



Fort Pierce City Marina Status Update

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THE GOOD, THE BAD, AND THE UGLY

The GOOD

- Nearly 10 years post construction the breakwater islands are performing well
- Overall, the Islands represent a significant Ecological Net Benefit to the IRL

THE BAD

- In 2018, USACE issued a notice of Non-Compliance for Shoaling concerns in the ICWW. In, 2019 they issued a Notice of Violation

THE UGLY

- The allegations of the NOV represent a potentially significant liability to the City

Specific Condition 13

- The permittee shall be responsible for alleviating adverse shoaling that occurs within the adjacent Intercoastal Waterway Federal Navigation channel as a result of the authorized work within the authorized work's area of influence. Adverse shoaling will be determined by using the survey data as required by specific condition number 14 of this authorization... **If increased rates of sedimentation occur within the channel** and additional maintenance dredging within the federal channel is required, the permittee shall implement corrective measures that prevent further shoaling and remove the sediments to a degree acceptable to FIND.

TIMELINE OF DREDGING EVENTS

August 1994- 3,100 CY dredged from south ingress channel

August 1996- 8,250 CY dredged from south channel

April 1998- Basin dredged volume unknown

March 2000-USACE issues a Permit modification to dredge 15,500 CY of material from basin and south ingress channel along with authorization to remove an additional 10,000CY every other year for 10 years

August 2003- 19,560 CY dredged from the basin and south channel

August 2004- Hurricane Frances destroys the marina

September 2004- Hurricane Jeanne

November 2004- City dredges north channel and abandons south channel under Permit mod #2. That permit modification also required abandonment of the south channel.

Timeline of Events

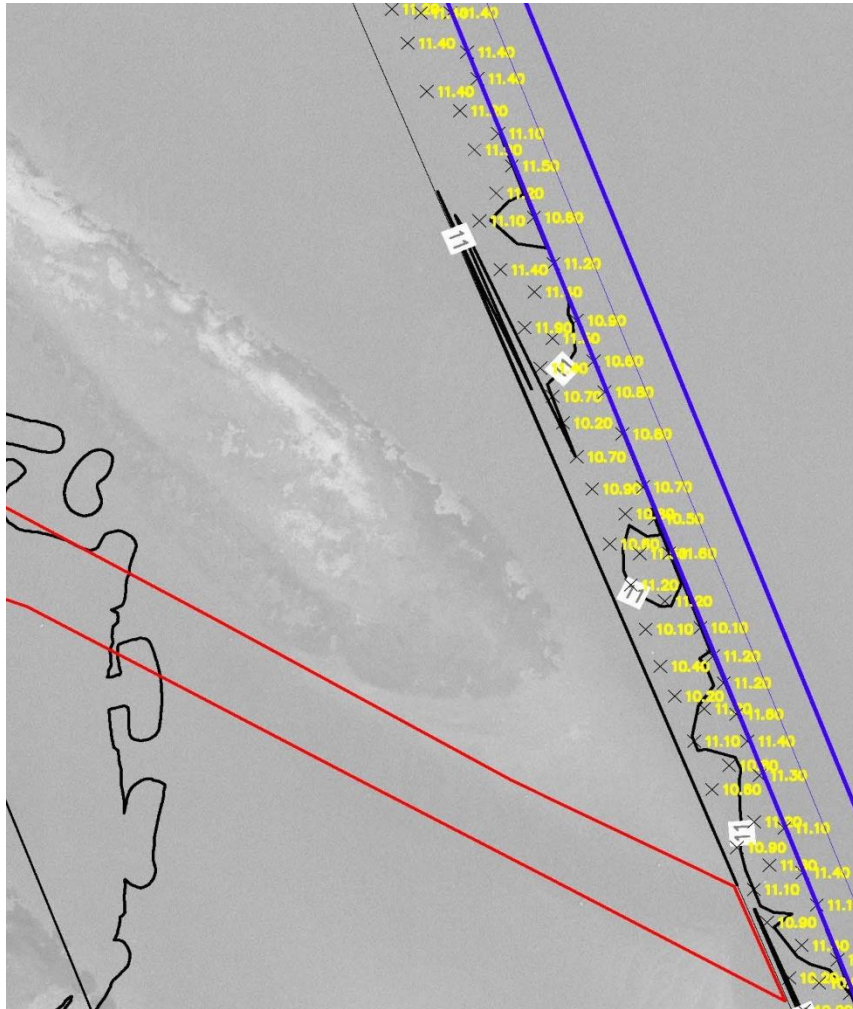
- 2009 FIND contacts about using the Island breakwaters as a disposal site for spoil material in the ICWW
- 2010 USACE issues the permit for Marina Reconstruction and Island Breakwaters
- June 2012 Construction commences
- 2014 Construction completed (Monitoring commences)
- 2017 FIND dredges ICWW north and south of Inlet Including SL3S and 5
- 2019 USACE sends non-compliance Letter concerning reports of shoaling in ICWW and asks City to extend the survey monitoring
- 2020 City completes dredging of ICW cuts SL 3S and 5 (~7,500CY)
- 2022 Sand has accumulated in the Right of Way near the former south entrance channel terminus with ICWW and is starting to encroach on marked channel again

