



Cape Coral Bridge Replacement & Sanibel Causeway Repairs

Board of Lee County Commissioners

February 6, 2023 - Workshop



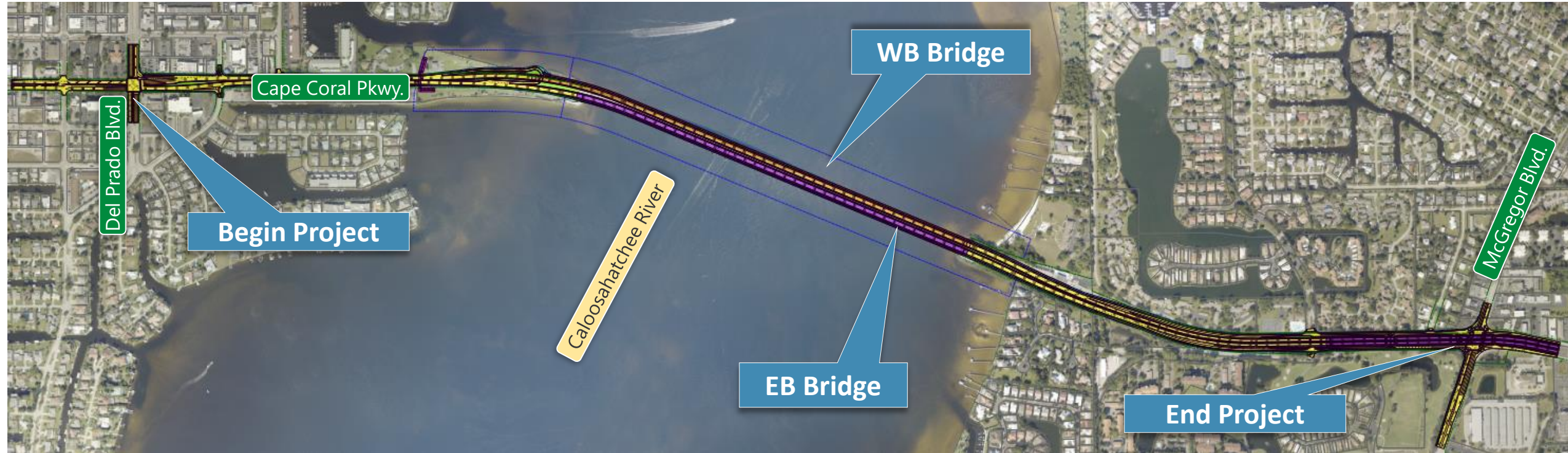
RFP: CN210428MTN

CAPE CORAL BRIDGE

Westbound Span Replacement | Eastbound Span Widening
Design Services | Owner's Representative

Presentation

PROJECT LIMITS & OVERVIEW



Begin Project

- Intersection of Del Prado Blvd. and Cape Coral Pkwy.



End Project

- Intersection of College Pkwy. and McGregor Blvd.



Project Length

- Approx. 2.3 miles



Caloosahatchee River is part of the Intracoastal Waterway System

TIMELINE TO VESSEL COLLISION DESIGN

1963

Westbound Bridge Built

1980

Sunshine Skyway Bridge Collapse

1988

FHWA Funds Research for Vessel Collision Study

1989

Eastbound Bridge Built

1991

AASHTO adopts Guide Spec. for Vessel Collision

Sunshine Skyway Disaster

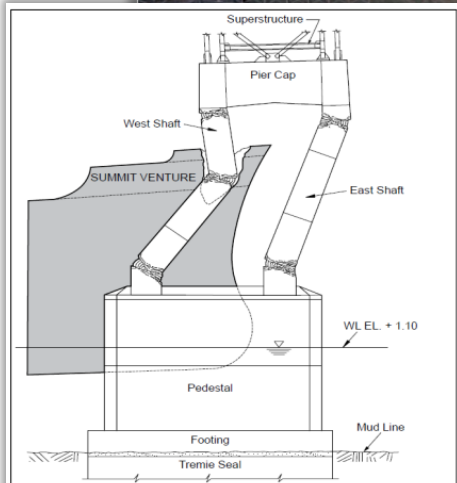


Figure C3.15.1-1—Collapse of Pier 2S of the Sunshine Skyway Bridge Subsequent to Impact by the Bow Overhang of the M/V Summit Venture



