Indian River County
Sector 7 Update

24th National Conference on Beach Preservation Technology

February 10, 2011

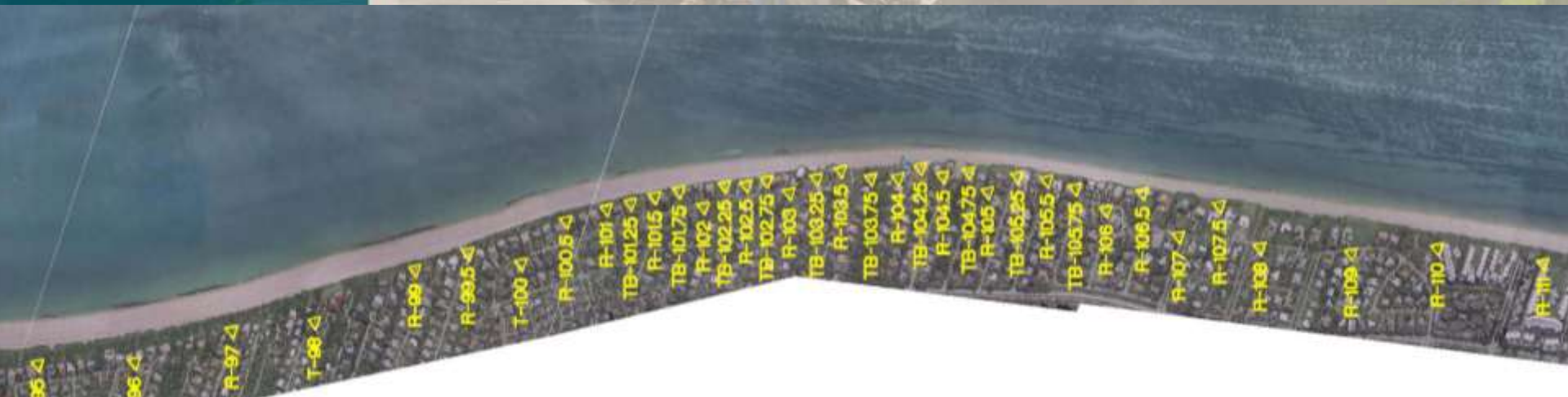
APPLIED TECHNOLOGY & MANAGEMENT

INDIAN RIVER COUNTY FLORIDA

IRC Sector 7 Update

Sector 7

- Broad headland feature in south Indian River County, Florida
- Historically erosive
- Extensive and close nearshore hardbottom
- No public access



Project Design

- Traditional beach design based on erosion rate and nourishment interval
- Consideration of structures
- Mitigation for hardbottom impacts

