



# TOWN OF SOUTH BETHANY

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South Bethany, DE 19930

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January 15, 2016

Mr. Jon Janowicz, Risk Analysis Branch Chief  
FEMA Region III  
615 Chestnut Street  
One Independence Mall, Sixth Floor  
Philadelphia, PA 19106-4404

Re: The Town of South Bethany Appeal of the 2015 Preliminary FEMA FIRM

Dear Mr. Janowicz:

The Town of South Bethany is appealing the 2015 Preliminary FEMA FIRM.

The Woods Hole Group of East Falmouth, Massachusetts has compiled the enclosed report with the necessary scientific and technical information to support our appeal.

Per FEMA requirement our appeal is being filed within the 90 day appeal period that ends on January 20, 2016.

One basis for our appeal is that FEMA does not consider the USACE/DNREC storm damage reduction project.

Our town feels strongly that the dune should be included in FEMA's analysis. It has been a significant improvement in storm damage protection for our community and should be recognized by the flood hazard mapping.

We understand it is important to accurately reflect flood risk on the FIRM and feel the revised mapping in our appeal is more accurate.

On behalf of the Town of South Bethany we ask that FEMA give careful consideration to our appeal.

Sincerely,

Pat Voveris, Mayor

On Behalf of the South Bethany Town Council

PV/phs 1 15 16

Enclosure



**Appeal of the May 18, 2015 Preliminary  
Federal Emergency Management Agency  
Flood Insurance Rate Map  
Town of South Bethany, Sussex County, DE**

**Prepared For:**

Town of South Bethany  
402 Evergreen Road  
South Bethany, DE 19930

**Prepared By:**

Leslie Fields, MS, CFM  
Kirk Bosma, MCE, PE  
Woods Hole Group, Inc.  
81 Technology Park Drive  
East Falmouth, MA 02536

January 15, 2016

**Appeal of the May 18, 2015 Preliminary  
Federal Emergency Management Agency  
Flood Insurance Rate Map  
Town of South Bethany, Sussex County, DE**

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81 Technology Park Drive  
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(508) 540-8080

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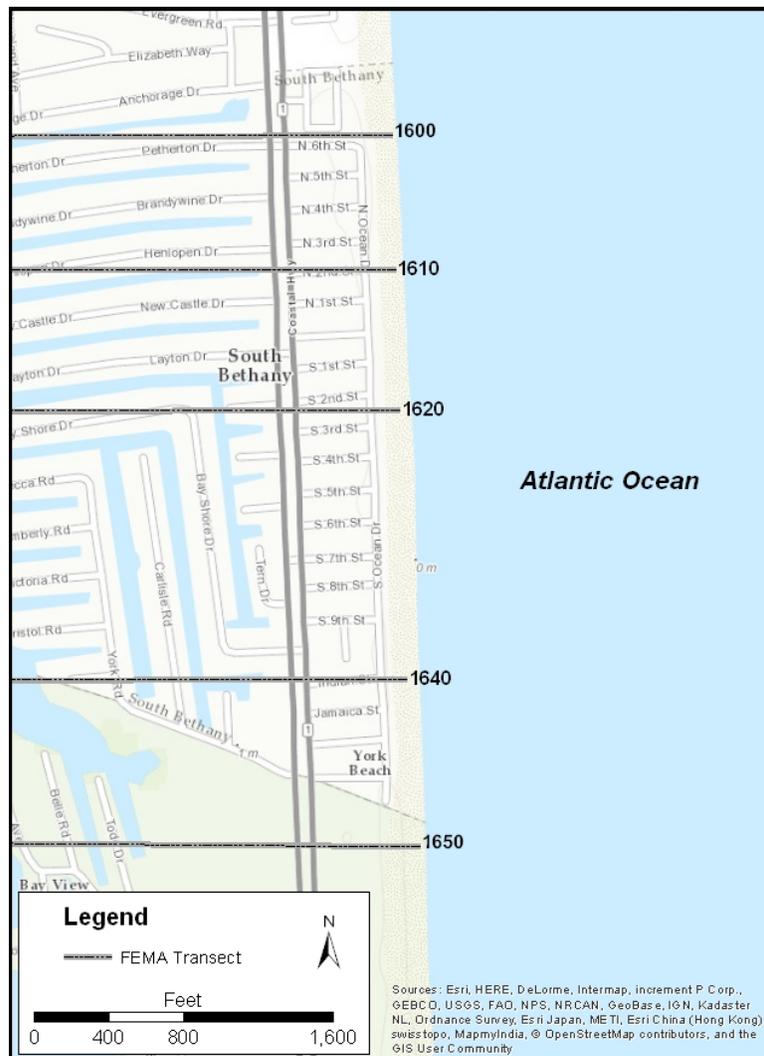
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## 1.0 INTRODUCTION

This report provides scientific and technical data in support of an appeal of the May 18, 2015 Preliminary Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) and associated Flood Insurance Rate Map (FIRM) for the Town of South Bethany, Sussex County, DE. Scientific and technical information are presented in accordance with requirements for an appeal as defined in Title 44, Chapter I, Section 67.6(b) of the Code of Federal Regulations, and the information is being submitted during the 90-day appeal period. Woods Hole Group is working under contract for the Town of South Bethany; all information presented in this appeal is on behalf of the Town. The appeal proposes changes to the Base Flood Elevations (BFEs), base flood depths, and Special Flood Hazard Area (SFHA) zone designations shown on the May 18, 2015 Preliminary FIRM Panel 10005C0518K in the area of South Bethany east of Route 1 and between FEMA Transects 1600 and 1650 (Figure 1).



**Figure 1. Site map showing focus area for Town of South Bethany appeal of the May 18, 2015 Preliminary FEMA FIRM.**

This report provides documentation showing that FEMA’s BFEs, base flood depths, and SFHA zone designations on portions of Preliminary 2015 FIRM Panel 10005C0518K for South Bethany, DE are scientifically and technically incorrect. Specifically, this appeal is based on the following findings:

- The Preliminary FIRM is technically incorrect because FEMA’s bathymetric and topographic data are of poor-quality and insufficient to define current conditions.
- The Preliminary FIRM is scientifically incorrect because the methodology and assumptions used for dune erosion are inappropriate and incorrect.
- The Preliminary FIRM is technically incorrect because FEMA’s methods for dune erosion are not applied correctly.

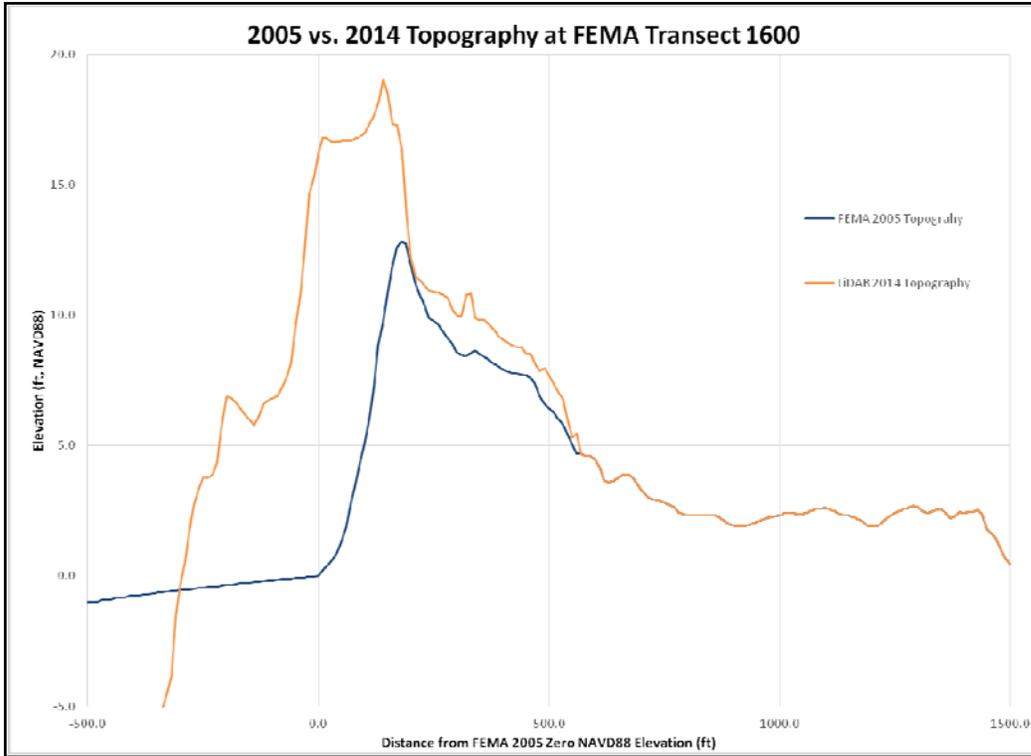
As required by Title 44, Chapter I, Section 67.6(b) of the Code of Federal Regulations and FEMA’s guidance document entitled “Criteria for Appeals of Flood Insurance Rate Maps” dated November 30, 2011, this report provides the necessary documentation and data to support the appeal based on technical and scientific issues, and has been certified by a Registered Professional Engineer.

## **2.0 TECHNICALLY INCORRECT**

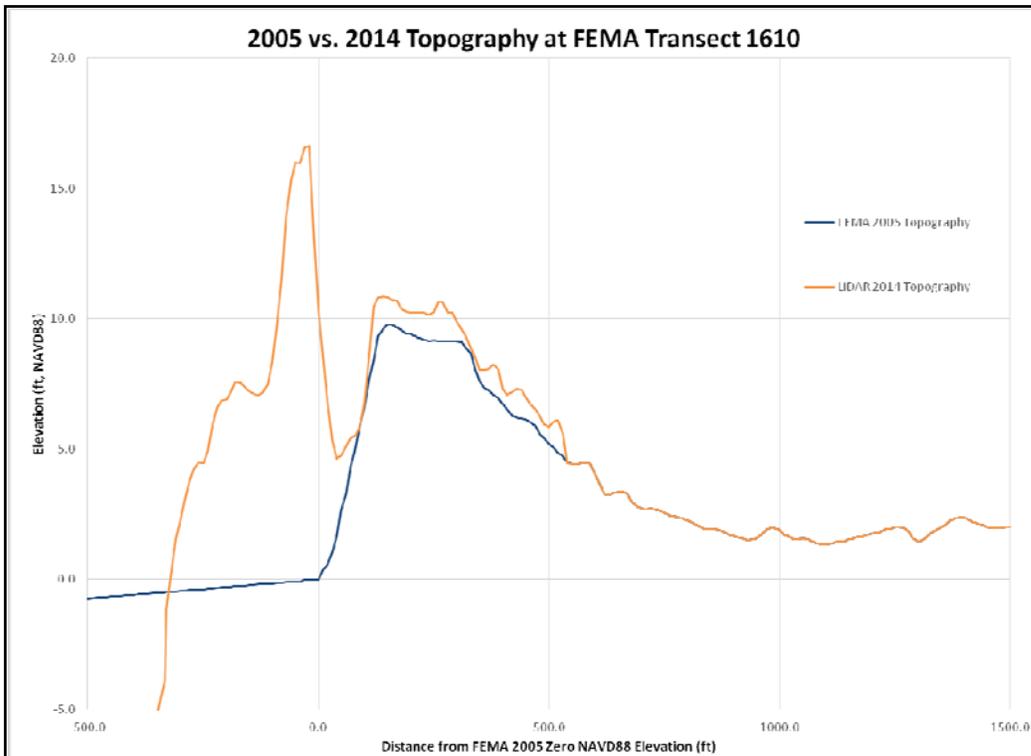
### **2.1 METHODOLOGY BASED ON INSUFFICIENT AND POOR-QUALITY DATA**

#### **2.1.1 Elevation Data**

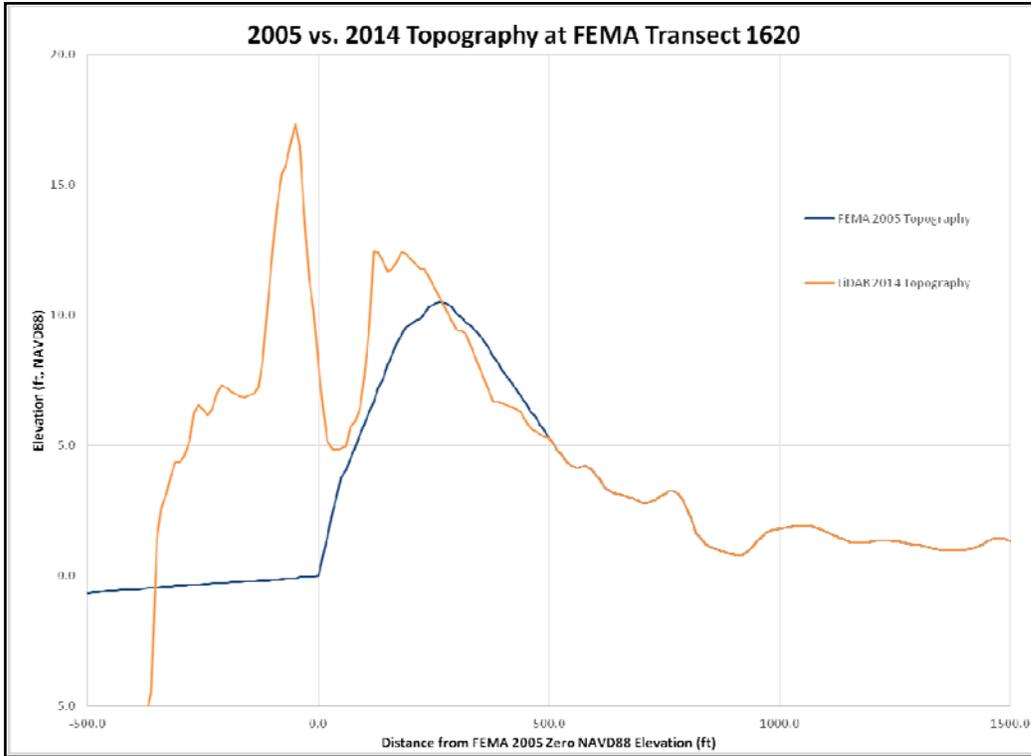
FEMA’s Preliminary 2015 FIRM for South Bethany was developed using topographic data derived from a continuous Light Detection and Ranging (LiDAR) dataset collected by the Delaware Geological Survey and United States Geological Survey (USGS) in March 2005 and bathymetric data. While this dataset provides an accurate representation of topography in March 2005, more recent LiDAR data collected by the National Oceanic Atmospheric Administration (NOAA) National Geodetic Survey Remote Sensing Division in 2014 provide a better representation of the current topography than the 2005 dataset used in FEMA’s flood study. The older 2005 LiDAR dataset was collected before construction of the *Cape Henlopen to Fenwick Island, Bethany Beach/South Bethany, DE Flood & Control Storm Damage Reduction Project*. The joint US Army Corps of Engineers (USACE) and Delaware Department of Natural Resources (DNREC) project, completed in June 2008, includes a 150 ft wide beach berm with an elevation of +7.0 ft NAVD, and a dune with an elevation of +16.0 ft NAVD in the communities of Bethany Beach and South Bethany, DE. The USACE/DNREC project was designed to reduce damages from storm events and resulted in significant changes to the shoreline topography in the project areas (Figures 2-6). The more recent 2014 LiDAR data provide an accurate representation of the current shoreline topography, including the USACE/DNREC storm damage reduction project. Consequently, the 2014 LiDAR data are believed to be better than the older 2005 data used as the basis for FEMA’s Preliminary 2015 FIRM.



