

Venetian Causeway Bridges PD&E Study

The Study addressed the structural and functional deficiencies of the 12 existing bridges (built in 1926) on the historic Venetian Causeway through replacement or rehabilitation.

Class of Action: Environmental Assessment/Finding of No Significant Impact (EA/FONSI)

Location Design Concept Acceptance: December 15, 2022

FDOT District 6 Secretary: Stacy L. Miller, P.E.

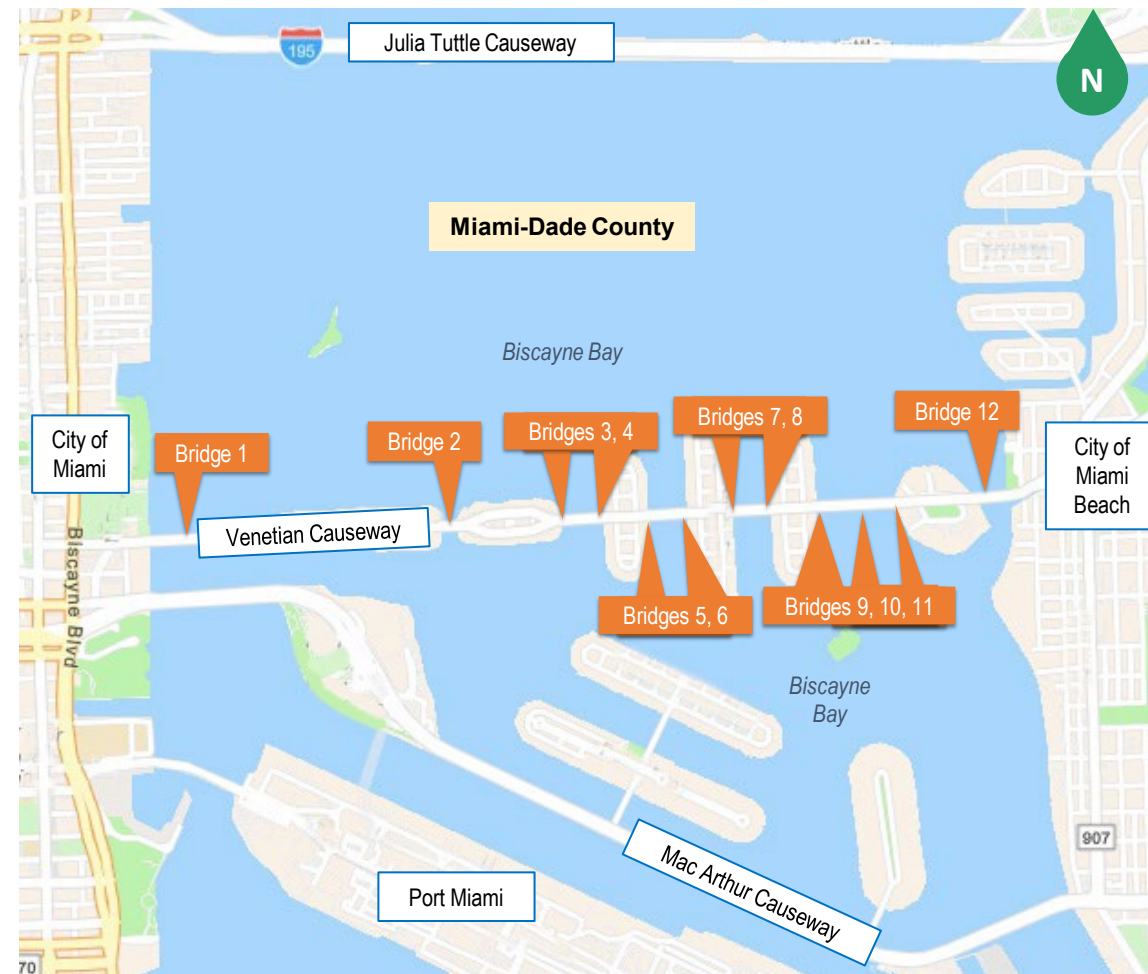
FDOT PM: Dat Huynh, P.E.

