



VETERANS MEMORIAL BRIDGE



Veterans Memorial Bridge (Orange Avenue) PD&E Study

From City Island Parkway to South Peninsula Drive

**FDOT FPID# 242172-128-01
Volusia County Project# P-5351-1**

Project Limits





**Intracoastal
Waterway**

Daytona Beach

US 92 Bridge

**City
Island**

**Veterans
Memorial Bridge**



Structurally Deficient

FDOT Sufficiency Rating – 31.1
Scale 1 - 100



Structurally Deficient

Concrete Deterioration



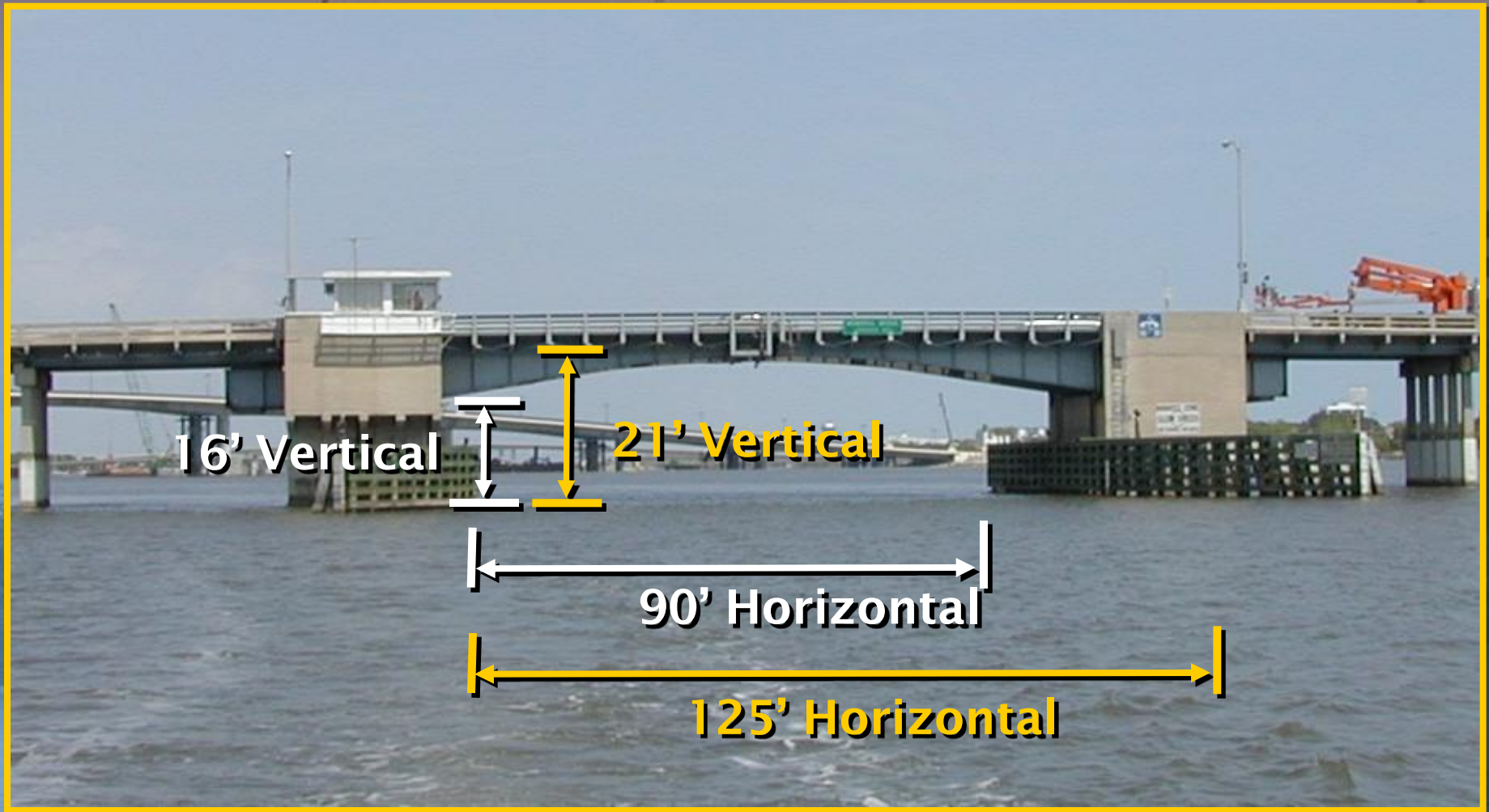
Movable Span



Functionally Obsolete



Does Not Meet US Coast Guard Guidelines



US Coast Guard Regulates Opening Schedule

Existing Bridge Opens 6 – 17 times per day



PD&E Study

- Meet Transportation Needs
- Minimize/Avoid Impacts
- Required by NEPA
- Required for Federal Funding



PD&E Process

- Engineering, Social & Environmental Studies
- Community Involvement
- Develop and Evaluate Alternatives
- Select Preferred Alternative
- Obtain FHWA Approval

Community Input

- Alternatives Workshop
- Meet with Stakeholder Groups
- Coordinate with Local Government
- Public Hearing
- Project Website



Alternatives

- **No Build**
- **No Build/ Removal of Existing Bridge**
- **Rehabilitation**
- **Replacement**
 - Movable Bridge - 28' Vertical Clearance**
 - High-Level Fixed Bridge - 65' Vertical Clearance**

No Build Alternative

- Existing Bridge Remains
- Routine Maintenance Only
- No Major Improvements



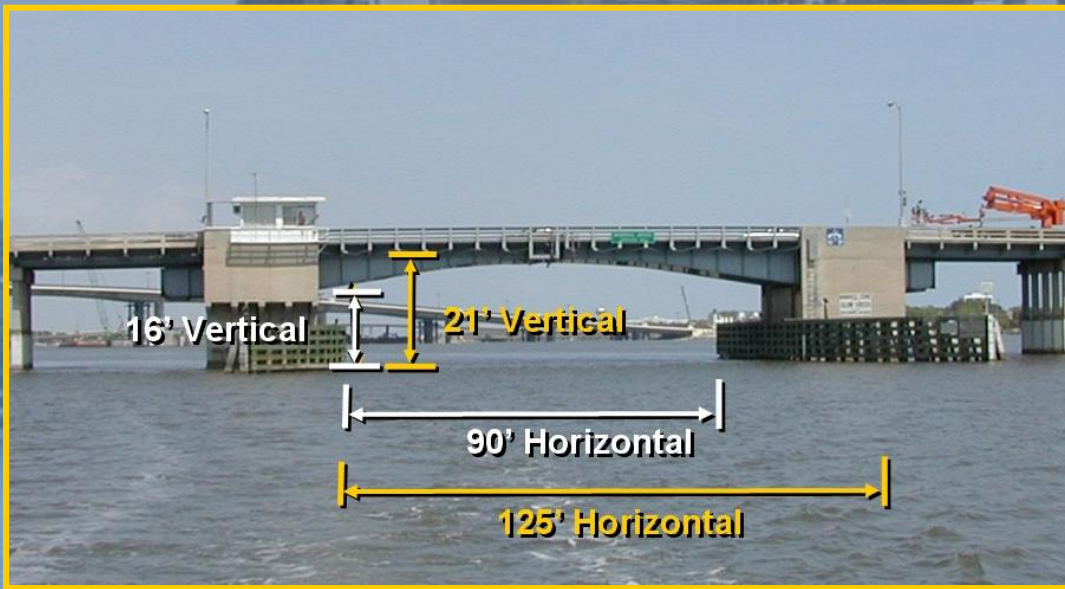
10 Years Remaining Service Life

No Build Alternative Removal of Existing Bridge

- **Routine Maintenance Only**
- **No Major Changes**
- **Existing Bridge Demolished
After 10 Years**



