

February 5, 2026



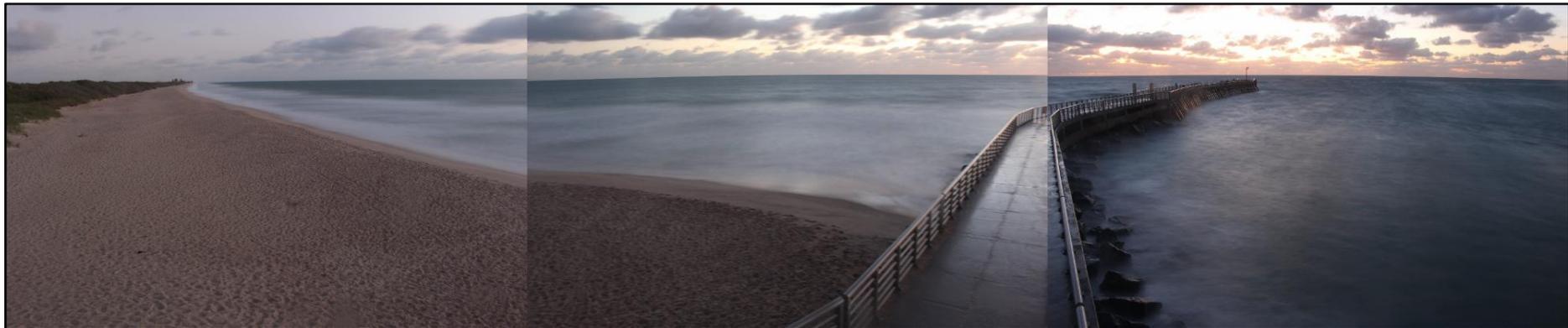
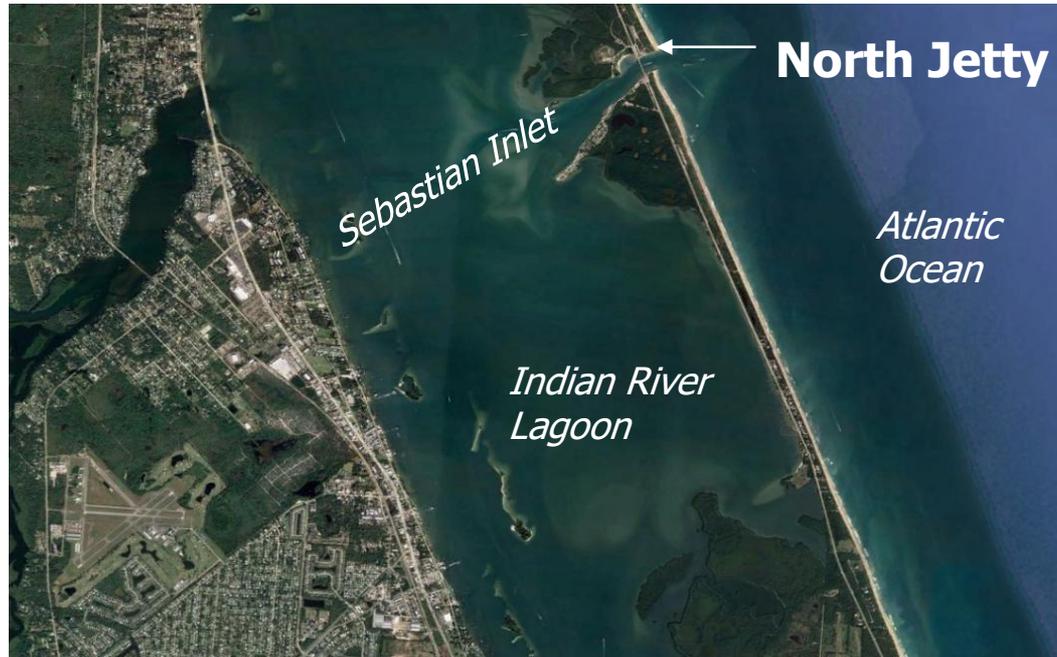
Sebastian Inlet North Jetty Rehabilitation Project

