSOR MAP 43, PARCEL 85

Scale: 1"=30' October 14, 2016



THIS PLOT PLAN WAS PREPARED FOR THE TOWN OF NANTUCKET CONSERVATION COMMISSION ONLY & SHOULD NOT BE CONSIDERED A PROPERTY LINE SURVEY. THIS PLAN SHOULD NOT BE USED TO ESTABLISH PROPERTY LINES, FENCES, HEDGES OR ANY ANCILLARY STRUCTURES ON THE PREMISES. THE PROPERTY LINES SHOWN RELY ON CURRENT DEEDS AND PLANS OF RECORD. THIS PLOT PLAN IS NOT A CERTIFICATION AS TO TITLE OR OWNERSHIP OF THE PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE SHOWN ACCORDING TO CURRENT ASSESOR RECORDS.

NANTUCKET HARBOR



OWNER'S INFORMATION

COLEMAN P. BURKE
CERT. OF TITLE #15760
L.C.C. 14732-B, LOT 1
ASSESSOR'S MAP 43, PARCEL 85
#37 GARDNER ROAD

WILKINSON

ECOLOGICAL DESIGN

28 Lots Hollow Road | Orleans, MA 02653

Tel:(508)255-1113 | Fax:(508)255-9477

PLANTING SPECIFICATION

37 Gardner Road, Nantucket

October 14, 2016

COASTAL BANK PLANTING FORBES AND GRASSES

Common Name	Latin Name	Size	Density
American Beachgrass	<i>Ammophila breviligulata</i>	2" Plugs	12" O.C.
Purple Love Grass	<i>Eragrostis spectabilis</i>	2" Plugs	12" O.C.
Switchgrass	<i>Panicum virgatum</i>	2" Plugs	12" O.C.
Little Bluestem	<i>Schizachyrium scoparium</i>	2" Plugs	12" O.C.
Seaside Goldenrod	<i>Solidago sempervirens</i>	2" Plugs	12" O.C.

COASTAL BANK PLANTING SHRUBS

Common Name	Latin Name	Size	Density
Beachplum	<i>Prunus maritima</i>	1 Gallon Pot	4' O.C. in Clusters
Bayberry	<i>Myrica pensylvanica</i>	1 Gallon Pot	4' O.C. in Clusters

WILKINSON SALT-TOLERANT NATIVE GRASS SEED MIXTURE

Common Name	Latin Name	Percentage by Weight
Broomsedge	<i>Andropogon virginicus</i>	18%
Creeping Red Fescue	<i>Festuca rubra</i>	20%
Purple Love Grass	<i>Eragrostis spectabilis</i>	3%
Sideoats Grama	<i>Bouteloua curtipendula</i>	8%
Little Bluestem	<i>Schizachyrium scoparium</i>	18%
Switchgrass	<i>Panicum virgatum</i>	8%
Virginia Wildrye	<i>Elymus virginicus</i>	25%



WILKINSON

ECOLOGICAL DESIGN

28 Lots Hollow Road | Orleans, MA 02653

Tel:(508)255-1113 | Fax:(508)255-9477

WORK PROTOCOLS FOR FIBER ROLL INSTALLATION

37 Gardner Road, Nantucket

October 14, 2016

SCHEDULE AND ACCESS

Initial stabilization work will be conducted in the fall/winter of 2016. All equipment will access the beach through an existing entry point off Gardner Road as noted on the Site Plan by Nantucket Engineering dated October 14, 2016. During construction, all vegetation seaward of the proposed fiber roll array will be protected using AlturnaMats made of recycled HDPE material. A meiofauna study is proposed and will begin prior to the start of construction.

The proposed fiber roll array will consist of a tapered height design consisting of a seven-high array at the southern end near the residence, and will taper down to a two-high array at its northern terminus. Refer to the Site Plan for proposed sections. The lowest courses of fiber rolls are installed first, and construction continues up gradient to reach the proposed height in compliance with the Site Plan. Anchoring is installed as the array is constructed using Size DB88 Duckbill Anchors (or comparable equivalent). All low-density fiber rolls will be pre-vegetated with American beach grass and other native plant species at twelve inches on center. All fiber rolls will be identified with stainless steel tags noting the project address.

The embankment will then be immediately seeded with the specified native seed mixture and 100% biodegradable erosion control blankets will be properly installed over all disturbed sediments on the project area. Plugs of specified native herbaceous grass species will then be planted through the erosion control blankets. Bayberry and beach plum will be installed following the plugging of herbaceous species. A temporary irrigation system will also be installed at this time to water the bank and encourage rapid colonization of the embankment within the first three years after planting. Following establishment of the plantings, the irrigation system will be disconnected and removed from the embankment.

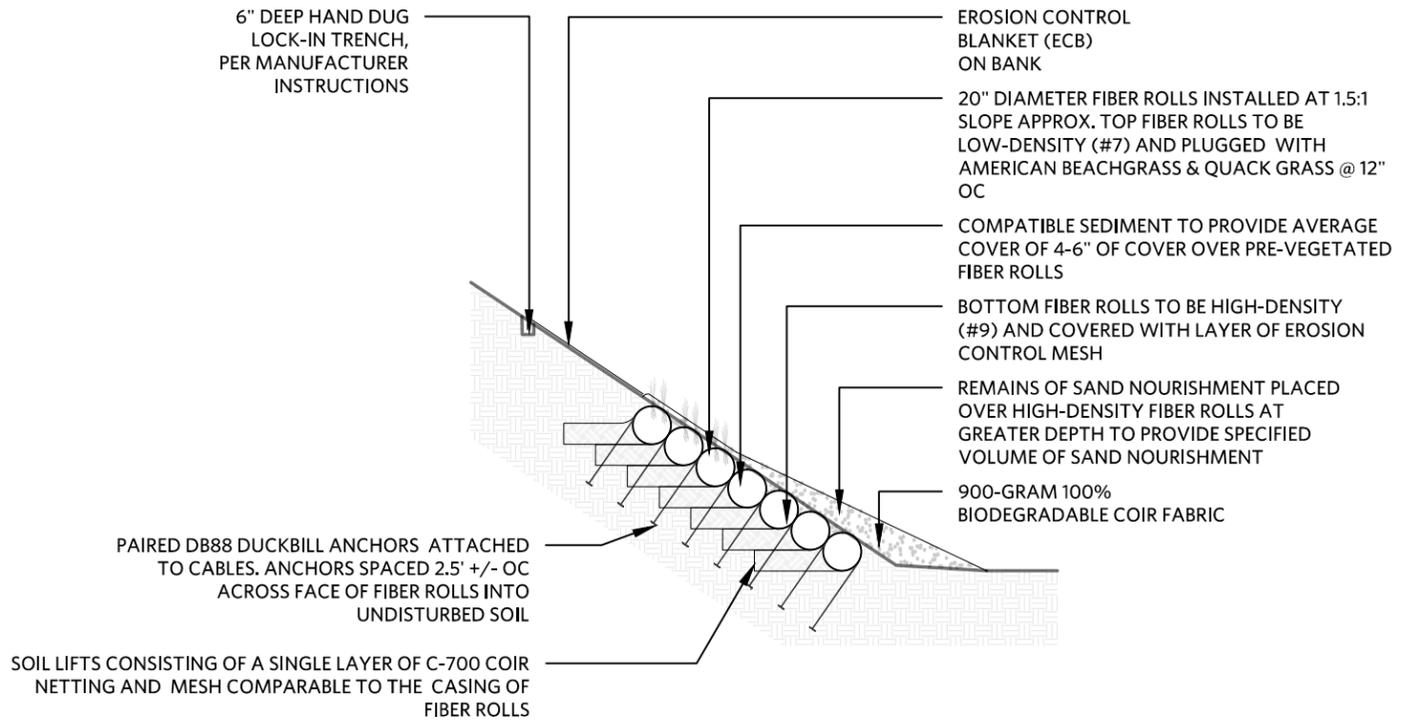
SEDIMENT NOURISHMENT

Annually, in late March through early May, the fiber roll array will be re-nourished with compatible beach sand to address ongoing beach nourishment to preserve the function of supplying the adjacent coastal resources with an ongoing sediment source and extend the life of the fiber roll array. The goal of the sediment nourishment will be to annually maintain 4-6" of sediment cover over the fiber rolls. The access point along Gardener Road will be utilized for the annual nourishment.

ONGOING MAINTENANCE

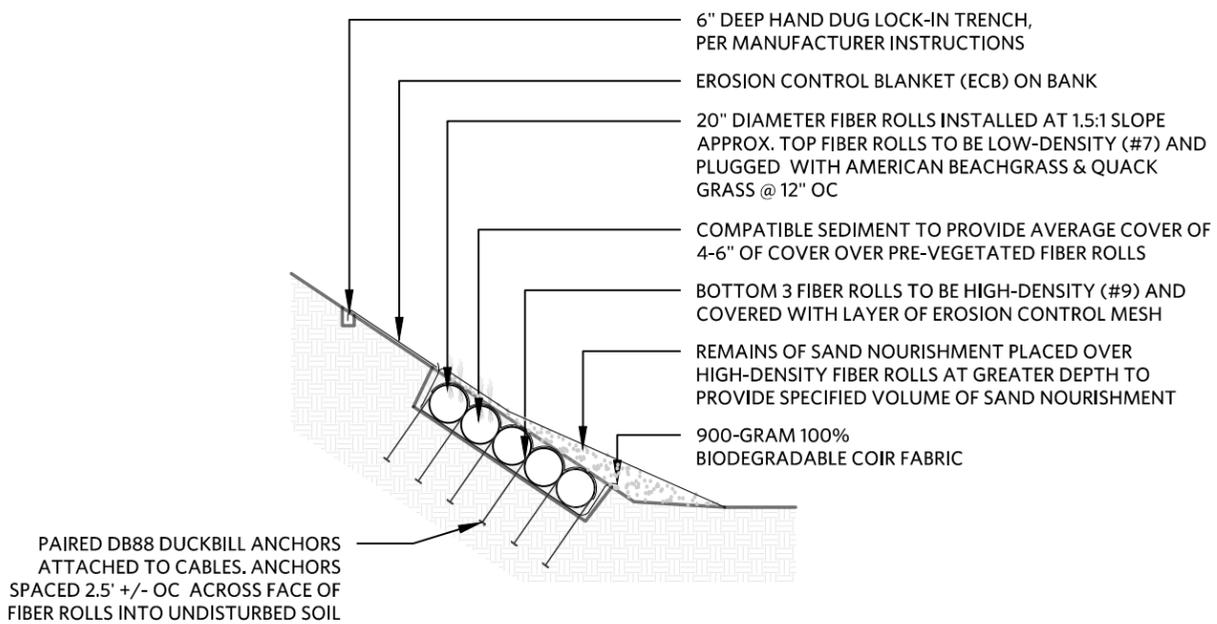
Maintenance of the fiber roll array and associated plants and bioengineering materials is critical for the long-term success of this erosion management strategy. On an annual basis, two primary activities are proposed. First, annual sand nourishment, an activity which is described above, should be conducted on a long-term basis in order to maintain compliance with the protected function of providing adjacent coastal resource areas with a sediment source. Secondly, in the winter months, it is anticipated that minor maintenance activities such as tightening anchor cables, repairing erosion control blankets, and repositioning fiber rolls may be necessary. Repairs following significant storms may also be necessary as an ongoing activity. Upon the necessity of any repairs or for regularly scheduled maintenance, the Conservation Commission shall be notified through its Conservation Administrator in advance of conducting any activities. The meiofauna study will be conducted annually for the first three years after construction.





1 FIBER ROLL REINFORCED LIFT SECTION SEVEN-HIGH, TYPICAL

Scale: 1/8" = 1'

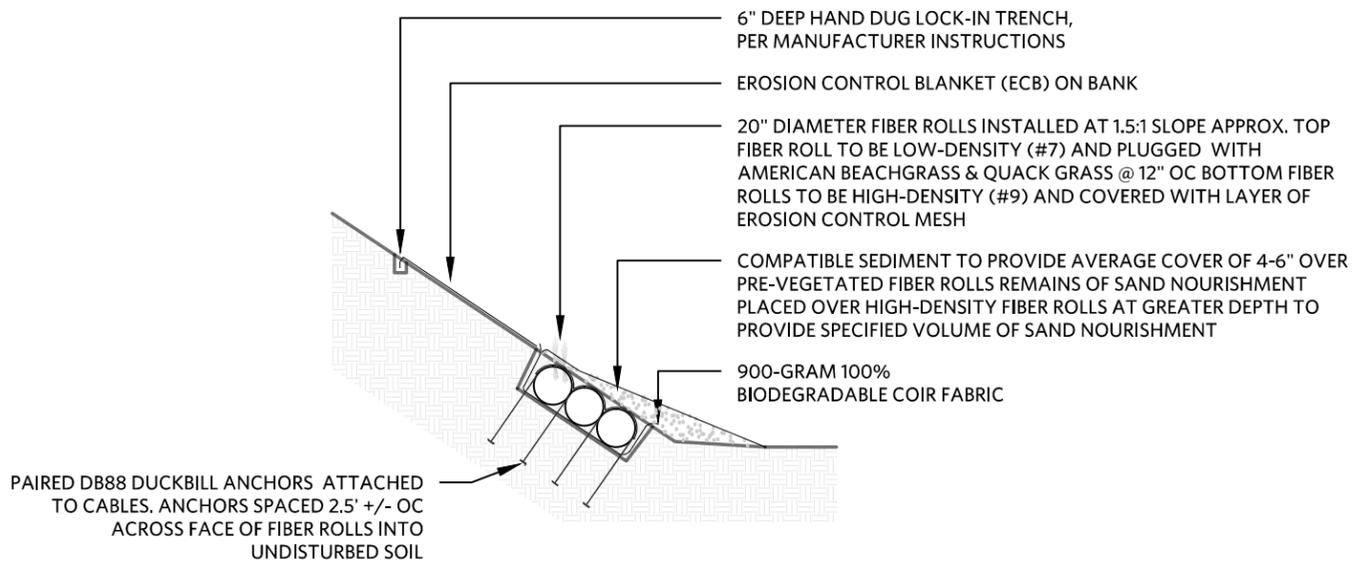


2 FIBER ROLL SECTION FIVE-HIGH, TYPICAL

Scale: 1/8" = 1'

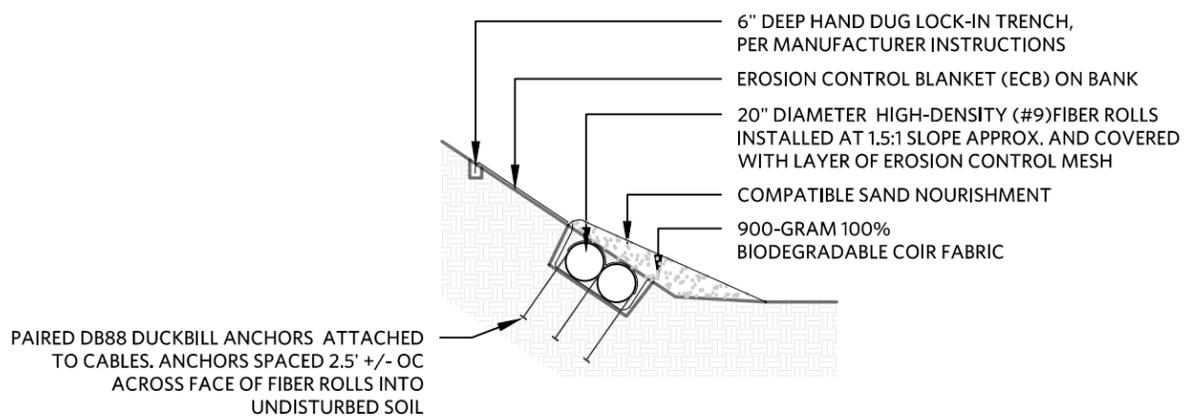
<p>WILKINSON ECOLOGICAL DESIGN</p> <p>28 LOTS HOLLOW RD., ORLEANS, MA 02653 TEL: (508) 255-1113 FAX: (508) 255-9477 WWW.WILKINSONECOLOGICAL.COM</p>	<p>LEGEND:</p>	<p>SURVEY PROVIDED BY:</p>	<p>NOTES:</p>	<p>BURKE 37 GARDNER ROAD NANTUCKET</p>	
				<p>DATE: 10/14/2016</p>	<p>SCALE: 1/8" = 1'</p>
<p>THIS DRAWING AND ALL IDEAS EMBODIED THEREIN IS PROPRIETARY INFORMATION OF WILKINSON ECOLOGICAL DESIGN, INC. (WED) AND SHALL NOT BE COPIED, REPRODUCED, OR DISCLOSED IN CONNECTION WITH ANY WORK OTHER THAN THE PROJECT FOR WHICH IT HAS BEEN PREPARED. IN WHOLE OR PART, WITHOUT PRIOR WRITTEN AUTHORIZATION FROM WED.</p> <p>© 2016 WILKINSON ECOLOGICAL DESIGN, INC.</p>				<p>DRAWN BY: ES</p>	<p>CHECKED BY: SW</p>
				<p>FOR PERMITTING PURPOSES ONLY THIS DRAWING IS NOT INTENDED FOR CONSTRUCTION</p>	

14-Oct-16 k:\clients\gardner_road_37_nantucket\design\documents\2016_coastal_stabilization\coastal_stabilization\20161013_typical_sections_gardner_37_nantucket.dwg



1 FIBER ROLL SECTION THREE-HIGH, TYPICAL

Scale: 1/8" = 1'



2 FIBER ROLL SECTION TWO-HIGH, TYPICAL

Scale: 1/8" = 1'

WILKINSON
ECOLOGICAL DESIGN

28 LOTS HOLLOW RD., ORLEANS, MA 02653
TEL: (508) 255-1113 FAX: (508) 255-9477
WWW.WILKINSONECOLOGICAL.COM

THIS DRAWING AND ALL IDEAS EMBODIED THEREIN IS PROPRIETARY INFORMATION OF WILKINSON ECOLOGICAL DESIGN, INC. (WED) AND SHALL NOT BE COPIED, REPRODUCED, OR DISCLOSED IN CONNECTION WITH ANY WORK OTHER THAN THE PROJECT FOR WHICH IT HAS BEEN PREPARED. IN WHOLE OR PART, WITHOUT PRIOR WRITTEN AUTHORIZATION FROM WED.

© 2016 WILKINSON ECOLOGICAL DESIGN, INC.

LEGEND:

SURVEY PROVIDED BY:

NOTES:

REV	DATE	DESCRIPTION

BURKE
37 GARDNER ROAD
NANTUCKET

DATE: 10/14/2016	SCALE: X" X" X'-0"
DRAWN BY: ES	CHECKED BY: SW

FOR PERMITTING PURPOSES ONLY
THIS DRAWING IS NOT INTENDED FOR
CONSTRUCTION

TYPICAL SECTIONS **1 OF 2**

REQUESTS FOR DETERMINATION



WPA Form 1- Request for Determination of Applicability

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

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:

Irene Parent _____ n/a _____
 Name E-Mail Address

9823 FATHOM CT _____
 Mailing Address

FORT MYERS _____ FL _____ 33919 _____
 City/Town State Zip Code

n/a _____ n/a _____
 Phone Number Fax Number (if applicable)

2. Representative (if any):

Emack Surveying, LLC _____
 Firm

Robert Emack _____ emackack@comcast.net _____
 Contact Name E-Mail Address

2 Washaman Avenue _____
 Mailing Address

Nantucket _____ MA _____ 02554 _____
 City/Town State Zip Code

508-325-0940 _____ n/a _____
 Phone Number Fax Number (if applicable)

B. Determinations

1. I request the Nantucket _____ make the following determination(s). Check any that apply:
 Conservation Commission

- a. whether the **area** depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.
- b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.
- c. whether the **work** depicted on plan(s) referenced below is subject to the Wetlands Protection Act.
- d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any **municipal wetlands ordinance** or **bylaw** of:

Nantucket _____
 Name of Municipality

- e. whether the following **scope of alternatives** is adequate for work in the Riverfront Area as depicted on referenced plan(s).



WPA Form 1- Request for Determination of Applicability

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

C. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

<u>139 Polpis Road</u>	<u>Nantucket</u>
Street Address	City/Town
<u>44</u>	<u>7.2</u>
Assessors Map/Plat Number	Parcel/Lot Number

- b. Area Description (use additional paper, if necessary):

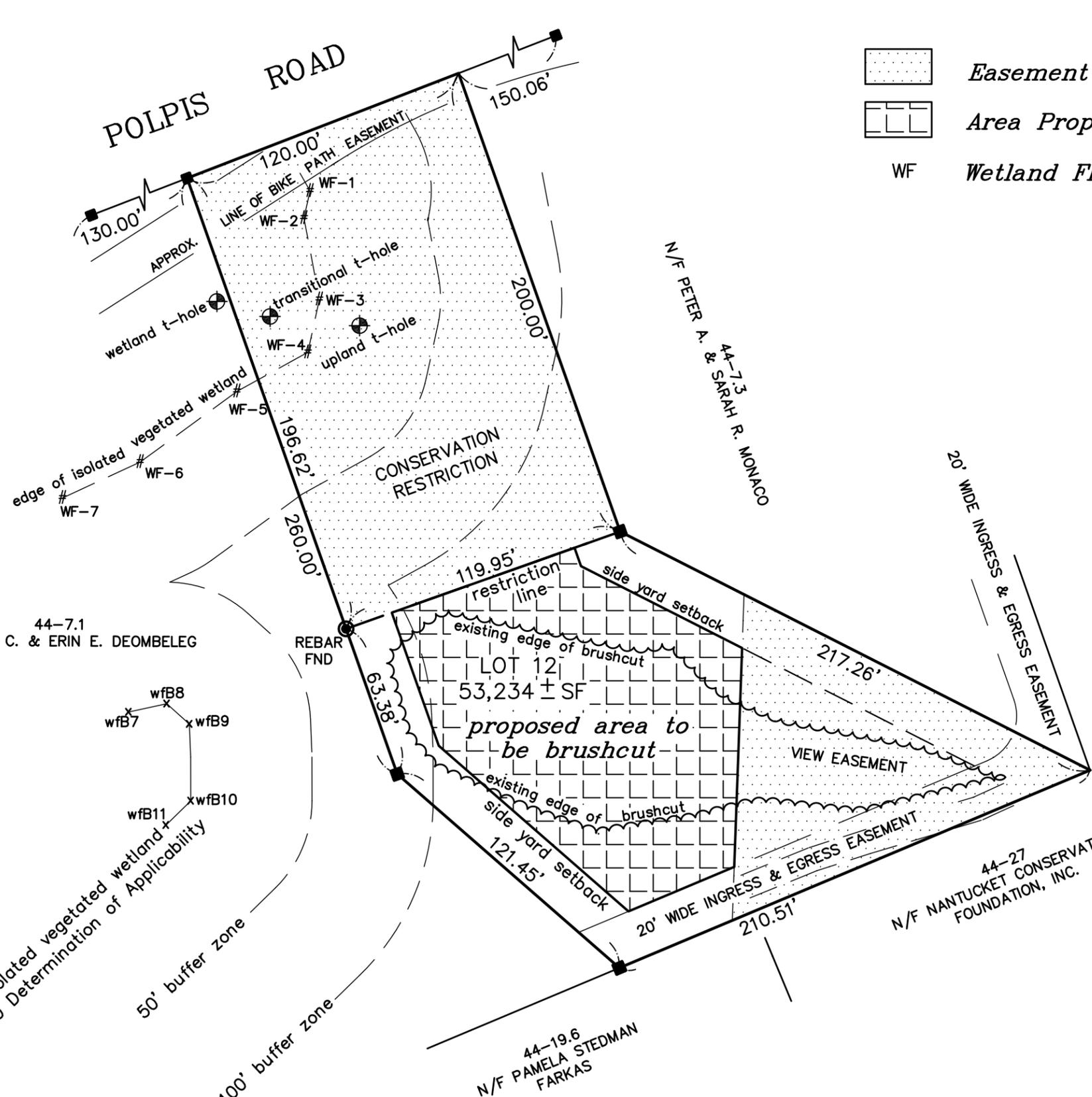
The area is a vacant lot situated in The Limited Use General 3 Zone with frontage on Polpis Rd. and with benefit of a driveway easement for ingress and egress. There is a small piece of an isolated wetland located at the front of the lot and there is a previously mapped and approved isolated wetland located off locus of which a small portion of its 100 foot buffer zone impacts locus.

- c. Plan and/or Map Reference(s):

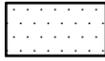
<u>Plot Plan to Accompany Request for Determination of Applicability</u>	<u>Oct. 10, 2016</u>
Title	Date
<u> </u>	<u> </u>
Title	Date
<u> </u>	<u> </u>
Title	Date

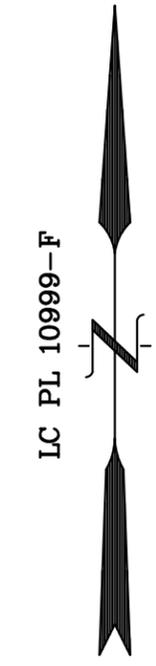
2. a. Work Description (use additional paper and/or provide plan(s) of work, if necessary):

The applicant proposes to brushcut the potential building envelope on this vacant lot. A very small portion of the lot is believed to be within jurisdiction of the Conservation Commission.

