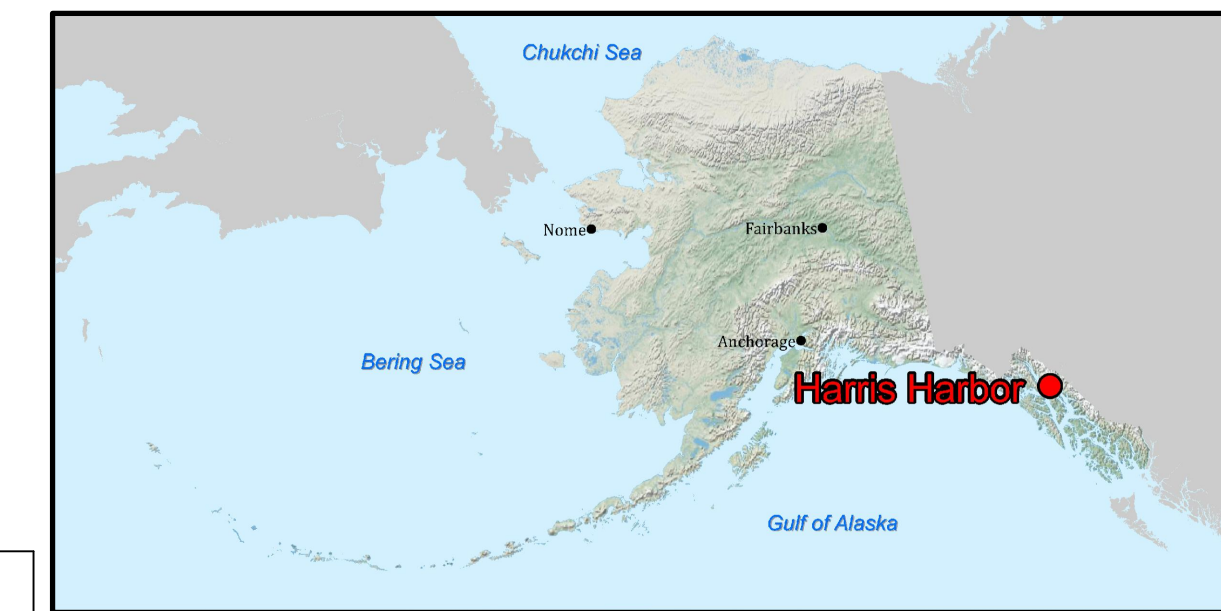


PROJECT LIMITS			
CORNER#	NORTHING	EASTING	DESCRIPTION
1	2,362,601.49	2,539,337.23	PI
2	2,362,970.55	2,539,884.40	PI
3	2,363,318.75	2,539,649.53	PI
4	2,363,053.13	2,539,255.74	PI
5	2,362,945.36	2,539,328.44	PI
6	2,362,841.91	2,539,175.07	PI

VOLUME COMPUTATIONS		
DREDGE AREA	MLLW=0	CU. YD.
AVAILABLE TO PROJECT DEPTH (PD)	-12.0	10,577
AVAILABLE TO MAX PAY DEPTH (MP)	-13.0	17,078
AVAILABLE SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	VARIES	2,769
TOTAL MAXIMUM VOLUME AVAILABLE (MP + SS)		19,847

LEGEND

POWER POLE 
 POWER LINE 




NOTES

1. PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE ZONE 1, NAD83 (2011) 2010.00, IN U.S. SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83 (2011) 2010.00 EPOCH VALUES OF NGS STATIONS: "JNU TIDAL GPS" (PID:A14908) AS N 2,362,232.94', E 2,541,120.78'; "JNU C" (PID:A14906) AS N 2,382,651.51', E 2,511,618.99'.
 LOCAL PROJECT HORIZONTAL CONTROL AT THE HARBOR IS ALASKA STATE PLANE, ZONE 1, NAD83 (2011) 2010.00, IN U.S. SURVEY FEET HOLDING "JA-1 RESET 1989" (PID:BBFS28) AS N 2,363,834.84', E 2,538,657.82'. LOCAL PROJECT HORIZONTAL CONTROL AT THE DISPOSAL AREA IS ALASKA STATE PLANE ZONE 1, NAD83 (2011) 2010.00 IN U.S. SURVEY FEET HOLDING "DH-C 2000" (PID:BBGJ87) AS N 2,353,359.31' E 2,546,726.69'.
2. VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0 FT), BASED ON THE NOAA/NOS TIDAL BENCH MARK LIST "9452210 JUNEAU, GASTINEAU CHANNEL, STEPHENS PASS, ALASKA", PUBLISHED 02/16/2018. THIS TIDAL DATUM IS BASED ON THE 2012-2016 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA/NOS TIDAL BENCH MARK "945 2210 C" (VM#1196) AS 30.19'.
3. SOUNDINGS ARE IN U.S. SURVEY FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
4. BATHYMETRY WAS COLLECTED OCTOBER 26 - 29, 2020. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2020 MULTIBEAM ECHOSOUNDER OPERATING AT 400 KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN AML BASE X SOUND VELOCITY PROBE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLANIX POSMV WAVEMASTER V5 SYSTEM RECEIVING RTK CORRECTIONS FROM A TRIMBLE R8 MODEL 3 GPS RECEIVER SET AT CONTROL STATION "JA-1 RESET 1989" AND "DH-C 2000". DATA WAS COLLECTED AND PROCESSED USING QINSY 8.1 AND QIMERA 1.7 SOFTWARE. HORIZONTAL AND VERTICAL CONTROL WAS VERIFIED USING RTK GNSS EQUIPMENT AND TECHNIQUES.
5. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
6. MAP SOUNDINGS IN THE HARBORS ARE BINNED AT 24 FEET AND ARE SHOAL BIASED. CONTOURS ARE BINNED AT 12 FEET AND ARE SHOAL BIASED. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN-VALUE. MAP SOUNDINGS IN THE DISPOSAL AREA ARE BINNED AT 96 FEET AND ARE SHOAL BIASED. CONTOURS ARE BINNED AT 12 FEET AND ARE SHOAL BIASED.

SURVEY CONTROL DATA

STATION	NORTHING	EASTING	MLLW	DESCRIPTION
945 2210 M	2,362,530.33	2,542,076.08	27.63	3-1/2 IN. NOS SBC
DH-C 2000	2,353,359.31	2,546,726.69	26.30	3-1/4 IN. BC
JA-1 RESET 1989	2,363,834.84	2,538,657.82	24.62	3-1/2 IN. USACE SBC
JH-1 1972	2,362,671.49	2,539,630.95	29.95	4 IN. USACE TRI. SBC
RAMP 1975	2,353,048.30	2,547,438.98	23.57	3-1/2 IN. USACESBC



THIS HYDROGRAPHIC SURVEY WAS COMPLETED UNDER THE OVERSIGHT OF AN NSPS/THSOA CERTIFIED HYDROGRAPHER

 David R. Neff C.H. (275)



