Commonwealth of Massachusetts
Executive Office of Environmental Affairs MEPA Office

ENF Environmental Notification Form

For Office Use Only
Executive Office of Environmental Affairs
EOEA No.: 13469
MEPA Analyst: BRIONY ANGUS
Phone: 617-626-1029

The information requested on this form must be completed to begin MEPA Review in accordance with the provisions of the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: Repair and stabilization of a coastal bank		
Street: 46 Nameloc Road		
Municipality: Plymouth	Watershed: Buzzards Bay	
Universal Tranverse Mercator Coordinates:	Latitude: 41.915878 Longitude: 70.548683	
Estimated commencement date: May 23, 2005	Estimated completion date: May 28, 2005	
Approximate cost: $25,000	Status of project design: 100 %complete	
Proponent: Anthony G. & Jessica M. Boseri, Jr.		
Street: 46 Nameloc Road		
Municipality: Plymouth	State: MA	Zip Code: 02360
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Peter T. Klenert		
Firm/Agency: Earth Stabilizing Technology, Inc	Street: 82 Salt Marsh Road	
Municipality: East Sandwich	State: MA	Zip Code: 02537
Phone: 508 / 888 - 6292	Fax: 508 / 833 - 9180	E-mail: pklenert@msn.com

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)? ☐Yes ☒No

Has this project been filed with MEPA before? ☐Yes (EOEA No._____) ☒No

Has any project on this site been filed with MEPA before? ☐Yes (EOEA No._____) ☒No

Is this an Expanded ENF (see 301 CMR 11.05(7)) requesting:

a Single EIR? (see 301 CMR 11.06(8))	☐Yes	☒No
a Special Review Procedure? (see 301CMR 11.09)	☐Yes	☒No
a Waiver of mandatory EIR? (see 301 CMR 11.11)	☐Yes	☒No
a Phase I Waiver? (see 301 CMR 11.11)	☐Yes	☒No

Identify any financial assistance or land transfer from an agency of the Commonwealth, including the agency name and the amount of funding or land area (in acres):_____

Are you requesting coordinated review with any other federal, state, regional, or local agency? ☒Yes(Specify Plymouth Conservation Commission) ☐No

List Local or Federal Permits and Approvals: Order of Conditions: Unanimous approval 18 NOV 04
See WPA Form 5 - Order of Conditions # SE: 67-2034, Plymouth File No. 04-80 herewith attached.

Which ENF or EIR review threshold(s) does the project meet or exceed (see 301 CMR 11.03):

- ☐ Land
- ☐ Water
- ☐ Energy
- ☐ ACEC
- ☐ Rare Species
- ☐ Wastewater
- ☐ Air
- ☐ Regulations
- ☒ Wetlands, Waterways, & Tidelands
- ☐ Transportation
- ☐ Solid & Hazardous Waste
- ☐ Historical & Archaeological Resources

Summary of Project Size & Environmental Impacts	Existing	Change	Total
LAND			
Total site acreage	0.83 Ac.		
New acres of land altered		None	
Acres of impervious area			
Square feet of new bordering vegetated wetlands alteration		None	
Square feet of new other wetland alteration		None	
Acres of new non-water dependent use of tidelands or waterways		None	
STRUCTURES			
Gross square footage	2,080 s.f.		
Number of housing units	One		
Maximum height (in feet)	28		
TRANSPORTATION			
Vehicle trips per day	n/a		
Parking spaces	n/a		
WATER/WASTEWATER			
Gallons/day (GPD) of water use	n/a		
GPD water withdrawal	n/a		
GPD wastewater generation/ treatment	n/a		
Length of water/sewer mains (in miles)	n/a		

State Permits & Approvals

- ☐ Order of Conditions
- ☐ Superseding Order of Conditions
- ☐ Chapter 91 License
- ☐ 401 Water Quality Certification
- ☐ MHD or MDC Access Permit
- ☐ Water Management Act Permit
- ☐ New Source Approval
- ☐ DEP or MWRA Sewer Connection/ Extension Permit
- ☒ Other Permits (*including Legislative Approvals*) – Specify:

Original Order of Conditions as Approved by the Town of Plymouth on 15 NOV 04.

ee attached copy of
rder of Conditions
SE-57-2034
Plymouth File No.
PCC-04-56

CONSERVATION LAND: Will the project involve the conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97?

☐ Yes (Specify_____) ☒ No

Will it involve the release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction?

