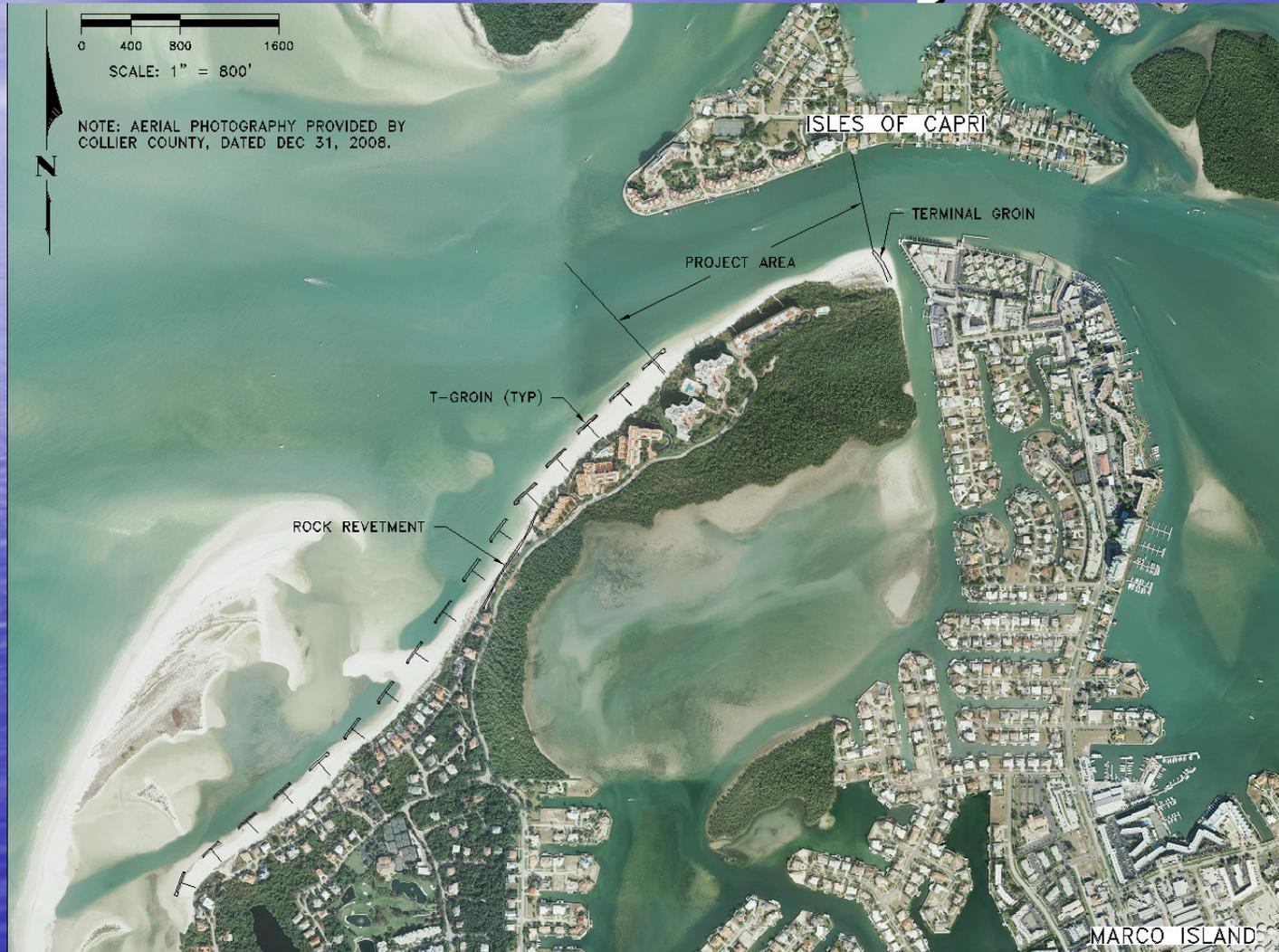


Hideaway Beach North Beach Project



INTRODUCTION

- Emergency Structure Project Recap
- Long-Term Project
- Synergy with Collier Creek Dredging Project

