

Broward County Shore Protection Project – Segment III and Sand Bypass



Environmental Planning and
Community Resilience Division

Public Webinar

October 30, 2020 at 1:00 pm



Questions and Updates

- Enter in **chat** window during webinar
- Email **resilience@broward.org**
- Visit **www.broward.org/BeachRenourishment**
- Follow **@BrowardEnv**
- **Call** us 954-519-1270
- **Municipal** staff will receive regular updates

Broward County Beach Management Program

Benefits of Beach Management

Habitat

- Provide critical habitat for seabirds and sea turtles

Recreation

- Enjoyed by residents and tourists
- Beaches attract more people to Florida than theme parks (noted by 25% of respondents)

Economy

- Broward beaches produce over \$8.5 billion annually in direct and indirect economic activity

Protection

- Protect over \$4 billion in upland infrastructure



Broward County Beach Management Program

Why Manage the Beaches?

Development of Port Everglades impeded southerly sediment transport

Early erosion control efforts, hard armoring and structures, were uncoordinated and largely ineffective

Hollywood/Hallandale Beaches 1962



Hollywood/Dania 1966



Hollywood Lakes North

Broward County Segment III – Project History

- 1971 - City of Hallandale Beach
- 1976 - John U. Lloyd State Park (Federal SPP)
- 1979 – Hollywood/ Hallandale (Federal SPP)

- 1989 - John U. Lloyd State Park (Federal SPP)
- 1991 - Hollywood/ Hallandale (Federal SPP)

- 2001 – City of Hollywood @ Diplomat
- 2005/2006 – Segment III (Federal SPP)
- 2012 – City of Hollywood
- 2013 - John U. Lloyd State Park (Beneficial Use of Inlet Dredging)
- 2019 – Segment III Emergency Project (FCCE -Hurricane Irma)

Before and After 2005 Project-State Park



March 5, 2005
Pre-Construction

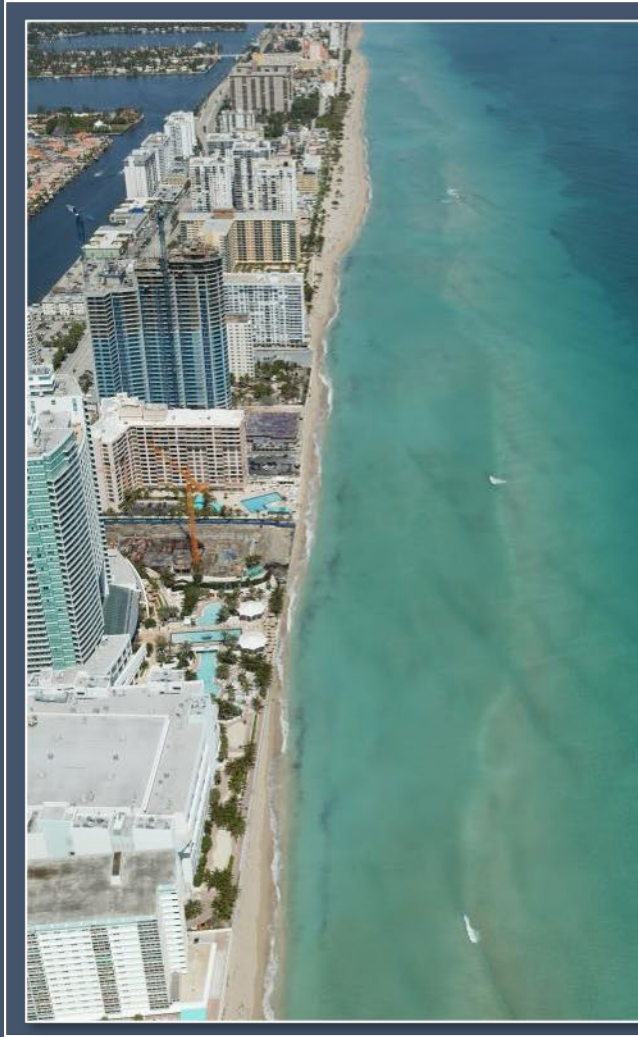


January 4, 2006
In Progress



April 2, 2006
Post-Construction

Before and After 2005 Project-Hollywood



March 2005 (Before)



Sept 2005 (After)



April 2006 (6 Months After)



Typical **Above Mean High Water** Beach Profile
(following 1st Post-Irma Emergency Project)



Typical **Full** Beach Profile
(following 2013 O&M Dredging Project)

Upcoming Beach Project 2021/2022

- US Army Corps of Engineers replacing sand lost from Hurricane Irma
- \$58,545,000 federal funding
- 1 million cubic yards of sand, truck haul
- ~6 miles along State Park, Dania Beach, Hollywood and Hallandale Beach
- March 2021; November 2021-March 2022



