

Sharing Collier County's Successful Strategies in Implementing Truck Haul Beach Nourishment Projects & Immediate Post-Hurricane Ian Observations of the Newly Construction Project Areas

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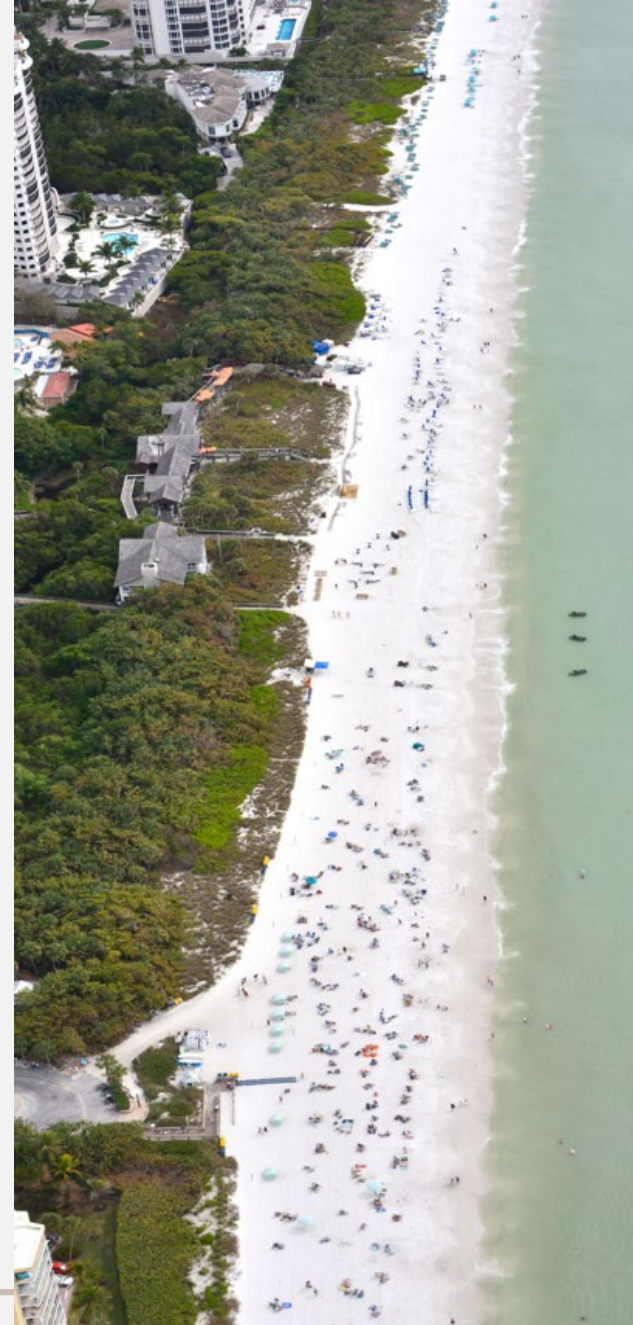


