

# PORTMIAMI™

PREPARING FOR 2015

PRESENTED OCTOBER 2012

PORTMIAMI



# PORTMIAMI Statistics

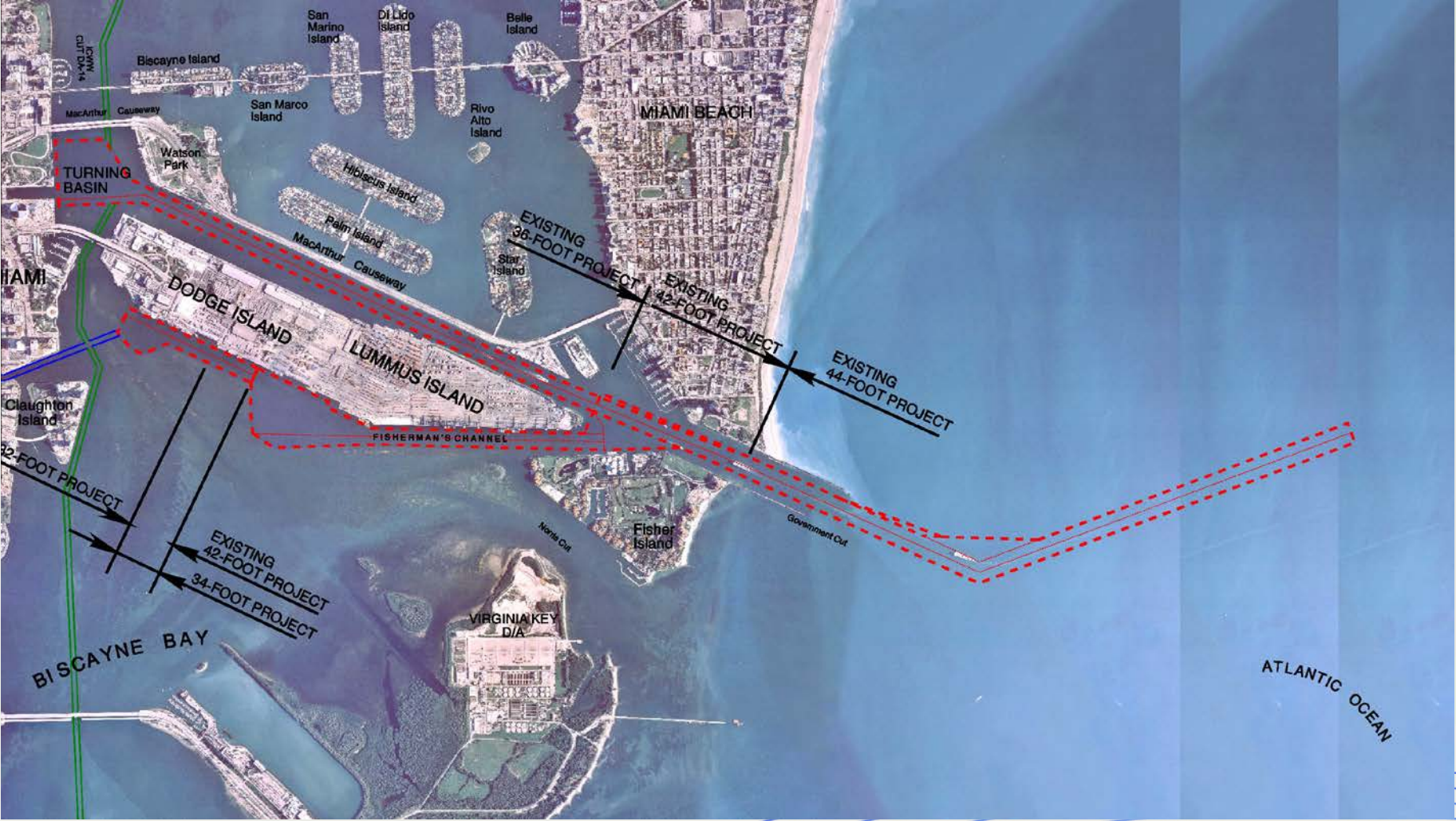
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## Economic Impact: Over \$18 Billion

- Supports 180,000 jobs directly and indirectly
- “Cargo Gateway of the Americas”
  - Approximately 907,607 TEUs
  - Top Trading Partners: China, Hong Kong, Honduras, Dominican Republic, & Germany
  - Top Imports: tiles, textiles, fruits, & vegetables
- “Cruise Capital of the World”
  - More than 4 million passengers
  - Homeport for 31 cruise ships (including Azmara Club Cruises, Carnival Cruise Line, Royal Caribbean Cruise Line, MSC, Costa Cruises, Norwegian Cruise Line, Disney Cruise Line, Celebrity Cruises, Regent Seven Seas Cruises & Oceania Cruises)

# PORTMIAMI Today

Miami Harbor, Florida



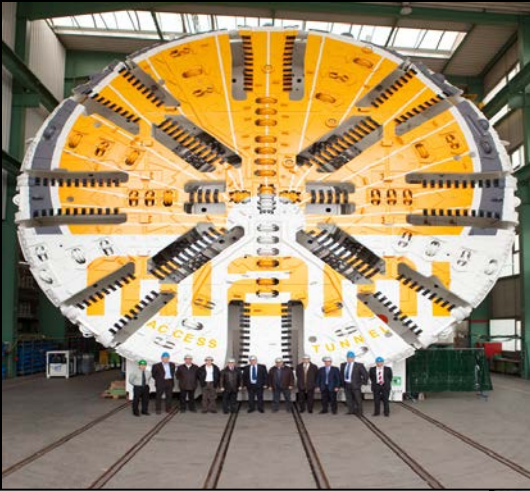
# PORTMIAMI Tomorrow



PORTMIAMI.

