

### **City Council**

6:00 p.m., Tuesday, August 26, 2025 City Hall Council Chambers 1207 Palm Boulevard, Isle of Palms, SC

### **MINUTES**

### 1. Call to Order

Present: Council members Bogosian, Hahn, Carroll, Streetman, Anderson, Ward,

Miars, Pierce, Mayor Pounds

Staff Present: Administrator Kerr, City Attorney McQuillin, various department heads

MOTION: Council Member Ward made a motion to reorder the agenda to allow for the presentation of Resolution 2025-10 first. Council Member Hahn seconded the motion. The motion passed unanimously.

2. Resolution 2025-10 - Malcolm M. Burgis Plaza

MOTION: Council Member Ward made a motion to approve, and Council Member Hahn seconded the motion. The motion passed unanimously.

Mayor Pounds read the resolution.

### 3. Citizens' Comments

Mr. Dan Slotchiver expressed concern about the eroded condition of the beach. He asked City Council to approve emergency protective measures. He is worried about property values and property tax income.

Mr. Stuart Colman's comments are attached to these minutes.

Mr. Jimmy Bernstein thanked City Councils for their efforts to protect the beach. He said we need "to expand our horizons about what we can do to protect the beach."

### 4. Presentations

### a. Waterway Boulevard flood barrier project cost update – Thomas & Hutton

Mr. Rick Krakowski of Thomas & Hutton gave a presentation about the flood barrier project that is attached to these minutes.

Administrator Kerr spoke to a question about easement acquisition: "That is something that we have been working with the local representatives of the ownership of the Wild Dunes Golf Course. They obviously have a structure above them. They've been very positive about it. They have assured us that they feel positive that the easements will get granted. Similar to the easement that we had that we crossed the golf course at 30th several years ago. We have an existing easement agreement for that easement, and we have been kind of asking to get that executed and back, but I'm thinking that they have other priorities. I don't know that it's getting

immediately directly to the owners. So there's been a lot of groundwork with the local representatives, and we just haven't been able to get an executed copy of the easement back yet. We have been in conversations with them as recently as today. We think that they have had meetings as recently as today. So we expect to have those easements, and we will not execute a contract to do the work unless we at least have confirmation that the easements will be granted Even Phase 1 because Phase 1 work has to eventually get across the marsh and this is really the place that it has to happen. So all of this project hinges on the easements crossing the golf course."

Despite easement delays and the permitting process, Administrator Kerr and Mr. Krakowski expressed confidence that the project will meet the grant deadline. Administrator Kerr added that the grant administrator has applied for an extension and believes it will be granted.

A lengthy discussion ensued about the timeline for the project and the lack of a specific agreement between the City and Wild Dunes regarding the easement across the golf course and the completion of the project. Mr. Krakowski believes the work can be completed in 55 days. Administrator Kerr added that the work will not impact play on the golf course. He also noted Wild Dunes supportiveness throughout the process.

MOTION: Mayor Pounds made a motion to reorder the agenda to allow for consideration of the first three considerations under Procurement at this point in the meeting. Council Member Ward seconded the motion. The motion passed unanimously.

### 5. Procurement

a. Consideration of Waterway Boulevard flood barrier project – Phase 1 construction, Truluck Construction, Inc., \$1,269.864.68 [FY26 budget, \$918,000, Capital Projects]

MOTION: Council Member Pierce made a motion to approve contingent upon "attorney approved assurance" or an executed easement. Mayor Pounds seconded the motion.

Administrator Kerr said, "I wanted to make a comment just to add another wrinkle to the already overly complex situation but, what's in your packet is to approve Truluck and they are actually not the lowest bidder. We have determined that they are the lowest responsible bidder at this point because when we got the bids in, we vetted who was doing the site work on the golf course. Wild Dunes had some very strong opinions about the work that was getting done on their property and on the golf course. The lowest bidder is IPW. Their site work contractor was not a golf course specific contractor. Wild Dunes has told us that that they would not allow us to proceed with the project without a golf course specific project. So, Truluck. The other two bidders did include the golf course work being done by a golf course subcontractor. So, I just wanted that to be in the record. It was \$20,000, a very minimal difference."

**VOTE:** The motion passed unanimously.

b. Consideration of tide valve purchase for flood barrier project – Wapro, Inc., \$59,348 [FY26 Budget, \$918,000, Capital Projects]

MOTION: Council Member Ward made a motion to approve, and Council Member Anderson seconded the motion. The motion passed unanimously.

# c. Consideration of redesign work, bidding and construction administration for drainage project at Palm Boulevard between 38<sup>th</sup> and 41<sup>st</sup> avenues – Thomas & Hutton, \$108,600 [FY26 Budget, \$1,850,000, Capital Projects]

Administrator Kerr explained, "The other part of that proposal is a little bit of redesign work. We heard, I guess, the unfortunate news about the Water and Sewer Commission not being able to execute their project in Basin N. We, if you'll recall, we did a lot of work to coordinate this project with their project. That coordination did come at an expense to the City in terms of we had conflict boxes incorporated into the design for their sewer lines. We also actually chose to put our lines on the opposite side of Palm Boulevard which is not ideal from a performance perspective. The sewer line was planned on the lowest side of Palm. So we were putting our line on not the best side. They were going to make it work but this will make the project perform a little bit better and I think that it should be a pretty significant cost savings to do this maybe a couple hundred thousand...That redesign work is also in there. That portion of their work would be \$108,600. That's a little redesign and then construction, bidding and construction administration."

Mayor Pounds further clarified that the only new item in this consideration is the redesign work since the Water & Sewer Commission will no longer be doing their project in this area.

## MOTION: Council Member Ward made a motion to approve, and Council Member Anderson seconded the motion. The motion passed unanimously.

## b. Major beach renourishment permitting update and current beach conditions – CSE Steven Traynum and Patrick Barrineau

Mr. Steven Traynum and Dr. Patrick Barrineau gave a presentation regarding the renourishment permitting and the current beach conditions. It is attached to these minutes. Dr. Barrineau reported the finding of "about 15.5 million cubic yards of beach-quality sand right offshore Isle of Palms," sufficient for 30 to 40 years of nourishment.

Discussion ensued about the dynamic nature of Breach Inlet. Council members would like information pointing to the cause of the erosion. Mr. Traynum said a study may not give definitive answers, adding there could be numerous potential causes for the erosion.