FSBPA Technical Conference
February 1-3, 2023
Fort Myers, FL



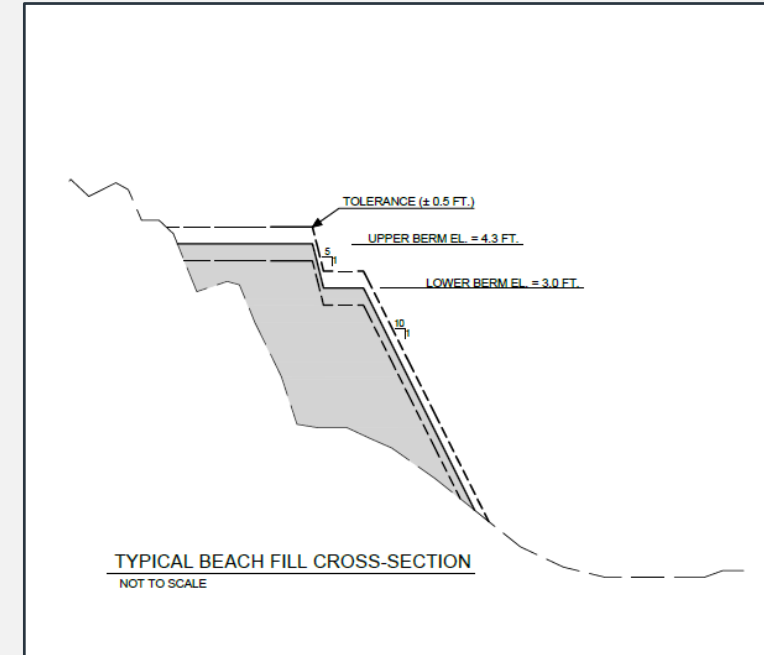
2021-22 COLLIER COUNTY NOURISHMENT

- Renourishment of 3 reaches using truck hauling methods
 - Naples
 - Vanderbilt
 - Pelican Bay
- November 1, 2021 to January 24, 2022
- 55 active truck hauling days
- 232,005 tons (~154,670 cubic yards) of high-quality beach sand delivered
- Stewart Materials' Immokalee Sand Mine, ~ 50 miles from the project site

