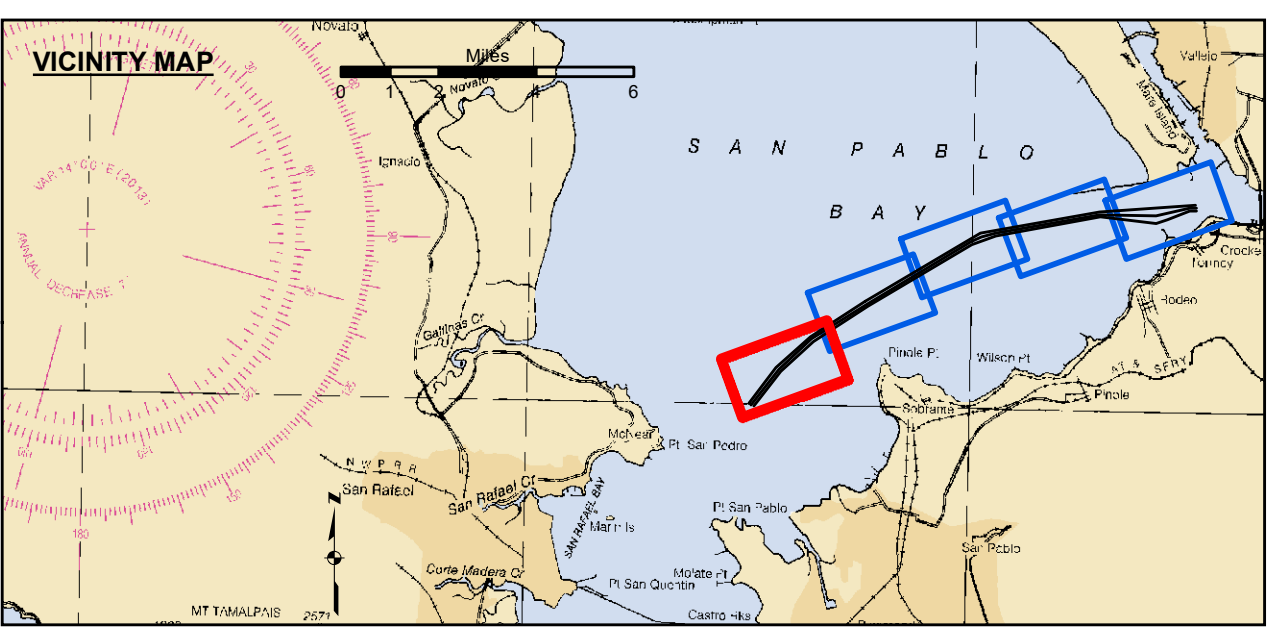


AnglePoint	POINT_X	POINT_Y
01	6009617.00	2192346.00
02	6012570.00	2196164.00
03	6016237.00	2199512.00
04	6022215.00	2203334.00
05	6034692.58	2210763.40
06	6047610.83	2213082.81
07	6058067.95	2213781.27
08	6058127.86	2213182.59
09	6057419.43	2213135.37
10	6055006.55	2212266.87
11	6053815.20	2211848.50
12	6047716.66	2210459.23
13	6036393.66	2210459.23
14	6033802.66	2209535.23
15	6022551.66	2202836.23
16	6016604.00	2199034.00
17	6013013.00	2195756.00
18	6010090.00	2191976.00
C01	6009631.93	2192304.35
C02	6012791.00	2195960.00
C03	6016421.00	2199273.00
C04	6022385.00	2203086.12
C05	6033649.18	2209793.00
C06	6034836.66	2210359.38
C07	6036340.65	2210754.51
C08	6047663.65	2212787.53
C09	6053760.51	2212668.82
C10	6057399.48	2213434.70
C11	6058107.91	2213481.93

Federal Navigation Channel	Beacon, General	Countours
Shoaling Area	Obstruction Point	-35
Placement Area	Navigation Buoy	-34
Anchorage Area	Navigation Buoy	-33
Wreck Area	Shoalest Sounding*	-32
Submerged Wreck		-31
Angle Point		



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. 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. DISTANCE UNITS IN U.S. SURVEY FEET. DEPTHS ARE SHOWN AS POSITIVE VALUES.
 COORDINATES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (SPCS) ZONE III, LAMBERT CONFORMAL PROJECTION REFERENCED TO NAD83, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
 BASE MAPS ARE USDA NAIP 2010.
 *SHOALEST SOUNDING PER QUARTER PER REACH
 SURVEYED BY THE CORPS OF ENGINEERS.
 SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY AND ARE SHOWN TO THE TENTHS OF A FOOT.
 THE PROJECT DEPTH IS -35 FEET MLLW.
 VERTICAL DATUM:
 MLLW (MEAN LOWER LOW WATER)
 TIDAL EPOCH 1983-2001
 TIDAL DATUM CONTROL STATION(S):
 - 9415056 PINOLE POINT - JUNE 2014
 - 9415218 MARE ISLAND - AUG 2013

HORIZONTAL CONTROL DATUM:
 NAD83(2011) EPOCH 2010.00
 CONTROL:
 POINT PINOLE 4 RESET | PID: JT2895 | BM 5056 A | PID: BBCN55
 OPUS 3/19/2020 | 9415056
 5218 L 1976 | 5218 R 2006 | PID: BBCN57
 PID: BBC281 | OPUS 8/11/2010 | 9415218 | OPUS 10/31/2011 | 9415218
 TIDE GAUGE:
 NAIL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW
 APPROX POSITION: 38° 04' 9.9" N, 122° 15' 4.4" W
 POSITIONS AND SOUNDINGS HAVE BEEN CORRECTED USING PPK TECHNIQUES USING A CORRS NETWORK BASE STATION AT OHLN.
 TIDE VALUES HAVE BEEN EXTRAPOLATED USING GEOD18 AND VDATUM V4.0.1.
 SURVEY VESSEL / EQUIPMENT:
 S/V RANDY CUMMINGS
 - RESON T50-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER
 - POS MV 2201 VERS5 HW2.5-12
 - IMU TYPE 42
 - TRIMBLE AT1675-540T5 GPS ANTENNA

