



# Hollywood Truck Haul Beach Nourishment

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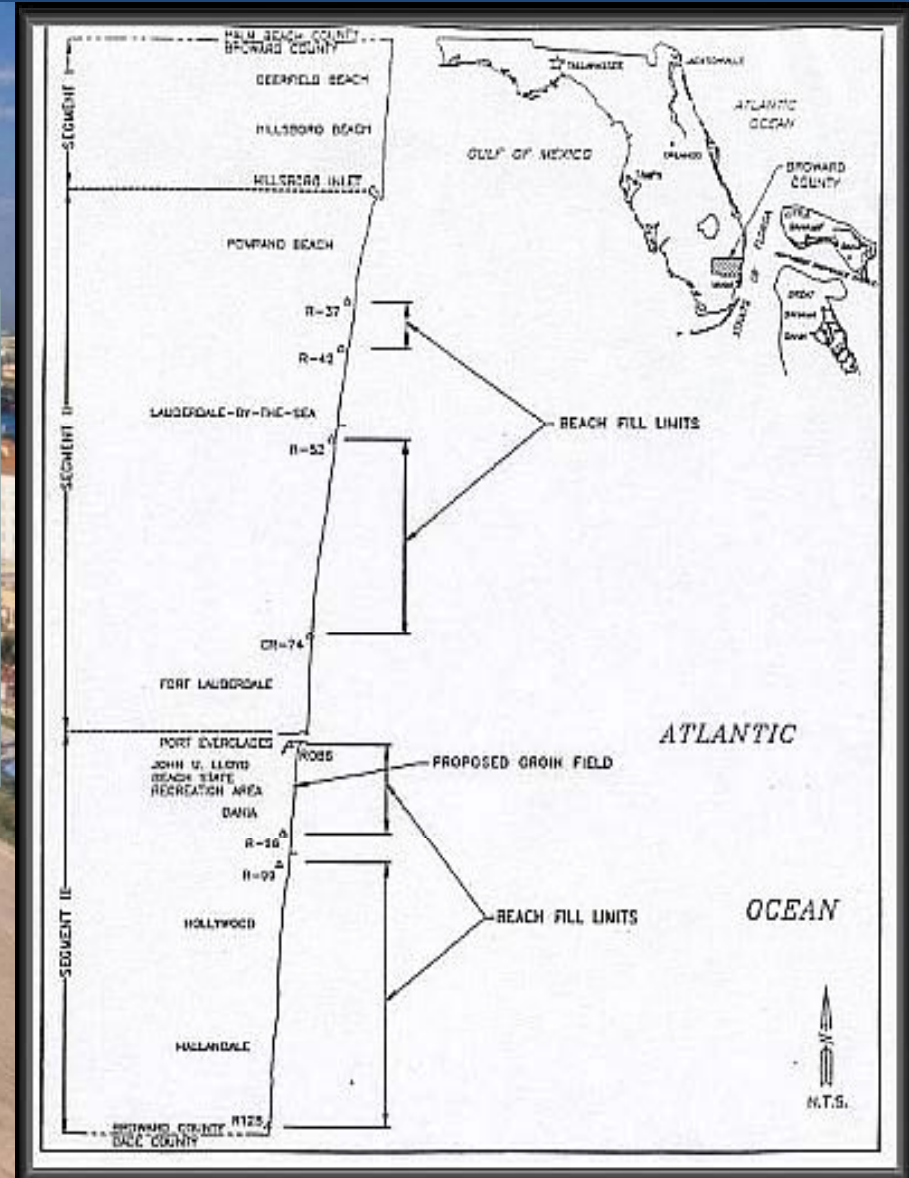
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# Hollywood Truck Haul Beach Nourishment

Hollywood – Municipality in Broward County

County Beach Management – Segment III  
area John U. Lloyd State Park, Dania  
Beach, Hollywood, Hallandale Beach



