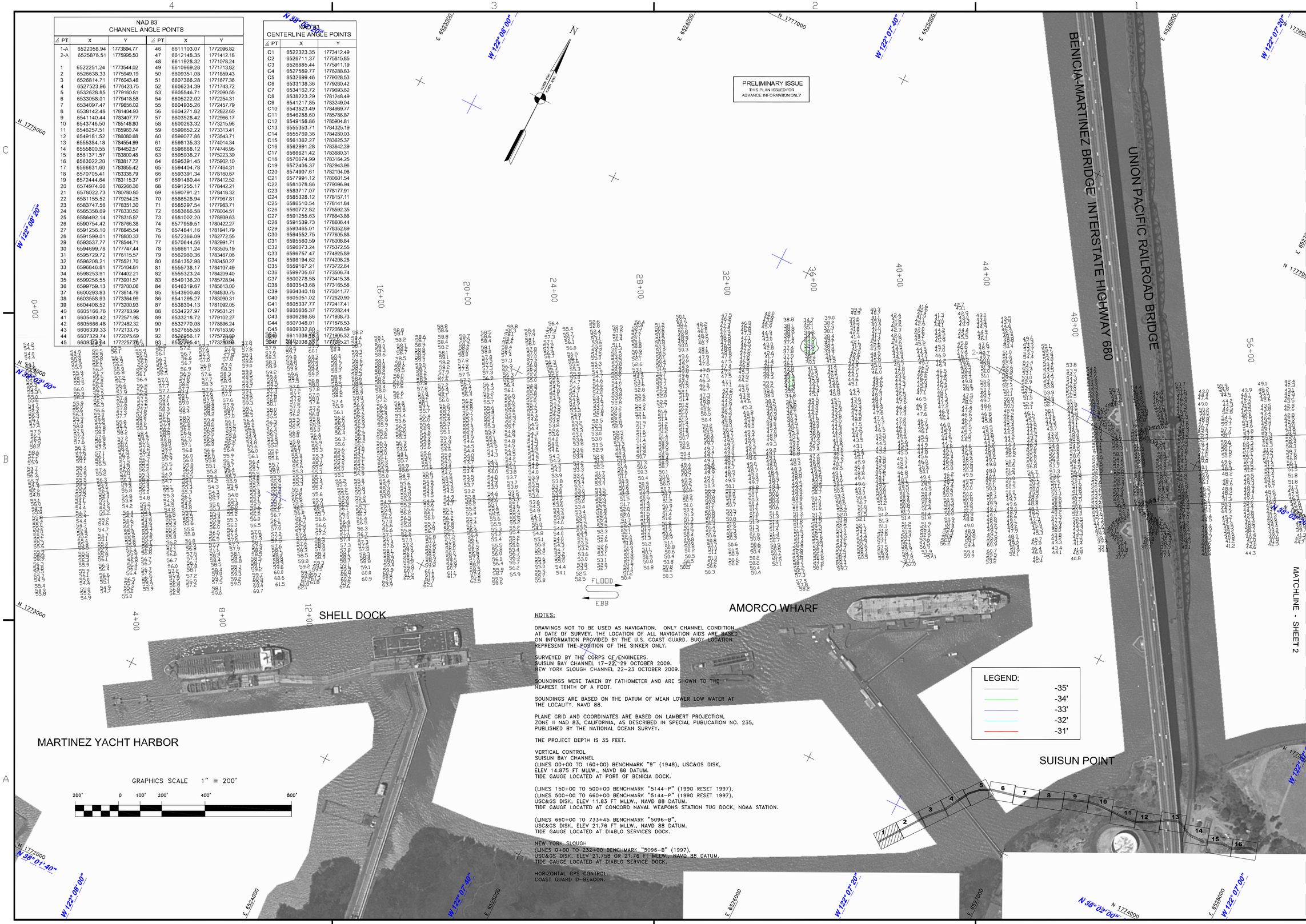
NAD 83 CHANNEL ANGLE POINTS					
∠ PT	X	Y	∠ PT	X	Y
1-A	6522058.94	1773894.77	46	6611103.07	1772098.82
2-A	6525878.51	1775995.50	47	6612148.35	1771412.18
			48	6611928.32	1771078.24
1	6522251.24	1773544.02	49	6610969.28	1771713.82
2	6526638.33	1775949.19	50	6609351.08	1771859.43
3	6526814.71	1776043.48	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	1779656.02	55	6604935.26	1772457.79
8	6538142.48	1781404.93	56	6604271.82	1772822.60
9	6541140.44	1783407.77	57	6603528.42	1772968.17
10	6543746.50	1785148.80	58	6600263.32	1773215.96
11	6546257.51	1785960.74	59	6599652.22	1773313.41
12	6549181.52	1786060.68	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	1783338.79	66	6593391.34	1778160.67
19	6572444.64	1783115.37	67	6591480.44	1778412.52
20	6574974.06	1782286.36	68	6591255.17	1778442.21
21	6578022.73	1780780.50	69	6590791.21	1778418.32
22	6581155.52	1779254.25	70	6586528.94	1777967.81
23	6583747.56	1778351.30	71	6585297.54	1777963.71
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	6577959.51	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	6562960.38	1783467.06
32	6596208.21	1775621.70	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	1773384.99	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	6526856.17	1775729.59
45	6609334.34	1772257.70	93	6525295.41	1775326.08

