

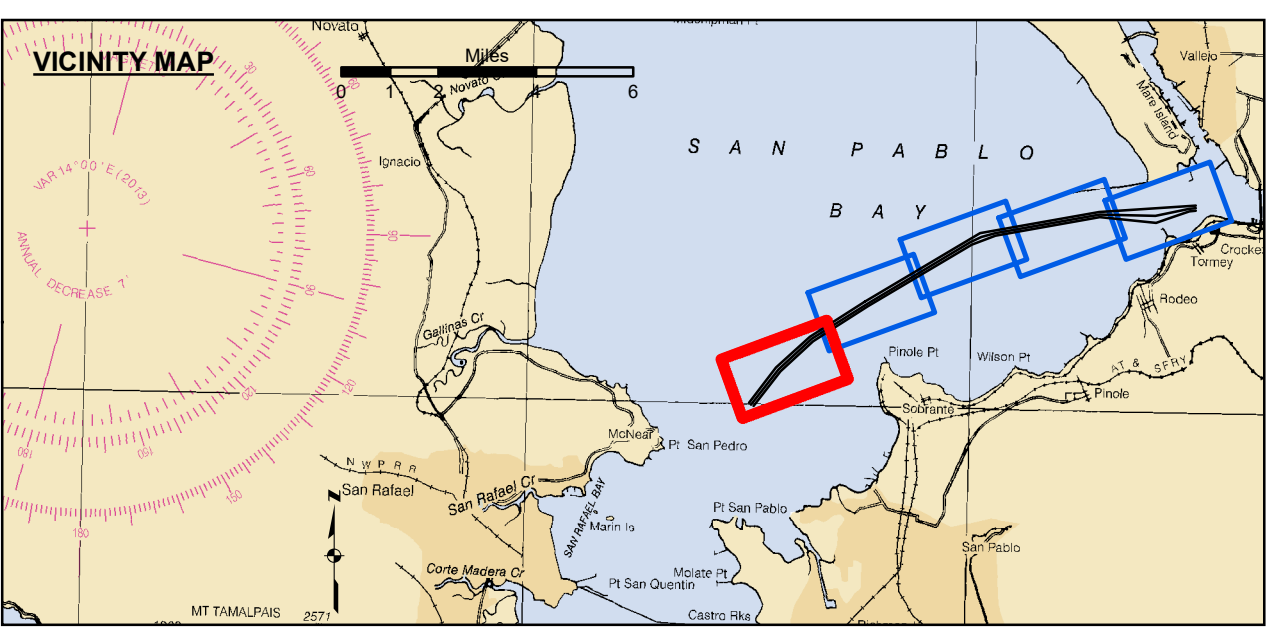
US Army Corps of Engineers
 San Francisco District
 450 Golden Gate Ave.
 San Francisco, CA 94102

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Prepared Under the Direction of	Surveyed By	Chart Date
LT COLONEL W. SHEBESTA		Jul 18, 2023
Submitted	Plotted By	Designed by
Hydro Survey Team Leader	PDT	
Recommended	Checked By	Drawn by
Chief, Hydro Survey Section	PDT	PDT
Approved	Chief, Construction Branch	