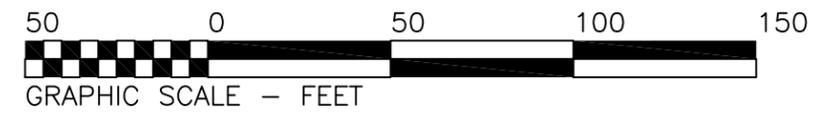


LEGEND

-  Easement and Restricted Areas
-  Area Proposed to be Brushcut
- WF Wetland Flag



PLOT PLAN TO ACCOMPANY REQUEST FOR DETERMINATION OF APPLICABILITY IN NANTUCKET, MASSACHUSETTS
 SCALE: 1"=50' DATE: OCTOBER 10, 2016
 DEED REFERENCE: LC CERT.# 15965
 PLAN REFERENCE: LC PL 10999-F
 ASSESSOR'S REFERENCE: MAP: 44 PARCEL: 7.2
 PREPARED FOR: IRENE PARENT
 EMACK SURVEYING, LLC
 2 WASHAMAN AVENUE
 NANTUCKET, MA. 02554
 (508) 325-0940



CERTIFICATES OF COMPLIANCE



P.O. Box 3627, Nantucket, Massachusetts 02584-3627
Tel. (508) 228-0240 Fax (508) 228-9856
www.nantucketsurveyors.com
nslinfo@nantucketsurveyors.com

NS10419

October 28, 2016

Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

Re: Certificate of Compliance Request SE48-2697
Applicant: Robert Reiskin
34 Codfish Park Road
Map: 73.1.3 Parcel: 53
Nantucket, MA 02554

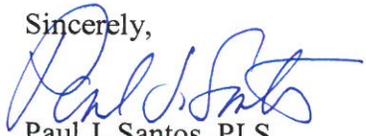
Dear Commissioners:

I am writing on behalf of Robert Reiskin to request a Certificate of Compliance for the above referenced project. The lot is subject to an Order of Conditions recorded in Land Court Doc. 146155, (Minor Modification approval 4/29/15), DEP File No. SE48-2697. The Order of Conditions permitted the demolition of the existing structure and relocation of a similar footprint, construction of a shed and associated grading, landscaping and utilities within the buffer zone to a Coastal Dune.

The work outlined in the Order of Conditions has been completed within substantial compliance of the order.

Thank you for your attention to this matter.

Sincerely,



Paul J. Santos, PLS
Nantucket Surveyors, LLC

Enclosures

- One (1) filing fee check to Town of Nantucket for \$25.00

Cc: Robert Reiskin

Office located at 5 Windy Way • Nantucket, MA 02554

Land Surveying • Topographic Surveys • Civil Engineering • Construction • Marine • Environmental Permitting



2014 00146155
 Cert: 25169 Doc: OOC
 Registered: 10/31/2014 09:57 AM



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
 And the Town of Nantucket Wetlands Bylaw Chapter 136

Provided by MassDEP:
 SE48-2697
 MassDEP File #

eDEP Transaction #
 Nantucket
 City/Town

A. General Information

1. From: Nantucket
 Conservation Commission

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

3. To: Applicant:

Robert Reiskin
 a. First Name b. Last Name

c. Organization
44 Glebe Place

d. Mailing Address
London UK SW35JE
 e. City/Town f. State g. Zip Code

4. Property Owner (if different from applicant):

Same As Applicant
 a. First Name b. Last Name

c. Organization

d. Mailing Address
 e. City/Town f. State g. Zip Code

5. Project Location:

34 Codfish Park Road Nantucket
 a. Street Address b. City/Town

73.1.3 53
 c. Assessors Map/Plat Number d. Parcel/Lot Number

Latitude and Longitude, if known: d m s d m s
 d. Latitude e. Longitude

FINDINGS and ADDITIONAL CONDITIONS
Massachusetts Wetlands Protection Act (MGL Chapter 131, Section 40)
Town of Nantucket Wetlands Bylaw (Chapter 136)

Address: 34 Codfish Park Road
 Assessor's Map and Parcel: 73.1.3-53
 Property Owner: Robert Reiskin
 Applicant: Robert Reiskin
 DEP File Number: SE48-2697
 Filing Date: July 18, 2014
 Date Hearing Closed: August 6, 2014
 Date Orders Issued: August 6, 2014
 Plan of Record Information: Notice of Intent Exhibit Plan, dated 8/1/2014 and stamped by Paul J. Santos, P.L.S.

Permit Overview:

This order permits the renovation and expansion of an existing structure and foundation, construction of a shed and associated grading, landscaping, and utilities within the buffer zone to a Coastal Dune. Waivers are required for this project.

Additional Findings:

1. The area falls outside mapped habitat areas and did not require NHESP review.

In addition to the General Conditions contained elsewhere in this document, the Commission includes the following Special Conditions pursuant to MGLCh131s40 and the Town of Nantucket Wetlands Protection Bylaw, Chapter 136:

18. All work shall be performed in accordance with the Site and Work Description contained within the Notice of Intent and plan notes set out on the plan of record, provided project narratives, waiver requests and protocols.
19. All construction materials are to be stored outside of the fifty foot setback.

WAIVERS UNDER THE NANTUCKET WETLANDS BYLAW/REGULATIONS

Waivers are required to Section 2.03(B)(2) that all projects that are not water dependent shall maintain at least a 25-natural undisturbed area adjacent to a Coastal Dune and all structures that are not water dependent shall be at least 50 feet from a coastal dune. Waivers are also required to Section 2.03(B)(7) that no activity shall be permitted other than the maintenance and repair of a structure existing on the effective date of these regulations, that will result in construction of a building upon a coastal dune or within 50 feet of any coastal dune. The Commission finds that given the current and historic site conditions, the form and function of the dune and the resource area being separated from the property by a public way that the resource area is not within the control of the owner/applicant. Therefore the Commission grants a waiver to the above referenced section under Section 1.03(F)(3)(b) of the Nantucket Wetland Protection Regulations.



Town of Nantucket Conservation Commission Minor Modification Request Approval

DEP File Number
SE48-2697
Provided by DEP

Town of Nantucket Bylaw Chapter 136
And Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

From:

Nantucket Conservation Commission

To:

Applicant:

Robert Reiskin
Name
44 Glebe Place
Mailing Address
London UK SW3 5JE
City/Town State Zip Code

Property Owner (if different from applicant):

Same As Applicant
Name
Mailing Address
City/Town State Zip Code

Project Location:

34 Codfish Park Road Nantucket
Street Address City/Town
73.1.3 53
Assessors Map/Plat Number Parcel /Lot Number

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

Notice of Intent Exhibit Plan	04/28/15
Title	Date
_____	Date
Title	Date
_____	Date
Title	Date

4. Description of Minor Modification:

This Modification allows for the demolition of the existing structure and the relocation and construction of a
Similar footprint shown on the plan of record.

3. Dates:

04/28/15	04/29/15	08/06/14
Date Minor Modification Filed	Date of Approval	Order of Conditions Date of Issuance*

**Note: The date of issuance for the Order of Conditions is this minor modification.*

and is not extended further by

73.1.3-52

N/F
SYLVIA C. LUSSIER
73.1.3-47

WAY

ROAD

PARK

CODFISH

BURIED
PROPANE
TANK

WATER
METER

LAND
STONE

WINDOW
WELL

SSM
FND

STOCKADE FENCE

#34
2 STORY DWELLING
GC=1,402± S.F.

67.79'

DHCB
FND

UP 8'

11.9'±

41.55'

SHOWER

(3)AC
UNITS

19.7'±

17.8'±

79.17'

SHED
GC=36± S.F.

PORCH
CELLAR
ACCESS

BRICK
PATIO

10.1'±

65.06'

LOT 1

AREA=4,983± S.F.

25' SETBACK
TO COASTAL DUNE

ON PL
SHED

DHCB
FND

1 STORY
DWELLING

N/F
JOAN R. WILSON-GODEAU, TRUSTEE
73.1.3-54

100' BUFFER
TO COASTAL DUNE

N/F
23 BANK STREET, LLC
73.1.3-55

NOTES:

1. LOT PREDATES ZONING JULY 27, 1972.
2. SEE ORDER OF CONDITIONS SE48-2512(SEPTIC)
L.C. DOC. #143823
SEE ORDER OF CONDITIONS SE48-2697(DWELLING)
L.C. DOC. #146155

CURRENT ZONING: SR-1
 MINIMUM LOT SIZE: 5,000 S.F.
 MINIMUM FRONTAGE: 50'
 FRONTYARD SETBACK: 10'
 SIDE AND REAR SETBACK: 5'
 ALLOWABLE G.C.R.: 30%
 EXISTING G.C.R.: 28.9%±

FOR PROPERTY LINE DETERMINATION THIS PLOT PLAN
 RELIES ON CURRENT DEEDS AND PLANS OF RECORD,
 VERIFIED BY FIELD MEASUREMENTS AS SHOWN HEREON.
 THIS PLAN IS NOT REPRESENTED TO BE A TITLE
 EXAMINATION OR A RECORDABLE SURVEY.

N.B. 372/57/63 & 272/41 398/115



Paul J. Santos
 2/22/16

AS-BUILT PLOT PLAN
 #34 CODFISH PARK ROAD
 IN
 NANTUCKET, MASSACHUSETTS
 SCALE: 1"=15' DATE: 2/6/16

DEED REFERENCE: L.C. CERT. #25169
 PLAN REFERENCE: L.C. PL. 38901-A
 ASSESSOR'S REFERENCE:
 MAP: 73.1.3 PARCEL: 53

PREPARED FOR:
 ROB REISKIN

NANTUCKET SURVEYORS LLC
 5 WINDY WAY
 NANTUCKET, MA. 02554

MERIDIAN: L.C. PL. 38901-A



N-10419



P.O. Box 3627, Nantucket, Massachusetts 02584-3627
Tel. (508) 228-0240 Fax (508) 228-9856
www.nantucketsurveyors.com
nslinfo@nantucketsurveyors.com

NS10419

October 28, 2016

Nantucket Conservation Commission
2 Bathing Beach Road
Nantucket, MA 02554

Re: Certificate of Compliance Request SE48-2512
Applicant: Robert Reiskin
34 Codfish Park Road
Map: 73.1.3 Parcel: 53
Nantucket, MA 02554

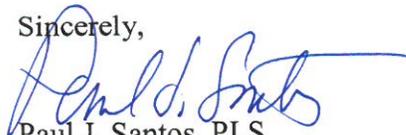
Dear Commissioners:

I am writing on behalf of Robert Reiskin (Current Owner) to request a Certificate of Compliance for the above referenced project. The lot is subject to an Order of Conditions recorded in Land Court Doc. 143823 as amended in Land Court Doc. 144705, DEP File No. SE48-2512. The Order of Conditions permitted the replacement/repair of the existing septic system within the buffer zone to a Coastal Dune.

The work outlined in the Order of Conditions has been completed within substantial compliance of the order.

Thank you for your attention to this matter.

Sincerely,



Paul J. Santos, PLS
Nantucket Surveyors, LLC

Enclosures

- One (1) filing fee check to Town of Nantucket for \$25.00

Cc: Robert Reiskin

Office located at 5 Windy Way • Nantucket, MA 02554

Land Surveying • Topographic Surveys • Civil Engineering • Construction • Marine • Environmental Permitting



2014 00143823
Cert: 24287 Doc: OOC
Registered: 02/28/2014 08:40 AM



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
And the Town of Nantucket Wetlands Bylaw Chapter 136

Provided by MassDEP:
SE48-2512
MassDEP File #

eDEP Transaction #
Nantucket
City/Town

A. General Information

1. From: Nantucket
Conservation Commission

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

3. To: Applicant:

Romney Fong-Eymann
a. First Name b. Last Name

c. Organization

P.O. Box 55855

d. Mailing Address

North Pole AK 99705

e. City/Town f. State g. Zip Code

4. Property Owner (if different from applicant):

Same as applicant
a. First Name b. Last Name

c. Organization

d. Mailing Address

e. City/Town f. State g. Zip Code

5. Project Location:

34 Codfish Park Road Nantucket
a. Street Address b. City/Town

73.1.3 53
c. Assessors Map/Plat Number d. Parcel/Lot Number

Latitude and Longitude, if known: d m s d m s
d. Latitude e. Longitude



2014 00144705

Cert: 25169 Doc: AMENDME
Registered: 06/06/2014 10:59 AM



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 5 – Amended Order of Conditions
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
And the Town of Nantucket Wetlands Bylaw Chapter 136

Provided by MassDEP:
SE48-2512
MassDEP File #
eDEP Transaction #
Nantucket
City/Town

A. General Information

1. From: Nantucket
Conservation Commission

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

3. To: Applicant:

Romney Fong-Eymann
a. First Name b. Last Name

c. Organization
P.O. Box 55855

d. Mailing Address
North Pole AK 99705
e. City/Town f. State g. Zip Code

4. Property Owner (if different from applicant):

Robert Reiskin
a. First Name b. Last Name

c. Organization
44 Glebe Place

d. Mailing Address
London UK SW3 5JE
e. City/Town f. State g. Zip Code

5. Project Location:

34 Codfish Park Road Nantucket
a. Street Address b. City/Town

73.1.3 53
c. Assessors Map/Plat Number d. Parcel/Lot Number

Latitude and Longitude, if known: d m s d m s
d. Latitude e. Longitude

FINDINGS and ADDITIONAL CONDITIONS
 Massachusetts Wetlands Protection Act (MGL Chapter 131, Section 40)
 Town of Nantucket Wetlands Bylaw (Chapter 136)

Address: 34 Codfish Park Road
 Assessor's Map and Parcel: 73.1.3-53
 Property Owner: Romney Fong-Eymann
 Applicant: Romney Fong-Eymann
 DEP File Number: SE48-2512
 Filing Date: November 9, 2012
 Date Hearing Closed: December 19, 2012
 Date Orders Issued: December 21, 2012
 Date Order Amended: **May 14, 2014**
 Plan of Record Information: Site Plan to Accompany Notice of Intent, Dated
 10/12/2012, Final Revision 11/7/2012,
 stamped by Paul J. Santos, P.L.S.

Permit Overview:

This order permits the in place replacement/repair of the existing septic system to a SeptiTech system within the buffer zone to a coastal dune. Waivers are required for this project. **This Order is amended to allow for the installation of a conventional Title V compliant system.**

Additional Findings:

1. The area falls outside mapped habitat areas and does not require NHESP review.

In addition to the General Conditions contained elsewhere in this document, the Commission includes the following Special Conditions pursuant to MGLCh131s40 and the Town of Nantucket Wetlands Protection Bylaw, Chapter 136:

18. All work shall be performed in accordance with the Site and Work Description contained within the Notice of Intent and plan notes set out on the plan of record, provided project narratives, waiver requests and protocols.
19. ~~The applicant shall provide copies to the Commission office of monitoring/testing data from the SeptiTech system as approved, for TSS, TN, and BOD filed with the Board of Health office as well as a copy of the agreement for operating and maintenance of the approved system.~~

WAIVERS UNDER THE NANTUCKET WETLANDS BYLAW/REGULATIONS

Waivers are required to Section 2.03(B)(5) of the Nantucket Wetlands Protection Regulations, that the septic leach facility shall be at least 100 feet from the upland edge of a coastal dune or coastal dune field. The Commission finds that given the existing site conditions, the project as proposed will provide a long-term net benefit to the resource area. Therefore the Commission grants a waiver under Section 1.03(F)(3)(c) of the Nantucket Wetland Protection Regulations.

BOARD OF HEALTH

Town of Nantucket

Certificate of Compliance

This is to certify, that the Individual Sewage Disposal System
Constructed () or Repaired (X)



by Robert Reiskin - Robert Reiskin Engineering (Installer)

at Map 73.1.3 Parcel 53 - 24 Codfish Park Rd

has been installed in accordance with the provisions of Title V of the State Sanitary Code as described in the application for Disposal Works Construction Permit No. 25-19

Dated 4-1-14 ISSUANCE OF THIS CERTIFICATE SHALL NOT BE CONSTRUED AS A GUARANTEE THAT THE SYSTEM WILL FUNCTION SATISFACTORY.

Dated 3-27-15 Inspector Richard P. [Signature]

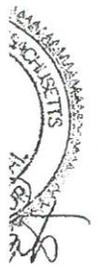
White Copy-Inspector • Yellow Copy-Owner
Pink Copy-Board of Health

MP TEST TO VERIFY THE PROPER PUMP OPERATING STANDARDS ARE MET. AFTER THE INITIAL INSPECTION TUCKET SURVEYORS, LLC WILL CALL THE NANTUCKET BOARD OF HEALTH FOR A FINAL INSPECTION. ONLY ECTION IS APPROVED BY THE BOARD OF HEALTH SHALL THE SYSTEM COMPONENTS BE BACKFILLED. ITS, INCLUDING RISERS, ACCESS MANHOLES, FILTERS AND TEES MUST BE INSTALLED PRIOR TO A FINAL DARD OF HEALTH)

AS-BUILT SEWAGE DISPOSAL SYSTEM
#34 CODFISH PARK ROAD
NANTUCKET, MASSACHUSETTS
(ASSESSOR'S MAP 73.1.3 PARCEL 53)

PREPARED FOR:
ROBERT REISKIN
DATE: JUNE, 3 2014 SCALE: AS NOTED

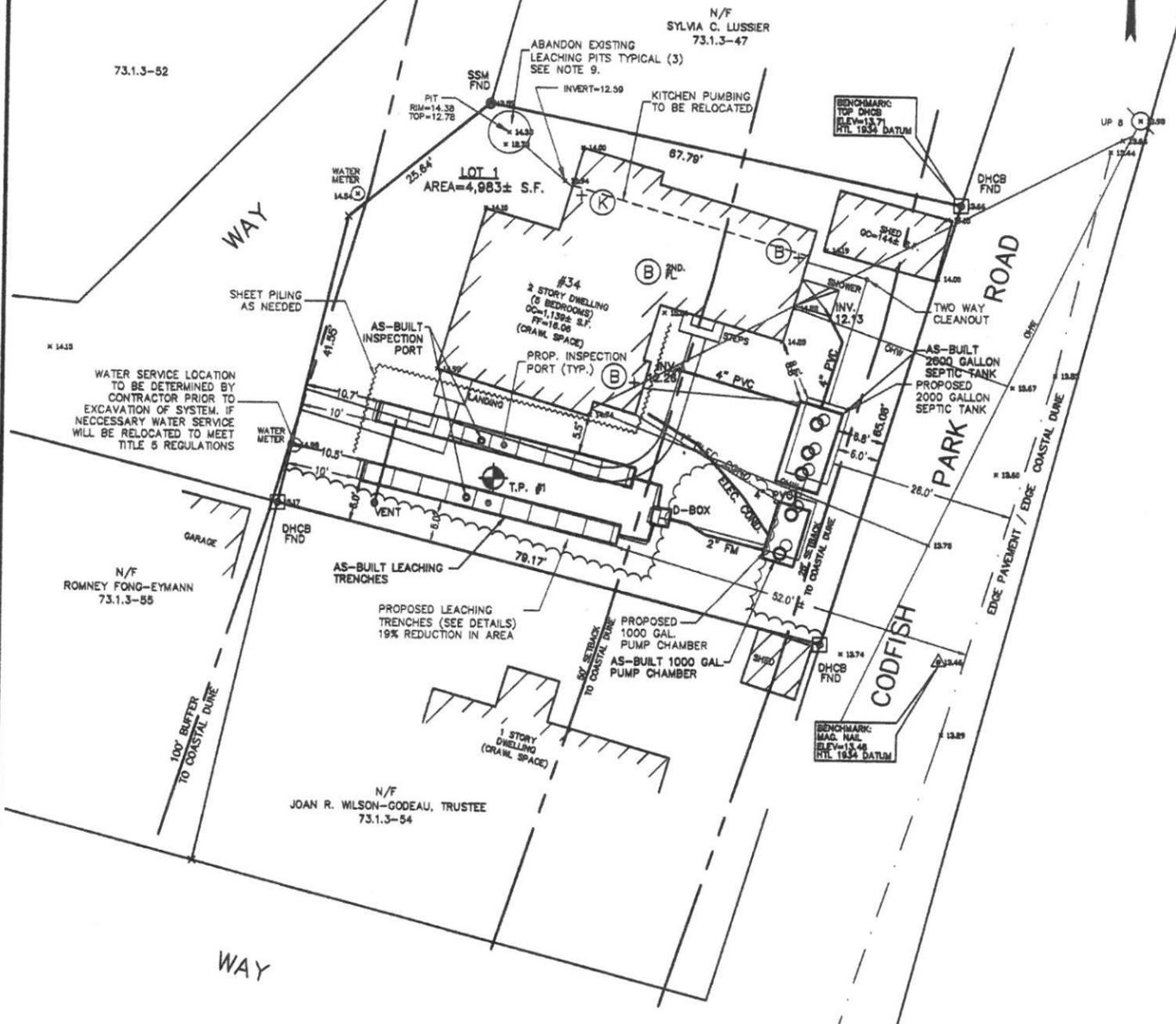
NANTUCKET SURVEYORS, LLC
5 WINDY WAY, NANTUCKET, MA 02554



AS-BUILT PLOT PLAN

SCALE: 1" = 10'
AREA = 4,983 S.F. ±

NOTE:
THIS SEPTIC AS-BUILT PLAN IS IN SUBSTANTIAL COMPLIANCE WITH THE DESIGN PLAN PREPARED BY NANTUCKET SURVEYORS, LLC. DATED: MAY 19, 2014. REVISED ON MAY 28, 2014. FIELD MODIFICATION OF TANK LOCATIONS.



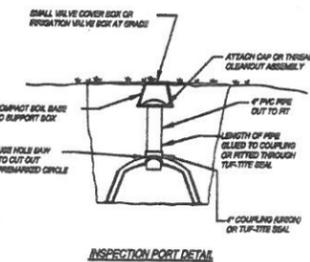
LOCAL UPGRADE APPROVAL 15.405 (APPROVED 3/27/14)

- VARIANCES REQUIRED:
- SETBACK 6' TO PROPERTY LINE
 - CRAWLSPACE SETBACK SEPTIC TANK 6.5' LEACHING TRENCH 5.5'
 - 18% REDUCTION IN THE SUBSURFACE DISPOSAL AREA DESIGN REQUIREMENTS
 - TWO DEEP HOLES REQUIREMENT

ORIGINAL PLAN PREPARED FOR ROMNEY FONG-EYMAN DATED JUNE 19, 2013

LEGEND

- 13.75 SPOT GRADE
- B BATHROOM
- K KITCHEN
- + DWELLING PLUMBING REQUIRED



DRAWN BY	FIELD CREW	N/B & DATE	ASSESSOR'S MAP & PARCEL	DEED	PLAN	OWNER	# BEDROOMS	N.S.LLC. #	CHECKED BY
DCC	F.C.: WM/CR	386/27 6-3-14	ASSESSOR'S MAP 73.1.3 PARCEL 53	LC0ERY #25169 SE48-2512 12/21/12 AS AMENDED 5/16/14	LCPL 38901A LOT 1	ROBERT REISKIN	5 BDRMS NO G.G.	N-10419	PJS/DMK

LOCUS MAP

SCALE: 1" = 500'



DESIGN SOIL LOG

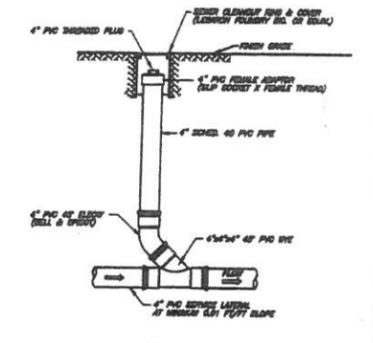
DATE: 11/7/2012
PAUL J. SANTOS, PLS. SE 2142
ARTELL CROWLEY, BOH AGENT

TEST PIT #1 (DL=15.0')
0"-12" A: SANDY LOAM; 10R 3/2;
12"-72" B: SAND; 2.5T 7/4;

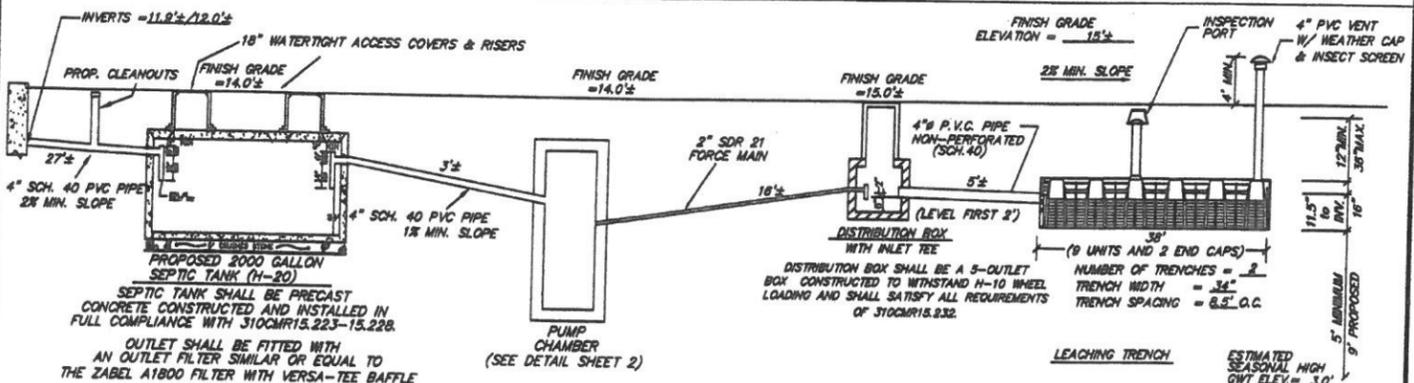
EXCAVATION CHIEF-IN-CLOSE TO PROPERTY LINE AND STRUCTURE
GROUNDWATER ELEV.=3' 73.1.3-S2 8/3/93
MHW MAP ELEV.=2'

