

CAPE COD COMMISSION

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Date: July 7, 1994
To: The Town of Chatham represented by Margaret Swanson, Town Planner
From: Cape Cod Commission
Re: Development of Regional Impact, Section 12, Cape Cod Commission Act
Project #: TR 92055
Project: Chatham Revetments Project Phase I

<u>Applicant</u>	<u>Book/Page #</u>
The Town of Chatham	
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Mr. John C. Hammond 106 Main Street Chatham, MA	25860 / pro
Ms. Marjorie Little 35 Belknap Street Concord, MA 01742	5497 / 0263
Ms. Ellen Bacon McKinley 59 Dorann Avenue Princeton, NJ 08540	04693 / 0020
Mr. Thomas Pennypacker 72 Main Street Chatham, MA 02633	1287 / 145
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Ms. Trudye Fowler 209 South Fairfax Street Alexandria, VA 22314	1546 / 184
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Decision of the Cape Cod Commission

Summary

The Cape Cod Commission (Commission) hereby approves the application of The Town of Chatham for a Development of Regional Impact (DRI) permit under Sections 12 and 13 of the Commission Act (Act), c. 716 of the Acts of 1989, as amended. This decision is rendered pursuant to a vote of the Commission on July 7, 1994.

Project Description

The project area stretches from Aunt Lydia's Cove to the Beach and Tennis Club in Chatham. There are over 30 revetments armoring the coastline within this area. Engineering designs vary within this group of structures including stone revetments, gabion revetments, sheetpile bulkheads and durabags. These structures have emergency permits from the State.

The EIR/DRI has proposed short and long term actions that address both structural issues and mitigation. The EIR/DRI has recommended that revetment "returns" be constructed in the north end of Section 2 of the study area to prevent scour around the existing revetment and to prevent a further increase in erosion. In addition, the document recommends that a sacrificial dune be

constructed along the unprotected section of the shoreline south of Claflin Landing and in the vicinity of Andrew Harding's Lane. It is recommended that the dune be vegetated with indigenous species to increase dune stability. Essentially, the study has recommended that existing revetments be maintained, in some instances structurally improved, and lengthened at specific locations where the revetments currently end. Nourishment has been identified as a necessary form of mitigation for the revetments that currently exist. It has been suggested that the town use sediment from dredging of Aunt Lydia's Cove as a compatible source of sand for beach nourishment. It has been further recommended that, depending on coastal dynamics, nourishment should be a one time event. In exchange for the town's preparation of the EIR/DRI application and obtaining the necessary MEPA and Commission approvals for existing revetments and in exchange for town financing of the one-time nourishment program, property owners with shore protection structures could be asked to volunteer a temporary easement to the town for the purpose of allowing the public to pass and repass along the beach in front of the private revetments. Such easements would provide a public benefit by greatly enhancing public access along the coast.

Background History

The coastal areas in the Town of Chatham experience dynamic shoreline changes that are the result of storm, tidal and ocean current induced erosion. Accelerated erosion of the coast has occurred as a result of a breach that opened in the Nauset Barrier Beach in January 1987 (the Breach). The Breach subsequently expanded, leaving many areas of the Chatham coast exposed to attack from open ocean and storm related wave action. Most of the revetments in the study area were constructed under emergency permits granted by DEP Waterways. This EIR was prepared to complete the permitting process and determine needed and appropriate mitigation for the impacts of the existing structures.

A coastal geologic analysis was performed by Aubrey Consulting Inc.(ACI). As part of the analysis, the existing revetments were also examined for their impacts and success or failure rates. The research showed that the different armoring solutions produce slightly different results. The impacts on the beaches that front the armored banks, as well as impacts to the downdrift beaches however, are consistent. Revetments typically contribute to reduced beach profiles both in front of the revetments and downdrift. This beach profile reduction occurs because the revetments not only protect the landform they are built against, but they also remove the coastal bank behind them as a sediment source for fronting and downdrift beaches.

Procedural History

Property owners with existing shore protection structures on the coastal bank have obtained Emergency Work Permits from the Massachusetts Department of Environmental Protection (DEP). Pending completion of the EIR/DRI and an evaluation of the impacts, most of the existing structures will likely receive appropriate licenses from the DEP, Chapter 91 Waterways Division. Filings for Emergency Work Permits under Chapter 91 triggered the requirement of the preparation of an Environmental Notification Form (ENF) with the MEPA Unit. An ENF was filed in February of 1988 and the Applicant was subsequently directed to prepare an EIR as noticed in the September 27, 1988 issue of the Environmental Monitor. The preparation of an EIR triggered mandatory Commission review of this project.