CALIFORNIA
 SAN PABLO BAY
PINOLE SHOAL
 CONDITION SURVEY
 31 MAY - 11 JULY 2023

Sheet
Reference
Number
1 of 5



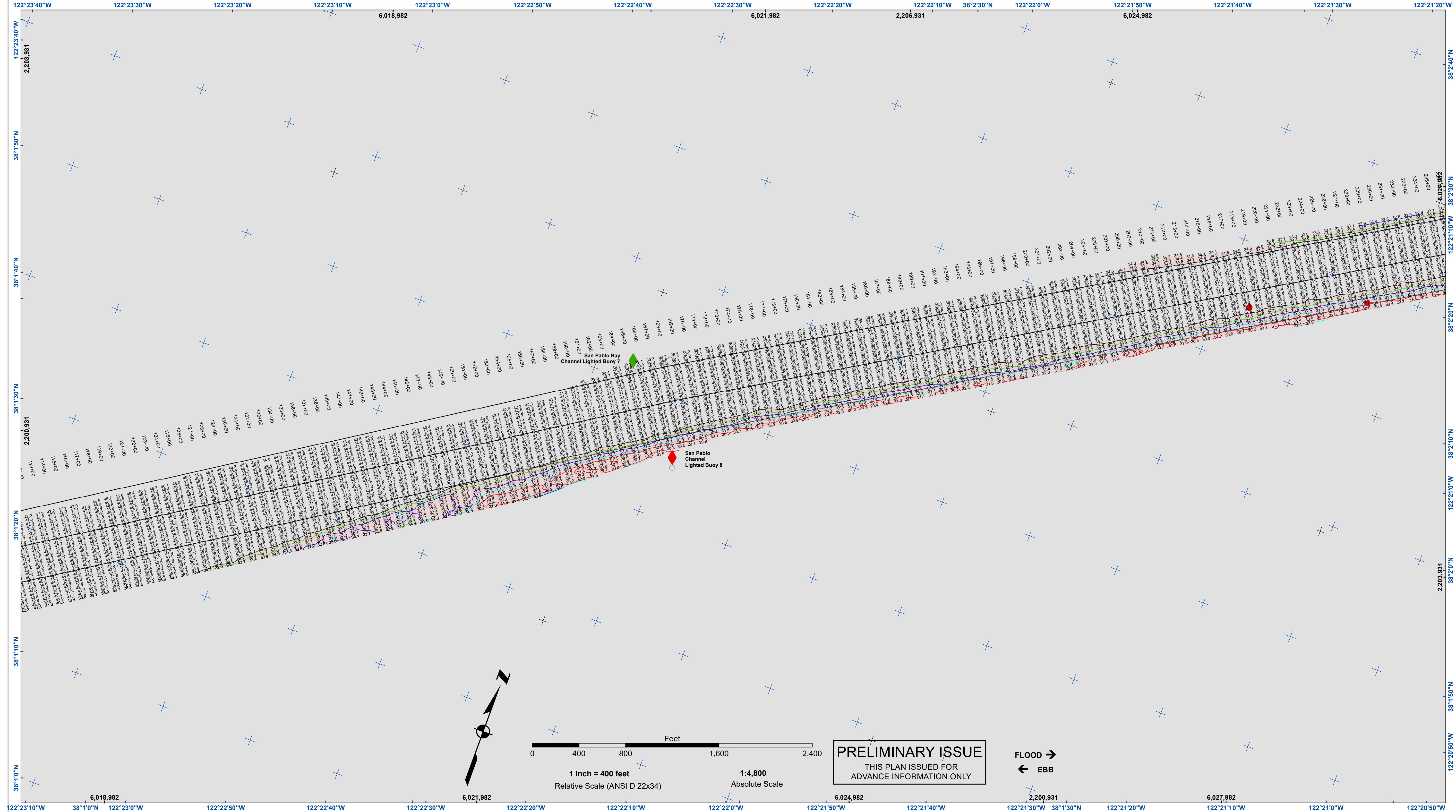
Federal Navigation Channel	Beacon, General	Countours
Shoaling Area	Obstruction Point	-35
Placement Area	Navigation Buoy	-34
Anchorage Area	Navigation Buoy	-33
Wreck Area	Shoalest Sounding*	-32
Submerged Wreck		-31
Angle Point		

NOTES:
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 THE PROJECT DEPTH IS 35 FEET MLLW.
 VERTICAL DATUM:
 MLLW (MEAN LOWER LOW WATER)
 TIDAL EPOCH 1983-2001
 TIDAL DATUM CONTROL STATIONS:
 - 8415056 PINOLE POINT - JUNE 2014
 - 8415216 MARE ISLAND - AUG 2013

HORIZONTAL CONTROL DATUM:
 NAD83(2011) EPOCH 2010.00
 CONTROL:
 POINT PINOLE 4 RESET | PID: J72885 | BM 5056 A | PID: BBCN55 | 9415056
 OPUS 3192020
 5215 L 1975 | 5216 R 2006
 PID: BBBZ81 | PID: BBCN97
 OPUS 81112010 | 9415216 | OPUS 100312011 | 9415216

TIDE GAUGE:
 NAL & 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:
 SV RANDY CUMMINGS
 RESON TSS-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER
 - POS MV 220 VERS HW2 5-12
 - IMU TYPE 42
 - TRIMBLE AT1675-540TS GPS ANTENNA