Regarding the erosional areas within Wild Dunes, Mr. Traynum offered: "So at the north end there's, again, two erosional areas. One at Seascape, Ocean Club, and the golf course. Similar thing there where there's really, this is today in a high tide photo, so very little beach, not enough beach to do any kind of scraping, but we do have the option to continue our shoal management project that we paused in May, is the way the State has allowed us to do that. So we have the option of taking shoal sand and moving back to that area, or we can add additional sandbags. There are currently sandbags around Ocean Club and Seascape. The ones at Seascape are mainly buried in the sand right now. I think if they have more erosion they may become exposed or they may have settled down a little lower, so those would probably need to be dug and replaced. So those are the two options. I've kind of quantified what a sandbag revetment may look like and cost there. For it's about 500 feet of impacted area that doesn't include the 18th hole, or the old 18th hole, for \$250-\$300,000 worth of sandbags there. Moving sand, we moved about 40,000 yards with the last shoal project. It held up okay until about the past month. It kind of lost a little bit right at first and then it stabilized for a pretty good period of time and then we've had the past week. So a similar size effort up there would cost about another \$350,000. So it's a pretty similar

cost between those two alternatives. I would say, again, sandbags probably provide the most certainty right now. I do anticipate that area to start to naturally accrete pretty significantly, but probably still 6 to 12 months from now before we see that trend reverse based off of what happened in 2015. But I am very concerned about the construction work going on at Ocean Club and the City being involved in anything related to that. They had scaffolding that was placed directly on sandbags. In my opinion, I really don't want anything that the City is doing to impact what they are building. They may need to consider how they want to handle protection of their property. That's kind of a political or legal decision, not an engineering one. They certainly need some protection, but how that gets implemented, I'm not sure."

Council Member Bogosian expressed concern about the scaffolding at Ocean Club and the City's possible exposure for conducting emergency work in the area.

City Attorney McQuillin answered, "I think we need to just be careful around it. Obviously, I mean, we're dealing with the dockside stuff in downtown Charleston, similar situation. So, um, we don't touch it. We don't get blamed for it."

Mr. Traynum added that the City's work began before the scaffolding was built. He believes he can get permission to move sand in the area in late September or early October. He noted that owners can also place their own sandbags in the area.

### 6. Approval of previous meetings' minutes

MOTION: Council Member Anderson made a motion to approve the minutes of the July 22, 2025 meeting, and Council Member Hahn seconded the motion. The motion passed unanimously.

- 7. Old Business none
- 8. New Business
  - a. Procurement
    - iv. Consideration of funding for emergency beach repairs

Administrator Kerr said the contractors who performed previous emergency work are ready to deploy.

MOTION: Council Member Pierce made a motion to approve up to \$550,000 for sandbag deployment: \$200,000 for Seascape, \$225,000 for the south end of the island, and \$125,000 for Beachwood. Council Member Miars seconded the motion.

Council Member Bogosian asked if the USACE could move their pipe at the south end of the island and focus on where the sand is needed. Mr. Traynum explained, "They are, I think, bound by their environmental review to only place sand north of 2nd Avenue. That was what they set up in their permitting process. So I don't think they can go any further south than 2nd and under their current contract trying to get anything changed has been difficult."

He said they started and  $2^{nd}$  Avenue and "we really didn't see much moving high up into the profile. Now, again, the City has the permit to come on top of what they're working and move that material south of  $2^{nd}$ ."

He continued, "I think just keeping it where it's at is just as economical and...working it a little bit further away from the inlet where they're placing it gives it the better opportunity to stay within the accessible part of the beach, as opposed to if they place it at 2nd, as low as they've been placing it, it may work its way out into these attached bars before we can really even access it. They're placing the material there because it's had so much mud in it that it needs to be out on the water to kind of wash itself out. We have talked to them about maybe placing it higher on the beach but there's already areas down there that have mud outcroppings. So as much as I would love to see him build a beach with it, it would not look good based off the material we've had recently."

When asked if there is any State funding available to help with this emergency work, Administrator Kerr said he would contact SCPRC. Council Member Pierce indicated Senator Campsen may be able to help.

**VOTE:** The motion passed unanimously.

v. Consideration of rear loader purchase – Amick Equipment, \$306,138.74 [FY26 Budget, \$320,000, 1/3 Capital Projects, 1/3 Hospitality, 1/3 SC ATAX]

MOTION: Council Member Hahn made a motion to approve, and Council Member Streetman seconded the motion. The motion passed unanimously.

vi. Consideration of authorizing the interpretive sign project at the marina dock and authorizing up to \$11,000 of funding (unbudgeted)

Administrator Kerr explained that all of the \$11,000 will likely not be used as an oyster roast at Islander 71 will benefit this project. The money from that oyster roast will come to the City through a valid 501(c)(3). Other funding is expected from the Marina and Eco-Tours.

MOTION: Council Member Anderson made a motion to approve the request of greenspace funds. Council Member Hahn seconded the motion. The motion passed unanimously.

- vii. Report of purchase of Gasboy pumps for Public Works site Central Industries, \$16,891.86 [FY26 Budget, \$20,000 Capital Projects]
  - b. Consideration of authorizing lease modification to adopt new marina parking lot layout

Administrator Kerr said, "This is a project that has been with the Public Facilities Committee for a long time. The Islander restaurant owners have agreed in concept to a plan. The next steps in that process would be formally amending the lease exhibits that talk about the space that's under lease. There are also provisions in there that speak about shared parking. Those sections would go away. There is a leaseback provision on their employee parking lot. So we would re-engage Brian Kitz who worked through that lease, come up with the amendments that would make this change effective. That would be really the first step to ensure that we can kind of get this project off of stall and underway. If that were to be successful, there would be some additional design work and obviously, some construction work that would need to happen to make this happen. But the lease modifications are the first step in that process."

MOTION: Council Member Hahn made a motion to approve, and Council Member Anderson seconded the motion. The motion passed unanimously.

### c. Consideration of CARTA Budget

A BCDCOG representative thanked City Council for their continued support. He said there was an 11% increase in Beach Reach ridership this year despite four rainy weekends.

## MOTION: Council Member Ward made a motion to approve, and Council Member Hahn seconded the motion. The motion passed unanimously.

### 9. Boards and Commissions Report

- a. Board of Zoning Appeals minutes attached
- b. Planning Commission minutes attached
- c. Accommodations Tax Advisory Committee no meeting in August
- d. Environmental Advisory Committee minutes attached

### 10. Ordinance, Resolutions, and Petitions

- a. Second Reading
  - i. Ordinance 2025-09 Offenses against Public Peace, to include regulations on hate intimidation

## MOTION: Council Member Miars made a motion to approve, and Council Member Anderson seconded the motion.

City Attorney McQuillin addressed some of the comments received about this ordinance: "One of the concerns we received was in the whereas clauses of the ordinance, the comments. I'll tell you which one it is. Whereas the State of South Carolina has yet to adopt a statewide hate crime legislation, it's only one of two states in the United States who have yet to adopt such protections for its citizens. Somebody called into question that language in the ordinance and pointed out there are in Chapter 5, Offenses Against Civil Rights, and I guess the suggestion was to change it to where to say South Carolina does not adequately address hate crimes as opposed to saying it doesn't address them at all. And the commenter pointed out some areas in State law where it does appear that hate crimes are addressed. So yeah, that was the first comment and suggestion was to just say whereas the City of Isle of Palms does not believe State law adequately addresses the severity of crimes motivated by hate was the suggestion. The language was pulled, I think, from another municipality's ordinance and also from publications put on by the Municipal Association and the United States Justice Department's website that identifies both South Carolina and Wyoming as states that do not include specific bias categories like race, color, religion, national origin, sexual orientation, gender, gender identity, or disability in their state laws. So that was one of the comments received. One of the comments was just whether or not this ordinance will really deter crime and why are you treating a crime based on hate different than a crime based on jealousy, creed, something like that. The other one was that they thought the use of saying that any crime motivated by hate that involves a violation of Title IX or anything else that's prohibited unlawful under the Code of Ordinances is broad and that we ought to focus on assault, vandalism, and specific crime categories as opposed to the catch-all which is in the current ordinance. So those are some comments we received. Ultimately the ordinance as written, I think is legally compliant. These are probably more policy, political decisions, and findings that whatever you all as a body deem appropriate can be adopted. So I don't have a suggestion that, oh, yeah, I think we should change this or that. These are just thoughts that were brought up by

somebody. I'm not saying they are good thoughts. I'm not saying they are bad thoughts. That's ultimately for you all to decide."