Rehabilitation



15 Years
Remaining
Service
Life

Replacement Alternatives

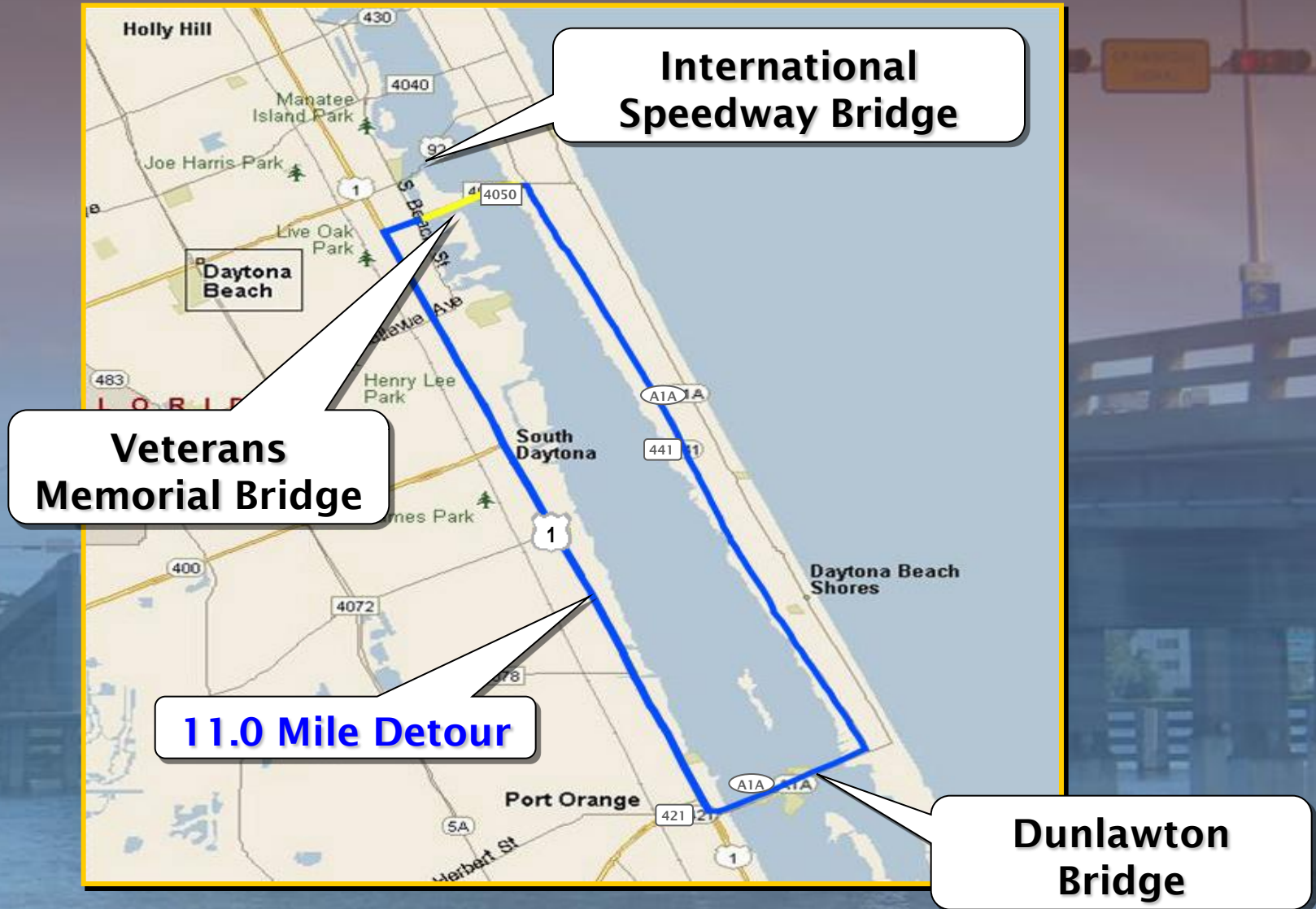
**New High Level or Movable
Bridge in Same Location**



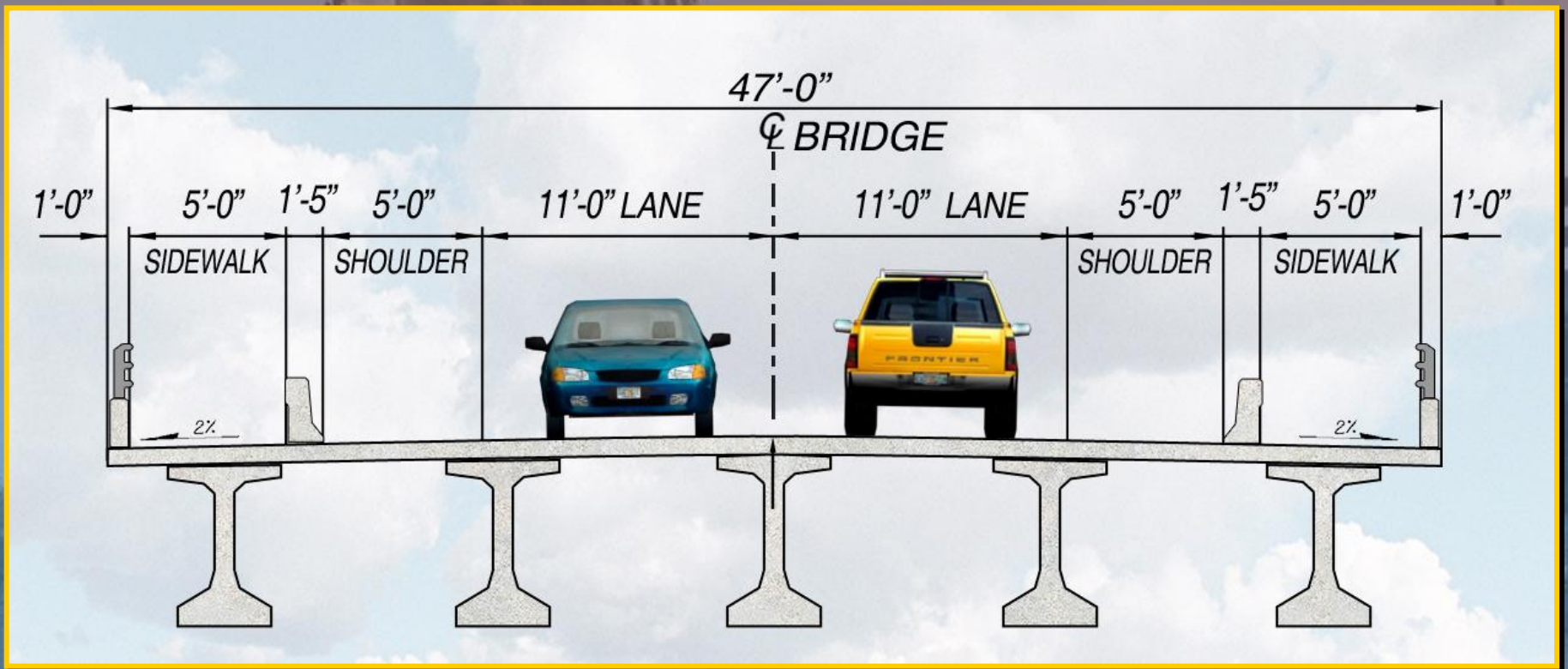
Two Year Detour



Two Year Detour



Proposed Typical Section



Movable Bridge

- 28 feet Vertical Clearance
- 125 feet Horizontal Clearance
- Reduce Openings by 30 percent