The National Conference on Beach Preservation Technology - FSBPA 2026





Sebastian Inlet North Jetty



ESA Project Leaders



Bryan D. Flynn, PE

Program Manager

BFlynn@esassoc.com

TAMPA, FL



Tara Brenner, PG, PE

Senior Coastal Engineer

TBrenner@esassoc.com

BOYNTON BEACH, FL



Carlos Rivera, PE

Coastal Engineer

CRivera@esassoc.com

TAMPA, FL



Project Team





Maintenance & Improvements Required

- Inlet stabilization post-WWII
- Undersized revetment rock
- Slab on grade concrete structure was undermined
- Fortify the jetty to increase resiliency of the structure to waves
- Stabilize northern shoreline (Sebastian Inlet State Park)
- Sand tightening maintains safety of inlet navigation



Erosion under the jetty's approach sidewalk after Hurricane Nicole 2022

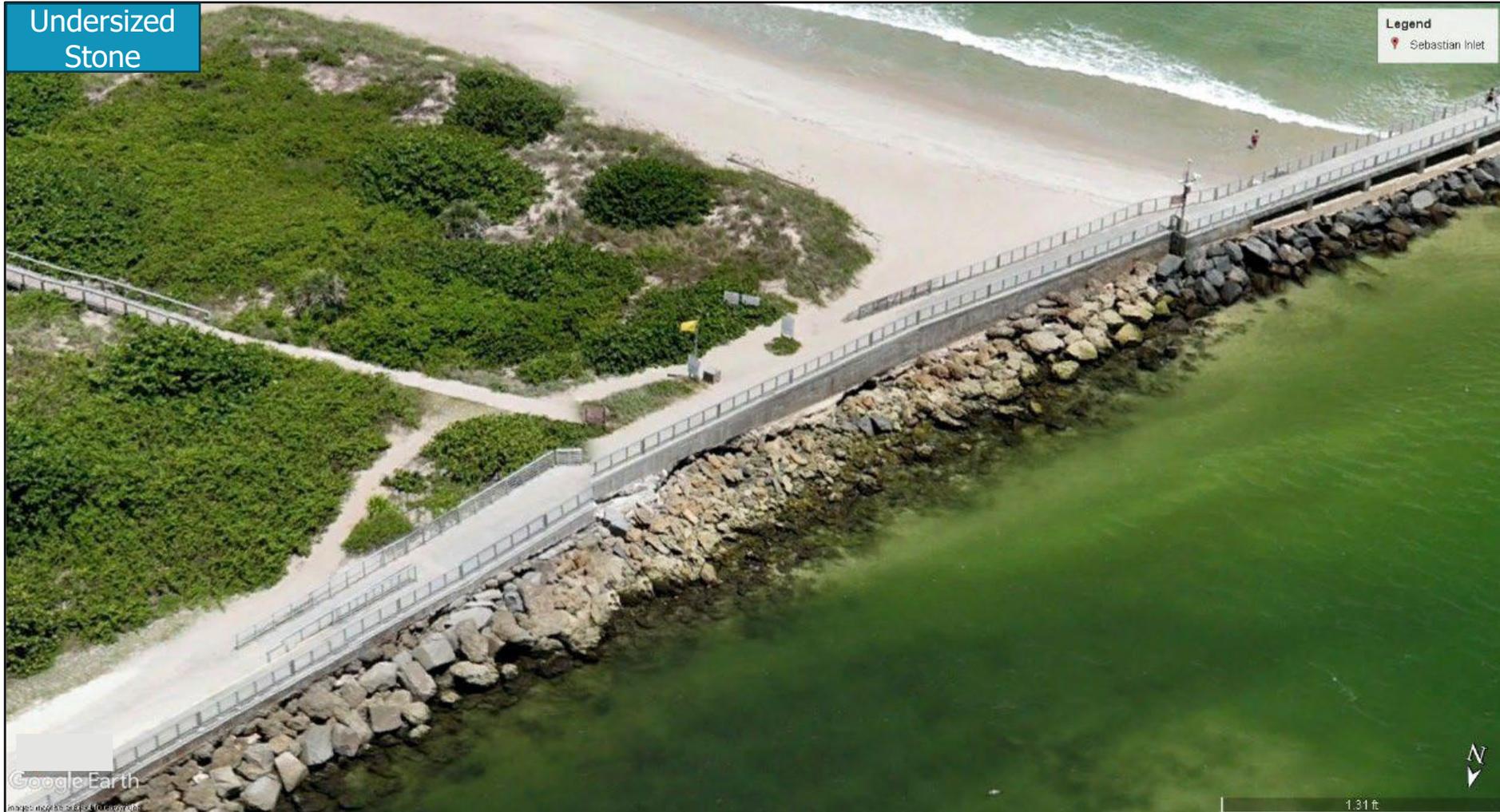


North Jetty 1950s - Concrete Seawall



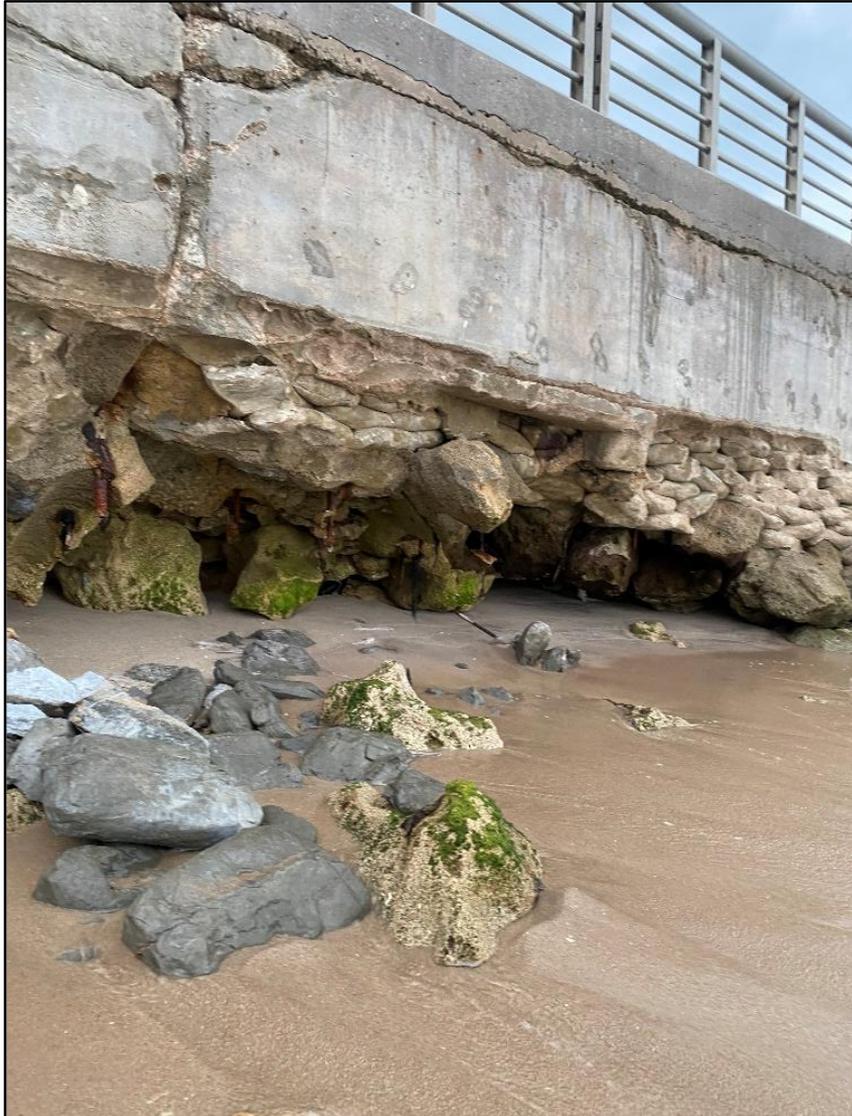


North Jetty Maintenance - Armor Stone





Emergency Repair – December 2022



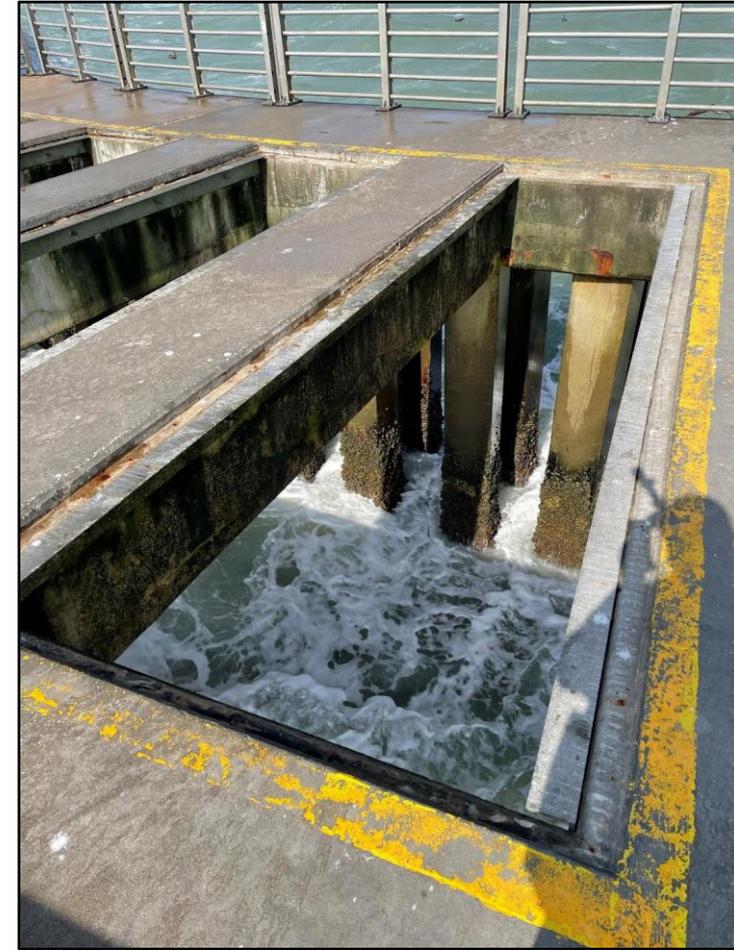
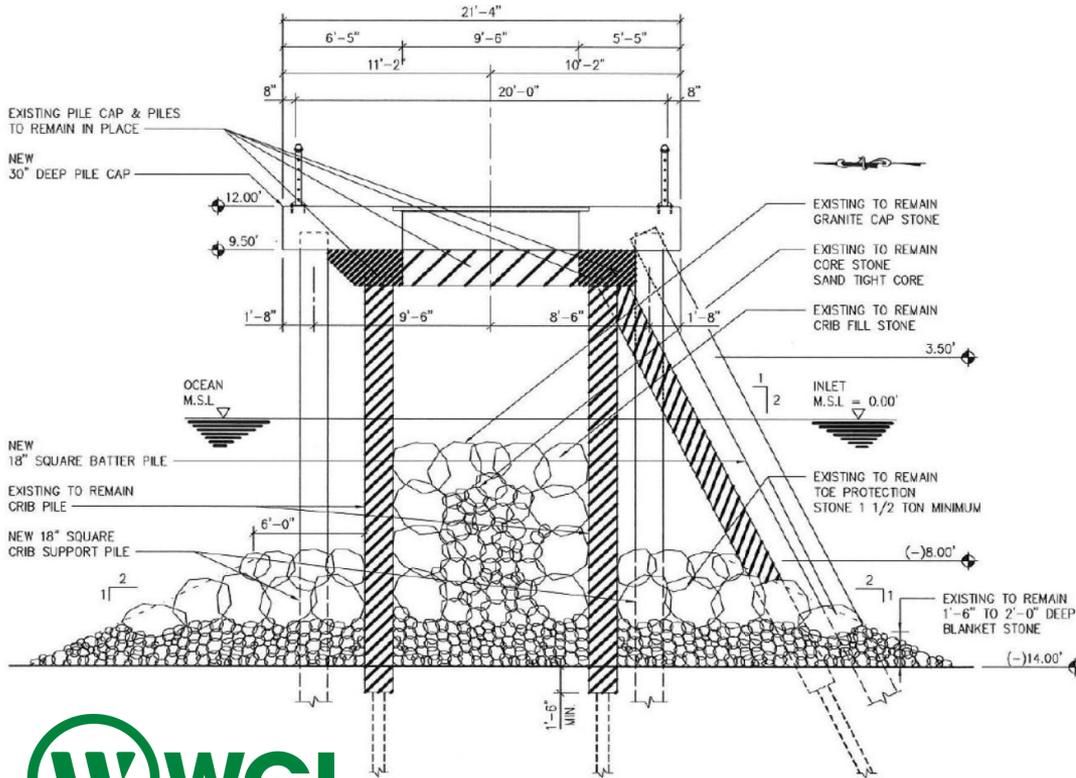