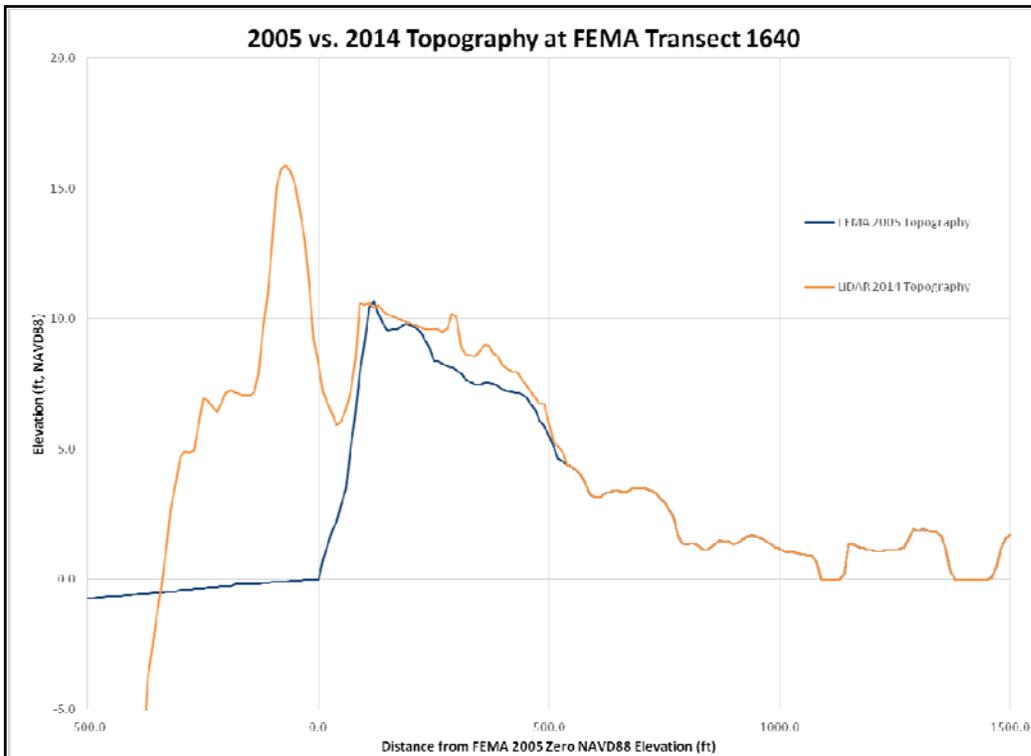
**Figure 2. 2005 vs. 2014 topography at Transect 1600 showing impacts of USACE/DNREC storm damage reduction project.**



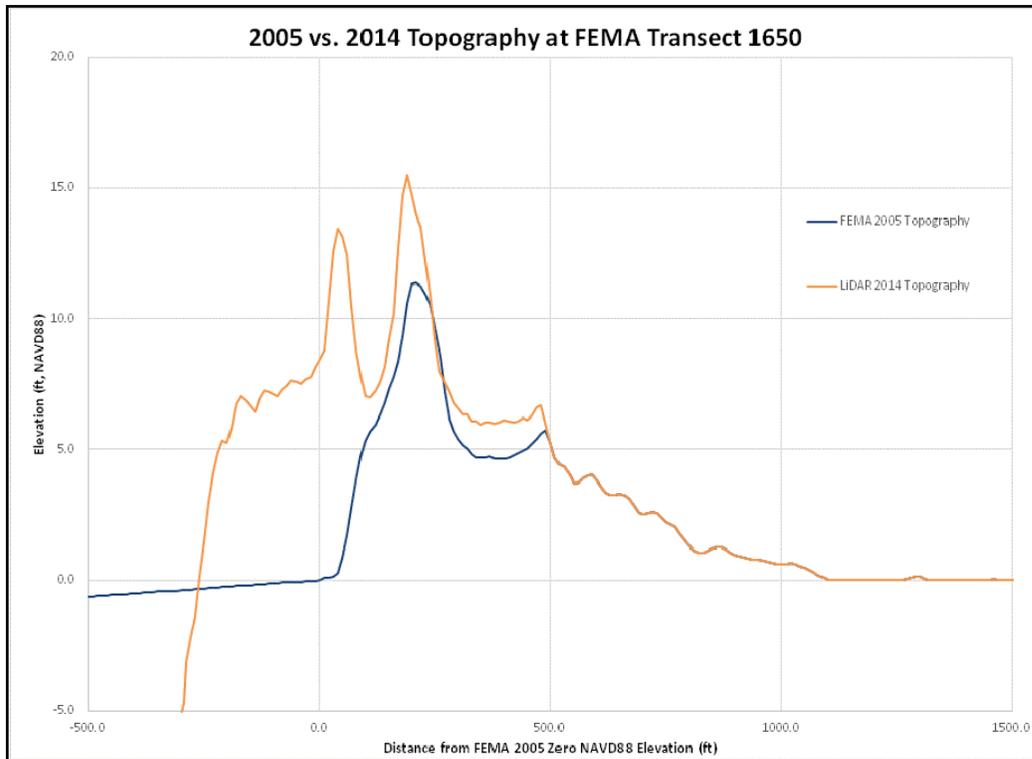
**Figure 3. 2005 vs. 2014 topography at Transect 1610 showing impacts of USACE/DNREC storm damage reduction project.**



**Figure 4. 2005 vs. 2014 topography at Transect 1620 showing impacts of USACE/DNREC storm damage reduction project.**



**Figure 5. 2005 vs. 2014 topography at Transect 1640 showing impacts of USACE/DNREC storm damage reduction project.**



**Figure 6. 2005 vs. 2014 topography at Transect 1650 showing impacts of USACE/DNREC storm damage reduction project.**

In addition to major alterations to the beach and dune topography, the USACE/DNREC storm damage reduction project also resulted in significant changes to the nearshore bathymetry. These changes have been documented through USACE beach and nearshore profile surveys collected at regular intervals following construction of the project (2008 to 2014). Figure 7 shows the location and extent of the USACE surveys in relation to FEMA’s modeling transects. In comparison to FEMA’s nearshore bathymetry the surveyed data shows a steeper nearshore profile that meets FEMA’s Digital Elevation Model (DEM) in water depths of approximately -30 ft NAVD88. The USACE profile surveys provide a more recent and accurate representation of the nearshore bathymetry, and are therefore better than FEMA’s data used as the basis for the Preliminary 2015 FIRM.

A copy of NOAA’s 2014 LiDAR data for the South Bethany area is included on the attached DVD in the LiDAR folder. Copies of the USACE profile data are included in the USACE\_Profiles folder.



**Figure 7. Location and extent of USACE measured nearshore bathymetric data in relation to FEMA transects.**

### 2.1.2 Supporting Documentation for Including the South Bethany Storm Damage Reduction Project in FEMA's Coastal Analysis

Additional information is presented herein to support use of the USACE/DNREC storm damage reduction project in FEMA's coastal analysis for the South Bethany FIRM.

- The USACE/DNREC *Cape Henlopen to Fenwick Island, Bethany Beach/South Bethany, DE Flood & Control Storm Damage Reduction Project* was approved for a period of 50 years from the date of authorization in 1999. The project includes dune grass, dune fencing, and advance beach fill and periodic nourishment every three (3) years to ensure the integrity of the design (USACE, 1999).
- The USACE performs annual and post-storm monitoring of the project. At South Bethany the monitoring consists of elevation surveys of the dune, beach, and nearshore areas at eleven (11) evenly-spaced shore normal transects (Figure 8). Since completion of the project in June 2008 the USACE has completed eleven (11) different monitoring surveys. Data generated from the monitoring are used to evaluate performance of the project and guide decisions regarding periodic nourishment and post-storm restoration.



**Figure 8. Location of USACE monitoring profiles in South Bethany.**

- The USACE and DNREC have demonstrated a commitment to maintaining and funding the storm damage and flood control functions of the Bethany Beach/South Bethany project over the eight (8) years since it was originally constructed. The first cycle of periodic nourishment was completed in March (Bethany Beach) and October (South Bethany) 2011. The next cycle of periodic nourishment is scheduled in FY 2016. Storm repairs were completed in 2009 and again in 2013, following hurricane Sandy (USACE Fact Sheet, Appendix A).
- Appropriation requests for periodic nourishment every three (3) years are made by the Philadelphia District USACE office to FEMA headquarters in Washington DC, where they are presented to Congress for approval. The Bethany Beach/South

Bethany project is subject to the same Congressional approval process as all other USACE authorized storm reduction projects, including the nearby Ocean City, MD project which was included in FEMA's coastal analysis for the Ocean City FIRMs.

- DNREC is the local non-Federal sponsor for the *Cape Henlopen to Fenwick Island, Bethany Beach/South Bethany, DE Flood & Control Storm Damage Reduction Project*. Cost sharing for initial construction in 2008 and periodic nourishment follows a 65 (USACE)/35 (DNREC) split (Project Cooperation Agreement dated July 26<sup>th</sup>, 2006, Appendix B). DNREC finances the state's share of shore protection projects through bond measures and the 1% state accommodations tax, which is a dedicated funding strategy for shoreline protection activities. The accommodations tax raises an estimated \$2.0 million per year.
- Post-storm restoration of the Bethany Beach/South Bethany project also follows the 65/35 cost share agreement, unless Flood Control and Coastal Emergencies (FCCE) funds under Public Law 84-99 are approved, in which case the local match is not required. Funding for the 2009 and 2013 storm repairs was from FCCE monies, and therefore a match from DNREC was not required.
- The USACE is currently requesting approval for restoration of damage caused by the Sept. 2015 storm to the Bethany Beach/South Bethany project.
- The *Cape Henlopen to Fenwick Island, Bethany Beach/South Bethany, DE Flood & Control Storm Damage Reduction Project* is an engineered project with certified engineering plans showing design conditions for the beach and dune. The USACE Final Feasibility Report and Environmental Impact Statement for the project presents numerical model results for the 1% annual chance storm event on the project design (USACE, 1999). The model results indicate lower inundation levels and less erosion for the South Bethany area with the project in place. The USACE modeling therefore predicted the project would provide a measure of storm damage protection during the 100-yr storm event.
- Sand for restoration of the Bethany Beach/South Bethany project comes from offshore borrow sites (Area E and Fenwick Island) permitted by the USACE. Work is currently underway by the USACE to permit a third borrow site (Area B) for interchangeable use by all of the storm damage reduction projects along the Atlantic Coast of Delaware. Sand volumes in the borrow sites are projected to be sufficient for future needs at all of the USACE Delaware projects (USACE, 2015).
- FEMA regulations do not specifically prohibit consideration of storm damage reduction projects and constructed dunes in coastal analyses for flood hazard mapping. Title 44 of the CFR 65.11 addresses evaluation of sand dunes in FEMA's mapping of coastal flood hazard areas. CFR 65.11(a) states that criterion to be used in the evaluation of dune erosion will apply to primary frontal dunes, but not to artificially designed and constructed dunes that are not well-established with long-standing vegetative cover. The regulations identify specific criterion for evaluating

dune erosion at primary frontal dunes (44 CFR 65.11(b)), but this criterion does not apply to certain artificially constructed dunes. This regulation does not speak to the more basic decision as to whether or not to consider artificially constructed dunes in determining coastal flood hazards; rather, it identifies the condition of an artificially constructed dune (well-established with long-standing vegetation) that would define how FEMA should apply storm-induced erosion.

- Photographs of the dune taken in June 2015 indicate the dune is well-established and contains long-standing vegetation (Figures 9-10). While the dune has experienced storm-induced erosion by responding to incident coastal processes, this does not mean it is not a well-established feature. Therefore, according to 44 CFR 65.11(a), FEMA’s criterion for evaluating erosion at the USACE/DNREC primary frontal dune can and should be applied.



**Figure 9.** South Bethany dune in June 2015 showing extent of vegetative cover on landward side of dune.



**Figure 10. South Bethany dune in June 2015 showing extent of vegetative cover on seaward side of dune.**

- Storm damage reduction projects have been included in FEMA’s coastal analyses for flood hazard mapping purposes at the following locations:
  - Ocean City, MD
  - Virginia Beach, VA
  - Sandbridge Beach, VA
  - Hilton Head, SC
  - Ocean and Monmouth Counties, NJ
  - Orange Beach and Gulf Shores, AL

### **2.1.3 Revised Coastal Hydraulic Analysis for South Bethany**

Revised coastal hydraulic analyses were conducted for transects 1600, 1610, 1620, 1640, and 1650 using the more current and accurate 2014 LiDAR data for topography and updated nearshore bathymetry from the USACE profile surveys. These more current elevation data reflect the USACE/DNREC storm damage reduction project as well resulting changes to the nearshore bathymetry. A revised 10 x 10 ft resolution DEM containing the updated topographic and bathymetric data was developed. The modeling transects were then updated with the more accurate and current elevation data from the

revised DEM. Topography west of Route 1 was not updated using the 2014 LiDAR, rather elevation data from FEMA's CHAMP database was used for these areas west of Route 1.

The revised transects were imported into the Sussex County CHAMP database for coastal hydraulic analyses. No changes were made to FEMA's 1% annual chance water levels and deepwater wave conditions. The USACE/DNREC dune was delineated as a primary frontal dune following FEMA's definition as a "continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms". The landward limit of the PFD was delineated at the point where there was a distinct change from a relatively steep slope to a relatively mild slope.

The erosion module within CHAMP was used to determine the area of the frontal dune reservoir. At transect 1600 the area was greater than 540 square feet, but at the remaining transects (1610, 1620, 1640, and 1650) the area was less than 540 square feet. As a result, FEMA's erosion guidelines for dune retreat were followed at transect 1600 and at transects 1610, 1620, 1640, and 1650 FEMA's guidelines for dune removal were followed. For the removal cases the toe of dune erosion was set at the seaward toe of the USACE/DNREC dune and the erosion slope extended landward at a slope of 1:50 to meet the back side of the dune. The toe of the dune was identified by a clear slope break at elevation 7.1 ft NAVD88, slightly above the 10% annual chance SWEL.

The WHAFIS and Runup 2.0 modules within CHAMP were run on the eroded dune profiles. The 2% wave runup heights, barrier crest elevations, and overtopping computed on the eroded dune profiles are summarized in Table 1.

**Table 1. Revised Wave Runup and Overtopping**

<b>Transect</b>	<b>2% Wave Runup (ft)</b>	<b>Wave Runup Elevation (ft)</b>	<b>Eroded Dune Crest Elevation (ft)</b>	<b>Overtopping (y/n)</b>
1600	5.89	14.09	19.00	No
1610	6.99	15.19	9.6	Yes
1620	6.40	14.50	9.6	Yes
1640	6.89	15.09	9.7	Yes
1650	6.54	14.54	9.6	Yes

A copy of the revised topographic/bathymetric DEM is included on the attached DVD in the Revised\_DEM folder. The revised CHAMP database is included in the CHAMP folder.

#### **2.1.4 Revised Flood Hazard Mapping**

Results from the coastal hydraulic modeling were used to prepare revised flood zone and BFE maps for the area of South Bethany east of Route 1 and between FEMA Transects 1600 and 1650. Figure 11 shows a comparison of the FEMA Preliminary 2015 flood hazard map for South Bethany and the revised mapping prepared for the appeal.

A new zero NAVD88 shoreline was established for the mapping based on the location of the zero ft contour from the 2014 LiDAR dataset. The USACE/DNREC storm damage reduction project added a significant volume of sand to the beach and dune. The resulting zero NAVD88 shoreline is over 300 ft seaward (east) of FEMA's shoreline based on the 2005 LiDAR topography.

The BFE of the ocean facing VE Zone (El 13) was based on FEMA's wave overtopping splash zone criteria. Since the elevation of wave runup exceeded the eroded barrier crest by more than 3 feet, the BFE of the VE Zone was set 3 ft above the eroded barrier at 13 ft NAVD88. The only exception to this occurred at Transect 1600 where the elevation of wave runup at 14 ft NAVD88 did not overtop the eroded dune. FEMA's Transect 1600 was located through the east-west oriented end of the USACE/DNREC dune, and the modeling results only apply to a very narrow section of beach. To avoid varying VE Zone BFEs in this area (south to north, 13 to 14 to 13), the VE Zone (El 14) at Transect 1600 was included in the adjacent VE Zone (El 13) to the south. This change did not affect any developed areas of the study site.

