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July 11, 2019

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
ENVIRONMENTAL NOTIFICATION FORM

| | |
|---|---|
| PROJECT NAME | : Proposed Shorefront Protection |
| PROJECT MUNICIPALITY | : Wellfleet |
| PROJECT WATERSHED | : Cape Cod |
| EEA NUMBER | : 16037 |
| PROJECT PROPONENT | : James Halleck Hoeland |
| DATE NOTICED IN MONITOR | : May 22, 2019 |

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G. L. c. 30, ss. 61-62I) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **does not require** an Environmental Impact Report (EIR).

Project Description

As described in the Environmental Notification Form (ENF), the project consists of a shorefront protection system for a residential property in Wellfleet. The shorefront protection system consists of an approximately 241 linear foot (lf) revetment/fiber roll. It will include 5 to 6 ton anchor stones installed at the base of the coastal bank and a revetment of 2 to 4 ton stones extending up the bank to elevation 17 feet NAVD 88. The revetment will be overlaid with 13 rows of 20-inch coconut fiber rolls which will be anchored to the revetment stones with heavy duty climbing bolts. The fiber rolls will be nourished with approximately 275 cubic yards of compatible sediment and planted with beach grass. Annual nourishment of 1,107 cy is proposed to preserve the function of the coastal bank, to supply downdrift properties with sediment and to prevent photodegradation of fiber rolls.

The bank above the fiber rolls and revetment will be seeded with a native grass mixture. A biodegradable erosion control blanket will be installed over all disturbed sediment. Plantings proposed for the coastal bank include bayberry and beach plum and other native forb and grass

species. A temporary irrigation system will be installed to promote vegetation of the bank. An aluminum stairway will be installed over the shorefront protection system and will connect to an existing wooden stairway.

Project Site

The 1.87-acre project site within the Cape Cod National Seashore includes a 5,817-sf single family residence, which was built in 2010. The house replaced a pre-1978 structure and maintained the same distance from the top of the Coastal Bank as the original structure. The project site is bounded by Cape Cod Bay to the west, Chequessett Neck Road and Wellfleet Harbor to the east and southeast, and municipal land that provides access to a low barrier dune known as "the Gut" to the south. The Gut protects Wellfleet Harbor and the shellfish habitat.

The project is located in the Wellfleet Harbor ACEC. The Cape Cod National Seashore is considered an Outstanding Resource Water (ORW). The project is located within mapped *Estimated* or *Priority Habitat of Rare Species* according to the 14th edition of the Massachusetts Natural Heritage Atlas. The project site is located within Zone VE with base flood elevation of 17 ft NAVD 88 according to the Federal Emergency Management Agency Flood Insurance Rate Map (FIRM) (No. 25001C0237J, effective July 16, 2014). Comments from the Division of Marine Fisheries indicate that the subtidal waters bordering the project site are an approved shellfish harvest area and have been mapped as eelgrass habitat.

Environmental Impacts and Mitigation

The project will impact approximately 6,000 sf Coastal beach, 241 linear feet of Coastal Bank, and 1,800 sf of Land Subject to Coastal Storm Flowage (LSCSF). Measures to avoid, minimize and mitigate Damage to the Environment include layering the rock revetment with fiber rolls, planting vegetation to prevent or reduce erosion, and annual nourishment and monitoring.

Permitting and Jurisdiction

This project is subject to MEPA review and preparation of an ENF pursuant to 301 CMR 11.03(3)(b)(1)(a), 11.03(3)(b)(1)(e) and 11.03(3)(b)(1)(e) because it will alter Coastal Bank; involves new fill or structure or expansion of existing fill or structure in a velocity zone or regulatory floodway; and consists of any project other than a single family residence located in an ACEC. The project requires a Superseding Order of Conditions (SOC) from the Massachusetts Department of Environmental Protection (MassDEP). The project may require federal consistency review by the Office of Coastal Zone Management

The project is not receiving Financial Assistance from the Commonwealth. Therefore, MEPA jurisdiction is limited to those aspects of the project that are within the subject matter of any required or potentially required Agency Actions and that may cause Damage to the Environment, as defined in the MEPA regulations.

Review of the ENF

The ENF provides a description of existing and proposed conditions, project plans, a discussion of project alternatives[1], and identifies measures to avoid, minimize, and mitigate environmental impacts. The ENF indicated that the seaward-most deck of the house is 14 feet from the coastal bank and the foundation is 25 feet from the top of the coastal bank (based on surveys performed in 2018). More recent measurements (April 5, 2019) indicate that the foundation is 16 feet from the top of the coastal bank. A structural report included in the ENF indicates that stabilization of the bluff is imperative for the continued safe occupancy of the residence.[2]

The ENF and supplemental information identified erosion rate data available at the project site including CZM's long-term average annual shoreline change rate (-2.62 ft/yr); CZM's Short-term Average Annual Shoreline Change rate (-2.0 ft/yr); and the documented, near-term average annual erosion rate as measured by the 2006 and 2018 ground surveys (-4.75 ft/yr). During the review period, CZM, MassDEP, and the Proponent agreed that the appropriate erosion rate would be an average of these three rates (-3.1 ft/yr). This revised erosion rate was used to analyze the feasibility of the Landward Retreat Alternative and determine the annual compensatory sand nourishment volume.

The ENF and supplemental information included an analysis of the project's impact on downdrift areas including the Gut. As described in the ENF, the project is approximately 15 lf from the northern property boundary and 193 lf from the southern property boundary (adjacent to municipal land). The ENF notes that this is consistent with DEP and CZM recommendations that revetments be set back 15-20 ft from the property boundaries to avoid potential end scour on adjacent properties.[3]

Comments from the National Park Service, Town of Wellfleet, Association to Preserve Cape Cod (APCC) and citizens express serious concern with armoring the shoreline at the project site due to its proximity to the Gut and its location at a nodal point along the shoreline. Specifically, concerns were raised regarding the interruption of the natural sand flow and the project's potential to increase erosion and compromise the fragile barrier beach and the protection it provides to Wellfleet Harbor. In addition, comments identified the impact the project will have on access to public trust land at high tide and as the coastline recedes. Comments indicate the projects likelihood of reducing the resilience of the overall coastal ecosystem within the area and leading to the construction of additional coastal engineering structures to protect adjacent properties which would further interrupt sediment transport.The National Park Service (NPS) notes that any proposed construction or access under their jurisdiction would require a Special Use Permit.

*Alternatives Analysis*

[1] An addendum to the alternatives analysis was submitted to permitting agencies on June 18, 2019.
[2] Structural report submitted by John H. Harrison, registered professional engineer, on October 26, 2018.
[3] MassDEP/CZM "Coastal Manual" ("*Applying the Massachusetts Coastal Wetlands Regulations: A Practical Manual for Conservation Commissions to Protect the Storm Damage Prevention and Flood Control Functions of Coastal Resource Areas*" August 2017).

The alternatives analysis included a No-Action Alternative, Vertical Sheet Pile Bulkhead, several Soft Solution Alternatives, a Landward Retreat Alternative and the Preferred Alternative. The No-Action Alternative was dismissed because it was determined that it would result in the loss of the residential structure. The Vertical Sheet Pile Bulkhead Alternative was dismissed due to potential scour effects to the fronting beach and ends of the structure.

Soft Solution Alternatives included a Beach and Bank Nourishment Alternative, Sand-filled Coir Envelopes or Fiber Roll Alternative and a Fiber Roll Lift System Alternative. The beach and bank nourishment alternative was dismissed because it was deemed insufficient to stabilize the bank. As described in the ENF, approximately 2,000 cy of sediment was placed on the coastal bank and eroded in two months due to relatively mild coastal storms, indicating that nourishment alone is not effective. Sand-filled Coir Envelope and Fiber Rolls Alternatives were dismissed because the Proponent determined that the location of the toe of the coastal bank within a Velocity Zone subjects it to frequent inundation and dislodgement during coastal storms and maintenance would result in more frequent impacts to resource areas. The Fiber Roll Lift System Alternative was submitted to the Wellfleet Conservation Commission for review in September 2018. This alternative included the installation of a reinforced fiber roll lift (250-lf, 9-row high) with 210 cy of sand nourishment to be replaced annually, biodegradable erosion control blankets, and planting of native, salt tolerant vegetation on the face of the coastal bank. This alternative was revised in favor of the Preferred Alternative during local review due to the structural report identifying the emergency condition of the foundation.

The Landward Retreat Alternative involved reducing the size of the structure to approximately 2,000 sf and relocating it landward to the extent local zoning and Title 5 regulations would allow (i.e., 63 ft from the top of the coastal bank). Based on the revised erosion rate of 3.1 ft/yr, the Proponent calculated that the relocated building would be at the top of the coastal bank in approximately 20 years. However, the property could be threatened in 7-10 years depending on actual erosion. In addition to reducing the size of the dwelling and relocating it, ten existing geothermal wells, a septic system, reserve leaching trench, underground liquid propane tank and generator would need to be moved or abandoned. Based on these requirements and the short period before a coastal engineering structure would once again need to be considered, this alternative was dismissed. The alternatives analysis did not consider the possibility of a zoning variance to relocate the structure more landward. The Proponent believes the Preferred Alternative will provide sufficient shoreline stabilization while reducing wave reflection.

*Wetlands and Waterways*

As described earlier, installation of the revetment/fiber roll hybrid shorefront protection system and replanting areas of the bank will impact Coastal Bank, Coastal Beach, and LSCSF. The structure is proposed entirely above mean high water (MHW) and therefore does not require Chapter 91 authorization. An Order of Conditions denying the project was issued by the Wellfleet Conservation Commission on December 21, 2018 (SE077-1495). MassDEP will review the project for its consistency with the Wetlands Protection Act, the Wetlands Regulations (310 CMR 10.00) and associated performance standards. To mitigate the structure and elimination of a sediment source, the Proponent will provide an annual nourishment rate of 1,107 cy/yr calculated

based on a -3.1 ft/yr erosion rate.[4] In addition, the Proponent will monitor the effectiveness of the mitigation and the potential need for additional mitigation on an annual basis.

MassDEP has determined that the project is proposed to prevent storm damage to a pre-1978 structure and that the ENF includes sufficient information for the project to proceed to permitting. Comments from CZM recognize the limited options for protection of this property and support the hybrid revetment.

*Rare Species*

As noted above the project occurs within mapped priority habitat for Piping Plover (*Charadrius melodus*) a species state-listed as threatened in accordance with the Massachusetts Endangered Species Act (MESA). NHESP determined that the project, as currently proposed, must be conditioned to avoid a prohibited Take of state-listed species. The determination letter issued on December 5, 2019 identified nine conditions that must be met to avoid a prohibited Take. These conditions must be included in a Superseding Order of Conditions, if MassDEP approves it.

*Climate Change Adaptation and Resiliency*

The project is proposed to stabilize the shoreline along Cape Cod Bay and provide protection for a home. It is an example of how homeowners are responding to the effects of climate change, such as sea level rise and more powerful storms. The Town of Wellfleet (Town) completed a Hazard Mitigation Plan in 2016 that identifies coastal erosion and shoreline change as a natural hazard that will impact the Town.

The Town has applied for a planning grant from the Municipal Vulnerability Preparedness (MVP) Program and is seeking designation from the Executive Office of Energy and Environmental Affairs (EEA) as a MVP program regional partnership with the Town of Truro. The funding would be used to conduct additional assessment of the regions vulnerability to natural and climate-related hazards and to develop and prioritize specific actions the Towns can take to reduce risk to the effects of climate change and improve resilience. In a draft summary of findings from the Town's Community Resiliency Workshop[5] published in May 2019, a specific vulnerability associated with coastal erosion was identified involving the continued private construction and redevelopment occurring in flood prone and fragile/vulnerable areas. It indicates that local boards do not have the authority to protect these resources within the existing regulatory framework.

*Construction Period*

Construction access will be from the landward side of the bank. Construction equipment may be placed on the coastal beach. Operation of construction equipment in the intertidal zone could impact shellfish habitat and should be avoided to the maximum extent practicable.

[4] The original ENF proposed an annual nourishment volume of 935 cy/yr based on an erosion rate of -2.62 ft/yr.
[5] https://www.truro-ma.gov/sites/truroma/files/uploads/summary_of_findings_wellfleet_mvp3.pdf

The project must comply with MassDEP's Solid Waste and Air Pollution Control regulations, pursuant to M.G.L. c.40, s.54. Should oil and/or hazardous materials be identified during construction activities the Proponent should notify MassDEP in accordance with the Massachusetts Contingency Plan (310 CMR 40.00). All construction activities should be undertaken in compliance with the conditions of all State and local permits.

If underwater archaeological resources are encountered during the construction period, the Proponent should consult with the Board of Underwater Archaeological Resources (BUAR) and the Massachusetts Historical Commission (MHC).

Conclusion

The ENF has adequately described and analyzed the project and its alternatives, and assessed its potential environmental impacts and mitigation measures. Based on review of the ENF and comments received on it, and in consultation with State Agencies, I have determined that an EIR is not required.

K. Theoharides

July 11, 2019
Date

Kathleen A. Theoharides

Comments received:

| | |
|---|---|
| 05/29/2019 | Claire Watts |
| 05/29/2019 | Joshua Etsten |
| 06/10/2019 | Association to Preserve Cape Cod (APCC) |
| 06/10/2019 | Wellfleet Natural Resource Advisory Board |
| 06/10/2019 | Wellfleet Shellfish Advisory Board |
| 06/11/2019 | Corinne Demas |
| 06/11/2019 | Nick Picariello |
| 06/11/2019 | US Department of the Interior (DOI) National Park Service (NPS) |
| 06/11/2019 | Wellfleet Board of Selectmen |
| 06/11/2019 | Wellfleet Conservation Commission |
| 06/12/2019 | NPS(2) |
| 06/18/2019 | Chris Powicki |
| 06/26/2019 | Office of Coastal Zone Management (CZM) |
| 07/01/2019 | Division of Marine Fisheries |
| 07/01/2019 | Massachusetts Department of Environmental Protection (MassDEP) Southeast Regional Office (SERO) |
| 07/01/2019 | Natural Heritage and Endangered Species Program (NHESP) |
| 07/03/2019 | Board of Underwater Archaeological Resources (BUAR) |

KAT/EFF/eff

**From:** Claire Watts
**To:** Flaherty, Erin (EEA)
**Subject:** EEAE#16037
**Date:** Wednesday, May 29, 2019 3:01:44 PM

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Please, I think I'm begging - put Wellfleet first. We have more to lose in the long run than Blasch.