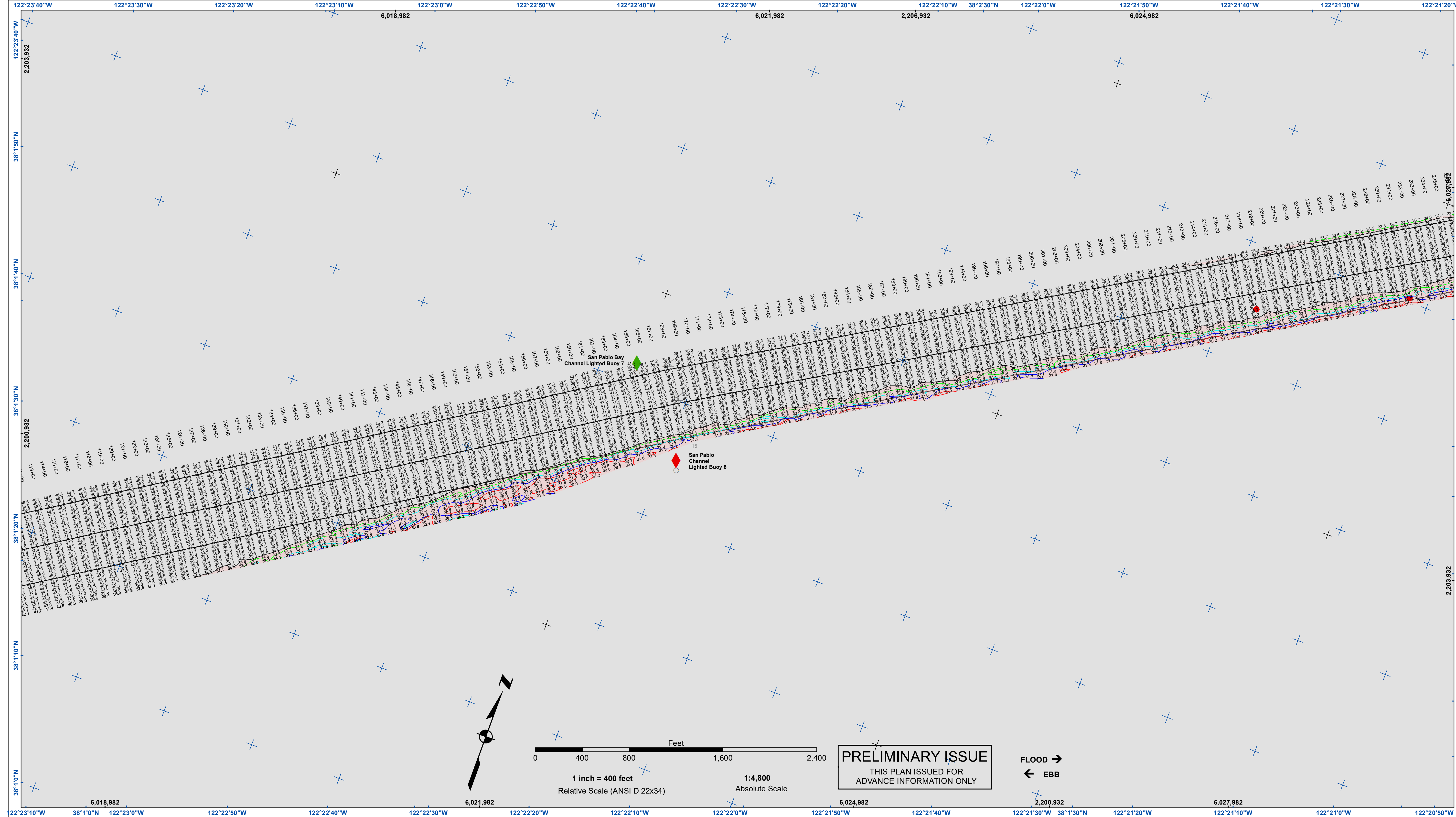


DISCLAIMER:
 The United States Government furnishes this information as a service to the public and does not warrant, express or implied, the accuracy, completeness, or reliability of the information. The user assumes all responsibility for the use of the information. The United States Government makes no warranty, express or implied, concerning the accuracy, completeness, or reliability of the information. The user assumes all responsibility for the use of the information. The United States Government makes no warranty, express or implied, concerning the accuracy, completeness, or reliability of the information. The user assumes all responsibility for the use of the information. The United States Government makes no warranty, express or implied, concerning the accuracy, completeness, or reliability of the information. The user assumes all responsibility for the use of the information.

Prepared Under the Direction of KEVIN P. ARNETT LT Colonel, C.E., District Engineer	Surveyed By: PDT	Chart Date: Mar 16, 2023
Submitted: Hydro Survey Team Leader	Plotted By: PDT	Designed by: PDT
Recommended: Chief, Hydro Survey Section	Checked By: PDT	Drawn by: PDT
Approved: Chief, Construction Branch		