North Jetty Phase 2 Repair





North Jetty Phase 3 Repair

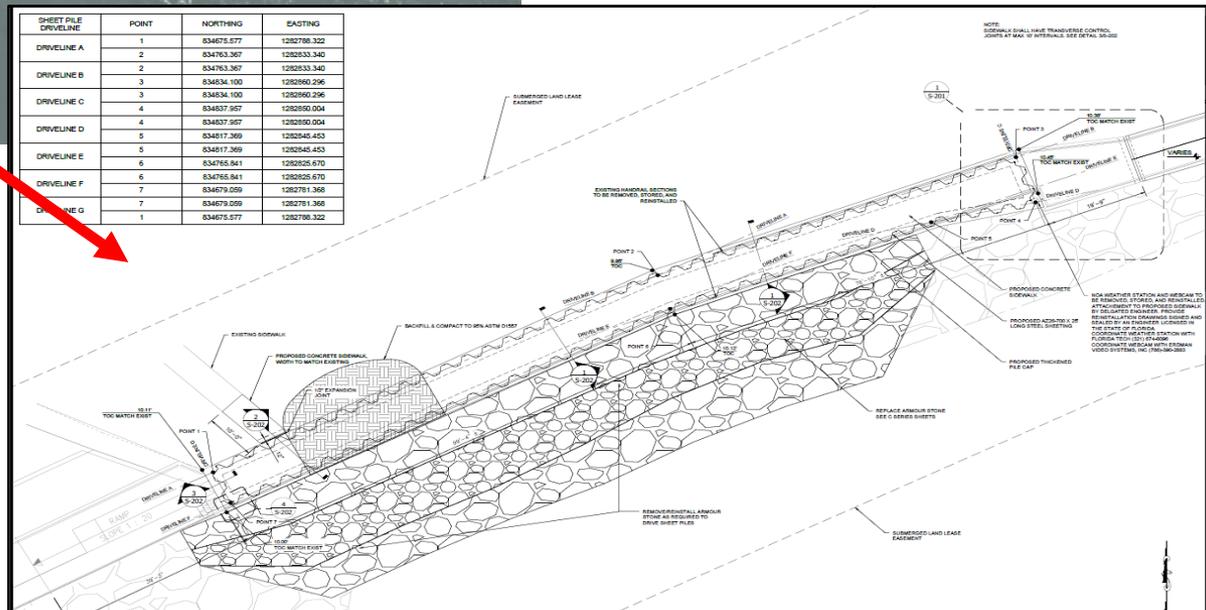


Typical North Jetty Cross Section

Bays 1-55



North Jetty Phase 1 Design

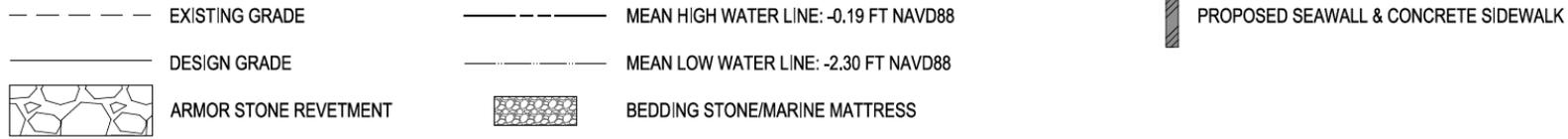


- ~ 440 LF of Seawall
- ~ 1,950 Tons – 48” – Granite Armor Stone
- Construct New Concrete Walkway

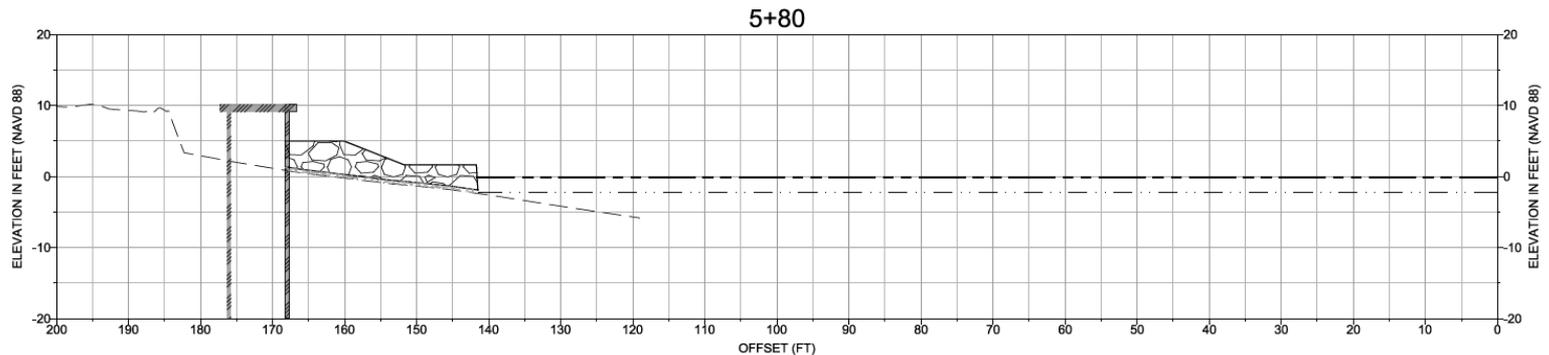


North Jetty Phase 1 Design

LEGEND:



NEW SEA WALL CAP WITHIN 18"
OF EXISTING CONCRETE WALL

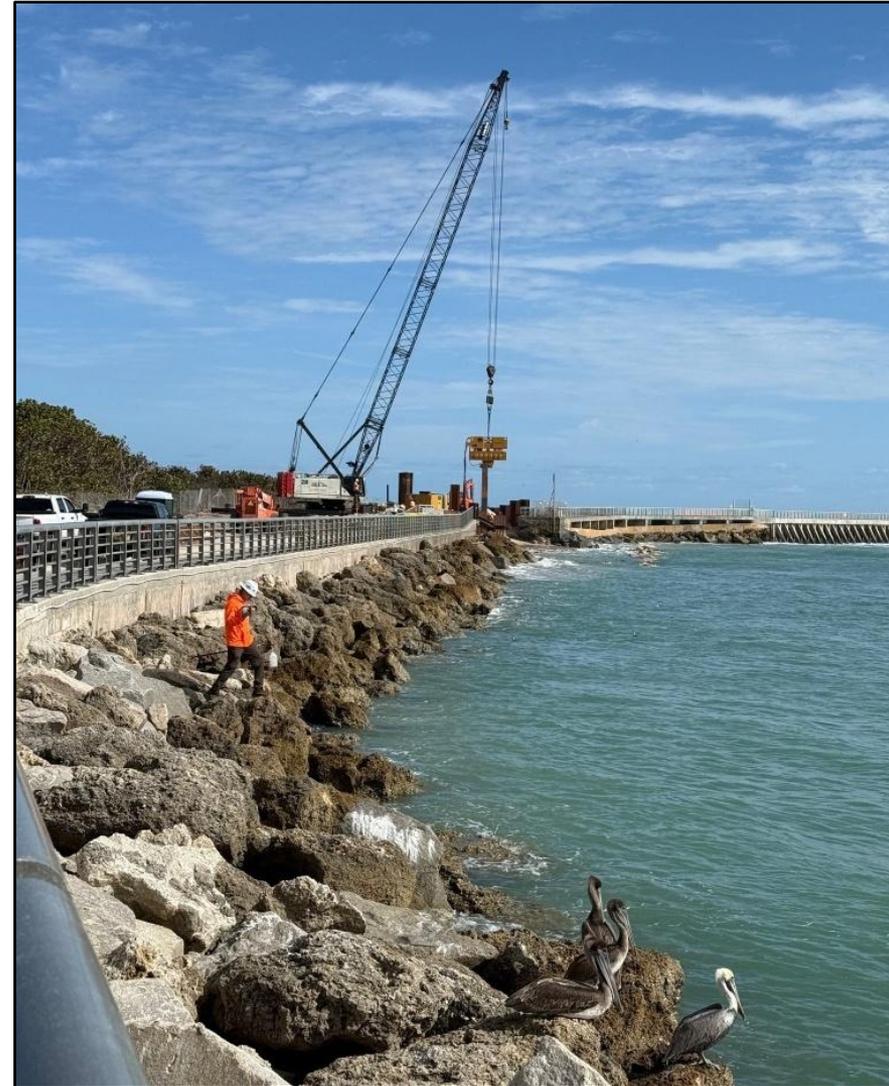


- The design called for installing sheet piles along the former sidewalk alignment and constructing a 30-ft-wide riprap structure.
- Surveys performed before and after removing the existing wall.



North Jetty Phase 1 Construction Summary

- \$2.2M Construction contract awarded on 9/4/24
- Mobilization began 11/8/24
- In-water work completed 5/1/25
- Construction completed 6/30/25





Environmental Considerations

- Gopher Tortoise surveys and relocations
- Dune impacts needed for construction access
- Water quality monitoring during construction (Aquatic Preserve and OFW)
- Nesting sea turtles, in-water work finished May 1st