# How We Get There

Tunnel



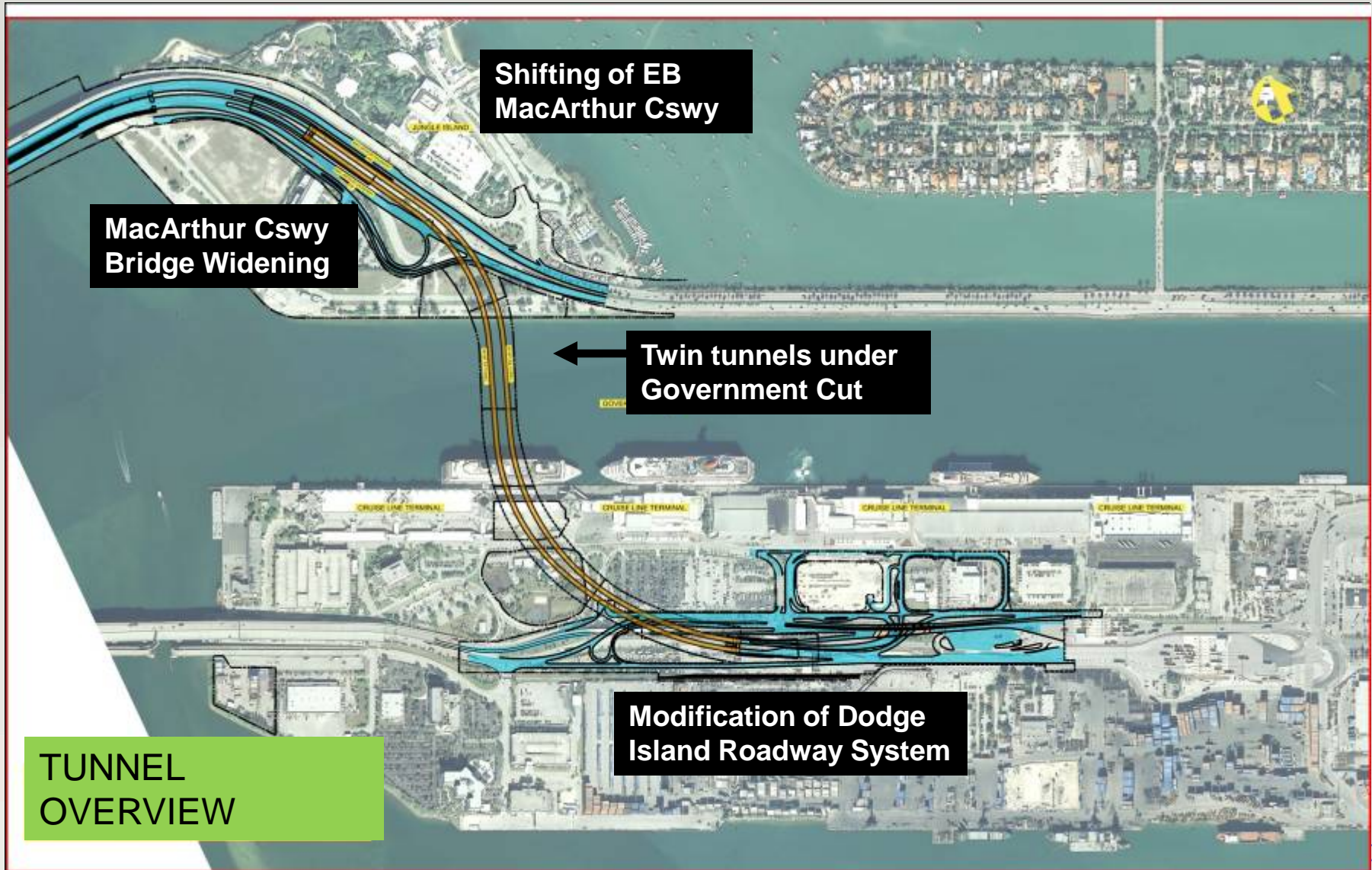
Rail



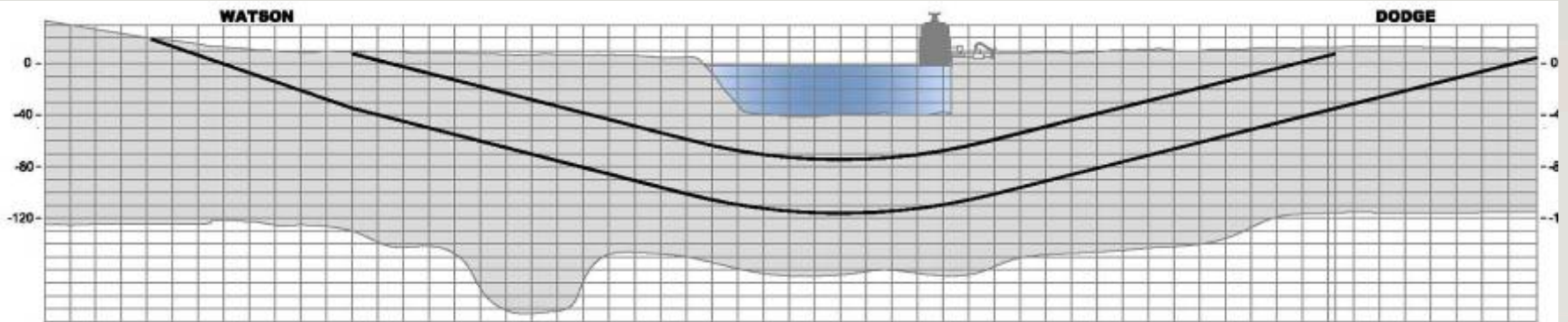
Dredge



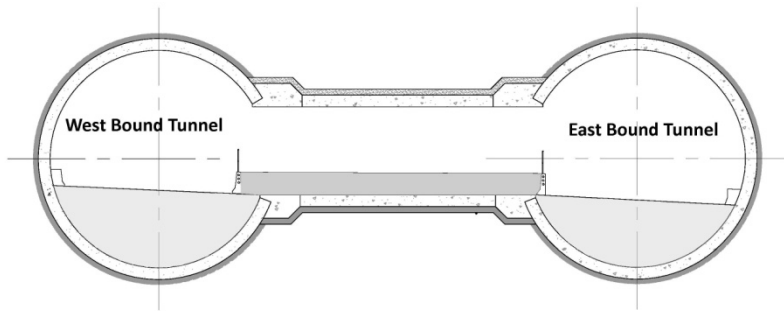
# TUNNEL PROJECT



# TUNNEL VERTICAL ALIGNMENT & SECTION



Cross Passage between tunnels



**Tunnels are 3900 ft. long**

**+40 ft. under the bottom  
of Government  
Cut**

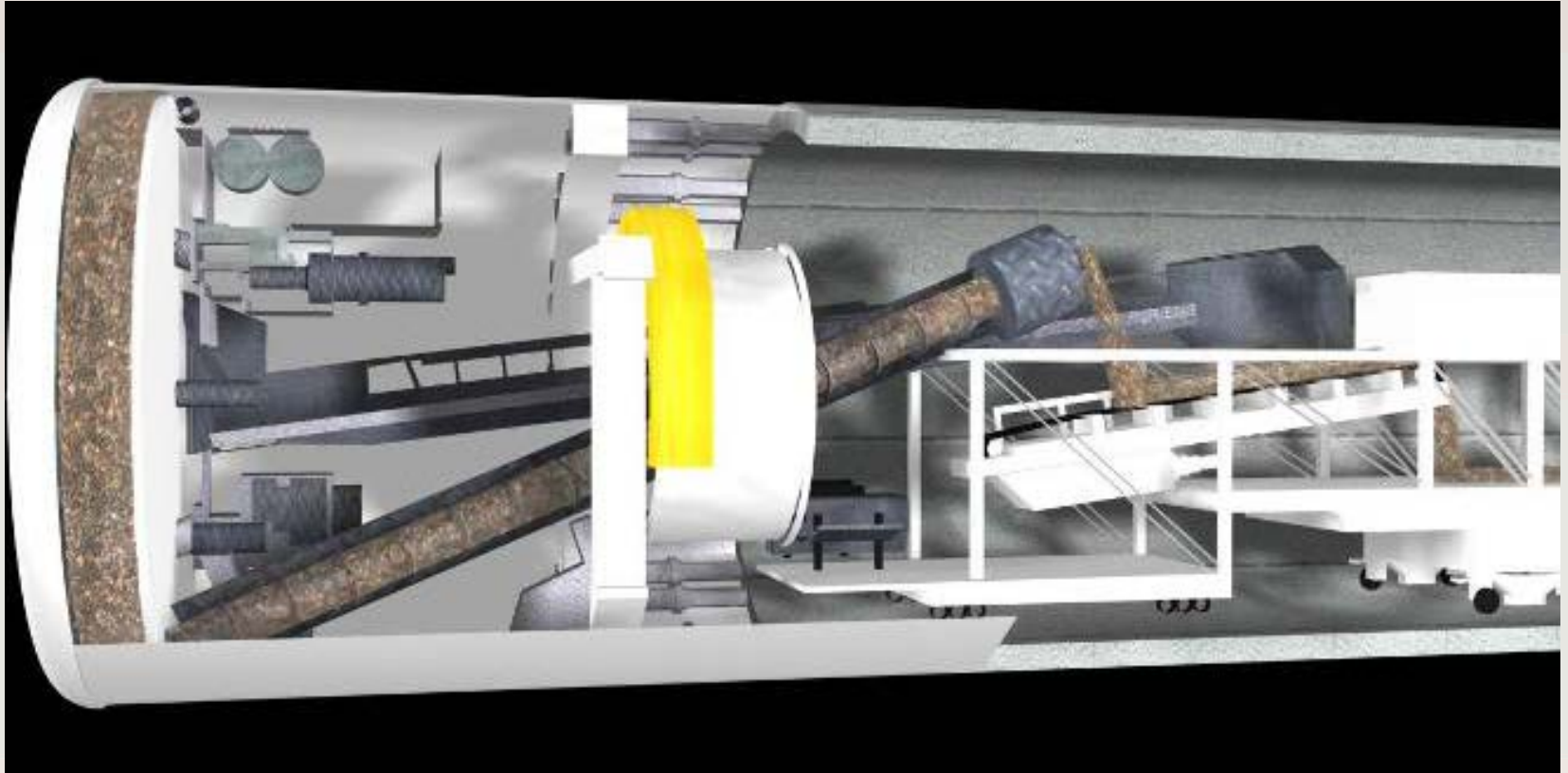
