

Port Monmouth Flood Risk Management Project, Phase II
Raritan Bay and Sandy Hook Bay
Middletown Township, Monmouth County, New Jersey
Section 404 (b) (1) Evaluation

1. Project Description

- a. Location: Middletown Township, Monmouth County, New Jersey
- b. General Description: Installation of approximately 4,500 linear feet (lf) of levee, 7,000 lf of floodwall, the splicing of sheet pile onto an existing bulkhead, road closure structures, a vertical lift tide gate, pump stations, road raising and re-grading interior drainage facilities in the community of Port Monmouth.
- c. Authority and Purpose: description of the project history and authorization, before and after Hurricane Sandy, are described in the project's 2000 FR/EIS and 2014 USACE Hurricane Sandy Limited Reevaluation Report (USACE 2013b) and are incorporated by reference. The Port Monmouth project was identified for 100% Federal funding under the Disaster Relief Appropriations Act of 2013 under Public Law (P.L.) 113-2, which was implemented in response to Hurricane Sandy. The purpose of the project is to provide flood damage reduction measures to the community of Port Monmouth.
- d. General Description of Fill Material:
 - i. Characteristics of the Material: Material to construct the levee will be clean fill that meets the USACE specifications for levee construction. Onsite soil would be re-used as appropriate; any offsite soils brought in for use as backfill will be tested for Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX) and full Toxicity Characteristic Leaching Procedure (TCLP) including ignitability, corrosivity and reactivity. The floodwall would be constructed of concrete.
 - ii. Quantity of Material: As the designs have not progressed far enough to determine the quantity of material for all contracts, Contract 3 quantities are known. Approximately 5,000 cubic yards of concrete for construction of the floodwall. Additionally, approximately 8,300 cubic yards of imported clean fill material will be needed for backfilling activities, as well as 27 cubic yards of armor rock and 15 cubic yards of stone bedding for the levee. The contractor will reuse approximately 5,300 cubic yards of the excavated material. As quantities are identified for Contracts 2, 4 and 5, they would be presented to NJDEP Land Use as part of the construction permitting process.
 - iii. Source of Material: The rock will be obtained from a local quarry and would be freshly mined. Soil fill will be clean material and will be acquired at an adequate site.
- e. Description of the Proposed Discharge Sites
 - i. Location: The discharge site is located along the bank of Pews Creek and potentially in mosquito ditches and channels branching off the main stems of the Pews and Compton Creeks in Middletown Township, Monmouth County, New Jersey.
 - ii. Size: Approximately 7,000 lf of floodwall and 4,500 lf of levee would be constructed.
 - iii. Type of Site: The project is located in a residential community.

- iv. Types of Habitat: The project features are located in a combination of tidal wetlands, NJ Department of Environmental Protection mapped freshwater wetlands, open water and upland habitat.
- v. Time and Duration of Disposal: Construction of the levee and floodwall system will take approximately 80 months, if there is no overlap in construction of the contracts.

f. Description of Disposal Method: Construction equipment such as bulldozers, backhoes, and dump trucks are anticipated to be used, but the construction contractor may choose to utilize additional or different equipment. In-water work to construct the tide gate would be conducted in the dry via installation of coffer dams.

2. Factual Determination

a. Physical Substrate Determinations:

- i. Substrate Evaluation and Slope: the project area is generally flat with the dominant soil type being Appoquinimink-Transquaking-Mispillion.
- ii. Sediment Type: The sediment is primarily alluvial soils.
- iii. Dredged/Fill Material Movement: Best management practices to prevent soil erosion and sedimentation into Pews Creek and Compton/Pews channels would occur during construction of the levees and floodwalls. No fill would be directly placed in open water. Fill activities would occur in wetlands. Placement and grading of fill, riprap, and concrete would result in: the temporary disturbance of approximately 16 acres of tidal wetlands, 4 acres of freshwater wetlands, and 6 acres of riparian habitat; and the permanent disturbance of up to approximately 15 acres of tidal wetlands, 2 acres of freshwater wetlands and 1 acre of riparian habitat. Onsite mitigation is planned for impacts to tidal wetlands and riparian habitat; the purchase of freshwater credits is planned.
- iv. Physical Effects on Creek Bottom: The project is not expected to change the existing substrate or characteristics of Pews Creek given that the tide gate would remain open under normal conditions to maintain tidal flow into the creek and surrounding wetlands.
- v. Other Effects: No unique or other effects are anticipated from this project.
- vi. Actions Taken to Minimize Impacts: Best management practices, including but not limited to silt fencing and straw bales, would be utilized during construction.

