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August 16, 2006

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS
ON THE
DRAFT ENVIRONMENTAL IMPACT REPORT/NOTICE OF PROJECT CHANGE

PROJECT NAME : Sconset Beach Nourishment Project
PROJECT MUNICIPALITY : Siasconset, Nantucket
PROJECT WATERSHED : Cape & Islands
EOEA NUMBER : 13468
PROJECT PROPONENT : Siasconset Beach Preservation Fund
DATE NOTICED IN MONITOR : June 21, 2006

As Secretary of Environmental Affairs, I hereby determine that the Draft Environmental Impact Report/Notice of Project Change (DEIR/NPC) submitted on the above project **adequately and properly complies** with the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62H) and with its implementing regulations (301 CMR 11.00).

The purpose of the proposed project is to stabilize an approximately two-mile long eroding shoreline on Nantucket, from the town sewer beds south of Codfish Park to the Sankaty lighthouse. This is proposed to be accomplished by placing between 1.6 and 2.4 million cubic yards of sand as beach nourishment, installing Geotubes at the toe of the eroding bank, and constructing "sand gates," which are wooden, fence-like structures, perpendicularly to the shoreline throughout the nourishment footprint. The proponents have proposed obtaining the material necessary for the nourishment by dredging sand from two offshore borrow sites located approximately three miles east of Nantucket island in state and federal waters. Additional volumes of sand will periodically be dredged from this or nearby shoals for supplemental fill activities as needed. The sand will be hydraulically pumped onto a 46-acre area of beach to create a berm approximately 200 - 250 feet wide to a depth of 10 feet prior to spreading. The exact location of the proposed offshore mining site has not yet been determined.

As described in the DEIR the preferred conceptual design involves placement of approximately 2.6 million cubic yards of sediment along four miles of the southeast shoreline of

Nantucket for beach and dune nourishment; mining the sediments needed for the initial nourishment from a 345 acre offshore borrow site located approximately 2.7 miles east-northeast of Sankaty Head Lighthouse; construction of up to 13 new groins approximately 270 feet in length; placement of up to 6,100 linear feet of 30 – 60 foot circumference geotextile tubes filled with sand at the toe of the coastal bank, together with bank terracing and vegetative plantings on approximately 2000 linear feet of the coastal bank face; and possibly, the use of two existing beach dewatering systems to increase the longevity of the nourishment.

Federal, state and local agencies, through their comments and consultation, have identified significant concerns that will require further information in three main areas of the project:

1. Quantitative assessment of physical processes: including nourishment design; need for/design of groins and groin placement; and impacts of borrow sites.
2. Screening of sediments and actual site selection: including identification of a preferred alternative site demonstrated to have least impacts/best material balance; information on long-term/permanent impacts.
3. Fisheries/habitat: including continued surveys; and Time-of-Year restrictions for both the dredging and nourishment activities.

In order for the Final EIR (FEIR) to be found adequate, I remind the proponent that the FEIR must include information requested during DEIR stage as well as information requested during the ENF that was not addressed in this submittal.

Phase I Waiver Request

The proponent is requesting a waiver for the construction of Phase I, prior to the completion of the FEIR. The proponent has submitted a Notice of Project Change/Phase One Waiver request to allow construction of the proposed terraces on the coastal bank immediately while the remainder of the project completes review and permitting.

The DEIR requests a Phase I Waiver to allow bank terracing and vegetation planting to proceed in the near future, before the MEPA process has been completed for the entire project, to provide a measure of storm damage protection in the interim. As noted in the DEIR, this terracing has been approved in past by the Nantucket Conservation Commission in adjacent areas, and the proponent plans to file for and receive the necessary Orders of Conditions from the Conservation Commission for the additional terracing. In addition, biodegradable material is being proposed for use, and the proponent will monitor the sites and perform any necessary clean up after storm events.

The proponent has submitted a DEIR that appears to satisfy the regulatory requirements for such a waiver consideration. The waiver request will be considered in a Draft Record of Decision (DROD) dated August 16, 2006.

