



Ronald R. Bourne, P.E. - President

Bourne Consulting Engineering, P.C.

3 Bent Street

July 9, 2014

Franklin, MA 02038

Town of Wellfleet
300 Main Street
Wellfleet, MA 02667

Attn: Mr. Harry S. Terkanian, Town Administrator

RE: Wellfleet Harbor Dredging

(BCE P34-642)

Subj.: Engineering Services – Dredge Material Sampling & Testing and Dredge Permitting

Dear Mr. Terkanian:

We thank you for this opportunity to provide a proposal for engineering services associated with the proposed dredging of Wellfleet Harbor. As per our previous discussions and emails, the next step in the process for permitting the proposed dredging would be to request a pre-application meeting with regulatory agencies and commence sampling and testing.

We have recommended a pre-application meeting early in the process due to the long time period since last dredging of the Town Mooring Basin (Area II in the *BCE* Dredge Feasibility Study). Including this area may increase the scope of required sampling and testing and is likely to attract greater regulatory scrutiny. Understanding regulatory concerns early in the process may help develop a better strategy to meet the Town's goals.

The entire sampling and testing program can be somewhat lengthy and costly but the goal is to have the dredge material approved for offshore disposal prior to proceeding with the submission of formal permit applications.

Typical sampling and testing for offshore disposal proceeds in three stages:

Stage 1 – Gradation and Bulk Chemistry

Stage 2 – Bio Assay Testing

Stage 3 – Bio Accumulation Testing.

At this time, the US Army Corps of Engineers (USACE) has defined the sampling and testing they will require for the first stage of this process. When the results of this first stage are available, the USACE may determine that the biological testing in Stages 2 and 3 is not required but, based on our current understanding, it is likely that biological testing will be required if the project proceeds. Stages 2 and 3 can be completed together but the cost of the lab testing is high and, if the material fails at any stage, the additional testing may be wasted effort. Therefore, we have presented an approach which performs these two stages sequentially.

The complete process for sampling and testing of the dredge material should be completed prior to proceeding with actual regulatory applications. We would anticipate the process would follow the sequence as follows:

1. Request Pre-application Meeting
2. Initiate Stage 1 of the sampling and testing program as per approved Sampling and Testing Plan (attached)
3. Submit Stage 1 test results to the USACE and request determination for further testing and confirm if biological testing will be required
4. Perform biological testing is required – perform in two phases (Stage 2 and Stage 3).
5. The USACE will issue a Suitability Determination after they have all of the testing results that they require. The goal is to have the material approved by the USACE for disposal offshore.
6. Following Suitability Determination, prepare and file the required local, State and Federal permit applications.

We have prepared a scope of work and fee proposal based on this approach which can proceed in steps to suit available funding for the work as follows:

Assumptions:

This proposal is being submitted based on the following assumptions:

- Past dredging projects for Wellfleet Harbor have used the Cape Cod Bay Disposal Site (CCBDS).
- Dredge limits will be based on the dredge depths and limits as determined by historic Chapter 91 licenses and as set out in the *BCE* Dredge Feasibility Study
- Previous hydrographic survey will be used as basis for dredge footprints and regulatory applications (may require update after 5 years for formal permit applications)
- Preliminary design of dredge footprint as per *BCE* Dredge Feasibility Study
- Project to be consistent with past approvals and would be considered a maintenance dredge project.
- Sampling and testing requirements will be based on USACE Memorandum of March 25, 2014.
- Number of composite samples will be determined by USACE. Budgets assume 2 to 3 samples.
- Municipal exemption for permit fees (Task 3)

Scope of Work

Task 1 - Kick Off Meeting and Pre-Application Meeting

- Hold Kick off meeting with Town representatives to confirm Town goals and schedule
- Request Pre-Application to MEPA office and coordinate with USACE
 - Goal is to obtain input from all key regulatory review agencies including:
 - USACE
 - MA DEP
 - MA Division of Marine Fisheries
 - MA Office of Coastal Zone Management
- Coordinate meeting and prepare minutes for distribution
- Prepare memo for Town with recommendations for permitting approach