2000 Survey



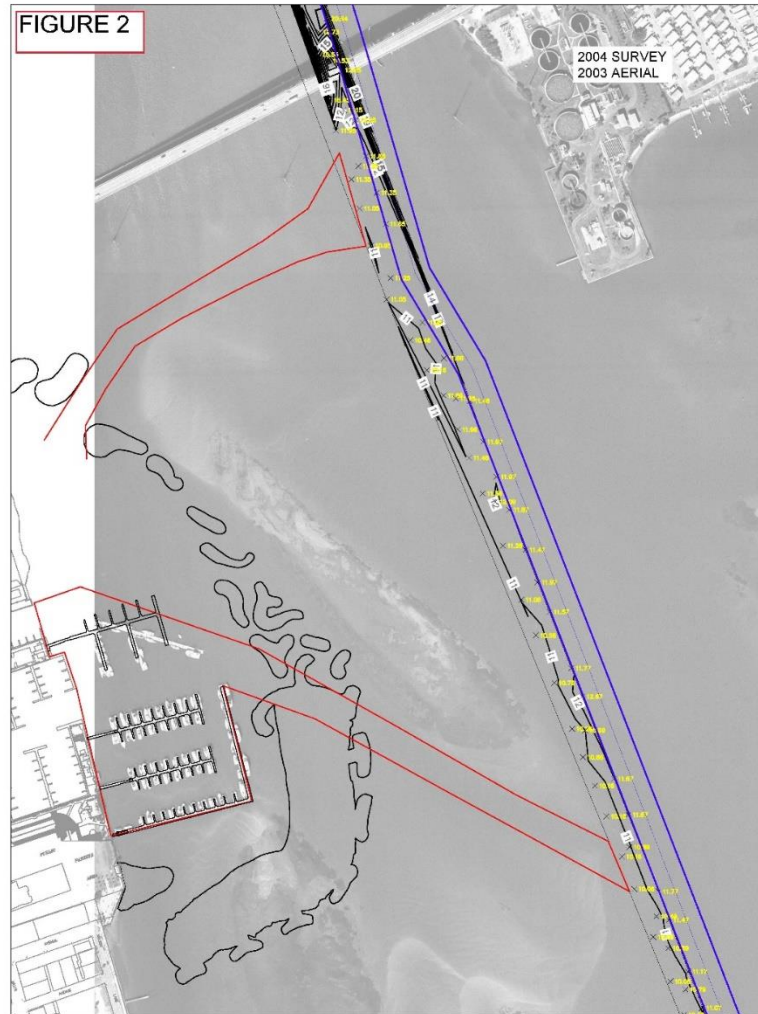
- Former Marina Present
- Pre-Island Breakwaters
- Depth in ICW and ROW greater than 10 feet deep
- 15,500 CY dredged from basin and access channel

