

Hereford Inlet to Cape May Inlet, New Jersey

Coastal Storm Risk Management Project

Wildwoods Beachfill

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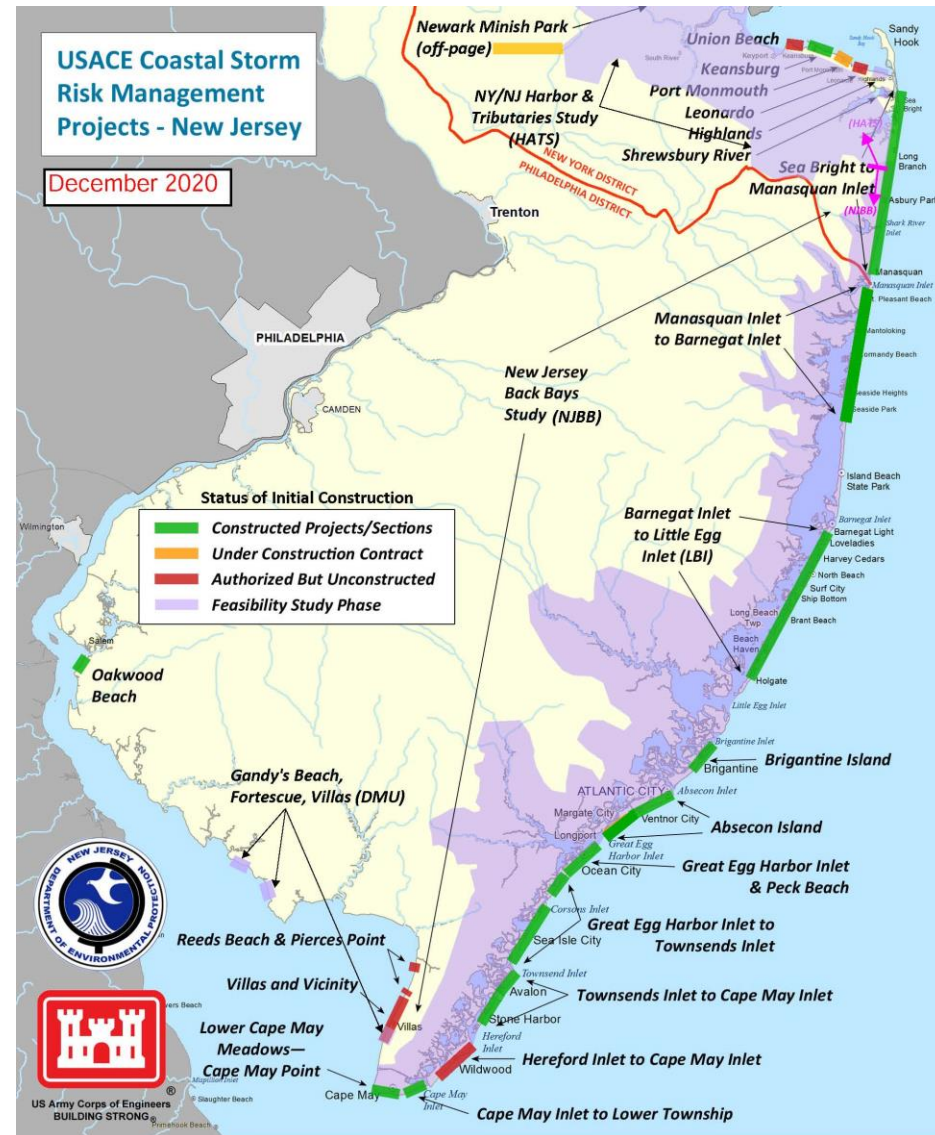
Presentation Updated: December 21, 2021



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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 beaches 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.



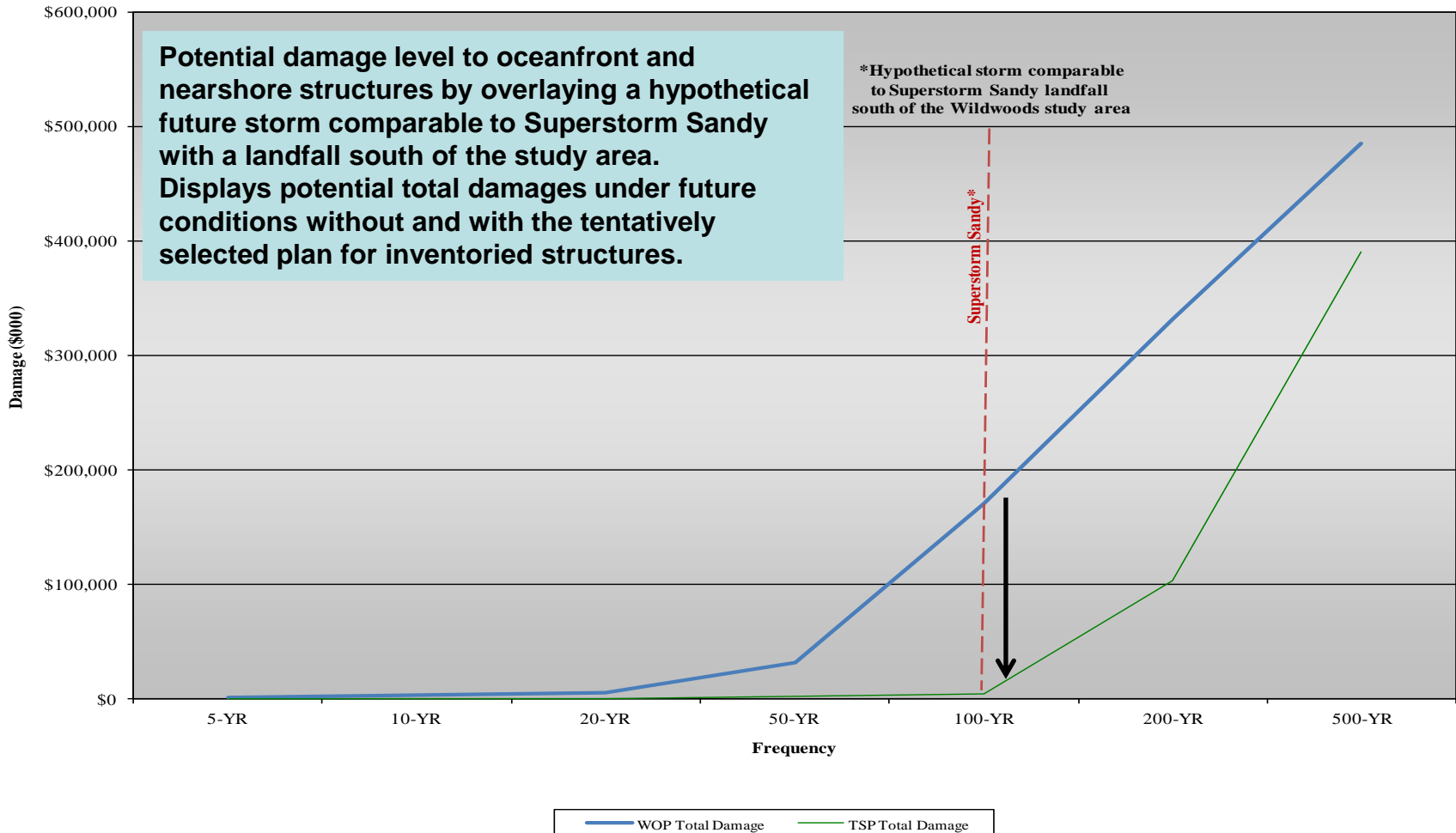
Hurricane Sandy Approaches the East Coast 2012