VESSEL COLLISION ANALYSIS

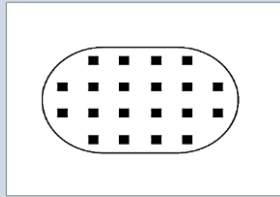
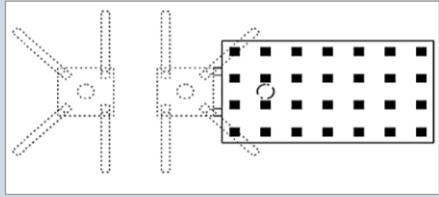
Alternative 1

Eastbound Bridge

Westbound Bridge

Widen with Vessel Collision

Replace Bridge



Footing Plan View

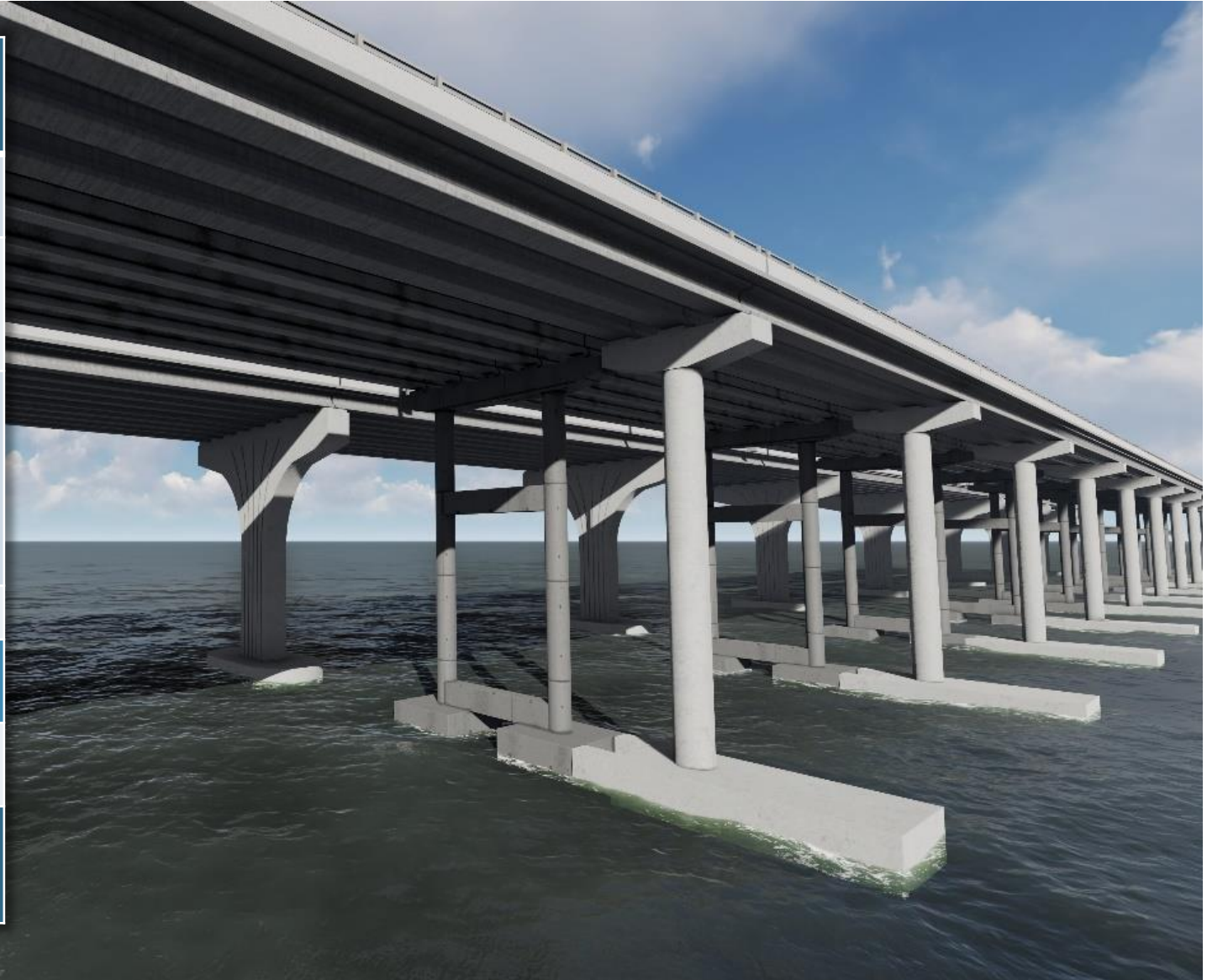
Footing Plan View

Service Summary

35 Years

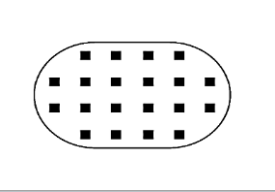
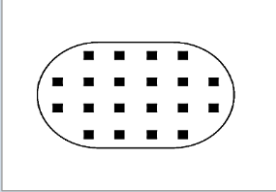
75 Years

Total Cost: \$198.2M



— VESSEL COLLISION ANALYSIS

Alternative 2

Eastbound Bridge	Westbound Bridge
Replace Bridge	Replace Bridge
	
Footing Plan View	Footing Plan View
Service Life Summary	
75 Years	75 Years
Total Cost: \$218.6M	



COST ESTIMATE & SERVICE LIFE SUMMARY

ITEM	ALTERNATIVE 1	ALTERNATIVE 2
EB Bridge Cost / Service Life	\$55.3M / 35 Yrs.	\$79.1M / 75 Yrs.
