**BOROUGH OF HIGHLANDS**

# SPECIAL MEETING WITH USACE AND NJDEP

**Henry Hudson Regional High School Cafeterium, 1 Grand Tour, Highlands, NJ 07732**

**Tuesday, May 14, 2024 at 6:00 PM**

## AGENDA

The notice requirements provided for in the Open Public Meetings Act have been satisfied. Notice of this meeting was properly given by transmission to the Asbury Park Press and the Two River Times and by posting at the Borough of Highlands Municipal Building and filing with the Borough Clerk all on April 30, 2024. Items listed on the agenda are subject to change. No formal action will be taken.

### PLEDGE OF ALLEGIANCE

**ROLL CALL:** Councilmember Cervantes | Councilmember Chelak | Councilmember Melnyk

Council President Olszewski | Mayor Broullon

### DISCUSSION ITEMS

1. US Army Corps of Engineers Flood Wall Project Updated Plans - Public Information Meeting
2. Fact Sheet. (The presentation will be uploaded to our website after the meeting.)

### PUBLIC PORTION

Individuals wishing to address the Council shall be recognized by the presiding officer and shall give their name, address, and the group, if any, they represent. Although the Council encourages public participation, it reserves the right, through its presiding officer, to terminate remarks to and/or by any individual not in keeping with the conduct of a proper and efficient meeting. If any individual refuses to conduct themselves in a proper manner, they will be removed from the meeting. The Council will not, during the public portion of this meeting, discuss matters involving employment, appointment, termination of employment, negotiations, terms and conditions of employment, evaluation of the performance of, promotion or discipline of any specific or prospective or current employee. There is a three-minute time limit for your comments.

### ADJOURNMENT

*If you have any questions regarding this agenda, please contact the Borough Clerk at 732-872-1224 ext. 201 or email clerk@highlandsborough.org*

# RARITAN BAY AND SANDY HOOK BAY, HIGHLANDS, NJ

# COASTAL STORM RISK MANAGEMENT PROJECT

## PUBLIC INFORMATION MEETING

## PROJECT UPDATES

## MAY 14, 2024

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US Army Corps of Engineers®

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

# PURPOSE

The purpose of this meeting is to provide an overview of the Raritan Bay and Sandy Hook Bay Highlands project and discuss the current phase, **Pre-Construction Engineering and Design Phase (PED).**

The project will manage flood risks from coastal storm flood events that impact the community, its infrastructure, and the economy. The project supports the resiliency of the Sandy Hook Bay communities, infrastructure and their contributions to the region and to the national economy.

**Please hold questions till the end of the presentation.**
**Thank you.**

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# HIGHLANDS, NJ





https://www.highlandsnj.com/history/index.shtml

The highest point of land on the coast from Texas to Maine is in Highlands (226 feet above sea level.)

The first land sighted by millions of immigrants approaching America was the hills of Highlands.

Giovanni da Verrazano of Florence was the first European explorer to describe in 1524 the geography of the Highlands.

In September of 1609 Henry Hudson made extensive explorations of the Highlands area.

The first European settlement in Highlands was in 1678 when Richard Hartshorne built his home at Portland on the Highlands peninsula.

On April 12, 1782 revolutionary war Patriot Capt. Joshua Huddy was hanged unjustly by loyalists forces in Highlands near Huddy Park.

James Fennimore Cooper in 1830 used the hills of Highlands as the settling for his novel, The Water Witch.

The Twin Lights, built in Highlands in 1862, was the first lighthouse to use kerosene, electricity, and the French Fresnel lens to reach out some 22 miles at sea. It was the site of Guglielmo Marconi's first practical radio demonstration in America in 1899 and the site of America's first radar experiments in the mid 19



Gertrude Ederle, the first woman to swim the English Channel in 1926, spent her summers in Highlands where she trained in the challenging currents beneath the Highlands bridge.

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# HIGHLANDS PARTNERSHIP

## Federal Sponsor

USACE

## Non-Fed Sponsor

New Jersey Department Of Environmental Protection

## Project Stakeholders

Borough of Highlands

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# AGENDA

- Non-Federal Sponsor (NJDEP)
- Project Authority
- Project Area
- Project Objectives
- Alternatives Considered
- Recommended Plan
- Draft Renderings - Veterans Park and Snug Harbor
- Current project update

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# NEW JERSEY'S SHORE PROTECTION PROGRAM



**State of New Jersey**
Philip D. Murphy, Governor
Tahesha L. Way, Lt. Governor

**Dept. of Environmental Protection**
Shawn M. LaTourette, Commissioner

**Watershed & Land Management Program**
Katrina Angarone, Assistant Commissioner

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# NEW JERSEY'S SHORE PROTECTION PROGRAM



**Watershed & Land Management Divisions**
Division of Land Resource Protection
Director: Jennifer Moriarty

Division of Watershed Protection & Restoration
Director: Anika Andrews

Division of Resilience Engineering & Construction
Director: Dennis Reinknecht

Office of Dam Safety & Flood Engineering (Trenton)

**Office of Coastal Engineering (Toms River)**
Erick Doyle, Assistant Director
Kelley Staffieri, Bureau Chief

# NEW JERSEY SHORE PROTECTION FUND

"To protect existing development and infrastructure from storm surges, sea-level rise and shoreline migration through dune creation and maintenance, beach nourishment projects, and construction and repair of shore protection structures."