Hollywood - Broward County, Florida



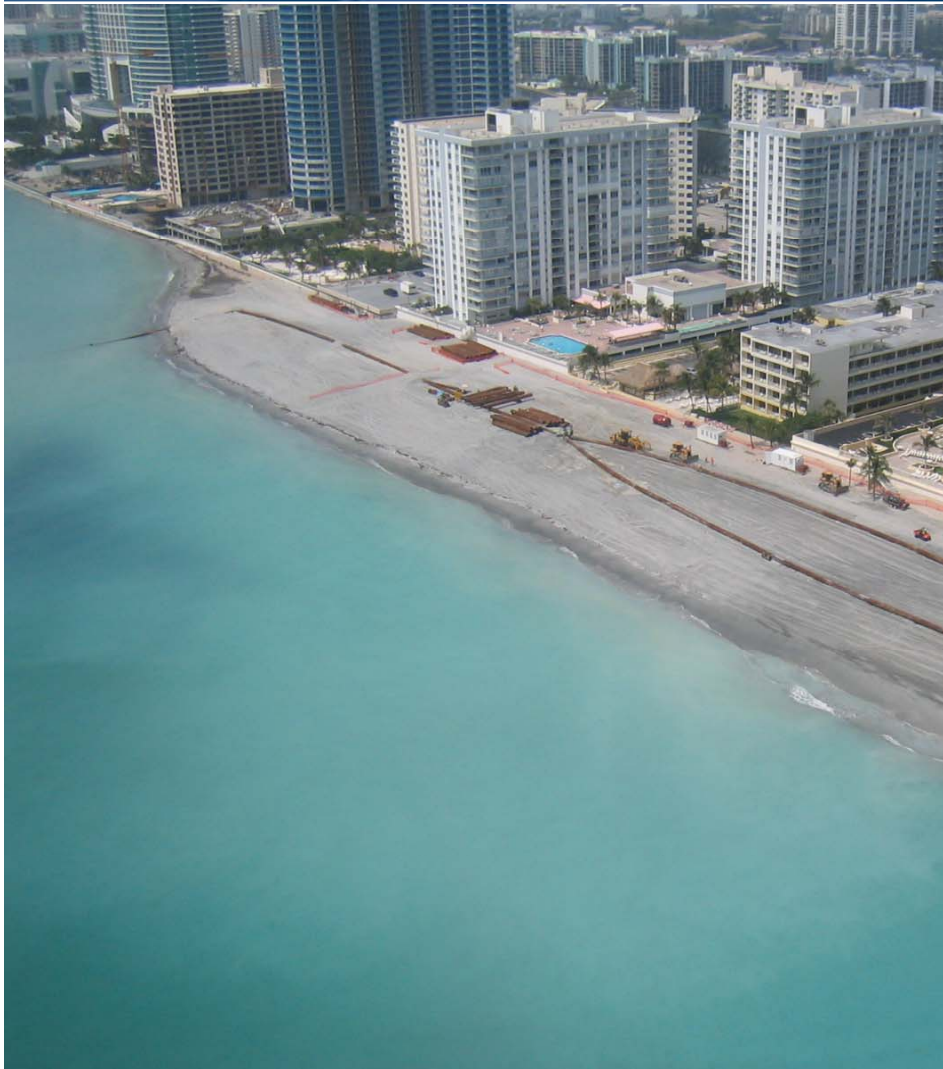


## Hollywood Truck Haul Beach Nourishment

City of Hollywood – historically relied on Broward County for beach management

Broward County Segment III Beach Project restored a 50-foot-wide berm plus ~6 years of advance nourishment, (John U. Lloyd State Park, Dania Beach, Hollywood Hallandale Beach) completed in February 2006

U.S. Army Corps of Engineers – reimbursement is still pending \$12M for the 2006 Project



Broward County Segment III Beach Project





## Hollywood Truck Haul Beach Nourishment

### Beach Management Challenges

- Erosional Hot Spot in South Hollywood
- Erosion – potential damage to upland structures
- Current Cycle of Increased Coastal Storm Activity + Sea Level Rise
- Disappearing Offshore Sand Resources
- Lack of Sand Bypassing at Port Everglades Inlet
- Increasing Cost of Materials & Transportation
- Expanding Environmental Protection Criteria and Related Costs – proximity to reef and hardbottom habitat
- Limited State and Federal Funding