EAC Consulting PM: Rick Crooks, P.E.

Prime: **EAC Consulting, Inc.**

Subconsultants:

- Clary Consulting, LLC
- Concorr of Florida, Inc.
- Brand Advocates, Inc.
- AECOM
- Geosol, Inc.
- HBC Engineering Company
- Janus Research
- Kimley-Horn and Associates
- Manuel G. Vera and Associates, Inc.
- INTERA, Inc.
- Stantec, Inc.
- Touchstone Architecture & Consulting



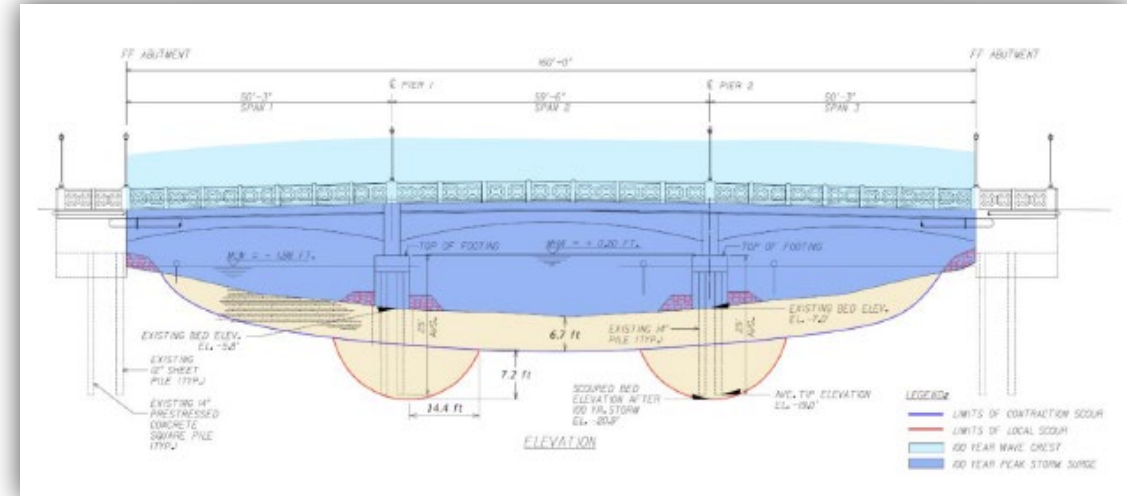
Cultural Resources: The Venetian Causeway is listed in the **National Register of Historic Places**, bridges with arched concrete beams, ornamental railings and light poles. **CRAS** and **Section 4(f)** documentation performed.

Engineering:

- **Rehabilitation vs Replacement** - no prudent or feasible alternative to Replacement
- **Sea-Level-Rise mitigation** - the Vertical alignment of bridges raised one foot above the existing vertical clearance.
- **Resiliency** - The bridge conceptual design required resiliency measures to account for the bridges' proximity to the harsh marine environment.
- **Wave Forces** - Superstructure and substructure resistant to wave loads and scour.
- **Utilities** - Relocate water, sewer and other utilities subaqueous or embed in bridge deck.
- **Bicycle Accommodations** – Typical section can accommodate buffered or separated bike lanes.
- **Maintenance of Traffic** - critical to maintain access by the residents.

Environment: The location in the environmentally sensitive Biscayne Bay resulted in the **U.S. Army Corps of Engineers** and **U.S. Coast Guard** being cooperating agencies. Extensive coordination with numerous environmental agencies to determine measures to protect the environment

Public Involvement: The project traversed the cities of **Miami** and **Miami Beach** within Miami-Dade County, through a neighborhood with active residents and homeowner associations. The residents requested the appearance of the bridges be maintained.



