

# Rock Groin Performance Longboat Key, FL

Krista J. Egan, P.E.  
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Charlie Mopps

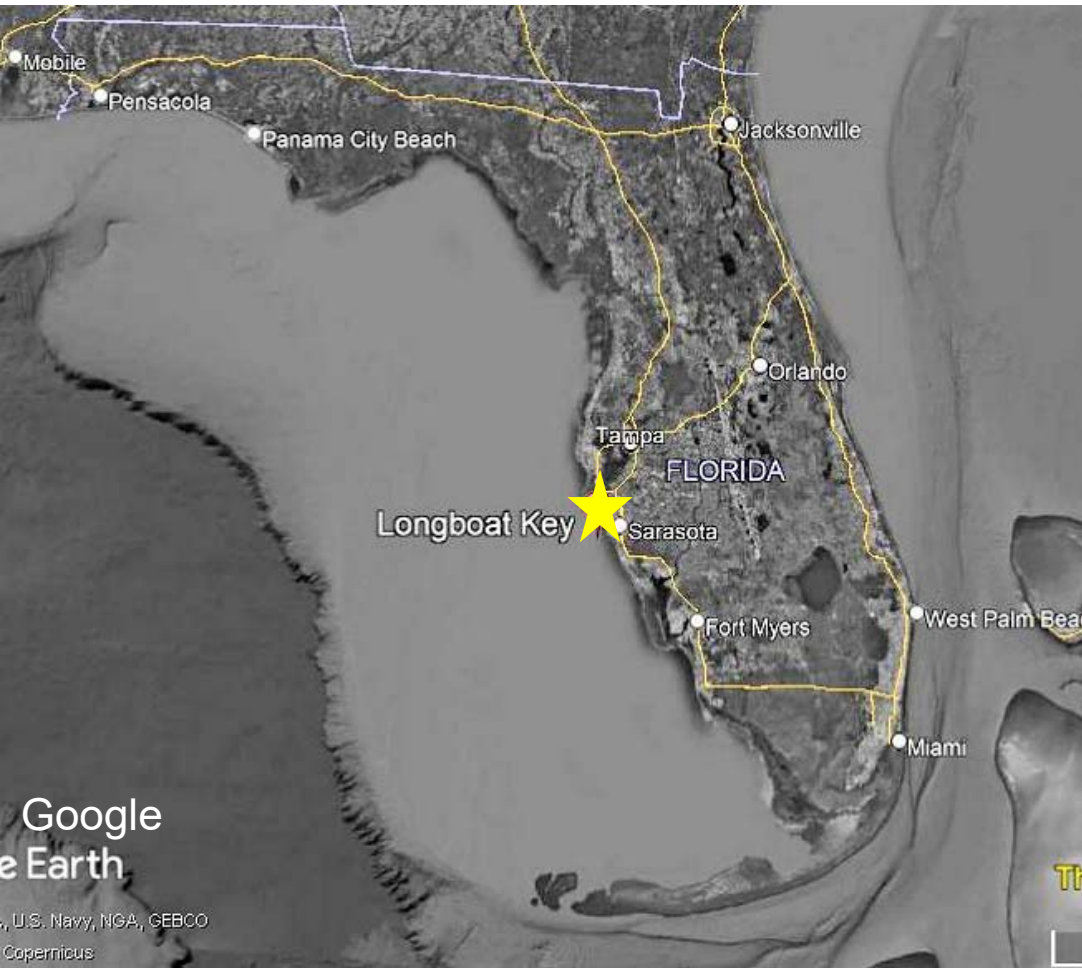


**olsen**  
associates, inc.  
Coastal Engineering



22 December 2023  
olsen associates, inc.

2024 FSBPA National Conference on  
Beach Preservation Technology

