



Higbee Beach Wildlife Management Area (WMA) Restoration Project

Pre-Construction Public Meeting
February 08, 2024

Highbee Beach WMA Restoration Project

AGENDA

1. Welcome
2. Project Introduction
3. Project Goals
4. Baseline Technical Studies
5. Design Features
 - a. Design Overview
 - b. Flood Control Elements
 - c. Habitat Enhancements
 - d. End-user Focused Design
 - e. Continued Mosquito Control
6. Restoration
 - a. Schedule & Sequence
 - b. Temporary Partial WMA Closure
 - c. Sediment Management
 - d. Access and Traffic Controls
 - e. Other Site Controls
7. Final Completion
8. Open Discussion

Highbee Beach WMA Restoration Project

NJDEP Office of Natural Resource Restoration (ONRR)

Project Sponsor:



State of New Jersey
Department of Environmental Protection
Office of Natural Resource Restoration

ONRR Mission: Respond to and seek compensation for natural resource injuries on behalf of the citizens of New Jersey

Project Role: Provide project funding through Natural Resource Damage (NRD) recoveries

Project Goals: Restore natural resources by reestablishing tidal connection to the marsh, enhance existing wildlife habitat, protect freshwater resources, and increase public access

Highbee Beach WMA Restoration Project

Project Team

Property Manager:



State of New Jersey
Department of Environmental Protection
Fish and Wildlife

Project Construction/Contract Administrator:



State of New Jersey
Department of Environmental Protection
Division of Resilience Engineering & Construction
Office of Coastal Engineering

Project Engineer of Record:



WSP USA
2000 Lenox Drive, 3rd Floor
Lawrenceville, NJ 08648

Project Prime Contractor:



AP Construction



Higbee WMA
Boundary

Project
Boundary

Project Location

- Cape May County, NJ
- Project fully encapsulated within Higbee Beach WMA.