☐ Yes (Specify_____) ☒ No

RARE SPECIES: Does the project site include Estimated Habitat of Rare Species, Vernal Pools, Priority Sites of Rare Species, or Exemplary Natural Communities?

☐ Yes (Specify_____) ☒ No

HISTORICAL /ARCHAEOLOGICAL RESOURCES: Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?

☐Yes (Specify_____) ☒No

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources?

☐Yes (Specify_____) ☒No

AREAS OF CRITICAL ENVIRONMENTAL CONCERN: Is the project in or adjacent to an Area of Critical Environmental Concern?

☐Yes (Specify_____) ☒No

PROJECT DESCRIPTION: The project description should include **(a)** a description of the project site, **(b)** a description of both on-site and off-site alternatives and the impacts associated with each alternative, and **(c)** potential on-site and off-site mitigation measures for each alternative (*You may attach one additional page, if necessary.*)

The proposed project is designed to protect the beach at 46 Nameloc Road from further erosion due to storm damage over the years. The pre-1978 single family dwelling is threatened by extremely high rates of shore retreat due to a highly structured shoreline that prevents longshore flow of sediment into the area. An innovative bank protection system, the Earth Rib Module (ERM) System will be installed so that it is placed directly in front of a coastal bank toe (see attached plan no. SP-1). Due to the ERM's slope and structure, this device will impact shore processes much less then conventional seawalls or gabion basket systems. The entire ERM System will be covered with sand and vegetated to the FEMA 100 Year Flood Elevation (Elevation = 25.00). The coastal Bank toe will be nourished annually, if required, to keep the structure covered.

The proposed project will involve work and minimal alterations to the resource areas. All material, equipment, labor and assembly work will be performed from along the toe of the existing coastal bank.

The pre-1978 dwelling at 46 Nameloc Road will be protected from extreme rates of shore retreat by the placement of the ERM device. The ERM System will form a last-line-of-defense for this dwelling, the plan includes ongoing coastal bank nourishment. In the event that the ERM System is exposed on the beach, the proponents will nourish the coastal bank annually to ensure that it is fully covered with sand and planted with American Beach Grass. This will also ensure that the structure will not be undercut, and that end effects, which are also minimized by the design, can be mitigated.

The ERM System is a device made of reinforced concrete modules that are terraced upward and landward aligned with urethane shear pins. The 30" inch wide terrace is filled with sand. These offset terraces result in small 24" inch vertical lifts. The overall landward slope of the module system will dissipate wave energy more effectively and reduce potential wave reflection compared to a vertical structure. Some component of eroding or suspended sediment will be trapped inside these terraces. The relatively small exposed vertical surfaces in each lift should minimize potential undercutting effects and wave reflection associated with conventional seawalls. The ERM device also will support vegetation in each of its terraces to both stabilize sand that it does trap and to further accumulate sand.

A number of alternatives were considered including:

Gabion Basket System (GBS): Although the GBS and the ERM System are functionally similar, e.g. terraced, unit dimensionality, weight per unit, the ERM System has several distinct advantages:

#1: time to install: Gabions 11 to 16 baskets per day (RS Means) ERMs 47 to 50 per day.
#2 cost: The ERM is 10% to 25% less expensive than a GBS.
#3 design life: Once the plastic coated GBS has been broken, basket corrosion occurs within a short period of time The EM unit has no corrosion susceptible parts on its surface therefore unit demise due to salt environment conditions is designed for 99 years.

Bulk Sand Beach Nourishment: Sand transport and placement is by mechanical process. In order to compensate for the erosion of sand nourishment, the quantity of sand placed by this unnatural process is substantially increased. Thus, this method of beach nourishment can be very expensive and temporary in nature.

Geotubes: The Geotube provides effective stabilization of the shoreline, but has inherent flaws, including (1) The seams are sewn, which has proven to be a weakness in the system, (2) the fabric is susceptible to vandalism by cutting and (3) erosion of the seaward beach creates a large vertical face on the Geotube, which then responds like a traditional vertical seawall to wave impacts.

Stone Revetment: A stone revetment, if properly constructed and with an irregular surface texture, can be effective at dissipating wave energy and protecting a coastal bank from erosion during storms. Revetments do not incorporate the natural trapping of sand or the use of vegetation in its function.

Concrete Walls, Bulkheads: Vertical structures can be effective at stabilizing a shoreline. However, they do not effectively dissipate wave energy, and do tend to reflect wave energy, which induces scour or erosion on the beach seaward of the structure.

More details regarding the project setting, description and alternatives analyzed can be found in Attachment A herewith attached.