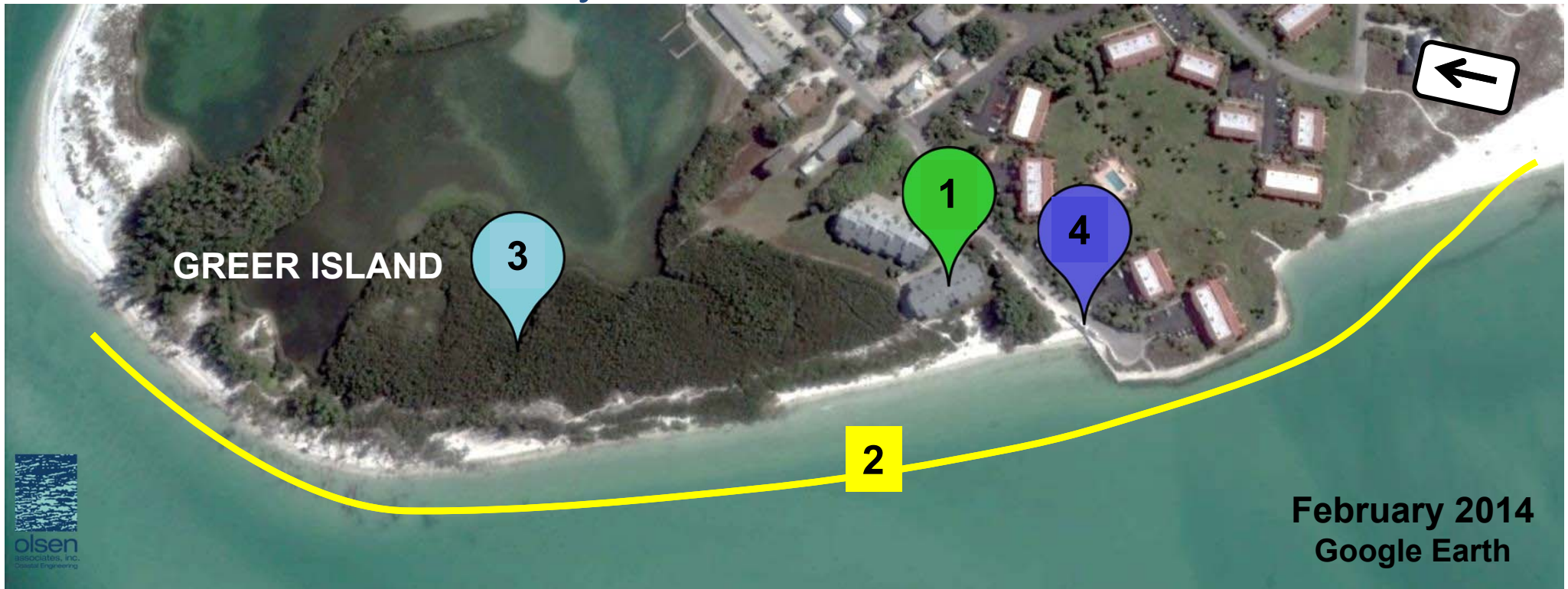


# Location



# Goals

1. Storm protection for condo
2. Recreational amenity
3. Preserve natural resources
4. Protect Road





**17 September 2013**  
**olsen associates, inc.**





# Sand Placement every 1.5 years ~35,000 cy/yr

2010 (2), 2011, 2014,  
2015, 2016, 2018



