

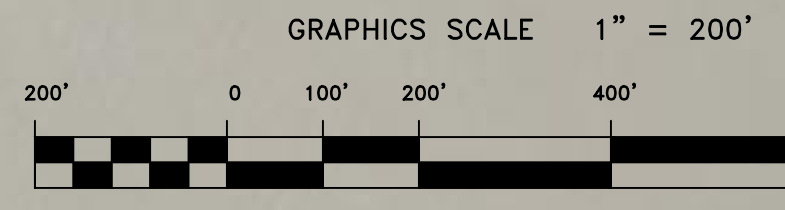
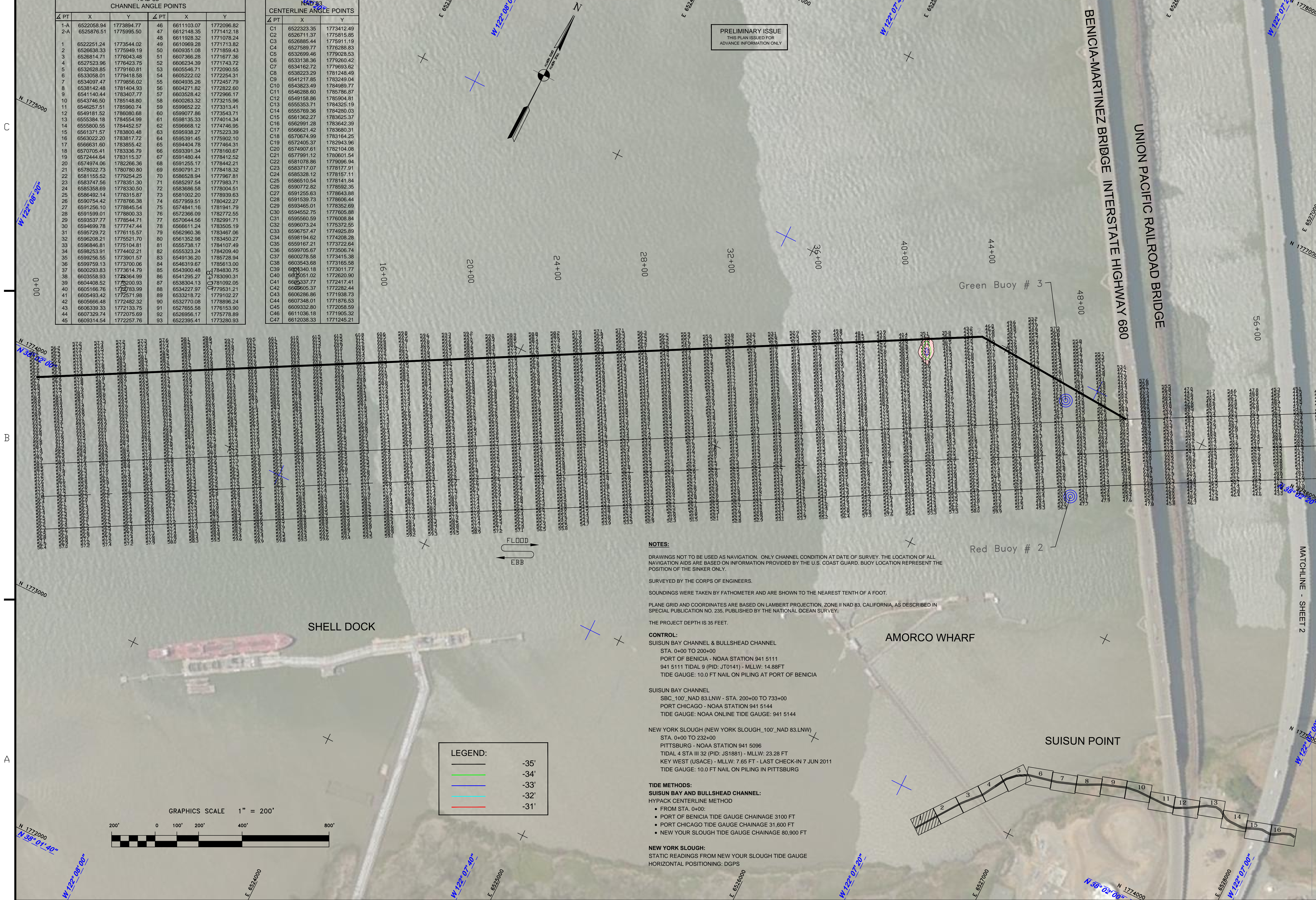
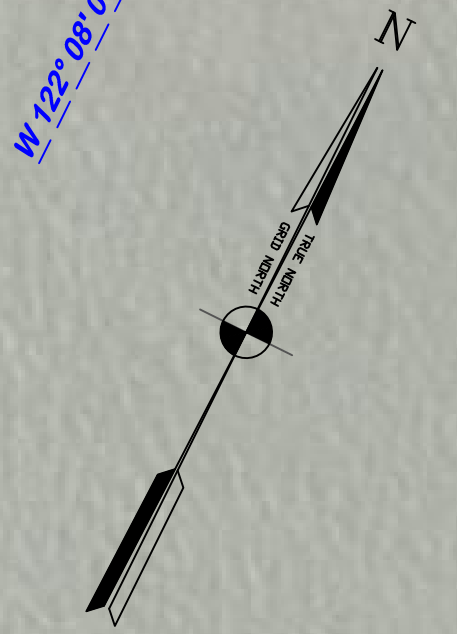
NAD 83  
CHANNEL ANGLE POINTS