b. Water Circulation, Fluctuation and Salinity Determinations:

- i. Water, Consider Effects on:
 - Salinity - No effect
 - Water Chemistry - No effect
 - Clarity - water clarity may be slightly impacted during construction activities. No long term effects are anticipated.
 - Color - No effect
 - Odor - No effect
 - Taste - No effect
 - Dissolved Gas Levels - No effect
 - Nutrients - No effect
 - Eutrophication - No effect

- Others as Appropriate - No other adverse impacts are anticipated from the project.

ii. Current Patterns and Circulation:

-Current Patterns and Flow - The project would not permanently impact normal flows. A coffer dam would be installed prior to construction of the tide gate across Pews Creek to maintain tidal flow into the creek and surrounding wetlands. Normal tidal flow would continue when the gate is open. Under normal conditions, the gate would remain fully opened. Examples of conditions that would trigger closing of the gate and/or operation of the pumps include: a rain event occurs over the drainage basin at the same time as spring tide; during storms in which a major tidal event is predicted; during storms in which a major tidal event and rain event occurs over the drainage basin at the same time. Closing the gate and/or operating the pumps would prevent flooding in the Port Monmouth community.

- Velocity - the tide gate would typically close during a flooding event to prevent flooding the Port Monmouth community (see current patterns and flows for examples). Normal velocity would continue when the tide gate is open.

- Stratification - No effect

- Hydrologic Regime - No effect

iii. Normal Water Level Fluctuations: The project would not cause any change in normal water levels.

iv. Salinity Gradients - No effect

v. Actions Taken to Minimize Impacts: Erosion and sediment control practices would be utilized during construction.

c. Suspended Particulate/Turbidity Determinations:

i. Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Sites: Effects of the proposed project on turbidity and suspended sediment concentrations would be temporary and minimal.

d. Effects on Chemical/Physical Properties of the Water Column:

i. Light Penetration - No effect

ii. Dissolved Oxygen - No effect

iii. Toxic Metals and Organics - No effect

iv. Pathogens - The project would not cause any change in pathogen levels as no sewage or animal waste or treatment is involved.

v. Aesthetics - the aesthetics of the project area would be somewhat compromised during construction. Restoration of grass and shrubs would be implemented to restore the vegetation.

vi. Others as appropriate - Not applicable

e. Effects on Biota:

i. Primary Production, Photosynthesis - No effect

ii. Suspension/Filter Feeders - No impacts are anticipated. Erosion and sediment control best management practices would be implemented during construction to reduce sedimentation into Pews Creek and Pews/Compton channels.

iii. Sight feeders - No impacts are anticipated.

f. Actions Taken to Minimize Impacts: Erosion and sediment controls would be implemented during construction.

g. Contaminant Determinations: All fill material would be clean and would not pose a risk.

h. Aquatic Ecosystem and Organism Determinations:

i. Effects on Plankton - No effect

ii. Effects on Benthos - Temporary and direct impacts are anticipated during construction of the tide gate due to burial. However, recovery of abundance, biomass and taxa richness is anticipated in 1 year; while assemblage biomass composition may take 1.5 - 2 years.

iii. Effects on Nekton - No effect

iv. Effects on Aquatic Food Web - Minimal Effects. Vegetation would be restored along banks following construction. Vegetation outside the construction zone would remain undisturbed.

v. Effects on Special Aquatic Sites:

a. Sanctuaries and Refuges - Non applicable

b. Wetlands - The temporary disturbance of approximately 16 acres of tidal wetlands, 4 acres of freshwater wetlands, and 6 acres of riparian habitat; and the permanent disturbance of up to approximately 15 acres of tidal wetlands, 2 acres of freshwater wetlands and 1 acre of riparian habitat is anticipated as the worst case scenario from construction of the levee/floodwall system. Onsite mitigation is planned for impacts to tidal wetlands and riparian habitat; the purchase of freshwater credits is planned.

