

# First Interim Report

## Disaster Relief Appropriations Act, 2013



Submitted by  
the Assistant Secretary of the Army for Civil Works



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## **Introduction**

The Disaster Relief Appropriations Act of 2013 was passed by Congress and signed into law by the President on January 29, 2013 as Public Law 113-2 (P.L. 113-2). The legislation provides supplemental appropriations to address damages caused by Hurricane Sandy and to reduce future flood risk in ways that will support the long-term sustainability of the coastal ecosystem and communities and reduce the economic costs and risks associated with large-scale flood and storm events. Hurricane Sandy was a catastrophic storm that struck the Atlantic coastline in late October 2012, resulting in loss of life, severe damage to the coastline, widespread power outages, damage to infrastructure, businesses and private residences. Degraded coastal features have resulted in increased risks and vulnerability from future storm events, and expected changes in sea level rise, extreme weather events, and other impacts of climate change are likely to increase those risks even further.

Damages were experienced as far south as Florida, as far north as New England, and as far west as the Great Lakes. Particularly hard hit were areas in the greater New York City metropolitan area, including Long Island, New York, New Jersey and the Connecticut shoreline. P.L. 113-2 (Act) requires the U.S. Army Corps of Engineers (USACE) to provide to Congress two interim reports that assess Corps projects and projects under study by the Corps, and a comprehensive study that addresses the flood risk of vulnerable populations in areas impacted by the storm.

This first interim report covers the requirements as detailed within the Act. The relevant language from the Act follows:

*“Provided further, That an interim report with an assessment of authorized Corps projects for reducing flooding and storm risks in the affected area that have been constructed or are under construction, including construction cost estimates, shall be submitted to the Committees on Appropriations of the House of Representatives and the Senate not later than March 1, 2013...”*

The purpose of this report is to provide the Committees on Appropriations of the House of Representatives and Senate with an assessment of authorized constructed projects and projects under construction. The costs listed in this report are the current rough order-of-magnitude estimates, and will be refined further when pre-construction surveys are performed during the Engineering and Design (E&D) phase.

## **Storm Event Background**

On 22 October 2012, Hurricane Sandy originated in the Caribbean. It strengthened as it crossed over eastern Cuba and the Bahamas on October 25, 2012, at which point, it was a Category 3 storm with winds in excess of 125 mph. Upon its approach to the Atlantic coastline, a trio of weather factors combined to create the super storm: (1) an intense Category 1 hurricane, (2) a trough of low pressure dipping down from the Arctic feeding the hurricane and (3) a block of high pressure in the northeastern Atlantic Ocean pushing Sandy toward the east coast.

On October 27, Sandy briefly weakened to a tropical storm and then re-strengthened to a Category 1 hurricane. While it was a Category 1 storm off the coast of the Northeastern United States, the storm became the largest Atlantic hurricane on record (as measured by diameter, with winds spanning 1,100 miles). Prior to impacting the mid and north Atlantic coastline, Hurricane Sandy devastated portions of the Caribbean. Early on October 29, Sandy curved north-northwest and moved ashore near Atlantic City, New Jersey, as a post-tropical cyclone with hurricane-force winds. As with most hurricanes, the cyclonic nature of the winds causes increased damages on the east and north sides of the eye of the storm.

Due to the massive size of the storm, the brunt of the energy and damages were north of Atlantic City for a distance of hundreds of miles. Due to the size and energy of the storm, it caused damage not previously experienced along the north Atlantic coastline, including widespread flooding, erosion and wave attack resulting in power outages, damage to infrastructure, businesses and residents. Lesser impacts were experienced in the Southeastern and Midwestern states and Eastern Canada.

### **Resiliency Strategy**

Funds provided in the flood control and coastal emergency account and some funds in the construction account were provided to address immediate repairs. The Corps is allocating these funds accordingly to address such immediate needs.

More than 80 percent of the construction funding provided to the Corps in chapter 4 of title X of the Act was provided “to reduce future flood risk in a way that will support the long-term sustainability of the coastal ecosystem and communities and reduce the economic costs and risks associated with large-scale flood and storm events...” Furthermore, the Act requires all Corps projects funded for construction under chapter 4 to incorporate current science and to also incorporate current engineering standards. In addition, the Act provides for such modifications as the Secretary of the Army determines are necessary to incorporate these current standards and to meet the goal of providing for the sustainable reduction to flooding and storm damage risks. Finally, for projects under study by the Corps, the Secretary of the Army may use the construction funds provided in chapter 4 to construct any such project if the Secretary determines that the project is technically feasible, economically justified, and environmentally acceptable.