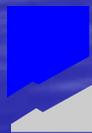
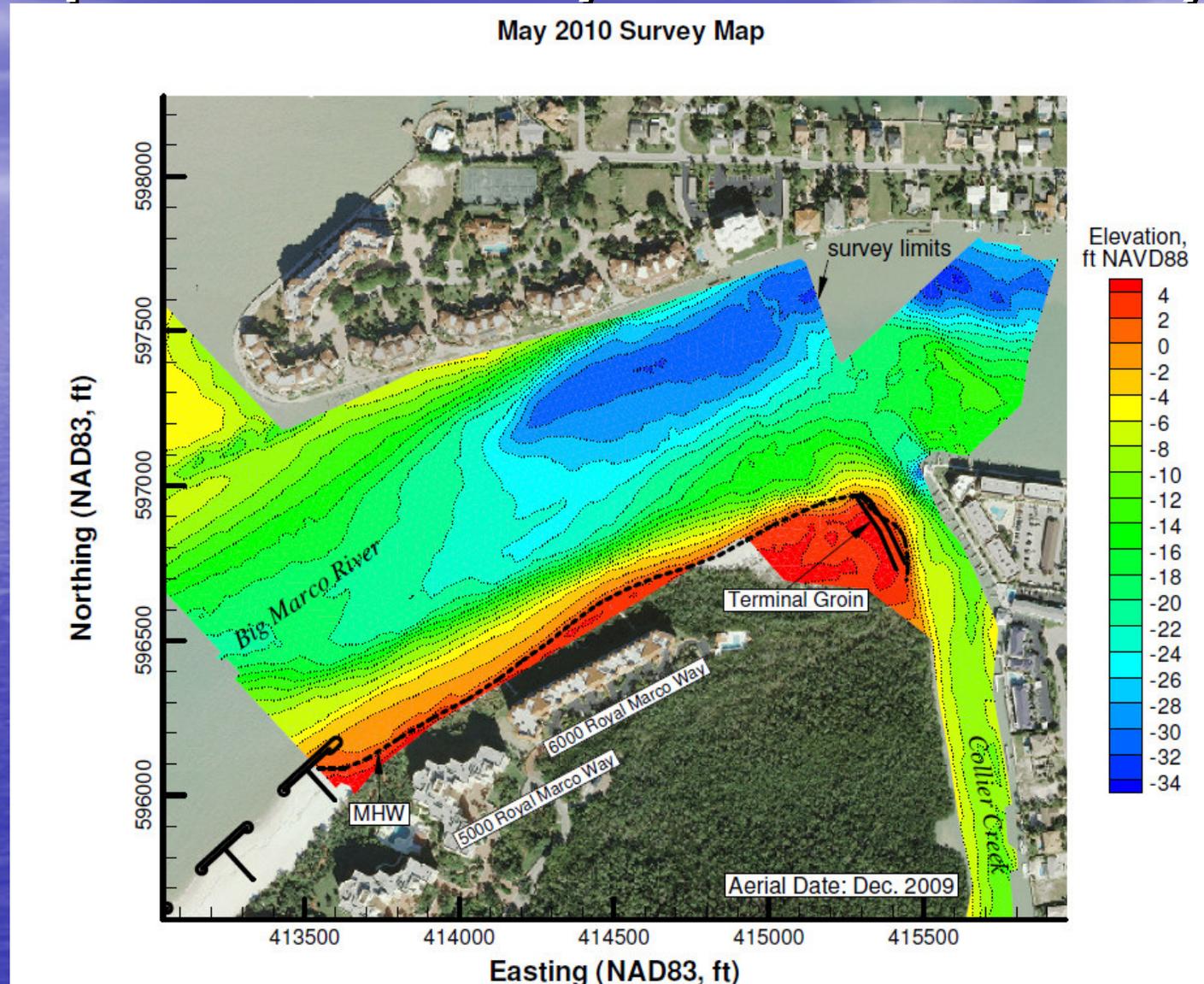