The inland extent of the VE Zone (El 13) was based on the revised location of the PFD along the back side of the USACE/DNREC dune. The PFD was delineated based on a clear and distinct change from a relatively steep slope to a relatively mild slope. An AO Zone (3 ft) was mapped landward of the PFD based on FEMA's wave overtopping splash zone criteria where the eroded barrier was overtopped by more than 3 ft of runup. The inland extent of the AO Zone (3 ft) was mapped along the 9 ft NAVD88 to account for 3 ft of flooding in the swale behind the dune where the highest ground elevation was 6 ft NAVD88. Areas to the west of Ocean Drive were mapped based on WHAFIS results. Much of the area between Ocean Drive and Route 1 was revised from an AO Zone (3 ft) to an X Zone. No changes were made to the FEMA mapping to the west of Route 1.

ArcGIS shapefiles for the revised shoreline, PFD, and flood zone mapping are provided on the attached DVD in the Spatial\_Files folder.

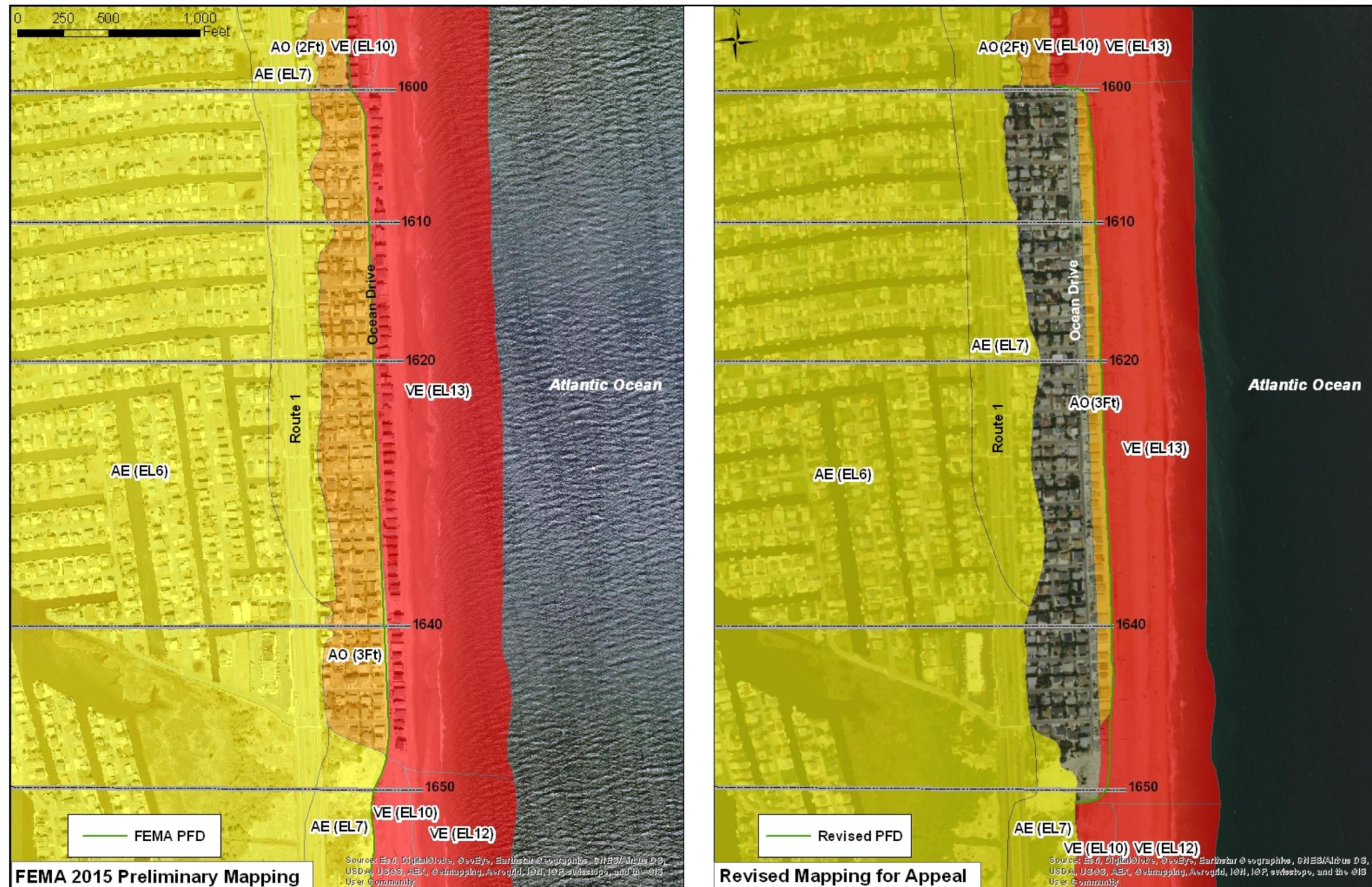


Figure 11. Comparison between FEMA Preliminary 2015 flood hazard mapping for South Bethany and revised flood hazard mapping prepared for appeal.

### **3.0 METHODS AND ASSUMPTIONS FOR DUNE EROSION ARE SCIENTIFICALLY AND TECHNICALLY INCORRECT**

FEMA's coastal hydraulic analysis for the Preliminary 2015 FIRM used a non-standard dune erosion methodology which is scientifically and technically incorrect. Dune erosion was applied to the 2005 LiDAR topography prior to construction of the USACE/DNREC storm damage reduction project. FEMA made a determination that the frontal dune reservoir was below the 540 square foot criterion, but did not follow the standard FEMA procedures for erosion of dunes with smaller (< 540 sq ft) frontal dune reservoirs.

The non-standard methodology applied during the Preliminary 2015 study starts erosion on the seaward side of the dune at elevations between 0.8 and 1.1 ft NAVD88. This is well below the 10% annual chance stillwater elevation of 6.6 ft NAVD88, and more than 5.0 ft lower than the toe of erosion applied to the adjacent transects to the north (1590) and south (1650). FEMA's 2015 dune erosion extends landward between 100 and 180 ft at a slope of 1:100, and then extends up to Ocean Drive at a slope of 1:3. According to FEMA, Ocean Drive was kept intact due to the fact that the road was built with non-erodible materials. The eroded profile has the configuration of duneface retreat, yet does not follow any of the standard FEMA guidelines for dune retreat, including balancing of the eroded sediment volume across the seaward portion of the profile.

FEMA's guidance document for coastal flooding analyses and mapping (FEMA, 2007) allows, and even recommends, that site specific historical data on duneface retreat be used to validate the standard methods for dune retreat. The Preliminary 2015 FEMA study indicates that data provided by DNREC and South Bethany, as well as discussions with State and Local officials were used to support the more severe erosion predicted by the non-standard method of dune retreat. Specifically, FEMA reviewed historical photographs and newspaper articles recounting damages in South Bethany following storms in 1962, 1992, 1998, and 2003. They also reviewed anecdotal information on elevations of oceanfront repetitive loss properties.

The historical photographs show damage to the barrier beach during these significant storm events, including large areas of overwash, destruction/erosion of Ocean Drive, and structural damage to many buildings. While the photos show significant storm damage to the area, they do not provide enough data, or the right kind of data, to justify use of the non-standard method of dune retreat. In fact, the extent of overwash in the photos indicates that dune removal would be the more appropriate method of erosion. Given that FEMA's Preliminary 2015 study was based on the 2005 LiDAR topography prior to construction of the USACE/DNREC project, and the frontal dune reservoir was calculated to be less than 540 square feet, FEMA's guidelines that call for dune removal in such cases would be entirely consistent with the historical storm photos. FEMA's use of a non-standard method of dune retreat on the 2005 topography is not supported by the information gathered by FEMA on historical damages.

FEMA's guidelines state that where available historical evidence on dune erosion is not definitive, the decision between retreat and removal on a given transect should be based solely on the size of the frontal dune reservoir. Since the historical evidence is not

definitive and the 2005 LiDAR topography, prior to construction of the USACE/DNREC project, reflects a small dune with a frontal dune reservoir less than 540 square feet, the guidelines require erosion following the dune removal method. FEMA's use of a non-standard duneface retreat method to produce the Preliminary 2015 FIRM is therefore scientifically and technically incorrect.

Revised coastal hydraulic analyses that follow FEMA's guidelines for dune erosion have been conducted, and are described in Sections 2.13 and 2.14 above. These analyses use the more current and accurate 2014 LiDAR data for topography as well as more representative and recent nearshore bathymetry from USACE profile surveys. The frontal dune reservoir was found to have an area less than 540 square feet, and therefore FEMA's methodology for dune removal was utilized. The resulting mapping is based on more accurate elevation data than was used by FEMA for the 2015 Preliminary study, as well as correct application of FEMA's dune erosion methods.

#### **4.0 WORKS CITED**

Federal Emergency Management Agency, Atlantic Ocean and Gulf of Mexico Coastal Guidelines Update, *Final Draft*, Washington, D.C., February 2007.

Federal Emergency Management Agency, Technical Support Data Notebook, Region III Coastal Flood Hazard Analysis – Sussex County, DE, Washington, D.C., October 16, 2014.

USACE, Delaware Coast Cape Henlopen to Fenwick Island Bethany Beach/South Bethany Interim Feasibility Study, Final Feasibility Report and Environmental Impact Statement, Philadelphia District, February 1999.

USACE, Draft Environmental Assessment (EA) Proposed Sand Borrow Area B Delaware Atlantic Coast from Cape Henlopen to Fenwick Island Storm Damage Reduction Project, Philadelphia District, November 2015.

**APPENDIX A. USACE FACT SHEET**



# Delaware Coast from Cape Henlopen to Fenwick Island, Bethany Beach/South Bethany, DE

## Bethany Beach/South Bethany Coastal Storm Damage Reduction Project

**UPDATED:** February 2015

**CONGRESSIONAL DISTRICTS:** DE-AL

**APPROPRIATION / PHASE:** Construction, General

**BUSINESS PROGRAM:** Flood and Coastal Storm Damage Reduction

**AUTHORITY:** Senate Committee Resolution, 23 June 1988. Project authorized for construction by Title I, Section 101 (a) (15) of WRDA '99.

**LOCATION:** The towns of Bethany Beach and South Bethany are communities along the Atlantic Ocean Coast of Delaware, in Sussex County.

**DESCRIPTION:** The Bethany Beach/South Bethany project area extends along approximately 2 miles of the Atlantic Ocean coast of Delaware in Sussex County, Delaware. The plan proposed in the final feasibility report for the purpose of flood and coastal storm damage reduction consists of a sand fill beach and dune project, in two independent discontinuous segments, for both Bethany Beach and South Bethany. The project includes a 150-foot wide berm with an elevation of +7.0 feet NAVD, and a dune with an elevation of +16.0 feet NAVD over a total project length of 14,950 feet (2.8 miles). The recommended project consists of providing 3.5 million cubic yards initial beach fill, with subsequent nourishment of 480,000 cubic yards every three years. The plan includes dune grass, dune fencing, and suitable advance beach fill and periodic nourishment every three years to ensure the integrity of the design.

**STATUS:** Initial construction was completed in June 2008. FY11 funds were used to award a contract to complete the 2<sup>nd</sup> renourishment cycle. The contract was awarded in September 2011 with construction beginning in October 2011. Construction (Pumping) was completed in March 2011 for Bethany and October 2011 for South Bethany.

## Photos



The Bethany Beach/South Bethany project was first constructed in 2008 and received a periodic nourishment in 2011. The project is designed to reduce damages from storm events. (Photo by USACE)



The Bethany Beach/South Bethany project area extends along approximately 2 miles of the Atlantic Ocean coast of Delaware in Sussex County, Delaware in two independent discontinuous segments, for both Bethany Beach and South Bethany. (Photo by USACE)

## Related Content

Between October 27 & 30, 2012, Hurricane Sandy caused damage to the Delaware coast from Lewes Beach to Fenwick Island and up the Delaware Bay.

Flood Control and Coastal Emergencies (FCCE) funds

under Public Law 84-99 were used to complete a Project Information Report (PIR). The results of the PIR determined that the project was eligible for FCCE funding to repair the project to pre-storm conditions.

Additionally, in response to P.L. 113-2 Disaster Relief Appropriations Act, a PIR Addendum was completed to determine whether the project was eligible for FCCE funding under P.L. 113-2 to restore the project to design template. Both the PIR and Addendum were approved.

A contract to complete the repairs and restoration was awarded on 25 June 2013. Pumping began on 18 August 2013 and was completed on 28 September 2013.

FY15 monitoring will be completed with carryover funds from previous fiscal years.

TIMELINE	Start	Complete	Comments
Initial Construction		June 2008	
Emergency Work	Jan 2009	June 2009	
2nd Periodic Nourishment		Oct. 2011	Bethany (Mar-11) S. Beth. (Oct-11)
FCCE Emergency (Sandy)	Aug 2013	Sept 2013	
3rd Periodic Nourishment Cycle	Scheduled FY 16		Dependent on adequate funds

**Project Goals:** The purpose of this project provides hurricane and coastal storm damage reduction consisting of a sand fill beach and dune project, in two independent segments, for both Bethany Beach and South Bethany. It includes a berm, a dune, beach fill, dune grass, dune fencing, and periodic nourishment every three years.

**SPONSOR:** Delaware Department of Natural Resources and Environmental Control

**Date of Project Agreement:** 26 Jul 2006

**Target Completion Date:** 2057

**Total Estimated Cost:** TBD

**Federal Funds Appropriated:** \$25.878M

**Non-Federal Share:** \$13.54M

**PROJECT MANAGER:** Paula Retzler

Related Link Delaware Department of Natural  
Resources & Environmental Control

**APPENDIX B. PCA AGREEMENT**

PROJECT COOPERATION AGREEMENT  
BETWEEN  
THE DEPARTMENT OF THE ARMY  
AND  
THE DELAWARE DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL  
FOR  
CONSTRUCTION  
OF THE  
DELAWARE COAST FROM CAPE HENLOPEN TO FENWICK ISLAND  
BETHANY BEACH TO SOUTH BETHANY, DELAWARE  
HURRICANE AND STORM DAMAGE REDUCTION PROJECT

THIS AGREEMENT is entered into this 26<sup>th</sup> day of July, 2006 by and between the Department of the Army (hereinafter the "Government"), represented by the U.S. Army Engineer, Philadelphia District and the Delaware Department of Natural Resources and Environmental Control (hereinafter the "Non-Federal Sponsor"), represented by the Secretary.

WITNESSETH, THAT:

WHEREAS, construction of the Delaware Coast From Cape Henlopen to Fenwick Island, Delaware Project for hurricane and storm damage reduction (hereinafter the "*Project*", as defined in Article I.A. of this Agreement) at Bethany Beach and South Bethany, Delaware was authorized by Section 101(a)(15) of the Water Resources Development Act of 1999, Public Law 106-53;

WHEREAS, the Government and the Non-Federal Sponsor desire to enter into a Project Cooperation Agreement (hereinafter the "Agreement") for *initial construction* and *periodic nourishment* of the *Project*;

WHEREAS, Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, (33 U.S.C. 2213) specifies the cost-sharing requirements applicable to the *Project*;

WHEREAS, Section 902 of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 2280), establishes the maximum amount of costs for the *Project* and sets forth procedures for adjusting such maximum amount;

WHEREAS, the Government and a Non-Federal interest entered into an agreement, dated October, 1, 1999, for engineering and design of the *Project* (hereinafter the "Design Agreement"), under the terms of which the Non-Federal interest contributed a portion of the costs for engineering and design;

WHEREAS, Section 221 of the Flood Control Act of 1970, Public Law 91-611, as amended (42 U.S.C. 1962d-5b), and Section 103(j) of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 2213(j)), provide, *inter alia*, that the Secretary

of the Army shall not commence construction of any water resources project, or separable element thereof, until each Non-Federal interest has entered into a written agreement to furnish its required cooperation for the *Project* or separable element;

WHEREAS, the Government and Non-Federal Sponsor have the full authority and capability to perform as hereinafter set forth and intend to cooperate in cost-sharing and financing of the *Project* in accordance with the terms of this Agreement; and

WHEREAS, the Government and the Non-Federal Sponsor, in connection with this Agreement, desire to foster a partnering strategy and a working relationship between the Government and the Non-Federal Sponsor through a mutually developed formal strategy of commitment and communication embodied herein, which creates an environment where trust and teamwork prevent disputes, foster a cooperative bond between the Government and the Non-Federal Sponsor, and facilitate the successful implementation of the *Project*.