Rendering – Not Actual Design

High-Level Fixed Bridge

- 65' Vertical Clearance
- 125' Horizontal Clearance



Rendering – Not Actual Design

East Side

High Level Alternative

Rendering - Not Actual Design

High Level and Movable
No Impacts to
Driveways



West Side

View from Chamber of Commerce



High Level
Alternative

Rendering - Not Actual Design

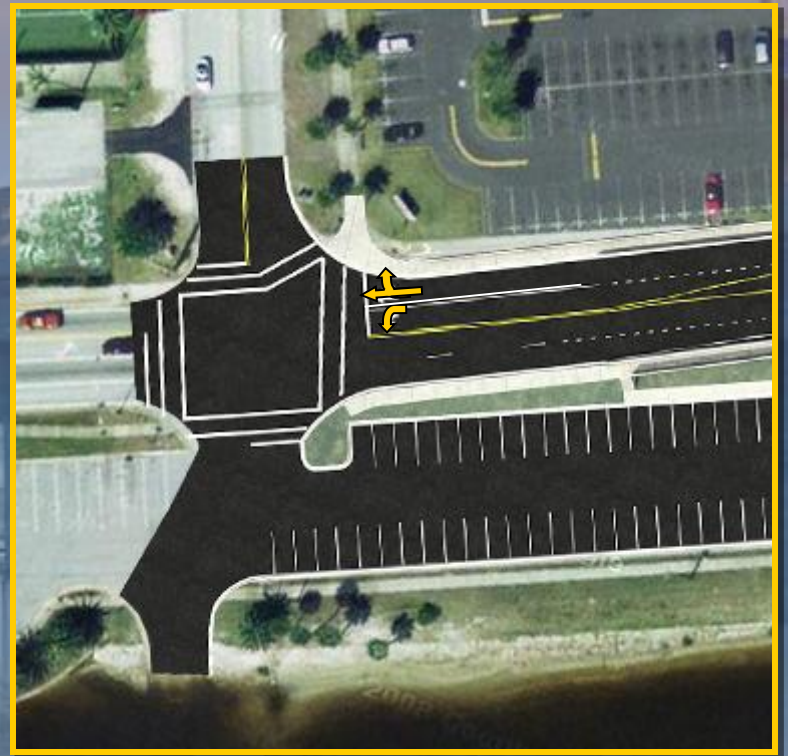
West Side of Bridge



**Driveway
Closed**

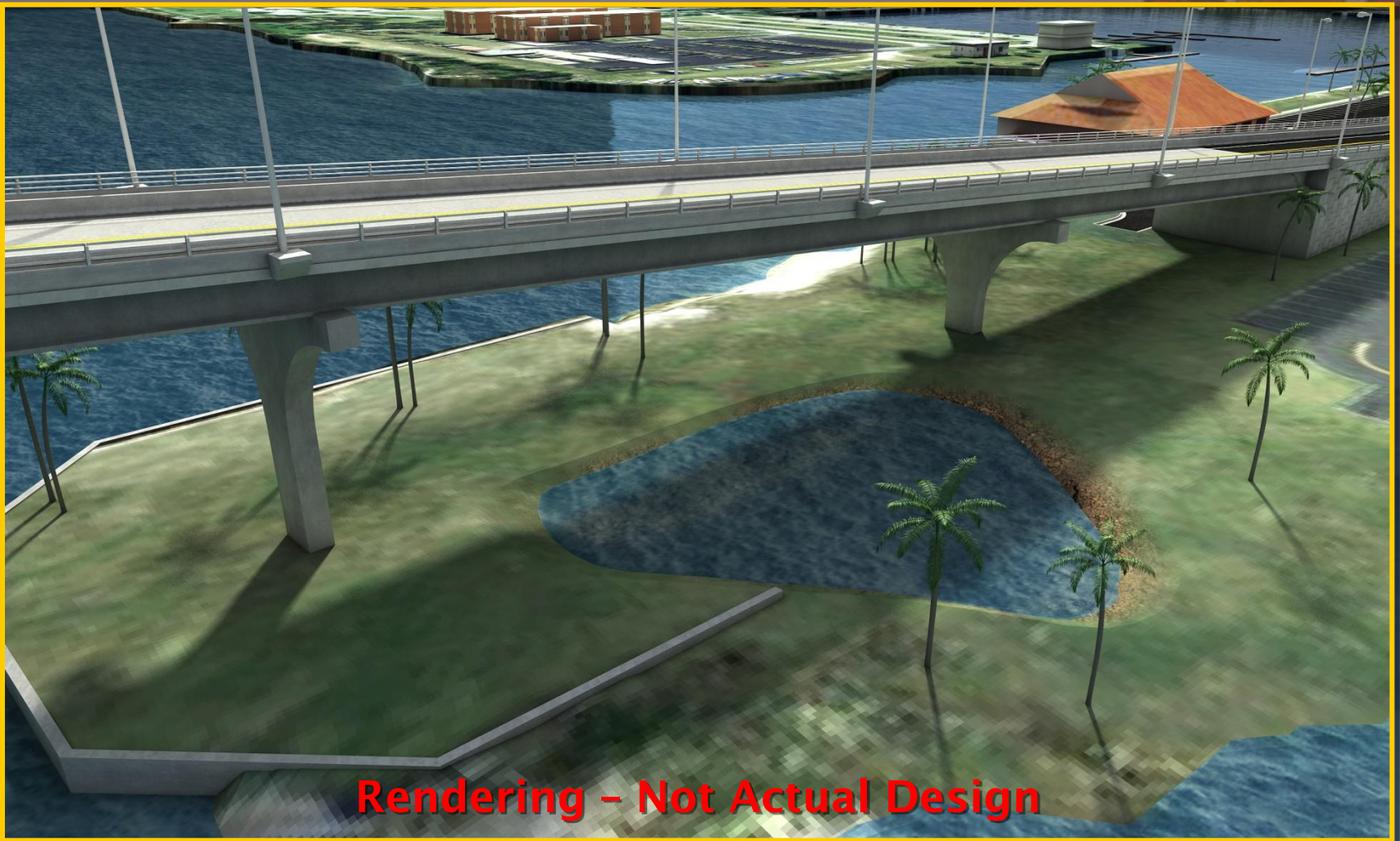


City Island Parkway Intersection Changes High Level Bridge



West Side of Bridge

Proposed Storm Water Pond



