



Executive Director's  
Report to the  
Board of Harbor Commissioners

**DATE: NOVEMBER 10, 2020**

**FROM: CONSTRUCTION DIVISION**

**SUBJECT: RESOLUTION NO. \_\_\_\_\_ -  
AWARD AND APPROVAL OF PROCUREMENT CONTRACT NO. 39933  
VENDOR: SEAFLOOR SYSTEMS, INC.  
ULTRA HIGH-RESOLUTION MULTI-BEAM ECHOSOUNDER WITH  
FULLY INTEGRATED INERTIAL NAVIGATION SYSTEMS**

**SUMMARY:**

Staff requests approval of an award of Contract No. 39933 to Seafloor Systems, Inc. (Seafloor), to procure and install an Ultra High Density Multi-Beam EchoSounder with Fully Integrated Inertial Navigation Systems (Sonar System). The Sonar System will be utilized to chart the underwater conditions of the harbor for safe navigation of vessels. The lowest responsive bidder is Seafloor, located at 4415 Commodity Way, Shingle Springs, CA 95682. The Contract amount is \$200,613.94. Payment of expenses incurred under the Contract is the financial responsibility of the Harbor Department.

**RECOMMENDATION:**

It is recommended that the Board of Harbor Commissioners (Board):

1. Find that the Director of Environmental Management has determined that the proposed action is categorically exempt from the requirements of the California Environmental Quality Act (CEQA) in accordance with Article III, Class 1(6) of the Los Angeles City CEQA Guidelines;
2. Award and approve Contract No. 39933 for Bid No. F-1091 to Seafloor in the amount of \$200,613.94 to purchase and install a Sonar System which consists of one (1) Teledyne Reson SeaBat T20-R Multi-Beam EchoSounder, one (1) Teledyne Integrated Navigation Systems Type 30 (Applanix Oceanmaster), and one (1) Trimble-Applanix POSPac Mobile Mapping Suite SmartBase Software license and maintenance;
3. Authorize the Executive Director to execute and Board Secretary to attest to Contract No. 39933 for and on behalf of the Board; and

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4. Adopt Resolution No. \_\_\_\_\_.

**DISCUSSION:**

Background: The Construction Division Hydrographic Survey crew (crew) currently utilizes the Reson SeaBat 7125 Multibeam Sonar system to chart the underwater conditions of the harbor. The maps produced from the underwater soundings form baseline information, which are used for safe navigation of the vessels. The current sonar system was purchased in July 2008 and has been a reliable unit for the last 12 years, but it is at the end of its useful life. The POS MV system (Global Positioning System and Inertial Measurement Unit) of the current sonar system has been intermittently malfunctioning in the last three years, which leaves the crew unable to sound until the unit is functional. The manufacturer does not support the product since it is an obsolete unit. The sonar system recently stopped working in May 2020 and a technician determined that the sonar projector needs replacement. In order to continue to sound the harbor, Construction Division rented a projector for six months. It is imperative to procure a new Sonar System to enable the crew to support on-going and upcoming projects that involve dredging and requests from other divisions.

Before Request for Bids (RFB) No. 1091 was published, there were two previous attempts to procure a new Sonar System. The first bid was advertised under RFB No. F-1037 which specified a rack mounted Reson Seabat T50 with 512 beams, 200-400 kHz and 25 m cables. After evaluating the bids received on February 22, 2019, it was determined that the lowest bidder submitted an irregular bid and the other bidder did not meet a portion of the specification requirement, which led to the cancellation of the bid.

RFB No. F-1067 was published on January 2020 to procure the same Sonar System as specified RFB No. F-1037. Four bids were received on February 14, 2020. Since the lowest bid received did not completely meet the specification requirements and a clarification inquiry from another bidder was received, a decision was made to cancel the bid. In order to accommodate multiple products, the third bid (RFB No. F-1091) specified a choice between Teledyne Reson T50 Multi-Beam EchoSounder or R2Sonic 2024 with Ultra High Density Feature Multi-Beam EchoSounder.

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Selection: The Construction Division submitted a requisition for the purchase of a new sonar system in July 2020. The Contracts and Purchasing Division released RFB No. F-1091 (Transmittal 1) in August 2020. It was advertised on the City of Los Angeles Business Assistance Virtual Network (LABAVN) and the Port of Los Angeles website.