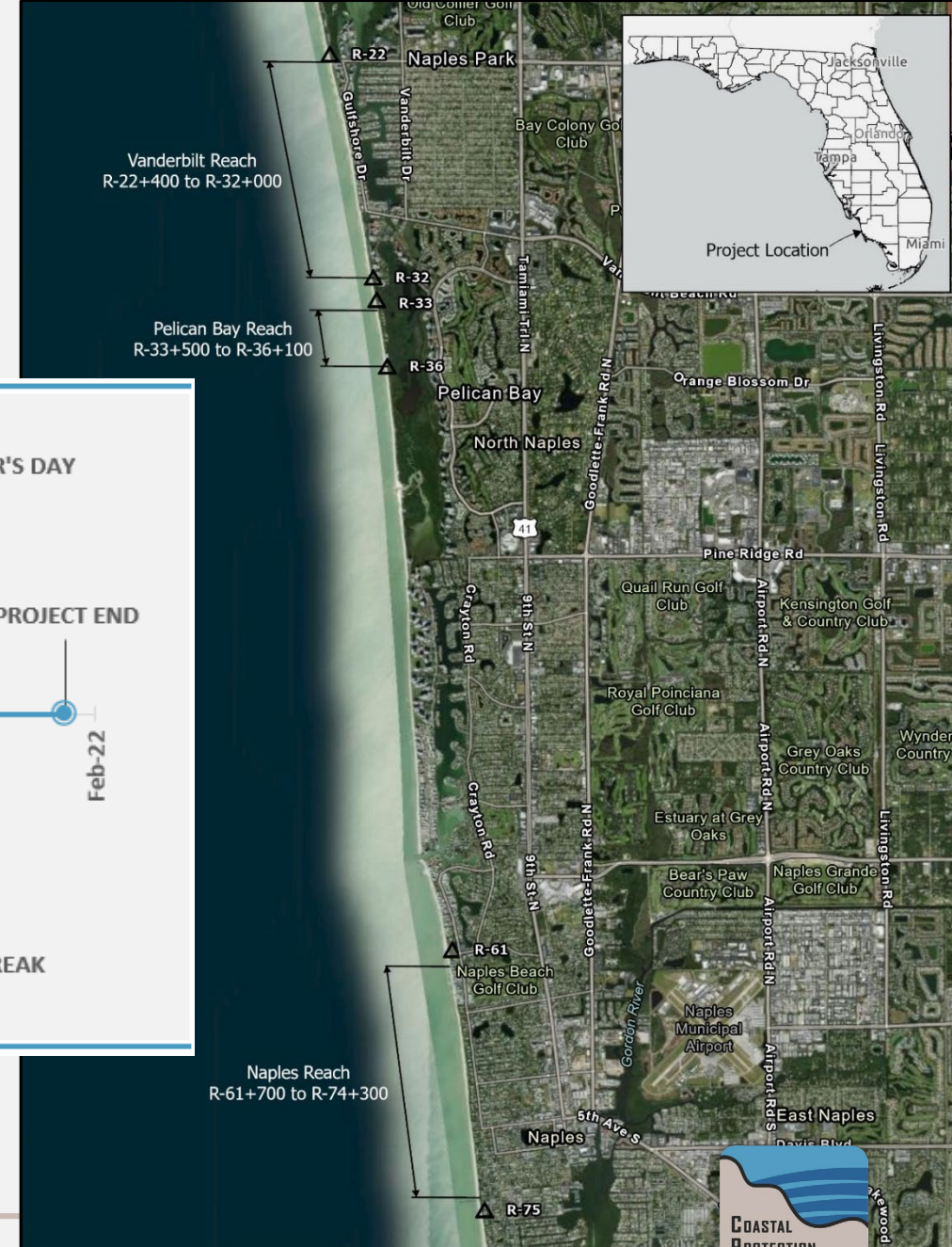