EMERGENCY STRUCTURE PROJECT RECAP

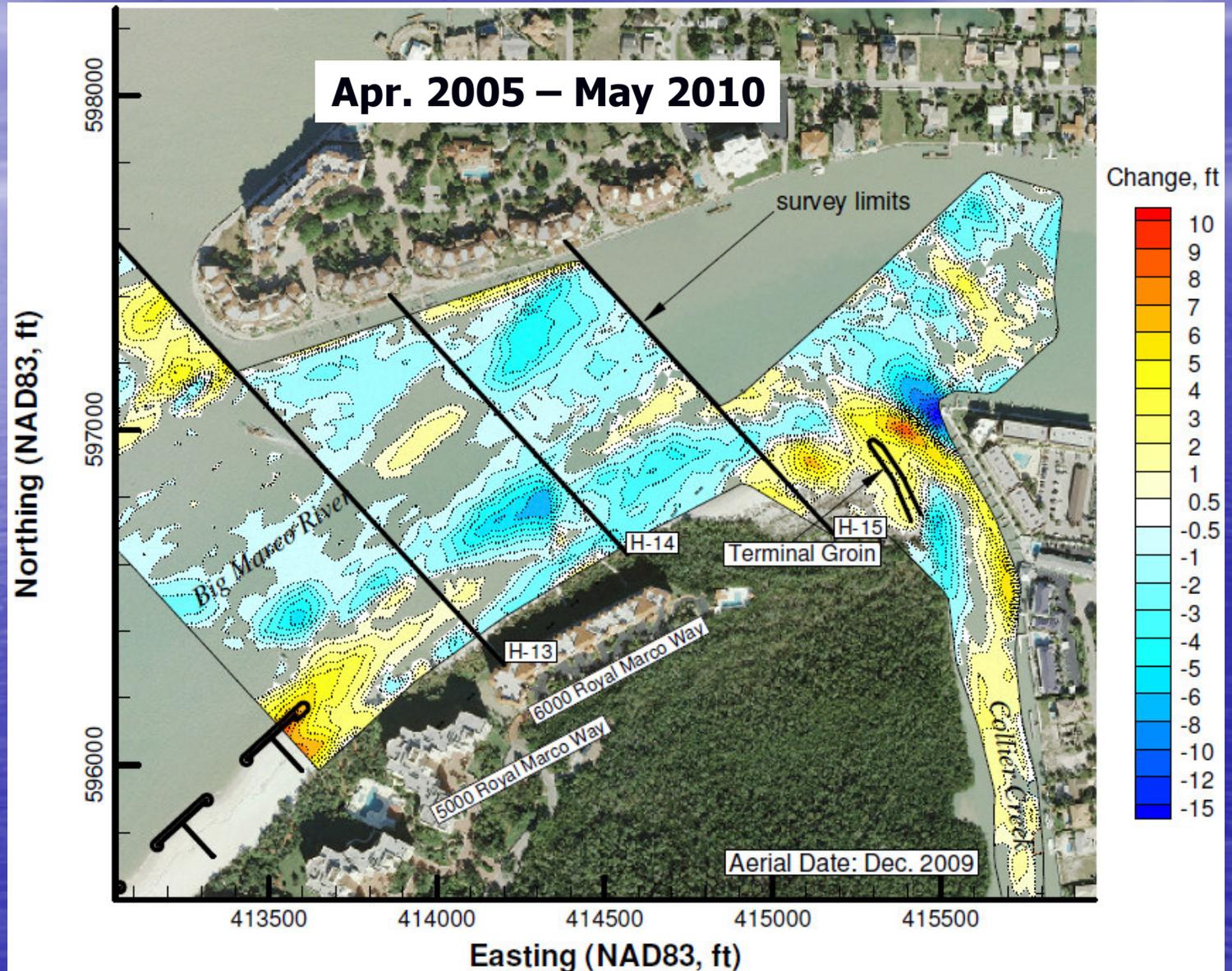
- Completed Data Collection
- Updated Shoreline Erosion Analysis
- Performed Preliminary Design
- Prepared and Submitted ERP Application