Purpose of MEPA Review

I wish to remind commenters that under MEPA, I do not have the authority to approve or deny the project. MEPA is not a zoning appeal process, nor is it a permitting process. Rather, it is a process designed to ensure public participation in the state environmental permitting process, to ensure that state permitting agencies have adequate information on which to base their permit decisions and their Section 61 Findings, and to ensure that potential environmental impacts are described fully and avoided, minimized, and mitigated to the maximum feasible extent.

Required Permits and MEPA Jurisdiction

The project is undergoing review pursuant to Sections 11.03(3)(b)3, 11.03(3)(b)4, and 11.03(3)(a)1.b of the MEPA regulations, because the project involves the dredging of 10,000 or more cy of material, disposal of 10,000 or more cy of material and alteration of ten or more acres of any other wetland. The project will require a 401 Water Quality Certificate and a Chapter 91 License from the Department of Environmental Protection (DEP); and an Order of Conditions from the Nantucket Conservation Commissions (and hence Superseding Order from DEP if the Order is appealed). In addition, the Massachusetts Coastal Zone Management Office (CZM) will conduct Federal Consistency Review of the project, including the portions of the project located in federal waters. The project will require a Section 10/404 permit from the United States Army Corps of Engineers and a potential review and leasing of the borrow site in Federal water by the Minerals Management Service.

Because the proponent is not seeking financial assistance from the Commonwealth for the project, MEPA jurisdiction extends to those aspects of the project that are within the subject matter of required or potentially required state permits and that have the potential to cause significant Damage to the Environment. In this case, given the broad scope of the Chapter 91 permit, MEPA jurisdiction effectively extends to all aspects of the project that are within Massachusetts.

CZM has broad jurisdiction because federal law (pursuant to the Coastal Zone Management Act) specifically delegates review authority over projects in federal waters to the Coastal Zone Management Office of the adjacent coastal state, provided that the state has a federally approved Coastal Zone Management Plan.

SCOPE

Project Description and Regulatory Environment

The Final EIR (FEIR) should include a detailed description of the project, and should briefly describe each state agency action required for the project. The FEIR should demonstrate how the project is consistent with any applicable performance standards. The FEIR should

contain sufficient information to allow the permitting agencies to understand the environmental consequences of their official actions related to the project.

Comments

The FEIR must respond fully to the substantive comments received. The FEIR must present additional technical analysis and/or narrative as necessary to respond to the concerns raised, not otherwise raised in this Certificate. The proponent should circulate the EIR to those who submitted written comments on the ENF, and to any state agencies from which the proponent will seek permits or approvals. The FEIR should contain a copy of this Certificate and of each comment received.

Federal Consistency

As noted above, CZM jurisdiction extends over all aspects of the project. The FEIR should address the concerns of CZM as outlined in their detailed comment letter, and provide sufficient information to facilitate the federal Consistency Review. Many of CZM's comments on the ENF requesting further analysis or documentation were not addressed in the DEIR.

Beach Nourishment

As I stated previously a complete understanding of the nature of the sediment transport system and wave climate is critical to the design of an effective beach nourishment program and the evaluation of potential impacts associated with the proposed geotubes.

The DEIR proposes the installation of a Geotube (sand-filled geotextile tube) along approximately 6,100 feet of shoreline as a last line of defense. A Geotube functions as a coastal engineering structure as defined at 310 CMR 10.23. A few of the buildings to be protected by the Geotube were built after 1978. As noted in the DEIR, 310 CMR 10.30(3) allows the placement of coastal engineering structures when required to prevent storm damage to buildings constructed prior to August 10, 1978. The FEIR should address compliance with this performance standard and should evaluate, on a case-by-case basis, instances where this standard cannot be met and the rationale behind why a Geotube is necessary. In addition, the FEIR must address concerns relative to potential wave interactions, including scour as a result of wave reflection, with the proposed Geotube. The FEIR must also address if re-nourishment is not implemented in a timely manner and as a result the Geotube is subject to wave interaction and scour of the beach, when will the Geotube be removed or abandoned.

As described in the DEIR, the current proposal includes beach nourishment almost to the cut at Sesachacha Pond including a small section (roughly 200' wide) of beach owned by Mass Audubon. Installation of a geotube is also proposed on a portion of Mass Audubon-owned beach. This section of beach can be seen on Figure 3-4 sheet 1 and is between monuments 96.7

and 96.9. Mass Audubon was not consulted regarding this work. This work cannot proceed without Mass Audubon's explicit permission, which has not been granted at this time. The FEIR should contain information specifically detailing the permission.