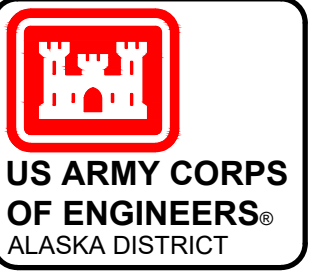
REV.	DATE	BY	APPR.	DESCRIPTION

U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 204 90 STREET JBER, ALASKA 99505-0888	UPC: JUN004	CONTRACT NO.: W911KB-19-C-0031	STATE: ALASKA
SURVEYED BY: JOHN EPPS	PLLOT DATE: 12-Nov-20	TASK ORDER NO.:	WASILLA
DRAWN BY: ROBERT GOUGHNOUR	CHECKED BY: TAS/BBGALT	JOB NO.:	ETRAC INC.
APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	FILE:	JUN004-HARRIS_PRE.DWG	

JUNEAU, ALASKA
JUN004 - HARRIS HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

REFERENCE NUMBER:

1-JUN-91-01-01



REV.	DATE	BY	APPR.	DESCRIPTION

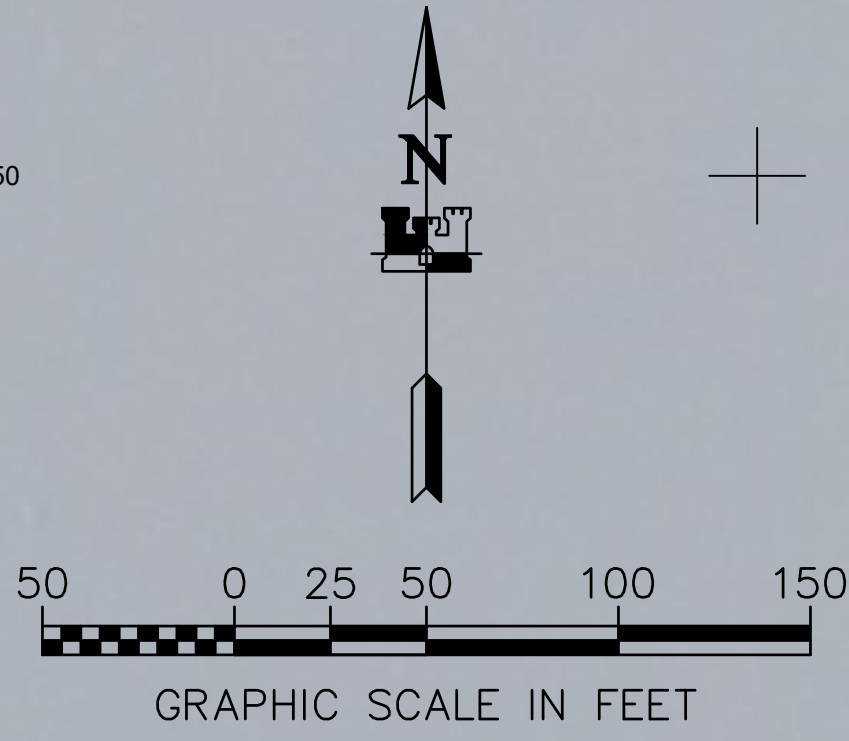
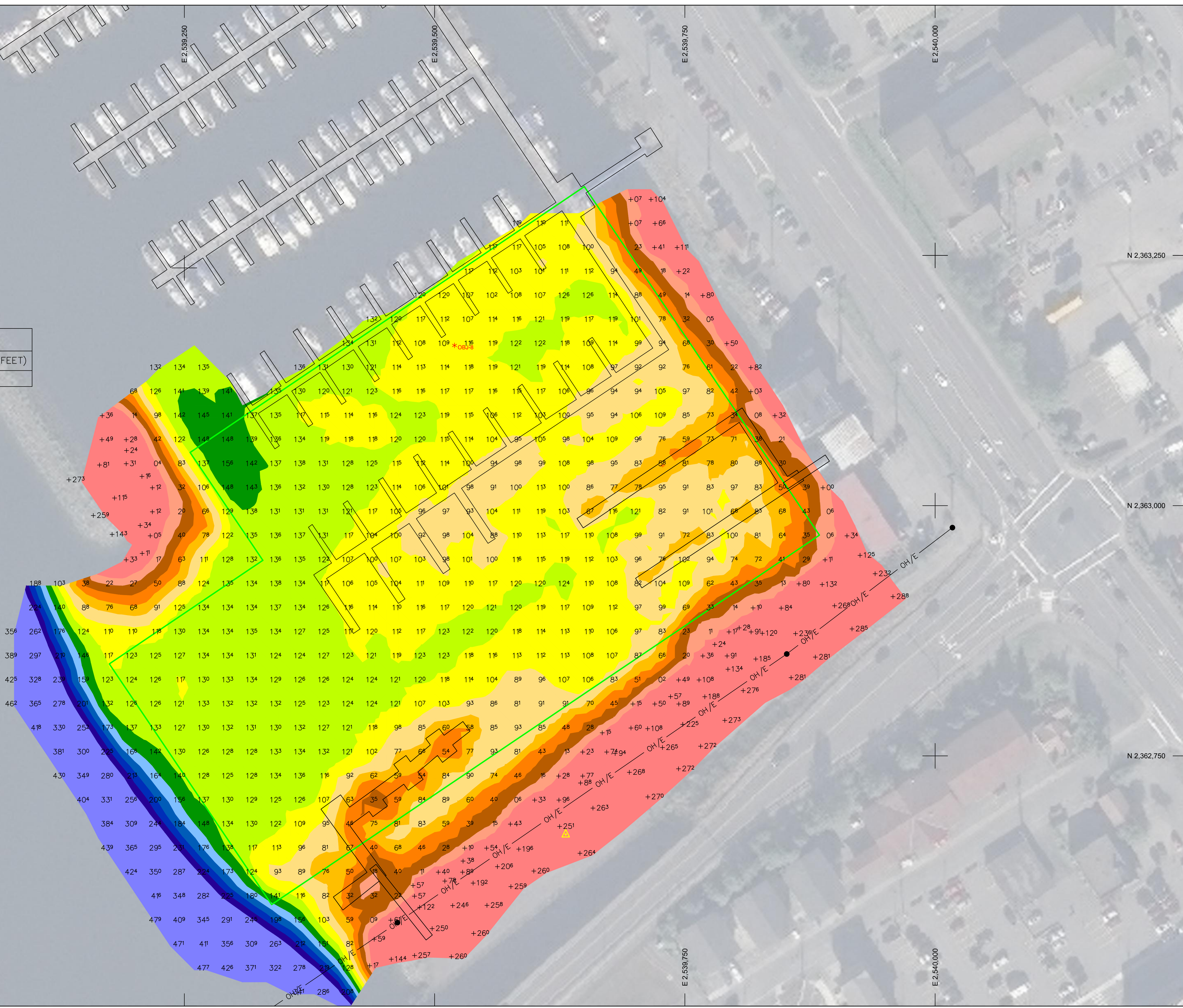
UFC:	JUN004	CONTRACT NO.:	W911KB-19-C-0031
SURVEYED BY:	JOHN EPPS	TASK ORDER NO.:	
DRAWN BY:	ROBERT GOUGHNOUR	JOB NO.:	
CHECKED BY:	TAS/BJGALT	SCALE:	1" = 50'
APPROVED BY:	THOMAS SLOAN, CHIEF GEOMATICS SECTION	CONTRACTOR:	ETRAC, INC.
FILE NO.:	JUN004_HARRIS_PREDWG	STATE:	ALASKA
		CITY:	WASILLA

