NAD 83 CHANNEL ANGLE POINTS					
∠ PT	X	Y	∠ PT	X	Y
1-A	6522058.94	1773894.77	46	6611103.07	1772096.82
2-A	6525876.51	1775995.50	47	6612148.35	1771412.18
			48	6611928.32	1771078.24
1	6522251.24	1773544.02	49	6610969.28	1771713.82
2	6526638.33	1775949.19	50	6609351.08	1771859.43
3	6526814.71	1776043.48	51	6607366.28	1771677.36
4	6527523.96	1776423.75	52	6606234.39	1771743.72
5	6532628.85	1779160.81	53	6605546.71	1772090.55
6	6533058.01	1779418.58	54	6605222.02	1772254.31
7	6534097.47	1779856.02	55	6604935.26	1772457.79
8	6538142.48	1781404.93	56	6604271.82	1772822.60
9	6541140.44	1783407.77	57	6603528.42	1772966.17
10	6543746.50	1785148.80	58	6600263.32	1773215.96
11	6546257.51	1785960.74	59	6599652.22	1773313.41
12	6549181.52	1786080.68	60	6599077.86	1773543.71
13	6555384.18	1784554.99	61	6598135.33	1774014.34
14	6555800.55	1784452.57	62	6596668.12	1774746.95
15	6561371.57	1783800.48	63	6595938.27	1775223.39
16	6563022.20	1783817.72	64	6595391.45	1775902.10
17	6566631.60	1783855.42	65	6594404.78	1777464.31
18	6570705.41	1783336.79	66	6593391.34	1778160.67
19	6572444.64	1783115.37	67	6591480.44	1778412.52
20	6574974.06	1782266.36	68	6591255.17	1778442.21
21	6578022.73	1780780.80	69	6590791.21	1778418.32
22	6581155.52	1779254.25	70	6586528.94	1777967.81
23	6583747.56	1778351.30	71	6585297.54	1777983.71
24	6585358.69	1778330.50	72	6583686.58	1778004.51
25	6586492.14	1778315.87	73	6581002.20	1778939.63
26	6590754.42	1778766.38	74	6579959.51	1780422.27
27	6591256.10	1778845.54	75	6574841.16	1781941.79
28	6591599.01	1778800.33	76	6572366.09	1782772.55
29	6593537.77	1778544.71	77	6570644.56	1782991.71
30	6594699.78	1777747.44	78	6566611.24	1783505.19
31	6595729.72	1776115.57	79	6562960.36	1783467.06
32	6596208.21	1775521.70	80	6561352.98	1783450.27
33	6596846.81	1775104.81	81	6555738.17	1784107.49
34	6598253.91	1774402.21	82	6555323.24	1784209.40
35	6599256.55	1773901.57	83	6549136.20	1785728.94
36	6599759.13	1773700.06	84	6546319.67	1785613.00
37	6600293.83	1773614.79	85	6543900.48	1784830.75
38	6603558.93	1773364.99	86	6541295.27	1783090.31
39	6604408.52	1773200.93	87	6538304.13	1781092.05
40	6605166.76	1772783.99	88	6534227.97	1779531.21
41	6605493.42	1772571.98	89	6533218.72	1779102.27
42	6605666.48	1772482.32	90	6532770.08	1778896.24
43	6606339.33	1772133.75	91	6527655.58	1776153.90
44	6607329.74	1772075.69	92	6526956.17	1775778.89
45	6609314.54	1772257.76	93	6522395.41	1773280.93