NOW, THEREFORE, the Government and the Non-Federal Sponsor agree as follows:

#### ARTICLE I – DEFINITIONS

A. The term “*Project*” shall mean the *initial construction* and the *periodic nourishment* as generally described in the Limited Reevaluation Report, Delaware Coast from Cape Henlopen to Fenwick Island, Bethany Beach/South Bethany, Delaware, dated September 2005 and approved by North Atlantic Division on December 20, 2005.

B. The term “*initial construction*” shall mean the placement of suitable beach and dune fill material at the towns of Bethany Beach and South Bethany, Delaware. The selected plan at each location includes a combined dune and berm width of 150 feet, a berm elevation of +7.0 feet NAVD, a dune elevation of +16.0 feet NAVD, a dune crest width of 25 feet, side slopes of 1V:5H, 24 acres of dune grass and 27,425 feet of sand fence. The Bethany Beach section will extend 5,250 feet, with 1,260 foot long sand fill tapers at each end of the full design section and the South Bethany section will extend 4,100 feet with 1,540 foot long tapers at each end of the full design section as generally described in the Limited Reevaluation Report, Delaware Coast from Cape Henlopen to Fenwick Island Bethany Beach/South Bethany, Delaware dated September 2005 and approved by North Atlantic Division on December 20, 2005.

C. The term “*periodic nourishment*” shall mean the placement, after the end of the *period of initial construction*, of suitable beach and dune fill material within the area of *initial construction*, or any functional portion of the area of *initial construction*, as generally described in the Limited Reevaluation Report, Delaware Coast from Cape Henlopen to Fenwick Island Bethany Beach/South Bethany, Delaware dated September 2005 and approved by North Atlantic Division on December 20, 2005.

D. The term “*total project costs*” shall mean the sum of all costs incurred by the Non-Federal Sponsor and the Government in accordance with the terms of this Agreement directly related to *initial construction* and *periodic nourishment* of the *Project*. Subject to the provisions of this Agreement, the term shall include, but is not necessarily limited to: the Government’s share of Preconstruction Engineering and Design costs pursuant to the terms of the Design

Agreement; the value of the contributions provided by a Non-Federal interest pursuant to the terms of the Design Agreement; the Government's engineering and design costs during construction; the Non-Federal Sponsor's and the Government's costs of investigations to identify the existence and extent of hazardous substances in accordance with Article XIV.A. of this Agreement; the Government's costs of historic preservation activities in accordance with Article XVII.A. and Article XVII.B.1. of this Agreement; the Government's actual construction costs; the Government's supervision and administration costs; the Non-Federal Sponsor's and the Government's costs of participation in the Project Coordination Team in accordance with Article V of this Agreement; the Government's costs of contract dispute settlements or awards; the value of lands, easements, rights-of-way, *relocations*, and improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material for which the Government affords credit in accordance with Article IV of this Agreement or for which reimbursement by the Government is required pursuant to Article II.C.3. or Article II.G.3. of this Agreement; and the Non-Federal Sponsor's and the Government's costs of audit in accordance with Article X.B. and Article X.C. of this Agreement. The term does not include any costs for operation, maintenance, repair, rehabilitation, or replacement of the *Project*; any costs of *betterments* under Article II.L.2. of this Agreement; any costs of dispute resolution under Article VII of this Agreement; the Government's costs for data recovery activities associated with historic preservation in accordance with Article XVII.B.2. and Article XVII.B.3. of this Agreement; or the Non-Federal Sponsor's costs of negotiating this Agreement.

E. The term "*total costs of initial construction*" shall mean that portion of *total project costs* allocated to *initial construction*.

F. The term "*total costs of periodic nourishment*" shall mean that portion of *total project costs* allocated to *periodic nourishment*.

G. The term "*period of initial construction*" shall mean the time from the date the Government issues the solicitation for the first construction contract for the *Project* or commences construction of the *Project* using the Government's own forces, whichever is earlier, to the date that *initial construction* of the *Project* is complete, as determined by the Government, or the date that this Agreement is terminated in accordance with Article XIII or Article XIV.C. of this Agreement, whichever is earlier.

H. The term "*authorized periodic nourishment period*" shall mean the authorized duration for Federal participation in *periodic nourishment* which is a period of 50 years from the date of commencement of the *period of initial construction*.

I. The term "*financial obligations for initial construction*" shall mean the financial obligations of the Government that result or would result in costs that are or would be included in *total costs of initial construction* except for obligations pertaining to the provision of lands, easements, and rights-of-way, the performance of *relocations*, and the construction of improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material.

J. The term "*financial obligations for periodic nourishment*" shall mean the financial obligations of the Government that result or would result in costs that are or would be included

in *total costs of periodic nourishment* except for obligations pertaining to the provision of lands, easements, and rights-of-way, the performance of *relocations*, and the construction of improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material.

K. The term “*Non-Federal proportionate share*” with respect to *initial construction*, shall mean the ratio of the Non-Federal Sponsor’s total contribution of funds required by Article II.C.2. of this Agreement to *financial obligations for initial construction*, as projected by the Government. The term shall mean, with respect to *periodic nourishment*, the ratio of the Non-Federal Sponsor’s total contribution of funds required by Article II.G.2. of this Agreement to *financial obligations for periodic nourishment*, as projected by the Government.

L. The term “*highway*” shall mean any highway, roadway, street, or way, including any bridge thereof, that is owned by a public entity.

M. The term “*relocation*” shall mean providing a functionally equivalent facility to the owner of a utility, cemetery, *highway*, railroad, or public facility when such action is authorized in accordance with applicable legal principles of just compensation; or providing a functionally equivalent facility when such action is specifically provided for, and is identified as a relocation, in the authorizing legislation for the *Project* or any report referenced therein. Providing a functionally equivalent facility may take the form of alteration, lowering, raising, or replacement and attendant demolition of the affected facility or part thereof.

N. The term “*functional portion of initial construction*” shall mean a portion of the *initial construction* of the *Project* for which construction has been completed and that can function independently, as determined by the U.S. Army Engineer, Philadelphia District (hereinafter the “District Engineer”) in writing, although the remainder of the *initial construction* of the *Project* is not complete.

O. The term “*functional portion of an iteration of periodic nourishment*” shall mean a portion of an iteration of *periodic nourishment* of the *Project* for which construction has been completed and that can function independently, as determined by the District Engineer in writing, although the remainder of such iteration of *periodic nourishment* of the *Project* is not complete.

P. The term “*betterment*” shall mean a difference in the construction of an element of the *Project* that results from the application of standards that the Government determines exceed those that the Government would otherwise apply to the construction of that element. The term does not include any construction for features not included in the *Project* as defined in paragraph A. of this Article.

Q. The term “*Federal program funds*” shall mean funds provided by a Federal agency, other than the Department of the Army, plus any Non-Federal contribution required as a matching share therefore.

R. The term “*fiscal year*” shall mean one year beginning on October 1 and ending on September 30.

ARTICLE II - OBLIGATIONS OF THE GOVERNMENT AND  
THE NON-FEDERAL SPONSOR

A. The Government, subject to receiving funds appropriated by the Congress of the United States (hereinafter the "Congress") and using those funds and funds provided by the Non-Federal Sponsor, expeditiously shall construct the *Project* (including *periodic nourishment* at such times during the *authorized periodic nourishment period* as the Government, after consultation with the Non-Federal Sponsor, determines such placement to be necessary and economically justified), applying those procedures usually applied to Federal projects, in accordance with Federal laws, regulations, and policies.

1. The Government shall not issue the solicitation for the first contract for construction of the *Project* or commence construction of the *Project* using the Government's own forces until the Non-Federal Sponsor has confirmed in writing its willingness to proceed with the *Project*.

2. The Government shall afford the Non-Federal Sponsor the opportunity to review and comment on the solicitations for all contracts, including relevant plans and specifications, prior to the Government's issuance of such solicitations. To the extent possible, the Government shall afford the Non-Federal Sponsor the opportunity to review and comment on all proposed contract modifications, including change orders. In any instance where providing the Non-Federal Sponsor with notification of a contract modification is not possible prior to execution of the contract modification, the Government shall provide such notification in writing at the earliest date possible. To the extent possible, the Government also shall afford the Non-Federal Sponsor the opportunity to review and comment on all contract claims prior to resolution thereof. The Government shall consider in good faith the comments of the Non-Federal Sponsor, but the contents of solicitations, award of contracts or commencement of construction using the Government's own forces, execution of contract modifications, resolution of contract claims, and performance of all work on the *Project* shall be exclusively within the control of the Government.

3. At the time the District Engineer furnishes the contractor with the Government's Written Notice of Acceptance of Completed Work for each contract awarded by the Government for the *Project*, the District Engineer shall furnish a copy thereof to the Non-Federal Sponsor.

4. As of the effective date of this Agreement, \$3,696,000 of Federal funds is currently projected to be available for the *Project*. The Government makes no commitment to request Congress to provide additional Federal funds for the *Project*. Further, the Government's financial participation in the *Project* is limited to the Federal funds that the Government makes available to the *Project*.

B. The Government shall allocate *total project costs* between *total costs of initial construction* and *total costs of periodic nourishment*. Further, the Government shall assign all costs in *total costs of initial construction* and *total costs of periodic nourishment*, including all contributions provided by the Non-Federal Sponsor, to hurricane and storm damage reduction, to recreation, or to privately owned shores where use of such shores is limited to private interests.

C. The Non-Federal Sponsor shall contribute 35 percent of *total costs of initial construction* assigned by the Government to hurricane and storm damage reduction, plus 50 percent of *total costs of initial construction* assigned by the Government to recreation plus 100 percent of *total costs of initial construction* assigned by the Government to privately owned shores (where use of such shores is limited to private interests) in accordance with the provisions of this paragraph.

1. In accordance with Article III of this Agreement, the Non-Federal Sponsor shall provide all lands, easements, and rights-of-way, including those required for *relocations*, the borrowing of material, and the disposal of dredged or excavated material, shall perform or ensure performance of all *relocations*, and shall construct improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material that the Government determines to be required or to be necessary for *initial construction*, operation, and maintenance of the *Project*.

2. The Non-Federal Sponsor shall provide funds in accordance with Article VI.B. of this Agreement in the amount necessary to meet the Non-Federal Sponsor's required share of *total costs of initial construction* if the Government projects at any time that the collective value of the following contributions that are determined by the Government to be attributable to *initial construction* will be less than such required share: (a) the value of the contributions provided by a Non-Federal interest pursuant to the terms of the Design Agreement; (b) the value of the Non-Federal Sponsor's contributions under paragraph C.1. of this Article, as determined in accordance with Article IV of this Agreement; and (c) the value of the Non-Federal Sponsor's contributions under Article V, Article X, and Article XIV.A. of this Agreement.

3. The Government, subject to the availability of funds, shall refund or reimburse to the Non-Federal Sponsor any contributions in excess of the Non-Federal Sponsor's required share of *total costs of initial construction* if the Government determines at any time that the collective value of the following contributions that are determined by the Government to be attributable to *initial construction* has exceeded such required share: (a) the value of the Non-Federal Sponsor's contributions under paragraph C.2. of this Article; (b) the value of the contributions provided by a Non-Federal interest pursuant to the terms of the Design Agreement; (c) the value of the Non-Federal Sponsor's contributions under paragraph C.1. of this Article, as determined in accordance with Article IV of this Agreement; and (d) the value of the Non-Federal Sponsor's contributions under Article V, Article X, and Article XIV.A. of this Agreement. After such a determination, the Government, in its sole discretion, may acquire any remaining lands, easements, and rights-of-way required for *initial construction*, perform any remaining *relocations* necessary for *initial construction*, or construct any remaining improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material required for *initial construction* on behalf of the Non-Federal Sponsor. Notwithstanding the acquisition of lands, easements, and rights-of-way, performance of *relocations*, or construction of improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material by the Government under this paragraph, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for any costs of cleanup and response in accordance with Article XIV.C. of this Agreement.

D. When the District Engineer determines that the *initial construction*, or a *functional portion of initial construction*, is complete, the District Engineer shall so notify the Non-Federal Sponsor in writing and furnish the Non-Federal Sponsor with a final Operation, Maintenance, Repair, Rehabilitation, and Replacement Manual (hereinafter the “OMRR&R Manual”) or, if the final OMRR&R Manual is not available, an interim OMRR&R Manual for the *initial construction* or such completed portion. Upon such notification, the Government also shall furnish to the Non-Federal Sponsor a copy of all final as-built drawings for the *initial construction* or such completed portion if such drawings are available. Not later than 6 months after such notification by the Government that the *initial construction* is complete, the Government shall furnish the Non-Federal Sponsor with the final OMRR&R Manual and all final as-built drawings for the *initial construction*. In the event the final OMRR&R Manual or all final as-built drawings for the *initial construction* cannot be completed within the 6 month period, the Government shall provide written notice to the Non-Federal Sponsor, and the Government and the Non-Federal Sponsor shall negotiate an acceptable completion date for furnishing such documents. Further, after completion of all contracts for the *initial construction*, copies of all of the Government’s Written Notices of Acceptance of Completed Work for all contracts for the *initial construction* that have not been provided previously shall be provided to the Non-Federal Sponsor.

E. Upon notification from the District Engineer in accordance with paragraph D. of this Article, the Non-Federal Sponsor shall operate, maintain, repair, rehabilitate, and replace the *initial construction*, or the *functional portion of initial construction* as the case may be, in accordance with Article VIII of this Agreement.

F. Upon conclusion of the *period of initial construction*, the Government shall conduct an accounting, in accordance with Article VI.C. of this Agreement, and furnish the results to the Non-Federal Sponsor.

G. For each iteration of *periodic nourishment*, the Non-Federal Sponsor shall contribute 35 percent of *total costs of periodic nourishment* assigned by the Government to hurricane and storm damage reduction, plus 50 percent of *total costs of periodic nourishment* assigned by the Government to recreation plus 100 percent of *total costs of periodic nourishment* assigned by the Government to privately owned shores (where use of such shores is limited to private interests) in accordance with the provisions of this paragraph.

1. In accordance with Article III of this Agreement, the Non-Federal Sponsor shall provide all lands, easements, and rights-of-way, including those required for *relocations*, the borrowing of material, and the disposal of dredged or excavated material, shall perform or ensure performance of all *relocations*, and shall construct improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material that the Government determines to be required or to be necessary for such iteration of *periodic nourishment*.

2. The Non-Federal Sponsor shall provide funds in accordance with Article VI.B. of this Agreement in the amount necessary to meet the Non-Federal Sponsor’s required share of *total costs of periodic nourishment* for such iteration of *periodic nourishment* if the

Government projects at any time that the collective value of the following contributions that are determined by the Government to be attributable to such iteration of *periodic nourishment* will be less than such required share: (a) the value of the contributions provided by a Non-Federal interest pursuant to the terms of the Design Agreement; (b) the value of the Non-Federal Sponsor's contributions under paragraph G.1. of this Article, as determined in accordance with Article IV of this Agreement; and (c) the value of the Non-Federal Sponsor's contributions under Article V, Article X, and Article XIV.A. of this Agreement.

3. The Government, subject to the availability of funds, shall refund or reimburse to the Non-Federal Sponsor any contributions in excess of the Non-Federal Sponsor's required share of *total costs of periodic nourishment* for such iteration of *periodic nourishment* if the Government determines at any time that the collective value of the following contributions that are determined by the Government to be attributable to such iteration of *periodic nourishment* has exceeded such required share: (a) the value of the Non-Federal Sponsor's contributions under paragraph G.2. of this Article; (b) the value of the contributions provided by a Non-Federal interest pursuant to the terms of the Design Agreement; (c) the value of the Non-Federal Sponsor's contributions under paragraph G.1. of this Article, as determined in accordance with Article IV of this Agreement; and (d) the value of the Non-Federal Sponsor's contributions under Article V, Article X, and Article XIV.A. of this Agreement. After such a determination, the Government, in its sole discretion, may acquire any remaining lands, easements, and rights-of-way required for such iteration of *periodic nourishment*, perform any remaining *relocations* necessary for such iteration of *periodic nourishment*, or construct any remaining improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material required for such iteration of *periodic nourishment* on behalf of the Non-Federal Sponsor. Notwithstanding the acquisition of lands, easements, and rights-of-way, performance of *relocations*, or construction of improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material by the Government under this paragraph, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for any costs of cleanup and response in accordance with Article XIV.C. of this Agreement.

