

# Hereford Inlet to Cape May Inlet, New Jersey

Coastal Storm Risk Management Project

Wildwoods Beachfill

(Diamond Beach - Lower Township)

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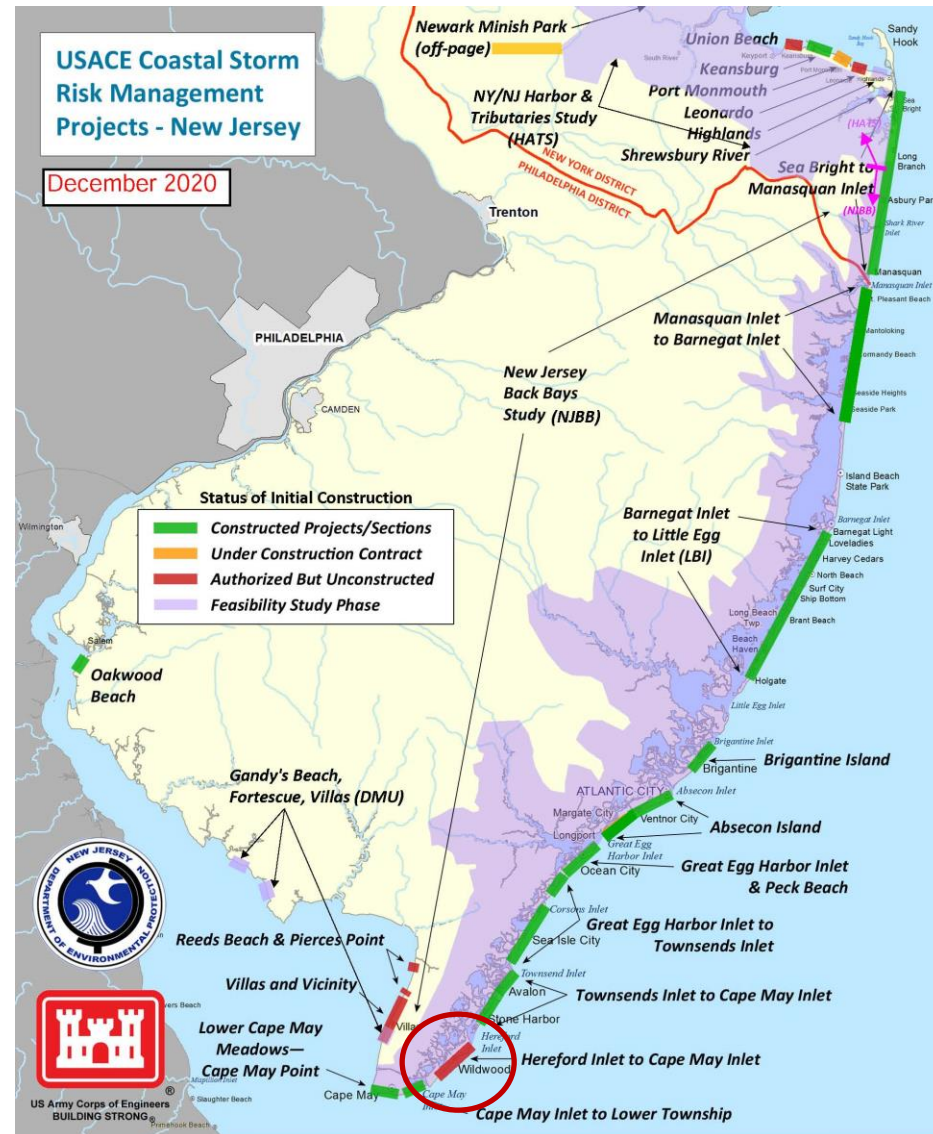
Presentation Updated: February 23, 2022



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# Shore Protection

- New Jersey's beaches not only provide recreation for beachgoers and fishermen and support a multi-billion-dollar tourism industry but play a much more critical role when faced with a coastal storm. Healthy beach and dune systems provide mitigation from these natural disasters by acting as a buffer between the pounding surf and the homes, businesses and infrastructure along the coast.



# Project Purpose

To provide for hurricane and storm damage reduction for coastal communities located between Hereford Inlet and Cape May Inlet, Cape May County, New Jersey

- *Feasibility Study:* “an examination of the specific water resource and shore protection needs for North Wildwood, Wildwood, Wildwood Crest and Lower Township, NJ with a goal to reduce storm damage, maintain existing coastal recreation and provide information to planners, engineers, and scientists