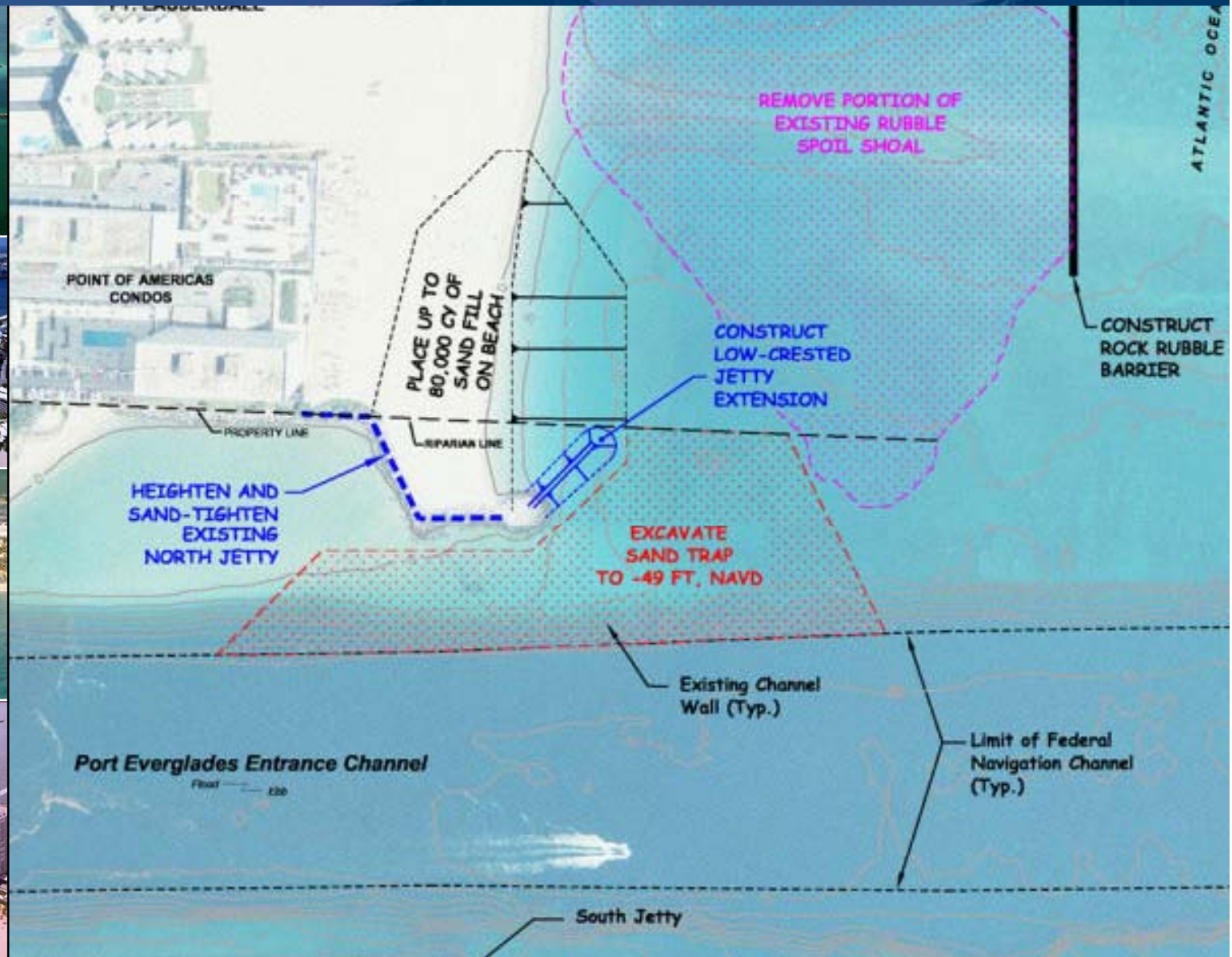
Downdrift – Port Everglades Inlet



Project South Area 2003



# Hollywood Truck Haul Beach Nourishment



Port Everglades Inlet – Proposed Sand Bypassing





## Hollywood Truck Haul Beach Nourishment

- Beach Management in Hollywood is essential to the local economy through visits by area residents and by tourists
- Tourist Tax Collection  
2011 - \$6.2M  
2012 - \$6.6M
- Hollywood 15% of the tourist tax collection in Broward County
- 5,000 Hotel Rooms
- Fodors 2009 - "Best Beach for Families"