Comprehensive Environmental Monitoring Program

The proposed project will require the repeated need for sand mining. Therefore, the monitoring program detailed in the FEIR should be designed to inform the selection of future borrow sites. The FEIR should analyze the effects of dredging material from an area that is undergoing recovery, or that has been shown to have recovered, in response to a previous mining effort. DEP has advised that the continuous mining of the same area would result in a permanent, rather than temporary, impact, since the area would either not have time to recover or be mined again upon recovery. The FEIR should assess this, given habitat and hydrogeological regime at all the potential sites. In light of the repeated mining needs, the FEIR should consider whether future mining should take place at different borrow sites identified in the alternatives analysis, and consider the effects of an ongoing mining program on the broader offshore area subject to the mining effort.

The FEIR should present an annual plan for monitoring and protecting Piping Plovers and terns that establish breeding territories within the project area in future years. These activities should be carried out every year for the life of the project, not just in years when construction, maintenance, or re-nourishment activities occur. The plan should include provisions to protect nests and nesting habitat from human disturbance using warning signs and symbolic fencing, and should describe seasonal restrictions on driving by recreational off-road vehicles. It should specify who will carry out this monitoring and protection work, and how it will be funded over the life of the project. I encourage the proponent to work closely with Mass Audubon and NHESP to develop more suitable monitoring of plovers and terns.

Sediment Source/Sand Mining

The proponents do attempt to identify the range of physical and biological parameters that need to be considered in assessing the potential offshore sediment sources. However, the DEIR does not identify the borrow site screening processes used, nor has this been presented to the state agencies for review and comment. The FEIR should describe in detail the proposed sand mining process. The Highway Methodology model described in detail in CZM's comment could be very helpful. All of the information developed and analyses conducted need to be provided in the FEIR to facilitate a complete review of the proposed project.

Based on the information presented in the DEIR, it appears that the proponent's identification and focus on the Bass Rip Shoal sediment source is premature. I recommend that the proponents work closely with the permitting agencies regarding the screening of sediment source alternatives before further effort is focused on the one preferred site. The FEIR must

address the detailed comments provided by many of the state agencies and Mass Audubon requesting more information and analysis on this topic.

The DEIR provides preliminary geophysical surveys in the preferred offshore sediment source site that detected sand waves approximately 15 feet in height, and states that relatively coarse grained material appears to be moving along the landward portions of Bass Rip (the preferred borrow site) in large quantities. Based on this information, the DEIR concludes that sand mined from this area would be replaced by natural processes over time. However, no data or analyses were provided to support these conclusions. This information should be provided in the FEIR to facilitate review of the potential adverse impacts.

The FEIR should describe any necessary turbidity controls at the dredge head. In the event a hopper dredge is proposed to be used, the FEIR should analyze any water quality or sedimentation impacts associated with any dewatering or screening that will take place on the dredge vessel.

Upland Sediment Source

The information provided in the DEIR regarding potential upland source alternatives is very limited, although it acknowledges that investigations into how the cost of a direct-barging operation might be reduced are on-going. CZM recommend in their comment letter that the proponents utilize the detailed analysis used during the DCR Winthrop project as a model for the level of information that should be provided regarding this sediment source alternative. The FEIR should provide this detailed analysis as requested by CZM.

Fisheries Resources, Benthic Species, and Habitat Characterizations

Nantucket Shoals provide important feeding, spawning, and/or nursery grounds for many species of finfish and invertebrates, including bluefish (*Pomatomus saltatrix*), striped bass (*Morone saxatilis*), scup (*Stenotomus chrysops*), summer flounder (*Paralichthys dentatus*), black sea bass (*Centropristis striata*), Atlantic cod (*Gadus morhua*), squid (*Loligo pealei*), channeled whelk (*Busycon carica*), and surf clams (*Spisula solidissima*). Alteration and removal of these shoals may also significantly impact the commercial and recreational harvest of fish and invertebrates from these shoals. Fisheries of particular concern include commercial surf clam harvest (surf clams are found in great abundance and regularly harvested in this area) and recreational (private and charter boats) fishing for species such as striped bass.