Project Goals

- ✓ Replace losses from Hurricane Irma
- ✓ Limit disruption of beach use and traffic patterns
- ✓ Avoid environmental impacts
- ✓ Add storm protection dune, where feasible

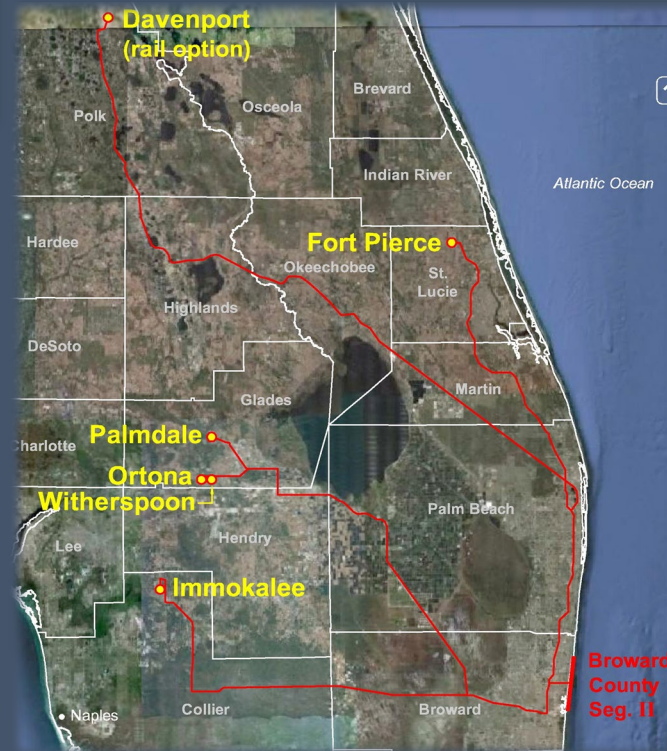


Truck Haul Project Basics – Sand Sourcing



- Material obtained from upland sand mines in central FL and trucked to site
- Permit required sand specifications - QA/QC conducted at the mine(s) to assure sand grain size, color, and silt content

- Inbound and outbound truck routes pre-established
- Local Traffic Control Plans provide predictability, developed with municipalities to minimize disruption
- Trucks routed to pre-established Staging/Access areas for offload



What Will The Sand Look Like?



Truck Haul Project Basics – Staging and Access

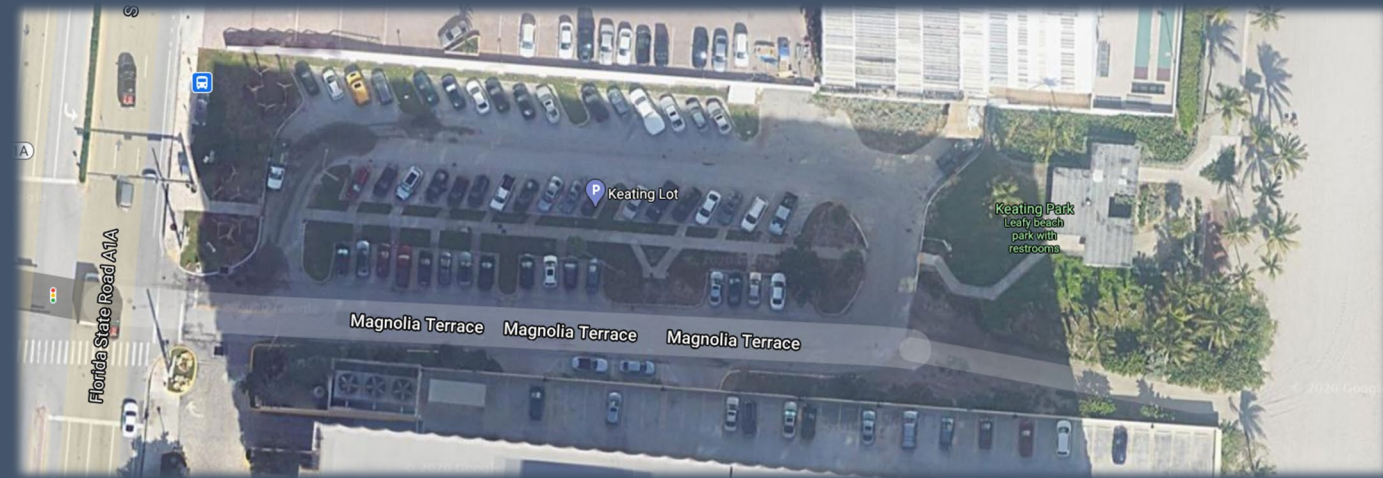
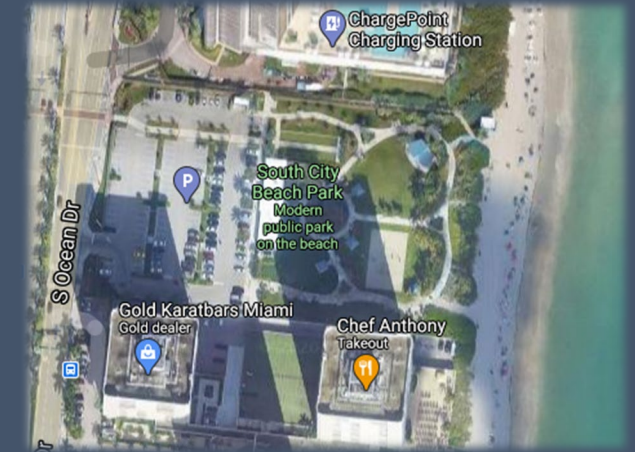
- Road trucks deliver sand to staging/access areas for offload
- Multiple points used to reduce beach haul lengths, optimize sand placement efficiency, minimize community impacts
- Typically fencing erected for security and access control
- Backhoe transfer to off road trucks



