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

Deval L. Patrick
GOVERNOR

Maeve Vallely Bartlett
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181
http://www.mass.gov/envir

October 3, 2014

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

PROJECT NAME	: Baxter Road and Sconset Bluff Stabilization Project
PROJECT MUNICIPALITY	: Nantucket
PROJECT WATERSHED	: Nantucket Harbor
EEA NUMBER	: 15240
PROJECT PROPONENT	: Siasconset Beach Preservation Fund
DATE NOTICED IN MONITOR	: August 6, 2014

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** the preparation of an Environmental Impact Report (EIR).

Project Description

The project consists of the construction of an emergency stabilization project in Siasconset (Sconset), Nantucket to protect houses constructed prior to 1978, Baxter Road and public utilities from storm damage. It includes installation of sand-filled geotextile tubes (geotube) and beach nourishment. The installation includes three stacked rows of sand-filled geotubes (45-foot circumference, 19-foot width, 7-foot height) installed along approximately 900 linear feet (lf) of the base of the Sconset Bluff. The installation was approved by the Nantucket Conservation Commission (NCC) through an Emergency Certification issued on December 17, 2013. In issuing the Emergency Certification, the NCC made the following findings:

- the proximity of Baxter Road to the eroding coastal bank constituted imminent danger and was an emergency;
- the failure of the public way and damage of the public utilities is a risk to public health and safety; and,
- the project was necessary to abate the emergency situation.

The geotubes were installed within an approximate 35-day construction window in December 2013 and January 2014.

The Emergency Certification required that the Proponent file a Notice of Intent (NOI) within 30 days to address the installation and maintenance of the geotubes and to identify mitigation. The NOI addresses the elements of the project that have been constructed, proposes the addition of a fourth tier of geotubes, proposes the construction of returns (consisting of 15-foot circumference geotubes) to minimize end effects, identifies mitigation measures, including beach nourishment, monitoring and maintenance, and identifies additional mitigation measures, including a vegetation plan.

MEPA Process and Segmentation

The purpose of MEPA review is to provide meaningful opportunities for public review of the potential environmental impacts of projects for which Agency Action is required, and to assist each Agency in ensuring that the project will employ all feasible means to avoid and minimize, or mitigate Damage to the Environment to the maximum extent practicable. MEPA does not approve or deny projects.

A number of shore stabilization projects have been proposed along Sconset Bluff since the 1990s. Although the scope of the ENF review is limited to the emergency action, I have considered this project within the context of the high erosion rates experienced along the Sconset bluffs, previous project proposals, and previous projects that have been undertaken. The Proponent and the Town of Nantucket (the Town) have proposed more comprehensive alternatives to address long-term erosion, including major beach nourishment (EEA #13468), an armored revetment, and a more extensive geotube installation, and alternative access to Baxter Road. This project was proposed as an interim emergency measure in the absence of an approved long-term project. Subsequent proposals could include a linear extension of this system or a different shore stabilization project. In addition, the Town is considering alternate access points in the event Baxter Road is breached and indicates its intention to relocate Baxter Road and associated utilities.

The MEPA regulations include anti-segmentation provisions (301 CMR 11.01 (2)(c)) to ensure that projects, including any future expansion thereof, are not segmented to evade, defer or curtail MEPA review. In other words, proponents cannot divide one project into multiple projects each of which individually has an insignificant environmental impact, but which collectively would have significant impact and could exceed an EIR threshold.

Many commenters have suggested that an EIR be required to address the full extent of impacts associated with the emergency project as well as cumulative impacts associated with a long-term shore protection project. Comments suggest that the review if the emergency action, in the absence of a plan for the long-term, is contrary to the anti-segmentation provisions of the MEPA regulations. While I agree that review of these projects should be comprehensive and consider cumulative impacts, I do not find any evidence that the Proponent is seeking to curtail or defer MEPA review. Rather, the segmentation results from the construction of a project to address an emergency situation. The Proponent and the Town have coordinated on both the

emergency measure and long-term projects. The Proponent and Town have clearly stated their intentions to consider large-scale alternatives for this area. State Agencies have been involved in the review of permitting of these projects.