➢ Design not well received by the Regulatory Agencies

➢Evolution of a no-impact design concept

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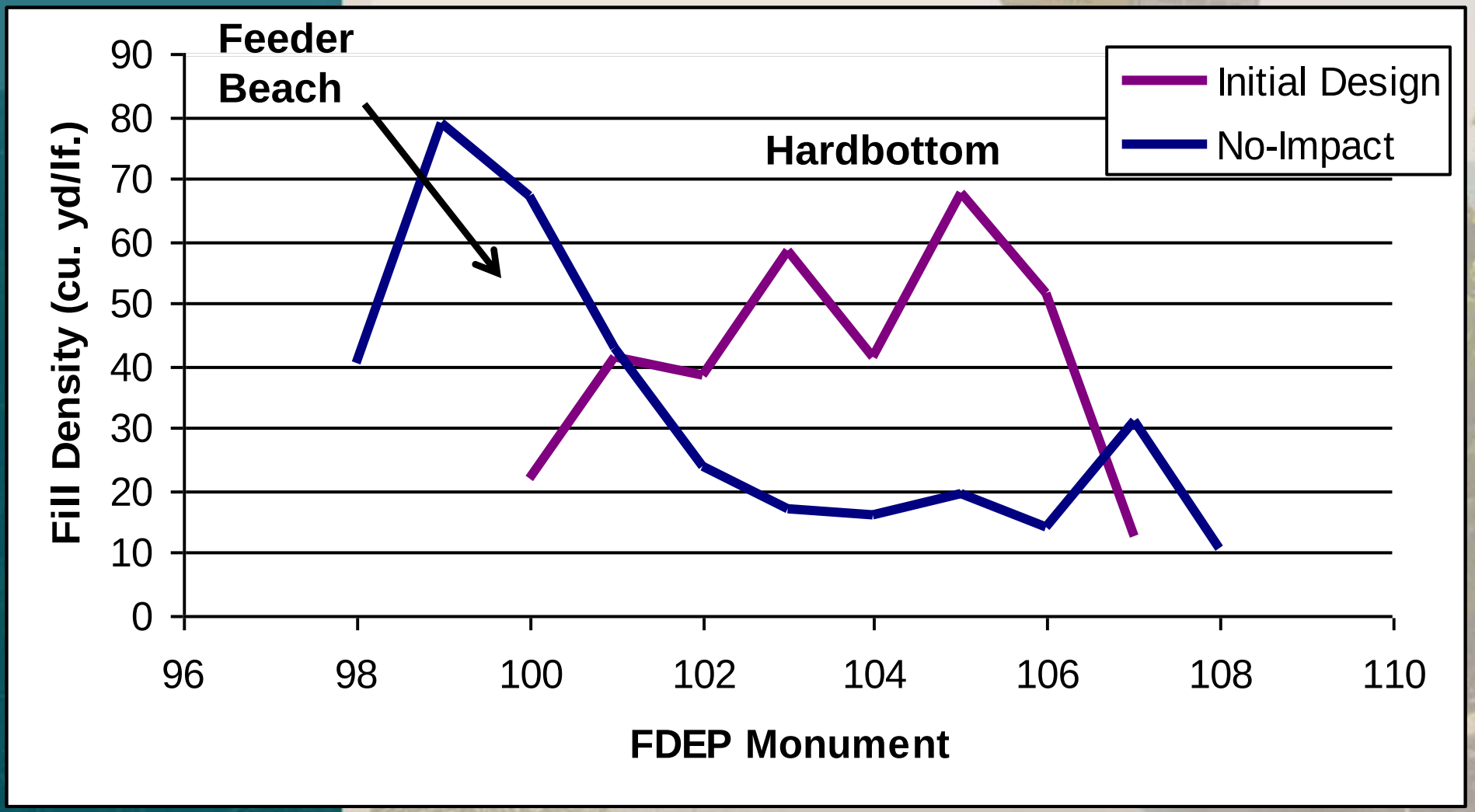
‘No Impact’ Design



Composite Model

- Determine Volume Based Shoreline at Future Time-Step (Predictor Step)
- Determine Offshore Extent of Coverage (Profile Theory)
- Calculate Profile Volume
- Rectify Volume Inconsistencies (Corrector Step)