Council Member Hahn explained why he could not support the ordinance, "I can't support this. This is a constitutional issue. It impinges on free speech. Free speech is a fundamental check on governmental power. This impinges on that. It's a slippery slope. We're making it illegal to disagree, and I just think it's something that we can't do. Secondly, as written, we're talking about words with the intent to intimidate because of the actual or perceived message from the person the words are spoken to. By saying it's actual or perceived, it makes it extremely vague and extremely muddy so that anybody can say they perceived that somebody fussed them because of their race, creed, color, religion, ancestry, etc. I just think it's a slippery slope and it's an erosion of our rights under both the State and Federal constitutions."

Council Member Pierce likes the change to the "whereas clause" recommended by the City Attorney.

Council Member Bogosian asked about the use of "perceived," to which City Attorney McQuillin responded, "I think it is fine as written. The question, and where this will come up is if you've got somebody that perceives something and it's obviously if somebody vandalizes a building and paints a swastika on it, that's an easy case. There's no sort of perceived thing. But if somebody looks at them the wrong way and they get charged with a hate crime, that's where we're going to run into issues... You could take it out, but ultimately it's going to come to how, like, the facts of each specific case. And obviously this is an ordinance given the constitutional concerns that he raises. Like, in my mind, it's got to be a pretty clear violation and motivated by hate. So, there's a reason this didn't pass at the Statehouse because of these very issues that you all are talking about."

While Council Member Anderson believes the ordinance to be a good deterrent, Council Member Bogosian believes this is a State issue and it is not a deterrent. Mayor Pounds agreed with Council Member Bogosian, adding that a similar ordinance is up for First Reading with the Charleston County Council tonight.

City Attorney McQuillin does not believe this ordinance will create any difficulties for IOP officers.

MOTION: Council Member Miars revised her motion to amend to include the suggested "whereas clause" offered by the City Attorney. Council Member Anderson agreed to the revised motion. A vote was taken as follows:

Ayes: Carroll, Miars, Pierce, Bogosian, Ward, Streetman, Anderson, Pounds

Nays: Hahn

The motion passed 8-1.

ii. Ordinance 2025-08 – Parking Change at 41st Avenue

MOTION: Council Member Miars made a motion to approve, and Council Member Bogosian seconded the motion. The motion passed unanimously.

### b. First Reading -- Ordinance 2025-10 - Golf Cart Path designation

MOTION: Council Member Bogosian made a motion to approve, and Council Member Anderson seconded the motion. The motion passed unanimously.

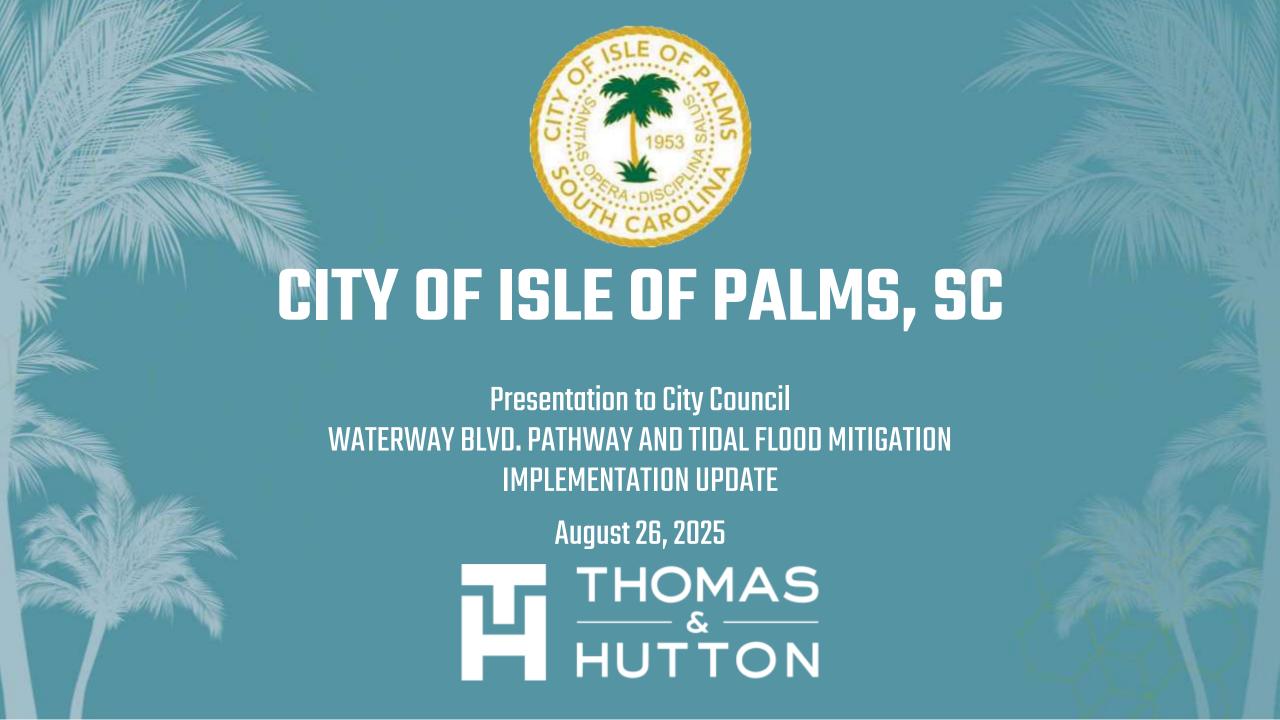
### 11. Miscellaneous

### 12. Adjournment

Council Member Ward made a motion to adjourn, and Council Member Anderson seconded the motion. The meeting was adjourned at 8:33pm.

