

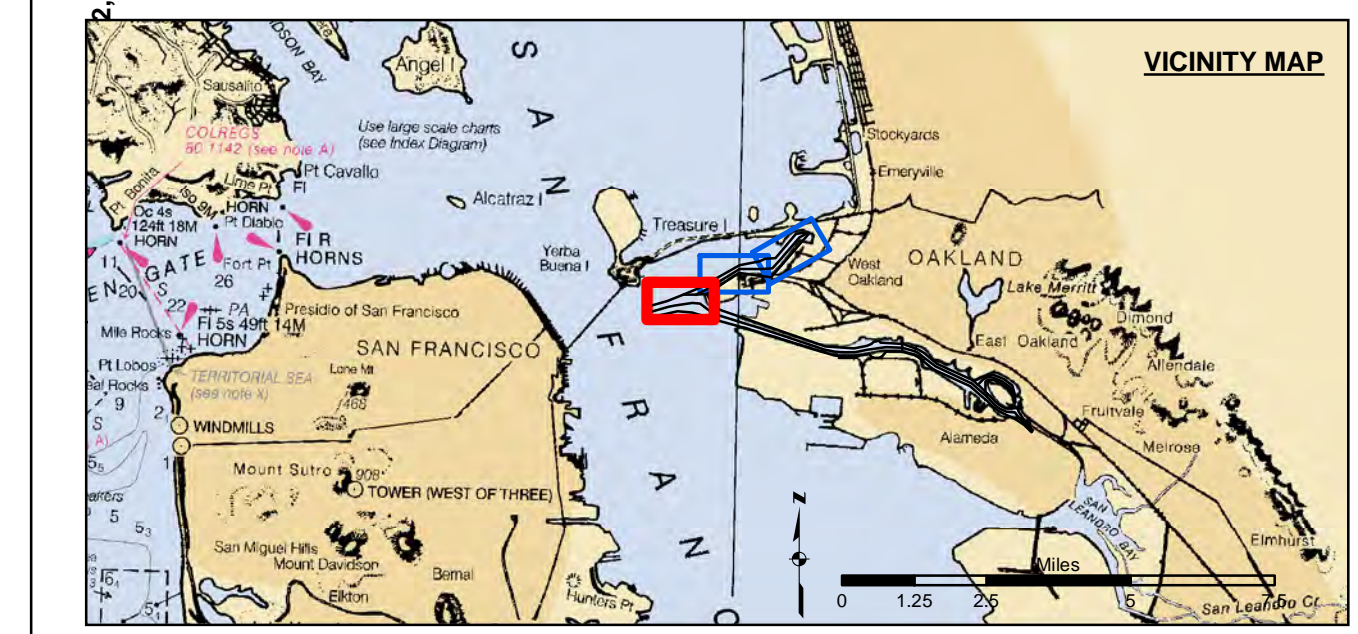
US Army Corps of Engineers
 San Francisco District
 450 Golden Gate Ave
 San Francisco, CA 94102

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Prepared Under the Direction of:	Chart Date:
JOHN D. CUNNINGHAM	Dec 19, 2019
LT Colonel, C.E., District Engineer	Designed by:
Hydro Survey Team Leader	Plotted by:
Navigation Technical Manager	Checked by:
Project Manager	Drawn by:

ALAMEDA COUNTY CALIFORNIA
OAKLAND HARBOR
OAKLAND OUTER HARBOR
POST-DREDGE SURVEY
 Reach 7 - 21 Nov 2019, Reach 8 - 13 Nov 2019
 Reach 9 - 13 Nov 2019, Reach 10A - 18 Sep 2019
 Reach 10B - 13 Nov 2019