Task 2 - Material Sampling and Testing – Costs based on attached proposals

A. Stage 1 Sampling and Testing

- i. Perform required sampling and testing for first level of findings including obtainment of 14 samples as determined by USACE and performance of physical testing to determine compositing:
 - 1. Sampling by TG&B \$ 4,260
 - 2. Physical Testing (grain size) \$ 1,750
- ii. *BCE* to perform review of findings with USACE to confirm number of samples for Bulk Chemistry
- iii. Perform Bulk Chemistry Testing (ESI) in accordance with USACE requirements
 - 1. Assume 7 Composite Samples \$ 6,200
- iv. *BCE* to provide coordination throughout this sampling and testing phase and provide summary of findings with recommendations.
 - 1. Budget for engineering services billed time & expenses \$ 2,500

B. Stage 2 Sampling and Testing - Based on Client authorization to proceed

- i. Perform required sampling and testing for first level of biological findings including obtainment of 14 samples as determined by USACE and performance of physical testing to determine compositing:

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1. Sampling by TG&B \$ 5,000
 2. Physical Testing (grain size) \$ 1,750
 - ii. **BCE** to perform review of findings with USACE to confirm number of composite samples for Bio-assay
 - iii. Perform Bio-assay testing (ESI) in accordance with USACE requirements
 1. Disposal site reference sample \$ 2,000
 2. Testing cost for 2 Samples \$ 4,800
 3. Testing cost for 3 Samples \$ 6,825
 - iv. **BCE** to provide coordination throughout this sampling and testing phase and provide summary of findings with recommendations.
 1. Budget for engineering services billed time & expenses \$ 2,500
- C. Stage 3 Sampling and Testing - Based on Client authorization to proceed
- i. Perform required sampling and composite as defined in Stage 2 Testing:
 1. Sampling by TG&B \$ 5,000
 - ii. Perform Bio-accumulation testing (ESI) in accordance with USACE requirements
 1. Disposal site reference sample \$ 2,000
 2. Testing cost for 2 Samples \$ 77,900
 3. Testing cost for 3 Samples \$ 93,800
 - iii. **BCE** to provide coordination throughout this sampling and testing phase and provide summary of findings with recommendations.
 1. Budget for engineering services billed time & expenses \$ 3,500

Task 3 - Regulatory Approvals

- **BCE** will prepare and submit permit applications for the potential dredging and disposal scenarios as described above.
- It is anticipated that regulatory applications will be required for the following:
 - Preparation of project narrative for regulatory applications
 - Preparation of Essential Fish Habitat study
 - Preparation of drawings in required formats for submission to agencies
 - Filing of Environmental Notification Form including:
 - Onsite meeting with MEPA / Environmental Agencies (1 mtg.)
 - Request for Waiver of mandatory EIR
 - Filing of Wellfleet Conservation Commission Notice of Intent including:
 - Abutter notifications
 - Presentation of project to Commission (2 mtgs.)
 - Advertising as required
 - Recording of Order of Conditions
 - Preparation and filing for 401 Water Quality Certificate
 - Advertising (joint with Chapter 91 Permit)
 - Preparation and filing for MA DEP Chapter 91 Dredge Permit including:
 - Abutter notifications / Town Board Approvals
 - Advertising (joint with WQC)
 - Recording of permit

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- Preparation and filing for U.S. Army Corps of Engineers Sec. 404 Permit
- Preparation and filing for MA Coastal Zone Management Consistency
- Providing regulatory coordination through regulatory review and approval process
- Recording of approvals as required

