U.S. Army Corps of Engineers, Philadelphia District

DELAWARE
MARYLAND
NEW JERSEY
NEW YORK
PENNSYLVANIA

Congressional Briefing Book

BUILDING STRONG

Established in 1866, the Philadelphia District manages water resources of the Delaware River Basin, builds facilities for the Army and Air Force, and provides engineering and environmental services for other Federal agencies. We serve more than nine million people across portions of Delaware, Maryland, New Jersey, New York and Pennsylvania. Our reach extends around the world with our support to Overseas Contingency Operations.

The approximately 500 employees of the Philadelphia District proudly serve our nation and are currently commanded by LTC Kristen N. Dahle.

US Army Corps of Engineers
Philadelphia District

March 2018

Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania
19107

THIS PAGE LEFT BLANK INTENTIONALLY

US Army Corps
of Engineers
Philadelphia District

Philadelphia District
U.S. Army Corps of Engineers

Brief History and Accomplishments

The Philadelphia District was established in 1866, but the U. S. Army Corps of Engineers' local legacy dates back to Revolutionary times, when Army engineers planned the encampment and defense of General Washington's colonial Army at Valley Forge. In 1829, the Corps embarked on its first civil works project in this region- a 1,300-foot-long stone breakwater near Cape Henlopen, Delaware, that provided refuge from storms to the hundreds of ships entering and leaving the Delaware Bay. In 1919, the federal government purchased the Chesapeake and Delaware Canal and it was operated and maintained, and later expanded, by the Philadelphia District. Converted to a free-flowing waterway, the C&D today handles a significant portion of the Port of Baltimore's ship traffic and is one of the District's most important navigation projects. During World War II, the more than 100-mile-long Delaware River federal navigation channel was deepened to its current 40-foot depth between Philadelphia and the sea. The District continues to maintain over 550 miles of navigable channels. After the 1955 floods that claimed ninety lives, the District performed the first comprehensive river basin study in the entire United States. This resulted in the construction of the five earth-fill dams that the district now operates and maintains in eastern Pennsylvania.

Since its inception in 1866, the Philadelphia District for the Corps of Engineers has been a staple in the development and maintenance of the perseverance of the waterways and the construction of military installations and operations. One of the District's bigger tasks is dredging. Dredging is the process where excavation usually carried out partly underwater, in shallow seas or fresh water areas, with the sole purpose of gathering up bottom materials and disposing of them at a different location. This is often used to keep waterways navigable. It is also used as a way to replenish sand on some public beaches, where sand has been lost because of erosion. As time wore on, the duties of the district began to grow. Along with preserving waterways, with the changing waters, flood controls were added. This included emergency response by the Corps, whether it is constructing dams and levees, and also water recourses development and the increasing responsibility of coastal engineering. In response to growing national concern for environmental issues, the 1970s, 80s and 90s saw a significant shift in the district's responsibilities, to include new jurisdiction over wetlands; remediation of hazardous, radioactive and toxic wastes; and projects to restore ecosystems. The District's engineering expertise has been applied to a wide variety of coastal projects.

Since the early 1990s, the District has constructed major beach-fill projects along the Delaware and New Jersey coasts. The District operates and maintaining five dams, four canals, and five highway bridges and is home to the Hopper Dredge McFarland. Within the district, there are nine million people, over 550 miles of federal channels, 150 miles of coast line, and more than 1.1 million acres of wetlands that must be maintained and preserved and protected by the Philadelphia District.

In October of 2012, Hurricane Sandy made landfall near Atlantic City, NJ, causing widespread damage and destruction. In the months following the storm, the Philadelphia District responded to more than 60 mission assignments from FEMA to assist de-watering critical facilities, assisting with emergency power needs and filling a breach at the barrier island community of Mantoloking. The District surveyed existing federal projects in New Jersey and Delaware and worked to restore them from the damages associated with Hurricane Sandy.

The District has a proud history of support of major construction programs including those at Dover Air Force Base; Joint Base McGuire-Dix-Lakehurst; and the C4ISR complex at Aberdeen Proving Ground. The Philadelphia District has more recently expanded its reach overseas with power contracting initiatives and the continued deployment of personnel to Afghanistan and Iraq. The Philadelphia District's approximately 500 men and women capably serve the region by applying global engineering expertise to produce neighborhood solutions and beyond. We are privileged and proud to serve the northeast corridor, the people of our nation; and the people of the world.

OUR MISSION

The U.S. Army Corps of Engineers' mission is to deliver vital engineering solutions, in collaboration with our partners, to serve our Nation, energize our economy, and reduce risk from disaster.

Established in 1866, the Philadelphia District manages water resources of the Delaware River basin; builds facilities for the Army and Air Force; and provides engineering and environmental services for other agencies. We serve more than nine million people across portions of Delaware, Maryland, New Jersey, New York and Pennsylvania. But our reach extends around the world with our support to Overseas Contingency Operations.

Project Gallery

Philadelphia District

Coastal Planning & Engineering

Coastal Storm Damage Reduction, Barnegat Inlet to Little Egg Inlet (Long Beach Island), NJ: *post-Sandy beachfill operations at Brant Beach fully restored the berm and dune to original design dimensions.*

Shoreline Protection, East Point, NJ: *This 4-foot-high seawall along the Delaware Bay consists of gabion baskets (cages filled with rocks) atop stone-filled marine mattresses covered with geotextile material.*

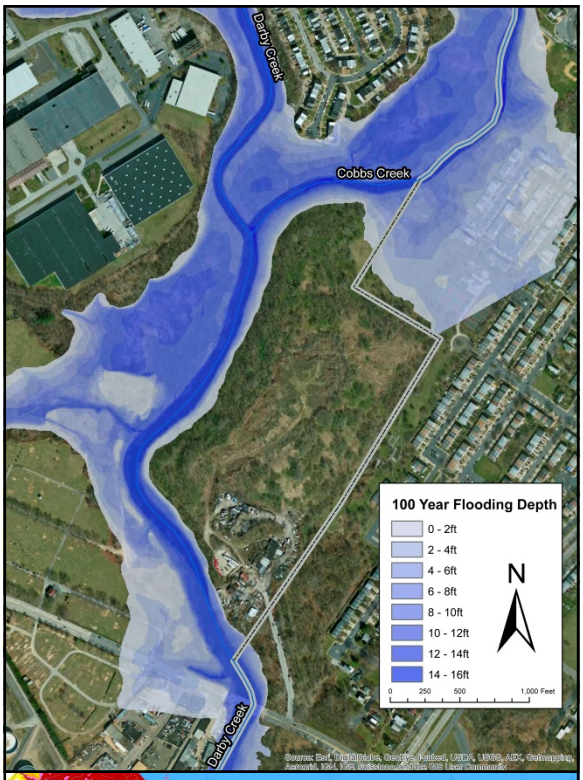
Ecosystem Restoration, Lower Cape May Meadows, NJ: *One continuous berm and dune helps keep saltwater out of this key stopover for migratory birds on the North Atlantic flyway, while also reducing storm damage risk for the adjacent community of Cape May Point.*

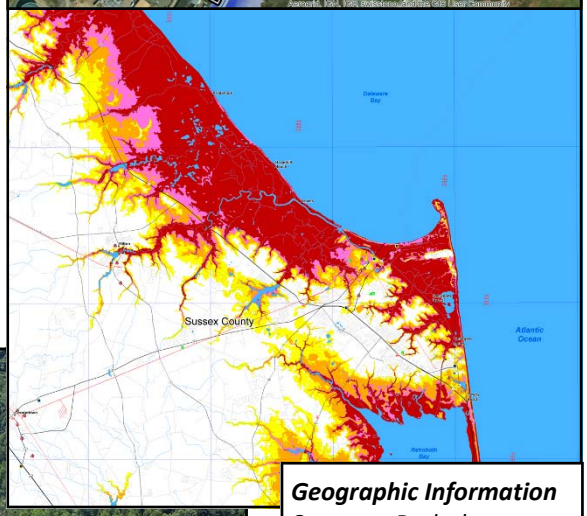
Watersheds/Flood Risk Management

Upper Delaware River Watershed, Livingston Manor, NY: *Severe flooding between 2004 and 2006 led to a feasibility study identifying multiple solutions to mitigate against similar future events.*

Blue Marsh Lake, Schuylkill River Basin, PA: *A member of the District's own Dive Team begins a scheduled underwater safety inspection of the Blue Marsh Dam control tower.*

Prompton Lake, Lackawaxen River Basin, PA: *Recent major modifications included an enlarged spillway, a protective concrete wall along the dam crest, and a new visitor's center.*



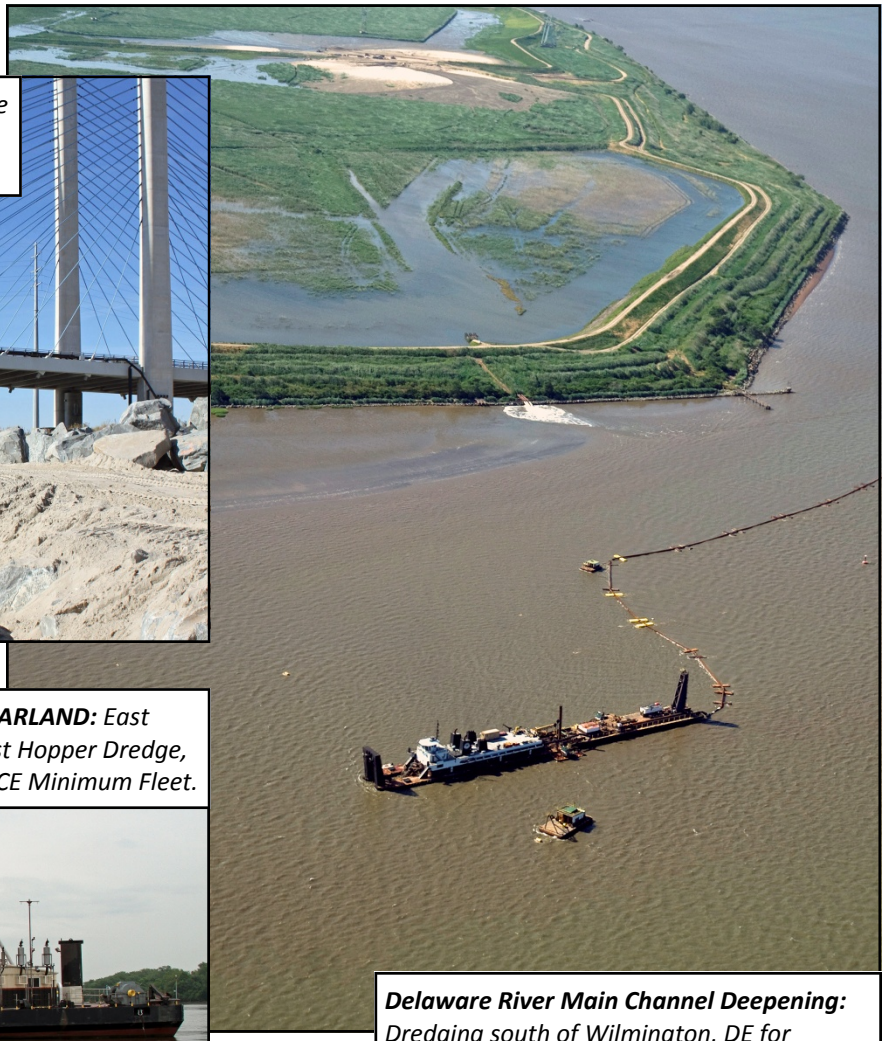


Geographic Information Systems: *Both these maps — one for FEMA showing flood zones along Darby and Cobbs Creeks in Chester County, PA and the other for the State of Delaware showing hurricane inundation zones in Sussex County — were produced by the District using GIS.*

Navigation: Waterways & Bridges

Bridge Keepers: *Not only does the District own and maintain five high-level highway bridges across the Chesapeake & Delaware Canal (such as the Summit Bridge, shown here during recent repainting), but its bridge inspection team is frequently called upon by other USACE districts — as well as other agencies — nationwide.*

Indian River Inlet, DE: *Post-Sandy work to reinforce the north jetty involved placing marine mattresses, filling voids and positioning capstones.*

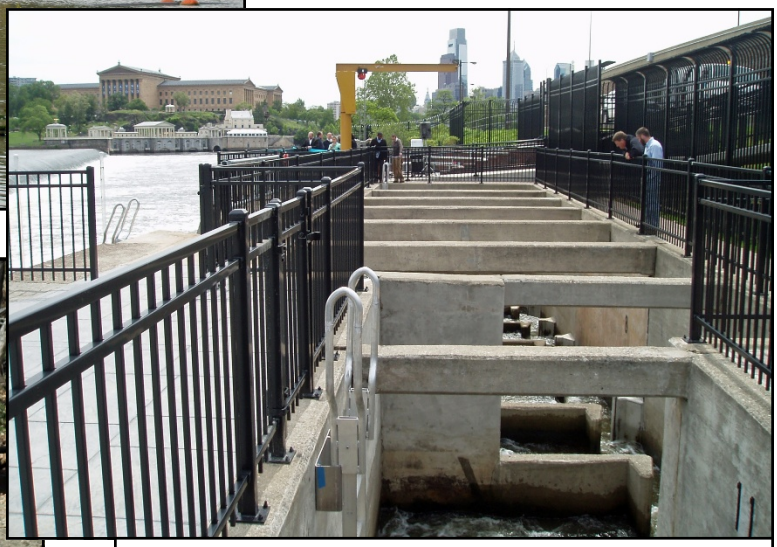


McFARLAND: *East Coast Hopper Dredge, USACE Minimum Fleet.*

Delaware River Main Channel Deepening: *Dredging south of Wilmington, DE for pumpout across the river to Killcohook Island Confined Disposal Facility under the first deepening contract in 2010.*

Aquatic Ecosystem Restoration

Grover's Mill Pond, West Windsor, NJ: *Approximately 65,000 cubic yards of nutrient laden silt-like sediment and organic matter was removed from Grover's Mill Pond by a small portable hydraulic dredge to improve habitat .*



Fairmount Dam Fish Ladder, Philadelphia, PA: *The District upgraded a 1970s-era structure to allow more shad and other migratory fish to swim upstream the Schuylkill River.*

Cobbs Creek Watershed, Philadelphia, PA: *Creation of a new channel for the Indian Creek tributary helped to reduce combined sewage overflow and improve local habitat.*

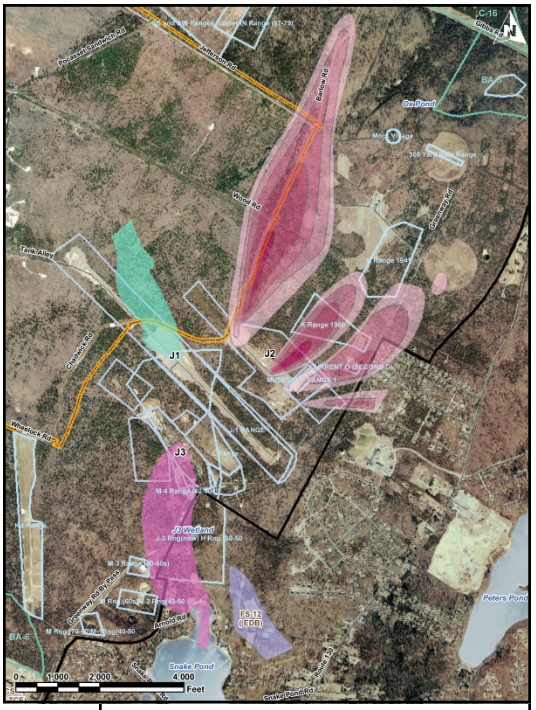
Schuylkill River Park, Philadelphia, PA: *Construction of this multi-use linear park added highly visible and accessible green space in the heart of the city.*

Military & Interagency Support

Joint Personal Effects Depot, Dover AFB: *The only facility of its kind in the Department of Defense, the JPED was constructed and equipped to ensure that the personal effects of American's fallen service members are handled in a presentable and timely manner.*

Global Power Program: *Managing more than $1 billion in contracts to date, the District works with the Army's 249th Engineer Battalion on projects such as this temporary 30-megawatt installation at Bagram AFB, Afghanistan.*

EPA Superfund Program: *For more than 30 years the District has been a USACE leader in site remediation, with multiple projects currently underway for EPA Region 2, such as the multi-phase Vineland Chemical Company cleanup in Vineland, NJ.*



Groundwater Modeling System: *Visualization of contaminant plumes at the former Massachusetts Military Reservation on Cape Cod.*

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania

Project	Congressional Districts	FY17 Funds ($000)	*FY18 Capability ($000)*			*FY19 Capability ($000)*		State (s)
			FY18 Capability ($000)	President's Budget ($000)	FY18 Funds ($000)	FY19 Capability ($000)	President's Budget ($000)	
GENERAL INVESTIGATIONS (GI) – FEASIBILITY STUDIES								
Delaware River Dredged Material Utilization, DE *[DNREC]*	DE-AL	605	0	SANDY	TBD		SANDY	DE
Delaware River Dredged Material Utilization, NJ *[NJDEP]*	NJ-1, NJ-2, NJ-3, NJ-4,	-49	0	SANDY	TBD		SANDY	NJ
New Jersey Alternative Long-Term Nourishment, RSM Study *[NJDEP]*	NJ-2, NJ-3, NJ-4, NJ-6	0	0	0	TBD		TBD	NJ
New Jersey Backbay Coastal Resilience Study, NJ	NJ-2, NJ-3, NJ-4, NJ-6, NJ-12	575	448	0	TBD		TBD	NJ
Delaware Inland Bay and Delaware Bay Coast, Coastal Storm Risk Management Study	DE-AL	300	100	0	TBD		TBD	DE
Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*	DE-AL, NJ-1, NJ-2, NJ-3, NJ-4, NJ-5, NJ-7, NJ-11, NJ-12, NY-18, NY-19, PA-1, PA-2, PA-6, PA-7, PA-8, PA-10, PA-11, PA-13, PA-15, PA-16, PA-17	0	0	0	TBD		TBD	DE, NJ, NY, PA

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania

Project	Congressional Districts	FY17 Funds ($000)	*FY18 Capability ($000)*			*FY19 Capability ($000)*		State (s)
			FY18 Capability ($000)	President's Budget ($000)	FY18 Funds ($000)	FY19 Capability ($000)	President's Budget ($000)	
GENERAL INVESTIGATIONS (GI) – OTHER								
Section 22 Planning Assistance to States, PA, Delaware River Canal Stability Assessment, PA *[Pennsylvania Department of Conservation and Natural Resources]*	PA-8, PA-15, PA-17	0	TBD		TBD			
Section 22 Planning Assistance to States, PA (Delaware River Waterfront Pier Analysis) *[DRWC]*	PA-1, PA-2, PA-13	0	TBD		TBD			PA
CONTINUING AUTHORITIES PROGRAM (CAP)								
Camden WaterFront, City of Camden, NJ	NJ-1	50	TBD		TBD			DE
Habitat Productivity of Delaware Bay, (Mispillion Inlet, DE) [DNREC]	DE-AL	0	TBD		TBD			DE
Cumberland County Shore Portection, NJ (Maurice River Township) (103), Sandy, [NJDEP]	NJ-1	0	0		TBD			DE
Delaware Bayshore, NJ (Commercial Township) (205), Sandy, [NJDEP]	NJ-2	0	0		TBD			DE

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania								
Project	**Congressional Districts**	**FY17 Funds ($000)**	***FY18 Capability ($000)***			***FY19 Capability ($000)***		**State (s)**
			FY18 Capability ($000)	**President's Budget ($000)**	**FY18 Funds ($000)**	**FY19 Capability ($000)**	**President's Budget ($000)**	
Assunpink Creek, Hamilton Township, Mercer County, NJ (205) [NJDEP]	NJ-4	-22.9	TBD		TBD			NJ
Assunpink Creek, Trenton, NJ (1135) [City of Trenton]	NJ-4, NJ-12	5,561	0		TBD			NJ
Brigantine Island (North End) (103), NJ [NJDEP]	NJ-2	0	TBD		TBD			NJ
Cape May City, Delaware Avenue, NJ (14), Sandy, [Cape May County]	NJ-2	0	0		TBD			NJ
Cape May Seawall, City of Cape May, Cape May County, NJ (103), Sandy, [City of Cape May]	NJ-2	0	TBD		TBD			NJ
Chelsea Heights, Atlantic City, Atlantic County, NJ (205), Sandy, [NJDEP]	NJ-2	0	TBD		TBD			NJ
Delaware Bayshore, Downe Township, NJ (205), Sandy, [NJDEP]	NJ-2	0	TBD		TBD			NJ

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania								
Project	**Congressional Districts**	**FY17 Funds ($000)**	***FY18 Capability ($000)***			***FY19 Capability ($000)***		**State (s)**
			FY18 Capability ($000)	**President's Budget ($000)**	**FY18 Funds ($000)**	**FY19 Capability ($000)**	**President's Budget ($000)**	
East Point Lighthouse, Cumberland County, NJ (14), Sandy, [NJDEP]	NJ-2	0	TBD		TBD			NJ
Gloucester City Seawall, NJ (Sec 14) [Gloucester City, NJ]	NJ-1	50	TBD		TBD			NJ
Lambertville, NJ [NJDEP]	NJ-7	0	50		TBD			NJ
Middle Township (Reeds Beach(, Cape May Country, NJ), Sandy, [NJDEP]	NJ-2	0	0		TBD			NJ
Mordecai Island Coastal Wetlands Restoration, Ocean County, NJ (1135) [NJDEP]	NJ-2, NJ-3	150	TBD		TBD			NJ
Musconetcong River Dam Removals, Bloomsbury, NJ (206) [NJDEP-ONRR]	NJ-5, NJ-7	0	TBD		TBD			NJ
Schuylkill River Aquatic Ecosystem Restoration, PA (Bartram's Garden)	PA-1	50	TBD		TBD			NJ

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania								
Project	**Congressional Districts**	**FY17 Funds ($000)**	***FY18 Capability ($000)***			***FY19 Capability ($000)***		**State (s)**
			FY18 Capability ($000)	**President's Budget ($000)**	**FY18 Funds ($000)**	**FY19 Capability ($000)**	**President's Budget ($000)**	
Seaside Park, Ocean City, NJ (103) [NJDEP]	NJ-3	0	TBD		TBD			NJ
Sunset Avenue, Atlantic City, NJ (205) [TBD]	NJ-2	0	TBD		TBD			NJ
Trenton Marine Terminal, Trenton, NJ (14) [City of Trenton/NJDEP]	NJ-12	-30	TBD		TBD			NJ
Upper Delaware River Watershed, Livingston Manor, NY [NYSDEC]	NY-19	0	0		TBD			NY
Ventnor Back Bay Bulkheads NJ (205), Sandy, [TBD]	NJ-2	0	0		TBD			NJ
Schuylkill Watershed Restoration, PA (Section 204) [none required]	PA-1, PA-2, PA-6, PA-7, PA-8, PA-11, PA-13, PA-15, PA-16, PA-17	0	150		TBD			PA
Tookany Creek, Cheltenham Township, Montgomery County, PA (Section 205) [Cheltenham Township]	PA-2, PA-13	0	TBD		TBD			PA

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania								
Project	**Congressional Districts**	**FY17 Funds ($000)**	***FY18 Capability ($000)***			***FY19 Capability ($000)***		**State (s)**
			FY18 Capability ($000)	**President's Budget ($000)**	**FY18 Funds ($000)**	**FY19 Capability ($000)**	**President's Budget ($000)**	
CONSTRUCTION GENERAL								
Delaware Bay Coastline, Broadkill Beach, DE *[DNREC]*	DE-AL	0	150	0	TBD	150	TBD	DE
Delaware Bay Coastline, Port Mahon, DE *[DNREC]*	DE-AL	0	200	0	TBD	200	TBD	DE
Delaware Bay Coastline, Roosevelt Inlet - Lewes Beach, DE *[DNREC]*	DE-AL	950	150	0	TBD	150	TBD	DE
Delaware Coast, Cape Henlopen to Fenwick Island: Bethany Beach / South Bethany, DE *[DNREC]*	DE-AL	10,500	6,650	0	TBD	150	TBD	DE
Delaware Coast, Cape Henlopen to Fenwick Island: Fenwick Island, DE *[DNREC]*	DE-AL	5,900	5,510	0	TBD	150	TBD	DE
Delaware Coast, Cape Henlopen to Fenwick Island: Rehoboth Beach / Dewey Beach, DE *[DNREC]*	DE-AL	0	150	0	TBD	7,650	TBD	DE
Delaware Coast Protection, Sand Bypass Plant, Indian River Inlet, DE *[DNREC]*	DE-AL	0	390	0	TBD	390	TBD	DE

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania								
Project	**Congressional Districts**	**FY17 Funds ($000)**	***FY18 Capability ($000)***			***FY19 Capability ($000)***		**State (s)**
			FY18 Capability ($000)	**President's Budget ($000)**	**FY18 Funds ($000)**	**FY19 Capability ($000)**	**President's Budget ($000)**	
Cape May Inlet to Lower Township, NJ *[NJDEP](funding under O&M)*	NJ-2	0	7,200	200	TBD	7.200	TBD	NJ
Delaware Bay Coastline, DE & NJ, Oakwood Beach, NJ *[NJDEP]*	NJ-2	0	100	0	TBD	100	TBD	NJ
Delaware Bay Coastline, DE & NJ, Reeds Beach and Pierces Point, NJ *[NJDEP]*	NJ-2	0	200	0	TBD	200	TBD	NJ
Delaware Bay Coastline, DE & NJ, Villas and Vicinity, NJ *[NJDEP]*	NJ-2	0	200	0	TBD	200	TBD	NJ
Great Egg Harbor and Peck Beach (Ocean City), NJ *[NJDEP]*	NJ-2	10,450	7,500	0	TBD	500	TBD	NJ
New Jersey Shore Protection, Barnegat Inlet to Little Egg Inlet, NJ *[NJDEP]*	NJ-2, NJ-3	16,800	600	0	TBD	600	TBD	NJ
New Jersey Shore Protection, Brigantine Inlet to Great Egg Harbor Inlet, Absecon Island, NJ *[NJDEP]*	NJ-2	15,600	0	0	TBD	0	TBD	NJ

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania								
Project	**Congressional Districts**	**FY17 Funds ($000)**	***FY18 Capability ($000)***			***FY19 Capability ($000)***		**State (s)**
			FY18 Capability ($000)	**President's Budget ($000)**	**FY18 Funds ($000)**	**FY19 Capability ($000)**	**President's Budget ($000)**	
New Jersey Shore Protection, Brigantine Inlet to Great Egg Harbor Inlet, Brigantine Island, NJ *[NJDEP]*	NJ-2	2,500	80	0	TBD	80	TBD	NJ
New Jersey Shore Protection, Great Egg Harbor Inlet to Townsends Inlet, NJ *[NJDEP]*	NJ-2	0	250	0	TBD	12,250	TBD	NJ
New Jersey Shore Protection, Lower Cape May Meadows - Cape May Point, NJ *[NJDEP]*	NJ-2	400	400	0	TBD	400	TBD	NJ
New Jersey Shore Protection, Manasquan Inlet to Barnegat Inlet, NJ *[NJDEP]*	NJ-3, NJ-4	118,100	0	0	TBD	250	TBD	NJ
New Jersey Shore Protection, Townsends Inlet to Cape May Inlet, NJ *[NJDEP]*	NJ-2	0	4,000	0	TBD	7,300	TBD	NJ
Southeastern PA Environmental Improvements Program (Sec. 566)								PA
Abington Township Environmental Improvement [TBD]	PA-13	200	500	0	TBD	500	TBD	PA
Chester, Delaware and Montgomery County Streams *[PaDEP]*	PA-7, PA-16	0	0	0	TBD	0	TBD	PA

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania								
Project	**Congressional Districts**	**FY17 Funds ($000)**	***FY18 Capability ($000)***			***FY19 Capability ($000)***		**State (s)**
			FY18 Capability ($000)	**President's Budget ($000)**	**FY18 Funds ($000)**	**FY19 Capability ($000)**	**President's Budget ($000)**	
Cobbs Creek Fish Passage *[City of Philadelphia-Water Department]*	PA-1, PA-2	0	0	0	TBD	0	TBD	PA
Cobbs Creek Watershed Habitat Restoration *[City of Philadelphia-Water Department]*	PA-1, PA-2	0	0	0	TBD	0	TBD	PA
Boulevard Dam Removal, Philadelphia, PA (Sec 566)	PA-1, PA-2	0	200	0	TBD	200	TBD	PA
Upper Dublin Environmental Infrastructure Improvement (Sec 566)	PA-1, PA-2	0	200	0	TBD	200	TBD	PA
Delaware River Main Channel Deepening, DE, NJ & PA *[Philadelphia Regional Port Authority]*	DE-AL, NJ-1, NJ-2, PA-1, PA-7, PA-13	62,375	18,00	0	TBD	0	TBD	DE, NJ, PA
OPERATIONS & MAINTENANCE								
Cedar Creek, Sussex County, DE	DE-AL	0	865	0	TBD	980	0	DE
Harbor of Refuge, Lewes, DE	DE-AL	45	45	0	TBD	2,645	0	DE

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania								
Project	**Congressional Districts**	**FY17 Funds ($000)**	***FY18 Capability ($000)***			***FY19 Capability ($000)***		**State (s)**
			FY18 Capability ($000)	**President's Budget ($000)**	**FY18 Funds ($000)**	**FY19 Capability ($000)**	**President's Budget ($000)**	
Indian River Inlet & Bay, Sussex County, DE	DE-AL	275	11,760	0	TBD	9,320	7	DE
Inland Waterway from Rehoboth Bay to Delaware Bay, Sussex County, DE	DE-AL	1,055	3,665	0	TBD	3,985	180	DE
Mispillion River, Sussex County, DE	DE-AL	0	2,460	0	TBD	2,840	0	DE
Murderkill River, Sussex County, DE	DE-AL	0	1,180	0	TBD	1,260	0	DE
Wilmington Harbor, New Castle County, DE	DE-AL	5,062	10,245	8,085	TBD	13,350	5,491	DE
Absecon Inlet, Atlantic County, NJ	NJ-2	0	945	175	TBD	1,070	0	NJ
Barnegat Inlet, Ocean County, NJ	NJ-2, NJ-3	1,256	1,755	450	TBD	4,069	9	NJ

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania								
Project	**Congressional Districts**	**FY17 Funds ($000)**	***FY18 Capability ($000)***			***FY19 Capability ($000)***		**State (s)**
			FY18 Capability ($000)	**President's Budget ($000)**	**FY18 Funds ($000)**	**FY19 Capability ($000)**	**President's Budget ($000)**	
Cold Spring (Cape May) Inlet, Cape May County, NJ	NJ-2	287	1,665	380	TBD	11,173	7,203	NJ
Delaware River at Camden, Camden County, NJ	NJ-1	15	15	15	TBD	15	15	NJ
Manasquan River, Ocean County, NJ	NJ-3, NJ-4	266	1,360	435	TBD	1,464	2	NJ
Maurice River, Cumberland County, NJ	NJ-2	0	4,000	0	TBD	4,000	0	
New Jersey Intracoastal Waterway, NJ	NJ-2, NJ-3, NJ-4	260	6,775	980	TBD	13,872	50	NJ
Salem River, Salem County, NJ	NJ-2	3,065	3,270	0	TBD	3,530	0	NJ
Toms River, Ocean County, NJ	NJ-3, NJ-4	0	585	0	TBD	625	0	NJ

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania								
Project	**Congressional Districts**	**FY17 Funds ($000)**	***FY18 Capability ($000)***			***FY19 Capability ($000)***		**State (s)**
			FY18 Capability ($000)	**President's Budget ($000)**	**FY18 Funds ($000)**	**FY19 Capability ($000)**	**President's Budget ($000)**	
Beltzville Lake, Beltzville, PA	PA-11	1,396	5,660	1,305	TBD	5,483	1,641	PA
Blue Marsh Lake, Leesport, PA	PA-17	2,951	5,897	3,090	TBD	5,325	3,683	PA
Francis E Walter Dam, White Haven, PA	PA-11	1,639	3,240	875	TBD	4,067	2,720	PA
General Edgar Jadwin Dam, Honesdale, PA	PA-10	376	1,080	395	TBD	1,300	338	PA
Prompton Lake, Prompton, PA	PA-10	649	1,065	985	TBD	906	851	PA
Schuylkill River, Philadelphia, PA	PA-1, PA-2	4,395	13,010	0	TBD	15,500	100	PA
Delaware River, Philadelphia to the Sea, DE, NJ & PA	DE-AL, NJ-1, NJ-2, PA-1, PA-7, PA-13	36,671	49,685	27,370	TBD	43,080	27,785	DE, NJ, PA

Project Factsheets-Funding Levels-Projects in Delaware, New Jersey, New York, Pennsylvania								
Project	**Congressional Districts**	**FY17 Funds ($000)**	***FY18 Capability ($000)***			***FY19 Capability ($000)***		**State (s)**
			FY18 Capability ($000)	**President's Budget ($000)**	**FY18 Funds ($000)**	**FY19 Capability ($000)**	**President's Budget ($000)**	
Delaware River, Philadelphia to Trenton, NJ & PA	NJ-3, NJ-4, PA-1, PA-8, PA-13	11,865	22,870	4,980	TBD	25,200	3,850	NJ, PA
Intracoastal Waterway, Delaware River to Chesapeake Bay, DE & MD (C&D Canal)	DE-AL, MD-1	23,811	61,300	15,585	TBD	57,630	12,450	DE, MD
U.S. Army Corps of Engineers Hopper Dredge McFarland	DE-AL, NJ-1, NJ-2, NJ-3, PA-1, PA-7, PA-8, PA-13	11,573	11,690	11,690	TBD	11,690	11,690	DE, NJ, PA

THIS PAGE LEFT BLANK INTENTIONALLY

US ARMY CORPS OF ENGINEERS
Building Strong

US Army Corps of Engineers
Philadelphia District

General Investigations

General Investigation Studies
Planning Assistance to States Program
Floodplain Management Services

Investigations are studies to determine the need, engineering feasibility, economic justification, and the environmental and social suitability of a project. Investigations also include preconstruction, engineering, design work, data collection, and interagency coordination and research activities.

- Coastal and Deep-Draft Navigation
- Environmental Restoration or Compliance
- Flood and Storm Damage Reduction
- Flood Control
- Inland Navigation
- Navigation ($2 million)
- Other Authorized Purposes (including but not limited to Environmental Restoration or Compliance and Remote, Coastal, or Small Watershed)
- Remote, Coastal, or Small Watershed
- Shore Protection
- Small, Remote, or Subsistence Navigation

Color Code	
State	**Color**
Delaware	Red
New Jersey	Blue
New York	Black
Pennsylvania	Green
Multiple	Purple

U.S. Army Corps of Engineers, Philadelphia District

Delaware River Dredged Material Utilization, Delaware

- **Authority:** Senate Resolution (dated 26 Oct 2005) on Beneficial Use of Dredged Material on the Delaware River, Delaware, New Jersey, and Pennsylvania and PL 113-2
- **Congressional District:** DE-ATL
- **Non-Federal Sponsor:** Delaware Department of Natural Resource and Environmental Control
- **Date of Project Agreement:** 27 February 2014
- **Target Completion Date:** August 2018
- **Total Estimated Cost:** $2.255M
- **Federal Funds Appropriated:** $2.255M

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Scott Sanderson
Phone: (215) 656-6571
E-mail:
Scott.A.Sanderson@usace.army.mil

The U.S. Army Corps of Engineers (USACE) was authorized to conduct the Delaware River, PA, NJ and DE Dredged Material Utilization Study (DMU) reconnaissance phase and any ensuing feasibility phase investigations by a resolution of the Committee on Environment and Public Works of the United States Senate on October 26, 2005. The resolution directs the USACE to conduct an investigation of beneficial uses of dredged material within the Delaware River and Estuary area.

Approximately 3,000,000 cubic yards of sediment are dredged annually from the 'Delaware River, Philadelphia to the Sea' and 'Delaware River, Philadelphia to Trenton' projects. Essentially all of the sediment is removed from the estuary system and placed in upland Confined Disposal Facilities. This study will explore innovative methods for management and reuse of dredged material in order to improve flood risk management. A Feasibility Cost Sharing Agreement (FCSA) was signed with the Delaware Department of Natural Resources and Environmental Control on February 27, 2014. The project will hold its Agency Decision Milestone meeting on April 27, 2017 with Division and Higher Authority to discuss USACE's potential endorsement of the tentatively selected plan (TSP).

U.S. Army Corps of Engineers, Philadelphia District

Delaware River Dredged Material Utilization, Delaware

- **Project Opportunities:** The beneficial use opportunities are best facilitated utilizing maintenance dredged material from Federal and non-Federal navigation projects including: the Delaware River, Philadelphia to the Sea NJ, PA & DE project; the Delaware River, Philadelphia to Trenton, NJ & PA project; and the Delaware River Main Channel Deepening, NJ, PA & DE project; and several active Federal navigation projects at major tributaries of the Delaware River. This dredged material will be considered for projects that will reduce flood damage from coastal storms, promote coastal resilience and sustainability and create opportunities for restoration of the estuaries functions.

In response to the study resolution above, the USACE Philadelphia District conducted the Delaware River New Jersey, Delaware, and Pennsylvania Dredged Material Utilization and Beneficial Use Opportunities expedited reconnaissance study. The purpose of this study was to examine beneficial use opportunities using maintenance dredged material from the Delaware River and its tributaries for flood reduction, environmental restoration, and related purposes.

In the aftermath of Hurricane Sandy and the subsequent passage of the Disaster Relief Appropriations Act, 2013 (P.L. 113-2), Congress authorized supplemental appropriations to Federal agencies for expenses related to the consequences of Hurricane Sandy. The Delaware DMU was identified in a Second Interim Report to Congress (dated 30 May 2013) as an "Ongoing Study" for reducing flooding and storm damage risks in the area affected by Hurricane Sandy. Therefore, the DE DMU study is being conducted under the both the October 2005 Senate Resolution as well as P.L. 113-2, which thereby focuses the study on coastal storm risk management (CSRM) via dredged material.

Applying the principles of SMART Planning, the following milestones remain for the Delaware DMU feasibility study:

- Final Report Milestone - March 2018
- Chief's Report Milestone - August 2018

These milestones will provide an opportunity for the District Project Development Team to coordinate directly with the Corps Vertical Team for guidance and agreement on the path forward.

Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

The final report will have favorable recommendations for the following sites:

- Pickering Beach
- Kitts—Hummock
- Bowers
- South Bowers
- Slaughter
- Prime Hook
- Lewes

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)	
Reconnaissance	50	0	50		Allocation thru FY 17	2,255
Feasibility Study	2,255	0	2,255		FY 18 Budget	0
					Balance to Complete	0

U.S. Army Corps of Engineers, Philadelphia District

Delaware Inland Bays and Delaware Bay Coast Coastal Storm Risk Management Feasibility

- **Authorities:** U.S. House of Representatives Committee on Public Works and Transportation Resolution on October 1, 1986 and U.S. Senate Committee on Environment and Public Works Resolution on June 23, 1988
- **Congressional District:** At-large
- **Non-Federal Sponsor:** Delaware Department of Natural Resources and Environmental Control
- **Date of Project Agreement: TBD**
- **Target Completion Date: TBD**
- **Total Estimated Cost:** $3M
- **Federal Funds Appropriated: $1M**

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Adrian Leary
Phone: (215) 656-6576
E-mail:
Adrian.Leary@usace.army.mil

(Oak Orchard, Delaware during January 2016 Nor'easter)

The Delaware Inland Bays and Delaware Bay Coast (DIBDBC) Focus Area includes the Delaware Inland Bays, the set of interconnected bodies of water that are separated from the Atlantic Ocean by a spit of land, and the Delaware Bay coastline of the State of Delaware in New Castle, Kent, and Sussex Counties. The Inland Bays coastline area is approximately 77 square miles and the Delaware Bay coastline is approximately 145 square miles. The authorities for the DIBDBC Study (Resolutions adopted by U.S. House of Representatives on October 1, 1986 and the U.S. Senate on June 23, 1988) support North Atlantic Coast Comprehensive Study (NACCS) outcomes, are broad in scope and application and address the development of a physical and engineering database as the basis for actions and programs to provide shoreline protection and up-to-date information for state and local management of this coastal area.

The DIBDBC Study is being performed to align with the goals of the NACCS, which are to:

- Provide a risk management framework, consistent with and NOAA/ USACE Infrastructure Systems Rebuilding Principles; and
- Support resilient coastal communities and robust, sustainable coastal landscape systems, considering future sea level and climate change scenarios, to reduce risk to vulnerable populations, property, ecosystems, and infrastructure.

U.S. Army Corps of Engineers, Philadelphia District

Delaware Inland Bays and Delaware Bay Coast Coastal Storm Risk Management Feasibility

Project Opportunities:

•Flood risk is increasing for coastal populations and supporting infrastructure.

•Improved land use, wise use of floodplains, responsible evacuation planning, and strategic retreat are important and cost-effective actions.

• Communities should adopt combinations of solutions, including nonstructural, structural, natural and nature-based, and programmatic measures to manage risk, where avoidance is not possible.

• Communities must identify their acceptable level of residual risk to plan for long-term, comprehensive, and resilient risk management.

• Many opportunities exist to improve risk management, including enhancing collaboration, building new partnerships, and strengthening pre-storm planning.

• Addressing coastal risk requires collaboration among local, regional, Tribal, State and Federal entities, NGOs, academia,

• Resilience can be encouraged through the use of a CSRM framework and commitments to advance sea level and climate change science, and storm surge modeling and related themes.

The objective of the DIBDBC CSRM Study is to investigate coastal storm risk management problems and solutions to reduce damages from coastal flooding affecting population, critical infrastructure, critical facilities, property, and ecosystems. The study will consider past, current, and future coastal storm risk management and resilience planning initiatives and projects underway by the USACE and other Federal, State, and local agencies. Three overarching efforts will be performed:

- •Assess the study area's problems, opportunities and future without project conditions;
- •Assess the feasibility of implementing system-wide coastal storm risk management solutions such as policy/programmatic strategies, storm surge barriers at selected inlet entrances, or tidal gates at selected lagoon entrances; and
- •If system-wide solutions are not feasible, assess the feasibility of implementing site-specific solutions, such as a combination of structural, non-structural, and natural and nature-based features.

The end product of this study will be a decision document in the form of a Chief's Report authorizing comprehensive USACE design and construction opportunities using the full array of CSRM strategies and measures for community-based solutions within a watershed-based, systems framework. Also included in the report would be recommendations of actionable and policy implementable items for non-USACE entities, including floodplain management, landscape architecture, hurricane evacuation plans, and Community Rating System enhancement opportunities. Additional recommendations will be provided for incorporating existing USACE and external programs, projects, plans and actions, as well as public-private partnership opportunities into the NACCS DIBDBC study umbrella. A programmatic NEPA document will be developed identifying a range of impacts. The PED Phase will include detailed design with a detailed fully compliant programmatic NEPA document which evaluates impacts for specific solutions.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)	
Feasibility Study	1,500	1,500	3,000		Allocations thru FY 17	300
					FY 18 Budget	700
					Balance to Complete	500

U.S. Army Corps of Engineers, Philadelphia District

Delaware River Dredged Material Utilization, New Jersey

- **Authority:** Senate Resolution (dated 26 Oct 2005) on Beneficial Use of Dredged Material on the Delaware River, Delaware, New Jersey, and Pennsylvania and PL 113-2
- **Congressional District:** NJ-1, NJ-2, NJ-3, NJ-4
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Agreement:** February 27, 2014
- **Target Completion Date:** February 2019
- **Total Estimated Cost:** $2.0M
- **Federal Funds Appropriated:**

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Scott Sanderson
Phone: (215) 656-6571
E-mail:
Scott.A.Sanderson@usace.army.mil

The U.S. Army Corps of Engineers (USACE) was authorized to conduct the Delaware River, PA, NJ and DE Dredged Material Utilization Study (Utilization Study) reconnaissance phase and any ensuing feasibility phase investigations by a resolution of the Committee on Environment and Public Works of the United States Senate on October 26, 2005. The resolution directs the USACE to conduct an investigation of beneficial uses of dredged material within the Delaware River and Estuary area.

Approximately 3,000,000 cubic yards of sediment are dredged annually from the 'Delaware River, Philadelphia to the Sea' and 'Delaware River, Philadelphia to Trenton' projects. Essentially all of the sediment is removed from the estuary system and placed in upland Confined Disposal Facilities. This study will explore innovative methods for management and reuse of dredged material in order to improve flood risk management. A Feasibility Cost Sharing Agreement (FCSA) was signed with the New Jersey Department of Environmental Protection on February 27, 2014. The project held its Alternatives Milestone meeting on March 31, 2015 with Division and Higher Authority to finalize the various study alternatives evaluated in the study to utilize dredged material for flood risk management.

U.S. Army Corps of Engineers, Philadelphia District

Delaware River Dredged Material Utilization, New Jersey

- **Project Opportunities:** The beneficial use opportunities are best facilitated utilizing maintenance dredged material from Federal and non-Federal navigation projects including: the Delaware River, Philadelphia to the Sea NJ, PA & DE project; the Delaware River, Philadelphia to Trenton, NJ & PA project; and the Delaware River Main Channel Deepening, NJ, PA & DE project; and several active Federal navigation projects at major tributaries of the Delaware River. This dredged material will be considered for projects that will reduce flood damage from coastal storms, promote coastal resilience and sustainability and create opportunities for restoration of the estuaries functions.

In response to the study resolution above, the USACE Philadelphia District conducted the Delaware River New Jersey, Delaware, and Pennsylvania Dredged Material Utilization and Beneficial Use Opportunities expedited reconnaissance study. The purpose of this study was to examine beneficial use opportunities using maintenance dredged material from the Delaware River and its tributaries for environmental restoration, protection and related purposes.

The findings of the expedited reconnaissance study indicated that there is Federal interest in further investigations of multiple-purpose beneficial sediment reuse opportunities through a feasibility study within New Jersey. The purpose of this feasibility study is to fully evaluate all reasonable solutions to the water resources problems and investigate potential opportunities identified during the reconnaissance within New Jersey. Based on the preliminary screening of alternatives in the reconnaissance, there appear to be multiple potential projects within New Jersey that would be consistent with Army policies regarding costs, benefits, and environmental impacts

Applying the principles of SMART Planning, the DMU feasibility study will continue through the planning process, with the remaining milestones:

- Agency Decision Milestone - April 2018
- Final Report Milestone - August 2018
- Chief's Report Milestone - February 2019

These milestones will provide an opportunity for the District Project Development Team to coordinate directly with the Corps Vertical Team for guidance and agreement on the path forward. Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000) 113-2 Funds	
Reconnaissance	50	0	50		Allocations thru FY17	2,000
Feasibility Study	2,200	0	2,200		Balance to Complete	200

U.S. Army Corps of Engineers, Philadelphia District

New Jersey Alternative Long-Term Nourishment RSM (Regional Sediment Management) Study

- **Authority:** U.S. House of Representatives and U.S. Senate Resolutions in December 1987
- **Congressional District:** NJ-2, NJ-3, NJ-4, NJ-6
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Agreement:** 30 September 2002, new agreement pending
- **Target Completion Date:** 2018
- **Total Estimated Cost:** $3,100,000
- **Non-Federal Share:**$1,768,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
J. Bailey Smith
Phone: (215) 656-6579
E-mail:
J.B.Smith@usace.army.mil

The New Jersey Long Term Alternative Nourishment Study is authorized by House Resolution by the Committee on Public Works and Transportation dated December 10, 1987 for the New Jersey Shoreline. A revised FCSA is currently being coordinated with the NJDEP.

A major aspect of the study is to find new means of providing flood and storm damage reduction that will provide new benefits or enhance the benefits of those projects existing throughout the coastal system. It likely will also result in the identification of new projects, or new features on existing projects, to reduce flood and storm damage reduction.

Existing coastal storm damage reduction projects along the New Jersey coast were studied, designed and constructed on an individual project basis. This includes how damages avoided (benefits) were calculated. A purpose of the New Jersey Alternative Long Term Nourishment project is to improve upon the benefits obtained by managing the coastal protection projects as a system. A focus of the New Jersey Alternative Long Term Nourishment Study is to analyze the interactions between coastal processes and existing landforms and how they shape and alter the shoreline into a constantly changing feature. This includes man-induced changes such as shore protection structures, dredging, and beach nourishment.

The study will build upon the above-described analysis to refine strategies to reduce future coastal damage, such as:

U.S. Army Corps of Engineers, Philadelphia District

New Jersey Alternative Long-Term Nourishment RSM (Regional Sediment Management) Study

- **Project Goals:** The purpose of the New Jersey Long-Term Nourishment Study is to examine a comprehensive approach identify new benefits and maximize existing benefits to the existing New Jersey Shore Coastal Protection system.

- **PL 113-2**: This project was originally identified under the Second Interim Report to Congress as eligible for funding under PL 113-2. Additional refinement of the project goals and expectations indicated the project was best implemented under the regular program.

Nourishment Prioritization: This strategy intends to prioritize projects to focus on the most vulnerable developed areas that have shown the highest erosion rates independent of individually authorized project boundaries. Current practice allows for a potential delay in scheduled nourishment due to funding limitations leaving highly eroded areas subject to severe damage. A prioritized approach allows for smaller prioritized based nourishments and thus reducing the potential for future damages at these locations.

Borrow Area Development: The potential exists for future shortages in the availability of sediment versus the sediment needs. This may result in an inability to perform future nourishment cycles leaving the coastline susceptible to future damage. This study effort helps ensure that resources are available when needed for the sustainability of the coastal protection system, and thus reducing the potential for future damage.

Breach Contingency Plan: The study will look at the need for breach contingency plans in key areas to facilitate rapid response to potential barrier island breaches as experienced with Hurricane Sandy. Rapid breach closure using an in place contingency plan will reduce the potential for damage when the time and volume of material needed to remedy the breach are reduced.
Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)	
Reconnaissance	49	0	49		Allocations thru FY17	1,868
NJ Feasibility	1,868	1,104	2,872		Balance to complete	0

U.S. Army Corps of Engineers, Philadelphia District

New Jersey Back Bays Coastal Storm Risk Management Feasibility

- **Authority:** U.S. House of Representatives and U.S. Senate Resolutions in December 1987
- **Congressional Districts:** NJ-2, NJ-3, NJ-4, NJ-6
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Agreement: April** 2016
- **Target Completion Date:** April 2019
- **Total Estimated Cost:** TBD
- **Locations:** Sections of Monmouth, Ocean, Burlington, Atlantic and Cape May Counties

U.S. Army Corps of Engineers

New Jersey Department of Environmental Protection

Historic storms, including Hurricane Sandy, have severely impacted the back bay communities of coastal New Jersey. The New Jersey Back Bays (NJBB) Study developed out of the larger North Atlantic Coast Comprehensive Study (NACCS) which identified nine high-risk areas on the Atlantic Coast for further in-depth analysis.

The NJBB study area is located behind the New Jersey barrier islands of Monmouth, Ocean, Burlington, Atlantic and Cape May Counties and includes the set of interconnected water bodies and coastal lakes that are separated from the Atlantic Ocean.

The purpose of the study is to investigate Coastal Storm Risk Management (CSRM) strategies and solutions to reduce damages from coastal flooding affecting population, critical infrastructure, critical facilities, property, and ecosystems. The NJBB Study is being performed to align with the goals of the North Atlantic Coast Comprehensive Study (NACCS), which are to:

- Provide a risk management framework, consistent with and NOAA/ USACE Infrastructure Systems Rebuilding Principles; and
- Support resilient coastal communities and robust, sustainable coastal landscape systems, considering future sea level and climate change scenarios, to reduce risk to vulnerable populations, property, ecosystems, and infrastructure.

U.S. Army Corps of Engineers, Philadelphia District

New Jersey Back Bays
Coastal Storm Risk Management Feasibility

Project Opportunities:

- Flood risk is increasing for coastal populations and supporting infrastructure.

- Improved land use, responsible evacuation planning, and strategic retreat are important and cost-effective actions.

- Combinations of solutions: nonstructural, structural, natural/ nature-based

- Communities must identify acceptable level of residual risk to plan for long-term

- Opportunities to improve risk management, including collaboration, building new partnerships to strengthen pre-storm planning.

- Resilience through use of a CSRM framework and commitments to advance sea level and climate change science, storm surge modeling and related themes.

Study Process

The study will consider past, current, and future coastal storm risk management and resilience planning initiatives and projects underway by the USACE and other Federal, State, and local agencies. Three overarching efforts will be performed:

- Assess the study area's problems, opportunities and future without project conditions;
- Assess the feasibility of implementing system-wide coastal storm risk management solutions such as policy/programmatic strategies, storm surge barriers at selected inlet entrances, or tidal gates at selected lagoon entrances;
- Assess the feasibility of implementing site-specific perimeter solutions such as a combination of structural, non-structural, and natural and nature-based features; and

The end product of this study will be a decision document in the form of a Chief's Report authorizing comprehensive USACE design and construction opportunities using the full array of CSRM strategies and measures.

Also included in the report: recommendations of actionable and policy implementable items for non-USACE entities, potentially including floodplain management, landscape architecture, hurricane evacuation plans, and Community Rating System enhancement opportunities.

Additional recommendations will be provided for incorporating existing USACE and external programs, projects, plans and actions into the NJBB framework. Environment impacts will be assessed through the National Environmental Policy Act (NEPA) processes.

Study milestones include: Tentatively Selected Plan (Dec 2018); Agency Decision (Jan 2020); Final Feas Rpt (Apr 2021); and Chiefs Report (Oct 2021).