Truck Haul Project Basics – Staging and Access

Potential staging areas and access points

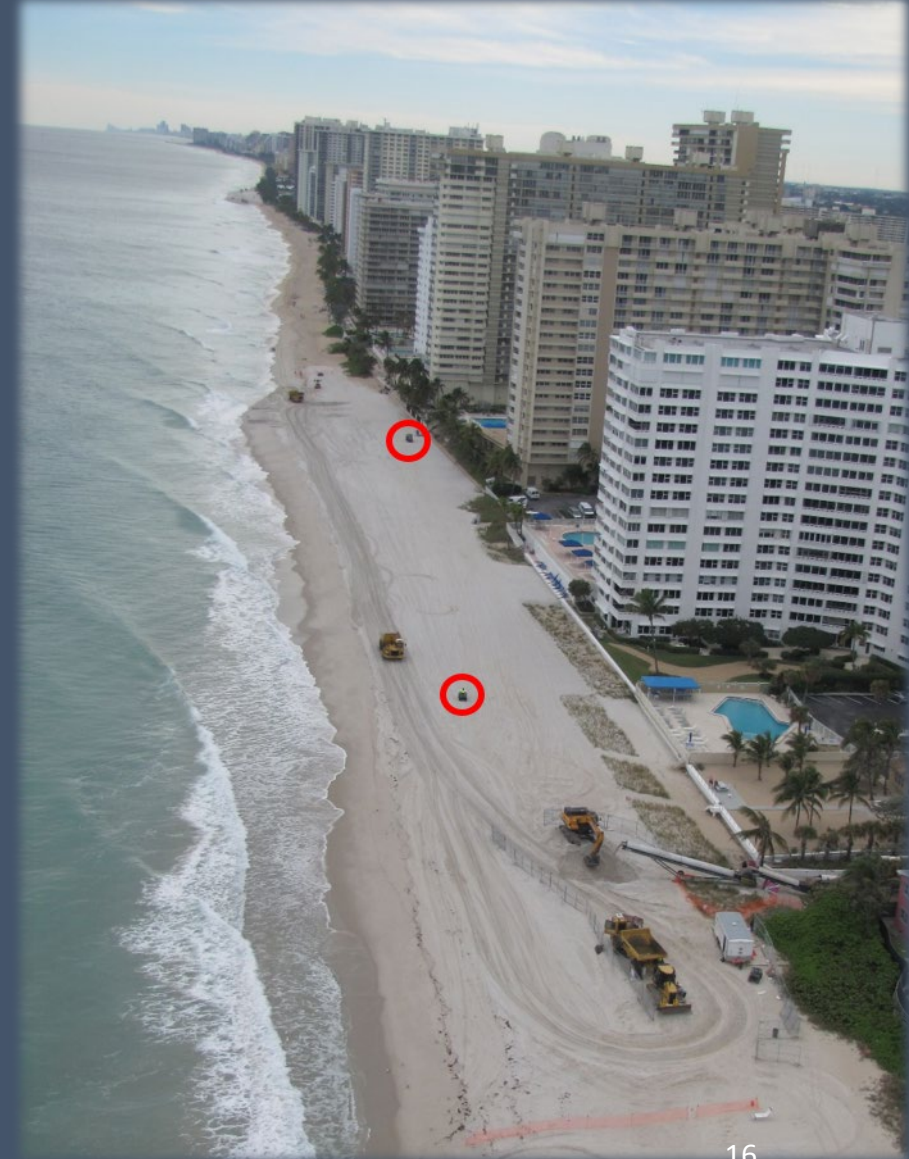
- Dania Beach:
 - Dania Pier Parking lot (end of Cambridge Street)
- Hollywood Beach:
 - Balboa Street
 - Meade Street
 - Greenbriar Street
 - Keating Park (Magnolia Terrace)
- Hallandale Beach:
 - South City Beach Park



