

Miami-Dade County, Surfside Beach Renourishment Project

U.S. Army Corps of Engineers
Jacksonville District
June 6, 2019





Project Purpose



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- coastal storm risk management
- beach erosion control
- hurricane surge protection





Beach Renourishment Benefits



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- protect infrastructure, the beach is the first line of defense against storm impacts and damage
- preserve the environment for wildlife
- support the economy (tourism)
- recreational value
- build coastal resiliency



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What is the Cost for the Project?



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- \$17.9M; Contractor is CHC; Continental Heavy Civil Corp
- Project is 100% funded by the Federal Government pursuant to the Bipartisan Budget Act (P.L. 115-123); “Supplemental”





Overview of Federal Project



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- Main Segment: 10.5 miles in length. Initial construction of this segment began in 1975.
- Sunny Isles Segment: 2.5 miles in length. The segment was initially constructed in 1988.



Miami-Dade County Master Plan

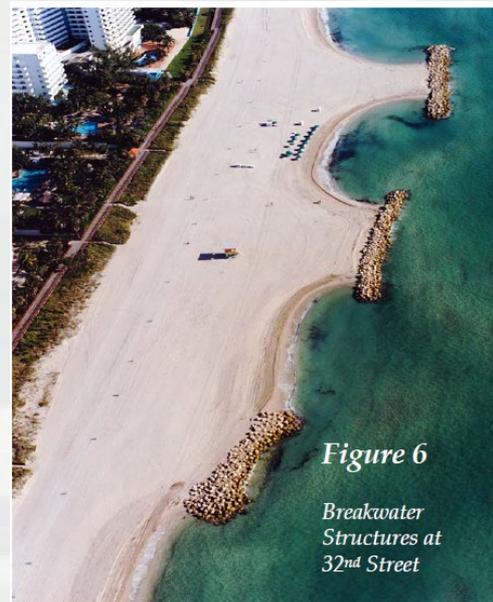


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Comprehensive summary of the current status of the beach, and identifies needs and solutions for future management of the shoreline

7 Hotspots

- 1) North end of Sunny Isles
- 2) Bal Harbour
- 3) 63rd Street
- 4) 55th Street
- 5) 44th Street
- 6) 32nd Street
- 7) North of Government Cut



Recommendations for managing these hotspots range from no action, to structural solutions such as breakwaters and groins and beach nourishment



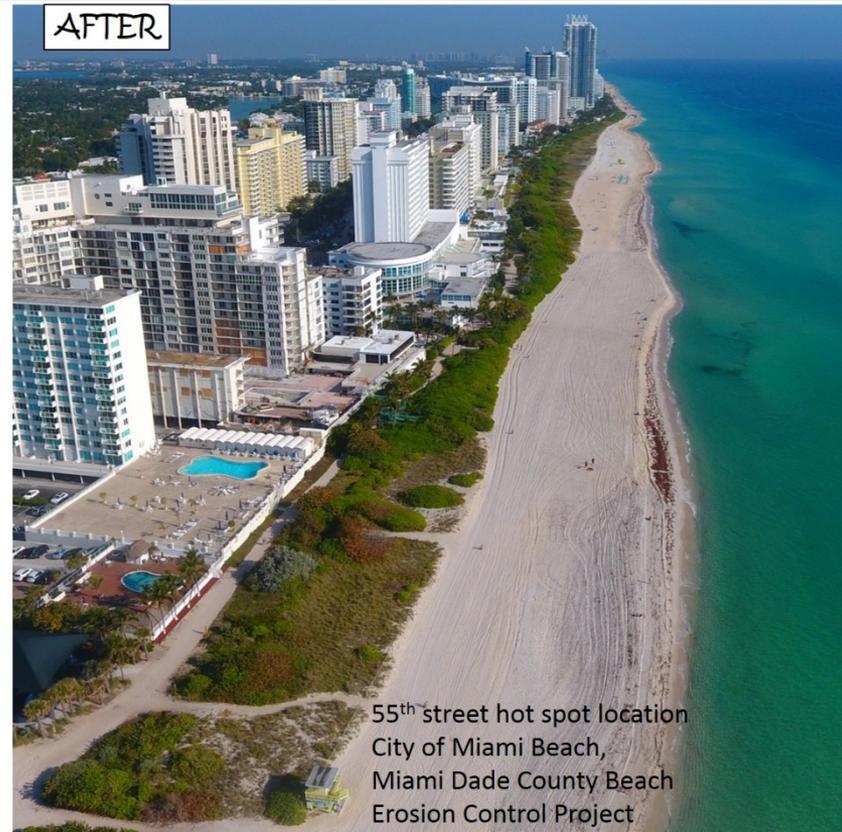
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Past Nourishments



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- See more pictures at;
<https://www.flickr.com/photos/jaxstrong/sets/72157672356006160>