Large-scale projects proposed for this area have undergone extensive MEPA review, including robust analysis of project alternatives; subsequent large-scale projects will likely exceed EIR thresholds and also be subject to comprehensive review. Cumulative impacts will be considered, as appropriate, in the determination of whether a subsequent project exceeds EIR thresholds. The review of the emergency project's consistency with the Wetlands Protection Act (310 CMR 10.00) and environmental impacts by MassDEP will not preclude evaluation of long-term alternatives. Furthermore, if the emergency project were subject to an EIR it would preclude MassDEP from taking action on the appeal of the NOI, including changes to the design of proposed elements and specific and enforceable mitigation commitments, until review of the EIR was completed.

Project Site

Sconset Bluff is a coastal bank located along the eastern shore of Nantucket Island. It has been subject to significant erosion associated with its exposure to storms, a narrow fronting beach, and sandy composition. Baxter Road is a public way with underground public utilities. North of Bayberry Lane, Baxter Road provides the sole means of access to a number of pre-1978 homes, located both landward and seaward of the road, and the historic Sankaty Head Lighthouse. The beach in front of Sconset Bluff is owned by the Town and is a public beach.

The project is located within the Nantucket Historic District (NAN.C/D), a National Historic Landmark, which is listed on the National and State Register of Historic Places. The Sankaty Head Lighthouse is also listed in the National and State Register of Historic Places.

The project site extends approximately 900 feet along the Coastal Bank and Coastal Beach from 87-105 Baxter Road. Buildings constructed prior to 1978 are located on both sides of Baxter Road. During the winter storms of 2012-2013, significant retreat of the Sconset Bluff occurred, leaving the top of the bank 30 to 40 feet from the edge of Baxter Road in several areas and 60 to 70 feet in many others. Surveys conducted during summer 2013 identify the distance between houses and the top of the bluff, including a home that is 8 to 24 feet from the top of the bank. A follow-up survey in April 2014 identified the distance as 4 to 17 feet from the top of bank.

Project Background

Due to the threat of storm damage to several pre-1978 buildings and a section of Baxter Road, the Town and the Proponent entered into a Memorandum of Understanding (MOU) on July 5, 2013 to address erosion of Sconset Bluff. In accordance with the MOU, the Proponent filed a NOI with the NCC on July 3, 2013 seeking approval for a stone armor revetment extending 4,253 lf along the coastline paralleling Baxter Road (Revetment NOI). Because a portion of the project would be constructed on Town-owned land the MOU required the Town to provide the Proponent with a license to permit access (License Agreement). The Town and the

Proponent signed an Amendment to the MOU on October 9, 2013. The Proponent suspended consideration of the Revetment NOI as the 2013-2014 winter season approached; instead, the Proponent and the Town jointly filed a NOI on October 23, 2013 seeking approval for four tiers of geotubes long approximately 1,500 lf of Sconset Bluff from 87-107A Baxter Road (October 2013 NOI).

Because no decision was issued on the October 2013 NOI and the Proponent felt that emergency action was warranted, the Proponent filed an Emergency Certification Request on November 26, 2013. It included a 900-foot section of the four-tier geotube system that was designed to address the section of the bluff most at-risk (SBPF EC Request). This request was denied by the NCC and appealed to the Massachusetts Department of Environmental Protection (MassDEP). Concurrent with MassDEP's review of the SBPF EC Request, the Town filed its own Emergency Certification Request (Town EC Request) seeking approval for a hybrid geotextile/jute system, in which the lower two tiers were composed of geotubes and the upper tiers were composed of jute tubes. NCC approved the Town EC Request on December 4, 2013. Subsequently, MassDEP approved the SBPF EC Request on December 10, 2013 subject to certain conditions. The MassDEP approval indicated that the project was "necessary to abate the present threat to public safety from storm damage to buildings, Baxter Road and water infrastructure."