CALIFORNIA
PINOLE SHOALS
 CONDITION SURVEY
 8-10 MARCH 2023
 SAN PABLO BAY

Sheet
Number
1 of 5



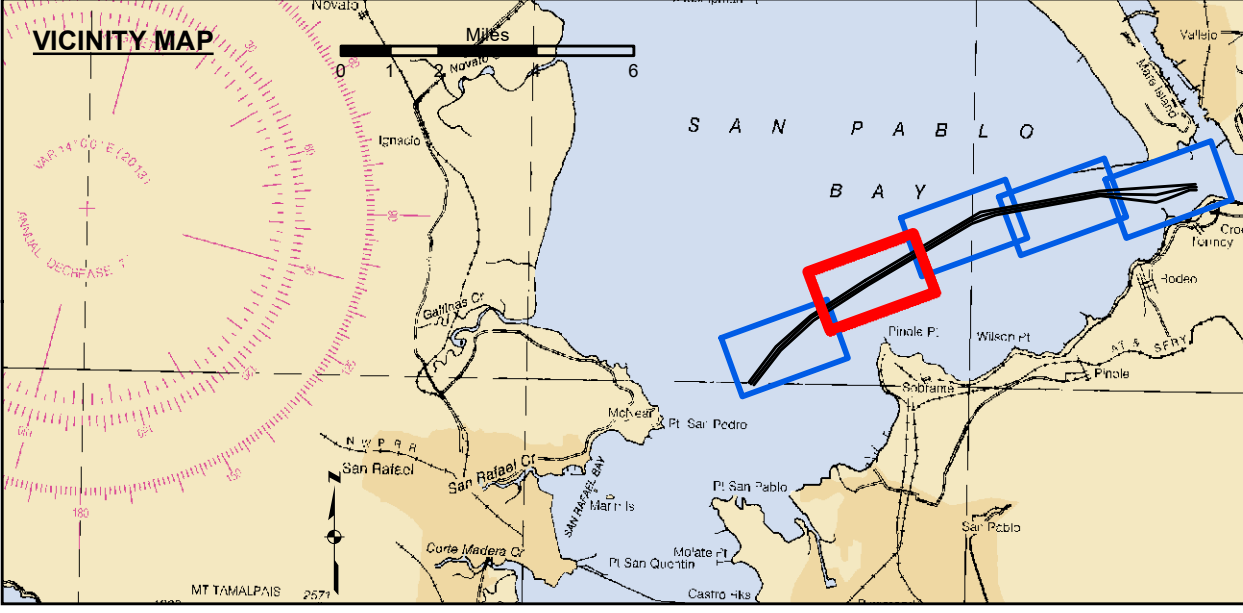
US Army Corps of Engineers
 San Francisco District
 450 Golden Gate Ave.
 San Francisco, CA 94102

DISCLAIMER
 The United States Government furnishes this information for your information only. It is not intended to be used for any purpose other than that for which it was prepared. The United States Government makes no warranty, expressed or implied, concerning the accuracy, completeness, or reliability of the information. The user is responsible for the results of any application of the information. The user is responsible for the results of any application of the information. The user is responsible for the results of any application of the information.

Prepared Under the Direction of KEVIN P. ARNETT LT Colonel, C.E., District Engineer	Chart Date: Mar 16, 2023
Submitted by: Hydro Survey Team Leader	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Plotted by: PDT
Approved by: Chief, Construction Branch	Checked by: PDT
	Drawn by: PDT

SAN PABLO BAY
PINOLE SHOALS
CONDITION SURVEY
8-10 MARCH 2023

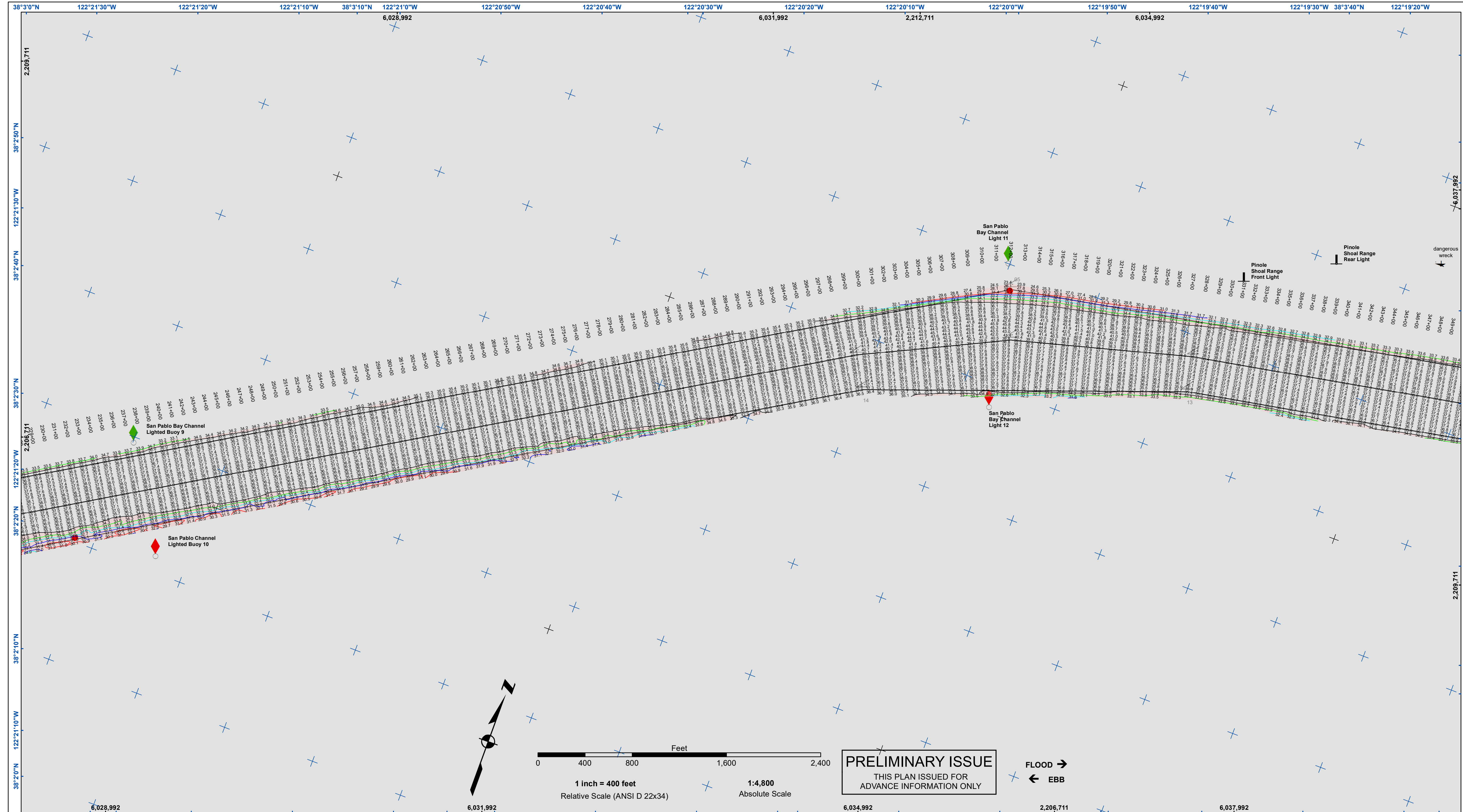
Sheet
Reference
Number
2 of 5



- 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**
- 35
- 34
- 33
- 32
- 31

