



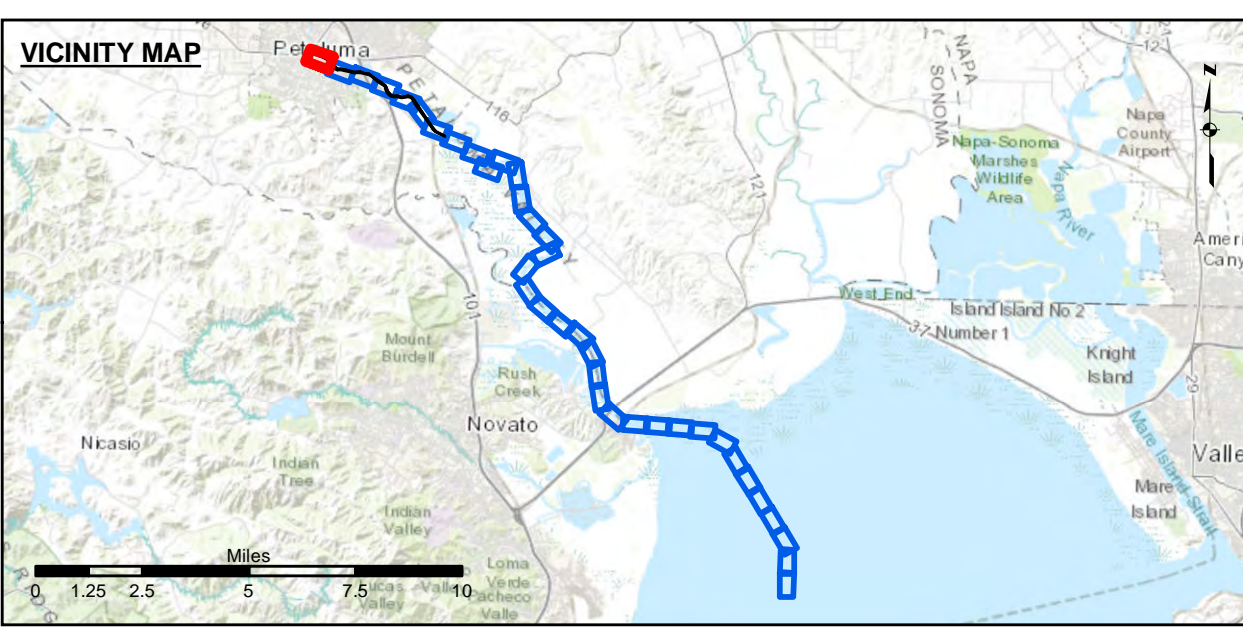
NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.92	2279474.25	54	5960056.42	2273467.85
9	5947755.42	2279454.65	55	5959833.42	2273663.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.55	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956629.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954911.42	2276524.15
23	5953497.92	2276853.65	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950681.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278386.85
38	5958729.42	2273887.85	84	5948597.72	2278689.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947589.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279022.85	2	5947599.22	2279022.85
3	5947610.52	2279060.85	3	5947610.52	2279060.85
4	5947810.72	2279218.85	4	5947810.72	2279218.85
5	5947882.22	2279178.85	5	5947882.22	2279178.85
6	5948117.42	2279038.85	6	5948117.42	2279038.85
7	5948234.62	2278963.85	7	5948234.62	2278963.85
8	5948326.62	2278932.85	8	5948326.62	2278932.85
9	5948676.42	2278736.85	9	5948676.42	2278736.85
10	5949021.42	2278583.85	10	5949021.42	2278583.85
11	5949446.12	2278436.85	11	5949446.12	2278436.85
12	5949815.42	2278296.85	12	5949815.42	2278296.85
13	5950185.42	2278166.85	13	5950185.42	2278166.85
14	5950541.42	2278046.85	14	5950541.42	2278046.85
15	5950893.92	2277936.85	15	5950893.92	2277936.85
16	5951241.42	2277836.85	16	5951241.42	2277836.85
17	5951584.92	2277746.85	17	5951584.92	2277746.85
18	5951924.92	2277666.85	18	5951924.92	2277666.85
19	5952260.92	2277596.85	19	5952260.92	2277596.85
20	5952593.92	2277536.85	20	5952593.92	2277536.85
21	5952923.92	2277486.85	21	5952923.92	2277486.85
22	5953250.92	2277446.85	22	5953250.92	2277446.85
23	5953574.92	2277416.85	23	5953574.92	2277416.85
24	5953895.92	2277396.85	24	5953895.92	2277396.85
25	5954214.92	2277386.85	25	5954214.92	2277386.85
26	5954531.92	2277386.85	26	5954531.92	2277386.85
27	5954846.92	2277396.85	27	5954846.92	2277396.85
28	5955159.92	2277416.85	28	5955159.92	2277416.85
29	5955470.92	2277446.85	29	5955470.92	2277446.85
30	5955779.92	2277486.85	30	5955779.92	2277486.85
31	5956087.92	2277536.85	31	5956087.92	2277536.85
32	5956394.92	2277596.85	32	5956394.92	2277596.85
33	5956700.92	2277666.85	33	5956700.92	2277666.85
34	5957005.92	2277746.85	34	5957005.92	2277746.85
35	5957309.92	2277836.85	35	5957309.92	2277836.85
36	5957612.92	2277936.85	36	5957612.92	2277936.85
37	5957914.92	2278046.85	37	5957914.92	2278046.85
38	5958215.92	2278166.85	38	5958215.92	2278166.85
39	5958516.92	2278296.85	39	5958516.92	2278296.85
40	5958816.92	2278436.85	40	5958816.92	2278436.85
41	5959116.92	2278583.85	41	5959116.92	2278583.85
42	5959415.92	2278736.85	42	5959415.92	2278736.85
43	5959714.92	2278896.85	43	5959714.92	2278896.85
44	5960012.92	2279066.85	44	5960012.92	2279066.85
45	5960309.92	2279246.85	45	5960309.92	2279246.85
46	5960606.92	2279436.85	46	5960606.92	2279436.85
47	5960902.92	2279636.85	47	5960902.92	2279636.85
48	5961197.92	2279846.85	48	5961197.92	2279846.85
49	5961492.92	2279966.85	49	5961492.92	2279966.85
50	5961787.92	2280096.85	50	5961787.92	2280096.85
51	5962082.92	2280236.85	51	5962082.92	2280236.85

PRELIMINARY ISSUE
THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY



**Access to North of the bridge was restricted at the time of the survey, no data collected between Station 0+00 to 12+00'



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	-8
Anchorage Area	Navigation Buoy	-7
Wreck Area	Shoalest Sounding*	-6
Submerged Wreck		-5
Angle Point		-4

NOTES:
DRAWING NOT TO BE USED FOR NAVIGATION, ONLY CHANNEL CONDITION AT DATE OF SURVEY.
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SURVEYED BY THE CORPS OF ENGINEERS.
SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.
SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93
PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.
ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

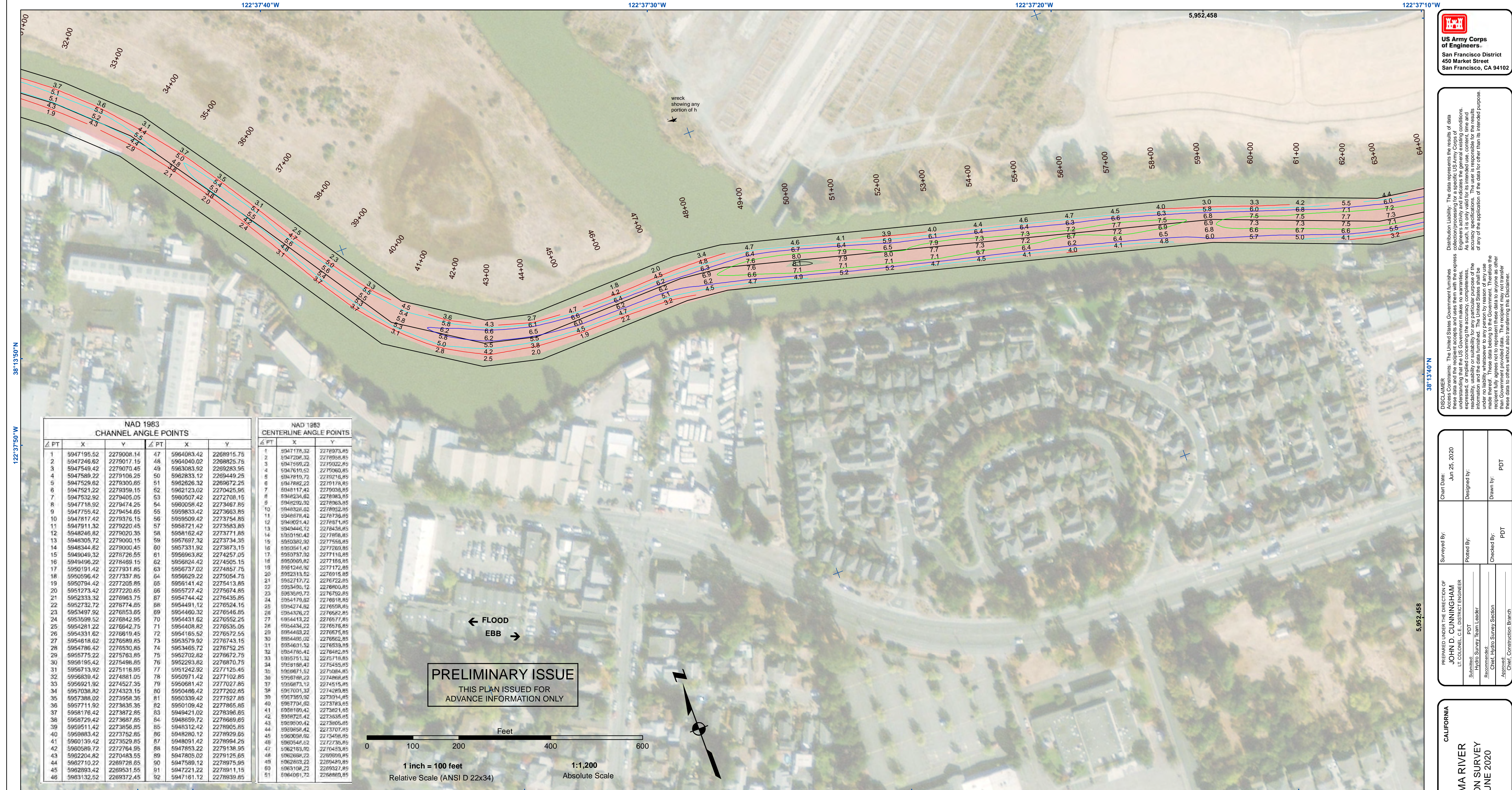
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Chart Date:	Jul 07, 2020
Designed by:	
Drawn by:	PDT
Surveyed by:	
Plotted by:	
Checked by:	PDT

SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

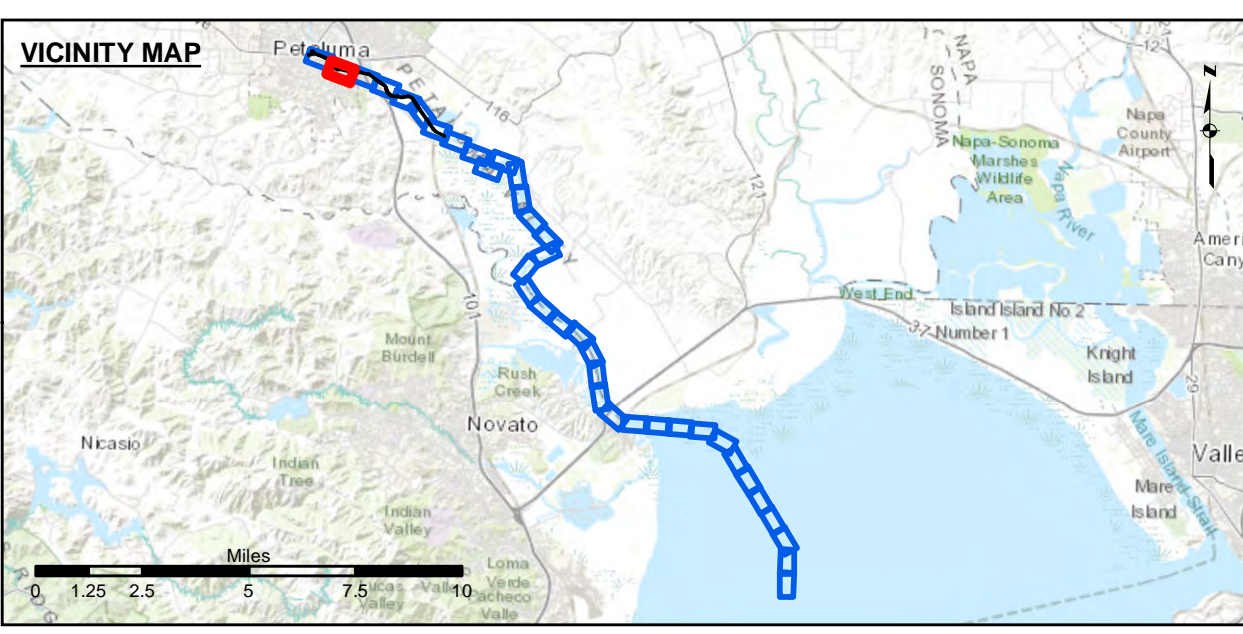
Sheet Reference Number
1 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.92	2279474.25	54	5960058.42	2273467.85
9	5947755.42	2279454.85	55	5959833.42	2273663.85
10	5947817.42	2279375.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.55	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276590.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277257.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278386.85
38	5958729.42	2273887.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279322.85	3	5947599.22	2279322.85
4	5947610.52	2279060.85	4	5947610.52	2279060.85
5	5947810.72	2279216.85	5	5947810.72	2279216.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278983.85	8	5948234.62	2278983.85
9	5948293.92	2278963.85	9	5948293.92	2278963.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278571.85	12	5949021.42	2278571.85
13	5949446.12	2278436.85	13	5949446.12	2278436.85
14	5949180.42	2277986.85	14	5949180.42	2277986.85
15	5950382.92	2277556.85	15	5950382.92	2277556.85
16	5950541.42	2277269.85	16	5950541.42	2277269.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950969.62	2277155.85	18	5950969.62	2277155.85
19	5951246.92	2277172.85	19	5951246.92	2277172.85
20	5952313.52	2276915.85	20	5952313.52	2276915.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954179.32	2276918.85	24	5954179.32	2276918.85
25	5954274.82	2276508.85	25	5954274.82	2276508.85
26	5954326.22	2276582.85	26	5954326.22	2276582.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276576.85	28	5954434.22	2276576.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276539.85	31	5954601.52	2276539.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2275718.85	33	5955751.32	2275718.85
34	5955986.42	2275455.85	34	5955986.42	2275455.85
35	5956971.52	2275084.85	35	5956971.52	2275084.85
36	5957888.22	2274868.85	36	5957888.22	2274868.85
37	5958873.12	2274515.85	37	5958873.12	2274515.85
38	5957001.32	2274289.85	38	5957001.32	2274289.85
39	5957359.02	2273914.85	39	5957359.02	2273914.85
40	5957704.92	2273763.85	40	5957704.92	2273763.85
41	5958189.42	2273621.85	41	5958189.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959006.42	2273805.85	43	5959006.42	2273805.85
44	5959058.42	2273707.85	44	5959058.42	2273707.85
45	5959058.02	2273408.85	45	5959058.02	2273408.85
46	5959544.62	2272735.85	46	5959544.62	2272735.85
47	5962153.02	2270453.85	47	5962153.02	2270453.85
48	5962688.22	2269909.85	48	5962688.22	2269909.85
49	5962803.22	2269449.85	49	5962803.22	2269449.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268889.85	51	5964091.72	2268889.85

PRELIMINARY ISSUE
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Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	
Anchorage Area	Navigation Buoy	
Wreck Area	Shoalest Sounding*	
Submerged Wreck		-8
Angle Point		-7
		-6
		-5
		-4

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SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.
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NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
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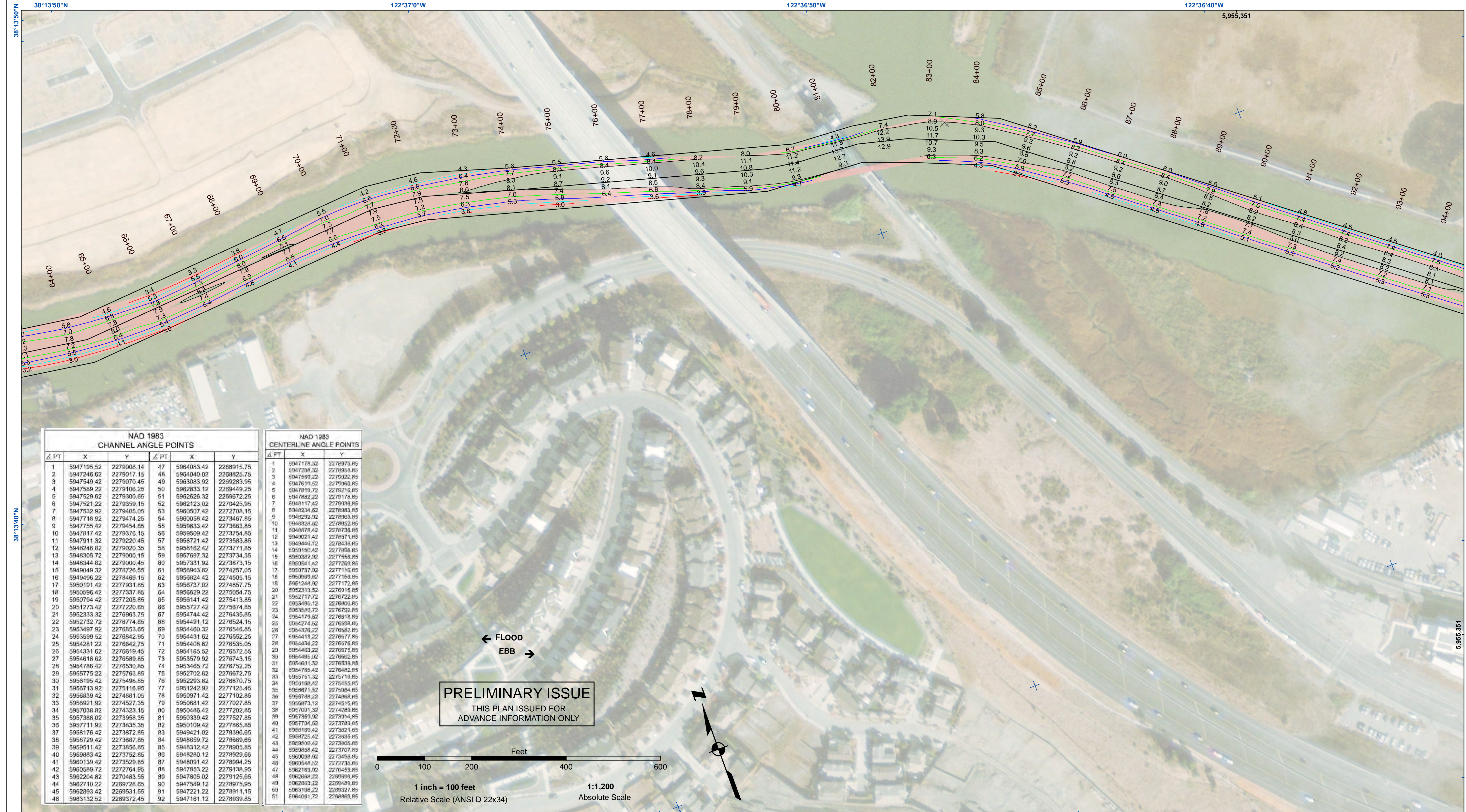
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Prepared Under the Direction of JOHN D. CUNNINGHAM LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Jun 25, 2020
Submitted: Hydro Survey Team Leader	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Drawn by: PDT
Approved: Chief, Construction Branch	Checked by: PDT

SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
2 of 37

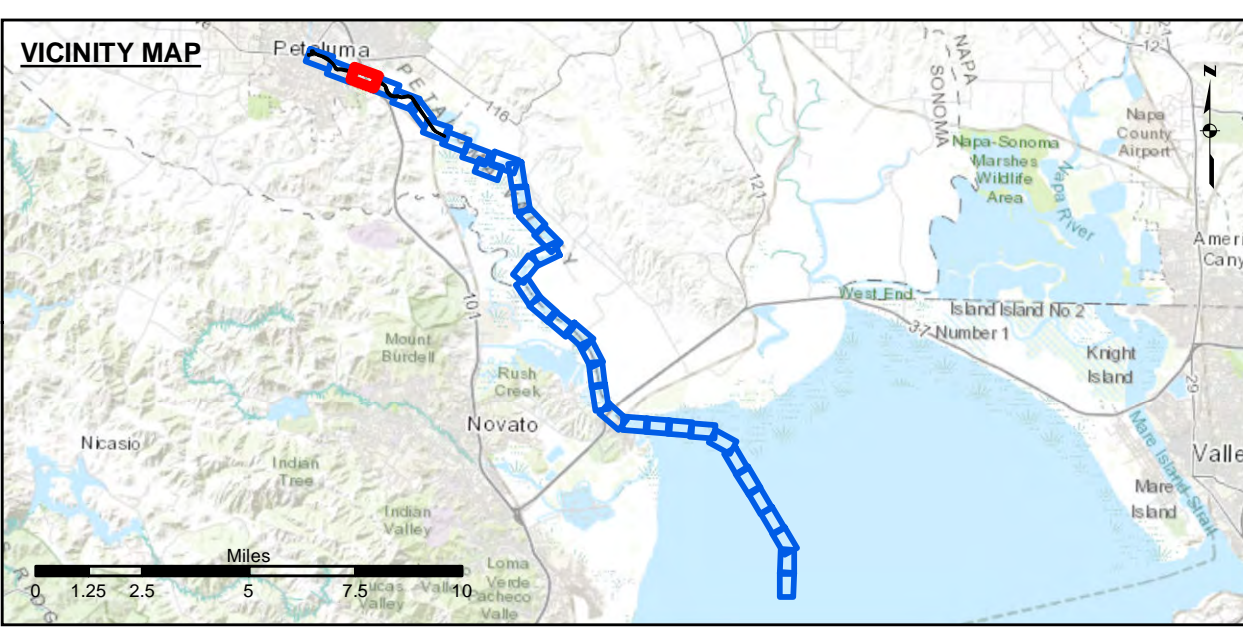


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2	5947246.62	2279017.15	48	5954040.02	2268825.75
3	5947549.42	2279070.45	49	5953083.92	2269283.95
4	5947589.22	2279106.25	50	5952833.12	2269449.25
5	5947529.62	2279300.85	51	5952626.32	2269672.25
6	5947521.22	2279359.15	52	5952123.02	2270425.95
7	5947532.92	2279405.05	53	5950507.42	2272708.15
8	5947716.92	2279474.25	54	5950058.42	2273467.85
9	5947755.42	2279454.85	55	5950833.42	2273663.85
10	5947817.42	2279375.15	56	5950509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.55	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.75
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.85	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.42	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276872.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278386.85
38	5958729.42	2273887.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947589.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS		
Δ PT	X	Y
1	5947178.32	2278973.85
2	5947204.32	2278958.85
3	5947595.22	2279322.85
4	5947610.52	2279060.85
5	5947810.72	2279218.85
6	5947882.22	2279178.85
7	5948117.42	2279038.85
8	5948234.62	2278963.85
9	5948293.92	2278963.85
10	5948326.62	2278932.85
11	5948676.42	2278736.85
12	5949021.42	2278571.85
13	5949446.12	2278436.85
14	5949180.42	2277996.85
15	5950382.92	2277556.85
16	5950541.42	2277260.85
17	5950737.02	2277116.85
18	5950969.62	2277155.85
19	5951246.92	2277172.85
20	5952313.52	2276916.85
21	5952717.72	2276722.85
22	5953495.12	2276800.85
23	5953957.72	2276752.85
24	5954179.82	2276918.85
25	5954274.82	2276508.85
26	5954326.22	2276582.85
27	5954413.22	2276577.85
28	5954434.22	2276576.85
29	5954483.22	2276975.85
30	5954485.02	2276562.85
31	5954601.52	2276539.85
32	5954785.42	2276482.85
33	5955751.32	2275718.85
34	5955958.42	2275455.85
35	5956871.52	2275084.85
36	5956882.22	2274968.85
37	5956873.12	2274515.85
38	5957001.32	2274289.85
39	5957359.02	2273914.85
40	5957704.02	2273763.85
41	5958189.42	2273621.85
42	5958725.42	2273635.85
43	5959006.42	2273805.85
44	5959058.42	2273707.85
45	5959058.02	2273408.85
46	5959544.62	2272735.85
47	5962193.02	2270453.85
48	5962668.22	2269999.85
49	5962893.22	2269449.85
50	5963106.22	2269327.85
51	5964091.72	2268889.85

← FLOOD
EBB →

PRELIMINARY ISSUE
THIS PLAN ISSUED FOR
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Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	-8
Anchorage Area	Navigation Buoy	-7
Wreck Area	Shoalest Sounding*	-6
Submerged Wreck		-5
Angle Point		-4

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.
SURVEYED BY THE CORPS OF ENGINEERS.
SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.
SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.
ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

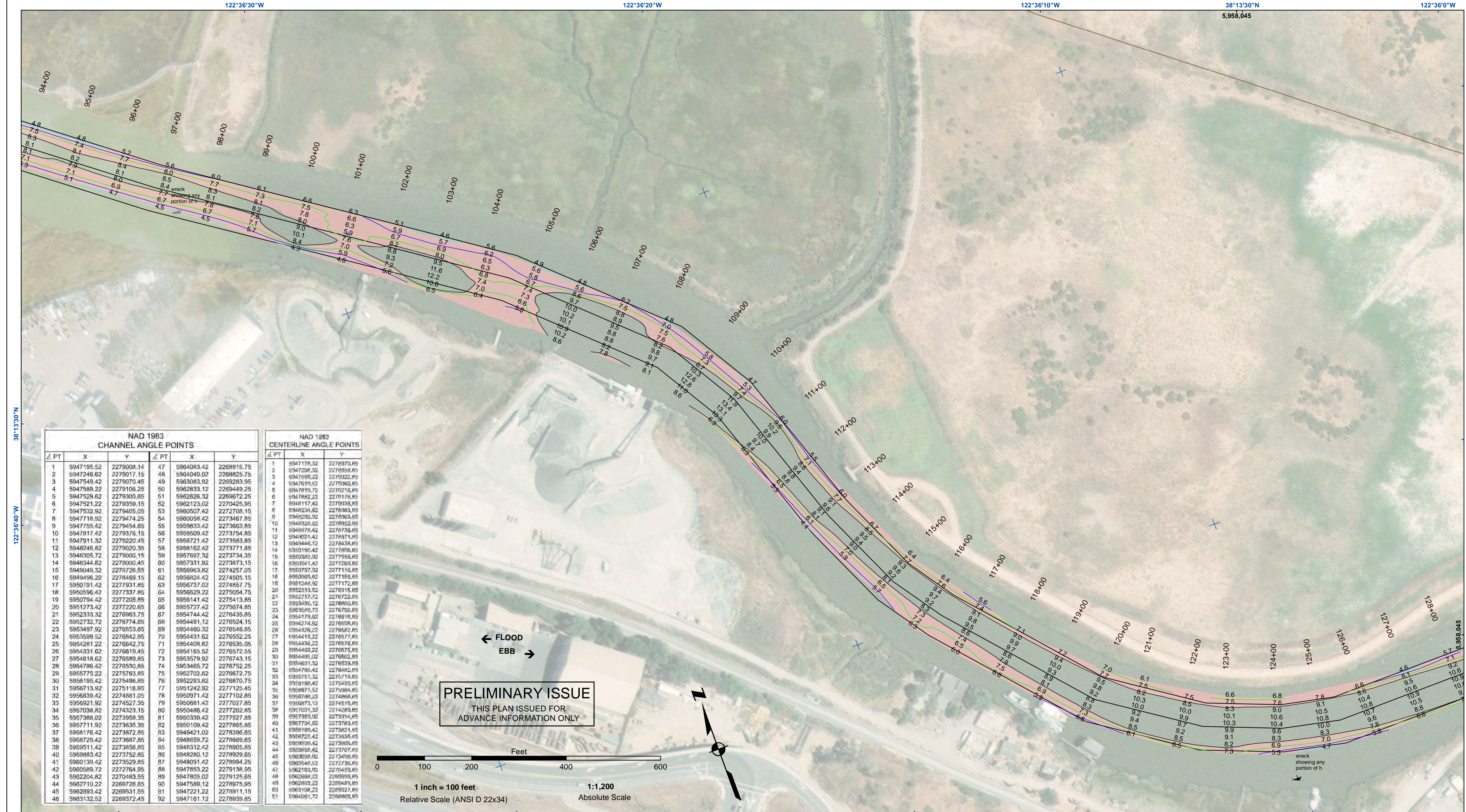
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Checked by:	PDT
Approved by:	PDT

SONOMA COUNTY
CALIFORNIA
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
3 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2268283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.92	2279474.25	54	5960058.42	2273467.85
9	5947755.42	2279454.85	55	5959833.42	2273663.85
10	5947817.42	2279375.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.55	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277357.85	64	5956623.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.85	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954911.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273987.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947589.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279322.85	2	5947599.22	2279322.85
3	5947610.62	2279060.85	3	5947610.62	2279060.85
4	5947810.72	2279218.85	4	5947810.72	2279218.85
5	5947882.22	2279178.85	5	5947882.22	2279178.85
6	5948117.42	2279038.85	6	5948117.42	2279038.85
7	5948234.62	2278963.85	7	5948234.62	2278963.85
8	5948326.82	2278932.85	8	5948326.82	2278932.85
9	5948676.42	2278736.85	9	5948676.42	2278736.85
10	5949021.42	2278571.85	10	5949021.42	2278571.85
11	5949446.12	2278436.85	11	5949446.12	2278436.85
12	5949584.42	2278363.85	12	5949584.42	2278363.85
13	5949828.82	2278266.85	13	5949828.82	2278266.85
14	5950158.42	2278186.85	14	5950158.42	2278186.85
15	5950382.92	2278155.85	15	5950382.92	2278155.85
16	5950541.42	2278168.85	16	5950541.42	2278168.85
17	5950737.02	2278116.85	17	5950737.02	2278116.85
18	5950969.82	2278055.85	18	5950969.82	2278055.85
19	5951246.92	2278016.85	19	5951246.92	2278016.85
20	5952313.52	2278016.85	20	5952313.52	2278016.85
21	5952717.72	2278022.85	21	5952717.72	2278022.85
22	5953495.12	2278000.85	22	5953495.12	2278000.85
23	5953695.72	2278052.85	23	5953695.72	2278052.85
24	5954179.82	2278018.85	24	5954179.82	2278018.85
25	5954274.82	2278050.85	25	5954274.82	2278050.85
26	5954326.22	2278052.85	26	5954326.22	2278052.85
27	5954413.22	2278057.85	27	5954413.22	2278057.85
28	5954434.22	2278057.85	28	5954434.22	2278057.85
29	5954483.22	2278057.85	29	5954483.22	2278057.85
30	5954485.02	2278052.85	30	5954485.02	2278052.85
31	5954601.52	2278053.85	31	5954601.52	2278053.85
32	5954765.42	2278042.85	32	5954765.42	2278042.85
33	5955751.32	2278057.85	33	5955751.32	2278057.85
34	5955986.42	2278055.85	34	5955986.42	2278055.85
35	5956871.52	2278064.85	35	5956871.52	2278064.85
36	5956888.22	2278068.85	36	5956888.22	2278068.85
37	5956873.12	2278051.85	37	5956873.12	2278051.85
38	5957001.32	2278029.85	38	5957001.32	2278029.85
39	5957359.02	2278014.85	39	5957359.02	2278014.85
40	5957704.82	2278035.85	40	5957704.82	2278035.85
41	5958169.42	2278051.85	41	5958169.42	2278051.85
42	5958725.42	2278035.85	42	5958725.42	2278035.85
43	5959006.42	2278005.85	43	5959006.42	2278005.85
44	5959358.42	2278070.85	44	5959358.42	2278070.85
45	5959698.02	2278068.85	45	5959698.02	2278068.85
46	5960268.22	2278099.85	46	5960268.22	2278099.85
47	5962163.02	2278043.85	47	5962163.02	2278043.85
48	5962688.22	2278099.85	48	5962688.22	2278099.85
49	5962883.22	2278049.85	49	5962883.22	2278049.85
50	5963106.22	2278027.85	50	5963106.22	2278027.85
51	5964091.72	2278089.85	51	5964091.72	2278089.85

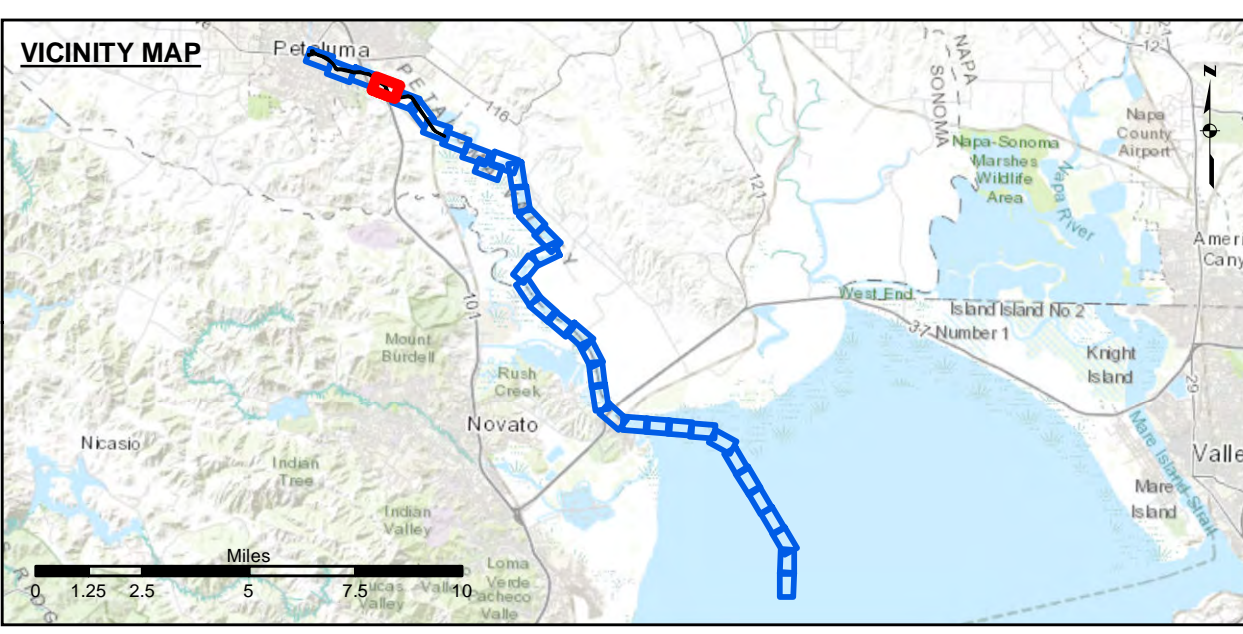
← FLOOD
EBB →

PRELIMINARY ISSUE
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0 100 200 400 600
Feet

1 inch = 100 feet
Relative Scale (ANSI D 22x34)

1:1,200
Absolute Scale



- 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**
- 8
- 7
- 6
- 5
- 4

NOTES:

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SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SERVICE.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004



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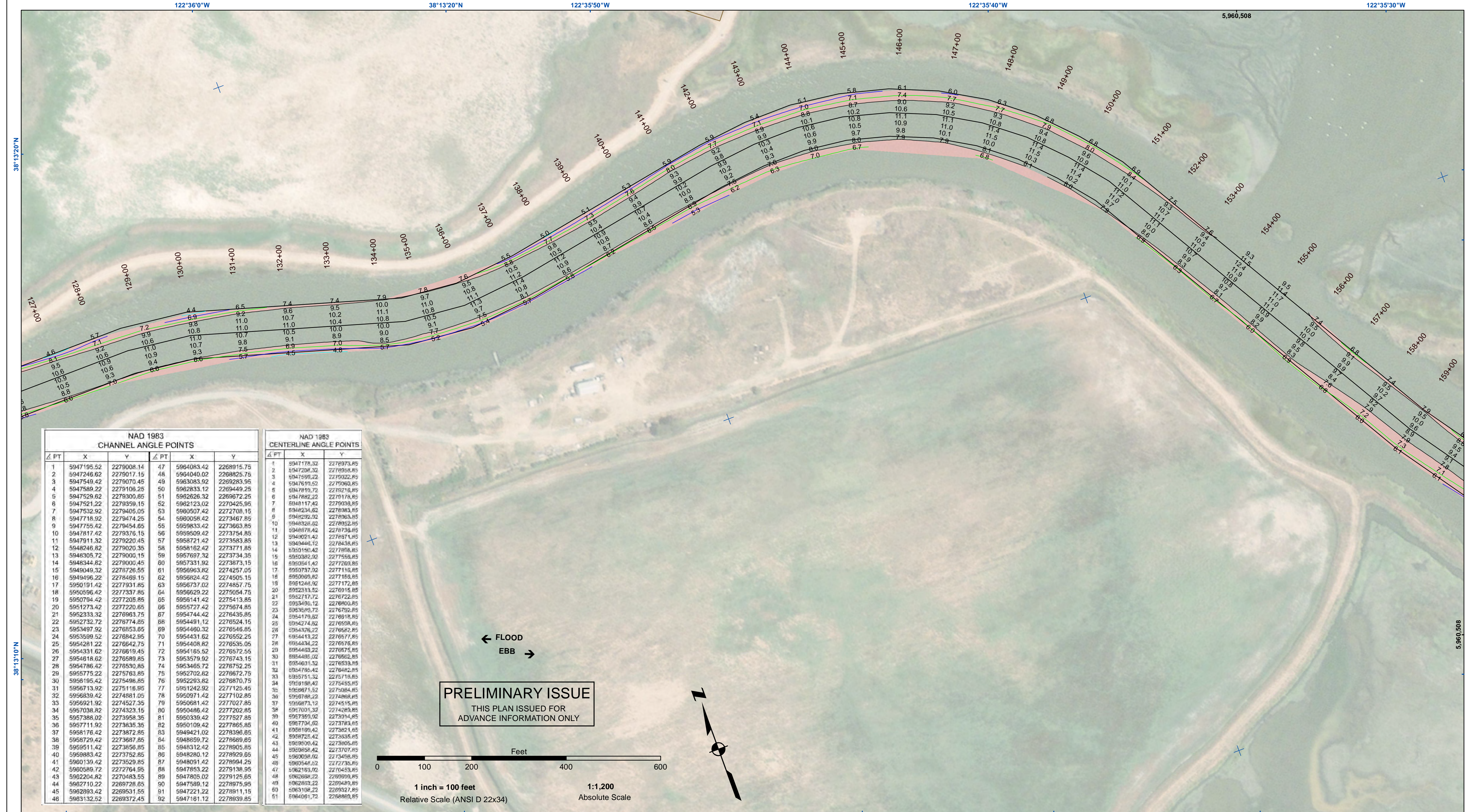
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Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Checked by:	PDT
Surveyed By:	JOHN D. CUNNINGHAM
Plotted By:	PDT
Hydro Survey Team Leader:	
Chief, Hydro Survey Section:	
Chief, Construction Branch:	

CALIFORNIA

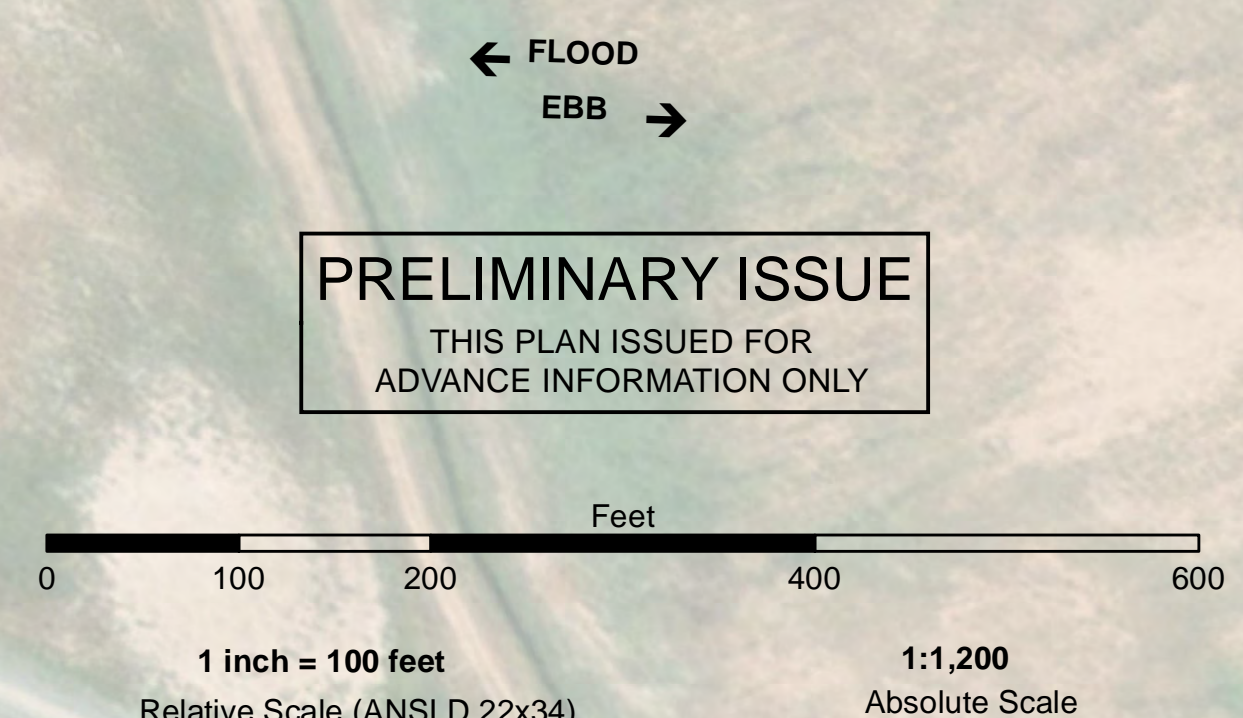
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

SHEET
Reference
Number
4 of 37

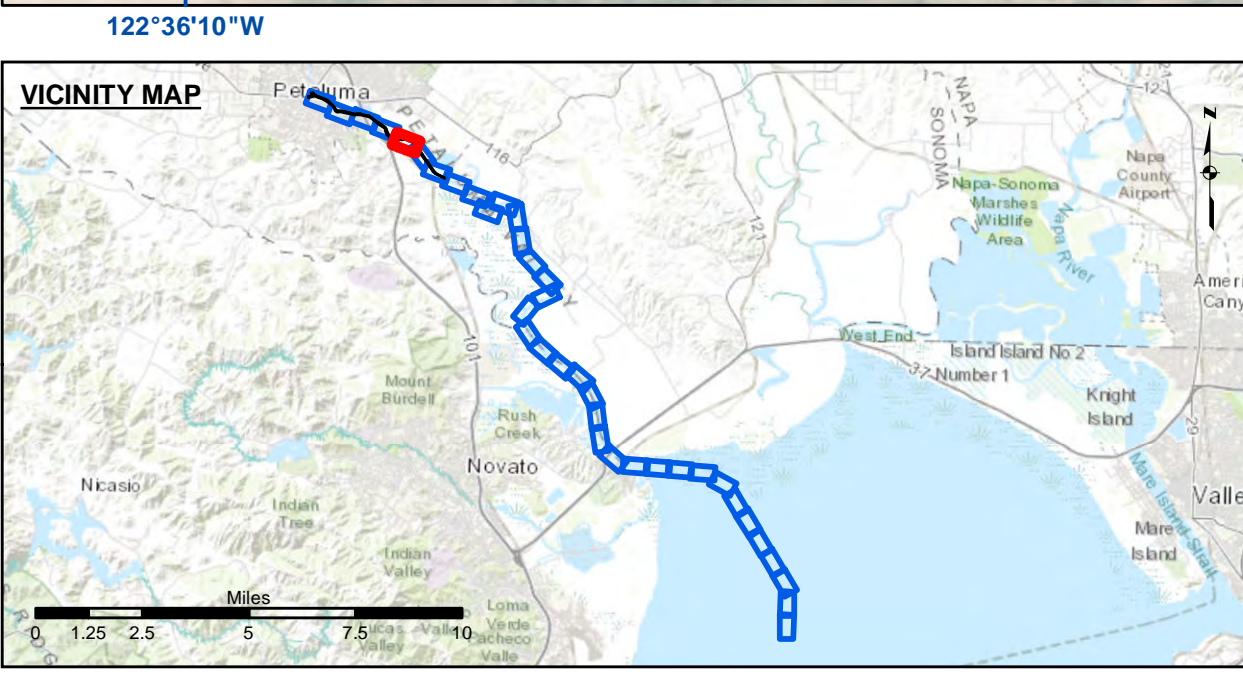


NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5940083.42	2268915.75
2	5947246.62	2279017.15	48	5940404.02	2268825.75
3	5947549.42	2279070.45	49	5943083.92	2269283.95
4	5947589.22	2279106.25	50	5942833.12	2269449.25
5	5947529.62	2279300.85	51	5942626.32	2269672.25
6	5947521.22	2279359.15	52	5942123.02	2270425.95
7	5947532.92	2279405.05	53	5940507.42	2272708.15
8	5947716.92	2279474.25	54	5940056.42	2273467.85
9	5947755.42	2279454.85	55	5939833.42	2273663.85
10	5947817.42	2279376.15	56	5939509.42	2273754.85
11	5947911.32	2279220.45	57	5938721.42	2273583.85
12	5948246.82	2279020.35	58	5938162.42	2273771.85
13	5948305.72	2279000.15	59	5937697.32	2273734.35
14	5948344.82	2279000.45	60	5937331.92	2273873.15
15	5949049.32	2278726.65	61	5936963.82	2274257.05
16	5949496.22	2278469.15	62	5936824.42	2274505.15
17	5950191.42	2277931.85	63	5936737.02	2274857.75
18	5950596.42	2277337.85	64	5936623.22	2275054.75
19	5950794.42	2277205.85	65	5936141.42	2275413.85
20	5951273.42	2277220.65	66	5935727.42	2275674.85
21	5952333.32	2276963.75	67	5934744.42	2276435.85
22	5952732.72	2276774.85	68	5934491.12	2276524.15
23	5953497.92	2276853.85	69	5934460.32	2276546.85
24	5953599.52	2276842.95	70	5934431.62	2276552.25
25	5954281.22	2276642.75	71	5934408.82	2276535.05
26	5954331.62	2276619.45	72	5934165.52	2276725.55
27	5954818.62	2276589.85	73	5933579.92	2276743.15
28	5954786.42	2276530.85	74	5933465.72	2276752.25
29	5955775.22	2275763.85	75	5932702.82	2276672.75
30	5956195.42	2275498.85	76	5932293.82	2276870.75
31	5956713.92	2275116.85	77	5931242.92	2277125.45
32	5956839.42	2274881.05	78	5930971.42	2277102.85
33	5956921.92	2274527.35	79	5930681.42	2277257.85
34	5957038.82	2274323.15	80	5930486.42	2277202.85
35	5957388.02	2273958.35	81	5930339.42	2277527.85
36	5957711.92	2273835.35	82	5930109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278386.85
38	5958729.42	2273987.85	84	5948597.72	2278689.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279322.85	3	5947599.22	2279322.85
4	5947610.62	2279060.85	4	5947610.62	2279060.85
5	5947810.72	2279218.85	5	5947810.72	2279218.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278963.85	8	5948234.62	2278963.85
9	5948292.92	2278963.85	9	5948292.92	2278963.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278571.85	12	5949021.42	2278571.85
13	5949446.12	2278436.85	13	5949446.12	2278436.85
14	5949180.42	2277996.85	14	5949180.42	2277996.85
15	5949382.92	2277556.85	15	5949382.92	2277556.85
16	5949541.42	2277260.85	16	5949541.42	2277260.85
17	5949737.02	2277116.85	17	5949737.02	2277116.85
18	5949969.82	2277155.85	18	5949969.82	2277155.85
19	5951246.92	2277172.85	19	5951246.92	2277172.85
20	5952313.52	2276915.85	20	5952313.52	2276915.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954179.92	2276918.85	24	5954179.92	2276918.85
25	5954274.82	2276508.85	25	5954274.82	2276508.85
26	5954326.22	2276528.85	26	5954326.22	2276528.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276578.85	28	5954434.22	2276578.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276539.85	31	5954601.52	2276539.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2276718.85	33	5955751.32	2276718.85
34	5955936.42	2276455.85	34	5955936.42	2276455.85
35	5956971.52	2276084.85	35	5956971.52	2276084.85
36	5957882.22	2274868.85	36	5957882.22	2274868.85
37	5958673.12	2274515.85	37	5958673.12	2274515.85
38	5957001.32	2274289.85	38	5957001.32	2274289.85
39	5957359.02	2273014.85	39	5957359.02	2273014.85
40	5957704.02	2273763.85	40	5957704.02	2273763.85
41	5958169.42	2273621.85	41	5958169.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959006.42	2273805.85	43	5959006.42	2273805.85
44	5959058.42	2273707.85	44	5959058.42	2273707.85
45	5959058.02	2273488.85	45	5959058.02	2273488.85
46	5960546.62	2272735.85	46	5960546.62	2272735.85
47	5962163.02	2270483.85	47	5962163.02	2270483.85
48	5962668.22	2269999.85	48	5962668.22	2269999.85
49	5962893.22	2269429.85	49	5962893.22	2269429.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268869.85	51	5964091.72	2268869.85