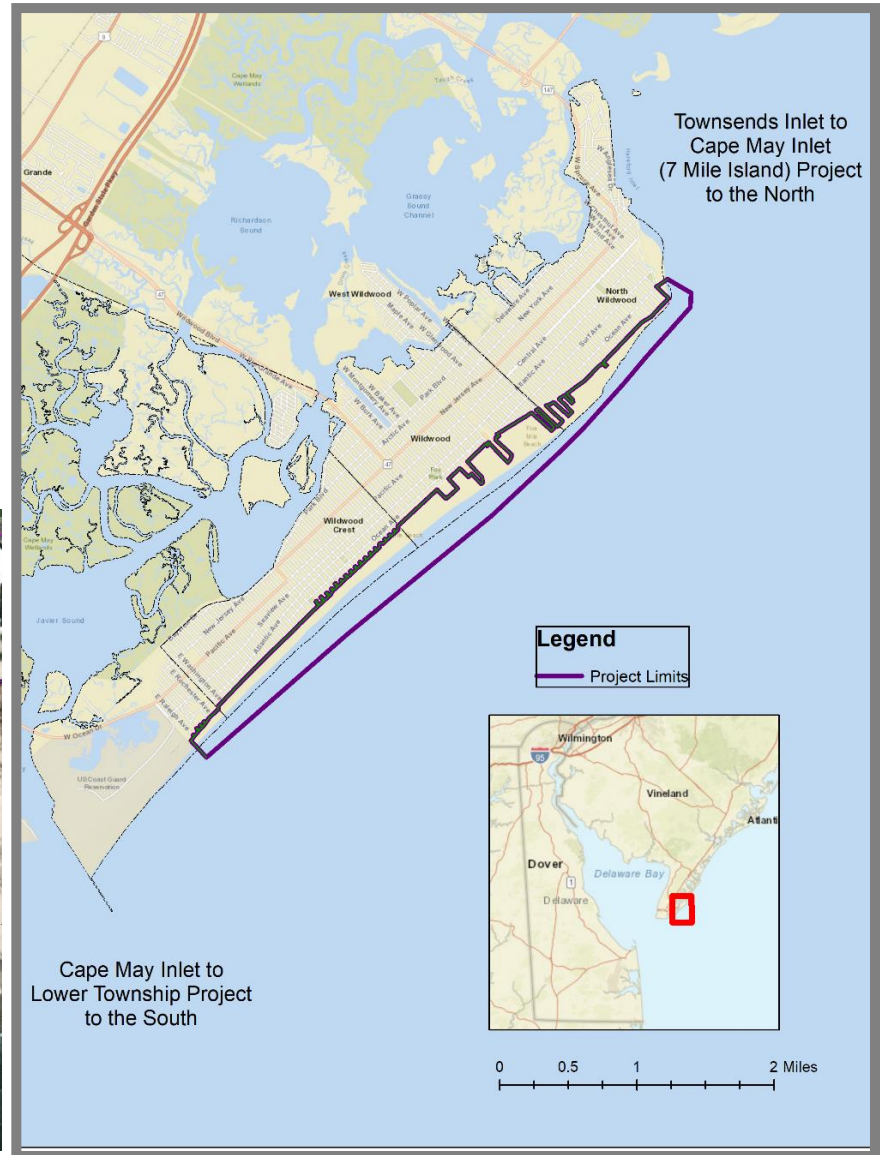
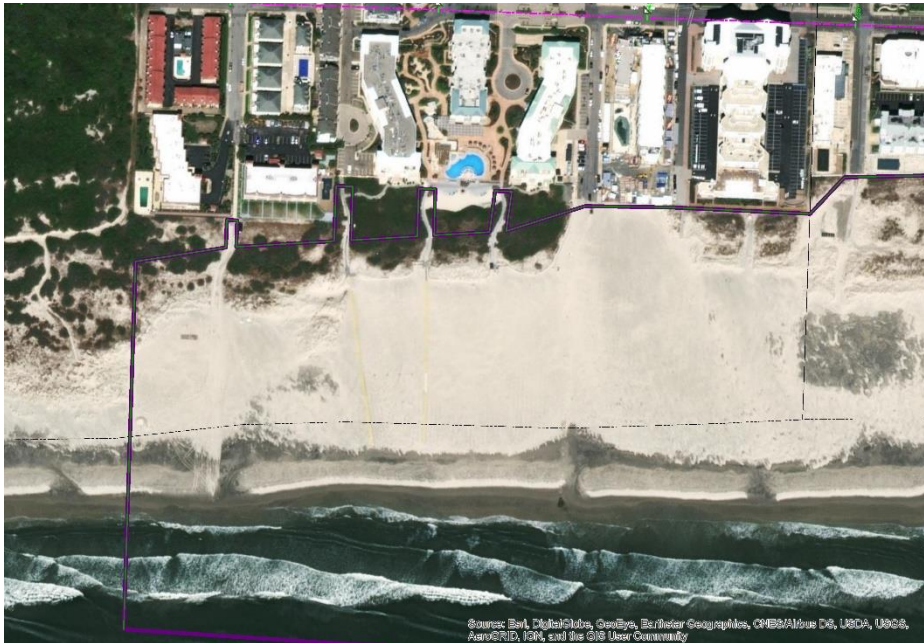
*Hurricane Sandy Approaches the East Coast 2012*



# Project Area

Atlantic Ocean coastline along:

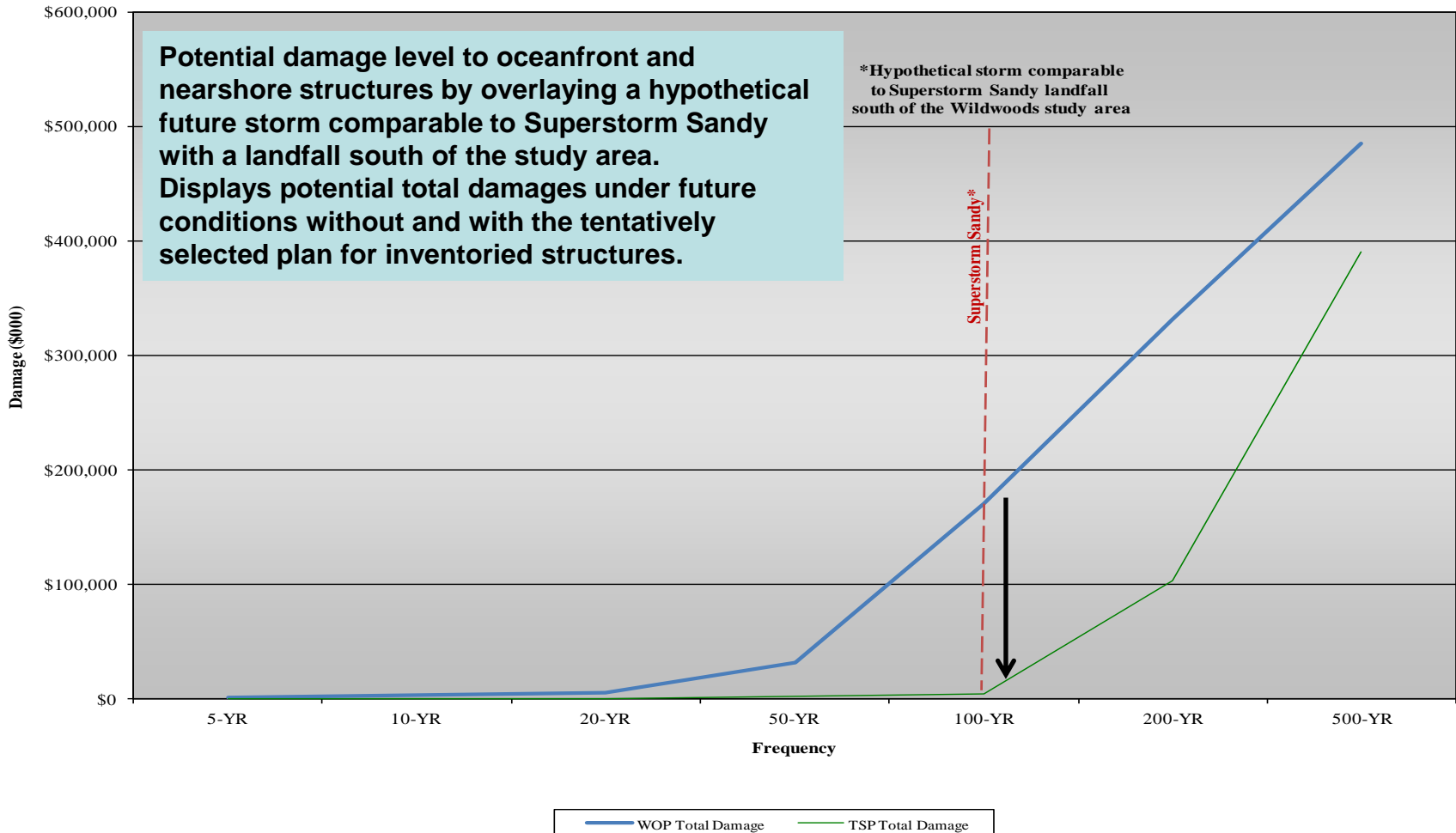
- North Wildwood
- Wildwood
- Wildwood Crest
- Lower Township



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# Risk Reduction for a Hypothetical 100 Year Storm

**The Wildwoods  
Total Damage By Frequency**



# Project Milestones

- DRAA 2013 – Jan. 23, 2013
- Amended Feasibility Cost Share Agreement – Oct. 28, 2013
- Civil Works Review Board – Aug. 21, 2014
- Chief's Report – Jan. 23, 2015
- 30% Plan Review – Nov. 30, 2016
  - ▶ Comments from Township March 15, 2017
- Project Partnership Agreement (PPA) – Jan. 17, 2017
- PPA Amendment – Jan, 16, 2018
- 60% Plan Review – July 12, 2018
  - ▶ Comments from Borough Oct. 23, 2018



# Project Milestones

- Notice to Proceed w/ Real Estate – Jan. 8, 2019
- DCE/USACE/Borough Stakeholder Meeting – Feb. 14, 2019
- State Aid Agreement
  - ▶ Drafts – Feb. 3, 2022, Oct. 19, 2021, Sept. 23, 2021 & Oct. 16, 2020
  - ▶ Final - awaiting Township's confirmation that last draft is ready for execution
- Anticipated Construction – Fall 2023
- \$4,725,966 spent to date
  - ▶ \$3,682,310 – Feasibility
  - ▶ \$1,043,656 – PED



# Project Implementation

- Execution of State Aid Agreements
- Real Estate Acquisition
- Finalize Plans and Specifications
- Contract Award
- Initial Construction
- Operations & Maintenance
- Periodic Nourishment (4-year cycle)





# State Aid Agreement

- Agreements between NJDEP and the local community
  - ▶ USACE is not part of the agreement
- Outline responsibilities for participation in the project including:
  - ▶ Financial obligations –
    - No cost to municipality for initial construction
  - ▶ Real Estate requirements –
    - NJDEP will working with property owners to obtain proper right of entry
  - ▶ Beach Management Plans (if applicable and in compliance with applicable Endangered Species requirements)
  - ▶ Operations & Maintenance after initial construction and between nourishment cycles
    - In accordance w/ New Jersey CZM rules and applicable Beach and Dune Maintenance Permits from the NJDEP's Division of Land Resource Protection
    - Can be delegated to property owners by the Township
  - ▶ Municipality is not required to independently perform Project renourishment
- New agreements are executed prior to each Periodic Nourishment