$25 million dedicated annually

*Realty Transfer Tax (N.J.S.A. C.13:19-16.1)*

# NEW JERSEY'S SHORE PROTECTION PROGRAM

**Federal Projects** - NJDEP –Non-federal Sponsor (NFS) on these projects

- Studies
- Storm Damage Reduction/Shore Protection/CSRM
- Environmental Restoration

**State Projects** - Municipalities -local sponsor in these projects

- Storm Damage Reduction/Shore Protection/CSRM

**Professional and Technical Services**

- Stevens Institute of Technology
- Richard Stockton College of New Jersey
- Division of Fish and Wildlife
- New Jersey Geological Survey

# STATE OF NEW JERSEY'S ROLE

Non-Federal Sponsor (NFS) with the Corps

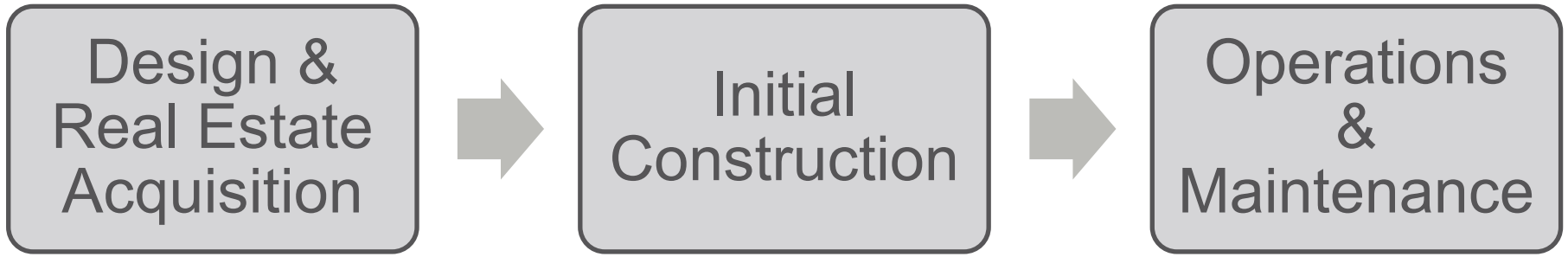
- Funding
- Real Estate
- Technical & Professional Assistance

Project Partner with Local Municipality

- Liaison to the Corps for the Municipality
  - Municipal obligations memorialized through a State Aid Agreement with NJDEP

# PROJECT IMPLEMENTATION

- Execution of a State Aid Agreement
- Real Estate Acquisition
- Finalize Plans and Specifications
- Contract Advertisement and Award (Army Corps)
- Initial Construction
- Operations & Maintenance



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# LEGISLATIVE AUTHORITY AND HISTORY

The Highlands Feasibility Study was authorized on August 1, 1990, in a resolution of the Committee on Transportation and Infrastructure of the U.S. House of Representatives.

A Feasibility Cost Sharing Agreement with the New Jersey Department of Environmental Protection for the Highlands Coastal Storm Risk Management Study was executed in 2001.

The Highlands CSRM Study was included in the Second Interim Report in response to the Disaster Relief Appropriations Act, Public Law 113-2.

A Feasibility Cost Share Agreement amendment for $1,500,000 to complete the feasibility study at full Federal expense was executed with NJDEP on 23 August 2013.

The PED study is 100% Federally funded.  However, construction authority and appropriation will be required for project implementation and project will be cost shared 65% Federal and 35% non-Federal.

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# STUDY LOCATION





Highlands Study Area  Federal Navigation Channel

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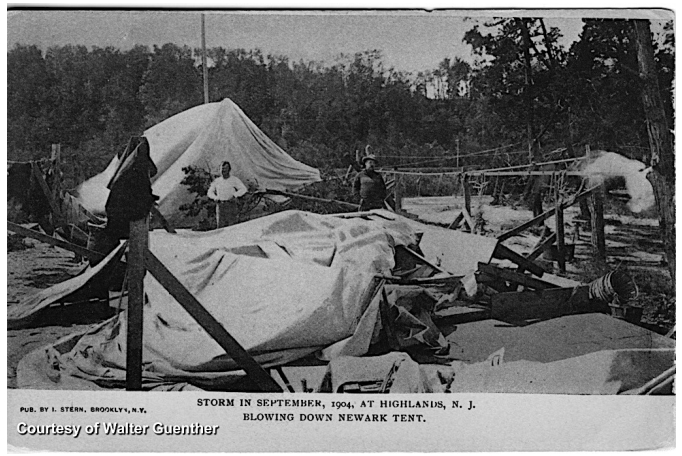
# WHY WE ARE HERE