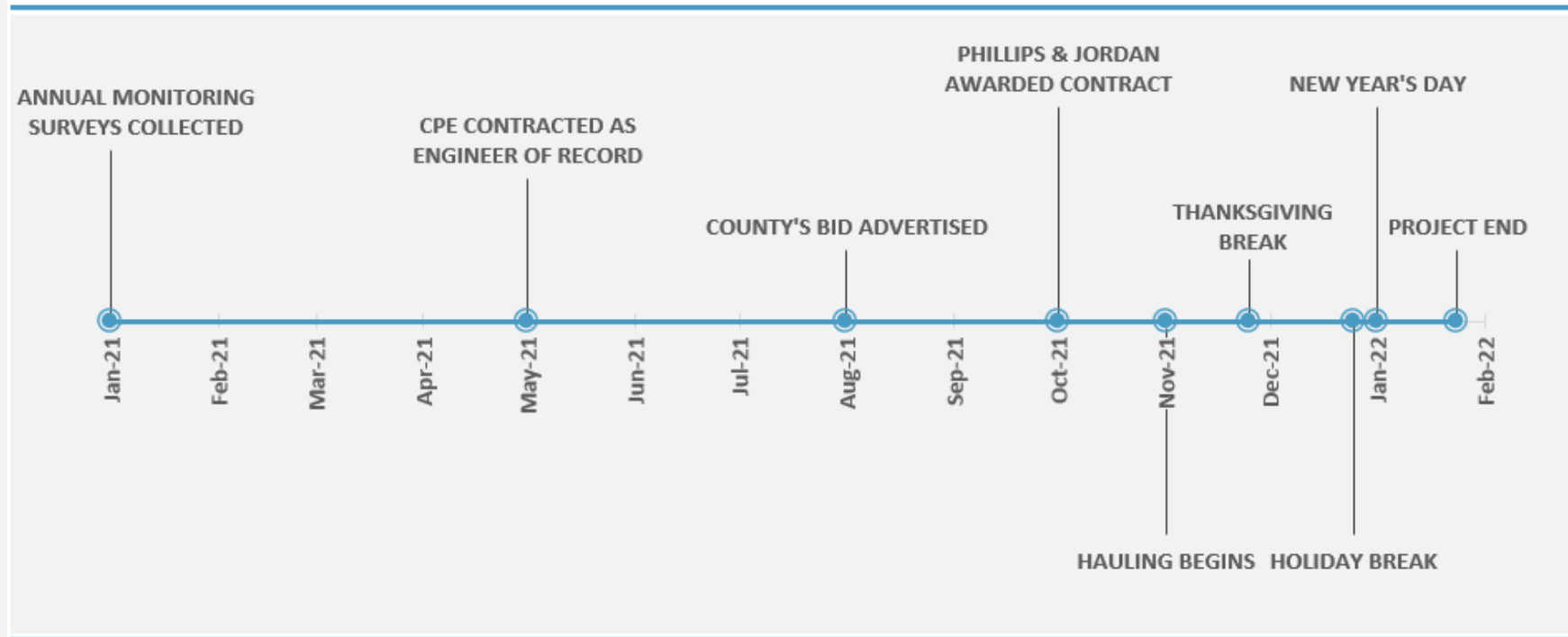