2000 Survey Zoomed in at ICWW



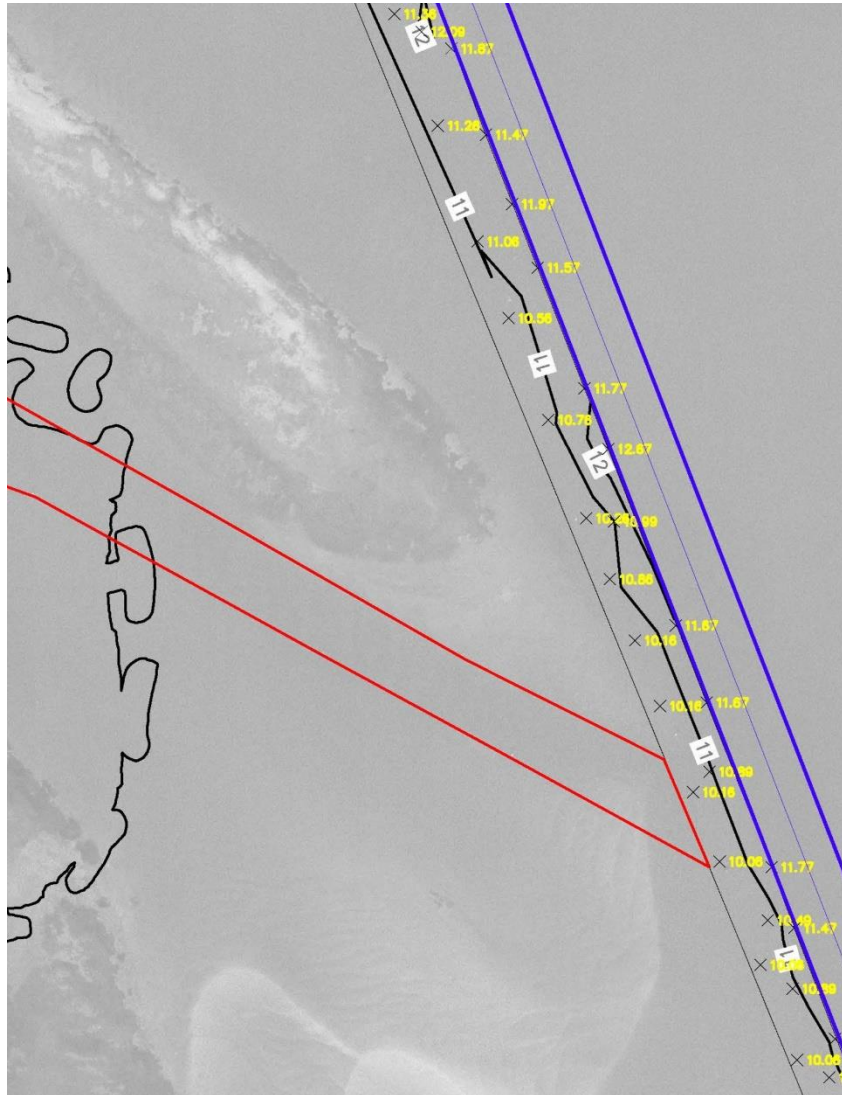
- ICWW depth 10 feet or deeper

Early 2004 SURVEY



- Survey was pre-hurricane
- Marina Present
- Pre-Island Breakwaters
- Depth of ICWW still greater than 10 feet deep