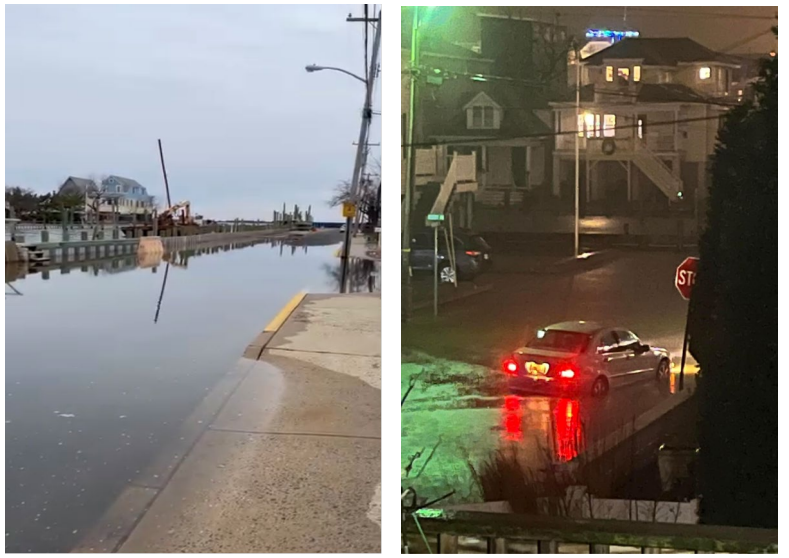




September 1904
https://www.highlandsnj.com/history/Archives/Storms/Archives-Storms.shtml

Superstorm Sandy, Highlands, Oct 2012

Corner of Waterwitch Ave. and Bay Ave.
December 23, 2022.


Icy Seawater Floods Highlands In
Nor'easter Snowstorm, Feb 2021



Feb 2024 and March 2024

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# THE PROBLEM

- The community of Highlands experiences damages from flooding due to coastal storms including tropical storms, hurricanes, and nor'easters and large rain events.

- Highlands has a history of devastating flood damages. In general, flooding due to storm surge occurs over a large area of the Borough as during the Hurricane Sandy event in 2012.


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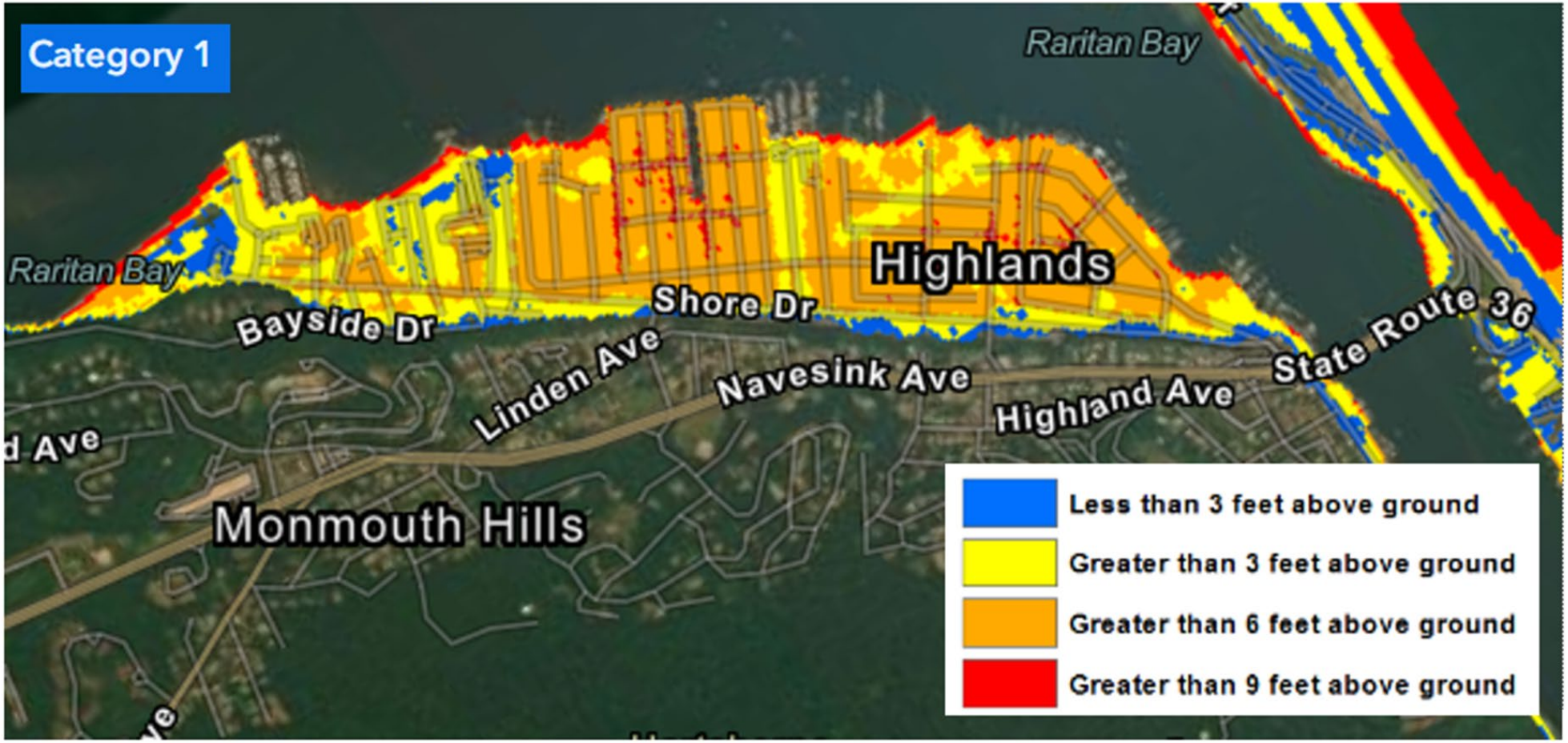
# THE PROBLEM