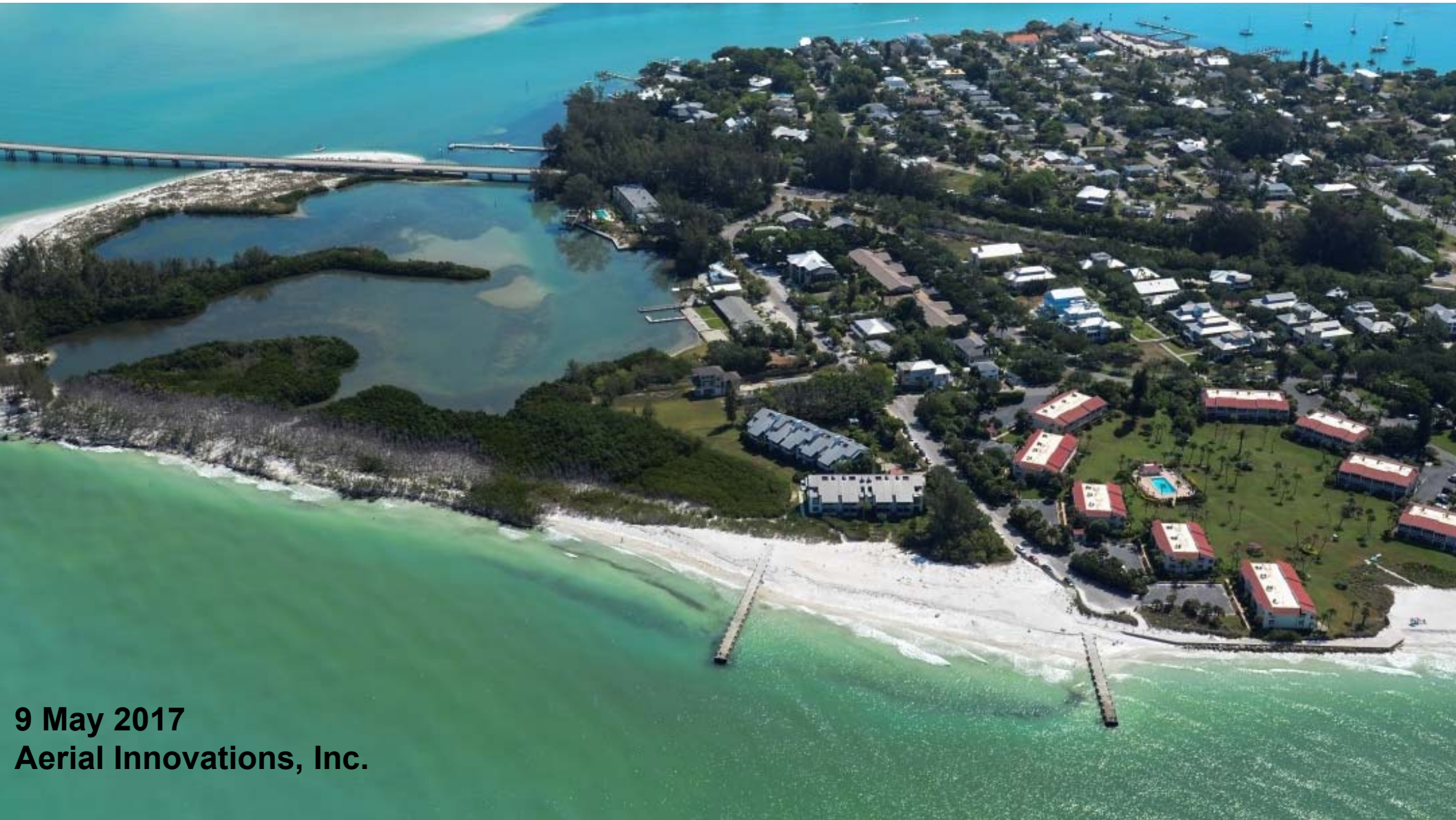


**First Stabilization**  
**2 Concrete Groins**  
**(2015)**

**9 September 2015**  
**Humiston & Moore**

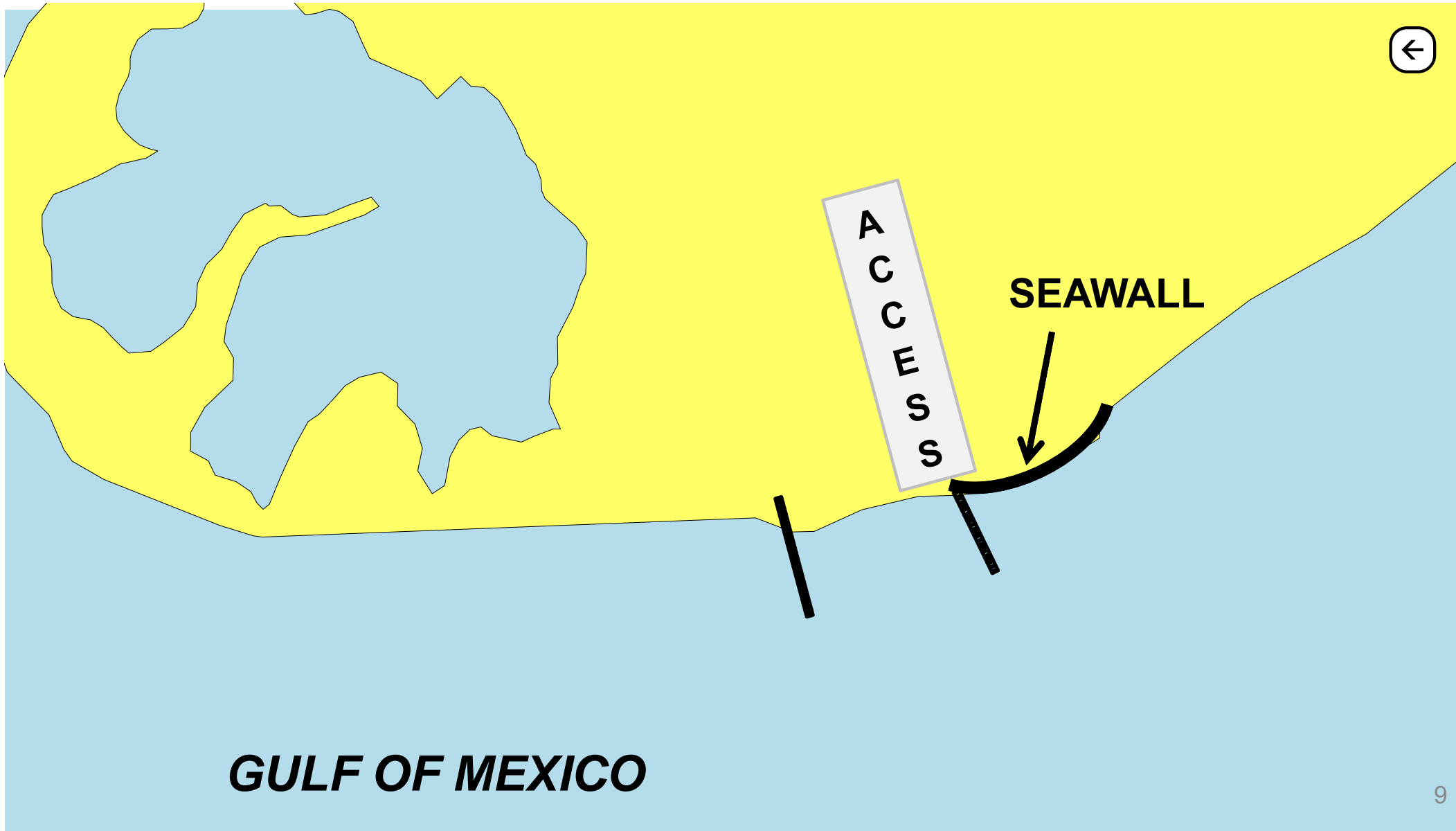


**19 October 2019**  
**Town of Longboat Key**

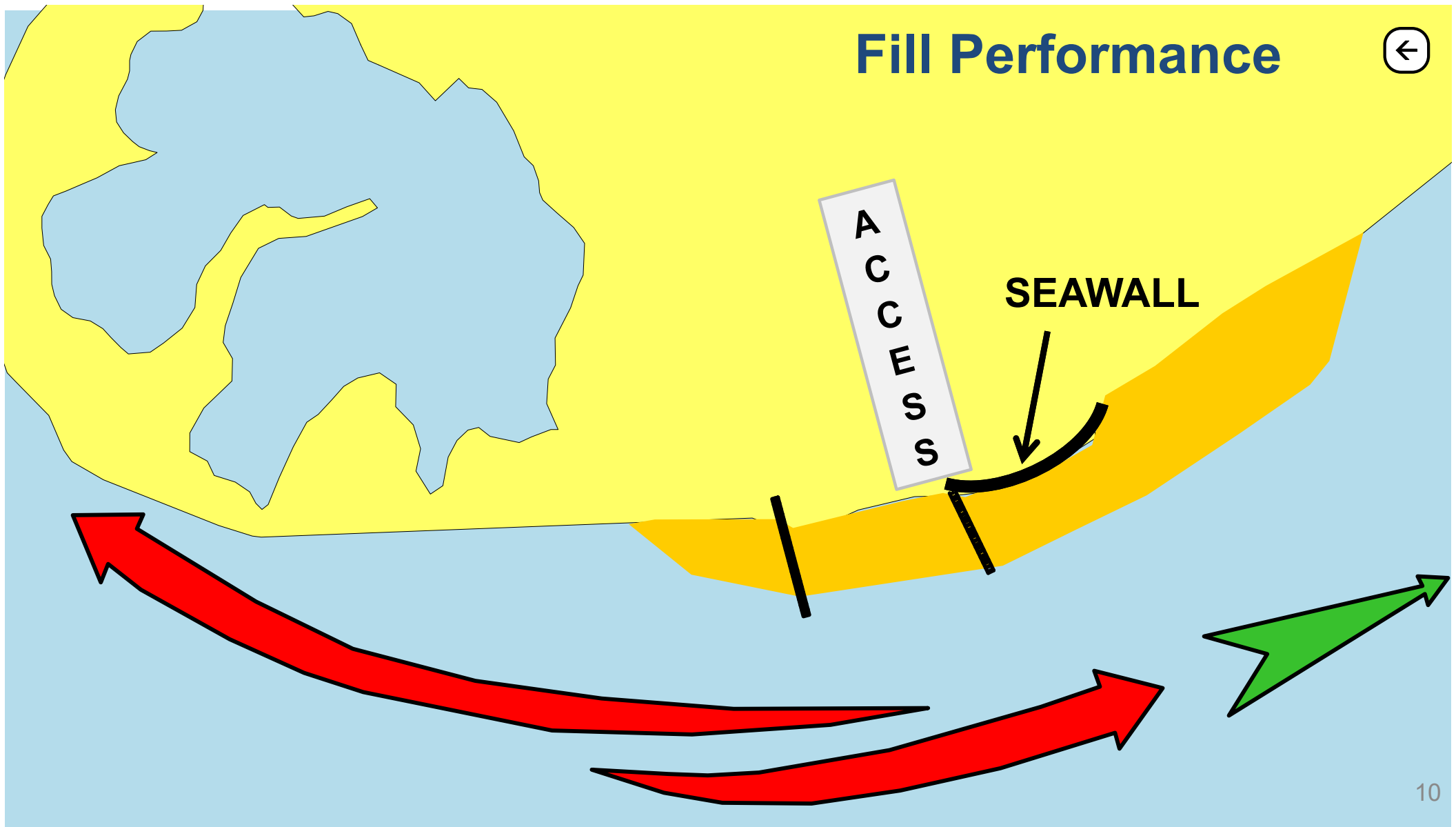


**9 May 2017**  
**Aerial Innovations, Inc.