Although initial action on the project took place in 1988, the large number of separate individuals

who owned revetments in the study area made it difficult to coordinate the preparation of the EIR. Town actions in 1991, including revetting of the area that fronts the Coast Guard Lighthouse and the creation of the Coastal Erosion Advisory Committee prompted the Town of Chatham to prepare the required EIR and to file for a Joint Review with the MEPA Unit and the Commission. The MEPA review commenced prior to the Town's application to participate in the Joint Review process.

A duly authorized Subcommittee of the Commission met on September 2, 1992 to discuss the Draft EIR (DEIR). The Final EIR (FEIR) was submitted to the Commission and the Subcommittee held a public hearing on September 14, 1993. The FEIR was certified by the Secretary of Environmental Affairs in October of 1993.

Public hearings were held on the DRI issues within 45 days following the issuance of the Secretary of Environmental Affairs certification of the FEIR. The first hearing took place on November 10, 1993 and a second hearing was held on January 5, 1994, when the hearing was closed. The record was left open until the close of business February 4, 1994. Subcommittee meetings were held on January 19, 1994, February 17, 1994, April 20, 1994 and subsequently on May 9, 1994. The Commission voted to accept the subcommittee report at the May 23, 1994 meeting.

The Subcommittee included the following members; Sumner Kaufman, Chair, David Kellogg, Don LeBlanc, Don Near and Rick Armstrong.

Materials Submitted for the record

The application and notices of public hearings relative thereto, the Commission staff notes, exhibits and correspondence, the minutes of meetings and hearings and all written submissions received in the course of the proceedings for this project are incorporated into the record by reference.

Submittals from the applicant

- Letter from Lee Weishar, ACI, to recipients of the EIR, May 10, 1994
- Final Environmental Impact Report, August 1993
- Development of Regional Impact Application, August 27, 1992
- Draft Environmental Impact Scope, June 23, 1992

Staff Reports and Correspondence

- Subcommittee Report, May 20, 1994
- Letter from Staff to Mr. Souter, re: public information request, February 2, 1994
- Extension agreement on the DRI decision, January 5, 1994
- Staff Report, January 3, 1994
- Hearing notice, November 10, 1994
- Letter from staff to Lee Weishar, re: public hearing on November 10, 1994, October 22, 1993
- Letter from staff to Secretary of Environmental Affairs re: DEIR comments, March 11, 1993
- Hearing Notice, March 3, 1993
- Staff Report, February 24, 1993
- Letter from staff to Beverly Ricci, Town Clerk, re: confirming meeting space, February 9, 1993
- Extension agreement on the DRI decision, September 21, 1992

- Letter from Staff to Beverly Ricci, re: DRI status of the Chatham Revetments, August 21, 1992
- Memorandum from Staff to Subcommittee re: status report on the DEIR process
- Letter from Staff to Lee Weishar, re: DRI process

Submittals from the Town

- Letter from the Town to DEP Waterways, re: List of revetment owners
- Letter from the Jeffrey Fryar re: Town's assurance on the nourishment issue, November 2, 1993
- Letter from the Town to the Commission, re: clarification of facts about revetments

Submittals from the State

- MEPA Certificate on the DEIR, February 10, 1994
- Letter from DEP to the Town of Chatham, re: pending Chapter 91 permits, February 2, 1994
- Letter from DEP to Will Joy of Coastal Engineering, re: Waterway applications
- MEPA Certificate on the FEIR, September 30, 1993
- Memorandum from Jan Reitsma of MEPA to Jeff Benoit of CZM, re: Phase I comments, September 1993
- Letter from Janet McCabe of MEPA to Will Joy of Coastal Engineering, re: shorefront structures emergency status
- Letter from Dave Shepardson of MEPA to Jeffrey Benoit, CZM, re: outstanding MEPA EIR
- MEPA Certificate on the ENF