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	1,700	1,500	3,200		FY 15 Allocation	125	
					FY 16 Allocation	300	
					FY17 Allocation	575	
					FY 18 Allocation	TBD	
					Balance to Complete	700	

U.S. Army Corps of Engineers, Philadelphia District

Warren Glen Fish Passage Feasibility Study

- **Authority:** Senate Committee on Environment and Public Works Resolution dated 20 July 2005 (Del. River and Tribs)
- **Congressional District:** NJ-7
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Agreement:** August 2017 (scheduled)
- **Target Completion Date:** August 2020
- **Total Estimated Cost:** $3M
- **Federal Funds Appropriated:** TBD
- **Non Federal Cost Share:** $1,500,000

Study will evaluate the removal of this dam for aquatic ecosystem restoration purposes along the Musconetcong River in Warren County, NJ. The Musconetcong River is a 45.7-mile-long tributary of the Delaware River in northwestern New Jersey in the United States. The Warren Glen structure is located approximately 5.5 miles upstream of the confluence between the Musconetcong River and the Delaware River, and stands more than 35-feet high. It is the furthest downstream dam on the Musconetcong and is the first impediment to migratory fish. The Warren Glen dam is one of two remaining impediments to a natural, free flowing condition along the first 13.4 miles of the Musconetcong River. The second dam, Bloomsbury Dam, is located approximately 2.3 miles upstream of the Warren Glen Dam and is currently under design for removal by USACE in summer 2018. The Musconetcong River drains the rural northwestern part of New Jersey and includes 158 square miles of drainage area. Over 24 miles of the Musconetcong River are designated as a National Wild and Scenic River, which preserves select rivers with scenic, recreational, geologic, fish and wildlife, historic, cultural or other important values in their free-flowing natural condition. The river is designated by the NJDEP as a Category One water, defined as waters protected from measurable changes in water quality due to their exceptional ecological, recreational, water supply or fisheries resources.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

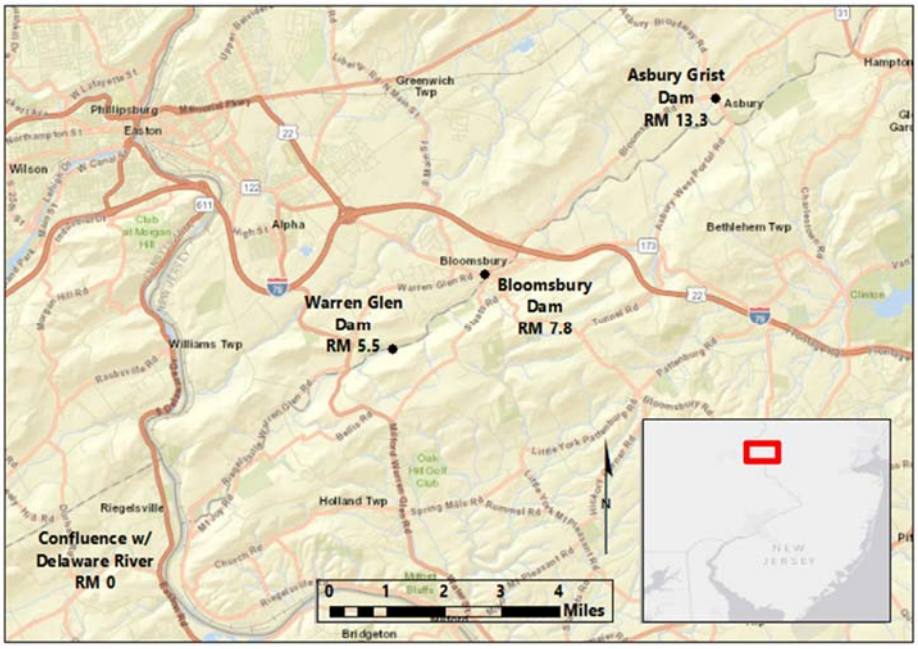
Project Manager
Adrian Leary
Phone: (215) 656-6576
E-mail:
Adrian.Leary@usace.army.mil

U.S. Army Corps of Engineers, Philadelphia District

Warren Glen Fish Passage Feasibility Study

Project Goals: The principal goal is to remove this obsolete dam that impedes free passage of aquatic organisms; obstructs the movement of sediment, nutrients, and woody debris; and changes natural conditions of a riverine habitat to that of a lake. The 15-acre impoundment creates a 0.75 mile long gap in the cold water stream habitat of the river. The quantity of sediment impounded behind the dam may exceed 300,000 cubic yards.

Dam removal will restore free-flowing natural geomorphic conditions within the project area allowing for more natural stream morphology to occur such as sediment transport.



Project Benefits

Removal of the dam and restoring the river's free flowing condition will reconnect access for migratory fish including shad, herring, alewife, striped bass, and American eel, and improved habitat for trout, bass and other local fish populations and aquatic organisms. The Musconetcong River sustains naturally breeding populations of Eastern brook trout, the region's only native trout. The removal of Warren Glen would provide significant habitat improvements for this native species. Restoration efforts have the potential to increase connectivity, improve geomorphic conditions, enhance the hydrologic character and integrate with other regional restoration plans leading to high priority, sustainable ecosystem outputs.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Feasibility Study	1,500	1,500	3,000

Summarized Federal Financial Data ($000)	
FY 17 Budget	0
FY 18 Budget	TBD
FY 19 Budget	TBD
Balance to Complete	1,500

U.S. Army Corps of Engineers, Philadelphia District

Delaware River Basin Comprehensive DE, NJ, NY & PA (Watershed Flood Management Plan)

- **Authority:** United States Senate Committee on Environmental and Public Works, Delaware River and its Tributaries, New Jersey, New York and Pennsylvania
- **Congressional Districts:** DE-AL, NJ-1, NJ-2, NJ-3, NJ-4, NJ-5, NJ-7, NJ-11, NJ-12, NY-18, NY-19, PA-1, PA-2, PA-6, PA-7, PA-8, PA-10, PA-11, PA-13, PA-15, PA-16, PA-17
- **Non-Federal Sponsor:** DRBC
- **Date of Project Agreement:** May 17 2007
- **Target Completion Date:** TBD
- **Total Estimated Cost:** TBD
- **Federal Funds Appropriated:** $912,000 through FY17
- **Non-Federal Share:** 100% In-Kind Services

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
William Mulloy, P.E.
Phone: (215) 656-6583
E-mail:
William.J.Mulloy@usace.army.mil

1st floor flooding of residential structures in New Hope, PA (June 2006).

This study is authorized by the July 20, 2005 resolution by the United States Senate Committee on Environment and Public Works, Delaware River and its Tributaries, New Jersey, New York and Pennsylvania**.**

Historical flooding in the study area has resulted in property damage and loss of life. No one measure will eliminate flooding along the Delaware River; rather a combination of measures is necessary to prepare for and recover from future flood events.

An interim feasibility study under the Delaware River Basin Comprehensive, NY, NJ, DE, & PA (Watershed Flood Management Plan) focused on flood modeling and related areas. Specific tasks included development of flood analysis models for the Delaware River, Schuylkill River, and Brandywine River. The study also included the development of flood inundation maps for selected locations within the Delaware River Basin. This product included a user's guide (Delaware River Flood Warning and Response System), which provides short-term technical advice and assistance to local emergency management officials.

The study also evaluated the impacts of increased flood storage in the Upstate New York reservoirs for a series of known flood events.

U.S. Army Corps of Engineers, Philadelphia District

Delaware River Basin Comprehensive DE, NJ, NY & PA (Watershed Flood Management Plan)

- **Project Goals:** The purpose of this project is focused on flood modeling and related areas. Specific tasks include development of flood analysis models for the Delaware River, Schuylkill River and Brandywine River. It also includes the development of flood inundation maps for specific area in the Delaware River Basin. The current study is investigating salinity. A future study may investigate drought issues.

An interim study began in 2012, which is investigating salinity (saltwater intrusion) in the Delaware Estuary. Specifically, the study is analyzing the relationship between freshwater inflows and salinity in the Delaware Estuary, and implications for flow management. Remaining tasks include completion of the report documenting development and calibration of the salinity model. Additional Federal funding is necessary to complete the report and evaluate various scenarios using the calibrated salinity model.

[Note: The existing GI project is being closed out. Future related work will be covered under a new PAS (Section 22) study.]

Upstate New York Reservoir

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Watershed Flood Management Plan Feasibility Study	912	912	1,824		Allocations thru FY17	912	
Section 22	250	250	500		Balance to Complete	TBD	250 Capability

U.S. Army Corps of Engineers, Philadelphia District

Section 22 Planning Assistance to States, PA (Delaware Canal River Walls Study)

- **Authority:** Section 22, Water Resources Development Act of 1974
- **Congressional Districts**: PA-8, PA-15, PA-17
- **Non-Federal Sponsor:** Pennsylvania Department of Conservation and Natural Resources
- **Date of Project Agreement:** July 2016
- **Target Completion Date:** July 2017
- **Total Estimated Cost:** $67,524
- **Federal Funds Appropriated:** $33,672
- **Non-Federal Share:** $33,672 (In-Kind Services)

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Regina Kukola
Phone: (215) 656-6584
E-mail:
regina.l.kukola@usace.army.mil

The Planning Assistance to States program authorized by Section 22 of the Water Resources Development Act of 1974, as amended, provides the Federal funding for this project. Section 22 provides authority for the U.S. Army Corps of Engineers (USACE) to assist states, local governments, and other non-Federal entities in the preparation of comprehensive plans for the development, use, and conservation of water and related land resources.

A cost share agreement was executed with the Pennsylvania Department of Conservation and Natural Resources (DCNR) in July 2016. The Delaware Canal runs adjacent to or parallel to the Delaware River from its inlet at Easton, Pa to the historic outlet at Bristol, Pa. The canal towpath is used heavily for hiking, biking and other recreational uses. At locations where the canal is close to the Delaware River there are walls separating the Canal Towpath from the river flows. Historic and recent flooding from storm events has caused frequent damage to the walls resulting in partial and complete collapse. The walls and their condition are not readily visible from the canal towpath with the result that a collapse can occur without warning. Wall collapse places the towpath and canal slope in jeopardy and can also place pedestrian and other traffic on the towpath at risk of injury.

U.S. Army Corps of Engineers, Philadelphia District

Section 22 Planning Assistance to States, PA (Delaware Canal River Walls Study)

- **Project Goals:** This study will assess the structural integrity of the canal walls, identify areas that are at risk of failure and in need of immediate and future repair in advance of a collapse, and provide a report of these findings.

The study objectives are:

1. Prepare an inventory of existing river walls with geographic locations, extent of wall, length, history of repairs, old and current maps.
2. Conduct joint survey to determine physical status of existing walls and add Repair Recommendations for existing walls listed (URGENT- Needs immediate repair, SERIOUS- Needs Repair in 12-24 Months, POOR- Needs Repair within 60 Months, FAIR- Continue Observation., GOOD- Wall is satisfactory condition)
3. Identify areas along the river walls at risk of future erosion where river geometry under normal pool conditions is attacking the river wall and may cause future failure.
4. Identify areas along the canal that are at risk of future erosion from the rivers where no wall exists but where river geometry under normal pool conditions is attacking the existing bank and may require the construction of additional River Walls or other protection for the canal.

The DCNR provided preliminary GIS data that is being analyzed.

Drought conditions prevented field work in 2016, but DCNR and USACE completed detailed scoping and study coordination. This field work should be completed in the Spring of 2018, dependent on weather conditions. This will be followed by finalizing geospatial data and reporting.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
PAS Study	33.6	33.6	67		Allocations thru FY16	33.6	
					FY 17 Allocation	0	
					Balance to Complete	0	

U.S. Army Corps of Engineers, Philadelphia District

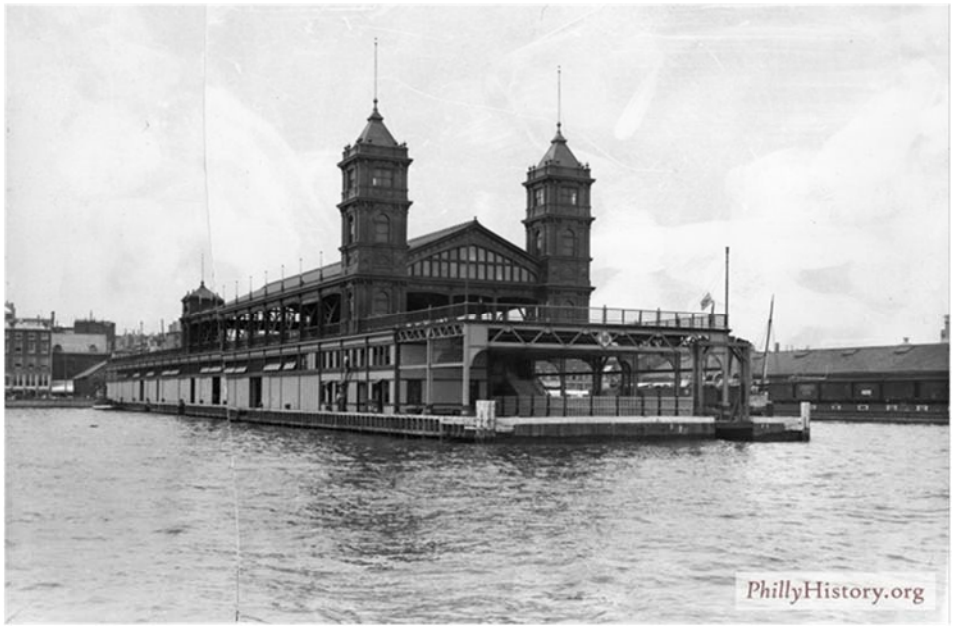
Section 22 Planning Assistance to States, PA (Delaware River Waterfront Pier Analysis)

- **Authority:** Section 22, Water Resources Development Act of 1974
- **Congressional Districts**: PA-1, PA-2, PA-13
- **Non-Federal Sponsor:** Delaware River Waterfront Corporation
- **Date of Project Agreement:** January 2012
- **Target Completion Date:** TBD
- **Total Estimated Cost:** $590,000
- **Federal Funds Appropriated:** $220,000
- **Non-Federal Share:** $220,000 (In-Kind Services)

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Dan Caprioli
Phone: (215) 656-6547
E-mail:
Daniel.J.Caprioli@usace.army.mil



The Planning Assistance to States program authorized by Section 22 of the Water Resources Development Act of 1974, as amended, provides the Federal funding for this project. Section 22 provides authority for the U.S. Army Corps of Engineers (USACE) to assist states, local governments, and other non-Federal entities in the preparation of comprehensive plans for the development, use, and conservation of water and related land resources. The authority allows the Corps of Engineers to provide technical assistance in the form of studies and plans, but does not allow for actual design or construction assistance.

A cost share agreement was executed with the Delaware River Waterfront Corporation (DRWC) in January 2012. This project evaluated the structural integrity of Spring Garden/Festival Piers along the Delaware River Waterfront in Philadelphia, PA for possible redevelopment and ecosystem restoration potential. This project will be completed upon receipt of non-federal in kind service documentation and subsequent credit approval.

Additional Planning Assistance will commence upon receipt of Federal funds.

U.S. Army Corps of Engineers, Philadelphia District

Section 22 Planning Assistance to States, PA (Delaware River Waterfront Pier Analysis)

- **Project Goals:** The purpose of this project is to evaluates existing piers along the Delaware River Waterfront for possible redevelopment and eco-restoration potential.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
PAS Study (Phase 1)	220	220	440		Allocations thru FY12	245	
Phase 2	75	75	250		FY 13 Allocation	0	
					FY 14 Allocation	0	
					FY 15 Allocation	0	
					FY 16 Allocation	0	
					FY 17 Allocation	0	
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Section 206, Flood Plain Management Services

- **Authority:** Section 206, Flood Control Act of 1960
- **Congressional Districts**: Multiple
- **Non-Federal Sponsor and Partners:** Multiple
- **Target Completion Date:** October 2018

Background

The Floodplain Management Services (FPMS) Program authorizes USACE to conduct technical studies using either all federal funding or in combination with a voluntary contribution from a non-federal sponsor. The FPMS authority provides for technical assistance and does not have a provision for construction. Detailed plans and specifications as well as construction would have to be accomplished under other civil works authorities or by the non-Federal sponsor.

USACE has a Silver Jackets Program that establishes interagency flood risk management teams for states. The state teams have an opportunity to submit proposals to receive funding for interagency projects that will reduce flood risk. These projects are being funded through the FPMS program.

Delaware

Non-structural Flood Risk Adaptive Measures (FRAM) can significantly reduce flood damage to home and businesses. USACE can help educate the local community on many of the effective flood proofing measures they can implement. USACE will also partner with other State and Federal organizations to provide information on other flood risk management programs that can be beneficial to the public and stakeholders. In Delaware in FY18, Philadelphia District will provide multiple outreach, education and risk communication workshops in the State. In addition, Philadelphia District will perform field assessments in all three counties;

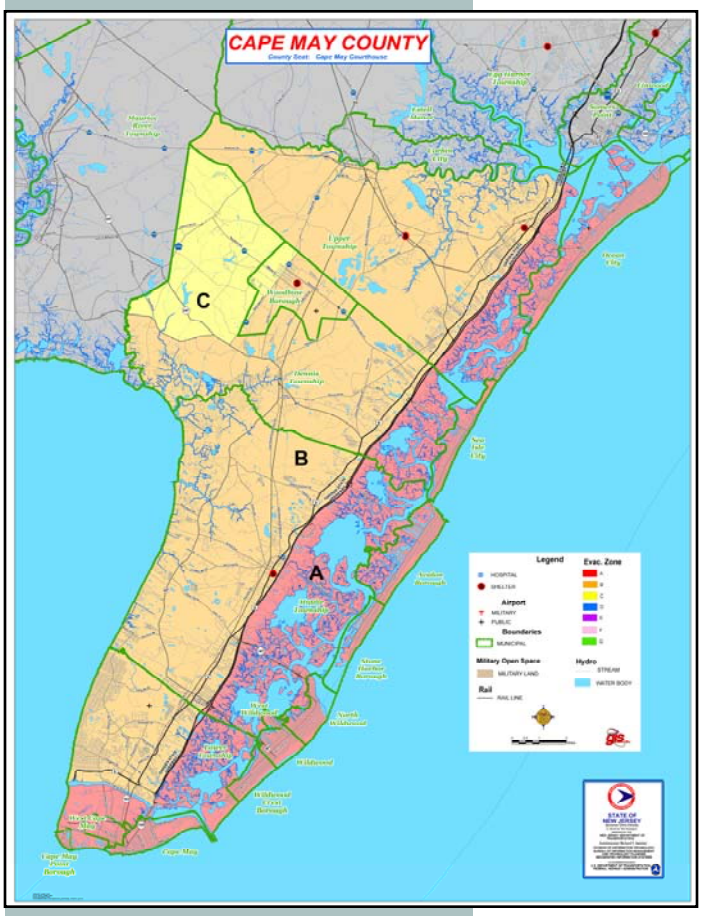
USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Jason Miller
Phone: (215) 656-6549
E-mail:
Jason.F.Miller@usace.army.mil

Section 206, Flood Plain Management Services

the results of which will be FRAM recommendations for typical structure-types found throughout the different geographies of the State.



New Jersey

Philadelphia District will perform FRAM field assessments in Atlantic and Cape May Counties and specifically in the Minnie Creek area of Margate, Atlantic County; the result of which will FRAM recommendations for typical structure-types found in these areas of the State. In addition, FRAM recommendations will be developed for a pilot project using a typical Critical Facility in Atlantic County, Cape May County, Cumberland County, or Ocean County.

Through the Federal Emergency Management Agency's (FEMA) National Hurricane Program, the Corps and FEMA work with the National Oceanic and Atmospheric Administration (NOAA) to conduct hurricane evacuation studies with the ultimate goal of helping local communities understand their evacuation timeline. The Philadelphia District is undertaking a multi-year project to update the New Jersey Hurricane Evacuation Study (HES); partnering with NJ Office of Emergency Management (NJ OEM), NJ Department of Transportation (NJ DOT), and all of the storm surge-affected counties. In FY18, the Philadelphia District will complete Evacuation Zone Delineations and begin the Transportation Study.

Pennsylvania

The Philadelphia District will develop FRAM recommendations for a pilot project using a Critical Facility in Bucks County, Monroe County, Montgomery County, or Northampton County.

Also, in Chester County, the Philadelphia District will perform a technical analysis of bridges in the special flood hazard area to determine the frequency of impact due to floodwaters on this critical infrastructure. In other areas of Pennsylvania, efforts will continue to develop Flood Inundation Mapping (FIM) Libraries and, in some cases, damage scenario runs using FEMA's HAZUS software. This is a multi-year effort spanning numerous counties established through coordination with external flood risk management partners.

THIS PAGE LEFT BLANK INTENTIONALLY

US ARMY CORPS OF ENGINEERS
Building Strong

US Army Corps of Engineers
Philadelphia District

Continuing Authorities Program (CAP)

Program Authority	Description	Federal Funding Limits (incl. WRRDA 2014 changes)	
		Project	Annual Program
Section 14	Flood Control Act of 1946 (PL 79-526), as amended for emergency streambank & shoreline erosion protection for public facilities & services.	5,000,000	$20,000,000
Section 103	River & Harbor Act of 1962 (PL 87-874), as amended, amends PL 727, an act approved August 13, 1946 which authorized Federal participation in the cost of protecting the shores of publicly owned property from hurricane & storm damage.	10,000,000	30,000,000
Section 107	River & Harbor Act of 1960 (PL 90-483), as amended for navigation.	10,000,000	50,000,000
Section 111	River & Harbor Act of 1968 (PL 90-483), as amended, for mitigation of shoreline erosion damage caused by Federal navigation projects.	10,000,000	N/A
Section 145	Placement of Dredged Material on beaches, Water Resources Development Act of 1976 (PL 94-587), as amended.	N/A	N/A
Section 204	Beneficial Uses of Dredged Material, Water Resources Development Act of 1992 (PL 102-580), as amended.	10,000,000	50,000,000
Section 205	Flood Control Act of 1948 (PL 80-858), as amended, for flood control.	10,000,000	55,000,000
Section 206	Aquatic Ecosystem Restoration, Water Resources Development Act of 1996 (PL 104-303), as amended.	10,000,000	50,000,000
Section 208	Flood Control Act of 1954 (PL 83-780), as amended, originally Section 2, Flood Control Act of August 28, 1937 (PL 75-406) for snagging and clearing for flood control.	500,000	7,500,000
Section 1135	Project Modifications for Improvement of the Environment, Water Resource Development Act of 1986 (PL 99-662), as amended.	10,000,000	40,000,000

Color Code	
State	Color
Delaware	Red
New Jersey	Blue
New York	Black
Pennsylvania	Green
Multiple	Purple

U.S. Army Corps of Engineers, Philadelphia District

Habitat Productivity of Delaware Bay, DE (Mispillion Inlet, DE)

- **Authority:** Section 1135 of the Water Resources Development Act of 1986
- **Congressional Districts:** DE-AL
- **Non-Federal Sponsor:** Delaware Department of Natural Resources and Environmental Control
- **Date of Project Agreement:** TBD
- **Target Completion Date:** TBD
- **Total Estimated Study Cost:** $1,050,000
- **Federal Funds Appropriated:** $100,000
- **Non-Federal Share:** $475,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Theresa Fowler
Phone: (215) 656-6575
E-mail:
Theresa.a.fowler@usace.army.mil

Delaware Bayshore, DE & NJ

This study is authorized under Section 1135 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, Project Modifications for Improvement of the Environment.

The Delaware Estuary hosts the largest concentration in the Western Hemisphere of spawning horseshoe crabs. This is perhaps most prevalent near the mouth of the Mispillion River. Hundreds of thousands of shorebirds, dependent upon horseshoe crab eggs to fuel their northward migrations and breeding, stop along the shorelines of Delaware Bay to rest and feed almost exclusively on horseshoe crab eggs. The eggs provide the energy necessary for species such as red knots, dunlins, ruddy turnstones, sanderlings, semi-palmated sandpipers and other migratory species. The U.S. Fish and Wildlife Service proposes to list the *rufa* subspecies of the red knot (*Calidris canutus rufa*) as an endangered species. Like many migratory birds, the red knot is known for its miraculous long-distance flights. Red knots fly 19,000 miles round-trip, leaving the wintering grounds in southern Argentina, making only one stop on the coast of Brazil, then fly nonstop to Delaware Bay, a distance of 5,000 miles.

U.S. Army Corps of Engineers, Philadelphia District

Habitat Productivity of Delaware Bay, DE (Mispillion Inlet, DE)

- **Project Goals:** The purpose of this project is to provide habitat for horseshoe crabs and shorebirds in the vicinity of Mispillion Inlet.

The interrelationship of shorebirds and horseshoe crabs can be adversely affected by habitat loss, erosion, and loss of coastal wetlands through development and sea level rise. Horseshoe crab and shorebird habitat in the Bay is nationally significant but becoming scarcer, as these habitats have been adversely affected by current maintenance dredging and placement operations and commercial harvesting operations. Horseshoe crabs remain on the bay bottom for most of their lives, feeding on benthic worms, mollusks, and crustaceans, returning to the lower bay beaches annually during spring and summer to spawn.

At Mispillion Inlet, migratory shorebirds and horseshoe crabs have an important connection. In late spring, red knots, ruddy turnstones, sanderlings, short- and long-billed dowagers, black-bellied plovers, and semipalated and least sandpipers stop at the inlet to feast on the freshly laid horseshoe crab eggs. The Delaware Bay supports a large aggregation of these birds (>500,000 individuals) and is numerically one of the most important migratory stopover points in North America. The red knot, ruddy turnstone, and sanderling have been designated as species of high conservation concern by the US Fish and Wildlife Service. Given the Delaware Bay's significant contribution to these migratory shorebirds, it is identified as a Western Hemispheric Shorebird Reserve Network site of hemispheric importance, a Wetland of International Importance, and an Important Bird Area of Global Significance. (Andres, 2003).

DNREC is the non-Federal sponsor. A draft PMP and FCSA is currently under development to initiate the feasibility study.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Feasibility	575	475	1050
Design & Implementation	TBD	TBD	TBD
Total	TBD	TBD	TBD

Summarized Federal Financial Data ($000)		
FY14 Allocation	50	
FY 15 Allocation	50	
FY 16 Allocation	0	
FY 17 Allocation	0	
Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Assunpink Creek, Hamilton Township, Mercer County, NJ

- **Authority:** Section 205, Flood Control Act of 1948
- **Congressional Districts:** NJ-4 and NJ-12
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Agreement:** May 2014
- **Target Completion Date:** May 2019
- **Total Estimated Cost:** $600,000
- **Federal Funds Appropriated:** $350,000
- **Non-Federal Share:** $250,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Adrian Leary
Phone: (215) 656-6576
E-mail:
Adrian.Leary@usace.army.mil

Flood waters from the Assunpink Creek on Sweet Briar Avenue in Hamilton Township during an April 2007 storm event.

The authority for this project is Section 205 of the Flood Control Act of 1948 (Public Law 80-858), as amended. Under this authority, the USACE is authorized to plan, design, and construct small flood risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for the feasibility study, design, and construction.

The focus of this feasibility study is the lower reach of the Assunpink and its tributaries that are located in the City of Trenton, Hamilton Township, and Lawrence Township, New Jersey. Within the study area, flooding problems are widespread. The wide floodplains of the relatively low gradient streams are subject to chronic flooding and, on several occasions, extensive flood damage has occurred. Most recently, the study area experienced record flood levels and a great deal of property damage as a result of the heavy rains brought by Hurricane Irene in August of 2011. Flooding on the Assunpink Creek that resulted from Hurricane Irene shut down the rail lines in the City of Trenton for three days. This disrupted one of the busiest parts of the nation's passenger train system between Philadelphia and New York.

This feasibility study is examining the flooding problems along the Assunpink Creek and evaluating the Federal interest in implementing flood risk management solutions.

U.S. Army Corps of Engineers, Philadelphia District

Assunpink Creek, Hamilton Township, Mercer County, NJ

- **Project Goals:** The purpose of this project is to examine potential solutions to reduce frequent flooding problems .

The District executed a Feasibility Cost Share Agreement (FCSA) with the New Jersey Department of Environmental Protection (NJDEP) in FY14. The non-Federal sponsor is responsible for 50 percent of the costs of the Assunpink Creek Flood Risk Management Feasibility Study.

NJDEP has developed hydraulic modeling to support the technical analyses as part of their required cost share match.

Funds received in FY15 will be used to complete the feasibility study in FY19.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	350	250	600		Allocations thru FY15	160	
Design & Implementation	TBD	TBD	TBD		FY 16 Allocation	82	
					FY 17 Allocation	-22.9	
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Assunpink Creek, Trenton, NJ

- **Authority:** Section 1135 of the WRDA 1986
- **Congressional District:** NJ-12
- **Non-Federal Sponsor:** City of Trenton, New Jersey
- **Date of Project Agreement:** September 2009
- **Target Completion Date:** September 2018
- **Total Estimated Cost:** $8.5Million
- **Federal Funds Appropriated:** $7.8Million
- **Non-Federal Share:** $2.13Million

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Erik Rourke
Phone: (215) 656-6616
E-mail:
erik.j.rourke@usace.army.mil

View of existing creek culvert looking upstream toward the historic Broad Street Bridge in downtown Trenton, NJ

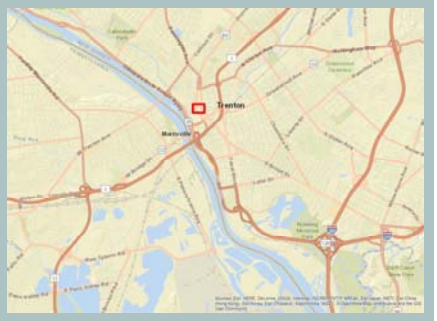
This project is authorized by Section 1135 of WRDA 1986, Environmental Restoration, and encompasses demolition and removal of approximately 400 feet of a buried concrete box culvert along Assunpink Creek. Day lighting the creek and removing a significant obstacle to fish passage will encourage fish migration upstream, as low-light conditions can disorient migrating fish, hindering their ability to spawn upstream. This will help to create a sustainable anadromous fishery within Assunpink Creek. Removal of the concrete bottom slab will also increase fishery migration opportunities by creating a varied substrate and will increase biodiversity through increased macroinvertebrate habitat. Other benefits include a restored riparian zone, providing a beneficial transition buffer between existing water and human land uses; improved habitats, including foraging and nesting areas for fish-eating birds, small mammals, and aquatic wildlife species; improved runoff water quality by acting as a sediment and pollutant filter; and improved aesthetic and recreational value of the project area.

A $4.7 million contract for construction was awarded in August 2017 with completion expected in September 2018. Partial funding for construction was provided by the New Jersey Department of Environmental Protection (NJDEP).

U.S. Army Corps of Engineers, Philadelphia District

Assunpink Creek, Trenton, NJ

- **Project Goals:** The goal of the Lower Assunpink Creek Ecosystem Restoration Project is to restore migratory fish habitat, enhance recreational opportunities, and improve the overall stream ecology of Assunpink Creek. Project goals will be accomplished through day lighting the Broad Street culvert and creation of an open -channel system.



The project area is located in downtown Trenton along Assunpink Creek approximately 1,400 feet upstream of the Delaware River. Overall, Assunpink Creek is 25 miles long and drains approximately 91 square miles in central New Jersey.

The area in the vicinity of the South Broad Street crossing of the Assunpink Creek has a long and distinguished history. The location served as an important fording point within the regional Native American trail network. Trenton's origins as a colonial settlement also derived from this crossing point, and Mahlon Stacy's gristmill, the first major industrial structure in the embryonic Quaker settlement that would become Trenton, was erected here in the late 1670s. Throughout the colonial period, the gristmill at this location was the primary element in the settlement pattern driving the growth of Trenton as a market town. The Assunpink crossing also was at the core of the First and Second Battles of Trenton, fought respectively on December 26, 1776 and January 2, 1777. These engagements were integral to restoring the military reputation of George Washington and turning the military tide that ultimately saw the Continental Army triumph over British forces and secure American independence. Trenton's first true steps toward embracing industrialization took advantage of the Assunpink's waterpower to support the growth of an early textile industry in the first half of the 19th century. Land here has since been developed and redeveloped for industrial purposes, and the immediately surrounding area has experienced an equally complicated sequence of residential, commercial and public recreational usage.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Feasibility	422	105	527
Design & Implementation	6,375	2,125	8,500

Summarized Federal Financial Data ($000)		
Allocations thru FY13	1,500	
FY 14 Allocation	200	
FY 15 Allocation	3,500	
FY 16 Allocation	-2,900	
FY 17 Allocation	5,500	
Balance to Complete	0	

U.S. Army Corps of Engineers, Philadelphia District

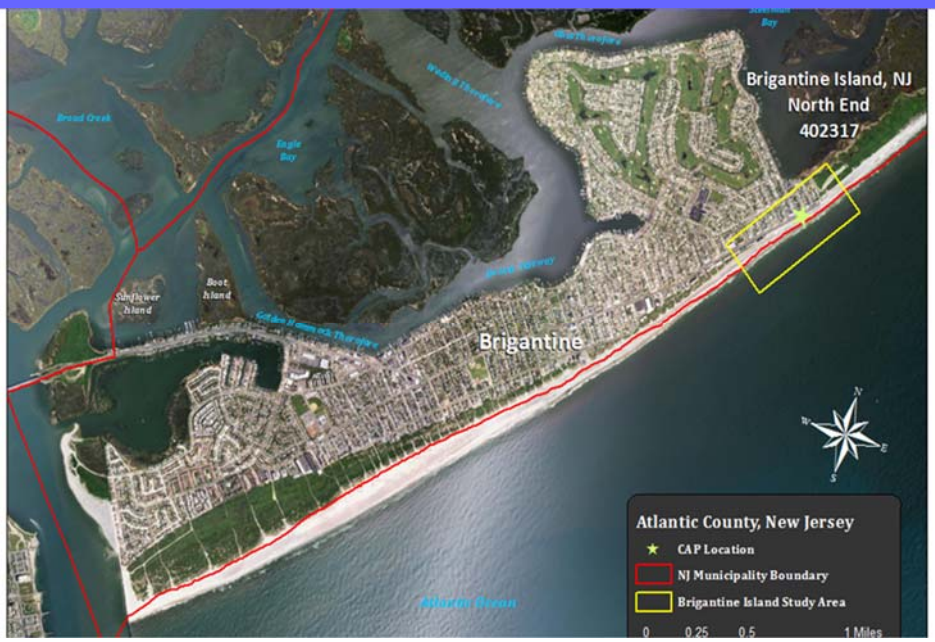
Brigantine Island (Northern End), NJ

- **Authority:** Section 103 of the River and Harbor Act of 1962
- **Congressional Districts:** NJ-2
- **Non-Federal Sponsors:** New Jersey Department of Environmental Protection and City of Brigantine
- **Date of Feasibility Cost Share Agreement:** TBD
- **Target Completion Date:** TBD
- **Total Estimated Study Cost:** $TBD
- **Federal Funds Appropriated:** $100,000
- **Non-Federal Share:** 50%

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Joel Dohm
Phone: (215) 656-6185
E-mail:
joel.v.dohm@usace.army.mil



Brigantine Island, NJ

The authority for this study is provided by Section 103 of the River and Harbor Act of 1962, Public Law 87-874, as amended, in accordance with the policies and procedures prescribed by the Chief of Engineers. Section 103 provides authority for the Corps of Engineers to develop and construct small coastal storm risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for feasibility study, design, and construction.

The study area is located along the ocean coast on the north and east side of the city. The study area extends from 8th Street N. (southern extent) to 15th Street N. (northern extent) and from E. Brigantine Avenue (eastern extent) to E. Beach Avenue (western extent) encompassing a total area of 0.04 square miles. The highest street elevation on the island is 10 feet above sea level. The bayside street elevations are between five and six feet above sea level which leaves the City's low-lying residential areas vulnerable to flooding during coastal storms.

The City requested an evaluation of a northerly bulkhead extension of the existing bulkhead that runs along E. Brigantine Avenue from 9th Street N. to 15th Street N. and to consider the construction of groins along the northern end of the study area. Structures located behind the current bulkhead were damaged along with City and utility infrastructure as a result of Hurricane Sandy which made landfall directly over Brigantine Island.

U.S. Army Corps of Engineers, Philadelphia District

Brigantine Island (Northern End), NJ

- **Hurricane Sandy:** Hurricane Sandy heavily impacted the City of Brigantine. Response and Recovery efforts by the Community were the top priority for the non-Federal sponsor. Efforts are shifting to the long-term sustainability of the City of Brigantine.

.

The FID was approved by NAD in December 2017. Preparation of a Project Management Plan for the Feasibility Study is underway.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)	
Feasibility	TBD	TBD	TBD		Allocations thru FY17	50
Design & Implementation			TBD		FY18 Allocation	50
					Balance to Complete	TBD

U.S. Army Corps of Engineers, Philadelphia District

Camden Waterfront, City of Camden, NJ

- **Authority:** Section 204 of the Water Resources Development Act of 1992
- **Congressional Districts:** NJ-1
- **Non-Federal Sponsor:** NJDEP/Camden County Municipal Utilities Authority (CCMUA)
- **Date of Project Agreement:** TBD
- **Target Completion Date:** TBD
- **Total Estimated Cost:** TBD
- **Federal Funds Appropriated:** $98,000
- **Non-Federal Share:** TBD

This project is authorized by Section 204 of the Water Resources Development Act of 1992, as amended. This authority provides for the use of dredged material from new or existing Federal projects to protect, restore, or create aquatic and ecologically related habitats, including wetlands.

The goal of the study will be to evaluate beneficial use of dredged material to restore aquatic and wetland habitat along the Delaware River adjacent to the waterfront of the City of Camden.

The District is coordinating with the NJDEP and the CCMUA to develop a project management plan for the feasibility study and identify mutual interests in continuing with this project.

USACE

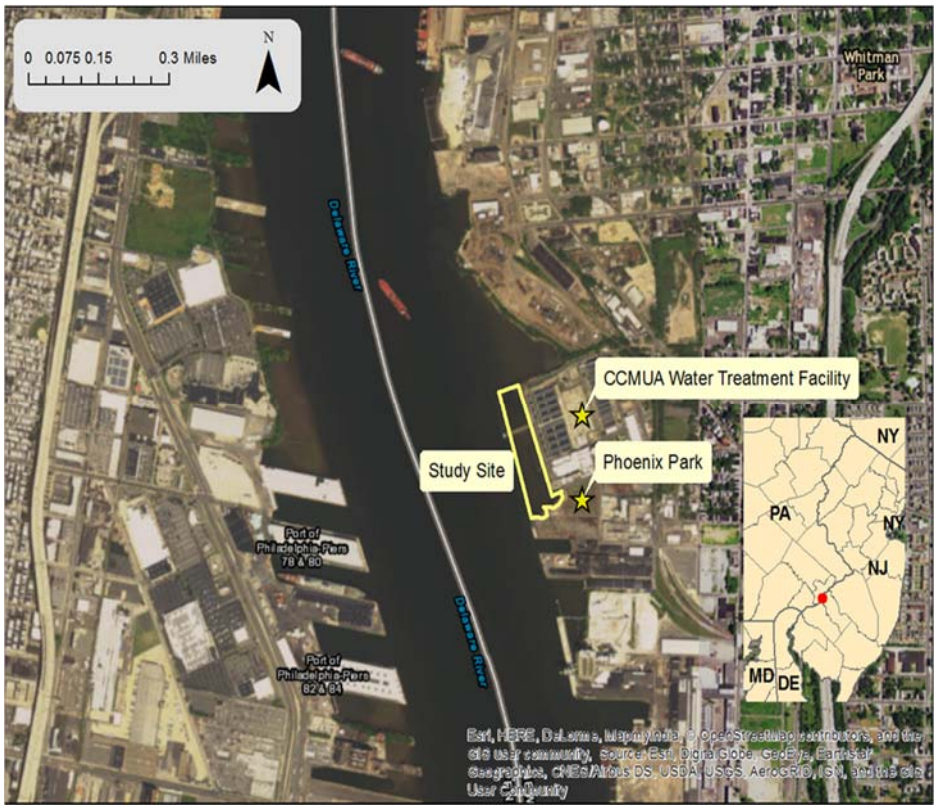
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Regina Kukola
Phone: (215) 656-6584
E-mail:
regina.l.kukola@usace.army.mil

U.S. Army Corps of Engineers, Philadelphia District

Camden Waterfront, City of Camden, NJ

Project Goals: The goal of the study will be to evaluate the beneficial use of dredged material to restore aquatic and wetland habitat along the Delaware River adjacent to the waterfront of the City of Camden.



Project site along Camden City Waterfront.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility Study	TBD	TBD	TBD		FY 16 Allocation	50	
					FY 17 Allocation	48	Funds received from reprogram-ming effort.
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Cape May City (Delaware Avenue), NJ

- **Authority:** Section 14 of the Flood Control Act of 1946 and PL 113-2
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** Cape May County
- **Date of Project Agreement:** TBD
- **Target Completion Date:** October 2017
- **Total Estimated Study Cost:** $100,000
- **Federal Funds Appropriated:** $100,000
- **Non-Federal Share:** Full Federal funding for Feasibility Study.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Adrian Leary
Phone: (215) 656-6576
E-mail:
Adrian.Leary@usace.army.mil

Delaware Avenue in the City of Cape May is threatened by erosive forces from Cape May Harbor.

This project is authorized by Section 14 of the Flood Control Act of 1946, as amended. The purpose of Section 14 is to protect public works and non-profit public facilities from streambank and shoreline erosion. Federal funding for each Section 14 project is limited to $5,000,000 (as amended by Section 1030 of the Water Resources Reform and Development Act of 2014, P.L. 113-121).

The study area is located on the north side of the City along the Cape May Harbor. This area is an approximate 0.4 mile length of Delaware Avenue that continually experiences severe shoreline erosion due to tidal surge and wave action during hurricanes and major nor'easters. The erosion threatens the integrity of Delaware Avenue, a county road, which is the main route for the delivery of supplies to the U.S. Coast Guard Training Center. The erosion also threatens an underground sewer utility line that runs along the northern right-of-way of the road.

The feasibility study has determined that it is within the Federal interest to construct the most environmentally suitable, least-cost protection alternative to address the shoreline erosion problems in the study area for the protection of Delaware Avenue and the sewer utility line .

U.S. Army Corps of Engineers, Philadelphia District

Cape May City (Delaware Avenue), NJ

- **Project Goals:** The purpose of Section 14 is to protect public works and non-profit public facilities from streambank and shoreline erosion.

The objectives of the Design and Implementation Phase of the project are to:

- Prepare a Project Management Plan (PMP) for the Design and Implementation (D&I) Phase
- Design and construct the project

The Feasibility Report was approved by NAD in February 2018. A PMP for the D&I phase is being prepared and a Project Partnership Agreement (PPA) execution with the non-Federal sponsor is scheduled for May 2018.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	100	0	100		Allocations thru FY 16	100	SANDY
Design and Implementation	1,495	805	2,300		FY 18 Allocation	100	SANDY
					Balance to Complete	1,395	

U.S. Army Corps of Engineers, Philadelphia District

Cape May Seawall, City of Cape May, Cape May County, NJ

- **Authority:** Section 103 of the River and Harbor Act of 1962 and PL 113-2
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** City of Cape May
- **Date of Feasibility Cost Share Agreement:** May 2015
- **Target Study Completion Date:** February 2019
- **Total Estimated Study Cost:** $840,000
- **Federal Funds Appropriated:** $400,000
- **Non-Federal Share:** $310,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Adrian Leary
Phone: (215) 656-6576
E-mail:
Adrian.Leary@usace.army.mil

Existing seawall that is located between Beach Avenue and the beach on the south side of the City of Cape May.

The authority for this feasibility study is provided by Section 103 of the River and Harbor Act of 1962, Public Law 87-874, as amended, in accordance with the policies and procedures prescribed by the Chief of Engineers. Section 103 provides authority for the Corps of Engineers to develop and construct small beach erosion and coastal storm risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for the feasibility study, design, and construction.

The study area is located along the ocean coast on the south side of the City of Cape May. Flooding in this low-lying area has been historically problematic during hurricanes and nor'easters. The study area appears to be vulnerable to ocean flooding due to the existing condition of a seawall that runs parallel between the beach and Beach Avenue. The seawall is a stone and concrete construction and was built following the destruction of the beachfront and boardwalk by the Ash Wednesday Storm in March 1962. The feasibility study will examine the existing conditions and explore coastal storm risk management solutions in the study area.

U.S. Army Corps of Engineers, Philadelphia District

Cape May Seawall, City of Cape May, Cape May County, NJ

- **Project Goals:** The purpose of this project is to examine potential solutions for coastal storm risk management.

A Federal Interest Determination was completed by the District and approved by North Atlantic Division in FY14. Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan) as needed for completion of the Feasibility Report

Approximately 6 feet of sand that was washed over the seawall and onto the street at the corner of Wilmington Avenue and Beach Avenue during Hurricane Sandy.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	530	310	840		Allocations thru FY 13	0	
Design & Implementation	TBD	TBD	TBD		FY 14 Allocation	50	SANDY
					FY 15 Allocation	350	SANDY
					FY 16 Allocation	0	
					FY 17 Allocation	0	
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Chelsea Heights, Atlantic City, Atlantic County, NJ

- **Authority:** Section 205, Flood Control Act of 1948 and PL 113 -2
- **Congressional Districts:** NJ-2
- **Non-Federal Sponsor:** NJDEP
- **Date of Feasibility Cost Share Agreement:** May 2015
- **Target Study Completion Date:** March 2019
- **Total Estimated Study Cost:** $780,000
- **Federal Funds Appropriated:** $400,000
- **Non-Federal Share:** $280,000

West End Avenue on the north side of Chelsea Heights is frequently flood by the bay behind Absecon Island.

The authority for this project is Section 205 of the Flood Control Act of 1948 (Public Law 80-858), as amended. Under this authority, the USACE is authorized to plan, design, and construct small flood risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for the feasibility study, design, and construction.

There is significant flood risk and associated damages in the study area due to development on flat, low-lying topography with exposure to tidal flooding from Absecon Island back bay. The likelihood of intense future storms, along with sea level rise, is placing this section of Atlantic City at increasing risk for more frequent flooding. Given these conditions, flood damages predicted for the 50 year planning horizon in the Chelsea Heights study area are likely to be substantial. The feasibility study will examine the existing conditions and explore flood risk management solutions in the study area.

A Federal Interest Determination was completed by the District and approved by North Atlantic Division in FY14. Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Adrian Leary
Phone: (215) 656-6576
E-mail:
Adrian.Leary@usace.army.mil

U.S. Army Corps of Engineers, Philadelphia District

Chelsea Heights, Atlantic City, Atlantic County, NJ

- **Project Goals:** The purpose of this project is to examine potential solutions to reduce the frequent flooding problems.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report

South Boulevard along the New Jersey Intracoastal Waterway on the south side of Chelsea Heights.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	500	280	780		Allocations thru FY13	0	
Design & Implementation	TBD	TBD	TBD		FY 14 Allocation	50	SANDY
					FY 15 Allocation	350	SANDY
					FY 16 Allocation	0	
					FY 17 Allocation	0	
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

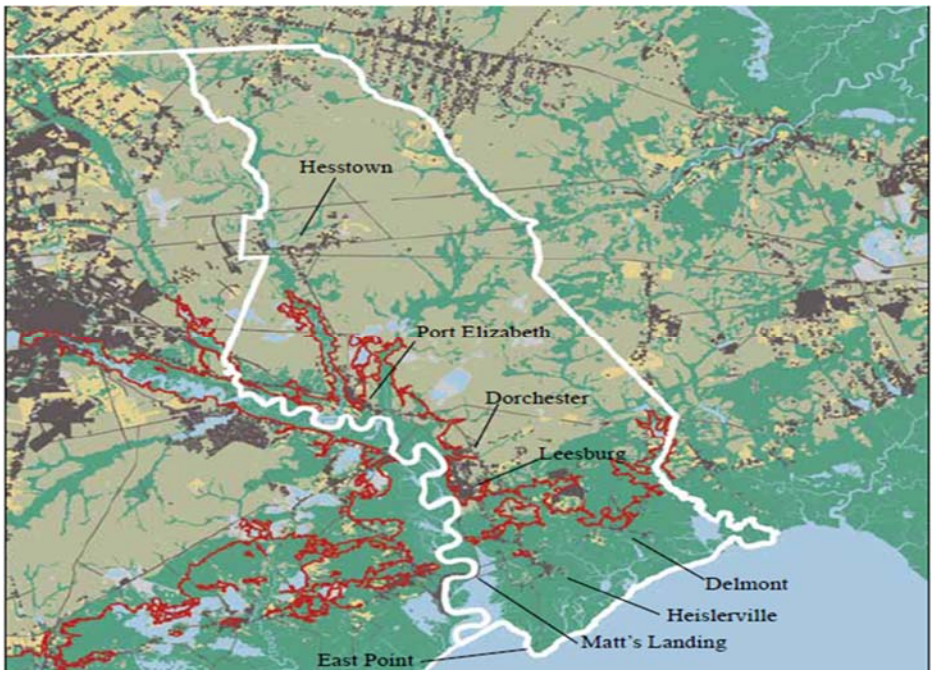
Cumberland County Shore Protection, NJ (Maurice River Township)

- **Authority:** Section 103 of the River and Harbor Act of 1962 and PL 113-2
- **Congressional Districts:** NJ-2
- **Non-Federal Sponsor:** NJDEP
- **Date of Feasibility Cost Share Agreement:** May 2018 (scheduled)
- **Target Study Completion Date:** TBD
- **Total Estimated Study Cost:** $675,000
- **Federal Funds Appropriated:** $100,000
- **Non-Federal Share:** $277,500

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Joel Dohm
Phone: (215) 656-6185
E-mail:
Joel.V.Dohm@usace.army.mil



Maurice River Township in Cumberland County, NJ outlined..

The authority for this project is Section 103 of the River and Harbor Act of 1962, Public Law 87-874, as amended. Under this authority, USACE is authorized to plan, design, and construct small coastal storm risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for the feasibility study, design, and construction.

The Cumberland County Shore Protection Project (Maurice Township, NJ) study area is located in Cumberland County, New Jersey. The study area is located at the confluence of the Delaware Bay and the Maurice River, approximately 50 miles southwest of Atlantic City. The study area encompasses the communities of Matts Landing and Heislerville. Matts Landing is primarily composed of commercial establishments and Heislerville is primarily composed of residences and some commercial establishments. The area is experiencing increases in the frequency, duration, and intensity of tidal flooding and erosion during storm events including hurricanes and major nor'easters.

A Federal Interest Determination was completed by the District and approved by North Atlantic Division in FY16. Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

U.S. Army Corps of Engineers, Philadelphia District

Cumberland County Shore Protection, NJ (Maurice River Township)

- **Project Goals:** The purpose of this project is to examine potential solutions to reduce the frequent flooding problems.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report

Maurice River Township, NJ.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	397.5	277.5	675		Allocations thru FY13	0	
Design & Implementation	TBD	TBD	TBD		FY 14 Allocation	50	SANDY
					FY 15 Allocation	0	0
					FY 16 Allocation	50	SANDY
					FY 17 Allocation	0	
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

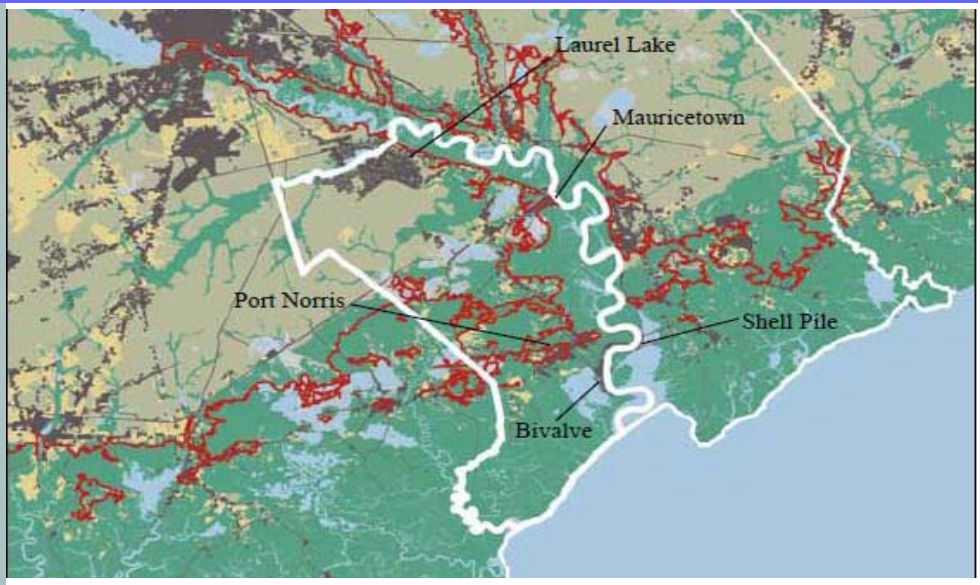
Delaware Bayshore, NJ (Commercial Township)

- **Authority:** Section 205 of the Flood Control Act of 1948 and PL 113-2
- **Congressional Districts:** NJ-2
- **Non-Federal Sponsor:** NJDEP
- **Date of Feasibility Cost Share Agreement:** May 2018 (scheduled)
- **Target Study Completion Date:** TBD
- **Total Estimated Study Cost:** $675,000
- **Federal Funds Appropriated:** $100,000
- **Non-Federal Share:** $277,500

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Joel Dohm
Phone: (215) 656-6185
E-mail:
Joel.V.Dohm@usace.army.mil



Commercial Township in Cumberland County, NJ outlined..

The authority for this project is Section 205 of the Flood Control Act of 1948 (Public Law 80-858), as amended. Under this authority, USACE is authorized to plan, design, and construct small flood risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for the feasibility study, design, and construction.

The Delaware Bayshore, Commercial Township study area is located in Cumberland County, NJ. The study area is located along the confluence of the Delaware Bay and the Maurice River, approximately 50 miles southwest of Atlantic City. The study area encompasses the communities of Bivalve, Shell Pile, and Port Norris. Bivalve and Shell Pile are primarily composed of commercial establishments and Port Norris is primarily composed of residences and some commercial establishments. The area is experiencing increases in the frequency, duration, and intensity of tidal flooding during storm events including hurricanes and major nor'easters.

The feasibility study will examine the existing conditions and explore flood risk management solutions in the study area.

A Federal Interest Determination was completed by the District and approved by North Atlantic Division in FY16. Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bayshore, NJ (Commercial Township)

- **Project Goals:** The purpose of this project is to examine potential solutions to reduce the frequent flooding problems.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report

Bivalve, Shellpile, and Port Norris areas along the Maurice River.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	397.5	277.5	675		Allocations thru FY13	0	
Design & Implementation	TBD	TBD	TBD		FY 14 Allocation	50	SANDY
					FY 15 Allocation	0	0
					FY 16 Allocation	50	SANDY
					FY 17 Allocation	0	
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bayshore, Downe Township, NJ

- **Authority:** Section 205 of the Flood Control Act of 1948 and PL 113-2
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Feasibility Cost Share Agreement:** May 2015
- **Target Completion Date:** TBD
- **Total Estimated Study Cost:** $740,000
- **Federal Funds Appropriated:** $410,000
- **Non-Federal Share:** $320,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Jane Jablonski, P.E.
Phone: (215) 656-6588
E-mail:
jane.l.jablonski@usace.army.mil

Damages from Hurricane Sandy along the Delaware Bay at Gandys Beach in Downe Township.

The authority for this feasibility study is provided by Section 205 of the Flood Control Act of 1948 (Public Law 80-858), as amended, in accordance with the policies and procedures prescribed by the Chief of Engineers. Section 205 provides authority for the Corps of Engineers to develop and construct small flood risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for feasibility studies, planning, engineering, design, and construction.

The objectives of the Feasibility Phase of the project are to:

- Prepare a Feasibility Report and alternatives analysis for the project
- Prepare an Environmental Assessment and NEPA documentation for the selected alternative
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report.

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bayshore, Downe Township, NJ

- **Hurricane Sandy:** Hurricane Sandy decimated the communities of Fortescue and Gandys Beach in Downe Township. State and Township efforts are now focused on the long-term sustainability of the Delaware bayshore area.

- **Potential Solutions:** Any solution to the storm damage mitigation problem should provide protection for people and infrastructure (structure elevation, relocation, etc.). Solutions need to be evaluated in terms of elevated water levels and may be structural in nature. The solution proposed in the approved Federal Interest Determination Report is beachfill and this will be evaluated during the Feasibility study effort. However, the most economically efficient elevation (maximum NED benefits) of a sand berm may not be institutionally acceptable due to environmental impacts. These challenges will be addressed as we move forward with the Feasibility Study.

The District used Hurricane Sandy damage information collected from the Township and FEMA to investigate the study area. The investigation was coordinated with the local sponsor, the New Jersey Department of Environmental Protection, and the Mayor of Downe Township who requested the District focus its study efforts on the developed Delaware Bay shoreline areas of Fortescue and Gandys Beach within the Township.

Evaluation of structural alternative plans (beachfill) indicated proposed alternatives were above the Federal limit ($10M) for a CAP project and were also economically unjustified. Non-structural alternatives (floodproofing) might be economically viable but are not likely to be supported by the non-Federal sponsor.

The study has been suspended under the CAP program and the study areas are being further evaluated as part of the NJ-DMU study to determine if beneficial use of dredged material for beachfill is more economically feasible for the study area.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)	
Feasibility	420	320	740		Allocations thru FY13	
Design & Implementation			TBD		FY 14 Allocation	50 SANDY
					FY 15 Allocation	360 SANDY
					FY 16 Allocation	0
					FY 17 Allocation	0
					Balance to Complete	TBD

U.S. Army Corps of Engineers, Philadelphia District

East Point Lighthouse, NJ

- **Authority:** Section 14 of the Flood Control Act of 1946 and PL 113-2
- **Congressional Districts:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Feasibility Cost Share Agreement:** NA
- **Target Completion Date:** TBD
- **Total Estimated Study Cost:** $100,000
-
- **Federal Funds Appropriated:** $100,000
- **Non-Federal Share:** 50%

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Theresa Fowler
Phone: (215) 656-6575
E-mail:
Theresa.a.fowler@usace.army.mil

East Point Lighthouse in the background with rapidly eroding marsh in the foreground.

