



## MEMORANDUM

DATE: March 10, 2026

TO: Town of Southampton (c/o Marty Shea)  
Sagaponack Beach Erosion Control District (c/o Alan Stillman)  
Bridgehampton–Water Mill Beach BECD (c/o Jeff Lignelli & David Lederman)

FROM: Patrick Barrineau (CSE Project Manager)  
Aram Terchunian (First Coastal Project Manager)

RE: Sagaponack and Bridgehampton BECDs Post-Project Monitoring [CSE 2638–Year 12]  
**Annual Beach Condition Survey – October 2025 – Preliminary Results**

## PROJECT SUMMARY

The first re-nourishment of the original 2013-2014 beach renourishment project was constructed at Sagaponack and Bridgehampton between January and April 2025. The 12<sup>th</sup> annual beach condition survey along the project area was conducted in October 2025. The project monitoring program began in 2014 after the initial construction in 2013-2014. The purpose of the re-nourishment project was to restore and maintain the wide sandy beach, which preserves the recreational, property, and environmental values critical to the coastal barrier. The project is designed to provide sufficient sand for ten years of erosion relief within the boundaries of the Sagaponack and Bridgehampton-Water Mill Beach Erosion Control Districts (BECDs – Fig A).

The project was advertised for bids in July 2024, and two (of five possible) U.S. firms submitted bids on 21 August 2024. Great Lakes Dredge and Dock Co. (GLDD) submitted the low bid, which was for the placement of 1,261,500 cubic yards (cy) of sand at a cost not to exceed \$20,110,000. The net unit cost was therefore ~\$15.93 /cy, a reasonable price in line with similar scopes of work on the U.S. East Coast in recent years. For example the Downtown Montauk project was \$24.56 per cubic yard, the Weasthampton Project was \$34.10 per cubic yard, and the Fire Island Projects were \$26.20 per cubic yard. The actual placed volume of sand measured immediately following construction was ~95,000 cubic yards (~7%) more than the specified design volume. Volume increases documented in both post-project surveys conducted by CSE reflect a continued improvement in beach conditions over the course of 2025.

The cutter suction dredge, *Texas*, and trailing suction hopper dredge, *Liberty Island*, performed excavations using two offshore borrow areas. Beach-quality sand was excavated within the upper 7 feet (ft) of substrate in water depths of 40–60 ft and pumped to shore for subsequent spreading by dozers. The nourishment sand was shaped and graded to match the contours of the native beach. Mobilization operations commenced on 11 February 2025, and pumping began on 18 February 2025; the final day of dredge operations was 17 April 2025.

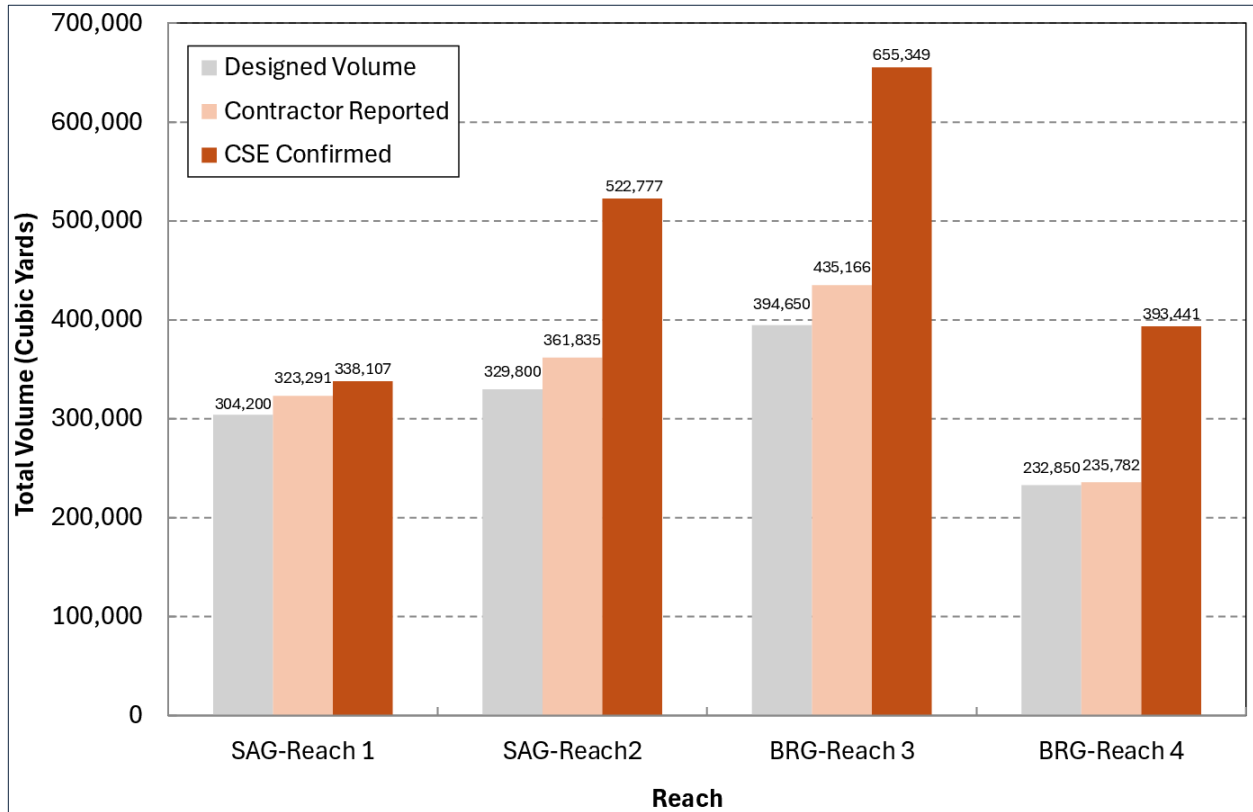
Weather and mechanical delays related to rougher-than-normal conditions off eastern Long Island during the construction period created 80% downtime compared with the normal 50% downtime. This complication extended the project's duration beyond the originally scheduled end date of 31 March 2025 to 17 April 2025. Permit modifications were obtained from the New York Department of Environmental Conservation (NYDEC) and United States Army Corps of Engineers (USACE) to conduct work in April, with certain modifications to operations as discussed below. Work was completed without serious incidents or injury to the contractor's personnel despite the weather and wave conditions, and the project was completed under budget.