NAD 83 CENTERLINE ANGLE POINTS		
∠ PT	X	Y
C1	6522323.35	1773412.49
C2	6526711.37	1775815.85
C3	6526885.44	1775911.19
C4	6527589.77	1776288.83
C5	6532699.46	1779028.53
C6	6533138.36	1779260.42
C7	6534162.72	1779693.62
C8	6538223.29	1781248.49
C9	6541217.85	1783249.04
C10	6543823.49	1784989.77
C11	6546288.60	1785786.87
C12	6549158.86	1785904.81
C13	6555353.71	1784325.19
C14	6555769.36	1784280.03
C15	6561362.27	1783625.37
C16	6562991.28	1783642.39
C17	6566621.42	1783680.31
C18	6570674.99	1783164.25
C19	6572405.37	1782943.96
C20	6574907.61	1782104.08
C21	6577991.12	1780601.54
C22	6581078.86	1779096.94
C23	6583717.07	1778177.91
C24	6585328.12	1778157.11
C25	6586510.54	1778141.84
C26	6590772.82	1778592.35
C27	6591255.63	1778643.88
C28	6591539.73	1778606.44
C29	6593465.01	1778352.69
C30	6594552.75	1777605.88
C31	6595560.59	1776008.84
C32	6596073.24	1775372.55
C33	6596757.47	1774925.89
C34	6598194.62	1774208.28
C35	6599167.21	1773722.64
C36	6599705.67	1773506.74
C37	6600278.58	1773415.38
C38	6603543.68	1773165.58
C39	6604340.18	1773011.77
C40	6605051.02	1772620.90
C41	6605337.77	1772417.41
C42	6605905.37	1772282.44
C43	6606286.86	1771938.73
C44	6607348.01	1771876.53
C45	6609332.80	1772058.59
C46	6611036.18	1771905.32
C47	6612038.33	1771245.21

PRELIMINARY ISSUE
THIS PLAN ISSUED FOR ADVANCE INFORMATION ONLY

BENICIA-MARTINEZ BRIDGE INTERSTATE HIGHWAY 680

UNION PACIFIC RAILROAD BRIDGE

MATCHLINE - SHEET 2

Green Buoy # 3

Red Buoy # 2

SHELL DOCK

AMORCO WHARF

SUISUN POINT

FLOOD
EBB

LEGEND:
-35'
-34'
-33'
-32'
-31'

GRAPHICS SCALE 1" = 200'
200' 0 100' 200' 400' 800'

NOTES:

DRAWINGS NOT TO BE USED AS 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 LOCATION REPRESENT THE POSITION OF THE SINKER ONLY.

SURVEYED BY THE CORPS OF ENGINEERS.

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

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

THE PROJECT DEPTH IS 35 FEET.

CONTROL:

SUISUN BAY CHANNEL & BULLSHEAD CHANNEL
- STA. 0+00 TO 200+00
- PORT OF BENICIA - NOAA STATION 941 5111
- 941 5111 TIDAL 9 (PID: JT0141) - MLLW: 14.88FT
- TIDE GAUGE: 10.0 FT NAIL ON PILING AT PORT OF BENICIA

SUISUN BAY CHANNEL
- SBC_100'_NAD 83.LNW - STA. 200+00 TO 733+00
- PORT CHICAGO - NOAA STATION 941 5144
- TIDE GAUGE: NOAA ONLINE TIDE GAUGE: 941 5144

NEW YORK SLOUGH (NEW YORK SLOUGH_100'_NAD 83.LNW)
- STA. 0+00 TO 232+00
- PITTSBURG - NOAA STATION 941 5096
- TIDAL 4 STA III 32 (PID: JS1881) - MLLW: 23.28 FT
- KEY WEST (USACE) - MLLW: 7.65 FT - LAST CHECK-IN 7 JUN 2011
- TIDE GAUGE: 10.0 FT NAIL ON PILING IN PITTSBURG

TIDE METHODS:

SUISUN BAY AND BULLSHEAD CHANNEL:

HYPACK CENTERLINE METHOD
- FROM STA. 0+00:
- PORT OF BENICIA TIDE GAUGE CHAINAGE 3100 FT
- PORT CHICAGO TIDE GAUGE CHAINAGE 31,600 FT
- NEW YOUR SLOUGH TIDE GAUGE CHAINAGE 80,900 FT

NEW YORK SLOUGH:

STATIC READINGS FROM NEW YOUR SLOUGH TIDE GAUGE
HORIZONTAL POSITIONING: DGPS

US Army Corps of Engineers
San Francisco District
1455 Market Street
San Francisco, CA 94103

Mark	Description	Date	Appr.

SUBMITTED: PDT
Survey Section Team Leader
APPROVAL RECOMMENDED:
Chief, Hydro Survey Section
APPROVED:
Chief, Construction Branch

DESIGNED BY: PDT
DATE: 12/27/2016
CHECKED BY: PDT
SHEET NO. 1 OF 16
DRAWING NO. 4
2

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

CONTRA COSTA COUNTY CALIFORNIA
SUISUN BAY CHANNEL
CONDITION SURVEY
19 DECEMBER 2016

Sheet reference number
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