# New Jersey Shore Protection Fund

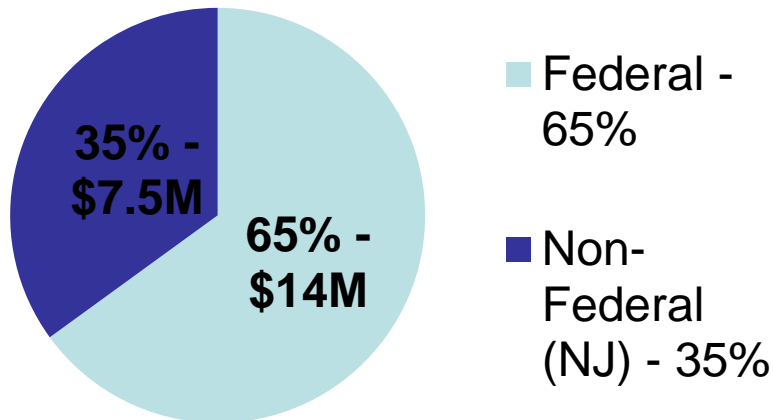
- “To protect existing development and infrastructure from storm surges, sea-level rise and shoreline migration through dune creation and maintenance, beach nourishment projects, and construction and repair of shore protection structures.”
  - \$25 million dedicated annually
  - *Realty Transfer Tax (N.J.S.A. C.13:19-16.1)*



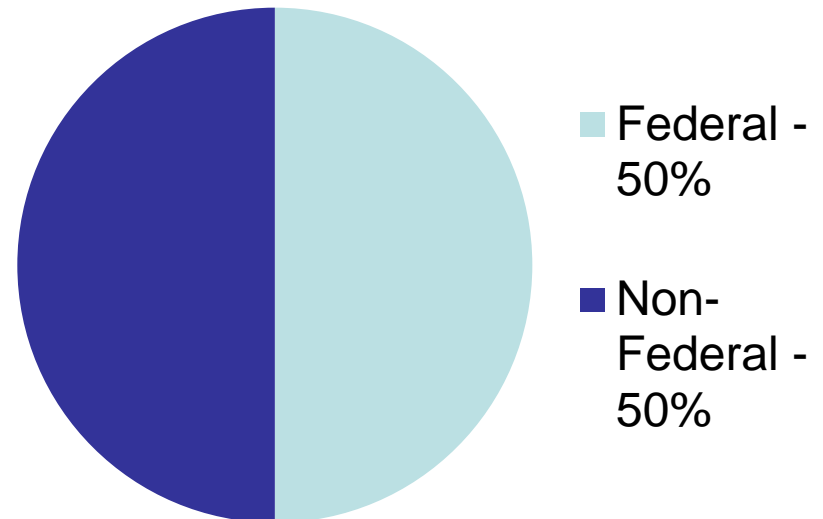
# Cost Sharing Responsibilities

Initial Construction Split between USACE and NJDEP only

**Total Initial  
Construction Cost -  
\$21,605,000**



**Periodic Nourishment  
Costs - \$82,428,000**  
(total over remaining life project – 12  
cycles)



The 35% Non-Federal match for initial construction is covered 100% by the State for this project.

The 50% Non-Federal requirement for periodic nourishment is anticipated to be split 75% State and 25% local municipality (see next slide).



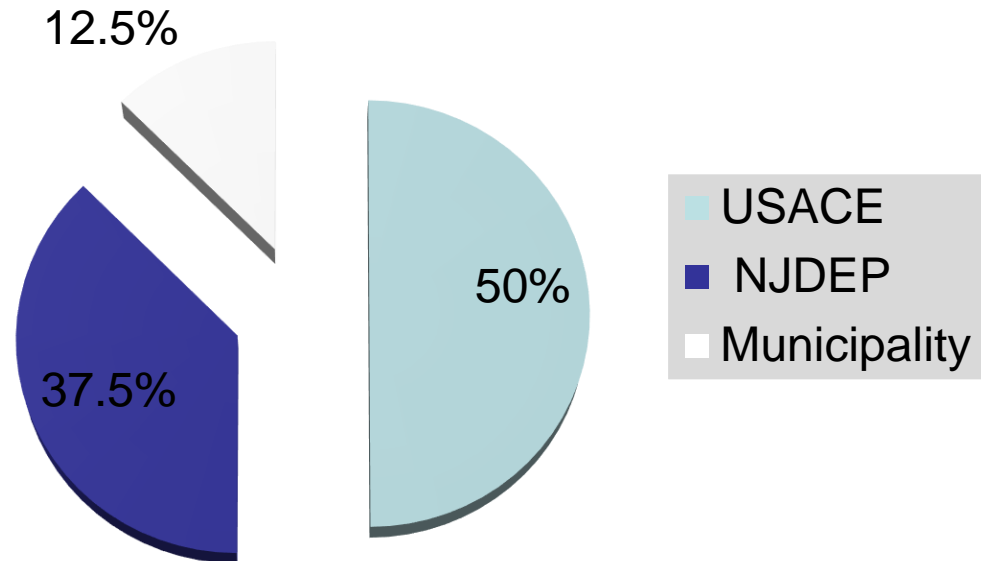
# Cost Sharing Responsibilities

## Periodic Nourishment

### Financing

USACE pays 50% of periodic nourishment project costs. The NJDEP and Municipality anticipate to cost share the remaining 50% cost share at 75% NJDEP and 25% Municipality.