Hollywood - Tourism



## Hollywood Truck Haul Beach Nourishment

### How can Hollywood fund Beach Management?

- Hollywood Community Redevelopment Agency - created in 1997
- Community leaders recognized that economic and physical revitalization must be balanced with the protection of natural resources and open space
- Infrastructure improvements - preservation and maintenance of natural resources and the enhancement of Hollywood as a tropical destination, and the re-establishment of tourism as a vital industry
- Dedicated Source of Funding for Beach Management
- CRA - established for limited duration





## Hollywood Truck Haul Beach Nourishment

- Beach Management Alternatives Study
- Result - Identified Truck Haul Maintenance Project as most viable
- Initially proposed joint project with Hallandale Beach – gain efficiency in permitting, design and construction
- Maximize economies of scale and funding opportunity
- Local funding not available for the Hallandale Beach Project
- Unable to obtain DEP Funding – other Florida projects ranked higher for funding



Interim Truck Haul Beach Nourishment – Recommended Solution

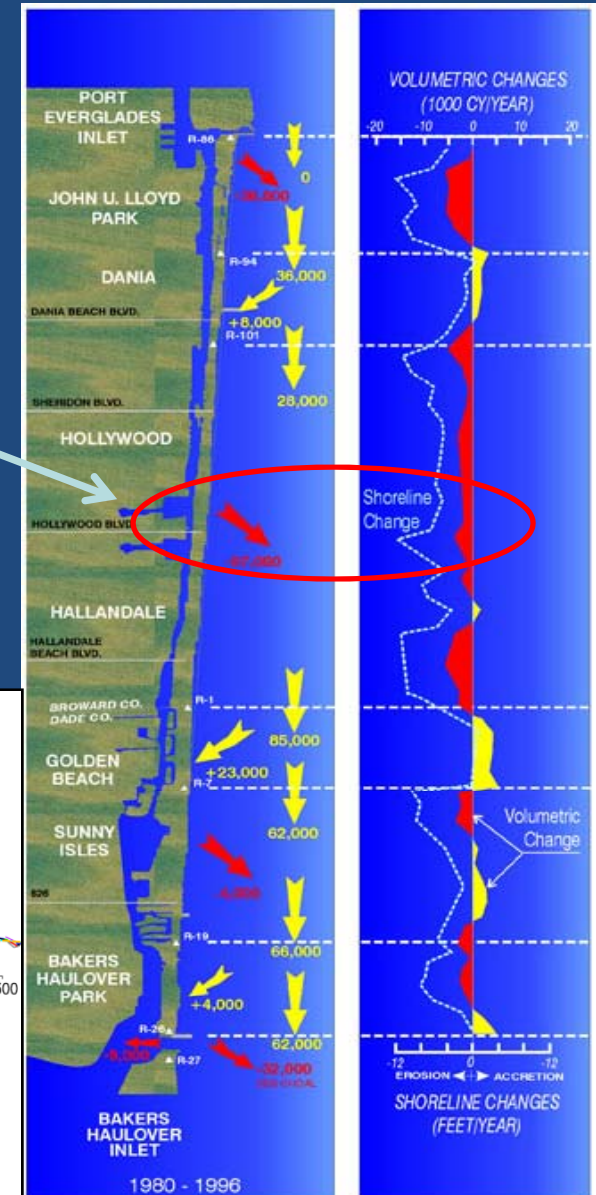
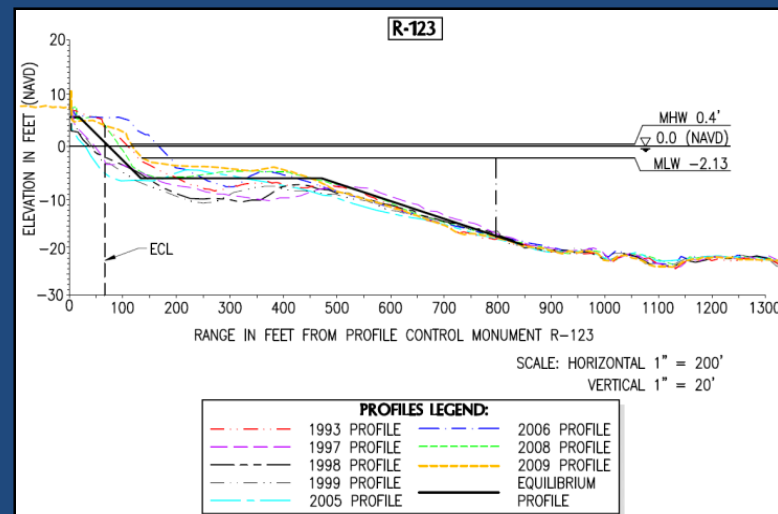