PERCOLATION RATE = <5 MPH PER BOH

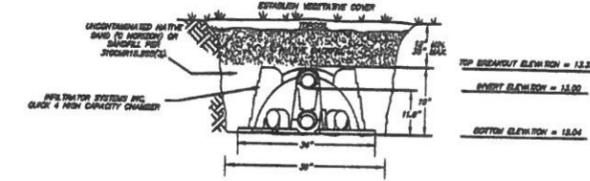
CLEANOUT DETAIL



DESIGN SEWAGE SYSTEM PROFILE (not to scale)



DESIGN LEACHING TRENCH (CROSS-SECTION)



DESIGN CALCULATIONS:

DESIGN FLOW:
5 BEDROOM X 110 GPD/BR = 550 GPD

SEPTIC TANK VOLUME:
550 X 200% + 550 X 100% = 1650 GALLON (2000 GALLON MINIMUM)
PROPOSED SEPTIC TANK = 2000 GALLON TANK

SOIL ABSORPTION SYSTEM:
SOIL TYPE/CLASSIFICATION: SAND/CLASS 1
EFFLUENT LOADING RATE: 0.74 GPD/SF
MINIMUM LEACHING AREA = (550 GPD/0.74 GPD/SF) = 743.2 SF

TOTAL CAPACITY PROVIDED:
QUICK 4 HIGH CAPACITY CHAMBER = 7.93 SF/LF (INFILTRATOR SYSTEMS)
USE 2 TRENCHES WITH 9 UNITS AND (2 END CAPS EACH)
2 X 9 X 4 LF/UNIT + 2 X 2 X 1 LF/CAP = 76 LF
EFFECTIVE LEACHING = 76 LF X 7.93 SF/LF = 602.7 SF
602.7/743.2=0.81

TOTAL FLOW PROVIDED:
550 GPD @ 19% REDUCTION IN EFFECTIVE LEACHING AREA
AS-BUILT CALCULATIONS: BIODIFFUSER 16" HC UNITS INSTEAD OF QUICK4 CHAMBERS
2 TRENCHES X 6 UNITS X 6.25 LF/UNIT + 2 X 2 X 1 LF/CAP = 79 LF
79 LF X 7.88 SF/LF = 622 SF
550 GPD @ 16% REDUCTION IN EFFECTIVE LEACHING AREA

DESIGN NOTES

- ALL WORK SHALL COMPLY WITH THE MASSACHUSETTS ENVIRONMENTAL CODE TITLE 8 AND TOWN OF NANTUCKET BOARD OF HEALTH REGULATIONS.
- PROPOSED SEPTIC TANK AND DISTRIBUTION BOX ACCESS COVERS SHALL BE BROUGHT TO GRADE USING APPROPRIATE RISER SECTIONS AND MANHOLE FRAMES WITH COVERS.
- THERE ARE NO KNOWN WELLS WITHIN 100 FT. OF THE PROPOSED LEACHING SYSTEM.
- THE SUBJECT PROPERTY IS NOT LOCATED WITHIN 100' OF A BORDERING VEGETATED WETLAND.
- THE SUBJECT PROPERTY IS NOT LOCATED WITHIN A WATERSHED DISTRICT.
- THE SUBJECT PROPERTY IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE.
- THE PROPOSED SEWAGE DISPOSAL SYSTEM HAS NOT BEEN DESIGNED TO ACCOMMODATE A KITCHEN GARBAGE GRINDER IN THE CONNECTED DWELLING.
- CONTRACTOR SHALL CONTACT DIG-SAFE (1-800-344-7233) THREE WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. EXISTING UTILITIES ON THE SUBJECT PROPERTY SHALL BE MARKED BY DIGSAFE. CONTRACTOR SHALL USE EXTRA CAUTION WHEN INSTALLING SEPTIC COMPONENTS. OWNER SHALL NOTIFY CONTRACTOR OF OTHER UTILITIES IN THE AREA.
- EXISTING LEACH PITS SHALL BE ABANDONED IN ACCORDANCE WITH 310CMR15.223.
- FROM THE DATE OF INSTALLATION UNTIL THE RECEIPT OF A CERTIFICATE OF COMPLIANCE, THE PERIMETER OF THE SOIL ABSORPTION SYSTEM SHALL BE STAKED AND FLAGGED TO PREVENT THE USE OF SUCH AREA FOR ALL ACTIVITIES WHICH MIGHT DAMAGE THE ABSORPTION SYSTEM.
- THE SOIL ABSORPTION SYSTEM SHALL BE INSTALLED BY AN INDIVIDUAL CERTIFIED BY INFILTRATOR SYSTEMS, INC. TO INSTALL SYSTEMS UTILIZING THE CHAMBERS SPECIFIED. INSTALLATION SHALL BE IN FULL COMPLIANCE WITH THE CONDITIONS OF THE MODIFIED APPROVAL OF ALTERNATIVE SYSTEMS FOR GENERAL USE ISSUED BY MASS. DEP APRIL 11, 2014.
- THE PROPOSED LEACHING TRENCHES SHALL HAVE AN INSPECTION PORT AS SHOWN HEREON.
- ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC TAPE OR EQUAL, 310 CMR 15.221(12).
- PROPOSED CONTOURS INDICATED HEREON SATISFY BREAKOUT GRADING REQUIREMENTS OF 310CMR15.255(2).
- A SEPTIC SYSTEM RECORD PLAN (AS-BUILT) IS REQUIRED BY THE NANTUCKET BOARD OF HEALTH. THE CONTRACTOR SHALL CALL NANTUCKET SURVEYORS, LLC AT 259-0240 TO INSPECT AND LOCATE THE INSTALLED SYSTEM. THE DESIGN ENGINEER SHALL PERFORM A PUMP TEST TO VERIFY THE PROPER PUMP OPERATING STANDARDS ARE MET. AFTER THE INITIAL INSPECTION AND PUMP TEST, NANTUCKET SURVEYORS, LLC WILL CALL THE NANTUCKET BOARD OF HEALTH FOR A FINAL INSPECTION. ONLY AFTER THE FINAL INSPECTION IS APPROVED BY THE BOARD OF HEALTH SHALL THE SYSTEM COMPONENTS BE BACKFILLED. (NOTE: ALL COMPONENTS, INCLUDING RISERS, ACCESS MANHOLES, FILTERS AND TEES MUST BE INSTALLED PRIOR TO A FINAL INSPECTION BY THE BOARD OF HEALTH.)

AS-BUILT SEWAGE DISPOSAL SYSTEM
#34 CODFISH PARK ROAD
NANTUCKET, MASSACHUSETTS
(ASSESSOR'S MAP 73.1.3 PARCEL 53)

PREPARED FOR:
ROBERT REISKIN
DATE: JUNE, 3 2014 SCALE: AS NOTED

NANTUCKET SURVEYORS, LLC
5 WINDY WAY, NANTUCKET, MA 02554

Monitoring Reports

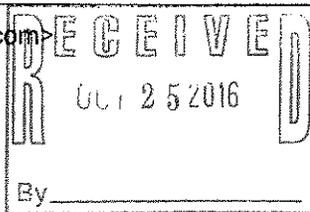


Carl Clarke <carlccclarke@gmail.com>

Little

Office Admin <office@tomhanlonlandscaping.com>
To: Carl Clarke <carlccclarke@gmail.com>

Mon, Oct 17, 2016 at 5:18 PM



To Whom it may concern

I am writing this letter to let you know that my company was responsible for the landscaping at 3 North Ave, we brought the lawn back to pre- existing conditions while removing as much of the invasive bamboo and its root systems and replacing with clean top soil where possible without going directly into the wet lands, we did not use any chemicals in this process

If there are any other details you would like please contact my office and we would be happy to provide them

Sincerely

Tom Hanlon



Tom Hanlon Landscaping
NANTUCKET

Office Address: 13 Old South Road, Nantucket MA 02554

Mailing Address: 2 Greglen Ave., PMB 26, Nantucket MA 02554

Tel: 508-325-0949 | Fax: 508-901-5371

office@tomhanlonlandscaping@.com | www.tomhanlonlandscaping.com

FINDINGS and ADDITIONAL CONDITIONS

Massachusetts Wetlands Protection Act (MGL Chapter 131, Section 40)
Town of Nantucket Wetlands Bylaw (Chapter 136)

Address: 3 North Ave.
Assessor's Map and Parcel: 42.4.4-17
Property Owner: Nantucket Barn, LLC
Applicant: Nantucket Barn, LLC
DEP File Number: SE48-2710
Filing Date: September 12, 2014
Date Hearing Closed: October 15, 2014
Date Orders Issued: October 15, 2014
Plan of Record Information: Site Plan of Land to Accompany a Notice of Intent, dated 9/12/2014, Final revision of 10/10/2014, stamped by Arthur D. Gasbarro, P.E.

Permit Overview:

This order permits the renovation of an existing dwelling, renovation/relocation of a secondary structure, construction of a retaining wall, construction of a walkway, construction of a stone patio, removal of invasive species, associated grading, utilities and landscaping within Land Subject to Coastal Storm Flowage, Bordering Vegetated Wetlands and their associated buffer zones. Waivers are required for this project.

Additional Findings:

1. The area falls outside mapped habitat areas and does not require NHESP review.

In addition to the General Conditions contained elsewhere in this document, the Commission includes the following Special Conditions pursuant to MGLCh131s40 and the Town of Nantucket Wetlands Protection Bylaw, Chapter 136:

18. All work shall be performed in accordance with the Site and Work Description contained within the Notice of Intent and plan notes set out on the plan of record, provided project narratives, waiver requests and protocols. See attached species specific treatment methods.
19. All species to be planted shall be native non-invasive species, any inoculation mixture and a planting list shall be provided to Commission staff prior to any planting starting.
20. This Order permits the use of a no greater than 25% glyphosate water-based solution (Rodeo or equal) and the use of triclopyr (Renovate 3 or equal) in a concentration not to exceed the label directions.
21. All herbicide application in the resource area shall be applied by hand.
22. The quantity and specific type of herbicide used will be reported in writing to the Commission on an annual basis.
23. Any excavated material or plant material removed from the site is to be disposed of through the digester at the Nantucket Landfill.
24. A report including location photographs shall be provided to the Commission showing the conditions prior to work being started and at the conclusion of the growing season. This report shall also include a list of invasive species removed and treatment methods.
25. All reports are required annually until a Certificate of Compliance is issued.

WAIVERS UNDER THE NANTUCKET WETLANDS BYLAW/REGULATIONS

Waivers are to Section 3.02 of the Nantucket Wetland Protection Regulations that proposed projects which are not water dependent shall maintain at least a 25-foot natural undisturbed area adjacent to vegetated wetlands. All structures which are not water dependent shall be at least 50 feet from a vegetated wetland, and all structures shall maintain an undisturbed two-foot separation to high groundwater. Fifty percent of the area between the 25-foot buffer and the 50-foot buffer shall not be altered. The Commission finds that the removal of invasive species, the increased separation from the vegetated wetlands and the decreased structural area will serve to provide a long term net benefit to the resource area and its associated buffer zones. The Commission finds that given the historic use of the site, the current conditions and the proposed project that the proposed project will not have an adverse impact to the resource areas or their buffer zones and that there are no reasonable alternatives to the project proceeding. Therefore, the Commission grants a waiver under Section 1.03(F)(3)(a&c) of the Nantucket Wetland Protection Regulations









































FINDINGS and ADDITIONAL CONDITIONS
Nantucket Conservation Foundation
DEP FILE NUMBER SE48 – 2156
ASSESSOR'S MAP 20 PARCEL 25
Dike Road, Polpis Harbor
UNDER THE MASSACHUSETTS WETLANDS PROTECTION ACT
(MGL CHAPTER 131, SECTION 40)
AND THE WETLANDS BYLAW OF THE TOWN OF NANTUCKET
(CHAPTER 136)

This Order permits grading of the existing dike road, installation of a 3' x 3' box culvert in the existing dike road, dredging within a salt marsh/tidal creek to control of invasive species and enhance habitat restoration within land subject to coastal storm flowage, endangered species habitat, salt marsh, tidal creek and bvw; and within the buffer zone to salt marsh and bvw. Post construction monitoring is required. Waivers are required for the work permitted by this Order of Conditions.

FINDINGS

1. Applicant's Name Nantucket Conservation Foundation DEP File Number SE48-2156 .
2. This Order of Conditions is being issued based upon strict accordance with the information submitted in the Notice of Intent, and attachments including project narrative, dated 6/3/08, the Plans of Record (Sheets 1-4) dated 5/08 and stamped by Richard Claytor. Also considered was other pertinent supplemental information including but not limited to:
 - Letter from the Division of Fisheries & Wildlife (MNH&ESP) dated 7/9/08
 - Vegetation Community Composition and Soil Water Salinity Patterns at Medouie Creek, Nantucket Island, Massachusetts dated 7/2008 by Rachael Freeman and Karen Beattie
 - Letter/report submitted by Horsley Witten Group dated 7/11/08
3. Areas subject to protection/regulation are land subject to coastal storm flowage, endangered species habitat, salt marsh, tidal creek, salt marsh, bvw and their buffer zones.
4. This Order is in accordance with a vote by the Nantucket Conservation Commission to close the public hearing on 7/16/08 and a vote to issue Orders taken by the Commission on 7/16/08.
5. This Order permits the grading of the existing dike road, installation of a 3'x3' box culvert in the existing dike road, dredging within a salt marsh/tidal creek to control invasive species and enhance habitat restoration within land subject to coastal storm flowage, endangered species habitat, salt marsk, tidal creek and bvw; and within the buffer zone to salt marsh and bvw. Post construction monitoring is required. Waivers are required for the work permitted by this Order.
6. The Commission finds the work as permitted to be water dependent.

7. The Commission finds that the work proposed and permitted by this Order will serve to enhance the interests of MGLCh131s40 and the Nantucket Wetlands Protection Bylaw by enhancing tidal flow, salt marsh habitat, rare and endangered species habitat and biodiversity.

In addition to the above referenced GENERAL CONDITIONS the Commission has found it necessary to include the following Additional Conditions pursuant to MGLCh131s40 and the Town of Nantucket Wetlands Protection Bylaw, Chapter 136. The above listed General Conditions and Findings are automatically part of this Order of Conditions.

ADDITIONAL CONDITIONS

18. This Order of Conditions shall automatically be extended for three one year periods. This condition is subject to the Nantucket Conservation Foundation fulfilling the research, monitoring and reporting requirements of the protocols developed as part of this permit
19. All work shall be conducted as described in the Project Narrative attached to the Notice of Intent and/or in accordance with the conditions of this Order.
20. No application of herbicides is permitted by this Order.
21. The applicant shall monitor vegetation community composition, including detailed evaluation of phragmites aerial extent and changes in growth patterns, and soil water salinity patterns annually in the same manner as reported in the Summary of Pre-tidal Conditions Report dated 7/2008. Monitoring reports, evaluations and photographs shall be submitted to the Commission office annually, no later than November of the calendar year.
22. Prior to the start of work a construction onsite shall be held with the applicant, construction supervisor and Commission office personnel to review construction protocols. During this onsite specific areas along the roadway that will require cutting for construction access, based on the size of equipment to be used, will be flagged. Within 48 hours of the onsite meeting, the applicant shall submit photographs of existing and flagged conditions and written construction protocols to the Commission office for final review and approval.
23. Prior to the start of work the applicant shall provide the Commission office with a sieve analysis of materials to be dredged.
24. Dredged wetland soils shall not be placed within the jurisdiction of the Conservation Commission (bogs and their buffers, flood zones, isolated vegetated wetlands, etc.) without first obtaining all necessary permits.
25. Dredge spoil shall be transported offsite in water retaining gusseted trucks as approved by the Commission office or shall be dewatered prior to transport. All dewatering activities shall require review of plans and narrative by the Commission office.

26. Prior to the start of work the applicant shall provide the Commission office with a sample of road cover materials, identify the source of these materials and certify that these materials are free of invasive plant materials.
27. Prior to the start of work the applicant will provide information as to the composition and source of materials to be placed into the box culvert to "create" stream bed habitat, the method for placement of these materials and how these materials will be stabilized to prevent transport and/or scour.
28. No equipment or materials shall be stored within 25' of a wetland resource area, excluding land subject to coastal storm flowage.
29. Dredging activities shall be limited to November- February of any calendar year.
30. Monthly inspection of sediment conditions at the mouth of the tidal creek shall be made by the applicant to determine the presence of transported materials and to evaluate its impact to shellfisheries and shellfish habitat. Copies of these monthly observations shall be submitted as part of the vegetation monitoring report. If sediment transport is observed and the amount of sediment transported covers shellfish areas, the applicant shall notify the Commission office within 24 hours of the observation so that appropriate mitigation protocols can be instituted.

WAIVERS UNDER THE NANTUCKET WETLANDS BYLAW/REGULATIONS:

The Commission hereby grants waivers to Sections 2.06 (B)(3), 2.11 (B)(1-4), and 3:02(B)(2) of the Wetlands Protection Regulations of the Town of Nantucket, under the Wetlands Bylaw (Chapter 136). The Commission finds that the work proposed within the 25' buffer and within the salt marsh, tidal creek, endangered species habitat and vegetated wetlands will serve to provide a long term net benefit to these wetland resource areas and the interests of the Town of Nantucket Wetlands Protection Bylaw. Therefore, waivers are granted under the authority of Sections 1:03(F)(2) and 1:03(F)(3)(c) of the Wetlands Protection Regulations for the Town of Nantucket.

AMENDED
FINDINGS and ADDITIONAL CONDITIONS
Nantucket Conservation Foundation
DEP FILE NUMBER SE48 – 2156
ASSESSOR'S MAP 20 PARCEL 25
Dike Road, Polpis Harbor
UNDER THE MASSACHUSETTS WETLANDS PROTECTION ACT
(MGL CHAPTER 131, SECTION 40)
AND THE WETLANDS BYLAW OF THE TOWN OF NANTUCKET
(CHAPTER 136)

This Amended Order permits grading of the existing dike road, installation of a 3' x 3' box culvert in the existing dike road, dredging within a salt marsh/tidal creek to control of invasive species and enhance habitat restoration within land subject to coastal storm flowage, endangered species habitat, salt marsh, tidal creek and bvww; and within the buffer zone to salt marsh and bvww. Post construction monitoring is required. Waivers are required for the work permitted by this Amended Order of Conditions.

FINDINGS

1. Applicant's Name Nantucket Conservation Foundation DEP File Number SE48-2156.
2. This Amended Order of Conditions is being issued based upon strict accordance with the information submitted in the Notice of Intent, and attachments including project narrative, dated 6/3/08, the Plans of Record (Sheets 1-4) dated 5/08 and stamped by Richard Claytor and the Amended Order of Conditions request letter from the Nantucket Conservation Foundation dated 8/29/08. Also considered was other pertinent supplemental information including but not limited to:
 - Letter from the Division of Fisheries & Wildlife (MNH&ESP) dated 7/9/08
 - Vegetation Community Composition and Soil Water Salinity Patterns at Medouie Creek, Nantucket Island, Massachusetts dated 7/2008 by Rachael Freeman and Karen Beattie
 - Letter/report submitted by Horsley Witten Group dated 7/11/08
3. Areas subject to protection/regulation are land subject to coastal storm flowage, endangered species habitat, salt marsh, tidal creek, salt marsh, bvww and their buffer zones.
4. This Amended Order is in accordance with a vote by the Nantucket Conservation Commission to close the public hearing on 7/16/08, a vote to issue Orders taken by the Commission on 7/16/08, a vote by the Commission to close the amended Order of Conditions request hearing on 9/4/08, and a vote by the Commission to issue the Amended Order of Conditions on 9/4/08

5. This Amended Order permits the grading of the existing dike road, installation of a 3'x3' box culvert in the existing dike road, dredging within a salt marsh/tidal creek to control invasive species and enhance habitat restoration within land subject to coastal storm flowage, endangered species habitat, salt marsh, tidal creek and bvw; and within the buffer zone to salt marsh and bvw. Post construction monitoring is required. Waivers are required for the work permitted by this Amended Order.
6. The Commission finds the work as permitted to be water dependent.
7. The Commission finds that the work proposed and permitted by this Amended Order will serve to enhance the interests of MGLCh131s40 and the Nantucket Wetlands Protection Bylaw by enhancing tidal flow, salt marsh habitat, rare and endangered species habitat and biodiversity.

In addition to the above referenced GENERAL CONDITIONS the Commission has found it necessary to include the following Additional Conditions pursuant to MGLCh131s40 and the Town of Nantucket Wetlands Protection Bylaw, Chapter 136. The above listed General Conditions and Findings are automatically part of this Amended Order of Conditions.

ADDITIONAL CONDITIONS

18. This Amended Order of Conditions shall automatically be extended for three one year periods. This condition is subject to the Nantucket Conservation Foundation fulfilling the research, monitoring and reporting requirements of the protocols developed as part of this permit
19. All work shall be conducted as described in the Project Narrative attached to the Notice of Intent and/or in accordance with the conditions of this Amended Order.
20. No application of herbicides is permitted by this Amended Order.
21. The applicant shall monitor vegetation community composition, including detailed evaluation of phragmites aerial extent and changes in growth patterns, and soil water salinity patterns annually in the same manner as reported in the Summary of Pre-tidal Conditions Report dated 7/2008. Monitoring reports, evaluations and photographs shall be submitted to the Commission office annually, no later than November of the calendar year.
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27. Prior to the start of work the applicant will provide information as to the composition and source of materials to be placed into the box culvert to "create" stream bed habitat, the method for placement of these materials and how these materials will be stabilized to prevent transport and/or scour.
28. No equipment or materials shall be stored within 25' of a wetland resource area, excluding land subject to coastal storm flowage.
29. Dredging activities shall be limited to October 15th- February of any calendar year.
30. Monthly inspection of sediment conditions at the mouth of the tidal creek shall be made by the applicant to determine the presence of transported materials and to evaluate its impact to shellfisheries and shellfish habitat. Copies of these monthly observations shall be submitted as part of the vegetation monitoring report. If sediment transport is observed and the amount of sediment transported covers shellfish areas, the applicant shall notify the Commission office within 24 hours of the observation so that appropriate mitigation protocols can be instituted.

WAIVERS UNDER THE NANTUCKET WETLANDS BYLAW/REGULATIONS:

The Commission hereby grants waivers to Sections 2.06 (B)(3), 2.11 (B)(1-4), and 3:02(B)(2) of the Wetlands Protection Regulations of the Town of Nantucket, under the Wetlands Bylaw (Chapter 136). The Commission finds that the work proposed within the 25' buffer and within the salt marsh, tidal creek, endangered species habitat and vegetated wetlands will serve to provide a long term net benefit to these wetland resource areas and the interests of the Town of Nantucket Wetlands Protection Bylaw. Therefore, waivers are granted under the authority of Sections 1:03(F)(2) and 1:03(F)(3)(c) of the Wetlands Protection Regulations for the Town of Nantucket.

Medouie Creek Salt Marsh Restoration 2015 Annual Progress Report



Jennifer M. Karberg, PhD
Research Program Supervisor
jkarberg@nantucketconservation.org



Department of Science and Stewardship
Nantucket Conservation Foundation
118 Cliff Road; Post Office Box 13; Nantucket MA 02554

Medouie Creek Salt Marsh Restoration: 2015 Annual Progress Report Executive Summary

The Medouie Creek wetland complex is located on the north shore of Polpis Harbor on Nantucket. Originally one large connected salt marsh, dredging and diking sometime prior to 1938 created a hydrologically restricted freshwater marsh in the northwestern portion of Medouie. This hydrologic alteration decreased tidal action and saltwater inputs, converting the marsh to freshwater vegetation and potentially encouraging the establishment and spread of the non-native invasive plant *Phragmites australis* (Common Reed).

In December 2003, the Nantucket Conservation Foundation submitted background and site information to the former Massachusetts Office of Coastal Zone Management Wetlands Restoration Program (MWRP; currently the Massachusetts Department of Fish and Game Division of Ecological Restoration) and Medouie Creek was subsequently designated as a high priority wetland restoration site. Following an extensive feasibility analysis, construction aimed at restoring saltwater and tidal influence to the restricted freshwater portion of Medouie Creek was completed in December 2008 with the installation of a box culvert in the eastern dike road and dredging to reconnect existing marsh channels (Figure 1). The opening of the culvert initiated draining of the impounded freshwater and allowed regular tidal and storm surge flow of saltwater into the marsh.

In order to assess the effectiveness of this restoration, a series of ecological and physical characteristics were monitored both pre and post restoration. Vegetation communities were monitored before restoration and again in 2009, 2011, 2013, and 2015. In 2015, 7 years post-restoration, vegetation community composition has shifted dramatically from predominantly freshwater plant species to saltwater marsh plant species throughout large portions of the previously restricted marsh. Stable mudflat areas mixed in with the restored saltmarsh vegetation community now serve as excellent habitat for migratory bird species. The rare saltmarsh sparrow has been observed using Medouie as nesting and feeding habitat.

Phragmites patches showed dramatic decreases in stem density and height over time as the salt water impacted *Phragmites* growth. Currently, *Phragmites* occupies approximately 1.82 acres of the 19 acre marsh, a reduction from the 3.9 acres present in 2009 at the initiation of restoration (Figure 20). However, the brackish areas of the marsh that do not receive constant tidal influence are experiencing colonization by *Phragmites*. In 2016, NCF staff applied to the Nantucket Conservation Commission to obtain permission to opportunistically use chemical methods to begin controlling these stems and the remainder of the original *Phragmites* population located on its properties.