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Risk Reduction for a Hypothetical 100 Year Storm

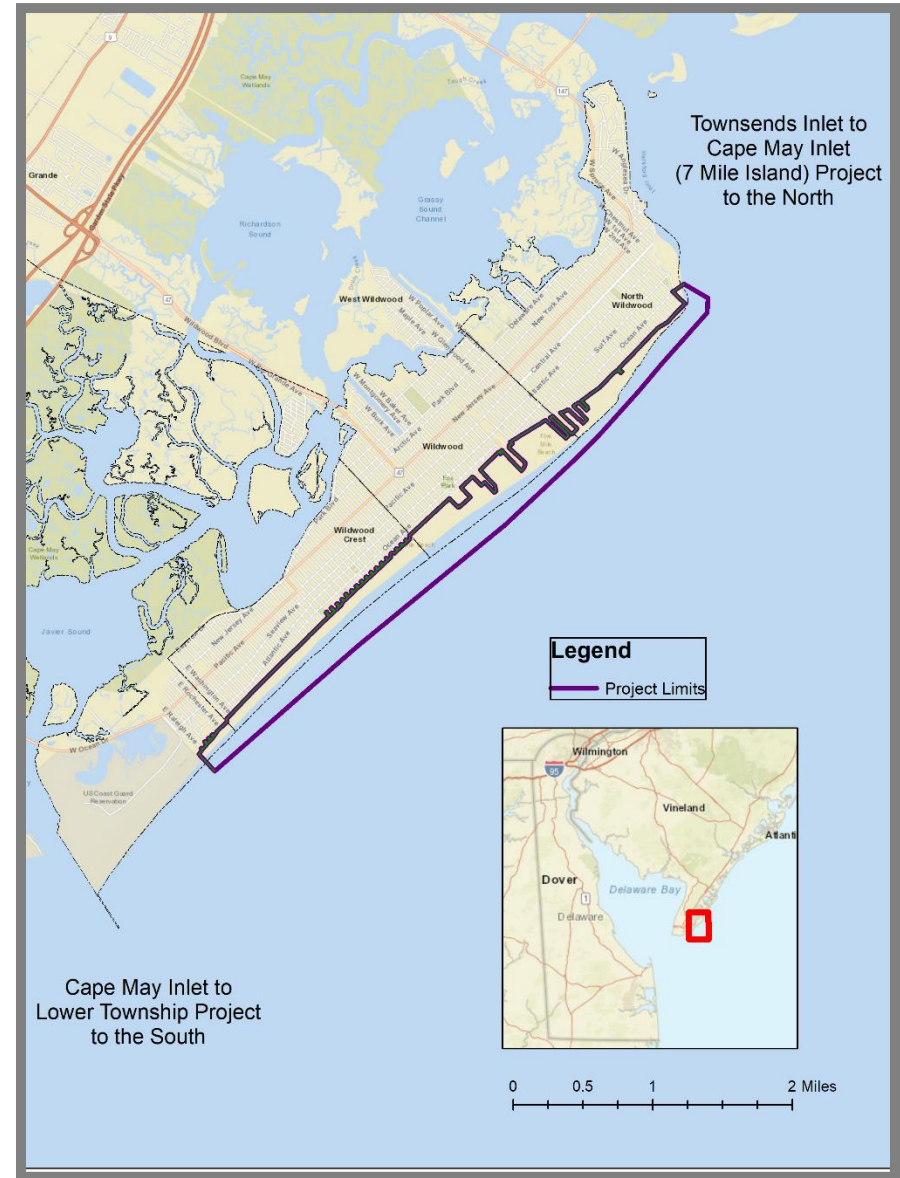
**The Wildwoods
Total Damage By Frequency**



Project Area

Atlantic Ocean coastline along:

North Wildwood
Wildwood
Wildwood Crest
Lower Township



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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 Borough Dec. 14, 2016 & Feb. 7, 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 – Oct. 13, 2020 and Sept. 23, 2021
 - ▶ Final (awaiting City's execution) – Nov. 15, 2021
- 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
 - ▶ Real Estate requirements
 - ▶ 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
 - ▶ Municipality is not required to independently perform Project renourishment
- New agreements are executed prior to each Periodic Nourishment



New Jersey Shore Protection Fund

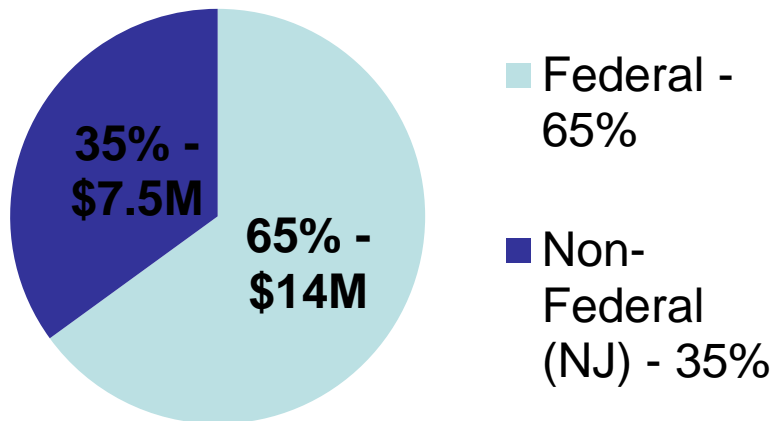
- “To protect existing development and infrastructure from storm surges, sea-level rise and shoreline migration through dune creation and maintenance, beach nourishment projects, and construction and repair of shore protection structures.”
 - \$25 million dedicated annually
- *Realty Transfer Tax (N.J.S.A.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