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MODEL AMINATIONS

- MODEL

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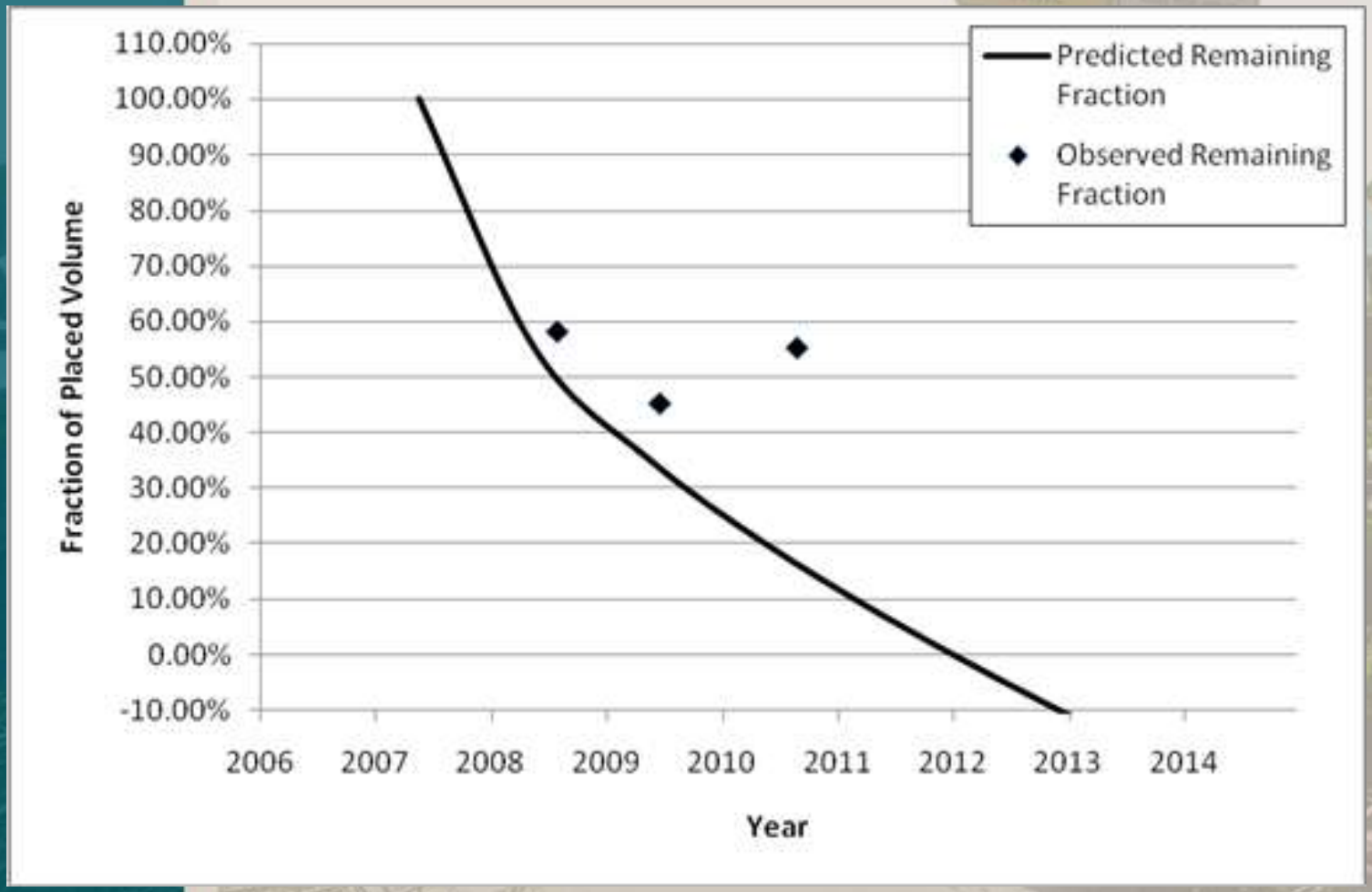
Project Construction

- Completed May 2007
- Hopper dredge utilizing an offshore sand source
- Total Volume: 362,200 Cubic Yards