Truck Haul Project Basics – Beach Haul Lanes



- Off road trucks deliver sand from staging area to build out area
- Traffic lanes may be demarcated with signage or temporary fencing – lane access restricted
- Guide safety vehicles accompany trucks along route to and from



Truck Haul Project Basics – Construction Zone

- Can be as large as 1,000 feet
- Public access restricted
- Restricted area is moved as sections are finished



Storm Damage Reduction Easements



Truck Haul Project Basics – Construction Monitoring

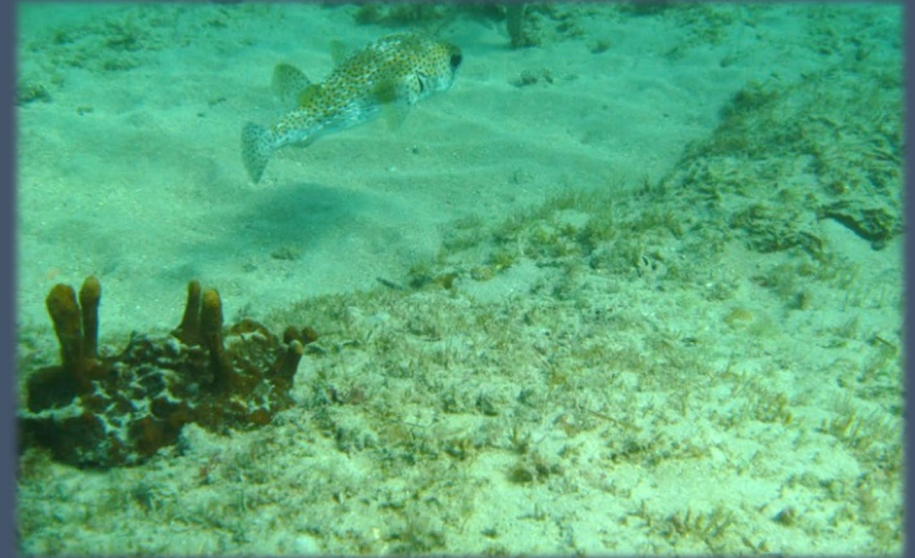
- **Permit required** - work stoppage for exceedances
- Vibration Monitoring – prevent potential structural impacts
- Turbidity Monitoring – prevent potential environmental impacts



Truck Haul Project Basics – Environmental Monitoring

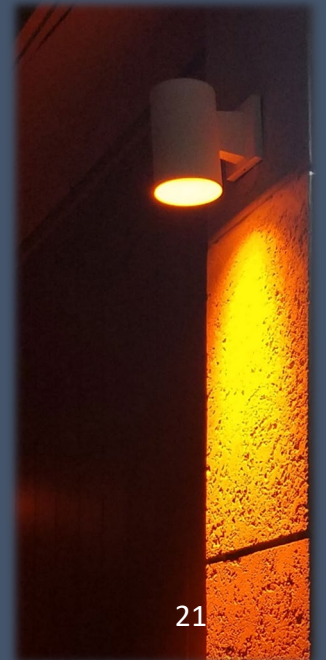
Permit required under conditions defined in project Biological Monitoring Plan (currently in draft form)

- Nearshore resources and mitigative artificial reef resources
 - Assessed before and annually for three years following project
 - Hardbottom edge monitoring – nearshore reef margin location
 - Nearshore biological community transects – sublethal community changes and sediment movement
- Listed Species Inventory and condition monitoring
 - Preconstruction surveys for **all** listed coral species
 - Condition monitoring if > 10 corals within 200m of project ETOF
- Sea turtle monitoring
 - Construction to occur outside of main season for sea turtle nesting (Nov 1-May 1)
 - Construction during Mar-Apr and Nov require nest relocation
- Seabird, Marine Mammal, and Dune vegetation protections
 - Daily seabird nesting surveys during season
 - Marine Mammal sighting work stoppages
 - Minimum dune vegetation area size disturbance restrictions



Sea Turtle Lighting Ordinances

- Effective March 1-October 31 each year
- Ordinances enforced by Local Code Enforcement
- Require **all** lighting that is visible from the beach to be:
 - ✓ LOW
 - Fixture height
 - Lumen output
 - ✓ SHIELDED
 - Downward directed
 - Full cut-off
 - ✓ LONG (wavelength)
 - Amber or red LED is best
- Don't forget about interior lights!