To reconcile the conflicting emergency certifications, the Proponent and the Town jointly filed an Emergency Certification Request on December 17, 2013 (Joint EC Request) for the four-tier geotube project, as amended by any conditions set forth by MassDEP in its Emergency Certification (MassDEP EC). The NCC approved the construction of three tiers of geotubes, subject to certain conditions, including incorporation of conditions included in the MassDEP EC. These included:

- File a NOI within 30 days of EC to address the installation and maintenance of the geotubes and to identify mitigation.
- Sand-filled Geotubes shall be tapered into the beach/bank at the southern and northern ends to minimize end effects.
- Upon installation, the Proponent must place an initial cover of 18 cubic yards per linear foot (cy/lf) followed by the addition of 4 cy/lf to provide a total of 22 cy/lf of nourishment.
- Replenishment triggers to ensure 22 cy/lf of cover on an annual basis.
- Nourishment material must be imported from an off-site source and must be compatible with existing beach sediments.
- Monitoring program consistent with the ongoing quarterly survey program conducted by Woods Hole Group.
- Identification of impact and failure criteria and provisions for removal if warranted.

Following installation of the Emergency Project, the Proponent resubmitted the October 2013 NOI seeking approval for four tiers of geotubes (Geotube Project NOI), rather than filing a new NOI for the three-tier geotube project. The Geotube Project NOI was amended to reduce the length from the proposed 1,500 lf to the authorized 900 lf. The Geotube Project NOI, the subject of this MEPA review, describes: the installation and maintenance of the three-tier geotube structure; proposes additional project components, including installation of a fourth tier of geotubes, construction of end returns consisting of 15- foot circumference geotubes to prevent flanking, planting of vegetation on the face of the coastal bank above the geotubes, and coastal bank drainage improvements; and, monitoring and mitigation measures.

The NCC issued a Denial Order of Conditions (OOC) for the Geotube Project NOI on June 3, 2014. The Proponent filed a request for a Superseding Order of Conditions (SOC) with MassDEP on June 17, 2014.

Environmental Impacts and Mitigation

The project will result in permanent impacts to 35,500 square feet (sf) of Coastal Beach, 900 linear feet (lf) of Coastal Bank, and 35,500 sf of Land Subject to Coastal Storm Flowage (LSCSF). The project will also result in temporary impacts to 35,000 sf of Coastal Beach and LSCSF associated with construction-related impacts, including excavation of trenches and stockpiling of material. The structure will displace natural sediment sources to the littoral system associated with Sconset Bluff and portions of the beach (fronting, adjacent, and downdrift beaches), which could impact adjacent properties.

Measures to avoid, minimize and mitigate environmental impacts include a commitment to maintain 22 cy of sand cover over the system and additional nourishment of the beach in front of the system to avoid impacts to adjacent properties, a vegetation plan, design of end returns to reduce scour, use of off-site compatible sand sources; monitoring and reporting program, and identification of impact and failure criteria and provisions for removal if warranted.

Permits and Jurisdiction

The project is undergoing MEPA review and requires preparation of an ENF pursuant to 301 CMR Section 11.03(3)(b)(1)(a) and 11.03(3)(b)(1)(f) of the MEPA regulations because it will require a State Agency Action and will result in alteration of Coastal Bank, and alteration of one-half or more acres of other wetlands (Coastal Beach). The project requires a SOC from MassDEP.

The project also requires review by the Massachusetts Historical Commission (MHC) acting as the State Historic Preservation Officer (SHPO) pursuant to Section 106 of the National Historic Preservation Act (NHPA). The project may require federal consistency review by the Massachusetts Office of Coastal Zone Management (CZM).

Because the Proponent is not seeking State Financial Assistance, MEPA jurisdiction extends to those aspects of the project that are within the subject matter of required or potentially required state permits and that may cause Damage to the Environment, as defined in the MEPA regulations. In this case, MEPA jurisdiction extends to land alteration and coastal resources.