This project is authorized by Section 14 of the Flood Control Act of 1946, as amended. Section 14 of the Flood Control Act of 1946, as amended, Streambank and Shoreline Erosion Protection of Public Works and Non-Profit Public Services, is designed to implement projects to protect facilities that are used to provide public services and are open to all on equal terms. These facilities must be in imminent threat of damage or failure by natural erosion processes on stream banks and shorelines, and are essential and important enough to merit Federal participation in their protection. Eligible facilities include known historic properties whose significance has been demonstrated by being listed on the National Register of Historic Places.

A Federal Interest Determination was completed by the District and approved by North Atlantic Division in FY14. Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

U.S. Army Corps of Engineers, Philadelphia District

East Point Lighthouse, NJ

- **Project Goals:** Protect the East Point Lighthouse (listed on the National Register of Historic Places) from erosive forces

.

The NJDEP Bureau of Coastal Engineering has agreed to serve as the non -Federal sponsor. The NJDEP SHPO office was able to secure a grant from NPS for $500,000 to use towards the non-Federal share.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan) as needed for completion of the Feasibility Report

NJDEP and USACE have been working with the locals and a non-profit landowner in the project area on real estate constraints. NJDEP may change the selected design alternative, materials and footprint if the non-profit landowner is not willing to allow the project to be built on their property or sign a standard easement. The non-profit landowner requested non-standard easement language that would extend the length of the study. There is not enough funding to design multiple alternatives and complete the Feasibility phase without going above the $100K in initial Federal funds. A Feasibility Cost Share Agreement needs to be signed to continue with the feasibility study.

NJDEP, the NFS, has decided to suspend the study and undertake emergency measures to protect the lighthouse with funds from the National Park Service.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)	
Feasibility	100	0	100		Allocations thru FY16	100 SANDY
					FY 17 allocation	0
					Balance to Complete	TBD

U.S. Army Corps of Engineers, Philadelphia District

Gloucester City Seawall (Proprietors Park), City of Gloucester, Camden County, NJ

- **Authority:** Section 14 of the Flood Control Act of 1946
- **Congressional Districts:** NJ-1
- **Non-Federal Sponsor:** City of Gloucester, NJ
- **Date of Project Agreement:** TBD
- **Target Completion Date:** TBD
- **Total Estimated Cost:** TBD
- **Federal Funds Appropriated:** $100,000
- **Non-Federal Share:** TBD

Aerial view of Proprietors Park, City of Gloucester, NJ

This project is authorized by Section 14 of the Flood Control Act of 1946, as amended. The purpose of Section 14 is to protect public works and non-profit public facilities from streambank and shoreline erosion. Facilities that are eligible for protection include "known historic properties whose significance has been demonstrated by a determination of eligibility for listing on, or actual listing on, the National Register of Historic Places" (ER 1105-2-100, Appendix F, Section III, F-23, b.) Federal funding for each Section 14 project is limited to $5,000,000 (as amended by Section 1030 of the Water Resources Reform and Development Act of 2014, P.L. 113-121).

The project consists of proposed bank stabilization and protection along the left bank of the Delaware River to protect Proprietors Park, which includes the park and seawall that may be eligible under the National Register of Historic Places, a Public Service Electric and Gas (PSE&G) switchyard, public marina and an adjacent subsidized senior assisted-living apartment building.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Jane L. Jablonski, P.E.
Phone: (215) 656-6588
E-mail:
Jane.L.Jablonski@usace.army.mil

U.S. Army Corps of Engineers, Philadelphia District

Gloucester City Seawall (Proprietors Park), City of Gloucester, Camden County, NJ

- **Project Goals:** The purpose of this project is to provide bank stabilization and protection along the left bank of the river to protect a public park that may be eligible under the National Register of Historic Places.

View of seawall with recent local repairs

The City of Gloucester City, NJ has observed significant deterioration of the stone seawall along the Delaware River and streambank erosion at Proprietors Park. Constant impact from the tidal waters, waves and debris of the Delaware River has loosened the cement mortar joints and dislodged stone from the bottom six feet of the seawall, creating voids in the wall and eroding backfill material from behind the wall. In 2014, one void in particular, measuring 8' wide x 3' high x 12' deep, undermined the public walkway on the landward side of the seawall. As a safety precaution, the walkway in the area of the void was closed to all vehicular and pedestrian traffic and emergency repairs were made.

The feasibility report was approved by NAD in July 2017. A PMP for the D&I phase is currently being prepared. The next step would be to execute a PPA with the City of Gloucester.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	100	0	100		FY 15 Allocation	50	
Design & Implementation	TBD	TBD	TBD		FY 16 Allocation	0	
					FY 17 Allocation	50	
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

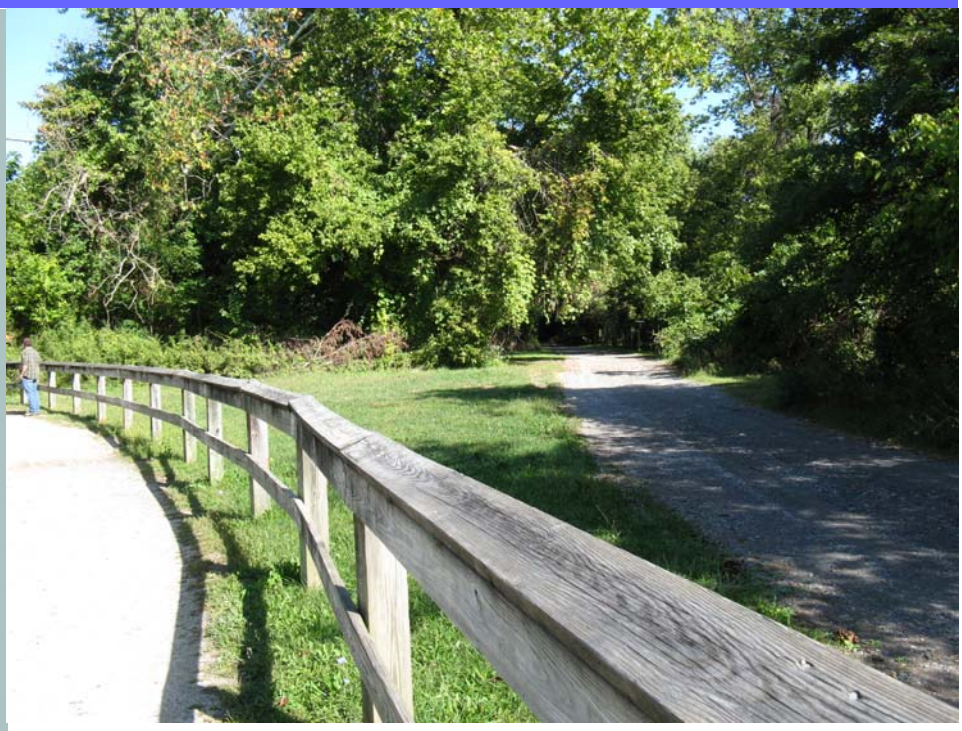
Lambertville, NJ

- **Authority:** Section 205 of the Flood Control Act of 1948
- **Congressional Districts**: NJ-7
- **Non-Federal Sponsors:** New Jersey Department of Environmental Protection
- **Date of Feasibility Cost Share Agreement:** 22 December 2016
- **Target Completion Date:** FY19
- **Total Estimated Study Cost:** $480,000
- **Federal Funds Appropriated:** $64,000
- **Non-Federal Share:** $240,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Theresa Fowler
Phone: (215) 656-6575
E-mail:
Theresa.a.fowler@usace.army.mil



Potential alignment of a floodwall in Lambertville

This study is authorized under Section 205 of the Flood Control Act of 1948, as amended.

Lambertville is a densely-developed historic community of 1.3 square miles on the Delaware River in New Jersey. It is located approximately 17 miles north of Trenton, New Jersey. A main source of flooding in the interior area of the town is backwater from the Delaware River flowing up Alexauken Creek and creating overland flooding. Alexauken Creek lies upstream toward the city's northern border and has a 15 square-mile drainage area. The overland flooding from Delaware River backwater up Alexauken Creek is the subject of the Lambertville, New Jersey, Flood Risk Management Study.

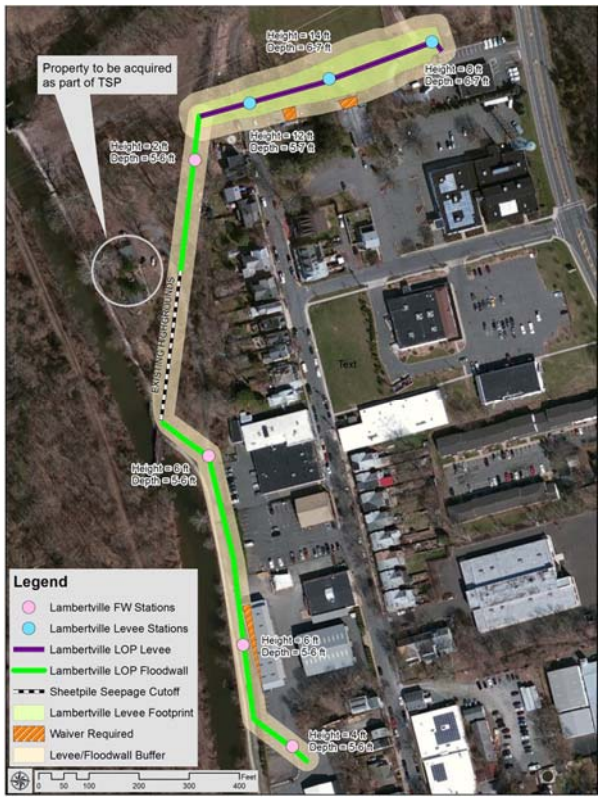
The issue of flooding in Lambertville, New Jersey, was a subject of the General Investigation (GI) Delaware River Basin Comprehensive Flood Risk Management Interim Feasibility Study and Integrated Environmental Assessment for New Jersey. The Alexauken Creek portion of the larger feasibility study has now been converted to the Continuing Authorities Program for completion of the Feasibility Phase, as well as Design and Implementation.

U.S. Army Corps of Engineers, Philadelphia District

Lambertville, NJ

- **Project Goals:** The purpose of this project is to provide flood risk management in the Alexauken Creek area of Lambertville, NJ.

The Tentatively Selected Plan includes a system of levees and floodwalls with gravity drainage outlets and the buyout and demolition of one structure riverward of the proposed line of protection

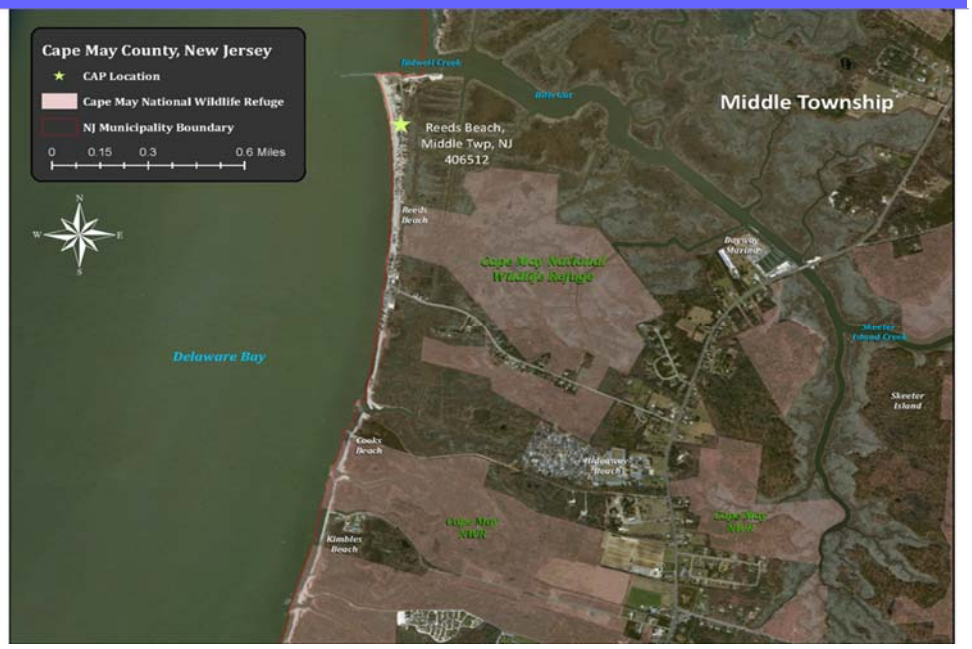


Total Estimated Study Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Total Cost	240	240	480		Allocations thru FY16	0	
					FY 17 Allocation	64	
					FY 18 Allocation	TBD	
					FY 19 Allocation	TBD	
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Middle Township (Reeds Beach), Cape May County, NJ

- **Authority:** Section 205 of the Flood Control Act of 1948 and PL 113-2
- **Congressional Districts:** NJ-2
- **Non-Federal Sponsor:** NJDEP
- **Date of Project Agreement:** TBD
- **Target Completion Date:** TBD
- **Total Estimated Study Cost:** TBD
- **Federal Funds Appropriated:** $50,000
- **Non-Federal Share:** TBD



The authority for this project is Section 205 of the Flood Control Act of 1948 (Public Law 80-858), as amended. Under this authority, USACE is authorized to plan, design, and construct small flood risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs to the feasibility study, design, and construction.

The study area is primarily composed of intermittent low dunes fronted by a narrow strip of sandy beach. Landward of the beach, marsh and wetlands extend inland from one to several tenths of a mile. The study area has historically experienced flooding problems that are caused by the combined effects of tidal events and heavy precipitation during hurricanes and major nor'easters and appear to be increasing in frequency, duration, and intensity. Extensive beach erosion has left this neighborhood vulnerable to flooding.

A Federal Interest Determination was completed by the District and approved by North Atlantic Division in FY14. Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Jane Jablonski
Phone: (215) 656-6588
E-mail:
jane.l.jablonski@usace.army.mil

U.S. Army Corps of Engineers, Philadelphia District

Middle Township (Reeds Beach), Cape May County, NJ

- **Project Goals:** The purpose of this project is to examine potential solutions to reduce the frequent flooding problems.

- **Study Status:** The study was suspended under the CAP program as the area was being investigated under the larger NJ DMU study to determine if beneficial use of dredged material for beachfill was economically feasible in this area. This area has since been dropped from the NJ DMU study due to the determination that beneficial use of dredged material in this area is not economically justified. The study will be reactivated under the CAP program to evaluate other options.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report

Reeds Beach, Middle Township, NJ

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	TBD	TBD	TBD		Allocations thru FY13	0	
Design & Implementation	TBD	TBD	TBD		FY 14 Allocation	50	SANDY
					FY 15 Allocation	0	
					FY 16 Allocation	0	
					FY 17 Allocation	0	
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Mordecai Island Coastal Wetlands Restoration, Ocean County, NJ

- **Authority:** Section 1135 of Water Resources Development Act of 1986
- **Congressional Districts:** NJ-2, NJ-3
- **Non-Federal Sponsor:** NJDEP
- **Date of Feasibility Cost Share Agreement:** April 10, 2017
- **Target Feasibility Study Completion Date:** TBD
- **Total Feasibility Study Cost:** $300,000
- **Federal Funds Appropriated:** $150,000
- **Non-Federal Share:** $150,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Theresa Fowler
Phone: (215) 656-6575
E-mail:
Theresa.a.fowler@usace.army.mil

Mordecai Island is located west of Long Beach Island near Beach Haven Borough, New Jersey and is adjacent to the New Jersey Intracoastal Waterway (NJIWW), the main navigation channel of Barnegat Bay. Erosion along the coastline pictured above.

The Mordecai Island Coastal Wetlands Restoration Project, Beach Haven, NJ is authorized under Section 1135 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, Project Modifications for Improvement of the Environment. The entire coastline of Mordecai Island has suffered from erosion; however, the western edge, adjacent to the Federal New Jersey Intracoastal Waterways navigation channel, has receded at a more substantial rate on the order of 3 - 6 ft. per year. Over the past 100 years, half the island has been lost through erosion. If nothing is done to protect the island, the erosion will continue and a highly valuable habitat, including a nesting colony of state-threatened black skimmers, will be at risk. The goal of the project is to preserve and protect Mordecai Island's diverse natural bird and marine habitats by stabilizing the shoreline and reducing future erosion and limit impacts to habitat.

Several erosion protection measures were evaluated and a 90% level design for an offshore wave barrier was completed in 2009; however, the expected wave reducing efficiency (40%) of the structure and new living shorelines rules in New Jersey prompted the sponsor to request another alternative incorporating living shorelines into the solution. Various types of hybrid living shorelines solutions (rock and vegetation) to the erosion were evaluated by USACE's Engineer Research and Development Center (ERDC).

U.S. Army Corps of Engineers, Philadelphia District

Mordecai Island Coastal Wetlands Restoration, Ocean County, NJ

- **Project Goals:** The goal of the project is to preserve and protect Mordecai Island's diverse natural bird and marine habitats by stabilizing the shoreline and reducing future erosion and limit impacts to habitat.

Continued erosion of Mordecai Island threatens an abundant diversity of natural wildlife habitats including open marsh, salt ponds, exposed mud flats, shrub-dominated areas and shallow water eelgrass beds. These habitats provide breeding, foraging, nesting and resting areas for many species of migratory birds, including shorebirds, wading birds, raptors and waterfowl. The continual erosion along the western edge of Mordecai Island threatens this rich diversity of natural habitats.

USACE's Operations Division recently beneficially placed dredged material from a shoal in the NJIWW in the breach of the island. The larger ecosystem restoration project (led by Planning) will build on this project. Planning and Operations will continue to coordinate as design progresses.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Planning & Design Analysis	493	0	493		Allocations thru FY16	493	
Feasibility	150	150	300		FY 17Allocation	150	
Design & Implementation	TBD	TBD	TBD				
Total	TBD	TBD	TBD				
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Musconetcong River Dam Removal, Bloomsbury, NJ

- **Authority:** Section 206 of the Water Resources Development Act of 1996
- **Congressional District:** NJ-7
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection, Office of Natural Resource Restoration
- **Date of Project Partnership Agreement:** May 2015
- **Target Completion Date:** May 2019
- **Total Estimated Cost:** $960,000
- **Federal Funds Appropriated:** $330,000
- **Non-Federal Share:** $336,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Adrian Leary
Phone: (215) 656-6576
E-mail:
Adrian.Leary@usace.army.mil

A view of the Bloomsbury Dam and the upstream impoundment area where natural river habitat conditions have been degraded due to the presence of the dam.

This project is authorized under Section 206 of the Water Resources Development Act of 1996, Aquatic Restoration. Work under this authority may carry out aquatic ecosystem restoration projects that will improve the quality of the environment, are in the public interest, and are cost-effective.

This project will remove the Bloomsbury Dam in an effort to restore the connectivity of 8 miles of a Federally-designated National Wild and Scenic River. This project will restore natural river ecological functions and re-establish the free passage of aquatic species including resident fish, amphibians, freshwater crustaceans, and macro invertebrates. It will also remove a hazardous impediment and improve kayaking and canoeing conditions on a river that has been identified by the NJDEP Office of Natural Lands Management in its New Jersey Trails Plan as a Waterways Trail.

The Corps completed the feasibility study and environmental assessment in April 2013 recommending partial dam removal.

U.S. Army Corps of Engineers, Philadelphia District

Musconetcong River Dam Removal, Bloomsbury, NJ

- **Project Goals:** The purpose of this project is to remove the Bloomsbury Dam in an effort to restore the connectivity of 8 miles of a Federally-designated National Wild and Scenic River.

The Project Partnership Agreement was executed in May 2015 with the New Jersey Department of Environmental Protection (NJDEP). Survey and design efforts and cultural resource coordination are currently underway.

This project is part of a larger, river-wide effort to remove dams along the Musconetcong River and restore the passage of migratory fish (shad, alewife, and herring) from the Delaware River.

The Musconetcong River has been federally designated as a National Wild and Scenic River that has outstanding ecological value in free-flowing condition. Bloomsbury Dam is one of two remaining dams on the lower Musconetcong River that acts as an impediment to migratory fish from the Delaware River. A partnership of federal and state agencies and non-profit organizations is currently conducting a feasibility study for removal of the other dam. When these two dams are removed, it will restore 13.3 miles of the Musconetcong River to its natural, free-flowing condition and allow migratory fish to access spawning habitat which they have not been able to reach for over 200 years.

An FY19 construction contract award is targeted.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	100	0	100		Allocations thru FY13	150	
Design & Implementation	624	336	960		FY 14 Allocation	50	
					FY 15 Allocation	131.3	
					FY 16 Allocation	250	
					FY 17 Allocation	0	
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Seaside Park, Ocean County, NJ

- **Authority:** Section 103 of the River and Harbor Act of 1962 and PL 113-2
- **Congressional Districts:** NJ-3
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Feasibility Cost Share Agreement:** September 2011
- **Target Completion Date:** October 2019
- **Total Estimated Study Cost:** $500,000
- **Federal Funds Appropriated:** $300,000
- **Non-Federal Share:** $200,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Adrian Leary
Phone: (215) 656-6576
E-mail:
Adrian.Leary@usace.army.mil

Bayside flood problems are a common issue in Barnegat Bay and tidal bays along New Jersey and Delaware. The solution is usually more complicated than ocean-front areas due to available land area.

The authority for this feasibility study is provided by Section 103 of the River and Harbor Act of 1962, Public Law 87-874, as amended, in accordance with the policies and procedures prescribed by the Chief of Engineers. Section 103 provides authority for the Corps of Engineers to develop and construct small beach erosion and flood risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for the feasibility study, design, and construction.

The study area is located along Barnegat Bay in the Borough of Seaside Park , Ocean County, New Jersey. Seaside Park sits on a barrier island approximately 11 miles north of Barnegat Inlet. The study area includes the bayside shoreline of the Borough of Seaside Park west of Central Avenue and is subject to frequent nuisance flooding from ocean storm surges that propagate into Barnegat Bay via Barnegat Inlet, the dominant tidal connection between the ocean and Barnegat Bay. When storm surge levels in the ocean are of sufficient duration to propagate into Barnegat Bay, the low elevation areas of Seaside Park flood directly, and wind generates waves that pulse additional water into Seaside Park.

The Corps investigated the area in 1995 in a reconnaissance report, with a recommendation to proceed with a Section 103 CAP feasibility study. The NJDEP signed a Feasibility Cost Sharing Agreement for a Section 103 CAP Study in September 2011.

U.S. Army Corps of Engineers, Philadelphia District

Seaside Park, Ocean County, NJ

- **Hurricane Sandy:** Hurricane Sandy decimated the community of Seaside Park. Response and Recovery efforts by the community was the top priority for the non-Federal sponsor. Efforts are shifting to the long-term sustainability of Seaside Park.

- **Potential Solutions:** Any solution to the flooding problem must keep bay water out of Seaside Park (structural barriers) or get people and infrastructure out of the way of water (structure elevation, relocation, etc.). The solution proposed in the 1995 Reconnaissance study of Seaside Park was a beachfill and this will be evaluated in the Feasibility study. However, the most economically efficient elevation (maximum NED benefits) of a sand fill or other barrier may not be institutionally acceptable due to esthetics. These challenges will be addressed as we move forward with the Feasibility Study.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report

The District used the damage information collected by the Borough and FEMA after Hurricane Sandy to rescope the study. The District expanded the study area to include the entire Borough of Seaside Park. The rescoping was coordinated with the local sponsor, the New Jersey Department of Environmental Protection, and the Borough of Seaside Park.

There is increased urgency to complete the Seaside Park Bayside Coastal Storm Risk Management Feasibility Study and to implement the recommendations in the wake of Hurricane Sandy within the Project Area. Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy.

Challenges

One of the technical challenges faced with the project is formulating cost-effective coastal storm risk management alternatives that are compatible with highly developed backbay shorelines. Some of the less costly alternatives for raising elevation (e.g., sand berms, geotubes, etc) may not be feasible because they require a large footprint or would interfere with existing infrastructure (docks, marinas, piers, etc). Structural options such as bulkheads, revetments, etc. could be cost prohibitive over entire project reaches.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Feasibility	300	200	500
Design & Implementation	TBD	TBD	TBD

Summarized Federal Financial Data ($000)	Regular	PL 113-2
Allocations thru FY13	390	218
FY 14 Allocation	-208	
FY 15 Allocation	0	-50
FY 16 Allocation	0	
FY 17 Allocation	0	
Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Sunset Avenue, Atlantic City, NJ

- **Authority:** Section 205 of the River and Harbor Act of 1962 and PL 113-2
- **Congressional Districts:** NJ-2
- **Non-Federal Sponsors:** City of Atlantic City, NJ
- **Date of Feasibility Cost Share Agreement:** TBD
- **Target Completion Date:** TBD
- **Total Estimated Study Cost:** TBD
- **Federal Funds Appropriated:** $100,000
- **Non-Federal Share:** 50%

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Jane Jablonski, P.E.
Phone: (215) 656-6588
E-mail:
jane.l.jablonski@usace.army.mil

The area near sunset avenue in Atlantic City is protected by a low poorly constructed rubble revetment that is easily overtopped by storm surge during flood events

This project is authorized by Section 205 of the River and Harbor Act of 1962 (PL 87-874), as amended (Flood Risk Management).

Section 205 provides authority for the Corps of Engineers to develop and construct small flood risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for feasibility study, design, and construction.

The Sunset Avenue flood risk management study area is located in Atlantic City, Atlantic County, New Jersey. The study area is located on the southwest side of the city along the back bay and the New Jersey Intracoastal Waterway (NJIWW). The study area extends from the intersection of Sunset Avenue and Atlantic Avenue, which is adjacent to the Atlantic City Expressway and the Atlantic City Train Station, to the intersection of Sunset Avenue and Albany Avenue (State Route 322). The area has an approximate length of 1 mile and extends for approximately 15 city blocks. Sunset Avenue runs directly adjacent to the back bay for portions of the study area, and in other areas residential structures, street ends, and recreational facilities lie alongside the water. The study area is primarily composed of low lying residential city streets. The area has historically experienced flooding problems which are increasing in frequency, duration, and intensity and are caused by the combined effects of tidal events and heavy precipitation during hurricanes and major nor'easters.

U.S. Army Corps of Engineers, Philadelphia District

Sunset Avenue, Atlantic City, NJ

- **Hurricane Sandy:** Hurricane Sandy impacted the community of Atlantic City in the vicinity of Sunset Avenue. Response and Recovery efforts by the Community was the top priority for the non-Federal sponsor. Efforts are shifting to the long-term sustainability of Atlantic City.

- **Potential Solutions:** Potential solutions to the issue include flood walls, vinyl bulkhead, wooden bulkhead, flood-proofing, flood warning and or evacuation of damage elements. These solutions will be evaluated in the feasibility phase.

A Federal Interest Determination was completed by the District and approved by North Atlantic Division in FY14. Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy. A FCSA needs to be executed with a non-Federal sponsor to proceed with the feasibility phase.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report

Challenges

One of the technical challenges faced with the project is formulating cost-effective flood protection alternatives that are compatible with highly developed backbay shorelines. Some of the less costly alternatives may not be feasible because they require a large footprint or would interfere with existing infrastructure (docks, marinas, piers, etc). Structural options such as bulkheads, revetments, etc. could be cost prohibitive over entire project reaches.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Feasibility	350	250	600
Design & Implementation	TBD	TBD	TBD

Summarized Federal Financial Data ($000)	
Allocations thru FY 13	0
FY 14 Allocation	50 SANDY
FY 15 Allocation	50 SANDY
FY 16 Allocation	0
FY 17 Allocation	0
Balance to Complete	TBD

U.S. Army Corps of Engineers, Philadelphia District

Trenton Marine Terminal, City of Trenton, Mercer County, NJ

- **Authority:** Section 14 of the Flood Control Act of 1946
- **Congressional Districts:** NJ-12
- **Non-Federal Sponsor:** City of Trenton
- **Date of Project Partnership Agreement:** June 2015
- **Target Completion Date:** August 2019
- **Total Estimated Cost:** $1,328,000
- **Federal Funds Appropriated:** $300,000
- **Non-Federal Share:** $430,000

Collapsed section of the pier at the Trenton Marine Terminal

This project is authorized by Section 14 of the Flood Control Act of 1946, as amended. The purpose of Section 14 is to protect public works and non-profit public facilities from streambank and shoreline erosion. Facilities that are eligible for protection include "known historic properties whose significance has been demonstrated by a determination of eligibility for listing on, or actual listing on, the National Register of Historic Places" (ER 1105-2-100, Appendix F, Section III, F-23, b.) Federal funding for each Section 14 project is limited to $5,000,000 (as amended by Section 1030 of the Water Resources Reform and Development Act of 2014, P.L. 113-121).

The project consists of proposed bank stabilization and protection along the left bank of the Delaware River to protect a public park that is listed on the National Register of Historic Places. The site will be investigated and geotechnical analyses performed to determine the cause and solution for the existing bank instability and propose an engineering solution. An environmental assessment will also be required prior to construction.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Adrian Leary
Phone: (215) 656-6576
E-mail:
Adrian.leary@usace.army.mil

U.S. Army Corps of Engineers, Philadelphia District

Trenton Marine Terminal, City of Trenton, Mercer County, NJ

- **Project Goals:** The purpose of this project is to provide bank stabilization and protection along the left bank of the river to protect a public park that is listed on the National Register of Historic Places.

The existing pier structure at the Terminal is an open wharf type, also known as a "quay" structure. It is constructed of wood piles driven below the channel bottom with a top deck that is a reinforced concrete slab and a lower deck constructed of wood sheeting on wood frame members attached to the wood piles. The area between the two decks contains backfill material and the area below the lower deck is open to water and tidal action. A concrete gravity wall is located on the waterside of the structure between the upper deck and lower deck. The Corps completed an Initial Appraisal Report (IAR) and determined there is sufficient Federal interest to pursue a project under Section 14.

A Project Partnership Agreement was executed with the City of Trenton in June 2015.

FY16 funds are being used to complete all design and environmental compliance activities necessary for construction. Environmental activities will include an Environmental Assessment that documents existing conditions and with project conditions, along with more data on potential impacts. Permits and formal coordination with resource agencies will occur as the design is being prepared and finalized. Engineering tasks will include geotechnical characterization of the project site, final project design, and a detailed cost estimate followed by award of the construction contract.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Feasibility	100	0	100
Design & Implementation	798.2	429.8	1,228

Summarized Federal Financial Data ($000)		
Allocations thru FY13	74	
FY 14 Allocation	76	
FY 15 Allocation	50	
FY 16 Allocation	110	
FY 17 Allocation	-30	
Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Ventnor, Backbay Bulkheads, NJ

- **Authority:** Section 205 of the River and Harbor Act of 1962 and PL 113-2
- **Congressional Districts:** NJ-2
- **Non-Federal Sponsors:** City of Ventnor, NJ
- **Date of Feasibility Cost Share Agreement:** TBD
- **Target Completion Date:** TBD
- **Total Estimated Study Cost:** TBD
- **Federal Funds Appropriated:** $100,000
- **Non-Federal Share:** 50%

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Jane Jablonski, PE
Phone: (215) 656-6588
E-mail:
jane.l.jablonski@usace.army.mil

This photo shows the poor condition of the bulkhead in Ventnor that leaves property and infrastructure vulnerable to storm damages.

This project is authorized by Section 205 of the River and Harbor Act of 1962 (PL 87-874), as amended (Flood Risk Management).

Section 205 provides authority for the Corps of Engineers to develop and construct small flood risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs for feasibility study, design, and construction.

The Ventnor City flood risk management study is located in Ventnor City, Atlantic County, New Jersey. The study area is located on the back bay side of Ventnor City along a Federal navigation channel known as the New Jersey Intracoastal Waterway (NJIWW) and the Inside Thorofare. The study area extends from the municipal boundary between Ventnor City and Atlantic City at the street end of North Jackson Avenue to the street end of North Surrey Avenue. The area has an approximate length of 0.5 mile and extends for approximately 12 city blocks. It is primarily composed of low lying residential city streets. The area has historically experienced flooding problems which are increasing in frequency, duration, and intensity and are caused by the combined effects of tidal events and heavy precipitation during hurricanes and major nor'easters.

U.S. Army Corps of Engineers, Philadelphia District

Ventnor, Backbay Bulkheads, NJ

- **Hurricane Sandy:** Hurricane Sandy impacted the community of Ventnor on the ocean and bay side. Response and Recovery efforts by the Community was the top priority for the non-Federal sponsor. Efforts are shifting to the long-term sustainability of Ventnor.

- **Potential Solutions:** Potential solutions to the issue include flood walls, vinyl bulkhead, wooden bulkhead, flood -proofing, flood warning and or evacuation of damage elements. These solutions will be evaluated in the feasibility phase.

A Federal Interest Determination was completed by the District and approved by North Atlantic Division in FY14. Funds were received from the Disaster Relief Appropriations Act of 2013, Public Law 113-2, enacted to assist in the recovery in the aftermath of Hurricane Sandy. A Feasibility Cost Share Agreement needs to be executed with a non-Federal sponsor to proceed with the feasibility phase.

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report

Challenges

One of the technical challenges faced with the project is formulating cost-effective flood protection alternatives that are compatible with highly developed backbay shorelines. Some of the less costly alternatives may not be feasible because they require a large footprint or would interfere with existing infrastructure (docks, marinas, piers, etc). Structural options such as bulkheads, revetments, etc. could be cost prohibitive over entire project reaches.

Discussions with the City of Ventnor are currently ongoing with regard to sponsorship of the feasibility study.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)	
Feasibility	350	250	600		Allocations thru FY13	0
Design & Implementation			TBD		FY 14 Allocation	50 SANDY
					FY 15 Allocation	50 SANDY
					FY 16 Allocation	0
					FY 17 Allocation	0
					Balance to Complete	TBD

Upper Delaware River Watershed, Livingston Manor, NY

- **Authority:** Section 205 of the Flood Control Act of 1948
- **Congressional District:** NY-19
- **Non-Federal Sponsor:** NYSDEC
- **Date of Feasibility Cost Share Agreement:** March 1, 2018
- **Report Study Completion Date:** FY 2018
- **Feasibility Study Completion Cost:** $50,000
- **Federal Funds Appropriated:** $25,000
- **Non-Federal Share:** $25,000

Downtown flooding in the Livingston Manor Hamlet, Town of Rockland, NY caused by severe flooding in 2006. The project gained momentum after this event, although the original project was a result of $15 Million in damages back in 1996.

The authority for this project is Section 205 of the Flood Control Act of 1948 (Public Law 80-858), as amended. Under this authority, USACE is authorized to plan, design, and construct small flood risk management projects. Each project is limited to a Federal cost of not more than $10 million, including all project related costs to the feasibility study, design, and construction.

The recurring flooding problem in the Livingston Manor area have been documented since the late 1800s with significant events recorded in June 1969, June 1973, January 1996, November 1996, September 2004, April 2005, June 2006, and September 2012. Typical damages include inundation of residential and commercial structures, as well as erosion of roads, retaining walls, and bridge abutments. In addition, some of the storms have resulted in the loss of local bridges. From the January 1996 storm alone, Sullivan County reported infrastructure damages of $5,500,000 and property damages of $4,400,000.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Mark Eberle
Phone: (215) 656-6562
E-mail:
Mark.d.eberle@usace.army.mil

Upper Delaware River Watershed, Livingston Manor, NY

- **Project Goals:** The purpose of this project is to evaluate flood risk management for the Little Beaver Kill and Willowemoc Creek in the Town of Rockland (Livingston Manor).

The objectives of the Feasibility Phase of the project are to:

- Prepare the Feasibility Report for the project
- Prepare an Environmental Assessment and NEPA documentation for the project
- Prepare a Project Management Plan (PMP) for the Design and Implementation Phase
- Develop other supporting plans (e.g. Real Estate Plan, Value Engineering, etc.) as needed for completion of the Feasibility Report

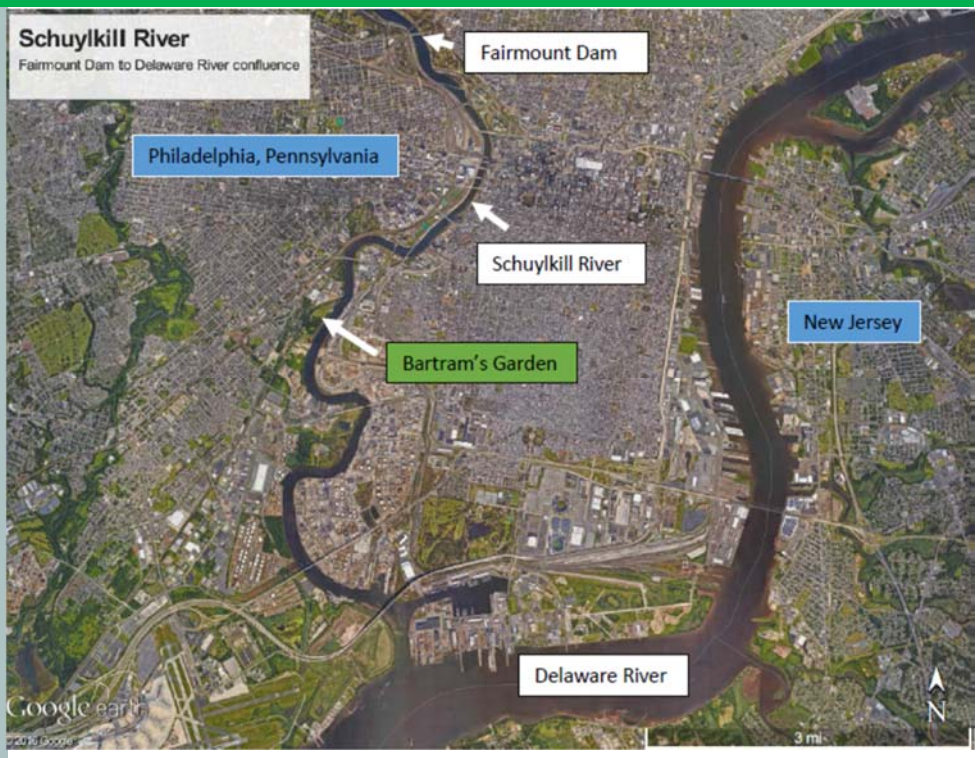
A FCSA was executed with the NFS on March 1, 2018 to complete the feasibility study under the Continuing Authorities Program. This study was converted from the larger more comprehensive General Investigations Program to the smaller scale Continuing Authorities Program for completion of the feasibility study and design and implementation.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility Study Completion (Livingston Manor)	25	25	50		Allocations thru FY17	0	
					FY 18 Allocation	25	
					Balance to Complete	0	

U.S. Army Corps of Engineers, Philadelphia District

Schuylkill River Aquatic Ecosystem Restoration, PA (Bartram's Garden)

- **Authority:** Section 1135 of the Water Resources Development Act of 1986
- **Congressional Districts:** PA-1
- **Non-Federal Sponsor:** Bartram's Garden
- **Date of Project Agreement:** TBD
- **Target Completion Date:** TBD
- **Total Estimated Study Cost:** TBD
- **Federal Funds Appropriated:** $50,000
- **Non-Federal Share:** TBD



Project Area

This project is authorized under Section 1135 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, Project Modifications for Improvement of the Environment.

The goal of the study will be to restore mudflats and wetland habitat degraded by the creation of the Corps Maintenance Dredging, Schuylkill River, Mouth to University Avenue, Pennsylvania Project.

The project will be located at Bartram's Garden. Bartram's Garden is a 46 acre botanical garden located on the west bank of the Schuylkill River in Philadelphia, Pennsylvania, near the intersection of 54th Street and Lindbergh Boulevard. The aquatic ecosystem restoration project will focus on the riverfront portion of Bartram's Garden, where there is a significant stretch of waterfront that has not been bulkheaded and still maintains some natural characteristics.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Theresa Fowler
Phone: (215) 656-6575
E-mail:
Theresa.a.fowler@usace.army.mil

U.S. Army Corps of Engineers, Philadelphia District

Schuylkill River Aquatic Ecosystem Restoration, PA (Bartram's Garden)

- **Project Goals:** The purpose of this project is to restore subtidal, intertidal and supratidal habitat, including wetlands and mussel beds.

Potential wetlands restoration area at Bartram's Garden. (The hatchery is being pursued by other parties.)

Bartram's Garden is the non-Federal sponsor. A draft PMP and FCSA are currently under development to initiate the feasibility study.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	TBD	TBD	TBD		FY16 Allocation	50	
Design & Implementation	TBD	TBD	TBD		FY 17 Allocation	0	
Total	TBD	TBD	TBD		FY 18 Allocation	TBD	
					FY 19 Allocation	TBD	
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Schuylkill Watershed Restoration, Counties of Schuylkill and Berks, PA

- **Authority:** Section 204 of the Water Resources Development Act of 1992, as amended.
- **Congressional Districts:** PA-1, PA-2, PA-6, PA-7, PA-8, PA-11, PA-13, PA-15, PA-16, PA-17
- **Non-Federal Sponsor:** PADEP
- **Date of Project Agreement:** None required
- **Target Completion Date:** TBD
- **Total Estimated Cost:** $400,000
- **Federal Funds Appropriated:** $135,000
- **Non-Federal Share:** None required

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Daniel Caprioli
Phone: (215) 656-6880
E-mail:
Daniel.J.Caprioli@usace.army.mil

A degraded stream that has been impacted by acid mine run off from an abandoned coal mine.

This study is authorized under Section 204 of the Water Resources Development Act of 1992, as modified by Section 2037 of WRDA 2007. This authority allows USACE to collaborate with a State in the preparation of a comprehensive State or regional sediment management (RSM) plan within the boundaries of the State. RSM provides the basis for a systems wide approach to sediment management to quantify and manage sediment sources and sinks, minimize dredging requirements and more effectively utilize dredged material as a resource. As a planning and management tool, RSM is a means to identify and involve multiple stakeholders to integrate data on sources of dredged sediment, demands for sediment, and impacts on commerce and the environment to both promote the beneficial uses of dredged sediment and to streamline dredging projects. Using this approach, project managers can use RSM as a tool to decrease overall lifecycle dredging costs while utilizing dredged material in a more environmentally sensitive and cost effective manner.

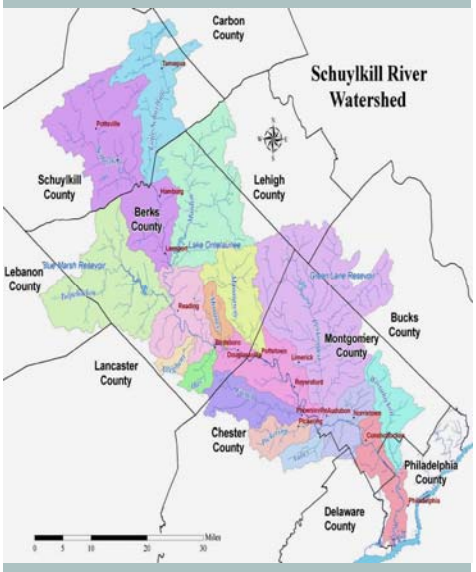
This is a 100% Federally funded study-only authority.

U.S. Army Corps of Engineers, Philadelphia District

Schuylkill Watershed Restoration, Counties of Schuylkill and Berks, PA

- **Project Goals:** The purpose of this project is to develop a regional sediment management (RSM) plan for the Upper Schuylkill River Watershed.

PADEP has requested USACE assistance in the preparation of a RSM Plan for the Upper Schuylkill River Watershed in Berks and Schuylkill Counties from the Kernsville Dam upstream to the watershed headwaters. This project involves the development of a RSM tool for implementing regional strategies to address ongoing sediment management issues at previously constructed desilting pools located throughout the basin. Opportunities in these areas include ecosystem restoration through either the direct removal of dredged sediments from aquatic habitats or through beneficial use of these dredged materials to restore nearby degraded habitats. Removal of the dredged material could also re-establish floodplain functions which may reduce local flood damages for existing disadvantaged communities within the Schuylkill River basin. The development of this important tool is needed to address the ongoing sedimentation, environmental, and flooding concerns and could potentially help revitalize an economically depressed region of Pennsylvania.



Schuylkill Watershed - A map of the Schuylkill River Watershed.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Feasibility	400	0	400		Allocations thru FY13	35	
					FY 14 Allocation	50	
					FY 15 Allocation	50	
					FY 16 Allocation	0	
					FY 17 Allocation	0	
					Balance to Complete	TBD	

THIS PAGE LEFT BLANK INTENTIONALLY

US ARMY CORPS OF ENGINEERS
Building Strong

US Army Corps
of Engineers
Philadelphia District

Construction General (CG)

Construction, General (CG)

Construction projects are construction and major rehabilitation projects that relate to navigation, flood control, water supply, hydroelectric power, and environmental restoration. This also includes projects authorized under the Continuing Authorities Program (CAP).

- Environmental Infrastructure
- Environmental Restoration or Compliance
- Flood and Storm Damage Reduction
- Flood Control
- Hydropower
- Navigation
- Other Authorized Project Purposes (including but not limited to Environmental Restoration or Compliance, Environmental Infrastructure, and Hydropower)
- Shore Protection

Color Code	
State	**Color**
Delaware	Red
New Jersey	Blue
New York	Black
Pennsylvania	Green
Multiple	Purple

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bay Coastline, Broadkill Beach, DE

- **Authority:** Section 101 of the Water Resources Development Act of 1999
- **Congressional District:** DE-AL
- **Non-Federal Sponsor:** Delaware Department of Natural Resources and Environmental Control
- **Date of Project Agreement: TBD**
- **Target Completion Date:** 2054
- **Total Estimated Cost:** $160.6M
- **Federal Funds Appropriated:** $683,000
- **Non-Federal Share:** $130,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Scott Evans
Phone: (215) 656-6680
E-mail:
scott.r.evans@usace.army.mil

Aerial View of Broadkill Beach, DE

This project was authorized by the House Committee Resolution dated 01 October 1986.

The Delaware Bay Coastline, DE & NJ – Broadkill Beach, DE project was authorized for construction by Title I, Section 101 (a) (11) of WRDA 1999. The plan proposed in the final feasibility report for flood and coastal storm damage reduction at Broadkill Beach is a 100 foot wide berm with an elevation of +8.0 feet NGVD, and a dune with an elevation of +16.0 feet NGVD over a total project length of 14,600 feet. The selected plan includes dune grass, dune fencing and suitable advance beach fill and periodic nourishment every five years to ensure the integrity of the design. The estimated initial project cost is $14.3 million. The PED phase was completed in FY01 and consisted of completion of detailed plans and specifications for those features recommended in the feasibility report.

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bay Coastline, Broadkill Beach, DE

- **Project Goals:** The purpose of this project provides forhurricane and coastal storm damage reduction at Broadkill Beach, dune grass, dune fencing, and suitable advance beach fill and periodic nourishment every five years.

As part of the initial construction of the Delaware River Main Channel Deepening there was an opportunity to complete initial construction of the Broadkill project as a beneficial use of dredge material project. The Corps completed the work with DNREC and the local community on the necessary coordination and real estate requirements. The contract to complete initial construction was awarded under the Delaware Deepening project on 6 June 2014. Construction began on 30 Apr 2015 and was completed in March 2016.

The next step for the Broadkill project is to complete a Limited Reevaluation Report (LRR) indicating that initial construction was completed as beneficial use of dredge material by the Delaware Deepening. The District is currently completing the Draft LRR. Once approved the LRR will be used to support the development of the Project Partnership Agreement (PPA). A LRR is a post authorization study that evaluates a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken. The PPA will be necessary for future re-nourishment. A Draft PPA has been developed and provided to the sponsor for review.

Timeline	Start	Complete	Comments
Initial Construction	Jan 2015	Mar 2016	
2nd Renourishment Cycle	FY21 (Sched)		Dependent on execution of PPA & adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Total Construction	104,400	56,179	160,579		Allocations thru FY16	683	
					FY 17 Allocation	0	
					FY 18 Budget	0	
					FY 18 Work Plan	TBD	
					FY 19 Budget	0	President's Budget
					Balance to Complete	103,717	

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bay Coastline, Port Mahon, DE

- **Authority:** Title I, Section 101 (a)(12) of the Water Resources Development Act of 1999
- **Congressional District:** DE-AL
- **Non-Federal Sponsor:** Delaware Department of Natural Resources and Environmental Control.
- **Date of Project Partnership Agreement:** TBD
- **Target Completion Date:** TBD
- **Total Estimated Cost:** 14.2M Initial Construction
- **Federal Funds Appropriated:** $1,098,000
- **Non-Federal Share:** $125,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Scott Evans
Phone: (215) 656-6680
E-mail:
scott.r.evans@usace.army.mil

Overview of Project Site — Port Mahon, DE

The Delaware Bay Coastline, DE & NJ – Port Mahon, DE project was authorized for construction by Title I, Section 101 (a) (12) of WRDA 1999.

The plan proposed in the final feasibility report for the purpose of flood and coastal storm damage reduction and ecosystem restoration at Port Mahon consists of a 5,200 foot long beach fill with periodic nourishment to provide for horseshoe crab and shorebird habitat. It also includes raising State Road 89 for a distance of 7,500 feet and placing riprap along a 1,200 foot length of the road to protect wetlands, and restoring 21.4 acres of degraded wetland habitat west of the road. The estimated initial project cost is $13.1 million. The PED phase was completed in FY01 with finishing detailed plans and specifications for those features recommended in the feasibility report.

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bay Coastline, Port Mahon, DE

- **Project Goals:** The purpose of this project provides hurricane and coastal storm damage reduction and ecosystem restoration at Port Mahon, with a beach fill and periodic nourishment to provide for horseshoe crab and shorebird habitat.

Funds have not been received for this project since FY 2007. A Limited Reevaluation Report (LRR) was completed and approved in May 2006. LRR are post authorization studies that evaluate a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken.

Initiation of construction is dependent on the establishment of adequate funding. The next steps toward initial construction once adequate funding is received is to update the LRR; develop, approve and execute the Project Partnership Agreement; acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contract. The Office of Management and Budget (OMB) provided a clearance letter for this project to the Assistant Secretary of the Army for Civil Works in June 2008.

In order to proceed, the Corps requires additional funding to initiate and complete the LRR. Additionally, Hurricane Sandy struck the Mid-Atlantic coastline in October 2012 causing widespread damage. The Corps will need to assessment any impacts from this event when the LRR is funded and updated to adjust initial construction costs based on changed initial conditions resulting from the storm.

Timeline	Start	Complete	Comments
Initial Construction	TBD	TBD	Dependent on Adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Initial Construction	8,501	5,733	14,234

Summarized Federal Financial Data ($000)		
Allocations thru FY16	1,098	
FY 17 Allocation	0	
FY 18 Budget	0	
FY 18 Work Plan	TBD	
FY 19 Budget	0	President's Budget
Balance to Complete	7,403	

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bay Coastline, Roosevelt Inlet-Lewes Beach, DE

- **Authority:** Title I, Section 101 (a)(13) of the Water Resources Development Act of 1999.
- **Congressional District:** DE-AL
- **Non-Federal Sponsor:** Delaware Department of Natural Resources and Environmental Control.
- **Date of Project Partnership Agreement:** 1 Nov 2002
- **Target Completion Date:** 2053
- **Total Estimated Cost:** $26.0M
- **Federal Funds Appropriated:** $9,889,000
- **Non-Federal Share:** $3,256,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Scott Evans
Phone: (215) 656-6680
E-mail:
scott.r.evans@usace.army.mil

Beach along Delaware Bay Coastline between Roosevelt Inlet and Lewes Beach

The Delaware Bay Coastline, DE & NJ – Roosevelt Inlet-Lewes Beach, DE project was authorized for construction by Title I, Section 101 (a) (13) of WRDA 1999.

The plan proposed in the final feasibility report for the purposes of flood and coastal storm damage reduction and navigation mitigation is a 100-foot-wide berm at an elevation of +8.0 feet NAVD, and a dune at an elevation of +14.0 feet NAVD over a total project length of 1,400 feet. The selected plan includes dune grass, dune fencing and suitable advance beach fill and periodic nourishment every six years to ensure the integrity of the design. The plan also provides for reconstruction of the south jetty at Roosevelt Inlet.

Initial placement of beachfill was completed September 2004 while dune crossovers, sand fence, and dune grass were completed in December 2004. Artifacts were discovered on the beach during the dredging and subsequent beach placement operation. As a result, the District completed Phase 1 and 2 cultural investigations.

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bay Coastline, Roosevelt Inlet-Lewes Beach, DE

- **Project Goals:** The purpose of this project provides hurricane and coastal storm damage reduction and navigation mitigation at Roosevelt-Lewes Beach, which includes dune grass, dune fencing, and suitable advance beach fill and periodic nourishment every six years.

A portion of the FY 11 funds were used to award a contract to complete the 2nd renourishment cycle. The Contract was awarded in September 2011 and construction was completed in Jan 2012.

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 utilized to complete a Project Information Report (PIR). The report did not recommend proceeding beyond the PIR because the damages to the project did not qualify for assistance under PL 84-99. A PIR Addendum was developed and approved which concluded the project was eligible for P.L. 113-2 Disaster Relief Appropriations Act (Hurricane Sandy) funding to restore the project to design template. A construction contract to restore the project was awarded 19 Jul 2013. Work began in mid Oct 2013 & was completed on 6 Nov 2013.

This project was damaged by the Jan 2016 Nor'easter. A Project Information Report (PIR) under the authority of PL 84-99 was completed. Ultimately it was determined that this project did not qualify for FCCE repair funds. However, FY17 Supplemental CG funds were provided which will allow for a contract to complete the 3rd periodic renourishment. This contract was a truckfill contract and awarded in Sep 2017. Construction began in Dec 2017 and was completed in Jan 2018.

Any FY18 Work Plan funds would be used for project monitoring.

Timeline	Start	Complete	Comments
Initial Construction		Dec 2004	
2nd Periodic Nourishment Cycle	Nov 2011	Jan 2012	
FCCE Emergency (Sandy)	Oct 2013	Nov 2013	
3rd Periodic Nourishment Cycle	Dec 2017	Jan 2018	
4th Periodic Nourishment Cycle	FY 2023 (S)		Dependent on receipt of adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Construction	20,000	5,958	25,958		Allocations thru FY16	8,939	
					FY 17 Allocation	950	CG Supplemental funds
					FY 18 Budget	0	
					FY 18 Work Plan	TBD	
					FY 19 Budget	0	President's Budget
					Balance to Complete	10,111	

U.S. Army Corps of Engineers, Philadelphia District

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

- **Authority:** Title I, Section 101 (a)(15) of the Water Resources Development Act of 1999
- **Congressional District:** DE-AL
- **Non-Federal Sponsor:** Delaware Department of Natural Resources and Environmental Control.
- **Date of Project Agreement: 26 Jul 2006**
- **Target Completion Date:** 2057
- **Total Estimated Cost:** $265.5M
- **Federal Funds Appropriated:** $36.378M
- **Non-Federal Share:** $17.4M

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Michael Hart
Phone: (215) 656-6513
E-mail:
michael.f.hart@usace.army.mil

Beach Nourishment along beachfront (Bethany Beach/South Bethany, DE)

Authorized under the Senate Committee Resolution, 23 June 1988. Project authorized for construction by Title I, Section 101 (a) (15) of WRDA of 1999.

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.

Initial construction was completed in June 2008. FY11 funds were used to award a contract to complete the 2nd 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.

U.S. Army Corps of Engineers, Philadelphia District

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

- **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.