**





# Fill Performance



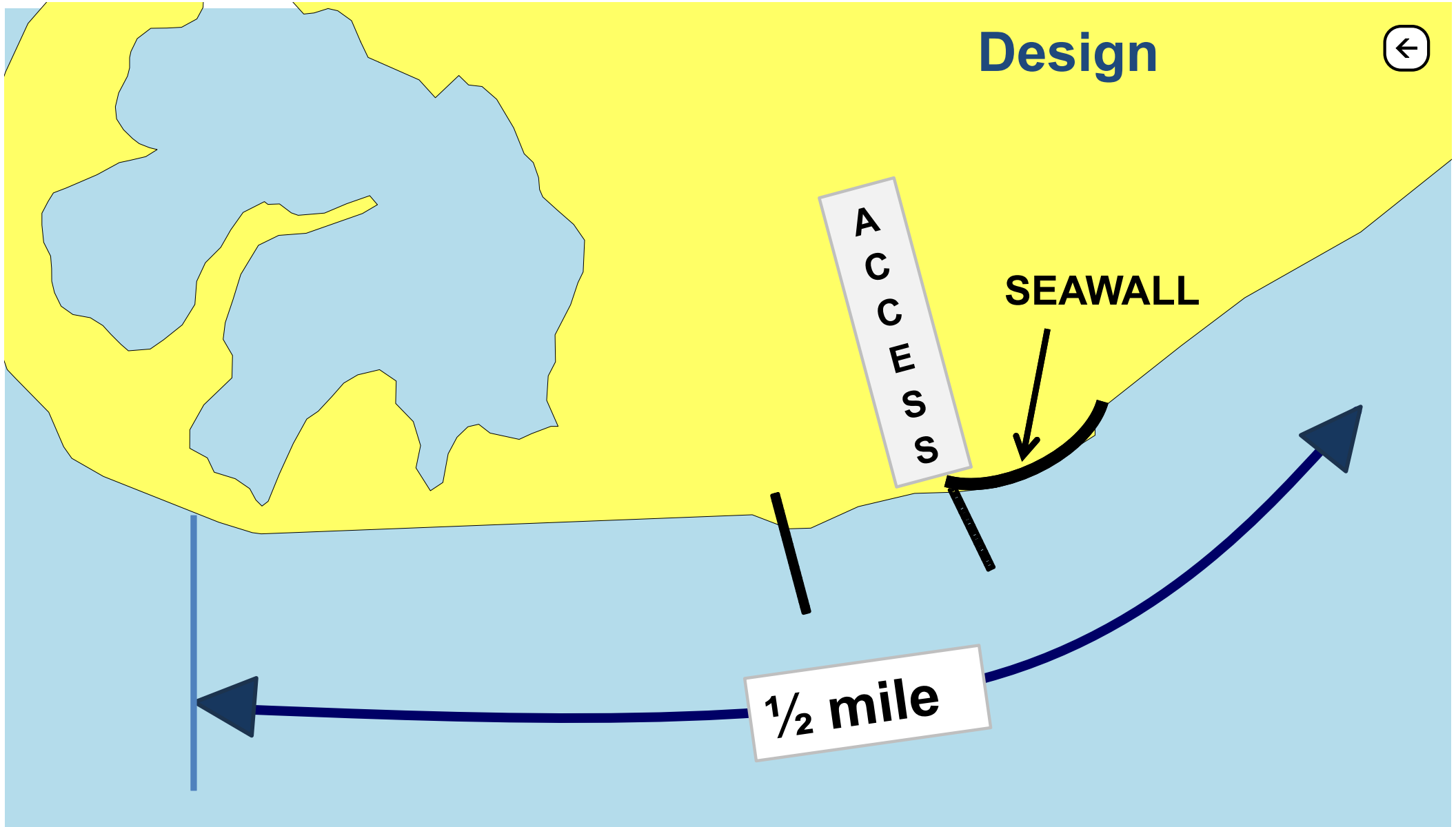
# Design



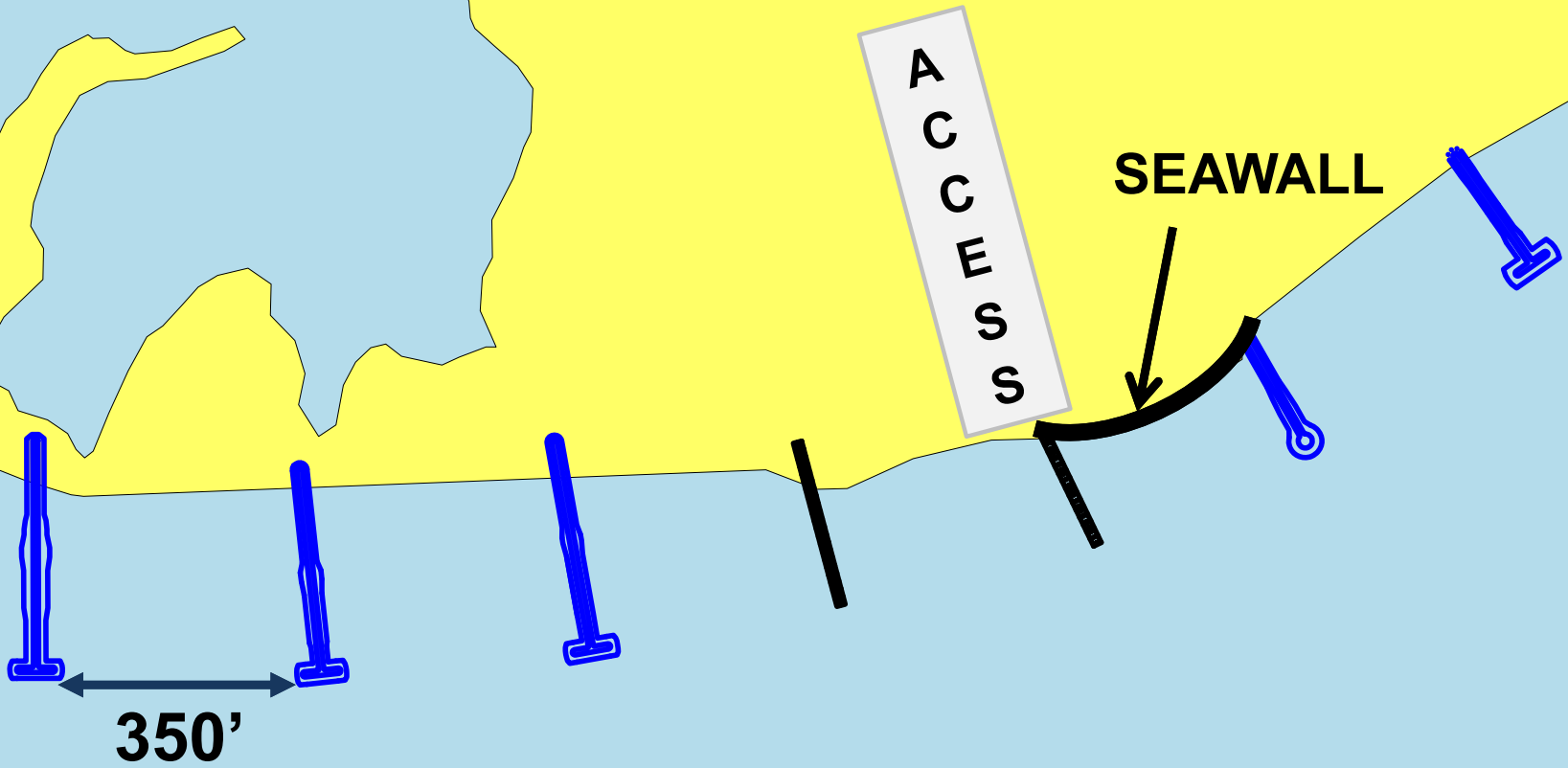
A  
C  
C  
E  
S  
S

SEAWALL

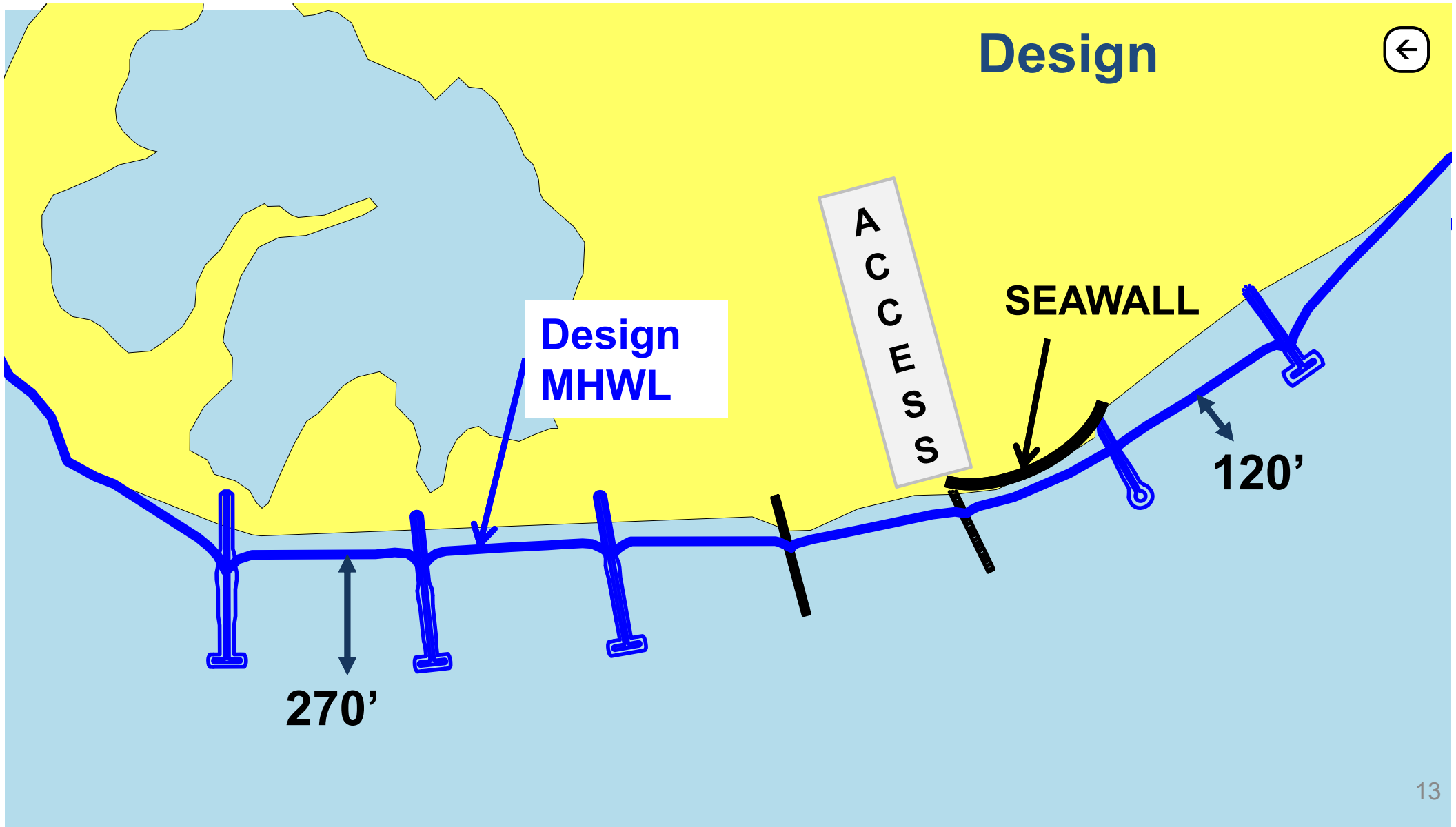
1/2 mile



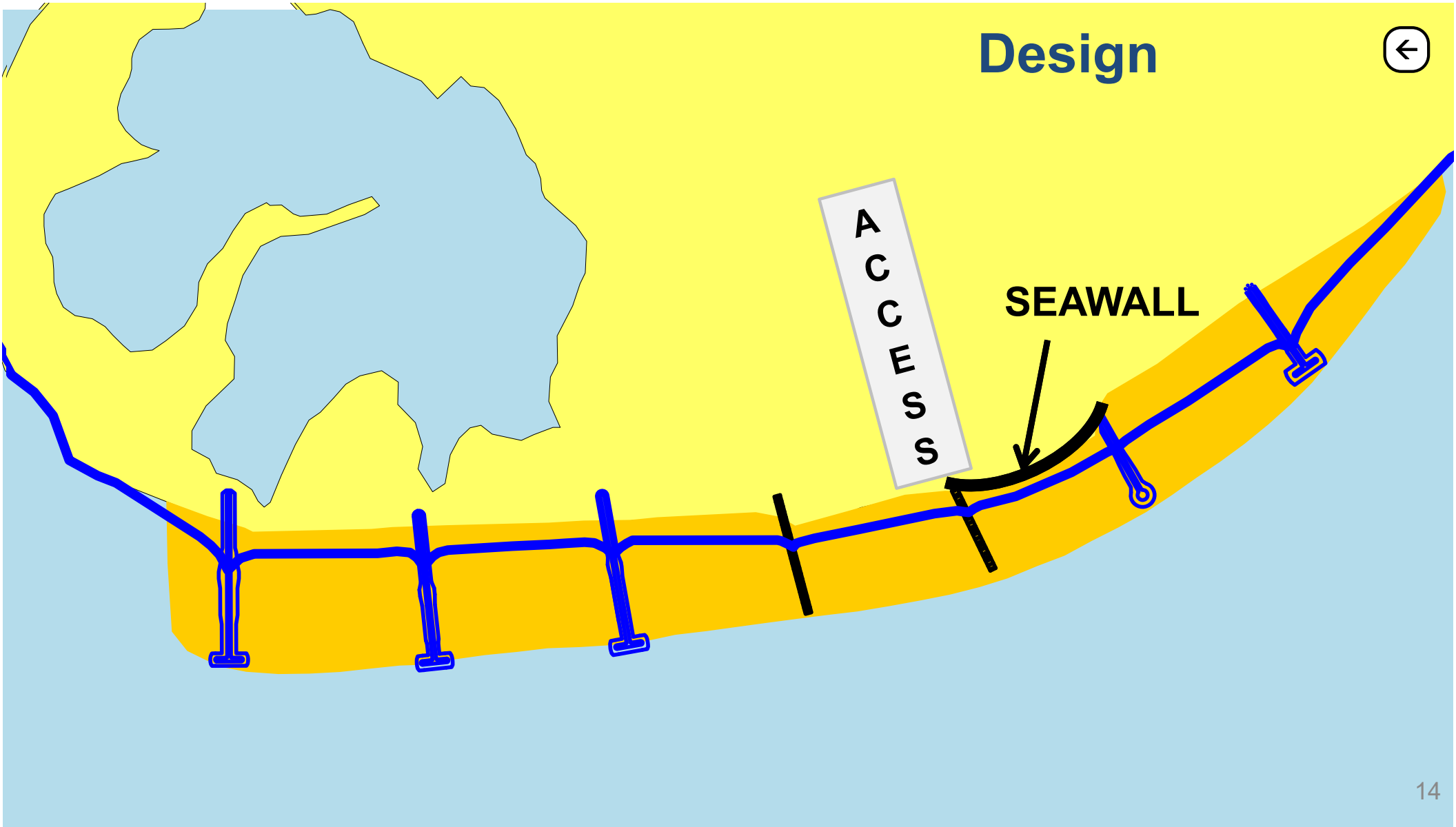
# Design



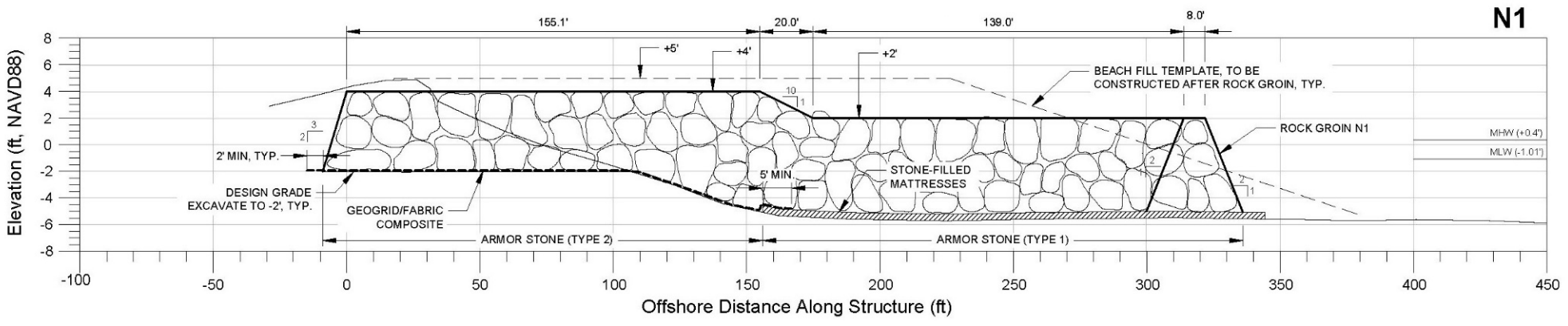
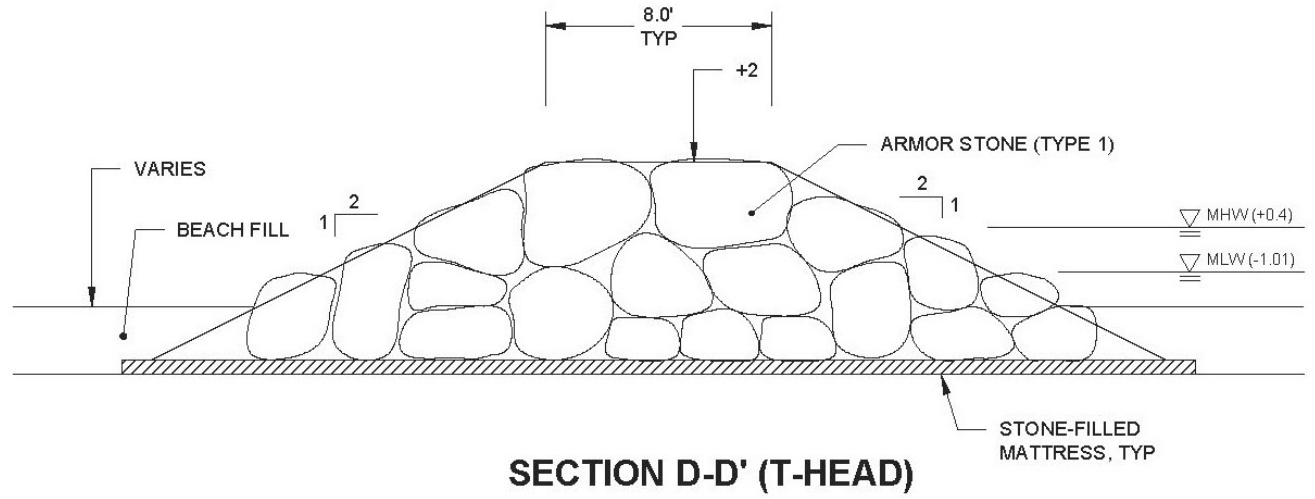
# Design