Review of the ENF

The ENF provides a detailed description of the project (including constructed and proposed elements), construction methodology and describes the permitting and certification process for the geotube system. It includes an alternatives analysis, project plans, record drawings, and calculations, and identifies measures to avoid, minimize and mitigate project impacts including a beach monitoring program.

Alternatives Analysis

The ENF identifies alternatives that have been evaluated over the past twenty years. The ENF groups these alternatives into three categories: the No Action/Retreat Alternative; Previously Reviewed/Implemented Alternatives; and Emergency Project Alternatives.

The Proponent asserts that the No Action/Retreat Alternative has been shown to be ineffective in the project area and would result in the near-term loss of part of Baxter Road. It was rejected based on potential loss of pre-1978 homes and public infrastructure, and because it would not provide any long-term benefits to pre-1978 homes on the landward side of Baxter Road, many of whom have already moved their homes from the seaward side of Baxter Road and now see them threatened again by the loss of access to their homes. Previously Reviewed/Implemented Alternatives include beach dewatering, beach nourishment, marine mattresses and gabions, and revetments. These were rejected based on a lack of success of the installed system, opposition to the projects by Nantucket residents, denial by the NCC, or permitting/construction infeasibility within the available timeframe for the emergency condition. The ENF indicates that, although the revetment was considered a viable long-term option, it could not be permitted and constructed within the timeframe necessary to address the emergency condition. Consideration of the revetment was suspended to address the emergency condition.

Alternatives considered for the Emergency Project that could be constructed in the available timeframe include steel sheet piling, grout injections, jute or fabric terraces, and geotubes (the Preferred Alternative). Steel sheet piling was rejected because it was considered unlikely to be permitted by the NCC due to the environmental impacts. Grout injections were also rejected due to the cost, time of installation, and need for further study. The Proponent evaluated the use of coir or jute bags to form all or part of the coastal structure at Sconset Bluff before and after the three-tier geotube structure was constructed. The Proponent asserts that these biodegradable materials cannot withstand wave impacts associated with the Atlantic Ocean. The Proponent asserts that the coastal bank would be vulnerable during major, successive, or multi-day storms because the coir/jute terraces are designed to rip open (fail) during storm events. Because the purpose of the project is to avoid any additional bank loss, the Proponent does not consider coir/jute terraces as a viable option.

Geotubes are fabricated from high-strength, woven polypropylene sewn together into a tube shape and then filled and covered with clean sand. They are durable and can be designed to withstand significant storm events and mitigate scour and flanking. In addition, they can be readily emptied and removed. The geotubes do prevent the bank from eroding and contributing sand into the littoral system. The Proponent determined that this alternative could be designed to provide adequate protection for the toe of the coastal bank, could be constructed within a short timeframe, and was cost-effective. The geotubes were identified as the Preferred Alternative. Based on its analysis, the Proponent proposes to use geotubes for the fourth tier of the installation.

Comments from MassDEP indicate that the alternatives analysis should have separated the No Action alternative from the Retreat alternative because they are distinct and should be analyzed separately. No action implies a continuation of the status quo with no additional measures taken, while retreat implies the managed relocation of threatened structures (buildings, roads, etc.) on an as-needed basis. MassDEP notes that relocation of threatened structures on Baxter Road and other locations along the eastern and southern facing shorelines of Nantucket has historically been the most common response to shoreline erosion. Subsequent analysis of an extension of the geotube system, a revetment or other proposals should include consideration of the Retreat Alterantive.

I note the comments from the Nantucket Land Council (NLC) that indicate that the addition of a biodegradable fourth tier could be successful if implemented with additional nourishment in the volumes proposed for the Geotube Project. In addition, comments from CZM encourage the Proponent to consider softer solutions than the proposed geotubes and design refinements to reduce end scour, such as sand-filled coir bags and tapering of the elevation and slope to minimize the amount of reflected wave energy and associated erosion. MassDEP indicates it will evaluate the Preferred Alternative and other alternatives outlined in the ENF prior to the issuance of a SOC. I agree that consideration of limited alternatives for the proposed fourth tier and the returns is warranted to ensure that all feasible measures have been taken to avoid, minimize and mitigate environmental impacts.