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. 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. DISTANCE UNITS IN U.S. SURVEY FEET. DEPTHS ARE SHOWN AS POSITIVE VALUES.
 COORDINATES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (SPCS) ZONE III, LAMBERT CONFORMAL PROJECTION REFERENCED TO NAD83, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
 BASE MAPS ARE USDA NAIP 2010.
 *SHOALEST SOUNDING PER QUARTER PER REACH
 SURVEYED BY THE CORPS OF ENGINEERS.
 SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY AND ARE SHOWN TO THE TENTHS OF A FOOT.
 THE PROJECT DEPTH IS -35 FEET MLLW.
 VERTICAL DATUM:
 MLLW (MEAN LOWER LOW WATER)
 TIDAL EPOCH 1983-2001
 TIDAL DATUM CONTROL STATION(S):
 - 9415056 PINOLE POINT - JUNE 2014
 - 9415218 MARE ISLAND - AUG 2013

HORIZONTAL CONTROL DATUM:
 NAD83(2011) EPOCH 2010.00
 CONTROL:
 POINT PINOLE 4 RESET | PID: JT2895 | BM 5056 A | PID: BBCN55
 OPUS 3/19/2020 | 9415056
 5218 L 1976 | 5218 R 2006 | PID: BBCN57
 PID: BBC281 | OPUS 8/11/2010 | 9415218
 TIDE GAUGE:
 NAIL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW
 APPROX POSITION: 38° 04' 9.9" N, 122° 15' 4.4" W
 POSITIONS AND SOUNDINGS HAVE BEEN CORRECTED USING PPK TECHNIQUES USING A CORRS NETWORK BASE STATION AT OHLN.
 TIDE VALUES HAVE BEEN EXTRAPOLATED USING GEOD18 AND VDATUM V4.0.1.
 SURVEY VESSEL / EQUIPMENT:
 S/V RANDY CUMMINGS
 - RESON 150-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER
 - POS MV 2201 VERS5 HW2.5-12
 - IMU TYPE 42
 - TRIMBLE AT1675-540TS GPS ANTENNA



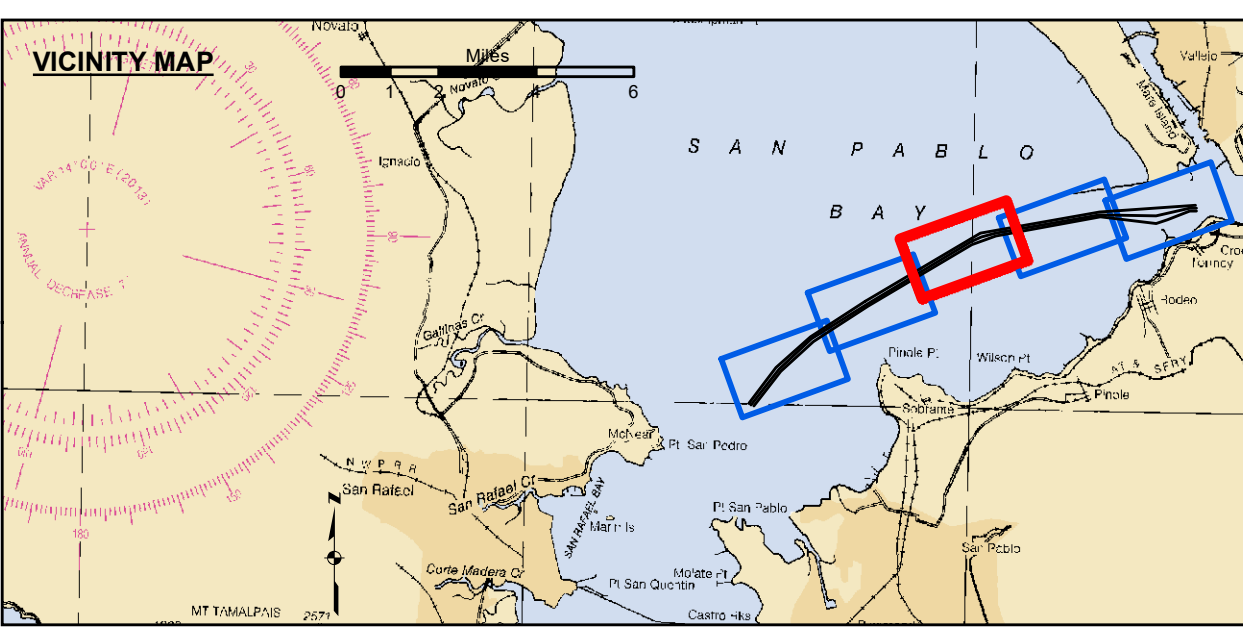
US Army Corps of Engineers
 San Francisco District
 450 Golden Gate Ave.
 San Francisco, CA 94102

DISCLAIMER
 The United States Government furnishes this information as a service to the public. It is not intended to be used for any purpose other than the intended purpose. The user is responsible for the results of any application of the data for other than the intended purpose. The United States Government makes no warranty, expressed or implied, concerning the accuracy, completeness, or timeliness of the information. The United States Government shall not be liable for any damages, including consequential damages, arising from the use of the information. These data belong to the Government. Therefore the recipient may not transfer these data to others without also transferring this disclaimer.