Dune Feature

- County resilience initiative for surge protection
- Constructed by US Army Corps under agreement with County
 - Agreement pending for State Park
 - Will pursue municipal agreements for Segment III
- Planted with native sea oats



Segment III Project Schedule

Contractor Award, February
2021

Potential State Park
Construction, March- April 2021

Construction, November 2021-
April 2022

Continued Construction, if
needed, November 2022

**Subject to change, depends
upon procurement schedule

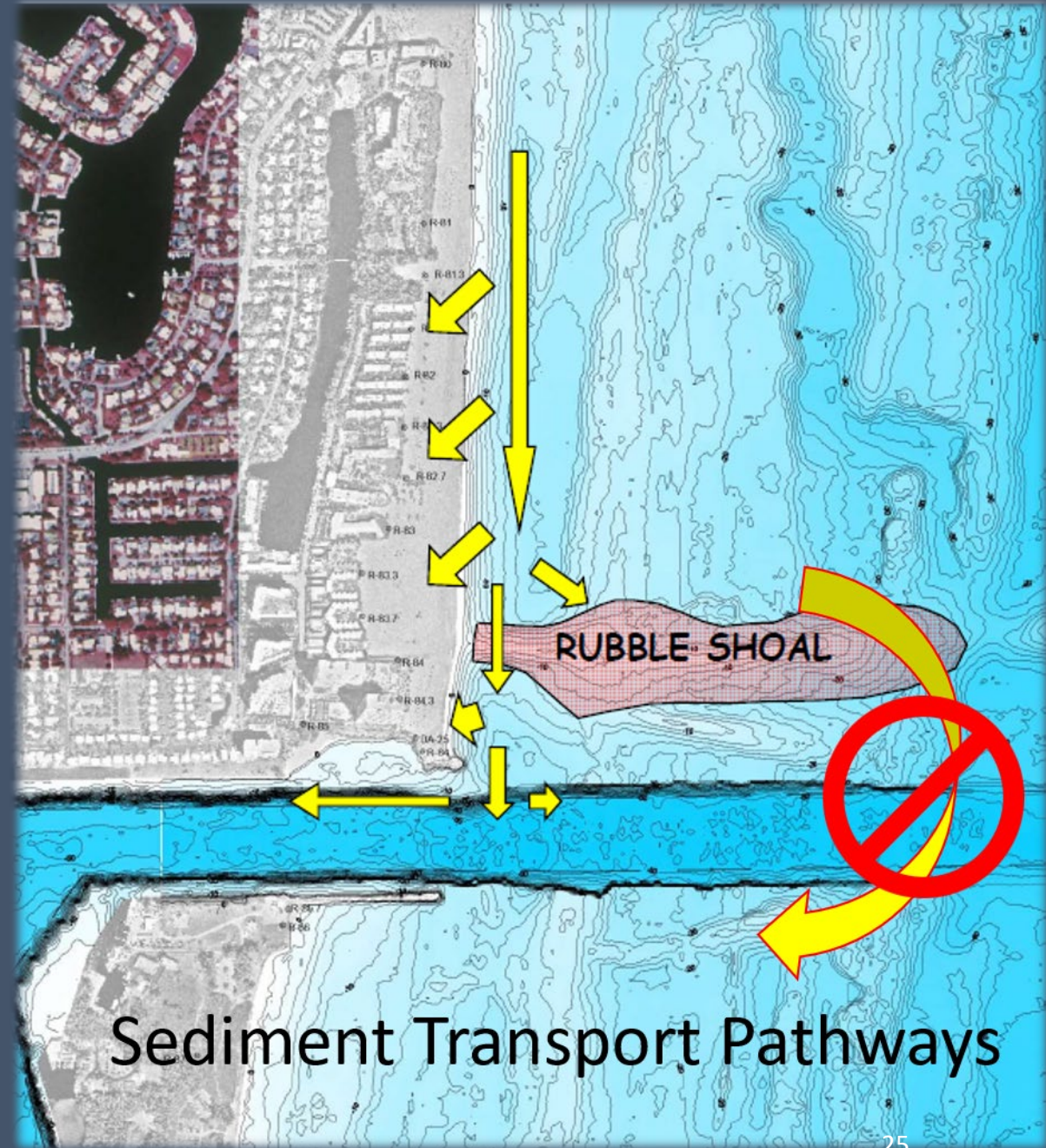
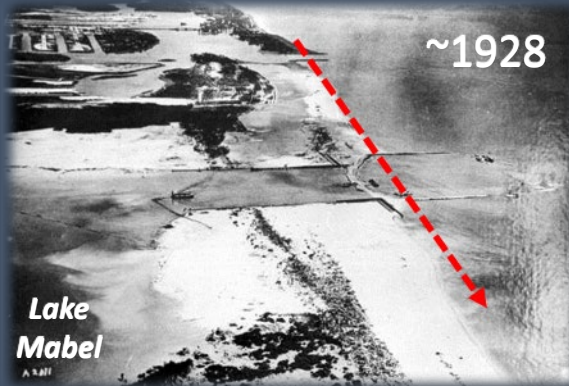
Broward County Shore Protection Project – Port Everglades Sand Bypass