Respectfully submitted,

Nicole DeNeane City Clerk



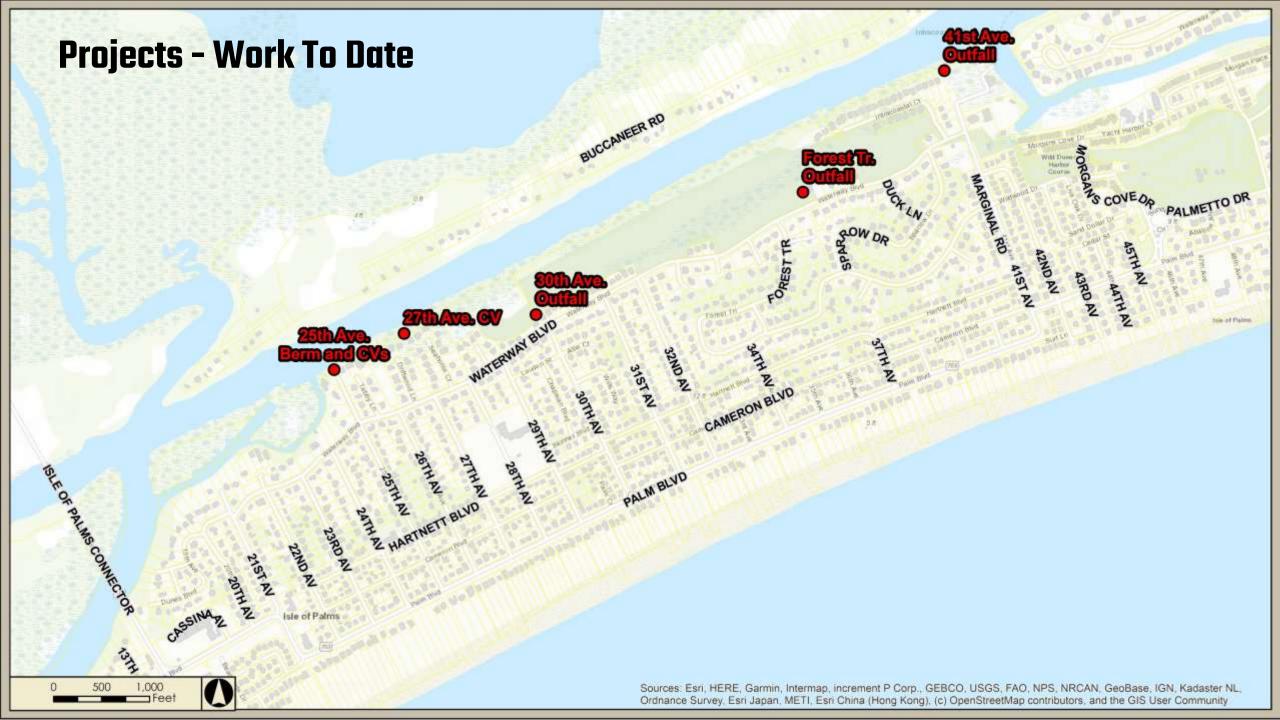
# **Work To Date**





- 30<sup>th</sup> Ave. Outfall
- Forest Trails Outfall
- 41<sup>St</sup> Ave. Outfall
- **Minor Tidal Flood Mitigation**
- 25<sup>th</sup> Ave. Berm/Check Valves
- 27<sup>th</sup> Ave. Check Valve





# **Work In Progress**



- Phase 1 Wild Dunes Harbor Course Tidal Flood Mitigation
  - Design Completed (All work within WD renovation footprint)
  - Permitting Completed (Permitted at modification to WD permits)
  - Bidding Completed (3 bids received)
  - Award Pending
  - Check Valves To Be Ordered Separately (Installed by Contractor)



# **Work In Progress**



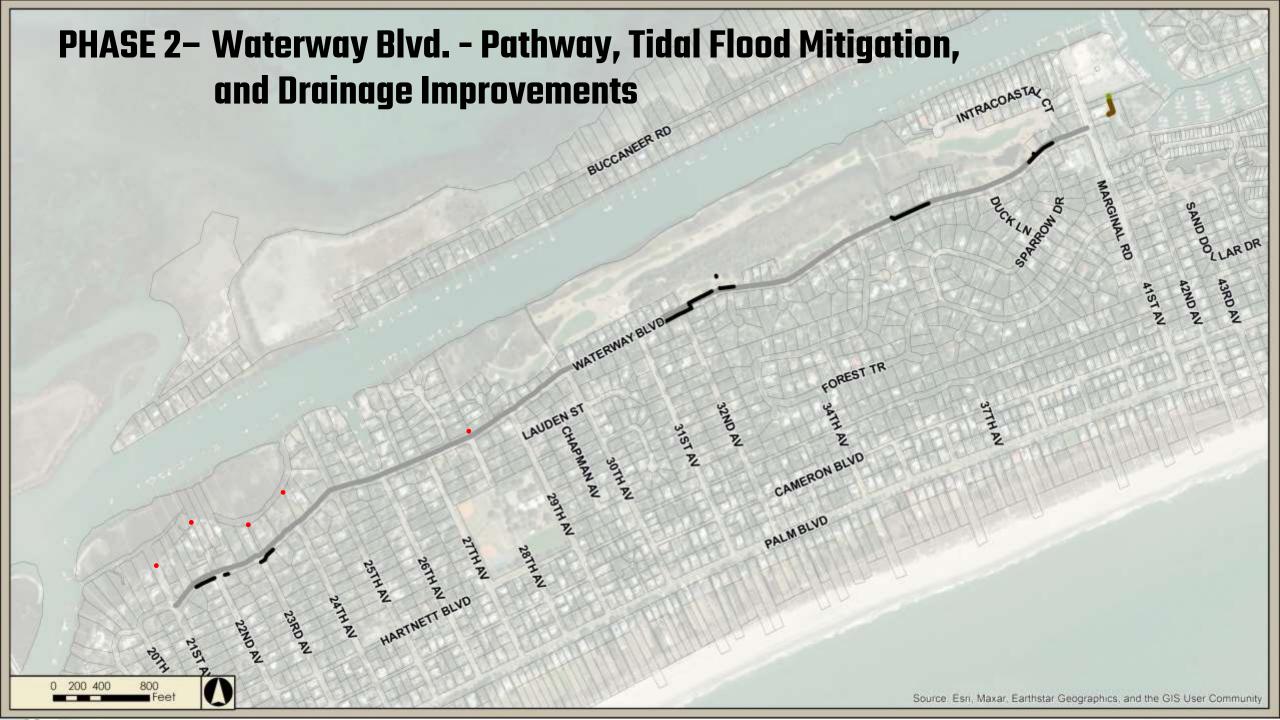
- Phase 1A 3107, 3109, and 3111 Waterway Blvd Tidal Flood
  Mitigation
  - Conceptual Design
  - To Be Completed As Change Order to Ph 1 Contract
  - Check Valves To Be Ordered Separately



# **Work In Progress**



- Phase 2 Waterway Blvd. Pathway, Tidal Flood Mitigation, and Drainage Improvements
  - Design Complete (95%)
  - Under Review by Permit Agencies (Addressed 1st Round of Comments and Resubmitted)
  - Check Valves Included in Cost Estimate
  - Partially Funded by Grant



## **Future Work**



- Phase 3 3607, 3609, 3611, 3613 and 3615 Waterway Blvd. Tidal Flood Mitigation
  - Conceptual Design
  - Check Valves Included in Cost Estimate



