

	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			-50 -49 -48 -47 -46

NOTES:
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.
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.
BASE MAPS ARE USDA NAIP 2010.

SURVEYED BY THE CORPS OF ENGINEERS.

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.

PROJECT DEPTH OF OUTER AND INNER HARBOR IS -50 FEET.
PROJECT DEPTH FROM INNER HARBOR TURNING BASIN TO PARK STREET BRIDGE IS 35 FEET.
TIDAL CANAL PROJECT DEPTH IS 18 FEET.

VERTICAL CONTROL:
PCP: PORT 1 1506PID HT0854.
OAKLAND INNER, REACH 4-6 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.
LPCP 1: 941 4777 B TIDALPID 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; NAEL ELEVATION 9.7 FEET MLLW.

LPCP 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 DATUM MODELS TIDE GAUGE LOCATION IS IN FACE OF PILING AT PIER 6, 10' EAST OF BENCHMARK; NAEL ELEVATION 10.1 FEET MLLW.

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

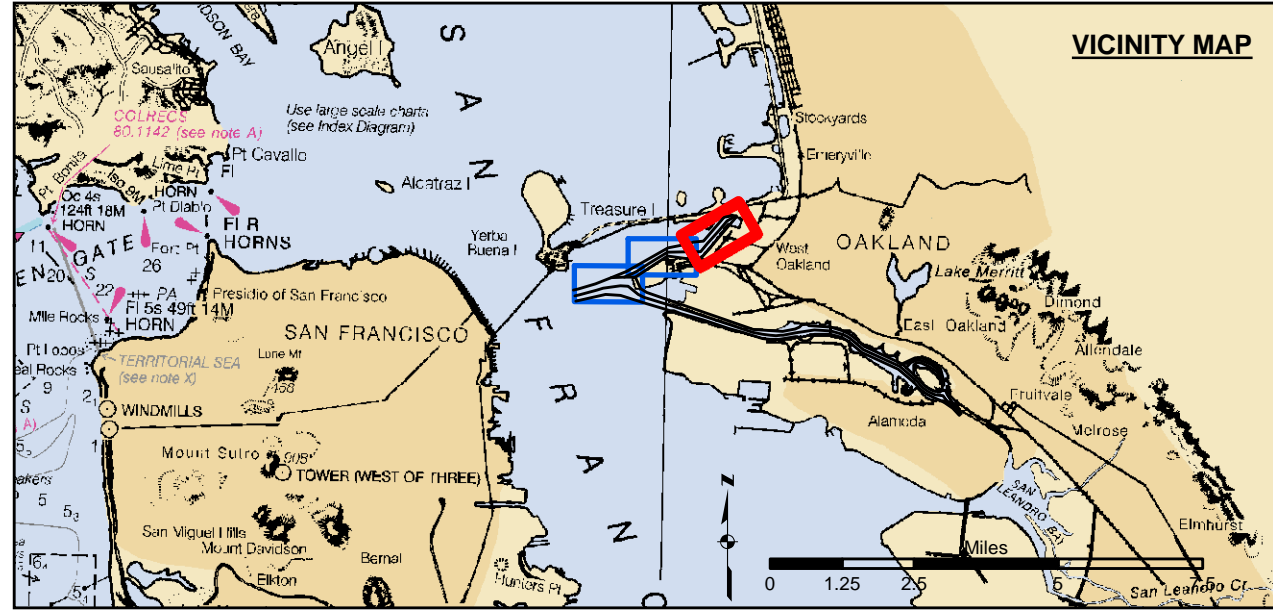
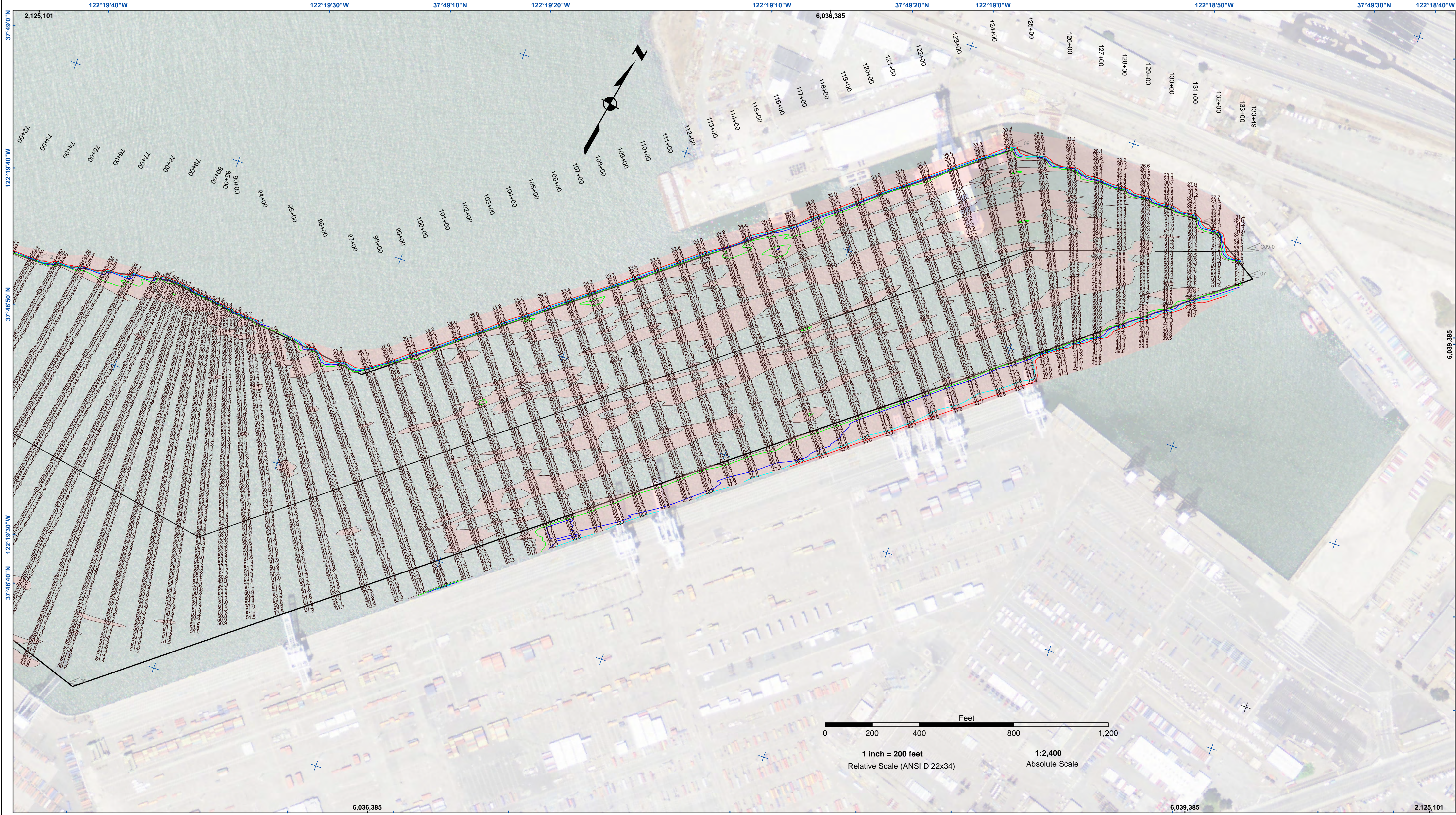
US Army Corps of Engineers
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450 Golden Gate Ave
San Francisco, CA 94102