Early 2004 SURVEY zoomed in at ICWW



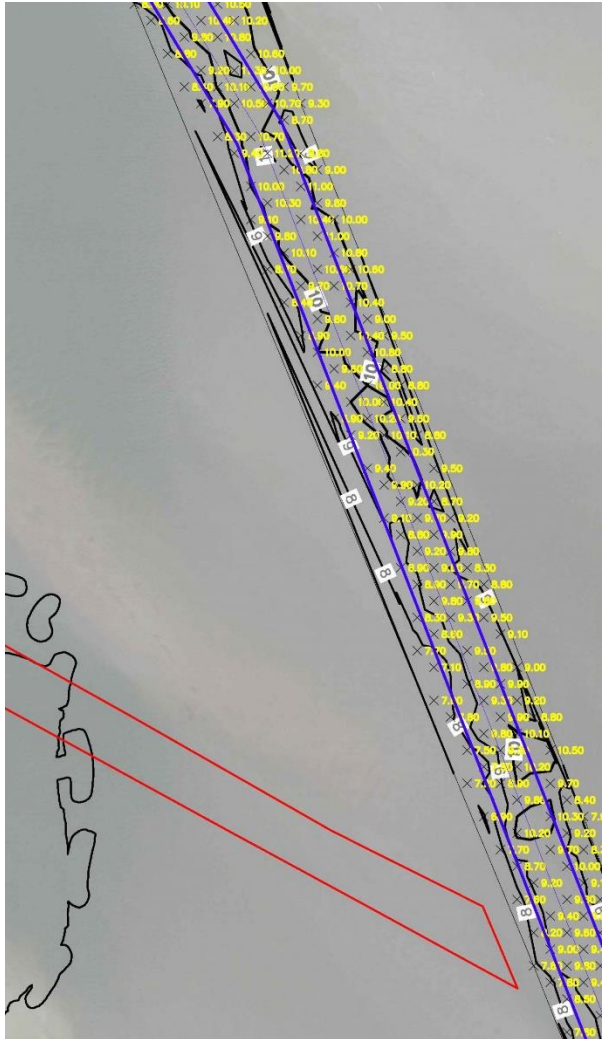
- Depth in ICWW Still greater than 10 feet deep

2008 Survey



- North Channel installed in 2005 Post hurricane
- No Marina present
- No Island Breakwaters
- South access channel abandoned in 2005 and allowed to fill in
- Depths in ICWW up to -8 feet

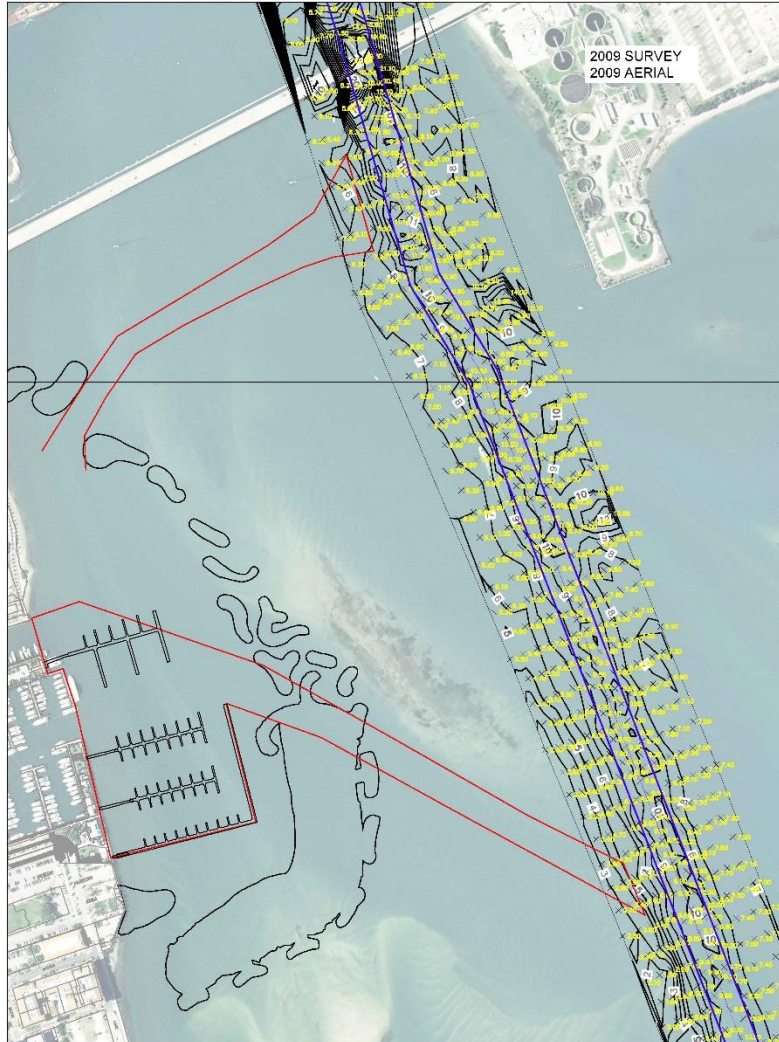
2008 Survey Zoomed at previous location of South Access Channel