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. The next renourishment cycle was scheduled for FY16 but adequate funding has not been secured.

This project was damaged by the Oct 2015 & Jan 2016 Nor'easters. A Project Information Report (PIR) & PIR Addendum under the authority of PL 84-99 were completed which recommended repair and restoration of the project. The PIR & Addendum were ultimately approved by Corps HQUSACE. PL 84-99 funds have been received for engineering and design, plans and specification & construction. Additionally, FY17 Work Plan funds of $6.5M & FY17 CG Supplemental funds of $4.0M have been received. The FCCE funds will only be for construction to minimum design template while to Work Plan & Supplemental CG funds will be used to complete 3rd renourishment. The contract was advertised in Aug 2017 and awarded in Sep 2017. Construction is scheduled to begin in May 2018. Contract also includes Fenwick Island beachfill.

Timeline	Start	Complete	Comments
Initial Construction		Jun 2008	
Emergency Work	Jan 2009	Jun 2009	
2nd Periodic Nourishment	Oct 2011	Oct 2011	Bethany (March 11) & South Bethany (Oct 11)
FCCE Emergency (Sandy)	Aug 2013	Sep 2013	
FCCE Emergency (Oct 2015 & Jan 2016)	May 2018 (S)	Jun 2018 (S)	Contract awarded in Sep 2017
3rd Periodic Nourishment	May 2017 (S)	Jun 2018 (S)	Contract awarded in Sep 2017
4th Periodic Nourishment	FY2020 (Sched)		Dependent on receipt of adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Construction	172,600	92,910	265,510		Allocations thru FY16	25,878	
					FY 17 Allocation	10,500	Incl $4M in CG Supplemental funds
					FY 18 Budget	0	
					FY 18 Work Plan	TBD	
					FY 19 Budget	0	President's Budget
					Balance to Complete	136,222	

U.S. Army Corps of Engineers, Philadelphia District

Delaware Coast, Cape Henlopen to Fenwick Island, DE

- **Authority:** Water Resources Development Act of 2000.
- **Congressional District:** DE-AL
- **Non-Federal Sponsor:** Delaware Department of Natural Resources and Environmental Control.
- **Date of Project Partnership Agreement:** 13 Sep 2004
- **Target Completion Date:** 2054
- **Total Estimated Cost:** $142,079M
- **Federal Funds Appropriated:** $10.327M
- **Non-Federal Share:** $6.622M

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Michael Hart
Phone: (215) 656-6513
E-mail:
michael.f.hart@usace.army.mil

The plan includes dune grass, dune fencing, and suitable advance beach fill and periodic nourishment every four years to ensure the integrity of the design. Photo of Fenwick Island looking South.

This project is authorized under the Senate Committee Resolution, 23 June 1988. Project authorized for construction is included in the Water Resourced Development Act (WRDA) of 2000.

The plan proposed in the final feasibility report for flood and coastal storm damage reduction at Fenwick Island is a 200-foot wide berm with an elevation of +7.7 feet NAVD, and a dune with an elevation of +17.7 feet NAVD over a total project length of 6,500 feet. The plan includes dune grass, dune fencing, and suitable advance beach fill and periodic nourishment every four years to ensure the integrity of the design.

Initial construction was completed in November 2005. Limited funds have been received since FY 08. These funds have been used for project monitoring. The 2nd periodic nourishment cycle originally scheduled for FY 09 will be rescheduled for FY17 which is 4 years from the completion of the repair and restoration work in response to Hurricane Sandy. The 4 years is based on the approved periodic renourishment cycle.

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.

U.S. Army Corps of Engineers, Philadelphia District

Delaware Coast, Cape Henlopen to Fenwick Island, DE

- **Project Goals:** The purpose of this project provides for hurricane and coastal storm damage reduction at Fenwick Island, with a berm and a dune, that includes dune grass, dune fencing, a beach fill, and periodic nourishment every four years.

A contract to complete the repairs and restoration required due to the damage of Hurricane Sandy was awarded on 25 June 2013. Pumping began in mid-July 13 & was completed on 9 August 2013.

This project was damaged by the Jan 2016 Nor'easter. A Project Information Report (PIR) under the authority of PL 84-99 were completed which recommended repair and restoration of the project. This PIR was ultimately approved by Corps HQUSACE. PL 84-99 funds have been received for engineering and design, plans and specification & construction. Additionally, FY17 Work Plan funds of $4.0M & FY17 CG Supplemental funds of $1.9M have been received. The FCCE funds will only be for construction to minimum design template while to Work Plan & Supplemental CG funds will be used to complete 2nd renourishment. The contract was advertised on 15 Aug 2017 and awarded in Sep 2017. Construction is scheduled to begin in May 2018. Contract also includes Bethany/South Bethany beachfill.

Timeline	Start	Complete	Comments
Initial Construction	Sep 2004	Nov 2005	
FCCE Emergency (Sandy)	Jul 2013	Aug 2013	
FCCE Emergency (Jan 2016)	May 2018 (S)	Jun 2018 (S)	Contract awarded in Sep 2017
2nd Periodic Nourishment	May 2018 (S)	Jun 2018 (S)	Contract awarded in Sep 2017
3rd Periodic Nourishment	FY 2021 (Sched)		Dependent on receipt of adequate funding.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	71,932	70,148	142,079

Summarized Federal Financial Data ($000)		
Allocations thru FY16	4,427	
FY 17 Allocation	5,900	Incl $1.9M in CG
FY 18 Budget	0	
FY 18 Work Plan	TBD	
FY 19 Budget	0	President's Budget
Balance to Complete	61,605	

U.S. Army Corps of Engineers, Philadelphia District

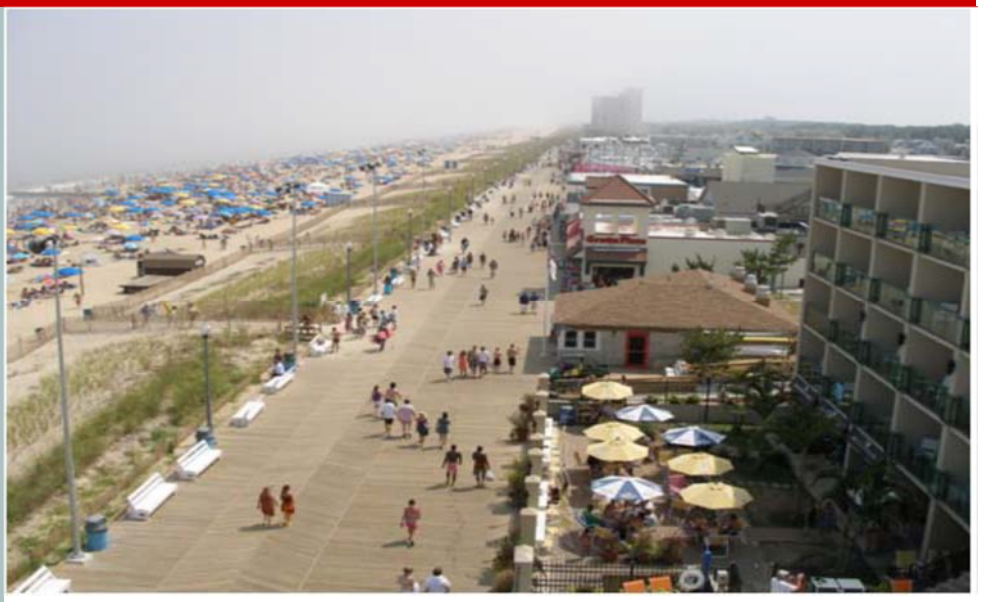
Delaware Coast, Cape Henlopen to Fenwick Island: Rehoboth Beach/Dewey Beach, DE

- **Authority:** Section 101 (b)(6) of the Water Resources Development Act of 1996 with a modification in WRDA 2000.
- **Congressional District:** DE-AL
- **Non-Federal Sponsor:** Delaware Department of Natural Resources and Environmental Control.
- **Date of Project Partnership Agreement:** 19 Dec 2003
- **Target Completion Date:** 2054
- **Total Estimated Cost:** $124.0M
- **Federal Funds Appropriated:** $31.85M
- **Non-Federal Share:** $14.0M

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Michael Hart
Phone: (215) 656-6513
E-mail:
michael.f.hart@usace.army.mil



A view of the beach looking South.

Authorized under the Senate Committee Resolution, 23 June 1988. Project authorized by Section 101 (b)(6) of WRDA 1996 and modified by Section 307 of WRDA 2000.

The plan proposed in the final feasibility report for the purpose of flood and coastal storm damage reduction at Rehoboth Beach and Dewey Beach consists of one continuous project, from the northern end of Rehoboth Beach to the southern border of Dewey Beach, a distance of 13,500 linear feet. Along Rehoboth Beach, the plan provides for a 125-foot wide berm at elevation +7.2 feet NAVD and a dune at elevation +13.2 feet NAVD. At Dewey Beach, the project would transition to a 150-foot wide berm at elevation +7.2 feet NAVD and a dune at elevation +13.2 feet NAVD. 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. The PED phase consisted of the completion of detailed plans and specifications for those features recommended in the feasibility report.

The beachfill portion of initial construction was completed in July 2005 with the other project features, including dune grass, dune fencing and crossovers completed in January 2006. FY08 funds were used to award a contract to initiate the 2nd periodic nourishment cycle. Due to limited funds, only Dewey Beach received renourishment. FY11 funds were used to modify the FCCE contract to complete the 2nd periodic nourishment cycle (originally scheduled for 09).

FY 12 funds were used to permanently extend three outfalls that were covered after the completion of the renourishment. Work on these outfall extension was completed in July 2013.

U.S. Army Corps of Engineers, Philadelphia District

Delaware Coast, Cape Henlopen to Fenwick Island: Rehoboth Beach/Dewey Beach, DE

- **Project Goals:** The purpose of this project provides hurricane and coastal storm damage reduction at Rehoboth Beach and Dewey Beach, with a berm, a dune for each beach, including dune grass, dune fencing, beach fill and periodic nourishment every three years.

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.

The Corps awarded the contract for FCCE Sandy work on 25 June 2013. Pumping was completed on 3 Nov 2013. Crossover, etc repairs were completed in Mar 2014.

FY15 work plan funds were used to award the 3rd periodic nourishment contract on 16 Jul 16. Pumping began in Nov 2016 & was completed in Dec 2016. Outfall extension, sand fence & dune grass were completed in Apr 17.

This project was damaged by the Oct 2015 & Jan 2016 Nor'easters. A Project Information Report (PIR) & PIR Addendum under the authority of PL 84-99 were completed which recommended repair and restoration of the project. The PIR & Addendum were ultimately approved by Corps HQUSACE. However, it was determined that the recently completed renourishment would take the project to construction template so there will be no FCCE work.

Timeline	Start	Complete	Comments
Initial Construction		Jan 2006	
2nd Periodic Nourishment	Nov 2008	Jun 2009	Dewey Beach only
2nd Periodic Nourishment	Oct 2011	Feb 2012	
FCCE Emergency (Sandy)	Jun 2013	Nov 2013	
3rd Periodic Nourishment	Nov 2016	Dec 2016	Complete
4th Periodic Nourishment	FY 2019 (Sched)		Dependent on receipt of adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	78,613	45,406	124,019

Summarized Federal Financial Data ($000)		
Allocations thru FY16	31,858	
FY 17 Allocation	0	
FY 18 Budget	0	
FY 18 Work Plan	TBD	
FY 19 Budget	0	President's Budget
Balance to Complete	46,755	

U.S. Army Corps of Engineers, Philadelphia District

Delaware Coast Protection, Sand Bypass Plant, Indian River Inlet, DE

- **Authority:** Flood Control Act, Water Resources Development Act of 1986
- **Congressional District:** DE-AL
- **Non-Federal Sponsor:** Delaware Department of Natural Resources and Environmental Control.
- **Date of Project Partnership Agreement:** 26 Oct 1988
- **Target Completion Date:** On-going construction thru 2039
- **Total Estimated Cost:** $31.7M
- **Federal Funds Appropriated:** $10.8M
-
- **Non-Federal Share:** $1.6M

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Michael Hart
Phone: (215) 656-6513
E-mail:
michael.f.hart@usace.army.mil

Indian River Inlet, Delaware, looking to the north showing the portable sand bypass system excavating a hole in the south fillet at the inlet. The system consists of a crane that holds an educator pump that removes sand from the beach face, two pumps to move the sand over the bridge, and a discharge line on the north side that discharges the sand onto the beach (where it looks wet in the photo).

This project is authorized by the Flood Control Act of 1968 and the Water Resources Development Act of 1986 (P.L. 99-662). The plan of improvement consists of constructing a sand bypassing plant and operation of said plant for periodic nourishment of a feeder beach (approximately 100,000 cubic yards of sand, annually) to nourish approximately 3,500 feet of feeder beach on the north side of the inlet and protect the Delaware Route 1 highway. The nourishment is authorized until September 2021.

Funding of $690K was provided in FY 14. These funds were used to reimburse the State of Delaware for the Federal portion of the operation and recent repairs of the sand bypass plant. Funds were also utilized for project monitoring.

Funding of $390K was provided in FY 15. These funds were used to reimburse the State of Delaware for the Federal portion of the operation and recent repairs of the sand bypass plant. Funds were also utilized for project monitoring.

U.S. Army Corps of Engineers, Philadelphia District

Delaware Coast Protection, Sand Bypass Plant, Indian River Inlet, DE

- **Project Goals:** The purpose of this project provides for construction of a sand bypassing beach plant, and operation of the plant for periodic nourishment of a feeder beach.

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 utilized 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 15 May 2013. Physical construction began in July 2013 and completed on 12 November 2013.

FY15 funds were also used to award a contract for pump house renovations. Contract was awarded on 19 Feb 16. Construction began in June 2016 and was completed in March 2017. Remaining funds are being used for project monitoring and to reimburse the State of Delaware for the Federal portion of the operation and recent repairs of the sand bypass plant.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Construction	14,060	17,624	31,684		Allocations thru FY16	10,831	
					FY 17 Allocation	0	
					FY 18 Budget	0	
					FY 18 Work Plan	TBD	
					FY 19 Budget	0	President's Budget
					Balance to Complete	3,229	

U.S. Army Corps of Engineers, Philadelphia District

Cape May Inlet to Lower Township, NJ

- **Authority:** PL 168 of Rivers and Harbor Act of 1907 & PL 99-662 of the Water Resources Development Act of 1986
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Partnership Agreement:** 1 Nov 1988
- **Target Completion Date:** 2039
- **Total Estimated Cost:** $146.8M
- **Federal Funds (including USCG) Appropriated:** $58.5M
- **Non-Federal Share:** $4.926M

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Dwight Pakan
Phone: (215) 656-6785
E-mail:
Dwight.a.pakan@usace.army.mil

Completion of initial construction and continued periodic nourishment by the Corps maintains a beach in Cape May after it was lost to erosion over the years.

LOCATION: The project is located on the Atlantic coast of New Jersey in Cape May County, extending from the southwest jetty of Cape May Inlet to 3rd Ave. in Cape May City. It includes the communities of the City of Cape May and Lower Township, and the US Coast Guard Training Center.

PROJECT DESCRIPTION: The project provides flood and coastal storm damage reduction to the above-mentioned communities and USCG Training Center. The project consists of initial beachfill (25 to 180-foot wide berm at elevation +8 feet NGVD) with periodic nourishment on a 2-year cycle, extension of 17 storm water outfalls, reconstruction of 7 groins and construction of two new groins, and a shoreline monitoring program for the project area. Construction of a 2,560-foot rubble mound weir-breakwater is deferred pending demonstration of need.

STATUS: FY 11 funds were used to complete the 9th periodic nourishment cycle. This contract was awarded in September 2011 and completed in January 2012. The 10th periodic nourishment cycle originally scheduled for FY 13 will be rescheduled 2 years from the completion of the repair and restoration work currently scheduled and described below in response to Hurricane Sandy. The 2 years is based on the periodic re-nourishment cycle.

U.S. Army Corps of Engineers, Philadelphia District

Cape May Inlet to Lower Township, NJ

- **Project Goals:** The purpose of this project provides hurricane and coastal storm damage reduction to the communities and USCG Training center.

Between October 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. FCCE - Flood Control and Coastal Emergencies 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 in Apr 2013 with physical construction beginning in Nov 2013 and completed on 18 Jan 14.

The 10th renourishment contract was awarded on 28 Sep 2016. Construction began in Jan 2017 & completed in Apr 2017. NJ requested rehab assistance due to Jan 16 Nor'easter. A Project Information Report (PIR) was completed using FCCE PL 84-99 funds which recommended repair & restoration. PIR was approved HQUSACE. However, it was determined that the on-going renourishment would take the project to construction template so there will be no FCCE work.

FY18 Budgeted funds are being used for project monitoring. FY19 Budgeted funds will be used to complete the 11th renourishment cycle.

Timeline	Start	Complete	Comments
Initial Construction		Jul 1991	
8th Periodic Nourishment	Oct 2008	Mar 2009	Truck fill
9th Periodic Nourishment	Oct 2011	Jan 2012	
FCCE EMERGENCY (Sandy)	Nov 2013	Jan 2014	
10th Periodic Nourishment	Jan 2017	Apr 2017	
11th Periodic Nourishment	Sched for FY 2018		Funding is in the FY19 President's Budget

Total Estimated Project Cost ($000)	Corps ($000)	USCG	FEDERAL	NON-FEDERAL	TOTAL
Construction	84,963	52,418	137,382	9,438	146,819

Summarized Federal (Corps) Financial Data ($000)		
Allocations thru FY16	44,335	
FY 17 Allocation	0	
FY 18 Budget	200	Under O&M
FY 18 Work Plan	TBD	
FY 19 Budget	7,200	President's Budget under O&M
Balance to Complete	33,228	

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bay Coastline, DE & NJ, Oakwood Beach , NJ

- **Authority:** Title I, Section 101 (b)(5) of the Water Resources Development Act of 1999
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Agreement:** 6 May 14
- **Target Completion Date:** 2064
- **Total Estimated Cost:** $55.1M
- **Federal Funds Appropriated:** $12.6M (including Sandy CG Funding)
- **Non-Federal Share:** $110,682

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Dwight Pakan
Phone: (215) 656-6785
E-mail:
dwight.a.pakan@usace.army.mil

Oakwood Beach, NJ — Project Area

The Oakwood Beach, NJ project was authorized for construction by Title I, Section 101 (b) (5) of WRDA 1999.

The plan for flood and coastal storm damage reduction at Oakwood Beach is a 50-foot wide berm at an elevation of +6.0 feet NAVD over a project length of 9,500 lineal feet. The plan includes suitable advance beach fill and periodic nourishment every eight years to ensure the integrity of the design. The source of sand for the initial construction and periodic nourishment is the Delaware River Main channel. This project is not a component of the Delaware River Main Channel Deepening project. The estimated initial project cost is $12 million.

FY 01 funds of $222,000 were used to complete PED. FY12 funds were reprogrammed into the project to conduct project development team meetings and sponsor coordination. Between October 27 & 30, 2012, Hurricane Sandy caused damage to the Delaware coast from Lewes Beach to Fenwick Island and up the Delaware Bay. In response, 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 (Act).

This project was determined to be eligible for P.L. 113-2 2013 Disaster Relief Appropriations Act (Hurricane Sandy) funds as an Authorized but Unconstructed project. The term “authorized but unconstructed project” refers to previously authorized projects for which no physical construction has occurred as well as projects that contain elements where construction has not been completed.

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bay Coastline, DE & NJ, Oakwood Beach , NJ

- **Project Goals:** The purpose of this project provides hurricane and coastal storm damage reduction at Oakwood Beach, which includes a suitable advance beach fill and periodic nourishment every eight years.

In FY13 & FY14 $600,000 in PL 113-2 funds were provided to begin the process towards initiation and completion of initial construction. These funds were used to complete the necessary steps towards initial construction. These steps included completing the Hurricane Sandy Limited Reevaluation Report (HSLRR); develop, approve and execute the Project Partnership Agreement (PPA); acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contract.

A LRR is a post authorization study that evaluates a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken.

For this project a HSLRR specific to Hurricane Sandy was completed & approved which recommended moving forward with initial construction under PL 113-2. This HSLRR was used to support the development of a PPA which was executed on 6 May 14.

All the necessary real estate acquisitions were completed along with the plans and specifications for the contract. The contract to initiate and complete initial construction was then awarded in Sep 14. Pumping of sand began on 12 Nov 14 & was completed on 22 Dec 14. 354kcy of sand was placed. Outfalls & access construction were completed in May 2015. Sandy funds (PL 113-2) totaling $11.6M were used to complete initial construction at 100% Federal. Based on PL 113-2 this project required the non-Federal sponsor to reimbursed 35% (~$4.2M) of the initial construction costs. The sponsor reimbursed the government in Mar 2016.

Currently no Regular Construction General funds have been appropriated to monitor the project now since initial construction completion..

Timeline	Start	Complete	Comments
Initial Construction	Nov 2014	May 2015	
2nd Periodic Nourishment	FY 2023 (Sched)		Dependent on receipt of adequate funds

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000) (Regular CG Funds)		
Construction	35,071	20,001	55,072		Allocations thru FY16	332	
Sandy P.L. 113-2 CG funds of $12.3M were rec'd to complete initial construction.					FY 17 Allocation	0	
					FY 18 Budget	0	
					FY 18 Work Plan	0	TBD
					FY 19 Budget	0	President's Budget
					Balance to Complete	22,439	Accounts for Sandy CG funds

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bay Coastline, DE & NJ, Reeds Beach and Pierces Point, NJ

- **Authority:** Title I, Section 101 (b)(6) of the Water Resources Development Act of 1999.
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Partnership Agreement:** TBD
- **Target Completion Date:** TBD
- **Total Estimated Cost:** $10.91M
- **Federal Funds Appropriated:** $1,039,000
- **Non-Federal Share:** $108K

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Dwight Pakan
Phone: (215) 656-6785
E-mail:
Dwight.a.pakan@usace.army.mil

Delaware Bay Coastline between Reeds Beach and Pierces Point

The Reeds Beach and Pierces Point project was authorized for construction by Title I, Section 101 (b) (6) of WRDA 1999.

The plan for the purpose of ecosystem restoration at Reeds Beach and Pierces Point is an 80-foot wide berm at an elevation of +5.5 feet NAVD over a project length of 6,800 feet. The plan entails a one-time placement of sand for horseshoe crab and shorebird habitat.

With the FY 2006 funds, the Corps completed a Limited Reevaluation Report (LRR) in July 2006. Limited Re-valuation Reports (LRR) are post authorization studies that evaluate a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken. The LRR for this project updated costs and demonstrated continued project viability.

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bay Coastline, DE & NJ, Reeds Beach and Pierces Point, NJ

- **Project Goals:** The purpose of this project is to provide ecosystem restoration at Reeds Beach and Pierces Point, with a one-time placement of sand for horse-shoe crab and shorebird habitat.

FY 2006 funds were also used to develop a Draft Project Partnership Agreement. This project has not received funding since FY 06. The initiation of initial construction is dependent on the establishment of an adequate funding stream. The next steps toward initial construction once adequate funding is received is to update the 2006 LRR; approve and execute the Project Partnership Agreement; acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contract.

In order to proceed, the Corps requires additional funding to initiate and complete the LRR. Additionally, Hurricane Sandy struck the Mid-Atlantic coastline in October 2012 causing widespread damage. The Corps will need to assessment any impacts from this event when the LRR is updated to adjust initial construction costs based on changed initial conditions resulting from the storm.

Horseshoe Crabs

Timeline	Start	Complete	Comments
Initial Construction	TBD	TBD	Dependent on Adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Construction	6,340	4,573	10,913		Allocations thru FY16	1,039	
					FY 17 Allocation	0	
					FY 18 Budget	0	
					FY 18 Work Plan	TBD	
					FY 19 Budget	0	President's Budget
					Balance to Complete	5,301	

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bay Coastline, DE & NJ, Villas and Vicinity, NJ

- **Authority:** Title I, Section 101 (a)(14) of the Water Resources Development Act. Of 1999.
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Partnership Agreement:** TBD
- **Target Completion Date:** TBD
- **Total Estimated Cost:** $17.3M
- **Federal Funds Appropriated:** $1,277,000
- **Non-Federal Share:** $255,000

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Dwight Pakan
Phone: (215) 656-6785
E-mail:
Dwight.a.pakan@usace.army.mil

Delaware Bay in the vicinity of the Villas.

Authorized under Title I, Section 101 (a) (14) of WRDA 1999.

The plan for the purpose of ecosystem restoration at Villas and Vicinity is an 80-foot wide berm over a project length of 29,000 feet. The plan entails a one-time placement of sand for horseshoe crab and shorebird habitat.

FY04 funds were added to initiate construction. FY06 funds were used to continue the Limited Reevaluation Report (LRR). LRR are post authorization studies that evaluate a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken. For this project the LRR updated costs and demonstrated a continued project viability.

This project has not received funding since FY 06. The initiation of initial construction is dependent on the establishment of an adequate funding stream. The next steps toward initial construction once adequate funding is received is to complete the LRR; develop, approve and execute the Project Partnership Agreement; acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contract.

U.S. Army Corps of Engineers, Philadelphia District

Delaware Bay Coastline, DE & NJ, Villas and Vicinity, NJ

- **Project Goals:** The purpose of this project provides ecosystem restoration at Villas and the Vicinity, with a one-time placement of sand for horse-shoe crab and shorebird habitat.

In order to proceed, the Corps requires additional funding to initiate and complete the LRR. Additionally, Hurricane Sandy struck the Mid-Atlantic coastline in October 2012 causing widespread damage. The Corps will need to assessment any impacts from this event when the LRR is funded and updated to adjust initial construction costs based on changed initial conditions resulting from the storm.

Timeline	Start	Complete	Comments
Initial Construction	TBD	TBD	Dependent on Adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Construction	11,050	6,243	17,293		Allocations thru FY16	1,277	
					FY 17 Allocation	0	
					FY 18 Budget	0	
					FY 18 Work Plan	TBD	
					FY 19 Budget	0	President's Budget
					Balance to Complete	9,773	

U.S. Army Corps of Engineers, Philadelphia District

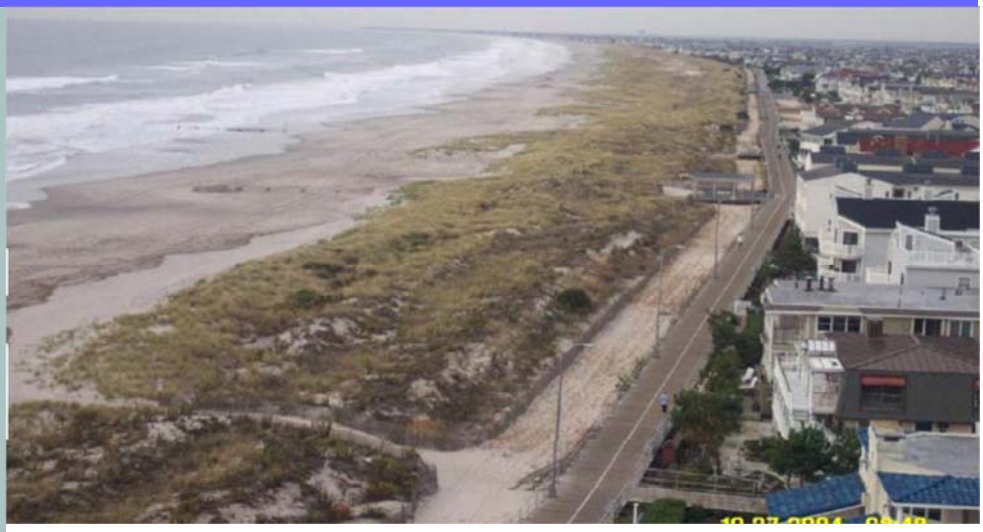
Great Egg Harbor and Peck Beach (Ocean City), NJ

- **Authority: Committee** Resolution on Dec 15, 1970 under the provisions of Section 201 of P.L. 89-298 &r Section 831(1) of the WRDA of 1986, P.L. 99-662
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Partnership Agreement:** 18 September 1991
- **Target Completion Date:** 2041
- **Total Estimated Cost:** $580.3M
- **Federal Funds Appropriated:** $83.5M
- **Non-Federal Share:** $45.0M

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Dwight Pakan
Phone: (215) 656-6785
E-mail:
Dwight.a.pakan@usace.army.mil



Shortly after the completion of initial construction, the City of Ocean City planted beach grass and installed sand fence to encourage dune growth. Years later, as shown above, continued periodic nourishment by the Corps has allowed the same area to expand into a substantial dune field.

Authorized by the Committee Resolution on December 15, 1970 under the provisions of Section 201 of P.L. 89-298. Project reauthorized with provisions for construction of separable elements under Section 831(1) of the Water Resources Development Act of 1986, P.L. 99-662.

The project consists of providing initial beach fill, with subsequent periodic nourishment, with a minimum berm width of 100 feet at an elevation of +8.0 National Geodetic Vertical Datum (NGVD). The beach fill extends from Surf Road southwest to 34th Street with a 1,000-foot taper south of 34th Street. This plan required the initial placement of approximately 6.2 million cubic yards of material and subsequent periodic nourishment of approximately 1.1 million cubic yards every 3 years. The material for the initial construction and periodic nourishment is being taken from the ebb shoal area located approximately 5,000 feet offshore of the Great Egg Harbor Inlet. This periodic dredging of the ebb shoal area will help alleviate the navigation difficulties in the inlet. Additionally, the initial construction of the project required the extension of 38 storm drain pipes.

Between October 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. Flood Control and Coastal Emergencies (FCCE) funds under Public Law 84-99 were utilized to complete a Project Information Report (PIR). The results of the PIR determined that the project was eligible for FCCE funds to repair the project to pre-storm conditions. The PIR was approved, funding provided and the previously awarded renourishment contract was modified to complete the repairs and renourishment concurrently. Physical construction was completed in May 2013. The repairs and renouirshment brought the project back to the design template.

Great Egg Harbor and Peck Beach (Ocean City), NJ

- **Project Goals:** For the purpose of hurricane and storm damage reduction, this project provides a beach fill with periodic nourishment, and a berm along Surf Road southwest to 34th Street in great Egg Harbor and Peck Beach.

This project was damaged by the Jan 2016 Nor'easter. A Project Information Report (PIR) under the authority of PL 84-99 were completed which recommended repair and restoration of the project. This PIR was ultimately approved by Corps HQUSACE. PL 84-99 funds have been received for engineering and design, plans and specification & construction. Additionally, FY17 Work Plan funds of $6.5M & FY17 CG Supplemental funds of $4.0M have been received. The FCCE funds will only be for construction to minimum design template while to Work Plan & Supplemental CG funds will be used to complete 8th renourishment. The contract was advertised in Jul 2017 and awarded in Sep 2017. Construction began in Nov 2017 & was completed in Dec 2017. $4M in excess FY17 CG Supplemental will be returned as they were to be used, if needed, for the FY 17 FCCE/8th periodic nourishment contract.

Phase	Start	Complete	Comments
Initial Construction (Ph I)		Oct 1992	
Initial Construction (Ph II)		Mar 1993	
Storm Rehab		Jul 1993	
1st Periodic Nourishment (Ph I)		Dec 1994	
1st Periodic Nourishment (Ph II)		Aug 1995	
2nd Periodic Nourishment		Oct 1997	
3rd Periodic Nourishment		Dec 2000	
4th Periodic Nourishment		Feb 2004	
5th Periodic Nourishment		Mar 2010	
6th Periodic Nourishment		May 2013	
FCCE EMERGENCY (Sandy)		May 2013	
7th Periodic Nourishment	Nov 2015	Dec 2015	
FCCE Emergency (Oct 15 & Jan 16)	Nov 2017	Dec 2017	
8th Periodic Nourishment	Nov 2017	Dec 2017	
9th Periodic Nourishment	FY 2020 (Sched)		Dependent on receipt of adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Construction	377,220	203,118	580,338		Allocations thru FY16	73,067	
					FY 17 Allocation	10,500	Incl $4M in CG Supplemental which are to be returned as excess.
					FY 18 Budget	0	
					FY 18 Work Plan	0	
					FY 19 Budget	0	President's Budget
					Balance to Complete	293,653	

U.S. Army Corps of Engineers, Philadelphia District

Hereford Inlet to Cape May Inlet, NJ

- **Authority:** House Resolution, Committee on Public Works and Transportation and PL 113-2 & WRDA 2016
- **Congressional Districts:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Partnership Agreement:** 17 Jan 17
- **Target Completion Date:** Dec 2019 (Initial Construction)
- **Total Estimated Cost:** $109,806,000 ($22,804,000 Initial & $87,002,000 Renourishment)
- **Federal Funds Appropriated:** $1,006,000 Sandy CG Funds.
- **Non-Federal Share:** $0 (CG Cost Share)
- **Civil Works Review Board** 21 August 2014

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Mike Hart
Phone: (215) 656-6513
E-mail:
Michael.f.hart@usace.army.mil

The photo to the left shows the extend of the North Wildwood Beach from July 1989. The photo to the right from 2004 of the same area demonstrates the extent of the erosion that has taken place since 1989.

Authorized under House Resolution, Committee on Public Works and Transportation and PL 113-2 & WRDA 2016, Section 1401.

The Hereford Inlet to Cape May General Investigation was undertaken by authority of The New Jersey Shore Protection Study, by resolutions adopted within the Committee on Public Works and Transportation of the U.S. House of Representatives and the Committee on Environment and Public Works of the U.S. Senate in December 1987.

The project area consists of the municipalities of North Wildwood, Wildwood, Wildwood Crest and Lower Township. These municipalities are vulnerable to storm damage all year round from a combination of hurricanes and nor'easters. The project area will be restricted to the beachfront, and tapered at the southern and northern ends at Hereford Inlet and the USFW/Coast Guard properties. The Non-Federal sponsor is the New Jersey Department of Environmental Protection (NJDEP).

The project successfully completed a Civil Works Review Board on 21 Aug 2014 and obtained a signed Chief's Report on 23 Jan 2015. Following Congressional notification, the district began the Planning Engineering and Design (PED) phase and executed a Project Partnership Agreement (PPA) with NJDEP on 17 Jan 17.

U.S. Army Corps of Engineers, Philadelphia District

Hereford Inlet to Cape May Inlet, NJ

Project Goals: The purpose of this project is to reduce erosion and storm damage for the municipalities on Five Mile Island. The design includes a berm and dune extending from North Wildwood to the discontinuous dunes in Wildwood and Wildwood Crest using sediment backpassing technology. The creation of a continuous dune and berm from Hereford Inlet to Cape May Inlet will reduce risk from coastal storms.

Backpassing Technology: Provides high quality beach sand as an alternative to offshore borrow areas, reduces beach maintenance, has lower emissions than traditional dredging and will not impact cultural or environmental resources within Hereford Inlet.

The City of North Wildwood is experiencing significant erosion of its berm and dune. What was the largest beach in the state now suffers from tidal flooding and wave run-up over a formerly protective beach. The municipality of North Wildwood has lost approximately 1,000 feet of beach during the past 5-10 years.

In contrast to North Wildwood, sand accretion in Wildwood and Wildwood Crest is causing extensive maintenance problems and health hazards with their storm water management system. The excess sand clogs storm-water outfalls, creates pools of stagnant water, produces unhealthy beach conditions and causes associated interior flooding . During combined periods of heavy rain and high waves the City can not access the outfalls for excavation and rainwater becomes trapped within the pipes. The subsequent high volume discharge of impounded storm water can also cause spikes in poor water quality.

The recommended plan includes a berm and dune system along the Atlantic Coast for the communities of North Wilwood, Wildwood, Wildwood Crest & Lower Twp. The total project length is approximately 25,000 feet with a dune elevation would be 16 feet. The project would be accomplished by backpassing sand from those areas along the project in Wildwood and Wildwood Crest that have an excess accumulation. The project includes periodic renourishment.

Utilizing FY16 Sandy CG funds the Design Phase was initiated. Since the PPA was executed the sponsor has begun to acquire the necessary real estate to construct the project. It is expected that real estate acquisition could take a year or two to obtain. Therefore it is anticipated that construction would not start until at least Spring 2019.

Total Estimated Project Cost ($000)	**FEDERAL**	**NON-FEDERAL**	**TOTAL**
Initial Construction	14,823	7,981	22,804
Renourishment	43,501	43,501	87,002
Total	58,324	51,482	109,806

$1,006,000 in Sandy CG funds have been provided for the Design Phase. As this project is a Sandy project the expectation is that if there are adequate Sandy funds initial construction would be funded through that program. There are no current Regular CG capabilities until initial construction is complete.

Summarized Federal Financial Data ($000) Construction General			
	Regular	**Sandy**	
Thru FY16	0	1,006	
FY 17 Allocation	0	0	
FY 18 Budget	0	0	
FY 18 Work Plan	0	0	No capability for Reg CG
FY 19 Budget	0	0	President's Budget
Balance to Complete		57,318	

U.S. Army Corps of Engineers, Philadelphia District

New Jersey Shore Protection, Barnegat Inlet to Little Egg Inlet, NJ

- **Authority:** Section 101 (a)(1) of the Water Resources Development Act of 2000
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Partnership Agreement:** 17 Aug 2005 (PCA)/20 Jul 2014 PPA
- **Target Completion Date:** 2055
- **Total Estimated Cost:** $696.8M
- **Federal Funds Appropriated:** $227.8M (Includes Sandy CG Funds)
- **Non-Federal Share:** $29.7M

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Keith Watson
Phone: (215) 656-6287
E-mail:
keith.d.watson@usace.army.mil

Left: Harvey Cedars Beach fill Initial Construction Right: Harvey Cedars Completed Dune Section

Authorized under the WRDA 2000, Section 101(a) (1).

The project will provide hurricane and coastal storm damage reduction with a beachfill and dune along the oceanfront of Long Beach Island.

FY 06 funds were used to award a contract in Sep 2006 for project construction in Surf City and a portion of Ship Bottom. FY07 funds were used to complete this portion of the project. FY08 and FY09 funds were used to prepare for and award an initial construction contract at Harvey Cedars. This contract was awarded in Sep 2009 and completed in June 2010. Additionally Supplemental funds totaling $15.7M were received in FY08. These funds were used for Munitions and Explosives of Concern (MEC) Phase III response in Surf City and are not considered project costs. MEC Phase III response was successfully completed in May 2009. FY10 funds were used for project monitoring. FY11 funds were used to award a contract in Sep 2011 to complete the Brant Beach portion of the project. Construction was completed in Jun 2012.

Between Oct 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. In response, 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 (Act).

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.

As a result of the storm FCCE funds under Public Law 84-99 were used to complete a Project Information Report (PIR) & PIR Addendum for the completed portions of the project. The results of the PIR & Addendum determined that the project was eligible for FCCE funding to repair & restore the project to pre-storm conditions & design template. PL 113-2 funds were used to award a contract for the repairs and restoration Apr 2013. Repairs & restoration began in Apr 2013 with pumping complete in Aug 2013.

New Jersey Shore Protection, Barnegat Inlet to Little Egg Inlet, NJ

- **Project Goals:** The purpose of this project provides hurricane and coastal storm damage reduction with a beach fill and dune along the oceanfront of Long Beach Island.

This project is also considered an on-going Authorized but Unconstructed project under P.L. 113-2 Disaster Relief Appropriations Act (Hurricane Sandy). The term "authorized but unconstructed project" refers to previously authorized projects for which no physical construction has occurred as well as projects that contain elements where construction has not been completed. Therefore, the remaining initial construction portions of the project may be eligible to be completed at 100% Federal with no sponsor payback.

In FY13, FY14 & FY15 $1.3M has been received to complete the necessary steps to construct initial construction to include completion of Limited Reevaluation Report (LRR), approve and execute a new Project Partnership Agreement (PPA); acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contracts. For this project a HSLRR specific to Hurricane Sandy was completed & approved which recommended moving forward with initial construction under PL 113-2. This HSLRR was used to support the development of a PPA which was executed on 20 Jul 14.

The contract to initiate and complete initial construction was awarded on 5 Dec 14. Physical construction began in Spring 2015 & was completed in May 2017. Sandy funds (PL 113-2) totaling $168.3M were rec'd to complete initial construction. During initial construction the project was impacted by Oct 15 and Jan 16 nor'easters. Contract was modified to repair areas impacted by the storms. All pumping & placement was completed in Nov 2016. Ancillary work was completed in May 2017. Based on PL 113-2 initial construction was at 100% Federal with no sponsor payback.

For previously (prior to Sandy—Harvey Cedars, Surf City & Brant Beach) completed project segments that were damaged by the Oct 2015 and Jan 2016 Nor'easters, a Project Information Report (PIR) and a PIR Addendum under the authority of PL 84-99 were completed which recommended repair and restoration of the project. The PIR & Addendum were ultimately approved by Corps HQUSACE. PL 84-99 funds have been received for engineering and design, plans and specification & construction. Additionally, FY17 CG Supplemental funds of $16.8M have been received. The FCCE funds are being used for construction to minimum design template while to Supplemental CG funds are being used to complete 2nd renourishment. The contract was awarded on 25 Sep 2017. Construction scheduled to begin in Mar 2018.

TIMELINE	Start	Complete	Comments
Initial Construction	Month/Year	Month/Year	Surf City
Initial Construction	Sep 2009	Spring 2010	Harvey Cedars
MEC Phase III Response	Jan 2009	May 2009	Surf City
Emergency Rehab (FCCE)	Jun 2011	Dec 2011	Surf City
Initial Construction	Mar 2012	Jun 12	Brant Beach
FCCE Emergency (Sandy)	Apr 2013	Aug 2013	
Initial Construction Completion	Spring 2015	May 2017	
FCCE Emergency (Oct 15 & Jan 16)	Mar 2018 (Sched)	Jun 2018 (Sched)	Contract awarded Sep 2017
2nd Nourishment Cycle	Mar 2018 (Sched)	Jun 2018 (Sched)	Contract awarded Sep 2017

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	517,995	178,852	696,847

Sandy P.L. 113-2 CG funds of $168.3M were rec'd to complete initial construction.

Summarized Federal Financial Data ($000) (Regular CG Funds)		
Allocations thru FY16	42,652	
FY 17 Allocation	16,800	Supplemental CG
FY 18 Budget	0	
FY 18 Work Plan	TBD	
FY 19 Budget	0	President's Budget
Balance to Complete	290,243	Accounts for Sandy CG Funds

U.S. Army Corps of Engineers, Philadelphia District

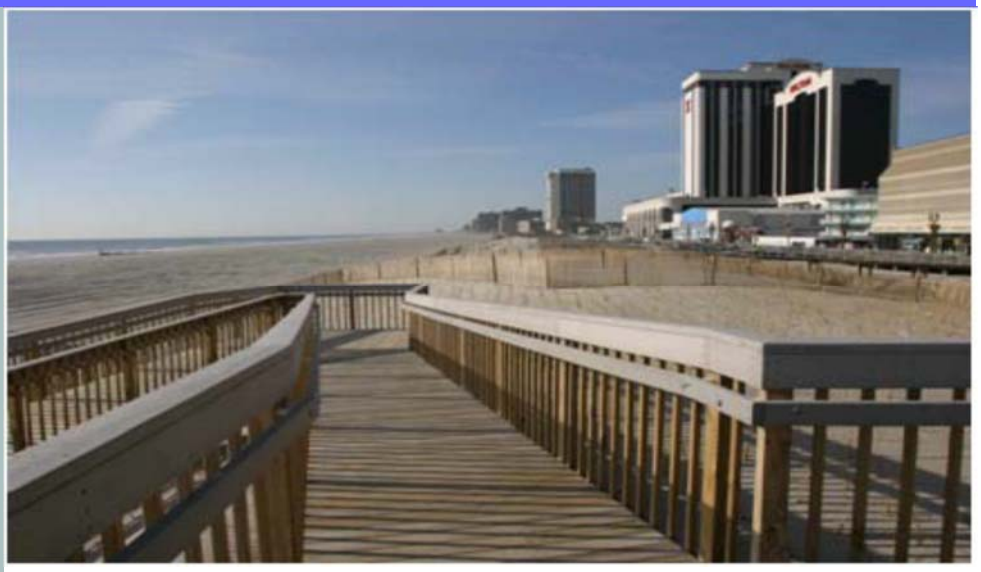
New Jersey Shore Protection, Brigantine Inlet to Great Egg Harbor Inlet, Absecon Island, NJ

- **Authority:** Water Resources Development Act of 1996
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Agreement:** 31 Jul 2003 (PCA) & 23 Jun 14 (PPA)
- **Target Completion Date:** 2053
- **Total Estimated Cost:** $782.7M
- **Federal Funds Appropriated:** $147.3M (Includes Sandy CG funds)
- **Non-Federal Share:** $23.8035M

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Keith Watson
Phone: (215) 656-6287
E-mail:
keith.d.watson@usace.army.mil



Absecon Island - Completed Handicap Dune Crossing.

This project was authorized under the Water Resources Development Act (WRDA) of 1996.

The project provides flood and coastal storm damage reduction along Absecon Island. The selected plan includes beach fill, with a 200-foot-wide berm and a dune to elevation +14.75 feet for Atlantic City and a 100-foot wide berm and a dune to elevation 12.75 for Ventnor, Margate and Longport. The plan also includes 0.3 miles of bulkhead construction along the Absecon Inlet frontage of Atlantic City.

Initial construction of the beachfill in Atlantic City and Ventnor City was completed in Jun 2004. The second nourishment cycle was scheduled for FY07 but did not receive funding. Funding provided in FY08, FY09 and FY10 were inadequate to initiate the second nourishment cycle. FY11 funds were used to award a contract to complete the 2nd renourishment cycle. The contract was awarded in Sep 2011with construction completed in Jun 2012. FY12 funds were used for project monitoring and completion of the Plans & Specifications for the construction of the initial section of the Atlantic City bulkhead. This contract was originally advertised on 28 Aug 2012. However, based on contractor questions and necessary design changes in light of Hurricane Sandy in Oct 2012 the advertisement was delayed.

Between Oct 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. In response, 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 (Act).

As a result of the storm FCCE funds under Public Law 84-99 were used to complete a Project Information Report (PIR) & PIR Addendum for the completed portions of the project. The results of the PIR & Addendum determined that the project was eligible for FCCE funding to repair & restore the project to pre-storm conditions & design template. PL 113-2 funds were used to award a contract for the repairs and restoration Apr 2013. Repairs & restoration began in Jul 2013 with pumping complete on 12 Dec 2013.

This project is also an on-going Authorized but Unconstructed project under P.L. 113-2 Disaster Relief Appropriations Act (Hurricane Sandy). The term "authorized but unconstructed project" refers to previously authorized projects for which no physical construction has occurred as well as projects that contain elements where construction has not been completed. Therefore, the remaining initial construction portions of the project may be eligible to be completed at 100% Federal with no sponsor payback. These components include Atlantic City Bulkhead and beachfills at Margate & Longport.

New Jersey Shore Protection, Brigantine Inlet to Great Egg Harbor Inlet, Absecon Island, NJ

- **Project Goals:** The purpose of this project provides hurricane and coastal storm damage reduction along Absecon Island, beach fills with berm. and dunes.

In FY13, FY14 & FY15 $950K was received to complete the necessary steps to construct initial construction to include completion of Limited Reevaluation Report (LRR), approve and execute a new Project Partnership Agreement (PPA); acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contracts. For this project a HSLRR specific to Hurricane Sandy was completed & approved which recommended moving forward with initial construction under PL 113-2. This HSLRR was used to support the development of a PPA which was executed on 23 Jun 14.

All the necessary real estate acquisitions were completed along with the plans and specifications for the Beachfill (Margate & Longport) & bulkhead contracts. Bulkhead contract was awarded in Dec 2014. Construction began in Aug 2015 & is expected to be completed in Apr 2018. Beachfill contract had been delayed due to real estate challenges and acquisition. In Jul 2016 sponsor acquired all the necessary real estate for Margate & Longport. This allowed for the joint contract for the initial construction of Margate & Longport with Sandy funding and renourishment of Atlantic City & Ventnor with Regular CG funds to be advertised in Aug 2016. The contract was awarded 23 Nov 16. Construction began on the renourishment in May 2017 & completed in Aug 2017. Construction on the remaining initial construction in Margate & Longport began in Margate in Jul 2017. Margate pumping was completed in Jan 2018. Pumping in Longport is expected to be completed in Mar 2018. During construction it was recognized that the storm water drainage plan which included drainage ponds was not functioning as anticipated. After an investigation the decision was made to construct a storm water management system consisting of collection basins, manifold pipes, manholes, & ocean outfalls as a project feature. Construction began in Feb 2018 & will continue until Apr 2019. Sandy funds (PL 113-2) totaling $102.45M have been rec'd to complete initial construction (Bulkhead & Beachfill of Margate & Longport). Also included in initial construction is the Margate storm water management system. Based on PL 113-2 initial construction is at 100% Federal with no sponsor payback.

FCCE funds were used to complete a PIR as a result of damages incurred from Oct 15 nor'easter/ Hurricane Joaquin & Jan 16 nor'easter to the previously completed initial construction features (Atlantic City & Ventnor Beachfills). Draft PIR recommendation was to repair project. However, project rec'd FY16 CG Work Plan funds so FCCE funding was not necessary as FY17 renourishment contract took the project to design template.

Timeline	Start	Complete	Comments
Initial Construction		Jun 2004	Atlantic City & Ventnor
2nd Periodic Nourishment Cycle	Mar 2012	Jun 2012	Atlantic City & Ventnor
FCCE Emergency (Sandy)	Jul 2013	Dec 2013	Atlantic City & Ventnor
3rd Periodic Nourishment Cycle	May 2017	Aug 2017	Atlantic City & Ventnor
Initial Construction	Jul 2017	Mar 2018 (S)	Margate & Longport (Margate Storm Water System sched to be completed Apr 2019
4th Periodic Nourishment Cycle	FY 2020 (Sched)		Dependent on receipt of adequate funding

Total Estimated Project Cost ($000)	Federal	Non-Federal	Total
Construction	531,811	250,0937	782,748
Sandy funds (PL 113-2) totaling $102.45M have been rec'd to complete initial construction including Atlantic City Bulkhead, Beachfill at Margate & Longport & Margate Storm Water Management System.			

Summarized Federal Financial Data ($000) Regular CG Funding		
Allocations thru FY16	59,803	
FY 17 Allocation	0	
FY 18 Budget	0	
FY 18 Work Plan	0	No capability
FY 19 Budget	0	President's Budget
Balance to Complete	369,558	Accounts for Sandy CG funds

U.S. Army Corps of Engineers, Philadelphia District

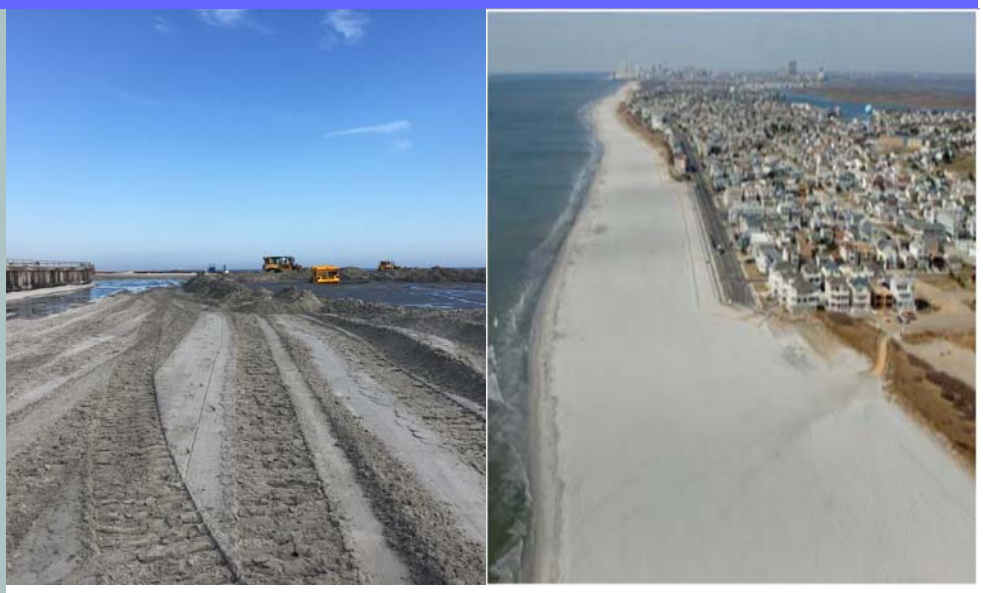
New Jersey Shore Protection, Brigantine Inlet to Great Egg Harbor Inlet, Brigantine Island, NJ

- **Authority:** Water Resources Development Act of 1999
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Partnership Agreement:** 10 September 2004
- **Target Completion Date:** 2054
- **Total Estimated Cost:** $82.7M
- **Federal Funds Appropriated:** $10.15M
- **Non-Federal Share:** $5.463M

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Erik Rourke
Phone: (215) 656-6616
E-mail:
erik.j.rourke@usace.army.mil



Left: Beachfill construction near 15th Street North in February 2018.
Right: Aerial Photo of the Completed Storm Damage Reduction Beach fill – Brigantine Island.

This project is authorized by the Water Resources Development Act (WRDA) of 1999.

The project provides flood and coastal storm damage reduction along Brigantine Island, utilizing sand from an offshore borrow source. The project will consist of berm and dune restoration along approximately 1.8 miles of coastline fronting the northern third of the city. The initial project construction cost is estimated at approximately $4.5 million.

FY 04, 05, & 06 funds were used to complete initial construction. The beachfill portion of the project was completed in February 2006. Dune grass, sand fencing and crossovers were also completed. FY11 funds were used for project monitoring. FY12 funds were used to award a contract to complete the 2nd renourishment cycle. The contract was awarded in September 2012 and completed in February 2013.

Between October 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May 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. PIR was approved, funding provided and the previously awarded renourishment contract was modified to complete the repairs and renourishment concurrently. Pumping began in January 2013 and completed in February 2013.

U.S. Army Corps of Engineers, Philadelphia District

New Jersey Shore Protection, Brigantine Inlet to Great Egg Harbor Inlet, Brigantine Island, NJ

- **Project Goals:** The purpose of this project provides hurricane and coastal storm damage reduction along Brigantine Island, consisting of a berm and dune restoration.

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. This Addendum was approved. The previously awarded renourishment contract was modified to complete the restoration. The pumping of sand was completed in June 2013 and the project was complete in July 2013.

This project was damaged by damaged by the Oct 2015 and Jan 2016 Nor'easters, a Project Information Report (PIR) and a PIR Addendum under the authority of PL 84-99 were completed which recommended repair and restoration of the project. The PIR & Addendum were ultimately approved by Corps HQUSACE. PL 84-99 funds have been received for engineering and design, plans and specification & construction. Additionally, FY17 CG Supplemental funds of $2.5M have been received. The FCCE funds will only be for construction to minimum design template while to Supplemental CG funds will be used to complete 3rd renourishment. The contract was awarded in Sep 2017. Construction began in Jan 2018.