Water level fluctuation and soil salinity monitoring stations were established throughout the marsh and monitored from 2008 - 2015. In 2015, all stations, including subsurface water stations, showed daily tidal pulses in water levels throughout the marsh. Bi-monthly soil pore water salinity measurements showed continued significant increases in soil salinity from pre-restoration measurements, indicating that both tidal action and increased levels of saltwater were moving back into the previously restricted marsh. Photo monitoring sites revisited annually from 2009 to 2015 documented the physical changes in Medouie Creek directly related to restoration actions and the extent of freshwater plant dieback (Appendix A). In 2012, we began to observe extensive salt marsh dieback in the front marsh, which we will continue to monitor.

The seventh growing season post-restoration (2015) showed continued trends of elevated salinity and tidal fluctuations in the previously restricted marsh, as well as a dramatic increase in salt marsh vegetation. We will continue monitoring this site to document patterns of change as the previously restricted freshwater marsh continues to transition to a saltwater marsh. The Medouie Creek wetland restoration project is one of the most intensely monitored salt marsh restoration projects in New England and will provide useful scientific information to other land managers and restoration scientists.

Project Background

The Medouie Creek wetland complex, located on the northern shore of Polpis Harbor on Nantucket Island, Massachusetts, is designated as a high priority wetland restoration site by the former Massachusetts Office of Coastal Zone Management Wetlands Restoration Program (MWRP; currently the Massachusetts Department of Fish and Game Division of Ecological Restoration). The Nantucket Conservation Foundation (NCF) owns 202 contiguous acres of protected conservation land within the Medouie Creek wetland complex. This wetland, a historic salt marsh, became restricted by a dike road and altered through drainage ditching sometime in the early 20th century. Over time, these wetland alterations created a hydrologically restricted freshwater marsh, separated from a tidal saltwater marsh by a dirt dike road (Figure 1). The exact dates when this work took place are unknown, but the alterations are visible in aerial photos dating from 1938.

These wetland alterations decreased tidal action and influenced soil development, water flow, water and soil chemistry, and vegetation composition in the marsh, creating conditions that typically favor the establishment and spread of the non-native, invasive species *Phragmites australis* (Common Reed) (Roman *et al.*, 1984). In 2009, immediately following restoration, dense stands of *P. australis* occupied approximately 3.9 acres of the 19 acre marsh. Genetic testing conducted by Cornell University confirmed this as the invasive, non-native genotype (Figure 1).

Responding to concerns about the potential for further spread of *P. australis* and resulting degradation of the ecological diversity of the Medouie Creek marsh, the Nantucket Conservation Foundation submitted background and site information to the MWRP in December 2003. The Foundation's Department of Science and Stewardship researchers and staff and contractors from the Office of Coastal Zone Management worked cooperatively to design a restoration and monitoring plan for Medouie Creek focused on reducing the spread of *P. australis* through Medouie Creek and providing increased habitat for native salt marsh plant species.

After careful consideration and analysis of water level monitoring and elevation surveying data collected at the site and acquiring the appropriate permitting, restoration work was implemented in December 2008. Pre-restoration site conditions are detailed in an internal NCF technical report (Freeman & Beattie, 2008). Site restoration work consisted of placing a box culvert through the dike road, lowering the elevation of the dike road and dredging marsh channels to facilitate saltwater movement into the previously restricted marsh. Detailed information about the site restoration construction is included a 2009 internal NCF annual report (Karberg, 2009) (Figure 1). Extensive site monitoring was conducted pre-restoration in 2008 and post-restoration through 2015 to document the effects of these restoration actions on soil pore water salinity, hydrology, and vegetation composition.

Site Restoration Monitoring

To examine the effects of the restoration work implemented at Medouie Creek, a suite of ecological and physical characteristics have been monitored both pre and post restoration. Soil pore water salinity and chemistry sampling sites were established to examine changes in salinity within the rooting zone of vegetation and the effect of altered hydrology on soil water chemistry. Water level data loggers have continually recorded fluctuations in tidal patterns to document hydrologic changes throughout the wetland. Vegetation monitoring plots were established in the restricted marsh and unrestricted marsh to examine shifts in plant community composition following restoration. Lastly, digital photos were taken at consistent photo monitoring points located throughout the area to visually monitor changes in the physical appearance of the restored marsh. Detailed methodologies for each of these monitoring methods are summarized in the NCF 2008 internal technical report (Freeman & Beattie, 2008), except for soil pore water chemistry, which was initiated in 2009 and is summarized in Karberg, 2009.

Soil Pore Water Salinity Monitoring

Permanent soil pore water salinity stations were established throughout both the unrestricted marsh and the restricted marsh to document the extent of salt water influx into the vegetation root zone. Soil pore water is water present within the spaces between soil particles, particularly in inundated and waterlogged wetlands. Beginning in 2007, eleven stations were sampled bi-monthly, typically from April to October (Figure 2); in 2012 we reduced this sampling to monthly. According to methodology adapted from (Roman *et al.*, 2001), salinity measurements were consistently taken monthly during either the full or new moon low tide cycles at three depths below the soil surface (15 cm, 30 cm, and 45 cm) in order to encompass the plant rooting zone (for detailed methodology see Freeman & Beattie, 2008). In 2008, four additional salinity stations were established to measure salinity within Polpis Harbor and within the open water ditch in the restricted marsh. Complete sampling of all stations has been conducted during the field season from 2008 - 2015. Soil salinity measurements were not collected in October 2010, 2011, 2013, and 2015 because low tide occurred during dark, early morning hours. Differences in salinity were examined over time between all stations and depths using a repeated measures ANOVA ($\alpha = 0.05$, SPSS) (Figure 3 and 4).

Stations 9, 10 and 11 are located in the historically unrestricted (front) salt marsh and experienced very little changes in hydrology related to the restoration construction work. Until 2012, Stations 9, 10, and 11 in the historically unrestricted marsh showed no significant difference in average monthly salinity between sampling years (2008, 2009, 2010, 2011) (Figure 3). In 2012, both Station 10 and 11 showed increased salinity at 15, 30 and 45cm below the soil surface compared to previous sampling years and in 2013 Station 9 became significantly more saline than pre-restoration. Overall, salinity has been increasing in the front marsh over time (Figure 3). In 2015, 7 years post-restoration, Station 11 had the highest salinity at all depths compared to Stations 9 and 10 (Figure 3). Pairwise comparisons indicated that 2015 salinities were significantly higher than all previously sampled years ($p=0.001$).

Differences in salinity observed in the later part of this study maybe be related to changes and timing of annual precipitation as well as salt marsh dieback and soil erosion within the marsh creek channel, exposing some areas to increased tidal action. Additionally, increased storm events associated with high tide events in 2012 - 2015 may have concentrated salinity in areas in the front marsh. Station 10 was initially located ~ 5ft from the tidal ditch. This ditch has been slowly slumping and shifting, bringing it closer to Station 10 and Station 9 (Appendix A: photo 2). This is likely altering the salinity observed in these stations. Additionally salt marsh dieback has been occurring around both Stations 9 and 10 which could be concentrating salinity.

Salinity also varied significantly with depth at Station 9 and 10 ($p=0.001$) but not Station 11 with measured salinities typically higher at shallower depths (Figure 3). The proximity of Station 11 to the harbor most likely influences salinity at depth through increased inundation during high tides, making the salinity profile more equivalent.

Stations 1-8 are located throughout the previously restricted (back) marsh (Figure 4). Salinity levels have increased dramatically post-restoration at all stations, as compared to pre-restoration salinity levels ($(F=17.215, 44.266) = 4.231, p=0.001$), (Figure 4). Before restoration, salinity at stations in the back marsh averaged 4.34 ppt with a range from 1.76-8.78 ppt, indicative of freshwater marsh habitat conditions. In 2015, salinity averaged 19.78 (± 1.196) and ranged from 7.58-34.96. Since restoration, pore water salinity has continued to increase each year at all stations in the previously restricted marsh, although some stations have responded more quickly and dramatically. Stations 1, 4, and 8 have shown the most dramatic salinity increases, with Station 4 averaging 32ppt in 2015. Stations 5 and 6 have shown the lowest overall increase in salinity, averaging 7-9 ppt in 2015. Salinity by depth depended on the individual stations, with Stations 2, 3 and 4 showing strong decreases with increasing depth (Figure 4). Interestingly, until 2015 Station 7 salinity had been increasing dramatically. This area has developed into a bowl of standing freshwater and the salinity in Station 7 decreased dramatically in 2015, particularly at the shallower depths.

Stations 1 and 2 are located within the densest stands of *P. australis*. Salinity measurements at these locations in 2015 ranged from 18.3-30 ppt and 4.7-30.7 ppt respectively, which are significant increases from pre-restoration salinity, which averaged 0-1.5 ppt ($p=0.002$ and $p=0.011$ respectively). Additionally, salinity at both stations increased over the 2015 season over the season as less freshwater entered the system as rainfall. Reported salinity tolerances for established *P. australis* populations range from 20 ppt up to 45 ppt, with germination inhibited by soil salinity above 20 ppt and seedlings negatively impacted at salinity > 35 ppt (summarized in Chambers *et al.*, 2003).

Open water salinity stations were established in 2008 in Polpis Harbor and in the open water ditch within the restricted marsh. In 2008, salinity measurements taken within the ditch consistently indicated the presence of a salt wedge, with lower salinity levels concentrated at the ditch surface and higher salt concentrations at the bottom of the ditch, ~ 30cm. Following the opening of the culvert, this salt wedge disappeared from the ditch and monthly salinity measurements averaged 17 ppt in 2009 (Table 1). As the ditch is now tidally connected, flow rates are consistently higher, water levels are consistently lower, and constant mixing of fresh and saltwater occurs with each tidal cycle. Therefore, the potential for a salt wedge to re-develop is significantly decreased (Appendix A, photos 3 & 4).

Table 1: Average monthly salinity measured at open water sampling stations in 2008, 2009, 2010, 2011, 2012, 2013, 2014, and 2015. Measurements were initiated in August 2008 and not collected in October 2010, 2011, 2013 and 2015 due to low tide timing. Stations 14 and 15 were not sampled in 2015. Open water stations are located in Polpis Harbor (Stations 12 and 13) and the ditch running through the previously restricted portion of the marsh (Stations 14 and 15).

2008	May	June	July	August	September	October
Station 12 (Polpis Harbor)	-----	-----	-----	30.00	33.17	25.50
Station 13 (Creek Mouth)	-----	-----	-----	27.00	33.22	24.58
Station 14 (Ditch Surface)	-----	-----	-----	5.00	9.94	3.17

2009	Station 14 (Ditch Bottom)	-----	-----	-----	20.40	16.67	-----
	Station 12 (Polpis Harbor)	31.67	31.33	33.00	30.00	30.58	30.58
2010	Station 13 (Creek Mouth)	27.67	24.67	22.75	28.67	23.00	19.58
	Station 14 (Ditch)	20.09	23.17	22.33	15.00	19.83	18.08
	Station 15 (Ditch 2)	18.92	22.50	19.92	18.00	21.58	18.83
	Station 12 (Polpis Harbor)	28.83	31.33	30.33	30.00	28.58	-----
2011	Station 13 (Creek Mouth)	25.50	22.75	24.83	23.17	27.17	-----
	Station 14 (Ditch)	24.58	22.50	24.58	21.67	22.83	-----
	Station 15 (Ditch 2)	24.00	22.58	23.67	23.17	23.67	-----
	Station 12 (Polpis Harbor)	30.61	33.00	31.28	29.83	31.28	-----
2012	Station 13 (Creek Mouth)	22.42	28.83	26.25	26.72	27.33	-----
	Station 14 (Ditch)	18.50	25.00	24.42	27.61	26.33	-----
	Station 15 (Ditch 2)	18.42	24.67	25.00	26.78	28.00	-----
	Station 12 (Polpis Harbor)	33.20	31.30	33.60	30.60	34.30	33.00
2013	Station 13 (Creek Mouth)	25.30	26.20	32.10	27.80	30.20	33.20
	Station 14 (Ditch)	25.20	26.60	29.30	25.90	26.80	27.00
	Station 15 (Ditch 2)	25.20	26.80	29.30	25.70	29.30	26.00
	Station 12 (Polpis Harbor)	20.00	16.00	26.50	28.00	27.00	-----
2014	Station 13 (Creek Mouth)	25.67	30.00	25.00	23.67	30.00	-----
	Station 14 (Ditch)	20.00	18.33	24.33	25.00	26.17	-----
	Station 15 (Ditch 2)	24.67	13.5	24.33	24.33	26.33	-----
	Station 12 (Polpis Harbor)	27.33	28.33	29.67	31	32.17	-----
2015	Station 13 (Creek Mouth)	23.67	27.17	11.67	30	30.5	27.33
	Station 14 (Ditch)	25.2	NA	NA	NA	NA	NA
	Station 15 (Ditch 2)	NA	NA	26.67	31.67	29.5	NA
	Station 12 (Polpis Harbor)	30.5	27.8	30.0	27.8	29.7	-----
	Station 13 (Creek Mouth)	25.2	32.2	28.0	26.0	29.7	-----

Salinity levels throughout the previously restricted marsh appeared to be stabilizing in the 2012-2014 sampling seasons, as compared to previous seasons, with overall measured salinity in the back marsh in 2014 not significantly different from salinity as sampled in 2012 ($p=0.175$) and 2013 ($p=0.690$). However, both decreases and increases in salinity were detected in 2015 at particular stations. Areas such as Station 7 that are now experiencing increased freshwater retention due to soil subsidence are exhibiting lower salinity levels, while salinity increased over the 2015 season at some of the stations farther from or higher than the ditch, such as Station 2, as freshwater precipitation was dramatically reduced compared to previous years. This trend will continue to be strongly influenced by the ability of saltwater to spread throughout the marsh and the capacity of the marsh soil surface to retain salinity.

Data collected around large storm events, such as Hurricane Sandy (October 2012) and the Nor'easter Nemo (February 2013) tended to show an increase in soil salinity due to larger tidal inputs. Sampling in future years will determine whether salinity will continue to increase or differentiate through the marsh as the wetland evolves over time in response to restoration.

Tidal Fluctuation Monitoring

In September 2008, eight transducer stilling wells were installed adjacent to the Polpis Harbor tidal creek mouth, on either side of the proposed culvert installation location, and at various sites within the restricted marsh, both within the ditch and within the marsh to monitor surface and groundwater levels (see Karberg 2009 for detailed installation methods; Figure 2). Water level data loggers were placed in each stilling well to continuously monitor water levels which allowed us to measure water level as height above mean sea level.

Data obtained from transducers in 2008 (pre-restoration) showed strong tidal influence in the front, unrestricted portion of the marsh (Figure 5) and no tidal influence in the back, restricted marsh. Water fluctuations observed in the restricted marsh during this time period were attributed to precipitation, evapotranspiration, and/or groundwater influences.

Following the opening of the culvert in December 2008, transducers placed along the ditch in the previously restricted portion of the marsh began to show definitive tidal influence. Initially, only the transducers immediately adjacent to the culvert showed tidal influence. As the previously restricted marsh continued draining freshwater, transducer stations farther back in the marsh began to show tidal patterns. Following an extreme high tide event in mid-June in 2009, all surfacewater transducers, except for Station G (located the furthest distance from the culvert opening), were registering constant tidal-level fluctuations, indicating that tidal influence extended back into the previously restricted marsh along the length of the ditch (Figure 6). Station G showed a hydroperiod dominated alternately by both tidal fluctuations and precipitation/groundwater. Transducers installed to monitor groundwater (Station H and E) showed a hydroperiod similar to Station G, with alternating influence of tides vs. precipitation/groundwater (Figure 6).

In 2010, all transducer stations, including Station G, began showing daily tidal fluxes (Figure 7). Groundwater sampling Stations H and E showed a daily influence of tides on water level, but magnitudes were moderated by precipitation/surface water inputs and soil water retention. Water levels measured in 2011 (Figure 8), 2012 (Figure 9) and 2013 (Figure 10) continued to show the same pattern observed in 2010, with all stations showing a strong influence of tidal flux on water levels. In January 2014 (Figure 10), Station B began to show increased drawdown during low tide events. This resulted from erosion and slumping along the ditch, which exposed the stilling well to open water, where it had previously been within marsh sediments. As the ditch ages and slumps and shifts due to natural channelization processes, hydrologic patterns within the ditch and marsh will also shift. Some slumping and channel blockage was observed in the 2012 and 2013 field season farther back in the restored marsh, but water level monitoring showed that daily tidal fluctuations still occur along the ditch. These preliminary observations suggest that allowing the channel to naturally evolve may not restrict the flow of water through the marsh.

The patterns of tidal vs. groundwater/precipitation influence on hydrology in the previously restricted marsh will vary each year, depending on precipitation and tidal patterns. We will continue to monitor these patterns over time to observe seasonal and yearly variation. Additionally, we will continue to observe water level fluctuations in correlation with ditch morphology to determine if additional

management is needed to maintain the ditch in order to ensure that saltwater influence continues to occur within the entire marsh complex.

* Water level loggers began to fail and lose battery life in early 2014. Loggers were pulled and sent for refurbishing in spring 2015 and will be installed as part of a new, long term monitoring plan throughout the marsh. These loggers had been continuously deployed since September 2008, a period of 6 and a half years.

Soil Pore Water Chemistry

To examine the impacts of the restoration events on marsh chemistry, we examined levels of sulfide (mg/L S^{2-}), orthophosphate (mg/L PO_4^{3-}) and nitrogen (mg/L NO_3^-) over several post-restoration growing seasons (2009-2012). Unfortunately, we have no pre-restoration data for comparison, but post-restoration monitoring has allowed us to quantify water quality over the whole marsh. Soil pore water was collected once a month during soil pore water salinity sampling (as described previously) and water samples were immediately analyzed at the University of Massachusetts Boston Nantucket Field Station Lab. A more detailed description of analyses is included in Karberg 2009. Information up to 2012 allows us to draw a clear picture of the chemistry changes post-restoration and future water chemistry monitoring will only be necessary to document dramatic, unusual changes observed within the marsh.

Sulfide

Many concerns surrounding rising sea levels and saltwater intrusion in freshwater marshes focus on increasing sulfide concentrations, which can prove toxic to freshwater macrophytes (Keddy, 2000; Koch *et al.*, 1986). Ocean water holds high concentrations of sulfate, which is quickly reduced to sulfide through microorganism metabolism in anoxic conditions (Keddy, 2000). Free sulfide itself is toxic to some plants (Cronk & Fennessy, 2001). Pore water sulfides are typical in salt marshes but can cause rapid declines in freshwater plant communities.

Sulfide concentrations measured at Medouie Creek were fairly moderate in both the unrestricted and previously restricted marsh (Figure 11) in 2009 - 2012. Sulfide concentrations were significantly lower in Polpis Harbor, the unrestricted marsh and in the ditch ($p=0.009$), which is due to the presence of more sulfate than sulfide in oxygenated ocean water. Sulfide concentrations of 375 μM and higher have been shown to reduce nitrogen uptake in *P. australis* (Chambers *et al.*, 1998). Concentrations of sulfide measured in Medouie reached this level only in samples collected in July 2009 at Stations 1 and 5. Sulfide concentrations levels decreased at Stations 1 and 5 in following years and toxic levels were not observed again.

Nitrate and Phosphorus

Nitrogen (N) and phosphorus (P), essential nutrients for plant growth, are often limited in flooded freshwater wetland ecosystems (Mitsch & Gosselink, 2007). Nutrient availability in impounded freshwater wetlands can depend both on sediment quality and on the seasonal degree of aeration within the soil. Long-term diking of previous salt marshes on Cape Cod showed much lower concentrations of nitrogen and phosphorus in soil pore water as compared to natural marshes (Portnoy, 1999). Naturally occurring salt marshes tend to have the highest productivity of any marsh type, due in large part to the availability of N and P as a result of the dynamic movement of tides (Mitsch & Gosselink, 2007).

At Medouie Creek, overall nitrogen levels remained at consistent and acceptable levels at each station between 2009-2012 (Figures 12). In 2010, we observed a large spike in available nitrate in August with

the response observed in every sampled station, including the station located in Polpis Harbor. This spike was not observed again during any month in the sampling period in 2011, but even larger spikes of nitrate were observed in the June 2012 sampling period. The higher observed concentrations of nitrate could have been related to seasonal inputs from Polpis Harbor or run off from fertilized lawns and/or discharge from septic systems on properties surrounding the wetland and holding tanks of boats in Polpis Harbor. Overall, nitrogen does not appear to be significantly increasing in the previously restricted marsh in response to tidal inputs.

Overall measured phosphate levels remained moderate to low in 2009 - 2012 (Figure 13). One abnormally large spike in phosphate was measured at Station 3 in August 2012. The source of this spike is unknown and may have been a result of sampling error, as both Polpis Harbor and adjacent marsh levels of phosphate remained consistently low. Overall, bioavailable phosphate does not appear to be increasing in the previously restricted marsh in response to increased input of salt water.

Vegetation Community Composition

In order to document pre-restoration conditions and anticipated shifts in vegetation composition following restoration efforts, permanent vegetation community sampling plots were established in 2005 and 2007. A total of 186 1m² vegetation plots were located along 31 transects across the entire marsh complex (Figure 14). The majority of sampling transects run perpendicular from the ditches and creeks within the unrestricted and restricted marsh in order to capture vegetation shifts along both elevation and salinity gradients. Three transects were situated parallel to the ditch to document vegetation composition and potential changes within *P. australis*-dominated areas. Post-restoration vegetation sampling was conducted every other year, beginning with the first year (2009).

Within each 1m² vegetation community plot, all vascular plants were identified to species (where possible) and percent cover was estimated in pre-defined cover classes according to the Braun-Blanquet scale, as well as percent total cover of all vegetation, and percent cover of functional groups (woody, graminoids, forb, etc.) (Freeman & Beattie, 2008). In addition to documenting total cover of individual species, the percent cover (estimated in predefined cover classes) of total species cover that was completely (100% dead, to the best of our observation), damaged (50-99% dead) and undamaged (0-49% dead) were recorded to document freshwater species dieback, due to the influence of increased salinity in previously freshwater areas after restoration.

Using PC-ORD, a detrended correspondence analysis (DCA) ordination was used on vegetation community sampling data collected in 2009, 2011, 2013, and 2015 to develop definitions of vegetation communities present in each sampling year. Clustering of related species on the ordination indicated the vegetation communities present in each year and ranged from freshwater marsh (*Typha* spp., *Schoenoplectus pungens*, etc.) to salt marsh (*Juncus gerardii*, *Iva frutescens*, *Spartina* ssp., *Salicornia* ssp. etc.) to *Phragmites* dominated marsh to mudflat. The vegetation communities defined by the ordination were then used to classify each vegetation sampling plot and then used, along with yearly photomonitoring to create generalized vegetation community maps across the property for each sampling year (Figures 15-19).

Through the study, the unrestricted marsh has remained dominated by salt marsh vegetation with only an increase in mudflat/dieback along the marsh channel edges. Prior to restoration, the previously restricted marsh was dominated by *Typha* marsh, *Phragmites* marsh and limited freshwater marsh and open water/mudflats (Figure 15). The first year post restoration, sampling did not document much vegetation shift during the growing season, but a dramatic die off of the *Typha*-dominated marsh areas occurred the following autumn, likely due to salt water intrusion (Figure 16).

Sampling in 2011 showed further freshwater species dieback as well as massive areas of wrack covered marsh. Salt marsh species were observed colonizing under the still established *Typha* and *Phragmites* (Figure 17). In 2011, vegetation community composition in the previously restricted marsh began to shift from freshwater marsh species to salt tolerant species, particularly adjacent to the ditches and surrounding open water mudflat areas. Salt marsh species coverage increased by as much as 50% in some of the plots closest to the ditch.

By 2013, 5 years post-restoration, the vegetation communities of the previously restricted marsh had exhibited dramatic shifts to more saltmarsh dominated vegetation (Figure 18). Additionally, the areas that were wrack dominated in 2011 became dominated by mudflats interspersed with early successional salt marsh vegetation (*Salicornia* spp.) in 2013, likely due to the decomposition of wrack over time.

By the 2015 field season, 7 years post-restoration, the previously restricted marsh was predominately a salt marsh with freshwater vegetation existing only at the furthest extent of the marsh edges and in the bowl of lower freshwater in the northeastern portion of the wetland (Figure 19). More than 75% of the previously restricted marsh is now dominated by salt marsh species and the vegetation in the marsh appears to be reaching an equilibrium. The extensive mudflats observed during the 2011 sampling have converted almost entirely to salt marsh vegetation, with small mudflat pockets still providing valuable habitat to numerous resident and migratory shorebirds and wading birds. Sampling by SHARP (Salt Marsh Sparrow Habitat and Restoration Program) in 2016 showed that the endangered salt marsh sparrow is using Medouie for habitat and likely nesting as well.

One of the primary concerns about the success of this project was the ability of salt marsh plant species to colonize areas of the previously restricted marsh, as freshwater species died back due to increased salinity. Observations over seven growing seasons post-restoration show dramatic increases and spread in salt marsh species without supplemental seeding, planting and/or wrack removal. The natural re-vegetation of the marsh can be deemed a dramatic success at least seven years post restoration and will be examined again in 2017.

Total acreage of the *P. australis* populations has dramatically decreased seven years post-restoration (Figure 20), mostly due to the restoration work. Initially, the *Phragmites* population at Medouie was 3.9 acres. By 2015, total living *Phragmites* covered only 1.8 acres of Medouie, with stem densities and health substantially decreased compared to pre-restoration populations (Appendix A: photo 3). Stem heights in 2015 averaged 1.15m, ranging from 0.34m to 1.97 compared to an average height of 3.3m pre-restoration.

A portion of the original *Phragmites* population was located on abutting privately owned land, and the landowner treated a 0.4 acre area with herbicide in 2014 (Figure 20). The Foundation is not collecting data on the success of this treatment, but it appeared visually successful in the 2015 field season. The *Phragmites* population boundary will be re-measured in 2017 and again every two years to document long-term changes and potential decreases associated with restoration efforts.