Depth in ICWW 8 feet deep

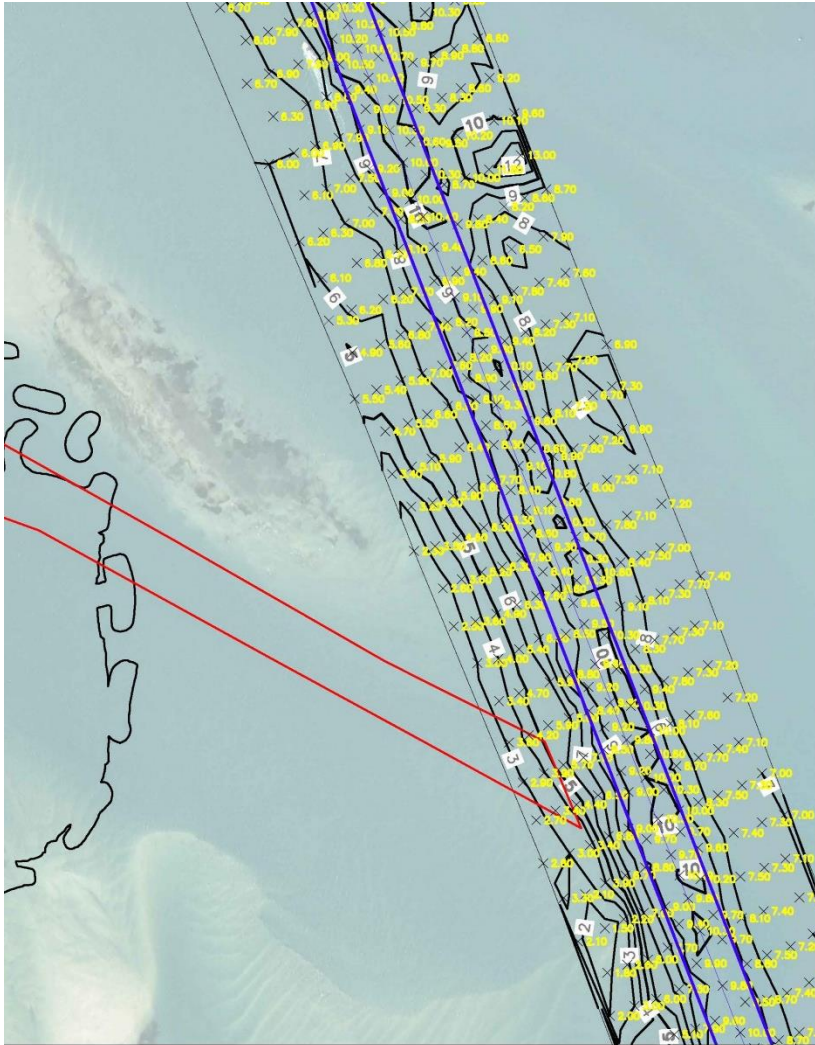
Depth near north access channel 11 feet deep

2009 Survey



- 4 years post abandonment of south channel
- No marina or Islands present
- Depth of ICWW ROW is 2 feet deep near terminus of former south access channel
- Fill is entering in the marked channel in this location with spots up to 6 feet deep
- Depth at north channel entrance at IWW is 6 feet deep
- Existing shoal is still present
- FIND contacts me requesting utilization of the breakwater islands as a disposal site for sand from ICWW