As stated significant fisheries habitat exists at the borrow site and in the nourishment area. I direct the proponent to consult with the DMF, DEP and CZM jointly to identify additional data needs, and to develop, if needed, appropriate further research to ensure a comprehensive assessment that accurately characterizes fisheries habitat and resources and potential impacts associated with the project and its alternatives. I strongly encourage the

proponent to include National Marine Fisheries Service (NMFS) in these consultations. This information should be included in the FEIR. The DEIR also proposes a work period between May and October because of the generally favorable weather conditions during this period. The proponent should consult also with DMF and the NMFS to develop a Time-of-Year restrictions for both the dredging and nourishment activities to help minimize fisheries impacts. The FEIR should discuss the outcome of these discussions.

Avian Impacts

The project, as currently proposed, occurs within the actual habitat of the Piping Plover (*Charadrius melodus*) and Least Tern (*Sterna antillarum*). The Piping Plover is state-listed as a "Threatened" species, while the Least Tern is a species of "Special Concern", which are protected under the MA Endangered Species Act (MESA) (M.G.L. c.131A) and its implementing regulations (321 CMR 10.00). This proposed project occurs within Priority Habitat of Rare Species, and requires a formal MESA filing pursuant to 321 CMR 10.18.

Since the Massachusetts Natural Heritage and Endangered Species Program (NHESP) has mapped a significant portion of the coastal beach and dune within the project area as habitat for rare and endangered species, the proponent should coordinate with the NHESP relative to the timing of beach construction, the location of the proposed de-watering site as well as the placement of snow fencing and/or planting of vegetation within existing and potential shorebird habitat. The FEIR should contain results of these discussions. The DEIR also identifies areas of nearshore cobble habitat that may be impacted by the nourishment. The FEIR should consider nourishment alternative designs that would eliminate or reduce the impacts to these habitat areas.

As part of the MESA review process, the NHESP is prepared to work with the project proponent to design a beach nourishment plan for this area that accomplishes the project objectives while maintaining habitat quality for endangered species. The proposed dune construction in Piping Plover and Least Tern nesting habitat south of Codfish Park may have both short and long-term adverse effects on that habitat by creating an unbroken "dune" that will significantly impede natural processes of erosion and accretion that are necessary to create and maintain flat, unvegetated or sparsely vegetated nesting habitat. Dune construction in this area is proposed to occur without the benefit of concomitant widening of the beach through nourishment, as is proposed for other parts of the project area.

The FEIR must include analysis on the construction of groins between Codfish Park and Hoick's Hollow areas which may reduce the suitability of the nourished beach as nesting, feeding, or chick-rearing habitat for plovers and terns. I strongly encourage the proponent to explore options for nourishing the beach in this area without the use of groins.

NHESP has stated in their comment letter that the DEIR does not adequately assess the potential impacts of proposed offshore dredging east of Nantucket (offshore borrow site) on

foraging habitats of wintering sea ducks and loons. The proponent should work closely with NHESP. The FEIR should include the specific data necessary to address this issue.

The FEIR should address whether the overall capacity of marine habitats near Nantucket to support wintering populations of Long-tailed Ducks, Common eiders, or scoters, will be diminished by an amount equal to the footprint of the area that is dredged, as a result of

- removal of mollusks and crustaceans, and
- lowering of the sea floor elevation.

The FEIR should also provide a substantive assessment of the potential adverse effects of the dredging to Common Loon foraging habitat as a result of reduced fish prey and temporary increases in turbidity.

Physical Characterization/Model

The DEIR provides an overview of the wave modeling conducted to assess the potential impacts of mining on the nearshore wave climate. None of the results were quantified; the analysis did not indicate the projected difference in wave heights at the shoreline for the scenarios modeled. Finally, it does not appear that the model was run for the full range of potential wave conditions at the site, or for the range of storm events, as requested in our comments on the ENF. Therefore, the FEIR should contain this information.

