

# ENF Environmental Notification Form

*For Office Use Only*  
Executive Office of Environmental Affairs

EOEA No.: 14418  
MEPA Analyst: Purvi Patel  
Phone: 617-626-1029

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

Project Name: Proposed Resource Area Improvements at Mill Creek		
Street: N/A		
Municipality: Town of Chatham	Watershed: Mill Creek	
Universal Traverse Mercator Coordinates:	Latitude: 41°40' 15.53" N Longitude: 70° 01' 03.33" W	
Estimated commencement date: Fall 2009	Estimated completion date: Fall 2009	
Approximate cost:	Status of project design: _____ %complete	
Proponent: Town of Chatham, Attn: Theodore L. Keon, Director of Coastal Resources		
Street: 549 Main St.		
Municipality: Chatham	State: MA	Zip Code: 02633
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Beth Hays		
Firm/Agency: Woods Hole Group, Inc.	Street: 81 Technology Park Dr.	
Municipality: East Falmouth	State: MA	Zip Code: 02536
Phone: 508-495-6240	Fax: 508-540-1001	E-mail: bhays@woodsholegroup.com

- Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?  
 Yes  No
- Has this project been filed with MEPA before?  
 Yes (EOEA No. \_\_\_\_\_)  No
- Has any project on this site been filed with MEPA before?  
**Cockle Cove Nourishment Site**  Yes (EOEA No. 14196)  No
- Is this an Expanded ENF (see 301 CMR 11.05(7)) requesting:
- a Single EIR? (see 301 CMR 11.06(8))  Yes  No
  - a Special Review Procedure? (see 301 CMR 11.09)  Yes  No
  - a Waiver of mandatory EIR? (see 301 CMR 11.11)  Yes  No
  - a Phase I Waiver? (see 301 CMR 11.11)  Yes  No

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

Are you requesting coordinated review with any other federal, state, regional, or local agency?  
 Yes (Specify \_\_\_\_\_)  No

List Local or Federal Permits and Approvals:

- Order of Conditions from the Chatham Conservation Commission
- Army Corps of Engineers Permit
- Massachusetts Coastal Zone Management Certification



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

- |                                 |  |  |
|---------------------------------|--|--|
| <input type="checkbox"/> Land   | <input checked="" type="checkbox"/> Rare Species | <input checked="" type="checkbox"/> Wetlands, Waterways, & Tidelands |
| <input type="checkbox"/> Water  | <input type="checkbox"/> Wastewater              | <input type="checkbox"/> Transportation                              |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Air                     | <input type="checkbox"/> Solid & Hazardous Waste                     |
| <input type="checkbox"/> ACEC   | <input type="checkbox"/> Regulations             | <input type="checkbox"/> Historical & Archaeological Resources       |

Summary of Project Size & Environmental Impacts	Existing	Change	Total	State Permits & Approvals
<b>LAND</b>				<input checked="" type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input checked="" type="checkbox"/> Chapter 91 License <input checked="" type="checkbox"/> 401 Water Quality Certification <input type="checkbox"/> MHD or MDC Access Permit <input type="checkbox"/> Water Management Act Permit <input type="checkbox"/> New Source Approval <input type="checkbox"/> DEP or MWRA Sewer Connection/ Extension Permit <input type="checkbox"/> Other Permits <i>(including Legislative Approvals) – Specify:</i>
Total site acreage	7.6±			
New acres of land altered				
Acres of impervious area	0	0	0	
Square feet of new bordering vegetated wetlands alteration		0		
Square feet of new other wetland alteration		332,880±		
Acres of new non-water dependent use of tidelands or waterways		0		
<b>STRUCTURES</b>				
Gross square footage	N/A	N/A	N/A	
Number of housing units	N/A	N/A	N/A	
Maximum height (in feet)	N/A	N/A	N/A	
<b>TRANSPORTATION</b>				
Vehicle trips per day	N/A	N/A	N/A	
Parking spaces	N/A	N/A	N/A	
<b>WATER/WASTEWATER</b>				
Gallons/day (GPD) of water use	N/A	N/A	N/A	
GPD water withdrawal	N/A	N/A	N/A	
GPD wastewater generation/ treatment	N/A	N/A	N/A	
Length of water/sewer mains (in miles)	N/A	N/A	N/A	

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

Yes (Specify \_\_\_\_\_)  No

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

Yes (Specify \_\_\_\_\_)  No

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

Yes (Specify: **Estimated Habitat & Priority Site of Rare Species**)  No



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

Yes (Specify \_\_\_\_\_ )  No

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

Yes (Specify \_\_\_\_\_ )  No

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

Yes (Specify \_\_\_\_\_ )  No

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

This project involves improvements to the Mill Creek estuary system by the opening of the shoaled channel entrance, performing sand by-pass dredging, and excavation by removal of the excess material along the updrift shoreline to the channel jetty. It is estimated that approximately 19,500± cy of material would be initially dredged/excavated (16,500 cy dredged, 3,000 cy excavated), with the material to be utilized for beneficial use as described in the Project Narrative in Appendix B. This project is seeking a ten year permit with maintenance dredging and beach nourishment within the identified areas. Dredging is to be performed by a combination of mechanical and hydraulic dredging. The Barnstable County Dredge will complete the hydraulic dredging portions of the project.