Rendering – Not Actual Design

Memorial to Veterans



Wetland Impacts

Movable and High-Level Alternatives

0.04 Acre Impacted



Wildlife

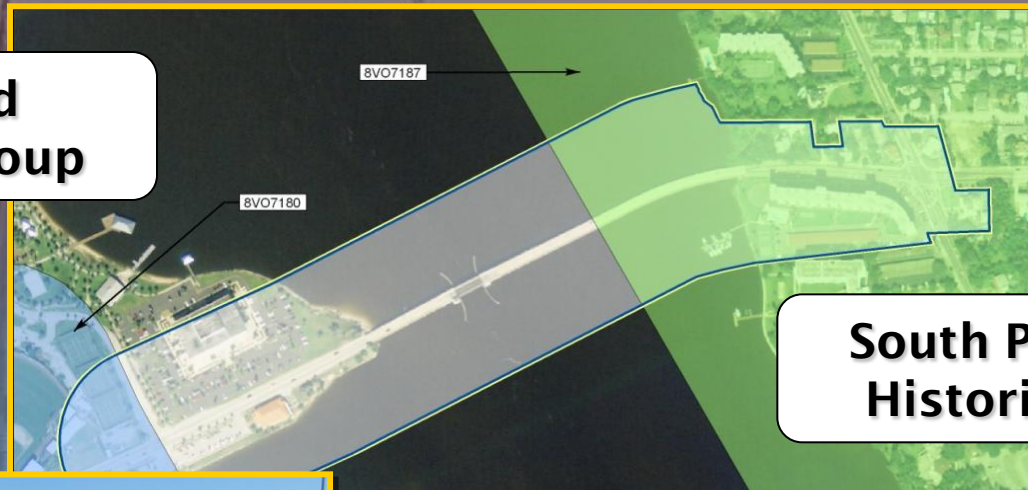
Minimal Impacts to Protected Species



Historic Resources

No Direct or Indirect Impacts

**City Island
Resource Group**



**South Peninsula
Historic District**

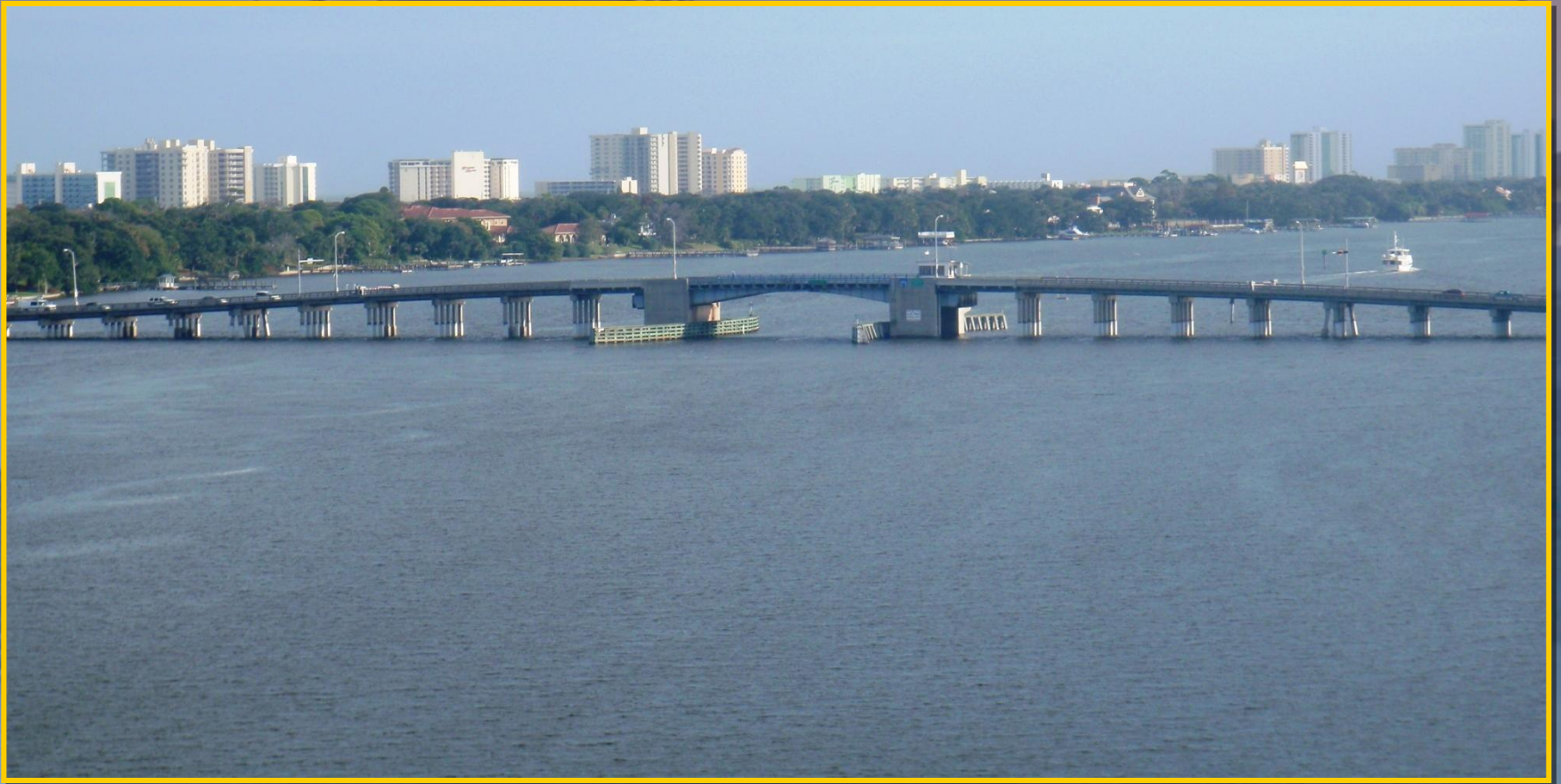


Proposed Area of Impact
NRHP-Listed Resource
8VO7180 - City Island
8VO7187 - South Peninsula Historic District



Historic Resources

Existing Bridge – Not Eligible for Listing
in National Register of Historic Places