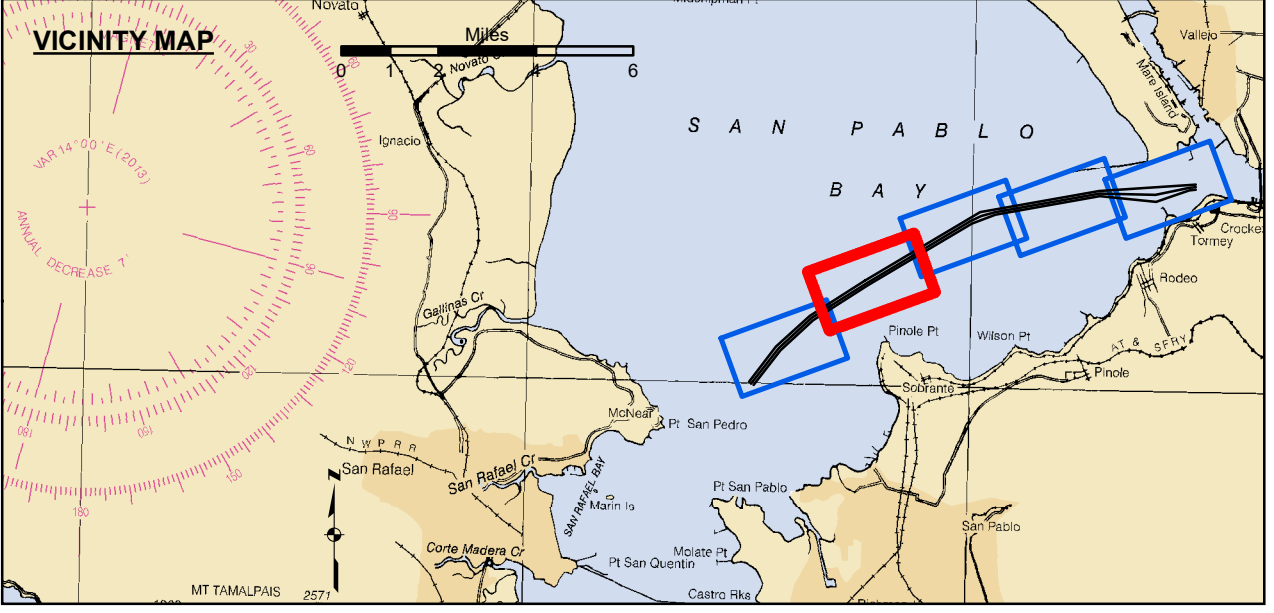
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Prepared Under the Direction of TIMOTHY W. SHEBESTA LT COLONEL, C.E., DISTRICT ENGINEER	Surveyed By:	Chart Date:
Submitted: Hydro Survey Team Leader	Plotted By:	Jul 18, 2023
Recommended: Chief, Hydro Survey Section	Checked By:	Designed by:
Approved: Chief, Construction Branch	PDT	Drawn by:
	PDT	PDT

