



# LIDO KEY BEACH NOURISHMENT PERFORMANCE AND PATH FORWARD



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# AGENDA

## *Project Authorization & History*

- *Purpose & Authority*
- *Initial Design & Construction*

## *Project Monitoring*

- *MHW Position & Volume Change*
- *Borrow Area Analysis*
- *Wave Transmission*
- *CorpsCam*

## *What's next?*





# PROJECT AUTHORIZATION



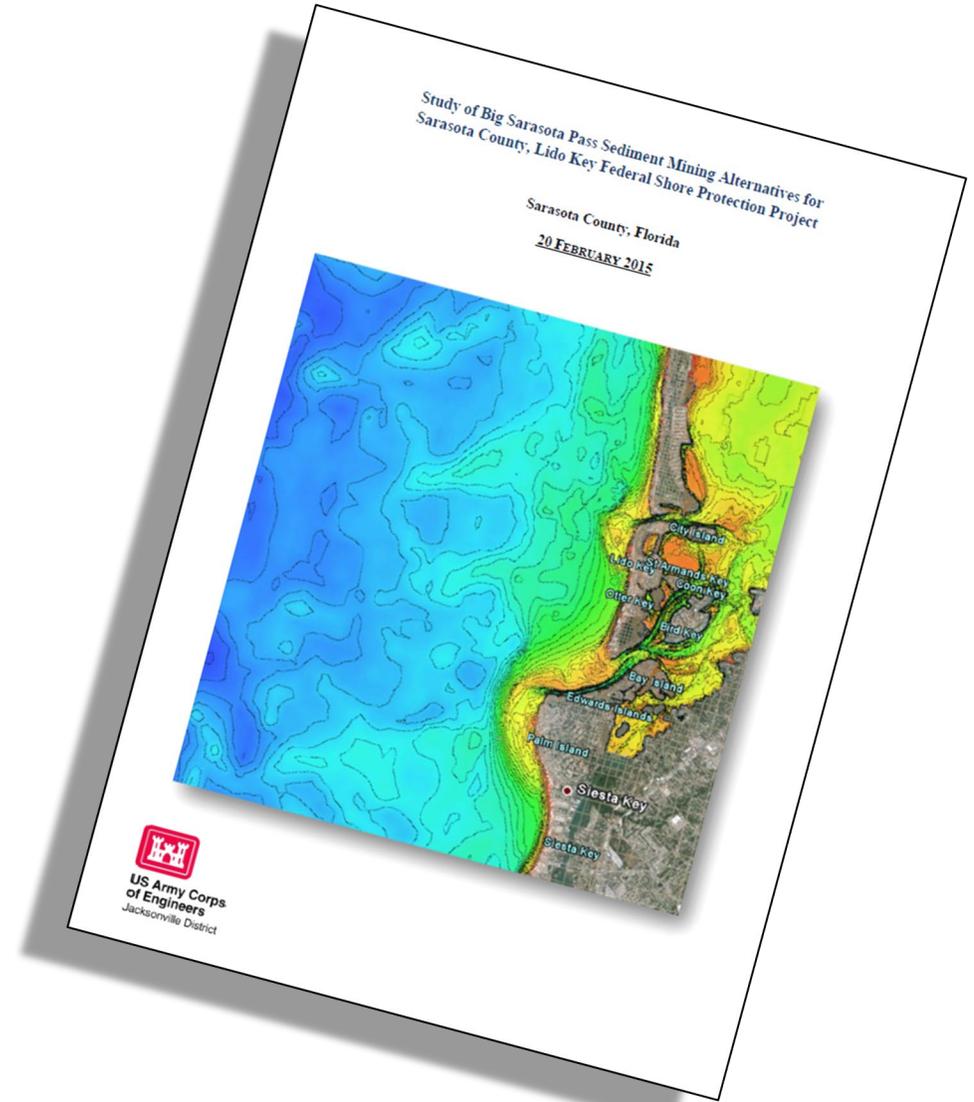
## Authorized Project

- *Berm Height +4 feet NAVD88*
- *80-Foot-Wide Beach Berm*
- *50-Year Project Life with Renourishments at 5-Year Intervals*