This equates to less than 13 cents on a dollar for the municipality.

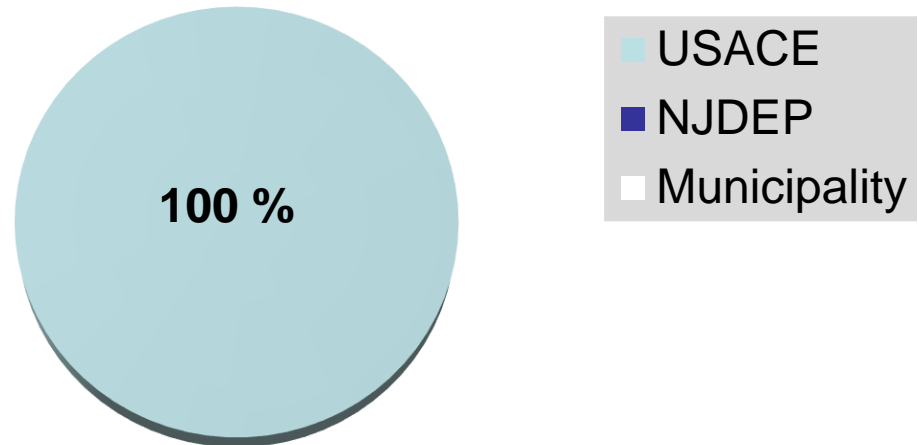


# Cost Sharing Responsibilities

## Damages from Extraordinary Coastal Storms

### Financing

**PL 84-99**: USACE can potentially pay 100% of the costs to repairs damages related to eligible extraordinary coastal storms through the FCCE program (Flood Control and Coastal Emergency).

