Presentation Outline

- Background
- Objectives
- Approach
- Design
- Construction
Project Background

Funding Source and Project Partners

- This project was funded by the U.S. Department of Interior through a U.S. Fish and Wildlife Service grant known as the Coastal Impact Assistance Program (CIAP)
- The local project sponsor is Calhoun County
- Project engineering & construction oversight was provided by Atkins
- Project Constructed by Lester Contracting, Inc
  - Construction began in July 2013 and completed in October 2013
Project Background

Typical Coastal Wetland - Vegetation
- Spartina alterniflora
- Batis maritime
- Boricchia frutescens
- Distichlis spicata
- Salicornia spp

Typical Coastal Wetland - Animals
- Wading birds
- Shrimp
- Crabs
- Fish
Project Objectives

Design Considerations
- Stabilize 1,750 linear feet of shoreline.
- Protect a minimum of 10.5 acres of tidal coastal marsh.
- Restore and enhance the habitats of the coastal environment.
- Improve public access.

Additional Considerations
- Enhance recreational benefits such as hard substrate for enhanced fishing and a swimming beach
- Maintain a living shoreline
- Create a sustainable solution
- Craft a desirable destination
Project Approach

Design Conditions
- The dominating factors considered affecting wave generation are:
  - 1) design wind speed,
  - 2) wind direction,
  - 3) wind fetch,
  - 4) wind duration and
  - 5) water depth.

ACES Windspeed Adjustment and Wave Growth

Fetch Radials Relative to Port Alto
Project Approach

Design Conditions

- Sediment transport processes well identified
- Excess of sediment on the bay inlets + Needed sediment on the marshes and beaches = Local Sediment Management Plan
Project Approach

Proposed Restoration Project
Project Approach

Project Design Elements

Phase 1 Design Work

Phase 2 Design Work
Project Design

Design Criteria

- **South Groin**
  - 75 ft length
  - Designed at 4.5 ft wide, built at ~12 ft wide crest
  - +4.5 ft NAVD crest elevation

- **Southern Beach**
  - 1200 ft length
  - 20 ft design dry beach width
  - +2.0 NAVD berm elevation, 1:7 to natural grade

- **Y-Groin**
  - 155 ft length
  - Designed at 4.5 ft wide, built at ~12 ft wide crest
  - +4.5 ft NAVD crest elevation

- **North Groin**
  - 163 ft length
  - 12 ft wide crest
  - +4.5 ft NAVD crest elevation

- **North Beach**
  - 550 ft length
  - 15 ft dry beach width
  - +2.0 ft NAVD

- **Adaptive Management**
  - Armor stone volume discount
  - County provides material disposal
  - County responsible for road damage.
  - Removal of North Beach
  - Removal of Southern groin
  - Shorten North jetty from 264’ to 115’
Construction

Staging Areas
Construction

Staging Material

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Construction

Construction Issues

Geotextile Fabric Placement

Equipment Access
Construction

Construction Issues

Equipment Access – Wood Pallet Road Along South Beach
Construction

Construction Issues – North Groin Access

Before construction, North Beach

During Construction, North Beach
Construction

Before and After Conditions – South Groin
Construction

Before and After Conditions – South Beach
Construction

Before and After Conditions – “Y”-Groin
Construction

Before and After Conditions – North Beach
Construction

Before and After Conditions – North Groin
Next Phase
Channel Dredging & Beach Nourishment
4 months post-construction, North Beach
Pre-construction aerial
Port Alto Beach and Wetland Restoration Conservation Project

Questions?

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