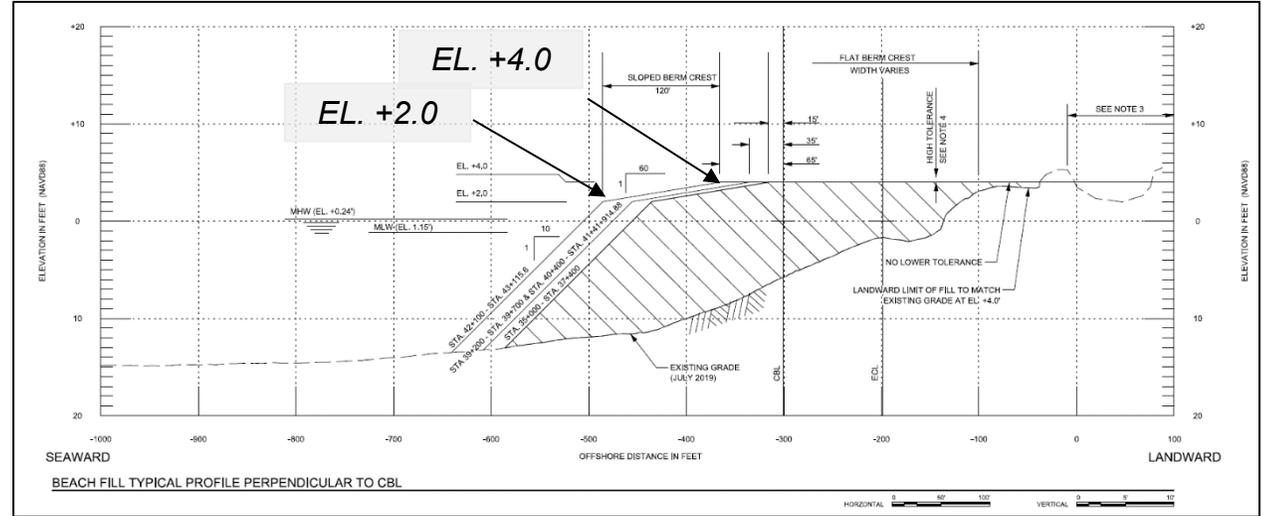


# PROJECT HISTORY





# INITIAL BEACH DESIGN



## Beach Design

- Flat berm width varies
- Flat berm elevation 4' with a 60:1 sloped berm down to elevation 2'
- Slope to existing grade at a 10:1



# INITIAL BEACH CONSTRUCTION



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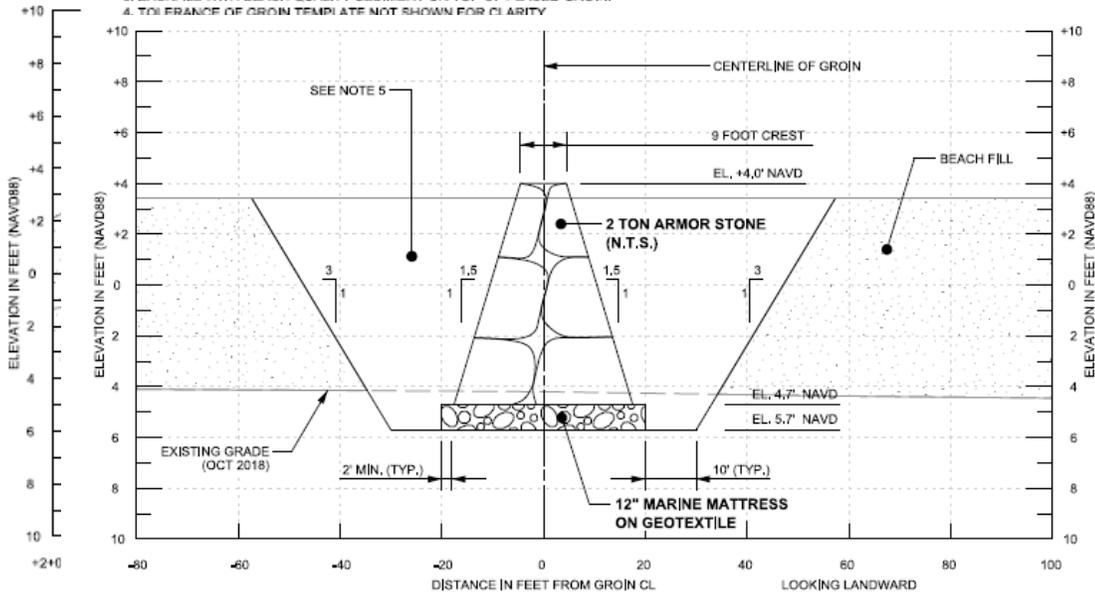


# GROIN DESIGN

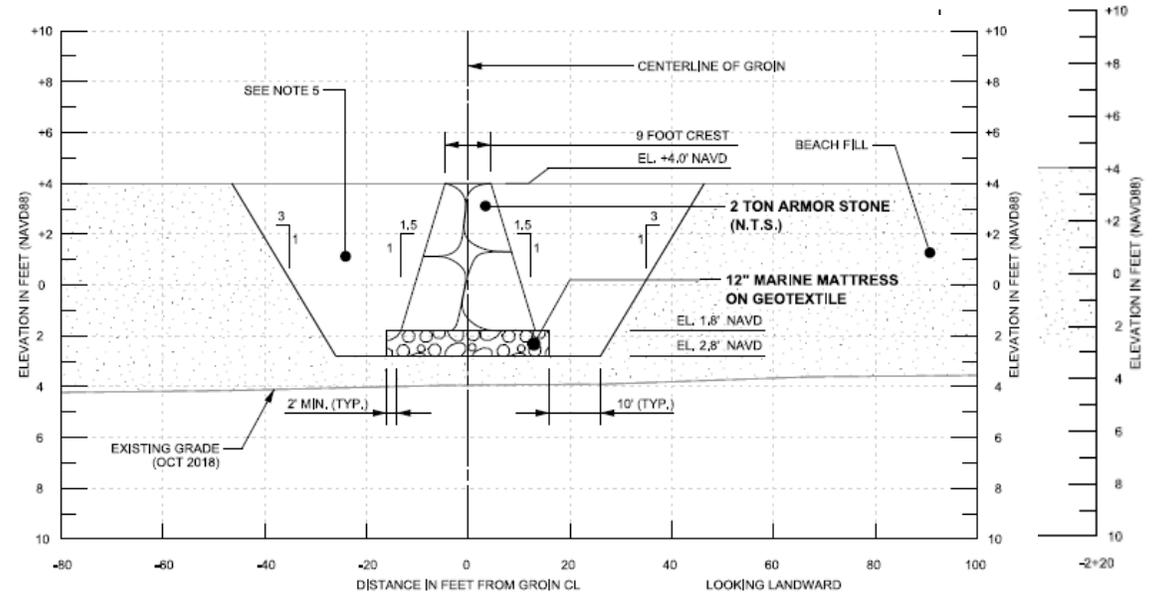


### GROIN NOTES:

1. ARMOR STONE; 2.0 TONS, SEE SPECIFICATION FOR ALLOWABLE SIZE GRADATION,
2. EXCAVATE AND/OR FILL AS NECESSARY TO PLACE MARINE MATTRESS AND ARMOR STONE TO ACHIEVE THE SPECIFIED GRADES AND SLOPES,
3. BACKFILL WITH BEACH QUALITY SEDIMENT ON TOP OF PLACED GROIN.
4. TOLERANCE OF GROIN TEMPLATE NOT SHOWN FOR CLARITY