# Design



**Contractor:  
Kelly Brothers, Inc.**





# 2020 Post-Eta (Pre-Construction)





02 September 2021  
olsen associates, Inc.



# 2021 Completed Groins (Pre-Fill)



**Beach Fill Contractor:  
Weeks Marine, Inc.**

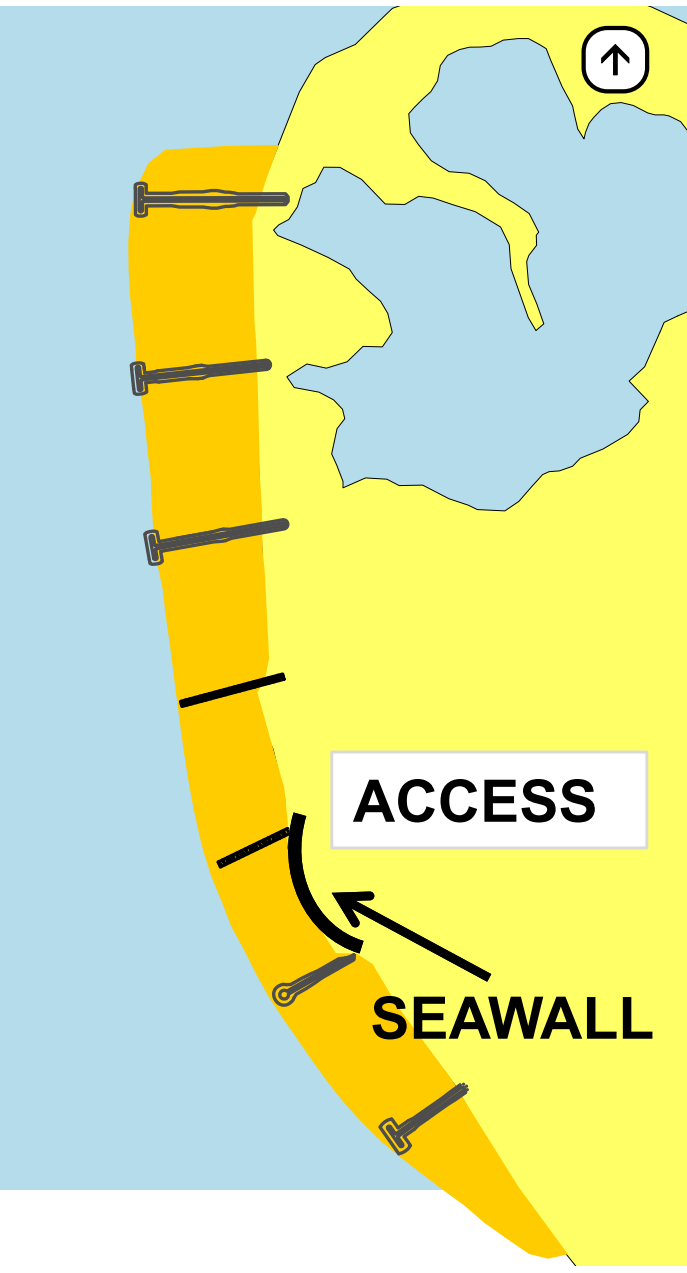
**21 September 2021  
olsen associates, inc.**