55th street hot spot location
City of Miami Beach,
Miami Dade County Beach
Erosion Control Project

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Surfside Beach Project



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Beach Fill:

- 330,000 cubic yards of sand placed along the town limits scheduled to begin in July/August timeframe



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Work Progress



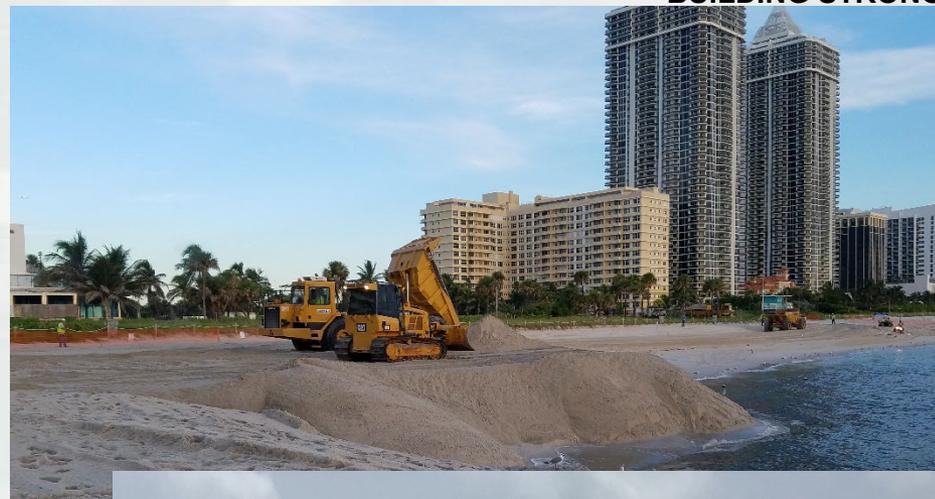
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Estimated Range of Production

- 1,200 – 3,000 cy per day
- 100-272 trucks loads per day
- Duration = 110-275 days
- Average 22 tons/truck load

(1 ton = 0.5 cy)

cy = cubic yard of sand



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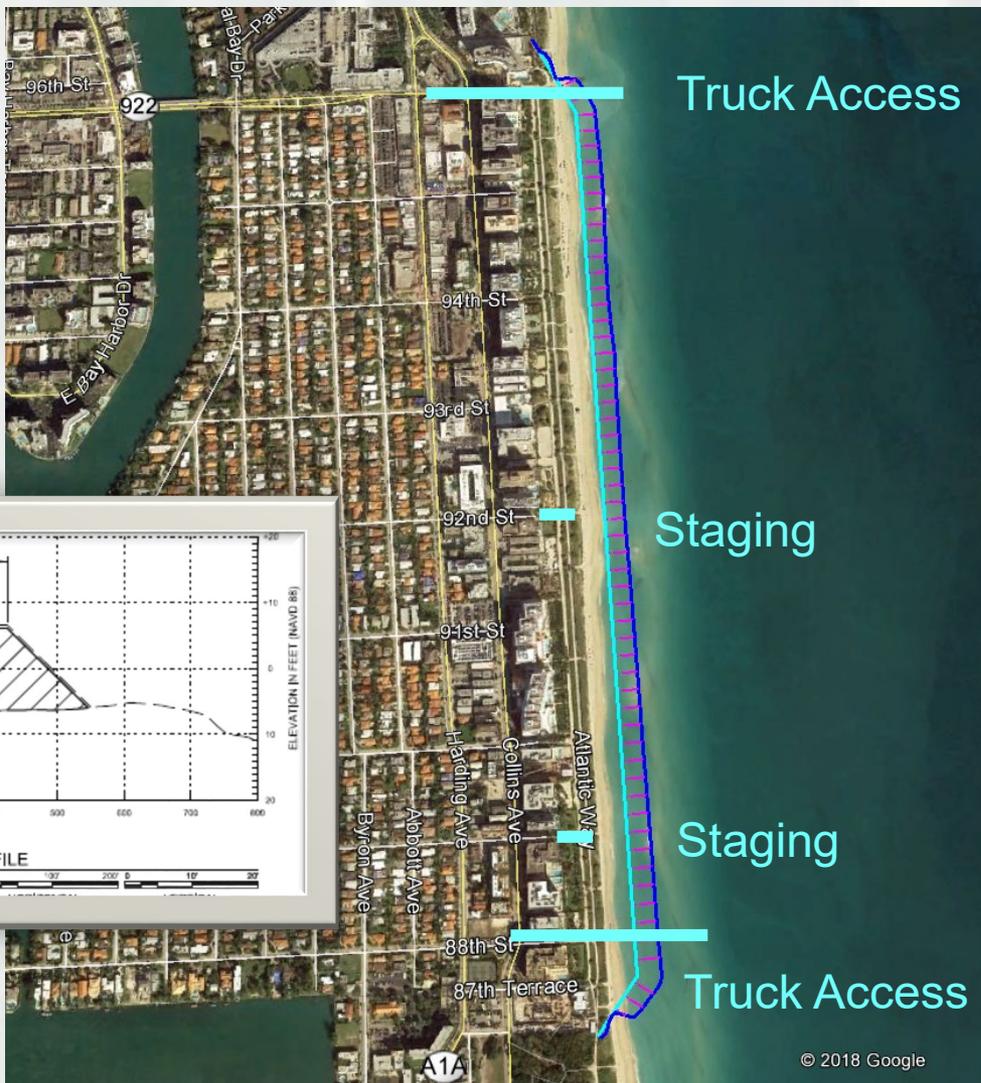
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Work Progress