**I** CROSS SECTION - GROIN 1  
 C-18/19  
 VERTICAL 0 3 6  
 HORIZONTAL 0 15 30



**J** CROSS SECTION - GROIN 1  
 C-18/19  
 VERTICAL 0 3 6  
 HORIZONTAL 0 15 30



# GROIN CONSTRUCTION



*North Groin*



*South Groin*



# PROJECT MONITORING

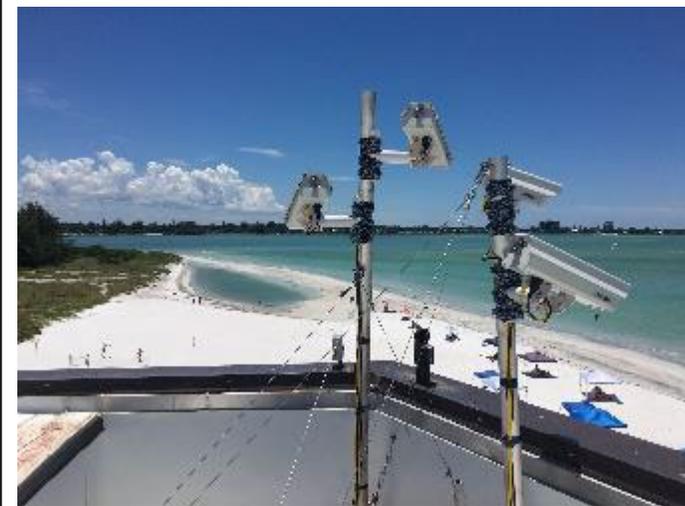
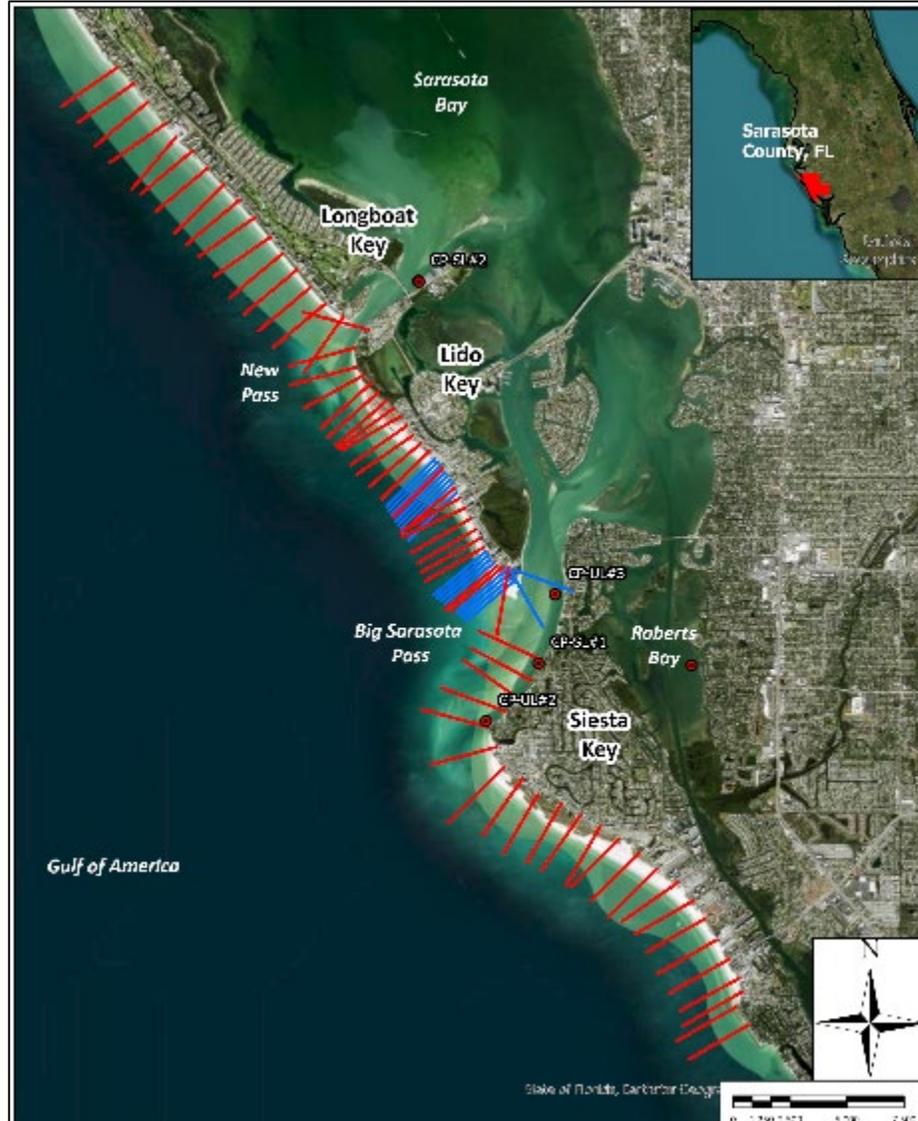