**FIGURE A.** Project location map showing the Sagaponack–Bridgehampton–Water Mill beach nourishment project area situated along the mainland bluff shoreline of eastern Long Island. Net sand transport is east to west along the south shore of Long Island.

Sand was obtained from two of three permitted offshore borrow areas. In total, ~27% of the available borrow area(s) was used (~220 acres out of 805 acres permitted). This leaves enough sand in undisturbed portions of the permitted borrow areas for at least two additional future projects. Sediment tests confirm that the nourishment material closely matched the existing sands on the visible beach in terms of size distribution, color, and texture. This implies that the nourishment is expected to adjust to changing waves in a similar fashion as the “native” beach following initial equilibration.

Figure B compares the “designed volume,” the contractor-placed volume, and the post-project CSE-confirmed volume for the project along four reaches encompassing the BECDs. Variations among these quantities are due to the timing of surveys, and the engineer’s modification of the design volume in response to changing conditions during construction. Approximately 95,000 cubic yards more sand was placed than the designed volume according to the contractor’s surveys, which were performed the day after each section of fill was constructed. CSE’s surveys, conducted approximately 1.5 months after the completion of fill, document volume increases of ~650,000 cubic yards.



**FIGURE B.** Comparison of design volume, GLDD-reported fill volume, and CSE-confirmed volume for each reach based on before- and after-dredging surveys on the beach by GLDD and September 2024 (pre-project) and May 2025 (post-project) surveys on the beach by CSE.



## **BEACH CONDITION UPDATE – OCTOBER 2025**

CSE completed the first annual condition survey of the Sagaponack and Bridgehampton Beach Erosion Control Districts (BECDs) on 26-27 October 2025 to determine the volume of nourishment sand remaining on the beach in the project areas. This is the 12<sup>th</sup> annual survey following completion of the 2013–2014 beach nourishment project. In addition to the above summary, this memorandum includes graphs illustrating the survey results. Details of the survey methodology and analyses will be included in the forthcoming 2022 monitoring report.