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

ALAMEDA COUNTY
OAKLAND OUTER HARBOR
CONDITION SURVEY
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- Federal Navigation Channel

Shoaling Area

Placement Area

Anchorage Area

Wreck Area

Submerged Wreck

Angle Point
- Beacon, General

Obstruction Point

Navigation Buoy

Navigation Buoy

Shoalest Sounding*
- Contours

-50

-49

-48

-47

-46

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PROJECT DEPTH FROM INNER HARBOR TURNING BASIN TO PARK STREET BRIDGE IS 35 FEET.
TIDAL CANAL PROJECT DEPTH IS 18 FEET.

VERTICAL CONTROL:
PCP: PORT 1 1806PID HT0854.
OAKLAND INNER REACH 4-6 DISK SET AT SOUTH END OF CLAY STREET, AT THE PORT OF OAKLAND CLAY STREET PIER.
ELEVATION: 9.56 FEET MLLW - DERIVED FROM WGS-84 ELLIPSOID ELEVATION, GEIOD09 AND DATUM MODELS
TIDE GAUGE LOCATION IS IN FACE OF PILING AT BERTH 37; NAILED ELEVATION 9.7 FEET MLLW.
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GEIOD09 AND DATUM MODELS TIDE GAUGE LOCATION IS IN FACE OF PILING AT PIER 6, 10' EAST OF BENCHMARK;
NAILED ELEVATION 10.1 FEET MLLW.
HORIZONTAL CONTROL:
PRIMARY: RTK POSITIONING
SECONDARY: COAST GURAD DGPS D-BEACON

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PREPARED UNDER THE DIRECTION OF LT COLONEL J. RAYFIELD	Surveyed By:	Chart Date:
Submitted: Hydro Survey Team Leader	Plotted By:	May 13, 2019
Recommended: Navigation Technical Manager	Checked By:	Designed by:
Approved: Project Manager		Drawn by:

CALIFORNIA
ALAMEDA COUNTY
OAKLAND OUTER HARBOR
CONDITION SURVEY
23-24 APRIL 2019

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