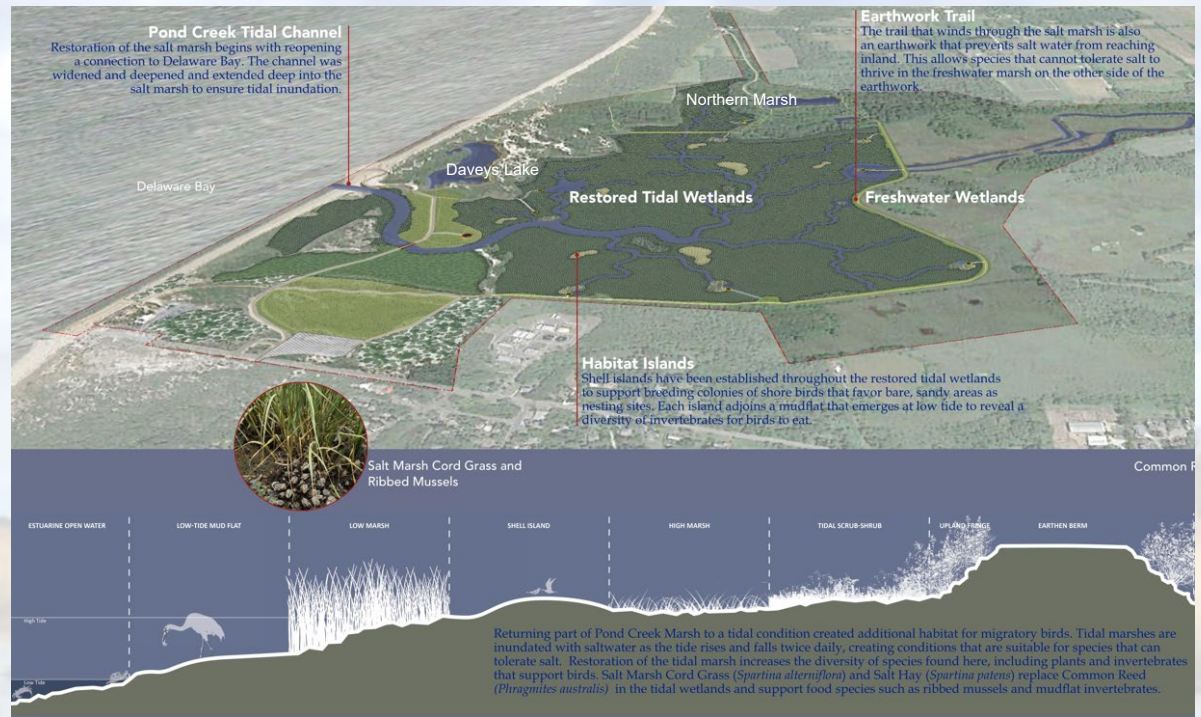
Higbee Beach WMA Restoration Project

Project History

- Marsh cut off from tide in 1910 – Sand mining
 - Harbison-Walker Cape May Works Plant (former magnesite plant) 1941-1983
 - Higbee WMA purchased by NJDEP 1978
 - Former magnesite added to WMA 1999
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- USACE initiated project in 2000's
 - NJDEP commenced project in 2013
 - Project design process included collaborative stakeholder engagement 2015 – 2018 including local, state, federal agencies and non-governmental organizations
 - Final Design and Permitting Completed in 2018
 - Restoration to begin 2024



Source: <http://www.capemay.com/Editorial/october05/sunsetbeach2.html>



Project Goals

- Reestablish tidal inundation to a large portion of Pond Creek marsh without increasing the flood risk to the upper watershed.
- Enhance public access with emphasis on creating habitat that is viewable and accessible to public to optimize user experience.