WB Bridge Cost / Service Life	\$74.7M / 75 Yrs.	\$79.1M / 75 Yrs.
Walls and Causeway Armory	\$8.4M	\$8.4M
Demolition/Temporary Work	\$2.6M	\$2.6M
Roadway Cost Estimate	\$34.0M	\$24.0M
Tolling Cost Estimate	\$2.0M	\$2.0M
	Subtotal	\$177.0M
Design/CEI	\$21.2M	\$23.4M
Total Preliminary Project Cost Estimate	\$198.2M	\$218.6M

QUESTIONS

Which Alternative do you wish to pursue?

Alternative 1

Widen Eastbound,
Replace
Westbound

Eastbound Bridge
Life – 35 Years
Westbound Bridge
Life – 75 Years

Total Cost:
\$198.2M

Alternative 2

Replace Eastbound
& Westbound
bridges

Increases useful
life of both bridges
to 75 years

Additional cost:
\$20.4M for Total
\$218.6



SANIBEL CAUSEWAY REPAIRS



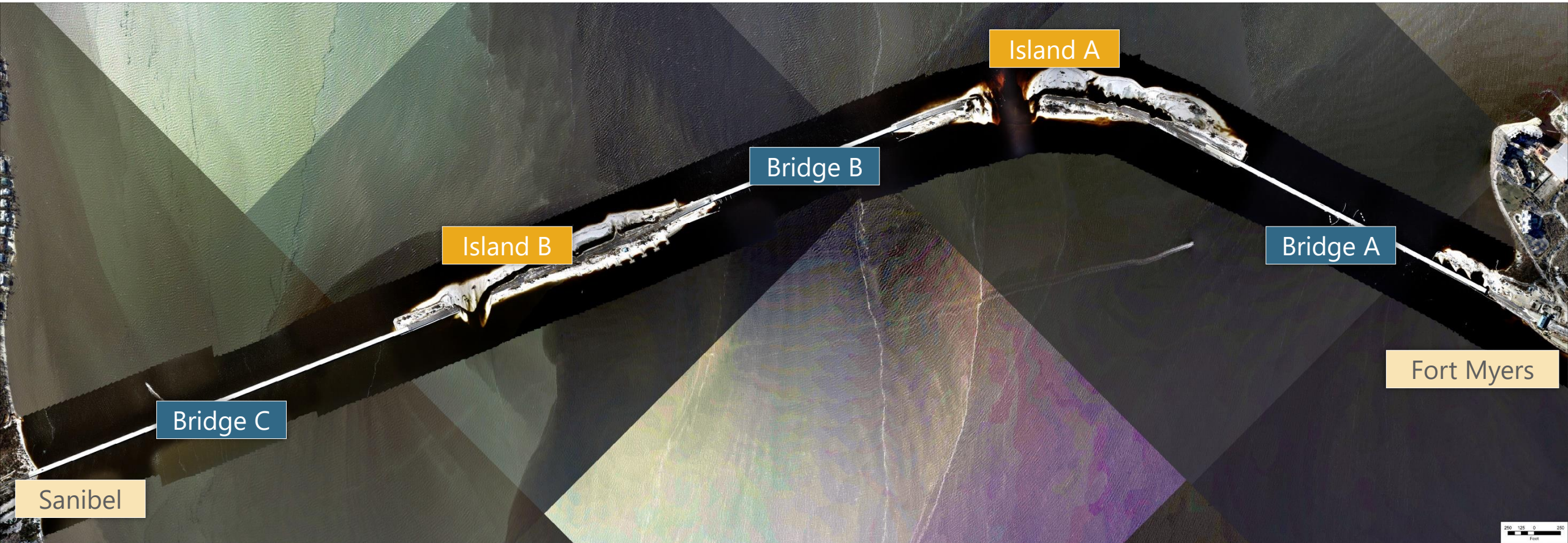
Board of Lee County Commissioners - Workshop – February 6, 2023