PRELIMINARY ISSUE
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ADVANCE INFORMATION ONLY



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	-8
Anchorage Area	Navigation Buoy	-7
Wreck Area	Shoalest Sounding*	-6
Submerged Wreck		-5
Angle Point		-4

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.
SURVEYED BY THE CORPS OF ENGINEERS.
SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.
SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93
PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.
ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 83 DATUM, PUBLICATION DATE: AUGUST 9, 2004

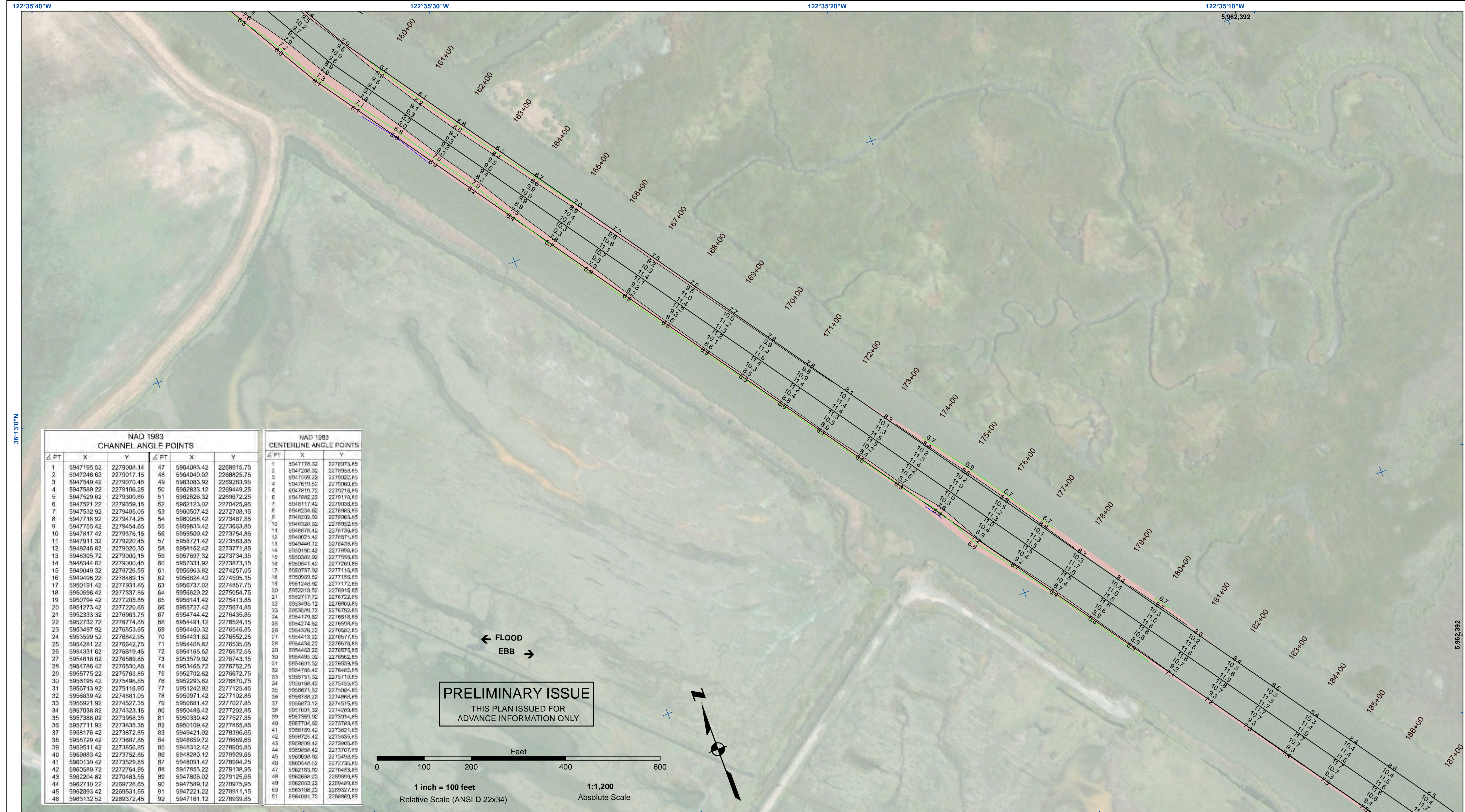
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Chart Date: Jun 25, 2020	Designed by: PDT	Drawn by: PDT
Surveyed by: JOHN D. CUNNINGHAM LT COLONEL, C.E., DISTRICT ENGINEER	Plotted by: PDT	Checked by: PDT
Submitted: Hydro Survey Team Leader	Recommended: Chief, Hydro Survey Section	Approved: Chief, Construction Branch

CALIFORNIA
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

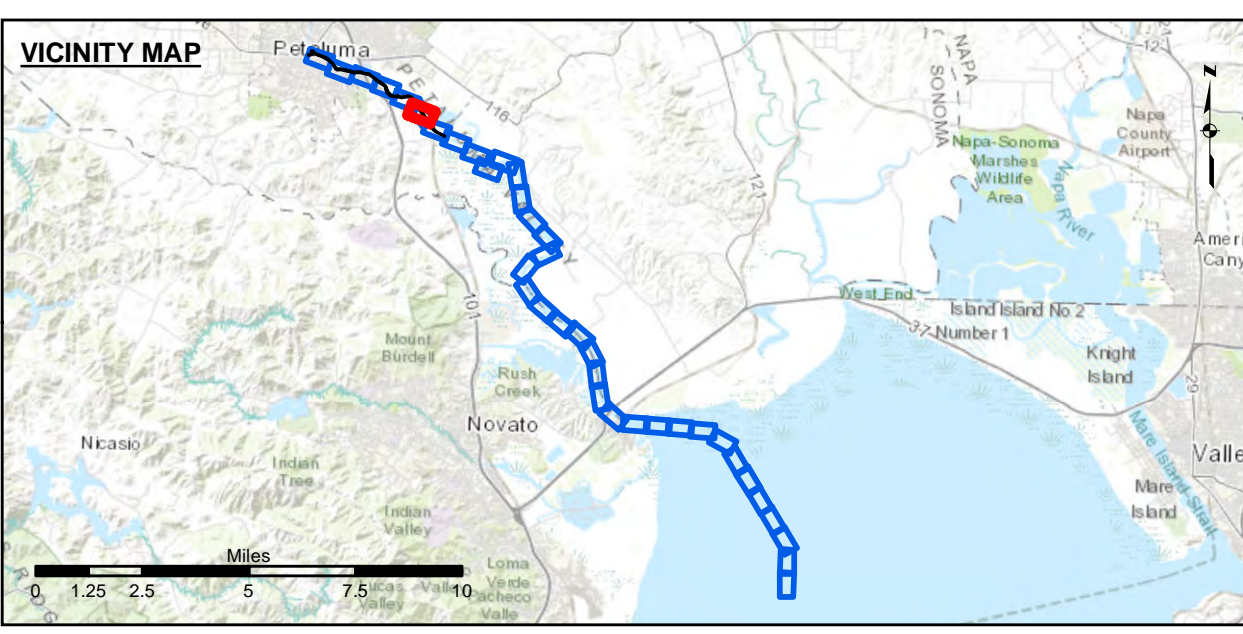
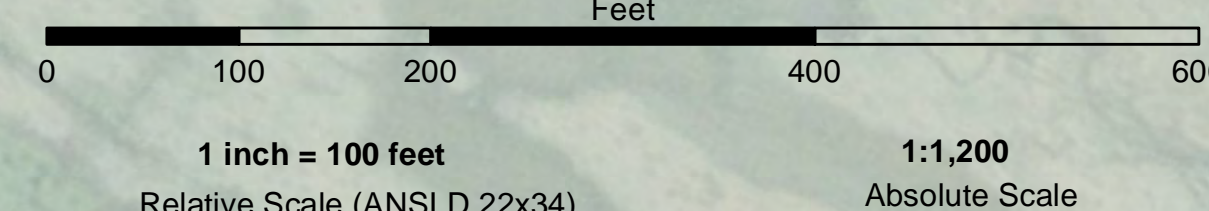
Sheet Reference Number
5 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.92	2279474.25	54	5960056.42	2273467.85
9	5947755.42	2279454.85	55	5959833.42	2273663.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.85	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954911.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950681.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948597.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947610.62	2279060.85	4	5947610.62	2279060.85
5	5947810.72	2279218.85	5	5947810.72	2279218.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278983.85	8	5948234.62	2278983.85
9	5948293.92	2278963.85	9	5948293.92	2278963.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278571.85	12	5949021.42	2278571.85
13	5949446.12	2278436.85	13	5949446.12	2278436.85
14	5949530.92	2278363.85	14	5949530.92	2278363.85
15	5950382.92	2277556.85	15	5950382.92	2277556.85
16	5950541.42	2277260.85	16	5950541.42	2277260.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950909.62	2277155.85	18	5950909.62	2277155.85
19	5951246.92	2277172.85	19	5951246.92	2277172.85
20	5952313.52	2276915.85	20	5952313.52	2276915.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954170.92	2276918.85	24	5954170.92	2276918.85
25	5954274.82	2276508.85	25	5954274.82	2276508.85
26	5954326.22	2276562.85	26	5954326.22	2276562.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276576.85	28	5954434.22	2276576.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276539.85	31	5954601.52	2276539.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2275718.85	33	5955751.32	2275718.85
34	5955986.42	2275455.85	34	5955986.42	2275455.85
35	5956971.52	2275084.85	35	5956971.52	2275084.85
36	5956988.22	2274968.85	36	5956988.22	2274968.85
37	5956873.12	2274515.85	37	5956873.12	2274515.85
38	5957001.32	2274289.85	38	5957001.32	2274289.85
39	5957350.02	2273914.85	39	5957350.02	2273914.85
40	5957704.02	2273763.85	40	5957704.02	2273763.85
41	5958189.42	2273621.85	41	5958189.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959006.42	2273805.85	43	5959006.42	2273805.85
44	5959098.42	2273707.85	44	5959098.42	2273707.85
45	5959098.02	2273488.85	45	5959098.02	2273488.85
46	5959544.62	2272735.85	46	5959544.62	2272735.85
47	5962193.02	2270453.85	47	5962193.02	2270453.85
48	5962668.22	2269909.85	48	5962668.22	2269909.85
49	5962803.22	2269449.85	49	5962803.22	2269449.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268869.85	51	5964091.72	2268869.85

PRELIMINARY ISSUE
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Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	-8
Anchorage Area	Navigation Buoy	-7
Wreck Area	Shoalest Sounding*	-6
Submerged Wreck		-5
Angle Point		-4

NOTES:
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SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415684, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83.
CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

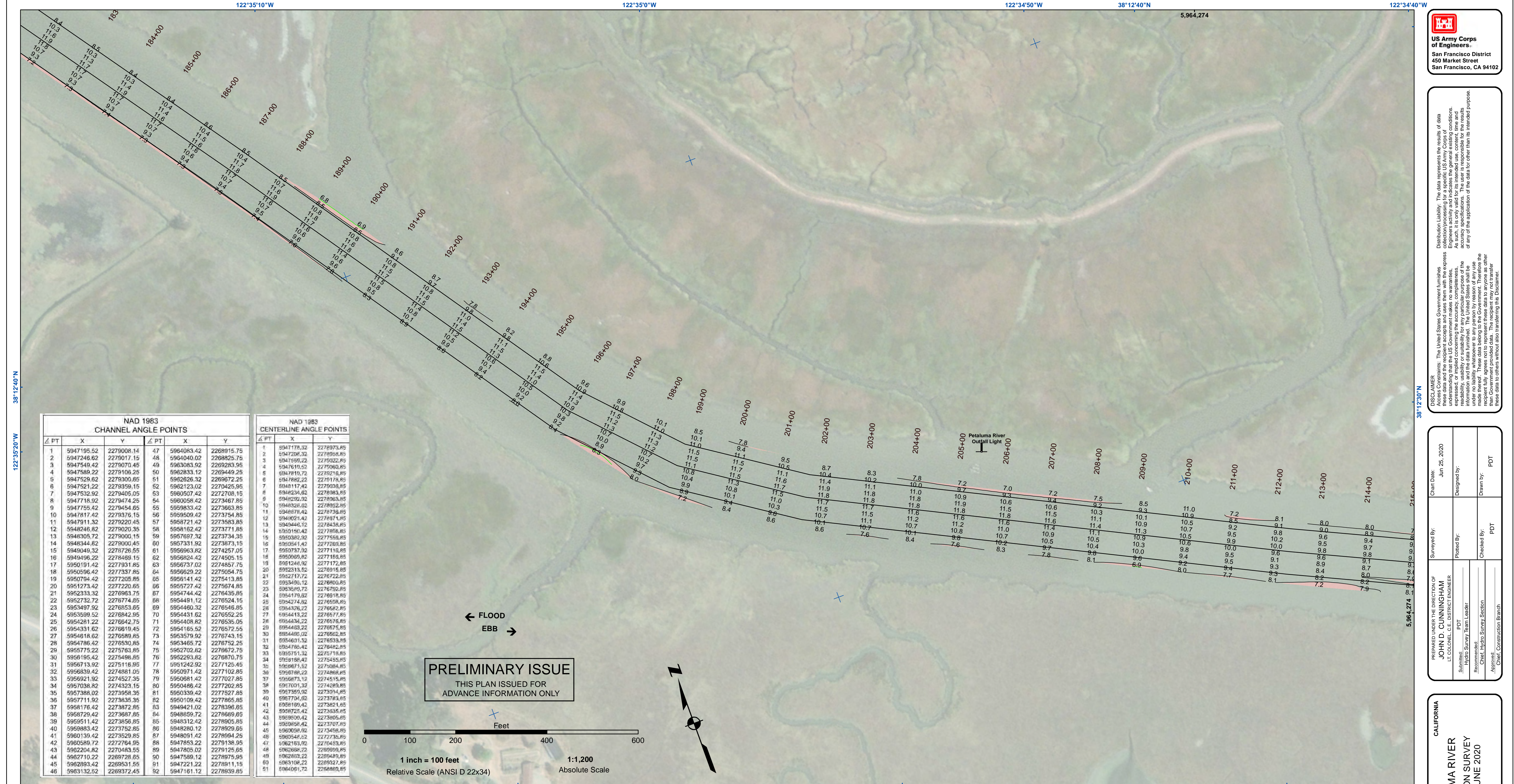
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	JOHN D. CUNNINGHAM
Plotted By:	PDT
Checked By:	PDT

SONOMA COUNTY
CALIFORNIA
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

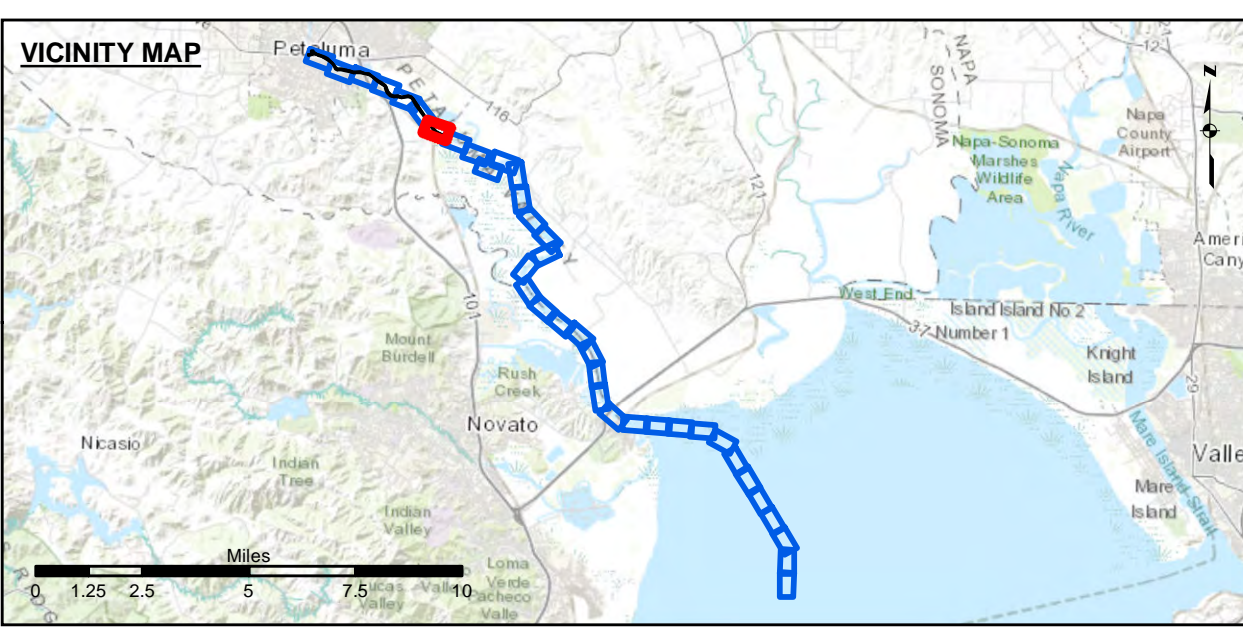
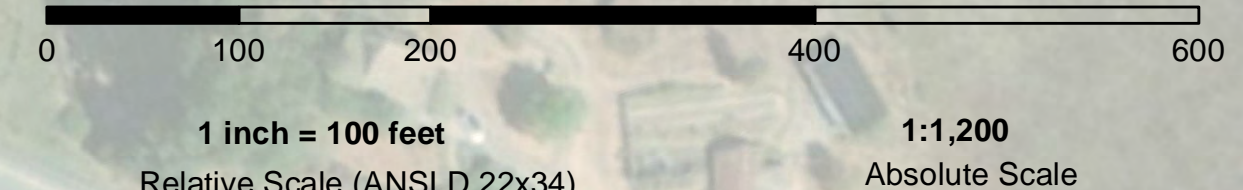
Sheet Reference Number
6 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5954063.42	2268915.75
2	5947246.62	2279017.15	48	5954040.02	2268825.75
3	5947549.42	2279070.45	49	5953083.92	2269283.95
4	5947589.22	2279106.25	50	5952833.12	2269449.25
5	5947529.62	2279300.85	51	5952626.32	2269672.25
6	5947521.22	2279359.15	52	5952123.02	2270425.95
7	5947532.92	2279405.05	53	5950507.42	2272708.15
8	5947716.92	2279474.25	54	5950058.42	2273467.85
9	5947755.42	2279454.85	55	5950833.42	2273663.85
10	5947817.42	2279376.15	56	5950509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277387.85	64	5956923.22	2275084.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947610.52	2279060.85	4	5947610.52	2279060.85
5	5947810.72	2279216.85	5	5947810.72	2279216.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278983.85	8	5948234.62	2278983.85
9	5948293.92	2278963.85	9	5948293.92	2278963.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278511.85	12	5949021.42	2278511.85
13	5949446.12	2278436.85	13	5949446.12	2278436.85
14	5949180.42	2277998.85	14	5949180.42	2277998.85
15	5950382.92	2277958.85	15	5950382.92	2277958.85
16	5950541.42	2277669.85	16	5950541.42	2277669.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950969.82	2276155.85	18	5950969.82	2276155.85
19	5951246.92	2275172.85	19	5951246.92	2275172.85
20	5952313.52	2276915.85	20	5952313.52	2276915.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954179.92	2276918.85	24	5954179.92	2276918.85
25	5954274.82	2276508.85	25	5954274.82	2276508.85
26	5954326.22	2276562.85	26	5954326.22	2276562.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276578.85	28	5954434.22	2276578.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276938.85	31	5954601.52	2276938.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2275718.85	33	5955751.32	2275718.85
34	5955919.42	2275455.85	34	5955919.42	2275455.85
35	5956971.52	2275084.85	35	5956971.52	2275084.85
36	5957882.22	2274868.85	36	5957882.22	2274868.85
37	5958873.12	2274515.85	37	5958873.12	2274515.85
38	5959700.32	2274289.85	38	5959700.32	2274289.85
39	5959735.02	2273914.85	39	5959735.02	2273914.85
40	5959704.92	2273763.85	40	5959704.92	2273763.85
41	5959819.42	2273621.85	41	5959819.42	2273621.85
42	5959725.42	2273535.85	42	5959725.42	2273535.85
43	5959806.42	2273805.85	43	5959806.42	2273805.85
44	5959958.42	2273707.85	44	5959958.42	2273707.85
45	5959958.02	2273498.85	45	5959958.02	2273498.85
46	5960544.62	2272735.85	46	5960544.62	2272735.85
47	5962193.02	2270433.85	47	5962193.02	2270433.85
48	5962688.22	2269999.85	48	5962688.22	2269999.85
49	5962863.22	2269429.85	49	5962863.22	2269429.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268889.85	51	5964091.72	2268889.85

PRELIMINARY ISSUE
THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY



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		-8
		-7
		-6
		-5
		-4

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.
SURVEYED BY THE CORPS OF ENGINEERS.
SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.
SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SERVICE.
PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.
ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

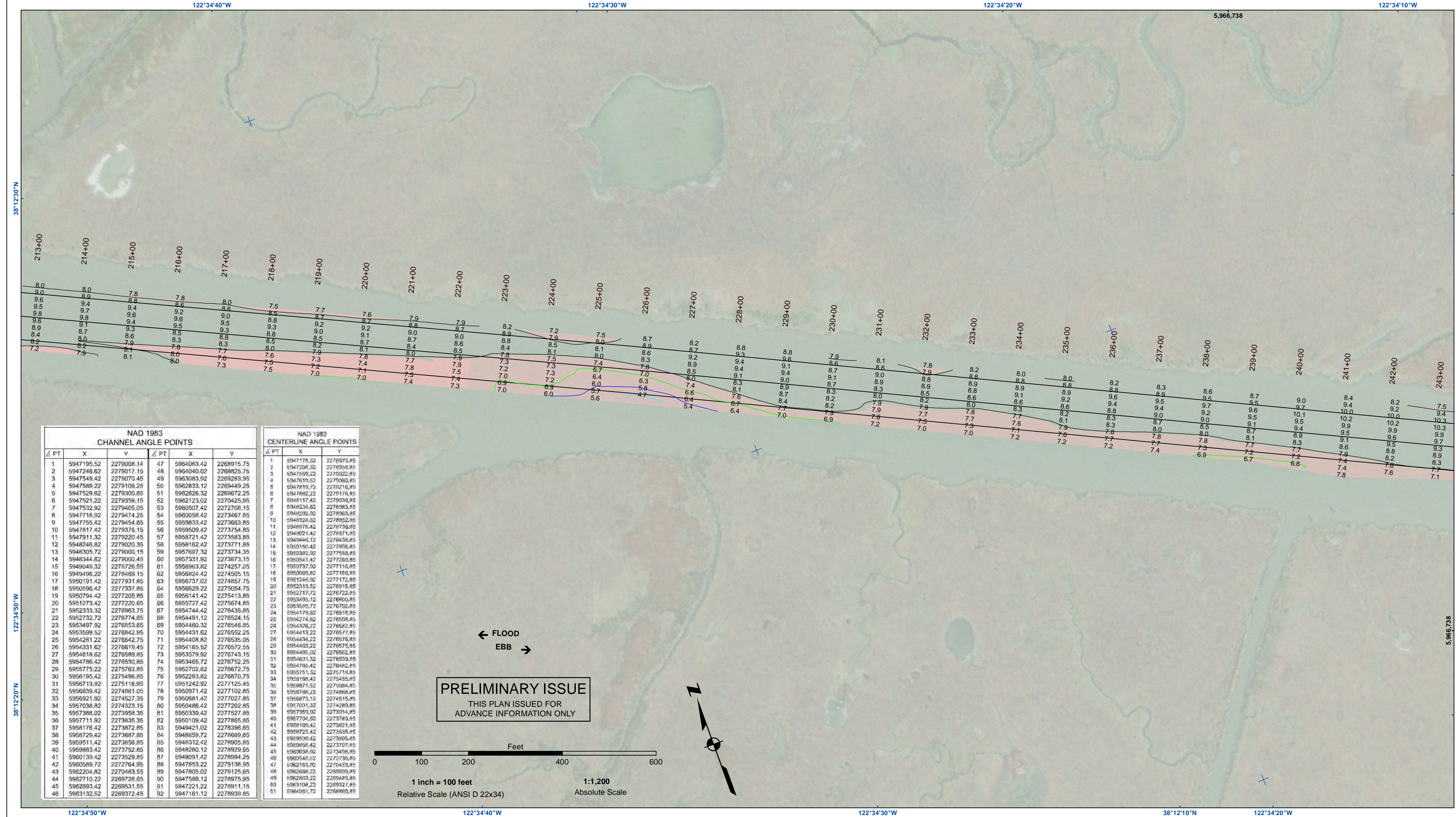
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Chart Date:	Jun 25, 2020
Designed by:	
Drawn by:	PDT
Surveyed By:	John D. Cunningham
Plotted By:	PDT
Checked By:	PDT

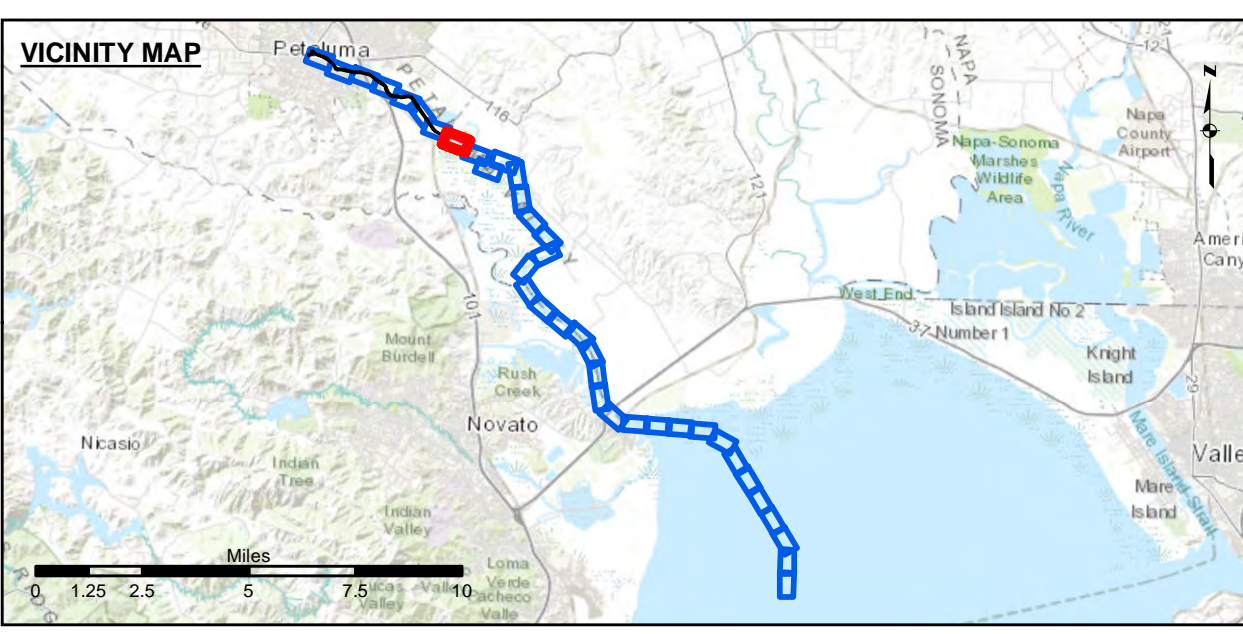
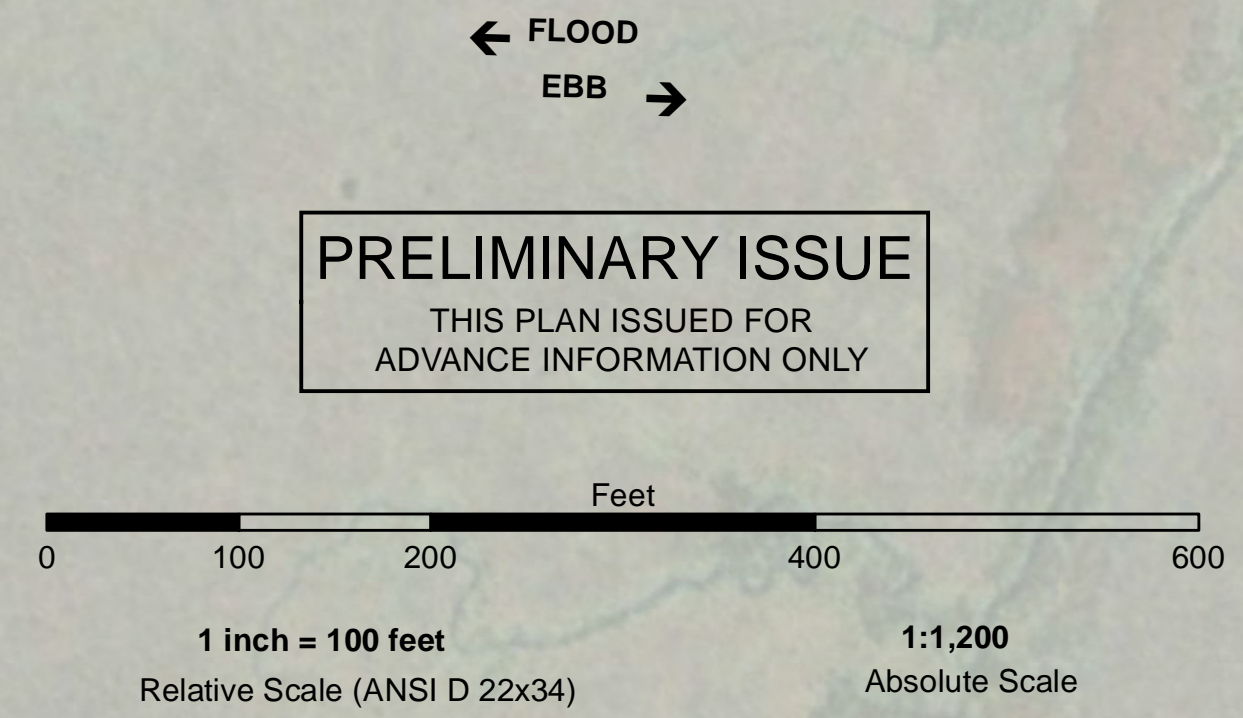
SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
7 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5954063.42	2268915.75
2	5947246.62	2279017.15	48	5954040.02	2268825.75
3	5947549.42	2279070.45	49	5953083.92	2269283.95
4	5947589.22	2279106.25	50	5952833.12	2269449.25
5	5947529.62	2279300.85	51	5952626.32	2269672.25
6	5947521.22	2279359.15	52	5952123.02	2270425.95
7	5947532.92	2279405.05	53	5950507.42	2272709.15
8	5947716.92	2279474.25	54	5950056.42	2273467.85
9	5947755.42	2279454.85	55	5950833.42	2273663.85
10	5947817.42	2279376.15	56	5950509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.55	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277387.85	64	5956923.22	2275084.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5955195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279322.85	2	5947610.62	2279060.85
3	5947810.72	2279218.85	3	5947810.72	2279218.85
4	5947882.22	2279178.85	4	5948117.42	2279038.85
5	5948234.62	2278963.85	5	5948234.62	2278963.85
6	5948326.62	2278932.85	6	5948326.62	2278932.85
7	5948676.42	2278736.85	7	5948676.42	2278736.85
8	5949021.42	2278571.85	8	5949446.12	2278436.85
9	5949446.12	2278436.85	9	5949446.12	2278436.85
10	5949832.62	2278283.85	10	5949832.62	2278283.85
11	5950021.42	2278151.85	11	5950021.42	2278151.85
12	5950446.12	2278036.85	12	5950446.12	2278036.85
13	5950832.62	2277906.85	13	5950832.62	2277906.85
14	5951246.92	2277772.85	14	5951246.92	2277772.85
15	5951660.82	2277638.85	15	5951660.82	2277638.85
16	5952074.72	2277504.85	16	5952074.72	2277504.85
17	5952488.62	2277370.85	17	5952488.62	2277370.85
18	5952902.52	2277236.85	18	5952902.52	2277236.85
19	5953316.42	2277102.85	19	5953316.42	2277102.85
20	5953730.32	2276968.85	20	5953730.32	2276968.85
21	5954144.22	2276834.85	21	5954144.22	2276834.85
22	5954558.12	2276700.85	22	5954558.12	2276700.85
23	5954972.02	2276566.85	23	5954972.02	2276566.85
24	5955385.92	2276432.85	24	5955385.92	2276432.85
25	5955800.82	2276298.85	25	5955800.82	2276298.85
26	5956214.72	2276164.85	26	5956214.72	2276164.85
27	5956628.62	2276030.85	27	5956628.62	2276030.85
28	5957042.52	2275896.85	28	5957042.52	2275896.85
29	5957456.42	2275762.85	29	5957456.42	2275762.85
30	5957870.32	2275628.85	30	5957870.32	2275628.85
31	5958284.22	2275494.85	31	5958284.22	2275494.85
32	5958698.12	2275360.85	32	5958698.12	2275360.85
33	5959112.02	2275226.85	33	5959112.02	2275226.85
34	5959525.92	2275092.85	34	5959525.92	2275092.85
35	5959939.82	2274958.85	35	5959939.82	2274958.85
36	5960353.72	2274824.85	36	5960353.72	2274824.85
37	5960767.62	2274690.85	37	5960767.62	2274690.85
38	5961181.52	2274556.85	38	5961181.52	2274556.85
39	5961595.42	2274422.85	39	5961595.42	2274422.85
40	5962009.32	2274288.85	40	5962009.32	2274288.85
41	5962423.22	2274154.85	41	5962423.22	2274154.85
42	5962837.12	2274020.85	42	5962837.12	2274020.85
43	5963251.02	2273886.85	43	5963251.02	2273886.85
44	5963664.92	2273752.85	44	5963664.92	2273752.85
45	5964078.82	2273618.85	45	5964078.82	2273618.85
46	5964492.72	2273484.85	46	5964492.72	2273484.85
47	5964906.62	2273350.85	47	5964906.62	2273350.85
48	5965320.52	2273216.85	48	5965320.52	2273216.85
49	5965734.42	2273082.85	49	5965734.42	2273082.85
50	5966148.32	2272948.85	50	5966148.32	2272948.85
51	5966562.22	2272814.85	51	5966562.22	2272814.85



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	-8
Placement Area	Navigation Buoy	-7
Anchorage Area	Navigation Buoy	-6
Wreck Area	Shoalest Sounding*	-5
Submerged Wreck		-4
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.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

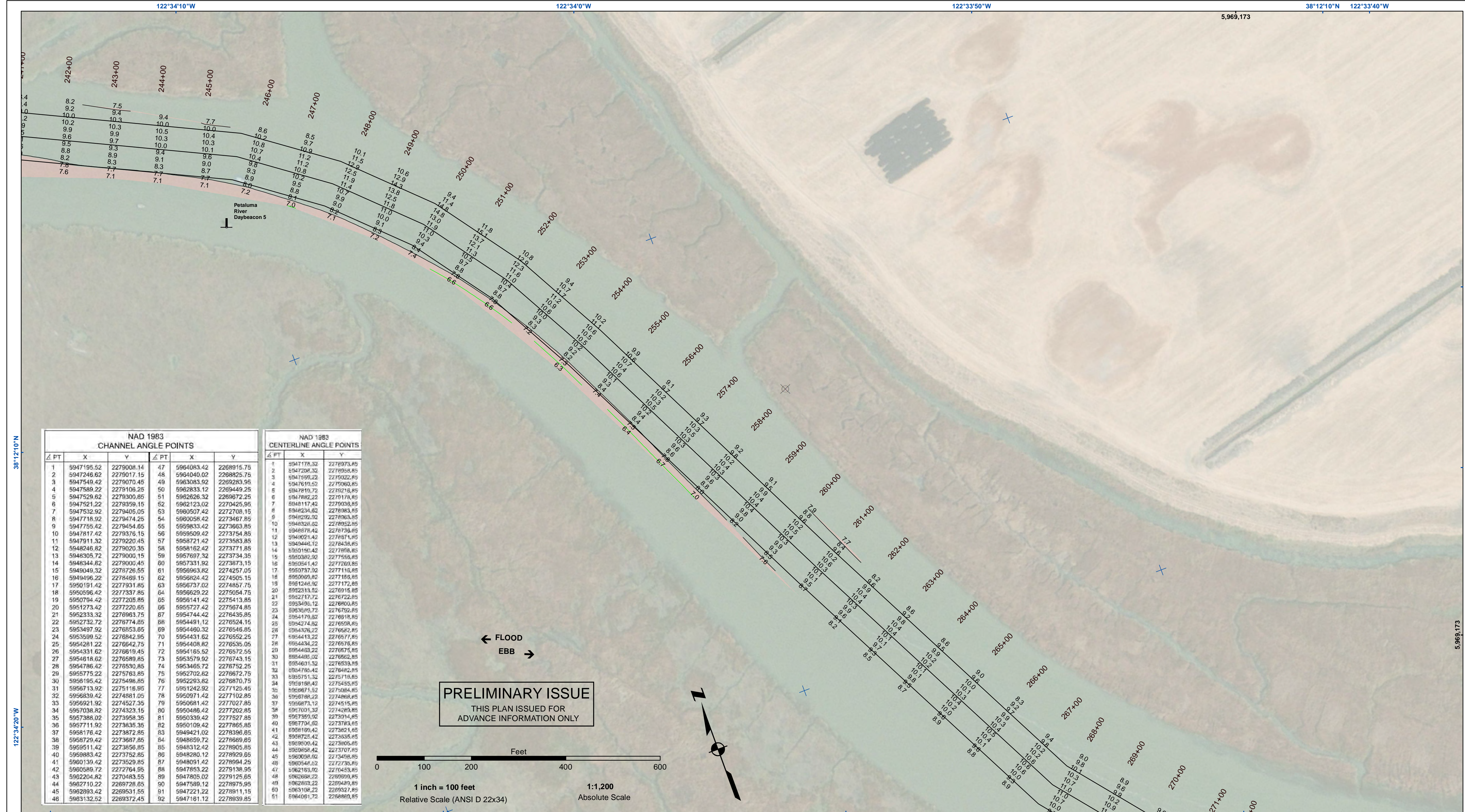
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Checked by:	PDT
Surveyed by:	JOHN D. CUNNINGHAM
Plotted by:	PDT
Submittal:	Hydro Survey Team Leader
Recommendation:	Chief, Hydro Survey Section
Approval:	Chief, Construction Branch

SONOMA COUNTY
CALIFORNIA
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
8 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5954063.42	2268915.75
2	5947246.62	2279017.15	48	5954040.02	2268825.75
3	5947549.42	2279070.45	49	5953083.92	2269283.95
4	5947589.22	2279106.25	50	5952833.12	2269449.25
5	5947529.62	2279300.85	51	5952626.32	2269672.25
6	5947521.22	2279359.15	52	5952123.02	2270425.95
7	5947532.92	2279405.05	53	5950507.42	2272709.15
8	5947716.52	2279474.25	54	5950056.42	2273467.85
9	5947755.42	2279454.65	55	5950833.42	2273663.85
10	5947817.42	2279375.15	56	5950509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.55	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954911.12	2276524.15
23	5953497.92	2276853.65	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273867.85	84	5948597.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279022.85	2	5947610.52	2279060.85
3	5947810.72	2279216.85	3	5947882.22	2279178.85
4	5948117.42	2279383.85	4	5948234.62	2279533.85
5	5948326.62	2279932.85	5	5948676.42	2278736.85
6	5948902.42	2278571.85	6	5949446.12	2278436.85
7	5949446.12	2277896.85	7	5950150.42	2277556.85
8	5950069.82	2277155.85	8	5950541.42	2277260.85
9	5951246.92	2277172.85	9	5950999.82	2277155.85
10	5952313.52	2276915.85	10	5951584.42	2277172.85
11	5952717.72	2276722.85	11	5952119.32	2276752.85
12	5953495.12	2276800.85	12	5952474.82	2276508.85
13	5953695.72	2276752.85	13	5953262.22	2276528.85
14	5954179.82	2276918.85	14	5954432.22	2276577.85
15	5954274.82	2276508.85	15	5954434.22	2276578.85
16	5954326.22	2276528.85	16	5954483.22	2276975.85
17	5954432.22	2276577.85	17	5954485.02	2276562.85
18	5954434.22	2276578.85	18	5954601.52	2276539.85
19	5954483.22	2276975.85	19	5954765.42	2276482.85
20	5954485.02	2276562.85	20	5955751.32	2275718.85
21	5954601.52	2276539.85	21	5956196.42	2275455.85
22	5954765.42	2276482.85	22	5956971.52	2275084.85
23	5955751.32	2275718.85	23	5956988.22	2274968.85
24	5956196.42	2275455.85	24	5956873.12	2274515.85
25	5956971.52	2275084.85	25	5957001.32	2274289.85
26	5956988.22	2274968.85	26	5957359.02	2273914.85
27	5956873.12	2274515.85	27	5957704.02	2273763.85
28	5957001.32	2274289.85	28	5958189.42	2273621.85
29	5957359.02	2273914.85	29	5958725.42	2273635.85
30	5957704.02	2273763.85	30	5959006.42	2273805.85
31	5958189.42	2273621.85	31	5959368.42	2273707.85
32	5958725.42	2273635.85	32	5959696.02	2273458.85
33	5959006.42	2273805.85	33	5960058.02	2273235.85
34	5959368.42	2273707.85	34	5960268.22	2272735.85
35	5959696.02	2273458.85	35	5960628.22	2272043.85
36	5960058.02	2273235.85	36	5961053.02	2271043.85
37	5960268.22	2272735.85	37	5961593.02	2269999.85
38	5960628.22	2272043.85	38	5962163.22	2269429.85
39	5961053.02	2271043.85	39	5962693.22	2269327.85
40	5961593.02	2269999.85	40	5963106.22	2269327.85
41	5962163.22	2269429.85	41	5963409.72	2268869.85
42	5962693.22	2269327.85			
43	5963106.22	2269327.85			
44	5963409.72	2268869.85			

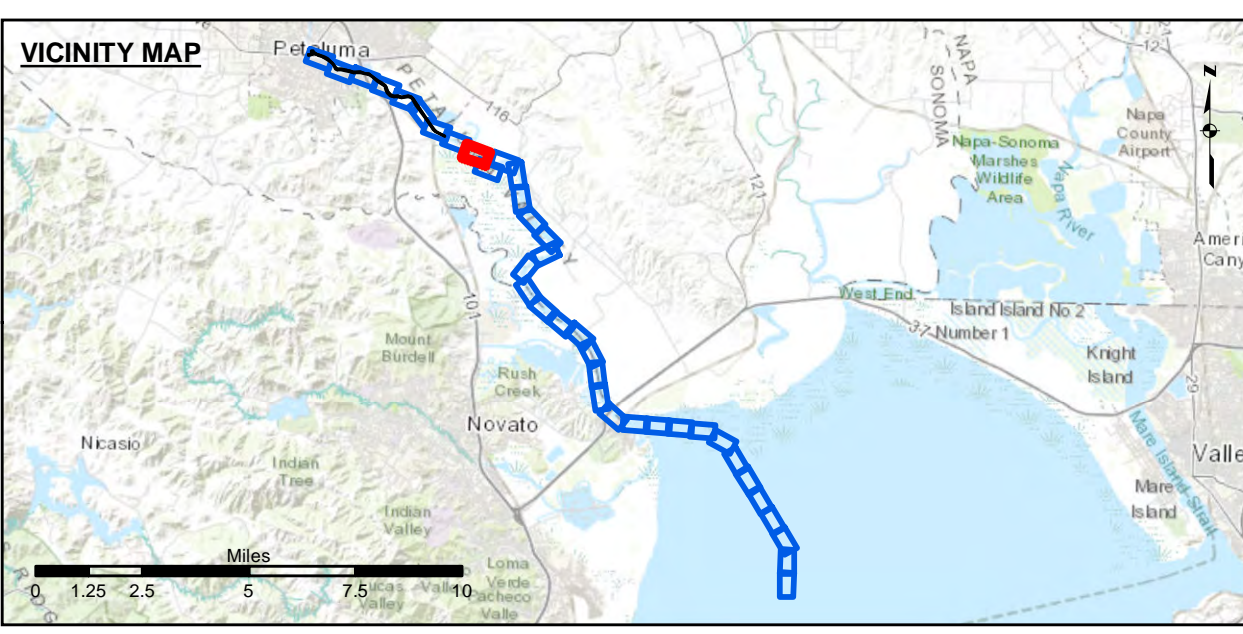
← FLOOD
EBB →

PRELIMINARY ISSUE

THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY

1 inch = 100 feet
Relative Scale (ANSI D 22x34)

1:1,200
Absolute Scale



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	— -8
Anchorage Area	Navigation Buoy	— -7
Wreck Area	Shoalest Sounding*	— -6
Submerged Wreck		— -5
Angle Point		— -4

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.

SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 83 DATUM, PUBLICATION DATE: AUGUST 9, 2004

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

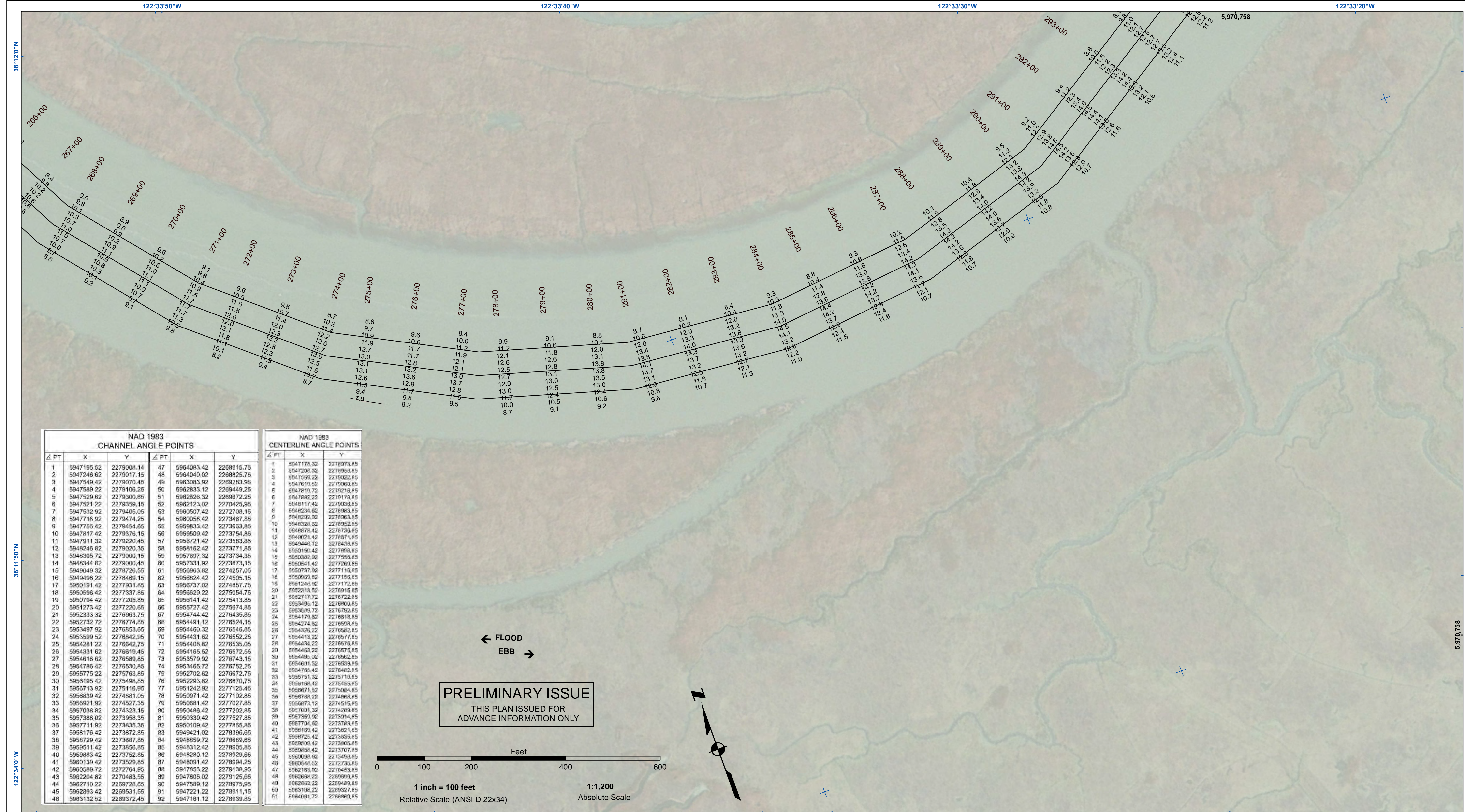
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Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT

Surveyed By:	JOHN D. CUNNINGHAM
Plotted By:	PDT
Checked By:	PDT

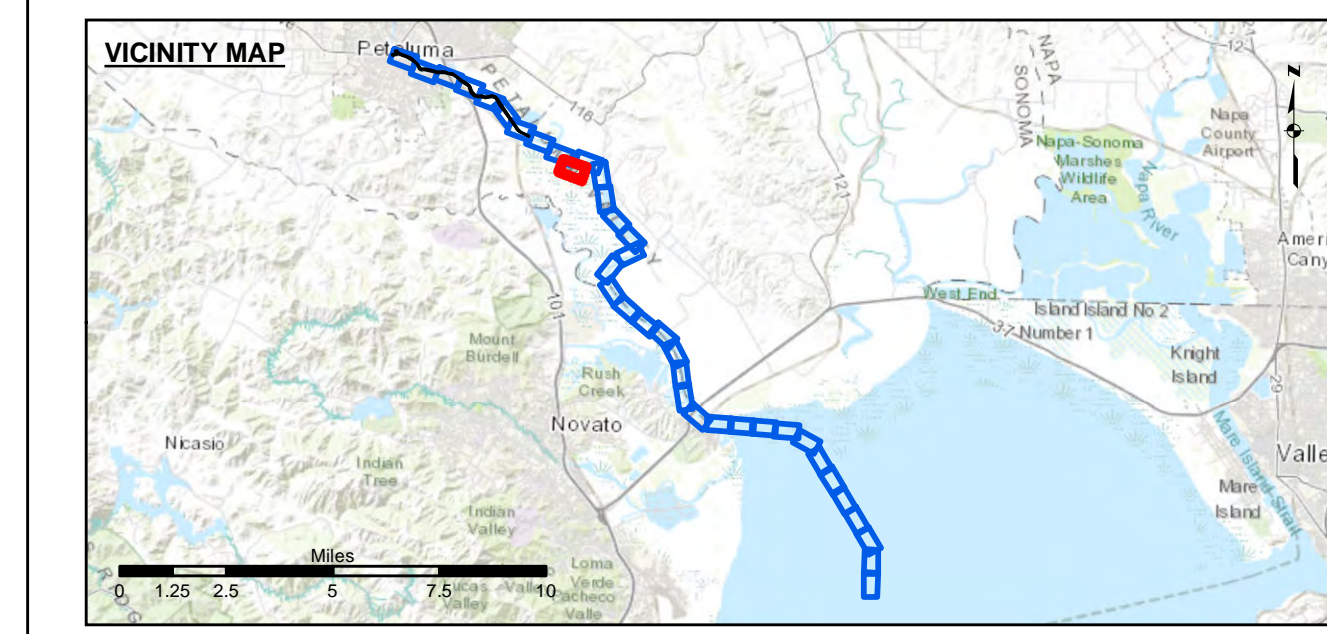
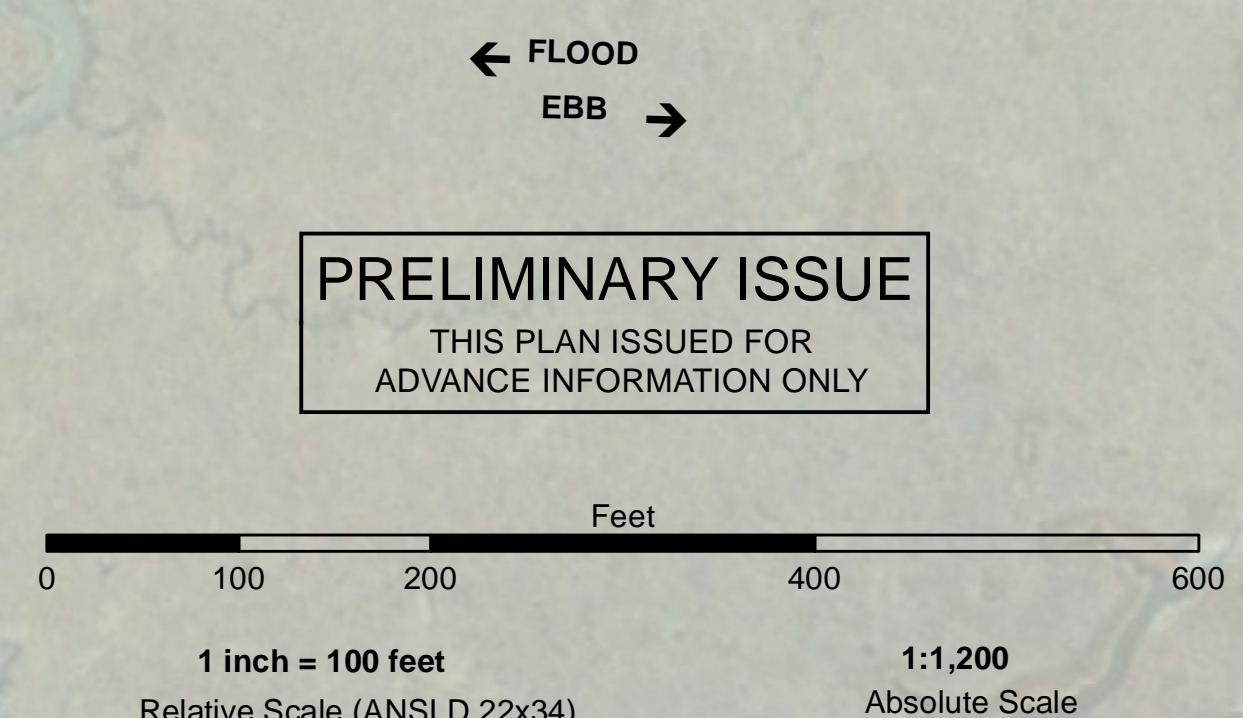
SONOMA COUNTY
CALIFORNIA
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
9 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.52	2279474.25	54	5960056.42	2273467.85
9	5947755.42	2279454.85	55	5959833.42	2273663.85
10	5947817.42	2279375.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.55	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956623.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278386.85
38	5958729.42	2273887.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947610.62	2279060.85	4	5947610.62	2279060.85
5	5947810.72	2279216.85	5	5947810.72	2279216.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278963.85	8	5948234.62	2278963.85
9	5948293.92	2278963.85	9	5948293.92	2278963.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278571.85	12	5949021.42	2278571.85
13	5949446.72	2278436.85	13	5949446.72	2278436.85
14	5949150.42	2277986.85	14	5949150.42	2277986.85
15	5950382.92	2277556.85	15	5950382.92	2277556.85
16	5950541.42	2277260.85	16	5950541.42	2277260.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950969.82	2277155.85	18	5950969.82	2277155.85
19	5951246.92	2277172.85	19	5951246.92	2277172.85
20	5952313.52	2276915.85	20	5952313.52	2276915.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954170.92	2276918.85	24	5954170.92	2276918.85
25	5954274.82	2276508.85	25	5954274.82	2276508.85
26	5954326.22	2276582.85	26	5954326.22	2276582.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276576.85	28	5954434.22	2276576.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276539.85	31	5954601.52	2276539.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2275718.85	33	5955751.32	2275718.85
34	5955958.42	2275455.85	34	5955958.42	2275455.85
35	5956971.52	2275084.85	35	5956971.52	2275084.85
36	5957882.22	2274868.85	36	5957882.22	2274868.85
37	5958873.12	2274515.85	37	5958873.12	2274515.85
38	5959700.32	2274289.85	38	5959700.32	2274289.85
39	5959735.02	2273914.85	39	5959735.02	2273914.85
40	59597704.02	2273763.85	40	59597704.02	2273763.85
41	59598199.42	2273621.85	41	59598199.42	2273621.85
42	5959825.42	2273635.85	42	5959825.42	2273635.85
43	5959806.42	2273805.85	43	5959806.42	2273805.85
44	5959858.42	2273707.85	44	5959858.42	2273707.85
45	5959858.02	2273488.85	45	5959858.02	2273488.85
46	5959854.62	2272735.85	46	5959854.62	2272735.85
47	5959815.02	2270433.85	47	5959815.02	2270433.85
48	5959868.22	2269999.85	48	5959868.22	2269999.85
49	5959863.22	2269449.85	49	5959863.22	2269449.85
50	5959306.22	2269327.85	50	5959306.22	2269327.85
51	5958409.72	2268889.85	51	5958409.72	2268889.85



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	-8
Anchorage Area	Navigation Buoy	-7
Wreck Area	Shoalest Sounding*	-6
Submerged Wreck		-5
Angle Point		-4

NOTES:
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 SURVEY CONTROL:
 NOAA TIDE STATION:
 9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
 PRIMARY PROJECT CONTROL POINT
 5584 F 2014
 PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
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 ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

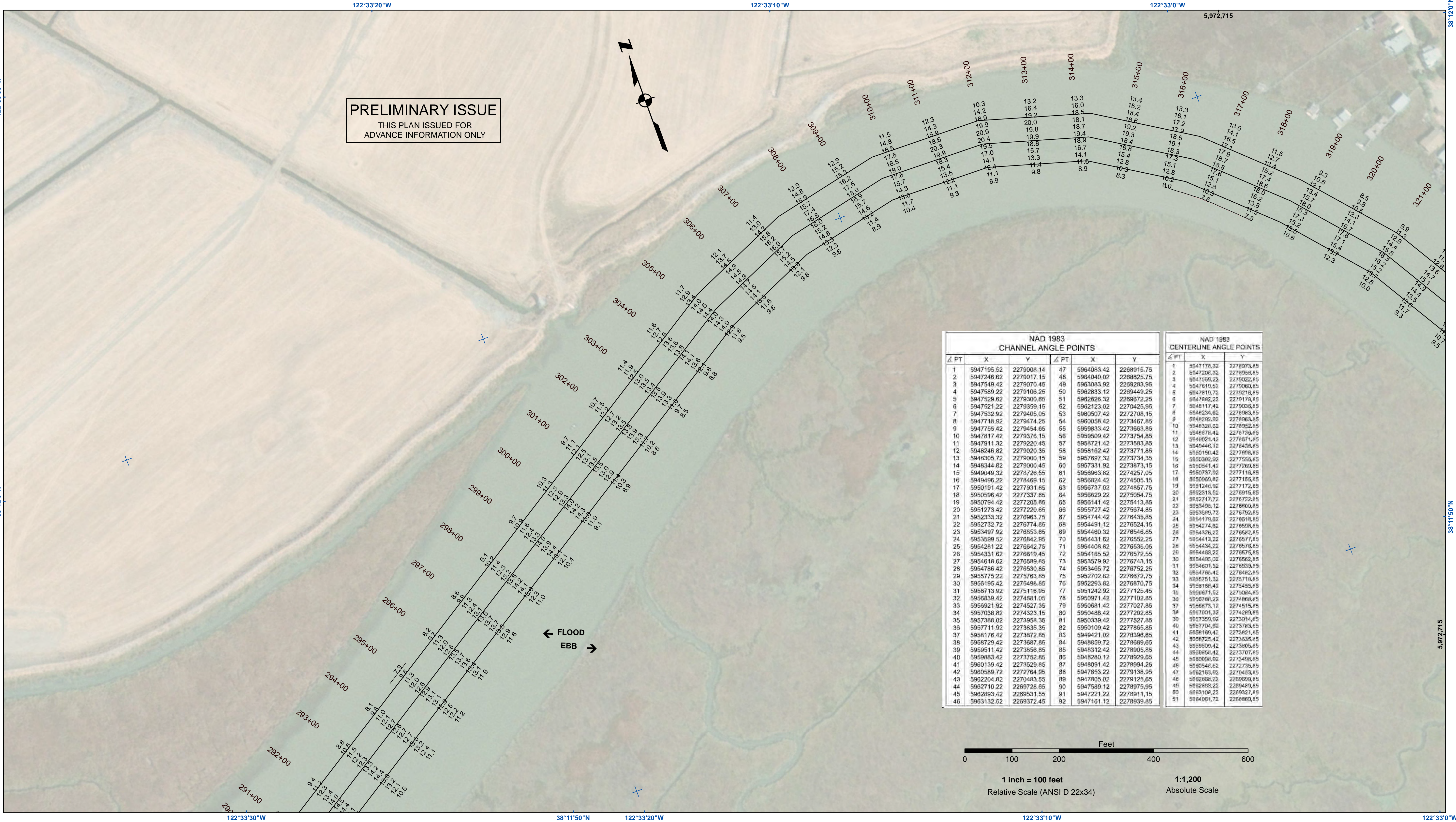
US Army Corps of Engineers
 San Francisco District
 450 Market Street
 San Francisco, CA 94102

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Chart Date:	Jun 25, 2020	Designed by:	PDT
Surveyed By:	LT COLONEL C.E. DISTRICT ENGINEER	Plotted By:	PDT
Submitted:	Hydro Survey Team Leader	Checked By:	PDT
Recommended:	Chief, Hydro Survey Section	Approved:	Chief, Construction Branch

PETALUMA RIVER
 CONDITION SURVEY
 03-15 JUNE 2020

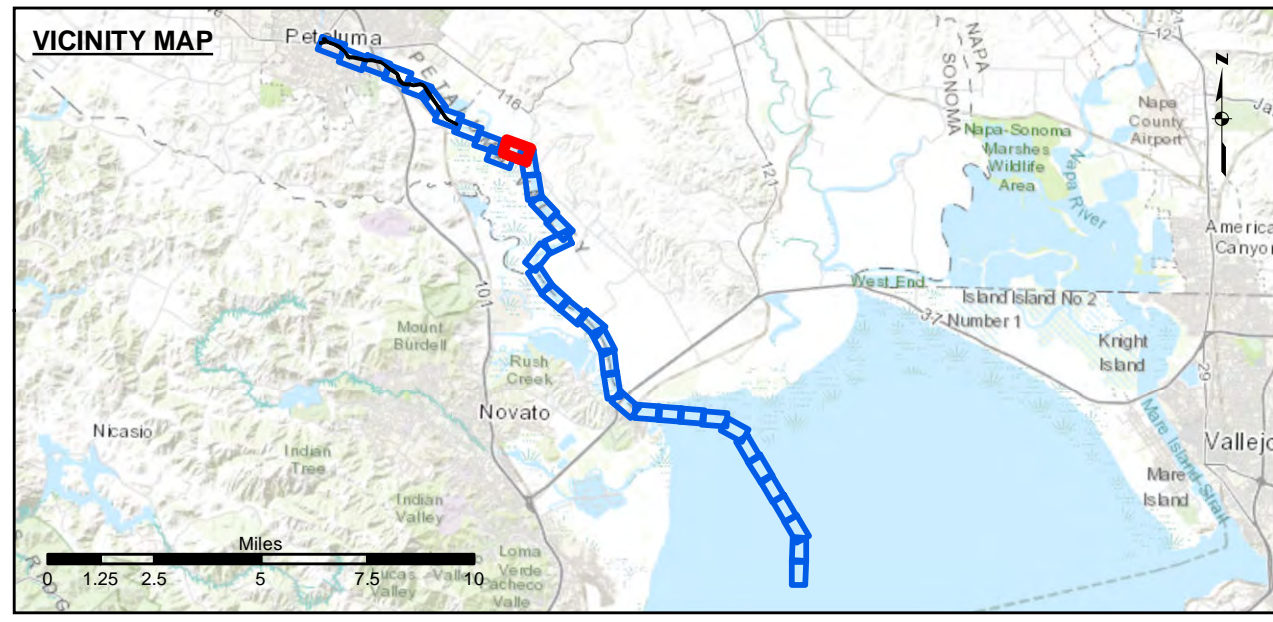
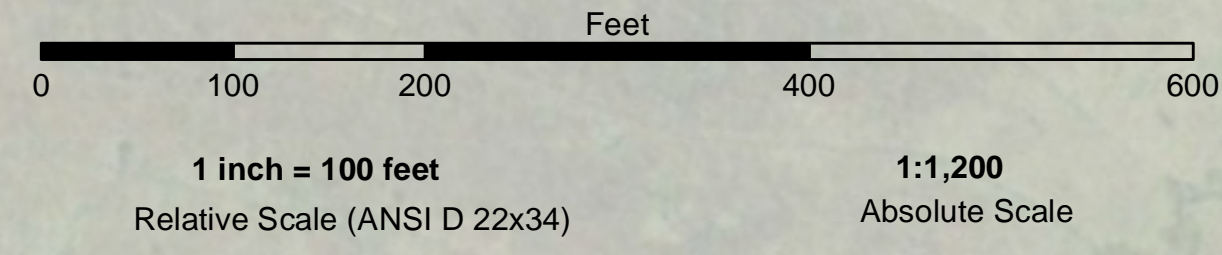
Sheet Reference Number
 10 of 37



PRELIMINARY ISSUE
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NAD 1983 CHANNEL ANGLE POINTS					
Δ FT	X	Y	Δ FT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947588.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947718.92	2279474.25	54	5960058.42	2273467.85
9	5947755.42	2279454.65	55	5959833.42	2273663.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.55	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956629.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.85	66	5955727.42	2275674.85
21	5952333.32	2276983.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954618.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275496.85	76	5952283.82	2276870.75
31	5956713.92	2275118.95	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950681.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278396.85
38	5958729.42	2273687.85	84	5948597.72	2278689.85
39	5959511.42	2273350.85	85	5948312.42	2278905.85
40	5959883.42	2273152.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278964.25
42	5960589.72	2272764.85	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947589.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS		
Δ FT	X	Y
1	5947178.32	2278973.85
2	5947208.32	2278958.85
3	5947699.22	2279022.85
4	5947610.52	2279063.85
5	5947810.72	2279216.85
6	5947882.22	2279178.85
7	5948117.42	2279038.85
8	5948234.62	2278983.85
9	5948292.32	2278953.85
10	5948326.82	2278922.85
11	5948678.42	2278739.85
12	5949021.42	2278571.85
13	5949448.12	2278438.85
14	5950190.42	2277986.85
15	5950982.92	2277555.85
16	5950541.42	2277609.85
17	5950737.02	2277116.85
18	5950609.82	2277156.85
19	5951246.92	2277172.85
20	5952313.52	2276915.85
21	5952717.72	2276722.85
22	5953496.12	2276800.85
23	5953689.72	2276792.85
24	5954179.62	2276818.85
25	5954274.92	2276898.85
26	5954376.22	2276562.85
27	5954413.22	2276577.85
28	5954434.22	2276576.85
29	5954483.22	2276575.85
30	5954486.02	2276562.85
31	5954601.32	2276539.85
32	5954785.42	2276482.85
33	5955713.32	2275718.85
34	5955918.42	2275455.85
35	5956971.52	2275064.85
36	5957088.22	2274868.85
37	5956873.12	2274515.85
38	5957001.32	2274289.85
39	5957359.02	2273914.85
40	5957704.02	2273783.85
41	5958109.42	227351.85
42	5958725.42	2273535.85
43	5959090.42	2273805.85
44	5959684.42	2273707.85
45	5960098.02	2273458.85
46	5960546.32	2272735.85
47	5962193.02	2270453.85
48	5962684.22	2269909.85
49	5962803.22	2269489.85
50	5963108.22	2269327.85
51	5964061.72	2268880.85



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	-8
Placement Area	Navigation Buoy	-7
Anchorage Area	Navigation Buoy	-6
Wreck Area	Shoalest Sounding*	-5
Submerged Wreck		-4
Angle Point		

NOTES:
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SURVEY CONTROL:
NDA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93
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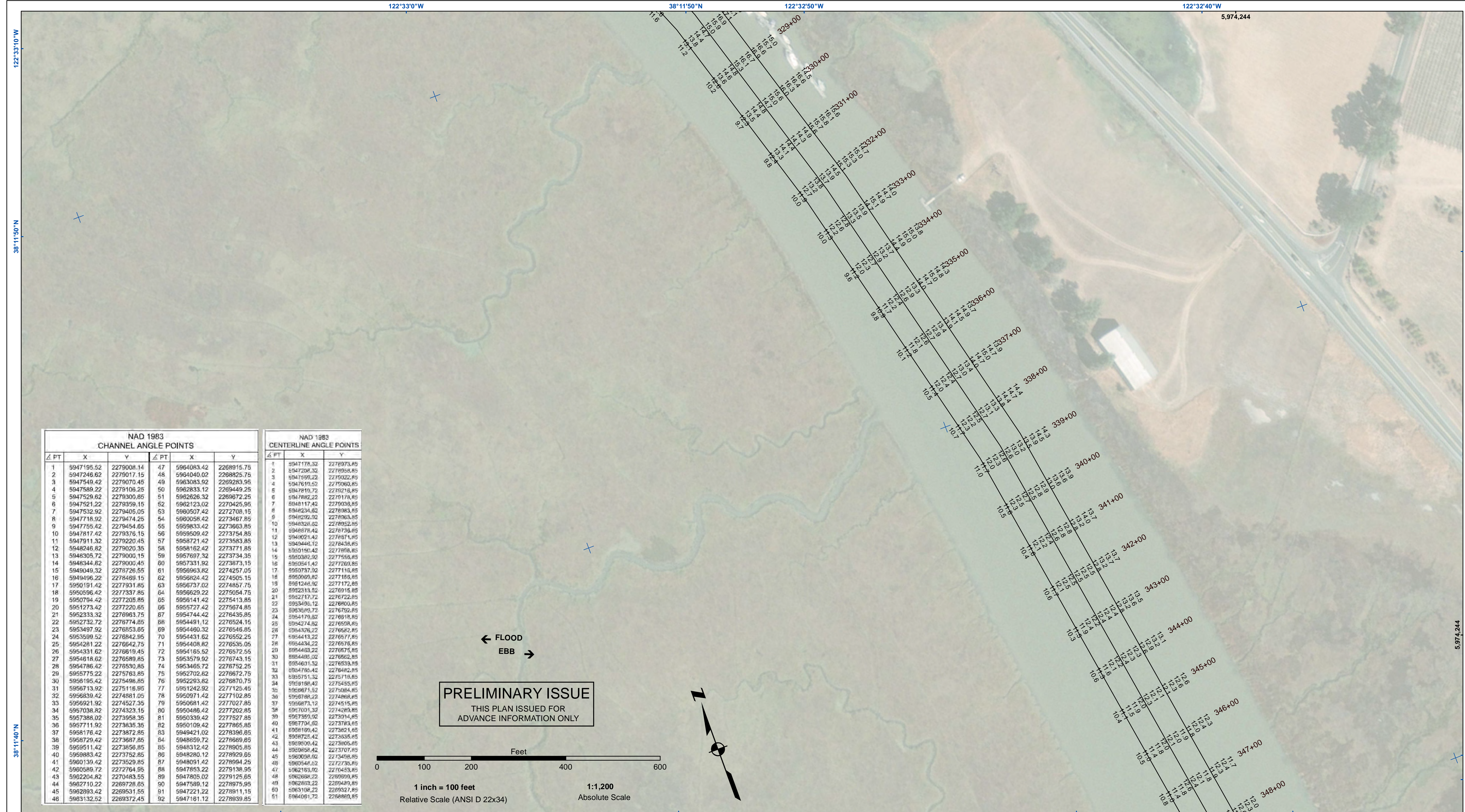
US Army Corps of Engineers
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San Francisco, CA 94102

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Prepared Under the Direction of: JOHN D. CUNNINGHAM LT COLONEL, C.E. DISTRICT ENGINEER	Chart Date: Jun 25, 2020
Submitted by: Hydro Survey Team Leader	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Drawn by: PDT
Approved by: Chief, Construction Branch	Checked by: PDT

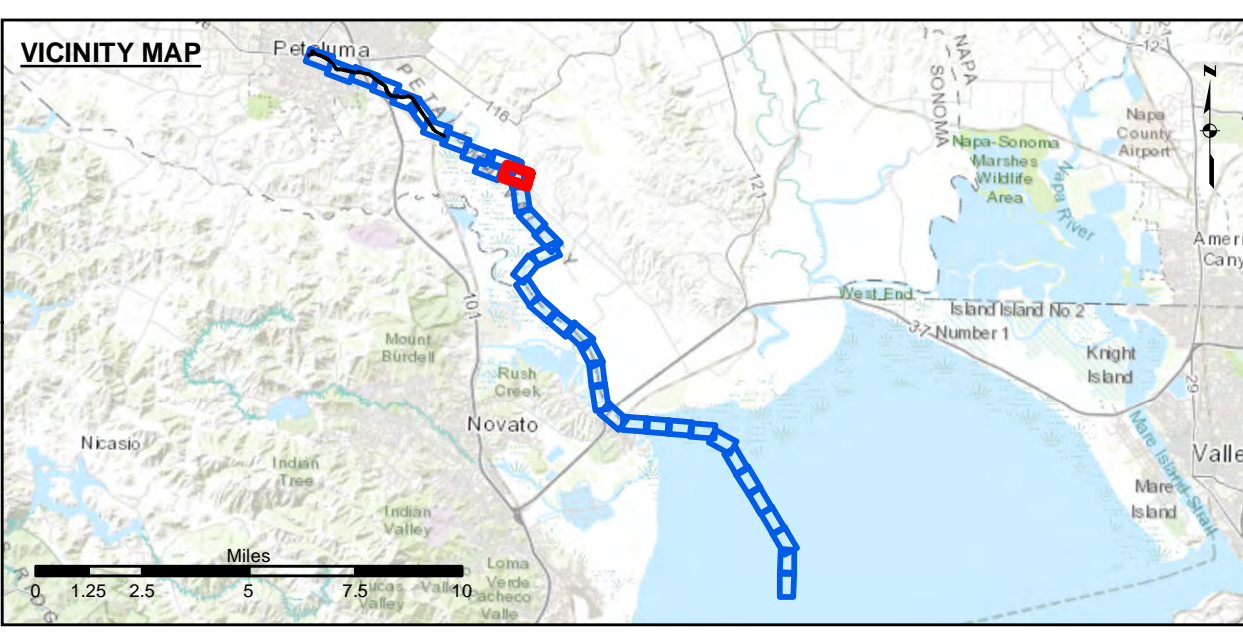
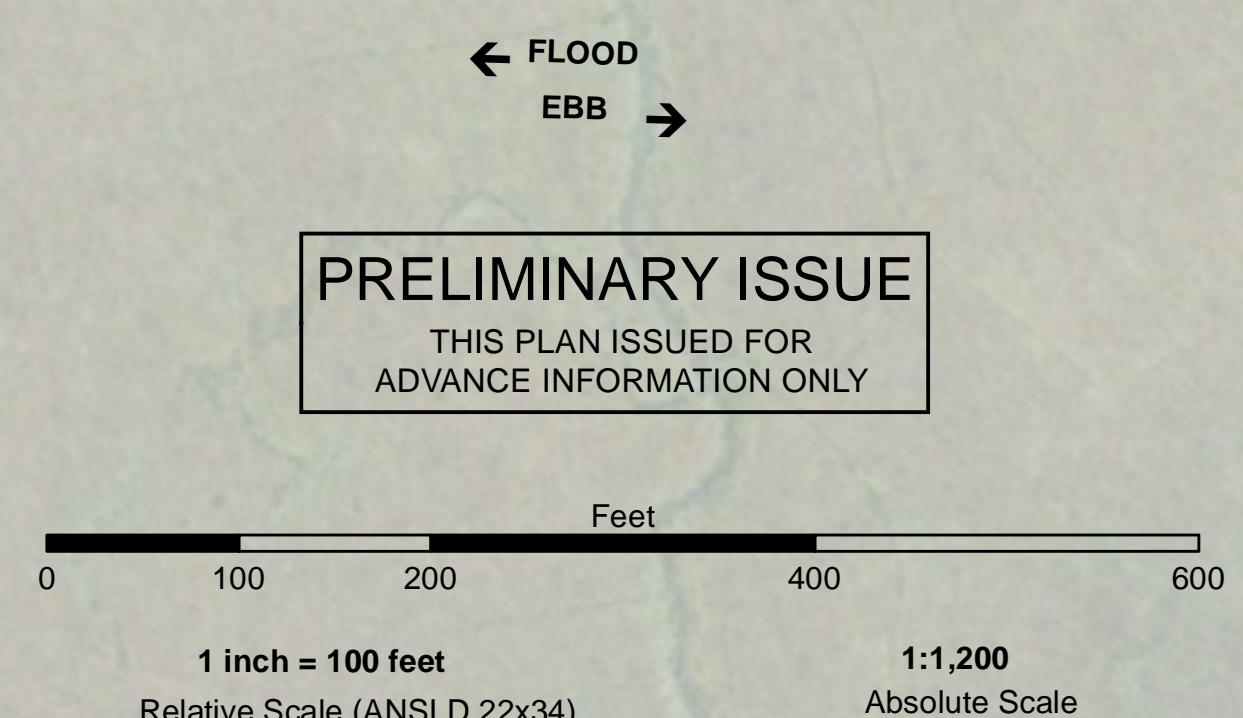
SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet
Reference
Number
11 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.52	2279474.25	54	5960056.42	2273467.85
9	5947755.42	2279454.65	55	5959833.42	2273663.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956623.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954618.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948559.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279022.85	2	5947610.52	2279060.85
3	5947810.72	2279182.85	3	5947882.22	2279178.85
4	5948117.42	2279038.85	4	5948234.62	2278963.85
5	5948293.92	2278963.85	5	5948266.62	2278932.85
6	5948676.42	2278736.85	6	5949021.42	2278571.85
7	5949021.42	2278571.85	7	5949446.12	2278436.85
8	5949446.12	2278436.85	8	5949584.42	2278366.85
9	5949584.42	2278366.85	9	5949826.62	2278326.85
10	5949826.62	2278326.85	10	5949876.42	2278336.85
11	5949876.42	2278336.85	11	5949802.42	2278571.85
12	5949802.42	2278571.85	12	5949446.12	2278436.85
13	5949446.12	2278436.85	13	5949584.42	2278366.85
14	5949584.42	2278366.85	14	5949826.62	2278326.85
15	5949826.62	2278326.85	15	5949876.42	2278336.85
16	5949876.42	2278336.85	16	5949802.42	2278571.85
17	5949802.42	2278571.85	17	5949446.12	2278436.85
18	5949446.12	2278436.85	18	5949584.42	2278366.85
19	5949584.42	2278366.85	19	5949826.62	2278326.85
20	5949826.62	2278326.85	20	5949876.42	2278336.85
21	5949876.42	2278336.85	21	5949802.42	2278571.85
22	5949802.42	2278571.85	22	5949446.12	2278436.85
23	5949446.12	2278436.85	23	5949584.42	2278366.85
24	5949584.42	2278366.85	24	5949826.62	2278326.85
25	5949826.62	2278326.85	25	5949876.42	2278336.85
26	5949876.42	2278336.85	26	5949802.42	2278571.85
27	5949802.42	2278571.85	27	5949446.12	2278436.85
28	5949446.12	2278436.85	28	5949584.42	2278366.85
29	5949584.42	2278366.85	29	5949826.62	2278326.85
30	5949826.62	2278326.85	30	5949876.42	2278336.85
31	5949876.42	2278336.85	31	5949802.42	2278571.85
32	5949802.42	2278571.85	32	5949446.12	2278436.85
33	5949446.12	2278436.85	33	5949584.42	2278366.85
34	5949584.42	2278366.85	34	5949826.62	2278326.85
35	5949826.62	2278326.85	35	5949876.42	2278336.85
36	5949876.42	2278336.85	36	5949802.42	2278571.85
37	5949802.42	2278571.85	37	5949446.12	2278436.85
38	5949446.12	2278436.85	38	5949584.42	2278366.85
39	5949584.42	2278366.85	39	5949826.62	2278326.85
40	5949826.62	2278326.85	40	5949876.42	2278336.85
41	5949876.42	2278336.85	41	5949802.42	2278571.85
42	5949802.42	2278571.85	42	5949446.12	2278436.85
43	5949446.12	2278436.85	43	5949584.42	2278366.85
44	5949584.42	2278366.85	44	5949826.62	2278326.85
45	5949826.62	2278326.85	45	5949876.42	2278336.85
46	5949876.42	2278336.85	46	5949802.42	2278571.85
47	5949802.42	2278571.85	47	5949446.12	2278436.85
48	5949446.12	2278436.85	48	5949584.42	2278366.85
49	5949584.42	2278366.85	49	5949826.62	2278326.85
50	5949826.62	2278326.85	50	5949876.42	2278336.85
51	5949876.42	2278336.85	51	5949802.42	2278571.85



	Federal Navigation Channel		Beacon, General	Contours	
	Shoaling Area		Obstruction Point		
	Placement Area		Navigation Buoy		-8
	Anchorage Area		Navigation Buoy		-7
	Wreck Area		Shoalest Sounding*		-6
	Submerged Wreck				-5
	Angle Point				-4

NOTES:

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SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SERVICE.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 83 DATUM, PUBLICATION DATE: AUGUST 9, 2004

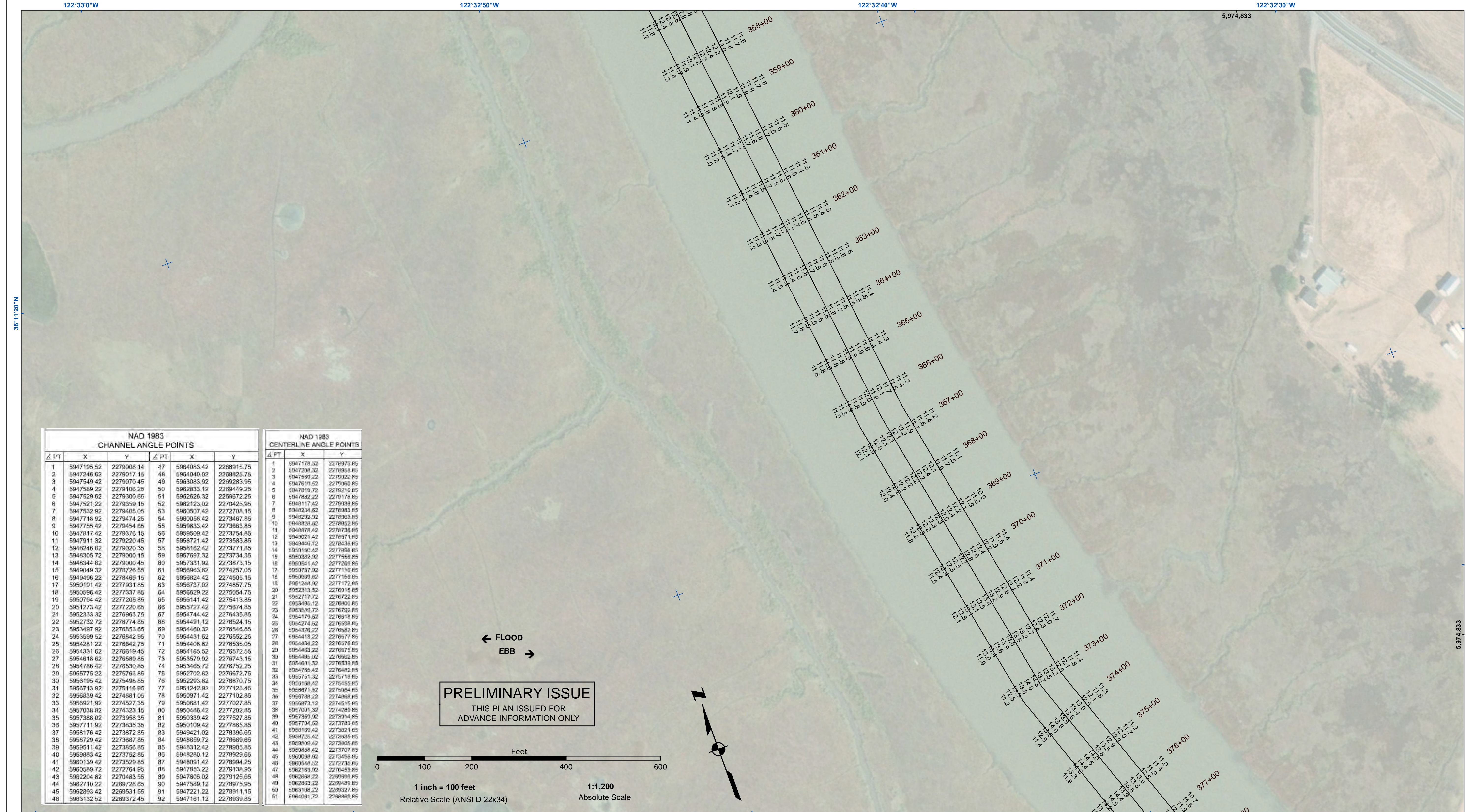
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	JOHN D. CUNNINGHAM
Plotted By:	PDT
Checked By:	PDT
Prepared Under the Direction of:	LT COLONEL C.E. DISTRICT ENGINEER
Submitted:	Hydro Survey Team Leader
Recommended:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

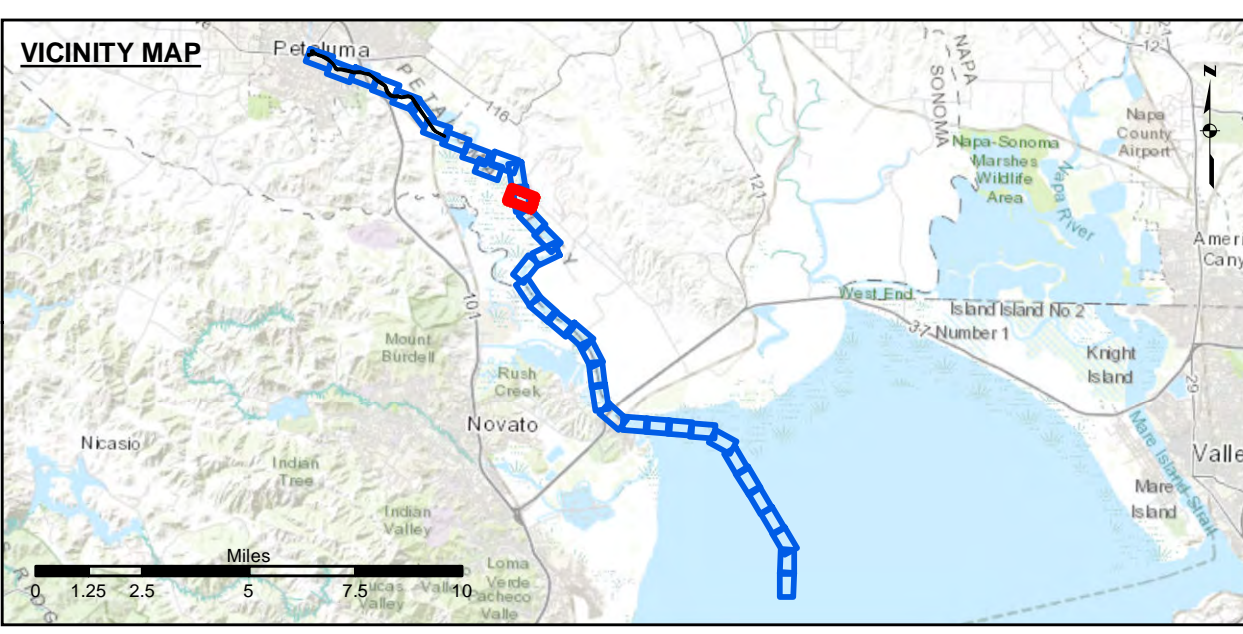
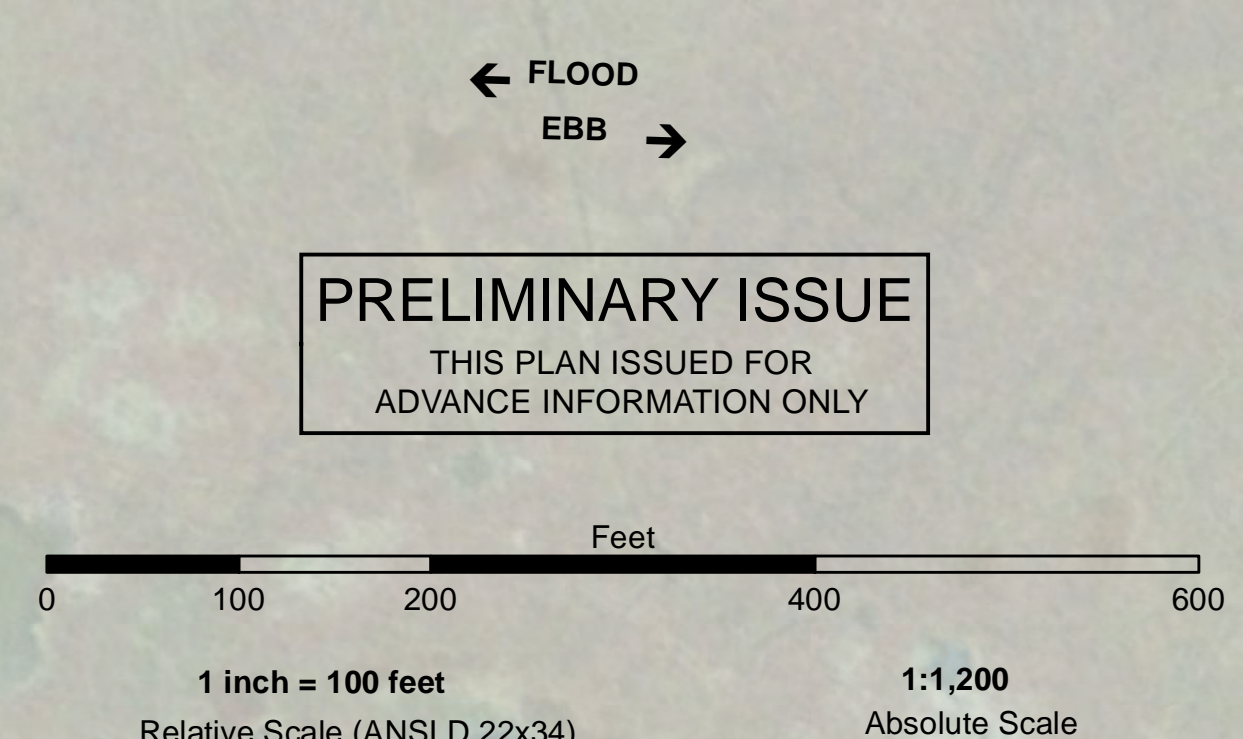
SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
12 of 37



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1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.92	2279474.25	54	5960056.42	2273467.85
9	5947755.42	2279454.65	55	5959833.42	2273663.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.65	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276772.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273635.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948559.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.65
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947589.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

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Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947610.62	2279060.85	4	5947610.62	2279060.85
5	5947810.72	2279216.85	5	5947810.72	2279216.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278963.85	8	5948234.62	2278963.85
9	5948293.92	2278963.85	9	5948293.92	2278963.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278571.85	12	5949021.42	2278571.85
13	5949446.12	2278436.85	13	5949446.12	2278436.85
14	5949180.42	2277998.85	14	5949180.42	2277998.85
15	5950382.92	2277556.85	15	5950382.92	2277556.85
16	5950541.42	2277260.85	16	5950541.42	2277260.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950969.62	2277155.85	18	5950969.62	2277155.85
19	5951246.92	2277172.85	19	5951246.92	2277172.85
20	5952313.52	2276916.85	20	5952313.52	2276916.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954170.62	2276918.85	24	5954170.62	2276918.85
25	5954274.82	2276508.85	25	5954274.82	2276508.85
26	5954326.22	2276562.85	26	5954326.22	2276562.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276576.85	28	5954434.22	2276576.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276539.85	31	5954601.52	2276539.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2276718.85	33	5955751.32	2276718.85
34	5955976.42	2276455.85	34	5955976.42	2276455.85
35	5956971.52	2276084.85	35	5956971.52	2276084.85
36	5956988.22	2274868.85	36	5956988.22	2274868.85
37	5956873.12	2274515.85	37	5956873.12	2274515.85
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39	5957359.02	2273914.85	39	5957359.02	2273914.85
40	5957704.02	2273763.85	40	5957704.02	2273763.85
41	5958189.42	2273621.85	41	5958189.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959006.42	2273805.85	43	5959006.42	2273805.85
44	5959368.42	2273707.85	44	5959368.42	2273707.85
45	5959696.02	2273468.85	45	5959696.02	2273468.85
46	5960546.62	2272735.85	46	5960546.62	2272735.85
47	5962163.02	2270483.85	47	5962163.02	2270483.85
48	5962668.22	2269999.85	48	5962668.22	2269999.85
49	5962863.22	2269449.85	49	5962863.22	2269449.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268869.85	51	5964091.72	2268869.85



- 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**
- 8
- 7
- 6
- 5
- 4

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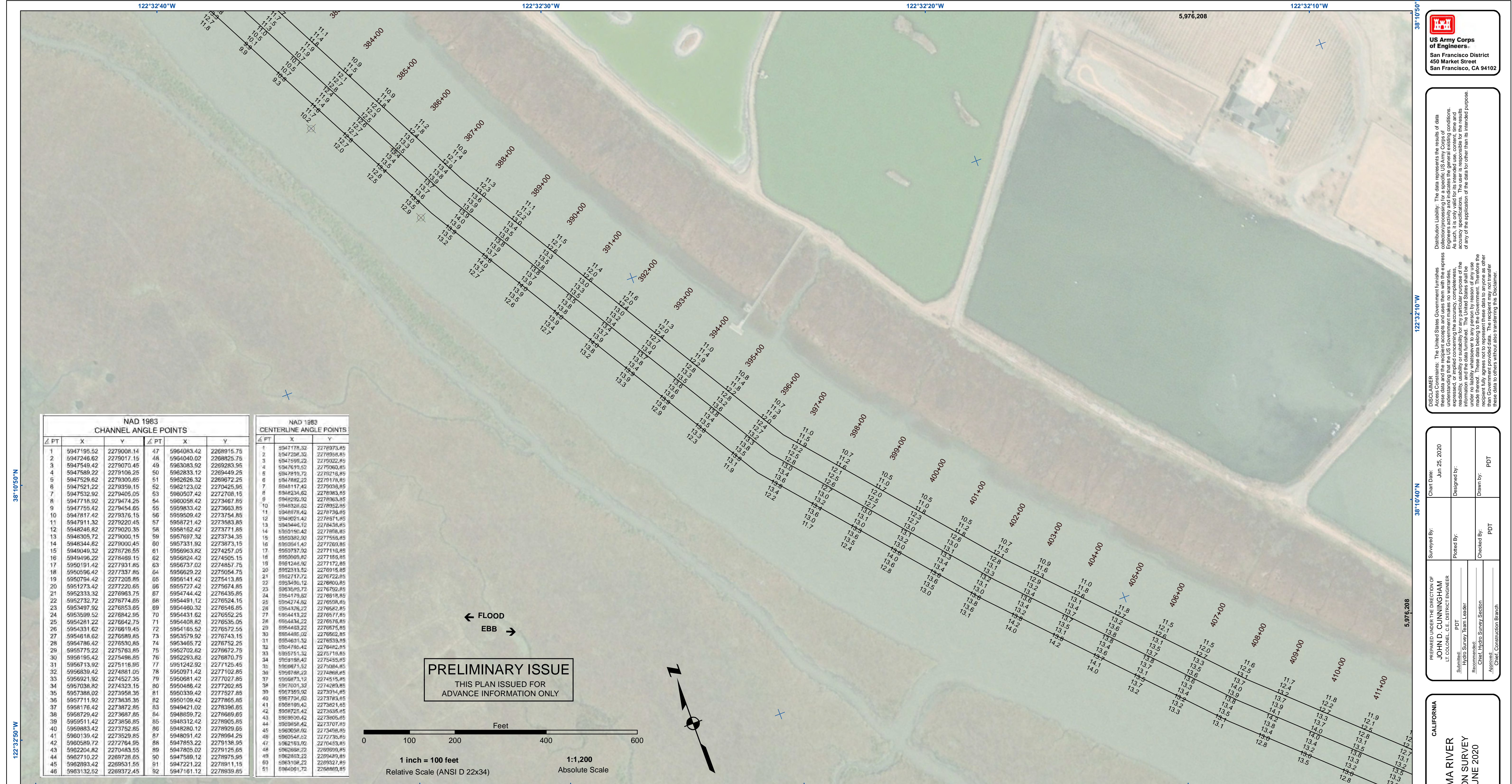
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	JOHN D. CUNNINGHAM
Plotted By:	PDT
Checked By:	PDT
Prepared Under the Direction of:	LT COLONEL C.E. DISTRICT ENGINEER
Submitted:	Hydro Survey Team Leader
Recommended:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

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CALIFORNIA
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03-15 JUNE 2020

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1	5947195.52	2279008.14	47	5954063.42	2268915.75
2	5947246.62	2279017.15	48	5954040.02	2268825.75
3	5947549.42	2279070.45	49	5953083.92	2269283.95
4	5947589.22	2279106.25	50	5952833.12	2269449.25
5	5947529.62	2279300.85	51	5952626.32	2269672.25
6	5947521.22	2279359.15	52	5952123.02	2270425.95
7	5947532.92	2279405.05	53	5950507.42	2272708.15
8	5947716.92	2279474.25	54	5950056.42	2273467.85
9	5947755.42	2279454.65	55	5950833.42	2273663.85
10	5947817.42	2279375.15	56	5950509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954911.12	2276524.15
23	5953497.92	2276853.65	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954618.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273635.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273987.85	84	5948859.72	2278689.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.65
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279022.85	2	5947610.62	2279060.85
3	5947810.72	2279216.85	3	5947882.22	2279178.85
4	5948117.42	2279338.85	4	5948234.62	2279363.85
5	5948333.42	2279363.85	5	5948326.82	2279352.85
6	5948676.42	2279338.85	6	5948326.82	2279352.85
7	5949021.42	2279371.85	7	5949021.42	2279371.85
8	5949446.12	2279436.85	8	5949446.12	2279436.85
9	5949833.42	2279508.85	9	5949833.42	2279508.85
10	5950382.92	2279556.85	10	5950382.92	2279556.85
11	5950969.82	2279556.85	11	5950969.82	2279556.85
12	5951246.92	2279556.85	12	5951246.92	2279556.85
13	5951584.42	2279556.85	13	5951584.42	2279556.85
14	5952177.72	2279556.85	14	5952177.72	2279556.85
15	5952349.52	2279556.85	15	5952349.52	2279556.85
16	5952722.82	2279556.85	16	5952722.82	2279556.85
17	5953095.12	2279556.85	17	5953095.12	2279556.85
18	5953465.72	2279556.85	18	5953465.72	2279556.85
19	5953836.32	2279556.85	19	5953836.32	2279556.85
20	5954206.92	2279556.85	20	5954206.92	2279556.85
21	5954577.52	2279556.85	21	5954577.52	2279556.85
22	5954948.12	2279556.85	22	5954948.12	2279556.85
23	5955318.72	2279556.85	23	5955318.72	2279556.85
24	5955689.32	2279556.85	24	5955689.32	2279556.85
25	5956059.92	2279556.85	25	5956059.92	2279556.85
26	5956430.52	2279556.85	26	5956430.52	2279556.85
27	5956801.12	2279556.85	27	5956801.12	2279556.85
28	5957171.72	2279556.85	28	5957171.72	2279556.85
29	5957542.32	2279556.85	29	5957542.32	2279556.85
30	5957912.92	2279556.85	30	5957912.92	2279556.85
31	5958283.52	2279556.85	31	5958283.52	2279556.85
32	5958654.12	2279556.85	32	5958654.12	2279556.85
33	5959024.72	2279556.85	33	5959024.72	2279556.85
34	5959395.32	2279556.85	34	5959395.32	2279556.85
35	5959765.92	2279556.85	35	5959765.92	2279556.85
36	5960136.52	2279556.85	36	5960136.52	2279556.85
37	5960507.12	2279556.85	37	5960507.12	2279556.85
38	5960877.72	2279556.85	38	5960877.72	2279556.85
39	5961248.32	2279556.85	39	5961248.32	2279556.85
40	5961618.92	2279556.85	40	5961618.92	2279556.85
41	5961989.52	2279556.85	41	5961989.52	2279556.85
42	5962360.12	2279556.85	42	5962360.12	2279556.85
43	5962730.72	2279556.85	43	5962730.72	2279556.85
44	5963101.32	2279556.85	44	5963101.32	2279556.85
45	5963471.92	2279556.85	45	5963471.92	2279556.85
46	5963842.52	2279556.85	46	5963842.52	2279556.85
47	5964213.12	2279556.85	47	5964213.12	2279556.85
48	5964583.72	2279556.85	48	5964583.72	2279556.85
49	5964954.32	2279556.85	49	5964954.32	2279556.85
50	5965324.92	2279556.85	50	5965324.92	2279556.85
51	5965695.52	2279556.85	51	5965695.52	2279556.85

← FLOOD
EBB →

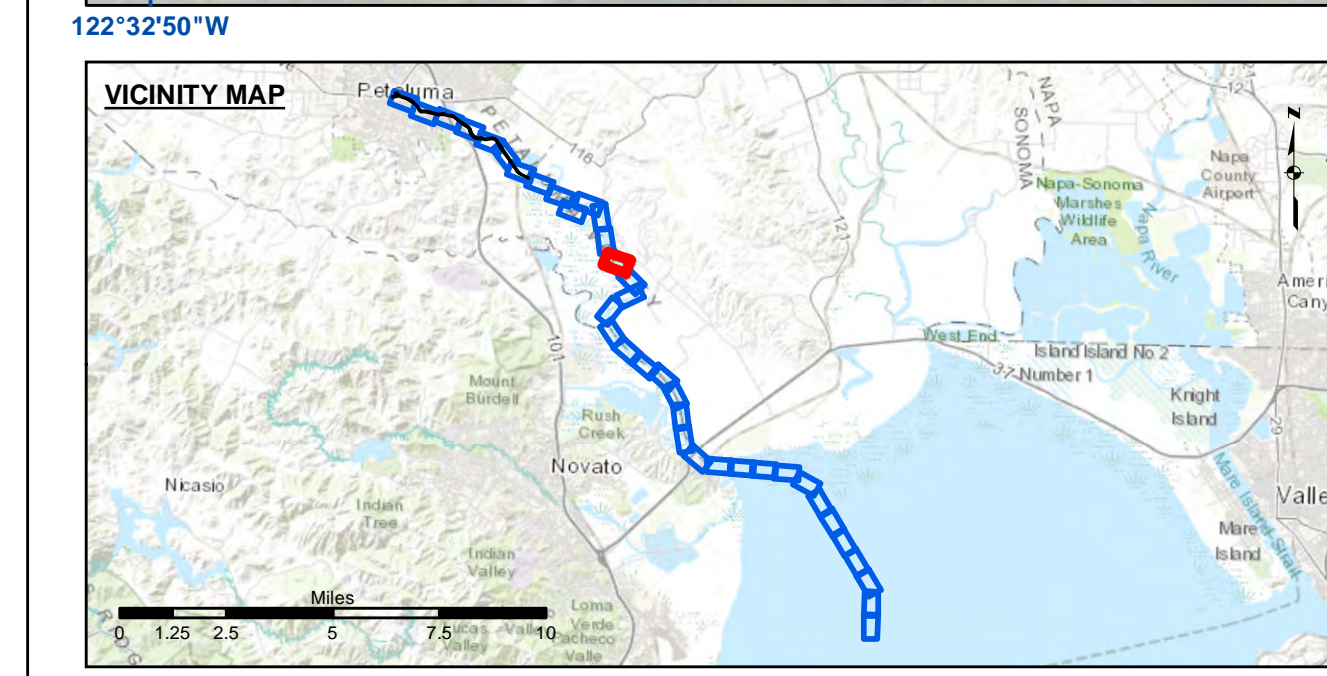
PRELIMINARY ISSUE

THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY

0 100 200 400 600
Feet

1 inch = 100 feet
Relative Scale (ANSI D 22x34)

1:1,200
Absolute Scale



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	— -8
Anchorage Area	Navigation Buoy	— -7
Wreck Area	Shoalest Sounding*	— -6
Submerged Wreck		— -5
Angle Point		— -4

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.

SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SERVICE.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 83 DATUM, PUBLICATION DATE: AUGUST 9, 2004

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

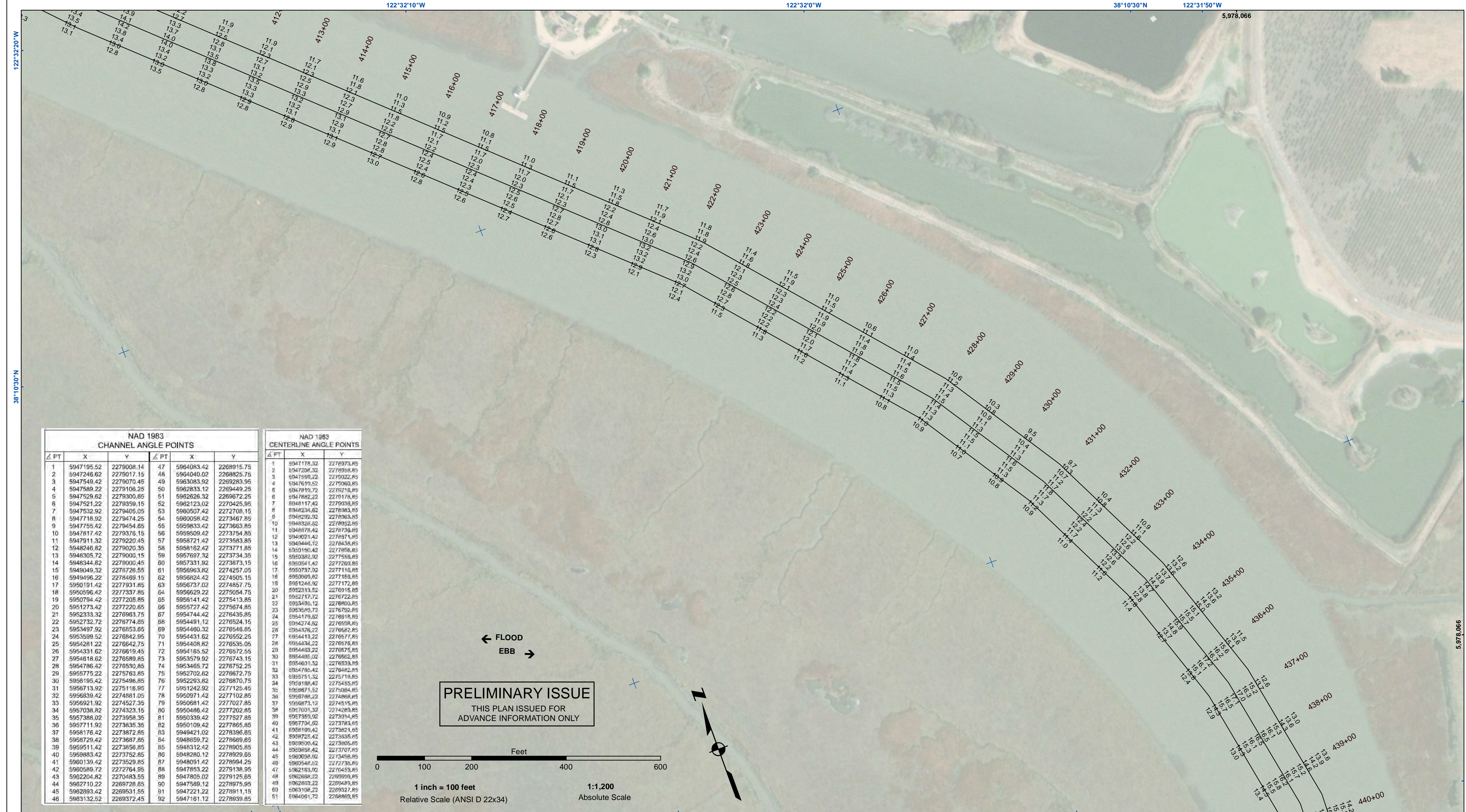
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Prepared Under the Direction of: JOHN D. CUNNINGHAM LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Jun 25, 2020
Submitted by: Hydro Survey Team Leader	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Drawn by: PDT
Approved by: Chief, Construction Branch	Checked by: PDT

CALIFORNIA
SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
14 of 37

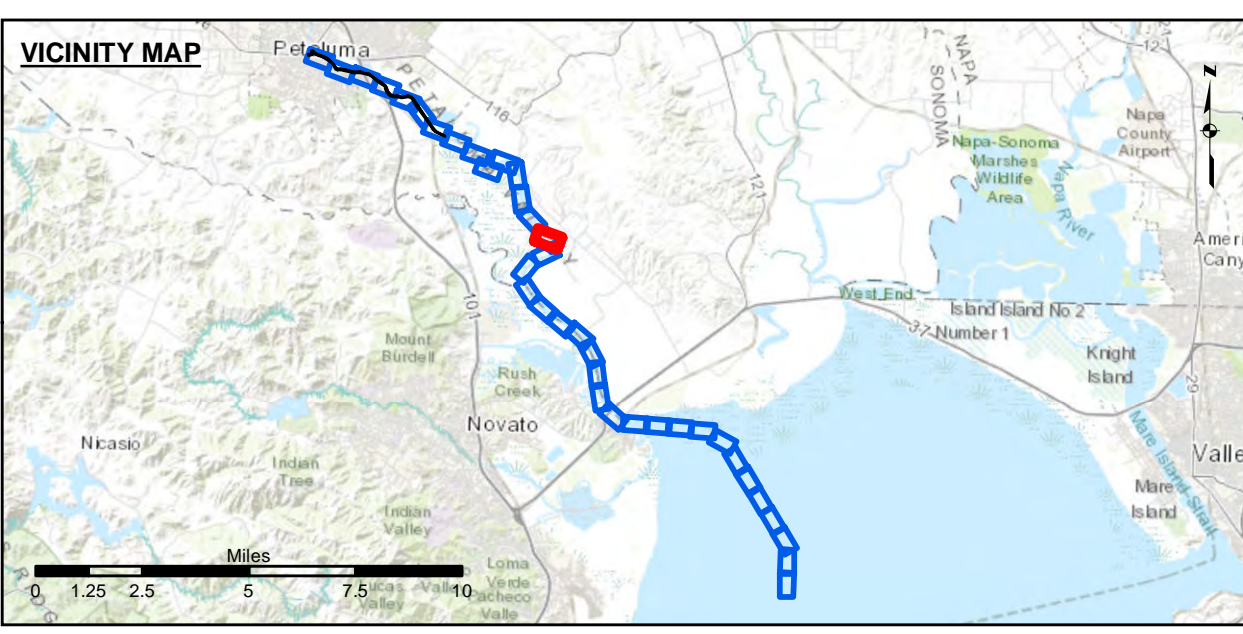
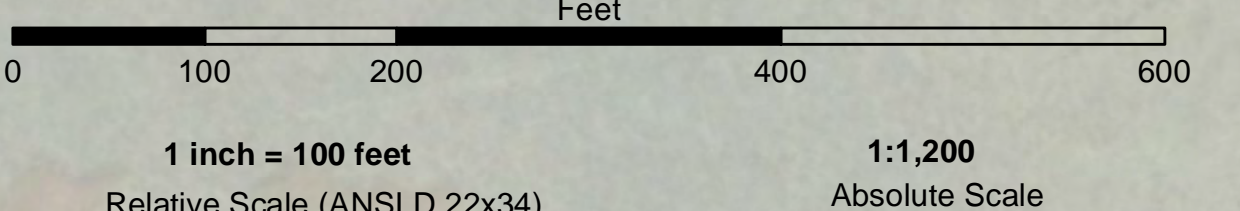


NAD 1983 CHANNEL ANGLE POINTS					
PT	X	Y	PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.92	2279474.25	54	5960056.42	2273467.85
9	5947755.42	2279454.85	55	5959833.42	2273663.85
10	5947817.42	2279375.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.55	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956623.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954618.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950681.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
PT	X	Y	PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279022.85	2	5947610.52	2279060.85
3	5947810.72	2279181.85	3	5947822.22	2279178.85
4	5948117.42	2279383.85	4	5948234.62	2279531.85
5	5948326.62	2279932.85	5	5948676.42	2278736.85
6	5948676.42	2278736.85	6	5949021.42	2278571.85
7	5949021.42	2278571.85	7	5949446.12	2278436.85
8	5949446.12	2278436.85	8	5949858.42	2277986.85
9	5949858.42	2277986.85	9	5950382.92	2277556.85
10	5950382.92	2277556.85	10	5950541.42	2277260.85
11	5950541.42	2277260.85	11	5950737.02	2277116.85
12	5950737.02	2277116.85	12	5950969.82	2277155.85
13	5951246.92	2277172.85	13	5951246.92	2277172.85
14	5951584.42	2276916.85	14	5952313.52	2276916.85
15	5952313.52	2276916.85	15	5952717.72	2276722.85
16	5952717.72	2276722.85	16	5953495.12	2276800.85
17	5953495.12	2276800.85	17	5953695.72	2276752.85
18	5953695.72	2276752.85	18	5954179.82	2276918.85
19	5954179.82	2276918.85	19	5954274.82	2276508.85
20	5954274.82	2276508.85	20	5954326.22	2276582.85
21	5954326.22	2276582.85	21	5954434.22	2276578.85
22	5954434.22	2276578.85	22	5954483.22	2276975.85
23	5954483.22	2276975.85	23	5954485.02	2276562.85
24	5954485.02	2276562.85	24	5954611.52	2276539.85
25	5954611.52	2276539.85	25	5954785.42	2276482.85
26	5954785.42	2276482.85	26	5955751.32	2276718.85
27	5955751.32	2276718.85	27	5955919.42	2275455.85
28	5955919.42	2275455.85	28	5956871.52	2275084.85
29	5956871.52	2275084.85	29	5956878.22	2274868.85
30	5956878.22	2274868.85	30	5956873.12	2274515.85
31	5956873.12	2274515.85	31	5957001.32	2274289.85
32	5957001.32	2274289.85	32	5957359.02	2273914.85
33	5957359.02	2273914.85	33	5957704.02	2273763.85
34	5957704.02	2273763.85	34	5958189.42	2273621.85
35	5958189.42	2273621.85	35	5958725.42	2273635.85
36	5958725.42	2273635.85	36	5959006.42	2273805.85
37	5959006.42	2273805.85	37	5959598.42	2273707.85
38	5959598.42	2273707.85	38	5960058.02	2273488.85
39	5960058.02	2273488.85	39	5960544.62	2272735.85
40	5960544.62	2272735.85	40	5962193.02	2270453.85
41	5962193.02	2270453.85	41	5962668.22	2269999.85
42	5962668.22	2269999.85	42	5963263.22	2269429.85
43	5963263.22	2269429.85	43	5963106.22	2269327.85
44	5963106.22	2269327.85	44	5964091.72	2268869.85

← FLOOD
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PRELIMINARY ISSUE
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Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	-8
Anchorage Area	Navigation Buoy	-7
Wreck Area	Shoalest Sounding*	-6
Submerged Wreck		-5
Angle Point		-4

NOTES:

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SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

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ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT

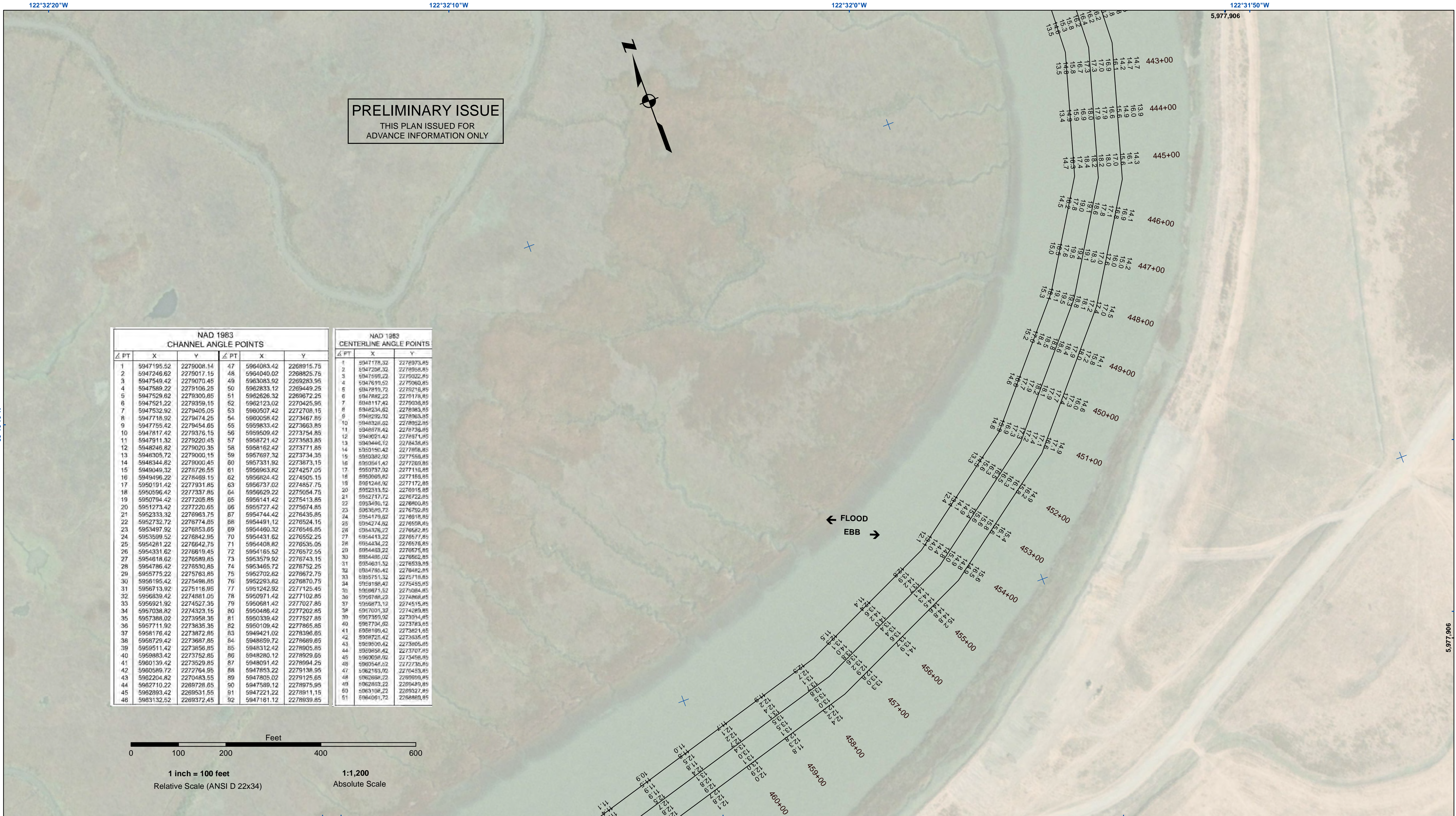
PREPARED UNDER THE DIRECTION OF
JOHN D. CUNNINGHAM
LT COLONEL, C.E., DISTRICT ENGINEER

Submitted: PDT
Hydro Survey Team Leader

Recommended by: Chief, Hydro Survey Section
Approved: Chief, Construction Branch

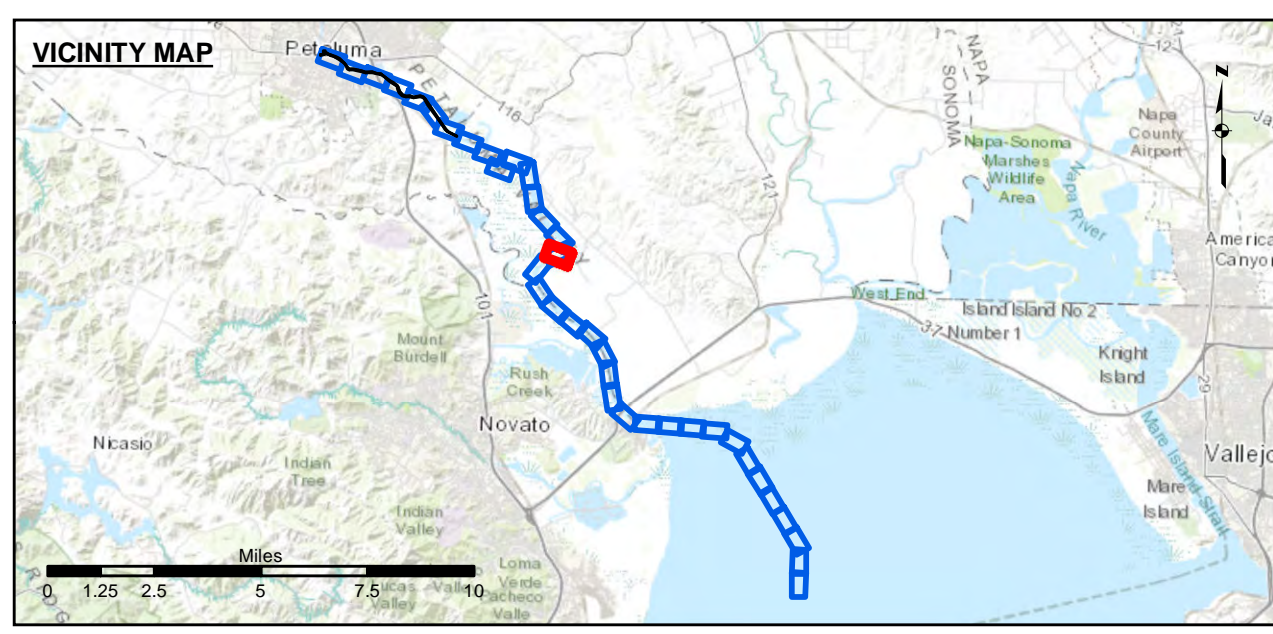
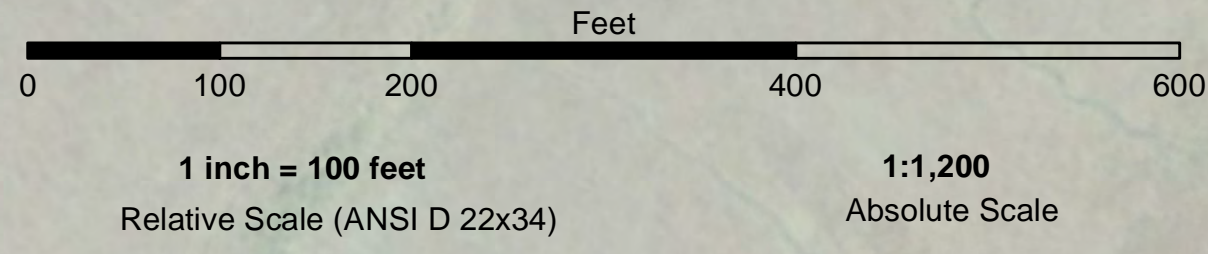
CALIFORNIA
SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
15 of 37



PRELIMINARY ISSUE
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ADVANCE INFORMATION ONLY

NAD 1983 CHANNEL ANGLE POINTS						NAD 1983 CENTERLINE ANGLE POINTS					
Δ FT	X	Y	Δ FT	X	Y	Δ FT	X	Y	Δ FT	X	Y
1	5947195.52	2279008.14	47	5964083.42	2268915.75	1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947246.62	2279017.15	48	5964040.02	2268825.75	2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947549.42	2279070.45	49	5963083.92	2269283.95	3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947598.22	2279106.25	50	5962833.12	2269449.25	4	5947619.52	2279060.85	4	5947619.52	2279060.85
5	5947529.62	2279300.85	51	5962826.32	226972.25	5	5947810.72	2279218.85	5	5947810.72	2279218.85
6	5947521.22	2279359.15	52	5962123.02	2270425.95	6	5947892.22	2279178.85	6	5947892.22	2279178.85
7	5947532.92	2279405.05	53	5960507.42	2272708.15	7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5947718.92	2279474.25	54	5960059.42	2273467.85	8	5948234.62	2278983.85	8	5948234.62	2278983.85
9	5947755.42	2279454.65	55	5959833.42	2273663.85	9	5948292.92	2278963.85	9	5948292.92	2278963.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85	10	5948328.62	2278952.85	10	5948328.62	2278952.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85	11	5948678.42	2278738.05	11	5948678.42	2278738.05
12	5948246.82	2279020.35	58	5958162.42	2273771.85	12	5949023.42	2278571.85	12	5949023.42	2278571.85
13	5948305.72	2279000.15	59	5957687.32	2273734.35	13	5949446.12	2278438.85	13	5949446.12	2278438.85
14	5948344.82	2279000.45	60	5957331.92	2273873.15	14	5950150.42	2278298.85	14	5950150.42	2278298.85
15	5949049.32	2278726.55	61	5956963.82	2274257.05	15	5950382.92	2278158.85	15	5950382.92	2278158.85
16	5949496.22	2278489.15	62	5956824.42	2274505.15	16	5950541.42	2277998.85	16	5950541.42	2277998.85
17	5950191.42	2278318.85	63	5956737.02	2274857.75	17	5950787.92	2277818.85	17	5950787.92	2277818.85
18	5950596.42	2278337.85	64	5956629.22	2275054.75	18	5950969.82	2277658.85	18	5950969.82	2277658.85
19	5950794.42	2278205.85	65	5956141.42	2275413.85	19	5951246.92	2277478.85	19	5951246.92	2277478.85
20	5951273.42	2278220.65	66	5955727.42	2275674.85	20	5952313.52	2276915.85	20	5952313.52	2276915.85
21	5952333.32	2278963.75	67	5954744.42	2276435.85	21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5952732.72	2278774.85	68	5954481.12	2276524.15	22	5953085.12	2276600.85	22	5953085.12	2276600.85
23	5953497.92	2278553.85	69	5954460.32	2276546.05	23	5953595.72	2276579.85	23	5953595.72	2276579.85
24	5953599.52	2278542.95	70	5954431.62	2276552.25	24	5954179.62	2276518.85	24	5954179.62	2276518.85
25	5954281.22	2278642.75	71	5954408.82	2276535.05	25	5954274.62	2276508.85	25	5954274.62	2276508.85
26	5954331.62	2278619.45	72	5954165.52	2276572.55	26	5954376.22	2276528.85	26	5954376.22	2276528.85
27	5954618.62	2278589.85	73	5953579.92	2276743.15	27	5954413.22	2276571.85	27	5954413.22	2276571.85
28	5954786.42	2278530.85	74	5953465.72	2276752.25	28	5954434.22	2276576.85	28	5954434.22	2276576.85
29	5955775.22	2278563.85	75	5952702.82	2276672.75	29	5954483.22	2276575.85	29	5954483.22	2276575.85
30	5956195.42	2278498.85	76	5952293.82	2276870.75	30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5956713.92	2278116.95	77	5951242.92	2277125.45	31	5954611.32	2276539.85	31	5954611.32	2276539.85
32	5956839.42	2278181.05	78	5950971.42	2277102.85	32	5954785.42	2276492.85	32	5954785.42	2276492.85
33	5956921.92	2278271.35	79	5950681.42	2277027.85	33	5954813.22	2276477.85	33	5954813.22	2276477.85
34	5957038.82	2278323.15	80	5950486.42	2277202.85	34	5954834.22	2276476.85	34	5954834.22	2276476.85
35	5957388.02	2278358.35	81	5950339.42	2277527.85	35	5954885.02	2276485.85	35	5954885.02	2276485.85
36	5957711.92	2278335.35	82	5950109.42	2277865.85	36	5954989.42	2276481.85	36	5954989.42	2276481.85
37	5958176.42	2278372.85	83	5949421.02	2278396.85	37	5955089.42	2276482.85	37	5955089.42	2276482.85
38	5958729.42	2278387.85	84	5948859.72	2278689.85	38	5955175.42	2276483.85	38	5955175.42	2276483.85
39	5959511.42	2278356.85	85	5948312.42	2278905.85	39	5955275.42	2276485.85	39	5955275.42	2276485.85
40	5959883.42	2278352.85	86	5948280.12	2278929.65	40	5955395.02	2276484.85	40	5955395.02	2276484.85
41	5960139.42	2278329.85	87	5948091.42	2278994.25	41	5955509.42	2276485.85	41	5955509.42	2276485.85
42	5960589.72	2278274.95	88	5947853.22	2279138.95	42	5955619.42	2276485.85	42	5955619.42	2276485.85
43	5962204.82	2278083.55	89	5947805.02	2279125.85	43	5955725.42	2276485.85	43	5955725.42	2276485.85
44	5962710.22	2287928.85	90	5947589.12	2278975.95	44	5955858.42	2276485.85	44	5955858.42	2276485.85
45	5962893.42	2289311.55	91	5947221.22	2278911.15	45	5955989.42	2276485.85	45	5955989.42	2276485.85
46	5963132.52	2289372.45	92	5947161.12	2278839.85	46	5956098.92	2276485.85	46	5956098.92	2276485.85
						47	5962193.92	2276483.85	47	5962193.92	2276483.85
						48	5962696.22	2276489.85	48	5962696.22	2276489.85
						49	5962893.22	2289489.85	49	5962893.22	2289489.85
						50	5963108.22	2289327.85	50	5963108.22	2289327.85
						51	5964061.72	2288880.85	51	5964061.72	2288880.85



	Federal Navigation Channel		Beacon, General		Contours
	Shoaling Area		Obstruction Point		-8
	Placement Area		Navigation Buoy		-7
	Anchorage Area		Navigation Buoy		-6
	Wreck Area		Shoalest Sounding*		-5
	Submerged Wreck				-4
	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.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

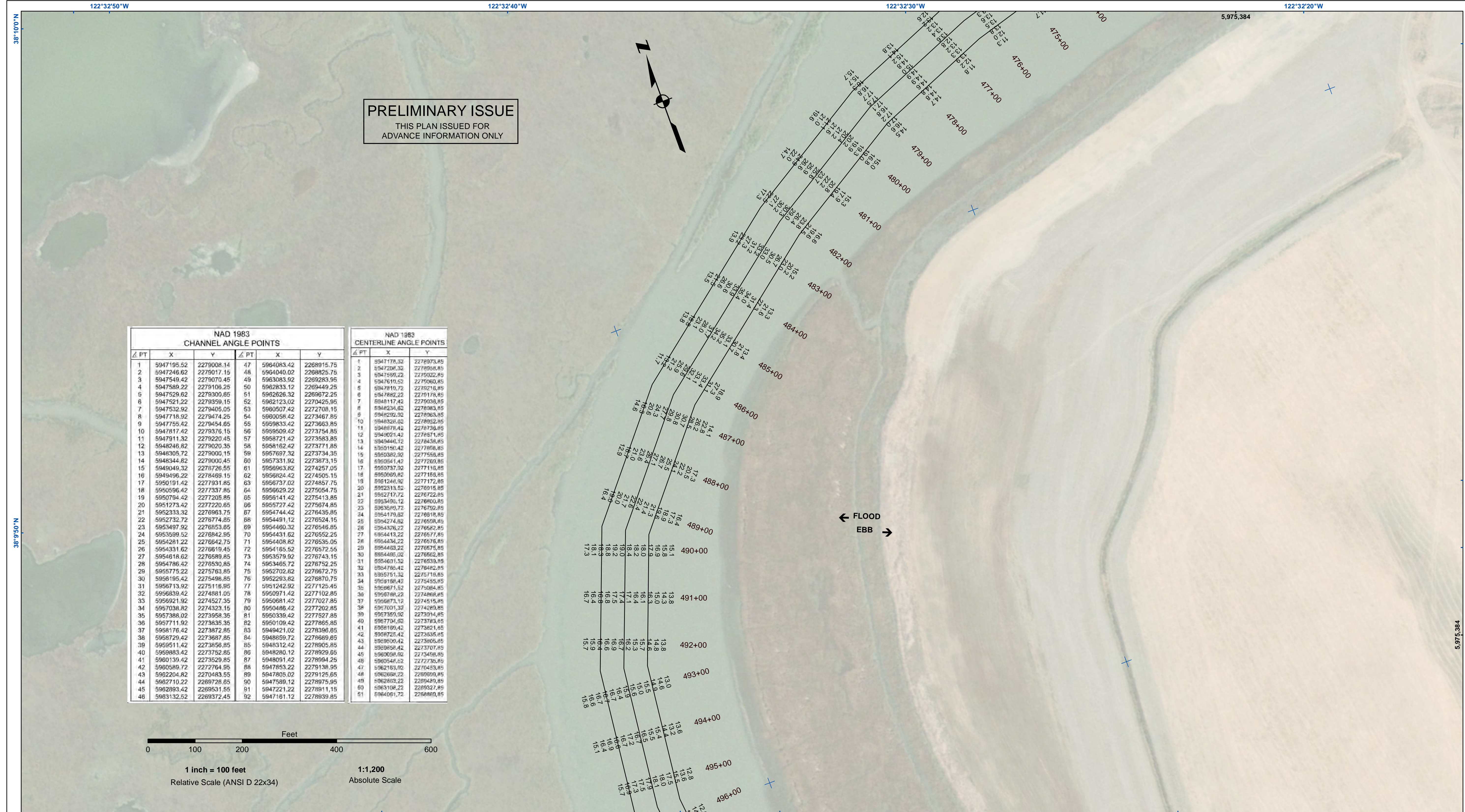
ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004



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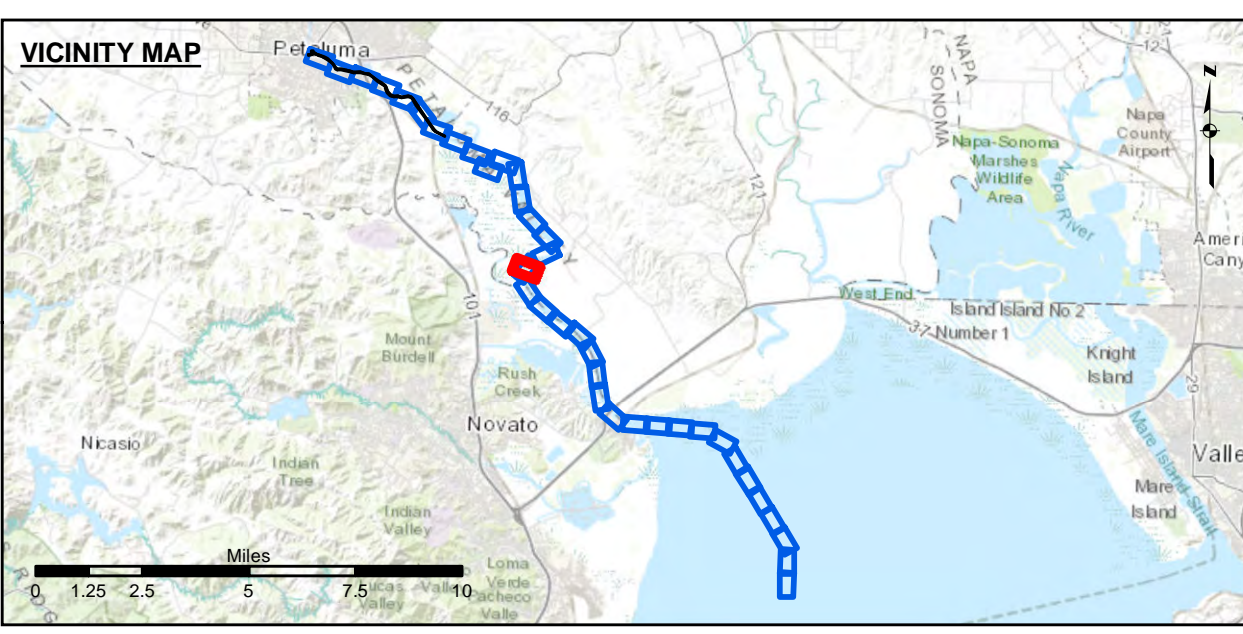
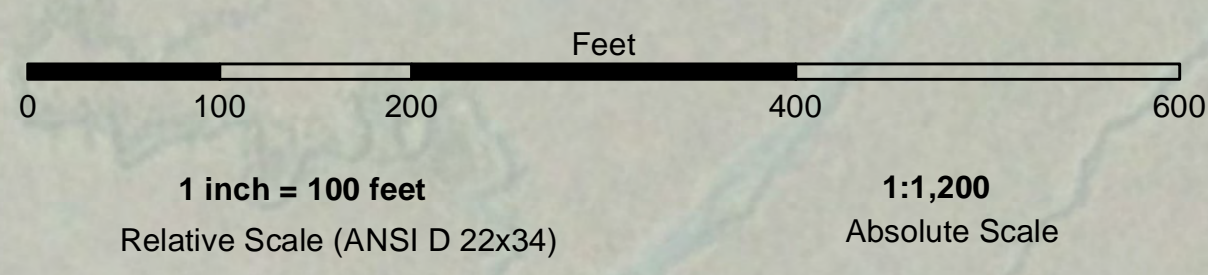
Chart Date:	Jun 25, 2020
Designed by:	
Drawn by:	PDT
Checked by:	PDT
Approved:	

SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020



PRELIMINARY ISSUE
THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY

NAD 1983 CHANNEL ANGLE POINTS						NAD 1983 CENTERLINE ANGLE POINTS					
Δ FT	X	Y	Δ PT	X	Y	Δ FT	X	Y	Δ FT	X	Y
1	5947195.52	2279008.14	47	5964083.42	2268915.75	1	5947178.32	2278973.85	2	5947204.32	2278958.85
2	5947246.62	2279017.15	48	5964040.02	2268825.75	3	5947599.22	2279022.85	3	5947599.22	2279022.85
3	5947549.42	2279070.45	49	5963083.92	2269283.95	4	5947619.52	2279060.85	4	5947619.52	2279060.85
4	5947598.22	2279106.25	50	5962833.12	2269449.25	5	5947819.72	2279216.85	5	5947819.72	2279216.85
5	5947529.62	2279300.85	51	5962826.32	2269672.25	6	5947892.22	2279178.85	6	5947892.22	2279178.85
6	5947521.22	2279359.15	52	5962123.02	2270425.95	7	5948117.42	2279038.85	7	5948117.42	2279038.85
7	5947532.92	2279405.05	53	5960507.42	2272708.15	8	5948234.62	2278983.85	8	5948234.62	2278983.85
8	5947718.92	2279474.25	54	5960059.42	2273467.85	9	5948292.92	2278963.85	9	5948292.92	2278963.85
9	5947755.42	2279454.65	55	5959833.42	2273663.85	10	5948328.62	2278952.85	10	5948328.62	2278952.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85	11	5948678.42	2278738.05	11	5948678.42	2278738.05
11	5947911.32	2279220.45	57	5958721.42	2273583.85	12	5949024.42	2278718.85	12	5949024.42	2278718.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85	13	5949444.12	2278438.85	13	5949444.12	2278438.85
13	5948305.72	2279000.15	59	5957687.32	2273734.35	14	5950150.42	2278058.85	14	5950150.42	2278058.85
14	5948344.82	2279000.45	60	5957331.92	2273873.15	15	5950382.32	2277558.85	15	5950382.32	2277558.85
15	5949049.32	2278726.55	61	5956963.82	2274257.05	16	5950541.42	2277269.85	16	5950541.42	2277269.85
16	5949496.22	2278489.15	62	5956824.42	2274505.15	17	5950787.92	2277118.85	17	5950787.92	2277118.85
17	5950191.42	2278311.85	63	5956737.02	2274857.75	18	5950969.62	2277158.85	18	5950969.62	2277158.85
18	5950596.42	2278337.85	64	5956629.22	2275054.75	19	5951246.92	2277172.85	19	5951246.92	2277172.85
19	5950794.42	2278205.85	65	5956441.42	2275413.85	20	5952313.52	2276915.85	20	5952313.52	2276915.85
20	5951273.42	2278220.65	66	5956272.42	2275674.85	21	5952717.72	2276722.85	21	5952717.72	2276722.85
21	5952333.32	2278963.75	67	5954744.42	2276435.85	22	5953496.12	2276800.85	22	5953496.12	2276800.85
22	5952732.72	2278774.85	68	5954481.12	2276524.15	23	5953689.72	2276792.85	23	5953689.72	2276792.85
23	5953497.92	2278533.85	69	5954480.32	2276546.85	24	5954179.62	2276918.85	24	5954179.62	2276918.85
24	5953599.52	2278542.95	70	5954431.62	2276552.25	25	5954274.62	2276508.85	25	5954274.62	2276508.85
25	5954281.22	2278642.75	71	5954408.82	2276535.05	26	5954376.22	2276522.85	26	5954376.22	2276522.85
26	5954331.62	2278619.45	72	5954165.52	2276572.55	27	5954513.22	2276577.85	27	5954513.22	2276577.85
27	5954618.62	2278589.85	73	5953579.92	2276743.15	28	5954434.22	2276576.85	28	5954434.22	2276576.85
28	5954786.42	2278530.85	74	5953465.72	2276752.25	29	5954483.22	2276575.85	29	5954483.22	2276575.85
29	5955775.22	2278563.85	75	5952702.82	2276672.75	30	5954485.02	2276562.85	30	5954485.02	2276562.85
30	5956195.42	2278498.85	76	5952293.82	2276670.75	31	5954601.32	2276539.85	31	5954601.32	2276539.85
31	5956713.92	2278116.95	77	5951242.92	2277125.45	32	5954768.42	2276492.85	32	5954768.42	2276492.85
32	5956839.42	2278181.05	78	5950971.42	2277102.85	33	5954768.42	2276492.85	33	5954768.42	2276492.85
33	5956921.92	2278237.35	79	5950681.42	2277027.85	34	5955751.32	2275718.85	34	5955751.32	2275718.85
34	5957038.82	2278323.15	80	5950486.42	2277202.85	35	5955887.52	2275455.85	35	5955887.52	2275455.85
35	5957388.02	2278358.35	81	5950339.42	2277527.85	36	5956871.52	2275084.85	36	5956871.52	2275084.85
36	5957711.92	2278335.35	82	5950109.42	2277865.85	37	5956978.22	2274868.85	37	5956978.22	2274868.85
37	5958176.42	2278372.85	83	5949421.02	2278396.85	38	5957031.32	2274289.85	38	5957031.32	2274289.85
38	5958729.42	2278367.85	84	5948859.72	2278689.85	39	5957359.02	2273014.85	39	5957359.02	2273014.85
39	5959511.42	2278356.85	85	5948312.42	2278905.85	40	5957704.62	2273783.85	40	5957704.62	2273783.85
40	5959883.42	2278352.85	86	5948280.12	2278929.65	41	5958189.42	2273821.85	41	5958189.42	2273821.85
41	5960139.42	2278329.85	87	5948091.42	2278994.25	42	5958725.42	2273635.85	42	5958725.42	2273635.85
42	5960586.72	2278274.95	88	5947853.22	2279138.95	43	5959259.42	2273405.85	43	5959259.42	2273405.85
43	5962204.82	2278083.55	89	5947805.02	2279125.85	44	5959858.42	2273207.85	44	5959858.42	2273207.85
44	5962710.22	2287728.65	90	5947589.12	2278975.95	45	5960098.92	2273198.85	45	5960098.92	2273198.85
45	5962893.42	2286931.55	91	5947221.22	2278911.15	46	5960544.62	2272735.85	46	5960544.62	2272735.85
46	5963132.52	2286937.45	92	5947161.12	2278839.85	47	5962193.92	2272433.85	47	5962193.92	2272433.85
						48	5962696.22	2272090.85	48	5962696.22	2272090.85
						49	5962893.22	2271848.85	49	5962893.22	2271848.85
						50	5963108.22	2271606.85	50	5963108.22	2271606.85
						51	5964091.72	2271364.85	51	5964091.72	2271364.85



	Federal Navigation Channel		Beacon, General	Contours	
	Shoaling Area		Obstruction Point		
	Placement Area		Navigation Buoy		
	Anchorage Area		Navigation Buoy		
	Wreck Area		Shoalest Sounding*		
	Submerged Wreck				-8
	Angle Point				-7
					-6
					-5
					-4

NOTES:
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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 ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

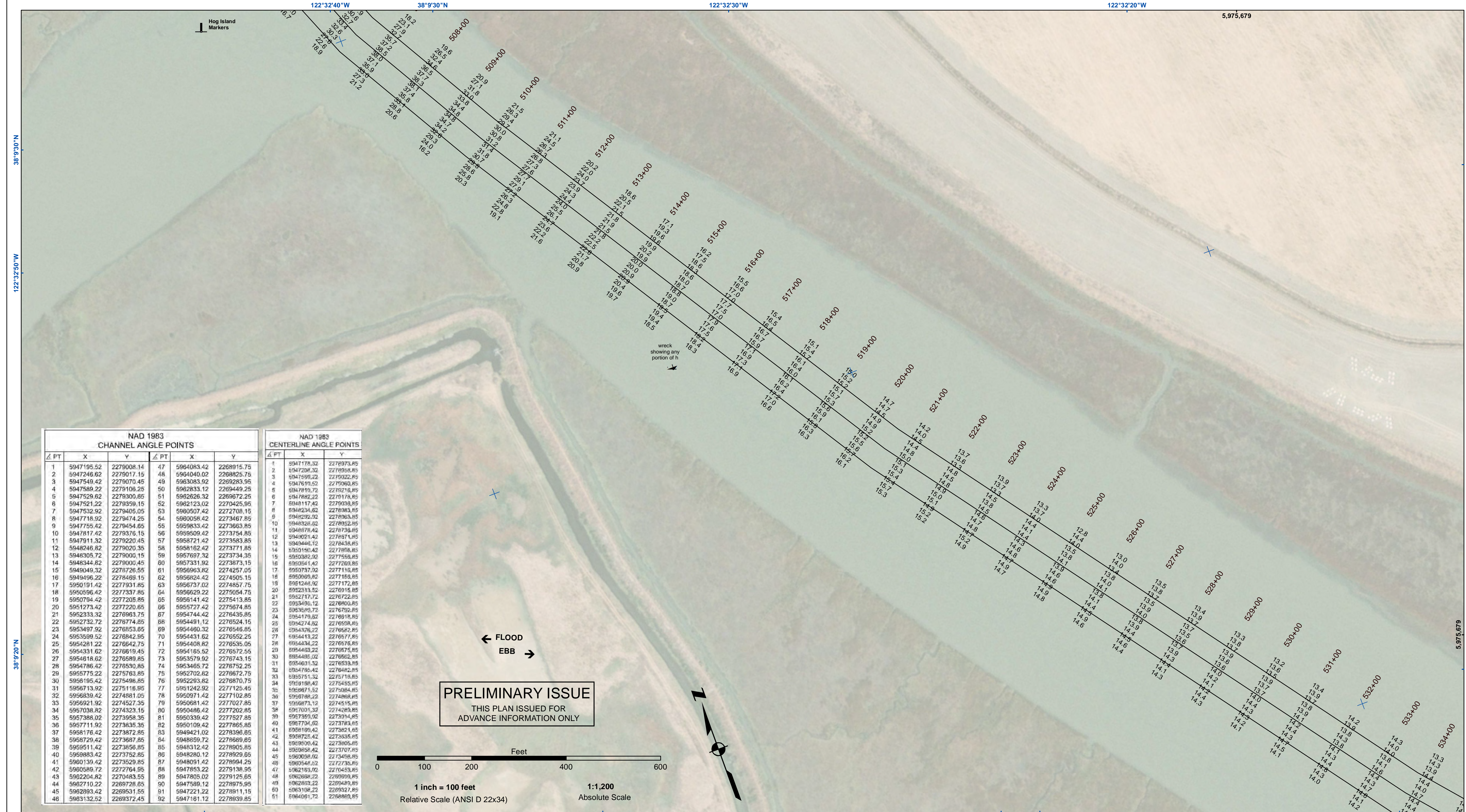
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Prepared Under the Direction of: JOHN D. CUNNINGHAM LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Jun 25, 2020
Submittal: PDT	Designed by:
Recommendation: Chief, Hydro Survey Section	Drawn by: PDT
Approval: Chief, Construction Branch	

SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
17 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5954063.42	2268915.75
2	5947246.62	2279017.15	48	5954040.02	2268825.75
3	5947549.42	2279070.45	49	5953083.92	2269283.95
4	5947589.22	2279106.25	50	5952833.12	2269449.25
5	5947529.62	2279300.85	51	5952626.32	2269672.25
6	5947521.22	2279359.15	52	5952123.02	2270425.95
7	5947532.92	2279405.05	53	5950507.42	2272708.15
8	5947716.92	2279474.25	54	5950056.42	2273467.95
9	5947755.42	2279454.65	55	5950833.42	2273663.95
10	5947817.42	2279375.15	56	5950509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.65	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954618.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278386.85
38	5958729.42	2273887.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.85	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279022.85	2	5947599.22	2279022.85
3	5947610.52	2279060.85	3	5947610.52	2279060.85
4	5947810.72	2279216.85	4	5947810.72	2279216.85
5	5947882.22	2279178.85	5	5947882.22	2279178.85
6	5948117.42	2279038.85	6	5948117.42	2279038.85
7	5948234.62	2278983.85	7	5948234.62	2278983.85
8	5948326.62	2278932.85	8	5948326.62	2278932.85
9	5948676.42	2278736.85	9	5948676.42	2278736.85
10	5949021.42	2278571.85	10	5949021.42	2278571.85
11	5949446.12	2278436.85	11	5949446.12	2278436.85
12	5949582.92	2278363.85	12	5949582.92	2278363.85
13	5949802.42	2278269.85	13	5949802.42	2278269.85
14	5950046.12	2278156.85	14	5950046.12	2278156.85
15	5950382.92	2277956.85	15	5950382.92	2277956.85
16	5950541.42	2277760.85	16	5950541.42	2277760.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950969.82	2276155.85	18	5950969.82	2276155.85
19	5951246.92	2275172.85	19	5951246.92	2275172.85
20	5952313.52	2276916.85	20	5952313.52	2276916.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954179.82	2276918.85	24	5954179.82	2276918.85
25	5954274.82	2276580.85	25	5954274.82	2276580.85
26	5954326.22	2276582.85	26	5954326.22	2276582.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276578.85	28	5954434.22	2276578.85
29	5954493.22	2276975.85	29	5954493.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276539.85	31	5954601.52	2276539.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2275718.85	33	5955751.32	2275718.85
34	5955958.42	2275455.85	34	5955958.42	2275455.85
35	5956971.52	2275084.85	35	5956971.52	2275084.85
36	5956988.22	2274868.85	36	5956988.22	2274868.85
37	5956873.12	2274515.85	37	5956873.12	2274515.85
38	5957001.32	2274289.85	38	5957001.32	2274289.85
39	5957359.02	2273914.85	39	5957359.02	2273914.85
40	5957704.02	2273763.85	40	5957704.02	2273763.85
41	5958189.42	2273621.85	41	5958189.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959080.42	2273805.85	43	5959080.42	2273805.85
44	5959598.42	2273707.85	44	5959598.42	2273707.85
45	5960058.02	2273488.85	45	5960058.02	2273488.85
46	5960544.62	2272735.85	46	5960544.62	2272735.85
47	5962193.02	2270453.85	47	5962193.02	2270453.85
48	5962688.22	2269999.85	48	5962688.22	2269999.85
49	5962983.22	2269429.85	49	5962983.22	2269429.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268889.85	51	5964091.72	2268889.85

Legend

- 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

- -8
- -7
- -6
- -5
- -4



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 ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83. CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SERVICE.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5684 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004.