2009 Survey Zoomed In

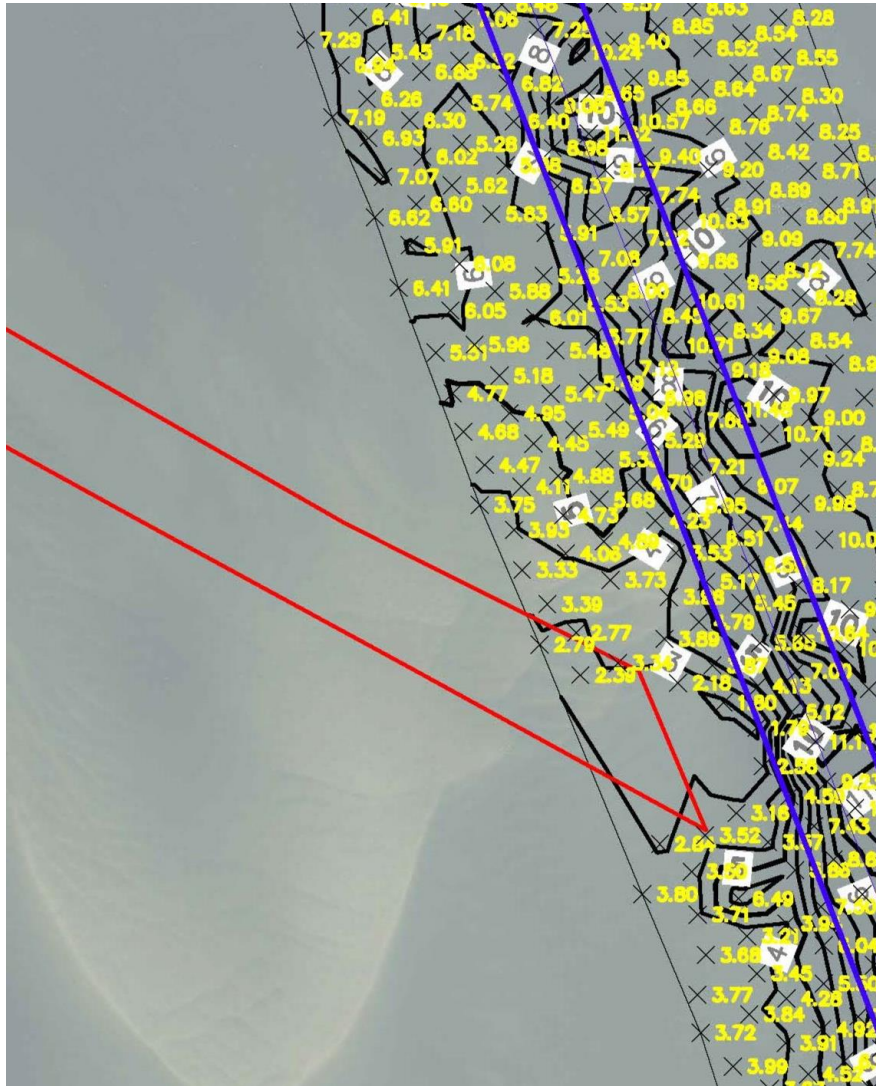


- South access channel has completely backfilled
- Sand is now entering the ICWW right of way and with some areas of the marked channel at 6 feet