## National Hurricane Center Storm Surge Risk Maps



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# PROJECT OBJECTIVES

REDUCE DAMAGES

REDUCE LIFE SAFETY RISK

SUPPORT COMMUNITY RESILIENCE

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# HIGHLANDS FUTURE WITHOUT THE PROJECT



- Future conditions predicted, based on past events.
- Hurricane Sandy was estimated to be a 190 yr storm at Highlands
- 1,200 out of 1,500 structures damaged by Hurricane Sandy
- Sea level rise: 0.7 ft increase expected over next 50 years
- **Long history of flood damages will continue.**

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# PREVIOUS PUBLIC MEETINGS & OUTREACH



***TWO MAJOR TAKEAWAYS:***

- ***Maintain  Waterfront Access!***
- ***What will the project look like?***

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# ALTERNATIVES CONSIDERED

| Non- Structural Measures | Hard Structural Measures |
|---|---|
| Buyouts (acquisition) of frequently flooded structures | Seawall/ bulkhead with closure gates (raised epoxy coated steel sheet pile bulkhead) |
| Elevation (raising) of frequently flooded structures | Offshore closure structure |
| Ringwalls/ structural peripheral wall | Navigation sector gates |
| Floodproofing, of frequently flooded structures | Removable fabricated floodwall (inland) |
| | Floodwalls (T-type and I-type floodwall) |

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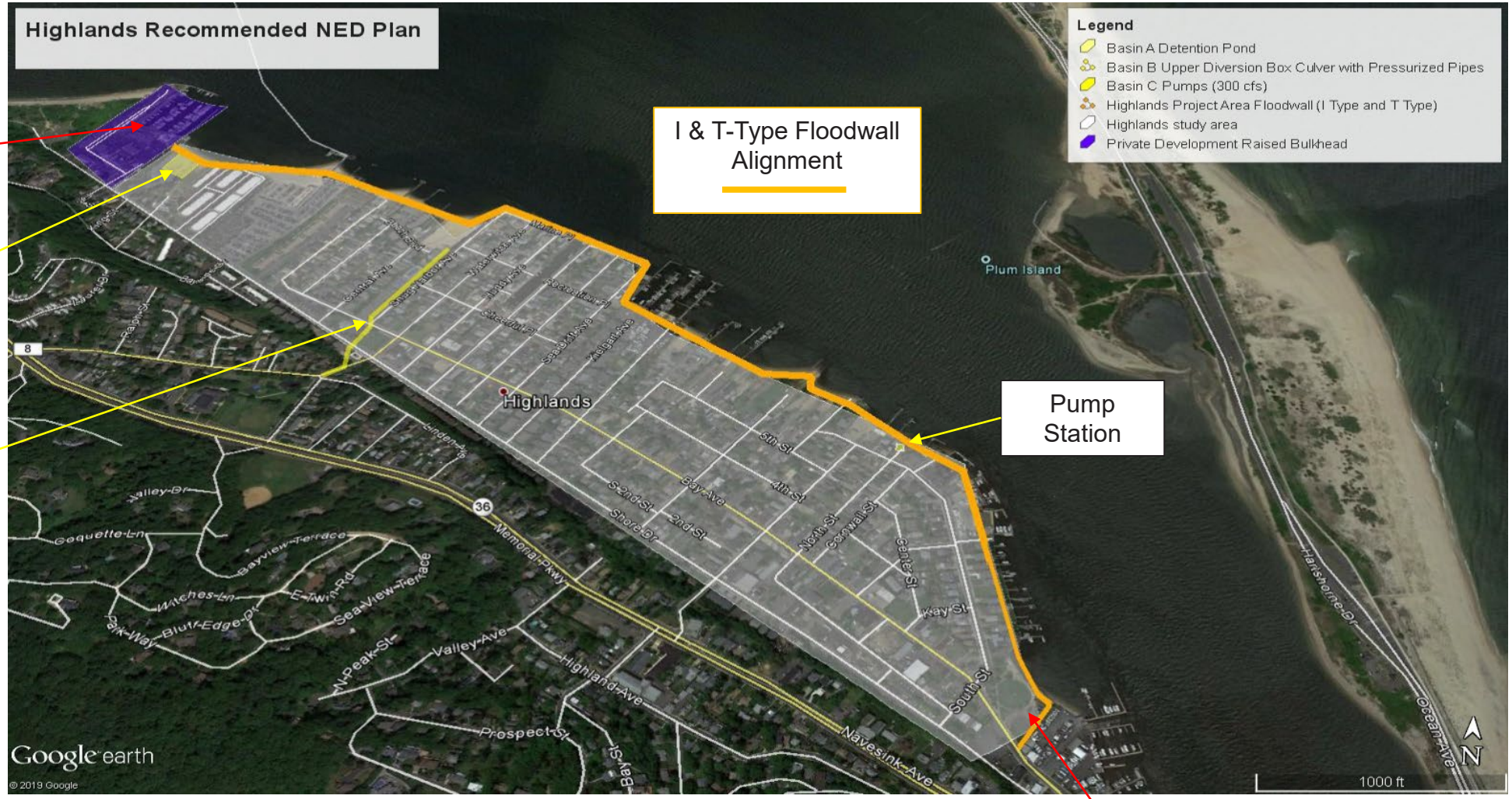
# RECOMMENDED PLAN