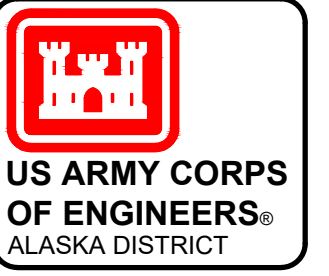
JUNEAU, ALASKA
JUN004 - HARRIS HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

REFERENCE NUMBER:
1-JUN-91-01-01
 SHEET 2 OF 8

#	MIN. ELEV.	MAX. ELEV.	COLOR
1	-51.5	-24.0	Light Blue
2	-24.0	-22.0	Dark Blue
3	-22.0	-20.0	Blue
4	-20.0	-18.0	Light Blue
5	-18.0	-16.0	Light Blue
6	-16.0	-14.0	Green
7	-14.0	-12.0	Light Green
8	-12.0	-10.0	Yellow
9	-10.0	-8.0	Light Orange
10	-8.0	-6.0	Orange
11	-6.0	-4.0	Dark Orange
12	-4.0	-2.0	Brown
13	-2.0	0.0	Light Red
14	0.0	30.1	Red

ID	NORTHING	EASTING	DEPTH	APPROX SIZE (FEET)
OBJ-8	2,363,160.1	2,539,519.9	-10.1	12X7X1





REV.	DATE	BY	APPR.	DESCRIPTION

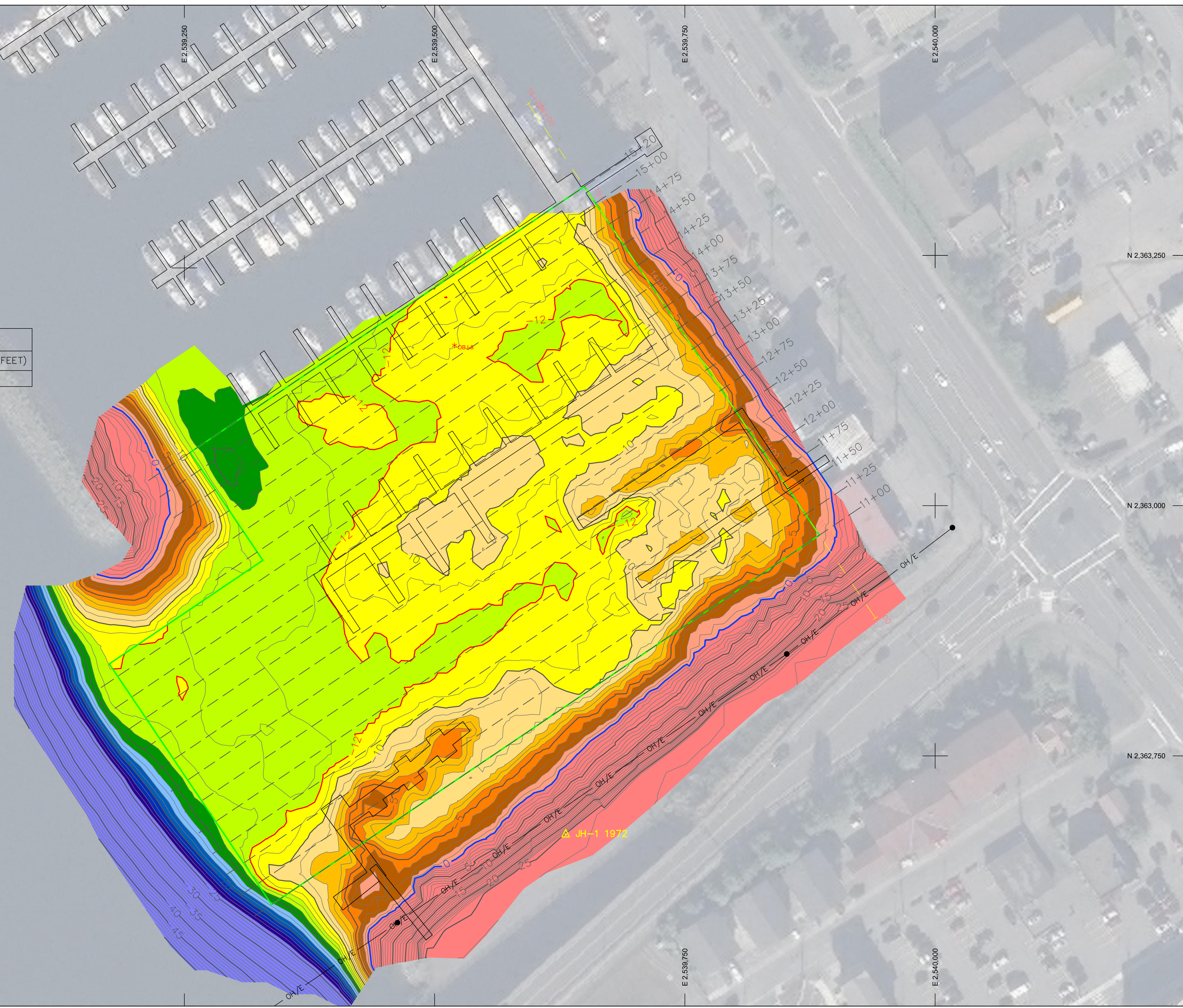
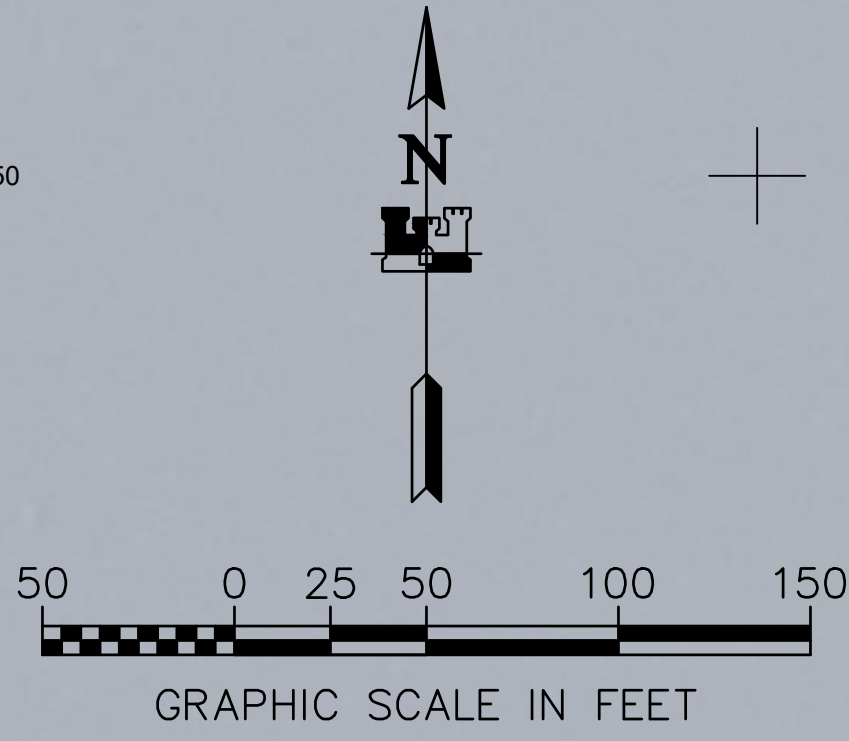
U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 204 3RD STREET JBER, ALASKA 99506-0888	UPC: JUN004	CONTRACT NO.: W911KB-19-C-0031	STATE: ALASKA
	PLANNED BY: JOHN EPPS	TASK ORDER NO.:	
	DRAWN BY: ROBERT GOUGHNOUR	JOB NO.:	
	CHECKED BY: TAS/IBG/ALT	SCALE: 1" = 50'	
	APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	CONTRACTOR: ETRAC, INC.	
	JUN04 - HARRIS_PRE.DWG	WASILLA	