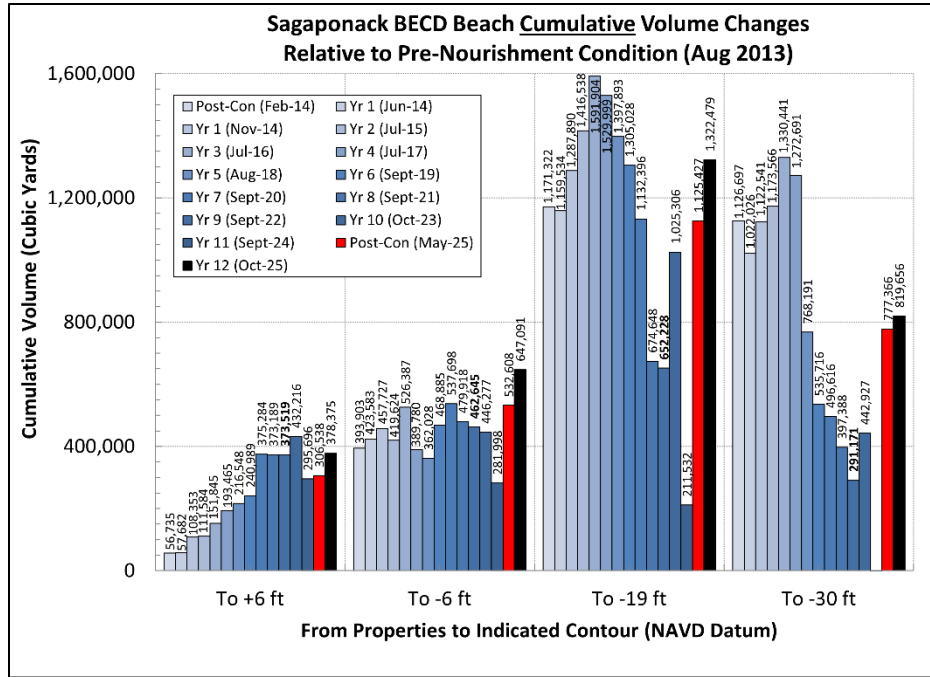
### **Methodology**

CSE measured profiles at 500-foot (ft) spacing from the foredune to deep water at the same stations used before and after nourishment. The profiles were compared with corresponding profiles obtained in August 2013 (initial pre-project) and May 2025 (second post-project).

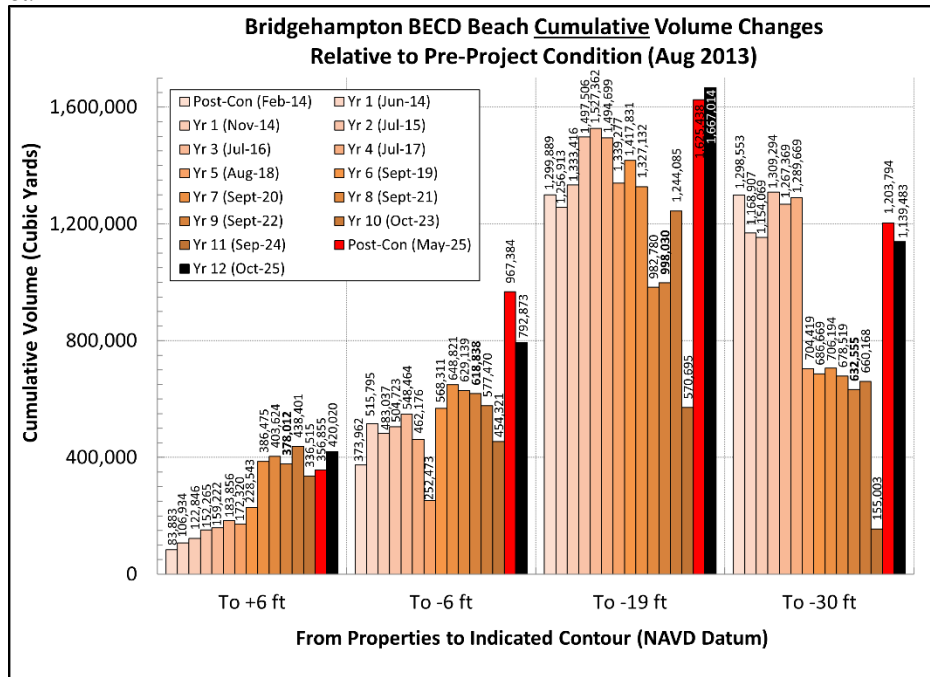
Each survey provides a measure of the total volume of sand contained within the project littoral zone out to a depth of –30 ft NAVD (ie – FEMA reference limit and estimated annual average depth of measurable profile change). Similar to prior years, we computed the volume of sand contained between properties and various reference depth contours for each survey. We used the volumes from August 2013 as the baseline condition and subtracted them from the results of subsequent surveys. This yields the change in beach volume with respect to conditions prior to nourishment.