- Restore upland habitat within the former magnesite plant site.
- Habitat management of the northern marsh.
- Protection of Davey's Lake habitat and key freshwater habitat areas in the upper watershed.
- Habitat enhancements to support migratory bird populations.

Baseline Technical Studies

Hydrology, Hydraulics & Hydrodynamics

- Modeling performed to size inlet to Pond Creek to achieve full tidal exchange
- The project designed to not pose a flood risk to upper watershed and landowners.

Sediment Characterization

- 78 sediment borings performed to evaluate beneficial reuse of material and support geotechnical and foundation designs.
- Geophysical investigation performed to identify subsurface anomalies within landfill and magnesite.

Habitat Studies

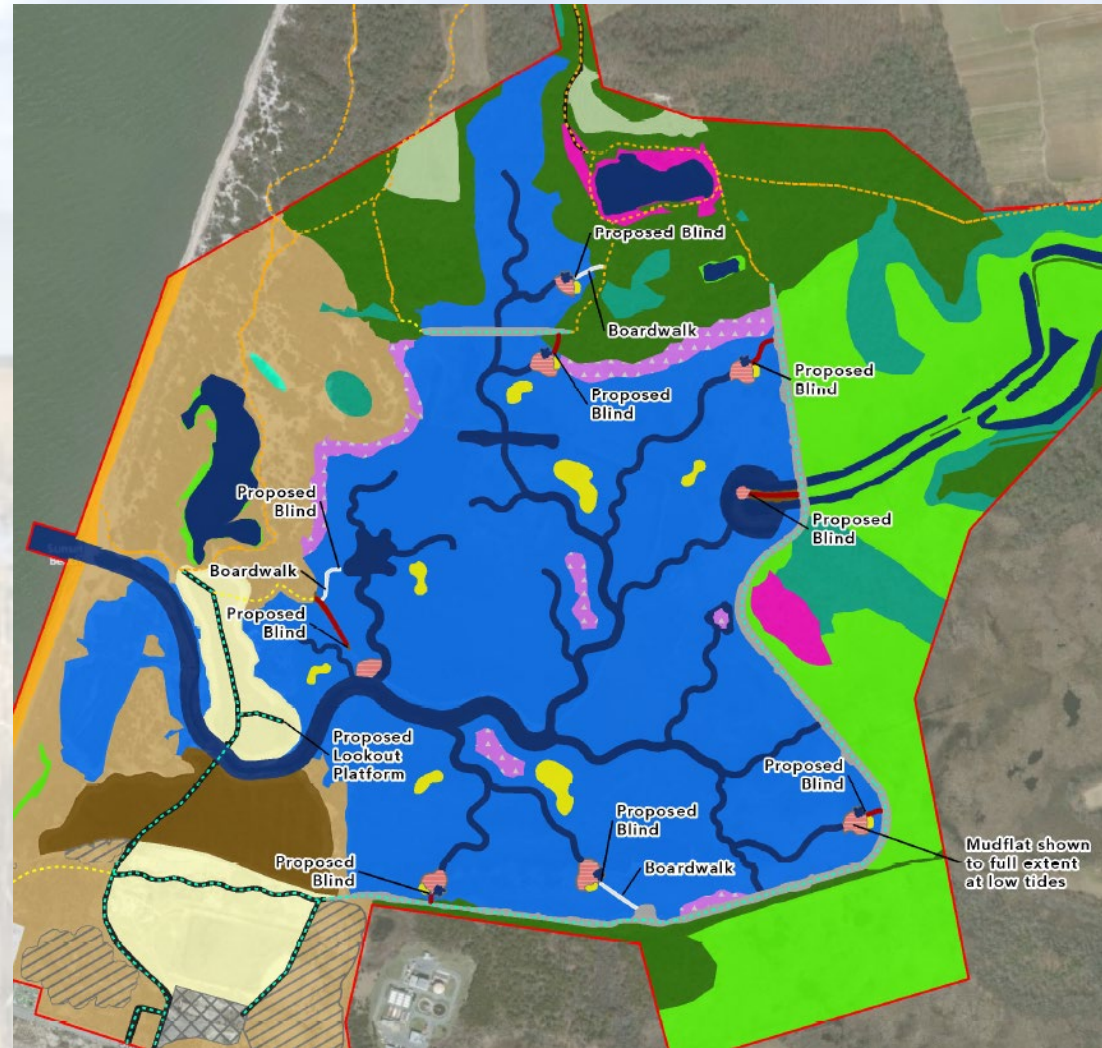
- Ecological assessments performed based on vegetation surveys conducted to assess pre- and post-construction ecosystem function.