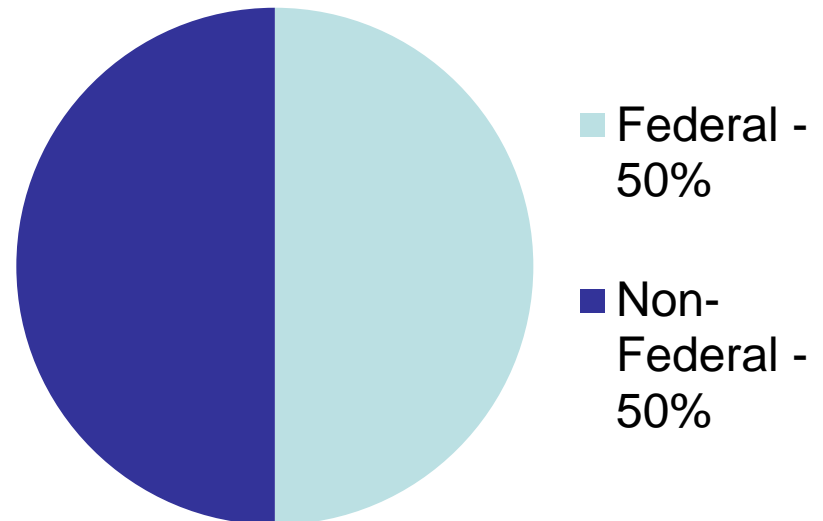
Cost Sharing Responsibilities

Initial Construction Split between USACE and NJDEP only

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



Periodic Nourishment Costs - \$82,428,000



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)



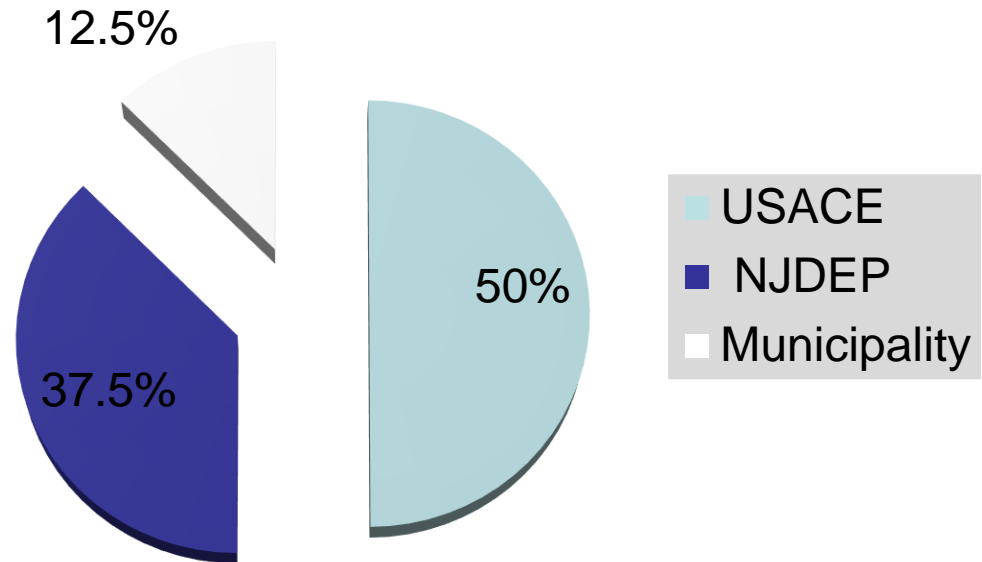
Cost Sharing Responsibilities

Periodic Nourishment

Financing

USACE pays 50% of periodic nourishment project costs. The NJDEP and Municipality anticipates 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.