TIMELINE	Start	Complete	Comments
Initial Construction		Feb 2006	
FCCE Emergency Rehab	Sep 2011	Dec 2011	
2nd Periodic Nourishment Cycle	Jan 2013	Feb 2013	Sand pumping
FCCE Emergency (Sandy)	Jan 2013	Jul 2013	
FCCE Emergency (Oct 15 & Jan 16)	Jan 2018 (Sched)	Mar 2018 (Sched)	Contract awarded in Sep 2017.
3rd Periodic Nourishment Cycle	Jan 2018 (Sched)	Mar 2018 (Sched)	Contract awarded in Sep 2017
4th Periodic Nourishment Cycle	FY 2023 (Sched)		Dependent on receipt of adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Construction	53,747	28,940	82,687		Allocations thru FY16	7,650	
					FY 17 Allocation	2,500	Supplemental CG
					FY 18 Budget	0	
					FY 18 Work Plan	TBD	
					FY 19 Budget	0	President's Budget
					Balance to Complete	43,597	

New Jersey Shore Protection, Great Egg Harbor Inlet to Townsends Inlet, NJ

- **Authority:** Section 1001 (30) Water Resources Development Act of 2007
- **Congressional District**: NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Partnership Agreement:** 23 Jun 14
- **Target Completion Date:** 2064
- **Total Estimated Cost:** $761.5M
- **Federal Funds Appropriated:** $96.7M (Includes Sandy CG funds)
- **Non-Federal Share:** $348K

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Dwight Pakan
Phone: (215) 656-6785
E-mail:
dwight.a.pakan@usace.army.mil

Preconstruction & during construction

This project is authorized under Section 1001 (30) of the Water Resources Development Act of 2007.

The study investigated flood and coastal storm damage effects with a view toward reducing impacts from coastal erosion and storms. The recommended plan calls for construction of a beach fill with a berm and dune along the study area oceanfront utilizing sand from an offshore borrow source and periodic nourishment for a period of 50 years.

PED was completed in FY05. Chief of Engineer's Report was signed on 24 October 2006. The project was authorized in the 2007 Water Resources Development Act. The Record of Decision was signed on 18 October 2011.

Between October 27 & 30, 2012, Hurricane Sandy significantly damaged the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. In response, 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 (Act).

This project was determined to be eligible for P.L. 113-2 2013 Disaster Relief Appropriations Act (Hurricane Sandy) funds as an Authorized but Unconstructed (ABU) project. The term "authorized but unconstructed project" refers to previously authorized projects for which no physical construction has occurred as well as projects that contain elements where construction has not been completed. Additionally this project is considered an ongoing ABU project under P.L. 113-2. Therefore, the remaining initial construction portions of the project are eligible to completed at 100% Federal with no sponsor payback.

U.S. Army Corps of Engineers, Philadelphia District

New Jersey Shore Protection, Great Egg Harbor Inlet to Townsends Inlet, NJ

- **Project Goals:** The purpose of this project investigated hurricane and coastal storm damage effects with a view toward reducing impacts from coastal erosion and storms.

In FY13, FY14 & FY15 $70.6M has been received to complete the necessary steps to construct initial construction to include completion of Limited Reevaluation Report (LRR), approve and execute a new Project Partnership Agreement; acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contracts.

A LRR is a post authorization study that evaluates a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken.

For this project a HSLRR specific to Hurricane Sandy was completed & approved which recommended moving forward with initial construction under PL 113-2. This HSLRR was used to support the development of a PPA which was executed on 23 Jun 2014.

All the necessary real estate acquisitions were completed along with the plans and specifications for the contract. The contract to initiate and complete initial construction was awarded on 10 Nov 2014. Physical construction began in Apr 2015 with pumping completed in May 2016. Ancillary work including crossovers were completed in Aug 2016. During construction the project was impacted by the Oct 2015 and Jan 2016 nor'easters. Repairs were made prior to completion in May 16. Sandy funds (PL 113-2) totaling $95.3M were received to complete initial construction. Based on PL 113-2 initial construction will be at 100% Federal with no sponsor payback.

There are currently no Regular CG funds for project monitoring.

Timeline	Start	Complete	Comments
Initial Construction	Jan 2015	Aug 16	
2nd Renourishment Cycle	FY19 (Sched)		Dependent on receipt of adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Initial Construction	428,559	332,949	761,508
Sandy P.L. 113-2 CG funds of $95.3M were rec'd to complete initial construction.			

Summarized Federal Financial Data ($000) (Regular CG Funds)		
Allocations thru FY16	1,339	
FY 17 Allocation	0	
FY 18 Budget	0	
FY 18 Work Plan	0	TBD
FY 19 Budget	0	President's Budget
Balance to Complete	331,920	Accounts for Sandy CG Funds Rec'd.

New Jersey Shore Protection, Lower Cape May Meadows-Cape May Point, NJ

- **Authority:** Title I, Section 101 (a)(25) of the Water Resources Development Act of 1999
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Partnership Agreement:** 28 July 2003
- **Target Completion Date:** 2054
- **Total Estimated Cost:** $107.3M
- **Federal Funds Appropriated:** $43.4M
- **Non-Federal Share:** $11.6M

Left: Beach and wetlands that were lost to long-term erosion have been restored, and the dune line has been reconstructed seaward.
Right: Beach is restored in the Borough of Cape May Point

The Lower Cape May Meadows – Cape May Point project was authorized for construction by Title I, Section 101 (a) (25) of WRDA 1999.

Lower Cape May Meadows Project for the purposes of ecosystem restoration, hurricane and coastal storm damage reduction and navigation mitigation is approximately 350 acres in area containing Cape May Point State Park and the Nature Conservancy's Cape May Migratory Bird Refuge. The Meadows consists of important coastal freshwater wetlands, which are vital resting areas for shorebirds and birds of prey during their seasonal migration along the Atlantic flyway. The project restores and protects fish and wildlife habitat and provides flood and storm damage reduction throughout the entire study area. This project was completed on 15 June 2007.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Dwight Pakan
Phone: (215) 656-6785
E-mail:
dwight.a.pakan@usace.army.mil

New Jersey Shore Protection, Lower Cape May Meadows-Cape May Point, NJ

- **Project Goals:** The purpose of this project provides ecosystem restoration, hurricane and coastal storm damage reduction and navigation mitigation in an area containing Cape May Point State Park and the Nature Conservancy's Cape May Migratory Bird Refuge.

FY 08 funds were used to award a contract to initiate the 2nd periodic nourishment cycle. This contract was completed in March 2009. FY 11 funds in the amount of $8,920,000 were used for project monitoring and to continue the 2nd periodic nourishment cycle. The contract to continue the 2nd periodic nourishment cycle was awarded on 5 November 2010. Physical construction began in December 2010 and was completed in February 2011. FY12 funds were used to award a contract to complete the 2nd renourishment cycle. The contract was awarded in September 2012. Physical construction began in November 2012 with sand pumping completed in January 2013. Other project features will be completed by May 2013.

Between October 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May 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 recent renourishment brought the project back to design template. Therefore it was not eligible for PL 84-99 funding.

FY 16 funds were used to award and complete the construction of the 3rd renourishment cycle. Contract was awarded on 28 Sep 2016. Construction began in Dec 2016 and was completed in Jan 2017. Next renourishment cycle would be scheduled for FY2020.

Any FY18 funds will be used for project monitoring.

TIMELINE	Start	Complete	Comments
Initial Construction		Jun 2007	Beach fill
Initial Construction		Jun 2007	Environmental Restoration
Continue 2nd Periodic Nourishment Cycle	Dec 2010	Feb 2011	
Complete 2nd Periodic Nourishment Cycle	Nov 2012	Jan 2013	
Complete 3rd Periodic Nourishment Cycle	Dec 2016	Jan 2017	
4th Periodic Nourishment Cycle	FY2020		Dependent on adequate funding

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	85,318	21,999	107,317

Summarized Federal Financial Data ($000)		
Allocations thru FY16	42,961	
FY 17 Allocation	400	
FY 18 Budget	0	
FY 18 Work Plan	TBD	
FY 19 Budget	0	President's Budget
Balance to Complete	41,957	

New Jersey Shore Protection, Manasquan Inlet to Barnegat Inlet, NJ

- **Authority:** Section 1001 (32) of the Water Resources Development Act of 2007
- **Congressional District:** NJ-3, NJ-4
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Partnership Agreement:** 18 Jul 14
- **Target Completion Date:** 2065
- **Total Estimated Cost:** $843.3M
- **Federal Funds Appropriated:** $122,114,000 (Includes Sandy CG funds)
- **Non-Federal Share:** $255K

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Keith Watson
Phone: (215) 656-6287
E-mail:
keith.d.watson@usace.army.mil

Mantoloking New Jersey without-project conditions. (Before Hurricane Sandy)

This project was authorized by Section 1001 (32) of the Water Resources Development Act of 2007.

The study investigated flood and coastal storm damage effects with a view toward reducing impacts from coastal erosion and storms. The recommended plan calls for construction of a beach fill with a berm and dune along the study area oceanfront utilizing sand from an offshore borrow source and periodic nourishment for a period of 50 years. Initial fill requirements would be about 10 million cubic yards, with periodic nourishment at 4-year intervals with about 1 million cubic yards placed.

The Chief of Engineers Report was completed in December 2003. This project was authorized in the 2007 Water Resources Development Act (WRDA).

Between October 27 & 30, 2012, Hurricane Sandy significantly damaged the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. This project was hit especially hard with a breach in Mantoloking and significant damage to Seaside Heights, Mantoloking, Ortley Beach, Lavallette and Seaside Park. Significant damage also occurred to piers, boardwalks, amusements, residential and commercial properties. In response, 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 (Act).

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.

New Jersey Shore Protection, Manasquan Inlet to Barnegat Inlet, NJ

- **Project Goals:** The purpose of this project investigated hurricane and coastal storm damage reduction, and recommendation of a beach fill. With a berm and dune and a periodic nourishment for a period of 50 years.

This project was determined to be eligible for P.L. 113-2 2013 Disaster Relief Appropriations Act (Hurricane Sandy) funds as an Authorized but Unconstructed project. The term "authorized but unconstructed project" refers to previously authorized projects for which no physical construction has occurred as well as projects that contain elements where construction has not been completed.

In FY13 & FY14 $1,750,000 in PL 113-2 funds were provided to begin the process towards initiation and completion of initial construction. These funds are being used to complete the necessary steps towards initial construction. These steps include completion of the Limited Reevaluation Report (LRR); develop, approve and execute the Project Partnership Agreement; acquire the necessary real estate; complete plans and specifications; and advertise and award the construction contract. A LRR is a post authorization study that evaluates a specific portion of the approved plan under current policies, criteria and guidelines, and may be limited to economics, environmental effects or, in rare cases, project formulation. A LRR documents the results of the analysis undertaken.

For this project a HSLRR specific to Hurricane Sandy was completed & approved which recommended moving forward with initial construction under PL 113-2. This HSLRR was used to support the development of a PPA which was executed on 18 July 2014.

The sponsor acquired the necessary real estate for a large portion of the project which allowed for a base plus options contract to be advertised in Sep 2016. Bids were opened in Nov 2016 and the contract for initial construction was awarded on 10 Jan 2017. PL 113-2 funds were rec'd to award and complete this contract at 100% Federal. Initial construction is currently estimated at $150.8M. Based on PL 113-2 this project requires the non-Federal sponsor to reimbursed 35% (~$53M) of the initial construction cost. The base contract includes a majority of Mantoloking south to the end of Seaside Park including Mantoloking, Brick Twp, Tom's River North, Loveladies, Tom's River South, Seaside Heights & Seaside Park. Option areas include a northern section of Mantoloking, Berkeley Twp, Pt. Pleasant Beach & Bay Head. Sponsor acquired necessary real estate for northern section of Mantoloking, Pt. Pleasant & Bay Head in Dec 2017 and those options were awarded. Berkeley option will be awarded once the sponsor acquires the necessary real estate. Construction began in Mantoloking in Sep 2017 & continues.

Timeline	Start	Complete	Comments
Initial Construction	Sep 2017	Nov 2018 (Sched)	Construction began in Sep 2017

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000) (Regular CG Funds)		
Construction	446,244	397,021	843,265		Allocations thru FY16	764	
Sandy P.L. 113-2 CG funds of $121.35M have been rec'd towards initial construction.					FY 17 Allocation		
					FY 18 Budget	0	No CG Capability
					FY 18 Work Plan	0	No CG Capability
					FY 19 Budget	0	President's Budget
					Balance to Complete	324,130	Accounts for Sandy CG funds

New Jersey Shore Protection, Townsends Inlet to Cape May Inlet, NJ

- **Authority:** Section 101 (a)(26) of the Water Resources Development Act of 1999.
- **Congressional District:** NJ-2
- **Non-Federal Sponsor:** New Jersey Department of Environmental Protection
- **Date of Project Partnership Agreement:** 8 March 2002
- **Target Completion Date:** 2052
- **Total Estimated Cost:** $394.4M
- **Federal Funds Appropriated:** $65.8M
- **Non-Federal Share:** $36.3M

Left: Avalon Seawall During construction. Right: Avalon Seawall Completed Section

Authorized under the WRDA 1999, Section 101(a)(26).

The recommended plan for flood and coastal storm damage reduction includes: (1) 4.3 miles of beach fill with a berm width of 150-feet and a dune crest at +14.75 feet NAVD, with periodic nourishment at 3 year intervals; (2) 2.2 miles of seawall construction along the Townsends Inlet frontage of Avalon and the Hereford Inlet frontage of North Wildwood; (3) ecosystem restoration of approximately 116 acres of natural barrier island habitat at Stone Harbor Point including beach fill and dune construction. The restoration includes the planting of approximately 56 acres of bayberry and red cedar roosting habitat.

The initial beachfill construction within Avalon and Stone Harbor was completed in FY03. Initial construction contracts were awarded for both the Avalon and North Wildwood seawalls in FY04. Construction of both the Avalon (September 2006) and Hereford (June 2009) Seawalls are complete. These seawalls were completed utilizing FY 05, 06, 07 and 08 funds. The 2nd nourishment cycle was scheduled for FY07. However, renourishment did not proceed due to inadequate funding. FY11 funds were also inadequate to proceed with initiation of the 2nd nourishment cycle. A small portion of the funds were used for project monitoring. Additionally in FY09 $1.5M in Emergency Supplemental funds were used to initiate and complete a truck-fill operation in Avalon.

As a result of Hurricane Irene in Aug 2011$40,000 in FCCE funds were provided to complete a Project Information Report under Public Law 84-99. The PIR completed in Mar 2012 determined that the project met the requirements of PL84 -99 and was eligible for FCCE funding. A contract to repair the project was awarded in Sep 2012. Physical construction began in Dec 2012 and completed in Jul 2013.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Erik Rourke
Phone: (215) 656-6616
E-mail:
erik.j.rourke@usace.army.mil

New Jersey Shore Protection, Townsends Inlet to Cape May Inlet, NJ

- **Project Goals:** The purpose of this project provides hurricane and coastal storm damage reduction, including a beach fill with a berm and dune, with a periodic nourishment at three year intervals.

Between October 27 & 30, 2012, Hurricane Sandy caused significant damage to the New Jersey coast from Sandy Hook to Cape May and up the Delaware Bay. FCCE under PL 84-99 were again used to complete a PIR Addendum to the Hurricane Irene PIR. The results of the PIR determined that the project was eligible for FCCE funding to repair the project to pre-storm conditions. Therefore, the previously awarded Hurricane Irene repair contract was modified to complete the repairs for Hurricanes Irene & Sandy concurrently. Additionally, in response to P.L. 113-2 a second 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. This Addendum was approved. The contract was further modified to complete the restorations. Pumping of sand was completed in Jul 2013. Repairs to Hereford Seawall were completed in Apr 2014.

FY16 carryover funds were used to award the 2nd renourishment contract on 14 Dec 16. Pumping began in Feb 2017. Additionally this project was damaged by the Oct 2015 and Jan 2016 Nor'easters. The 2nd renourishment will not take the project to full construction template. A Project Information Report (PIR) and a PIR Addendum under the authority of PL 84-99 were completed which recommended repair and restoration of the project. The PIR & Addendum were ultimately approved by Corps HQUSACE. PL 84-99 funds were received and were used to modify the renourishment contract to complete the FCCE work and renourishment concurrently. Pumping began in Feb 2017 and was completed in Jun 2017.

Timeline	Start	Complete	Comments
Initial Construction		Jul 2002	Beach fill
Initial Construction		Jun 2009	Avalon & Hereford Seawalls
FCCE Emergency Rehab (Nor'Ida Nov 09)	Apr 2011	Dec 2011	Pumping completed in Jun 2011
FCCE Emergency (Hurricane Irene & Sandy)	Dec 2012	Apr 2014	Pumping completed in Jul 2013. Hereford Seawall completed Apr 2014
2nd Periodic Nourishment Cycle	Feb 2017	Jun 2017	
FCCE Emergency (Oct 15 & Jan 16)	Feb 2017	Jun 2017	
3rd Periodic Nourishment Cycle	FY 2019 (Sched)		Dependent on receipt of adequate funding.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL
Construction	255,360	138,986	394,346

Summarized Federal Financial Data ($000)		
Allocations thru FY16	65,832	
FY 17 Allocation	0	
FY 18 Budget	0	
FY 18 Work Plan	TBD	
FY 19 Budget	0	Presidents Budget
Balance to Complete	189,528	

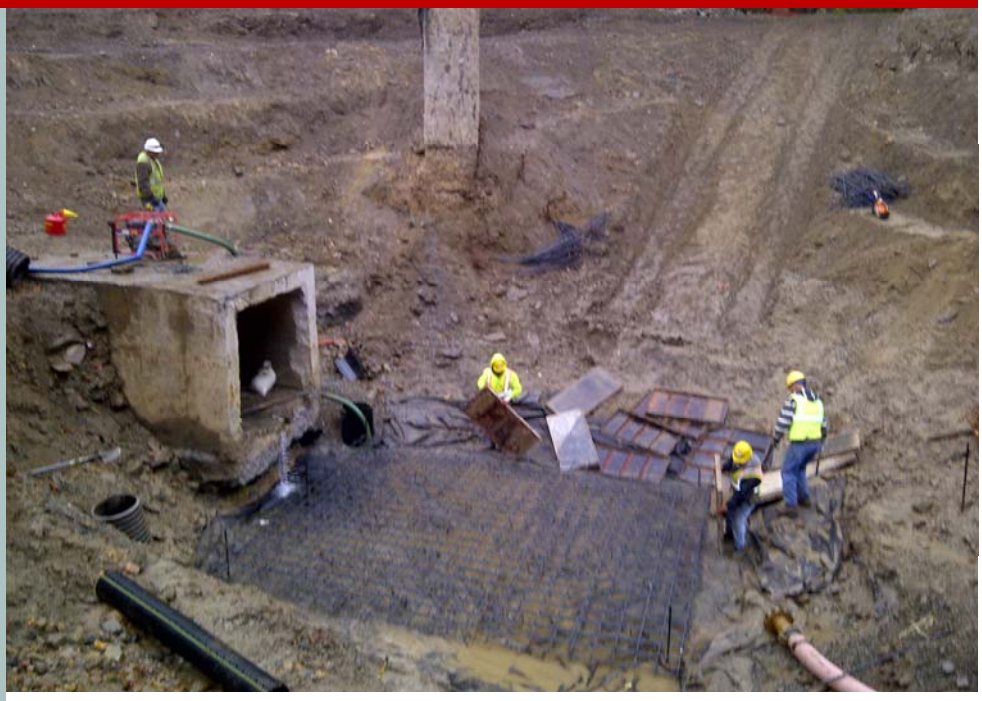
Southeastern Pennsylvania Environmental Improvement Program Section 566 WRDA 1996

- **Authority:** Section 566 of the Water Resources Development Act (WRDA) of 1996, as amended by Section 552 of WRDA 1999.
- **Congressional District:** PA-1, PA-2, PA-6, PA-7, PA-8, PA-13, PA-15, PA-16
- **Non-Federal Sponsor:** see individual projects for specific project locations.
- **Federal Funds Appropriated (To Date):** $13.3M (Authorized to $25M)
- **Non-Federal Share:** 25%
- **Jurisdictions**
  - **Bucks County**
  - **Chester County**
  - **Delaware County**
  - **Montgomery County**
  - **Philadelphia County**

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Program Manager
Erik Rourke
Phone: (215) 656-6616
E-mail: erik.j.rourke@usace.army.mil



Construction of a vault structure to control sewer overflow along Indian Creek in Philadelphia as part of the Cobbs Creek Habitat Restoration project in 2013.

The Southeastern Pennsylvania Environmental Improvements Program is authorized under Section 566 of the Water Resources Development Act (WRDA) of 1996, as amended by Section 552 of WRDA 1999.

Funding for this authority is provided to the Corps through a line item for Environmental Infrastructure and distributed to specific projects through the annual Work Plan. The Southeastern Pennsylvania Environmental Improvement Program allows USACE to provide design and construction assistance to non-Federal interests for carrying out water related environmental infrastructure, resource protection and development projects in southeastern Pennsylvania, including projects for wastewater treatment and related facilities, water supply and related facilities, surface water resource protection and development, and environmental restoration. Section 552 of WRDA 1999 amended the authority to include environmental restoration as an authorized project purpose under this program.

The process consists of three phases:

(1) Project Approval
(2) Project Design, and
(3) Project Construction

All phases are cost-shared with a non-Federal sponsor with the sponsor providing 25% of the total project costs.

U.S. Army Corps of Engineers, Philadelphia District

Southeastern PA Environmental Improvement Program

Project	Sponsor	Status	Program Funding								
			Prior to FY08	FY08	FY09	FY10	FY12	FY14	FY16	FY18	FY19
Abington Township Environmental Improvement	Abington Township	Design Phase							200	TBD	TBD
Cobbs Creek Fish Passage Restoration	PWD	Design/ Construc-tion Phase	28		80*			1,500		TBD	TBD
Roosevelt Boulevard Dam Removal	PWD	Project Approval								TBD	TBD
Whitpain Township	TBD	Project Approval		49						TBD	TBD
Upper Dublin Township Ecosystem Improvement	TBD	Project Approval								TBD	TBD
Cobbs Creek Habitat Restoration	PWD	Closed	10		239 254*		2,300				
Hatfield Borough Sewer Improvements	Hatfield Borough	Closed		236							
Mill Creek Diversion	PWD	Closed	522								
Tacony Creek Ecological Improvements	PWD	Closed	18	492	478 1,832*	388					
Chester, Delaware and Montgomery County Watershed	PADEP	Closed			120 399*						
Sandyford Run	PWD	Inactive				242					
Logan/Wissinoming Homes	PWD	Closed	294								
Philadelphia Incinerator	PWD	Closed	3,278								
Delaware Canal	None	Closed	274								
New Logan Homes	PWD	Closed	28								
Total Funding			4,452	777	837 2,567*	630	2,300	1,500	200	0	

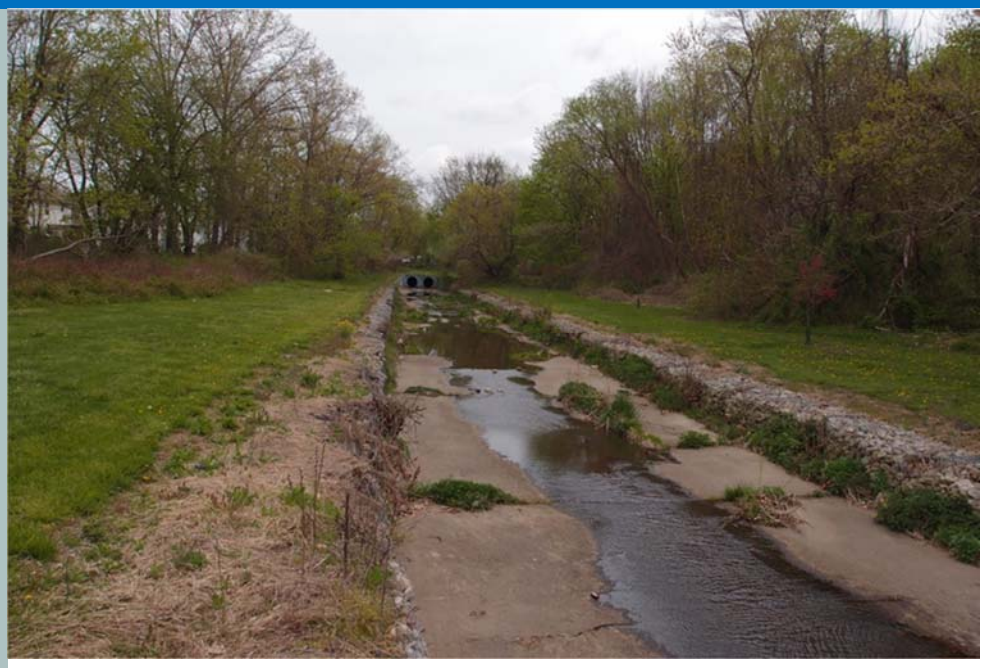
Factsheet Included

Zero funding received in FY11, FY13, FY15 and FY 17
**Stimulus Funds Received in addition to normal FY09 funding*

U.S. Army Corps of Engineers, Philadelphia District

Abington Township Environmental Infrastructure Improvement

- **Authority:** Section 566 of the Water Resources Development Act (WRDA) of 1996, as amended by Section 552 of WRDA 1999.
- **Congressional District:** PA-13
- **Non-Federal Sponsor:** Abington Township, Montgomery County PA
- **Date of Design and Construction Agreement:** November 21, 2016
- **Target Completion Date:** FY2020
- **Total Estimated Cost:** TBD
- **Federal Funds Appropriated:** $200,000
- **Non-Federal Share:** 25%



Under authority of Section 566 of the Water Resources Development Act of 1996, as amended, the U.S. Army Corps of Engineers (Corps) will provided design and construction assistance to Abington Township, Montgomery County to address environmental infrastructure improvement opportunities throughout the community.

The project areas are located in Abington Township, Pennsylvania adjacent to and along Sandy Run Creek. Sandy Run Creek, part of the Wissahickon Creek Watershed, is a stream system adversely affected by development and land use practices over the past century. Due to high levels of impervious surfaces throughout the watershed, the creek responds quickly during wet weather events; increases in stream flow and erosive forces occur almost immediately following the onset of storm events. Changes in hydrologic conditions within the watershed have caused severe channel de-stabilization within much of the watershed. The most downstream potential project location, Deal Park, drains an area of approximately 2.64 square miles, of which about 24.8 percent is impervious surface and 92 percent is urban development. The urbanized nature of the watershed causes flash flood conditions with rapid stream flows and increased streambank erosion and degraded stream conditions.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Regina Kukola
(215)656-6584
Regina.L.Kukola@usace.army.mil

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Abington Environmental Infrastructure Improvement

- **Project Goals:** The goal of this project is to provide design and construction assistance for carrying out water related environmental infrastructure and resource protection, including projects for waste water treatment, water supply and surface water resource protection.

- The project will result in an improved riparian buffer and stream corridor. Improvements to the stream bed and channel will improve habitat for benthic species such as dragonflies (spp.), which function as important food resources in stream ecosystems. Riparian buffers and stream corridors are key habitat and migration routes for many species, including migratory birds, reptiles and amphibians, and local resident mammalian species.

Potential Action at Roychester Park

At Roychester Park, opportunities exist to daylight the reach of Sandy Run Creek that is currently below ground and to implement natural stream stabilization methods and native vegetation plantings to reconnect the floodplains and restore riparian and wetland habitat of the above ground reaches of Sandy Run Creek where the stream banks are currently extremely eroded.

Potential Action at Grove Park

At Grove Park, opportunities exist to remove the concrete lining on a portion of the stream bed and the gabion baskets lining the stream banks and use natural stream stabilization methods and native vegetation plantings to reconnect the floodplains and restore riparian and wetland habitat of the banks of Sandy Run Creek. The former main stem of Sandy Run Creek within Grove Park is populated by the invasive species multiflora rose (*Rosa polyantha*), which degrades the existing habitat by competing with native species.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Init. Appraisal Report	10	0	0		FY 16 Allocation	200	
Design Agreement	12	4	16		FY 17 Allocation	0	
Final Design	400	133	533		FY 18 Allocation	TBD	
Construction	TBD	TBD	TBD		FY 19 Budget	TBD	
					Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Cobbs Creek Fish Passage

- **Authority:** Section 566 of the Water Resources Development Act (WRDA) of 1996, as amended by Section 552 of WRDA 1999.
- **Congressional District:** PA-1, PA-2
- **Non-Federal Sponsor:** Philadelphia Water Department
- **Date of Design Agreement:** 6 August 2009
- **Date of Construction Agreement:** Pending
- **Target Completion Date:** FY2019
- **Total Estimated Cost:** $575,000 (design) & $2,000,000 (construction)
- **Federal Funds Appropriated:** $2,000,000
- **Non-Federal Share:** 25%

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Scott Sanderson
(215) 656-6571
Scott.A.Sanderson@usace.army.mil

The Woodland Avenue Dam is the first impediment along Cobbs Creek preventing fish passage. Stored sediment behind the dam must be controlled during removal to prevent adverse upstream impacts.

PWD and the Corps partnered to design and construct the best alternative to reestablish fish passage along Cobbs Creek at the Woodland Dam. The Woodland Dam, also known as Old Swedes Mill, is a low concrete structure managed by the Philadelphia. Modification or removal of the small dam would restore fish passage and improve the aquatic habit along this stream.

Following the National Environmental Policy Act (NEPA), the project team evaluated several alternatives to restore fish passage:

- No Action
- Dam Removal (Full or Partial)
- Fish Ladder

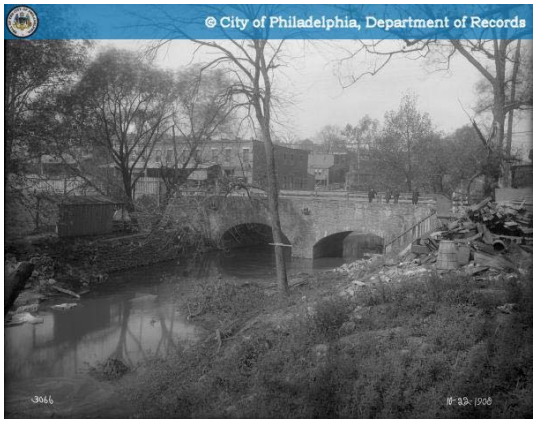
The Woodland Dam is located just upstream of the Woodland Avenue Bridge across Cobbs Creek. The Woodland Dam is located approximately 5.4 miles downstream of the confluence of Cobbs Creek and Indian Creek. The dam is also the first impediment to fish passage along Cobbs Creek. The project limits extend from the bridge upstream approximately 750 feet.

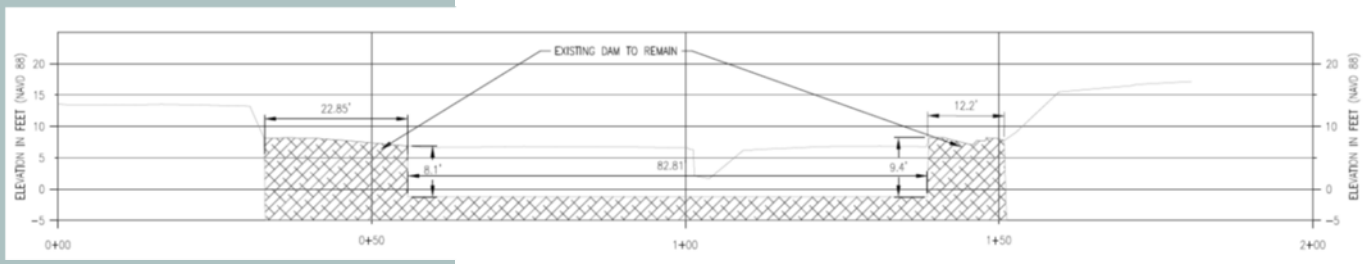
Cobbs Creek Fish Passage

- **Project Goals:** The purpose of this project is to investigate, select, and construct the best alternative to reestablish fish passage on Cobbs Creek.

The Corps is finalizing Plans and Specifications and obtaining permits for construction. The project will include partial removal of the dam plus stream restoration to stabilize the channel and entrap river sediment or approximately 750 feet upstream of the dam.

The project has experienced delays due incomplete and insufficient real estate records that are preventing the City from obtaining the necessary easements. Obtaining easements is the responsibility of the local sponsor and construction cannot proceed without the proper permissions to access property within the project limits.





Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Initial assessment and Fact-sheet	9	3	12		Allocations thru FY13	498	
Design Agreement	18	6	24		FY 14 Allocation	1,500	
Plans & Specifications	300	100	400		FY 15-17 Allocation	0	
Construction	1,500	500	2,000		FY 18 Allocation	TBD	
					FY 19 Budget	TBD	
					Balance to Complete	TBD	

Boulevard Dam Removal

- **Authority:** Section 566 of the Water Resources Development Act (WRDA) of 1996, as amended by Section 552 of WRDA 1999.
- **Congressional District:** PA-1, PA-2
- **Non-Federal Sponsor:** Philadelphia Water Department
- **Date of Design and Construction Agreement:** TBD
- **Target Completion Date:** FY2021
- **Total Estimated Cost:** TBD
- **Federal Funds Appropriated:** $0
- **Non-Federal Share:** 25%

The project area is located on the Pennypack Creek between the Roosevelt Boulevard Bridge (the old Bensalem Avenue Bridge) and the pedestrian bridge over Pennypack Creek, which is located approximately 500 feet upstream of the dam. The dam is located about halfway between these two crossings and is informally know at the "Boulevard Dam." This area is entirely within Pennypack Park.

The existing dam is reported to be a concrete and embedded stone arch dam with cut granite capstones. Several of these cap stones are missing and have been replaced with concrete. Based on a review of available construction plans, the existing dam's axis measures approximately 107 feet in length with a height of approximately 9.5 feet measured on the downstream face.

Modification or removal of the small dam would restore fish passage and improve the aquatic habit along this stream as well as to provide stream-bank stability. Additionally, the project would protect of an existing sanitary sewer line crossing near the dam that is in danger due to scour caused by stream flows impacted by the dam.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Program Manager
Erik Rourke
Phone: (215) 656-6616
E-mail:
Erik.J.Rourke@usace.army.mil

U.S. Army Corps of Engineers, Philadelphia District

Boulevard Dam Removal

- **Project Goals:** The purpose of this project is to investigate, select, and construct the best alternative to reestablish fish passage on Pennypack Creek and to provide for streambank stabilization and protection of an existing sanitary sewer line.

The City of Philadelphia is currently working with a private A&E Firm to develop plans and specifications for this project. If Federal funds are made available, the USACE will partner with the City to perform a technical review of the construction documents and oversee/manage the actual construction.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Initial assessment and Fact-sheet	9	3	12		FY 17Allocation	0	
Design Agreement	18	6	24		FY 18 Allocation	TBD	
Review Plans & Specifications	75	25	100		FY 19 Budget	TBD	
Construction	TBD	TBD	TBD		Balance to Complete	TBD	

U.S. Army Corps of Engineers, Philadelphia District

Delaware River Main Channel Deepening, DE, NJ, & PA

- **Authority:** WRDA 1992, WRDA 1999 & WRDA 2000.
- **Congressional District:** DE-AL, NJ-1, NJ-2, PA-1, PA-7, PA -13
- **Non-Federal Sponsor:** Philadelphia Regional Port Authority (PRPA)
- **Date of Project Partnership Agreement:** 23 June 2008
- **Target Completion Date:** 2018
- **Total Estimated Cost:** $452,018,000
- **Federal Funds Appropriated:** $293,543,000 (incl FY17 funds of $62.375M)
- **Non-Federal Share:** $134,476,000 (incl FY17 match)

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Scott Evans
Phone: (215) 656-6680
E-mail:
scott.r.evans@usace.army.mil

The project will deepen the existing Delaware River Federal Navigation Channel from 40 to 45 feet from Philadelphia Harbor, Pa., and Beckett Street Terminal, Camden, N.J., to the mouth of the Delaware Bay.

The project was authorized for construction by Public Law 102-580, Section 101 (6) of WRDA 1992; modified by Public Law 106-53, Section 308 of WRDA 1999 and further modified by Public Law 106-541, Section 306 of WRDA 2000.

The project includes: deepening the existing Delaware River Federal Navigation Channel from 40 to 45 feet from Philadelphia, Pennsylvania, and Camden, New Jersey, to the mouth of the Delaware Bay; appropriate bend widening; partial deepening of the Marcus Hook anchorage; and relocation and addition of aids to navigation. Cutter-suction, hopper, and mechanical dredges will be used to remove material from the channel. The dredged material from the Delaware River portion of the project will be placed in Federally-owned confined upland disposal facilities. Dredged material from the Delaware Bay portion of the project will be used for two beneficial use projects.

Since FY 99, Congress has appropriated funds for project construction. The Project Partnership Agreement (PPA) between the Corps and the non-Federal sponsor, the Philadelphia Regional Port Authority (PRPA), was executed on 23 Jun 2008.

In Oct 2009, the Corps awarded a contract for the regularly scheduled maintenance dredging of the existing Federal channel. An Option for deepening Reach C (Station 182+000 to Station 242+514) was awarded in Feb 2010. Dredging in Reach C commenced in Mar 2010 and was completed in Sep 2010.

The second project construction contract awarded was to deepen the lower portion of Reach B (Station 155+000 to Station 176+000). Bids for the contract were opened on 21 Jul 2011, and the contract was awarded on 6 Oct 2011 using accelerated non-Federal funds as there were not adequate Federal funds. Dredging began in Nov 2011 and was completed in Jan 2012.

The third project construction contract awarded was to deepen the upper portion of Reach A (Station 32+755 to Station 82+700). Bids for the contract were opened on 10 Jul 2012, and the contract was awarded on 31 Jul 2012 using FY 12 funds. Dredging began in Sep 2012 and was completed in Feb 2013.

U.S. Army Corps of Engineers, Philadelphia District

Delaware River Main Channel Deepening, DE, NJ, & PA

- **Project Goals:** The purpose of this project provides deepening of the existing Delaware River Federal Navigation Channel, bend widening, partial deepening of the Marcus Hook anchorage; and relocation and addition of aids to navigation.

The fourth project construction contract awarded was to deepen Reach D (Station 261+000 to Station 317+000). Contract was awarded on 18 Oct 2012 using FY 13 CRA funds. Dredging began in Feb 2013 and was completed in Nov 2013.

The fifth project construction contract awarded was to deepen the lower portion of Reach A (Station 72+574 to Station 90+000). Contract was awarded on 28 Jan 2014. Construction began in Jul 2014 and was complete in Jan 2015.

The sixth project construction contract awarded was to deepen Reach AA (Station 20+300 to Station 32+900). The contract was awarded on 30 May 2014 using FY14 funds. Construction started in Sept 2014 and was completed in Mar 2015.

The seventh project construction contract is to deepen the lower portion of Reach E (Station 432+200 to Station 512+000) with beneficial use of dredge material at Broadkill Beach. The contract was awarded on 6 Jun 2014 using FY14 funds and later supplemented with FY15 CRA funds of $35M. Dredging began in Apr 2015 and was completed in May 2016.

The eighth construction contract. FY15 Work Plan funds were used to award the rock removal contract on Sep 30, 2015. Work began in Dec 2015 and continues.

The ninth construction contract. FY16 Work Plan & a portion of FY17 CRA funds were used to award the contract to deepen Upper Reach E on 21 Oct 2016. Work began in Sep 2017 & is scheduled to be completed in Mar 2018.

The 10th final contract to deepen Upper Reach B was awarded in Jul 2017. FY 17 Budgeted and Work Plan funds are being utilized for this contract. Construction began in Aug 2017 & is scheduled to be complete in March 2018.

In Mar 2018 the majority of the project will be completed to 45 feet. However for an approx. 14 mile stretch in Reach B there will be one-way traffic only. This is due to changed site conditions in Upper Reach E & Reach B requiring an additional capability of $18M. The changed site conditions include increase quantities for the Upper Reach E contract and additional rock quantities that have to be removed and/or blasted in the Upper Reach B contract. These changed site conditions and receipt of the additional funds will impact construction completion which is now projected to be Feb 2019, if required funds are provided timely.

Total Estimated Project Cost ($000)	FEDERAL	NON-FEDERAL	TOTAL		Summarized Federal Financial Data ($000)		
Construction	311,543	140,475	452,018		Allocations thru FY16	231,168	
					FY 17	33,125	
					FY 17 Work Plan	29,250	
					FY 18 Budget	0	
					FY 18 Work Plan	TBD	
					Balance to Complete	18,000	

THIS PAGE LEFT BLANK INTENTIONALLY

US ARMY CORPS OF ENGINEERS
Building Strong

US Army Corps
of Engineers
Philadelphia District

Operations and Maintenance

Operations and maintenance projects include the preservation, operation, maintenance, and care of existing river and harbor, flood control, and related activities at the projects that the Corps operates and maintains.

- Deep-Draft Harbor and Channel Maintenance
- Inland Waterway Maintenance
- Navigation Maintenance
- Other Authorized Project Purposes
- Small, Remote, or Subsistence Navigation Maintenance

Color Code	
State	**Color**
Delaware	Red
New Jersey	Blue
New York	Black
Pennsylvania	Green
Multiple	Purple

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Cedar Creek, Sussex County, DE

- **Authority:** Section 107 of the Rivers and Harbors Act
- **Congressional District:** DE-AL

Confluence of Mispillion River and Cedar Creek

The existing project was adopted by the Chief of Engineers on 23 December 1981 under the authority of the Rivers and Harbors Act of 1960, Section 107.

The Project provides a channel five feet deep, 80 feet wide and 3,730 feet long from the confluence of Cedar Creek with the Mispillion River to the state launching ramp, and five feet deep and 50 feet wide thereafter for a distance of 2,470 feet to a point 1,000 feet upstream of the State Route 36 Bridge.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Charlie Myers
Phone : (215) 656-6736
E-mail:
Charles.j.myers@usace.army.mil

Cedar Creek, Sussex County, DE

- **Project Goals:** The purpose of this project is to deepen the channel from the confluence of Cedar Creek with the Mispillion River, to the state launching ramp.

The U.S. Coast Guard has expressed concerns in the past that poor channel conditions could delay the response of oil spill emergency clean-up and containment contractors during lower tide stages. The Corps will perform a new channel condition survey in the spring of FY 2018.

This waterway supports the only launch service that provides safe transport of personnel and supplies to large tanker vessels anchored in the Delaware Bay, and the nearby Atlantic Ocean. This is a critical part of the logistics of lightering tankers so they can proceed up the Delaware River to the various refineries. The launch service operates four commercial crew boats that require drafts up to 6 feet. They annually complete over 5000 vessel trips per year and transport 12,000 tons of supplies, as well as transporting 10,000 passengers including Delaware River pilots, Coast Guard and Homeland Security Inspectors.

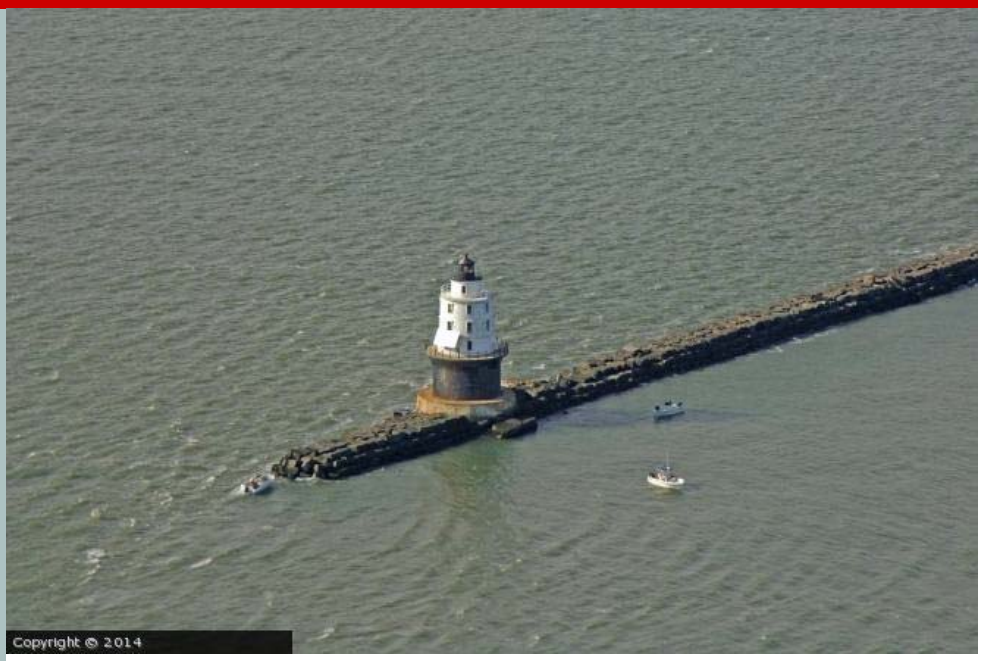
The local commercial fishing fleet stationed within this project totals approximately 35 vessels. A large number of tourists are attracted to the charter fishing opportunities at Cedar Creek. Recreational use of this waterway is also significant. The State of Delaware operates a public launching facility within the project limits.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 15 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 16 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 17 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 18 Budget	0	Impacted by Low Use Navigation budget cuts
FY 18 Allocation	TBD	Impacted by Low Use Navigation budget cuts
FY 19 Budget	0	Impacted by Low Use Navigation budget cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Harbor of Refuge, Lewes, DE

- **Authority:** HD 52-112, 70-15, 74-56.
- **Congressional District:** DE-AL



Harbor of Refuge Lighthouse and Breakwater

Authorized by HD 52-112 in 1894, HD 70-15 in 1930 and HD 74-56 in 1935.

The Harbor of Refuge project provides for the stone breakwater, which is listed in the National Register of Historic Places. The Harbor of Refuge Lighthouse, an historic 1926 structure, is located on the south end of the National Harbor of Refuge Breakwater.

The Corps of Engineers built two stone breakwaters in the 19th and early 20th centuries to create a safe refuge near the entrance to the Delaware Bay. A light-house was built in 1926. The Federal project was originally authorized to protect commercial navigation. The navigation channel was authorized to provide deep draft landing for vessels such as tugs, and vessels carrying passengers and injured seafarers. The lighthouse is still used as a navigation aid, and the breakwater provides protection for the Lewes shoreline. The entire Harbor of Refuge complex is listed on the National Register of Historic Places. Cape May-Lewes Ferry vessels, commercial fishing boats, marine lubricant delivery vessels, Coast guard vessels, and recreational watercraft still actively seek shelter from bad weather at the Harbor of Refuge.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Charlie Myers
Phone : (215) 656-6736
E-mail:
Charles.j.myers@usace.army.mil

Harbor of Refuge, Lewes, DE

- **Project Goals:** The purpose of this project provides for a breakwater 8,000 feet long; 11 ice piers; and an inner navigation channel and turning basin.

FY17 funds were used to monitor, inspect and prepare a condition report for the historic breakwater.

In the interest of protecting the historic integrity of the National Harbor of Refuge Breakwater itself along with ensuring the protection of the historic lighthouse, the initiative to periodically inspect the wall, especially after hurricane season, is a most crucial issue that is time sensitive. FY18 capability exists to continue this work.

It has been brought to our attention by both the Delaware River and Bay Lighthouse Foundation and the Delaware State Historical Preservation Office that the deterioration of the government-owned breakwater is impacting valuable historic properties in the Harbor of Refuge. A recent inspection of this site confirms these concerns. The destructive wave action from Hurricane Jose has had an erosive effect on the breakwater especially in the vicinity of the lighthouse. Many of the huge breakwater stones that once formed an interlocking protection wall at the base of the lighthouse have been dislodged.

During calendar year 2011 repairs of a near-breach on the north side of the wall, replacement of missing breakwater stone and grouting of voids threatening to undermine the stability of the breakwater where the lighthouse is located were successfully completed. All of this work has experienced significant deterioration and damage by Hurricane Jose that occurred in September 2017.

	Summarized Federal Financial Data ($000)		
	FY 14 Allocation	0	Impacted by Low Use Navigation budget cuts
	FY 15 Allocation	0	Impacted by Low Use Navigation budget cuts
	FY 16 Allocation	0	Impacted by Low Use Navigation budget cuts
	FY 17 Allocation	45	Impacted by Low Use Navigation budget cuts
	FY 18 Budget	0	Impacted by Low Use Navigation budget cuts
	FY 18 Allocation	TBD	Impacted by Low Use Navigation budget cuts
	FY 19 Budget	0	Impacted by Low Use Navigation budget cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Indian River Inlet & Bay, Sussex County, DE

- **Authority:** R&H Doc. 41. HD 330
- **Congressional District:** DE-AL

Aerial view of project area showing Indian River Inlet.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656-6683
E-mail:
monica.a.chasten@usace.army.mil

The project was authorized in 1937 (R&H Doc 41, 75th Cong, 1st Session) and modified in 1945 (HD 330, 76th Cong, 1st Session).

The project authorization includes stabilizing the inlet by construction of parallel jetties 500 ft apart; the dredging of a channel generally 200 ft wide and 15 ft deep from the inner ends of the jetties to a point in the Bay substantially 7000 ft from the ocean shoreline, dredging a channel 9 ft deep, 100 ft wide in the Bay and 80 ft wide in the River, from that depth in the existing channel in Indian River Bay to and including a turning basin 9 ft deep, 175 ft wide and 300 ft long at Old Landing; then about 8200 ft to highway bridge at Millsboro, 60 ft wide, 4 ft deep.

Indian River Inlet & Bay, Sussex County, DE

- **Project Goals:** The purpose of this project provides safe navigation channel for commercial, recreational and U.S. Coast Guard use. Indian River Inlet is the only water access point into the Delaware Inland Bay area that includes Indian River Bay and Rehoboth Bay.

Ongoing Activities: Storm Supplemental Funds received in FY17 for this O&M navigation project totaling $275,000. The interior portion of the north inlet shoreline/revetment was severely eroded during the October 2015 and January 2016 Nor'easter resulting in scarping at the end of the structure. These funds are being used to repair and stabilize the terminus of the revetment using rock and a green infrastructure approach. Construction will be completed in April 2018.

Project Condition Surveys of the navigation channel were conducted in FY17 and will be conducted in FY18.

An Indian River Inlet workgroup meets at least annually to discuss regional technical issues including the navigation project, the sand bypass plant and the shore protection projects in the vicinity. The workgroup includes participants from USACE, the State of Delaware and the University of Delaware. The USACE National Regional Sediment Management program funded a proposal in FY18 to investigate a systems approach in Delaware including Indian River Inlet.

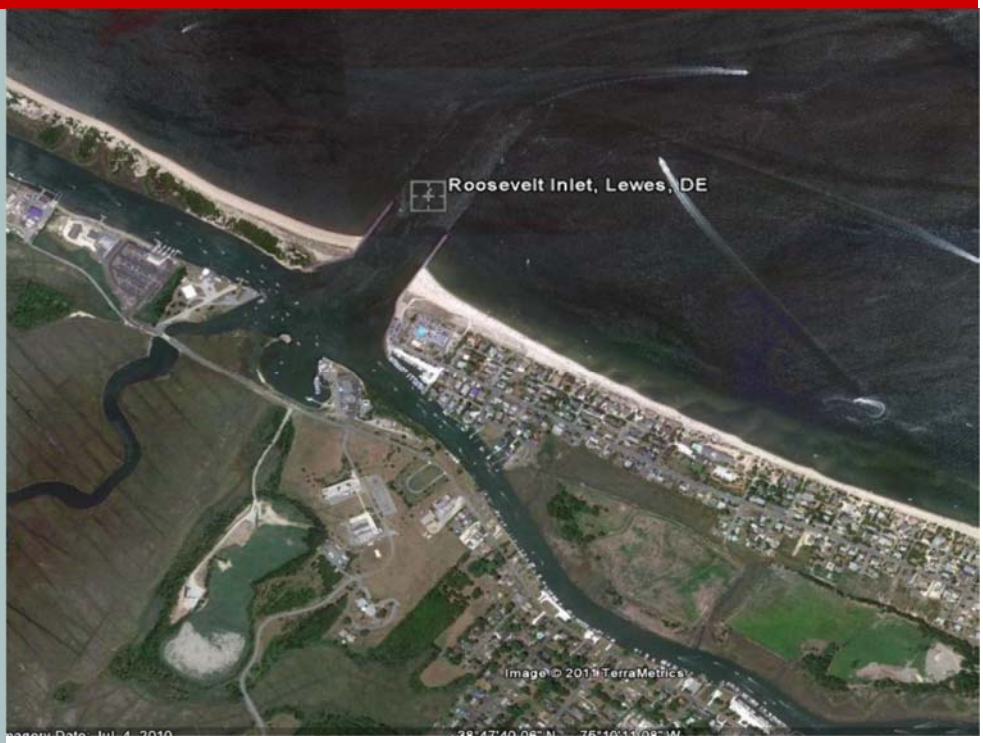
Concerns: The Indian River Inlet jetties are in poor condition with over 350 linear feet of loss from the north jetty seaward end since 1960. Continued monitoring and management of the inlet channel, jetties and scour holes is critical to protect the surrounding infrastructure and Federal investments in the area. Also, severe shoaling in the Massey's Ditch portion of the project is of significant concern to the USCG/project stakeholders

Summarized Federal Financial Data ($000)		
FY 14 Allocation	0	$1,300,000 PL 113-2 Supplemental Funds (Sandy)
FY 15 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 16 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 17 Allocation	275	Supplemental Funds
FY 18 Budget	0	Impacted by Low Use Navigation budget cuts
FY 18 Allocation	TBD	
FY 19 Budget	7	Impacted by Low Use Navigation budget cuts

U.S. Army Corps of Engineers, Philadelphia District

Inland Waterway from Rehoboth Bay to Delaware Bay, Sussex County, DE

- **Authority:** HD 823, 77-344. R&H Comm. Doc. 51, 74-56.
- **Congressional District**: DE-AL



Roosevelt Inlet at Lewes, Delaware

The existing project was adopted in 1912 (HD 823, 60th Congress, 1st session and R&H Committee Doc. 51, 61st Congress, 3rd session) and modified in 1935 (R&H Committee Doc 74-56) and 1945 (HD 77-344)

The project provides for an entrance channel through Roosevelt Inlet near Lewes, Delaware, 10 feet deep and 200 feet wide protected by two parallel jetties 500 feet apart, and extension of the jetties; a channel 10 feet deep and 100 feet wide to the South Street Bridge at Lewes; a channel 6 feet deep and 50 feet wide to Rehoboth Bay entrance. It also provides for a channel 6 feet deep and 100 feet wide from Roosevelt Inlet to Broadkill River, and a highway bridge and railroad bridge at Rehoboth Beach.

A new channel condition survey will be performed in the Spring of FY 2018.

FY 2017 Work Plan funding has been made available to perform maintenance dredging of the Roosevelt Inlet Entrance Channel. The government-owned Dredge Murden is scheduled to arrive March 8, 2018 to perform this work.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Charlie Myers
Phone : (215) 656-6736
E-mail:
Charles.j.myers@usace.army.mil

U.S. Army Corps of Engineers, Philadelphia District

Inland Waterway from Rehoboth Bay to Delaware Bay, Sussex County, DE

- **Project Goals:** The purpose of this project provides for an entrance channel through Roosevelt Inlet near Lewes, Delaware, a channel to the South Street Bridge at Lewes, and a channel to the Rehoboth Bay entrance.

The Inland Waterway from Rehoboth Bay to Delaware Bay (DE) is a shallow draft navigation project utilized by both commercial and recreational users. It has an authorized depth of 10 feet through the entrance channel. Failure to maintain the waterway on a 3-year cycle would result in the channel being unavailable to the primary users 50% of the time.

The local commercial fleet consists of approximately 65 Charter boats and 15 Head boats. The University of Delaware maintains four research vessels that are stationed within the project, and mooring for research vessels from visiting universities.

The Roosevelt Inlet Coast Guard Station located on the waterway performs routine patrols, emergency response activities, and operates a 47 foot buoy tender. Lack of periodic maintenance of the channel will affect the ability of the Coast Guard to respond to emergency situations at lower tide stages.