# Hollywood Truck Haul Beach Nourishment

## Beach Nourishment Design Approach

- Review long-term erosion trends
- City identified Priority Areas
- Manage erosion “hot spots” within larger beach nourishment projects
- Conduct Cost-Benefit Analysis relative to Project size
- Establish Project Implementation Schedule





## Hollywood Truck Haul Beach Nourishment

Two Priority Areas for Interim Beach Nourishment identified:

- 2,000 linear feet of North Beach from Wilson St. to Sherman St.
- 4,000 linear feet of South Beach from the South City Limit to Laurel Terrace



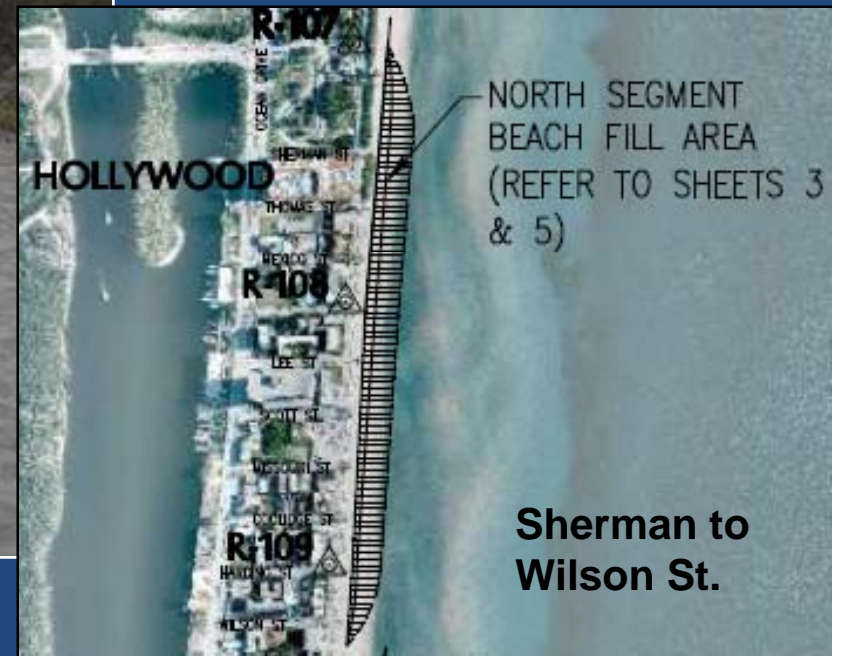
Beach width and elevation can change significantly over several weeks or months based on seasonal variation, storm waves, and other variable conditions