The Town owns the beach area where any shoreline protection structures would be placed. An SOC will not grant any property rights or any exclusive privileges nor does it authorize any injury to private property or invasion of property rights. Consequently, the Proponent will need to secure permission from the Town prior to any additional work at the project site. The MOU required the Town to provide the Proponent with a License Agreement to access Town-owned land. The MOU states that "the Board of Selectman is committed to supporting measures that will have the likely effect of preventing damage to, or destruction of, Baxter Road as long as the project as proposed by SBPF can be accomplished without resulting in further or additional coastal erosion, or other environmental damage." The MOU also states that "the Board of Selectman reserves the right to withdraw its consent and support at any time." In consideration of the concerns expressed by the Town regarding the project and its ability to revoke the License Agreement at its discretion, additional consultation with the Town regarding remaining design elements is advisable.

Coastal Resources

Wetland resources that will be impacted by the project include Coastal Beach, Coastal Bank, and LSCSF. MassDEP will review the project to determine its consistency with the WPA, the Wetlands Regulations (310 CMR 10.00), and associated performance standards. MassDEP comments indicate it will review alternatives during permitting and that outstanding issues can be addressed during permitting.

The ENF describes the construction methodology that was employed for completed elements of the project and the construction methodology for proposed elements (fourth tier of geotubes, returns, and vegetation). All construction vehicles accessed the beach from Hoicks Hollow and were fueled in the Hoicks Hollow parking lot. Typically, the construction required the use of two excavators, a bulldozer, a skid steer, and a crew transport buggy on the beach. Dump trucks delivered the sand for the sand template from island pits to one of two sand delivery areas at 87/91 Baxter Road and 99/101 Baxter Road. The ENF indicates that the fourth tier would be installed using a similar procedure for the third tier, which would involve a water supply trench and associated dikes.

The NCC issued an Enforcement Order on February 5, 2014 identifying violations, including a subsurface water drain, use of concrete to seal the geotube potholes, alleged work conducted seaward of the Mean High Water (MHW) line, and placement of sand on the coastal bank outside of the sand delivery areas. MassDEP issued an Enforcement Order on June 17, 2014 for a subsurface water drain and a change in construction methodology consisting of the use of a freshwater source for the sand slurry used to fill the geotubes to the use of a saltwater source. MassDEP will review the Enforcement Order issued by the NCC as part of the review of the NOI.

The height of the fourth (top) tier of geotubes will be approximately +26-28 feet Mean Low Water (MLW). According to the ENF, the design basis for the four tiers of geotubes starts with the offshore wave height and then calculates how wave heights, wave setup, and wave runup will occur specific to the project area based on actual nearshore conditions and the stillwater elevation in the area as defined by the Federal Emergency Management Act (FEMA). The Proponent asserts that the minimum design level required for the project to abate the emergency condition is the 100-year storm (one percent chance). Based on the one percent storm recurrence interval, the four-tier geotube system with a base at 0.0 feet MLW will have a top elevation of +26-28 feet MLW.

The project proposes to construct return tubes on the ends of the geotube structure to minimize flanking. The returns will consist of shorter and smaller (15-foot circumference) geotubes installed at a 45-degree angle between the seaward face of the geotubes and face of the coastal bank. The top of the returns will extend to the elevation of the proposed fourth tier (+26-28 feet MLW). The bottom of the returns will be installed to a depth of +3-4 feet MLW. The total project length including the returns will be less than 900 lf. Comments from CZM describe its concerns that the proposed returns will reflect wave energy and extend the increased erosion of the beach and bank further alongshore. In response to recommendations from CZM, supplemental information provided by the Proponent indicates that the return design could be

revised to include a taper in elevation and slope and/or softer materials and makes a commitment to address these during permitting.