# Waterway Blvd. Pathway and Tidal Flood Mitigation



## **Estimated Construction Costs**

Phase	Description	Status	C	onstruction Cost
Phase 1	Wild Dunes Harbor Course - Tidal Flood Mitigation	Bids Received, Contract Award Pending	\$	1,270,690
Phase 1	Wild Dunes Harbor Course - Tidal Flood Mitigation Check Valves	Vendor Proposal, Waiting Execution	\$	59,348
Phase 1	A 3107, 3109, and 3111 Waterway Blvd - Tidal Flood Mitigation	Proposed Contract Change Order	\$	85,773
Phase 1	A 3107, 3109, and 3111 Waterway Blvd - Tidal Flood Mitigation Check Valves		\$	22,000
Phase 2	Waterway Blvd Pathway, Tidal Flood Mitigation, and Drainage Improvements	95% Designed, In Permitting	\$	2,884,400
Phase 3	3607, 3609, 3611, 3613 and 3615 Waterway Blvd Tidal Flood Mitigation	Conceptual Design	\$	1,515,000
		TOTAL COST	S	5,837,211



Aug 26, 2025





# **USACE Project**

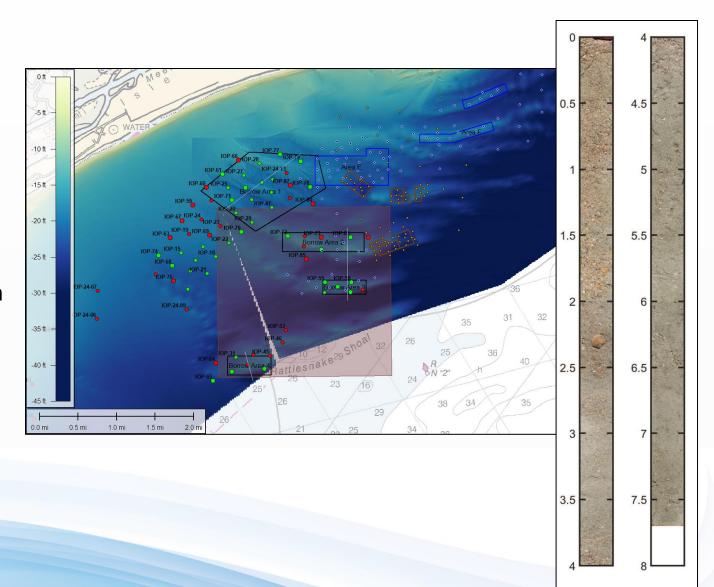
- Work paused the past few weeks to allow equipment to move to a new disposal island
- Contractor is changing construction method to directly dredge material from within the island
- Pumping expected to resume later next week
- New areas expected to contain better sand material
- ~300,000 cy remain to be placed
- AIWW project is out for bid
- Anticipated to add an additional ~350,000 cy
- Project likely to start around in early 2026
- Material placement 4-7<sup>th</sup> Avenues

# **Large-scale Nourishment – Permit Status**

- Permit application ready to submit next week
- Coordinating with SHPO for identification of suitable borrow area
- Documents Include
  - Permit Drawings
  - Permit Narrative
  - List of Adjacent Owners
  - Biological Assessment
  - Essential Fish Habitat Assessment
- First likely construction window fall 2026/early 2027

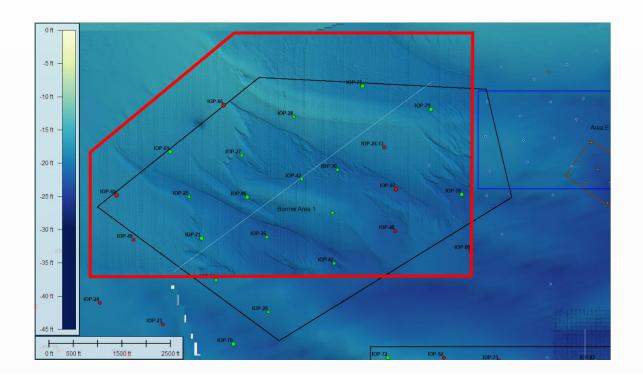
# Offshore Inventory – Scope of Study

- 23,000 acres bathymetry
- 5,000 acres geophysical
- 265 borings
  - 91 specifically in 2024-2025 for current effort



# Offshore Inventory – Scope of Study

- 23,000 acres bathymetry
  - Includes single- and multibeam systems
  - Multibeam collected in red box, offers much higher resolution
  - Used to identify underwater features indicating sandy material (ripples, shoals, etc)



# **Offshore Inventory – Scope of Study**

5,000 acres geophysical

-5 ft

-10 ft

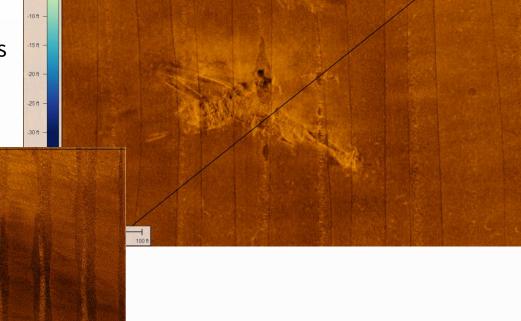
-15 ft

-20 ft

30 ft

-40ft -

- Includes side-scan SONAR and site-specific multibeam
- Used to identify cultural resources like wrecks and ballast mounds shown here:



Mean

0.276

0.329

0.284

0.363

0.340

0.328

0.488

0.540

0.3

6.3

12.8

1.8

3.8

**Borrow** 

Area

2

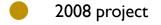
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Beach