Thank you.

Claire Watts
5 Beechwood Lane
Wellfleet, Ma 02667

I am writing to express the deep concern that I and many of my Wellfleet friends and neighbors share over the proposed construction of a 241 foot stone seawall to protect the mansion that had been erected by Mark and Barbara Blasch on a fragile coastal bank on Wellfleet Bay, in spite of clear warnings that it would not stand up to predicted natural erosion. This case is of extreme importance, not only because the effect on the delicate shorefront here in Wellfleet, but because allowing this dangerous and extravagant experiment would set a precedent and open opportunities for other similarly unsound projects by landowners with waterfront property. What would be the environmental consequences of private seawalls on Cape Cod Bay from North Truro to Jeremy Point?

While I respect the rights of property owners in Wellfleet—indeed, I'm one of them myself--I am grateful there are laws in place to keep anyone from doing irreparable harm to our environment. The fact that the Blasch house was allowed to be constructed at all is a demonstration of the power that extraordinarily wealthy people have been able to wield. It was astonishing to witness how the lawyers the Blasches hired were able to get a building permit in spite of the fact that their 5861 sq. ft. foot vacation home was ten times the size of the original building on the spot. It's not surprising that the Blasches have hired teams of lawyers and a battalion of coastal geologists to build a case and offer "evidence" to defend their current claim. With what appears to be endless financial resources, they seem almost vindictively eager to triumph over anyone (including The Town of Wellfleet, The National Seashore, the public at large) or anything that stands in their way. They appear to view the sea, itself, as an enemy as well, since it is threatening their unwisely-situated mansion.

When construction of the Blasch House was proposed, the "experts" the Blasches hired assured everyone that it was safely secure on its dune top, in spite of sound evidence to the contrary. Clearly their "experts" were wrong. Their recent incredibly costly experiment to protect their property involved dumping tons of sand to "nourish" the dune and having it planted with sea grass to secure it. I witnessed it firsthand. Predictably, it's now all gone, and Blasch's Folly perches there, on the brink of collapse, a living testament to the poor judgment and hubris of the owners. Adding sand to the beach was allowed by the Wellfleet Conservation Commission since it would not damage the environment, and indeed it hasn't. Constructing a massive seawall is an entirely different matter. The Conservation Commission voted unanimously (a atypical occurrence) that the seawall was "an unacceptable breach of environmental protection laws." National Seashore Supt. Brian Carlstrom ably summarized the strong opposition to the wall: he predicted "substantial damage will occur to the natural coastal bank due to heavy equipment use of an excavator and front end loader on the beach and bank, and installation of massive stones and coir logs over an extensive area of the bank." Not only is

the Blaschs' proposed wall "highly invasive," he pointed out, but it would it would only be a "temporary fix." It's questionable if it would even work at all.

It's not only citizens and summer residents of Wellfleet, but everyone who appreciates this delicate, beautiful strip of land who hopes that MEPA will act responsably in this critical case. There's a huge amount at stake. We can't take chances and allow the construction of any project proposed—no matter how entitled or litigious the landowner--that puts our fragile environment at risk.

Thank you for reading and taking our concerns into consideration.

Sincerely,
Corinne Demas

**From:** Joshua Etsten
**To:** Flaherty, Erin (EEA)
**Subject:** EEAE#16037
**Date:** Wednesday, May 29, 2019 3:08:03 PM

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This home revetment project will potentially impact the entire town of Wellfleet and wellfleet harbor, speeding a break through in the downstream narrow sand spit. Oyster farming is the towns #1 job source, over 10 million dollars oyster revenue. Plus all the side jobs it supports as well... messing with sand sediment flow, impacting the entire harbor, for a single home is a terrible cost benefit formula.

The home was pre 1978, but then a new home was built, on the edge of the dune not even the same spot as old home and 2X plus much bigger, with a fancy helical piling system that is failing.

Simply put-this project benefits one home at the expense of the entire towns economy and harbor enjoyed by many. The owners were silly/stupid enough to put the home on an eroding dune, with high tech piling system clearly not proven for dune s that erode, in a location with known erosion, so they made that choice. Live with it. If they had kept the existing pre 1978 strucutre I would bite my opinion and say theya re okay to revetment...

Please do not allow this project to move forward.

-Josh

Year round Wellfleet resident, home owner in wellfleet.

Regards,

Josh
c: 617-512-4326

APCC
Association to
Preserve Cape Cod
*Preserving the Very Nature of Cape Cod*



June 6, 2019

Secretary Kathleen A. Theoharides
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
EEA# 16037; MEPA Analyst: Erin Flaherty
100 Cambridge Street, Suite 900
Boston, MA 02114

**RE: EEA# 16037, Proposed Shorefront Protection, 1440 Chequessett Neck Road, Wellfleet**

Dear Secretary Theoharides:

The Association to Preserve Cape Cod (APCC), in response to the Environmental Notification Form filed for the above captioned project and, pursuant the Massachusetts Environmental Policy Act (MEPA), MGL c. 30 § 61-621, and more specifically, 301 CMR § 11.00, respectfully submits the following comments.

Established in 1968, APCC is the region's leading nonprofit environmental advocacy and education organization, working for the adoption of laws, policies and programs that protect, preserve and restore Cape Cod's natural resources.

APCC has serious concerns about the negative environmental impact of the proposed shorefront protection project at this site in Wellfleet. APCC's comments are as follows:

- APCC is concerned about significant direct and indirect impacts that the proposed shorefront protection project—particularly the proposed revetment—will have on the environment and natural resources in this critical natural landscape and environmentally sensitive location. Substantial focus under MEPA must concentrate on the location of

this project within Mass Wildlife's National Heritage and Endangered Species Program (NHESP) mapped priority habitat for rare species, BIOMap2 Core Habitat and BioMap2 Critical Landscape.[1]

These designations underscore that this project is located within an area considered to be among the most viable habitats for rare and other species and exemplary natural communities in the Commonwealth of Massachusetts. Additionally, as identified in the Wellfleet Conservation Commission's December 21, 2018 findings in the Order of Conditions for the proposed project, the sand that is accreting north and south of the property has maintained beach habitat for piping plovers, a state and federally listed threatened species, and the area offshore of the property is mapped shellfish habitat. [2]

- Consideration must also be given to the concerns raised by the United States Department of the Interior (Interior) about this proposed project. In its December 3, 2018 letter to the Wellfleet Conservation Commission, Interior concluded that significant adverse impacts will occur to the stability of the coastal bank and that adverse effects from the installation of the proposed project will occur to the coastal beach and to nearby marine and coastal resources. [3]

- Consideration must be must be given to the impact that the proposed project may have on commercial activities such as shellfish farming and the continued commercial viability of Wellfleet Harbor. The land directly south of the property is a thin strip of barrier beach consisting of constantly eroding dunes that depend on wind and wave action to bring in new sand to replenish it. APCC has significant concerns that interruption of the natural sand flow and increased erosion caused by the proposed armoring of the beach at this property would compromise the fragile barrier beach and the protection it provides to Wellfleet Harbor.

  The testimony provided at the Wellfleet Conservation Commission's hearing for the proposed project by Mark Borelli, Ph.D., coastal geologist for the Center for Coastal Studies, supports APCC's above-stated concern. In Dr. Borelli's expert assessment, acceleration of erosion at this location would have even greater negative impacts to the system because the project site is located in a nodal zone. He concluded that the project will likely have an impact on the onshore/offshore sediment transport because it will alter the way the natural bluff responds to waves.[4]

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[1] Massgis.maps.arcgis.com/home/webmap/viewer.html?layers=a953ef7fe074ef2b2a8fb49118c51c7.
[2] Wellfleet Conservation Commission's Order of Conditions issued 12/21/18, Findings par. 17.
[3] Wellfleet Conservation Commission's Order of Conditions issued 12/21/18, Findings par. 18.
[4] Wellfleet Conservation Commission's Order of Conditions issued 12/21/18, Findings par. 10.

Furthermore, Gregory Berman, PG, GISP, coastal processes specialist for Woods Hole Sea Grant and Barnstable County's Cape Cod Cooperative Extension, testified at the hearing that the project as proposed will disrupt sand and sediment transfer and lead to scouring on the ends.[5]

- Consideration must be given to the impact of sea level rise and shoreline change in the area of this proposed project.[6] In the report released by the Massachusetts Shoreline Change Project, it is noted that "[a]ttempting to halt the natural process of erosion with seawalls and other hard structures, however, simply shifts the problem, subjecting downdrift property owners to similar or greater loss."[7] This statement is directly relevant to the proposed project. There is the real concern that as sea levels continue to rise, the erosion of the beach as a result of sea level rise in this vulnerable location will be further exacerbated by the adverse impacts of the project, particularly the proposed revetment. The environmental damage to neighboring areas by the proposed project must be considered and avoided to comply with MEPA.[8]

- Finally, consideration must be given to likely beach erosion impacts the proposed project may have on access to public trust land in the area of the proposed project.

Based on the above-stated reasons, APCC is deeply concerned that the proposed armoring project at this site will likely result in significant environmental impacts that cannot be satisfactorily mitigated. APCC requests the Secretary to consider these concerns in the review of this project.

Sincerely,

Andrew Gottlieb
Executive Director

Don Keeran
Assistant Director

[5] Wellfleet Conservation Commission's Order of Conditions issued 12/21/18, Findings par. 11, 12, 13.
[6] See Report of the Massachusetts Erosion Commission, Vol. 1 Findings and Recommendations. Htpps://www.mass.gov/files/documents/2016/12/vl/cec-final-report-dec2015-v1.pdf.
[7] https://www.mass.gov/service-details/massachusetts-shoreline-change-project.
[8] 301 CMR § 11.01(1)(a).

# TOWN OF WELLFLEET

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To: Erin Flaherty
Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act Office
100 Cambridge Street, Suite 900
Boston, MA 02114

June 10, 2019

From: The Wellfleet Shellfish Advisory Board
Cc: Daniel Hoort,Town Administrator
Wellfleet Selectboard / Wellfleet Conservation Commission
Hillary Greenberg-Lemos, Health & Conservation Agent
Stephen McKenna - CZM Cape Cod & Islands

Re: EEA 160.37 -1440 Chequessett Neck Road, Wellfleet

Dear Erin:

The Wellfleet Shellfish Advisory Board would like to weigh in on the Conservation Commission's denial of the November 2018 application from the trustees of 1440 Chequessett Neck Road seeking to construct a revetment to stabilize the eroding bank on the bayside of their property. In addition to being in an area of critical environmental concern, the property lies in the middle of an unimpeded section of pristine beach that stretches from Jeremy Point to the Truro line.

It is well documented that any armoring of a previously uninterrupted shoreline creates the unintended negative consequences of scouring by artificially impeding the movement of sand along the shore. According to Hugh Shipman, a coastal geologist quoted in A University of Washington Study which details the cumulative effects of armoring on the ecosystem *"Many scientists agree the best option is to avoid putting in any new bulkheads and seawalls"* .

Our board is particularly concerned that any armoring along that stretch of beach will affect the low barrier dune known as The Gut, which protects the inner harbor and the Town's productive shellfish habitat from an over wash. It's worth pointing out that Wellfleet produced shellfish landings totaling $6.8m in 2018, which ranks us at number one in the State, and generated income from the 157 commercial, and 867 recreational shellfishing licenses sold totaling $79,953. As such, our board opposes any manmade armament that presents even the slightest risk of jeopardizing our shellfishing resources.

In addition to protecting the inner harbor, that section of Cape Cod Bay also features productive shellfish habitat, including eel grass beds and State-mapped sea clam habitat just offshore, which is also vulnerable to the unforeseen effects of any armoring along the adjacent shoreline. The decision to construct a new 5.800sq.ft. structure on such a vulnerable site was ill-advised and came with certain risks inherent in this waterfront location. Armoring will not prevent the ultimate demise of the structure due to ongoing coastal erosion and poses the likelihood of severe negative consequences to the barrier beach the house sits on. We therefore fully support the conservation commissions denial of the applicants request for a revetment.

Sincerely,

John Duane - on behalf of:

The Wellfleet Shellfish Advisory Board

Barbara Austin - chair, Zack Dixon, John Duane, Brett Morse Jacob Puffer
David Seitler, Tom Siggia, Rebecca Taylor

# Commonwealth of Massachusetts

## Division of Marine Fisheries

251 Causeway Street, Suite 400
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**David E. Pierce, PhD.**
*Director*

**Charles D. Baker**
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*Lieutenant Governor*
**Kathleen Theoharides**
*Secretary*
**Ronald S. Amidon**
*Commissioner*
**Mary-Lee King**
*Deputy Commissioner*


July 1, 2019

Secretary Kathleen Theoharides
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
Erin Flaherty, EEA No. 16037
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Theoharides:

The Division of Marine Fisheries (MA DMF) has reviewed the Environmental Notification Form (ENF) as well as the Supplemental Report by James Halleck Hoeland for the proposed Shorefront Protection Project at 1440 Chequessett Neck Road in the Town of Wellfleet. The project site is located on a barrier beach separating Wellfleet Harbor from Cape Cod Bay. Proposed work is on the coastal bank of the shoreline bordering Cape Cod Bay. The proposed project consists of the installation of a 241 linear foot rock revetment that would be covered with layered fiber roll, sand and plantings. In addition to the rock revetment structure installation, the project proposes post-installation and subsequent annual beach nourishment with 1,107 cubic yards of sand. Existing marine fisheries resources and habitat and potential project impacts to these resources are outlined in the following paragraphs.

The subtidal waters of Cape Cod Bay bordering the project site are mapped as surf clam (*Spisula solidissima*) habitat. While not mapped as shellfish habitat, the intertidal and nearshore environment bordering the project site is an Approved area for shellfish harvest, contains American oyster (*Crassostrea virginica*), quahog (*Mercenaria mercenaria*), and razor clam (*Ensis directus*) resources, and has supported some recent commercial harvest of this latter species. Land containing shellfish is deemed significant to the interest of the Wetlands Protection Act (310 CMR 10.34) and the protection of marine fisheries.