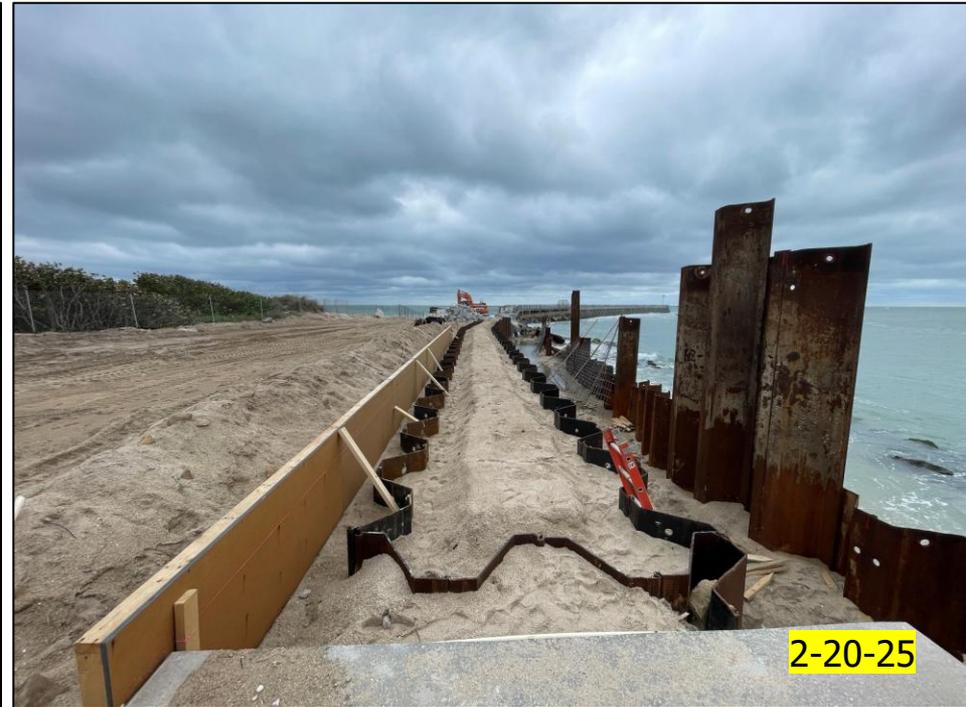
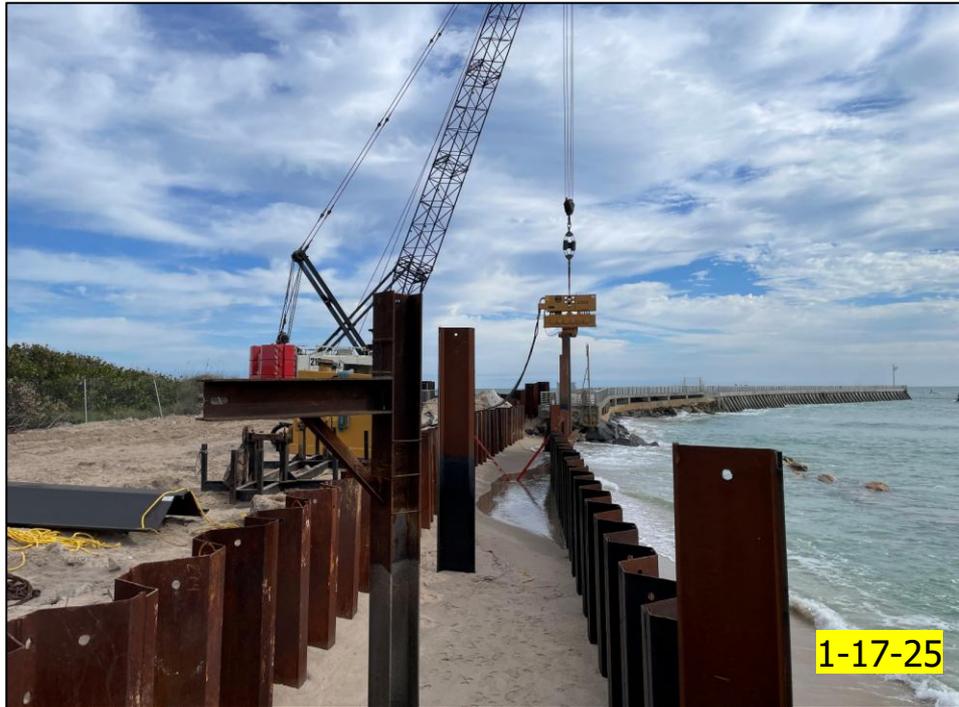