Private Development Raised Bulkhead

Detention Pond

Pressurized Pipes




328 lf of raised ground surface and 55 lf closure gate at East End (Veterans Memorial Park and Bay Avenue

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# DISCLAIMER RENDERINGS

These are just examples.  Elevations provided hereon are based upon results of surveys completed in 2002. Site photo information has been compiled utilizing publicly available data at the time of rendering preparation. Neither has been verified against current field conditions and both are provided for reference only. Line of protection is provided to show relative height and location of same relative to existing conditions onsite.

**Location and type of protection is subject to change based upon formal site investigation and design by the USACE.**

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# DRAFT RENDERING – VETERANS PARK

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# VETERANS PARK PREFERRED OPTION

**Location and type of protection is subject to change based upon formal site investigation and design by the USACE.**

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# VETERANS PARK PREFERRED OPTION STREET VIEW



**Location and type of protection is subject to change based upon formal site investigation and design by the USACE.**

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# VETERANS PARK OPTION 2

**Location and type of protection is subject to change based upon formal site investigation and design by the USACE.**

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# VETERANS PARK OPTION 2 – STREET VIEW

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# VETERANS PARK OPTION 3

**Location and type of protection is subject to change based upon formal site investigation and design by the USACE.**

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# VETERANS PARK OPTION 3 – STREET VIEW

**Location and type of protection is subject to change based upon formal site investigation and design by the USACE.**

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# SNUG HARBOR PREFERRED OPTION



**Location and type of protection is subject to change based upon formal site investigation and design by the USACE.**

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# SNUG HARBOR PREFERRED OPTION AERIAL VIEW





**Location and type of protection is subject to change based upon formal site investigation and design by the USACE.**

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# SNUG HARBOR PREFERRED OPTION GROUND VIEW





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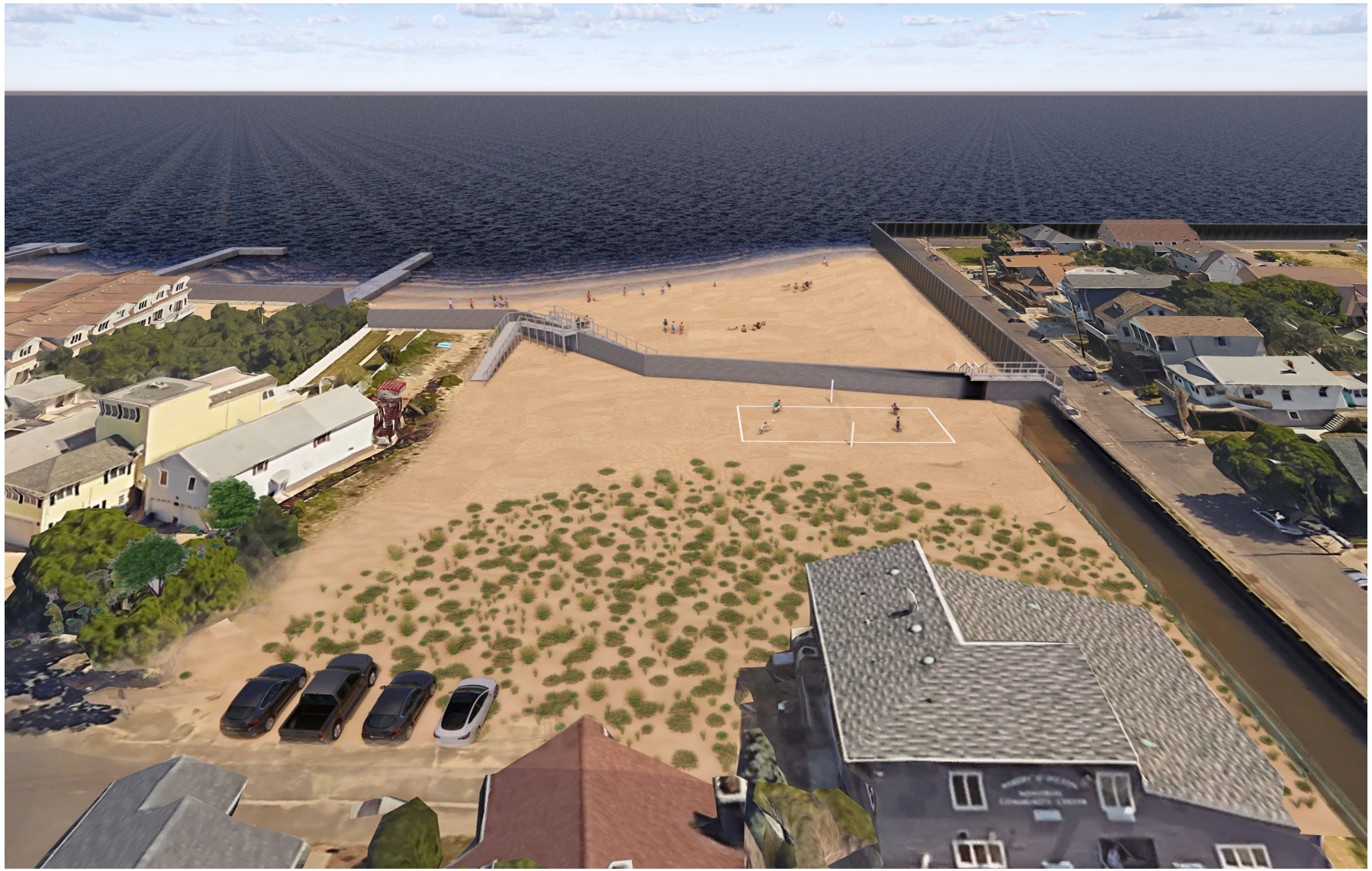
# SNUG HARBOR OPTION 2