**5% Grade**

**5 cross passages**

**Halfway there!**



# TUNNEL BORING MACHINE





# RAIL INTERMODAL & RECONNECTION

*PORTMIAMI AWARDED \$22.7 MILLION IN FEDERAL FUNDING to  
FAST TRACK RESTORATION of RAIL FREIGHT SERVICE*

**TIGER GRANT:** Expand PortMiami capacity  
to facilitate growth

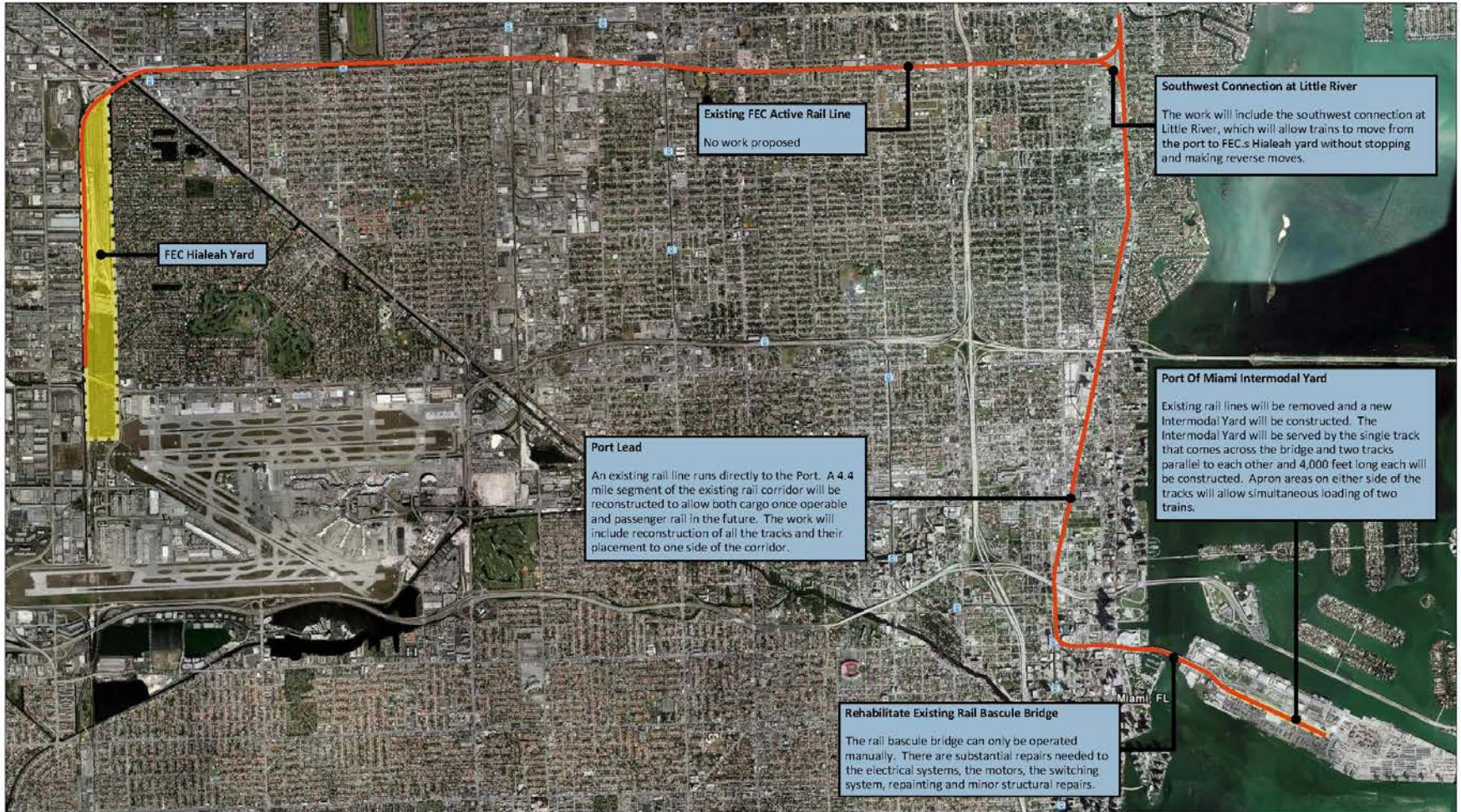