## FDEP Physical Monitoring Plan

- Beach Profile Surveys
- Borrow Area Surveys
- Hydrodynamic Measurements
- Monitoring Reports

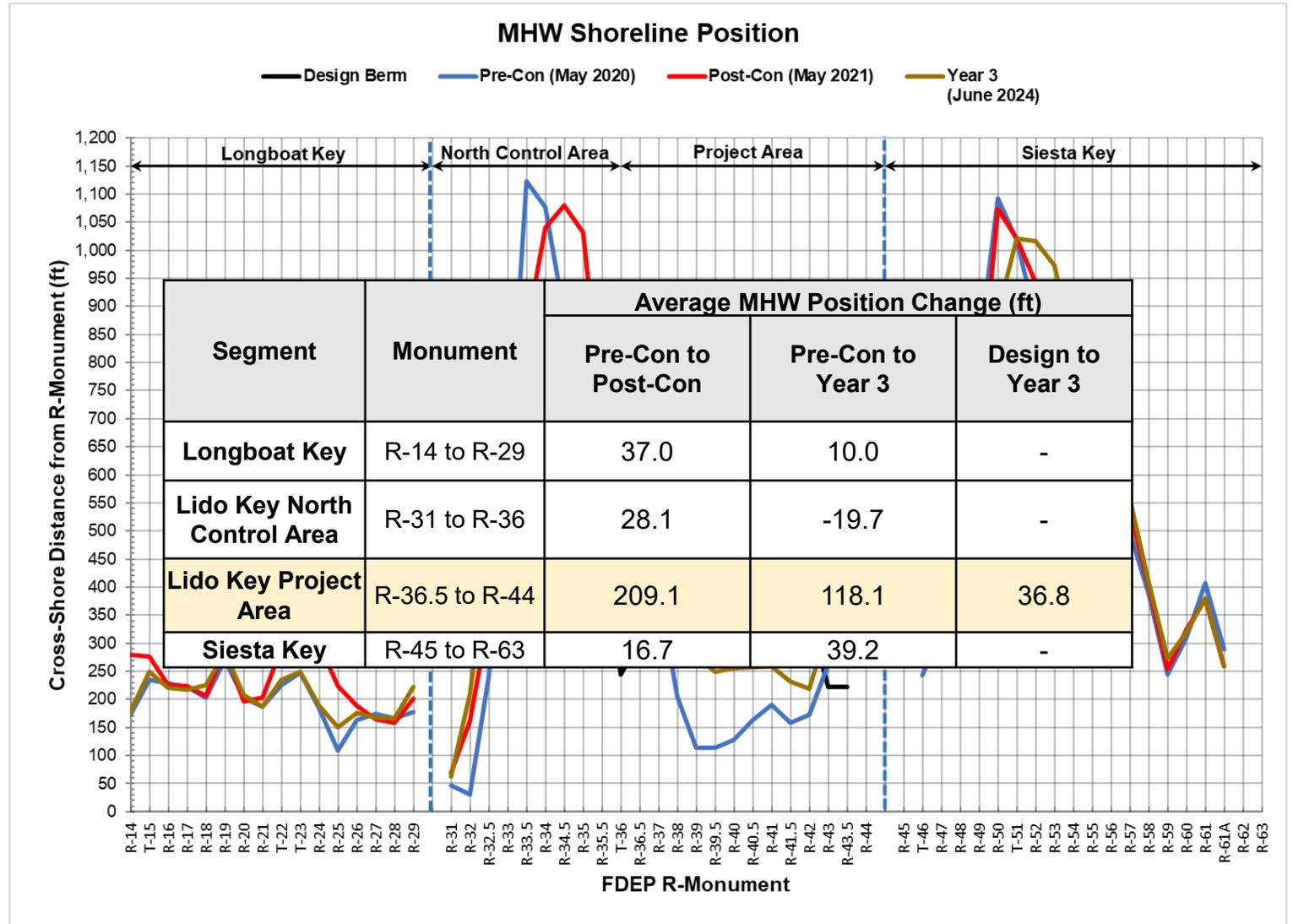
## Additional Monitoring

- Additional Hydrodynamic Measurements
- CorpsCam



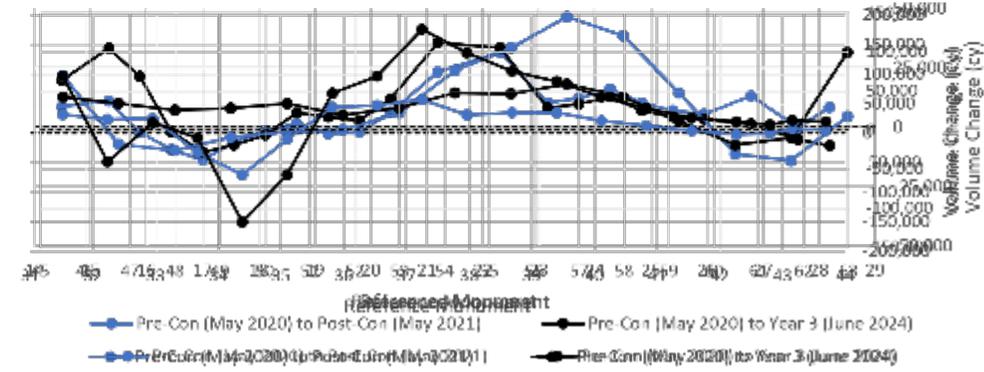
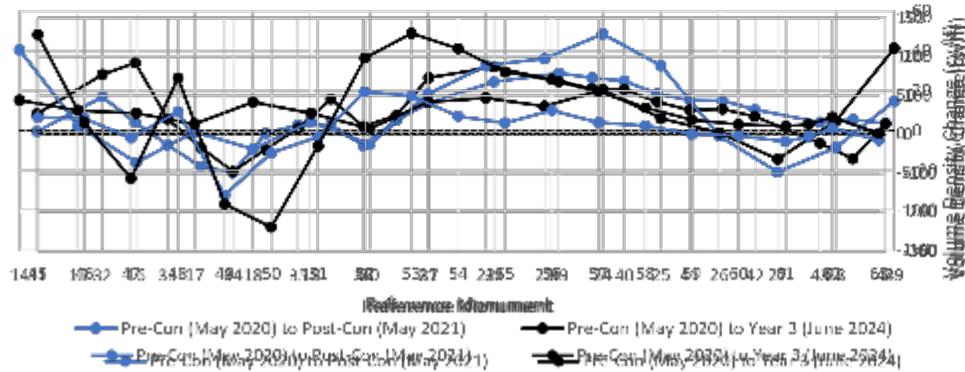
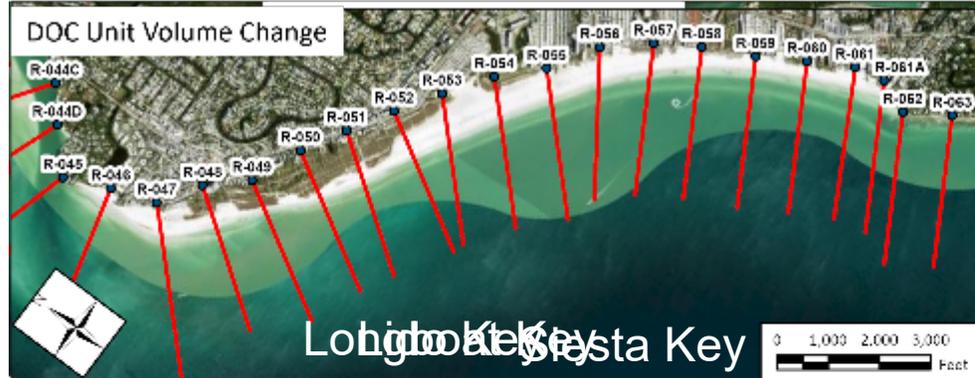


# PROJECT MONITORING – MHW POSITION





# PROJECT MONITORING – VOLUME CHANGE



Above DOC (-16 ft NAVD88)				
Segment	Pre-Con (May 2020) to Post-Con (May 2021)		Pre-Con (May 2020) to Year 3 (Jun 2024)	
	cy/lf	cy	cy/lf	cy
Total Volume Change Longboat Key	9.0	138,000	9.2	141,000
Total Volume Change Lido Key Control	6.1	36,000	60.5	359,000
Total Volume Change Lido Key Project	86.2	700,000	71.8	583,000
Total Volume Change Siesta Key	6.4	123,000	23.9	462,000