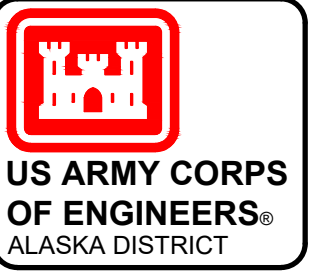
JUNEAU, ALASKA
JUN004 - HARRIS HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

REFERENCE NUMBER:
1-JUN-91-01-01
 SHEET 3 OF 8

#	MIN. ELEV.	MAX. ELEV.	COLOR
1	-51.5	-24.0	Light Blue
2	-24.0	-22.0	Dark Blue
3	-22.0	-20.0	Blue
4	-20.0	-18.0	Light Blue
5	-18.0	-16.0	Light Green
6	-16.0	-14.0	Green
7	-14.0	-12.0	Light Green
8	-12.0	-10.0	Yellow
9	-10.0	-8.0	Light Orange
10	-8.0	-6.0	Orange
11	-6.0	-4.0	Dark Orange
12	-4.0	-2.0	Red-Orange
13	-2.0	0.0	Red
14	0.0	30.1	Light Red

ID	NORTHING	EASTING	DEPTH	APPROX SIZE (FEET)
OBJ-8	2,363,160.1	2,539,519.9	-10.1	12X7X1





REV.	DATE	BY	APPR.	DESCRIPTION

U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 204 3RD STREET JBER, ALASKA 99505-0888	UPC: JUN004	CONTRACT NO.: W911KB-19-C-0031	STATE: ALASKA
SURVEYED BY: JOHN EPPS	PLLOT DATE: 12-Nov-20	TASK ORDER NO.:	
DRAWN BY: ROBERT GOUGHNOUR	SCALE: 1" = 50'	JOB NO.:	
CHECKED BY: TAS/IBG/ALT	ANSI ID	CONTRACTOR: ETRAC, INC.	
APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	FILE NO.:		
JUN004-HARRIS_PRE.DWG			

JUNEAU, ALASKA
JUN004 - HARRIS HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

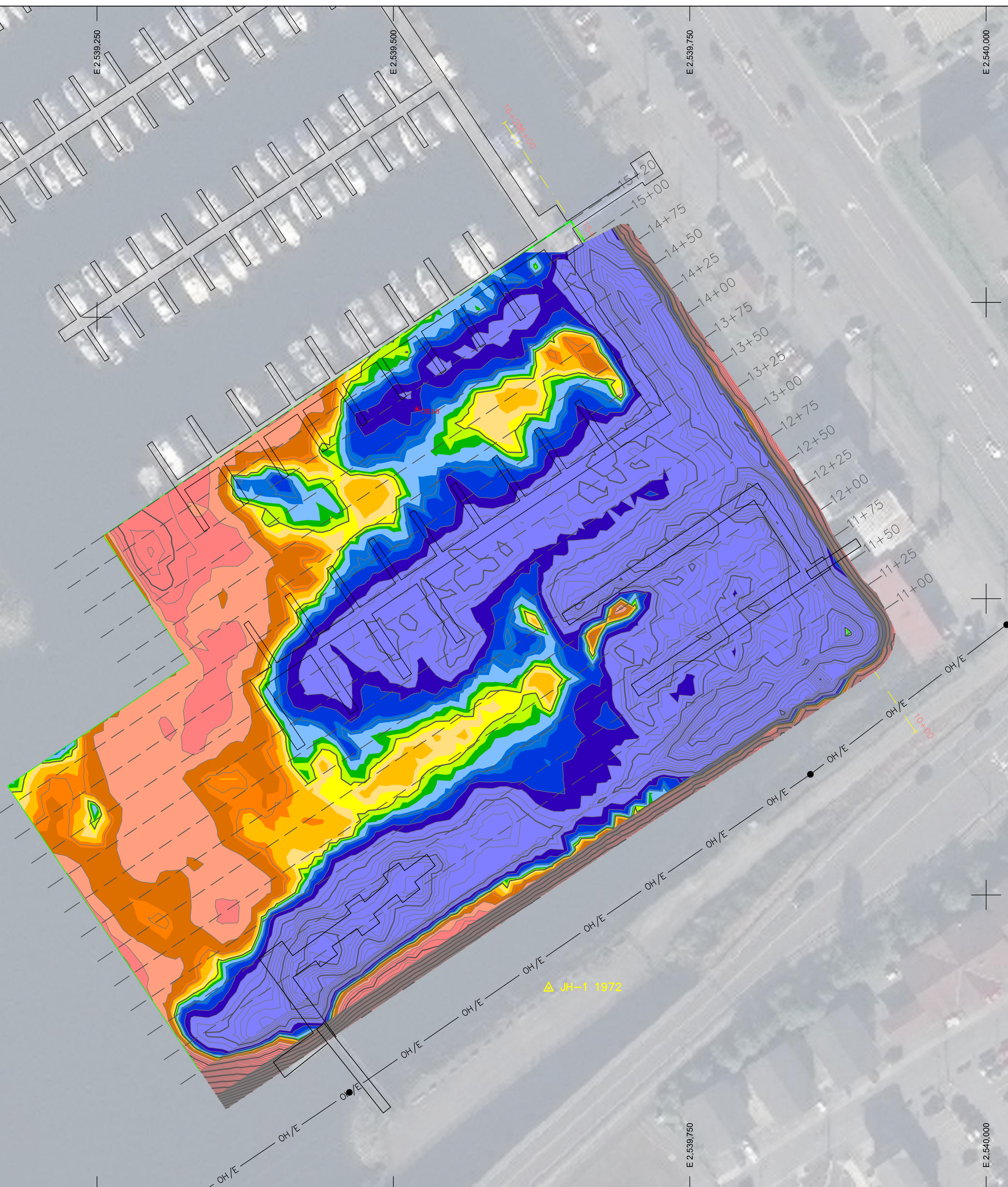
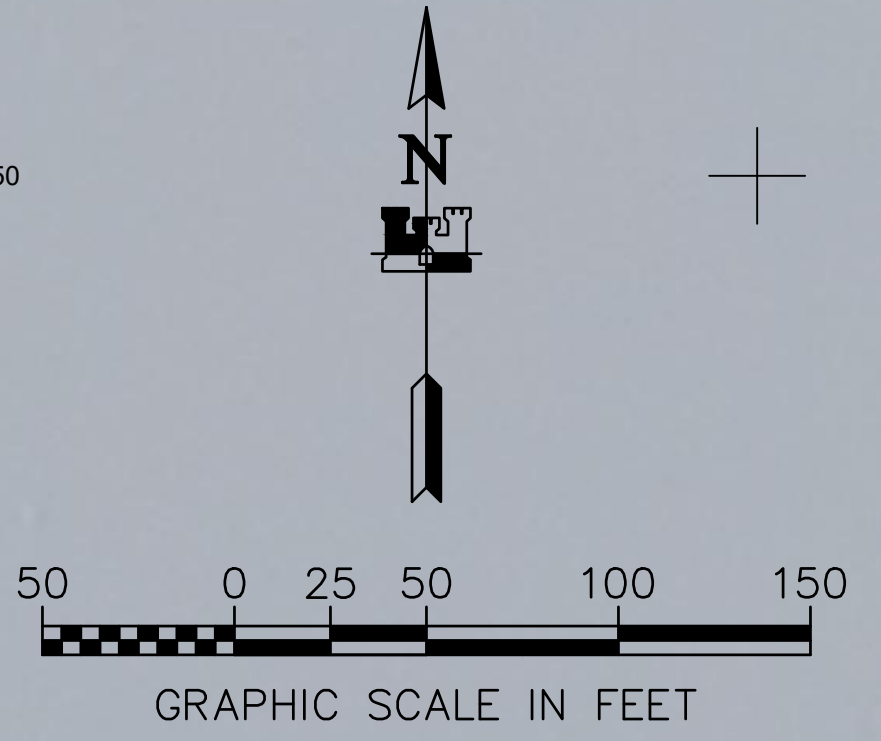
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1-JUN-91-01-01
 SHEET 4 OF 8