The bluff above the geotubes will be vegetated to further stabilize the bank. Vegetation will include American beach grass because of its fast growing, dense root system and tolerance of salt spray and exposure to wind and waves. The upper five to seven feet of the coastal bank will not be vegetated. It will be reserved for swallow habitat as recommended by the NCC. Comments from the Division of Marine Fisheries (DMF) indicate that the project should include measures to reduce overland runoff, including vegetative buffers between lawn and bluff edge. The ENF describes the use of a subsurface water drain to address the formation of a substantial gully at the top of the coastal bank. According to the Proponent, it is recognized that Baxter Road may be a significant source of overland runoff and the Town intends to address this situation.

I note the concerns of the NLC regarding prohibited work below MHW for the installation of the geotube structure. Work that is proposed below the MHW line within flowed tidelands requires review under Chapter 91 from MassDEP. Supplemental information from the Proponent indicates that for any future work on the project, it will mark the MHW line with surveyed stakes or other means throughout the duration of construction. In order to avoid the possibility of working below MHW and ensure accuracy of the line, the Proponent should clearly stake the MHW daily under the direct supervision of a licensed engineer or surveyor. The Proponent should consider a third party licensed professional to verify the survey line to avoid any confusion as to the location of MHW and thereby, prevent work below that line.

The project may be subject to CZM federal consistency review, and if so must be found to be consistent with CZM's enforceable program policies. The Proponent should consult with CZM regarding the federal consistency review process. I note the comments from CZM that indicate its commitment to continue assisting the Town on coastal management issues. CZM staff is available to provide technical assistance to help the Town evaluate alternatives for this dynamic shoreline area in the planning, design and review of the remaining elements of this project and subsequent projects.

Mitigation and Monitoring

Monitoring is an essential component of this project necessary to assess the performance of the system and potential negative impacts to the downdrift shoreline. The project will eliminate natural sediment sources to the littoral system associated with Sconset Bluff and portions of the beach (fronting, adjacent, and downdrift beaches). The project includes a beach nourishment and monitoring program designed to minimize adverse effects to adjacent or nearby coastal beaches, as required by the performance standard for coastal banks (310 CMR 10.30(3)(a)), and to mitigate for the loss of coastal bank as a sediment source. Elements of this program were required by the Emergency Certifications and are based upon the long-term average annual erosion rate associated with these sources.

In accordance with the requirements of the special conditions in MassDEP's Emergency Certification Form, the Proponent has committed to provide a minimum sand mitigation volume of 22 cy/lf. The volume of required material and replenishment triggers are designed to maintain a minimum 2 cy/lf of cover. The ENF identifies a sand delivery schedule (initial cover, annually in April and September-November, and balance in March). Delivery tickets from sand suppliers will be provided to NCC to document the total volume of sand provided on an annual basis. The ENF describes the availability of the mitigation sand to the littoral system during varying storm recurrence intervals. In addition, the Proponent commits to adding sediment to the beach to maintain the public beach in front of the geotubes.

According to comments from MassDEP, the project will require approximately 19,800 cy of sediment on an annual basis. On-island sand pits will provide the sediment supply. Supplemental information provided by the Proponent indicates that sources on the island can provide enough material to sustain the project's needs for 20-40 years. MassDEP comments express concern about the long-term sustainability of this nourishment program for the existing installation and for subsequent large-scale projects. Comments from residents note that the Proponent does not have exclusive use of the available sand from the island. MassDEP recommends that the Proponent begin evaluating sediment sources for future beach nourishment purposes, including volumes that would be associated with any significantly larger installation project.

The monitoring program will be conducted on a quarterly or bi-annual basis, consistent with monitoring that has been performed for about twenty years, although it includes some minor modifications of profile locations. Surveys will be conducted each spring and each fall. The spring survey will extend from the toe of the bank or dune to the -5 feet MLW contour; the fall survey will include offshore bathymetry and will extend from the toe of the bank or dune to a distance of approximately 2,000 to 3,000 feet offshore or -25 feet to -35 feet MLW, whichever is less. Surveys will be conducted along established and new transects. The top of the coastal bank will also be monitored at the profile locations within the project area and within 300 feet of its ends. The Proponent has indicated that the project will include evaluation of the performance of the geotube structure to determine its effectiveness as well as monitoring to determine whether the project is impacting adjacent properties.