CALIFORNIA
PINOLE SHOAL
 CONDITION SURVEY
 31 MAY - 11 JULY 2023
 SAN PABLO BAY

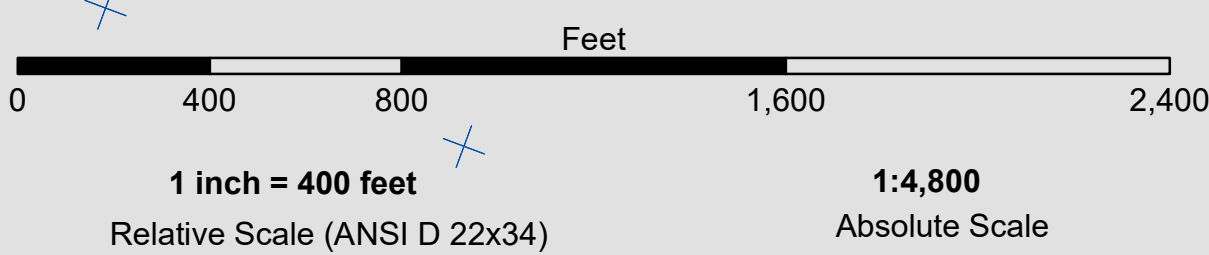
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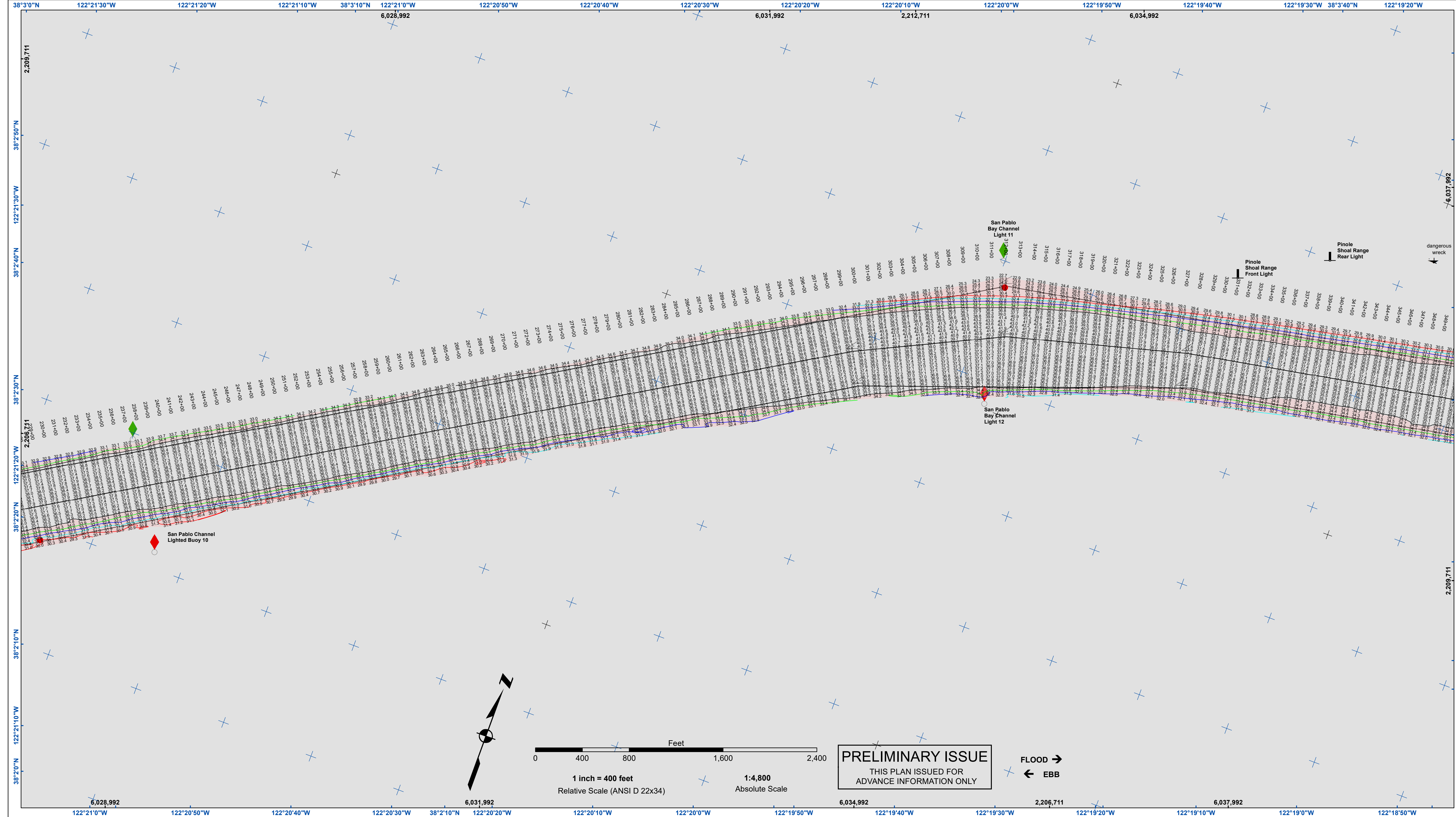
- Federal Navigation Channel
- Shoaling Area
- Placement Area
- Anchorage Area
- Wreck Area
- Submerged Wreck
- Angle Point
- Beacon, General
- Obstruction Point
- Navigation Buoy
- Navigation Buoy
- Shoalest Sounding*
- Countours
- 35
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 SURVEY VESSEL / EQUIPMENT:
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 - RESON TSS-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER
 - POS MV 220 VERS HW2 5-12
 - IMU TYPE 42
 - TRIMBLE AT1675-5407S GPS ANTENNA