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
1	6522251.24	1773544.02	49	6610969.28	1771713.82
2	6526638.33	1775949.19	50	6609051.08	1771859.43
3	6526814.71	1776043.48	51	6607366.28	1771677.36
4	6527523.96	1776233.75	52	6606234.39	1771743.72
5	6526288.85	1779160.81	53	6605546.71	1772090.55
6	6533058.01	1779418.58	54	6605222.02	1772254.71
7	6534097.47	1779856.02	55	6604935.26	1772457.79
8	6538142.48	1781404.93	56	6604271.82	1772822.80
9	6541140.44	1783407.77	57	6603528.42	1772966.17
10	6543746.50	1785148.80	58	6602633.32	1773215.96
11	6546257.51	1785960.74	59	6599652.22	1773313.41
12	6549181.52	1786080.68	60	6599077.86	1773543.71
13	6553394.18	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	6591460.44	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	6589628.94	1777967.81
23	6583747.56	1778351.30	71	6588297.54	1777983.71
24	6586358.69	1778330.50	72	6586888.58	1778004.51
25	6588482.14	1778315.87	73	6585100.20	1778393.63
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	1778115.57	79	6562260.36	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	6600293.63	1773614.79	85	6543300.49	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	6532187.72	1779102.27
42	6605666.46	1772482.08	90	6532770.08	1778936.24
43	6606339.33	1772133.76	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	6526714.37	1775815.86
C3	6526885.44	1775911.19
C4	6527589.77	1776288.83
C5	6526289.46	1779028.53
C6	6533138.36	1779260.42
C7	6534162.72	1779693.62
C8	6538223.29	1781248.49
C9	6541217.85	1782429.04
C10	6543823.49	1784989.77
C11	6546288.60	1785786.87
C12	6549158.86	1785904.81
C13	6553533.74	1784325.19
C14	6555769.36	1784280.03
C15	6561962.27	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	6591772.82	1778592.36
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	6603340.18	1773011.77
C40	6603051.02	1772620.90
C41	6603337.77	1772417.41
C42	6606605.37	1772282.44
C43	6606296.86	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



**LEGEND:**

- -35'
- -34'
- -33'
- -32'
- -31'

**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 CORPUS 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 & BULLSHED CHANNEL  
STA. 0+00 TO 200+00  
PORT OF BENICIA - NOAA STATION 941 5111  
941 5111 TIDAL GAUGE (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 BULLSHED CHANNEL:  
HYPACK CENTERLINE METHOD

- FROM STA. 0+00;
- PORT OF BENICIA TIDE GAUGE CHAINAGE 3100 FT
- PORT CHICAGO TIDE GAUGE CHAINAGE 31,800 FT
- NEW YORK SLOUGH TIDE GAUGE CHAINAGE 80,900 FT

**NEW YORK SLOUGH:**  
STATIC READINGS FROM NEW YORK 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.

**DESIGNED BY:** JOHN C. MORROW  
LT. COLONEL, C.E., DISTRICT ENGINEER

**APPROVAL RECOMMENDED:** CHIEF, HYDRO SURVEY SECTION

**APPROVED:** [Signature]

DESIGNED BY:	DATE:	PREPARED UNDER THE DIRECTION OF:
JOHN C. MORROW	12/27/2016	JOHN C. MORROW

**CHECKED BY:** PDI  
**DRAWN BY:** PDI  
**DATE:** 12/27/2016  
**SHEET NO. 1 OF 16**

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

Sheet reference number  
C1