In addition, the impact of sand movement from sand ridges into the borrow pit on wave patterns must be addressed in the FEIR. Further analysis is needed regarding whether such movement may lower the ridge height significantly at least in some areas. More explanation is needed regarding the degree to which sand movement patterns on the shoals are understood, justifying whether there is sufficient information make accurate predictions. The FEIR should also contain information on sand movement patterns on the impacted and neighboring beaches and also on the amount of sand contributed to the system by the project area.

Groins

The Wetland Regulations at 310 CMR 10.27(4), require that any structure perpendicular to the shore which will interfere with littoral drift be the minimum length and height to maintain beach form and volume. Thus, the FEIR should demonstrate that the proposed groin design meets this performance standard.

The DEIR states in section 3.4.2 that the preferred construction sequence would be to install the proposed groins following completion of the nourishment template. DEP has advised, and I concur, that this proposed sequence is the proper sequence. Construction of the proposed groins prior to beach nourishment would likely result in adverse impacts to the downdrift shoreline by decreasing the beach form and volume.

The preferred project design involves construction of up to 13 groins to “manage” longshore transport of sand from nodal points where sediment transport occurs in both directions along the project shoreline, creating erosion hotspots. CZM’s comments on the ENF requested that the DEIR quantify the direction and magnitude of cross-shore and longshore sediment transport in the project area, in part, to facilitate our review of groins and their potential effects on the sediment transport system. However, no analysis or documentation of the sediment transport directions and volumes were provided in the DEIR. The FEIR must include this information as requested during the ENF stage as well as the information requested on this topic during the review of the DEIR.

The DEIR also includes the statement that installing a series of up to 40 groins would better retain the beach nourishment, and that modeling is underway to determine the appropriate number, size and location of the groins to increase longevity of the nourishment. The proposed groin design is a pile and panel design with a rubble mound head at the offshore end, and is intended to be adjustable. DEP is concerned that the proposed groins do not appear to be designed to be readily adjustable, particularly the rubble head component. The DEIR states at 3.2.2 and 5.2.2.4 that if the groins are causing adverse impacts that they can be “modified accordingly”. Experience has showed that it was impossible to adjust the groins, i.e. on Sylvia State Beach in Oak Bluffs in the 1990’s. Since the Siasconset shoreline has a much more dynamic wave climate than the north side of Oak Bluffs, it is likely to be much more difficult to adjust the groins. If the proponents believe this design is feasible for this site, CZM requests, and I concur, that further information be provided in the FEIR regarding the number and use of this type of groin in similar wave environments, and that details regarding the actual feasibility of adjustment be provided. In addition, alternatives to this proposal should be discussed in the FEIR

Borrow Site Analysis

The FEIR must provide more information about each of the borrow sites identified in the DEIR, such that the level of data collection for the alternative sites is comparable to that being prepared for the preferred site. The additional data will allow for an analysis of alternative sites in order to select a borrow site that will minimize benthic habitat and fisheries impacts. In addition to allowing for a comparison of alternative sites, a more detailed description of the alternative sites may reveal secondary borrow sites that could provide material to supplement the material mined at the primary site. The FEIR should evaluate whether obtaining the necessary material from more than one site could allow for the avoidance of impacts to the most significant habitat areas within each borrow site.

Because of the ongoing need to nourish the beach, sand mining will be necessary on a regular basis. An alternatives analysis that fully evaluates several sites may also identify potential borrow areas for future nourishment needs. As a component of the borrow site post-construction monitoring program, the data collection for the alternative sites should continue on an ongoing basis so that the selection of a future borrow site can benefit from long-term data

collected from each of the alternative borrow sites.

Beach Dewatering

The DEIR states that two of the four existing beach dewatering systems within the project site have become “defunct” and the remaining components are proposed to be removed in conjunction with the “Project activities.” The DEIR also indicates that the two remaining systems, Lighthouse South-South and Codfish Park retain the essential infrastructure to function. However the DEIR did not indicate if the project would include any changes to these systems, or how their effects on the sediment transport system would be monitored. This information should be included in the FEIR.

Dune Nourishment

The project includes construction of a four foot high, fifty foot wide dune at the landward edge of the beach nourishment. In addition, the southernmost portion of the project includes only dune nourishment, which will create a 125 foot wide dune approximately 6 feet high. The dune is designed to be placed as far landward as possible to ensure that it is as stable as possible. The DEIR states that this will result in some burial of existing vegetation. However, the DEIR did not include any information on proposed replanting of the vegetation that will be buried. This should be addressed in the FEIR.