In 2014 and 2015, as the freshwater conditions continued to shift at Medouie, new populations of *Phragmites* stems began appearing in the marsh (Figure 20). In particular, a number of stems have been observed in the northeastern portion of the marsh where a shallow bowl of freshwater remains primarily isolated from daily tides. In 2016, the Foundation will obtain approval from the Nantucket Conservation Commission to opportunistically treat these individual stems with appropriate and approved herbicide application methods.

Photo Monitoring

Permanent photo monitoring points were established throughout Medouie Creek in 2008 pre-restoration. Photo monitoring allows qualitative comparisons of vegetation community changes over time at precise locations. Points were strategically located at the beginnings and ends of selected vegetation transects in the restricted marsh and at two locations in the unrestricted marsh, one on the northeast and one on the southeast side of the existing ditch. These points have been revisited annually post-restoration to document visual changes in vegetation community and landforms within Medouie Creek.

In late September 2008, each photo monitoring point was visited and digital pictures were taken at recorded azimuths around the established point. These points were re-located post-restoration in October 2009, late September 2010, September 2011, September 2012, October 2013, October 2014, and October 2015 and pictures were taken to match the previously recorded azimuths.

A subsample of photo pairs from 2008, 2009, 2012, and 2014 illustrates the physical alteration of the marsh due directly to construction and related hydrologic and vegetation changes in the previously restricted marsh (Appendix A). Photos 1 & 2, located in the unrestricted marsh, show the newly dredged tidal creek channel that connects to the culvert and changes to the channel shape and vegetation. Vegetation appears consistent between years, showing a salt marsh vegetation community dominated by *Spartina* spp. (Marsh cordgrass). In 2012, drastic dieback in *Spartina alterniflora* is observed along the ditch and that can clearly be seen in these photos. Not much is known about salt marsh die back, which is becoming more prevalent in New England. Continued monitoring of these areas and consultation with salt marsh restoration researchers examining this issue will be undertaken over the coming years.

Photos 3 & 4 are both located in the previously restricted marsh, near the ditch. These photos, which were taken during low tide events in 2008, 2010 and 2012, show the drastic dewatering that occurred in the ditch starting in 2009 as compared to 2008. The contours of the ditch in 2009 were beginning to show signs of tidal creek meandering. By fall 2010, the dredged channel in the marsh was exhibiting strong evidence of meandering, beginning the processes of stream geomorphology as the channel and the marsh adjust to continuous tidal flux. Photos in 2011 were taken during a high tide event, showing the drastic difference in water levels between high and low tides within the ditch. Photo 3 also shows the dieback and decrease in density observed in *P. australis* populations.

Photo 5 is located in a *Typha* spp. dominated area in the previously restricted marsh and shows the physical impact of salt water on *Typha* spp. growth in 2009 and continuing to 2011. Most of the *Typha* in this area did not regrow after 2009, resulting in a large amount of dead stems. These stems continue to fall down and decompose each year. Decomposition was very slow and new species were not rapidly colonizing this area, potentially leading to the development of large scale mud flats. In 2012, we began to see definite colonization by salt marsh plant species, particularly *Salicornia* sp. and *Sueda* sp. which increased in 2013 and was quantified in the 2013 vegetation sampling (Figure 18).

Future Monitoring

Monitoring of vegetation community composition, water level fluctuations, and soil pore water salinity and chemistry in 2009 - 2015 provided an interesting picture of ecologic shifts in the previously restricted marsh in response to restoration construction completed in December 2008. Ecologic

changes in this marsh will continue into the future and we will continue annual and biennial monitoring at this site in an attempt to document the trajectory of restoration. The observed responses of vegetation, salinity and water level fluctuations seven years post-restoration provide encouraging evidence of an ecological shift, particularly as related to our primary goal of impacting populations of the non-native *Phragmites australis* and returning the marsh to a functioning salt marsh. In the 2016 field season, we will continue monthly soil pore water salinity sampling, documenting water level fluctuations, and conducting photo monitoring with vegetation sampling in 2016.

The observation of newer populations of *Phragmites* establishing in the freshwater portion of Medouie indicate the need for continual monitoring and re-assessment of this restoration project.

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Figure 1: Medouie Creek Wetland Complex, Nantucket MA – Site overview and restoration plan.

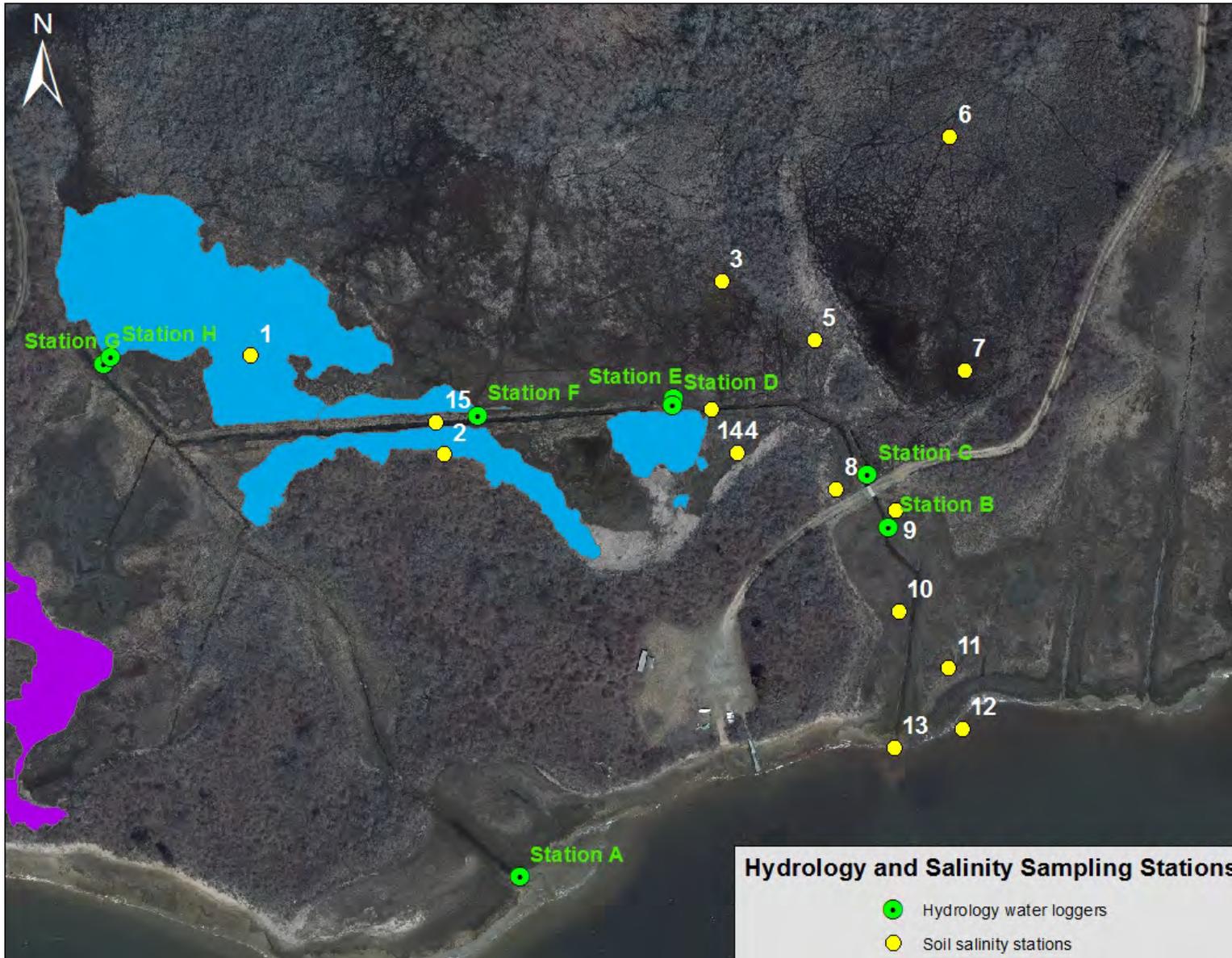


Figure 2: Locations of soil pore water sampling stations for soil salinity measurements (green, designated by numbers) and transducer stilling wells for water level monitoring (yellow, designated by white letters) distributed across the Medouie Creek wetland complex.

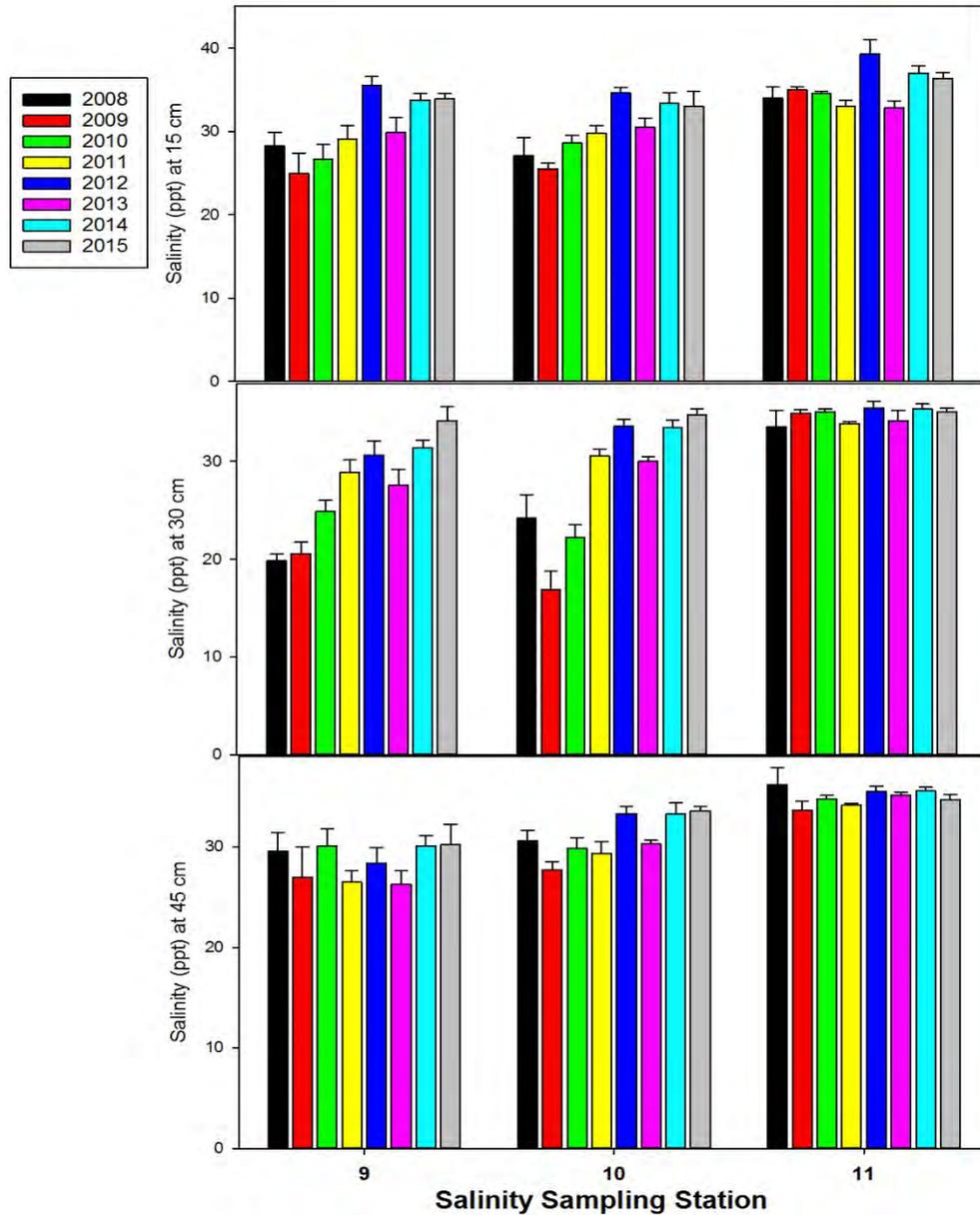


Figure 3: Average yearly salinity measured in 2008 - 2015 at three soil pore water salinity stations in the Front Marsh, a continuously unrestricted and historic salt marsh at Medouie Creek. Salinity was collected at three depths below the soil surface: 15cm, 30cm, and 45cm. Salinity at each depth represents average yearly salinity as measured over the growing season (May – Oct). Standard error bars included.

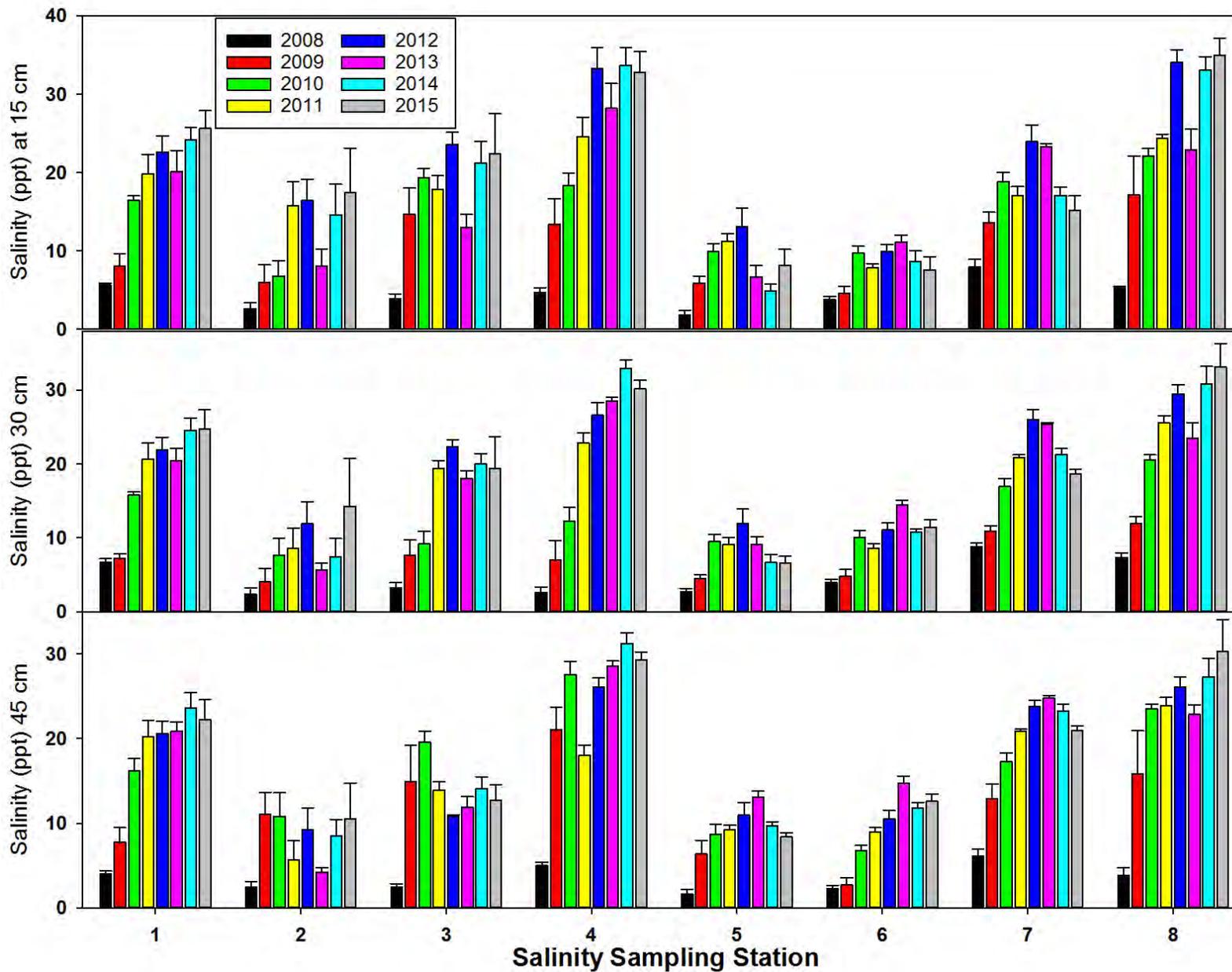


Figure 4: Average Yearly Salinity measured in 2008 - 2015 at eight soil pore water salinity stations in the Back Marsh, the previously restricted freshwater marsh at Medouie Creek. Restoration occurred following the 2008 sampling year. Salinity was collected at three depths below the soil surface, 15cm, 30cm, and 45cm. Salinity at each depth represents average yearly salinity as measured over the growing season (May – Oct). Standard error bars included.

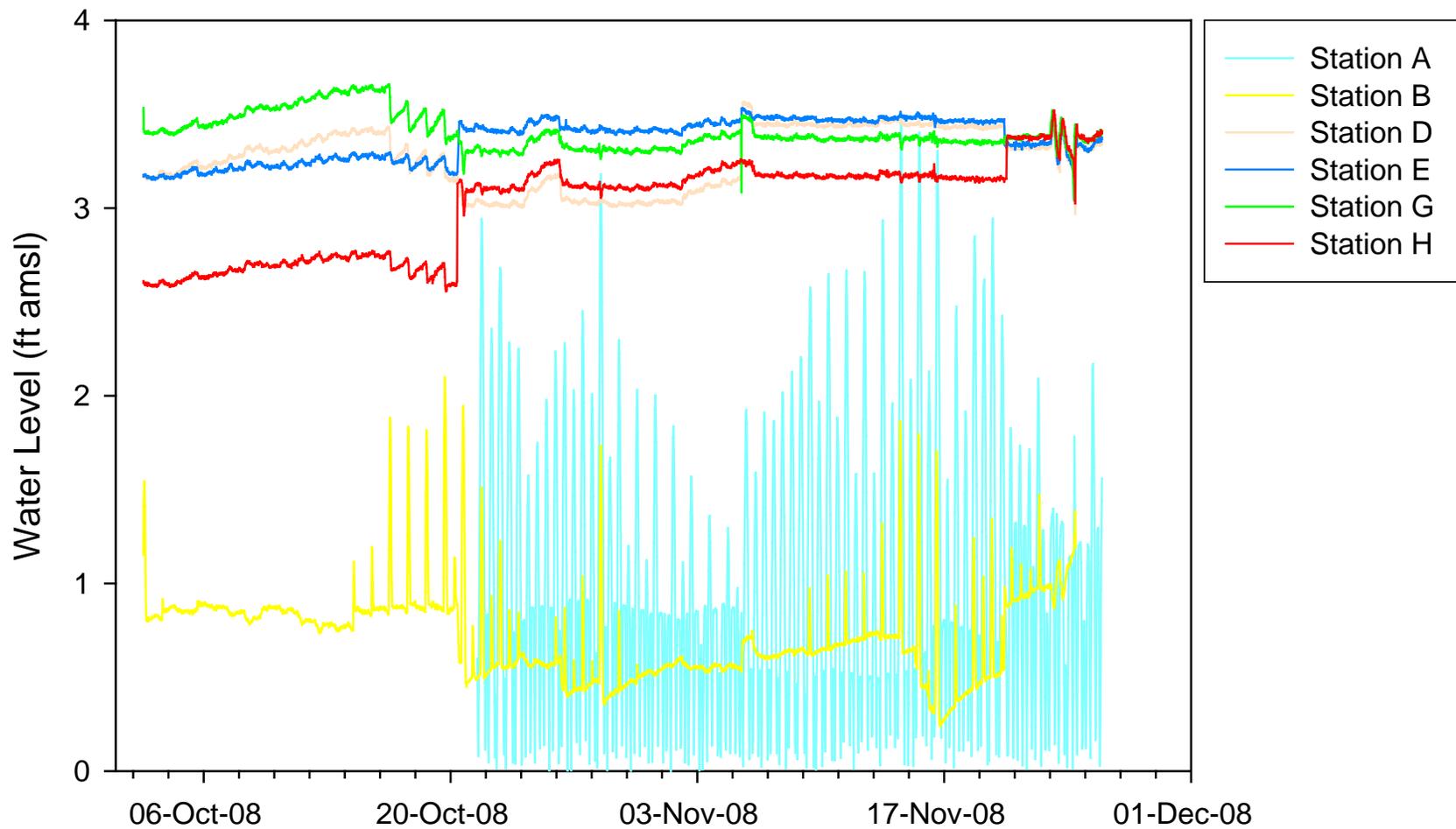


Figure 5: Pre-restoration water level fluctuations measured at six transducer stations from Oct 2008 – December 2008. Station A, located in the harbor, showed a strong influence of tidal pressure on water level changes. Station B, located within the tidally influenced salt marsh showed daily pulses of tidal influence. All other stations throughout the restricted marsh showed little response to daily tidal pulses.

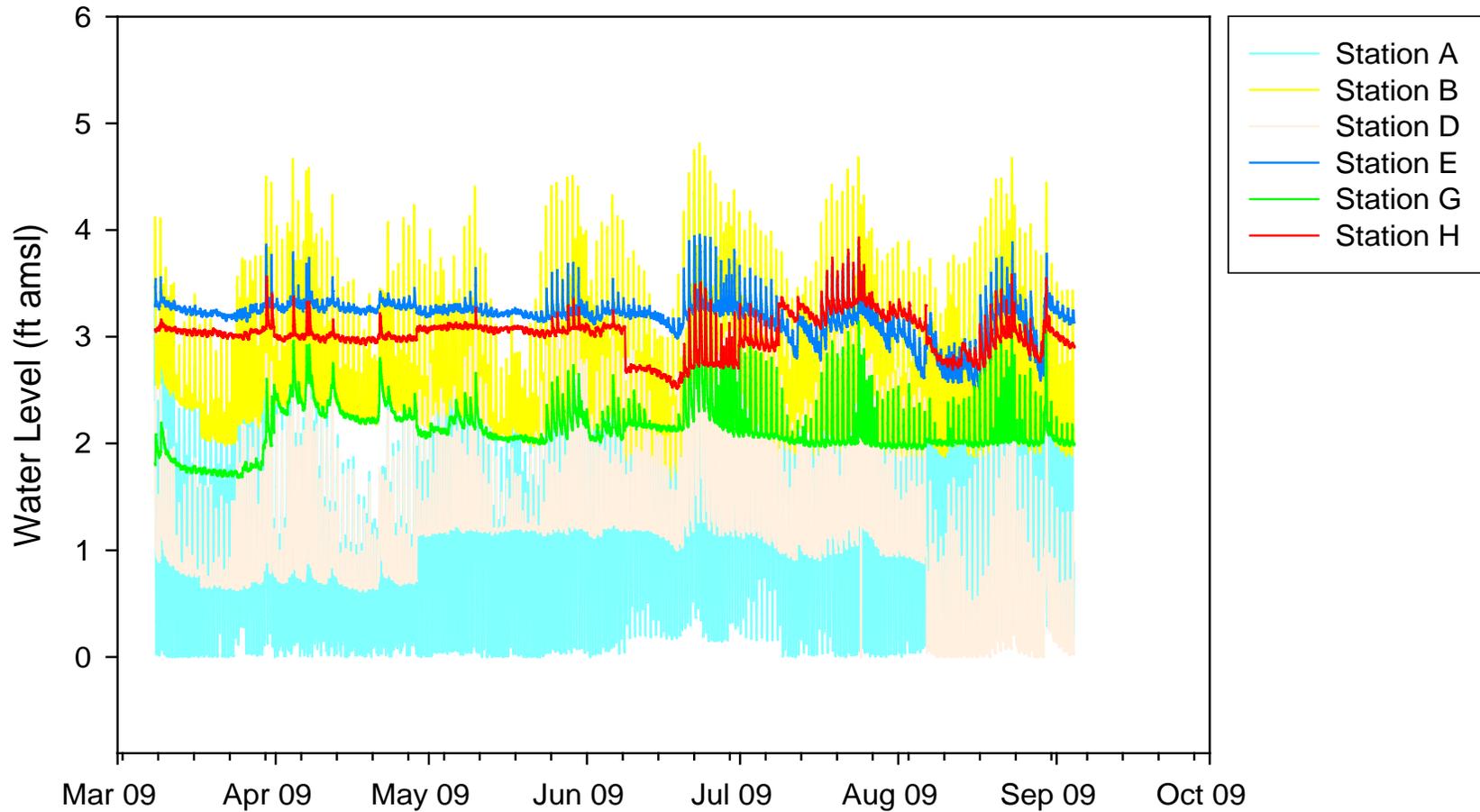


Figure 6: Post-restoration water level fluctuations measured at six transducer sites during the 2009 growing season. Stations B and D immediately began to show tidal influence. Station H, located in the ditch began to show regular tidal influence in July 2009. Stations E and G, both subsurface water level monitoring stations, show influence of both tidal fluctuations and surface water/precipitation influxes.