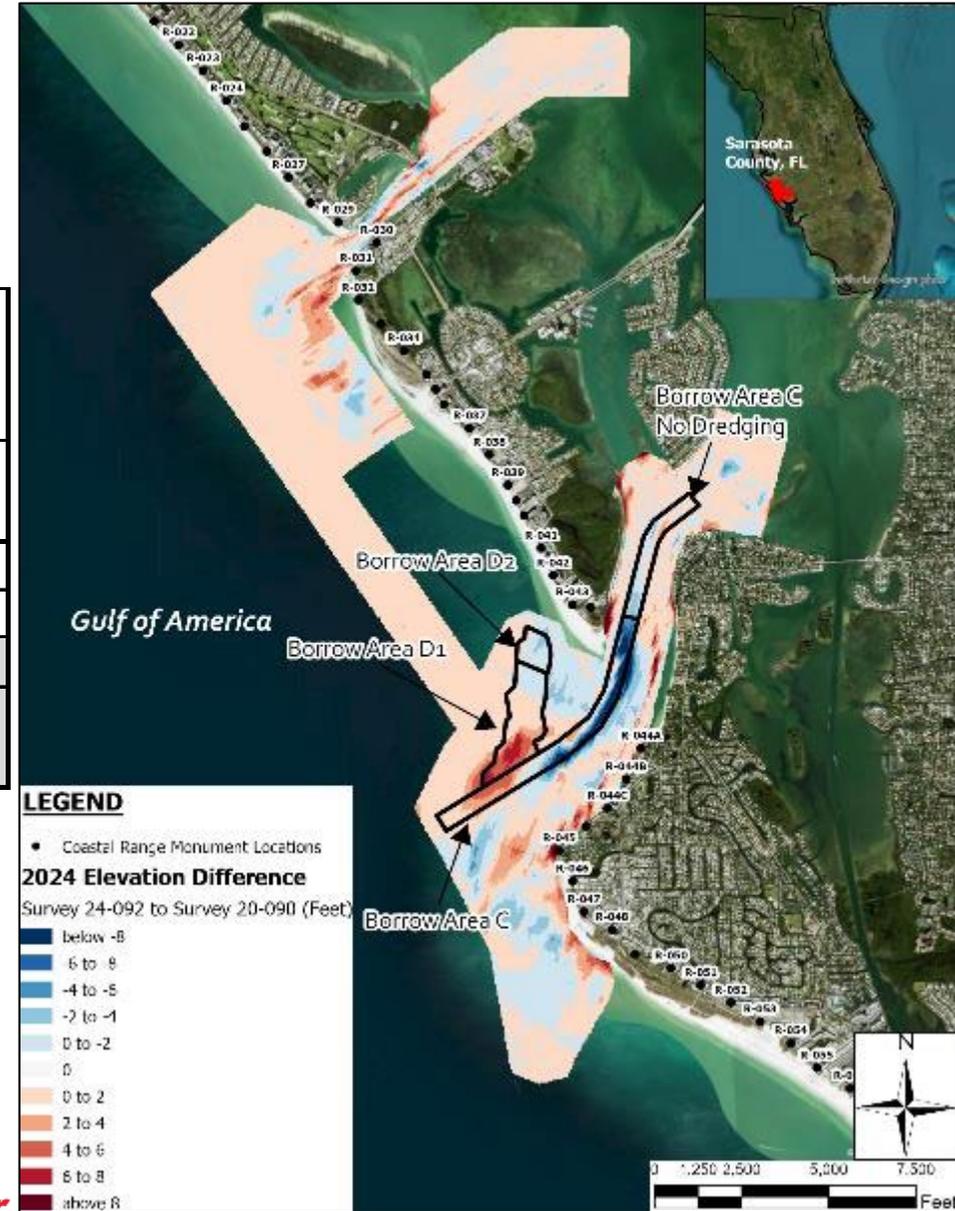
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