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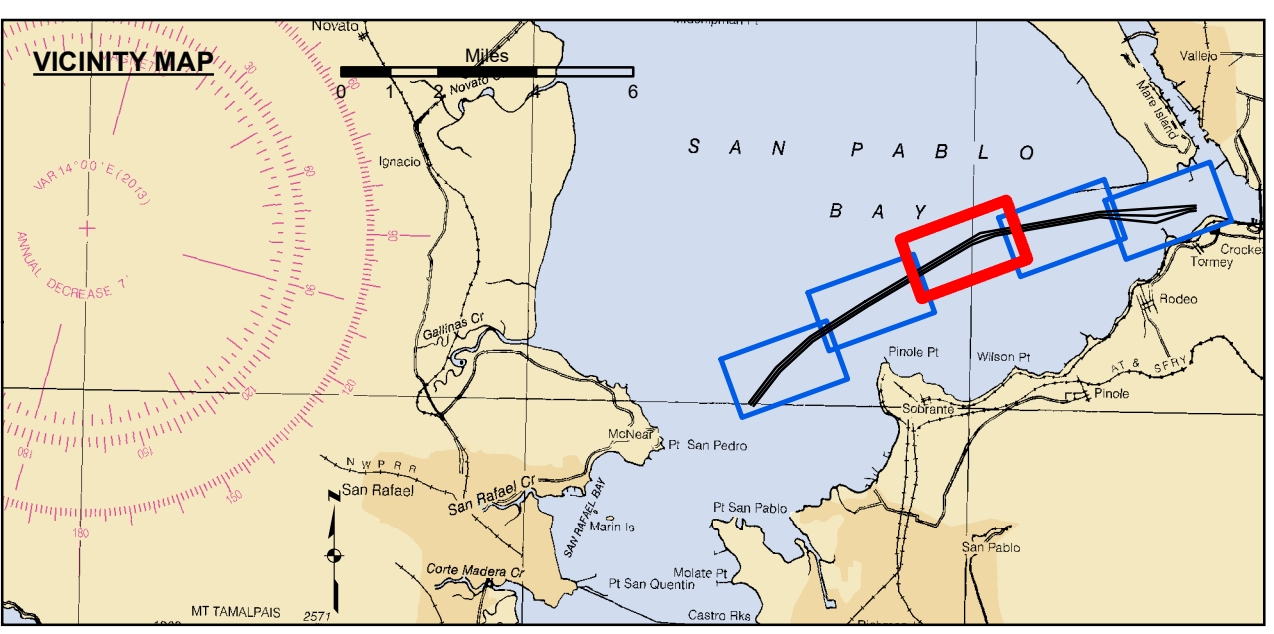
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LT COLONEL W. SHEBESTA	Surveyed By	
Subject: Hydro Survey Team Leader	Plotted By	PDT
Recommended: Chief, Hydro Survey Section	Checked By	PDT
Approved: Chief, Construction Branch	Drawn by	PDT

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PINOLE SHOAL
 CONDITION SURVEY
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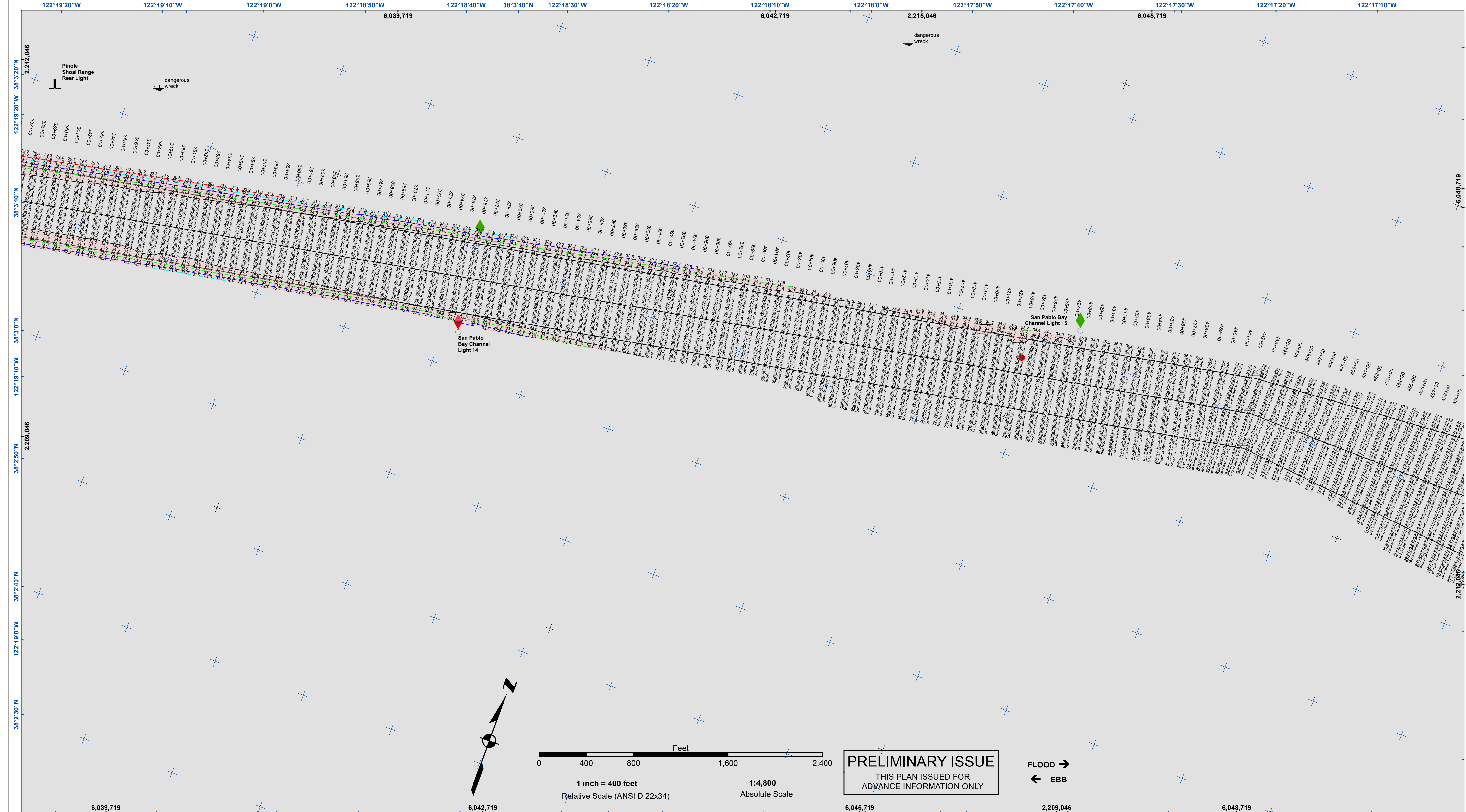