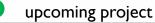
Jul-17

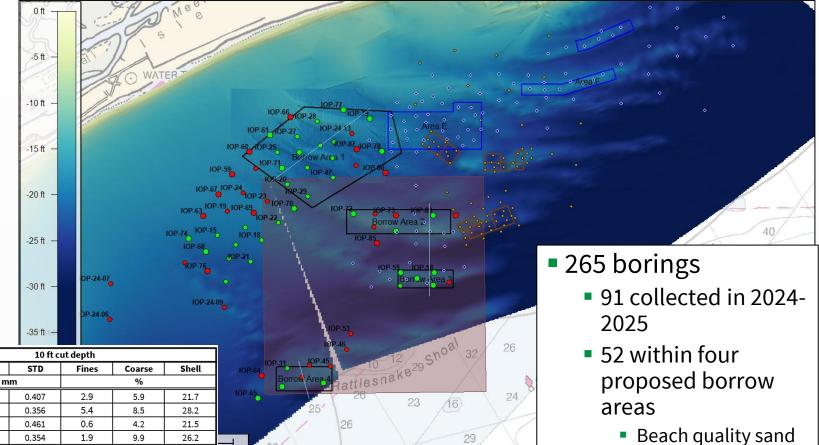
Mar-18

Oct-18



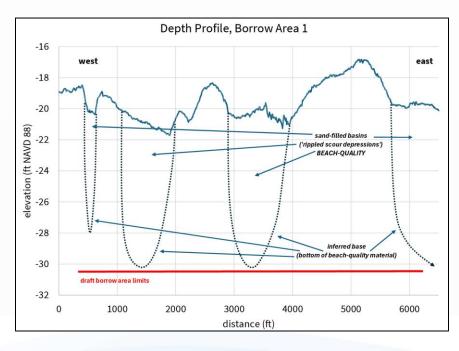
2018 project

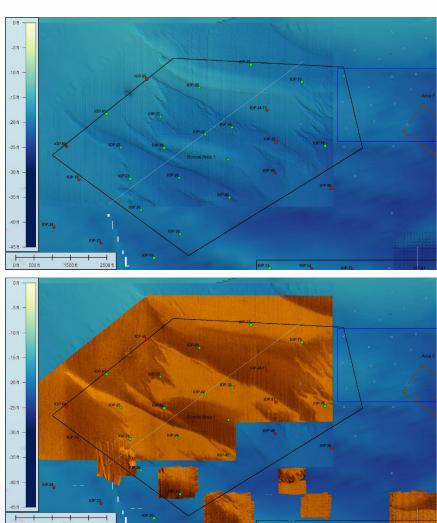




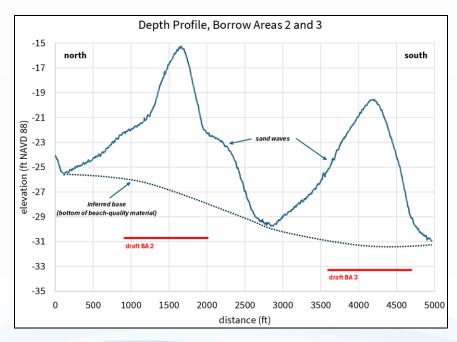
to up to 10 ft below 2.0 m 34 **BEACH AVERAGES** grade (see below): Mean STD Fines Coarse Shell mm 0.199 0.689 6.2 0.445 0.442 0.1 9.1 25.9

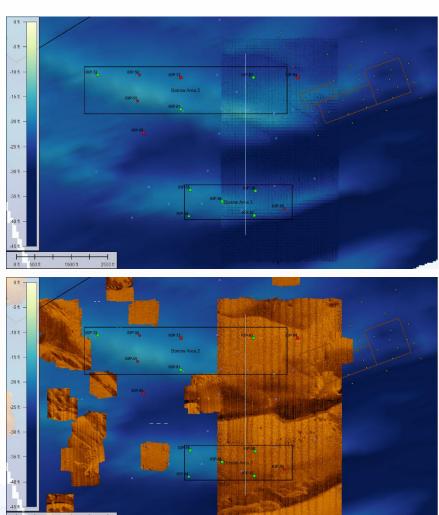
### Borrow Area 1



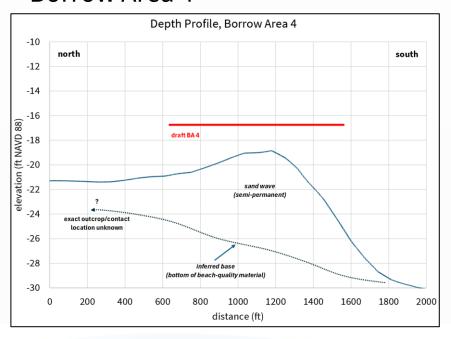


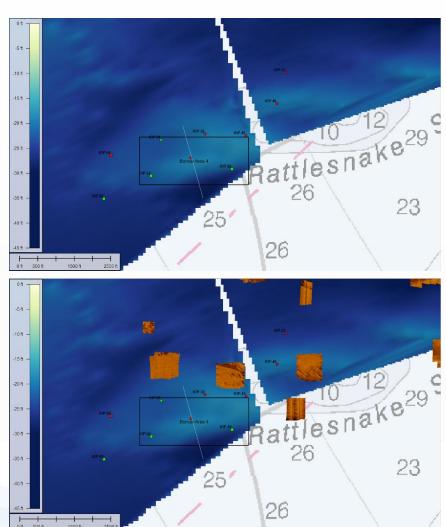
### Borrow Areas 2 and 3





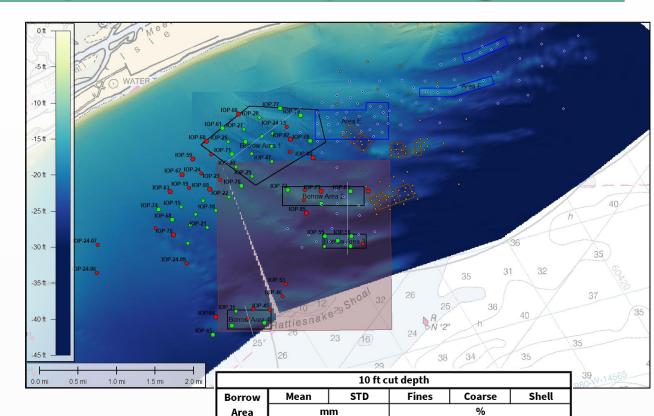
### Borrow Area 4





# **Offshore Inventory – Preliminary Findings**

- Four Borrow Areas
  - Contain up to ~15.5 million cy of beach quality sand
- Dozens of cultural resource exclusion areas (in red box at right)
- Confirms that sufficient sand resources exist for several more projects
- Future work would look further offshore or infilled prior areas



0.276

0.329

0.284

0.363

1 2

3

Borrow Area (acreage)		Volume by Cut Depth (cy)			Core Length	
		4 ft	6 ft	8 ft	10 ft	(avg)
1	650	4,193,800	6,290,700	8,387,600	10,484,500	9.2
2	160	1,032,320	1,548,480	2,064,640	2,580,800	9.1
3	60	387,120	580,680	774,240	967,800	9.0
4	90	580,680	871,020	1,161,360	1,451,700	9.7