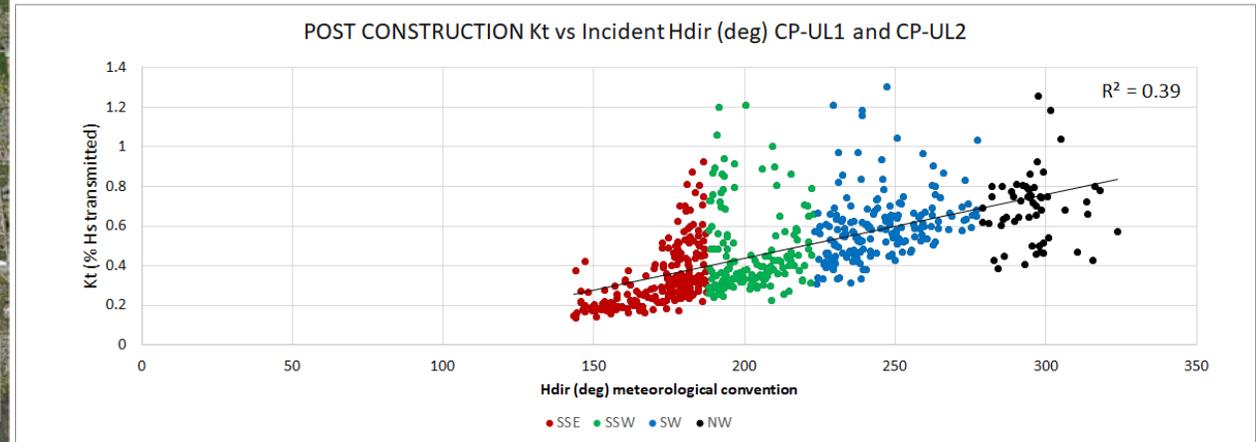
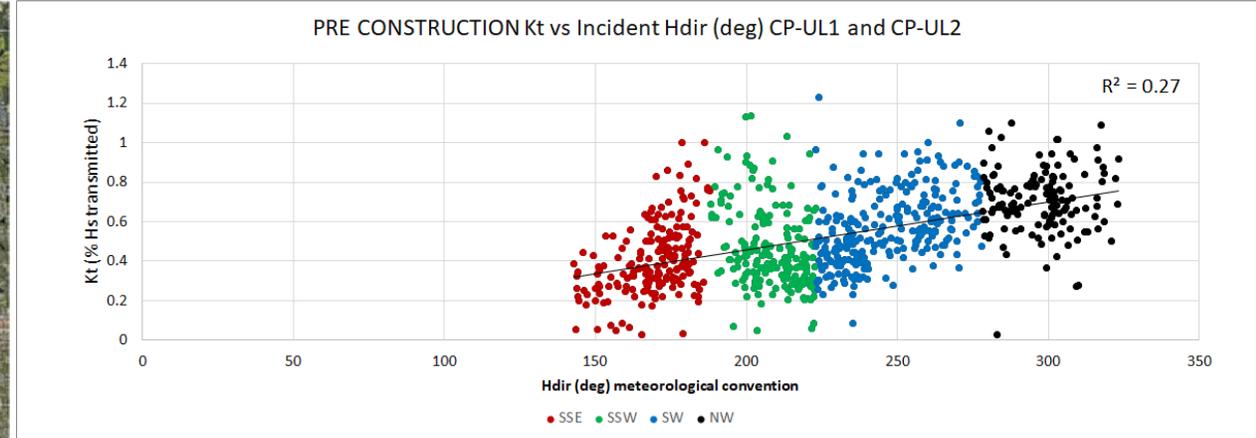
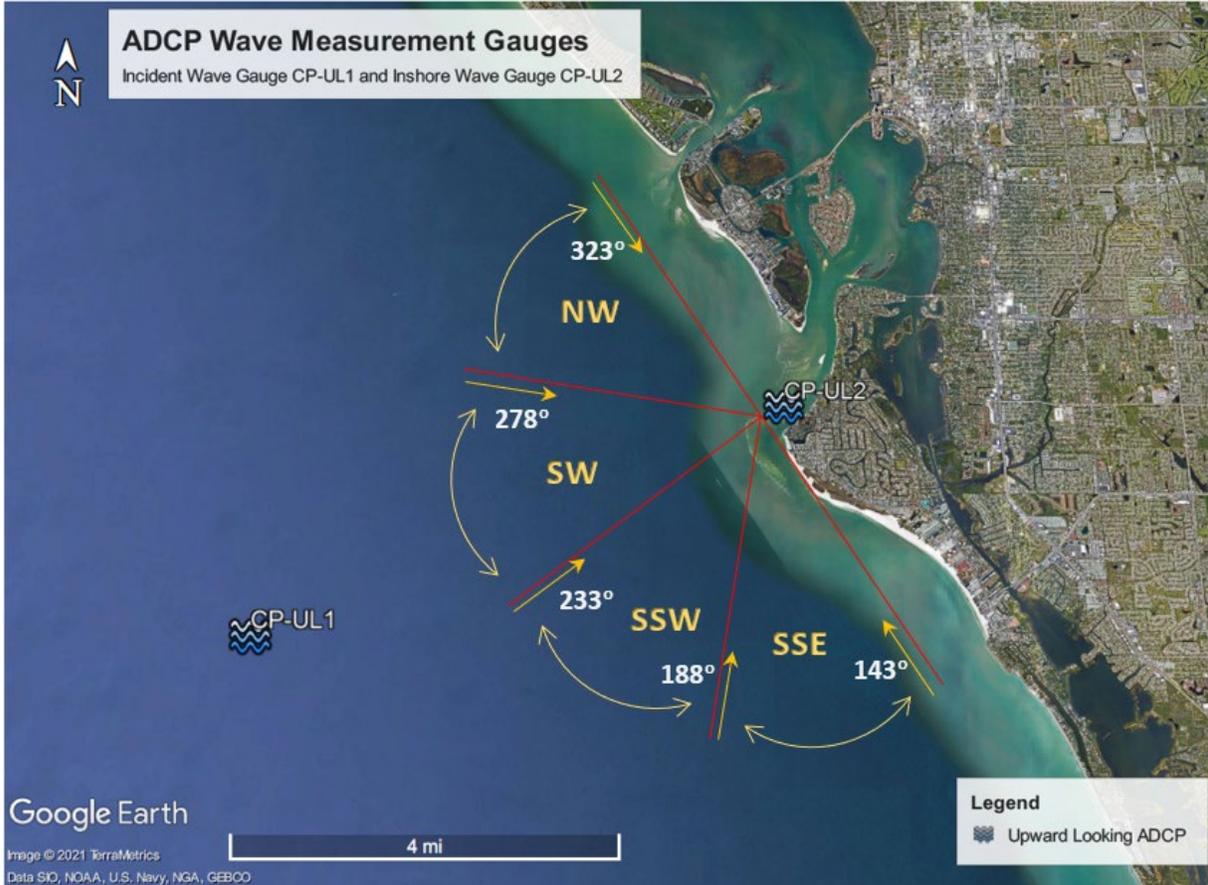