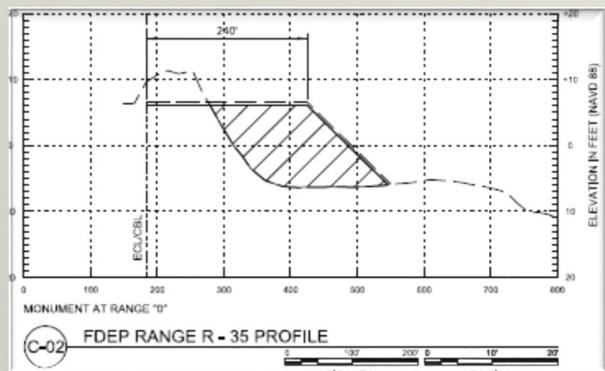
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From just north of 96th street, to south of 88th Street.



Active Construction:

- ▶ Trucks in staging areas running
M-T: 7 a.m. to 7 p.m.
F: 7 a.m. to 5 p.m.
S: 9 a.m. to 5 p.m., and no work on Sundays.
- ▶ Trucks and equipment on beach same timeframes.
- ▶ Several holidays identified as No Work days.





Work Progress



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Construction



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Expect to see and hear heavy machinery including dump trucks, bulldozers, backhoes

Some areas of the beach and some parking spaces will be fenced off for your protection; please steer clear of all construction zones





Surfside Beach Project



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Protection of Wildlife



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- **Monitoring:** daily of migratory shorebird and sea turtles, all clear required each morning (Miami-Dade County and Contractor)
- **Nest Relocation:** of sea turtle nests out of construction zone, as authorized by FWC.
- **Equipment Storage:** From March 1 through November 30, staging areas for construction equipment must be located off the beach to the maximum extent possible. Nighttime storage of construction equipment not in use must be off the beach to minimize disturbance to sea turtle nesting and hatching activities.
- **Beach Fill:** material placed on the beach must be analogous to that which occurs naturally within the project location or vicinity in quartz to carbonate ratio, color, median grain size, and median sorting.





Sand Quality



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Florida Administrative Code 62B-41.007(2) (the Florida Sand Rule) requires that beach fill maintains the general character and functionality of the material occurring on the beach and in the adjacent dune and coastal system.

Such material shall be predominately of carbonate, quartz or similar material with a particle size distribution ranging between 0.062 mm and 4.76 mm, shall be similar in color and grain size distribution to the material in the existing coastal system at the disposal site and shall NOT contain:

- Greater than 5 percent, by weight, silt, clay or colloids passing the #230 sieve
- Greater than 5 percent, by weight, fine gravel retained on the #4 sieve
- Coarse gravel, cobbles or material retained on the 3/4 inch sieve in a percentage or size greater than found on the native beach
- Construction debris, toxic material or other foreign matter
- And shall not result in cementation of the beach



Dade County Sand Specification



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The specification for Dade County Beach fill material is more limiting than the Florida Sand Rule:

- The sand supply shall be naturally created
- The sand may be processed, but manufactured sand is now allowed. Sand produced from crushed rock is considered manufactured and is not allowed
- The sand must be composed of quartz and/or calcium carbonate with no more than 5 percent sand of other mineralogical composition
- No more than 60 percent of the sand (quartz or calcium carbonate) shall be whole or broken shell
- The Average Mean Grain Size must be greater than or equal to 0.30 mm and less than 0.55 mm
- The Standard Deviation values must range from 0.50 phi to 1.75 phi (moderately well sorted to poorly sorted)
- Silt content (passing No. 230 sieve) must be less than 5 percent
- 95 percent of the material must pass the #4 sieve (4.76 mm)
- 99 percent of the material must pass the 3/8 inch sieve (9.51 mm)
- 100 percent of the material must pass the 3/4 inch sieve (19.0 mm)
- Sand color shall be similar to the existing beach. Based on the Munsell Soil Color Chart, color must be within the range:

HUE: 2.5 YR, 5 YR, 7.5 YR, 10 YR, 2.5 Y, 5 Y

CHROMA: 1, 2, or 3

VALUE: 6, 7, or 8



Other Supplemental Actions



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- \$158.3M is the total allocation for Dade County funded by the Federal Government pursuant to the Bipartisan Budget Act (P.L. 115-123).

