

CITY OF SANTA BARBARA WATERFRONT DEPARTMENT

MEMORANDUM

Date: November 21, 2019
To: Harbor Commission
From: Karl Treiberg, Acting Waterfront Director
Subject: **Facilities Management Report**

HARBOR DREDGING PROJECTS

1. Federal Channel Dredging

The Army Corps of Engineers (Corps) recently solicited bids for the next three-year dredging contract. Pacific Dredge once again submitted a low bid of just over \$6 million, similar to their 2016 bid. One other bid was received for \$12 million, greatly exceeding the Corps' estimate of \$9 million. Funding is typically appropriated annually by Congress with approval of the Energy and Water Appropriations Bill (Bill). As of the beginning of the Federal fiscal year, October 1, the Bill was not approved and the Corps is operating on funds approved through a Continuing Resolution set to expire on November 21. If the Bill is not approved by then, it is likely that an additional Continuing Resolution will be approved providing funding for the Corps' dredging projects.

Pacific Dredge acquired the dredge, *La Encina*, over four years ago from AIS Construction Company. Pacific Dredge spent over \$2 million making significant upgrades and renaming the dredge, *Sandpiper*. The upgraded dredge is much more efficient and completes a typical dredge cycle removing 120,000 c.y. of sand from the Federal Channel in less than a week. Since this is the beginning of a new three-year contract, Pacific Dredge will have to remobilize. This requires establishing a dredge yard on West Beach, installation of over 8,000' of dredge pipe along West Beach and East Beach, most of which will be buried, and placing a dredge pipe on the floor of the harbor connected to the dredge. Fall cycle dredging is expected to commence the second week in December and last for one week.

2. Interior Harbor Dredging

The Santa Barbara Harbor breakwater was constructed in 1927 with large rocks (riprap) from a quarry located at Fry's Harbor on Santa Cruz Island. The breakwater is porous and sand is pushed through the riprap by large waves and deposited inside the harbor between Marina One and the breakwater. Cement was injected into some of the voids within the riprap in the early 2000s, greatly minimizing the amount of sand pushed through the breakwater and deposited in the harbor. Nevertheless, some sand still gets through and needs to be removed approximately every 10 years. Currently, there are large sand deposits off Marina One "G" finger and the Santa Barbara Youth Sailing Foundation docks. These sand deposits impede navigation in these areas and it's time to remove the sand restoring the channel width and depth.

A similar project was last completed in 2006 using a high-volume Toyo pump rented from Port San Luis. The pump is deployed from the *Danny C*, a local 77' utility vessel, and connected to a discharge pipe that is suspended over the breakwater with a forklift allowing for public access during operations. The sand is discharged on the seaward side of the breakwater. The volume of sand inside the breakwater is much less than in 2006 and the project should be completed in 1 - 2 days. This is a relatively unique method of dredging and will result in significant cost savings compared to more conventional dredge techniques.

SAND BERMS

Sand berms are commonly constructed along the southern California shoreline to protect coastal infrastructure. These berms are constructed seasonally in anticipation of large waves associated with winter storms. As opposed to seawalls, breakwaters, or other "hard" coastal structures commonly discouraged by regulatory agencies such as the Coastal Commission, sand berms are considered "soft" structures and acceptable solutions in dealing with coastal erosion. The Waterfront has routinely constructed two separate sand berms at Leadbetter Beach and at the mouth of Mission Creek.

1. Leadbetter Beach Berm

This berm extends from the breakwater westerly towards the Harbor West parking lot. The berm provides protection for the Santa Barbara Yacht Club, its parking lot, and storage facilities. The berm also provides protection for the Harbor Marine Works boatyard, and the Waterfront's Maintenance yard. Erosion, or overtopping of the berm, has resulted in flooding of Harbor Way and the harbor commercial area. In general, this berm has provided consistent protection from large waves and winter storms.

2. Mission Creek Berm

This berm is constructed along the east side of Stearns Wharf and extends along the south side of the Mission Creek lagoon. Flood flows from Mission Creek have historically flowed underneath Stearns Wharf scouring the base of the piles along the roadway. Excessive scouring could result in the piles failing and a section of the wharf collapsing. The berm diverts Mission Creek's flows to the east facilitating the breach of the berm near the outlet of the Laguna Channel during storm flows.

Cushman Contracting Company recently submitted a low bid of \$36,900 annually to construct the two sand berms. This project is paid for out of the Facilities Division operating budget.