To meet these interrelated statutory objectives, the Corps will undertake a broad, conceptual examination of the best ideas and approaches to reducing the vulnerability to major storms over time, in a way that is sustainable over the long-term, both for the natural coastal ecosystem and for communities. In some or many cases, the restoration of an existing Corps project to its original design profile may not meet these interrelated objectives, and a fundamentally different approach may be more suitable.

When determining how to move forward in implementing project specific measures in accordance with the funding and direction in the Act, the Corps will perform an expedited limited re-evaluation that addresses resiliency, economics, risks, environmental compliance, and long-term sustainability and will enter into an amended Project Partnership Agreement with the non-Federal partner that, among other things, will ensure an updated flood plain management plan is

developed. This approach will enable the Corps, working with its Federal and local Partners, to take a broad, long-term conceptual examination of the best approaches to reduce future vulnerability in a manner that is sustainable over time for the natural coastal ecosystem, for individuals, and for the communities in which they live.

## **Definitions**

The Disaster Relief Appropriations Act of 2013 includes several terms that are relevant to the information requested in the first interim report. For purpose of implementing the Act, they are defined as follows:

Constructed: Projects for which construction has been completed.

Under Construction: Projects that were under construction at or near the time of Hurricane Sandy (including projects where contracts had been awarded, whether or not physical construction had commenced).

Repair: Return damaged projects to pre-storm conditions.

Restore to Design Profiles: Return damaged projects to authorized design dimensions.

## **Completion of Ongoing Construction**

Although not required in the statute for the first interim report, a definition of the term of 'completion of ongoing construction' is being included in this report to indicate how the Army intends to implement that language in the Act. The Army defines this term to mean: An authorized Corps project that received Construction account funds over the previous three fiscal years, for which the authorized construction period has not yet elapsed. The following projects meet these criteria:

Delaware:

1. Delaware Bay Coastline, Broadkill Beach, DE & NJ

New Jersey:

1. Barnegat Inlet to Little Egg Harbor Inlet (Long Beach Island), NJ
2. Brigantine Inlet to Great Egg Harbor Inlet, NJ (Absecon Island)
3. Great Egg Harbor Inlet to Townsends Inlet, NJ
4. Raritan Bay to Sandy Hook Bay, Port Monmouth
5. Sandy Hook to Barnegat Inlet, NJ (Seabright to Ocean Township and Asbury Park to Manasquan Inlet)

New York:

1. Atlantic Coast of New York City, Rockaway Inlet to Norton Point, (Coney Island)
2. East Rockaway Inlet to Rockaway Inlet, NY
3. Fire Island Inlet to Montauk Point, NY
4. Long Beach, NY

### **Summary of Projects Covered in this Report**

This interim report covers projects within the USACE North Atlantic Division (Figure 1. North Atlantic Division Boundaries). Figure 1 shows the Atlantic coastline of the United States from Virginia to the Maine-Canada border. Table 1 includes a listing, by project and state, of projects that have been constructed and associated costs to repair and/or restore each project. Table 2 includes a listing of projects that were under construction at or near the time of Hurricane Sandy (projects where contracts had been awarded for construction are included, whether or not physical construction had commenced and also include associated costs to repair and/or restore each project).

The inclusion of a project on either Table 1 or Table 2 does not mean that the Corps will fund such project with funds provided in the Act, nor are the projects included in this report representative of an exhaustive list of all projects that are under consideration for funding. The Corps is working to determine whether or not projects under consideration for funding are or will be consistent with the comprehensive plan required by the Act.

All projects, especially those authorized many years ago, will be reviewed and associated cost estimates may change. The cost estimates for each category include all of the construction-related planning, engineering and design efforts, including but not limited to the estimated physical construction cost, engineering and design, surveys, environmental compliance, construction contract management and supervision and administration. Neither Table 1 nor Table 2 includes projects funded and implemented under the Continuing Authorities Program and the Operation and Maintenance accounts. In addition, completed projects that were not impacted by Hurricane Sandy are not included.