The Mill Creek estuary system is of vital ecological value not only to the surrounding coastal environment and ecosystems, but it is also utilized by the Town of Chatham's Shellfish Department, and for decades it has been an essential component of the Town's extensive shellfish propagation program. The free flowing entrance to the estuary began to shoal over when the updrift jetty and groin systems became full to capacity. This condition developed approximately in 2006. Sediment was no longer able to be collected by the jetty and groin system and began to shoal into and across the entrance channel to the estuary. Without free-flowing tidal waters entering and leaving the channel entrance, the tidal exchange began to decrease. This sudden decrease in tidal exchange severely diminished the water quality within the estuary harming not only the ecosystems within the estuary, but the health of the shellfish propagation program.

The shoal quickly closed the main channel entrance to a point that navigation is now impossible thru the channel entrance. Tidal waters, however, continued, but to a diminished degree, reducing the tidal range within the estuary by at least 10%. The tidal inlet now flows around the shoal to enter the estuary. As the shoal continued to grow across the channel and toward the east, the secondary tidal access continued to diminish, creating a narrow tidal river along the downdrift/east shoreline. This narrow tidal river continues to decrease in width, causing less tidal exchange and more tidal current which is scouring the downdrift shoreline leaving virtually no high tide beach conducive for shorebird nesting habitat. If this condition continues, the water quality of the estuary will continue to diminish.

The sand has been sampled and found acceptable for beach nourishment and is proposed to be placed on the sediment starved downdrift beach area, behind and just east of the east jetty, in order to establish a significant high tide beach conducive for nesting habitat of migratory terns and plovers. In order to stop the scouring tidal flow along the easterly shoreline, excess dredge and excavation sand will also be utilized to join the shoal to the shoreline. Once closed, the area between the shoal and the shoreline would develop into a shallow tidal flat conducive to shellfish habitat and shorebird feeding area. Any excess dredge or excavation material will be made available for nourishment at town beach locations,



i.e., Cockle Cove Beach, Pleasant Street Beach and Forest Beach, already permitted for acceptance of beach nourishment materials.

The resultant beach profile from the sand excavation and by-pass dredging of the updrift beach at the West Jetty is designed to match the existing beach profile in final elevation and slope, as well as width. Specifically, the existing built-up vegetated dune will be excavated landward approximately 30'. The slope will then be contoured seaward from the top of the remaining dune face at a 10H:1V slope thus matching the grade and slope as it now exists. This approach would insure an exact replication of the existing beach conditions causing no net loss to nesting habitat for shorebirds, terns and plovers along the updrift excavation/by-pass area.

The placement of the dredged material along the downdrift shoreline would enhance shorebird feeding habitat at the site, and restore a tidal flat area for shellfish habitat. The nourishment area along the downdrift beach adjacent to the channel would establish approximately 31,650± sf of new feeding habitat. Additionally, by utilizing dredged material to extend the downdrift shoal to the shoreline, the shellfish habitat and bird feeding area should increase by approximately 25,000 sf from the elimination of the shoreline riverine condition.

### ALTERNATIVE ANALYSIS

**ALTERNATIVE 1 - DO NOTHING** – Should nothing be done, the water quality in the Mill Creek Estuary will continue to decrease and navigation will become impossible except at the highest High Tides.

**ALTERNATIVE 2 – OPEN CHANNEL WITHOUT BY-PASS DREDGING** – If the by-pass excavation and dredging is not performed in concert with the channel dredging, the channel will commence shoaling as soon as the dredging is completed and the condition will return to its unhealthy state within a few short years if not months.

**ALTERNATIVE 3 – OPEN CHANNEL, PERFORM BY-PASS DREDGING WITHOUT EXTENSION OF THE SHOAL** – If the shoal were not extended, then the shoreline riverine tidal access will remain to compete with the re-opened channel. This would reduce the tidal flow thru the channel and allow the riverine channel to continue to cut away at the high tide beach along that shoreline further reducing tidal flow into the estuary, possibly causing loss of wetland resources and limiting the area available for development of shellfish habitat and bird feeding area.

**ALTERNATIVE 4 – PREFERRED ALTERNATIVE – OPEN CHANNEL, PERFORM BY-PASS DREDGING, EXTEND THE SHOAL** – The preferred alternative resolves the symptoms and the cause of the shoaling. This alternative will vastly improve the water quality within the estuary by returning tidal flow to the pre-shoal conditions. The shorebird nesting area will also be improved in the area of the by-pass dredging and excavation on the updrift side of the jetty. This will occur since the slope fronting the excavated dune will commence seaward at a 10H:1V slope at the top of the dune face, as opposed to the bottom of the dune face, as it now exists. This would establish an increase in nesting habitat from what now exists (6,150± sf to approximately 20,150± sf) and thus insure that there would be no net loss of nesting habitat by the landward removal of 30' of vegetated dune. This alternative would also establish approximately 12,500± sf of new enhanced intertidal feeding habitat on the downdrift (east of the east jetty) side of the channel. This alternative would also improve and increase the intertidal and shallow subtidal area fronting the downdrift shoreline making it more conducive for shellfish habitat. Finally, this alternative would re-establish the hydraulic conditions which would allow for movement of the shoaled material to feed the downdrift beaches, most recently hampered by lack of sediment feeding.

**SEE ACCOMPANYING DOCUMENTS FOR DETAILED DISCUSSION**