2.9

5.4

0.6

1.9

0.407

0.356

0.461

0.354

5.9

8.5

4.2

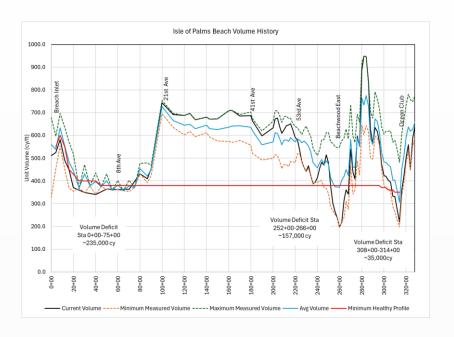
21.7

28.2

21.5

26.2

## **Nourishment Plan - South End**



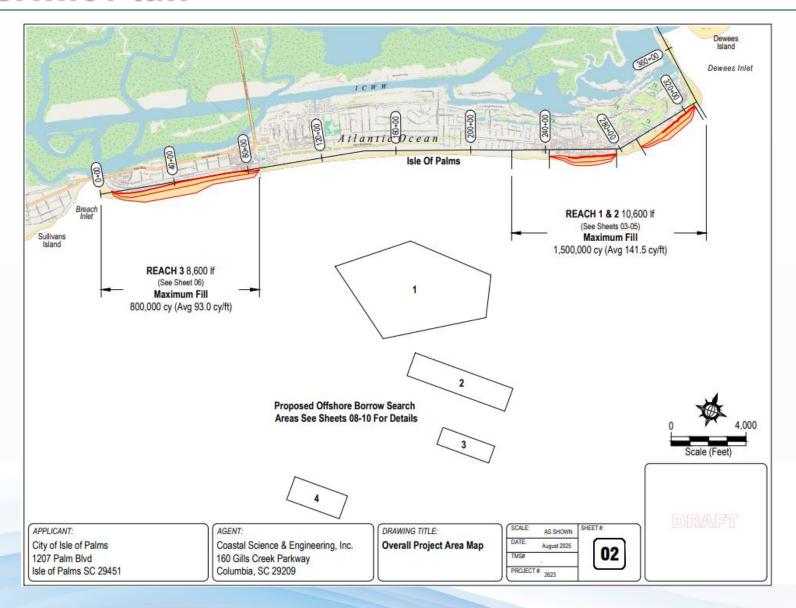
- Deficit volume established with Beach Management Committee
- South End Deficit 235,000 cy
- Deficit up to 60 cy/ft
- Background losses assume 55,000 cy/yr
- 8-yr project design requires ~675,000 cy

## **Nourishment Plan - North End**

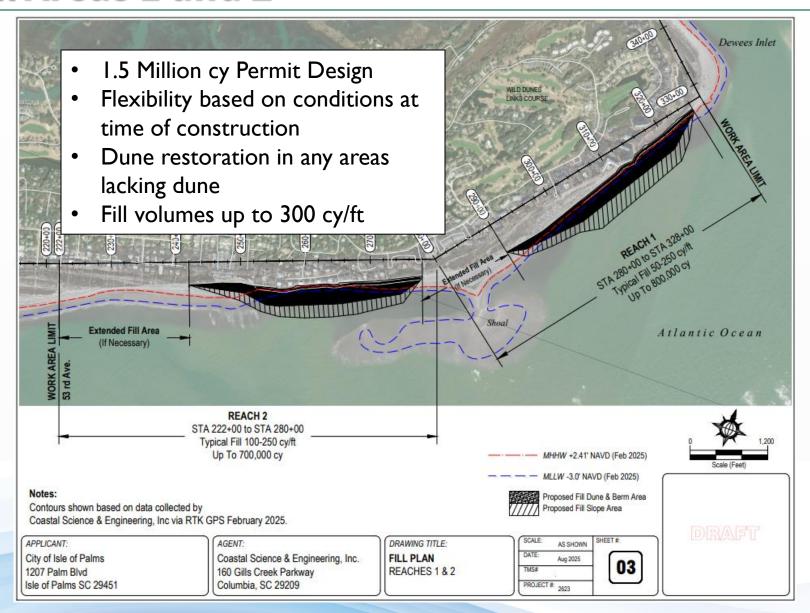


- Two deficit areas total 191,000cy
- Background losses assume 150,000 cy/yr
- 8-yr project design requires~1.2 million + 191,000 cy
- Total Project volume ~1.4 million cy

## **Permit Plan**

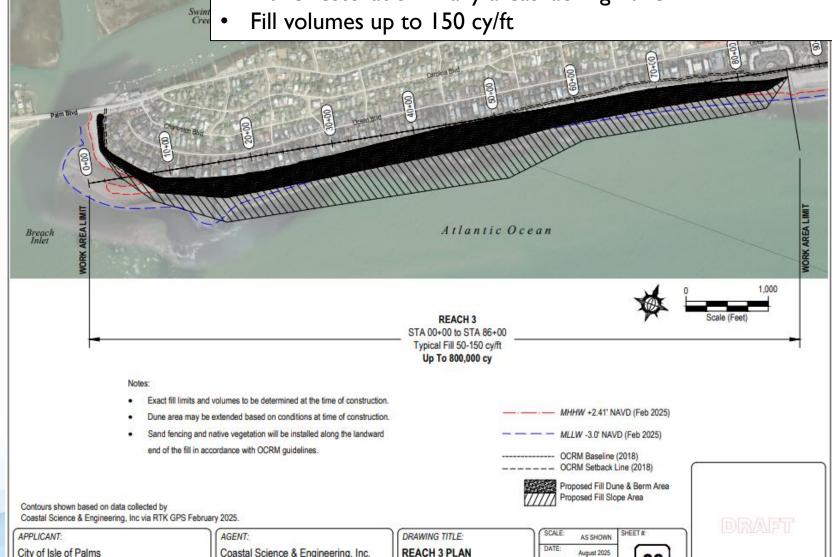


## Fill Areas 1 and 2



## Fill Area 3

- 800,000 cy Permit Design
- Flexibility based on conditions at time of construction
- Dune restoration in any areas lacking dune



1207 Palm Blvd Isle of Palms SC 29451

Coastal Science & Engineering, Inc. 160 Gills Creek Parkway Columbia, SC 29209

**REACH 3 PLAN** STA 8+00 to 86+00

August 2025 06 PROJECT#: 2623

#### **Assumptions**



- South end plan does not include any benefits of placement by the USACE
- By project construction, the USACE will have added ~800,000 cy of sand to the system
- Benefits of that sand still TBD

- Volumes based on Feb 2025 condition
- Incoming shoal contains 600,00-800,000 cy
- Shoal is attached and will fully merge over next two years
- Majority of sand is expected to accumulate south of WD Property Owners Beach House though accretion north is expected
- Area around Seascape/Ocean Club/Golf course gained ~200,000 naturally during 2016-2018 shoal spreading

# **Shoal Bypass Volumes**

	Yearly Differen	ces in Shoal Volu	ıme (Annualize	d)		Shoal Volume Compared to 2017 (Lowest Shoal Area Volume)				
	Land	Middle	Sea	Total			Land	Middle	Sea	Total
08-09	61,647	-67,108	5,955	493		17-18	123,332	66,238	75,280	264,850
09-10	-82,798	-18,053	86,481	-14,371		17-19	9,898	69,873	60,755	140,526
10-11	-190,380	98,459	116,309	24,388		17-20	-18,946	117,530	27,155	125,739
11-12	10,655	290,304	-22,416	278,544		17-21	-35,053	93,211	138,978	197,136
13-14	202,335	430	-59,588	143,177		17-21	-37,139	336,328	192,136	491,325
13-14	155,020	-53,297	-62,002	39,721					· ·	
14-15	57,248	-178,470	-4,996	-126,217		17-23	85,551	443,012	142,378	670,942
15-16	-287,635	-82,540	50,713	-319,462		17-24	366,510	241,541	155,802	763,853
16-17	-201,660	-119,529	-56,199	-377,388		17-25	489,595	290,016	110,528	890,138
17-18	135,591	72,822	82,762	291,175	CAR					
18-19	-95,400	3,057	-12,216	-104,559				1		nagery (2/25) with Mapper Imagery
19-20	-28,923	47,788	-33,692	-14,827		A F			Global	mapper magery
20-21	-15,075	-22,760	104,655	66,820						
21-22	-1,870	218,029	47,673	263,831			Lar	ndward		
22-23	130,559	113,527	-52,949	191,137						
23-24	248,908	-178,488	11,893	82,312	Beach C	Club Villas				
24-25	280,786	110,583	-103,281	288,088			1 33.	Middle		
				Beach Wood					Seaward	