- Federal Navigation Channel
- Shoaling Area
- Placement Area
- Anchorage Area
- Wreck Area
- Submerged Wreck
- Angle Point
- Beacon, General
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- Navigation Buoy
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 VERTICAL DATUM:
 MLLW (MEAN LOWER LOW WATER)
 TIDAL EPOCH 1983-2001
 TIDAL DATUM CONTROL STATION(S):
 - 8415056 PINOLE POINT - JUNE 2014
 - 8415216 MARE ISLAND - AUG 2013

HORIZONTAL CONTROL DATUM:
 NAD83(2011) EPOCH 2010.00
 CONTROL:
 POINT PINOLE 4 RESET | PID: JT2885 | BM 5056 A | PID: BBN55 | 9415056
 OPUS 3192020
 5215 L 1975 | 5216 R 2006
 PID: BBN281 | PID: BBN57
 OPUS 81152010 | 9415216 | OPUS 100312011 | 9415216

TIDE GAUGE:
 NAL & BRASS DISK SET IN DOLPHIN AT 10.0 FT MLLW APPROX POSITION: 38° 04' 9" N, 122° 15' 4" W
 BASE STATION AT OHLN.
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 SURVEY VESSEL / EQUIPMENT:
 R/V RANDY CUMMINGS
 RESON TSS-R SINGLE-HEAD MULTIBEAM ECHOSOUNDER
 - POS MV 220 VERS HW2 5-12
 - IMU TYPE 42
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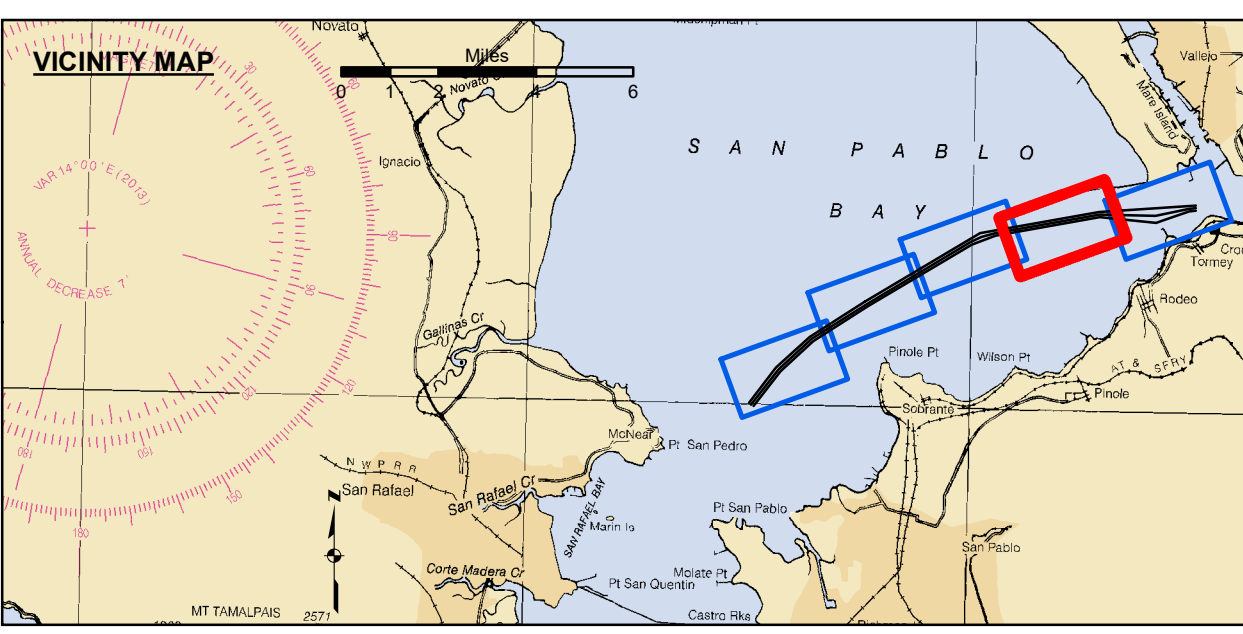
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Prepared Under the Direction of TIMOTHY W. SHEBESTA LT COLONEL, C.E., DISTRICT ENGINEER	Surveyed By:	Chart Date:
Submitted: Hydro Survey Team Leader	Plotted By: PDT	Jul 18, 2023
Recommended: Chief, Hydro Survey Section	Checked By: PDT	Designed by: PDT
Approved: Chief, Construction Branch	Drawn by: PDT	