# 2021 POST-CON

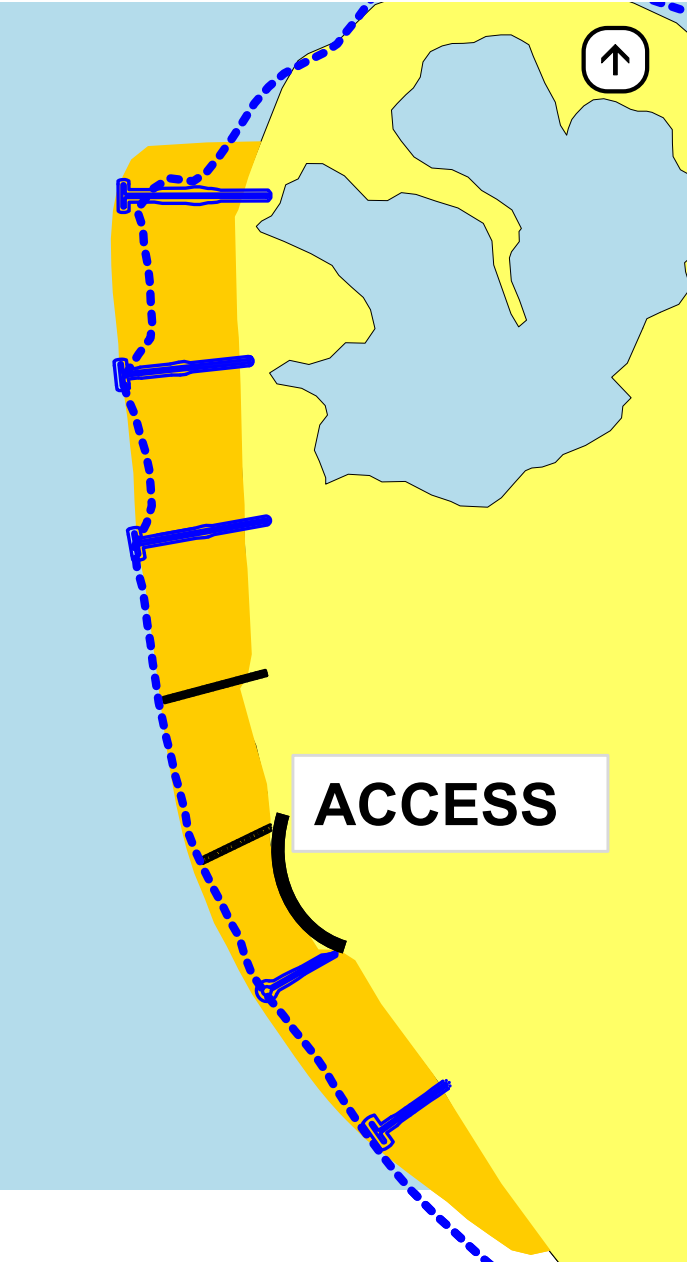


21 September 2021  
olsen associates, inc.



# 2021 POST-CON

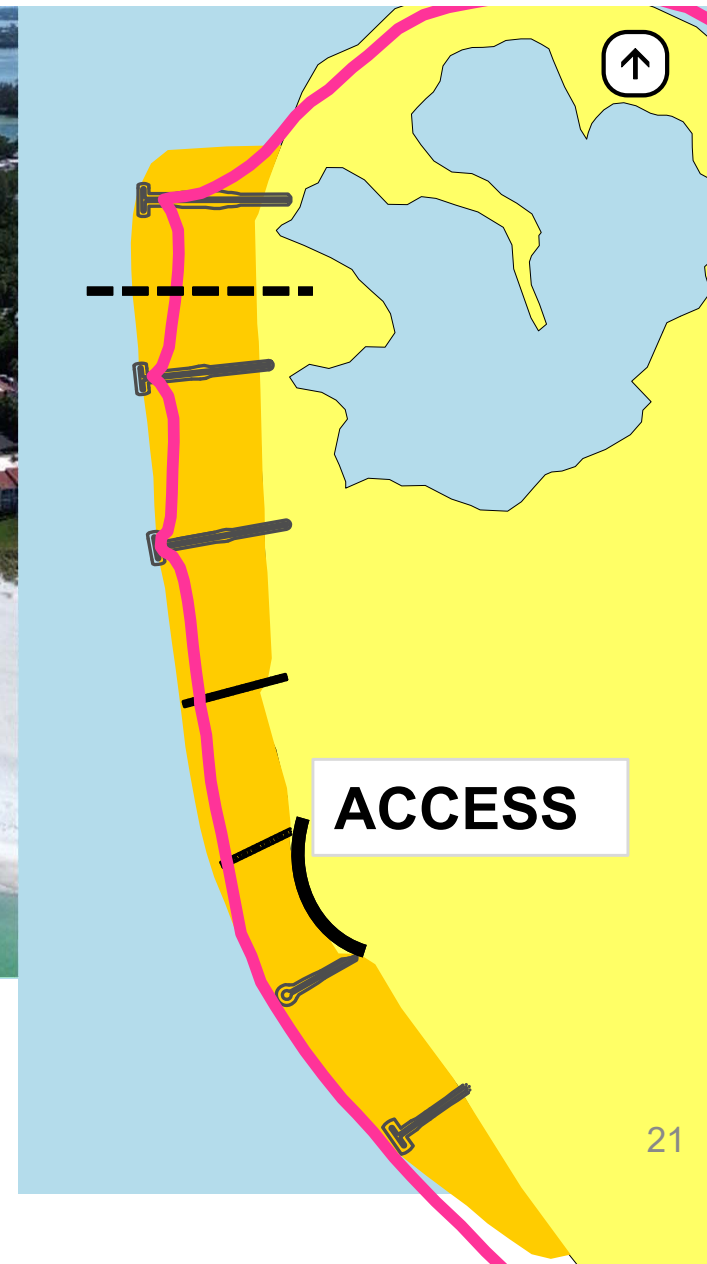
6 June 2022  
olsen associates, inc.



**2022 (YEAR-1)**



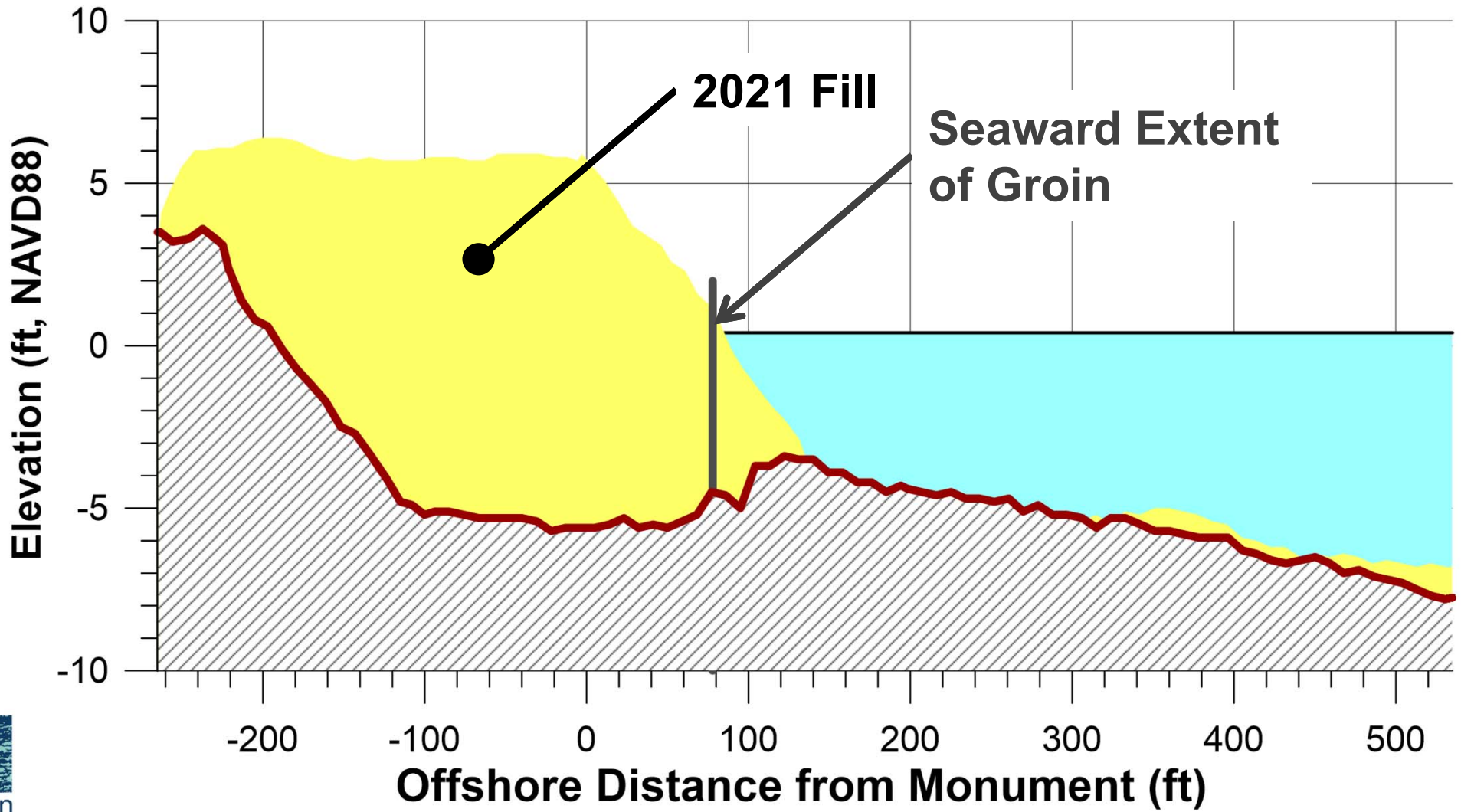
21 July 2023  
olsen associates, inc.