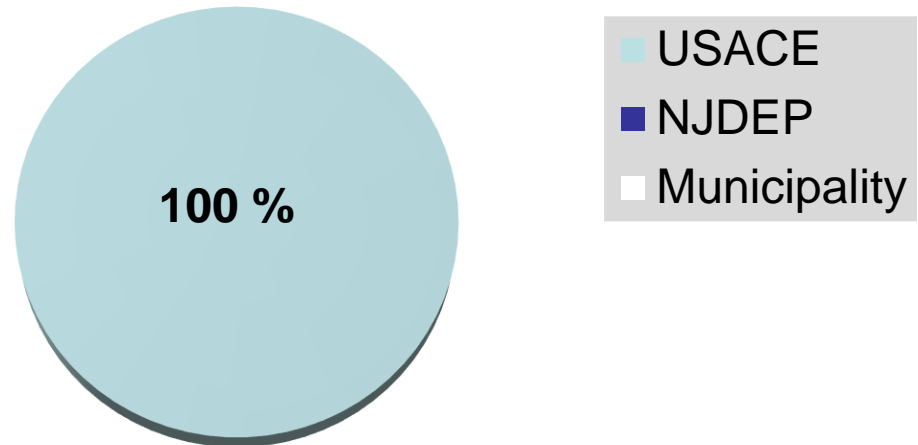


Cost Sharing Responsibilities

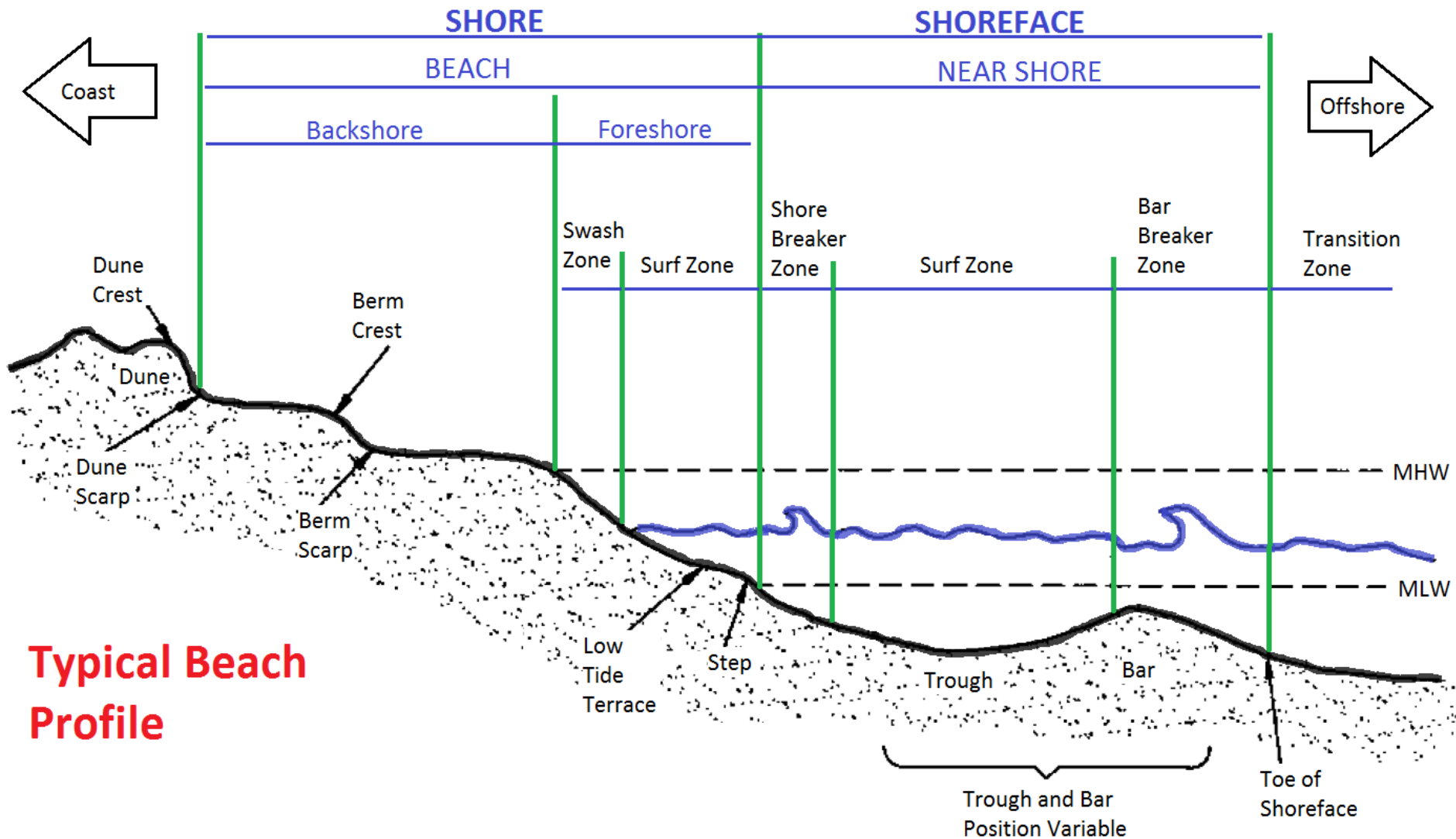
Damages from Extraordinary Coastal Storms

Financing

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



Anatomy of the Beach



Project Basics

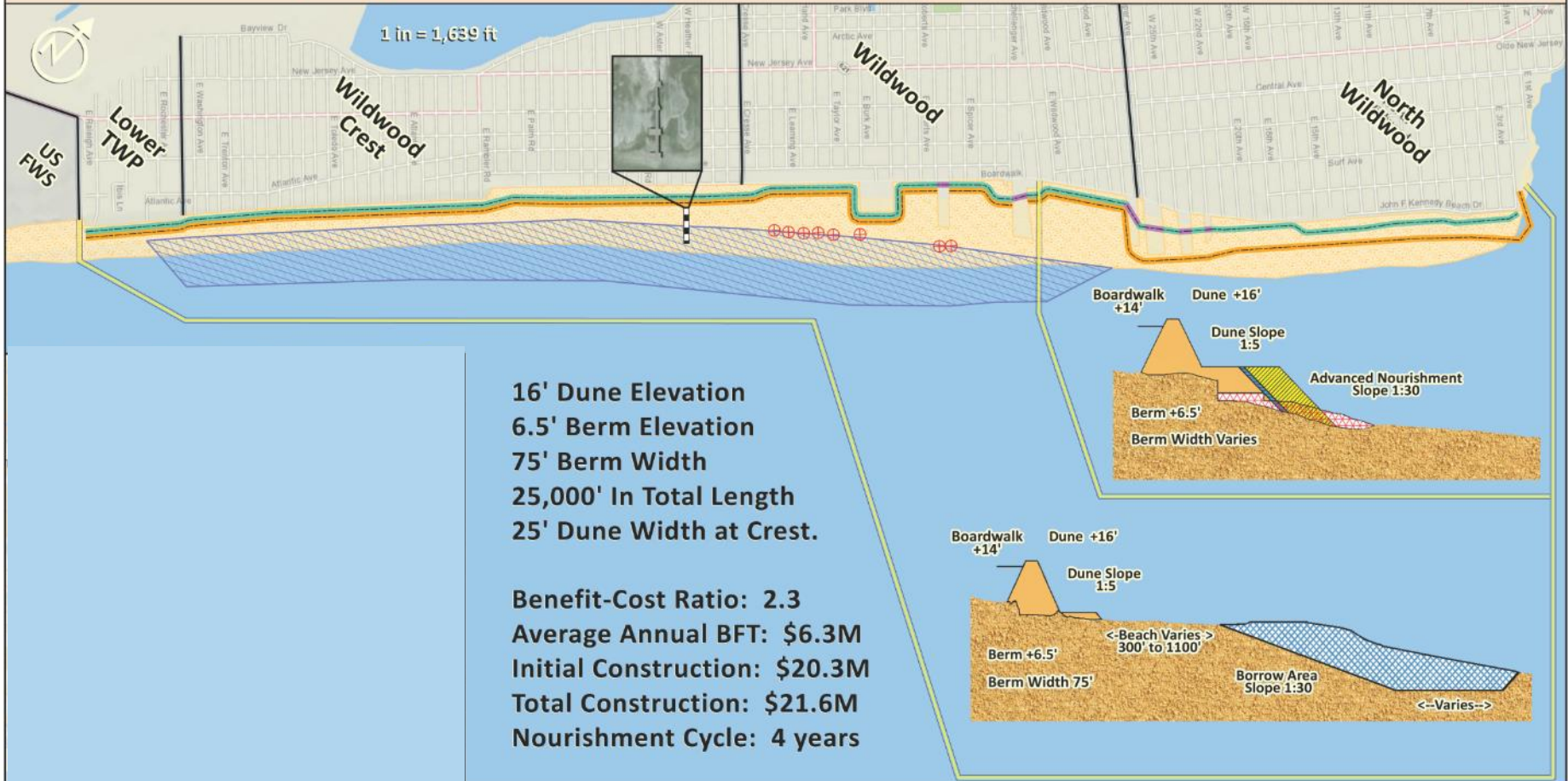
- Construction of berm and dune from Hereford Inlet to Cape May Inlet, via Hydraulic Back-Passing System
 - ▶ Berm Description
 - Elevation - +6.5 NAVD 88
 - Width – 75 feet
 - Slope 1V:30H
 - ▶ Dune Description
 - Elevation - +16 NAVD 88
 - Width at Crest – 25 feet
 - Slope 1V:5H