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# SNUG HARBOR OPTION 2 AERIAL VIEW





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# SNUG HARBOR OPTION 2– GROUND VIEW

**Location and type of protection is subject to change based upon formal site investigation and design by the USACE.**

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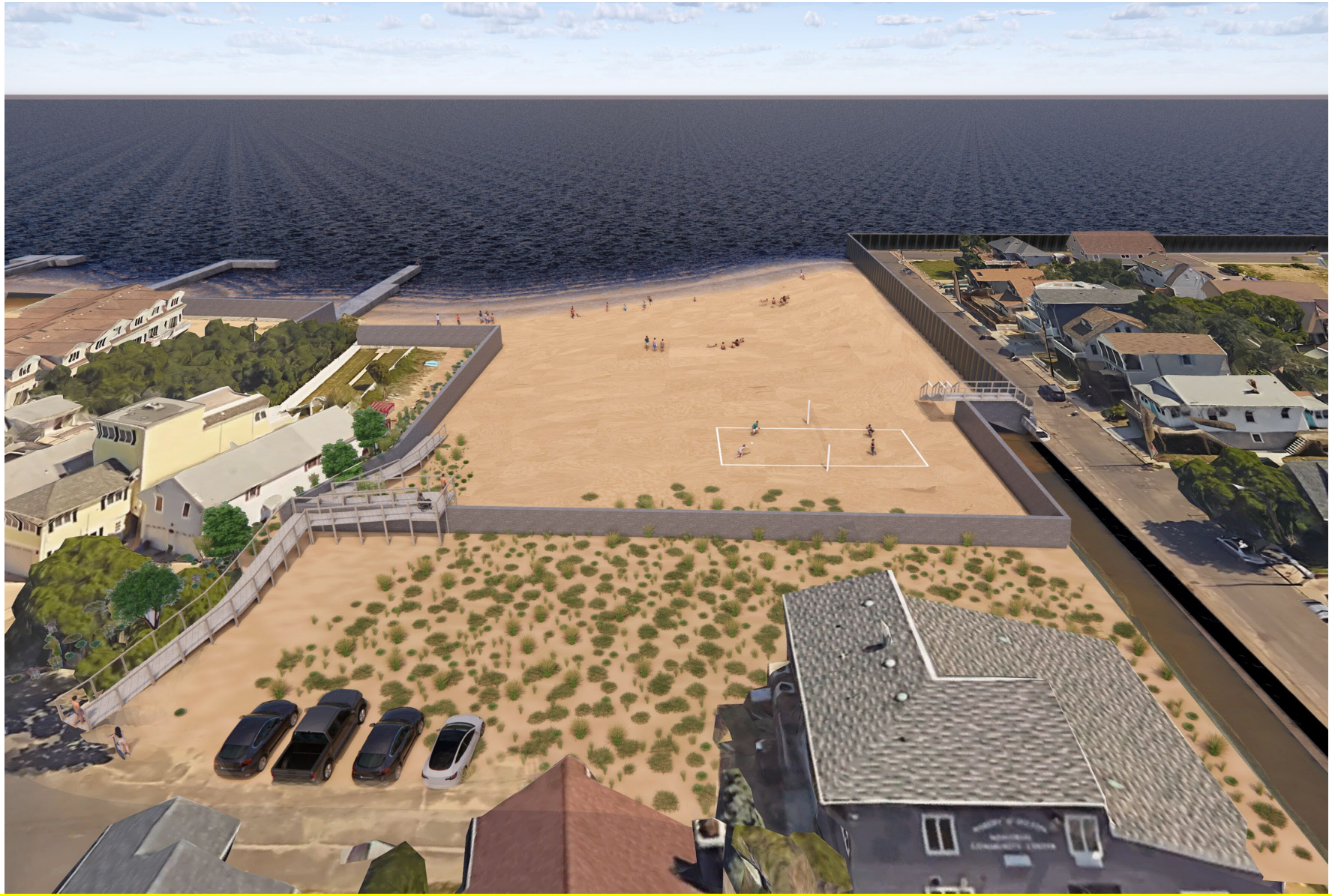
# SNUG HARBOR OPTION 3



