Shoreline Rehabilitation Project Update

June 19, 2018
Outline

- Project Goals

- Phased Project Summary:
  - Phase 1 – Revetment Rehabilitation
    - Under Construction
  - Phase 2 – Terrace Berm-Sand Fill, Vegetation, Public Access
    - In Permitting

- Path Forward
Project Goals

Shoreline Rehabilitation project:
- Restore/improve revetment protection to upland habitat and infrastructure
- Maintain waterward footprint (exist. revetment)
- Restore and enhance terrace berm and dune/veg area landward of revetment
- Maintain access
Irma Impacts

Photo Courtesy of Red Bug Motors Pizza. Taken after Hurricane on Sept 13, 2017
Project Goals

- Irma upset original schedule:
  - Additional erosion/damage = emergency status
  - Initial key stakeholder session 10/13/18
  - JIA received additional State funding
  - Applied for FEMA damage funds (Matthew & Irma)

RESULTED IN A PHASED PROJECT
**Phase 1**

- Rock revetment rehabilitation (primary line of coastal defense)
  - leave existing stone in place
  - re-establish original structure design with additional rock (~ 50,000 tons)
  - crest elev. +10.5’ NAVD
  - permitted as emergency maintenance/repair (fast tracked)

GA DNR LOP
USACE NWP 3(a)
Phase 1 Project

STA 0+00

Potential Extension

STA 97+00

PROJECT BASELINE STATIONS
Phase 1 Project

- 2/12/18 - Bids issued
- Contracted 5/11/18 - S.J. Hamill Construction Company
- NTP - 5/17/18
- First rock deliveries to island - 6/18/18
- Completion – December 2018

Project progress “blog” available here:
Phase 1 Construction

Existing Rock

New Rock (1.5-2.5 T)

- Existing Rock:
  - Size: 8-9'

- New Rock:
  - Size: 1.5-2.5 T
  - Size: 3'
  - Size: 8-9'

Images showing the comparison between existing and new rock sizes.
Phase 1 Construction

Initial Armor Stone Placement
Phase 2

- Sand terrace berm & dune restoration landward of revetment
  - up to ~ 139,000 cy from upland source
- Plant native vegetation ~ 12.2 acres
- Revetment “return” just above Villas By the Sea
- Bury emergency post-Irma sand bags
- Sand berm/dune and scarp protection at Driftwood Beach
- Dune crossovers (13 total; 9 new)
- Sand fencing at landward limit of dune/fill
Phase 2 Project Overview

Phase 2 limits-
Driftwood Beach to Ocean View
Beach Park
Phase 2 Project Overview
Phase 2 Project Overview
Phase 2 Project Overview

- Phase 2 Project Overview

- Typical Profile of Geotube at Driftwood Beach
  - Proposed Sand Fence
  - Proposed Vegetation
  - Proposed Dune 2' (Typ.)
  - Proposed 3' Rope Fence
  - Dune Crest May Tie Horizontally Into Existing Grade Where Existing Upland is Higher Than Dune Crest
  - Approx Existing Grade
  - Proposed Beach Fill Area

- Typical Profile of Vegetation and Optional Dune Area

- Proposed Dune (Optional) and Vegetation
  - Beach Fill Area
  - Existing Scattered Rocks (El. Varies)

- Proposed Rock Revetment
  - Typical Profile of Rip-Rap Revetment at Driftwood Beach NT5

- Existing Scarp
  - Geotextile Tube (22.5 C/Rig. TYP.)

- Proposed Dune (Optional) and Vegetation
  - Beach Fill Area
  - Existing Scattered Rocks (El. Varies)

- 3' Toe Scour Tube and Apron
  - Approx Existing Grade
  - Existing Scattered Rocks (El. Varies)

- Naval Observatory

- ATM Design Engineering Consulting
Phase 2 Project Overview

Phase 2 Permitting

- GA DNR permit app filed 6/1/18; USACE to follow (pre-application review now)

- Spot maintenance to low rock spots from King Ave to Oceanview Beach Park (will request as permit modification once Phase 1 well underway)

- Timeline for permitting depends on agency level of required review
Path Forward

- Phase 1 Construction
- Continue Phase 2 Permitting (Future Construction)
- Regular and Post-storm
  - Inspections/Surveys
  - Maintenance as needed
- Losses mitigated compared to existing conditions
- Consider long-term sand sources (Brunswick Harbor maintenance?) for future needs
Thank you

Discussion/Input

Coastal, Environmental, Marine & Water Resources Engineering