# PROJECT MONITORING – BA ANALYSIS



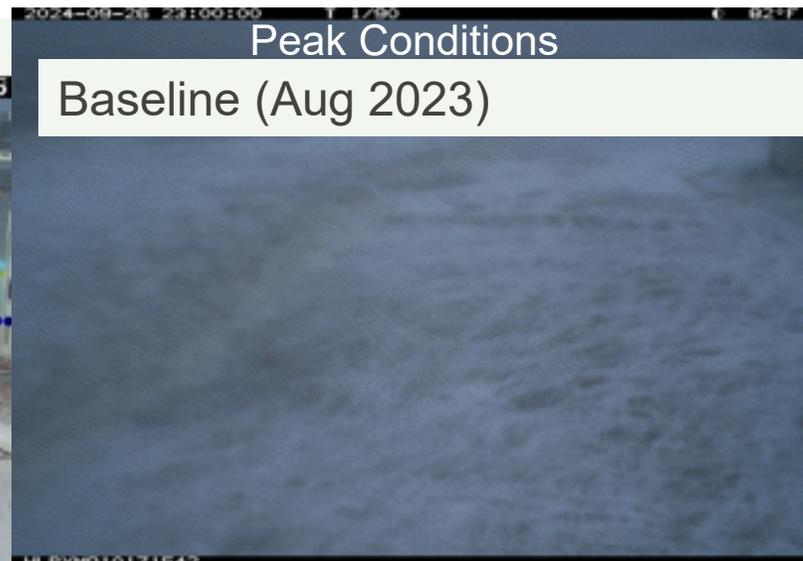
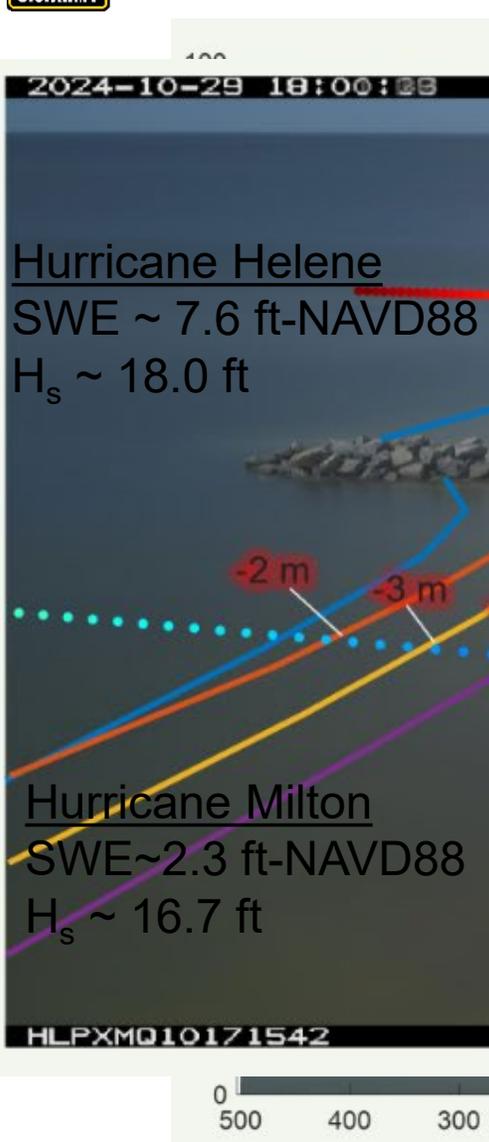
Computation	2020 Pre-Dredge to 2021 Post-Dredge Bathymetric Changes (cy)		2020 Pre-Dredge to 2024 Year 3 Bathymetric Changes (cy)	
	Borrow Area C	Borrow Area D1	Borrow Area C	Borrow Area D1
Cut:	-561,300	-19,200	-467,600	-15,400
Fill:	48,100	47,000	163,800	264,800
<b>Net:</b>	<b>-513,200</b>	<b>27,800</b>	<b>-303,800</b>	<b>249,400</b>
<b>Total Borrow Area Net:</b>	<b>-485,000</b>		<b>-54,000</b>	