Noise

New Bridge

No Noticeable Change in Noise Levels



Visual Impacts



Rendering - Not Actual Design



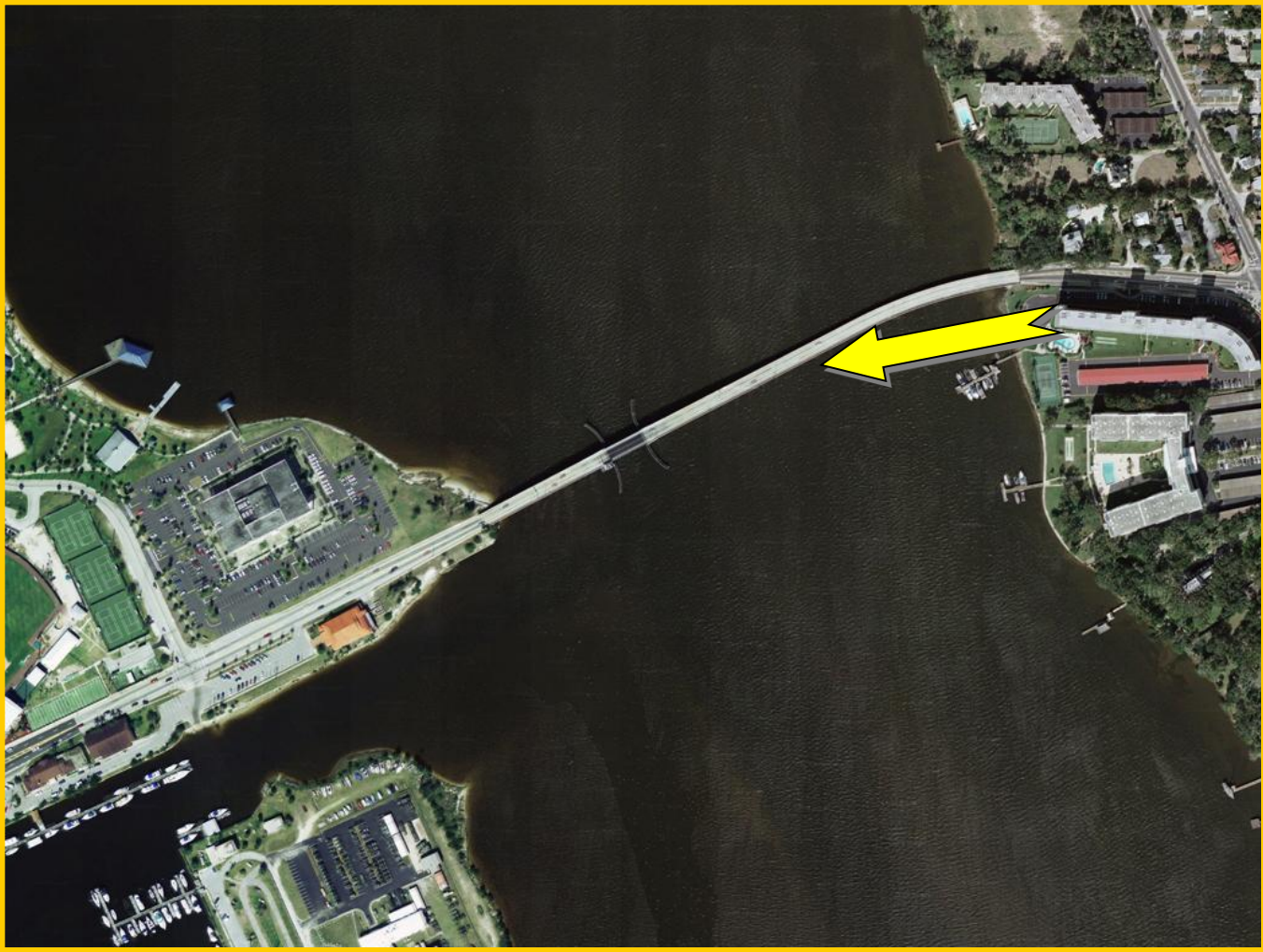
Rendering - Not Actual Design

Simulations of Alternatives



View from Riverplace 100 Condominiums

Photo Location and View Direction



View from Riverplace 100

Existing Bridge



View from Riverplace 100

Proposed Movable Bridge



Rendering - Not Actual Design

View from Riverplace 100

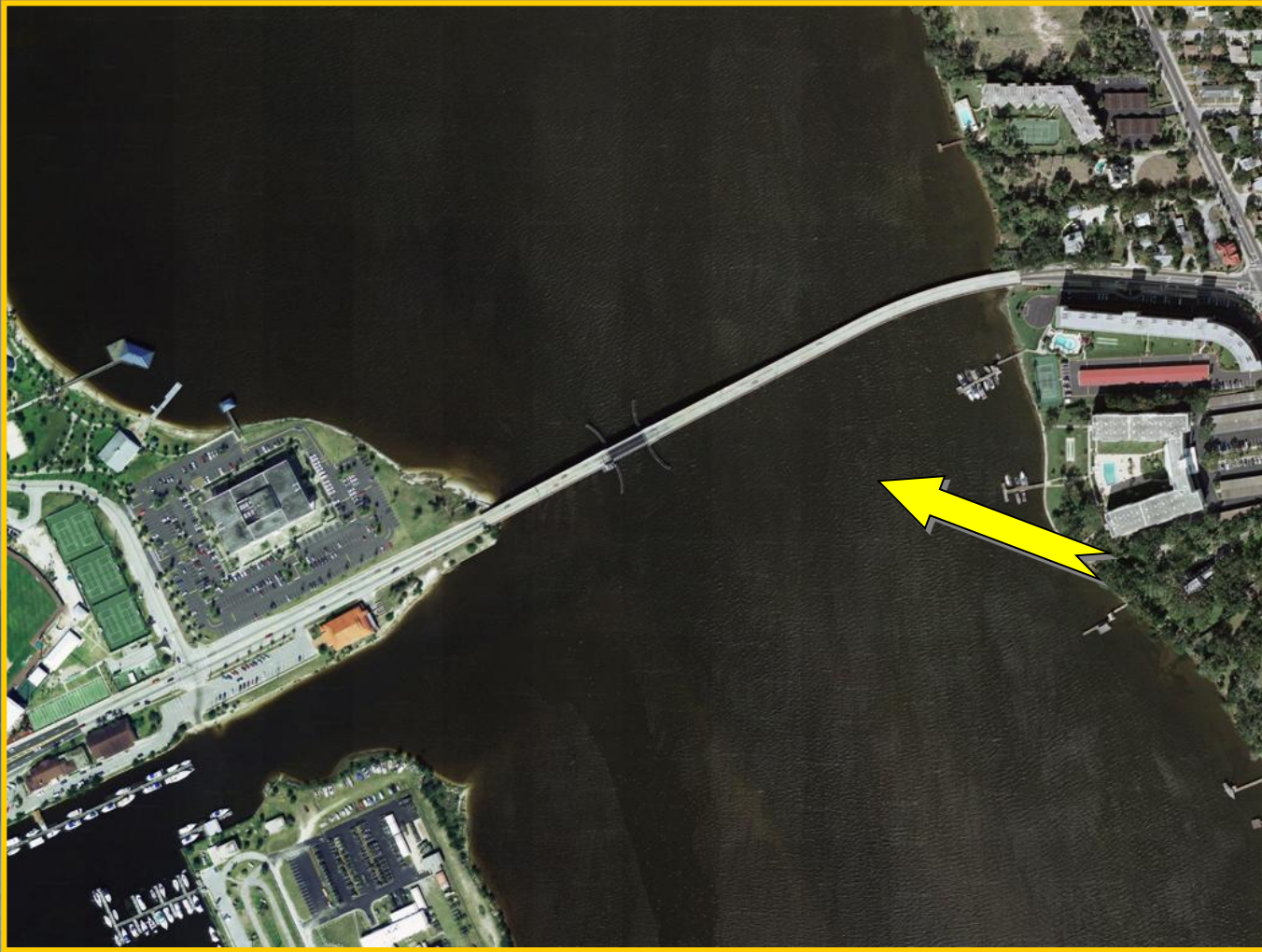
Proposed High-Level Bridge



Rendering - Not Actual Design