Design Features

Design Overview

- Marsh Restoration via Inlet Channel Modification
 - ✓ Remove culvert crossing that creates a tidal flow constraint
 - ✓ Widen channel to allow appropriate tidal exchange
 - ✓ Provide secondary and tertiary channels
- Protect upper watershed / freshwater marsh with an Earthen Berm (convert the brackish marsh to freshwater marsh)
- Increase habitat complexity and provide additional shorebird nesting habitat
- Augment recreational access

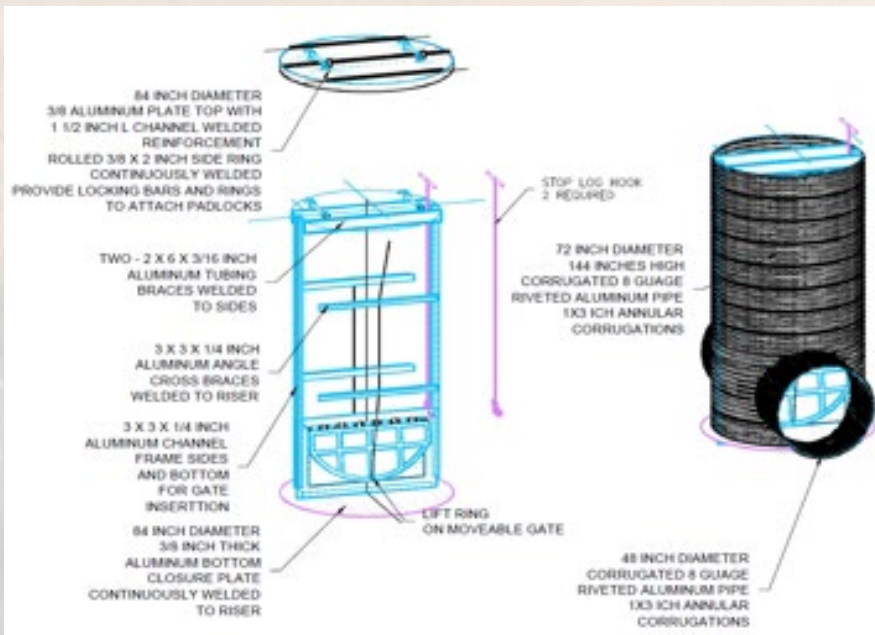


Design Features

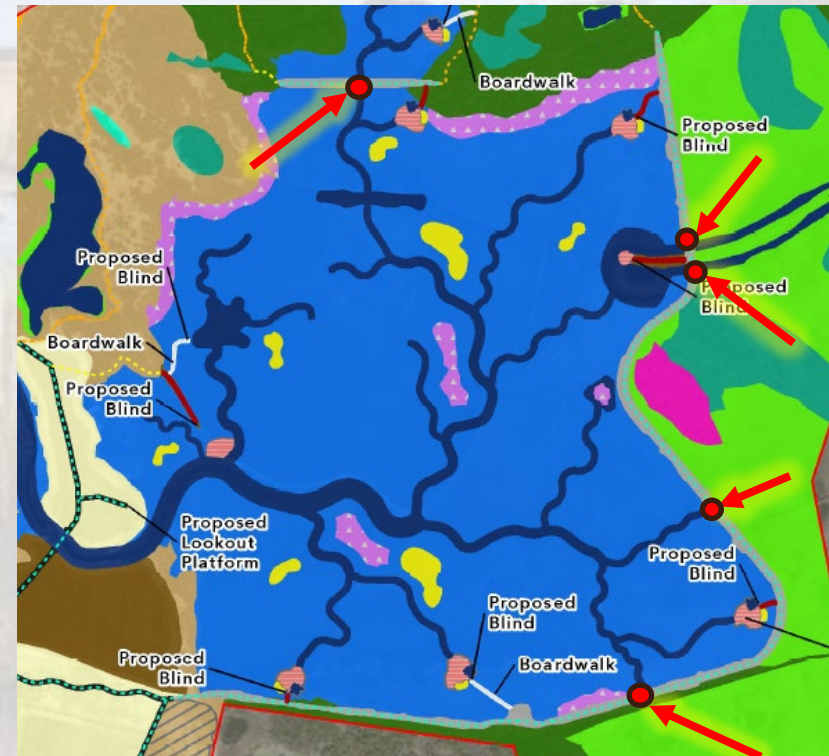
Flood Control Elements

Designing to manage flood risk:

Designed flood control structures (main berm) to convey stormwater generated from the contributing watershed during the 100-year event within 8 hours (maintain extent of freshwater habitat east of berm)



Reestablish tidal inundation without increasing flood risk and **protecting freshwater habitat...**