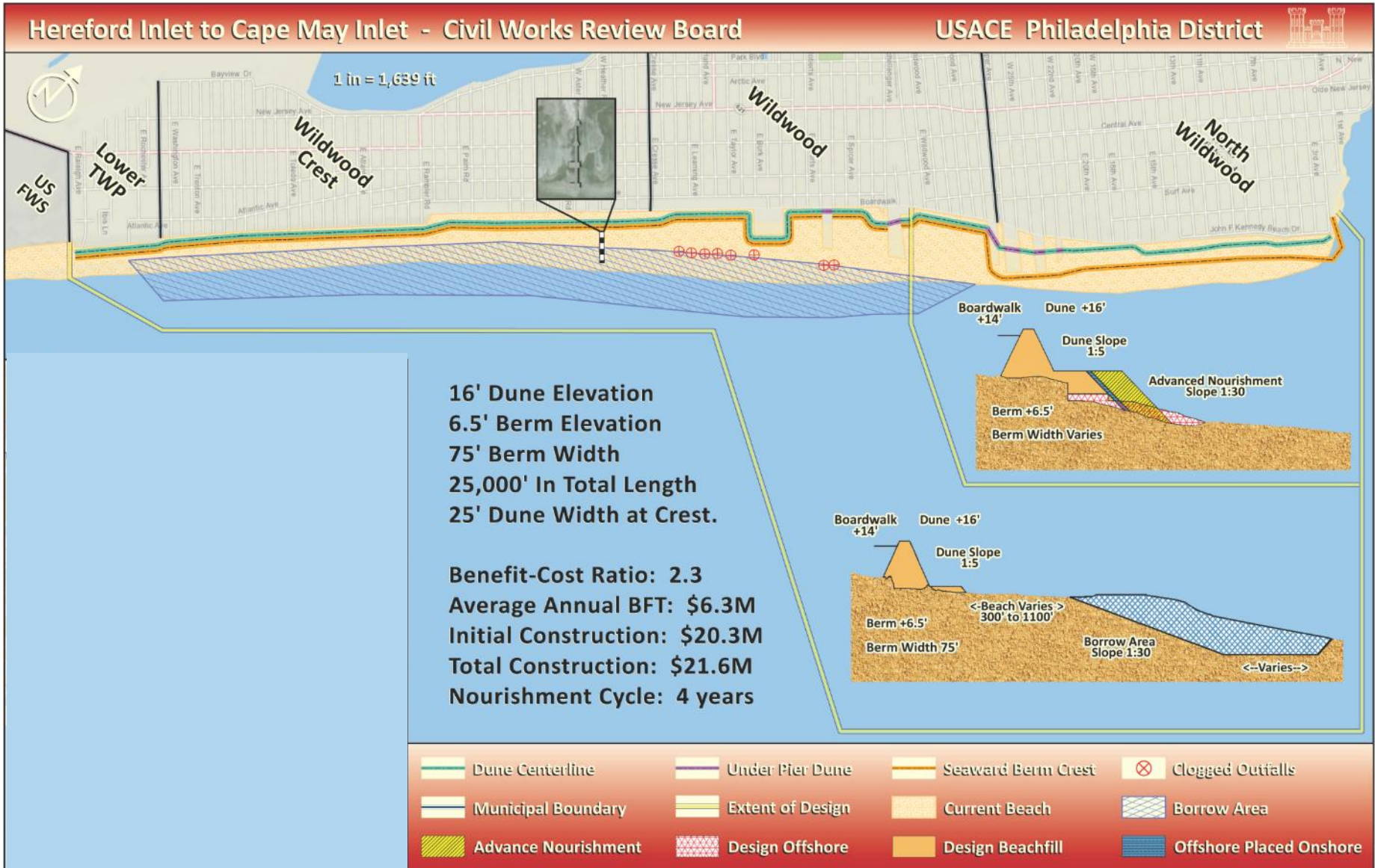


# Project Basics

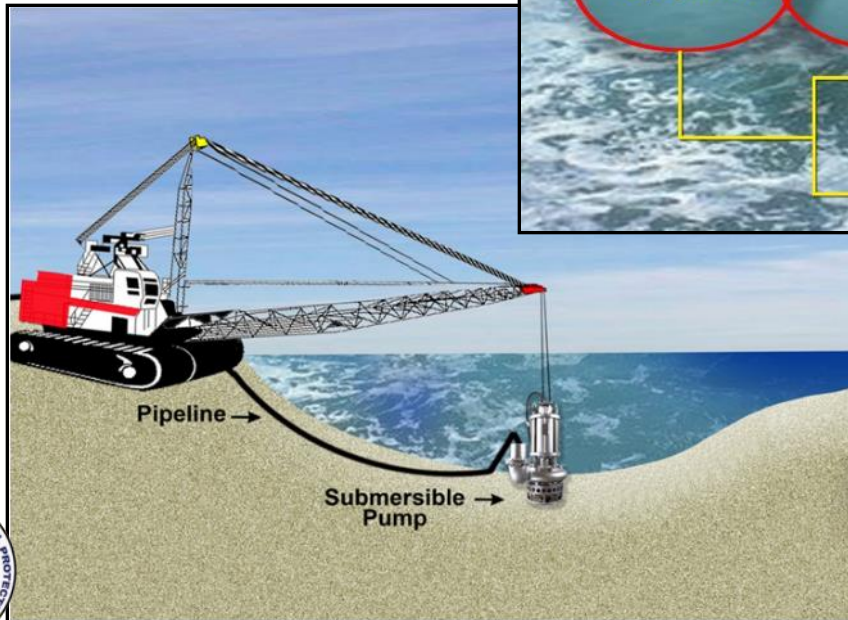
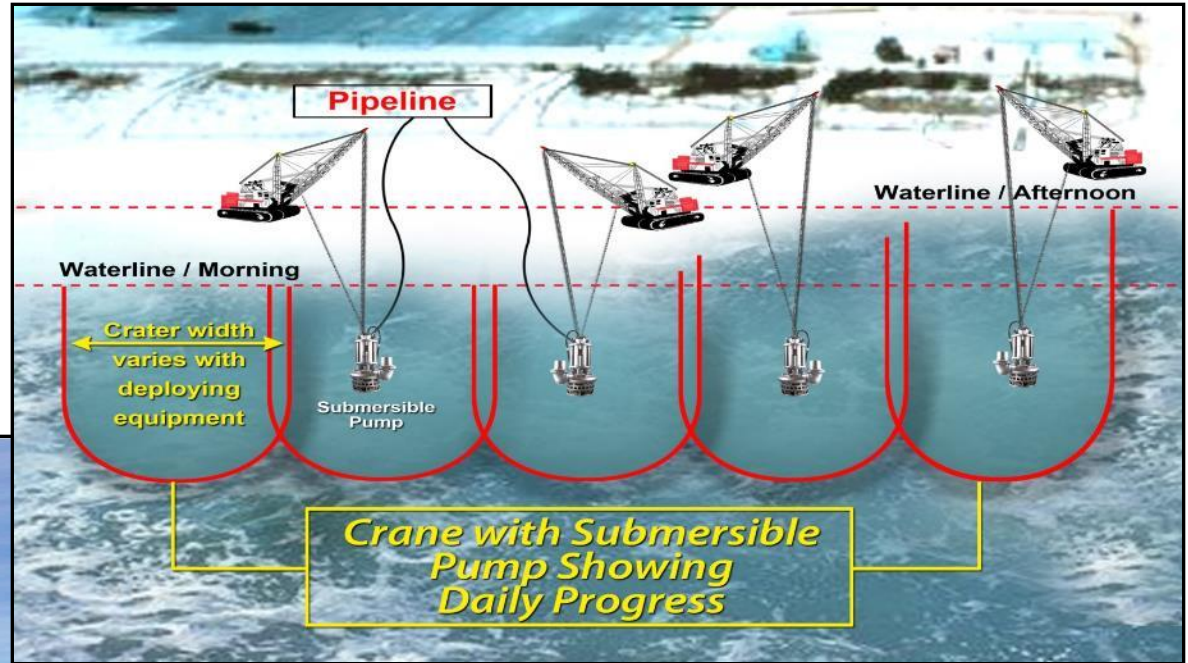
- Construction of berm and dune from Hereford Inlet to Cape May Inlet, via Hydraulic Back-Passing System
  - ▶ Berm Description
    - Elevation - +6.5 NAVD 88
    - Width – 75 feet
    - Slope 1V:30H
  - ▶ Dune Description
    - Elevation - +16 NAVD 88
    - Width at Crest – 25 feet
    - Slope 1V:5H



