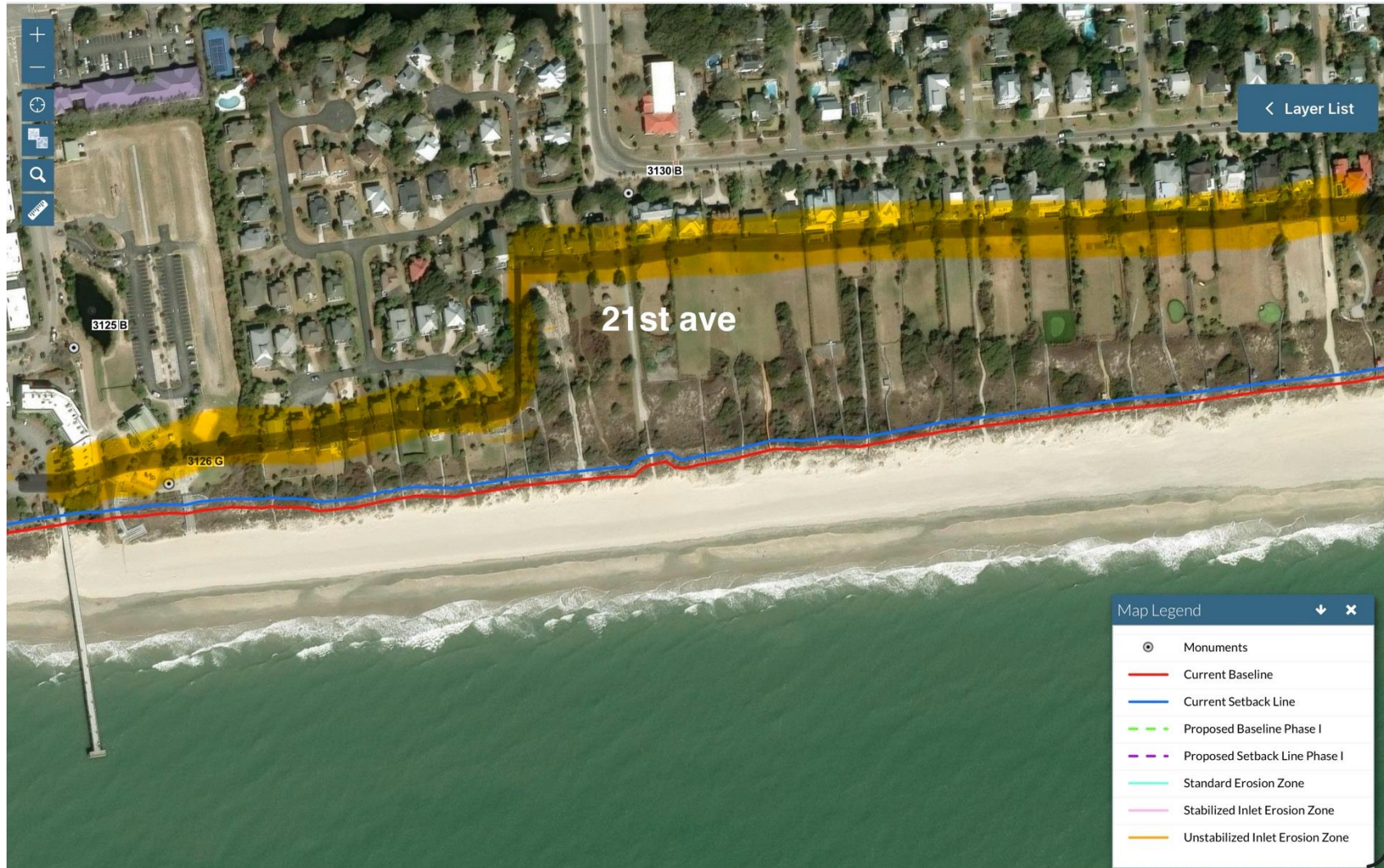


# Recommendation to IOP City Council

1. Adopt new “healthy beach” definition, to support tourism and property protection
  - 200 feet of dry sand at highest tide of the day (MHHW), something we understand and can see
  - Measured from 2018 SCDES baseline or structure line, whichever is most seaward
  - Using the most recent 5-year erosion rates
2. Renourishment volume minimum: use permit “max” for **each** of the reaches:
  - North End: 1.7MM cubic yards
  - South end: 800,000 cubic yards
3. If financial conditions allow, recommend increasing project volume to 3MM cubic yards (extra \$4.1MM), split as shown below, to move to “proactive beach management”
  - North end: 1,894,000 cubic yards
  - South end: 1,152,000 cubic yards
4. Any changes in sand quantities or placement must be approved by town council
5. Recommend Marinex as contractor for renourishment reflecting cost and reputation

# Measuring from a structure line is retreating from dune location for the middle and south end of island



# **Create a recreational beach to support tourism and protect property, consistent with “hold the line”**

## **North end**

- Beachwood East and Grand Pavilion structures are seaward of SCDES baseline. Must use structure line for that small stretch of beach.
- At Ocean Club, baseline and structure line are the same.

## **Breach Inlet to 56<sup>th</sup> Ave**

- All homes and pools are landward of the 2018 SCDES baseline

***Measuring from a structure works well on the north end, but on the south results in a lack of recreational beach***

# The south is currently defined as “healthy” despite insufficient dunes and no/small recreational beach at higher tides.

Far south



Ocean reaches 9 homes with sandbags; dunes threatened

510 Ocean



5 foot beach at 510 ocean. At 6.3" tide. 12 more high tide events by end of year

Windjammer



# IOP Deficit Scenarios, Cubic Yards

**The Beach Preservation Committee recommends adopting Dare County and Hilton Head's successful proactive beach plan**

**Current Deficit:  
Cy from Structure  
to Minus 13 NAVD**