## Hollywood Truck Haul Beach Nourishment

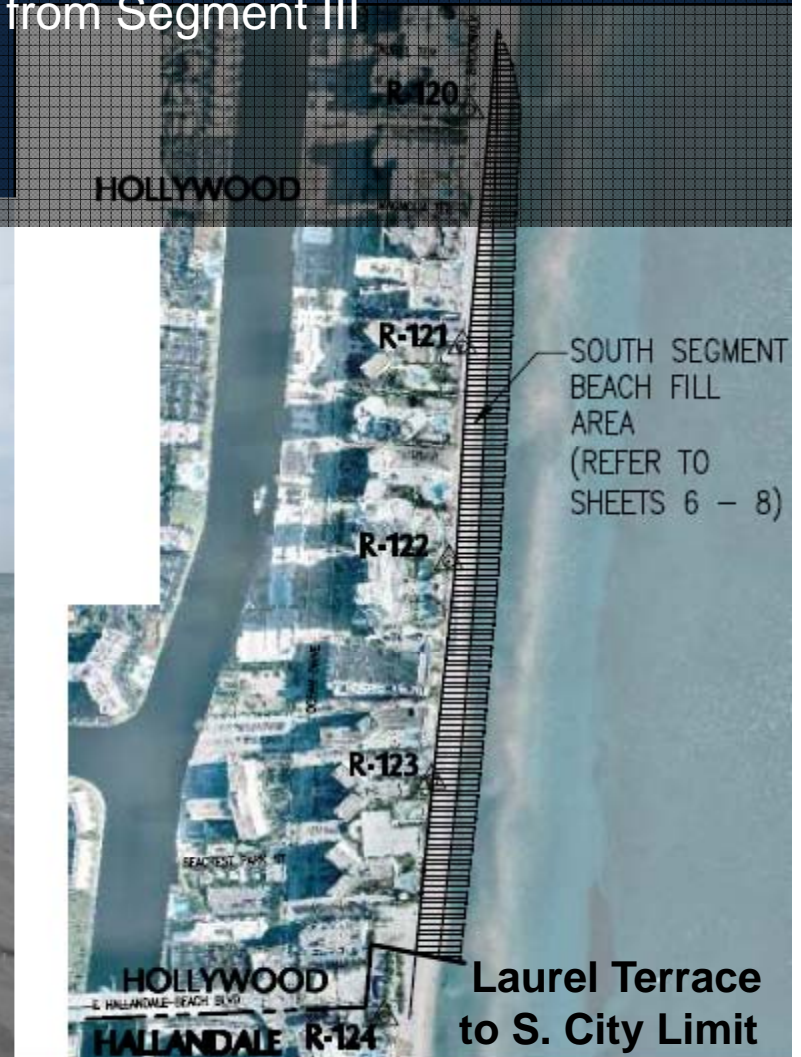
- North Area beach width is affected by sand from the north
- 18,000 c.y. of sand proposed to restore most of the Segment III design profile.
- Incorporate a dune restoration component to increase protective buffer





## Hollywood Truck Haul Beach Nourishment

- South Area beach proposed 118,000 c.y. of sand to restore most of the Segment III Project design profile.
- Historic nearshore hardbottom impacts in this area from Segment III
- Erosion Hot Spot Area – long term trend