Design Features

Habitat Enhancements

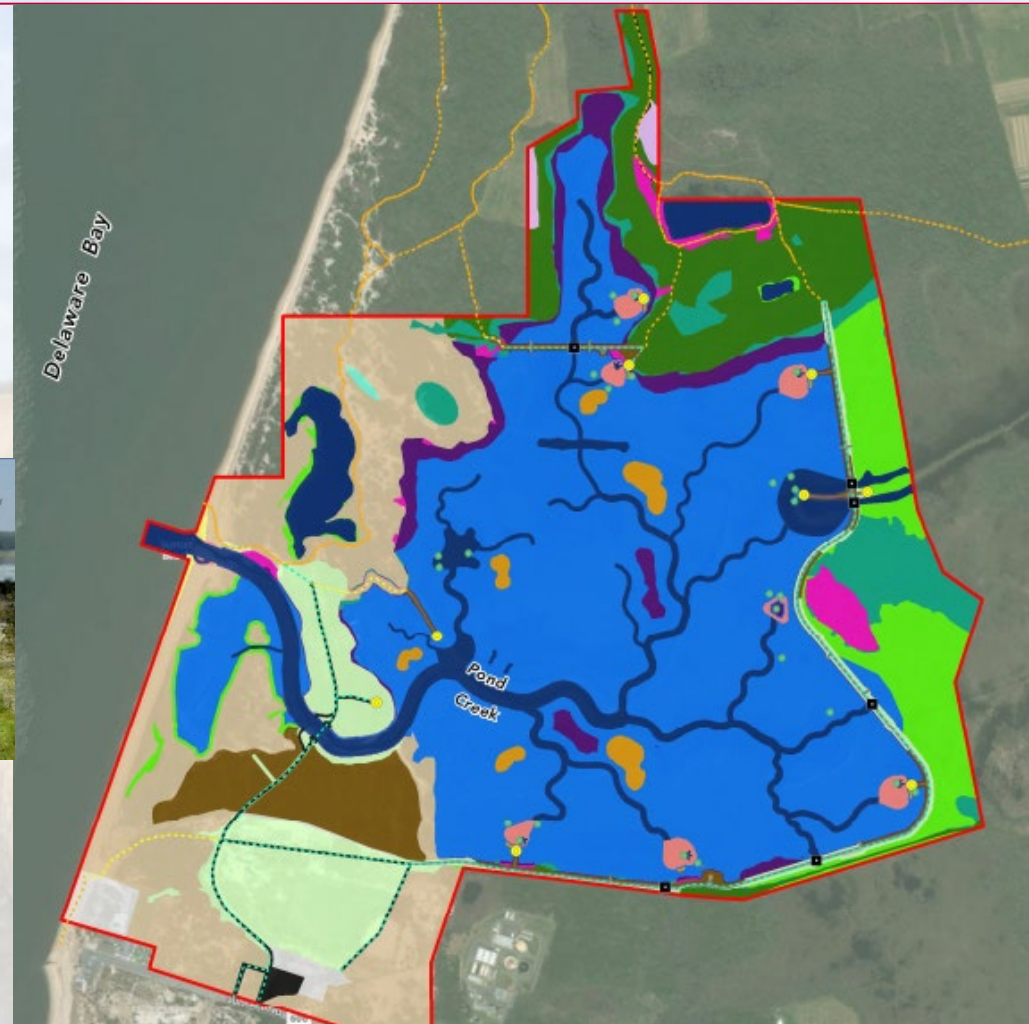
Plantings

- 311,000 low and high marsh plug plantings (~51 acres tidal marsh planting)
- 208,000 Beachgrass plug plantings for dune creation and enhancement (~11 acres)
- 3,300 container shrub plantings for upland habitat enhancement and trail concealment
- Former Landfill converted to managed meadow (~26 acres).



Proposed Habitat

 Tidal Emergent (Low Marsh)	 Maritime Forest/Dune
 Tidal Emergent (High Marsh)	 Forested Upland
 Freshwater Emergent Wetland	 Upland Shrubland
 Phragmites Emergent Wetland	 Old Field/Early Successional Field
 Open Water/Channel	 Sand Shell Island
 Forested Wetland	 Mowed Field
 Scrub-Shrub Wetland	 Non Vegetative Berm
 Mudflat	 Bare Ground
 Beach	 Gravel Access Road/Parking/Bridge