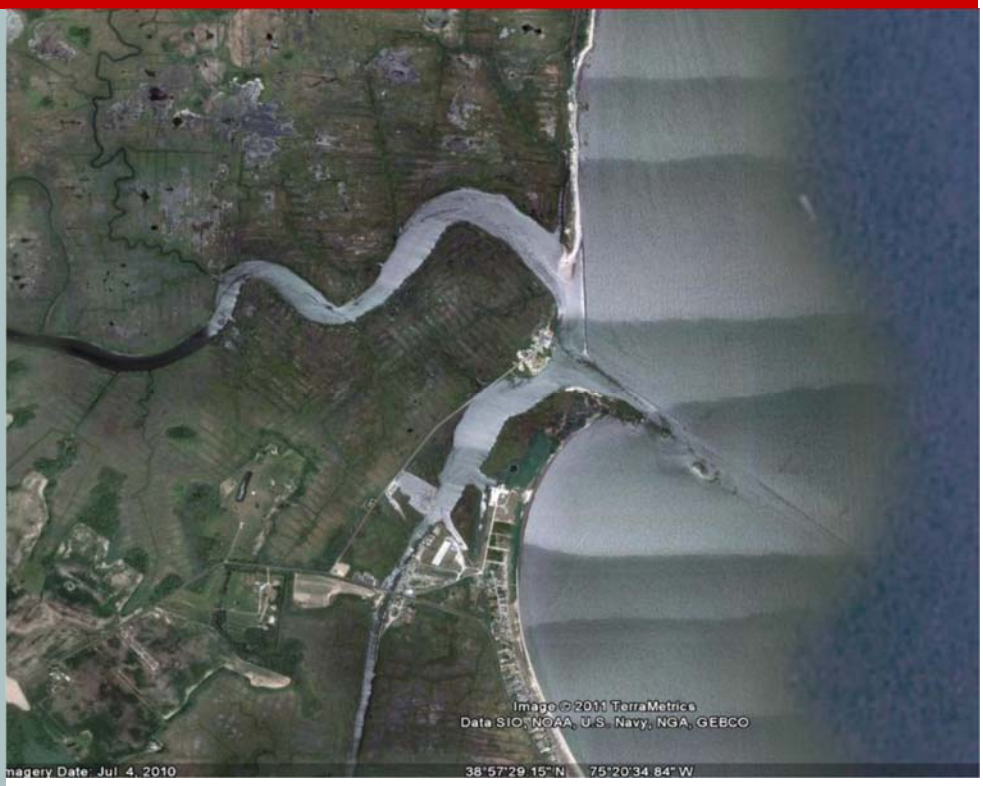
The Delaware Bay and River Cooperative (DBRC), whose mission is oil spill emergency response/cleanup for events occurring in the Delaware River and Bay, is based in this waterway. The DBRC has positioned the oil spill response vessel DELRIVER in Lewes. The location of DELRIVER in the University of Delaware's harbor, with direct access to Roosevelt Inlet, is strategically important for response to potential spills in the Big Stone Beach Anchorage and approaches. On average more than one million barrels of crude oil a day move into the Delaware Bay and River area. A majority of the bulk crude oil carriers lighter at Big Stone Beach Anchorage, and require spill coverage before proceeding up the Bay to the Delaware River refineries. DBRC located the DELRIVER in Lewes because a 45 minute response time is possible from its mooring location at Roosevelt Inlet. Continuing maintenance dredging, when needed, is critical to the ability of the DELRIVER to respond to emergency situations in a timely manner regardless of tide stage.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	5	Impacted by Low Use Navigation budget cuts
FY 15 Allocation	11	Impacted by Low Use Navigation budget cuts
FY 16 Allocation	8	Impacted by Low Use Navigation budget cuts
FY 17 Allocation	1,055	Funded through FY 17 Work Plan
FY 18 Budget	0	Impacted by Low Use Navigation budget cuts
FY 18 Allocation	TBD	
FY 19 Budget	180	Impacted by Low Use Navigation budget cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Mispillion River, Sussex County, DE

- **Authority:** HD 56-102, 74-83, 678. R&H Comm. Doc. 83. SD 229.
- **Congressional District:** DE-AL



Mispillion Project Area

Authorized under HD 56-102 in 1907 and modified as HD 74-83 in R & H Act HD 678, 62nd Congress, 2nd Session (1919) and modified by R & H Com Doc. 83, 74th Congress, 2nd Session (1937) and modified by SD 229, 81st Congress, 2nd Session (1954).

The waterway rises in Kent and Sussex Counties, Delaware. It flows northeasterly 13 miles along the boundary line between the two counties and empties into the Delaware Bay about 16 miles above Cape Henlopen, Delaware. The waterway provides an entrance channel six feet deep and 60 feet wide from Delaware Bay to the landward side of the jetties.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Charlie Myers
Phone : (215) 656-6736
E-mail:
Charles.j.myers@usace.army.mil

Mispillion River, Sussex County, DE

- **Project Goals:** The purpose of this project provides for an entrance channel from the Delaware Bay to the landward side of the jetties.

Channel condition surveys will be performed in the spring of FY 2018.

FY 2018 funding capabilities exist to perform maintenance dredging of the project entrance channel and minimal operation and maintenance caretaker tasks and response to public inquiries.

This waterway supports the only launch service that provides safe transport of personnel and supplies to tanker vessels anchored in Delaware Bay and the nearby Atlantic Ocean. Reports of vessel groundings and associated damages have been reported during lower tide stages and prolonged blow-out tide periods.

The U.S. Coast Guard has expressed concern that further shoaling in the channel could delay the response of oil spill emergency clean-up and containment contractors during lower tide stages.

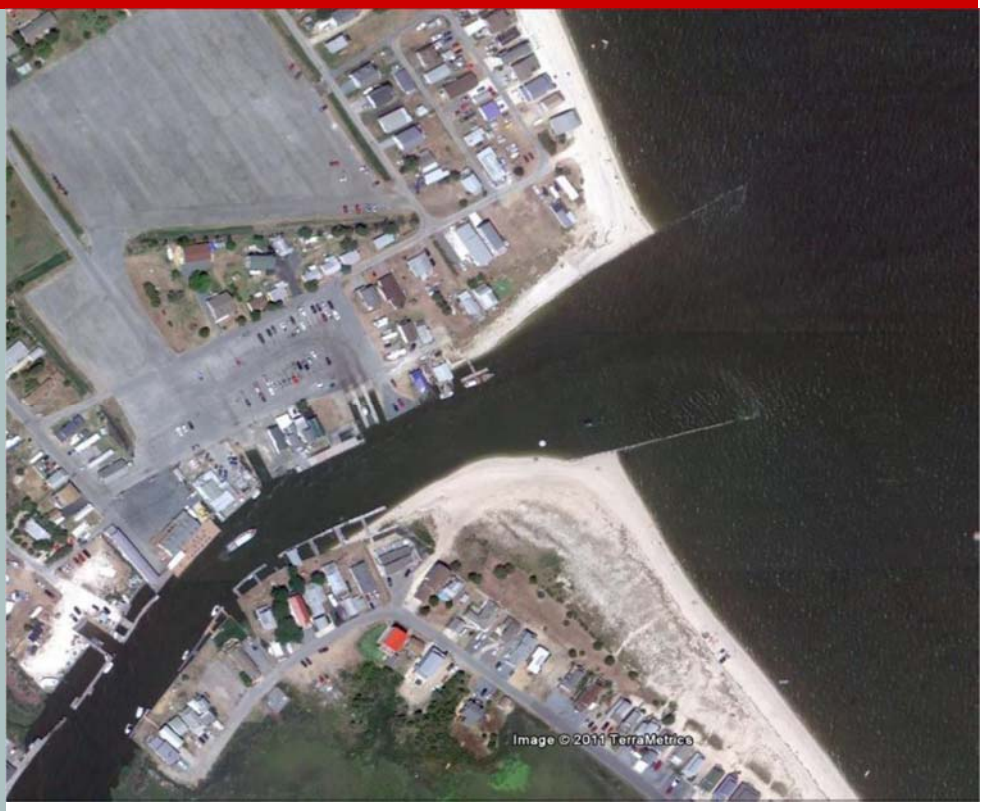
Failure to perform much needed maintenance dredging will result in hazardous navigating conditions, damage to commercial, charter and recreational vessels, delays in service to the shipping industry utilizing the Delaware River, Philadelphia to Sea Channel, restricted and/or delayed Coast Guard national security vessel audits and economic hardships to a majority of the local residents who have waterway related occupations in nature.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 15 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 16 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 17 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 18 Budget	0	Impacted by Low Use Navigation budget cuts
FY 18 Allocation	TBD	Impacted by Low Use Navigation budget cuts
FY 19 Budget	0	Impacted by Low Use Navigation budget cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Murderkill River, Sussex County, DE

- **Authority:** HD 21, 62-1058. SD 71-106.
- **Congressional District:** DE-AL



Entrance channel of Muderkill River at Delaware Bay

The existing project was authorized in 1892 (HD 21, 52nd Cong, 1st Session) and modified in 1912 (HD 62-1058) and 1930 (SD 71-106).

The project provides for a channel 7 feet deep at mean low water, 60 feet wide in Delaware Bay to mouth, and then 60 feet wide to Frederica, 7.5 miles above mouth. Total length of section included in project is about 8.5 miles.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Charlie Myers
Phone : (215) 656-6736
E-mail:
Charles.j.myers@usace.army.mil

Murderkill River, Sussex County, DE

- **Project Goals:** The purpose of this project provides for a channel in Delaware Bay, and Frederica.

A new channel exam will be accomplished in FY 18 along with the issuance of an updated channel statement to navigation users. FY 18 funding capability exists for minimal operation and maintenance caretaker tasks and maintenance dredging of the project entrance channel.

Approximately ten commercial fishing and crabbing vessels are based at Murderkill River. During peak seasons, there are additional commercial vessels operating out of the inlet, peaking at more than 100. A large number of tourists are attracted to the charter fishing opportunities.

Deteriorating shoaling conditions would negatively impact the use of this project as a safe harbor in the event of dangerous weather conditions. The U.S. Coast Guard, which operates an auxiliary station at Murderkill River, would be unable to respond to emergency situations at lower tide stages due to draft restrictions.

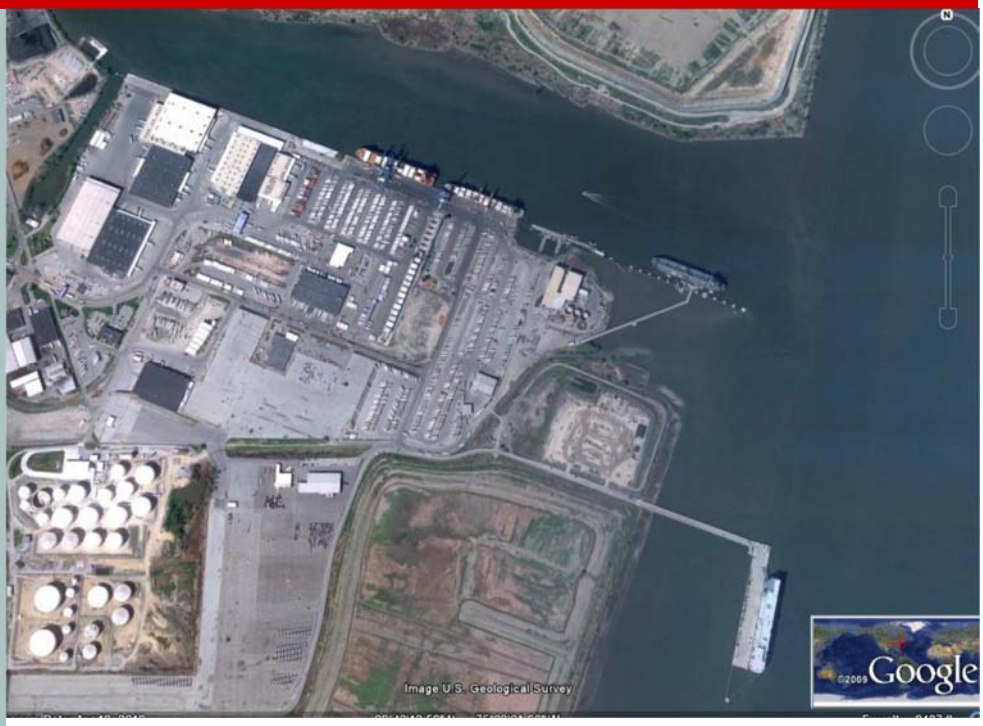
Failure to perform continued maintenance would result in damage to commercial vessels, and severely impact the economy of the local communities, since a majority of the local residents have occupations which are waterway-related (commercial/charter fisherman).

Summarized Federal Financial Data ($000)		
FY 14 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 15 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 16 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 17 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 18 Budget	0	Impacted by Low Use Navigation budget cuts
FY 18 Allocation	TBD	Impacted by Low Use Navigation budget cuts
FY 19 Budget	0	Impacted by Low Use Navigation budget cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Wilmington Harbor, New Castle County, DE

- **Authority:** HD 54 66, 67 114, 71 20, 73 32, 76 568. SD 86 88. Section 10 of the River and Harbor Act of 1960.
- **Congressional Districts:** DE-AL



The project extends from the confluence of the Delaware River and the Christina River upstream, a length of about 9.9 miles. It is located 65 miles from the Atlantic Ocean. The photo shows Wilmington Harbor.

The existing project, adopted as HD 54-66 in 1896 and 1899, and modified by HD 67-114 in 1922, by HD 71-20 in 1930, by HD 73-32 in 1935, by HD 76-658 in 1940, by SD 86-88 in 1960, and further modified pursuant to the authority of Section 107 of the River and Harbor Act of 1960 (PL 86-645).

The project provides for a channel with depths of 38, 35, 21, 10, and 7 feet from the Delaware River to Newport, DE, a turning basin 2050 feet long, 640 feet wide and 38 feet deep opposite the Wilmington Marine Terminal, and jetties at the mouths of Christina and Brandywine Rivers.

The Port of Wilmington is a full service Mid-Atlantic seaport strategically located to provide overnight access to 200 million North American consumers. Wilmington ranks as the world's top banana port, and the nations leading gateway for imports of fresh fruit and juice concentrates. An economic engine for the State of Delaware and the region, it is responsible for over 19,000 jobs, $439 million in business revenue impact, and $41 million in regional annual tax revenue. The Port is owned and operated by the Diamond State Port Corporation, a corporation of the State of Delaware.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Charlie Myers
Phone : (215) 656-6736
E-mail:
Charles.j.myers@usace.army.mil

Wilmington Harbor, New Castle County, DE

- **Project Goals:** The purpose of this project is to provide for a channel from the Delaware River to Newport, DE, a turning basin opposite of the Wilmington Marine Terminal, and jetties at the mouths of Christina and Brandywine Rivers.

A partial winter dredging of the outer end of the project from the east end of berth 1 to its entrance at the Delaware River commenced 1 December 2017. The work was completed 6 December 2017.

The following work will be accomplished in FY 2018: Monthly channel condition surveys and issuance of channel statements to the maritime community, disposal area maintenance and construction activities by in house hired-labor group along with leased equipment service contract work and environmental support services.

The annual maintenance-dredging contract for both the 35-foot and 38-foot project channels and turning basin will be advertised on 26 April 2018. Bids will be received on 30 May 2018. Actual dredging should commence in early July 2018 with completion within 30 days.

A partial winter dredging of the outer end of the project from the east end of Berth 1 to its entrance at the Delaware River will be accomplished in January 2019.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	5,351	
FY 15 Allocation	3,653	
FY 16 Allocation	3,807	
FY 17 Allocation	5,062	Additional funds received from reprogramming ($750)
FY 18 Budget	8,085	
FY 18 Allocation	TBD	
FY 19 Budget	5,491	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Absecon Inlet, Atlantic County, NJ

- **Authority:** HD 375, 504
- **Congressional District:** NJ-2

Project area showing Absecon Inlet, located between Brigantine and the northern end of Atlantic City.

Approved by HD 375, 67th Congress and HD 504, 79th Congress.

The project provides for an inlet entrance 20 feet deep at mean low water and 400 feet wide, an entrance channel 15 feet deep and 200 feet wide from the inlet channel into Clam Creek, and a turning basin 15 feet within Clam Creek. The total length of the section included in the project is about 1.5 miles.

This project was authorized to provide a safe navigation channel for commercial, recreational and US Coast Guard use. The USCG, Station Atlantic City uses this federal channel to conduct their critical life safety operations. The channel supports the commercial fishing industry with a direct fish value of $20M annually (NMFS, 2016).

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656– 6683
E-mail:
monica.a.chasten@usace.army.mil

Absecon Inlet, Atlantic County, NJ

- **Project Goals:** The purpose of this project provides for an inlet entrance 20 feet deep at mean low water and 400 feet wide, an entrance channel 115 feet deep and 200 feet wide from the inlet channel into Clam Creek, and a turning basin 15 feet within Clam Creek.

In FY18, the Corps will conduct Project Condition Surveys and coordinate project status with the public, local stakeholders and US Coast Guard. For the last six years, the project has been affected by Low Use Navigation budget cuts, but received FY18 funds to conduct maintenance dredging of shoaling in the entrance channel. Sediment samples will be conducted and permits will be obtained. Maintenance dredging will most likely be conducted using the Government Dredge Currituck or Murden with placement in the nearshore zone supporting the Absecon Island federal shore protection project. Future federal beach fill operations should continue to utilize the inlet entrance channel as a sand borrow source in a systems approach to maintain the navigation channel.

A severe shoal composed of fine-grained material exists at the entrance to the Clam Creek portion of the channel. Sediment analyses were conducted in 2010, but no placement area or funding is available to remove the shoal, which continues to impede navigation into Gardiner's Basin. The State of New Jersey is required to provide a placement area, but there is currently no practical site available. The local community continues to express concern as they try to promote recreational use and economic development of the area.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 15 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 16 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 17 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 18 Budget	175	Maintenance Dredging of Inlet
FY 18 Allocation	TBD	
FY 19 Budget	0	Maintenance Dredging of Inlet

Barnegat Inlet, Ocean County, NJ

- **Authority:** HD 73-19, HD 74-85, HD 79-358
- **Congressional District:** NJ-2, NJ-3

Project area showing Barnegat Inlet between Island Beach State Park and Barnegat Light.

Adopted as HD 73-19 in 1935 and modified as HD 74-85 in 1937 and HD 79-358 in 1946.

Project provides for a channel 8 feet deep through the inlet and 10 feet deep through the outer bar, a channel of suitable hydraulic characteristics extending in a northwesterly direction from the inlet gorge to Oyster Creek channel and through the latter channel to deep water in the bay, and the maintenance of a channel 8 feet deep and 200 feet wide to connect Barnegat Light Harbor with the main inlet channel. Project has two rubble-mound jetties. The project length is about 4.5 miles as described above. It was originally completed in 1940, but the Supplemental Appropriation Act of 1985 contained language stating that the existing project had not worked as projected and, in fact, created a hazard to navigation. As a result, the following administratively approved modifications were constructed in 1991 as design deficiency measures: a new south jetty 4,270 feet in length along an alignment generally parallel to the existing north jetty, a navigation channel 300 feet wide to a depth of 10 feet below mean low water from the outer bar in the Atlantic Ocean to the north end of the existing sand dike in Barnegat Bay, jetty sport fishing facilities on the new jetty.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656– 6683
E-mail:
monica.a.chasten@usace.army.mil

Barnegat Inlet, Ocean County, NJ

- **Project Goals:** The purpose of this project provides for a channel through the inlet and through the outer bar, a channel of suitable hydraulic characteristics extending in a northwesterly direction from the gorge in the inlet to Oyster Creek channel and through the latter channel to deep water in the bay, and the maintenance of a channel to connect Barnegat Light Harbor with the main inlet channel. The project also provides for protecting the inlet channel with two converging stone jetties.

FY17 O&M funds were used to dredge the inlet channel and perform surveys. FY18 funds are being used for channel condition surveys and maintenance dredging with the Government Dredge Currituck or Murden with placement in the nearshore. Funds were also used to conduct maintenance dredging of the Oyster Creek Channel in FY17 and FY18.

The inlet entrance channel continues to have significant shoaling rates in this sediment rich coastal system. Current funding levels allow for enough dredging to at least keep the federal channels open for navigation and the US Coast Guard. Additional funds are needed to clear the channel to authorized depth. Funds could also be used to monitor channels and better assess the regional system, leading to optimized dredging and maintenance operations in the future. Use of the Government Dredges continues to be a good return on investment as the channel is maintained on limited annual funds. Material dredged from inlet is beneficially used by placing it back into the near shore zone in support of the federal beach fill along Long Beach Island.

The project requires dredging to provide a safe, reliable navigation channel for a critical refuge between the Atlantic Ocean and the bay. The US Coast Guard designates this site as a “Surf Station” due to the hazardous inlet and requires a safe channel to fulfill their Homeland Security mission and critical life safety, search and rescue operations.

The project is critical to a large fishing fleet consisting of full-time commercial, charter and recreational vessels that contribute to the economic value of the nation and an annual direct fish value of over $27M/year.

.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	766	Dredge Inlet & perform channel surveys
FY 15 Allocation	416	Dredge Inlet & perform channel surveys
FY 16 Allocation	771	Dredge Inlet & perform channel surveys
FY 17 Allocation	1,256	Dredge Inlet & perform channel surveys
FY 18 Budget	450	Dredge Inlet & perform channel surveys
FY 18 Allocation	TBD	
FY 19 Budget	9	Impacted by Low Use Navigation Budget Cuts

Cold Spring (Cape May) Inlet, Cape May County, NJ

Authority: Existing project, adopted in 1907 and modified in 1945.

Congressional District: NJ-2

Project area showing Cold Spring Inlet and Cape May Harbor.

This project provides for an entrance channel 25 feet deep and 400 feet wide, protected by two parallel stone jetties, and extending from the 25-foot depth curve in the ocean to a line 500 feet landward of a line joining the inner ends of the jetties; thence 20 feet deep and 300 feet wide to deep water in Cape May Harbor. The total length of the section included in the project is about 2 1/4 miles.

This authorized project provides a safe navigation channel for commercial, recreational and US Coast Guard use. The USCG, Station Cape May uses this federal channel to conduct critical life safety operations.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656-6683
E-mail:
monica.a.chasten@usace.army.mil

Cold Spring (Cape May) Inlet, Cape May County, NJ

- **Project Goals:** The purpose of this project is to provide a safe navigation channel for commercial, recreational and US Coast Guard

The inlet and portions of the harbor channel were surveyed and dredged in FY2017 using the Government Dredges Currituck and Murden. Similar work is being performed in FY2018 to maintain a safe navigation channel. $7,200,000 was budgeted in FY2019 for Project Monitoring and Beach Renourishment for the Cape May Inlet to Lower Township, NJ project due to Navigation Mitigation from the Federal Navigation Channel. This work has been historically funded in the Construction General appropriation.

The funding historically provided for this project proves a good return on investment since minimal funding can be used efficiently to maintain the inlet entrance channel. A small, but persistent shoal forms and impedes navigation near the channel centerline at the entrance to the jetties. This shoal impacts USCG operations if not maintained. Current funding is adequate to completely remove the shoaling with the Government Dredge Currituck or Murden twice per year. The portion of the channel through Cape May Harbor has significant shoaling that impacts the commercial

The channel supports the commercial fishing industry, specifically the largest Fishery Landing in NJ (13th largest in the US), contributing

Summarized Federal Financial Data ($000)		
FY 14 Allocation	371	Dredge Inlet and perform surveys
FY 15 Allocation	371	Dredge Inlet and perform surveys
FY 16 Allocation	921	Dredge Inlet and perform surveys
FY 17 Allocation	287	Dredge Inlet and perform surveys
FY 18 Budget	580	Dredge Inlet and perform surveys
FY 18 Allocation	TBD	
FY 19 Budget	7,203	Impacted by Low Use Navigation Budget Cuts (O&M) (See above)

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Delaware River at Camden, Camden County, NJ

- **Authority:** Section (3a) of the Water Resources Development Act
- **Congressional District:** NJ-1

Beckett St. Terminal—Camden, NJ

The existing project which is a modification to the Delaware River from Philadelphia to the Sea project was adopted as House Document No. 63 1120 in 1919 and modified by House Document No. 70-111 in 1930 and House Document No. 77-353 in 1945. Section (3a) of the Water Resources Development Act of 1988 authorized the modification of the existing Delaware River in the vicinity of Camden, New Jersey project. The project document referenced in the authorizing legislation is House Document 100-167 (Delaware River, Philadelphia to Wilmington, Pennsylvania and Delaware). Federal participation in the latest modification work (to 40') within Beckett Street Terminal was accomplished as a result of the project sponsor furnishing assurances of compliance with Section 221 of the Flood Control Act of 1970 (Public Law 91-611) and, entering into a Local Cooperation Agreement as per the Water Resources Development Act of 1986 (PL99-662).

The Port of Camden has all of the necessary infrastructure for efficient cargo transportation: rail links, major highways, access to trucking services, and a network of warehouses. The Port handles industrial and commercial cargo, as well as perishables. The Port is known for its handling of breakbulk cargoes, especially wood and steel products.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Tim Rooney
Phone: (215) 656-6592
E-mail:
timothy.j.rooney@usace.army.mil

Delaware River at Camden, Camden County, NJ

- **Project Goals:** The purpose of this project provides for modification of the existing Delaware River project in the vicinity of Camden, New Jersey.

Condition surveys was performed in FY 17 and will be performed in FY 18 and FY 19. Project is at the authorized depths.

Port activity in the vicinity of Camden, NJ.

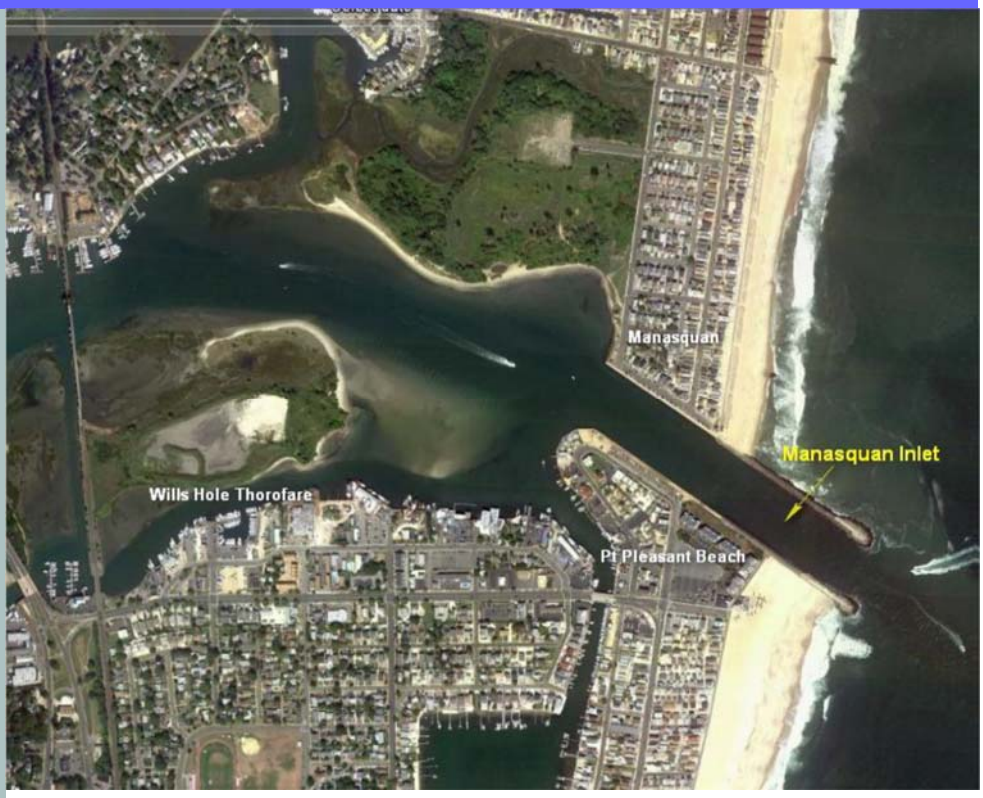
Summarized Federal Financial Data ($000)		
FY 14 Allocation	15	Channel Surveys
FY 15 Allocation	15	Channel Surveys
FY 16 Allocation	15	Channel Surveys
FY 17 Allocation	15	Channel Surveys
FY 18 Budget	15	Channel Surveys
FY 18 Allocation	TBD	Channel Surveys
FY 19 Budget	15	Channel Surveys

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Manasquan River, Ocean County, NJ

- **Authority:** River and Harbor Act of 1930 (46 Stat. 918) and modified by Water Resources Development Act of 1986 (P.L. 99-662)

- **Congressional Districts:** NJ-3, NJ-4



Project area showing Manasquan Inlet, Pt. Pleasant Beach and Wills Hole Thorofare.

This project provides for a channel 14 feet deep and 250 feet wide, protected by jetties and bulkheads, from the Atlantic Ocean to the inshore end of the north jetty; thence 12 feet deep and 300 feet wide to within 300 feet of the New York and Long Branch RR Bridge. The channel is approximately 1.5 miles long.

The project provides a safe, reliable navigation channel for commercial, recreational and US Coast Guard use. The USCG Station, Manasquan requires a safe channel to fulfill their Homeland Security mission and critical life safety, search and rescue operations.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656– 6683
E-mail:
monica.a.chasten@usace.army.mil

Manasquan River, Ocean County, NJ

- **Project Goals:** The purpose of this project provides for a navigation channel protected by jetties and bulkheads, from the Atlantic Ocean to the inshore of the north jetty.

FY 17 funds were used to perform channel surveys and dredge the inlet using the Government Dredge Currituck. Funds were adequate to maintain to authorized channel depth by dredging twice per year. FY 18 funds being used to perform condition surveys and maintain the inlet and portions of Wills Hole Thorofare with the Currituck. The funding historically provided for this project proves a good return on investment since minimal funding can be used efficiently to maintain the channel. Sand dredged is beneficially used by placing it back in the nearshore system in support of the New York District's federal shore protection project to the north.

A new location to dock the Currituck is required to ensure efficient dredging operations and safe crew changes. The Currituck presently uses facilities at Shark River Inlet. Coordination of required facilities and potential local options is ongoing with the Wilmington District.

The project supports the commercial fishing industry with an annual direct fish value of over $32M/year. During the summer months, over 500 commercial and recreational vessels pass through the channel per day.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	312	Dredge Inlet and perform channel surveys
FY 15 Allocation	605	Additional Work Plan Funding ($235) was provided to enable critical 2nd increment of maintenance dredging of the Inlet.
FY 16 Allocation	650	Dredge Inlet and perform channel surveys
FY 17 Allocation	266	Dredge Inlet and perform channel surveys
FY 18 Budget	435	Dredge Inlet and perform channel surveys
FY 18 Allocation	TBD	
FY 19 Budget	2	Impacted by Low Use Navigation Budget Cuts

Maurice River, New Jersey

- **Authority:** Section (3a) of the Water Resources Development Act
- **Congressional District:** NJ-2

Maurice River Upstream View

The existing project adopted as HD 59-644 in 1910 and modified as HD 73-275 in 1935. This provided for a channel 8 feet deep and 150 feet wide in Delaware Bay across Maurice Cove to the mouth; thence a channel 7 feet deep, 100 feet wide to the fixed bridge at Millville, 21.5 miles above the mouth, and then 60 feet wide to the mill dam, a further distance of one-half mile, including a turning basin 7 feet deep at Millville. The total length of the section included in the project was about 24 miles. All depths refer to the plane of mean low water. The extreme tide range is from about 1 foot below mean low water to about 1 foot above mean high water. The Maurice River supports local fishing and ship repair industries. The shipyard performs repairs on Federally owned assets, which server the greater Philadelphia Port Complex.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656-6683
E-mail:
Monica.A.Chasten@usace.army.mil

Maurice River, New Jersey

- **Project Goals:** The purpose of this project provides for maintenance dredging to authorized 8 foot depth.

Project condition surveys and sediment sampling were done in FY 2017.

Beneficial use placement using dredged material is under investigation.

Summarized Federal Financial Data ($000)		
FY 15 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 16 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 17 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 18 Budget	0	Impacted by Low Use Navigation Budget Cuts
FY 18 Allocation	TBD	Impacted by Low Use Navigation Budget Cuts
FY 19 Budget	0	Impacted by Low Use Navigation Budget Cuts

New Jersey Intracoastal Waterway, NJ

- **Authority:** PL 79-14, PL 79-525, PL 99-662
- **Congressional Authority:** NJ-2, NJ-3, NJ-4

Project location of the Cape May Canal and disposal areas as part of the NJIWW project.

Authorization: River and Harbor Act of 1945 (P.L. 79-14) and modified by the River and Harbor Act of 1946 (P.L. 79-525) and the Water Resources Development Act of 1986 (P.L. 99-662).

This sea-level inland waterway, extends along the New Jersey Coast from the Atlantic Ocean at Manasquan Inlet, about 26 miles south of Sandy Hook, NJ to the Delaware Bay about 3 miles north of Cape May Point. The waterway extends through the inlet and up Manasquan River about 2 miles and thence through Point Pleasant Canal about 2 miles to the head of Barnegat Bay. It then passes through a series of bays, lagoons and thoroughfares along the New Jersey coast to Cape May Harbor and thence across Cape May County to Delaware Bay (Cape May Canal). This project is maintained to a depth of 6 feet Mean Low Water (MLW), except in the southern portion in the vicinity of the Cape May Canal where it is maintained to a depth of up to 12 feet MLW. Project length is 117 miles.

This project provides a safe, reliable, and operational navigation channel for the East Coast's largest and 5th most valuable commercial fishing fleet in the U.S. (Cape May/Wildwood) and nine U.S. Coast Guard Stations including Cape May training base. The USCG requires a reliable channel to fulfill their Homeland Security requirements, and conduct search & rescue operations. The Delaware River and Bay Authority operates a ferry service between Cape May, NJ and Lewes, DE and the ferries dock in the Cape May Canal. Almost 1.5 million passengers and $17.2 million in revenues are dependent on maintenance dredging to keep the four vessels operating. Discontinuance of this ferry service would result in vehicle detours of 183 miles. The South Jersey economy is heavily dependent on recreational and commercial fishing and tourism, and these industries rely on the maintained channels of the NJIWW.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656-6683
E-mail:
monica.a.chasten@usace.army.mil

New Jersey Intracoastal Waterway, NJ

- **Project Goals:** The purpose of this project provides for a sea-level island waterway, extending along the New Jersey Coast from the Atlantic Ocean at Manasquan Inlet to the Delaware Bay. It extends through the inlet and up the Manasquan River, then passes through a series of bays, lagoons and thoroughfares along the New Jersey coast.

Project location of the Point Pleasant Canal as part of the NJIWW project.

This O&M navigation project received over $19M in PL 113-2 Supplemental Funds (Sandy). These funds were used to restore safe navigation by dredging critical post-storm shoals that occurred along the entire waterway, repair damaged areas of the east bulkhead along the Point Pleasant Canal and repair the Lovelandtown bridge abutment located on the canal. The Point Pleasant bulkhead repair project was completed in 2016.

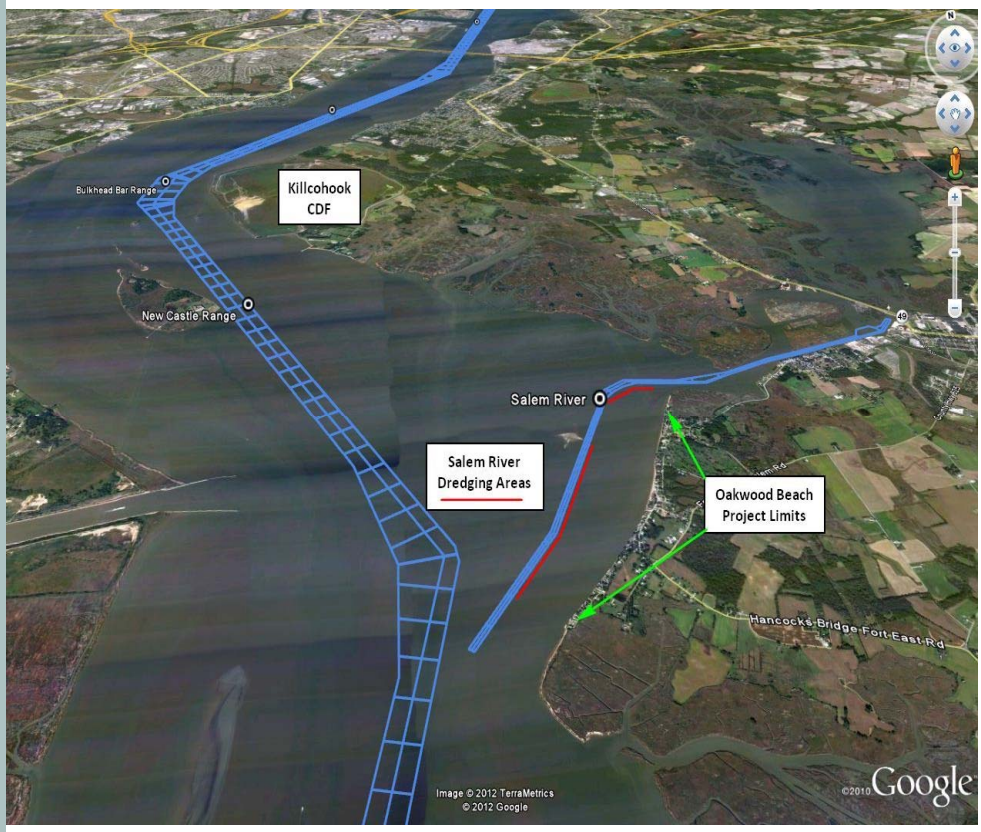
FY 17 funds were utilized to conduct surveys, real estate actions, manage the project and conduct dredging operations. FY 18 funds are being used to survey the waterway, develop new placement alternatives and to conduct dredging operations in the Cape May Lewes Ferry channel as well as along the waterway. Critical shoals remain near Ocean City, Avalon and Margate and funding was available to dredge, but no placement areas have been provided by the State of NJ and locals to conduct this work.

Dredging and placement activities have developed beneficial use alternatives to help restore the coastal system and bolster system resilience. Dredged material from the NJIWW was used to support shorelines and marshes near Mantoloking, Long Beach Island and Mordecai Island. USACE is continuing to work with partners to dredge critical shoals while building critical habitat and restoring marsh on NJDFW lands including Ring Island and near Avalon. The thin layer placement project near Avalon was precedent setting and efforts continue to develop knowledge for future marsh enhancements.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	957	Dredged Cape May Ferry Area channel; Conducted channel condition surveys, Real Estate and coordination with stakeholders and agencies
FY 15 Allocation	963	Additional Work Plan Funding ($700) was provided to dredge Cape May Ferry Area channel
FY 16 Allocation	261	Conduct channel exams and manage waterway
FY 17 Allocation	2,500	Dredge Cape May Ferry Area channel; perform channel condition surveys, Real Estate and coordination with stakeholders and agencies
FY 18 Budget	980	Dredge Cape May Ferry Area Channel
FY 18 Allocation	TBD	Dredge Cape May Ferry Area
FY 19 Budget	50	Impacted by Low Use Navigation Budget Cuts

Salem River, Salem County, NJ

- **Authority:** HD 68 110.
- **Congressional District:** NJ-2



Salem River Project Area

The existing project was adopted in 1925 (HD 68-110).

It provides for an entrance channel 16' deep and 150' wide in the Delaware River across Salem Cove to the mouth thence 16' deep and 100' wide to the fixed highway bridge in Salem. It also provides for a cutoff between the mouth and Salem. The project length is approximately 5 miles.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Tim Rooney
Phone: (215) 656-6592
E-mail:
timothy.j.rooney@usace.army.mil

Salem River, Salem County, NJ

- **Project Goals:** The purpose of this project provides for an entrance channel in the Delaware River across Salem Cove to the fixed highway bridge in Salem.

Port of Salem

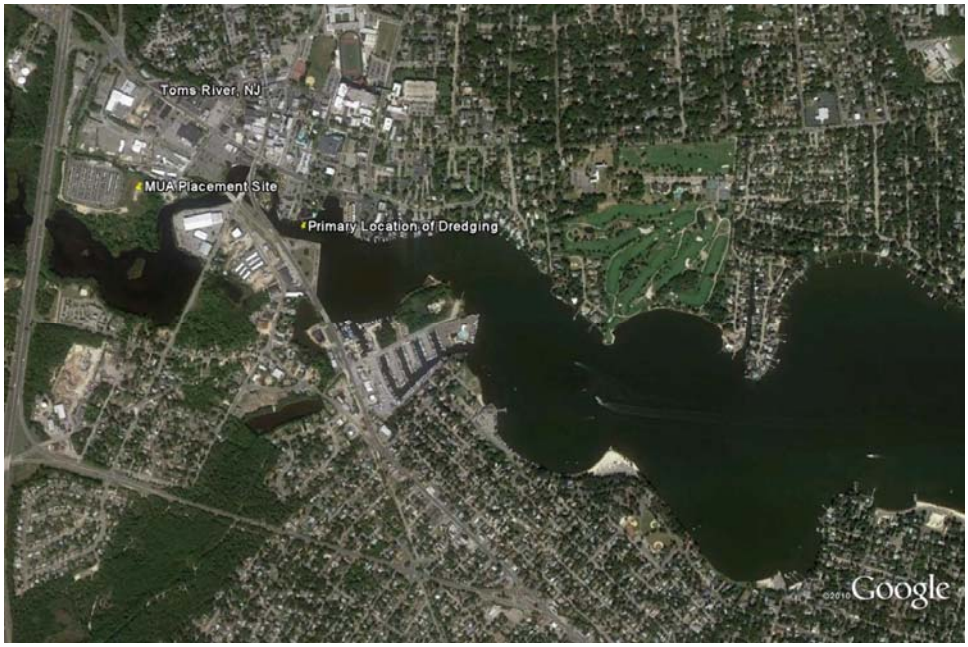
The Port of Salem is a shallow-draft port located in the vicinity of the Salem River Cut-Off on the Salem River in Salem, New Jersey. The Port is located approximately 2 miles east of the Delaware River, and 54 miles from the Atlantic Ocean. The Port became a foreign trade zone in 1987. Commodities include bulk cargo (construction aggregate), break bulk cargo, containers (clothing, agricultural produce). Port activity also has at times involved literage.

FY 17 Supplemental funding was provided to perform maintenance dredging. Current channel conditions indicated shoaling that has limited navigation to high tide only after years of storms and no funding allocated.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 15 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 16 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 17 Allocation	3,065	Received Supplemental funding in the amount of $2,965 and $100 FY 17 Work Plan funds.
FY 18 Budget	0	Impacted by Low Use Navigation budget cuts
FY 18 Allocation	TBD	
FY 19 Budget	0	Impacted by Low Use Navigation budget cuts

Toms River, Ocean County, NJ

- **Authority:** This project was adopted in 1910 and modified in 1945.
- **Congressional Districts:** NJ-3, NJ-4



Aerial view of project area—Toms River, NJ

This project provides for a channel 12 feet deep and 100 feet wide, from the New Jersey Intracoastal Waterway channel at Barnegat Bay to the highway bridge over South Fork at Toms River, including a turning basin. The project also provides for channel 5 feet deep for the full width of the North Fork to the highway bridge. The channel is approximately 4.5 miles long.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656-6683
E-mail:
monica.a.chasten@usace.army.mil

Toms River, Ocean County, NJ

- **Project Goals:** The purpose of this project provides for a navigation channel from the New Jersey Intracoastal Waterway channel at Barnegat Bay to the highway bridge over South Fork.

PL 112-77 Emergency Supplemental Funding (Irene) in the amount of $650,000 was received to dredge the channel following shoaling that occurred from Hurricane Irene. That work was conducted in October through December 2012 by the Government Plant Snell and work efforts were impacted by Hurricane Sandy which occurred in late October 2012. The portion of the channel dredged is near the River Lady and has an authorized depth of 5 foot MLW.

PL 113-2 Supplemental Funds (Sandy) in the amount of $250,000 was received and used to dredge the channel and remove additional shoaling that occurred as a result of Hurricane Sandy. This work was completed in January 2014.

A safe navigation channel is critical to the operations of several commercial businesses in Toms River including the River Lady Riverboat Tours. Material dredged from the channel in 2012 and 2014 was sand and was placed in a confined disposal area on property owned by the Toms River Municipal Authority. A lack of funding in the regular budget prevents dredging and impacts commercial businesses that utilize the channel.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 15 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 16 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 17 Allocation	0	Impacted by Low Use Navigation Budget Cuts
FY 18 Budget	0	Impacted by Low Use Navigation Budget Cuts
FY 18 Allocation	TBD	Impacted by Low Use Navigation Budget Cuts
FY 19 Budget	0	Impacted by Low Use Navigation Budget Cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Beltzville Lake, Beltzville, PA

- **Authority:** HD 87 522
- **Congressional District:** PA-11

The project consists of an earth and rock filled dam; a spillway around the north end of the dam; and gate controlled outlet works discharging through a conduit on rock along the right abutment.

The project was adopted as HD 87 522 in 1962.

The dam is located on Pohopoco Creek 4 1/2 miles from its confluence with the Lehigh River and 4 miles east of Lehighton, Pennsylvania. The project was completed in 1971. Annual funding is used for routine operations and maintenance of the dam and related structures, including project buildings, grounds and equipment; also water control data collection, evaluation data gathering and analysis, water quality analysis, real estate and dam safety efforts.

The Beltzville Lake Project is an integral part of the Lehigh River Flood Control Program. This project, in addition to aiding in flood control along the Pohopoco Creek and the Lehigh River, operates for water supply, water quality control, low flood augmentation in the Lehigh River and Lower Delaware River and salinity repulsion in the Delaware River Estuary.

Authorized purposes of this project are flood control, water supply, and low flow augmentation. Secondary purposes are recreation and water quality control.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656– 6683
E-mail:
monica.a.chasten@usace.army.mil

U.S. Army Corps of Engineers, Philadelphia District

Beltzville Lake, Beltzville, PA

- **Project Goals:** The purpose of this project provides for multiple purpose development for water supply, flood control and recreation. It consists of a dam, spillway around the north end of the dam, and a gate controlled outlet.

FY17 work included completion of required inspections of the intake and outlet works, service and spillway bridges, and HSS components of the dam. Other work included removal of hazardous materials from the barn and house, herbicide spraying, equipment updates and continued design work on the arc flash investigation and concrete repairs of spillway slab.

In addition to routine operation and maintenance of the dam, real estate and water control and water quality operations, FY18 funds are being used to conduct required dam safety inspections including a Periodic Inspection and Operational Condition Assessment as well as a Tabletop Emergency exercise. Additionally, funds will be used to upgrade the communications equipment as well as repair the damaged guides for the water quality gate and rehabilitate the bulkhead identified in the HSS inspection. A CRM-D Assessment will be initiated using funds provided by NAD.

Project has prevented cumulative damages of over $35M between 1972 and 2017.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	1,238	O&M of the dam and facilities, dam safety efforts, required water control and water quality analyses, coordinate solar power project, coordinated with stakeholders
FY 15 Allocation	1,817	O&M of the dam and facilities, dam safety efforts, required water control and water quality analyses, coordinate solar power project, coordinated with stakeholders
FY 16 Allocation	1,103	O&M of the dam and facilities, dam safety efforts, required water control and water quality analyses, coordinate solar power project, coordinated with stakeholders
FY 17 Allocation	1,396	O&M of the dam and facilities, dam safety efforts, required water control and water quality analyses, coordinated with stakeholders, required dam safety inspections
FY 18 Budget	1,305	O&M of the dam and facilities, dam safety efforts, required water control and water quality analyses, real estate, coordination with stakeholders, required dam safety inspections
FY 18 Allocation	TBD	
FY 19 Budget	1,641	O&M of the dam and facilities, dam safety efforts, required water control and water quality analyses, real estate, coordination with stakeholders, required dam safety inspections

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Blue Marsh Lake, Leesport, PA

- **Authority:** HD 87 522
- **Congressional District:** PA-17

Project site showing Blue Marsh Lake.

The Blue Marsh Lake project was adopted as HD 87 522 in the Flood Control Act of 1962. It consists of an earth and rock fill dam; a spillway south of the dam and gate controlled outlet works discharging through a conduit on rock along the right abutment. The dam site is located on Tulpehocken Creek about 1.5 miles upstream from its confluence with Plum Creek and about six miles northwest of Reading, PA. Project construction was completed in 1980.

This project is an integral part of the Schuylkill River Flood Control Program. In addition to aiding in flood control along the Tulpehocken Creek and the Schuylkill River, the project will operate for water supply, water quality control and low flow augmentation in the Schuylkill River and salinity repulsion in the Delaware River Estuary. Authorized purposes are flood control, water supply and low flow augmentation. Secondary purposes are recreation and water quality control. This project has prevented cumulative damages of over $91M between 1978 and 2017.

The recreation program attracts almost 900,000 visitors a year, with an economic benefit to the local community of $9.44 million in visitor spending. The stewardship program at the project provides an environmental benefit by protecting 6,162 acres of land and 1,150 acres of water.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656– 6683
E-mail:
monica.a.chasten@usace.army.mil

U.S. Army Corps of Engineers, Philadelphia District

Blue Marsh Lake, Leesport, PA

- **Project Goals:** The purpose of this project provides for multiple purpose development for water supply, flood control, and recreation. It consists of an earth and rock fill dam; a spillway south of the dam and gate controlled outlet works discharging through a conduit on rock along the right abutment.

Annual funding is used for routine operations and maintenance of the dam and related structures, including project buildings, grounds and equipment, management of public-use areas such as access roads, parking lots, picnic areas and an overlook area; also evaluation data gathering and analysis and dam safety efforts; real estate actions; environmental stewardship actions and accomplishing the project's large recreation program.

In addition to routine operations and maintenance efforts, FY17 funds were also used to conduct required dam safety inspections including the intake and outlet works, bridge inspection and evaluation of the hydraulic steel structure components of the dam. An intermediate dam inspection, updating equipment and an arc flash investigation were also conducted. In FY18, in addition to annual routine efforts, funds will be used to repair bulkhead issues, conduct a tabletop exercise, upgrade equipment, and complete tasks identified in the intermediate inspection. Sustainability funds were received to purchase electric cars and charging stations.

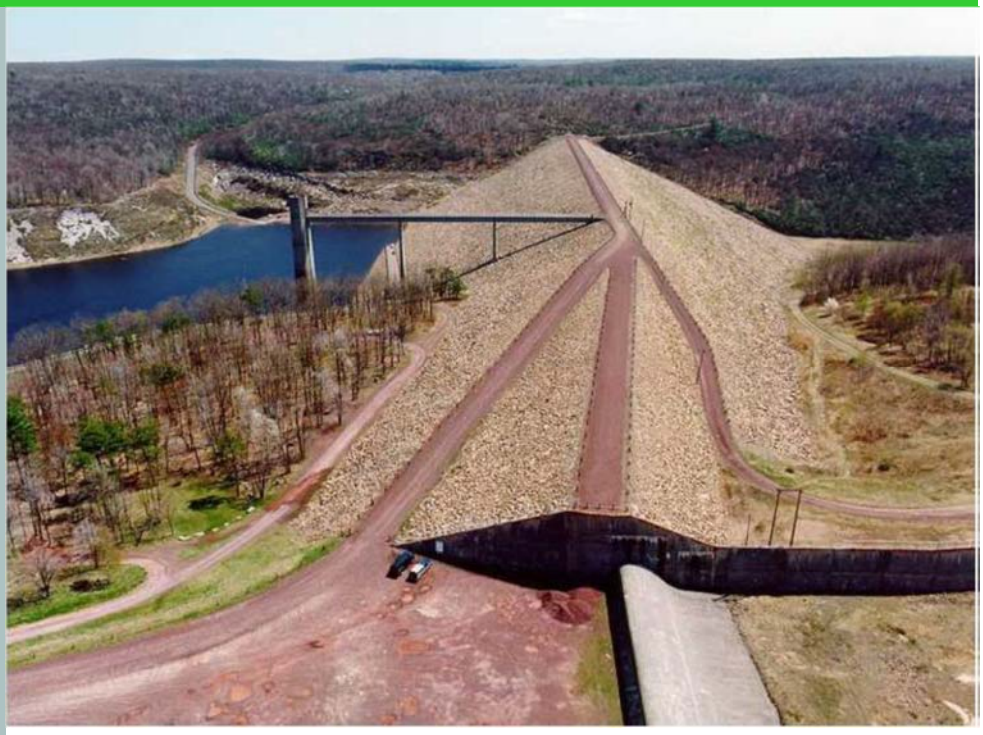
Coordination is ongoing with Delaware River Basin Commission and Western Berks Water Authority for non-Federal water supply usage. The approved Section 408 for this work was provided to WBWA in January 2018.

Summarized Federal Financial Data ($000)		
FY 15 Allocation	2,683	Conduct O&M of the dam and facilities, dam safety efforts and required water control and water quality analyses. Additional Work Plan Funding ($40) was provided. Completed water quality stem repair & Periodic Assessment.
FY 16 Allocation	2,747	Conduct O&M of the dam and facilities, dam safety efforts and required water control and water quality analyses.
FY 17 Allocation	2,981	Conduct O&M of the dam and facilities, dam safety efforts, real estate and required water control and water quality analyses.
FY 18 Budget	3,090	Conduct O&M of the dam and facilities, dam safety efforts, real estate and required water control and water quality analyses.
FY 18 Allocation	TBD	
FY 19 Budget	3,683	Conduct O&M of the dam and facilities, dam safety efforts, real estate and required water control and water quality analyses.

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Francis E Walter Dam, White Haven, PA

- **Authority:** HD 79 587, 87 522
- **Congressional District:** PA-11



The existing project, initially constructed in 1961, provides for multipurpose development for water supply, recreation and flood control. The project is located on the Lehigh River, five miles above White Haven, Pa.

The existing project, adopted as HD 79-587 in 1946, and modified by HD 87-522 in 1962.

The existing dam, completed under the 1946 Flood Control Act as a single purpose flood control project, is located on the Lehigh River, five miles above White Haven, Pa. The project is also authorized to provide for recreational benefits. This project has prevented over $212M in cumulative damages between 1961 and 2017.

In addition to routine operation and maintenance of the dam, water control and water quality operations and environmental stewardship activities, FY17 funds were used to conduct required periodic dam safety inspections including dive investigations of the intake and outlet works, service bridge inspection and evaluation of the hydraulic steel structure components of the dam. FY17 work also included repair of the damaged stem and rehabilitation of the left service gate (supplemental funds), herbicide spraying and painting the service bridge to the tower. FY18 funds will be used to conduct routine operation and maintenance of the dam, water control and water quality operations, environmental stewardship activities, an upgrade of the communications system, an emergency exercise, more detailed HSS evaluations and design of road repairs for the project.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656-6683
E-mail:
monica.a.chasten@usace.army.mil

Francis E Walter Dam, White Haven, PA

Whitewater and fishing industries utilize dam releases and there is significant interest from the public, stakeholders and elected officials in these programs. Project lake operations continue to have a positive impact on the regional economy as well as producing environmental benefits.

Stakeholders expressed interest in optimizing project operation and storage at the reservoir. In FY 15, the District completed and Division approved a Federal Interest Determination that there is a need to conduct formal investigations to examine the feasibility of changing the congressionally authorized operation and/or making modifications to the existing dam at Francis E. Walter Reservoir to better meet present and future flood control objectives, in-lake and downstream recreational use, water quality, water supply, and environmental sustainability demands. Federal funding and a cost-sharing non-Federal sponsor are needed to initiate a potential Feasibility Study.

	Summarized Federal Financial Data ($000)		
	FY 14 Allocation	944	O&M of the dam and facility, dam safety efforts, required water control and water quality analyses and required intermediate inspection. Started timber management program. Continued IAR. Coordinated whitewater/fisheries stakeholders
	FY 15 Allocation	911	O&M of the dam and facility, dam safety efforts and required water control and water quality analyses, timber management, coordinated flow/recreation plan and completed emergency electrical repairs in tower.
	FY 16 Allocation	1,080	O&M of the dam and facility, dam safety efforts and required water control and water quality analyses, coordinate flow/recreation plan, paint tower bridge, complete electrical upgrades.
	FY 17 Allocation	1,639	Additional $510 in Supplemental funds to repair left service gate and damaged stem.
	FY 18 Budget	875	O&M of the dam and facility, dam safety efforts and required water control and water quality analyses, environmental stewardship activities, and coordinated flow/recreation plan.
	FY 18 Allocation	TBD	
	FY 19 Budget	2,720	O&M of the dam and facility, dam safety efforts and required water control and water quality analyses, environmental stewardship activities, coordinated flow/recreation plan, and repair entrance road.