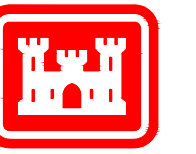
DIFF. ELEV LEGEND TO P.D. -12

#	MIN. ELEV	MAX. ELEV	Color
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2	-1.50	-1.00	Dark Blue
3	-1.00	-0.60	Blue
4	-0.60	-0.40	Light Blue
5	-0.40	-0.20	Light Green
6	-0.20	-0.10	Green
7	-0.10	0.00	Light Green
8	0.00	0.10	Yellow
9	0.10	0.20	Light Yellow
10	0.20	0.40	Orange
11	0.40	0.60	Light Orange
12	0.60	1.00	Orange
13	1.00	1.50	Light Red
14	1.50	31.30	Red

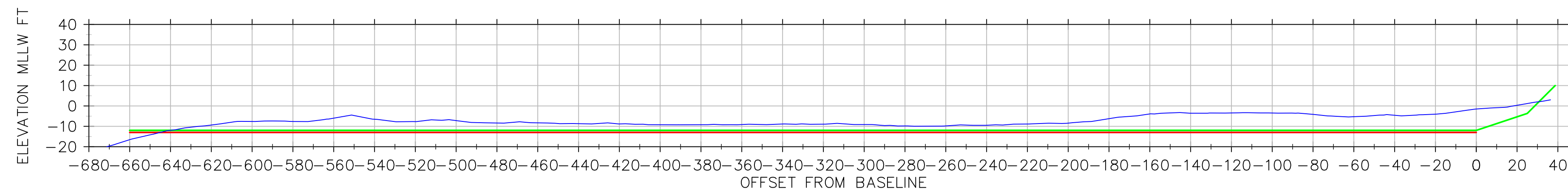
OBSTRUCTION DATA

ID	NORTHING	EASTING	DEPTH	APPROX SIZE (FEET)
OBJ-8	2,363,160.1	2,539,519.9	-10.1	12X7X1

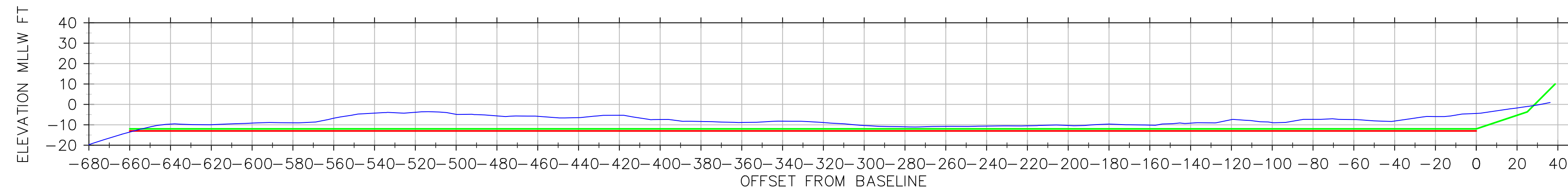




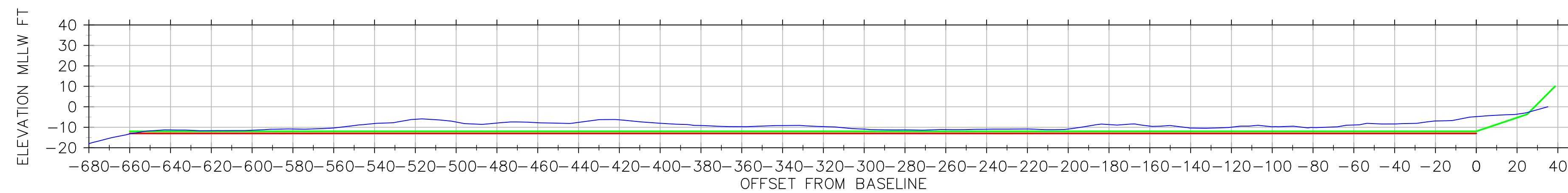
US ARMY CORPS OF ENGINEERS ALASKA DISTRICT



