



MEMORANDUM

DATE: 14 October 2026
FROM: Scott Finnis
RE: **Isle of Palms** Beach Renourishment
Fill Material Quality Monitoring Update

This short communication presents the statistical results of the during-construction samples of beach fill material collected and analyzed to date. This includes all samples collected in Reach 1 and a portion of those collected in Reach 2. Reach 1 spans from station 280+00 to 328+00 (Wild Dunes Property Owner's Beach House to Wild Dunes Links Course 18th Hole) and Reach 2 includes stations 280+00 to 220+00 (Wild Dunes Property Owner's Beach House to 53rd Avenue). Of note is that sediment samples are not taken at every station and follow the construction progress. At the time of writing this geotechnical memo Marinex is resuming construction in Reach 2 following a period of poor weather. Marinex expects to finish Reach 2 and move onto Reach 3 by the end of the month.



FIGURE 1. Reach 1 was completed on 30 August 2026 and mobilized to Reach 2 shortly after. At the time of writing this report Marinex is working in front of Grand Pavilion (*image collected 21 September 2026*).

Statistical and qualitative results indicate the initial fill is beach quality and performing well for the contractor. **Average mean grain size across samples collected to date is 0.324 mm with 20.7% carbonate content, 0.7% gravel-sized grains, 6.3% granule-sized grains, and 0.2% fine-sized grains. Compared with the previous nourishment project in 2018 sand samples averaged a grain size of 0.445 mm with 25.9% carbonate content, 9.1% granule-sized grains, and 0.1% fine-sized grains.** The finer sediment and reduced shell content in the 2026 samples demonstrates the quality of sand being placed on Isle of Palms during the 2026 project and how it is akin to native conditions.

As noted in the geotechnical report, native sediments along the north (ie east) end of the island featured grain sizes from 0.200 mm to 0.450 mm, 10% to 20% shell, 5 to 10% coarse size grains, and less than 1% fine size grains. Geotechnical sampling during the current project currently closely matches these conditions and it is expected that major sediment statistics will be reduced further. Following the 2018 project, additional geotechnical sampling found that the mean grain size decreased to 0.340 mm and shell content decreased to 6.3% after wave action moved sand throughout the littoral system.

It is important to note that the newest sediment sampling pre-project in July 2025 only covers the south end of the island as the north end has been repeatedly sampled during the previous nourishment projects.

TABLE 1. Statistical summaries of construction samples collected and analyzed to date.