View from Shore South of Bridge East Side at Pendleton Condominiums

Photo Location and View Direction



View from Shore South of Bridge East Side at Pendleton Condominiums

Existing Bridge



View from Shore South of Bridge East Side at Pendleton Condominiums

Proposed Movable Bridge



Rendering - Not Actual Design

View from Shore South of Bridge East Side at Pendleton Condominiums

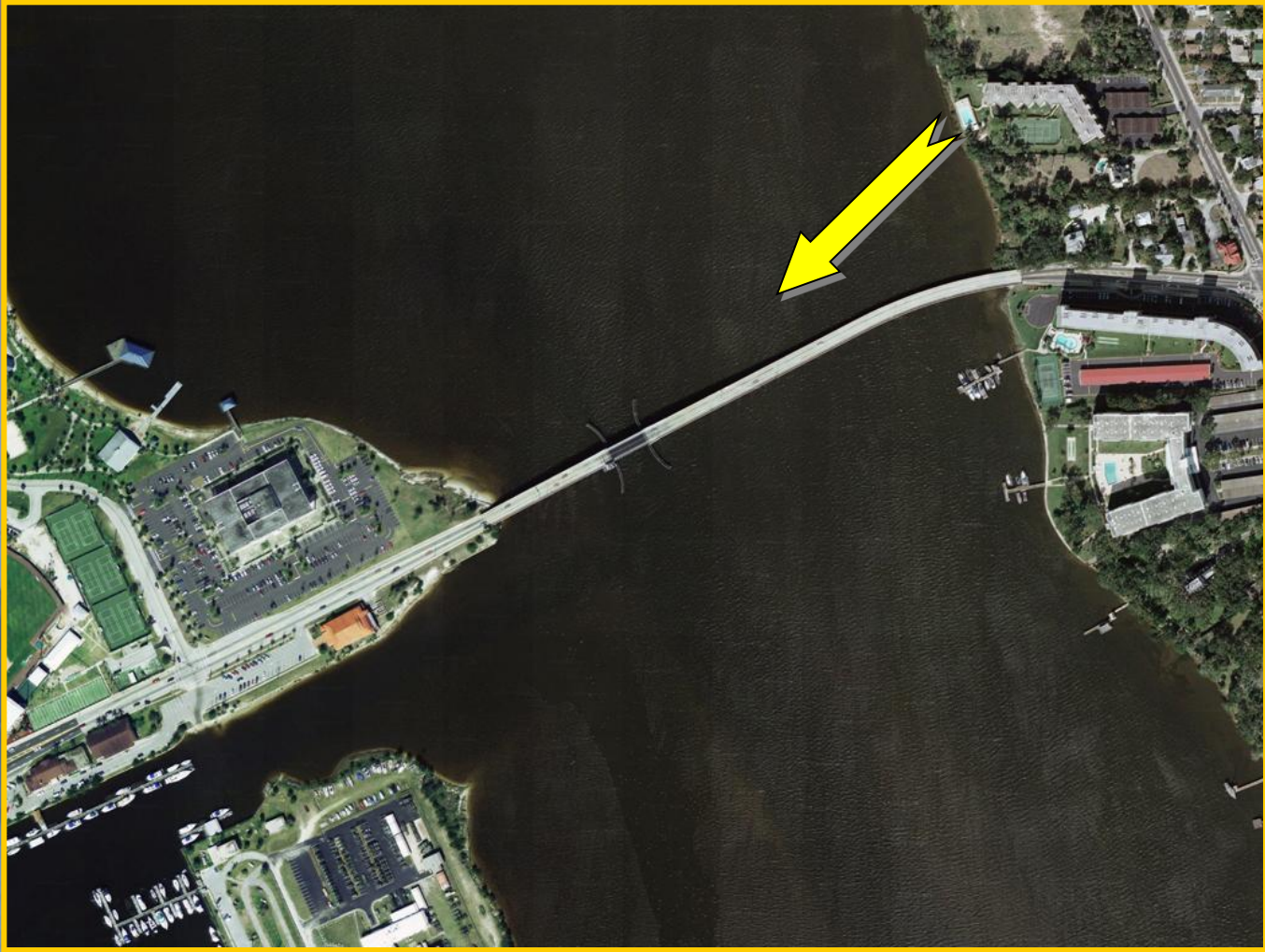
Proposed High-Level Bridge



Rendering - Not Actual Design

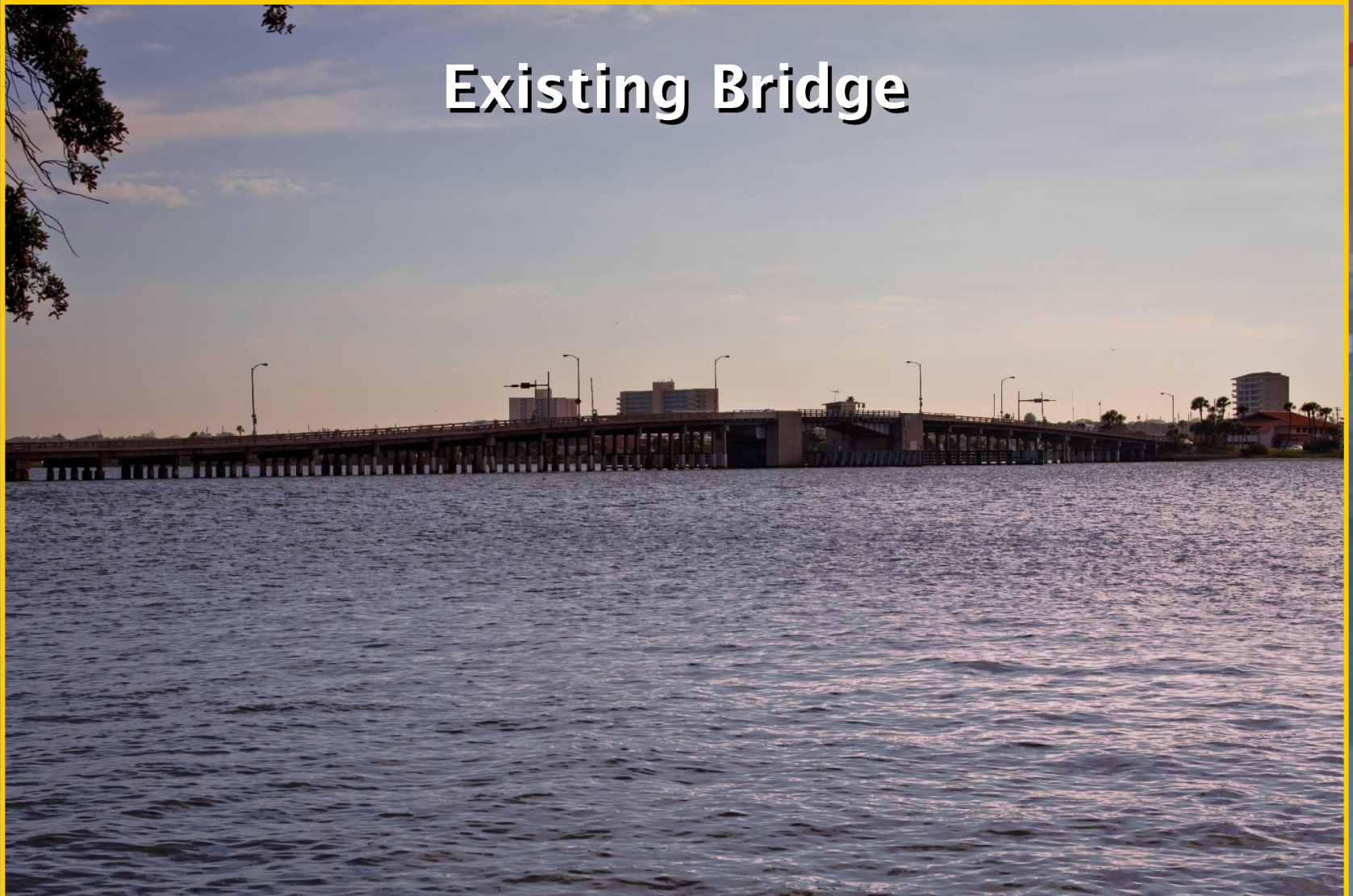
View from Boat Dock North of Bridge East Side at Pier 43 Condominiums