SURVEY CONTROL:
NOAA TIDE STATION:
9415684, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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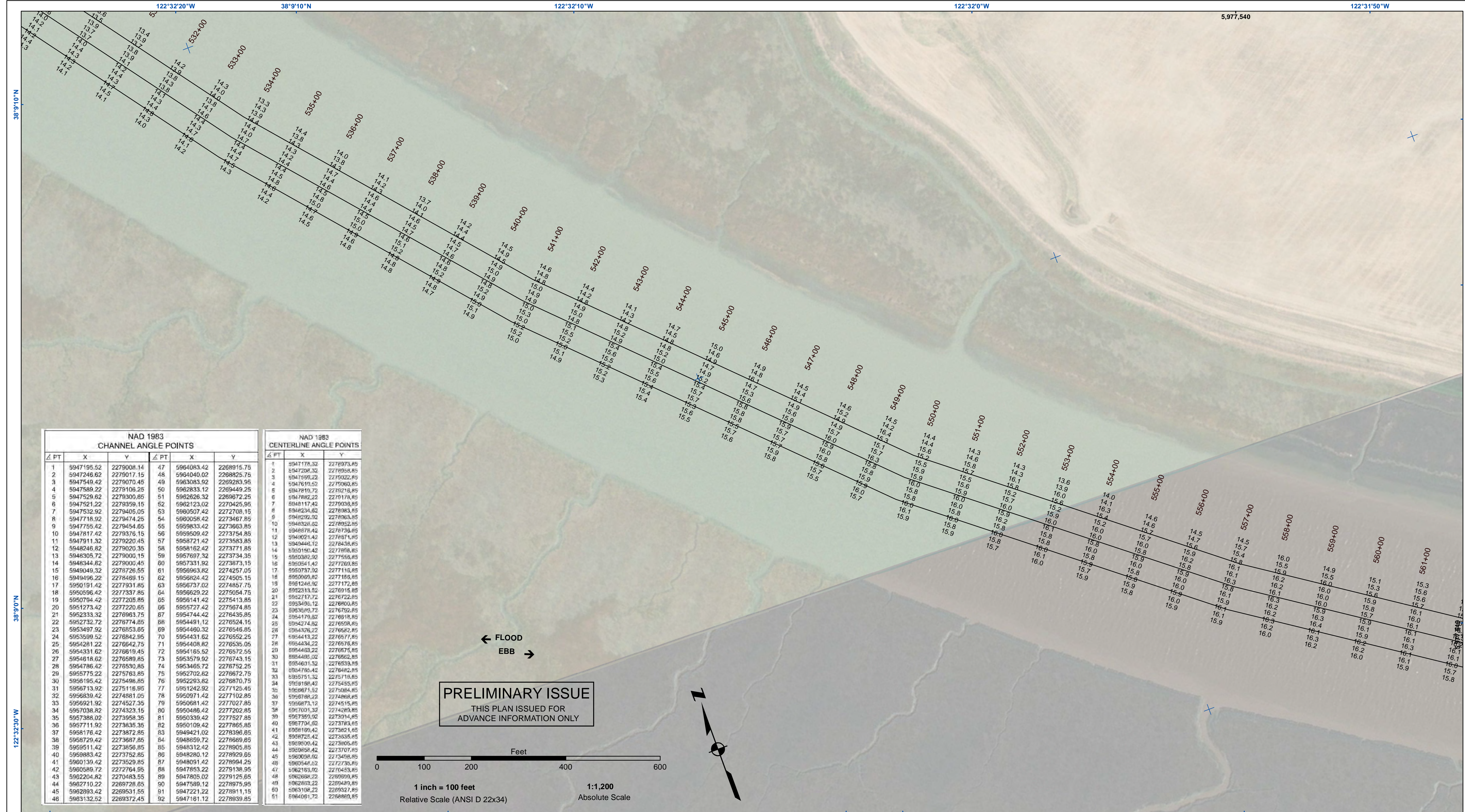
Chart Date: Jun 25, 2020
Designed by: PDT
Drawn by: PDT

Surveyed by: JOHN D. CUNNINGHAM
Plotted by: PDT
Checked by: PDT

PREPARED UNDER THE DIRECTION OF: JOHN D. CUNNINGHAM
LT COLONEL, C.E., DISTRICT ENGINEER
Submitted: Hydro Survey Team Leader
Recommended: Chief, Hydro Survey Section
Approved: Chief, Construction Branch

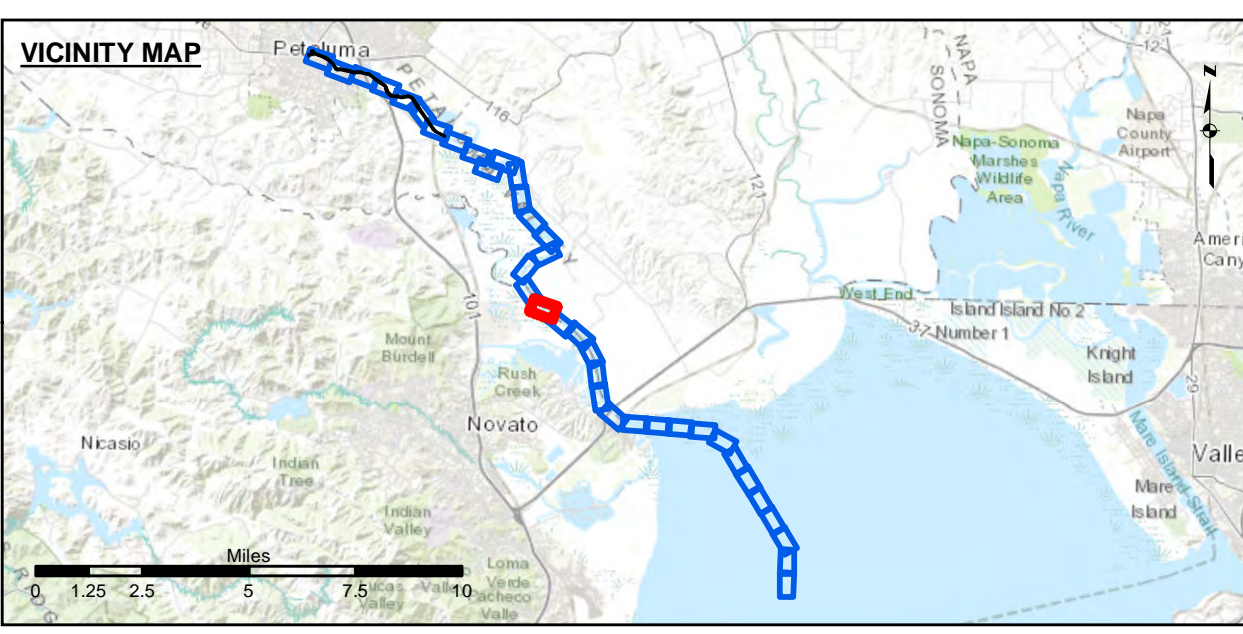
CALIFORNIA
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

SONOMA COUNTY
Sheet Reference Number
18 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5954083.42	2268915.75
2	5947246.62	2279017.15	48	5954040.02	2268825.75
3	5947549.42	2279070.45	49	5953083.92	2269283.95
4	5947589.22	2279106.25	50	5952833.12	2269449.25
5	5947529.62	2279300.85	51	5952626.32	2269672.25
6	5947521.22	2279359.15	52	5952123.02	2270425.95
7	5947532.92	2279405.05	53	5950507.42	2272708.15
8	5947716.92	2279474.25	54	5950058.42	2273467.85
9	5947755.42	2279454.65	55	5950833.42	2273663.85
10	5947817.42	2279375.15	56	5950509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277357.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954911.12	2276524.15
23	5953497.92	2276853.65	69	5954603.22	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275783.85	75	5952702.82	2276872.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278386.85
38	5958729.42	2273887.85	84	5948597.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947610.62	2279060.85	4	5947610.62	2279060.85
5	5947810.72	2279182.85	5	5947810.72	2279182.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278983.85	8	5948234.62	2278983.85
9	5948293.92	2278963.85	9	5948293.92	2278963.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278571.85	12	5949021.42	2278571.85
13	5949446.72	2278436.85	13	5949446.72	2278436.85
14	5949180.42	2277996.85	14	5949180.42	2277996.85
15	5950382.92	2277558.85	15	5950382.92	2277558.85
16	5950541.42	2277269.85	16	5950541.42	2277269.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950969.62	2277155.85	18	5950969.62	2277155.85
19	5951246.92	2277172.85	19	5951246.92	2277172.85
20	5952313.52	2276915.85	20	5952313.52	2276915.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954179.32	2276918.85	24	5954179.32	2276918.85
25	5954274.82	2276508.85	25	5954274.82	2276508.85
26	5954326.22	2276582.85	26	5954326.22	2276582.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276578.85	28	5954434.22	2276578.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276539.85	31	5954601.52	2276539.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2276718.85	33	5955751.32	2276718.85
34	5955936.42	2276455.85	34	5955936.42	2276455.85
35	5956971.52	2276084.85	35	5956971.52	2276084.85
36	5956988.22	2274868.85	36	5956988.22	2274868.85
37	5956873.12	2274515.85	37	5956873.12	2274515.85
38	5957001.32	2274289.85	38	5957001.32	2274289.85
39	5957359.02	2273914.85	39	5957359.02	2273914.85
40	5957704.02	2273763.85	40	5957704.02	2273763.85
41	5958189.42	2273621.85	41	5958189.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959006.42	2273805.85	43	5959006.42	2273805.85
44	5959358.42	2273707.85	44	5959358.42	2273707.85
45	5959698.02	2273488.85	45	5959698.02	2273488.85
46	5960546.62	2272735.85	46	5960546.62	2272735.85
47	5962163.02	2270433.85	47	5962163.02	2270433.85
48	5962668.22	2269999.85	48	5962668.22	2269999.85
49	5962863.22	2269449.85	49	5962863.22	2269449.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268869.85	51	5964091.72	2268869.85



	Federal Navigation Channel		Beacon, General	Contours	
	Shoaling Area		Obstruction Point		
	Placement Area		Navigation Buoy		
	Anchorage Area		Navigation Buoy		
	Wreck Area		Shoalest Sounding*		
	Submerged Wreck				-6
	Angle Point				-7
					-8

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.
SURVEYED BY THE CORPS OF ENGINEERS.
SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.
SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.
ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

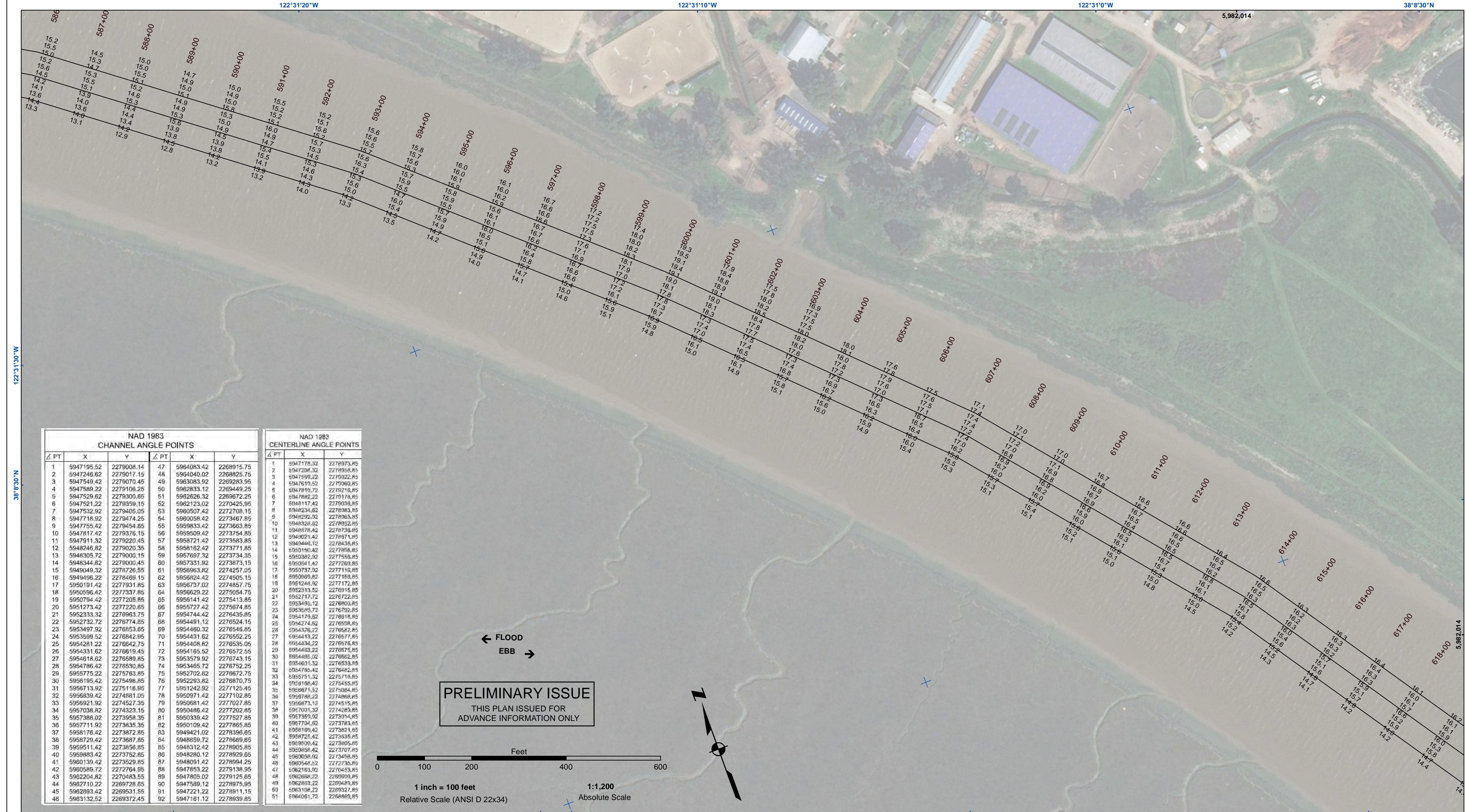
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Chart Date:	Jun 25, 2020
Designed by:	
Drawn by:	PDT
Surveyed By:	
Plotted By:	
Checked By:	PDT

SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
19 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	Y	
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.52	2279474.25	54	5960056.42	2273467.85
9	5947755.42	2279454.85	55	5959833.42	2273663.85
10	5947817.42	2279375.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.55	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956629.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.85	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	Y	
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279322.85	2	5947591.52	2279060.85
3	5947810.72	2279182.85	3	5947810.72	2279182.85
4	5947882.22	2279178.85	4	5948117.42	2279038.85
5	5948234.62	2278963.85	5	5948234.62	2278963.85
6	5948326.82	2278932.85	6	5948676.42	2278736.85
7	5949021.42	2278571.85	7	5949021.42	2278571.85
8	5949446.12	2278436.85	8	5949446.12	2278436.85
9	5950150.42	2277896.85	9	5950150.42	2277896.85
10	5950382.92	2277556.85	10	5950382.92	2277556.85
11	5950541.42	2277269.85	11	5950541.42	2277269.85
12	5950737.02	2277116.85	12	5950737.02	2277116.85
13	5950909.82	2277155.85	13	5950909.82	2277155.85
14	5951246.92	2277172.85	14	5951246.92	2277172.85
15	5952313.52	2276916.85	15	5952313.52	2276916.85
16	5952717.72	2276722.85	16	5952717.72	2276722.85
17	5953495.12	2276800.85	17	5953495.12	2276800.85
18	5953695.72	2276752.85	18	5953695.72	2276752.85
19	5954179.82	2276918.85	19	5954179.82	2276918.85
20	5954274.82	2276508.85	20	5954274.82	2276508.85
21	5954326.22	2276562.85	21	5954326.22	2276562.85
22	5954413.22	2276577.85	22	5954413.22	2276577.85
23	5954434.22	2276576.85	23	5954434.22	2276576.85
24	5954483.22	2276975.85	24	5954483.22	2276975.85
25	5954485.02	2276562.85	25	5954485.02	2276562.85
26	5954601.52	2276539.85	26	5954601.52	2276539.85
27	5954785.42	2276482.85	27	5954785.42	2276482.85
28	5955751.32	2275718.85	28	5955751.32	2275718.85
29	5956196.42	2275455.85	29	5956196.42	2275455.85
30	5956871.52	2275084.85	30	5956871.52	2275084.85
31	5956882.22	2274968.85	31	5956882.22	2274968.85
32	5956873.12	2274515.85	32	5956873.12	2274515.85
33	5957001.32	2274289.85	33	5957001.32	2274289.85
34	5957359.02	2273914.85	34	5957359.02	2273914.85
35	5957704.02	2273766.85	35	5957704.02	2273766.85
36	5958189.42	2273621.85	36	5958189.42	2273621.85
37	5958725.42	2273635.85	37	5958725.42	2273635.85
38	5959006.42	2273805.85	38	5959006.42	2273805.85
39	5959698.42	2273707.85	39	5959698.42	2273707.85
40	5960058.02	2273408.85	40	5960058.02	2273408.85
41	5960544.62	2272735.85	41	5960544.62	2272735.85
42	5962668.22	2269999.85	42	5962668.22	2269999.85
43	5962893.22	2269429.85	43	5962893.22	2269429.85
44	5963106.22	2269327.85	44	5963106.22	2269327.85
45	5964091.72	2268869.85	45	5964091.72	2268869.85

Legend

- 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

- 8
- 7
- 6
- 5
- 4



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.

SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83. CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 9415584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

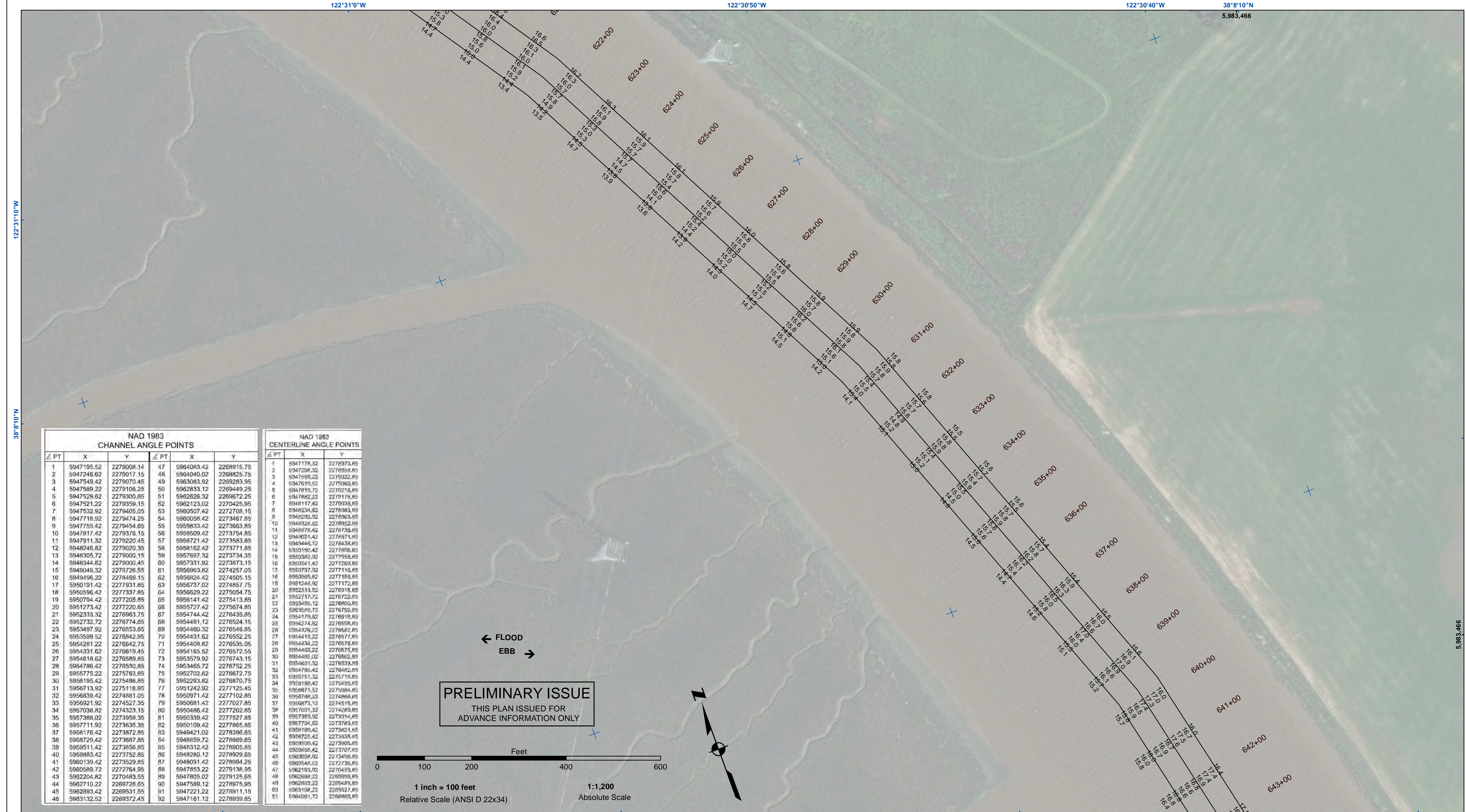
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	John D. Cunningham
Plotted By:	PDT
Checked By:	PDT

SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
21 of 37

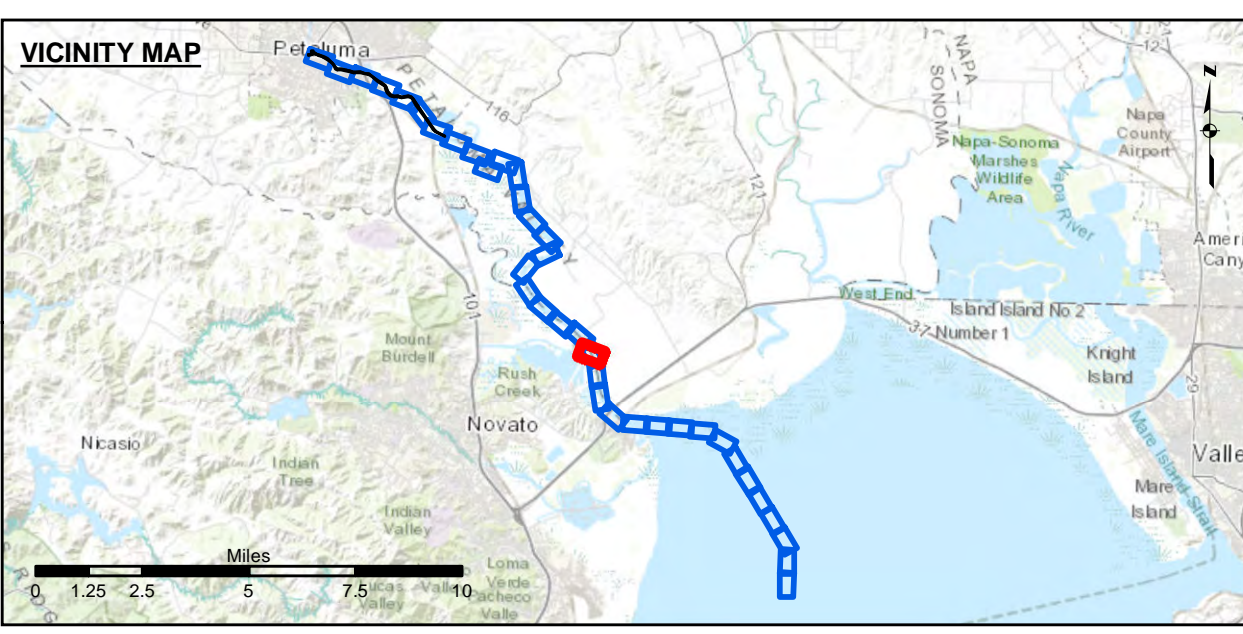
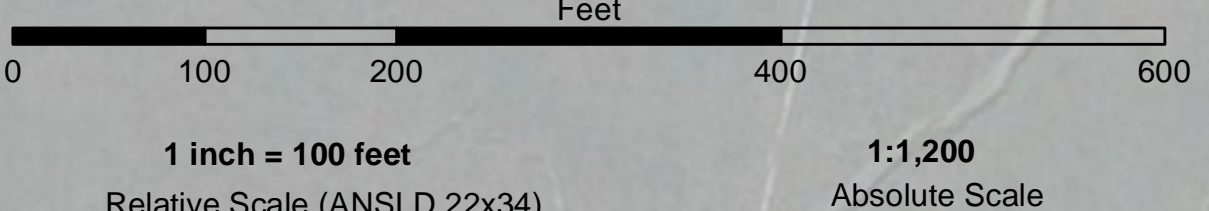


NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.52	2279474.25	54	5960056.42	2273467.85
9	5947755.42	2279454.85	55	5959833.42	2273663.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956623.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948559.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.95	90	5947589.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279022.85	2	5947610.22	2279060.85
3	5947810.72	2279218.85	3	5947882.22	2279178.85
4	5948117.42	2279038.85	4	5948234.62	2278963.85
5	5948326.82	2278932.85	5	5948676.42	2278736.85
6	5949021.42	2278571.85	6	5949446.72	2278436.85
7	5949824.62	2277898.85	7	5950150.42	2277898.85
8	5950382.92	2277556.85	8	5950541.42	2277260.85
9	5950737.02	2277116.85	9	5950969.82	2276717.85
10	5951246.92	2276712.85	10	5951246.92	2276712.85
11	595213.52	2276916.85	11	595217.72	2276722.85
12	5953495.12	2276800.85	12	5953495.12	2276800.85
13	5953695.72	2276752.85	13	5954179.82	2276918.85
14	5954483.22	2276552.85	14	5954274.82	2276508.85
15	5954432.22	2276577.85	15	5954326.22	2276582.85
16	5954434.22	2276578.85	16	5954413.22	2276577.85
17	5954483.22	2276575.85	17	5954434.22	2276578.85
18	5954485.02	2276562.85	18	5954483.22	2276575.85
19	5954601.52	2276539.85	19	5954485.02	2276562.85
20	5954785.42	2276428.85	20	5954601.52	2276539.85
21	5955751.32	2276571.85	21	5954785.42	2276428.85
22	5956196.42	2276455.85	22	5955751.32	2276571.85
23	5956987.12	2276084.85	23	5956196.42	2276455.85
24	5956873.12	2274515.85	24	5956987.12	2276084.85
25	5957001.32	2274289.85	25	5956873.12	2274515.85
26	5957359.02	2273914.85	26	5957001.32	2274289.85
27	5957704.02	2273763.85	27	5957359.02	2273914.85
28	5958169.42	2273621.85	28	5957704.02	2273763.85
29	5958725.42	2273635.85	29	5958169.42	2273621.85
30	5959006.42	2273707.85	30	5958725.42	2273635.85
31	5959358.42	2273408.85	31	5959006.42	2273707.85
32	5959658.02	2272735.85	32	5959358.42	2273408.85
33	5960268.22	2270433.85	33	5959658.02	2272735.85
34	5960668.22	2269999.85	34	5960268.22	2270433.85
35	5962863.22	2269449.85	35	5960668.22	2269999.85
36	5963106.22	2269327.85	36	5962863.22	2269449.85
37	5964091.72	2268889.85	37	5963106.22	2269327.85

FLOOD
EBB

PRELIMINARY ISSUE
THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	-8
Anchorage Area	Navigation Buoy	-7
Wreck Area	Shoalest Sounding*	-6
Submerged Wreck		-5
Angle Point		-4

NOTES:
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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.
SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.
SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

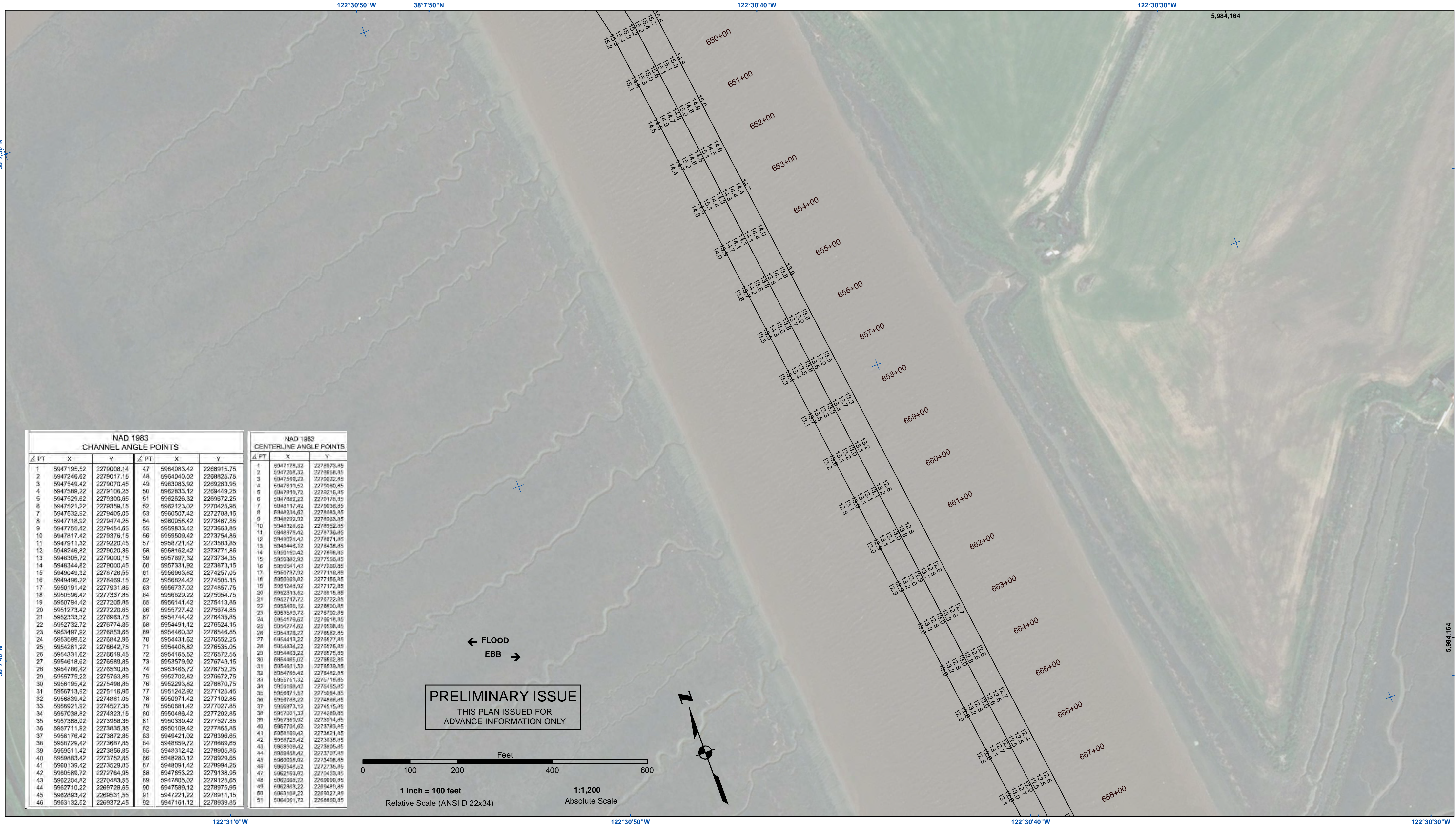
PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.
ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004



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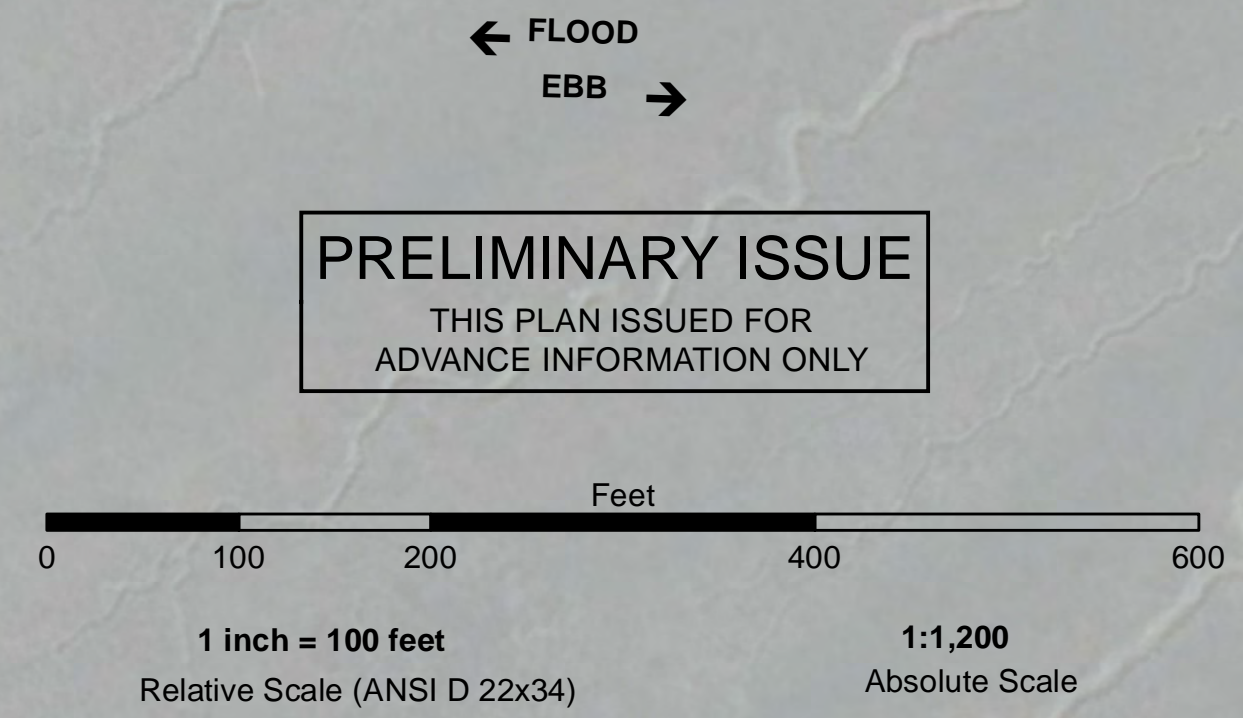
Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Checked by:	PDT
Surveyed by:	JOHN D. CUNNINGHAM
Plotted by:	PDT
Submitted:	Hydro Survey Team Leader
Recommended:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

SONOMA COUNTY
CALIFORNIA
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947718.92	2279474.25	54	5960058.42	2273467.85
9	5947755.42	2279454.85	55	5959833.42	2273663.85
10	5947817.42	2279375.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956623.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.85	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948859.72	2278869.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.85	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.85	90	5947599.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947610.52	2279060.85	4	5947610.52	2279060.85
5	5947810.72	2279218.85	5	5947810.72	2279218.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278983.85	8	5948234.62	2278983.85
9	5948293.92	2278963.85	9	5948293.92	2278963.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278571.85	12	5949021.42	2278571.85
13	5949446.12	2278436.85	13	5949446.12	2278436.85
14	5949180.42	2277996.85	14	5949180.42	2277996.85
15	5950382.92	2277556.85	15	5950382.92	2277556.85
16	5950541.42	2277260.85	16	5950541.42	2277260.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950969.82	2277155.85	18	5950969.82	2277155.85
19	5951246.92	2277172.85	19	5951246.92	2277172.85
20	5952313.52	2276915.85	20	5952313.52	2276915.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954179.82	2276918.85	24	5954179.82	2276918.85
25	5954274.82	2276508.85	25	5954274.82	2276508.85
26	5954326.22	2276528.85	26	5954326.22	2276528.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276576.85	28	5954434.22	2276576.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276939.85	31	5954601.52	2276939.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2276718.85	33	5955751.32	2276718.85
34	5955936.42	2276455.85	34	5955936.42	2276455.85
35	5956071.52	2276084.85	35	5956071.52	2276084.85
36	5956888.22	2274868.85	36	5956888.22	2274868.85
37	5956873.12	2274515.85	37	5956873.12	2274515.85
38	5957001.32	2274289.85	38	5957001.32	2274289.85
39	5957359.02	2273914.85	39	5957359.02	2273914.85
40	5957704.02	2273763.85	40	5957704.02	2273763.85
41	5958189.42	2273621.85	41	5958189.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959008.42	2273805.85	43	5959008.42	2273805.85
44	5959058.42	2273707.85	44	5959058.42	2273707.85
45	5959058.02	2273488.85	45	5959058.02	2273488.85
46	5959546.62	2272735.85	46	5959546.62	2272735.85
47	5962153.02	2270483.85	47	5962153.02	2270483.85
48	5962668.22	2269999.85	48	5962668.22	2269999.85
49	5962863.22	2269449.85	49	5962863.22	2269449.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268869.85	51	5964091.72	2268869.85



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	-8
Placement Area	Navigation Buoy	-7
Anchorage Area	Navigation Buoy	-6
Wreck Area	Shoalest Sounding*	-5
Submerged Wreck		-4
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.

SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004



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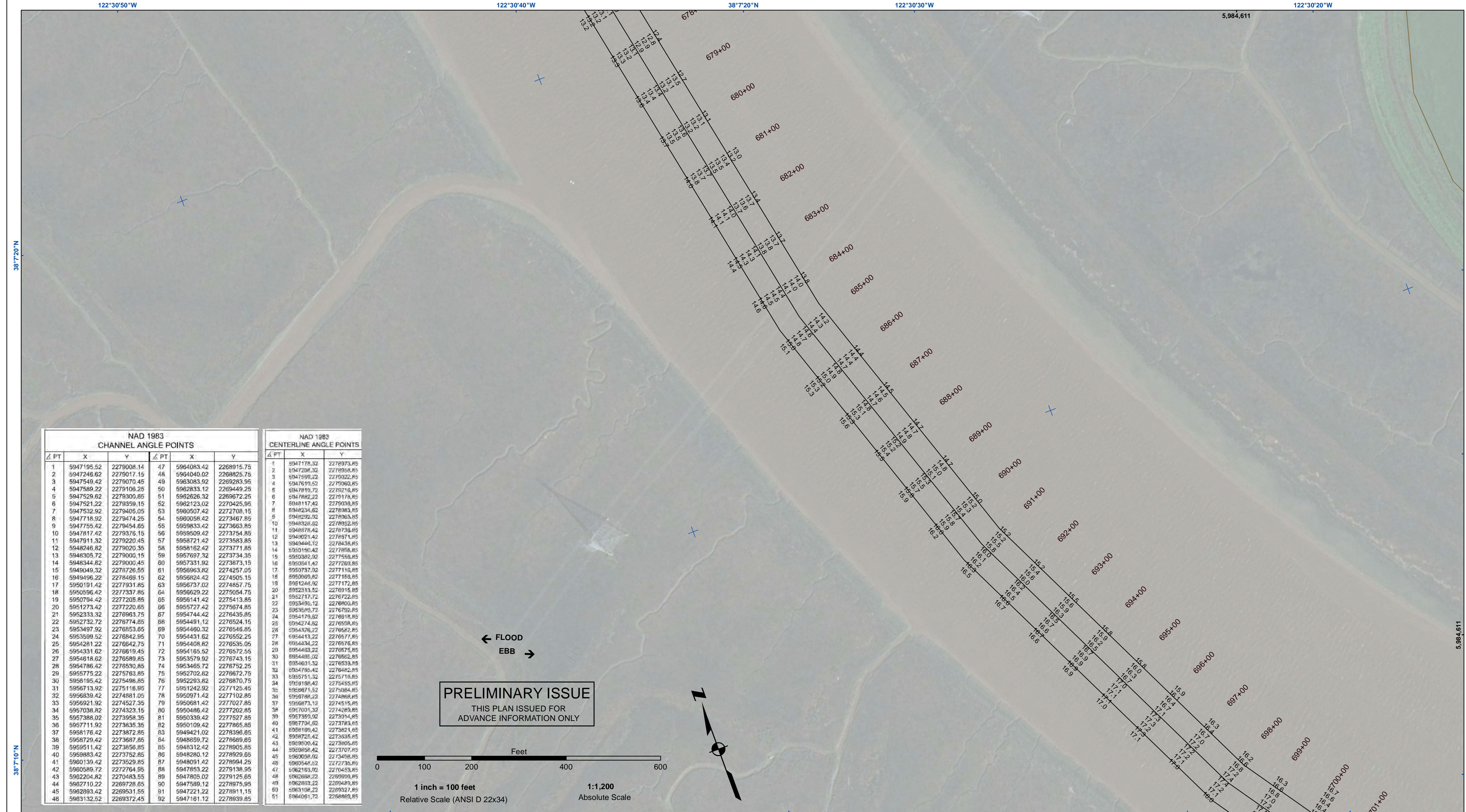
Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Checked by:	PDT
Surveyed By:	JOHN D. CUNNINGHAM
Plotted By:	PDT
Subject:	Hydro Survey Team Leader
Recommendation:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

CALIFORNIA

PETALUMA RIVER

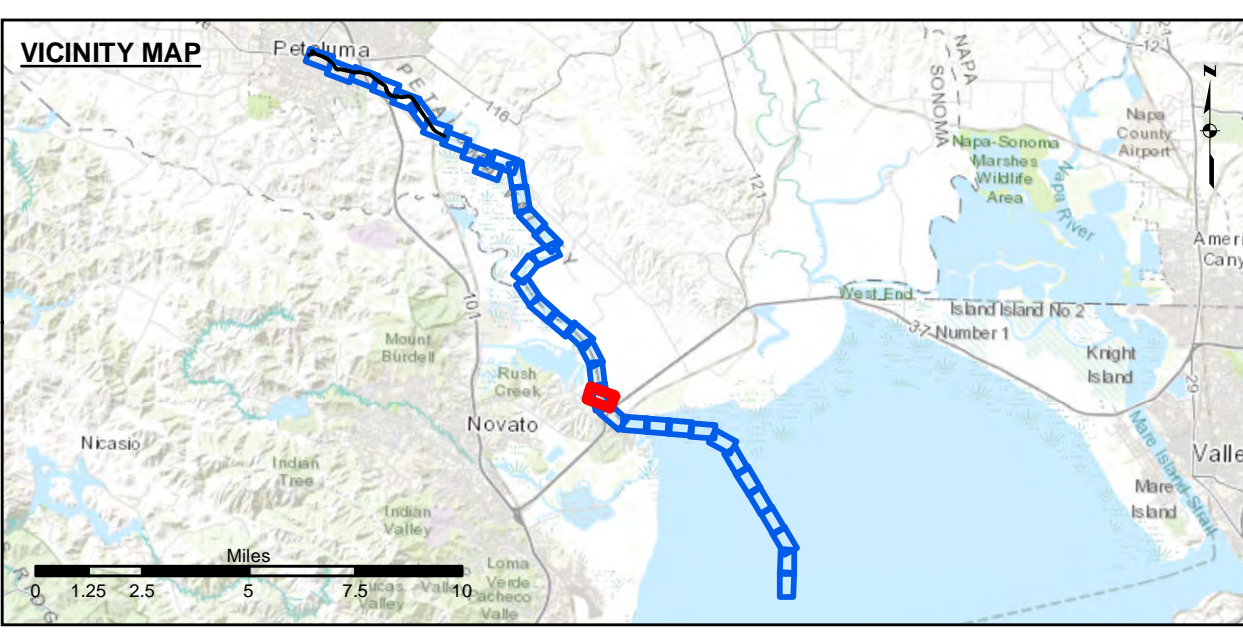
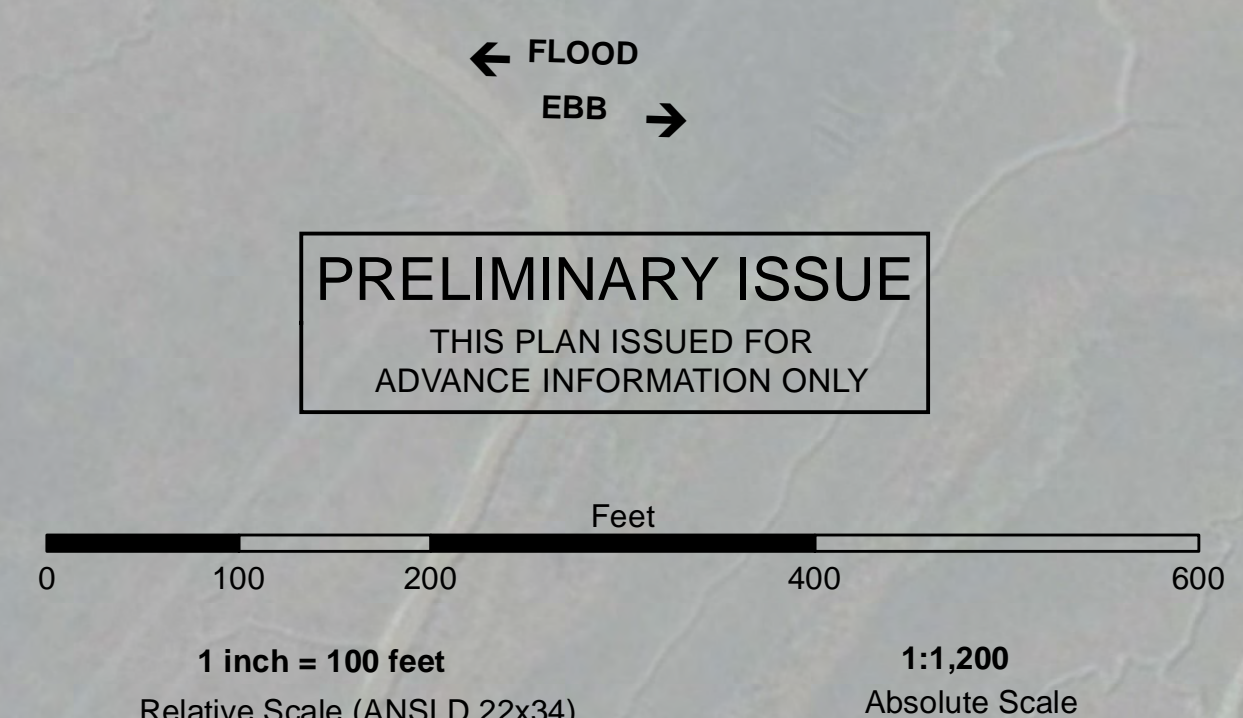
CONDITION SURVEY