H. When the District Engineer determines that an iteration of *periodic nourishment*, or a *functional portion of an iteration of periodic nourishment*, is complete, the District Engineer shall so notify the Non-Federal Sponsor in writing and furnish the Non-Federal Sponsor with copies of all of the Government's Written Notices of Acceptance of Completed Work for all contracts for such iteration of *periodic nourishment* that have not been provided previously. Upon such notification, the Government also shall furnish to the Non-Federal Sponsor a copy of all final as-built drawings for such iteration of *periodic nourishment* or such completed portion if such drawings are available. Not later than 6 months after such notification by the Government that such iteration of *periodic nourishment* is complete, the Government shall furnish the Non-Federal Sponsor with all final as-built drawings for such iteration of *periodic nourishment*. In the event all final as-built drawings for such iteration of *periodic nourishment* cannot be completed within the 6 month period, the Government shall provide written notice to the Non-Federal Sponsor, and the Government and the Non-Federal Sponsor shall negotiate an acceptable completion date for furnishing such documents.

I. Upon notification from the District Engineer in accordance with paragraph H. of this Article, the Non-Federal Sponsor shall operate, maintain, repair, rehabilitate, and replace

such iteration of *periodic nourishment* or the *functional portion of an iteration of periodic nourishment* as the case may be, in accordance with Article VIII of this Agreement.

J. Upon conclusion of each iteration of *periodic nourishment*, the Government shall conduct an accounting, in accordance with Article VI.D. of this Agreement, and furnish the results to the Non-Federal Sponsor.

K. The Non-Federal Sponsor shall not use *Federal program funds* to meet any of its obligations for the *Project* under this Agreement unless the Federal agency providing the Federal portion of such funds verifies in writing that expenditure of such funds for such purpose is expressly authorized by Federal law.

L. The Non-Federal Sponsor may request the Government to perform or provide, on behalf of the Non-Federal Sponsor, one or more of the services (hereinafter the “additional work”) described in this paragraph. Such requests shall be in writing and shall describe the additional work requested to be performed or provided. If in its sole discretion the Government elects to perform or provide the requested additional work or any portion thereof, it shall so notify the Non-Federal Sponsor in a writing that sets forth any applicable terms and conditions, which must be consistent with this Agreement. In the event of conflict between such writing and this Agreement, this Agreement shall control. The Non-Federal Sponsor shall be solely responsible for all costs of the additional work performed or provided by the Government under this paragraph and shall pay all such costs in accordance with Article VI.E. of this Agreement.

1. Acquisition of lands, easements, and rights-of-way; performance of *relocations*; or construction of improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material for the *Project*. Notwithstanding acquisition of lands, easements, and rights-of-way, performance of *relocations*, or construction of improvements by the Government, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for any costs of cleanup and response in accordance with Article XIV.C. of this Agreement.

2. Inclusion of *betterments* in the construction of the *Project*. In the event the Government elects to include any such *betterments*, the Government shall allocate the costs of the *Project* features that include *betterments* between *total project costs* and the costs of the *betterments*.

M. Not less than once each year the Non-Federal Sponsor shall inform affected interests of the extent of protection afforded by the *Project*.

N. The Non-Federal Sponsor agrees to participate in and comply with applicable Federal floodplain management and flood insurance programs.

O. The Non-Federal Sponsor shall comply with Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12), which requires a Non-Federal interest to prepare a floodplain management plan within one year after the date of signing this Agreement, and to implement such plan not later than one year after completion of *initial construction* of the *Project*. The plan shall be designed to reduce the

impacts of future flood events in the *Project* area, including but not limited to, addressing those measures to be undertaken by Non-Federal interests to preserve the level of flood protection provided by the *Project*. The Non-Federal Sponsor shall provide an information copy of the plan to the Government upon its preparation.

P. The Non-Federal Sponsor shall publicize floodplain information in the area concerned and shall provide this information to zoning and other regulatory agencies for their use in adopting regulations, or taking other actions, to prevent unwise future development and to ensure compatibility with protection levels provided by the *Project*.

Q. The Non-Federal Sponsor shall prevent obstructions or encroachments on the *Project* lands, easements, and rights-of-way or the addition of facilities which might reduce the level of protection the *Project* affords, hinder operation and maintenance of the *Project*, or interfere with the *Project's* proper function.

R. For so long as the *Project* remains authorized, the Non-Federal Sponsor shall ensure conditions of public ownership and public use of the shores upon which the amount of Federal participation is based.

S. The Non-Federal Sponsor shall at least twice annually and after storm events, perform surveillance of the beach to determine losses of nourishment material from the *Project* design section and provide results of such surveillance to the Government.

T. The Non-Federal Sponsor shall provide and maintain necessary access roads, parking areas, and other associated public use facilities, open and available to all on equal terms.

U. In the event the completed *initial construction* or any *functional portion of initial construction*, is damaged or destroyed by a storm or other natural forces, the Government, subject to the availability of funds and Article II.A. of this Agreement, shall place suitable beach and dune fill material within the area of the completed *initial construction*, or the *functional portion of initial construction*, as *periodic nourishment* of the *Project*. The costs of such placement shall be included in *total costs of periodic nourishment* and shared in accordance with Article II.G. of this Agreement. In the event an uncompleted portion of *initial construction* is damaged or destroyed by a storm or other natural forces, the Government, subject to the availability of funds, shall place suitable beach and dune fill material within the area of the uncompleted *initial construction* as *initial construction*. The costs of such placement shall be included in *total costs of initial construction* and shared in accordance with Article II.C. of this Agreement. Nothing in this paragraph shall relieve the Non-Federal Sponsor of its obligations under Article VIII of this Agreement. Further, nothing in this paragraph shall preclude the Government from using Public Law 84-99 to accomplish any emergency repair and restoration work of the completed *initial construction*, or a *functional portion of initial construction*.

ARTICLE III - LANDS, EASEMENTS, RIGHTS-OF-WAY,  
RELOCATIONS, DISPOSAL AREA IMPROVEMENTS, AND  
COMPLIANCE WITH PUBLIC LAW 91-646, AS AMENDED

A. The Government, after consultation with the Non-Federal Sponsor, shall determine the lands, easements, and rights-of-way required for *initial construction, periodic nourishment*, operation, and maintenance of the *Project*, including those required for *relocations*, the borrowing of material, and the disposal of dredged or excavated material. The Government in a timely manner shall provide the Non-Federal Sponsor with general written descriptions, including maps as appropriate, of the lands, easements, and rights-of-way that the Government determines the Non-Federal Sponsor must provide, respectively, for *initial construction* and for *periodic nourishment*, in detail sufficient to enable the Non-Federal Sponsor to fulfill its obligations under this paragraph, and shall provide the Non-Federal Sponsor with a written notice to proceed with acquisition of such lands, easements, and rights-of-way. Prior to issuance of the solicitation for each contract for *initial construction* of the *Project* or *periodic nourishment* of the *Project*, or prior to the Government incurring any *financial obligations for initial construction* of a portion of the *Project* or *financial obligations for periodic nourishment* of a portion of the *Project*, as applicable, using the Government's own forces, the Non-Federal Sponsor shall acquire all lands, easements, and rights-of-way the Government determines the Non-Federal Sponsor must provide for that work and shall provide the Government with authorization for entry thereto. Prior to the end of the *period of initial construction*, the Non-Federal Sponsor shall acquire all lands, easements, and rights-of-way required for *initial construction*, operation, and maintenance of the *Project*, as set forth in such descriptions, and shall provide the Government with authorization for entry thereto. Furthermore, prior to the end of the *authorized periodic nourishment period*, the Non-Federal Sponsor shall acquire all lands, easements, and rights-of-way required for *periodic nourishment* of the *Project*, as set forth in such descriptions, and shall provide the Government with authorization for entry thereto. The Non-Federal Sponsor shall ensure that lands, easements, and rights-of-way that the Government determines to be required for the *Project* and that were provided by the Non-Federal Sponsor are retained in public ownership for uses compatible with the authorized purposes of the *Project*.

B. The Government, after consultation with the Non-Federal Sponsor, shall determine the *relocations* necessary for *initial construction, periodic nourishment*, operation, and maintenance of the *Project*, including those necessary to enable the borrowing of material or the disposal of dredged or excavated material. The Government in a timely manner shall provide the Non-Federal Sponsor with general written descriptions, including maps as appropriate, of such *relocations* that are necessary, respectively, for *initial construction* and for *periodic nourishment* in detail sufficient to enable the Non-Federal Sponsor to fulfill its obligations under this paragraph, and shall provide the Non-Federal Sponsor with a written notice to proceed with such *relocations*. Prior to issuance of the solicitation for each contract for *initial construction* of the *Project* or *periodic nourishment* of the *Project*, or prior to the Government incurring any *financial obligations for initial construction* of a portion of the *Project* or *financial obligations for periodic nourishment* of a portion of the *Project*, as applicable, using the Government's own forces, the Non-Federal Sponsor shall prepare or ensure the preparation of plans and specifications for, and perform or ensure the performance of, all *relocations* the Government determines to be necessary for that work. Prior to the end of the *period of initial construction*, the Non-Federal Sponsor shall perform or ensure performance of

all *relocations* necessary for *initial construction*, operation, and maintenance of the *Project* as set forth in such descriptions. Furthermore, prior to the end of the *authorized periodic nourishment period*, the Non-Federal Sponsor shall perform or ensure performance of all *relocations* necessary for *periodic nourishment* of the *Project* as set forth in such descriptions.

C. The Government, after consultation with the Non-Federal Sponsor, shall determine the improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material associated with *initial construction, periodic nourishment, operation, and maintenance* of the *Project*. Such improvements may include, but are not necessarily limited to, retaining dikes, wasteweirs, bulkheads, embankments, monitoring features, stilling basins, and de-watering pumps and pipes. The Government in a timely manner shall provide the Non-Federal Sponsor with general written descriptions, including maps as appropriate, of such improvements that are required, respectively, for *initial construction* and for *periodic nourishment* in detail sufficient to enable the Non-Federal Sponsor to fulfill its obligations under this paragraph, and shall provide the Non-Federal Sponsor with a written notice to proceed with construction of such improvements. Prior to issuance of the solicitation for each contract for *initial construction* of the *Project* or *periodic nourishment* of the *Project*, or prior to the Government incurring any *financial obligations for initial construction* of a portion of the *Project* or *financial obligations for periodic nourishment* of a portion of the *Project*, as applicable, using the Government's own forces, the Non-Federal Sponsor shall prepare plans and specifications for all improvements the Government determines to be required for the disposal of dredged or excavated material under that contract, submit such plans and specifications to the Government for approval, and provide such improvements in accordance with the approved plans and specifications. Prior to the end of the *period of initial construction*, the Non-Federal Sponsor shall provide all improvements required for *initial construction, operation, and maintenance* of the *Project* set forth in such descriptions. Furthermore, prior to the end of the *authorized periodic nourishment period*, the Non-Federal Sponsor shall provide all improvements required for *periodic nourishment* of the *Project* as set forth in such descriptions.

D. The Non-Federal Sponsor shall comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended (42 U.S.C. 4601-4655), and the Uniform Regulations contained in 49 C.F.R. Part 24, in acquiring lands, easements, and rights-of-way required for *initial construction, periodic nourishment, operation, and maintenance* of the *Project*, including those required for *relocations*, the borrowing of material, or the disposal of dredged or excavated material, and shall inform all affected persons of applicable benefits, policies, and procedures in connection with said Act.

#### ARTICLE IV - CREDIT FOR VALUE OF LANDS, EASEMENTS, RIGHTS-OF-WAY, RELOCATIONS, AND DISPOSAL AREA IMPROVEMENTS

A. The Government shall include in *total project costs* and afford credit toward the Non-Federal Sponsor's share of *total costs of initial construction* for the value of the lands, easements, and rights-of-way that the Non-Federal Sponsor must provide pursuant to Article III.A. of this Agreement for *initial construction*; for the value of the *relocations* that the Non-Federal Sponsor must perform or for which it must ensure performance pursuant to Article

III.B. of this Agreement for *initial construction*; and for the value of the improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material that the Non-Federal Sponsor must provide pursuant to Article III.C. of this Agreement for *initial construction*. The Government also shall include in *total project costs* and afford credit toward the Non-Federal Sponsor's share of *total costs of periodic nourishment* for the value of the lands, easements, and rights-of-way that the Non-Federal Sponsor must provide pursuant to Article III.A. of this Agreement for *periodic nourishment*; for the value of the *relocations* that the Non-Federal Sponsor must perform or for which it must ensure performance pursuant to Article III.B. of this Agreement for *periodic nourishment*; and for the value of the improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material that the Non-Federal Sponsor must provide pursuant to Article III.C. of this Agreement for *periodic nourishment*. However, no amount shall be included in *total project costs*, no credit shall be afforded, and no reimbursement shall be provided for the value of any lands, easements, rights-of-way, *relocations*, or improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material that have been provided previously as an item of cooperation for another Federal project. In addition, no amount shall be included in *total project costs*, no credit shall be afforded, and no reimbursement shall be provided for the value of lands, easements, rights-of-way, *relocations*, or improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material that were acquired or performed using *Federal program funds* unless the Federal agency providing the Federal portion of such funds verifies in writing that affording credit for the value of such items is expressly authorized by Federal law.

B. The Non-Federal Sponsor in a timely manner shall provide the Government with such documents as are sufficient to enable the Government to determine the value of any contribution provided pursuant to Article III.A., Article III.B., or Article III.C. of this Agreement. Upon receipt of such documents, the Government in a timely manner shall determine the value of such contributions for the purpose of including such value in *total project costs* and for determining the amount of credit to be afforded or reimbursement to be provided in accordance with the provisions of this Agreement.

C. For the purposes of determining the value to be included in *total project costs* and the amount of credit to be afforded or reimbursement to be provided in accordance with this Agreement and except as otherwise provided in paragraph G. of this Article, the value of lands, easements, and rights-of-way, including those required for *relocations*, the borrowing of material, and the disposal of dredged or excavated material, shall be the fair market value of the real property interests, plus certain incidental costs of acquiring those interests, as determined in accordance with the provisions of this paragraph.

1. Date of Valuation. The fair market value of lands, easements, or rights-of-way owned by the Non-Federal Sponsor on the effective date of this Agreement shall be the fair market value of such real property interests as of the date the Non-Federal Sponsor provides the Government with authorization for entry thereto. The fair market value of lands, easements, or rights-of-way acquired by the Non-Federal Sponsor after the effective date of this Agreement shall be the fair market value of such real property interests at the time the interests are acquired.