Historic/Archaeological Impacts

Underwater areas of the proponent’s preferred project borrow area (and potentially some alternative areas) have high sensitivity for archaeological resources. The FEIR address the comments of the Massachusetts Board of Underwater Archaeological Resources regarding the archaeological resources. I strongly recommend that the proponent consult with the Massachusetts Historical Commission and the Massachusetts Board of Underwater Archaeological Resources to address their comments.

Chapter 91/Public Trust

Pursuant to 310 CMR 9.12, the beach nourishment, dredging for nourishment material, and construction of shore protection structures such as the proposed groins, are considered water-dependent uses that will require authorized under M.G.L. c.91 and the Waterways Regulations at 310 CMR 9.00.

While the DEIR does state some public benefits to the project, the majority of benefits will be for private interests, with significant impacts to public resources. Nantucket’s east shore beaches in general are not heavily used by the general public. The DEIR states that public access will be allowed on the beach upon completion of the nourishment. Therefore, the proposed

groins should be designed to accommodate pedestrian access over or around the groins to adjacent beach areas. The FEIR should also include details on other benefits to the general public and what the access easements will be.

Mitigation/Section 61

The FEIR should include detailed information of the Proposed Section 61 Findings. The proponent should continue to consult with the appropriate regulatory and resource agencies regarding sampling, impact assessment, post-construction monitoring of habitat and fisheries recovery, and mitigation for impacts.

August 16, 2006

Date



Robert W. Golledge, Jr.

Comments received:

06/26/2006	State Representative Eric Turkington
07/03/2006	State Representative Frank Hynes
07/05/2006	State Representative Anthony Verga
07/13/2006	State Representative Jeffrey Davis Perry
07/17/2006	State Representative Demetrius Atsalis
07/17/2006	State Representative Thomas O'Brien
07/18/2006	State Representative Matthew Patrick
07/20/2006	State Representative Shirley Gomes
07/24/2006	Senator Steven Baddour
07/25/2006	State Representative Garrett Bradley
08/02/2006	Senator Therese Murray
08/03/2006	Senator Robert Travaglini
06/28/2006	Nantucket Association of Real Estate Brokers
07/03/2006	Kathleen M. Canaiy
07/03/2006	Nantucket Beach Foundation
07/11/2006	Mrs. Dennis Keller
07/17/2006	Robert Greenhill
07/17/2006	Sankaty Head Golf and Beach Club
07/17/2006	Kermit and Priscilla Roosevelt
07/18/2006	Kyle Latshaw and Loretta Yoder
07/19/2006	Helmut and Caroline Weymar
07/19/2006	W. Dexter and Susan Paine

07/19/2006 John Osborn
07/20/2006 Sam Furrow
07/20/2006 Peter Soros
07/20/2006 Chansoo Joung
07/20/2006 Brian and Julie Simmons
07/20/2006 Larry Pollock
07/20/2006 The Sconset Trust
07/20/2006 Andrew Saul
07/20/2006 Frederick Singer
07/20/2006 Catherine, Jeffrey, Preston and Sabrina Soros
07/20/2006 CZM / Board of Underwater Archaeological Resources
07/21/2006 Mass Audubon
07/21/2006 DEP/Boston
07/21/2006 Albacore Charters
07/21/2006 Derek Till
07/21/2006 Joshua Posner
07/24/2006 Jeffrey Soros
07/24/2006 James Walker
07/24/2006 Coastal Zone Management
07/24/2006 Massachusetts Historical Commission
07/24/2006 Division of Fisheries & Wildlife
07/24/2006 National Oceanic and Atmospheric Administration
07/25/2006 United States Environmental Protection Agency
07/25/2006 Cape Cod Commercial Hook Fishermen's Association
07/26/2006 Nantucket Land Council
07/26/2006 Division of Marine Fisheries
07/31/2006 Robert Petty
08/02/2006 Nantucket Board of Selectmen
08/02/2006 Nantucket Conservation Commission
08/08/2006 Epsilon Associates' Response to Comments

RWG/ACC/acc