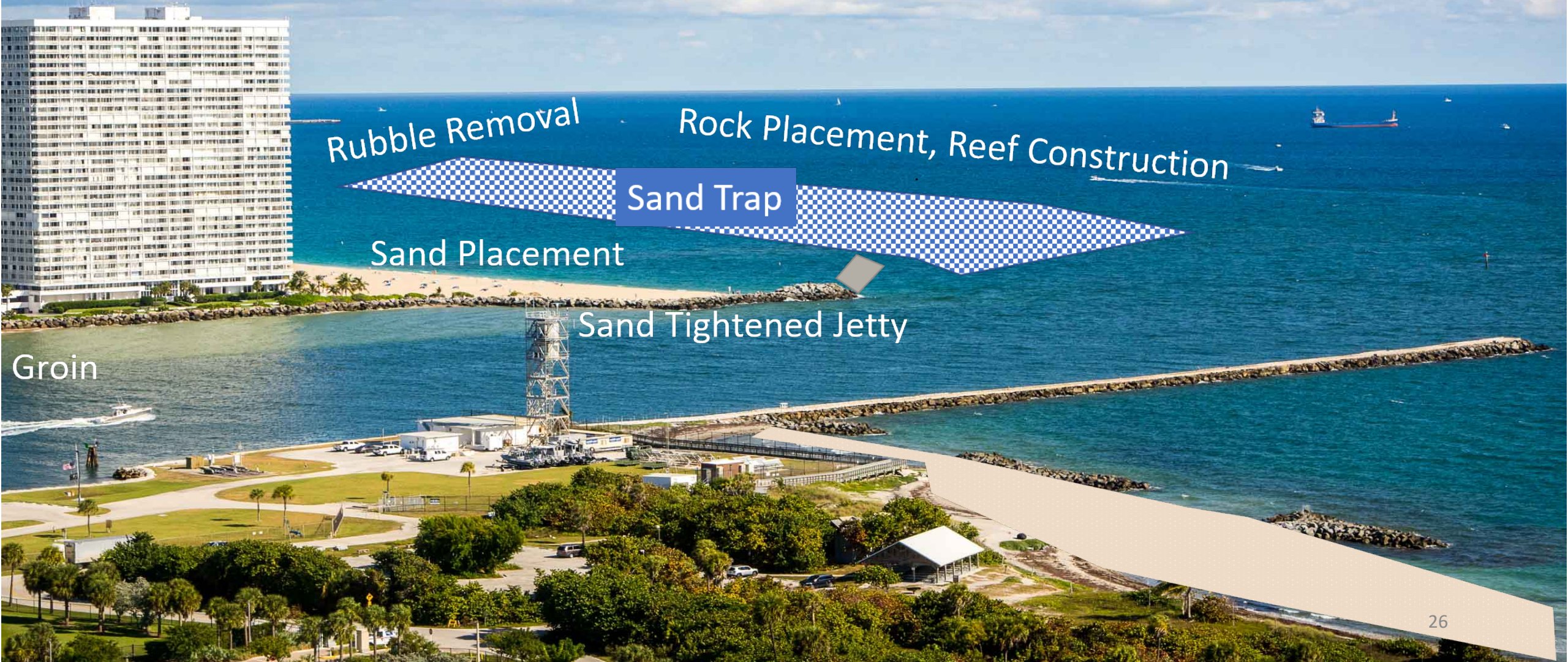
Broward County Beach Management Program

Why Bypass Sand?

