



October 17, 2013

Tim Carroll  
Board of Selectmen  
POB 119  
401 Middle Road  
Chilmark, MA 02535

**RE: MENEMSHA HARBOR, CHILMARK, MA**

**SENT VIA ELECTRONIC MAIL**

Dear Mr. Carroll,

Woods Hole Group (WHG) is pleased to submit this proposal for support services related to the proposed dredging of Menemsha Harbor in the town of Chilmark, MA. The technical services proposed herein are intended to aid the client in evaluating the storm damage and shoaling of Menemsha Harbor. Specifically, the WHG would assess the United States Army Corps of Engineers (USACE) proposed storm response dredging project of the inlet and thalweg to Menemsha Pond, including determining potential benefits and impacts related to the proposed dredging and potential design modifications that may be recommended to the USACE. The proposal includes specific tasks to perform a bathymetric data analysis, updated hydrodynamic modeling, and conduct two (2) meetings between Woods Hole Group personal, the client, and stakeholders.

**SITE DESCRIPTION**

Menemsha Harbor is located on Menemsha Pond in the town of Chilmark, Massachusetts. The harbor is a working water front for both commercial and recreational boaters. The harbor entrance faces northwest to Vineyard Sound and is vulnerable to winter storms (e.g. nor'easters). It is our understanding that recent storms have damaged the jetties at the harbor entrance and caused shoaling within the harbor, both of which are detrimental to navigation. The USACE intends to perform emergency repairs to the jetties and dredging of the harbor entrance way to remove shoaled sediment and maintain navigation. The Woods Hole Group proposes the following three (3) tasks to assess the potential shoaling of the Harbor.

- Task 1 – Bathymetric data analysis
- Task 2 – Updated hydrodynamic modeling
- Task 3 – Stakeholder meetings

## SCOPE OF WORK

### Task 1: Bathymetric Data Analysis

Upon contract award, the Woods Hole Group will review the bathymetric data previously collected for this location in 2001 for the Menemsha Harbor flushing study (WHG, 2002). This data set will be analyzed against the recent bathymetric data collected by USACE on February 26, 2012 to provide a comparison and evaluate the shoaling volumes and spatial locations. The Woods Hole Group will provide a brief technical memo that will include the data analysis results with graphics. The graphics will include, but not be limited to, a difference map of the bathymetry changes that are color coded to show areas of accretion (shoaling), erosion, and no change. It is expected that large, poster-sized graphics will be produced for presentation at the stakeholder meetings.

### Task 2: Updated Hydrodynamic Modeling

In May 2002, the Woods Hole Group, Inc. completed a tide-driven circulation study of Menemsha Creek, Menemsha Pond, and Nashaquitsa Pond to characterize the tidal flow between the System and Vineyard Sound. This was accomplished by creating a two-dimensional numerical hydrodynamic model, RMA-2, supported with field measurements from an Acoustic Doppler Current Profiler (ADCP) survey that measured currents. For 2013, the model grid will be updated for the proposed channel to be dredged at the existing channel location. The model will be run and compared to previous the modeling work performed in 2002.

### Task 3: Stakeholder Meetings

After the bathymetric data analysis (Task 1) is complete, the Woods Hole Group will organize a meeting with the client and other stakeholders to present the findings, formulate project objectives, and identify outstanding issues. A follow-up meeting will be organized after the completion of the updated hydrodynamic modeling (Task 2) to present the model results and provide client support. The Woods Hole Group team will include John Brawley (Senior Marine Systems Ecologist) and Mitchell Buck (Coastal Engineer). Each team member will require preparation time to review the proposal, client needs, and stakeholder concerns based upon their expertise. Additional meetings can be organized at the clients request but require a contract modification.

## SCHEDULE

The schedule will be developed following the contract award; however, we anticipate completion of the bathymetric data analysis within 20 days after project award. The kickoff meeting will be organized within 60 days of project award and supplemental meetings will be organized as necessary.

## BUDGET

This proposal was assembled under the assumptions of a fixed price contract. The total charges for Woods Hole Group services are presented below. It is our understanding that the towns of Chilmark and Aquinnah will be responsible for only Task 3, while the Wampanoag Tribe of Gay Head (Aquinnah) will be responsible for Tasks 1 and 2. The

budget for Task 3 is based on two (2) client meetings. Additional meetings can be organized at the client's request, but will require a contract modification for the additional cost. The total cost for services is **\$14,557** and the towns of Chilmark and Aquinnah will be responsible for Task 3 **\$4,187**. A summary of the cost breakdown for each task is as follows:

<b>Task</b>	<b>Responsible Party</b>	<b>Cost</b>
1. Bathymetric data analysis, graphics and technical memo	Wampanaog Tribe	<b>\$1,550</b>
2. Updated hydrodynamic modeling	Wampanaog Tribe	<b>\$8,820</b>
3. Stakeholder meetings (2 total)	Towns of Chilmark & Aquinnah	<b>\$4,187</b>
<b>Total Cost for Tasks 1, 2, and 3</b>		<b>\$14,557</b>

Invoice for services will be submitted monthly or at the completion of each Task or Subtask. Payment is required within 30 days from the invoice date. Work requested outside the scope of work defined above will not be completed without prior written approval from the client, including definition of the scope, schedule, and budget for additional tasks as/if required. Woods Hole Group reserves the opportunity to withhold work products or stop work in response to delayed payments.

We appreciate the opportunity to work with Mr. Carroll in support of the proposed Menemsha Harbor dredging. Should you have questions or requirements for additional information, please don't hesitate to contact us.

Sincerely,



Mitchell Buck, M.C.E  
Coastal Engineer

Copy furnished:

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Aquinnah, MA 02535