Submittals from the Public

- Letter from Effie Butler, re: protesting further revetments, November 9, 1993
- Letter from Paul Galanti, re: revetment plans for the future, November 5, 1993
- Letter from Nick Souter to Cape Cod Times, re: coastal flooding and revetments, April 13 1993
- Letter from Doug Doe, re: EIR comments, March 10, 1993
- Letter from Elizabeth Tuttle, re: protest of regulations, March 4, 1993
- Letter from Billy Kelsey, re: physical environment of Cape Cod, March 3, 1993
- Letter from Robert Weaver, re: discussion of revetment permits, October 26, 1992
- Letter from Doug Doe, re: dune/bank distinction, September 2, 1992
- Letter from Kent Bonney, re: shoreline structures, August 31, 1992
- Letter from Paul Galanti, re: shoreline structures, August 24, 1992

Testimony

On September 2, 1992, a hearing was held by the Subcommittee for the purposes of taking testimony and commenting on the DEIR. The staff explained the purpose of the hearing noting that the Commission's scope of review is broader than that of MEPA.

Dr. Dave Aubrey, of Aubrey Consulting Incorporated (ACI), presented the information in the DEIR. Dr. Aubrey noted that a scoping session was held by MEPA to identify issues to be included in the EIR. Dr. Aubrey said that the document will examine the evolution of the coastline in the area including existing environmental conditions and land uses. Computer models and aerial photos will be used to determine the coastal dynamics and to assess the impacts of the existing revetments, Aubrey said. In addition, issues that are being considered are beach nourishment,

reconstruction and re-engineering of some revetments and public access along the beach fronts, Dr. Aubrey said.

At this scoping hearing the public testimony included 7 people primarily questioning how the MEPA /Commission process would work and asking for detailed information about the coastal dynamics, cost benefit of the project and the future of the coastal structures in the area.

On March 3, 1993, a hearing was held for the purposes of allowing the Commission, through its Subcommittee, to comment directly to MEPA with respect to the DEIR.

Mr. Lee Weishar, geologist for ACI, discussed the information in the DEIR that had been submitted to the Commission and MEPA. Mr. Weishar discussed the sediment transport in the area and also talked about erosion rates. Rapid erosion is occurring along the coastal bank and mitigation must account for the erosion that is due to the presence of the structures over and above the background erosion that is already taking place. Background erosion is that erosion that would occur even without the armouring in place, Mr. Weishar said.

Other impacts of the structures include limited public access, Mr. Weishar said. Access points have been reduced and erosion and lack of sediment have worsened the situation, Mr. Weishar said. Mr. Weishar concluded that there are both long and short term recommendations in the DEIR. The primary solutions are for the revetment owners to exchange public access for beach nourishment and for some structural renovation to take place to some individual walls in the area.

Mr. Finn, Commission staff person, said that overall, the DEIR was adequate but there were questions concerning beach nourishment and the timing of that nourishment. Other questions were related to the dune issue and responsibility for the mitigation both in terms of mechanics and finances.

Thirteen people testified at the hearing. There were no proponents or opponents to the recommendations. The general testimony was in the form of questions about coastal geology and the review process.

On November 10, 1993, a public hearing was held for the purposes of taking public testimony on the DRI issues following certification of the FEIR by the Secretary of Environmental Affairs. Staff concerns were related to the Minimum Performance Standards in the Regional Policy Plan. The discussion raised questions about the nourishment plan for the beaches that fronted the revetments, whether a "one time nourishment program" would work, and who would be responsible for providing the nourishment.

Margaret Swanson, Chatham Town Planner said that the town had to find a dredge disposal site for the dredge material that would ultimately come from the Aunt Lydia's Cove dredge project and that the area fronting the revetments and the Phase II area would be a suitable location for this. Ms. Swanson further added that the town can assume the role of coordinator for the nourishment, but that the town would only commit to the one time nourishment program as outlined in the FEIR.

Staff asked for additional time to work out details with respect to the timing of the nourishment and the issue of multiple nourishment.

Jurisdiction

The proposed Chatham Revetment Project Phase I qualifies as a DRI under Section 12 (i) as " Any proposed development project for which the secretary of environmental affairs requires the preparation of an environmental impact report..." The applicant voluntarily entered into the joint MEPA/Cape Cod Commission review process.