IRC Sector 7
FSBPA

Project Performance




Mid Sector 7
Before Beach Restoration January 2007


Mid Sector 7
During Construction April 2007


Mid Sector 7
After Beach Restoration July 2008


Mid Sector 7
After Beach Restoration November 2010

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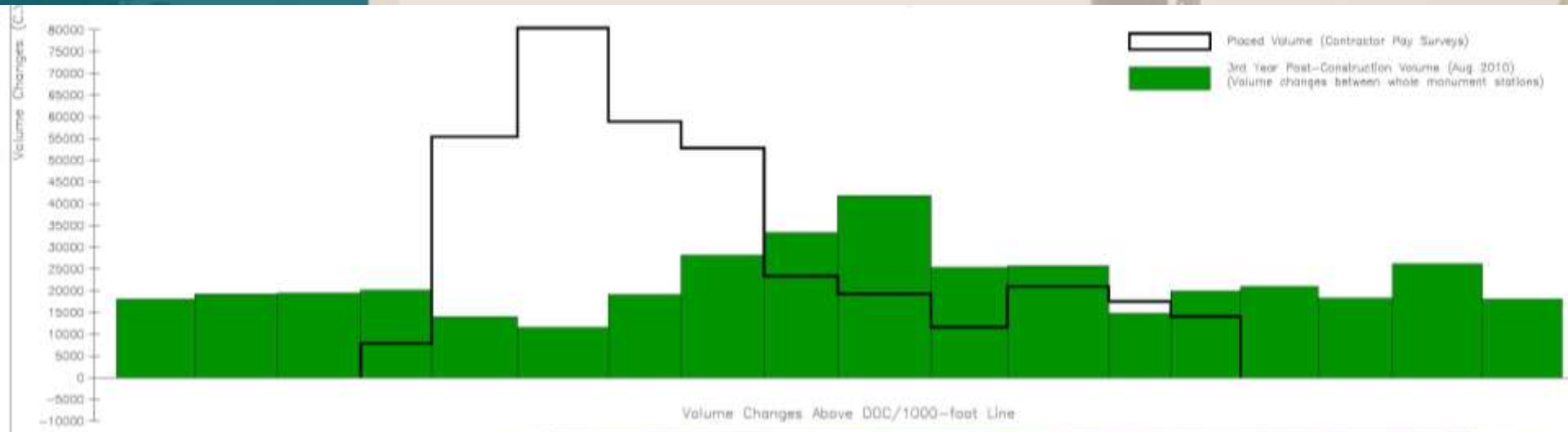
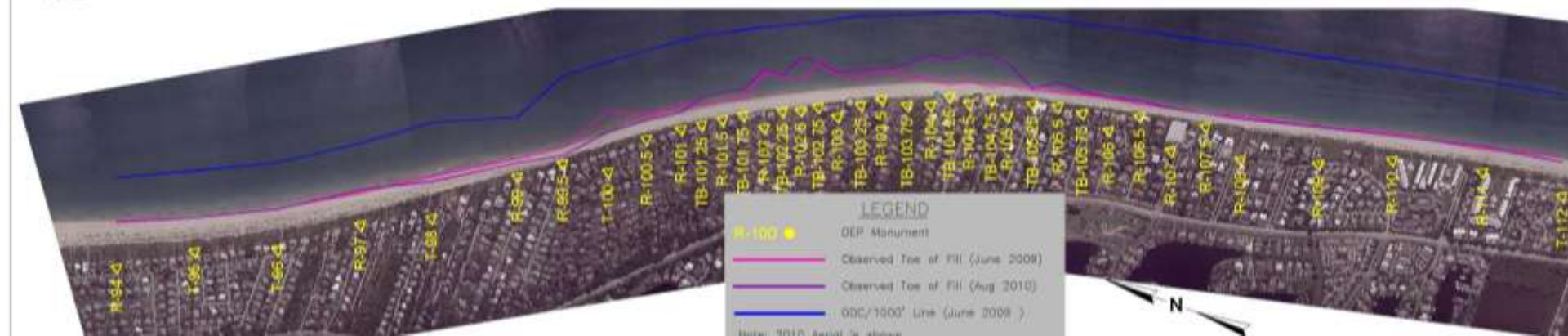
Project Performance





Hardbottom

- Overall good performance
- Project influence secondary to post-hurricane mud issues
- Two discrete areas of concern (low profile, ephemeral areas)
- Over-prediction of toe of fill in early years; under-prediction in year 3