Subtidal waters bordering the project site have also been mapped previously be the Massachusetts Department of Environmental Protection (MA DEP) as eelgrass (*Zostera marina*) habitat. Eelgrass beds provide one of the most productive habitats for numerous marine species (Jackson et al. 2001; Heck et al. 2008) and are designated "special aquatic sites" under the Federal Clean Water Act 404(b) (1) guidelines.

MA DMF offers the following comments for your consideration:

- Operation of construction equipment in the intertidal zone could impact shellfish habitat and should be avoided to the maximum extent practicable.

Questions regarding this review may be directed to John Logan in our New Bedford office at (508) 742-9722.

Sincerely,

David E. Pierce, Ph.D.
Director

cc: Wellfleet Conservation Commission
Nancy Civetta, Wellfleet Shellfish Constable
Alison Verkade, NMFS
Jim Mahala, DEP
Robert Boeri, CZM
Ed Reiner, EPA
Richard Lehan, DFG
Kathryn Ford, Ryan Nuttall, Christian Petitpas, Tom Shields, DMF

## References


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Jackson, E.L., A.A. Rowden, M.J. Attrill, S.J. Bossey, and M.B. Jones. 2001. The importance of seagrass beds as a habitat for fishery species. *Oceanography and Marine Biology: An Annual Review* 39: 269–303.


DP/JL/sd

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
OFFICE OF COASTAL ZONE MANAGEMENT
251 Causeway Street, Suite 800, Boston, MA 02114-2136
(617) 626-1200 FAX: (617) 626-1240

# MEMORANDUM

TO: Kathleen Theoharides, Secretary, EEA
ATTN: Erin Flaherty, MEPA Unit
FROM: Lisa Engler, Director, CZM
DATE: June 26, 2019
RE: EEA-16037 – Hoeland Shorefront Protection Project, Wellfleet

The Massachusetts Office of Coastal Zone Management (CZM) has completed its review of the above-referenced Environmental Notification Form (ENF), noticed in the *Environmental Monitor* dated May 22, 2019 and does not recommend the development of an Environmental Impact Report (EIR).

**Project Description**

The project involves the construction of a stone revetment, overlaid with fiber rolls. The proposed structure is 241 linear feet, and located along the face of a coastal bank. The sloped revetment will be covered with a row of 20 inch diameter fiber rolls anchored to the face of the revetment with steel cables. The entire structure will be covered with sand, and planted with beach grass. Annual nourishment is proposed as mitigation.

**Project Comments**

The project is located along a section of eroding shoreline along Cape Cod Bay in Wellfleet. The property is considered a pre-1978 structure under the Massachusetts Department of Environmental Protection (MassDEP) policy, and therefore eligible for consideration of a coastal engineered structure. The ENF describes the high erosion rate at this location, and includes data on the long-term erosion rate as well as more recent short-term erosion rates. The ENF documents past efforts to nourish the beach and protect the existing dwelling, and documents the continued high erosion rate despite these efforts. Currently the dwelling is approximately 16 feet from the top of the bank. The alternatives analysis identifies numerous options, including relocation of a smaller dwelling. Under this scenario, the smaller dwelling could be relocated approximately 63' from the top of the coastal bank. However, due to the high erosion rate, the property would still be considered threatened in approximately 7-10 years, depending upon actual erosion impacts. Based upon the alternatives analysis, CZM recognizes the limited options for protection of this property and supports the proposed hybrid revetment alternative.

At the site visit, the volume of annual nourishment was discussed. The original proposal included an annual nourishment volume of 935 cubic yards, based upon the CZM long-term erosion rate of -2.62 ft/yr. However, the ENF documented the most recent erosion rate for the past 12 years at -4.75. CZM requested that the proponent consider using a more conservative erosion rate to better reflect the most recent, higher erosion rates, rather than using the long-term rate of -2.62. Following the site visit, additional erosion rate data was submitted by the proponent and discussed on a conference call with representatives from MEPA, DEP, CZM and the project proponent. Based upon these discussions, the proponent agreed to increase the annual nourishment, base the annual volume on an erosion rate of -3.1, and conduct annual monitoring to assess the effectiveness of this mitigation and the potential need for additional mitigation. CZM supports this proposed mitigation strategy and recommends that annual monitoring reports be provided to the Wellfleet Conservation Commission, MassDEP, and CZM.

**Federal Consistency Review**

The proposed project may be subject to CZM federal consistency review. For further information on this process, please contact, Robert Boeri, Project Review Coordinator, at (617) 626-1050 or visit the CZM web site at www.state.ma.us/czm/fcr.htm.

LBE/SM/RH

cc: Stephen McKenna, CZM Cape & Islands Regional Coordinator
Jim Mahala, Chief, Wetlands & Waterways Program, MassDEP, SERO
Hillary Greenberg-Lemos, Wellfleet Health and Conservation Agent
Nathan Jones, Coastal Engineering Company, Orleans
Jim O'Connell, Coastal Advisory Services, Brant Rock

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

# Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

July, 1, 2019

Kathleen A. Theoharides
Secretary of Energy and Environment
Executive Office of Energy &
Environmental Affairs
ATTN: MEPA Office,
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: EENF Review EOEEA #16037
WELLFLEET. Proposed Shorefront Protection
at 1440 Chequessett Neck Road

Dear Secretary Theoharides,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Expanded Environmental Notification Form (ENF) for the Proposed Shorefront Protection at 1440 Chequessett Neck Road, Wellfleet, Massachusetts (EOEEA # 16037). The Project Proponent provides the following information for the Project:

The current preferred alternative is a 'Revetment/Fiber Roll Hybrid' system of 20-inch diameter fiber rolls anchored to revetment stones at the base of the Coastal Bank with an extensive restoration planting plan above. The fiber rolls will not rest directly on the stones but on a 3- to 6-inch thick bed of compatible sediment. The fiber rolls will be pre-vegetated with American beachgrass. Following installation, the fiber rolls will be nourished with compatible sediment. Thereafter, annual ongoing nourishment is proposed to preserve the function of the coastal bank to supply the adjacent coastal resources with an ongoing sediment source. This re-nourishment will also extend the life of the fiber rolls by protecting them from photodegradation.

The bank above the fiber rolls and revetment will be seeded with native grass mixture. In addition, a 100-percent biodegradable erosion control blanket will be installed over all disturbed sediments, with bayberry, beach plum, and specified native forb and grass species planted through the erosion control blanketing. A temporary irrigation system will be installed to encourage plant growth; it will be removed following establishment of the plantings.

***Bureau of Water Resources Comments***

Wetlands Comments: The Wetlands Program has reviewed the revised ENF submitted for the above referenced Project and offers the following comments. The Wetlands Protection Act Regulations state that 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:

*(3) No new bulkhead, revetment, seawall, groin or other coastal engineering structure shall be permitted on such a coastal bank except that such a coastal engineering structure shall be permitted when required to prevent storm damage to buildings constructed prior to the effective date of 310 CMR 10.21 through 10.37 or constructed pursuant to a Notice of Intent filed prior to the effective date of 310 CMR 10.21 through 10.37 (August 10, 1978), including reconstructions of such buildings subsequent to the effective date of 310 CMR 10.21 through 10.37, provided that the following requirements are met:*

*a) a coastal engineering structure or a modification thereto shall be designed and constructed so as to minimize, using best available measures, adverse effects on adjacent or nearby coastal beaches due to changes in wave action, and*
*b) the applicant demonstrates that no method of protecting the building other than the proposed coastal engineering structure is feasible.*
*c) protective planting designed to reduce erosion may be permitted.*

*(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.*

*(5) The Order of Conditions and the Certificate of Compliance for any new building within 100 feet landward of the top of a coastal bank permitted by the issuing authority under M.G.L. c. 131, § 40 shall contain the specific condition: 310 CMR 10.30(3), promulgated under M.G.L. c. 131, § 40, requires that no coastal engineering structure, such as a bulkhead, revetment, or seawall shall be permitted on an eroding bank at any time in the future to protect the project allowed by this Order of Conditions.*

The ENF indicates that the existing dwelling replaced a building that was constructed prior to August 10, 1978, and the new dwelling was no closer to the top of the Coastal Bank than the original building. The ENF describes and discusses eight various options for protecting the existing dwelling. The ENF makes the case that the selected alternative (Revetment/Fiber Roll Hybrid) achieves the goal of protecting the pre-1978 dwelling while avoiding and minimizing potential short-term and long-term impacts to coastal resource areas to a higher degree than the other alternatives. The ENF includes an analysis, prepared by a coastal geologist, of the erosion rate and the proposed Project in relation to the coastal bank regulations. The ENF provides a planting plan prepared by a Certified Ecologist Restoration Practitioner. The ENF also contains the structural foundation analysis prepared by a Registered Professional Engineer.

In the opinion of the Wetlands Program, the ENF includes sufficient information to allow the Project to proceed to permitting. The Wetlands Program accepts the revised erosion rate of -3.1 feet/year for use in calculating the proposed mitigation volume of sediment.

Waterways Comments: Revetment will be constructed above MHW therefore there are no c.91 comments on this Project.

***Bureau of Waste Site Cleanup Comments***
Based upon the information provided, the Bureau of Waste Site Cleanup (BWSC) searched its databases for disposal sites and release notifications that have occurred at or might impact the proposed Project area. A disposal site is a location where there has been a release to the environment of oil and/or hazardous material that is regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan [MCP – 310 CMR 40.0000].

There are no listed MCP disposal sites located at or in the vicinity of the site that would appear to impact the proposed Project area. Interested parties may view a map showing the location of BWSC disposal sites using the MassGIS data viewer (Oliver) at: http://maps.massgis.state.ma.us/map_ol/oliver.php Under "Available Data Layers" select "Regulated Areas", and then "DEP Tier Classified 21E Sites". MCP reports and the compliance status of specific disposal sites may be viewed using the BWSC Waste Sites/Reportable Release Lookup at: https://eeaonline.eea.state.ma.us/portal#!/search/wastesite

*The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this Project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup.*

***Bureau of Air and Waste Comments:***
Air Quality. Construction and operation activities shall not cause or contribute to a condition of air pollution due to dust, odor or noise. To determine the appropriate requirements please refer to:

- 310 CMR 7.09 Dust, Odor, Construction, and Demolition
- 310 CMR 7.10 Noise

*Construction-Related Measures.* MassDEP requests that all non-road diesel equipment rated 50 horsepower or greater meet EPA's Tier 4 emission limits, which are the most stringent emission standards currently available for off-road engines. If a piece of equipment is not available in the Tier 4 configuration, then the Proponent should use construction equipment that has been retrofitted with appropriate emissions reduction equipment. Emission reduction equipment includes EPA-verified, CARB-verified, or MassDEP-approved diesel oxidation catalysts (DOCs) or Diesel Particulate Filters (DPFs). The Proponent should maintain a list of the engines, their emission tiers, and, if applicable, the best available control technology installed on each piece of equipment on file for Departmental review.

*Massachusetts Idling Regulation.* MassDEP reminds the Proponent that unnecessary idling (i.e., in excess of five minutes), with limited exception, is not permitted during the construction and operations phase of the Project (310 CMR 7.11). With regard to construction period activity, typical methods of reducing idling include driver training, periodic inspections by site supervisors, and posting signage. In addition, to ensure compliance with this regulation once the Project is occupied, MassDEP requests that the Proponent install permanent signs limiting idling to five minutes or less on-site.

Spills Prevention. A spills contingency plan addressing prevention and management of potential releases of oil and/or hazardous materials from pre- and post-construction activities should be presented to workers at the site and enforced. The plan should include but not be limited to, refueling of machinery, storage of fuels, and potential on-site activity releases.

***Proposed s.61 Findings***

The "Certificate of the Secretary of Energy and Environmental Affairs on the Environmental Notification Form" may indicate that this Project requires further MEPA review and the preparation of an Environmental Impact Report. Pursuant to MEPA Regulations 301 CMR 11.12(5)(d), the Proponent will prepare Proposed Section 61 Findings to be included in the EIR in a separate chapter updating and summarizing proposed mitigation measures. In accordance with 301 CMR 11.07(6)(k), this chapter should also include separate updated draft Section 61 Findings for each State agency that will issue permits for the Project. The draft Section 61 Findings should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

***Other Comments/Guidance***

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this proposed Project. If you have any questions regarding these comments, please contact George Zoto at (508) 946-2820.

Very truly yours,

Jonathan E. Hobill,
Regional Engineer,
Bureau of Water Resources

JH/GZ

Cc: DEP/SERO

ATTN: Millie Garcia-Serrano, Regional Director
David Johnston, Deputy Regional Director, BWR
Gerard Martin, Deputy Regional Director, BWSC
Seth Pickering, Deputy Regional Director, BAW
Jennifer Viveiros, Deputy Regional Director, ADMIN
Jim Mahala, Chief, Wetlands and Waterways, BWR
Dan Gilmore, Wetlands and Waterways, BWR
David Hill, Wetlands and Waterways, BWR
Allen Hemberger, Site Management, BWSC

Town of Wellfleet
CONSERVATION COMMISSION
220 West Main Street
Wellfleet, MA 02667
508-349-0308

June 11, 2019

Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act Office
Attn: Erin Flaherty
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Public Comment on Environmental Notification Form, EEA Project #16037, 1440 Chequessett Neck Rd, Wellfleet, MA

Dear Ms. Flaherty,

Thank you for your time at the June 4th site visit at 1440 Chequesett Neck Rd, Wellfleet Massachusetts (the "Property") and the opportunity to comment on the above-referenced Environmental Notification Form. As a preliminary matter and as stated at the site visit we, the Wellfleet Conservation Commission (the "Commission"), rely upon our decision dated December 21, 2018. In addition, the Commission writes to share its significant concerns over the proposed project, which includes the installation of a rock and fiber roll revetment along 241 linear feet of a coastal bank to be covered with approximately 928 cubic yards of compensatory sand and plantings, resulting in permanent alteration to the fragile coastal bank in an area of critical environmental concern (ACEC) on the Property (the "Project"). The Commission offers the following additional comments as support to urge the Secretary of the Executive Office of Energy and Environmental Affairs to require further environmental review of the Project by requiring the Applicant to file an Environmental Impact Report.