Findings

1. The decision will address issues raised by Phase I of the EIR concerning existing shore protection structures located in Chatham, Massachusetts.
2. The applicant is the Town of Chatham, filing for MEPA and DRI approval on its own behalf and on behalf of private property owners having existing shore protection structures (revetments with DEP Waterways Application Numbers originally constructed below Mean High Water, MHW), as identified in the attached Table 2-1 from the Phase I DEIR, with the exception that private property owners who received an Order of Conditions from the Chatham Conservation Commission, prior to July 1, 1989, the effective date of the Cape Cod Commission Act, are exempt from Commission review under Section 22 (b) of the Act. The Town of Chatham, at its own expense, engaged in information gathering, impact analysis and mitigation analysis in order to obtain MEPA and DRI approval for its own existing shoreline protection structure as well as for MEPA and DRI approval for existing shoreline protection structures of the private property owners identified above.
3. The Phase I revetments identified in the study area are located along the Chatham shoreline lying between Aunt Lydia's Cove and the Chatham Beach and Tennis Club. There are 30 revetments of varying engineered styles contained in the Phase I study.
4. The coastal dynamics and erosion patterns along the Chatham shoreline in the study area are beyond the control of the town and the revetment owners. Since the breach and consequent accelerated erosion, the town and the revetment owners have experienced serious threats to land and property during normal high tides, storm surges, coastal flooding and severe direct wave attack during storm events. These conditions led to the approval of emergency permits for construction of the revetments by the Waterways Division of the DEP.
5. The EIR/DRI proposed to maintain existing revetments, construct additional returns to specific revetment ends, construct a sacrificial vegetated dune and provide a one time beach nourishment program. According to the EIR/DRI document, the nourishment program should take place once the inlet, formed by the breach, has migrated southward to a point where it is located opposite the location known as the Outermost Harbor Marina.
6. Sand for the beach nourishment should be beach compatible to the immediate area and may be provided from Aunt Lydia's Cove dredge spoils.
7. DEP Chapter 91 Waterway licenses may be required for several of the revetments at the conclusion of the EIR/DRI review process.

8. The Town of Chatham has agreed to replace the stairs to the beach at the Lighthouse parking area to increase the public access to the shoreline.

9. Modification of existing state and local permits are required to rebuild and enhance existing revetments that are currently inadequate for their intended purpose.

10. The Town of Chatham, at its own expense, prepared the EIR/DRI application and is seeking MEPA and DRI approval on its own behalf and on behalf of the private property owners listed in Finding #2 above. The Town of Chatham has agreed to provide one-time beach nourishment seaward of its own revetment. In addition, the Town of Chatham has agreed to provide one-time beach nourishment, seaward of private shore protection structures, where individual property owners agree to provide temporary easements to the town for the purpose of providing beach nourishment.

11. In exchange for the town's preparation of the EIR/DRI application, its pursuit of MEPA and Commission approvals, and the one-time beach nourishment that will be provided by the town, revetment owners are encouraged to provide a public access easement along the beach seaward of the revetments. Revetment owners choosing to participate in this program may provide to the Town of Chatham a deed rider establishing an easement to pass and repass along their property seaward of their individual shore protection structure. Owners that choose not to provide such easement should provide a fair-share monetary contribution to an escrow account for the purpose of providing beach nourishment in front of their structure. Said escrow account should be administered by the town, and the town should have sole authority to draw down its funds for the specified purposes. Interest on the account shall follow the principal to offset inflation.

12. Some form of public access may be required by Chapter 91 licensure due to the use of public funds for dredging purposes.

13. The Town of Chatham has agreed to be responsible for the one time beach nourishment program. The Commission acknowledges that the town is not responsible for the repair, maintenance or success of any individually owned revetment in the study area, except for the town owned revetment.

14. The Town of Chatham has agreed to actively explore short and long term management strategies for its coastal areas, including opportunities for increased public access, during the preparation of the its Local Comprehensive Plan (LCP).

15. The Town of Chatham has agreed to participate in the design of any sacrificial dunes including the use or placement of indigenous vegetation in the dune for stabilization purposes and has further agreed to oversee the construction and maintenance of said dune.

16. Engineering designs for construction of revetment returns and designs for any and all modifications of existing private revetments will affect the beach profile of the study area. It is important to understand the regional impacts from and to coordinate individual design modifications to minimize adverse impact to private and public land and properties within the study area. Such coordinated review may be conducted by the Chatham Conservation Commission.

17. The applicable Minimum Performance Standards in the Regional Policy Plan (RPP) are met

with respect to coastal development, protection of resources and enhanced public access.