Construction – Demo



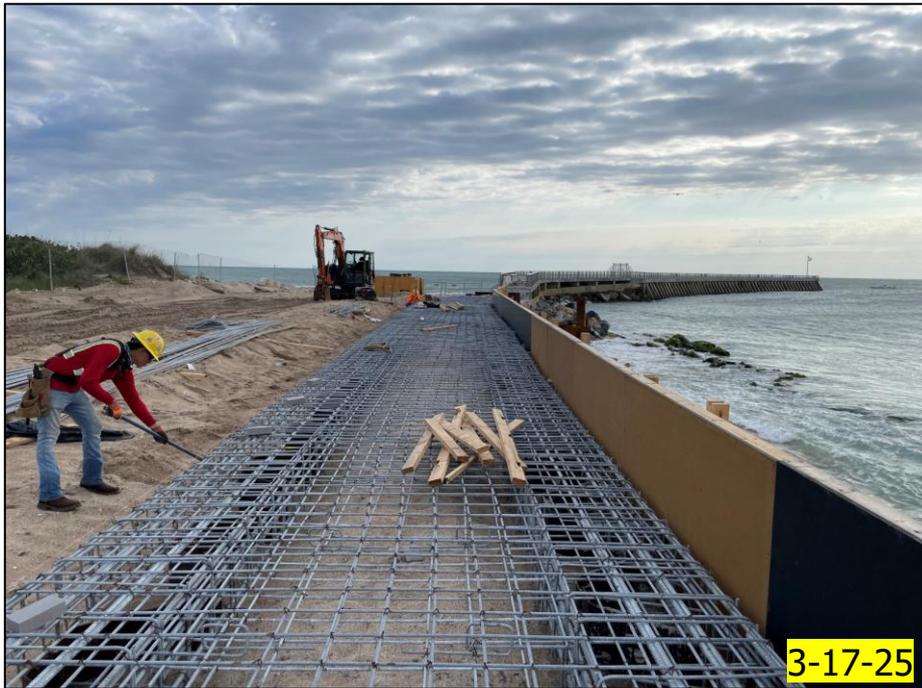


Construction – Seawall Installation





Construction – Cap Reinforcement & Marine Mattresses



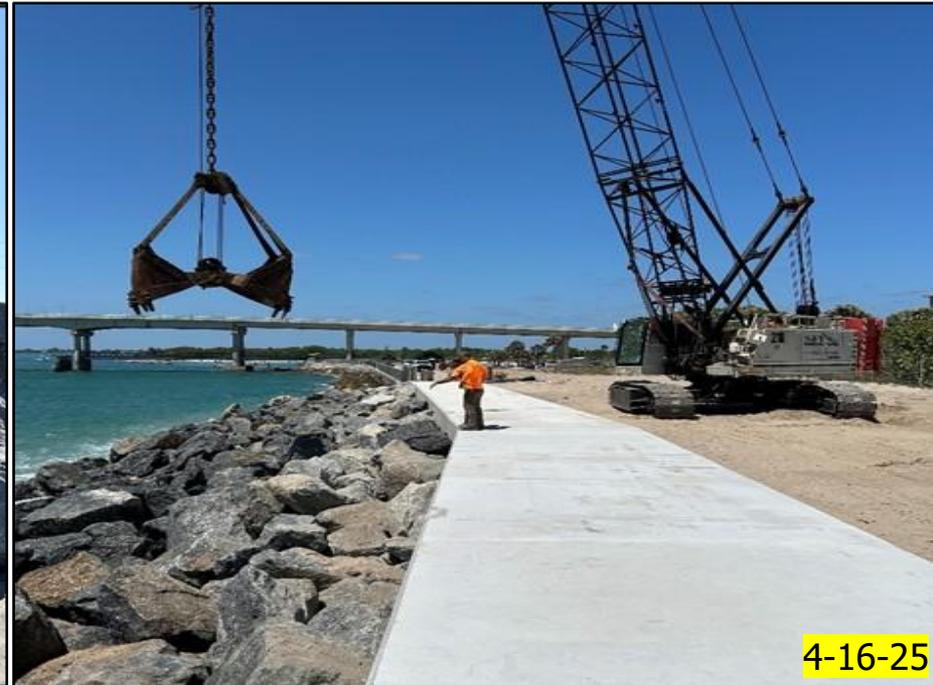


Construction – Concrete Deck & Railing





Construction – Armor Stone Drop Test & Installation





Construction – Dune Restoration





Phase 1 – Before & After





North Jetty Phase 1 Completed Reopened June 30, 2025



- ✓ 440 LF new double sheet pile wall
- ✓ Revetment fortified with armor stone
- ✓ Supported by marine mattresses & bedding stone to reduce scour



Thank you!