**South: (16k)  
North: (183k)**

Source: CSE, Feb 2026 report

**200 Feet from SC  
Baseline\* Deficit:**

(\*2018 SCDES Baseline or  
Structure Line, whichever is  
most seaward)

**South: (440k)  
North: (384k)**



**RECOMMENDED**

Source: CSE, March 23, 2026 Beach Pres. Meeting

# Advanced Fill Calculations

(erosion rate \* 8 years)

- Recommend using recent erosion rate for **both** ends of island.
- Two second opinions from coastal engineers mention changes in breach inlet suggest long-term historical erosion history isn't relevant
- Advanced fill, cubic yards:
  - North: 1.6MM cubic yards, No Change
    - Uses recent erosion and shoal adjustment assumption
  - South: use 712,000 cubic yards (using 5 yr avg. erosion thru Feb 2026)
    - Instead of 264,000 per Feb, 2026 document (based on erosion rate back to 2010)
    - Slightly more than the permit advanced fill assumption of 560,000

# Recommendation for Renourishment

Renourishment = Deficit + Advanced Fill (cubic yards)

	Minimum: Permit max	Recommend: New Healthy Beach	Comments
North Permitted Reaches	1,700,000	1,894,000	+194,000 (\$1.5 MM) Smooth out placement thru to 53 <sup>rd</sup> Ave.
South Permitted Reaches	800,000	1,152,000	+352,000 (\$2.6MM)
Total	2,500,000	3,047,000	+546,000 (\$4.1MM)



**RECOMMENDED**

# Risk Analysis

- **Structures (Groins / Breakwaters):**
  - Can extend life of project beyond 8 years with structures or reduce financial spend upfront
  - Regulatory environment and timing unknown
- **Shoal attachment** doesn't occur on north end
- **High erosion case:** If place permit max volumes on south and high erosion rate of 136k/yr continues:
  - Renourishment volumes erode in ~5 ½ years
  - 300 foot berm to 200 feet in ~2 years
  - Start groin analysis ASAP
- **Fine sand:** Army Corp beneficial use volume of 300,000 is fine and known to erode faster. Recommend sand quality testing to inform erosion rate.
- **Breach Inlet:** Renourishment volume at far end near breach inlet may erode quickly
  - Spread out healthy beach volume consistent with bid drawing vs. adding more sand on the end
  - Start groin analysis ASAP