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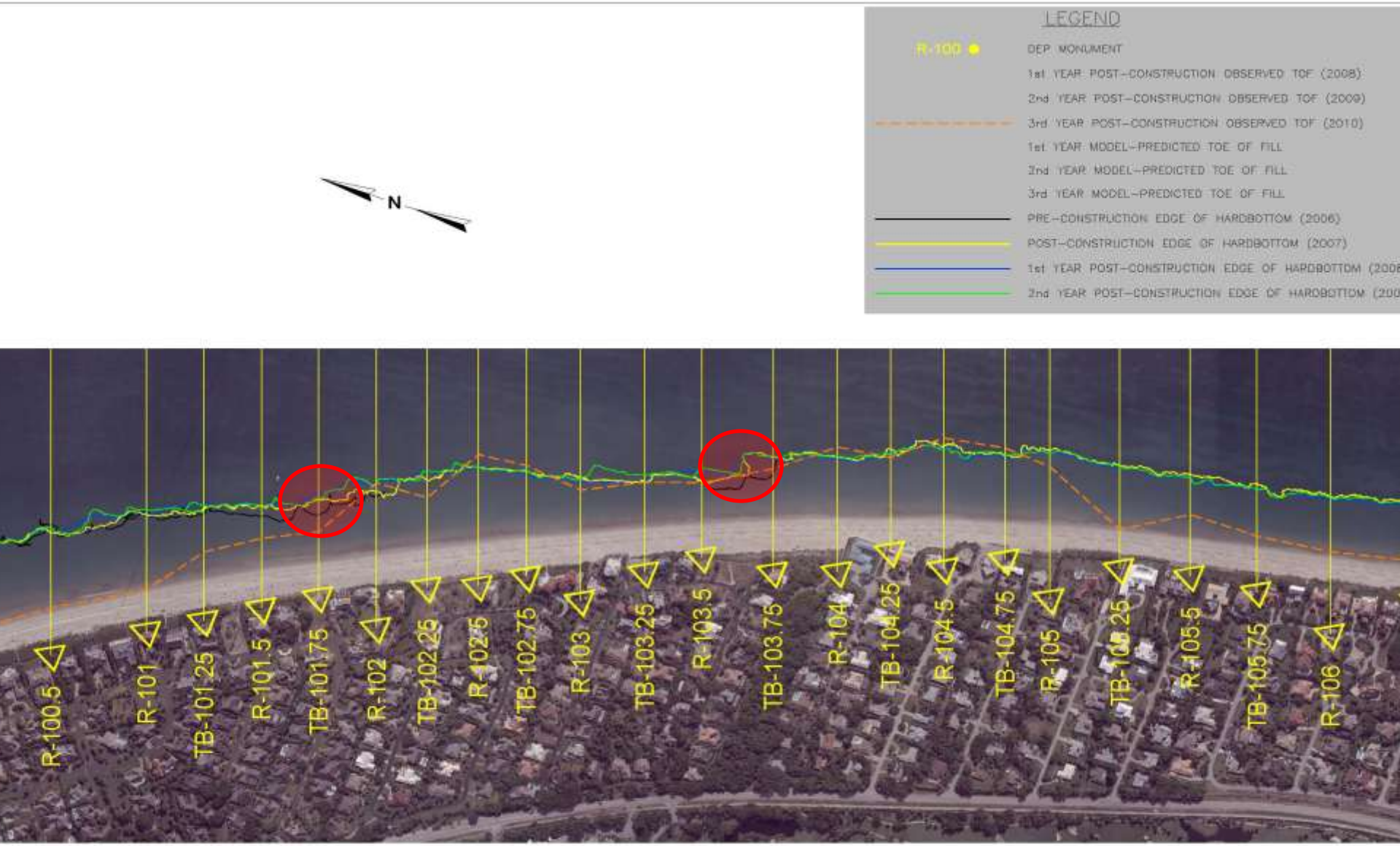
Project Performance



Conclusions

- Project Success
- Reinforcement of ‘No Impact’ Strategy
- Reinforcement of ‘Feeder Beach’ Concept
- Confirmation of FDEP-BBCS Position
- Reinforcement of extreme care in Project Design