Development of Port Everglades impeded southerly sediment transport



Port Everglades Sand Bypass Project Construction 2021-2022



Rubble Removal

Rock Placement, Reef Construction

Sand Trap

Sand Placement

Sand Tightened Jetty

Groin

Draft
Construction
Schedule**

Contractor Award, April 2021

Dredging, May – November 2021

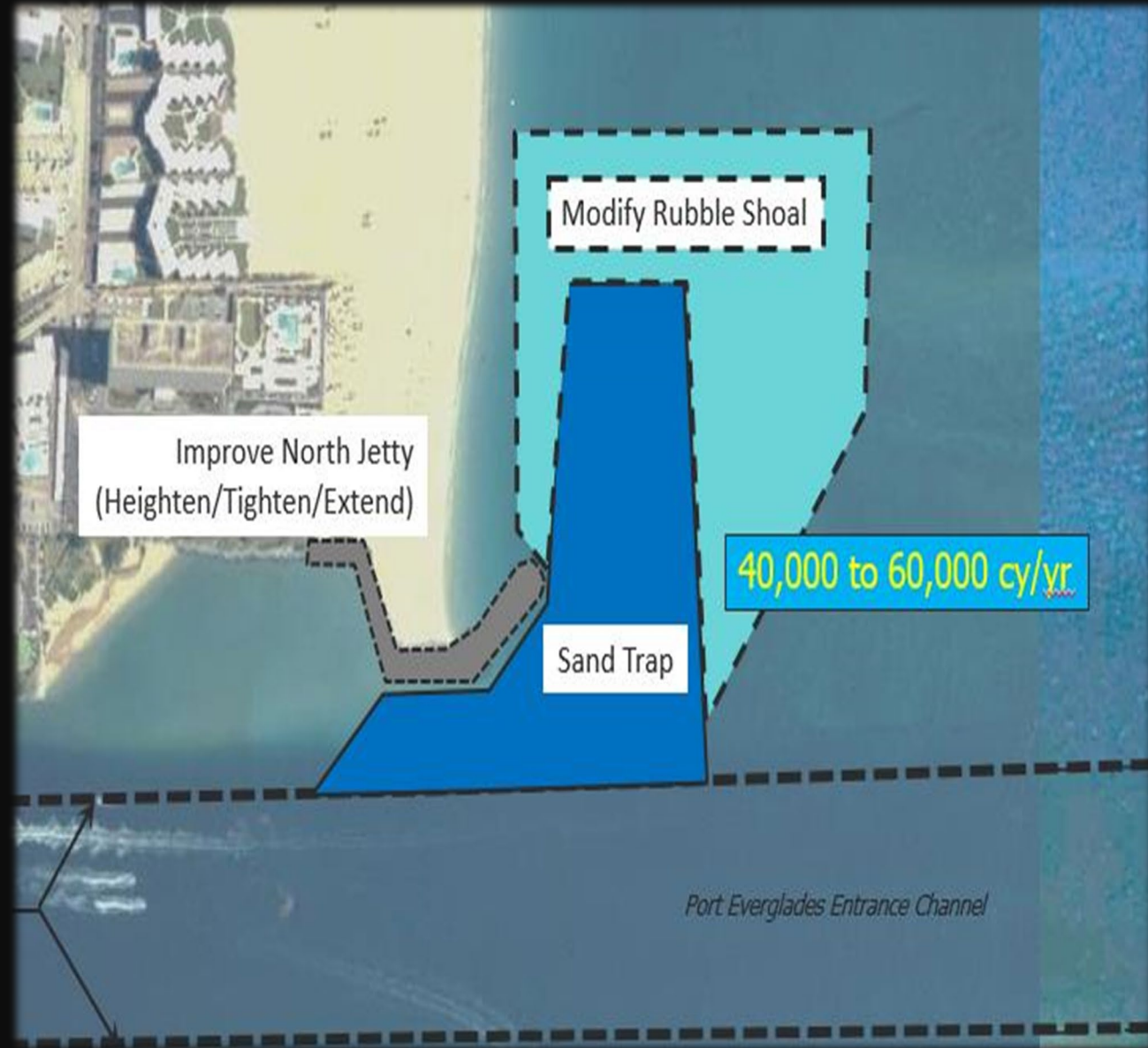
Jetty Improvements, May – December 2021

Mitigation Reef, July 2021

**Subject to change, depends upon
procurement schedule

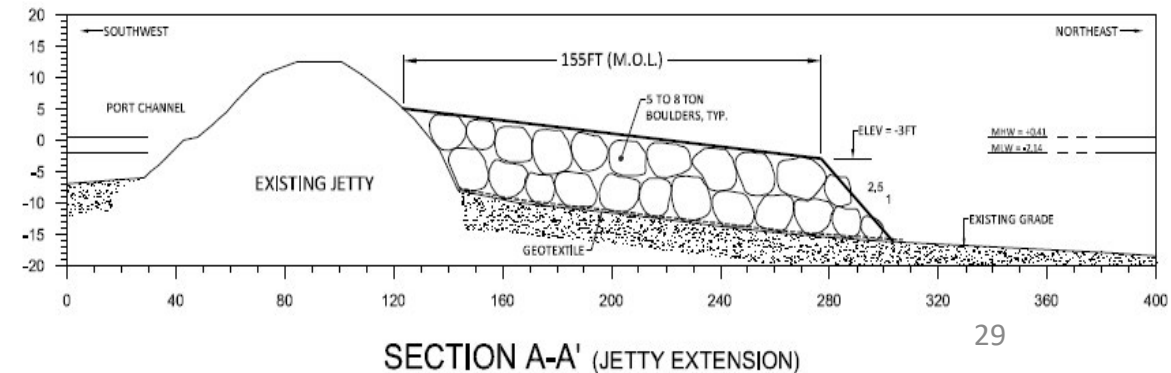
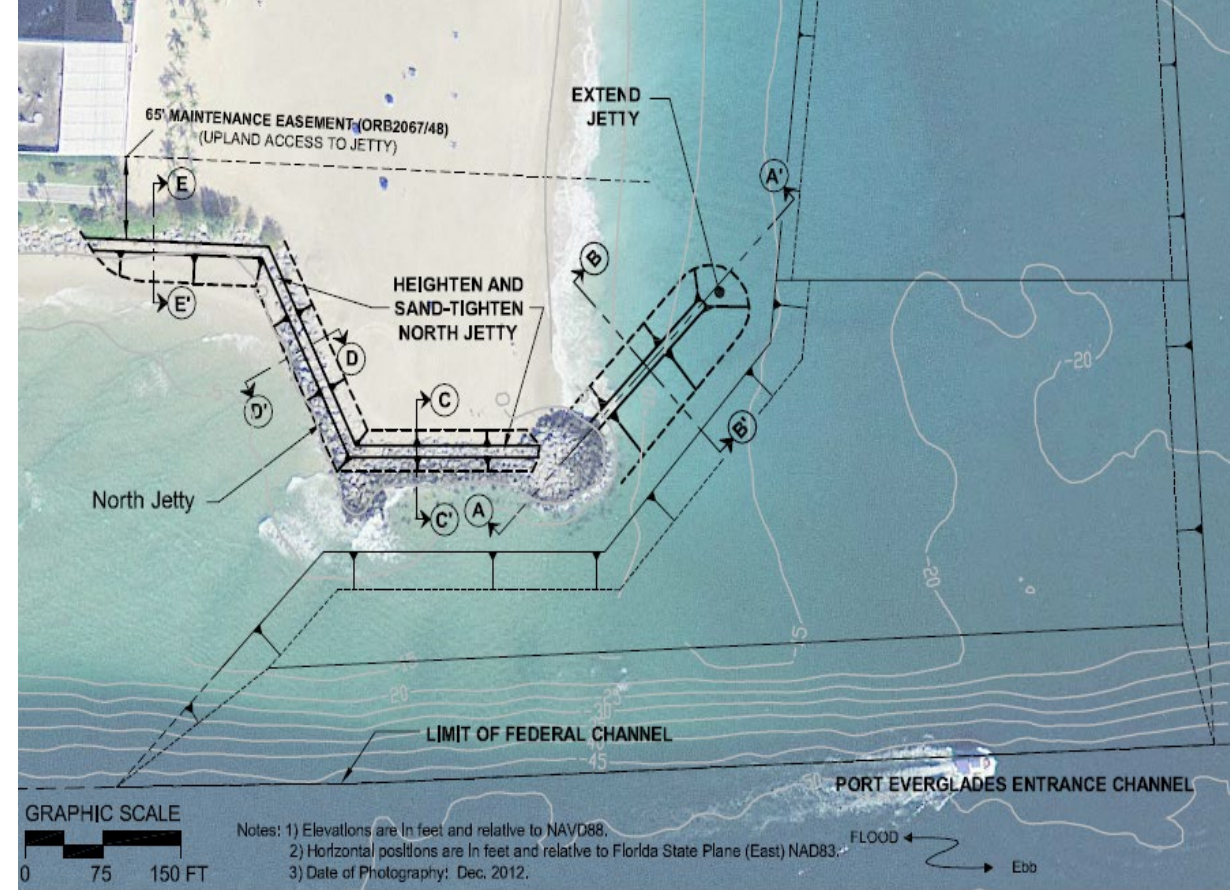
Sand Bypass Construction

- Sand trap
 - 11 acres, depth -29 to 50 feet NAVD,
 - Requires 365,000 cy dredging
 - 1st sand beach placement, north of inlet
 - 30,000 cy
 - Future sand placement, ~3 yrs
 - South of inlet, state park
-



Sand Bypass Construction

- North Jetty Improvement
 - Extension of 160 feet
- Rubble Removal
 - North of the inlet to facilitate flow to trap, 7.3 acres of hardbottom re-exposed
- Rubble Barrier
 - 600', to limit sand accumulation north of jetty
- Two Artificial Reefs, 0.5 acres total



Construction

Rock Works



Excavation



Sand Spreading



Draft
Construction
Schedule**

Segment III Contractor Award, February 2021

Segment III Construction, March 2021

Sand Bypass Contractor Award, April 2021

Sand Bypass Dredging, May – November 2021

North Jetty Improvements, May – December 2021

Segment III Construction, November 2021-March 2022

1st Sand Bypass, 2024

**Subject to change, depends upon procurement schedule

Questions and Updates



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Municipal staff will receive regular updates