The Commission's primary responsibility is to administer both local and state wetlands protection statutes, the Wetlands Protection Act, G.L. c. 131, § 40 and the Wellfleet Wetlands Protection Bylaw. The Commission has also promulgated more stringent standards for projects triggering Commission review under the Wellfleet Environmental Protection Regulations. The Commission's objective is to permit projects while protecting the natural resources within the Town of Wellfleet and the public interests they provide.

The Commission was presented with the Project, as revised, in September 2018 and after conducting two extensive public hearings and a site visit, the Commission denied the Project because (1) the Project could not be conditioned to meet the performance standards of the wetlands regulations, and local Bylaw and Regulations, and (2) the information submitted by the Applicant sufficient for the Commission to determine the Project's impacts on the public interests and environment protected under the Wetlands Protection Act and local Bylaw and Regulations. Specifically, the Commission found that the Project, as presented, does not contribute to the protection of flood control, erosion and sedimentation control, protection of land containing shellfish, protection of fisheries, storm damage prevention, and protection of wildlife habitat. The Commission also found that the Project does not meet the performance standards of the local Regulations, Section 2.03(2)(b), which provides that "a coastal engineering structure or modification thereto shall be designed and constructed so as to have no significant adverse impact on adjacent or nearby coastal beaches, coastal banks, coastal dunes, salt marshes, land containing shellfish, or other seaward wetlands resource areas."

The Property and the area surrounding it sit in a unique area between Wellfleet Harbor and Cape Cod Bay. This area is significant as sand moves both north and south here in a nodal zone. The proposed revetment would be the only structure disturbing sand and water flow along an otherwise pristine 7-mile coastal bank and barrier beach system, extending from Pamet Harbor in Truro to Jeremy Point in Wellfleet; most of this shoreline is within Cape Cod National Seashore. The alteration to the coastal bank, as proposed by the Applicant, will cause disruption to the natural sand movement due to the way in which the waves will hit the revetment. This change in the natural flow of sand and sediment, will accelerate the coastal erosion on the Property and surrounding properties which are already experiencing higher rates of erosion due to increased storms. It was clearly observed at the site visit that major scouring on either side of the staircase on the Property has occurred and is occurring on the coastal bank due to prior attempts to protect the Property and the existence of the staircase.

The Applicant failed to address that there would be no significant adverse effects on shellfish habitat, abutting properties, piping plover habitat, coastal bank, coastal beach, and the back barrier salt marsh. The Applicant also failed to provide the Commission with a sufficient alternatives analysis as to where the house could otherwise be located on the Property. For example, the Applicant has not inquired into, nor applied for, a variance from the Wellfleet Zoning Board of Appeals for the purpose of moving the house to a different location on the Property, but simply alleges that the Property has unique topography and soil conditions, all relevant criteria when considering a variance application under G.L. c. 40A, §10. The Applicant's supplemental alternatives analysis as filed with your Office on May 15, 2019, lacks merit and should not be considered by this Office or the Secretary. The supplemental alternatives analysis lacks any basis in science or fact and is not verified by any of the Applicant's experts. These alternatives were also never presented to the Commission during its review of the Project.

The Environmental Notification Form states that "non-structural alternatives were considered such as beach and bank sand nourishment as well as a fiber roll lift system but were

eliminated as being insufficient to achieve the project goal of protecting the pre-1978 status dwelling." (emphasis added). The Commission disputes the Applicant's assertion of the status of the dwelling, as pre-1978, as this is a legal issue currently pending in a lawsuit by the Applicant against the Commission, appealing the Commission's decision to deny the Applicant an Order of Conditions under the local Bylaw and Regulations. The Commission urges this Office and the Secretary to disregard the above statement as untrue.

The Property abuts a thin strip of barrier beach, which is composed of dunes that are constantly eroding and being replenished with new sand brought to the dunes by natural wind and wave action, interruption of which will cause a threat to the sand spit and jeopardize Wellfleet Harbor's protective barrier. This barrier is a vital resource to the Town for purposes of aquaculture leases and shellfish beds. In the Environmental Notification Form, The Applicant has failed to address how the Project will not have adverse impacts on the wild sea scallop population and eelgrass beds, which are both vital to the economy of the Town and the fragile, unique ecosystem that surrounds the Property. These environmental concerns must be addressed and mitigated by the Applicant through the filing of an Environmental Impact Report. The proposed rate of sand re-nourishment will cause excess sand to flow back into the surrounding waterbodies, filling the sea floor and harming the natural, surrounding marine ecosystem. The amount of sand re-nourishment and rate of re-nourishment proposed as a necessity to protect the dwelling is far too high to be sustainable to the Property's surrounding natural resources.

The Applicant also failed to provide the current coastal erosion rates and data for the area of the property, rates which should be utilized by this Office in reviewing the Environmental Notification Form. As discussed above, the Property is in a unique location, subject to harsh winds out of the northwest, where there is a 50-mile fetch. This ultimately leads to the increased rate of erosion of the coastal bank. With regard to climate change concerns, the Commission urges this Office and the Secretary to have a forward-thinking viewpoint as to how climate change will impact this Property in the future and how the Project and maintenance thereto, will exacerbate the effects of climate change. For example, the Commission is concerned with the multiple vehicle trips and associated emissions from the construction of the Project and the necessary repairs to the fiber rolls which will occur at a minimum, every two to five years, as well as the frequent re-nourishment of the bank. The vehicle trips to perform such maintenance will also travel over the same fragile coastal dune, accelerating the deterioration of the dune, which is a concern of the Commission.

The Commission is also concerned that, if the bank is stabilized as proposed while adjacent coastal banks inevitably retreat with sea-level rise, in 10 or 20 years there will be no beach throughout the tidal cycle at this point along the shore. This will block emergency vehicle passage and access, the public's riparian rights and access, including the rescue of federally protected marine mammals as well as sea turtles including the federally-listed endangered Kemp's Ridley. These turtles strand by the hundreds during winter along this shore, but many can be rescued by volunteers who daily patrol this beach on foot. The amount of bank retreat predicted by the Applicant's coastal geologist over the next 20 years will isolate the Property

well seaward of adjacent coastal banks, thereby cutting off beach access throughout all or nearly all of the tidal cycle.

Yet another concern of the Commission is that this proposed rock revetment with fiber rolls attached has not been tried elsewhere. There is no supporting evidence that a structure such as this does not cause adverse effects on the environment or surrounding properties or require more frequent maintenance and access over the bank.

Lastly, at the site visit, the Commission was concerned by the amount of debris on the Property, which shows the Applicant's lack of care or consideration for the well-being of the Town's precious natural resources and surrounding properties. For example, a prior septic system was observed as visible and decaying on the Property, years after the older house was removed and the current house built at another location on the Property. The Commission also observed remnants of helical anchors exposed from the bank that were part of a prior filing for a stairway down the bank. It is important to note that this spring and summer season alone, this staircase has already been replaced twice. The first stairway washed away in early spring and the second was recently reconstructed and present at the June site visit. If the Applicant has failed to remove these objects from the Property, it is most likely that the Applicant will allow old fiber rolls to remain on Property after repairs, which could travel into the surrounding waterbodies or which could be eaten by and/or entangle wildlife.

The failure of the Project to adequately protect the public interests under the Wetlands Protection Act and local Bylaw and Regulations, combined with the unique location of the Property and accelerated rate of coastal erosion currently happening on the Property, are major causes of environmental concern and warrant the Applicant's filing of an Environmental Impact Report to address the Commission's concerns as set forth above, along with environmental concerns addressed by other public comment letters submitted to this Office. Should you need any further information based on the comments provided herein, please do not hesitate to contact our Agent, Hillary Greenberg.

Sincerely,

Barbara Brennessel

Michael Fisher

John Portnoy

John Cumbler

Deborah Freeman

667281/WELL/0174

Center for Coastal Studies Provincetown

HIEBERT MARINE LABORATORY
5 Holway Avenue
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June 10th 2019

Hillary Lemos
Health and Conservation Agent
Town of Wellfleet, Massachusetts

Re: 1440 Chequessett Neck Road, Wellfleet MA

Ms. Lemos,

I am writing at your request to share my thoughts about the proposed project at 1440 Chequessett Neck Road, Wellfleet, Massachusetts. I have been studying coastal physical processes on Cape Cod since 2003. With colleagues at the Center for Coastal Studies I have authored or co-authored dozens of technical reports and peer-reviewed publications regarding coastal processes on Cape Cod. Recently, two publications have specifically addressed sediment transport along the Bay shoreline including the shoreline at 1440 Chequessett Neck Road.

The proposed project includes a 'Revetment/Fiber Roll Hybrid', which is a stone revetment at the base of the eroding coastal bank with a series of tiered, fiber rolls secured on top of the revetment along the Bay shoreline. This structure is designed, in part, to protect the house at this address by preventing the erosion of the coastal bank. The placement of sediment of appropriate volume, grain size and composition is also to be placed at the base of the structure to replace the material that would have eroded from the coastal bank.

The relationship between erosion control structures (e.g. seawalls, revetments, etc.) and coastal erosion is critical to this discussion. The science behind this relationship has been well-established in the peer-reviewed literature. If a structure is installed on an eroding shoreline the rate of erosion at the ends of that structure will increase-these are commonly called *end effects*. The forces that caused the need for the structure (e.g. waves and currents) are still ongoing, and any water capable of eroding sediment will erode more sediment at the ends of the structure as that energy is deflected away from the hard structure and toward the adjacent beach, or coastal bank. End effects often lead neighboring properties to endure accelerated rates of erosion or install similar structures continuing the negative impacts to the next property until vast swaths of shorelines are armored. Not only is this common, but it is occurring in Eastham, the town immediately adjacent to Wellfleet to the south. In my professional opinion it is

virtually certain that these negative impacts (end effects) will be seen on adjacent properties during the first significant storm event after installation and will continue to occur during storms events in perpetuity.

Further, another well-established phenomenon associated with erosion control structures is the 'vertical erosion' that occurs just seaward of those structures. The elevation of the beach gets lower as the incoming wave energy removes material. The sediment that would have slumped down from the coastal bank onto the beach is not allowed to erode and the beach elevation decreases. Typically, two results are seen, the loss of the 'high tide beach'; at high tide the water is at the base of the revetment, leaving no recreational beach, then over time the low tide beach is lost as beach elevation continues to decrease. The second common occurrence with the lowering of the beach elevation is the erosion control structure becomes undermined and either fails or must be strengthened or enlarged to be maintained. In my professional opinion it is virtually certain that these negative impacts will be seen in front of this structure during any sustained period of storm activity.

Lastly, science staff at the Center recently completed two studies looking at long-term, century-scale sediment transport trends along the shoreline in question (Giese et al., 2018; Giese et al., 2014). These studies sought to develop a regional sediment budget for Wellfleet along the Bay shoreline. Sediment budgets typically quantify the volume and direction of sediment transport for a given area, called a 'littoral cell'. A littoral cell is a stretch of shoreline that contains all of the sediment sources and sinks as well as sediment transport pathways.

There is a barrier spit (Jeremy's Point) to the south of the property in question. Barrier spits are indicative of a particular 'net direction' of sediment transport and in this instance Jeremy's Point is growing southward, thus sand is coming from the north (Figure 1). Also, Pamet River in Truro, immediately to the north of Wellfleet, is dredged annually and the material is put on the northern side of the harbor inlet in a method called 'sediment bypassing'. This is done because the harbor inlet is preventing the sand from traveling to the north. Independently, the 2014 study mentioned above documented a 'nodal zone' in the vicinity of the property. A nodal zone is a place along the shoreline where the net sediment direction diverges, in this instance to the north and south. This finding was corroborated by another recent study (Berman, 2011) in the area that used different methods than the 2014 study. It is my professional opinion that preventing this coastal bank from eroding will degrade not only the wetlands resources immediately adjacent to the structure, but also to those present within the littoral cell (which stretches from Jeremy's Point to Provincetown Harbor) that are affected by coastal sediment transport.

Thank you for your time and please feel free to contact me with questions.

Sincerely,

Mark Borrelli

Mark Borrelli, PhD.

**Figures:**

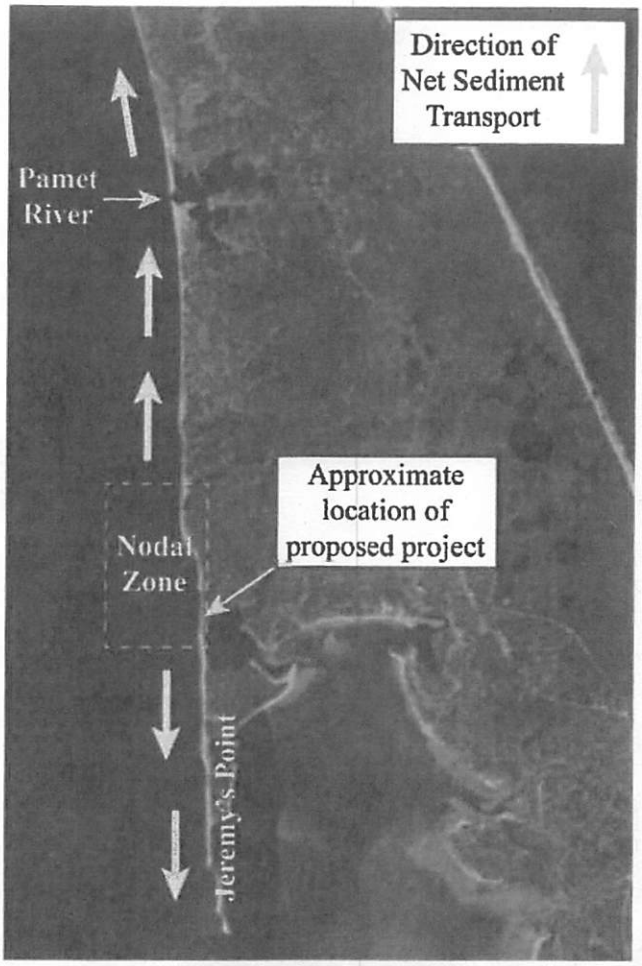


Figure 1. Directions of net sediment transport indicated by the arrows and the approximate extent of the nodal zone in the area of the proposed project. This figure was developed from data and findings presented in Giese et al. (2018); Giese et al. (2014).

## References

Berman, G.A., 2011. Longshore Sediment Transport, Cape Cod, Massachusetts, Woods Hole Sea Grant Program, Barnstable County's Cape Cod Cooperative Extension.