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# SNUG HARBOR OPTION 3 AERIAL VIEW



**Location and type of protection is subject to change based upon formal site investigation and design by the USACE.**

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# SNUG HARBOR OPTION 3 GROUND VIEW





**Location and type of protection is subject to change based upon formal site investigation and design by the USACE.**

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# EXAMPLE BULKHEADS

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# WATERFRONT ACCESS EXAMPLES

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# FLOODWALL EXAMPLES


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# ROAD CLOSURE GATE EXAMPLE

Floodgate at Port Monmouth

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# INTERIOR DRAINAGE STRUCTURES


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# WHERE WE ARE AND NEXT STEPS

## Currently in PED 30%

- First Constructible Element
  - Flood gate closure across Bay Avenue at Veterans Park
- Topographic/Utility Surveys
  - ROEs

## Schedule

- PED
  - Design 1yr
  - Construction 1-1/2 yrs
  - **Requires timely decision making by all stakeholders**
  - As PED moves to completion, USACE will enter into a Project Partnership Agreement (PPA) with the Non-Fed Sponsor (NFS) for the Construction Phase of the remainder of the authorized project
- Design & Construction of the remainder of the project
  - Approximately 4yrs
  - Construction will be done in phases

## Project Costs & Costs Share

- PED - 100% FED $2.4M (DRSAA)
- CG – Estimated (subject to change) $129M (BIL)
  - 65% Federal ($84M); 35% Non-Federal ($45M)

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# PROJECT CONTACTS

**Project website:**
*https://www.nan.usace.army.mil/Missions/Civil-Works/Projects-in-New-Jersey/Raritan-Bay-Sandy-Hook-Bay/*

**Highlands Borough Contact:**
Mayor Carolyn Broullon
CBroullon@highlandsborough.org

**USACE Contact:**
Bethany McClanahan, P.E., CFM
Bethany.M.McClanahan@usace.army.mil

**NJDEP Contact:**
Erick Doyle, P.E., C.P.M.
Assistant Director, Office of Coastal Engineering
Division of Resilience Engineering & Construction
Erick.Doyle@dep.nj.gov

# RARITAN BAY AND SANDY HOOK BAY, HIGHLANDS, NJ

# COASTAL STORM RISK MANAGEMENT PROJECT

THANK YOU

QUESTIONS


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US Army Corps of Engineers®

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

# Raritan & Sandy Hook Bay- Highlands, NJ

## Flood Risk Management Project

13 May 2024


**DESCRIPTION:** Highlands is located on the shoreline of Sandy Hook Bay and the Shrewsbury River approximately 20 miles south of Manhattan, New York. Its "working waterfront" is lined with marinas, docks, piers, and a ferry terminal that serves many businesses throughout the northeast and provides mass transportation for commuters to New York City. Access to the waterfront is critical to the Borough's economy. Large-scale flood risk management structures that could improve use of the waterfront have not been built. Because of this, the Borough is highly susceptible to flooding. Most homes and businesses in Highlands are located in the relatively low-lying downtown area extending from the shoreline to Shore Drive. The land is generally at an elevation lower than +10 feet (ft) North American Vertical Data of 1988 (NAVD88).The Highlands study area, about 0.7 square miles in extent, located at the eastern limit of the overall Raritan Bay and Sandy Hook Bay study area and is bordered to the north by Sandy Hook Bay, to the west by the corporate limits of Atlantic Highlands, and to the east by the Shrewsbury River and Route 36 bridge. The Borough of Highlands is located in Monmouth County, New Jersey. Highlands is generally about 2,000 feet wide, and its topography is flat for about 1,500 feet onshore from the bay, after which the ground rises rapidly. This is a fully developed community with most year-round residences and commercial establishments located on the low-lying area along the bay. Highlands has a history of devastating flood damages. Approximately 880 residential, trailer home, apartment, and commercial structures are subject to severe flooding with approximately 670 located below 9 feet NAVD. Many low-lying roadways are flooded during severe storm events, cutting off access to large portions of Highlands. This area was devastated by Superstorm Sandy.

**AUTHORIZATION:** The completed study was authorized by a resolution of the Committee on Public Works and Transportation, U.S. House of Representatives, adopted August 1, 1990. Subsequent funding and authorization were provided via P.L. 113-2, The Disaster Relief Appropriations Act, 2013. The project was authorized for construction under the Water Resources Development Act of 2020 that was enacted on December 27, 2020.