Prepared Under the Direction of LT COLONEL C.E. DISTRICT ENGINEER	Surveyed By:	Chart Date:
Submitted: Hydro Survey Team Leader	Plotted By: PDT	Mar 16, 2023
Recommended: Chief, Hydro Survey Section	Checked By: PDT	Designed by:
Approved: Chief, Construction Branch	Drawn by: PDT	

CALIFORNIA
PINOLE SHOALS
 CONDITION SURVEY
 8-10 MARCH 2023

Sheet
Reference
Number
3 of 5

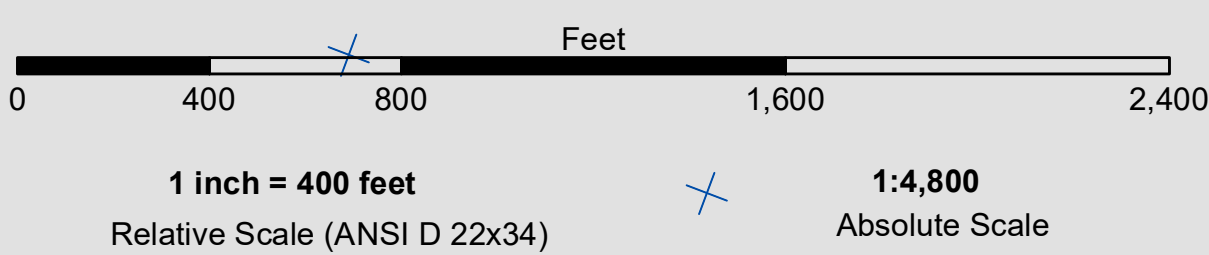


Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	-35
Placement Area	Navigation Buoy	-34
Anchorage Area	Navigation Buoy	-33
Wreck Area	Shoalest Sounding*	-32
Submerged Wreck		-31
Angle Point		

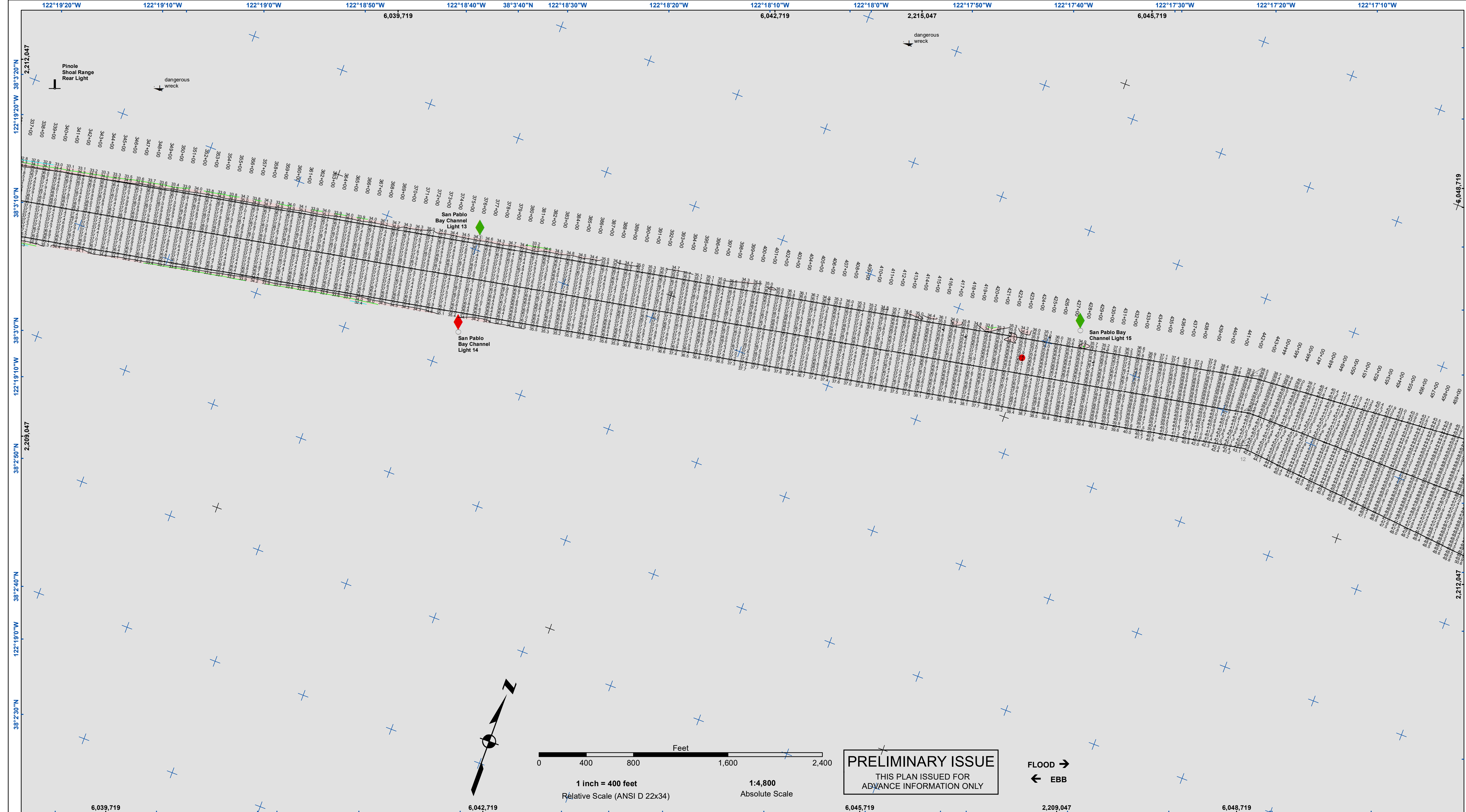
NOTES:
 DRAWING NOT TO BE USED FOR NAVIGATION. ONLY CHANNEL CONDITION AT DATE OF SURVEY. THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD. BUOY LOCATIONS REPRESENT THE POSITION OF THE SINKER ONLY. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY CONDUCTED ON THE DATE INDICATED AND CAN ONLY BE CONSIDERED TO REPRESENT THE GENERAL CONDITION EXISTING AT THAT TIME. DISTANCE UNITS IN U.S. SURVEY FEET. DEPTHS ARE SHOWN AS POSITIVE VALUES.
 COORDINATES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (SPCS) ZONE III, LAMBERT CONFORMAL PROJECTION REFERENCED TO NAD83, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
 BASE MAPS ARE USDA NAIP 2010.
 *SHOALEST SOUNDING PER QUARTER PER REACH
 SURVEYED BY THE CORPS OF ENGINEERS.
 SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY AND ARE SHOWN TO THE TENTHS OF A FOOT.
 THE PROJECT DEPTH IS -35 FEET MLLW.
 VERTICAL DATUM:
 MLLW (MEAN LOWER LOW WATER)
 TIDAL EPOCH 1983-2001
 TIDAL DATUM CONTROL STATION(S):
 - 9415056 PINOLE POINT - JUNE 2014
 - 9415218 MARE ISLAND - AUG 2013