CALIFORNIA
SAN PABLO BAY
PINOLE SHOAL
CONDITION SURVEY
31 MAY - 11 JULY 2023

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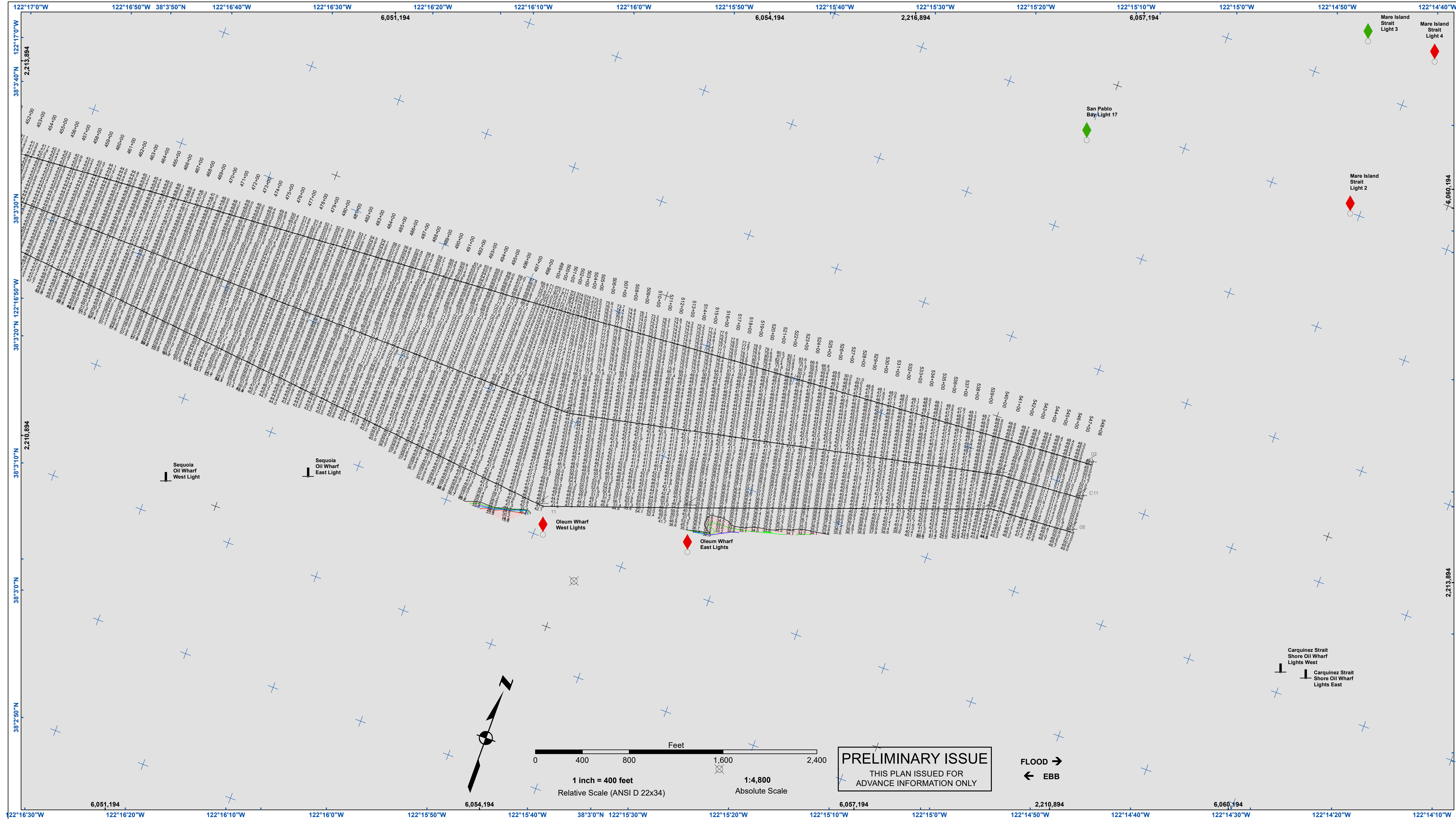
- | | | |
|----------------------------|--------------------|-----------------|
| Federal Navigation Channel | Beacon, General | Contours |
| Shoaling Area | Obstruction Point | -35 |
| Placement Area | Navigation Buoy | -34 |
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 OPUS 3192020
 5215 L 1975 | 5216 R 2006 |