2. General Valuation Procedure. Except as provided in paragraph C.3. or paragraph C.5. of this Article, the fair market value of lands, easements, or rights-of-way shall be determined in accordance with the provisions of this paragraph.

a. The Non-Federal Sponsor shall obtain, for each real property interest, an appraisal that is prepared by a qualified appraiser who is acceptable to the Non-Federal Sponsor and the Government. The Non-Federal Sponsor shall provide the Government with the appraisal no later than 6 months after the Non-Federal Sponsor provides the Government with an authorization for entry for such real property interest. The appraisal must be prepared in accordance with the applicable rules of just compensation, as specified by the Government. The fair market value shall be the amount set forth in the Non-Federal Sponsor's appraisal, if such appraisal is approved by the Government. In the event the Government does not approve the Non-Federal Sponsor's appraisal, the Non-Federal Sponsor may obtain a second appraisal, and the fair market value shall be the amount set forth in the Non-Federal Sponsor's second appraisal, if such appraisal is approved by the Government. In the event the Government does not approve the Non-Federal Sponsor's second appraisal, the Non-Federal Sponsor chooses not to obtain a second appraisal, or the Non-Federal Sponsor does not provide the first appraisal as required in this paragraph, the Government shall obtain an appraisal, and the fair market value shall be the amount set forth in the Government's appraisal, if such appraisal is approved by the Non-Federal Sponsor. In the event the Non-Federal Sponsor does not approve the Government's appraisal, the Government, after consultation with the Non-Federal Sponsor, shall consider the Government's and the Non-Federal Sponsor's appraisals and determine an amount based thereon, which shall be deemed to be the fair market value.

b. Where the amount paid or proposed to be paid by the Non-Federal Sponsor for the real property interest exceeds the amount determined pursuant to paragraph C.2.a. of this Article, the Government, at the request of the Non-Federal Sponsor, shall consider all factors relevant to determining fair market value and, in its sole discretion, after consultation with the Non-Federal Sponsor, may approve in writing an amount greater than the amount determined pursuant to paragraph C.2.a. of this Article, but not to exceed the amount actually paid or proposed to be paid. If the Government approves such an amount, the fair market value shall be the lesser of the approved amount or the amount paid by the Non-Federal Sponsor, but no less than the amount determined pursuant to paragraph C.2.a. of this Article.

3. Eminent Domain Valuation Procedure. For lands, easements, or rights-of-way acquired by eminent domain proceedings instituted after the effective date of this Agreement, the Non-Federal Sponsor, prior to instituting such proceedings, shall submit to the Government notification in writing of its intent to institute such proceedings and an appraisal of the specific real property interests to be acquired in such proceedings. The Government shall have 60 calendar days after receipt of such a notice and appraisal within which to review the appraisal, if not previously approved by the Government in writing.

a. If the Government previously has approved the appraisal in writing, or if the Government provides written approval of, or takes no action on, the appraisal within such 60 day period, the Non-Federal Sponsor shall use the amount set forth in such appraisal

as the estimate of just compensation for the purpose of instituting the eminent domain proceeding.

b. If the Government provides written disapproval of the appraisal, including the reasons for disapproval, within such 60 day period, the Government and the Non-Federal Sponsor shall consult in good faith to promptly resolve the issues or areas of disagreement that are identified in the Government's written disapproval. If, after such good faith consultation, the Government and the Non-Federal Sponsor agree as to an appropriate amount, then the Non-Federal Sponsor shall use that amount as the estimate of just compensation for the purpose of instituting the eminent domain proceeding. If, after such good faith consultation, the Government and the Non-Federal Sponsor cannot agree as to an appropriate amount, then the Non-Federal Sponsor may use the amount set forth in its appraisal as the estimate of just compensation for the purpose of instituting the eminent domain proceeding.

c. For lands, easements, or rights-of-way acquired by eminent domain proceedings instituted in accordance with paragraph C.3. of this Article, fair market value shall be either the amount of the court award for the real property interests taken, to the extent the Government determined such interests are required for *initial construction, periodic nourishment*, operation, and maintenance of the *Project*, or the amount of any stipulated settlement or portion thereof that the Government approves in writing.

4. Incidental Costs. For lands, easements, or rights-of-way acquired by the Non-Federal Sponsor within a five year period preceding the effective date of this Agreement, or at any time after the effective date of this Agreement, the value of the interest shall include the documented incidental costs of acquiring the interest, as determined by the Government, subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of such costs. In the event the Government modifies its determination made pursuant to Article III.A. of this Agreement, the Government shall afford credit for the documented incidental costs associated with preparing to acquire lands, easements, or rights-of-way identified in the original determination, subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of such costs. Such incidental costs shall include, but not necessarily be limited to, closing and title costs, appraisal costs, survey costs, attorney's fees, plat maps, mapping costs, actual amounts expended for payment of any *relocation* assistance benefits provided in accordance with Article III.D. of this Agreement, and other payments by the Non-Federal Sponsor for items that are generally recognized as compensable, and required to be paid, by applicable state law due to the acquisition of a real property interest in accordance with Article III of this Agreement. The value of the interests provided by the Non-Federal Sponsor in accordance with Article III.A. of the Agreement shall also include the documented costs of obtaining appraisals pursuant to paragraph C.2. of this Article, as determined by the Government, and subject to an audit in accordance with Article X.C. of the Agreement to determine reasonableness, allocability, and allowability of such costs.

5. Waiver of Appraisal. Except as required by paragraph C.3. of the Article, the Government may waive the requirement for an appraisal pursuant to this paragraph if it determines that an appraisal is unnecessary because the valuation is uncomplicated and that

the estimated fair market value of the real property interest is \$10,000 or less based upon a review of available data. In such event, the Government and the Non-Federal Sponsor must agree in writing to the value of such real property interest in an amount not in excess of \$10,000.

D. After consultation with the Non-Federal Sponsor, the Government shall determine the value of *relocations* in accordance with the provisions of this paragraph.

1. For a *relocation* other than a *highway*, the value shall be only that portion of *relocation* costs that the Government determines is necessary to provide a functionally equivalent facility, reduced by depreciation, as applicable, and by the salvage value of any removed items.

2. For a *relocation* of a *highway*, the value shall be only that portion of *relocation* costs that would be necessary to accomplish the *relocation* in accordance with the design standard that the State of Delaware would apply under similar conditions of geography and traffic load, reduced by the salvage value of any removed items.

3. *Relocation* costs shall include, but not necessarily be limited to, actual costs of performing the *relocation*; planning, engineering and design costs; supervision and administration costs; and documented incidental costs associated with performance of the *relocation*, as determined by the Government. *Relocation* costs shall not include any costs due to *betterments*, as determined by the Government, nor any additional cost of using new material when suitable used material is available. *Relocation* costs shall be subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of such costs.

E. The value of the improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material shall be the costs of the improvements, as determined by the Government, subject to an audit in accordance with Article X.C of the Agreement to determine reasonableness, allocability, and allowability of such costs. Such costs shall include, but not necessarily be limited to, actual costs of providing the improvements; planning, engineering and design costs; supervision and administration costs; and documented incidental costs associated with providing the improvements, but shall not include any costs due to *betterments*, as determined by the Government.

F. Any credit afforded or reimbursement provided under the terms of this Agreement for the value of *relocations*, or improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material, performed within the *Project* boundaries is subject to satisfactory compliance with applicable Federal labor laws covering Non-Federal construction, including, but not limited to, 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3708 (revising, codifying and enacting without substantive change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a *et seq.*), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 *et seq.*) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c)). Notwithstanding any other provision of this Agreement, credit or reimbursement may be withheld, in whole or in part, as a result of the Non-Federal Sponsor's failure to comply with its obligations under these laws.

G. Where the Government, on behalf of the Non-Federal Sponsor pursuant to Article II.L. of this Agreement, acquires lands, easements, or rights-of-way, performs *relocations*, or constructs improvements required on lands, easements, or rights-of-way to enable the disposal of dredged or excavated material, the value to be included in *total project costs* and the amount of credit to be afforded or the amount of reimbursement provided in accordance with this Agreement shall be the costs of such work performed or provided by the Government that are paid by the Non-Federal Sponsor in accordance with Article VI.E. of this Agreement. In addition, the value to be included in *total project costs* and the amount of such credit to be afforded or the amount of reimbursement provided in accordance with this Agreement shall include the documented costs incurred by the Non-Federal Sponsor in accordance with the terms and conditions agreed upon in writing pursuant to Article II.L. of this Agreement subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, allowability of such costs.

#### ARTICLE V - PROJECT COORDINATION TEAM

A. To provide for consistent and effective communication, the Non-Federal Sponsor and the Government, not later than 30 days after the effective date of this Agreement, shall appoint named senior representatives to a Project Coordination Team. Thereafter, the Project Coordination Team shall meet regularly until the end of the *period of initial construction* and during each iteration of *periodic nourishment*. The Government's Project Manager and a counterpart named by the Non-Federal Sponsor shall co-chair the Project Coordination Team.

B. The Government's Project Manager and the Non-Federal Sponsor's counterpart shall keep the Project Coordination Team informed of the progress of construction and of significant pending issues and actions, and shall seek the views of the Project Coordination Team on matters that the Project Coordination Team generally oversees.

C. Until the end of the *period of initial construction* and during each iteration of *periodic nourishment*, the Project Coordination Team shall generally oversee the *Project*, including matters related to: plans and specifications; scheduling; real property and *relocation* requirements; real property acquisition; contract awards and modifications; contract costs; the application of and compliance with 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3708 (revising, codifying and enacting without substantive change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a *et seq.*), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 *et seq.*) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c)) for *relocations* and improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material; the investigations to identify the existence and extent of hazardous substances in accordance with Article XIV.A. of this Agreement; historic preservation activities in accordance with Article XVII of this Agreement; the Government's cost projections; final inspection of the *initial construction* or functional portions thereof; final inspection of each iteration of *periodic nourishment* or functional portions thereof; preparation of the proposed OMRR&R Manual; anticipated requirements and needed capabilities for performance of operation, maintenance, repair, rehabilitation, and replacement of the *Project* including issuance of permits; and other matters related to the *Project*. This oversight of the *Project* shall be consistent with a

project management plan developed by the Government after consultation with the Non-Federal Sponsor.

D. The Project Coordination Team may make recommendations to the District Engineer on matters related to the *Project* that the Project Coordination Team generally oversees, including suggestions to avoid potential sources of dispute. The Government in good faith shall consider the recommendations of the Project Coordination Team. The Government, having the legal authority and responsibility for construction of the *Project*, has the discretion to accept or reject, in whole or in part, the Project Coordination Team's recommendations.

E. The Non-Federal Sponsor's costs of participation in the Project Coordination Team shall be included in *total project costs* and shared in accordance with the provisions of this Agreement, subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of such costs. The Government's costs of participation in the Project Coordination Team shall be included in *total project costs* and shared in accordance with the provisions of this Agreement.

#### ARTICLE VI - METHOD OF PAYMENT

A. In accordance with the provisions of this paragraph, the Government shall maintain current records and provide to the Non-Federal Sponsor current projections of costs, financial obligations, contributions provided by the parties, and the value included in *total project costs* for the value of lands, easements, rights-of-way, *relocations*, and improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material determined in accordance with Article IV of this Agreement.

1. As of the effective date of this Agreement, *total project costs* are projected to be \$129,097,000; *total costs of initial construction* are projected to be \$26,630,000; the Non-Federal Sponsor's contribution of funds required by Article II.C.2. of this Agreement is projected to be \$9,320,500; the *Non-Federal proportionate share* with respect to *initial construction* is projected to be 35 percent; *total costs of periodic nourishment* are projected to be \$102,467,000; the Non-Federal Sponsor's contribution of funds required by Article II.G.2. of this Agreement is projected to be \$35,863,450; the *Non-Federal proportionate share* with respect to *periodic nourishment* is projected to be 35 percent; the Non-Federal Sponsor's contribution of funds required by Article XVII.B.3. of this Agreement is \$0; the value included in *total project costs* for the value of lands, easements, rights-of-way, *relocations*, and improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material determined in accordance with Article IV of this Agreement is projected to be \$951,000 for *initial construction* and \$0 for *periodic nourishment*; and the Government's total financial obligations for the additional work to be incurred and the Non-Federal Sponsor's contribution of funds for such costs required by Article II.L. of this Agreement is \$0. These amounts and percentage are estimates subject to adjustment by the Government, after consultation with the Non-Federal Sponsor, and are not to be construed as the total financial responsibilities of the Government and the Non-Federal Sponsor.

2. By March 2007 and by each quarterly anniversary thereof until the conclusion of the *period of construction* and resolution of all relevant claims and appeals and eminent domain proceedings and during each iteration of *periodic nourishment*, the Government shall provide the Non-Federal Sponsor with a report setting forth all contributions provided to date and the current projections of the following: *total project costs*; *total costs of initial construction*; the Non-Federal Sponsor's total contribution of funds required by Article II.C.2. of this Agreement; the *Non-Federal proportionate share* with respect to *initial construction*; *total costs of periodic nourishment*; the Non-Federal Sponsor's contribution of funds required by Article II.G.2. of this Agreement; the *Non-Federal proportionate share* with respect to *periodic nourishment*; the Non-Federal Sponsor's total contribution of funds required by Article XVII.B.3. of this Agreement; the total contribution of funds required from the Non-Federal Sponsor for the upcoming *fiscal year*; the maximum amount determined in accordance with Article XX of this Agreement; the value included in *total project costs* for the value of lands, easements, rights-of-way, *relocations*, and improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material determined in accordance with Article IV of this Agreement; and the Government's total financial obligations for additional work incurred and the Non-Federal Sponsor's contribution of funds for such costs required by Article II.L. of this Agreement.

B. The Non-Federal Sponsor shall provide the contributions of funds required by Article II.C.2., Article II.G.2., and Article XVII.B.3. of this Agreement in accordance with the provisions of this paragraph.

1. Not less than 30 calendar days prior to the scheduled date for issuance of the solicitation for the first contract for *initial construction* or commencement of *initial construction* using the Government's own forces, the Government shall notify the Non-Federal Sponsor in writing of such scheduled date and the funds the Government determines to be required from the Non-Federal Sponsor, after consideration of any cash contribution provided by a Non-Federal interest pursuant to the terms of the Design Agreement, to meet: (a) the *Non-Federal proportionate share* of *financial obligations for initial construction* incurred prior to the commencement of the *period of initial construction*; (b) the projected *Non-Federal proportionate share* of *financial obligations for initial construction* to be incurred in the first *fiscal year*; or, if use of a continuing contract has been approved pursuant to Federal laws, regulations, and policies, the projected *Non-Federal proportionate share* of *financial obligations for initial construction* through the first *fiscal year*; and (c) the Non-Federal Sponsor's share of the projected financial obligations for data recovery activities associated with historic preservation pursuant to Article XVII.B.3. of this Agreement to be incurred in the first *fiscal year*; or, if use of a continuing contract has been approved pursuant to Federal laws, regulations, and policies, the Non-Federal Sponsor's share of the projected financial obligations for data recovery activities associated with historic preservation pursuant to Article XVII.B.3. of this Agreement through the first *fiscal year*. Not later than such scheduled date, the Non-Federal Sponsor shall provide the Government with the full amount of such required funds by delivering a check payable to "FAO, USAED, Philadelphia District" to the District Engineer, or verifying to the satisfaction of the Government that the Non-Federal Sponsor has deposited such required funds in an escrow or other account acceptable to the Government, with interest accruing to the Non-Federal Sponsor, or by presenting the Government with an irrevocable letter of

credit acceptable to the Government for such required funds, or by providing an Electronic Funds Transfer of such required funds in accordance with procedures established by the Government.

2. Thereafter, until construction of the *Project* (including *periodic nourishment*) is complete, the Government shall notify the Non-Federal Sponsor in writing, no later than 60 calendar days prior to the beginning of each *fiscal year* in which the Government projects that it will make *financial obligations for initial construction* of the *Project*, *financial obligations for periodic nourishment* of the *Project*, or financial obligations for data recovery activities associated with historic preservation pursuant to Article XVII.B.3. of this Agreement, of the funds the Government determines to be required from the Non-Federal Sponsor, after consideration of any cash contribution provided by a Non-Federal interest pursuant to the terms of the Design Agreement, to meet: (a) the projected *Non-Federal proportionate share* of *financial obligations for initial construction* to be incurred in that *fiscal year*; or, if use of a continuing contract has been approved pursuant to Federal laws, regulations, and policies, the projected *Non-Federal proportionate share* of *financial obligations for initial construction* for that *fiscal year* (b) the projected *Non-Federal proportionate share* of *financial obligations for periodic nourishment* to be incurred in that *fiscal year*; or, if use of a continuing contract has been approved pursuant to Federal laws, regulations, and policies, the projected *Non-Federal proportionate share* of *financial obligations for periodic nourishment* for that *fiscal year* and (c) the Non-Federal Sponsor's share of the projected financial obligations for data recovery activities associated with historic preservation pursuant to Article XVII.B.3. of this Agreement to be incurred in that *fiscal year*; or, if use of a continuing contract has been approved pursuant to Federal laws, regulations, and policies, the Non-Federal Sponsor's share of the projected financial obligations for data recovery activities associated with historic preservation pursuant to Article XVII.B.3. of this Agreement for that *fiscal year*. No later than 30 calendar days prior to the beginning of that *fiscal year*, the Non-Federal Sponsor shall make the full amount of such required funds for *fiscal year* available to the Government through any of the payment mechanisms specified in paragraph B.1. of this Article.