03-15 JUNE 2020



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.92	2279474.25	54	5960056.42	2273467.85
9	5947755.42	2279454.65	55	5959833.42	2273663.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278386.85
38	5958729.42	2273887.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947610.62	2279060.85	4	5947610.62	2279060.85
5	5947810.72	2279182.85	5	5947810.72	2279182.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278983.85	8	5948234.62	2278983.85
9	5948293.92	2278963.85	9	5948293.92	2278963.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278571.85	12	5949021.42	2278571.85
13	5949446.12	2278436.85	13	5949446.12	2278436.85
14	5949584.42	2277998.85	14	5949584.42	2277998.85
15	5950382.92	2277558.85	15	5950382.92	2277558.85
16	5950541.42	2277269.85	16	5950541.42	2277269.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950969.82	2277155.85	18	5950969.82	2277155.85
19	5951246.92	2277172.85	19	5951246.92	2277172.85
20	5952313.52	2276916.85	20	5952313.52	2276916.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954179.82	2276918.85	24	5954179.82	2276918.85
25	5954274.82	2276580.85	25	5954274.82	2276580.85
26	5954326.22	2276582.85	26	5954326.22	2276582.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276578.85	28	5954434.22	2276578.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276539.85	31	5954601.52	2276539.85
32	5954785.42	2276428.85	32	5954785.42	2276428.85
33	5955751.32	2276718.85	33	5955751.32	2276718.85
34	5955986.42	2276455.85	34	5955986.42	2276455.85
35	5956871.52	2276084.85	35	5956871.52	2276084.85
36	5956888.22	2274968.85	36	5956888.22	2274968.85
37	5956873.12	2274515.85	37	5956873.12	2274515.85
38	5957001.32	2274289.85	38	5957001.32	2274289.85
39	5957359.02	2273914.85	39	5957359.02	2273914.85
40	5957704.02	2273763.85	40	5957704.02	2273763.85
41	5958189.42	2273621.85	41	5958189.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959084.42	2273805.85	43	5959084.42	2273805.85
44	5959584.42	2273707.85	44	5959584.42	2273707.85
45	5960058.02	2273488.85	45	5960058.02	2273488.85
46	5960546.62	2272735.85	46	5960546.62	2272735.85
47	5962183.02	2270433.85	47	5962183.02	2270433.85
48	5962688.22	2269999.85	48	5962688.22	2269999.85
49	5962883.22	2269449.85	49	5962883.22	2269449.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268889.85	51	5964091.72	2268889.85



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	-8
Placement Area	Navigation Buoy	-7
Anchorage Area	Navigation Buoy	-6
Wreck Area	Shoalest Sounding*	-5
Submerged Wreck		-4
Angle Point		

NOTES:

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SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT HEAD IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

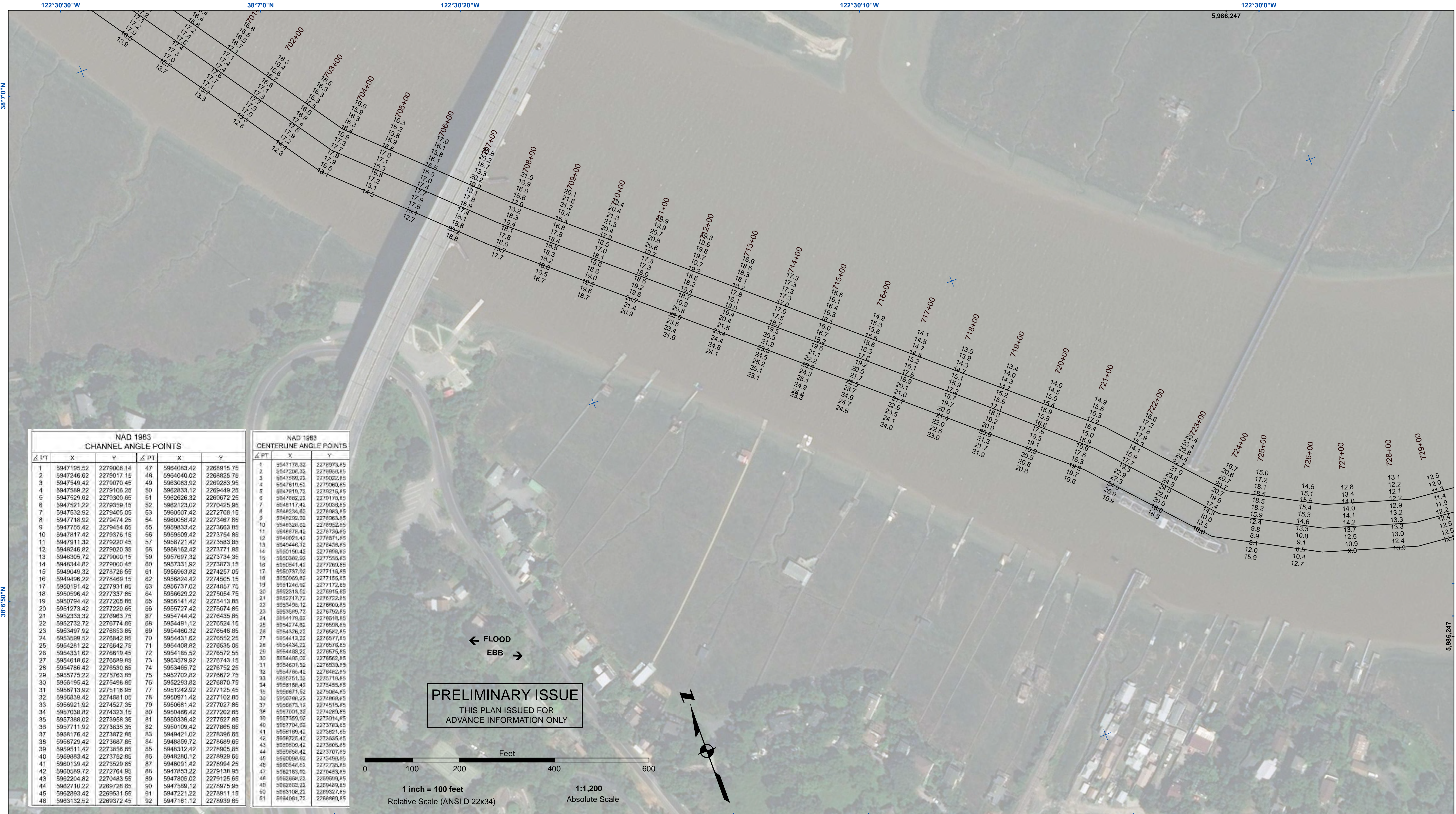


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Chart Date:	Jun 25, 2020
Designed by:	
Drawn by:	PDT
Surveyed By:	JOHN D. CUNNINGHAM
Plotted By:	PDT
Checked By:	PDT

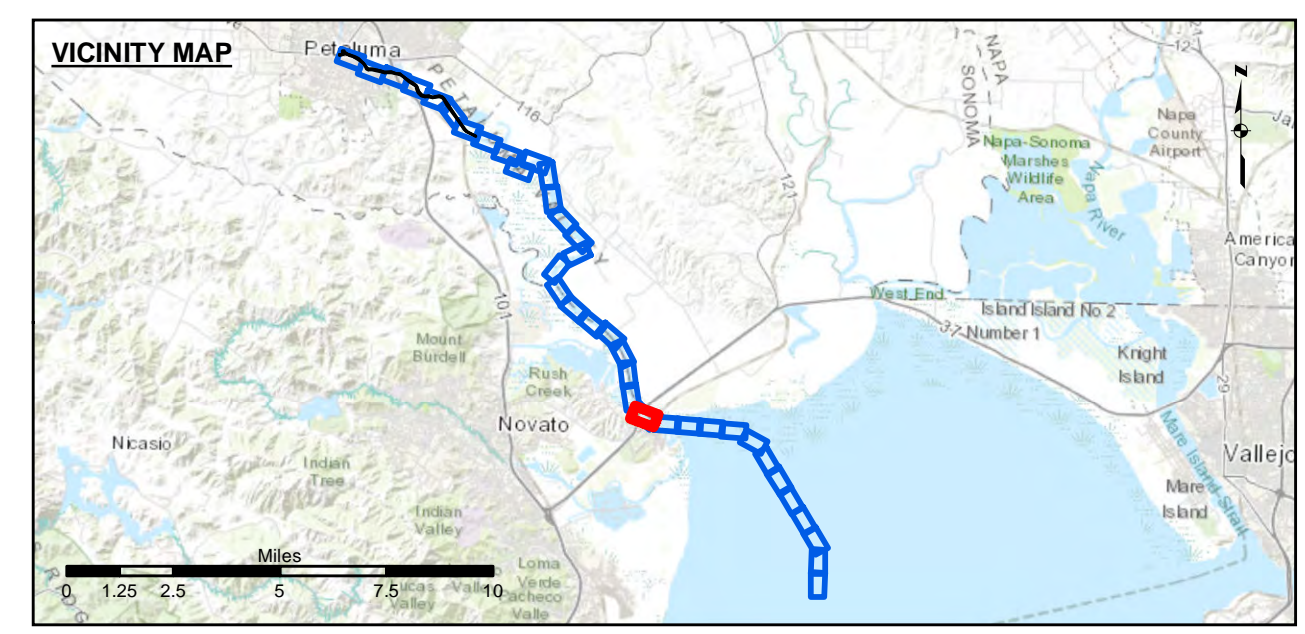
SONOMA COUNTY
CALIFORNIA
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5946083.42	2268915.75
2	5947246.62	2279017.15	48	5946040.02	2268825.75
3	5947549.42	2279070.45	49	5946308.92	2269283.95
4	5947589.22	2279106.25	50	5946283.12	2269449.25
5	5947529.62	2279300.85	51	5946266.32	2269672.25
6	5947521.22	2279359.15	52	5946213.02	2270425.95
7	5947532.92	2279405.05	53	5946050.72	2272708.15
8	5947716.52	2279474.25	54	5946005.62	2273467.85
9	5947755.42	2279454.85	55	5945983.42	2273663.85
10	5947817.42	2279375.15	56	5945950.92	2273754.85
11	5947911.32	2279220.45	57	5945872.12	2273583.85
12	5948246.82	2279020.35	58	5945816.42	2273771.85
13	5948305.72	2279000.15	59	5945769.72	2273734.35
14	5948344.82	2279000.45	60	5945733.92	2273873.15
15	5949049.32	2278726.55	61	5945696.32	2274257.05
16	5949496.22	2278469.15	62	5945682.42	2274505.15
17	5950191.42	2277931.85	63	5945673.02	2274857.75
18	5950596.42	2277357.85	64	5945692.22	2275054.75
19	5950794.42	2277205.85	65	5945611.42	2275413.85
20	5951273.42	2277220.85	66	5945572.42	2275674.85
21	5952333.32	2276963.75	67	5945444.42	2276435.85
22	5952732.72	2276774.85	68	5945491.12	2276524.15
23	5953497.92	2276853.85	69	5945460.32	2276546.85
24	5953599.52	2276842.95	70	5945431.62	2276552.25
25	5954281.22	2276642.75	71	5945408.82	2276535.05
26	5954331.62	2276619.45	72	5945165.52	2276572.55
27	5954818.62	2276589.85	73	5945357.92	2276743.15
28	5954786.42	2276530.85	74	5945346.72	2276752.25
29	5955775.22	2275763.85	75	5945202.82	2276672.75
30	5956195.42	2275498.85	76	5945229.82	2276870.75
31	5956713.92	2275116.85	77	5945124.92	2277125.45
32	5956839.42	2274881.05	78	5945097.12	2277102.85
33	5956921.92	2274527.35	79	5945088.12	2277027.85
34	5957038.82	2274323.15	80	5945046.42	2277202.85
35	5957388.02	2273958.35	81	5945039.42	2277527.85
36	5957711.92	2273835.35	82	5945010.42	2277865.85
37	5958176.42	2273872.85	83	5944942.12	2278366.85
38	5958729.42	2273987.85	84	5944859.72	2278889.85
39	5959511.42	2273856.85	85	5944812.42	2278905.85
40	5959883.42	2273752.85	86	5944820.12	2278929.85
41	5960139.42	2273529.85	87	5944801.42	2278994.25
42	5960589.72	2272764.95	88	5944785.22	2279138.95
43	5962204.82	2270483.55	89	59447805.02	2279125.65
44	5962710.22	2269728.85	90	5944759.12	2278975.95
45	5962893.42	2269531.55	91	5944722.22	2278911.15
46	5963132.52	2269372.45	92	5944716.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279322.85	2	5947610.52	2279060.85
3	5947810.72	2279182.85	3	5947810.72	2279182.85
4	5948117.42	2279038.85	4	5948239.62	2279063.85
5	5948239.62	2279063.85	5	5948239.62	2279063.85
6	5948239.62	2279063.85	6	5948239.62	2279063.85
7	5948239.62	2279063.85	7	5948239.62	2279063.85
8	5948239.62	2279063.85	8	5948239.62	2279063.85
9	5948239.62	2279063.85	9	5948239.62	2279063.85
10	5948239.62	2279063.85	10	5948239.62	2279063.85
11	5948239.62	2279063.85	11	5948239.62	2279063.85
12	5948239.62	2279063.85	12	5948239.62	2279063.85
13	5948239.62	2279063.85	13	5948239.62	2279063.85
14	5948239.62	2279063.85	14	5948239.62	2279063.85
15	5948239.62	2279063.85	15	5948239.62	2279063.85
16	5948239.62	2279063.85	16	5948239.62	2279063.85
17	5948239.62	2279063.85	17	5948239.62	2279063.85
18	5948239.62	2279063.85	18	5948239.62	2279063.85
19	5948239.62	2279063.85	19	5948239.62	2279063.85
20	5948239.62	2279063.85	20	5948239.62	2279063.85
21	5948239.62	2279063.85	21	5948239.62	2279063.85
22	5948239.62	2279063.85	22	5948239.62	2279063.85
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25	5948239.62	2279063.85	25	5948239.62	2279063.85
26	5948239.62	2279063.85	26	5948239.62	2279063.85
27	5948239.62	2279063.85	27	5948239.62	2279063.85
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35	5948239.62	2279063.85	35	5948239.62	2279063.85
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37	5948239.62	2279063.85	37	5948239.62	2279063.85
38	5948239.62	2279063.85	38	5948239.62	2279063.85
39	5948239.62	2279063.85	39	5948239.62	2279063.85
40	5948239.62	2279063.85	40	5948239.62	2279063.85
41	5948239.62	2279063.85	41	5948239.62	2279063.85
42	5948239.62	2279063.85	42	5948239.62	2279063.85
43	5948239.62	2279063.85	43	5948239.62	2279063.85
44	5948239.62	2279063.85	44	5948239.62	2279063.85
45	5948239.62	2279063.85	45	5948239.62	2279063.85
46	5948239.62	2279063.85	46	5948239.62	2279063.85

PRELIMINARY ISSUE
THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	-8
Placement Area	Navigation Buoy	-7
Anchorage Area	Navigation Buoy	-6
Wreck Area	Shoalest Sounding*	-5
Submerged Wreck		-4
Angle Point		

NOTES:
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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.
SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.
SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93
PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.
ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

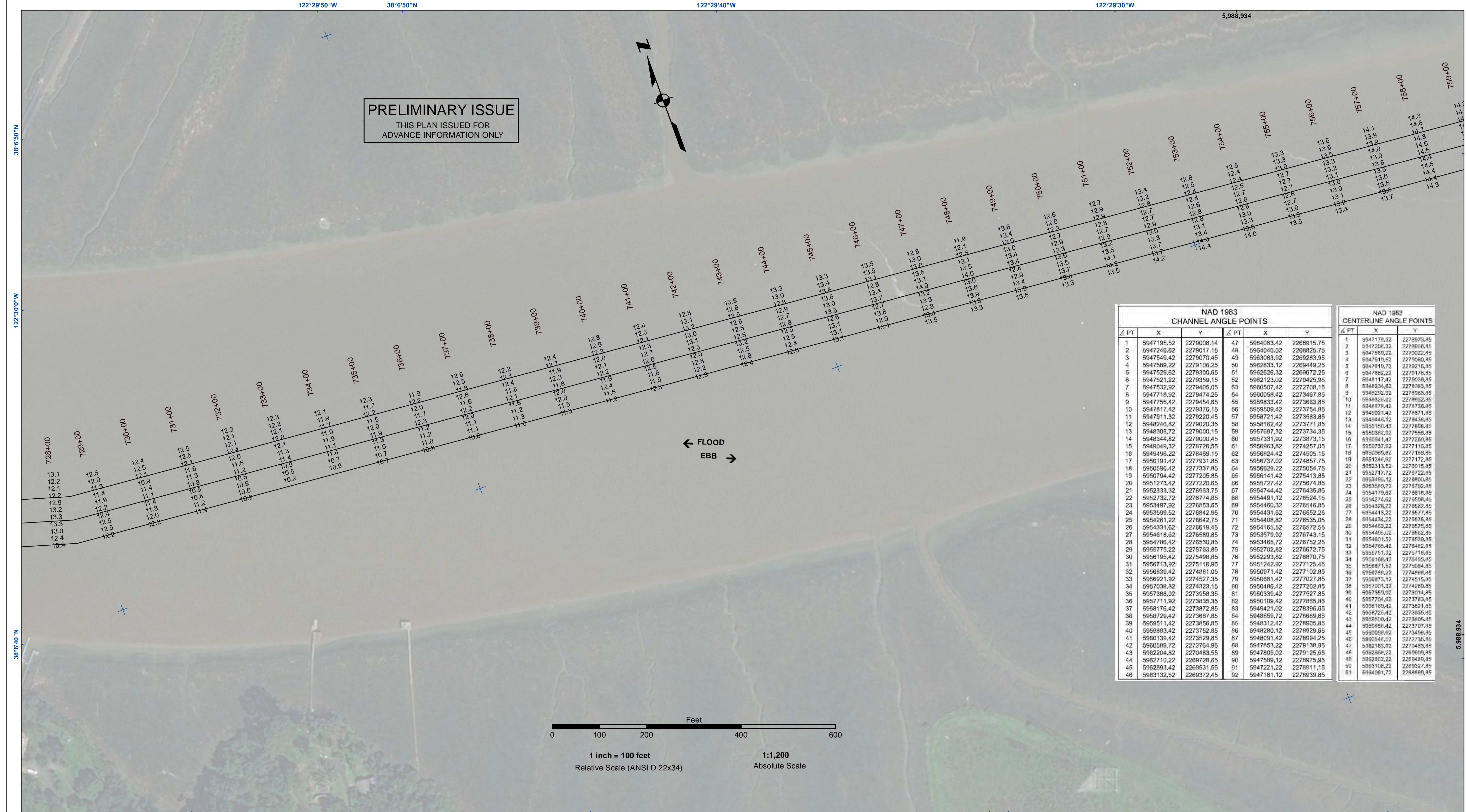
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Chart Date: Jun 25, 2020
Designed by: [Blank]
Plotted by: [Blank]
Checked by: [Blank]
Drawn by: PDT

PREPARED UNDER THE DIRECTION OF
LT COLONEL C.E. DISTRICT ENGINEER
J.D. CUNNINGHAM
Submittal: PDT
Hydro Survey Team Leader: [Blank]
Recommendation: Chief, Hydro Survey Section
Approval: Chief, Construction Branch

CALIFORNIA
SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

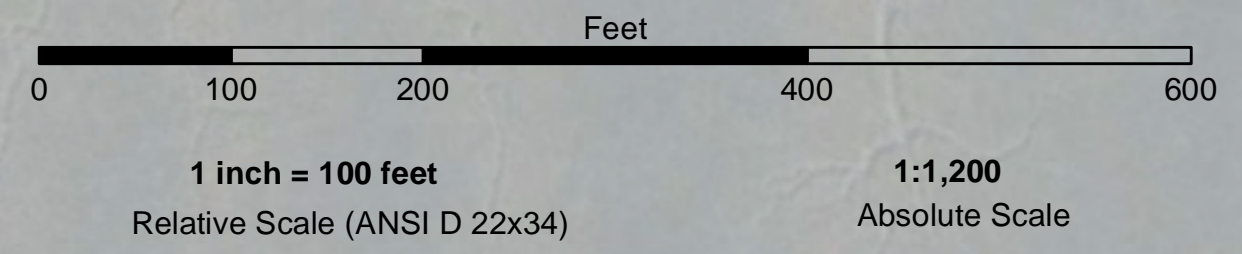
Sheet Reference Number
25 of 37



PRELIMINARY ISSUE
THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY

NAD 1983 CHANNEL ANGLE POINTS						NAD 1983 CENTERLINE ANGLE POINTS					
Δ FT	X	Y	Δ PT	X	Y	Δ FT	X	Y	Δ FT	X	Y
1	5947195.52	2279008.14	47	5964083.42	2268915.75	1	5947178.32	2279037.85	1	5947208.32	2278958.85
2	5947246.62	2279017.15	48	5964040.02	2268825.75	2	5947208.32	2278958.85	2	5947208.32	2278958.85
3	5947548.42	2279070.45	49	5963083.92	2268283.95	3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947588.22	2279106.25	50	5962833.12	2268449.25	4	5947810.72	2278921.85	4	5947619.52	2279068.85
5	5947529.62	2279300.65	51	5962626.32	2268672.25	5	5947882.22	2279178.85	5	5947810.72	2278921.85
6	5947521.22	2279359.15	52	5962123.02	2270425.95	6	5947882.22	2279178.85	6	5948117.42	2279038.85
7	5947532.92	2279405.05	53	5960507.42	2272708.15	7	5948234.82	2278983.85	7	5948117.42	2279038.85
8	5947718.92	2279474.25	54	5960056.42	2273467.85	8	5948234.82	2278983.85	8	5948234.82	2278983.85
9	5947755.42	2279454.85	55	5959833.42	2273663.85	9	5948234.82	2278983.85	9	5948234.82	2278983.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85	10	5948234.82	2278983.85	10	5948234.82	2278983.85
11	5947811.32	2279220.45	57	5958721.42	2273583.85	11	5948234.82	2278983.85	11	5948234.82	2278983.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85	12	5948234.82	2278983.85	12	5948234.82	2278983.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35	13	5948234.82	2278983.85	13	5948234.82	2278983.85
14	5948344.82	2279000.45	60	5957331.92	2273873.15	14	5948234.82	2278983.85	14	5948234.82	2278983.85
15	5949049.32	2278726.55	61	5956963.82	2274257.05	15	5950382.92	2277558.85	15	5950382.92	2277558.85
16	5949496.22	2278469.15	62	5956824.42	2274505.15	16	5950382.92	2277558.85	16	5950382.92	2277558.85
17	5950191.42	2277931.85	63	5956737.02	2274857.75	17	5950382.92	2277558.85	17	5950382.92	2277558.85
18	5950596.42	2277337.85	64	5956299.22	2275054.75	18	5950382.92	2277558.85	18	5950382.92	2277558.85
19	5950794.42	2277205.85	65	5956141.42	2275413.85	19	5950382.92	2277558.85	19	5950382.92	2277558.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85	20	5950382.92	2277558.85	20	5950382.92	2277558.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85	21	5950382.92	2277558.85	21	5950382.92	2277558.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15	22	5950382.92	2277558.85	22	5950382.92	2277558.85
23	5953497.92	2276853.65	69	5954460.32	2276546.85	23	5950382.92	2277558.85	23	5950382.92	2277558.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25	24	5950382.92	2277558.85	24	5950382.92	2277558.85
25	5954281.22	2276642.75	71	5954408.82	2276535.05	25	5950382.92	2277558.85	25	5950382.92	2277558.85
26	5954331.62	2276819.45	72	5954165.52	2276572.55	26	5950382.92	2277558.85	26	5950382.92	2277558.85
27	5954618.62	2276589.85	73	5953579.92	2276743.15	27	5950382.92	2277558.85	27	5950382.92	2277558.85
28	5954786.42	2276530.85	74	5953465.72	2276752.25	28	5950382.92	2277558.85	28	5950382.92	2277558.85
29	5955775.22	2275763.85	75	5952702.62	2276672.75	29	5950382.92	2277558.85	29	5950382.92	2277558.85
30	5956195.42	2275498.85	76	5952293.82	2276870.75	30	5950382.92	2277558.85	30	5950382.92	2277558.85
31	5956713.92	2275116.95	77	5951242.92	2277125.45	31	5950382.92	2277558.85	31	5950382.92	2277558.85
32	5956839.42	2274881.05	78	5950971.42	2277102.85	32	5950382.92	2277558.85	32	5950382.92	2277558.85
33	5956921.92	2274527.35	79	5950681.42	2277027.85	33	5950382.92	2277558.85	33	5950382.92	2277558.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85	34	5950382.92	2277558.85	34	5950382.92	2277558.85
35	5957388.02	2273958.35	81	5950338.42	2277527.85	35	5950382.92	2277558.85	35	5950382.92	2277558.85
36	5957711.92	2273635.35	82	5950109.42	2277865.85	36	5950382.92	2277558.85	36	5950382.92	2277558.85
37	5958176.42	2273872.85	83	5949421.02	2278396.85	37	5950382.92	2277558.85	37	5950382.92	2277558.85
38	5958729.42	2273687.85	84	5948859.72	2278689.85	38	5950382.92	2277558.85	38	5950382.92	2277558.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85	39	5950382.92	2277558.85	39	5950382.92	2277558.85
40	5959883.42	2273752.85	86	5948280.12	2278929.65	40	5950382.92	2277558.85	40	5950382.92	2277558.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25	41	5950382.92	2277558.85	41	5950382.92	2277558.85
42	5960589.72	2272764.95	88	5947853.22	2279138.95	42	5950382.92	2277558.85	42	5950382.92	2277558.85
43	5962204.82	2270483.55	89	5947805.02	2279125.65	43	5950382.92	2277558.85	43	5950382.92	2277558.85
44	5962710.22	2269726.65	90	5947589.12	2278975.95	44	5950382.92	2277558.85	44	5950382.92	2277558.85
45	5962893.42	2269531.55	91	5947221.22	2278911.15	45	5950382.92	2277558.85	45	5950382.92	2277558.85
46	5963132.52	2269372.45	92	5947181.12	2278939.85	46	5950382.92	2277558.85	46	5950382.92	2277558.85

← FLOOD
EBB →



- 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**
- 8
- 7
- 6
- 5
- 4

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.
SURVEYED BY THE CORPS OF ENGINEERS.
SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.
SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

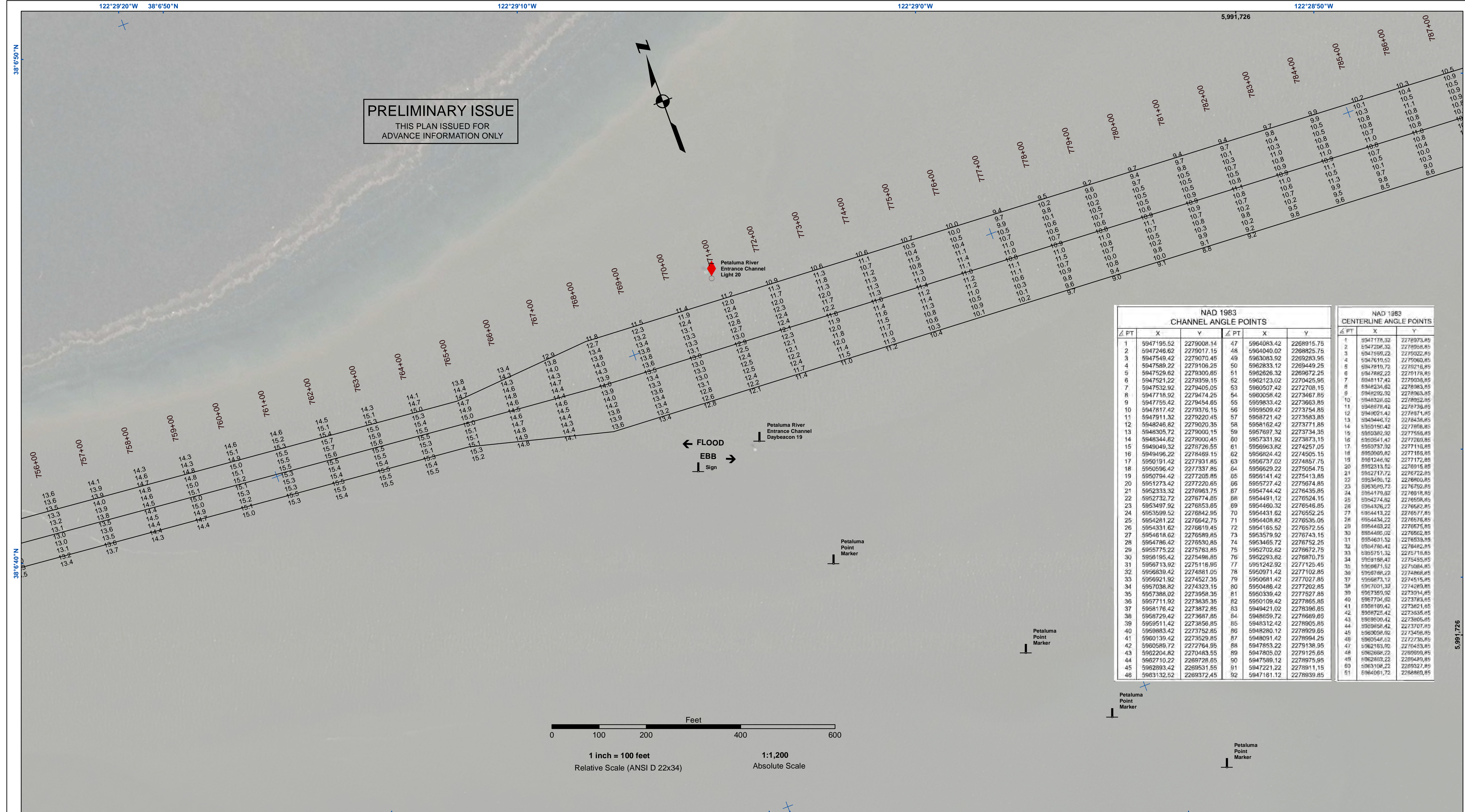
PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.
ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004



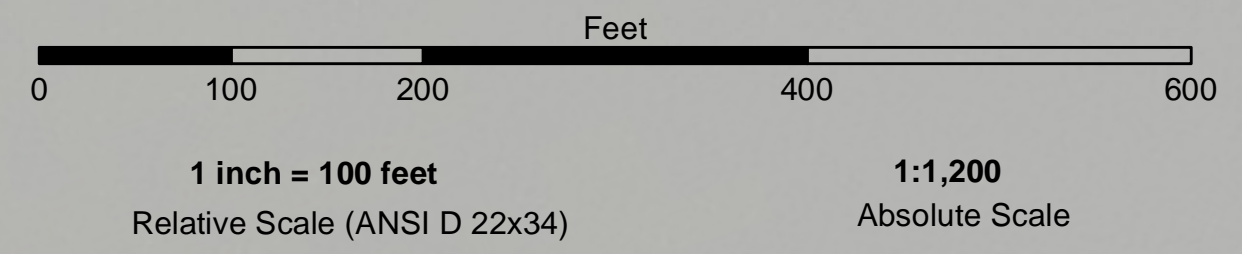
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Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	JOHN D. CUNNINGHAM
Plotted By:	PDT
Checked By:	PDT

SONOMA COUNTY
CALIFORNIA
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020



NAD 1983 CHANNEL ANGLE POINTS						NAD 1983 CENTERLINE ANGLE POINTS					
Δ FT	X	Y	Δ PT	X	Y	Δ FT	X	Y	Δ FT	X	Y
1	5947195.52	2279008.14	47	5964083.42	2268915.75	1	5947178.32	2278973.85	1	5947208.32	2278958.85
2	5947246.62	2279017.15	48	5964040.02	2268825.76	2	5947208.32	2279022.85	2	5947599.23	2279022.85
3	5947549.42	2279070.45	49	5963083.92	2268283.95	3	5947619.52	2279068.85	3	5947619.52	2279068.85
4	5947589.22	2279106.25	50	5962833.12	2269449.25	4	5947810.72	2279212.85	4	5947810.72	2279212.85
5	5947529.62	2279300.65	51	5962626.32	2269672.25	5	5947882.22	2279178.85	5	5947882.22	2279178.85
6	5947521.22	2279359.15	52	5962123.02	2270425.95	6	5948117.42	2279038.85	6	5948117.42	2279038.85
7	5947532.92	2279405.05	53	5960507.42	2272708.15	7	5948202.92	2279068.85	7	5948202.92	2279068.85
8	5947718.92	2279474.25	54	5960056.42	2273467.85	8	5948292.92	2279068.85	8	5948292.92	2279068.85
9	5947755.42	2279454.85	55	5959833.42	2273663.85	9	5948326.62	2278952.85	9	5948326.62	2278952.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85	10	5948366.62	2278952.85	10	5948366.62	2278952.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85	11	5948402.42	2278767.85	11	5948402.42	2278767.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85	12	5948446.12	2278438.85	12	5948446.12	2278438.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35	13	5948486.12	2278438.85	13	5948486.12	2278438.85
14	5948344.82	2279000.45	60	5957331.92	2273873.15	14	5948514.42	2278438.85	14	5948514.42	2278438.85
15	5949049.32	2278726.55	61	5956963.82	2274257.05	15	5950342.92	2277558.85	15	5950342.92	2277558.85
16	5949496.22	2278469.15	62	5956824.42	2274505.15	16	5950541.42	2277260.85	16	5950541.42	2277260.85
17	5950191.42	2277931.85	63	5956737.02	2274867.75	17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950596.42	2277337.85	64	5956529.22	2275054.75	18	5950969.82	2277168.85	18	5950969.82	2277168.85
19	5950794.42	2277205.85	65	5956141.42	2275413.85	19	5951248.62	2277172.85	19	5951248.62	2277172.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85	20	5952131.52	2276916.85	20	5952131.52	2276916.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85	21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15	22	5953496.12	2276800.85	22	5953496.12	2276800.85
23	5953497.92	2276853.65	69	5954460.32	2276546.85	23	5953695.72	2276792.85	23	5953695.72	2276792.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25	24	5954193.82	2276518.85	24	5954193.82	2276518.85
25	5954281.22	2276642.75	71	5954408.82	2276535.05	25	5954376.22	2276542.85	25	5954376.22	2276542.85
26	5954331.62	2276619.45	72	5954165.52	2276572.55	26	5954413.22	2276577.85	26	5954413.22	2276577.85
27	5954618.62	2276589.85	73	5953579.92	2276743.15	27	5954434.22	2276676.85	27	5954434.22	2276676.85
28	5954786.42	2276530.85	74	5953465.72	2276752.25	28	5954485.02	2276662.85	28	5954485.02	2276662.85
29	5955775.22	2276763.85	75	5952702.62	2276672.75	29	5954601.52	2276539.85	29	5954601.52	2276539.85
30	5956195.42	2275498.85	76	5952293.82	2276870.75	30	5954786.42	2276482.85	30	5954786.42	2276482.85
31	5956713.92	2275116.95	77	5951242.92	2277125.45	31	5954786.42	2276482.85	31	5954786.42	2276482.85
32	5956839.42	2274881.05	78	5950971.42	2277102.85	32	5954786.42	2276482.85	32	5954786.42	2276482.85
33	5956921.92	2274527.35	79	5950681.42	2277027.85	33	5954786.42	2276482.85	33	5954786.42	2276482.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85	34	5954786.42	2276482.85	34	5954786.42	2276482.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85	35	5954786.42	2276482.85	35	5954786.42	2276482.85
36	5957711.92	2273635.35	82	5950109.42	2277865.85	36	5954786.42	2276482.85	36	5954786.42	2276482.85
37	5958176.42	2273282.85	83	5949841.02	2278396.85	37	5954786.42	2276482.85	37	5954786.42	2276482.85
38	5958729.42	2272987.85	84	5949859.72	2278689.85	38	5954786.42	2276482.85	38	5954786.42	2276482.85
39	5959511.42	2273856.85	85	5949312.42	2278905.85	39	5954786.42	2276482.85	39	5954786.42	2276482.85
40	5959883.42	2273752.85	86	5948280.12	2278929.65	40	5954786.42	2276482.85	40	5954786.42	2276482.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25	41	5954786.42	2276482.85	41	5954786.42	2276482.85
42	5960589.72	2272764.95	88	5947853.22	2279138.95	42	5954786.42	2276482.85	42	5954786.42	2276482.85
43	5962204.82	2270483.55	89	5947805.02	2279125.65	43	5954786.42	2276482.85	43	5954786.42	2276482.85
44	5962710.22	2269726.65	90	5947589.12	2278975.95	44	5954786.42	2276482.85	44	5954786.42	2276482.85
45	5962893.42	2269531.55	91	5947221.22	2278911.15	45	5954786.42	2276482.85	45	5954786.42	2276482.85
46	5963132.52	2269372.45	92	5947161.12	2278939.85	46	5954786.42	2276482.85	46	5954786.42	2276482.85



Legend

- 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

- 8
- 7
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SURVEY CONTROL:
NOAA TIDE STATION:
9415684, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5684 F 2014
PID: BBDJ93

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US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

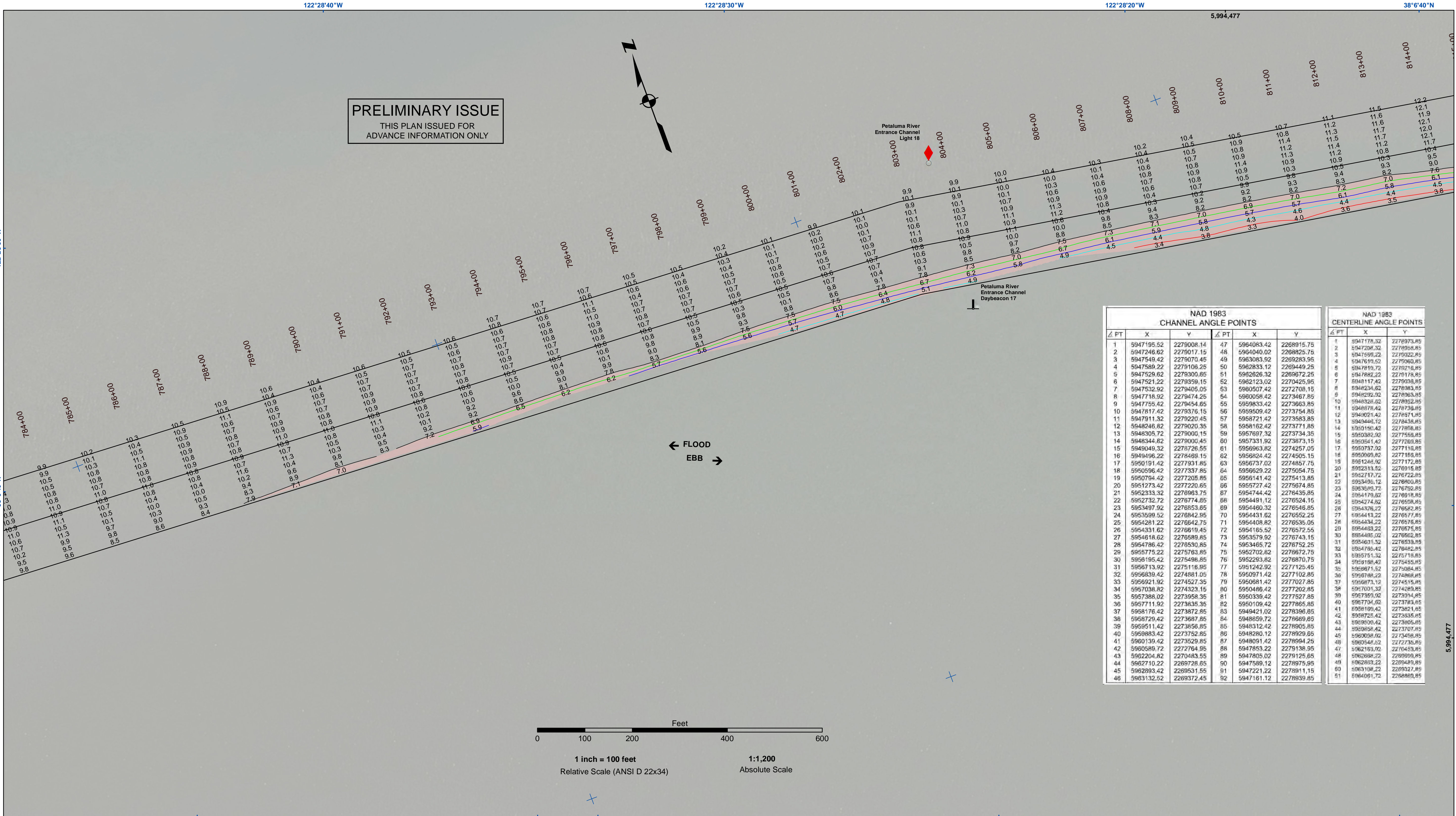
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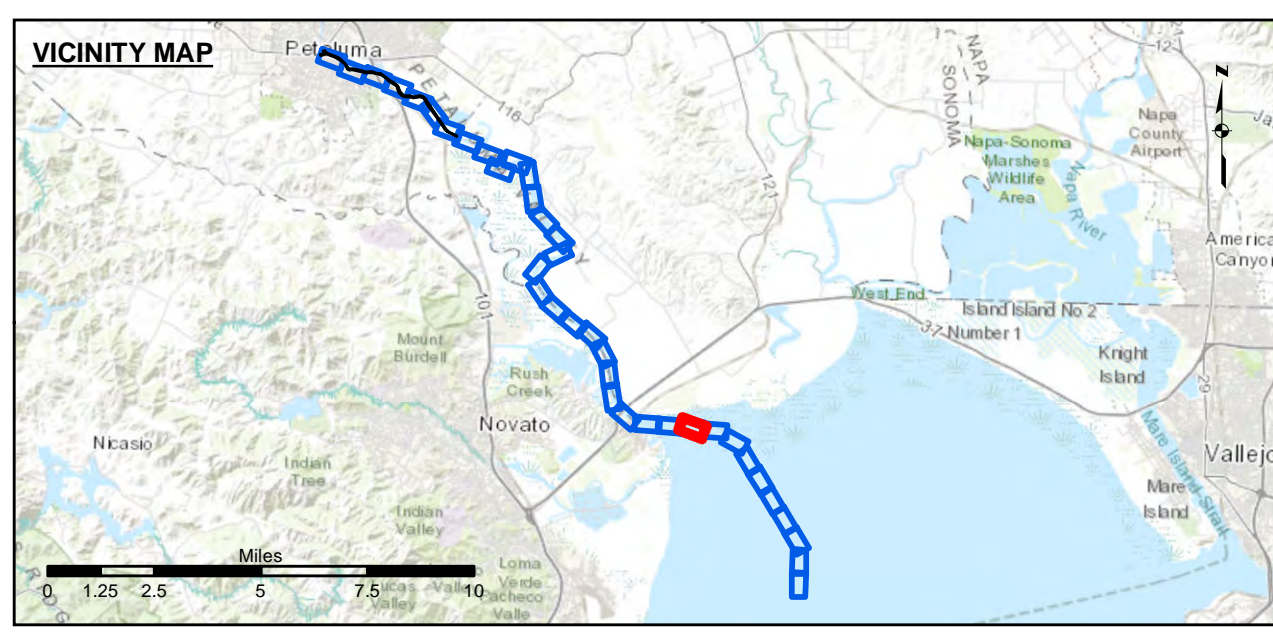
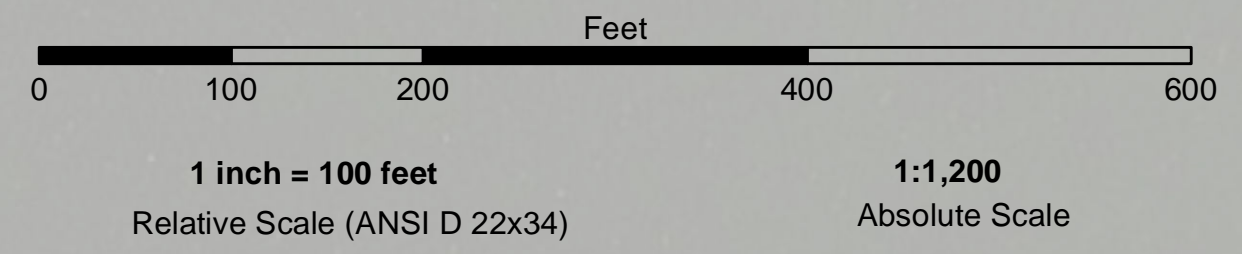
Prepared Under the Direction of: JOHN D. CUNNINGHAM LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Jun 25, 2020
Submitted by: PDT	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Drawn by: PDT
Approved by: Chief, Construction Branch	

SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020



PRELIMINARY ISSUE
THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY

NAD 1983 CHANNEL ANGLE POINTS						NAD 1983 CENTERLINE ANGLE POINTS					
Δ FT	X	Y	Δ PT	X	Y	Δ FT	X	Y	Δ PT	X	Y
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3	5947548.42	2279070.45	49	5963083.92	2268283.95	3	5947619.52	2279069.85	3	5947659.52	2279054.85
4	5947588.22	2279106.25	50	5962833.12	2268449.25	4	5947670.72	2279121.85	4	5947710.72	2279106.85
5	5947529.62	2279300.65	51	5962626.32	2268672.25	5	5947882.22	2279178.85	5	5948232.22	2279235.85
6	5947521.22	2279359.15	52	5962123.02	2270425.95	6	5948117.42	2279039.85	6	5948292.52	2279096.85
7	5947532.92	2279405.05	53	5960507.42	2272708.15	7	5948117.42	2279039.85	7	5948292.52	2279096.85
8	5947718.92	2279474.25	54	5960058.42	2273467.85	8	5948235.62	2279157.85	8	5948423.52	2279214.85
9	5947755.42	2279454.65	55	5959833.42	2273663.85	9	5948326.62	2279252.85	9	5948514.52	2279309.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85	10	5948326.62	2279252.85	10	5948514.52	2279309.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85	11	5948487.82	2279378.85	11	5948678.42	2279458.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85	12	5948487.82	2279378.85	12	5948678.42	2279458.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35	13	5948648.62	2279486.85	13	5948848.62	2279564.85
14	5948344.82	2279000.45	60	5957331.92	2273873.15	14	5948648.62	2279486.85	14	5948848.62	2279564.85
15	5949049.32	2278726.55	61	5956963.82	2274257.05	15	5950382.92	227558.85	15	5950382.92	227558.85
16	5949496.22	2278469.15	62	5956824.42	2274505.15	16	5950541.42	2277269.85	16	5950541.42	2277269.85
17	5950191.42	2277931.85	63	5956737.02	2274857.75	17	5950737.92	2277116.85	17	5950737.92	2277116.85
18	5950596.42	2277337.85	64	5956229.22	2275054.75	18	5950699.82	2277169.85	18	5950699.82	2277169.85
19	5950794.42	2277205.85	65	5955614.42	2275413.85	19	5951248.82	2277172.85	19	5951248.82	2277172.85
20	5951273.42	2277220.65	66	5955272.42	2275674.85	20	5952113.52	2276916.85	20	5952113.52	2276916.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85	21	5952349.62	2276900.85	21	5952349.62	2276900.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15	22	5953699.72	2276792.85	22	5953699.72	2276792.85
23	5953497.92	2276853.65	69	5954460.32	2276546.85	23	5954193.82	2276718.85	23	5954193.82	2276718.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25	24	5954413.22	2276577.85	24	5954413.22	2276577.85
25	5954281.22	2276642.75	71	5954408.82	2276535.05	25	5954434.22	2276576.85	25	5954434.22	2276576.85
26	5954331.62	2276819.45	72	5954165.52	2276572.55	26	5954485.02	2276662.85	26	5954485.02	2276662.85
27	5954618.62	2276589.85	73	5953579.92	2276743.15	27	5954601.52	2276539.85	27	5954601.52	2276539.85
28	5954786.42	2276530.85	74	5953465.72	2276752.25	28	5954786.42	2276530.85	28	5954786.42	2276530.85
29	5955775.22	2275763.85	75	5952702.62	2276672.75	29	5954786.42	2276530.85	29	5954786.42	2276530.85
30	5956195.42	2275498.85	76	5952293.82	2276870.75	30	5955775.22	2275763.85	30	5955775.22	2275763.85
31	5956713.92	2275116.95	77	5951242.92	2277125.45	31	5956195.42	2275498.85	31	5956195.42	2275498.85
32	5956839.42	2274881.05	78	5950971.42	2277102.85	32	5956713.92	2275116.95	32	5956713.92	2275116.95
33	5956921.92	2274527.35	79	5950681.42	2277027.85	33	5956839.42	2274881.05	33	5956839.42	2274881.05
34	5957038.82	2274323.15	80	5950486.42	2277202.85	34	5956921.92	2274527.35	34	5956921.92	2274527.35
35	5957388.02	2273958.35	81	5950338.42	2277527.85	35	5957038.82	2274323.15	35	5957038.82	2274323.15
36	5957711.92	2273635.35	82	5950109.42	2277865.85	36	5957388.02	2273958.35	36	5957388.02	2273958.35
37	5958176.42	2273282.85	83	5949811.02	2278396.85	37	5957711.92	2273635.35	37	5957711.92	2273635.35
38	5958729.42	2272887.85	84	5949485.72	2278989.85	38	5958176.42	2273282.85	38	5958176.42	2273282.85
39	5959111.42	2272356.85	85	5948312.42	2279095.85	39	5958729.42	2272887.85	39	5958729.42	2272887.85
40	5959883.42	2271752.85	86	5948091.42	2278994.25	40	5959111.42	2272356.85	40	5959111.42	2272356.85
41	5960139.42	2271352.85	87	5947805.02	2279125.65	41	5959883.42	2271752.85	41	5959883.42	2271752.85
42	5960589.72	2270943.55	88	5947559.12	2279138.95	42	5960139.42	2271352.85	42	5960139.42	2271352.85
43	5962204.82	2270483.55	89	5947221.22	2279111.15	43	5960589.72	2270943.55	43	5960589.72	2270943.55
44	5962710.22	2269726.65	90	5947161.12	2278939.85	44	5962204.82	2270483.55	44	5962204.82	2270483.55
45	5962893.42	2269531.55	91	5947161.12	2278939.85	45	5962710.22	2269726.65	45	5962710.22	2269726.65
46	5963132.52	2269372.45	92	5947161.12	2278939.85	46	5962893.42	2269531.55	46	5962893.42	2269531.55