HORIZONTAL CONTROL DATUM:
 NAD83(2011) EPOCH 2010.00
 CONTROL:
 POINT PINOLE 4 RESET | PID: JT2895 BM 5056 A | PID: BBCN55
 OPUS 3/19/2020 9415056
 5218 L 1976 5218 R 2006
 PID: BBB281 PID: BBCN57
 OPUS 8/11/2010 | 9415218 OPUS 10/31/2011 | 9415218
 TIDE GAUGE:
 NAIL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW
 APPROX POSITION: 38° 04' 9.9" N, 122° 15' 4.4" W
 POSITIONS AND SOUNDINGS HAVE BEEN CORRECTED USING PPK TECHNIQUES USING A CORS NETWORK BASE STATION AT OHLN.
 TIDE VALUES HAVE BEEN EXTRAPOLATED USING GEOD18 AND VDATUM V4.0.1.
 SURVEY VESSEL / EQUIPMENT:
 S/V RANDY CUMMINGS
 - RESON T50-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER
 - POS MV 2201 VER5 HW2.5-12
 - IMU TYPE 42
 - TRIMBLE AT1675-540TS GPS ANTENNA

PRELIMINARY ISSUE
 THIS PLAN ISSUED FOR
 ADVANCE INFORMATION ONLY



FLOOD →
 ← EBB



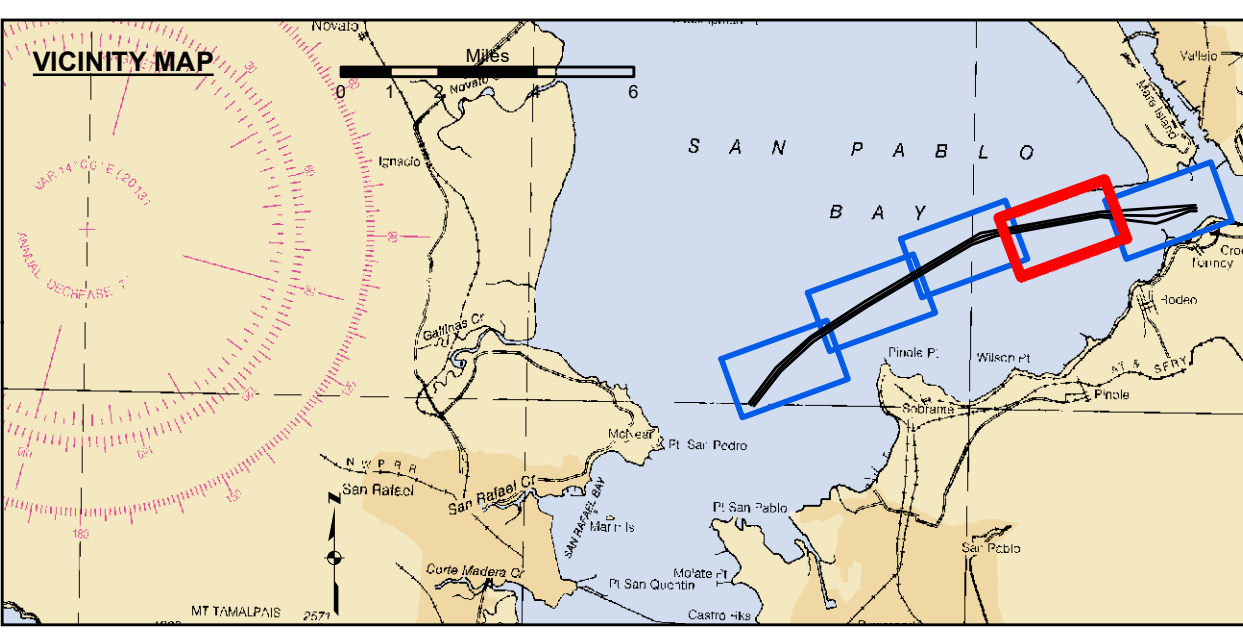
US Army Corps of Engineers
 San Francisco District
 450 Golden Gate Ave.
 San Francisco, CA 94102

DISCLAIMER
 The United States Government furnishes this information as a service to the public and does not warrant, express or implied, the accuracy, completeness, or reliability of the information. The user assumes all responsibility for the use of the information and for any consequences resulting from its use. The United States Government shall not be liable for any damages, including consequential damages, arising from the use of this information. This disclaimer applies to all users of this information, whether they are government employees or not.