Project Basics

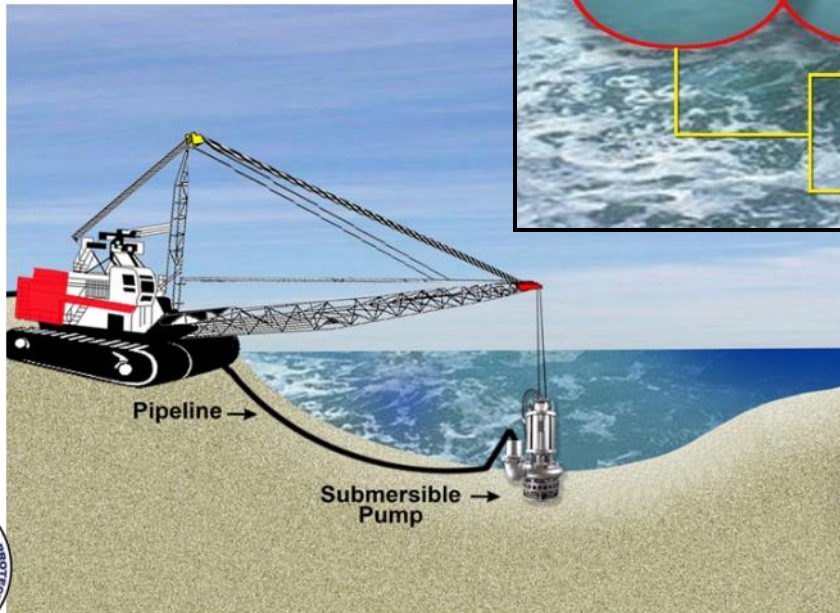
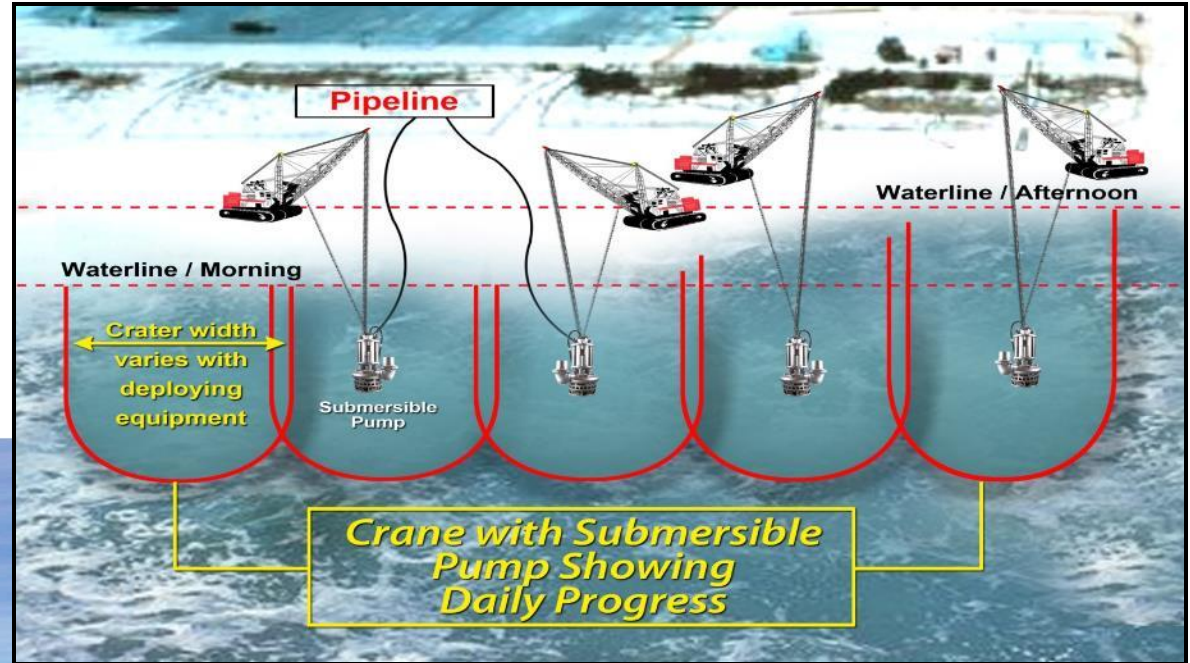
Hereford Inlet to Cape May Inlet - Civil Works Review Board

USACE Philadelphia District



- | | | | |
|---------------------|------------------|--------------------|-------------------------|
| Dune Centerline | Under Pier Dune | Seaward Berm Crest | Clogged Outfalls |
| Municipal Boundary | Extent of Design | Current Beach | Borrow Area |
| Advance Nourishment | Design Offshore | Design Beachfill | Offshore Placed Onshore |

Sand Backpassing



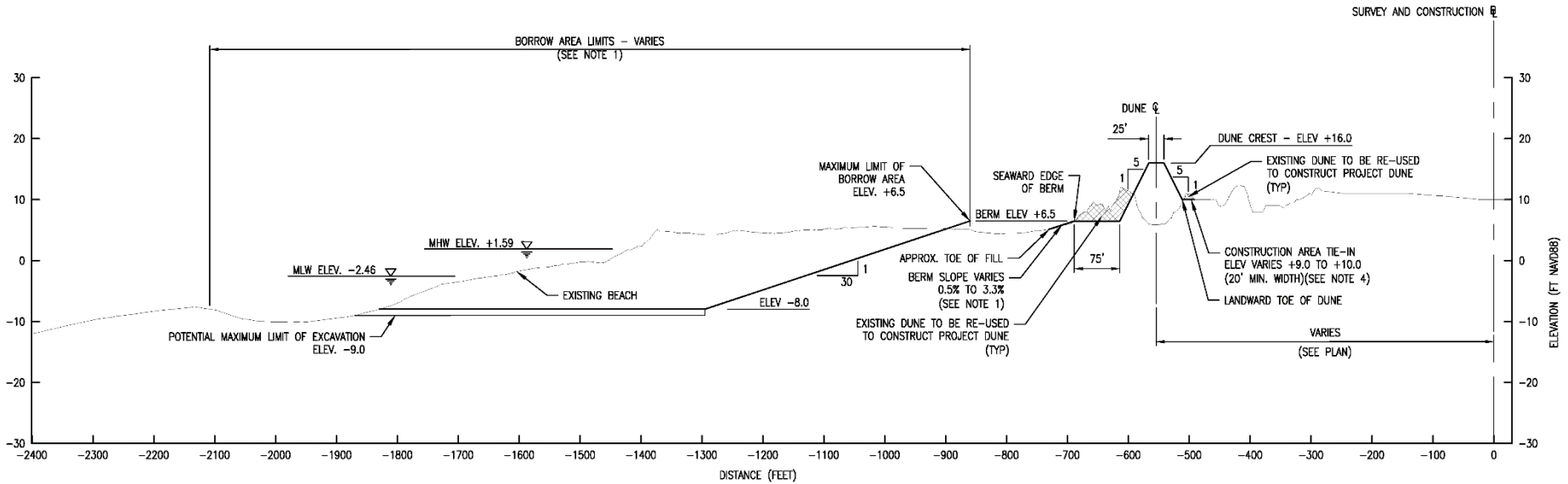
Sand Backpassing



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Wildwood Crest Typical X-Sec