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

General Edgar Jadwin Dam, Honesdale, PA

- **Authority:** River and Harbor Act of 1948 (PL 80-858)
- **Congressional District:** PA-10

Project area showing General Jadwin Dam and Dyberry Creek.

The existing project, adopted in 1948, consists of a single purpose flood control reservoir formed by a dam on Dyberry Creek, located approximately three miles above the confluence of Dyberry Creek with Lackawaxen River, in Honesdale, Pa.

Dyberry Creek at base of General Jadwin Dam.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656– 6683
E-mail:
monica.a.chasten@usace.army.mil

General Edgar Jadwin Dam, Honesdale, PA

- **Project Goals:** The purpose of this project provides for routine operation & maintenance of the dam and related structures, water control data collection & analysis, real estate, continuing evaluation data gathering & analysis, and dam safety efforts.

In FY17, the Corps performed routine operations and maintenance activities for the project and grounds, dam safety actions and oversight, water control and other data collection and analyses, and real estate actions as required. FY17 funds were also used to conduct required periodic dam safety inspections including a dive investigation of the outlet works and a periodic positional survey of the dam. In addition to routine operation and maintenance activities, FY18 funds will be used to conduct an intermediate dam inspection and a tabletop emergency exercise.

This project has prevented over $32M in cumulative damages between 1960 and 2017. A Screening for Dam Safety Portfolio Risk Assessment (SPRA) was conducted in 2009 resulting in a Dam Safety Action Classification (DSAC) rating of II for this project. As a result of the DSAC II rating, a required Interim Risk Reduction Measures Plan (IRRMP) was finalized and approved in FY12. Due to this dam safety rating, the Risk Management Center funded an Issue Evaluation Study (IES) in the form of a Semi-Quantitative Risk Assessment for the project in 2015. IES efforts including report preparation are ongoing.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	317	O&M of the dam, dam safety efforts and required water control analysis. Prepared draft update of water control manual.
FY 15 Allocation	297	O&M of the dam, dam safety efforts and required water control analysis, repaired overlook parking area
FY 16 Allocation	382	O&M of the dam, dam safety efforts and water control analyses, conduct required periodic inspection and emergency exercise
FY 17 Allocation	376	O&M of the dam, dam safety efforts and water control analyses, required outlet inspection and positional survey
FY 18 Budget	395	O&M of dam, dam safety efforts and water control analyses, conduct required intermediate inspection and tabletop exercise
FY 18 Allocation	TBD	
FY 19 Budget	338	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Prompton Lake, Prompton, PA

- **Authority:** HD 80 113, 87 522.
- **Congressional District:** PA-10

The existing Prompton Dam is located on the Lackawaxen River four miles above Honesdale, Pa., and 30 miles above its confluence with the Delaware River.

The existing project was adopted as HD 80-113 in 1948, and modified by HD 87- 522 in 1962. This multi-purpose project (flood control and recreation) is located on the Lackawaxen River four miles above Honesdale, Pa., and 30 miles above its confluence with the Delaware River. Original project construction was completed in 1960.

This project serves to protect various surrounding communities from flooding. It is part of an integrated reservoir flood control system in conjunction with General Edgar Jadwin Reservoir, it provides flood control protection in varying degrees to the Boroughs of Prompton, Honesdale and Hawley and to smaller communities along the Lackawaxen River. Flood control is the only authorized purpose for this project. A secondary purpose is recreation, as the project resources currently provide opportunities for fishing, boating, and limited picnicking. The project has prevented cumulative damages of over $26M between 1961 and 2017.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Monica A. Chasten
Phone: (215) 656-6683
E-mail:
monica.a.chasten@usace.army.mil

Prompton Lake, Prompton, PA

- **Project Goals:** The purpose of this project provides for multiple-purpose development for flood control, water supply and recreation, located on the Lackawaxen River.

Annual funds are used for routine operations and maintenance of the dam and related structures that include the buildings, grounds & equipment, and management of public-use areas such as access roads, parking lots. Other specific work includes water control, water quality monitoring, real estate, continuing evaluation gathering, and dam safety efforts.

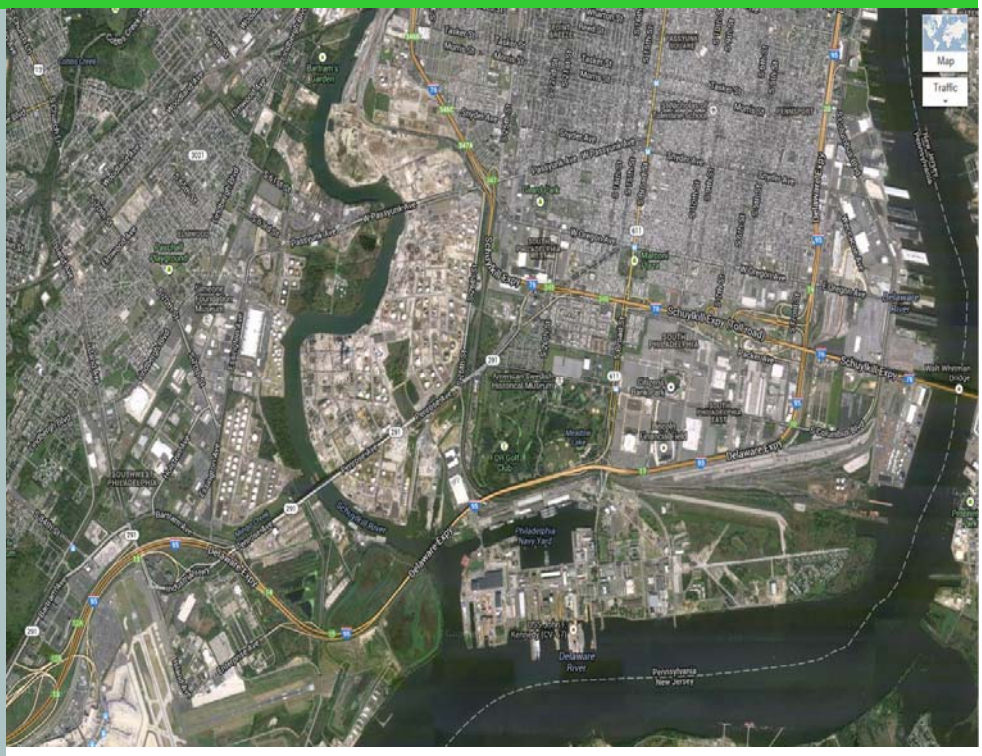
FY17 funds were also used to conduct required dam safety inspections of the intake and outlet works, bridge inspection, evaluation of hydraulic steel structure components, herbicide spraying and a periodic positional survey. Design work was completed on repair of the intake crack.

In addition to routine operations and maintenance efforts, FY18 funds will be used to repair the crack in the intake structure, conduct an Intermediate Inspection and Tabletop Emergency Exercise, complete the arc flash investigation and upgrade the communications system. A CRM-D risk assessment will be conducted with funds obtained by NAD.

Summarized Federal Financial Data ($000)		
FY 15 Allocation	470	O&M of the dam , dam safety efforts and required water control and water quality analyses.
FY 16 Allocation	580	O&M of the dam , dam safety efforts and required water control and water quality analyses, conduct periodic inspection and assessment and emergency exercise.
FY 17 Allocation	649	O&M of the dam , dam safety efforts and required water control and water quality analyses, conduct required dam safety inspections
FY 18 Budget	985	O&M of the dam , dam safety efforts and required water control and water quality analyses, real estate, conduct intermediate inspection and emergency exercise. Repair intake leak
FY 18 Allocation	TBD	
FY 19 Budget	851	O&M of the dam , dam safety efforts and required water control and water quality analyses, conduct required dam safety inspections

Schuylkill River, Philadelphia, PA

- **Authority:** HD 1270, 699. R&H Comm. Doc. 40.
- **Congressional District:** PA-1, PA-2.



Aerial view of project area (Lower Schuylkill River in vicinity of Delaware River).

The project was authorized 8 August 1917 (HD 1270, 64th Congress, 1st Session) and modified 3 July 1930 (R&H Committee Document 40, 71st Congress, 2nd Session) and 24 July 1946 (HD 699, 79th Congress, 2nd Session).

The project provides for a channel 6.5 miles long with depths of 22', 26', and 33' and widths of 200', 300', and 400'. Funds enable maintenance dredging within the 33-foot segment of the channel. Material is pumped directly to an upland disposal are by a cutter-head pipeline dredge.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Tim Rooney
Phone: (215) 656-6592
E-mail:
timothy.j.rooney@usace.army.mil

U.S. Army Corps of Engineers, Philadelphia District

Schuylkill River, Philadelphia, PA

- **Project Goals:** The purpose of this project provides for a channel 6.5 miles long in the Schuylkill River.

Refineries and chemical plants along Lower Schuylkill River between Routes 291 & 95

The Lower Schuylkill River provides navigation access to multiple refineries and chemical plants. The commodities include oil, gasoline and other chemical products.

FY 17 Emergency Supplemental Funding in the total amount of $4,500,000 is being provided to perform critical dredging in the lower reach channel.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 15 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 16 Allocation	0	Impacted by Low Use Navigation budget cuts
FY 17 Allocation	4,395	Received $4,335 additional in Supplemental funds.
FY 18 Budget	0	Impacted by Low Use Navigation budget cuts
FY 18 Allocation	TBD	
FY 19 Budget	100	Impacted by Low Use Navigation budget cuts

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Delaware River, Philadelphia to the Sea, DE, NJ & PA

- **Authority:** HD 733, 304, 580, 340, 358, 185.. R&H Comm. Doc 5. SD 159.
-
- **Congressional District:** DE-AL, NJ-1, NJ-2, PA-1, PA-7, PA -13

Packer Avenue Marine Terminal with Center City Philadelphia in background.

The existing project was authorized in 1910 (HD 733, 61st Cong., 2nd Session) and modified in 1930 (HD 304, 71st Cong., 3rd Session); 1935 (R&H Comm. Doc 5, 73rd Cong., 1st Session); 1938 (SD 159, 75th Cong., 3rd Session); 1945 (HD 580, 76th Cong., 3rd Session and HD 340, 77th Cong., 1st Session); 1954 (HD 358, 83rd Cong., 2nd Session) and 1958 (HD 185, 85th Cong., 1st Session).

Project channel dimensions are 40' deep, and 400' to 1000' wide. The Hopper Dredge McFarland will dredge 70 days in the river to address any spot, edge, or sand wave shoaling within the Federal channel. Additionally, annual contract maintenance dredging removes approximately 2.5M CY of material in high shoal areas. There will also be maintenance work done in the upland disposal areas to assure there is sufficient capacity to accept the dredged material from these events.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Tim Rooney
Phone: (215) 656-6592
E-mail:
timothy.j.rooney@usace.army.mil

Delaware River, Philadelphia to the Sea, DE, NJ & PA

- **Project Goals:** The purpose of this project provides for a 96.5 mile channel from Allegheny Avenue in Philadelphia, to deep water in Delaware Bay, six anchorages, construction of dikes and training works for the regulation and control of tidal flow.

Container Vessels being unloaded at Port of Philadelphia

The Port of Philadelphia is located in the heart of the Northeast Corridor, with superior connections to New York City, Washington DC, the U.S. Midwest, and Canada. It is estimated that 100 million people live within a day's drive of Philadelphia. All of the terminal facilities have access to major trucking routes (e.g. I-95), and rail lines. The Port handles many different types of cargo (containers, bulk, break-bulk, fruit). It is ranked 2nd after New York based on total tonnage. It is considered to be the #1 port for perishable cargo in the U.S.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	19,548	
FY 15 Allocation	20,741	Additional Work Plan Funding ($500) was provided for CDF maintenance
FY 16 Allocation	23,010	
FY 17 Allocation	36,671	Additional Work Plan funding ($8,500) was provided.
FY 18 Budget	27,370	
FY 18 Allocation	TBD	
FY 19 Budget	27,785	

U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT

Delaware River, Philadelphia to Trenton, NJ & PA

- **Authority:** HD 679, 358. R&H Comm. Doc 3, 11, 66, 90.
- **Congressional District:** NJ-3, NJ-4, PA-1, PA-8, PA-13.

Port of Bucks County—Fairless Turning Basin

Adopted in 1930 (R&H Com Doc 3, 71st Cong., 1st Session) and modified in 1935 (R&H Com Doc 11, 73rd Cong., 1st Session and R&H Com Doc 66, 74th Cong., 1st Session), 1937 (R&H Com Doc 90, 74th Cong., 2nd Session), 1946 (HD 679, 79th Cong., 2nd Session), and 1954 (HD 358, 83rd Cong., 2nd Session).

The project provides for a channel 40-feet deep and 400-feet wide from Allegheny Avenue in Philadelphia, PA to the upper end of Newbold Island, thence to various depths from 25 feet to 12 feet upstream to the Penn Central Railroad Bridge at Trenton, NJ.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Charlie Myers
Phone : (215) 656-6736
E-mail:
Charles.j.myers@usace.army.mil

Delaware River, Philadelphia to Trenton, NJ & PA

- **Project Goals:** The purpose of this project is to provide a 40-foot channel from Allegheny Avenue in Philadelphia, PA to the upper end of Newbold Island, New Jersey including turning basins, and bank protection in the Delaware River.

FY 2017 O&M funding accomplished periodic channel examinations, environmental support services, 30 Dredge McFarland training days to remove spot shoals along the lower reach of the 40-foot channel. In addition, a $5,079,626 contract for maintenance dredging of the upper reach of the 40-foot project channel including Fairless Turning Basin was completed 09 December 2017.

FY 2018 maintenance activities planned are channel exams, 30 Dredge McFarland training days along the lower reach of the 40-foot channel and environmental support services.

The failure of the State of New Jersey to properly maintain the disposal areas previously utilized by the Army Corps along the lower reach of the 40-foot channel has been a longstanding operational issue. Serious shoals continue to grow within the reaches of the channel earmarked for disposal in New Jersey. Many of the shipping terminal operators and the Delaware River Pilots have expressed strong concerns over the State of New Jersey lack of interest in meeting project responsibilities. The unavailability of sufficient disposal capacity is jeopardizing the Army Corps' ability to maintain a safe and economical shipping channel.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	4,688	
FY 15 Allocation	10,376	Additional Work Plan funding ($5,020) was provided to perform maintenance dredging of the lower reach channel.
FY 16 Allocation	5,405	
FY 17 Allocation	11,865	
FY 18 Budget	4,980	
FY 18 Allocation	TBD	
FY 19 Budget	3,850	

Intracoastal Waterway, Delaware River to Chesapeake Bay, DE & MD (C & D Canal)

- **Authority:** HD 201. R&H Comm. Doc. 11, 18, 24. PL 310. SD 123
- **Congressional Districts:** DE-AL, MD-1

Senator Roth Bridge (SR-1).
Philadelphia District will assume maintenance responsibility from DEL DOT in the near future.

The project was authorized in 1935 (HD 201, 72nd cong., 1st Session) and modified in 1935 (R&H Com Doc 11, R&H Docs 18 and 24, 73rd Cong., 2nd Session), in 1939 (PL 310, 76th Cong., 1st Session and in 1954 (SD 123, 83rd Cong., 2nd Session).

This project includes the waterway, a channel 35 feet deep and 450 feet wide, extending from Reedy Point on the Delaware River about 46 miles below Philadelphia, PA through a land-cut westward to Elk River thence following Elk River and the upper Chesapeake Bay to deep water near Pooles Island, including five high-level fixed highway bridges, a vertical lift railroad bridge, extensions of the entrance jetties at Reedy Point, enlargement of the anchorage and mooring basin in Back Creek, and maintenance of Delaware City Branch channel (8' x 50' x 2 miles) and basin.

The Chesapeake and Delaware Canal (C&D Canal) connects the Delaware River to the Chesapeake Bay. The C&D Canal system provides a continuous sea level channel connecting the Port of Baltimore to the ports of Wilmington (DE), Philadelphia, and the northern trade routes.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
Gavin Kaiser
Phone: (215) 656-6735
E-mail:
Gavin.L.Kaiser@usace.army.mil

Intracoastal Waterway, Delaware River to Chesapeake Bay, DE & MD (C & D Canal)

- **Project Goals:** The purpose of this project provides for a waterway extending from Reedy Point on the Delaware River through a land-cut westward to Elk River, five high-level fixed highway bridges, a vertical lift railroad bridge, a bascule drawbridge, extensions of the entrance jetties at Reedy Point, enlargement of the anchorage and mooring basin in Back Creek, and maintenance of Delaware City Branch channel and basin.

Large Vessel Passing Through C&D Canal

FY17 funds were used for routine operation and maintenance of the project, including five high level highway bridges, dispatching, channel exams, canal banks and dredge material containment facilities. Major bridge maintenance projects included the replacement of the Delaware City Bridge, rehabilitation work on Chesapeake City Bridge and St. Georges Bridge. The major steel repair work on St. Georges bridge will require a full bridge closure in the Fall/Winter of 2018. Major channel maintenance dredging projects included dredging the Pooles Island and Elk River Approach Channels to the C&D Canal, C&D Canal near Chesapeake City, and Chesapeake City Basin.

FY18 funds will be used for routine operation and maintenance of the project. Major channel maintenance dredging projects will include the dredging of the Pooles Island and Elk River Approach Channels to the C&D Canal, as well as the West and East entrances to the C&D Canal.

Summarized Federal Financial Data ($000)		
FY 14 Allocation	18,835	
FY 15 Allocation	35,181	Additional Work Plan Funding ($13,050) was provided for Del City Bridge replacement, Pearce Creek CDF Liner installation, and Ches. City Bridge Railing Replacement
FY 16 Allocation	18,596	
FY 17 Allocation	23,811	Additional Work Plan funding ($2,405) was provided.
FY 18 Budget	15,585	
FY 18 Allocation	TBD	
FY 19 Budget	12,450	

U.S. Army Corps of Engineers
Hopper Dredge McFarland

- **Authority:** Section 2047(a) of the Water Resources and Development Act
- **Congressional District:** DE-AL, NJ-1, NJ-2, NJ-3, PA-1, PA -7, PA-8, PA-13

One of four oceangoing hopper dredges owned and operated by the U.S. Army Corps of Engineers as part the Corps' "minimum fleet" for national security and safe navigation, the McFarland is the only dredge in the world with triple capability for direct pump out, bottom discharge and side casting or boom discharge.

About: One of four oceangoing hopper dredges owned and operated by the U.S. Army Corps of Engineers as part the Corps' "minimum fleet" for national security and safe navigation, the *McFarland* is the only dredge in the world with triple capability for direct pump out, bottom discharge and side casting or boom discharge. Designed by the Corps' Marine Design Center, it was built in April 1967. Its name honors the late Arthur McFarland, a Corps of Engineers authority on dredging. The *McFarland* has a twofold mission: 1) Emergency and national defense dredging — as required and on short notice — anywhere in the world. 2) Planned dredging tests in the Delaware River and Bay.

How it Works: Dredging is accomplished by a drag arm on each side of the ship with a drag head at each end. As the ship navigates the channel with its dredging pumps engaged, the drag heads are lowered to the channel bottom. Like vacuum cleaners, they pull the dredged material into the ship's hoppers.
The *McFarland* can then discharge the material any of three ways:
1. As a conventional hopper dredge with bottom discharge into deep water.
2. As a side caster discharging dredged material aside the channel.
3. As a pipeline dredge pumping material into disposal areas or through a direct ship-to-shore pipeline to confined upland areas.

USACE

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107

Project Manager
James P. Amadio
Phone: 215-656-6538
E-mail:
James.P.Amadio@usace.army.mil

U.S. Army Corps of Engineers Hopper Dredge McFarland

Status: The Hopper Dredge McFARLAND performed 140 days of "active" dredging work along the East and Gulf Coasts moving in excess of 2 million cubic yards of dredged material in FY 2009. The Dredge McFARLAND was fully funded annually through FY 2009 using O&M funding for which the vessel worked. In FY 2010, her first year in Ready Reserve, the McFARLAND completed her scheduled training exercises in the Delaware River and on two separate occasions, the dredge was activated by USACE Headquarters for a total of 96 days of dredging on the Mississippi River's Southwest Pass. The vessel completed her 70 days of training in FY2011 in the Delaware River. The vessel was not called out of ready reserve in FY2011 but did complete a 6 month major shipyard overhaul scheduled around her training exercise schedule. In FY 2012 the vessel completed her 70 scheduled training days in the Delaware River and was activated for a 30-day assignment for Wilmington District at Morehead City, NC. The dredge completed her 70 training days in the Delaware River in FY 2013 and was activated for a 24-day assignment for Wilmington District at Morehead City, NC. The dredge completed her 70 training days in the Delaware River in FY 2014. In FY15, the Dredge McFarland was called out to New Orleans District to dredge emergency shoaling in Southwest Pass for a total of 62 days and also completed her 70 days in the Delaware River. January 2016, the Dredge was again deployed to New Orleans for 45 days in Southwest Pass and 14 days for Wilmington in the Outer Bar Channel and completed 70 days of dredging in the Delaware River for FY17. McFARLAND completed 40 of the 70 projected dredging days in FY18 for the Delaware River and is currently under the Red Flag Activation to deploy to North Carolina, Morehead City Harbors for urgent dredging needs.

What It Can Do: The *McFarland* offers a degree of performance and flexibility unmatched by any other dredge: It can handle a variety of materials including silt, sand, clay, shell and mixtures, thanks to these features:

- High-powered pumps, large single open-hopper design amidships, and hopper distribution system with retention capability for efficient handling of fine materials
- It can dredge year-round in any environment, working around the clock while on assignment.
- Its average removal rate in a typical year (140 days) is 1.5 to 2 million cubic yards — enough dredged material to fill the area of a football field 900 to 1,200 feet high.

Crew: The *McFarland* is operated by a civilian crew of about 45. Many of the members, including all the deck and engine room officers, hold U.S. Coast Guard licenses. Certified as an oceangoing vessel, it undergoes regular annual safety inspections by the U.S. Coast Guard and the American Bureau of Shipping.

Dredging is accomplished by a drag arm on each side of the ship with a drag head a each end. As the ship navigates the channel with its dredging pumps engaged, the drag heads are lowered to the channel bottom. Like vacuum cleaners, they pull the dredged material into the ship's hoppers.

Major Appropriation Accounts

General Investigations (GI)

Investigations are studies to determine the need, engineering feasibility, economic justification, and the environmental and social suitability of a project. Investigations also include preconstruction, engineering, design work, data collection, and interagency coordination and research activities.

- Coastal and Deep-Draft Navigation
- Environmental Restoration or Compliance
- Flood and Storm Damage Reduction
- Flood Control
- Inland Navigation
- Navigation ($2 million)
- Other Authorized Purposes (including but not limited to Environmental Restoration or Compliance and Remote, Coastal, or Small Watershed)
- Remote, Coastal, or Small Watershed
- Shore Protection
- Small, Remote, or Subsistence Navigation

Construction, General (CG)

Construction projects are construction and major rehabilitation projects that relate to navigation, flood control, water supply, hydroelectric power, and environmental restoration. This also includes projects authorized under the Continuing Authorities Program (CAP).

- Environmental Infrastructure
- Environmental Restoration or Compliance
- Flood and Storm Damage Reduction
- Flood Control
- Hydropower
- Navigation
- Other Authorized Project Purposes (including but not limited to Environmental Restoration or Compliance, Environmental Infrastructure, and Hydropower)
- Shore Protection

Operations & Maintenance, General (O&M, G)

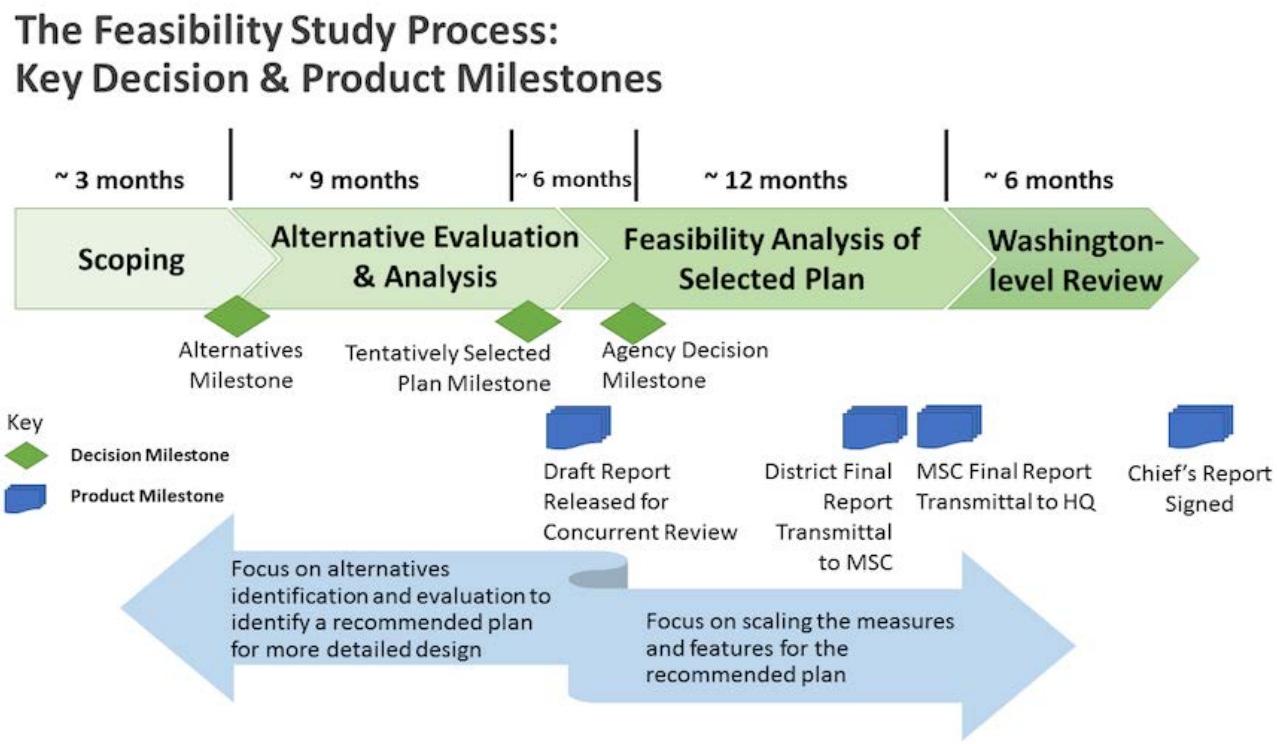
Operation and maintenance projects include the preservation, operation, maintenance, and care of existing river and harbor, flood control, and related activities at the projects that the Corps operates and maintains.

- Deep-Draft Harbor and Channel Maintenance
- Inland Waterway Maintenance
- Navigation Maintenance
- Other Authorized Project Purposes
- Small, Remote, or Subsistence Navigation Maintenance

Flood Control & Coastal Emergencies (FCCE)

USACE also has authority under PL 84-99, Flood Control and Coastal Emergencies (FCCE) (33 U.S.C. 701n) (69 Stat. 186) for emergency management activities. Under PL 84-99, the Chief of Engineers, acting for the Secretary of the Army, is authorized to undertake activities including disaster preparedness, Advance Measures, emergency operations (Flood Response and Post Flood Response), rehabilitation of flood control works threatened or destroyed by flood, protection or repair of federally authorized shore protective works threatened or damaged by coastal storm, and provisions of emergency water due to drought or contaminated source.

General Investigations



Continuing Authorities Program (CAP)

Program Authority	Description	Federal Funding Limits (incl. WRRDA 2014 changes)	
		Project	Annual Program
Section 14	Flood Control Act of 1946 (PL 79-526), as amended for emergency streambank & shoreline erosion protection for public facilities & services.	$5,000,000	$20,000,000
Section 103	River & Harbor Act of 1962 (PL 87-874), as amended, amends PL 727, an act approved August 13, 1946 which authorized Federal participation in the cost of protecting the shores of publicly owned property from hurricane & storm damage.	10,000,000	30,000,000
Section 107	River & Harbor Act of 1960 (PL 90-483), as amended for navigation.	10,000,000	50,000,000
Section 111	River & Harbor Act of 1968 (PL 90-483), as amended, for mitigation of shoreline erosion damage caused by Federal navigation projects.	10,000,000	N/A
Section 145	Placement of Dredged Material on beaches, Water Resources Development Act of 1976 (PL 94-587), as amended.	N/A	N/A
Section 204	Beneficial Uses of Dredged Material, Water Resources Development Act of 1992 (PL 102-580), as amended.	10,000,000	50,000,000
Section 205	Flood Control Act of 1948 (PL 80-858), as amended, for flood control.	10,000,000	55,000,000
Section 206	Aquatic Ecosystem Restoration, Water Resources Development Act of 1996 (PL 104-303), as amended.	10,000,000	50,000,000
Section 208	Flood Control Act of 1954 (PL 83-780), as amended, originally Section 2, Flood Control Act of August 28, 1937 (PL 75-406) for snagging and clearing for flood control.	500,000	7,500,000
Section 1135	Project Modifications for Improvement of the Environment, Water Resource Development Act of 1986 (PL 99-662), as amended.	10,000,000	40,000,000

Planning Assistance to States Program
General Investigation Appropriation

US Army Corps of Engineers
Philadelphia District

Planning Assistance to States/Tribes Program

Section 22 of the 1974 Water Resources Development Act, as amended

50/50 Cost share with:

- Limited to $2,000,000 per State per year, based on availability of annual appropriations
- Sponsor's share can be all in-kind services

Planning assistance to help States and Indian Tribes deal with their water resource problems. Eligible sponsors can be States, local governments, other non-Federal entities or federally recognized Native American Indian Tribes.

Examples

- Flood damage reduction
- Water resource development
- Water conservation and water quality
- Hydropower
- Erosion
- Scopes vary from environmental investigations on individual reservoirs to comprehensive studies to establish state or tribal water budgets.

Floodplain Management Services
General Investigation Appropriation

US Army Corps of Engineers
Philadelphia District

Floodplain Management Services

Authority Stems from Section 206 of the 1960 Flood Control Act (P.L. 86-645)

The objective is to foster public understanding of the options for dealing with flood hazards and to promote prudent use and management of the Nation's floodplains.

Types of Assistance

- General Technical Services: Development or interpretation of site specific flood hazard data.

- General Planning Assistance: "Special Studies" on all aspects of floodplain management planning.

Most Common Types of Special Studies:

- Floodplain delineation/flood hazard evaluation studies
- Dam break analysis studies
- Hurricane evacuation studies (HES)
- Flood warning/preparedness studies
- Regulatory floodway studies
- Comprehensive floodplain management studies
- Flood damage reduction studies
- Urbanization impact studies
- Stormwater management studies
- Floodproofing studies
- Inventory of flood prone structures

SPONSORS' GUIDE TO PROJECT DOCUMENTS
Corps Models, Outlines and Forms Used In Project Development

INTRODUCTION

A variety of different types of documents are prepared during the development of a Corps project, and you, the sponsor, will be involved in many of them. Some documents are reports about work that was done, some are agreements concerning responsibilities, and some serve other important purposes. Since most of these documents are required for every project, standardized models and outlines are used to make preparing them easier and ensure that all Corps offices are using similar documents. Where a certain document may have a somewhat different format and content for each project, examples of previous documents are available.

TYPES OF DOCUMENTS

The types of standardized documents that you will encounter are generally characterized as follows:

- *Models* - These are standardized fill-in-the -blanks formats for documents where much of the information Is the same for all projects. Some models are short forms, while others are more lengthy text. Model documents are available for the certificate of lobbying, disclosure of lobbying activities, escrow agreement, feasibility cost sharing agreement (FCSA), Project Partnership Agreement (PPA), project executive summary, and statement of financial capability.

- *Outlines* - These are standardized checklists of the information to be included in various project reports. Outlines are available for the chart of accounts cost estimate, design memorandum (DM), environmental impact statement (EIS), Feasibility report, financing plan, and reconnaissance report.

- *Examples* - Some documents are needed for every project, but their content and possibly their format differs from project to project. These documents include the study authority, project construction authority, budget authority, environmental assessment (EA), initial project management plan (IPMP), justification sheet, letter of credit, letter of intent, and project management plan (PMP).

Your Project Manager can provide you with examples of these documents, as well as examples of blank and complete models (such as a Project Partnership)
and report outlines (such as a feasibility report).

DESCRIPTION OF DOCUMENTS

The following is a list of some of the generally standardized reports, agreements and other documents that you are likely to be involved with over the life of a project. This list presents the documents in the general chronological order in which they would be used. Not all of these documents are used in all cases, and the order of when they are needed may vary for any given study or project.

- Authority (Study)
- Justification Sheet
- Authority (Budget)

- Reconnaissance Report Certificate of Lobbying
- Disclosure of Lobbying Activities
- Escrow Agreement
- Letter of Credit
- Letter of Intent
- Chart of Accounts
- Initial Project Management Plan
- Feasibility Cost Sharing Agreement
- Project Executive Summary
- Feasibility Report
- Environmental Impact Statement (or Environmental Assessment)
- Project Master Plan
- Authority (Project Construction)
- Design Memorandum
- Financing Plan
- Statement of Financial Capability
- Project Partnership Agreement

The following is an alphabetical listing and explanation of the generalized standardized reports, agreements and other documents listed above.

Authority - This is either a resolution of a committee of the U.S. Congress, or a Federal public law, which gives us approval to: conduct a study (study authority), construct a project (project construction authority), or spend Federal funds on an authorized study or project (budget authority). and is usually only a line, a sentence, or a paragraph in length. Your Project Manager can provide an example of each type of authority.

Certificate of Lobbying - This is your statement concerning lobbying of Congressional and other Federal officials. The certificate must accompany a feasibility cost sharing agreement and a Project Cooperation Agreement. A one-page model certificate is in Appendix Q of the "Planning Guidance Notebook' (Corps regulation number ER 1105-2-100).

Chart of Accounts - This is a list of detailed accounting categories for preparing study and project cost estimates. The accounts outline and cost estimate checklist are in Corps circular number EC 1110-2-538, including revisions provided by letter of 29 September 1989 to all Corps finance and accounting officers (subject: Life Cycle Project Management (LCPM) Chart of Accounts).

Design Memorandum (DM) - This report presents the results of detailed engineering studies needed to prepare a project's plans and specifications for construction. The format for a design memorandum is in Appendix C to Corps circular number EC 1110-2-265.

Disclosure of Lobbying Activities - This is a form (Standard Form LLL), completed by you, concerning lobbying of Congressional and other Federal officials. In certain circumstances it must accompany a certificate of lobbying (see above). A copy of the form is In Appendix Q of the “Planning Guidance Notebook”.

Environmental Assessment (EA) - This report presents the results of the evaluation of environmental effects of the project and its alternatives. In certain circumstances, an environmental assessment may be adequate and an environmental impact statement (see below) may not be required. A finding of no significant impact (FONSI) must also be prepared for each environmental assessment. Your Project Manager can provide an example environmental assessment and finding of no significant impact.

Environmental Impact Statement (EIS) - This report presents the results of the evaluation of environmental effects of the project and its alternatives. Outlines for statements that are combined or integrated

with feasibility reports are in Appendix F of the "Planning Guidance Notebook". An outline for statements prepared for other reports or in other circumstances is in the Council on Environmental Quality's regulation titled "Regulations for Implementing the Procedural- Provisions of the National Environmental Policy Act" (40 CFR 1502.10). A record of decision (ROD) must also be prepared for each environmental impact statement Your Project Manager can provide an example record of decision.

Escrow Agreement - This is a written agreement among you, your financial Institution, and the Department of the Army in which the parties agree that your funds are to be deposited in an interest bearing account at the financial institution' and the Corps can withdraw those funds as needed for the study or project A four-page model escrow agreement is in Appendix H to Corps regulation number ER 1165-2-131.

Feasibility Cost Sharing Agreement (FCSA) - This is a written agreement between you and the Department of the Army, represented by the local District Engineer, to share the cost of a feasibility phase study. A seven page model agreement is in Appendix E of the 'Planning Guidance Notebook. The model is for both specifically authorized studies and studies under the Continuing Authorities Program.

Feasibility Report - This report presents the results of the formulation, evaluation and selection of project plans conducted during the feasibility phase of project planning. A report outline is in Table 23 of the "Planning Guidance Notebook". The outline is for both feasibility reports for specifically authorized studies and detailed project reports (DPR) under the Continuing Authorities Program.

Financial Plan - This report describes the sources and uses of your project funds as support for the statement of financial capability (see below). A plan outline is in paragraph 6-197 of the 'Planning Guidance Notebook.'

Initial Project Management Plan (IPMP) - Ills is a management document that describes the tasks, costs, and responsibilities, both yours and ours, required to conduct the feasibility phase of a study. It is appended to the FCSA (see above). Your Project Manager can provide an example plan.

Justification Sheet - This is a brief description of how funds are to be used for a study or project in an upcoming fiscal year. It is submitted to the Congress in support of a President's budget request for the upcoming fiscal year. Your Project Manager can provide an example justification sheet.

Letter of Credit - This is a letter from your financial Institution that guarantees to the Federal government that the funds are available to meet required cash outlays. Your Project Manager can provide an example letter.

Letter of Intent - This is a letter from you to the local District Engineer stating that you are ready, willing and able to execute the feasibility cost sharing agreement. Your Project Manager can provide an example letter.

Project Partnership Agreement (PPA) - This is a written agreement between you and the Department of the Army that describes our financial and other responsibilities for construction, operation and maintenance of a project Model agreements are available for:

- Specifically authorized structural flood control projects - Nineteen-page model in

Appendix A to Corps regulation number ER 1165-2-131.

- Specifically authorized harbor projects - Twenty-page model in Appendix D to Corps regulation number ER 1165-2-131.

- Flood control projects under the Continuing Authorities Program ('Section 205 projects') - Twenty-four-page model, distributed by Corps Headquarters letter of 23 April 1990.

- Snagging and clearing for flood control projects under the Continuing Authorities Program ("Section 208 projects") - Twenty-four-page model, distributed by Corps Headquarters letter of 23 April 1990.

- Emergency streambank or shoreline erosion projects under the Continuing Authorities Program ("Section 14 projects) - Twenty-page model, distributed by Corps Headquarters letter of 21 May 1990.

Project Executive Summary - This is a form, completed monthly by your Corps Project Manager, which summarizes the status of a project's cost estimate, schedule and other important issues. A copy of the form is in Appendix E of Corps regulation number ER 5-2.1, which also describes other life cycle project management (LCPM) periodic reporting forms.

Project Management Plan (PMP) - This Is a continually- evolving collection of management documents that describe how a project will be designed and constructed, including a description of the project scope, cost estimate budget, and schedule. Your Project Manager can provide an example plan.

Reconnaissance Report - This report presents the results of the preliminary project analyses conducted during the reconnaissance (first) phase of planning. A report outline is in Table 2-2 of the "Planning Guidance Notebook".

Statement of Financial Capability - This is your description of your capability to meet your project financial obligations In accordance with the project funding schedule. Your Project Manager can provide an example statement. A model bond consultant's letter in support of a statement is in paragraph 6-187 of the "Planning Guidance Notebook".

NEED MORE INFORMATION?

Your Project Manager can provide copies of the models, outlines and examples described above, and answer any questions about their preparation and use. In addition, the following publications explain much of the Corps guidance about these documents:

- "Annual Program and Budget Request for Civil Works Activities, Corps of Engineers, Fiscal Year 19XX" (Corps circular number EC 11-2-XXX issued annually) - Provides guidance on the justification sheet.

- "Civil Works Project Cost Estimating - Chart of Accounts' (Corps circular number EC 1110-2538, dated 28 February 1989) - Provides guidance on the chart of accounts format for cost estimates.

- "Engineering and Design for Civil Works Projects' (Corps circular number EC 1110-2-265, dated I September 1989) - Provides guidance on the design memorandum.

- "Life Cycle Project Management System" (Corps regulation number ER 5-2-1, advance draft dated 31 July 1989) - Provides guidance on the project management plan, and the

project executive summary and other periodic reports for project management.

- "Project Partnership Agreements for New Start Construction Project (Corps regulation number ER 1165-2-131, dated 15 April 1989) - Provides guidance on the escrow agreement an Project Partnership Agreement

- “Planning Guidance" (Corps regulation number ER 1105-02-100, dated IS September 1990-, also called the "Planning Guidance Notebook', or PGN) - Provides guidance on the certificate of lobbying, disclosure of lobbying activities, environmental impact statement, feasibility cost sharing agreement, feasibility report, financing plan, initial project management plan, letter of intent, reconnaissance report, and statement of financial capability.

- “Procedures for Implementing NEPA' (Corps regulation number ER 200-2-2, dated 4 March 1988) - Provides guidance on the environmental assessment, finding of no significant impact, environmental Impact statement, and record of decision.

- “Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act" (Federal regulations numbered 40 CFR 100-1508, dated November 29, 1978, issued by the Council on Environmental Quality) - Provides guidance on the environmental assessment, finding of no significant impact, environmental impact statement, and record of decision.

U.S. Army Corps of Engineers
Commonly Used Acronyms and Abbreviations

404(b)(1) – Water quality permit per CWA 77
902 limit - Maximum project cost per WRDA 86
905(b) – Reconnaissance Report per WRDA 86
AAA – Army Audit Agency
AAE – Average Annual Equivalent
AAR –After Action Review
ABC – Army Benefits Center
ACTEDS – Army Civilian Training, Evaluation and Development System
ADR – Alternative Dispute Resolution
AE – Architect-Engineer
AF – Acre Feet
AFB – Alternatives Formulation Briefing
AICP – American Institute of Certified Planners
AIS – Automated Information System
AKO – Army Knowledge Online
AM – Asset Management
AOR – Area of Responsibility
APIC – Army Performance Improvements Criteria
ARC – Annual Report to Congress
ASA(CW) – Assistant Secretary of the Army for Civil Works
ASAP – As Soon as Possible
ASCE – American Society of Civil Engineers
ATR - Agency Technical Review
AWOL – Absent Without Leave
BC – Benefit Cost
BCR – Benefit Cost Ratio
BFE – Base Flood Elevation
BG – Brigadier General
BLUF – Bottom Line Up Front
BMP Best Management Practice
BOD – Biological Oxygen Demand
BOY –Beginning of Year
BRAC – Base Realignment and Closure
BUB – Battle Update Briefing
BY – Budget Year
C - Construction
CADD – Computer Aided Design Drafting
CAP – Continuing Authorities Program
CCG – Consolidated Command Guidance
CDR - Commander
CE – Corps of Engineers
CEA – Cost Effectiveness Analysis
CEFMS – Corps of Engineers Financial Management System
CE/ICA – Cost Effectiveness/ Incremental Cost Analysis
CERC – Coastal Engineering Research Center
CERCLA – Comprehensive Environmental Response, Compensation and Liability Act, 1980 (Superfund)
CERL – Construction Engineering Research Laboratory
CEQ – Council on Environmental Quality
CF – Copy Furnished
CFR – Code of Federal Regulations
CFS – Cubic Feet per Second
CG - Construction General/ Commanding General
CI – Command Inspection
CMR – Command Management Review
COB – Close of Business/ Command Operating Budget
COL – Colonel
COLA – Cost of Living Adjustment
CONUS – Continental United States
COP – Community of Practice
COR – Contracting Officer's Representative
CP – Career Program
CPAC – Civilian Personnel Advisory Center
CRA – Continuing Resolution Authority
CRREL – Cold Regions Research and Engineering Laboratory
CSRA – Cost & Schedule Risk Analysis
CSRS – Civilian Service Retirement System
CVM – Contingent Value Method
CW – Civil Works
CWA – Clean Water Act, 1977
CWCCIS – Civil Works Construction Cost Index System
CWIS – Civil Works Information System
CX – Center of Expertise
CY – Cubic Yard/ Current Year
CZM – Coastal Zone Management
CZMA – Coastal Zone Management Act
DA – Department of Army
DC – District Commander/Division Commander
DCG – Deputy Commanding General
DCW – Director of Civil Works
DDC – Deputy District Commander
DDE – Deputy District Engineer
DDR – Design Documentation Report
DE – District Engineer/ Division Engineer
DEIS – Draft Environmental Impact Statement
DEMOB - Demobilization
DDN – Deep Draft Navigation
DIST – District
DIV – Division

U.S. Army Corps of Engineers
Commonly Used Acronyms and Abbreviations

DMP – Decision Management Plan
DOD – Department of Defense
DOE – Department of Energy
DOI – Department of Interior
DOJ – Department of Justice
DOT –Department of Transportation
DQC - District Quality Control
DP – Decision Point
DPM – Deputy for Project Management
DPR – Detailed Project Report
DSAP – Dam Safety Assurance Program
DX - Directory of Expertise
E&D – Engineering and Design
E&PW – Energy and Public Works (Senate)
EA Environmental Assessment
EAB – Expected Annual Benefits
EAD – Expected Annual Damages
EC – Engineering Circular
EDR – Engineering Decision Report
EEO – Equal Employment Opportunity
EFT – Electronic Funds Transfer
EGM – Economics Guidance Memorandum
EIS – Environmental Impact Statement
EM – Engineering Memorandum
EO – Executive Order
EOC – Emergency Operations Center
EOY – End of Year
ENR – Engineering News Record
EP – Engineering Pamphlet
ER – Engineering Regulation
ERDC – Engineering Research & Design Center
EROC – Electronic Reporting Organization Code
EPA – Environmental Protection Agency
ESA Endangered Species Act
ESG – Executive Steering Group
EQ – Environmental Quality
ETL –Engineer Technical Letter
F&A – Finance and Accounting
FWL – Fish and Wildlife
FWS – Fish and Wildlife Service
FCA – Flood Control Act
FCCE – Flood Control and Coastal Emergencies
FCSA – Feasibility Cost Sharing Agreement
FEHB – Federal Employee Health Benefits
FEIS – Final Environmental Impact Statement
FEMA – Federal Emergency Management Agency
FERC – Federal Energy Regulatory Commission
FERS – Federal Employees Retirement System
FFE – First Floor Elevation/ Finished Floor Elevation
FOA – Field Operating Agency/Activity
FOI – Freedom of Information
FOIA – Freedom of Information Act
FONSI - Finding of No Significant Impact
FORCON – Force Configuration
FPMS – Floodplain Management Services
FR – Federal Register
FRC – Feasibility Review Conference
FRM – Flood Risk Management
FS – Feasibility Study
FSM – Feasibility Scoping Meeting
FTE – Full-time Equivalent
FUDS – Formerly Used Defense Site
FUSRAP – Formerly Utilized Sites Remedial Action Program
FY – Fiscal Year
FYI – For Your Information
FYSA- For Your Situational Awareness
G&A – General and Administrative
GAO – Government Accountability Office
GE – General Expense
GI – General Investigations
GIS - Geographic Information Systems
GIWW – Gulf Inter-Coastal Waterway
GNF – General Navigation Features
GOV – Government/ Government-owned Vehicle
GPO – Government Printing Office
GRR – General Reevaluation Report
GS – General Schedule
GSA – General Services Administration
H&H – Hydrology and Hydraulics
HAC – Hydropower Analysis Center
HAZMAT – Hazardous Materials
HD – House Document
HEC – Hydrologic Engineering Center
HEP – Habitat Evaluation Procedures
HES – Habitat Evaluation System
HHS – Health and Human Services
HQ - Headquarters
HQUSACE – Headquarters, U. S. Army Corps of Engineers
HR – Human Resources/House of Representatives/House Resolution
HSDR – Hurricane and Storm Damage Reduction
HTIC – House Transportation & Infrastructure Committee
HTRW – Hazardous, Toxic, and Radioactive Wastes
HU – Habitat Unit
HUD – Housing and Urban Development

U.S. Army Corps of Engineers
Commonly Used Acronyms and Abbreviations

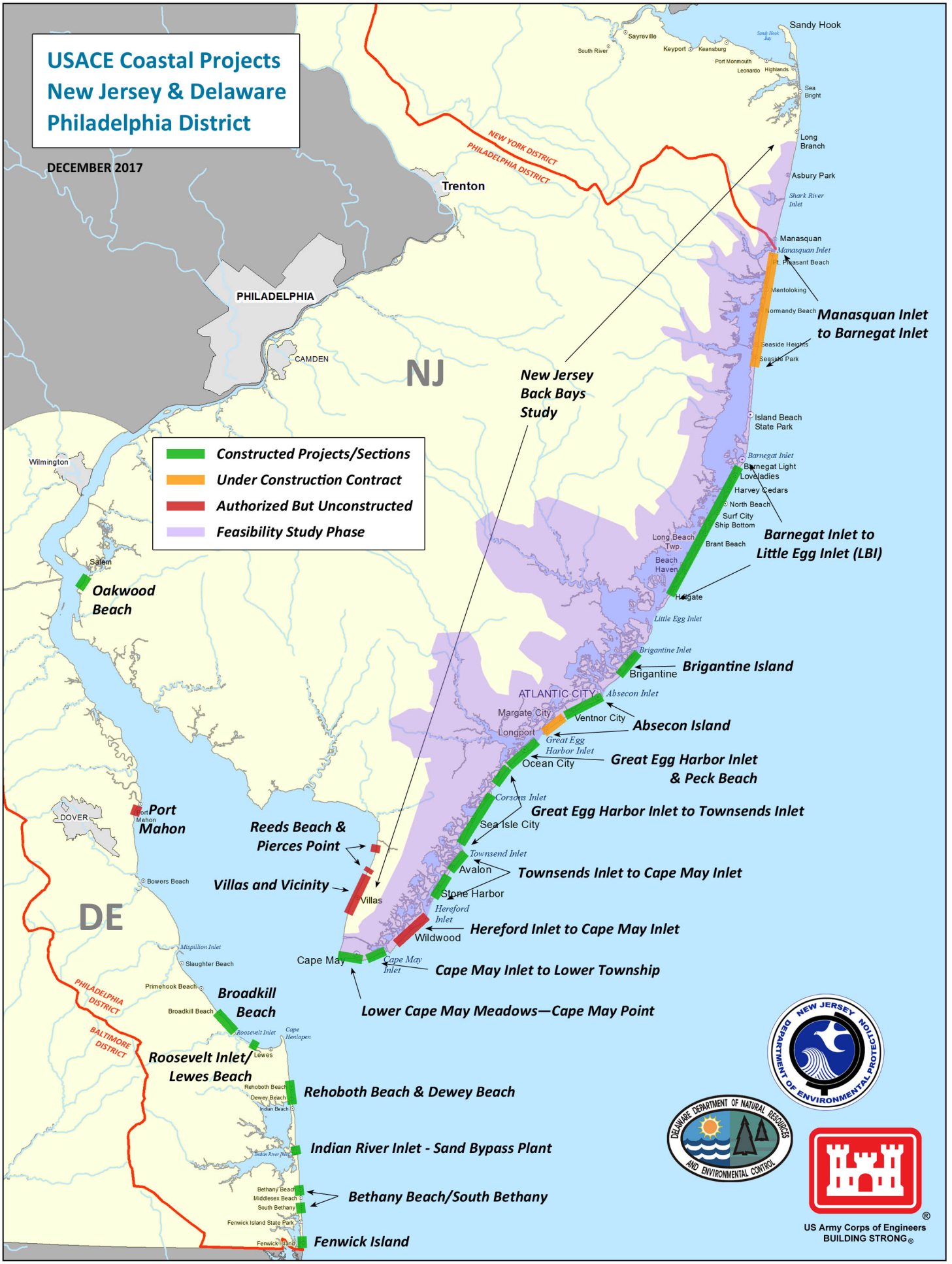
I - Investigations
IA – Initial Appraisal
IAG – Inter-agency Agreement
ICA – Intergovernmental Cooperation Act/Incremental Cost Analysis
IDC – Interest During Construction/Indefinite Delivery Contract
IDIQ – Indefinite Delivery, Indefinite Quantity
IEPR – Independent External Peer Review
IG – Inspector General
IN – Inland Navigation
IPA – Intergovernmental Personnel Act
IPR – In-Progress Review
IRC – Issue Resolution Conference
ITR – Independent Technical Review (now ATR)
IWR – Institute for Water Resources
IWW – Inland Waterways
IWTF – Inland Waterway Trust Fund
IWUB – Inland Waterway User Board
JTR – Joint Travel Regulation
L&D – Lock and Dam
LCC –Life Cycle Cost
LER – Lands, Easements, and Rights-of-Way
LERR – Lands, Easements, Rights-of-Way, and Relocations
LERRD – Lands, Easements, Rights-of-Way, Relocations, and Disposal
LOI – Letter of Intent
LPP – Locally Preferred Plan/ Local Protection Project
LRB – Buffalo District
LRC – Chicago District
LRD – Great Lakes & Ohio River Division (Cincinnati, OH)
LRE – Detroit District
LRH – Huntington District
LRL – Louisville District
LRN – Nashville District
LRP – Pittsburgh District
LRR – Limited Reevaluation Report
LSF – Local Service Facilities
LTC – Lieutenant Colonel
LWOP – Leave Without Pay
M&I – Municipal and Industrial
M&IE – Meals and Incidental Expenses
MACOM – Major Army Command
MARAD – Maritime Administration
MCACES – Micro-computer Aided Cost Engineering System
MCX – Mandatory Center of Expertise
MFR – Memorandum for Record
MG – Major General
MHHW – Mean Higher High Water
MHW – Mean High Water
MILCON – Military Construction
MIPR – Military Interdepartmental Purchase Request
MLW – Mean Low Water
MLLW – Mean Lower Low Water
MOA – Memorandum of Agreement
MOB – Mobilization
MOU – Memorandum of Understanding
MOY – Middle of Year
MR&T – Mississippi River and Tributaries
MRC – Mississippi River Commission
MSC – Major Subordinate Command
MVD – Mississippi Valley Division (Vicksburg, MS)
MVK – Vicksburg District
MVM – Memphis District
MVN – New Orleans District
MVP – St. Paul District
MVR – Rock Island District
MVS – St. Louis District
NAB – Baltimore District
NAD – North Atlantic Division (New York, NY)
NAE – New England District
NAN – New York District
NAO – Norfolk District
NAP – Philadelphia District
NAS – National Academy of Sciences
NAV – Navigation
NDC – Navigation Data Center
NED – National Economic Development
NER – National Ecosystem Restoration
NEPA –National Environmental Protection Act
NFIP National Flood Insurance Program
NGO Nongovernmental Organization
NGVD – National Geodetic Vertical Datum
NHPA National Historic Preservation Act
NLT – No Later Than
NMFS – National Marine Fisheries Service
NOAA – National Oceanographic and Atmospheric Administration
NPS – National Park Service
NRHP –National Register of Historic Places
NTE –Not to Exceed
NTP – Notice to Proceed
NWD – Northwestern Division (Portland, OR)
NWK – Kansas City District