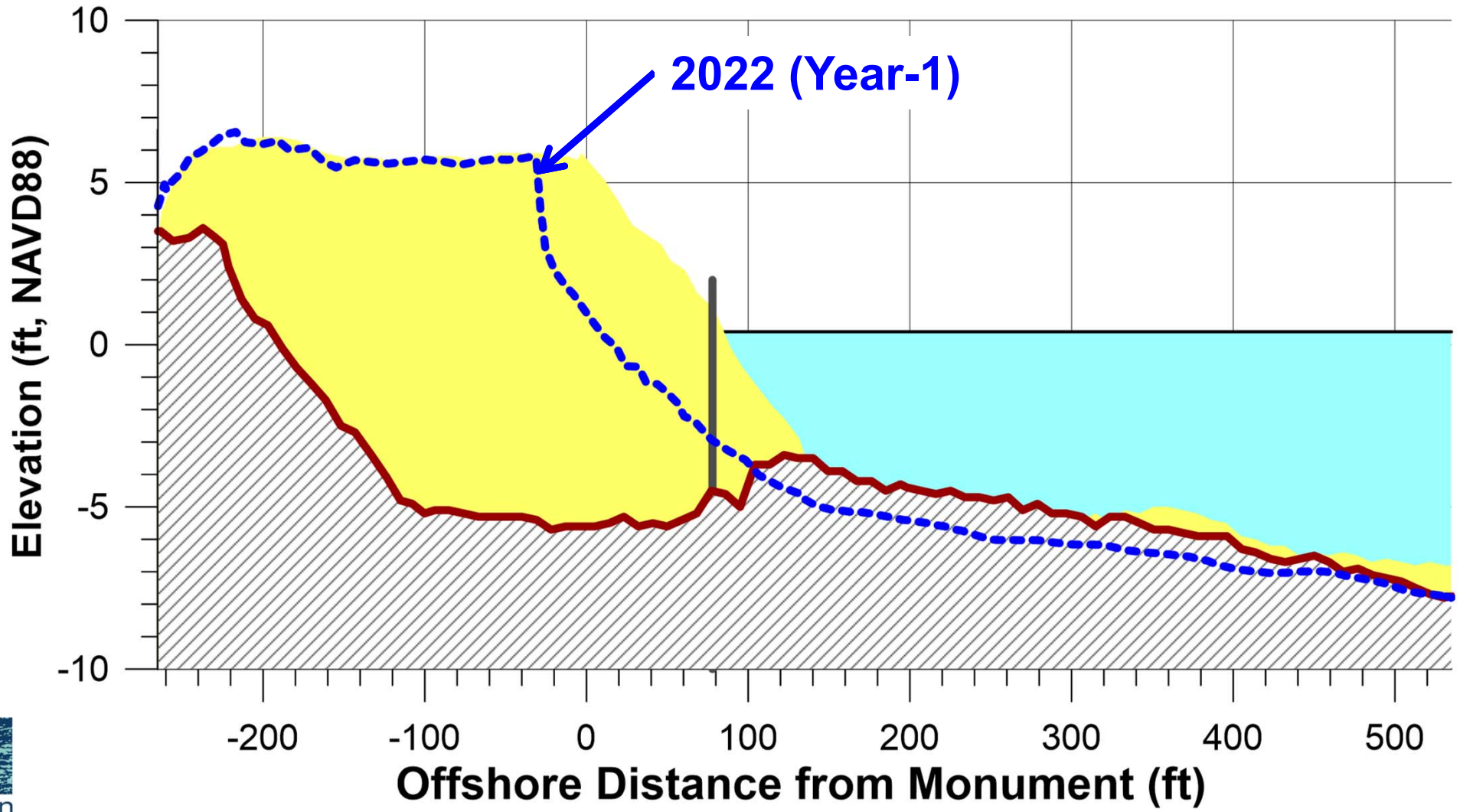


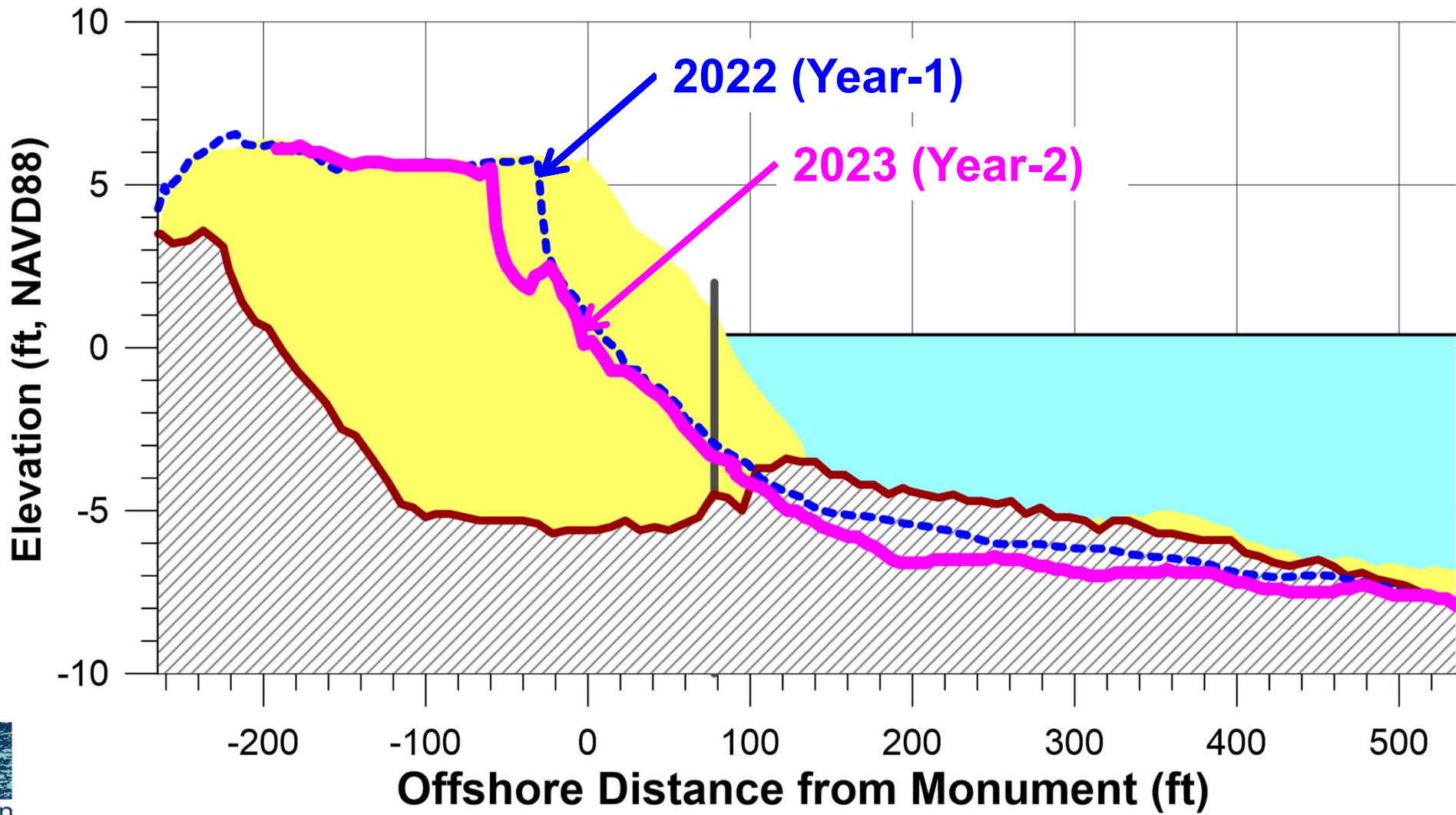
**ACCESS**



# 2023 (YEAR-2)



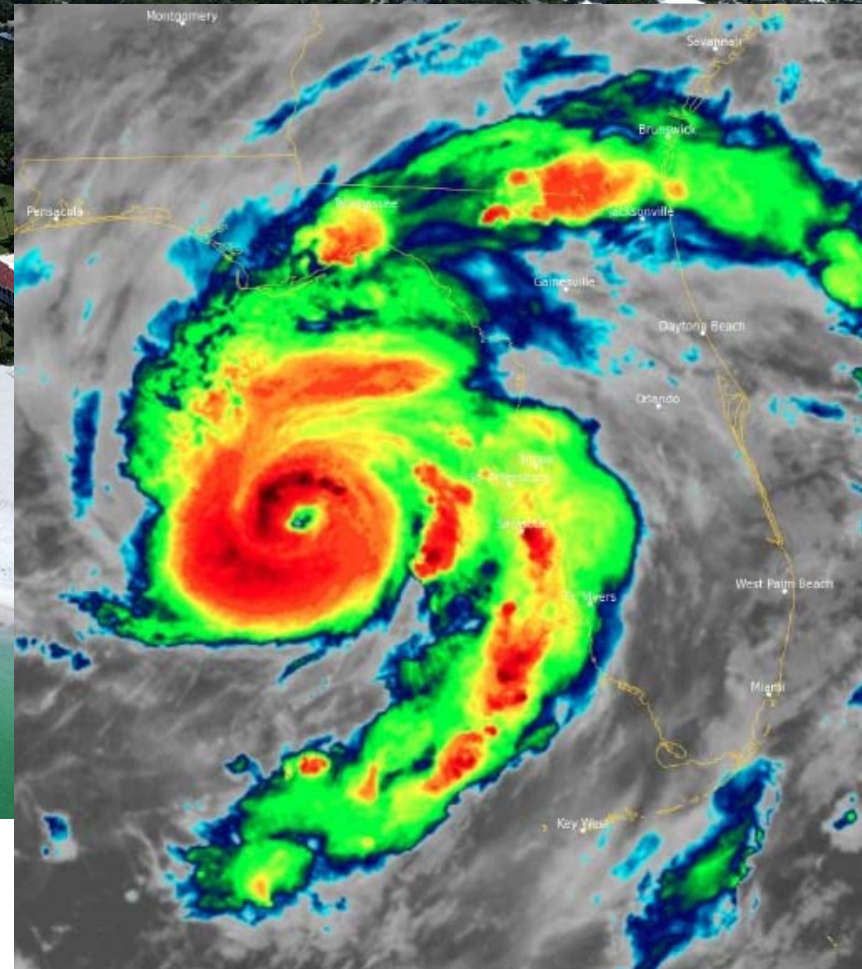








21 July 2023  
olsen associates, inc.



NOAA – weather.gov



# 2023 Post-Survey



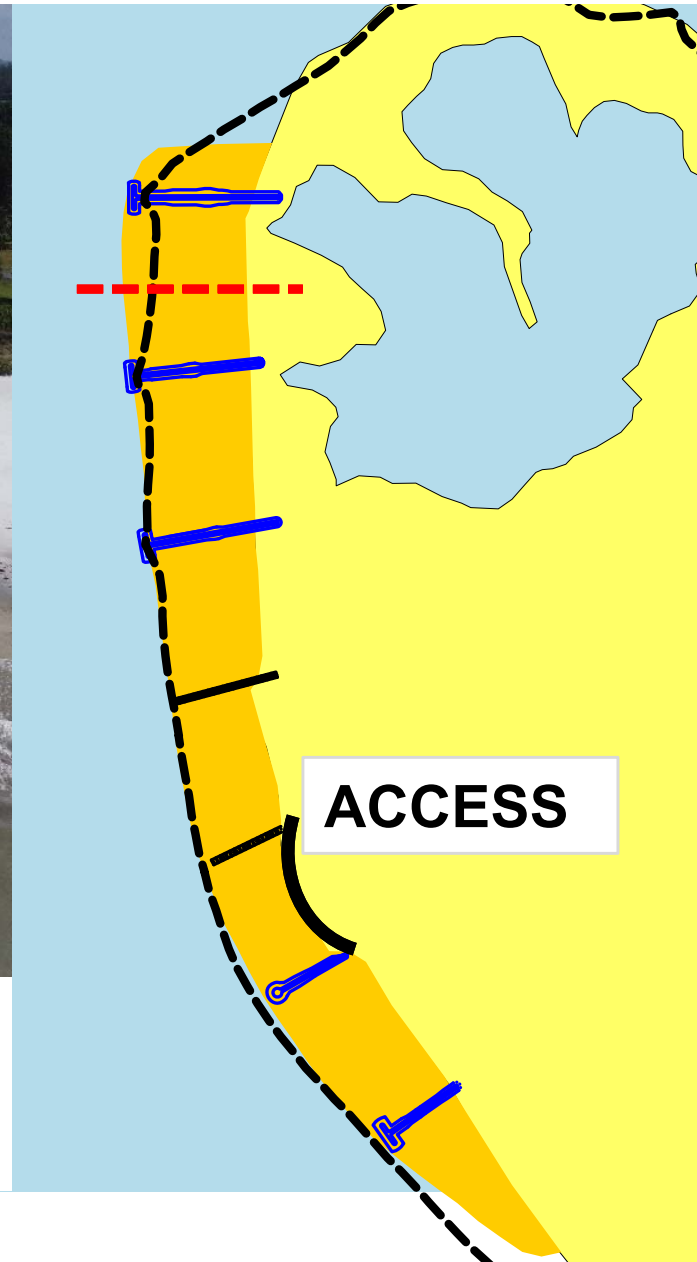
**1 September 2023**  
**olsen associates, inc.**