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	
Anchorage Area	Navigation Buoy	
Wreck Area	Shoalest Sounding*	
Submerged Wreck		-8
Angle Point		-7
		-6
		-5
		-4

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.
SURVEYED BY THE CORPS OF ENGINEERS.
SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.
SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

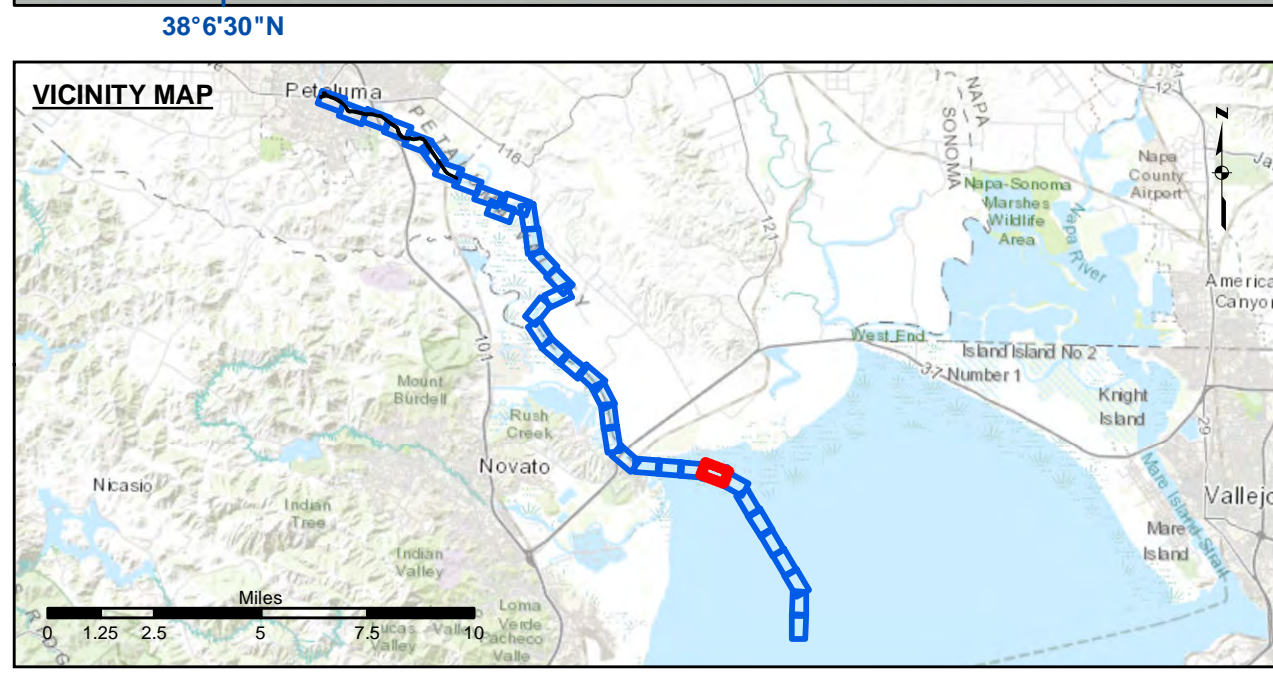
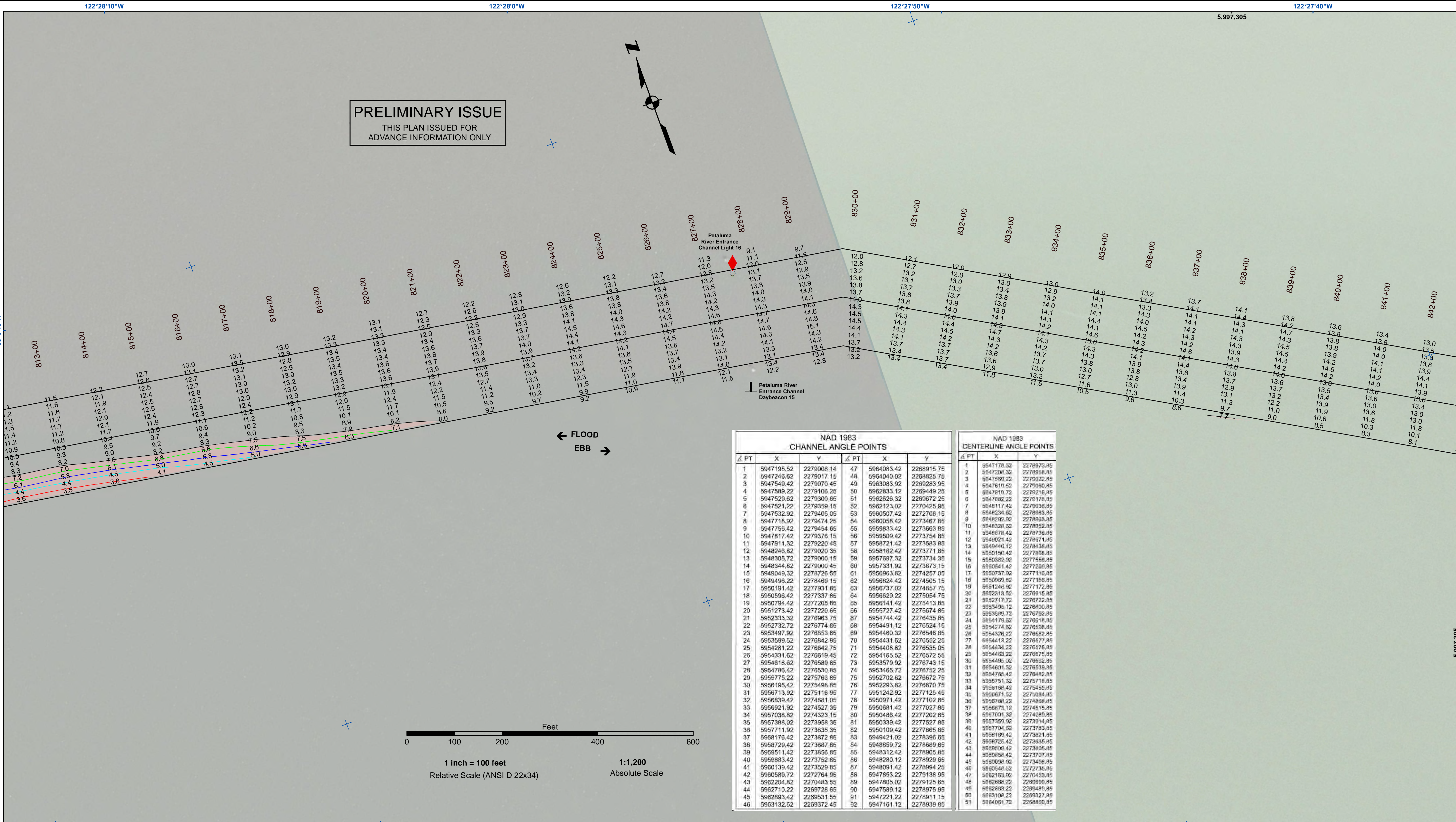
PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.
ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 113.69, NAVD 83 DATUM, PUBLICATION DATE: AUGUST 9, 2004

US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Prepared Under the Direction of: JOHN D. CUNNINGHAM LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Jun 25, 2020
Submitted by: PDT	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Drawn by: PDT
Approved by: Chief, Construction Branch	

SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020



Legend

- 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

- 8
- 7
- 6
- 5
- 4

NAD 1983 CHANNEL ANGLE POINTS						NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y	Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964083.42	2268915.75	2	5947178.32	2278973.85	48	5964040.02	2268825.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75	3	5947599.22	2279022.85	49	5963083.52	2269283.95
3	5947549.42	2279070.45	49	5963083.52	2269283.95	4	5947619.52	2279060.85	50	5962833.12	2269449.25
4	5947589.22	2279106.25	50	5962833.12	2269449.25	5	5947810.72	2279216.85	51	5962626.32	2269672.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25	6	5947882.22	2279116.85	52	5962123.02	2270425.95
6	5947521.22	2279359.15	52	5962123.02	2270425.95	7	5948117.42	2279038.85	53	5960507.42	2272708.15
7	5947532.92	2279405.05	53	5960507.42	2272708.15	8	5948234.82	2278963.85	54	5960568.42	2273467.85
8	5947718.92	2279474.25	54	5960568.42	2273467.85	9	5948326.82	2278952.85	55	5959833.42	2273663.85
9	5947755.42	2279454.85	55	5959833.42	2273663.85	10	5948326.82	2278952.85	56	5959509.42	2273754.85
10	5947811.42	2279376.15	56	5959509.42	2273754.85	11	5948448.12	2278848.85	57	5958721.42	2273583.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85	12	5948448.12	2278848.85	58	5958162.42	2273771.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85	13	5948305.72	2279000.15	59	5957697.32	2273734.35
13	5948305.72	2279000.15	59	5957697.32	2273734.35	14	5948344.82	2279000.45	60	5957331.92	2273873.15
14	5948344.82	2279000.45	60	5957331.92	2273873.15	15	5949049.32	2278726.55	61	5956963.82	2274257.05
15	5949049.32	2278726.55	61	5956963.82	2274257.05	16	5949496.22	2278469.15	62	5956624.42	2274505.15
16	5949496.22	2278469.15	62	5956624.42	2274505.15	17	5950191.42	2277931.85	63	5956377.02	2274857.75
17	5950191.42	2277931.85	63	5956377.02	2274857.75	18	5950596.42	2277337.85	64	5956029.22	2275054.75
18	5950596.42	2277337.85	64	5956029.22	2275054.75	19	5950794.42	2277205.85	65	5955614.42	2275413.85
19	5950794.42	2277205.85	65	5955614.42	2275413.85	20	5951273.42	2277220.65	66	5955277.42	2275674.85
20	5951273.42	2277220.65	66	5955277.42	2275674.85	21	5952333.32	2276963.75	67	5954744.42	2276435.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85	22	5952732.72	2276774.85	68	5954481.12	2276524.15
22	5952732.72	2276774.85	68	5954481.12	2276524.15	23	5953497.92	2276553.85	69	5954480.32	2276545.85
23	5953497.92	2276553.85	69	5954480.32	2276545.85	24	5953599.52	2276842.95	70	5954431.62	2276552.25
24	5953599.52	2276842.95	70	5954431.62	2276552.25	25	5954281.22	2276642.75	71	5954408.82	2276535.05
25	5954281.22	2276642.75	71	5954408.82	2276535.05	26	5954331.62	2276619.45	72	5954165.52	2276572.55
26	5954331.62	2276619.45	72	5954165.52	2276572.55	27	5954618.62	2276589.85	73	5953579.92	2276743.15
27	5954618.62	2276589.85	73	5953579.92	2276743.15	28	5954786.42	2276530.85	74	5953465.72	2276752.25
28	5954786.42	2276530.85	74	5953465.72	2276752.25	29	5955775.22	2275763.85	75	5952702.82	2276672.75
29	5955775.22	2275763.85	75	5952702.82	2276672.75	30	5956195.42	2275496.85	76	5952293.82	2276870.75
30	5956195.42	2275496.85	76	5952293.82	2276870.75	31	5956713.92	2275116.85	77	5951242.92	2277125.45
31	5956713.92	2275116.85	77	5951242.92	2277125.45	32	5956839.42	2274881.05	78	5950871.42	2277102.85
32	5956839.42	2274881.05	78	5950871.42	2277102.85	33	5956921.92	2274527.35	79	5950881.42	2277027.85
33	5956921.92	2274527.35	79	5950881.42	2277027.85	34	5957038.82	2274323.15	80	5950486.42	2277202.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85	35	5957388.02	2273958.35	81	5950339.42	2277527.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85	36	5957711.92	2273835.35	82	5950109.42	2277865.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85	37	5958176.42	2273872.85	83	5949421.02	2278396.85
37	5958176.42	2273872.85	83	5949421.02	2278396.85	38	5958729.42	2273887.85	84	5948859.72	2278689.85
38	5958729.42	2273887.85	84	5948859.72	2278689.85	39	5959511.42	2273856.85	85	5948312.42	2278905.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85	40	5959883.42	2273752.85	86	5948280.12	2278929.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85	41	5960139.42	2273529.85	87	5948091.42	2278994.25
41	5960139.42	2273529.85	87	5948091.42	2278994.25	42	5960589.72	2273764.95	88	5947853.22	2279136.95
42	5960589.72	2273764.95	88	5947853.22	2279136.95	43	5962048.42	2270483.55	89	5947805.02	2279125.65
43	5962048.42	2270483.55	89	5947805.02	2279125.65	44	5962710.22	2269726.65	90	5947589.12	2278975.95
44	5962710.22	2269726.65	90	5947589.12	2278975.95	45	5962893.42	2269531.55	91	5947221.22	2278911.15
45	5962893.42	2269531.55	91	5947221.22	2278911.15	46	5963132.52	2269372.45	92	5947161.12	2278939.85
46	5963132.52	2269372.45	92	5947161.12	2278939.85						

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.

SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
 NOAA TIDE STATION:
 9415884, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
 5884 F 2014
 PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5884 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004



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Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Surveyed By:	JOHN D. CUNNINGHAM
Plotted By:	PDT
Checked By:	PDT

SONOMA COUNTY

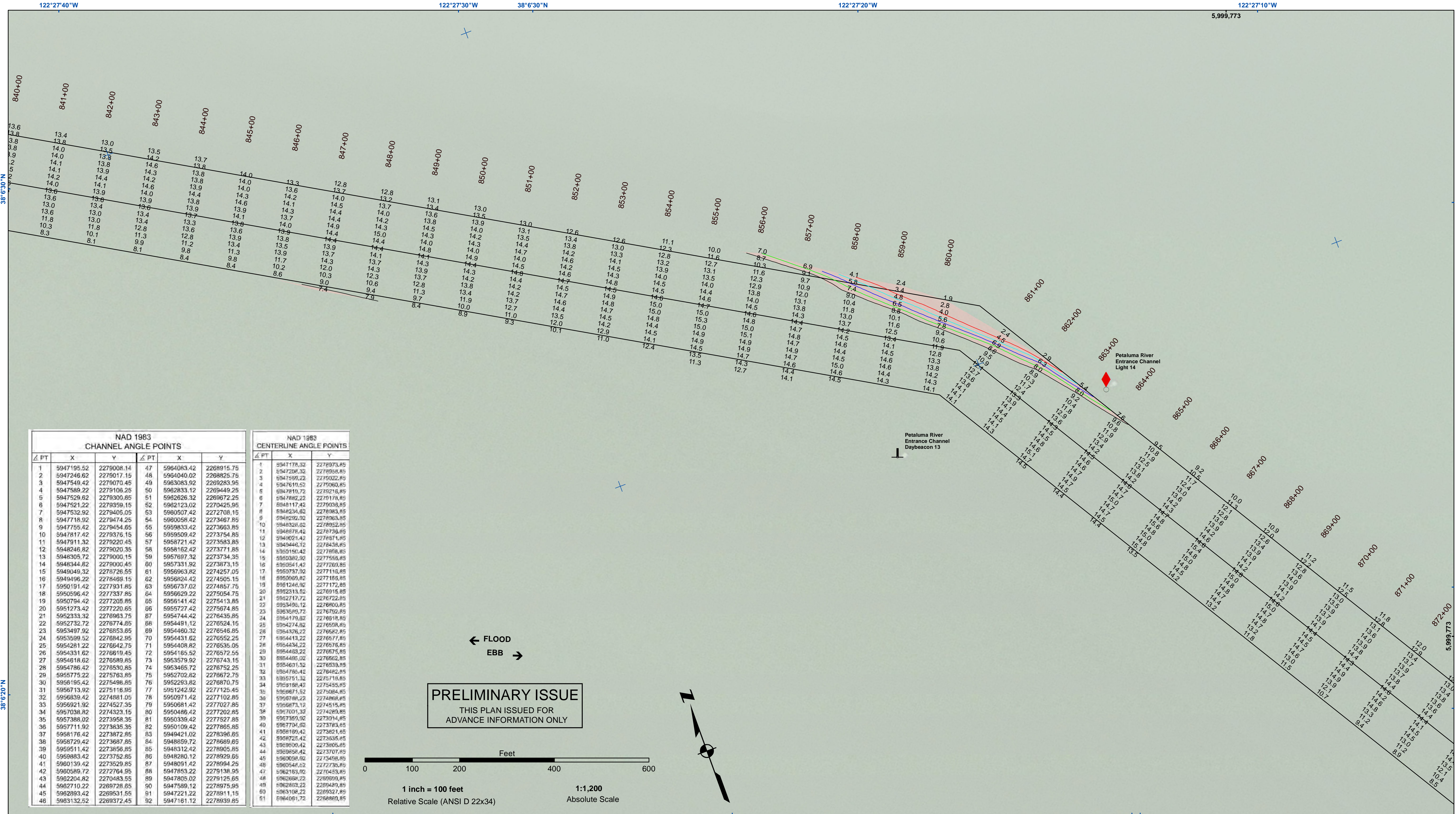
PETALUMA RIVER

CONDITION SURVEY

03-15 JUNE 2020

Sheet Reference Number

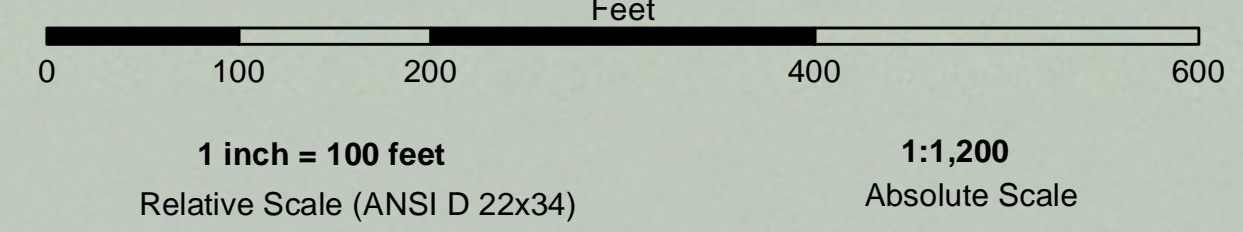
29 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5954063.42	2268915.75
2	5947246.62	2279017.15	48	5954040.02	2268825.75
3	5947549.42	2279070.45	49	5953083.92	2269283.95
4	5947589.22	2279106.25	50	5952833.12	2269449.25
5	5947529.62	2279300.85	51	5952626.32	2269672.25
6	5947521.22	2279359.15	52	5952123.02	2270425.95
7	5947532.92	2279405.05	53	5950507.42	2272708.15
8	5947716.52	2279474.25	54	5950058.42	2273467.85
9	5947755.42	2279454.65	55	5950833.42	2273663.85
10	5947817.42	2279375.15	56	5950509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278468.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277357.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.65	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954618.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948559.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947589.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947610.62	2279060.85	4	5947610.62	2279060.85
5	5947810.72	2279218.85	5	5947810.72	2279218.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278963.85	8	5948234.62	2278963.85
9	5948293.92	2278933.85	9	5948293.92	2278933.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278571.85	12	5949021.42	2278571.85
13	5949446.72	2278436.85	13	5949446.72	2278436.85
14	5949180.42	2277998.85	14	5949180.42	2277998.85
15	5950382.92	2277558.85	15	5950382.92	2277558.85
16	5950541.42	2277260.85	16	5950541.42	2277260.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950909.62	2277155.85	18	5950909.62	2277155.85
19	5951246.92	2277172.85	19	5951246.92	2277172.85
20	5952313.52	2276916.85	20	5952313.52	2276916.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954179.92	2276918.85	24	5954179.92	2276918.85
25	5954274.82	2276508.85	25	5954274.82	2276508.85
26	5954326.22	2276582.85	26	5954326.22	2276582.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276578.85	28	5954434.22	2276578.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276539.85	31	5954601.52	2276539.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2275718.85	33	5955751.32	2275718.85
34	5955986.42	2275455.85	34	5955986.42	2275455.85
35	5956971.52	2275084.85	35	5956971.52	2275084.85
36	5956988.22	2274968.85	36	5956988.22	2274968.85
37	5956873.12	2274515.85	37	5956873.12	2274515.85
38	5957001.32	2274289.85	38	5957001.32	2274289.85
39	5957350.02	2273914.85	39	5957350.02	2273914.85
40	5957704.02	2273763.85	40	5957704.02	2273763.85
41	5958189.42	2273621.85	41	5958189.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959008.42	2273805.85	43	5959008.42	2273805.85
44	5959588.42	2273707.85	44	5959588.42	2273707.85
45	5960058.02	2273488.85	45	5960058.02	2273488.85
46	5960546.62	2272735.85	46	5960546.62	2272735.85
47	5962153.02	2270433.85	47	5962153.02	2270433.85
48	5962688.22	2269999.85	48	5962688.22	2269999.85
49	5962883.22	2269449.85	49	5962883.22	2269449.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268869.85	51	5964091.72	2268869.85

PRELIMINARY ISSUE
THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	-8
Anchorage Area	Navigation Buoy	-7
Wreck Area	Shoalest Sounding*	-6
Submerged Wreck		-5
Angle Point		-4

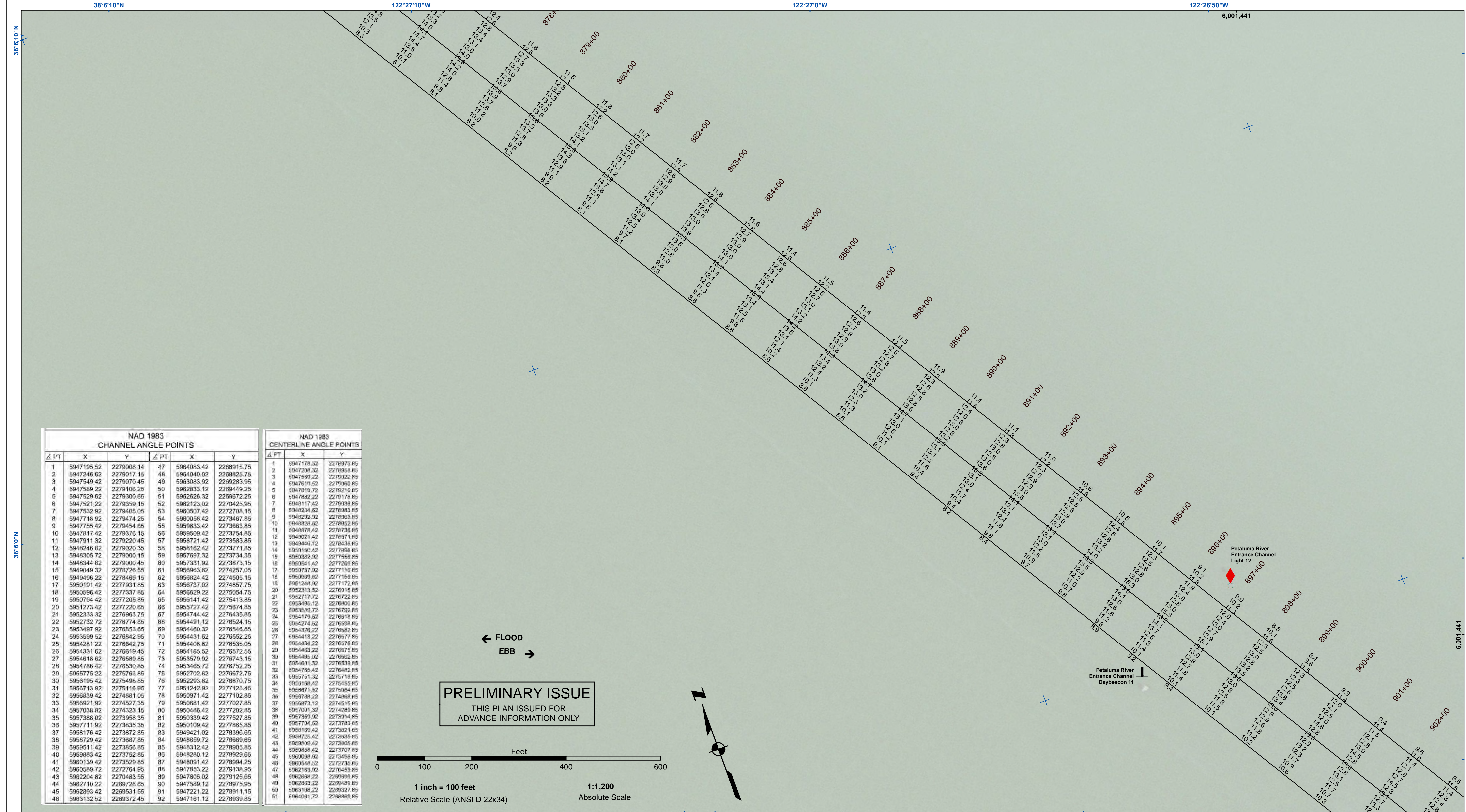
NOTES:
DRAWING NOT TO BE USED FOR NAVIGATION, ONLY CHANNEL CONDITION AT DATE OF SURVEY.
THE LOCATION OF ALL NAVIGATION AIDS ARE BASED ON INFORMATION PROVIDED BY THE U.S. COAST GUARD. BUOY LOCATIONS REPRESENT THE POSITION OF THE SINKER ONLY.
SURVEYED BY THE CORPS OF ENGINEERS.
SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.
SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93
PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.
ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004



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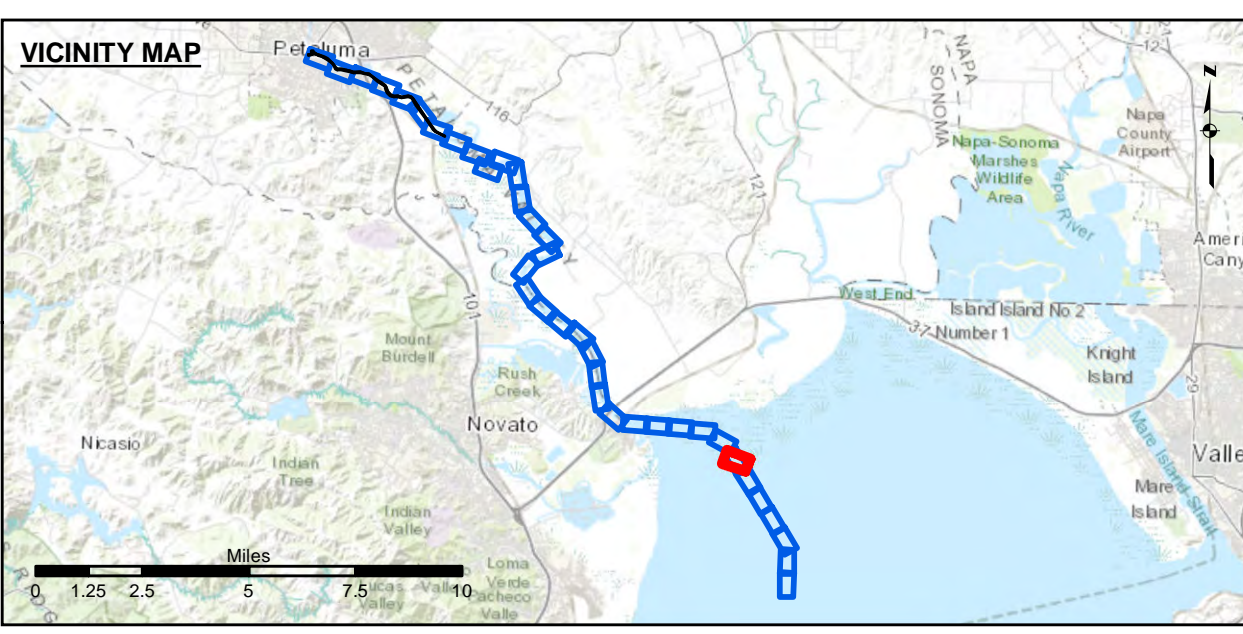
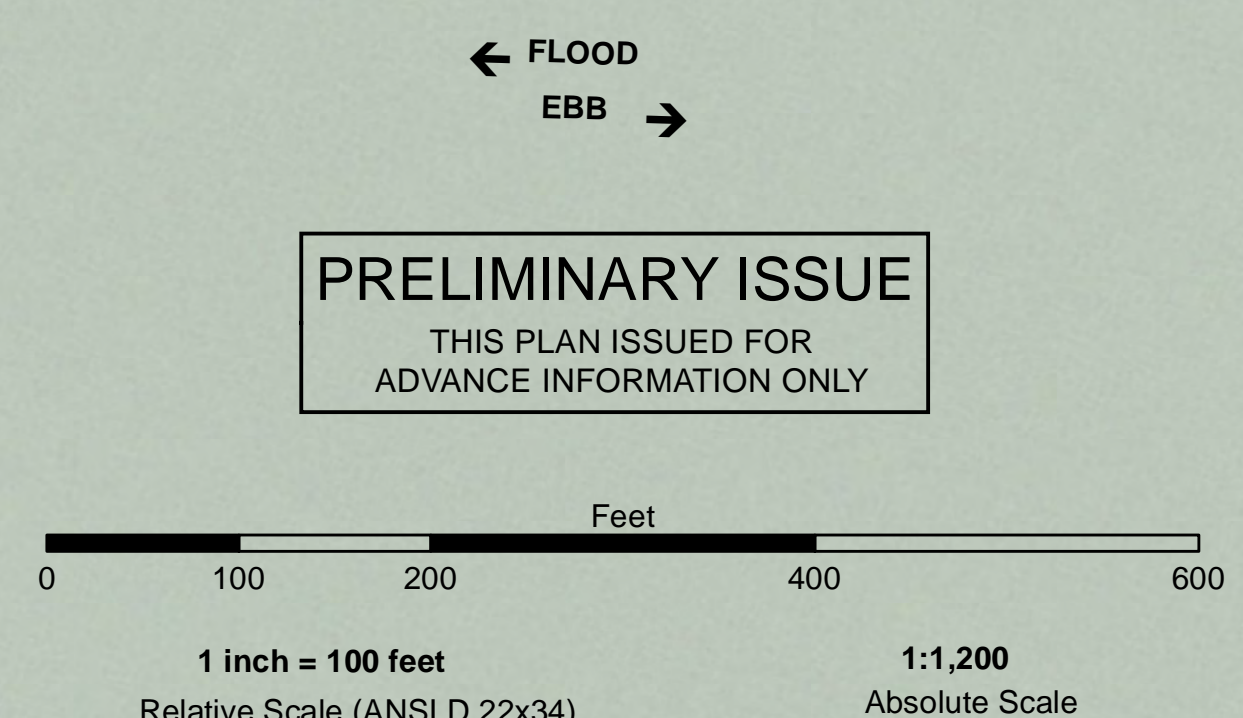
Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Surveyed by:	JOHN D. CUNNINGHAM
Plotted by:	PDT
Checked by:	PDT

CALIFORNIA
SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5954063.42	2268915.75
2	5947246.62	2279017.15	48	5954040.02	2268825.75
3	5947549.42	2279070.45	49	5953083.92	2269283.95
4	5947589.22	2279106.25	50	5952833.12	2269449.25
5	5947529.62	2279300.85	51	5952626.32	2269672.25
6	5947521.22	2279359.15	52	5952123.02	2270425.95
7	5947532.92	2279405.05	53	5950507.42	2272708.15
8	5947716.92	2279474.25	54	5950056.42	2273467.85
9	5947755.42	2279454.65	55	5950983.42	2273663.85
10	5947817.42	2279376.15	56	5950509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948559.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279322.85	2	5947610.52	2279060.85
3	5947810.72	2279216.85	3	5947882.22	2279178.85
4	5948117.42	2279038.85	4	5948234.62	2279363.85
5	5948305.72	2278983.85	5	5948326.62	2278932.85
6	5948676.42	2278736.85	6	5948676.42	2278736.85
7	5949021.42	2278571.85	7	5949021.42	2278571.85
8	5949446.12	2278436.85	8	5949446.12	2278436.85
9	5949868.85	2278303.85	9	5949868.85	2278303.85
10	5950382.02	2278156.85	10	5950382.02	2278156.85
11	5950905.82	2277986.85	11	5950905.82	2277986.85
12	5951446.92	2277796.85	12	5951446.92	2277796.85
13	5952004.12	2277586.85	13	5952004.12	2277586.85
14	5952577.32	2277356.85	14	5952577.32	2277356.85
15	5953166.52	2277106.85	15	5953166.52	2277106.85
16	5953771.72	2276836.85	16	5953771.72	2276836.85
17	5954393.92	2276546.85	17	5954393.92	2276546.85
18	5955038.12	2276236.85	18	5955038.12	2276236.85
19	5955704.32	2275906.85	19	5955704.32	2275906.85
20	5956392.52	2275556.85	20	5956392.52	2275556.85
21	5957102.72	2275186.85	21	5957102.72	2275186.85
22	5957834.92	2274796.85	22	5957834.92	2274796.85
23	5958598.12	2274386.85	23	5958598.12	2274386.85
24	5959392.32	2273956.85	24	5959392.32	2273956.85
25	5960216.52	2273506.85	25	5960216.52	2273506.85
26	5961070.72	2273036.85	26	5961070.72	2273036.85
27	5961964.92	2272546.85	27	5961964.92	2272546.85
28	5962899.12	2272036.85	28	5962899.12	2272036.85
29	5963873.32	2271506.85	29	5963873.32	2271506.85
30	5964887.52	2270956.85	30	5964887.52	2270956.85
31	5965941.72	2270386.85	31	5965941.72	2270386.85
32	5967045.92	2269796.85	32	5967045.92	2269796.85
33	5968200.12	2269186.85	33	5968200.12	2269186.85
34	5969414.32	2268556.85	34	5969414.32	2268556.85
35	5970688.52	2267906.85	35	5970688.52	2267906.85
36	5972022.72	2267236.85	36	5972022.72	2267236.85
37	5973416.92	2266546.85	37	5973416.92	2266546.85
38	5974871.12	2265836.85	38	5974871.12	2265836.85
39	5976385.32	2265106.85	39	5976385.32	2265106.85
40	5977959.52	2264356.85	40	5977959.52	2264356.85
41	5979593.72	2263586.85	41	5979593.72	2263586.85
42	5981287.92	2262796.85	42	5981287.92	2262796.85
43	5983042.12	2261986.85	43	5983042.12	2261986.85
44	5984856.32	2261156.85	44	5984856.32	2261156.85
45	5986730.52	2260306.85	45	5986730.52	2260306.85
46	5988674.72	2259436.85	46	5988674.72	2259436.85
47	5990689.92	2258546.85	47	5990689.92	2258546.85
48	5992775.12	2257636.85	48	5992775.12	2257636.85
49	5994930.32	2256706.85	49	5994930.32	2256706.85
50	5997155.52	2255756.85	50	5997155.52	2255756.85
51	5999450.72	2254786.85	51	5999450.72	2254786.85



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	-8
Anchorage Area	Navigation Buoy	-7
Wreck Area	Shoalest Sounding*	-6
Submerged Wreck		-5
Angle Point		-4

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.

SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

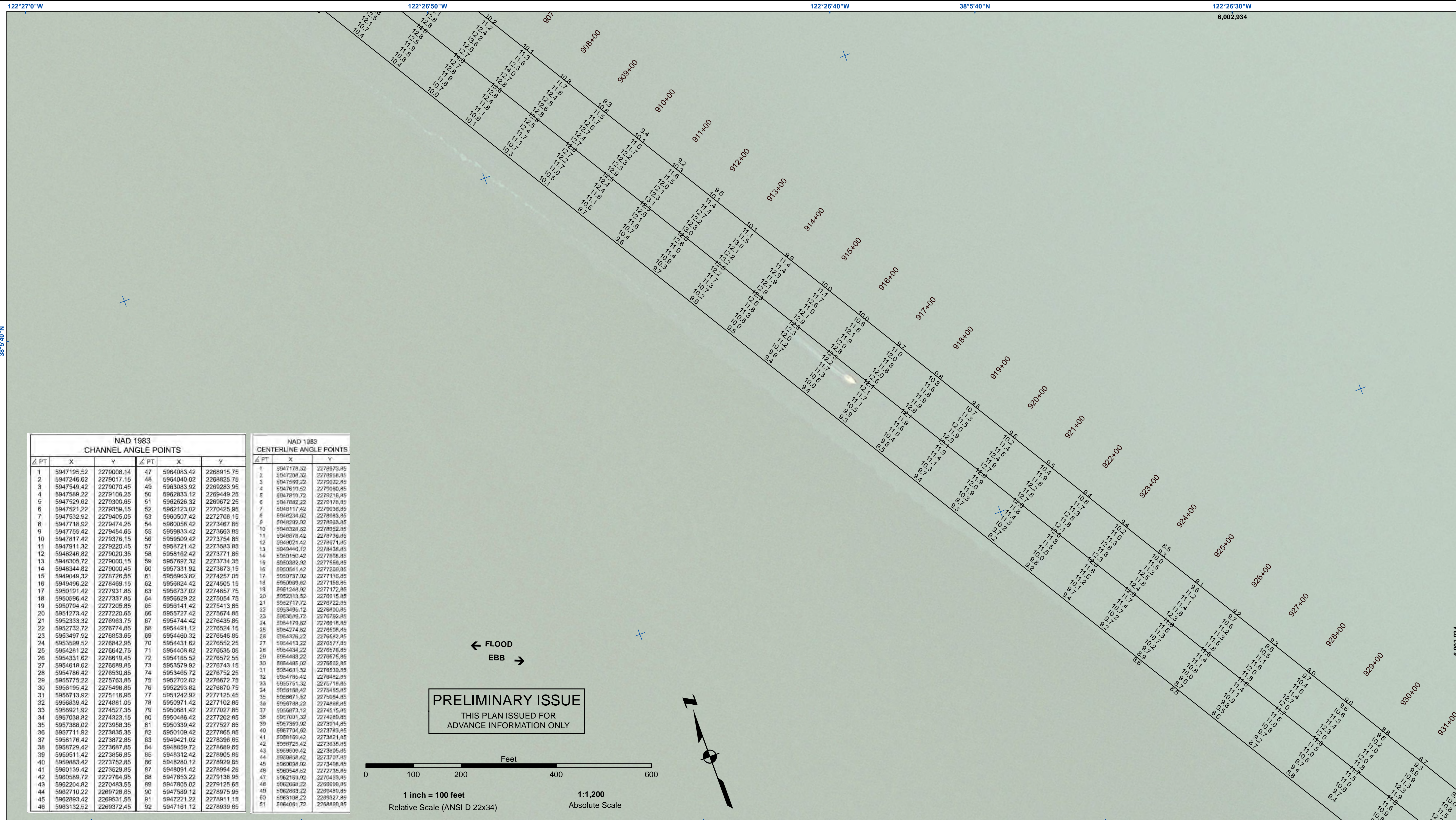
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Prepared Under the Direction of:	John D. Cunningham	Chart Date:	Jun 25, 2020
Submitted:	PDT	Designed by:	
Recommended:	Chief, Hydro Survey Section	Checked by:	PDT
Approved:	Chief, Construction Branch	Drawn by:	PDT

SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet
Reference
Number
31 of 37

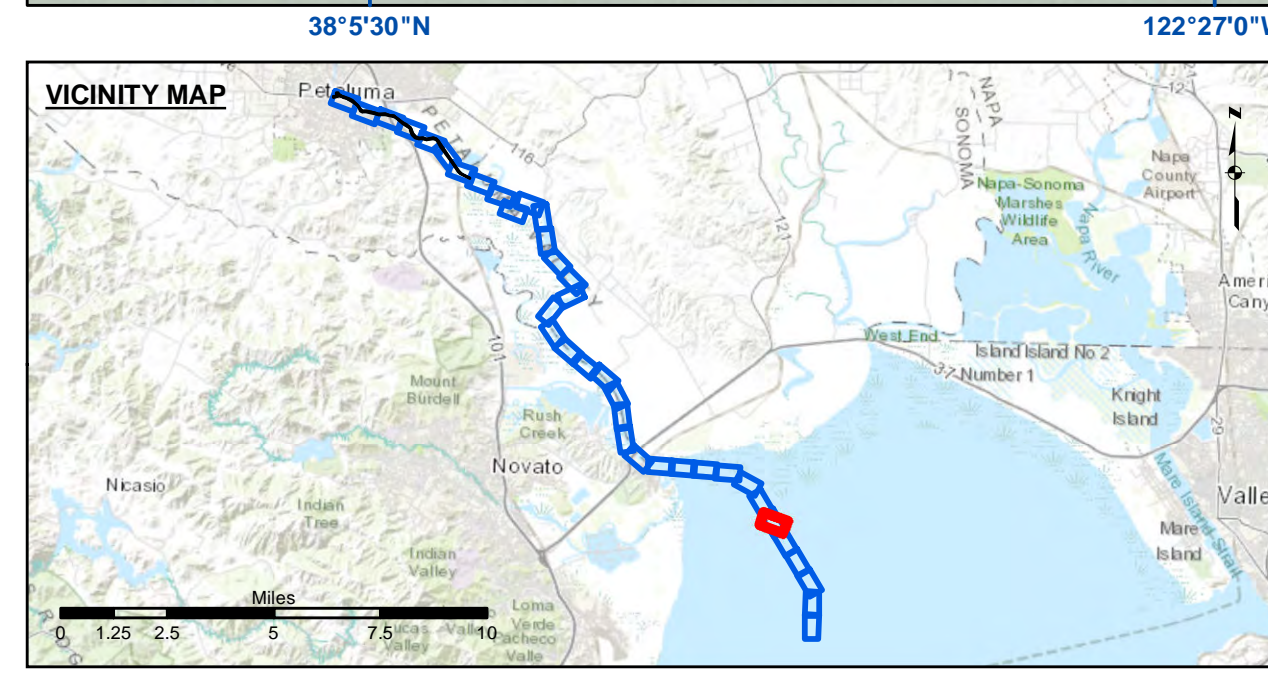
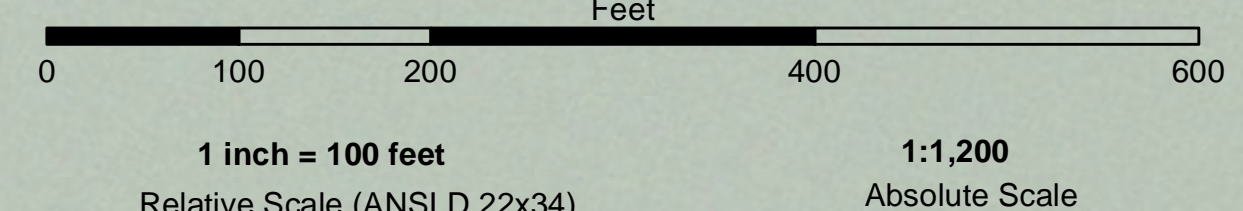


NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5954063.42	2268915.75
2	5947246.62	2279017.15	48	5954040.02	2268825.75
3	5947549.42	2279070.45	49	5953083.92	2269283.95
4	5947589.22	2279106.25	50	5952833.12	2269449.25
5	5947529.62	2279300.85	51	5952626.32	2269672.25
6	5947521.22	2279359.15	52	5952123.02	2270425.95
7	5947532.92	2279405.05	53	5950507.42	2272708.15
8	5947716.52	2279474.25	54	5950056.42	2273467.85
9	5947755.42	2279454.65	55	5950983.42	2273663.85
10	5947817.42	2279375.15	56	5950509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948559.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279022.85	2	5947599.22	2279022.85
3	5947610.52	2279060.85	3	5947610.52	2279060.85
4	5947810.72	2279216.85	4	5947810.72	2279216.85
5	5947882.22	2279178.85	5	5947882.22	2279178.85
6	5948117.42	2279038.85	6	5948117.42	2279038.85
7	5948234.62	2278963.85	7	5948234.62	2278963.85
8	5948293.92	2278963.85	8	5948293.92	2278963.85
9	5948326.62	2278932.85	9	5948326.62	2278932.85
10	5948676.42	2278736.85	10	5948676.42	2278736.85
11	5949021.42	2278571.85	11	5949021.42	2278571.85
12	5949446.72	2278436.85	12	5949446.72	2278436.85
13	5949446.72	2278436.85	13	5949446.72	2278436.85
14	5949150.42	2277996.85	14	5949150.42	2277996.85
15	5950382.92	2277556.85	15	5950382.92	2277556.85
16	5950541.42	2277260.85	16	5950541.42	2277260.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950909.82	2277155.85	18	5950909.82	2277155.85
19	5951246.92	2277172.85	19	5951246.92	2277172.85
20	5952313.52	2276915.85	20	5952313.52	2276915.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954179.92	2276918.85	24	5954179.92	2276918.85
25	5954274.82	2276508.85	25	5954274.82	2276508.85
26	5954326.22	2276562.85	26	5954326.22	2276562.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276576.85	28	5954434.22	2276576.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276539.85	31	5954601.52	2276539.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2276718.85	33	5955751.32	2276718.85
34	5955956.42	2276455.85	34	5955956.42	2276455.85
35	5956971.52	2276064.85	35	5956971.52	2276064.85
36	5956988.22	2274868.85	36	5956988.22	2274868.85
37	5956873.12	2274515.85	37	5956873.12	2274515.85
38	5957001.32	2274289.85	38	5957001.32	2274289.85
39	5957359.02	2273914.85	39	5957359.02	2273914.85
40	5957704.02	2273763.85	40	5957704.02	2273763.85
41	5958189.42	2273621.85	41	5958189.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959006.42	2273805.85	43	5959006.42	2273805.85
44	5959058.42	2273707.85	44	5959058.42	2273707.85
45	5959058.02	2273488.85	45	5959058.02	2273488.85
46	5959544.62	2272735.85	46	5959544.62	2272735.85
47	5962163.02	2270453.85	47	5962163.02	2270453.85
48	5962668.22	2269999.85	48	5962668.22	2269999.85
49	5962893.22	2269449.85	49	5962893.22	2269449.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268889.85	51	5964091.72	2268889.85

← FLOOD
EBB →

PRELIMINARY ISSUE
THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	
Anchorage Area	Navigation Buoy	
Wreck Area	Shoalest Sounding*	
Submerged Wreck		-8
Angle Point		-7
		-6
		-5
		-4

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.
SURVEYED BY THE CORPS OF ENGINEERS.
SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.
SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.
SURVEY CONTROL:
NOAA TIDE STATION:
9415684, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016
PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93
PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.
PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.
ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

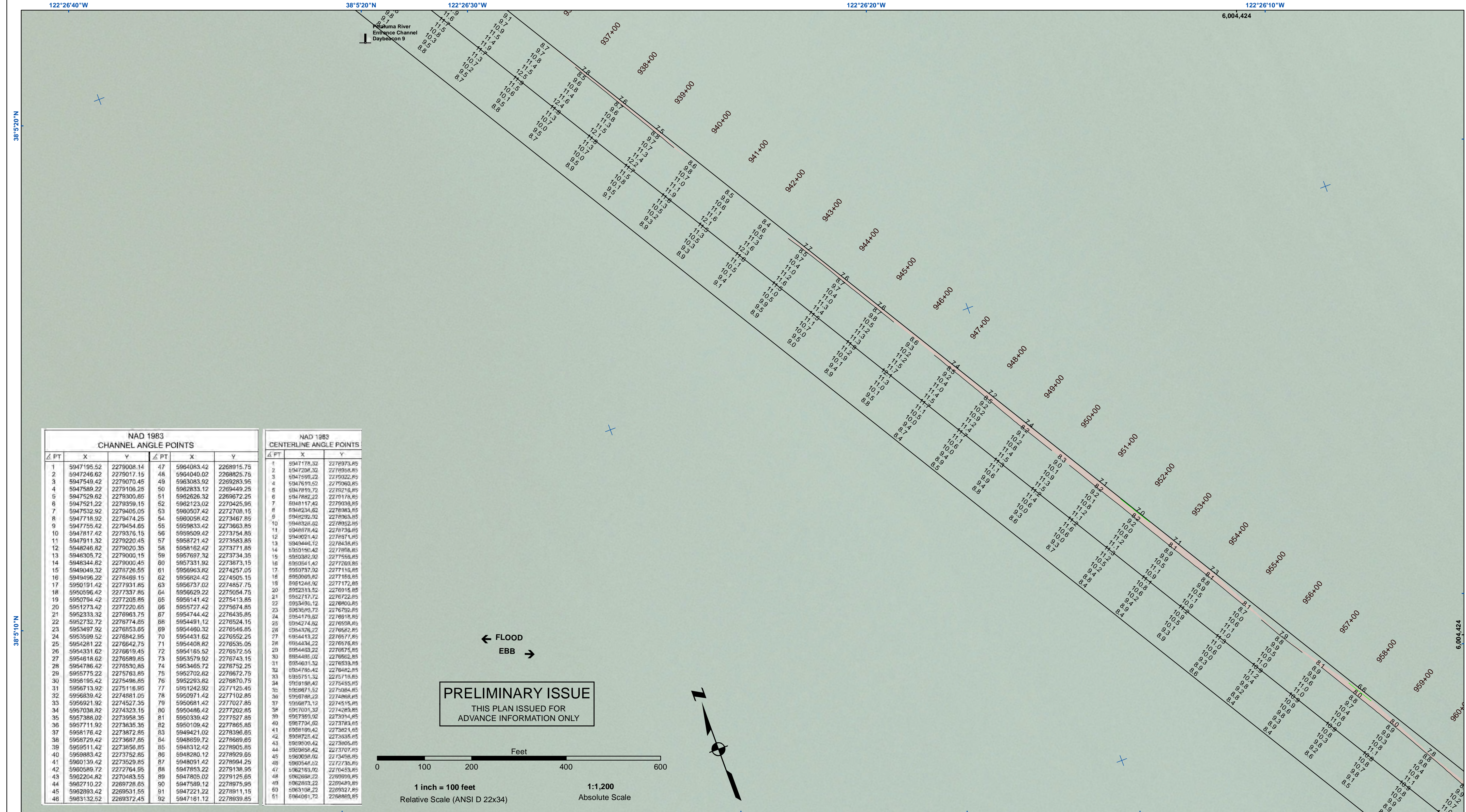
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Prepared Under the Direction of JOHN D. CUNNINGHAM LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Jun 25, 2020
Submitted: PDT	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Drawn by: PDT
Approved: Chief, Construction Branch	Checked by: PDT

CALIFORNIA
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
32 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.92	2279474.25	54	5960056.42	2273467.95
9	5947755.42	2279454.65	55	5959833.42	2273663.85
10	5947817.42	2279375.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278386.85
38	5958729.42	2273887.85	84	5948559.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947610.52	2279060.85	4	5947610.52	2279060.85
5	5947810.72	2279218.85	5	5947810.72	2279218.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278983.85	8	5948234.62	2278983.85
9	5948293.92	2278963.85	9	5948293.92	2278963.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278571.85	12	5949021.42	2278571.85
13	5949446.12	2278436.85	13	5949446.12	2278436.85
14	5949518.42	2278396.85	14	5949518.42	2278396.85
15	5949382.92	2278356.85	15	5949382.92	2278356.85
16	5949541.42	2278269.85	16	5949541.42	2278269.85
17	5949737.02	2278116.85	17	5949737.02	2278116.85
18	5949969.82	2277955.85	18	5949969.82	2277955.85
19	5950246.92	2277772.85	19	5950246.92	2277772.85
20	5950233.52	2276916.85	20	5950233.52	2276916.85
21	5950217.72	2276722.85	21	5950217.72	2276722.85
22	5950305.12	2276800.85	22	5950305.12	2276800.85
23	5950395.72	2276752.85	23	5950395.72	2276752.85
24	5950419.82	2276618.85	24	5950419.82	2276618.85
25	59504274.82	2276550.85	25	59504274.82	2276550.85
26	59504326.22	2276562.85	26	59504326.22	2276562.85
27	59504413.22	2276577.85	27	59504413.22	2276577.85
28	59504434.22	2276576.85	28	59504434.22	2276576.85
29	59504483.22	2276575.85	29	59504483.22	2276575.85
30	59504485.02	2276562.85	30	59504485.02	2276562.85
31	5950461.52	2276553.85	31	5950461.52	2276553.85
32	59504785.42	2276482.85	32	59504785.42	2276482.85
33	5950571.32	2276571.85	33	5950571.32	2276571.85
34	5950958.42	2276455.85	34	5950958.42	2276455.85
35	59509671.52	2276084.85	35	59509671.52	2276084.85
36	5950988.22	2274868.85	36	5950988.22	2274868.85
37	59509873.12	2274515.85	37	59509873.12	2274515.85
38	5957001.32	2274289.85	38	5957001.32	2274289.85
39	5957359.02	2273014.85	39	5957359.02	2273014.85
40	5957704.02	2273763.85	40	5957704.02	2273763.85
41	5958189.42	2273621.85	41	5958189.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959008.42	2273805.85	43	5959008.42	2273805.85
44	5959058.42	2273707.85	44	5959058.42	2273707.85
45	5959058.02	2273488.85	45	5959058.02	2273488.85
46	5960268.22	2272735.85	46	5960268.22	2272735.85
47	5962163.02	2270453.85	47	5962163.02	2270453.85
48	5962668.22	2269999.85	48	5962668.22	2269999.85
49	5962893.22	2269449.85	49	5962893.22	2269449.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268869.85	51	5964091.72	2268869.85

← FLOOD
EBB →

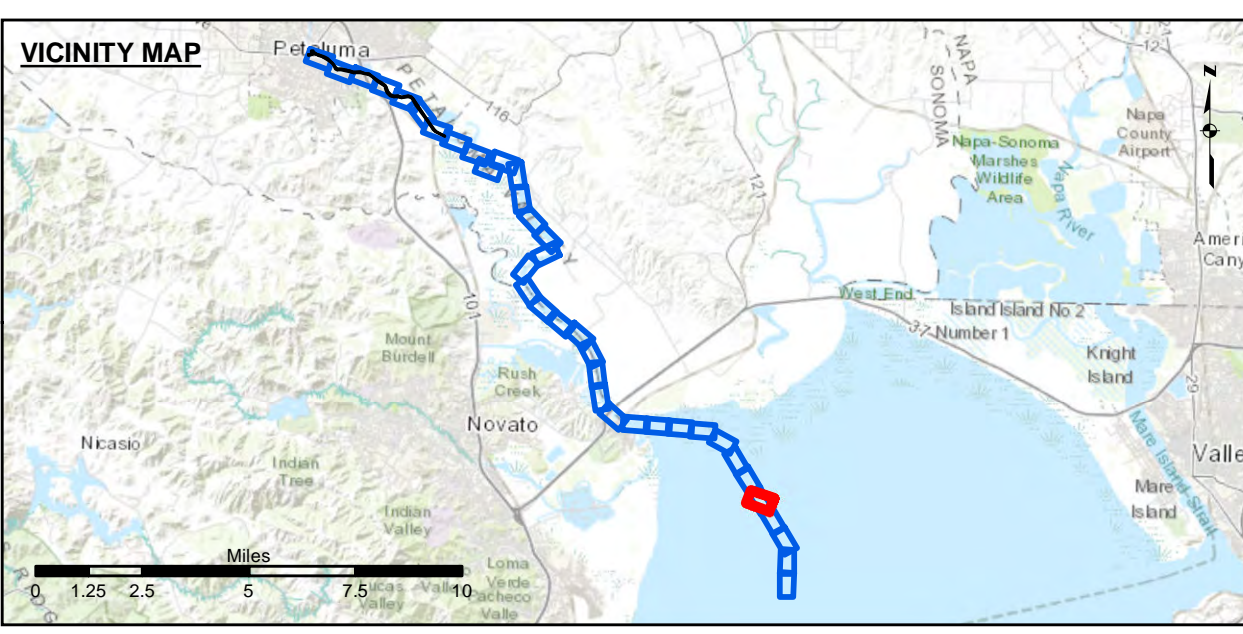
PRELIMINARY ISSUE

THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY

0 100 200 400 600 Feet

1 inch = 100 feet
Relative Scale (ANSI D 22x34)

1:1,200
Absolute Scale



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		-8
		-7
		-6
		-5
		-4

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.

SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

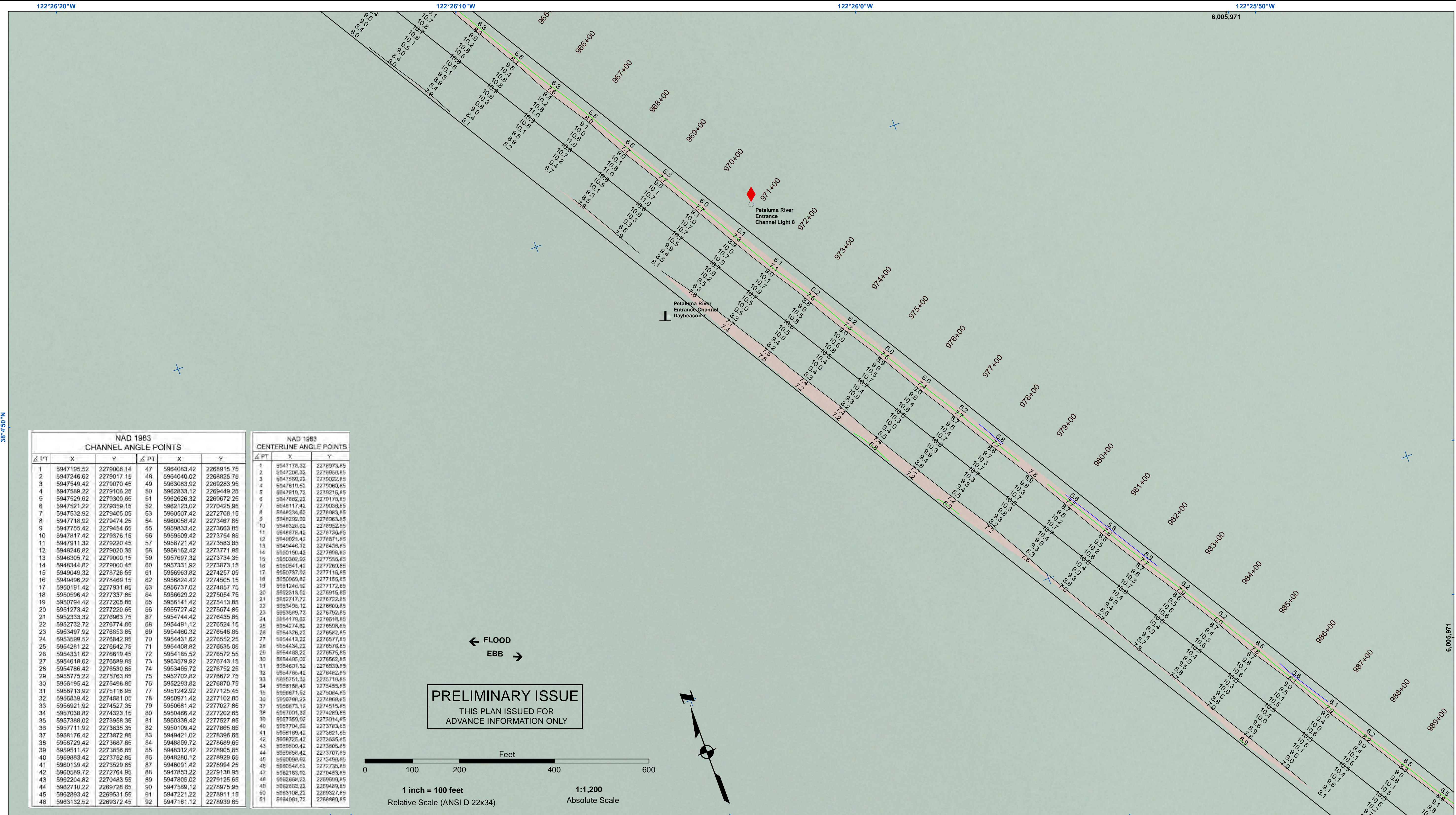
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Chart Date:	Jun 25, 2020
Designed by:	
Drawn by:	PDT
Surveyed By:	JOHN D. CUNNINGHAM
Plotted By:	PDT
Checked By:	PDT

CALIFORNIA
SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
33 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5944063.42	2268915.75
2	5947246.62	2279017.15	48	5944040.02	2268825.75
3	5947549.42	2279070.45	49	5943083.92	2268283.95
4	5947589.22	2279106.25	50	5942833.12	2269449.25
5	5947529.62	2279300.85	51	5942626.32	2269672.25
6	5947521.22	2279359.15	52	5942123.02	2270425.95
7	5947532.92	2279405.05	53	5940507.42	2272708.15
8	5947716.52	2279474.25	54	5940056.42	2273467.85
9	5947755.42	2279454.85	55	5939833.42	2273663.85
10	5947817.42	2279376.15	56	5939509.42	2273754.85
11	5947911.32	2279220.45	57	5938721.42	2273583.85
12	5948246.82	2279020.35	58	5938162.42	2273771.85
13	5948305.72	2279000.15	59	5937697.32	2273734.35
14	5948344.82	2279000.45	60	5937331.92	2273873.15
15	5949049.32	2278726.65	61	5936963.82	2274257.05
16	5949496.22	2278469.15	62	5936824.42	2274505.15
17	5950191.42	2277931.85	63	5936737.02	2274857.75
18	5950596.42	2277337.85	64	5936623.22	2275054.75
19	5950794.42	2277205.85	65	5936141.42	2275413.85
20	5951273.42	2277220.65	66	5935727.42	2275674.85
21	5952333.32	2276963.75	67	5935474.42	2276435.85
22	5952732.72	2276774.85	68	5934911.12	2276524.15
23	5953497.92	2276853.85	69	5934460.32	2276546.85
24	5953599.52	2276842.95	70	5934431.62	2276552.25
25	5954281.22	2276642.75	71	5934408.82	2276535.05
26	5954331.62	2276619.45	72	5934165.52	2276572.55
27	5954818.62	2276589.85	73	5933579.92	2276743.15
28	5954786.42	2276530.85	74	5933465.72	2276752.25
29	5955775.22	2275763.85	75	5932702.82	2276727.75
30	5956195.42	2275498.85	76	5932293.82	2276870.75
31	5956713.92	2275116.85	77	5931242.92	2277125.45
32	5956839.42	2274881.05	78	5930971.42	2277102.85
33	5956921.92	2274527.35	79	5930681.12	2277207.85
34	5957038.82	2274323.15	80	5930486.42	2277202.85
35	5957388.02	2273958.35	81	5930339.42	2277527.85
36	5957711.92	2273835.35	82	5930109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278386.85
38	5958729.42	2273887.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947610.52	2279060.85	4	5947610.52	2279060.85
5	5947810.72	2279216.85	5	5947810.72	2279216.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278983.85	8	5948234.62	2278983.85
9	5948293.92	2278963.85	9	5948293.92	2278963.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278571.85	12	5949021.42	2278571.85
13	5949446.12	2278436.85	13	5949446.12	2278436.85
14	5949180.42	2277996.85	14	5949180.42	2277996.85
15	5950382.92	2277556.85	15	5950382.92	2277556.85
16	5950541.42	2277260.85	16	5950541.42	2277260.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950909.82	2277155.85	18	5950909.82	2277155.85
19	5951246.92	2277172.85	19	5951246.92	2277172.85
20	5952313.52	2276916.85	20	5952313.52	2276916.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953995.72	2276752.85	23	5953995.72	2276752.85
24	5954179.32	2276918.85	24	5954179.32	2276918.85
25	5954274.82	2276580.85	25	5954274.82	2276580.85
26	5954326.22	2276582.85	26	5954326.22	2276582.85
27	5954413.22	2276577.85	27	5954413.22	2276577.85
28	5954434.22	2276576.85	28	5954434.22	2276576.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276539.85	31	5954601.52	2276539.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2276718.85	33	5955751.32	2276718.85
34	5955958.42	2276455.85	34	5955958.42	2276455.85
35	5956971.52	2276084.85	35	5956971.52	2276084.85
36	5956988.22	2274868.85	36	5956988.22	2274868.85
37	5956973.12	2274515.85	37	5956973.12	2274515.85
38	5957001.32	2274289.85	38	5957001.32	2274289.85
39	5957359.02	2273914.85	39	5957359.02	2273914.85
40	5957704.02	2273763.85	40	5957704.02	2273763.85
41	5958189.42	2273621.85	41	5958189.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959008.42	2273805.85	43	5959008.42	2273805.85
44	5959058.42	2273707.85	44	5959058.42	2273707.85
45	5959058.02	2273488.85	45	5959058.02	2273488.85
46	5960544.62	2272735.85	46	5960544.62	2272735.85
47	5962193.02	2270453.85	47	5962193.02	2270453.85
48	5962668.22	2269999.85	48	5962668.22	2269999.85
49	5962958.42	2269449.85	49	5962958.42	2269449.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268889.85	51	5964091.72	2268889.85

← FLOOD
EBB →

PRELIMINARY ISSUE
THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY

0 100 200 400 600
Feet

1 inch = 100 feet
Relative Scale (ANSI D 22x34)

1:1,200
Absolute Scale



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	— -8
Anchorage Area	Navigation Buoy	— -7
Wreck Area	Shoalest Sounding*	— -6
Submerged Wreck		— -5
Angle Point		— -4

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.

SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, PUBLICATION DATE: AUGUST 9, 2004

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93



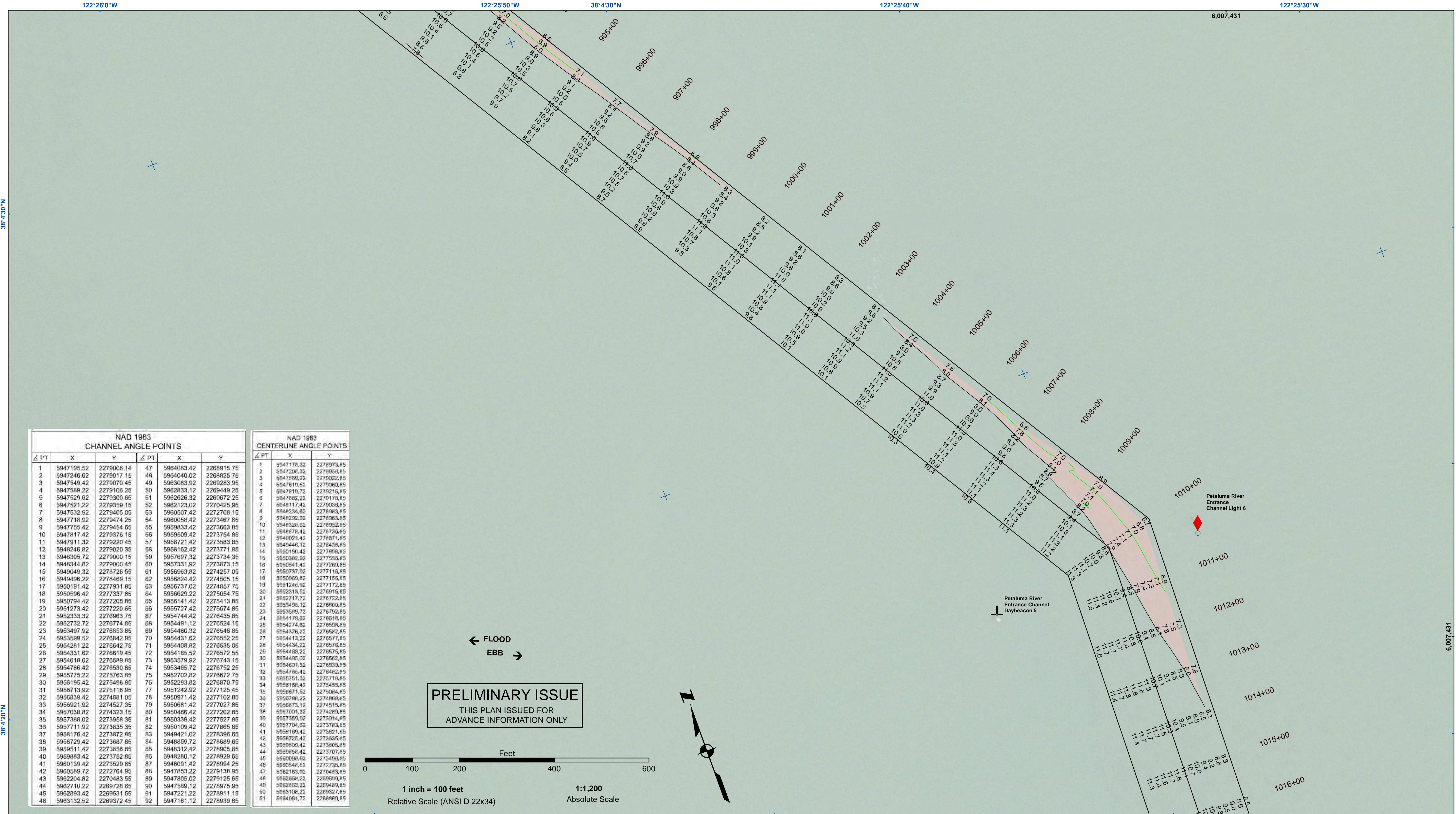
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Chart Date:	Jun 25, 2020
Designed by:	
Drawn by:	PDT
Surveyed By:	John D. Cunningham
Plotted By:	
Checked By:	PDT

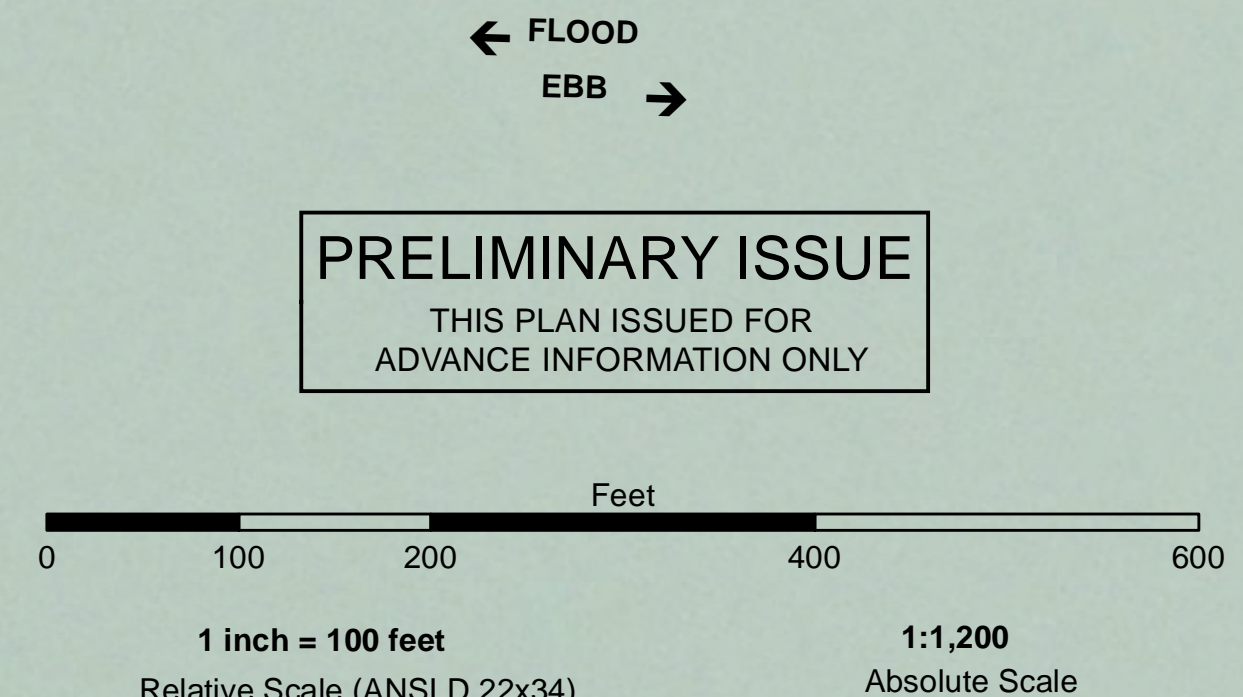
CALIFORNIA
SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
34 of 37



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.92	2279474.25	54	5960056.42	2273467.95
9	5947755.42	2279454.65	55	5959833.42	2273663.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954311.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950681.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278386.85
38	5958729.42	2273887.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947178.32	2278973.85	1	5947204.32	2278958.85
2	5947599.22	2279022.85	2	5947599.22	2279022.85
3	5947610.62	2279060.85	3	5947610.62	2279060.85
4	5947810.72	2279181.85	4	5947810.72	2279181.85
5	5947882.22	2279178.85	5	5947882.22	2279178.85
6	5948117.42	2279038.85	6	5948117.42	2279038.85
7	5948234.62	2278963.85	7	5948234.62	2278963.85
8	5948326.62	2278932.85	8	5948326.62	2278932.85
9	5948676.42	2278736.85	9	5948676.42	2278736.85
10	5949021.42	2278571.85	10	5949021.42	2278571.85
11	5949446.12	2278436.85	11	5949446.12	2278436.85
12	5949515.42	2278396.85	12	5949515.42	2278396.85
13	5949832.92	2278352.85	13	5949832.92	2278352.85
14	5950054.12	2278308.85	14	5950054.12	2278308.85
15	5950382.92	2278264.85	15	5950382.92	2278264.85
16	5950737.02	2278220.85	16	5950737.02	2278220.85
17	5951099.82	2278176.85	17	5951099.82	2278176.85
18	5951468.92	2278132.85	18	5951468.92	2278132.85
19	5951843.52	2278088.85	19	5951843.52	2278088.85
20	5952223.52	2278044.85	20	5952223.52	2278044.85
21	5952608.52	2278000.85	21	5952608.52	2278000.85
22	5952998.52	2277956.85	22	5952998.52	2277956.85
23	5953393.52	2277912.85	23	5953393.52	2277912.85
24	5953793.52	2277868.85	24	5953793.52	2277868.85
25	5954198.52	2277824.85	25	5954198.52	2277824.85
26	5954608.52	2277780.85	26	5954608.52	2277780.85
27	5955023.52	2277736.85	27	5955023.52	2277736.85
28	5955443.52	2277692.85	28	5955443.52	2277692.85
29	5955868.52	2277648.85	29	5955868.52	2277648.85
30	5956298.52	2277604.85	30	5956298.52	2277604.85
31	5956733.52	2277560.85	31	5956733.52	2277560.85
32	5957173.52	2277516.85	32	5957173.52	2277516.85
33	5957618.52	2277472.85	33	5957618.52	2277472.85
34	5958068.52	2277428.85	34	5958068.52	2277428.85
35	5958523.52	2277384.85	35	5958523.52	2277384.85
36	5958983.52	2277340.85	36	5958983.52	2277340.85
37	5959448.52	2277296.85	37	5959448.52	2277296.85
38	5959918.52	2277252.85	38	5959918.52	2277252.85
39	5960393.52	2277208.85	39	5960393.52	2277208.85
40	5960873.52	2277164.85	40	5960873.52	2277164.85
41	5961358.52	2277120.85	41	5961358.52	2277120.85
42	5961848.52	2277076.85	42	5961848.52	2277076.85
43	5962343.52	2277032.85	43	5962343.52	2277032.85
44	5962843.52	2276988.85	44	5962843.52	2276988.85
45	5963348.52	2276944.85	45	5963348.52	2276944.85
46	5963858.52	2276900.85	46	5963858.52	2276900.85
47	5964373.52	2276856.85	47	5964373.52	2276856.85
48	5964893.52	2276812.85	48	5964893.52	2276812.85
49	5965418.52	2276768.85	49	5965418.52	2276768.85
50	5965948.52	2276724.85	50	5965948.52	2276724.85
51	5966483.52	2276680.85	51	5966483.52	2276680.85



Federal Navigation Channel	Beacon, General	Contours
Shoaling Area	Obstruction Point	
Placement Area	Navigation Buoy	
Anchorage Area	Navigation Buoy	
Wreck Area	Shoalest Sounding*	
Submerged Wreck		-8
Angle Point		-7
		-6
		-5
		-4

NOTES:

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SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 88 DATUM, DRAWING DATE: AUGUST 9, 2004

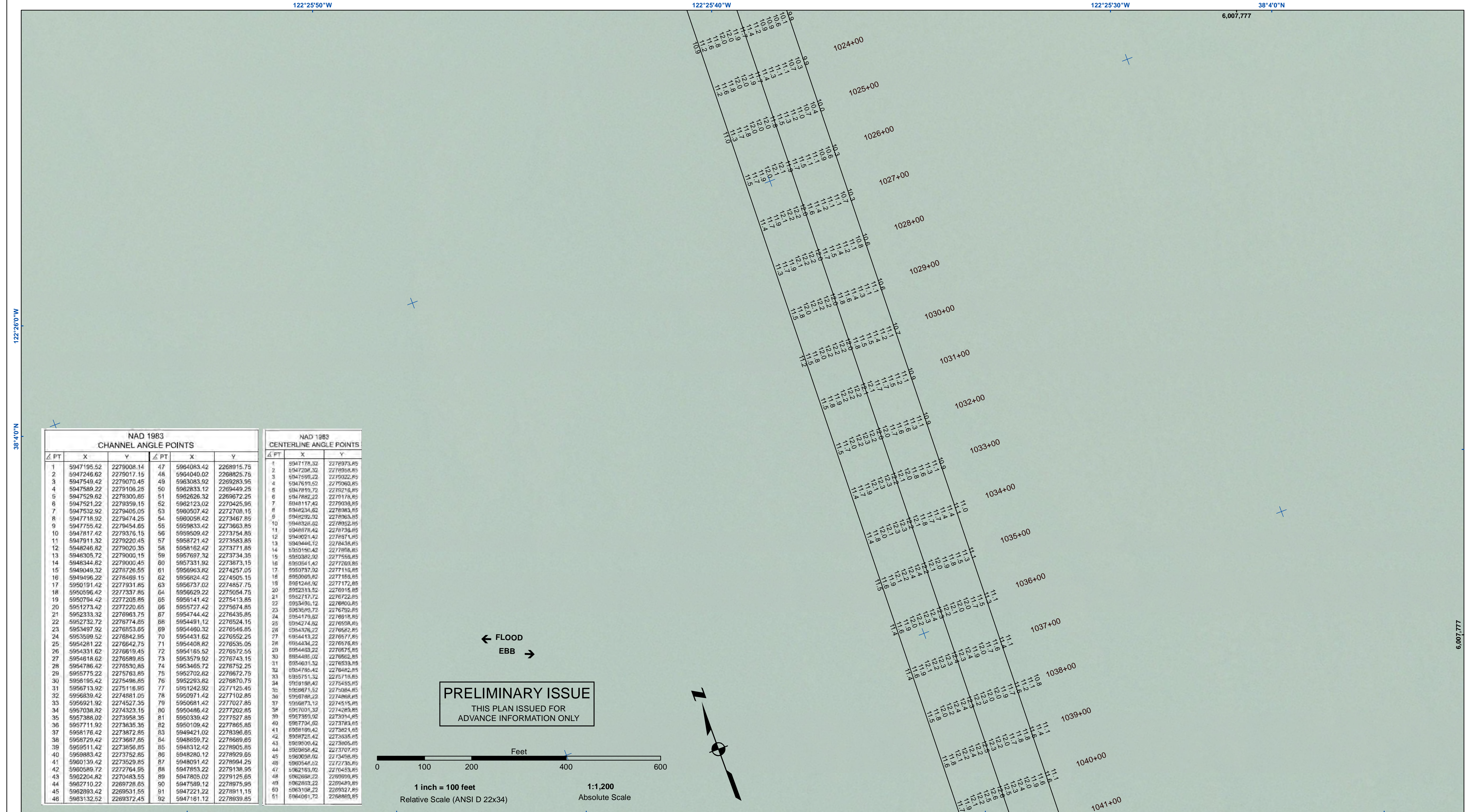
US Army Corps of Engineers
San Francisco District
450 Market Street
San Francisco, CA 94102

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Prepared Under the Direction of JOHN D. CUNNINGHAM LT COLONEL, C.E., DISTRICT ENGINEER	Chart Date: Jun 25, 2020
Submitted: Hydro Survey Team Leader	Designed by: PDT
Recommended by: Chief, Hydro Survey Section	Drawn by: PDT
Approved: Chief, Construction Branch	Checked by: PDT

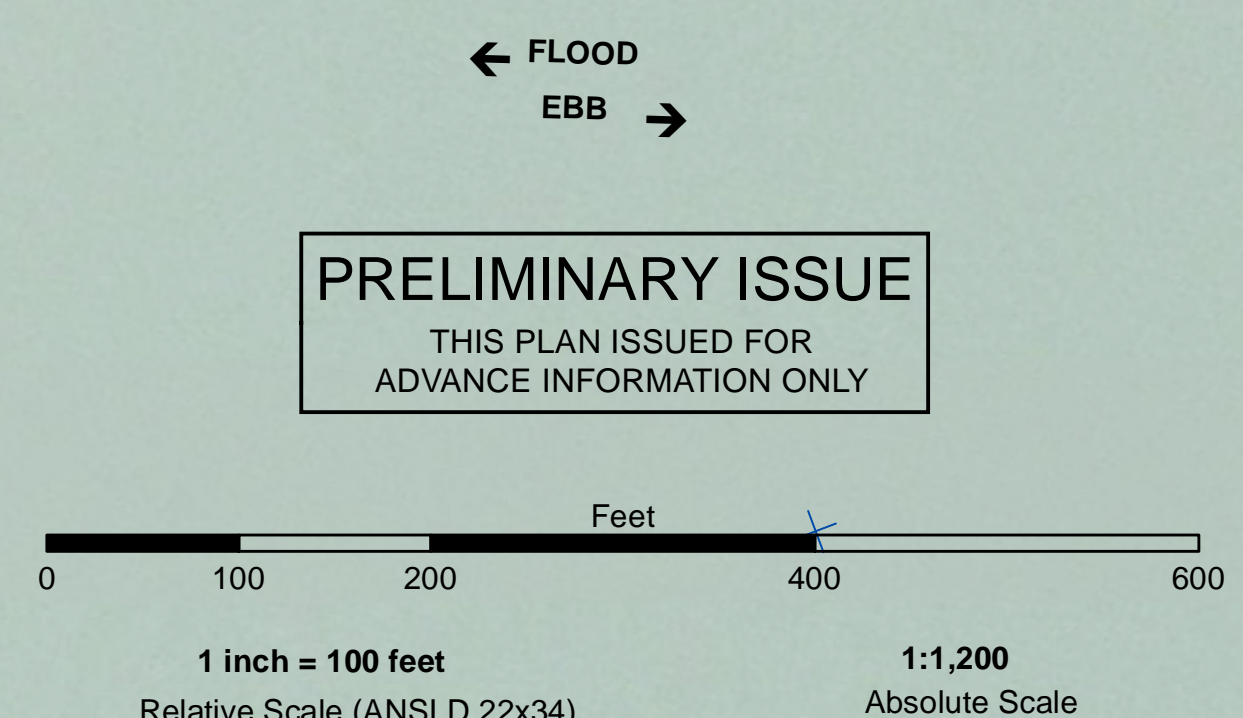
SONOMA COUNTY
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020

Sheet Reference Number
35 of 37



NAD 1983 CHANNEL ANGLE POINTS					
PT	X	Y	PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.52	2279474.25	54	5960056.42	2273467.85
9	5947755.42	2279454.65	55	5959833.42	2273663.85
10	5947817.42	2279376.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.65	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956923.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.65	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277207.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948859.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947599.12	2278975.95
45	5962893.42	2269531.65	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278839.85

NAD 1983 CENTERLINE ANGLE POINTS					
PT	X	Y	PT	X	Y
1	5947178.32	2278973.85	1	5947178.32	2278973.85
2	5947204.32	2278958.85	2	5947204.32	2278958.85
3	5947599.22	2279022.85	3	5947599.22	2279022.85
4	5947610.62	2279060.85	4	5947610.62	2279060.85
5	5947810.72	2279218.85	5	5947810.72	2279218.85
6	5947882.22	2279178.85	6	5947882.22	2279178.85
7	5948117.42	2279038.85	7	5948117.42	2279038.85
8	5948234.62	2278963.85	8	5948234.62	2278963.85
9	5948293.92	2278963.85	9	5948293.92	2278963.85
10	5948326.62	2278932.85	10	5948326.62	2278932.85
11	5948676.42	2278736.85	11	5948676.42	2278736.85
12	5949021.42	2278571.85	12	5949021.42	2278571.85
13	5949446.12	2278436.85	13	5949446.12	2278436.85
14	5949150.42	2277996.85	14	5949150.42	2277996.85
15	5950382.92	2277556.85	15	5950382.92	2277556.85
16	5950541.42	2277260.85	16	5950541.42	2277260.85
17	5950737.02	2277116.85	17	5950737.02	2277116.85
18	5950969.82	2277155.85	18	5950969.82	2277155.85
19	5951246.92	2277172.85	19	5951246.92	2277172.85
20	5952313.52	2276916.85	20	5952313.52	2276916.85
21	5952717.72	2276722.85	21	5952717.72	2276722.85
22	5953495.12	2276800.85	22	5953495.12	2276800.85
23	5953695.72	2276752.85	23	5953695.72	2276752.85
24	5954179.82	2276918.85	24	5954179.82	2276918.85
25	5954274.82	2276508.85	25	5954274.82	2276508.85
26	5954326.22	2276562.85	26	5954326.22	2276562.85
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28	5954434.22	2276576.85	28	5954434.22	2276576.85
29	5954483.22	2276975.85	29	5954483.22	2276975.85
30	5954485.02	2276562.85	30	5954485.02	2276562.85
31	5954601.52	2276939.85	31	5954601.52	2276939.85
32	5954785.42	2276482.85	32	5954785.42	2276482.85
33	5955751.32	2275718.85	33	5955751.32	2275718.85
34	5955936.42	2275455.85	34	5955936.42	2275455.85
35	5956871.52	2275084.85	35	5956871.52	2275084.85
36	5957888.22	2274868.85	36	5957888.22	2274868.85
37	5956873.12	2274515.85	37	5956873.12	2274515.85
38	5957001.32	2274289.85	38	5957001.32	2274289.85
39	5957359.02	2273914.85	39	5957359.02	2273914.85
40	5957704.02	2273763.85	40	5957704.02	2273763.85
41	5958189.42	2273621.85	41	5958189.42	2273621.85
42	5958725.42	2273635.85	42	5958725.42	2273635.85
43	5959006.42	2273805.85	43	5959006.42	2273805.85
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49	5962958.42	2269429.85	49	5962958.42	2269429.85
50	5963106.22	2269327.85	50	5963106.22	2269327.85
51	5964091.72	2268869.85	51	5964091.72	2268869.85



	Federal Navigation Channel		Beacon, General	Contours	
	Shoaling Area		Obstruction Point		
	Placement Area		Navigation Buoy		
	Anchorage Area		Navigation Buoy		
	Wreck Area		Shoalest Sounding*		
	Submerged Wreck				-6
	Angle Point				-7
					-5
					-4

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.

SURVEYED BY THE CORPS OF ENGINEERS.

SOUNDINGS ARE TAKEN BY FATHOMETER AND ARE SHOWN TO THE NEAREST FOOT AND TENTHS OF A FOOT.

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY.

SURVEY CONTROL:
NOAA TIDE STATION:
9415584, PETALUMA RIVER, UPPER DRAWBRIDGE CA Published September 2016

PRIMARY PROJECT CONTROL POINT
5584 F 2014
PID: BBDJ93

PLANE GRID AND COORDINATES ARE BASED ON THE STATE OF CALIFORNIA COORDINATE SYSTEM, LAMBERT PROJECTION, ZONE III NAD 83, CALIFORNIA, AS DESCRIBED IN SPECIAL PUBLICATION NO. 235, PUBLISHED BY NATIONAL OCEAN SURVEY.

PROJECT DEPTH IS 8 FEET FROM THE MOUTH OF PETALUMA CREEK TO WESTERN AVE., THEN 4 FOOT DEPTH TO THE HEAD OF NAVIGATION.

ELEVATIONS ARE BASED ON TIDAL BENCH MARK 941 5584 BOLT C, NATIONAL OCEAN SERVICE BOLT, ELEV. 13.69, NAVD 83 DATUM, PUBLICATION DATE: AUGUST 9, 2004

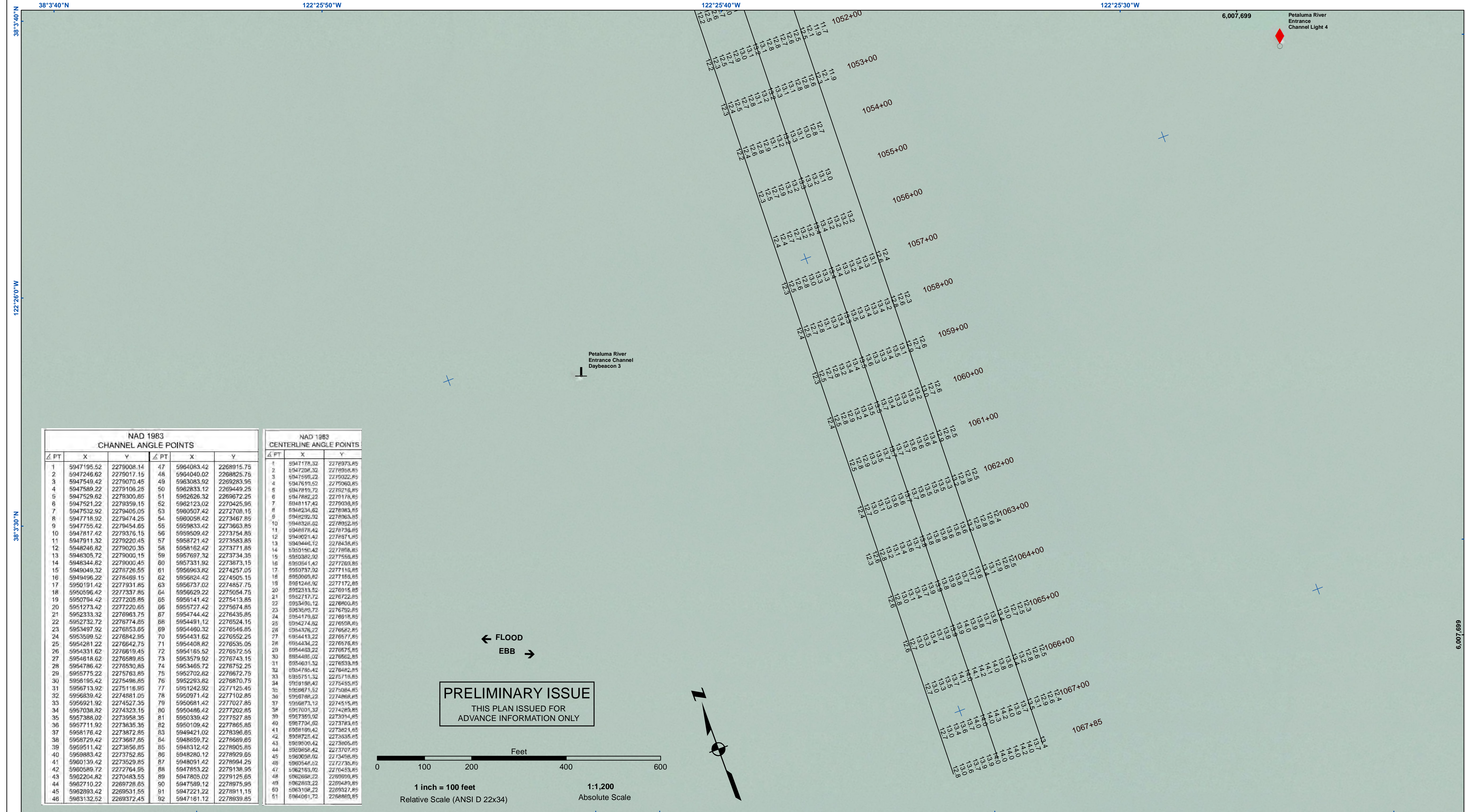


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Chart Date:	Jun 25, 2020
Designed by:	PDT
Drawn by:	PDT
Checked by:	PDT
Surveyed By:	JOHN D. CUNNINGHAM
Plotted By:	PDT
Submitted:	Hydro Survey Team Leader
Recommended:	Chief, Hydro Survey Section
Approved:	Chief, Construction Branch

SONOMA COUNTY
CALIFORNIA
PETALUMA RIVER
CONDITION SURVEY
03-15 JUNE 2020



NAD 1983 CHANNEL ANGLE POINTS					
Δ PT	X	Y	Δ PT	X	Y
1	5947195.52	2279008.14	47	5964063.42	2268915.75
2	5947246.62	2279017.15	48	5964040.02	2268825.75
3	5947549.42	2279070.45	49	5963083.92	2269283.95
4	5947589.22	2279106.25	50	5962833.12	2269449.25
5	5947529.62	2279300.85	51	5962626.32	2269672.25
6	5947521.22	2279359.15	52	5962123.02	2270425.95
7	5947532.92	2279405.05	53	5960507.42	2272708.15
8	5947716.52	2279474.25	54	5960056.42	2273467.85
9	5947755.42	2279454.65	55	5959833.42	2273663.85
10	5947817.42	2279375.15	56	5959509.42	2273754.85
11	5947911.32	2279220.45	57	5958721.42	2273583.85
12	5948246.82	2279020.35	58	5958162.42	2273771.85
13	5948305.72	2279000.15	59	5957697.32	2273734.35
14	5948344.82	2279000.45	60	5957331.92	2273873.15
15	5949049.32	2278726.55	61	5956963.82	2274257.05
16	5949496.22	2278469.15	62	5956824.42	2274505.15
17	5950191.42	2277931.85	63	5956737.02	2274857.75
18	5950596.42	2277337.85	64	5956623.22	2275054.75
19	5950794.42	2277205.85	65	5956141.42	2275413.85
20	5951273.42	2277220.65	66	5955727.42	2275674.85
21	5952333.32	2276963.75	67	5954744.42	2276435.85
22	5952732.72	2276774.85	68	5954491.12	2276524.15
23	5953497.92	2276853.85	69	5954460.32	2276546.85
24	5953599.52	2276842.95	70	5954431.62	2276552.25
25	5954281.22	2276642.75	71	5954408.82	2276535.05
26	5954331.62	2276619.45	72	5954165.52	2276572.55
27	5954818.62	2276589.85	73	5953579.92	2276743.15
28	5954786.42	2276530.85	74	5953465.72	2276752.25
29	5955775.22	2275763.85	75	5952702.82	2276672.75
30	5956195.42	2275498.85	76	5952293.82	2276870.75
31	5956713.92	2275116.85	77	5951242.92	2277125.45
32	5956839.42	2274881.05	78	5950971.42	2277102.85
33	5956921.92	2274527.35	79	5950881.42	2277027.85
34	5957038.82	2274323.15	80	5950486.42	2277202.85
35	5957388.02	2273958.35	81	5950339.42	2277527.85
36	5957711.92	2273835.35	82	5950109.42	2277865.85
37	5958176.42	2273872.85	83	5949421.02	2278366.85
38	5958729.42	2273887.85	84	5948559.72	2278889.85
39	5959511.42	2273856.85	85	5948312.42	2278905.85
40	5959883.42	2273752.85	86	5948280.12	2278929.85
41	5960139.42	2273529.85	87	5948091.42	2278994.25
42	5960589.72	2272764.95	88	5947853.22	2279138.95
43	5962204.82	2270483.55	89	5947805.02	2279125.65
44	5962710.22	2269728.65	90	5947589.12	2278975.95
45	5962893.42	2269531.55	91	5947221.22	2278911.15
46	5963132.52	2269372.45	92	5947161.12	2278939.85

NAD 1983 CENTERLINE ANGLE POINTS		
Δ PT	X	Y
1	5947178.32	2278973.85
2	5947208.32	2278958.85
3	5947599.22	2279322.85
4	5947610.52	2279060.85
5	5947810.72	2279218.85
6	5947882.22	2279178.85
7	5948117.42	2279038.85
8	5948234.62	2278983.85
9	5948293.92	2278963.85
10	5948326.62	2278932.85
11	5948676.42	2278736.85
12	5949021.42	2278571.85
13	5949446.72	2278436.85
14	5949150.42	2277998.85
15	5950382.92	2277556.85
16	5950541.42	2277260.85
17	5950737.02	2277116.85
18	5950969.82	2277155.85
19	5951246.92	2277172.85
20	5952313.52	2276915.85
21	5952717.72	2276722.85
22	5953495.12	2276800.85
23	5953695.72	2276752.85
24	5954179.32	2276918.85
25	5954274.82	2276508.85
26	5954326.22	2276562.85
27	5954413.22	2276577.85
28	5954434.22	2276576.85
29	5954483.22	2276975.85
30	5954485.02	2276562.85
31	5954601.52	2276539.85
32	5954785.42	2276482.85
33	5955751.32	2275718.85
34	5955986.42	2275455.85
35	5956871.52	2275084.85
36	5956888.22	2274868.85
37	5956873.12	2274515.85
38	5957001.32	2274289.85
39	5957359.02	2273914.85
40	5957704.02	2273763.85
41	5958189.42	2273621.85
42	5958725.42	2273635.85
43	5959006.42	2273805.85
44	5959058.42	2273707.85
45	5959058.02	2273488.85
46	5959546.62	2272735.85
47	5962153.02	2270453.85
48	5962668.22	2269999.85
49	5962883.22	2269429.85
50	5963106.22	2269327.85
51	5964091.72	2268869.85

PRELIMINARY ISSUE
THIS PLAN ISSUED FOR
ADVANCE INFORMATION ONLY

← FLOOD
EBB →

1 inch = 100 feet
Relative Scale (ANSI D 22x34) 1:1,200
Absolute Scale



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		-8
		-7
		-6
		-5
		-4

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US Army Corps of Engineers
San Francisco District
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San Francisco, CA 94102

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Surveyed By: JOHN D. CUNNINGHAM	Chart Date: Jun 25, 2020	PDT
Plotted By: PDT	Designed by: PDT	Drawn by: PDT
Hydro Survey Team Leader	Checked By: PDT	
Chief, Hydro Survey Section		
Approver: Chief, Construction Branch		

CALIFORNIA

PETALUMA RIVER

CONDITION SURVEY

03-15 JUNE 2020

SONOMA COUNTY

Petaluma River

Sheet Reference Number

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