# Project Basics



# Sand Backpassing





# Sand Backpassing



\* = Forms of mechanical sand backpassing may also be utilized



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# Plan View

65% Phase



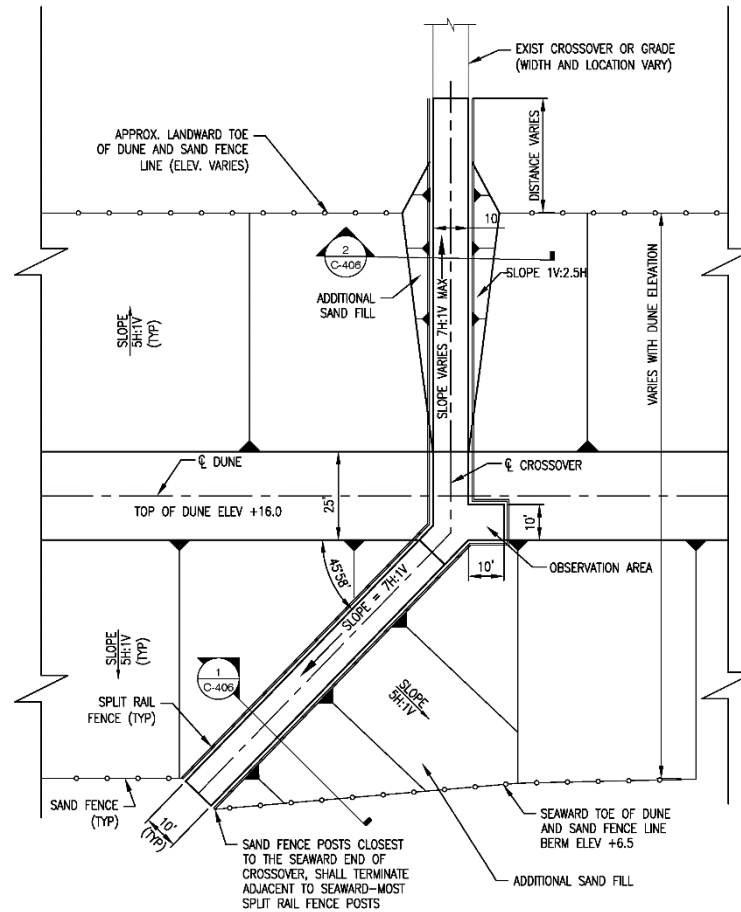
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# Additional Project Features

- The project includes the installation of:
  - ▶ Dune grass
  - ▶ Sand fence
  - ▶ Pedestrian crossovers
  - ▶ ADA compliant crossovers
  - ▶ Vehicular crossovers



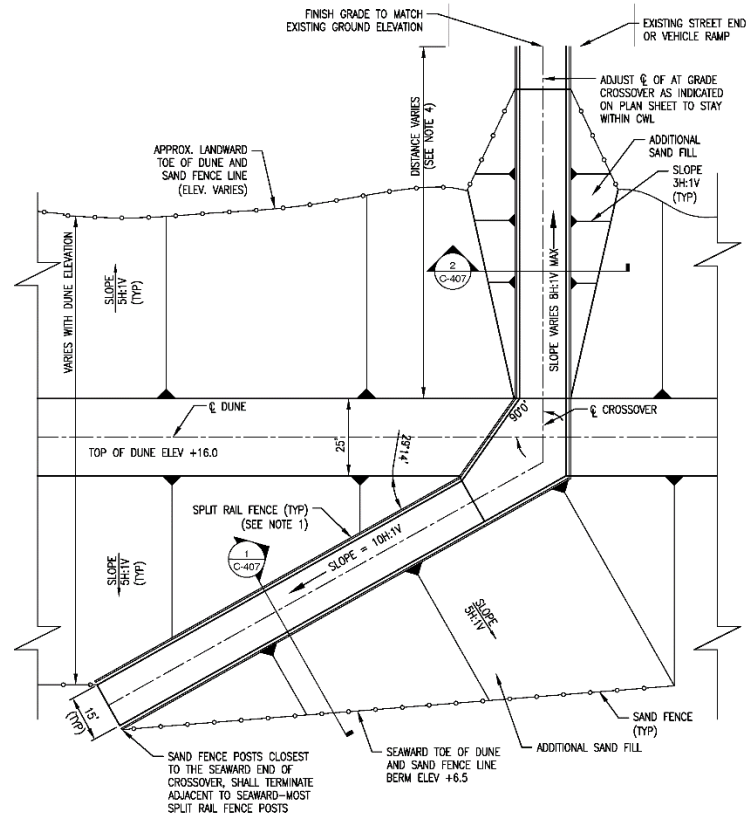
# Examples of Public Accessways (Pedestrian)



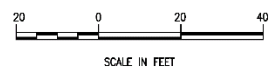
1 PLAN - PEDESTRIAN CROSSOVER (NORTH WILDWOOD & WILDWOOD CREST & LOWER TOWNSHIP)  
SCALE: AS SHOWN