Prepared Under the Direction of LT COLONEL C.E. DISTRICT ENGINEER	Chart Date: Mar 16, 2023
Submitted by: Hydro Survey Team Leader	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Checked by: PDT
Approved by: Chief, Construction Branch	Drawn by: PDT

CALIFORNIA
SAN PABLO BAY
PINOLE SHOALS
CONDITION SURVEY
8-10 MARCH 2023

Sheet
Reference
Number
4 of 5

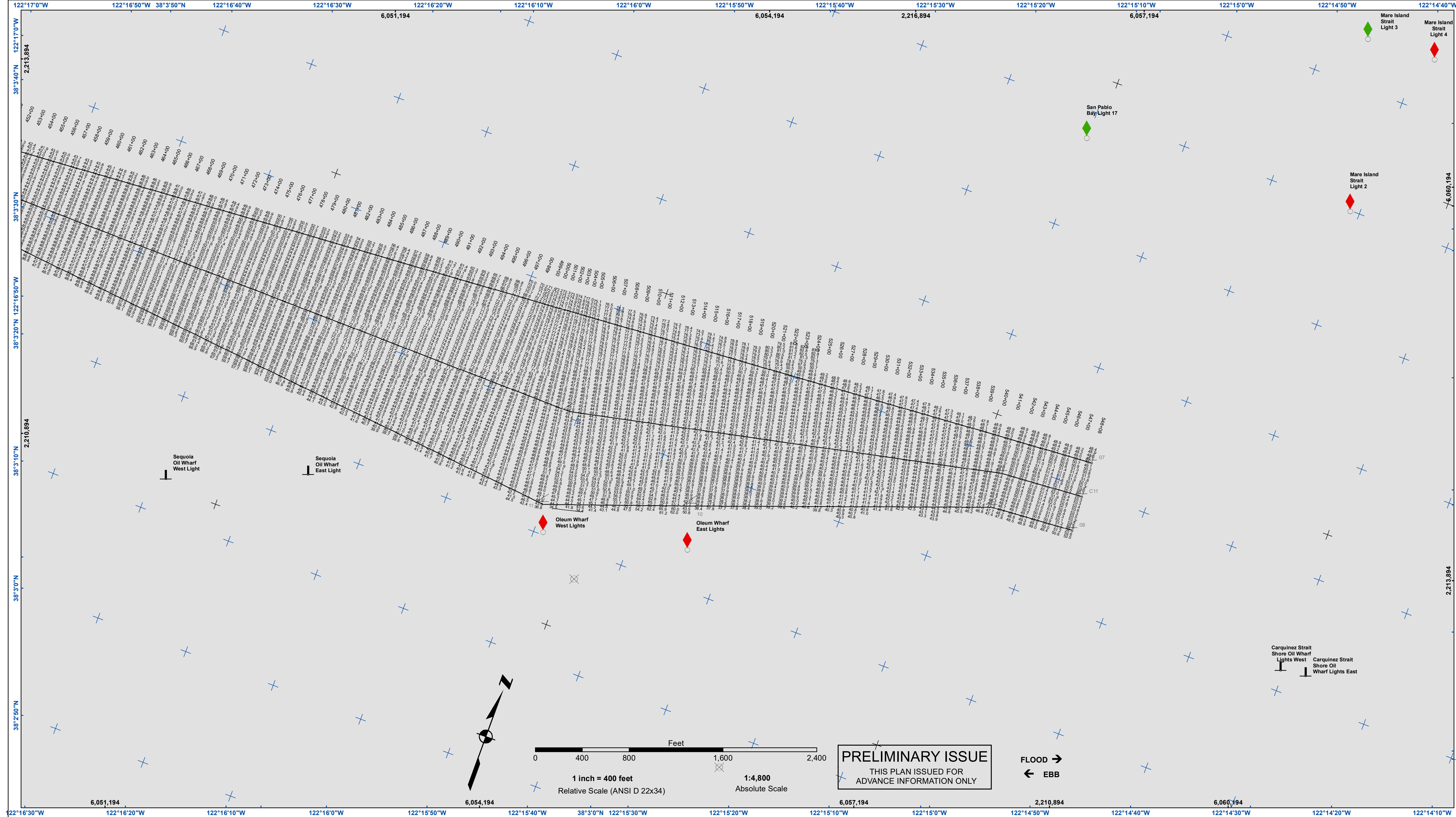


Federal Navigation Channel	Beacon, General	Countours
Shoaling Area	Obstruction Point	-35
Placement Area	Navigation Buoy	-34
Anchorage Area	Navigation Buoy	-33
Wreck Area	Shoalest Sounding*	-32
Submerged Wreck		-31
Angle Point		

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.
 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.
 DISTANCE UNITS IN U.S. SURVEY FEET. DEPTHS ARE SHOWN AS POSITIVE VALUES.
 COORDINATES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (SPCS) ZONE III, LAMBERT CONFORMAL PROJECTION REFERENCED TO NAD83, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
 BASE MAPS ARE USDA NAIP 2010.
 *SHOALEST SOUNDING PER QUARTER PER REACH
 SURVEYED BY THE CORPS OF ENGINEERS.
 SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY AND ARE SHOWN TO THE TENTHS OF A FOOT.
 THE PROJECT DEPTH IS -35 FEET MLLW.
 VERTICAL DATUM:
 MLLW (MEAN LOWER LOW WATER)
 TIDAL EPOCH 1983-2001
 TIDAL DATUM CONTROL STATION(S):
 - 9415056 PINOLE POINT - JUNE 2014
 - 9415218 MARE ISLAND - AUG 2013

HORIZONTAL CONTROL DATUM:
 NAD83(2011) EPOCH 2010.00
 CONTROL:
 POINT PINOLE 4 RESET | PID: JT2895 | BM 5056 A | PID: BBCN55
 OPUS 3/19/2020 | 9415056
 5218 L 1976 | 5218 R 2006
 PID: BBB281 | PID: BBCN57
 OPUS 8/11/2010 | 9415218 | OPUS 10/31/2011 | 9415218

TIDE GAUGE:
 NAIL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW
 APPROX POSITION: 38° 04' 9.9" N, 122° 15' 4.4" W
 POSITIONS AND SOUNDINGS HAVE BEEN CORRECTED USING PPK TECHNIQUES USING A CORS NETWORK BASE STATION AT OHLN.
 TIDE VALUES HAVE BEEN EXTRAPOLATED USING GEOID18 AND VDATUM V4.0.1.
 SURVEY VESSEL / EQUIPMENT:
 S/V RANDY CUMMINGS
 - RESON T50-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER
 - POS MV 220 VERS 5-12
 - IMU TYPE 42
 - TRIMBLE AT1675-540TS GPS ANTENNA