		Method of Moments						Folk Graphical Method					Dry Fines Granules Gravel Shell			
Sample	Interval	Mean	STD	Skew	Kurt	Mean	Std	Mean	STD	ISTD	Skew	Kurt				
		φ				mm		φ					(%)			
289+00	Berm	1.17	1.56	-0.94	3.48	0.444	0.340	1.11	1.54	1.57	-0.45	1.03	0.3	5.4	7.3	28.3
290+00	Berm	0.98	1.57	-0.65	2.63	0.506	0.337	0.91	1.60	1.63	-0.35	0.96	0.2	6.7	8.8	33.6
291+00	Berm	1.09	1.42	-0.74	2.97	0.469	0.372	0.99	1.44	1.48	-0.33	1.06	0.1	5.6	6.4	43.1
292+00	Berm	1.79	1.23	-1.15	3.57	0.290	0.427	1.69	1.10	1.22	-0.51	1.45	0.3	7.5	0.0	17.5
293+00	Berm	1.58	1.19	-0.94	3.12	0.334	0.438	1.49	1.15	1.21	-0.48	1.18	0.2	7.2	0.0	20.2
294+00	Berm	1.73	1.08	-1.25	4.07	0.302	0.474	1.66	0.94	1.04	-0.48	1.43	0.2	5.3	0.0	17.5
295+00	Berm	1.16	1.45	-1.11	4.17	0.447	0.365	1.11	1.38	1.42	-0.45	1.06	0.1	4.8	6.3	26.6
310+00	Berm	2.05	0.95	-1.57	5.69	0.242	0.516	1.99	0.72	0.85	-0.45	1.60	0.2	2.8	0.0	14.8
314+00	Berm	1.80	1.16	-1.17	3.68	0.288	0.448	1.71	1.05	1.14	-0.51	1.31	0.3	5.8	0.0	18.5
314+00	MHW	1.53	1.33	-0.88	2.64	0.347	0.399	1.39	1.41	1.36	-0.53	1.00	0.2	10.9	0.0	23.3
310+00	MHW	2.08	0.92	-1.76	6.40	0.236	0.530	2.06	0.61	0.78	-0.44	1.73	0.2	2.5	0.0	9.6
317+00	Berm	1.65	1.12	-1.00	3.43	0.319	0.459	1.58	1.05	1.11	-0.42	1.20	0.1	5.7	0.0	24.3
317+00	MHW	1.75	1.06	-1.14	3.85	0.298	0.478	1.67	0.97	1.03	-0.45	1.21	0.1	4.4	0.0	21.2
297+00	COMP	1.80	1.13	-1.25	3.80	0.288	0.456	1.69	1.05	1.10	-0.57	1.36	0.3	5.4	0.0	19.7
298+00	COMP	1.53	1.34	-0.88	2.55	0.345	0.395	1.39	1.43	1.37	-0.59	0.94	0.2	10.6	0.0	22.7
299+00	Berm	1.93	1.08	-1.44	4.56	0.263	0.474	1.84	0.90	1.01	-0.57	1.66	0.4	4.4	0.0	15.3
299+00	MHW	1.67	1.17	-1.21	3.66	0.314	0.444	1.59	1.07	1.16	-0.54	1.45	0.2	7.6	0.0	16.4
300+00	Berm	1.85	1.13	-1.45	4.40	0.277	0.457	1.80	0.91	1.07	-0.57	1.72	0.3	6.4	0.0	19.9
300+00	MHW	1.71	1.28	-1.12	3.18	0.305	0.412	1.58	1.25	1.28	-0.64	1.21	0.4	9.0	0.0	24.5
300+00	COMP	1.86	1.22	-1.41	3.96	0.276	0.429	1.75	1.06	1.18	-0.64	1.72	0.2	8.1	0.0	17.6