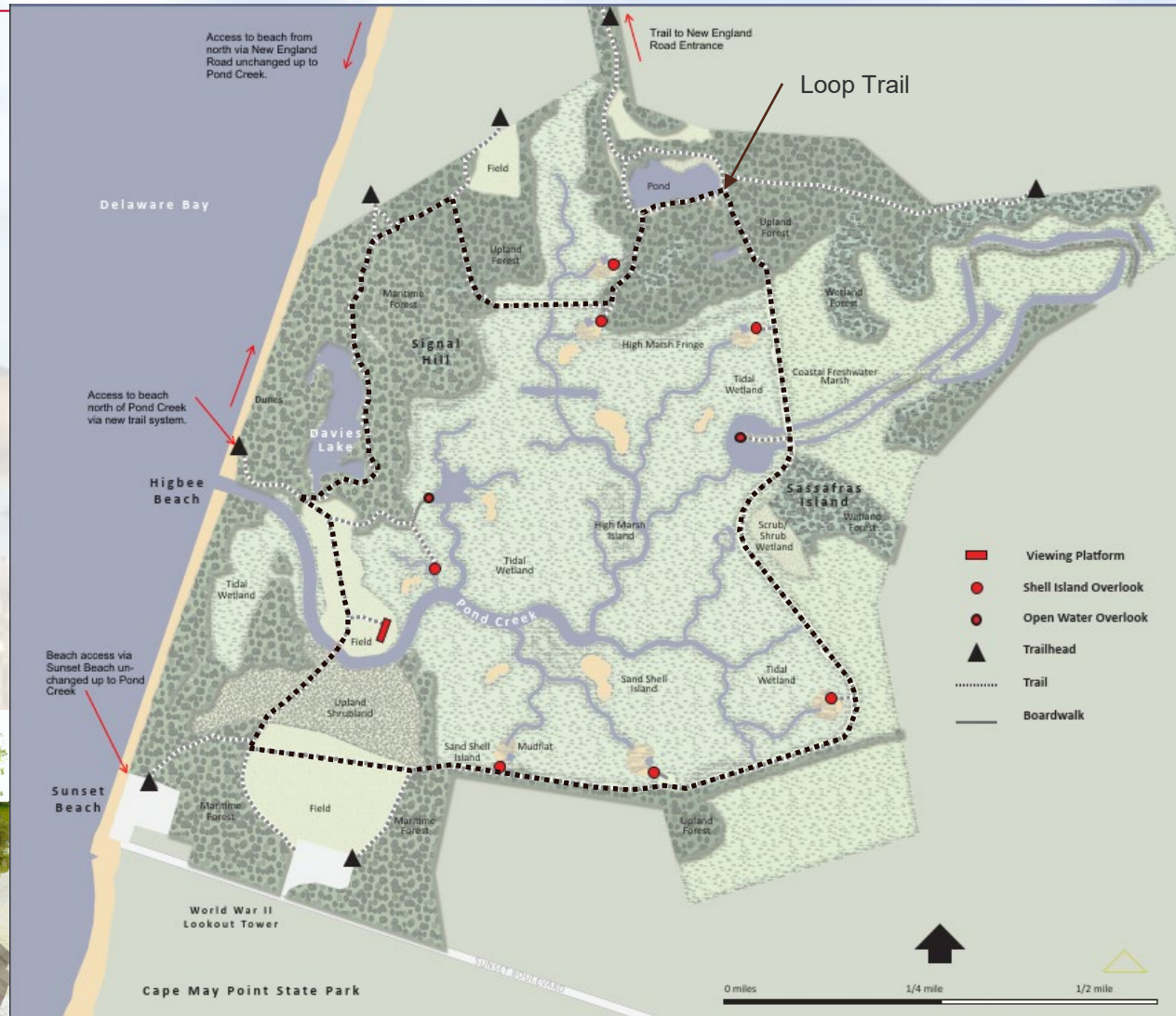


Design Features

End-user Focused Design

RECREATION ELEMENTS

- Continuous trail network throughout WMA.
- Continuous loop trail around interior marsh (2.8 miles)
- Creation of over 2.5 miles ADA compliant trails to access overlooks and blinds.
