

## **V. HARBOR DEPTHS, CHANNEL DESIGN, AND PROPOSED CONSTRUCTION AND DREDGING**

**A. DISCUSSION:** Projects that involve dredging and construction require a comprehensive design and review process that can occur years before actual site operations commence. To identify and minimize navigational safety and coordinate vessel movement issues well ahead of time, the Operations/Navigation Safety Subcommittee will keep apprised of these projects (for up to three years).

The Subcommittee will facilitate the timely assessment of navigational safety concerns during the concept stages so that appropriate modifications if any, can be made. Additionally, the Subcommittee will work with the USCG to ensure navigational risks are appropriately addressed through project modification or operational mitigation measures. The Subcommittee will review all projects for impacts to navigational safety and will:

1. Collect more information if necessary
2. Brief the full committee on “impacting” projects
3. Recommend follow-up actions such as:
  - a. Further subcommittee review
  - b. Postpone action to a later date (wait until the project concept solidifies).

### **B. HARBOR DEPTHS:**

1. Following are the current procedures and frequency of checking harbor and berth depths at the Port of Los Angeles (POLA) and the Port of Long Beach (POLB):
  - a. Procedures: POLA/POLB checks harbor and berth depths with lead line sounding and electronic sounding equipment.
    - i. For lead line sounding, one lowers a weighted chain marked in one-foot increments into the water until it hits bottom. The number of marks counted on the chain at the water line indicates the depth, which is then tide-corrected to Mean Lower Low Water (MLLW).
    - ii. For electronic-sounding equipment, one records digitally and graphically the time it takes a sound wave to travel from an instrument near the surface to the bottom and back. This information is then tide-corrected to MLLW.
    - iii. Both ports have an automated sounding process using the latest positioning technology and a Geographic Information System (GIS). Once the harbor and berth depth soundings are complete, both ports forward data (sounding charts) to their respective Pilot Service and terminal operators. Both Ports make their separate

depth-sounding data available to NOAA. Dangers to Navigation found during the survey are reported to the USCG and then broadcasted via the Local Notice to Mariners.

- iv. When survey depths conflict with charted depths due to changes in the seafloor, the data may be provided to the Office of Coast Survey for application to NOAA Charts. Once received by Coast Survey, the data is reviewed to ensure it meets charting standards and are appropriate for chart updates. Hydrographic survey data should meet the criteria outlined in the *National Ocean Survey (NOS) Hydrographic Surveys Specifications and Deliverables*.

Information about NOS Specs and Deliverables is located at:

<https://nauticalcharts.noaa.gov/publications/standards-and-requirements.html>

Contact Mr. Jeffrey Ferguson, California Navigation Manager from NOAA's Office of Coast Survey, to discuss data submissions, charting issues or suggested changes to the Coast Pilot via email at [jeffrey.ferguson@noaa.gov](mailto:jeffrey.ferguson@noaa.gov) or cell phone: 301-351-7798.

- b. Frequency: Historically, reduced water depth due to silt settlement only minimally affects POLA and POLB. POLA and POLB check certain wharves with known shoaling problems more often. In POLB, berths are sounded at a frequency of two years to verify water depth and any maintenance dredging needs. This is done under a formal program. In POLA, cruise terminals are surveyed, dived, and sounded monthly; oil terminal berths are sounded annually. Container and dry bulk berths are sounded every three years. All other berths (including out-of-service berths) are sounded at least every five years. POLB and POLA continually inspect backlands behind the wharves for settlement that may indicate sloughing. Soundings and dive inspections are ordered to confirm the seafloor conditions and identify any maintenance needs if settlement is observed.

POLA and POLB receive sounding requests from port tenants, pilots, properties/operations staff, engineering division staff, executive management, Dredge Committee, USCG or as required by the Ports' capital programs.

The USACE performs soundings at the Naval Weapons Station Seal Beach as requested. The USACE may sound annually, but severe weather can drive sounding requirements, as changes in-depth appear to result from tidal slough action in the National Wildlife Refuge aboard the Weapons Support Facility Seal Beach. The USACE completed its last dredging in 2010. The controlling depth is -39 feet at MLLW (May 2012).

2. Findings: The Committee finds the current procedures and frequency of checking harbor and berth depths are adequate, and no changes are needed.

**C. CHANNEL DESIGN PLANS:** POLA and POLB, deep-water constructed ports, do not have siltation problems like estuary ports. Sediments deposited in the ports are carried by the Los Angeles River, Dominguez Channel, and several minor local storm drains. Due to the dry local climate, these channels carry significant quantities of water only on rare occasions during storm events, and silt settles out near the inlet mouth. The ports need only dredge occasionally to maintain berth side design water depths.

The Harbors usually have very localized shoaling problems. They occur mainly near the pier headlines when propeller or bow thruster action causes localized sloughing of the under-wharf embankments. Soft bottom conditions mitigate the effect of shoaling, and ongoing maintenance dredging restores design water depth.

Expanding commercial facilities and increasing ship sizes often reduce maneuvering room near marinas and other facilities. This minimizes the mariner's margin of error and can contribute to hazardous situations, damage claims, and undesirable maneuvering constraints from wake and prop wash. Although options may be limited, those designing new berths and terminals should plan for future comparable marina spaces and similar facilities. Since this can create short-term misunderstandings, developers should designate specific areas for commercial and recreational activities to minimize potential conflicts and dangers. This long-term benefit to property and safety should be considered an integral element of any significant design.

- 1. PORT OF LONG BEACH:** All 80 deep-water berths lay within three miles of the open sea and are reached via the Main Channel with depths of minus 76 feet (-23.2m) at Mean-Lower-Low-Water (MLLW). Dredging outside the Long Beach Breakwater Entrance Channel has deepened that area to minus 76 feet (-23.2m) at MLLW.