North of Rambler Rd. (beach width ~275' to ~475')

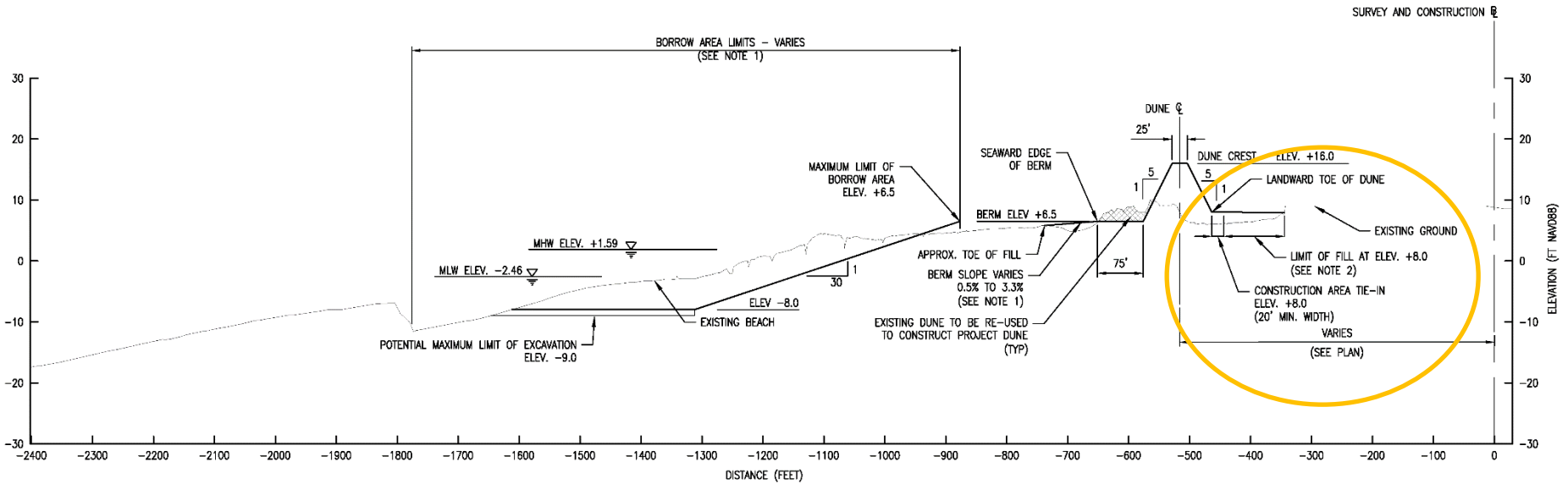


1 TYPICAL SECTION - STA. 136+75 TO STA. 182+00 (WILDWOOD CREST - NORTH OF RAMBLER AVE.)
SCALE: AS SHOWN



Wildwood Crest Typical X-Sec

South of Rambler Rd. (beach width ~275' to ~450')



2 TYPICAL SECTION - STA. 182+00 TO STA. 235+00 (WILDWOOD CREST - SOUTH OF RAMBLER AVE.)
SCALE: AS SHOWN



Additional Project Features

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

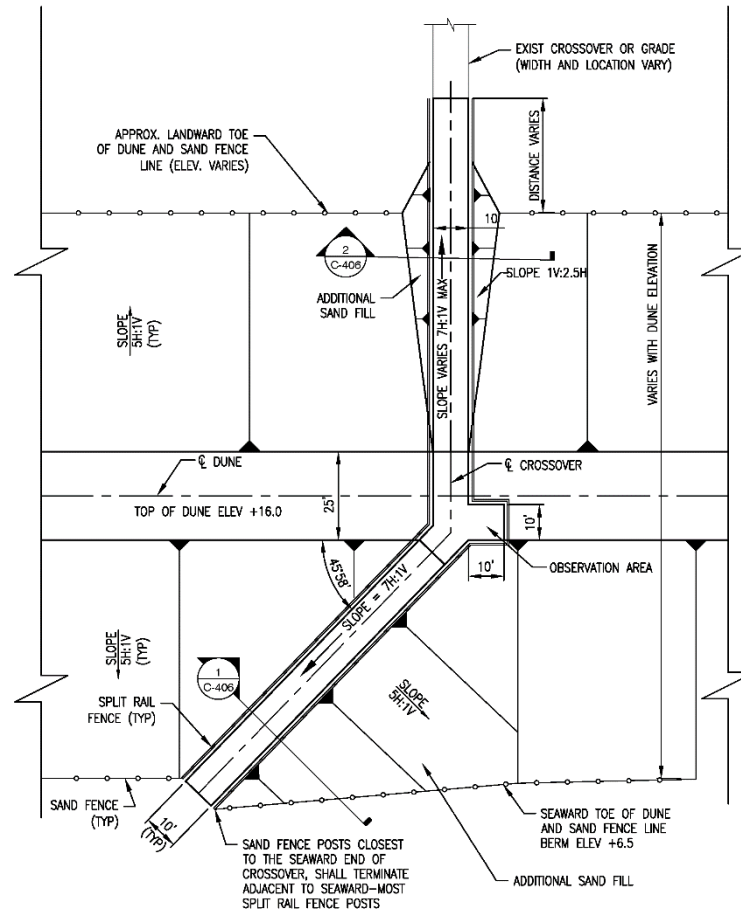


Ancillary Project Benefits

- Assist with maintaining clear outfall pipes (# of outfall)
 - ▶ Promotes effective drainage
 - ▶ Reduces the need to extend outfall pipes
- Assist with mitigating ponding on the upper and back beach areas