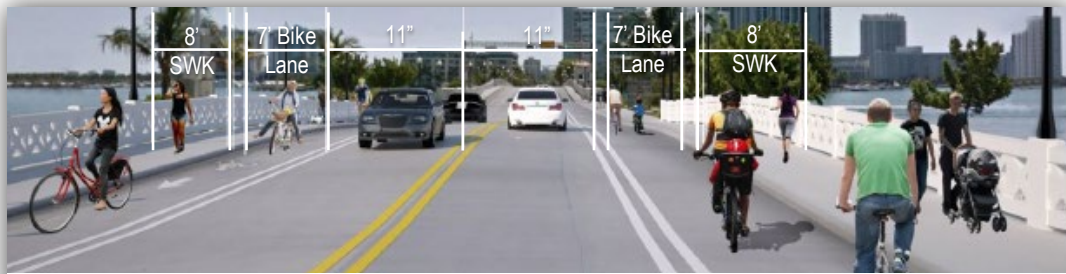


Figure 3: Fixed Bridge Typical Section

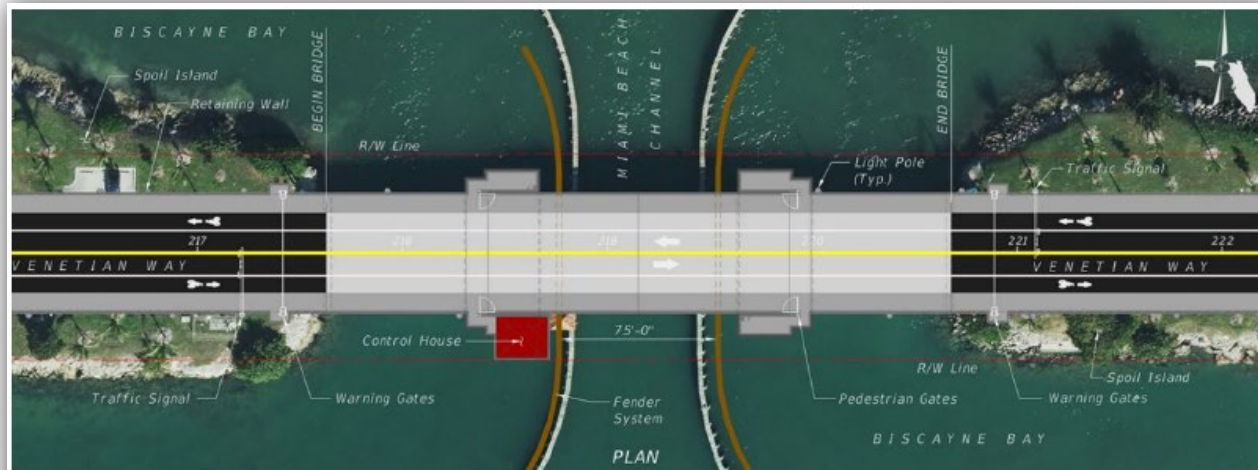


Figure 5: Bascule Bridge Plan and Elevation

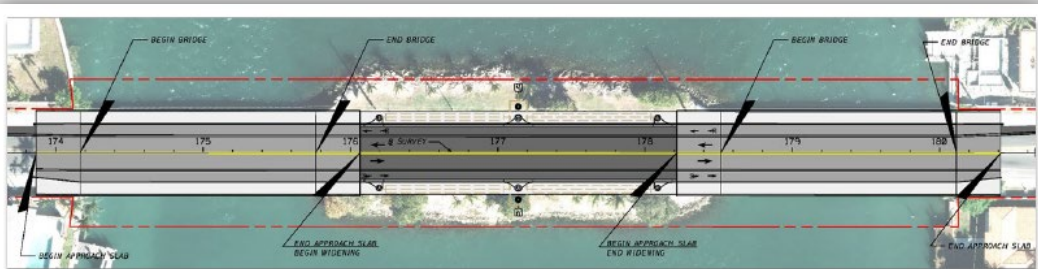
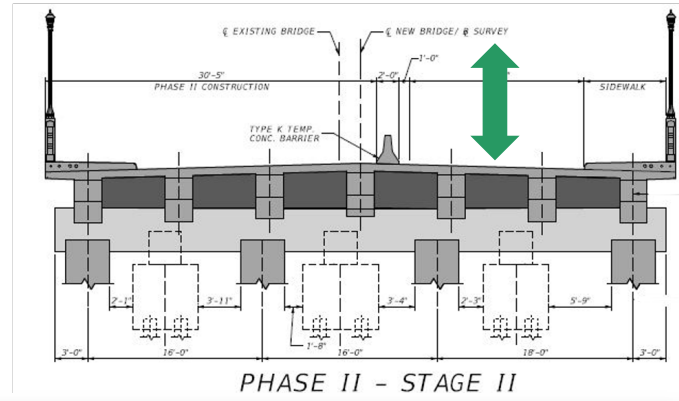
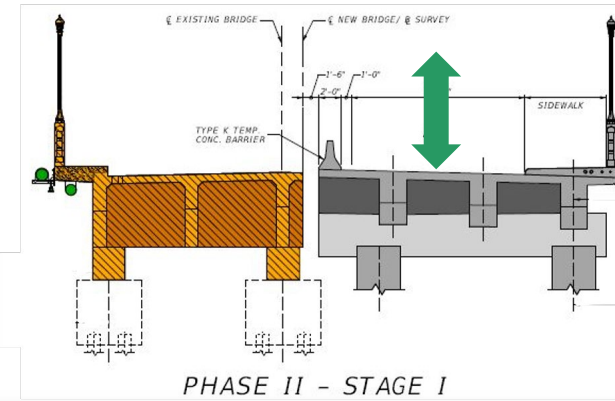
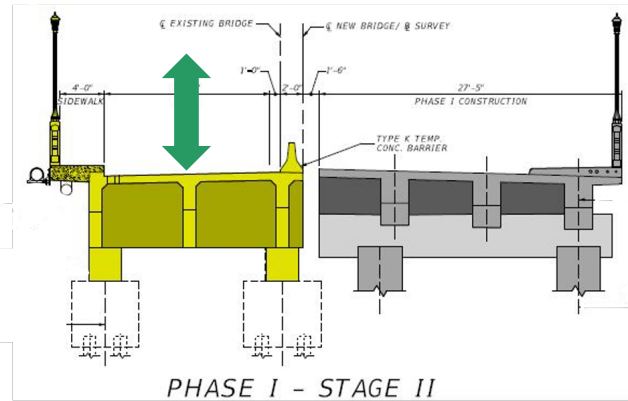
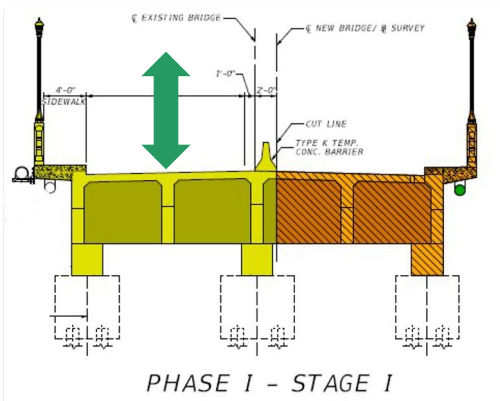


Figure 4: Fixed Bridge Plan and Elevation



The causeway is the only vehicular means of access for the residents of the Venetian Islands, is a hurricane evacuation corridor and its bridges are classified as critical structures for public safety

Phased Construction with Temporary Bridge

- 48 Months Construction Duration
- 1 Lane 2-Way (Pedestrians & Bike Access)
- Temporary Bridge at East Bascule
- Limit Access Impacts to One Island at a Time