Project Overview



Current Status
Approximately 2,000,000 cubic yards (cy) of sand is needed to restore the Dade County Beach Erosion Control and Hurricane Protection Project.

Project Details

- 13 miles from Government Cut to Sunny Isles
- Authorized: 1968, and 1986
- Initial Construction: 1975, 1988

Short-Term Project Initiatives

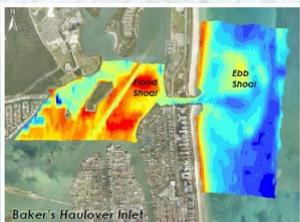
- Fully restore the Dade County project within 3 years by July of 2021, using a variety of sediment sources (truck haul, local inlets, and offshore borrow sources).

Long-Term Project Initiatives

- Development of DELT 3D Hydrodynamic and Sediment transport model, calibrated with sediment tracers and in-field measurements to forecast and analyze different structural/non-structural measures to prolong nourishment intervals and increase overall Coastal Resiliency.



Seaside, 2018



Baker's Haulover Inlet

Historical



Beach renourishment has been providing essential economic, environmental and recreational benefits to coastal communities in southeast Florida since the 1970s. Renourished beaches and dunes serve as a vital buffer between coastal infrastructure and the destructive forces of ocean waves and surge during storm events.

MIAMI-DADE COUNTY

For Additional Information, Contact: Laurel Reichold, Project Manager | Laurel.P.Reichold@usace.army.mil

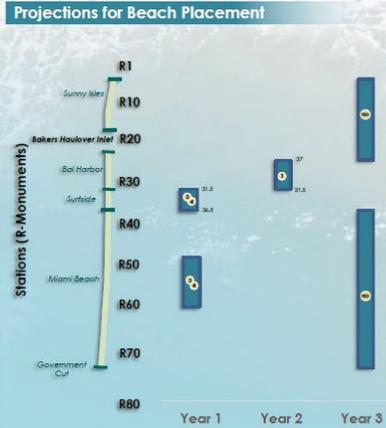
Funding Status

	AMOUNT	FEDERALLY FUNDED	STATUS	PROJECTION
Dade County Construction	\$158.3 M	100% federally funded	P&S ongoing, multiple construction contracts	Multiple phases
Dade County Feasibility Study	\$2 M	100% federally funded	Study underway began Oct 2018	3 yrs to complete
Miami Back Bay Study	\$3 M	100% federally funded	Study underway began Oct 2018	3 yrs to complete

Construction Schedule

SUPPLEMENTAL CONTRACTS	VOLUME (cy)	ADVERTISE	AWARD	CONSTRUCTION COMPLETE
Truck Haul Surfside	300K	February 2019	April 2019	December 2019
Truck Haul Hotspots (27, 44, 55, 63)	450K	April 2019	June 2019	January 2020
Bal Harbour	250K	January 2020	March 2020	December 2020
Sunny Isles and Miami Bch	~1.5M	May 2020	July 2020	July 2021

Projections for Beach Placement




The Limited Re-evaluation Report recommended using a combination of domestic sand sources (two borrow areas in federal waters offshore of Martin and St. Lucie counties along with truck haul projects from upland mines) for future renourishment.

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Additional Information

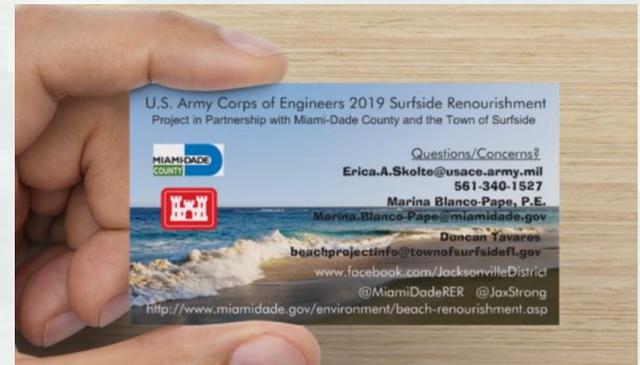


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Where can I get more information?

Corps Website

<http://www.saj.usace.army.mil/Surfside/>



Miami-Dade County Website

<http://www.miamidade.gov/environment/beach-renourishment.asp>

Town of Surfside Website

<https://townofsurfsidefl.gov/news-and-events/news-detail/2019/02/07/beach-renourishment---surfside-florida>



Social Media



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U.S. Army Corps of Engineers Facebook
page: <https://www.facebook.com/JacksonvilleDistrict/>



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Thank you!

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