301+00	Berm	1.88	1.15	-1.36	4.27	0.272	0.452	1.83	0.92	1.10	-0.55	1.59	0.4	6.2	0.0	18.5
301+00	MHW	1.69	1.18	-1.08	3.45	0.311	0.442	1.61	1.09	1.18	-0.49	1.27	0.2	6.8	0.0	26.6
304+00	Berm	1.48	1.27	-0.75	2.77	0.359	0.414	1.35	1.30	1.32	-0.41	1.13	0.4	9.6	0.0	26.8
305+00	Berm	1.48	1.34	-0.72	2.47	0.359	0.396	1.34	1.42	1.39	-0.47	0.99	0.3	10.6	0.0	22.4
270+00	Berm	2.07	0.92	-1.45	5.55	0.238	0.527	2.00	0.71	0.82	-0.41	1.49	0.3	2.1	0.0	9.4
272+00	Berm	1.17	1.21	-0.40	2.40	0.443	0.434	1.06	1.29	1.27	-0.21	0.97	0.2	9.2	0.0	29.0
277+00	Berm	1.82	1.10	-1.23	3.99	0.284	0.467	1.74	0.97	1.05	-0.51	1.28	0.3	4.8	0.0	19.3
277+00	MHW	1.79	1.21	-1.28	3.66	0.288	0.432	1.67	1.13	1.20	-0.62	1.52	0.3	7.5	0.0	23.4
268+00	Berm	1.32	1.31	-0.60	2.33	0.401	0.404	1.19	1.43	1.36	-0.39	0.91	0.4	11.2	0.0	23.0
268+00	MHW	1.69	1.30	-1.04	2.99	0.310	0.407	1.56	1.30	1.30	-0.61	1.12	0.3	9.1	0.0	20.3
261+00	Berm	1.60	1.31	-0.80	2.73	0.329	0.403	1.48	1.34	1.35	-0.43	1.06	0.4	9.0	0.0	26.1
263+00	Berm	1.89	1.16	-1.17	3.95	0.269	0.446	1.82	1.02	1.14	-0.45	1.47	0.7	5.5	0.0	18.7
263+00	MHW	1.56	0.77	-0.31	2.76	0.340	0.585	1.45	0.82	0.77	0.00	0.81	0.0	0.5	0.0	13.1
264+00	Berm	1.43	1.33	-0.74	2.45	0.371	0.398	1.29	1.44	1.37	-0.49	0.95	0.3	11.4	0.0	19.1
264+00	MHW	1.97	0.53	-0.86	6.01	0.255	0.693	1.86	0.51	0.50	-0.13	0.96	0.0	0.2	0.0	6.5
265+00	Berm	1.75	1.20	-1.12	3.50	0.297	0.436	1.66	1.10	1.20	-0.51	1.32	0.3	6.8	0.0	17.9
265+00	MHW	1.43	0.91	-0.69	3.16	0.370	0.534	1.35	0.90	0.89	-0.21	0.96	0.0	2.2	0.0	18.7
266+00	Berm	1.82	1.16	-1.18	3.77	0.283	0.449	1.73	1.05	1.15	-0.51	1.35	0.4	5.8	0.0	18.4
266+00	MHW	1.86	0.61	-0.66	4.15	0.276	0.657	1.75	0.59	0.59	-0.16	1.00	0.0	0.2	0.0	7.9
260+00	COMP	1.61	1.28	-1.01	2.92	0.329	0.413	1.48	1.29	1.29	-0.59	1.08	0.2	9.3	0.0	21.0
250+00	MHW	1.62	1.10	-0.86	3.16	0.325	0.467	1.56	1.06	1.08	-0.39	1.01	0.1	4.5	0.0	27.8
ALL		1.65	1.16	-1.03	3.62	0.324	0.451	1.55	1.10	1.15	-0.45	1.23	0.2	6.3	0.7	20.7