- Trail network and blinds will provide a unique vantage to a variety of migratory bird habitats offering a world class birding experience boosting birding tourism activities.

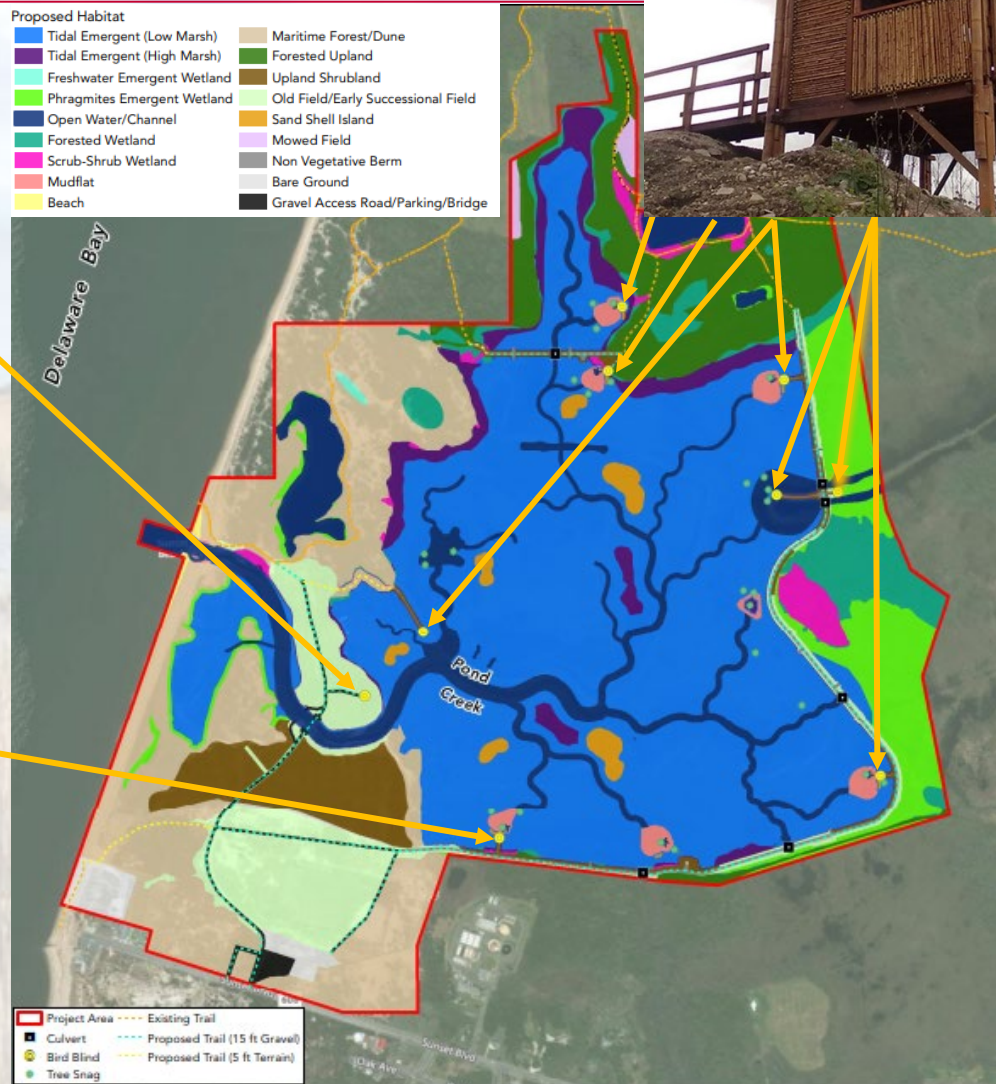
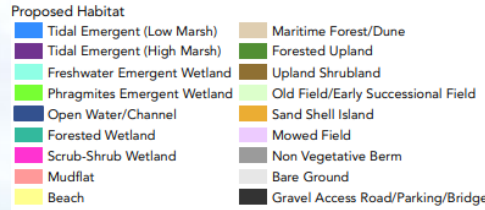