Three bids were received on August 20, 2020. The Teledyne Reson T20-R Multibeam Sonar system package (T20-R Sonar) submitted by Seafloor Systems, Inc. was deemed to be equal in quality and purpose of the sonar systems specified on the RFB, and was the lowest responsive bid in the amount of \$200,613.94 (Transmittal 2).

Under Makes, Models, & Brand Names, and Deviation from Specifications of the Material, Equipment, Service section (page 6) of RFB No. F-1091, bidders are allowed to propose to furnish another product equal in quality and purpose for consideration as long as the product materially complies with the specifications.

The T20-R Sonar complies with the specification items A through E listed under 1A of RFB No. F-1091. The T20-R Sonar has the same design architecture and the same new technology platform as the T50-R. Both units have the same performance features such as 165-degree swath width coverage, 190-420 kHz frequency, and selectable choices of 245, 512, and 1024 beams. The sonar processor for both units is located on the dry end, similar to the current unit. The T20-R Sonar utilizes the same Normalized Backscatter Data, Multi-Detect and Flexmode softwares as the T50-R. Both units include the same Detailed Sonar User Interface which helps the operator manage the settings on the fly and displays multiple images on the screen with depths differentiated by colors. Although the beamwidth feature of the T20-R is twice the size of the T50-R, this feature does not have a significant impact on the sounding operations since the information gathered is based on the number of beams projected onto the seafloor and returned back to the receiver. Operating the T20-R will be similar to the T50-R, and will yield the same data and end product. The T20-R purchase includes a three-year warranty and the expected useful life is between seven to ten years.

Procuring a new Sonar System equipped with the latest technology and enhanced features will enable the crew to continue producing quality maps that are essential for navigation around the harbor. The maps are critical to safe operations of the Port Pilots and Port's stakeholders. The Port Pilots generate sounding tables from the maps which are distributed to the Pilots, Port Terminal Managers, Shipping Company Operations Managers, Vessel Agencies and Vessel Masters. The Port Pilots use the information to ensure that each ship stays off the bottom while the Port stakeholders use the information to aid in developing vessel load plans to maximize the amount of cargo that can be brought into the Port.

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The new Integrated Inertial Navigation System will provide greater accuracy of positioning to create maps that are essential to Port Pilot operations. The increase in swath width from 140 degrees to 165 degrees will enable the crew to sound a wider area on a single pass and sound higher along the wharf slope to capture seawalls and other features that are critical to designs. The FlexMode feature will provide the ability to create a high-density swath sector over the underwater feature and low-density swath sectors on either side to provide full sounding coverage on a single pass. Gathering data for underwater features is currently accomplished by completing multiple passes over the feature.

Pursuant to the Makes, Models, & Brand Names, and Deviation from Specifications of the Material, Equipment, Service section (page 6) of RFB No. F-1091 and based on the information above, staff has determined that the T20-R Sonar is a product equal in quality and purpose to the T50-R sonar, and materially complies with the specifications of RFB No. F-1091.

**ENVIRONMENTAL ASSESSMENT:**

The proposed action is for approval of Contract No. 39933 with Seafloor Systems, Inc. for the purchase and installation of one sonar system, which is an activity involving the addition of safety devices for use in conjunction with existing structures, facilities, mechanical equipment or topographical features. Therefore, the Director of Environmental Management has determined that the proposed action is categorically exempt from the requirements of CEQA under Article III Class 1(6) of the Los Angeles City CEQA Guidelines.

**FINANCIAL IMPACT:**

Approval of the contract authorizes the Harbor Department to purchase a sonar system in the amount of \$200,613.94.

Funds in the amount of \$350,000.00 has been budgeted in Account 13150 (Capital Equipment Acquisition), Division No. 0320, Center No. 000, Program No. 000, to cover this contract's cost for Fiscal Year 2020-21.

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**CITY ATTORNEY:**

The Office of the City Attorney has reviewed and approved Contract No. 39933 as to form and legality.

**TRANSMITTALS:**

1. Bid Results for Bid No. F-1091
2. Contract No. 39933

FIS Approval: MB

CA Approval: SS



SHAUN SHAHRESTANI  
For Chief Harbor Engineer



ANTONIO V. GIOIELLO, P.E.  
Deputy Executive Director

APPROVED:



EUGENE D. SEROKA  
Executive Director

Author: L. Walsh  
SonarSystemB01