# PROJECT MONITORING – CORPSCAM



23)

2023)

Spring

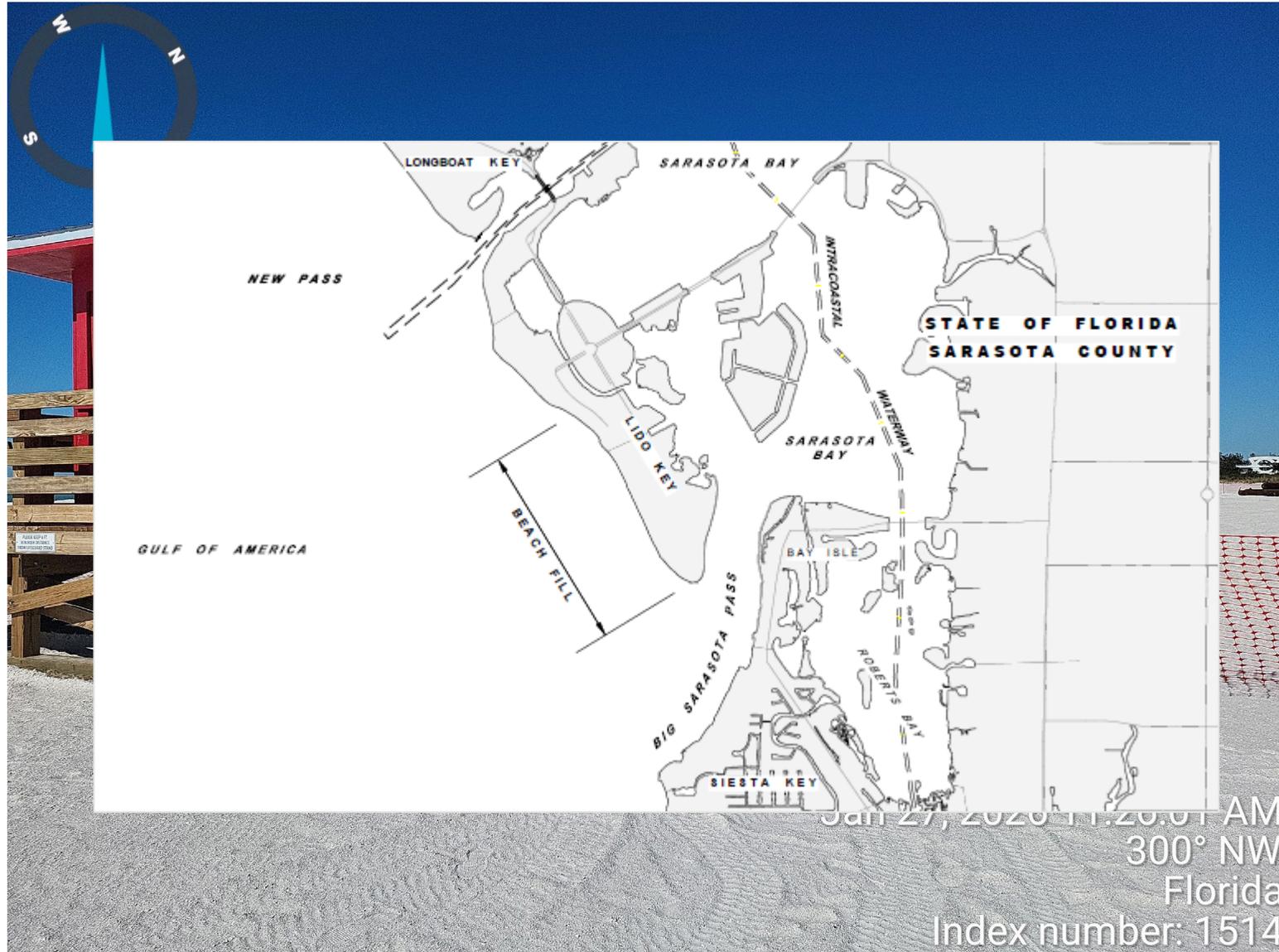
ug 16, 2024)

ct 7, 2024)

t 30, 2024)



# WHAT'S NEXT?



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# CONCLUSIONS & WHAT THE FUTURE HOLDS?

## *Back to BSP?*

- *Sediment budget update is needed to confirm that the project performance is in alignment with expectations*
- *Next renourishment estimated for 2031*





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