Giese, G.S., Borrelli, M., Mague, S.T., Barger, P. and McFarland, S., 2018. Assessment of the Century-Scale Sediment Budget for the Eastham and Wellfleet Coasts of Cape Cod Bay. A Report Submitted to the Towns of Eastham and Wellfleet, Center for Coastal Studies, Provincetown, MA.

Giese, G.S., Borrelli, M., Mague, S.T., Smith, T.L., Barger, P. and Hughes, P., 2014. Assessment of multi-decadal coastal change: Provincetown Harbor to Jeremy Point, Wellfleet, Center for Coastal Studies, Provincetown, MA.

# TOWN OF WELLFLEET

300 MAIN STREET WELLFLEET MASSACHUSETTS 02667
Tel (508) 349-0300 Fax (508) 349-0305
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June 6, 2019

Erin Flaherty
MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

**Re. Project #C14827.04**

Dear Ms. Flaherty,

We fully support the Wellfleet Conservation Commission's denial on December 5, 2018 of an application by the owners of 1440 Chequessett Neck Road to construct a revetment to stabilize the eroding coastal bank on their property. The Commission has done due diligence in reviewing the applicant's request.

As abutters to the property we are concerned by the consequences from the predictable changes that would result from armoring of any sort along that stretch of coastline.

As the Shellfish Regulatory Board for the Town, we are particularly worried that any structure installed to reduce erosion along the coastal bank will affect the low barrier dune/tombolo known as The Gut, to the south of the property. The dynamic movement of sand along that shore, as it has existed for eons, serves to maintain it as a barrier. As it is now, it protects the inner harbor and the Town's prized shellfish habitat and insures a steady flow of nutrients from the Herring River to the inner harbor. Very infrequent over-washes are quickly healed by the uninterrupted replenishment of sand along the coastal bank. The Gut can also serve as a buttress, in the event of an unusual, extreme, tidal and storm-induced difference in water levels between the bay and the inner curve of The Gut. Such conditions could result in an inlet created by a break-through which could disrupt, even if only temporarily, the environmental equilibrium of the fishery.
Wellfleet has by far the largest wild set of shellfish anywhere in the Commonwealth, and many, many acres leased for aquaculture. It's the single largest industry in the town. The stakes are too high to ignore the precautionary principle in this situation.

In addition, the Town landing which is adjacent to the proposed revetment would be subject to the increased erosion that occurs over time, next to more solid elements. In the1980s, the Town removed a revetment of granite boulders from the bank below the Town Landing for just this reason.

Since 2013, the Conservation Commission has met the applicants more than halfway by allowing 7,945 cubic yards of sand to be repetitively deposited to nourish the scarp below the house, in an attempt to prevent the ocean from doing its work.

This has been constantly eroded away, sometimes in a matter of days and so has been added to the environment along that shoreline, with unknown effects on the eel grass beds and State-mapped, sea clam habitat just offshore and within the Conservation Commission's area of jurisdiction.
And because such a revetment would be located at an existing nodal point, the unnatural promotion of additional sand along the shore either through repetitive nourishment or because of scouring, will influence what happens even beyond the area subject to regulatory review, in either direction.

At the June 4, 2019 site visit with members of the Wellfleet Conservation Commission, the Conservation Agent and Assistant Conservation Agent, Steve McKenna from Coastal Zone Management, Erin Flaherty from the Massachusetts Environmental Protection Agency, two attorneys from KP Law which represents the Town, representatives of the property owners and others, it was suggested by the applicant that there could be additional nourishment at either end of their proposed revetment to mitigate any scouring that would result from their (preferred) *Alternative 8 -Revetment/Fiber Roll lHybrid.*
In the *Alternative 5 – Coastal Bank Nourishment* section of the Revised Environmental Notification Form submitted by Coastal Engineering to the Conservation Commission, on June 4, 2019, this is acknowledged as not being a good idea.

The applicants built in a vulnerable spot at their own risk, knowing that both the existing dynamic of wave action along the shore, the increase in extreme weather events due to climate change, and the rising sea level would sooner or later result in undermining the vulnerable site on which they chose to build.

Under these circumstances, it would seem that a managed retreat would be the best (if temporary) option for saving the structure which arguably should never been built there, in that way, at all.

We urge the MEPA to require an Environmental Impact Report of Project #C14827.04 to further study the effects of the proposed revetment.

Sincerely,

**WELLFLEET SELECTBOARD**

**Janet Reinhart**

**Helen Miranda Wilson**

**Justina Carlson**

**Kathleen Bacon**

**Michael DeVasto**

MASSWILDLIFE

DIVISION OF
**FISHERIES & WILDLIFE**

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

December 5, 2018

Wellfleet Conservation Commission
220 West Main Street
Wellfleet MA 02667

James Halleck Hoeland
The Family Trust of Mark Blasch
55 Maher Lane
Newton PA 18940

RE:

| | |
|---|---|
| Applicant: | James Halleck Hoeland |
| Project Location: | 1440 Chequessett Neck Road |
| Project Description: | Hybrid Stone Revetment & Coir System for Coastal Bank Stabilization |
| DEP Wetlands File No.: | 077-1495 |
| **NHESP File No.:** | **07-23599** |

Dear Commissioners & Applicant:

On November 15, 2018 the Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received supplemental information (under cover dated 11/13/2018) including site plans prepared by Coastal Engineering Co., Inc. (dated 11/9/2018) for review with a Notice of Intent submitted in compliance with the rare wildlife species section of the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.37). The Division also received the MESA Review Checklist and supporting documentation for review pursuant to the MA Endangered Species Act Regulations (321 CMR 10.18).

The Division has determined that the proposed project is located within the actual habitat of Piping Plover (*Charadrius melodus*) a species state-listed as Threatened in accordance with 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 Threatened 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.

**WETLANDS PROTECTION ACT (WPA) & MASSACHUSETTS ENDANGERED SPECIES ACT (MESA)**

Based on the information provided and the information contained in our database, it is the opinion of the Division that a portion of this project, as currently proposed, **must be conditioned in order to avoid adverse effects** to the Resource Area Habitats of state-listed wildlife species (310 CMR 10.37) and **must**

**be conditioned in order to avoid a prohibited Take of state-listed species (321 CMR 10.18(2)(a)).** The following conditions must be met to protect state-listed species and their habitats:

1. **Limit of Work.** All Work, including access and staging, shall occur within the Limit of Work and the hybrid revetment coir system shall be limited to the ±241 foot section of Coastal Bank depicted on the "Plan Showing Proposed Shorefront Protection" (dated 11/9/2018). Any changes to the proposed Work or any additional work beyond that shown on the Plan shall require additional review and written approval from the Division. Routine nourishment and minor maintenance, as described in the filing is approved by this determination. Major reconstruction of the stone revetment requires consultation with the Division.

2. **Work Timing.**
   a. All work associated with the stone revetment and coir system including maintenance is prohibited during the period **April 1 – August 31**, to protect breeding shorebird species.
   b. All equipment and construction materials, including staging, are prohibited from the beach during the period **April 1 – August 31**.

3. **Nourishment.** Immediately upon installation completion of the hybrid revetment and coir stabilization, an initial deposition of 275 cubic yards of compatible sand shall be distributed overtop the hybrid system.
   a. After initial deposition (275 CY), compatible sand nourishment shall be maintained over the system to a depth of 4-6 inches, provided the coir system remains intact.
   b. The applicant is responsible for 1,338 CY of compatible sand nourishment if the coir system is abandoned or removed, naturally or otherwise, and not reconstructed. Prior to manual removal or within 30 days of the loss of the system (if storm related), the applicant shall submit a proposed nourishment schedule to the Division; the applicant must obtain written approval of the nourishment schedule. The Division will require that within 10 days of the completion of the nourishment (or each phase of nourishment if carried out in phases) the applicant shall provide the Division with delivery slips or invoices documenting the volume of sand used for nourishment.
   c. If the applicant proposes to maintain a system that retains a portion of the coir system, then, prior to maintenance, the applicant shall submit a plan to the Division for the purpose of establishing an appropriate nourishment volume and schedule. Said plan must receive written approval by the Division.
   d. All nourishment must avoid the shorebird nesting period; therefore, sand shall not be deposited during April 1 – August 31, unless otherwise approved in writing by the Division.

5. **System Installation.** If additional Coastal Bank erosion occurs prior to the start of work, then similarly, the hybrid revetment system should be constructed landward to account for the loss of Coastal Bank. Constructing the revetment as close to the toe/bottom of the Coastal Bank, existing at the time of construction and thence landward, should serve to reduce impacts on the Coastal Beach.

6. **State-listed Species Protection.** The applicant has the responsibility of protecting breeding Piping Plovers and state-listed species of terns that may be on this section of beach. Therefore, the applicant must allow regular monitoring for the presence of Piping Plovers and terns by a qualified shorebird monitor, as determined by the Division, during the period April 1 – August 31 and shall allow any nests, scrapes, or unfledged chicks to be protected with symbolic fencing (warning signs and twine fencing).

7. **Compliance Report**: Within thirty (30) days of completion of work, the Applicant shall submit as-built site plans and a brief written report including photographs showing final constructed conditions with particular emphasis on demonstrating compliance with the Conditions herein.
8. **Authorization Duration**. This authorization is valid for 5 years from the date of issuance. Work may be completed at any time during this 5-year period in compliance with the conditions herein. Thereafter, the applicant shall re-file under the MESA.
9. **Notice**. Upon filing for renewal, extension, or amendment of the Orders of Conditions, the applicant shall contact the Division for written response regarding impacts to Resource Area habitat of state-listed wildlife.

Provided these conditions are included in any approving Orders of Conditions issued by the Conservation Commission, and the applicant complies with all the above noted conditions, the project will not result in an adverse impact to the resource area habitats of state-listed wildlife species pursuant to the WPA and will not result in a prohibited Take pursuant to the MESA. A copy of the final Order of Conditions shall be sent to the NHESP simultaneously with the applicant as stated in the Procedures section of the WPA (310 CMR 10.05(6)(e)).

We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This determination is valid for five years. This project may be subject to further review if no physical work is commenced within five years from the date of issuance, or if there is a change to the project.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions regarding this letter please contact Amy Hoenig, Endangered Species Review Biologist, at (508) 389-6364.

Sincerely,

Thomas W. French

Thomas W. French, Ph.D.
Assistant Director

cc: MA DEP Southeast Region
Jason Norton, Coastal Engineering Co., Inc.
Seth Wilkinson, Wilkinson Ecological Design, Inc.

# United States Department of the Interior

NATIONAL PARK SERVICE
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667

IN REPLY REFER TO:
L30 Tract #26-4614

June 11, 2019

Secretary Kathleen Theoharides
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act Office
Attn: Erin Flaherty
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Environmental Notification Form, EEA Project #16037, 1440 Chequessett Neck Rd, Wellfleet, MA

Dear Ms. Theoharides and Ms. Flaherty:

We are writing concerning the Environmental Notification Form (ENF) filing for Proposed Shorefront Protection at 1440 Chequessett Neck Road in Wellfleet on Cape Cod Bay within Cape Cod National Seashore. Tract 26-4614 in Wellfleet. I regret that I was out of town for the Massachusetts Environmental Policy Act (MEPA) site visit that you attended.

We continue to oppose this project and believe that an Environmental Impact Report under MEPA is warranted. We believe that you have the discretion to require more than an ENF review for such a significant location under the MEPA 301 CMR 11.03 (11) Areas of Critical Environmental Concern (b) and 11.03 (3) Wetlands, Waterways and Tidelands (b)(1)(a) and 11.03 (3)(b)(1)(e). The coastal resources and habitats, Outstanding Resource Waters and barrier beaches in the ACEC and Cape Cod National Seashore warrant such consideration.

Cape Cod National Seashore, a unit of the National Park Service (NPS), was established by Congress in 1961 "in order that the seashore shall be permanently preserved" (Public Law 87-

126). The legislation authorizing the National Seashore prohibits the NPS from any development which would be incompatible with the preservation of the seashore's natural physiographic conditions; we use this legislative direction when evaluating private development proposals within the boundary. We have provided a map of the area entitled "NPS Assets and Landownership – the Gut, Wellfleet, MA" to provide an overview of the project area and its importance to seashore resources and values.

We are very concerned that this project will adversely affect seashore coastal beach, nearby marine and coastal resources, and the visitor experience in major and significant ways. This project would require a MA Department of Environmental Protection (DEP) Superseding Order of Conditions to counter the Wellfleet Conservation Commission denial of the project; we believe the denial was warranted. See our letter to the Wellfleet Conservation Commission of December 3, 2018 and our previous letter dated October 3, 2018 (attached for reference) as well as this correspondence and its attachments.

Our analyses continue to conclude that significant adverse impacts will occur to the stability of the coastal bank; thus we object to approval of the proposed ENF filing. Furthermore, it is our opinion that the ENF submission and the NOI and associated November 9, 2018 and September 4, 2018 plans "Showing Proposed Shorefront Protection" have not demonstrated consistency with Area of Critical Environmental Concern, the MA Wetlands Protection Act (MWPA) and Wellfleet Environmental Protection Regulations (WEPR). We continue to disagree with the Hoeland/Blasch's consultant team of civil and structural engineers, and coastal geologist. We have also found that the letter of Attorney Moriarty of January 30, 2019 quotes generalities. The letter included points made at the MA DEP site visit that the project is designed to minimize adverse impacts; these statements are unsubstantiated.

We have new specific concerns based on the National Park Service team's professional, technical review:

1) We have consulted with Rebecca Beavers, Ph.D., who serves as coastal geology and coastal adaptation coordinator for the National Park Service, where she is the point of contact for sea level change, coastal adaptation to climate change, and coastal geomorphology issues. Dr. Beavers has also worked as a geologist and oceanographer in a variety of upland and submerged coastal areas with the U.S. Geological Survey and U.S. Army Corps of Engineers. Please see her attached report.

2) We have engaged David L. Porter, P.E., to conduct a review as a coastal structural engineer who has had a sole focus on waterfront engineering. Dave has been the long-time Principal of Childs Engineering and his report is also attached.

3) There has been no response to the eight (8) points that we raised in our December 3, 2018 letter which substantially limits the information available.

4) Emergency response and resource-related patrols of the national seashore, as well as public access, are expected to be impeded due to loss of natural beach and resulting subsidence in front of a coastal engineering structure.