# North Atlantic Division (NAD)



Figure 1: North Atlantic Division Boundaries

**Table 1: Authorized Corps projects that have been constructed in the affected area.**

<b>CONSTRUCTED PROJECTS</b>		
<b>PROJECT *</b>	<b>Repair Damages from Sandy to Pre-storm Condition**</b>	<b>Restore to Design Profile</b>
<b>CT</b>	<b>8,000,000</b>	<b>0</b>
Gulf Beach	2,000,000	
Prospect Beach	2,000,000	
Sea Bluff Beach	2,000,000	
Woodmont Beach	2,000,000	
<b>DE</b>	<b>35,329,269</b>	<b>19,500,000</b>
Delaware Bay Coastline, Roosevelt Inlet to Lewes Beach, DE	<sup>1/</sup>	3,000,000
Delaware Coast from Cape Henlopen to Fenwick Island, Bethany Beach to South Bethany Beach, DE	9,121,269	5,000,000
Delaware Coast from Cape Henlopen to Fenwick Island, Fenwick Island, DE	7,947,000	3,500,000
Delaware Coast from Cape Henlopen to Fenwick Island, Rehoboth Beach and Dewey, DE	10,792,000	5,000,000
Delaware Coast Protection - Indian River Inlet - Sand Bypass	7,469,000	3,000,000
<b>MD</b>	<b>6,630,800</b>	<b>8,288,000</b>
Atlantic Coast of Maryland, MD	6,630,800	8,288,000
<b>NJ</b>	<b>45,824,817</b>	<b>70,000,000</b>
Brigantine Inlet to Great Egg Harbor Inlet, NJ (Brigantine Island)	2,452,909	3,000,000
Cape May Inlet to Lower Township, NJ	10,719,399	7,000,000
Great Egg Harbor Inlet to Peck Beach, NJ	10,542,939	
Raritan Bay and Sandy Hook -Section 506 (Keansburg)	11,952,570	39,000,000
Townsend's Inlet to Cape May Inlet, NJ	10,157,000	21,000,000

<sup>1/</sup> Project PIR determined scale of damages was insufficient to merit a repair.

\* Projects involving sand placement are listed as completed if the initial construction phase has been completed.

\*\*Tables limited to projects in North Atlantic Division's area of responsibility. Does not include projects in other divisions.

<b>CONSTRUCTED PROJECTS (continued)</b>		
<b>PROJECT *</b>	<b>Repair Damages from Sandy to Pre-storm Condition**</b>	<b>Restore to Design Profile</b>
<b>NY</b>	<b>59,931,286</b>	<b>75,700,000</b>
East Rockaway Inlet to Rockaway Inlet, NY	29,116,000	75,000,000
Fire Island and Shores Westerly to Jones Inlet, NY (Gilgo Beach)	30,423,800	0
Oakwood Beach, NY	391,486	700,000
<b>RI</b>	<b>7,000,000</b>	<b>0</b>
Cliff Walk	5,000,000	
Misquamicut Beach	2,000,000	
<b>VA</b>	<b>0</b>	<b>8,000,000</b>
Sandbridge, VA		4,000,000
Virginia Beach Hurricane Protection, VA		4,000,000

\* Projects involving sand placement are listed as completed if the initial construction phase has been completed.

\*\*Table limited to projects in North Atlantic Division's area of responsibility. Does not include projects in other divisions.



**Table 2: Projects considered to be under construction in the affected area at the time of the hurricane.**

<b>PROJECTS UNDER CONSTRUCTION</b>		
<b>PROJECT</b>	<b>Repair Damages from Sandy to Pre-storm Condition**</b>	<b>Restore to Design Profile</b>
<b>MD</b>	6,630,800	8,288,000
Atlantic Coast of Maryland, MD	6,630,800	8,288,000
<b>NJ</b>	164,241,490	229,000,000
Brigantine Inlet to Great Egg Harbor Inlet, NJ (Absecon )	24,141,551	8,000,000
Great Egg Harbor Inlet to Peck Beach, NJ	10,542,939	
Sandy Hook to Barnegat Inlet, NJ (Seabright to Ocean Township and Asbury Park to Manasquan Inlet)	119,400,000	200,000,000
Townsend Inlet to Cape May Inlet, NJ	10,157,000	21,000,000
<b>NY</b>	0	13,000,000
Fire Island to Montauk Point, NY (West of Shinnecock Inlet)		13,000,000
<b>VA</b>	0	4,000,000
Virginia Beach Hurricane Protection, VA		4,000,000

\* Projects included on Table 2 are considered to be under construction because they had contracts awarded for construction work (including periodic renourishment), or were undergoing pre-award surveying.

\*\*Table limited to projects in North Atlantic Division’s area of responsibility. Does not include projects in other divisions.