18. The subcommittee finds that the extremely dynamic coastal and erosional events that occur in the study area of Phase I justify the presence of existing revetments. Based upon the fact that the existing revetments are protecting structures that pre-date the 1978 Wetland Protection Act (WPA), which is a mandatory finding under the WPA, the Commission adopts the conclusions of the Phase I study and acknowledges this opportunity for obtaining increased public access seaward of the revetments. The Commission further finds that the town will continue to pursue solutions to the coastal erosion problems cooperatively with the owners of private shore protection structures. In this regard, the benefit of the proposal outweighs the detriment

Conditions

Conditions of approval pertaining to the Town of Chatham:

1. Upon or prior to the migration of the inlet, formed by the Breach, to a point opposite the location known as the Outermost Harbor Marina, The Town of Chatham shall provide a one-time beach nourishment. Said nourishment shall occur seaward of the public revetment and seaward of any private shore protection structure for which a temporary easement has been provided to the town for the purpose of allowing beach nourishment. The Town of Chatham may use dredge spoils from Aunt Lydia's Cove to provide said nourishment, or may use other beach compatible sources of nourishment so long as they are deemed compatible by the Chatham Conservation Commission. This condition shall not be construed to place any responsibility on the Town of Chatham for repair, maintenance, or success of any private shore protection structure located within the study area.
2. The town shall actively investigate coastal hazard planning solutions and public access strategies as part of the Local Comprehensive Planning effort that is currently underway.
3. The Town of Chatham shall replace the stairs to the beach at the Coast Guard Lighthouse to increase public access to the beach.
4. The Town of Chatham shall participate in the design of any sacrificial dune(s) and the placement of indigenous vegetation in said dune(s) for stabilization purposes, and shall oversee the construction and maintenance of any such dune(s) within the study area.

Conditions of approval pertaining to owners of private shore protection structures:

5. Owners of private shore protection structures shall submit engineering designs for construction of revetment returns and/or designs for any and all modifications of existing private revetments to the Town of Chatham Conservation Commission for approval prior to construction as required by law.
6. In order to ensure the completion of a one time beach nourishment program the Commission requires that the property owners choose one of 3 options:
 - (a) In exchange for the town's preparation of the EIR/DRI application, its pursuit of MEPA and Commission approvals, and the one-time beach nourishment that will be provided by the town,

owners of private shore protection structures shall provide an amount of money, to be determined by the town, sufficient to cover the individual property's share of the estimated cost of beach nourishment. Said funds shall be placed in an escrow account for the purpose of comprehensive monitoring of the beach profile, designing additional nourishment strategies and/or providing additional beach nourishment within the study area as deemed necessary by the Chatham Conservation Commission. Said escrow account should be administered by the town, and the town should have sole authority to draw down its funds for the specified purposes. The sediment amount, timing for placement and sediment placement shall be decided by the town. The property owner shall also provide a temporary easement for the limited purpose of allowing the town to enter the property to provide the one-time beach nourishment seaward of their existing shore protection structure; or

(b) In exchange for the town's preparation of the EIR/DRI application, its pursuit of MEPA and Commission approvals, and the one-time beach nourishment that will be provided by the town, owners of private shore protection structures shall accept town sponsored nourishment in exchange for providing public access "strolling" rights to run concurrently with the benefits of said nourishment. The property owner shall also provide a temporary easement for the limited purpose of allowing the town to enter the property to provide the one-time beach nourishment seaward of their existing shore protection structure; or

(c) provide the actual beach nourishment seaward of their private structure consistent with the requirements in Condition #1 above. Nourishment shall be provided consistent with Condition #1 and shall be coordinated and approved by the Chatham Conservation Commission.

Conclusion

The Commission has reviewed the project against the Minimum Performance Standards in the RPP and concludes that the project, as conditioned, complies with these standards and recommends that the project as conditioned, be approved for a DRI permit. Further, the Commission finds that the potential for increased public access and the provisions for mitigation in the form of a regional beach nourishment plan are acceptable and that the benefits of the project as proposed outweigh the detriments.

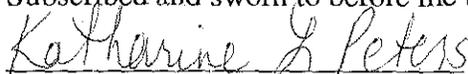

Kenneth Brock, Chair

7/7/94
Date

COMMONWEALTH OF MASSACHUSETTS

Barnstable, ss.

Subscribed and sworn to before me this 7th day of July 1994



NAME, Notary

My Commission expires:

