TOWN OF OAK BLUFFS

Post Office Box 1327 • Oak Bluffs, MA 02557
Telephone 508-693-3554 • Fax 508-696-7736

Board of Selectmen

Gregory A. Coogan, *Chairman*
Gail M. Barmakian
Kathleen A. Burton
Michael J. Santoro
Walter W. Vail

Robert L. Whritenour, Jr.
Town Administrator

August 22, 2014

Mr. Robert Grimley,
Disaster Recovery Manager
FEMA Region I
99 High Street
Boston, MA 02110

RE: Town of Oak Bluffs, North Bluff Seawall - FEMA OBCVM01
Sengekontacket Pond Dredging - FEMA

Dear Mr. Grimley,

I would like to thank you once again for arranging and conducting our meeting of August 5, 2014 to review the status of the Town of Oak Bluffs' applications for Hurricane Sandy disaster assistance. Obviously, the Town was very disappointed to hear that our previously approved Project Worksheets are all being redone, but we do respect your process, and have pledged to work together with you to resolve any outstanding issues. Since our meeting I have appreciated your weekly updates to help foster strong and positive communications on our projects. Together we have agreed to take each of the five projects independently, starting with the most time-sensitive projects and attempt to work out the remaining issues until we move through all five projects.

As we have discussed two projects are critically time-sensitive and require immediate action to prevent further environmental harm to our community. The first is the dredging of the entrance to Sengekontacket Pond, where the water quality has been degraded due to the closed entrance, threatening the significant shellfish resources in the pond. From our meeting and through your timely follow-up, as well as follow-up from Thomas Perry and William Brierley, my understanding is that this project appears to meet all regulations, and barring any additional complications we will receive a commitment of funds for this work to be conducted within our next available dredging window which extends from September 1, 2014 through January 15, 2015.

The second critically time-sensitive project is the reconstruction of the North Bluff Seawall that has been degraded to very poor condition as a result of Hurricane Sandy. In its current condition this seawall is no longer capable of protecting the adjacent coastal bank or the public roadway and infrastructure, and we shudder to contemplate the risk of failure we face in the next major coastal storm. As you know the FEMA disaster aid is just one part of a major effort by the Town and the Commonwealth of Massachusetts to reconstruct this failing seawall. The Town is under contract with the Massachusetts EOEA's Dam and Seawall Program for $3.6

million and the Massachusetts Seaport Advisory Council for $2 million of the project cost. The FEMA share under our original Project Worksheet was $1.9 million. By working together with all available programs we have significantly limited the FEMA share by creating an improved project which will use non-federal funding sources to accomplish the hazard mitigation portion of the project to raise the height of the seawall for better future protection. However, the project is ready to go out to bid and further undue delay in committing the FEMA portion of the scope of work will jeopardize the two grants which have deadlines to start and complete this work.

At our meeting it was stated that there is some question as to the cost of repairing the seawall, and that potentially these repairs could cost less than fifty percent of the replacement cost. Attached please find a technical memorandum from our consulting engineering firm of CLE that certifies the existing condition of the wall and explains the damage to the wall as well as the reasons that minor repairs will not address the loss of strength and structural integrity of the existing concrete wall. Based on this analysis, and applying State standards as a reliable source of construction estimates, the cost of repairing the wall has been calculated at eighty-four percent of the cost of replacement.

Based on this analysis, it is clear that we are well within the guidelines for the approval of this project, and that further delay may place the Town at great risk not only of environmental harm as a result of a seawall collapse, but also for the $5.6 million of funding in place to complete this $7.5 million project. If this were to occur, the FEMA request would increase to address hazard mitigation to complete the project.

With this information the Town requests your swift action in approving the commitment of funds for both of these emergency projects, the dredging of the entrance to Sengekontacket Pond and the North Bluff Seawall Project to prevent further environmental harm, and when these funds are committed we can turn to any issues with the three remaining Oak Bluffs projects.

Thank you for your consideration in these matters, as well as for all of your efforts to assist our community. Please do not hesitate to contact me for any additional information that you may require to assist in your evaluation of our request.

Sincerely,

Robert L. Whritenour, Jr.,
Town Administrator

encl.: Correspondence of CLE Engineering Dated August 21, 2014

cc: Board of Selectmen
State Representative Timothy Madden
Members of the Oak Bluffs Conservation Commission
Scott McLeod, Massachusetts Emergency Management Agency
Senator Elizabeth Warren
Representative William Keating

cleengineering

15 Creek Road Marion, Massachusetts 02738
t: 508.748.0937 800.668.3220 f: 508.748.1363

August 21, 2014

Mr. Robert B. Whritenour
Town Administrator
Oak Bluffs Town Hall
56 School Street
Oak Bluffs, MA 02557

Re: North Bluff Seawall
Oak Bluffs, MA
FEMA: **OBCVM01**

Ref: 1) MCIIAP APPENDIX B dated October 2009
2) MCIIAP APPENDIX D dated October 2009

Dear Mr. Whritenour:

Pursuant to our meeting with FEMA on August 5, 2014, please accept this letter addressing the FEMA claim the North Bluff Seawall requires only minor repairs and that such minor repairs will cost less than 25% of the proposed cost of recommended reconstruction.

The North Bluff seawall circa 1940 is an unreinforced gravity concrete seawall constructed of cement with an aggregate of local beach sand and assorted beach cobbles. Such depression era seawalls are prone to exhibit alkali-silica reaction (ASR) which is characterized by deterioration of the cement with excretion of white effervescent paste (calcium silicate hydrate gel) and the resultant weakening, spalling and cracking of the concrete. Said ASR seawalls are very difficult to repair since the strength of a majority of the original concrete has been lost.

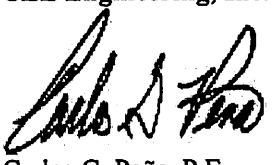
The North Bluff seawall has been inspected by DCR in 2013 and declared to in very poor condition (D). The seawall has rotated and settled as a result of undermining, scour and toe failure during coastal storm events and exhibits ASR with the associated weakening, spalling and cracking of the concrete. The seawall is no longer capable of protecting adjacent coastal bank or the public roadway and infrastructure and has a strong risk of failure during a major coastal storm.

According to the above referenced APPENDIX D which has proven to be a reliable source of construction estimates for engineered coastal protection structures, the cost of repairing a 10 to 15 foot concrete seawall is $2,508 per linear foot. The cost of replacing the same seawall is $2,970 per linear foot with both costs excluding the $ nearly $1,500 per linear foot cost of required cofferdams for this project. The DCR stated cost for repairs represents 84% of the stated cost for replacement of the seawall which exceeds the FEMA 25% minimum.

cleengineering

Please feel free to call me if you have any questions.

Yours truly,
CLE Engineering, Inc.



Carlos G. Peña, P.E.
Vice President

Cc: John A. DeRugeris, P.E.
Susan E. Nilson, P.E.

APPENDIX B

Structure Condition Table – 5 Level Rating System

Preliminary Condition Assessment		Definition Based Upon Perceived Immediacy of Action and Potential to Cause Damage if Not Corrected	Level of Action Required
A	Excellent	Like new condition. Structure expected to withstand major coastal storm without damage. Stable landform (beach, dune or bank). Adequate system exists to provide protection from major coastal storm	None
B	Good	Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure	Minor
C	Fair	Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide additional material for full protection and extended life	Moderate
D	Poor	Structure exhibits advanced levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure has strong risk of significant damage and possible failure during a major coastal storm Structure should be monitored until repairs/reconstruction can be initiated. Actions taken to reconstruct structure to regain full capacity to resist a major coastal storm. Landform eroded, stability threatened. Landform not adequate to provide protection during major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.	Major
F	Critical	Conditions of structure/landform may warrant emergency stabilization as failure may result in potential loss of property and/or life. Landform eroded, loss of integrity Structure exhibits critical levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure provides little or no protection from a major coastal storm. Actions taken to totally reconstruct structure to regain full capacity. Landform stability is severely compromised, rate of erosion/material loss may be increasing, and landform does not provide adequate protection from a major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.	Immediate

APPENDIX D

2006 Repair/Rehabilitation Costing Data for Entire Study

The following matrix was developed for Phase I (South Shore) reports and it was determined to utilize the same costing data for the entire report to be consistent. An assumed 4% per year can be added to the prices for a generalized inflation costing. Please note that Groin rated B pricing has been modified; <5' is $132, 5'-10' is $240; 10'-15' is $314 and >15' is $494.

CZM SOUTH SHORE COASTAL INFRASTRUCTURE INVENTORY AND ASSESMENT PROJECT

EXHIBIT C

September 14, 2006

REPAIR / REHABILITATION COSTING DATA

Cost per linear foot of structure

STRUCTURE TYPE	STRUCTURE MATERIALS	STRUCTURE HEIGHT	STRUCTURE CONDITION RATING A	B	C	D	F
BULKHEAD/ SEAWALL	CONCRETE	Under 5 Feet	$0	$84	$425	$850	$983
		5 To 10 Feet	$0	$152	$759	$1,518	$1,782
		10 To 15 Feet	$0	$251	$1,254	$2,508	$2,970
		Over 15 Feet	$0	$396	$1,980	$3,960	$4,752
	STEEL	Under 5 Feet	$0	$54	$273	$546	$680
		5 To 10 Feet	$0	$165	$825	$1650	$1,848
		10 To 15 Feet	$0	$251	$1,254	$2,508	$2,772
		Over 15 Feet	$0	$343	$1,716	$3,432	$3,795
	STONE	Under 5 Feet	$0	$84	$425	$850	$983
		5 To 10 Feet	$0	$152	$759	$1,518	$1,782
		10 To 15 Feet	$0	$251	$1,254	$2,508	$2,970
		Over 15 Feet	$0	$396	$1,980	$3,960	$4,752
	WOOD	Under 5 Feet	$0	$86	$431	$862	$994
		5 To 10 Feet	$0	$127	$632	$1,265	$1,463
		10 To 15 Feet	$0	$161	$804	$1,608	$1,872
		Over 15 Feet	$0	$202	$1,008	$2,017	$2,380
COASTAL BEACH	SAND	Under 5 Feet	$0	$26	$132	$264	$264
		5 To 10 Feet	$0	$127	$634	$1,267	$1,267
		10 To 15 Feet	$0	$224	$1,122	$2,244	$2,244
		Over 15 Feet	$0	$396	$1,980	$3,960	$3,960
COASTAL DUNE	SAND	Under 5 Feet	$0	$18	$93	$186	$186
		5 To 10 Feet	$0	$48	$238	$476	$476
		10 To 15 Feet	$0	$79	$395	$790	$790
		Over 15 Feet	$0	$132	$660	$1,320	$1,320
REVETMENT	STONE	Under 5 Feet	$0	$66	$333	$664	$730
		5 To 10 Feet	$0	$120	$601	$1,201	$1,300
		10 To 15 Feet	$0	$157	$781	$1,564	$1,698
		Over 15 Feet	$0	$247	$1,234	$2,468	$2,668
GROIN	STONE	Under 5 Feet	$0	$132 ~~$157~~	$664	$1,328	$1,460
		5 To 10 Feet	$0	$601 ~~$157~~	$1,201	$2,402	$2,600
		10 To 15 Feet	$0	$787 ~~$247~~	$1,564	$3,128	$3,392
		Over 15 Feet	$0	$1,234 ~~$157~~	$2,468	$4,937	$5,333

NOTE: Repair / Rehabilitation Costs include 10% for engineering and regulatory approvals and 20 % construction contingency.