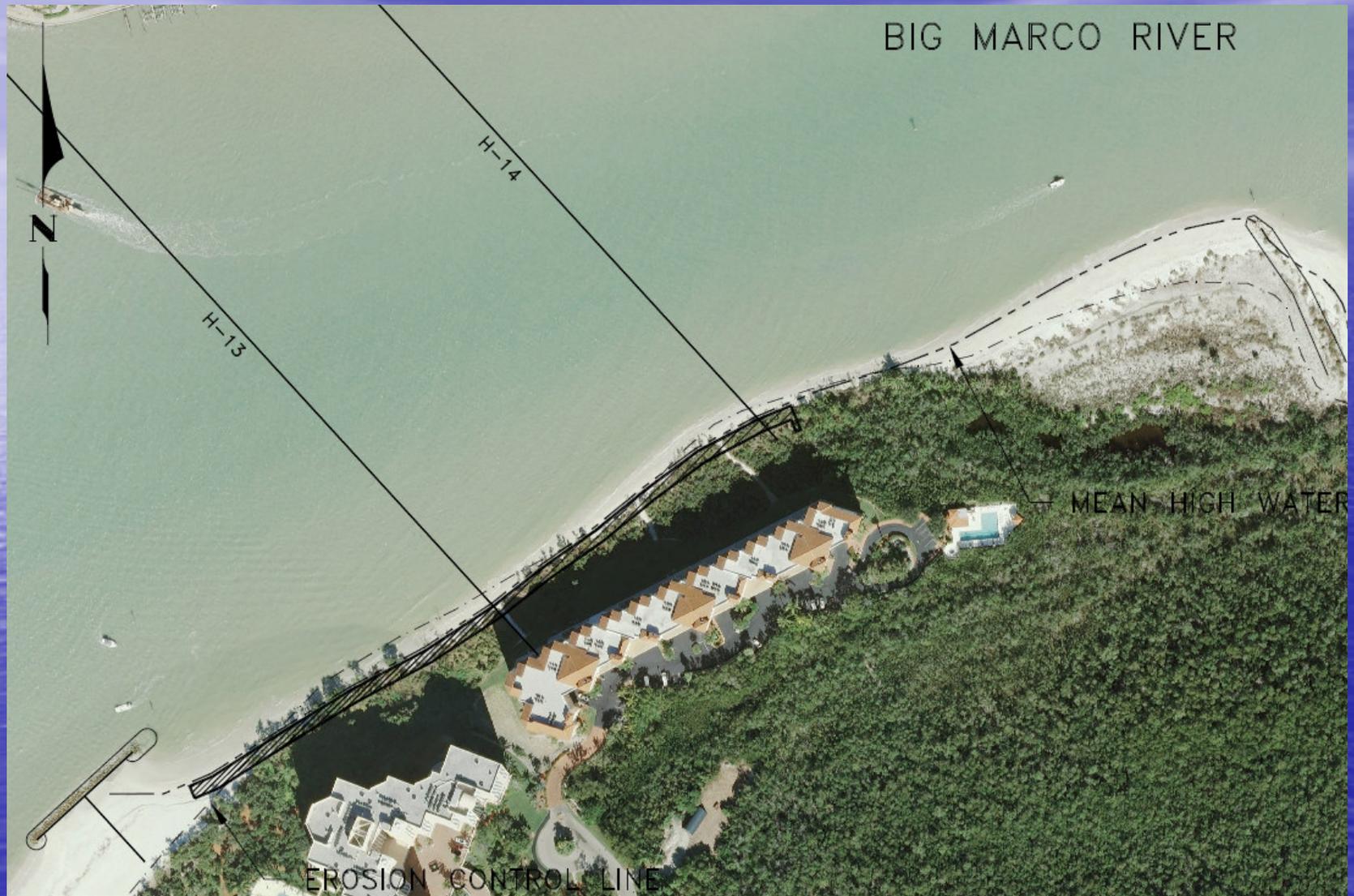
Topographic & Bathymetric Survey



Morphology Changes: Apr. 05 – May 10

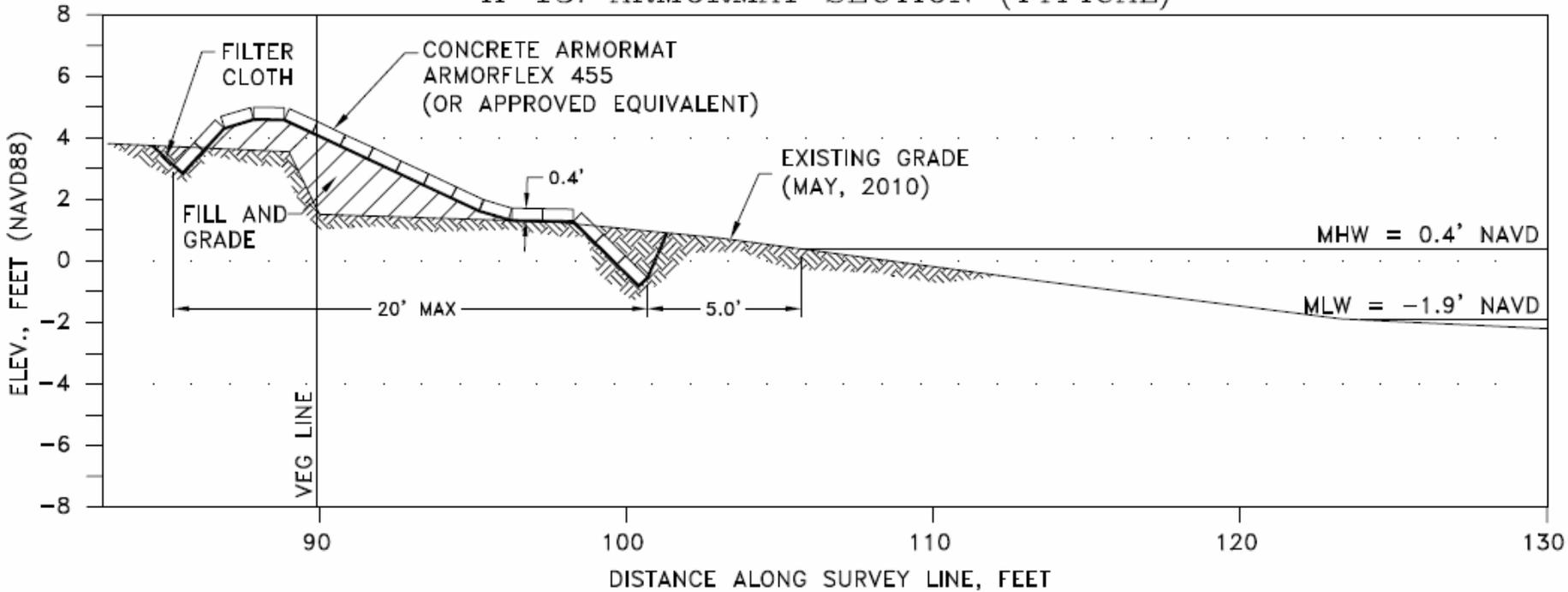


Preliminary Design



Alternative Design

H-13: ARMORMAT SECTION (TYPICAL)



Agency Opposition

- DEP-Ft Myers elevated project to DEP-Talla
- DEP-Talla staff perceived erosion slowed in this area due to T-groin project and questioned justification for project
- USACE – Claimed Jurisdiction (wetlands)
 - Structures not threatened at this time
- Informal consultation with USFWS: Require new biological opinion for all work on Hideaway



Project Evolution: Current Status

- City pursuing contract with structural engineer
- Conduct Foundation Analysis
- Design Steel Sheet Pile Wall
- Site structure landward of DEP and USACE jurisdictions {between back side of dune and building 6000}



LONG-TERM PROJECT

- Conducted Alternatives Analysis
- Recommendations: Beach Fill Placement with Coastal Structures
 - New T-groin field
 - Permeable groin field



Beach Fill with T-Groins

Pros:

Institutionally consistent

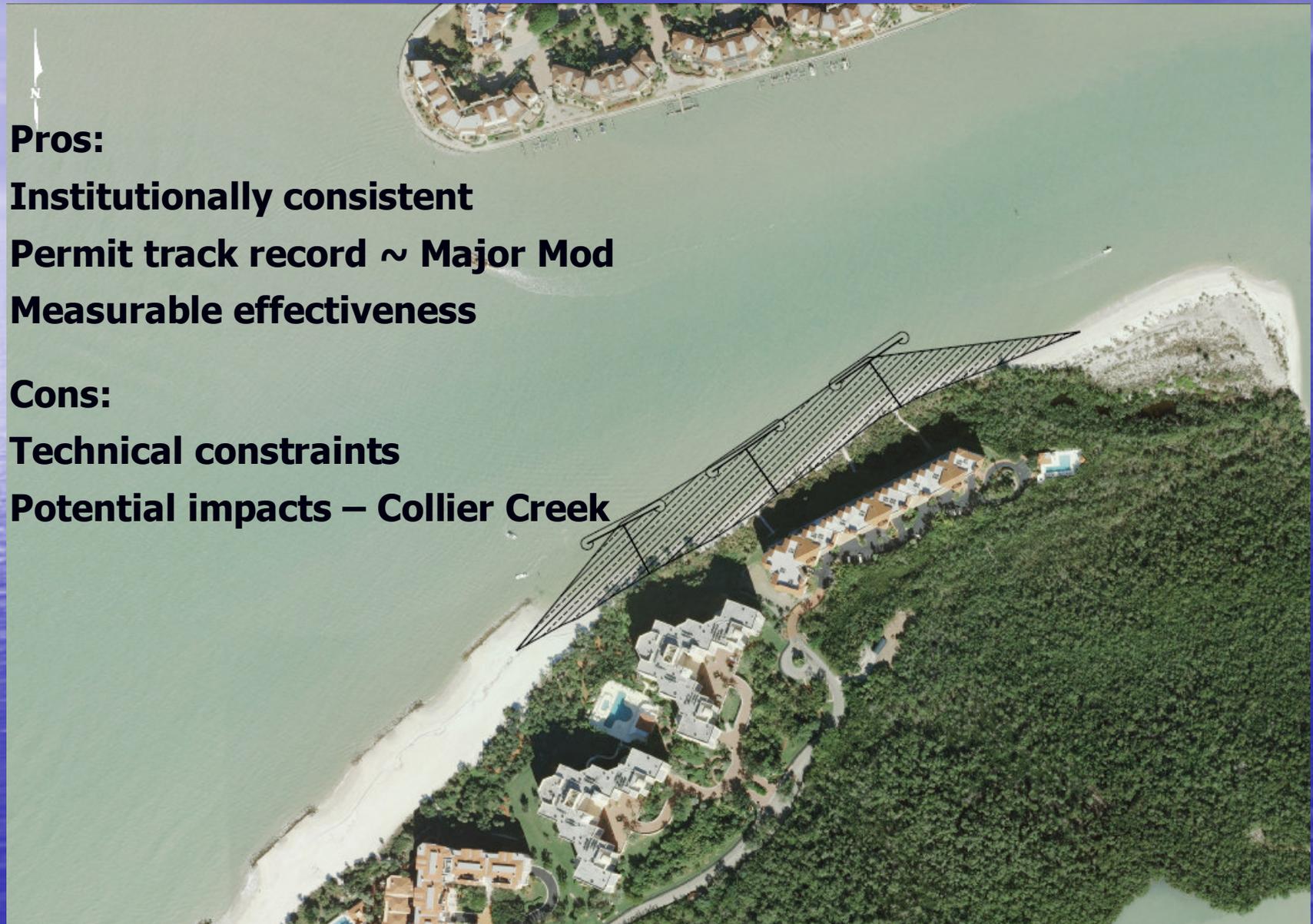
Permit track record ~ Major Mod

Measurable effectiveness

Cons:

Technical constraints

Potential impacts – Collier Creek



Beach Fill With Permeable Groins

Pros:

Adaptive management
Reduced downdrift impacts

Cons:

Technical constraints
Institutionally inconsistent
Major Mod or New JCP
Potential impacts – Collier Creek



Scope of Work

- Data Collection
 - Waves and Currents
 - Borrow Areas
 - Topography and Bathymetry
- Numerical Model Study
 - Existing Conditions
 - Beach Fill Only
 - Beach Fill with Structures
- Preliminary Design
- Permitting
- Final Design



SYNERGY WITH COLLIER CREEK DREDGING

- Historical Permits for dredging beach compatible sand with placement on Hideaway
- Analyze additional alternatives with model
- Division of Responsibilities
- Timing and Implementation



Beach Fill with Terminal Groin Extension

Pros:

Institutionally consistent

Permit track record ~ Major Mod

Measurable effectiveness

Cons:

Technical constraints

Potential impacts – Collier Creek

Effectiveness limited by structure length ~ navigation concerns

Collier Bay Entrance Channel Emergency Dredging



EMERGENCY CONDITIONS

- Significant Shoaling Measured in Collier Bay Entrance Channel
- Shoal has become Hazard to Navigation
- Safety Concerns for Boating Population on Marco (~ 1/3 of vessels access Gulf)
- Safety Concerns for Transient Vessels
- Damage to Adjacent Waterfront Docks from boat collisions