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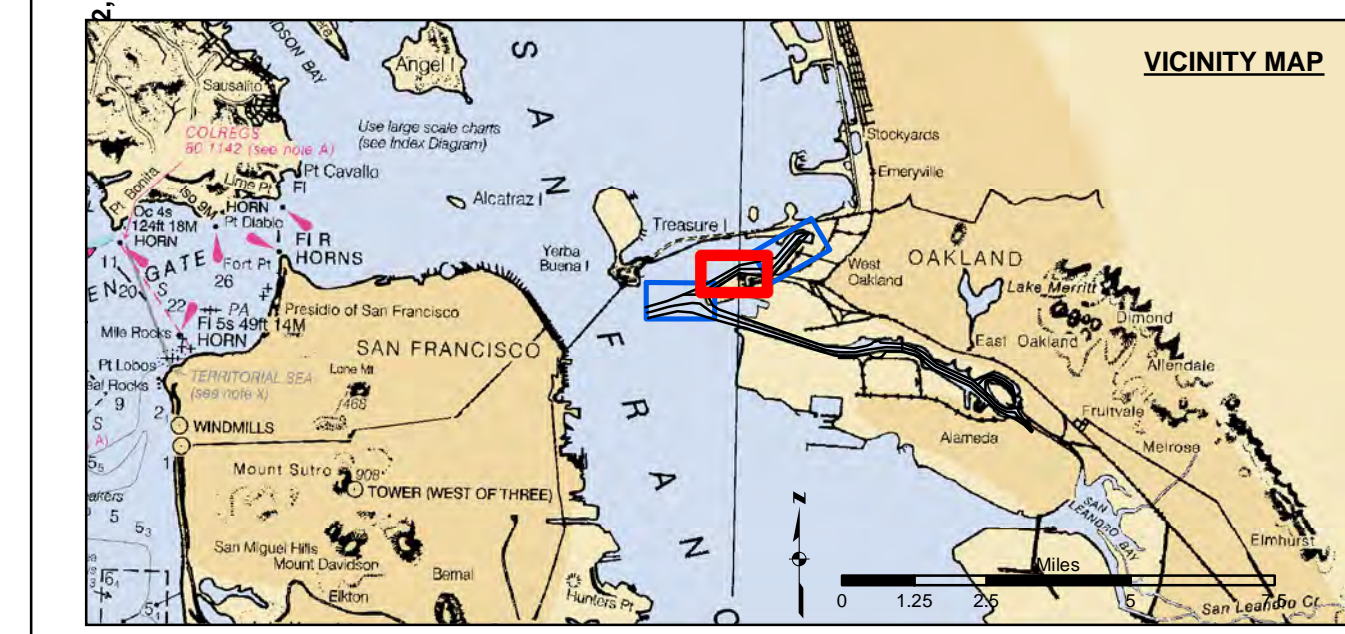
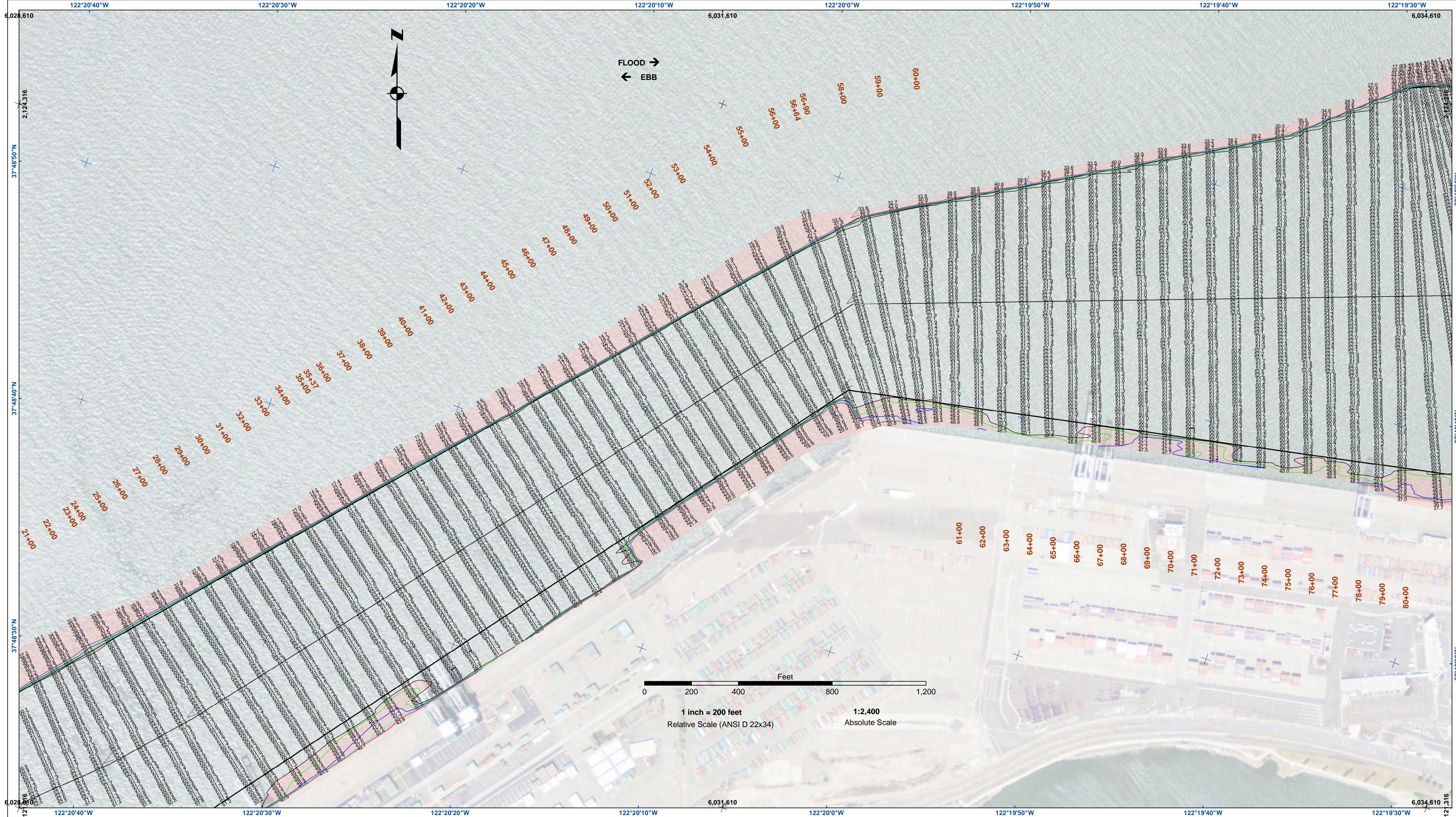


