

From: Kelly Risotto <krisotto@landuse.us>
Date: November 19, 2018 at 4:50:56 PM EST
To: Jay Pagano <paganojay@gmail.com>
Subject: RE: Beach

Hi Jay,

Thank you for sending these photos over. The erosion is pretty bad on the west end, similar to what Davis Park and Ocean Bay Park have been experiencing over the last 8-10 years since the last community nourishment project.

Unfortunately, as we have discussed, there is limited action that can be taken by the community or individual homeowners at this time, as summarized below:

- TrapBags – Repair/reinstallation of TrapBags in the erosion affected areas is not currently feasible due to a lack of sand to fill the bags. The upland sand stockpile does not contain enough sand, and the beach is not high/wide enough to scrape for sand. ***see Beach Scraping or Use of Beach Sand to Fill TrapBags/Sand Cubes below*** Upland sand barged from the mainland is not feasible due to cost.
- 1-ton Sand Cubes – Installation of sand cubes faces the same issue as the TrapBags, the lack of sand to fill the bags. ***see Beach Scraping or Use of Beach Sand to Fill TrapBags/Sand Cubes below***
- Beach Scraping or Use of Beach Sand to Fill TrapBags/Sand Cubes – Land Use conducted several visits and solicited photos from FI Pines throughout the spring and summer in the hopes that the community could be scraped to provide sand for TrapBag reinstallation. Unfortunately, the beach never met the height and width criteria – a beach at 7' NGVD (5.9' NAVD) elevation for a minimum 100' width – to allow scraping. **This criteria is very important because it is this height/width that has been determined through coastal studies to be able to absorb a typical storm event within the beach system.** Harvesting sand from a beach that is too narrow and/or too low (1) increases the risk of flooding and erosion to dunes and upland structures/infrastructures from storm events because a low/narrow beach cannot absorb the wave energy as well as a high/wide beach and (2) is not effective at increasing protection for upland structures/infrastructure. In other words, **installing sand cubes or TrapBags using sand from a low/narrow beach will not add additional protection behind them, and may actually create a situation where wave energy is shifted landward, thereby increasing the vulnerability of these structures.**
- Dune/Snow Fencing – Dune fencing is installed to catch wind-blown sand, thereby augmenting the dune system and increasing the protection of the dune system during storms. Dune fencing is typically installed in a zig-zag pattern along the toe of the dune to catch sand during the spring/summer 'beach build-up'. Dune fencing could be

installed along this stretch of the shoreline now, in an effort to trap wind-blown sand and augment the dune. I would not recommend dune fence installation for locations where the daily high tide reaches the dune, as it will likely be damaged quickly and ineffective at trapping sand. However, in eroded areas where only moon tides or storms reach the dune/structures, I would recommend installation of dune fencing now in a zig-zag pattern (not straight). This is a cost effective and feasible option that (1) does not reduce the protection provided by the beach (and dune, where present) system and (2) could trap sand to 'naturally' build up the dune system.

Please feel free to call me at the office or on my cell with any additional questions or to discuss. I am in the office until 11:00 tomorrow, then off for the Thanksgiving holiday and will return on Tuesday. I will be available on my cell if you need.

Thank you,

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