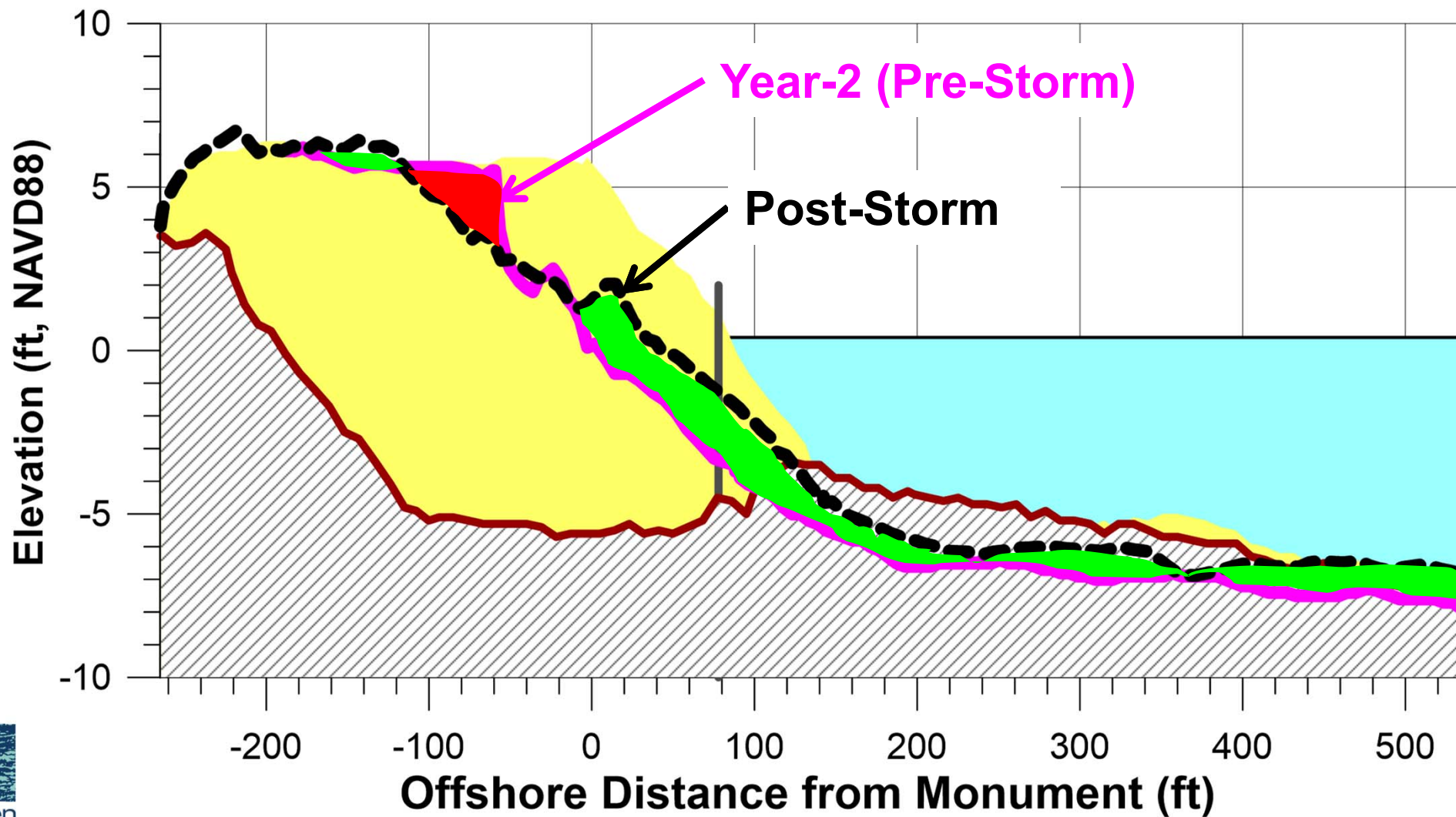
# 2023 Post-Idalia



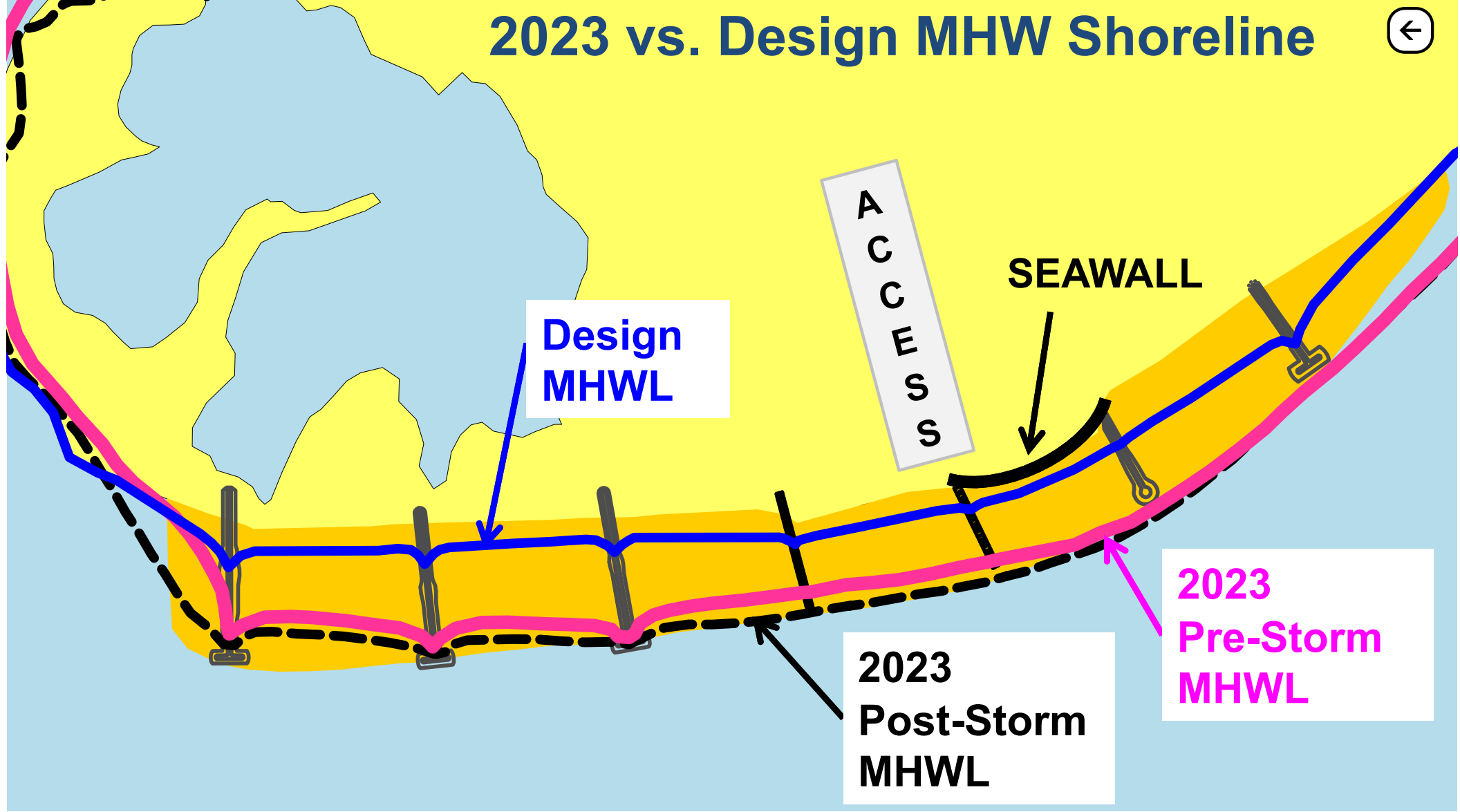
1 September 2023  
olsen associates, inc.



# 2023 Post-Idalia



# 2023 vs. Design MHW Shoreline



Design MHWL

A  
C  
C  
E  
S  
S

SEAWALL

2023 Post-Storm MHWL

2023 Pre-Storm MHWL

An aerial photograph of a coastal area. In the foreground, there is a wide, light-colored sandy beach that curves along the shoreline. The water is a clear, light blue-green color. To the right of the beach, there are several large, multi-story buildings with red-tiled roofs, likely hotels or resorts. The buildings are surrounded by greenery and some paved areas. In the background, the beach continues further along the coast, with more buildings and a distant view of the ocean under a clear sky.

## Next Steps

- Continued Monitoring
- Renourishment ~2029

**22 December 2023**  
**olsen associates, inc.**

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