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	1784969.77
C11	6546288.60	1785786.87
C12	6549158.86	1785904.81
C13	6555353.71	1784325.19
C14	6555769.38	1784280.03
C15	6561362.27	1783625.37
C16	6562991.28	1783842.39
C17	6566621.42	1783880.31
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	6605605.37	1772282.44
C43	6606286.86	1771938.73
C44	6607348.01	1771876.53
C45	6609332.89	1772058.59
C46	6611036.58	1772905.32
C47	6612038.34	1773521.21

PRELIMINARY ISSUE
THIS PLAN ISSUED FOR ADVANCE INFORMATION ONLY



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.
SUISUN BAY CHANNEL 17-22, 29 OCTOBER 2009.
NEW YORK SLOUGH CHANNEL 22-23 OCTOBER 2009.

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

SOUNDINGS ARE BASED ON THE DATUM OF MEAN LOWER LOW WATER AT THE LOCALITY. NAVD 88.

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.

VERTICAL CONTROL
SUISUN BAY CHANNEL
(LINES 00+00 TO 160+00) BENCHMARK "9" (1948), USC&GS DISK, ELEV 14.875 FT MLLW., NAVD 88 DATUM.
TIDE GAUGE LOCATED AT PORT OF BENICIA DOCK.

(LINES 150+00 TO 500+00 BENCHMARK "5144-P" (1990 RESET 1997),
(LINES 500+00 TO 660+00 BENCHMARK "5144-P" (1990 RESET 1997),
USC&GS DISK, ELEV 11.83 FT MLLW., NAVD 88 DATUM.
TIDE GAUGE LOCATED AT CONCORD NAVAL WEAPONS STATION TUG DOCK, NOAA STATION.

(LINES 660+00 TO 733+45 BENCHMARK "5096-B",
USC&GS DISK, ELEV 21.76 FT MLLW., NAVD 88 DATUM.
TIDE GAUGE LOCATED AT DIABLO SERVICES DOCK.

NEW YORK SLOUGH
(LINES 0+00 TO 252+00 BENCHMARK "5096-B" (1997),
USC&GS DISK, ELEV 21.75B OR 21.76 FT MLLW., NAVD 88 DATUM.
TIDE GAUGE LOCATED AT DIABLO SERVICE DOCK.

HORIZONTAL GPS CONTROL.
COAST GUARD D-BEACON.

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

Mark	Description	Date	Appr.

SUBMITTED: PC
Survey Section Team Leader
APPROVAL RECOMMENDED:
Chief, Technical Support Section
APPROVED:
Chief, Construction Branch

DESIGNED BY: CHECKED BY: TVW DRAWN BY: EWC
DATE: 11/5/2009 SHEET NO. 1 OF 16 DRAWING NO. 4 2 XXX

PREPARED UNDER THE DIRECTION OF
LAURENCE M. FARRELL
LT. COLONEL, C.E., DISTRICT ENGINEER

CONTRA COSTA COUNTY CALIFORNIA
SUISUN BAY CHANNEL
PREDREDGE SURVEY
17-22 & 29 OCTOBER 2009

Sheet reference number
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