c. Mudflats - Non applicable

d. Vegetated Shallows - Non applicable

e. Coral reefs - Non applicable

f. Riffle and Pool Complexes - Non applicable

i. Threatened and Endangered Species: the federally listed threatened seabeach amaranth (*Amaranthus pumilus*) and the NJ state listed endangered seabeach knotweed (*Polygonum glaucum*) have been observed on the beach in Port Monmouth. Surveys would be conducted prior to the start of construction for those contract areas bordering the beach (Contracts 3 and 5) in case access is needed through the beach during construction. Surveys for nesting federally de-listed endangered bald eagle (*Haliaeetus leucocephalus*) bald eagles and NJ state listed threatened osprey (*Pandion haliaetus*) would be conducted prior to construction of all contracts, if scheduled to begin during the nesting season. Construction activities within a 1,000 ft. buffer of any nesting osprey would be in effect; management guidelines for bald eagles would be in effect. Minor, adverse impacts are anticipated for the following species, if present in the project area during construction: the NJ state listed endangered pied-billed grebe (*Podilymbus podiceps*); the NJ state listed endangered Cooper's hawk (*Accipiter cooperii*); the NJ state listed endangered black skimmer (*Rynchops niger*); the NJ state listed endangered least tern (*Sterna antillarum*); the NJ State listed threatened Black-crowned night-heron (*Nycticorax nycticorax*); the NJ state listed threatened Silver-bordered fritillary (*Boloria selene myrina*); and the NJ state listed species of special concern snowy egret (*Egretta thula*).

j. Other Wildlife: the project is not anticipated to have significant long-term impacts on the waterfowl, upland birds or mammals in the project area.

k. Actions to Minimize Impacts: Best management practices, including but not limited to, silt fences, straw bales and a coffer dam would be utilized during construction. Prior to

construction, and outside the nesting season, 2 existing osprey nesting platforms would be removed to minimize, to the maximum extent practicable, disturbance associated with construction activities. Mitigation for the relocation includes the installation of new, superior nesting platforms. A total of three new platforms would be installed.

I. Proposed Disposal Site Determinations

i. Mixing Zone - not applicable

ii. Determination of Compliance with Applicable Water Quality Standards - fill would be clean material and would meet water quality standards.

iii. Potential Effects on Human Use Characteristic:

a. Municipal and Private Water Supply - Pews and Compton Creeks are not used as a water supply, so no direct or indirect adverse impacts are anticipated.

b. Recreational and Commercial Fisheries - The project is not anticipated to have any adverse impacts to recreational or commercial fisheries. Best management practices would be implemented to reduce erosion and sediment into the Pews and Compton water bodies; and a coffer dam would be built to maintain and divert tidal flow into Pews Creek/surrounding wetlands during construction of the tide gate.

c. Water Related Recreation - The project is not anticipated to have a major impact on recreation in Pews and Compton Creeks. Small boats (e.g., kayaks) may be used in Pews Creek, however access would be limited for a short time during construction of Contract 2.

d. Aesthetics - Removal of mature trees would occur to build the levees and floodwalls. Also, the road would be raised on Port Monmouth Road adjacent to a condominium complex and may block the viewshed of the beach and Raritan Bay on the south side of Port Monmouth Road. However, the need for flood protection to homes in the Port Monmouth community would outweigh the loss. The floodwall would have a decorative facade to minimize impacts and the levees would be planted with grass to maintain a similar landscape.

e. Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves - Not applicable

f. Determination of Cumulative Effects on the Aquatic System - The majority of cumulative impacts would be to the loss of wetlands along the Raritan Bay through the Port Monmouth project and a similar flood damage reduction project in Union Beach; however, mitigation is planned for both projects.

3. Findings of Compliance or Non-Compliance with the Restrictions on Discharge

a. No significant adaptation of the Section 404(b) (1) guidelines was made relative to this evaluation.

b. The purpose and need of protecting the Port Monmouth community from catastrophic flood damages necessitates the construction of the floodwall and levee system.

c. The proposed activity would not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.

d. The proposed disposal operations would not harm any Federal or state endangered species or critical habitat under the Endangered Species Act of 1973.

- e. The proposed discharge of fill material would not result in significant adverse effects on human health and welfare, including municipal and private water supplies, fish, wildlife, and special aquatic sites. The life stages of aquatic life and other wildlife would not be significantly affected. Significant adverse effects on aquatic ecosystem diversity, productivity and stability, and recreational, aesthetic and economic values are not expected to occur.
- f. Appropriate steps to minimize potential adverse impacts of the discharge of fill material would occur, including the implementation of an erosion and sediment control plan and judicious engineering and construction practices.