5) We have urged evaluation of more appropriate alternatives by the applicant, such as a layered sand fence or drift fence with natural bank stabilization measures, but this has not been done to provide a meaningful comparison; the May 15, 2019 supplemental alternatives analysis is still cursory, has estimates life expectancy of some alternatives and not others, and does not provide comparison of temporary and permanent impacts. The cubic yards of disturbance are also of interest for this project proposal.

6) The ENF states on page 3 that a smaller landward dwelling would "represent a tremendous disturbance to a greater area for very limited, temporary benefit." The same should be said for the revetment and/or fiber roll array.

We repeat the following NPS regulations that restrict this project:

- Construction of any structure or other facilities "upon, across, over, through or under any park areas, except in accordance with the provisions of a valid permit, contract, or other written agreement with the United States." 36 C.F.R. § 5.7. This prohibition applies to construction that occurs within waters within the National Seashore's boundaries and below the mean high water line regardless of ownership. 36 C.F.R. § 1.2(a)(3).
- In addition, to the extent the proposed construction involves the operation of a motor vehicle within waters within the National Seashore's boundaries and below the mean high water line, such activity would be banned. 36 C.F.R. §§ 1.2(a)(3), 4.10.

In summary, there is no unpredicted coastal process that has created emergency conditions, rather a predictable pattern of sediment transport and bluff erosion loss, and need for retreat from the coastal bluff that will only persist; climate change resiliency is not considered and this property will be subject to sea level rise exacerbation of coastal flooding and storm events. No new information was provided as a result of this ENF filing that has changed the opinion of the NPS that there will be major and significant adverse impacts on surrounding lands and waters including those managed by the NPS; this review has reaffirmed our opposition to the revetment/fiber roll project.

Thank you for your consideration of the National Park Service's comments.

Sincerely,

Brian T. Carlstrom

Brian T. Carlstrom
Superintendent

Attachments

cc:
Wellfleet Board of Selectmen
Wellfleet Conservation Agent
MA DEP Wetlands Division

Cape Cod National Seashore
Massachusetts

National Park Service
U.S. Department of the Interior

# NPS Assets and Land Ownership - The Gut, Wellfleet MA


N

Coordinate System: NAD 1983 UTM Zone 19N
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: -69.9000
Scale Factor: 0.9996
Latitude Of Origin: 0.0000
Units: Meter



0 0.05 0.1 0.2 0.3 0.4 Miles

Map Location

Document Path: X:\GIS\CACO11x17ownership2019.mxd

User Name: MAdams Date: 6/7/2019

# United States Department of the Interior

NATIONAL PARK SERVICE
Geologic Resources Division
P.O. Box 25287
Denver, CO 80225


TRANSMITTED VIA ELECTRONIC MAIL - NO HARDCOPY TO FOLLOW

IN REPLY REFER TO:
L2360

June 11, 2019

Superintendent Brian T. Carlstrom
National Park Service
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667

Re: Review of MEPA Environmental Notification Form (ENF) filing for Proposed Shorefront Protection at 1440 Chequessett Neck Road, Wellfleet ("Blasch property") on Cape Cod Bay within Cape Cod National Seashore and associated coastal impacts

Dear Superintendent Carlstrom:

This review will focus on the coastal geology impacts and coastal adaptation opportunities presented by the proposed "rock revetment/fiber roll hybrid" coastal engineering structure that will affect the resources and values of Cape Cod National Seashore. Field inspections of the site on March 26-27, 2019 were conducted with staff at Cape Cod National Seashore and Dr. Mark Borrelli of Provincetown Center for Coastal Studies. This review is based on my extensive geology field work and coastal site assessments as a coastal geologist and nearshore oceanographer in a variety of upland and submerged coastal areas throughout the United States (U.S.), U.S. Territories, and nearby countries with the U.S. Geological Survey, U.S. Army Corps of Engineers, and National Park Service.

Adverse Impacts to National Park Service Resources and Values at Cape Cod National Seashore

If constructed as proposed, this "rock revetment/fiber roll hybrid" coastal engineering structure on the Blasch property will have severe, adverse impacts on the resources and values of lands managed by the NPS at Cape Cod National Seashore. These adverse impacts should be examined in an Environmental Impact Report under MEPA. The coastal resources and habitats, Outstanding Resource Waters and barrier beaches in Cape Cod National Seashore warrant such consideration.

I strongly endorse the eight (8) points that the NPS made in our December 3, 2018 letter. The points raised in the October 3, 2018 letter are also valid. These points have not been fully addressed by project documentation submitted since those dates. I will address some of these points in more detail and clarify where the project documentation falls short or does not adequately address NPS concerns.

We are very concerned that this project will adversely affect seashore coastal beach, nearby marine and coastal resources, and the visitor experience in major and significant ways. Documentation from 1) the Hoeland/Blasch's consultant team of civil and structural engineers and coastal geologist and 2) the letter of Attorney Moriarty of January 30, 2019 quote generalities stated at the MA DEP site visit that the project is designed to minimize adverse impacts. Some of the anticipated and expected impacts that will be caused by a hardened engineering structure on an open marine coast subject to storm waves and currents are dismissed as minimal. These effects will not be minimal to the coastal lands managed by the National Park Service in Cape Cod National Seashore along Cape Cod Bay. Introduction of a new coastal engineering structure on an undeveloped stretch of coastline will have several adverse impacts that are discussed below.

Permanent Adverse Impacts: Loss of 241 lf of Coastal Bank and 1374 lf of Coastal Beach

In the May 15, 2019 Supplemental Alternatives Analysis Report, the "Rock Revetment and Fiber Roll Hybrid" Alternative is identified as the preferred alternative. Coastal areas impacted from this coastal engineering structure include Coastal Beach: 1374 sf (permanent impact(p)) and 6000sf (temporary(t)); Coastal Bank: 241lf; Land Subject to Coastal Storm Flowage(LSCSF): 1800sf(p) and 365sf(t); Buffer Zone 1500sf(t). With 241 lf of coastal bank removed from the coastal sediment transport system by the "rock revetment/fiber roll hybrid", this coastal engineering structure is not designed and constructed to "minimize...adverse effects on adjacent or nearby coastal beaches due to changes in wave action." Further, the applicant has not demonstrated that no method of shoreline protection other than the proposed coastal engineering structure is feasible. This structure will permanently remove 241 lf of Coastal Bank and 1374 lf of Coastal Beach from the coastal sediment transport system. This is a placement loss of Coastal Bank and Coastal Beach habitat that adversely restricts the role of these critical components of the coastal ecosystem and can only be mitigated by removal of this structure. This proposed structure will restrict the Coastal Bank and Beach from exchanging sediment with the adjacent coastal areas.

Permanent Adverse Impact: Scour at the Toe and Edges of Coastal Engineering Structure

From: Moriarity, Troyer, and Malloy, LLC Memorandum, January 30, 2019:

> "The Project is innovative to the extent it proposes to anchor the fiber rolls to the rock revetment. As Jay Norton, Coastal Engineer at Coastal Engineering Company ("Norton"), stated during the December 5, 2018, Public Hearing, the fiber rolls are proposed to cover the revetment "to dissipate the wave energy and reduce any scouring that could occur on the beachfront or the ends of the shorefront protection system." Norton further described the purpose of each component of the design: "So the bulk of the project is really the rock revetment. That's there to hold the soil, hold the upper slope. And it's designed to accommodate the amount of fetch that's on the site and the velocity zone of elevation 17 NAVD88. The 2O-inch diameter fiber rolls are then anchored to the revetment to provide that buffer and absorb that wave impact. So when you have just a hard structure, you're getting more wave reflection. Whereas, you have the softer fiber that's absorbing that energy, and it's dissipating any impacts that could occur on the beach. So that's really the intent of the hybrid." O'Connell agreed, stating that the design is intended to "totally minimize any wave adverse impacts from hitting the structure."

Even though fiber rolls anchored on top of the revetment will dissipate some of the incident wave energy, nearshore waves and currents will cause scour in front of and along the edges of the structure during times of higher water (e.g. storms). We agree that the fiber coir logs of this innovative design will likely succeed under conditions when incident wave energy is low. In a high energy, storm event, reflected and refracted waves 1) will not be fully dissipated by the fiber logs, 2) will mobilize sediment adjacent to the structure by scouring sediment from the toe and edges of the structure, and 3) will drive nearshore currents that will transport that sediment away from the toe and edges of the structure.

Permanent Adverse Impact: Retreat of Adjacent Coastal Banks

Corresponding to the increase in scour at the toe and edges of this hard engineering structure (even with the addition of a "softer" cover of fiber logs) will be an increase in the rate of retreat of the adjacent, unprotected Coastal Banks. This structure will redirect the forces that are eroding this stretch of coast to adjacent areas. If 63' of landward erosion is expected to occur in 13.3 years at the top of the bluff crest on the Blasch property (24 years when using the long term erosion rate), the properties adjacent to the "rock revetment/fiber roll hybrid" coastal engineering structure will continue to erode. This retreat of the adjacent Coastal Banks, at an accelerated rate, may compromise the integrity of the "rock revetment/fiber roll hybrid" coastal engineering structure and require additional length of coastal engineering to protect the north and south sides of the Blasch property. Retreat of the Coastal Banks adjacent to the Blasch property due to coastal erosion would be a permanent adverse impact to the coastal ecosystem. Accelerated erosion of Coastal Banks on neighboring properties (private, town, and National Park Service) is an impact that cannot be mitigated; these are landforms that cannot be rebuilt.

Permanent Adverse Impact: Creation of a shoreline promontory

Over time, shoreline engineering along a coast of unconsolidated sediments will create an armored Coastal Bank that protrudes beyond the adjacent shorelines. At this point, a promontory will form on the coastline. This promontory will affect coastal processes and nearshore sediment transport. The impacts on sediment transport will be much greater if the revetment protrudes an additional 63' into the ocean relative to the surrounding coastline (see above section) that has continued to erode landward at the suggested rate.

Permanent Adverse Impact: Erosion of Adjacent Coastal Beach

This structure will 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." The "rock revetment/fiber roll hybrid" coastal engineering structure will protect the upland area held by the property owner to the detriment of adjacent lands. By limiting the exchange of the Coastal Bank sediments restricted behind the structure with the adjacent Coastal Beach and nearshore habitat an adverse impact will occur to the sediment budget of Cape Cod National Seashore. The beaches will be lower in elevation as the reflected wave energy scours the adjacent beach.

Permanent Adverse Impact: Cumulative Impacts of Beach Nourishment and Maintenance

> *"The project includes 935 of annual sand nourishment to compensate for the proposed revetment/fiber roll hybrid design on the eroding Coastal Bank." "(241' project length) x (40' height of the Coastal Bank) x (-2.62'/yr CZM long-term, average, annual erosion rate) = 935cy/yr."* (Appendix C. Pg 12. Compensatory Sand Nourishment Volume)

While the more recent rate of erosion along the top of the Coastal Bank between 2006 and 2018 (-4.75'/yr) was used to justify not-relocating the dwelling, the long term CZM rate (-2.62ft'/yr) was used to determine how much sediment will be needed for nourishment. "The proposed annual replenishment of 928 cubic yards is sufficient to reproduce naturally occurring sediment transfer from wind, storm, and wave energy at the Property and surrounding area." Even if this sediment volume is introduced each year, it does not fully mitigate the impacts of Coastal Bank erosion and retreat. As stated above, loss of the Coastal Banks landform cannot be mitigated even if the volume of sediment is replaced. Any potential mitigation for impacts to adjacent protected lands will be minimally effective and will have additional cumulative biological impacts. Annual beach nourishment will add further burden the natural resources (e.g.-beach infauna) to repeatedly recover from the impacts of beach nourishment. In addition, the project design success is dependent upon on maintenance of the fiber tubes, vegetation, and nourishment levels. The frequent maintenance will repeatedly disturb the site.

Permanent Adverse Impact: Increased Marine Debris

Installation of the fiber rolls includes the following materials (Wilkison Ecological Design Work Protocols for Fiber Roll Installation, 2018) that may be dispersed to the adjacent coastal and marine environment when the structure is damaged: revetment stones, fiber rolls, stainless steel eye bolts, quarter inch galvanized steel aircraft cable, erosion control blankets, and components for the irrigation system. Demise of components of the structure and the corresponding detritus will contribute to marine debris.

Permanent Adverse Impact: The First (of Many) Coastal Engineering Structure(s)

The "rock revetment/fiber roll hybrid" coastal engineering structure would be the first of its kind along the coast of Cape Cod National Seashore, and it would have major adverse impacts on adjacent and nearby Coastal Beaches, Coastal Banks, and nearshore habitat areas as described above. As stated by Dave Porter (June 2019 letter to NPS) this type of project cannot be done in isolation and would likely lead to additional coastal engineering structures to protect adjacent properties.

Permanent Adverse Impact: Reduced Ability to Adapt to Climate Change

The coastal processes (waves, currents, wind, coastal erosion, etc.) affecting this property are well known and documented. This pattern of coastal sediment transport and Coastal Bank retreat will continue along the coast of Cape Cod Bay; the need for retreat from this Coastal Bank will only worsen with time. The site plans to construct a "rock revetment/fiber roll hybrid" coastal engineering structure do not factor in climate change adaptation; this property will be subject to sea level rise exacerbation of storm events. Introducing a hard structure to the system will reduce the resilience of the overall coastal ecosystem.

Intermittent Adverse Impact: Beach Access along Cape Cod National Seashore

Beach access across Cape Cod National Seashore may be impeded throughout the design life of the structure. While "there is also enough space between the mean high water elevation and the proposed system for foot traffic along the coastal beach" (Appendix G. CZM Compliance Certification Narrative (04/30/2019). Ports and Harbors Policy #4), once the surrounding coastline recedes relative to the project area, there will be an impact to beach access to Cape Cod National Seashore. The project proponent further asserts that "The project will have no affect to public access to coastal recreation facilities. The project is located along the Cape Cod

National Seashore. Access along the beach will remain unchanged, as the proposed system is landward of the water's edge." (Appendix G. CZM Compliance Certification Narrative (04/30/2019). Public Access #2). The NPS disagrees with this statement; erosion of the beach adjacent to the structure will have an adverse impact to beach access along Cape Cod National Seashore. This restriction of beach access will be most acute at high tide and during storms. This restriction of access will affect emergency response and resource-related patrols of the national seashore in addition to public access.