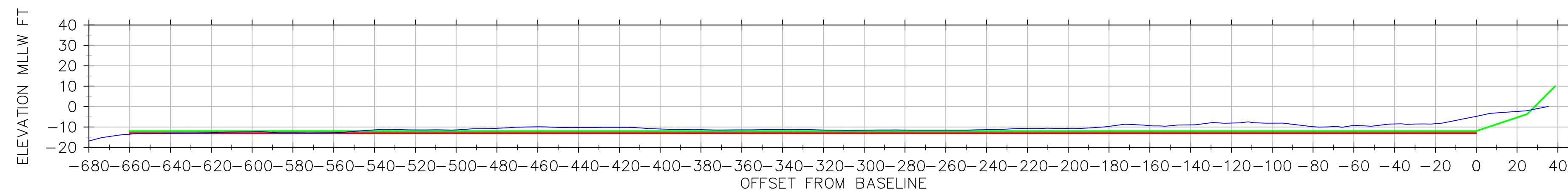
BASELINE STA 11+00



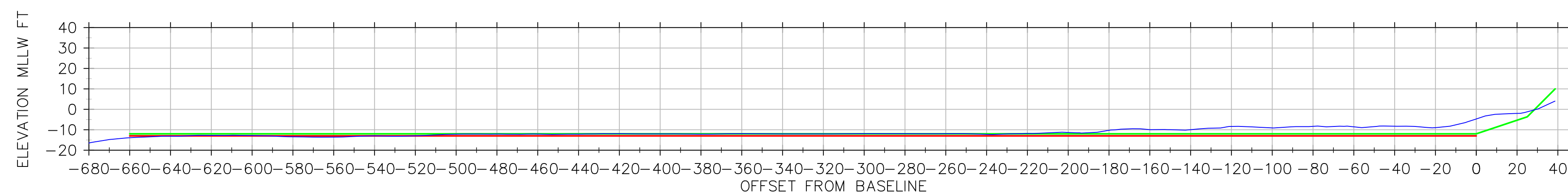
BASELINE STA 11+25



BASELINE STA 11+50

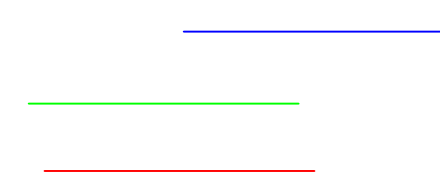


BASELINE STA 11+75



BASELINE STA 12+00

ETRAC INC. 12'x12' SHOAL SURFACE
 SURVEYED OCT 24-29, 2020
 PROJECT DEPTH -12' MLLW
 MAX PAY DEPTH -13' MLLW

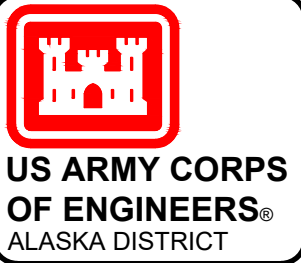


REV.	DATE	BY	APPR.	DESCRIPTION

CONTRACT NO.: W911KB-19-C-0031	TASK ORDER NO.:	JOB NO.:	CONTRACTOR: ETRAC INC.	STATE: ALASKA
UPC: JUN004	PLOT DATE: 12-Nov-20	SCALE: 1" = 50'	CONTRACTOR: ETRAC INC.	STATE: ALASKA
SURVEYED BY: JOHN EPPS	DRAWN BY: ROBERT GOUGHNOUR	CHECKED BY: TASI/BJG/ALT	APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	FILE NO: JUN004-HARRIS_PRE.DWG
U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 204 90 STREET BER, ALASKA 99505-0888				

JUNEAU, ALASKA
JUN004 - HARRIS HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

REFERENCE NUMBER:
1-JUN-91-01-01
 SHEET 5 OF 8



REV.	DATE	BY	APPR.	DESCRIPTION

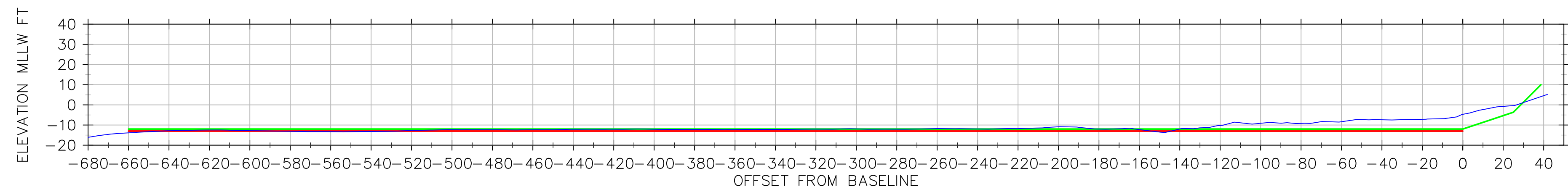
CONTRACT NO.: W911KB-19-C-0031	UPC: JUN004	SURVEYED BY: JOHN EPPS	PLLOT DATE: 2-Nov-20	TASK ORDER NO.:
JOB NO.:	SIZE: ANSI D	DRAWN BY: ROBERT GOUGHNOUR	SCALE: 1" = 50'	CONTRACTOR: ETRAC INC.
STATE: ALASKA	CONTRACTOR: ETRAC INC.	CHECKED BY: TAS/JBG/ALT	APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	FILE NO.:

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
204 90 STREET
BER, ALASKA 99505-0888