SUMMARY OF FEES

Task 1 - Kick off Meeting and Pre-Application Meeting	\$3,860
Task 2 - Material Sampling and Testing	
Stage 1 - Sampling and Testing	
Sampling - TG&B - 14 samples	\$ 4,260
Physical Testing - ESI	\$ 1,750
Bulk Chemistry Testing-ESI - 7 samples	\$ 6,200
<i>BCE</i> coordination (time & expense)	\$ 2,500 Budget
	Total \$ 14,710
Stage 2 - Sampling and Testing- <i>Upon direct approval by Owner</i>	
Sampling - TG&B - 14 samples	\$ 5,000
Physical Testing - ESI	\$ 1,750
Disposal Site Reference Sample-ESI	\$ 2,000
Bio-Assay Testing-ESI - 3 samples	\$ 6,825
(if 2 samples reduce to \$4,800)	
<i>BCE</i> coordination (time & expense)	\$ 2,500 Budget
	Total \$ 18,075
Stage 3 - Sampling and Testing - <i>Upon direct approval by Owner</i>	
Sampling - TG&B - 14 samples	\$ 5,000
Disposal Site Reference Sample-ESI	\$ 2,000
Bio-Accumulation Testing-ESI - 3 samples	\$ 93,800
(if 2 samples reduce to \$77,900)	
<i>BCE</i> coordination (time & expense)	\$ 3,500 Budget
	Total \$104,300
Task 3 - Regulatory Approvals	\$21,375
Budget for regulatory coordination	\$ 5,000
Budget for advertising, abutter notices, etc.	<u>\$ 5,000</u>
OVERALL BUDGET	\$172,320

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Additional Services

Meetings

Meetings are included within the project where they are specifically listed in the above services. Additional meetings attendance as requested by the client will be billed at the following rate which includes all travel expenses.

Principal/Project Manager \$650/mtg

Thank you for the opportunity to submit this proposal. We hope the above is satisfactory for your needs. If you have any questions or would like to discuss the project or proposal further, please do not hesitate to contact this office.

If you would like to proceed with the proposed project in phases, we would recommend approval for Task 1 and for Stage 1 of the Sampling and Testing at this point in time.

Very truly yours,

BOURNE CONSULTING ENGINEERING, PC



Russell Titmuss, PE
Project Manager

Enclosure



LABOR AND EXPENSE RATES

EFFECTIVE JUNE 2014

<u>POSITION</u>	<u>RATE</u>
PRINCIPAL	\$190.00
PROJECT MANAGER	\$120.00 - \$170.00
Sr. WATERFRONT ENG.	\$100.00 - \$130.00
COASTAL/WTRFRNT ENG. III	\$ 90.00 - \$ 110.00
COASTAL/WTRFRNT ENG. I/II	\$ 70.00 - \$ 90.00
REGULATORY SPECIALIST	\$ 80.00 - \$ 90.00
TECHNICIAN/CADD I & II	\$ 45.00-\$65.00
TECHNICAL ASSISTANT	\$ 66.00

<u>EXPENSES</u>	<u>RATE</u>
Reproduction costs - drawings:	
Plotting - Vellum	\$ 10.00/sheet
Plotting - Mylar	\$ 20.00/sheet
Printing 24 x 36	\$ 2.50/sheet
Mileage	\$ 0.50/mile
14 ft Jon Boat	\$ 25.00/day
18 ft Boat (w/motor)	\$250.00/day
Fathometer	\$200.00/day
Sub-Foot GPS	\$250.00/day
Survey Equipment –Total Station/Level	\$ 35.00/day
Ultrasonic Thickness Measurement	\$150.00/day
Weld Testing - Magnetic Particle	\$ 50.00/day
Coating Thickness Testing Equipment	\$ 50.00/day
Coring Equipment - Compressor w/ accessories	\$100.00/day
Soil Sample Augers	\$100.00/day
Field Expendables (rulers, lights, batteries, etc.)	\$ 25.00/day
Diving – Dive Team Scuba Equipment	\$450.00/day

All Other Expenses at Cost

Rates are subject to review and change on an annual basis with an increase limit of 5% per year.