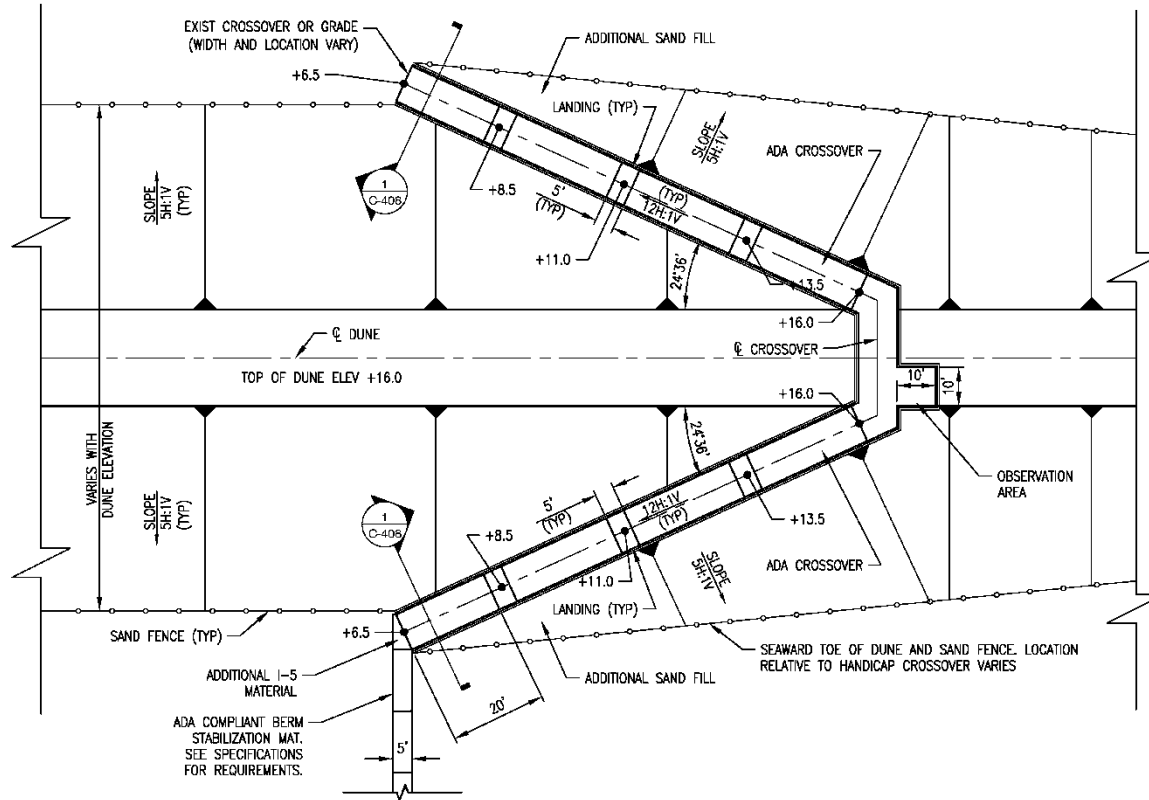
# Examples of Public Accessways (Vehicular)



1 PLAN - TYPICAL VEHICLE CROSSOVER (NORTH WILDWOOD & WILDWOOD CREST & LOWER TOWNSHIP)  
SCALE: AS SHOWN



# Examples of Public Accessways (ADA)



3

PLAN - ADA CROSSVER (WILDWOOD CITY & WILDWOOD CREST & LOWER TOWNSHIP)

SCALE: AS SHOWN



SCALE IN FEET



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# Environmental Assessment

- Short term impacts to water quality from increased turbidity
- Minimal impacts to terrestrial habitats
- Short term impacts to amphipods and worms
- Buffer zones & construction windows around nesting endangered species (Plover/Red Knot) and other plant and bird species
- No fisheries impacts anticipated to: Atlantic Sturgeon, Right Whales or Turtles due to the location of the borrow area
- Compliance with EO 12989 – Environmental Justice in Minority/Low Income Populations
- Clean Air Act compliant



# What to Expect When Construction Commences

- Beachfill construction: 24 hours/day and 7 days/week including Holidays. Weather delays and equipment issues are unpredictable.
  - ▶ Intent is construction between Labor Day and Memorial Day
- Beach Closures: Typically, do not to exceed 1,000 feet for each active work area.
  - ▶ Possible for multiple work areas at once to expedite project





# What to Expect When Construction Commences

- Equipment: Pipelines, heavy “Yellow” equipment, cranes, pumps, etc.
  - ▶ Pipe on the beach during construction from borrow area to fill point
  - ▶ Ramps over the pipeline at all open street ends and crossover access points to allow public access at open beaches
- Safety Equipment: Back-up alarms and work lights at night
- Communication: Weekly progress meetings during construction and monthly partnering meetings for senior community officials



# Working with the Township and Property Owners

- Crossover type/location
  - Working to ensure at the best locations
- Engineered Dune Alignment
  - Considering existing dune alignment and local beach use & maintenance activities as best as possible
- Advanced meetings and correspondences with several property owners
- Acquisition of Easements
  - Only obtain easements for portions of parcel needed to construct and maintain the project design parameters



# Questions

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