CZM recommends that the monitoring frequency be increased to quarterly monitoring, which is consistent with other shore protection projects in this area and that monitoring reports be distributed within 30 days of data collection to inform timely decisions regarding the need for additional mitigation. DMF comments request additional details on survey design, including summaries of past results and analyses. Supplemental information provided by the Proponent notes that the results of the monitoring surveys have been submitted to various local, state, and federal regulatory authorities including MassDEP, CZM and NCC.

Monitoring reports include the specific methods of the survey and analyses of shoreline and volume change. The annual report will include the following data and analysis:

- Review beach transect data to estimate accretion and erosion distances at each monitored transect;
- Calculate accretion and erosion volumes at transect locations;
- Compare top of bank locations and estimate bank retreat over the previous 12 months;
- Calculate bank volume loss in the project area and 300 feet north and south;
- Submit data and computations to MassDEP, CZM, and NCC for review with a recommendation for changes to the nourishment program, if required; and
- Review results of annual underwater video monitoring, if required.

The Proponent will conduct supplemental monitoring following all significant storms. In accordance with guidance received from the NCC, a storm will be considered significant if there are sustained winds over 40 miles per hour over at least a 6-hour time period. The post-storm inspection and subsequent report will include the following information:

- Photo-documentation of the condition of the structure and nourishment sand with the project area;
- Estimate of the volume of sand lost from the sand template;
- Estimate of the beach level in front of the seaward geotube to determine if replenishment is required (if so, an estimated volume of sand and schedule for delivery will be provided);
- Identification of the location of any exposure geotextile;
- Identification of any repairs required; and
- Visual observation of the ends of the geotubes to determine if flanking is occurring.

The post-storm monitoring report will be submitted to NCC and the Town Department of Public Works (DPW), as soon as possible after a storm event (typically three to seven days). In addition, the Proponent indicates it is willing to perform annual underwater video monitoring of cobble bottom and habitat at selected transects if MassDEP determines that this monitoring is necessary and appropriate.

In the event of project failure, the Proponent will remove the system and has deposited $150,000.00, in an escrow account, to finance the removal. Failure criteria include:

- Failure to provide the required sand mitigation (beach nourishment) volume;
- Failure to conduct the required shoreline and post-storm monitoring;
- Failure to repair and/or replace the geotubes in a timely manner; and
- Excessive changes to adjacent shorelines (updrift or downdrift beach cross sections) that can be attributed to the project;

The Proponent will add the following two additional failure criteria, if MassDEP determines them to be necessary and appropriate:

- Failure to maintain adequate beach width in front of the geotube structure. Specifically, the Proponent has proposed that failure could be deemed to occur if the beach width in the project area is reduced where the long-term position of the HTL (defined for this purpose as the most seaward high tide location within any two consecutive semi-annual surveys) migrates landward to the location of the seaward edge of the second tier of geotubes; and
- A determination of significant negative impacts to underwater habitats.

Conclusion

The ENF assesses the potential environmental impacts of the proposed project and proposes monitoring and mitigation measures. I have carefully considered the thoughtful and detailed comments received on this project and appreciate the interest in further evaluation of the project and associated impacts through the MEPA process. I am also mindful that the project consists of an emergency action previously approved by the NCC, the majority of which has already been installed. Comments from State Agencies, including CZM and MassDEP identify issues that should be resolved during permitting; the comments do not identify alternatives that warrant review in an EIR. The ENF has defined the nature and general elements of the project for the purposes of MEPA review and identified measures to avoid, minimize and/or mitigate impacts. The review of the ENF has served to identify potential alternatives that could improve the performance of the project and reduce associated environmental impacts, as well as identify issues that should be addressed during the permitting process.