Hurricane Ian Impacts – Before



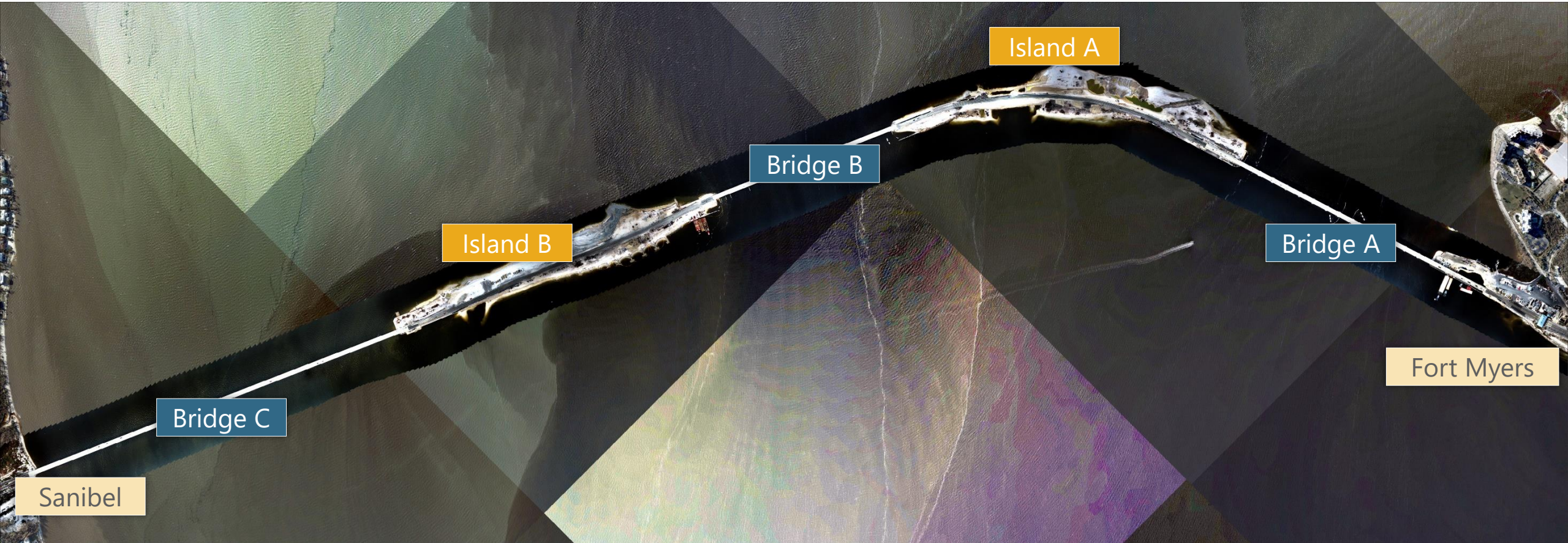
Hurricane Ian Impacts – After

(10/2/2022)

