





	Federal Navigation Channel		Beacon, General	Contours
	Shoaling Area		Obstruction Point	
	Placement Area		Navigation Buoy	
	Anchorage Area		Navigation Buoy	
	Wreck Area		Shoalest Sounding*	
	Submerged Wreck			
	Angle Point			

NOTES:  
 HORIZONTAL COORDINATE SYSTEM:  
 NORTH AMERICAN DATUM OF 1983 (NAD83), PROJECTED TO THE STATE PLANE COORDINATE SYSTEM (SPCS), CALIFORNIA ZONE III. DISTANCE UNITS IN U.S. SURVEY FEET.

VERTICAL DATUM:  
 SOUNDINGS ARE SHOWN IN FEET AND INDICATE DEPTHS BELOW MEAN LOWER LOW WATER.

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY CONDUCTED ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED TO REPRESENT THE GENERAL CONDITION EXISTING AT THAT TIME.

SOUNDINGS WERE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST TENTH OF A FOOT. SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEYED BY THE CORPS OF ENGINEERS.  
 BASE MAPS ARE USDA NAIP 2010.

\*SHOALEST SOUNDING PER QUARTER PER REACH

DRAWING NOT TO BE USED FOR NAVIGATION. ONLY CHANNEL CONDITION AT DATE OF SURVEY. THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD. BUOY LOCATIONS REPRESENT THE POSITION OF THE SINKER ONLY. THE PROJECT DEPTHS ARE AS FOLLOWS:  
 OUTER AND INNER HARBOR IS -50 FEET  
 INNER HARBOR TURNING BASIN TO PARK STREET BRIDGE IS -35 FEET.  
 TIDAL CANAL PROJECT DEPTH IS -18 FEET.  
 PLANE GRID AND COORDINATES ARE BASED ON LAMBERT PROJECTION, NAD 83, ZONE III CALIFORNIA AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY THE NATIONAL OCEAN SURVEY.

HORIZONTAL CONTROL:  
 PRIMARY: RTK POSITIONING  
 SECONDARY: COAST GUARD DGPS D-BEACON

VERTICAL CONTROL:  
 PCPC: PORT 1 1936/PID HT0654.  
 OAKLAND INNER REACH 4-8 DISK SET AT SOUTH END OF CLAY STREET, AT THE PORT OF OAKLAND CLAY STREET PIER. ELEVATION: 9.56 FEET MLLW - PUBLISHED 21 APR 2003 ON NOAA STATION 941 4764 TIDE GAUGE LOCATION IS CHISEL MARK APPROX. 10 FEET WEST ON TOP OF CONCRETE CURB; CHISEL ELEVATION 11.0 FEET MLLW.  
 LPOCP 1: 941 4777 B TIDAL/PID AE5211, OAKLAND INNER REACH 1-3 DISK SET IN BALLARD FOUNDATION NEAR THE NORTHEAST END OF BERTH 40 OF THE OAKLAND MIDDLE HARBOR.  
 ELEVATION: 13.48 FEET MLLW - DERIVED FROM WGS-84 ELLIPSOID ELEVATION, GEOID09 AND VDUTUM MODELS  
 TIDE GAUGE LOCATION IS IN FACE OF PILING AT BERTH 37; NAIL ELEVATION 9.7 FEET MLLW.  
 LPOCP 2: OAK OUTER 1 2012NO PID, OAKLAND OUTER REACH 7-10 DISK SET IN PARKING LOT AT PIER 6 AMNAV TUG TERMINAL AT THE EDGE OF THE PIER. ELEVATION: 14.04 FEET MLLW - DERIVED FROM WGS-84 ELLIPSOID ELEVATION, GEOID09 AND VDUTUM MODELS TIDE GAUGE LOCATION IS IN FACE OF PILING AT PIER 6, 10' EAST OF BENCHMARK; NAIL ELEVATION 10.1 FEET MLLW.

**US Army Corps of Engineers**  
 San Francisco District  
 450 Golden Gate Ave  
 San Francisco, CA 94102

**DISCLAIMER**  
 Access Constraints: The United States Government furnishes this data for informational purposes only. It is not intended for use in any other manner than its intended purpose. The user is responsible for the results of any application of the data for other than its intended purpose. The user is responsible for the results of any application of the data for other than its intended purpose. The user is responsible for the results of any application of the data for other than its intended purpose. The user is responsible for the results of any application of the data for other than its intended purpose.

Prepared Under the Direction of <b>TRAVIS J. RAYFIELD</b> LT COLONEL, C.E. DISTRICT ENGINEER	Surveyed By:	Chart Date: Feb 13, 2019
Submitted: Hydro Survey Team Leader	Plotted By:	Designed by:
Recommended: Navigation Technical Manager	Checked By:	Drawn by:
Approved: Project Manager		

**CALIFORNIA**  
**ALAMEDA COUNTY**  
**OAKLAND HARBOR**  
**REACH 1**  
**POST-DREDGE SURVEY**  
**28 JANUARY 2019**

**Sheet**  
**Reference**  
**Number**  
**2 of 8**