### **Results**

Overall, **the total volume of beach sand contained above the -30 ft contour in the combined BECDs changed relatively little over the past year. The Sagaponack BECD gained ~42,300 cy and the Bridgehampton BECD lost ~64,300 cy.** As of October 2025, for Sagaponack, there are 1,322,656 cubic yards (cy) more sand along the 14,125-ft (~2.7-mile) beach than the pre-nourishment condition (measured between properties and the –19 ft contour). This volume represents **~69%** of the nourishment volume that was placed in the project area over both nourishment events (eg 2013-2014 and 2025). For Bridgehampton, there are 1,667,014 cy more sand along the 15,626-ft (~3-mile) beach than the pre-nourishment condition (measured between properties and the –19 ft contour). This volume represents **~85%** of the nourishment volume that was placed in the project area over both nourishment events (eg 2013-2014 and 2025). Figures C and D summarize the nourishment volumes remaining each year since nourishment.



**FIGURE C.** Nourishment volumes remaining along Sagaponack after the 2013-2014 beach nourishment project. The left group of bars represent sand in the foredune. The middle-left group covers the visible beach to low tide wading depth. The third set of bars encompasses the dune, beach, and inshore zone out to the offshore bar. The fourth set of bars carries the survey from onshore properties to the depth of 30 ft below mean tide level.

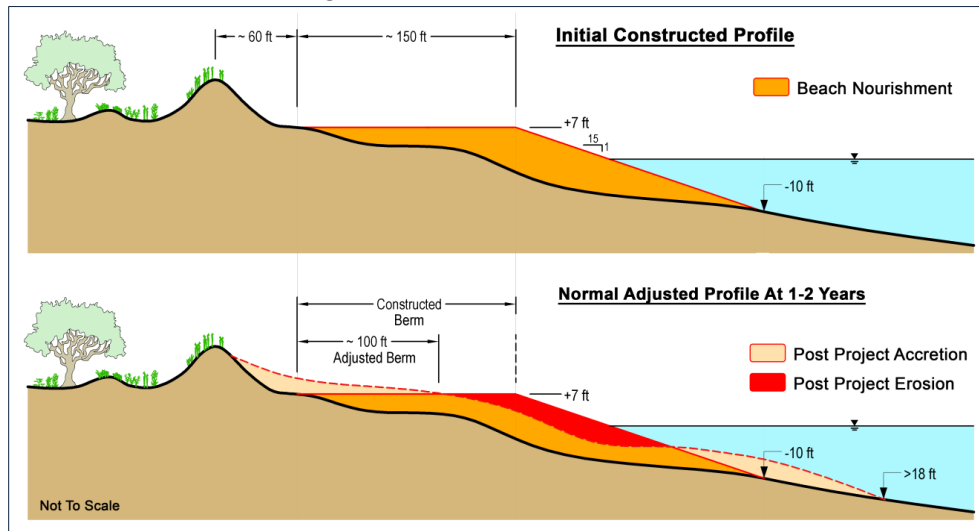


**Figure D.** Nourishment volumes remaining along Bridgewater each year after the initial 2013-2014 project. See caption for Figure C for further explanation of the sets of bars.

CSE’s original project design anticipated average annual losses of 63,000 cy/yr for Sagaponack and ~55,000 cy/yr for Bridgehampton above the -19 ft NAVD contour. **As of October 2025 survey results show that the erosion rates since February 2014 (before the initial renourishment) have averaged less than these rates (eg ~26,700 cy/yr for Sagaponack and ~45,800 cy/yr for Bridgehampton), indicating these are a reasonable measure of losses over the long-term.**

However, in a given year with rough conditions significantly greater losses may be expected. For instance, between 2023 and 2024 the project area lost more than 1,000,000 cy. Stormy periods shift more sand into deeper water than normal, leaving the underwater zone “sand-rich.” It is common after storms for the active beach to rebuild with “lost” sand migrating back to the shoreline over time. A similar dynamic was observed from 2023 to 2024, wherein rough conditions exerted 40 percent more wave energy over the winter storm season than the average observed since 2009. From 2024 to 2025, the project area gained back much of that lost volume.

Figure E shows the typical adjustments to the shape of the beach (cut-away view) over the next several years. A portion of the underwater volume (necessary to support the visible beach in storms) is expected to shift landward and feed the visible beach, while a portion will be incorporated into the nearshore bar. Although the visible beach may narrow, continued annual surveys of the nearshore will be used to document how much of that sand remains above the -30 ft contour and continues to provide the habitat benefits and storm damage risk reduction functions described above.



**FIGURE E.** Schematic profiles illustrating the expected changes along Sagaponack–Bridgehampton BECDs [UPPER] Before nourishment and initial constructed profile or fill template. [LOWER] Before nourishment profile, initial constructed profile, and adjusted profile with red, tan, and light orange, “net” erosion/accretion/retention zones.