3. The Government shall draw from the funds provided by the Non-Federal Sponsor such sums as the Government deems necessary, after consideration of any contributions provided by a Non-Federal interest pursuant to the terms of the Design Agreement, to cover: (a) the *Non-Federal proportionate share* of *financial obligations for initial construction* incurred prior to the commencement of the *period of initial construction*; (b) the *Non-Federal proportionate share* of *financial obligations for initial construction* as *financial obligations for initial construction* are incurred; (c) the *Non-Federal proportionate share* of *financial obligations for periodic nourishment* as *financial obligations for periodic nourishment* are incurred; and (c) the Non-Federal Sponsor's share of financial obligations for data recovery activities associated with historic preservation pursuant to Article XVII.B.3. of this Agreement as those financial obligations are incurred. If at any time the Government determines that additional funds will be needed from the Non-Federal Sponsor to cover the Non-Federal Sponsor's share of such financial obligations in the current *fiscal year*, the Government shall notify the Non-Federal Sponsor in writing of the additional funds required and provide an explanation of why additional funds are required. Within 60 calendar days from receipt of such notice, the Non-Federal Sponsor shall provide the

Government with the full amount of such additional required funds through any of the payment mechanisms specified in paragraph B.1. of this Article.

C. Upon conclusion of the *period of initial construction* and resolution of all relevant claims and appeals and eminent domain proceedings, the Government shall conduct a final accounting for the *period of initial construction* and furnish the Non-Federal Sponsor with written notice of the results of such final accounting. If outstanding relevant claims and appeals or eminent domain proceedings prevent a final accounting for the *period of initial construction* from being conducted in a timely manner, the Government shall conduct an interim accounting and furnish the Non-Federal Sponsor with written notice of the results of such interim accounting. Once all outstanding relevant claims and appeals and eminent domain proceedings are resolved, the Government shall amend the interim accounting for the *period of initial construction* to complete the final accounting and furnish the Non-Federal Sponsor with written notice of the results of such final accounting. The interim or final accounting, as applicable, shall determine *total costs of initial construction* and the costs of any data recovery activities associated with historic preservation for the *initial construction*. In addition, for each set of costs, the interim or final accounting, as applicable, shall determine each party's required share thereof, and each party's total contributions thereto as of the date of such accounting.

1. Should the interim or final accounting, as applicable, show that the Non-Federal Sponsor's total required shares of *total costs of initial construction* and the costs of any data recovery activities associated with historic preservation for the *initial construction* exceed the Non-Federal Sponsor's total contributions provided thereto, the Non-Federal Sponsor, no later than 90 calendar days after receipt of written notice from the Government, shall make a payment to the Government in an amount equal to the difference by delivering a check payable to "FAO, USAED, Philadelphia District" to the District Engineer or by providing an Electronic Funds Transfer in accordance with procedures established by the Government.

2. Should the interim or final accounting, as applicable, show that the total contributions provided by the Non-Federal Sponsor for *total costs of initial construction* and the costs of any data recovery activities associated with historic preservation for the *initial construction* exceed the Non-Federal Sponsor's total required shares thereof, the Government, subject to the availability of funds, shall refund or reimburse the excess amount to the Non-Federal Sponsor within 90 calendar days of the date of completion of such accounting. In the event the Non-Federal Sponsor is due a refund or reimbursement and funds are not available to refund or reimburse the excess amount to the Non-Federal Sponsor, the Government shall seek such appropriations as are necessary to make the refund or reimbursement.

D. Upon conclusion of each iteration of *periodic nourishment* and resolution of all relevant claims and appeals and eminent domain proceedings, the Government shall conduct a final accounting for such iteration of *periodic nourishment* and furnish the Non-Federal Sponsor with written notice of the results of such final accounting. If outstanding relevant claims and appeals or eminent domain proceedings prevent a final accounting for such iteration of *periodic nourishment* from being conducted in a timely manner, the Government shall conduct an interim accounting and furnish the Non-Federal Sponsor with written notice

of the results of such interim accounting. Once all outstanding relevant claims and appeals and eminent domain proceedings are resolved, the Government shall amend the interim accounting for such iteration of *periodic nourishment* to complete the final accounting and furnish the Non-Federal Sponsor with written notice of the results of such final accounting. The interim or final accounting, as applicable, for such iteration of *periodic nourishment* shall determine *total costs of periodic nourishment* for that iteration of *periodic nourishment* and the costs of any data recovery activities associated with historic preservation for that iteration of *periodic nourishment*. In addition, for each set of costs, the interim or final accounting, as applicable, shall determine each party's required share thereof, and each party's total contributions thereto as of the date of such accounting.

1. Should the interim or final accounting, as applicable, for such iteration of *periodic nourishment* show that the Non-Federal Sponsor's total required shares of *total costs of periodic nourishment* for that iteration of *periodic nourishment* and the costs of any data recovery activities associated with historic preservation for that iteration of *periodic nourishment* exceed the Non-Federal Sponsor's total contributions provided thereto, the Non-Federal Sponsor, no later than 90 calendar days after receipt of written notice from the Government, shall make a payment to the Government in an amount equal to the difference by delivering a check payable to "FAO, USAED, Philadelphia District" to the District Engineer or by providing an Electronic Funds Transfer in accordance with procedures established by the Government.

2. Should the interim or final accounting, as applicable, for such iteration of *periodic nourishment* show that the total contributions provided by the Non-Federal Sponsor for *total costs of periodic nourishment* for that iteration of *periodic nourishment* and the costs of any data recovery activities associated with historic preservation for that iteration of *periodic nourishment* exceed the Non-Federal Sponsor's total required shares thereof, the Government, subject to the availability of funds, shall refund or reimburse the excess amount to the Non-Federal Sponsor within 90 calendar days of the date of completion of such accounting. In the event the Non-Federal Sponsor is due a refund or reimbursement and funds are not available to refund or reimburse the excess amount to the Non-Federal Sponsor, the Government shall seek such appropriations as are necessary to make the refund or reimbursement.

E. The Non-Federal Sponsor shall provide the contribution of funds required by Article II.L. of this Agreement for additional work in accordance with the provisions of this paragraph.

1. Not less than 60 calendar days prior to the scheduled date for the first financial obligation for additional work, the Government shall notify the Non-Federal Sponsor in writing of such scheduled date and of the full amount of funds the Government determines to be required from the Non-Federal Sponsor to cover the costs of the additional work. No later than 30 calendar days prior to the Government incurring any financial obligation for additional work, the Non-Federal Sponsor shall provide the Government with the full amount of the funds required to cover the costs of such additional work through any of the payment mechanisms specified in paragraph B.1. of this Article.

2. The Government shall draw from the funds provided by the Non-Federal Sponsor such sums as the Government deems necessary to cover the Government's financial obligations for such additional work as they are incurred. If at any time the Government determines that the Non-Federal Sponsor must provide additional funds to pay for such additional work, the Government shall notify the Non-Federal Sponsor in writing of the additional funds required and provide an explanation of why additional funds are required. Within 30 calendar days from receipt of such notice, the Non-Federal Sponsor shall provide the Government with the full amount of such additional required funds through any of the payment mechanisms specified in paragraph B.1. of this Article.

3. At the time the Government conducts the interim or final accounting, as applicable, for the *initial construction* or the interim or final accounting, as applicable, for each iteration of *periodic nourishment*, the Government shall conduct an accounting of the Government's financial obligations for additional work incurred during the applicable period and furnish the Non-Federal Sponsor with written notice of the results of such accounting. If outstanding relevant claims and appeals or eminent domain proceedings prevent a final accounting of additional work performed or provided during the applicable period from being conducted in a timely manner, the Government shall conduct an interim accounting of additional work performed or provided during the applicable period and furnish the Non-Federal Sponsor with written notice of the results of such interim accounting. Once all outstanding relevant claims and appeals and eminent domain proceedings are resolved, the Government shall amend the interim accounting of additional work performed or provided during the applicable period to complete the final accounting of additional work performed or provided during the applicable period and furnish the Non-Federal Sponsor with written notice of the results of such final accounting. Such interim or final accounting, as applicable, shall determine the Government's total financial obligations for additional work incurred during the applicable period and the Non-Federal Sponsor's contribution of funds provided thereto as of the date of such accounting.

a. Should the interim or final accounting, as applicable, show that the total obligations for additional work incurred during the applicable period exceed the total contribution of funds provided by the Non-Federal Sponsor for such additional work, the Non-Federal Sponsor, no later than 90 calendar days after receipt of written notice from the Government, shall make a payment to the Government in an amount equal to the difference by delivering a check payable to "FAO, USAED, Philadelphia District" to the District Engineer or by providing an Electronic Funds Transfer in accordance with procedures established by the Government.

b. Should the interim or final accounting, as applicable, show that the total contribution of funds provided by the Non-Federal Sponsor for additional work performed or provided during the applicable period exceeds the total obligations for such additional work, the Government, subject to the availability of funds, shall refund the excess amount to the Non-Federal Sponsor within 90 calendar days of the date of completion of such accounting. In the event the Non-Federal Sponsor is due a refund and funds are not available to refund the excess amount to the Non-Federal Sponsor, the Government shall seek such appropriations as are necessary to make the refund.

## ARTICLE VII - DISPUTE RESOLUTION

As a condition precedent to a party bringing any suit for breach of this Agreement, that party must first notify the other party in writing of the nature of the purported breach and seek in good faith to resolve the dispute through negotiation. If the parties cannot resolve the dispute through negotiation, they may agree to a mutually acceptable method of Non-binding alternative dispute resolution with a qualified third party acceptable to both parties. Each party shall pay an equal share of any costs for the services provided by such a third party as such costs are incurred. The existence of a dispute shall not excuse the parties from performance pursuant to this Agreement.

## ARTICLE VIII - OPERATION, MAINTENANCE, REPAIR, REHABILITATION, AND REPLACEMENT (OMRR&R)

A. Upon receipt of the notification from the District Engineer in accordance with Article II.D. of this Agreement and for so long as the *Project* remains authorized, the Non-Federal Sponsor, pursuant to Article II.E. of this Agreement, shall operate, maintain, repair, rehabilitate, and replace the *initial construction*, each iteration of *periodic nourishment*, *functional portion of initial construction*, or *functional portion of an iteration of periodic nourishment*, as applicable, at no cost to the Government. The Non-Federal Sponsor shall conduct its operation, maintenance, repair, rehabilitation, and replacement responsibilities in a manner compatible with the *Project's* authorized purposes and in accordance with applicable Federal and State laws as provided in Article XI of this Agreement and specific directions prescribed by the Government in the interim or final OMRR&R Manual and any subsequent amendments thereto.

1. At least twice annually and after storm events, the Non-Federal Sponsor shall perform surveillance of the beach, at no cost to the Government, to determine losses of nourishment material from the *Project* design section and advance nourishment section and provide the results of such surveillance to the Government.

2. The Non-Federal Sponsor shall grade and reshape the beach and dune profile using material within the *Project* area and maintain other *Project* features associated with the beach and dune.

B. The Non-Federal Sponsor hereby gives the Government a right to enter, at reasonable times and in a reasonable manner, upon property that the Non-Federal Sponsor now or hereafter owns or controls for access to the *Project* for the purpose of inspection and, if necessary, for the purpose of completing, operating, maintaining, repairing, rehabilitating, or replacing the *Project*. If an inspection shows that the Non-Federal Sponsor for any reason is failing to perform its obligations under this Agreement, the Government shall send a written notice describing the Non-performance to the Non-Federal Sponsor. If, after 30 calendar days from receipt of such written notice by the Government, the Non-Federal Sponsor continues to fail to perform, then the Government shall have the right to enter, at reasonable times and in a reasonable manner, upon property that the Non-Federal Sponsor now or hereafter owns or controls for the purpose of completing, operating, maintaining, repairing, rehabilitating, or replacing the *Project*. No completion, operation, maintenance,

repair, rehabilitation, or replacement by the Government shall relieve the Non-Federal Sponsor of responsibility to meet the Non-Federal Sponsor's obligations as set forth in this Agreement, or to preclude the Government from pursuing any other remedy at law or equity to ensure faithful performance pursuant to this Agreement.

#### ARTICLE IX – HOLD AND SAVE

The Non-Federal Sponsor shall hold and save the Government free from all damages arising from *initial construction, periodic nourishment*, operation, maintenance, repair, rehabilitation, and replacement of the *Project* and any *betterments*, except for damages due to the fault or negligence of the Government or its contractors. This provision is subject to Article XXI of this Agreement.

#### ARTICLE X - MAINTENANCE OF RECORDS AND AUDIT

A. Not later than 60 calendar days after the effective date of this Agreement, the Government and the Non-Federal Sponsor shall develop procedures for keeping books, records, documents, or other evidence pertaining to costs and expenses incurred pursuant to this Agreement. These procedures shall incorporate, and apply as appropriate, the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 C.F.R. Section 33.20. The Government and the Non-Federal Sponsor shall maintain such books, records, documents, or other evidence in accordance with these procedures and for a minimum of three years after completion of the accounting for which such books, records, documents, or other evidence were required. To the extent permitted under applicable Federal laws and regulations, the Government and the Non-Federal Sponsor shall each allow the other to inspect such books, records, documents, or other evidence.

B. In accordance with 32 C.F.R. Section 33.26, the Non-Federal Sponsor is responsible for complying with the Single Audit Act Amendments of 1996 (31 U.S.C. 7501-7507), as implemented by Office of Management and Budget (OMB) Circular No. A-133 and Department of Defense Directive 7600.10. Upon request of the Non-Federal Sponsor and to the extent permitted under applicable Federal laws and regulations, the Government shall provide to the Non-Federal Sponsor and independent auditors any information necessary to enable an audit of the Non-Federal Sponsor's activities under this Agreement. The costs of any Non-Federal audits performed in accordance with this paragraph shall be allocated in accordance with the provisions of OMB Circulars A-87 and A-133, and such costs as are allocated to the *Project* shall be included in *total project costs* and shared in accordance with the provisions of this Agreement.

C. In accordance with 31 U.S.C. Section 7503, the Government may conduct audits in addition to any audit that the Non-Federal Sponsor is required to conduct under the Single Audit Act Amendments of 1996. Any such Government audits shall be conducted in accordance with Government Auditing Standards and the cost principles in OMB Circular No. A-87 and other applicable cost principles and regulations. The costs of Government

audits performed in accordance with this paragraph shall be included in *total project costs* and shared in accordance with the provisions of this Agreement.

#### ARTICLE XI - FEDERAL AND STATE LAWS

In the exercise of their respective rights and obligations under this Agreement, the Non-Federal Sponsor and the Government shall comply with all applicable Federal and State laws and regulations, including, but not limited to: Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d) and Department of Defense Directive 5500.11 issued pursuant thereto; Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army"; and all applicable Federal labor standards requirements including, but not limited to, 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3708 (revising, codifying and enacting without substantive change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a *et seq.*), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 *et seq.*) and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c)).

#### ARTICLE XII - RELATIONSHIP OF PARTIES

A. In the exercise of their respective rights and obligations under this Agreement, the Government and the Non-Federal Sponsor each act in an independent capacity, and neither is to be considered the officer, agent, or employee of the other.

B. In the exercise of its rights and obligations under this Agreement, neither party shall provide, without the consent of the other party, any contractor with a release that waives or purports to waive any rights the other party may have to seek relief or redress against that contractor either pursuant to any cause of action that the other party may have or for violation of any law.