Potential Adverse Impact: Breach of Barrier Dunes Fronting "The Gut"
The Gut, downdrift of the proposal is a barrier dune that is a critical feature for Wellfleet and Cape Cod National Seashore because of its role in the tidal circulation of Wellfleet Bay and the Herring River (including nearby shellfish grants). Any attempt to harden the Coastal Bank at the Blasch property would alter sediment transport to the natural beach and dune to the south. Once lost, these barrier dunes are irreplaceable coastal landforms that provide significant protection to the resources behind the barrier bluff dunes in the Gut and protect important shellfish and other resources. There would be an increased likelihood of a breach- especially during a larger storm event following erosion downdrift of a constructed revetment.

In summary, there is no unpredicted coastal process that has created emergency conditions. No new information was provided as a result of this ENF filing that has changed the opinion of the NPS that there will be major and significant adverse impacts on surrounding lands and waters including those managed by the NPS; this review has reaffirmed the NPS opposition to the "rock revetment/fiber roll hybrid" coastal engineering structure.

Sincerely,

Rebecca Beavers, Ph.D.
Coastal Geologist and Coastal Adaptation Coordinator
National Park Service

CHILDS ENGINEERING CORPORATION
34 WILLIAM WAY, BELLINGHAM, MA 02019 (508) 966-9092 FAX (508) 966-9096

June 6, 2019

Superintendent Brian T. Carlstrom
National Park Service
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667

Re: Preliminary Findings - Review of MEPA ENF for Proposed Alterations to Coastal Bank and Beach at 1440 Chequessett Neck Road, Wellfleet, Massachusetts

Dear Superintendent Carlstrom,

As requested, I have reviewed the ENF and your prior correspondence with the Wellfleet Conservation Commission. My experience with structural solutions which attempt to alter the natural processes of coast banks is that they may have short term success but in the long term will fail. In the short term the proposed rip rap toe stabilization will create a change in the wave reflection/refraction along the proposed 241' bank modification. This change in response will alter the near shore sand movement along the beach. In my experience this near shore current change will result in an acceleration and will cause scour one side of the proposed structure. This scour will increase the rate of retreat of the coastal bank. This increased loss of bank will require the proponent to continue the rip rap stabilization in the scour zone which will result in a change in the reflection/refraction introducing "new" scour zone and rate.

I support your concerns and findings outlined in your letters of October 3,2018 and December 3, 2018. It is my opinion that stabilizing the coastal bank will be an ongoing task and will be needed along the entire coast over time. In conclusion I believe the protection of these coastal resources are well founded. Although the applicant is describing the action as localized, limited and minimal the long-term impacts will be far reaching and significant.

I will continue to review the documentation and will provide additional comments if I find warranted.

If you have any questions or require additional information, please contact the undersigned.

Respectfully submitted,

David L. Porter, P.E.
Childs Engineering Corporation

Energy & Environmental Affairs
# Public Comments Portal

erin.flaherty@mass.gov

# View Comment

## Comment Details

| EEA #/MEPA ID* | First Name | Address Line 1 | Organization |
|---|---|---|---|
| 16037 | Lauren | 99 Marconi Site Road, Wellfleet, MA | Cape Cod National Seashore |
| **Comments Submit Date** | **Last Name** | **Address Line 2** | **Affiliation Description** |
| 6-12-2019 | McKean | 99 Marconi Site Road, Wellfleet, MA | -- |
| **Review Due By** | **Phone** | **State** | **Status** |
| 7-12-2019 | -- | MASSACHUSETTS | Accepted |
| **Reviewer** | **Email** | **Zip Code** | |
| Erin Flaherty (617) 626- 1128 | lauren_mckean@nps.gov | 02667 | |

## Comments

**Topic**: Attachment letters referred to in Superintendent's correspondence of June 11, 2019

**Federal agency See December 3, 2018 letter and October 3, 2019 letter to Wellfleet Conservation Commission**

## Attachments

1449 Chequessett Neck Road Letter 20181204.pdf

10-3-18 Blasch-Haglund cur proposal letter.pdf

## Update Status

**Status**

Accepted

## Share Comment

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# United States Department of the Interior

NATIONAL PARK SERVICE
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667

IN REPLY REFER TO:
L30 Tract #26-4614

December 3, 2018

Wellfleet Conservation Commission
220 W. Main Street
Wellfleet, MA 02667

Dear Commissioners:

We are writing for a second time concerning the Notice of Intent (NOI) under the Massachusetts Wetlands Protection Act (MWPA) and Wellfleet Environmental Protection Regulations (WEPR) for land property at 1440 Chequessett Neck Road known as Tract 26-4614 in Wellfleet. We continue to oppose this NOI for the reasons outlined in this letter and in our previous letter dated October 3, 2018 (attached for reference).

Cape Cod National Seashore, a unit of the National Park Service (NPS), was established by Congress in 1961 "in order that the seashore shall be permanently preserved" (Public Law 87-126). The legislation authorizing the National Seashore prohibits the NPS from any development which would be incompatible with the preservation of the seashore's natural physiographic conditions; we use this legislative direction when evaluating private development proposals within the boundary.

The proposed project would be undertaken on privately owned land within the legislated boundary of the National Seashore. The applicant proposes to use heavy equipment on the coastal beach to install a Revetment/Fiber Roll Hybrid coastal engineering structure with a bottom elevation of 2.7 feet. This would permanently alter a minimum of 241 linear feet of coastal bank with 5-6 ton toe stones, 2-4 ton armor stones, a 6 to 9 inch layer of 6" crushed bedding stone, a layer of 1-2 feet secondary stones, 900 gram coir mat and a 13 row high 20" diameter reinforced fiber roll lift anchored with heavy duty climbing bolts, a substantial blanketed native plant restoration area and 275 cubic yards of sand along with annual sand nourishment deposition. We are very concerned that this project will adversely affect seashore coastal beach, nearby marine and coastal resources, and the visitor experience.

We continue to disagree with the Hoeland/Blasch's consultant team of civil and structural engineers, and coastal geologist, which is also downplayed by the team's ecological designer.

Our analyses conclude that significant adverse impacts will occur to the stability of the coastal bank; thus we object to approval of the proposed NOI. Furthermore, it is our opinion that the NOI and associated 9/4/2018 plan "Showing Proposed Shorefront Protection" have not demonstrated consistency with MWPA and WEPR, nor do the latest 11/9/18 submissions.

Our specific concerns are enumerated below:

1) The project engineering and restoration drawings presented are inadequate; they include only one A-A section. This renders this information insufficient to ascertain variation in mean high water and at intervals from one end of the proposal to the other. It also entirely excludes unmapped and/or unnamed resource areas necessary for appropriate consideration of the proposed project. Specifically, the Area of Critical Environmental Concern, coastal beach, and land subject to coastal storm flowage are not delineated. We further find that these drawings oversimplify the extent of construction activity, having the effect of obscuring important impacts.

2) We find additional issues with the discussion of project impacts. While potential impacts are woven through the documents, they are not clearly and explicitly identified with appropriate clarity. The Coastal Geologist report dismisses impacts that we have reason to predict may indeed occur. We are very concerned about the loss of natural sediment supply and "end scour" effect on the Gut and Great Island, which includes substantial NPS land to the south of the town landing, and also to the north along Cape Cod Bay in this important nodal zone.

We have based our concerns on compelling coastal science. This house is located within a few hundred meters of the most important sediment source site (the "node") for the whole outer Cape Cod Bay shoreline. This site, on the Griffin Island shoreline, contributes the maximum amount of sediment both northward and southward, maintaining the landform of the Gut and moderating the erosion rate for all the properties to the north. There would be a major to significant impact on onshore/offshore sediment transport with the introduction of a fortified structure that changes natural beach and bluff response to wave action.

3) Methods that have been deemed "soft" interventions in the sediment transport system in past Massachusetts Department of Environmental Protection (MA DEP) decisions (presumably because they are not "long-term-permanent") still result in significant impacts in both the short and long term. Their very purpose is to capture and arrest the movement of intertidal sand -- which is the "lifeblood" of shoreline dynamics and coastal equilibrium. Coastal engineering structures, or "hard" interventions, only exacerbate these conditions and further impose unintended consequences.

4) A layered sand or drift fence alternative coupled with the stabilized bank blanketing and native plantings aspect of the proposal would be better suited for this location as an alternative proposal. These measures are superior because they would work to capture windblown sand but would not be expected to interfere with littoral sand movement and stabilizing natural bank slopes. We believe there is a lack of discussion related to sand or snow fence, drift or serpentine fence, and layered fence options, which are preferable and less impactful approaches. We find

that the alternative analysis was very cursory; fence protection methods that should have been fully evaluated were not included in the document.

5) MWPA 310 CMR 10.30 (6) is clear that "Any project on such a coastal bank or within 100 feet landward of the top of such coastal bank shall have no adverse effects on the stability of the coastal bank." We have concerns about the steep grade of the bank in this location. The coir project examples supplied by the consultants in other locations may not be representative enough to be relevant to this proposal because of this difference in the bank grade and elevation. We predict substantial damage will occur to the natural coastal bank due to heavy equipment use of an excavator and front end loader on the beach and bank, and installation of massive stones and coir logs over an extensive area of the bank.

The FEMA V-zone up to 17 foot elevation comprises a substantial portion of this coastal bank, which varies from about 34 to 47 foot elevation. This is a significant coastal bank for storm damage prevention and flood control because it supplies sediment to coastal beaches, acts as a vertical buffer to storm surges, and provides stability and natural resistance to erosion. We have not seen an impact analysis that sufficiently supports a no significant adverse impact on adjacent or nearby coastal beaches, coastal banks, coastal dunes, salt marsh, land containing shellfish or other seaward wetland resource areas as required by the MWPA.

The Revetment/Fiber Roll Hybrid array would cover more than 5,000 square feet of surface area from the toe and up the face of the bank. This represents a significant unknown cubic footage of disturbance of the coastal bank. The proposal would be a highly invasive and only temporary fix.

The coastal bank structure will require routine cyclic repair; there will be a seemingly endless scour effect and artificial protrusion created by either the revetment/coir system or coir log proposals.

6) Further, the Revetment/Coir project has an unreported quantity of toe stones, armor stones, crushed bedding stone, secondary stones, coir mats and heavy duty climbing bolts proposed to be installed horizontally into the bank.

Under the Reinforced Fiber Roll Lift and Fiber Rolls array alternative, coir rolls would cover approximately 3,600 square feet of surface area from the toe and up the face of the bank. Earth anchors with 42" long quarter inch cables, soil lifts of coir netting and mesh installed horizontally into the bank are proposed; galvanized steel aircraft cables are proposed to be installed on a 2-1/2' center along the face of the array, translating to hundreds of cables.

Any project in such a location must plan for eventual failure of the system and likelihood of materials migrating to park property and the marine environment causing potential adverse impacts to protected species, wildlife and public safety. All materials associated with a project, not just revetment stones, would require labelling for retrieval by the applicant in perpetuity, including coir mats, coir logs, climbing bolts and stair parts, or anchors, netting, cables, etc.

7) The question has already been raised by others concerning Army Corps of Engineers Clean Water Act Section 404 permitting. Further, MA DEP Waterways Chapter 91 permitting is

applicable as the footprint of the project extends seaward of the reach of the highest high tide of the year.

8) While many storm tides and surges occur here, mean high water extends to elevation 4.2 feet. Average high tide extends to 6.7 feet. The Shorefront Protection Plan section A-A shows the revetment stones and coir being installed to the 2.7 foot elevation, so the beach would have to be excavated below that to install the massive stones, rolls, anchors soil lifts causing below toe of bank disturbance such as we see other examples provided by the applicants on much less steep banks. Therefore, this project would involve construction work below the mean high water line to set the revetment toe stones. Even Reinforced Fiber Roll Lift and Fiber Rolls section show the coir going down to just about 4.2 feet, so the beach would have to be excavated below that to install the rolls, anchors, and lifts causing below toe of bank disturbance such as we see other examples provided by the applicants on much less steep banks.

NPS regulations prohibit construction of any structure or other facilities "upon, across, over, through or under any park areas, except in accordance with the provisions of a valid permit, contract, or other written agreement with the United States." 36 C.F.R. § 5.7. This prohibition applies to construction that occurs within waters within the National Seashore's boundaries and below the mean high water line regardless of ownership. 36 C.F.R. § 1.2(a)(3).

(In addition, to the extent the proposed construction involves the operation of a motor vehicle within waters within the National Seashore's boundaries and below the mean high water line, such activity would be banned. 36 C.F.R. §§ 1.2(a)(3), 4.10.)

In summary, we oppose the proposed project. This proposal is not responsive to unpredicted coastal processes creating emergency conditions, and retreat from the coastal bluff is a viable alternative. We continue to urge the Commission to request evaluation of more appropriate alternatives by the applicant, such as a layered sand fence or drift fence with natural bank stabilization measures or relocation of the house. Thank you for your consideration of these comments.

Sincerely,

Brian T. Carlstrom
Superintendent

Attachment

cc:
Wellfleet Conservation Agent
MA DEP Wetlands Division
MA DEP Waterways Division
US Army Corps of Engineers, Massachusetts office

# United States Department of the Interior

**NATIONAL PARK SERVICE**
**Cape Cod National Seashore**
**99 Marconi Site Road**
**Wellfleet, MA 02667**

**IN REPLY REFER TO:**
L30 Tract #26-461

October 3, 2018

Wellfleet Conservation Commission
220 W. Main Street
Wellfleet, MA 02667

Dear Commissioners:

We are writing concerning the Notice of Intent (NOI) under the MA Wetlands Protection Act (MWPA) and Wellfleet Environmental Bylaws (WEB) for land known as Tract 26-4614 in Wellfleet submitted for the Hoeland Trust property at 1440 Chequessett Neck Road. For the reasons set forth below, NPS does not support the NOI, disagrees with the consultants' findings, and objects to its approval; an alternative proposal would be better suited for this location.