2021-22 COLLIER COUNTY NOURISHMENT

Beach Width Changes				
Pre-Construction (September 2021) to Post-Construction (January 2022)				
Profiles	Effective Distance (ft)	MHW (0.33' Elev.) (ft)	Upper Berm Crest (4.3' Elev.) (ft)	Lower Berm Crest (3.0' Elev.) (ft)
Vanderbilt Reach R-22+400 to R-32+000	9,831	24.3	12.7	22.9
Pelican Bay Reach R-33+500 to R-36+100	2,635	13.2	8.1	10.4
Naples Reach R-61+700 to R-74+300	10,618	21.3	23.6	19.5



PROJECT TIMELINE



SUCCESSFUL TRUCK HAUL STRATEGIES

- Since 2013, Collier County has implemented several large truck haul renourishment projects
- Through this experience, truck haul specific strategies have been developed



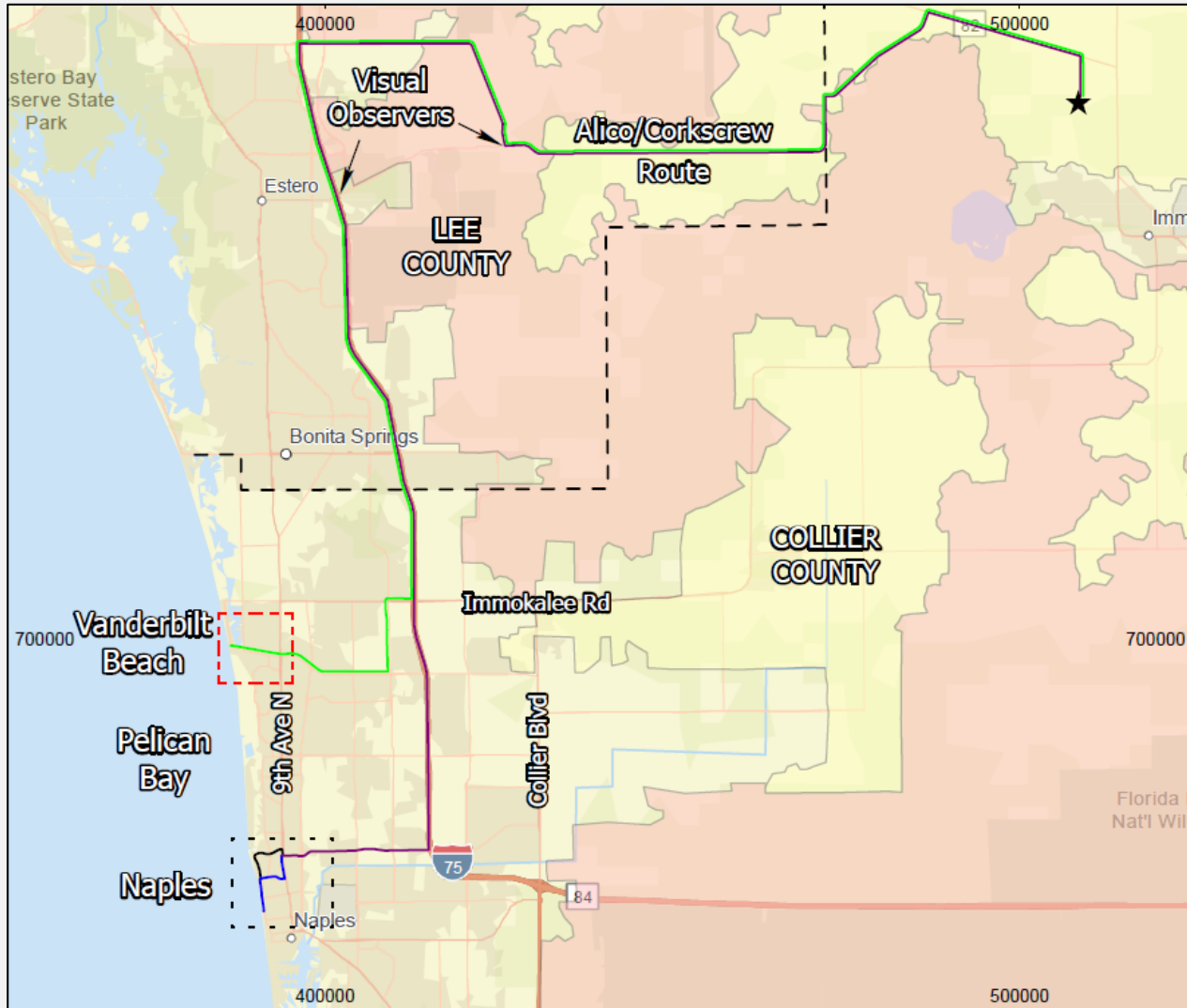
SUCCESSFUL TRUCK HAUL STRATEGIES