Photo Location and View Direction



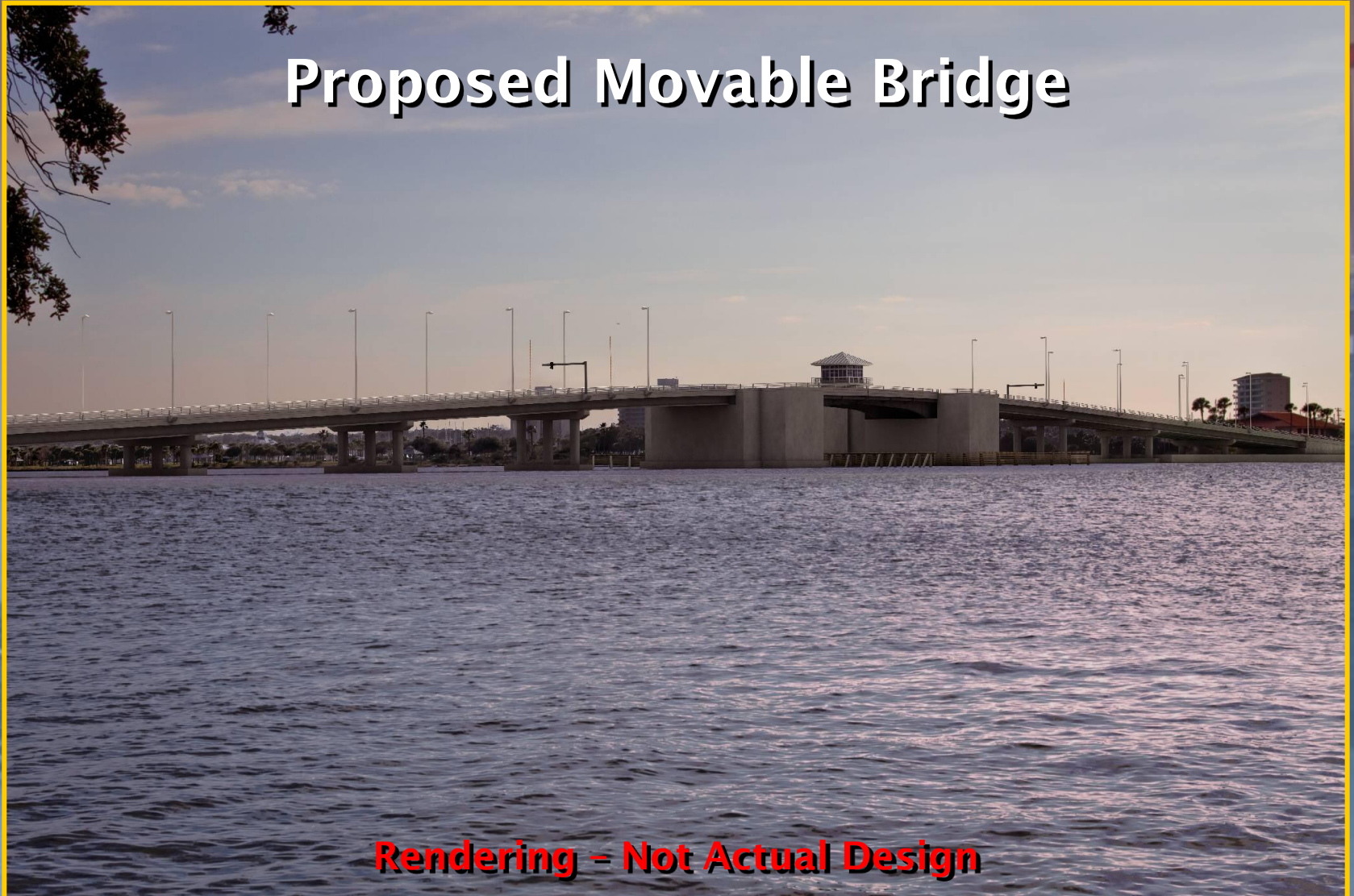
View from Boat Dock North of Bridge East Side at Pier 43 Condominiums