In reaching this conclusion, we find that:

- The project would be the first of its kind along the coast of the national seashore and it would have major adverse impact on adjacent and nearby coastal beaches, coastal banks, and coastal habitat areas.
- The Gut, downdrift of the proposal is a barrier dune that is a critical feature for the town and the seashore because of its role in the tidal circulation of Wellfleet Bay and the Herring River (including nearby shellfish grants). Any attempt to harden the bluff would hinder sediment flow to the natural dune to the south.
- Any potential mitigation for impacts to adjacent protected lands would likely be ineffective.
- Intervention in long-term coastal processes is a step toward long-term artificial management of natural coast.
- The applicant has not supplied sufficient alternative analysis of the project required by the MWPA and WEB as it does not explore other non-structural alternatives that are environmentally less invasive than 9 cabled, coir fiber rolls installed by cranes that would first excavate the beach for their placement.
- Extensive biodegradable erosion control blankets and vegetation would be a first level alternative.
- The next level would be to consider sand or drift fencing as has been permitted in a few instances, though not yet within the national seashore boundary.

- Although a coir project is considered by the state to be a non-structural coastal erosion solution, it is a heavily-engineered construction with extensive beach and bank displacement and alteration.
- Coir projects have been known to fail dramatically during storm events in a velocity zone.
- The building of the proposed fiber roll reinforced lift project would not be a one-time event because the area would be repeatedly subjected to coastal erosion, and there would be a recurrent need of extensive alteration of the coastal bank to repair and replace it.
- This location within a substantial portion of the FEMA V-zone is a significant coastal bank to storm damage prevention and flood control because it supplies sediment to coastal beaches and acts as a vertical buffer to storm surges, the stability of the bank and the natural resistance of the bank to erosion, protected by the Wellfleet Environmental Bylaw (see attachment).
- The ecosystem services and importance of preserving coastal bank in preventing storm damage, controlling erosion and supplying sediment to coastal beaches are all factors the park takes into consideration when evaluating MWPA performance standards and the Wellfleet Environmental Bylaws, and the construction of the proposed coir log coastal engineering/erosion feature would compromise these ecosystem services.

Please request more robust exploration of alternatives by the applicant. Thank you for your consideration of these comments.

Sincerely,

Brian T. Carlstrom
Superintendent

Attachment

cc:
Wellfleet Conservation Agent

## Czepiga, Page (EEA)

**Subject:** ANG Camp Edwards
**Entry Type:** Phone call
**Company:** Army National Guard ANG

**Start:** Mon 7/8/2019 2:23 PM
**End:** Mon 7/8/2019 2:45 PM
**Duration:** 22 minutes

**Keith Driscoll ANG**
339-202-3980

EEA #5834 → Camp Edwards; 23,000 acres

*Site has clean up history and SRP established with reduced MEPA thresholds

*Project next FY year will require MEPA review → construction of a new firing range (multi-purpose machine gun range) which will involve clearing 90 acres of priority habitat

*Have meeting with NHESP on 7/18 (Dave Paulson, Chris Buelow → Sr. Restoration Ecologist, Karen Caljouw)

*Working with NHESP to mitigate, including mitigation for this project and future projects.

*Have walkthrough of site w/ NHESP next Thursday.

*Creating mitigation bank for use now and in the future.

*Turning over 130 acres to DFW for mitigation.

*Doing CMP with NHESP → will reference future activities, majority of document for MPMG. No funding for other future activities.

→ Should next filing for the new firing range and creation of mitigation bank be an ENF or NPC to original filing?

# *NATURAL RESOURCES ADVISORY BOARD*

Town of Wellfleet, MA
300 Main Street
Wellfleet, MA, 02667

Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act Office
100 Cambridge Street, Suite 900
Boston, MA 02114

June 10 2019

Attn: Erin Flaherty

Ref: EEA 160.37, 1440 Chequessett Neck Road, Wellfleet

Dear Ms. Flaherty:

The Natural Resources Advisory Board (NRAB) of the Town of Wellfleet strongly supports the action of the Town Conservation Commission to deny the Notice of Intent (NOI) for a rock revetment and other actions at 1440 Chequessett Neck Road.

NRAB was established in 1995 to identify natural resources in the Town and to recommend appropriate preservation actions. Since that time, NRAB has published two Harbor Management Plans, with recommendations to preserve harbor natural resources. NRAB also led an initiative to establish an Area of Critical Environmental Concern (ACEC) for Wellfleet Harbor. Importantly, the Wellfleet ACEC includes all of the lands relevant to the proposed project: adjacent waters, beaches, dunes and salt marshes.

We are specifically concerned by the following points:

> rock revetments can lead to significant scouring erosion at each end of the revetment; this creates a risk to the existing thin natural dunes which are an integral part of the total environment and lie within the ACEC;

> no attempt has been made to investigate or model the extent of scouring or its consequences; there is thus no way to test if the proposed remedies would be sufficient to compensate for any damage;

> at the time of the 2010 reconstruction of the dwelling at 1440 Chequessatt Neck Road, the decision was taken to build at the existing footprint rather than further inland; a risk was thereby established; we object that this risk is now transferred to the surrounding natural resources, some of which are Town owned;

For these reasons, we urge MEPA to support Wellfleet's Conservation Commission in denying the referenced NOI.

Sincerely,

*John Riehl*

John Riehl – Chair, NRAB

| | |
|---|---|
| **From:** | Nick Picariello |
| **To:** | Flaherty, Erin (EEA) |
| **Cc:** | Hillary.Lemos@wellfleet-ma.gov |
| **Subject:** | 1400 Chequessett Neck Rd. |
| **Date:** | Tuesday, June 11, 2019 3:44:51 PM |

I am writing as a Wellfleet citizen in support of the Wellfleet Conservation Commission's decision to deny a permit to install a rock revetment fiber roll structure at the shoreline of 1440 Chequessett Neck Road in Wellfleet.

During the months of November, December, and January there is a major stranding of cold stunned Kemp Ridley, Loggerhead, and Green sea turtles (all federally listed species)along the Cape Cod bay coastline that includes that property. I, and many other volunteers, participate in the Wellfleet Bay Wildlife Sanctuary's program to rescue these sea turtles. We have walked that coastline 1-2 times per day at high tide to search for these turtles in the rack line for years.

One consequence of the proposed project is the inevitable loss of the high tide beach.

I envision these cold stunned turtles once again being pushed in by the high seas and wave action that are quite dramatic that time of year but now being fatally bashed against this rock structure eliminating any chance of rescue .
That should not be allowed to happen.

I also have concerns for the nearby Herring River(a river Massachusetts has dedicated funding to restore)and its shellfish industry and the alteration to sediment movement south of the project with fear of sea water overwash into the river.

I hope MEPA will adhere to its mission and take all measures to avoid damage to the environment, specifically, the Cape Cod Bay coastline and our National Seashore.

Sincerely

Nick Picariello M.D.

Sent from my iPad

Energy & Environmental Affairs
# Public Comments Portal

erin.flaherty@mass.gov

# View Comment

## Comment Details

| EEA #/MEPA ID* | First Name | Address Line 1 | Organization |
|---|---|---|---|
| 16037 | Amy | -- | NHESP/MassWildlife |
| **Comments Submit Date** | **Last Name** | **Address Line 2** | **Affiliation Description** |
| 7-1-2019 | Hoenig | -- | -- |
| **Review Due By** | **Phone** | **State** | **Status** |
| 7-5-2019 | -- | -- | Opened |
| **Reviewer** | **Email** | **Zip Code** | |
| Erin Flaherty (617) 626- 1128 | Amy.Hoenig@mass.gov | -- | |

## Comments

Topic: EEA NO. 16037, Wellfleet Shorefront Protection

Dear Ms. Flaherty, The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife (Division) received and reviewed the Environmental Notification Form (ENF; dated April 30, 2019) and Supplemental Report (dated June 18, 2019) for the proposed Shorefront Protection System submitted on behalf of Mr. James Halleck Hoeland at 1440 Chequessett Neck Road, Wellfleet, MA The Division previously received a streamlined Notice of Intent and Massachusetts Endangered Species Act (MESA) Application for review pursuant to the rare species provisions of the Wetlands Protection Act and the MESA. On December 5, 2018, in response to that application, the Division issued the determination attached hereto; also included as Appendix I to the ENF. The Division has reviewed the information contained in the ENF and the Supplemental Information including a revised annual nourishment calculation (1107 cubic yards) and has no additional comments or concerns relative to state-listed species at this time. Please do not hesitate to call or email if questions arise. Sincerely, Amy Hoenig

## Attachments

Wellfleet_07-23599_12052018.pdf

## Update Status

Status

Opened

## Share Comment

BACK TO SEARCH RESULTS

MASSWILDLIFE

DIVISION OF
**FISHERIES & WILDLIFE**

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

December 5, 2018

Wellfleet Conservation Commission
220 West Main Street
Wellfleet MA 02667

James Halleck Hoeland
The Family Trust of Mark Blasch
55 Maher Lane
Newton PA 18940

RE:

| | |
|---|---|
| Applicant: | James Halleck Hoeland |
| Project Location: | 1440 Chequessett Neck Road |
| Project Description: | Hybrid Stone Revetment & Coir System for Coastal Bank Stabilization |
| DEP Wetlands File No.: | 077-1495 |
| **NHESP File No.:** | **07-23599** |

Dear Commissioners & Applicant:

On November 15, 2018 the Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received supplemental information (under cover dated 11/13/2018) including site plans prepared by Coastal Engineering Co., Inc. (dated 11/9/2018) for review with a Notice of Intent submitted in compliance with the rare wildlife species section of the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.37). The Division also received the MESA Review Checklist and supporting documentation for review pursuant to the MA Endangered Species Act Regulations (321 CMR 10.18).

The Division has determined that the proposed project is located within the actual habitat of Piping Plover (*Charadrius melodus*) a species state-listed as Threatened in accordance with 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 Threatened 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.

**WETLANDS PROTECTION ACT (WPA) & MASSACHUSETTS ENDANGERED SPECIES ACT (MESA)**

Based on the information provided and the information contained in our database, it is the opinion of the Division that a portion of this project, as currently proposed, **must be conditioned in order to avoid adverse effects** to the Resource Area Habitats of state-listed wildlife species (310 CMR 10.37) and **must**

**be conditioned in order to avoid a prohibited Take** of state-listed species (321 CMR 10.18(2)(a)). The following conditions must be met to protect state-listed species and their habitats:

1. **Limit of Work**. All Work, including access and staging, shall occur within the Limit of Work and the hybrid revetment coir system shall be limited to the ±241 foot section of Coastal Bank depicted on the "Plan Showing Proposed Shorefront Protection" (dated 11/9/2018). Any changes to the proposed Work or any additional work beyond that shown on the Plan shall require additional review and written approval from the Division. Routine nourishment and minor maintenance, as described in the filing is approved by this determination. Major reconstruction of the stone revetment requires consultation with the Division.

2. **Work Timing**.
    a. All work associated with the stone revetment and coir system including maintenance is prohibited during the period **April 1 – August 31**, to protect breeding shorebird species.
    b. All equipment and construction materials, including staging, are prohibited from the beach during the period **April 1 – August 31**.

3. **Nourishment**. Immediately upon installation completion of the hybrid revetment and coir stabilization, an initial deposition of 275 cubic yards of compatible sand shall be distributed overtop the hybrid system.
    a. After initial deposition (275 CY), compatible sand nourishment shall be maintained over the system to a depth of 4-6 inches, provided the coir system remains intact.
    b. The applicant is responsible for 1,338 CY of compatible sand nourishment if the coir system is abandoned or removed, naturally or otherwise, and not reconstructed. Prior to manual removal or within 30 days of the loss of the system (if storm related), the applicant shall submit a proposed nourishment schedule to the Division; the applicant must obtain written approval of the nourishment schedule. The Division will require that within 10 days of the completion of the nourishment (or each phase of nourishment if carried out in phases) the applicant shall provide the Division with delivery slips or invoices documenting the volume of sand used for nourishment.
    c. If the applicant proposes to maintain a system that retains a portion of the coir system, then, prior to maintenance, the applicant shall submit a plan to the Division for the purpose of establishing an appropriate nourishment volume and schedule. Said plan must receive written approval by the Division.
    d. All nourishment must avoid the shorebird nesting period; therefore, sand shall not be deposited during April 1 – August 31, unless otherwise approved in writing by the Division.

5. **System Installation**. If additional Coastal Bank erosion occurs prior to the start of work, then similarly, the hybrid revetment system should be constructed landward to account for the loss of Coastal Bank. Constructing the revetment as close to the toe/bottom of the Coastal Bank, existing at the time of construction and thence landward, should serve to reduce impacts on the Coastal Beach.

6. **State-listed Species Protection**. The applicant has the responsibility of protecting breeding Piping Plovers and state-listed species of terns that may be on this section of beach. Therefore, the applicant must allow regular monitoring for the presence of Piping Plovers and terns by a qualified shorebird monitor, as determined by the Division, during the period April 1 – August 31 and shall allow any nests, scrapes, or unfledged chicks to be protected with symbolic fencing (warning signs and twine fencing).

7. **Compliance Report**: Within thirty (30) days of completion of work, the Applicant shall submit as-built site plans and a brief written report including photographs showing final constructed conditions with particular emphasis on demonstrating compliance with the Conditions herein.
8. **Authorization Duration**. This authorization is valid for 5 years from the date of issuance. Work may be completed at any time during this 5-year period in compliance with the conditions herein. Thereafter, the applicant shall re-file under the MESA.
9. **Notice**. Upon filing for renewal, extension, or amendment of the Orders of Conditions, the applicant shall contact the Division for written response regarding impacts to Resource Area habitat of state-listed wildlife.

Provided these conditions are included in any approving Orders of Conditions issued by the Conservation Commission, and the applicant complies with all the above noted conditions, the project will not result in an adverse impact to the resource area habitats of state-listed wildlife species pursuant to the WPA and will not result in a prohibited Take pursuant to the MESA. A copy of the final Order of Conditions shall be sent to the NHESP simultaneously with the applicant as stated in the Procedures section of the WPA (310 CMR 10.05(6)(e)).

We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This determination is valid for five years. This project may be subject to further review if no physical work is commenced within five years from the date of issuance, or if there is a change to the project.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions regarding this letter please contact Amy Hoenig, Endangered Species Review Biologist, at (508) 389-6364.

Sincerely,

Thomas W. French

Thomas W. French, Ph.D.
Assistant Director

cc: MA DEP Southeast Region
Jason Norton, Coastal Engineering Co., Inc.
Seth Wilkinson, Wilkinson Ecological Design, Inc.