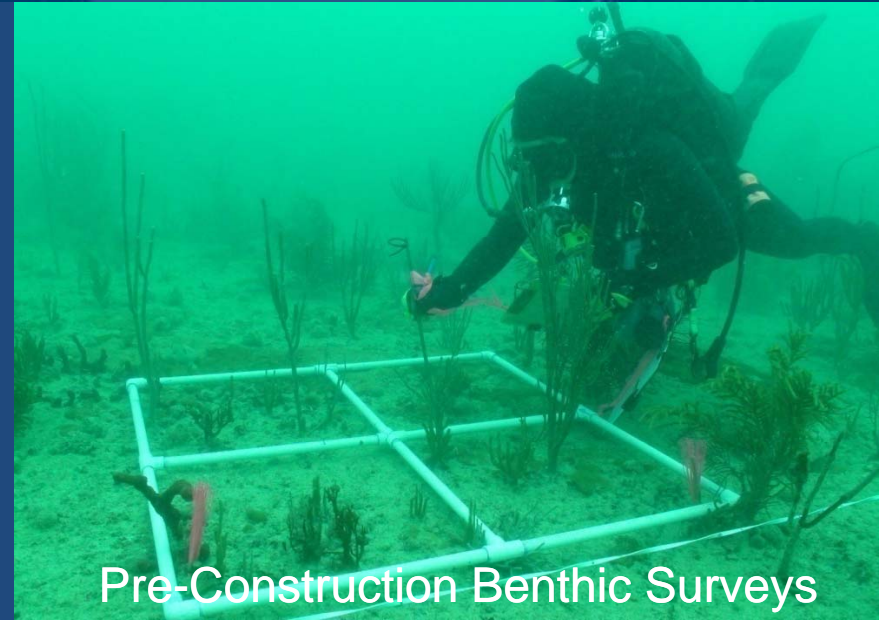




## Hollywood Truck Haul Beach Nourishment

### Project Implementation Schedule (15 to 30 months through construction)

- Data Collection and Funding Approach
- Coastal Engineering
- Environmental Impact Analysis
- Permit Drawings and Permit Applications
- Permit Processing and Beach Design Refinement
- Construction Drawings and Specifications
- Construction Bid Process Assistance
- Construction Administration
- Environmental Monitoring
- Permit Close-Out



Pre-Construction Benthic Surveys





## Hollywood Truck Haul Beach Nourishment

### Environmental Permitting Approach

- Regulatory strategy truck haul project
- Environmental Permits – 3 *agencies*
  - U.S. Army Corps of Engineers
  - Florida DEP
  - Broward County EPGMD
- Truck Haul vs. original Segment III resource impacts - Project within a Project
- Avoidance of hardbottom impacts
- Programmatic Biological Opinion – Statewide
- 10-Year Maintenance Permits  
Flexibility for City to implement multiple projects



Nesting Sea Turtles



Nearshore Hardbottom





# Hollywood Truck Haul Beach Nourishment

## Actual Project Schedule

- Permit Applications – 8/09
- Engineering Design – 2/11
- Construction Bids – 8/11
- Final Permit (Corps) – 11/11
- Trucks Rolling – 12/11
- Project Completion – 2/12  
(before marine turtle nesting season)
- Total Duration ~ 2.5 years





## Hollywood Truck Haul Beach Nourishment

- Volume of Fill (North) = 5,800 CY
- Volume of Fill (South) = 53,300 CY
- Total Volume = 59,100 cubic yards – *less volume*
- Source: Ortona Mine, LaBelle, FL
- Reduction in Volume – coastal processes
- Staging Areas - multiple
- 100+ Trucks per day
- Owners Representative



Construction Summary - Truck Haul Beach Nourishment





## Hollywood Truck Haul Beach Nourishment

### **Project Cost Summary Review:**

Segment III – significantly larger, County project with offshore sand source

Total Volume (2006): 1.8M cy; 1M cy placed in Hollywood

Soft Costs: \$13M

Hard Costs: \$31.5M (2005 costs)

Total: \$44.5M (2009 summary) (Hollywood 20% local cost share; \$1.5M)

Unit Cost ~ \$25/cy (2005 costs; 2012 costs \$30/cy )

Duration: 2000 - 2006 ~ 6 years

Hollywood Truck Haul – small scale, interim City project with upland sand source

Total Volume (2012): 59,100 cy

Soft Costs: \$1.2M

Hard Costs: \$2.2M (\$28/ton; \$37/cy)

Total: \$3.4M

Unit Cost ~ \$57/cy (2012 costs)

Duration: 2009-2012 ~ 2.5 years





## Hollywood Truck Haul Beach Nourishment



### Project Credits

- Project Sponsor/Owner – City of Hollywood
- Owners Representative – Steve Higgins
- Consultants – Coastal Systems International, Inc.
- Beach Nourishment Contractor – Eastman Aggregate Enterprises, LLC
- Sand Mine – Ortona mine E R Jahna Industries
- Post Construction Biological Monitoring – Applied Technology Management



Before



After

Project Implementation – Team Work





# COASTAL SYSTEMS INTERNATIONAL, INC.