The Port is currently engaged in a capital development program (CDP) that includes but is not limited to dredging, terminal redevelopment, transportation, and public safety projects.

Southern California Edison has raised the 66kV powerlines over the Cerritos Channel to 234 feet at Mean High Water. The new wires and towers were completed in March 2021. Project is nearing completion and overall completion is estimated to be in the Fall of 2023.

In addition to the CDP, the Port has a program for maintenance dredging. Both CDP dredge projects and the maintenance dredging program are conducted under the oversight of the Port's Dredge Committee. The Dredge Committee is comprised of representatives from several Port Divisions and Jacobsen Pilots. The Dredge Committee is responsible for receiving requests, reviewing and prioritizing maintenance dredging needs, proposing prioritization to Port management, and executing the maintenance dredging program. The Dredge Committee also conducts planning efforts to identify, scope, and prioritize capital dredging needs. The Port's Program Management Division manages capital dredging projects with support from the Engineering Bureau. Construction of capital projects and maintenance dredging are managed by the Port's Construction Management Division. By centralizing all dredging requests and planning for dredging through the Dredge Committee, the Port can plan, track, and execute dredging according to permits issued by

the U.S. Army Corps of Engineers.

Major components of the Port's CDP and maintenance dredging program are described in the following paragraphs. The construction schedule for these and all other Port projects are updated monthly and can be found on the Port's website at:

<https://polb.com/business/business-opportunities#future-work>

Note that construction schedules for the projects shown in this schedule are, in some cases conceptual, because the California Environmental Quality Act (CEQA) process is currently underway. Other schedules are more certain because the CEQA process has been concluded, and a project has been approved by the Board of Harbor Commissioners.

The Port completed a multi-year Deep Draft Navigation Study with the U.S. Army Corps of Engineers, approved by the Assistant Secretary of the Army. For additional information please go to:

<https://www.spl.usace.army.mil/Missions/Civil-Works/Projects-Studies/Port-of-Long-Beach-Deep-Draft-Navigation-Study/>

The Port will continue to dredge throughout the Harbor District to maintain berth and channel depths.

The Port is currently constructing Fire Station 20 at Pier D to support Harbor District public safety. Expected completion is the summer of 2023.

2. **PORT OF LOS ANGELES:** All 27 deep-water terminals lay within five miles of the Los Angeles Pilot Operating Area boundary and reached via the Los Angeles Main Channel, with a project depth of minus 53 feet (16.15M) at Mean-Lower-Low-Water (MLLW). The Angeles Deep Water Approach Channel from Los Angeles Buoy #1 to Buoy #10 has a project depth of minus 81 feet (24.68M) at Mean-Lower-Low-Water.

The Port is currently engaged in a capital development program (CDP) that includes but is not limited to public use waterfront redevelopment, dredging, terminal redevelopment, transportation, and public safety projects. A significant component of the CDP is the demolishing of Ports O' Call Village to make way for the San Pedro Public Market.

a) Major Transportation Programs/Projects

Caltrans is repainting the under deck portion of the Vincent Thomas Bridge, over the Los Angeles Harbor Main Channel. The project entails repainting the entire under deck portion of the bridge, from the west channel margin light to the east channel margin light. The entire project will take 4.5 years to complete. A 100-foot long under temporary deck platform will initially be erected just east of the west channel margin light. Pipe scaffolding will be erected, and the platform shrink-wrapped. Once a 100-foot section is completed, the platform will be moved 100 feet to the east to continue

the project. The platform will temporarily reduce the bridge's vertical clearance by 6 feet.

b) Major Terminal Redevelopment Programs/Projects

The Port of Los Angeles Construction Division Proposed Project Outlook – 2022 to 2026

- i. Berth 148-149 Wharf Repairs
- ii. Berth 150-151 Proposed MOTEMS Project  
(Marine Oil Terminal Engineering Maintenance Standards)
- iii. Berth 163-164 MOTEMS Project
- iv. Berth 167-169 MOTEMS Project
- v. Berth 177-178 Wharf Restoration
- vi. Berth 238-239 MOTEMS Project

c.) Capital and Maintenance Dredging

The Port will arrange for maintenance dredging as needed to maintain project control depths for the harbor district channels and depths alongside the wharves.

d.) Public Safety

As one of few police forces in the nation dedicated exclusively to 24-hour port activities, the Los Angeles Port Police are responsible for patrol and surveillance of the Port of Los Angeles and neighboring Harbor Area communities. As California peace officers, the Port Police enforce federal, state, and local public safety statutes and environmental and maritime safety regulations. Highly regarded among specialized law enforcement agencies, the primary goal of the Port Police is to maintain the free flow of commerce and produce a safe, secure environment that promotes uninterrupted Port operations.

**F. U.S. ARMY CORPS OF ENGINEERS:** The Corps of Engineers maintains the Federal Channels in Los Angeles/Long Beach Harbor. The channels and project depths are:

**Los Angeles Harbor:**

<u>Federal Channels in the POLA</u>	<u>Current Depth</u>
Main Channel	-53 feet
Turning Basin	-53 feet
West Basin	-53 feet
East Basin	-53 feet
North Channel (Pier 300/400)	-53 feet
Pier 300 Turning Basin	-81 feet
Approach and Entrance Channels	-81 feet

**Long Beach Harbor:**

<u>Federal Channels in the POLB</u>	<u>Current Depth</u>
Main Channel	-76 feet
Back Channel	-52 feet
Inner Harbor (Turning Basin)	-52 feet
Cerritos Channel	-50 feet
Channel 2	-37 to -55 feet
Channel 3	-36 to -45 feet