PORT/////////



APRIL 2015



Quick Facts



PortMiami is located in Miami-Dade County, one of the most diverse, multilingual populations in the U.S. making Greater Miami one of the world's most ideal centers for international trade and tourism

- Among the Top Container Ports in Florida Almost 900,000 TEUs in 2014
- Cruise Capital of the World More than 4.77 million passengers in 2014 (Another World Record!)
- 167,000 daily passengers

- \$126.1 million in revenue (per the CAFR)
- Economic Impact: \$27 billion and 207,000 Direct/Indirect Jobs to South Florida



PortMiami - Surrounding Area





Preparing for the Opening of the Expanded Panama Canal in 2016

•<u>Highway Access</u>: Direct access to interstate highway system and efficient road access to local distribution facilities

•Rail Access: Near-dock linked to national network

•<u>Port Infrastructure</u>: Post-Panamax cranes, high-volume container exchange capacity, wharf strengthening

•Harbor Access: -50 foot deep channels



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Approximately \$2 Billion Infrastructure



Highway Access

New Port Tunnel

Government Cut

- Open for Traffic August 2014
- Provide direct connection from Port to interstate highways PPP with FDOT, MAT, City of Miami and MDC
- Two Twin-Tunnels 3900 ft. long each
- 35 year concession agreement which includes 30 years of operation and maintenance



Tunnel Configuration



Tunnel Vertical Alignment & Section





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Tunnels are 3900 ft. long

+40 ft. under the bottom of Government Cut

5% Grade

5 cross passages

Rail Service Restored

New On-Port Intermodal Yard Completed January 2015

- TIGER II Federal Grant
 Recipient
- PPP with MARAD, DOT, FEC and MDC
- Bascule bridge rehabilitation
- Near Dock Intermodal Yard
- Unique interim operations
 during construction
- Next CBP operations





Our Navigational Channel Today

Miami Harbor, Florida



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Deep Dredge Timeline

- 1999 Congressional Authorization and Appropriation to begin Study
- 2000 Study Phase (GRR) 2000
- 2007 Full Congressional Authorization
- 2009 Preconstruction, Engineering, and Design (PED) and Permitting
- 2012 PPA (Construction Agreement)
- 2013 Construction begins
- 2015 Completion expected August
- 2015-2020 Post-Construction Environmental Monitoring





Navigation Reevaluation Report Plan Selection/NEPA

- Ship Simulation Studies
- Understanding cross currents effects and navigability.
- Avoid and Minimize impacts to natural resources
- Deepening and minimized widening final recommended Plan.





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US ARMY CORPS OF ENGINEERS | Jacksonville District

Identifying Direct Resource Impacts

Data Collected/Used

- Bathymetric surveys
- Hardbottom diver surveys
- Lidar surveys, including 2009 NOAA surveys
- Side scan sonar surveys
- Spot dive surveys along entire channel
- Video of channel bottom
- Aerial photography

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Data Interpretation

- GIS mapping tools
- Habitat classification datasets
- Channel boundary delineations
- Side slope estimation



Local Environmental Resource Agency (DERM) Channel Bottom Spot Check



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Site 6: Mostly Sand

Identifying Impacts – Inner Channel



Navigation Improvement Plan Selection

- Plan formulation Iteration
- Optimize widths
 - avoid & minimize impacts to resources
- Additional simulations, meetings with Pilots, Resource Agencies, Community Stakeholders, etc...







| Base Contract | Option A | Option B |
|------------------------------|--------------------------|--------------------------------|
| Widen seaward portion | Cut 3 station 0 to Cut 3 | Cut 3 station 12 to |
| of Cut-1 from 500 to 800 | station 12 and | Fisherman's Channel |
| feet; deepen Cut-1 and | Fisherman's Channel | station 17; Local |
| Cut-2 from -44 to -52 | Station 17 to Lummus | sponsor berthing areas |
| feet; reef and seagrass | Island Turning Basin | F.C. station 8 to 17; |
| mitigation area | end; deepen from -42 | deepen from - 42 to -50 |
| construction. | to -50 feet | feet |



Project Scope

Approximately 5,100,000 CY of dredging

- Estimate 4,000,000 CY of Rock
- EPA designated offshore site
- Borrow site north of Julia Tuttle for seagrass mitigation

- Environmental Mitigation

- 11.6 Acres Artificial Reef created off-shore
- Over 1,000 Corals Relocated
- 16.6 acres of Seagrass Mitigation







EPA Designated Offshore Disposal Area

> Miami Harbor, Florida



Seagrass Mitigation Site – restoration of 16.6 Acres

- Location is previous dredge material borrow site for causeway construction (pre 1925)
- Over 500,000 cubic yards dredged material beneficially reused to fill hole to approximately -6 ft MLLW completed
- Select fill cap (5 to 10% fines) to -4ft MLLW +/- 0.5ft
- Turbidity Curtains surrounding placement location
- 7.15 acres of seagrass to be planted during season



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Coral Relocation Completed to Avoid and Minimize Impacts

- Over 1,000 hard corals
- GLDD over 500 hard and soft corals
 > 10 cm + 117 hard corals to Miami
 Science Museum
- 38 Acropora Coral Colonies Relocated
- Additional 200 Acropora corals relocated in November 2014 to local nursery







Artificial Reef Mitigation Areas



- 9.28 acres of Reef Mitigation required, 11.6 acres built
- >3'x3' dimensions for stabilization
- 60% low relief <3ft height
- 40% high relief >3ft height

Adjacent Successful Artificial Reef Mitigation Site



Construction Environmental Resource Monitoring

- Turbidity Monitoring
- Sedimentation Monitoring
- Resource Monitoring
 - •Hardbottom and Corals
 - •Seagrass Beds

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•Divers in the water twice a week



Natural Turbidity in the Bay





Unique Challenges

- Nearly 100% Non-Federal Funding, advanced funding with Corps managing – Florida Sunshine Law
- Permit petitions, ESA lawsuits, local opposition from environmental groups.
- Unexpected discoveries.

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 Temporary influence of massive infrastructure improvement project (marine vessel traffic, noise, sedimentation) has led to adaptive management implementation.

Construction Schedule

- NTP issued July 2013
- Dredging commenced November 2013
- Outer Channel completed April 2015



- Over 3.6 million cubic yards dredged
- On Schedule for Completion
 August 2015





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visit our website

www.miamidade.gov/portofmiami