Design Features

End-User Focused Design

RECREATION ELEMENTS

- Wildlife viewing blinds



Design Features

End-User Focused Design

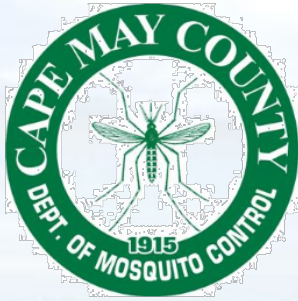
RECREATION ELEMENTS

- Heron Canopy Viewing Platform



Design Features

Continued Mosquito Control



- Designed to provide adequate drainage
- Department of Mosquito Control can make additional adjustments as needed





RESTORATION

Restoration

Anticipated Schedule

Restoration Contractor Mobilize: February 2024

Restoration Completion: December 2026

Estimated Sequence:

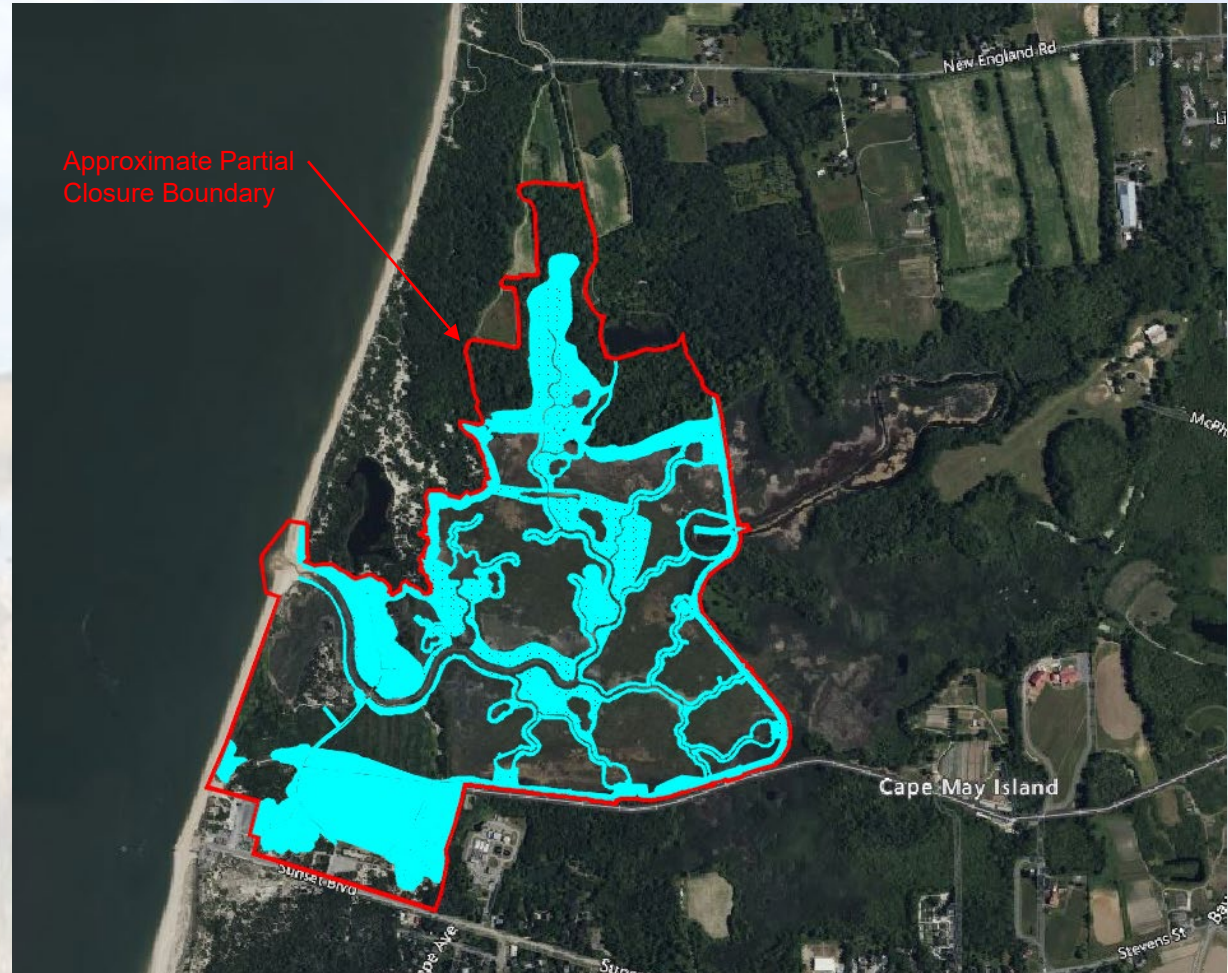
- Install site control measures
- Perform interior site dewatering (dewatering will be continuous)
- Perform miscellaneous demolition (misc. debris, water tower)
- Import, place and compact material along berm footprint
- Excavate areas in marsh and place on landfill / magnesite
- Create habitat features
- Grade upland areas and place sand for dune creation.
- Construct berm, pedestrian bridge, water control structures and blinds
- Wetland and Upland Plantings
- Construct trails and install interpretive signs



Restoration

Temporary Partial WMA Closure

- Beach to remain open with exception of the mouth of Pond Creek.
- Mouth of pond creek to Delaware Bay will be closed. This area will reopen once restoration is complete, but will not be traversable on foot due to widened channel.
- Trails on northern end of WMA and in dunes around Daveys Lake to remain open.
- Former magnesite area and interior marsh to remain closed through restoration duration.



Restoration

Sediment Management



- No offsite disposal – all material reused at site
- Material utilized to create dune and upland habitat
- Balance project goals with cost to excavate, haul and place material
- Ecological risk management

Restoration

Access and Traffic Control

Access

- Site access – Sunset Boulevard

Traffic Control

- Contractor will develop and implement Maintenance and Protection of Traffic Plan.
- Truck traffic will follow approved hauling route
- Trucking traffic will be restricted to 5 truck loads per day from Memorial Day to Labor Day.
- Truck traffic will be limited to Contractor working hours.
- Approximately 150,000 CY of imported material to the Site. 10,000 – 13,000 dump truck trips anticipated. Estimated average 50 truck trips per day.



Construction

Other Site Controls

Trucking Controls

- Tracking Pad
- Tire Wash Station (if deemed necessary)

Site Controls

- Vibration monitoring
- Dust suppression.
- Perimeter erosion controls / fencing

Regulatory Controls

- Specific work zone environmental timing restrictions
- Biological monitoring by a qualified biologist shall be performed through the duration of restoration



Final Completion & Future Use

- **Final restoration completion & anticipated WMA re-opening December 2026.**
- **Adaptive management and Contract warranty plantings to continue for 2 years. No anticipated large-scale closure.**
- **Fish and Wildlife is actively discussing a plan on how to accommodate mixed-uses at the site following the restoration. This plan will include providing access and opportunities for hunting, fishing and wildlife watching**





Open Discussion

Project inquiries may be sent to: NJDEP-HBR-inquiries@portal3.pbid.com

For more information, please visit the ONRR Project Website:

<https://www.nj.gov/dep/nrr/restoration/higbee-beach.html>