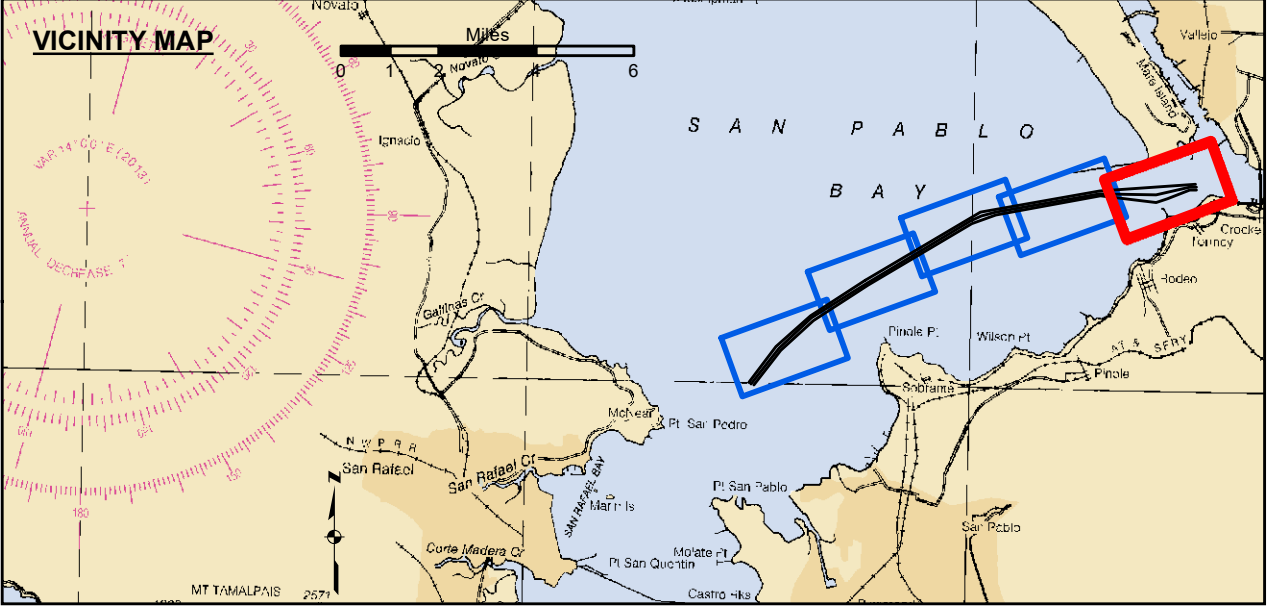
US Army Corps of Engineers
 San Francisco District
 450 Golden Gate Ave.
 San Francisco, CA 94102

DISCLAIMER
 The United States Government furnishes this information as a public service and does not warrant, express or implied, the accuracy, completeness, or reliability of the data. The user is responsible for the results of any use of this information. The United States Government assumes no liability whatsoever to any person by reason of any use of this information. The recipient may not transfer these data to others without also transferring this disclaimer.

Prepared Under the Direction of KEVIN P. ARNETT LT Colonel, C.E., District Engineer	Chart Date: Mar 16, 2023
Submitted by: Hydro Survey Team Leader	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Plotted by: PDT
Approved by: Chief, Construction Branch	Checked by: PDT
	Drawn by: PDT

CALIFORNIA
PINOLE SHOALS
 CONDITION SURVEY
 8-10 MARCH 2023
 SAN PABLO BAY

Sheet
Reference
Number
5 of 5



- | | | |
|----------------------------|--------------------|-----------------|
| Federal Navigation Channel | Beacon, General | Contours |
| Shoaling Area | Obstruction Point | -35 |
| Placement Area | Navigation Buoy | -34 |
| Anchorage Area | Navigation Buoy | -33 |
| Wreck Area | Shoalest Sounding* | -32 |
| Submerged Wreck | | -31 |
| Angle Point | | |

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.
 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.
 DISTANCE UNITS IN U.S. SURVEY FEET. DEPTHS ARE SHOWN AS POSITIVE VALUES.
 COORDINATES ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (SPCS) ZONE III, LAMBERT CONFORMAL PROJECTION REFERENCED TO NAD83, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
 BASE MAPS ARE USDA NAIP 2010.
 *SHOALEST SOUNDING PER QUARTER PER REACH
 SURVEYED BY THE CORPS OF ENGINEERS.
 SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER (MLLW) AT THE LOCALITY AND ARE SHOWN TO THE TENTHS OF A FOOT.
 THE PROJECT DEPTH IS -35 FEET MLLW.
 VERTICAL DATUM:
 MLLW (MEAN LOWER LOW WATER)
 TIDAL EPOCH 1983-2001
 TIDAL DATUM CONTROL STATION(S):
 - 9415056 PINOLE POINT - JUNE 2014
 - 9415218 MARE ISLAND - AUG 2013

HORIZONTAL CONTROL DATUM:
 NAD83(2011) EPOCH 2010.00
 CONTROL:
 POINT PINOLE 4 RESET | PID: JT2895 | BM 5056 A | PID: BBCN55
 OPUS 3/19/2020 | 9415056
 5218 L 1976 | 5218 R 2006 | PID: BBCN57
 PID: BBC281 | OPUS 8/11/2010 | 9415218
 OPUS 10/31/2011 | 9415218
 TIDE GAUGE:
 NAIL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW
 APPROX POSITION: 38° 04' 9.9" N, 122° 15' 4.4" W
 POSITIONS AND SOUNDINGS HAVE BEEN CORRECTED USING PPK TECHNIQUES USING A CORPS NETWORK BASE STATION AT OHLN.
 TIDE VALUES HAVE BEEN EXTRAPOLATED USING GEOD18 AND VDATUM V4.0.1.
 SURVEY VESSEL / EQUIPMENT:
 S/V RANDY CUMMINGS
 - RESON T50-R, SINGLE-HEAD MULTIBEAM ECHOSOUNDER
 - POS MV 220, VER5 HW2.5-12
 - IMU TYPE 42
 - TRIMBLE AT1675-540T5 GPS ANTENNA