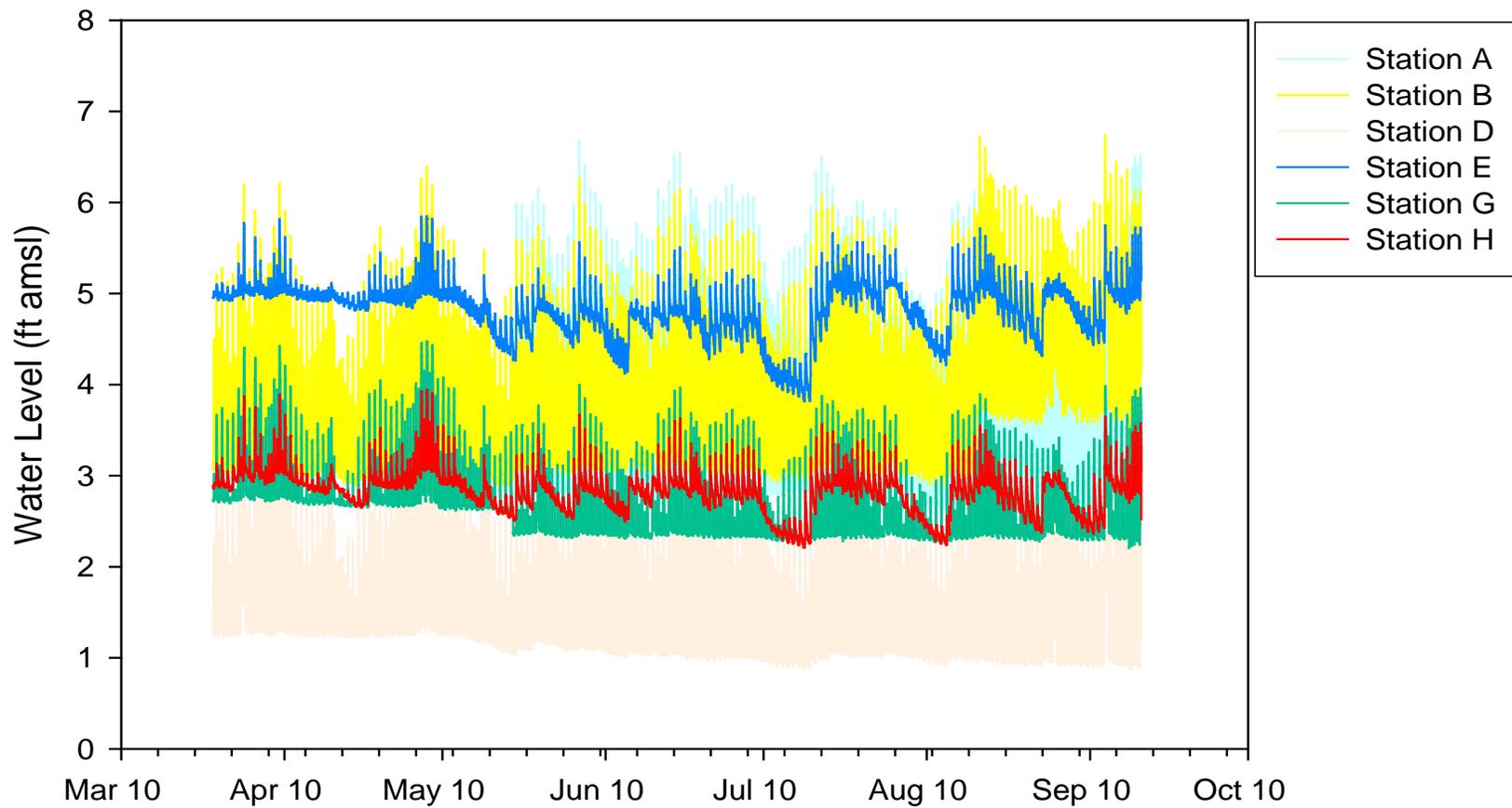


Figure 7: Post-restoration water level fluctuations measured at six transducer sites during the 2010 growing season. Stations A, B, D, and G show continuous influence of daily tidal fluctuations. Stations E and H, subsurface water stations show daily tidal pulses but the range is moderated by surface water and precipitation.

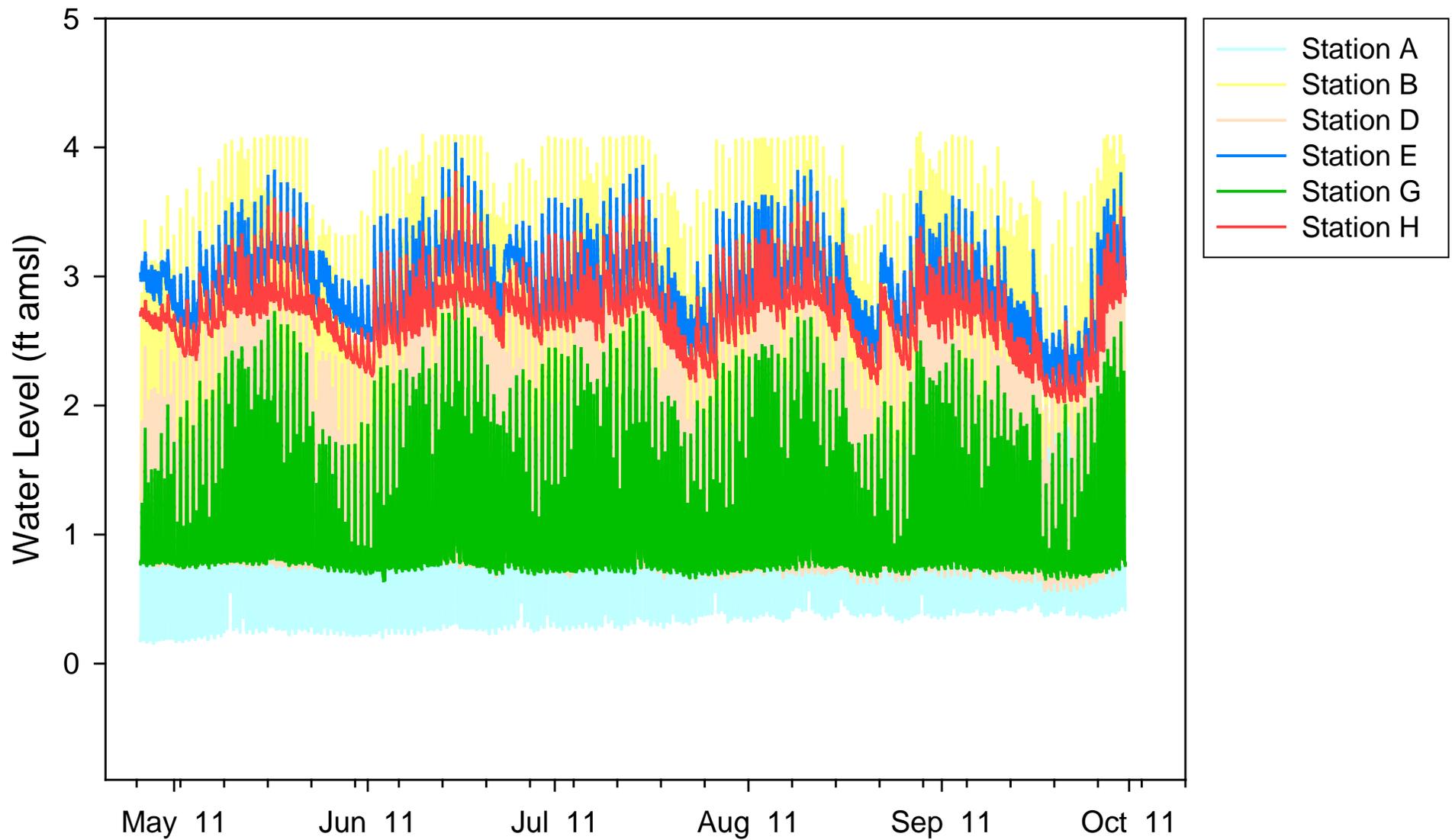


Figure 8: Post-restoration water level fluctuations measured at six transducer sites during the 2011 growing season, matching patterns observed in 2010. Stations A, B, D, and G show continuous influence of daily tidal fluctuations. Stations E and H, subsurface water stations show daily tidal pulses but the range is moderated by surface water and precipitation.

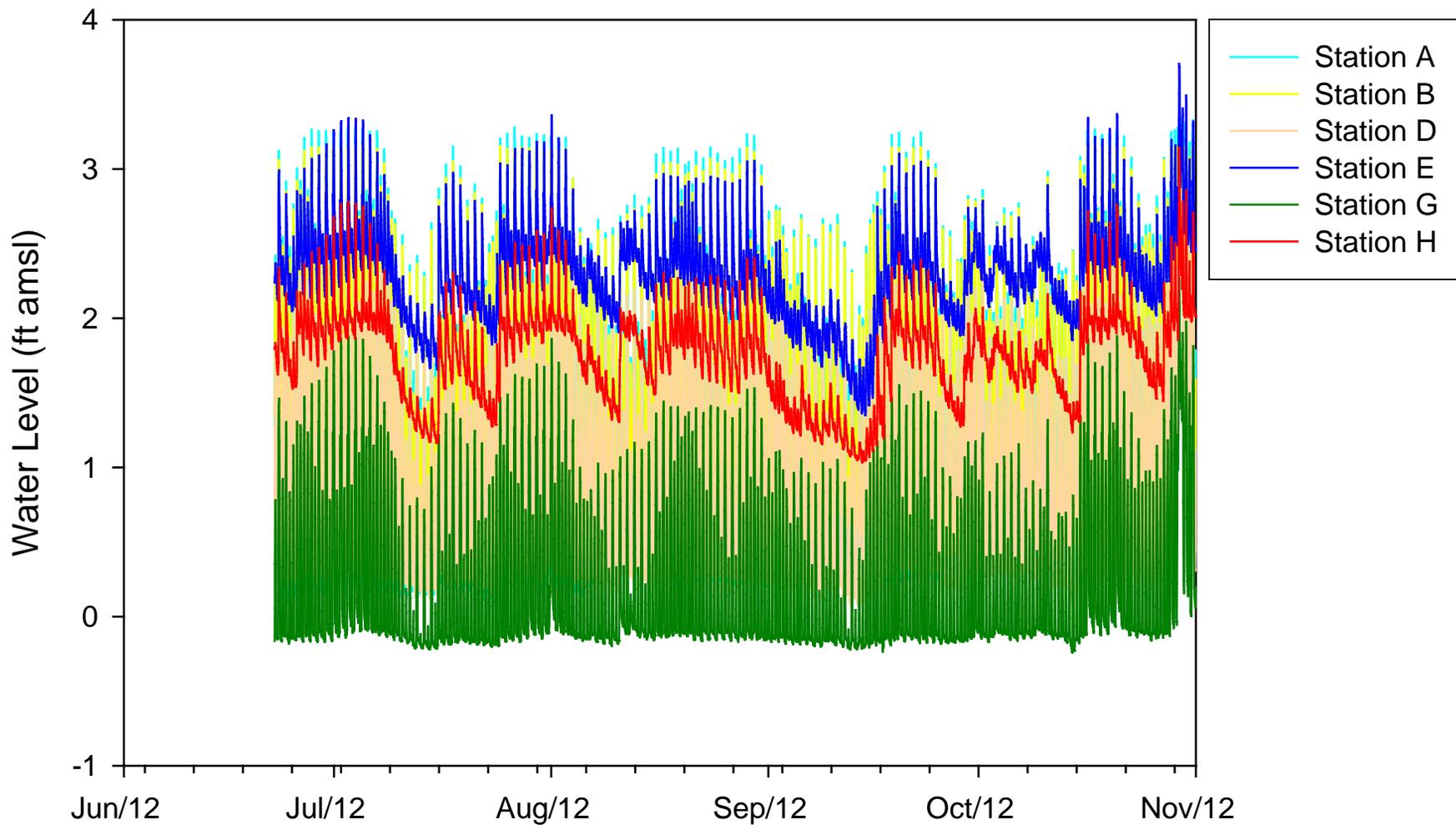


Figure 9: Post-restoration water level fluctuations measured at six transducer sites during the 2012 growing season, matching patterns observed in 2010 and 2011. Stations A, B, D, and G show continuous influence of daily tidal fluctuations. Stations E and H, subsurface water stations show daily tidal pulses but the range is moderated by surface water and precipitation.

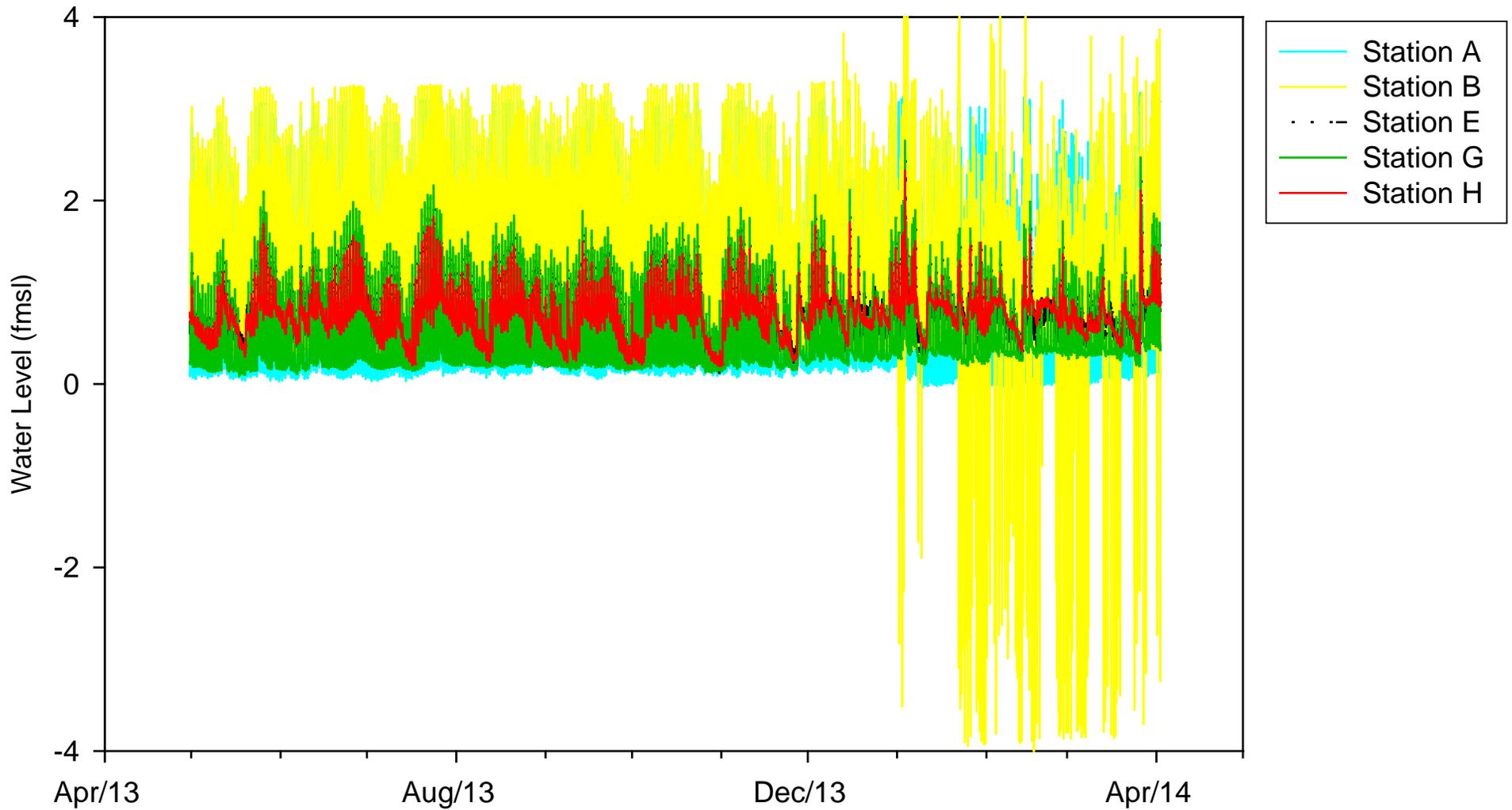


Figure 10: Post-restoration water levels measured at five monitoring stations from April 2013 to April 2014. Station D is not included in this year as the stilling well failed in early 2013. Patterns at all stations were consistent with 2010-2012. Station B began to show increased drawdown during tidal cycles in Jan 2014 as erosion of the ditch exposed the stilling well to open water where it had previously been within the marsh sediments.

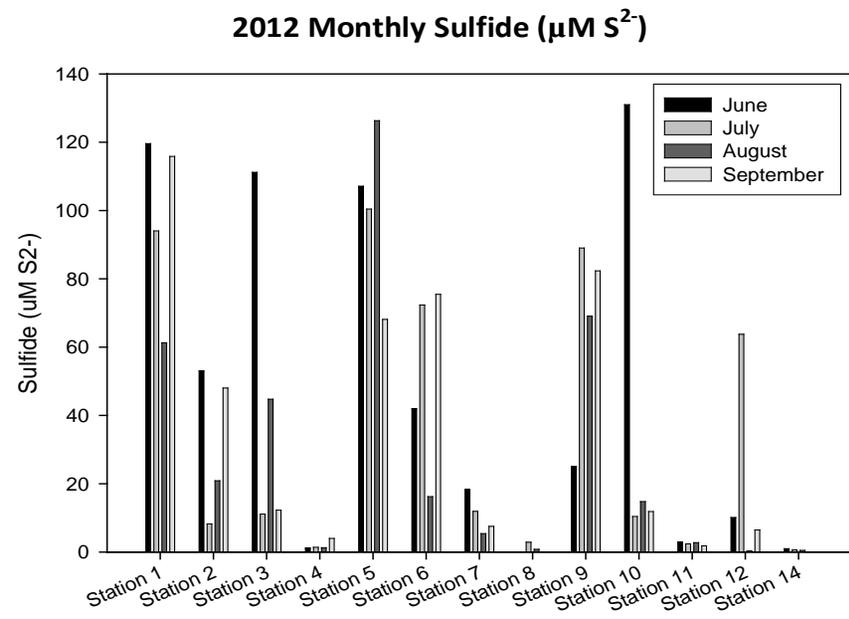
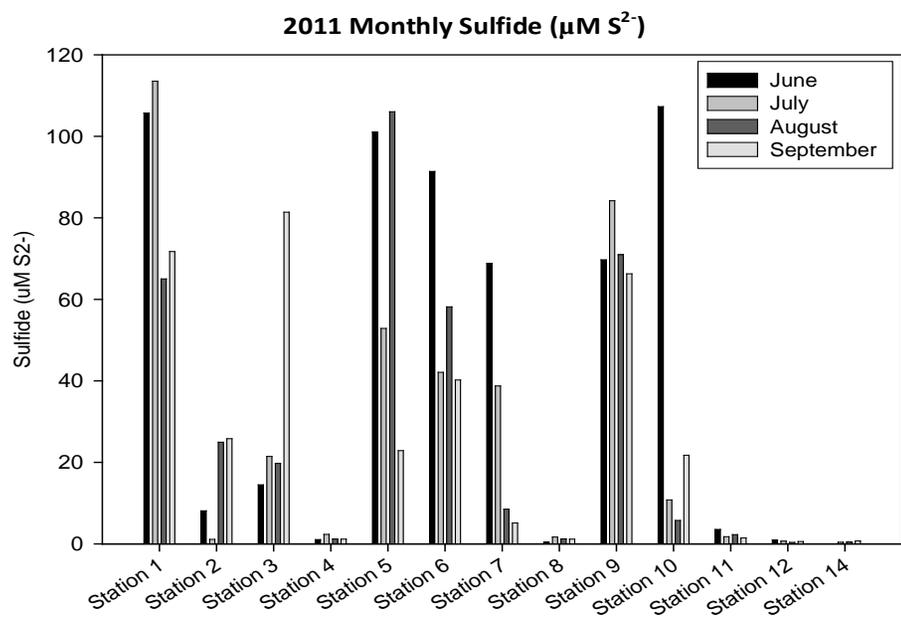
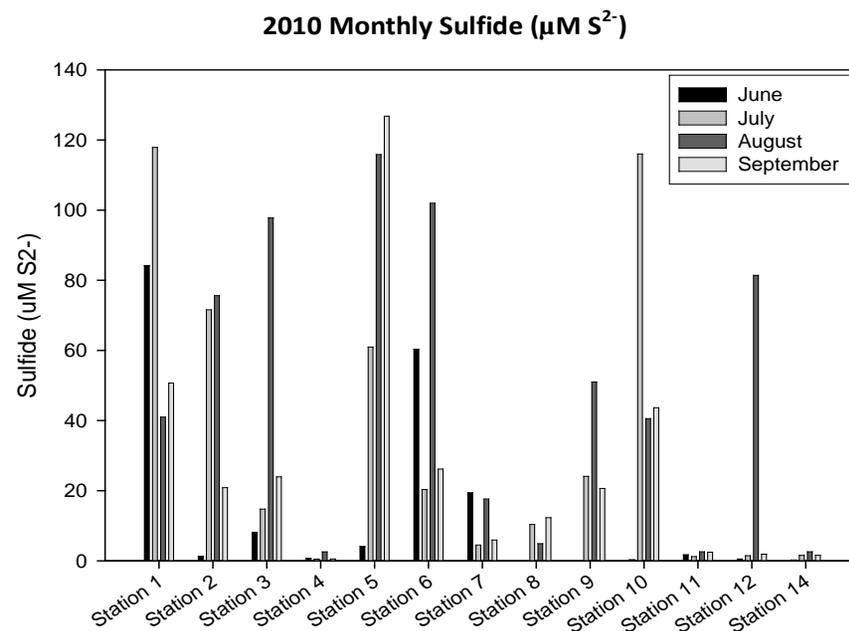
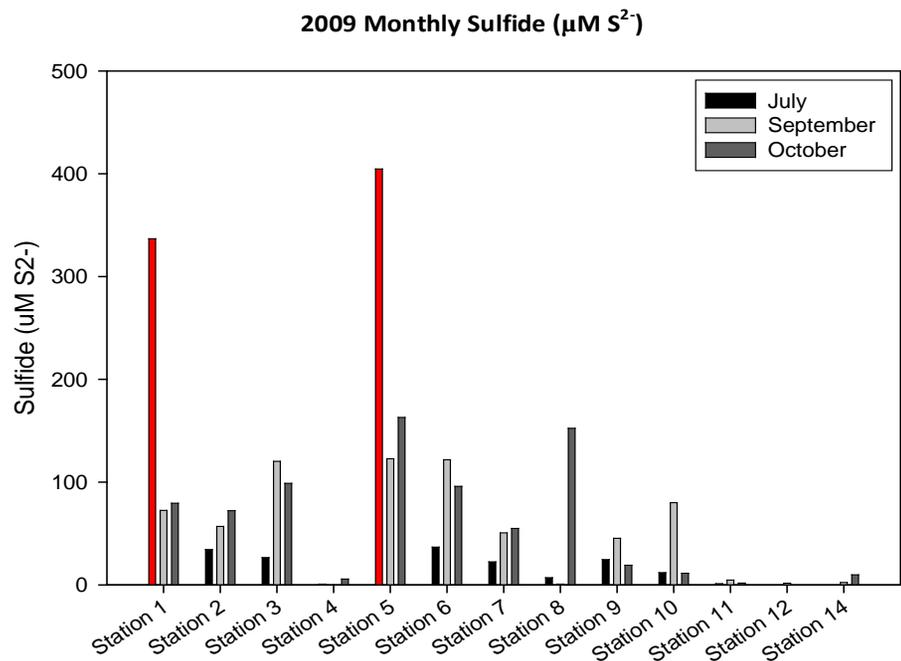
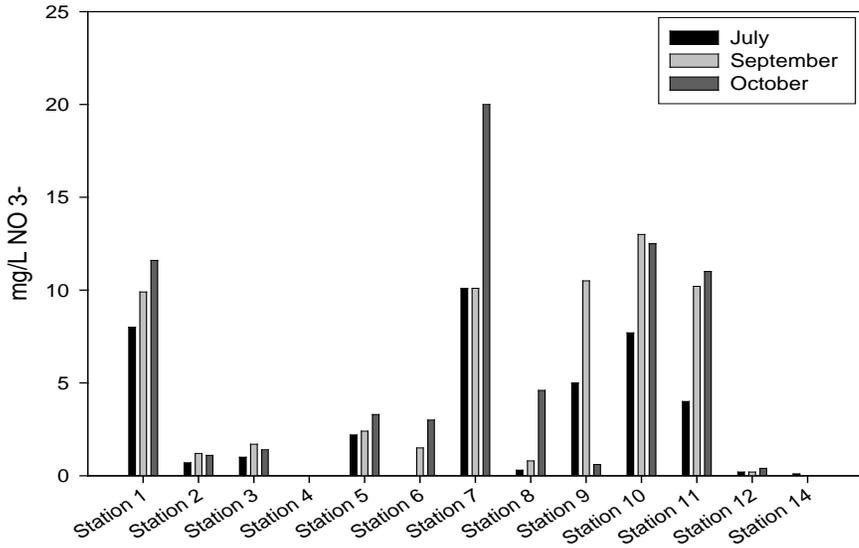
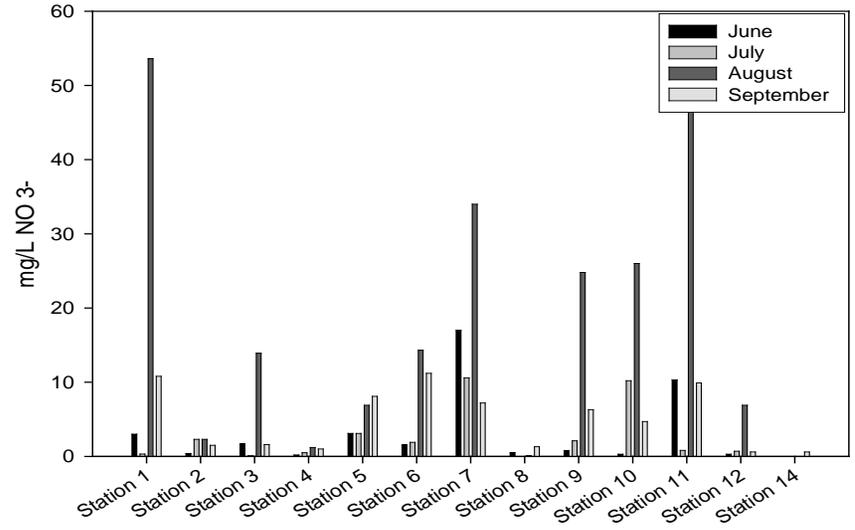


Figure 11: Measured concentrations of Sulfide ($\mu\text{M S}^{2-}$) in Medouie Creek in 2009, 2010, 2011, and 2012.