**PROJECT COST :** \$46 M

**PROJECT GOALS:**

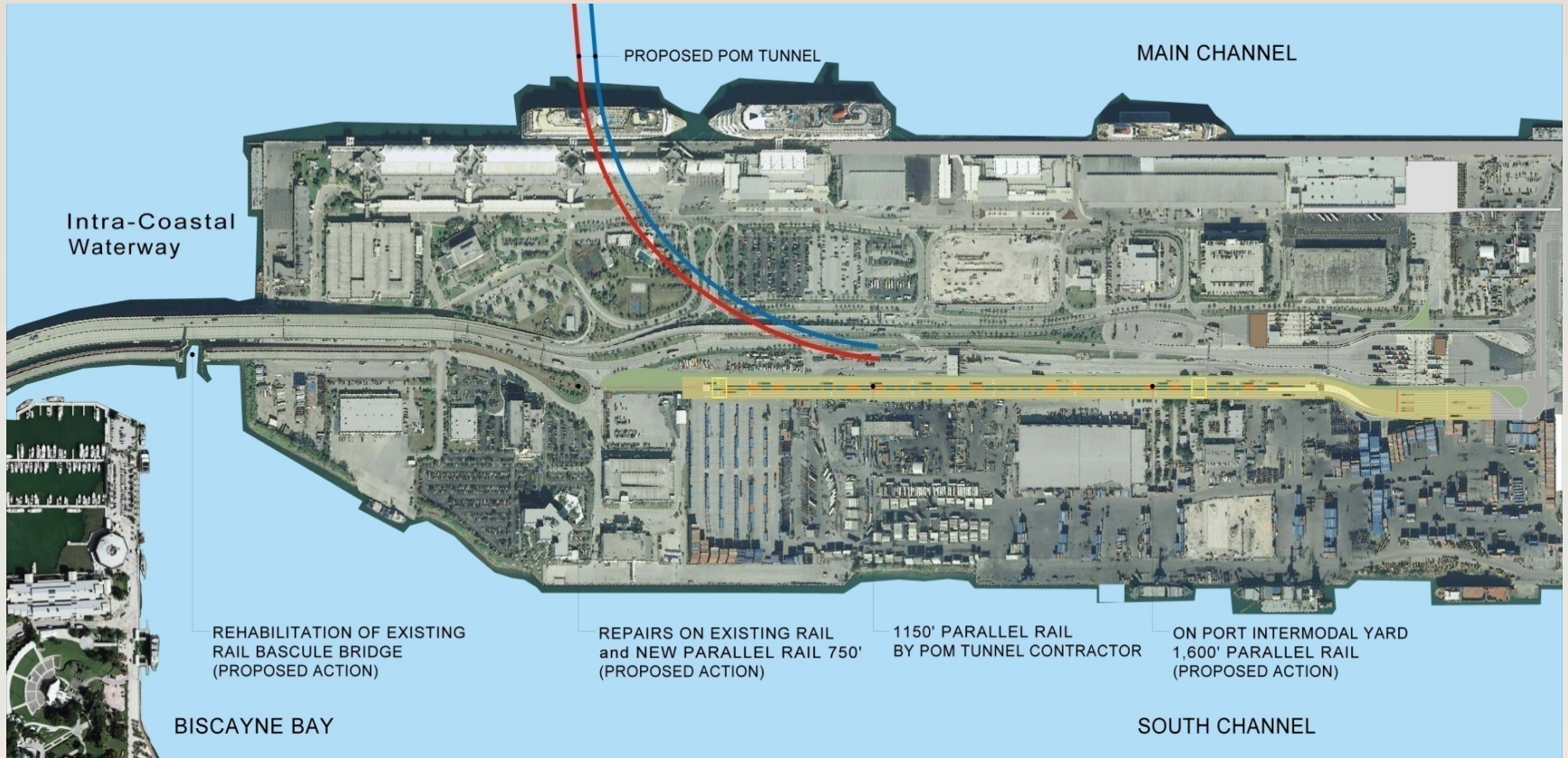
- Reduce truck-generated congestion and diesel emissions
- Establish the most cost effective logistical network for shipping containers
- Restore the freight rail connection from PortMiami to the Florida East Coast Railway – Hialeah Yard located northwest of MIA.
- Prepare rail corridor for future passenger traffic



