

**PRELIMINARY ISSUE**  
THIS PLAN ISSUED FOR  
ADVANCE INFORMATION ONLY



**NOTES:**

DRAWINGS NOT TO BE USED AS 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.

SURVEYED BY THE CORPS OF ENGINEERS, 20 & 24 MARCH 2014.

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. NAVD 88.

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

**OAKLAND INNER CONTROL:**  
941 4777 B TIDAL (PID AE5211).  
DISK SET IN BALLARD FOUNDATION NEAR THE NORTHEAST END OF BERTH 40 OF THE OAKLAND MIDDLE HARBOR  
ELEVATION: 13.48 FEET MLLW - DERIVED FROM NOAA VDATUM MODEL  
TIDE GAUGE LOCATION IS IN FACE OF PILING AT BERTH 38 S/E CORNER; NAIL ELEVATION 9.87 FEET MLLW

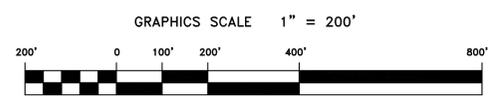
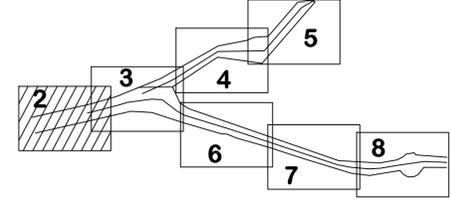
**POSITIONING:** +  
RTK BASE STATION SETUP: 941 4777 B TIDAL  
HORIZONTAL: RTK CORRECTIONS FROM 4777B  
TIDES: RTK TIDE VERIFIED AGAINST BERTH 38 TIDE GAUGE NAIL

**OAKLAND OUTER CONTROL:**  
1 2012 (NO PID)  
DISK SET IN PARKING LOT AT PIER 9 AMNAV TUG TERMINAL AT THE EDGE OF THE PIER.  
ELEVATION: 14.04 FEET MLLW - DERIVED FROM NOAA VDATUM MODEL  
TIDE GAUGE LOCATION IS IN FACE OF PILING AT PIER 6, 10' EAST OF BENCHMARK; NAIL ELEVATION 10.14 FEET MLLW

**POSITIONING:**  
RTK BASE STATION SETUP: OAK OUTER 1 2012  
HORIZONTAL: RTK CORRECTIONS FROM OAK OUTER 1 2012  
TIDES: RTK TIDE VERIFIED AGAINST PIER 6 TIDE GAUGE NAIL

PROJECT DEPTH OF OUTER AND INNER HARBOR IS -50 FEET.

**SHEET INDEX**



MATCHED LINE - SHEET 3

  
US Army Corps  
of Engineers  
San Francisco District  
1455 Market Street  
San Francisco, CA 94103

Mark	Description	Date	Appr.

SUBMITTED:	PDT	CHECKED BY:	DRAWN BY:
	Hydro Survey Team Leader	PDT	PDT
APPROVAL RECOMMENDED:	SHEET NO.	DATE:	DRAWING NO.
Chief, Hydro Survey Section	2 OF 8	3/25/2014	2 XXX
APPROVED:	PREPARED UNDER THE DIRECTION OF		
Chief, Construction Branch	JOHN K. BAKER		
	LT. COLONEL, C.E., DISTRICT ENGINEER		

CALIFORNIA  
ALAMEDA COUNTY  
**OAKLAND HARBOR  
ENTRANCE CHANNEL  
CONDITION SURVEY  
24 MARCH 2014**

Sheet  
reference  
number  
**C2**