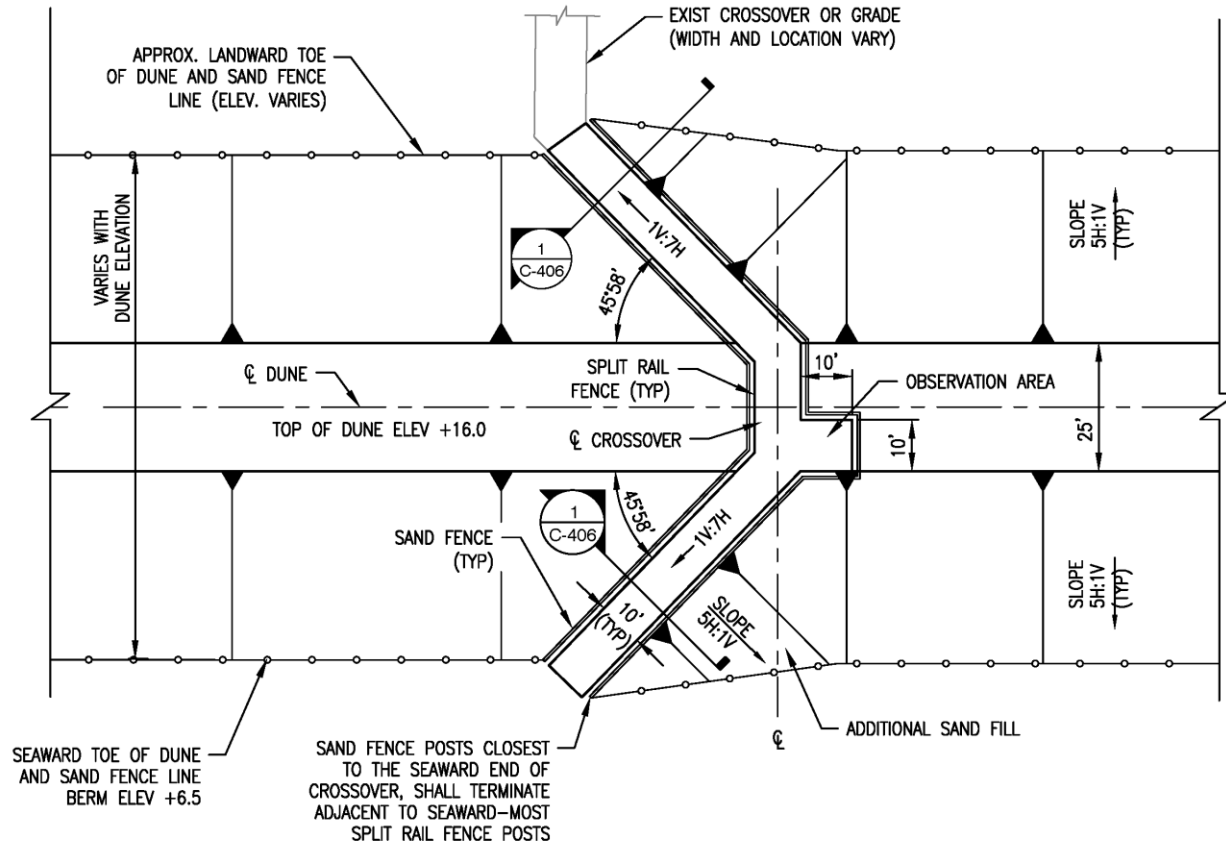
Wildwood Crest Public Access (Pedestrian)



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



Wildwood Crest Public Access (Pedestrian)



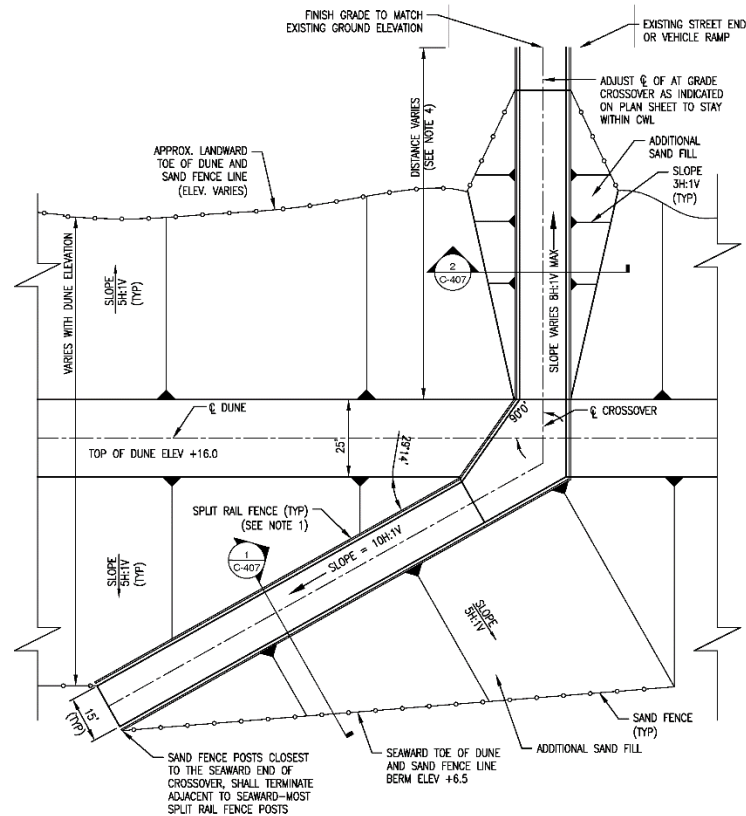
2

PLAN - PEDESTRIAN CROSSOVER (WILDWOOD CITY & WILDWOOD CREST)
SCALE: AS SHOWN

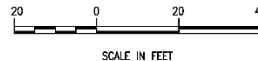


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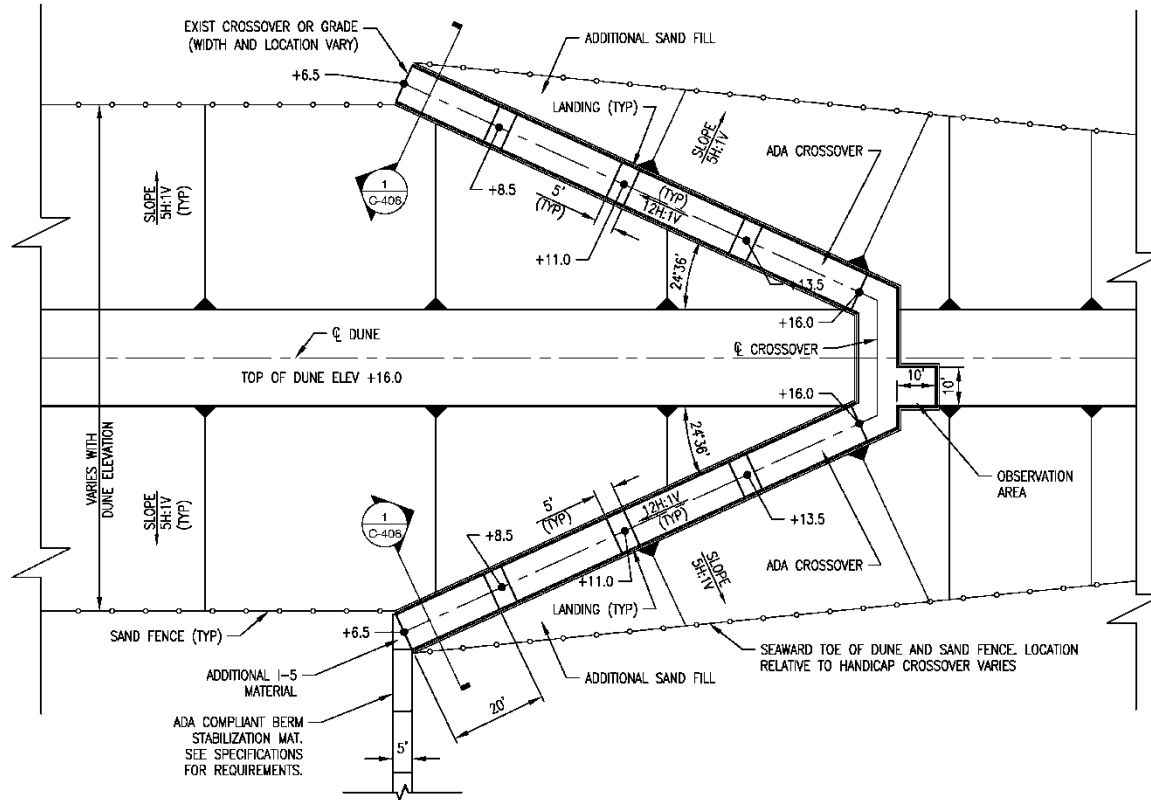
Wildwood Crest Public Access (Vehicular)