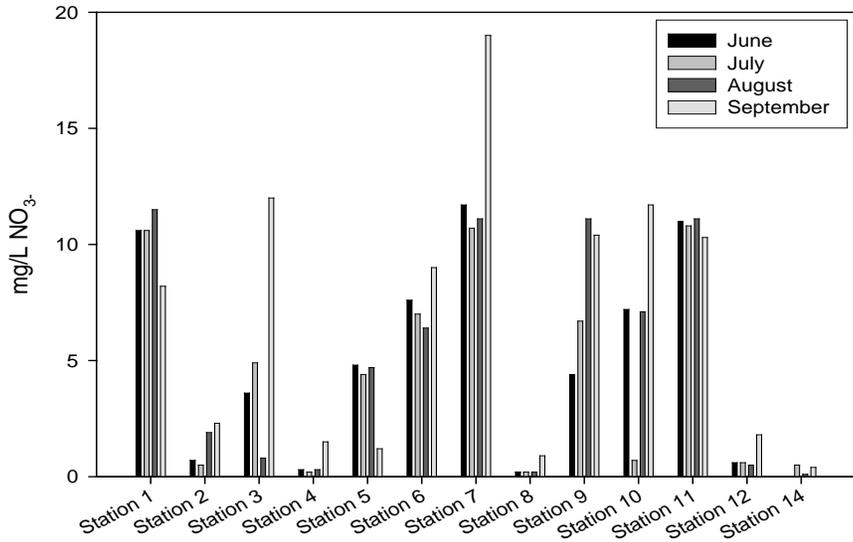
2009 Monthly Nitrate (mg/L NO₃-)



2010 Monthly Nitrate (mg/L NO₃-)



2011 Monthly Nitrate (mg/L NO₃-)



2012 Monthly Nitrate (mg/L NO₃-)

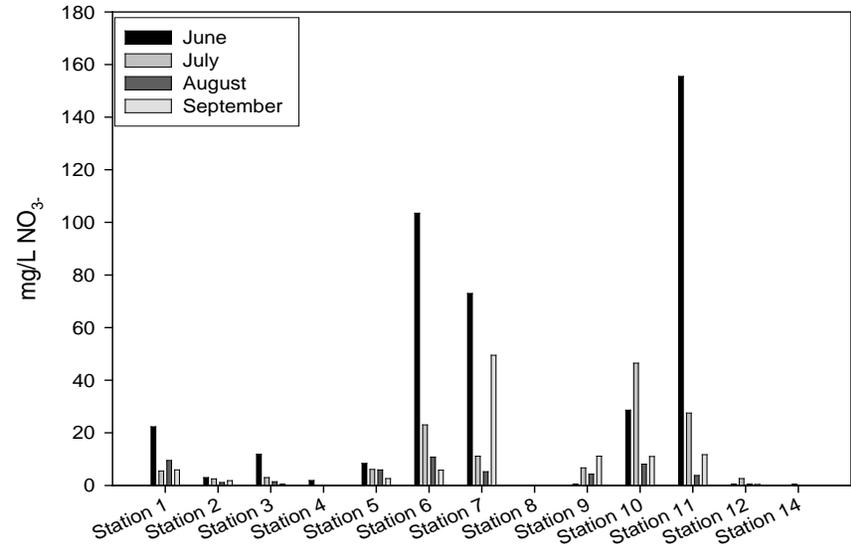


Figure 12: Measured concentrations of Nitrate (mg/L NO₃-) in Medouie Creek in 2009, 2010, 2011, and 2012.

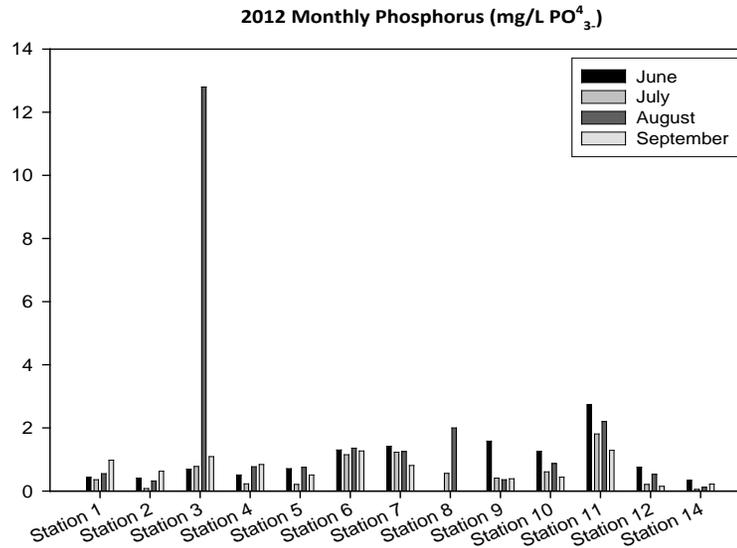
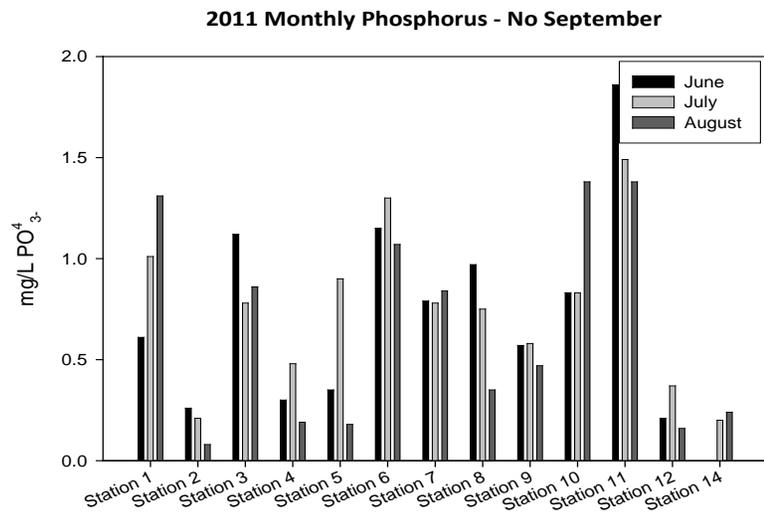
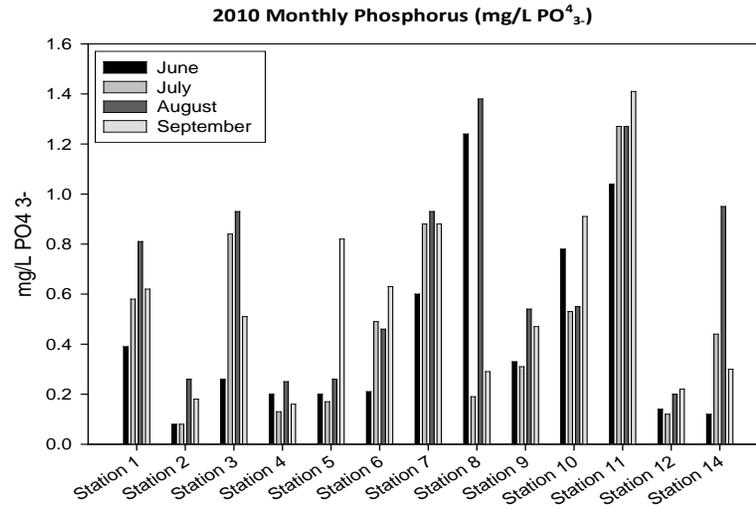
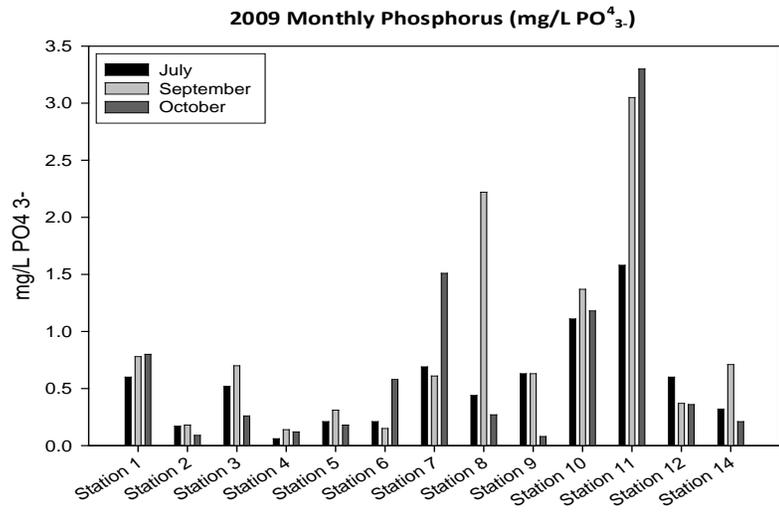


Figure 13: Measured concentrations of Phosphorus (mg/L PO₄³⁻) in Medouie Creek in 2009, 2010, 2011, and 2012.

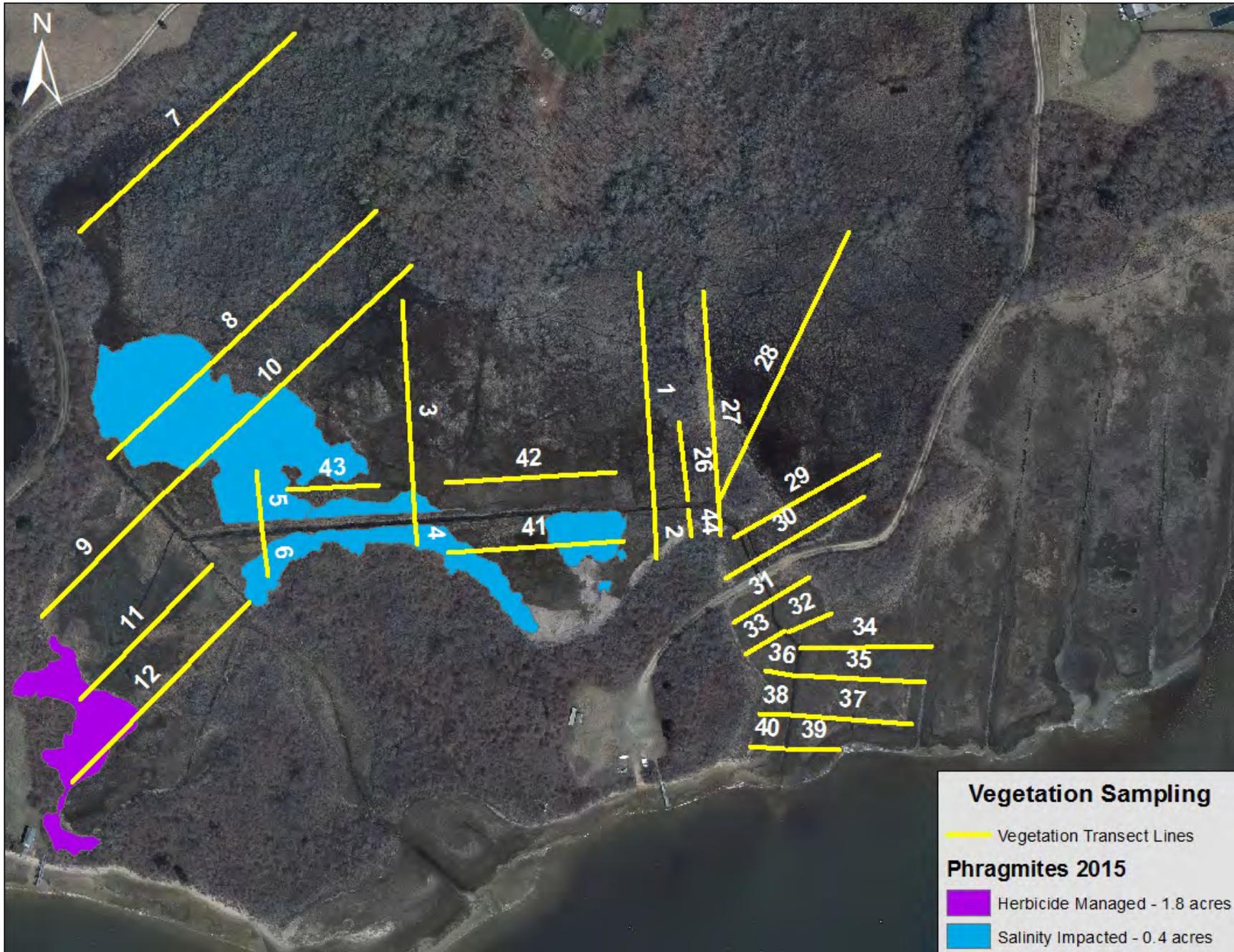


Figure 14: Vegetation sampling transects through the Medouie Creek restoration area.

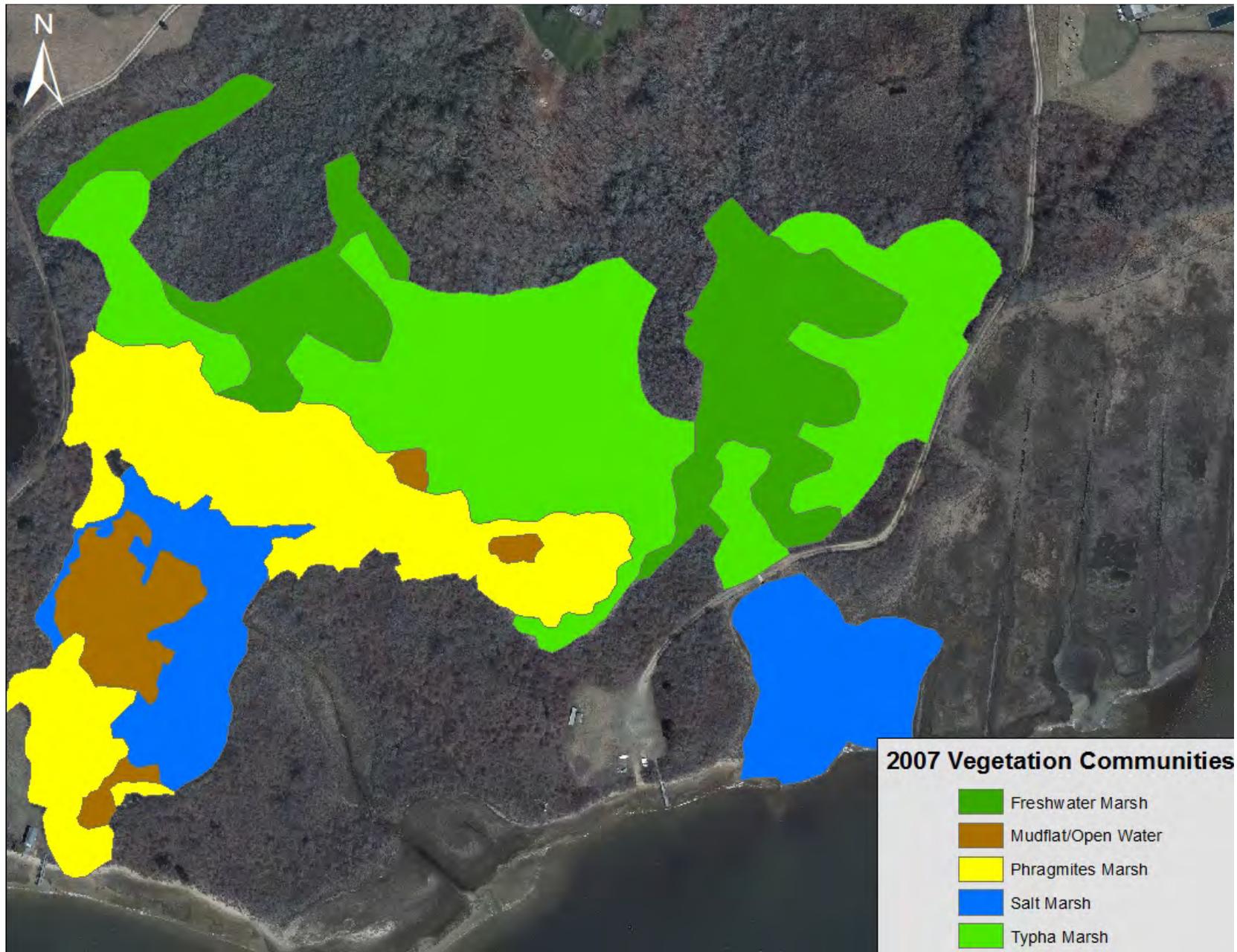


Figure 15: Measured vegetation community composition on permanent transects in 2007. Vegetation communities sampled in 1m² were assigned to overall dominant community types for comparison over time.

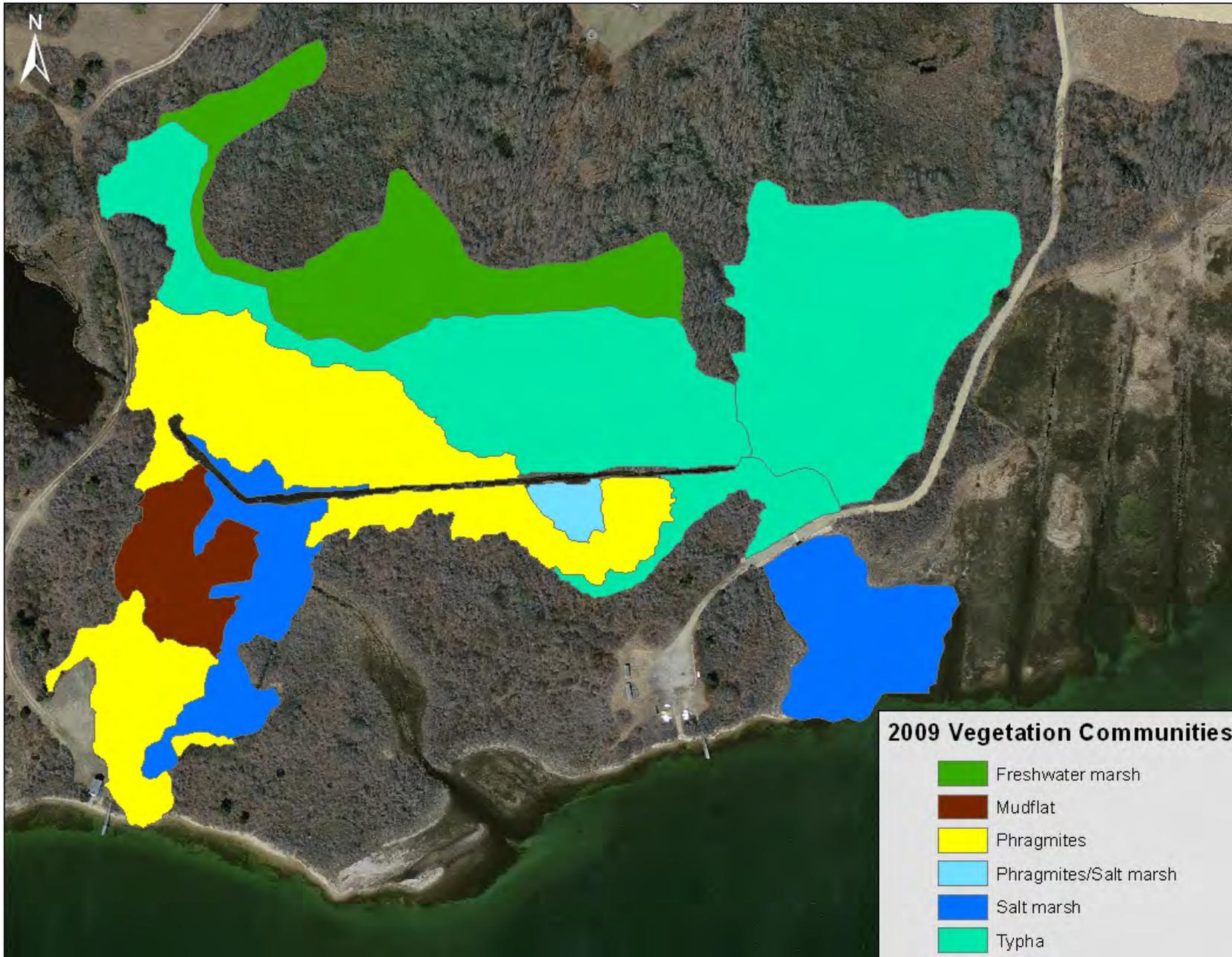


Figure 16: Measured vegetation community composition on permanent transects in 2009. Vegetation communities sampled in 1m² were assigned to overall dominant community types for comparison over time. The first year post restoration showed little change relative to pre-restoration although fall saw dramatic dieback of freshwater species.

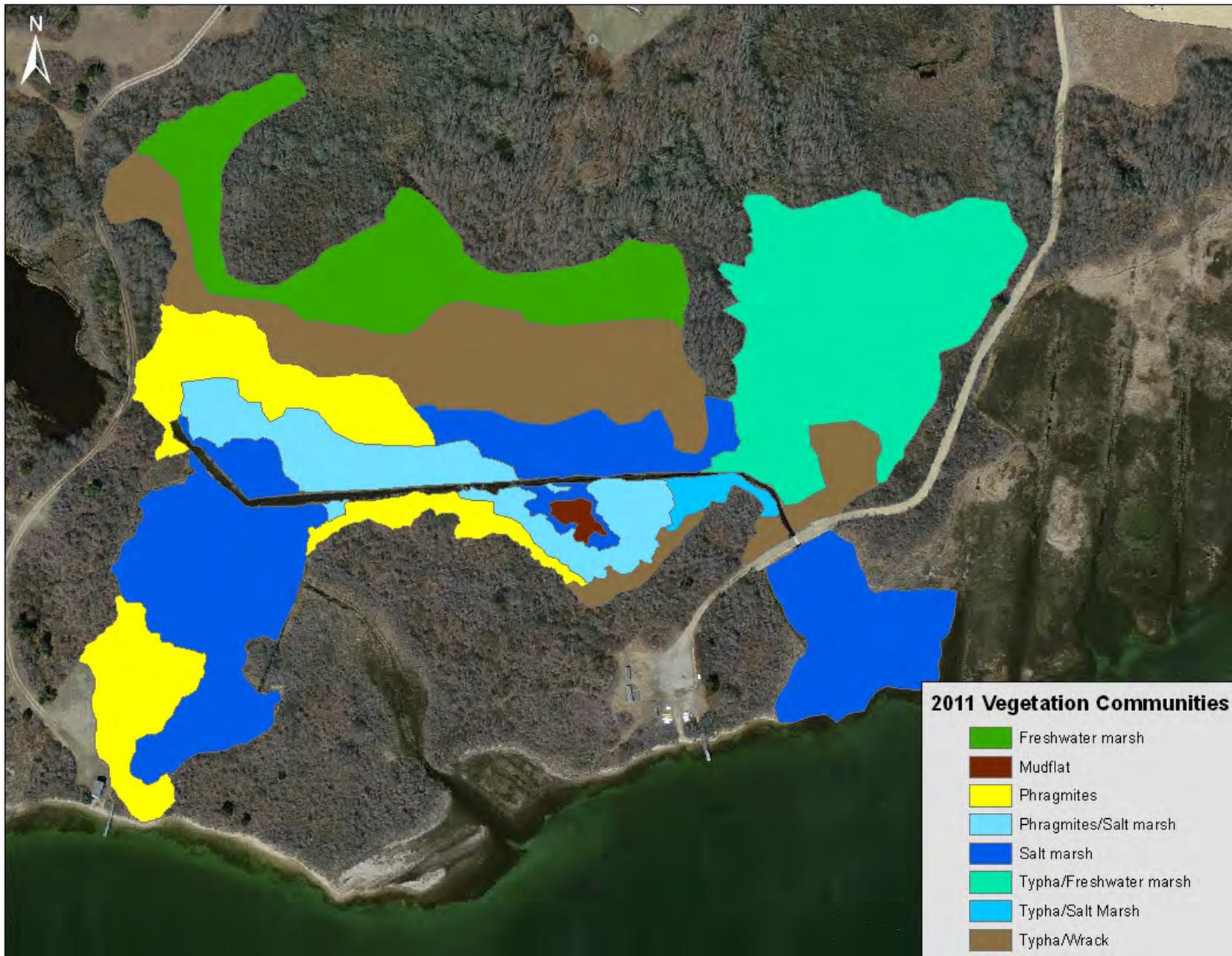


Figure 17: Measured vegetation community composition on permanent transects in 2011. Vegetation communities sampled in 1m² were assigned to overall dominant community types for comparison over time. 2011 sampling showed an increase in mixed freshwater and salt water plant communities, particularly along the ditch.