**Local Sponsor:** New Jersey Department of Environmental Protection
**Project Partners:** Borough of Highlands

**STATUS:** In response to the flooding from back-to-back December 1992 Nor'easters, Congress funded the Corps to conduct a reconnaissance study of the Raritan Bay and Sandy Hook Bay Communities. In March 1993, the Corps issued a favorable Reconnaissance Study and in May 2000 issued a favorable Pre-Feasibility Report recommending that a feasibility study be conducted. The State of New Jersey Department of Environmental Protection concurred with the Corps recommendations and signed a Feasibility Cost Sharing Agreement (FCSA) on August 1, 2001 to cost share the feasibility study. The draft feasibility report has been completed and released to the public on 17 July 2015 and the comment period closed on 31 August 2015. The tentatively selected plan has been optimized and the report completed. The project spans a geographic distance of approximately 8,000 linear feet along the coast of the Borough of Highlands (Highlands) and ties into high ground (+14 ft NAVD88) at each end. Because the project follows the actual perimeter of the shoreline, its total length of the floodwall 10,737 linear ft. The project includes a detention pond, diversion culverts, raised ground surfaces, floodwall, floodgate and a pump station for interior drainage. The Chief's Report was approved on 25 August 2020. Project was appropriated funding under the BIL and DRSAA supplementals in 2020. NAN is currently performing data collection for the implementation of the Plans & Specifications for the first constructible element, the flood closure gate. It is anticipated the Plans & Specifications for the first constructible element will be completed in the fall of 2025.

**PRE-CONSTRUCTION, ENGINEERING, AND DESIGN COST (PED):**
Federal Cost: $2,400,000
Non-Federal Cost: $0

**ESTIMATED CONSTRUCTION COST (subject to change as design progresses):**
Federal Cost: $84,000,000
Non-Fed Cost: $45,000,000

**CONTACT:**
Bethany McClanahan PE, CFM
Project Manager
P: (917) 790-8426
Email: bethany.m.mcclanahan@usace.army.mil
U.S. Army Corps of Engineers, New York District
Programs and Project Management Division, Civil Works Branch
26 Federal Plaza
New York, NY 10278
CONGRESSIONAL DISTRICT: NJ-06

## ACRONYMS AND ABBREVIATIONS

| Acronym/ Abbreviation | Definition |
|---|---|
| AE zone | Federal Emergency Management Agency (FEMA) 1 percent (also known as base flood) floodplain |
| ARA | Abbreviated Risk Analysis |
| ASA (CW) | Assistant Secretary to the Army (Civil Works) |
| BCR | Benefit to Cost Ratio |
| BFE | Base Flood Elevation |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| cfs | cubic feet per second |
| CZM | Coastal Zone Management |
| CZMA | Coastal Zone Management Act |
| CRF | Code of Federal Regulations |
| CSRM | Coastal Storm Risk Management |
| D&I | Design & Implementation |
| EA | Environmental Assessment |
| ECB | Engineering Construction Bulletin |
| EFH | Essential Fish Habitat |
| EO | Executive Order |
| EQ | Environmental Quality |
| ER | Engineering Regulation |
| ETL | Engineering Technical Letter |
| FCSA | Feasibility Cost Sharing Agreement |
| FEMA | Federal Emergency Management Agency |
| FRRS | Flood risk reduction standard |
| ft | Feet |
| FY | Fiscal Year |
| HQUSACE | United States Army Corps of Engineers – Headquarters |
| Hs | Significant wave height |
| HTRW | Hazardous, toxic & radioactive waste |
| HUD | Housing and Urban Development |
| LERRD | Lands, Easements, Rights of Way, Relocations, & Disposal |
| lf | Linear feet |
| MLW | Mean Low Water |
| NAVD88 | North American Vertical Datum of 1988 |
| NED | National Economic Development |
| NEPA | National Environmental Policy Act of 1970 |
| NFIP | National Flood Insurance Program |
| NJDEP | New Jersey Department of Environmental Protection |
| NOAA | National Oceanic and Atmospheric Administration |
| NRC | National Research Council |

| Acronym/ Abbreviation | Definition |
|---|---|
| OMRR&R | Operations, Maintenance, Repair, Rehabilitation & Replacement |
| OSE | Other Social Effects |
| P&G | Principles & Guidelines |
| PED | Pre-Construction Engineering and Design |
| PFIRM | Preliminary Flood Insurance Rate Map |
| PL | Price level |
| PL | Public Law |
| PMP | Project Management Plan |
| PPA | Project Partnership Agreement |
| RED | Regional Economic Development |
| RONA | Record of Non-Applicability |
| RSLC | Relative sea level change |
| SCC | Soil cleanup criteria |
| SLR | Sea Level Rise |
| TES | Threatened and Endangered Species |
| Tp | Peak wave period |
| TSP | Tentatively Selected Plan |
| USACE | United States Army Corps of Engineers |
| USC | United States Code |
| USEPA | United States Environmental Protection Agency |
| USFWS | United States Fish & Wildlife Service |
| VE zone | Federal Emergency Management Agency (FEMA) 1 percent (also known as base flood) floodplain that is subject to additional hazards due to storm-induced velocity wave action. |
| VLM | Vertical land movement |