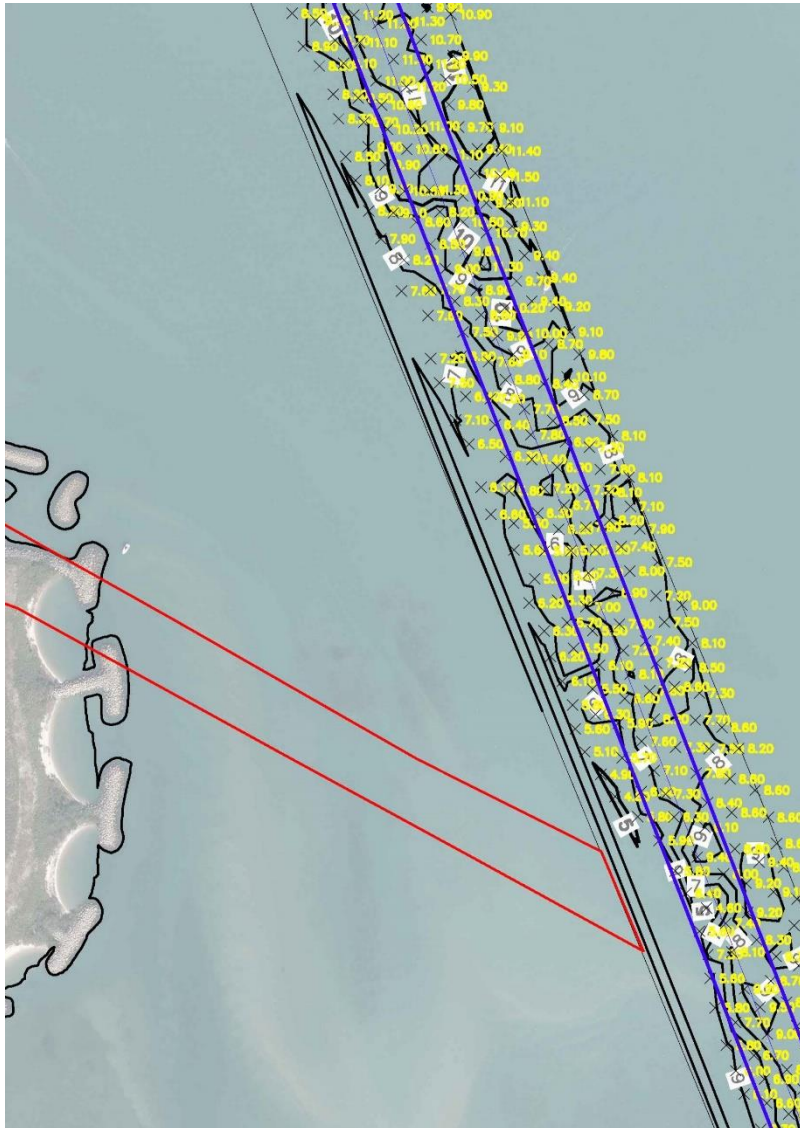
- Marina and Island breakwaters are completed in 2014
- FIND dredged the ICWW in 2017
- Sand has accumulated again in the ROW and ICWW at the terminus of the south channel entrance as it did in 2009 prior to Island Breakwater construction
- USACE issues NOV

2019 ZOOMED IN



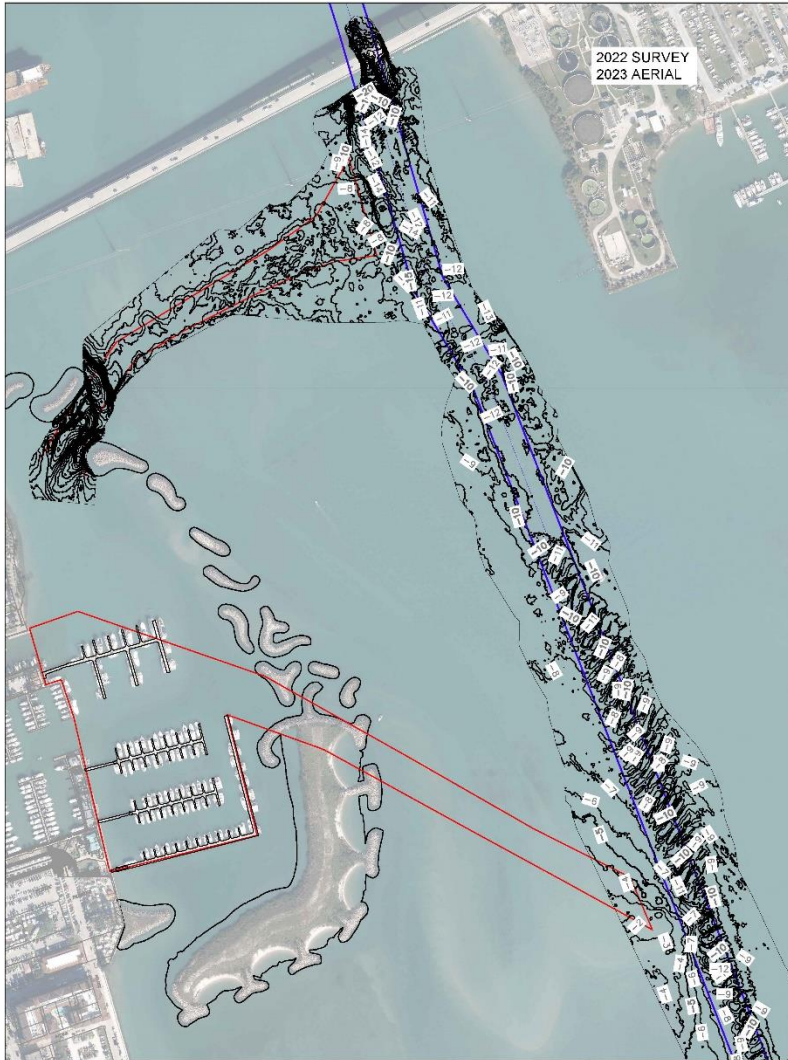
- Sand accumulates at South channel entrance in exactly the same location as 2009 prior to island construction.