1. Physical monitoring adjusted from summer to winter season



SUCCESSFUL TRUCK HAUL STRATEGIES

2. Direct sand purchase contract



SUCCESSFUL TRUCK HAUL STRATEGIES

3. Truck routes established



SUCCESSFUL TRUCK HAUL STRATEGIES

4. Proactive coordination and involvement with Naples Police and the public



SUCCESSFUL TRUCK HAUL STRATEGIES

5. Construction accesses in each reach





SUCCESSFUL TRUCK HAUL STRATEGIES

6. Onsite ticket tracking

SUCCESSFUL TRUCK HAUL STRATEGIES

7. Engineering efficiencies and detailed oversight through management of construction surveys





SUCCESSFUL TRUCK HAUL STRATEGIES

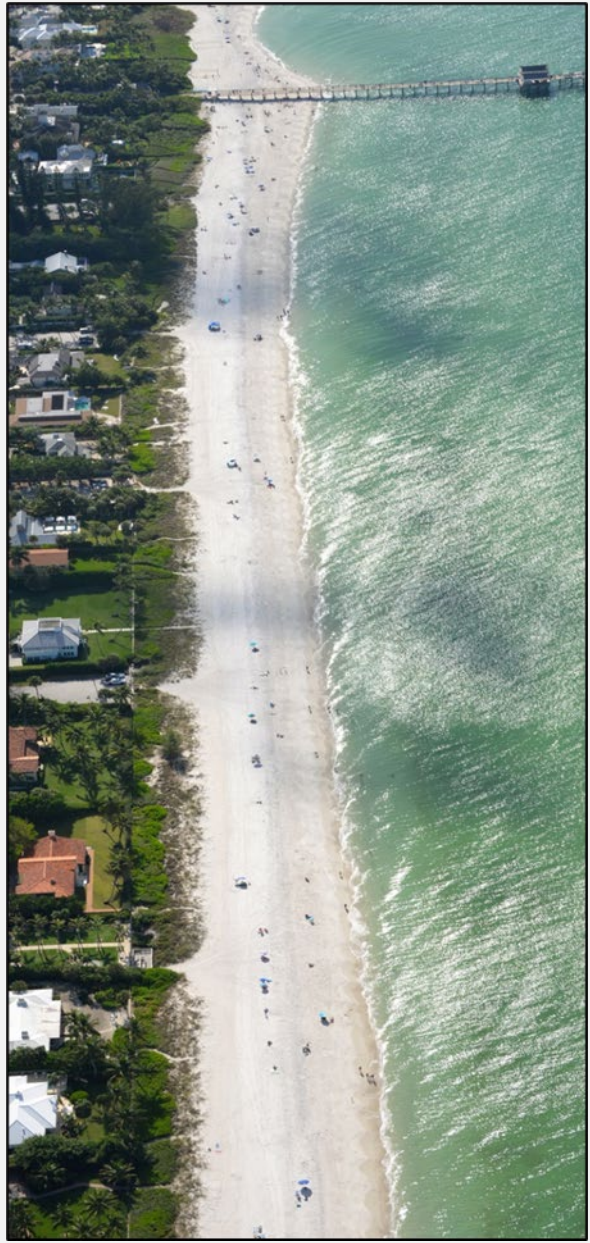
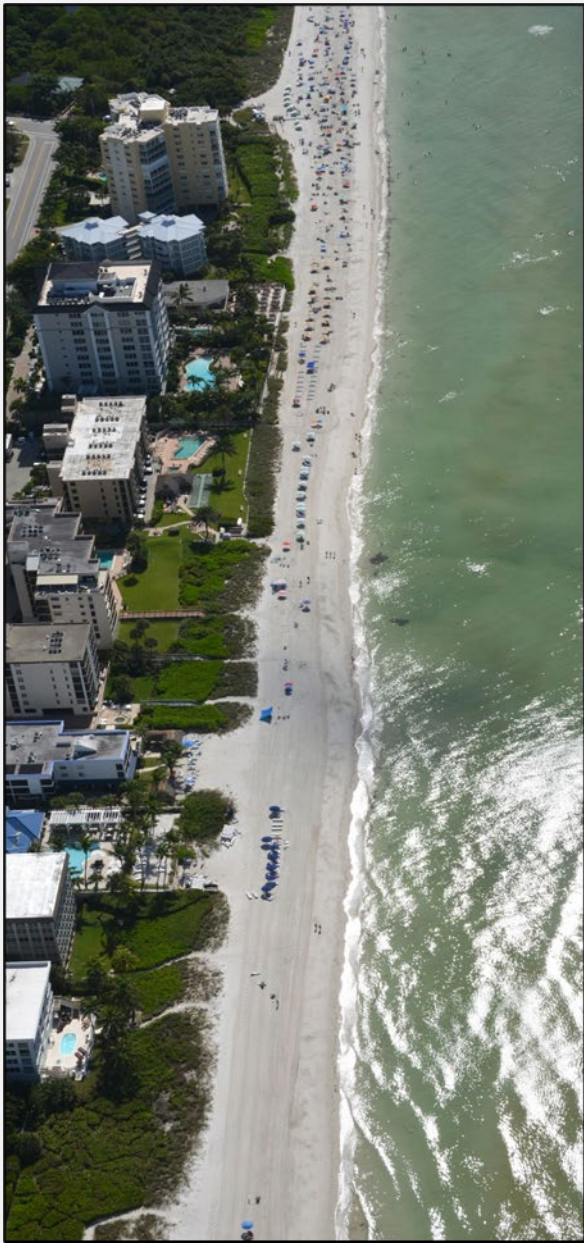
8. Working with the public during construction