# ROUTE: PORTMIAMI to FEC RAIL YARD HIALEAH

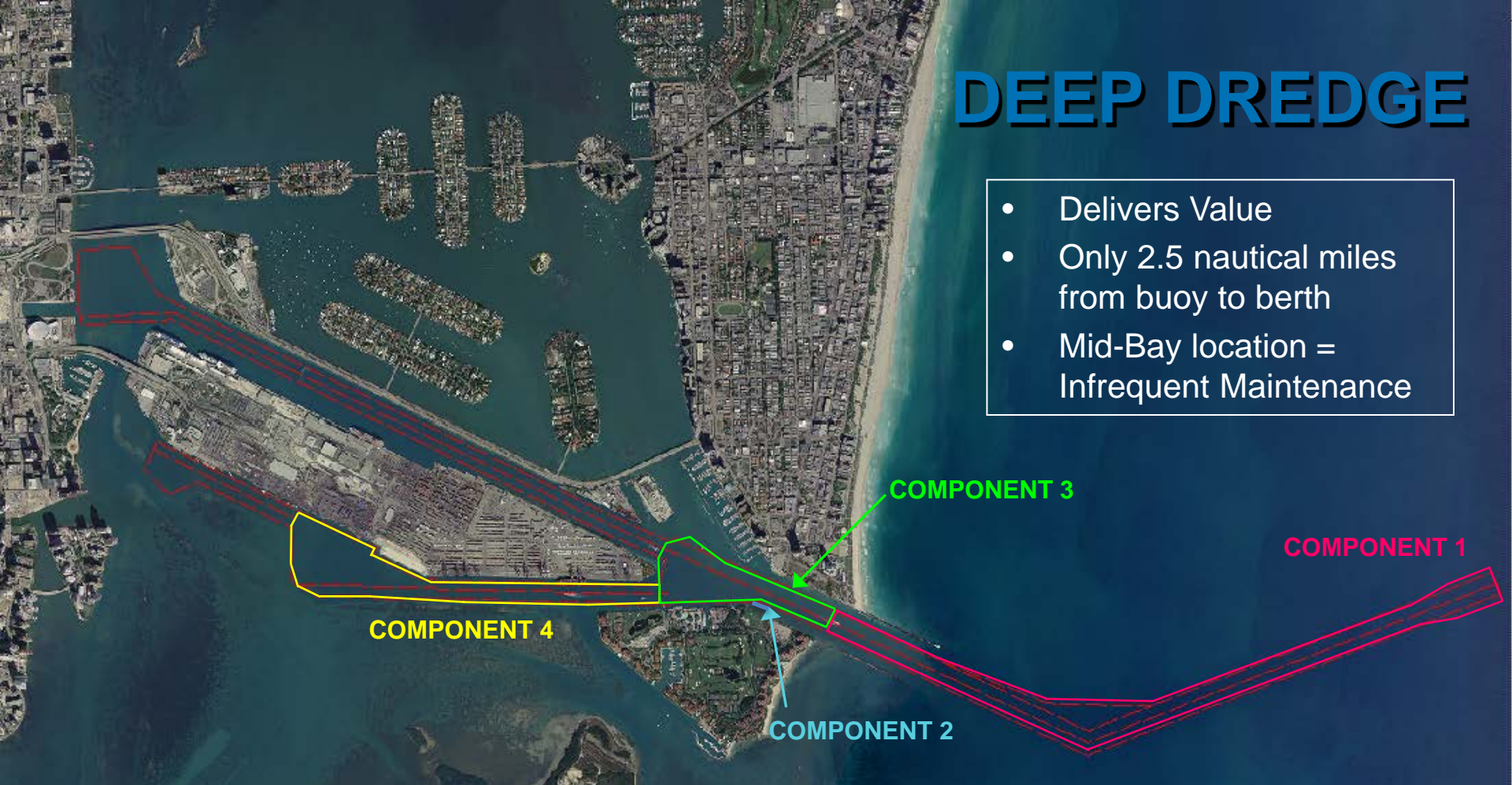


# CONSTRUCTION of PORTMIAMI INTERMODAL YARD



# DEEP DREDGE

- Delivers Value
- Only 2.5 nautical miles from buoy to berth
- Mid-Bay location = Infrequent Maintenance



## Component 1:

Widen seaward portion of Cut-1 from 500 to 800 feet; deepen Cut-1 and Cut-2 from 44 to 52 feet