- Federal Navigation Channel
- Shoaling Area
- Placement Area
- Anchorage Area
- Wreck Area
- Submerged Wreck
- Angle Point
- Beacon, General
- Obstruction Point
- Navigation Buoy
- Navigation Buoy
- Shoalest Sounding*
- Contours**
- 50
- 49
- 48
- 47
- 46

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.
 SURVEYED BY THE CORPS OF ENGINEERS.
 BASE MAPS ARE USDA NAIP 2010.
 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:
 PROCP: PORT 1 1836PID HT0654.
 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.
 LCP2 1: 941 4777 B TIDALPID A5211, 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, GEIOD09 AND VDUTUM MODELS TIDE GAUGE LOCATION IS IN FACE OF PILING AT BERTH 37; NAEL ELEVATION 9.7 FEET MLLW.
 LCP2 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 BERTH 40 OF THE OAKLAND MIDDLE HARBOR. ELEVATION: 14.04 FEET MLLW - DERIVED FROM WGS-84 ELLIPSOID ELEVATION, GEIOD09 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



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	-50
Placement Area	Navigation Buoy	-49
Anchorage Area	Navigation Buoy	-48
Wreck Area	Shoalest Sounding*	-47
Submerged Wreck		-46
Angle Point		

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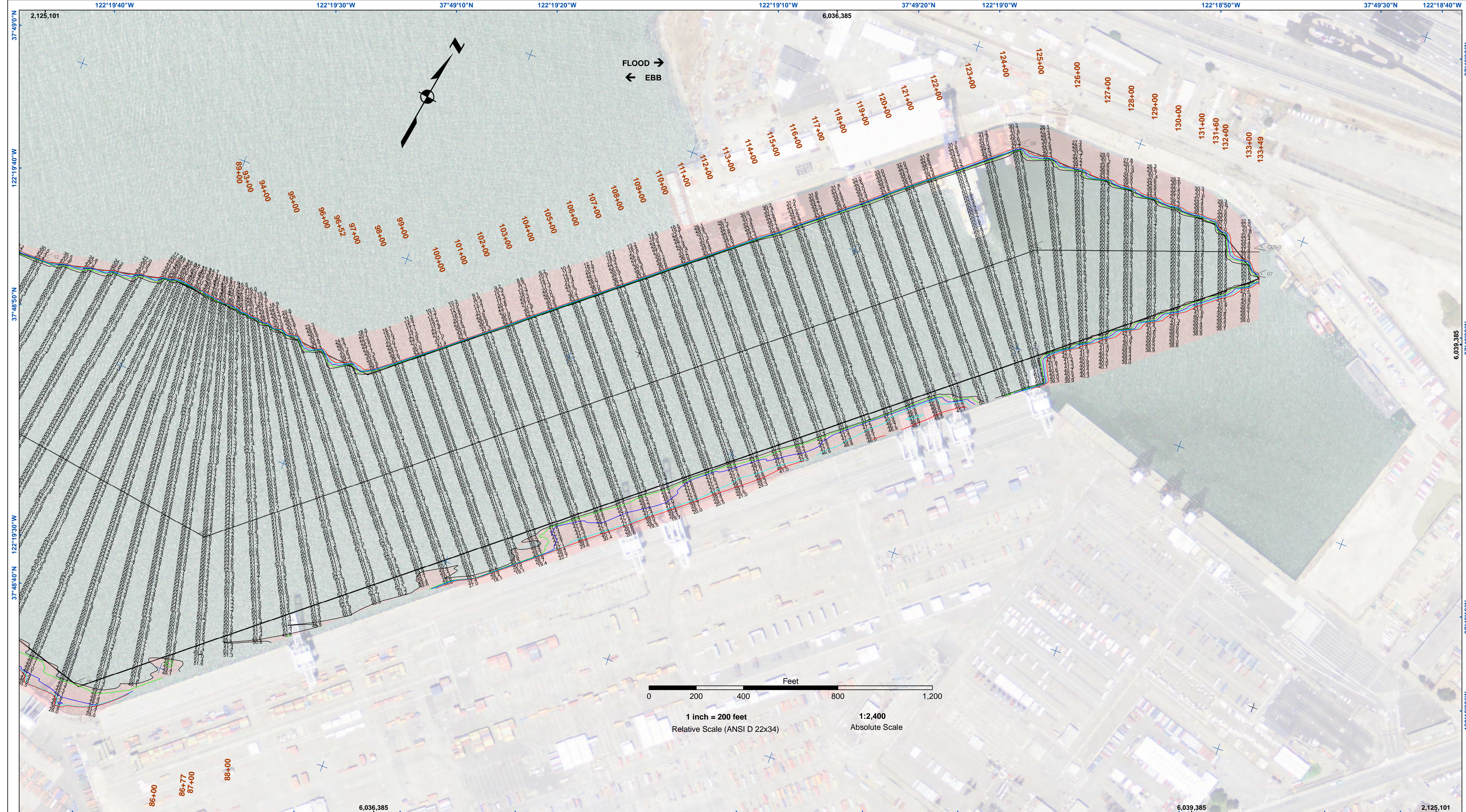
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Prepared Under the Direction of JOHN D. CUNNINGHAM LT COLONEL, C.E. DISTRICT ENGINEER	Chart Date: Dec 19, 2019
Subproject: Hydro Survey Team Leader	Designed by:
Recommendation: Navigation Technical Manager	Plotted By:
Approved: Project Manager	Checked By:
	Drawn by:

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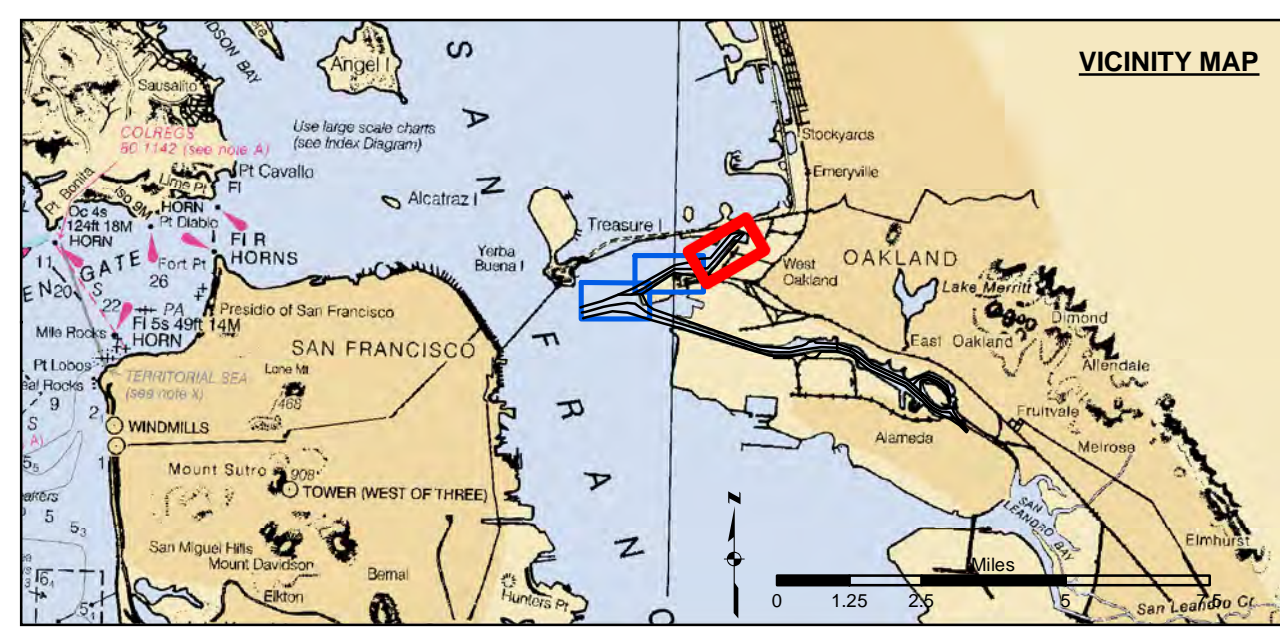


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