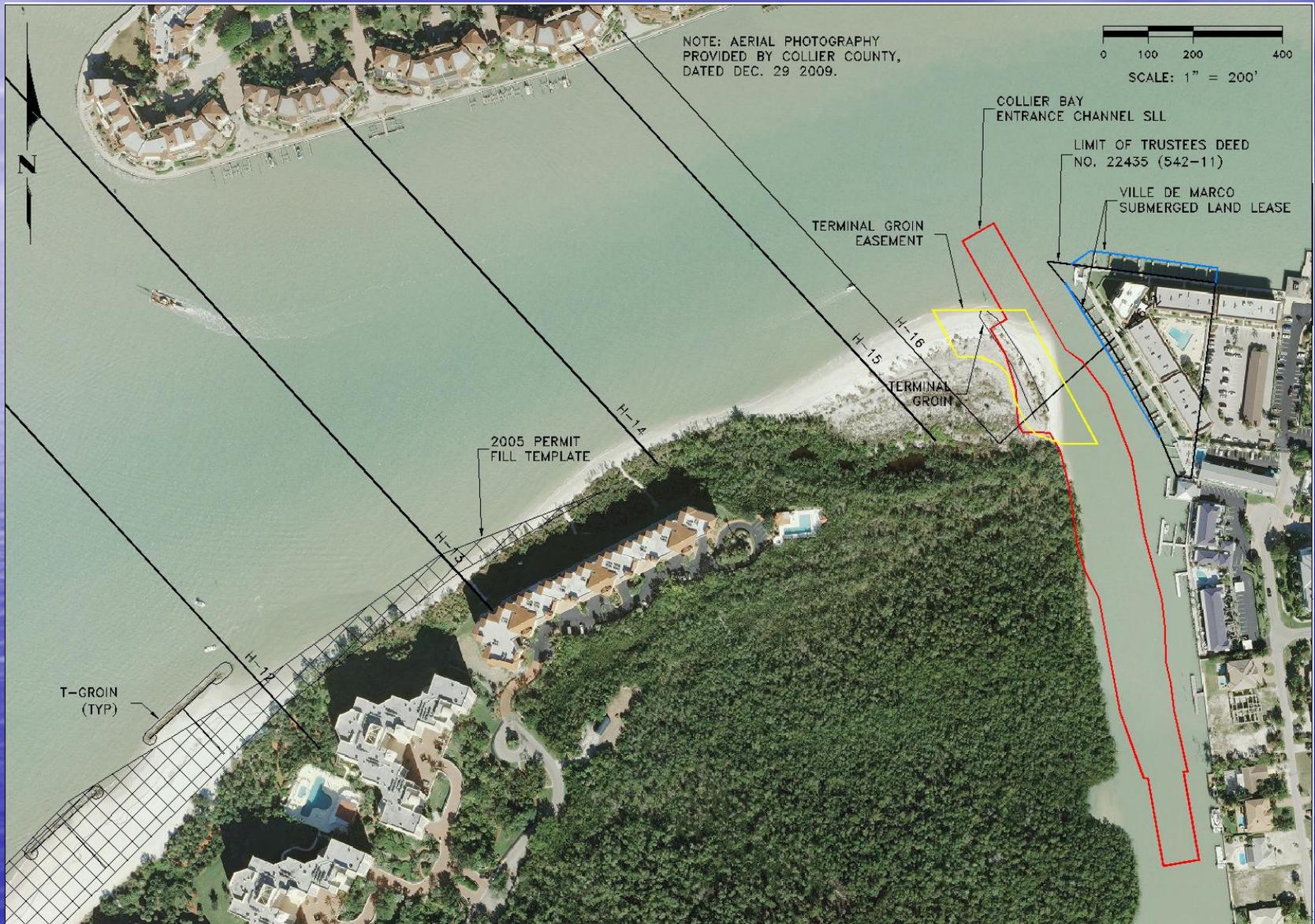


Navigation Hazards

- 43-foot sailboat forced into pier by currents on flood tide. After impact current moved vessel south to pair of mooring piles. Photos show vessel pinned against mooring piles, unable to power free. Damage to boat and pier.



Project Components



OPPORTUNITIES

- Remove shoal thus remove hazard to navigation
- Reduce current velocities ~ restore boater safety
- Reduce / eliminate damage to adjacent docks from boat collisions
- Reduce scour potential ~ afford opportunity to effect repairs to waterfront infrastructure



2002 vs 2010 Profile Comparison