## Component 2:

Add turn widener at the southern intersection of Cut-3 with Fisherman's Channel and deepen to 50 feet

## Component 3:

Increase Fisher Island turning basin from 1200 to 1500 feet; truncate NE section of the turning basin to minimize seagrass impacts; deepen from 42 to 50 feet

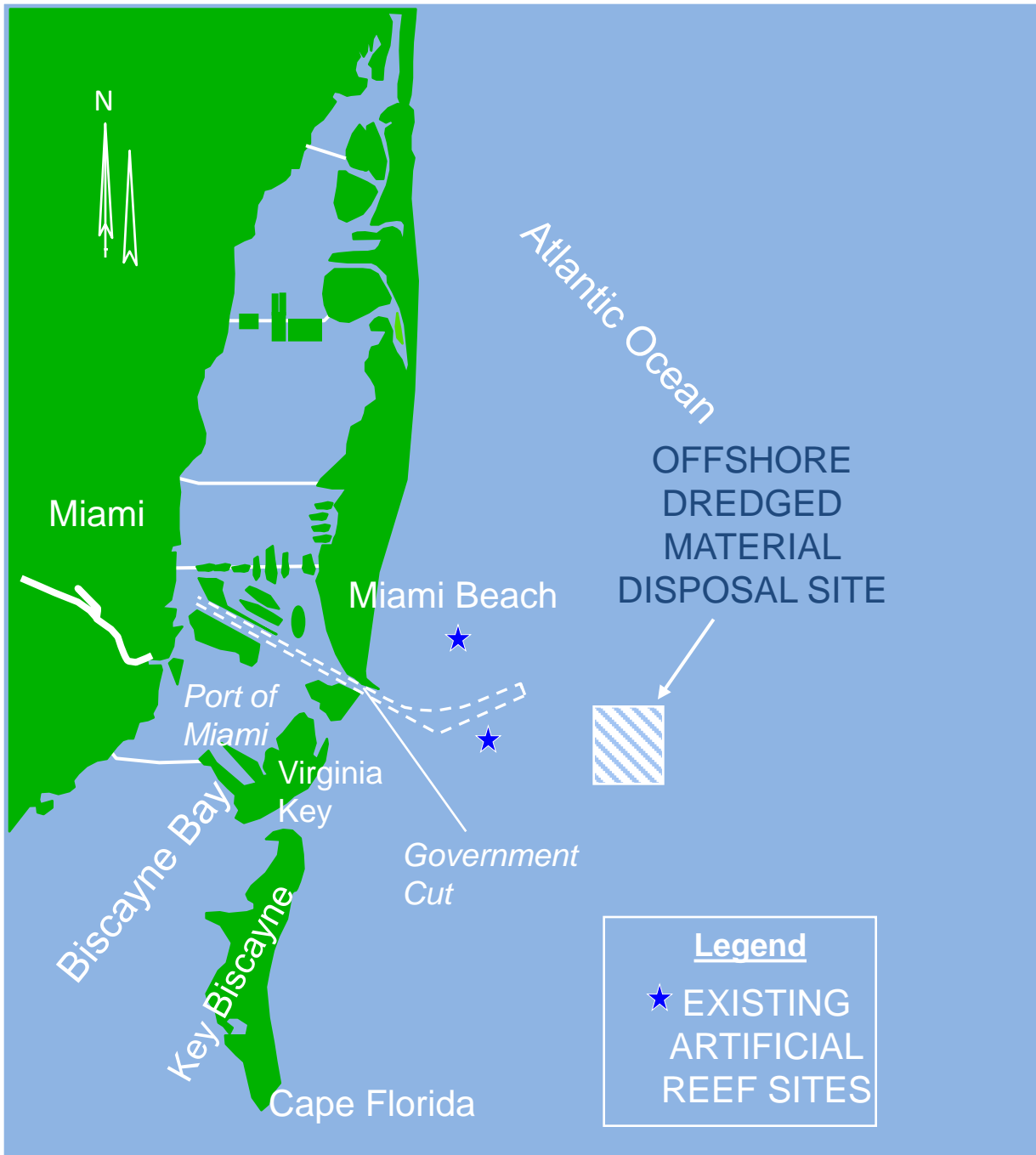
## Component 4:

Expand berthing area by 60 feet and widen southern edge of Fisherman's Channel 40 ft; reduce Lummus Island turning basin to a 1500 ft dia.; deepen from 42 to 50 ft

# Project Scope

## Request for Proposal

- **Approximately 5,000,000 CY of dredging**
  - EPA designated offshore site
  - Rock material for artificial reef habitat
  - Borrow sites for seagrass mitigation
- **Estimate 4,000,000 CY of Rock**
- **Confined Blasting will be Allowed**
- **All Environmental Permits are in Place**

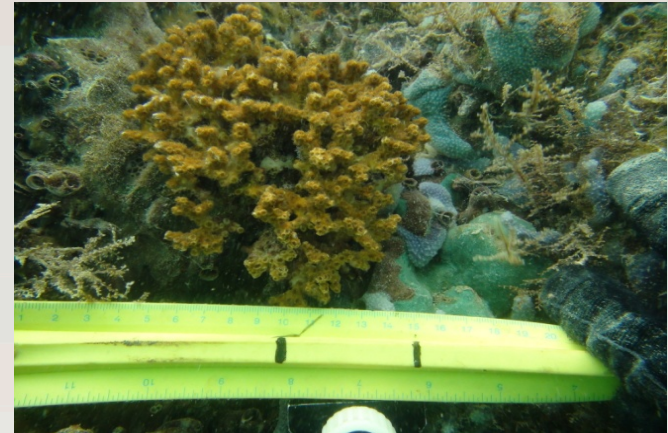


# Offshore Disposal Area

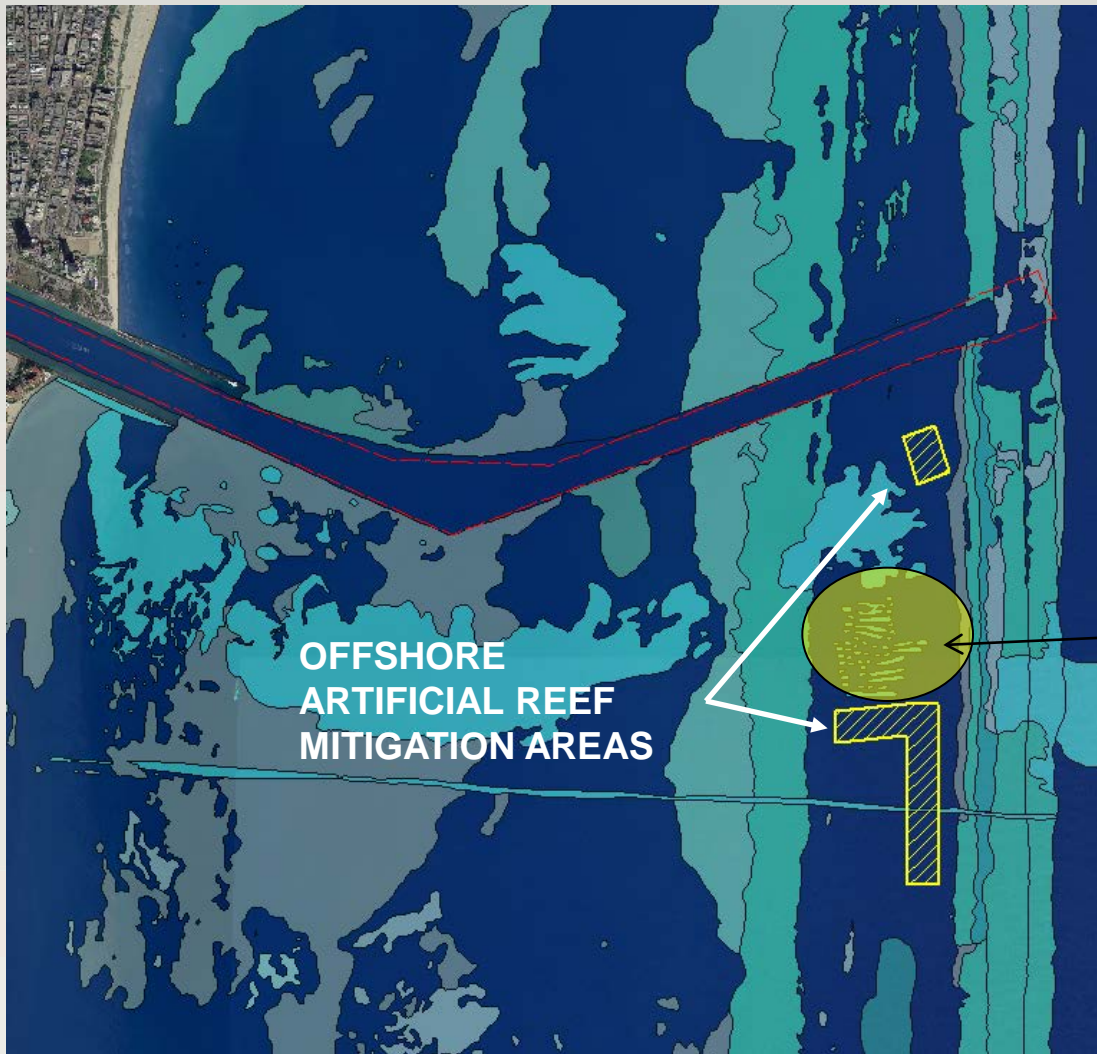
Miami Harbor, Florida

# Mitigation for Hardbottom Impacts

- Artificial Reef Creation
  - 9.28 acres
- Coral Relocation
  - All hard corals >25cm
  - Up to 1300 hard corals between 10 and 25 cm



# Artificial Reef Mitigation Areas



Reef Mitigation Sites  
have capacity of 40  
acres



**ADJACENT SUCCESSFUL  
ARTIFICIAL REEF  
MITIGATION SITE**



## Julia Tuttle Seagrass Mitigation Area



### ■ Seagrass Mitigation Site

- Location is previous dredge material borrow site for causeway construction (pre 1925)
- Surrounded by healthy seagrasses
- Turbidity Curtains will surround the restoration site
- Restoration of 16.6 acres of seagrass, 7.15 acres to be planted

MacArthur Causeway

Fisherman's Channel

Government Cut

Biscayne Bay, FL



**Post construction success is expected to be high since the area is surrounded by existing high density seagrass beds**

# Construction Monitoring

- Turbidity Monitoring
- Sedimentation Monitoring
- Secondary Impacts