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



Wildwood Crest Public Access (ADA - 6)



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).
- 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 During Construction

- 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
- 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 Borough

- ADA complaint crossover locations
 - Working to ensure meet the Borough's plans
- Backbeach Areas
 - Place fill between dunes and bulkhead south of Rambler Rd.
 - To mitigate periodic flooding from stormwater runoff
- Engineered Dune Alignment
 - Considered existing dune alignment and local beach use & maintenance activities
- Potential Improvements/Reconstruction to Crest Pier
 - DCE seek credit for any improvements to the Crest Pier, that are deemed eligible by the Corps
 - Benefit to construction & to operations and maintenance



Existing Conditions

- Existing street end/bike path elevations
 - +8.5 ft NAVD88 to +12.4 ft NAVD88
- Existing dune elevations (between street end paths)
 - +12 ft NAVD88 to +16.3 ft NAVD88
- Existing “backbeach” elevations (south of Rambler, between bulkhead and dunes)
 - +4.75 ft NAVD88 to +8.5 ft NAVD88
- Design dune elevation
 - +16 ft NAVD88



Existing Conditions

Heather Rd.



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Existing Conditions

Lotus Rd.



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Existing Conditions

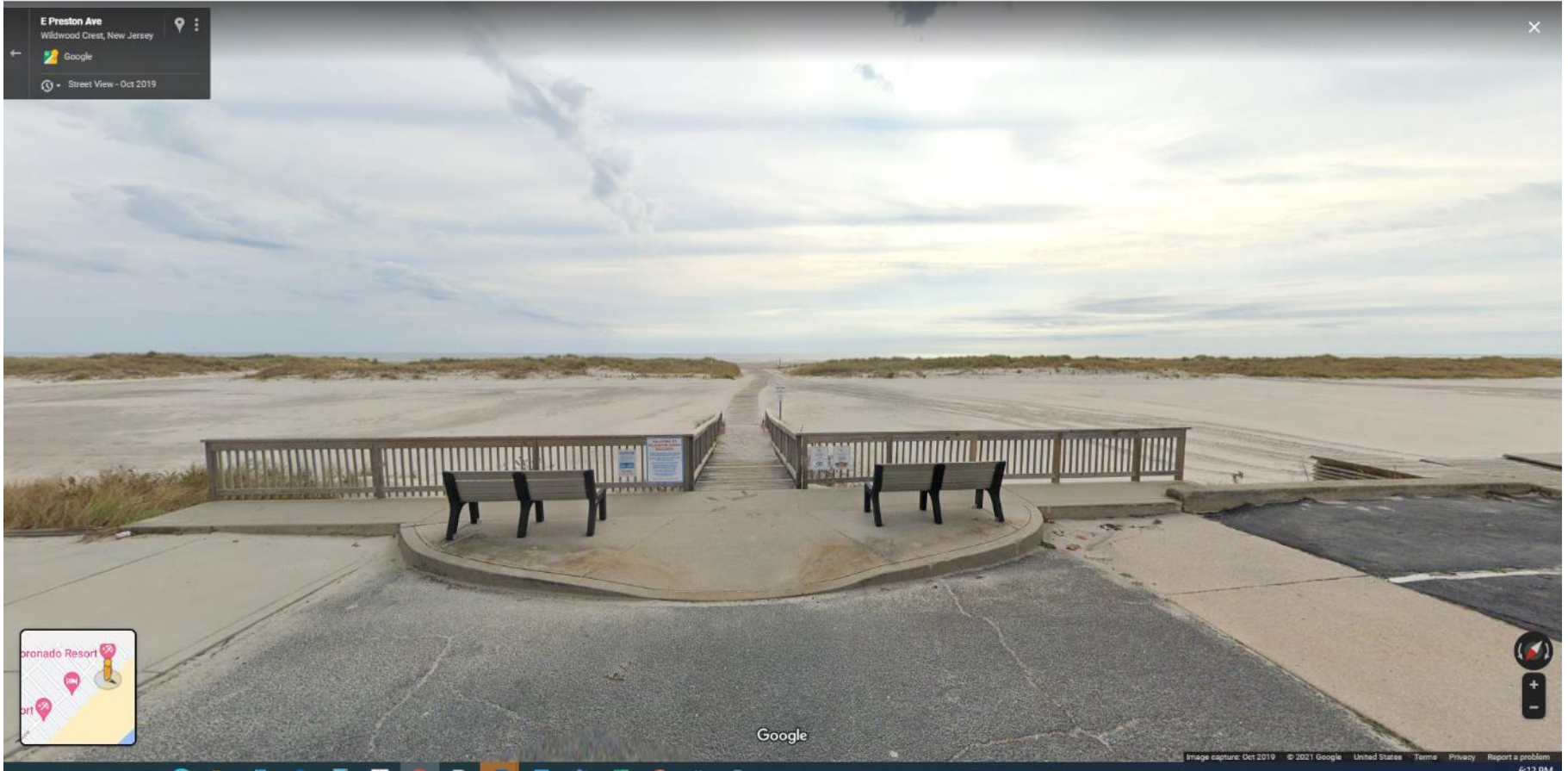
Stanton Ave.



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Existing Conditions

Preston Ave.



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Questions

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