#### ARTICLE XIII - TERMINATION OR SUSPENSION

A. If at any time the Non-Federal Sponsor fails to fulfill its obligations under this Agreement, the Assistant Secretary of the Army (Civil Works) shall terminate this Agreement or suspend future performance under this Agreement unless he determines that continuation of work on the *Project* is in the interest of the United States or is necessary in order to satisfy agreements with any other Non-Federal interests in connection with the *Project*.

B. In the event the Government projects that the amount of Federal funds the Government will make available to the *Project* through the then-current *fiscal year*, or the amount of Federal funds the Government will make available for the *Project* through the upcoming *fiscal year*, is not sufficient to meet the Federal share of *total project costs* and the Federal share of costs for data recovery activities in accordance with Article XVII.B.2. and Article XVII.C. of this Agreement that the Government projects to be incurred through the then-current or upcoming *fiscal year*, as applicable, the Government shall notify the Non-Federal Sponsor in writing of such insufficiency of funds and of the date the Government

projects that the Federal funds that will have been made available to the *Project* will be exhausted. Upon the exhaustion of Federal funds made available by the Government to the *Project*, future performance under this Agreement shall be suspended. Such suspension shall remain in effect until such time that the Government notifies the Non-Federal Sponsor in writing that sufficient Federal funds are available to meet the Federal share of *total project costs* and the Federal share of costs for data recovery activities in accordance with Article XVII.B.2. and Article XVII.C. of this Agreement the Government projects to be incurred through the then-current or upcoming *fiscal year*, or the Government or the Non-Federal Sponsor elects to terminate this Agreement.

C. In the event that the Government and the Non-Federal Sponsor determine to suspend future performance under this Agreement in accordance with Article XIV.C. of this Agreement, such suspension shall remain in effect until the Government and the Non-Federal Sponsor agree to proceed or to terminate this Agreement. In the event that the Government suspends future performance under this Agreement in accordance with Article XIV.C. of this Agreement due to failure to reach agreement with the Non-Federal Sponsor on whether to proceed or to terminate this Agreement, or the failure of the Non-Federal Sponsor to provide funds to pay for cleanup and response costs or to otherwise discharge the Non-Federal Sponsor's responsibilities under Article XIV.C. of this Agreement, such suspension shall remain in effect until: 1) the Government and Non-Federal Sponsor reach agreement on how to proceed or to terminate this Agreement; 2) the Non-Federal Sponsor provides funds necessary to pay for cleanup and response costs and otherwise discharges its responsibilities under Article XIV.C. of this Agreement; 3) the Government continues work on the *Project*; or 4) the Government terminates this Agreement in accordance with the provisions of Article XIV.C. of this Agreement.

D. In the event that this Agreement is terminated pursuant to this Article or Article XIV.C. of this Agreement, both parties shall conclude their activities relating to the *Project* and conduct an accounting in accordance with Article VI.C. or Article VI.D. of this Agreement. To provide for this eventuality, the Government may reserve a percentage of total Federal funds made available for the *Project* and an equal percentage of the total funds contributed by the Non-Federal Sponsor in accordance with Article II.C.2., Article II.G.2., and Article XVII.C. of this Agreement as a contingency to pay costs of termination, including any costs of resolution of contract claims and contract modifications.

E. Any termination of this Agreement or suspension of future performance under this Agreement in accordance with this Article or Article XIV.C. of this Agreement shall not relieve the parties of liability for any obligation previously incurred. Any delinquent payment owed by the Non-Federal Sponsor shall be charged interest at a rate, to be determined by the Secretary of the Treasury, equal to 150 per centum of the average bond equivalent rate of the 13 week Treasury bills auctioned immediately prior to the date on which such payment became delinquent, or auctioned immediately prior to the beginning of each additional 3 month period if the period of delinquency exceeds 3 months.

## ARTICLE XIV - HAZARDOUS SUBSTANCES

A. After execution of this Agreement and upon direction by the District Engineer, the Non-Federal Sponsor shall perform, or ensure performance of, any investigations for hazardous substances that the Government or the Non-Federal Sponsor determines to be necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (hereinafter "CERCLA") (42 U.S.C. Sections 9601 9675), that may exist in, on, or under lands, easements, and rights-of-way that the Government determines, pursuant to Article III of this Agreement, to be required for *initial construction, periodic nourishment*, operation, and maintenance of the *Project*. However, for lands, easements, and rights-of-way that the Government determines to be subject to the navigation servitude, only the Government shall perform such investigations unless the District Engineer provides the Non-Federal Sponsor with prior specific written direction, in which case the Non-Federal Sponsor shall perform such investigations in accordance with such written direction.

1. All actual costs incurred by the Non-Federal Sponsor for such investigations for hazardous substances shall be included in *total project costs* and shared in accordance with the provisions of this Agreement, subject to an audit in accordance with Article X.C. of this Agreement to determine reasonableness, allocability, and allowability of such costs.

2. All actual costs incurred by the Government for such investigations for hazardous substances shall be included in *total project costs* and shared in accordance with the provisions of this Agreement.

B. In the event it is discovered through any investigation for hazardous substances or other means that hazardous substances regulated under CERCLA exist in, on, or under any lands, easements, or rights-of-way that the Government determines, pursuant to Article III of this Agreement, to be required for *initial construction, periodic nourishment*, operation, and maintenance of the *Project*, the Non-Federal Sponsor and the Government, in addition to providing any other notice required by applicable law, shall provide prompt written notice to each other, and the Non-Federal Sponsor shall not proceed with the acquisition of the real property interests until the parties agree that the Non-Federal Sponsor should proceed.

C. The Government and the Non-Federal Sponsor shall determine whether to initiate *initial construction* or *periodic nourishment* of the *Project*, or, if already in *initial construction* or any iteration of *periodic nourishment*, whether to continue with work on the *Project*, suspend future performance under this Agreement, or terminate this Agreement for the convenience of the Government, in any case where hazardous substances regulated under CERCLA are found to exist in, on, or under any lands, easements, or rights-of-way that the Government determines, pursuant to Article III of this Agreement, to be required for *initial construction, periodic nourishment*, operation, and maintenance of the *Project*. Should the Government and the Non-Federal Sponsor determine to initiate or continue with *initial construction* or *periodic nourishment* after considering any liability that may arise under CERCLA, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for the costs of cleanup and response, including the costs of any studies and investigations necessary to determine an appropriate response to the

contamination. Such costs shall not be considered a part of *total project costs*. In the event the Non-Federal Sponsor does not reach agreement with the Government on whether to proceed or to terminate this Agreement under this paragraph, or fails to provide any funds necessary to pay for cleanup and response costs or to otherwise discharge the Non-Federal Sponsor's responsibilities under this paragraph upon direction by the Government, the Government, in its sole discretion, may either terminate this Agreement for the convenience of the Government, suspend future performance under this Agreement, or continue work on the *Project*.

D. The Non-Federal Sponsor and the Government shall consult with each other in accordance with Article V of this Agreement in an effort to ensure that responsible parties bear any necessary cleanup and response costs as defined in CERCLA. Any decision made pursuant to paragraph C. of this Article shall not relieve any third party from any liability that may arise under CERCLA.

E. As between the Government and the Non-Federal Sponsor, the Non-Federal Sponsor shall be considered the operator of the *Project* for purposes of CERCLA liability. To the maximum extent practicable, the Non-Federal Sponsor shall operate, maintain, repair, rehabilitate, and replace the *Project* in a manner that will not cause liability to arise under CERCLA.

#### ARTICLE XV – NOTICES

A. Any notice, request, demand, or other communication required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and delivered personally or sent by telegram or mailed by first class, registered, or certified mail, as follows:

If to the Non-Federal Sponsor:  
Delaware Department of Natural Resources and Environmental Control  
89 Kings Highway  
Dover, Delaware 19901

If to the Government:  
District Engineer  
Wanamaker Building  
100 Penn Square East  
Philadelphia, Pennsylvania 19107-3390

B. A party may change the address to which such communications are to be directed by giving written notice to the other party in the manner provided in this Article.

C. Any notice, request, demand, or other communication made pursuant to this Article shall be deemed to have been received by the addressee at the earlier of such time as it is actually received or seven calendar days after it is mailed or transmitted.

## ARTICLE XVI – CONFIDENTIALITY

To the extent permitted by the laws governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

## ARTICLE XVII - HISTORIC PRESERVATION

A. The Government, as it determines necessary for the *Project*, shall perform any identification, survey, or evaluation of historic properties. Any costs incurred by the Government for such work shall be included in *total project costs* and shared in accordance with the provisions of this Agreement.

B. The Government, as it determines necessary for the *Project*, shall perform or ensure the performance of any mitigation activities or actions for historic properties or that are otherwise associated with historic preservation including data recovery activities.

1. Any costs incurred by the Government for such mitigation activities, except for data recovery activities associated with historic preservation, shall be included in *total project costs* and shared in accordance with the provisions of this Agreement.

2. As specified in Section 7(a) of Public Law 86-523, as amended by Public Law 93-291 (16 U.S.C. 469c(a)), the costs of data recovery activities associated with historic preservation shall be borne entirely by the Government and shall not be included in *total project costs*, up to the statutory limit of one percent of the total amount authorized to be appropriated to the Government for the *Project*.

3. The Government shall not incur costs for data recovery activities associated with historic preservation that exceed the statutory one percent limit specified in paragraph B.2. of this Article unless and until the Assistant Secretary of the Army (Civil Works) has waived that limit and the Secretary of the Interior has concurred in the waiver in accordance with Section 208(3) of Public Law 96-515, as amended (16 U.S.C. 469c-2(3)). Any costs of data recovery activities associated with historic preservation that exceed the one percent limit shall not be included in *total project costs* but shall be assigned by the Government to hurricane and storm damage reduction and to recreation, and shall be shared between the Non-Federal Sponsor and the Government consistent with the cost sharing in accordance with the provisions of this Agreement. Further, any costs of archeological data recovery activities on lands not subject to Federal cost sharing (undeveloped private lands and privately owned shores that do not provide public benefits) that exceed the one percent limit shall not be included in *total project costs* but shall be paid by the Non-Federal Sponsor.

C. If, during its performance of *relocations* or construction of improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material in accordance with Article III of this Agreement, the Non-Federal Sponsor discovers historic properties or other cultural resources that have not been evaluated by the Government pursuant to this Article, the Non-Federal Sponsor shall provide prompt written notice to the Government of such discovery. The Non-Federal Sponsor shall not proceed with performance of the

*relocation* or construction of the improvement that is related to such discovery until the Government provides written notice to the Non-Federal Sponsor that it should proceed with such work.

#### ARTICLE XVIII - THIRD PARTY RIGHTS, BENEFITS, OR LIABILITIES

Nothing in this Agreement is intended, nor may be construed, to create any rights, confer any benefits, or relieve any liability, of any kind whatsoever in any third person not party to this Agreement.

#### ARTICLE XIX - NON-LIABILITY OF OFFICERS AND EMPLOYEES

No officer, agent, consultant, or employee of the Non-Federal Sponsor, nor any officer, agent, consultant, or employee of the Government, may be charged personally, or held liable, under the terms or provisions of this Agreement because of any breach, attempted breach, or alleged breach thereof, except as provided in Section 912(b) of the Water Resources Development Act of 1986, Public Law 99-662, as amended (42 U.S.C. 1962d-5b note), or other applicable law.

#### ARTICLE XX - SECTION 902 MAXIMUM COST OF PROJECT

A. The Non-Federal Sponsor understands that Section 902 of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 2280) establishes the maximum amount of costs for the *Project*. On the effective date of this Agreement, the maximum amount of *total costs of initial construction* for the *Project* is estimated to be \$32,950,800, and the maximum amount of *total costs of periodic nourishment* for the *Project* is estimated to be \$122,264,400, as calculated in accordance with Engineer Regulation 1105-2-100, using March 2005 price levels and including allowances for projected future inflation. The Government shall adjust such maximum amount of *total costs of initial construction* for the *Project* and *total costs of periodic nourishment* for the *Project*, in accordance with Section 902 of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 2280), when necessary.

B. Notwithstanding any other provision of this Agreement, the Government shall not incur a new financial obligation or expenditure for the *Project*, or include in *total project costs* any additional contribution provided by the Non-Federal Sponsor, if such obligation, expenditure or additional contribution would cause cumulative *Project* costs to exceed such maximum amount of *total project costs* for the *Project*, unless otherwise authorized by law.

#### ARTICLE XXI – OBLIGATIONS OF FUTURE APPROPRIATIONS

A. Nothing herein shall constitute, nor be deemed to constitute, an obligation of future appropriations by the Legislature of the State of Delaware. The Government acknowledges that the Non-Federal Sponsor must obtain an appropriation prior to payment of

any damages. A lack of funds to perform any aspect of this Agreement due to an insufficient appropriation by the Delaware General Assembly shall not constitute a breach of this Agreement.

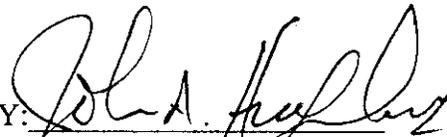
B. The Non-Federal Sponsor intends to satisfy its obligations hereunder. The Non-Federal Sponsor reasonably believes that funds in amounts sufficient to discharge these obligations can and will lawfully be appropriated and made available for this purpose. In the event the State Legislature does not provide funds in sufficient amounts to discharge these obligations, the Non-Federal Sponsor shall use its reasonable best efforts to satisfy any requirements for payments under this Agreement from any other source of funds legally available for this purpose, subject to such priorities as may be determined by the Governor of the State of Delaware. In the event the State Legislature does not provide funds in sufficient amounts to discharge these obligations and despite the reasonable best efforts of the Non-Federal Sponsor, no other source of funds are available for this *Project*, the Government may suspend or terminate this Agreement pursuant to Article XIII of this Agreement. Such termination shall not affect any liability of the Non-Federal Sponsor for obligations incurred prior to the date of termination. Further, if the Non-Federal Sponsor is unable to satisfy its obligations hereunder, the Government may exercise any legal rights it has to protect the Government's interests related to this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, which shall become effective upon the date it is signed by the District Commander

DEPARTMENT OF THE ARMY

DELAWARE DEPARTMENT OF  
NATURAL RESOURCES AND  
ENVIRONMENTAL CONTROL

BY:   
GWEN E. BAKER  
Lieutenant Colonel, Corps of Engineers  
District Commander

BY:   
JOHN A. HUGHES  
Secretary

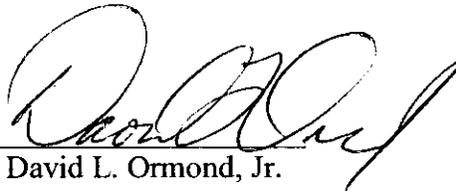
DATE: 26 July 2004

DATE: 26 July 2006

CERTIFICATE OF AUTHORITY

I, David L. Ormond, do hereby certify that I represent the Attorney General of the State of Delaware, and that the Delaware Department of Natural Resources and Environmental Control is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the Department of the Army and the Delaware Department of Natural Resources and Environmental Control in connection with the Delaware Coast from Cape Henlopen to Fenwick Island, Bethany Beach to South Bethany, Delaware *Project*, and to pay damages, if necessary, in the event of the failure to perform in accordance with the terms of this Agreement, as required by Section 221 of Flood Control Act of 1970, Public Law 91-611, as amended (42 U.S.C. Section 1962d-5b), and that the person who has executed this Agreement on behalf of the Delaware Department of Natural Resources and Environmental Control has acted within his statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this 26 day of July, 2006.



David L. Ormond, Jr.  
Deputy Attorney General  
State of Delaware

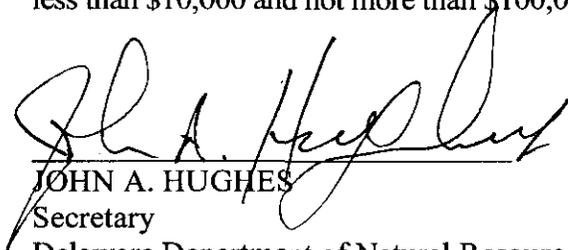
## CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards made by the Non-Federal Sponsor for the *Project* at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.



JOHN A. HUGHES  
Secretary

Delaware Department of Natural Resources and Environmental Control

DATE: 26 July 2006