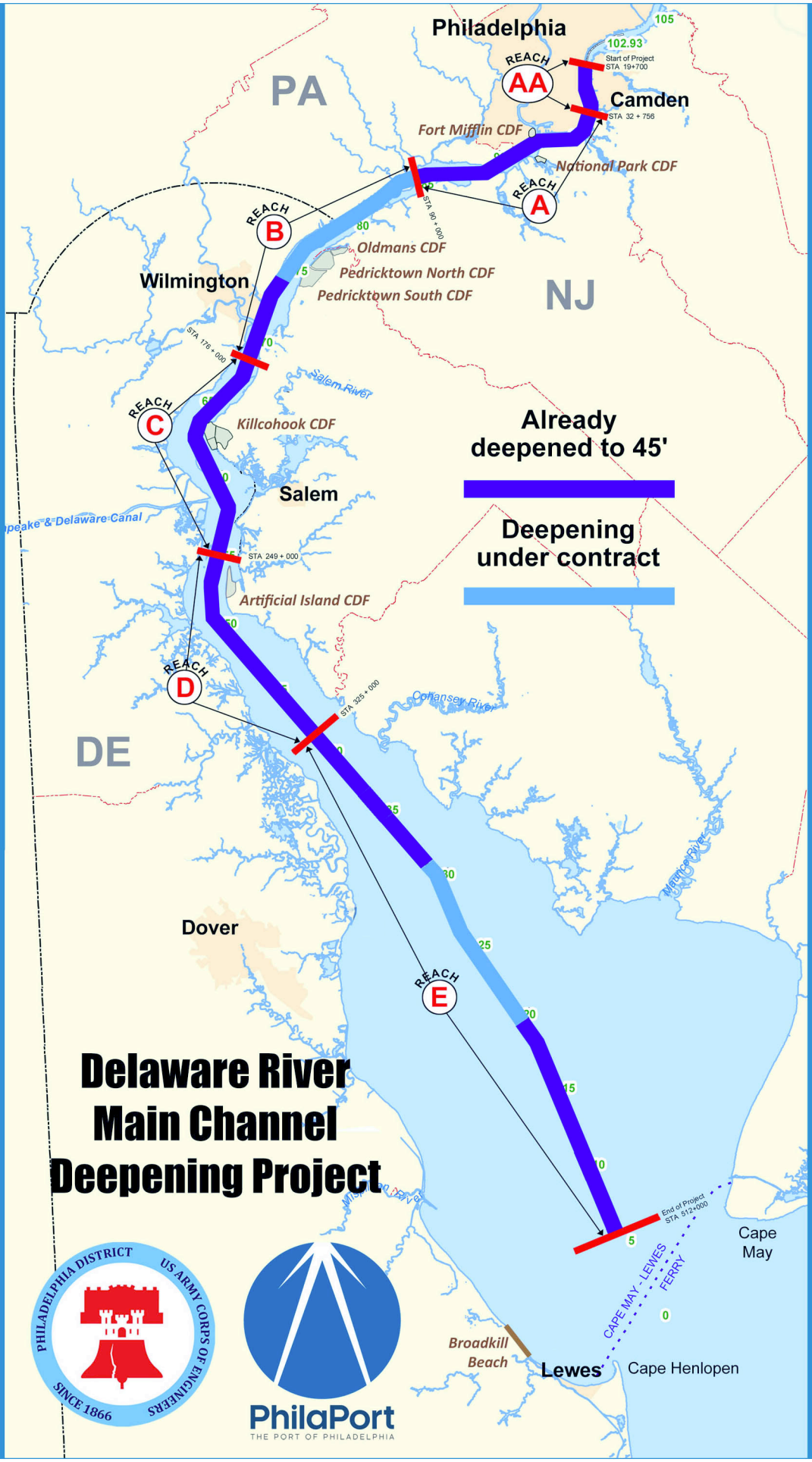
U.S. Army Corps of Engineers
Commonly Used Acronyms and Abbreviations

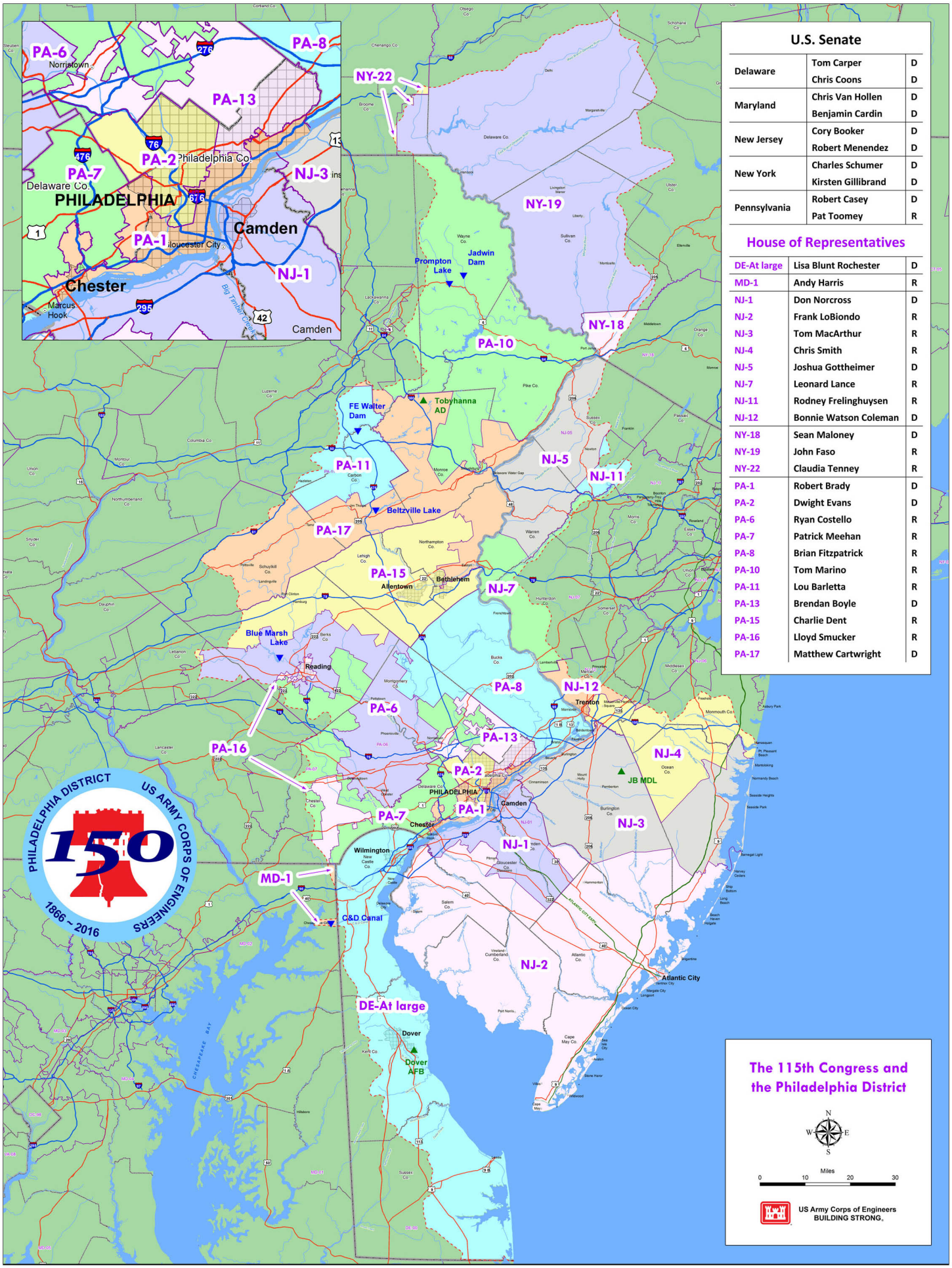
NWO – Omaha District
NWP – Portland District
NWS – Seattle District/ National Weather Service
NWW – Walla Walla District
O&M – Operations and Maintenance
OBE – Overcome by Events
OC – Office of Counsel
OEO – Outside Eligible Organization
OMB – Office of Management and Budget
OMRR&R – Operations, Maintenance, Repair, Replacement and Rehabilitation
OSA – Office of the Secretary of Army
OSD – Office of the Secretary of Defense
OSE – Other Social Effects
OSHA – Occupational Safety and Health Administration
OWPR – Office of Water Project Review
P&D – Planning and Design
P&G – Principles and Guidelines
P&S – Principles and Standards/ Plans and Specifications
PA – Planning Associate/ Per Annum
PAB – Planning Advisory Board
PAC – Post-authorization Change
PACR – Post-authorization Change Report
PAS – Planning Assistance to States
PCoP – Planning Community of Practice
PCS – Permanent Change of Station
PCX – Planning Center of Expertise
PDT – Project Delivery Team
PE – Professional Engineer
PED – Pre-construction Engineering and Design
PGM – Project Guidance Memorandum
PGN – Planning Guidance Notebook
PIR – Project Implementation Report
PL – Public Law
PM – Project Manager/Management
PMBP – Project Management Business Process
PMP – Project Management Plan
PMF – Probable Maximum Flood
POA – Alaska District
POC – Point of Contact
POD – Pacific Ocean Division (Honolulu, HI)
POH – Honolulu District
POTUS – President of the United States
POV – Privately-owned Vehicle/ Point of View
PPA – Project Partnership Agreement
PPE – Pay Period Ending
PR&C – Purchase Request and Commitment
PRB – Project Review Board
PRIP – Plant Replacement and Improvement Program
PROSPECT – Proponent Sponsored Engineer Corps Training
PRP – Potential Responsible Party
PTL – Planning Technical Lead
Q's & A's – Questions and Answers
QA/QC – Quality Assurance / Quality Control
QM – Quality Manual
QMP –Quality Management Plan
QMR – Quality Management Representative
QMS – Quality Management System
RA – Risk Analysis/ Risk Assessment/Remedial Action
R&D – Research and Development
R&H – River and Harbor
R&U – Risk and Uncertainty
RBRCR – Remaining Benefits, Remaining Costs Ratio
REC - Recreation
RED – Regional Economic Development
REP – Real Estate Plan
RIT – Regional Integration Team
RITA – Relocation Income Tax Adjustment
RFP - Request for Proposal
RP – Review Plan/ Resource Provider
RMB – Regional Management Board
RMC – Risk Management Center
RMO – Review Management Organization/Resource Management Office
RMP – Risk Management Plan
ROD – Record of Decision
ROW – Right of Way
RR – Risk Register
RTS – Regional Technical Specialist
S&A – State and Agency/Supervision and Administration
S&I – Supervision and Inspection
S&S – Savings and Slippage
SAC – Charleston District/ Senate Appropriations Committee
SAD – South Atlantic Division (Atlanta, GA)
SADBU – Small and Disadvantaged Business Utilization
SAJ – Jacksonville District
SAM – Mobile District
SAME – Society of American Military Engineers
SAR – Safety Assurance Review

U.S. Army Corps of Engineers
Commonly Used Acronyms and Abbreviations

SAS – Savannah District
SAW – Wilmington District
SBH – Small Boat Harbor
SCD – Service Computation Date
SCORP – State Comprehensive Recreation Plan
SCOTUS – Supreme Court of the United States
SCS – Soil Conservation Service
SD – Senate Document
SEPWC – Senate Environment and Public Works Committee
SES – Senior Executive Service
SFO – Support for Others
SHPO – State Historic Preservation Office
SITREP – Situation Report
SMART – Specific Measurable Attainable Risk-Informed Timely
SME – Subject Matter Expert
SMSA – Standard Metropolitan Statistical Area
SOP – Standard Operating Procedure
SOS – Scope of Services/Scope of Studies
SOW – Scope of Work
SPA - Albuquerque District
SPD – South Pacific Division (San Francisco, CA)
SPF – Standard Project Flood
SPK – Sacramento District
SPL – Los Angeles District
SPN – San Francisco District
SR – Senate Resolution
SWD – Southwestern Division (Dallas, TX)
SWF – Fort Worth District
SWG – Galveston District/ Senior Working Group
SWL – Little Rock District
SWT – Tulsa District
T&A – Time and Attendance
T&ES – Threatened and Endangered Species
T&I – Transportation and Infrastructure (House)
TAD – Transatlantic Division
TAPES – Total Army Performance Evaluation System
TBA – To be Announced
TBD – To be Determined
TCM – Travel Cost Method
TDY – Temporary Duty
TMDL -Total Maximum Daily Load
TRC – Technical Review Conference
TSP – Tentatively Selected Plan/ Thrift Savings Plan
TQSE – Temporary Quarters Subsistence Expenses
UDV – Unit Day Value
USACE – U. S. Army Corps of Engineers
USC – United States Code
USCG – United States Coast Guard
USEPA – United States Environmental Protection Agency
USFWS – United States Fish and Wildlife Service
USGS – United States Geological Survey
VE – Value Engineering
VT – Vertical Team
VTC – Video Teleconference
WMP – Watershed Management Plan
WBS – Work Breakdown Structure
WCSC - Waterborne Commerce Statistics Center
WFO –Work for Others
WQ – Water Quality
WRC – Water Resources Council
WRDA – Water Resources Development Act
WS – Water Supply
WTA – Willingness to Accept
WTP – Willingness to Pay


USACE Coastal Projects
New Jersey & Delaware
Philadelphia District
DECEMBER 2017
NEW YORK DISTRICT
PHILADELPHIA DISTRICT
Trenton
PHILADELPHIA
CAMDEN
NJ
DE
Wilmington
DOVER
Salem
Sandy Hook
Sayreville
South River
Keyport
Keansburg
Port Monmouth
Leonardo
Highlands
Sea Bright
Long Branch
Asbury Park
Shark River Inlet
Manasquan
Manasquan Inlet
Mantoloking
Seaside Heights
Seaside Park
Island Beach State Park
Barnegat Inlet
Barnegat Light
Loveladies
Harvey Cedars
North Beach
Surf City
Ship Bottom
Long Beach Twp.
Brant Beach
Beach Haven
Holgate
Little Egg Inlet
Brigantine Inlet
Brigantine
ATLANTIC CITY
Absecon Inlet
Margate City
Ventnor City
Longport
Great Egg Harbor Inlet
Ocean City
Corsons Inlet
Sea Isle City
Townsend Inlet
Avalon
Stone Harbor
Hereford Inlet
Wildwood
Cape May
Cape May Inlet
Port Mahon
Bowers Beach
Mispillion Inlet
Slaughter Beach
Primehook Beach
Broadkill Beach
Roosevelt Inlet
Cape Henlopen
Lewes
Rehoboth Beach
Dewey Beach
Indian Beach
Indian River Inlet
Bethany Beach
Middlesex Beach
South Bethany
Fenwick Island State Park
Fenwick Island
Constructed Projects/Sections
Under Construction Contract
Authorized But Unconstructed
Feasibility Study Phase
Oakwood Beach
Port Mahon
Reeds Beach & Pierces Point
Villas and Vicinity
Villas
Broadkill Beach
Roosevelt Inlet/ Lewes Beach
Rehoboth Beach & Dewey Beach
Indian River Inlet - Sand Bypass Plant
Bethany Beach/South Bethany
Fenwick Island
Lower Cape May Meadows—Cape May Point
Cape May Inlet to Lower Township
Hereford Inlet to Cape May Inlet
Townsends Inlet to Cape May Inlet
Great Egg Harbor Inlet to Townsends Inlet
Great Egg Harbor Inlet & Peck Beach
Absecon Island
Brigantine Island
Barnegat Inlet to Little Egg Inlet (LBI)
Manasquan Inlet to Barnegat Inlet
New Jersey Back Bays Study
PHILADELPHIA DISTRICT
BALTIMORE DISTRICT
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
US Army Corps of Engineers
BUILDING STRONG®


Philadelphia
PA
NJ
DE
REACH AA
REACH A
REACH B
REACH C
REACH D
REACH E
Start of Project STA 19+700
102.93
105
Camden
STA 32 + 756
Fort Mifflin CDF
National Park CDF
STA 90 + 000
Oldmans CDF
Pedricktown North CDF
Pedricktown South CDF
Wilmington
STA 176 + 000
Salem River
Killcohook CDF
Salem
Already deepened to 45'
Deepening under contract
Chesapeake & Delaware Canal
STA 249 + 000
Artificial Island CDF
Cohansey River
STA 325 + 000
Dover
Murderkill River
Delaware River Main Channel Deepening Project
End of Project STA 512+000
Cape May
CAPE MAY - LEWES FERRY
Broadkill Beach
Lewes
Cape Henlopen
PHILADELPHIA DISTRICT
US ARMY CORPS OF ENGINEERS
SINCE 1866
PhilaPort
THE PORT OF PHILADELPHIA



U.S. Senate

Delaware	Tom Carper	D
	Chris Coons	D
Maryland	Chris Van Hollen	D
	Benjamin Cardin	D
New Jersey	Cory Booker	D
	Robert Menendez	D
New York	Charles Schumer	D
	Kirsten Gillibrand	D
Pennsylvania	Robert Casey	D
	Pat Toomey	R

House of Representatives

DE-At large	Lisa Blunt Rochester	D
MD-1	Andy Harris	R
NJ-1	Don Norcross	D
NJ-2	Frank LoBiondo	R
NJ-3	Tom MacArthur	R
NJ-4	Chris Smith	R
NJ-5	Joshua Gottheimer	D
NJ-7	Leonard Lance	R
NJ-11	Rodney Frelinghuysen	R
NJ-12	Bonnie Watson Coleman	D
NY-18	Sean Maloney	D
NY-19	John Faso	R
NY-22	Claudia Tenney	R
PA-1	Robert Brady	D
PA-2	Dwight Evans	D
PA-6	Ryan Costello	R
PA-7	Patrick Meehan	R
PA-8	Brian Fitzpatrick	R
PA-10	Tom Marino	R
PA-11	Lou Barletta	R
PA-13	Brendan Boyle	D
PA-15	Charlie Dent	R
PA-16	Lloyd Smucker	R
PA-17	Matthew Cartwright	D

The 115th Congress and the Philadelphia District

N W E S

0 10 20 30 Miles

US Army Corps of Engineers
BUILDING STRONG®

THIS PAGE LEFT BLANK INTENTIONALLY

DELAWARE PROJECTS - PHILADELPHIA DISTRICT

GENERAL INVESTIGATIONS

Delaware Inland Bays & Delaware Coast Storm Risk Management	GI 1
Delaware River Comprehensive WFMP	GI 2
Delaware River Dredged Material Utilization, DE	GI 3

CONTINUING AUTHORITIES PROGRAM (CAP)

Habitat Productivity of Delaware Bay (Section 1135)	C 1

CONSTRUCTION GENERAL

Delaware River Main Channel Deepening, PA, NJ & DE	CG 1
Delaware Coast, Cape Henlopen to Fenwick Island: Bethany Beach - South Bethany	CG 2
Delaware Coast Protection, Sand Bypass Plant, Indian River Inlet	CG 3
Delaware Coast, Cape Henlopen to Fenwick Island: Fenwick Island	CG 4
Delaware Bay Coastline, Port Mahon	CG 5
Dealaware Coast, Cape Henlopen to Fenwick Island: Rehoboth Beach - Dewey Beach	CG 6
Delaware Bay Coastline, Roosevelt Inlet - Lewes Beach	CG 7
Delaware Bay Coastline, Broadkill Beach	CG 8

OPERATION AND MAINTENANCE

Intracoastal Waterway, Delaware River to Cheasapeake Bay (C&D Canal)	OM 1
Cedar Creek, Sussex County	OM 2
Inland Waterway from Rehoboth Bay to Delaware Bay, Sussex County	OM 3
Delaware River, Philadelphia to the Sea	OM 4
Indian River Inlet & Bay, Sussex County	OM 5
Mispillion River, Sussex County	OM 6
Murderkill River, Sussex County	OM 7
Wilmington Harbor, New Castle County	OM 8
Harbor of Refuge, Lewes	OM 9

Legend

- CONSTRUCTION GENERAL
- CAP
- GENERAL INVESTIGATIONS
- OPERATIONS & MAINTENANCE
- Philadelphia District
- Rivers / Streams
- County Lines

Map Document:
(D:\district\MXDs\de_coe_projects_w_congress_names_ w_ table_03_13_18.mxd)
Last Updated 3/13/18

Delaware Projects Within Philadelphia District

N W E S

Miles

0 1.5 3 6 9 12

US Army Corps of Engineers
Philadelphia District

NEW JERSEY PROJECTS - PHILADELPHIA DISTRICT

GENERAL INVESTIGATIONS - FEASIBILITY STUDIES

Delaware River Comprehensive, NY,NJ,DE,PA - Watershed Flood Management Plan	GI 1
Delaware River Dredged Material Utilization - NJ	GI 2
New Jersey Backbay Coastal Resilience Study	GI 3
NJ Alternative Long Term Nourishment, RSM Study [NJDEP]	GI 4

CONTINUING AUTHORITIES PROGRAM (CAP)

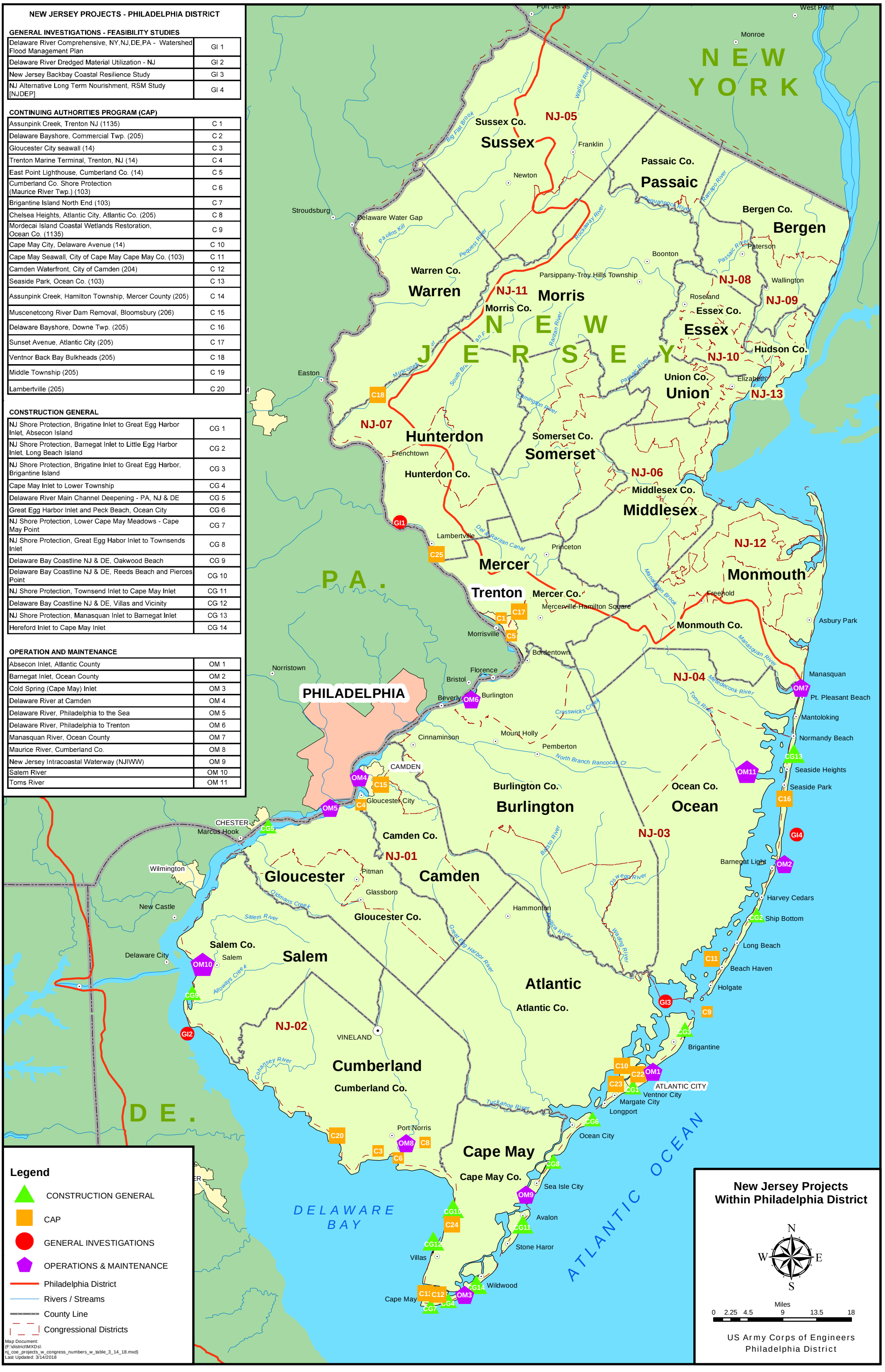
Assunpink Creek, Trenton NJ (1135)	C 1
Delaware Bayshore, Commercial Twp. (205)	C 2
Gloucester City seawall (14)	C 3
Trenton Marine Terminal, Trenton, NJ (14)	C 4
East Point Lighthouse, Cumberland Co. (14)	C 5
Cumberland Co. Shore Protection (Maurice River Twp.) (103)	C 6
Brigantine Island North End (103)	C 7
Chelsea Heights, Atlantic City, Atlantic Co. (205)	C 8
Mordecai Island Coastal Wetlands Restoration, Ocean Co. (1135)	C 9
Cape May City, Delaware Avenue (14)	C 10
Cape May Seawall, City of Cape May Cape May Co. (103)	C 11
Camden Waterfront, City of Camden (204)	C 12
Seaside Park, Ocean Co. (103)	C 13
Assunpink Creek, Hamilton Township, Mercer County (205)	C 14
Muscenetcong River Dam Removal, Bloomsbury (206)	C 15
Delaware Bayshore, Downe Twp. (205)	C 16
Sunset Avenue, Atlantic City (205)	C 17
Ventnor Back Bay Bulkheads (205)	C 18
Middle Township (205)	C 19
Lambertville (205)	C 20

CONSTRUCTION GENERAL

NJ Shore Protection, Brigatine Inlet to Great Egg Harbor Inlet, Absecon Island	CG 1
NJ Shore Protection, Barnegat Inlet to Little Egg Harbor Inlet, Long Beach Island	CG 2
NJ Shore Protection, Brigatine Inlet to Great Egg Harbor, Brigantine Island	CG 3
Cape May Inlet to Lower Township	CG 4
Delaware River Main Channel Deepening - PA, NJ & DE	CG 5
Great Egg Harbor Inlet and Peck Beach, Ocean City	CG 6
NJ Shore Protection, Lower Cape May Meadows - Cape May Point	CG 7
NJ Shore Protection, Great Egg Habor Inlet to Townsends Inlet	CG 8
Delaware Bay Coastline NJ & DE, Oakwood Beach	CG 9
Delaware Bay Coastline NJ & DE, Reeds Beach and Pierces Point	CG 10
NJ Shore Protection, Townsend Inlet to Cape May Inlet	CG 11
Delaware Bay Coastline NJ & DE, Villas and Vicinity	CG 12
NJ Shore Protection, Manasquan Inlet to Barnegat Inlet	CG 13
Hereford Inlet to Cape May Inlet	CG 14

OPERATION AND MAINTENANCE

Absecon Inlet, Atlantic County	OM 1
Barnegat Inlet, Ocean County	OM 2
Cold Spring (Cape May) Inlet	OM 3
Delaware River at Camden	OM 4
Delaware River, Philadelphia to the Sea	OM 5
Delaware River, Philadelphia to Trenton	OM 6
Manasquan River, Ocean County	OM 7
Maurice River, Cumberland Co.	OM 8
New Jersey Intracoastal Waterway (NJIWW)	OM 9
Salem River	OM 10
Toms River	OM 11



NEW YORK

PENNSYLVANIA

NEW JERSEY

Chenango County

Schoharie County

Greene County

Delaware County

Broome County

Sullivan County

Ulster County

Orange County

Stamford

Hobart

Delhi

Andes

Margaretville

Fleischmanns

Pine Hill

Walton

Deposit

Hancock

Roscoe

Rockland

Livingston Manor

Neversink Reservoir

Callicoon

Jeffersonville

Liberty

Woodridge

South Fallsburg

Smallwood

Monticello

Rock Hill

Wurtsboro

Narrowsburg

Otisville

Port Jervis

Unionville

NY - 20

NY - 22

NY - 19

Cannonsville Reservoir

Pepacton Reservoir

Swinging Bridge Reservoir

Toronto Reservoir

West Branch Delaware River

East Branch Delaware River

Main Stem Delaware River

C1

GI1

NEW YORK PROJECTS - PHILADELPHIA DISTRICT

GENERAL INVESTIGATIONS

Delaware River Comprehensive WFMP	GI 1

CONTINUING AUTHORITIES PROGRAM (CAP)

Upper Delaware River Watershed, Livingston Manor, NY (205)	C 1

Legend

- CONSTRUCTION GENERAL
- CAP
- GENERAL INVESTIGATIONS
- Philadelphia District
- Congressional Districts
- Rivers/Streams
- County Boundary
- State Boundary

Map Document:
D:\district\MX\
ny_coe_projects_w_congressional_names_table_3_13_18.mxd

Last Updated: 3/13/18

New York Projects Within Philadelphia District

N W E S

Miles
0 1.75 3.5 7 10.5 14

US Army Corps of Engineers
Philadelphia District

PENNSYLVANIA PROJECTS - PHILADELPHIA DISTRICT

GENERAL INVESTIGATIONS

Delaware River Basin Comprehensive, NY, NJ, DE & PA (Watershed Flood Management Plan)	GI 1
Section 22 Planning Assistance to States, PA (Delaware Canal Stability Assessment)	GI 2
Planning Assistance to States, PA (Delaware River Waterfront Pier Analysis)	GI 3

CONTINUING AUTHORITIES PROGRAM (CAP)

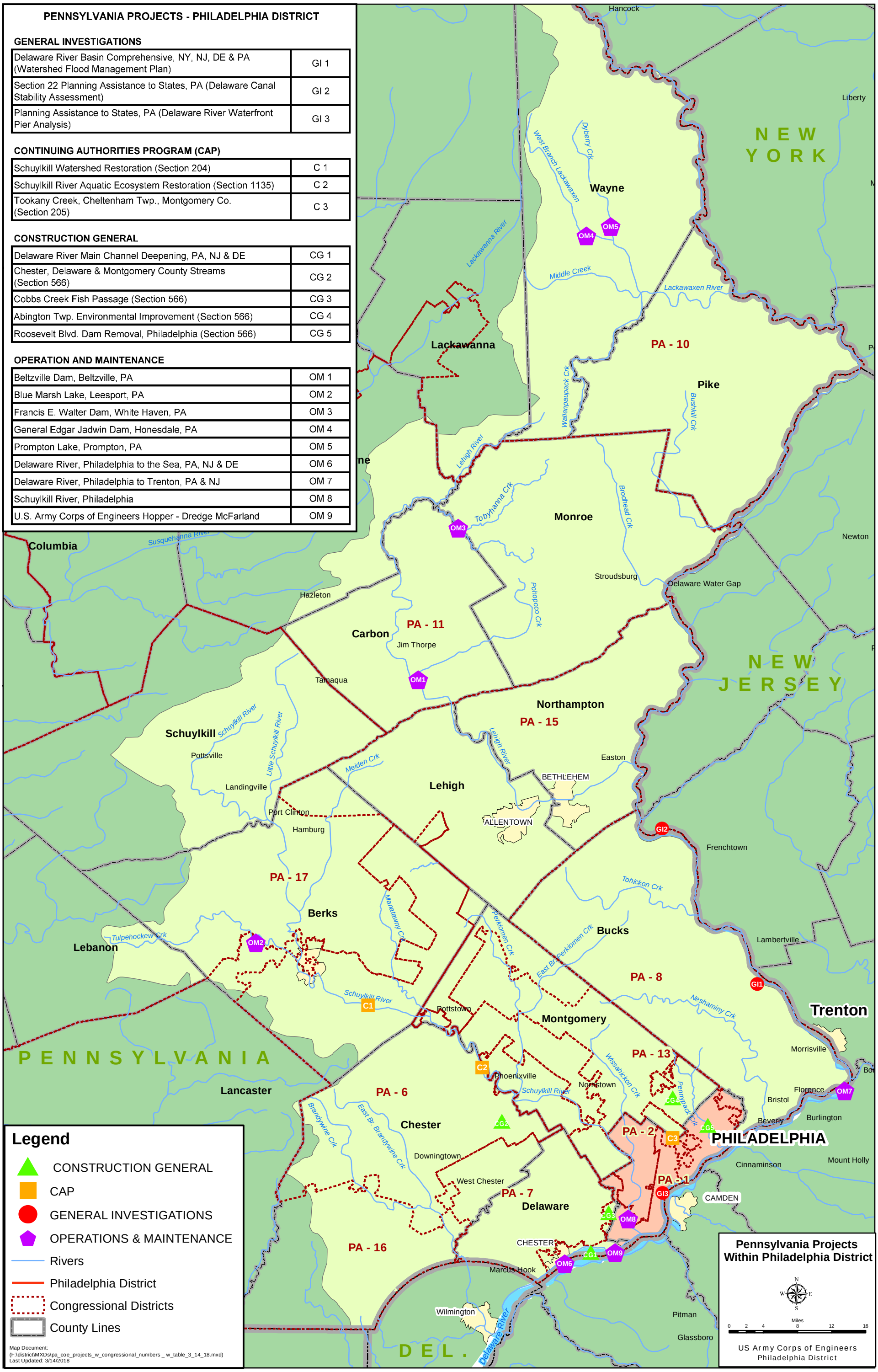
Schuylkill Watershed Restoration (Section 204)	C 1
Schuylkill River Aquatic Ecosystem Restoration (Section 1135)	C 2
Tookany Creek, Cheltenham Twp., Montgomery Co. (Section 205)	C 3

CONSTRUCTION GENERAL

Delaware River Main Channel Deepening, PA, NJ & DE	CG 1
Chester, Delaware & Montgomery County Streams (Section 566)	CG 2
Cobbs Creek Fish Passage (Section 566)	CG 3
Abington Twp. Environmental Improvement (Section 566)	CG 4
Roosevelt Blvd. Dam Removal, Philadelphia (Section 566)	CG 5

OPERATION AND MAINTENANCE

Beltzville Dam, Beltzville, PA	OM 1
Blue Marsh Lake, Leesport, PA	OM 2
Francis E. Walter Dam, White Haven, PA	OM 3
General Edgar Jadwin Dam, Honesdale, PA	OM 4
Prompton Lake, Prompton, PA	OM 5
Delaware River, Philadelphia to the Sea, PA, NJ & DE	OM 6
Delaware River, Philadelphia to Trenton, PA & NJ	OM 7
Schuylkill River, Philadelphia	OM 8
U.S. Army Corps of Engineers Hopper - Dredge McFarland	OM 9



Congressional Districts

Delaware

District Number	Representative
DE-At large	Lisa Blunt Rochester

Maryland

District Number	Representative
MD-1	Andy Harris

New Jersey

District Number	Representative
NJ-1	Don Norcross
NJ-2	Frank LoBiondo
NJ-3	Tom MacArthur
NJ-4	Chris Smith
NJ-5	Joshua Gottheimer
NJ-7	Leonard Lance
NJ-11	Rodney Frelinghuysen
NJ-12	Bonnie Watson Coleman

New York

District Number	Representative
NY-18	Sean Maloney
NY-19	John Faso
NY-22	Claudia Tenney

Pennsylvania

District Number	Representative
PA-1	Robert Brady
PA-2	Dwight Evans
PA-6	Ryan Costello
PA-7	Patrick Meehan
PA-8	Brian Fitzpatrick
PA-10	Tom Marino
PA-11	Lou Barletta
PA-13	Brendan Boyle
PA-15	Charlie Dent
PA-16	Lloyd Smucker
PA-17	Matthew Cartwright

THIS PAGE LEFT BLANK INTENTIONALLY

Representative	District	Project Name
Blunt Rochester	DE	Bethany Beach, Pennsylvania Avenue Improvement (205), DE *[Town of Bethany Beach]*
Blunt Rochester	DE	Cedar Creek, Sussex County, DE
Blunt Rochester	DE	Delaware Bay Coastline, Broadkill Beach, DE *[DNREC]*
Blunt Rochester	DE	Delaware Bay Coastline, Port Mahon, DE *[DNREC]*
Blunt Rochester	DE	Delaware Bay Coastline, Roosevelt Inlet - Lewes Beach, DE *[DNREC]*
Blunt Rochester	DE	Delaware Bayshore (205), DE *[TBD]*
Blunt Rochester	DE	Delaware Coast Protection, Sand Bypass Plant, Indian River Inlet, DE *[DNREC]*
Blunt Rochester	DE	Delaware Coast, Cape Henlopen to Fenwick Island: Bethany Beach / South Bethany, DE *[DNREC]*
Blunt Rochester	DE	Delaware Coast, Cape Henlopen to Fenwick Island: Fenwick Island, DE *[DNREC]*
Blunt Rochester	DE	Delaware Coast, Cape Henlopen to Fenwick Island: Rehoboth Beach / Dewey Beach, DE *[DNREC]*
Blunt Rochester	DE	Delaware Inland Bays and Delaware Bay Coast Coastal Storm Risk Management Study, DE [*DNREC]*
Blunt Rochester	DE	Delaware Inland Bays and Delaware Bay Coastal Storm Risk Management, DE *[DNREC]*
Blunt Rochester	DE	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Blunt Rochester	DE	Delaware River Dredged Material Utilization, DE
Blunt Rochester	DE	Delaware River Main Channel Deepening, DE, NJ & PA *[Philadelphia Regional Port Authority]*
Blunt Rochester	DE	Delaware River, Philadelphia to the Sea, DE, NJ & PA
Blunt Rochester	DE	Habitat Productivity of Delaware Bay, DE (1135) *[DNREC]*
Blunt Rochester	DE	Harbor of Refuge, Lewes, DE
Blunt Rochester	DE	Indian River Inlet & Bay, Sussex County, DE
Blunt Rochester	DE	Inland Waterway from Rehoboth Bay to Delaware Bay, Sussex County, DE
Blunt Rochester	DE	Intracoastal Waterway, Delaware River to Chesapeake Bay, DE & MD (C&D Canal)
Blunt Rochester	DE	Little Mill Creek, New Castle County, DE (205) *[DNREC, New Castle County]*
Blunt Rochester	DE	Mispillion River, Sussex County, DE
Blunt Rochester	DE	Murderkill River, Sussex County, DE
Blunt Rochester	DE	Restoration of Grassdale, New Castle County, DE (1135) *[DNREC]*
Blunt Rochester	DE	U.S. Army Corps of Engineers Hopper Dredge McFarland
Blunt Rochester	DE	Wilmington Harbor, New Castle County, DE
Harris	MD-1	Intracoastal Waterway, Delaware River to Chesapeake Bay, DE & MD (C&D Canal)
Norcross	NJ-1	Camden Waterfront, City of Camden, NJ (204) *[NJDEP]*
Norcross	NJ-1	Delaware River at Camden, Camden County, NJ
Norcross	NJ-1	Delaware River Basin Comprehensive Interim Feasibility Study for New Jersey *[NJDEP]*
Norcross	NJ-1	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Norcross	NJ-1	Delaware River Dredged Material Utilization, NJ
Norcross	NJ-1	Delaware River Main Channel Deepening, DE, NJ & PA *[Philadelphia Regional Port Authority]*
Norcross	NJ-1	Delaware River, Philadelphia to the Sea, DE, NJ & PA
Norcross	NJ-1	Gloucester City Seawall, NJ (14) *[NJDEP]*
Norcross	NJ-1	U.S. Army Corps of Engineers Hopper Dredge McFarland
Frelinghuysen	NJ-11	Delaware River Basin Comprehensive Interim Feasibility Study for New Jersey *[NJDEP]*
Frelinghuysen	NJ-11	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Coleman	NJ-12	Assunpink Creek, Trenton, NJ (1135) *[City of Trenton]*
Coleman	NJ-12	Delaware River Basin Comprehensive Interim Feasibility Study for New Jersey *[NJDEP]*
Coleman	NJ-12	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Coleman	NJ-12	New Jersey Backbay Coastal Resilience Study *[NJDEP]*
Coleman	NJ-12	Trenton Marine Terminal, Trenton, NJ (14) *[City of Trenton/NJDEP]*

Representative	District	Project Name
LoBiondo	NJ-2	Absecon Inlet, Atlantic County, NJ
LoBiondo	NJ-2	Barnegat Inlet, Ocean County, NJ
LoBiondo	NJ-2	Brigantine Island South End (103), NJ *[TBD]*
LoBiondo	NJ-2	Cape May City, Delaware Avenue, NJ (14) *[Cape May County]*
LoBiondo	NJ-2	Cape May Inlet to Lower Township, NJ *[NJDEP]*
LoBiondo	NJ-2	Cape May Seawall, City of Cape May, Cape May County, NJ (103) *[City of Cape May]*
LoBiondo	NJ-2	Chelsea Heights, Atlantic City, Atlantic County, NJ (205) *[NJDEP]*
LoBiondo	NJ-2	Cold Spring (Cape May) Inlet, Cape May County, NJ
LoBiondo	NJ-2	Cumberland County Bulkheads (Greenwhich Township), NJ (103) *[TBD]*
LoBiondo	NJ-2	Cumberland County Shore Protection (Maurice River Township), NJ (103) *[NJDEP]*
LoBiondo	NJ-2	Delaware Bay Coastline, DE & NJ, Oakwood Beach, NJ *[NJDEP]*
LoBiondo	NJ-2	Delaware Bay Coastline, DE & NJ, Reeds Beach and Pierces Point, NJ *[NJDEP]*
LoBiondo	NJ-2	Delaware Bay Coastline, DE & NJ, Villas and Vicinity, NJ *[NJDEP]*
LoBiondo	NJ-2	Delaware Bayshore, Commercial Township, NJ (205) *[NJDEP]*
LoBiondo	NJ-2	Delaware Bayshore, Downe Township, NJ (103) *[NJDEP]*
LoBiondo	NJ-2	Delaware River Basin Comprehensive Interim Feasibility Study for New Jersey *[NJDEP]*
LoBiondo	NJ-2	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
LoBiondo	NJ-2	Delaware River Dredged Material Utilization, NJ
LoBiondo	NJ-2	Delaware River Main Channel Deepening, DE, NJ & PA *[Philadelphia Regional Port Authority]*
LoBiondo	NJ-2	Delaware River, Philadelphia to the Sea, DE, NJ & PA
LoBiondo	NJ-2	East Point Lighthouse, Cumberland County, NJ (14) *[NJDEP]*
LoBiondo	NJ-2	Great Egg Harbor and Peck Beach (Ocean City), NJ *[NJDEP]*
LoBiondo	NJ-2	Hereford Inlet to Cape May Inlet, NJ *[NJDEP]*
LoBiondo	NJ-2	Massachutsetts Avenue, Atlantic City, NJ (205) *[TBD]*
LoBiondo	NJ-2	Maurice River, Cumberland County, NJ
LoBiondo	NJ-2	Middle Township, NJ (205) *[NJDEP]*
LoBiondo	NJ-2	Mordecai Island Coastal Wetlands Restoration, Ocean County, NJ (1135) *[Mordecai Land Trust and NJDEP]*
LoBiondo	NJ-2	New Jersey Alternative Long-Term Nourishment, RSM Study *[NJDEP]*
LoBiondo	NJ-2	New Jersey Backbay Coastal Resilience Study *[NJDEP]*
LoBiondo	NJ-2	New Jersey Intracoastal Waterway, NJ
LoBiondo	NJ-2	New Jersey Shore Protection, Barnegat Inlet to Little Egg Inlet, NJ *[NJDEP]*
LoBiondo	NJ-2	New Jersey Shore Protection, Brigantine Inlet to Great Egg Harbor Inlet, Absecon Island, NJ *[NJDEP]*
LoBiondo	NJ-2	New Jersey Shore Protection, Brigantine Inlet to Great Egg Harbor Inlet, Brigantine Island, NJ *[NJDEP]*
LoBiondo	NJ-2	New Jersey Shore Protection, Great Egg Harbor Inlet to Townsends Inlet, NJ *[NJDEP]*
LoBiondo	NJ-2	New Jersey Shore Protection, Lower Cape May Meadows - Cape May Point, NJ *[NJDEP]*
LoBiondo	NJ-2	New Jersey Shore Protection, Townsends Inlet to Cape May Inlet, NJ *[NJDEP]*
LoBiondo	NJ-2	NJIWW Dredged Hole 34 Restoration, Atlantic City, NJ (204) *[NJDOT]*
LoBiondo	NJ-2	Pond Creek Salt Marsh Restoration, Cape May County, NJ (1135) *[NJDEP]*
LoBiondo	NJ-2	Salem River, Salem County, NJ
LoBiondo	NJ-2	Sunset Avenue, Atlantic City, NJ (205) *[TBD]*
LoBiondo	NJ-2	U.S. Army Corps of Engineers Hopper Dredge McFarland
LoBiondo	NJ-2	Ventnor Backbay Bulkheads, NJ (205) *[TBD]*
MacArthur	NJ-3	Barnegat Inlet RSM, NJ (204) *[Sponsor Not Required]*
MacArthur	NJ-3	Barnegat Inlet, Ocean County, NJ

Representative	District	Project Name
MacArthur	NJ-3	Delaware River Basin Comprehensive Interim Feasibility Study for New Jersey *[NJDEP]*
MacArthur	NJ-3	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
MacArthur	NJ-3	Delaware River Dredged Material Utilization, NJ
MacArthur	NJ-3	Delaware River, Philadelphia to Trenton, NJ & PA
MacArthur	NJ-3	Manasquan River, Ocean County, NJ
MacArthur	NJ-3	Mordecai Island Coastal Wetlands Restoration, Ocean County, NJ (1135) *[Mordecai Land Trust and NJDEP]*
MacArthur	NJ-3	New Jersey Alternative Long-Term Nourishment, RSM Study *[NJDEP]*
MacArthur	NJ-3	New Jersey Backbay Coastal Resilience Study *[NJDEP]*
MacArthur	NJ-3	New Jersey Intracoastal Waterway, NJ
MacArthur	NJ-3	New Jersey Shore Protection, Barnegat Inlet to Little Egg Inlet, NJ *[NJDEP]*
MacArthur	NJ-3	New Jersey Shore Protection, Manasquan Inlet to Barnegat Inlet, NJ *[NJDEP]*
MacArthur	NJ-3	Seaside Park, Ocean City, NJ (103) *[NJDEP]*
MacArthur	NJ-3	Toms River, Ocean County, NJ
MacArthur	NJ-3	U.S. Army Corps of Engineers Hopper Dredge McFarland
Smith	NJ-4	Assunpink Creek, Hamilton Township, Mercer County, NJ (205) *[Hamilton Township]*
Smith	NJ-4	Assunpink Creek, Trenton, NJ (1135) [City of Trenton]
Smith	NJ-4	Delaware River Basin Comprehensive Interim Feasibility Study for New Jersey *[NJDEP]*
Smith	NJ-4	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Smith	NJ-4	Delaware River Dredged Material Utilization, NJ
Smith	NJ-4	Delaware River, Philadelphia to Trenton, NJ & PA
Smith	NJ-4	Manasquan River, Ocean County, NJ
Smith	NJ-4	New Jersey Alternative Long-Term Nourishment, RSM Study *[NJDEP]*
Smith	NJ-4	New Jersey Backbay Coastal Resilience Study *[NJDEP]*
Smith	NJ-4	New Jersey Intracoastal Waterway, NJ
Smith	NJ-4	New Jersey Shore Protection, Manasquan Inlet to Barnegat Inlet, NJ *[NJDEP]*
Smith	NJ-4	Toms River, Ocean County, NJ
Gottheimer	NJ-5	Delaware River Basin Comprehensive Interim Feasibility Study for New Jersey *[NJDEP]*
Gottheimer	NJ-5	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Gottheimer	NJ-5	Musconetconng River Dam Removals, Bloomsbury, NJ (206) *[NJDEP-ONRR]*
Pallone	NJ-6	New Jersey Alternative Long-Term Nourishment, RSM Study *[NJDEP]*
Pallone	NJ-6	New Jersey Backbay Coastal Resilience Study *[NJDEP]*
Lance	NJ-7	Delaware River Basin Comprehensive Interim Feasibility Study for New Jersey *[NJDEP]*
Lance	NJ-7	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Lance	NJ-7	Lambertville, NJ (205) *[NJDEP]*
Lance	NJ-7	Musconetconng River Dam Removals, Bloomsbury, NJ (206) *[NJDEP-ONRR]*
Maloney	NY-18	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Faso	NY-19	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Faso	NY-19	Planning Assistance to States, Section 22, Assessment of Bridges and Impacts on Flows and Flooding, Delaware County, NY (Section 22)
Faso	NY-19	Planning Assistance to States, Section 22, Upper Delaware River Basin (Callicoon Creek), NY *[Sullivan County, New York]*
Faso	NY-19	Upper Delaware River Watershed, Livingston Manor, NY *[NYSDEC]*
Faso	NY-19	Upper Delaware River Watershed, NY *[TBD]*
Brady	PA-1	Cobbs Creek Fish Passage (566) *[City of Philadelphia-Water Department]*
Brady	PA-1	Cobbs Creek Watershed Habitat Restoration *[City of Philadelphia-Water Department]*
Brady	PA-1	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*

Representative	District	Project Name
Brady	PA-1	Delaware River Dredged Material Utilization, PA
Brady	PA-1	Delaware River Main Channel Deepening, DE, NJ & PA *[Philadelphia Regional Port Authority]*
Brady	PA-1	Delaware River Waterfront, Philadelphia, PA *[City of Philadelphia]*
Brady	PA-1	Delaware River, Philadelphia to the Sea, DE, NJ & PA
Brady	PA-1	Delaware River, Philadelphia to Trenton, NJ & PA
Brady	PA-1	Planning Assistance to States, Section 22, Delaware River Waterfront Pier Analysis, PA *[DRWC]*
Brady	PA-1	Roosevelt Boulevard Dam Removal, Philadelphia, PA (566) *[City of Philadelphia-Water Department]*
Brady	PA-1	Schuylkill River Aquatic Ecosystem Restoration, PA (1135) *[Bartram's Garden]*
Brady	PA-1	Schuylkill River Basin, Wissahickon Creek Watershed, Philadelphia & Montgomery Counties, PA *[City of Philadelphia-Water Department]*
Brady	PA-1	Schuylkill River, Philadelphia, PA
Brady	PA-1	Schuylkill Watershed Restoration, PA (Section 204) *[none required]*
Brady	PA-1	U.S. Army Corps of Engineers Hopper Dredge McFarland
Marino	PA-10	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Marino	PA-10	Delaware River Dredged Material Utilization, PA
Marino	PA-10	General Edgar Jadwin Dam, Honesdale, PA
Marino	PA-10	Prompton Lake, Prompton, PA
Barletta	PA-11	Beltzville Lake, Beltzville, PA
Barletta	PA-11	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Barletta	PA-11	Delaware River Dredged Material Utilization, PA
Barletta	PA-11	Francis E Walter Dam, White Haven, PA
Barletta	PA-11	Schuylkill Watershed Restoration, PA (Section 204) *[none required]*
Boyle	PA-13	Abington Township Environmental Improvement (566) *[Abington Township]*
Boyle	PA-13	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Boyle	PA-13	Delaware River Dredged Material Utilization, PA
Boyle	PA-13	Delaware River Main Channel Deepening, DE, NJ & PA *[Philadelphia Regional Port Authority]*
Boyle	PA-13	Delaware River Waterfront, Philadelphia, PA *[City of Philadelphia]*
Boyle	PA-13	Delaware River, Philadelphia to the Sea, DE, NJ & PA
Boyle	PA-13	Delaware River, Philadelphia to Trenton, NJ & PA
Boyle	PA-13	Planning Assistance to States, Section 22, Delaware River Waterfront Pier Analysis, PA *[DRWC]*
Boyle	PA-13	Planning Assistance to States, Section 22, Rose Valley Creek Flood Hazard Analysis, PA *[Whitpain Township]*
Boyle	PA-13	Schuylkill River Basin, Wissahickon Creek Watershed, Philadelphia & Montgomery Counties, PA *[City of Philadelphia-Water Department]*
Boyle	PA-13	Schuylkill Watershed Restoration, PA (Section 204) *[none required]*
Boyle	PA-13	Tookany Creek, Cheltenham Township, Montgomery County, PA (Section 205) *[Cheltenham Township]*
Boyle	PA-13	U.S. Army Corps of Engineers Hopper Dredge McFarland
Dent	PA-15	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Dent	PA-15	Delaware River Dredged Material Utilization, PA
Dent	PA-15	Planning Assistance to States, Section 22, Delaware River Canal Stability Assessment, PA *[PADCNR]*
Dent	PA-15	Schuylkill Watershed Restoration, PA (Section 204) *[none required]*
Smucker	PA-16	Chester, Delaware and Montgomery County Streams (566) *[PADEP]*
Smucker	PA-16	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Smucker	PA-16	Delaware River Dredged Material Utilization, PA
Smucker	PA-16	Schuylkill Watershed Restoration, PA (Section 204) *[none required]*
Cartwright	PA-17	Blue Marsh Lake, Leesport, PA
Cartwright	PA-17	Delaware River Basin, Pine Knot, Schuylkill County, PA *[PADEP]*

Representative	District	Project Name
Cartwright	PA-17	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Cartwright	PA-17	Delaware River Dredged Material Utilization, PA
Cartwright	PA-17	Planning Assistance to States, Section 22, Delaware River Canal Stability Assessment, PA *[PADCNR]*
Cartwright	PA-17	Schuylkill Watershed Restoration, PA (Section 204) *[none required]*
Evans	PA-2	Cobbs Creek Fish Passage (566) *[City of Philadelphia-Water Department]*
Evans	PA-2	Cobbs Creek Watershed Habitat Restoration *[City of Philadelphia-Water Department]*
Evans	PA-2	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Evans	PA-2	Delaware River Dredged Material Utilization, PA
Evans	PA-2	Delaware River Waterfront, Philadelphia, PA *[City of Philadelphia]*
Evans	PA-2	Planning Assistance to States, Section 22, Delaware River Waterfront Pier Analysis, PA *[DRWC]*
Evans	PA-2	Roosevelt Boulevard Dam Removal, Philadelphia, PA (566) *[City of Philadelphia-Water Department]*
Evans	PA-2	Schuylkill River Basin, Wissahickon Creek Watershed, Philadelphia & Montgomery Counties, PA *[City of Philadelphia-Water Department]*
Evans	PA-2	Schuylkill River, Philadelphia, PA
Evans	PA-2	Schuylkill Watershed Restoration, PA (Section 204) *[none required]*
Evans	PA-2	Tookany Creek, Cheltenham Township, Montgomery County, PA (Section 205) *[Cheltenham Township]*
Costello	PA-6	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Costello	PA-6	Delaware River Dredged Material Utilization, PA
Costello	PA-6	Schuylkill River, North Coventry Township Chester County, PA (Section 14) *[North Coventry Township]*
Costello	PA-6	Schuylkill Watershed Restoration, PA (Section 204) *[none required]*
Costello	PA-6	Toad Creek, Borough of Topton, Berks County, PA (Section 14) *[Borough of Topton]*
Meehan	PA-7	Chester, Delaware and Montgomery County Streams (566) *[PADEP]*
Meehan	PA-7	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Meehan	PA-7	Delaware River Dredged Material Utilization, PA
Meehan	PA-7	Delaware River Main Channel Deepening, DE, NJ & PA *[Philadelphia Regional Port Authority]*
Meehan	PA-7	Delaware River, Philadelphia to the Sea, DE, NJ & PA
Meehan	PA-7	Schuylkill Watershed Restoration, PA (Section 204) *[none required]*
Meehan	PA-7	U.S. Army Corps of Engineers Hopper Dredge McFarland
Fitzpatrick	PA-8	Delaware River Comprehensive, DE, NJ, NY & PA (Watershed Flood Management Plan) *[DRBC]*
Fitzpatrick	PA-8	Delaware River Dredged Material Utilization, PA
Fitzpatrick	PA-8	Delaware River Waterfront, Philadelphia, PA *[City of Philadelphia]*
Fitzpatrick	PA-8	Delaware River, Philadelphia to Trenton, NJ & PA
Fitzpatrick	PA-8	Planning Assistance to States, Section 22, Delaware River Canal Stability Assessment, PA *[PADCNR]*
Fitzpatrick	PA-8	Schuylkill Watershed Restoration, PA (Section 204) *[none required]*
Fitzpatrick	PA-8	U.S. Army Corps of Engineers H+A180:C211opper Dredge McFarland