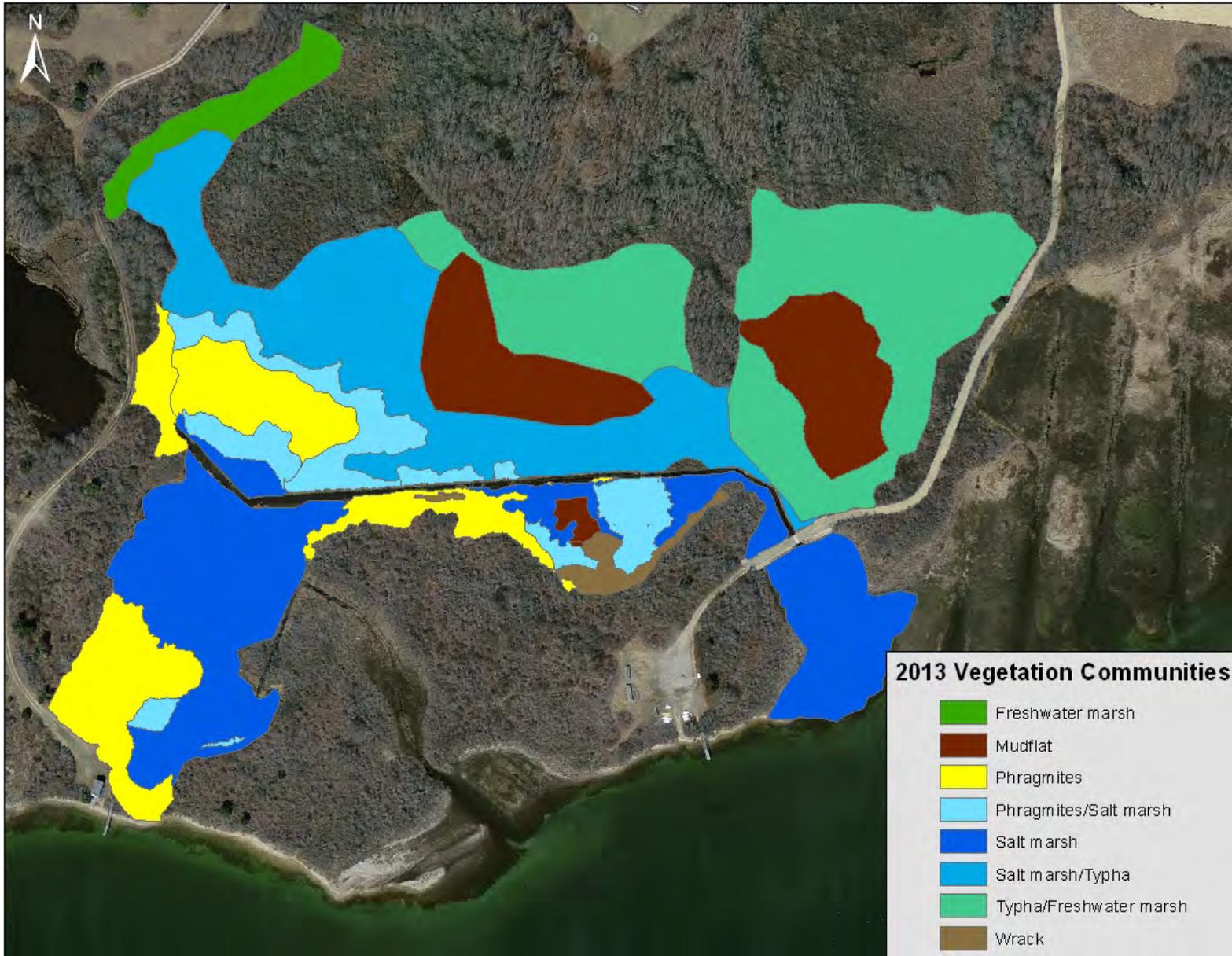


Figure 18: Measured vegetation community composition on permanent transects in 2013. Vegetation communities sampled in 1m² were assigned to overall dominant community types for comparison over time. 2013 sampling showed increased in salt marsh species, particularly back into the farther reaches of the restored marsh.

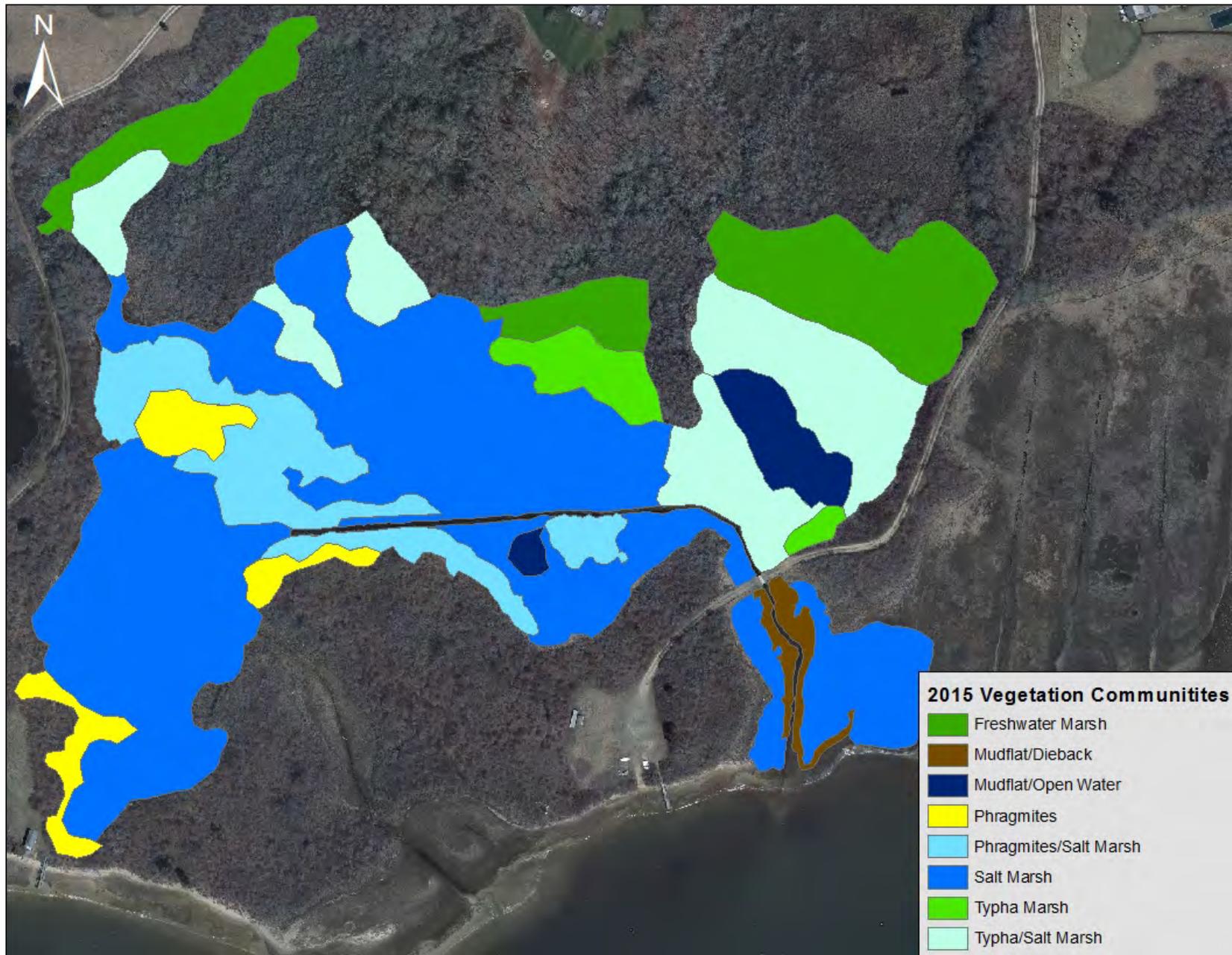


Figure 19: Measured vegetation community composition on permanent transects in 2015. Vegetation communities sampled in 1m² were assigned to overall dominant community types for comparison over time. 2015 sampling showed an even more dramatic increase in salt marsh species, and replacement of mudflats with salt marsh communities.

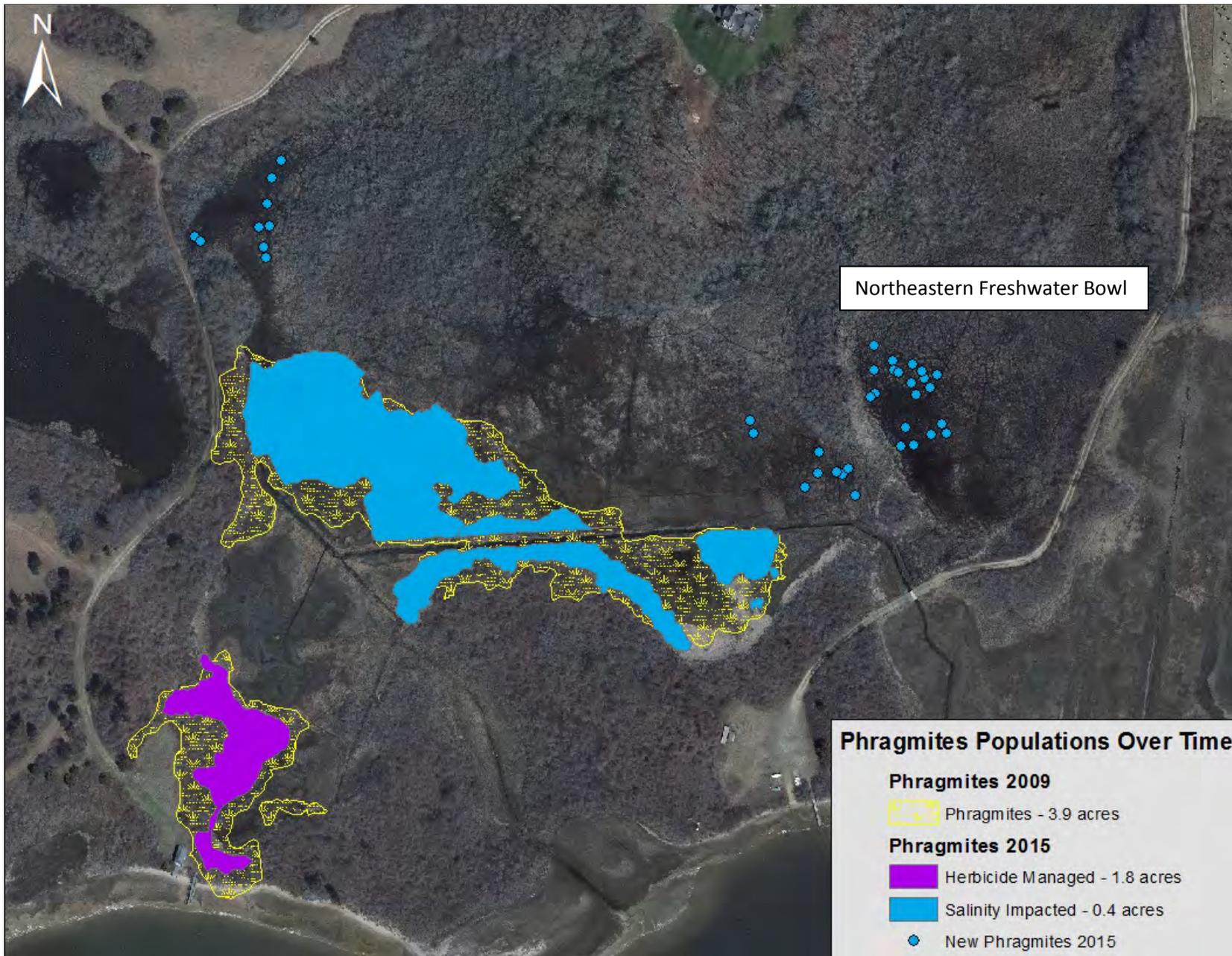


Figure 20: *Phragmites* patch boundaries in 2009 compared to 2015 showing dramatic decreases in the *Phragmites* population size. The purple area indicated *Phragmites* stems treated with herbicide by the adjacent landowner in 2014 and blue dots indicate new establishment of *Phragmites* stems in brackish areas within Medouie Creek in 2015.

Appendix A

**Subsample of photos taken at photo monitoring points in both the unrestricted and previously restricted portions of
Medouie Creek Wetland Complex**

September 2008, October 2009, September 2012, October 2015

1) Unrestricted Marsh – SE of Ditch 65°



Sept. 19, 2008 - Pre-Restoration



Oct. 27, 2009 - Post-Restoration



Sept. 21, 2012 – Post-Restoration



Oct. 6, 2015 – Post-Restoration

2) Unrestricted Marsh – SE of Ditch 35°



Sept. 19, 2008 - Pre-Restoration



Oct. 27, 2009 - Post-Restoration



Sept. 21, 2012 – Post-Restoration



Oct. 6, 2015 – Post-Restoration

3) Beginning Transect 5&6 135°



Oct. 2, 2008 - Pre-Restoration



Oct. 27, 2009 - Post-Restoration



Sept. 21, 2012 – Post-Restoration



Oct. 6, 2015 – Post-Restoration

4) Beginning Transect 5&6 225°



Oct. 2, 2008 - Pre-Restoration



Oct. 27, 2009 - Post-Restoration



Sept. 21, 2012 – Post-Restoration



Oct. 6, 2015 – Post-Restoration

5) Beginning Transect 42, 265°



Oct. 2, 2008 - Pre-Restoration



Oct. 27, 2009 - Post-Restoration



Sept. 21, 2012 – Post-Restoration



Oct. 6, 2015 – Post-Restoration

Other Business

Draft Minutes



CONSERVATION COMMISSION PUBLIC MEETING

2 Bathing Beach Road
Nantucket, Massachusetts 02554

www.nantucket-ma.gov

Wednesday, October 19, 2016 5:00 P.M.
4 Fairgrounds Road, Training Room

Commissioners: Andrew Bennett(Chair), Ashley Erisman(Vice Chair), Ernie Steinauer, David LaFleur, Ben Champoux, Ian Golding, Joe Topham

Called to order at 5:02 p.m.

Staff in attendance: Jeff Carlson, Natural Resources Coordinator
Attending Members: Bennett, Erisman, Steinauer, LaFleur, Champoux, Golding, Topham
Absent Members: None
Late Arrivals: None
Earlier Departure: None
Agenda adopted by unanimous consent

*Matter has not been heard

I. PUBLIC MEETING

A. Public Comment – None

II. PUBLIC HEARING

A. Notice of Intent

1. Edwin Snider RT – 2 Brock’s Court (42.3.4-84) SE48-2834 (Cont 11/02/2016)
2. Zarella – 125 Wauwinet Road (12-8) SE48- 2856 (Cont 01/18/2017)
3. Zarella – 129 Wauwinet Road (12-4) SE48- 2857 (Cont 01/18/2017)
4. Larusso – 316 Polpis Road (25-7) SE48-2922

Sitting Bennett, Erisman, Steinauer, LaFleur, Champoux, Golding, Joe Topham

Recused None

Documentation Site plans, topographical maps, photos, MNH sign off letter, departmental reports, and correspondence.

Representative **David M. Haines**, Haines Hydrogeologic Consulting – This was continued for Massachusetts Natural Heritage; got a response in that it is not subject to the Wetlands Protection Act but want a management plan. He has asked for two waivers: maintain an endangered species area from the 25-foot buffer to the wetland boundary and for the structure foundation within two feet of the water table. The redesign is to set the house farther away from the resource boundary. Explained the endangered species management plan and the endangered plant.

Public None

Discussion (5:03) **Erisman** – Asked if both the pool and basement are within two feet of high groundwater.

Haines – Yes; however no dewatering is anticipated.

Staff Have everything needed to close.

Motion **Motion to Close.** (made by: Champoux) (seconded by: LaFleur)

Vote Carried unanimously

5. *Sunset House, LLC – 15 Hallowell Lane (30-10) SE48-2924 (Cont 11/02/2016)
6. *Alan A. Shuch Trustee – 45 Quidnet Road (21-21) SE48-_____

Sitting Bennett, Erisman, Steinauer, LaFleur, Champoux, Golding, Topham

Recused None

Documentation Site plans, topographical maps, photos, MNH sign off letter, departmental reports, and correspondence.

Representative **Bob Emack** – This request is for work on an existing studio on a coastal beach and land subject to coastal storm flowage. He proposes to lift three feet to elevation 10; all work to be done by hand and material walked in. The foundation is part solid CMU and part piers; the solid foundation will have flood vents; also they must add stairs. Also proposing to add a monitoring system to the existing septic pump to ensure proper working order. He has not yet heard from Massachusetts Natural Heritage.

Sarah Alger, Sarah F. Alger P.C. – This was a cottage about 18 years ago. The current owner reshingled and renovated into a cabana when he purchased the property. It is used only seasonally and the septic pump is blown out at the end of the season. The level of the pond is rising and in the winter is lapping at the side of the house.

Public None

Discussion (5:09) **Erisman** – Asked what time of year the work would be done and about the leech field.

Emack – When possible. Noted the leech field is at a higher elevation. Asked for a 2-week continuance.

Staff There are three letters from direct abutters in support of this project.

The pond is being opened October 24, 2016, so will be at its lowest for several months.

Motion Continued to 11/02/2016 by unanimous consent.

Vote N/A

7. *Reyes – 19 East Creek Road (55-60) SE48-_____

Sitting Bennett, Erisman, Steinauer, LaFleur, Champoux, Golding, Topham
 Recused None
 Documentation Site plans, topographical maps, photos, MNH sign off letter, departmental reports, and correspondence.
 Representative **Paul Santos**, Nantucket Surveyors – A pile supported pier and dock was permitted in the late 1980s and has a Chapter 91 license; the house dates to the early 1980s and is on public sewer and water. The resource areas are the saltmarsh, land subject to coastal storm flowage, and a policy coastal bank under Department for Environmental Protection (DEP). The existing first floor is at Elevation 11 above both current velocity zones. The proposal is to demolish the existing structure and construct a new building footprint groundcover with about the same area of footprint; all other is decking. He has filed with Natural Heritage and Endangered Species Program; he has not heard back from Massachusetts Natural Heritage in regards to the Endangered Species Act (MESA). The proposal will require waivers; it's within the 25-foot setback for land subject to coastal storm flowage and 50-foot setbacks of the bank and within two feet of high groundwater.
Steven Cohen, Cohen & Cohen Law PC – The buyer would like to place the new structure away from the saltmarsh and spread out more; it will be a larger house but not huge. Improvements include: out of the flood zone, away from saltmarsh, and removal of invasive species. There was a comment about the effect on the wetland scenic view; he believes the new structure will be less intrusive with a more organic design. If the board is comfortable with the concept, they will come back with a more fleshed-out design.
 Public **Emily Molden**, Nantucket Land Council – She will hold off on detailed comments until a more complete house design is presented. She thinks there's value in pulling it away from the saltmarsh.
 Discussion (5:19) Discussion about the proposed house compared to the existing structure.
Erisman – Asked why the garage is not remaining as a slab on grade.
Santos – The DEP required that it be elevated on pilings.
Bennett – Confirmed that the new foot print is the same area as the existing structure.
Champoux – Asked if there was a sense as to the height.
Cohen – He believes the new structure will be kept at 1½ stories; he doesn't have the exact ridge height.
Erisman – Asked if there is a sense of the amount of decking versus living space; more deck less living would be a better way to go.
Cohen – There will be deck space; the proposed ground cover footprint is 1600 square feet.
Erisman – Asked if there would be a protocol for handling debris.
Santos – That will be part of the permit.
Golding – Would like to see a proper plot plan. If there was no house here, ConCom would not permit a new one; noted that they are essentially asking to shoe-horn in a larger building; he feels it should be smaller rather than larger.
Erisman – Agrees with Mr. Golding. There will be an increase of the impact in terms of more people and more cars. The existing structure doesn't stick out as much as some of the newer homes.
Champoux – The garage being brought into compliance is a reasonable request. There will be a lot of construction in a resource area. More decks versus living space is a valid point in regards to wetland scenic views.
LaFleur – He would like to see more detail on the new building.
Steinauer – He is willing to trade moving away from the resource areas for exposure; the scenic view is from the deck into the marsh.
Cohen – They can come back with a more complete plan in two weeks. Asked for a continuance.
 Staff The board has two weeks to review; the applicant is looking for surety that they are headed in the right direction that could receive a permit. Suggested the board discuss reasonable choices for views and setbacks and height; those parameters of work can be conditioned.
 Motion Continued to 11/02/2016 by unanimous consent.
 Vote N/A

8. *Thirty-Six Pocomo Road N.T – 36 Pocomo Road (14-79) SE48-_____

Sitting Bennett, Erisman, Steinauer, LaFleur, Champoux, Golding, Topham
 Recused None
 Documentation Site plans, topographical maps, photos, MNH sign off letter, departmental reports, and correspondence.
 Representative **Brian Madden**, LEC Environmental – This is a restoration Notice of Intent in response to an Enforcement Order issued over the summer. There are two isolated vegetated wetlands wholly on the property and two extending onto the property; he's flagged the wetlands associated with berry shrimp and mean high water associated with isolated land subject to flooding. Reviewed the extent of the unpermitted work done and proposed work to bring the site back into compliance. The total restoration area is 23,574 square feet (SF); disturbed wetland areas total 7,225 SF. Some proposed plants in the wetlands include: red maple, swamp white oak, high-bush blueberry, winterberry, and sweet pepper bush. Ground cover is to include: native sedges, rushes, and ferns. They will strip the planted meadow grasses and hydro-seed the area. Within the buffer zone: for upland proposing native white oaks, eastern red cedar, and hickory will be planted in the upland areas; shrubs such as bayberry, American hazelnut, and arrow wood. The meadow grasses there will remain with shrubs and saplings added. Propose a 2-year monitoring plan.

Public None

Discussion (5:52) **Erisman** – Asked if he has been able to confirm the meadow grass is not invasive love grass.
Madden – He doesn’t believe it is the weeping love grass; if it is, it will be removed and reseeded with native plants.
Champoux – The meadow areas should be a country mix. He thinks four or five years of monitoring might be best.
Erisman – Asked if there will be any irrigation.
Madden – He would like to reserve the right for that; it will help the saplings. He will provide additional information on that, though he’s sure field adjustments will be necessary.
Steinauer – Might need an annual cover crop to protect the permanent cover plants as they grow.
Madden – Asked for a 2-week continuance.

Staff This was informally discussed at the last meeting in regards to on-going enforcement; so the board has the ability to require work it feels must be done before issuance of the Order of Conditions.
For large projects like this the percentage has gone between 75 and 95 percent. He prefers closer to the higher level with monitoring. This is a three-year permit so he has to puzzle out a way to reach into the future.
This could be conditioned to require a work log be submitted to the commission to show work done on a weekly basis.

Motion Continued to 11/02/2016 by unanimous consent.

Vote N/A

B. Amended Orders of Conditions

1. Hummock Pond Realty Trust – 86 Hummock Pond Road (56-117) NAN-079

Sitting Bennett, Erisman, Steinauer, LaFleur, Champoux, Golding, Topham

Recused None

Documentation Site and topographical plans, photos, requisite departmental reports and correspondence.

Representative **Brian Madden**, LEC Environmental – Reviewed the previous discussion. He has provided information on the dry well; the pipe is not perforated and the well will be planted over with native material.

Public None

Discussion (6:15) None

Staff Recommend close and issue

Motion **Motion to Close and Issue.** (made by: Steinauer) (seconded by: Champoux)

Vote Carried unanimously

III. PUBLIC MEETING

A. Certificates of Compliance

1. Diggle – 22 Folger Avenue (80-41) SE48-2701

Sitting Bennett, Erisman, Steinauer, LaFleur, Champoux, Golding, Topham

Staff This was for a septic repair/upgrade and removal of retaining wall. The septic is in compliance and retaining wall removed and soils stable. Recommend this be issued.

Discussion (6:18) None

Motion **Motion to Issue.** (made by: LaFleur) (seconded by: Champoux)

Vote Carried unanimously

B. Orders of Condition

1. Larusso – 316 Polpis Road (25-7) SE48-2922

Sitting Bennett, Erisman, Steinauer, LaFleur, Champoux, Golding, Topham

Staff Much is related to the MESA, so he has attached their letter into the order to incorporate their conditions.
This is conditioned for no material within the 50-foot buffer and no permanent dewatering.
He will add Condition 22 about the pool being pumped out not drained and Condition 23 stating it can’t be treated between November 1 and May 1.

Discussion (6:19) **Golding** – There had been discussion about pumping the pool water and removing it from the site.

Motion **Motion to Approve as amended.** (made by: Golding) (seconded by: LaFleur)

Vote Carried unanimously

2. Discussion about possible conditions for 45 Quidnet Road project.

C. Extension Requests

1. Hither Creek Boatyard – 20 North Cambridge Street (130-87) SE48-2141 (**Reissue**)

2. Hither Creek Boatyard – 20 North Cambridge Street (130-87) SE48-2109 (**Reissue**)

Sitting Bennett, Erisman, Steinauer, LaFleur, Champoux, Golding, Topham

Staff These were reissued and not recorded; now they can’t find them. They were extended to August 18, 2017.

Discussion None

Motion **Motion to Issue the extensions for SE48-2141 and SE48-2109.** (made by: Champoux) (seconded by: Topham)

Vote Carried unanimously

D. Other Business

1. Approval of Minutes: 10/05/2016. (Champoux – On MAK Daddy Trust, correct, “Thinks an impervious driveway is a big benefit” to read, “Thinks a pervious driveway is a big benefit.”) **Motion to Approve as amended.** (made by: Steinauer) (seconded by: Topham) 6-0//Golding abstain.
2. Enforcement Actions (6:30)
 - a. Reviewed status of existing actions.
 - b. Followed up on another cottage in Quidnet; there are some “suspicious” looking pipes. Staff talked to Roberto Santamaria, Health Department Director, about the existing septic. There are some issues; one pipe is topped by a garden hose that goes nowhere.
3. Reports:
 - a. CPC, Golding – Completed the first round of reviewing applications.
 - b. NP&EDC, Bennett – Nothing
 - c. Mosquito Control Committee, Erisman – Nothing
4. Commissioners Comment
 - a. Bennett – Asked about the grey water issue. Staff – He has been figuring out how to better manage that and get information on it. He is trying to get the boat basin and water company to work together for monitoring. He is talking with Mr. Santamaria about a joint Board of Health/ConCom meeting to discuss items that overlap such as grey water and septic.
5. Administrator/Staff Reports
 - a. Asked if the board might want to review the regulations once every-other month through the winter and/or every two months bring in experts to discuss specific topics. Any place handicap accessible and available to the public are valid meeting sites. Discussion about possible topics for special discussion and public education. Some discussion on regulations could include: making the application to switch from septic to sewer an RDA and adoption of a schedule of fines.

Motion to Adjourn: 6:47 p.m.

Submitted by:
Terry L. Norton

PROPOSED