2021 SURVEY Zoomed IN



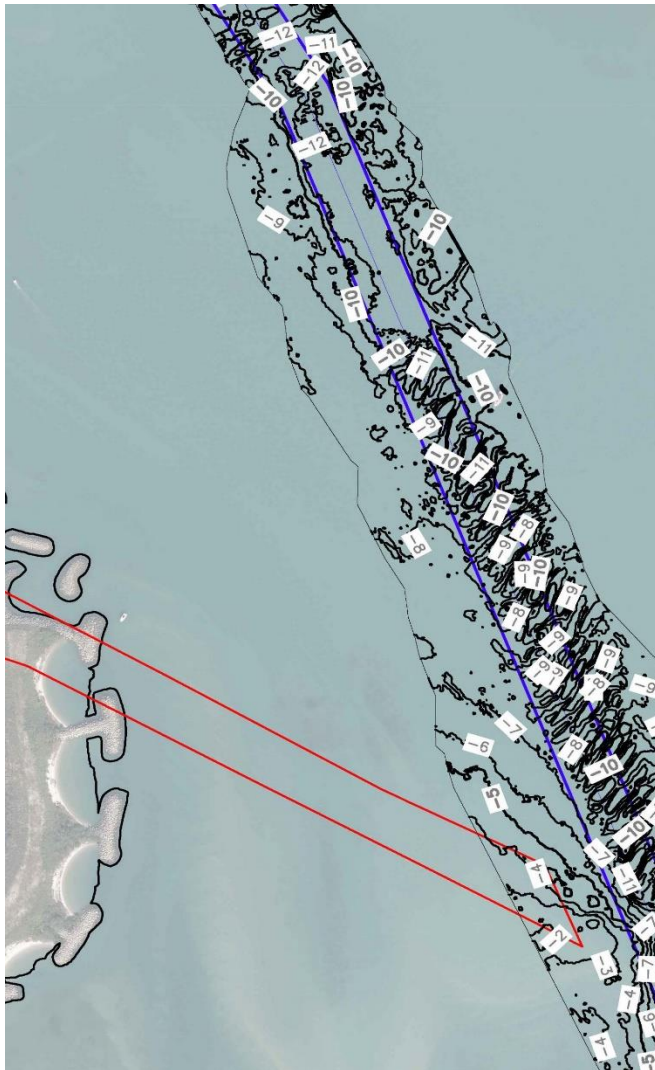
- City Dredged ICWW in 2022 of 7,500 CY
- By 2021 Sand accumulates at South channel entrance in exactly the same location as 2009 prior to island construction and the City's previous dredge site

2022 SURVEY



- 2 years post dredge and sand accumulates at South channel entrance in exactly the same location as 2009 prior to island construction at approximately the same depth
- No accumulation of sand at the north entrance access channel

2022 SURVEY ZOOMED IN



- Sand accumulates at South channel entrance in exactly the same location as 2009 prior to island construction.
- Rate of sedimentation appears to be slowing but that might be from Inlet sand trap project

CONCLUSION

- Contrary to the Corps assertions, the Island Breakwaters have not increased deposition in ICWW or the projects area of regional Influence
- The City is NOT in Violation of Specific Condition 13
 - Rate and placement of sand in ICWW is actually better than it was prior to breakwater installation
- Sediment settling in the south channel entrance and the City's dredging of that channel is what kept sand from entering ICWW for a long time
- I'm preparing a memo for submission to the Corp in response to the Colonel's request concerning SC 13.

QUESTIONS?



• **THANK YOU**