Material color to date consists of light gray to light tan medium sand with shell hash and minor fractions of granule- or fine-sized grains (Fig 2). While freshly-dredged material is always darker than native beach sand – by virtue of it being harvested from the seafloor – it brightens quickly following exposure to sun and wave action. Comparing an aerial image collected on 15 August with one collected on 18 September demonstrates the extent of brightening in the berm’s surface color over a four-week period (Fig 3).

As the fill progresses, CSE and Marinex personnel will continue identifying specific portions of the borrow area exhibiting higher-quality sediments that can be dredged and placed upon the beach at more efficient rates. Please do not hesitate to reach out to us with any questions or concerns about the project, material quality, or sequence of work. Thank you very much for your time and effort coordinating this project.



FIGURE 2. Material characteristics observed to date have represented a close match to the native beach sand at Isle of Palms. Fill material is light gray to light tan with minor fractions of shell hash and pea gravel. Samples collected along the upper portions of the profile tend to exhibit slightly higher shell content while sorting related to wave action along the lower portions of the profile tend to exhibit slightly lower shell content. Both images were taken in Reach 1.

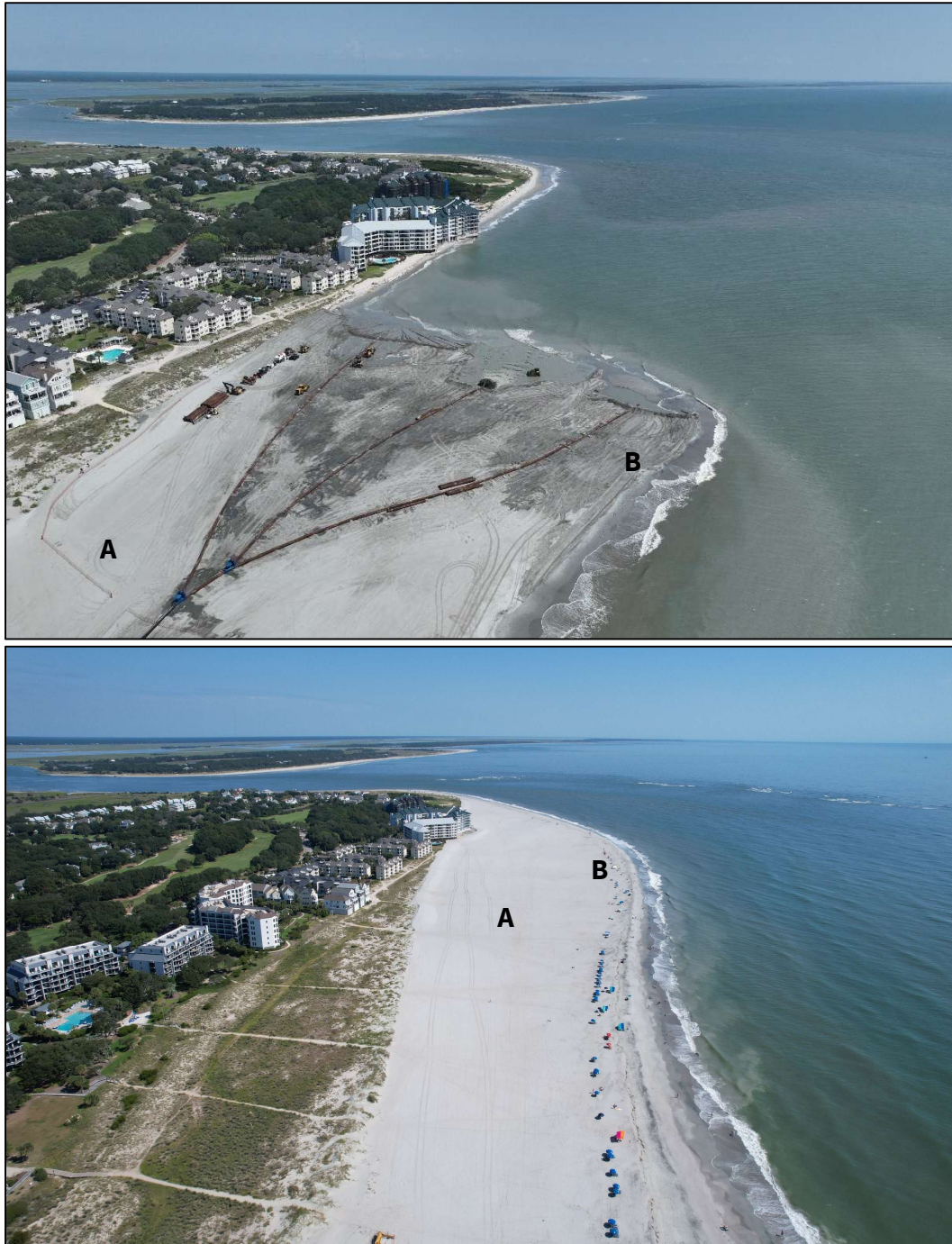


FIGURE 3. Reach 1 shown on 15 August (upper) and 18 September (lower). In the lower image, similar locations are marked by A (Port of Call) and B (Seascape Villas). The contrast in brightness between the native beach sand and fill material is always naturally greatest immediately following placement but tends to blend relatively quickly due to bleaching and reworking by wind and waves. These photos are taken four weeks apart and show how the fill material has brightened such that the boundary between the template and existing pre-project surfaces is difficult to distinguish. This process will take place across the entire project site over the coming weeks and months.