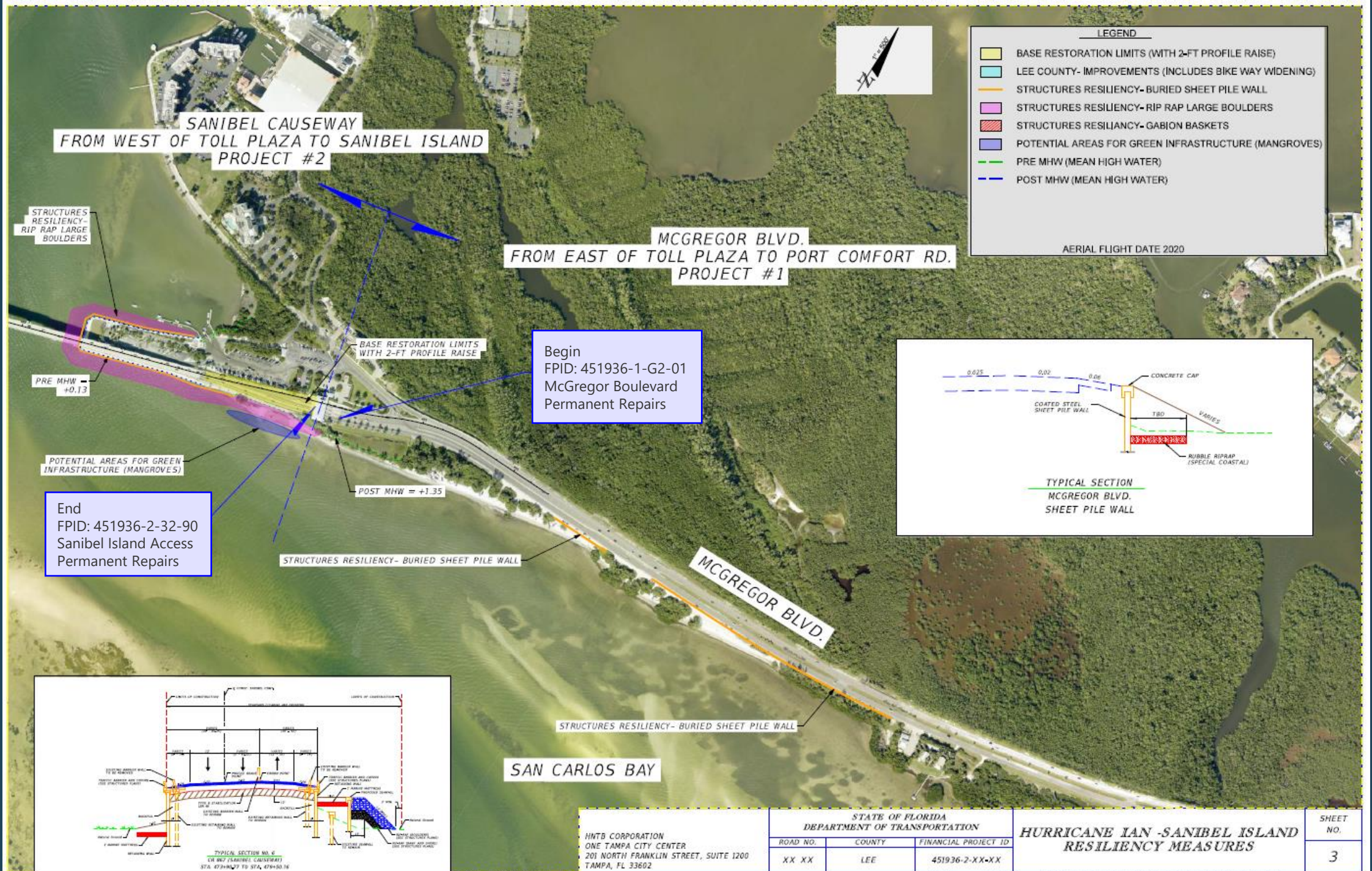


Hurricane Ian Impacts – After Temp Roadway

(10/20/2022)



Resiliency Measures- Toll Plaza



End
 FPID: 451936-2-32-90
 Sanibel Island Access
 Permanent Repairs

Begin
 FPID: 451936-1-G2-01
 McGregor Boulevard
 Permanent Repairs

HNTB CORPORATION ONE TAMPA CITY CENTER 201 NORTH FRANKLIN STREET, SUITE 1200 TAMPA, FL 33602			STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		HURRICANE IAN -SANIBEL ISLAND RESILIENCY MEASURES		SHEET NO. 3
ROAD NO.	COUNTY	FINANCIAL PROJECT ID					
XX XX	LEE	451936-2-XX-XX					