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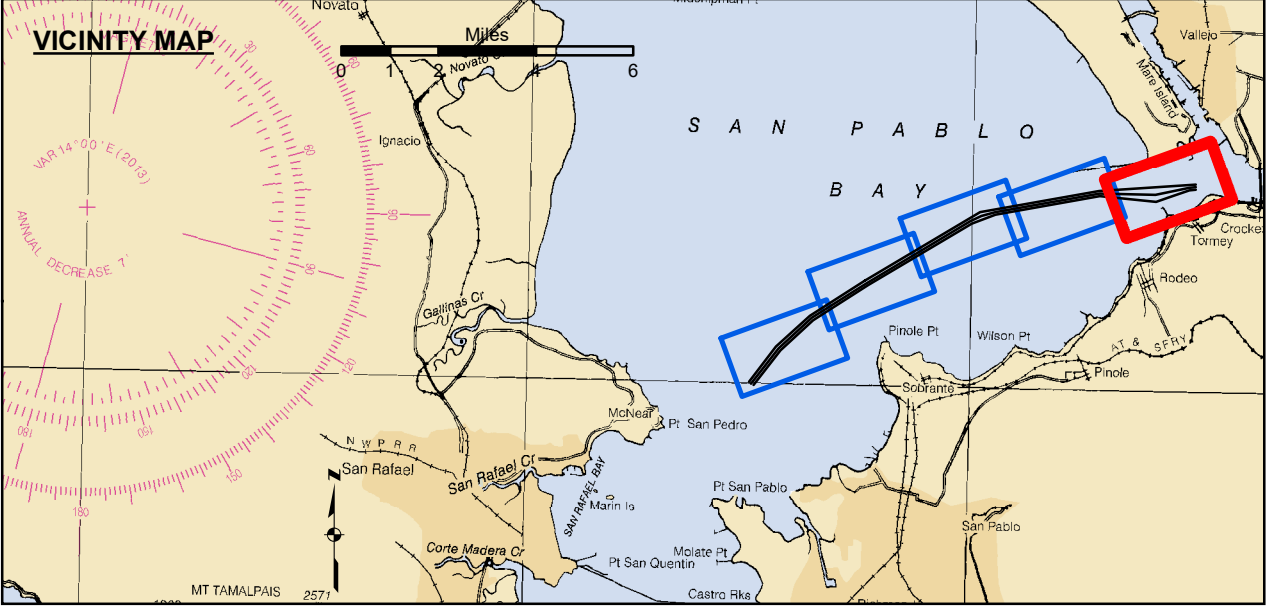
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Submitted by: Hydro Survey Team Leader	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Checked by: PDT
Approved by: Chief, Construction Branch	Drawn by: PDT

CALIFORNIA
SAN PABLO BAY
PINOLE SHOAL
CONDITION SURVEY
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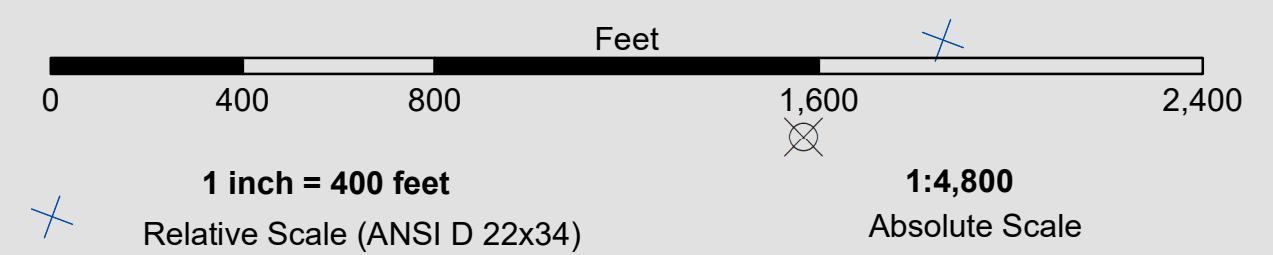
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