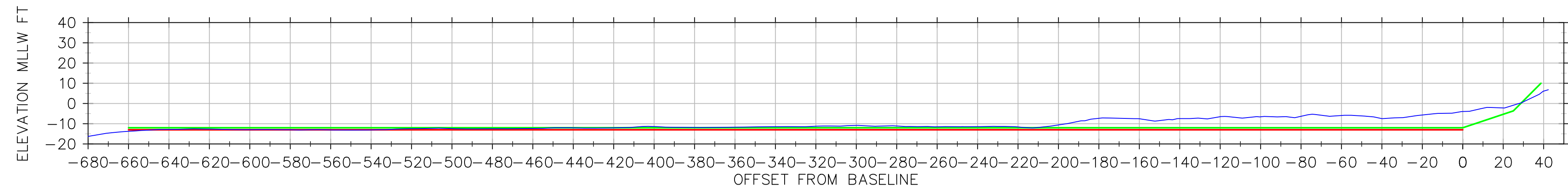
JUNEAU, ALASKA
JUN004 - HARRIS HARBOR
PRE DREDGING SURVEY
OCTOBER 26 - 29, 2020

REFERENCE NUMBER:
1-JUN-91-01-01

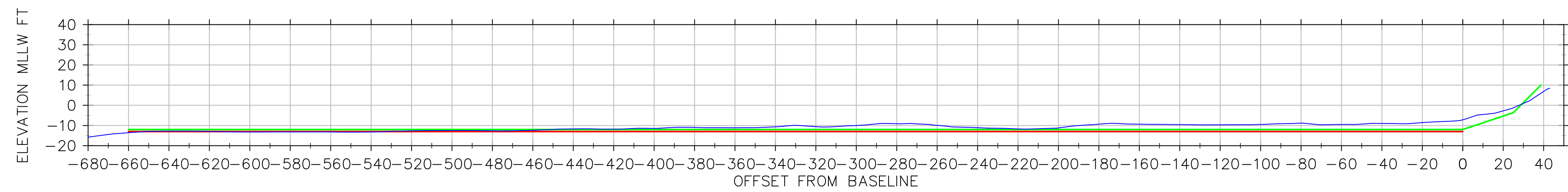
SHEET 6 OF 8



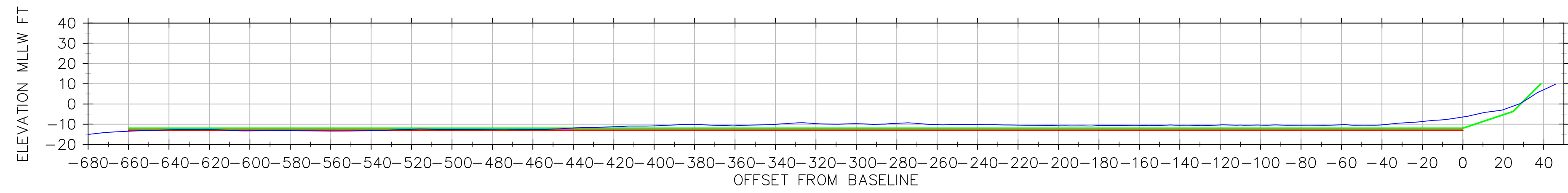
BASELINE STA 12+25



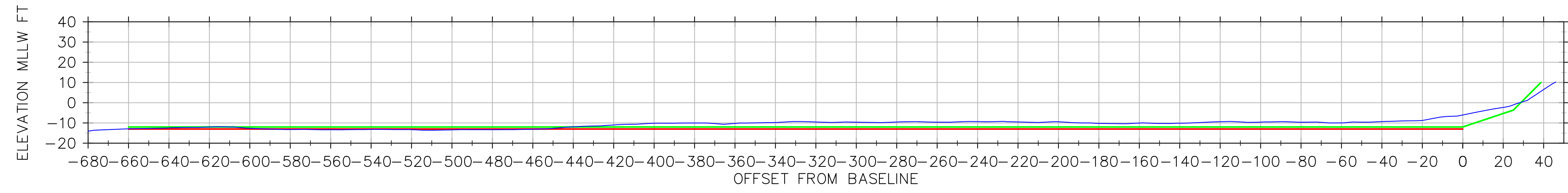
BASELINE STA 12+50



BASELINE STA 12+75

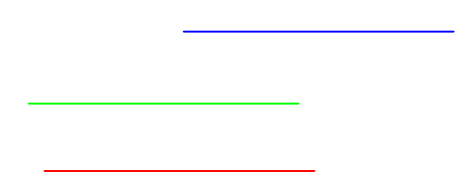


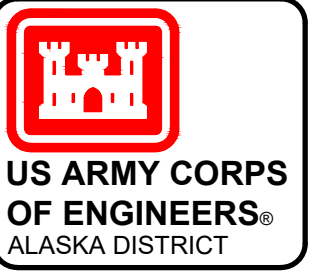
BASELINE STA 13+00



BASELINE STA 13+25

ETRAC INC. 12'x12' SHOAL SURFACE
SURVEYED OCT 24-29, 2020
PROJECT DEPTH -12' MLLW
MAX PAY DEPTH -13' MLLW



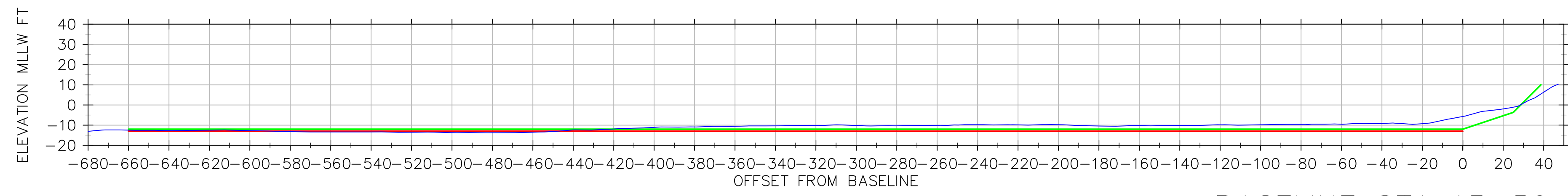


REV.	DATE	BY	APPR.	DESCRIPTION

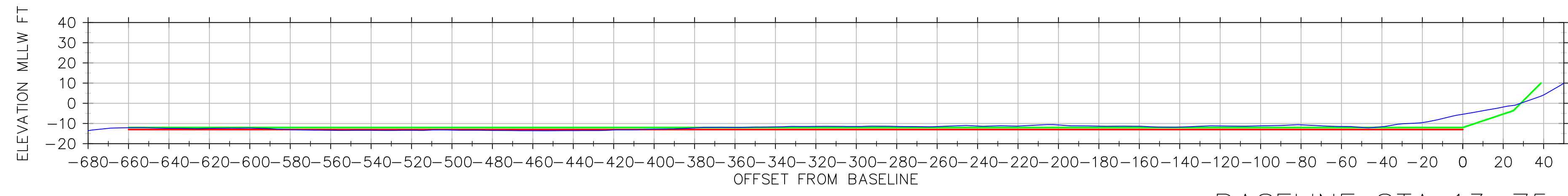
U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 204 90 STREET JBER, ALASKA 99505-0888	SURVEYED BY: JOHN EPPS	UPC: JUN004	CONTRACT NO.: W911KB-19-C-0031
DRAWN BY: ROBERT GOUGHNOUR	PLOT DATE: 2-Nov-20	TASK ORDER NO.:	JOB NO.:
CHECKED BY: TASI/BJG/ALT	SIZE: ANSI D	SCALE: 1" = 50'	CONTRACTOR: ETRAC, INC.
APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	FILE NO.: JUN004_HARRIS_PRE.DWG	STATE: ALASKA	CITY: WASILLA

JUNEAU, ALASKA
JUN004 - HARRIS HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

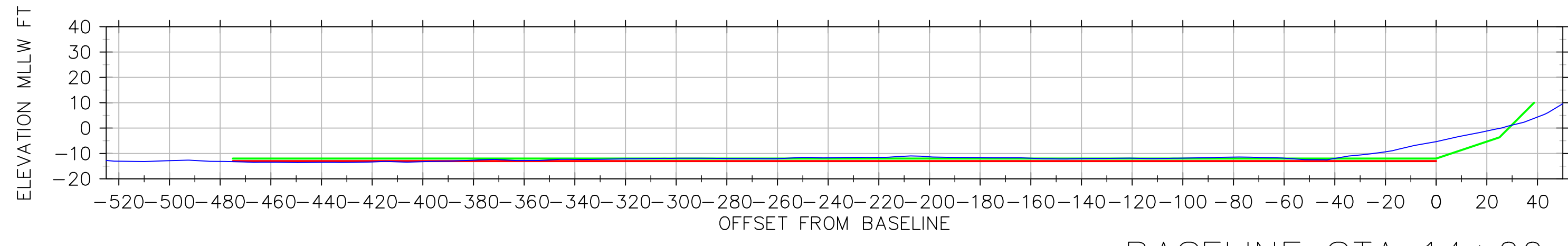
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1-JUN-91-01-01
 SHEET 7 OF 8