SUCCESSFUL TRUCK HAUL STRATEGIES

9. Selection of project team members with specific beach renourishment truck hauling experience





Vanderbilt Beach before and after placement

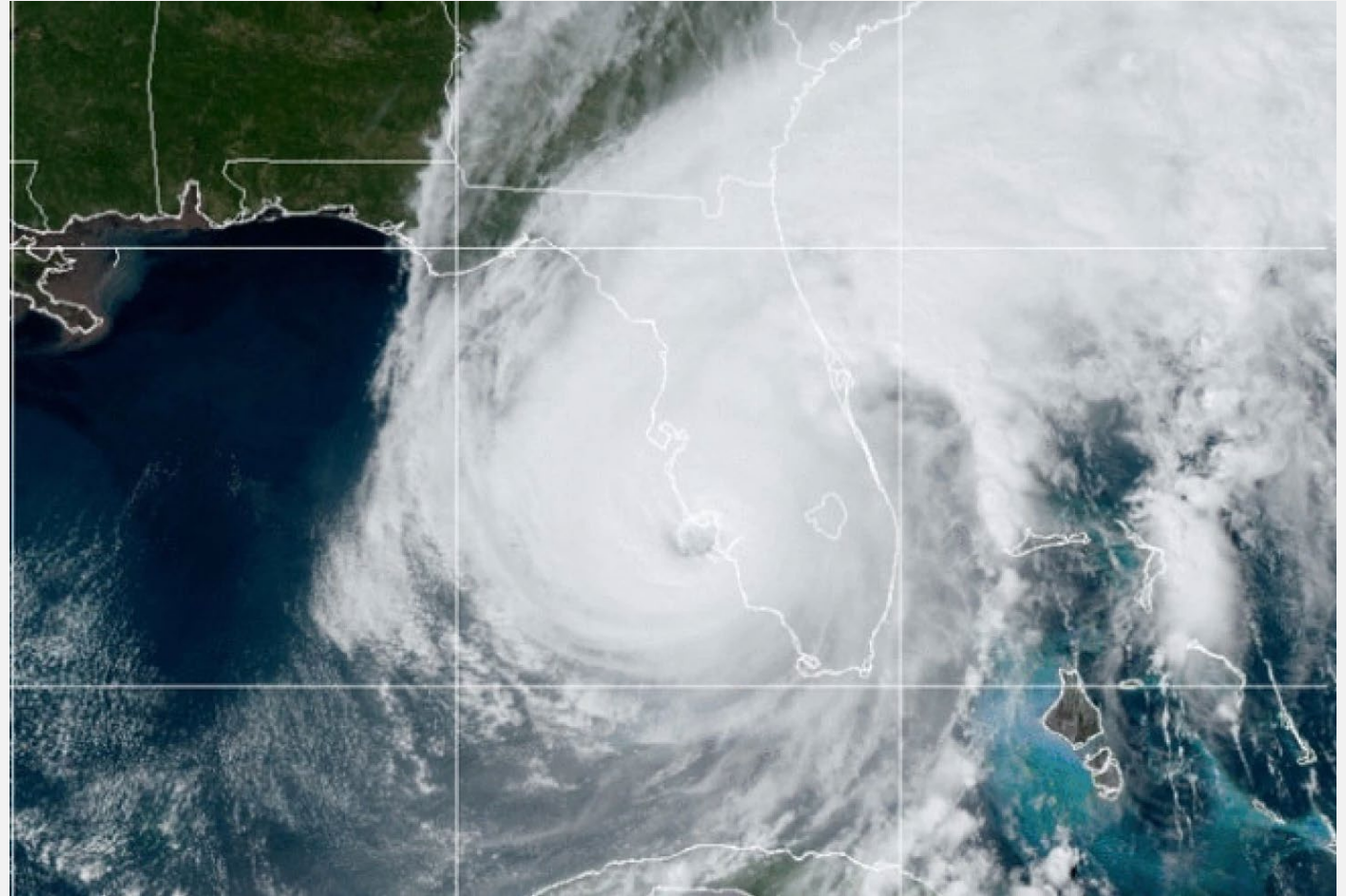
Source: Phillips & Jordan, Aero Photo

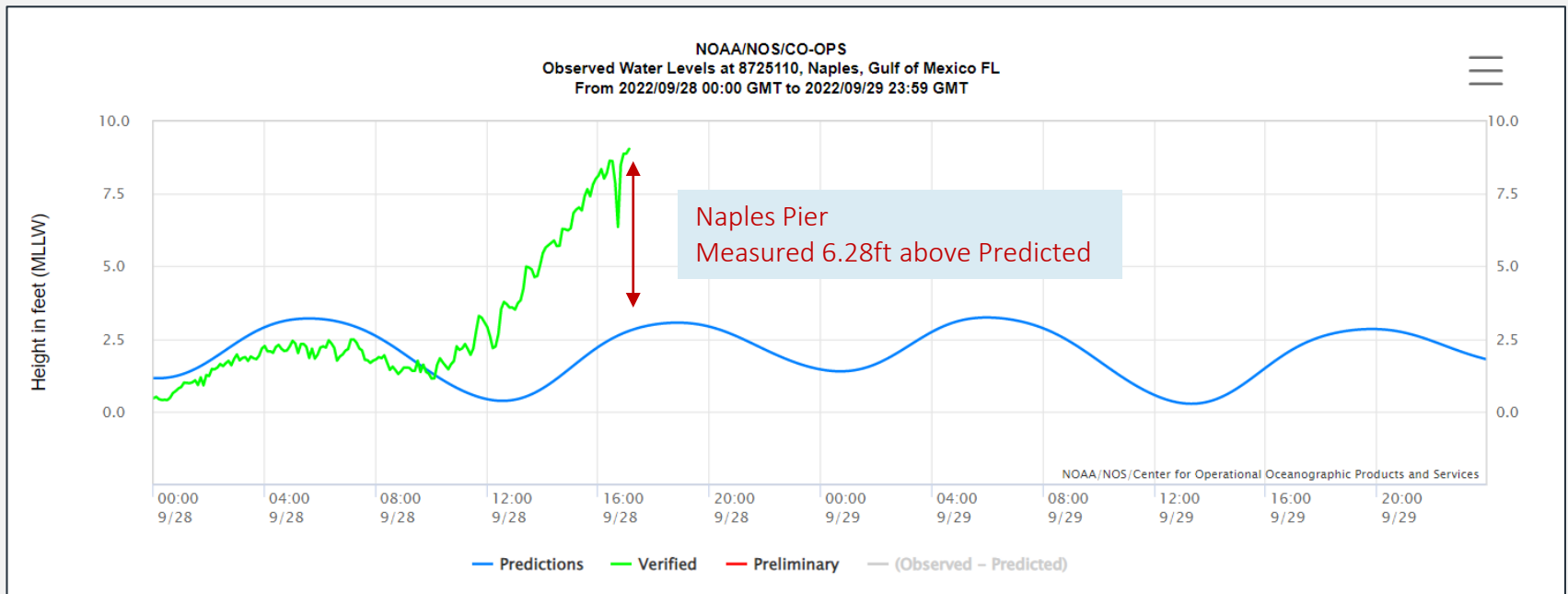
Naples Pier before and after placement

Source: Phillips & Jordan, Aero Photo

HURRICANE IAN

- With this project in place, the County was looking forward to a few quiet coastal construction years
- Then Hurricane Ian hit north of Collier in Lee County on September 28, 2022
- The beach and dune system was overtaken
- Immediate post-storm site visit observations revealed damages varied by reach
- Impacts further analyzed by the County & APTIM using this project's post-construction surveys to represent pre-storm conditions





Naples Water Levels September 2021





Vanderbilt Beach November 2021



Vanderbilt Beach October 2022 Post-Ian



*Barefoot Beach, Northern Collier County
October 4, 2022, Post-lan*



*Naples Pier October 2022, Post-lan
Source: Naples Daily News*



*Vanderbilt Beach Resort
October 4, 2022 Post-lan*



Immediately Post-Ian

October 4, 2022, 6 Days Post-Ian

IMMEDIATE POST-STORM OBSERVATIONS

- High surge water levels measured
- Significant damage to beach structures:
Naples Pier, Lowdermilk Park, Vanderbilt Beach
access, coastal residences
- Dune sand and vegetation greatly impacted
- Beach berm lowered
- Impacts more severe north of Doctors Pass
- Widespread debris on beach

Questions?



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ENJOY FORT MYERS!



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