Based on the information in the ENF, consultation with State Agencies and a review of comment letters, I find that no further MEPA review is required. MassDEP has sufficient regulatory authority to address outstanding design issues and require additional measures to ensure the project is designed and maintained to avoid, minimize and mitigate project impacts. Although I am declining to require the preparation of an EIR, I am directing MassDEP to address the following issues during permitting:

- The feasibility and potential benefits and impacts associated with design alternatives for the fourth tier of the installation and the end returns;
- Construction period mitigation measures and monitoring to ensure the project is constructed and maintained as designed and permitted;
- Evaluation of the adequacy of the monitoring program design, as well as the frequency; and,
- Requirements to ensure timely distribution of monitoring reports.

As noted previously, the Proponent and/or the Town may propose a more comprehensive project to address erosion and any large-scale project that is likely to trigger the requirement for an EIR. The Proponent and/or the Town should consult with the MEPA Office regarding subsequent MEPA review, including whether the project would warrant the filing of a Notice of Project Change (NPC) or a new ENF, and how to address cumulative impacts.

October 3, 2014
Date

Maeve Vallely Bartlett

Comments Received:

08/15/2014 Massachusetts Historical Commission (MHC)
08/22/2014 Tom Quigley
08/22/2014 John and Deborah Osborn
08/22/2014 David Golden
08/31/2014 Kyle Latshaw, Loretta Yoder, and Elizabeth Claudy
09/03/2014 Sanni Judy
09/05/2014 Peter Watrous
09/05/2014 Alix Nelson-Frick
09/06/2014 Stephen Cohen
09/06/2014 Laurie and Toby Webb
09/07/2014 Bob Hall
09/07/2014 Dorothy Vollans
09/07/2014 Alexandra Sandra Hubiczsak-Welsh
09/07/2014 Catherine Ward
09/07/2014 Nannette Orr
09/07/2014 Barbara Bund
09/07/2014 Dorothy and David Bailey
09/07/2014 Dallas Kirk
09/08/2014 Michelle Whelan
09/08/2014 Cinda Gaynor
09/08/2014 Thomas Succop
09/08/2014 Victoria Merson Pickwick
09/08/2014 David Goodman
09/08/2014 Charles Walters
09/08/2014 Susan and Robert Landmann
09/08/2014 Linda Spery
09/08/2014 Derek Till
09/08/2014 Alexandra Harper
09/08/2014 Philippe Wells
09/08/2014 Carol and David Cronin
09/09/2014 Rosanna LaBonte
09/09/2014 Susan Cooper Cronyn
09/09/2014 Bruce Mandel
09/09/2014 Gay Vogt
09/09/2014 Paul and Judy Carini
09/09/2014 Massachusetts Division of Marine Fisheries (DMF)

09/10/2014	Julie Young
09/18/2014	Bill Paulsen
09/19/2014	Dirk Gardiner Roggeveen, Quidnet Squam Association
09/20/2014	Ellen Schloss Flamm and Richard G. Peterson
09/22/2014	Mary Wawro
09/22/2014	D. Anne Atherton
09/22/2014	Peter Kellner
09/22/2014	Elizabeth Trillos
09/22/2014	Martha Gray
09/22/2014	Jose Trillos
09/22/2014	Dirck and Sharon Van Lieu
09/23/2014	Nantucket Land Council, Inc. (NLC)
09/23/2014	Nantucket Citizens Letter – 13 signatures
09/23/2014	Robi Blumenstein
09/23/2014	Town of Nantucket and Nantucket Conservation Commission
09/21/2014	Jeanne Dickinson
09/23/2014	Holly Pagon
09/23/2014	Katherine Murphy
09/23/2014	Massachusetts Office of Coastal Zone Management (CZM)
09/23/2014	Natural Heritage and Endangered Species Program (NHESP)
09/24/2014	Massachusetts Department of Environmental Protection (MassDEP) Southeast Regional Office (SERO)

MVB/PPP/ppp