Existing Bridge



View from Boat Dock North of Bridge East Side at Pier 43 Condominiums

Proposed Movable Bridge



Rendering - Not Actual Design

View from Boat Dock North of Bridge East Side at Pier 43 Condominiums

Proposed High-Level Bridge



Rendering - Not Actual Design

View from Chamber Of Commerce

Photo Location and View Direction



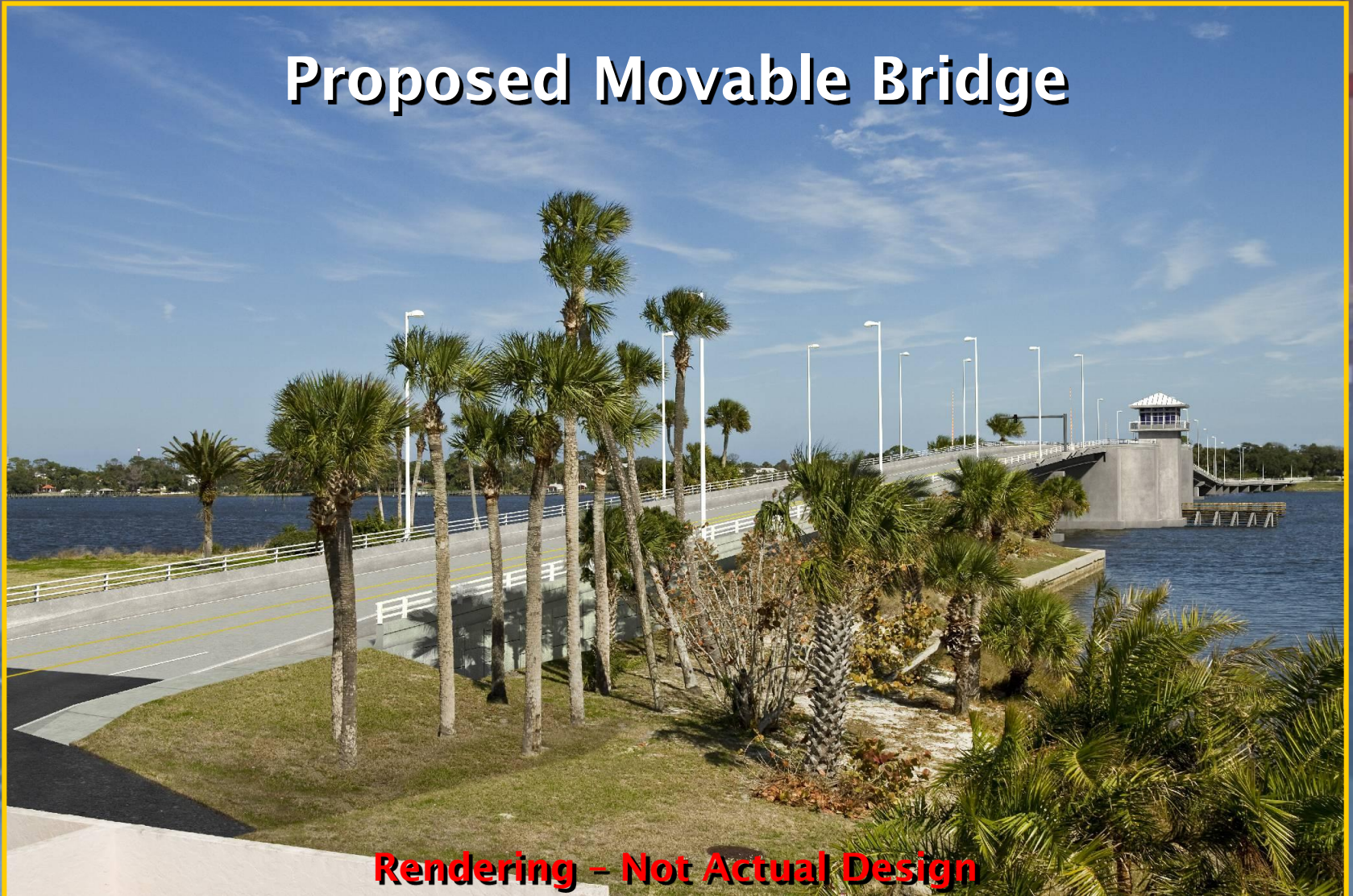
View from Chamber Of Commerce

Existing Bridge



View from Chamber Of Commerce

Proposed Movable Bridge



Rendering - Not Actual Design

View from Chamber Of Commerce

Proposed High-Level Bridge



View from Halifax Harbor Marina South of Bridge – West Side

Photo Location and View Direction



View from Halifax Harbor Marina South of Bridge – West Side

Existing Bridge



View from Halifax Harbor Marina South of Bridge – West Side

Proposed Movable Bridge



Rendering – Not Actual Design

View from Halifax Harbor Marina South of Bridge – West Side

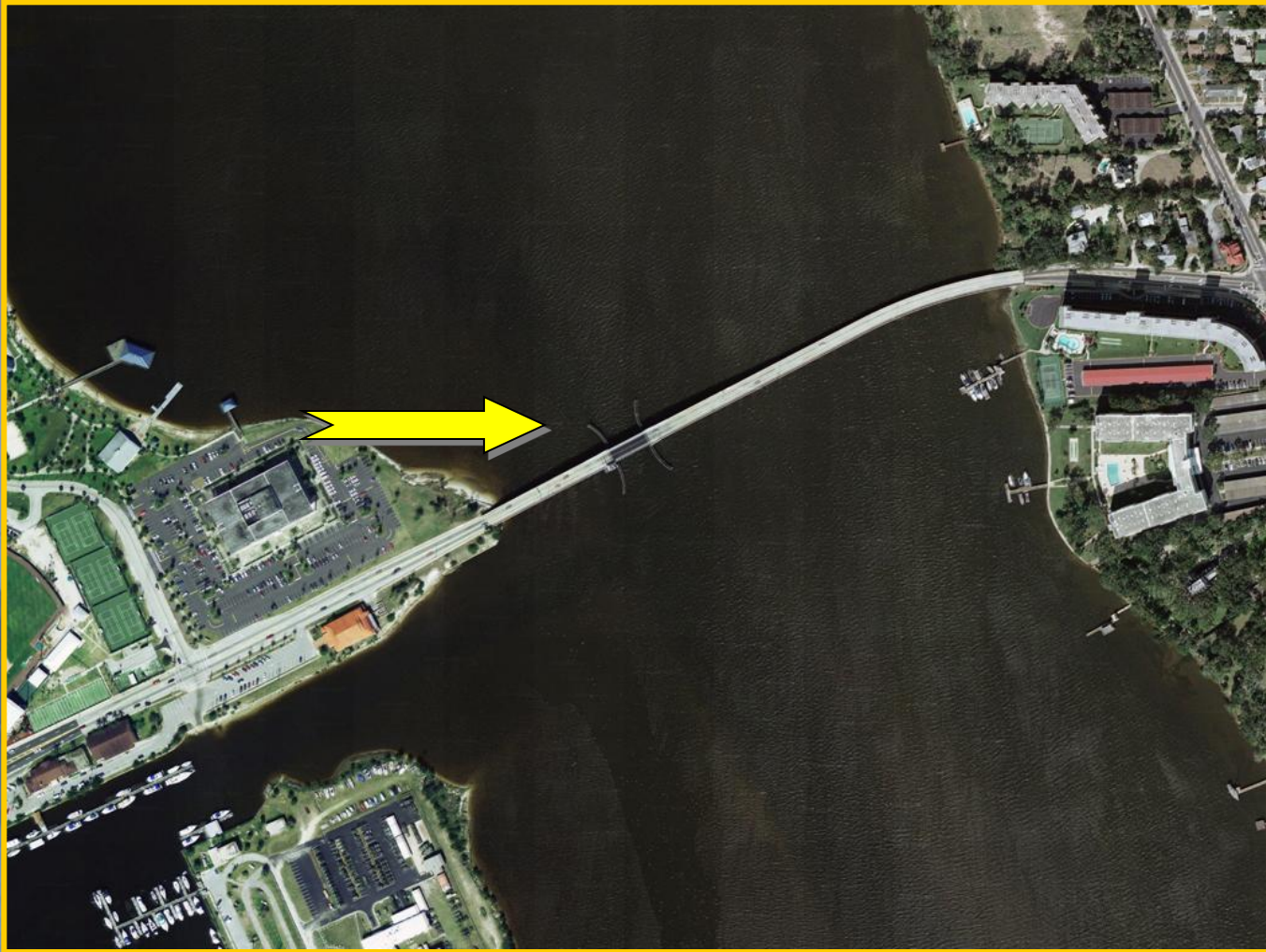
Proposed High-Level Bridge



Rendering – Not Actual Design

View from Volusia County Courthouse Parking Lot

Photo Location and View Direction



View from Volusia County Courthouse Parking Lot

Existing Bridge



View from Volusia County Courthouse Parking Lot

Proposed Movable Bridge



Rendering – Not Actual Design

View from Volusia County Courthouse Parking Lot

Proposed High-Level Bridge



Rendering – Not Actual Design

Cost Estimates

Rehabilitation **\$20.2 M**

New Movable Bridge **\$40.7 M**

New High Level Bridge **\$24.4 M**

**No Build with Removal of
Existing Bridge** **\$ 3.2 M**

Evaluation Matrix

IMPACT EVALUATION CRITERIA	REHABILITATION	NEW MOVABLE BRIDGE	NEW HIGH-LEVEL FIXED BRIDGE
Roadway/Bridge Issues			
Lane/Shoulder Widths	12' /none	11' /5'	11' /5'
Sidewalks (both sides)	5'	5'	5'
Vertical/Horizontal Channel Clearance	16' /90'	28' /125'	65' /125'
Bridge Openings	No Change	Reduced by 30%	None
Right of Way Issues			
Width	36' 6"	47'	47'
Access to Chamber of Commerce Parking Lot	No Impacts	No Impacts	One Driveway Closed
Environmental Impacts			
Wetlands	None	0.04 acre	0.04 acre
Visual Impacts	Low	Low	Medium
Noise Impacts	None	None	None
Costs			
Construction Costs	\$20.2 M	\$40.7 M	\$24.4 M
Operation/Maintenance Costs	\$420,000	\$420,000	\$39,000
Construction Impacts			
Detour Duration	6 mo	2 yrs	2 yrs
Total Construction Time	1 yr	2 yrs	2 yrs
Anticipated Service Life (Years from 2010)	15 yrs	75 yrs ¹	75 yrs

¹ Movable Bridge - Rehab of electrical and mechanical components at 25 and 50 years, clean and paint steel every 10 years

Next Steps

- **County Council recommends preferred alternative**
- **Advertise availability of draft report & conduct formal public hearing identifying preferred alternative**
- **Distribute final draft report to FDOT & Federal Highway Administration (FHWA) for comment**
- **Prepare & submit final report to FHWA for approval**

Staff Recommendation

Select high-level fixed bridge as preferred alternative because....

- **More cost effective** - \$24.4M vs \$40.7M (movable) ; \$20.2M (rehab)
- **Lower operation/maintenance costs** - \$39K/yr vs \$420K/yr (movable & rehab)
- **Better service life** - 75 yrs vs 75 yrs with elec/ mech rehabs at 25 & 50 yrs (movable) ; 15 yrs (rehab)
- **Eliminates vehicle & boat traffic delays** -



VETERANS MEMORIAL BRIDGE



**Council discussion/action
&
public comments**