#### **Erin**

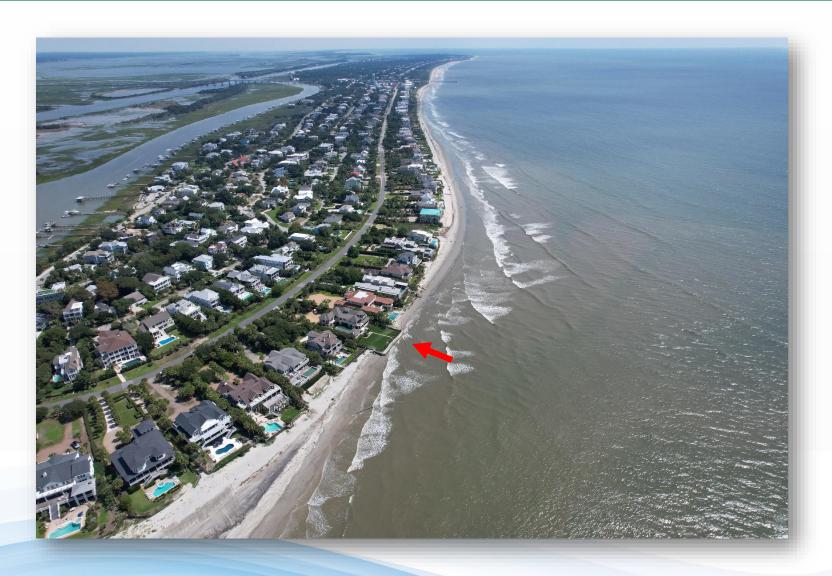
- Large swell from Erin impacted the SC coast
- Water levels remain ~1ft above predicted tides, with nearly an 8ft tide on Sunday
- Overall, beach held up well but hotspot areas were impacted



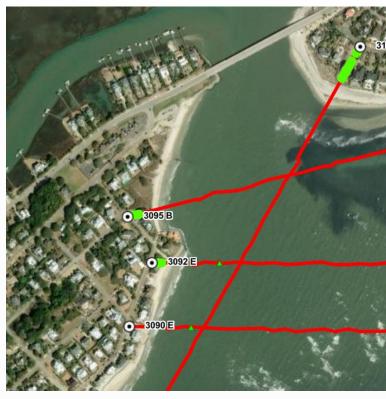
#### **Breach Inlet**

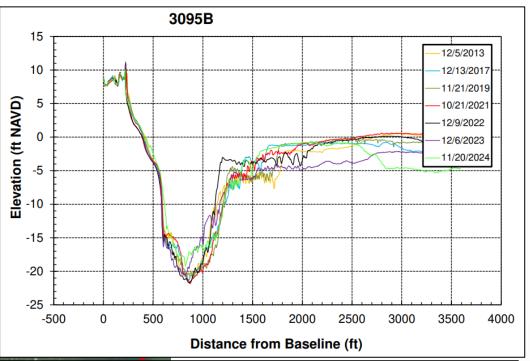


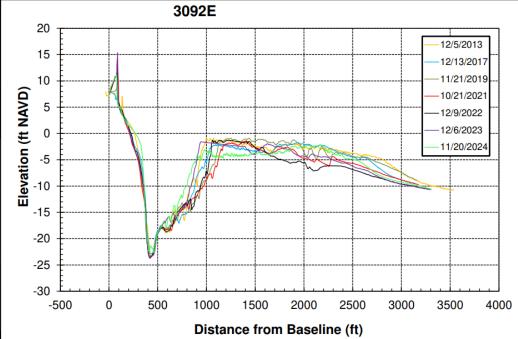
## **Impacts of Flood Channel**



#### **Breach Inlet**







### **South End Emergency Measures/Options**

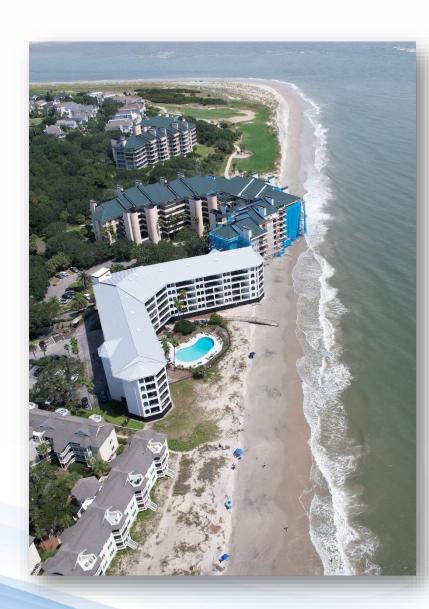
- Presently around 8 properties (700 ft) impacted south of 2<sup>nd</sup> Ave
- Erosion linked to channel encroachment from marginal flood channel

#### **Alternatives**

- Beach scraping along areas where high tide is within 20' of structures (~\$10-15k)
- Supplemental dune work under exiting permit for redistribution of USACE material (~15,000 cy @ \$130,000)
- Sandbags (Initially 4 rows over 700 ft; ~500 bags or \$225,000)
- Recommendation Sandbags offer more certainty for protection, but may require additional maintenance. Dune work will look more natural, but no guarantees with current position of flood channel. Should channel shift further offshore, sand would be preference.
   Both options could be considered (bury bags temporarily)

#### **North End Alternatives**

- Beach scraping not preferred due to narrow intertidal beach width
- Maintain/Improve sandbag revetment
  - Seascape and Ocean Club impacted
  - ~500 ft or up to 500-750 total sandbags (\$250-350k)
- Continue shoal management effort
  - -Approximately 40,000 cy were placed in prior shoal project
  - Was fairly stable until past two weeks
  - An additional 40,000 cy would cost ~\$350k
- Recommendation dependent on construction risk around scaffolding and structure of Seascape foundation



# **Shoal Project Placement Area**





#### **North End Alternatives - Beachwood**

- Maintain/Improve sandbag revetment
  - 3-4 properties mostly affected
  - Significant sandbag revetment remains buried
  - A portion of shoal project sand remains
  - 250 sandbags required (~\$125k)
  - Possible future maintenance
- Continue shoal management effort
  - -Supplement the 80,000 cy completed in spring with additional sand in highly affected areas
  - Additional 40,000 cy would cost ~\$350k
- Recommendation Restore sandbag revetment in areas that need maintenance
- Area will recover quickly once western arm of shoal attaches



End of slides

#### **Breach Inlet**

2021 – Large Channel Breach Occurs