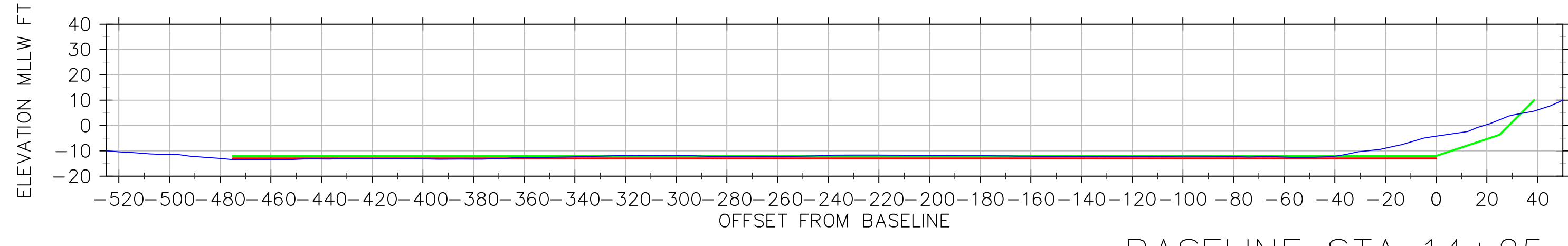
BASELINE STA 13+50



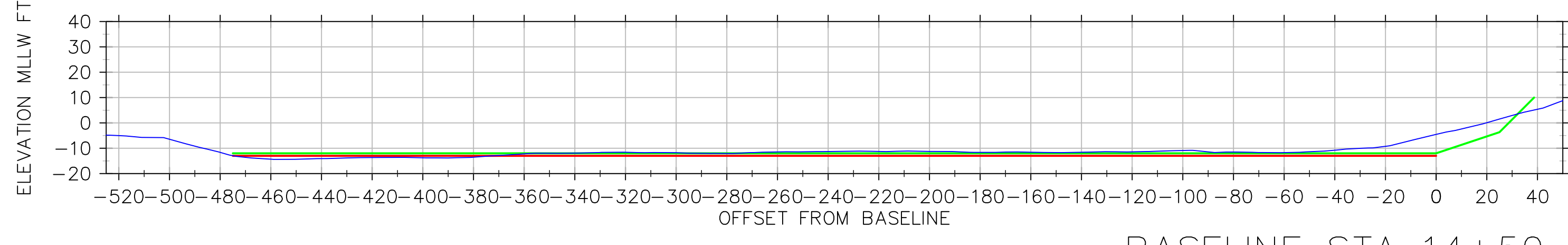
BASELINE STA 13+75



BASELINE STA 14+00

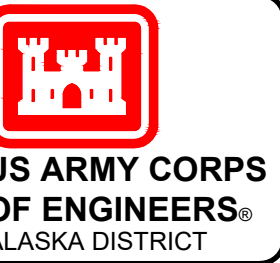


BASELINE STA 14+25

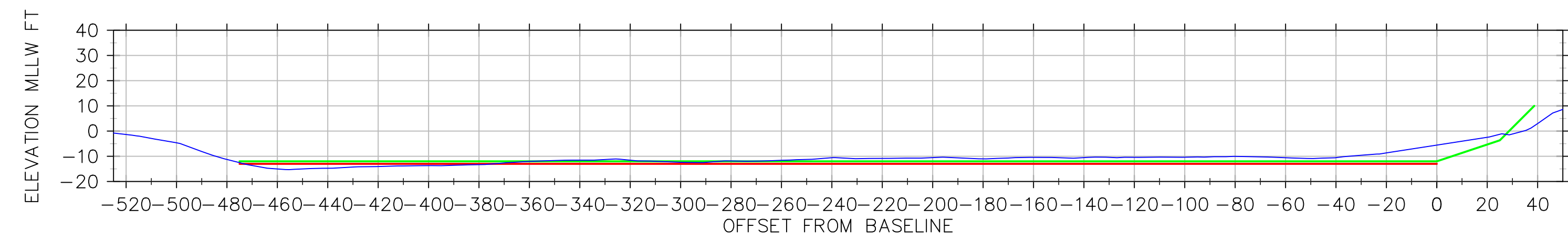


BASELINE STA 14+50

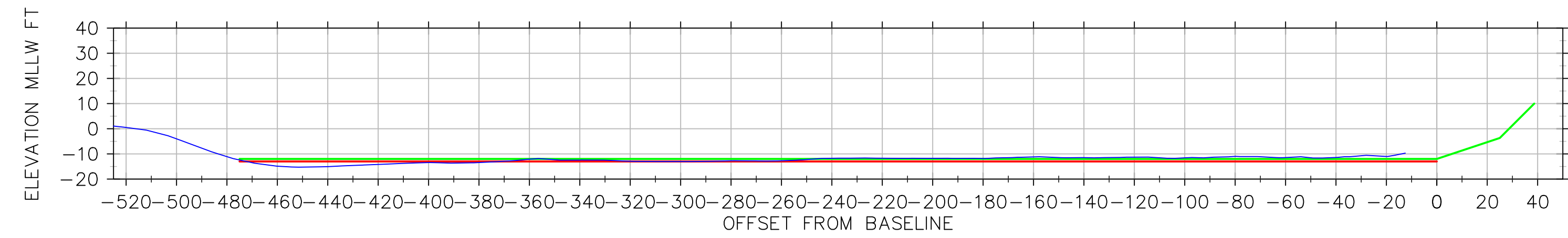
ETRAC INC. 12'x12' SHOAL SURFACE
 SURVEYED OCT 24-29, 2020
 PROJECT DEPTH -12' MLLW
 MAX PAY DEPTH -13' MLLW



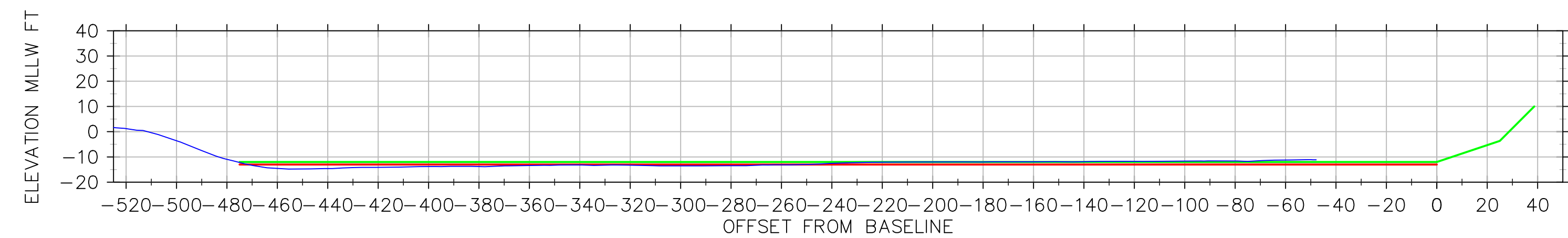
US ARMY CORPS
OF ENGINEERS
ALASKA DISTRICT



BASELINE STA 14+75

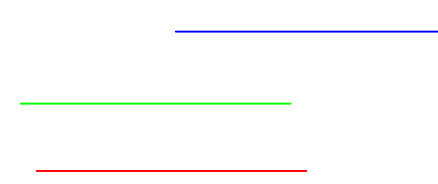


BASELINE STA 15+00



BASELINE STA 15+20

ETRAC INC. 12'x12' SHOAL SURFACE
 SURVEYED OCT 24-29, 2020
 PROJECT DEPTH -12' MLLW
 MAX PAY DEPTH -13' MLLW



REV.	DATE	BY	APPR.	DESCRIPTION

U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT 204 3RD STREET JBER, ALASKA 99506-0888	SURVEYED BY: JOHN EPPS	UPC: JUN004	CONTRACT NO.: W911KB-19-C-0031
	DRAWN BY: ROBERT GOUGHNOUR	PLOT DATE: 12-Nov-20	TASK ORDER NO.:
	CHECKED BY: TAS/JBG/ALT	ANSI D	JOB NO.:
	APPROVED BY: THOMAS SLOAN, CHIEF GEOMATICS SECTION	SCALE: 1" = 50'	CONTRACTOR: ETRAC INC.
	FILE NO.: JUN004-HARRIS_PRE.DWG		STATE: ALASKA

JUNEAU, ALASKA
JUN004 - HARRIS HARBOR
 PRE DREDGING SURVEY
 OCTOBER 26 - 29, 2020

REFERENCE
 NUMBER:
1-JUN-91-01-01
 SHEET 8 OF 8