Resiliency Measures – Island B

LEGEND

- BASE RESTORATION LIMITS (WITH 2-FT PROFILE RAISE)
- LEE COUNTY-IMPROVEMENTS (INCLUDES BIKE WAY WIDENING)
- STRUCTURES RESILIENCY- BURIED SHEET PILE WALL
- STRUCTURES RESILIENCY- RIP RAP LARGE BOULDERS
- STRUCTURES RESILIENCY- GABION BASKETS
- POTENTIAL AREAS FOR GREEN INFRASTRUCTURE (MANGROVES)
- PRE MHW (MEAN HIGH WATER)
- POST MHW (MEAN HIGH WATER)

AERIAL FLIGHT DATE 2020



STRUCTURES RESILIENCY- RIP RAP LARGE BOULDERS

SANIBEL CAUSEWAY (ISLAND B)

POST MHW = +1.35

LEE COUNTY - IMPROVEMENTS (INCLUDES BIKE WAY WIDENING)

STRUCTURES RESILIENCY - GABION BASKET

POTENTIAL AREAS FOR GREEN INFRASTRUCTURE (MANGROVES)

PRE MHW = +0.13

BASE RESTORATION LIMITS WITH 2-FT PROFILE RAISE

STRUCTURES RESILIENCY- BURIED SHEET PILE WALL

STRUCTURES RESILIENCY - GABION BASKET

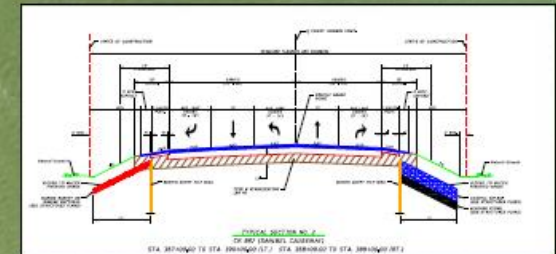
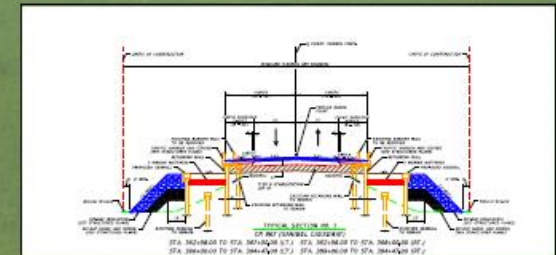
POTENTIAL AREAS FOR GREEN INFRASTRUCTURE (MANGROVES)

POTENTIAL AREAS FOR GREEN INFRASTRUCTURE (MANGROVES)

Begin
FPID: 451936-2-32-90
Sanibel Island Access
Permanent Repairs

STRUCTURES RESILIENCY- BURIED SHEET PILE WALL

STRUCTURES RESILIENCY- RIP RAP LARGE BOULDERS



HNTB CORPORATION ONE TAMPA CITY CENTER 201 NORTH FRANKLIN STREET, SUITE 1200 TAMPA, FL 33602	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		HURRICANE IAN - SANIBEL ISLAND RESILIENCY MEASURES	SHEET NO. 1
	ROAD NO. XX XX	COUNTY LEE		



FDOT Resiliency Components



Combination of Gabion Baskets and Rip Rap



Sheet Pile Wall with Rip Rap



Box Culvert with Rip Rap

FDOT Resiliency Components

Estimated Costs							
	200 - Roadway Resiliency	101 - Structures Resiliency	102 - Structures Resiliency	103 - Structures Resiliency	104 - Structures Resiliency	600 - Landscape Resiliency	
Base Cost Roadway (w/o Resiliency)	Raised Profile Grade	Gabion Baskets	Buried Sheetpile Wall	Rip Rap Large Boulders	Box Culvert (12'x4')	Seagrass & Mitigation	
Project Grand Totals	\$143,348,437	\$3,204,462	\$32,792,407	\$69,072,964	\$33,873,977	\$1,532,148	\$1,518,670
Non-Federal Share	\$20,432,068	\$579,046	\$5,925,588	\$12,481,485	\$6,121,028	\$276,859	\$274,424
						Cumulative Cost	\$285,343,064
						Non-Federal Share	\$46,090,497
County Improvements - Island A & B + Amenities							
Project Grand Total / Non-Federal Share						\$5,579,552	
Non-Federal Share with Amenities						\$51,670,049	

Questions

Does the Board concur with the FDOT resiliency components?

Does the Board agree with including amenities for Causeway Islands A & B?