  - Hardbottom and Corals
  - Seagrass Beds
- Divers in-water twice a week to monitor resources



Natural Turbidity in the Bay



Typical Sedimentation Station

# Construction Techniques

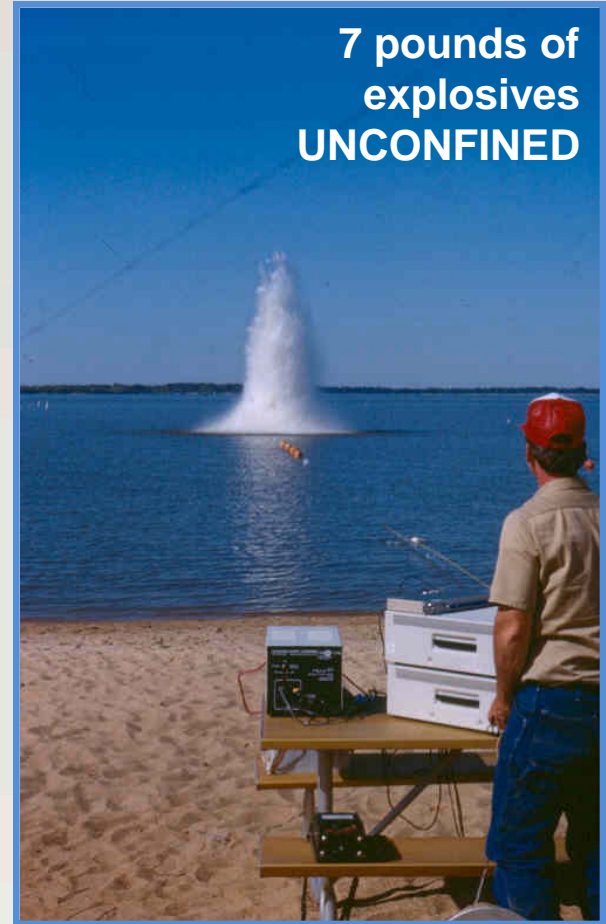
- Full-time environmental manager
- Utilize standard manatee protection protocols
- Utilize confined blasting- 90% less impact as compared to unconfined blast
  - Utilize safety zones to protect animals from effects
  - Observers on vessels and in the air
  - Up to 2 confined blast events a day, only during daylight
  - Stagger charges- lessen pressure waves

# Confined vs Unconfined Blasts

3000 pounds of  
explosives  
CONFINED



7 pounds of  
explosives  
**UNCONFINED**



# Typical Blast Timeline

**- 2 HOURS**  
Notice to Project Team and Local Authorities

**- 1 HOUR**  
Marine Mammal Watch Begins



**- 15 MINUTES**  
Notice to Mariners (channel closes)

**- 1 MINUTE**  
Fish Scare



**DELAY CAPSULE:** If an animal is observed in either the danger or safety zones, the blast is delayed to monitor the animal until it leaves, on its own, from both the danger and safety zones.

**BLAST DETONATION**



**+ 5 MINUTES**  
All Clear Signal

**+ 30 MINUTES**  
Marine Mammal Watch Ends

# Project Schedule

- Summer 2012 Design and Permitting Complete
- Fall 2012 Advertise
- Winter 2013 Award Contract
- Spring 2013 Commence Work
- Spring 2015 Complete Work  
& OPEN for Deeper Draft Vessels!



# Thank You



**PORTMIAMI**

**For more information  
visit our website  
[www.miamidade.gov/portofmiami](http://www.miamidade.gov/portofmiami)**